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Former CN Property Limited Site Investigation

200 North 10th Street & 1110 Buffalo Street, Manitowoc, WI
WCS-097

Wisconsin Department of Natural Resources

Project number: 60615404

May 8, 2020

Quality information

Prepared by	Checked by	Verified by	Approved by
Jennifer Kubicek Staff Engineer	Lanette Altenbach, PG	Paul Sklar, PG	Lanette Altenbach, PG

NR712 Certification

This Limited Site Investigation was conducted by personnel with the appropriate qualifications required by NR 712.02 (1), NR 712.05 and NR 712.07. AECOM provides the following certification as required by NR712.09:

I, Lanette Altenbach, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, am registered in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Lanette Altenbach, P.G., CPG
Senior Hydrogeologist

May 12, 2020
Date

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Prepared for:
Wisconsin Department of Natural Resources WCS-097

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Executive Summary

AECOM was retained by the Wisconsin Department of Natural Resources (Client) to conduct a Limited Site Investigation (SI) at the former CN Property located at 200 North 10th Street & 1110 Buffalo Street in Manitowoc, Manitowoc County, Wisconsin (Property). The SI was conducted on behalf of the Client under a Wisconsin Assessment Monies (WAM) Contractor Services Award (WCS-097) to assist in defining the degree and extent of contamination.

The Property is located on a peninsula formed by the Manitowoc River and bound to the east by North 10th and 11th Streets, Manitowoc, Manitowoc County, Wisconsin. The property consists of approximately 20 acres of largely vacant former railroad/industrial Land.

As noted in the Phase I ESA, records suggest that the Property has been owned by the railroad since the late 19th century; other industrial occupants include bulk petroleum storage, ship building, grain storage/elevator, metal/scrap/junk yard storage, and transloading of stone. The surrounding properties are a mix of commercial and industrial properties. Recognized environmental concerns (RECs) identified at the property include: prior railroad use, prior industrial use, residual impacts to soil and groundwater, apparent anthropogenic fill, storage/dumping by adjacent property owners, and residual impacts to soil and groundwater on adjacent properties.

AECOM advanced fifteen soil borings on the Property using a hollow stem auger; soil borings were advanced adjacent to, but offset by about 5 feet, existing temporary wells at the Property. Soil samples were not included in the scope of work. Soil borings were completed as NR141 compliant groundwater monitoring wells and one groundwater sample was collected from each well. Analyses of groundwater samples included volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs) and eight RCRA metals.

Soils encountered generally consisted of sand and gravel fill from approximately 0 to six feet below ground surface (bgs); deeper soils consisted of silty sand or silty clay to a depth of 13.5 ft bgs. The depth to groundwater measured in the temporary wells ranged from three feet to seven feet bgs.

Our conclusions include:

- VOCs detected above NR140 enforcement standards (ES) or preventive action limits (PAL) included benzene and tetrachloroethylene (PCE). PAL and ES exceedances for VOCs were limited to Site 3, at the north end of the property. Benzene was detected above the ES in 3_MW-58 and PCE was detected above the PAL in 3_MW-27 and 3_MW-58.
- PAHs detected above their respective NR140 ES included benzo(a)pyrene, benzo(b)fluoranthene, and chrysene at 3_MW-45 and 1_MW-14. Naphthalene was detected above its NR140 PAL at 3_MW-45.
- RCRA metals were not detected above their respective NR140 ES in any groundwater samples. Arsenic was detected above the respective NR140 PAL in wells 1_MW-35, 1_MW-36, 3_MW-11, 3_MW-45, 3_MW-58, and 3_MW-64. Barium was detected above the NR140 PAL in 1_MW-39.

1. Introduction

1.1 Purpose

AECOM was retained by the Wisconsin Department of Natural Resources (Client) to conduct a Limited Site Investigation (SI) at the former CN Property located at 200 North 10th Street & 1110 Buffalo Street in Manitowoc, Manitowoc County, Wisconsin (Property). The SI was conducted on behalf of the Client and under a Wisconsin Assessment Monies (WAM) Contractor Services Award (WCS-097). This SI was performed to supplement other redevelopment environmental assessment activities at the Property.

The scope of the limited SI was based on a Phase I Environmental Site Assessments report provided to AECOM, as well as input from the WDNR regarding scope considerations. AECOM has not conducted an assessment of the site and has not come to a professional opinion that other issues are not present.

1.2 Site Location

The Property is located on a peninsula formed by the Manitowoc River and bound to the east by North 10th and 11th Streets, Manitowoc, Manitowoc County, Wisconsin. The property consists of approximately 20 acres of largely vacant former railroad/industrial Land. The Property is bordered by a mix of commercial and industrial properties to the north, south, east and west by commercial properties and to the east by residential properties. The location of the Property is depicted on Figure 1. The Property has a history of use by the railroad and other industries.

1.3 Contact Information

The following are interested parties in this site investigation.

WAM Applicant:
City of Manitowoc
900 Quay Street
Manitowoc, WI 54220
Contact: Paul Braun, 920-686-6930

Regulatory Agency:
Wisconsin Department of Natural Resources
101 South Webster Street – RR/5
Madison, WI 53707-7921
Contact: Tom Coogan, 608-267-7560

2984 Shawano Avenue
Green Bay, Wisconsin, 54313-6727
Contact: Mr. Tauren Beggs, 920-662-5178

Investigation Derived Waste Disposal:
Covanta Environmental Solutions
210 Tower Road
Winneconne, WI 54986
Contact: Steve Sternard, 920-912-5188

Consultant:
AECOM
1555 N. RiverCenter Drive, Suite 214
Milwaukee, WI 53212
Contact: Lanette Altenbach, 414-944-6186

Analytical Laboratory:
Pace Analytical Services
1241 Bellevue Street, Suite 9
Green Bay, WI 54302
Contact: Christopher Hyska, 920-321-9405

Drilling Subcontractor
On-Site Environmental Services, Inc.
P.O. Box 280
Sun Prairie, WI 53590
Contact: Kim Kapugi, 608-837-8992

1.4 Physical Setting

Surface elevation at the Property ranges from approximately 592 to 588 feet above mean sea level (AMSL), and ground surface decreases radially in an overall westerly direction towards the Manitowoc River. Based on the topography, stormwater/surface water at the Property infiltrates the ground surface or is conveyed through a storm sewer to the Manitowoc River. The Property is bound to the north, west, and south by the Manitowoc River, which flows in an overall easterly direction, towards Lake Michigan.

Stantec's previous investigations indicated surface soils beneath the Property consist of anthropogenic fill/reworked native soils underlain by sand and further underlain by clay. Slight variations occur across Sites 1 and 3. Soil boring logs completed on Site 1 generally indicate coarse-grained sand and sandy gravel fill with pulverized concrete and stone in the uppermost approximately 3.5 feet below ground surface (bgs). The fill overlies sand and silty sand to depths ranging between approximately six and 11 feet bgs. Clay and silty clay generally occur beneath the sand. Soil boring logs completed on Site 3 similarly indicate course-grained sandy gravel fill from round surface to approximately six feet bgs overlying an approximately one-foot thick peat layer. Silty sand and clay occur beneath the peat layer.

Regionally, the entire area is underlain by Silurian age bedrock of the Niagaran series. The depth to bedrock is between 50 and 100 feet in this area (Trotta & Cotter, 1973).

As measured in temporary monitoring wells, groundwater occurs within the fill materials between approximately 1.5 and 6.5 ft bgs. Shallow groundwater flow beneath the Property is influenced by the elevation of the Manitowoc River with anticipated radial flow toward the river.

1.5 Potential Migration Pathways and Potential Receptors

Exposures to receptors from potential contamination include direct contact with soil and the potential for soil impacts to extend to and migrate within the groundwater system. Other potential receptors include the Manitowoc River and Lake Michigan.

2. Investigation Methods

2.1 Project Scope

The purpose of this SI was supplement other redevelopment environmental assessment activities at the Property. The scope of work included the installation of fifteen Wisconsin Administrative Code, Chapter NR141 water table monitoring wells for groundwater sampling. Each boring/well location was directly adjacent to an existing temporary monitoring well completed as part of a Phase II ESA (see Stantec's Figure 8) and included seven locations at Site 1 and eight locations at Site 3.

2.2 Soil Boring

AECOM advanced fifteen soil borings on the Property on March 3 and 4, 2020, using a hollow-stem auger. Soil borings were advanced adjacent to, but offset by about 5 feet, existing temporary wells at the Property. The soil borings were advanced to depths of approximately 13-14 feet bgs as shown on the soil boring logs in Appendix A. Representative soil samples, including fill materials were described in general conformance with the Unified Soil Classification System. Soil samples were not collected as part of the scope of work. The WDNR soil boring log forms (Form 4400-122) are provided in Appendix A.

Soils observed at the Property concur with the descriptions included in the Phase I ESA as described in Section 1.4 of this report.

2.3 Groundwater Monitoring Well Installation, Development & Sampling

Fifteen NR 141-compliant groundwater monitoring wells were installed on March 5, 2020 after completion of each associated soil boring. Existing temporary wells were abandoned once the NR 141-compliant monitoring wells were installed. The monitoring well locations are depicted in Figure 2.

The wells were constructed of two-inch diameter polyvinyl chloride (PVC) riser pipes with 0.01-inch-slot size PVC screens that were 10 feet long. In lieu of the proposed sampling method using a peristaltic pump, development of the well consisted of surging and purging with a bailer for 30 minutes followed by purging with a bladder pump until 10 well volumes are removed or until the well produced sediment free water. Three of the fifteen wells installed were pumped dry: wells 1_MW-17, 1_MW-19, 1_MW-43. Well construction forms and well development forms are included in Appendix B.

One groundwater sample was collected from each of the newly installed wells and existing NR 141-compliant well 3_MW-27 on March 18-20, 2020. In lieu of the proposed sampling method using a peristaltic pump, wells were sampled using low-flow purging with a bladder pump and disposable bladders. A new bladder and new tubing was used for each well. Purge volume was determined by the stabilization of field parameters. The groundwater sample analytes for each monitoring well is included as Table 1. The depth to groundwater and field parameters at the time of sampling are listed in Table 2.

Groundwater samples were placed in pre-cleaned and preserved, laboratory-supplied sample jars and submitted to Pace Analytical for laboratory analysis of VOCs (EPA Method 8260), PAHs, and RCRA metals. Sample labels were adhered to each sample jar and contained the sample identification number (with reference to client, facility, and boring number), date and time of collection, analysis to be conducted, preservative, and sampler's initials. The samples were transported by AECOM in coolers containing ice using standard COC procedures.

2.4 Temporary Well Abandonment

Each temporary well that was replaced by an NR-141 compliant monitoring well was abandoned after the new well was installed. The temporary well (SB-27/TW-27) replaced by the previously installed 3_MW-27 was also abandoned. The temporary wells associated with the newly installed wells which were abandoned included:

SB-11/TW-11	SB-64/TW-64	SB-17/TW-17
SB-14/TW-14	SB-72/TW-72	SB-19/TW-19
SB-20/TW-20	SB-77/TW-77	SB-35/TW-35
SB-45/TW-45	SB-10/TW-10	SB-39/TW-39
SB-58/TW-58	SB-14/TW-14	SB-43/TW-43

The temporary wells were abandoned by removing the PVC riser and casing from the borehole. The boring was then backfilled with granular bentonite from its total depth to the surface. WDNR Form 3300-005 Well / Drillhole / Borehole Filling and Sealing Reports are included as Appendix C.

2.5 Investigation-derived Waste

Investigation-derived waste (soil cuttings or purged groundwater) generated during the soil boring and well installation activities were compiled into 55-gallon drums on the property. A composite sample was collected for proper drum disposal, results indicate the soil cuttings are non-hazardous. A total of 13 drums of soil cuttings were generated during soil boring and well installation activities.

Purge water from well development and sampling was collected in 55-gallon drums. Thirteen drums of purge water were accumulated during well development and sampling.

3. Results

Groundwater analytical results are compared to Wisconsin Groundwater Quality standards in WAC Ch. NR 140.10. Wisconsin has two levels of groundwater quality standards. The first level, the Preventive Action Limit (PAL), is a concentration that is 10% (for carcinogenic, mutagenic or teratogenic compounds) to 20% (non-carcinogenic) of the Enforcement Standards (ES). The PAL has been established as the concentration at which notification to the WDNR is required. Remedial action is not always required if a PAL is exceeded. The ES is a health-risk based concentration and exceedances of ESs usually result in further subsurface investigation, remedial action requirements, or monitoring.

Laboratory analytical reports generated as part of this limited SI are provided in Appendix D.

3.1 Soil Results

Soils encountered in Site 1 consisted of sand and fill from approximately 0 to up to 4 ft bgs; deeper soils consisted of silty sand and silty clay to a depth of 13.5 ft bgs. Soils encountered in Site 3 consisted of consisted of poorly graded sand and gravel fill from approximately 0.5 to 6 ft bgs; some areas had up to 6 ft of sandy or silty clay and clay. Deeper soils in Site 3 generally consisted of silty clay or sandy silt up to 13.5 ft bgs. Soil descriptions are provided on the soil boring log forms (WDNR Form 440-122) included as Appendix A.

Soil samples were not included in the scope of work.

3.2 Groundwater Results

The depth to groundwater measured in the temporary wells after an approximately one-week equilibration period following installation, ranged from 3.11 feet to 6.93 feet bgs. Groundwater field parameters and depth to water collected prior to testing are included in Table 2. Detected analytes in groundwater are provided in Table 3.

VOCs were detected in groundwater samples collected from 1_MW-35, 3_MW-27, and 3_MW-58. Benzene was detected above the NR 140 ES in well 3_MW-58; Tetrachloroethylene (PCE) was detected above the NR140 PAL in wells 3_MW-27 and 3_MW-58. Petroleum odor was noted at 3_MW-58.

PAHs detected above their respective NR140 ES included benzo(a)pyrene, benzo(b)fluoranthene, and chrysene at 3-MW-45 and 1-MW-14. Naphthalene was detected above its NR140 PAL at 3_MW-45.

RCRA metals were not detected above their respective NR140 ES in any groundwater samples. Arsenic was detected above the respective NR140 PAL in wells 1_MW-35, 1_MW-36, 3_MW-11, 3_MW-45, 3_MW-58, and 3_MW-64. Barium was detected above the NR140 PAL in 1_MW-39.

The groundwater results are depicted in Figure 3.

4. Conclusions

The purpose of this SI was supplement other redevelopment environmental assessment activities at the Property. The scope of work included the advancement of fifteen soil boring sand completion of those borings as water table observation wells to obtain groundwater samples and assist in evaluating the RECs identified in Stantec's March 2019 Phase I ESA.

Fifteen soil borings were advanced adjacent to previously installed temporary wells; all fifteen soil borings were completed as NR 141-compliant monitoring wells. The previously installed temporary wells were abandoned. Soils encountered were generally consistent with those presented in the Stantec Phase I ESA and consisted of fill materials to depths of up to 6 feet bgs overlying silty clay or sandy silt. Soil samples were not included in the scope of work.

Fifteen water table observation wells were completed, developed, and sampled. Groundwater samples were analyzed for parameters spelled out in AECOM's *Sampling and Analysis Plan*.

Our conclusions include:

- VOCs detected above NR140 enforcement standards (ES) or preventive action limits (PAL) included benzene and tetrachloroethylene (PCE). PAL and ES exceedances for VOCs were limited to Site 3, at the north end of the property. Benzene was detected above the ES in 3_MW-58 and PCE was detected above the PAL in 3_MW-27 and 3_MW-58.
- PAHs were detected above their respective NR140 ES and in both Site 1 and Site 3. Benzo(a)pyrene, benzo(b)fluoranthene, and chrysene at 3-MW-45 and 1-MW-14. Naphthalene was detected above its NR140 PAL at 3_MW-45.
- RCRA metals were not detected above their respective NR140 ES in any groundwater samples, but above PALs in both Site 1 and Site 3. Arsenic was detected above the respective NR140 PAL in wells 1_MW-35, 1_MW-36, 3_MW-11, 3_MW-45, 3_MW-58, and 3_MW-64. Barium was detected above the NR140 PAL in 1_MW-39.

5. References

AECOM, 2019, *Sampling and Analysis Plan/Proposal for a Limited Site Investigation at the Former CN Property*, Manitowoc, Wisconsin, WDNR File Ref: WCS-097, prepared for the Wisconsin Department of Natural Resources.

Stantec Consulting Services, Inc, March 2019, *10th Street Railroad Property, Manitowoc, Wisconsin, Phase II Environmental Site Assessment*, prepared for The Community Development Authority of the City of Manitowoc, Wisconsin.

Stantec Consulting Services, Inc, March 2019, *10th Street Railroad Property, Manitowoc, Wisconsin, Phase I Environmental Site Assessment*, prepared for The Community Development Authority of the City of Manitowoc, Wisconsin.

6. General Qualifications

The purpose of this environmental assessment is to investigate possible soil and/or groundwater impacts, and related liabilities, associated with past and current property uses. The extent of the investigation is limited to the area and location described in this report.

AECOM has prepared this report at the request of its client. AECOM assumes responsibility for the accuracy of the report's content, subject to what is stated elsewhere in this section. AECOM recommends the report be used only for the purpose intended by the client and AECOM, as stated in the report. AECOM disclaims responsibility for the application or interpretation of the results by anyone other than the client. Reliance on the contents of this report by anyone other than the client, without the prior expressed written consent of AECOM, is done at the sole risk of the user.

The results, conclusions, and recommendations presented in this report are based on the data obtained from a limited number of soil boring locations and at the soil sample and groundwater sample locations as indicated in this report. Variations in conditions can occur between these boring, soil sample, and groundwater sample locations. In addition, seasonal and annual fluctuations of the groundwater table, which may influence the distribution of contaminants, can occur. Actual groundwater flow rates may vary from those estimated in this report based on soil conditions.

This report has been prepared in conformance with the care and skill ordinarily exercised by reputable members of the professional engineering community practicing under similar conditions at the same time in the same or similar locality. No other warranty of any kind, expressed or implied, at common law or created by statute, is extended, made, or intended.

TABLES

Table 1
Groundwater Sample Analytes by Monitoring Well
200 N 10th St and 1110 Buffalo St
Manitowoc, Wisconsin

Monitoring Well / Sample ID	Well Depth[1] (Feet)	Constituents				
		PAH	VOC	Dissolved RCRA Metals	Dissolved Arsenic	Dissolved Lead
1_MW-10	14.99	1	1	1		
1_MW-14	14.69	1		1		
1_MW-17	15.20	1	1		1	
1_MW-19	15.31				1	
1_MW-35	15.08	1	1	1		
1_MW-35D		1	1	1		
1_MW-39	14.91	1		1		
1_MW-43	15.30				1	1
3_MW-11	15.04	1			1	
3_MW-14	15.35	1				
3_MW-20	15.15	1				
3_MW-27	15.09	1	1		1	
3_MW-27D		1	1		1	
3_MW-45	15.33	1			1	
3_MW-58	15.31	1	1		1	
3_MW-64	15.05	1			1	
3_MW-72	15.36	1			1	
3_MW-77	15.00	1			1	

Notes:
PAH = Polycyclic Aromatic Hydrocarbons
VOC = Volatile Organic Compounds
RCRA = Resource Conservation and Recovery Act
D is for duplicate
[1] Total depth measured inside from top of well casing

Table 2
Groundwater Field Parameters
Limited Site Investigation - Former CN Property
Manitowoc, WI

Monitoring Well	Depth to Water (ft BTOC)	Temperature (°C)	pH (Units)	Conductivity (µs/cm)	Turbidity (NTU)	Dissolved Oxygen (%)	ORP (mV)
1_MW-10	6.23	4.68	5.88	0.798	6.9	5.98	-47
1_MW-14	6.93	4.25	5.61	1.04	4.3	4.04	102
1_MW-17	3.11	4.4	6.36	0.456	16.4	9.96	-52
1_MW-19	4.4	insufficient water volume					
1_MW-35	4.16	4.03	5.43	1.65	9.7	4.28	-92
1_MW-39	4.52	4.64	5.16	6.57	4.2	3.45	-97
1_MW-43	5.23	insufficient water volume					
3_MW-11	3.39	3.32	5.46	1.18	9.3	5.14	-110
3_MW-14	3.28	2.67	5.51	1.26	2.4	4.18	-120
3_MW-20	4.09	2.94	5.9	1.16	7.7	1.74	16
3_MW-27 (previously installed)	5.59	2.62	5.95	0.568	0.5	2.71	180
3_MW-45	3.35	4.01	5.67	0.986	8.7	2.12	-56
3_MW-58	5	5.57	6.17	0.818	15.6	10.31	-73
3_MW-64	4.27	3.86	5.81	0.734	9.1	3.41	-70
3_MW-72	5.43	4.89	6.17	0.89	8.4	2.54	212
3_MW-77	6.14	4.42	6.25	1.33	36.2	11.91	271

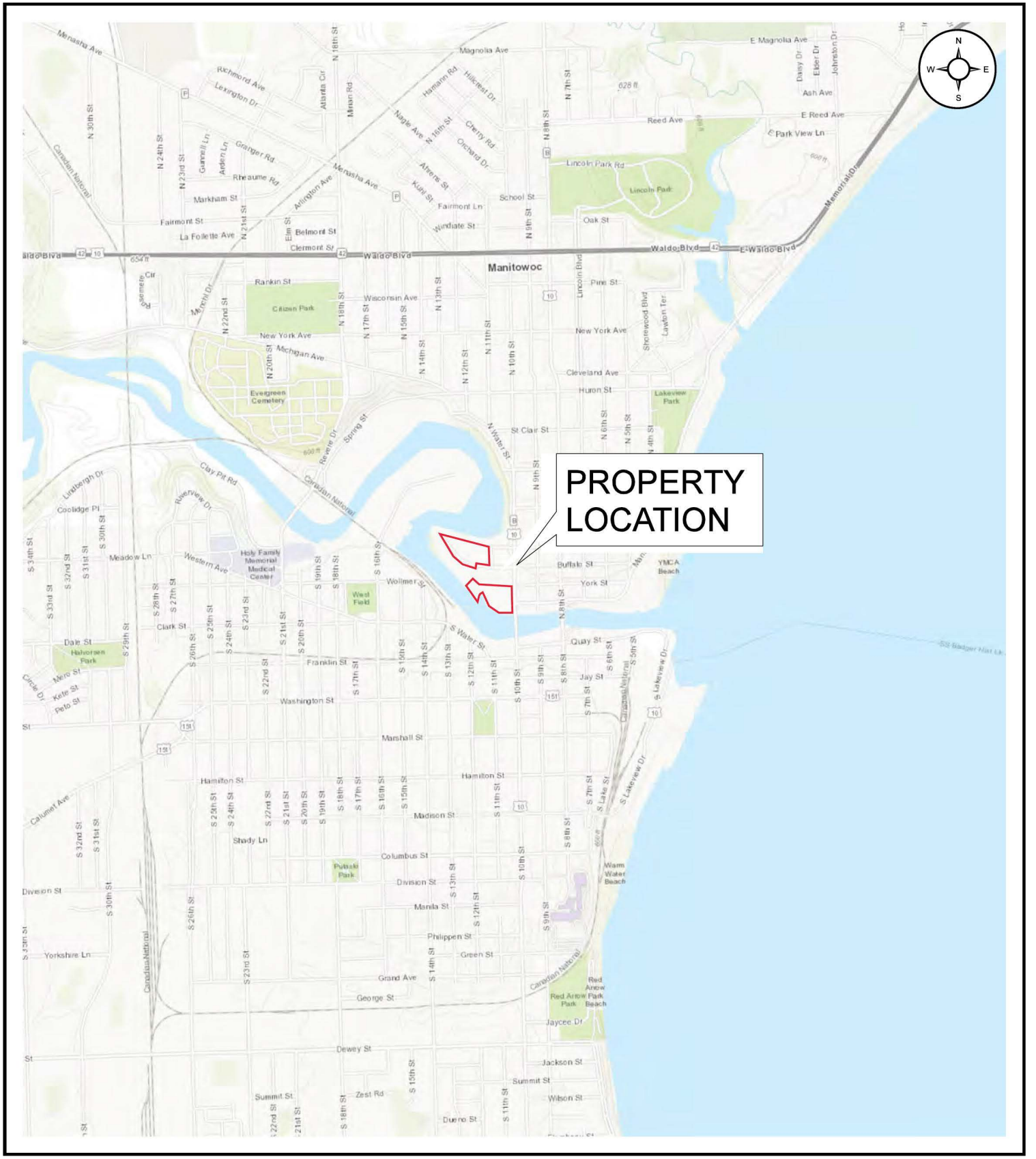
ft BTOC = feet below top of casing
^{o}C = degrees celcius
mg/l = milligrams per liter.
µs/cm -microsiemens per centimeter
NTU = Nephelometric turbidity units
% = percent
mV = millivolts

Table 3
Groundwater Analytical Results
Limited Site Investigation - Former CN Property
Manitowoc, Wisconsin

	Groundwater Quality Standards		1_MW-10 3/18/2020	1_MW-14 3/18/2020	1_MW-17 3/19/2020	1_MW-19 3/18/2020	1_MW-35 3/18/2020	1_MW-35D 3/18/2020	1_MW-39 3/18/2020	1_MW-43 3/18/2020	3_MW-11 3/19/2020	3_MW-14 3/19/2020	3_MW-20 3/19/2020	3_MW-27 3/20/2020	3_MW-27D 3/20/2020	3_MW-45 3/19/2020	3_MW-58 3/20/2020	3_MW-64 3/19/2020	3_MW-72 3/20/2020	3_MW-77 3/20/2020
Analyte	**ES**	**PAL**																		
Detected VOCs (µg/L)																				
1,2,4-Trimethylbenzene	--	--	< 0.84	NA	< 0.84	NA	< 0.84	< 0.84	NA	NA	NA	NA	NA	< 0.84	< 0.84	NA	279	NA	NA	NA
1,3,5-Trimethylbenzene	--	--	< 0.87	NA	< 0.87	NA	< 0.87	< 0.87	NA	NA	NA	NA	NA	< 0.87	< 0.87	NA	79.6	NA	NA	NA
Benzene	**5**	0.5	< 0.25	NA	< 0.25	NA	< 0.25	< 0.25	NA	NA	NA	NA	NA	< 0.25	< 0.25	NA	**15.3**	NA	NA	NA
Ethylbenzene	700	140	< 0.32	NA	< 0.32	NA	< 0.32	< 0.32	NA	NA	NA	NA	NA	< 0.32	< 0.32	NA	112	NA	NA	NA
Isopropylbenzene (Cumene)	--	--	< 1.7	NA	< 1.7	NA	< 1.7	< 1.7	NA	NA	NA	NA	NA	< 1.7	< 1.7	NA	15.5	NA	NA	NA
m,p-Xylenes	--	--	< 0.47	NA	< 0.47	NA	< 0.47	< 0.47	NA	NA	NA	NA	NA	< 0.47	< 0.47	NA	260	NA	NA	NA
n-Butylbenzene	--	--	< 0.71	NA	< 0.71	NA	< 0.71	< 0.71	NA	NA	NA	NA	NA	< 0.71	< 0.71	NA	19.3	NA	NA	NA
n-Propylbenzene	--	--	< 0.81	NA	< 0.81	NA	< 0.81	< 0.81	NA	NA	NA	NA	NA	< 0.81	< 0.81	NA	29.7	NA	NA	NA
o-Xylene	--	--	< 0.26	NA	< 0.26	NA	< 0.26	< 0.26	NA	NA	NA	NA	NA	< 0.26	< 0.26	NA	3.1	NA	NA	NA
p-Isopropyltoluene	--	--	< 0.80	NA	< 0.80	NA	34.5	31.2	NA	NA	NA	NA	NA	< 0.80	< 0.80	NA	3.5 J	NA	NA	NA
sec-Butylbenzene	--	--	< 0.85	NA	< 0.85	NA	< 0.85	< 0.85	NA	NA	NA	NA	NA	< 0.85	< 0.85	NA	7.7 J	NA	NA	NA
Tetrachloroethene	5	0.5	< 0.33	NA	< 0.33	NA	< 0.33	< 0.33	NA	NA	NA	NA	NA	*1.0* J	*1.1*	NA	*1.2* J	NA	NA	NA
Toluene	800	160	< 0.27	NA	< 0.27	NA	0.52 J	0.48 J	NA	NA	NA	NA	NA	< 0.27	< 0.27	NA	1.9 J	NA	NA	NA
Trichloroethene	5	0.5	< 0.26	NA	< 0.26	NA	< 0.26	< 0.26	NA	NA	NA	NA	NA	0.33 J	0.45 J	NA	< 0.64	NA	NA	NA
Xylene (Total)	2000	400	< 1.5	NA	< 1.5	NA	< 1.5	< 1.5	NA	NA	NA	NA	NA	< 1.5	< 1.5	NA	263	NA	NA	NA
PAHs (µg/L)																				
1-Methyl naphthalene	--	--	0.09	0.011 J	0.025 J	NA	< 0.0057	< 0.0063	0.7	NA	0.0066 J	< 0.0057 UJ	< 0.0062	< 0.0055	< 0.0055	5.1	146	< 0.0068	< 0.0065	0.017 J
2-Methylnaphthalene	--	--	0.0092 J	0.011 J	0.010 J	NA	< 0.0047	< 0.0053	0.9	NA	< 0.0046	< 0.0048 UJ	< 0.0052	< 0.0045	< 0.0045	6.5	182	< 0.0056	< 0.0054	0.0077 J
Acenaphthene	--	--	0.074	0.0089 J	0.016 J	NA	< 0.0058	< 0.0065	9.2	NA	0.17	0.012 J-	< 0.0064	< 0.0056	< 0.0056	0.8	3.8	< 0.0070	< 0.0067	< 0.0057
Acenaphthylene	--	--	0.011 J	0.056	0.0060 J	NA	0.0071 J	0.0075 J	0.012 J	NA	< 0.0047	0.0078 J-	< 0.0052	< 0.0046	< 0.0046	4.8	2.6	< 0.0057	< 0.0055	< 0.0047
Anthracene	3000	600	< 0.010	0.075	< 0.010	NA	0.059	0.049 J	0.033 J	NA	< 0.0099	< 0.010 UJ	< 0.011	< 0.0097	< 0.0097	1.2	0.85 J	< 0.012	< 0.011	< 0.0098
Benzo(a)anthracene	--	--	< 0.0074	0.31	0.0080 J	NA	0.0093 J	< 0.0081	0.0084 J	NA	< 0.0071	0.0091 J-	< 0.0079	< 0.0070	< 0.0070	0.33	< 0.18	< 0.0087	< 0.0083	< 0.0071
Benzo(a)pyrene	0.2	0.02	< 0.010	**0.3**	< 0.010	NA	< 0.010	< 0.011	< 0.011	NA	< 0.0099	< 0.010 UJ	< 0.011	< 0.0098	< 0.0098	**0.42**	< 0.26	< 0.012	< 0.012	< 0.0098
Benzo(b)fluoranthene	0.2	0.02	< 0.0056	**0.38**	< 0.0056	NA	0.011 J	< 0.0062	< 0.0057	NA	< 0.0054	0.0089 J-	< 0.0060	< 0.0053	< 0.0053	**0.40** J+	< 0.14	< 0.0066	< 0.0063	< 0.0054
Benzo(g,h,i)perylene	--	--	< 0.0066	0.14	< 0.0066	NA	0.0088 J	< 0.0073	< 0.0068	NA	< 0.0064	< 0.0066 UJ	0.014 J	< 0.0063	< 0.0063	0.42	< 0.16	0.0079 J	< 0.0075	< 0.0063
Benzo(k)fluoranthene	--	--	< 0.0074	0.19	< 0.0073	NA	< 0.0073	< 0.0081	< 0.0076	NA	< 0.0071	< 0.0073 UJ	< 0.0079	< 0.0070	< 0.0070	0.19	< 0.18	< 0.0087	< 0.0083	< 0.0071
Chrysene	0.2	0.02	< 0.013	**0.37**	< 0.013	NA	< 0.013	< 0.014	< 0.013	NA	< 0.012	< 0.013 UJ	< 0.014	< 0.012	< 0.012	**0.35**	< 0.32	< 0.015	< 0.014	< 0.012
Dibenzo(a,h)anthracene	--	--	< 0.0098	0.037 J	< 0.0097	NA	< 0.0096	< 0.011	< 0.010	NA	< 0.0095	< 0.0097 UJ	< 0.011	< 0.0093	< 0.0093	0.054 J	< 0.24	< 0.012	< 0.011	< 0.0094
Fluoranthene	400	80	< 0.010	0.77	< 0.010	NA	< 0.010	< 0.011	0.058	NA	< 0.010	0.040 J-	< 0.011	< 0.0099	< 0.0099	1.2	< 0.26	< 0.012	< 0.012	< 0.010
Fluorene	400	80	0.043	0.049	0.0083 J	NA	< 0.0077	< 0.0086	0.53	NA	0.024 J	0.019 J-	< 0.0084	< 0.0074	< 0.0074	2.9	7.2	< 0.0092	< 0.0088	< 0.0074
Indeno(1,2,3-cd)pyrene	--	--	< 0.017	0.14	< 0.017	NA	< 0.017	< 0.019	< 0.018	NA	< 0.017	< 0.017 UJ	< 0.019	< 0.016	< 0.016	0.25 J+	< 0.43	< 0.020	< 0.019	< 0.016
Naphthalene	100	10	0.14	< 0.018	0.087 J	NA	< 0.018	< 0.020	0.17	NA	< 0.017	< 0.018 UJ	< 0.019	< 0.017	< 0.017	*33.6*	6	< 0.021	0.020 J	< 0.017
Phenanthrene	--	--	< 0.014	0.5	< 0.013	NA	< 0.013	< 0.015	0.42	NA	< 0.013	< 0.013 UJ	< 0.015	< 0.013	< 0.013	4.8	9.8	< 0.016	< 0.015	< 0.013
Pyrene	250	50	< 0.0075	0.61	0.0075 J	NA	0.0076 J	< 0.0082	0.035 J	NA	< 0.0072	0.027 J-	< 0.0081	< 0.0071	< 0.0071	1	0.40 J	< 0.0088	< 0.0084	< 0.0071
Detected Metals (µg/L)																				
Arsenic	10	1	0.88 J	0.64 J	0.32 J	< 0.56	*1.4* J	*1.6*	< 1.4	0.80 J	*7.5*	NA	NA	< 0.28	< 0.28	*1.4*	*3.8*	*4.3*	0.44 J	0.92 J
Barium	2000	400	102	99.2	NA	NA	220	208	*729*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	50	10	1.5	1.6	NA	NA	< 0.63	< 0.32	< 1.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
µg/L = micrograms per liter
-- = ES or PAL not established
J - Estimated concentration between the method detection limit and the reporting limit (+/- indicate the direction of bias).
UJ = Estimated limit of detection (LOD).
NA - Not analyzed.
NR 140 ES = Wisconsin Administrative Code, Chapter NR 140 Enforcement Standard, January 2020, Exceedances are **Bold**.
NR 140 PAL = Wisconsin Administrative Code, Chapter NR 140 Preventive Action Limit, January 2020, Exceedances are *Underlined Italics.*

FIGURES



Site Location (Manitowoc County)

SITE LOCATION MAP
Former CN Property Limited SI Report
200 North 10th Street & 1110 Buffalo Street
Manitowoc, WI

AECOM Project: 60615404

Date: April 2020

0 0.25 0.5 0.75 1 Miles

Source: NGS USA Topographic Maps
Copyright: © 2009 National Geographic Society

AECOM
1555 N RiverCenter Dr
Milwaukee, WI 53212
414-944-6080

FIGURE 1

Legend:

- 2020 Monitoring Wells
- Site 1 - 200 North 10th Street
- Site 3 - 1110 Buffalo Street
- Former UST (10)
- Product Piping (2)
- Pump House (7)
- Soil Excavation (3)
- Oil House (5)
- Oil Tank (AST) (42)
- UST (2)
- Potable Water Conveyance System (18)
- Potable Water Lateral (34)
- Sanitary Conveyance System (27)
- Sanitary Lateral (149)
- Stormwater Conveyance System (40
- Stormwater Lateral (22)
- Existing Groundwater Monitoring Well

0' 125' 250' 500'

SCALE

Notes:

1. Aerial map is from Stantec Phase I Environmental Site Assessment dated March 2019.

AECOM
Milwaukee Office
1555 RiverCenter Dr
Milwaukee, WI
414.944.6080

Former CN Property Limited SI Report
200 North 10th Street & 1110 Buffalo Street
Manitowoc, WI

SITE LAYOUT AND SAMPLE LOCATIONS

Project Number:	Drawn By:	Date:	Figure No. 2
60615404	CAS	4/21/2020	

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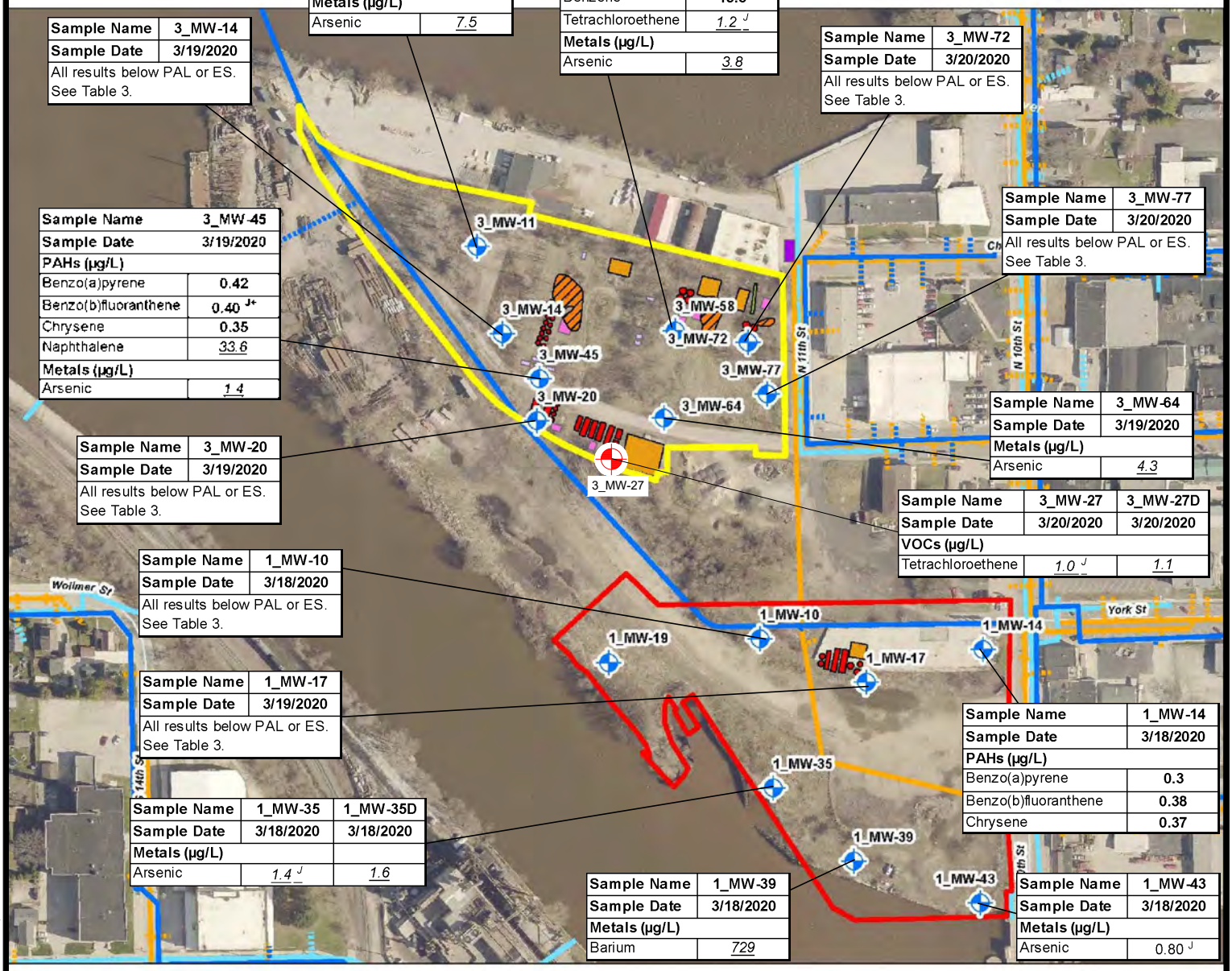

Sample Name	3_MW-11
Sample Date	3/19/2020
Metals (µg/L)	
Arsenic	7.5

Sample Name	3_MW-58
Sample Date	3/20/2020
VOCs (µg/L)	
Benzene	15.3
Tetrachloroethene	1.2 J
Metals (µg/L)	
Arsenic	3.8

Sample Name	3_MW-14
Sample Date	3/19/2020
All results below PAL or ES. See Table 3.	

Sample Name	3_MW-72
Sample Date	3/20/2020
All results below PAL or ES. See Table 3.	

Sample Name	3_MW-45
Sample Date	3/19/2020
PAHs (µg/L)	
Benzo(a)pyrene	0.42
Benzo(b)fluoranthene	0.40 J+
Chrysene	0.35
Naphthalene	33.6
Metals (µg/L)	
Arsenic	1.4

Sample Name	3_MW-77
Sample Date	3/20/2020
All results below PAL or ES. See Table 3.	

Sample Name	3_MW-64
Sample Date	3/19/2020
Metals (µg/L)	
Arsenic	4.3

Sample Name	3_MW-20
Sample Date	3/19/2020
All results below PAL or ES. See Table 3.	

Sample Name	3_MW-27	3_MW-27D
Sample Date	3/20/2020	3/20/2020
VOCs (µg/L)		
Tetrachloroethene	1.0 J	1.1

Sample Name	1_MW-10
Sample Date	3/18/2020
All results below PAL or ES. See Table 3.	

Sample Name	1_MW-17
Sample Date	3/19/2020
All results below PAL or ES. See Table 3.	

Sample Name	1_MW-14
Sample Date	3/18/2020
PAHs (µg/L)	
Benzo(a)pyrene	0.3
Benzo(b)fluoranthene	0.38
Chrysene	0.37

Sample Name	1_MW-35	1_MW-35D
Sample Date	3/18/2020	3/18/2020
Metals (µg/L)		
Arsenic	1.4 J	1.6

Sample Name	1_MW-39
Sample Date	3/18/2020
Metals (µg/L)	
Barium	729

Sample Name	1_MW-43
Sample Date	3/18/2020
Metals (µg/L)	
Arsenic	0.80 J

Legend:

- 2020 Monitoring Wells
- Site 1 - 200 North 10th Street
- Site 3 - 1110 Buffalo Street
- Former UST (10)
- Product Piping (2)
- Pump House (7)
- Soil Excavation (3)
- Oil House (5)
- Oil Tank (AST) (42)
- UST (2)
- Potable Water Conveyance System (18)
- Potable Water Lateral (34)
- Sanitary Conveyance System (27)
- Sanitary Lateral (149)
- Stormwater Conveyance System (40
- Stormwater Lateral (22)
- Existing Groundwater Monitoring Well

0' 125' 250' 500'

SCALE

Notes:

1. Aerial map is from Stantec Phase I Environmental Site Assessment dated March 2019.
2. PAL = Preventive Action Limit, ES = Enforcement Standard, J = Estimated concentration (+/- indicate the direction of bias), ug/L = micrograms per liter
3. Only results exceeding NR140 PAL or ES are shown.

AECOM
Milwaukee Office
1555 RiverCenter Dr
Milwaukee, WI
414.944.6080

Former CN Property Limited SI Report
200 North 10th Street & 1110 Buffalo Street
Manitowoc, WI

GROUNDWATER PAL AND ES EXCEEDANCES

Project Number: 60615404 | Drawn By: CAS | Date: 4/21/2020

Figure No. 3

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Appendix A Soil Boring Logs

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
CN Manitowoc, 200 N. 10th Street	60615404	1_MW-10

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Tony Kapugi Onsite Environmental	3/3/2020	3/3/2020	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		1_MW-10	Feet MSL	Feet MSL	4.50

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane N, E S / C / N
1/4 of 1/4 of Section , T N, R
Lat ____ ° ____ ' ____ "
Long ____ ____ ' ____ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
			Manitowoc

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	Coarse sand and gravel fill, 2/2, dry, loose, poorly graded	Fill									11:35 - 12:30
			2	Fine to medium sand, 4/4, moist, loose, poorly graded										
			4	Fine to medium sand, 4/4, wet, loose, poorly graded, silty clay, some other light staining, gray colors, soft, medium plasticity, moderate petroleum odor, 5Y 4/1										
			13	End of boring at 13.5 feet bgs, blind drilled; descriptions from soil cuttings. Well completed as NR-141 compliant monitoring well.										

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

Signature	Firm	Tel:
Jacob Dean	AECOM	Fax:

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in 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 this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
CN Manitowoc, 200 N. 10th Street	60615404	1_MW-14

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Tony Kapugi Onsite Environmental	3/4/2020	3/4/2020	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		1_MW-14	Feet MSL	Feet MSL	4.50

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane N, E S / C / N
1/4 of 1/4 of Section , T N, R
Lat ____ ° ____ ' ____ "
Long ____ ____ ° ____ ' ____ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
			Manitowoc

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			0	Concrete	Concrete									9:30 - 10:30
			1	Medium-coarse sand and gravel, 3/3, dry, loose poorly graded	SP									
			4	Fine-medium-coarse sand, 4/4, wet loose, poorly graded										
			13	End of boring at 13.5 feet bgs, blind drilled; descriptions from soil cuttings. Well completed as NR-141 compliant monitoring well.										

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Jacob Dean	AECOM	Fax:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
CN Manitowoc, 200 N. 10th Street	60615404	1_MW-17

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Tony Kapugi Onsite Environmental	3/3/2020	3/3/2020	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		1_MW-17	Feet MSL	Feet MSL	4.50

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane N, E S / C / N
1/4 of 1/4 of Section , T N, R
Lat ____ ° ____ ' ____ "
Long ____ ° ____ ' ____ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
			Manitowoc

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	Medium sand and fill, 3/2, moist, loose, poorly graded	Fill									12:50 - 13:45
			2	Silty sand, 4/4, wet, loose, poorly graded	SM									
			3											
			4											
			5											
			6											
			7											
			8											
			9											
			10											
			11											
			12											
			13	End of boring at 13.5 feet bgs, blind drilled; descriptions from soil cuttings. Well completed as NR-141 compliant monitoring well.										

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

Signature	Firm	Tel:
Jacob Dean	AECOM	Fax:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
CN Manitowoc, 200 N. 10th Street	60615404	1_MW-19

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Tony Kapugi Onsite Environmental	3/3/2020	3/3/2020	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		1_MW-19	Feet MSL	Feet MSL	4.50

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane N, E S / C / N
1/4 of 1/4 of Section , T N, R
Lat ____ ° ____ ' ____ "
Long ____ ° ____ ' ____ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
			Manitowoc

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	Sand and gravel fill, 4/4, dry, loose, poorly graded	Fill									10:35 - 11:20
			2	Fine to medium sand, 4/4, dry, loose, poorly graded	SP									
			3	Riprap, rock fill	Fill									
			4											
			5	Silty clay, 3/1, wet, soft, high plasticity	CL									
			6											
			7											
			8	Medium to coarse sand and gravel fill, 2/1, wet, loose, poorly graded	Fill									
			9	Silty clay, 3/1, wet, soft, high plasticity	CL									
			10											
			11											
			12											
			13											
				End of boring at 13.5 feet bgs, blind drilled; descriptions from soil cuttings. Well completed as NR-141 compliant monitoring well.										

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

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Jacob Dean	AECOM	Fax:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
CN Manitowoc, 200 N. 10th Street	60615404	1_MW-35

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Tony Kapugi Onsite Environmental	3/4/2020	3/4/2020	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		1_MW-35	Feet MSL	Feet MSL	4.50

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane N, E S / C / N
1/4 of 1/4 of Section , T N, R
Lat ____ ° ____ ' ____ "
Long ____ ° ____ ' ____ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
			Manitowoc

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	Medium sand and gravel fill, 3/3, dry, loose, poorly graded	Fill									8:00 - 8:20
			2	Medium sand and gravel fill, 3/2, wet, loose, poorly graded	Fill									
			3											
			4	Silty clay, 3/1, wet, soft, high plasticity										
			5											
			6											
			7											
			8											
			9		CL									
			10											
			11											
			12											
			13											
				End of boring at 13.5 feet bgs, blind drilled; descriptions from soil cuttings. Well completed as NR-141 compliant monitoring well.										

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

Signature	Firm	Tel:
Jacob Dean	AECOM	Fax:

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Jacob Dean

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION
Form 4400-122 Rev. 7-98

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

Page 1 of 1

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
CN Manitowoc, 200 N. 10th Street	60615404	1_MW-39

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Tony Kapugi Onsite Environmental	3/4/2020	3/4/2020	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		1_MW-39	Feet MSL	Feet MSL	4.50

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane N, E S / C / N
1/4 of 1/4 of Section , T N, R
Lat ____ ° ____ ' ____ "
Long ____ ° ____ ' ____ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
			Manitowoc

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1–13	Coarse sand and gravel fill, 3/2, dry, loose, poorly graded	Fill									8:40 to 9:10
			4–5	Silty clay, 3/2, wet, soft, medium plasticity	CL									
			6–7	Coarse sand and gravel fill, 2/2, wet, loose, poorly graded	Fill									
			8–13	Silty clay, 3/1, wet, soft, high plasticity Some organic material at 8 feet	CL									
				End of boring at 13.5 feet bgs, blind drilled; descriptions from soil cuttings. Well completed as NR-141 compliant monitoring well.										

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

Signature	Firm	
Jacob Dean	AECOM	Tel: Fax:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
CN Manitowoc, 200 N. 10th Street	60615404	1_MW-43

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Tony Kapugi Onsite Environmental	3/3/2020	3/3/2020	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		1_MW-43	Feet MSL	Feet MSL	4.50

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane N, E S / C / N
1/4 of 1/4 of Section , T N, R
Lat ____ ° ____ ' ____ "
Long ____ ° ____ ' ____ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
			Manitowoc

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1–13	Coarse sand and gravel fill, 4/3, dry, loose, poorly graded	Fill									14:00 - 14:40
				Sandy silt, 3/2, wet, soft, medium plasticity	CL									
				Silty clay, 3/2, wet, soft, medium plasticity	CL									
				End of boring at 13.5 feet bgs, blind drilled; descriptions from soil cuttings. Well completed as NR-141 compliant monitoring well.										

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

Signature	Firm	Tel:
Jacob Dean	AECOM	Fax:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
CN Manitowoc, 1110 Buffalo Street	60615404	3_MW-11

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Tony Kapugi Onsite Environmental	3/3/2020	3/3/2020	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		3_MW-11	Feet MSL	Feet MSL	4.50

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane N, E S / C / N
1/4 of 1/4 of Section , T N, R
Lat ____ ° ____ ' ____ "
Long ____ ____ ° ____ ' ____ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
			Manitowoc

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	FILL: Medium to coarse sand and gravel, 3/2, moist, loose, poorly graded	Fill									9:50 - 10:20
			2	FILL: Medium to coarse sand and gravel, 3/2, wet, loose, poorly graded	Fill									
			3											
			4											
			5											
			6	Sandy clay, 3/1, wet, soft, high plasticity	CL									
			7											
			8											
			9											
			10											
			11											
			12											
			13	End of boring at 13.5 feet bgs. Blind drilled; descriptions from soil cuttings. Well completed as NR-141 compliant monitoring well.										

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
CN Manitowoc, 1110 Buffalo Street	60615404	3_MW-14

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Tony Kapugi Onsite Environmental	3/3/2020	3/3/2020	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		3_MW-14	Feet MSL	Feet MSL	4.50

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane N, E S / C / N
1/4 of 1/4 of Section , T N, R
Lat ____ ° ____ ' ____ "
Long ____ ° ____ ' ____ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
			Manitowoc

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	FILL: Sand and gravel, 3/2, moist, loose, poorly graded	Fill									9:00 - 9:40
			2											
			3	Silty clay, 2/1, wet, soft, high plasticity	CL									
			4											
			5											
			6											
			7											
			8											
			9											
			10											
			11											
			12											
			13	End of boring at 13.5 feet bgs. Blind drilled; descriptions from soil cuttings. Well completed as NR-141 compliant monitoring well.										

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
CN Manitowoc, 1110 Buffalo Street	60615404	3_MW-20

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Tony Kapugi Onsite Environmental	3/3/2020	3/3/2020	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		3_MW-20	Feet MSL	Feet MSL	4.50

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane N, E S/C/N
1/4 of 1/4 of Section , T N, R
Lat ____ ° ____ ' ____ "
Long ____ ° ____ ' ____ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
			Manitowoc

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			0	Topsoil, grass	Topsoil									8:00 - 8:45
			1	FILL: Fine to medium sand, 3/2, moist, loose, poorly graded	Fill									
			3	FILL: Medium sand and gravel, 2/2, wet, loose, poorly graded	Fill									
			7	Silty clay, 3/1, wet, soft, high plasticity	CL									
			13	End of boring at 13.5 feet bgs. Blind drilled; descriptions from soil cuttings. Well completed as NR-141 compliant monitoring well.										

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:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
CN Manitowoc, 1110 Buffalo Street	60615404	3_MW-45

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Tony Kapugi Onsite Environmental	3/2/2020	3/2/2020	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		3_MW-45	Feet MSL	Feet MSL	4.50

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane N, E S / C / N
1/4 of 1/4 of Section , T N, R
Lat ____ ° ____ ' ____ "
Long ____ ° ____ ' ____ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
			Manitowoc

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	Clayey fine to medium sand, 4/4, moist, loose, poorly graded	CL									15:10 - 16:00
			3	FILL: Fine to medium sand, 2/2, wet, loose, poorly graded	Fill									
			6	FILL: Sandy gravel, 2/2, wet, loose, poorly graded	Fill									
			10	Silty clay, 4/1, wet, soft, high plasticity	CL									
			13	End of boring at 13.5 feet bgs. Blind drilled; descriptions from soil cuttings. Well completed as NR-141 compliant monitoring well.										

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

Signature	Firm	Tel:
Jacob Dean	AECOM	Fax:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
CN Manitowoc, 1110 Buffalo Street	60615404	3_MW-58

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Tony Kapugi Onsite Environmental	3/2/2020	3/2/2020	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		3_MW-58	Feet MSL	Feet MSL	4.50

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane N, E S / C / N
1/4 of 1/4 of Section , T N, R
Lat ____ ° ____ ' ____ "
Long ____ ° ____ ' ____ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
			Manitowoc

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	Fine to medium sand, 4/3, moist, loose, poorly graded	SP									11:20 - 12:15
			2	Silty clay, black and gray, moist, soft, medium plasticity, strong petroleum odor	CL									
			3	Silty clay, wet, light gray (6/2), soft, high plasticity, strong petroleum odor	CL									
			4											
			5											
			6											
			7	Sandy silt, 6/2, wet, soft, high plasticity, trace gravel	SM									
			8											
			9											
			10											
			11											
			12											
			13	End of boring at 13.5 feet bgs. Blind drilled; descriptions from soil cuttings. Well completed as NR-141 compliant monitoring well.										

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Signature	Firm	Tel:
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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
CN Manitowoc, 1110 Buffalo Street	60615404	3_MW-64

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Tony Kapugi Onsite Environmental	3/2/2020	3/2/2020	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		3_MW-64	Feet MSL	Feet MSL	4.50

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane N, E S / C / N
1/4 of 1/4 of Section , T N, R
Lat ____ ° ____ ' ____ "
Long ____ ____ ° ____ ' ____ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
			Manitowoc

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	Topsoil, grass	Topsoil									13:30 - 14:50
			2	Clayey fine to medium sand, moist, 3/2, loose, poorly graded	CL									
			4	Clayey fine to medium sand, 3/2, wet, loose, poorly graded	CL									
			8	Silty fine-medium-coarse sand, 2/2, wet, loose, well graded, trace gravel	SM									
			10	Silty clay, very light silvery gray (6/2), wet, soft, high plasticity, strong petroleum odor	CL									
			13	End of boring at 13.5 feet bgs. Blind drilled; descriptions from soil cuttings. Well completed as NR-141 compliant monitoring well.										

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Jacob Dean	AECOM	Fax:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
CN Manitowoc, 1110 Buffalo Street	60615404	3_MW-72

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Tony Kapugi Onsite Environmental	3/2/2020	3/2/2020	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		3_MW-72	Feet MSL	Feet MSL	4.50

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane N, E S / C / N
1/4 of 1/4 of Section , T N, R
Lat ____ ° ____ ' ____ "
Long ____ ° ____ ' ____ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
			Manitowoc

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	Sand and gravel, moist, 4/4, poorly graded, loose	GW									10:25 - 11:00
			2	Silty clay, wet, 4/4, soft, high plasticity	CL									
			3											
			4											
			5											
			6											
			7											
			8											
			9											
			10											
			11											
			12											
			13	End of boring at 13.5 feet bgs. Blind drilled; descriptions from soil cuttings. Well completed as NR-141 compliant monitoring well.										

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

Signature	Firm	Tel:
Jacob Dean	AECOM	Fax:

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
CN Manitowoc, 1110 Buffalo Street	60615404	3_MW-77

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Tony Kapugi Onsite Environmental	3/2/2020	3/2/2020	hollow stem auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		3_MW-77	Feet MSL	Feet MSL	4.50

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☒
State Plane N, E S / C / N
1/4 of 1/4 of Section , T N, R
Lat ____ ° ____ ' ____ "
Long ____ ° ____ ' ____ "
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
			Manitowoc

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			1	Topsoil, grass	Topsoil									12:40 - 13:20
			2	Sandy clay, 4/4, moist, medium soft, medium plasticity	CL									
			3	Sandy clay, 4/4, wet, soft, high plasticity, petroleum odor	CL									
			12	Silty sand, 4/4, wet, loose, poorly graded	SM									
			13	End of boring at 13.5 feet bgs. Blind drilled; descriptions from soil cuttings. Well completed as NR-141 compliant monitoring well.										

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

Signature	Firm	Tel:
Jacob Dean	AECOM	Fax:

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Appendix B Well Construction Forms and Development Forms

Well Construction Forms

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: ____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	Well Name: 1 MW-10
Facility License, Permit or Monitoring No.: 60615404	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well Number
Facility ID	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 ☐ 5 0
Hollow Stem Auger ☒ 4 1
____ Other ☐ _ _

15. Drilling fluid used: Water ☐ 0 2 Air ☐ 0 1
Drilling Mud ☐ 0 3 None ☒ 9 9

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.

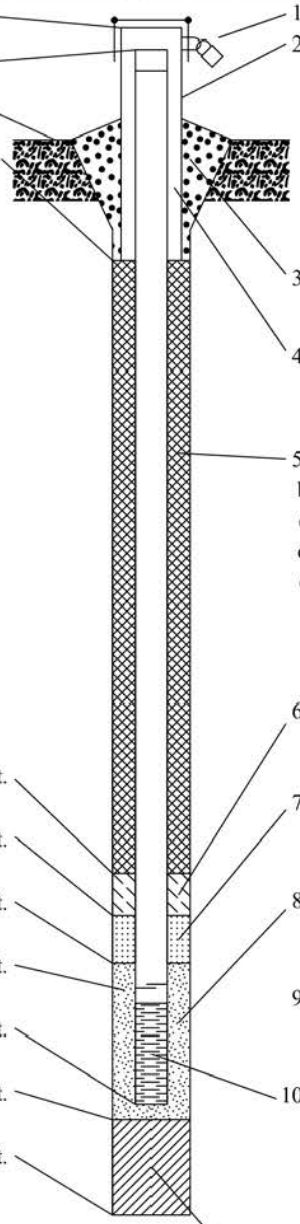
J. Filter pack, bottom ____ ft. MSL or 13.50 ft.

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 ☒ 0 4
____ Other ☐ _ _
d. Additional protection? ☐ Yes ☒ No
If yes, describe: ____
3. Surface seal: Bentonite ☐ 3 0
Concrete ☐ 0 1
____ Other ☐ _ _
4. Material between well casing and protective pipe:
Bentonite ☒ 3 0
Sand Other ☐ _ _
5. Annular space seal: a. Granular/Chipped Bentonite ☐ 3 3
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 3 5
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐ 3 1
d. ____% Bentonite . . . Bentonite-cement grout ☐ 5 0
e. ____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 0 1
Tremie pumped ☐ 0 2
Gravity ☐ 0 8
6. Bentonite seal: a. Bentonite granules ☐ 3 3
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 3 2
c. Halliburton Hole Plug 0.75 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 3 ft^3
9. Well casing: Flush threaded PVC schedule 40 ☐ 2 3
Flush threaded PVC schedule 80 ☐ 2 4
____ Other ☐ _ _
10. Screen material: PVC Screen _ _
a. Screen Type: Factory cut ☒ 1 1
Continuous slot ☐ 0 1
____ Other ☐ _ _
b. Manufacturer ____
c. Slot size: ____ in.
d. Slotted length: ____ ft.
11. Backfill material (below filter pack): None ☐ 1 4
____ Other ☒ _ _

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

Signature	Firm	Tel: / Fax:
Jacob Dean	AECOM	

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.

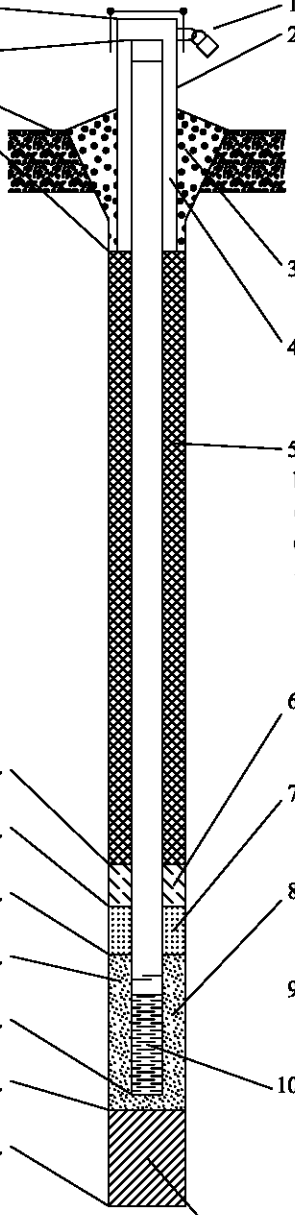
State of Wisconsin
Department of Natural Resources

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: ____ft. ☐N. ☐S. ____ft. ☐E. ☐W.	Well Name: 1 MW-14
Facility License, Permit or Monitoring No.: 60615404	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well Number
Facility ID	St. Plane ____ ft. N, ____ ft. E. S/C/N	Date Well Installed: 03/04/2020
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 3 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	Firm	
Jacob Dean	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 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: 1 MW-17
Facility License, Permit or Monitoring No.: 60615404	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well Number
Facility ID	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.

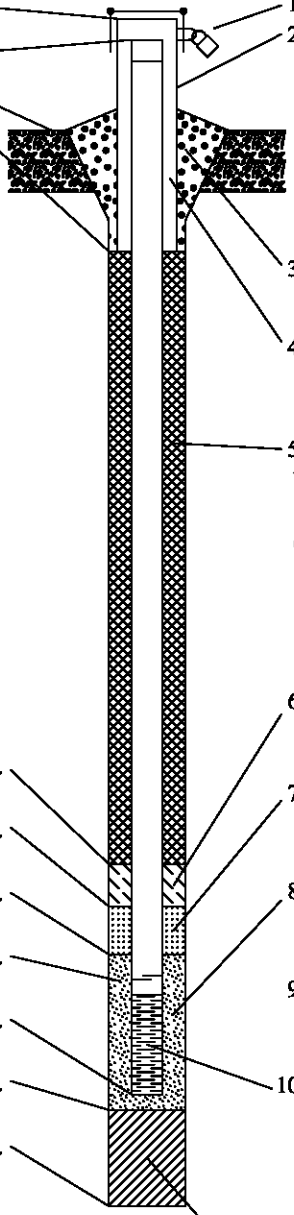
J. Filter pack, bottom ____ ft. MSL or 13.50 ft.

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.

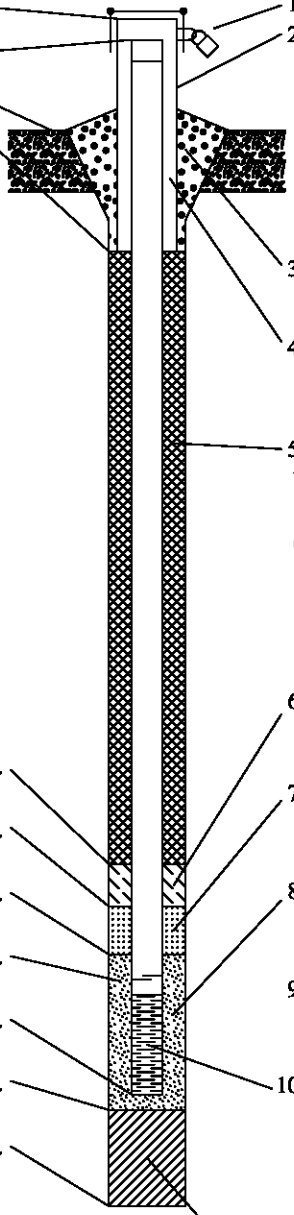
State of Wisconsin
Department of Natural Resources

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: 1 MW-19
Facility License, Permit or Monitoring No.: 60615404	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well Number
Facility ID	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 2.75 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.

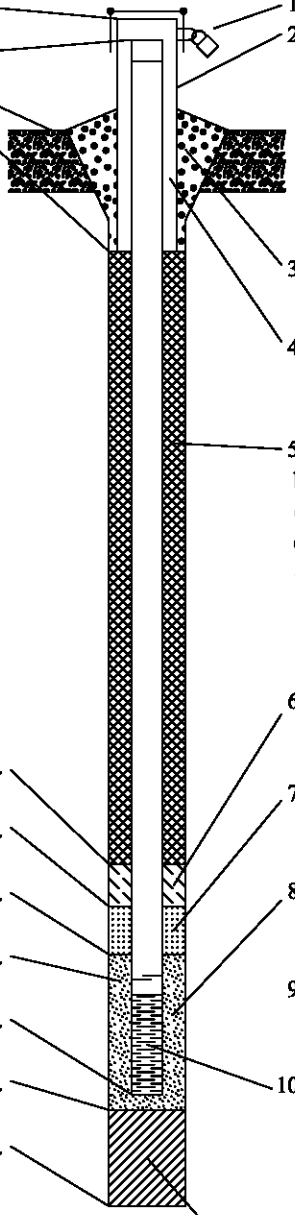
State of Wisconsin
Department of Natural Resources

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: ____ft. ☐N. ☐S. ____ft. ☐E. ☐W.	Well Name: 1 MW-35
Facility License, Permit or Monitoring No.: 60615404	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well Number
Facility ID	St. Plane ____ ft. N, ____ ft. E. S/C/N	Date Well Installed: 03/04/2020
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	Firm	Tel: / Fax:
Jacob Dean	AECOM	

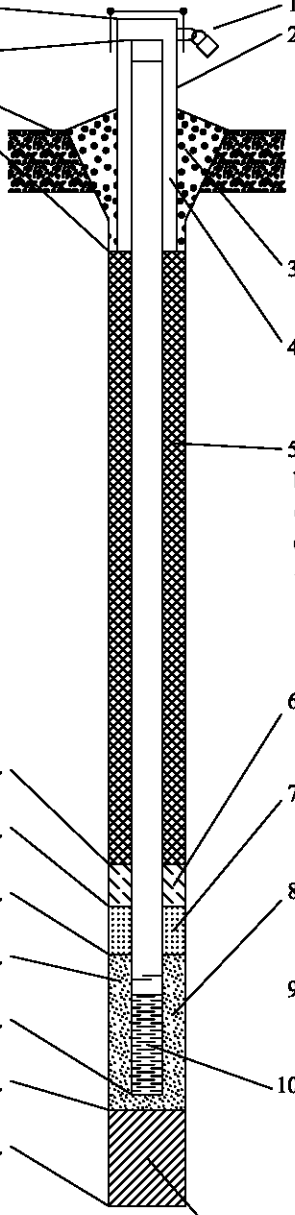
Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, 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 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: 1 MW-39
Facility License, Permit or Monitoring No.: 60615404	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well Number
Facility ID	St. Plane ____ ft. N, ____ ft. E. S/C/N	Date Well Installed: 03/04/2020
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.

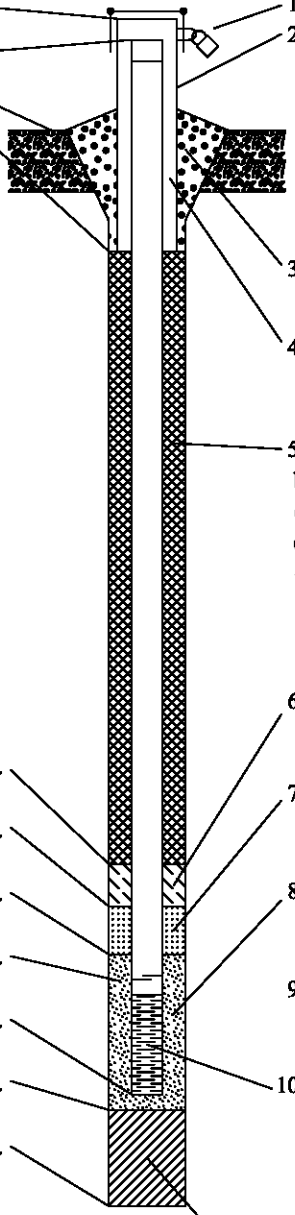
State of Wisconsin
Department of Natural Resources

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: ____ft. ☐N. ☐S. ____ft. ☐E. ☐W.	Well Name: 1 MW-43
Facility License, Permit or Monitoring No.: 60615404	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well Number
Facility ID	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 3 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	Firm	
Jacob Dean	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 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, 1110 Buffalo Street	Local Grid Location of Well: ____ft. ☐N. ☐S. ____ft. ☐E. ☐W.	Well Name: 3 MW-11
Facility License, Permit or Monitoring No.: 60615404	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well Number
Facility ID	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 ☐ 5 0 / Hollow Stem Auger ☒ 4 1 / ____ Other ☐

15. Drilling fluid used: Water ☐ 0 2 Air ☐ 0 1 Drilling Mud ☐ 0 3 None ☒ 9 9

16. Drilling additives used? ☒ Yes ☐ No

Describe No

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.

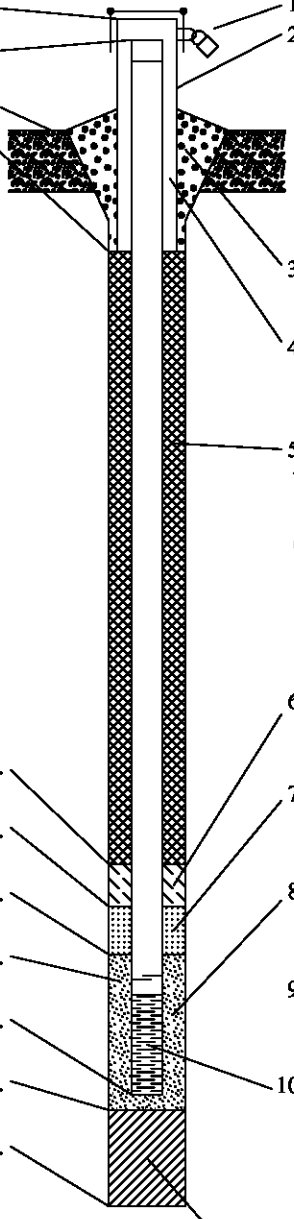
J. Filter pack, bottom ____ ft. MSL or 13.50 ft.

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 ☒ 0 4 / ____ Other ☐
d. Additional protection? ☐ Yes ☒ No
If yes, describe: ____

3. Surface seal: Bentonite ☐ 3 0 / Concrete ☐ 0 1 / ____ Other ☐

4. Material between well casing and protective pipe: Bentonite ☒ 3 0 / Sand / Other ☐

5. Annular space seal: a. Granular/Chipped Bentonite ☐ 3 3
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 3 5
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐ 3 1
d. ____% Bentonite . . . Bentonite-cement grout ☐ 5 0
e. ____Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 0 1 / Tremie pumped ☐ 0 2 / Gravity ☐ 0 8

6. Bentonite seal: a. Bentonite granules ☐ 3 3
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 3 2
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 Flint Sand and Gravel
b. Volume added 2.75 ft^3

9. Well casing: Flush threaded PVC schedule 40 ☐ 2 3 / Flush threaded PVC schedule 80 ☐ 2 4 / ____ Other ☐

10. Screen material: PVC
a. Screen Type: Factory cut ☒ 1 1 / Continuous slot ☐ 0 1 / ____ Other ☐
b. Manufacturer ____
c. Slot size: ____ in.
d. Slotted length: ____ ft.

11. Backfill material (below filter pack): None ☐ 1 4 / ____ 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 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, 1110 Buffalo Street	Local Grid Location of Well: ____ft. ☐N. ☐S. ____ft. ☐E. ☐W.	Well Name: 3 MW-14
Facility License, Permit or Monitoring No.: 60615404	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well Number
Facility ID	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 ☐ 5 0 / Hollow Stem Auger ☒ 4 1 / ____ Other ☐

15. Drilling fluid used: Water ☐ 0 2 Air ☐ 0 1 Drilling Mud ☐ 0 3 None ☒ 9 9

16. Drilling additives used? ☒ Yes ☐ No

Describe No

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.

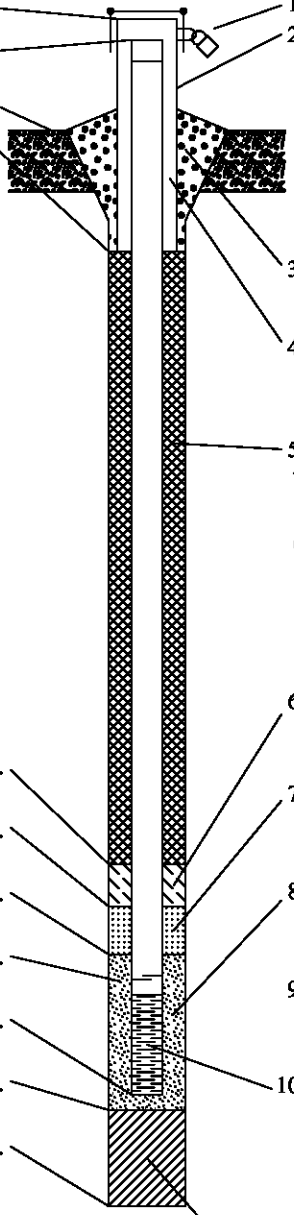
J. Filter pack, bottom ____ ft. MSL or 13.50 ft.

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 ☒ 0 4 / ____ Other ☐
d. Additional protection? ☐ Yes ☒ No
If yes, describe: ____

3. Surface seal: Bentonite ☐ 3 0 / Concrete ☐ 0 1 / ____ Other ☐

4. Material between well casing and protective pipe: Bentonite ☒ 3 0 / Sand / Other ☐

5. Annular space seal: a. Granular/Chipped Bentonite ☐ 3 3
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 3 5
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐ 3 1
d. ____% Bentonite . . . Bentonite-cement grout ☐ 5 0
e. ____Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 0 1 / Tremie pumped ☐ 0 2 / Gravity ☐ 0 8

6. Bentonite seal: a. Bentonite granules ☐ 3 3
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 3 2
c. Halliburton Hole Plug 0.75 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 Flint Sand and Gravel
b. Volume added 2.5 ft^3

9. Well casing: Flush threaded PVC schedule 40 ☐ 2 3 / Flush threaded PVC schedule 80 ☐ 2 4 / ____ Other ☐

10. Screen material: PVC
a. Screen Type: Factory cut ☒ 1 1 / Continuous slot ☐ 0 1 / ____ Other ☐
b. Manufacturer ____
c. Slot size: ____ in.
d. Slotted length: ____ ft.

11. Backfill material (below filter pack): None ☐ 1 4 / ____ 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:

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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, 1110 Buffalo Street	Local Grid Location of Well: ____ft. ☐N. ☐S. ____ft. ☐E. ☐W.	Well Name: 3 MW-20
Facility License, Permit or Monitoring No.: 60615404	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well Number
Facility ID	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 ☐

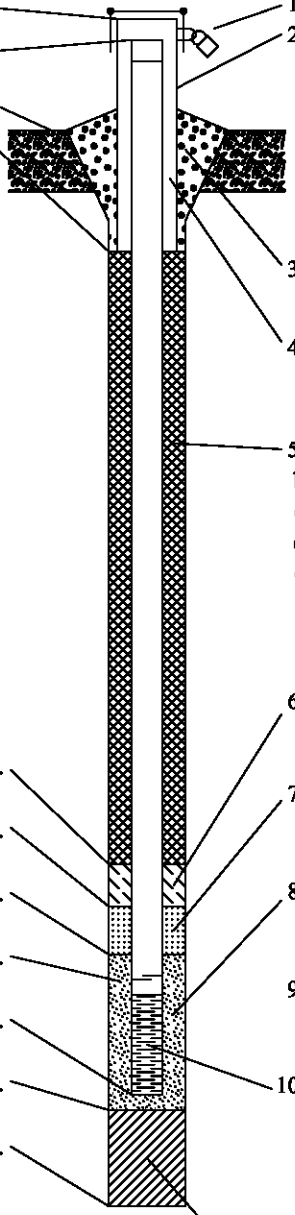
13. Sieve analysis attached? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 5 0 / Hollow Stem Auger ☒ 4 1 / ____ Other ☐

15. Drilling fluid used: Water ☐ 0 2 Air ☐ 0 1 Drilling Mud ☐ 0 3 None ☒ 9 9

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

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 ☒ 0 4 / ____ Other ☐
d. Additional protection? ☐ Yes ☒ No
If yes, describe: ____
3. Surface seal: Bentonite ☐ 3 0 / Concrete ☐ 0 1 / ____ Other ☐
4. Material between well casing and protective pipe: Bentonite ☒ 3 0 / Sand / Other ☐
5. Annular space seal: a. Granular/Chipped Bentonite ☐ 3 3
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 3 5
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐ 3 1
d. ____% Bentonite . . . Bentonite-cement grout ☐ 5 0
e. ____Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 0 1 / Tremie pumped ☐ 0 2 / Gravity ☐ 0 8
6. Bentonite seal: a. Bentonite granules ☐ 3 3
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 3 2
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 Flint Sand and Gravel
b. Volume added 2.75 ft^3
9. Well casing: Flush threaded PVC schedule 40 ☐ 2 3 / Flush threaded PVC schedule 80 ☐ 2 4 / ____ Other ☐
10. Screen material: PVC
a. Screen Type: Factory cut ☒ 1 1 / Continuous slot ☐ 0 1 / ____ Other ☐
b. Manufacturer ____
c. Slot size: ____ in.
d. Slotted length: ____ ft.
11. Backfill material (below filter pack): None ☐ 1 4 / ____ Other ☒

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

Signature	Firm	Tel: / Fax:
Jacob Dean	AECOM	

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 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, 1110 Buffalo Street	Local Grid Location of Well: ____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	Well Name: 3 MW-45
Facility License, Permit or Monitoring No.: 60615404	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well Number
Facility ID	St. Plane ____ ft. N, ____ ft. E. S/C/N	Date Well Installed: 03/02/2020
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 ☐ 5 0 / Hollow Stem Auger ☒ 4 1 / ____ Other ☐

15. Drilling fluid used: Water ☐ 0 2 Air ☐ 0 1 Drilling Mud ☐ 0 3 None ☒ 9 9

16. Drilling additives used? ☒ Yes ☐ No

Describe No

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.

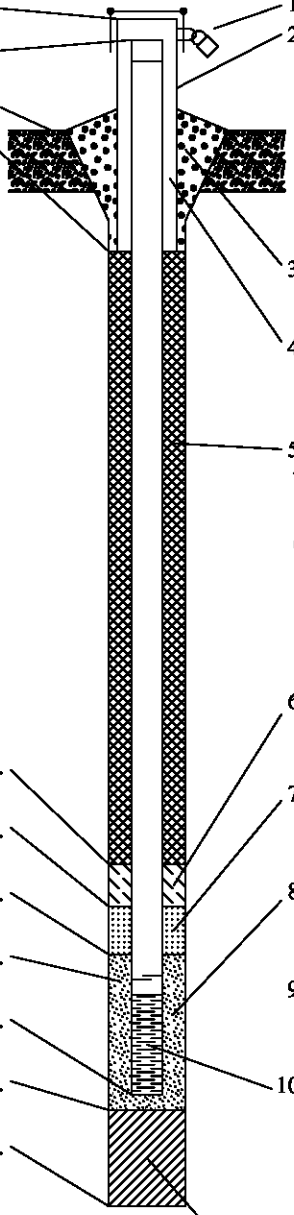
J. Filter pack, bottom ____ ft. MSL or 13.50 ft.

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 ☒ 0 4 / ____ Other ☐
d. Additional protection? ☐ Yes ☒ No
If yes, describe: ____

3. Surface seal: Bentonite ☐ 3 0 / Concrete ☐ 0 1 / ____ Other ☐

4. Material between well casing and protective pipe: Bentonite ☒ 3 0 / Sand / Other ☐

5. Annular space seal: a. Granular/Chipped Bentonite ☐ 3 3
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 3 5
c. ____ Lbs/gal mud weight . . . Bentonite slurry ☐ 3 1
d. ____ % Bentonite . . . Bentonite-cement grout ☐ 5 0
e. ____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 0 1 / Tremie pumped ☐ 0 2 / Gravity ☐ 0 8

6. Bentonite seal: a. Bentonite granules ☐ 3 3
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 3 2
c. Black Hills Bentonite 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 Flint Sand and Gravel
b. Volume added 2.75 ft^3

9. Well casing: Flush threaded PVC schedule 40 ☐ 2 3 / Flush threaded PVC schedule 80 ☐ 2 4 / ____ Other ☐

10. Screen material: PVC
a. Screen Type: Factory cut ☒ 1 1 / Continuous slot ☐ 0 1 / ____ Other ☐
b. Manufacturer ____
c. Slot size: ____ in.
d. Slotted length: ____ ft.

11. Backfill material (below filter pack): None ☐ 1 4 / ____ 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 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, 1110 Buffalo Street	Local Grid Location of Well: ____ ft. ☐ N. ☐ S. ____ ft. ☐ E. ☐ W.	Well Name: 3 MW-58
Facility License, Permit or Monitoring No.: 60615404	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well Number
Facility ID	St. Plane ____ ft. N, ____ ft. E. S/C/N	Date Well Installed: 03/02/2020
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 ☐ 5 0 / Hollow Stem Auger ☒ 4 1 / ____ Other ☐

15. Drilling fluid used: Water ☐ 0 2 Air ☐ 0 1 Drilling Mud ☐ 0 3 None ☒ 9 9

16. Drilling additives used? ☒ Yes ☐ No

Describe No

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.

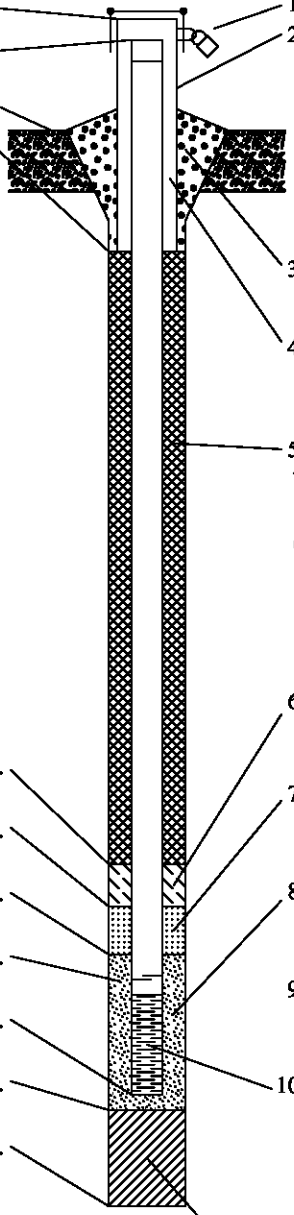
J. Filter pack, bottom ____ ft. MSL or 13.50 ft.

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 ☒ 0 4 / ____ Other ☐
d. Additional protection? ☐ Yes ☒ No
If yes, describe: ____

3. Surface seal: Bentonite ☐ 3 0 / Concrete ☐ 0 1 / ____ Other ☐

4. Material between well casing and protective pipe: Bentonite ☒ 3 0 / Sand / Other ☐

5. Annular space seal: a. Granular/Chipped Bentonite ☐ 3 3
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 3 5
c. ____ Lbs/gal mud weight . . . Bentonite slurry ☐ 3 1
d. ____ % Bentonite . . . Bentonite-cement grout ☐ 5 0
e. ____ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 0 1 / Tremie pumped ☐ 0 2 / Gravity ☐ 0 8

6. Bentonite seal: a. Bentonite granules ☐ 3 3
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 3 2
c. Black Hills Bentonite 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 Flint Sand and Gravel
b. Volume added 2.25 ft^3

9. Well casing: Flush threaded PVC schedule 40 ☐ 2 3 / Flush threaded PVC schedule 80 ☐ 2 4 / ____ Other ☐

10. Screen material: PVC
a. Screen Type: Factory cut ☒ 1 1 / Continuous slot ☐ 0 1 / ____ Other ☐
b. Manufacturer ____
c. Slot size: ____ in.
d. Slotted length: ____ ft.

11. Backfill material (below filter pack): None ☐ 1 4 / ____ 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 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, 1110 Buffalo Street	Local Grid Location of Well: ____ft. ☐N. ☐S. ____ft. ☐E. ☐W.	Well Name: 3 MW-64
Facility License, Permit or Monitoring No.: 60615404	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well Number
Facility ID	St. Plane ____ ft. N, ____ ft. E. S/C/N	Date Well Installed: 03/02/2020
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 ☐

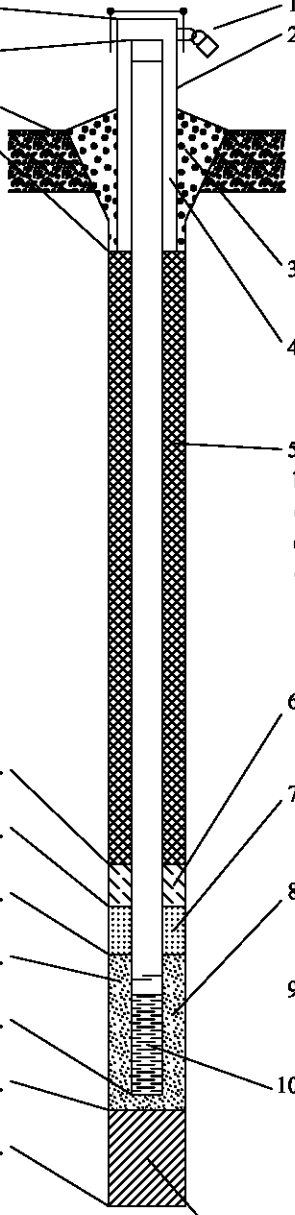
13. Sieve analysis attached? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 5 0 / Hollow Stem Auger ☒ 4 1 / ____ Other ☐

15. Drilling fluid used: Water ☐ 0 2 Air ☐ 0 1 Drilling Mud ☐ 0 3 None ☒ 9 9

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

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 ☒ 0 4 / ____ Other ☐
d. Additional protection? ☐ Yes ☒ No
If yes, describe: ____
3. Surface seal: Bentonite ☐ 3 0 / Concrete ☐ 0 1 / ____ Other ☐
4. Material between well casing and protective pipe: Bentonite ☒ 3 0 / Sand / Other ☐
5. Annular space seal: a. Granular/Chipped Bentonite ☐ 3 3
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 3 5
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐ 3 1
d. ____% Bentonite . . . Bentonite-cement grout ☐ 5 0
e. ____Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 0 1 / Tremie pumped ☐ 0 2 / Gravity ☐ 0 8
6. Bentonite seal: a. Bentonite granules ☐ 3 3
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 3 2
c. Black Hills Bentonite 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 Flint Sand and Gravel
b. Volume added 3 ft^3
9. Well casing: Flush threaded PVC schedule 40 ☐ 2 3 / Flush threaded PVC schedule 80 ☐ 2 4 / ____ Other ☐
10. Screen material: PVC
a. Screen Type: Factory cut ☒ 1 1 / Continuous slot ☐ 0 1 / ____ Other ☐
b. Manufacturer ____
c. Slot size: ____ in.
d. Slotted length: ____ ft.
11. Backfill material (below filter pack): None ☐ 1 4 / ____ 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 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, 1110 Buffalo Street	Local Grid Location of Well: ____ft. ☐N. ☐S. ____ft. ☐E. ☐W.	Well Name: 3 MW-72
Facility License, Permit or Monitoring No.: 60615404	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well Number
Facility ID	St. Plane ____ ft. N, ____ ft. E. S/C/N	Date Well Installed: 03/02/2020
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

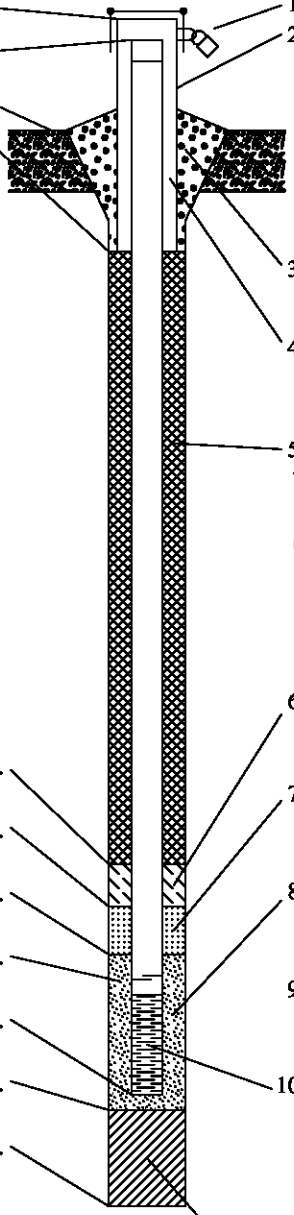
14. Drilling method used: Rotary ☐ 5 0 / Hollow Stem Auger ☒ 4 1 / ____ Other ☐

15. Drilling fluid used: Water ☐ 0 2 Air ☐ 0 1 Drilling Mud ☐ 0 3 None ☒ 9 9

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

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 ☒ 0 4 / ____ Other ☐
d. Additional protection? ☐ Yes ☒ No
If yes, describe: ____
3. Surface seal: Bentonite ☐ 3 0 / Concrete ☐ 0 1 / ____ Other ☐
4. Material between well casing and protective pipe: Bentonite ☒ 3 0 / Sand / Other ☐
5. Annular space seal: a. Granular/Chipped Bentonite ☐ 3 3
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 3 5
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐ 3 1
d. ____% Bentonite . . . Bentonite-cement grout ☐ 5 0
e. ____Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 0 1 / Tremie pumped ☐ 0 2 / Gravity ☐ 0 8
6. Bentonite seal: a. Bentonite granules ☐ 3 3
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 3 2
c. Black Hills Bentonite 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 Flint Sand and Gravel
b. Volume added 2 ft^3
9. Well casing: Flush threaded PVC schedule 40 ☐ 2 3 / Flush threaded PVC schedule 80 ☐ 2 4 / ____ Other ☐
10. Screen material: PVC
a. Screen Type: Factory cut ☒ 1 1 / Continuous slot ☐ 0 1 / ____ Other ☐
b. Manufacturer ____
c. Slot size: ____ in.
d. Slotted length: ____ ft.
11. Backfill material (below filter pack): None ☐ 1 4 / ____ 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 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, 1110 Buffalo Street	Local Grid Location of Well: ____ft. ☐N. ☐S. ____ft. ☐E. ☐W.	Well Name: 3 MW-77
Facility License, Permit or Monitoring No.: 60615404	Local Grid Origin ☐ (estimated: ☐) or Well Location ☒ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well Number
Facility ID	St. Plane ____ ft. N, ____ ft. E. S/C/N	Date Well Installed: 03/02/2020
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 ☐

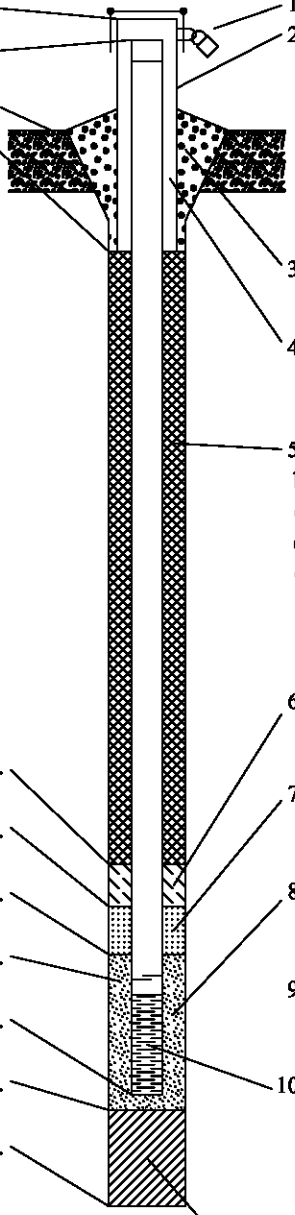
13. Sieve analysis attached? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 5 0 / Hollow Stem Auger ☒ 4 1 / ____ Other ☐

15. Drilling fluid used: Water ☐ 0 2 Air ☐ 0 1 Drilling Mud ☐ 0 3 None ☒ 9 9

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

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 ☒ 0 4 / ____ Other ☐
d. Additional protection? ☐ Yes ☒ No
If yes, describe: ____
3. Surface seal: Bentonite ☐ 3 0 / Concrete ☐ 0 1 / ____ Other ☐
4. Material between well casing and protective pipe: Bentonite ☒ 3 0 / Sand / Other ☐
5. Annular space seal: a. Granular/Chipped Bentonite ☐ 3 3
b. ____Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 3 5
c. ____Lbs/gal mud weight . . . Bentonite slurry ☐ 3 1
d. ____% Bentonite . . . Bentonite-cement grout ☐ 5 0
e. ____Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 0 1 / Tremie pumped ☐ 0 2 / Gravity ☐ 0 8
6. Bentonite seal: a. Bentonite granules ☐ 3 3
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 3 2
c. Black Hills Bentonite 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 Flint Sand and Gravel
b. Volume added 2.25 ft^3
9. Well casing: Flush threaded PVC schedule 40 ☐ 2 3 / Flush threaded PVC schedule 80 ☐ 2 4 / ____ Other ☐
10. Screen material: PVC
a. Screen Type: Factory cut ☒ 1 1 / Continuous slot ☐ 0 1 / ____ Other ☐
b. Manufacturer ____
c. Slot size: ____ in.
d. Slotted length: ____ ft.
11. Backfill material (below filter pack): None ☐ 1 4 / ____ Other ☒

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

Signature	Firm	
Jacob Dean	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.

Well Development Forms

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

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

Facility/Project Name	County	Well Name
CN Manitowoc, 200 N. 10th Street		1_MW-10

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
60615404			

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method:

surged with bailer and bailed	☐	4 1
surged with bailer and pumped	☒	6 1
surged with block and bailed	☐	4 2
surged with block and pumped	☐	6 2
surged with block, bailed, and pumped	☐	7 0
compressed air	☐	2 0
bailed only	☐	1 0
pumped only	☐	5 1
pumped slowly	☐	5 0
other _____	☐	__

3. Time spent developing well ____ min.

4. Depth of well (from top of well casing) 30 ft.

5. Inside diameter of well 15.2 in.

6. Volume of water in filter pack and well casing 1.4 gal.

7. Volume of water removed from well 25.0 gal.

8. Volume of water added (if any) ____ gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

		Before Development	After Development
11. Depth to Water (from top of well casing)	a.	6.50 ft.	13.25 ft.
Date	b.	3/5/2020	12/30/1899
Time	c.	☐ a.m. 03:55 ☒ p.m.	☐ a.m. 04:25 ☒ p.m.
12. Sediment in well bottom		0.0 inches	0.0 inches

13. Water clarity

Before Development	After Development
Clear ☐ 1 0	Clear ☒ 2 0
Turbid ☒ 1 5	Turbid ☐ 2 5
(Describe)	(Describe)
Light brown	Clear

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

16. Well developed by: Person's Name and Firm
Jacob Dean
AECOM

17. Additional comments on development:

Facility Address or Owner/Responsible Party Address

Name: _____

Firm: _____

Street: 200 N. 10th Street

City/State/Zip: Manitowoc, WI 54220

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

Signature: Jacob Dean

Print Name: Jacob Dean

Firm: AECOM

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

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

Facility/Project Name	County	Well Name
CN Manitowoc, 200 N. 10th Street		1_MW-14

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
60615404			

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method:

surged with bailer and bailed	☐	4 1
surged with bailer and pumped	☒	6 1
surged with block and bailed	☐	4 2
surged with block and pumped	☐	6 2
surged with block, bailed, and pumped	☐	7 0
compressed air	☐	2 0
bailed only	☐	1 0
pumped only	☐	5 1
pumped slowly	☐	5 0
other _____	☐	

3. Time spent developing well ____ min.

4. Depth of well (from top of well casing) 45 ft.

5. Inside diameter of well 14.9 in.

6. Volume of water in filter pack and well casing 1.2 gal.

7. Volume of water removed from well 55.0 gal.

8. Volume of water added (if any) ____ gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

		Before Development	After Development
11. Depth to Water (from top of well casing)	a.	7.55 ft.	8.06 ft.
Date	b.	3/6/2020	12/30/1899
Time	c.	09:00 ☒ a.m. ☐ p.m.	09:45 ☒ a.m. ☐ p.m.
12. Sediment in well bottom		0.1 inches	0.0 inches
13. Water clarity		Clear ☐ 1 0 Turbid ☒ 1 5 (Describe) Dark Brown, Muddy	Clear ☒ 2 0 Turbid ☐ 2 5 (Describe) Clear

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

16. Well developed by: Person's Name and Firm
Jacob Dean
AECOM

17. Additional comments on development:
12 Gallong after purge and pump

Facility Address or Owner/Responsible Party Address

Name: _____

Firm: _____

Street: 200 N. 10th Street

City/State/Zip: Manitowoc, WI 54220

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

Signature: Jacob Dean

Print Name: Jacob Dean

Firm: AECOM

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

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

Facility/Project Name	County	Well Name
CN Manitowoc, 200 N. 10th Street		1_MW-17

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
60615404			

1. Can this well be purged dry? ☒ Yes ☐ No

2. Well development method:

surged with bailer and bailed	☐	4 1
surged with bailer and pumped	☒	6 1
surged with block and bailed	☐	4 2
surged with block and pumped	☐	6 2
surged with block, bailed, and pumped	☐	7 0
compressed air	☐	2 0
bailed only	☐	1 0
pumped only	☐	5 1
pumped slowly	☐	5 0
other _____	☐	__

3. Time spent developing well ____ min.

4. Depth of well (from top of well casing) 35 ft.

5. Inside diameter of well 15.2 in.

6. Volume of water in filter pack and well casing 2.0 gal.

7. Volume of water removed from well 30.0 gal.

8. Volume of water added (if any) ____ gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

		Before Development	After Development
11. Depth to Water (from top of well casing)	a.	3.18 ft.	8.15 ft.
Date	b.	3/5/2020	12/30/1899
Time	c.	03:15 ☐ a.m. ☒ p.m.	03:50 ☐ a.m. ☒ p.m.
12. Sediment in well bottom		0.1 inches	0.0 inches
13. Water clarity		Clear ☐ 1 0 Turbid ☒ 1 5	Clear ☒ 2 0 Turbid ☐ 2 5
		(Describe) Very dark brown, muddy	(Describe) Clear

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

16. Well developed by: Person's Name and Firm
Jacob Dean
AECOM

17. Additional comments on development:

Facility Address or Owner/Responsible Party Address

Name: _____

Firm: _____

Street: 200 N. 10th Street

City/State/Zip: Manitowoc, WI 54220

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

Signature: Jacob Dean

Print Name: Jacob Dean

Firm: AECOM

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

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

Facility/Project Name	County	Well Name
CN Manitowoc, 200 N. 10th Street		1_MW-19

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
60615404			

1. Can this well be purged dry? ☒ Yes ☐ No

2. Well development method:

surged with bailer and bailed	☐	4 1
surged with bailer and pumped	☒	6 1
surged with block and bailed	☐	4 2
surged with block and pumped	☐	6 2
surged with block, bailed, and pumped	☐	7 0
compressed air	☐	2 0
bailed only	☐	1 0
pumped only	☐	5 1
pumped slowly	☐	5 0
other _____	☐	__

3. Time spent developing well ____ min.

4. Depth of well (from top of well casing) 30 ft.

5. Inside diameter of well 15.3 in.

6. Volume of water in filter pack and well casing 1.7 gal.

7. Volume of water removed from well 10.0 gal.

8. Volume of water added (if any) ____ gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

		Before Development	After Development
11. Depth to Water (from top of well casing)	a.	5.29 ft.	13.62 ft.
Date	b.	3/6/2020	12/30/1899
Time	c.	08:20 ☒ a.m. ☐ p.m.	08:50 ☒ a.m. ☐ p.m.
12. Sediment in well bottom		0.0 inches	0.0 inches
13. Water clarity		Clear ☐ 1 0 Turbid ☒ 1 5	Clear ☒ 2 0 Turbid ☐ 2 5
(Describe)		Light brown	Clear

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

16. Well developed by: Person's Name and Firm
Jacob Dean
AECOM

17. Additional comments on development:
Purged dry 4 times.

Facility Address or Owner/Responsible Party Address

Name: _____

Firm: _____

Street: 200 N. 10th Street

City/State/Zip: Manitowoc, WI 54220

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

Signature: Jacob Dean

Print Name: Jacob Dean

Firm: AECOM

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

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

Facility/Project Name	County	Well Name
CN Manitowoc, 200 N. 10th Street		1_MW-35

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
60615404			

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method:

surged with bailer and bailed	☐	4 1
surged with bailer and pumped	☒	6 1
surged with block and bailed	☐	4 2
surged with block and pumped	☐	6 2
surged with block, bailed, and pumped	☐	7 0
compressed air	☐	2 0
bailed only	☐	1 0
pumped only	☐	5 1
pumped slowly	☐	5 0
other _____	☐	__

3. Time spent developing well ____ min.

4. Depth of well (from top of well casing) 35 ft.

5. Inside diameter of well 15.3 in.

6. Volume of water in filter pack and well casing 1.8 gal.

7. Volume of water removed from well 38.0 gal.

8. Volume of water added (if any) ____ gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

		Before Development	After Development
11. Depth to Water (from top of well casing)	a.	4.14 ft.	5.58 ft.
Date	b.	3/5/2020	12/30/1899
Time	c.	02:15 ☐ a.m. ☒ p.m.	02:50 ☐ a.m. ☒ p.m.
12. Sediment in well bottom		0.0 inches	0.0 inches
13. Water clarity		Clear ☐ 1 0 Turbid ☒ 1 5	Clear ☒ 2 0 Turbid ☐ 2 5
(Describe)		Very dark brown, muddy	Clear

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids		mg/l	mg/l
15. COD		mg/l	mg/l

16. Well developed by: Person's Name and Firm
Jacob Dean
AECOM

17. Additional comments on development:
18 Gallons after purge and pump

Facility Address or Owner/Responsible Party Address

Name: _____

Firm: _____

Street: 200 N. 10th Street

City/State/Zip: Manitowoc, WI 54220

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

Signature: Jacob Dean

Print Name: Jacob Dean

Firm: AECOM

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

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

Facility/Project Name	County	Well Name
CN Manitowoc, 200 N. 10th Street		1_MW-39

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
60615404			

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method:

surged with bailer and bailed	☐	4 1
surged with bailer and pumped	☒	6 1
surged with block and bailed	☐	4 2
surged with block and pumped	☐	6 2
surged with block, bailed, and pumped	☐	7 0
compressed air	☐	2 0
bailed only	☐	1 0
pumped only	☐	5 1
pumped slowly	☐	5 0
other _____	☐	__

3. Time spent developing well ____ min.

4. Depth of well (from top of well casing) 40 ft.

5. Inside diameter of well 15.1 in.

6. Volume of water in filter pack and well casing 1.8 gal.

7. Volume of water removed from well 14.0 gal.

8. Volume of water added (if any) ____ gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

		Before Development	After Development
11. Depth to Water (from top of well casing)	a.	4.48 ft.	12.58 ft.
Date	b.	3/5/2020	12/30/1899
Time	c.	01:30 ☐ a.m. ☒ p.m.	02:10 ☐ a.m. ☒ p.m.
12. Sediment in well bottom		0.0 inches	0.0 inches
13. Water clarity		Clear ☐ 1 0 Turbid ☒ 1 5	Clear ☒ 2 0 Turbid ☐ 2 5
(Describe)		Dark brown	Clear

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

16. Well developed by: Person's Name and Firm
Jacob Dean
AECOM

17. Additional comments on development:

Facility Address or Owner/Responsible Party Address

Name: _____

Firm: _____

Street: 200 N. 10th Street

City/State/Zip: Manitowoc, WI 54220

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

Signature: Jacob Dean

Print Name: Jacob Dean

Firm: AECOM

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

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

Facility/Project Name	County	Well Name
CN Manitowoc, 200 N. 10th Street		1_MW-43

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
60615404			

1. Can this well be purged dry? ☒ Yes ☐ No

2. Well development method:

surged with bailer and bailed	☐	4 1
surged with bailer and pumped	☒	6 1
surged with block and bailed	☐	4 2
surged with block and pumped	☐	6 2
surged with block, bailed, and pumped	☐	7 0
compressed air	☐	2 0
bailed only	☐	1 0
pumped only	☐	5 1
pumped slowly	☐	5 0
other _____	☐	__

3. Time spent developing well ____ min.

4. Depth of well (from top of well casing) 45 ft.

5. Inside diameter of well 15.3 in.

6. Volume of water in filter pack and well casing 1.7 gal.

7. Volume of water removed from well 8.0 gal.

8. Volume of water added (if any) ____ gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

		Before Development	After Development
11. Depth to Water (from top of well casing)	a.	5.11 ft.	13.99 ft.
Date	b.	3/5/2020	12/30/1899
Time	c.	12:40 ☐ a.m. ☒ p.m.	01:25 ☐ a.m. ☒ p.m.
12. Sediment in well bottom		0.0 inches	0.0 inches
13. Water clarity		Clear ☐ 1 0 Turbid ☒ 1 5	Clear ☒ 2 0 Turbid ☐ 2 5
		(Describe) Dark brown	(Describe) Clear

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

16. Well developed by: Person's Name and Firm
Jacob Dean
AECOM

17. Additional comments on development:
Well purged dry 4 times

Facility Address or Owner/Responsible Party Address

Name: _____

Firm: _____

Street: 200 N. 10th Street

City/State/Zip: Manitowoc, WI 54220

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

Signature: Jacob Dean

Print Name: Jacob Dean

Firm: AECOM

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

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

Facility/Project Name	County	Well Name
CN Manitowoc, 1110 Buffalo Street		3_MW-11

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
60615404			

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method:

surged with bailer and bailed	☐	4 1
surged with bailer and pumped	☒	6 1
surged with block and bailed	☐	4 2
surged with block and pumped	☐	6 2
surged with block, bailed, and pumped	☐	7 0
compressed air	☐	2 0
bailed only	☐	1 0
pumped only	☐	5 1
pumped slowly	☐	5 0
other _____	☐	__

3. Time spent developing well ____ min.

4. Depth of well (from top of well casing) 40 ft.

5. Inside diameter of well 15.0 in.

6. Volume of water in filter pack and well casing 2.1 gal.

7. Volume of water removed from well 50.0 gal.

8. Volume of water added (if any) ____ gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

		Before Development	After Development
11. Depth to Water (from top of well casing)	a.	2.45 ft.	3.67 ft.
Date	b.	3/6/2020	3/6/2020
Time	c.	10:10 ☒ a.m. ☐ p.m.	10:50 ☒ a.m. ☐ p.m.
12. Sediment in well bottom		1.0 inches	0.0 inches
13. Water clarity		Clear ☐ 1 0 Turbid ☒ 1 5 (Describe) Very dark brown, muddy	Clear ☒ 2 0 Turbid ☐ 2 5 (Describe) Clear

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

16. Well developed by: Person's Name and Firm
Dean Jacob
AECOM

17. Additional comments on development:
21 Gallons after purge and pump

Facility Address or Owner/Responsible Party Address

Name: _____

Firm: _____

Street: 1110 Buffalo Street

City/State/Zip: Manitowoc, WI 54220

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

Signature: Jacob Dean

Print Name: Jacob Dean

Firm: AECOM

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

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

Facility/Project Name	County	Well Name
CN Manitowoc, 1110 Buffalo Street		3_MW-14

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
60615404			

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method:

surged with bailer and bailed	☐	4 1
surged with bailer and pumped	☒	6 1
surged with block and bailed	☐	4 2
surged with block and pumped	☐	6 2
surged with block, bailed, and pumped	☐	7 0
compressed air	☐	2 0
bailed only	☐	1 0
pumped only	☐	5 1
pumped slowly	☐	5 0
other _____	☐	__

3. Time spent developing well ____ min.

4. Depth of well (from top of well casing) 40 ft.

5. Inside diameter of well 15.4 in.

6. Volume of water in filter pack and well casing 2.0 gal.

7. Volume of water removed from well 50.0 gal.

8. Volume of water added (if any) ____ gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing) a.	3.29 ft.	4.15 ft.
Date b.	3/6/2020	3/6/2020
Time c.	☒ a.m. 11:10 ☐ p.m.	☒ a.m. 11:50 ☐ p.m.
12. Sediment in well bottom	0.1 inches	0.0 inches
13. Water clarity	Clear ☐ 1 0 Turbid ☒ 1 5 (Describe) Dark brown, muddy	Clear ☒ 2 0 Turbid ☐ 2 5 (Describe) Clear
14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

Fill in if drilling fluids were used and well is at solid waste facility:

16. Well developed by: Person's Name and Firm
Dean Jacob
AECOM

17. Additional comments on development:
20 Gallons after purge and pump

Facility Address or Owner/Responsible Party Address

Name: _____

Firm: _____

Street: 1110 Buffalo Street

City/State/Zip: Manitowoc, WI 54220

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

Signature: Jacob Dean

Print Name: Jacob Dean

Firm: AECOM

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

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

Facility/Project Name	County	Well Name
CN Manitowoc, 1110 Buffalo Street		3_MW-20

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
60615404			

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method:

surged with bailer and bailed	☐	4 1
surged with bailer and pumped	☒	6 1
surged with block and bailed	☐	4 2
surged with block and pumped	☐	6 2
surged with block, bailed, and pumped	☐	7 0
compressed air	☐	2 0
bailed only	☐	1 0
pumped only	☐	5 1
pumped slowly	☐	5 0
other _____	☐	__

3. Time spent developing well ____ min.

4. Depth of well (from top of well casing) 40 ft.

5. Inside diameter of well 15.2 in.

6. Volume of water in filter pack and well casing 1.8 gal.

7. Volume of water removed from well 50.0 gal.

8. Volume of water added (if any) ____ gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

		Before Development	After Development
11. Depth to Water (from top of well casing)	a.	4.30 ft.	4.46 ft.
Date	b.	3/6/2020	3/6/2020
Time	c.	12:10 ☒ p.m. ☐ a.m.	12:50 ☒ p.m. ☐ a.m.
12. Sediment in well bottom		0.0 inches	0.0 inches
13. Water clarity		Clear ☐ 1 0 Turbid ☒ 1 5 (Describe) Very dark brown	Clear ☒ 2 0 Turbid ☐ 2 5 (Describe) Clear

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

16. Well developed by: Person's Name and Firm
Dean Jacob
AECOM

17. Additional comments on development:
18 Gallons after purge and pump

Facility Address or Owner/Responsible Party Address

Name: _____

Firm: _____

Street: 1110 Buffalo Street

City/State/Zip: Manitowoc, WI 54220

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

Signature: Jacob Dean

Print Name: Jacob Dean

Firm: AECOM

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

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

Facility/Project Name	County	Well Name
CN Manitowoc, 1110 Buffalo Street		3_MW-45

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
60615404			

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method:

surged with bailer and bailed	☐	4 1
surged with bailer and pumped	☒	6 1
surged with block and bailed	☐	4 2
surged with block and pumped	☐	6 2
surged with block, bailed, and pumped	☐	7 0
compressed air	☐	2 0
bailed only	☐	1 0
pumped only	☐	5 1
pumped slowly	☐	5 0
other _____	☐	__

3. Time spent developing well ____ min.

4. Depth of well (from top of well casing) 35 ft.

5. Inside diameter of well 15.3 in.

6. Volume of water in filter pack and well casing 2.0 gal.

7. Volume of water removed from well 55.0 gal.

8. Volume of water added (if any) ____ gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

		Before Development	After Development
11. Depth to Water (from top of well casing)	a.	3.50 ft.	3.52 ft.
Date	b.	3/5/2020	3/5/2020
Time	c.	☐ a.m. 04:45 ☒ p.m.	☐ a.m. 05:20 ☒ p.m.
12. Sediment in well bottom		0.0 inches	0.0 inches
13. Water clarity		Clear ☐ 1 0 Turbid ☒ 1 5 (Describe) Very dark brown	Clear ☒ 2 0 Turbid ☐ 2 5 (Describe) Clear

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

16. Well developed by: Person's Name and Firm
Dean Jacob
AECOM

17. Additional comments on development:
20 Gallons after purge and pump

Facility Address or Owner/Responsible Party Address

Name: _____

Firm: _____

Street: 1110 Buffalo Street

City/State/Zip: Manitowoc, WI 54220

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

Signature: Jacob Dean

Print Name: Jacob Dean

Firm: AECOM

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

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

Facility/Project Name	County	Well Name
CN Manitowoc, 1110 Buffalo Street		3_MW-58

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
60615404			

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method:

surged with bailer and bailed	☐	4 1
surged with bailer and pumped	☒	6 1
surged with block and bailed	☐	4 2
surged with block and pumped	☐	6 2
surged with block, bailed, and pumped	☐	7 0
compressed air	☐	2 0
bailed only	☐	1 0
pumped only	☐	5 1
pumped slowly	☐	5 0
other _____	☐	__

3. Time spent developing well ____ min.

4. Depth of well (from top of well casing) 40 ft.

5. Inside diameter of well 15.3 in.

6. Volume of water in filter pack and well casing 1.7 gal.

7. Volume of water removed from well 50.0 gal.

8. Volume of water added (if any) ____ gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing) a.	5.00 ft.	5.14 ft.
Date b.	3/6/2020	3/6/2020
Time c.	☐ a.m. 01:10 ☒ p.m.	☐ a.m. 01:50 ☒ p.m.
12. Sediment in well bottom	0.0 inches	0.0 inches
13. Water clarity	Clear ☐ 1 0 Turbid ☒ 1 5	Clear ☒ 2 0 Turbid ☐ 2 5
(Describe)	Dark brown	Clear

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

16. Well developed by: Person's Name and Firm
Dean Jacob
AECOM

17. Additional comments on development:
17 Gallons after purge and pump

Facility Address or Owner/Responsible Party Address

Name: _____

Firm: _____

Street: 1110 Buffalo Street

City/State/Zip: Manitowoc, WI 54220

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

Signature: Jacob Dean

Print Name: Jacob Dean

Firm: AECOM

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

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

Facility/Project Name	County	Well Name
CN Manitowoc, 1110 Buffalo Street		3_MW-64

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
60615404			

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method:

surged with bailer and bailed	☐	4 1
surged with bailer and pumped	☒	6 1
surged with block and bailed	☐	4 2
surged with block and pumped	☐	6 2
surged with block, bailed, and pumped	☐	7 0
compressed air	☐	2 0
bailed only	☐	1 0
pumped only	☐	5 1
pumped slowly	☐	5 0
other _____	☐	__

3. Time spent developing well ____ min.

4. Depth of well (from top of well casing) 50 ft.

5. Inside diameter of well 15.1 in.

6. Volume of water in filter pack and well casing 1.7 gal.

7. Volume of water removed from well 55.0 gal.

8. Volume of water added (if any) ____ gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing) a.	4.58 ft.	4.59 ft.
Date b.	3/4/2020	3/4/2020
Time c.	☒ a.m. 11:10 ☐ p.m.	☐ a.m. 12:00 ☒ p.m.
12. Sediment in well bottom	0.0 inches	0.0 inches
13. Water clarity	Clear ☐ 1 0 Turbid ☒ 1 5 (Describe) Very muddy, dark brown	Clear ☒ 2 0 Turbid ☐ 2 5 (Describe) Clear

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

16. Well developed by: Person's Name and Firm
Dean Jacob
AECOM

17. Additional comments on development:
18 Gallons after purge and pump

Facility Address or Owner/Responsible Party Address

Name: _____

Firm: _____

Street: 1110 Buffalo Street

City/State/Zip: Manitowoc, WI 54220

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

Signature: Jacob Dean

Print Name: Jacob Dean

Firm: AECOM

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

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

Facility/Project Name	County	Well Name
CN Manitowoc, 1110 Buffalo Street		3_MW-72

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
60615404			

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method:

surged with bailer and bailed	☐	4 1
surged with bailer and pumped	☒	6 1
surged with block and bailed	☐	4 2
surged with block and pumped	☐	6 2
surged with block, bailed, and pumped	☐	7 0
compressed air	☐	2 0
bailed only	☐	1 0
pumped only	☐	5 1
pumped slowly	☐	5 0
other _____	☐	__

3. Time spent developing well ____ min.

4. Depth of well (from top of well casing) 40 ft.

5. Inside diameter of well 15.4 in.

6. Volume of water in filter pack and well casing 1.6 gal.

7. Volume of water removed from well 55.0 gal.

8. Volume of water added (if any) ____ gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

		Before Development	After Development
11. Depth to Water (from top of well casing)	a.	5.54 ft.	5.57 ft.
Date	b.	3/4/2020	3/4/2020
Time	c.	01:00 ☒ p.m. ☐ a.m.	01:40 ☒ p.m. ☐ a.m.
12. Sediment in well bottom		0.0 inches	0.0 inches
13. Water clarity		Clear ☐ 1 0 Turbid ☒ 1 5	Clear ☒ 2 0 Turbid ☐ 2 5
(Describe)		Dark brown	Clear

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

16. Well developed by: Person's Name and Firm
Dean Jacob
AECOM

17. Additional comments on development:
17 Gallons after purge and pump

Facility Address or Owner/Responsible Party Address

Name: _____

Firm: _____

Street: 1110 Buffalo Street

City/State/Zip: Manitowoc, WI 54220

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

Signature: Jacob Dean

Print Name: Jacob Dean

Firm: AECOM

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

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

Facility/Project Name	County	Well Name
CN Manitowoc, 1110 Buffalo Street		3_MW-77

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
60615404			

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method:

surged with bailer and bailed	☐	4 1
surged with bailer and pumped	☒	6 1
surged with block and bailed	☐	4 2
surged with block and pumped	☐	6 2
surged with block, bailed, and pumped	☐	7 0
compressed air	☐	2 0
bailed only	☐	1 0
pumped only	☐	5 1
pumped slowly	☐	5 0
other _____	☐	__

3. Time spent developing well ____ min.

4. Depth of well (from top of well casing) 40 ft.

5. Inside diameter of well 15.0 in.

6. Volume of water in filter pack and well casing 1.4 gal.

7. Volume of water removed from well 55.0 gal.

8. Volume of water added (if any) ____ gal.

9. Source of water added _____

10. Analysis performed on water added? ☐ Yes ☐ No
(If yes, attach results)

		Before Development	After Development
11. Depth to Water (from top of well casing)	a.	6.17 ft.	6.20 ft.
Date	b.	3/4/2020	3/4/2020
Time	c.	12:10 ☒ p.m. ☐ a.m.	12:50 ☒ p.m. ☐ a.m.
12. Sediment in well bottom		0.0 inches	0.0 inches
13. Water clarity		Clear ☐ 1 0 Turbid ☒ 1 5	Clear ☒ 2 0 Turbid ☐ 2 5
(Describe)		Dark brown	Clear

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l

16. Well developed by: Person's Name and Firm
Dean Jacob
AECOM

17. Additional comments on development:
15 Gallons after purge and pump

Facility Address or Owner/Responsible Party Address

Name: _____

Firm: _____

Street: 1110 Buffalo Street

City/State/Zip: Manitowoc, WI 54220

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

Signature: Jacob Dean

Print Name: Jacob Dean

Firm: AECOM

NOTE: See instructions for more information including a list of county codes and well type codes.

Appendix C Temporary Well Sealing Reports (Form 5500-005)

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	SB-10 / TW-10	

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

N
W

¼ / ¼	¼	Section	Township	Range
or Gov't Lot #			N	☐ E ☐ W

Well Street Address: ~~00 N. 10th~~ ~~S Buffalo~~ St.

Well City, Village or Town	Well ZIP Code
Manitowoc	54220

Subdivision Name	Lot #

Reason for Removal from Service	WI Unique Well # of Replacement Well

2. Facility / Owner Information

Facility Name

Facility ID (FID or PWS)

License/Permit/Monitoring #

Original Well Owner

Present Well Owner

Mailing Address of Present Owner

City of Present Owner	State	ZIP Code

3. Filled & Sealed Well / Drillhole / Borehole Information

☑ Monitoring Well ☐ Water Well ☐ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 11/15/2018

If a Well Construction Report is available, please attach.

Construction Type:
☑ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (specify): 4

Formation Type:
☑ Unconsolidated Formation ☐ Bedrock

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

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
	1

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

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

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 - Granular	Surface	10	3 lb	

6. Comments

Jacob Dean of AECOM observed onsite environmental as subcontractor to AECOM and signed the form verifying the well removal and sealing.

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
Onsite Environmental Services		03/03/2020

Street or Route	Telephone Number
PO Box 280	(608) 837-8992

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Sun Prairie	WI	53590	Jacob Dean	3-3-20

DNR Use Only

Date Received	Noted By

Comments

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	SB 14/ Tw-14	

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

¼ / ¼ | ¼ | Section | Township | Range ☐ E ☐ W
or Gov't Lot #

Well Street Address: 200 N. Main ~~110 Buffalo St.~~

Well City, Village or Town: Manitowoc | Well ZIP Code: 54220

Subdivision Name | Lot #

Reason for Removal from Service | WI Unique Well # of Replacement Well

2. Facility / Owner Information

Facility Name

Facility ID (FID or PWS)

License/Permit/Monitoring #

Original Well Owner

Present Well Owner

Mailing Address of Present Owner

City of Present Owner | State | ZIP Code

3. Filled & Sealed Well / Drillhole / Borehole Information

☑ Monitoring Well ☐ Water Well ☐ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 11/20/2018

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.)
	0.75
Lower Drillhole Diameter (in.)	Casing Depth (ft.)
	10

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

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

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- granular	Surface	10	3lb	

6. Comments

Jacob Dean of Aecom observed onsite environmental as a subcontractor to Aecom signed the form verifying the well removal and sealing.

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
Onsite Environmental Services		03/04/2020

Street or Route	Telephone Number	City	State	ZIP Code
PO Box 280	(608) 837-8992	Sun Prairie	WI	53590

Signature of Person Doing Work: Jacob Dean | Date Signed: 3-4-20

DNR Use Only

Date Received	Noted By	Comments

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	SB 17/TW 17	

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 #			N	☐ E ☐ W

Well Street Address: 200 N. 10th ~~110 Buffalo~~ St.

Well City, Village or Town	Well ZIP Code
Manitowoc	54220

Subdivision Name	Lot #

Reason for Removal from Service	WI Unique Well # of Replacement Well

2. Facility / Owner Information

Facility Name

Facility ID (FID or PWS)

License/Permit/Monitoring #

Original Well Owner

Present Well Owner

Mailing Address of Present Owner

City of Present Owner	State	ZIP Code

3. Filled & Sealed Well / Drillhole / Borehole Information

☑ Monitoring Well ☐ Water Well ☐ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 11/15/2018

If a Well Construction Report is available, please attach.

Construction Type: ☑ Drilled ☐ Driven (Sandpoint) ☐ Dug ☐ Other (specify): 4

Formation Type: ☑ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
10	0.75

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
0	10

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

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

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 - Granular	Surface	10	3 lbs	

6. Comments

Jacob Dean of AECOM observed onsite environmental as a subcontractor to AECOM and signed the form verifying the well removal and sealing

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
Onsite Environmental		3/03/2020

Street or Route	Telephone Number
PO Box 280	(608) 837-8992

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Sun Prairie	WI	53590		3.3.20

DNR Use Only

Date Received	Noted By

Comments

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	SB-19 / TW-19	

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 #			N	☐ E ☐ W

Well Street Address: 200 N. 10th ~~110 S. Buffalo~~ St.
Well City, Village or Town: Manitowoc
Well ZIP Code: 54220
Subdivision Name:
Lot #:
Reason for Removal from Service:
WI Unique Well # of Replacement Well:

2. Facility / Owner Information

Facility Name:
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner:
Mailing Address of Present Owner:
City of Present Owner | State | ZIP Code

3. Filled & Sealed Well / Drillhole / Borehole Information

☑ Monitoring Well ☐ Water Well ☐ Borehole / Drillhole
Original Construction Date (mm/dd/yyyy): 11/15/2018
If a Well Construction Report is available, please attach.

Construction Type:
☑ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (specify): 4

Formation Type:
☑ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
	0.75
Lower Drillhole Diameter (in.)	Casing Depth (ft.)
	10

Was well annular space grouted? ☐ Yes ☐ No ☐ Unknown
If yes, to what depth (feet)?
Depth to Water (feet)

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 - Granular	Surface	10	3lb	

6. Comments

Jacobsen of AEcom observed on-site environmental as a sobcontractor to AEcom and signed the form verifying the well removal and sealing.

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
Onsite Environmental		03/03/2020

Street or Route: PO Box 280
Telephone Number: (608) 837-8992
City: Sun Prairie | State: WI | ZIP Code: 53590
Signature of Person Doing Work:
Date Signed: 3-3-20

DNR Use Only
Date Received | Noted By | Comments

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	SB-35/TW-35	

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 #			N	☐ E ☐ W

Well Street Address: ~~1110 S Buffalo St.~~ 00 N. 10th

Well City, Village or Town	Well ZIP Code
Manitowoc	54220

Subdivision Name	Lot #

Reason for Removal from Service: _____
WI Unique Well # of Replacement Well: N/A

2. Facility / Owner Information

Facility Name: _____
Facility ID (FID or PWS): _____
License/Permit/Monitoring #: _____
Original Well Owner: _____
Present Well Owner: _____
Mailing Address of Present Owner: _____

City of Present Owner	State	ZIP Code

3. Filled & Sealed Well / Drillhole / Borehole Information

☑ Monitoring Well ☐ Water Well ☐ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 11/14/2018
If a Well Construction Report is available, please attach.

Construction Type:
☑ Drilled ☐ Driven (Sandpoint) ☐ Dug ☐ Other (specify) 4

Formation Type:
☑ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
	0.75

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
	10

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

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

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 - Granular	Surface	10	3 lb	

6. Comments

Jacob Dean of Aecom observed onsite environmental as a subcontractor to Aecom and signed the form verifying the well removal and sealing

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
Onsite environmental Services		03/04/2020

Street or Route	Telephone Number
PO Box 280	(608) 837-8992

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Sun Prairie	WI	53590		3-4-20

DNR Use Only

Date Received	Noted By

Comments: _____

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	SB 39/Tw-39	

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 #			N	☐ E ☐ W

Well Street Address: 200 N. 10th ~~1110 Buffalo St.~~
Well City, Village or Town: Manitowoc
Well ZIP Code: 54220
Subdivision Name:
Lot #:
Reason for Removal from Service:
WI Unique Well # of Replacement Well:

2. Facility / Owner Information

Facility Name:
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner:
Mailing Address of Present Owner:
City of Present Owner | State | ZIP Code

3. Filled & Sealed Well / Drillhole / Borehole Information

☑ Monitoring Well ☐ Water Well ☐ Borehole / Drillhole
Original Construction Date (mm/dd/yyyy): 11/14/2018
If a Well Construction Report is available, please attach.

Construction Type:
☑ Drilled ☐ Driven (Sandpoint) ☐ Dug ☐ Other (specify): 4

Formation Type:
☑ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
	0.75
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
	10

Was well annular space grouted? ☐ Yes ☑ No ☐ Unknown
If yes, to what depth (feet)?
Depth to Water (feet)

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
Bento te - Granular	Surface	10	3 lbs	

6. Comments

Jacob Dean of AECOM observed onsite environmental as a subcontractor to AECOM and signed the form verifying the well removal and sealing

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
Onsite environmental		03/ 2020

Street or Route	Telephone Number
PO Box 280	(608) 837-8992

City	State	ZIP Code
Sun Prairie	WI	53590

Signature of Person Doing Work: [signature]
Date Signed: 3.4.20

DNR Use Only
Date Received | Noted By | Comments

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

Well / Drillhole / Borehole Filling & Sealing Repor

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 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 imprisonme 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 othe 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/Redevelopmer
☐ Waste Management ☐ Other

1. Well Location Information

County	WI Unique Well # of Removed Well	Hicap #
Manitowoc	SB-43 / TW-43	

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

¼ of ¼ or Gov't Lot #	¼	Section	Township	Range
			N	☐ E ☐ W

Well Street Address: 200 N. 10th ~~110 Buffalo~~ St.

Well City, Village or Town	Well ZIP Code
Manitowoc	54220

Subdivision Name	Lot #

Reason for Removal from Service	WI Unique Well # of Replacement Well

2. Facility / Owner Information

Facility Name

Facility ID (FID or PWS)

License/Permit/Monitoring #

Original Well Owner

Present Well Owner

Mailing Address of Present Owner

City of Present Owner	State	ZIP Code

3. Filled & Sealed Well / Drillhole / Borehole Information

☑ Monitoring Well ☐ Water Well ☐ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 11/14/2018

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.)
10	0.75
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
0.75	10

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

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

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

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

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	Surface	10	3lb	

6. Comments

Jacob Dean of AECOM observed onsite environmental, as a subcontracter to AECOM and signed the form verifying the well removal and sealing.

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
Onsite Environmental		03/03/2020

Street or Route	Telephone Number
PO BOX 280	(608) 837-8992

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Sun Prairie	WI	53590	[signature]	3-3-20

DNR Use Only

Date Received	Noted By

Comments

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 appropnate 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	SB-11/IW-11	

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 #			N	☐ E ☐ W

Well Street Address: 1110 S Buffalo St.
Well City, Village or Town: Manitowoc
Well ZIP Code: 54220
Subdivision Name:
Lot #:
Reason for Removal from Service:
WI Unique Well # of Replacement Well:

2. Facility / Owner Information

Facility Name:
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner:
Mailing Address of Present Owner:
City of Present Owner | State | ZIP Code:

3. Filled & Sealed Well / Drillhole / Borehole Information

☑ Monitoring Well ☐ Water Well ☐ Borehole / Drillhole
Original Construction Date (mm/dd/yyyy): 11/19/2018
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	0.75
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
0.75	10

Was well annular space grouted? ☐ Yes ☑ No ☐ Unknown
If yes, to what depth (feet)?
Depth to Water (feet):

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

Material	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Bentonite - Granular	Surface	10	3lb	

6. Comments

Jacob Dean of Accom observed onsite environmental as a subcontractor to Accom and signed the form verifying the well removal and sealing.

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
On Site Environmental Services		03/03/2020

Street or Route: PO Box 280
Telephone Number: (608) 837-8992
City: Sun Prairie | State: WI | ZIP Code: 53590
Signature of Person Doing Work:
Date Signed: 3-3-20

DNR Use Only
Date Received | Noted By | Comments

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	SB 14 / TW-14	

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 #			N	☐ E ☐ W

Well Street Address: 1110 S. Buffalo St.

Well City, Village or Town: Manitowoc | Well ZIP Code: 54220

Subdivision Name | Lot #

Reason for Removal from Service | WI Unique Well # of Replacement Well: _ _ _ _ _ _ _

2. Facility / Owner Information

Facility Name

Facility ID (FID or PWS)

License/Permit/Monitoring #

Original Well Owner

Present Well Owner

Mailing Address of Present Owner

City of Present Owner | State | ZIP Code

3. Filled & Sealed Well / Drillhole / Borehole Information

☑ Monitoring Well ☐ Water Well ☐ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 11/15/2018

If a Well Construction Report is available, please attach.

Construction Type:
☑ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (specify): 4

Formation Type:
☑ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
	0.75
Lower Drillhole Diameter (in	**Casing Depth (ft.)**
	10

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

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

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 - Granular	Surface	10	3 lb	

6. Comments

Jacob Dean of Aecom observed onsite environmental as a subcontractor to Aecom and signed the form verifying the well removal and sealing.

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
Onsite Environmental Services		03/03/2020

Street or Route	Telephone Number
PO Box 280	(608) 837-8992

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Sun Prairie	WI	53590	Jacob Dean	3-3-20

DNR Use Only

Date Received	Noted By

Comments

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 #
	SP 201 Tw 20	

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 #			N	☐ E ☐ W

Well Street Address:

Well City, Village or Town	Well ZIP Code
Manitowoc	54220
Subdivision Name	Lot #

Reason for Removal from Service | WI Unique Well # of Replacement Well: _ _ _ _ _ _ _

2. Facility / Owner Information

Facility Name:
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

3. Filled & Sealed Well / Drillhole / Borehole Information

☑ Monitoring Well ☐ Water Well ☐ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 11/15/2018

If a Well Construction Report is available, please attach.

Construction Type:
☑ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (specify): 4

Formation Type:
☐ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
	0.75
Lower Drillhole Diameter (in.)	Casing Depth (ft.)
	10

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

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

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 - Granular	Surface	10	3lb	

6. Comments

Jacob Bean of Azcom observed on-site environmental as a subcontractor to Azcom and signed the form verifying the well removal and sealing

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
Ons He environmental services		03/03/2020

Street or Route	Telephone Number
PO Box 280	(608) 837-8992

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Sun Prairie	WI	53590		3-3-20

DNR Use Only

Date Received	Noted By

Comments:

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

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

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☐ **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	SB-27/TW-27	

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 #			N	☐ E ☐ W

Well Street Address: 1110 S Buffalo St.
Well City, Village or Town: Manitowoc
Well ZIP Code: 54220
Subdivision Name:
Lot #:
Reason for Removal from Service:
WI Unique Well # of Replacement Well:

2. Facility / Owner Information

Facility Name:
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner:
Mailing Address of Present Owner:
City of Present Owner | State | ZIP Code

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.)
	0.75
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
	10

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

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

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 - Granular	Surface	10	3 lb	

6. Comments

Jacob Deange of Aecom observed on site environmental as a subcontractor to Aecom and signed the form verifying the well removal and sealing

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
Onsite Environmental		03/02/2020

Street or Route	Telephone Number
PO Box 280	(608) 837 8992

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Sun Prairie	WI	53590		3-2-20

DNR Use Only

Date Received	Noted By

Comments:

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	SB-45 / TW-45	

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 #			N	☐ E ☐ W

Well Street Address: 1110 S. Buffalo St.

Well City, Village or Town	Well ZIP Code
Manitowoc	54220

Subdivision Name	Lot #

Reason for Removal from Service	WI Unique Well # of Replacement Well

2. Facility / Owner Information

Facility Name
Facility ID (FID or PWS)
License/Permit/Monitoring #
Original Well Owner
Present Well Owner
Mailing Address of Present Owner

City of Present Owner	State	ZIP Code

3. Filled & Sealed Well / Drillhole / Borehole Information

☑ Monitoring Well
☐ Water Well
☑ Borehole / Drillhole

Original Construction Date (mm/dd/yyyy): 11/15/2018
If a Well Construction Report is available, please attach.

Construction Type:
☐ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (specify): 4

Formation Type:
☐ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
10	0.75

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
0.75	10

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

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

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 - Granular	Surface	10	3 lbs	

6. Comments

Jacob Dean of Aecom observed on-site Environmental as a subcontractor to Asom and signed the form verifying the well removal and sealing

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
Onsite Environmental Services		03/02/2020

Street or Route	Telephone Number
PO Box 280	(608) 837-8992

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Sun Prairie	WI	53590	Jacob Dean	3-2-20

DNR Use Only

Date Received	Noted By

Comments

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	SB-58 / TW-58	

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 #			N	☐ E ☐ W

Well Street Address: 1110 S Buffalo St.
Well City, Village or Town: Manitowoc
Well ZIP Code: 54220
Subdivision Name:
Lot #:
Reason for Removal from Service:
WI Unique Well # of Replacement Well:

2. Facility / Owner Information

Facility Name:
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner:
Mailing Address of Present Owner:
City of Present Owner | State | ZIP Code:

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): 4

Formation Type:
☑ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
10	0.75
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
0.75	10

Was well annular space grouted? ☐ Yes ☑ No ☐ Unknown
If yes, to what depth (feet)?
Depth to Water (feet)

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 - Granular	Surface	10	3 lbs	

6. Comments

Jacob Dean of Aecom observed on-site environmental as a subcontractor to Aecom and signed the form verifying the well removal and sealing

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
On site Environmental		03/02/2020

Street or Route	Telephone Number
PO Box 280	(608) 8378992

City	State	ZIP Code	Signature of Person Doing Work	Date Signed
Sun Prairie	WI	53590		3-2-20

DNR Use Only

Date Received	Noted By

Comments:

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

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

☐ Verification Only of Fill and Seal

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

1. Well Location Information

County: Manitowoc
WI Unique Well # of Removed Well: SB 64/TW-64
Hicap #:
Latitude / Longitude (see instructions): ____ N ____ W
Format Code: ☐ DD ☐ DDM
Method Code: ☐ GPS008 ☐ SCR002 ☐ OTH001
¼ / ¼: ____ ¼: ____ or Gov't Lot #: ____ Section: ____ Township: ____ N Range: ____ ☐ E ☐ W
Well Street Address: 1110 S Buffalo St.
Well City, Village or Town: Manitowoc
Well ZIP Code: 54220
Subdivision Name:
Lot #:
Reason for Removal from Service:
WI Unique Well # of Replacement Well: __ __ __ __ __

2. Facility / Owner Information

Facility Name:
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner:
Mailing Address of Present Owner:
City of Present Owner: State: ZIP Code:

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): 4

Formation Type: ☑ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.): 10
Casing Diameter (in.): 0.75
Lower Drillhole Diameter (in.): 0.75
Casing Depth (ft.): 10

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

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

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

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

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

Material	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Bentonite - Granular	Surface	10	3 lbs	

6. Comments

Jacob Deanor Ascom observed On-Site Environmental as a subcontractor to Ascom and signed the form verifying the well removal and sealing

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing: On-Site Environmental Services
License #:
Date of Filling & Sealing or Verification (mm/dd/yyyy): 03/02/2020
Street or Route: PO Box 280
Telephone Number: (608) 837 8992
City: Sun Prairie State: WI ZIP Code: 53590
Signature of Person Doing Work: [signature]
Date Signed: 3-2-20

DNR Use Only — Date Received: Noted By: Comments:

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

Well / Drillhole / Borehole Filling & Sealing Report

Form 3300-005 (R 4/2015)

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☐ **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	SB-72 / TW-72	

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 #			N	☐ E ☐ W

Well Street Address: 1110 S. Buffalo St

Well City, Village or Town	Well ZIP Code
Manitowoc	54220

Subdivision Name	Lot #

Reason for Removal from Service	WI Unique Well # of Replacement Well

2. Facility / Owner Information

Facility Name:
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

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): 4

Formation Type:
☑ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
10'	0.75

Lower Drillhole Diameter (in.)	Casing Depth (ft.)
	10'

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

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

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

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 - Granular	Surface	10	2 lbs	

6. Comments

Jacob Beano of AECOM observed on-site Environmental as a subcontractor to AECOM and signed the Form verifying the well removal and sealing.

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
On-Site Environmental Services Inc.		3/2/2020

Street or Route	Telephone Number
P.O. Box 280	(608) 837-8992

City	State	ZIP Code
Sun Prairie,	WI	53590

Signature of Person Doing Work: [signature]
Date Signed: 3.2.20

DNR Use Only

Date Received	Noted By

Comments:

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	SB-77/TW-77	

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 #			N	☐ E ☐ W

Well Street Address: 1110 S. Buffalo St.

Well City, Village or Town	Well ZIP Code
Manitowoc	54220

Subdivision Name	Lot #

Reason for Removal from Service: | WI Unique Well # of Replacement Well: ____

2. Facility / Owner Information

Facility Name:
Facility ID (FID or PWS):
License/Permit/Monitoring #:
Original Well Owner:
Present Well Owner:
Mailing Address of Present Owner:

City of Present Owner	State	ZIP Code

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): 4

Formation Type:
☑ Unconsolidated Formation ☐ Bedrock

Total Well Depth From Ground Surface (ft.)	Casing Diameter (in.)
	0.75
Lower Drillhole Diameter (in.)	**Casing Depth (ft.)**
	10

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

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

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 - Granular	Surface	10	3 lbs	

6. Comments

Jacob Deanor Aecom observed on-site Environmental as a subcontractor to Aecom and signed the form verifying the well removal and sealing.

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)
On-Site Environmental Services		03/02/2020

Street or Route	Telephone Number	City	State	ZIP Code
PO BOX 280	(608) 837-8992	Sun Prairie	WI	53590

Signature of Person Doing Work: 3-2-20 — Date Signed: 3-2-20

DNR Use Only

Date Received	Noted By	Comments

Appendix D Data Validation Memo

AECOM Environment
1555 N. RiverCenter Drive, Suite 214, Milwaukee, WI 53212
T 414.944.6080 F 414.944.6081 www.aecom.com

Memorandum

Date: April 7, 2020

To: Lanette Altenbach, Project Manager (PG)

From: Lisa Smith, Environmental Chemist (CEAC)

Subject: Data Validation - Analytical Results for Groundwater Samples
Limited Site Investigation
Former CN Property, Manitowoc, Wisconsin

SUMMARY

Data validation was performed on the analytical results of the groundwater samples collected at the CN Manitowoc, Wisconsin site on March 18 through 20, 2020 and submitted to Pace Analytical, Green Bay for analysis. Pace processed the samples and reported the results under sample delivery group (SDG) 40205127.

The analytical data were evaluated with reference to the United States Environmental Protection Agency (USEPA) National Functional Guidelines for Superfund Organic Methods Data Review (January 2017), and National Functional Guidelines for Inorganic Superfund Methods Data Review (January 2017). The National Functional Guidelines were modified to accommodate the non-CLP methodology. Laboratory control limits and/or method criteria were used as appropriate as the basis for validation actions.

Based on the results of the validation, the data are valid as reported and may be used for decision making purpose. Some data required qualifications as discussed below and summarized in Table 1. Data validation qualifiers override any assigned laboratory data flags. Results reported below the limit of quantitation (LOQ) were qualified as estimated (J) by the laboratory; qualifications of these results were accepted by the validator, but are not shown in Table 1.

METHODS

The samples were analyzed by the methods listed below.

Matrix	Analyte Group	Method	Number of Samples
Groundwater	VOCs	SW-846 8260	5 samples, 2 field duplicates, and 1 trip blank
	PAHs	SW-846 8270 HIV	14 samples, 2 field duplicates
	RCRA Metals	SW-846 6020/7470	4 samples, 1 field duplicate
	Arsenic	SW-846 6020	10 samples, 1 field duplicate
	Lead	SW-846 6020	1 sample

REVIEW ELEMENTS

A limited data validation was performed on the samples. Quality control (QC) parameters listed below were reviewed, if applicable to the methodology.

AECOM Environment
1555 N. RiverCenter Drive, Suite 214, Milwaukee, WI 53212
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Limited Validation
Holding Time
Method Blanks
Trip Blanks
Surrogate Recoveries
Laboratory Control Samples
Matrix Spikes/Matrix Spike Duplicates
Field Duplicates
Quantitation Limits

DISCUSSION

Sample Receipt

Samples were received at the laboratory intact, properly preserved and in good condition. The samples were received on ice.

Analyses were added to the chain of custody by the laboratory for samples 3_MW-58, 3_MW-72 and 3_MW-77 at the request of AECOM.

Holding Times

Samples were extracted and analyzed within holding times.

Method Blanks

Laboratory blanks are analyzed to assess contamination from laboratory procedures. Method blanks were analyzed at the correct frequency. Analytes were not detected in the associated method blanks, with the exception of 1,2,4-trichlorobenzene. 1,2,4-Trichlorobenzene was detected in the method blank for batch 350835 at a concentration of 1.6 J ug/L. 1,2,4-Trichlorobenzene was not detected in the associated samples and results did not require qualification.

Trip Blanks

Trip blanks are used to assess contamination from sample shipping. One trip blank was associated with the sample shipment. Analytes were not detected in the trip blank.

Surrogate Recoveries

Surrogates are spiked into all field samples, field QC samples, and method QC samples and are used to evaluate accuracy. The surrogates are organic compounds similar to the target compounds in chemical composition and behavior in the analytical process, but are not usually found in environmental samples. Surrogates recoveries were within the laboratory specified QC limits, with the exception of the 2-fluorobiphenyl surrogate for sample 3_MW-14. The laboratory reported a 2-fluorobiphenyl surrogate recovery of 38% for sample 3_MW-14, while the acceptable recovery range is 39% to 120%. Associated PAH detects were qualified as estimated biased low (J-), and nondetects were qualified as UJ. Surrogates were diluted out for PAH sample 3_MW-58 and were not evaluated.

Laboratory Control Samples (LCSs)

LCSs are analyzed to monitor the accuracy of the analytical method independent of matrix effects. LCS recoveries and relative percent differences (RPDs) were within the laboratory specified QC limits, except as listed in the table below.

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Method (Batch)	Compound	LCS/LCSD % Recovery	Recovery Limits	Results Qualified
350835	1,2,4-Trichlorobenzene	57/--	70-130	Associated results were nondetect and qualified UJ.
351002	Benzo(b)fluoranthene	107/106	54-97	Associated detects were qualified estimated biased high (J+).
	Indeno(1,2,3-cd)pyrene	108/105	51-101	

Matrix Spike/Matrix Spike Duplicates (MS/MSDs)

MS/MSDs are analyzed to determine the effects of sample matrix on the measurement methodology. Extra volume was collected for sample 1_MW-10 for MS/MSD analysis. MS/MSD recoveries and RPDs were within the laboratory specified criteria.

Quantitation

Dilutions were required during analysis due to high sample concentrations. The dilutions were necessary to bring the sample concentrations within the calibration range of the instrument. In addition, some of the metals samples were diluted due to matrix interference. The limit of detections (LODs) for the metals results reported as nondetect from a dilution analyses were below the PAL, with the exception of the arsenic result for sample 1_MW-39.

Field Duplicates

Field duplicates are collected to assess the overall precision of field sampling and laboratory analysis. Two groundwater field duplicate samples were collected, and field precision is summarized below. RPDs for the field duplicate pairs were within the 30 percent limit for groundwater, or the absolute difference of the values were within ± the LOQ for values with 5 times the LOQ.

Sample & Compound(s)	Units	LOQ (max)	Sample Concentration	Field Duplicate Concentration	RPD (%)
1_MW-35 and 1_MW-35D:					
p-Isopropyltoluene	ug/l	2.7	34.5	31.2	10
Toluene	ug/l	0.9	0.52 J	0.48 J	8
Acenaphthylene	ug/l	0.027	0.0071 J	0.0075 J	5.5
Anthracene	ug/l	0.056	0.059	0.049 J	18.5
Benzo(a)anthracene	ug/l	0.041	0.0093 J	0.0081 U	--
Benzo(b)fluoranthene	ug/l	0.031	0.011 J	0.0062 U	--
Benzo(g,h,i)perylene	ug/l	0.036	0.0088 J	0.0073 U	--
Pyrene	ug/l	0.041	0.0076 J	0.0082 U	--
Arsenic	ug/l	2	1.4 J	1.6	13.3
Barium	ug/l	2.3	220	208	5.6
3_MW-27 and 3_MW-27D:					
Tetrachloroethene	ug/l	1.1	1 J	1.1	9.5
Trichloroethene	ug/l	1	0.33 J	0.45 J	± RL

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Validation Flags

Table 1 – Data Validation Summary of Qualified Data

Sample ID	Analyte	Units	Validation Qualifier[1]	Reason Code[2]
Groundwater Samples:				
3_MW-14	PAHs	ug/L	Detects: J- Nondetects: UJ	s
1_MW-10 1_MW-17 1_MW-35 1_MW-35D 3_MW-27 3_MW-27D 3_MW-58 TB-1	1,2,4-Trichlorobenzene	ug/L	UJ	l
3_MW-45	Benzo(b)fluoranthene Indeno(1,2,3-cd)pyrene	ug/L	J+	l

(1): Data Validation Qualifiers:
J: The analyte was positively identified. +/- indicate the direction of bias.
UJ: The analyte was analyzed for, but was not detected. The reported quantitation limit is approximated and may be inaccurate or imprecise.

(2): Reason Codes:

l	Laboratory control sample
s	Surrogate

Appendix E Laboratory Analytical Reports

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

April 01, 2020

Lanette Altenbach
AECOM, Inc.
1555 N River Center Drive
Suite 214
Milwaukee, WI 53212

RE: Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Dear Lanette Altenbach:

Enclosed are the analytical results for sample(s) received by the laboratory on March 23, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Green Bay

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Christopher Hyska

Christopher Hyska
christopher.hyska@pacelabs.com
(920)469-2436
Project Manager

Enclosures

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
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CERTIFICATIONS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Pace Analytical Services Green Bay
1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40205127001	**1_MW-19**	Water	03/18/20 10:00	03/23/20 12:35
40205127002	**1_MW-43**	Water	03/18/20 10:20	03/23/20 12:35
40205127003	**1_MW-39**	Water	03/18/20 11:45	03/23/20 12:35
40205127004	**1_MW-35**	Water	03/18/20 13:10	03/23/20 12:35
40205127005	**1_MW-35D**	Water	03/18/20 00:00	03/23/20 12:35
40205127006	**1_MW-10**	Water	03/18/20 14:40	03/23/20 12:35
40205127007	**1_MW-14**	Water	03/18/20 16:15	03/23/20 12:35
40205127008	**1_MW-17**	Water	03/19/20 11:05	03/23/20 12:35
40205127009	**3_MW-14**	Water	03/19/20 11:50	03/23/20 12:35
40205127010	**3_MW-11**	Water	03/19/20 13:05	03/23/20 12:35
40205127011	**3_MW-45**	Water	03/19/20 14:05	03/23/20 12:35
40205127012	**3_MW-20**	Water	03/19/20 15:10	03/23/20 12:35
40205127013	**3_MW-64**	Water	03/19/20 16:15	03/23/20 12:35
40205127014	**3_MW-27**	Water	03/20/20 09:50	03/23/20 12:35
40205127015	**3_MW-27D**	Water	03/20/20 00:00	03/23/20 12:35
40205127016	**3_MW-77**	Water	03/20/20 11:35	03/23/20 12:35
40205127017	**3_MW-72**	Water	03/20/20 12:50	03/23/20 12:35
40205127018	**3_MW-58**	Water	03/20/20 14:45	03/23/20 12:35
40205127019	**TB-1**	Water	03/20/20 00:00	03/23/20 12:35

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SAMPLE ANALYTE COUNT

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40205127001	**1_MW-19**	EPA 6020	KXS	1	PASI-G
40205127002	**1_MW-43**	EPA 6020	DS1	2	PASI-G
40205127003	**1_MW-39**	EPA 6020	DS1, KXS	7	PASI-G
		EPA 7470	AJT	1	PASI-G
		EPA 8270 by HVI	TPO	20	PASI-G
40205127004	**1_MW-35**	EPA 6020	DS1, KXS	7	PASI-G
		EPA 7470	AJT	1	PASI-G
		EPA 8270 by HVI	TPO	20	PASI-G
		EPA 8260	LAP	65	PASI-G
40205127005	**1_MW-35D**	EPA 6020	DS1	7	PASI-G
		EPA 7470	AJT	1	PASI-G
		EPA 8270 by HVI	TPO	20	PASI-G
		EPA 8260	LAP	65	PASI-G
40205127006	**1_MW-10**	EPA 6020	DS1	7	PASI-G
		EPA 7470	AJT	1	PASI-G
		EPA 8270 by HVI	TPO	20	PASI-G
		EPA 8260	LAP	65	PASI-G
40205127007	**1_MW-14**	EPA 6020	DS1	7	PASI-G
		EPA 7470	AJT	1	PASI-G
		EPA 8270 by HVI	TPO	20	PASI-G
40205127008	**1_MW-17**	EPA 6020	DS1	1	PASI-G
		EPA 8270 by HVI	TPO	20	PASI-G
		EPA 8260	LAP	65	PASI-G
40205127009	**3_MW-14**	EPA 8270 by HVI	TPO	20	PASI-G
40205127010	**3_MW-11**	EPA 6020	KXS	1	PASI-G
		EPA 8270 by HVI	TPO	20	PASI-G
40205127011	**3_MW-45**	EPA 6020	DS1	1	PASI-G
		EPA 8270 by HVI	TPO	20	PASI-G
40205127012	**3_MW-20**	EPA 8270 by HVI	TPO	20	PASI-G
40205127013	**3_MW-64**	EPA 6020	DS1	1	PASI-G
		EPA 8270 by HVI	TPO	20	PASI-G
40205127014	**3_MW-27**	EPA 6020	DS1	1	PASI-G
		EPA 8270 by HVI	TPO	20	PASI-G
		EPA 8260	LAP	65	PASI-G
40205127015	**3_MW-27D**	EPA 6020	DS1	1	PASI-G
		EPA 8270 by HVI	TPO	20	PASI-G
		EPA 8260	LAP	65	PASI-G

Pace Analytical Services, LLC
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SAMPLE ANALYTE COUNT

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40205127016	**3_MW-77**	EPA 6020	DS1	1	PASI-G
		EPA 8270 by HVI	TPO	20	PASI-G
40205127017	**3_MW-72**	EPA 6020	DS1	1	PASI-G
		EPA 8270 by HVI	TPO	20	PASI-G
40205127018	**3_MW-58**	EPA 6020	DS1	1	PASI-G
		EPA 8270 by HVI	TPO	20	PASI-G
		EPA 8260	LAP	65	PASI-G
40205127019	**TB-1**	EPA 8260	LAP	65	PASI-G

PASI-G = Pace Analytical Services - Green Bay

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SUMMARY OF DETECTION

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40205127002	**1_MW-43**					
EPA 6020	Arsenic, Dissolved	0.80J	ug/L	1.0	03/27/20 17:17	
40205127003	**1_MW-39**					
EPA 6020	Barium, Dissolved	729	ug/L	2.3	03/27/20 02:04	
EPA 8270 by HVI	Acenaphthene	9.2	ug/L	0.030	03/26/20 21:32	
EPA 8270 by HVI	Acenaphthylene	0.012J	ug/L	0.025	03/26/20 21:32	
EPA 8270 by HVI	Anthracene	0.033J	ug/L	0.052	03/26/20 21:32	
EPA 8270 by HVI	Benzo(a)anthracene	0.0084J	ug/L	0.038	03/26/20 21:32	
EPA 8270 by HVI	Fluoranthene	0.058	ug/L	0.053	03/26/20 21:32	
EPA 8270 by HVI	Fluorene	0.53	ug/L	0.040	03/26/20 21:32	
EPA 8270 by HVI	1-Methylnaphthalene	0.70	ug/L	0.030	03/26/20 21:32	
EPA 8270 by HVI	2-Methylnaphthalene	0.90	ug/L	0.024	03/26/20 21:32	
EPA 8270 by HVI	Naphthalene	0.17	ug/L	0.092	03/26/20 21:32	
EPA 8270 by HVI	Phenanthrene	0.42	ug/L	0.069	03/26/20 21:32	
EPA 8270 by HVI	Pyrene	0.035J	ug/L	0.038	03/26/20 21:32	
40205127004	**1_MW-35**					
EPA 6020	Arsenic, Dissolved	1.4J	ug/L	2.0	03/30/20 18:56	D3
EPA 6020	Barium, Dissolved	220	ug/L	2.3	03/27/20 17:31	
EPA 8270 by HVI	Acenaphthylene	0.0071J	ug/L	0.024	03/26/20 15:59	
EPA 8270 by HVI	Anthracene	0.059	ug/L	0.050	03/26/20 15:59	
EPA 8270 by HVI	Benzo(a)anthracene	0.0093J	ug/L	0.036	03/26/20 15:59	
EPA 8270 by HVI	Benzo(b)fluoranthene	0.011J	ug/L	0.028	03/26/20 15:59	
EPA 8270 by HVI	Benzo(g,h,i)perylene	0.0088J	ug/L	0.033	03/26/20 15:59	
EPA 8270 by HVI	Pyrene	0.0076J	ug/L	0.037	03/26/20 15:59	
EPA 8260	p-Isopropyltoluene	34.5	ug/L	2.7	03/25/20 15:30	
EPA 8260	Toluene	0.52J	ug/L	0.90	03/25/20 15:30	
40205127005	**1_MW-35D**					
EPA 6020	Arsenic, Dissolved	1.6	ug/L	1.0	03/27/20 17:38	
EPA 6020	Barium, Dissolved	208	ug/L	2.3	03/27/20 17:38	
EPA 8270 by HVI	Acenaphthylene	0.0075J	ug/L	0.027	03/26/20 16:17	
EPA 8270 by HVI	Anthracene	0.049J	ug/L	0.056	03/26/20 16:17	
EPA 8260	p-Isopropyltoluene	31.2	ug/L	2.7	03/25/20 15:52	
EPA 8260	Toluene	0.48J	ug/L	0.90	03/25/20 15:52	
40205127006	**1_MW-10**					
EPA 6020	Arsenic, Dissolved	0.88J	ug/L	1.0	03/27/20 16:22	
EPA 6020	Barium, Dissolved	102	ug/L	2.3	03/27/20 16:22	
EPA 6020	Selenium, Dissolved	1.5	ug/L	1.1	03/27/20 16:22	
EPA 8270 by HVI	Acenaphthene	0.074	ug/L	0.030	03/26/20 12:57	
EPA 8270 by HVI	Acenaphthylene	0.011J	ug/L	0.024	03/26/20 12:57	
EPA 8270 by HVI	Fluorene	0.043	ug/L	0.039	03/26/20 12:57	
EPA 8270 by HVI	1-Methylnaphthalene	0.090	ug/L	0.029	03/26/20 12:57	
EPA 8270 by HVI	2-Methylnaphthalene	0.0092J	ug/L	0.024	03/26/20 12:57	
EPA 8270 by HVI	Naphthalene	0.14	ug/L	0.090	03/26/20 12:57	
40205127007	**1_MW-14**					
EPA 6020	Arsenic, Dissolved	0.64J	ug/L	1.0	03/27/20 17:45	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SUMMARY OF DETECTION

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40205127007	**1_MW-14**					
EPA 6020	Barium, Dissolved	99.2	ug/L	2.3	03/27/20 17:45	
EPA 6020	Selenium, Dissolved	1.6	ug/L	1.1	03/27/20 17:45	
EPA 8270 by HVI	Acenaphthene	0.0089J	ug/L	0.029	03/26/20 16:36	
EPA 8270 by HVI	Acenaphthylene	0.056	ug/L	0.024	03/26/20 16:36	
EPA 8270 by HVI	Anthracene	0.075	ug/L	0.051	03/26/20 16:36	
EPA 8270 by HVI	Benzo(a)anthracene	0.31	ug/L	0.037	03/26/20 16:36	
EPA 8270 by HVI	Benzo(a)pyrene	0.30	ug/L	0.051	03/26/20 16:36	
EPA 8270 by HVI	Benzo(b)fluoranthene	0.38	ug/L	0.028	03/26/20 16:36	
EPA 8270 by HVI	Benzo(g,h,i)perylene	0.14	ug/L	0.033	03/26/20 16:36	
EPA 8270 by HVI	Benzo(k)fluoranthene	0.19	ug/L	0.037	03/26/20 16:36	
EPA 8270 by HVI	Chrysene	0.37	ug/L	0.063	03/26/20 16:36	
EPA 8270 by HVI	Dibenz(a,h)anthracene	0.037J	ug/L	0.049	03/26/20 16:36	
EPA 8270 by HVI	Fluoranthene	0.77	ug/L	0.052	03/26/20 16:36	
EPA 8270 by HVI	Fluorene	0.049	ug/L	0.039	03/26/20 16:36	
EPA 8270 by HVI	Indeno(1,2,3-cd)pyrene	0.14	ug/L	0.086	03/26/20 16:36	
EPA 8270 by HVI	1-Methylnaphthalene	0.011J	ug/L	0.029	03/26/20 16:36	
EPA 8270 by HVI	2-Methylnaphthalene	0.011J	ug/L	0.024	03/26/20 16:36	
EPA 8270 by HVI	Phenanthrene	0.50	ug/L	0.067	03/26/20 16:36	
EPA 8270 by HVI	Pyrene	0.61	ug/L	0.037	03/26/20 16:36	
40205127008	**1_MW-17**					
EPA 6020	Arsenic, Dissolved	0.32J	ug/L	1.0	03/27/20 02:46	
EPA 8270 by HVI	Acenaphthene	0.016J	ug/L	0.029	03/26/20 16:54	
EPA 8270 by HVI	Acenaphthylene	0.0060J	ug/L	0.024	03/26/20 16:54	
EPA 8270 by HVI	Benzo(a)anthracene	0.0080J	ug/L	0.037	03/26/20 16:54	
EPA 8270 by HVI	Fluorene	0.0083J	ug/L	0.039	03/26/20 16:54	
EPA 8270 by HVI	1-Methylnaphthalene	0.025J	ug/L	0.029	03/26/20 16:54	
EPA 8270 by HVI	2-Methylnaphthalene	0.010J	ug/L	0.024	03/26/20 16:54	
EPA 8270 by HVI	Naphthalene	0.087J	ug/L	0.089	03/26/20 16:54	
EPA 8270 by HVI	Pyrene	0.0075J	ug/L	0.037	03/26/20 16:54	
40205127009	**3_MW-14**					
EPA 8270 by HVI	Acenaphthene	0.012J	ug/L	0.029	03/26/20 17:12	
EPA 8270 by HVI	Acenaphthylene	0.0078J	ug/L	0.024	03/26/20 17:12	
EPA 8270 by HVI	Benzo(a)anthracene	0.0091J	ug/L	0.037	03/26/20 17:12	
EPA 8270 by HVI	Benzo(b)fluoranthene	0.0089J	ug/L	0.028	03/26/20 17:12	
EPA 8270 by HVI	Fluoranthene	0.040J	ug/L	0.052	03/26/20 17:12	
EPA 8270 by HVI	Fluorene	0.019J	ug/L	0.039	03/26/20 17:12	
EPA 8270 by HVI	Pyrene	0.027J	ug/L	0.037	03/26/20 17:12	
40205127010	**3_MW-11**					
EPA 6020	Arsenic, Dissolved	7.5	ug/L	2.0	03/30/20 19:03	
EPA 8270 by HVI	Acenaphthene	0.17	ug/L	0.029	03/26/20 22:09	
EPA 8270 by HVI	Fluorene	0.024J	ug/L	0.038	03/26/20 22:09	
EPA 8270 by HVI	1-Methylnaphthalene	0.0066J	ug/L	0.028	03/26/20 22:09	
40205127011	**3_MW-45**					
EPA 6020	Arsenic, Dissolved	1.4	ug/L	1.0	03/27/20 02:59	
EPA 8270 by HVI	Acenaphthene	0.80	ug/L	0.10	03/26/20 17:31	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
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SUMMARY OF DETECTION

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40205127011	**3_MW-45**					
EPA 8270 by HVI	Acenaphthylene	4.8	ug/L	0.082	03/26/20 17:31	
EPA 8270 by HVI	Anthracene	1.2	ug/L	0.17	03/26/20 17:31	
EPA 8270 by HVI	Benzo(a)anthracene	0.33	ug/L	0.12	03/26/20 17:31	
EPA 8270 by HVI	Benzo(a)pyrene	0.42	ug/L	0.17	03/26/20 17:31	
EPA 8270 by HVI	Benzo(b)fluoranthene	0.40	ug/L	0.095	03/26/20 17:31	L1
EPA 8270 by HVI	Benzo(g,h,i)perylene	0.42	ug/L	0.11	03/26/20 17:31	
EPA 8270 by HVI	Benzo(k)fluoranthene	0.19	ug/L	0.12	03/26/20 17:31	
EPA 8270 by HVI	Chrysene	0.35	ug/L	0.22	03/26/20 17:31	
EPA 8270 by HVI	Dibenz(a,h)anthracene	0.054J	ug/L	0.17	03/26/20 17:31	
EPA 8270 by HVI	Fluoranthene	1.2	ug/L	0.18	03/26/20 17:31	
EPA 8270 by HVI	Fluorene	2.9	ug/L	0.13	03/26/20 17:31	
EPA 8270 by HVI	Indeno(1,2,3-cd)pyrene	0.25J	ug/L	0.29	03/26/20 17:31	L1
EPA 8270 by HVI	1-Methylnaphthalene	5.1	ug/L	0.097	03/26/20 17:31	
EPA 8270 by HVI	2-Methylnaphthalene	6.5	ug/L	0.081	03/26/20 17:31	
EPA 8270 by HVI	Naphthalene	33.6	ug/L	0.30	03/26/20 17:31	
EPA 8270 by HVI	Phenanthrene	4.8	ug/L	0.23	03/26/20 17:31	
EPA 8270 by HVI	Pyrene	1.0	ug/L	0.13	03/26/20 17:31	
40205127012	**3_MW-20**					
EPA 8270 by HVI	Benzo(g,h,i)perylene	0.014J	ug/L	0.036	03/27/20 11:24	
40205127013	**3_MW-64**					
EPA 6020	Arsenic, Dissolved	4.3	ug/L	1.0	03/27/20 03:06	
EPA 8270 by HVI	Benzo(g,h,i)perylene	0.0079J	ug/L	0.039	03/27/20 12:14	
40205127014	**3_MW-27**					
EPA 8260	Tetrachloroethene	1.0J	ug/L	1.1	03/25/20 16:37	
EPA 8260	Trichloroethene	0.33J	ug/L	1.0	03/25/20 16:37	
40205127015	**3_MW-27D**					
EPA 8260	Tetrachloroethene	1.1	ug/L	1.1	03/25/20 16:59	
EPA 8260	Trichloroethene	0.45J	ug/L	1.0	03/25/20 16:59	
40205127016	**3_MW-77**					
EPA 6020	Arsenic, Dissolved	0.92J	ug/L	1.0	03/27/20 17:58	
EPA 8270 by HVI	1-Methylnaphthalene	0.017J	ug/L	0.028	03/27/20 13:04	
EPA 8270 by HVI	2-Methylnaphthalene	0.0077J	ug/L	0.023	03/27/20 13:04	
40205127017	**3_MW-72**					
EPA 6020	Arsenic, Dissolved	0.44J	ug/L	1.0	03/27/20 03:48	
EPA 8270 by HVI	Naphthalene	0.020J	ug/L	0.10	03/27/20 13:21	
40205127018	**3_MW-58**					
EPA 6020	Arsenic, Dissolved	3.8	ug/L	1.0	03/27/20 18:05	
EPA 8270 by HVI	Acenaphthene	3.8	ug/L	0.74	03/26/20 17:49	
EPA 8270 by HVI	Acenaphthylene	2.6	ug/L	0.60	03/26/20 17:49	
EPA 8270 by HVI	Anthracene	0.85J	ug/L	1.3	03/26/20 17:49	
EPA 8270 by HVI	Fluorene	7.2	ug/L	0.97	03/26/20 17:49	
EPA 8270 by HVI	1-Methylnaphthalene	146	ug/L	0.72	03/26/20 17:49	
EPA 8270 by HVI	2-Methylnaphthalene	182	ug/L	0.59	03/26/20 17:49	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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SUMMARY OF DETECTION

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40205127018	**3_MW-58**					
EPA 8270 by HVI	Naphthalene	6.0	ug/L	2.2	03/26/20 17:49	
EPA 8270 by HVI	Phenanthrene	9.8	ug/L	1.7	03/26/20 17:49	
EPA 8270 by HVI	Pyrene	0.40J	ug/L	0.93	03/26/20 17:49	
EPA 8260	Benzene	15.3	ug/L	2.5	03/25/20 18:06	
EPA 8260	n-Butylbenzene	19.3	ug/L	5.9	03/25/20 18:06	
EPA 8260	sec-Butylbenzene	7.7J	ug/L	12.5	03/25/20 18:06	
EPA 8260	Ethylbenzene	112	ug/L	2.7	03/25/20 18:06	
EPA 8260	Isopropylbenzene (Cumene)	15.5	ug/L	14.0	03/25/20 18:06	
EPA 8260	p-Isopropyltoluene	3.5J	ug/L	6.7	03/25/20 18:06	
EPA 8260	n-Propylbenzene	29.7	ug/L	12.5	03/25/20 18:06	
EPA 8260	Tetrachloroethene	1.2J	ug/L	2.7	03/25/20 18:06	
EPA 8260	Toluene	1.9J	ug/L	2.2	03/25/20 18:06	
EPA 8260	1,2,4-Trimethylbenzene	279	ug/L	7.0	03/25/20 18:06	
EPA 8260	1,3,5-Trimethylbenzene	79.6	ug/L	7.3	03/25/20 18:06	
EPA 8260	Xylene (Total)	263	ug/L	7.5	03/25/20 18:06	
EPA 8260	m&p-Xylene	260	ug/L	5.0	03/25/20 18:06	
EPA 8260	o-Xylene	3.1	ug/L	2.5	03/25/20 18:06	

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ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 1_MW-19 **Lab ID: 40205127001** Collected: 03/18/20 10:00 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - Green Bay								
Arsenic, Dissolved	**<0.56**	ug/L	2.0	0.56	2	03/24/20 22:14	03/30/20 18:35	7440-38-2	D3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 1_MW-43 **Lab ID: 40205127002** Collected: 03/18/20 10:20 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - Green Bay								
Arsenic, Dissolved	**0.80J**	ug/L	1.0	0.28	1	03/24/20 22:14	03/27/20 17:17	7440-38-2	
Lead, Dissolved	**<0.24**	ug/L	1.0	0.24	1	03/24/20 22:14	03/27/20 17:17	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 1_MW-39 **Lab ID: 40205127003** Collected: 03/18/20 11:45 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - Green Bay								
Arsenic, Dissolved	**<1.4**	ug/L	5.0	1.4	5	03/24/20 22:14	03/30/20 18:49	7440-38-2	D3
Barium, Dissolved	**729**	ug/L	2.3	0.70	1	03/24/20 22:14	03/27/20 02:04	7440-39-3	
Cadmium, Dissolved	**<0.15**	ug/L	1.0	0.15	1	03/24/20 22:14	03/27/20 02:04	7440-43-9	
Chromium, Dissolved	**<5.1**	ug/L	17.0	5.1	5	03/24/20 22:14	03/30/20 18:49	7440-47-3	D3
Lead, Dissolved	**<1.2**	ug/L	5.0	1.2	5	03/24/20 22:14	03/30/20 18:49	7439-92-1	D3
Selenium, Dissolved	**<1.6**	ug/L	5.3	1.6	5	03/24/20 22:14	03/30/20 18:49	7782-49-2	D3
Silver, Dissolved	**<0.13**	ug/L	0.50	0.13	1	03/24/20 22:14	03/27/20 02:04	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Green Bay								
Mercury, Dissolved	**<0.084**	ug/L	0.28	0.084	1	03/26/20 10:20	03/27/20 10:14	7439-97-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510 Pace Analytical Services - Green Bay								
Acenaphthene	**9.2**	ug/L	0.030	0.0061	1	03/24/20 09:04	03/26/20 21:32	83-32-9	
Acenaphthylene	**0.012J**	ug/L	0.025	0.0050	1	03/24/20 09:04	03/26/20 21:32	208-96-8	
Anthracene	**0.033J**	ug/L	0.052	0.010	1	03/24/20 09:04	03/26/20 21:32	120-12-7	
Benzo(a)anthracene	**0.0084J**	ug/L	0.038	0.0076	1	03/24/20 09:04	03/26/20 21:32	56-55-3	
Benzo(a)pyrene	**<0.011**	ug/L	0.053	0.011	1	03/24/20 09:04	03/26/20 21:32	50-32-8	
Benzo(b)fluoranthene	**<0.0057**	ug/L	0.029	0.0057	1	03/24/20 09:04	03/26/20 21:32	205-99-2	
Benzo(g,h,i)perylene	**<0.0068**	ug/L	0.034	0.0068	1	03/24/20 09:04	03/26/20 21:32	191-24-2	
Benzo(k)fluoranthene	**<0.0076**	ug/L	0.038	0.0076	1	03/24/20 09:04	03/26/20 21:32	207-08-9	
Chrysene	**<0.013**	ug/L	0.065	0.013	1	03/24/20 09:04	03/26/20 21:32	218-01-9	
Dibenz(a,h)anthracene	**<0.010**	ug/L	0.050	0.010	1	03/24/20 09:04	03/26/20 21:32	53-70-3	
Fluoranthene	**0.058**	ug/L	0.053	0.011	1	03/24/20 09:04	03/26/20 21:32	206-44-0	
Fluorene	**0.53**	ug/L	0.040	0.0080	1	03/24/20 09:04	03/26/20 21:32	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.018**	ug/L	0.088	0.018	1	03/24/20 09:04	03/26/20 21:32	193-39-5	
1-Methylnaphthalene	**0.70**	ug/L	0.030	0.0059	1	03/24/20 09:04	03/26/20 21:32	90-12-0	
2-Methylnaphthalene	**0.90**	ug/L	0.024	0.0049	1	03/24/20 09:04	03/26/20 21:32	91-57-6	
Naphthalene	**0.17**	ug/L	0.092	0.018	1	03/24/20 09:04	03/26/20 21:32	91-20-3	
Phenanthrene	**0.42**	ug/L	0.069	0.014	1	03/24/20 09:04	03/26/20 21:32	85-01-8	
Pyrene	**0.035J**	ug/L	0.038	0.0076	1	03/24/20 09:04	03/26/20 21:32	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	52	%	39-120		1	03/24/20 09:04	03/26/20 21:32	321-60-8	
Terphenyl-d14 (S)	79	%	10-159		1	03/24/20 09:04	03/26/20 21:32	1718-51-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 1_MW-35 **Lab ID: 40205127004** Collected: 03/18/20 13:10 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - Green Bay								
Arsenic, Dissolved	**1.4J**	ug/L	2.0	0.56	2	03/24/20 22:14	03/30/20 18:56	7440-38-2	D3
Barium, Dissolved	**220**	ug/L	2.3	0.70	1	03/24/20 22:14	03/27/20 17:31	7440-39-3	
Cadmium, Dissolved	**<0.15**	ug/L	1.0	0.15	1	03/24/20 22:14	03/27/20 17:31	7440-43-9	
Chromium, Dissolved	**<2.0**	ug/L	6.8	2.0	2	03/24/20 22:14	03/30/20 18:56	7440-47-3	D3
Lead, Dissolved	**<0.47**	ug/L	2.0	0.47	2	03/24/20 22:14	03/30/20 18:56	7439-92-1	D3
Selenium, Dissolved	**<0.63**	ug/L	2.1	0.63	2	03/24/20 22:14	03/30/20 18:56	7782-49-2	D3
Silver, Dissolved	**<0.13**	ug/L	0.50	0.13	1	03/24/20 22:14	03/27/20 17:31	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Green Bay								
Mercury, Dissolved	**<0.084**	ug/L	0.28	0.084	1	03/26/20 10:20	03/27/20 10:17	7439-97-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510 Pace Analytical Services - Green Bay								
Acenaphthene	**<0.0058**	ug/L	0.029	0.0058	1	03/24/20 09:04	03/26/20 15:59	83-32-9	
Acenaphthylene	**0.0071J**	ug/L	0.024	0.0048	1	03/24/20 09:04	03/26/20 15:59	208-96-8	
Anthracene	**0.059**	ug/L	0.050	0.010	1	03/24/20 09:04	03/26/20 15:59	120-12-7	
Benzo(a)anthracene	**0.0093J**	ug/L	0.036	0.0073	1	03/24/20 09:04	03/26/20 15:59	56-55-3	
Benzo(a)pyrene	**<0.010**	ug/L	0.051	0.010	1	03/24/20 09:04	03/26/20 15:59	50-32-8	
Benzo(b)fluoranthene	**0.011J**	ug/L	0.028	0.0055	1	03/24/20 09:04	03/26/20 15:59	205-99-2	
Benzo(g,h,i)perylene	**0.0088J**	ug/L	0.033	0.0065	1	03/24/20 09:04	03/26/20 15:59	191-24-2	
Benzo(k)fluoranthene	**<0.0073**	ug/L	0.036	0.0073	1	03/24/20 09:04	03/26/20 15:59	207-08-9	
Chrysene	**<0.013**	ug/L	0.063	0.013	1	03/24/20 09:04	03/26/20 15:59	218-01-9	
Dibenz(a,h)anthracene	**<0.0096**	ug/L	0.048	0.0096	1	03/24/20 09:04	03/26/20 15:59	53-70-3	
Fluoranthene	**<0.010**	ug/L	0.051	0.010	1	03/24/20 09:04	03/26/20 15:59	206-44-0	
Fluorene	**<0.0077**	ug/L	0.038	0.0077	1	03/24/20 09:04	03/26/20 15:59	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.017**	ug/L	0.085	0.017	1	03/24/20 09:04	03/26/20 15:59	193-39-5	
1-Methylnaphthalene	**<0.0057**	ug/L	0.028	0.0057	1	03/24/20 09:04	03/26/20 15:59	90-12-0	
2-Methylnaphthalene	**<0.0047**	ug/L	0.024	0.0047	1	03/24/20 09:04	03/26/20 15:59	91-57-6	
Naphthalene	**<0.018**	ug/L	0.088	0.018	1	03/24/20 09:04	03/26/20 15:59	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.066	0.013	1	03/24/20 09:04	03/26/20 15:59	85-01-8	
Pyrene	**0.0076J**	ug/L	0.037	0.0074	1	03/24/20 09:04	03/26/20 15:59	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	64	%	39-120		1	03/24/20 09:04	03/26/20 15:59	321-60-8	
Terphenyl-d14 (S)	80	%	10-159		1	03/24/20 09:04	03/26/20 15:59	1718-51-0	
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Benzene	**<0.25**	ug/L	1.0	0.25	1		03/25/20 15:30	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		03/25/20 15:30	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		03/25/20 15:30	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		03/25/20 15:30	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		03/25/20 15:30	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		03/25/20 15:30	74-83-9	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		03/25/20 15:30	104-51-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 1_MW-35 **Lab ID: 40205127004** Collected: 03/18/20 13:10 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		03/25/20 15:30	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		03/25/20 15:30	98-06-6	
Carbon tetrachloride	**<1.1**	ug/L	3.6	1.1	1		03/25/20 15:30	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		03/25/20 15:30	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		03/25/20 15:30	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		03/25/20 15:30	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		03/25/20 15:30	74-87-3	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		03/25/20 15:30	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		03/25/20 15:30	106-43-4	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		03/25/20 15:30	96-12-8	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		03/25/20 15:30	124-48-1	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		03/25/20 15:30	106-93-4	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		03/25/20 15:30	74-95-3	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		03/25/20 15:30	95-50-1	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		03/25/20 15:30	541-73-1	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		03/25/20 15:30	106-46-7	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		03/25/20 15:30	75-71-8	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		03/25/20 15:30	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		03/25/20 15:30	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		03/25/20 15:30	75-35-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		03/25/20 15:30	156-59-2	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		03/25/20 15:30	156-60-5	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		03/25/20 15:30	78-87-5	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		03/25/20 15:30	142-28-9	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		03/25/20 15:30	594-20-7	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		03/25/20 15:30	563-58-6	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		03/25/20 15:30	10061-01-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		03/25/20 15:30	10061-02-6	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		03/25/20 15:30	108-20-3	
Ethylbenzene	**<0.32**	ug/L	1.1	0.32	1		03/25/20 15:30	100-41-4	
Hexachloro-1,3-butadiene	**<1.5**	ug/L	4.9	1.5	1		03/25/20 15:30	87-68-3	
Isopropylbenzene (Cumene)	**<1.7**	ug/L	5.6	1.7	1		03/25/20 15:30	98-82-8	
p-Isopropyltoluene	**34.5**	ug/L	2.7	0.80	1		03/25/20 15:30	99-87-6	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		03/25/20 15:30	75-09-2	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		03/25/20 15:30	1634-04-4	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		03/25/20 15:30	91-20-3	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		03/25/20 15:30	103-65-1	
Styrene	**<3.0**	ug/L	10.0	3.0	1		03/25/20 15:30	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		03/25/20 15:30	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		03/25/20 15:30	79-34-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		03/25/20 15:30	127-18-4	
Toluene	**0.52J**	ug/L	0.90	0.27	1		03/25/20 15:30	108-88-3	
1,2,3-Trichlorobenzene	**<2.2**	ug/L	7.4	2.2	1		03/25/20 15:30	87-61-6	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		03/25/20 15:30	120-82-1	L2
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		03/25/20 15:30	71-55-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 1_MW-35 **Lab ID: 40205127004** Collected: 03/18/20 13:10 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		03/25/20 15:30	79-00-5	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		03/25/20 15:30	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		03/25/20 15:30	75-69-4	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		03/25/20 15:30	96-18-4	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		03/25/20 15:30	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		03/25/20 15:30	108-67-8	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		03/25/20 15:30	75-01-4	
Xylene (Total)	**<1.5**	ug/L	3.0	1.5	1		03/25/20 15:30	1330-20-7	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		03/25/20 15:30	179601-23-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		03/25/20 15:30	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	88	%	70-130		1		03/25/20 15:30	460-00-4	
Dibromofluoromethane (S)	109	%	70-130		1		03/25/20 15:30	1868-53-7	
Toluene-d8 (S)	103	%	70-130		1		03/25/20 15:30	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Green Bay, WI 54302
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ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 1_MW-35D **Lab ID: 40205127005** Collected: 03/18/20 00:00 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - Green Bay								
Arsenic, Dissolved	**1.6**	ug/L	1.0	0.28	1	03/24/20 22:14	03/27/20 17:38	7440-38-2	
Barium, Dissolved	**208**	ug/L	2.3	0.70	1	03/24/20 22:14	03/27/20 17:38	7440-39-3	
Cadmium, Dissolved	**<0.15**	ug/L	1.0	0.15	1	03/24/20 22:14	03/27/20 17:38	7440-43-9	
Chromium, Dissolved	**<1.0**	ug/L	3.4	1.0	1	03/24/20 22:14	03/27/20 17:38	7440-47-3	
Lead, Dissolved	**<0.24**	ug/L	1.0	0.24	1	03/24/20 22:14	03/27/20 17:38	7439-92-1	
Selenium, Dissolved	**<0.32**	ug/L	1.1	0.32	1	03/24/20 22:14	03/27/20 17:38	7782-49-2	
Silver, Dissolved	**<0.13**	ug/L	0.50	0.13	1	03/24/20 22:14	03/27/20 17:38	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Green Bay								
Mercury, Dissolved	**<0.084**	ug/L	0.28	0.084	1	03/26/20 10:20	03/27/20 10:19	7439-97-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510 Pace Analytical Services - Green Bay								
Acenaphthene	**<0.0065**	ug/L	0.033	0.0065	1	03/24/20 09:04	03/26/20 16:17	83-32-9	
Acenaphthylene	**0.0075J**	ug/L	0.027	0.0054	1	03/24/20 09:04	03/26/20 16:17	208-96-8	
Anthracene	**0.049J**	ug/L	0.056	0.011	1	03/24/20 09:04	03/26/20 16:17	120-12-7	
Benzo(a)anthracene	**<0.0081**	ug/L	0.041	0.0081	1	03/24/20 09:04	03/26/20 16:17	56-55-3	
Benzo(a)pyrene	**<0.011**	ug/L	0.057	0.011	1	03/24/20 09:04	03/26/20 16:17	50-32-8	
Benzo(b)fluoranthene	**<0.0062**	ug/L	0.031	0.0062	1	03/24/20 09:04	03/26/20 16:17	205-99-2	
Benzo(g,h,i)perylene	**<0.0073**	ug/L	0.036	0.0073	1	03/24/20 09:04	03/26/20 16:17	191-24-2	
Benzo(k)fluoranthene	**<0.0081**	ug/L	0.041	0.0081	1	03/24/20 09:04	03/26/20 16:17	207-08-9	
Chrysene	**<0.014**	ug/L	0.070	0.014	1	03/24/20 09:04	03/26/20 16:17	218-01-9	
Dibenz(a,h)anthracene	**<0.011**	ug/L	0.054	0.011	1	03/24/20 09:04	03/26/20 16:17	53-70-3	
Fluoranthene	**<0.011**	ug/L	0.057	0.011	1	03/24/20 09:04	03/26/20 16:17	206-44-0	
Fluorene	**<0.0086**	ug/L	0.043	0.0086	1	03/24/20 09:04	03/26/20 16:17	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.019**	ug/L	0.095	0.019	1	03/24/20 09:04	03/26/20 16:17	193-39-5	
1-Methylnaphthalene	**<0.0063**	ug/L	0.032	0.0063	1	03/24/20 09:04	03/26/20 16:17	90-12-0	
2-Methylnaphthalene	**<0.0053**	ug/L	0.026	0.0053	1	03/24/20 09:04	03/26/20 16:17	91-57-6	
Naphthalene	**<0.020**	ug/L	0.099	0.020	1	03/24/20 09:04	03/26/20 16:17	91-20-3	
Phenanthrene	**<0.015**	ug/L	0.074	0.015	1	03/24/20 09:04	03/26/20 16:17	85-01-8	
Pyrene	**<0.0082**	ug/L	0.041	0.0082	1	03/24/20 09:04	03/26/20 16:17	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	66	%	39-120		1	03/24/20 09:04	03/26/20 16:17	321-60-8	
Terphenyl-d14 (S)	83	%	10-159		1	03/24/20 09:04	03/26/20 16:17	1718-51-0	
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Benzene	**<0.25**	ug/L	1.0	0.25	1		03/25/20 15:52	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		03/25/20 15:52	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		03/25/20 15:52	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		03/25/20 15:52	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		03/25/20 15:52	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		03/25/20 15:52	74-83-9	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		03/25/20 15:52	104-51-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 1_MW-35D **Lab ID: 40205127005** Collected: 03/18/20 00:00 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		03/25/20 15:52	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		03/25/20 15:52	98-06-6	
Carbon tetrachloride	**<1.1**	ug/L	3.6	1.1	1		03/25/20 15:52	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		03/25/20 15:52	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		03/25/20 15:52	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		03/25/20 15:52	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		03/25/20 15:52	74-87-3	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		03/25/20 15:52	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		03/25/20 15:52	106-43-4	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		03/25/20 15:52	96-12-8	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		03/25/20 15:52	124-48-1	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		03/25/20 15:52	106-93-4	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		03/25/20 15:52	74-95-3	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		03/25/20 15:52	95-50-1	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		03/25/20 15:52	541-73-1	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		03/25/20 15:52	106-46-7	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		03/25/20 15:52	75-71-8	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		03/25/20 15:52	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		03/25/20 15:52	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		03/25/20 15:52	75-35-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		03/25/20 15:52	156-59-2	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		03/25/20 15:52	156-60-5	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		03/25/20 15:52	78-87-5	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		03/25/20 15:52	142-28-9	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		03/25/20 15:52	594-20-7	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		03/25/20 15:52	563-58-6	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		03/25/20 15:52	10061-01-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		03/25/20 15:52	10061-02-6	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		03/25/20 15:52	108-20-3	
Ethylbenzene	**<0.32**	ug/L	1.1	0.32	1		03/25/20 15:52	100-41-4	
Hexachloro-1,3-butadiene	**<1.5**	ug/L	4.9	1.5	1		03/25/20 15:52	87-68-3	
Isopropylbenzene (Cumene)	**<1.7**	ug/L	5.6	1.7	1		03/25/20 15:52	98-82-8	
p-Isopropyltoluene	**31.2**	ug/L	2.7	0.80	1		03/25/20 15:52	99-87-6	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		03/25/20 15:52	75-09-2	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		03/25/20 15:52	1634-04-4	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		03/25/20 15:52	91-20-3	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		03/25/20 15:52	103-65-1	
Styrene	**<3.0**	ug/L	10.0	3.0	1		03/25/20 15:52	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		03/25/20 15:52	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		03/25/20 15:52	79-34-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		03/25/20 15:52	127-18-4	
Toluene	**0.48J**	ug/L	0.90	0.27	1		03/25/20 15:52	108-88-3	
1,2,3-Trichlorobenzene	**<2.2**	ug/L	7.4	2.2	1		03/25/20 15:52	87-61-6	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		03/25/20 15:52	120-82-1	L2
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		03/25/20 15:52	71-55-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 1_MW-35D **Lab ID: 40205127005** Collected: 03/18/20 00:00 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		03/25/20 15:52	79-00-5	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		03/25/20 15:52	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		03/25/20 15:52	75-69-4	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		03/25/20 15:52	96-18-4	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		03/25/20 15:52	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		03/25/20 15:52	108-67-8	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		03/25/20 15:52	75-01-4	
Xylene (Total)	**<1.5**	ug/L	3.0	1.5	1		03/25/20 15:52	1330-20-7	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		03/25/20 15:52	179601-23-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		03/25/20 15:52	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	88	%	70-130		1		03/25/20 15:52	460-00-4	
Dibromofluoromethane (S)	108	%	70-130		1		03/25/20 15:52	1868-53-7	
Toluene-d8 (S)	101	%	70-130		1		03/25/20 15:52	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 1_MW-10 **Lab ID: 40205127006** Collected: 03/18/20 14:40 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - Green Bay								
Arsenic, Dissolved	**0.88J**	ug/L	1.0	0.28	1	03/24/20 22:14	03/27/20 16:22	7440-38-2	
Barium, Dissolved	**102**	ug/L	2.3	0.70	1	03/24/20 22:14	03/27/20 16:22	7440-39-3	
Cadmium, Dissolved	**<0.15**	ug/L	1.0	0.15	1	03/24/20 22:14	03/27/20 16:22	7440-43-9	
Chromium, Dissolved	**<1.0**	ug/L	3.4	1.0	1	03/24/20 22:14	03/27/20 16:22	7440-47-3	
Lead, Dissolved	**<0.24**	ug/L	1.0	0.24	1	03/24/20 22:14	03/27/20 16:22	7439-92-1	
Selenium, Dissolved	**1.5**	ug/L	1.1	0.32	1	03/24/20 22:14	03/27/20 16:22	7782-49-2	
Silver, Dissolved	**<0.13**	ug/L	0.50	0.13	1	03/24/20 22:14	03/27/20 16:22	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Green Bay								
Mercury, Dissolved	**<0.084**	ug/L	0.28	0.084	1	03/26/20 10:20	03/27/20 10:08	7439-97-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510 Pace Analytical Services - Green Bay								
Acenaphthene	**0.074**	ug/L	0.030	0.0060	1	03/24/20 09:04	03/26/20 12:57	83-32-9	
Acenaphthylene	**0.011J**	ug/L	0.024	0.0049	1	03/24/20 09:04	03/26/20 12:57	208-96-8	
Anthracene	**<0.010**	ug/L	0.051	0.010	1	03/24/20 09:04	03/26/20 12:57	120-12-7	
Benzo(a)anthracene	**<0.0074**	ug/L	0.037	0.0074	1	03/24/20 09:04	03/26/20 12:57	56-55-3	
Benzo(a)pyrene	**<0.010**	ug/L	0.052	0.010	1	03/24/20 09:04	03/26/20 12:57	50-32-8	
Benzo(b)fluoranthene	**<0.0056**	ug/L	0.028	0.0056	1	03/24/20 09:04	03/26/20 12:57	205-99-2	
Benzo(g,h,i)perylene	**<0.0066**	ug/L	0.033	0.0066	1	03/24/20 09:04	03/26/20 12:57	191-24-2	
Benzo(k)fluoranthene	**<0.0074**	ug/L	0.037	0.0074	1	03/24/20 09:04	03/26/20 12:57	207-08-9	
Chrysene	**<0.013**	ug/L	0.064	0.013	1	03/24/20 09:04	03/26/20 12:57	218-01-9	
Dibenz(a,h)anthracene	**<0.0098**	ug/L	0.049	0.0098	1	03/24/20 09:04	03/26/20 12:57	53-70-3	
Fluoranthene	**<0.010**	ug/L	0.052	0.010	1	03/24/20 09:04	03/26/20 12:57	206-44-0	
Fluorene	**0.043**	ug/L	0.039	0.0078	1	03/24/20 09:04	03/26/20 12:57	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.017**	ug/L	0.086	0.017	1	03/24/20 09:04	03/26/20 12:57	193-39-5	
1-Methylnaphthalene	**0.090**	ug/L	0.029	0.0058	1	03/24/20 09:04	03/26/20 12:57	90-12-0	
2-Methylnaphthalene	**0.0092J**	ug/L	0.024	0.0048	1	03/24/20 09:04	03/26/20 12:57	91-57-6	
Naphthalene	**0.14**	ug/L	0.090	0.018	1	03/24/20 09:04	03/26/20 12:57	91-20-3	
Phenanthrene	**<0.014**	ug/L	0.068	0.014	1	03/24/20 09:04	03/26/20 12:57	85-01-8	
Pyrene	**<0.0075**	ug/L	0.038	0.0075	1	03/24/20 09:04	03/26/20 12:57	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	60	%	39-120		1	03/24/20 09:04	03/26/20 12:57	321-60-8	
Terphenyl-d14 (S)	74	%	10-159		1	03/24/20 09:04	03/26/20 12:57	1718-51-0	
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Benzene	**<0.25**	ug/L	1.0	0.25	1		03/25/20 14:01	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		03/25/20 14:01	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		03/25/20 14:01	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		03/25/20 14:01	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		03/25/20 14:01	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		03/25/20 14:01	74-83-9	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		03/25/20 14:01	104-51-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
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ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 1_MW-10 **Lab ID: 40205127006** Collected: 03/18/20 14:40 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		03/25/20 14:01	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		03/25/20 14:01	98-06-6	
Carbon tetrachloride	**<1.1**	ug/L	3.6	1.1	1		03/25/20 14:01	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		03/25/20 14:01	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		03/25/20 14:01	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		03/25/20 14:01	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		03/25/20 14:01	74-87-3	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		03/25/20 14:01	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		03/25/20 14:01	106-43-4	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		03/25/20 14:01	96-12-8	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		03/25/20 14:01	124-48-1	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		03/25/20 14:01	106-93-4	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		03/25/20 14:01	74-95-3	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		03/25/20 14:01	95-50-1	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		03/25/20 14:01	541-73-1	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		03/25/20 14:01	106-46-7	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		03/25/20 14:01	75-71-8	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		03/25/20 14:01	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		03/25/20 14:01	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		03/25/20 14:01	75-35-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		03/25/20 14:01	156-59-2	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		03/25/20 14:01	156-60-5	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		03/25/20 14:01	78-87-5	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		03/25/20 14:01	142-28-9	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		03/25/20 14:01	594-20-7	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		03/25/20 14:01	563-58-6	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		03/25/20 14:01	10061-01-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		03/25/20 14:01	10061-02-6	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		03/25/20 14:01	108-20-3	
Ethylbenzene	**<0.32**	ug/L	1.1	0.32	1		03/25/20 14:01	100-41-4	
Hexachloro-1,3-butadiene	**<1.5**	ug/L	4.9	1.5	1		03/25/20 14:01	87-68-3	
Isopropylbenzene (Cumene)	**<1.7**	ug/L	5.6	1.7	1		03/25/20 14:01	98-82-8	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		03/25/20 14:01	99-87-6	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		03/25/20 14:01	75-09-2	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		03/25/20 14:01	1634-04-4	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		03/25/20 14:01	91-20-3	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		03/25/20 14:01	103-65-1	
Styrene	**<3.0**	ug/L	10.0	3.0	1		03/25/20 14:01	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		03/25/20 14:01	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		03/25/20 14:01	79-34-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		03/25/20 14:01	127-18-4	
Toluene	**<0.27**	ug/L	0.90	0.27	1		03/25/20 14:01	108-88-3	
1,2,3-Trichlorobenzene	**<2.2**	ug/L	7.4	2.2	1		03/25/20 14:01	87-61-6	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		03/25/20 14:01	120-82-1	L2
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		03/25/20 14:01	71-55-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
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ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 1_MW-10 **Lab ID: 40205127006** Collected: 03/18/20 14:40 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		03/25/20 14:01	79-00-5	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		03/25/20 14:01	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		03/25/20 14:01	75-69-4	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		03/25/20 14:01	96-18-4	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		03/25/20 14:01	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		03/25/20 14:01	108-67-8	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		03/25/20 14:01	75-01-4	
Xylene (Total)	**<1.5**	ug/L	3.0	1.5	1		03/25/20 14:01	1330-20-7	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		03/25/20 14:01	179601-23-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		03/25/20 14:01	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	90	%	70-130		1		03/25/20 14:01	460-00-4	
Dibromofluoromethane (S)	112	%	70-130		1		03/25/20 14:01	1868-53-7	
Toluene-d8 (S)	101	%	70-130		1		03/25/20 14:01	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 1_MW-14 **Lab ID: 40205127007** Collected: 03/18/20 16:15 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - Green Bay								
Arsenic, Dissolved	**0.64J**	ug/L	1.0	0.28	1	03/24/20 22:14	03/27/20 17:45	7440-38-2	
Barium, Dissolved	**99.2**	ug/L	2.3	0.70	1	03/24/20 22:14	03/27/20 17:45	7440-39-3	
Cadmium, Dissolved	**<0.15**	ug/L	1.0	0.15	1	03/24/20 22:14	03/27/20 17:45	7440-43-9	
Chromium, Dissolved	**<1.0**	ug/L	3.4	1.0	1	03/24/20 22:14	03/27/20 17:45	7440-47-3	
Lead, Dissolved	**<0.24**	ug/L	1.0	0.24	1	03/24/20 22:14	03/27/20 17:45	7439-92-1	
Selenium, Dissolved	**1.6**	ug/L	1.1	0.32	1	03/24/20 22:14	03/27/20 17:45	7782-49-2	
Silver, Dissolved	**<0.13**	ug/L	0.50	0.13	1	03/24/20 22:14	03/27/20 17:45	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Green Bay								
Mercury, Dissolved	**<0.084**	ug/L	0.28	0.084	1	03/26/20 10:20	03/27/20 10:21	7439-97-6	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510 Pace Analytical Services - Green Bay								
Acenaphthene	**0.0089J**	ug/L	0.029	0.0059	1	03/24/20 09:04	03/26/20 16:36	83-32-9	
Acenaphthylene	**0.056**	ug/L	0.024	0.0048	1	03/24/20 09:04	03/26/20 16:36	208-96-8	
Anthracene	**0.075**	ug/L	0.051	0.010	1	03/24/20 09:04	03/26/20 16:36	120-12-7	
Benzo(a)anthracene	**0.31**	ug/L	0.037	0.0073	1	03/24/20 09:04	03/26/20 16:36	56-55-3	
Benzo(a)pyrene	**0.30**	ug/L	0.051	0.010	1	03/24/20 09:04	03/26/20 16:36	50-32-8	
Benzo(b)fluoranthene	**0.38**	ug/L	0.028	0.0056	1	03/24/20 09:04	03/26/20 16:36	205-99-2	
Benzo(g,h,i)perylene	**0.14**	ug/L	0.033	0.0066	1	03/24/20 09:04	03/26/20 16:36	191-24-2	
Benzo(k)fluoranthene	**0.19**	ug/L	0.037	0.0073	1	03/24/20 09:04	03/26/20 16:36	207-08-9	
Chrysene	**0.37**	ug/L	0.063	0.013	1	03/24/20 09:04	03/26/20 16:36	218-01-9	
Dibenz(a,h)anthracene	**0.037J**	ug/L	0.049	0.0097	1	03/24/20 09:04	03/26/20 16:36	53-70-3	
Fluoranthene	**0.77**	ug/L	0.052	0.010	1	03/24/20 09:04	03/26/20 16:36	206-44-0	
Fluorene	**0.049**	ug/L	0.039	0.0077	1	03/24/20 09:04	03/26/20 16:36	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.14**	ug/L	0.086	0.017	1	03/24/20 09:04	03/26/20 16:36	193-39-5	
1-Methylnaphthalene	**0.011J**	ug/L	0.029	0.0057	1	03/24/20 09:04	03/26/20 16:36	90-12-0	
2-Methylnaphthalene	**0.011J**	ug/L	0.024	0.0048	1	03/24/20 09:04	03/26/20 16:36	91-57-6	
Naphthalene	**<0.018**	ug/L	0.089	0.018	1	03/24/20 09:04	03/26/20 16:36	91-20-3	
Phenanthrene	**0.50**	ug/L	0.067	0.013	1	03/24/20 09:04	03/26/20 16:36	85-01-8	
Pyrene	**0.61**	ug/L	0.037	0.0074	1	03/24/20 09:04	03/26/20 16:36	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	56	%	39-120		1	03/24/20 09:04	03/26/20 16:36	321-60-8	
Terphenyl-d14 (S)	73	%	10-159		1	03/24/20 09:04	03/26/20 16:36	1718-51-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 1_MW-17 **Lab ID: 40205127008** Collected: 03/19/20 11:05 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - Green Bay								
Arsenic, Dissolved	**0.32J**	ug/L	1.0	0.28	1	03/24/20 22:14	03/27/20 02:46	7440-38-2	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510 Pace Analytical Services - Green Bay								
Acenaphthene	**0.016J**	ug/L	0.029	0.0059	1	03/24/20 09:04	03/26/20 16:54	83-32-9	
Acenaphthylene	**0.0060J**	ug/L	0.024	0.0048	1	03/24/20 09:04	03/26/20 16:54	208-96-8	
Anthracene	**<0.010**	ug/L	0.051	0.010	1	03/24/20 09:04	03/26/20 16:54	120-12-7	
Benzo(a)anthracene	**0.0080J**	ug/L	0.037	0.0073	1	03/24/20 09:04	03/26/20 16:54	56-55-3	
Benzo(a)pyrene	**<0.010**	ug/L	0.051	0.010	1	03/24/20 09:04	03/26/20 16:54	50-32-8	
Benzo(b)fluoranthene	**<0.0056**	ug/L	0.028	0.0056	1	03/24/20 09:04	03/26/20 16:54	205-99-2	
Benzo(g,h,i)perylene	**<0.0066**	ug/L	0.033	0.0066	1	03/24/20 09:04	03/26/20 16:54	191-24-2	
Benzo(k)fluoranthene	**<0.0073**	ug/L	0.037	0.0073	1	03/24/20 09:04	03/26/20 16:54	207-08-9	
Chrysene	**<0.013**	ug/L	0.063	0.013	1	03/24/20 09:04	03/26/20 16:54	218-01-9	
Dibenz(a,h)anthracene	**<0.0097**	ug/L	0.049	0.0097	1	03/24/20 09:04	03/26/20 16:54	53-70-3	
Fluoranthene	**<0.010**	ug/L	0.052	0.010	1	03/24/20 09:04	03/26/20 16:54	206-44-0	
Fluorene	**0.0083J**	ug/L	0.039	0.0077	1	03/24/20 09:04	03/26/20 16:54	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.017**	ug/L	0.086	0.017	1	03/24/20 09:04	03/26/20 16:54	193-39-5	
1-Methylnaphthalene	**0.025J**	ug/L	0.029	0.0057	1	03/24/20 09:04	03/26/20 16:54	90-12-0	
2-Methylnaphthalene	**0.010J**	ug/L	0.024	0.0048	1	03/24/20 09:04	03/26/20 16:54	91-57-6	
Naphthalene	**0.087J**	ug/L	0.089	0.018	1	03/24/20 09:04	03/26/20 16:54	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.067	0.013	1	03/24/20 09:04	03/26/20 16:54	85-01-8	
Pyrene	**0.0075J**	ug/L	0.037	0.0074	1	03/24/20 09:04	03/26/20 16:54	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	61	%	39-120		1	03/24/20 09:04	03/26/20 16:54	321-60-8	
Terphenyl-d14 (S)	81	%	10-159		1	03/24/20 09:04	03/26/20 16:54	1718-51-0	
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Benzene	**<0.25**	ug/L	1.0	0.25	1		03/25/20 16:15	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		03/25/20 16:15	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		03/25/20 16:15	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		03/25/20 16:15	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		03/25/20 16:15	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		03/25/20 16:15	74-83-9	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		03/25/20 16:15	104-51-8	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		03/25/20 16:15	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		03/25/20 16:15	98-06-6	
Carbon tetrachloride	**<1.1**	ug/L	3.6	1.1	1		03/25/20 16:15	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		03/25/20 16:15	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		03/25/20 16:15	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		03/25/20 16:15	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		03/25/20 16:15	74-87-3	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		03/25/20 16:15	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		03/25/20 16:15	106-43-4	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		03/25/20 16:15	96-12-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 1_MW-17 **Lab ID: 40205127008** Collected: 03/19/20 11:05 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		03/25/20 16:15	124-48-1	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		03/25/20 16:15	106-93-4	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		03/25/20 16:15	74-95-3	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		03/25/20 16:15	95-50-1	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		03/25/20 16:15	541-73-1	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		03/25/20 16:15	106-46-7	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		03/25/20 16:15	75-71-8	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		03/25/20 16:15	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		03/25/20 16:15	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		03/25/20 16:15	75-35-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		03/25/20 16:15	156-59-2	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		03/25/20 16:15	156-60-5	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		03/25/20 16:15	78-87-5	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		03/25/20 16:15	142-28-9	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		03/25/20 16:15	594-20-7	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		03/25/20 16:15	563-58-6	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		03/25/20 16:15	10061-01-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		03/25/20 16:15	10061-02-6	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		03/25/20 16:15	108-20-3	
Ethylbenzene	**<0.32**	ug/L	1.1	0.32	1		03/25/20 16:15	100-41-4	
Hexachloro-1,3-butadiene	**<1.5**	ug/L	4.9	1.5	1		03/25/20 16:15	87-68-3	
Isopropylbenzene (Cumene)	**<1.7**	ug/L	5.6	1.7	1		03/25/20 16:15	98-82-8	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		03/25/20 16:15	99-87-6	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		03/25/20 16:15	75-09-2	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		03/25/20 16:15	1634-04-4	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		03/25/20 16:15	91-20-3	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		03/25/20 16:15	103-65-1	
Styrene	**<3.0**	ug/L	10.0	3.0	1		03/25/20 16:15	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		03/25/20 16:15	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		03/25/20 16:15	79-34-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		03/25/20 16:15	127-18-4	
Toluene	**<0.27**	ug/L	0.90	0.27	1		03/25/20 16:15	108-88-3	
1,2,3-Trichlorobenzene	**<2.2**	ug/L	7.4	2.2	1		03/25/20 16:15	87-61-6	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		03/25/20 16:15	120-82-1	L2
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		03/25/20 16:15	71-55-6	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		03/25/20 16:15	79-00-5	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		03/25/20 16:15	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		03/25/20 16:15	75-69-4	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		03/25/20 16:15	96-18-4	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		03/25/20 16:15	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		03/25/20 16:15	108-67-8	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		03/25/20 16:15	75-01-4	
Xylene (Total)	**<1.5**	ug/L	3.0	1.5	1		03/25/20 16:15	1330-20-7	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		03/25/20 16:15	179601-23-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		03/25/20 16:15	95-47-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 1_MW-17 **Lab ID: 40205127008** Collected: 03/19/20 11:05 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Surrogates									
4-Bromofluorobenzene (S)	90	%	70-130		1		03/25/20 16:15	460-00-4	
Dibromofluoromethane (S)	110	%	70-130		1		03/25/20 16:15	1868-53-7	
Toluene-d8 (S)	101	%	70-130		1		03/25/20 16:15	2037-26-5	

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ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 3_MW-14 **Lab ID: 40205127009** Collected: 03/19/20 11:50 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510 Pace Analytical Services - Green Bay								
Acenaphthene	**0.012J**	ug/L	0.029	0.0059	1	03/24/20 09:04	03/26/20 17:12	83-32-9	
Acenaphthylene	**0.0078J**	ug/L	0.024	0.0048	1	03/24/20 09:04	03/26/20 17:12	208-96-8	
Anthracene	**<0.010**	ug/L	0.051	0.010	1	03/24/20 09:04	03/26/20 17:12	120-12-7	
Benzo(a)anthracene	**0.0091J**	ug/L	0.037	0.0073	1	03/24/20 09:04	03/26/20 17:12	56-55-3	
Benzo(a)pyrene	**<0.010**	ug/L	0.051	0.010	1	03/24/20 09:04	03/26/20 17:12	50-32-8	
Benzo(b)fluoranthene	**0.0089J**	ug/L	0.028	0.0056	1	03/24/20 09:04	03/26/20 17:12	205-99-2	
Benzo(g,h,i)perylene	**<0.0066**	ug/L	0.033	0.0066	1	03/24/20 09:04	03/26/20 17:12	191-24-2	
Benzo(k)fluoranthene	**<0.0073**	ug/L	0.037	0.0073	1	03/24/20 09:04	03/26/20 17:12	207-08-9	
Chrysene	**<0.013**	ug/L	0.063	0.013	1	03/24/20 09:04	03/26/20 17:12	218-01-9	
Dibenz(a,h)anthracene	**<0.0097**	ug/L	0.049	0.0097	1	03/24/20 09:04	03/26/20 17:12	53-70-3	
Fluoranthene	**0.040J**	ug/L	0.052	0.010	1	03/24/20 09:04	03/26/20 17:12	206-44-0	
Fluorene	**0.019J**	ug/L	0.039	0.0077	1	03/24/20 09:04	03/26/20 17:12	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.017**	ug/L	0.086	0.017	1	03/24/20 09:04	03/26/20 17:12	193-39-5	
1-Methylnaphthalene	**<0.0057**	ug/L	0.029	0.0057	1	03/24/20 09:04	03/26/20 17:12	90-12-0	
2-Methylnaphthalene	**<0.0048**	ug/L	0.024	0.0048	1	03/24/20 09:04	03/26/20 17:12	91-57-6	
Naphthalene	**<0.018**	ug/L	0.089	0.018	1	03/24/20 09:04	03/26/20 17:12	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.067	0.013	1	03/24/20 09:04	03/26/20 17:12	85-01-8	
Pyrene	**0.027J**	ug/L	0.037	0.0074	1	03/24/20 09:04	03/26/20 17:12	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	38	%	39-120		1	03/24/20 09:04	03/26/20 17:12	321-60-8	1q,S0
Terphenyl-d14 (S)	50	%	10-159		1	03/24/20 09:04	03/26/20 17:12	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 3_MW-11 **Lab ID: 40205127010** Collected: 03/19/20 13:05 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - Green Bay								
Arsenic, Dissolved	**7.5**	ug/L	2.0	0.56	2	03/24/20 22:14	03/30/20 19:03	7440-38-2	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510 Pace Analytical Services - Green Bay								
Acenaphthene	**0.17**	ug/L	0.029	0.0057	1	03/26/20 07:05	03/26/20 22:09	83-32-9	
Acenaphthylene	**<0.0047**	ug/L	0.023	0.0047	1	03/26/20 07:05	03/26/20 22:09	208-96-8	
Anthracene	**<0.0099**	ug/L	0.049	0.0099	1	03/26/20 07:05	03/26/20 22:09	120-12-7	
Benzo(a)anthracene	**<0.0071**	ug/L	0.036	0.0071	1	03/26/20 07:05	03/26/20 22:09	56-55-3	
Benzo(a)pyrene	**<0.0099**	ug/L	0.050	0.0099	1	03/26/20 07:05	03/26/20 22:09	50-32-8	
Benzo(b)fluoranthene	**<0.0054**	ug/L	0.027	0.0054	1	03/26/20 07:05	03/26/20 22:09	205-99-2	L1
Benzo(g,h,i)perylene	**<0.0064**	ug/L	0.032	0.0064	1	03/26/20 07:05	03/26/20 22:09	191-24-2	
Benzo(k)fluoranthene	**<0.0071**	ug/L	0.036	0.0071	1	03/26/20 07:05	03/26/20 22:09	207-08-9	
Chrysene	**<0.012**	ug/L	0.062	0.012	1	03/26/20 07:05	03/26/20 22:09	218-01-9	
Dibenz(a,h)anthracene	**<0.0095**	ug/L	0.047	0.0095	1	03/26/20 07:05	03/26/20 22:09	53-70-3	
Fluoranthene	**<0.010**	ug/L	0.050	0.010	1	03/26/20 07:05	03/26/20 22:09	206-44-0	
Fluorene	**0.024J**	ug/L	0.038	0.0075	1	03/26/20 07:05	03/26/20 22:09	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.017**	ug/L	0.083	0.017	1	03/26/20 07:05	03/26/20 22:09	193-39-5	L1
1-Methylnaphthalene	**0.0066J**	ug/L	0.028	0.0056	1	03/26/20 07:05	03/26/20 22:09	90-12-0	
2-Methylnaphthalene	**<0.0046**	ug/L	0.023	0.0046	1	03/26/20 07:05	03/26/20 22:09	91-57-6	
Naphthalene	**<0.017**	ug/L	0.086	0.017	1	03/26/20 07:05	03/26/20 22:09	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.065	0.013	1	03/26/20 07:05	03/26/20 22:09	85-01-8	
Pyrene	**<0.0072**	ug/L	0.036	0.0072	1	03/26/20 07:05	03/26/20 22:09	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	56	%	39-120		1	03/26/20 07:05	03/26/20 22:09	321-60-8	
Terphenyl-d14 (S)	72	%	10-159		1	03/26/20 07:05	03/26/20 22:09	1718-51-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
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ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 3_MW-45 **Lab ID: 40205127011** Collected: 03/19/20 14:05 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - Green Bay								
Arsenic, Dissolved	**1.4**	ug/L	1.0	0.28	1	03/24/20 22:14	03/27/20 02:59	7440-38-2	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510 Pace Analytical Services - Green Bay								
Acenaphthene	**0.80**	ug/L	0.10	0.020	3	03/26/20 07:05	03/26/20 17:31	83-32-9	
Acenaphthylene	**4.8**	ug/L	0.082	0.016	3	03/26/20 07:05	03/26/20 17:31	208-96-8	
Anthracene	**1.2**	ug/L	0.17	0.034	3	03/26/20 07:05	03/26/20 17:31	120-12-7	
Benzo(a)anthracene	**0.33**	ug/L	0.12	0.025	3	03/26/20 07:05	03/26/20 17:31	56-55-3	
Benzo(a)pyrene	**0.42**	ug/L	0.17	0.035	3	03/26/20 07:05	03/26/20 17:31	50-32-8	
Benzo(b)fluoranthene	**0.40**	ug/L	0.095	0.019	3	03/26/20 07:05	03/26/20 17:31	205-99-2	L1
Benzo(g,h,i)perylene	**0.42**	ug/L	0.11	0.022	3	03/26/20 07:05	03/26/20 17:31	191-24-2	
Benzo(k)fluoranthene	**0.19**	ug/L	0.12	0.025	3	03/26/20 07:05	03/26/20 17:31	207-08-9	
Chrysene	**0.35**	ug/L	0.22	0.043	3	03/26/20 07:05	03/26/20 17:31	218-01-9	
Dibenz(a,h)anthracene	**0.054J**	ug/L	0.17	0.033	3	03/26/20 07:05	03/26/20 17:31	53-70-3	
Fluoranthene	**1.2**	ug/L	0.18	0.035	3	03/26/20 07:05	03/26/20 17:31	206-44-0	
Fluorene	**2.9**	ug/L	0.13	0.026	3	03/26/20 07:05	03/26/20 17:31	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.25J**	ug/L	0.29	0.058	3	03/26/20 07:05	03/26/20 17:31	193-39-5	L1
1-Methylnaphthalene	**5.1**	ug/L	0.097	0.019	3	03/26/20 07:05	03/26/20 17:31	90-12-0	
2-Methylnaphthalene	**6.5**	ug/L	0.081	0.016	3	03/26/20 07:05	03/26/20 17:31	91-57-6	
Naphthalene	**33.6**	ug/L	0.30	0.060	3	03/26/20 07:05	03/26/20 17:31	91-20-3	
Phenanthrene	**4.8**	ug/L	0.23	0.045	3	03/26/20 07:05	03/26/20 17:31	85-01-8	
Pyrene	**1.0**	ug/L	0.13	0.025	3	03/26/20 07:05	03/26/20 17:31	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	49	%	39-120		3	03/26/20 07:05	03/26/20 17:31	321-60-8	
Terphenyl-d14 (S)	57	%	10-159		3	03/26/20 07:05	03/26/20 17:31	1718-51-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 3_MW-20 **Lab ID: 40205127012** Collected: 03/19/20 15:10 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510 Pace Analytical Services - Green Bay								
Acenaphthene	**<0.0064**	ug/L	0.032	0.0064	1	03/26/20 07:05	03/27/20 11:24	83-32-9	
Acenaphthylene	**<0.0052**	ug/L	0.026	0.0052	1	03/26/20 07:05	03/27/20 11:24	208-96-8	
Anthracene	**<0.011**	ug/L	0.055	0.011	1	03/26/20 07:05	03/27/20 11:24	120-12-7	
Benzo(a)anthracene	**<0.0079**	ug/L	0.040	0.0079	1	03/26/20 07:05	03/27/20 11:24	56-55-3	
Benzo(a)pyrene	**<0.011**	ug/L	0.055	0.011	1	03/26/20 07:05	03/27/20 11:24	50-32-8	
Benzo(b)fluoranthene	**<0.0060**	ug/L	0.030	0.0060	1	03/26/20 07:05	03/27/20 11:24	205-99-2	L1
Benzo(g,h,i)perylene	**0.014J**	ug/L	0.036	0.0071	1	03/26/20 07:05	03/27/20 11:24	191-24-2	
Benzo(k)fluoranthene	**<0.0079**	ug/L	0.040	0.0079	1	03/26/20 07:05	03/27/20 11:24	207-08-9	
Chrysene	**<0.014**	ug/L	0.069	0.014	1	03/26/20 07:05	03/27/20 11:24	218-01-9	
Dibenz(a,h)anthracene	**<0.011**	ug/L	0.053	0.011	1	03/26/20 07:05	03/27/20 11:24	53-70-3	
Fluoranthene	**<0.011**	ug/L	0.056	0.011	1	03/26/20 07:05	03/27/20 11:24	206-44-0	
Fluorene	**<0.0084**	ug/L	0.042	0.0084	1	03/26/20 07:05	03/27/20 11:24	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.019**	ug/L	0.093	0.019	1	03/26/20 07:05	03/27/20 11:24	193-39-5	L1
1-Methylnaphthalene	**<0.0062**	ug/L	0.031	0.0062	1	03/26/20 07:05	03/27/20 11:24	90-12-0	
2-Methylnaphthalene	**<0.0052**	ug/L	0.026	0.0052	1	03/26/20 07:05	03/27/20 11:24	91-57-6	
Naphthalene	**<0.019**	ug/L	0.096	0.019	1	03/26/20 07:05	03/27/20 11:24	91-20-3	
Phenanthrene	**<0.015**	ug/L	0.073	0.015	1	03/26/20 07:05	03/27/20 11:24	85-01-8	
Pyrene	**<0.0081**	ug/L	0.040	0.0081	1	03/26/20 07:05	03/27/20 11:24	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	69	%	39-120		1	03/26/20 07:05	03/27/20 11:24	321-60-8	
Terphenyl-d14 (S)	75	%	10-159		1	03/26/20 07:05	03/27/20 11:24	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 3_MW-64 **Lab ID: 40205127013** Collected: 03/19/20 16:15 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - Green Bay								
Arsenic, Dissolved	**4.3**	ug/L	1.0	0.28	1	03/24/20 22:14	03/27/20 03:06	7440-38-2	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510 Pace Analytical Services - Green Bay								
Acenaphthene	**<0.0070**	ug/L	0.035	0.0070	1	03/26/20 07:05	03/27/20 12:14	83-32-9	
Acenaphthylene	**<0.0057**	ug/L	0.029	0.0057	1	03/26/20 07:05	03/27/20 12:14	208-96-8	
Anthracene	**<0.012**	ug/L	0.060	0.012	1	03/26/20 07:05	03/27/20 12:14	120-12-7	
Benzo(a)anthracene	**<0.0087**	ug/L	0.043	0.0087	1	03/26/20 07:05	03/27/20 12:14	56-55-3	
Benzo(a)pyrene	**<0.012**	ug/L	0.060	0.012	1	03/26/20 07:05	03/27/20 12:14	50-32-8	
Benzo(b)fluoranthene	**<0.0066**	ug/L	0.033	0.0066	1	03/26/20 07:05	03/27/20 12:14	205-99-2	L1
Benzo(g,h,i)perylene	**0.0079J**	ug/L	0.039	0.0078	1	03/26/20 07:05	03/27/20 12:14	191-24-2	
Benzo(k)fluoranthene	**<0.0087**	ug/L	0.043	0.0087	1	03/26/20 07:05	03/27/20 12:14	207-08-9	
Chrysene	**<0.015**	ug/L	0.075	0.015	1	03/26/20 07:05	03/27/20 12:14	218-01-9	
Dibenz(a,h)anthracene	**<0.012**	ug/L	0.058	0.012	1	03/26/20 07:05	03/27/20 12:14	53-70-3	
Fluoranthene	**<0.012**	ug/L	0.061	0.012	1	03/26/20 07:05	03/27/20 12:14	206-44-0	
Fluorene	**<0.0092**	ug/L	0.046	0.0092	1	03/26/20 07:05	03/27/20 12:14	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.020**	ug/L	0.10	0.020	1	03/26/20 07:05	03/27/20 12:14	193-39-5	L1
1-Methylnaphthalene	**<0.0068**	ug/L	0.034	0.0068	1	03/26/20 07:05	03/27/20 12:14	90-12-0	
2-Methylnaphthalene	**<0.0056**	ug/L	0.028	0.0056	1	03/26/20 07:05	03/27/20 12:14	91-57-6	
Naphthalene	**<0.021**	ug/L	0.11	0.021	1	03/26/20 07:05	03/27/20 12:14	91-20-3	
Phenanthrene	**<0.016**	ug/L	0.079	0.016	1	03/26/20 07:05	03/27/20 12:14	85-01-8	
Pyrene	**<0.0088**	ug/L	0.044	0.0088	1	03/26/20 07:05	03/27/20 12:14	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	57	%	39-120		1	03/26/20 07:05	03/27/20 12:14	321-60-8	
Terphenyl-d14 (S)	78	%	10-159		1	03/26/20 07:05	03/27/20 12:14	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 3_MW-27 **Lab ID: 40205127014** Collected: 03/20/20 09:50 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - Green Bay								
Arsenic, Dissolved	**<0.28**	ug/L	1.0	0.28	1	03/24/20 22:14	03/27/20 03:13	7440-38-2	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510 Pace Analytical Services - Green Bay								
Acenaphthene	**<0.0056**	ug/L	0.028	0.0056	1	03/26/20 07:05	03/27/20 12:31	83-32-9	
Acenaphthylene	**<0.0046**	ug/L	0.023	0.0046	1	03/26/20 07:05	03/27/20 12:31	208-96-8	
Anthracene	**<0.0097**	ug/L	0.048	0.0097	1	03/26/20 07:05	03/27/20 12:31	120-12-7	
Benzo(a)anthracene	**<0.0070**	ug/L	0.035	0.0070	1	03/26/20 07:05	03/27/20 12:31	56-55-3	
Benzo(a)pyrene	**<0.0098**	ug/L	0.049	0.0098	1	03/26/20 07:05	03/27/20 12:31	50-32-8	
Benzo(b)fluoranthene	**<0.0053**	ug/L	0.027	0.0053	1	03/26/20 07:05	03/27/20 12:31	205-99-2	L1
Benzo(g,h,i)perylene	**<0.0063**	ug/L	0.031	0.0063	1	03/26/20 07:05	03/27/20 12:31	191-24-2	
Benzo(k)fluoranthene	**<0.0070**	ug/L	0.035	0.0070	1	03/26/20 07:05	03/27/20 12:31	207-08-9	
Chrysene	**<0.012**	ug/L	0.060	0.012	1	03/26/20 07:05	03/27/20 12:31	218-01-9	
Dibenz(a,h)anthracene	**<0.0093**	ug/L	0.046	0.0093	1	03/26/20 07:05	03/27/20 12:31	53-70-3	
Fluoranthene	**<0.0099**	ug/L	0.049	0.0099	1	03/26/20 07:05	03/27/20 12:31	206-44-0	
Fluorene	**<0.0074**	ug/L	0.037	0.0074	1	03/26/20 07:05	03/27/20 12:31	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.082	0.016	1	03/26/20 07:05	03/27/20 12:31	193-39-5	L1
1-Methylnaphthalene	**<0.0055**	ug/L	0.027	0.0055	1	03/26/20 07:05	03/27/20 12:31	90-12-0	
2-Methylnaphthalene	**<0.0045**	ug/L	0.023	0.0045	1	03/26/20 07:05	03/27/20 12:31	91-57-6	
Naphthalene	**<0.017**	ug/L	0.085	0.017	1	03/26/20 07:05	03/27/20 12:31	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.064	0.013	1	03/26/20 07:05	03/27/20 12:31	85-01-8	
Pyrene	**<0.0071**	ug/L	0.035	0.0071	1	03/26/20 07:05	03/27/20 12:31	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	58	%	39-120		1	03/26/20 07:05	03/27/20 12:31	321-60-8	
Terphenyl-d14 (S)	83	%	10-159		1	03/26/20 07:05	03/27/20 12:31	1718-51-0	
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Benzene	**<0.25**	ug/L	1.0	0.25	1		03/25/20 16:37	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		03/25/20 16:37	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		03/25/20 16:37	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		03/25/20 16:37	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		03/25/20 16:37	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		03/25/20 16:37	74-83-9	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		03/25/20 16:37	104-51-8	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		03/25/20 16:37	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		03/25/20 16:37	98-06-6	
Carbon tetrachloride	**<1.1**	ug/L	3.6	1.1	1		03/25/20 16:37	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		03/25/20 16:37	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		03/25/20 16:37	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		03/25/20 16:37	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		03/25/20 16:37	74-87-3	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		03/25/20 16:37	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		03/25/20 16:37	106-43-4	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		03/25/20 16:37	96-12-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 3_MW-27 **Lab ID: 40205127014** Collected: 03/20/20 09:50 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		03/25/20 16:37	124-48-1	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		03/25/20 16:37	106-93-4	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		03/25/20 16:37	74-95-3	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		03/25/20 16:37	95-50-1	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		03/25/20 16:37	541-73-1	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		03/25/20 16:37	106-46-7	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		03/25/20 16:37	75-71-8	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		03/25/20 16:37	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		03/25/20 16:37	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		03/25/20 16:37	75-35-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		03/25/20 16:37	156-59-2	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		03/25/20 16:37	156-60-5	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		03/25/20 16:37	78-87-5	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		03/25/20 16:37	142-28-9	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		03/25/20 16:37	594-20-7	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		03/25/20 16:37	563-58-6	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		03/25/20 16:37	10061-01-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		03/25/20 16:37	10061-02-6	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		03/25/20 16:37	108-20-3	
Ethylbenzene	**<0.32**	ug/L	1.1	0.32	1		03/25/20 16:37	100-41-4	
Hexachloro-1,3-butadiene	**<1.5**	ug/L	4.9	1.5	1		03/25/20 16:37	87-68-3	
Isopropylbenzene (Cumene)	**<1.7**	ug/L	5.6	1.7	1		03/25/20 16:37	98-82-8	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		03/25/20 16:37	99-87-6	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		03/25/20 16:37	75-09-2	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		03/25/20 16:37	1634-04-4	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		03/25/20 16:37	91-20-3	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		03/25/20 16:37	103-65-1	
Styrene	**<3.0**	ug/L	10.0	3.0	1		03/25/20 16:37	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		03/25/20 16:37	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		03/25/20 16:37	79-34-5	
Tetrachloroethene	**1.0J**	ug/L	1.1	0.33	1		03/25/20 16:37	127-18-4	
Toluene	**<0.27**	ug/L	0.90	0.27	1		03/25/20 16:37	108-88-3	
1,2,3-Trichlorobenzene	**<2.2**	ug/L	7.4	2.2	1		03/25/20 16:37	87-61-6	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		03/25/20 16:37	120-82-1	L2
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		03/25/20 16:37	71-55-6	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		03/25/20 16:37	79-00-5	
Trichloroethene	**0.33J**	ug/L	1.0	0.26	1		03/25/20 16:37	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		03/25/20 16:37	75-69-4	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		03/25/20 16:37	96-18-4	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		03/25/20 16:37	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		03/25/20 16:37	108-67-8	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		03/25/20 16:37	75-01-4	
Xylene (Total)	**<1.5**	ug/L	3.0	1.5	1		03/25/20 16:37	1330-20-7	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		03/25/20 16:37	179601-23-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		03/25/20 16:37	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 3_MW-27 **Lab ID: 40205127014** Collected: 03/20/20 09:50 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Surrogates									
4-Bromofluorobenzene (S)	90	%	70-130		1		03/25/20 16:37	460-00-4	
Dibromofluoromethane (S)	113	%	70-130		1		03/25/20 16:37	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		03/25/20 16:37	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 3_MW-27D **Lab ID: 40205127015** Collected: 03/20/20 00:00 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - Green Bay								
Arsenic, Dissolved	**<0.28**	ug/L	1.0	0.28	1	03/24/20 22:14	03/27/20 03:20	7440-38-2	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510 Pace Analytical Services - Green Bay								
Acenaphthene	**<0.0056**	ug/L	0.028	0.0056	1	03/26/20 07:05	03/27/20 12:47	83-32-9	
Acenaphthylene	**<0.0046**	ug/L	0.023	0.0046	1	03/26/20 07:05	03/27/20 12:47	208-96-8	
Anthracene	**<0.0097**	ug/L	0.048	0.0097	1	03/26/20 07:05	03/27/20 12:47	120-12-7	
Benzo(a)anthracene	**<0.0070**	ug/L	0.035	0.0070	1	03/26/20 07:05	03/27/20 12:47	56-55-3	
Benzo(a)pyrene	**<0.0098**	ug/L	0.049	0.0098	1	03/26/20 07:05	03/27/20 12:47	50-32-8	
Benzo(b)fluoranthene	**<0.0053**	ug/L	0.027	0.0053	1	03/26/20 07:05	03/27/20 12:47	205-99-2	L1
Benzo(g,h,i)perylene	**<0.0063**	ug/L	0.031	0.0063	1	03/26/20 07:05	03/27/20 12:47	191-24-2	
Benzo(k)fluoranthene	**<0.0070**	ug/L	0.035	0.0070	1	03/26/20 07:05	03/27/20 12:47	207-08-9	
Chrysene	**<0.012**	ug/L	0.060	0.012	1	03/26/20 07:05	03/27/20 12:47	218-01-9	
Dibenz(a,h)anthracene	**<0.0093**	ug/L	0.046	0.0093	1	03/26/20 07:05	03/27/20 12:47	53-70-3	
Fluoranthene	**<0.0099**	ug/L	0.049	0.0099	1	03/26/20 07:05	03/27/20 12:47	206-44-0	
Fluorene	**<0.0074**	ug/L	0.037	0.0074	1	03/26/20 07:05	03/27/20 12:47	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.082	0.016	1	03/26/20 07:05	03/27/20 12:47	193-39-5	L1
1-Methylnaphthalene	**<0.0055**	ug/L	0.027	0.0055	1	03/26/20 07:05	03/27/20 12:47	90-12-0	
2-Methylnaphthalene	**<0.0045**	ug/L	0.023	0.0045	1	03/26/20 07:05	03/27/20 12:47	91-57-6	
Naphthalene	**<0.017**	ug/L	0.085	0.017	1	03/26/20 07:05	03/27/20 12:47	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.064	0.013	1	03/26/20 07:05	03/27/20 12:47	85-01-8	
Pyrene	**<0.0071**	ug/L	0.035	0.0071	1	03/26/20 07:05	03/27/20 12:47	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	59	%	39-120		1	03/26/20 07:05	03/27/20 12:47	321-60-8	
Terphenyl-d14 (S)	85	%	10-159		1	03/26/20 07:05	03/27/20 12:47	1718-51-0	
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Benzene	**<0.25**	ug/L	1.0	0.25	1		03/25/20 16:59	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		03/25/20 16:59	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		03/25/20 16:59	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		03/25/20 16:59	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		03/25/20 16:59	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		03/25/20 16:59	74-83-9	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		03/25/20 16:59	104-51-8	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		03/25/20 16:59	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		03/25/20 16:59	98-06-6	
Carbon tetrachloride	**<1.1**	ug/L	3.6	1.1	1		03/25/20 16:59	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		03/25/20 16:59	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		03/25/20 16:59	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		03/25/20 16:59	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		03/25/20 16:59	74-87-3	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		03/25/20 16:59	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		03/25/20 16:59	106-43-4	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		03/25/20 16:59	96-12-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 3_MW-27D **Lab ID: 40205127015** Collected: 03/20/20 00:00 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		03/25/20 16:59	124-48-1	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		03/25/20 16:59	106-93-4	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		03/25/20 16:59	74-95-3	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		03/25/20 16:59	95-50-1	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		03/25/20 16:59	541-73-1	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		03/25/20 16:59	106-46-7	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		03/25/20 16:59	75-71-8	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		03/25/20 16:59	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		03/25/20 16:59	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		03/25/20 16:59	75-35-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		03/25/20 16:59	156-59-2	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		03/25/20 16:59	156-60-5	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		03/25/20 16:59	78-87-5	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		03/25/20 16:59	142-28-9	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		03/25/20 16:59	594-20-7	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		03/25/20 16:59	563-58-6	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		03/25/20 16:59	10061-01-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		03/25/20 16:59	10061-02-6	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		03/25/20 16:59	108-20-3	
Ethylbenzene	**<0.32**	ug/L	1.1	0.32	1		03/25/20 16:59	100-41-4	
Hexachloro-1,3-butadiene	**<1.5**	ug/L	4.9	1.5	1		03/25/20 16:59	87-68-3	
Isopropylbenzene (Cumene)	**<1.7**	ug/L	5.6	1.7	1		03/25/20 16:59	98-82-8	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		03/25/20 16:59	99-87-6	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		03/25/20 16:59	75-09-2	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		03/25/20 16:59	1634-04-4	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		03/25/20 16:59	91-20-3	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		03/25/20 16:59	103-65-1	
Styrene	**<3.0**	ug/L	10.0	3.0	1		03/25/20 16:59	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		03/25/20 16:59	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		03/25/20 16:59	79-34-5	
Tetrachloroethene	**1.1**	ug/L	1.1	0.33	1		03/25/20 16:59	127-18-4	
Toluene	**<0.27**	ug/L	0.90	0.27	1		03/25/20 16:59	108-88-3	
1,2,3-Trichlorobenzene	**<2.2**	ug/L	7.4	2.2	1		03/25/20 16:59	87-61-6	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		03/25/20 16:59	120-82-1	L2
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		03/25/20 16:59	71-55-6	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		03/25/20 16:59	79-00-5	
Trichloroethene	**0.45J**	ug/L	1.0	0.26	1		03/25/20 16:59	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		03/25/20 16:59	75-69-4	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		03/25/20 16:59	96-18-4	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		03/25/20 16:59	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		03/25/20 16:59	108-67-8	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		03/25/20 16:59	75-01-4	
Xylene (Total)	**<1.5**	ug/L	3.0	1.5	1		03/25/20 16:59	1330-20-7	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		03/25/20 16:59	179601-23-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		03/25/20 16:59	95-47-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 3_MW-27D **Lab ID: 40205127015** Collected: 03/20/20 00:00 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Surrogates									
4-Bromofluorobenzene (S)	88	%	70-130		1		03/25/20 16:59	460-00-4	
Dibromofluoromethane (S)	114	%	70-130		1		03/25/20 16:59	1868-53-7	
Toluene-d8 (S)	101	%	70-130		1		03/25/20 16:59	2037-26-5	

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ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 3_MW-77 **Lab ID: 40205127016** Collected: 03/20/20 11:35 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - Green Bay								
Arsenic, Dissolved	**0.92J**	ug/L	1.0	0.28	1	03/24/20 22:14	03/27/20 17:58	7440-38-2	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510 Pace Analytical Services - Green Bay								
Acenaphthene	**<0.0057**	ug/L	0.028	0.0057	1	03/26/20 07:05	03/27/20 13:04	83-32-9	
Acenaphthylene	**<0.0047**	ug/L	0.023	0.0047	1	03/26/20 07:05	03/27/20 13:04	208-96-8	
Anthracene	**<0.0098**	ug/L	0.049	0.0098	1	03/26/20 07:05	03/27/20 13:04	120-12-7	
Benzo(a)anthracene	**<0.0071**	ug/L	0.035	0.0071	1	03/26/20 07:05	03/27/20 13:04	56-55-3	
Benzo(a)pyrene	**<0.0098**	ug/L	0.049	0.0098	1	03/26/20 07:05	03/27/20 13:04	50-32-8	
Benzo(b)fluoranthene	**<0.0054**	ug/L	0.027	0.0054	1	03/26/20 07:05	03/27/20 13:04	205-99-2	L1
Benzo(g,h,i)perylene	**<0.0063**	ug/L	0.032	0.0063	1	03/26/20 07:05	03/27/20 13:04	191-24-2	
Benzo(k)fluoranthene	**<0.0071**	ug/L	0.035	0.0071	1	03/26/20 07:05	03/27/20 13:04	207-08-9	
Chrysene	**<0.012**	ug/L	0.061	0.012	1	03/26/20 07:05	03/27/20 13:04	218-01-9	
Dibenz(a,h)anthracene	**<0.0094**	ug/L	0.047	0.0094	1	03/26/20 07:05	03/27/20 13:04	53-70-3	
Fluoranthene	**<0.010**	ug/L	0.050	0.010	1	03/26/20 07:05	03/27/20 13:04	206-44-0	
Fluorene	**<0.0074**	ug/L	0.037	0.0074	1	03/26/20 07:05	03/27/20 13:04	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.082	0.016	1	03/26/20 07:05	03/27/20 13:04	193-39-5	L1
1-Methylnaphthalene	**0.017J**	ug/L	0.028	0.0055	1	03/26/20 07:05	03/27/20 13:04	90-12-0	
2-Methylnaphthalene	**0.0077J**	ug/L	0.023	0.0046	1	03/26/20 07:05	03/27/20 13:04	91-57-6	
Naphthalene	**<0.017**	ug/L	0.086	0.017	1	03/26/20 07:05	03/27/20 13:04	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.064	0.013	1	03/26/20 07:05	03/27/20 13:04	85-01-8	
Pyrene	**<0.0071**	ug/L	0.036	0.0071	1	03/26/20 07:05	03/27/20 13:04	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	48	%	39-120		1	03/26/20 07:05	03/27/20 13:04	321-60-8	
Terphenyl-d14 (S)	82	%	10-159		1	03/26/20 07:05	03/27/20 13:04	1718-51-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 3_MW-72 **Lab ID: 40205127017** Collected: 03/20/20 12:50 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - Green Bay								
Arsenic, Dissolved	**0.44J**	ug/L	1.0	0.28	1	03/24/20 22:14	03/27/20 03:48	7440-38-2	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510 Pace Analytical Services - Green Bay								
Acenaphthene	**<0.0067**	ug/L	0.033	0.0067	1	03/26/20 07:05	03/27/20 13:21	83-32-9	
Acenaphthylene	**<0.0055**	ug/L	0.027	0.0055	1	03/26/20 07:05	03/27/20 13:21	208-96-8	
Anthracene	**<0.011**	ug/L	0.057	0.011	1	03/26/20 07:05	03/27/20 13:21	120-12-7	
Benzo(a)anthracene	**<0.0083**	ug/L	0.041	0.0083	1	03/26/20 07:05	03/27/20 13:21	56-55-3	
Benzo(a)pyrene	**<0.012**	ug/L	0.058	0.012	1	03/26/20 07:05	03/27/20 13:21	50-32-8	
Benzo(b)fluoranthene	**<0.0063**	ug/L	0.032	0.0063	1	03/26/20 07:05	03/27/20 13:21	205-99-2	L1
Benzo(g,h,i)perylene	**<0.0075**	ug/L	0.037	0.0075	1	03/26/20 07:05	03/27/20 13:21	191-24-2	
Benzo(k)fluoranthene	**<0.0083**	ug/L	0.041	0.0083	1	03/26/20 07:05	03/27/20 13:21	207-08-9	
Chrysene	**<0.014**	ug/L	0.072	0.014	1	03/26/20 07:05	03/27/20 13:21	218-01-9	
Dibenz(a,h)anthracene	**<0.011**	ug/L	0.055	0.011	1	03/26/20 07:05	03/27/20 13:21	53-70-3	
Fluoranthene	**<0.012**	ug/L	0.059	0.012	1	03/26/20 07:05	03/27/20 13:21	206-44-0	
Fluorene	**<0.0088**	ug/L	0.044	0.0088	1	03/26/20 07:05	03/27/20 13:21	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.019**	ug/L	0.097	0.019	1	03/26/20 07:05	03/27/20 13:21	193-39-5	L1
1-Methylnaphthalene	**<0.0065**	ug/L	0.032	0.0065	1	03/26/20 07:05	03/27/20 13:21	90-12-0	
2-Methylnaphthalene	**<0.0054**	ug/L	0.027	0.0054	1	03/26/20 07:05	03/27/20 13:21	91-57-6	
Naphthalene	**0.020J**	ug/L	0.10	0.020	1	03/26/20 07:05	03/27/20 13:21	91-20-3	
Phenanthrene	**<0.015**	ug/L	0.076	0.015	1	03/26/20 07:05	03/27/20 13:21	85-01-8	
Pyrene	**<0.0084**	ug/L	0.042	0.0084	1	03/26/20 07:05	03/27/20 13:21	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	61	%	39-120		1	03/26/20 07:05	03/27/20 13:21	321-60-8	
Terphenyl-d14 (S)	80	%	10-159		1	03/26/20 07:05	03/27/20 13:21	1718-51-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 3_MW-58 **Lab ID: 40205127018** Collected: 03/20/20 14:45 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3010 Pace Analytical Services - Green Bay								
Arsenic, Dissolved	**3.8**	ug/L	1.0	0.28	1	03/24/20 22:14	03/27/20 18:05	7440-38-2	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510 Pace Analytical Services - Green Bay								
Acenaphthene	**3.8**	ug/L	0.74	0.15	25	03/26/20 07:05	03/26/20 17:49	83-32-9	
Acenaphthylene	**2.6**	ug/L	0.60	0.12	25	03/26/20 07:05	03/26/20 17:49	208-96-8	
Anthracene	**0.85J**	ug/L	1.3	0.25	25	03/26/20 07:05	03/26/20 17:49	120-12-7	
Benzo(a)anthracene	**<0.18**	ug/L	0.92	0.18	25	03/26/20 07:05	03/26/20 17:49	56-55-3	
Benzo(a)pyrene	**<0.26**	ug/L	1.3	0.26	25	03/26/20 07:05	03/26/20 17:49	50-32-8	
Benzo(b)fluoranthene	**<0.14**	ug/L	0.70	0.14	25	03/26/20 07:05	03/26/20 17:49	205-99-2	L1
Benzo(g,h,i)perylene	**<0.16**	ug/L	0.82	0.16	25	03/26/20 07:05	03/26/20 17:49	191-24-2	
Benzo(k)fluoranthene	**<0.18**	ug/L	0.92	0.18	25	03/26/20 07:05	03/26/20 17:49	207-08-9	
Chrysene	**<0.32**	ug/L	1.6	0.32	25	03/26/20 07:05	03/26/20 17:49	218-01-9	
Dibenz(a,h)anthracene	**<0.24**	ug/L	1.2	0.24	25	03/26/20 07:05	03/26/20 17:49	53-70-3	
Fluoranthene	**<0.26**	ug/L	1.3	0.26	25	03/26/20 07:05	03/26/20 17:49	206-44-0	
Fluorene	**7.2**	ug/L	0.97	0.19	25	03/26/20 07:05	03/26/20 17:49	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.43**	ug/L	2.1	0.43	25	03/26/20 07:05	03/26/20 17:49	193-39-5	L1
1-Methylnaphthalene	**146**	ug/L	0.72	0.14	25	03/26/20 07:05	03/26/20 17:49	90-12-0	
2-Methylnaphthalene	**182**	ug/L	0.59	0.12	25	03/26/20 07:05	03/26/20 17:49	91-57-6	
Naphthalene	**6.0**	ug/L	2.2	0.44	25	03/26/20 07:05	03/26/20 17:49	91-20-3	
Phenanthrene	**9.8**	ug/L	1.7	0.33	25	03/26/20 07:05	03/26/20 17:49	85-01-8	
Pyrene	**0.40J**	ug/L	0.93	0.19	25	03/26/20 07:05	03/26/20 17:49	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	0	%	39-120		25	03/26/20 07:05	03/26/20 17:49	321-60-8	S4
Terphenyl-d14 (S)	0	%	10-159		25	03/26/20 07:05	03/26/20 17:49	1718-51-0	S4
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Benzene	**15.3**	ug/L	2.5	0.62	2.5		03/25/20 18:06	71-43-2	
Bromobenzene	**<0.60**	ug/L	2.5	0.60	2.5		03/25/20 18:06	108-86-1	
Bromochloromethane	**<0.91**	ug/L	12.5	0.91	2.5		03/25/20 18:06	74-97-5	
Bromodichloromethane	**<0.91**	ug/L	3.0	0.91	2.5		03/25/20 18:06	75-27-4	
Bromoform	**<9.9**	ug/L	33.1	9.9	2.5		03/25/20 18:06	75-25-2	
Bromomethane	**<2.4**	ug/L	12.5	2.4	2.5		03/25/20 18:06	74-83-9	
n-Butylbenzene	**19.3**	ug/L	5.9	1.8	2.5		03/25/20 18:06	104-51-8	
sec-Butylbenzene	**7.7J**	ug/L	12.5	2.1	2.5		03/25/20 18:06	135-98-8	
tert-Butylbenzene	**<0.76**	ug/L	2.5	0.76	2.5		03/25/20 18:06	98-06-6	
Carbon tetrachloride	**<2.7**	ug/L	9.0	2.7	2.5		03/25/20 18:06	56-23-5	
Chlorobenzene	**<1.8**	ug/L	5.9	1.8	2.5		03/25/20 18:06	108-90-7	
Chloroethane	**<3.4**	ug/L	12.5	3.4	2.5		03/25/20 18:06	75-00-3	
Chloroform	**<3.2**	ug/L	12.5	3.2	2.5		03/25/20 18:06	67-66-3	
Chloromethane	**<5.5**	ug/L	18.2	5.5	2.5		03/25/20 18:06	74-87-3	
2-Chlorotoluene	**<2.3**	ug/L	12.5	2.3	2.5		03/25/20 18:06	95-49-8	
4-Chlorotoluene	**<1.9**	ug/L	6.3	1.9	2.5		03/25/20 18:06	106-43-4	
1,2-Dibromo-3-chloropropane	**<4.4**	ug/L	14.7	4.4	2.5		03/25/20 18:06	96-12-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 3_MW-58 **Lab ID: 40205127018** Collected: 03/20/20 14:45 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Dibromochloromethane	**<6.5**	ug/L	21.7	6.5	2.5		03/25/20 18:06	124-48-1	
1,2-Dibromoethane (EDB)	**<2.1**	ug/L	6.9	2.1	2.5		03/25/20 18:06	106-93-4	
Dibromomethane	**<2.3**	ug/L	7.8	2.3	2.5		03/25/20 18:06	74-95-3	
1,2-Dichlorobenzene	**<1.8**	ug/L	5.9	1.8	2.5		03/25/20 18:06	95-50-1	
1,3-Dichlorobenzene	**<1.6**	ug/L	5.2	1.6	2.5		03/25/20 18:06	541-73-1	
1,4-Dichlorobenzene	**<2.4**	ug/L	7.9	2.4	2.5		03/25/20 18:06	106-46-7	
Dichlorodifluoromethane	**<1.2**	ug/L	12.5	1.2	2.5		03/25/20 18:06	75-71-8	
1,1-Dichloroethane	**<0.68**	ug/L	2.5	0.68	2.5		03/25/20 18:06	75-34-3	
1,2-Dichloroethane	**<0.70**	ug/L	2.5	0.70	2.5		03/25/20 18:06	107-06-2	
1,1-Dichloroethene	**<0.61**	ug/L	2.5	0.61	2.5		03/25/20 18:06	75-35-4	
cis-1,2-Dichloroethene	**<0.68**	ug/L	2.5	0.68	2.5		03/25/20 18:06	156-59-2	
trans-1,2-Dichloroethene	**<2.7**	ug/L	9.1	2.7	2.5		03/25/20 18:06	156-60-5	
1,2-Dichloropropane	**<0.71**	ug/L	2.5	0.71	2.5		03/25/20 18:06	78-87-5	
1,3-Dichloropropane	**<2.1**	ug/L	6.9	2.1	2.5		03/25/20 18:06	142-28-9	
2,2-Dichloropropane	**<5.7**	ug/L	18.9	5.7	2.5		03/25/20 18:06	594-20-7	
1,1-Dichloropropene	**<1.4**	ug/L	4.5	1.4	2.5		03/25/20 18:06	563-58-6	
cis-1,3-Dichloropropene	**<9.1**	ug/L	30.2	9.1	2.5		03/25/20 18:06	10061-01-5	
trans-1,3-Dichloropropene	**<10.9**	ug/L	36.4	10.9	2.5		03/25/20 18:06	10061-02-6	
Diisopropyl ether	**<4.7**	ug/L	15.7	4.7	2.5		03/25/20 18:06	108-20-3	
Ethylbenzene	**112**	ug/L	2.7	0.80	2.5		03/25/20 18:06	100-41-4	
Hexachloro-1,3-butadiene	**<3.7**	ug/L	12.2	3.7	2.5		03/25/20 18:06	87-68-3	
Isopropylbenzene (Cumene)	**15.5**	ug/L	14.0	4.2	2.5		03/25/20 18:06	98-82-8	
p-Isopropyltoluene	**3.5J**	ug/L	6.7	2.0	2.5		03/25/20 18:06	99-87-6	
Methylene Chloride	**<1.5**	ug/L	12.5	1.5	2.5		03/25/20 18:06	75-09-2	
Methyl-tert-butyl ether	**<3.1**	ug/L	10.4	3.1	2.5		03/25/20 18:06	1634-04-4	
Naphthalene	**<2.9**	ug/L	12.5	2.9	2.5		03/25/20 18:06	91-20-3	
n-Propylbenzene	**29.7**	ug/L	12.5	2.0	2.5		03/25/20 18:06	103-65-1	
Styrene	**<7.5**	ug/L	25.1	7.5	2.5		03/25/20 18:06	100-42-5	
1,1,1,2-Tetrachloroethane	**<0.67**	ug/L	2.5	0.67	2.5		03/25/20 18:06	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.69**	ug/L	2.5	0.69	2.5		03/25/20 18:06	79-34-5	
Tetrachloroethene	**1.2J**	ug/L	2.7	0.82	2.5		03/25/20 18:06	127-18-4	
Toluene	**1.9J**	ug/L	2.2	0.67	2.5		03/25/20 18:06	108-88-3	
1,2,3-Trichlorobenzene	**<5.5**	ug/L	18.4	5.5	2.5		03/25/20 18:06	87-61-6	
1,2,4-Trichlorobenzene	**<2.4**	ug/L	12.5	2.4	2.5		03/25/20 18:06	120-82-1	L2
1,1,1-Trichloroethane	**<0.61**	ug/L	2.5	0.61	2.5		03/25/20 18:06	71-55-6	
1,1,2-Trichloroethane	**<1.4**	ug/L	12.5	1.4	2.5		03/25/20 18:06	79-00-5	
Trichloroethene	**<0.64**	ug/L	2.5	0.64	2.5		03/25/20 18:06	79-01-6	
Trichlorofluoromethane	**<0.54**	ug/L	2.5	0.54	2.5		03/25/20 18:06	75-69-4	
1,2,3-Trichloropropane	**<1.5**	ug/L	12.5	1.5	2.5		03/25/20 18:06	96-18-4	
1,2,4-Trimethylbenzene	**279**	ug/L	7.0	2.1	2.5		03/25/20 18:06	95-63-6	
1,3,5-Trimethylbenzene	**79.6**	ug/L	7.3	2.2	2.5		03/25/20 18:06	108-67-8	
Vinyl chloride	**<0.44**	ug/L	2.5	0.44	2.5		03/25/20 18:06	75-01-4	
Xylene (Total)	**263**	ug/L	7.5	3.8	2.5		03/25/20 18:06	1330-20-7	
m&p-Xylene	**260**	ug/L	5.0	1.2	2.5		03/25/20 18:06	179601-23-1	
o-Xylene	**3.1**	ug/L	2.5	0.65	2.5		03/25/20 18:06	95-47-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: 3_MW-58 **Lab ID: 40205127018** Collected: 03/20/20 14:45 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		2.5		03/25/20 18:06	460-00-4	
Dibromofluoromethane (S)	110	%	70-130		2.5		03/25/20 18:06	1868-53-7	
Toluene-d8 (S)	102	%	70-130		2.5		03/25/20 18:06	2037-26-5	

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ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: TB-1 **Lab ID: 40205127019** Collected: 03/20/20 00:00 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
Benzene	**<0.25**	ug/L	1.0	0.25	1		03/25/20 14:23	71-43-2	
Bromobenzene	**<0.24**	ug/L	1.0	0.24	1		03/25/20 14:23	108-86-1	
Bromochloromethane	**<0.36**	ug/L	5.0	0.36	1		03/25/20 14:23	74-97-5	
Bromodichloromethane	**<0.36**	ug/L	1.2	0.36	1		03/25/20 14:23	75-27-4	
Bromoform	**<4.0**	ug/L	13.2	4.0	1		03/25/20 14:23	75-25-2	
Bromomethane	**<0.97**	ug/L	5.0	0.97	1		03/25/20 14:23	74-83-9	
n-Butylbenzene	**<0.71**	ug/L	2.4	0.71	1		03/25/20 14:23	104-51-8	
sec-Butylbenzene	**<0.85**	ug/L	5.0	0.85	1		03/25/20 14:23	135-98-8	
tert-Butylbenzene	**<0.30**	ug/L	1.0	0.30	1		03/25/20 14:23	98-06-6	
Carbon tetrachloride	**<1.1**	ug/L	3.6	1.1	1		03/25/20 14:23	56-23-5	
Chlorobenzene	**<0.71**	ug/L	2.4	0.71	1		03/25/20 14:23	108-90-7	
Chloroethane	**<1.3**	ug/L	5.0	1.3	1		03/25/20 14:23	75-00-3	
Chloroform	**<1.3**	ug/L	5.0	1.3	1		03/25/20 14:23	67-66-3	
Chloromethane	**<2.2**	ug/L	7.3	2.2	1		03/25/20 14:23	74-87-3	
2-Chlorotoluene	**<0.93**	ug/L	5.0	0.93	1		03/25/20 14:23	95-49-8	
4-Chlorotoluene	**<0.76**	ug/L	2.5	0.76	1		03/25/20 14:23	106-43-4	
1,2-Dibromo-3-chloropropane	**<1.8**	ug/L	5.9	1.8	1		03/25/20 14:23	96-12-8	
Dibromochloromethane	**<2.6**	ug/L	8.7	2.6	1		03/25/20 14:23	124-48-1	
1,2-Dibromoethane (EDB)	**<0.83**	ug/L	2.8	0.83	1		03/25/20 14:23	106-93-4	
Dibromomethane	**<0.94**	ug/L	3.1	0.94	1		03/25/20 14:23	74-95-3	
1,2-Dichlorobenzene	**<0.71**	ug/L	2.4	0.71	1		03/25/20 14:23	95-50-1	
1,3-Dichlorobenzene	**<0.63**	ug/L	2.1	0.63	1		03/25/20 14:23	541-73-1	
1,4-Dichlorobenzene	**<0.94**	ug/L	3.1	0.94	1		03/25/20 14:23	106-46-7	
Dichlorodifluoromethane	**<0.50**	ug/L	5.0	0.50	1		03/25/20 14:23	75-71-8	
1,1-Dichloroethane	**<0.27**	ug/L	1.0	0.27	1		03/25/20 14:23	75-34-3	
1,2-Dichloroethane	**<0.28**	ug/L	1.0	0.28	1		03/25/20 14:23	107-06-2	
1,1-Dichloroethene	**<0.24**	ug/L	1.0	0.24	1		03/25/20 14:23	75-35-4	
cis-1,2-Dichloroethene	**<0.27**	ug/L	1.0	0.27	1		03/25/20 14:23	156-59-2	
trans-1,2-Dichloroethene	**<1.1**	ug/L	3.6	1.1	1		03/25/20 14:23	156-60-5	
1,2-Dichloropropane	**<0.28**	ug/L	1.0	0.28	1		03/25/20 14:23	78-87-5	
1,3-Dichloropropane	**<0.83**	ug/L	2.8	0.83	1		03/25/20 14:23	142-28-9	
2,2-Dichloropropane	**<2.3**	ug/L	7.6	2.3	1		03/25/20 14:23	594-20-7	
1,1-Dichloropropene	**<0.54**	ug/L	1.8	0.54	1		03/25/20 14:23	563-58-6	
cis-1,3-Dichloropropene	**<3.6**	ug/L	12.1	3.6	1		03/25/20 14:23	10061-01-5	
trans-1,3-Dichloropropene	**<4.4**	ug/L	14.6	4.4	1		03/25/20 14:23	10061-02-6	
Diisopropyl ether	**<1.9**	ug/L	6.3	1.9	1		03/25/20 14:23	108-20-3	
Ethylbenzene	**<0.32**	ug/L	1.1	0.32	1		03/25/20 14:23	100-41-4	
Hexachloro-1,3-butadiene	**<1.5**	ug/L	4.9	1.5	1		03/25/20 14:23	87-68-3	
Isopropylbenzene (Cumene)	**<1.7**	ug/L	5.6	1.7	1		03/25/20 14:23	98-82-8	
p-Isopropyltoluene	**<0.80**	ug/L	2.7	0.80	1		03/25/20 14:23	99-87-6	
Methylene Chloride	**<0.58**	ug/L	5.0	0.58	1		03/25/20 14:23	75-09-2	
Methyl-tert-butyl ether	**<1.2**	ug/L	4.2	1.2	1		03/25/20 14:23	1634-04-4	
Naphthalene	**<1.2**	ug/L	5.0	1.2	1		03/25/20 14:23	91-20-3	
n-Propylbenzene	**<0.81**	ug/L	5.0	0.81	1		03/25/20 14:23	103-65-1	
Styrene	**<3.0**	ug/L	10.0	3.0	1		03/25/20 14:23	100-42-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Sample: TB-1 **Lab ID: 40205127019** Collected: 03/20/20 00:00 Received: 03/23/20 12:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Green Bay								
1,1,1,2-Tetrachloroethane	**<0.27**	ug/L	1.0	0.27	1		03/25/20 14:23	630-20-6	
1,1,2,2-Tetrachloroethane	**<0.28**	ug/L	1.0	0.28	1		03/25/20 14:23	79-34-5	
Tetrachloroethene	**<0.33**	ug/L	1.1	0.33	1		03/25/20 14:23	127-18-4	
Toluene	**<0.27**	ug/L	0.90	0.27	1		03/25/20 14:23	108-88-3	
1,2,3-Trichlorobenzene	**<2.2**	ug/L	7.4	2.2	1		03/25/20 14:23	87-61-6	
1,2,4-Trichlorobenzene	**<0.95**	ug/L	5.0	0.95	1		03/25/20 14:23	120-82-1	L2
1,1,1-Trichloroethane	**<0.24**	ug/L	1.0	0.24	1		03/25/20 14:23	71-55-6	
1,1,2-Trichloroethane	**<0.55**	ug/L	5.0	0.55	1		03/25/20 14:23	79-00-5	
Trichloroethene	**<0.26**	ug/L	1.0	0.26	1		03/25/20 14:23	79-01-6	
Trichlorofluoromethane	**<0.21**	ug/L	1.0	0.21	1		03/25/20 14:23	75-69-4	
1,2,3-Trichloropropane	**<0.59**	ug/L	5.0	0.59	1		03/25/20 14:23	96-18-4	
1,2,4-Trimethylbenzene	**<0.84**	ug/L	2.8	0.84	1		03/25/20 14:23	95-63-6	
1,3,5-Trimethylbenzene	**<0.87**	ug/L	2.9	0.87	1		03/25/20 14:23	108-67-8	
Vinyl chloride	**<0.17**	ug/L	1.0	0.17	1		03/25/20 14:23	75-01-4	
Xylene (Total)	**<1.5**	ug/L	3.0	1.5	1		03/25/20 14:23	1330-20-7	
m&p-Xylene	**<0.47**	ug/L	2.0	0.47	1		03/25/20 14:23	179601-23-1	
o-Xylene	**<0.26**	ug/L	1.0	0.26	1		03/25/20 14:23	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	89	%	70-130		1		03/25/20 14:23	460-00-4	
Dibromofluoromethane (S)	106	%	70-130		1		03/25/20 14:23	1868-53-7	
Toluene-d8 (S)	102	%	70-130		1		03/25/20 14:23	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
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QUALITY CONTROL DATA

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

QC Batch: 351034 | Analysis Method: EPA 7470
QC Batch Method: EPA 7470 | Analysis Description: 7470 Mercury Dissolved
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40205127003, 40205127004, 40205127005, 40205127006, 40205127007

METHOD BLANK: 2032974 Matrix: Water
Associated Lab Samples: 40205127003, 40205127004, 40205127005, 40205127006, 40205127007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	<0.084	0.28	03/27/20 10:03	

LABORATORY CONTROL SAMPLE: 2032975

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.2	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2032976 2032977

Parameter	Units	40205127006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	<0.084	5	5	5.1	4.9	102	99	85-115	3	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

QC Batch: 350865
QC Batch Method: EPA 3010
Analysis Method: EPA 6020
Analysis Description: 6020 MET Dissolved
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40205127001, 40205127002, 40205127003, 40205127004, 40205127005, 40205127006, 40205127007, 40205127008, 40205127010, 40205127011, 40205127013, 40205127014, 40205127015, 40205127016, 40205127017, 40205127018

METHOD BLANK: 2032218 Matrix: Water
Associated Lab Samples: 40205127001, 40205127002, 40205127003, 40205127004, 40205127005, 40205127006, 40205127007, 40205127008, 40205127010, 40205127011, 40205127013, 40205127014, 40205127015, 40205127016, 40205127017, 40205127018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	<0.28	1.0	03/27/20 15:55	
Barium, Dissolved	ug/L	<0.70	2.3	03/27/20 15:55	
Cadmium, Dissolved	ug/L	<0.15	1.0	03/27/20 15:55	
Chromium, Dissolved	ug/L	<1.0	3.4	03/27/20 15:55	
Lead, Dissolved	ug/L	<0.24	1.0	03/27/20 15:55	
Selenium, Dissolved	ug/L	<0.32	1.1	03/27/20 15:55	
Silver, Dissolved	ug/L	<0.13	0.50	03/27/20 15:55	

LABORATORY CONTROL SAMPLE: 2032219

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	500	516	103	80-120	
Barium, Dissolved	ug/L	500	525	105	80-120	
Cadmium, Dissolved	ug/L	500	521	104	80-120	
Chromium, Dissolved	ug/L	500	504	101	80-120	
Lead, Dissolved	ug/L	500	532	106	80-120	
Selenium, Dissolved	ug/L	500	536	107	80-120	
Silver, Dissolved	ug/L	250	253	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2032220 2032221

Parameter	Units	40205127006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	ug/L	0.88J	500	500	545	545	109	109	75-125	0	20	
Barium, Dissolved	ug/L	102	500	500	652	645	110	109	75-125	1	20	
Cadmium, Dissolved	ug/L	<0.15	500	500	530	526	106	105	75-125	1	20	
Chromium, Dissolved	ug/L	<1.0	500	500	524	518	105	103	75-125	1	20	
Lead, Dissolved	ug/L	<0.24	500	500	562	545	112	109	75-125	3	20	
Selenium, Dissolved	ug/L	1.5	500	500	548	551	109	110	75-125	1	20	
Silver, Dissolved	ug/L	<0.13	250	250	247	243	99	97	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

QC Batch: 350835 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40205127004, 40205127005, 40205127006, 40205127008, 40205127014, 40205127015, 40205127018, 40205127019

METHOD BLANK: 2032130 | Matrix: Water
Associated Lab Samples: 40205127004, 40205127005, 40205127006, 40205127008, 40205127014, 40205127015, 40205127018, 40205127019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.27	1.0	03/25/20 08:41	
1,1,1-Trichloroethane	ug/L	<0.24	1.0	03/25/20 08:41	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	1.0	03/25/20 08:41	
1,1,2-Trichloroethane	ug/L	<0.55	5.0	03/25/20 08:41	
1,1-Dichloroethane	ug/L	<0.27	1.0	03/25/20 08:41	
1,1-Dichloroethene	ug/L	<0.24	1.0	03/25/20 08:41	
1,1-Dichloropropene	ug/L	<0.54	1.8	03/25/20 08:41	
1,2,3-Trichlorobenzene	ug/L	<2.2	7.4	03/25/20 08:41	
1,2,3-Trichloropropane	ug/L	<0.59	5.0	03/25/20 08:41	
1,2,4-Trichlorobenzene	ug/L	1.6J	5.0	03/25/20 08:41	
1,2,4-Trimethylbenzene	ug/L	<0.84	2.8	03/25/20 08:41	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	5.9	03/25/20 08:41	
1,2-Dibromoethane (EDB)	ug/L	<0.83	2.8	03/25/20 08:41	
1,2-Dichlorobenzene	ug/L	<0.71	2.4	03/25/20 08:41	
1,2-Dichloroethane	ug/L	<0.28	1.0	03/25/20 08:41	
1,2-Dichloropropane	ug/L	<0.28	1.0	03/25/20 08:41	
1,3,5-Trimethylbenzene	ug/L	<0.87	2.9	03/25/20 08:41	
1,3-Dichlorobenzene	ug/L	<0.63	2.1	03/25/20 08:41	
1,3-Dichloropropane	ug/L	<0.83	2.8	03/25/20 08:41	
1,4-Dichlorobenzene	ug/L	<0.94	3.1	03/25/20 08:41	
2,2-Dichloropropane	ug/L	<2.3	7.6	03/25/20 08:41	
2-Chlorotoluene	ug/L	<0.93	5.0	03/25/20 08:41	
4-Chlorotoluene	ug/L	<0.76	2.5	03/25/20 08:41	
Benzene	ug/L	<0.25	1.0	03/25/20 08:41	
Bromobenzene	ug/L	<0.24	1.0	03/25/20 08:41	
Bromochloromethane	ug/L	<0.36	5.0	03/25/20 08:41	
Bromodichloromethane	ug/L	<0.36	1.2	03/25/20 08:41	
Bromoform	ug/L	<4.0	13.2	03/25/20 08:41	
Bromomethane	ug/L	<0.97	5.0	03/25/20 08:41	
Carbon tetrachloride	ug/L	<1.1	3.6	03/25/20 08:41	
Chlorobenzene	ug/L	<0.71	2.4	03/25/20 08:41	
Chloroethane	ug/L	<1.3	5.0	03/25/20 08:41	
Chloroform	ug/L	<1.3	5.0	03/25/20 08:41	
Chloromethane	ug/L	<2.2	7.3	03/25/20 08:41	
cis-1,2-Dichloroethene	ug/L	<0.27	1.0	03/25/20 08:41	
cis-1,3-Dichloropropene	ug/L	<3.6	12.1	03/25/20 08:41	
Dibromochloromethane	ug/L	<2.6	8.7	03/25/20 08:41	
Dibromomethane	ug/L	<0.94	3.1	03/25/20 08:41	
Dichlorodifluoromethane	ug/L	<0.50	5.0	03/25/20 08:41	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

METHOD BLANK: 2032130 Matrix: Water
Associated Lab Samples: 40205127004, 40205127005, 40205127006, 40205127008, 40205127014, 40205127015, 40205127018, 40205127019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diisopropyl ether	ug/L	<1.9	6.3	03/25/20 08:41	
Ethylbenzene	ug/L	<0.32	1.1	03/25/20 08:41	
Hexachloro-1,3-butadiene	ug/L	<1.5	4.9	03/25/20 08:41	
Isopropylbenzene (Cumene)	ug/L	<1.7	5.6	03/25/20 08:41	
m&p-Xylene	ug/L	<0.47	2.0	03/25/20 08:41	
Methyl-tert-butyl ether	ug/L	<1.2	4.2	03/25/20 08:41	
Methylene Chloride	ug/L	<0.58	5.0	03/25/20 08:41	
n-Butylbenzene	ug/L	<0.71	2.4	03/25/20 08:41	
n-Propylbenzene	ug/L	<0.81	5.0	03/25/20 08:41	
Naphthalene	ug/L	<1.2	5.0	03/25/20 08:41	
o-Xylene	ug/L	<0.26	1.0	03/25/20 08:41	
p-Isopropyltoluene	ug/L	<0.80	2.7	03/25/20 08:41	
sec-Butylbenzene	ug/L	<0.85	5.0	03/25/20 08:41	
Styrene	ug/L	<3.0	10.0	03/25/20 08:41	
tert-Butylbenzene	ug/L	<0.30	1.0	03/25/20 08:41	
Tetrachloroethene	ug/L	<0.33	1.1	03/25/20 08:41	
Toluene	ug/L	<0.27	0.90	03/25/20 08:41	
trans-1,2-Dichloroethene	ug/L	<1.1	3.6	03/25/20 08:41	
trans-1,3-Dichloropropene	ug/L	<4.4	14.6	03/25/20 08:41	
Trichloroethene	ug/L	<0.26	1.0	03/25/20 08:41	
Trichlorofluoromethane	ug/L	<0.21	1.0	03/25/20 08:41	
Vinyl chloride	ug/L	<0.17	1.0	03/25/20 08:41	
Xylene (Total)	ug/L	<1.5	3.0	03/25/20 08:41	
4-Bromofluorobenzene (S)	%	89	70-130	03/25/20 08:41	
Dibromofluoromethane (S)	%	108	70-130	03/25/20 08:41	
Toluene-d8 (S)	%	104	70-130	03/25/20 08:41	

LABORATORY CONTROL SAMPLE: 2032131

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	49.4	99	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	45.1	90	70-130	
1,1,2-Trichloroethane	ug/L	50	49.4	99	70-130	
1,1-Dichloroethane	ug/L	50	49.0	98	73-150	
1,1-Dichloroethene	ug/L	50	48.8	98	73-138	
1,2,4-Trichlorobenzene	ug/L	50	28.3	57	70-130	L2
1,2-Dibromo-3-chloropropane	ug/L	50	38.6	77	64-129	
1,2-Dibromoethane (EDB)	ug/L	50	48.4	97	70-130	
1,2-Dichlorobenzene	ug/L	50	44.6	89	70-130	
1,2-Dichloroethane	ug/L	50	42.8	86	75-140	
1,2-Dichloropropane	ug/L	50	42.3	85	73-135	
1,3-Dichlorobenzene	ug/L	50	44.1	88	70-130	
1,4-Dichlorobenzene	ug/L	50	47.9	96	70-130	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

LABORATORY CONTROL SAMPLE: 2032131

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	52.6	105	70-130	
Bromodichloromethane	ug/L	50	45.7	91	70-130	
Bromoform	ug/L	50	54.3	109	68-129	
Bromomethane	ug/L	50	36.7	73	18-159	
Carbon tetrachloride	ug/L	50	49.8	100	70-130	
Chlorobenzene	ug/L	50	50.4	101	70-130	
Chloroethane	ug/L	50	55.5	111	53-147	
Chloroform	ug/L	50	49.9	100	74-136	
Chloromethane	ug/L	50	22.9	46	29-115	
cis-1,2-Dichloroethene	ug/L	50	47.4	95	70-130	
cis-1,3-Dichloropropene	ug/L	50	41.6	83	70-130	
Dibromochloromethane	ug/L	50	49.4	99	70-130	
Dichlorodifluoromethane	ug/L	50	29.3	59	10-130	
Ethylbenzene	ug/L	50	50.1	100	80-124	
Isopropylbenzene (Cumene)	ug/L	50	50.7	101	70-130	
m&p-Xylene	ug/L	100	108	108	70-130	
Methyl-tert-butyl ether	ug/L	50	44.3	89	54-137	
Methylene Chloride	ug/L	50	53.2	106	73-138	
o-Xylene	ug/L	50	49.6	99	70-130	
Styrene	ug/L	50	53.3	107	70-130	
Tetrachloroethene	ug/L	50	51.3	103	70-130	
Toluene	ug/L	50	49.9	100	80-126	
trans-1,2-Dichloroethene	ug/L	50	50.1	100	73-145	
trans-1,3-Dichloropropene	ug/L	50	43.9	88	70-130	
Trichloroethene	ug/L	50	48.6	97	70-130	
Trichlorofluoromethane	ug/L	50	58.8	118	76-147	
Vinyl chloride	ug/L	50	37.2	74	51-120	
Xylene (Total)	ug/L	150	157	105	70-130	
4-Bromofluorobenzene (S)	%			104	70-130	
Dibromofluoromethane (S)	%			92	70-130	
Toluene-d8 (S)	%			103	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2032132 2032133

Parameter	Units	40205127006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	<0.24	50	50	53.9	54.6	108	109	70-130	1	20	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	50	50	56.5	56.0	113	112	70-130	1	20	
1,1,2-Trichloroethane	ug/L	<0.55	50	50	56.7	56.1	113	112	70-137	1	20	
1,1-Dichloroethane	ug/L	<0.27	50	50	58.6	57.0	117	114	73-153	3	20	
1,1-Dichloroethene	ug/L	<0.24	50	50	58.7	56.7	117	113	73-138	4	20	
1,2,4-Trichlorobenzene	ug/L	<0.95	50	50	39.9	43.1	80	86	70-130	8	20	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	50	50	49.8	48.6	100	97	58-129	2	20	
1,2-Dibromoethane (EDB)	ug/L	<0.83	50	50	54.7	55.4	109	111	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2032132 2032133

Parameter	Units	40205127006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichlorobenzene	ug/L	<0.71	50	50	50.9	50.9	102	102	70-130	0	20	
1,2-Dichloroethane	ug/L	<0.28	50	50	47.9	50.0	96	100	75-140	4	20	
1,2-Dichloropropane	ug/L	<0.28	50	50	48.8	48.0	98	96	71-138	2	20	
1,3-Dichlorobenzene	ug/L	<0.63	50	50	50.1	50.0	100	100	70-130	0	20	
1,4-Dichlorobenzene	ug/L	<0.94	50	50	52.2	52.7	104	105	70-130	1	20	
Benzene	ug/L	<0.25	50	50	61.8	56.7	124	113	70-130	9	20	
Bromodichloromethane	ug/L	<0.36	50	50	50.9	50.4	102	101	70-130	1	20	
Bromoform	ug/L	<4.0	50	50	61.0	60.1	122	120	68-129	1	20	
Bromomethane	ug/L	<0.97	50	50	43.8	42.8	88	86	15-170	2	20	
Carbon tetrachloride	ug/L	<1.1	50	50	55.7	57.0	111	114	70-130	2	20	
Chlorobenzene	ug/L	<0.71	50	50	55.7	55.4	111	111	70-130	1	20	
Chloroethane	ug/L	<1.3	50	50	73.1	70.6	146	141	51-148	3	20	
Chloroform	ug/L	<1.3	50	50	56.2	56.8	112	114	74-136	1	20	
Chloromethane	ug/L	<2.2	50	50	32.9	29.6	66	59	23-115	11	20	
cis-1,2-Dichloroethene	ug/L	<0.27	50	50	56.0	55.9	112	112	70-131	0	20	
cis-1,3-Dichloropropene	ug/L	<3.6	50	50	47.3	47.6	95	95	70-130	1	20	
Dibromochloromethane	ug/L	<2.6	50	50	55.2	54.8	110	110	70-130	1	20	
Dichlorodifluoromethane	ug/L	<0.50	50	50	37.0	35.2	74	70	10-132	5	20	
Ethylbenzene	ug/L	<0.32	50	50	57.5	56.9	115	114	80-125	1	20	
Isopropylbenzene (Cumene)	ug/L	<1.7	50	50	57.7	58.4	115	117	70-130	1	20	
m&p-Xylene	ug/L	<0.47	100	100	121	120	121	120	70-130	1	20	
Methyl-tert-butyl ether	ug/L	<1.2	50	50	54.2	53.1	108	106	51-145	2	20	
Methylene Chloride	ug/L	<0.58	50	50	63.2	62.2	126	124	73-140	2	20	
o-Xylene	ug/L	<0.26	50	50	57.7	56.4	115	113	70-130	2	20	
Styrene	ug/L	<3.0	50	50	57.8	57.7	116	115	70-130	0	20	
Tetrachloroethene	ug/L	<0.33	50	50	55.6	56.0	111	112	70-130	1	20	
Toluene	ug/L	<0.27	50	50	55.8	56.1	112	112	80-131	0	20	
trans-1,2-Dichloroethene	ug/L	<1.1	50	50	59.2	58.0	118	116	73-148	2	20	
trans-1,3-Dichloropropene	ug/L	<4.4	50	50	49.3	50.2	99	100	70-130	2	20	
Trichloroethene	ug/L	<0.26	50	50	53.1	52.4	106	105	70-130	1	20	
Trichlorofluoromethane	ug/L	<0.21	50	50	73.7	71.2	147	142	74-147	3	20	
Vinyl chloride	ug/L	<0.17	50	50	50.0	45.8	100	92	41-129	9	20	
Xylene (Total)	ug/L	<1.5	150	150	178	176	119	117	70-130	1	20	
4-Bromofluorobenzene (S)	%						105	105	70-130			
Dibromofluoromethane (S)	%						95	99	70-130			
Toluene-d8 (S)	%						100	101	70-130			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

QC Batch: 350762
QC Batch Method: EPA 3510
Analysis Method: EPA 8270 by HVI
Analysis Description: 8270 Water PAH by HVI
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40205127003, 40205127004, 40205127005, 40205127006, 40205127007, 40205127008, 40205127009

METHOD BLANK: 2031769 Matrix: Water
Associated Lab Samples: 40205127003, 40205127004, 40205127005, 40205127006, 40205127007, 40205127008, 40205127009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	<0.0059	0.030	03/24/20 15:04	
2-Methylnaphthalene	ug/L	<0.0049	0.024	03/24/20 15:04	
Acenaphthene	ug/L	<0.0061	0.030	03/24/20 15:04	
Acenaphthylene	ug/L	<0.0050	0.025	03/24/20 15:04	
Anthracene	ug/L	<0.010	0.052	03/24/20 15:04	
Benzo(a)anthracene	ug/L	<0.0076	0.038	03/24/20 15:04	
Benzo(a)pyrene	ug/L	<0.011	0.053	03/24/20 15:04	
Benzo(b)fluoranthene	ug/L	<0.0057	0.029	03/24/20 15:04	
Benzo(g,h,i)perylene	ug/L	<0.0068	0.034	03/24/20 15:04	
Benzo(k)fluoranthene	ug/L	<0.0076	0.038	03/24/20 15:04	
Chrysene	ug/L	<0.013	0.065	03/24/20 15:04	
Dibenz(a,h)anthracene	ug/L	<0.010	0.050	03/24/20 15:04	
Fluoranthene	ug/L	<0.011	0.053	03/24/20 15:04	
Fluorene	ug/L	<0.0080	0.040	03/24/20 15:04	
Indeno(1,2,3-cd)pyrene	ug/L	<0.018	0.088	03/24/20 15:04	
Naphthalene	ug/L	<0.018	0.092	03/24/20 15:04	
Phenanthrene	ug/L	<0.014	0.069	03/24/20 15:04	
Pyrene	ug/L	<0.0076	0.038	03/24/20 15:04	
2-Fluorobiphenyl (S)	%	70	39-120	03/24/20 15:04	
Terphenyl-d14 (S)	%	104	10-159	03/24/20 15:04	

LABORATORY CONTROL SAMPLE: 2031770

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	ug/L	2	1.3	67	37-120	
2-Methylnaphthalene	ug/L	2	1.4	70	38-120	
Acenaphthene	ug/L	2	1.6	82	49-120	
Acenaphthylene	ug/L	2	1.5	74	43-85	
Anthracene	ug/L	2	1.7	87	57-110	
Benzo(a)anthracene	ug/L	2	1.8	89	47-118	
Benzo(a)pyrene	ug/L	2	1.9	94	70-120	
Benzo(b)fluoranthene	ug/L	2	1.8	91	54-97	
Benzo(g,h,i)perylene	ug/L	2	1.2	58	26-74	
Benzo(k)fluoranthene	ug/L	2	2.1	104	73-126	
Chrysene	ug/L	2	2.0	98	75-151	
Dibenz(a,h)anthracene	ug/L	2	1.0	52	13-72	
Fluoranthene	ug/L	2	1.8	91	63-120	
Fluorene	ug/L	2	1.7	85	53-120	
Indeno(1,2,3-cd)pyrene	ug/L	2	1.7	87	51-101	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
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(920)469-2436

QUALITY CONTROL DATA

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

LABORATORY CONTROL SAMPLE: 2031770

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Naphthalene	ug/L	2	1.3	66	41-120	
Phenanthrene	ug/L	2	1.8	88	47-100	
Pyrene	ug/L	2	1.7	87	70-128	
2-Fluorobiphenyl (S)	%			75	39-120	
Terphenyl-d14 (S)	%			101	10-159	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2031771 2031772

Parameter	Units	40205127006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1-Methylnaphthalene	ug/L	0.090	2	2	1.3	1.3	64	62	16-120	4	28	
2-Methylnaphthalene	ug/L	0.0092J	2	2	1.3	1.3	67	65	29-120	4	31	
Acenaphthene	ug/L	0.074	2	2	1.6	1.5	75	73	33-120	4	30	
Acenaphthylene	ug/L	0.011J	2	2	1.3	1.3	68	65	21-85	5	26	
Anthracene	ug/L	<0.010	2	2	1.4	1.4	73	70	16-114	4	36	
Benzo(a)anthracene	ug/L	<0.0074	2	2	1.4	1.3	69	67	10-118	2	35	
Benzo(a)pyrene	ug/L	<0.010	2	2	1.2	1.1	59	58	10-120	3	37	
Benzo(b)fluoranthene	ug/L	<0.0056	2	2	1.2	1.2	62	60	10-97	3	36	
Benzo(g,h,i)perylene	ug/L	<0.0066	2	2	0.59	0.53	30	27	10-74	12	45	
Benzo(k)fluoranthene	ug/L	<0.0074	2	2	1.3	1.2	65	63	10-126	3	41	
Chrysene	ug/L	<0.013	2	2	1.4	1.4	73	71	10-161	2	30	
Dibenz(a,h)anthracene	ug/L	<0.0098	2	2	0.60	0.52	31	27	10-72	13	50	
Fluoranthene	ug/L	<0.010	2	2	1.5	1.4	76	73	35-120	3	33	
Fluorene	ug/L	0.043	2	2	1.5	1.5	76	73	17-120	4	33	
Indeno(1,2,3-cd)pyrene	ug/L	<0.017	2	2	0.86	0.80	44	41	10-101	7	41	
Naphthalene	ug/L	0.14	2	2	1.5	1.4	70	66	24-120	5	30	
Phenanthrene	ug/L	<0.014	2	2	1.5	1.4	74	71	15-100	4	30	
Pyrene	ug/L	<0.0075	2	2	1.5	1.4	74	72	14-137	3	31	
2-Fluorobiphenyl (S)	%						68	65	39-120			
Terphenyl-d14 (S)	%						82	79	10-159			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

QC Batch: 351002
QC Batch Method: EPA 3510
Analysis Method: EPA 8270 by HVI
Analysis Description: 8270 Water PAH by HVI
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40205127010, 40205127011, 40205127012, 40205127013, 40205127014, 40205127015, 40205127016, 40205127017, 40205127018

METHOD BLANK: 2032879 Matrix: Water
Associated Lab Samples: 40205127010, 40205127011, 40205127012, 40205127013, 40205127014, 40205127015, 40205127016, 40205127017, 40205127018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	<0.0059	0.030	03/26/20 11:07	
2-Methylnaphthalene	ug/L	<0.0049	0.024	03/26/20 11:07	
Acenaphthene	ug/L	<0.0061	0.030	03/26/20 11:07	
Acenaphthylene	ug/L	<0.0050	0.025	03/26/20 11:07	
Anthracene	ug/L	<0.010	0.052	03/26/20 11:07	
Benzo(a)anthracene	ug/L	<0.0076	0.038	03/26/20 11:07	
Benzo(a)pyrene	ug/L	<0.011	0.053	03/26/20 11:07	
Benzo(b)fluoranthene	ug/L	<0.0057	0.029	03/26/20 11:07	
Benzo(g,h,i)perylene	ug/L	<0.0068	0.034	03/26/20 11:07	
Benzo(k)fluoranthene	ug/L	<0.0076	0.038	03/26/20 11:07	
Chrysene	ug/L	<0.013	0.065	03/26/20 11:07	
Dibenz(a,h)anthracene	ug/L	<0.010	0.050	03/26/20 11:07	
Fluoranthene	ug/L	<0.011	0.053	03/26/20 11:07	
Fluorene	ug/L	<0.0080	0.040	03/26/20 11:07	
Indeno(1,2,3-cd)pyrene	ug/L	<0.018	0.088	03/26/20 11:07	
Naphthalene	ug/L	<0.018	0.092	03/26/20 11:07	
Phenanthrene	ug/L	<0.014	0.069	03/26/20 11:07	
Pyrene	ug/L	<0.0076	0.038	03/26/20 11:07	
2-Fluorobiphenyl (S)	%	67	39-120	03/26/20 11:07	
Terphenyl-d14 (S)	%	106	10-159	03/26/20 11:07	

LABORATORY CONTROL SAMPLE & LCSD: 2032880 2032881

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1-Methylnaphthalene	ug/L	2	1.4	1.4	72	70	37-120	2	25	
2-Methylnaphthalene	ug/L	2	1.5	1.5	75	74	38-120	1	25	
Acenaphthene	ug/L	2	1.8	1.6	88	82	49-120	7	24	
Acenaphthylene	ug/L	2	1.7	1.5	83	77	43-85	7	26	
Anthracene	ug/L	2	2.0	2.0	101	98	57-110	3	28	
Benzo(a)anthracene	ug/L	2	2.2	2.1	110	107	47-118	3	27	
Benzo(a)pyrene	ug/L	2	2.3	2.2	113	110	70-120	3	20	
Benzo(b)fluoranthene	ug/L	2	2.1	2.1	107	106	54-97	0	21	L1
Benzo(g,h,i)perylene	ug/L	2	1.4	1.4	69	70	26-74	2	42	
Benzo(k)fluoranthene	ug/L	2	2.4	2.3	118	113	73-126	5	22	
Chrysene	ug/L	2	2.2	2.2	110	108	75-151	1	20	
Dibenz(a,h)anthracene	ug/L	2	1.2	1.3	61	63	13-72	4	50	
Fluoranthene	ug/L	2	2.2	2.1	109	106	63-120	3	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

LABORATORY CONTROL SAMPLE & LCSD: 2032880 2032881

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Fluorene	ug/L	2	1.9	1.7	94	87	53-120	8	26	
Indeno(1,2,3-cd)pyrene	ug/L	2	2.2	2.1	108	105	51-101	3	27	L1
Naphthalene	ug/L	2	1.4	1.4	70	71	41-120	1	24	
Phenanthrene	ug/L	2	1.9	1.8	95	91	47-100	5	22	
Pyrene	ug/L	2	2.1	2.0	103	101	70-128	2	20	
2-Fluorobiphenyl (S)	%				75	70	39-120			
Terphenyl-d14 (S)	%				119	117	10-159			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALIFIERS

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

1q	This sample could not be re-extracted within laboratory hold time.
D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results may be biased high.
L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results may be biased low.
S0	Surrogate recovery outside laboratory control limits.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60615404 CN MANITOWOC
Pace Project No.: 40205127

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40205127001	**1_MW-19**	EPA 3010	350865	EPA 6020	350900
40205127002	**1_MW-43**	EPA 3010	350865	EPA 6020	350900
40205127003	**1_MW-39**	EPA 3010	350865	EPA 6020	350900
40205127004	**1_MW-35**	EPA 3010	350865	EPA 6020	350900
40205127005	**1_MW-35D**	EPA 3010	350865	EPA 6020	350900
40205127006	**1_MW-10**	EPA 3010	350865	EPA 6020	350900
40205127007	**1_MW-14**	EPA 3010	350865	EPA 6020	350900
40205127008	**1_MW-17**	EPA 3010	350865	EPA 6020	350900
40205127010	**3_MW-11**	EPA 3010	350865	EPA 6020	350900
40205127011	**3_MW-45**	EPA 3010	350865	EPA 6020	350900
40205127013	**3_MW-64**	EPA 3010	350865	EPA 6020	350900
40205127014	**3_MW-27**	EPA 3010	350865	EPA 6020	350900
40205127015	**3_MW-27D**	EPA 3010	350865	EPA 6020	350900
40205127016	**3_MW-77**	EPA 3010	350865	EPA 6020	350900
40205127017	**3_MW-72**	EPA 3010	350865	EPA 6020	350900
40205127018	**3_MW-58**	EPA 3010	350865	EPA 6020	350900
40205127003	**1_MW-39**	EPA 7470	351034	EPA 7470	351061
40205127004	**1_MW-35**	EPA 7470	351034	EPA 7470	351061
40205127005	**1_MW-35D**	EPA 7470	351034	EPA 7470	351061
40205127006	**1_MW-10**	EPA 7470	351034	EPA 7470	351061
40205127007	**1_MW-14**	EPA 7470	351034	EPA 7470	351061
40205127003	**1_MW-39**	EPA 3510	350762	EPA 8270 by HVI	350812
40205127004	**1_MW-35**	EPA 3510	350762	EPA 8270 by HVI	350812
40205127005	**1_MW-35D**	EPA 3510	350762	EPA 8270 by HVI	350812
40205127006	**1_MW-10**	EPA 3510	350762	EPA 8270 by HVI	350812
40205127007	**1_MW-14**	EPA 3510	350762	EPA 8270 by HVI	350812
40205127008	**1_MW-17**	EPA 3510	350762	EPA 8270 by HVI	350812
40205127009	**3_MW-14**	EPA 3510	350762	EPA 8270 by HVI	350812
40205127010	**3_MW-11**	EPA 3510	351002	EPA 8270 by HVI	351033
40205127011	**3_MW-45**	EPA 3510	351002	EPA 8270 by HVI	351033
40205127012	**3_MW-20**	EPA 3510	351002	EPA 8270 by HVI	351033
40205127013	**3_MW-64**	EPA 3510	351002	EPA 8270 by HVI	351033
40205127014	**3_MW-27**	EPA 3510	351002	EPA 8270 by HVI	351033
40205127015	**3_MW-27D**	EPA 3510	351002	EPA 8270 by HVI	351033
40205127016	**3_MW-77**	EPA 3510	351002	EPA 8270 by HVI	351033
40205127017	**3_MW-72**	EPA 3510	351002	EPA 8270 by HVI	351033
40205127018	**3_MW-58**	EPA 3510	351002	EPA 8270 by HVI	351033
40205127004	**1_MW-35**	EPA 8260	350835		
40205127005	**1_MW-35D**	EPA 8260	350835		
40205127006	**1_MW-10**	EPA 8260	350835		
40205127008	**1_MW-17**	EPA 8260	350835		
40205127014	**3_MW-27**	EPA 8260	350835		
40205127015	**3_MW-27D**	EPA 8260	350835		
40205127018	**3_MW-58**	EPA 8260	350835		
40205127019	**TB-1**	EPA 8260	350835		

REPORT OF LABORATORY ANALYSIS

(Please Print Clearly)

Company Name:	AECOM
Branch/Location:	Oshkosh, WI
Project Contact:	Lanette Altenbach
Phone:	414-944-6186
Project Number:	60615404
Project Name:	CN Manitowoc
Project State:	WI
Sampled By (Print):	Jacob Dean
Sampled By (Sign):	[signature]
PO #:	60615404
Regulatory Program:	

Pace Analytical®
www.pacelabs.com

CHAIN OF CUSTODY

UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

40205127

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

Quote #:	Same as first column
Mail To Contact:	
Mail To Company:	
Mail To Address:	
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☑ On your sample (billable)
☐ NOT needed on your sample

Matrix Codes
A = Air, B = Biota, C = Charcoal, O = Oil, S = Soil, SI = Sludge
W = Water, DW = Drinking Water, GW = Ground Water, SW = Surface Water, WW = Waste Water, WP = Wipe

FILTERED? (YES/NO): N, N, Y, Y, Y
PRESERVATION (CODE)* Pick Letter: A, B, D, D, D

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	PAH	VOC	Dissolved RCRA Metals	Dissolved Arsenic	Dissolved Lead	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
001	1_MW-19	3-18-20	1000	GW				1		All metals sampled		
002	1_MW-43		1020					1	1	through 0.45		
003	1_MW-39		1145		2		1			micron filter		
004	1_MW-35		1310		2	3	1					
005	1_MW-35D		—		2	3	1					
006	* 1_MW-10		1440		6	9	3			* MS/MSD collected		
007	1_MW-14		1615		2		1					
008	1_MW-17	3-19-20	1105		2	3		1				
009	3_MW-14		1150		2							
010	3_MW-11		1305		2			1				
011	3_MW-45		1405		2			1				
012	3_MW-20		1510		2							
013	3_MW-64		16:15		2			1				

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):
Email #1:
Email #2:
Telephone:
Fax:

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	3-23-20 / 9:41	[signature]	3/23/20 941
[signature]	3/23/20 1235	Susan [signature] Pace	3/23/20 1235

PACE Project No. 4020527
Receipt Temp = ROT °C
Sample Receipt pH: (OK) / Adjusted
Cooler Custody Seal: Present / ~~Not Present~~
Intact / Not Intact

ORIGINAL

UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

Page 2 of 2

40205127

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CHAIN OF CUSTODY

(Please Print Clearly)	
Company Name:	AECOM
Branch/Location:	Oshkosh, WI
Project Contact:	Lorette Altenbach
Phone:	414-944-6186
Project Number:	60615404
Project Name:	CN Manitowoc
Project State:	WI
Sampled By (Print):	Jacob Dean
Sampled By (Sign):	Jacob Dean
PO #:	60615404
Regulatory Program:	

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

Quote #:	Same as first column
Mail To Contact:	
Mail To Company:	
Mail To Address:	
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☑ On your sample (billable)
☐ NOT needed on your sample

Matrix Codes
A = Air, B = Biota, C = Charcoal, O = Oil, S = Soil, SL = Sludge, W = Water, DW = Drinking Water, GW = Ground Water, SW = Surface Water, WW = Waste Water, WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO)	PRESERVATION (CODE)*	Analyses Requested	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
					Y/N	Pick Letter	PAH / VOC / Dissolved RCRA metals / Dissolved Arsenic / Dissolved Lead			
					N	A	2			
					N	B	3			
					Y	D				
					Y	D	1			
					Y	D	1			
014	3_MW-27	3-20-20	9:50	GW			2 3 1	All metals sampled through 0.45 micron filter		
015	3_MW-27D	"	-	"			2 3 1			
016	3_MW-77	"	11:35	"			2 X①			
017	3_MW-72	"	12:50	"			X① X①			
018	3_MW-58	"	14:45	"			X① X①			
019	TB-1	-	-	"			2			

① Added per Client. 3/24/20 CS

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
Jacob Dean	3.23.20 / 9:41	Jacob Dean	3/23/20 941
Jacob Dean	3/23/20 1235	Susan Kilgore PMC	3/23/20 1235

PACE Project No. 40205127

Receipt Temp = 1.0 °C

Sample Receipt pH (OK) Adjusted

Cooler Custody Seal Present / (Not Present)

Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Pace Analytical Services, LLC
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Sample Preservation Receipt Form

Client Name: AECOM Project # 40205127

All containers needing preservation have been checked and noted below: ☑Yes ☐No ☐N/A Initial when completed: SKW Date/ Time:

Lab Lot# of pH paper: 10152791 Lab Std #ID of preservation (if pH adjusted):

	Glass								Plastic					Vials						Jars				General			VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
Pace Lab #	AG1U	BG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	VG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN						
001												1																		X		2.5 / 5 / 10
002												2																		X		2.5 / 5 / 10
003						2						1																		X		2.5 / 5 / 10
004						2						1					3													X		2.5 / 5 / 10
005						2						1					3													X		2.5 / 5 / 10
006						6						3					9													X		2.5 / 5 / 10
007						2						1					+	3/23/20	SKW											X		2.5 / 5 / 10
008						2						1					3													X		2.5 / 5 / 10
009						2																										2.5 / 5 / 10
010						2						1																		X		2.5 / 5 / 10
011						2						1																		X		2.5 / 5 / 10
012						2																										2.5 / 5 / 10
013						2						1																		X		2.5 / 5 / 10
014						2						1					3													X		2.5 / 5 / 10
015						2						1					3													X		2.5 / 5 / 10
016						2						1																		X		2.5 / 5 / 10
017						2						1																		X		2.5 / 5 / 10
018						2						1					3													X		2.5 / 5 / 10
019																																2.5 / 5 / 10
020																		3/23/20	SKW													2.5 / 5 / 10

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other:_____ Headspace in VOA Vials (>6mm) : ☐Yes ☑No ☐N/A ***If yes look in headspace column**

AG1U	1 liter amber glass
BG1U	1 liter clear glass
AG1H	1 liter amber glass HCL
AG4S	125 mL amber glass H2SO4
AG4U	120 mL amber glass unpres
AG5U	100 mL amber glass unpres
AG2S	500 mL amber glass H2SO4
BG3U	250 mL clear glass unpres

BP1U	1 liter plastic unpres
BP3U	250 mL plastic unpres
BP3B	250 mL plastic NaOH
BP3N	250 mL plastic HNO3
BP3S	250 mL plastic H2SO4

VG9A	40 mL clear ascorbic
DG9T	40 mL amber Na Thio
VG9U	40 mL clear vial unpres
VG9H	40 mL clear vial HCL
VG9M	40 mL clear vial MeOH
VG9D	40 mL clear vial DI

JGFU	4 oz amber jar unpres
JG9U	9 oz amber jar unpres
WGFU	4 oz clear jar unpres
WPFU	4 oz plastic jar unpres
SP5T	120 mL plastic Na Thiosulfate
ZPLC	ziploc bag
GN	

Pace Analytical™ 1241 Bellevue Street, Green Bay, WI 54302	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: 25Apr2018
	Document No.: F-GB-C-031-Rev.07	Issuing Authority: Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Client Name: AECOM

Project #:

WO# : 40205127

40205127

Courier: ☐ CS Logistics ☐ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco ☒ Client ☐ Pace Other:

Tracking #:

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other

Thermometer Used SR - N/A **Type of Ice:** (Wet) Blue Dry None ☒ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: ROI /Corr:

Temp Blank Present: ☐ yes ☒ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Person examining contents:
Date: 3-23-20
Initials:

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	3/23/20 ☒Yes ☐No ☐N/A	2 0116, 017 + 018 analysis not checked
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3. PM notified. 3-23-20
Sampler Name & Signature on COC:	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☒Yes ☐No	6.
Rush Turn Around Time Requested:	☐Yes ☒No	7.
Sufficient Volume: For Analysis: ☒Yes ☐No MS/MSD: ☒Yes ☐No ☐N/A		8.
Correct Containers Used:	☒Yes ☐No	9.
-Pace Containers Used:	☒Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☒N/A	
Containers Intact:	☒Yes ☐No	10.
Filtered volume received for Dissolved tests	☒Yes ☐No ☐N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: W	☒Yes ☐No ☐N/A	12.
Trip Blank Present:	☒Yes ☐No ☐N/A	13.
Trip Blank Custody Seals Present	☒Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased): 431		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: Date: 3/23/20