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April 15, 2020

Angela Carey
Wisconsin Department of Natural Resources
101 South Webster Street
PO Box 7291 (RR/5)
Madison, WI 53707-7921

Subject: **Monitoring Well Abandonment Exemption Request for MW043S**
Tyco Fire Products LP, Stanton Street Facility, Marinette, Wisconsin
WID 006 125 215

Dear Ms. Carey:

On behalf of Tyco Fire Products LP (Tyco), Jacobs Engineering Group Inc. is requesting an exemption to the Wisconsin Administrative Code Chapter NR 141 requirement for abandoning one monitoring well (MW043S) at the Tyco facility on Stanton Street in Marinette, Wisconsin. This letter report briefly summarizes the monitoring well history and rationale for requesting that Tyco not be required to complete abandonment of the subject monitoring well (MW043S).

Tyco has installed numerous monitoring wells at the site as part of the Resource Conservation and Recovery Act (RCRA) facility investigation, corrective measures study, and remedial action implementation. Monitoring well MW043S was installed in August 2000 in the south-central portion of the Main Plant area (Figure 1). The Main Plant is contained on all sides by slurry wall and sheet pile wall containment structures installed into glacial till or bedrock (approximately 40 feet below ground surface).

During the ongoing construction activities for the onsite lessee's (ChemDesign) new building, MW043S was unable to be located for abandonment. MW043S is a shallow well, was within the new building footprint, and was slated to be abandoned; however, when ChemDesign's driller was onsite to abandon the three wells within the building footprint, only two wells could be located and abandoned (MW043M and PZ-10). ChemDesign used coordinates and measurements from existing wells and dug in the area 1 foot below grade (the grade before the project began) to try and locate MW043S. A protective pipe/flush-mount well cover was found, but the 2-inch-diameter polyvinyl chloride well casing or signs of concrete were not observed nor uncovered during the search. It is believed that either during grubbing/clearing the area or initial grading that the flush-mount well was damaged and displaced. Since the flush-mount was no longer in place, ChemDesign did not use a metal detector to locate the well since the remaining well materials would not be locatable. Subsequently, ChemDesign covered the well MW043S area with cement to fill and stabilize the area to continue building construction.

Therefore, Tyco is requesting approval from the Wisconsin Department of Natural Resources (WDNR) to not complete abandonment of this monitoring well. Supporting rationale for not completing the abandonment includes:

- The monitoring well was completed to a depth of approximately 15 feet below ground surface in the unconfined alluvial aquifer. Arsenic impacts are present throughout the alluvial aquifer; therefore, the potential for cross-contamination does not exist.

- The monitoring well is located within the Main Plant, which is contained on all sides by a vertical barrier wall installed to glacial till or bedrock.
- Monitoring well MW043S is not required as part of the barrier wall groundwater monitoring program and had been approved for abandonment by the U.S. Environmental Protection Agency and WDNR.
- Efforts undertaken to date and described above have not been successful at locating this well.
- Any remaining components of the well would be located beneath a building that will limit its ability to serve as a conduit for contributing to new contamination.
- The new building has covered the area with concrete and will have a passive vapor barrier installed.

For reference and to document the details of MW043, Attachment 1 contains the soil boring, well construction, and well development logs. The logs originally were included in the appendixes of the 2001 RCRA Facility Investigation Report, which was included as Appendix B of the Summary of Findings report (URS Corporation 2001). Although unlikely, if MW043S is found, Tyco will notify WDNR, properly fill and seal the well, and submit the required documentation to WDNR.

I trust the information provided herein will allow WDNR to grant the exemption to abandonment of monitoring well MW043S. If you have any questions or require additional information, please contact me at 262-644-6167 or Jeffrey Danko at 262-349-2529.

Respectfully Yours,

Jacobs Engineering Group Inc.

Heather L. Ziegelbauer

Heather Ziegelbauer
Project Manager

cc: Jennifer Dodds, U.S. Environmental Protection Agency
Jeffery Danko, Johnson Controls
Rick Bethel, Johnson Controls
Ryan Suennen, Johnson Controls

Document Control No.: D3235600.276

Figure

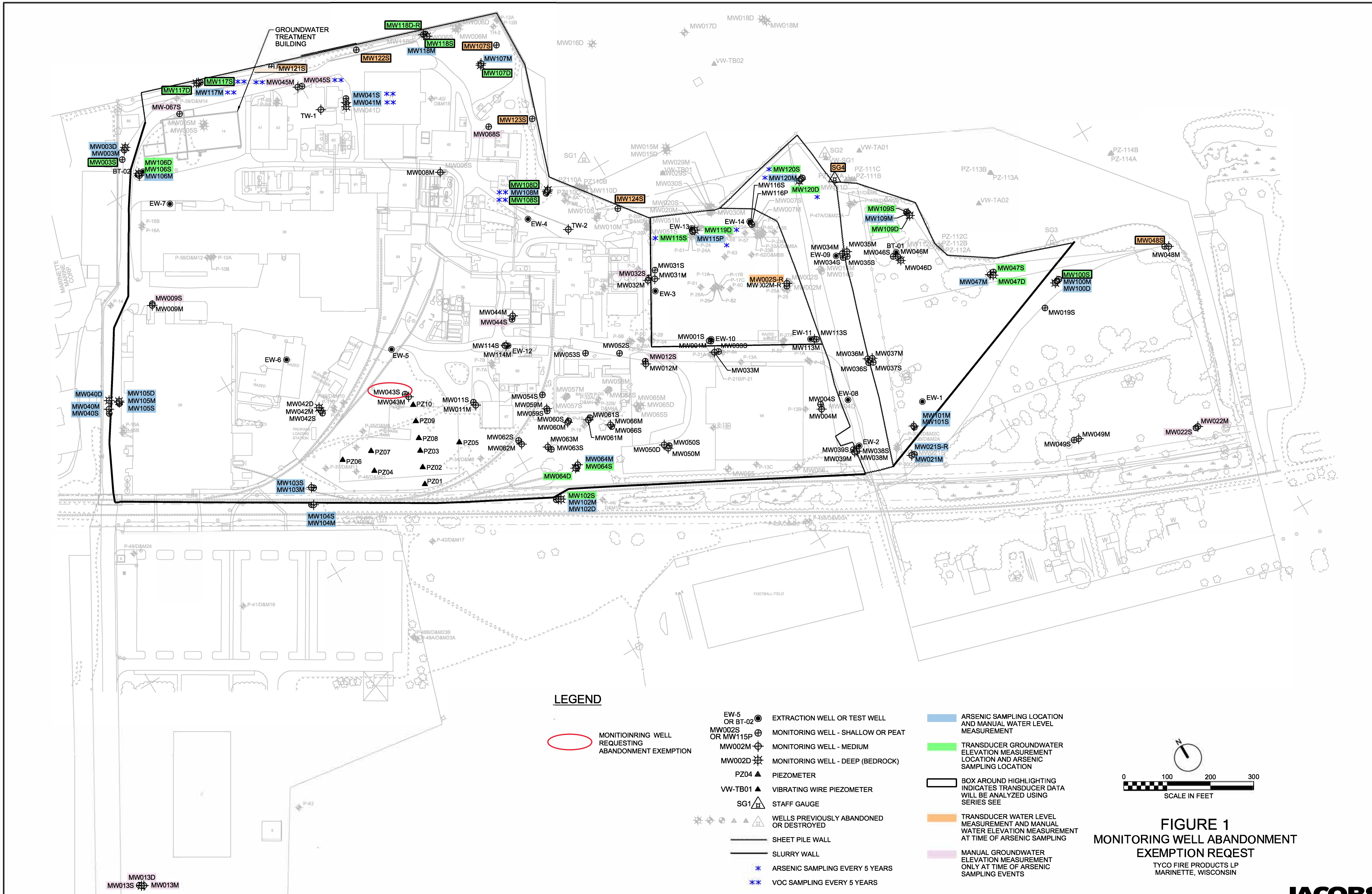


FIGURE 1
MONITORING WELL ABANDONMENT EXEMPTION REQEST
TYCO FIRE PRODUCTS LP
MARINETTE, WISCONSIN

FILENAME: Mann-Kendall-Trends_D3235600.dgn PLOT DATE: 3/16/2020 PLOT TIME: 9:57:46 AM

Attachment 1
Soil Boring, Well Construction, and Well Development 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
Ansul Incorporated	0	SB043S

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Dan Zielazowski Boart Longyear	8/2/2000	8/2/2000	Rotosonic

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
P0868		MW043S	578.6 Feet Local	584.7 Feet Local	6.0 inches

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
1/4 of NW 1/4 of Section 5, T 30 N, R 24 E
Lat ° ' "
Long ° ' "
Local Grid Location ☒ N ☒ E
469772 Feet ☐ S 2584346 Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Marinette	38	Marinette

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 (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	Laboratory Results
			1 2 3 4 5 6 7 8 9 10 11 12	Blind drilled to 16 feet. See SB043 for soil description.										

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

Signature	Firm	
	URS Corporation 10200 Innovation Drive, Suite 500 Milwaukee, WI 53226	Tel: 414.831.4100 Fax: 414.831.4101

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION SUPPLEMENT
Form 4400-122A

Boring Number SB043S Use only as an attachment to Form 4400-122.

Sample										Soil Properties					
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Compressive Strength (tsf)	Moisture Content	Liquid Limit	Plasticity Index	P 200	Laboratory Results
			13 14 15 16	Blind drilled to 16 feet. See SB043 for soil description.										
				End of boring at 16'.										

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: Ansul Incorporated	Local Grid Location of Well: 469772 ft. ☒ N. ☐ S. 2584346 ft. ☒ E. ☐ W.	Well Name: MW043S
Facility License, Permit or Monitoring No.: 0	Local Grid Origin ☒ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No.: P0868 / DNR Well Number:
Facility ID	St. Plane ft. N, ft. E. S/C/N	Date Well Installed: 08/02/2000
Type of Well: Well Code 11/mw	Section Location of Waste/Source: 1/4 of NW 1/4 of Sec. 5, T. 30 N, R. 24 ☒ E ☐ W	Well Installed By: (Person's Name and Firm): Dan Zielazowski; Boart Longyear
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. Local

B. Well casing, top elevation 587.12 ft. Local

C. Land surface elevation 584.7 ft. Local

D. Surface seal, bottom ____ ft. Local 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 Rotosonic 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):
City of Marinette, WI

E. Bentonite seal, top 584.7 ft. Local or 0.0 ft.

F. Fine sand, top 581.7 ft. Local or 3.0 ft.

G. Filter pack, top 580.7 ft. Local or 4.0 ft.

H. Screen joint, top 580.2 ft. Local or 4.5 ft.

I. Well bottom 570.2 ft. Local or 14.5 ft.

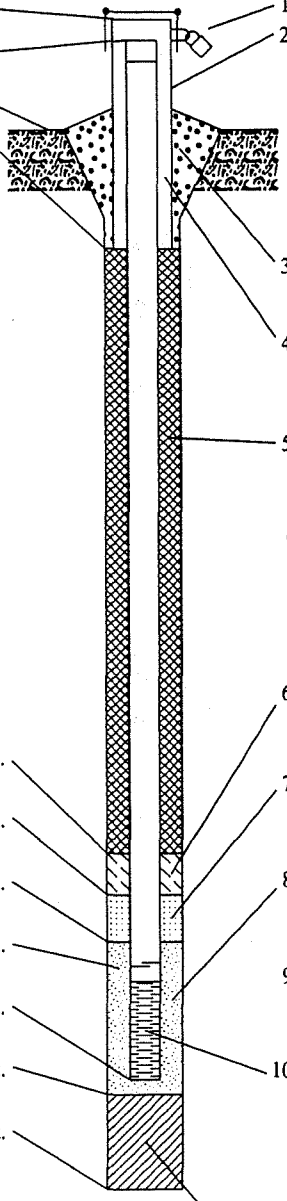
J. Filter pack, bottom 568.7 ft. Local or 16.0 ft.

K. Borehole, bottom 568.7 ft. Local or 16.0 ft.

L. Borehole, diameter 6.0 in.

M. O.D. well casing 2.37 in.

N. I.D. well casing 2.06 in.



1. Cap and lock? ☒ Yes ☐ No

2. Protective cover pipe:
a. Inside diameter: 4.0 in.
b. Length: 5.5 ft.
c. Material: Steel ☒ 04 Other ☐ __
d. Additional protection? ☒ Yes ☐ No
If yes, describe: Geocap

3. Surface seal: Bentonite ☐ 30 Concrete ☐ 01 Cement grout Other ☒ __

4. Material between well casing and protective pipe: Bentonite ☐ 30 Cement grout 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. Cement grout Other ☒ __

7. Fine sand material: Manufacturer, product name & mesh size
a. Badger Mining #7
b. Volume added 0.5 ft^3

8. Filter pack material: Manufacturer, product name & mesh size
a. Red Flint Sand #30
b. Volume added 2 ft^3

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

10. Screen material: Schedule 40 PVC
a. Screen Type: Factory cut ☒ 11 Continuous slot ☐ 01 Other ☐ __
b. Manufacturer USF Johnson Screen
c. Slot size: 0.010 in.
d. Slotted length: 10.0 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	
	URS Corporation 10200 Innovation Drive, Suite 500 Milwaukee, WI 53226	Tel: 414.831.4100 Fax: 414.831.4101

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

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

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

Facility/Project Name	County	Well Name
Ansul Incorporated	Marinette	MW043S

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well Number
0	38	P0868	

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

2. Well development method:

surged with bailer and bailed	☐	41
surged with bailer and pumped	☒	61
surged with block and bailed	☐	42
surged with block and pumped	☐	62
surged with block, bailed, and pumped	☐	70
compressed air	☐	20
bailed only	☐	10
pumped only	☐	51
pumped slowly	☐	50
other _____	☐	

3. Time spent developing well 44 min.

4. Depth of well (from top of well casing) 16.7 ft.

5. Inside diameter of well 2.06 in.

6. Volume of water in filter pack and well casing 6.6 gal.

7. Volume of water removed from well 66.0 gal.

8. Volume of water added (if any) 0.0 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.	5.95 ft.	6.16 ft.
Date b.	8/29/2000	8/29/2000
Time c.	☒ a.m. 10:40 ☐ p.m.	☒ a.m. 11:25 ☐ p.m.
12. Sediment in well bottom	inches	inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe) Moderately high turbidity, grayish color, no odor.	Clear ☒ 20 Turbid ☐ 25 (Describe) Light gray, low turbidity, no odor.

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

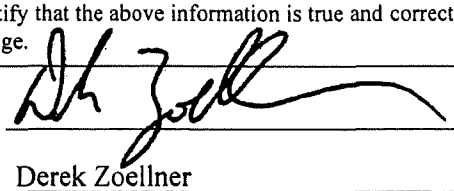
16. Well developed by: Person's Name and Firm
Derek Zoellner
URS Corporation

17. Additional comments on development:

Facility Address or Owner/Responsible Party Address

Name: George Rogers
Firm: Ansul Incorporated
Street: One Stanton Street
City/State/Zip: Marinette, WI 54143

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

Signature: 
Print Name: Derek Zoellner
Firm: URS Corporation

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