

**From:** [Nicole L. LaPlant](#)  
**To:** [Bob Nelson](#)  
**Cc:** [Dean Halverson](#); [Beggs, Tauren R - DNR](#)  
**Subject:** RE: Monitoring Wells Associated with Jagemann Plating  
**Date:** Monday, October 16, 2017 12:34:07 PM  
**Attachments:** [image001.png](#)  
[image003.png](#)  
[image002.png](#)  
[JAGEMANN PLATING-FIG 3 - Nelson.pdf](#)  
[Analytical Tables.pdf](#)

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Good Afternoon Bob,

We collected soil samples and groundwater samples from the 4 soil boreholes (B13, B15, B16, and B17) that were converted to monitoring wells (PZ13, MW15, PZ16, and MW17) on your property to investigate the extent of soil and groundwater contamination at the Jagemann Plating. I've attached the tables with the results, and map of the locations of the soil borings, and wells. The identification numbers for borings and the wells are the same.

A summary of the results of the soil and groundwater sampling that was done on your property is below:

#### **Soil**

B13 (closest to the Jagemann building) had detections of contaminants in soil that are above the WDNR soil standards

B16 (closest to your building) did not have detections of contaminants in soil above a WDNR standard

B15 and B17 (placed next to B13 and B16) were not sampled because they were placed next to the other two borings.

#### **Groundwater**

MW15 (closest to the Jagemann building) had detections of contaminants in groundwater above the WDNR groundwater standards

PZ13 (next to MW15, by Jagemann building): and PZ16 and MW17 (next to your building) did not have any detections of contaminants in groundwater above a WDNR standard

#### **Next Steps**

We have only sampled the wells once. WDNR requires multiple sampling events on monitoring wells, generally every quarter once the groundwater monitoring phase is implemented. We will remove the monitoring wells once WDNR says they can be. Generally, they stay in place for sampling between 2 to 5 years. We have not started the groundwater monitoring phase yet, since WDNR is still requiring us to define the extent of soil, groundwater contamination. Because there were impacts to soil and groundwater on your property at B13 and MW15, WDNR will require additional sampling around that area to define how far it has migrated to the south and west of that point. I am communicating with WDNR project manager Tauren Beggs now regarding this additional sampling. I expect they will require 2 more monitoring wells on your property, one to the south and one to west of MW15.

Also, they may want air/vapor sampling to be performed inside your building. Once I know more I will send a letter that describes the additional work and shows sampling locations, and requests your permission. Hopefully I will know more on that by the end of the month.

Also, the monitoring well that needed repaired before winter snow plowing was repaired on September 13<sup>th</sup>. The drilling company removed the asphalt cold patch that was becoming a problem, and resealed with concrete. I looked at the pictures of their finished work, and from the photo it looks set better. Please let me know if it becomes a problem again for you.

If you have any questions please feel free to call me, or contact Tauren Beggs at the WDNR (920) 662-1978.

Nicole

Nicole L. LaPlant - Robert E. Lee & Associates, Inc.  
920-662-9641 [nlaplant@releeinc.com](mailto:nlaplant@releeinc.com)

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**From:** Bob Nelson [mailto:[bnelson@coldwellhomes.com](mailto:bnelson@coldwellhomes.com)]  
**Sent:** Friday, October 13, 2017 10:31 AM  
**To:** Nicole L. LaPlant; Dean Halverson  
**Subject:** Re: Monitoring Wells Associated with Jagemann Plating

Is there any news on the wells on our property. When will they be removed? Any condensed report you can send me. Thank You!

On 9/6/2017 2:37 PM, Nicole L. LaPlant wrote:

Hello Bob,

Thank you for calling today and explaining your concerns with the monitoring wells and reporting. I will follow up on this and get back to you. If you have any other questions or concerns, please feel free to contact me in the future.

Thank you,  
Nicole

**Nicole L. LaPlant** | Senior Project Geologist  
Robert E. Lee & Associates, Inc.

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Thank you,

**Bob Nelson**  
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**TABLE 2  
SOIL LABORATORY ANALYTICAL DATA SUMMARY  
JAGEMANN PLATING COMPANY, MANITOWOC, WISCONSIN**

Boring Sample ID	B-1	B-2	B-3	B-3*	B-4	B-4*	B-5	B-6	Industrial Direct Contact RCL	Groundwater Pathway RCL
	0 - 4'	0 - 4'	0 - 4'	6 - 8'	0 - 4'	6 - 8'	0 - 4'	0 - 4'		
	Date	09/21/2010	09/21/2010	09/21/2010	09/21/2010	09/21/2010	09/21/2010	09/21/2010		
<b>Metals (mg/kg)</b>										
Arsenic	3.2	2.1	2.8	4.3	2.6	2.8	3.1	2.8	1.59	0.584
Barium	83.4	73.7	48.3	99.1	53.3	102	79.3	35	100,000	164.8
Cadmium	0.45 J	1.1	3.9	0.48 J	0.39 J	0.55	0.71	<u>0.98</u>	803	0.752
Chromium, Total	29.2	21.1	17.6	25.5	49.9	27.5	33.1	20.6	---	360,000
Hexavalent Chromium	< 0.062	< 0.033	< 0.028	< 0.049	< 0.037	< 0.049	< 0.062	< 0.046	5.57	---
Lead	9.2	10.6	8.2	7.4	6.8	6.4	15	13.9	800	27
Mercury	0.017	0.027	0.019	0.021	0.022	0.019	0.04	0.042	3.13	0.2008
Selenium	0.42 J	<u>0.65 J</u>	0.28 J	0.39 J	0.26 J	0.22 J	0.37 J	0.42 J	5,110	0.52
Silver	< 0.054	0.076 J	< 0.046	< 0.053	< 0.050	< 0.048	< 0.051	< 0.047	---	0.8497

Boring Sample ID	B-7	B-8	PZ-4	MW-5	MW-6	B-9	B-10	B-11	B-12	B-13	B-16	Industrial Direct Contact RCL	Groundwater Pathway RCL
	0 - 4'	0 - 4'	2 - 4'	2 - 4'	2 - 4'	2.5 - 4.5'	2.5 - 4.5'	2.5 - 4.5'	2 - 4'	2.5 - 4.5	2.5 - 4.5		
	Date	09/21/2010	09/21/2010	05/03/2011	05/03/2011	05/03/2011	05/07/2013	05/07/2013	05/07/2013	06/05/2013	11/08/2016		
<b>Metals (mg/kg)</b>													
Arsenic	<u>2.2</u>	<u>5.4</u>	<u>4.6</u>	<u>2.4</u>	<u>3.6</u>	1.18 J	< 0.72	< 0.72	<u>1.20 J</u>	<0.67	<0.67	1.59	0.584
Barium	24.3	65	99.8	66.1	74.4	60	63.3	54.4	54.8	84.3	74.6	100,000	164.8
Cadmium	<u>0.86</u>	<u>1.3</u>	0.20 J	0.17 J	0.33 J	<0.08	< 0.08	< 0.08	<u>1.35</u>	<u>2.39</u>	<0.8	803	0.752
Chromium, Total	8.5	19.2	30.6	23	21.4	25.9	24.1	36.1	22.6	324	22.8	---	360,000
Hexavalent Chromium	< 0.048	< 0.040	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.57	---
Lead	8.5	23.8	7.2	6.6	20.4	9.74	5.89	8.43	10.8	<u>2.20</u>	2.21	800	27
Mercury	0.014	0.047	0.024	0.014	0.043	0.048	0.037	0.029	0.0695	0.0729	0.0265 J	3.13	0.2008
Selenium	0.42 J	<u>0.85 J</u>	< 0.18	0.24 J	0.46 J	< 0.7	< 0.7	< 0.7	<u>1.78 J</u>	<u>1.07 J</u>	<0.55	5,110	0.52
Silver	0.044 J	0.060 J	0.11 J	0.11 J	0.090 J	< 0.34	< 0.34	< 0.34	<0.34	<0.44	<0.44	---	0.8497

Key:  
 mg/kg = Milligrams per Kilogram  
 µg/kg = Micrograms per Kilogram  
 J = Analyte detected between laboratory limit of detection and limit of quantitation.  
 --- = Not Included on WDNR's RR Program RCL Spreadsheet  
 RCLs = Residual Contaminant Levels  
 \* = sample collected from below the water table  
10 = Individual Direct Contact Residual Contaminant Level (RCL) Exceeded  
5.5 = Groundwater Pathway RCL Exceeded

TABLE 2, continued  
 SOIL LABORATORY ANALYTICAL DATA SUMMARY  
 JAGEMANN PLATING COMPANY, MANITOWOC, WISCONSIN

Boring Sample ID Depth Date	B-1	B-2	B-3	B-3*	B-4	B-4*	B-5	B-6	B-7	B-8	PZ-4	MW-5	MW-6	B-9	B-10	B-11	B-12	B-13	B-16	Industrial	Groundwater
	0 - 4'	0 - 4'	0 - 4'	6 - 8'	0 - 4'	6 - 8'	0 - 4'	0 - 4'	0 - 4'	0 - 4'	2 - 4'	2 - 4'	2 - 4'	2.5 - 4.5'	2.5 - 4.5'	2.5 - 4.5'	2 - 4'	2.5 - 4.5'	2.5 - 4.5'	Direct Contact	Pathway
	09/21/2010	09/21/2010	09/21/2010	09/21/2010	09/21/2010	09/21/2010	09/21/2010	09/21/2010	09/21/2010	09/21/2010	05/03/2011	05/03/2011	05/03/2011	05/07/2013	05/07/2013	05/07/2013	06/05/2013	11/08/2016	11/08/2016	RCL	RCL
<b>VOCs (µg/kg)</b>																					
Benzene	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 9.2	< 9.2	< 9.2	< 9.2	< 16	< 16	7,410	5.1
Bromobenzene	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 13	< 13	< 13	< 13	< 39	< 39	679,000	---
Bromochloromethane	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	NA	NA	NA	NA	NA	NA	976,000	---
Bromodichloromethane	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 27	< 27	< 27	< 27	< 15	< 15	1,960	0.3
Bromoform	< 25.9	< 25.9	< 25.9	< 25.9	< 25.9	< 259	< 25.9	< 25.9	< 25.9	< 25.9	< 25.9	< 25.9	< 25.9	< 30	< 30	< 30	< 30	< 23	< 23	218,000	2.3
Bromomethane	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	NA	NA	NA	NA	NA	NA	46,000	5.1
n-Butylbenzene	< 40.4	< 40.4	< 40.4	< 40.4	< 40.4	< 404	< 40.4	< 40.4	< 40.4	< 40.4	< 40.4	< 40.4	< 40.4	< 26	< 26	< 26	< 26	2720	< 86	108,000	---
sec-Butylbenzene	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 41	< 41	< 41	< 41	1340	< 36	145,000	---
tert-Butylbenzene	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 20	< 20	< 20	< 20	< 35	< 35	183,000	---
Carbon Tetrachloride	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 25	< 25	< 25	< 25	< 21	< 21	4,250	3.9
Chlorobenzene	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 16	< 16	< 16	< 16	< 39	< 390	761,000	---
Chloroethane	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 42	< 42	< 42	< 42	< 45	< 45	---	226.6
Chloroform	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 49	< 49	< 49	< 49	< 26	< 26	2,130	3.3
Chloromethane	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 181	< 181	< 181	< 181	< 250	< 250	720,000	15.5
2-Chlorotoluene	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 16	< 16	< 16	< 16	< 29	< 29	---	---
4-Chlorotoluene	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 14	< 14	< 14	< 14	< 32	< 32	---	---
1,2-Dibromo-3-chloropropane	< 82.3	< 82.3	< 82.3	< 82.3	< 82.3	< 823	< 82.3	< 82.3	< 82.3	< 82.3	< 82.3	< 82.3	< 82.3	< 48	< 48	< 48	< 48	< 78	< 78	99	0.2
Dibromochloromethane	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 14	< 14	< 14	< 14	< 31	< 31	4,400	32
EDB (1,2-Dibromoethane)	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 20	< 20	< 20	< 20	< 35	< 35	---	0.0282
Dibromomethane	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	NA	NA	NA	NA	NA	NA	151,000	---
1,2-Dichlorobenzene	< 44.4	< 44.4	< 44.4	< 44.4	< 44.4	< 444	< 44.4	< 44.4	< 44.4	< 44.4	< 44.4	< 44.4	< 44.4	< 38	< 38	< 38	< 38	< 39	< 39	376,000	1,168
1,3-Dichlorobenzene	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 30	< 30	< 30	< 30	< 30	< 30	297,000	1,152.20
1,4-Dichlorobenzene	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 33	< 33	< 33	< 33	< 30	< 30	17,500	144
Dichlorodifluoromethane	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 57	< 57	< 57	< 57	< 43	< 43	571,000	3,082.50
1,1-Dichloroethane	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 19	< 19	< 19	< 19	< 25	< 25	23,700	483.6
1,2-Dichloroethane	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 36	< 36	< 36	< 36	< 30	< 30	---	2.8
1,1-Dichloroethene	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 21	< 21	< 21	< 21	< 29	< 29	1,190,000	5
cis-1,2-Dichloroethene	<u>387</u>	<u>7590</u>	< 25	<u>7510</u>	<u>955</u>	<u>31,600</u>	<u>137</u>	33.9 J	< 25	<u>79.7</u>	< 25.0	< 25.0	< 25.0	< 24	< 24	40 J	400	< 94	< 21	2,040,000	41.2
trans-1,2-Dichloroethene	< 25	<u>794</u>	< 25	<u>339</u>	45.2 J	<u>592 J</u>	42.3 J	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 29	< 29	< 29	< 29	43 J	< 24	976,000	58.8
1,2-Dichloropropane	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 9.5	< 9.5	< 9.5	< 9.5	< 25	< 25	6,620	3.3
1,3-Dichloropropane	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 21	< 21	< 21	< 21	< 31	< 31	1,490,000	---
2,2-Dichloropropane	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 46	< 46	< 46	< 46	< 100	< 100	---	---
1,1-Dichloropropene	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	NA	NA	NA	NA	NA	NA	---	---
cis-1,3-Dichloropropene	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	NA	NA	NA	NA	NA	NA	1,220,000	0.3
trans-1,3-Dichloropropene	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	NA	NA	NA	NA	NA	NA	1,570,000	(combined)
Diisopropyl Ether	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 11	< 11	< 11	< 11	< 12	< 12	2,260,000	---
Ethylbenzene	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 10	< 10	< 10	< 10	46 J	< 27	37,000	1,570
Hexachloro-1,3-butadiene	< 26.4	< 26.4	< 26.4	< 26.4	< 26.4	< 264	< 26.4	< 26.4	< 26.4	< 26.4	< 26.4	< 26.4	< 26.4	< 95	< 95	< 95	< 95	< 110	< 110	22,100	---
Isopropylbenzene	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 25	< 25	< 25	< 25	197	< 37	---	---
p-Isopropyltoluene	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 31	< 31	< 31	77 J	1000	< 56	162,000	---
Methylene Chloride	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 57	< 57	< 57	< 57	< 220	< 220	1,070,000	2.6
Methyl-tert-butyl ether	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 30	< 30	< 30	< 30	< 25	< 25	293,000	27
Naphthalene	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 114	< 114	< 114	< 114	510	< 87	26,000	658.7
n-Propylbenzene	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	< 24	< 24	< 24	< 24	620	< 35	---	---
Styrene	< 25	< 25	< 25	< 25	< 25	< 250	< 25	< 25	< 25	< 25	< 25.0	< 25.0	< 25.0	NA	NA	NA	NA	NA	NA	86,	

**Table 3 Groundwater Laboratory Analytical Data Summary, Jagemann Plating Company, Manitowoc, Wisconsin**

Well ID	Date Sampled	Relevant and Significant Metals Analytical Results (µg/L)								
		Arsenic	Barium	Cadmium	Chromium	Hexavalent Chromium	Lead	Mercury	Selenium	Silver
NR 140 Preventive Action Limit (µg/l)		1	400	0.5	10	NE	1.5	0.5	10	10
NR 140 Enforcement Standard (µg/l)		10	2000	5	100	NE	15	2	50	50
MW-1	10/15/10	7.3 J	1070	2.3 J	1.1 J	<3.9	<1.7	<0.10	<2.0	<0.52
	06/15/11	6.2 J	316	0.63 J	1.4 J	NA	2.9 J	<0.10	<1.9	<0.46
	09/29/11	5.6 J	397	0.23 J	<0.44	NA	2.4 J	<0.10	<1.9	<0.46
	07/31/13	<0.6	233	<0.5	<2.6	NA	<0.7	<0.04	<1	<10.3
	04/01/14	1.9	201	<0.5	<2.6	NA	<0.7	<0.04	1.6 J	<51.5
	12/30/16	<0.6	105	<0.3	7.4	NA	<0.6	<11	<1.1	<1.9
MW-2	10/15/10	2.6 J	422	<0.26	<0.50	<3.9	<1.7	<0.10	<2.0	<0.52
	06/15/11	3.5 J	285	0.33 J	<0.44	NA	3.1 J	<0.10	4.1 J	<0.46
	09/29/11	6.0 J	2.76	0.17 J	<0.44	NA	2.54 J	<0.10	<1.9	<0.46
	07/31/13	2.7	179	<0.5	<2.6	NA	<0.7	<0.04	<1	<10.3
	04/01/14	1.5 J	291	<0.5	<2.6	NA	12.2	<0.04	<1	<51.5
	12/30/16	1.1 J	39.2	<0.3	<0.7	NA	<0.8	<0.11	<1.1	<1.9
MW-3	10/15/10	3.2 J	385	<0.26	<0.50	<3.9	2.1 J	<0.10	<2.0	<0.52
	06/15/11	3.2 J	156	0.19 J	4.2 J	NA	<2.4	<0.10	<1.9	<0.46
	09/29/11	4.6 J	190	<0.13	<0.44	NA	2.1 J	<0.10	<1.9	<0.46
	07/31/13	<0.6	161	<0.5	<2.6	NA	<0.7	<0.04	<1	<10.3
	04/01/14	1.8 J	105	<0.5	<2.6	NA	<0.7	<0.04	<1	<51.5
	12/30/16	<0.6	101	<0.3	<0.7	NA	<0.8	<0.11	<1.1	<1.9
MW-4	06/15/11	2.9 J	127	<0.13	<0.44	NA	<2.4	<0.10	3.2 J	<0.46
	09/29/11	4.4 J	85.9	<0.13	<0.44	NA	<1.5	<0.10	<1.9	<0.46
	07/31/13	<0.6	99.4	<0.5	<2.6	NA	<0.7	<0.04	<1	<10.3
TW-1	04/01/14	1.3 J	252	<0.5	<2.6	NA	<0.7	<0.4	<1	<51.5
MW-5	06/15/11	2.1 J	157	0.24 J	<0.44	NA	<2.4	<0.10	2.2 J	<0.46
	09/29/11	4.7 J	138	<0.13	<0.44	NA	2.5 J	<0.10	<1.9	<0.46
	07/31/13	<0.6	137	<0.5	<2.6	NA	<0.7	<0.04	<1	<10.3
	04/01/14	<0.6	129	<0.5	<2.6	NA	<0.7	<0.04	<1	<51.5
	12/29/16	<0.6	122	<0.3	<0.7	NA	<0.8	<0.11	<1.1	<1.9
MW-6	06/15/11	2.1 J	181	0.28 J	<0.44	NA	2.9 J	<0.10	5.3 J	<0.46
	09/29/11	6.8 J	178	0.13 J	<0.44	NA	2.7 J	<0.10	<1.9	<0.46
	07/31/13	<0.6	162	<0.5	<2.6	NA	<0.7	<0.04	<1	<10.3
	04/01/14	<0.6	186	<0.5	<2.6	NA	<0.7	<0.04	<1	<51.5
MW-7	07/31/13	<0.6	250	<0.5	<2.6	NA	<0.7	<0.04	<1	<10.3
	04/01/14	<0.6	193	<0.5	<2.6	NA	<0.7	<0.04	<1	<51.5
	12/30/16	<0.6	190	<0.3	<0.7	NA	<0.8	<0.11	<1.1	<1.9
MW-8	07/31/13	<0.6	54.3	<0.5	<2.6	NA	<0.7	<0.04	<1	<10.3
	04/01/14	<0.6	45.4	<0.5	<2.6	NA	<0.7	<0.04	<1	<51.5
	12/30/16	<0.6	27.8 J	<0.6	<1.4	NA	<0.8	<0.11	<1.1	<3.8
PZ-3	07/31/13	<0.6	47.3	<0.5	<2.6	NA	<0.7	<0.04	<1	<10.3
	04/01/14	<0.6	29.5	<0.5	<2.6	NA	<0.7	<0.04	<1	<51.5
	12/30/16	<0.6	26.9 J	<0.3	<0.7	NA	<0.8	<0.11	<1.1	<1.9
PZ-4	06/15/11	<2.0	37.8	<0.13	<0.44	NA	<2.4	<0.10	2.5 J	<0.46
	09/29/11	2.0 J	32.1	<0.13	<0.44	NA	<1.5	<0.10	<1.9	<0.46
	07/31/13	<0.6	34.9	<0.5	<2.6	NA	0.8 J	<0.04	<1	20.9 J
	04/01/14	0.6 J	22.7	<0.5	<2.6	NA	10.7	<0.04	<1	<51.5
SUMP-1	10/15/10	<133	125 J	6620	1150000	1290000	<173	0.13 J	<200	<51.7
	06/15/11	<17.6	113	1970	358000	NA	15.7 J	<0.10	<22.5	<6.9
SUMP-2	10/15/10	<1.3	101	36.2	1100	1100	<1.7	<0.10	<2.0	<0.52
	06/15/11	<1.8	67	8.2	520	NA	<1.3	<0.10	<2.2	<0.69
PZ-13	12/29/16	<0.6	24.7 J	<0.3	<0.7	NA	<0.8	<0.11	<1.1	<1.9
MW-14	12/30/16	<0.6	372	0.7 J	<0.7	NA	<0.8	<0.11	<1.1	<1.9
MW-15	12/30/16	1.9	92.8	<0.3	<0.7	NA	<0.8	<0.11	<1.1	<1.9
PZ-16	12/29/16	8.7	52.7	<0.3	<0.7	NA	<0.8	<0.11	<1.1	<1.9
MW-17	12/29/16	0.8 J	109	<0.3	<0.7	NA	<0.8	<0.11	<1.1	<1.9

ND Not Detected  
 J Analyte Detected Between Limit of Detection and Limit of Quantitation  
**100** Exceeds the Chapter NR 140 Enforcement Standard (ES)  
**10** Exceeds the Chapter NR 140 Preventative Action Limit (PAL)

TABLE 3 GROUNDWATER LABORATORY ANALYTICAL DATA SUMMARY, continued  
JAGEMANN PLATING COMPANY, MANITOWOC, WISCONSIN

Parameter	NR 140 ES	NR 140 PAL	MW-1						MW-2						MW-3						MW-4		
			10/15/2010	06/15/2011	09/29/2011	07/31/2013	04/01/2014	12/30/2016	10/15/2010	06/15/2011	09/29/2011	07/31/2013	04/01/2014	12/30/2016	10/15/2010	06/15/2011	09/29/2011	07/31/2013	04/01/2014	12/30/2016	06/15/2011	09/29/2011	07/31/2013
<b>VOCs (µg/L)</b>																							
1,1,1,2-Tetrachloroethane	70	7	< 18.4	< 9.2	< 18.4	< 16.5	< 3.3	< 4.8	< 0.92	< 0.92	< 0.92	< 0.33	< 0.33	< 0.48	< 3.7	< 0.92	< 1.8	< 0.33	< 0.33	< 0.48	< 0.92	< 0.92	< 0.33
1,1,1-Trichloroethane	200	40	< 18.0	< 9.0	< 18.0	< 16.5	< 3.3	< 4.8	< 0.90	< 0.90	< 0.90	< 0.33	< 0.33	< 0.84	< 3.6	< 0.90	< 1.8	< 0.33	< 0.33	< 0.84	< 0.90	< 0.90	< 0.33
1,1,2,2-Tetrachloroethane	0.2	0.02	< 4.0	< 2.0	< 4.0	< 22.5	< 4.5	< 5.2	< 0.20	< 0.20	< 0.20	< 0.45	< 0.45	< 0.52	< 0.80	< 0.20	< 0.40	< 0.45	< 0.45	< 0.52	< 0.20	< 0.20	< 0.45
1,1,2-Trichloroethane	5	0.5	< 8.4	< 4.2	< 8.4	< 17	< 3.4	< 4.8	< 0.42	< 0.42	< 0.42	< 0.34	< 0.34	< 0.48	< 1.7	< 0.42	< 0.84	< 0.34	< 0.34	< 0.48	< 0.42	< 0.42	< 0.34
1,1-Dichloroethane	850	85	< 15.0	< 7.5	< 15.0	< 15	< 3	< 11	< 0.75	< 0.75	< 0.75	< 0.3	< 0.3	< 1.1	< 3.0	< 0.75	< 1.5	< 0.3	< 0.3	< 1.1	< 0.75	< 0.75	< 0.3
1,1-Dichloropropene	7	0.7	13.8 J	14.6	< 11.4	< 20	25.9	< 6.5	6.9	9.9	5.1	1.7	2.28	< 6.5	2.3 J	1.4	1.6 J	2.48	2.27	1.22 J	< 6.5	< 6.5	< 0.4
1,2,3-Trichlorobenzene	NE	NE	< 15.0	< 7.5	< 15.0	NA	NA	NA	< 0.75	< 0.75	< 0.75	NA	NA	NA	< 3.0	< 0.75	< 1.5	NA	NA	NA	< 0.75	< 0.75	NA
1,2,3-Trichloropropane	60	12	< 19.8	< 9.9	< 19.8	NA	NA	NA	< 0.99	< 0.99	< 0.99	NA	NA	NA	< 4.0	< 0.99	< 2.0	NA	NA	NA	< 0.99	< 0.99	NA
1,2,4-Trichlorobenzene	70	14	< 19.4	< 9.7	< 19.4	< 49	< 9.8	< 17	< 0.97	< 0.97	< 0.97	< 0.98	< 0.98	< 1.7	< 3.9	< 0.97	< 1.9	< 0.98	< 0.98	< 1.7	< 0.97	< 0.97	< 0.98
1,2,4-Trimethylbenzene	480*	96*	< 19.4	< 9.7	< 19.4	< 110	< 22	< 16	< 0.97	< 0.97	< 0.97	< 2.2	< 2.2	< 1.6	< 3.9	< 0.97	< 1.9	< 2.2	< 2.2	< 1.6	< 0.97	< 0.97	< 2.2
1,2-Dibromo-3-chloropropane	0.2	0.02	< 33.6	< 16.8	< 33.6	< 44	< 8.8	< 14	< 1.7	< 1.7	< 1.7	< 0.88	< 0.88	< 1.4	< 6.7	< 1.7	< 3.4	< 0.88	< 0.88	< 1.4	< 1.7	< 1.7	< 0.88
1,2-Dibromoethane (EDB)	0.05	0.005	< 11.2	< 5.6	< 11.2	< 22	< 4.4	< 6.3	< 0.56	< 0.56	< 0.56	< 0.44	< 0.44	< 0.63	< 2.2	< 0.56	< 1.1	< 0.44	< 0.44	< 0.63	< 0.56	< 0.56	< 0.44
1,2-Dichlorobenzene	600	60	< 16.6	< 8.3	< 16.6	< 18	< 3.6	< 4.6	< 0.83	< 0.83	< 0.83	< 0.36	< 0.36	< 0.46	< 3.3	< 0.83	< 1.7	< 0.36	< 0.36	< 0.46	< 0.83	< 0.83	< 0.36
1,2-Dichloropropane	5	0.5	< 7.2	< 3.6	< 7.2	< 20.5	< 4.1	< 4.8	< 0.36	< 0.36	< 0.36	< 0.41	< 0.41	< 0.48	< 1.4	< 0.36	< 0.72	< 0.41	< 0.41	< 0.48	< 0.36	< 0.36	< 0.41
1,3,5-Trimethylbenzene	480*	96*	< 16.6	< 8.3	< 16.6	< 70	< 14	< 15	< 0.83	< 0.83	< 0.83	< 1.4	< 1.4	< 1.5	< 3.3	< 0.83	< 1.7	< 1.4	< 1.4	< 1.5	< 0.83	< 0.83	< 1.4
1,3-Dichlorobenzene	1250	125	< 17.4	< 8.7	< 17.4	< 14	< 2.8	< 5.2	< 0.87	< 0.87	< 0.87	< 0.28	< 0.28	< 0.52	< 3.5	< 0.87	< 1.7	< 0.28	< 0.28	< 0.52	< 0.87	< 0.87	< 0.28
1,3-Dichloropropane	NE	NE	< 12.2	< 6.1	< 12.2	< 16.5	< 3.3	< 4.2	< 0.61	< 0.61	< 0.61	< 0.33	< 0.33	< 0.42	< 2.4	< 0.61	< 1.2	< 0.33	< 0.33	< 0.42	< 0.61	< 0.61	< 0.33
1,4-Dichlorobenzene	75	15	< 19.0	< 9.5	< 19.0	< 15	< 3	< 4.9	< 0.95	< 0.95	< 0.95	< 0.3	< 0.3	< 0.49	< 3.8	< 0.95	< 1.9	< 0.3	< 0.3	< 0.49	< 0.95	< 0.95	< 0.3
2,2-Dichloropropane	NE	NE	< 12.4	< 6.2	< 12.4	< 18	< 3.6	< 4.1	< 0.62	< 0.62	< 0.62	< 0.36	< 0.36	< 0.31	< 2.5	< 0.62	< 1.2	< 0.36	< 0.36	< 0.31	< 0.62	< 0.62	< 0.36
2-Chlorotoluene	NE	NE	< 17.0	< 8.5	< 17.0	< 10.5	< 2.1	< 4	< 0.85	< 0.85	< 0.85	< 0.21	< 0.21	< 0.4	< 3.4	< 0.85	< 1.7	< 0.21	< 0.21	< 0.4	< 0.85	< 0.85	< 0.21
4-Chlorotoluene	NE	NE	< 14.8	< 7.4	< 14.8	< 10.5	< 2.1	< 4.4	< 0.74	< 0.74	< 0.74	< 0.21	< 0.21	< 0.63	< 3.0	< 0.74	< 1.5	< 0.21	< 0.21	< 0.63	< 0.74	< 0.74	< 0.21
Benzene	5	0.5	< 8.2	< 4.1	< 8.2	< 12	< 2.4	< 4.4	< 0.41	< 0.41	< 0.41	< 0.24	< 0.24	< 0.44	< 1.6	< 0.41	< 0.82	< 0.24	< 0.24	< 0.44	< 0.41	< 0.41	< 0.24
Bromobenzene	NE	NE	< 16.4	< 8.2	< 16.4	< 16	< 3.2	< 4.8	< 0.82	< 0.82	< 0.82	< 0.32	< 0.32	< 0.48	< 3.3	< 0.82	< 1.6	< 0.32	< 0.32	< 0.48	< 0.82	< 0.82	< 0.32
Bromochloromethane	NE	NE	< 19.4	< 9.7	< 19.4	NA	NA	NA	< 0.97	< 0.97	< 0.97	NA	NA	NA	< 3.9	< 0.97	< 1.9	NA	NA	NA	< 0.97	< 0.97	NA
Bromodichloromethane	0.6	0.06	< 11.2	< 5.6	< 11.2	< 18.5	< 3.7	< 4.6	< 0.56	< 0.56	< 0.56	< 0.37	< 0.37	< 0.46	< 2.2	< 0.56	< 1.1	< 0.37	< 0.37	< 0.46	< 0.56	< 0.56	< 0.37
Bromoform	4.4	0.44	< 18.8	< 9.4	< 18.8	< 17.5	< 3.5	< 4.6	< 0.94	< 0.94	< 0.94	< 0.35	< 0.35	< 0.46	< 3.8	< 0.94	< 1.9	< 0.35	< 0.35	< 0.46	< 0.94	< 0.94	< 0.35
Bromomethane	10	1	< 18.2	< 9.1	< 18.2	NA	NA	NA	< 0.91	< 0.91	< 0.91	NA	NA	NA	< 3.6	< 0.91	< 1.8	NA	NA	NA	< 0.91	< 0.91	NA
Carbon Tetrachloride	5	0.5	< 9.8	< 4.9	< 9.8	< 16.5	< 3.3	< 5.1	< 0.49	< 0.49	< 0.49	< 0.33	< 0.33	< 0.51	< 2.0	< 0.49	< 0.98	< 0.33	< 0.33	< 0.51	< 0.49	< 0.49	< 0.33
Chlorobenzene	NE	NE	< 8.2	< 4.1	< 8.2	< 12	< 2.4	< 4.6	< 0.41	< 0.41	< 0.41	< 0.24	< 0.24	< 0.46	< 1.6	< 0.41	< 0.82	< 0.24	< 0.24	< 0.46	< 0.41	< 0.41	< 0.24
Chloroethane	400	80	< 19.4	< 9.7	< 19.4	< 31.5	< 6.3	< 6.5	< 0.97	< 0.97	< 0.97	< 0.63	< 0.63	< 0.65	< 3.9	< 0.97	< 1.9	< 0.63	< 0.63	< 0.65	< 0.97	< 0.97	< 0.63
Chloroform	6	0.6	< 26.0	< 13.0	< 26.0	< 14	< 2.8	< 4.3	< 1.3	< 1.3	< 1.3	< 0.28	< 0.28	< 0.43	< 5.2	< 1.3	< 2.6	< 0.28	< 0.28	< 0.43	< 1.3	< 1.3	< 0.28
Chloromethane	3	0.3	< 4.8	< 2.4	< 4.8	< 40.5	< 8.1	< 19	< 0.24	< 0.24	< 0.24	< 0.81	< 0.81	< 1.9	< 9.6	< 0.24	< 0.48	< 0.81	< 0.81	< 1.9	< 0.24	< 0.24	< 0.81
Dibromochloromethane	60	6	< 16.2	< 8.1	< 16.2	< 11	< 2.2	< 4.5	< 0.81	< 0.81	< 0.81	< 0.22	< 0.22	< 0.45	< 3.2	< 0.81	< 1.6	< 0.22	< 0.22	< 0.45	< 0.81	< 0.81	< 0.22
Dibromomethane	NE	NE	< 12.0	< 6.0	< 12.0	NA	NA	NA	< 0.60	< 0.60	< 0.60	NA	NA	NA	< 2.4	< 0.60	< 1.2	NA	NA	NA	< 0.60	< 0.60	NA
Dichlorodifluoromethane	NE	NE	< 19.8	< 9.9	< 19.8	< 22	< 4.4	< 8.7	< 0.81	< 0.81	< 0.81	< 13.2	< 13.5	15.3 J	8.5	8.6	14.9	10.7	14.2	9.9	< 0.99	< 0.99	< 0.44
Diisopropyl ether	NE	NE	< 15.2	< 7.6	< 15.2	< 11.5	< 2.3	< 4.4	< 0.76	< 0.76	< 0.76	< 0.23	< 0.23	< 0.44	< 3.0	< 0.76	< 1.5	< 0.23	< 0.23	< 0.44	< 0.76	< 0.76	< 0.23
Ethylbenzene	700	140	< 10.8	< 5.4	< 10.8	< 27.5	< 5.5	< 7.1	< 0.54	< 0.54	< 0.54	< 0.55	< 0.55	< 0.71	< 2.2	< 0.54	< 1.1	< 0.55	< 0.55	< 0.71	< 0.54	< 0.54	< 0.55
Hexachloro-1,3-butadiene	NE	NE	< 13.4	< 6.7	< 13.4	< 7.5	< 1.5	< 2.2	< 0.67	< 0.67	< 0.67	< 1.5	< 1.5	< 2.2	< 2.7	< 0.67	< 1.3	< 1.5	< 1.5	< 2.2	< 0.67	< 0.67	< 1.5
Isopropylbenzene	NE	NE	< 11.8	< 5.9	< 11.8	< 15	< 3	< 8.2	< 0.59	< 0.59	< 0.59	< 0.3	< 0.3	< 0.82	< 2.4	< 0.59	< 1.2	< 0.3	< 0.3	< 0.82	< 0.59	< 0.59	< 0.3
Methyl-tert-butyl ether (MTBE)	60	12	< 12.2	< 6.1	< 12.2	< 11.5	< 2.3	< 4.1	< 0.61	< 0.61	< 0.61	< 0.23	< 0.23	< 1.1	< 2.4	< 0.61	< 1.2	< 0.23	< 0.23	< 1.1	< 0.61	< 0.61	< 0.23
Methylene Chloride	5	0.5	< 8.6	&lt																			



TABLE 3 GROUNDWATER LABORATORY ANALYTICAL DATA SUMMARY, continued  
JAGEMANN PLATING COMPANY, MANITOWOC, WISCONSIN

Parameter	NR 140 ES	NR 140 PAL	MW-5					MW-6				MW-7			MW-8			TW-1			PZ-3		
			06/15/2011	09/29/2011	07/31/2013	04/01/2014	12/29/2016	06/15/2011	09/29/2011	07/31/2013	04/01/2014	07/31/2013	04/01/2014	12/30/2016	07/31/2013	04/01/2014	12/30/2016	07/31/2013	09/26/2013	04/01/2014	07/31/2013	04/01/2014	12/30/2016
<b>VOCs (µg/L)</b>																							
1,1,1,2-Tetrachloroethane	70	7	< 0.92	< 0.92	<0.33	<0.33	<0.48	< 0.92	< 0.92	<0.33	<0.33	<0.33	<0.33	<0.48	<16.5	<3.3	<4.8	<1650	< 330	<330	<0.33	<0.33	<0.48
1,1,1-Trichloroethane	200	40	< 0.90	< 0.90	<0.33	<0.33	<0.84	< 0.90	< 0.90	<0.33	<0.33	<0.33	<0.33	<0.84	<16.5	<3.3	<8.4	<1650	< 330	<330	<0.33	<0.33	<0.84
1,1,2,2-Tetrachloroethane	0.2	0.02	< 0.20	< 0.20	<0.45	<0.45	<0.52	< 0.20	< 0.20	<0.45	<0.45	<0.45	<0.45	<0.52	<22.5	<4.5	<5.2	<2250	< 450	<450	<0.45	<0.45	<0.52
1,1,2-Trichloroethane	5	0.5	< 0.42	< 0.42	<0.34	<0.34	<0.48	< 0.42	< 0.42	<0.34	<0.34	<0.34	<0.34	<0.48	<17	<3.4	<4.8	<1700	< 340	<340	<0.34	<0.34	<0.48
1,1-Dichloroethane	850	85	< 0.75	< 0.75	<0.3	<0.3	<1.1	< 0.75	< 0.75	<0.3	<0.3	<0.3	<0.3	<1.1	<15	<3	<11	<1500	< 300	<300	<0.3	<0.3	<1.1
1,1-Dichloroethane	7	0.7	< 0.57	< 0.57	<0.4	<0.4	<0.65	< 0.57	< 0.57	<0.4	<0.4	<0.4	<0.4	<0.65	<20	4.3 J	7.3 J	<2000	< 400	<400	<0.4	<0.4	<0.65
1,1-Dichloropropane	NE	NE	< 0.75	< 0.75	NA	NA	NA	< 0.75	< 0.75	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	NE	NE	< 0.74	< 0.74	<1.8	<1.8	<2.7	< 0.74	< 0.74	<1.8	<1.8	<1.8	<1.8	<2.7	<90	<18	<27	<9000	< 1800	<1800	<1.8	<1.8	<2.7
1,2,3-Trichloropropane	60	12	< 0.99	< 0.99	NA	NA	NA	< 0.99	< 0.99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	70	14	< 0.97	< 0.97	<0.98	<0.98	<1.7	< 0.97	< 0.97	<0.98	<0.98	<0.98	<0.98	<1.7	<49	<9.8	<4.9	<4900	< 980	<980	<0.98	<0.98	<1.7
1,2,4-Trimethylbenzene	480*	96*	< 0.97	< 0.97	<2.2	<2.2	<1.6	< 0.97	< 0.97	<2.2	<2.2	<2.2	<2.2	<1.6	<110	<22	<16	<11000	< 2200	<2200	<2.2	<2.2	<1.6
1,2-Dibromo-3-chloropropane	0.2	0.02	< 1.7	< 1.7	<0.88	<0.88	<1.4	< 1.7	< 1.7	<0.88	<0.88	<0.88	<0.88	<1.4	<44	<8.8	<14	<4400	< 880	<880	<0.88	<0.88	<1.4
1,2-Dibromoethane (EDB)	0.05	0.005	< 0.56	< 0.56	<0.44	<0.44	<0.63	< 0.56	< 0.56	<0.44	<0.44	<0.44	<0.44	<0.63	<22	<4.4	<6.3	<2200	< 440	<440	<0.44	<0.44	<0.63
1,2-Dichlorobenzene	600	60	< 0.83	< 0.83	<0.36	<0.36	<0.46	< 0.83	< 0.83	<0.36	<0.36	<0.36	<0.36	<0.46	<18	<3.6	<4.6	<1800	< 360	<360	<0.36	<0.36	<0.46
1,2-Dichloroethane	5	0.5	< 0.36	< 0.36	<0.41	<0.41	<0.48	< 0.36	< 0.36	<0.41	<0.41	<0.41	<0.41	<0.48	<20.5	<4.1	<4.8	<2050	< 410	<410	<0.41	<0.41	<0.48
1,2-Dichloropropane	5	0.5	< 0.49	< 0.49	<0.32	<0.32	<0.43	< 0.49	< 0.49	<0.32	<0.32	<0.32	<0.32	<0.43	<16	<3.2	<4.3	<1600	< 320	<320	<0.32	<0.32	<0.43
1,3,5-Trimethylbenzene	480*	96*	< 0.83	< 0.83	<1.4	<1.4	<1.5	< 0.83	< 0.83	<1.4	<1.4	<1.4	<1.4	<1.5	<16	<3.2	<4.3	<1600	< 320	<320	<0.32	<0.32	<0.43
1,3-Dichlorobenzene	1250	125	< 0.87	< 0.87	<0.28	<0.28	<0.52	< 0.87	< 0.87	<0.28	<0.28	<0.28	<0.28	<0.52	<14	<2.8	<5.2	<1400	< 280	<280	<0.28	<0.28	<0.52
1,3-Dichloropropane	NE	NE	< 0.61	< 0.61	<0.33	<0.33	<0.42	< 0.61	< 0.61	<0.33	<0.33	<0.33	<0.33	<0.42	<16.5	<3.3	<4.2	<1650	< 330	<330	<0.33	<0.33	<0.42
1,4-Dichlorobenzene	75	15	< 0.95	< 0.95	<0.3	<0.3	<0.49	< 0.95	< 0.95	<0.3	<0.3	<0.3	<0.3	<0.49	<15	<3	<4.9	<1500	< 300	<300	<0.3	<0.3	<0.49
2,2-Dichloropropane	NE	NE	< 0.62	< 0.62	<0.36	<0.36	<3.1	< 0.62	< 0.62	<0.36	<0.36	<0.36	<0.36	<3.1	<18	<3.6	<3.1	<1800	< 360	<360	<0.36	<0.36	<3.1
2-Chlorotoluene	NE	NE	< 0.85	< 0.85	<0.21	<0.21	<0.4	< 0.85	< 0.85	<0.21	<0.21	<0.21	<0.21	<0.4	<10.5	<2.1	<4	<1050	< 210	<210	<0.21	<0.21	<0.4
4-Chlorotoluene	NE	NE	< 0.74	< 0.74	<0.63	<0.63	<0.4	< 0.74	< 0.74	<0.63	<0.63	<0.63	<0.63	<0.4	<10.5	<2.1	<6.3	<1050	< 210	<210	<0.21	<0.21	<0.63
Benzene	5	0.5	< 0.41	< 0.41	<0.24	<0.24	<0.44	< 0.41	< 0.41	<0.24	<0.24	<0.24	<0.24	<0.44	<12	<2.4	<4.4	<1200	< 240	<240	<0.24	<0.24	<0.44
Bromobenzene	NE	NE	< 0.82	< 0.82	<0.32	<0.32	<0.48	< 0.82	< 0.82	<0.32	<0.32	<0.32	<0.32	<0.48	<16	<3.2	<4.8	<1600	< 320	<320	<0.32	<0.32	<0.48
Bromochloromethane	NE	NE	< 0.97	< 0.97	NA	NA	NA	< 0.97	< 0.97	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	0.6	0.06	< 0.56	< 0.56	<0.37	<0.37	<0.46	< 0.56	< 0.56	<0.37	<0.37	<0.37	<0.37	<0.46	<18.5	<3.7	<4.6	<1850	< 370	<370	<0.37	<0.37	<0.46
Bromoform	4.4	0.44	< 0.94	< 0.94	<0.35	<0.35	<0.46	< 0.94	< 0.94	<0.35	<0.35	<0.35	<0.35	<0.46	<17.5	<3.5	<4.6	<1750	< 350	<350	<0.35	<0.35	<0.46
Bromomethane	10	1	< 0.91	< 0.91	NA	NA	NA	< 0.91	< 0.91	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	5	0.5	< 0.49	< 0.49	<0.33	<0.33	<0.51	< 0.49	< 0.49	<0.33	<0.33	<0.33	<0.33	<0.51	<16.5	<3.3	<5.1	<1650	< 330	<330	<0.33	<0.33	<0.51
Chlorobenzene	NE	NE	< 0.41	< 0.41	<0.24	<0.24	<0.46	< 0.41	< 0.41	<0.24	<0.24	<0.24	<0.24	<0.46	<12	<2.4	<4.6	<1200	< 240	<240	<0.24	<0.24	<0.46
Chloroethane	400	80	< 0.97	< 0.97	<0.63	<0.63	<0.65	< 0.97	< 0.97	<0.63	<0.63	<0.63	<0.63	<0.65	<31.5	<6.3	<6.5	<3150	< 630	<630	<0.63	<0.63	<0.65
Chloroform	6	0.6	< 1.3	< 1.3	<0.28	<0.28	<0.43	< 1.3	< 1.3	<0.28	<0.28	<0.28	<0.28	<0.43	<14	<2.8	<4.3	<1400	< 280	<280	<0.28	<0.28	<0.43
Chloromethane	3	0.3	< 0.24	< 0.24	<0.81	<0.81	<1.9	< 0.24	< 0.24	<0.81	<0.81	<0.81	<0.81	<1.9	<40.5	<8.1	<19	<4050	< 810	<810	<0.81	<0.81	<1.9
Dibromochloromethane	60	6	< 0.81	< 0.81	<0.22	<0.22	<0.45	< 0.81	< 0.81	<0.22	<0.22	<0.22	<0.22	<0.45	<11	<2.2	<4.5	<1100	< 220	<220	<0.22	<0.22	<0.45
Dibromomethane	NE	NE	< 0.60	< 0.60	NA	NA	NA	< 0.60	< 0.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorodifluoromethane	NE	NE	< 0.99	< 0.99	<0.44	<0.44	<0.87	< 0.99	< 0.99	<0.44	<0.44	1.06 J	1.46	1.74 J	<22	<4.4	<8.7	<2200	< 440	<440	<0.44	<0.44	<0.87
Diisopropyl ether	NE	NE	< 0.76	< 0.76	<0.23	<0.23	<0.44	< 0.76	< 0.76	<0.23	<0.23	<0.23	<0.23	<0.44	<11.5	<2.3	<4.4	<1150	< 230	<230	<0.23	<0.23	<0.44
Ethylbenzene	700	140	< 0.54	< 0.54	<0.55	<0.55	<0.71	< 0.54	< 0.54	<0.55	<0.55	<0.55	<0.55	<0.71	<27.5	<5.5	<7.1	<2750	< 550	<550	<0.55	<0.55	<0.71
Hexachloro-1,3-butadiene	NE	NE	< 0.67	< 0.67	<1.5	<1.5	<2.2	< 0.67	< 0.67	<1.5	<1.5	<1.5	<1.5	<2.2	<7.5	<1.5	<2.2	<7500	< 1500	<1500	<1.5	<1.5	<2.2
Isopropylbenzene	NE	NE	< 0.59	< 0.59	<0.3	<0.3	<0.82	< 0.59	< 0.59	<0.3	<0.3	<0.3	<0.3	<0.82	<15	<3	<8.2	<1500	< 300	<300	<0.3	<0.3	<0.82
Methyl-tert-butyl ether (MTBE)	60	12	< 0.61	< 0.61	<0.23	<0.23	<1.1	< 0.61	< 0.61	<0.23	<0.23	<0.23	<0.23	<1.1	<11.5	<2.3	<11	<1150	< 230	<230	<0.23	<0.23	<1.1
Methylene Chloride	5	0.5	< 0.43	< 0.43	<0.5	<0.5	<1.3	0.62 J	< 0.43	<0.5	<0.5	&lt											

TABLE 3 GROUNDWATER LABORATORY ANALYTICAL DATA SUMMARY, continued  
JAGEMANN PLATING COMPANY, MANITOWOC, WISCONSIN

Parameter	NR 140 ES	NR 140 PAL	PZ-4				PZ-13	MW-14	MW-15	PZ-16	MW-17	SUMP-1		SUMP-2	
			06/15/2011	09/29/2011	07/31/2013	04/01/2014	12/29/2016	12/30/2016	12/30/2016	12/29/2016	12/29/2016	10/15/2010	06/15/2011	10/15/2010	06/15/2011
<b>VOCs (µg/L)</b>															
1,1,1,2-Tetrachloroethane	70	7	< 0.92	< 0.92	< 0.33	< 0.33	< 0.48	< 96	< 4.8	< 0.48	< 0.48	< 46.0	< 46.0	< 0.92	< 0.92
1,1,1-Trichloroethane	200	40	< 0.90	< 0.90	< 0.33	< 0.33	< 0.84	< 168	< 8.4	< 0.84	< 0.84	< 45.0	< 45.0	< 0.90	< 0.90
1,1,2,2-Tetrachloroethane	0.2	0.02	< 0.20	< 0.20	< 0.45	< 0.45	< 0.52	< 104	< 5.2	< 0.52	< 0.52	< 10.0	< 10.0	< 0.20	< 0.20
1,1,2-Trichloroethane	5	0.5	< 0.42	< 0.42	< 0.34	< 0.34	< 0.48	< 96	< 4.8	< 0.48	< 0.48	< 21.0	< 21.0	< 0.42	< 0.42
1,1-Dichloroethane	850	85	< 0.75	< 0.75	< 0.3	< 0.3	< 1.1	< 220	< 11	< 1.1	< 1.1	< 37.5	< 37.5	< 0.75	< 0.75
1,1-Dichloroethene	7	0.7	< 0.57	< 0.57	< 0.4	< 0.4	< 0.65	< 130	< 8.2	< 0.65	< 0.65	< 28.5	33.5 J	0.73 J	< 0.57
1,1-Dichloropropene	NE	NE	< 0.75	< 0.75	NA	NA	NA	NA	NA	NA	NA	< 37.5	< 37.5	< 0.75	< 0.75
1,2,3-Trichlorobenzene	NE	NE	< 0.74	< 0.74	< 1.8	< 1.8	< 2.7	< 540	< 27	< 2.7	< 2.7	< 37.0	< 37.0	< 0.74	< 0.74
1,2,3-Trichloropropane	60	12	< 0.99	< 0.99	NA	NA	NA	NA	NA	NA	NA	< 49.5	< 49.5	< 0.99	< 0.99
1,2,4-Trichlorobenzene	70	14	< 0.97	< 0.97	< 0.98	< 0.98	< 1.7	< 340	< 17	< 2.7	< 2.7	< 48.5	< 48.5	< 0.97	< 0.97
1,2,4-Trimethylbenzene	480*	96*	< 0.97	< 0.97	< 2.2	< 2.2	< 1.6	< 320	< 16	< 1.6	< 1.6	< 48.5	< 48.5	< 0.97	< 0.97
1,2-Dibromo-3-chloropropane	0.2	0.02	< 1.7	< 1.7	< 0.88	< 0.88	< 1.4	< 280	< 14	< 1.4	< 1.4	< 84.0	< 84.0	< 1.7	< 1.7
1,2-Dibromoethane (EDB)	0.05	0.005	< 0.56	< 0.56	< 0.44	< 0.44	< 0.63	< 126	< 6.3	< 0.63	< 0.63	< 28.0	< 28.0	< 0.56	< 0.56
1,2-Dichlorobenzene	600	60	< 0.83	< 0.83	< 0.36	< 0.36	< 0.46	< 92	< 4.6	< 0.46	< 0.46	< 41.5	< 41.5	< 0.83	< 0.83
1,2-Dichloroethane	5	0.5	< 0.36	< 0.36	< 0.41	< 0.41	< 0.48	< 96	< 4.8	< 0.48	< 0.48	< 18.0	< 18.0	< 0.36	< 0.36
1,2-Dichloropropene	5	0.5	< 0.49	< 0.49	< 0.32	< 0.32	< 0.43	< 86	< 4.3	< 0.43	< 0.43	< 24.5	< 24.5	< 0.49	< 0.49
1,3,5-Trimethylbenzene	480*	96*	< 0.83	< 0.83	< 1.4	< 1.4	< 1.5	< 300	< 15	< 1.5	< 1.5	< 41.5	< 41.5	< 0.83	< 0.83
1,3-Dichlorobenzene	1250	125	< 0.87	< 0.87	< 0.28	< 0.28	< 0.52	< 104	< 5.2	< 0.52	< 0.52	< 43.5	< 43.5	< 0.87	< 0.87
1,3-Dichloropropane	NE	NE	< 0.61	< 0.61	< 0.33	< 0.33	< 0.42	< 84	< 4.2	< 0.42	< 0.42	< 30.5	< 30.5	< 0.61	< 0.61
1,4-Dichlorobenzene	75	15	< 0.95	< 0.95	< 0.3	< 0.3	< 0.49	< 98	< 4.9	< 0.49	< 0.49	< 47.5	< 47.5	< 0.95	< 0.95
2,2-Dichloropropane	NE	NE	< 0.62	< 0.62	< 0.36	< 0.36	< 0.3	< 620	< 31	< 0.3	< 0.3	< 31.0	< 31.0	< 0.62	< 0.62
2-Chlorotoluene	NE	NE	< 0.85	< 0.85	< 0.21	< 0.21	< 0.4	< 80	< 4	< 0.4	< 0.4	< 42.5	< 42.5	< 0.85	< 0.85
4-Chlorotoluene	NE	NE	< 0.74	< 0.74	< 0.21	< 0.21	< 0.63	< 126	< 6.3	< 0.63	< 0.63	< 37.0	< 37.0	< 0.74	< 0.74
Benzene	5	0.5	< 0.41	< 0.41	< 0.24	< 0.24	< 0.44	< 88	< 4.4	< 0.44	< 0.44	< 20.5	< 20.5	< 0.41	< 0.41
Bromobenzene	NE	NE	< 0.82	< 0.82	< 0.32	< 0.32	< 0.48	< 96	< 4.8	< 0.48	< 0.48	< 41.0	< 41.0	< 0.82	< 0.82
Bromochloromethane	NE	NE	< 0.97	< 0.97	NA	NA	NA	NA	NA	NA	NA	< 48.5	< 48.5	< 0.97	< 0.97
Bromodichloromethane	0.6	0.06	< 0.56	< 0.56	< 0.37	< 0.37	< 0.46	< 92	< 4.6	< 0.46	< 0.46	< 28.0	< 28.0	< 0.56	< 0.56
Bromoform	4.4	0.44	< 0.94	< 0.94	< 0.35	< 0.35	< 0.46	< 92	< 4.6	< 0.46	< 0.46	< 47.0	< 47.0	< 0.94	< 0.94
Bromomethane	10	1	< 0.91	< 0.91	NA	NA	NA	NA	NA	NA	NA	< 45.5	< 45.5	< 0.91	< 0.91
Carbon Tetrachloride	5	0.5	< 0.49	< 0.49	< 0.33	< 0.33	< 0.51	< 102	< 5.1	< 0.51	< 0.51	< 24.5	< 24.5	< 0.49	< 0.49
Chlorobenzene	NE	NE	< 0.41	< 0.41	< 0.24	< 0.24	< 0.46	< 92	< 4.6	< 0.46	< 0.46	< 20.5	< 20.5	< 0.41	< 0.41
Chloroethane	400	80	< 0.97	< 0.97	< 0.63	< 0.63	< 0.65	< 130	< 6.5	< 0.65	< 0.65	< 48.5	< 48.5	< 0.97	< 0.97
Chloroform	6	0.6	< 1.3	< 1.3	< 0.28	< 0.28	< 0.43	< 86	< 4.3	< 0.43	< 0.43	< 65.0	< 65.0	< 1.3	< 1.3
Chloromethane	3	0.3	< 0.24	< 0.24	< 0.81	< 0.81	< 1.9	< 380	< 19	< 1.9	< 1.9	< 12.0	< 12.0	< 0.24	< 0.24
Dibromochloromethane	60	6	< 0.81	< 0.81	< 0.22	< 0.22	< 0.45	< 90	< 4.5	< 0.45	< 0.45	< 40.5	< 40.5	< 0.81	< 0.81
Dibromomethane	NE	NE	< 0.60	< 0.60	NA	NA	NA	NA	NA	NA	NA	< 30.0	< 30.0	< 0.60	< 0.60
Dichlorodifluoromethane	NE	NE	< 0.99	< 0.99	< 0.44	< 0.44	< 0.87	< 174	23.5 J	< 0.87	< 0.87	< 49.5	< 49.5	1.8	< 0.99
Diisopropyl ether	NE	NE	< 0.76	< 0.76	< 0.23	< 0.23	< 0.44	< 88	< 4.4	< 0.44	< 0.44	< 38.0	< 38.0	< 0.76	< 0.76
Ethylbenzene	700	140	< 0.54	< 0.54	< 0.55	< 0.55	< 0.71	< 142	< 7.1	< 0.71	< 0.71	< 27.0	< 27.0	< 0.54	< 0.54
Hexachloro-1,3-butadiene	NE	NE	< 0.67	< 0.67	< 1.5	< 1.5	< 2.2	< 440	< 22	< 2.2	< 2.2	< 33.5	< 33.5	< 0.67	< 0.67
Isopropylbenzene	NE	NE	< 0.59	< 0.59	< 0.3	< 0.3	< 0.82	< 164	< 8.2	< 0.82	< 0.82	< 29.5	< 29.5	< 0.59	< 0.59
Methyl-tert-butyl ether (MTBE)	60	12	< 0.61	< 0.61	< 0.23	< 0.23	< 1.1	< 220	< 11	< 1.1	< 1.1	< 30.5	< 30.5	< 0.61	< 0.61
Methylene Chloride	5	0.5	< 0.43	< 0.43	< 0.5	< 0.5	< 1.3	< 260	< 13	< 1.3	< 1.3	< 21.5	< 21.5	< 0.43	< 0.43
Naphthalene	100	10	< 0.89	< 0.89	< 1.7	< 1.7	< 1.6	< 320	< 16	< 1.6	< 1.6	< 44.5	< 44.5	< 0.89	< 0.89
Styrene	100	10	< 0.86	< 0.86	NA	NA	NA	NA	NA	NA	NA	< 43.0	< 43.0	< 0.86	< 0.86
Tetrachloroethene	5	0.5	< 0.45	< 0.45	< 0.33	< 0.33	< 0.49	< 98	< 4.9	< 0.49	< 0.49	< 22.5	< 22.5	< 0.45	< 0.45
Toluene	1000	200	< 0.67	< 0.67	< 0.69	< 0.69	< 0.44	< 88	< 4.4	< 0.44	< 0.44	< 33.5	< 33.5	< 0.67	< 0.67
Trichloroethene	5	0.5	< 0.48	< 0.48	< 0.33	< 0.33	< 0.47	36000	1660	< 0.47	< 0.47	3940	8100	84.7	72
Trichlorofluoromethane	NE	NE	< 0.79	< 0.79	< 0.71	< 0.71	< 0.87	< 174	< 8.7	< 0.87	< 0.87	< 39.5	< 39.5	< 0.79	< 0.79
Vinyl chloride	0.2	0.02	< 0.18	< 0.18	< 0.18	< 0.18	< 0.17	5900	191	< 0.17	< 0.17	1990	2950	0.66 J	0.31 J
cis-1,2-Dichloroethene	70	7	< 0.83	< 0.83	< 0.38	< 0.38	< 0.45	31400	390	< 0.45	< 0.45	3270	4480	106	45.3
cis-1,3-Dichloropropene	0.2	0.02	< 0.20	< 0.20	NA	NA	NA	NA	NA	NA	NA	< 10.0	< 10.0	< 0.20	< 0.20
Xylenes	10000	1000	< 2.63	< 2.63	< 1.32	< 1.32	< 3.1	< 620	< 31	< 3.1	< 3.1	< 131.5	< 131.5	< 2.63	< 2.63
n-Butylbenzene	NE	NE	< 0.93	< 0.93	< 0.35	< 0.35	< 1	< 200	< 10	< 1	< 1	< 46.5	< 46.5	< 0.93	< 0.93
n-Propylbenzene	NE	NE	< 0.81	< 0.81	< 0.25	< 0.25	< 0.77	< 154	< 7.7	< 0.77	< 0.77	< 40.5	< 40.5	< 0.81	< 0.81
p-Isopropyltoluene	NE	NE	< 0.67	< 0.67	< 0.31	< 0.31	< 1.1	< 220	< 11	< 1.1	< 1.1	< 33.5	< 33.5	< 0.67	< 0.67
sec-Butylbenzene	NE	NE	< 0.89	< 0.89	< 0.33	< 0.33	< 1.2	< 200	< 12	< 1.2	< 1.2	< 44.5	< 44.5	< 0.89	< 0.89
tert-Butylbenzene	NE	NE	< 0.97	< 0.97	< 0.36	< 0.36	< 1.1	< 240	< 11	< 1.1	< 1.1	< 48.5	< 48.5	< 0.97	< 0.97
trans-1,2-Dichloroethene	100	20	< 0.89	< 0.89	< 0.35	< 0.35	< 0.54	870	< 37	< 0.54	< 0.54	156	192	4.8	2
trans-1,3-Dichloropropene	0.2	0.02	< 0.19	< 0.19	NA	NA	NA	NA	NA	NA	NA	< 9.5	< 9.5	< 0.19	< 0.19

NE = Not Established  
 --- = Not Analyzed  
 ND = Not Detected  
 VOCs = Volatile Organic Compounds  
 J = Analyte detected between Limit of D and Limit of Quantitation  
 \* = NR 140 ES and PAL values are for c  
 = Exceeds the Chapter NR140 Enforc  
 = Exceeds the Chapter NR140 Prever