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Transmittal

JUL 13 2017

WI DNR - GREEN BAY

To: Tauren Beggs
 Company: Wisconsin Department of Natural Resources
 Remediation and Redevelopment Program
 Address: 2984 Shawano Ave
 Phone: Green Bay, WI 54313
 Date: July 10, 2017
 File: 1512 Washington; Manitowoc
 Delivery: Regular Mail

From: Harris Byers
 For Your Information
 For Your Approval
 For Your Review
 As Requested

Confirmation of receipt: _____
 (signature)

Reference: Documentation of Well Abandonment Activities, 1512 Washington Street, Manitowoc, WI WDNR BRRTS #02-36-545108 (Open)

Attachment:

Copies	Doc Date	Pages	Description
1	July 3, 2017	7	Well/ Drillhole/ Borehole Filling & Sealing Report (Form 3300-005) – Mirro 9 (BRRTS #02-36-545108)
1	July 3, 2017	1	Figure 1; Site Basemap and Sampling Locations (Symbiont, 2016)

Stantec abandoned seven readily accessible temporary groundwater monitoring wells previously installed by Symbiont (2016) at the Former Mirro Building located at 1512 Washington Street, Manitowoc, Wisconsin on June 30, 2017 prior to building demolition activities. Enclosed are the appropriate well abandonment forms (WDNR Form 3300-005) documenting abandonment activities. For reference, the locations of the abandoned wells are illustrated on the attached Figure taken from Symbiont (2016). Please contact me with any further questions or concerns.

Regards,

STANTEC CONSULTING SERVICES INC.

Harris L. Byers
 Brownfields Project Manager
 Phone: (262) 581-6476
 Harris.Byers@stantec.com

c: Nic Sparacio; City of Manitowoc

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 **2. Facility / Owner Information**

County <i>MANITOWOC</i>	WI Unique Well # of Removed Well	Hicap #	Facility Name <i>Micro 9</i>
Latitude / Longitude (see instructions) <i>44° 5' 24.0" N</i> <i>87° 40' 7.0" W</i>	Formal Code <input type="checkbox"/> DD <input checked="" type="checkbox"/> DDM	Method Code <input type="checkbox"/> GPS008 <input type="checkbox"/> SCR002 <input type="checkbox"/> OTH001	Facility ID (FID or PWS)
1/4 SW or Gov't Lot # <i>1/4 SW</i>	Section <i>30</i>	Township <i>19 N</i>	Range <i>23 E</i>
Well Street Address <i>1512 WASHINGTON STREET</i>			Original Well Owner
Well City, Village or Town <i>MANITOWOC</i>			Present Well Owner <i>THE CITY OF MANITOWOC</i>
Subdivision Name			Mailing Address of Present Owner <i>900 QUAY STREET</i>
Well ZIP Code <i>54220</i>			City of Present Owner <i>MANITOWOC</i>
Lot #			State <i>WI</i>
Reason for Removal from Service <i>ABANDONMENT</i>			ZIP Code <i>54220</i>
WI Unique Well # of Replacement Well <i>SB1D1</i>			

3. Filled & Sealed Well / Drillhole / Borehole Information **4. Pump, Liner, Screen, Casing & Sealing Material**

<input checked="" type="checkbox"/> Monitoring Well	Original Construction Date (mm/dd/yyyy) <i>10/5/2015</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Water Well	If a Well Construction Report is available, please attach.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Borehole / Drillhole		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Construction Type:		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Drilled	<input type="checkbox"/> Driven (Sandpoint)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
<input checked="" type="checkbox"/> Other (specify): <i>DIRECT PUSH</i>	<input type="checkbox"/> Dug	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Formation Type:		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
<input checked="" type="checkbox"/> Unconsolidated Formation	<input type="checkbox"/> Bedrock	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Total Well Depth From Ground Surface (ft.) <i>15.0</i>	Casing Diameter (in.) <i>1"</i>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Lower Drillhole Diameter (in.) <i>1"</i>	Casing Depth (ft.) <i>10.0</i>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Was well annular space grouted?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
If yes, to what depth (feet)?	Depth to Water (feet)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
<i>BENTONITE CHIPS 3/8"</i>	<i>Surface</i>	<i>15'</i>	<i>0.25</i>	

6. Comments

7. Supervision of Work **DNR Use Only**

Name of Person or Firm Doing Filling & Sealing <i>STANTEC</i>	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy) <i>06/30/2017</i>	Date Received	Noted By
Street or Route <i>12075 CONCOURSE PARKWAY</i>	Telephone Number <i>(262) 442 2815</i>	Comments		
City <i>MEQUON</i>	State <i>WI</i>	ZIP Code <i>53092</i>	Signature of Person Doing Work <i>Nicholas J. [Signature]</i>	Date Signed <i>7/3/2017</i>

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 2. Facility / Owner Information

County MANITOWOC	WI Unique Well # of Removed Well	Hicap #	Facility Name Micro 9
Latitude / Longitude (see instructions) 44° 5' 24.0" N 87° 40' 7.0" W	Format Code <input type="checkbox"/> DD <input checked="" type="checkbox"/> DDM	Method Code <input type="checkbox"/> GPS008 <input type="checkbox"/> SCR002 <input type="checkbox"/> OTH001	Facility ID (FID or PWS)
1/4 1/4 SW or Gov't Lot #	Section 30	Township 19 N	Range 23 E <input type="checkbox"/> W
Well Street Address 1512 WASHINGTON STREET			Present Well Owner THE CITY OF MANITOWOC
Well City, Village or Town MANITOWOC			Well ZIP Code 54220
Subdivision Name			Lot #
Reason for Removal from Service ABANDONMENT			WI Unique Well # of Replacement Well SBLD3

3. Filled & Sealed Well / Drillhole / Borehole Information

<input checked="" type="checkbox"/> Monitoring Well	Original Construction Date (mm/dd/yyyy) 10/5/2015
<input type="checkbox"/> Water Well	If a Well Construction Report is available, please attach.
<input type="checkbox"/> Borehole / Drillhole	
Construction Type: <input type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input checked="" type="checkbox"/> Other (specify): DIRECT PUSH	
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock	
Total Well Depth From Ground Surface (ft.) 15.0	Casing Diameter (in.) 1"
Lower Drillhole Diameter (in.) 1"	Casing Depth (ft.) 10.0
Was well annular space grouted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	
If yes, to what depth (feet)?	Depth to Water (feet)

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

Pump and piping removed?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Liner(s) removed?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Liner(s) perforated?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Screen removed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Casing left in place?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Was casing cut off below surface?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Did sealing material rise to surface?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Did material settle after 24 hours?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
If yes, was hole retopped?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Required Method of Placing Sealing Material	
<input type="checkbox"/> Conductor Pipe-Gravity	<input type="checkbox"/> Conductor Pipe-Pumped
<input checked="" type="checkbox"/> Screened & Poured (Bentonite Chips)	<input type="checkbox"/> Other (Explain): _____
Sealing Materials	
<input type="checkbox"/> Neat Cement Grout	<input type="checkbox"/> Concrete
<input type="checkbox"/> Sand-Cement (Concrete) Grout	<input checked="" type="checkbox"/> Bentonite Chips
For Monitoring Wells and Monitoring Well Boreholes Only:	
<input checked="" type="checkbox"/> Bentonite Chips	<input type="checkbox"/> Bentonite - Cement Grout
<input type="checkbox"/> Granular Bentonite	<input type="checkbox"/> Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole

From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Surface	15'	-25	

6. Comments

7. Supervision of Work

Name of Person or Firm Doing Filling & Sealing STANTEC	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy) 06/30/2017	DNR Use Only	
Street or Route 12075 CONCORDIA PARKWAY	Telephone Number (262) 442 2815	Comments	Date Received	Noted By
City MANITOWOC	State WI	ZIP Code 53092	Signature of Person Doing Work <i>Nicholas J. [Signature]</i>	Date Signed 7/3/2017

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 **2. Facility / Owner Information**

County MANITOWOC		WI Unique Well # of Removed Well		Hicap #		Facility Name Micro 9	
Latitude / Longitude (see instructions) 44° 5' 24.0" N 87° 40' 7.0" W		Format Code <input type="checkbox"/> DD <input checked="" type="checkbox"/> DDM		Method Code <input type="checkbox"/> GPS008 <input type="checkbox"/> SCR002 <input type="checkbox"/> OTH001		Facility ID (FID or PWS)	
1/4 SW or Gov't Lot #		Section 30		Township 19 N		Range <input type="checkbox"/> E <input type="checkbox"/> W 23	
Well Street Address 1512 WASHINGTON STREET				Present Well Owner THE CITY OF MANITOWOC			
Well City, Village or Town MANITOWOC				Well ZIP Code 54220			
Subdivision Name				Lot #		Mailing Address of Present Owner 900 QUAY STREET	
Reason for Removal from Service ABANDONMENT				WI Unique Well # of Replacement Well SBLD4		City of Present Owner MANITOWOC	
						State WI	
						ZIP Code 54220	

3. Filled & Sealed Well / Drillhole / Borehole Information **4. Pump, Liner, Screen, Casing & Sealing Material**

<input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input type="checkbox"/> Borehole / Drillhole		Original Construction Date (mm/dd/yyyy) 10/5/2015		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Pump and piping removed?	
Construction Type: <input type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input checked="" type="checkbox"/> Other (specify): DIRECT PUSH		If a Well Construction Report is available, please attach.		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Liner(s) removed?	
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock				<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Liner(s) perforated?	
Total Well Depth From Ground Surface (ft.) 15.0		Casing Diameter (in.) 1"		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Screen removed?	
Lower Drillhole Diameter (in.) 1"		Casing Depth (ft.) 10.0		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Casing left in place?	
Was well annular space grouted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown				<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Was casing cut off below surface?	
If yes, to what depth (feet)?		Depth to Water (feet)		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Did sealing material rise to surface?	
				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A Did material settle after 24 hours?	
				<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A If yes, was hole retopped?	
				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A If bentonite chips were used, were they hydrated with water from a known safe source?	
				Required Method of Placing Sealing Material	
				<input type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input checked="" type="checkbox"/> Screened & Poured (Bentonite Chips) <input type="checkbox"/> Other (Explain): _____	
				Sealing Materials	
				<input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Concrete <input type="checkbox"/> Sand-Cement (Concrete) Grout <input checked="" type="checkbox"/> Bentonite Chips	
				For Monitoring Wells and Monitoring Well Boreholes Only:	
				<input checked="" type="checkbox"/> Bentonite Chips <input type="checkbox"/> Bentonite - Cement Grout <input type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite - Sand Slurry	

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
BENTONITE CHIPS 3/8"	Surface	15'	-25	

6. Comments

7. Supervision of Work				DNR Use Only	
Name of Person or Firm Doing Filling & Sealing STANTEC		License #	Date of Filling & Sealing or Verification (mm/dd/yyyy) 06/30/2017	Date Received	Noted By
Street or Route 12075 CONCORDIA PARKWAY			Telephone Number (262) 442 2815	Comments	
City MAQUON	State WI	ZIP Code 53092	Signature of Person Doing Work <i>Nicholas J. [Signature]</i>	Date Signed 7/3/2017	

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: MANITOWOC WI Unique Well # of Removed Well: _____ Hicap #: _____

Latitude / Longitude (see instructions): 44° 5' 24.0" N Format Code: DD Method Code: GPS008

87° 40' 7.0" W DDM SCR002 OTH001

Section: 30 Township: 19 N Range: 23 E W

Well Street Address: 1512 WASHINGTON STREET

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

Subdivision Name: _____ Lot #: _____

2. Facility / Owner Information

Facility Name: Micro 9

Facility ID (FID or PWS): _____

License/Permit/Monitoring #: _____

Original Well Owner: _____

Present Well Owner: THE CITY OF MANITOWOC

Mailing Address of Present Owner: 900 QUAY STREET

City of Present Owner: MANITOWOC State: WI ZIP Code: 54220

Reason for Removal from Service: ABANDONMENT WI Unique Well # of Replacement Well: SB L D 5

3. Filled & Sealed Well / Drillhole / Borehole Information

Monitoring Well Original Construction Date (mm/dd/yyyy): 10/5/2015

Water Well

Borehole / Drillhole

If a Well Construction Report is available, please attach. _____

Construction Type:

Drilled Driven (Sandpoint) Dug

Other (specify): DIRECT PUSH

Formation Type:

Unconsolidated Formation Bedrock

Total Well Depth From Ground Surface (ft.): 15.0 Casing Diameter (in.): 1"

Lower Drillhole Diameter (in.): 1" Casing Depth (ft.): 10.0

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
<u>BENTONITE CHIPS 3/8"</u>	<u>Surface</u>	<u>15'</u>	<u>-25</u>	

6. Comments

7. Supervision of Work

Supervision of Work				DNR Use Only	
Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy)	Date Received	Noted By	
<u>STARTEC</u>		<u>06/30/2017</u>			
Street or Route	Telephone Number	Comments			
<u>12075 CONCORDIA PARKWAY</u>	<u>(262) 442 2815</u>				
City	State	ZIP Code	Signature of Person Doing Work	Date Signed	
<u>MANITOWOC</u>	<u>WI</u>	<u>53092</u>	<u>Nicholas J. [Signature]</u>	<u>7/3/2017</u>	

Well / Drillhole / Borehole Filling & Sealing Report

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Route to DNR Bureau:

Verification Only of Fill and Seal

- Drinking Water Watershed/Wastewater Remediation/Redevelopment
 Waste Management Other: _____

1. Well Location Information

County MANITOWOC	WI Unique Well # of Removed Well	Hicap #
Latitude / Longitude (see instructions) 44° 5' 24.0" N 87° 40' 7.0" W	Formal Code <input type="checkbox"/> DD <input checked="" type="checkbox"/> DDM	Method Code <input type="checkbox"/> GPS008 <input type="checkbox"/> SCR002 <input type="checkbox"/> OTH001
1/4 1/4 SW or Gov't Lot #	Section 30	Township 19 N
1/4 NE	Range 23	<input type="checkbox"/> E <input type="checkbox"/> W
Well Street Address 1512 WASHINGTON STREET		
Well City, Village or Town MANITOWOC		Well ZIP Code 54220
Subdivision Name		Lot #

2. Facility / Owner Information

Facility Name Micro 9		
Facility ID (FID or PWS)		
License/Permit/Monitoring #		
Original Well Owner		
Present Well Owner THE CITY OF MANITOWOC		
Mailing Address of Present Owner 900 QUAY STREET		
City of Present Owner MANITOWOC	State WI	ZIP Code 54220

Reason for Removal from Service ABANDONMENT	WI Unique Well # of Replacement Well SB106
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3. Filled & Sealed Well / Drillhole / Borehole Information

<input checked="" type="checkbox"/> Monitoring Well	Original Construction Date (mm/dd/yyyy) 10/5/2015
<input type="checkbox"/> Water Well	
<input type="checkbox"/> Borehole / Drillhole	
If a Well Construction Report is available, please attach.	
Construction Type: <input type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input checked="" type="checkbox"/> Other (specify): DIRECT PUSH	
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock	
Total Well Depth From Ground Surface (ft.) 15.0	Casing Diameter (in.) 1"
Lower Drillhole Diameter (in.) 1"	Casing Depth (ft.) 10.0
Was well annular space grouted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	
If yes, to what depth (feet)?	Depth to Water (feet)

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

Pump and piping removed?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Liner(s) removed?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Liner(s) perforated?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Screen removed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Casing left in place?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Was casing cut off below surface?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Did sealing material rise to surface?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Did material settle after 24 hours?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
If yes, was hole retopped?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
If bentonite chips were used, were they hydrated with water from a known safe source?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Required Method of Placing Sealing Material	
<input type="checkbox"/> Conductor Pipe-Gravity	<input type="checkbox"/> Conductor Pipe-Pumped
<input checked="" type="checkbox"/> Screened & Poured (Bentonite Chips)	<input type="checkbox"/> Other (Explain): _____
Sealing Materials	
<input type="checkbox"/> Neat Cement Grout	<input type="checkbox"/> Concrete
<input type="checkbox"/> Sand-Cement (Concrete) Grout	<input checked="" type="checkbox"/> Bentonite Chips
For Monitoring Wells and Monitoring Well Boreholes Only:	
<input checked="" type="checkbox"/> Bentonite Chips	<input type="checkbox"/> Bentonite - Cement Grout
<input type="checkbox"/> Granular Bentonite	<input type="checkbox"/> Bentonite - Sand Slurry

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
BENTONITE CHIPS 3/8"	Surface	15'	-25	

6. Comments

7. Supervision of Work			DNR Use Only	
Name of Person or Firm Doing Filling & Sealing STANTEC	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy) 06/30/2017	Date Received	Noted By
Street or Route 12075 CONQUEROR PARKWAY		Telephone Number (262) 442 2815	Comments	
City MAQUON	State WI	ZIP Code 53092	Signature of Person Doing Work <i>Nicholas J. [Signature]</i>	Date Signed 7/3/2017

Well / Drillhole / Borehole Filling & Sealing Report

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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				2. Facility / Owner Information			
County MANITOWOC		WI Unique Well # of Removed Well		Hicap #		Facility Name Micro 9	
Latitude / Longitude (see instructions) 44° 5' 24.0" N 87° 40' 7.0" W		Format Code <input type="checkbox"/> DD <input checked="" type="checkbox"/> DDM		Method Code <input type="checkbox"/> GPS008 <input type="checkbox"/> SCR002 <input type="checkbox"/> OTH001		Facility ID (FID or PWS)	
1/4 SW or Gov't Lot #		Section 30		Township 19 N		Range 23 <input type="checkbox"/> E <input type="checkbox"/> W	
Well Street Address 1512 WASHINGTON STREET				Present Well Owner THE CITY OF MANITOWOC			
Well City, Village or Town MANITOWOC				Well ZIP Code 54220			
Subdivision Name				Lot #		Mailing Address of Present Owner 900 QUAY STREET	
Reason for Removal from Service ABANDONMENT				WI Unique Well # of Replacement Well 53108		City of Present Owner MANITOWOC	
						State WI	
						ZIP Code 54220	

3. Filled & Sealed Well / Drillhole / Borehole Information				4. Pump, Liner, Screen, Casing & Sealing Material							
<input checked="" type="checkbox"/> Monitoring Well		Original Construction Date (mm/dd/yyyy) 10/5/2015		Pump and piping removed?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A					
<input type="checkbox"/> Water Well		If a Well Construction Report is available, please attach.		Liner(s) removed?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A					
<input type="checkbox"/> Borehole / Drillhole				Liner(s) perforated?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A					
Construction Type: <input type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input checked="" type="checkbox"/> Other (specify): DIRECT PUSH				Screen removed?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A			
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock				Casing left in place?				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A			
Total Well Depth From Ground Surface (ft.) 15.0'		Casing Diameter (in.) 1"		Was casing cut off below surface?				<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A			
Lower Drillhole Diameter (in.) 1"		Casing Depth (ft.) 10.0'		Did sealing material rise to surface?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A			
Was well annular space grouted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown				Did material settle after 24 hours?				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A			
If yes, to what depth (feet)?				Depth to Water (feet)		If yes, was hole retopped?				<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
						If bentonite chips were used, were they hydrated with water from a known safe source?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
						Required Method of Placing Sealing Material					
						<input type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped					
						<input checked="" type="checkbox"/> Screened & Poured (Bentonite Chips) <input type="checkbox"/> Other (Explain): _____					
						Sealing Materials					
						<input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Concrete					
						<input type="checkbox"/> Sand-Cement (Concrete) Grout <input checked="" type="checkbox"/> Bentonite Chips					
						For Monitoring Wells and Monitoring Well Boreholes Only:					
						<input checked="" type="checkbox"/> Bentonite Chips <input type="checkbox"/> Bentonite - Cement Grout					
						<input type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite - Sand Slurry					

5. Material Used to Fill Well / Drillhole				From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
BENTONITE CHIPS 3/8"				Surface	15'	-25	

6. Comments

7. Supervision of Work				DNR Use Only	
Name of Person or Firm Doing Filling & Sealing STANTEC		License #	Date of Filling & Sealing or Verification (mm/dd/yyyy) 06/30/2017	Date Received	Noted By
Street or Route 12075 CONCORDIA PARKWAY			Telephone Number (262) 442 2815	Comments	
City MANITOWOC	State WI	ZIP Code 53092	Signature of Person Doing Work <i>Nicholas J. [Signature]</i>	Date Signed 7/3/2017	

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				2. Facility / Owner Information			
County MANITOWOC		WI Unique Well # of Removed Well		Hicap #		Facility Name Micro 9	
Latitude / Longitude (see instructions) 44° 5' 24.0" N 87° 40' 7.0" W		Format Code <input type="checkbox"/> DD <input checked="" type="checkbox"/> DDM		Method Code <input type="checkbox"/> GPS008 <input type="checkbox"/> SCR002 <input type="checkbox"/> OTH001		Facility ID (FID or PWS)	
1/4 SW or Gov't Lot #		Section 30		Township 19 N		License/Permit/Monitoring #	
1/4 NE		Range 23		Original Well Owner		Present Well Owner THE CITY OF MANITOWOC	
Well Street Address 1512 WASHINGTON STREET				Mailing Address of Present Owner 900 QUAY STREET			
Well City, Village or Town MANITOWOC				Well ZIP Code 54220			
Subdivision Name				Lot #		City of Present Owner MANITOWOC	
Reason for Removal from Service ABANDONMENT				WI Unique Well # of Replacement Well SBL12			
State		ZIP Code		City of Present Owner WI 54220			

3. Filled & Sealed Well / Drillhole / Borehole Information				4. Pump, Liner, Screen, Casing & Sealing Material			
<input checked="" type="checkbox"/> Monitoring Well		Original Construction Date (mm/dd/yyyy) 10/5/2015		Pump and piping removed?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
<input type="checkbox"/> Water Well		If a Well Construction Report is available, please attach.		Liner(s) removed?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
<input type="checkbox"/> Borehole / Drillhole		Construction Type:		Liner(s) perforated?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
		<input type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug		Screen removed?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
		<input checked="" type="checkbox"/> Other (specify): DIRECT PUSH		Casing left in place?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Formation Type:				Was casing cut off below surface?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
<input checked="" type="checkbox"/> Unconsolidated Formation		<input type="checkbox"/> Bedrock		Did sealing material rise to surface?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Total Well Depth From Ground Surface (ft.) 15.0		Casing Diameter (in.) 1"		Did material settle after 24 hours?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Lower Drillhole Diameter (in.) 1"		Casing Depth (ft.) 10.0		If yes, was hole retopped?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Was well annular space grouted?				If bentonite chips were used, were they hydrated with water from a known safe source?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
<input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No		Required Method of Placing Sealing Material		<input type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped	
<input type="checkbox"/> Unknown		If yes, to what depth (feet)?		Depth to Water (feet)		<input checked="" type="checkbox"/> Screened & Poured (Bentonite Chips) <input type="checkbox"/> Other (Explain): _____	
						Sealing Materials	
						<input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Concrete	
						<input type="checkbox"/> Sand-Cement (Concrete) Grout <input checked="" type="checkbox"/> Bentonite Chips	
						For Monitoring Wells and Monitoring Well Boreholes Only:	
						<input checked="" type="checkbox"/> Bentonite Chips <input type="checkbox"/> Bentonite - Cement Grout	
						<input type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite - Sand Slurry	

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
BENTONITE CHIPS 3/8"	Surface	15'	-25	

6. Comments

7. Supervision of Work				DNR Use Only	
Name of Person or Firm Doing Filling & Sealing STANTEC		License #	Date of Filling & Sealing or Verification (mm/dd/yyyy) 06/30/2017	Date Received	Noted By
Street or Route 12075 COMPOSITE PARKWAY			Telephone Number (262) 442 2815	Comments	
City MANITOWOC	State WI	ZIP Code 53092	Signature of Person Doing Work <i>Nicholas J. [Signature]</i>	Date Signed 7/3/2017	



- Legend**
- Existing Monitoring Well (AECOM/AES 2010)
 - Approximate Symbiont Soil Boring and Temporary Well Location (2015)
 - Approximate AECOM/AES Soil Boring Location (2010)
 - Approximate AECOM Soil Boring Location (2009)
 - Approximate AECOM Phase II ESA Temporary Well Location (2009)
 - Approximate Closed LUST Site Recovery Well (Abandoned)
 - MH-114 WATER SAMPLE FROM MANHOLE LOCATED NEAREST TO LOADING DOCK 6 & 7 (SYMBIONT 2013)
 - Concrete Sampling Area
 - Building Footprint

Path: G:\Projects\City of Manitowoc\Sites\Mirro\WMD\Geoplant2016\Report\Figure1.mxd

 6737 West Washington Street
Suite 3440
West Allis, Wisconsin 53214
414.291.8840
FAX 414.291.8841

- WASTEWATER TREATMENT/CONVEYANCE
- FACILITIES ENGINEERING
- ENVIRONMENTAL MANAGEMENT
- AIR QUALITY
- DESIGN/BUILD CONSTRUCTION MANAGEMENT
- INVESTIGATION, REMEDIATION, AND SITE CLOSURE
- HEALTH CARE FACILITIES DESIGN
- WATER SUPPLY AND DISTRIBUTION
- SOLID AND HAZARDOUS WASTE MANAGEMENT
- PROCESS ENGINEERING
- WATER RESOURCES PLANNING/DESIGN
- STORM WATER MANAGEMENT
- GIS SERVICES
- BROWNFIELDS

DSGN: KE	CHK: GW
DR: KE	APVD: GW

**MIRRO PLANT #9
1512 WASHINGTON STREET
MANITOWOC, WI**

**FIGURE 1
SITE BASEMAP AND
SAMPLING LOCATIONS**

SCALE	1 in = 25 ft
DWG	1
DATE	APRIL 2016
PROJ NO.	W140408