



Wisconsin Public Service Corporation

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www.wisconsinpublicservice.com

December 15, 2017

Ms. Margaret Gielniewski
USEPA Region 5 – SR6J
77 W. Jackson Boulevard
Chicago, Illinois 60604-3590

**SUBJECT: November, 2017 Monthly Progress Report – Former Marinette MGP
Wisconsin Public Service Corporation
CERCLA Docket No. V-W-06-C-847
Spill Site ID – B5BT**

Dear Ms. Gielniewski:

Please find enclosed the monthly progress report for the Wisconsin Public Service Corporation's former manufactured gas plant site in Marinette, WI. If you have any questions, please contact me at your convenience at (414) 221-2156 or frank.dombrowski@we-energies.com.

Sincerely,

A handwritten signature in black ink, appearing to read 'Frank Dombrowski', is written over a light blue horizontal line.

Frank Dombrowski
Principal Environmental Consultant
WEC Energy Group - Business Services
Environmental Dept.

Enclosure

cc: Mr. William Fitzpatrick, WDNR (hardcopy and email)
Ms. Cheryl Bougie, WDNR (hardcopy and email)
Ms. Jennifer Knoepfle, CH2M (hardcopy and email)
Ms. Kristin DuFresne, WDNR (hardcopy and email)



OBG | There's a Way

December 15, 2017

Mr. Frank Dombrowski
Principal Environmental Consultant
WEC Business Services, LLC
333 W. Everett Street, A231
Milwaukee, WI 53203
(via email only)

Subject: November 2017 Monthly Progress Report
Marinette Former MGP, Marinette, Wisconsin
Wisconsin Public Service Corporation (WPSC)
CERCLA Docket No. V-W-06-C-847, Site Spill ID – B5BT, CERCLIS ID – WIN000509952
NRT Project No. 1549

Dear Mr. Dombrowski:

Natural Resource Technology, Inc. (NRT), an OBG Company, is providing this Monthly Progress Report for the WPSC Marinette Former Manufactured Gas Plant (MGP).

1) PROGRESS MADE DURING THE PAST MONTH

- Prepared and submitted October 2017 Monthly Progress Report to United States Environmental Protection Agency (USEPA) by November 15, 2017.
- Continued review of USEPA-issued Record of Decision.
- Reviewed USEPA-drafted Remedial Design Admirative Order on Consent.

2) ANALYTICAL AND OTHER TESTING RESULTS RECEIVED

- Results of October groundwater monitoring and a site map are attached to this letter report.

3) PROJECTED WORK

WPSC ACTIONS

- Continue proposed plan, record of decision, remedial design order on consent process.

USEPA ACTIONS

- Continue proposed plan, record of decision, remedial design order on consent process.



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Milwaukee, WI 53204



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4) ANTICIPATED SCHEDULE

Deliverable or Milestone	Target Date	Actual Date
Submitted Completion Report – Rev 0	May 12, 2009	May 11, 2009
<i>For a listing of all work activities between May 11, 2009 and April 14, 2015, please see the July 2015 Monthly Progress Report</i>		
2015 semi-annual groundwater sampling	April and October 2015	April 14, 2015 and October 27, 2015
Complete bathymetric survey of sand layer	April 2015	April 27, 2015
Received USEPA Approval of Remedial Investigation (RI) Report Rev 2	March 2015	March 30, 2015
Receive USEPA comments on Alternatives Array	May 7, 2015	May 15, 2015
Submit summary of bathymetric survey in Residual Sand Cover Monitoring Results letter report	June 30, 2015	July 2, 2015
Submit FS Report Revision 0	July 13, 2015	July 10, 2015
Receive USEPA comments Residual Sand Cover Monitoring Results letter		July 27, 2015
Receive USEPA comments on FS Revision 0		September 4, 2015
Receive USEPA comments on ARAR Table	February 16, 2016	
Submit FS Report Revision 1 without ARAR Table	February 18, 2016	February 18, 2016
Submit revised ARAR Table	March 18, 2016	March 8, 2016
Receive USEPA comments on FS Revision 1		March 25, 2016
2016 semi-annual groundwater sampling	April and October 2016	April 13, 2016 and October 19, 2016
Submit FS Report Revision 2	May 23, 2016	May 20, 2016
Technical Memo 3 Supplemental VI Evaluation	November 2016	November 16, 2016.
Receive USEPA comments on FS Revision 2		November 15, 2016
Meeting to discuss FS Rev 2 comments	February 1, 2017	
Meeting to discuss program sediment approach	TBD	
2017 semi-annual groundwater sampling	April and October 2017	April 3, 2017
Submit FS Report Rev 2 response to comment letter	February 24, 2017	February 24, 2017
Submit updated ARAR table Resubmittal 1	April 2017	April 5, 2017
Receive USEPA comments on ARAR Resubmittal 1		May 3, 2017
Receive USEPA comments on FS Report Rev 2 response to comment letter		May 10, 2017
Submit FS Report Rev 3	June 26, 2017	June 26, 2017
USEPA Issues Proposed Plan		July 17, 2017
Receive USEPA Approval of FS Report Rev 3		July 24, 2017
WBS submits comments on Proposed Plan to USEPA		August 15, 2017
USEPA Issues Record of Decision		September 27, 2017
Fall 2017 Groundwater Sampling Event	October 16-17, 2017	October 16-17, 2017

5) PROBLEMS OR POTENTIAL PROBLEMS ENCOUNTERED

- None

6) ACTUAL OR PLANNED RESOLUTION OF PROBLEMS OR POTENTIAL PROBLEMS

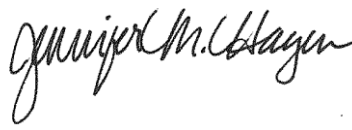
- None

Please contact the undersigned if you should have any questions regarding the content of this progress report.

Sincerely,
cNRT | An OBG Company



Brian G. Hennings, PG
Senior Hydrogeologist



Jennifer M. Hagen, PE
Principal Engineer

Enclosures: Site Map
 Fall 2017 Groundwater Analytical Results Screening Tables

For distribution to: Ms. Margaret Gielniewski (electronic copy)
 Ms. Kristin DuFresne, WDNR (hardcopy and electronic)
 Mr. Bill Fitzpatrick, WDNR (hardcopy and electronic)
 Ms. Cheryl Bougie, WDNR (hardcopy and electronic)
 Ms. Jennifer Knoepfle, CH2M (electronic copy)

Table 1 - Groundwater Analytical Results Compared to the Groundwater Standard, WI PAL, and Tap Water Criteria

October 2017 Groundwater Sampling Results
 Wisconsin Public Service Corporation - Marinette Former MGP, Marinette, Wisconsin
 CERCLIS ID - WIN000509952

9-digit Code	Sample Location	Sample Date	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAHs (Lab Calc)
Reporting Units:			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MGP Groundwater Standard:			NS	NS	NS	NS	3,000	NS	0.2	0.2	NS	NS	0.2	NS	400	400	NS	100	3,000	250	NS
Wisconsin Groundwater PAL:			NS	NS	NS	NS	600	NS	0.02	0.02	NS	NS	0.02	NS	80	80	NS	10	NS	50	NS
MGP Tap Water RSL:			1.1	36	530	530	1,800	0.03	0.025	0.25	120	2.5	25	0.025	800	290	0.25	0.17	1,800	120	NS
101617023	BM301	10/16/2017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
101717011	MW01R	10/17/2017	0.031	0.029	0.032	0.092	0.039 J	0.041	<u>0.040 J</u>	0.046	0.037	0.025 J	<u>0.053 J</u>	<0.010 U	0.040 J	0.019 J	0.026 J	0.10	0.052 J	0.069	0.78
101617008	MW03R	10/16/2017	<0.0058 U	0.010 J	<0.0060 U	<0.0049 U	0.014 J	<0.0075 U	<0.010 U	<0.0057 U	<0.0067 U	<0.0075 U	<0.013 U	<0.0099 U	<0.011 U	<0.0079 U	<0.017 U	<0.018 U	<0.014 U	0.0080 J	0.080
101717012/101717013 (N)	MW05 (N)	10/17/2017	0.019 J	0.020 J	0.012 J	<0.0053 U	<0.011 U	<0.0080 U	<0.011 U	<0.0061 U	<0.0072 U	<0.0080 U	<0.014 U	<0.011 U	<0.011 U	0.0096 J	<0.019 U	0.071 J	0.019 J	0.0094 J	0.19
101617005	MW302	10/16/2017	0.011 J	0.015 J	0.012 J	0.078	0.033 J	<u>0.031 J</u>	<u>0.046 J</u>	<u>0.051</u>	0.044	0.022 J	<u>0.040 J</u>	<0.010 U	0.027 J	0.018 J	0.033 J	0.043 J	0.048 J	0.036 J	0.59
101617001	MW303	10/16/2017	0.0059 J	0.0066 J	0.084	0.046	0.033 J	0.010 J	<0.011 U	<u>0.021 J</u>	0.017 J	0.012 J	<u>0.020 J</u>	<0.010 U	0.018 J	<0.0080 U	<0.018 U	0.025 J	0.016 J	0.041	0.39
101617002/101617003 (N)	MW304 (N)	10/16/2017	0.55	0.039	0.55	0.35	0.16	<u>0.17</u>	<u>0.15</u>	<u>0.17</u>	0.096	0.080	<u>0.19</u>	0.021 J	0.22	0.090	0.081 J	4.3	0.23	0.25	7.7
101617004	MW305	10/16/2017	<0.0059 U	0.0064 J	<0.0061 U	<0.0050 U	<0.010 U	<0.0076 U	<0.011 U	<0.0057 U	<0.0068 U	<0.0076 U	<0.013 U	<0.010 U	<0.011 U	<0.0080 U	<0.018 U	<0.018 U	<0.014 U	<0.0076 U	0.043
101717014	MW306	10/17/2017	1.1	0.75	0.60	<0.040 U	<0.084 U	<0.060 U	<0.084 U	<0.046 U	<0.054 U	<0.060 U	<0.10 U	<0.080 U	<0.085 U	<0.064 U	<0.14 U	<u>77.8</u>	<0.11 U	0.32	80.6
101717018	MW307R	10/17/2017	0.57	0.034	2.7	0.27	0.20	<u>0.17</u>	<u>0.10</u>	<u>0.11</u>	0.057	0.049	0.21	0.015 J	0.43	0.56	0.045 J	0.072 J	0.54	0.49	6.7
101717019	MW308	10/17/2017	0.0064 J	0.0064 J	<0.0061 U	<0.0050 U	<0.010 U	<0.0076 U	<0.011 U	<0.0057 U	<0.0068 U	<0.0076 U	<0.013 U	<0.010 U	<0.011 U	<0.0080 U	<0.018 U	<0.018 U	<0.014 U	<0.0076 U	0.067
101717017	MW310	10/17/2017	0.017 J	0.0059 J	1.4	0.040	0.056	<u>0.13</u>	<u>0.18</u>	0.31	0.20	0.14	0.30	<u>0.026 J</u>	0.85	0.40	0.16	0.036 J	0.35	0.62	5.2
101717016	MW311	10/17/2017	84.6	24.9	60.0	1.4	3.2	<0.38 U	<0.53 U	<0.29 U	<0.34 U	<0.38 U	<0.65 U	<0.50 U	2.5 J	16.9	<0.88 U	481	15.8	2.3	693
101717010	MW312	10/17/2017	0.047	0.018 J	0.29	0.018 J	0.030 J	0.013 J	<0.011 U	0.018 J	0.011 J	<0.0081 U	<u>0.021 J</u>	<0.011 U	0.095	0.17	<0.019 U	0.048 J	0.15	0.099	1.1
101617007	MW313	10/16/2017	0.051	0.014 J	0.18	0.042	0.034 J	0.0095 J	<0.011 U	0.014 J	0.014 J	0.0088 J	0.014 J	<0.010 U	0.029 J	0.044	<0.018 U	0.20	0.022 J	0.028 J	0.73
101617006	P302	10/16/2017	<0.0059 U	<0.0049 U	<0.0061 U	0.023 J	<0.010 U	<0.0076 U	<0.011 U	0.015 J	0.0096 J	<0.0076 U	<0.013 U	<0.010 U	<0.011 U	<0.0080 U	<0.018 U	<0.018 U	<0.014 U	<0.0076 U	0.12
101617009	P303	10/16/2017	0.0094 J	0.0060 J	0.0081 J	<0.0050 U	<0.010 U	<0.0076 U	<0.011 U	0.0077 J	<0.0068 U	<0.0076 U	<0.013 U	<0.010 U	0.015 J	<0.0080 U	<0.018 U	<0.018 U	0.016 J	0.016 J	0.14
101717015	P304	10/17/2017	0.010 J	<0.0049 U	0.0068 J	0.012 J	<0.010 U	<u>0.038</u>	<u>0.049 J</u>	<u>0.12</u>	0.092	0.056	<u>0.082</u>	0.013 J	0.081	<0.0080 U	0.064 J	<0.018 U	0.023 J	0.078	0.74
101717020	P305	10/17/2017	0.036	0.016 J	7.1	0.31	0.051 J	0.014 J	<0.011 U	0.0071 J	<0.0071 U	<0.0079 U	<0.014 U	<0.011 U	0.41	0.12	<0.019 U	<u>0.19</u>	0.033 J	0.30	8.6
101717021	Equipment Blank	10/17/2017	<0.0067 U	0.0078 J	<0.0069 U	<0.0057 U	<0.012 U	<0.0086 U	<0.012 U	<0.0065 U	<0.0077 U	<0.0086 U	<0.015 U	<0.011 U	<0.012 U	<0.0091 U	<0.020 U	<0.021 U	<0.016 U	<0.0087 U	0.042
101717022	Trip Blank	10/17/2017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Total Number of Samples Analyzed:	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Number of Detections:	15	16	14	12	11	10	6	12	10	8	9	4	12	10	6	12	13	15	18	18	18
Min:	0.0059	0.0059	0.0068	0.012	0.014	0.0095	0.04	0.0071	0.0096	0.0088	0.014	0.013	0.015	0.0096	0.026	0.16	0.025	0.016	0.008	0.043	0.043
Max:	84.6	24.9	60	1.4	3.2	0.17	0.18	0.31	0.2	0.14	0.3	0.026	2.5	16.9	0.16	481	15.8	2.3	693	693	693
MPG Groundwater Standard SL:	NS	NS	NS	NS	3000	NS	0.2	0.2	NS	NS	0.2	NS	400	400	NS	100	3000	250	NS	NS	NS
Number of Samples that Exceed MPG Groundwater Standard SL:	0	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	1	0	0	0	0
WI Groundwater PAL:	NS	NS	NS	NS	600	NS	0.02	0.02	NS	NS	0.02	NS	80	80	NS	10	NS	50	NS	NS	NS
Number of Samples that Meet or Exceed WI PAL:	0	0	0	0	0	0	6	7	0	0	8	0	0	0	0	2	0	0	0	0	0
MPG Tap Water SL:	1.1	36	530	530	1800	0.03	0.025	0.25	120	2.5	25	0.025	800	290	0.25	0.17	1800	120	NS	NS	NS
Number of Samples that Exceed Tap Water SL:	1	0	0	0	0	6	6	1	0	0	0	1	0	0	0	5	0	0	0	0	0

Notes
BOLD = result exceeds MGP Groundwater Standard
 Underline = result exceeds Wisconsin Groundwater PAL
Italics = result exceeds Tap Water RSL
 Pink highlighting = result exceeds the MGP Groundwater Standard; Tap Water exceedances are not highlighted if they do not also exceed the MGP Groundwater Standard
 Yellow highlighting = one or more exceedances detected
 Statistics exclude the quality control samples (Equipment and Trip blanks)
 -- = Analysis not performed
 < = Concentration is less than the Limit of Detection (LOD)
 U = Concentration was not detected above the reported limit
 J = Concentration Estimated
 (N) = Normalized sample locations created from combining parent and field duplicate samples following EPA protocol

RSL = Regional Screening Level
 Lab comments, additional data qualifiers and definitions can be found in associated laboratory reports.
 MGP = Manufactured Gas Plant
 NS = No Standard
 BTEX = Benzene, Toluene, Ethylbenzene and Xylene
 PAH = Polycyclic Aromatic Hydrocarbon
 RNA = Remediation by Natural Attenuation (lab and field)
 µg/L = micrograms per liter
 MGP SLs used on this table were presented in the Multi-Site Risk Assessment Framework Addendum Revision 6 (Exponent, July 2017).
 The groundwater SL presented is the more conservative of the State and MCL values presented in the RAF Addendum Revision 6.

Deg C = degrees Celsius
 mg/L = milligrams per liter
 NTU = Nephelometric Turbidity Unit
 s.u. = standard units
 µS/cm = microsiemens per centimeter
 (aka micromhos per centimeter)

Table 1 - Groundwater Analytical Results Compared to the Groundwater Standard and Tap Water Criteria

October 2017 Groundwater Sampling Results
 Wisconsin Public Service Corporation - Marinette Former MGP, Marinette, Wisconsin
 CERCLIS ID - WIN000509952

9-digit Code	Sample Location	Sample Date	BTEX	BTEX	BTEX	BTEX	BTEX	BTEX	Metal	Metal	Metal	Metal	Metal	Metal	Metal	Metal	Metal	Inorganic	Inorganic	Inorganic	Inorganic	RNA	RNA	RNA	RNA	RNA	RNA	RNA
			Benzene	Ethylbenzene	Toluene	Xylene, o	Xylenes, m + p	Xylenes, Total	Aluminum, Dissolved	Antimony, Dissolved	Copper, Dissolved	Iron, Dissolved	Manganese, Dissolved	Nickel, Dissolved	Silver, Dissolved	Vanadium, Dissolved	Zinc, Dissolved	Alkalinity, Total	Methane	Nitrogen, NO2 + NO3, Total	Sulfate, Total	Dissolved oxygen	Groundwater, depth to	Oxidation Reduction Potential	pH, Field	Specific Conductance, Field	Temperature, Water	Turbidity, Quantitative
Reporting Units:			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/l	feet	millivolts	s.u.	uS/cm	Deg C	NTUs
MGP Groundwater Standard:			5	700	800	NS	NS	2,000	200	6	1,300	NS	300	100	50	30	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
<u>Wisconsin Groundwater PAL:</u>			<u>0.5</u>	<u>140</u>	<u>160</u>	<u>NS</u>	<u>NS</u>	<u>400</u>	<u>40</u>	<u>1.2</u>	<u>130</u>	<u>150</u>	<u>25</u>	<u>20</u>	<u>10</u>	<u>6</u>	<u>2,500</u>	<u>NS</u>	<u>NS</u>	<u>2,000</u>	<u>125,000</u>	<u>NS</u>	<u>NS</u>	<u>NS</u>	<u>NS</u>	<u>NS</u>	<u>NS</u>	<u>NS</u>
<i>MGP Tap Water RSL:</i>			<i>0.46</i>	<i>1.5</i>	<i>1,100</i>	<i>190</i>	<i>190</i>	<i>190</i>	<i>20,000</i>	<i>7.8</i>	<i>800</i>	<i>14,000</i>	<i>430</i>	<i>390</i>	<i>94</i>	<i>86</i>	<i>6,000</i>	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>NS</i>	<i>NS</i>
101617023	BM301	10/16/2017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.06	--	--	--	--	--
101717011	MW01R	10/17/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	<58.7 U	0.19 J	<1.1 U	<u>9,360</u>	934	0.52 J	<0.10 U	1.0 J	<4.6 U	551,000	6,110	<95 U	<5,000 U	0.12	2.99	-124.7	6.75	1206.1	14.12	0.00
101617008	MW03R	10/16/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	<58.7 U	<u>1.4</u>	9.2	<111 U	<u>282</u>	3.1	<0.10 U	1.9	28.8	334,000	219	1,300	41,200	1.22	3.71	87.7	6.77	761.9	16.84	0.48
101717012/101717013 (N)	MW05 (N)	10/17/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	<58.7 U	<0.15 U	1.6 J	<111 U	399	0.90 J	<0.10 U	<0.32 U	<4.6 U	249,000	<1.4 U	260	55,600	--	--	--	--	--	--	--
101617005	MW302	10/16/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	<58.7 U	0.28 J	2.7 J	<111 U	<2.7 U	1.0 J	<0.10 U	0.43 J	<4.6 U	263,000	<1.4 U	<u>4,500</u>	70,800	0.85	11.10	176.6	6.95	2114.5	16.13	0.29
101617001	MW303	10/16/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	<58.7 U	0.87 J	3.8	<u>3,080</u>	2,180	3.1	<0.10 U	1.2	<4.6 U	499,000	151	180 J	31,200	0.25	3.06	-69.4	7.13	1838.8	18.49	4.68
101617002/101617003 (N)	MW304 (N)	10/16/2017	15.7	1.9	0.79 J	0.98 J	<1.0 U	1.6 J	<58.7 U	<u>3.0</u>	1.6 J	<u>286 J</u>	2,660	4.1	<0.10 U	0.91 J	<4.6 U	457,000	358	<95 U	54,100	--	--	--	--	--	--	--
101617004	MW305	10/16/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	<58.7 U	<0.15 U	3.1 J	<u>293 J</u>	<2.7 U	0.42 J	<0.10 U	0.33 J	6.5 J	262,000	<1.4 U	<u>9,400</u>	<u>179,000</u>	1.15	13.92	227.8	7.27	3428.4	14.97	1.60
101717014	MW306	10/17/2017	<1.2 U	31.6	<1.2 U	121	99.7	221	<58.7 U	<0.15 U	<1.1 U	<u>5,660</u>	304	0.49 J	<0.10 U	2.1	<4.6 U	290,000	1,260	810	<5,000 U	0.58	3.01	-90.1	6.97	765.9	15.32	9.69
101717018	MW307R	10/17/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	<58.7 U	<0.15 U	<1.1 U	<u>23,900</u>	<u>211</u>	<0.40 U	<0.10 U	<0.32 U	<4.6 U	290,000	6,860	<95 U	<5,000 U	0.11	2.36	-147.3	7.06	784.2	18.84	13.17
101717019	MW308	10/17/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	<58.7 U	0.25 J	4.2	<u>3,990</u>	3,060	<u>21.6</u>	<0.10 U	0.74 J	207	717,000	14.7	210 J	<u>423,000</u>	0.23	5.35	32.7	6.62	1195.2	17.76	14.62
101717017	MW310	10/17/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	<58.7 U	<0.15 U	<1.1 U	<u>19,100</u>	1,310	0.69 J	<0.10 U	3.6	<4.6 U	505,000	2,880	<95 U	35,200	0.12	4.25	-144.3	6.91	1886.8	17.95	0.47
101717016	MW311	10/17/2017	185	123	11.0	78.4	18.9	97.3	<58.7 U	<0.15 U	<1.1 U	<u>26,600</u>	1,020	1.6	<0.10 U	3.4	<4.6 U	903,000	6,600	<95 U	<5,000 U	0.15	4.09	-122.5	6.75	2,988	16.71	0.83
101717010	MW312	10/17/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	<58.7 U	<0.15 U	<1.1 U	<u>14,600</u>	814	<0.40 U	<0.10 U	0.86 J	<4.6 U	755,000	10,400	<95 U	<5,000 U	0.13	1.90	-126.0	6.81	1,909	14.50	21.94
101617007	MW313	10/16/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	<58.7 U	0.22 J	<1.1 U	<u>10,500</u>	805	5.5	<0.10 U	2.8	<4.6 U	431,000	3,390	<95 U	16,900	0.14	3.31	-117.9	6.85	939.2	17.71	7.13
101617006	P302	10/16/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	<58.7 U	<0.15 U	<1.1 U	<u>2,170</u>	515	<0.40 U	<0.10 U	0.80 J	<4.6 U	257,000	25.0	<95 U	69,700	0.13	11.62	-46.9	7.19	1,474	13.87	2.93
101617009	P303	10/16/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	<58.7 U	<0.15 U	<1.1 U	<111 U	<2.7 U	<0.40 U	<0.10 U	0.66 J	<4.6 U	145,000	<1.4 U	290	<u>949,000</u>	7.45	30.79	119.6	7.60	2122.1	13.91	6.89
101717015	P304	10/17/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	<58.7 U	0.51 J	1.4 J	<111 U	<u>32.2</u>	0.74 J	<0.10 U	0.72 J	19.3	193,000	<1.4 U	<u>3,000</u>	<u>607,000</u>	7.06	32.81	15.7	7.61	1907.1	13.39	60.07
101717020	P305	10/17/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	<58.7 U	<0.15 U	<1.1 U	<u>1,380</u>	336	0.58 J	<0.10 U	1.4	15.9	393,000	145	<95 U	22,100	0.20	5.57	-22.0	6.98	2186.9	16.02	0.00
101717021	Equipment Blank	10/17/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	<58.7 U	<0.15 U	<1.1 U	<111 U	<2.7 U	<0.40 U	<0.10 U	<0.32 U	4.7 J	<7,000 U	<1.4 U	<95 U	<1,000 U	--	--	--	--	--	--	--
101717022	Trip Blank	10/17/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Total Number of Samples Analyzed:	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	16	17	16	16	16	16	16
Number of Detections:	2	3	2	3	2	3	0	8	8	13	15	14	0	16	5	18	13	9	13	13	16	17	16	16	16	16	
Min:	15.7	1.9	0.79	0.98	18.9	1.6	0	0.19	1.4	286	32.2	0.42	0	0.33	6.5	145000	14.7	180	16900	0.11	1.9	-147.3	6.62	761.9	13.39	0	
Max:	185	123	11	121	99.7	221	0	3	9.2	26600	3060	21.6	0	3.6	207	903000	10400	9400	949000	7.45	32.81	227.8	7.61	3428.4	18.84	60.07	
MPG Groundwater Standard SL:	5	700	800	NS	NS	2000	200	6	1300	NS	300	100	50	30	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Number of Samples that Exceed MPG Groundwater Standard SL:	2	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
WI Groundwater PAL:	0.5	140	160	NS	NS	400	40	1.2	130	150	25	20	10	6	2500	NS	NS	2000	125000	NS	NS	NS	NS	NS	NS	NS	
Number of Samples that Meet or Exceed WI PAL:	2	0	0	0	0	0	0	2	0	13	15	1	0	0	0	0	0	3	4	0	0	0	0	0	0	0	
MPG Tap Water SL:	0.46	1.5	1100	190	190	190	20000	7.8	800	14000	430	390	94	86	6000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Number of Samples that Exceed Tap Water SL:	2	3	0	0	0	1	0	0	0	4	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Notes [O:ECK 12/12/17,C:SGW 12/13/17][QA: MDB 12/14/17]

BOLD = result exceeds MGP Groundwater Standard
 Underline = result exceeds Wisconsin Groundwater PAL
 Italics = result exceeds Tap Water RSL
 Pink highlighting = result exceeds the MGP Groundwater Standard; Tap Water exceedances are not highlighted if they do not also exceed the MGP Groundwater Standard
 Yellow highlighting = one or more exceedances detected

Statistics exclude the quality control samples (Equipment and Trip blanks)
 -- = Analysis not performed
 < = Concentration is less than the Limit of Detection (LOD)
 U = Concentration was not detected above the reported limit
 J = Concentration Estimated
 (N) = Normalized sample locations created from combining parent and field duplicate samples following EPA protocol

RSL = Regional Screening Level
 Lab comments, additional data qualifiers and definitions can be found in associated laboratory reports.
 MGP = Manufactured Gas Plant
 NS = No Standard
 BTEX = Benzene, Toluene, Ethylbenzene and Xylene
 PAH = Polycyclic Aromatic Hydrocarbon
 RNA = Remediation by Natural Attenuation (lab and field)
 µg/L = micrograms per liter
 MGP SLs used on this table were presented in the Multi-Site Risk Assessment Framework Addendum Revision 6 (Exponent, July 2017).
 The groundwater SL presented is the more conservative of the State and MCL values presented in the RAF Addendum Revision 6.

Deg C = degrees Celsius
 mg/L = milligrams per liter
 NTU = Nephelometric Turbidity Unit
 s.u. = standard units
 µS/cm = microsiemens per centimeter (aka micromhos per centimeter)



Table 2 - Groundwater Analytical Results Compared to the Groundwater Vapor Residential and Industrial Criteria

October 2017 Groundwater Sampling Results

Wisconsin Public Service Corporation - Marinette Former MGP, Marinette, Wisconsin

CERCLIS ID -WIN000509952

9-digit Code	Sample Location	Sample Date	BTEX	BTEX	BTEX	BTEX	BTEX	BTEX	PAH
			Benzene	Ethylbenzene	Toluene	Xylene, o	Xylenes, m + p	Xylenes, Total	Naphthalene
Reporting Units:			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MGP Groundwater VISL, Industrial:			6.9	15	81,000	2,100	1,500	1,600	20
<u>MGP Groundwater VISL, Residential:</u>			<u>1.6</u>	<u>3.5</u>	<u>19,000</u>	<u>490</u>	<u>360</u>	<u>380</u>	<u>4.6</u>
101717011	MW01R	10/17/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	0.10
101617008	MW03R	10/16/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	<0.018 U
101717012/101717013 (N)	MW05	10/17/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	0.071 J
101617005	MW302	10/16/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	0.043 J
101617001	MW303	10/16/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	0.025 J
101617002/101617003 (N)	MW304	10/16/2017	15.7	1.9	0.79 J	0.98 J	<1.0 U	1.6 J	4.3
101617004	MW305	10/16/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	<0.018 U
101717014	MW306	10/17/2017	<1.2 U	31.6	<1.2 U	121	99.7	221	77.8
101717018	MW307R	10/17/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	0.072 J
101717019	MW308	10/17/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	<0.018 U
101717017	MW310	10/17/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	0.036 J
101717016	MW311	10/17/2017	185	123	11.0	78.4	18.9	97.3	481
101717010	MW312	10/17/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	0.048 J
101617007	MW313	10/16/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	0.20
101617006	P302	10/16/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	<0.018 U
101617009	P303	10/16/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	<0.018 U
101717015	P304	10/17/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	<0.018 U
101717020	P305	10/17/2017	<0.50 U	<0.50 U	<0.50 U	<0.50 U	<1.0 U	<1.5 U	0.19

Total Number of Samples Analyzed:	18	18	18	18	18	18	18
Number of Detections:	2	3	2	3	2	3	12
Min:	15.7	1.9	0.79	0.98	18.9	1.6	0.025
Max:	185	123	11	121	99.7	221	481
Groundwater VISL, Industrial:	6.9	15	81,000	2,100	1,500	1,600	20
Samples Exceeding Groundwater VISL, Industrial:	2	2	0	0	0	0	2
Groundwater VISL, Residential:	1.6	3.5	19,000	490	360	380	4.6
Samples Exceeding Groundwater VISL, Residential:	<u>2</u>	<u>2</u>	0	0	0	0	<u>2</u>

[O:ECK 12/12/17, C:SGW 12/13/17][QA: MDB 12/14/17]

Notes

Only parameters with VISL will be presented; please refer to Table 1 for other parameters.

BOLD = result exceeds Industrial Groundwater VISLs

Underline = result attains or exceeds Residential Groundwater VISLs

Yellow highlighting = one or more exceedances detected

Pink highlighting = result exceeds the one or both VISLs

-- = Analysis not performed

< = Concentration is less than the Limit of Detection (LOD)

U = Concentration was not detected above the reported limit

J = Concentration Estimated

(N) = Normalized sample locations created from combining parent and field duplicate samples following EPA protocol

Lab comments, additional data qualifiers and definitions can be found in associated laboratory reports.

MGP = Manufactured Gas Plant

NS = No Standard

VISLs = Vapor Intrusion Screening Levels

BTEX = Benzene, Toluene, Ethylbenzene and Xylene

PAH = Polycyclic Aromatic Hydrocarbon

µg/L = micrograms per liter

MGP SLs used on this table were presented in the Multi-Site Risk Assessment Framework Addendum Revision 6 (Exponent, July 2017).

VISLs used on this table are 10-6 risk value.