REI
CIVIL & ENVIRONMENTAL ENGINEERING, SURVEYING

September 4, 2018

Wisconsin Department of Natural Resources
Attn: Mr. Phil Richard
875 South 4th Avenue
Park Falls, WI 54552

Subject:

Site Update
Phillips Plating Corporation
984 North Lake Avenue
Phillips, WI
BRRTS: 02-51-559634

Dear Phil,

The purpose of this letter is to provide you with an update for site investigation activities associated with the above referenced site. The site location is shown on Figure 1.

BACKGROUND

This site is in the NW ¼, SW ¼, Section 7, T37N, R01E in the City of Phillips, Price County. A site vicinity map is included as attachment (Figure 1). The facility is an operating plating facility which specializes in metallic plating of various plastic components.

SUMMARY OF DATES AND WORK COMPLETED

- **June 6-7, 2018** – REI onsite to direct and oversee installation of monitoring wells MW13, MW14, MW15 and piezometers PZ2 and PZ3.
- **July 11, 2018** – REI onsite to develop, sample and survey monitoring wells and piezometers installed in June 2018 in addition to sampling entire well network.

Water table observation wells MW13, MW14 and MW15 were installed down gradient on the Phillips Medisize property to aid in lateral definition of the chromium and nickel contaminant plume. Piezometers PZ2 and PZ3 were also installed down gradient on the Phillips Medisize property to aid in vertical definition of the contaminant plume. Previously a downward gradient has been identified at the facility in well nest MW6/PZ1. These five (5) monitoring points were developed prior to sampling on July 11, 2018. Well development forms are also included as attachment. The five (5) monitoring points were also surveyed into the existing groundwater monitoring network. Boring logs, well construction and well development forms are attached. All purge water was containerized and transported by REI for disposal at the City of Wausau Wastewater Treatment Facility. Soil cuttings were containerized and transported by REI for disposal at Lincoln County Landfill. Disposal documentation is included as attachment.

SITE SUMMARY

REI submitted the Site Investigation Report / Remedial Action Plan on October 30, 2013. Site Update reports have been submitted on January 24, 2013, March 13, 2013, October 14, 2014, January 19, 2017, and December 29, 2017. These reports conclude that groundwater contamination originating from the Phillips Plating wastewater process is present on and off site. REI presented three (3) alternatives as a part of the Remedial Action Plan including source excavation, chemical injection, and long-term groundwater monitoring for natural attenuation. Groundwater monitoring was selected due to the limited ability to access the impacted source areas inside the building as well as the limited access between the building, State Highway 13 and railroad right of way along State Highway 13. Since the identification of the issue, Phillips Plating has also replaced or upgraded all process water tanks and piping by adding secondary containment or removing the Underground Storage Tanks (USTs) and replacing with Aboveground Storage Tanks (ASTs). Therefore, it is believed that there is no additional leak or ongoing source to the contamination.

Groundwater elevation data was collected prior to sampling and summarized on Table 1 and groundwater field monitoring and laboratory analytical results are summarized on Tables 2a-2r. Monitoring well MW3 was abandoned in advance of a building expansion in May 2015. The updated groundwater flow map for the July 2018 sample event completed along with location of all monitoring wells and piezometer are depicted in Figures 3.

GROUNDWATER ANALYTICAL RESULTS

Groundwater analytical results reveal exceedances of chromium and nickel above the Wisconsin Administrative Code (WAC) Ch. NR 140 Enforcement Standard (ES) in down-gradient wells of MW6, MW8 and MW9 all located east of the Phillips Plating building. MW8 and MW9 analytical results demonstrate stable or decreasing trends for chromium and nickel since sample events conducted in 2014. MW6 analytical results demonstrate a decreasing trend for nickel since 2014, however, an increasing trend has been identified for chromium since 2015.

Side gradient monitoring well MW5 reveals exceedances above the WAC Ch. NR 140 ES for chromium and nickel. At this location, chromium has demonstrated a stable/decreasing trend. Conversely, nickel has demonstrated an increasing trend.

Side gradient monitoring wells MW2, MW7, MW11 and MW12 reveal no detections above the WAC CH. NR 140 ES or Preventive Action Limit (PAL) for the metals of concern. Up-gradient wells MW1 and MW4 also do not reveal any detections for the target metals.

Down gradient monitoring wells MW13, MW14 and MW15 reveal no detections above the WAC Ch. NR 140 ES or PAL for the metals of concern aiding in lateral definition of the contaminant plume at the water table.

MW10 is located downgradient along the contamination plume and had consistently revealed analytical results exceeding the WAC Ch. NR 140 ES for chromium and nickel. However, in July 2018, only WAC Ch. NR 140 PAL exceedances were noted for chromium and nickel. Overall a stable to decreasing trend continues in MW10 since May 2015 to present. Groundwater samples were collected, and split samples were submitted to Pace Analytical Services and Northern Lake Service, Inc. for wells MW10 and MW11 as well as recently installed MW13, MW14, MW15, PZ2, and PZ3. The split sample analysis is in accordance with the original agreement with Phillips Medisize. Figure 4a and 4b show the estimated extent of dissolved chromium and nickel in groundwater for July 11, 2018 sample event.

PZ1 is located immediately adjacent to MW6. Concentrations of nickel are below the PAL and on occasion below method detection limits. Therefore, although there is a downward gradient between MW6 and PZ1, detections of nickel are not being realized in PZ1 as they are in MW6. However, chromium is present in concentrations exceeding the WAC Ch. NR 140 ES and has been relatively stable in levels detected since the initial sampling event. Based on concentrations chromium in PZ1 and the downward gradient, the vertical extent of the chromium plume has not been defined.

PZ2 is located immediately adjacent to MW13. Concentrations of nickel and chromium are below detection limits. A downward gradient was identified in the July 11, 2018 round of groundwater sampling at this location.

PZ3 is nested directly adjacent to MW10. Concentrations of nickel and chromium exceeded the ES in the July 11, 2018 sample event. A downward gradient was identified between MW10 and PZ3. Chromium and nickel concentrations are reported at two (2) orders of magnitude higher in PZ3 than MW10. The increased metals concentration at depth is likely a combination of the metals sinking in the groundwater formation with lateral movement and the downward gradient.

CONCLUSIONS AND RECOMMENDATIONS

REI has conducted ongoing groundwater monitoring to demonstrate stable or decreasing contaminant trends. REI and Phillips Plating believe the source(s) of the original release have been eliminated by upgrades completed by Phillips Plating. REI will continue to conduct semi-annual sampling until further consistent reductions in contamination in source wells are observed.

Please contact our office at (715) 675-9784 or electronically at klassa@reiengineering.com to further discuss anything contained in this update.

Sincerely,
REI Engineering, Inc.

Ken Lassa, P.S.
Environmental Services Department Manager

Attachments

- Table 1 – Groundwater Elevation Summary
- Table 2a-2r – Groundwater Analytical Results Summary
- Table 3a-3c – Vertical Gradient Calculations
- Figure 1 – Site Vicinity Map
- Figure 2 – Site Map
- Figure 3 – Groundwater Contour Maps
- Figure 4 – Estimated Extent of Groundwater Contamination for Chromium and Nickel
- Attachment A – Well forms
- Attachment B – Laboratory Analytical Reports
- Attachment C – Disposal Documentation

Cc: Mr. Darin Baratka, Phillips Plating Corp., 984 N. Lake Avenue Phillips, WI 54555
Mr. Dan Anderson, Phillips Medisize (electronic copy)

TABLE 1
GROUNDWATER ELEVATION SUMMARY
PHILLIPS PLATING CORPORATION
984 N. LAKE AVENUE, PHILLIPS, WI

Well	MW1	MW2	MW3	MW4	MW5	MW6	MW7	MW8	MW9	MW10	MW11	MW12	MW13	MW14	MW15	PZ1	PZ2	PZ3
TOC Elevation	1459.82	1457.24	1461.33	1459.19	1457.51	1458.16	1453.30	1457.92	1455.91	1450.54	1452.99	1459.50	1457.91	1449.03	1449.48	1457.96	1457.55	1451.00
Ground Elevation	1460.22	1457.58	1461.59	1459.52	1457.99	1458.67	1454.02	1458.23	1456.33	1451.11	1453.51	1459.98	1458.09	1449.21	1449.89	1458.36	1458.22	1451.16
Top of Screen Elevation	1445.92	1442.94	1446.85	1444.85	1443.86	1448.49	1443.76	1447.86	1445.85	1446.21	1445.75	1449.88	1446.48	1445.30	1445.87	1429.73	1429.36	1432.12
Well Depth	23.90	24.30	24.48	24.34	23.65	19.67	19.54	20.06	20.06	14.33	17.24	19.62	21.43	13.73	13.61	33.23	33.19	23.88
Depth to Water (from TOC)																		
12/12/2012	12.76	12.58	15.43	13.79	15.70	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
1/3/2013	13.06	12.83	15.74	14.02	15.77	16.76	15.04	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
2/6/2013	13.49	13.24	16.08	14.19	15.84	16.85	15.19	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
2/19/2013	NC	NC	NC	NC	NC	NC	NC	9.78	17.39	NI	NI	NI	NI	NI	NI	NI	NI	NI
3/5/2013	13.76	13.50	16.33	14.46	15.74	16.76	15.12	9.78	17.37	NI	NI	NI	NI	NI	NI	NI	NI	NI
5/8/2013	10.38	9.83	9.72	9.79	11.38	15.75	13.07	9.39	14.86	NI	NI	NI	NI	NI	NI	NI	NI	NI
7/15/2013	9.39	10.69	10.81	10.51	15.15	16.19	13.96	9.68	15.97	7.8	9.94	13.06	NI	NI	NI	17.05	NI	NI
8/12/2013	9.76	11.09	12.01	11.35	15.31	16.11	14.21	9.57	16.24	8.03	10.28	14.21	NI	NI	NI	17.21	NI	NI
11/12/2013	10.14	11.13	11.37	11.49	15.29	16.3	14.2	9.63	16.34	8.1	10.39	14.61	NI	NI	NI	17.43	NI	NI
2/12/2014	10.99	12.20	14.31	12.95	15.56	16.61	15.13	10.04	17.32	9.04	11.41	16.16	NI	NI	NI	18.27	NI	NI
6/2/2014	8.42	10.03	9.41	9.63	14.38	15.91	13.14	9.41	15.12	7.29	9.11	11.42	NI	NI	NI	16.32	NI	NI
8/5/2014	9.45	10.94	11.28	11.05	15.28	16.27	14.11	9.73	16.13	8.03	10.19	12.95	NI	NI	NI	17.11	NI	NI
11/5/2014	9.91	11.25	11.56	X	15.39	16.39	14.33	9.89	16.5	8.28	10.54	13.57	NI	NI	NI	17.45	NI	NI
2/10/2015	11.31	11.73	13.36	12.59	15.56	16.51	14.95	10.01	17.11	8.85	11.17	17.8	NI	NI	NI	18.03	NI	NI
5/4/2015	10.53	12.94	11.26	11.87	15.37	16.31	14.1	9.87	16.19	8.04	10.24	12.94	NI	NI	NI	17.45	NI	NI
8/4/2015	9.94	11.11	Well Abandoned	11.27	15.24	16.18	14.11	9.39	16.02	8.02	10.24	13.61	NI	NI	NI	17.25	NI	NI
11/3/2015	10.21	11.78		12.56	15.41	16.32	14.25	9.58	16.42	8.22	10.37	14.13	NI	NI	NI	17.6	NI	NI
2/22/2016	10.86	12.06		NA	15.52	16.36	14.89	9.41	17.07	8.76	11.08	15.77	NI	NI	NI	18.06	NI	NI
8/31/2016	10.32	11.55		12.38	NA	16.32	13.99	9.78	16.09	7.9	10.07	15.45	NI	NI	NI	17.16	NI	NI
2/14/2017	11.68	12.90		13.12	15.76	16.55	14.81	9.76	17.09	8.76	11.06	15.81	NI	NI	NI	18.2	NI	NI
8/29/2017	9.71	11.71		11.90	15.42	NA	13.87	10.17	16.19	7.90	10.07	13.66	NI	NI	NI	17.13	NI	NI
7/11/2018	10.90	11.35		11.76	15.41	16.35	13.94	10.21	16.04	7.84	10.01	13.25	15.28	6.55	7.34	17.15	14.94	8.31
Water Elevation																		
12/12/2012	1447.06	1444.66	1445.9	1445.4	1441.81	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
1/3/2013	1446.76	1444.41	1445.59	1445.17	1441.74	1441.40	1438.26	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
2/6/2013	1446.33	1444.00	1445.25	1445.00	1441.67	1441.31	1438.11	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
2/19/2013	NC	NC	NC	NC	NC	NC	NC	1448.45	1438.94	NI	NI	NI	NI	NI	NI	NI	NI	NI
3/5/2013	1446.06	1443.74	1445.00	1444.73	1441.77	1441.40	1438.18	1448.14	1438.54	NI	NI	NI	NI	NI	NI	NI	NI	NI
5/8/2013	1449.44	1447.41	1451.61	1449.4	1446.13	1442.41	1440.23	1448.53	1441.05	NI	NI	NI	NI	NI	NI	NI	NI	NI
7/15/2013	1450.43	1446.55	1450.52	1448.68	1442.36	1441.97	1439.34	1448.24	1439.94	1442.74	1443.05	1446.44	NI	NI	NI	1440.91	NI	NI
8/12/2013	1450.06	1446.15	1449.32	1447.84	1442.2	1442.05	1439.09	1448.35	1439.67	1442.51	1442.71	1445.29	NI	NI	NI	1440.75	NI	NI
11/12/2013	1449.68	1446.11	1449.96	1447.7	1442.22	1441.86	1439.1	1448.29	1439.57	1442.44	1442.6	1444.89	NI	NI	NI	1440.53	NI	NI
2/12/2014	1448.83	1445.04	1447.02	1446.24	1441.95	1441.55	1438.17	1447.88	1438.59	1441.5	1441.58	1443.34	NI	NI	NI	1439.69	NI	NI
6/2/2014	1451.4	1447.21	1451.92	1449.56	1443.13	1442.25	1440.16	1448.51	1440.79	1443.25	1443.88	1448.08	NI	NI	NI	1441.64	NI	NI
8/5/2014	1450.37	1446.3	1450.05	1448.14	1442.23	1441.89	1439.19	1448.19	1439.78	1442.51	1442.8	1446.55	NI	NI	NI	1440.85	NI	NI
11/5/2014	1449.91	1445.99	1449.77	X	1442.12	1441.77	1438.97	1448.03	1439.41	1442.26	1442.45	1445.93	NI	NI	NI	1440.51	NI	NI
2/10/2015	1448.51	1445.51	1447.97	1446.6	1441.95	1441.65	1438.35	1447.91	1438.8	1441.69	1441.82	1441.7	NI	NI	NI	1439.93	NI	NI
5/4/2015	1449.29	1444.3	1450.07	1447.32	1442.14	1441.85	1439.2	1448.05	1439.72	1442.5	1442.75	1446.56	NI	NI	NI	1440.51	NI	NI
8/4/2015	1449.88	1446.13	Well Abandoned	1447.92	1442.27	1441.98	1439.19	1448.53	1439.89	1442.52	1442.75	1445.89	NI	NI	NI	1440.71	NI	NI
11/3/2015	1449.61	1445.46		1446.63	1442.1	1441.84	1439.05	1448.34	1439.49	1442.32	1442.62	1445.37	NI	NI	NI	1440.36	NI	NI
2/22/2016	1448.96	1445.18		NA	1441.99	1441.80	1438.41	1448.51	1438.84	1441.78	1441.91	1443.73	NI	NI	NI	1439.9	NI	NI
8/31/2016	1449.5	1445.69		1446.81	NA	1441.84	1439.31	1448.14	1439.82	1442.64	1442.92	1444.05	NI	NI	NI	1440.8	NI	NI
2/14/2017	1448.14	1444.34		1446.07	1441.75	1441.61	1438.49	1448.16	1438.82	1441.78	1441.93	1443.69	NI	NI	NI	1439.76	NI	NI
8/29/2017	1450.11	1445.53		1447.29	1442.09	NA	1439.43	1447.75	1439.72	1442.64	1442.92	1445.84	NI	NI	NI	1440.83	NI	NI
7/11/2018	1448.92	1445.89		1447.43	1442.10	1441.81	1439.36	1447.71	1439.87	1442.70	1442.98	1446.25	1442.63	1442.48	1442.14	1440.81	1442.61	1442.69
Average Depth to Water (from Top of Casing)	10.81	11.74	12.76	12.14	15.22	16.36	14.32	9.74	16.39	8.18	10.39	14.28	15.28	6.55	7.34	17.43	14.94	8.31
Average Elevation of Water (at Groundwater Surface)	1449.01	1445.50	1448.57	1447.05	1442.29	1441.80	1438.98	1448.20	1439.54	1442.36	1442.60	1445.23	1442.63	1442.48	1442.14	1440.53	1442.61	1442.69
Minimum Depth to Water (from Top of casing)	8.42	9.83	9.41	9.63	11.38	15.75	13.07	9.39	14.86	7.29	9.11	11.42	15.28	6.55	7.34	16.32	14.94	8.31

All well elevations referenced to an on site benchmark with an assumed elevation of 1460.00
NI = Not Installed
NC = Not Collected

TABLE 2a
GROUNDWATER ANALYTICAL RESULTS SUMMARY
PHILLIPS PLATING CORPORATION
984 N. LAKE AVENUE, PHILLIPS, WI
MW1

PARAMETER	ES	PAL	12/11/2012	3/5/2013	8/12/2013	11/12/2013	2/12/2014	6/2/2014	8/5/2014	5/4/2015	8/4/2015	2/22/2016	8/31/2016	2/14/2017	8/29/2017	7/11/2018
Metals (ug/L)																
Arsenic	10	1	<0.50	<4.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	2000	400	280	230	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	5	0.5	<0.10	*0.91* J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Chromium	100	10	2	<1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Hexavalent (mg/L)			<0.0017	<0.0034	NA	NA	NA	NA	NA	NA	NA	<0.0039	<0.026	<0.0051	<0.0051	<0.051
Lead	15	1.5	<0.10	1.5J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	0.2	<0.025	<0.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	100	20	5.5	7.7J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	50	10	<2.0	<6.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	50	10	<0.13	<1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dis. Total Chromium (filtered)	100	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.1J	<2.1	<2.5	<2.5	<2.5
Dissolved Iron (filtered)	300	150	NA	NA	NA	NA	NA	NA	NA	NA	NA	26.9J	30.6J	20.6J	<15.5	17.8J
Dissolved Manganese (filtered)	300	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.8	1.9J	2.8J	2.3J	1.1J
Dissolved Nickel (filtered)	100	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	*98.8*	*93*	*66.7*	*60.9*	*41.5*
Nitrate Nitrogen (mg/L)	10	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	*5.2*	*5.1*	*5.0*	*6.0*	*7.0*
Sulfate (mg/L)	250	125	NA	NA	NA	NA	NA	NA	NA	NA	NA	23.8	23	21.5	18.2	17.7
Field Measurements																
Temperature (^{o}F)			NA	NA	56.26	57.11	44.14	49.97	58.55	45.98	56.33	47.80	60.25	47.73	60.61	54.50
Conductivity (ms/cm)			NA	NA	1,803	2,370	2,680	2,305	1,922	1,747	1,146	1,205	1,006	1,135	793	1,311
Dissolved Oxygen (mg/L)			NA	NA	4.22	1.03	2.71	3.35	2.19	2.01	2.86	2.93	3.95	3.79	6.41	2.86
pH			NA	NA	6.45	6.9	6.19	7.08	7.51	7.12	7.58	7.76	7.93	7.21	7.53	6.95
Redox Potential (mV)			NA	NA	139.4	24.1	244.6	-8.9	-70.5	97.5	59.7	245.0	30.4	180.1	54.9	167.6

PAL = Preventive Action Limit
ES = Enforcement Standards

BOLD	= Exceeds Enforcement Standard
Italic	= Exceeds Preventative Action Limit

NA - Not Analyzed
< - Concentration less than listed detection limit
J = estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

TABLE 2b
GROUNDWATER ANALYTICAL RESULTS SUMMARY
PHILLIPS PLATING CORPORATION
984 N. LAKE AVENUE, PHILLIPS, WI
MW2

PARAMETER	ES	PAL	12/11/2012	3/5/2013	8/12/2013	11/12/2013	2/12/2014	6/2/2014	8/5/2014	5/4/2015	8/4/2015	2/22/2016	8/31/2016	2/14/2017	8/29/2017	7/11/2018
Metals (ug/L)																
Arsenic	10	1	<0.50	<4.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	2000	400	180	190	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	5	0.5	<0.10	0.40[J]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Chromium	100	10	1.4	<1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Hexavalent (mg/L)			<0.0017	<0.0034	NA	NA	NA	NA	NA	NA	NA	<0.039	<0.13	<0.051	<0.26	<0.13
Lead	15	1.5	<0.10	1.3[J]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	0.2	<0.025	<0.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	100	20	9.0	4.5[J]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	50	10	<2.0	<6.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	50	10	<0.13	<1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dis. Total Chromium (filtered)	100	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2.1	<2.1	<2.5	<2.5	<2.5
Dissolved Iron (filtered)	300	150	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.7[J]	41.9[J]	60.5[J]	<15.5	16.9[J]
Dissolved Manganese (filtered)	300	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	*72.5*	*72.2*	*46.9*	*136*	*126*
Dissolved Nickel (filtered)	100	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	14.2	10.3	10[J]	8.1[J]	4.0[J]
Nitrate Nitrogen (mg/L)	10	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	**31.7**	**23.1**	**15.7**	**22.9**	**32.5**
Sulfate (mg/L)	250	125	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.6	27.8	20.3	16.3	22.7
Field Measurements																
Temperature (^{o}F)			NA	NA	58.47	57.95	46.8	44.95	56.7	44.08	56.13	47.83	62.47	49.06	61.07	57.38
Conductivity (ms/cm)			NA	NA	458	459	1,053	115	154	1,052	161	798	212	589	40	21
Dissolved Oxygen (mg/L)			NA	NA	6.44	3.77	5.66	3.81	4.46	10.75	5.56	2.87	2.63	3.05	3.83	1.59
pH			NA	NA	5.74	6.87	5.65	7.17	7.82	6.94	7.32	6.25	6.93	5.75	7.64	3.50
Redox Potential (mV)			NA	NA	112.0	-32.7	230.1	45.8	-9.8	138.8	81.3	217.6	96.9	195.1	72.0	355.3

PAL = Preventive Action Limit
ES = Enforcement Standards

BOLD	= Exceeds Enforcement Standard
Italic	= Exceeds Preventative Action Limit

NA - Not Analyzed
< - Concentration less than listed detection limit
J = estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

TABLE 2c
GROUNDWATER ANALYTICAL RESULTS SUMMARY
PHILLIPS PLATING CORPORATION
984 N. LAKE AVENUE, PHILLIPS, WI
MW3

PARAMETER	ES	PAL	12/11/2012	3/5/2013	8/12/2013	11/12/2013	2/12/2014	6/2/2014	8/5/2014	11/5/2014	2/10/2015	5/4/2015	5/4/2015
Metals (ug/L)													
Arsenic	10	1	<0.50	<4.4	NA	NA	NA	NA	NA	NA	NA	NA	Well Abandoned - Following Sample Collection
Barium	2000	400	25	57.2	NA	NA	NA	NA	NA	NA	NA	NA	
Cadmium	5	0.5	<0.10	<0.38	NA	NA	NA	NA	NA	NA	NA	NA	
Dis. Total Chromium (filtered)	100	10	2.2	<1.2	<1.2	<1.2	<1.2	<2.1	<2.1	<2.1	<2.1	<2.1	
Total Chromium (unfiltered)	100	10	NA	NA	*35.1*	*58.8*	*41.4*	*34.7*	*16.1*	*71.5*	*47.7*	**100**	
Chromium, Hexavalent (mg/L)			<0.0017	<0.0034	<0.0034	<0.0034	<0.034	<0.0039	<0.0097	<0.019	<0.039	<0.019	
Lead	15	1.5	<0.10	2.2[J]	NA	NA	NA	NA	NA	NA	NA	NA	
Mercury	2	0.2	<0.025	<0.10	NA	NA	NA	NA	NA	NA	NA	NA	
Dissolved Nickel (filtered)	100	20	1.4	1.5[J]	24.7	1.8[J]	<0.75	3.4[J]	1.8[J]	1.9[J]	<1.4	<1.4	
Nickel (Unfiltered)	100	20	NA	NA	1.4[J]	*47.9*	*30.5*	*25.6*	12.8	*55.4*	*38.8*	*70.6*	
Selenium	50	10	<2.0	<6.6	NA	NA	NA	NA	NA	NA	NA	NA	
Silver	50	10	<0.13	<1.4	NA	NA	NA	NA	NA	NA	NA	NA	
Dissolved Manganese (filtered)	300	60	NA	NA	2.1[J]	2.0[J]	2.3[J]	2.1[J]	<1.4	1.8[J]	1.9[J]	<1.4	
Manganese (unfiltered)	300	60	NA	NA	**881**	**1,130**	**845**	**493**	**216**	**945**	**743**	**1,230**	
Dissolved Total Iron (filtered)	300	150	NA	NA	68.9[J]	28.6[J]	22.8[J]	<12.9	16.9[J]	28.8[J]	18.4[J]	<12.9	
Total Iron (unfiltered)	300	150	NA	NA	**26,200**	**42,900**	**29,500**	**26,300**	**10,900**	**55,700**	**38,500**	**75,300**	
Nitrate Nitrogen (mg/L)	10	2	NA	NA	*2.3*	*3.1*	*3.4*	*5*	*2.1*	*2.2*[J]	*2.8*	*3.2*	
Sulfate (mg/L)	250	125	NA	NA	8.4	6.7	10.3	9.6	10.7	21.3[J]	12.8[J]	<10.0	
Field Measurements													
Temperature (^{o}F)			NA	NA	52.73	54.12	48.23	47.91	53.76	53.53	47.85	45.38	
Conductivity (ms/cm)			NA	NA	162	221	267	301	216	194	193	203	
Dissolved Oxygen (mg/L)			NA	NA	7.63	5.33	8.04	4.73	3.81	6.99	7.66	9.2	
pH			NA	NA	6.43	7.41	5.67	6.22	6.83	6.36	6.77	6.46	
Redox Potential (mV)			NA	NA	90.6	11.2	273.6	77.2	52.2	121	158.2	188.5	

PAL = Preventive Action Limit

ES = Enforcement Standards

BOLD	= Exceeds Enforcement Standard
Italic	= Exceeds Preventative Action Limit

NA - Not Analyzed

< - Concentration less than listed detection limit

J = estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

TABLE 2d
GROUNDWATER ANALYTICAL RESULTS SUMMARY
PHILLIPS PLATING CORPORATION
984 N. LAKE AVENUE, PHILLIPS, WI
MW4

PARAMETER	ES	PAL	12/11/2012	3/5/2013	8/12/2013	11/12/2013	2/12/2014	6/2/2014	8/5/2014	5/4/2015	8/4/2015	8/31/2016	2/14/2017	8/29/2017	7/11/2018
Metals (ug/L)															
Arsenic	10	1	<0.50	<4.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	2000	400	45	29.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	5	0.5	<0.10	<0.38	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Chromium (dissolved)	100	10	3.4	1.5[J]	NA	NA	NA	NA	NA	NA	NA	<2.1	<2.5	<2.5	<2.5
Chromium, Hexavalent (mg/L)			<0.0017	<0.0034	NA	NA	NA	NA	NA	NA	NA	<0.0051	<0.0051	<0.0051	<0.0051
Lead	15	1.5	<0.10	<1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	0.2	<0.025	<0.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	100	20	6.8	3.5[J]	NA	NA	NA	NA	NA	NA	NA	<1.4	<1.9	<1.9	<1.9
Selenium	50	10	<2.0	<6.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	50	10	<0.13	<1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (dissolved)	300	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.4	<1.1	<1.1	<1.1
Dissolved Iron (filtered)	300	150	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<15.5	<15.5	<15.5
Nitrate Nitrogen (mg/L)	10	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	*3.1*	*2.8*	*3.5*	*2.4*
Sulfate (mg/L)	250	125	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.9[J]	10.3[J]	8.5	7.2[J]
Field Measurements															
Temperature (^{o}F)			NA	NA	53.04	54.38	49.93	47.78	54.59	47.22	52.74	55.41	49.55	53.89	54.86
Conductivity (ms/cm)			NA	NA	3.71	374	423	381	235	351	320	380	412	390	459.9
Dissolved Oxygen (mg/L)			NA	NA	4.74	6.02	5.29	1.24	3.21	4.91	6.31	4.15	2.48	2.80	2.60
pH			NA	NA	7.19	7.69	6.4	8.05	8.19	7.22	7.38	7.95	7.16	7.54	7.66
Redox Potential (mV)			NA	NA	-27.2	-43.8	200.0	-7.2	-24.1	159.1	92.5	49.3	177.1	40.0	200.9

PAL = Preventive Action Limit

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Italic	= Exceeds Preventative Action Limit

NA - Not Analyzed

< - Concentration less than listed detection limit

J = estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

TABLE 2e
GROUNDWATER ANALYTICAL RESULTS SUMMARY
PHILLIPS PLATING CORPORATION
984 N. LAKE AVENUE, PHILLIPS, WI
MW5

PARAMETER	ES	PAL	12/11/2012	1/3/2013	3/5/2013	5/8/2013	8/12/2013	11/12/2013	2/12/2014	6/2/2014	8/5/2014	11/5/2014	2/10/2015	5/4/2015	8/4/2015	11/3/2015	2/22/2016	2/14/2017	8/29/2017	7/11/2018
Metals (ug/L)																				
Arsenic	10	1	<0.50	<4.7	<4.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	2000	400	110	138	*686*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	5	0.5	<0.10	<0.39	*1.8* [J]	**18.9**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dis. Total Chromium (filtered)	100	10	**430**	**414**	**359**	*49.2*	**174**	**254**	**458**	**188**	**360**	**340**	**330**	**317**	**351**	**381**	**351**	**321**	**365**	**195**
Total Chromium (unfiltered)	100	10	NA	NA	NA	NA	**1,130**	**1,540**	**1,680**	**1,700**	**1,380**	**1,770**	**1,010**	**1,090**	**1,970**	**1,530**	NA	NA	NA	NA
Chromium, Hexavalent (mg/L)			0.59	0.46	0.33	<0.86	0.26	0.34	0.31 [J]	0.39	0.24	0.28	0.27	0.33	0.25	0.093 [J]	<0.097	0.28	0.22 [J]	0.18
Lead	15	1.5	<0.10	<1.4	*2.5* [J]	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	0.2	<0.025	<0.10	<0.10	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Nickel (filtered)	100	20	**440**	**787**	**6,230**	**1,420**	**1,090**	**368**	**295**	**3,870**	**267**	**236**	**303**	**1,160**	**379**	**378**	**462**	**593**	**922**	**3,040**
Nickel (Unfiltered)	100	20	NA	NA	NA	NA	**974**	**1,220**	**1,120**	**1,920**	**952**	**1,160**	**977**	**1,660**	**1,520**	**1,280**	NA	NA	NA	NA
Selenium	50	10	<2.0	<5.8	<6.6	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	50	10	<0.13	<2.3	<1.4	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Iron (filtered)	0.3	0.15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<12.9	21.4 [J]	<15.5	<15.5
Dissolved Manganese (filtered)	300	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.5	5.3	11	54.2
Nitrate Nitrogen (mg/L)	10	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*4.3*	*4.4*	*5.0*	*7.5*
Sulfate (mg/L)	250	125	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	30.1	24.1	24.4	37.1
Field Measurements																				
Temperature (^{o}F)			NA	NA	NA	NA	55.26	57.59	50.02	47.71	55.12	54.57	49.94	46.65	53.67	57.27	49.82	51.68	55.42	53.78
Conductivity (ms/cm)			NA	NA	NA	NA	1,498	1,753	1,215	3,866	1,996	1,456	818	2,377	941	621	491	878	1,009	3,496
Dissolved Oxygen (mg/L)			NA	NA	NA	NA	5.03	4.53	6.76	3.89	2.92	5.35	7.02	9.18	6.03	4.57	6.27	5.56	6.61	5.03
pH			NA	NA	NA	NA	5.02	6.94	5.15	5.63	6.01	5.95	6.25	6.21	6.87	6.25	6.60	6.44	6.69	5.87
Redox Potential (mV)			NA	NA	NA	NA	185.2	-11.4	227.1	127.6	61.1	144.3	160	147.8	134	294.7	224.2	182.1	120.0	243.5

PAL = Preventive Action Limit

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BOLD	= Exceeds Enforcement Standard
Italic	= Exceeds Preventative Action Limit

NA - Not Analyzed

< - Concentration less than listed detection limit

J = estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

TABLE 2f
GROUNDWATER ANALYTICAL RESULTS SUMMARY
PHILLIPS PLATING CORPORATION
984 N. LAKE AVENUE, PHILLIPS, WI
MW6

PARAMETER	ES	PAL	1/3/2013	3/5/2013	5/8/2013	8/12/2013	11/12/2013	2/12/2014	6/2/2014	8/5/2014	11/5/2014	2/10/2015	5/4/2015	8/4/2015	11/3/2015	2/22/2016	8/31/2016	2/14/2017	8/29/2017	7/11/2018
Metals (ug/L)																				
Arsenic	10	1	*<4.7*	*<4.4*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	2000	400	225	112	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	5	0.5	*1.6 J*	*0.87 J*	*0.51 J*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dis. Total Chromium (filtered)	100	10	**323**	**146**	**337**	**1,010**	**602**	**858**	**844**	**6,230**	**19,900**	**14,300**	**1,920**	**2,510**	**3,160**	**6,960**	**7,770**	**6,030**	**5,800**	**11,500**
Total Chromium (unfiltered)	100	10	NA	NA	NA	**3,160**	**4,550**	**2,840**	**4,290**	**8,910**	**21,800**	**16,000**	**6,210**	**8,500**	**7,250**	NA	NA	NA	NA	NA
Chromium, Hexavalent (mg/L)			0.14	0.14	<0.086	<0.0034	0.58	0.66	1.1	5.9	21.7	13.9	2.2	2.6	3.5	6.8	7.4	7.0	7.3	11.7
Lead	15	1.5	*2.5J*	*2.2J*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	0.2	*0.28*	*0.23*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Nickel (filtered)	100	20	**14,100**	**9,820**	**3,690**	**16,700**	**10,900**	**6,460**	**6,870**	**17,500**	**23,800**	**19,000**	**2,480**	**3,400**	**3,720**	**8,810**	**10,100**	**5,720**	**4,140**	**6,030**
Nickel (Unfiltered)	100	20	NA	NA	NA	**14,300**	**11,100**	**6,010**	**7,360**	**17,600**	**22,900**	**18,200**	**3,700**	**4,960**	**5,130**	NA	NA	NA	NA	NA
Selenium	50	10	<5.8	<6.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	50	10	<2.3	<1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Manganese (filtered)	300	60	NA	NA	NA	**1,090**	**982**	**690**	**783**	NA	**954**	**974**	**645**	**703**	**597**	**669**	**781**	**767**	**922**	**1,220**
Manganese (unfiltered)	300	60	NA	NA	NA	**1,340**	**1,690**	**1,120**	**1,390**	**1,720**	**1,380**	**1,880**	**1,350**	**2,140**	**1,150**	NA	NA	NA	NA	NA
Dissolved Iron (filtered)	300	150	NA	NA	NA	<14.0	<14.0	<14	<12.9	<12.9	<12.9	<12.9	<12.9	<12.9	<12.9	<12.9	<12.9	<12.9	<15.5	<15.5	<31.0
Iron (unfiltered)	300	150	NA	NA	NA	**22,300**	**34,600**	**26,600**	**32,600**	**31,600**	**25,400**	**52,000**	**38,000**	**75,600**	**28,600**	NA	NA	NA	NA	NA
Nitrate Nitrogen (mg/L)	10	2	NA	NA	NA	**14.3**	**16.1**	**11.6**	**10.9**	**12**	**12.2**	**11.8**	*7.9*	*6.8*	*9.2*	*8.4*	**11.1**	**10.9**	*6.7*	**12.5**
Sulfate (mg/L)	250	125	NA	NA	NA	*204*	*208*	*194*	*195*	**266**	**274**	**288**	*209*	*211*	*217*	**256**	**236**	**269**	**251**	**302**
Field Measurements																				
Temperature (^{o}F)			NA	NA	NA	57.42	58.27	55.93	51.79	57.88	56.83	54.18	53.71	56.97	58.6	55.96	58.41	56.07	57.06	55.94
Conductivity (ms/cm)			NA	NA	NA	1,203	1,209	1,419	1,200	1,254	1,167	1,077	1,188	1,171	1,244	1,124	1,269	1,139	1,241	1,517
Dissolved Oxygen (mg/L)			NA	NA	NA	0.72	1.07	1.31	0.79	0.89	0.36	0.36	0.52	0.74	0.03	0.36	0.13	0.33	0.80	0.42
pH			NA	NA	NA	6.09	7.63	5.49	6.79	7.15	6.87	6.84	6.82	7.2	6.91	7.13	7.21	6.81	6.95	6.62
Redox Potential (mV)			NA	NA	NA	167.7	-7.5	196	40.4	114.6	176.2	198	197.6	148.6	290.3	261.5	147.3	196.9	118.8	242.4

PAL = Preventive Action Limit
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< - Concentration less than listed detection limit
J = estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

TABLE 2g
GROUNDWATER ANALYTICAL RESULTS SUMMARY
PHILLIPS PLATING CORPORATION
984 N. LAKE AVENUE, PHILLIPS, WI
MW7

PARAMETER	ES	PAL	1/3/2013	3/5/2013	8/12/2013	11/12/2013	2/12/2014	6/2/2014	8/5/2014	11/5/2014	2/10/2015	5/4/2015	8/4/2015	11/3/2015	2/22/2016	8/31/2016	2/14/2017	8/29/2017	7/11/2018
Metals (ug/L)																			
Arsenic	10	1	<4.7	<4.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	2000	400	*841*	*661*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	5	0.5	<0.39	*0.58* ^{J}	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Chromium	100	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dis. Total Chromium (filtered)	100	10	<2.4	<1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.2^{J}	<2.1	<2.5	5.2^{J}	<2.5
Chromium, Hexavalent (mg/L)			<0.0039	<0.0034	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.039	<0.026	<0.026	<0.51	<0.013
Lead	15	1.5	<1.4	<1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	0.2	<0.10	<0.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	100	20	6.1^{J}	4.3^{J}	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	50	10	<5.8	<6.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	50	10	<2.3	2.0^{J}	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Iron (filtered)	300	150	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<12.9	<12.9	<15.5	90.6^{J}	*293*
Dissolved Manganese (filtered)	300	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.8^{J}	<1.4	<1.1	3.5^{J}	7.4
Dissolved Nickel (filtered)	100	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.1^{J}	1.8^{J}	<1.9^{J}	<1.9	<1.9
Nitrate Nitrogen (mg/L)	10	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*4.2*	*3.4*	*3.8*	*2.8*	*3.2*
Sulfate (mg/L)	250	125	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40.8	42.4	36.7	35.0	34.3
Field Measurements																			
Temperature (^{o}F)			NA	NA	52.35	53.45	48.45	47.88	53.67	52.87	47.82	46.41	52.43	53.88	48.61	53.82	48.65	54.25	53.96
Conductivity (ms/cm)			NA	NA	4,130	2,795	4,908	3,054	4,771	3,358	2,708	4,173	4,047	2,571	2,447	4,913	3,095	1,730	3,595
Dissolved Oxygen (mg/L)			NA	NA	5.21	4.62	5.83	5.97	3.71	4.99	7.9	9.51	8.41	7.61	7.50	7.89	9.66	9.46	6.95
pH			NA	NA	6.11	7.44	6.31	6.34	6.77	6.83	7.08	6.69	7.64	6.71	7.45	7.24	7.09	7.37	6.24
Redox Potential (mV)			NA	NA	135.1	-37.3	278.2	56.7	20.2	102.5	130.7	139.9	95.4	272.8	202.8	91.6	143.5	64.4	229.2

PAL = Preventive Action Limit

ES = Enforcement Standards

BOLD	= Exceeds Enforcement Standard
Italic	= Exceeds Preventative Action Limit

NA - Not Analyzed

< - Concentration less than listed detection limit

J = estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

TABLE 2h
GROUNDWATER ANALYTICAL RESULTS SUMMARY
PHILLIPS PLATING CORPORATION
984 N. LAKE AVENUE, PHILLIPS, WI
MW8

PARAMETER	ES	PAL	2/19/2013	3/5/2013	5/8/2013	8/12/2013	11/12/2013	2/12/2014	6/2/2014	8/5/2014	11/5/2014	2/10/2015	5/4/2015	8/4/2015	11/2/2015	2/22/2016	8/31/2016	2/14/2017	8/29/2017	7/11/2018
Metals (ug/L)																				
Arsenic	10	1	<4.4	<4.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	2000	400	50.5	39.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	5	0.5	<0.38	<0.38	0.47[J]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dis. Total Chromium (filtered)	100	10	**537**	**507**	**1,540**	**2,630**	**2,570**	**1,550**	**2,030**	**3,320**	**1,910**	**1,850**	**1,020**	**1,060**	**776**	**1,270**	**488**	**426**	**470**	**594**
Total Chromium (unfiltered)	100	10	NA	NA	NA	**2,610**	**2,700**	**1,910**	**2,220**	**3,420**	**2,110**	**2,110**	**1,330**	**1,580**	**986**	NA	NA	NA	NA	NA
Chromium, Hexavalent (mg/L)			0.53	0.46	1.1	2.7	2.7	1.8	1.8	3.3	1.8	1.6	0.98	1.1	0.76	1.1	0.49	0.42	0.53	0.57
Lead	15	1.5	<1.2	*1.5*[J]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	0.2	<0.10	<0.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Nickel (filtered)	100	20	**278**	**546**	**1,060**	**1,720**	**1,510**	**605**	**1,710**	**3,420**	**1,920**	**1,010**	**1,530**	**1,450**	**1,770**	**1,460**	**1,400**	**1,040**	**1,750**	**876**
Nickel (Unfiltered)	100	20	NA	NA	NA	**1,860**	**1,860**	**1,190**	**2,070**	**3,700**	**2,300**	**1,980**	**1,900**	**1,930**	**1,920**	NA	NA	NA	NA	NA
Selenium	50	10	<6.6	<6.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	50	10	<1.4	<1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Iron (filtered)	300	150	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	65.0[J]	<12.9	<15.5	<15.5	<15.5
Dissolved Manganese (filtered)	300	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*160*	*105*	37.2	38.2	29.5
Nitrate Nitrogen (mg/L)	10	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*7.5*	*6.6*	**14.7**	**12.1**	**40.4**
Sulfate (mg/L)	250	125	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	24.9	<10.0	9.1[J]	8.8[J]	14.2[J]
Field Measurements																				
Temperature (^{o}F)			NA	NA	NA	59.35	57.67	51	54.9	60.92	57.19	51.46	52.5	60.51	59.48	49.76	63.53	50.87	60.50	59.54
Conductivity (ms/cm)			NA	NA	NA	474	330	234	255	398	255	188	271	234	243	138	223	239	695	747
Dissolved Oxygen (mg/L)			NA	NA	NA	3.58	3.29	3.29	1.2	1.05	3.56	4.09	5.76	4.08	3.45	4.82	3.46	7.63	3.66	4.60
pH			NA	NA	NA	5.75	6.19	5.14	5.51	5.52	5.65	5.86	5.71	6.63	5.72	6.28	6.38	6.37	6.15	5.42
Redox Potential (mV)			NA	NA	NA	160.9	72.4	235.5	148.1	129.8	148.4	181.8	186.7	145.1	318.8	248.7	141.3	206.7	167.9	271.6

PAL = Preventive Action Limit
ES = Enforcement Standards

BOLD	= Exceeds Enforcement Standard
Italic	= Exceeds Preventative Action Limit

NA - Not Analyzed
< - Concentration less than listed detection limit
J = estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

TABLE 2i
GROUNDWATER ANALYTICAL RESULTS SUMMARY
PHILLIPS PLATING CORPORATION
984 N. LAKE AVENUE, PHILLIPS, WI
MW9

PARAMETER	ES	PAL	2/19/2013	3/5/2013	5/8/2013	8/12/2013	11/12/2013	2/12/2014	6/2/2014	8/5/2014	11/5/2014	2/10/2015	5/4/2015	8/4/2015	11/3/2015	2/22/2016	8/31/2016	2/14/2017	8/29/2017	7/11/2018
Metals (ug/L)																				
Arsenic	10	1	<4.4	<4.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	2000	400	214	150	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	5	0.5	*0.63* [J]	**15.0**	*3.0* [J]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dis. Total Chromium (filtered)	100	10	**2,160**	**862**	**499**	**539**	**1,120**	**2,580**	**279**	**2,770**	**545**	**682**	**1,000**	**679**	**905**	**938**	**361**	**1,270**	**366**	**238**
Total Chromium (unfiltered)	100	10	NA	NA	NA	**1,190**	**1,520**	**6,000**	**1,350**	**2,370**	**1,720**	**621**	**1,060**	**1,450**	**1,480**	NA	NA	NA	NA	NA
Chromium, Hexavalent (mg/L)			2.3	0.85	<0.086	0.51	2.7	3.4	0.27	1.6	0.56	0.49	0.63	0.6	0.92	0.86	0.4	1.1	0.36[J]	0.24
Lead	15	1.5	*3.1* [J]	*4.8* [J]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	0.2	<0.10	<0.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Nickel (filtered)	100	20	*65.8*	17.8	**1,790**	**647**	**273**	**190**	**1,290**	**292**	**280**	**1,020**	**656**	**279**	**298**	**173**	**229**	**222**	**423**	**555**
Nickel (Unfiltered)	100	20	NA	NA	NA	**723**	**370**	**762**	**1,430**	**366**	**582**	**1,100**	**756**	**534**	**519**	NA	NA	NA	NA	NA
Selenium	50	10	<6.6	<6.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	50	10	<1.4	<1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Manganese (filtered)	300	60	NA	NA	NA	*182*	*152*	*261*	**334**	*87.4*	*92.9*	**311**	**524**	**223**	**287**	*130*	*134*	*124*	*198*	*250*
Manganese (unfiltered)	300	60	NA	NA	NA	**1,020**	**554**	**5,190**	**1,420**	**518**	**2,050**	**550**	**1,220**	**1,930**	**1,750**	NA	NA	NA	NA	NA
Dissolved Iron (filtered)	300	150	NA	NA	NA	16.4[J]	38.1[J]	25.9[J]	28.2[J]	16.4[J]	37.9[J]	31.0[J]	<12.9	<12.9	<12.9	<12.9	<12.9	<15.5	<15.5	<15.5
Iron (unfiltered)	300	150	NA	NA	NA	**37,900**	**15,600**	**194,000**	**62,200**	**20,100**	**102,000**	**11,100**	**40,500**	**91,400**	**136,000**	NA	NA	NA	NA	NA
Nitrate Nitrogen (mg/L)	10	2	NA	NA	NA	**11.2**	*9.9*	**12**	*8.4*	*7.7*	*8.2*	**28.9**	**22.4**	**11.9**	**12.3**	*8.7*	*6.9*	*9.4*	*8.6*	*8.4*
Sulfate (mg/L)	250	125	NA	NA	NA	85.8	*147*	*161*	*79.6*	*91.9*	*77.8*	**1,010**	**614**	**113**	**85**	63.6	50.1	56.9	65.4	49.8
Field Measurements																				
Temperature (^{o}F)			NA	NA	NA	53.27	55.25	50.41	51.48	53.67	53.46	50.01	48.83	53.18	55.77	48.75	55.18	50.79	55.35	51.62
Conductivity (ms/cm)			NA	NA	NA	3,254	2,045	2,602	6,191	2,984	1,982	3,304	4,095	2,088	1,834	1,880	1,481	1,932	2,064	3,541
Dissolved Oxygen (mg/L)			NA	NA	NA	1.18	1.81	6.90	3.98	2.61	0.53	5.16	2.44	2.02	0.17	0.52	0.17	5.81	6.50	5.74
pH			NA	NA	NA	6.25	7.44	4.75	5.45	6.31	6.82	5.98	6.63	6.89	6.6	7.24	7.2	6.18	6.52	5.79
Redox Potential (mV)			NA	NA	NA	156.1	2.6	237.6	119.8	52.1	155.6	198.5	198.2	175.9	289.7	262.7	122.5	200.5	150.6	263.4

PAL = Preventive Action Limit

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Italic	= Exceeds Preventative Action Limit

NA - Not Analyzed

< - Concentration less than listed detection limit

J = estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

TABLE 2j
GROUNDWATER ANALYTICAL RESULTS SUMMARY
PHILLIPS PLATING CORPORATION
984 N. LAKE AVENUE, PHILLIPS, WI
MW10

Laboratory			Pace	NLS	Pace	Pace	NLS	Pace	NLS	Pace	NLS	Pace	NLS	Pace	NLS	Pace	NLS	Pace	NLS	Pace	NLS	Pace	NLS	Pace	NLS	Pace	NLS	Pace	NLS	Pace	NLS
PARAMETER	**ES**	**PAL**	7/15/2013	7/15/2013	8/12/2013	11/12/2013	11/12/2013	2/12/2014	2/12/2014	6/2/2014	6/2/2014	8/5/2014	8/5/2014	11/5/2014	11/5/2014	2/10/2015	2/5/2015	5/4/2015	5/4/2015	8/4/2015	8/4/2015	11/3/2015	11/3/2015	2/22/2016	2/22/2016	8/31/2016	8/31/2016	2/14/2017	2/14/2017	8/29/2017	8/29/2017	7/11/2018	7/11/2018
Metals (ug/L)																																	
Arsenic	10	1	<4.4	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	2000	400	101	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	69.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	5	0.5	<0.38	<0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dis. Total Chromium (filtered)	100	10	*79.2*	**130**	*59.6*	**228**	**230**	**124**	**120**	**346**	**290**	**172**	**170**	**244**	**240**	**126**	**120**	**995**	**960**	**633**	**650**	**196**	**210**	**724**	**730**	**217**	**240**	**652**	**670**	**317**	**330**	*12.5*	*21*
Total Chromium (unfiltered)	100	10	NA	NA	**120**	**254**	NA	**177**	**190**	**318**	**320**	**493**	**490**	**121**	**140**	**176**	**190**	**799**	**750**	**412**	**520**	**234**	**230**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Hexavalent (mg/L)			0.14	0.28	0.045	0.13	0.27	0.36	0.23	0.26	0.33	0.096	0.17	0.21	0.23	0.37	0.46	0.6	0.27	0.63	0.61	0.43	0.47	0.74	0.66	0.65	0.58	0.58	0.25	0.49	0.44	0.029	0.017
Lead	15	1.5	*2.5* [J]	<0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	0.2	<0.10	<0.025	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Nickel (filtered)	100	20	*38.4*	*44*	*22.6*	*97.2*	*93.0*	*19.7*	19	**110**	*85*	*27.4*	*25*	*81.6*	*71*	*35.8*	*36*	**261**	**270**	**167**	**180**	*33.2*	**41**	**171**	**170**	*47.4*	*53*	**229**	**270**	**118**	**130**	*43.8*	**130**
Nickel (Unfiltered)	100	20	NA	NA	*79.2*	**141.0**	NA	60.8	*61*	**158**	*99*	**215**	**220**	*36.8*	*41*	*67.2*	*80*	**194**	**170**	**101**	**120**	*67.8*	*69*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	50	10	<6.6	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<6.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	50	10	<1.4	<0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Manganese (filtered)	300	60	NA	NA	40.4	5.7	NA	3.2 [J]	NA	6.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.5 [J]	NA	1.8 [J]	NA	6.8	NA	3.2 [J]	NA	54.9	NA
Manganese (unfiltered)	300	60	NA	NA	**1,010**	**825**	NA	**594**	NA	**841**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Iron (filtered)	300	150	NA	NA	19.8 [J]	31.4 [J]	NA	24.1 [J]	NA	32.5 [J]	NA	27.1 [J]	NA	34.6 [J]	NA	26.7 [J]	NA	<12.9	NA	<12.9	NA	NA	NA	<12.9	NA	17.3 [J]	NA	<15.5	NA	<15.5	NA	<15.5	NA
Iron (unfiltered)	300	150	NA	NA	**21,700**	**17,500**	NA	**13,900**	NA	**23,200**	NA	**16,700**	NA	**6,700**	NA	**6,110**	NA	**9,070**	NA	**8,320**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate Nitrogen (mg/L)	10	2	NA	NA	*4.3*	*3.4*	NA	*3.2*	NA	*2.6*	NA	*2.4*	NA	*2*	NA	*3.2*	NA	1.6	NA	*3.8*	NA	*4.3*	NA	*4.2*	NA	*3*	NA	*3.4*	NA	*3.0*	NA	<0.38	NA
Sulfate (mg/L)	250	125	NA	NA	41.4	36.8	NA	69.1	NA	52	NA	36.7	NA	34.1	NA	57.5	NA	30.7	NA	38.9	NA	50.8	NA	60.7	NA	70.3	NA	44.9	NA	31.9	NA	38.6	NA
Field Measurements																																	
Temperature (^{O}F)			NA	NA	55.68	52.95		47.61		50.87		55.51		52.16		48.96		47.45		56.66		55.96		45.32		58.16		49.57		59.23		54.86	
Conductivity (ms/cm)			NA	NA	1,010	408		737		320		469		550		1,007		564		427		450		444		374		879		345		331.7	
Dissolved Oxygen (mg/L)			NA	NA	7.77	4.63		5.91		3.06		3.61		6.11		4.57		5.65		7.13		6.95		4.18		6.85		4.63		8.92		5.69	
pH			NA	NA	6.24	7.27		5.68		6.26		6.72		6.44		6.26		6.49		7.1		6.66		7.04		7.03		6.49		6.96		6.23	
Redox Potential (mV)			NA	NA	142.5	16.40		225.30		57.40		29.9		116		187		170.3		135.9		298.3		259.4		116.4		135.1		104.4		196.1	

PAL = Preventive Action Limit
ES = Enforcement Standards

BOLD	= Exceeds Enforcement Standard
Italic	= Exceeds Preventative Action Limit

NA - Not Analyzed
< - Concentration less than listed detection limit
J = estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
Pace = Lab analysis conducted by Pace Analtyical Servcies
NLS = Lab analysis conducted by Northern Lake Service
Values in brackets are NLS version of "J" qualifier

TABLE 2k
GROUNDWATER ANALYTICAL RESULTS SUMMARY
PHILLIPS PLATING CORPORATION
984 N. LAKE AVENUE, PHILLIPS, WI
MW11

Laboratory			Pace	NLS	Pace	Pace	NLS	Pace	NLS	Pace	NLS	Pace	NLS	Pace	NLS	Pace	NLS	Pace	NLS	Pace	NLS	Pace	NLS	Pace	NLS	Pace	NLS	Pace	NLS	Pace	NLS	Pace	NLS
PARAMETER	**ES**	**PAL**	7/15/2013	7/15/2013	8/12/2013	11/12/2013	11/12/2013	2/12/2014	2/12/2014	6/2/2014	6/2/2014	8/5/2014	8/5/2014	11/5/2014	11/5/2014	2/10/2015	2/10/2015	5/4/2015	5/4/2015	8/4/2015	8/4/2015	11/3/2015	11/3/2015	2/22/2016	2/22/2016	8/31/2016	8/31/2016	2/14/2017	2/14/2017	8/29/2017	8/29/2017	7/11/2018	7/11/2018
Metals (ug/L)																																	
Arsenic	10	1	<4.4	<0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	2000	400	331	320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	5	0.5	<0.38	<0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dis. Total Chromium (filtered)	100	10	<1.2	<0.5	<1.2	<1.2	[0.68]	<1.2	<1.0	<2.1	<0.5	<2.1	<0.5	<2.1	[0.47]	<2.1	<0.32	<2.1	[0.75]	<2.1	<1.0	<2.1	<0.5	<2.1	<0.5	<2.1	[0.88]	<2.5	<0.67	<2.5	<0.50	<2.5	<0.58
Total Chromium (unfiltered)	100	10	NA	NA	**120**	**150**	NA	**46.8**	**110**	*63.1*	<0.5	*78.9*	*90*	*54.1*	*60*	*37.4*	*51*	*80.1*	*78*	*37.6*	*36*	*17.6*	*7.4*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Hexavalent (mg/L)			<0.0086	<1.7	<0.0034	<0.017	<0.0017	<0.034	[0.0017]	<0.019	<0.0017	<0.039	<0.0017	<0.019	<0.0017	<0.019	<0.0023	<0.019	<0.0017	<0.019	<0.005	<0.019	<0.0011	<0.019	[1.2]	<0.026	<1.1	<0.026	[0.0025]	<0.026	<0.0011	<0.026	<0.0011
Lead	15	1.5	*4.6*[J]	<0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	0.2	<0.10	<0.025	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Nickel (filtered)	100	20	2.3[J]	2	1.1[J]	1.1[J]	[1.4]	<0.75	<1.0	<1.4	1.3	<1.4	[0.80]	<1.4	<1.3	<1.4	<1.3	<1.4	<1.3	<1.4	<1.0	<1.4	[0.52]	<1.4	[0.81]	<1.4	<1.3	<1.9	<1.1	<1.9	[0.53]	<1.9	[1.3]
Nickel (Unfiltered)	100	20	NA	NA	*82.4*	**106.0**	NA	*32.2*	*75*	*42.3*	[0.69]	*52.6*	*59*	*36.6*	*39*	*24.8*	*36*	*51*	*53*	*25.1*	*25*	12.9	6.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	50	10	<6.6	<2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	50	10	<1.4	<0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Iron (filtered)	300	150	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**674**	NA	*272*	NA	*266*	NA	*166*	NA	29.6	NA
Dissolved Manganese (filtered)	300	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*130*	NA	*64.8*	NA	48.3	NA	37.2	NA	18.2	NA
Nitrate Nitrogen (mg/L)	10	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*8.2*	NA	*5.4*	NA	*5.2*	NA	*5.8*	NA	*7.3*	NA
Sulfate (mg/L)	250	125	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.7	NA	15.7[J]	NA	14.9[J]	NA	17	NA	15.2	NA
Field Measurements																																	
Temperature (^{0}F)			NA	NA	58.01	57.33		48.49		44.33		55.7		55.98		48.01		44.09		56.89		59.4		47.24		62.04		50.95		59.69		56.12	
Conductivity (ms/cm)			NA	NA	883	738		749		411		935		613		692		618		619		586		708		659		829		688		739	
Dissolved Oxygen (mg/L)			NA	NA	3.16	2.28		2.71		1.27		1.01		0.58		0.78		2.08		2.03		0.46		0.75		0.3		0.42		2.01		0.89	
pH			NA	NA	6.10	7.03		5.55		5.58		6.43		6.17		6.29		6.06		6.58		6.1		6.37		6.35		6.1		6.34		5.87	
Redox Potential (mV)			NA	NA	109.1	3.1		247.8		102.1		-7.4		111.1		184.4		134.1		144.6		271.6		274.1		120.5		160.6		80.4		207.1	

PAL = Preventive Action Limit

ES = Enforcement Standards

BOLD	= Exceeds Enforcement Standard
Italic	= Exceeds Preventative Action Limit

NA - Not Analyzed

< - Concentration less than listed detection limit

J = estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

Pace = Lab analysis conducted by Pace Analtyical Servcies

NLS = Lab analysis conducted by Northern Lake Service

Values in brackets are NLS version of "J" qualifier

TABLE 2l
GROUNDWATER ANALYTICAL RESULTS SUMMARY
PHILLIPS PLATING CORPORATION
984 N. LAKE AVENUE, PHILLIPS, WI
MW12

PARAMETER	ES	PAL	7/15/2013	8/12/2013	11/12/2013	2/12/2014	6/2/2014	8/5/2014	5/4/2015	8/4/2015	2/22/2016	8/31/2016	2/14/2017	8/29/2017	7/11/2018
Metals (ug/L)															
Arsenic	10	1	<4.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	2000	400	195	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	5	0.5	<0.38	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Chromium	100	10	<1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	15	1.5	<1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	0.2	<0.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	100	20	1.4*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	50	10	<6.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	50	10	<1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Hexavalent (mg/L)			<0.086	NA	NA	NA	NA	NA	NA	NA	<0.019	<0.026	<0.026	<0.051	<0.051
Dis. Total Chromium (filtered)	100	10	NA	NA	NA	NA	NA	NA	NA	NA	<2.1	<2.1	<2.1	<2.5	<2.5
Dissolved Iron (filtered)	300	150	NA	NA	NA	NA	NA	NA	NA	NA	<12.9	<12.9	16.9[J]	<15.5	<15.5
Dissolved Manganese (filtered)	300	60	NA	NA	NA	NA	NA	NA	NA	NA	<1.4	<1.4	<1.5[J]	1.7[J]	<1.1
Dissolved Nickel (filtered)	100	20	NA	NA	NA	NA	NA	NA	NA	NA	<1.4	<1.4	<1.9	<1.9	<1.9
Nitrate Nitrogen (mg/L)	10	2	NA	NA	NA	NA	NA	NA	NA	NA	*6.8*	*5.3*	*7.8*	*5.1*	*4.3*
Sulfate (mg/L)	250	125	NA	NA	NA	NA	NA	NA	NA	NA	18.8	16.1[J]	35.8	17.3	11.3[J]
Field Measurements															
Temperature (^{o}F)			NA	55.10	55.75	49.27	47.64	57.55	44.08	54.62	48.99	57.53	49.73	58.2	54.32
Conductivity (ms/cm)			NA	1,277	1,451	1,898	1,234	752	1,052	1,499	2,102	1,677	5,640	1,498	1,246
Dissolved Oxygen (mg/L)			NA	6.80	6.11	3.75	5.46	3.32	10.75	8.52	9.77	6.15	9.61	7.86	6.82
pH			NA	4.98	6.81	6.16	6.37	6.62	6.94	7.65	7.45	7.01	6.72	6.98	6.11
Redox Potential (mV)			NA	170.3	-11.40	259.80	36.7	31.2	138.8	105.4	234.2	96.4	174.5	84.8	216.2

PAL = Preventive Action Limit

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BOLD	= Exceeds Enforcement Standard
Italic	= Exceeds Preventative Action Limit

NA - Not Analyzed

< - Concentration less than listed detection limit

J = estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

TABLE 2m
GROUNDWATER ANALYTICAL RESULTS SUMMARY
PHILLIPS PLATING CORPORATION
984 N. LAKE AVENUE, PHILLIPS, WI
MW13

Laboratory			Pace	NLS
PARAMETER	**ES**	**PAL**	7/11/2018	7/11/2018
Metals (ug/L)				
Arsenic	10	1	NA	NA
Barium	2000	400	NA	NA
Cadmium	5	0.5	NA	NA
Dis. Total Chromium (filtered)	100	10	<2.5	2.7
Total Chromium (unfiltered)	100	10	NA	NA
Chromium, Hexavalent (mg/L)			<0.051	<0.0011
Lead	15	1.5	NA	NA
Mercury	2	0.2	NA	NA
Dissolved Nickel (filtered)	100	20	<1.9	[2.7]
Nickel (Unfiltered)	100	20	NA	NA
Selenium	50	10	NA	NA
Silver	50	10	NA	NA
Dissolved Manganese (filtered)	300	60	**799**	NA
Manganese (unfiltered)	300	60	NA	NA
Dissolved Iron (filtered)	300	150	**375**	NA
Iron (unfiltered)	300	150	NA	NA
Nitrate Nitrogen (mg/L)	10	2	<0.38	NA
Sulfate (mg/L)	250	125	7.2[J]	NA
Field Measurements				
Temperature (^{o}F)			51.26	
Conductivity (ms/cm)			344.2	
Dissolved Oxygen (mg/L)			1.27	
pH			5.89	
Redox Potential (mV)			105.2	

PAL = Preventive Action Limit
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J = estimated concentration above the adjusted method detection limit and below the adjusted
Pace = Lab analysis conducted by Pace Analtyical Servcies
NLS = Lab analysis conducted by Northern Lake Service
Values in brackets are NLS version of "J" qualifier

TABLE 2n
GROUNDWATER ANALYTICAL RESULTS SUMMARY
PHILLIPS PLATING CORPORATION
984 N. LAKE AVENUE, PHILLIPS, WI
MW14

Laboratory			Pace	NLS
PARAMETER	**ES**	**PAL**	7/11/2018	7/11/2018
Metals (ug/L)				
Arsenic	10	1	NA	NA
Barium	2000	400	NA	NA
Cadmium	5	0.5	NA	NA
Dis. Total Chromium (filtered)	100	10	<2.5	<0.58
Total Chromium (unfiltered)	100	10	NA	NA
Chromium, Hexavalent (mg/L)			<0.051	<0.0011
Lead	15	1.5	NA	NA
Mercury	2	0.2	NA	NA
Dissolved Nickel (filtered)	100	20	<1.9	<0.94
Nickel (Unfiltered)	100	20	NA	NA
Selenium	50	10	NA	NA
Silver	50	10	NA	NA
Dissolved Manganese (filtered)	300	60	**849**	NA
Manganese (unfiltered)	300	60	NA	NA
Dissolved Iron (filtered)	300	150	**5,480**	NA
Iron (unfiltered)	300	150	NA	NA
Nitrate Nitrogen (mg/L)	10	2	<0.38	NA
Sulfate (mg/L)	250	125	12.9[J]	NA
Field Measurements				
Temperature (^{o}F)			52.16	
Conductivity (ms/cm)			627.3	
Dissolved Oxygen (mg/L)			1.38	
pH			6.35	
Redox Potential (mV)			-27.1	

PAL = Preventive Action Limit
ES = Enforcement Standards

BOLD	= Exceeds Enforcement Standard
Italic	= Exceeds Preventative Action Limit

NA - Not Analyzed
< - Concentration less than listed detection limit
J = estimated concentration above the adjusted method detection limit and below the adjusted
Pace = Lab analysis conducted by Pace Analtyical Servcies
NLS = Lab analysis conducted by Northern Lake Service
Values in brackets are NLS version of "J" qualifier

TABLE 2o
GROUNDWATER ANALYTICAL RESULTS SUMMARY
PHILLIPS PLATING CORPORATION
984 N. LAKE AVENUE, PHILLIPS, WI
MW15

Laboratory			Pace	NLS
PARAMETER	**ES**	**PAL**	7/11/2018	7/11/2018
Metals (ug/L)				
Arsenic	10	1	NA	NA
Barium	2000	400	NA	NA
Cadmium	5	0.5	NA	NA
Dis. Total Chromium (filtered)	100	10	<2.5	[1.1]
Total Chromium (unfiltered)	100	10	NA	NA
Chromium, Hexavalent (mg/L)			<0.13	<0.0011
Lead	15	1.5	NA	NA
Mercury	2	0.2	NA	NA
Dissolved Nickel (filtered)	100	20	6.9[J]	6.2
Nickel (Unfiltered)	100	20	NA	NA
Selenium	50	10	NA	NA
Silver	50	10	NA	NA
Dissolved Manganese (filtered)	300	60	**1,800**	NA
Manganese (unfiltered)	300	60	NA	NA
Dissolved Iron (filtered)	300	150	**3,490**	NA
Iron (unfiltered)	300	150	NA	NA
Nitrate Nitrogen (mg/L)	10	2	<0.38	NA
Sulfate (mg/L)	250	125	<5.0	NA
Field Measurements				
Temperature (^{o}F)			60.62	
Conductivity (ms/cm)			286.5	
Dissolved Oxygen (mg/L)			1.26	
pH			5.29	
Redox Potential (mV)			121.7	

PAL = Preventive Action Limit
ES = Enforcement Standards

BOLD	= Exceeds Enforcement Standard
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Pace = Lab analysis conducted by Pace Analtyical Servcies
NLS = Lab analysis conducted by Northern Lake Service
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TABLE 2p
GROUNDWATER ANALYTICAL RESULTS SUMMARY
PHILLIPS PLATING CORPORATION
984 N. LAKE AVENUE, PHILLIPS, WI
PZ1

PARAMETER	ES	PAL	7/15/2013	8/12/2013	11/12/2013	2/12/2014	6/2/2014	8/5/2014	11/5/2014	2/10/2015	5/4/2015	8/4/2015	11/3/2015	2/22/2016	8/31/2016	2/14/2017	8/29/2017	7/11/2018
Metals (ug/L)																		
Arsenic	10	1	<4.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	2000	400	101	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	5	0.5	<0.38	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dis. Total Chromium (filtered)	100	10	**5,980**	**1,590**	**810**	**1,310**	**652**	**1,640**	**1,090**	**1,950**	**1,420**	**1,220**	**1,470**	**1,740**	**1,650**	**1,730**	**1,480**	**1,350**
Total Chromium (unfiltered)	100	10	NA	**2,910**	**1,610**	**1,490**	**1,520**	**1,760**	**2,040**	**2,040**	**1,660**	**2,130**	**2,790**	NA	NA	NA	NA	NA
Chromium, Hexavalent (mg/L)			5.6	1.6	1.0	1.1	0.41	1.60	1	2	2	1	1.7	1.9	1.9	1.9	1.1	1.2
Lead	15	1.5	*2.9**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	0.2	<0.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Nickel (filtered)	100	20	4.8	4.1[J]	3.5[J]	3.8[J]	3.1[J]	2.9[J]	2.4[J]	3.9[J]	2.0[J]	2.1[J]	2.1[J]	1.7[J]	2.0[J]	3.7[J]	<1.9	<1.9
Nickel (Unfiltered)	100	20	NA	**269**	**108**	*24.8*	*87*	14.9	*81.2*	18.1	15	*73.2*	**108**	NA	NA	NA	NA	NA
Selenium	50	10	<6.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	50	10	<1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Manganese (filtered)	300	60	NA	*124*	*154*	*61.5*	45	14.9	*102*	5.0[J]	9.7	22	28.9	16.6	11.1	19.5	15.7	21.6
Manganese (unfiltered)	300	60	NA	**4,400**	**1,900**	**362**	**1,320**	*179*	**1,220**	*223*	*216*	**1,210**	**1,590**	NA	NA	NA	NA	NA
Dissolved Iron (filtered)	300	150	NA	<14.0	<14.0	<14.0	<12.9	<12.9	<12.9	<12.9	<12.9	<12.9	<12.9	<12.9	<12.9	<15.5	<15.5	<15.5
Iron (unfiltered)	300	150	NA	**301,000**	**99,600**	**27,700**	**104,000**	**14,900**	**103,000**	**16,100**	**15,700**	**95,300**	**74,500**	NA	NA	NA	NA	NA
Nitrate Nitrogen (mg/L)	10	2	NA	*4.3*	*3.4*	*3.9*	*3.1*	*3.8*	*3.4*	*4.2*	*4*	*3.8*	*4.3*	*4.3*	*3.8*	*4.1*	*4.0*	*5.1*
Sulfate (mg/L)	250	125	NA	62.8	55.6	58.4	51.9	49.7	44.3	48.6	45.2	43.1	41.8	44.0	39.3	42.0	39.7	40.8
Field Measurements																		
Temperature (^{o}F)			NA	56.79	58.5	55.4	55.31	56.97	57.56	55.45	53.91	55.55	57.92	54.77	57.6	54.58	58.02	55.58
Conductivity (ms/cm)			NA	6.14	595	681	784	747	585	565	554	548	549	515	526	565	444	531.7
Dissolved Oxygen (mg/L)			NA	0.61	2.55	4.72	0.38	1.07	0.72	2.51	2.37	1.21	0.16	2.01	0.67	1.07	2.04	1.06
pH			NA	6.45	7.79	5.98	7.3	7.62	7.28	7.46	7.38	7.2	7.3	7.62	7.71	7.07	7.28	7.04
Redox Potential (mV)			NA	141.1	-27.5	177.0	-11.3	-13.3	147.4	148	171.6	127.7	270.9	246.1	81.1	167.3	105.9	234

PAL = Preventive Action Limit
ES = Enforcement Standards

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Italic	= Exceeds Preventative Action Limit

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< - Concentration less than listed detection limit
J = estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

TABLE 2q
GROUNDWATER ANALYTICAL RESULTS SUMMARY
PHILLIPS PLATING CORPORATION
984 N. LAKE AVENUE, PHILLIPS, WI
PZ2

Laboratory			Pace	NLS
PARAMETER	**ES**	**PAL**	7/11/2018	7/11/2018
Metals (ug/L)				
Arsenic	10	1	NA	NA
Barium	2000	400	NA	NA
Cadmium	5	0.5	NA	NA
Dis. Total Chromium (filtered)	100	10	<2.5	<0.58
Total Chromium (unfiltered)	100	10	NA	NA
Chromium, Hexavalent (mg/L)			<0.51	<0.0011
Lead	15	1.5	NA	NA
Mercury	2	0.2	NA	NA
Dissolved Nickel (filtered)	100	20	<1.9	[2.6]
Nickel (Unfiltered)	100	20	NA	NA
Selenium	50	10	NA	NA
Silver	50	10	NA	NA
Dissolved Manganese (filtered)	300	60	684	NA
Manganese (unfiltered)	300	60	NA	NA
Dissolved Iron (filtered)	300	150	298	NA
Iron (unfiltered)	300	150	NA	NA
Nitrate Nitrogen (mg/L)	10	2	<0.38	NA
Sulfate (mg/L)	250	125	15.2	NA
Field Measurements				
Temperature (^{o}F)			51.08	
Conductivity (ms/cm)			373	
Dissolved Oxygen (mg/L)			2.1	
pH			6.93	
Redox Potential (mV)			-141.4	

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Pace = Lab analysis conducted by Pace Analtyical Servcies
NLS = Lab analysis conducted by Northern Lake Service
Values in brackets are NLS version of "J" qualifier

TABLE 2r
GROUNDWATER ANALYTICAL RESULTS SUMMARY
PHILLIPS PLATING CORPORATION
984 N. LAKE AVENUE, PHILLIPS, WI
PZ3

Laboratory			Pace	NLS
PARAMETER	**ES**	**PAL**	7/11/2018	7/11/2018
Metals (ug/L)				
Arsenic	10	1	NA	NA
Barium	2000	400	NA	NA
Cadmium	5	0.5	NA	NA
Dis. Total Chromium (filtered)	100	10	**1,510**	**1,300**
Total Chromium (unfiltered)	100	10	NA	NA
Chromium, Hexavalent (mg/L)			1.6	1.3
Lead	15	1.5	NA	NA
Mercury	2	0.2	NA	NA
Dissolved Nickel (filtered)	100	20	**4,040**	**3,800**
Nickel (Unfiltered)	100	20	NA	NA
Selenium	50	10	NA	NA
Silver	50	10	NA	NA
Dissolved Manganese (filtered)	300	60	**410**	NA
Manganese (unfiltered)	300	60	NA	NA
Dissolved Iron (filtered)	300	150	22.3[J]	NA
Iron (unfiltered)	300	150	NA	NA
Nitrate Nitrogen (mg/L)	10	2	*7.8*	NA
Sulfate (mg/L)	250	125	51.4	NA
Field Measurements				
Temperature (^{o}F)			56.48	
Conductivity (ms/cm)			651	
Dissolved Oxygen (mg/L)			5.15	
pH			6.36	
Redox Potential (mV)			179.8	

PAL = Preventive Action Limit
ES = Enforcement Standards

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Italic	= Exceeds Preventative Action Limit

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NLS = Lab analysis conducted by Northern Lake Service
Values in brackets are NLS version of "J" qualifier

Table 3a: MW6/PZ1 Vertical Gradient Calculations

Well Name -->	MW6	PZ1
Ground Surface Elevation (feet MSL) -->	1,458.67	1,458.36
Top of Well Casing Elevation (feet MSL) -->	1,458.16	1,457.96
Screen Joint (feet bgs) -->	10.18	28.63
Screen Joint (feet MSL) -->	1,448.49	1,429.73
Screen Length (feet) -->	10	5

	MW6	PZ1	Mid-Point to Mid-Point	
Date	Groundwater Elevation (feet MSL)	Groundwater Elevation (feet MSL)	Vertical Gradient ft/ft	Vertical Gradient Direction
7/15/2013	1,441.97	1,440.91	8.15E-02	Down
8/12/2013	1,442.05	1,440.75	9.97E-02	Down
11/12/2013	1,441.86	1,440.53	1.03E-01	Down
2/12/2014	1,441.55	1,439.69	1.45E-01	Down
6/2/2014	1,442.25	1,441.64	4.64E-02	Down
8/5/2014	1,441.89	1,440.85	8.02E-02	Down
11/5/2014	1,441.77	1,440.51	9.77E-02	Down
2/10/2015	1,441.65	1,439.93	1.34E-01	Down
5/4/2015	1,441.85	1,440.51	1.04E-01	Down
8/4/2015	1,441.98	1,440.71	9.77E-02	Down
11/3/2015	1,441.84	1,440.36	1.14E-01	Down
2/22/2016	1,441.80	1,439.90	1.47E-01	Down
8/31/2016	1,441.84	1,440.80	8.04E-02	Down
2/14/2017	1,441.61	1,439.76	1.44E-01	Down
7/11/2018	1,441.81	1,440.81	7.74E-02	Down

Minimum	4.64E-02	Down
Maximum	1.47E-01	Down
Average	1.04E-01	Down

Table 3b: MW10/PZ3 Vertical Gradient Calculations

Well Name -->	MW10	PZ3
Ground Surface Elevation (feet MSL) -->	1,451.11	1,451.16
Top of Well Casing Elevation (feet MSL) -->	1,450.54	1,451.00
Screen Joint (feet bgs) -->	4.90	19.04
Screen Joint (feet MSL) -->	1,446.21	1,432.12
Screen Length (feet) -->	10	5

	MW10	PZ3	Mid-Point to Mid-Point	
Date	Groundwater Elevation (feet MSL)	Groundwater Elevation (feet MSL)	Vertical Gradient ft/ft	Vertical Gradient Direction
7/11/2018	1,442.70	1,442.69	1.02E-03	Down

Minimum	1.02E-03	Down
Maximum	1.02E-03	Down
Average	1.02E-03	Down

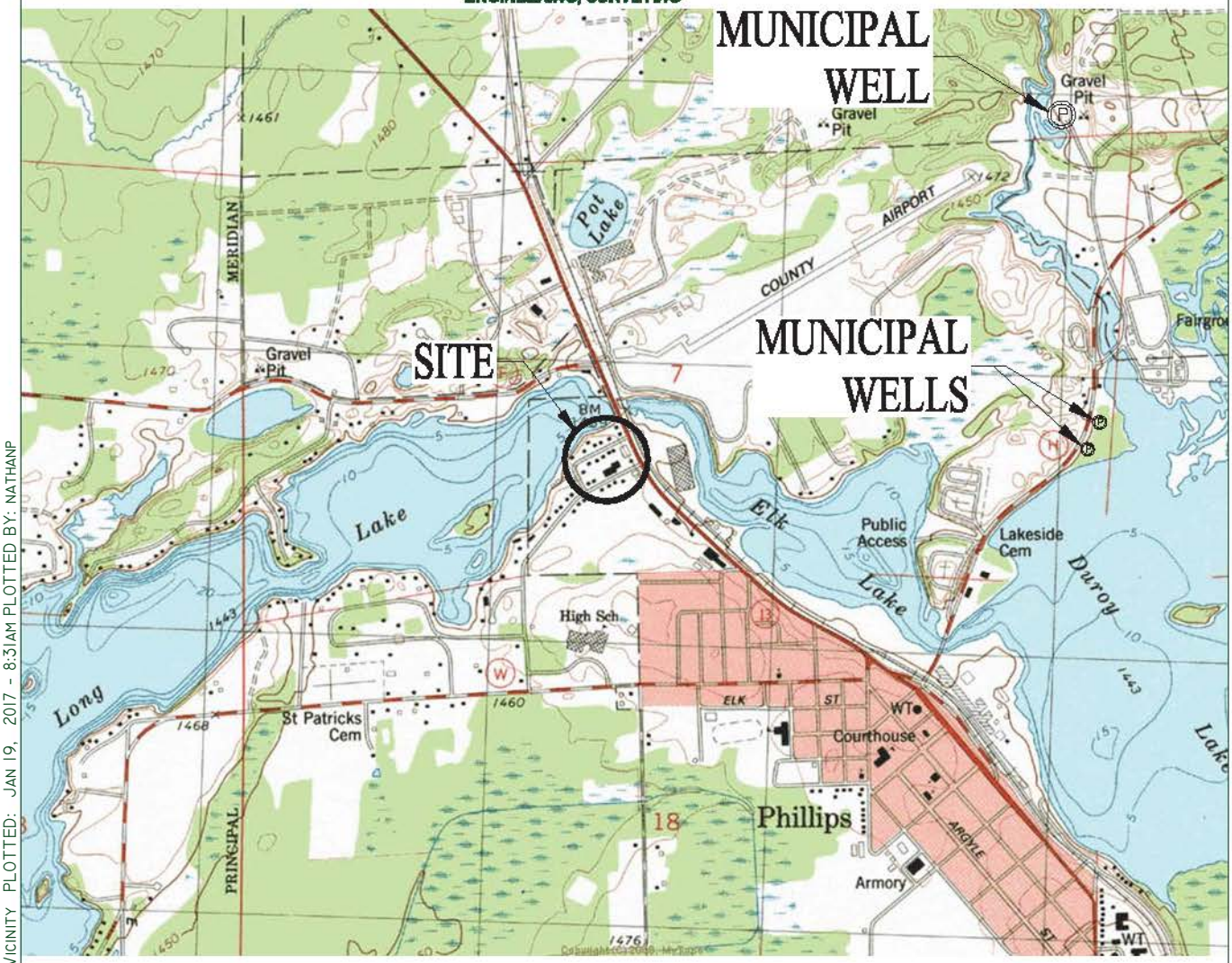
Table 3c: MW13/PZ2 Vertical Gradient Calculations

Well Name -->	MW13	PZ3
Ground Surface Elevation (feet MSL) -->	1,458.09	1,451.16
Top of Well Casing Elevation (feet MSL) -->	1,457.91	1,451.00
Screen Joint (feet bgs) -->	11.67	19.04
Screen Joint (feet MSL) -->	1,446.48	1,432.12
Screen Length (feet) -->	10	5

	MW13	PZ3	Mid-Point to Mid-Point	
Date	Groundwater Elevation (feet MSL)	Groundwater Elevation (feet MSL)	Vertical Gradient ft/ft	Vertical Gradient Direction
7/11/2018	1,441.97	1,440.91	1.10E-01	Down

Minimum	1.10E-01	Down
Maximum	1.10E-01	Down
Average	1.10E-01	Down

REI
CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING



SCALE 1:24 000

1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 KILOMETER

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

UTM GRID AND 1984 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

PHILLIPS, WIS.
NW/4 PHILLIPS 15' QUADRANGLE
45090-F4-TF-024
1984
DMA 2975 III NW–SERIES V861

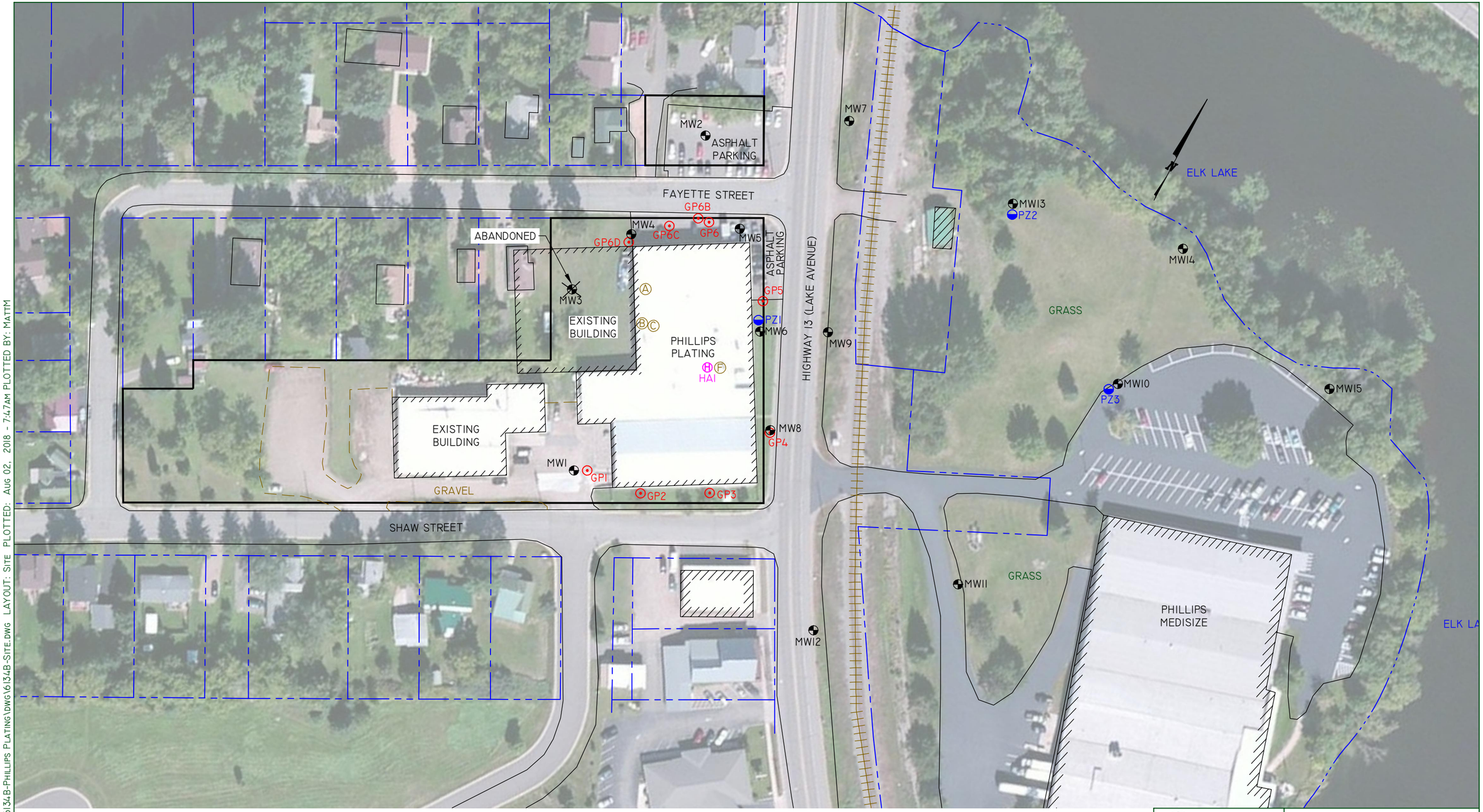
QUADRANGLE LOCATION

REI Engineering, INC.

PHILLIPS PLATING CORP. 984 N LAKE AVENUE PHILLIPS, WISCONSIN	FIGURE 1 : SITE VICINITY MAP		
	PROJECT NO. 6134B	DRAWN BY: NAP	DATE: 12/13/12

DRAWING FILE: P:\6100-6199\6134B-PHILLIPS PLATING\DWG\6134B-VICN.DWG LAYOUT: VICINITY PLOTTED: JAN 19, 2017 - 8:31AM PLOTTED BY: NATHANP

DRAWING FILE: P:\6100-6199\6134B-PHILLIPS PLATING\DWG\6134B-SITE.DWG LAYOUT: SITE PLOTTED: AUG 02, 2018 - 7:47AM PLOTTED BY: MATTM



LEGEND

SCALE 0 50 100

- GEOPROBE SOIL BORING
- MONITORING WELL
- HAND AUGER SOIL BORING
- PIEZOMETER
- PROPERTY BOUNDARY
- PHILLIPS PLATING PROPERTY
- (A) 550 GALLON SPILL CATCH TANK
- (B) 5500 GALLON WASTE TREATMENT PROCESS TANK (STORAGE TANK)
- (C) 1500 GALLON WASTE TREATMENT PROCESS TANK (WASTE TREATMENT COLLECTION TANK)
- (F) 600 GALLON WASTE TREATMENT PROCESS TANK (PLATING LINE COLLECTION TANK)

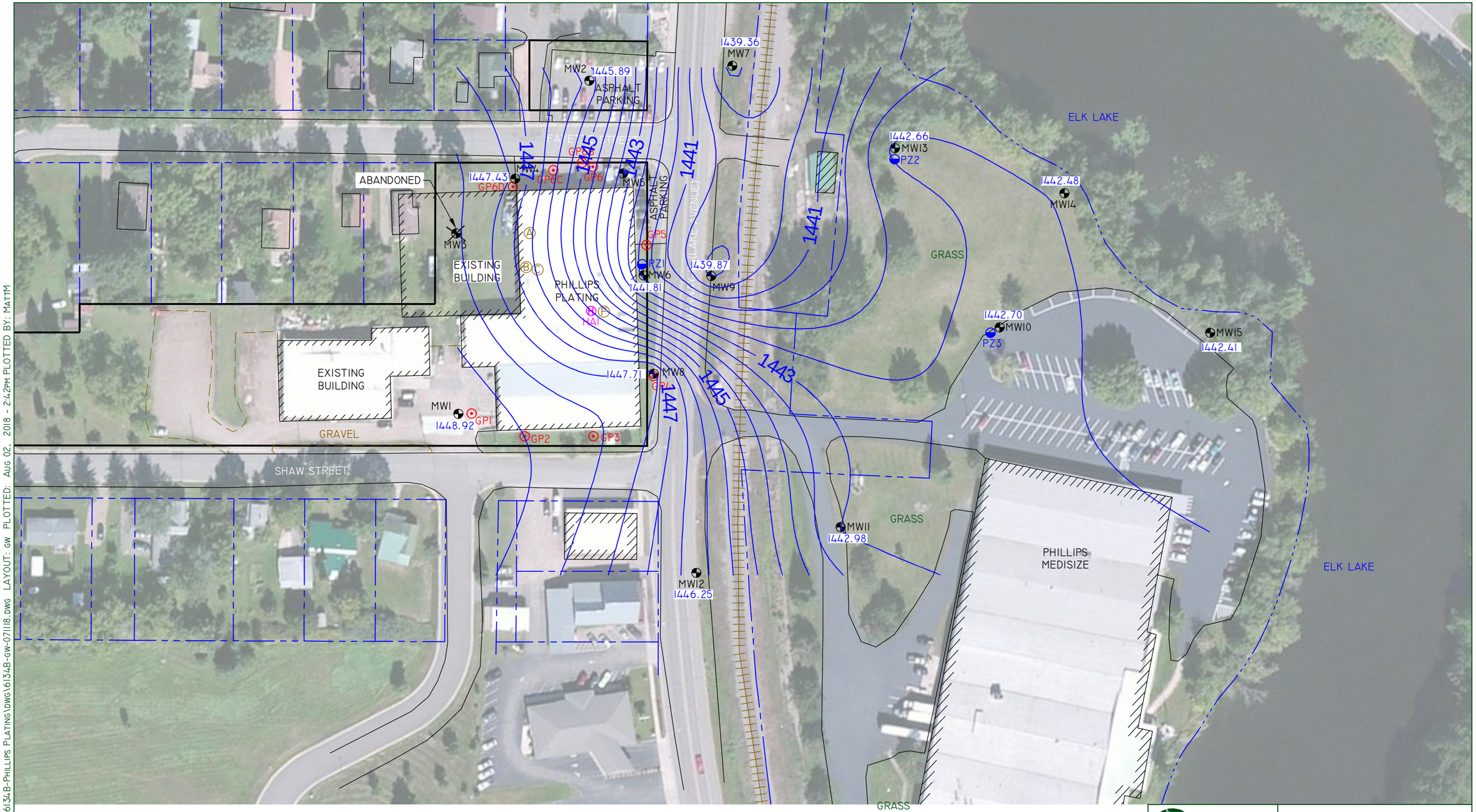
REI CIVIL & ENVIRONMENTAL ENGINEERING, SURVEYING

PHILLIPS PLATING CORP.
984 N LAKE AVENUE
PHILLIPS, WISCONSIN

FIGURE 2 : SITE MAP

PROJECT No.	DRAWN BY:	DATE:
6134B	MCM	08/1/2018

REI Engineering, INC.



DRAWING FILE: P:\6100-6199\6134B-PHILLIPS PLATING\DWG\6134B-GW-071118.DWG LAYOUT: GW PLOTTED: AUG 02, 2018 - 2:42PM PLOTTED BY: MATTM

LEGEND

SCALE 0 50 100

- GEOPROBE SOIL BORING
- MONITORING WELL
- HAND AUGER SOIL BORING
- PIEZOMETER
- PROPERTY BOUNDARY
- PHILLIPS PLATING PROPERTY
- (A) 550 GALLON SPILL CATCH TANK
- (B) 5500 GALLON WASTE TREATMENT PROCESS TANK (STORAGE TANK)
- (C) 1500 GALLON WASTE TREATMENT PROCESS TANK (WASTE TREATMENT COLLECTION TANK)
- (F) 600 GALLON WASTE TREATMENT PROCESS TANK (PLATING LINE COLLECTION TANK)

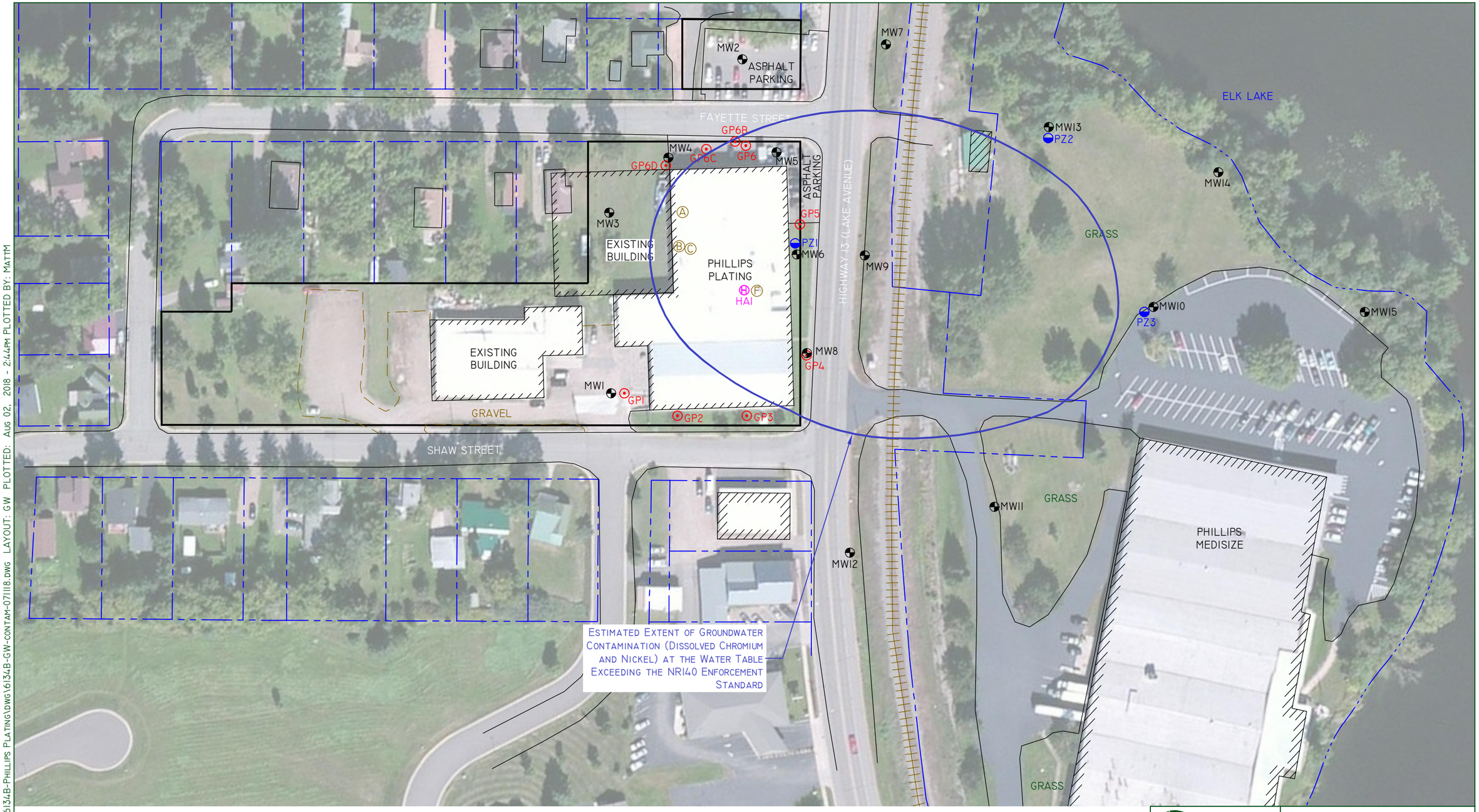
REI Engineering, INC.

REI CIVIL & ENVIRONMENTAL ENGINEERING, SURVEYING

PHILLIPS PLATING CORP.
984 N LAKE AVENUE
PHILLIPS, WISCONSIN

FIGURE 3 : GROUNDWATER CONTOUR MAP (7/11/2018)

PROJECT No.	DRAWN BY:	DATE:
6134B	MCM	8/2/2018



LEGEND

SCALE
0 50 100

- GEOPROBE SOIL BORING
- MONITORING WELL
- HAND AUGER SOIL BORING

- (A) 550 GALLON SPILL CATCH TANK
- (B) 5500 GALLON WASTE TREATMENT PROCESS TANK (STORAGE TANK)
- (C) 1500 GALLON WASTE TREATMENT PROCESS TANK (WASTE TREATMENT COLLECTION TANK)
- (F) 600 GALLON WASTE TREATMENT PROCESS TANK (PLATING LINE COLLECTION TANK)

- PROPERTY BOUNDARY
- PHILLIPS PLATING PROPERTY
- AREA OF GROUNDWATER CONTAMINATION (DEFINED)

REI Engineering, INC.

REI CIVIL & ENVIRONMENTAL ENGINEERING, SURVEYING

PHILLIPS PLATING CORP.
984 N LAKE AVENUE
PHILLIPS, WISCONSIN

FIGURE 4 : *ESTIMATED EXTENT OF GROUNDWATER CONTAMINATION EXCEEDING NR140ES (07/11/18)*

PROJECT No.	DRAWN BY:	DATE:
6134B	MCM	8/2/2018

DRAWING FILE: P:\6100-6199\6134B-PHILLIPS PLATING\DWG\6134B-GW-CONTAM-071118.DWG LAYOUT: GW PLOTTED: AUG 02, 2018 - 2:44PM PLOTTED BY: MATTM

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

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

Facility/Project Name Phillips Plating Corporation	**License/Permit/Monitoring Number** BRRTS #02-51-559634	**Boring Number** MW13

Boring Drilled By: Name of crew chief (first, last) and Firm Giles Engineering (Keith Flowers)			**Date Drilling Started** 6/6/18	**Date Drilling Completed** 6/6/18	**Drilling Method** Hollow Stem Auger
WI Unique Well No.	**DNR Well ID No.**	**Common Well Name** MW13	**Final Static Water Level**	**Surface Elevation** 0	**Borehole Diameter** 8.25"

MW13

Local Grid Origin ☐ (estimated) ☐ or **Boring Location** ☑ **State Plane**	**Lat** **Long**	**Local Grid Location** N ☐ S ☐ E ☐ W ☐

Facility ID 851030070	**County** Price	**County Code** 51	**Civil Town/City/or Village** Phillips

Sample Number	Sample Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/ Rock Description And Geologic Origin For Each Major Unit	U.S.C.S.	Graphic	Well	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				1–25	**Blind Drilled to 22 feet with Hollow Stem Auger.**										
				22	**End of Boring at 22 feet**										

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

Signature	**Firm** **REI Engineering, Inc.** 4080 North 20th Avenue, Wausau, WI

This form is authorized by Chapters 281,283,289,292,293,295, and 299, Wis. Stats. Completion of thes form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

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

Facility/Project Name Phillips Plating Corporation	**License/Permit/Monitoring Number** BRRTS #02-51-559634	**Boring Number** MW14

Boring Drilled By: Name of crew chief (first, last) and Firm Giles Engineering (Keith Flowers)	**Date Drilling Started** 6/6/18	**Date Drilling Completed** 6/6/18	**Drilling Method** Hollow Stem Auger	

WI Unique Well No.	**DNR Well ID No.**	**Common Well Name** MW14	**Final Static Water Level**	**Surface Elevation** 0	**Borehole Diameter** 8.25"

MW14

Local Grid Orgin ☐ (estimated) ☐ or Boring Location ☑ **State Plane**	**Lat** **Long**	**Local Grid Location** N ☐ S ☐ E ☐ W ☐

Facility ID 851030070	**County** Price	**County Code** 51	**Civil Town/City/or Village** Phillips

Sample Number	Sample Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/ Rock Description And Geologic Origin For Each Major Unit	U.S.C.S.	Graphic	Well	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				1–18	Blind Drilled to 14.5 feet with Hollow Stem Auger.										
				15	End of Boring at 14.5 feet										

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

Signature	**Firm** REI Engineering, Inc. 4080 North 20th Avenue, Wausau, WI

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

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

Facility/Project Name Phillips Plating Corporation	**License/Permit/Monitoring Number** BRRTS #02-51-559634	**Boring Number** MW15

Boring Drilled By: Name of crew chief (first, last) and Firm Giles Engineering (Keith Flowers)	**Date Drilling Started** 6/7/18	**Date Drilling Completed** 6/7/18

Drilling Method Hollow Stem Auger

WI Unique Well No.	**DNR Well ID No.**	**Common Well Name** MW15	**Final Static Water Level**	**Surface Elevation** 0	**Borehole Diameter** 8.25"

MW15

Local Grid Orgin ☐ (estimated) ☐ or **Boring Location** ☑ **State Plane**	**Lat** **Long**	**Local Grid Location** N ☐ E ☐ S ☐ W ☐

Facility ID 851030070	**County** Price	**County Code** 51	**Civil Town/City/or Village** Phillips

Sample Number	Sample Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/ Rock Description And Geologic Origin For Each Major Unit	U.S.C.S.	Graphic	Well	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				1–18	Blind Drilled to 14 feet with Hollow Stem Auger.										
				14	End of Boring at 14 feet										

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

Signature	**Firm** REI Engineering, Inc. 4080 North 20th Avenue, Wausau, WI

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

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

Facility/Project Name Phillips Plating Corporation	**License/Permit/Monitoring Number** BRRTS #02-51-559634	**Boring Number** PZ2

Boring Drilled By: Name of crew chief (first, last) and Firm Giles Engineering (Keith Flowers)	**Date Drilling Started** 6/6/18	**Date Drilling Completed** 6/6/18	**Drilling Method** Hollow Stem Auger

WI Unique Well No.	**DNR Well ID No.**	**Common Well Name** PZ2	**Final Static Water Level**	**Surface Elevation** 0	**Borehole Diameter** 8.25"

Local Grid Orgin ☐ (estimated) ☐ or Boring Location ☑ **State Plane**	**Lat** **Long**	**Local Grid Location** N ☐ E ☐ S ☐ W ☐

Facility ID 851030070	**County** Price	**County Code** 51	**Civil Town/City/or Village** Phillips

Sample Number	Sample Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/ Rock Description And Geologic Origin For Each Major Unit	U.S.C.S.	Graphic	Well	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				1–38	**Blind Drilled to 33 feet with Hollow Stem Auger.**										
				33	**End of Boring at 33 feet**										

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

Signature	**Firm** **REI Engineering, Inc.** 4080 North 20th Avenue, Wausau, WI

This form is authorized by Chapters 281,283,289,292,293,295, and 299, Wis. Stats. Completion of thes form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

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

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Phillips Plating Corporation	BRRTS #02-51-559634	PZ3

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Giles Engineering (Keith Flowers)	6/7/18	6/7/18	Hollow Stem Auger

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		PZ3		0	8.25"

Local Grid Orgin ☐ (estimated) ☐ or Boring Location ☑ Lat Local Grid Location N ☐ E ☐
State Plane Long S ☐ W ☐

Facility ID	County	County Code	Civil Town/City/or Village
851030070	Price	51	Phillips

Sample Number	Sample Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/ Rock Description And Geologic Origin For Each Major Unit	U.S.C.S.	Graphic	Well	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				1–30	Blind Drilled to 25 feet with Hollow Stem Auger.										
				25	End of Boring at 25 feet										

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

Signature [signature] Firm REI Engineering, Inc.
4080 North 20th Avenue, Wausau, WI

This form is authorized by Chapters 281,283,289,292,293,295, and 299, Wis. Stats. Completion of thes form is mandatory. Failure to file this form may result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 4.90

Route To Solid Haste ☐ Haz. Haste ☐ Wastewater ☐
Env. Response & Repair ☒ Underground Tanks ☐ Other ☐ _____

Facility/Project Name Phillips Plating Corporation	**Local Grid Location of Well** _____ ___ Feet S. ___ Feet W ___ Feet N. ___ Feet E	**Well Name** PZ3
Facility License Permit or Monitoring Number BRRTS #02-51-559634	**Grid Origin Location**	**Wis. Unique Well Number** **DNR Well Number**
Type of Well Water Table Observation Well ☐ 11 Piezometer ☒ 12	**Section Location of Waste/Source** ☐ E ___ 1/4 of ___ 1/4 of Sec. ___, T. ___ N; R. ___ ☐ W	**Date Well Installed** 6/7/18
Distance Well Is From Waste/Source Boundary Ft.	**Location of Well Relative to Waste/Source** u ☐ Upgradient s ☐ Sidegradient d ☒ Downgradient n ☐ Not Known	**Well Installed By (Person's Name and Firm)** Giles Engineering (Keith Flowers)
Is Well A Point of Enforcement Std. Application ☐ Yes ☐ No		

A. Protective pipe, top elevation 1451.16 ft. MSL
B. Well casing, top elevation 1451.00 ft. MSL
C. Land surface elevation 1451.16 ft. MSL
D. Surface seal, bottom 0.5 ft. MSL or 1450.66 ft.

12. USCS Classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☒ SP ☐
SM ☒ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☒ No

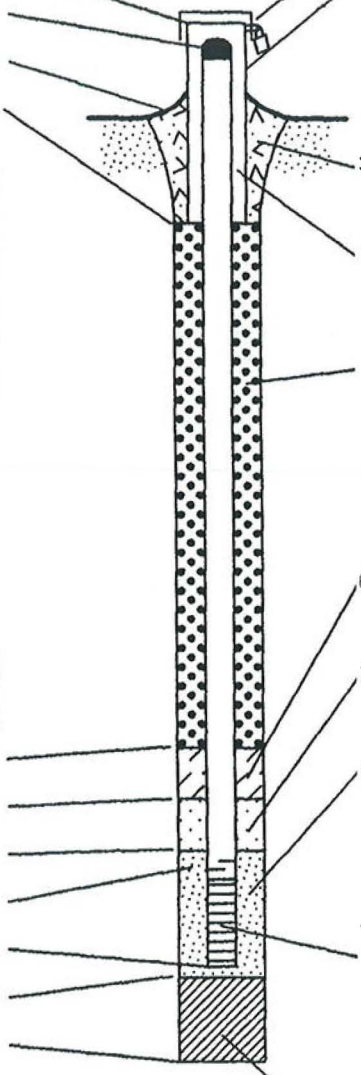
14. Drilling method used
Rotary ☐ 50
Hollow Stem Auger ☒ 41
_____ Other ☐

15. Drilling fluid used: Water ☐ 02 Air ☐ 01
Drilling Mud ☐ 03 None ☒ 99

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

17. Source of water (attach analysis):
_____

E. Bentonite seal, top 1450.66 ft. MSL or 0.5 ft.
F. Fine sand, top 1434.12 ft. MSL or 16.88 ft.
G. Filter pack, top 1433.12 ft. MSL or 17.88 ft.
H. Screen joint, top 1432.12 ft. MSL or 18.88 ft.
1. Well bottom 1427.12 ft. MSL or 23.88 ft.
J. Filter pack, bottom 1427.12 ft. MSL or 23.88 ft.
K. Borehole, bottom 1427.12 ft. MSL or 23.88 ft.
L. Borehole, diameter 8.25 in.
M. O.D. well casing 2.32 in.
N. I.D. well casing 2.07 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 8 in.
b. Length: 1 ft.
c. Material: _____ Steel ☒ 04 Other ☐
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____
3. Surface seal: Bentonite ☐ 30 Concrete ☒ 01 Other ☐
4. Material between well casing and protective pipe: Bentonite ☒ 30 Annular space seal ☐ Other ☐
5. Annular space seal: a. Granular 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. 5.6 ft³ 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 pellets ☒ 32
c. _____ Other ☐
7. Fine sand material Manufacturer, product name and mesh size
a. #15
b. Volume added 0.34 ft³
8. Filter pack material: Manufacturer, product name and mesh size
a. #40
b. Volume added 2.05 ft³
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 Flush threaded PVC schedule 80 ☐ 24 Other ☐
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11 Continuous slot ☐ 01 Other ☐
b. Manufacturer US Filter
c. Slot size: 0.10 in.
d. Slotted length: 10 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
	REI Engineering, Inc. 4080 N. 20th Ave. Wausau, WI 5440'

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144,147 and 160 Wis. Stats. and ch NR 141, Wis. Ad. Code. In accordance with ch. 144 Wis. Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $5000 for each day of violation. In accordance with ch. 147 Wis. Stats., failure to tile this form may result in a forfeiture of not more than $10,000 for each day of violation. NOTE: Shaded areas are for DNR use only. see instructions for more information including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 4.90

Route To Solid Haste ☐ Haz. Haste ☐ Wastewater ☐
Env. Response & Repair ☒ Underground Tanks ☐ Other ☐ _____

Facility/Project Name	Local Grid Location of Well	Well Name
Phillips Plating Corporation	___ Feet S. ___ Feet W ___ Feet N. ___ Feet E	PZ2
Facility License Permit or Monitoring Number	**Grid Origin Location**	**Wis. Unique Well Number** / **DNR Well Number**
BRRTS# 02-51-559634		
Type of Well Water Table Observation Well ☐ 11 Piezometer ☒ 12	**Section Location of Waste/Source** ☐ E ___ 1/4 of ___ 1/4 of Sec. ___, T. ___ N; R. ___ ☐ W	**Date Well Installed** 6/6/18
Distance Well Is From Waste/Source Boundary Ft.	**Location of Well Relative to Waste/Source** u ☐ Upgradient s ☐ Sidegradient d ☒ Downgradient n ☐ Not Known	**Well Installed By (Person's Name and Firm)** Giles Engineering (Keith Flowers)
Is Well A Point of Enforcement Std. Application ☐ Yes ☐ No		

A. Protective pipe, top elevation 1458.22 ft. MSL
B. Well casing, top elevation 1457.55 ft. MSL
C. Land surface elevation 1458.22 ft. MSL
D. Surface seal, bottom 0.5 ft. MSL or 1457.72 ft.

12. USCS Classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☒ SP ☐
SM ☒ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☒ No

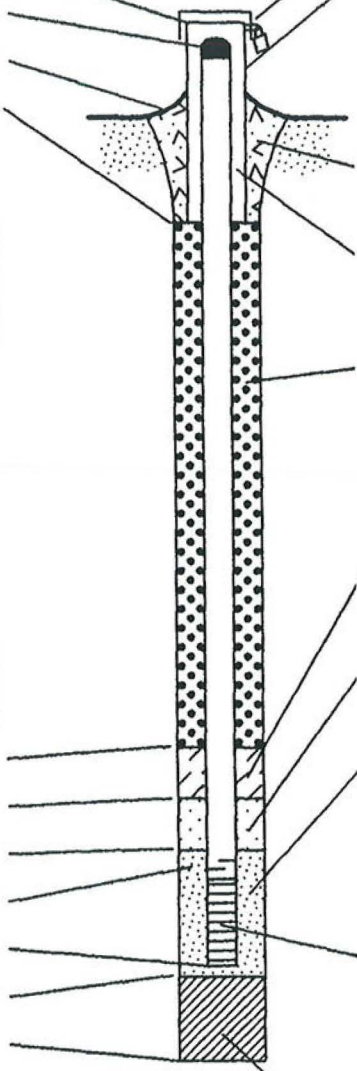
14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☒ 41; _____ Other ☐

15. Drilling fluid used: Water ☐ 02 Air ☐ 01; Drilling Mud ☐ 03 None ☒ 99

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

17. Source of water (attach analysis):
_____

E. Bentonite seal, top 1457.72 ft. MSL or 0.5 ft.
F. Fine sand, top 1431.36 ft. MSL or 26.19 ft.
G. Filter pack, top 1430.36 ft. MSL or 27.19 ft.
H. Screen joint, top 1429.36 ft. MSL or 28.19 ft.
I. Well bottom 1424.36 ft. MSL or 33.19 ft.
J. Filter pack, bottom 1424.36 ft. MSL or 33.19 ft.
K. Borehole, bottom 1424.36 ft. MSL or 33.19 ft.
L. Borehole, diameter 8.25 in.
M. O.D. well casing 2.32 in.
N. I.D. well casing 2.07 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 8 in.
b. Length: 1 ft.
c. Material: Steel ☒ 04; Other ☐
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____
3. Surface seal: Bentonite ☐ 30; Concrete ☒ 01; Other ☐
4. Material between well casing and protective pipe: Bentonite ☒ 30; Annular space seal ☐; Other ☐
5. Annular space seal: a. Granular 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. ___ ft³ 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 pellets ☒ 32
c. 8.79 Other ☐
7. Fine sand material Manufacturer, product name and mesh size
a. #15
b. Volume added 0.34 ft³
8. Filter pack material: Manufacturer, product name and mesh size
a. #40
b. Volume added 2.05 ft³
9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11; Continuous slot ☐ 01; Other ☐
b. Manufacturer US Filter
c. Slot size: 0.10 in.
d. Slotted length: 10 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
	REI Engineering, Inc. 4080 N. 20th Ave. Wausau, WI 5440'

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144,147 and 160 Wis. Stats. and ch NR 141, Wis. Ad. Code. In accordance with ch. 144 Wis. Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $5000 for each day of violation. In accordance with ch. 147 Wis. Stats., failure to tile this form may result in a forfeiture of not more than $10,000 for each day of violation. NOTE: Shaded areas are for DNR use only. see instructions for more information including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 4.90

Route To Solid Haste ☐ Haz. Haste ☐ Wastewater ☐
Env. Response & Repair ☒ Underground Tanks ☐ Other ☐ _____

Facility/Project Name Phillips Plating Corporation	**Local Grid Location of Well** _____ ___ Feet S. ___ Feet W ___ Feet N. ___ Feet E	**Well Name** MW15
Facility License Permit or Monitoring Number BRRTS #02-51-559634	**Grid Origin Location**	**Wis. Unique Well Number** **DNR Well Number**
Type of Well Water Table Observation Well ☒ 11 Piezometer ☐ 12	**Section Location of Waste/Source** ☐ E ___ 1/4 of ___ 1/4 of Sec. ___, T. ___ N; R. ___ ☐ W	**Date Well Installed** 6/7/18
Distance Well Is From Waste/Source Boundary Ft.	**Location of Well Relative to Waste/Source** u ☐ *Upgradient* s ☐ *Sidegradient* d ☒ *Downgradient* n ☐ *Not Known*	**Well Installed By (Person's Name and Firm)** Giles Engineering (Keith Flowers)
Is Well A Point of Enforcement Std. Application ☐ Yes ☐ No		

A. Protective pipe, top elevation 1449.89 ft. MSL
B. Well casing, top elevation 1449.48 ft. MSL
C. Land surface elevation 1449.89 ft. MSL
D. Surface seal, bottom 0.5 ft. MSL or 1449.39 ft.

12. USCS Classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☒ SP ☐
SM ☒ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☒ No

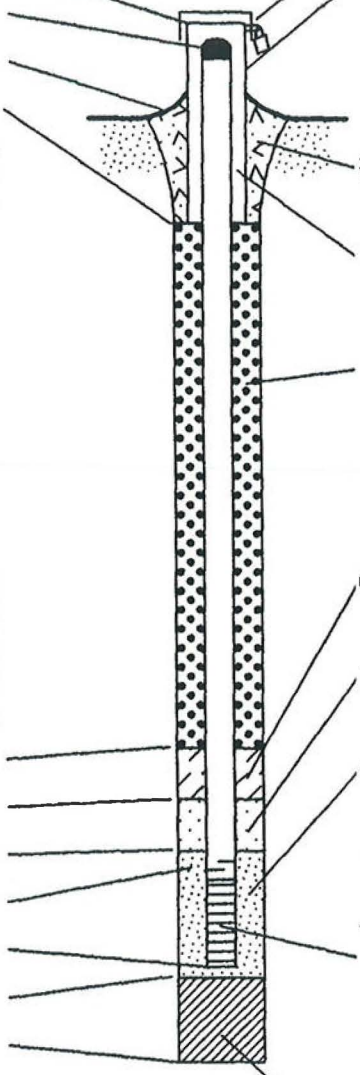
14. Drilling method used
Rotary ☐ 50
Hollow Stem Auger ☒ 41
_____ Other ☐

15. Drilling fluid used: Water ☐ 02 Air ☐ 01
Drilling Mud ☐ 03 None ☒ 99

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

17. Source of water (attach analysis):
_____

E. Bentonite seal, top 1449.39 ft. MSL or 0.5 ft.
F. Fine sand, top 1444.87 ft. MSL or 2.61 ft.
G. Filter pack, top 1446.37 ft. MSL or 3.11 ft.
H. Screen joint, top 1445.87 ft. MSL or 3.61 ft.
1. Well bottom 1435.87 ft. MSL or 13.61 ft.
J. Filter pack, bottom 1435.87 ft. MSL or 13.61 ft.
K. Borehole, bottom 1435.87 ft. MSL or 13.61 ft.
L. Borehole, diameter 8.25 in.
M. O.D. well casing 2.32 in.
N. I.D. well casing 2.07 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 8 in.
b. Length: 1 ft.
c. Material: _____ Steel ☒ 04 Other ☐
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____
3. Surface seal: Bentonite ☐ 30 Concrete ☒ 01 _____ Other ☐
4. Material between well casing and protective pipe: Bentonite ☒ 30 Annular space seal ☐ _____ Other ☐
5. Annular space seal: a. Granular 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. 0.72 ft³ 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 pellets ☒ 32
c. _____ Other ☐
7. Fine sand material Manufacturer, product name and mesh size
a. #15
b. Volume added 0.18 ft³
8. Filter pack material: Manufacturer, product name and mesh size
a. #40
b. Volume added 3.59 ft³
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 Flush threaded PVC schedule 80 ☐ 24 _____ Other ☐
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11 Continuous slot ☐ 01 _____ Other ☐
b. Manufacturer US Filter
c. Slot size: 0.10 in.
d. Slotted length: 10 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
	REI Engineering, Inc. 4080 N. 20th Ave. Wausau, WI 5440'

Please complete both sides of this form and return to the appropriate DNR office listed at the top of this form as required by chs. 144,147 and 160 Wis. Stats. and ch NR 141, Wis. Ad. Code. In accordance with ch. 144 Wis. Stats., failure to file this form may result in a forfeiture of not less than $10, nor more than $5000 for each day of violation. In accordance with ch. 147 Wis. Stats., failure to tile this form may result in a forfeiture of not more than $10,000 for each day of violation. NOTE: Shaded areas are for DNR use only. see instructions for more information including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 4.90

Route To Solid Haste ☐ Haz. Haste ☐ Wastewater ☐
Env. Response & Repair ☒ Underground Tanks ☐ Other ☐ _____

Facility/Project Name Phillips Plating Corporation	**Local Grid Location of Well** _____ ___ Feet S. ___ Feet W ___ Feet N. ___ Feet E	**Well Name** MW14
Facility License Permit or Monitoring Number BRRTS # 02-51-559634	**Grid Origin Location**	**Wis. Unique Well Number** **DNR Well Number**
Type of Well Water Table Observation Well ☒ 11 Piezometer ☐ 12	**Section Location of Waste/Source** ☐ E ___ 1/4 of ___ 1/4 of Sec. ___, T. ___ N; R. ___ ☐ W	**Date Well Installed** 6/6/18
Distance Well Is From Waste/Source Boundary Ft.	**Location of Well Relative to Waste/Source** u ☐ *Upgradient* s ☐ *Sidegradient* d ☒ *Downgradient* n ☐ *Not Known*	**Well Installed By (Person's Name and Firm)** Giles Engineering (Keith Flowers)
Is Well A Point of Enforcement Std. Application ☐ Yes ☐ No		

A. Protective pipe, top elevation 1449.21 ft. MSL
B. Well casing, top elevation 1449.03 ft. MSL
C. Land surface elevation 1449.21 ft. MSL
D. Surface seal, bottom 0.5 ft. MSL or 1448.71 ft.

12. USCS Classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☒ SP ☐
SM ☒ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☒ No

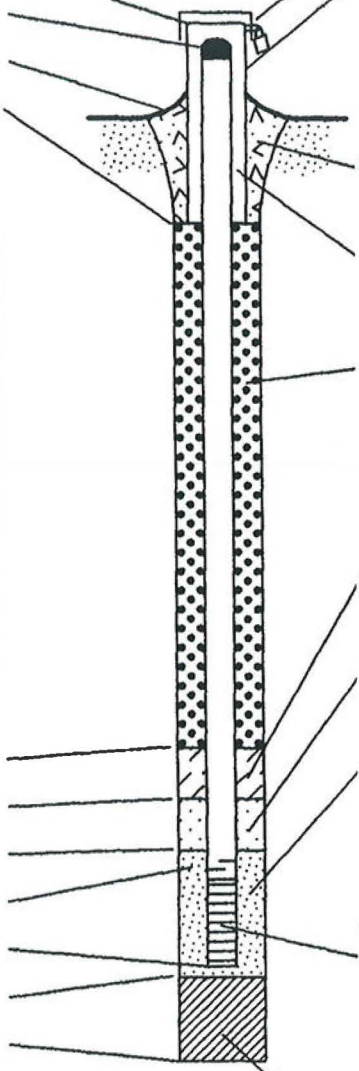
14. Drilling method used
Rotary ☐ 50
Hollow Stem Auger ☒ 41
_____ Other ☐

15. Drilling fluid used: Water ☐ 02 Air ☐ 01
Drilling Mud ☐ 03 None ☒ 99

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

17. Source of water (attach analysis):
_____

E. Bentonite seal, top 1448.71 ft. MSL or 0.5 ft.
F. Fine sand, top 1446.30 ft. MSL or 2.73 ft.
G. Filter pack, top 1445.80 ft. MSL or 3.23 ft.
H. Screen joint, top 1445.30 ft. MSL or 3.73 ft.
I. Well bottom 1435.30 ft. MSL or 13.73 ft.
J. Filter pack, bottom 1435.30 ft. MSL or 13.73 ft.
K. Borehole, bottom 1435.30 ft. MSL or 13.73 ft.
L. Borehole, diameter 8.25 in.
M. O.D. well casing 2.32 in.
N. I.D. well casing 2.07 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 8 in.
b. Length: 1 ft.
c. Material: _____ Steel ☒ 04 Other ☐
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____
3. Surface seal: Bentonite ☒ 30 Concrete ☐ 01
_____ Other ☐
4. Material between well casing and protective pipe:
Bentonite ☒ 30 Annular space seal ☐
_____ Other ☐
5. Annular space seal: a. Granular 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. 0.77 ft³ 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 pellets ☒ 32
c. _____ Other ☐
7. Fine sand material Manufacturer, product name and mesh size
a. #15
b. Volume added 0.18 ft³
8. Filter pack material: Manufacturer, product name and mesh size
a. #40
b. Volume added 3.59 ft³
9. Well casing: Flush threaded PVC schedule 40 ☒ 23
Flush threaded PVC schedule 80 ☐ 24
_____ Other ☐
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11
Continuous slot ☐ 01
_____ Other ☐
b. Manufacturer US Filter
c. Slot size: 0.10 in.
d. Slotted length: 10 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
	REI Engineering, Inc. 4080 N. 20th Ave. Wausau, WI 5440'

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State of Wisconsin
Department of Natural Resources

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 4.90

Route To Solid Haste ☐ Haz. Haste ☐ Wastewater ☐
Env. Response & Repair ☒ Underground Tanks ☐ Other ☐ _____

Facility/Project Name Phillips Plating Corporation	**Local Grid Location of Well** _____ ___ Feet S. ___ Feet W ___ Feet N. ___ Feet E	**Well Name** MW13
Facility License Permit or Monitoring Number BRRTS #02-51-559634	**Grid Origin Location**	**Wis. Unique Well Number** **DNR Well Number**
Type of Well Water Table Observation Well ☒ 11 Piezometer ☐ 12	**Section Location of Waste/Source** ☐ E	**Date Well Installed** 6/6/18
Distance Well Is From Waste/Source Boundary Ft.	___ 1/4 of ___ 1/4 of Sec. ___, T. ___ N; R. ___ ☐ W	**Well Installed By (Person's Name and Firm)** Giles Engineering (Keith Flowers)
Is Well A Point of Enforcement Std. Application ☐ Yes ☐ No	**Location of Well Relative to Waste/Source** u ☐ *Upgradient* s ☐ *Sidegradient* d ☒ *Downgradient* n ☐ *Not Known*	

A. Protective pipe, top elevation 1458.09 ft. MSL
B. Well casing, top elevation 1457.91 ft. MSL
C. Land surface elevation 1458.09 ft. MSL
D. Surface seal, bottom 0.5 ft. MSL or 1457.59 ft.

12. USCS Classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☒ SP ☐
SM ☒ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis attached? ☐ Yes ☒ No

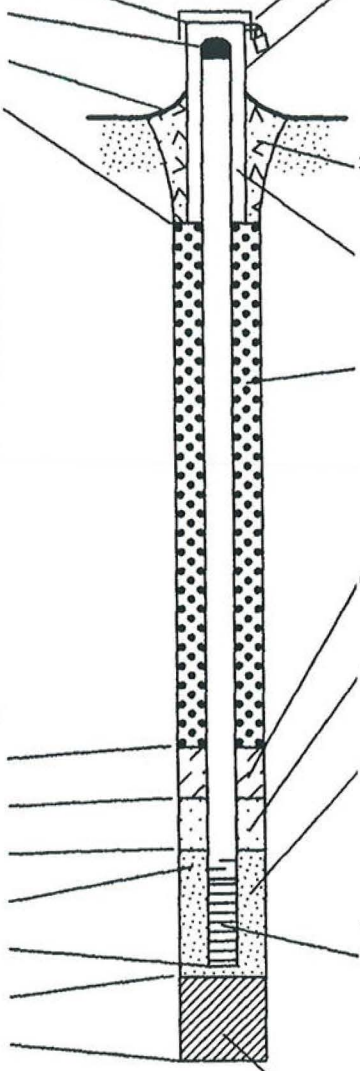
14. Drilling method used
Rotary ☐ 50
Hollow Stem Auger ☒ 41
_____ Other ☐

15. Drilling fluid used: Water ☐ 02 Air ☐ 01
Drilling Mud ☐ 03 None ☒ 99

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

17. Source of water (attach analysis):
_____

E. Bentonite seal, top 1457.59 ft. MSL or 0.5 ft.
F. Fine sand, top 1447.48 ft. MSL or 8.43 ft.
G. Filter pack, top 1448.48 ft. MSL or 9.43 ft.
H. Screen joint, top 1446.48 ft. MSL or 11.43 ft.
1. Well bottom 1436.48 ft. MSL or 21.43 ft.
J. Filter pack, bottom 1436.48 ft. MSL or 21.43 ft.
K. Borehole, bottom 1436.48 ft. MSL or 21.43 ft.
L. Borehole, diameter 8.25 in.
M. O.D. well casing 2.32 in.
N. I.D. well casing 2.07 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 8 in.
b. Length: 1 ft.
c. Material: _____ Steel ☒ 04 Other ☐
d. Additional protection? ☐ Yes ☐ No
If yes, describe: _____
3. Surface seal: Bentonite ☒ 30 Concrete ☐ 01
_____ Other ☐
4. Material between well casing and protective pipe:
Bentonite ☐ 30
Annular space seal ☒
_____ Other ☐
5. Annular space seal: a. Granular 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. 2.71 ft³ 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 pellets ☒ 32
c. _____ Other ☐
7. Fine sand material Manufacturer, product name and mesh size
a. #15
b. Volume added 0.34 ft³
8. Filter pack material: Manufacturer, product name and mesh size
a. #40
b. Volume added 4.42 ft³
9. Well casing: Flush threaded PVC schedule 40 ☒ 23
Flush threaded PVC schedule 80 ☐ 24
_____ Other ☐
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11
Continuous slot ☐ 01
_____ Other ☐
b. Manufacturer US Filter
c. Slot size: 0.10 in.
d. Slotted length: 10 ft.
11. Backfill material (below filler 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
	REI Engineering, Inc. 4080 N. 20th Ave. Wausau, WI 5440'

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State of Wisconsin
Department of Natural Resources

Route To: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☒ Underground Tanks ☐ Other ☐ _____

MONITORING WELL DEVELOPMENT
Form 4400-113B Rev. 4.90

Facility/Project Name	County Name	Well Name
Phillips Plating	Price	MW13
Facility Licence, Permit or Monitoring Number	**County Code**	**Wis. Unique Well Number** / **DNR Well Number**
BRRTS# 02-51-559634	51	

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 _____	☐	

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 15.28 *ft.*	15.61 *ft.*
Data *mm/dd/yy*	b. 7-11-18	7-11-18
Time	c. 9:41 ☐ p.m. ☒ a.m.	10:10 ☐ p.m. ☒ a.m.
12. Sediment in well bottom	0.04 *inches*	0 *inches*
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe)	Clear ☒ 10 Turbid ☐ 15 (Describe)

3. Time spent developing well	29	*min.*
4. Depth of well (from top of Casing)	21.43	*ft.*
5. Inside diameter of well	2.07	*in.*
6. Volume of water in filter pack and well casing	5.89	*gal.*
7. Volume of water removed from well	15	*gal.*
8. Volume of water added (If any)	-	*gal.*

9. Source of water added N/A

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

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. Additional comments on development:

Well developed by: Person's Name and Firm

Name: Jed Kosch (REI)

Firm: REI Engineering, Inc.
4020 N 20th Ave.
Wausau, WI 54401

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

Signature: [signature]

Print Initials: JK

Firm: REI Engineering, Inc.

NOTE: Shaded areas are for DNR use only. See instructions for more Information Including a list of county codes.

State of Wisconsin
Department of Natural Resources

Route To: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☒ Underground Tanks ☐ Other ☐ _____

MONITORING WELL DEVELOPMENT
Form 4400-113B Rev. 4.90

Facility/Project Name	County Name	Well Name	
Phillips Plating	Price	MW14	
Facility Licence, Permit or Monitoring Number	**County Code**	**Wis. Unique Well Number**	**DNR Well Number**
BRRTS# 02-51-559634	51		

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 _____	☐	

	Before Development	After Development
11. Depth to Water (from top of well casing) a.	6.55 ft.	8.31 ft.
Data mm/dd/yy b.	7-11-18	7-11-18
Time c.	11:07 ☐ p.m. ☒ a.m.	11:25 ☐ p.m. ☒ a.m.
12. Sediment in well bottom	0.51 inches	0 inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15	Clear ☐ 10 Turbid ☒ 15
(Describe)		Slightly Turbid

3. Time spent developing well	18	min.
4. Depth of well (from top of Casing)	13.73	ft.
5. Inside diameter of well	2.07	in.
6. Volume of water in filter pack and well casing	7.18	gal.
7. Volume of water removed from well	25	gal.
8. Volume of water added (If any)	-	gal.

9. Source of water added N/A

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

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. Additional comments on development:

Well developed by: Person's Name and Firm

Name: Jed Kosch (REI)

Firm: REI Engineering, Inc.
4020 N 20th Ave.
Wausau, WI 54401

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

Signature: [signature]

Print Initials: J K

Firm: REI Engineering, Inc.

NOTE: Shaded areas are for DNR use only. See instructions for more Information Including a list of county codes.

State of Wisconsin
Department of Natural Resources

Route To: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☒ Underground Tanks ☐ Other ☐ _____

MONITORING WELL DEVELOPMENT
Form 4400-113B Rev. 4.90

Facility/Project Name	County Name	Well Name
Phillips Plating	Price	MW15
Facility Licence, Permit or Monitoring Number	**County Code**	**Wis. Unique Well Number** / **DNR Well Number**
BRRTS# 02-51-559634	51	

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 _____	☐

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 7.34 *ft.*	8.31 *ft.*
Data *mm/dd/yy*	b. 7-11-18	7-11-18
Time	c. 11:42 ☐ p.m. ☒ a.m.	12:05 ☒ p.m. ☐ a.m.
12. Sediment in well bottom	0.21 *inches*	0.21 *inches*
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe)	Clear ☐ 10 Turbid ☒ 15 (Describe) Slightly Turbid

3. Time spent developing well	23 *min.*
4. Depth of well (from top of Casing)	13.73 *ft.*
5. Inside diameter of well	2.07 *in.*
6. Volume of water in filter pack and well casing	6.7 *gal.*
7. Volume of water removed from well	25 *gal.*
8. Volume of water added (if any)	- *gal.*
9. Source of water added	N/A
10. Analysis performed on water added? (If yes. attach results)	☐ Yes ☒ No

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. Additional comments on development:

Well developed by: Person's Name and Firm

Name: Jed Kosch (REI)

Firm: REI Engineering, Inc.
4020 N 20th Ave.
Wausau, WI 54401

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

Signature: [signature]

Print Initials: JAK

Firm: REI Engineering, Inc.

NOTE: Shaded areas are for DNR use only. See instructions for more Information Including a list of county codes.

State of Wisconsin
Department of Natural Resources

Route To: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☒ Underground Tanks ☐ Other ☐

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 4.90

Facility/Project Name	County Name	Well Name	
Phillips Plating	Price	PZ2	
Facility Licence, Permit or Monitoring Number	**County Code**	**Wis. Unique Well Number**	**DNR Well Number**
BRRTS# 02-51-559634	51		

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 Pumped and Bailed	☒

3. Time spent developing well	26	*min.*
4. Depth of well (from top of Casing)	33.19	*ft.*
5. Inside diameter of well	2.07	*in.*
6. Volume of water in filter pack and well casing	17.4	*gal.*
7. Volume of water removed from well	7	*gal.*
8. Volume of water added (If any)	-	*gal.*

9. Source of water added N/A

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. 14.94 *ft.*	32.14 *ft.*
Data *mm/dd/yy*	b. 7-11-18	7-11-18
Time	c. 10:19 ☐ p.m. ☒ a.m.	10:45 ☐ p.m. ☒ a.m.
12. Sediment in well bottom	0.2 *inches*	0.2 *inches*
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe)	Clear ☐ 10 Turbid ☒ 15 (Describe)
14. Total suspended solids	*mg/l*	*mg/l*
15. COD	*mg/l*	*mg/l*

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

16. Additional comments on development:
Pumped dry twice ten bailed

Well developed by: Person's Name and Firm

Name: Jed Kosch (REI)

Firm: REI Engineering, Inc.
4020 N 20th Ave.
Wausau, WI 54401

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

Signature:

Print Initials: JK

Firm: REI Engineering, Inc.

NOTE: Shaded areas are for DNR use only. See instructions for more Information Including a list of county codes.

State of Wisconsin
Department of Natural Resources

Route To: Solid Waste ☐ Haz. Waste ☐ Wastewater ☐
Env. Response & Repair ☒ Underground Tanks ☐ Other ☐ _____

MONITORING WELL DEVELOPMENT
Form 4400-113B Rev. 4.90

Facility/Project Name	County Name	Well Name	
Phillips Plating	Price	PZ3	
Facility Licence, Permit or Monitoring Number	**County Code**	**Wis. Unique Well Number**	**DNR Well Number**
BRRTS# 02-51-559634	51		

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 _____	☐

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 8.31 *ft.*	8.41 *ft.*
Data *mm/dd/yy*	b. 7-11-18	7-11-18
Time	c. 12:19 ☒ p.m. ☐ a.m.	12:45 ☒ p.m. ☐ a.m.
12. Sediment in well bottom	0.09 *inches*	0 *inches*
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe)	Clear ☒ 10 Turbid ☐ 15 (Describe)

3. Time spent developing well	26 *min.*	
4. Depth of well (from top of Casing)	23.88 *ft.*	
5. Inside diameter of well	2.07 *in.*	
6. Volume of water in filter pack and well casing	14.8 *gal.*	
7. Volume of water removed from well	25 *gal.*	
8. Volume of water added (If any)	- *gal.*	

9. Source of water added N/A

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

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. Additional comments on development:

Well developed by: Person's Name and Firm

Name: Jed Kosch (REI)

Firm: REI Engineering, Inc.
4020 N 20th Ave.
Wausau, WI 54401

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

Signature: Jed A Kosch

Print Initials: J K W

Firm: REI Engineering, Inc.

NOTE: Shaded areas are for DNR use only. See instructions for more Information Including a list of county codes.

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

July 19, 2018

Brian Bailey
REI Engineering
4080 North 20th Ave
Wausau, WI 54401

RE: Project: 6134B PHILLIPS PLATING
Pace Project No.: 40172285

Dear Brian Bailey:
Enclosed are the analytical results for sample(s) received by the laboratory on July 12, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Brian Basten
brian.basten@pacelabs.com
(920)469-2436
Project Manager

Enclosures

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

CERTIFICATIONS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40172285

Green Bay Certification IDs

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

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Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40172285

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40172285001	**MW1**	Water	07/11/18 13:45	07/12/18 07:30
40172285002	**MW2**	Water	07/11/18 15:05	07/12/18 07:30
40172285003	**MW4**	Water	07/11/18 15:20	07/12/18 07:30
40172285004	**MW5**	Water	07/11/18 15:40	07/12/18 07:30
40172285005	**MW6**	Water	07/11/18 17:00	07/12/18 07:30
40172285006	**MW7**	Water	07/11/18 14:40	07/12/18 07:30
40172285007	**MW8**	Water	07/11/18 16:00	07/12/18 07:30
40172285008	**MW9**	Water	07/11/18 16:15	07/12/18 07:30
40172285009	**MW10**	Water	07/11/18 12:55	07/12/18 07:30
40172285010	**MW11**	Water	07/11/18 13:25	07/12/18 07:30
40172285011	**MW12**	Water	07/11/18 14:10	07/12/18 07:30
40172285012	**MW13**	Water	07/11/18 10:10	07/12/18 07:30
40172285013	**MW14**	Water	07/11/18 11:25	07/12/18 07:30
40172285014	**MW15**	Water	07/11/18 12:05	07/12/18 07:30
40172285015	**PZ1**	Water	07/11/18 16:45	07/12/18 07:30
40172285016	**PZ2**	Water	07/11/18 10:50	07/12/18 07:30
40172285017	**PZ3**	Water	07/11/18 12:45	07/12/18 07:30

Pace Analytical Services, LLC
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SAMPLE ANALYTE COUNT

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40172285

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40172285001	**MW1**	EPA 6010	JLD	4
		SM 3500-Cr B (Online)	DEY	1
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
40172285002	**MW2**	EPA 6010	JLD	4
		SM 3500-Cr B (Online)	DEY	1
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
40172285003	**MW4**	EPA 6010	JLD	4
		SM 3500-Cr B (Online)	DEY	1
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
40172285004	**MW5**	EPA 6010	JLD	4
		SM 3500-Cr B (Online)	DEY	1
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
40172285005	**MW6**	EPA 6010	JLD	4
		SM 3500-Cr B (Online)	DEY	1
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
40172285006	**MW7**	EPA 6010	JLD	4
		SM 3500-Cr B (Online)	DEY	1
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
40172285007	**MW8**	EPA 6010	JLD	4
		SM 3500-Cr B (Online)	DEY	1
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
40172285008	**MW9**	EPA 6010	JLD	4
		SM 3500-Cr B (Online)	DEY	1
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
40172285009	**MW10**	EPA 6010	JLD	4
		SM 3500-Cr B (Online)	DEY	1
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
40172285010	**MW11**	EPA 6010	JLD	4

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40172285

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		SM 3500-Cr B (Online)	DEY	1
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
40172285011	**MW12**	EPA 6010	JLD	4
		SM 3500-Cr B (Online)	DEY	1
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
40172285012	**MW13**	EPA 6010	JLD	4
		SM 3500-Cr B (Online)	DEY	1
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
40172285013	**MW14**	EPA 6010	JLD	4
		SM 3500-Cr B (Online)	DEY	1
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
40172285014	**MW15**	EPA 6010	JLD	4
		SM 3500-Cr B (Online)	DEY	1
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
40172285015	**PZ1**	EPA 6010	JLD	4
		SM 3500-Cr B (Online)	DEY	1
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
40172285016	**PZ2**	EPA 6010	JLD	4
		SM 3500-Cr B (Online)	DEY	1
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1
40172285017	**PZ3**	EPA 6010	JLD	4
		SM 3500-Cr B (Online)	DEY	1
		EPA 300.0	HMB	1
		EPA 300.0	HMB	1

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

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40172285

Sample: MW1 **Lab ID: 40172285001** Collected: 07/11/18 13:45 Received: 07/12/18 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**<2.5**	ug/L	10.0	2.5	1		07/12/18 12:06	7440-47-3	
Iron, Dissolved	**17.8J**	ug/L	100	15.5	1		07/12/18 12:06	7439-89-6	
Manganese, Dissolved	**1.1J**	ug/L	5.0	1.1	1		07/12/18 12:06	7439-96-5	
Nickel, Dissolved	**41.5**	ug/L	10.0	1.9	1		07/12/18 12:06	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.051**	mg/L	0.17	0.051	10		07/12/18 09:30		D3
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**7.0**	mg/L	1.1	0.38	5		07/12/18 14:34	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**17.7**	mg/L	15.0	5.0	5		07/12/18 14:34	14808-79-8	M0

Sample: MW2 **Lab ID: 40172285002** Collected: 07/11/18 15:05 Received: 07/12/18 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**<2.5**	ug/L	10.0	2.5	1		07/12/18 12:13	7440-47-3	
Iron, Dissolved	**16.9J**	ug/L	100	15.5	1		07/12/18 12:13	7439-89-6	
Manganese, Dissolved	**126**	ug/L	5.0	1.1	1		07/12/18 12:13	7439-96-5	
Nickel, Dissolved	**4.0J**	ug/L	10.0	1.9	1		07/12/18 12:13	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.13**	mg/L	0.43	0.13	25		07/12/18 09:30		D3
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**32.5**	mg/L	4.5	1.5	20		07/13/18 04:12	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**22.7**	mg/L	15.0	5.0	5		07/12/18 15:14	14808-79-8	

Sample: MW4 **Lab ID: 40172285003** Collected: 07/11/18 15:20 Received: 07/12/18 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**<2.5**	ug/L	10.0	2.5	1		07/12/18 12:16	7440-47-3	
Iron, Dissolved	**<15.5**	ug/L	100	15.5	1		07/12/18 12:16	7439-89-6	
Manganese, Dissolved	**<1.1**	ug/L	5.0	1.1	1		07/12/18 12:16	7439-96-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40172285

Sample: MW4 **Lab ID: 40172285003** Collected: 07/11/18 15:20 Received: 07/12/18 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Nickel, Dissolved	**<1.9**	ug/L	10.0	1.9	1		07/12/18 12:16	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.0051**	mg/L	0.017	0.0051	1		07/12/18 09:30		
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**2.4**	mg/L	1.1	0.38	5		07/12/18 15:27	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**7.2J**	mg/L	15.0	5.0	5		07/12/18 15:27	14808-79-8	D3

Sample: MW5 **Lab ID: 40172285004** Collected: 07/11/18 15:40 Received: 07/12/18 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**195**	ug/L	10.0	2.5	1		07/12/18 12:18	7440-47-3	
Iron, Dissolved	**<15.5**	ug/L	100	15.5	1		07/12/18 12:18	7439-89-6	
Manganese, Dissolved	**54.2**	ug/L	5.0	1.1	1		07/12/18 12:18	7439-96-5	
Nickel, Dissolved	**3040**	ug/L	10.0	1.9	1		07/12/18 12:18	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.18**	mg/L	0.086	0.026	5		07/12/18 09:30		
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**7.5**	mg/L	1.1	0.38	5		07/12/18 15:41	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**37.1**	mg/L	15.0	5.0	5		07/12/18 15:41	14808-79-8	

Sample: MW6 **Lab ID: 40172285005** Collected: 07/11/18 17:00 Received: 07/12/18 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**11500**	ug/L	20.0	5.1	2		07/12/18 12:21	7440-47-3	
Iron, Dissolved	**<31.0**	ug/L	200	31.0	2		07/12/18 12:21	7439-89-6	
Manganese, Dissolved	**1220**	ug/L	10.0	2.3	2		07/12/18 12:21	7439-96-5	
Nickel, Dissolved	**6030**	ug/L	20.0	3.8	2		07/12/18 12:21	7440-02-0	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40172285

Sample: MW6 **Lab ID: 40172285005** Collected: 07/11/18 17:00 Received: 07/12/18 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**11.7**	mg/L	0.86	0.26	50		07/12/18 09:30		
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**12.5**	mg/L	1.1	0.38	5		07/12/18 15:54	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**302**	mg/L	60.0	20.0	20		07/16/18 11:48	14808-79-8	

Sample: MW7 **Lab ID: 40172285006** Collected: 07/11/18 14:40 Received: 07/12/18 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**<2.5**	ug/L	10.0	2.5	1		07/12/18 12:23	7440-47-3	
Iron, Dissolved	**293**	ug/L	100	15.5	1		07/12/18 12:23	7439-89-6	
Manganese, Dissolved	**7.4**	ug/L	5.0	1.1	1		07/12/18 12:23	7439-96-5	
Nickel, Dissolved	**<1.9**	ug/L	10.0	1.9	1		07/12/18 12:23	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.013**	mg/L	0.043	0.013	2.5		07/12/18 09:30		D3
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**3.2**	mg/L	1.1	0.38	5		07/12/18 16:07	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**34.3**	mg/L	15.0	5.0	5		07/12/18 16:07	14808-79-8	

Sample: MW8 **Lab ID: 40172285007** Collected: 07/11/18 16:00 Received: 07/12/18 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**594**	ug/L	10.0	2.5	1		07/12/18 12:31	7440-47-3	
Iron, Dissolved	**<15.5**	ug/L	100	15.5	1		07/12/18 12:31	7439-89-6	
Manganese, Dissolved	**29.5**	ug/L	5.0	1.1	1		07/12/18 12:31	7439-96-5	
Nickel, Dissolved	**876**	ug/L	10.0	1.9	1		07/12/18 12:31	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.57**	mg/L	0.21	0.064	12.5		07/12/18 09:30		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40172285

Sample: MW8 **Lab ID: 40172285007** Collected: 07/11/18 16:00 Received: 07/12/18 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**40.4**	mg/L	4.5	1.5	20		07/13/18 11:12	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**14.2J**	mg/L	15.0	5.0	5		07/12/18 17:01	14808-79-8	D3

Sample: MW9 **Lab ID: 40172285008** Collected: 07/11/18 16:15 Received: 07/12/18 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**238**	ug/L	10.0	2.5	1		07/12/18 12:33	7440-47-3	
Iron, Dissolved	**<15.5**	ug/L	100	15.5	1		07/12/18 12:33	7439-89-6	
Manganese, Dissolved	**250**	ug/L	5.0	1.1	1		07/12/18 12:33	7439-96-5	
Nickel, Dissolved	**555**	ug/L	10.0	1.9	1		07/12/18 12:33	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.24**	mg/L	0.086	0.026	5		07/12/18 09:30		
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**8.4**	mg/L	1.1	0.38	5		07/12/18 17:14	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**49.8**	mg/L	15.0	5.0	5		07/12/18 17:14	14808-79-8	

Sample: MW10 **Lab ID: 40172285009** Collected: 07/11/18 12:55 Received: 07/12/18 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**12.5**	ug/L	10.0	2.5	1		07/12/18 12:36	7440-47-3	
Iron, Dissolved	**<15.5**	ug/L	100	15.5	1		07/12/18 12:36	7439-89-6	
Manganese, Dissolved	**54.9**	ug/L	5.0	1.1	1		07/12/18 12:36	7439-96-5	
Nickel, Dissolved	**43.8**	ug/L	10.0	1.9	1		07/12/18 12:36	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.029**	mg/L	0.017	0.0051	1		07/12/18 09:30		
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**<0.38**	mg/L	1.1	0.38	5		07/12/18 17:28	14797-55-8	D3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40172285

Sample: MW10 **Lab ID: 40172285009** Collected: 07/11/18 12:55 Received: 07/12/18 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**38.6**	mg/L	15.0	5.0	5		07/12/18 17:28	14808-79-8	

Sample: MW11 **Lab ID: 40172285010** Collected: 07/11/18 13:25 Received: 07/12/18 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**<2.5**	ug/L	10.0	2.5	1		07/12/18 12:38	7440-47-3	
Iron, Dissolved	**29.6J**	ug/L	100	15.5	1		07/12/18 12:38	7439-89-6	
Manganese, Dissolved	**18.2**	ug/L	5.0	1.1	1		07/12/18 12:38	7439-96-5	
Nickel, Dissolved	**<1.9**	ug/L	10.0	1.9	1		07/12/18 12:38	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.026**	mg/L	0.086	0.026	5		07/12/18 09:30		D3
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**7.3**	mg/L	1.1	0.38	5		07/12/18 17:41	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**15.2**	mg/L	15.0	5.0	5		07/12/18 17:41	14808-79-8	

Sample: MW12 **Lab ID: 40172285011** Collected: 07/11/18 14:10 Received: 07/12/18 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**<2.5**	ug/L	10.0	2.5	1		07/12/18 12:41	7440-47-3	
Iron, Dissolved	**<15.5**	ug/L	100	15.5	1		07/12/18 12:41	7439-89-6	
Manganese, Dissolved	**<1.1**	ug/L	5.0	1.1	1		07/12/18 12:41	7439-96-5	
Nickel, Dissolved	**<1.9**	ug/L	10.0	1.9	1		07/12/18 12:41	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.051**	mg/L	0.17	0.051	10		07/12/18 09:30		D3
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**4.3**	mg/L	1.1	0.38	5		07/12/18 22:09	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**11.3J**	mg/L	15.0	5.0	5		07/12/18 22:09	14808-79-8	D3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40172285

Sample: MW13 **Lab ID: 40172285012** Collected: 07/11/18 10:10 Received: 07/12/18 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**<2.5**	ug/L	10.0	2.5	1		07/12/18 12:43	7440-47-3	
Iron, Dissolved	**375**	ug/L	100	15.5	1		07/12/18 12:43	7439-89-6	
Manganese, Dissolved	**799**	ug/L	5.0	1.1	1		07/12/18 12:43	7439-96-5	
Nickel, Dissolved	**<1.9**	ug/L	10.0	1.9	1		07/12/18 12:43	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.051**	mg/L	0.17	0.051	10		07/12/18 09:30		D3
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**<0.38**	mg/L	1.1	0.38	5		07/12/18 23:33	14797-55-8	D3
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**7.2J**	mg/L	15.0	5.0	5		07/12/18 23:33	14808-79-8	D3

Sample: MW14 **Lab ID: 40172285013** Collected: 07/11/18 11:25 Received: 07/12/18 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**<2.5**	ug/L	10.0	2.5	1		07/12/18 12:45	7440-47-3	
Iron, Dissolved	**5480**	ug/L	100	15.5	1		07/12/18 12:45	7439-89-6	
Manganese, Dissolved	**849**	ug/L	5.0	1.1	1		07/12/18 12:45	7439-96-5	
Nickel, Dissolved	**<1.9**	ug/L	10.0	1.9	1		07/12/18 12:45	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.051**	mg/L	0.17	0.051	10		07/12/18 09:30		D3
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**<0.38**	mg/L	1.1	0.38	5		07/12/18 23:47	14797-55-8	D3
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**12.9J**	mg/L	15.0	5.0	5		07/12/18 23:47	14808-79-8	D3

Sample: MW15 **Lab ID: 40172285014** Collected: 07/11/18 12:05 Received: 07/12/18 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**<2.5**	ug/L	10.0	2.5	1		07/12/18 12:48	7440-47-3	
Iron, Dissolved	**3490**	ug/L	100	15.5	1		07/12/18 12:48	7439-89-6	
Manganese, Dissolved	**1800**	ug/L	5.0	1.1	1		07/12/18 12:48	7439-96-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40172285

Sample: MW15 **Lab ID: 40172285014** Collected: 07/11/18 12:05 Received: 07/12/18 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Nickel, Dissolved	**6.9J**	ug/L	10.0	1.9	1		07/12/18 12:48	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.13**	mg/L	0.43	0.13	25		07/12/18 09:30		D3
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**<0.38**	mg/L	1.1	0.38	5		07/13/18 00:00	14797-55-8	D3
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**<5.0**	mg/L	15.0	5.0	5		07/13/18 00:00	14808-79-8	D3

Sample: PZ1 **Lab ID: 40172285015** Collected: 07/11/18 16:45 Received: 07/12/18 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**1350**	ug/L	10.0	2.5	1		07/12/18 12:50	7440-47-3	
Iron, Dissolved	**<15.5**	ug/L	100	15.5	1		07/12/18 12:50	7439-89-6	
Manganese, Dissolved	**21.6**	ug/L	5.0	1.1	1		07/12/18 12:50	7439-96-5	
Nickel, Dissolved	**<1.9**	ug/L	10.0	1.9	1		07/12/18 12:50	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**1.2**	mg/L	0.17	0.051	10		07/12/18 09:30		
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**5.1**	mg/L	1.1	0.38	5		07/13/18 00:14	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**40.8**	mg/L	15.0	5.0	5		07/13/18 00:14	14808-79-8	

Sample: PZ2 **Lab ID: 40172285016** Collected: 07/11/18 10:50 Received: 07/12/18 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**<2.5**	ug/L	10.0	2.5	1		07/12/18 12:53	7440-47-3	
Iron, Dissolved	**298**	ug/L	100	15.5	1		07/12/18 12:53	7439-89-6	
Manganese, Dissolved	**684**	ug/L	5.0	1.1	1		07/12/18 12:53	7439-96-5	
Nickel, Dissolved	**<1.9**	ug/L	10.0	1.9	1		07/12/18 12:53	7440-02-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40172285

Sample: PZ2 **Lab ID: 40172285016** Collected: 07/11/18 10:50 Received: 07/12/18 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.51**	mg/L	1.7	0.51	100		07/12/18 09:30		D3
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**<0.38**	mg/L	1.1	0.38	5		07/13/18 00:28	14797-55-8	D3
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**15.2**	mg/L	15.0	5.0	5		07/13/18 00:28	14808-79-8	

Sample: PZ3 **Lab ID: 40172285017** Collected: 07/11/18 12:45 Received: 07/12/18 07:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**1510**	ug/L	10.0	2.5	1		07/12/18 13:00	7440-47-3	
Iron, Dissolved	**22.3J**	ug/L	100	15.5	1		07/12/18 13:00	7439-89-6	
Manganese, Dissolved	**410**	ug/L	5.0	1.1	1		07/12/18 13:00	7439-96-5	
Nickel, Dissolved	**4040**	ug/L	10.0	1.9	1		07/12/18 13:00	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**1.6**	mg/L	0.43	0.13	25		07/12/18 09:30		
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**7.8**	mg/L	1.1	0.38	5		07/13/18 00:42	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**51.4**	mg/L	15.0	5.0	5		07/13/18 00:42	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40172285

QC Batch: 294292 Analysis Method: EPA 6010
QC Batch Method: EPA 6010 Analysis Description: ICP Metals, Trace, Dissolved
Associated Lab Samples: 40172285001, 40172285002, 40172285003, 40172285004, 40172285005, 40172285006, 40172285007, 40172285008, 40172285009, 40172285010, 40172285011, 40172285012, 40172285013, 40172285014, 40172285015, 40172285016, 40172285017

METHOD BLANK: 1720702 Matrix: Water
Associated Lab Samples: 40172285001, 40172285002, 40172285003, 40172285004, 40172285005, 40172285006, 40172285007, 40172285008, 40172285009, 40172285010, 40172285011, 40172285012, 40172285013, 40172285014, 40172285015, 40172285016, 40172285017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium, Dissolved	ug/L	<2.5	10.0	07/12/18 12:01	
Iron, Dissolved	ug/L	<15.5	100	07/12/18 12:01	
Manganese, Dissolved	ug/L	<1.1	5.0	07/12/18 12:01	
Nickel, Dissolved	ug/L	<1.9	10.0	07/12/18 12:01	

LABORATORY CONTROL SAMPLE: 1720703

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Dissolved	ug/L	500	507	101	80-120	
Iron, Dissolved	ug/L	5000	5080	102	80-120	
Manganese, Dissolved	ug/L	500	497	99	80-120	
Nickel, Dissolved	ug/L	500	499	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1720704 1720705

Parameter	Units	40172285001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Dissolved	ug/L	<2.5	500	500	508	513	101	102	75-125	1	20	
Iron, Dissolved	ug/L	17.8J	5000	5000	5090	5170	101	103	75-125	2	20	
Manganese, Dissolved	ug/L	1.1J	500	500	496	498	99	99	75-125	0	20	
Nickel, Dissolved	ug/L	41.5	500	500	540	541	100	100	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40172285

QC Batch: 294281 Analysis Method: SM 3500-Cr B (Online)
QC Batch Method: SM 3500-Cr B (Online) Analysis Description: Chromium, Hexavalent by 3500
Associated Lab Samples: 40172285001, 40172285002, 40172285003, 40172285004, 40172285005, 40172285006, 40172285007, 40172285008, 40172285009, 40172285010, 40172285011, 40172285012, 40172285013, 40172285014, 40172285015, 40172285016, 40172285017

METHOD BLANK: 1720577 Matrix: Water
Associated Lab Samples: 40172285001, 40172285002, 40172285003, 40172285004, 40172285005, 40172285006, 40172285007, 40172285008, 40172285009, 40172285010, 40172285011, 40172285012, 40172285013, 40172285014, 40172285015, 40172285016, 40172285017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium, Hexavalent	mg/L	<0.0051	0.017	07/12/18 09:30	

LABORATORY CONTROL SAMPLE: 1720578

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	mg/L	.3	0.31	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1720579 1720580

Parameter	Units	40172285001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Hexavalent	mg/L	<0.051	3	3	3.1	3.0	102	101	90-110	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1720581 1720582

Parameter	Units	40172285011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Hexavalent	mg/L	<0.051	3	3	3.0	3.1	100	102	90-110	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40172285

QC Batch: 294287 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 40172285001, 40172285002, 40172285003, 40172285004, 40172285005, 40172285006, 40172285007, 40172285008, 40172285009, 40172285010

METHOD BLANK: 1720663 Matrix: Water
Associated Lab Samples: 40172285001, 40172285002, 40172285003, 40172285004, 40172285005, 40172285006, 40172285007, 40172285008, 40172285009, 40172285010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrate as N	mg/L	<0.075	0.22	07/12/18 14:07	
Sulfate	mg/L	<1.0	3.0	07/12/18 14:07	

LABORATORY CONTROL SAMPLE: 1720664

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrate as N	mg/L	1.5	1.6	105	90-110	
Sulfate	mg/L	20	20.7	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1720665 1720666

Parameter	Units	40172285001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrate as N	mg/L	7.0	7.5	7.5	14.7	15.3	103	110	90-110	4	15	
Sulfate	mg/L	17.7	100	100	128	133	110	115	90-110	4	15	M0

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40172285

QC Batch: 294289 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 40172285011, 40172285012, 40172285013, 40172285014, 40172285015, 40172285016, 40172285017

METHOD BLANK: 1720675 Matrix: Water
Associated Lab Samples: 40172285011, 40172285012, 40172285013, 40172285014, 40172285015, 40172285016, 40172285017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrate as N	mg/L	<0.075	0.22	07/12/18 21:42	
Sulfate	mg/L	<1.0	3.0	07/12/18 21:42	

LABORATORY CONTROL SAMPLE: 1720676

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrate as N	mg/L	1.5	1.6	104	90-110	
Sulfate	mg/L	20	20.6	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1720677 1720678

Parameter	Units	40172285011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrate as N	mg/L	4.3	7.5	7.5	12.4	12.4	108	108	90-110	0	15	
Sulfate	mg/L	11.3J	100	100	116	117	105	106	90-110	1	15	

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QUALIFIERS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40172285

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40172285

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40172285001	**MW1**	EPA 6010	294292		
40172285002	**MW2**	EPA 6010	294292		
40172285003	**MW4**	EPA 6010	294292		
40172285004	**MW5**	EPA 6010	294292		
40172285005	**MW6**	EPA 6010	294292		
40172285006	**MW7**	EPA 6010	294292		
40172285007	**MW8**	EPA 6010	294292		
40172285008	**MW9**	EPA 6010	294292		
40172285009	**MW10**	EPA 6010	294292		
40172285010	**MW11**	EPA 6010	294292		
40172285011	**MW12**	EPA 6010	294292		
40172285012	**MW13**	EPA 6010	294292		
40172285013	**MW14**	EPA 6010	294292		
40172285014	**MW15**	EPA 6010	294292		
40172285015	**PZ1**	EPA 6010	294292		
40172285016	**PZ2**	EPA 6010	294292		
40172285017	**PZ3**	EPA 6010	294292		
40172285001	**MW1**	SM 3500-Cr B (Online)	294281		
40172285002	**MW2**	SM 3500-Cr B (Online)	294281		
40172285003	**MW4**	SM 3500-Cr B (Online)	294281		
40172285004	**MW5**	SM 3500-Cr B (Online)	294281		
40172285005	**MW6**	SM 3500-Cr B (Online)	294281		
40172285006	**MW7**	SM 3500-Cr B (Online)	294281		
40172285007	**MW8**	SM 3500-Cr B (Online)	294281		
40172285008	**MW9**	SM 3500-Cr B (Online)	294281		
40172285009	**MW10**	SM 3500-Cr B (Online)	294281		
40172285010	**MW11**	SM 3500-Cr B (Online)	294281		
40172285011	**MW12**	SM 3500-Cr B (Online)	294281		
40172285012	**MW13**	SM 3500-Cr B (Online)	294281		
40172285013	**MW14**	SM 3500-Cr B (Online)	294281		
40172285014	**MW15**	SM 3500-Cr B (Online)	294281		
40172285015	**PZ1**	SM 3500-Cr B (Online)	294281		
40172285016	**PZ2**	SM 3500-Cr B (Online)	294281		
40172285017	**PZ3**	SM 3500-Cr B (Online)	294281		
40172285001	**MW1**	EPA 300.0	294287		
40172285002	**MW2**	EPA 300.0	294287		
40172285003	**MW4**	EPA 300.0	294287		
40172285004	**MW5**	EPA 300.0	294287		
40172285005	**MW6**	EPA 300.0	294287		
40172285006	**MW7**	EPA 300.0	294287		
40172285007	**MW8**	EPA 300.0	294287		
40172285008	**MW9**	EPA 300.0	294287		
40172285009	**MW10**	EPA 300.0	294287		
40172285010	**MW11**	EPA 300.0	294287		
40172285011	**MW12**	EPA 300.0	294289		
40172285012	**MW13**	EPA 300.0	294289		
40172285013	**MW14**	EPA 300.0	294289		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40172285

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40172285014	**MW15**	EPA 300.0	294289		
40172285015	**PZ1**	EPA 300.0	294289		
40172285016	**PZ2**	EPA 300.0	294289		
40172285017	**PZ3**	EPA 300.0	294289		
40172285001	**MW1**	EPA 300.0	294287		
40172285002	**MW2**	EPA 300.0	294287		
40172285003	**MW4**	EPA 300.0	294287		
40172285004	**MW5**	EPA 300.0	294287		
40172285005	**MW6**	EPA 300.0	294287		
40172285006	**MW7**	EPA 300.0	294287		
40172285007	**MW8**	EPA 300.0	294287		
40172285008	**MW9**	EPA 300.0	294287		
40172285009	**MW10**	EPA 300.0	294287		
40172285010	**MW11**	EPA 300.0	294287		
40172285011	**MW12**	EPA 300.0	294289		
40172285012	**MW13**	EPA 300.0	294289		
40172285013	**MW14**	EPA 300.0	294289		
40172285014	**MW15**	EPA 300.0	294289		
40172285015	**PZ1**	EPA 300.0	294289		
40172285016	**PZ2**	EPA 300.0	294289		
40172285017	**PZ3**	EPA 300.0	294289		

Pace Analytical®
www.pacelabs.com

UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

40172285

CHAIN OF CUSTODY

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

(Please Print Clearly)	
Company Name:	RGI
Branch/Location:	Wausau
Project Contact:	Brian Bailey
Phone:	715-675-9784
Project Number:	61348
Project Name:	Phillips Plating
Project State:	WI
Sampled By (Print):	Brian J. Bailey
Sampled By (Sign):	
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	Brian Bailey
Mail To Company:	RGI
Mail To Address:	Bbailey@rencorgroup.com
Invoice To Contact:	SAA
Invoice To Company:	
Invoice To Address:	↓
Invoice To Phone:	

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☐ On your sample (billable)
☐ NOT needed on your sample

Matrix Codes

A = Air	W = Water
B = Biota	DW = Drinking Water
C = Charcoal	GW = Ground Water
O = Oil	SW = Surface Water
S = Soil	WW = Waste Water
SI = Sludge	WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO) Y/N	PRESERVATION (CODE)* Pick Letter	Analyses Requested: Total Dissolved Cr, Ni, Mn, Fe	Hex Cr	Nitrate	Sulfate
001	MW1	7/11/18	1:45P	GW	Y	D	X	X	X	X
002	MW2		3:05P		N	A				
003	MW4		3:20P		N	A				
004	MW5		3:48P		N	A				
005	MW6		5:00P		N	A				
006	MW7		2:40P		N	A				
007	MW8		4:00P		N	A				
008	MW9		4:15P		N	A				
009	MW10		12:55P		N	A				
010	MW11		1:25P		N	A				
011	MW12		2:10P		N	A				
012	MW13		10:10A		N	A				
013	MW14	↓	11:25P	↓	N	A	↓	↓	↓	↓

CLIENT COMMENTS

LAB COMMENTS (Lab Use Only)

Profile #

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:
Email #2:
Telephone:
Fax:

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
	7/12/18 6:30A		7/12/18 0730
		Paul	

PACE Project No.
40172285

Receipt Temp = ROT °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal
Present / ~~Not Present~~
Intact / Not Intact

C019a(27Jun2006)

Version 6.0 06/14/06

ORIGINAL

UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

Pace Analytical®
www.pacelabs.com

CHAIN OF CUSTODY

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

(Please Print Clearly)	
Company Name:	REI
Branch/Location:	Wausau
Project Contact:	Brian Bailey
Phone:	715-675-9784
Project Number:	61341B
Project Name:	Phillips Platting
Project State:	WI
Sampled By (Print):	Brian J. Bailey
Sampled By (Sign):	
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	Brian Bailey
Mail To Company:	REI
Mail To Address:	bbailey@reiengineering.com
Invoice To Contact:	SAA
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☐ On your sample (billable)
☐ NOT needed on your sample

Matrix Codes
A = Air, B = Biota, C = Charcoal, O = Oil, S = Soil, SI = Sludge, W = Water, DW = Drinking Water, GW = Ground Water, SW = Surface Water, WW = Waste Water, WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO) Y/N	PRESERVATION (CODE)* Pick Letter	Analyses Requested: Total Diss Cr, N, Mn, Fe	Hex Cr	Nitrate	Sulfate	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
					Y	N	N	N					
					D	A	A	A					
014	MW15	7/11/18	12:05P	GW	X	X	X	X					
015	PZ1		4:45P										
016	PZ2		10:50A										
017	PZ3		12:45P										

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
	7/12/18 6:30P		7/12/18 0730

PACE Project No.: 40172285
Receipt Temp = 2.0 °C
Sample Receipt pH: OK / Adjusted
Cooler Custody Seal: Present / ~~Not Present~~
Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

40172285

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

Sample Preservation Receipt Form

Client Name: RET Project # 40172285

All containers needing preservation have been checked and noted below: ☑Yes ☐No ☐N/A Initial when completed: SKW Date/ Time:

Lab Lot# of pH paper: 10U5078/ Lab Std #ID of preservation (if pH adjusted):

Pace Lab #	Glass							Plastic							Vials						Jars			General			VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
	AG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP2N	BP2Z	BP3U	BP3C	BP3N	BP3S	DG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	WGFU	WPFU	SP5T	ZPLC	GN							
001											/		/																			2.5 / 5 / 10
002											/		/																			2.5 / 5 / 10
003											/		/																			2.5 / 5 / 10
004											/		/																			2.5 / 5 / 10
005											/		/																			2.5 / 5 / 10
006											/		/																			2.5 / 5 / 10
007											/		/																			2.5 / 5 / 10
008											/		/																			2.5 / 5 / 10
009											/		/																			2.5 / 5 / 10
010											/		/																			2.5 / 5 / 10
011											/		/																			2.5 / 5 / 10
012											/		/																			2.5 / 5 / 10
013											/		/																			2.5 / 5 / 10
014											/		/																			2.5 / 5 / 10
015											/		/																			2.5 / 5 / 10
016											/		/																			2.5 / 5 / 10
017											/		/																			2.5 / 5 / 10
018																																2.5 / 5 / 10
019																																2.5 / 5 / 10
020																																2.5 / 5 / 10

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other: _____ Headspace in VOA Vials (>6mm) : ☐Yes ☐No ☑N/A ***If yes look in headspace column**

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	DG9A	40 mL amber ascorbic	JGFU	4 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP2N	500 mL plastic HNO3	DG9T	40 mL amber Na Thio	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH, Znact	VG9U	40 mL clear vial unpres	WPFU	4 oz plastic jar unpres
AG4U	120 mL amber glass unpres	BP3U	250 mL plastic unpres	VG9H	40 mL clear vial HCL		
AG5U	100 mL amber glass unpres	BP3C	250 mL plastic NaOH	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres	BP3S	250 mL plastic H2SO4			GN:	

Pace Analytical 1241 Bellevue Street, Green Bay, WI 54302	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: 25Apr2018
	Document No.: **F-GB-C-031-Rev.07**	Issuing Authority: Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Client Name: REI

Project #: **WO# : 40172285**

40172285

Courier: ☐ CS Logistics ☐ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco ☑ Client ☐ Pace Other: _____

Tracking #: _____

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____

Thermometer Used SR - N/A **Type of Ice:** Wet (Blue) Dry None ☑ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: ROT /Corr: _____

Temp Blank Present: ☐ yes ☑ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Person examining contents:
Date: 7-12-18
Initials: SW

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☑Yes ☐No	6.
Rush Turn Around Time Requested:	☐Yes ☑No	7.
Sufficient Volume: For Analysis: ☑Yes ☐No MS/MSD: ☐Yes ☑No ☐N/A		8.
Correct Containers Used:	☑Yes ☐No	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☑N/A	
Containers Intact:	☑Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
Trip Blank Present:	☐Yes ☐No ☑N/A	13.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 7-12-18

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54520
Ph: (715)-478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
WDATCP Laboratory Certification No. 105-330
EPA Laboratory ID No. WI00034

Client: **REI Engineering Inc**
Attn: Brian Bailey
4080 North 20th Avenue
Wausau, WI 54401 8846

NLS Project: 303207
NLS Customer: 29027
Fax: 715 675 4060 Phone: 715 675 9784

Project: Phillips Plating 16134B

MW10 NLS ID: 1066337
COC: :1 Matrix: GW
Collected: 07/11/18 12:55 Received: 07/12/18
Notes: Sample filtered upon receipt at laboratory.

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chromium, dis. as Cr by ICP	21	ug/L	1	0.58	1.9	07/12/18	SW846 6010	721026460
Chromium, Hex. as Cr+6	17	ug/L	1	1.1*	3.4*	07/12/18	3500-Cr B-2009	721026460
Nickel, dis. as Ni by ICP	130	ug/L	1	0.94	3.2	07/12/18	SW846 6010	721026460
Lab filtration	yes					07/12/18	NA	721026460

MW11 NLS ID: 1066338
COC: :2 Matrix: GW
Collected: 07/11/18 13:25 Received: 07/12/18
Notes: Sample filtered upon receipt at laboratory.

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chromium, dis. as Cr by ICP	ND	ug/L	1	0.58	1.9	07/12/18	SW846 6010	721026460
Chromium, Hex. as Cr+6	ND	ug/L	1	1.1*	3.4*	07/12/18	3500-Cr B-2009	721026460
Nickel, dis. as Ni by ICP	[1.3]	ug/L	1	0.94	3.2	07/12/18	SW846 6010	721026460
Lab filtration	yes					07/12/18	NA	721026460

MW13 NLS ID: 1066339
COC: :3 Matrix: GW
Collected: 07/11/18 10:10 Received: 07/12/18
Notes: Sample filtered upon receipt at laboratory.

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chromium, dis. as Cr by ICP	2.7	ug/L	1	0.58	1.9	07/12/18	SW846 6010	721026460
Chromium, Hex. as Cr+6	ND	ug/L	1	1.1*	3.4*	07/12/18	3500-Cr B-2009	721026460
Nickel, dis. as Ni by ICP	[2.7]	ug/L	1	0.94	3.2	07/12/18	SW846 6010	721026460
Lab filtration	yes					07/12/18	NA	721026460

MW14 NLS ID: 1066340
COC: :4 Matrix: GW
Collected: 07/11/18 11:25 Received: 07/12/18
Notes: Sample filtered upon receipt at laboratory.

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chromium, dis. as Cr by ICP	ND	ug/L	1	0.58	1.9	07/12/18	SW846 6010	721026460
Chromium, Hex. as Cr+6	ND	ug/L	1	1.1*	3.4*	07/12/18	3500-Cr B-2009	721026460
Nickel, dis. as Ni by ICP	ND	ug/L	1	0.94	3.2	07/12/18	SW846 6010	721026460
Lab filtration	yes					07/12/18	NA	721026460

MW15 NLS ID: 1066341
COC: :5 Matrix: GW
Collected: 07/11/18 12:05 Received: 07/12/18
Notes: Sample filtered upon receipt at laboratory.

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chromium, dis. as Cr by ICP	[1.1]	ug/L	1	0.58	1.9	07/12/18	SW846 6010	721026460
Chromium, Hex. as Cr+6	ND	ug/L	1	1.1*	3.4*	07/12/18	3500-Cr B-2009	721026460
Nickel, dis. as Ni by ICP	6.2	ug/L	1	0.94	3.2	07/12/18	SW846 6010	721026460
Lab filtration	yes					07/12/18	NA	721026460

NORTHERN LAKE SERVICE, INC.
Analytical Laboratory and Environmental Services
400 North Lake Avenue - Crandon, WI 54520
Ph: (715)-478-2777 Fax: (715)-478-3060

ANALYTICAL REPORT

WDNR Laboratory ID No. 721026460
WDATCP Laboratory Certification No. 105-330
EPA Laboratory ID No. WI00034

NLS Project: 303207
NLS Customer: 29027

Client: **REI Engineering Inc**
Attn: Brian Bailey
4080 North 20th Avenue
Wausau, WI 54401 8846

Fax: 715 675 4060 Phone: 715 675 9784

Project: **Phillips Plating 16134B**

PZ2 NLS ID: 1066342
COC: :6 Matrix: GW
Collected: 07/11/18 10:50 Received: 07/12/18
Notes: Sample filtered upon receipt at laboratory.

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chromium, dis. as Cr by ICP	ND	ug/L	1	0.58	1.9	07/12/18	SW846 6010	721026460
Chromium, Hex. as Cr+6	ND	ug/L	1	1.1*	3.4*	07/12/18	3500-Cr B-2009	721026460
Nickel, dis. as Ni by ICP	[2.6]	ug/L	1	0.94	3.2	07/12/18	SW846 6010	721026460
Lab filtration	yes					07/12/18	NA	721026460

PZ3 NLS ID: 1066343
COC: :7 Matrix: GW
Collected: 07/11/18 12:45 Received: 07/12/18
Notes: Sample filtered upon receipt at laboratory.

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chromium, dis. as Cr by ICP	1300	ug/L	1	0.58	1.9	07/12/18	SW846 6010	721026460
Chromium, Hex. as Cr+6	1300	ug/L	100	110*	340*	07/12/18	3500-Cr B-2009	721026460
Nickel, dis. as Ni by ICP	3800	ug/L	1	0.94	3.2	07/12/18	SW846 6010	721026460
Lab filtration	yes					07/12/18	NA	721026460

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and/or LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dilution and/or solids content.
ND = Not Detected (< LOD) LOD = Limit of Detection LOQ = Limit of Quantitation NA = Not Applicable
DWB = Dry Weight Basis %DWB = (mg/kg DWB) / 10000 1000 ug/L = 1 mg/L
MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:

Authorized by:
R. T. Krueger
President

LINCOLN COUNTY LANDFILL 715-536-9636
Site: N4750 Landfill Lane, Merrill, WI 54452
Mailing: 801 N Sales St, Ste 201, Merrill, WI 54452
OPERATING HOURS:
Monday-Friday
SUMMER (May 1 - Sept. 30) 7:00 am - 4:00 pm
WINTER (Oct. 1 - Apr. 30) 8:00 am - 4:00 pm
1st and 3rd Sat. 8:00 am - Noon

DATE: 7/13/2018 TICKET #: 249288 Vehicle #:
Time In: 09:58 AM Time Out: 10:08 AM

BILL TO: R.E.I.
HAULER : R.E.I.

JOB : 18 - 37 G - REI #6134B Phillips Plating, Phillips
PO# : REI job #6134B
Garbage (GAR1) 3.07 tn
Gross: 19220 Tare: 13080 Net Weight: 6140

Scale Notes: Charge Transaction

HAVE A NICE DAY!

Customer Signature _____
Weighed By: Administrator

I certify that the waste in this vehicle complies with the Wisconsin Recycling law and the landfill bans. I also agree to pay 1.5% per month Late payment charge after 30 days.

Date: 8-8-07

SPECIAL DISCHARGE FORM

GROUNDWATER CLEANUP PROJECTS

This form is intended to document the discharge of contaminated groundwater or process waters into the Wausau Wastewater Treatment Facility. Sewerage Utility billing for this discharge will be directly to the party listed below.

Source of Water: Monitoring well purge water
Up to 500 gallons, no free product, no strong or volatile odors

Party Responsible for Utility Charges:
Dave Larsen
REI Engineering Inc.
4080 N 20th Ave
Wausau WI 54401

Approved By: DC
Wausau Sewerage Utility

T# Date GL# P# BG# Approved By

TO BE COMPLETED BY WASTE HAULER

Name of Waste Hauler:
REI Engineering, Inc.

Disposal date 7-12-18

Approximate quantity of water discharged: 387gallons

Date of Discharge: 7/12/18

Time of Discharge:

By submitting this form, the hauler will not be billed for this load. Special Discharge Request has been completed to obtain authorization for this discharge but please notify treatment plant operator if water contains oil, grease, solids, or sediments, has a strong odor or otherwise appears unsuitable for discharge into the treatment plant.

THIS FORM TO BE SUBMITTED TO SEWERAGE UTILITY BY WASTE HAULER AT TIME OF DISCHARGE

Phillips Plating - 6134-B - 147 gallons
Tower Standard - 903 - 130 gallons
Norrington dry cleaners - 1933-B - 110 gallons