REI
CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING

January 19, 2017

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 located in the NW ¼, SW ¼, S07, 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

- **November 5, 2014** – REI onsite to sample select monitoring wells and collect field measurements
- **February 10, 2015** – REI onsite to sample select monitoring wells and collect field measurements
- **May 4, 2015** – REI onsite to sample select monitoring wells and collect field measurements
- **August 4, 2015** – REI onsite to sample select monitoring wells and collect field measurements
- **November 3, 2015** – REI onsite to sample select monitoring wells and collect field measurements
- **February 22, 2016** – REI onsite to sample select monitoring wells and collect field measurements
- **August 31, 2016** – REI onsite to sample select monitoring wells and collect field measurements

SITE SUMMARY

REI submitted the Site Investigation Report / Remedial Action Plan on October 30, 2013. A site update report sent on October 14, 2014 summarized site investigative work conducted at the site. The Site Investigation Report concluded 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. Site conditions including depth to groundwater and soil conditions including large cobble and boulder also were not favorable to chemical injection as a remedial alternative. 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.

REI has completed seven (7) additional groundwater monitoring rounds since the submittal of the Site Update in October, 2014. 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-2m. The updated groundwater flow maps for each of the sample events completed along with location of all monitoring wells and piezometer are depicted in Figures 3a-3g. Monitoring well MW3 was abandoned by REI personnel in advance of a building expansion. The well abandonment form is also included as an attachment.

GROUNDWATER ANALYTICAL RESULTS

Groundwater analytical results reveal exceedances of the metals of concern for this investigation of Chromium and Nickel above the Enforcement Standard (ES) in source or down-gradient wells of **MW-6 and MW-8 and MW9,** located east of the Phillips Plating building. Side gradient monitoring wells **MW-2, MW-4, MW5, MW7, MW11 and MW12** reveal no detections above the ES or PAL for the metals of concern. Up-gradient wells **MW1 and MW3** also do not reveal any detections for the metals of concern. **MW-10** is located near the bottom edge of groundwater contamination plume and analytical results have revealed what appears to be a decreasing trend for Nickel with the last event below the ES. Chromium detections have been as high as 995 ug/L during the May, 2015 sample event, but have varied and while the trend line would be decreasing, there appears to be some seasonal fluctuations in concentrations. **PZ-1** analytical results reveal only a few occasions in the history of sampling with detections over the ES for Nickel. However, Chromium concentrations appear to be relatively stable since the highest detections levels observed in July, 2013. Groundwater samples were collected and sent to Pace Analytical Services with split samples submitted to Northern Lake Service, Inc. for wells MW10 and MW11.

CONCLUSIONS AND RECOMMENDATIONS

REI has conducted long term groundwater monitoring in an effort to demonstrate stable or decreasing contaminant trends. The source(s) of the original release have been eliminated by removal of single wall USTs and piping and replacing with double wall USTs or ASTs and secondary containment for piping runs. REI proposes to discontinue quarterly sampling and conduct semi-annual sampling until further consistent reductions in contamination in source wells are observed.

It was hoped that substantial reductions would be observed in concentrations of contaminates that may have reduced the need for the installation of additional monitoring wells and piezometers due to the difficulty in obtaining permission to access off site property along with the difficult drilling conditions. The ongoing contamination has also made it unavoidable and determined the installation of additional down gradient groundwater monitoring wells and piezometers will be required to define the extent of groundwater contamination. Since secured permission from the owner of the property to the east/northeast (Former Shamrock Oil site) has not been able to be obtained, REI recommends requesting permission from Phillips Medisize for the installation of these additional wells.

Upon your review please contact me to discuss what has been presented in this update. Please contact our office at (715) 675-9784 or electronically at klassa@reiengineering.com to further discuss.

Sincerely,
REI Engineering, Inc.

Jed A. Kosch
Environmental Scientist

Attachments

Table 1 – Groundwater Elevation Summary
Table 2a-2m – Groundwater Analytical Results Summaries
Figure 1 – Site Vicinity Map
Figure 2 – Site Map
Figure 3a-3g – Groundwater Contour Maps
Figure 4 – Estimated Extent of Groundwater Contamination
Attachment A –Laboratory Analytical Reports

Cc: Mr. Darin Baratka, Phillips Plating Corp., 984 N. Lake Avenue Phillips, WI 54555

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	PZ1
TOC Elevation	1459.82	1457.24	1461.33	1459.19	1457.51	1458.16	1453.30	1457.92	1455.91	1450.54	1452.99	1459.5	1457.96
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	1458.36
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	1429.73
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	33.23
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
1/3/2013	13.06	12.83	15.74	14.02	15.77	16.76	15.04	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
2/19/2013	NC	NC	NC	NC	NC	NC	NC	9.78	17.39	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
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
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	17.05
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	17.21
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	17.43
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	18.27
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	16.32
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	17.11
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	17.45
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	18.03
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	17.45
8/4/2015	9.94	11.11	NA	11.27	15.24	16.18	14.11	9.39	16.02	8.02	10.24	13.61	17.25
11/3/2015	10.21	11.78	NA	12.56	15.41	16.32	14.25	9.58	16.42	8.22	10.37	14.13	17.6
2/22/2016	10.86	12.06	NA	NA	15.52	16.36	14.89	9.41	17.07	8.76	11.08	15.77	18.06
8/31/2016	10.32	11.55	NA	12.38	NA	16.32	13.99	9.78	16.09	7.9	10.07	15.45	17.16
Water Elevation													
12/12/2012	1447.06	1444.66	1445.9	1445.4	1441.81	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
2/6/2013	1446.33	1444.00	1445.25	1445.00	1441.67	1441.31	1438.11	NI	NI	NI	NI	NI	NI
2/19/2013	NC	NC	NC	NC	NC	NC	NC	1448.45	1438.94	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
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
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	1440.91
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	1440.75
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	1440.53
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	1439.69
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	1441.64
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	1440.85
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	1440.51
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	1439.93
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	1440.51
8/4/2015	1449.88	1446.13	NA	1447.92	1442.27	1441.98	1439.19	1448.53	1439.89	1442.52	1442.75	1445.89	1440.71
11/3/2015	1449.61	1445.46	NA	1446.63	1442.1	1441.84	1439.05	1448.34	1439.49	1442.32	1442.62	1445.37	1440.36
2/22/2016	1448.96	1445.18	NA	NA	1441.99	1441.80	1438.41	1448.51	1438.84	1441.78	1441.91	1443.73	1439.9
8/31/2016	1449.5	1445.69	NA	1446.81	NA	1441.84	1439.31	1448.14	1439.82	1442.64	1442.92	1444.05	1440.8
Average Depth to Water (from Top of Casing)	10.82	11.69	12.76	12.12	15.17	16.35	14.34	9.68	16.38	8.18	10.39	14.28	17.41
Average Elevation of Water (at Groundwater Surface)	1449.00	1445.55	1448.57	1447.07	1442.34	1441.81	1438.96	1448.26	1439.55	1442.36	1442.60	1445.22	1440.55
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	16.32

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
MW-1

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
Metals (ug/L)													
Arsenic	10	1	<0.5	<4.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	2000	400	280	230	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
Total Chromium	100	10	2.0	<1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Hexavalent (mg/L)	NA	NA	<0.0017	<0.0034	NA	NA	NA	NA	NA	NA	NA	<0.0039	<0.026
Lead	15	1.5	<0.10	1.5[J]	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
Nickel	100	20	5.5	7.70[J]	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
Silver	50	10	<0.13	<1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dis. Total Chromium (filtered)	100	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.10[J]	<2.10
Dissolved Iron (filtered)	0.3	0.15	NA	NA	NA	NA	NA	NA	NA	NA	NA	**26.9**[J]	**30.6**[J]
Dissolved Manganese (filtered)	300	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.8	1.9[J]
Dissolved Nickel (filtered)	100	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	*98.8*	*93.0*
Nitrate Nitrogen (mg/L)	10	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	*5.2*	*5.1*
Sulfate (mg/L)	250	125	NA	NA	NA	NA	NA	NA	NA	NA	NA	23.8	23.0
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
Conductivity (ms/cm)			NA	NA	1803	2370	2680	2305	1922	1747	1146	1205	1006
Dissolved Oxygen (mg/L)			NA	NA	4.22	1.03	2.71	3.35	2.19	2.01	2.86	2.93	3.95
pH			NA	NA	6.45	6.9	6.19	7.08	7.51	7.12	7.58	7.76	7.93
Redox Potential (mV)			NA	NA	139.4	24.1	244.6	-8.9	-70.5	97.5	59.7	245.0	30.4

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 2a
GROUNDWATER ANALYTICAL RESULTS SUMMARY
PHILLIPS PLATING CORPORATION
984 N. LAKE AVENUE, PHILLIPS, WI
MW-1

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
Metals (ug/L)													
Arsenic	10	1	<0.5	<4.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	2000	400	280	230	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
Total Chromium	100	10	2.0	<1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Hexavalent (mg/L)	NA	NA	<0.0017	<0.0034	NA	NA	NA	NA	NA	NA	NA	<0.0039	<0.026
Lead	15	1.5	<0.10	1.5[J]	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
Nickel	100	20	5.5	7.70[J]	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
Silver	50	10	<0.13	<1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dis. Total Chromium (filtered)	100	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.10[J]	<2.10
Dissolved Iron (filtered)	0.3	0.15	NA	NA	NA	NA	NA	NA	NA	NA	NA	**26.9**[J]	**30.6**[J]
Dissolved Manganese (filtered)	300	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.8	1.9[J]
Dissolved Nickel (filtered)	100	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	*98.8*	*93.0*
Nitrate Nitrogen (mg/L)	10	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	*5.2*	*5.1*
Sulfate (mg/L)	250	125	NA	NA	NA	NA	NA	NA	NA	NA	NA	23.8	23.0
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
Conductivity (ms/cm)			NA	NA	1803	2370	2680	2305	1922	1747	1146	1205	1006
Dissolved Oxygen (mg/L)			NA	NA	4.22	1.03	2.71	3.35	2.19	2.01	2.86	2.93	3.95
pH			NA	NA	6.45	6.9	6.19	7.08	7.51	7.12	7.58	7.76	7.93
Redox Potential (mV)			NA	NA	139.4	24.1	244.6	-8.9	-70.5	97.5	59.7	245.0	30.4

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
MW-2

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
Metals (ug/L)													
Arsenic	10	1	<0.5	<4.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	2000	400	180	190	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	5	0.5	<0.1	0.4[J]	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
Chromium, Hexavalent (mg/L)	NA	NA	<0.0017	<0.0034	NA	NA	NA	NA	NA	NA	NA	<0.039	<0.13
Lead	15	1.5	<0.1	1.30[J]	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
Nickel	100	20	9.0	4.50[J]	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
Silver	50	10	<0.13	<1.40	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
Dissolved Iron (filtered)	0.3	0.15	NA	NA	NA	NA	NA	NA	NA	NA	NA	**28.7[J]**	**41.9[J]**
Dissolved Manganese (filtered)	300	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	*72.5*	*72.2*
Dissolved Nickel (filtered)	100	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	14.2	10.3
Nitrate Nitrogen (mg/L)	10	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	**31.7**	**23.1**
Sulfate (mg/L)	250	125	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.6	27.8
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
Conductivity (ms/cm)			NA	NA	458	459	1053	115	154	1052	161	798	212
Dissolved Oxygen (mg/L)			NA	NA	6.44	3.77	5.66	3.81	4.46	10.75	5.56	2.87	2.63
pH			NA	NA	5.74	6.87	5.65	7.17	7.82	6.94	7.32	6.25	6.93
Redox Potential (mV)			NA	NA	112.0	-32.7	230.1	45.8	-9.8	138.8	81.3	217.6	96.9

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
MW-3

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
Metals (ug/L)												
Arsenic	10	1	<0.5	<4.4	NA	NA	NA	NA	NA	NA	NA	NA
Barium	2000	400	25.0	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)	NA	NA	<0.0017	<0.0034	<0.0034	<0.0034	<0.034	<0.0039	<0.0097	<0.019	<0.039	<0.019
Lead	15	1.5	<0.1	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	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**	**1130**	**845**	**493**	**216**	**945**	**743**	**1230**
Dissolved Total Iron (filtered)	0.3	0.15	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)	0.3	0.15	NA	NA	**26200**	**42900**	**29500**	**26300**	**10900**	**55700**	**38500**	**75300**
Nitrate Nitrogen (mg/L)	10	2	NA	NA	*2.3*	*3.1*	*3.4*	*5.0*	*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
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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 2d
GROUNDWATER ANALYTICAL RESULTS SUMMARY
PHILLIPS PLATING CORPORATION
984 N. LAKE AVENUE, PHILLIPS, WI
MW-4

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
Metals (ug/L)												
Arsenic	10	1	<0.5	<4.4	NA	NA	NA	NA	NA	NA	NA	NA
Barium	2000	400	45.0	29.2	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	5	0.5	<0.10	<0.38	NA	NA	NA	NA	NA	NA	NA	NA
Total Chromium (dissolved)	100	10	3.4	1.5[J]	NA	NA	NA	NA	NA	NA	NA	<2.1
Chromium, Hexavalent (mg/L)			<0.0017	<0.0034	NA	NA	NA	NA	NA	NA	NA	<0.0051
Lead	15	1.5	<0.1	<1.2	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	0.2	<0.025	<0.1	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	100	20	6.8	3.50[J]	NA	NA	NA	NA	NA	NA	NA	<1.4
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
Manganese (dissolved)	300	60			NA	NA	NA	NA	NA	NA	NA	<1.4
Nitrate Nitrogen (mg/L)	10	2			NA	NA	NA	NA	NA	NA	NA	*3.1*
Sulfate (mg/L)	250	125			NA	NA	NA	NA	NA	NA	NA	11.9[J]
Field Measurements												
Temperature (^{o}F)			NA	NA	53.04	54.38	49.93	47.78	54.59	47.22	52.74	55.41
Conductivity (ms/cm)			NA	NA	3.71	374	423	381	235	351	320	380
Dissolved Oxygen (mg/L)			NA	NA	4.74	6.02	5.29	1.24	3.21	4.91	6.31	4.15
pH			NA	NA	7.19	7.69	6.4	8.05	8.19	7.22	7.38	7.95
Redox Potential (mV)			NA	NA	-27.2	-43.8	200.0	-7.2	-24.1	159.1	92.5	49.3

PAL = Preventive Action Limit
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NA - Not Analyzed
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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
MW-5

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
Metals (ug/L)																	
Arsenic	10	1	<0.5	<4.7	<4.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	2000	400	110.0	138.0	*686.0*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	5	0.5	<0.10	<0.39	*1.80* [J]	**18.9**	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**
Total Chromium (unfiltered)	100	10	NA	NA	NA	NA	**1130**	**1540**	**1680**	**1700**	**1380**	**1770**	**1010**	**1090**	**1970**	**1530**	NA
Chromium, Hexavalent (mg/L)			0.6	0.5	0.3	<0.86	0.3	0.3	0.31 [J]	0.4	0.2	0.3	0.3	0.3	0.3	0.093 [J]	<0.097
Lead	15	1.5	<0.10	<1.40	*2.50* [J]	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	0.2	<0.025	<0.1	<0.1	*NA*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Nickel (filtered)	100	20	**440**	**787**	**6230**	**1420**	**1090**	**368**	**295**	**3870**	**267**	**236**	**303**	**1160**	**379**	**378**	**462**
Nickel (Unfiltered)	100	20	NA	NA	NA	NA	**974**	**1220**	**1120**	**1920**	**952**	**1160**	**977**	**1660**	**1520**	**1280**	NA
Selenium	50	10	<2.0	<5.8	<6.6	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
Dissolved Iron (filtered)	0.3	0.15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**<12.9**
Dissolved Manganese (filtered)	300	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.5
Nitrate Nitrogen (mg/L)	10	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*4.3*
Sulfate (mg/L)	250	125	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	30.1
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
Conductivity (ms/cm)			NA	NA	NA	NA	1498	1753	1215	3866	1996	1456	818	2,377	941	621	491
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
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
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

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TABLE 2f
GROUNDWATER ANALYTICAL RESULTS SUMMARY
PHILLIPS PLATING CORPORATION
984 N. LAKE AVENUE, PHILLIPS, WI
MW-6

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
Metals (ug/L)																	
Arsenic	10	1	*<4.7*	*<4.4*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	2000	400	225.0	112.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	5	0.5	*1.60 J*	*0.87 J*	*0.51 J*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dis. Total Chromium (filtered)	100	10	**323**	**146**	**337**	**1010**	**602**	**858**	**844**	**6230**	**19900**	**14300**	**1920**	**2510**	**3160**	**6960**	**7770**
Total Chromium (unfiltered)	100	10	NA	NA	NA	**3160**	**4550**	**2840**	**4290**	**8910**	**21800**	**16000**	**6210**	**8500**	**7250**	NA	NA
Chromium, Hexavalent (mg/L)			0.1	0.1	<0.086	<0.0034	0.6	0.7	1.1	5.9	21.7	13.9	2.2	2.6	3.5	6.8	7.4
Lead	15	1.5	*2.5J*	*2.2J*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	0.2	*0.3*	*0.2*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Nickel (filtered)	100	20	**14100**	**9820**	**3690**	**16700**	**10900**	**6460**	**6870**	**17500**	**23800**	**19000**	**2480**	**3400**	**3720**	**8810**	**10100**
Nickel (Unfiltered)	100	20	NA	NA	NA	**14300**	**11100**	**6010**	**7360**	**17600**	**22900**	**18200**	**3700**	**4960**	**5130**	NA	NA
Selenium	50	10	<5.8	<6.6	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
Dissolved Manganese (filtered)	300	60	NA	NA	NA	**1090**	**982**	**690**	**783**	NA	**954**	**974**	**645**	**703**	**597**	**669**	**781**
Manganese (unfiltered)	300	60	NA	NA	NA	**1340**	**1690**	**1120**	**1390**	**1720**	**1380**	**1880**	**1350**	**2140**	**1150**	NA	NA
Dissolved Iron (filtered)	0.3	0.15	NA	NA	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*
Iron (unfiltered)	0.3	0.15	NA	NA	NA	**22300**	**34600**	**26600**	**32600**	**31600**	**25400**	**52000**	**38000**	**75600**	**28600**	NA	NA
Nitrate Nitrogen (mg/L)	10	2	NA	NA	NA	**14.3**	**16.1**	**11.6**	**10.9**	**12.0**	**12.2**	**11.8**	*7.9*	*6.8*	*9.2*	*8.4*	**11.1**
Sulfate (mg/L)	250	125	NA	NA	NA	*204*	*208*	*194*	*195*	**266**	**274**	**288**	*209*	*211*	*217*	**256**	**236**
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
Conductivity (ms/cm)			NA	NA	NA	1203	1209	1419	1200	1254	1167	1077	1188	1171	1244	1124	1269
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
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
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

PAL = Preventive Action Limit

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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
MW-7

PARAMETER	ES	PAL	1/3/2013	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
Metals (ug/L)													
Arsenic	10	1	<4.7	<4.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	2000	400	*841.0*	*661.0*	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
Total Chromium	100	10	<2.4	<1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Hexavalent (mg/L)			<0.0039	<0.0034	NA	NA	NA	NA	NA	NA	NA	<0.039	<0.026
Lead	15	1.5	<1.4	<1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	0.2	<0.1	<0.1	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
Selenium	50	10	<5.8	<6.6	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
Dis. Total Chromium (filtered)	100	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.2^{J}	<2.1
Dissolved Iron (filtered)	0.3	0.15	NA	NA	NA	NA	NA	NA	NA	NA	NA	*<12.9*	*<12.9*
Dissolved Manganese (filtered)	300	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.8^{J}	<1.4
Dissolved Nickel (filtered)	100	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.1^{J}	1.8^{J}
Nitrate Nitrogen (mg/L)	10	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	*4.2*	*3.4*
Sulfate (mg/L)	250	125	NA	NA	NA	NA	NA	NA	NA	NA	NA	40.8	42.4
Field Measurements													
Temperature (^{o}F)			NA	NA	52.35	53.45	48.45	47.88	53.67	46.41	52.43	48.61	53.82
Conductivity (ms/cm)			NA	NA	4130	2795	4908	3054	4771	4173	4047	2447	4913
Dissolved Oxygen (mg/L)			NA	NA	5.21	4.62	5.83	5.97	3.71	9.51	8.41	7.50	7.89
pH			NA	NA	6.11	7.44	6.31	6.34	6.77	6.69	7.64	7.45	7.24
Redox Potential (mV)			NA	NA	135.1	-37.3	278.2	56.7	20.2	139.9	95.4	202.8	91.6

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TABLE 2h
GROUNDWATER ANALYTICAL RESULTS SUMMARY
PHILLIPS PLATING CORPORATION
984 N. LAKE AVENUE, PHILLIPS, WI
MW-8

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
Metals (ug/L)																	
Arsenic	10	1	<4.4	<4.4	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
Cadmium	5	0.5	<0.38	<0.38	0.47[J]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dis. Total Chromium (filtered)	100	10	**537**	**507**	**1540**	**2630**	**2570**	**1550**	**2030**	**3320**	**1910**	**1850**	**1020**	**1060**	**776**	**1270**	**488**
Total Chromium (unfiltered)	100	10	NA	NA	NA	**2610**	**2700**	**1910**	**2220**	**3420**	**2110**	**2110**	**1330**	**1580**	**986**	NA	NA
Chromium, Hexavalent (mg/L)			0.5	0.5	1.1	2.7	2.7	1.8	1.8	3.3	1.8	1.6	1.0	1.1	0.8	1.1	0.5
Lead	15	1.5	<1.2	*1.5*[J]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	0.2	<0.1	<0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Nickel (filtered)	100	20	**278**	**546**	**1060**	**1720**	**1510**	**605**	**1710**	**3420**	**1920**	**1010**	**1530**	**1450**	**1770**	**1460**	**1400**
Nickel (Unfiltered)	100	20	NA	NA	NA	**1860**	**1860**	**1190**	**2070**	**3700**	**2300**	**1980**	**1900**	**1930**	**1920**	NA	NA
Selenium	50	10	<6.6	<6.6	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
Dissolved Iron (filtered)	0.3	0.15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**65.0**[J]	**<12.9**
Dissolved Manganese (filtered)	300	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*160*	*105*
Nitrate Nitrogen (mg/L)	10	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*7.5*	*6.6*
Sulfate (mg/L)	250	125	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	24.9	<10.0
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
Conductivity (ms/cm)			NA	NA	NA	474	330	234	255	398	255	188	271	234	243	138	223
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
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
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

PAL = Preventive Action Limit

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BOLD	= Exceeds Enforcement Standard
Italic	= Exceeds Preventative Action Limit

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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
MW-9

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
Metals (ug/L)																	
Arsenic	10	1	<4.4	<4.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	2000	400	214.0	150.0	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
Dis. Total Chromium (filtered)	100	10	**2160**	**862**	**499**	**539**	**1120**	**2580**	**279**	**2770**	**545**	**682**	**1000**	**679**	**905**	**938**	**361**
Total Chromium (unfiltered)	100	10	NA	NA	NA	**1190**	**1520**	**6000**	**1350**	**2370**	**1720**	**621**	**1060**	**1450**	**1480**	NA	NA
Chromium, Hexavalent (mg/L)			2.3	0.9	<0.086	0.5	2.7	3.4	0.3	1.6	0.6	0.5	0.6	0.6	0.9	0.9	0.4
Lead	15	1.5	*3.1 J*	*4.8 J*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	0.2	<0.1	<0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Nickel (filtered)	100	20	*65.8*	17.8	**1790**	**647**	**273**	**190**	**1290**	**292**	**280**	**1020**	**656**	**279**	**298**	**173**	**229**
Nickel (Unfiltered)	100	20	NA	NA	NA	**723**	**370**	**762**	**1430**	**366**	**582**	**1100**	**756**	**534**	**519**	NA	NA
Selenium	50	10	<6.6	<6.6	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
Dissolved Manganese (filtered)	300	60	NA	NA	NA	*182*	*152*	*261*	**334**	*87*	*93*	**311**	**524**	**223**	**287**	*130*	*134*
Manganese (unfiltered)	300	60	NA	NA	NA	**1020**	**554**	**5190**	**1420**	**518**	**2050**	**550**	**1220**	**1930**	**1750**	NA	NA
Dissolved Iron (filtered)	0.3	0.15	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**
Iron (unfiltered)	0.3	0.15	NA	NA	NA	**37900**	**15600**	**194000**	**62200**	**20100**	**102000**	**11100**	**40500**	**91400**	**136000**	NA	NA
Nitrate Nitrogen (mg/L)	10	2	NA	NA	NA	**11.2**	*9.9*	**12.0**	*8.4*	*7.7*	*8.2*	**28.9**	**22.4**	**11.9**	**12.3**	*8.7*	*6.9*
Sulfate (mg/L)	250	125	NA	NA	NA	85.8	*147*	*161*	*79.6*	*91.9*	*77.8*	**1010**	**614**	**113**	**84.9**	63.6	50.1
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
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
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
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
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

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 qualifier, 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
MW-10

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
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
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
Barium	2000	400	101.0	110.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	69.8	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	<0.6	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**
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
Chromium, Hexavalent (mg/L)			0.1	0.3	0.0	0.1	0.3	0.4	0.2	0.3	0.3	0.1	0.2	0.2	0.2	0.4	0.5	0.6	0.3	0.6	0.6	0.4	0.5	0.7	0.7	0.7	0.6
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	<3.0	NA	NA	NA	NA	NA
Mercury	2	0.2	<0.1	<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
Dissolved Nickel (filtered)	100	20	*38.4*	*44.0*	*22.6*	*97.2*	*93.0*	*19.7*	19.0	**110**	*85.0*	*27.4*	*25.0*	*81.6*	*71.0*	*35.8*	*36.0*	**261**	**270**	**167**	**180**	*33.2*	**41**	**171**	**170**	*47.4*	*53.0*
Nickel (Unfiltered)	100	20	NA	NA	*79.2*	**141**	NA	60.8	*61.0*	**158**	*99.0*	**215**	**220**	*36.8*	*41.0*	*67.2*	*80.0*	**194**	**170**	**101**	**120**	*67.8*	*69.0*	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
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
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
Manganese (unfiltered)	300	60	NA	NA	**1010.0**	**825.0**	NA	**594.0**	NA	**841.0**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Iron (filtered)	0.3	0.15	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
Iron (unfiltered)	0.3	0.15	NA	NA	**21700**	**17500**	NA	**13900**	NA	**23200**	NA	**16700**	NA	**6700**	NA	**6110**	NA	**9070**	NA	**8320**	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	*2.0*	NA	*3.2*	NA	1.6	NA	*3.8*	NA	*4.3*	NA	*4.2*	NA	*3.0*	NA
Sulfate (mg/L)	250	125	NA	NA	41.4	36.8	NA	69.1	NA	52.0	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
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	
Conductivity (ms/cm)			NA	NA	1010	408		737		320		469		550		1007		564		427		450		444		374	
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	
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	
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	

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BOLD	= Exceeds Enforcement Standard
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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
MW-11

PARAMETER	ES	PAL	Pace 7/15/2013	NLS 7/15/2013	Pace 8/12/2013	Pace 11/12/2013	NLS 11/12/2013	Pace 2/12/2014	NLS 2/12/2014	Pace 6/2/2014	NLS 6/2/2014	Pace 8/5/2014	NLS 8/5/2014	Pace 11/5/2014	NLS 11/5/2014	Pace 2/10/2015	NLS 2/10/2015	Pace 5/4/2015	NLS 5/4/2015	Pace 8/4/2015	NLS 8/4/2015	Pace 11/3/2015	NLS 11/3/2015	Pace 2/22/2016	NLS 2/22/2016	Pace 8/31/2016	NLS 8/31/2016
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
Barium	2000	400	331.0	320.0	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
Dis. Total Chromium (filtered)	100	10	<1.2	<0.50	<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	<0.50	<2.1	<0.5	<2.1	[0.88]
Total Chromium (unfiltered)	100	10	NA	NA	**120**	**150**	NA	**47**	**110**	*63.1*	<0.50	*78.9*	*90.0*	*54.1*	*60.0*	*37.4*	*51.0*	*80.1*	*78.0*	*37.6*	*36.0*	*17.6*	*7.4*	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	[1.20]	<0.026	<1.1
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
Mercury	2	0.2	<0.1	<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
Dissolved Nickel (filtered)	100	20	2.3[J]	2.0	1.1[J]	1.1[J]	[1.4]	<0.75	<1.0	<1.4	1.3	<1.4	[0.8]	<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
Nickel (Unfiltered)	100	20	NA	NA	*82.4*	**106**	NA	*32.2*	*75.0*	*42.3*	[0.69]	*52.6*	*59.0*	*36.6*	*39.0*	*24.8*	*36.0*	*51.0*	*53.0*	*25.1*	*25.0*	12.9	6.5	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
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
Dissolved Iron (filtered)	0.3	0.15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**674**	NA	**272**	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	NA	*130*	NA	*64.8*	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	NA	*8.2*	NA	*5.4*	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	NA	15.7	NA	15.7[J]	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	
Conductivity (ms/cm)			NA	NA	883	738		749		411		935		613		692		618		619		586		708		659	
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	
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	
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	

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J = qualifier, estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
Pace = Lab analysis conducted by Pace Analtyical Servcies
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Values in brackets are NLS version of "J" qualifier

TABLE 2l
GROUNDWATER ANALYTICAL RESULTS SUMMARY
PHILLIPS PLATING CORPORATION
984 N. LAKE AVENUE, PHILLIPS, WI
MW-12

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
Metals (ug/L)												
Arsenic	10	1	<4.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	2000	400	195.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	5	0.5	<0.38	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Chromium	100	10	<1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	15	1.5	<1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	0.2	<0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	100	20	1.4*	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	50	10	<6.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	50	10	<1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Hexavalent (mg/L)			<0.086	NA	NA	1.4	NA	NA	NA	NA	<0.019	<0.026
Dis. Total Chromium (filtered)	100	10	NA	NA	NA	NA	NA	NA	NA	NA	<2.1	<2.1
Dissolved Iron (filtered)	0.3	0.15	NA	NA	NA	NA	NA	NA	NA	NA	<12.9	<12.9
Dissolved Manganese (filtered)	300	60	NA	NA	NA	NA	NA	NA	NA	NA	<1.4	<1.4
Dissolved Nickel (filtered)	100	20	NA	NA	NA	NA	NA	NA	NA	NA	<1.4	<1.4
Nitrate Nitrogen (mg/L)	10	2	NA	NA	NA	NA	NA	NA	NA	NA	*6.8*	*5.3*
Sulfate (mg/L)	250	125	NA	NA	NA	NA	NA	NA	NA	NA	18.8	16.1[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
Conductivity (ms/cm)			NA	1277	1451	1898	1234	752	1052	1499	2102	1677
Dissolved Oxygen (mg/L)			NA	6.80	6.11	3.75	5.46	3.32	10.75	8.52	9.77	6.15
pH			NA	4.98	6.81	6.16	6.37	6.62	6.94	7.65	7.45	7.01
Redox Potential (mV)			NA	170.3	-11.40	259.80	36.7	31.2	138.8	105.4	234.2	96.4

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 qualifier, 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
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
Metals (ug/L)															
Arsenic	10	1	<4.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	2000	400	101.0	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
Dis. Total Chromium (filtered)	100	10	**5980**	**1590**	**810**	**1310**	**652**	**1640**	**1090**	**1950**	**1420**	**1220**	**1470**	**1740**	**1650**
Total Chromium (unfiltered)	100	10	NA	**2910**	**1610**	**1490**	**1520**	**1760**	**2040**	**2040**	**1660**	**2130**	**2790**	NA	NA
Chromium, Hexavalent (mg/L)			5.6	1.6	1.0	1.1	0.4	1.6	1.0	1.9	1.5	1.4	1.7	1.9	1.9
Lead	15	1.5	*2.9**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	2	0.2	<0.1	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}
Nickel (Unfiltered)	100	20	NA	**269**	**108**	*24.8*	*87.0*	14.9	*81.2*	18.1	15.0	*73.2*	**108**	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
Dissolved Manganese (filtered)	300	60	NA	*124.0*	*154.0*	*61.5*	45.0	14.9	*102.0*	5.0^{J}	9.7	22.0	28.9	16.6	11.1
Manganese (unfiltered)	300	60	NA	**4400**	**1900**	**362**	**1320**	*179*	**1220**	*223*	*216*	**1210**	**1590**	NA	NA
Dissolved Iron (filtered)	0.3	0.15	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
Iron (unfiltered)	0.3	0.15	NA	**301000**	**99600**	**27700**	**104000**	**14900**	**103000**	**16100**	**15700**	**95300**	**74500**	NA	NA
Nitrate Nitrogen (mg/L)	10	2	NA	*4.3*	*3.4*	*3.9*	*3.1*	*3.8*	*3.4*	*4.2*	*4.0*	*3.8*	*4.3*	*4.3*	*3.8*
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
Field Measurements															
Temperature (^{0}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
Conductivity (ms/cm)			NA	6.14	595	681	784	747	585	565	554	548	549	515	526
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
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
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

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 qualifier, estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

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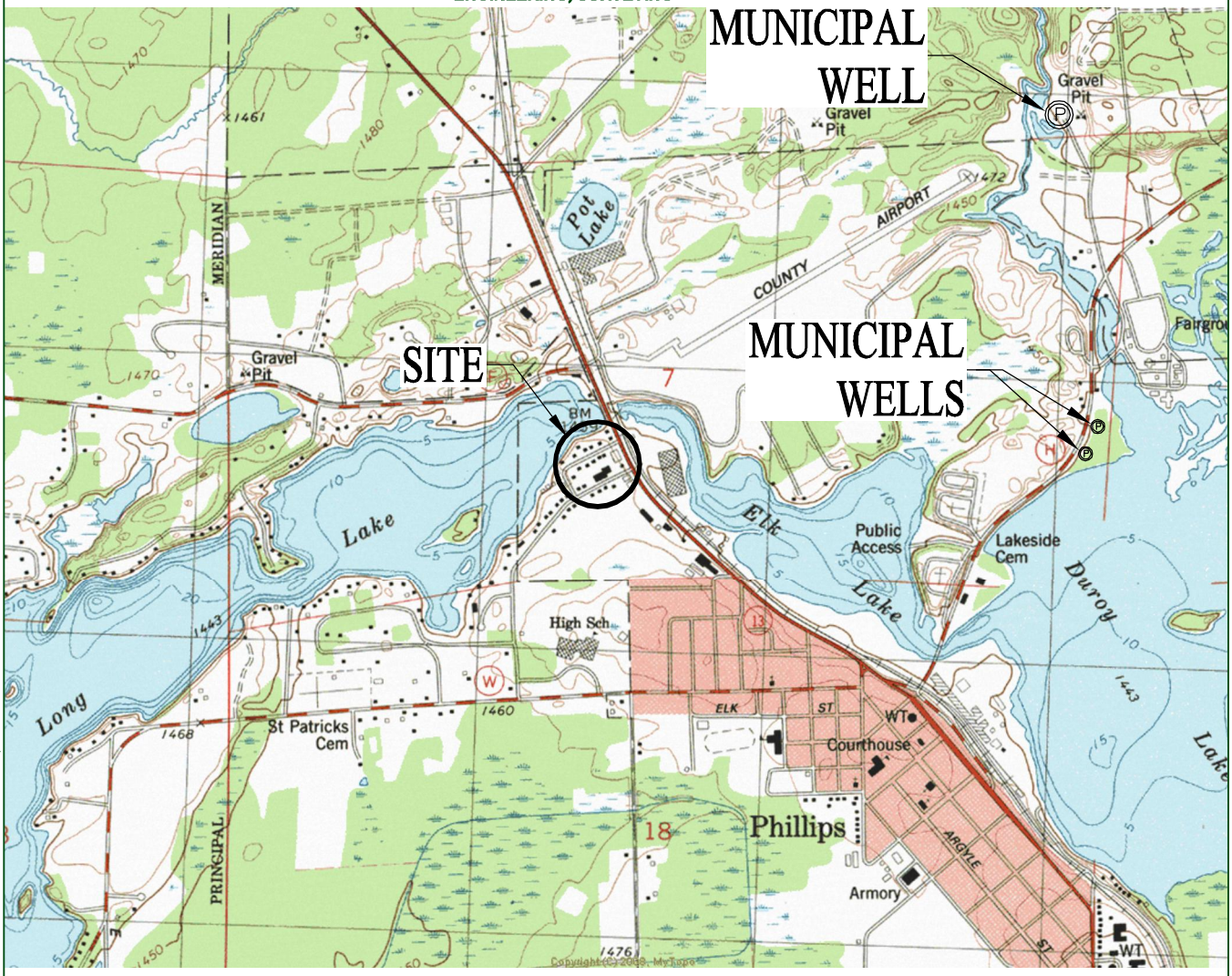
CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING



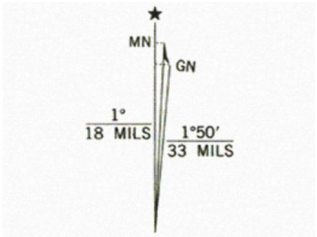
SCALE 1:24 000

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

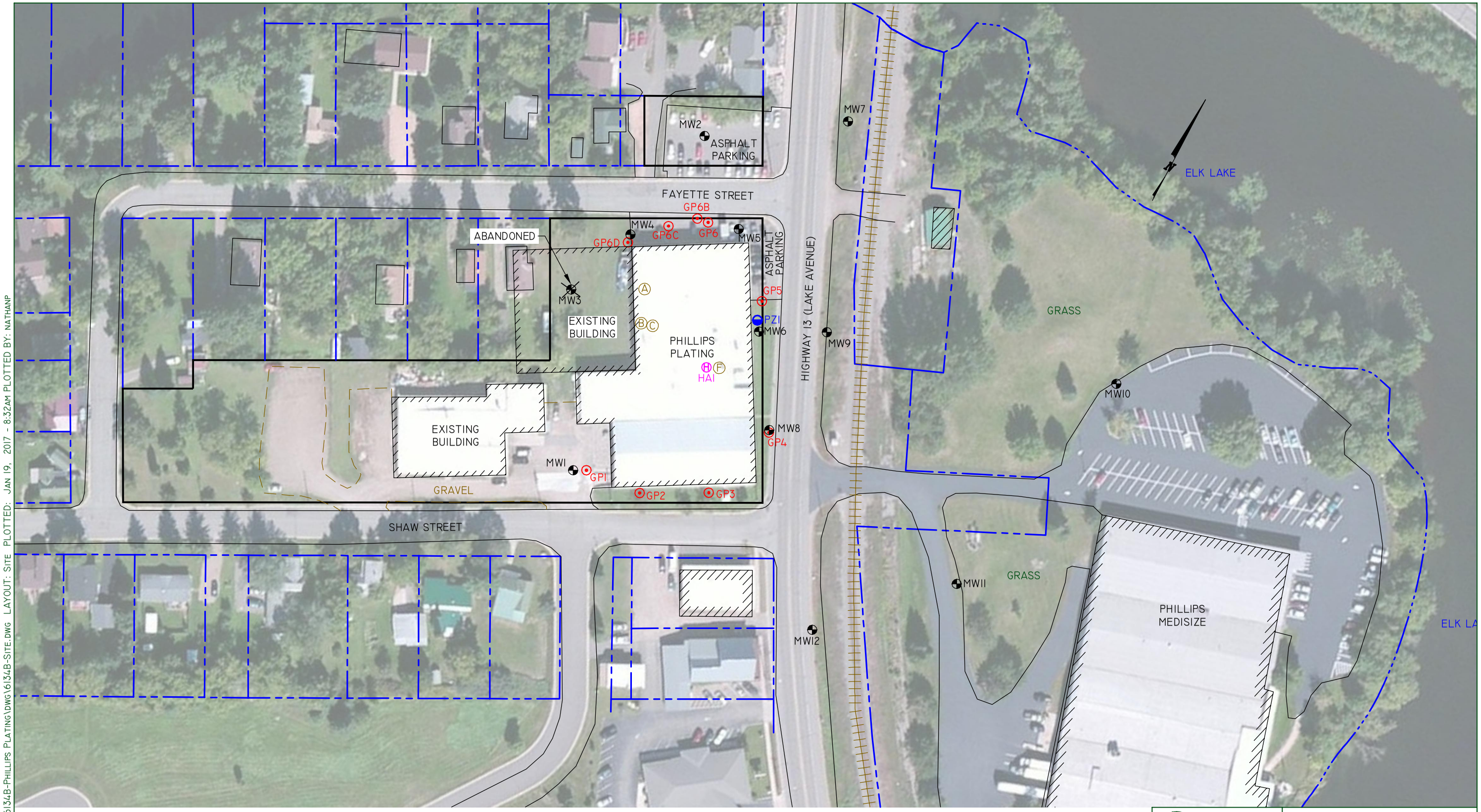
PHILLIPS, WIS.
NW/4 PHILLIPS 15' QUADRANGLE
45090-F4-TF-024
1984
DMA 2975 III NW–SERIES V861

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



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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)

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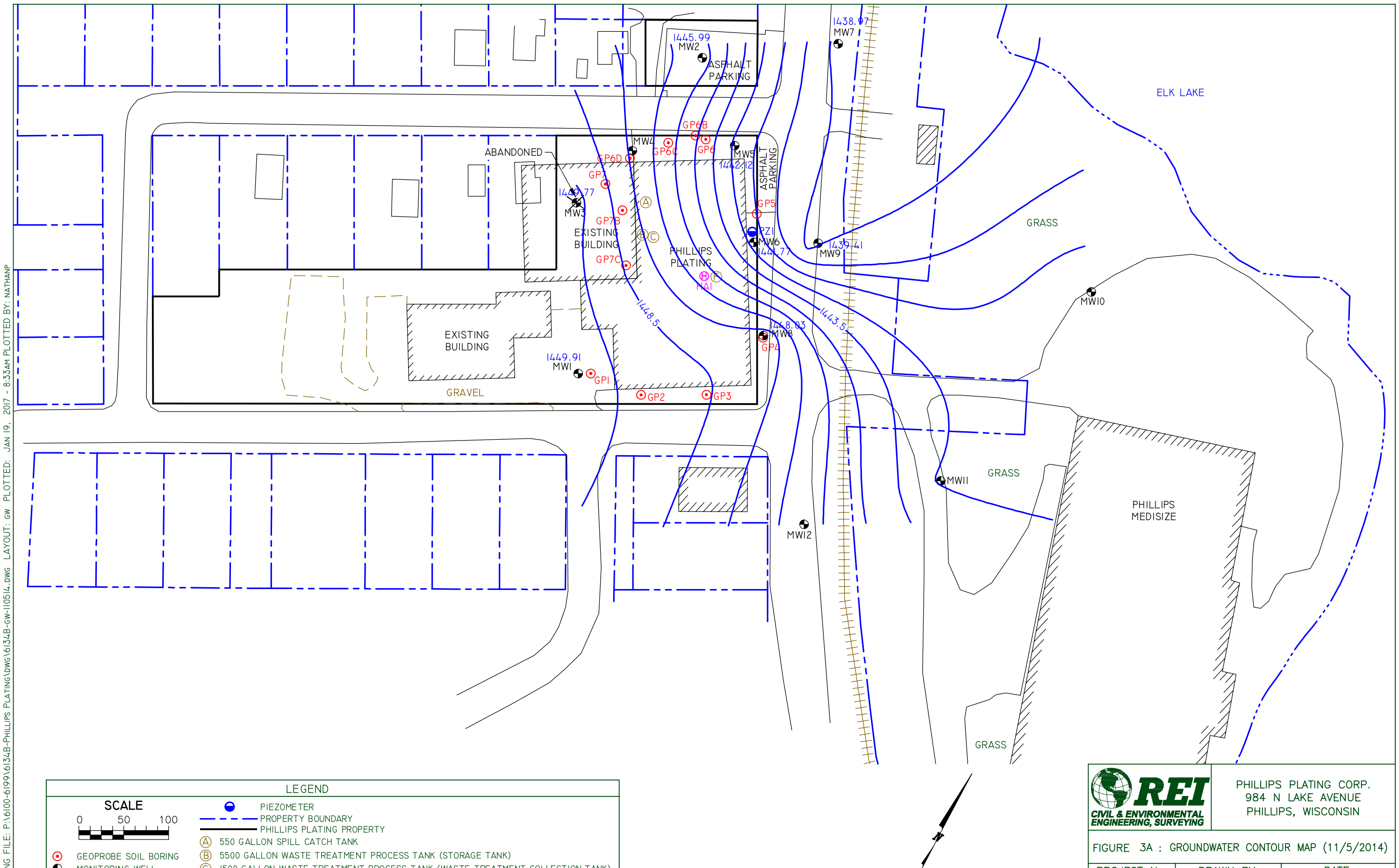
PHILLIPS PLATING CORP.
984 N LAKE AVENUE
PHILLIPS, WISCONSIN

FIGURE 2 : SITE MAP

PROJECT No.	DRAWN BY:	DATE:
6134B	JAF	01/13/2017



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)

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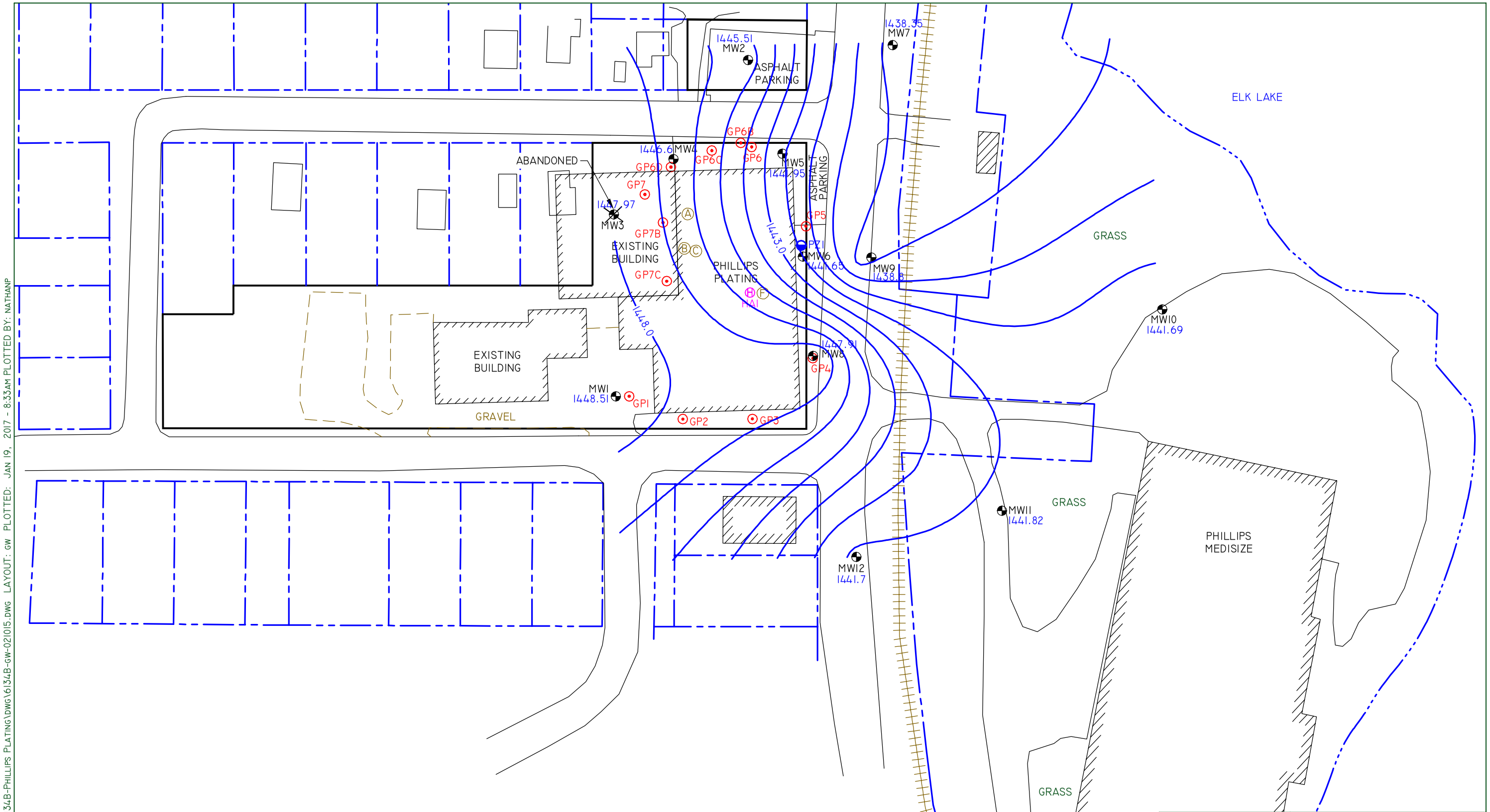
PHILLIPS PLATING CORP.
984 N LAKE AVENUE
PHILLIPS, WISCONSIN

FIGURE 3A : GROUNDWATER CONTOUR MAP (11/5/2014)

PROJECT No.	DRAWN BY:	DATE:
6134B	TAW	1/4/2017

DRAWING FILE: P:\6100-6199\6134B-PHILLIPS PLATING\DWG\6134B-GW-110514.DWG LAYOUT: GW PLOTTED: JAN 19, 2017 - 8:33AM PLOTTED BY: NATHANP



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)

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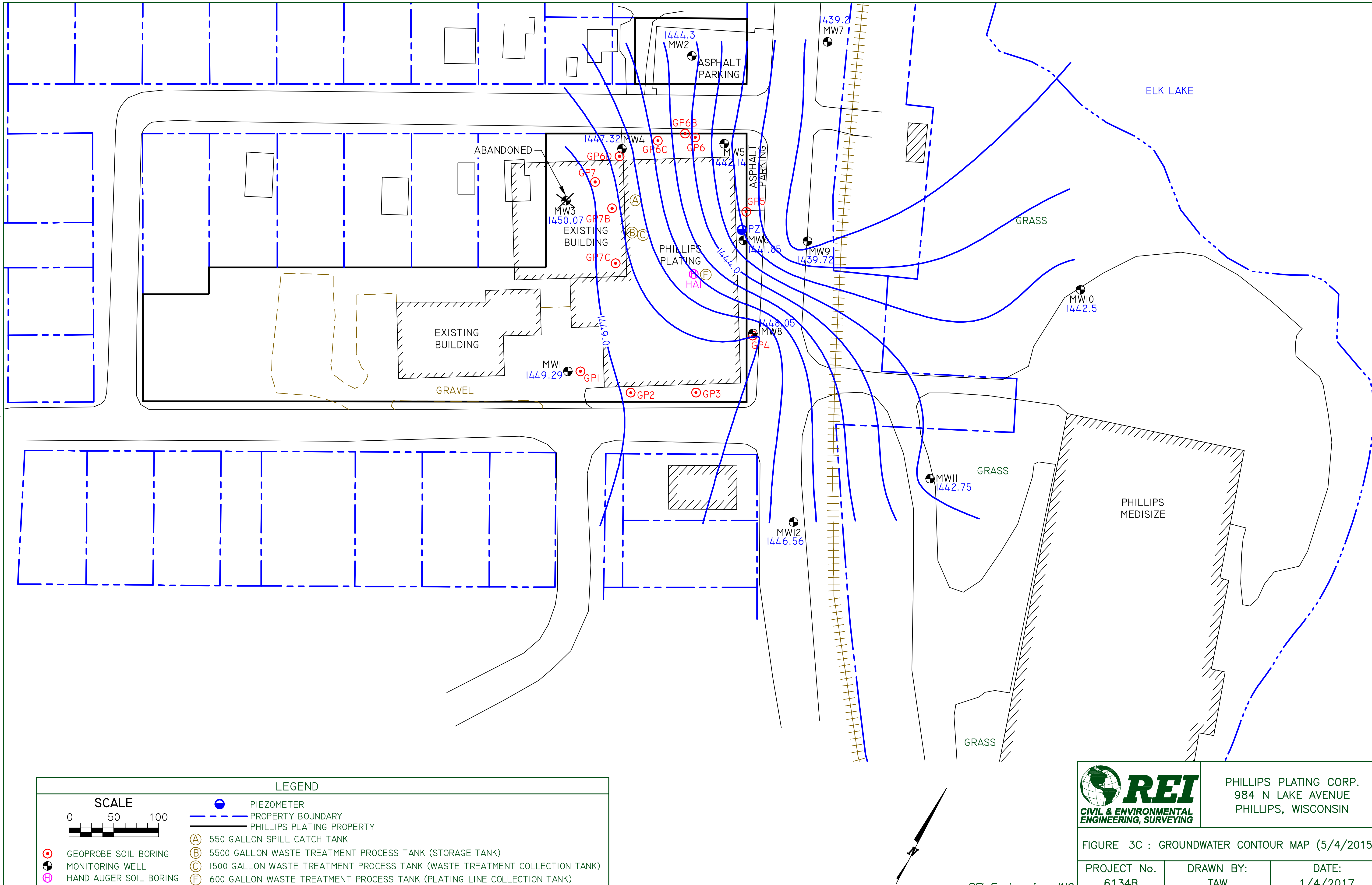
PHILLIPS PLATING CORP.
984 N LAKE AVENUE
PHILLIPS, WISCONSIN

FIGURE 3B : GROUNDWATER CONTOUR MAP (2/10/2015)

PROJECT No.	DRAWN BY:	DATE:
6134B	TAW	1/4/2017

REI Engineering, INC.

DRAWING FILE: P:\6100-6199\6134B-PHILLIPS PLATING\DWG\6134B-GW-021015.DWG LAYOUT: GW PLOTTED: JAN 19, 2017 - 8:33AM PLOTTED BY: NATHANP


ELK LAKE
GRASS
GRASS
GRASS
PHILLIPS MEDISIZE
MW7
1439.2
MW2
1444.3
ASPHALT PARKING
ASPHALT PARKING
MW9
1439.72
MW10
1442.5
MW11
1442.75
MW12
1446.56
MW5
1442.14
MW6
1441.85
PZ1
MW8
1448.05
MW4
1447.32
MW3
1450.07
MW1
1449.29
ABANDONED
GP1
GP2
GP3
GP4
GP5
GP6
GP6B
GP6C
GP6D
GP7
GP7B
GP7C
HA1
1444.0
1449.0
PHILLIPS PLATING
EXISTING BUILDING
EXISTING BUILDING
GRAVEL
LEGEND
SCALE
0
50
100
PIEZOMETER
PROPERTY BOUNDARY
PHILLIPS PLATING PROPERTY
Ⓐ 550 GALLON SPILL CATCH TANK
Ⓑ 5500 GALLON WASTE TREATMENT PROCESS TANK (STORAGE TANK)
Ⓒ 1500 GALLON WASTE TREATMENT PROCESS TANK (WASTE TREATMENT COLLECTION TANK)
Ⓕ 600 GALLON WASTE TREATMENT PROCESS TANK (PLATING LINE COLLECTION TANK)
GEOPROBE SOIL BORING
MONITORING WELL
HAND AUGER SOIL BORING

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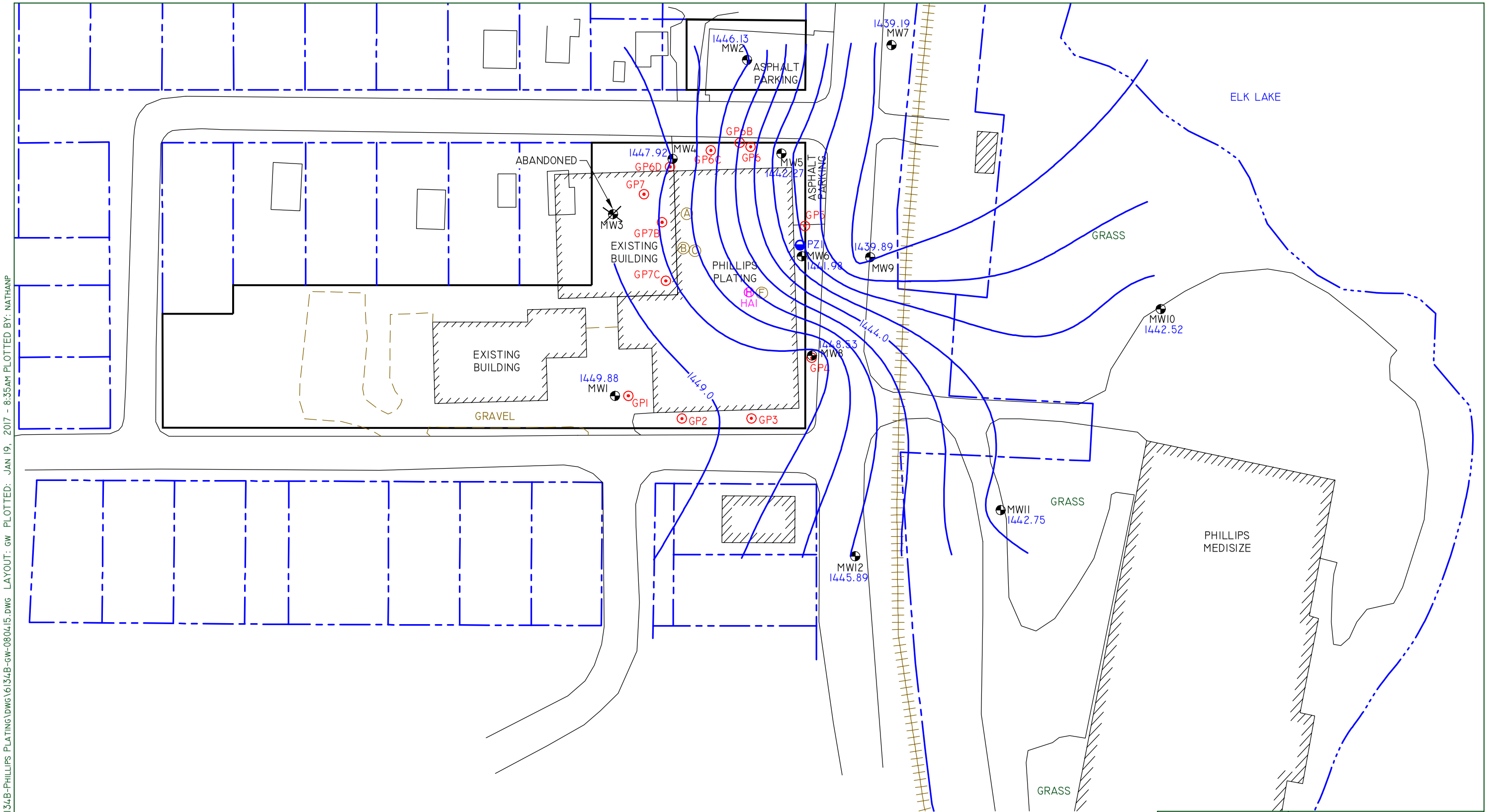
PHILLIPS, WISCONSIN

FIGURE 3C : GROUNDWATER CONTOUR MAP (5/4/2015)

PROJECT No.	DRAWN BY:	DATE:
6134B	TAW	1/4/2017

DRAWING FILE: P:\6100-6199\6134B-PHILLIPS PLATING\DWG\6134B-GW-050415.DWG LAYOUT: GW PLOTTED: JAN 19, 2017 - 8:34AM PLOTTED BY: NATHANP



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)

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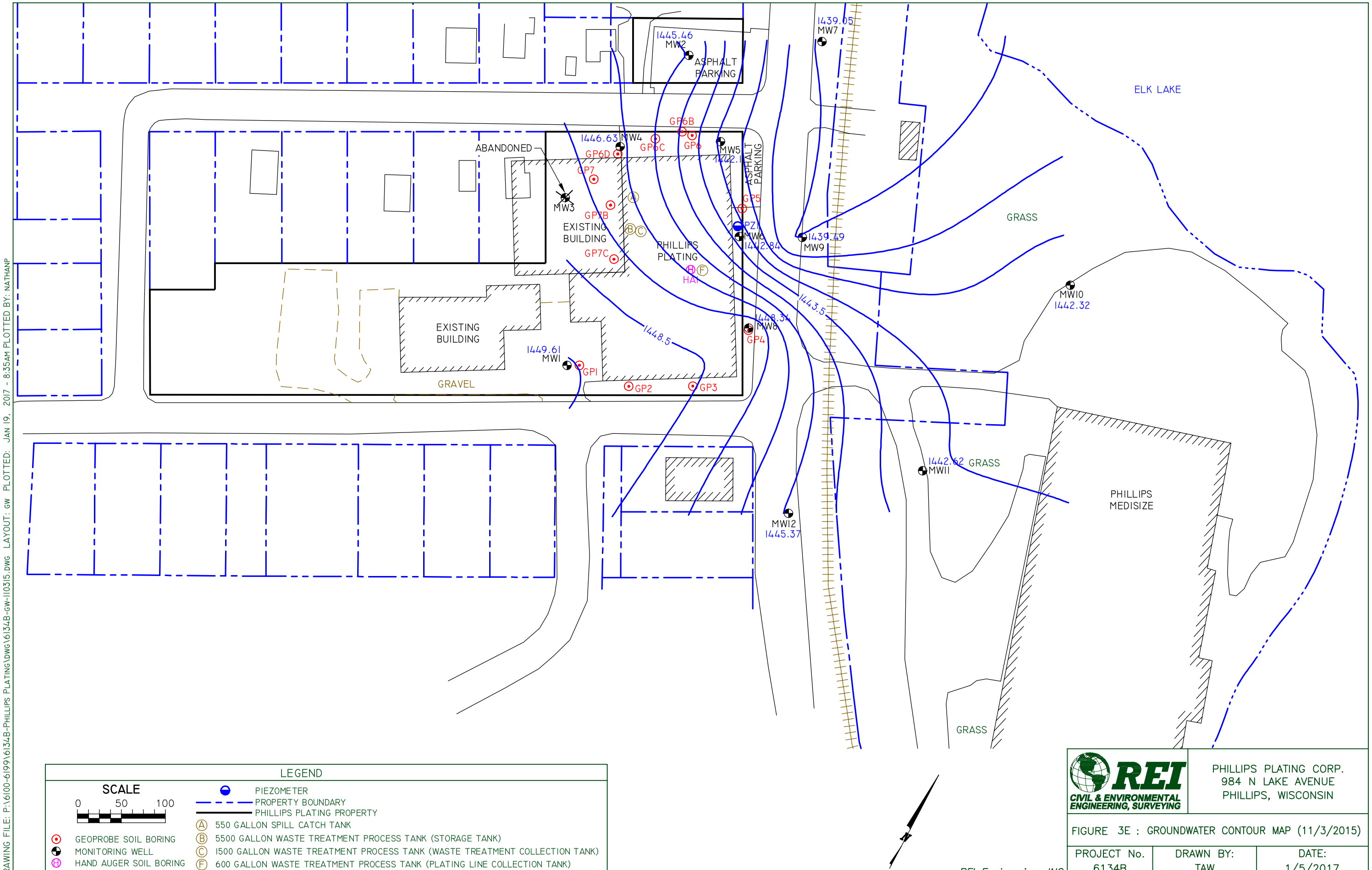
PHILLIPS, WISCONSIN

FIGURE 3D : GROUNDWATER CONTOUR MAP (8/4/2015)

PROJECT No.	DRAWN BY:	DATE:
6134B	TAW	1/4/2017

DRAWING FILE: P:\6100-6199\6134B-PHILLIPS PLATING\DWG\6134B-GW-080415.DWG LAYOUT: GW PLOTTED: JAN 19, 2017 - 8:35AM PLOTTED BY: NATHANP



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)

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PHILLIPS PLATING CORP.
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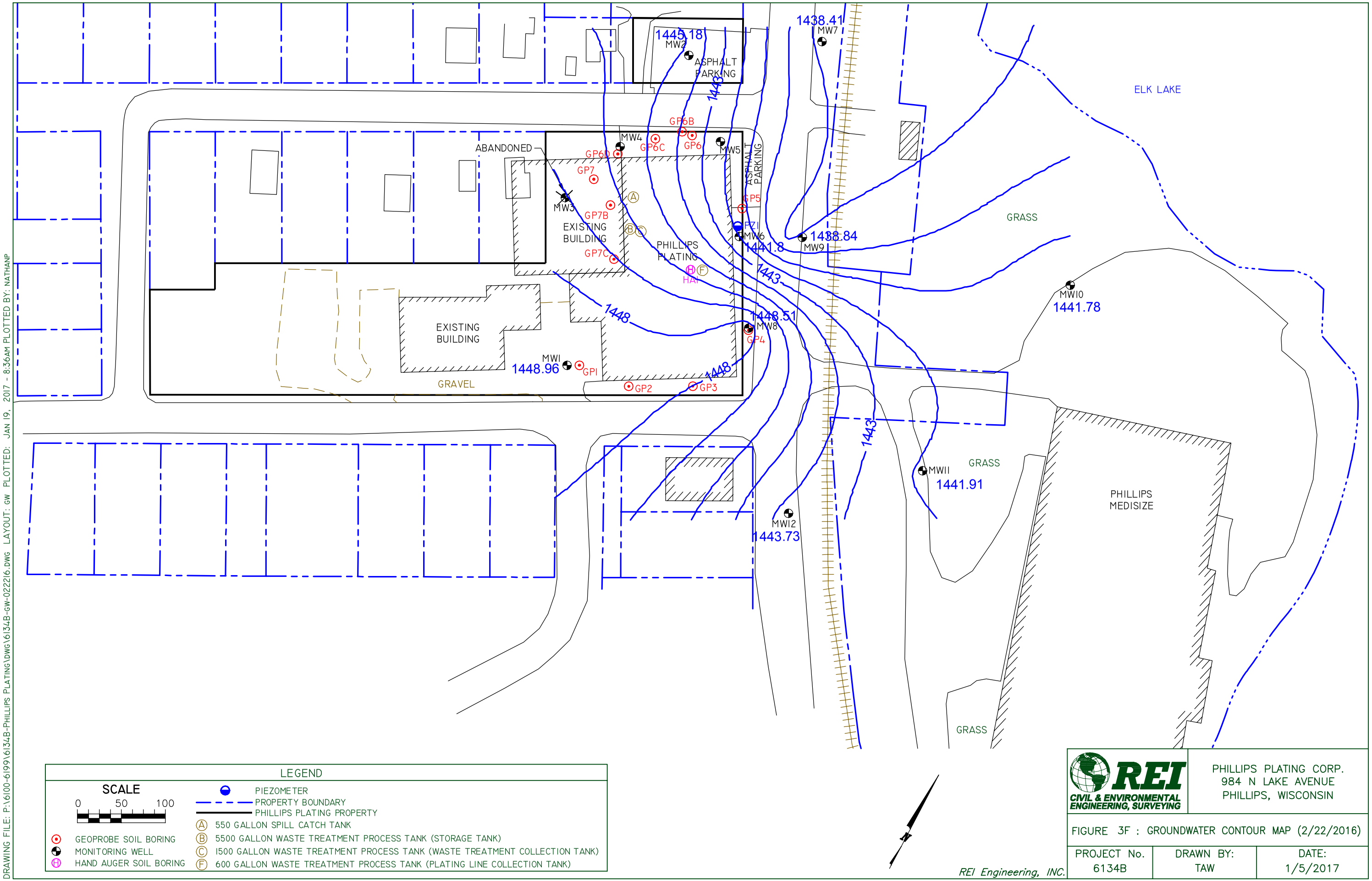
PHILLIPS, WISCONSIN

FIGURE 3E : GROUNDWATER CONTOUR MAP (11/3/2015)

PROJECT No.	DRAWN BY:	DATE:
6134B	TAW	1/5/2017

REI Engineering, INC.

DRAWING FILE: P:\6100-6199\6134B-PHILLIPS PLATING\DWG\6134B-GW-110315.DWG LAYOUT: GW PLOTTED: JAN 19, 2017 - 8:35AM PLOTTED BY: NATHANP



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)

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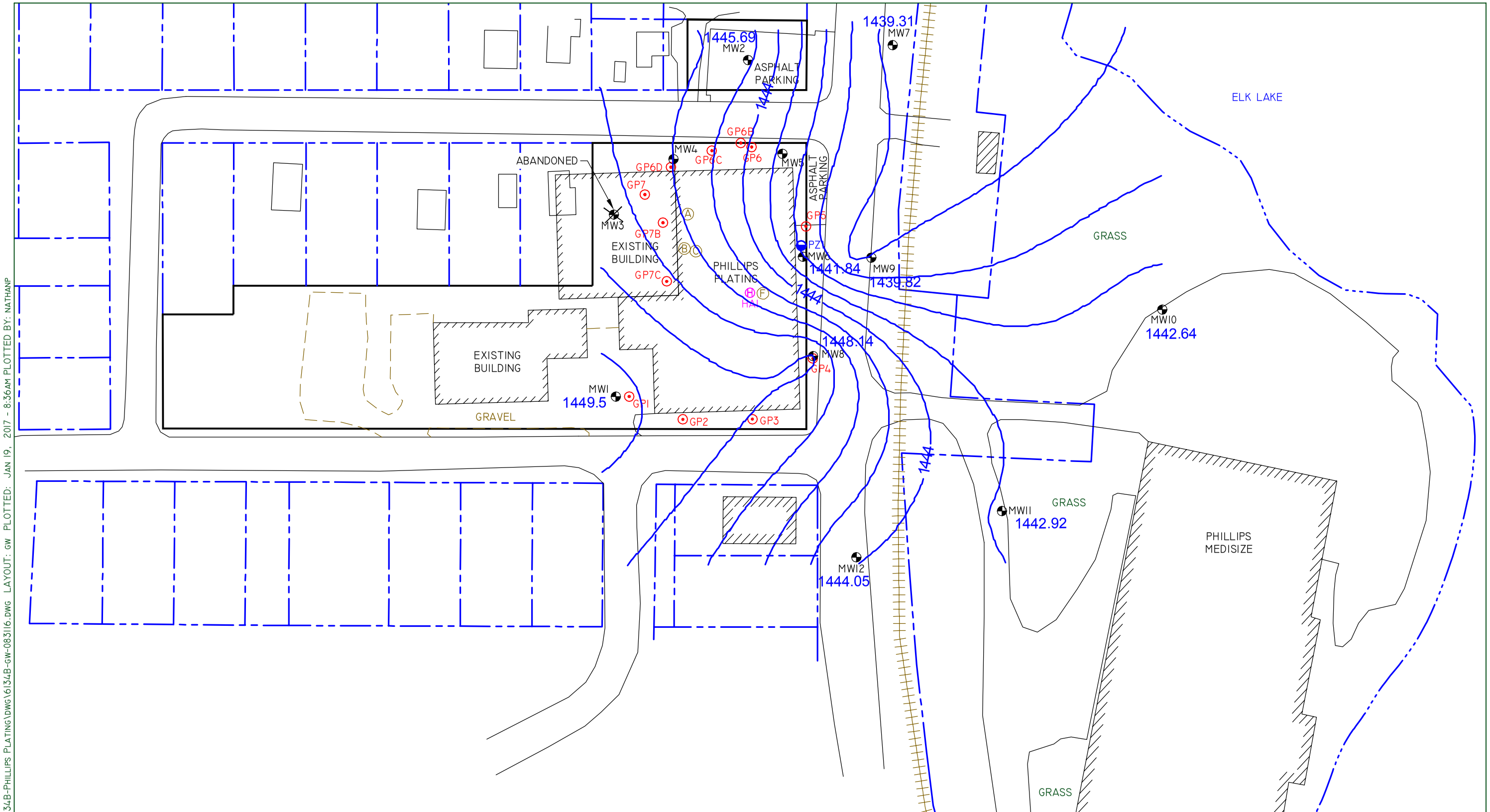
PHILLIPS, WISCONSIN

FIGURE 3F : GROUNDWATER CONTOUR MAP (2/22/2016)

PROJECT No.	DRAWN BY:	DATE:
6134B	TAW	1/5/2017

DRAWING FILE: P:\6100-6199\6134B-PHILLIPS PLATING\DWG\6134B-GW-022216.DWG LAYOUT: GW PLOTTED: JAN 19, 2017 - 8:36AM PLOTTED BY: NATHANP



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)
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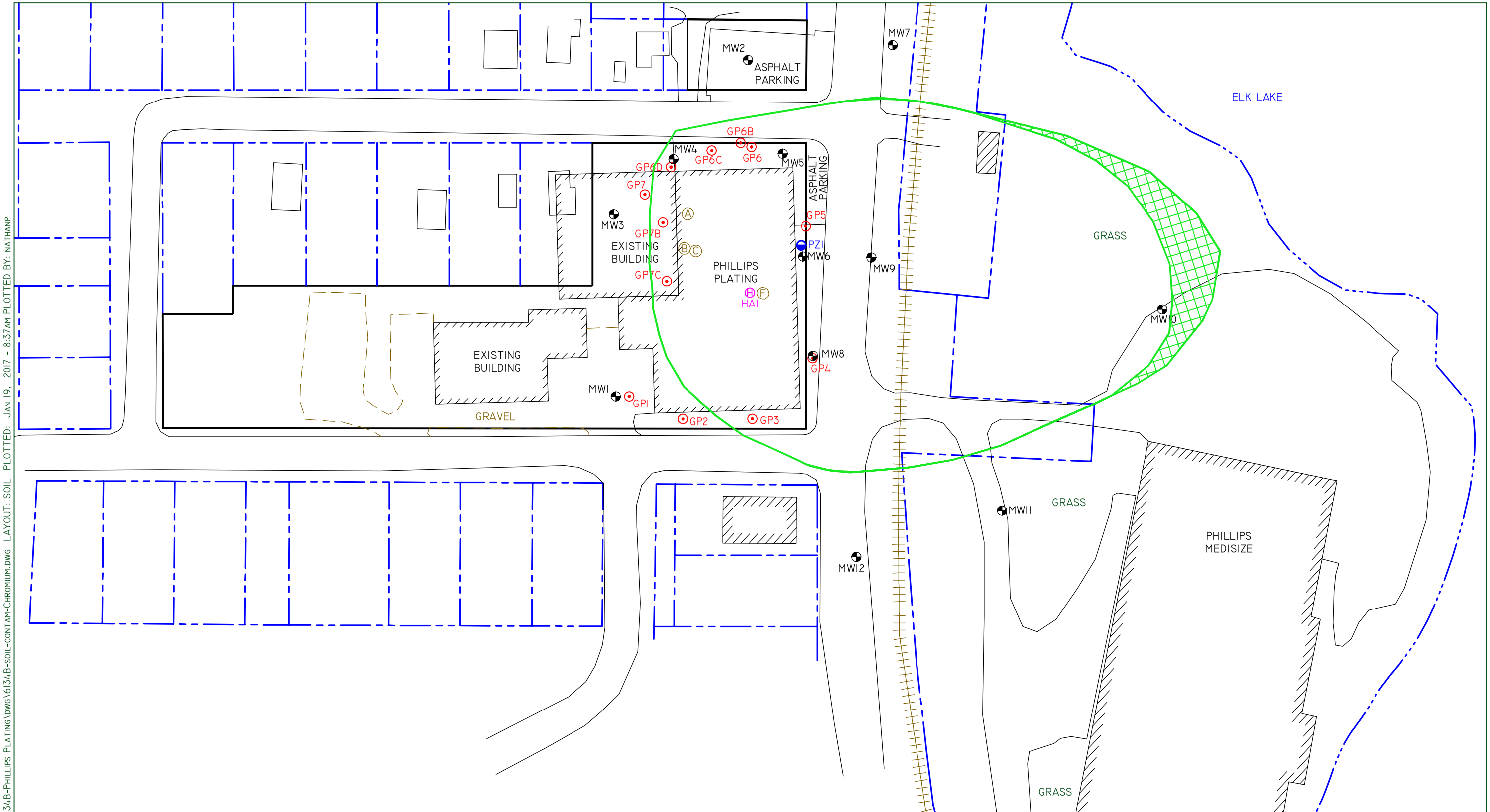
PHILLIPS PLATING CORP.
984 N LAKE AVENUE
PHILLIPS, WISCONSIN

FIGURE 3G : GROUNDWATER CONTOUR MAP (8/31/2016)

PROJECT No.	DRAWN BY:	DATE:
6134B	TAW	1/5/2017



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 CHROMIUM GROUNDWATER CONTAMINATION (KNOWN)
- AREA OF CHROMIUM GROUNDWATER CONTAMINATION (UNDEFINED)

N

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PHILLIPS PLATING CORP.
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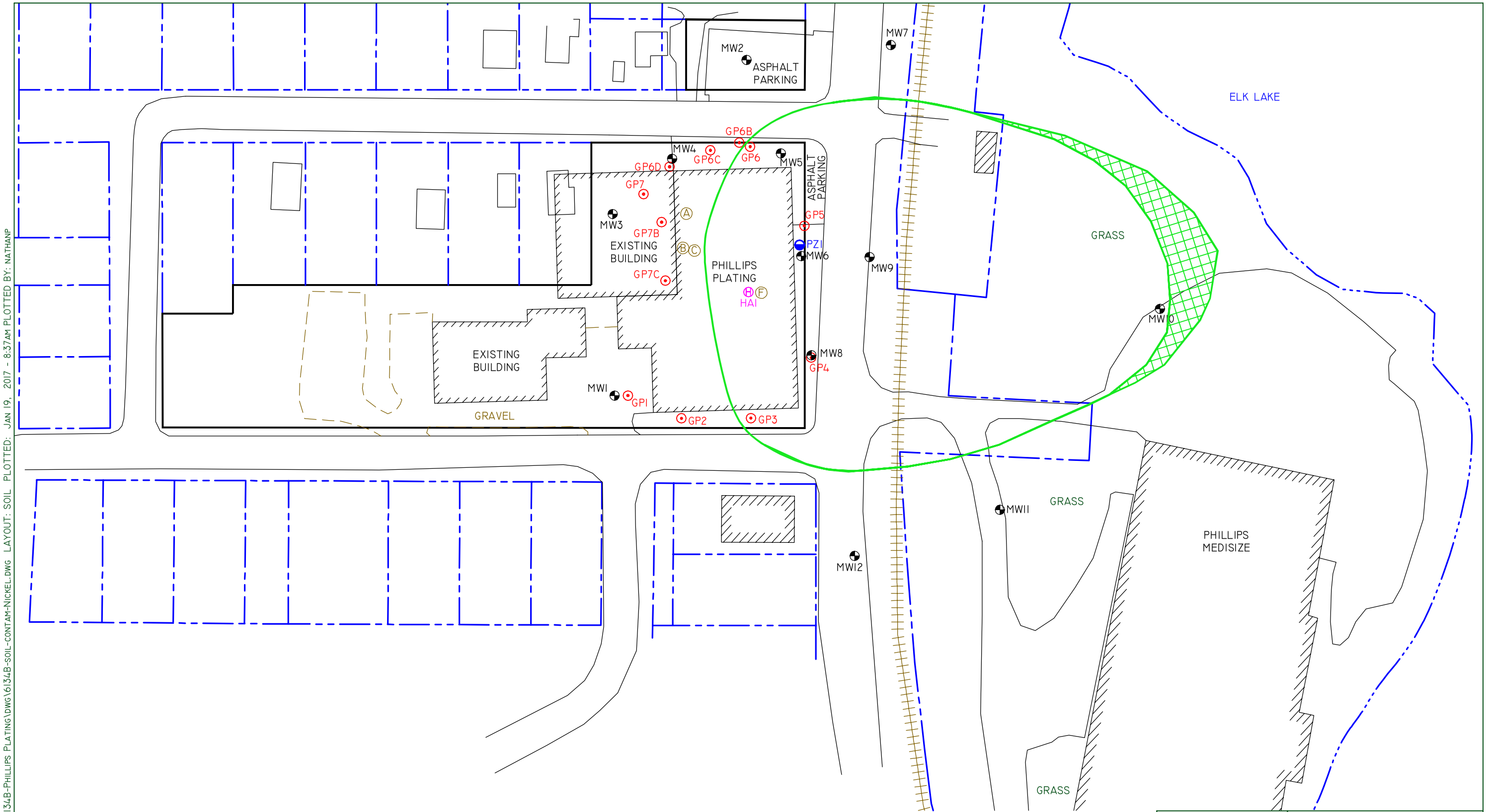
PHILLIPS, WISCONSIN

FIGURE 4A : *ESTIMATED EXTENT OF CHROMIUM GROUNDWATER CONTAMINATION EXCEEDING NR140ES (08/31/16)*

PROJECT No.	DRAWN BY:	DATE:
6134B	NAP	01/16/17

DRAWING FILE: P:\6100-6199\6134B-PHILLIPS PLATING\DWG\6134B-SOIL-CONTAM-CHROMIUM.DWG LAYOUT: SOIL PLOTTED: JAN 19, 2017 - 8:37AM PLOTTED BY: NATHANP



DRAWING FILE: P:\6100-6199\6134B-PHILLIPS PLATING\DWG\6134B-SOIL-CONTAM-NICKEL.DWG LAYOUT: SOIL PLOTTED: JAN 19, 2017 - 8:37AM PLOTTED BY: NATHANP

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 NICKEL GROUNDWATER CONTAMINATION (KNOWN)
- AREA OF NICKEL GROUNDWATER CONTAMINATION (UNDEFINED)

N

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984 N LAKE AVENUE
PHILLIPS, WISCONSIN

FIGURE 4B : *ESTIMATED EXTENT OF NICKEL GROUNDWATER CONTAMINATION EXCEEDING NR140ES (08/31/16)*

PROJECT No.	DRAWN BY:	DATE:
6134B	NAP	01/16/17

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

November 14, 2014

Ken Lassa
REI
4080 North 20th Avenue
Wausau, WI 54401

RE: Project: 6134B PHILLIP PLATING
Pace Project No.: 40106540

Dear Ken Lassa:
Enclosed are the analytical results for sample(s) received by the laboratory on November 06, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: 6134B PHILLIP PLATING
Pace Project No.: 40106540

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 11888
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
US Dept of Agriculture #: S-76505
Wisconsin Certification #: 405132750

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: 6134B PHILLIP PLATING
Pace Project No.: 40106540

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40106540001	**MW3**	Water	11/05/14 10:00	11/06/14 08:35
40106540002	**MW5**	Water	11/05/14 11:30	11/06/14 08:35
40106540003	**MW6**	Water	11/05/14 12:40	11/06/14 08:35
40106540004	**MW8**	Water	11/05/14 10:30	11/06/14 08:35
40106540005	**MW9**	Water	11/05/14 12:15	11/06/14 08:35
40106540006	**MW10**	Water	11/05/14 11:10	11/06/14 08:35
40106540007	**MW11**	Water	11/05/14 10:50	11/06/14 08:35
40106540008	**PZ1**	Water	11/05/14 13:15	11/06/14 08:35

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

SAMPLE ANALYTE COUNT

Project: 6134B PHILLIP PLATING
Pace Project No.: 40106540

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40106540001	**MW3**	EPA 6010	DLB, MMZ	4	PASI-G
		EPA 6010	DLB	4	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
40106540002	**MW5**	EPA 6010	DLB	2	PASI-G
		EPA 6010	DLB	2	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
40106540003	**MW6**	EPA 6010	DLB, MMZ	4	PASI-G
		EPA 6010	DLB	4	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
40106540004	**MW8**	EPA 6010	DLB	2	PASI-G
		EPA 6010	DLB	2	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
40106540005	**MW9**	EPA 6010	DLB, MMZ	4	PASI-G
		EPA 6010	DLB	4	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
40106540006	**MW10**	EPA 6010	DLB, MMZ	4	PASI-G
		EPA 6010	DLB	4	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
40106540007	**MW11**	EPA 6010	DLB	2	PASI-G
		EPA 6010	DLB	2	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
40106540008	**PZ1**	EPA 6010	DLB, MMZ	4	PASI-G
		EPA 6010	DLB	4	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 6134B PHILLIP PLATING
Pace Project No.: 40106540

Sample: MW3 **Lab ID: 40106540001** Collected: 11/05/14 10:00 Received: 11/06/14 08:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**71.5**	ug/L	5.0	1.5	1	11/07/14 08:00	11/07/14 16:55	7440-47-3	
Iron	**55700**	ug/L	100	15.9	1	11/07/14 08:00	11/10/14 16:45	7439-89-6	P6
Manganese	**945**	ug/L	5.0	0.37	1	11/07/14 08:00	11/07/14 16:55	7439-96-5	
Nickel	**55.4**	ug/L	10.0	1.3	1	11/07/14 08:00	11/07/14 16:55	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**<2.1**	ug/L	5.0	2.1	1		11/07/14 19:22	7440-47-3	
Iron, Dissolved	**28.8J**	ug/L	100	12.9	1		11/07/14 19:22	7439-89-6	
Manganese, Dissolved	**1.8J**	ug/L	5.0	1.4	1		11/07/14 19:22	7439-96-5	
Nickel, Dissolved	**1.9J**	ug/L	10.0	1.4	1		11/07/14 19:22	7440-02-0	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**2.2J**	mg/L	3.0	1.5	10		11/06/14 19:55	14797-55-8	D3
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**21.3J**	mg/L	40.0	20.0	10		11/06/14 19:55	14808-79-8	D3,M0
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.019**	mg/L	0.10	0.019	5		11/06/14 09:50	18540-29-9	D3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6134B PHILLIP PLATING
Pace Project No.: 40106540

Sample: MW5 **Lab ID: 40106540002** Collected: 11/05/14 11:30 Received: 11/06/14 08:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**1770**	ug/L	5.0	1.5	1	11/07/14 08:00	11/07/14 17:06	7440-47-3	
Nickel	**1160**	ug/L	10.0	1.3	1	11/07/14 08:00	11/07/14 17:06	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**340**	ug/L	5.0	2.1	1		11/07/14 19:25	7440-47-3	
Nickel, Dissolved	**236**	ug/L	10.0	1.4	1		11/07/14 19:25	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.28**	mg/L	0.10	0.019	5		11/06/14 09:50	18540-29-9	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6134B PHILLIP PLATING
Pace Project No.: 40106540

Sample: MW6 **Lab ID: 40106540003** Collected: 11/05/14 12:40 Received: 11/06/14 08:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**21800**	ug/L	5.0	1.5	1	11/07/14 08:00	11/07/14 17:08	7440-47-3	
Iron	**25400**	ug/L	100	15.9	1	11/07/14 08:00	11/10/14 16:51	7439-89-6	
Manganese	**1380**	ug/L	5.0	0.37	1	11/07/14 08:00	11/07/14 17:08	7439-96-5	
Nickel	**22900**	ug/L	10.0	1.3	1	11/07/14 08:00	11/07/14 17:08	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**19900**	ug/L	5.0	2.1	1		11/07/14 19:27	7440-47-3	
Iron, Dissolved	**<12.9**	ug/L	100	12.9	1		11/07/14 19:27	7439-89-6	
Manganese, Dissolved	**954**	ug/L	5.0	1.4	1		11/07/14 19:27	7439-96-5	
Nickel, Dissolved	**23800**	ug/L	10.0	1.4	1		11/07/14 19:27	7440-02-0	2q
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**12.2**	mg/L	3.0	1.5	10		11/06/14 20:48	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**274**	mg/L	40.0	20.0	10		11/06/14 20:48	14808-79-8	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**21.7**	mg/L	1.0	0.19	50		11/06/14 09:50	18540-29-9	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6134B PHILLIP PLATING
Pace Project No.: 40106540

Sample: MW8 **Lab ID: 40106540004** Collected: 11/05/14 10:30 Received: 11/06/14 08:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**2110**	ug/L	5.0	1.5	1	11/07/14 08:00	11/07/14 17:10	7440-47-3	
Nickel	**2300**	ug/L	10.0	1.3	1	11/07/14 08:00	11/07/14 17:10	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**1910**	ug/L	5.0	2.1	1		11/07/14 19:29	7440-47-3	
Nickel, Dissolved	**1920**	ug/L	10.0	1.4	1		11/07/14 19:29	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**1.8**	mg/L	0.10	0.019	5		11/06/14 09:50	18540-29-9	

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ANALYTICAL RESULTS

Project: 6134B PHILLIP PLATING
Pace Project No.: 40106540

Sample: MW9 **Lab ID: 40106540005** Collected: 11/05/14 12:15 Received: 11/06/14 08:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**1720**	ug/L	5.0	1.5	1	11/07/14 08:00	11/07/14 17:12	7440-47-3	
Iron	**102000**	ug/L	100	15.9	1	11/07/14 08:00	11/10/14 16:53	7439-89-6	
Manganese	**2050**	ug/L	5.0	0.37	1	11/07/14 08:00	11/07/14 17:12	7439-96-5	
Nickel	**582**	ug/L	10.0	1.3	1	11/07/14 08:00	11/07/14 17:12	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**545**	ug/L	5.0	2.1	1		11/07/14 19:31	7440-47-3	
Iron, Dissolved	**37.9J**	ug/L	100	12.9	1		11/07/14 19:31	7439-89-6	
Manganese, Dissolved	**92.9**	ug/L	5.0	1.4	1		11/07/14 19:31	7439-96-5	
Nickel, Dissolved	**280**	ug/L	10.0	1.4	1		11/07/14 19:31	7440-02-0	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**8.2**	mg/L	3.0	1.5	10		11/06/14 21:09	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**77.8**	mg/L	40.0	20.0	10		11/06/14 21:09	14808-79-8	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.56**	mg/L	0.10	0.019	5		11/06/14 09:50	18540-29-9	

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ANALYTICAL RESULTS

Project: 6134B PHILLIP PLATING
Pace Project No.: 40106540

Sample: MW10 **Lab ID: 40106540006** Collected: 11/05/14 11:10 Received: 11/06/14 08:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**121**	ug/L	5.0	1.5	1	11/07/14 08:00	11/07/14 17:15	7440-47-3	
Iron	**6700**	ug/L	100	15.9	1	11/07/14 08:00	11/10/14 17:00	7439-89-6	
Manganese	**261**	ug/L	5.0	0.37	1	11/07/14 08:00	11/07/14 17:15	7439-96-5	
Nickel	**36.8**	ug/L	10.0	1.3	1	11/07/14 08:00	11/07/14 17:15	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**244**	ug/L	5.0	2.1	1		11/07/14 19:34	7440-47-3	1q
Iron, Dissolved	**34.6J**	ug/L	100	12.9	1		11/07/14 19:34	7439-89-6	
Manganese, Dissolved	**4.8J**	ug/L	5.0	1.4	1		11/07/14 19:34	7439-96-5	
Nickel, Dissolved	**81.6**	ug/L	10.0	1.4	1		11/07/14 19:34	7440-02-0	1q
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**2.0**	mg/L	0.30	0.15	1		11/06/14 21:30	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**34.1**	mg/L	4.0	2.0	1		11/06/14 21:30	14808-79-8	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.21**	mg/L	0.020	0.0039	1		11/06/14 09:50	18540-29-9	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6134B PHILLIP PLATING
Pace Project No.: 40106540

Sample: MW11 **Lab ID: 40106540007** Collected: 11/05/14 10:50 Received: 11/06/14 08:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**54.1**	ug/L	5.0	1.5	1	11/07/14 08:00	11/07/14 17:17	7440-47-3	
Nickel	**36.6**	ug/L	10.0	1.3	1	11/07/14 08:00	11/07/14 17:17	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**<2.1**	ug/L	5.0	2.1	1		11/07/14 19:40	7440-47-3	
Nickel, Dissolved	**<1.4**	ug/L	10.0	1.4	1		11/07/14 19:40	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.019**	mg/L	0.10	0.019	5		11/06/14 09:50	18540-29-9	D3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6134B PHILLIP PLATING
Pace Project No.: 40106540

Sample: PZ1 **Lab ID: 40106540008** Collected: 11/05/14 13:15 Received: 11/06/14 08:35 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**2040**	ug/L	5.0	1.5	1	11/07/14 08:00	11/07/14 17:19	7440-47-3	
Iron	**103000**	ug/L	100	15.9	1	11/07/14 08:00	11/10/14 17:02	7439-89-6	
Manganese	**1220**	ug/L	5.0	0.37	1	11/07/14 08:00	11/07/14 17:19	7439-96-5	
Nickel	**81.2**	ug/L	10.0	1.3	1	11/07/14 08:00	11/07/14 17:19	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**1090**	ug/L	5.0	2.1	1		11/07/14 19:42	7440-47-3	
Iron, Dissolved	**<12.9**	ug/L	100	12.9	1		11/07/14 19:42	7439-89-6	
Manganese, Dissolved	**102**	ug/L	5.0	1.4	1		11/07/14 19:42	7439-96-5	
Nickel, Dissolved	**2.4J**	ug/L	10.0	1.4	1		11/07/14 19:42	7440-02-0	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**3.4**	mg/L	0.30	0.15	1		11/06/14 21:41	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**44.3**	mg/L	4.0	2.0	1		11/06/14 21:41	14808-79-8	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**1.0**	mg/L	0.10	0.019	5		11/06/14 09:50	18540-29-9	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6134B PHILLIP PLATING
Pace Project No.: 40106540

QC Batch: ICP/9822 Analysis Method: EPA 6010
QC Batch Method: EPA 6010 Analysis Description: ICP Metals, Trace, Dissolved
Associated Lab Samples: 40106540001, 40106540002, 40106540003, 40106540004, 40106540005, 40106540006, 40106540007, 40106540008

METHOD BLANK: 1078639 Matrix: Water
Associated Lab Samples: 40106540001, 40106540002, 40106540003, 40106540004, 40106540005, 40106540006, 40106540007, 40106540008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium, Dissolved	ug/L	<2.1	5.0	11/07/14 18:52	
Iron, Dissolved	ug/L	<12.9	100	11/07/14 18:52	
Manganese, Dissolved	ug/L	<1.4	5.0	11/07/14 18:52	
Nickel, Dissolved	ug/L	<1.4	10.0	11/07/14 18:52	

LABORATORY CONTROL SAMPLE: 1078640

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Dissolved	ug/L	500	475	95	80-120	
Iron, Dissolved	ug/L	5000	4590	92	80-120	
Manganese, Dissolved	ug/L	500	474	95	80-120	
Nickel, Dissolved	ug/L	500	488	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1078641 1078642

Parameter	Units	40106456001 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	<2.1	500	500	460	462	92	92	75-125	0	20	
Iron, Dissolved	ug/L	30.3J	5000	5000	4420	4470	88	89	75-125	1	20	
Manganese, Dissolved	ug/L	409	500	500	865	860	91	90	75-125	1	20	
Nickel, Dissolved	ug/L	1.8J	500	500	476	482	95	96	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6134B PHILLIP PLATING
Pace Project No.: 40106540

QC Batch: MPRP/11064 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 40106540001, 40106540002, 40106540003, 40106540004, 40106540005, 40106540006, 40106540007, 40106540008

METHOD BLANK: 1078194 Matrix: Water
Associated Lab Samples: 40106540001, 40106540002, 40106540003, 40106540004, 40106540005, 40106540006, 40106540007, 40106540008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium	ug/L	<1.5	5.0	11/07/14 16:51	
Iron	ug/L	<15.9	100	11/10/14 16:40	
Manganese	ug/L	<0.37	5.0	11/07/14 16:51	
Nickel	ug/L	<1.3	10.0	11/07/14 16:51	

LABORATORY CONTROL SAMPLE: 1078195

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	500	475	95	80-120	
Iron	ug/L	5000	4820	96	80-120	
Manganese	ug/L	500	475	95	80-120	
Nickel	ug/L	500	484	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1078196 1078197

Parameter	Units	40106540001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	ug/L	71.5	500	500	533	537	92	93	75-125	1	20	
Iron	ug/L	55700	5000	5000	57500	56800	36	22	75-125	1	20	P6
Manganese	ug/L	945	500	500	1370	1360	86	84	75-125	1	20	
Nickel	ug/L	55.4	500	500	514	518	92	93	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6134B PHILLIP PLATING
Pace Project No.: 40106540

QC Batch: WETA/26037 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 40106540001, 40106540003, 40106540005, 40106540006, 40106540008

METHOD BLANK: 1077652 Matrix: Water
Associated Lab Samples: 40106540001, 40106540003, 40106540005, 40106540006, 40106540008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrate as N	mg/L	<0.15	0.30	11/06/14 17:59	
Sulfate	mg/L	<2.0	4.0	11/06/14 17:59	

LABORATORY CONTROL SAMPLE: 1077653

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrate as N	mg/L	1.5	1.5	98	90-110	
Sulfate	mg/L	20	18.9	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1077675 1077676

Parameter	Units	40106540001 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	2.2J	15	15	16.4	16.4	95	95	90-110	0	20	
Sulfate	mg/L	21.3J	200	200	199	200	89	89	90-110	1	20	M0

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1077677 1077678

Parameter	Units	40106588005 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	4.4	7.5	7.5	11.6	11.8	96	98	90-110	1	20	
Sulfate	mg/L	121	100	100	216	218	96	98	90-110	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6134B PHILLIP PLATING
Pace Project No.: 40106540

QC Batch: WETA/26044 Analysis Method: SM 3500-Cr B (Online)
QC Batch Method: SM 3500-Cr B (Online) Analysis Description: Chromium, Hexavalent by 3500
Associated Lab Samples: 40106540001, 40106540002, 40106540003, 40106540004, 40106540005, 40106540006, 40106540007, 40106540008

METHOD BLANK: 1078009 Matrix: Water
Associated Lab Samples: 40106540001, 40106540002, 40106540003, 40106540004, 40106540005, 40106540006, 40106540007, 40106540008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium, Hexavalent	mg/L	<0.0039	0.020	11/06/14 09:50	

LABORATORY CONTROL SAMPLE: 1078010

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	mg/L	.3	0.30	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1078011 1078012

Parameter	Units	40106540001 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	<0.019	1.5	1.5	1.6	1.6	106	105	90-110	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 6134B PHILLIP PLATING
Pace Project No.: 40106540

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

1q	Dissolved analyte greater than total analyte: analysis failed based on precision criteria. Results were confirmed.
2q	Dissolved analyte greater than total analyte: analysis passed based on precision criteria.
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.
P6	Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 6134B PHILLIP PLATING
Pace Project No.: 40106540

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40106540001	**MW3**	EPA 3010	MPRP/11064	EPA 6010	ICP/9819
40106540002	**MW5**	EPA 3010	MPRP/11064	EPA 6010	ICP/9819
40106540003	**MW6**	EPA 3010	MPRP/11064	EPA 6010	ICP/9819
40106540004	**MW8**	EPA 3010	MPRP/11064	EPA 6010	ICP/9819
40106540005	**MW9**	EPA 3010	MPRP/11064	EPA 6010	ICP/9819
40106540006	**MW10**	EPA 3010	MPRP/11064	EPA 6010	ICP/9819
40106540007	**MW11**	EPA 3010	MPRP/11064	EPA 6010	ICP/9819
40106540008	**PZ1**	EPA 3010	MPRP/11064	EPA 6010	ICP/9819
40106540001	**MW3**	EPA 6010	ICP/9822		
40106540002	**MW5**	EPA 6010	ICP/9822		
40106540003	**MW6**	EPA 6010	ICP/9822		
40106540004	**MW8**	EPA 6010	ICP/9822		
40106540005	**MW9**	EPA 6010	ICP/9822		
40106540006	**MW10**	EPA 6010	ICP/9822		
40106540007	**MW11**	EPA 6010	ICP/9822		
40106540008	**PZ1**	EPA 6010	ICP/9822		
40106540001	**MW3**	EPA 300.0	WETA/26037		
40106540003	**MW6**	EPA 300.0	WETA/26037		
40106540005	**MW9**	EPA 300.0	WETA/26037		
40106540006	**MW10**	EPA 300.0	WETA/26037		
40106540008	**PZ1**	EPA 300.0	WETA/26037		
40106540001	**MW3**	EPA 300.0	WETA/26037		
40106540003	**MW6**	EPA 300.0	WETA/26037		
40106540005	**MW9**	EPA 300.0	WETA/26037		
40106540006	**MW10**	EPA 300.0	WETA/26037		
40106540008	**PZ1**	EPA 300.0	WETA/26037		
40106540001	**MW3**	SM 3500-Cr B (Online)	WETA/26044		
40106540002	**MW5**	SM 3500-Cr B (Online)	WETA/26044		
40106540003	**MW6**	SM 3500-Cr B (Online)	WETA/26044		
40106540004	**MW8**	SM 3500-Cr B (Online)	WETA/26044		
40106540005	**MW9**	SM 3500-Cr B (Online)	WETA/26044		
40106540006	**MW10**	SM 3500-Cr B (Online)	WETA/26044		
40106540007	**MW11**	SM 3500-Cr B (Online)	WETA/26044		
40106540008	**PZ1**	SM 3500-Cr B (Online)	WETA/26044		

Pace Analytical®
www.pacelabs.com

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

SKW

Page 1 of 1

40106054

Page 19 of 20

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:	Ken Lassa
Phone:	715-675-9784
Project Number:	0134B
Project Name:	Philip Plating
Project State:	WI
Sampled By (Print):	Jared Szews
Sampled By (Sign):	Jared Szews
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	REI
Mail To Company:	Ken Lassa
Mail To Address:	4080 N 20th Ave Wausau WI 54401
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	Total Cr, Ni (Filtered) D	Total Cr, Ni (Unfiltered) D	Hex Cr A	Total Cr, Ni, Mn, Fe (Filtered) D	Total Cr, Ni, Mn, Fe (Unfiltered) D	Nitrate A	Sulfate A
001	MW3	11/5/14	10:00	GW						X	X	X	X
002	MW5		11:30				X	X					
003	MW6		12:40							X	X	X	X
004	MW8		10:30				X	X					
005	MW9		12:05							X	X	X	X
006	MW10		11:10							X	X	X	X
007	MW11		10:50				X	X					
008	PZ1		1:15							X	X	X	X
~~009~~	MS 4/6/14												

Analyses Requested

CLIENT COMMENTS

LAB COMMENTS (Lab Use Only): 3-250mL p ADD

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:
	11/5/14 4:00P		
Relinquished By: Waltco	11/6/14 0835	Received By:	11/6/14 0835
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

PACE Project No.
40106054

Receipt Temp = R01 °C

Sample Receipt pH
(OK) Adjusted

Cooler Custody Seal
Present / Not Present
Intact / Not Intact

C019a(27Jun2006)

Version 6.0 06/14/06

ORIGINAL

Sample Condition Upon Receipt

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

Pace Analytical™

Project #: **WO# : 40106540**

40106540

Client Name: REI

Courier: ☐ Fed Ex ☐ UPS ☐ Client ☐ Pace Other: Walker

Tracking #: 673712

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 NA **Type of Ice:** (Wet) Blue Dry None ☒ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: R01 /Corr: **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp Blank Present: ☐ yes ☒ no

Person examining contents:
Date: 11/6/14
Initials: RS

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

		Comments:
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 ☐N/A	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☑Yes ☐No ☐N/A	6. Hex Cr, nitrate RS 11/6/14
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☑N/A	
Containers Intact:	☑Yes ☐No ☐N/A	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		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	☑Yes ☐No ☐N/A	13. ☒ HNO3 ☐ H2SO4 ☐ NaOH ☐ NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	☐Yes ☑No	Initial when completed RS / Lab Std #ID of preservative / Date/ Time:
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	14.
Trip Blank Present:	☐Yes ☐No ☑N/A	15.
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:** 11-6-14

F-GB-C-031-Rev.02 (28Oct2013) SCUR Form

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: 230763
NLS Customer: 29027

Fax: 715 675 4060 Phone: 715 675 9784

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

Project: **Phillips Plating/#6134B**

MW10 NLS ID: 830039
COC: :1 Matrix: GW
Collected: 11/05/14 11:10 Received: 11/06/14

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chromium, dis. as Cr by ICP	240	ug/L	1	0.32	1.0	11/11/14	SW846 6010	721026460
	The following analytes were present at higher levels in the filtered sample; B, Cr, Na, Ni, and S. The results were confirmed by re-analysis.							
Chromium, Hex. as Cr+6	230	ug/L	5	8.5*	25*	11/06/14	SW846 7196A	721026460
Chromium, tot. recoverable as Cr by ICP	140	ug/L	1	0.67	2.0	11/11/14	SW846 6010	721026460
Nickel, dis. as Ni by ICP	71	ug/L	1	1.3	4.0	11/11/14	SW846 6010	721026460
Nickel, tot. recoverable as Ni by ICP	41	ug/L	1	1.1	3.4	11/11/14	SW846 6010	721026460
Metals digestion - tot. recov.ICP	yes					11/07/14	SW846 3005M	721026460

MW11 NLS ID: 830040
COC: :2 Matrix: GW
Collected: 11/05/14 10:50 Received: 11/06/14

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chromium, dis. as Cr by ICP	[0.47]	ug/L	1	0.32	1.0	11/11/14	SW846 6010	721026460
Chromium, Hex. as Cr+6	ND	ug/L	1	1.7*	5.0*	11/06/14	SW846 7196A	721026460
Chromium, tot. recoverable as Cr by ICP	60	ug/L	1	0.67	2.0	11/11/14	SW846 6010	721026460
Nickel, dis. as Ni by ICP	ND	ug/L	1	1.3	4.0	11/11/14	SW846 6010	721026460
Nickel, tot. recoverable as Ni by ICP	39	ug/L	1	1.1	3.4	11/11/14	SW846 6010	721026460
Metals digestion - tot. recov.ICP	yes					11/07/14	SW846 3005M	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.

LOD = Limit of Detection LOQ = Limit of Quantitation ND = Not Detected (< LOD) 1000 ug/L = 1 mg/L
DWB = Dry Weight Basis NA = Not Applicable %DWB = (mg/kg DWB) / 10000
MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:

Authorized by:
R. T. Krueger
President

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

February 27, 2015

Ken Lassa
REI
4080 North 20th Avenue
Wausau, WI 54401

RE: Project: 6134B PHILLIPS PLATING
Pace Project No.: 40110433

Dear Ken Lassa:
Enclosed are the analytical results for sample(s) received by the laboratory on February 11, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Steven Mleczko for
Brian Basten
brian.basten@pacelabs.com
Project Manager

Enclosures

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

CERTIFICATIONS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40110433

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 11888
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
US Dept of Agriculture #: S-76505
Wisconsin Certification #: 405132750

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
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(920)469-2436

SAMPLE SUMMARY

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40110433

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40110433001	**MW 3**	Water	02/10/15 10:15	02/11/15 08:40
40110433002	**MW 5**	Water	02/10/15 10:45	02/11/15 08:40
40110433003	**MW 6**	Water	02/10/15 14:00	02/11/15 08:40
40110433004	**MW 8**	Water	02/10/15 11:15	02/11/15 08:40
40110433005	**MW 9**	Water	02/10/15 13:00	02/11/15 08:40
40110433006	**MW 10**	Water	02/10/15 11:45	02/11/15 08:40
40110433007	**MW 11**	Water	02/10/15 11:30	02/11/15 08:40
40110433008	**PZ 1**	Water	02/10/15 13:30	02/11/15 08:40

Pace Analytical Services, Inc.
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SAMPLE ANALYTE COUNT

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40110433

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40110433001	**MW 3**	EPA 6010	MMZ	4	PASI-G
		EPA 6010	DLB	4	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
40110433002	**MW 5**	EPA 6010	MMZ	2	PASI-G
		EPA 6010	DLB	2	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
40110433003	**MW 6**	EPA 6010	MMZ	4	PASI-G
		EPA 6010	DLB	4	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
40110433004	**MW 8**	EPA 6010	MMZ	2	PASI-G
		EPA 6010	DLB	2	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
40110433005	**MW 9**	EPA 6010	MMZ	4	PASI-G
		EPA 6010	DLB	4	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
40110433006	**MW 10**	EPA 6010	MMZ	4	PASI-G
		EPA 6010	DLB	4	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
40110433007	**MW 11**	EPA 6010	MMZ	2	PASI-G
		EPA 6010	DLB	2	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
40110433008	**PZ 1**	EPA 6010	MMZ	4	PASI-G
		EPA 6010	DLB	4	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40110433

Sample: MW 3 **Lab ID: 40110433001** Collected: 02/10/15 10:15 Received: 02/11/15 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**47.7**	ug/L	5.0	1.5	1	02/12/15 17:34	02/16/15 15:07	7440-47-3	
Iron	**38500**	ug/L	100	15.9	1	02/12/15 17:34	02/16/15 15:07	7439-89-6	
Manganese	**743**	ug/L	5.0	0.37	1	02/12/15 17:34	02/16/15 15:07	7439-96-5	
Nickel	**38.8**	ug/L	10.0	1.3	1	02/12/15 17:34	02/16/15 15:07	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**<2.1**	ug/L	5.0	2.1	1		02/26/15 16:02	7440-47-3	
Iron, Dissolved	**18.4J**	ug/L	100	12.9	1		02/26/15 16:02	7439-89-6	
Manganese, Dissolved	**1.9J**	ug/L	5.0	1.4	1		02/26/15 16:02	7439-96-5	
Nickel, Dissolved	**<1.4**	ug/L	10.0	1.4	1		02/26/15 16:02	7440-02-0	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**2.8**	mg/L	1.5	0.75	5		02/11/15 11:20	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**12.8J**	mg/L	20.0	10.0	5		02/11/15 11:20	14808-79-8	D3
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.039**	mg/L	0.20	0.039	10		02/11/15 10:00	18540-29-9	D3

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40110433

Sample: MW 5 **Lab ID: 40110433002** Collected: 02/10/15 10:45 Received: 02/11/15 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**1010**	ug/L	5.0	1.5	1	02/12/15 17:34	02/16/15 15:10	7440-47-3	
Nickel	**977**	ug/L	10.0	1.3	1	02/12/15 17:34	02/16/15 15:10	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**330**	ug/L	5.0	2.1	1		02/26/15 16:09	7440-47-3	
Nickel, Dissolved	**303**	ug/L	10.0	1.4	1		02/26/15 16:09	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.27**	mg/L	0.10	0.019	5		02/11/15 10:00	18540-29-9	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40110433

Sample: MW 6 **Lab ID: 40110433003** Collected: 02/10/15 14:00 Received: 02/11/15 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**16000**	ug/L	5.0	1.5	1	02/12/15 17:34	02/16/15 15:12	7440-47-3	
Iron	**52000**	ug/L	100	15.9	1	02/12/15 17:34	02/16/15 15:12	7439-89-6	
Manganese	**1880**	ug/L	5.0	0.37	1	02/12/15 17:34	02/16/15 15:12	7439-96-5	
Nickel	**18200**	ug/L	10.0	1.3	1	02/12/15 17:34	02/16/15 15:12	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**14300**	ug/L	5.0	2.1	1		02/26/15 16:11	7440-47-3	
Iron, Dissolved	**<12.9**	ug/L	100	12.9	1		02/26/15 16:11	7439-89-6	
Manganese, Dissolved	**974**	ug/L	5.0	1.4	1		02/26/15 16:11	7439-96-5	
Nickel, Dissolved	**19000**	ug/L	10.0	1.4	1		02/26/15 16:11	7440-02-0	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**11.8**	mg/L	1.5	0.75	5		02/11/15 11:32	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**288**	mg/L	20.0	10.0	5		02/11/15 11:32	14808-79-8	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**13.9**	mg/L	1.0	0.19	50		02/11/15 10:00	18540-29-9	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40110433

Sample: MW 8 **Lab ID: 40110433004** Collected: 02/10/15 11:15 Received: 02/11/15 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**2110**	ug/L	5.0	1.5	1	02/12/15 17:34	02/16/15 15:14	7440-47-3	
Nickel	**1980**	ug/L	10.0	1.3	1	02/12/15 17:34	02/16/15 15:14	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**1850**	ug/L	5.0	2.1	1		02/26/15 16:14	7440-47-3	
Nickel, Dissolved	**1010**	ug/L	10.0	1.4	1		02/26/15 16:14	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**1.6**	mg/L	0.10	0.019	5		02/11/15 10:00	18540-29-9	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40110433

Sample: MW 9 **Lab ID: 40110433005** Collected: 02/10/15 13:00 Received: 02/11/15 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**621**	ug/L	5.0	1.5	1	02/12/15 17:34	02/16/15 15:16	7440-47-3	
Iron	**11100**	ug/L	100	15.9	1	02/12/15 17:34	02/16/15 15:16	7439-89-6	
Manganese	**550**	ug/L	5.0	0.37	1	02/12/15 17:34	02/16/15 15:16	7439-96-5	
Nickel	**1100**	ug/L	10.0	1.3	1	02/12/15 17:34	02/16/15 15:16	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**682**	ug/L	5.0	2.1	1		02/26/15 16:16	7440-47-3	
Iron, Dissolved	**31.0J**	ug/L	100	12.9	1		02/26/15 16:16	7439-89-6	
Manganese, Dissolved	**311**	ug/L	5.0	1.4	1		02/26/15 16:16	7439-96-5	
Nickel, Dissolved	**1020**	ug/L	10.0	1.4	1		02/26/15 16:16	7440-02-0	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**28.9**	mg/L	6.0	3.0	20		02/11/15 17:35	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**1010**	mg/L	80.0	40.0	20		02/11/15 17:35	14808-79-8	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.49**	mg/L	0.050	0.0097	2.5		02/11/15 10:00	18540-29-9	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40110433

Sample: MW 10 **Lab ID: 40110433006** Collected: 02/10/15 11:45 Received: 02/11/15 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**176**	ug/L	5.0	1.5	1	02/12/15 17:34	02/16/15 15:19	7440-47-3	
Iron	**6110**	ug/L	100	15.9	1	02/12/15 17:34	02/16/15 15:19	7439-89-6	
Manganese	**207**	ug/L	5.0	0.37	1	02/12/15 17:34	02/16/15 15:19	7439-96-5	
Nickel	**67.2**	ug/L	10.0	1.3	1	02/12/15 17:34	02/16/15 15:19	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**126**	ug/L	5.0	2.1	1		02/26/15 16:18	7440-47-3	
Iron, Dissolved	**26.7J**	ug/L	100	12.9	1		02/26/15 16:18	7439-89-6	
Manganese, Dissolved	**2.2J**	ug/L	5.0	1.4	1		02/26/15 16:18	7439-96-5	
Nickel, Dissolved	**35.8**	ug/L	10.0	1.4	1		02/26/15 16:18	7440-02-0	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**3.2**	mg/L	0.30	0.15	1		02/11/15 11:56	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**57.5**	mg/L	20.0	10.0	5		02/11/15 17:47	14808-79-8	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.37**	mg/L	0.050	0.0097	2.5		02/11/15 10:00	18540-29-9	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40110433

Sample: MW 11 **Lab ID: 40110433007** Collected: 02/10/15 11:30 Received: 02/11/15 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**37.4**	ug/L	5.0	1.5	1	02/12/15 17:34	02/23/15 19:13	7440-47-3	
Nickel	**24.8**	ug/L	10.0	1.3	1	02/12/15 17:34	02/23/15 19:13	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**<2.1**	ug/L	5.0	2.1	1		02/26/15 16:25	7440-47-3	
Nickel, Dissolved	**<1.4**	ug/L	10.0	1.4	1		02/26/15 16:25	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.019**	mg/L	0.10	0.019	5		02/11/15 10:00	18540-29-9	D3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40110433

Sample: PZ 1 **Lab ID: 40110433008** Collected: 02/10/15 13:30 Received: 02/11/15 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**2040**	ug/L	5.0	1.5	1	02/12/15 17:34	02/23/15 19:16	7440-47-3	
Iron	**16100**	ug/L	100	15.9	1	02/12/15 17:34	02/23/15 19:16	7439-89-6	
Manganese	**223**	ug/L	5.0	0.37	1	02/12/15 17:34	02/23/15 19:16	7439-96-5	
Nickel	**18.1**	ug/L	10.0	1.3	1	02/12/15 17:34	02/23/15 19:16	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**1950**	ug/L	5.0	2.1	1		02/26/15 16:28	7440-47-3	
Iron, Dissolved	**<12.9**	ug/L	100	12.9	1		02/26/15 16:28	7439-89-6	
Manganese, Dissolved	**5.0J**	ug/L	5.0	1.4	1		02/26/15 16:28	7439-96-5	
Nickel, Dissolved	**3.9J**	ug/L	10.0	1.4	1		02/26/15 16:28	7440-02-0	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**4.2**	mg/L	0.30	0.15	1		02/11/15 12:08	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**48.6**	mg/L	4.0	2.0	1		02/11/15 12:08	14808-79-8	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**1.9**	mg/L	0.10	0.019	5		02/11/15 10:00	18540-29-9	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40110433

QC Batch: ICP/10214 Analysis Method: EPA 6010
QC Batch Method: EPA 6010 Analysis Description: ICP Metals, Trace, Dissolved
Associated Lab Samples: 40110433001, 40110433002, 40110433003, 40110433004, 40110433005, 40110433006, 40110433007, 40110433008

METHOD BLANK: 1121970 Matrix: Water
Associated Lab Samples: 40110433001, 40110433002, 40110433003, 40110433004, 40110433005, 40110433006, 40110433007, 40110433008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium, Dissolved	ug/L	<2.1	5.0	02/26/15 15:58	
Iron, Dissolved	ug/L	<12.9	100	02/26/15 15:58	
Manganese, Dissolved	ug/L	<1.4	5.0	02/26/15 15:58	
Nickel, Dissolved	ug/L	<1.4	10.0	02/26/15 15:58	

LABORATORY CONTROL SAMPLE: 1121971

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Dissolved	ug/L	500	498	100	80-120	
Iron, Dissolved	ug/L	5000	4890	98	80-120	
Manganese, Dissolved	ug/L	500	488	98	80-120	
Nickel, Dissolved	ug/L	500	487	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1121972 1121973

Parameter	Units	40110433001 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	<2.1	500	500	487	494	97	99	75-125	1	20	
Iron, Dissolved	ug/L	18.4J	5000	5000	4860	4860	97	97	75-125	0	20	
Manganese, Dissolved	ug/L	1.9J	500	500	479	489	95	97	75-125	2	20	
Nickel, Dissolved	ug/L	<1.4	500	500	499	491	100	98	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40110433

QC Batch: MPRP/11454 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 40110433001, 40110433002, 40110433003, 40110433004, 40110433005, 40110433006, 40110433007, 40110433008

METHOD BLANK: 1117427 Matrix: Water
Associated Lab Samples: 40110433001, 40110433002, 40110433003, 40110433004, 40110433005, 40110433006, 40110433007, 40110433008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium	ug/L	<1.5	5.0	02/16/15 14:31	
Iron	ug/L	<15.9	100	02/16/15 14:31	
Manganese	ug/L	<0.37	5.0	02/16/15 14:31	
Nickel	ug/L	<1.3	10.0	02/16/15 14:31	

LABORATORY CONTROL SAMPLE: 1117428

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	500	490	98	80-120	
Iron	ug/L	5000	4830	97	80-120	
Manganese	ug/L	500	480	96	80-120	
Nickel	ug/L	500	493	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1117429 1117430

Parameter	Units	40110446001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	ug/L	<3.0	500	500	483	493	97	99	75-125	2	20	
Iron	ug/L	50.0J	5000	5000	4950	5030	98	100	75-125	2	20	
Manganese	ug/L	8.6	500	500	485	497	95	98	75-125	2	20	
Nickel	ug/L	2.1J	500	500	483	482	96	96	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.: 40110433

QC Batch: WETA/27232 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 40110433001, 40110433003, 40110433005, 40110433006, 40110433008

METHOD BLANK: 1116810 Matrix: Water
Associated Lab Samples: 40110433001, 40110433003, 40110433005, 40110433006, 40110433008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrate as N	mg/L	<0.15	0.30	02/11/15 10:19	
Sulfate	mg/L	<2.0	4.0	02/11/15 10:19	

LABORATORY CONTROL SAMPLE: 1116811

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrate as N	mg/L	1.5	1.6	106	90-110	
Sulfate	mg/L	20	20.3	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1116812 1116813

Parameter	Units	40110446001 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	2.2	7.5	7.5	10.2	10.2	106	107	90-110	0	20	
Sulfate	mg/L	60.0	100	100	168	168	108	108	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1116815 1116816

Parameter	Units	40110445002 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	3.9	15	15	20.1	20.4	108	110	90-110	1	20	
Sulfate	mg/L	35.5J	200	200	238	241	101	103	90-110	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40110433

QC Batch: WETA/27234 Analysis Method: SM 3500-Cr B (Online)
QC Batch Method: SM 3500-Cr B (Online) Analysis Description: Chromium, Hexavalent by 3500
Associated Lab Samples: 40110433001, 40110433002, 40110433003, 40110433004, 40110433005, 40110433006, 40110433007, 40110433008

METHOD BLANK: 1116912 Matrix: Water
Associated Lab Samples: 40110433001, 40110433002, 40110433003, 40110433004, 40110433005, 40110433006, 40110433007, 40110433008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium, Hexavalent	mg/L	<0.0039	0.020	02/11/15 10:00	

LABORATORY CONTROL SAMPLE: 1116913

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	mg/L	.3	0.30	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1116914 1116915

Parameter	Units	40110433001 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	<0.039	3	3	3.0	3.0	100	99	90-110	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40110433

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40110433

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40110433001	**MW 3**	EPA 3010	MPRP/11454	EPA 6010	ICP/10181
40110433002	**MW 5**	EPA 3010	MPRP/11454	EPA 6010	ICP/10181
40110433003	**MW 6**	EPA 3010	MPRP/11454	EPA 6010	ICP/10181
40110433004	**MW 8**	EPA 3010	MPRP/11454	EPA 6010	ICP/10181
40110433005	**MW 9**	EPA 3010	MPRP/11454	EPA 6010	ICP/10181
40110433006	**MW 10**	EPA 3010	MPRP/11454	EPA 6010	ICP/10181
40110433007	**MW 11**	EPA 3010	MPRP/11454	EPA 6010	ICP/10181
40110433008	**PZ 1**	EPA 3010	MPRP/11454	EPA 6010	ICP/10181
40110433001	**MW 3**	EPA 6010	ICP/10214		
40110433002	**MW 5**	EPA 6010	ICP/10214		
40110433003	**MW 6**	EPA 6010	ICP/10214		
40110433004	**MW 8**	EPA 6010	ICP/10214		
40110433005	**MW 9**	EPA 6010	ICP/10214		
40110433006	**MW 10**	EPA 6010	ICP/10214		
40110433007	**MW 11**	EPA 6010	ICP/10214		
40110433008	**PZ 1**	EPA 6010	ICP/10214		
40110433001	**MW 3**	EPA 300.0	WETA/27232		
40110433003	**MW 6**	EPA 300.0	WETA/27232		
40110433005	**MW 9**	EPA 300.0	WETA/27232		
40110433006	**MW 10**	EPA 300.0	WETA/27232		
40110433008	**PZ 1**	EPA 300.0	WETA/27232		
40110433001	**MW 3**	EPA 300.0	WETA/27232		
40110433003	**MW 6**	EPA 300.0	WETA/27232		
40110433005	**MW 9**	EPA 300.0	WETA/27232		
40110433006	**MW 10**	EPA 300.0	WETA/27232		
40110433008	**PZ 1**	EPA 300.0	WETA/27232		
40110433001	**MW 3**	SM 3500-Cr B (Online)	WETA/27234		
40110433002	**MW 5**	SM 3500-Cr B (Online)	WETA/27234		
40110433003	**MW 6**	SM 3500-Cr B (Online)	WETA/27234		
40110433004	**MW 8**	SM 3500-Cr B (Online)	WETA/27234		
40110433005	**MW 9**	SM 3500-Cr B (Online)	WETA/27234		
40110433006	**MW 10**	SM 3500-Cr B (Online)	WETA/27234		
40110433007	**MW 11**	SM 3500-Cr B (Online)	WETA/27234		
40110433008	**PZ 1**	SM 3500-Cr B (Online)	WETA/27234		

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JW

40110433

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:	Ken Lassa
Phone:	715-675-9784
Project Number:	6134B
Project Name:	Phillips Plating
Project State:	WI
Sampled By (Print):	Jared Szews
Sampled By (Sign):	Jared Szews
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	REI
Mail To Company:	Ken Lassa
Mail To Address:	4080 N 20th Ave Wausau WI 54401
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	Analyses Requested: Total Cr, Ni (Filtered)	Total Cr, Ni (Unfiltered)	Hex Cr	Total Cr, Ni, Nitrate (Filtered)	Total Cr, Ni, Mg, Fe (Unfiltered)	Nitrate	Sulfate	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
	FILTERED? (YES/NO)				Y	Y	N	N	Y	N	N	N		
	PRESERVATION (CODE)*				D	D	A	D	D	A	A			
001	MW3	2/10/15	10:15	GW			↓	X	X	X	X		3-250mlpDDA	
002	MW5		10:45		X	X								
003	MW6		2:00					X	X	X	X			
004	MW8		11:15		X	X								
005	MW9		1:00					X	X	X	X			
006	MW10		11:45					X	X	X	X			
007	MW11		11:30		X	X								
008	PZ1	↓	1:30	↓			↓	X	X	X	X		↓	

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:
Jared Szews-REI	2/10/15 4 PM		
Walto	2/11/15 0840	Sarah Meyers	2/11/15 0840

PACE Project No.: 40110433
Receipt Temp = R01 °C
Sample Receipt pH: OK / Adjusted
Cooler Custody Seal: Present / Not Present
Intact / Not Intact

C019a(27Jun2006)

Version 6.0 06/14/06

ORIGINAL

Sample Condition Upon Receipt

Pace Analytical™

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

Client Name: REI

Project #: WO# : 40110433

40110433

Courier: ☐ Fed Ex ☐ UPS ☐ Client ☐ Pace Other: Walk-On

Tracking #: 732137-1

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 NA **Type of Ice:** Wet Blue Dry None ☒ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 2.0 /Corr:

Biological Tissue is Frozen: ☐ yes ☐ no

Temp Blank Present: ☐ yes ☒ no

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

Person examining contents:
Date: 2/11/15
Initials: SDW

		Comments:
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 ☐N/A	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☒Yes ☐No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☒No ☐N/A	7.
Sufficient Volume:	☒Yes ☐No ☐N/A	8.
Correct Containers Used:	☒Yes ☐No ☐N/A	9.
-Pace Containers Used:	☒Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☒N/A	
Containers Intact:	☒Yes ☐No ☐N/A	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		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	☒Yes ☐No ☐N/A	13. ☒ HNO3 ☐ H2SO4 ☐ NaOH ☐ NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	☒Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	☐Yes ☒No	Initial when completed SDW / Lab Std #ID of preservative / Date/ Time:
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☒N/A	14.
Trip Blank Present:	☐Yes ☐No ☒N/A	15.
Trip Blank Custody Seals Present	☐Yes ☐No ☒N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

If checked, see attached form for additional comments ☐

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 2/11/15

F-GB-C-031-Rev.02 (28Oct2013) SCUR Form

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: Ken Lassa
4080 North 20th Avenue
Wausau, WI 54401 8846

NLS Project: 235158
NLS Customer: 29027
Fax: 715 675 4060 Phone: 715 675 9784

Project: **Phillips Plating #6134B**

MW10 NLS ID: 842609
COC: :1 Matrix: GW
Collected: 02/10/15 11:45 Received: 02/11/15

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chromium, dis. as Cr by ICP	120	ug/L	1	0.32	1.0	02/11/15	SW846 6010	721026460
Chromium, Hex. as Cr+6	460	ug/L	10	17*	50*	02/11/15	SW846 7196A	721026460
	The hexavalent chromium was originally set at a straight dilution and was over range. The hexavalent chromium was re-analyzed at a 10x dilution and yielded a result higher than the total chromium. Due to the re-analysis of the hexavalent chromium, no sample remained to test for possible causes of the discrepancies.							
Chromium, tot. recoverable as Cr by ICP	190	ug/L	1	0.67	2.0	02/12/15	SW846 6010	721026460
Nickel, dis. as Ni by ICP	36	ug/L	1	1.3	4.0	02/11/15	SW846 6010	721026460
Nickel, tot. recoverable as Ni by ICP	80	ug/L	1	1.1	3.4	02/12/15	SW846 6010	721026460
Metals digestion - tot. recov.ICP	yes					02/11/15	SW846 3005M	721026460

MW11 NLS ID: 842610
COC: :2 Matrix: GW
Collected: 02/10/15 11:30 Received: 02/11/15

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chromium, dis. as Cr by ICP	ND	ug/L	1	0.32	1.0	02/11/15	SW846 6010	721026460
Chromium, Hex. as Cr+6	[2.3]	ug/L	1	1.7*	5.0*	02/11/15	SW846 7196A	721026460
Chromium, tot. recoverable as Cr by ICP	51	ug/L	1	0.67	2.0	02/12/15	SW846 6010	721026460
Nickel, dis. as Ni by ICP	ND	ug/L	1	1.3	4.0	02/11/15	SW846 6010	721026460
Nickel, tot. recoverable as Ni by ICP	36	ug/L	1	1.1	3.4	02/12/15	SW846 6010	721026460
Metals digestion - tot. recov.ICP	yes					02/11/15	SW846 3005M	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.

LOD = Limit of Detection LOQ = Limit of Quantitation ND = Not Detected (< LOD) 1000 ug/L = 1 mg/L
DWB = Dry Weight Basis NA = Not Applicable %DWB = (mg/kg DWB) / 10000
MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:

Authorized by:
R. T. Krueger
President

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

May 14, 2015

Ken Lassa
REI
4080 North 20th Avenue
Wausau, WI 54401

RE: Project: 6134B PHILLIPS PLATING
Pace Project No.: 40114153

Dear Ken Lassa:
Enclosed are the analytical results for sample(s) received by the laboratory on May 05, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40114153

Green Bay Certification IDs
1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
US Dept of Agriculture #: S-76505
Wisconsin Certification #: 405132750

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
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SAMPLE SUMMARY

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40114153

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40114153001	**MW3**	Water	05/04/15 11:00	05/05/15 08:40
40114153002	**MW5**	Water	05/04/15 11:40	05/05/15 08:40
40114153003	**MW6**	Water	05/04/15 13:15	05/05/15 08:40
40114153004	**MW8**	Water	05/04/15 12:00	05/05/15 08:40
40114153005	**MW9**	Water	05/04/15 12:45	05/05/15 08:40
40114153006	**MW10**	Water	05/04/15 12:30	05/05/15 08:40
40114153007	**MW11**	Water	05/04/15 12:15	05/05/15 08:40
40114153008	**PZ1**	Water	05/04/15 13:00	05/05/15 08:40

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SAMPLE ANALYTE COUNT

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40114153

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40114153001	**MW3**	EPA 6010	DLB	4	PASI-G
		EPA 6010	DLB	4	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40114153002	**MW5**	EPA 6010	DLB	2	PASI-G
		EPA 6010	DLB	2	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
40114153003	**MW6**	EPA 6010	DLB	4	PASI-G
		EPA 6010	DLB	4	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40114153004	**MW8**	EPA 6010	DLB	2	PASI-G
		EPA 6010	DLB	2	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
40114153005	**MW9**	EPA 6010	DLB	4	PASI-G
		EPA 6010	DLB	4	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40114153006	**MW10**	EPA 6010	DLB	4	PASI-G
		EPA 6010	DLB	4	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40114153007	**MW11**	EPA 6010	DLB	2	PASI-G
		EPA 6010	DLB	2	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
40114153008	**PZ1**	EPA 6010	DLB	4	PASI-G
		EPA 6010	DLB	4	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40114153

Sample: MW3 **Lab ID: 40114153001** Collected: 05/04/15 11:00 Received: 05/05/15 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**100**	ug/L	5.0	1.5	1	05/08/15 10:03	05/08/15 19:42	7440-47-3	
Iron	**75300**	ug/L	100	15.9	1	05/08/15 10:03	05/08/15 19:42	7439-89-6	
Manganese	**1230**	ug/L	5.0	0.37	1	05/08/15 10:03	05/08/15 19:42	7439-96-5	
Nickel	**70.6**	ug/L	10.0	1.3	1	05/08/15 10:03	05/08/15 19:42	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**<2.1**	ug/L	5.0	2.1	1		05/08/15 17:30	7440-47-3	
Iron, Dissolved	**<12.9**	ug/L	100	12.9	1		05/08/15 17:30	7439-89-6	
Manganese, Dissolved	**<1.4**	ug/L	5.0	1.4	1		05/08/15 17:30	7439-96-5	
Nickel, Dissolved	**<1.4**	ug/L	10.0	1.4	1		05/08/15 17:30	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.019**	mg/L	0.10	0.019	5		05/05/15 10:30	18540-29-9	D3
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**3.2**	mg/L	1.5	0.75	5		05/05/15 15:08	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**<10.0**	mg/L	20.0	10.0	5		05/05/15 15:08	14808-79-8	D3

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(920)469-2436

ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40114153

Sample: MW5 **Lab ID: 40114153002** Collected: 05/04/15 11:40 Received: 05/05/15 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**1090**	ug/L	5.0	1.5	1	05/08/15 10:03	05/08/15 19:45	7440-47-3	
Nickel	**1660**	ug/L	10.0	1.3	1	05/08/15 10:03	05/08/15 19:45	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium, Dissolved	**317**	ug/L	5.0	1.5	1	05/12/15 09:42	05/12/15 15:59	7440-47-3	
Nickel, Dissolved	**1160**	ug/L	10.0	1.3	1	05/12/15 09:42	05/12/15 15:59	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.33**	mg/L	0.10	0.019	5		05/05/15 10:30	18540-29-9	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40114153

Sample: MW6 **Lab ID: 40114153003** Collected: 05/04/15 13:15 Received: 05/05/15 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**6210**	ug/L	5.0	1.5	1	05/08/15 10:03	05/08/15 19:47	7440-47-3	
Iron	**38000**	ug/L	100	15.9	1	05/08/15 10:03	05/08/15 19:47	7439-89-6	
Manganese	**1350**	ug/L	5.0	0.37	1	05/08/15 10:03	05/08/15 19:47	7439-96-5	
Nickel	**3700**	ug/L	10.0	1.3	1	05/08/15 10:03	05/08/15 19:47	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**1920**	ug/L	5.0	2.1	1		05/08/15 17:32	7440-47-3	
Iron, Dissolved	**<12.9**	ug/L	100	12.9	1		05/08/15 17:32	7439-89-6	
Manganese, Dissolved	**645**	ug/L	5.0	1.4	1		05/08/15 17:32	7439-96-5	
Nickel, Dissolved	**2480**	ug/L	10.0	1.4	1		05/08/15 17:32	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**2.2**	mg/L	1.0	0.19	50		05/05/15 10:30	18540-29-9	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**7.9**	mg/L	3.0	1.5	10		05/05/15 23:34	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**209**	mg/L	40.0	20.0	10		05/05/15 23:34	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40114153

Sample: MW8 **Lab ID: 40114153004** Collected: 05/04/15 12:00 Received: 05/05/15 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**1330**	ug/L	5.0	1.5	1	05/08/15 10:03	05/08/15 19:50	7440-47-3	
Nickel	**1900**	ug/L	10.0	1.3	1	05/08/15 10:03	05/08/15 19:50	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**1020**	ug/L	5.0	2.1	1		05/08/15 17:39	7440-47-3	
Nickel, Dissolved	**1530**	ug/L	10.0	1.4	1		05/08/15 17:39	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.98**	mg/L	0.20	0.039	10		05/05/15 10:30	18540-29-9	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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Green Bay, WI 54302
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ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40114153

Sample: MW9 **Lab ID: 40114153005** Collected: 05/04/15 12:45 Received: 05/05/15 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**1060**	ug/L	5.0	1.5	1	05/08/15 10:03	05/08/15 19:52	7440-47-3	
Iron	**40500**	ug/L	100	15.9	1	05/08/15 10:03	05/08/15 19:52	7439-89-6	
Manganese	**1220**	ug/L	5.0	0.37	1	05/08/15 10:03	05/08/15 19:52	7439-96-5	
Nickel	**756**	ug/L	10.0	1.3	1	05/08/15 10:03	05/08/15 19:52	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**1000**	ug/L	5.0	2.1	1		05/08/15 17:41	7440-47-3	
Iron, Dissolved	**<12.9**	ug/L	100	12.9	1		05/08/15 17:41	7439-89-6	
Manganese, Dissolved	**524**	ug/L	5.0	1.4	1		05/08/15 17:41	7439-96-5	
Nickel, Dissolved	**656**	ug/L	10.0	1.4	1		05/08/15 17:41	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.63**	mg/L	0.050	0.0097	2.5		05/05/15 10:30	18540-29-9	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**22.4**	mg/L	6.0	3.0	20		05/06/15 00:10	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**614**	mg/L	80.0	40.0	20		05/06/15 00:10	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40114153

Sample: MW10 **Lab ID: 40114153006** Collected: 05/04/15 12:30 Received: 05/05/15 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**799**	ug/L	5.0	1.5	1	05/08/15 10:03	05/08/15 19:54	7440-47-3	
Iron	**9070**	ug/L	100	15.9	1	05/08/15 10:03	05/08/15 19:54	7439-89-6	
Manganese	**327**	ug/L	5.0	0.37	1	05/08/15 10:03	05/08/15 19:54	7439-96-5	
Nickel	**194**	ug/L	10.0	1.3	1	05/08/15 10:03	05/08/15 19:54	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**995**	ug/L	5.0	2.1	1		05/08/15 17:44	7440-47-3	
Iron, Dissolved	**<12.9**	ug/L	100	12.9	1		05/08/15 17:44	7439-89-6	
Manganese, Dissolved	**5.1**	ug/L	5.0	1.4	1		05/08/15 17:44	7439-96-5	
Nickel, Dissolved	**261**	ug/L	10.0	1.4	1		05/08/15 17:44	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.60**	mg/L	0.033	0.0065	1.6666 66666 66667		05/05/15 10:30	18540-29-9	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**1.6**	mg/L	0.30	0.15	1		05/05/15 16:08	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**30.7**	mg/L	4.0	2.0	1		05/05/15 16:08	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40114153

Sample: MW11 **Lab ID: 40114153007** Collected: 05/04/15 12:15 Received: 05/05/15 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**80.1**	ug/L	5.0	1.5	1	05/08/15 10:03	05/08/15 19:57	7440-47-3	
Nickel	**51.0**	ug/L	10.0	1.3	1	05/08/15 10:03	05/08/15 19:57	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**<2.1**	ug/L	5.0	2.1	1		05/08/15 17:46	7440-47-3	
Nickel, Dissolved	**<1.4**	ug/L	10.0	1.4	1		05/08/15 17:46	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.019**	mg/L	0.10	0.019	5		05/05/15 10:30	18540-29-9	D3

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40114153

Sample: PZ1 **Lab ID: 40114153008** Collected: 05/04/15 13:00 Received: 05/05/15 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**1660**	ug/L	5.0	1.5	1	05/08/15 10:03	05/08/15 20:04	7440-47-3	
Iron	**15700**	ug/L	100	15.9	1	05/08/15 10:03	05/08/15 20:04	7439-89-6	
Manganese	**216**	ug/L	5.0	0.37	1	05/08/15 10:03	05/08/15 20:04	7439-96-5	
Nickel	**15.0**	ug/L	10.0	1.3	1	05/08/15 10:03	05/08/15 20:04	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**1420**	ug/L	5.0	2.1	1		05/08/15 17:49	7440-47-3	
Iron, Dissolved	**<12.9**	ug/L	100	12.9	1		05/08/15 17:49	7439-89-6	
Manganese, Dissolved	**9.7**	ug/L	5.0	1.4	1		05/08/15 17:49	7439-96-5	
Nickel, Dissolved	**2.0J**	ug/L	10.0	1.4	1		05/08/15 17:49	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**1.5**	mg/L	0.10	0.019	5		05/05/15 10:30	18540-29-9	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**4.0**	mg/L	0.30	0.15	1		05/05/15 16:57	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**45.2**	mg/L	4.0	2.0	1		05/05/15 16:57	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40114153

QC Batch: ICP/10533 Analysis Method: EPA 6010
QC Batch Method: EPA 6010 Analysis Description: ICP Metals, Trace, Dissolved
Associated Lab Samples: 40114153001, 40114153003, 40114153004, 40114153005, 40114153006, 40114153007, 40114153008

METHOD BLANK: 1154230 Matrix: Water
Associated Lab Samples: 40114153001, 40114153003, 40114153004, 40114153005, 40114153006, 40114153007, 40114153008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium, Dissolved	ug/L	<2.1	5.0	05/08/15 16:45	
Iron, Dissolved	ug/L	<12.9	100	05/08/15 16:45	
Manganese, Dissolved	ug/L	<1.4	5.0	05/08/15 16:45	
Nickel, Dissolved	ug/L	<1.4	10.0	05/08/15 16:45	

LABORATORY CONTROL SAMPLE: 1154231

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Dissolved	ug/L	500	487	97	80-120	
Iron, Dissolved	ug/L	5000	4750	95	80-120	
Manganese, Dissolved	ug/L	500	491	98	80-120	
Nickel, Dissolved	ug/L	500	494	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1154232 1154233

Parameter	Units	40114090006 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	<2.1	500	500	483	483	97	97	75-125	0	20	
Iron, Dissolved	ug/L	<12.9	5000	5000	4680	4670	94	93	75-125	0	20	
Manganese, Dissolved	ug/L	<1.4	500	500	486	488	97	98	75-125	0	20	
Nickel, Dissolved	ug/L	<1.4	500	500	488	486	97	97	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
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(920)469-2436

QUALITY CONTROL DATA

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40114153

QC Batch: MPRP/11857 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 40114153001, 40114153002, 40114153003, 40114153004, 40114153005, 40114153006, 40114153007, 40114153008

METHOD BLANK: 1154376 Matrix: Water
Associated Lab Samples: 40114153001, 40114153002, 40114153003, 40114153004, 40114153005, 40114153006, 40114153007, 40114153008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium	ug/L	<1.5	5.0	05/08/15 19:14	
Iron	ug/L	<15.9	100	05/08/15 19:14	
Manganese	ug/L	<0.37	5.0	05/08/15 19:14	
Nickel	ug/L	<1.3	10.0	05/08/15 19:14	

LABORATORY CONTROL SAMPLE: 1154377

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	500	491	98	80-120	
Iron	ug/L	5000	4870	97	80-120	
Manganese	ug/L	500	480	96	80-120	
Nickel	ug/L	500	477	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1154378 1154379

Parameter	Units	40114302006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	ug/L	3.2J	500	500	496	495	99	98	75-125	0	20	
Iron	ug/L	12200	5000	5000	17400	17300	104	102	75-125	1	20	
Manganese	ug/L	1500	500	500	2040	2020	109	105	75-125	1	20	
Nickel	ug/L	3.4J	500	500	478	472	95	94	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
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(920)469-2436

QUALITY CONTROL DATA

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40114153

QC Batch: MPRP/11872
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 40114153002

METHOD BLANK: 1156013 Matrix: Water
Associated Lab Samples: 40114153002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium, Dissolved	ug/L	<1.5	5.0	05/12/15 15:37	
Nickel, Dissolved	ug/L	<1.3	10.0	05/12/15 15:37	

LABORATORY CONTROL SAMPLE: 1156014

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Dissolved	ug/L	500	496	99	80-120	
Nickel, Dissolved	ug/L	500	448	90	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1156015 1156016

Parameter	Units	40113987012 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	3.4J	500	500	493	488	98	97	75-125	1	20	
Nickel, Dissolved	ug/L	2.6J	500	500	446	445	89	88	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40114153

QC Batch: WET/21945 Analysis Method: SM 3500-Cr B (Online)
QC Batch Method: SM 3500-Cr B (Online) Analysis Description: Chromium, Hexavalent by 3500
Associated Lab Samples: 40114153001, 40114153002, 40114153003, 40114153004, 40114153005, 40114153006, 40114153007, 40114153008

METHOD BLANK: 1152171 Matrix: Water
Associated Lab Samples: 40114153001, 40114153002, 40114153003, 40114153004, 40114153005, 40114153006, 40114153007, 40114153008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium, Hexavalent	mg/L	<0.0039	0.020	05/05/15 10:30	

LABORATORY CONTROL SAMPLE: 1152172

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	mg/L	.3	0.30	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1152173 1152174

Parameter	Units	40114153001 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	<0.019	1.5	1.5	1.5	1.4	100	96	90-110	4	20	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40114153

QC Batch: WETA/28366 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 40114153001, 40114153003, 40114153005, 40114153006, 40114153008

METHOD BLANK: 1152564 Matrix: Water
Associated Lab Samples: 40114153001, 40114153003, 40114153005, 40114153006, 40114153008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrate as N	mg/L	<0.15	0.30	05/05/15 09:43	
Sulfate	mg/L	<2.0	4.0	05/05/15 09:43	

LABORATORY CONTROL SAMPLE: 1152565

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrate as N	mg/L	1.5	1.5	100	90-110	
Sulfate	mg/L	20	19.3	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1152566 1152567

Parameter	Units	40114153001 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	3.2	7.5	7.5	11.1	11.0	105	104	90-110	1	20	
Sulfate	mg/L	<10.0	100	100	110	109	110	109	90-110	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40114153

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.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

Pace Analytical Services, Inc.
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.: 40114153

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40114153001	**MW3**	EPA 3010	MPRP/11857	EPA 6010	ICP/10537
40114153002	**MW5**	EPA 3010	MPRP/11857	EPA 6010	ICP/10537
40114153003	**MW6**	EPA 3010	MPRP/11857	EPA 6010	ICP/10537
40114153004	**MW8**	EPA 3010	MPRP/11857	EPA 6010	ICP/10537
40114153005	**MW9**	EPA 3010	MPRP/11857	EPA 6010	ICP/10537
40114153006	**MW10**	EPA 3010	MPRP/11857	EPA 6010	ICP/10537
40114153007	**MW11**	EPA 3010	MPRP/11857	EPA 6010	ICP/10537
40114153008	**PZ1**	EPA 3010	MPRP/11857	EPA 6010	ICP/10537
40114153002	**MW5**	EPA 3010	MPRP/11872	EPA 6010	ICP/10559
40114153001	**MW3**	EPA 6010	ICP/10533		
40114153003	**MW6**	EPA 6010	ICP/10533		
40114153004	**MW8**	EPA 6010	ICP/10533		
40114153005	**MW9**	EPA 6010	ICP/10533		
40114153006	**MW10**	EPA 6010	ICP/10533		
40114153007	**MW11**	EPA 6010	ICP/10533		
40114153008	**PZ1**	EPA 6010	ICP/10533		
40114153001	**MW3**	SM 3500-Cr B (Online)	WET/21945		
40114153002	**MW5**	SM 3500-Cr B (Online)	WET/21945		
40114153003	**MW6**	SM 3500-Cr B (Online)	WET/21945		
40114153004	**MW8**	SM 3500-Cr B (Online)	WET/21945		
40114153005	**MW9**	SM 3500-Cr B (Online)	WET/21945		
40114153006	**MW10**	SM 3500-Cr B (Online)	WET/21945		
40114153007	**MW11**	SM 3500-Cr B (Online)	WET/21945		
40114153008	**PZ1**	SM 3500-Cr B (Online)	WET/21945		
40114153001	**MW3**	EPA 300.0	WETA/28366		
40114153003	**MW6**	EPA 300.0	WETA/28366		
40114153005	**MW9**	EPA 300.0	WETA/28366		
40114153006	**MW10**	EPA 300.0	WETA/28366		
40114153008	**PZ1**	EPA 300.0	WETA/28366		
40114153001	**MW3**	EPA 300.0	WETA/28366		
40114153003	**MW6**	EPA 300.0	WETA/28366		
40114153005	**MW9**	EPA 300.0	WETA/28366		
40114153006	**MW10**	EPA 300.0	WETA/28366		
40114153008	**PZ1**	EPA 300.0	WETA/28366		

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

Pace Analytical®
www.pacelabs.com

KEW

40114153

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:	Ken Lassa
Phone:	715-675-9784
Project Number:	6134 B
Project Name:	Phillips Plating
Project State:	WI
Sampled By (Print):	Jared Szews
Sampled By (Sign):	Jared Szews
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	REI
Mail To Company:	Ken Lassa
Mail To Address:	klassa@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	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	Analyses Requested	FILTERED? (YES/NO) Y/N	PRESERVATION (CODE)* Pick Letter	Total Cr, Ni; (Fe; if req.)	Total Cr, Ni; (Mn; if req.)	Hex Cr	Total Cr, Ni; Mn, Fe (Fe; if req.)	Total Cr, Ni; Mn, Fe (Mn; if req.)	Nitrate	Sulfate	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
						Y	D			A	D		A	A			
001	MW3	5/4/15	11:00	GW							X	X	X	X		3-250 mlp ADD	
002	MW5		11:40			X	X										
003	MW6		1:15								X	X	X	X			
004	MW8		12:00			X	X										
005	MW9		12:45								X	X	X	X			
006	MW10		12:30								X	X	X	X			
007	MW11		12:15			X	X										
008	PZ1		1:00								X	X	X	X			

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:
Jared Szews - REI	5/4/15 4PM		
	5-5-15 0840		5-5-15 0840

PACE Project No.: 40114153
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

Sample Condition Upon Receipt

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

Pace Analytical™

Project #: **WO# : 40114153**

40114153

Client Name: REI

Courier: ☐ Fed Ex ☐ UPS ☐ Client ☐ Pace Other: Walco

Tracking #: 781865

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 N/A **Type of Ice:** Wet Blue Dry None ☒ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: ROI /Corr: **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp Blank Present: ☐ yes ☒ no

Person examining contents:
Date: 5-5-15
Initials: SCW

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

				Comments:
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	☐N/A	5.
- VOA Samples frozen upon receipt	☐Yes	☐No		Date/Time:
Short Hold Time Analysis (<72hr):	☒Yes	☐No	☐N/A	6. Cr6 5-5-15 SCW
Rush Turn Around Time Requested:	☐Yes	☒No	☐N/A	7.
Sufficient Volume:	☒Yes	☐No	☐N/A	8.
Correct Containers Used:	☒Yes	☐No	☐N/A	9.
-Pace Containers Used:	☒Yes	☐No	☐N/A	
-Pace IR Containers Used:	☐Yes	☐No	☒N/A	
Containers Intact:	☒Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☒Yes	☐No	☐N/A	11.
Sample Labels match COC:	☐Yes	☒No	☐N/A	12. 001 - 1-250 ml pp collect time 10:30.
-Includes date/time/ID/Analysis Matrix: W				5-5-15 SCW
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	☒Yes	☐No	☐N/A	13. ☒ HNO3 ☐ H2SO4 ☐ NaOH ☐ NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2, NaOH+ZnAct ≥9, NaOH ≥12)	☒Yes	☐No	☐N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	☐Yes	☒No		Initial when completed SCW / Lab Std #ID of preservative / Date/ Time:
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☒N/A	14.
Trip Blank Present:	☐Yes	☐No	☒N/A	15.
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: 5-5-15

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: 239713
NLS Customer: 29027

Fax: 715 675 4060 Phone: 715 675 9784

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

Project: **Phillips Plating #6134B**

MW10 NLS ID: 857765
COC: :1 Matrix: GW
Collected: 05/04/15 12:30 Received: 05/05/15

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chromium, dis. as Cr by ICP	960	ug/L	1	0.32	1.0	05/06/15	SW846 6010	721026460
Chromium, Hex. as Cr+6	270	ug/L	10	17*	50*	05/05/15	3500-Cr B-2009	721026460
Chromium, tot. recoverable as Cr by ICP	750	ug/L	1	0.67	2.0	05/07/15	SW846 6010	721026460
Nickel, dis. as Ni by ICP	270	ug/L	1	1.3	4.0	05/06/15	SW846 6010	721026460
Nickel, tot. recoverable as Ni by ICP	170	ug/L	1	1.1	3.4	05/07/15	SW846 6010	721026460
Metals digestion - tot. recov.ICP	yes					05/06/15	SW846 3005M	721026460

MW11 NLS ID: 857766
COC: :2 Matrix: GW
Collected: 05/04/15 12:15 Received: 05/05/15

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chromium, dis. as Cr by ICP	[0.75]	ug/L	1	0.32	1.0	05/06/15	SW846 6010	721026460
Chromium, Hex. as Cr+6	ND	ug/L	1	1.7*	5.0*	05/05/15	3500-Cr B-2009	721026460
Chromium, tot. recoverable as Cr by ICP	78	ug/L	1	0.67	2.0	05/07/15	SW846 6010	721026460
Nickel, dis. as Ni by ICP	ND	ug/L	1	1.3	4.0	05/06/15	SW846 6010	721026460
Nickel, tot. recoverable as Ni by ICP	53	ug/L	1	1.1	3.4	05/07/15	SW846 6010	721026460
Metals digestion - tot. recov.ICP	yes					05/06/15	SW846 3005M	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.

LOD = Limit of Detection LOQ = Limit of Quantitation ND = Not Detected (< LOD) 1000 ug/L = 1 mg/L
DWB = Dry Weight Basis NA = Not Applicable %DWB = (mg/kg DWB) / 10000
MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:

Authorized by:
R. T. Krueger
President

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

August 19, 2015

Ken Lassa
REI
4080 North 20th Avenue
Wausau, WI 54401

RE: Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40119186

Dear Ken Lassa:
Enclosed are the analytical results for sample(s) received by the laboratory on August 05, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
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CERTIFICATIONS

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40119186

Green Bay Certification IDs
1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
US Dept of Agriculture #: S-76505
Wisconsin Certification #: 405132750

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
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SAMPLE SUMMARY

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40119186

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40119186001	**MW5**	Water	08/04/15 10:30	08/05/15 08:40
40119186002	**MW6**	Water	08/04/15 12:15	08/05/15 08:40
40119186003	**MW8**	Water	08/04/15 11:00	08/05/15 08:40
40119186004	**MW9**	Water	08/04/15 11:50	08/05/15 08:40
40119186005	**MW10**	Water	08/04/15 11:30	08/05/15 08:40
40119186006	**MW11**	Water	08/04/15 11:15	08/05/15 08:40
40119186007	**PZ1**	Water	08/04/15 12:00	08/05/15 08:40

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SAMPLE ANALYTE COUNT

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40119186

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40119186001	**MW5**	EPA 6010	DLB	2	PASI-G
		EPA 6010	JBR	2	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
40119186002	**MW6**	EPA 6010	DLB	4	PASI-G
		EPA 6010	JBR	4	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40119186003	**MW8**	EPA 6010	DLB	2	PASI-G
		EPA 6010	JBR	2	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
40119186004	**MW9**	EPA 6010	DLB	4	PASI-G
		EPA 6010	JBR	4	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40119186005	**MW10**	EPA 6010	DLB	4	PASI-G
		EPA 6010	JBR	4	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40119186006	**MW11**	EPA 6010	DLB	2	PASI-G
		EPA 6010	JBR	2	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
40119186007	**PZ1**	EPA 6010	DLB	4	PASI-G
		EPA 6010	JBR	4	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
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ANALYTICAL RESULTS

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40119186

Sample: MW5 **Lab ID: 40119186001** Collected: 08/04/15 10:30 Received: 08/05/15 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**1970**	ug/L	10.0	3.0	2	08/14/15 09:16	08/18/15 10:30	7440-47-3	
Nickel	**1520**	ug/L	20.0	2.5	2	08/14/15 09:16	08/18/15 10:30	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**351**	ug/L	5.0	2.1	1		08/10/15 12:02	7440-47-3	
Nickel, Dissolved	**379**	ug/L	10.0	1.4	1		08/10/15 12:02	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.25**	mg/L	0.10	0.019	5		08/05/15 09:50	18540-29-9	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40119186

Sample: MW6 **Lab ID: 40119186002** Collected: 08/04/15 12:15 Received: 08/05/15 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**8500**	ug/L	5.0	1.5	1	08/14/15 09:16	08/18/15 10:32	7440-47-3	
Iron	**75600**	ug/L	100	15.9	1	08/14/15 09:16	08/18/15 10:32	7439-89-6	
Manganese	**2140**	ug/L	5.0	0.37	1	08/14/15 09:16	08/18/15 10:32	7439-96-5	
Nickel	**4960**	ug/L	10.0	1.3	1	08/14/15 09:16	08/18/15 10:32	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**2510**	ug/L	5.0	2.1	1		08/10/15 12:09	7440-47-3	
Iron, Dissolved	**<12.9**	ug/L	100	12.9	1		08/10/15 12:09	7439-89-6	
Manganese, Dissolved	**703**	ug/L	5.0	1.4	1		08/10/15 12:09	7439-96-5	
Nickel, Dissolved	**3400**	ug/L	10.0	1.4	1		08/10/15 12:09	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**2.6**	mg/L	0.50	0.097	25		08/05/15 09:50	18540-29-9	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**6.8**	mg/L	1.5	0.75	5		08/05/15 12:37	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**211**	mg/L	20.0	10.0	5		08/05/15 12:37	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40119186

Sample: MW8 **Lab ID: 40119186003** Collected: 08/04/15 11:00 Received: 08/05/15 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**1580**	ug/L	5.0	1.5	1	08/14/15 09:16	08/18/15 10:34	7440-47-3	
Nickel	**1930**	ug/L	10.0	1.3	1	08/14/15 09:16	08/18/15 10:34	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**1060**	ug/L	5.0	2.1	1		08/10/15 12:11	7440-47-3	
Nickel, Dissolved	**1450**	ug/L	10.0	1.4	1		08/10/15 12:11	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**1.1**	mg/L	0.10	0.019	5		08/05/15 09:50	18540-29-9	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40119186

Sample: MW9 **Lab ID: 40119186004** Collected: 08/04/15 11:50 Received: 08/05/15 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**1450**	ug/L	5.0	1.5	1	08/14/15 09:16	08/18/15 10:37	7440-47-3	
Iron	**91400**	ug/L	100	15.9	1	08/14/15 09:16	08/18/15 10:37	7439-89-6	
Manganese	**1930**	ug/L	5.0	0.37	1	08/14/15 09:16	08/18/15 10:37	7439-96-5	
Nickel	**534**	ug/L	10.0	1.3	1	08/14/15 09:16	08/18/15 10:37	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**679**	ug/L	5.0	2.1	1		08/10/15 12:14	7440-47-3	
Iron, Dissolved	**<12.9**	ug/L	100	12.9	1		08/10/15 12:14	7439-89-6	
Manganese, Dissolved	**223**	ug/L	5.0	1.4	1		08/10/15 12:14	7439-96-5	
Nickel, Dissolved	**279**	ug/L	10.0	1.4	1		08/10/15 12:14	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.60**	mg/L	0.050	0.0097	2.5		08/05/15 09:50	18540-29-9	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**11.9**	mg/L	1.5	0.75	5		08/05/15 12:26	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**113**	mg/L	20.0	10.0	5		08/05/15 12:26	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40119186

Sample: MW10 **Lab ID: 40119186005** Collected: 08/04/15 11:30 Received: 08/05/15 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**412**	ug/L	5.0	1.5	1	08/14/15 09:16	08/18/15 10:44	7440-47-3	
Iron	**8320**	ug/L	100	15.9	1	08/14/15 09:16	08/18/15 10:44	7439-89-6	
Manganese	**342**	ug/L	5.0	0.37	1	08/14/15 09:16	08/18/15 10:44	7439-96-5	
Nickel	**101**	ug/L	10.0	1.3	1	08/14/15 09:16	08/18/15 10:44	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**633**	ug/L	5.0	2.1	1		08/10/15 12:16	7440-47-3	1q
Iron, Dissolved	**<12.9**	ug/L	100	12.9	1		08/10/15 12:16	7439-89-6	
Manganese, Dissolved	**3.6J**	ug/L	5.0	1.4	1		08/10/15 12:16	7439-96-5	
Nickel, Dissolved	**167**	ug/L	10.0	1.4	1		08/10/15 12:16	7440-02-0	1q
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.63**	mg/L	0.050	0.0097	2.5		08/05/15 09:50	18540-29-9	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**3.8**	mg/L	1.5	0.75	5		08/05/15 12:15	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**38.9**	mg/L	20.0	10.0	5		08/05/15 12:15	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40119186

Sample: MW11 **Lab ID: 40119186006** Collected: 08/04/15 11:15 Received: 08/05/15 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**37.6**	ug/L	5.0	1.5	1	08/14/15 09:16	08/18/15 10:46	7440-47-3	
Nickel	**25.1**	ug/L	10.0	1.3	1	08/14/15 09:16	08/18/15 10:46	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**<2.1**	ug/L	5.0	2.1	1		08/10/15 12:18	7440-47-3	
Nickel, Dissolved	**<1.4**	ug/L	10.0	1.4	1		08/10/15 12:18	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.019**	mg/L	0.10	0.019	5		08/05/15 09:50	18540-29-9	D3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40119186

Sample: PZ1 **Lab ID: 40119186007** Collected: 08/04/15 12:00 Received: 08/05/15 08:40 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**2130**	ug/L	5.0	1.5	1	08/14/15 09:16	08/18/15 10:48	7440-47-3	
Iron	**95300**	ug/L	100	15.9	1	08/14/15 09:16	08/18/15 10:48	7439-89-6	
Manganese	**1210**	ug/L	5.0	0.37	1	08/14/15 09:16	08/18/15 10:48	7439-96-5	
Nickel	**73.2**	ug/L	10.0	1.3	1	08/14/15 09:16	08/18/15 10:48	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**1220**	ug/L	5.0	2.1	1		08/10/15 12:26	7440-47-3	
Iron, Dissolved	**<12.9**	ug/L	100	12.9	1		08/10/15 12:26	7439-89-6	
Manganese, Dissolved	**22.0**	ug/L	5.0	1.4	1		08/10/15 12:26	7439-96-5	
Nickel, Dissolved	**2.1J**	ug/L	10.0	1.4	1		08/10/15 12:26	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**1.4**	mg/L	0.10	0.019	5		08/05/15 09:50	18540-29-9	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**3.8**	mg/L	1.5	0.75	5		08/05/15 12:59	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**43.1**	mg/L	20.0	10.0	5		08/05/15 12:59	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40119186

QC Batch: ICP/10989 Analysis Method: EPA 6010
QC Batch Method: EPA 6010 Analysis Description: ICP Metals, Trace, Dissolved
Associated Lab Samples: 40119186001, 40119186002, 40119186003, 40119186004, 40119186005, 40119186006, 40119186007

METHOD BLANK: 1204606 Matrix: Water
Associated Lab Samples: 40119186001, 40119186002, 40119186003, 40119186004, 40119186005, 40119186006, 40119186007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium, Dissolved	ug/L	<2.1	5.0	08/10/15 11:57	
Iron, Dissolved	ug/L	<12.9	100	08/10/15 11:57	
Manganese, Dissolved	ug/L	<1.4	5.0	08/10/15 11:57	
Nickel, Dissolved	ug/L	<1.4	10.0	08/10/15 11:57	

LABORATORY CONTROL SAMPLE: 1204607

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Dissolved	ug/L	500	477	95	80-120	
Iron, Dissolved	ug/L	5000	4830	97	80-120	
Manganese, Dissolved	ug/L	500	465	93	80-120	
Nickel, Dissolved	ug/L	500	476	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1204608 1204609

Parameter	Units	40119186001 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	351	500	500	896	827	109	95	75-125	8	20	
Iron, Dissolved	ug/L	19.6J	5000	5000	5450	4790	109	95	75-125	13	20	
Manganese, Dissolved	ug/L	10.8	500	500	552	486	108	95	75-125	13	20	
Nickel, Dissolved	ug/L	379	500	500	918	853	108	95	75-125	7	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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(920)469-2436

QUALITY CONTROL DATA

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40119186

QC Batch: MPRP/12427 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 40119186001, 40119186002, 40119186003, 40119186004, 40119186005, 40119186006, 40119186007

METHOD BLANK: 1206451 Matrix: Water
Associated Lab Samples: 40119186001, 40119186002, 40119186003, 40119186004, 40119186005, 40119186006, 40119186007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium	ug/L	<1.5	5.0	08/18/15 10:16	
Iron	ug/L	<15.9	100	08/18/15 10:16	
Manganese	ug/L	<0.37	5.0	08/18/15 10:16	
Nickel	ug/L	<1.3	10.0	08/18/15 10:16	

LABORATORY CONTROL SAMPLE: 1206452

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	500	498	100	80-120	
Iron	ug/L	5000	4980	100	80-120	
Manganese	ug/L	500	494	99	80-120	
Nickel	ug/L	500	503	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1206453 1206454

Parameter	Units	40119581001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	ug/L	<5.0	500	500	497	491	99	98	75-125	1	20	
Iron	ug/L	11700	5000	5000	17200	17000	110	106	75-125	1	20	
Manganese	ug/L	566	500	500	1080	1060	103	99	75-125	2	20	
Nickel	ug/L	<10.0	500	500	498	494	98	97	75-125	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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(920)469-2436

QUALITY CONTROL DATA

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40119186

QC Batch: WET/22854 Analysis Method: SM 3500-Cr B (Online)
QC Batch Method: SM 3500-Cr B (Online) Analysis Description: Chromium, Hexavalent by 3500
Associated Lab Samples: 40119186001, 40119186002, 40119186003, 40119186004, 40119186005, 40119186006, 40119186007

METHOD BLANK: 1202849 Matrix: Water
Associated Lab Samples: 40119186001, 40119186002, 40119186003, 40119186004, 40119186005, 40119186006, 40119186007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium, Hexavalent	mg/L	<0.0039	0.020	08/05/15 09:50	

LABORATORY CONTROL SAMPLE: 1202850

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	mg/L	.3	0.31	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1202851 1202852

Parameter	Units	40119186001 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	0.25	1.5	1.5	1.8	1.8	105	104	90-110	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40119186

QC Batch: WETA/29788 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 40119186002, 40119186004, 40119186005, 40119186007

METHOD BLANK: 1202955 Matrix: Water
Associated Lab Samples: 40119186002, 40119186004, 40119186005, 40119186007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrate as N	mg/L	<0.15	0.30	08/05/15 16:29	
Sulfate	mg/L	<2.0	4.0	08/05/15 16:29	

LABORATORY CONTROL SAMPLE: 1202956

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrate as N	mg/L	1.5	1.5	103	90-110	
Sulfate	mg/L	20	20.1	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1202957 1202958

Parameter	Units	40119186007 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	3.8	7.5	7.5	11.3	11.3	101	100	90-110	0	20	
Sulfate	mg/L	43.1	100	100	140	139	96	96	90-110	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40119186

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.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

1q	Dissolved analyte or filtered analyte greater than total analyte: analysis failed QC based on precision criteria.
D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

Pace Analytical Services, Inc.
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(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40119186

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40119186001	**MW5**	EPA 3010	MPRP/12427	EPA 6010	ICP/11015
40119186002	**MW6**	EPA 3010	MPRP/12427	EPA 6010	ICP/11015
40119186003	**MW8**	EPA 3010	MPRP/12427	EPA 6010	ICP/11015
40119186004	**MW9**	EPA 3010	MPRP/12427	EPA 6010	ICP/11015
40119186005	**MW10**	EPA 3010	MPRP/12427	EPA 6010	ICP/11015
40119186006	**MW11**	EPA 3010	MPRP/12427	EPA 6010	ICP/11015
40119186007	**PZ1**	EPA 3010	MPRP/12427	EPA 6010	ICP/11015
40119186001	**MW5**	EPA 6010	ICP/10989		
40119186002	**MW6**	EPA 6010	ICP/10989		
40119186003	**MW8**	EPA 6010	ICP/10989		
40119186004	**MW9**	EPA 6010	ICP/10989		
40119186005	**MW10**	EPA 6010	ICP/10989		
40119186006	**MW11**	EPA 6010	ICP/10989		
40119186007	**PZ1**	EPA 6010	ICP/10989		
40119186001	**MW5**	SM 3500-Cr B (Online)	WET/22854		
40119186002	**MW6**	SM 3500-Cr B (Online)	WET/22854		
40119186003	**MW8**	SM 3500-Cr B (Online)	WET/22854		
40119186004	**MW9**	SM 3500-Cr B (Online)	WET/22854		
40119186005	**MW10**	SM 3500-Cr B (Online)	WET/22854		
40119186006	**MW11**	SM 3500-Cr B (Online)	WET/22854		
40119186007	**PZ1**	SM 3500-Cr B (Online)	WET/22854		
40119186002	**MW6**	EPA 300.0	WETA/29788		
40119186004	**MW9**	EPA 300.0	WETA/29788		
40119186005	**MW10**	EPA 300.0	WETA/29788		
40119186007	**PZ1**	EPA 300.0	WETA/29788		
40119186002	**MW6**	EPA 300.0	WETA/29788		
40119186004	**MW9**	EPA 300.0	WETA/29788		
40119186005	**MW10**	EPA 300.0	WETA/29788		
40119186007	**PZ1**	EPA 300.0	WETA/29788		

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

Pace Analytical®
www.pacelabs.com

CHAIN OF CUSTODY

mm.

40119186

(Please Print Clearly)	
Company Name:	REI
Branch/Location:	Wausau
Project Contact:	Ken Lassa
Phone:	715-675-9784
Project Number:	6134 B
Project Name:	Phillips Plating
Project State:	WI
Sampled By (Print):	Jared Szews
Sampled By (Sign):	Jared Szews
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	Ken Lassa
Mail To Company:	REI
Mail To Address:	klassa@REIengineering.com
Invoice To Contact:	SAA
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

*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

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, SL = 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	Y	N	N	Y	N	N	N
					PRESERVATION (CODE)*	Pick Letter	D	D	A	D	D	A	A
					Analyses Requested		Total Cr, Ni (Filtered)	Total Cr, Ni (Unfiltered)	Hex Cr	Total Cr, Ni, Mn, Fe (Filtered)	Total Cr, Ni, Mn, Fe (Unfiltered)	Nitrate	Sulfate
001	MW5	8/4/15	10:30	GW			X	X					
002	MW6		12:15							X	X	X	X
003	MW8		11:00				X	X					
004	MW9		11:50							X	X	X	X
005	MW10		11:30							X	X	X	X
006	MW11		11:15				X	X					
007	PZ1		12:00							X	X	X	X

CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
2-250mlp D	1-250mlp A	

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:
Jared Szews - REI	8/4/15 3pm		
Waltco	8/5/15 0840	Kate Schram	8/5/15 0840

PACE Project No.
40119186

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

Sample Condition Upon Receipt

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

Pace Analytical™

Project #: WO#: 40119186

40119186

Client Name: REI

Courier: ☐ Fed Ex ☐ UPS ☐ Client ☐ Pace ☐ Other: Waltco

Tracking #: 840999-1

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 NA **Type of Ice:** (Wet) Blue Dry None ☑ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: /Corr: ROI **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp Blank Present: ☐ yes ☑ no

Person examining contents:
Date: 8/5/15
Initials: KB

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

				Comments:
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	☐N/A	5.
- VOA Samples frozen upon receipt	☐Yes	☐No		Date/Time:
Short Hold Time Analysis (<72hr):	☑Yes	☐No	☐N/A	6. Crtle 8/5/15@1030 nitrate@1130 8/6/15 KB 8/5/15
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
-Pace IR Containers Used:	☐Yes	☐No	☑N/A	
Containers Intact:	☑Yes	☐No	☐N/A	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				
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	☑Yes	☐No	☐N/A	13. ☑ HNO3 ☐ H2SO4 ☐ NaOH ☐ NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2, NaOH+ZnAct ≥9, NaOH ≥12)	☑Yes	☐No	☐N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	☐Yes	☑No		Initial when completed KB / Lab Std #ID of preservative / Date/Time:
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	14.
Trip Blank Present:	☐Yes	☐No	☑N/A	15.
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: KB **Date:** 8-5-15

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: 245082
NLS Customer: 29027

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

Fax: 715 675 4060 Phone: 715 675 9784

Project: **Phillips Plating #6134B**

MW10 NLS ID: 874806
COC: :1 Matrix: GW
Collected: 08/04/15 11:30 Received: 08/05/15

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chromium, Hex. as Cr+6	610	ug/L	20	34*	100*	08/05/15	3500-Cr B-2009	721026460
Chromium, dis. as Cr by ICP-MS	650	ug/L	1	0.50*	1.0*	08/06/15	EPA 200.8, Rev 5.4	721026460
Chromium, tot. recoverable as Cr by ICP-MS	520	ug/L	1	0.50*	1.0*	08/11/15	EPA 200.8, Rev 5.4	721026460
Nickel, dis. as Ni by ICP-MS	180	ug/L	1	0.50*	1.0*	08/06/15	EPA 200.8, Rev 5.4	721026460
Nickel, tot. recoverable as Ni by ICP-MS	120	ug/L	1	0.50*	1.0*	08/11/15	EPA 200.8, Rev 5.4	721026460
Metals digestion - tot. recov. ICP-MS	yes					08/10/15	EPA 200.8M, Rev 5.4	721026460

MW11 NLS ID: 874807
COC: :2 Matrix: GW
Collected: 08/04/15 11:15 Received: 08/05/15

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chromium, Hex. as Cr+6	ND	ug/L	1	1.7*	5.0*	08/05/15	3500-Cr B-2009	721026460
Chromium, dis. as Cr by ICP-MS	ND	ug/L	1	0.50*	1.0*	08/06/15	EPA 200.8, Rev 5.4	721026460
Chromium, tot. recoverable as Cr by ICP-MS	36	ug/L	1	0.50*	1.0*	08/11/15	EPA 200.8, Rev 5.4	721026460
Nickel, dis. as Ni by ICP-MS	ND	ug/L	1	0.50*	1.0*	08/06/15	EPA 200.8, Rev 5.4	721026460
Nickel, tot. recoverable as Ni by ICP-MS	25	ug/L	1	0.50*	1.0*	08/11/15	EPA 200.8, Rev 5.4	721026460
Metals digestion - tot. recov. ICP-MS	yes					08/10/15	EPA 200.8M, Rev 5.4	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.

LOD = Limit of Detection LOQ = Limit of Quantitation ND = Not Detected (< LOD) 1000 ug/L = 1 mg/L
DWB = Dry Weight Basis NA = Not Applicable %DWB = (mg/kg DWB) / 10000
MCL = Maximum Contaminant Levels for Drinking Water Samples.Shaded results indicate >MCL.

Reviewed by:

Authorized by:
R. T. Krueger
President

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

November 12, 2015

Ken Lassa
REI
4080 North 20th Avenue
Wausau, WI 54401

RE: Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40124030

Dear Ken Lassa:
Enclosed are the analytical results for sample(s) received by the laboratory on November 04, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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
Project Manager

Enclosures

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

CERTIFICATIONS

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40124030

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
Virginia VELAP ID: 460263
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
US Dept of Agriculture #: S-76505
Virginia VELAP ID: 460263
Virginia VELAP Certification ID: 460263
Wisconsin Certification #: 405132750

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40124030

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40124030001	**MW5**	Water	11/03/15 10:30	11/04/15 08:50
40124030002	**MW6**	Water	11/03/15 12:15	11/04/15 08:50
40124030003	**MW8**	Water	11/03/15 11:00	11/04/15 08:50
40124030004	**MW9**	Water	11/03/15 11:45	11/04/15 08:50
40124030005	**MW10**	Water	11/03/15 11:30	11/04/15 08:50
40124030006	**MW11**	Water	11/03/15 11:15	11/04/15 08:50
40124030007	**PZ1**	Water	11/03/15 12:00	11/04/15 08:50

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(920)469-2436

SAMPLE ANALYTE COUNT

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40124030

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40124030001	**MW5**	EPA 6010	DLB	2	PASI-G
		EPA 6010	JBR	2	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
40124030002	**MW6**	EPA 6010	DLB	4	PASI-G
		EPA 6010	JBR	4	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40124030003	**MW8**	EPA 6010	DLB	2	PASI-G
		EPA 6010	JBR	2	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
40124030004	**MW9**	EPA 6010	DLB, JBR	4	PASI-G
		EPA 6010	JBR	4	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40124030005	**MW10**	EPA 6010	DLB	3	PASI-G
		EPA 6010	JBR	8	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40124030006	**MW11**	EPA 6010	DLB	2	PASI-G
		EPA 6010	JBR	2	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
40124030007	**PZ1**	EPA 6010	DLB, JBR	4	PASI-G
		EPA 6010	JBR	4	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40124030

Sample: MW5 **Lab ID: 40124030001** Collected: 11/03/15 10:30 Received: 11/04/15 08:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**1530**	ug/L	5.0	1.5	1	11/06/15 08:45	11/06/15 14:16	7440-47-3	
Nickel	**1280**	ug/L	10.0	1.3	1	11/06/15 08:45	11/06/15 14:16	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**381**	ug/L	5.0	2.1	1		11/06/15 19:48	7440-47-3	
Nickel, Dissolved	**378**	ug/L	10.0	1.4	1		11/06/15 19:48	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.093J**	mg/L	0.20	0.039	10		11/04/15 09:30	18540-29-9	D3

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40124030

Sample: MW6 **Lab ID: 40124030002** Collected: 11/03/15 12:15 Received: 11/04/15 08:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**7250**	ug/L	5.0	1.5	1	11/06/15 08:45	11/06/15 14:18	7440-47-3	
Iron	**26800**	ug/L	100	15.9	1	11/06/15 08:45	11/06/15 14:18	7439-89-6	
Manganese	**1150**	ug/L	5.0	0.37	1	11/06/15 08:45	11/06/15 14:18	7439-96-5	
Nickel	**5130**	ug/L	10.0	1.3	1	11/06/15 08:45	11/06/15 14:18	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**3160**	ug/L	5.0	2.1	1		11/06/15 19:55	7440-47-3	
Iron, Dissolved	**<12.9**	ug/L	100	12.9	1		11/06/15 19:55	7439-89-6	
Manganese, Dissolved	**597**	ug/L	5.0	1.4	1		11/06/15 19:55	7439-96-5	
Nickel, Dissolved	**3720**	ug/L	10.0	1.4	1		11/06/15 19:55	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**3.5**	mg/L	0.50	0.097	25		11/04/15 09:30	18540-29-9	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**9.2**	mg/L	1.5	0.75	5		11/04/15 20:16	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**217**	mg/L	20.0	10.0	5		11/04/15 20:16	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40124030

Sample: MW8 **Lab ID: 40124030003** Collected: 11/03/15 11:00 Received: 11/04/15 08:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**986**	ug/L	5.0	1.5	1	11/06/15 08:45	11/06/15 14:20	7440-47-3	
Nickel	**1920**	ug/L	10.0	1.3	1	11/06/15 08:45	11/06/15 14:20	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**776**	ug/L	5.0	2.1	1		11/06/15 19:57	7440-47-3	
Nickel, Dissolved	**1770**	ug/L	10.0	1.4	1		11/06/15 19:57	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.76**	mg/L	0.20	0.039	10		11/04/15 09:30	18540-29-9	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40124030

Sample: MW9 **Lab ID: 40124030004** Collected: 11/03/15 11:45 Received: 11/04/15 08:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**1480**	ug/L	5.0	1.5	1	11/06/15 08:45	11/06/15 14:27	7440-47-3	
Iron	**136000**	ug/L	100	15.9	1	11/06/15 08:45	11/11/15 12:46	7439-89-6	
Manganese	**1750**	ug/L	5.0	0.37	1	11/06/15 08:45	11/06/15 14:27	7439-96-5	
Nickel	**519**	ug/L	10.0	1.3	1	11/06/15 08:45	11/06/15 14:27	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**905**	ug/L	5.0	2.1	1		11/06/15 19:59	7440-47-3	
Iron, Dissolved	**<12.9**	ug/L	100	12.9	1		11/06/15 19:59	7439-89-6	
Manganese, Dissolved	**287**	ug/L	5.0	1.4	1		11/06/15 19:59	7439-96-5	
Nickel, Dissolved	**298**	ug/L	10.0	1.4	1		11/06/15 19:59	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.92**	mg/L	0.10	0.019	5		11/04/15 09:30	18540-29-9	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**12.3**	mg/L	1.5	0.75	5		11/04/15 20:27	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**84.9**	mg/L	20.0	10.0	5		11/04/15 20:27	14808-79-8	

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ANALYTICAL RESULTS

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40124030

Sample: MW10 **Lab ID: 40124030005** Collected: 11/03/15 11:30 Received: 11/04/15 08:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**234**	ug/L	5.0	1.5	1	11/06/15 08:45	11/06/15 14:29	7440-47-3	
Nickel	**67.8**	ug/L	10.0	1.3	1	11/06/15 08:45	11/06/15 14:29	7440-02-0	
Zinc	**16.2J**	ug/L	40.0	5.8	1	11/06/15 08:45	11/06/15 14:29	7440-66-6	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Arsenic, Dissolved	**<7.2**	ug/L	20.0	7.2	1		11/06/15 20:02	7440-38-2	
Barium, Dissolved	**69.8**	ug/L	5.0	1.4	1		11/06/15 20:02	7440-39-3	
Cadmium, Dissolved	**<0.60**	ug/L	5.0	0.60	1		11/06/15 20:02	7440-43-9	
Chromium, Dissolved	**196**	ug/L	5.0	2.1	1		11/06/15 20:02	7440-47-3	
Lead, Dissolved	**<3.0**	ug/L	7.5	3.0	1		11/06/15 20:02	7439-92-1	
Nickel, Dissolved	**33.2**	ug/L	10.0	1.4	1		11/06/15 20:02	7440-02-0	
Selenium, Dissolved	**<6.7**	ug/L	20.0	6.7	1		11/06/15 20:02	7782-49-2	
Silver, Dissolved	**<2.7**	ug/L	10.0	2.7	1		11/06/15 20:02	7440-22-4	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.43**	mg/L	0.10	0.019	5		11/04/15 09:30	18540-29-9	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**4.3**	mg/L	1.5	0.75	5		11/04/15 20:39	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**50.8**	mg/L	20.0	10.0	5		11/04/15 20:39	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40124030

Sample: MW11 **Lab ID: 40124030006** Collected: 11/03/15 11:15 Received: 11/04/15 08:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**17.6**	ug/L	5.0	1.5	1	11/06/15 08:45	11/06/15 14:31	7440-47-3	
Nickel	**12.9**	ug/L	10.0	1.3	1	11/06/15 08:45	11/06/15 14:31	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**<2.1**	ug/L	5.0	2.1	1		11/06/15 20:04	7440-47-3	
Nickel, Dissolved	**<1.4**	ug/L	10.0	1.4	1		11/06/15 20:04	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.019**	mg/L	0.10	0.019	5		11/04/15 09:30	18540-29-9	D3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40124030

Sample: PZ1 **Lab ID: 40124030007** Collected: 11/03/15 12:00 Received: 11/04/15 08:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Chromium	**2790**	ug/L	5.0	1.5	1	11/06/15 08:45	11/06/15 14:34	7440-47-3	
Iron	**74500**	ug/L	100	15.9	1	11/06/15 08:45	11/11/15 12:49	7439-89-6	
Manganese	**1590**	ug/L	5.0	0.37	1	11/06/15 08:45	11/06/15 14:34	7439-96-5	
Nickel	**108**	ug/L	10.0	1.3	1	11/06/15 08:45	11/06/15 14:34	7440-02-0	
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**1470**	ug/L	5.0	2.1	1		11/06/15 20:06	7440-47-3	
Iron, Dissolved	**<12.9**	ug/L	100	12.9	1		11/06/15 20:06	7439-89-6	
Manganese, Dissolved	**28.9**	ug/L	5.0	1.4	1		11/06/15 20:06	7439-96-5	
Nickel, Dissolved	**2.1J**	ug/L	10.0	1.4	1		11/06/15 20:06	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**1.7**	mg/L	0.20	0.039	10		11/04/15 09:30	18540-29-9	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**4.3**	mg/L	1.5	0.75	5		11/04/15 20:50	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**41.8**	mg/L	20.0	10.0	5		11/04/15 20:50	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40124030

QC Batch: ICP/11421 Analysis Method: EPA 6010
QC Batch Method: EPA 6010 Analysis Description: ICP Metals, Trace, Dissolved
Associated Lab Samples: 40124030001, 40124030002, 40124030003, 40124030004, 40124030005, 40124030006, 40124030007

METHOD BLANK: 1253930 Matrix: Water
Associated Lab Samples: 40124030001, 40124030002, 40124030003, 40124030004, 40124030005, 40124030006, 40124030007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	<7.2	20.0	11/06/15 19:36	
Barium, Dissolved	ug/L	<1.4	5.0	11/06/15 19:36	
Cadmium, Dissolved	ug/L	<0.60	5.0	11/06/15 19:36	
Chromium, Dissolved	ug/L	<2.1	5.0	11/06/15 19:36	
Iron, Dissolved	ug/L	<12.9	100	11/06/15 19:36	
Lead, Dissolved	ug/L	<3.0	7.5	11/06/15 19:36	
Manganese, Dissolved	ug/L	<1.4	5.0	11/06/15 19:36	
Nickel, Dissolved	ug/L	<1.4	10.0	11/06/15 19:36	
Selenium, Dissolved	ug/L	<6.7	20.0	11/06/15 19:36	
Silver, Dissolved	ug/L	<2.7	10.0	11/06/15 19:36	

LABORATORY CONTROL SAMPLE: 1253931

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	500	490	98	80-120	
Barium, Dissolved	ug/L	500	495	99	80-120	
Cadmium, Dissolved	ug/L	500	495	99	80-120	
Chromium, Dissolved	ug/L	500	499	100	80-120	
Iron, Dissolved	ug/L	5000	4600	92	80-120	
Lead, Dissolved	ug/L	500	497	99	80-120	
Manganese, Dissolved	ug/L	500	481	96	80-120	
Nickel, Dissolved	ug/L	500	497	99	80-120	
Selenium, Dissolved	ug/L	500	504	101	80-120	
Silver, Dissolved	ug/L	250	247	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1253932 1253933

Parameter	Units	40124083001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	ug/L	0.012J mg/L	500	500	512	512	100	100	75-125	0	20	
Barium, Dissolved	ug/L	0.024 mg/L	500	500	524	514	100	98	75-125	2	20	
Cadmium, Dissolved	ug/L	<0.00060 mg/L	500	500	508	504	101	101	75-125	1	20	
Chromium, Dissolved	ug/L	<0.0021 mg/L	500	500	490	488	98	97	75-125	0	20	
Iron, Dissolved	ug/L	1.7 mg/L	5000	5000	6300	6160	92	89	75-125	2	20	
Lead, Dissolved	ug/L	<0.0030 mg/L	500	500	486	485	97	97	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40124030

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1253932 1253933

Parameter	Units	40124083001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Manganese, Dissolved	ug/L	0.72 mg/L	500	500	1180	1170	93	92	75-125	1	20	
Nickel, Dissolved	ug/L	0.0084J mg/L	500	500	494	492	97	97	75-125	0	20	
Selenium, Dissolved	ug/L	<0.0067 mg/L	500	500	537	532	107	106	75-125	1	20	
Silver, Dissolved	ug/L	0.0032J mg/L	250	250	237	234	94	92	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40124030

QC Batch: MPRP/12881 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 40124030001, 40124030002, 40124030003, 40124030004, 40124030005, 40124030006, 40124030007

METHOD BLANK: 1253387 Matrix: Water
Associated Lab Samples: 40124030001, 40124030002, 40124030003, 40124030004, 40124030005, 40124030006, 40124030007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium	ug/L	<1.5	5.0	11/06/15 14:01	
Iron	ug/L	<15.9	100	11/06/15 14:01	
Manganese	ug/L	0.97J	5.0	11/06/15 14:01	
Nickel	ug/L	<1.3	10.0	11/06/15 14:01	
Zinc	ug/L	<5.8	40.0	11/06/15 14:01	

LABORATORY CONTROL SAMPLE: 1253388

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	500	525	105	80-120	
Iron	ug/L	5000	4720	94	80-120	
Manganese	ug/L	500	507	101	80-120	
Nickel	ug/L	500	536	107	80-120	
Zinc	ug/L	500	528	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1253389 1253390

Parameter	Units	40124050001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	ug/L	<1.5	500	500	524	526	105	105	75-125	0	20	
Iron	ug/L	17.6J	5000	5000	4690	4700	94	94	75-125	0	20	
Manganese	ug/L	3.7J	500	500	508	506	101	100	75-125	0	20	
Nickel	ug/L	4.0J	500	500	536	535	106	106	75-125	0	20	
Zinc	ug/L	426	500	500	964	961	108	107	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40124030

QC Batch: WET/23678 Analysis Method: SM 3500-Cr B (Online)
QC Batch Method: SM 3500-Cr B (Online) Analysis Description: Chromium, Hexavalent by 3500
Associated Lab Samples: 40124030001, 40124030002, 40124030003, 40124030004, 40124030005, 40124030006, 40124030007

METHOD BLANK: 1251903 Matrix: Water
Associated Lab Samples: 40124030001, 40124030002, 40124030003, 40124030004, 40124030005, 40124030006, 40124030007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium, Hexavalent	mg/L	<0.0039	0.020	11/04/15 09:30	

LABORATORY CONTROL SAMPLE: 1251904

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	mg/L	.3	0.33	109	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1251905 1251906

Parameter	Units	40124030007 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	1.7	3	3	4.9	4.7	107	99	90-110	5	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1251958 1251959

Parameter	Units	40124039002 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	<0.0097	.75	.75	0.79	0.77	105	102	90-110	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40124030

QC Batch: WETA/31073 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 40124030002, 40124030004, 40124030005, 40124030007

METHOD BLANK: 1252213 Matrix: Water
Associated Lab Samples: 40124030002, 40124030004, 40124030005, 40124030007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrate as N	mg/L	<0.15	0.30	11/04/15 09:59	
Sulfate	mg/L	<2.0	4.0	11/04/15 09:59	

LABORATORY CONTROL SAMPLE: 1252214

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrate as N	mg/L	1.5	1.5	101	90-110	
Sulfate	mg/L	20	19.9	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1252215 1252216

Parameter	Units	40124045001 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	5.6	7.5	7.5	13.2	13.2	101	102	90-110	0	20	
Sulfate	mg/L	22.4	20	20	43.9	43.9	108	108	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1252290 1252291

Parameter	Units	40124030007 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	11.8	11.8	101	101	90-110	0	20	
Sulfate	mg/L	41.8	100	100	138	137	96	96	90-110	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40124030

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.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 6134 B PHILLIPS PLATING
Pace Project No.: 40124030

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40124030001	**MW5**	EPA 3010	MPRP/12881	EPA 6010	ICP/11420
40124030002	**MW6**	EPA 3010	MPRP/12881	EPA 6010	ICP/11420
40124030003	**MW8**	EPA 3010	MPRP/12881	EPA 6010	ICP/11420
40124030004	**MW9**	EPA 3010	MPRP/12881	EPA 6010	ICP/11420
40124030005	**MW10**	EPA 3010	MPRP/12881	EPA 6010	ICP/11420
40124030006	**MW11**	EPA 3010	MPRP/12881	EPA 6010	ICP/11420
40124030007	**PZ1**	EPA 3010	MPRP/12881	EPA 6010	ICP/11420
40124030001	**MW5**	EPA 6010	ICP/11421		
40124030002	**MW6**	EPA 6010	ICP/11421		
40124030003	**MW8**	EPA 6010	ICP/11421		
40124030004	**MW9**	EPA 6010	ICP/11421		
40124030005	**MW10**	EPA 6010	ICP/11421		
40124030006	**MW11**	EPA 6010	ICP/11421		
40124030007	**PZ1**	EPA 6010	ICP/11421		
40124030001	**MW5**	SM 3500-Cr B (Online)	WET/23678		
40124030002	**MW6**	SM 3500-Cr B (Online)	WET/23678		
40124030003	**MW8**	SM 3500-Cr B (Online)	WET/23678		
40124030004	**MW9**	SM 3500-Cr B (Online)	WET/23678		
40124030005	**MW10**	SM 3500-Cr B (Online)	WET/23678		
40124030006	**MW11**	SM 3500-Cr B (Online)	WET/23678		
40124030007	**PZ1**	SM 3500-Cr B (Online)	WET/23678		
40124030002	**MW6**	EPA 300.0	WETA/31073		
40124030004	**MW9**	EPA 300.0	WETA/31073		
40124030005	**MW10**	EPA 300.0	WETA/31073		
40124030007	**PZ1**	EPA 300.0	WETA/31073		
40124030002	**MW6**	EPA 300.0	WETA/31073		
40124030004	**MW9**	EPA 300.0	WETA/31073		
40124030005	**MW10**	EPA 300.0	WETA/31073		
40124030007	**PZ1**	EPA 300.0	WETA/31073		

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

Pace Analytical®
www.pacelabs.com

CHAIN OF CUSTODY

40124030

(Please Print Clearly)	
Company Name:	REI
Branch/Location:	Wausau
Project Contact:	Ken Lassa
Phone:	715-675-9784
Project Number:	6134 B
Project Name:	Phillips Plating
Project State:	WI
Sampled By (Print):	Jared Szews
Sampled By (Sign):	Jared Szews
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	Ken Lassa
Mail To Company:	REI
Mail To Address:	klassa@REIengineering.com
Invoice To Contact:	SAA
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

*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

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	Analyses Requested	FILTERED? (YES/NO)	Y/N	Y	N	N	Y	N	N	N	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
						PRESERVATION (CODE)*	Pick Letter	D	D	A	D	D	A	A			
								Total Cr, Ni (Filtered)	Total Cr, Ni (Unfiltered)	Hex Cr	Total Cr, Ni, Mn, Fe (Filtered)	Total Cr, Ni, Mn, Fe (Unfiltered)	Nitrate	Sulfate			
001	MW5	11/3/15	10:30	GW				X	X	T						3-250mlpADD	
002	MW6		12:15								X	X	X	X			
003	MW8		11:00					X	X								
004	MW9		11:45								X	X	X	X			
005	MW10		11:30								X	X	X	X			
006	MW11		11:15					X	X								
007	PZ1		12:00								X	X	X	X			

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:
Jared Szews - REI	11/3/15 3PM		
Walter	11-4-15 0850	Susan Wyld Pace	11-4-15 0852

PACE Project No.
40124030
Receipt Temp = ROT °C
Sample Receipt pH
(OK) Adjusted
Cooler Custody Seal
Present / (Not Present)
Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Sample Condition Upon Receipt

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

Pace Analytical™

Project #: **WO# : 40124030**

40124030

Client Name: REI

Courier: ☐ Fed Ex ☐ UPS ☐ Client ☐ Pace Other: Waldo

Tracking #: 907674

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 N/A **Type of Ice:** (Wet) Blue Dry None ☒ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: ROI /Corr: **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp Blank Present: ☐ yes ☒ no

Person examining contents:
Date: 11-4-15
Initials: SCA

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

				Comments:
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	☐ N/A	5.
- VOA Samples frozen upon receipt	☐ Yes	☐ No		Date/Time:
Short Hold Time Analysis (<72hr):	☑ Yes	☐ No	☐ N/A	6. Nitrate, Cr6 11-4-15 SCA
Rush Turn Around Time Requested:	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume:	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used:	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used:	☑ Yes	☐ No	☐ N/A	
-Pace IR Containers Used:	☐ Yes	☐ No	☑ N/A	
Containers Intact:	☑ Yes	☐ No	☐ N/A	10.
Filtered volume received for Dissolved tests	☑ Yes	☐ No	☐ N/A	11.
Sample Labels match COC:	☑ Yes	☐ No	☐ N/A	12. 002- Client had HNO3 cap on unpreserved and unpreserved cap on HNO3. Verified by PM ing 11-4-15 SCA
-Includes date/time/ID/Analysis Matrix: W				
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	☑ Yes	☐ No	☐ N/A	13. ☒ HNO3 ☐ H2SO4 ☐ NaOH ☐ NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 <2; NaOH+ZnAct ≥9, NaOH ≥12)	☑ Yes	☐ No	☐ N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	☐ Yes	☑ No		Initial when completed: SKW Lab Std #ID of preservative: Date/Time:
Headspace in VOA Vials (>6mm):	☐ Yes	☐ No	☑ N/A	14.
Trip Blank Present:	☐ Yes	☐ No	☑ N/A	15.
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: KK **Date:** 11-4-15

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: 250616
NLS Customer: 29027

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

Fax: 715 675 4060 Phone: 715 675 9784

Project: **Phillips Plating # 6134B**

MW10 NLS ID: 892353
COC: :1 Matrix: GW
Collected: 11/03/15 11:30 Received: 11/04/15

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chromium, Hex. as Cr+6	470	ug/L	10	11*	34*	11/04/15	3500-Cr B-2009	721026460
	The matrix spike recovery was outside of the method required limits of 85-115% at 84%.							
Chromium, dis. as Cr by ICP-MS	210	ug/L	1	0.50*	1.0*	11/06/15	EPA 200.8, Rev 5.4	721026460
Chromium, tot. recoverable as Cr by ICP-MS	230	ug/L	1	0.50*	1.0*	11/09/15	EPA 200.8, Rev 5.4	721026460
Nickel, dis. as Ni by ICP-MS	41	ug/L	1	0.50*	1.0*	11/06/15	EPA 200.8, Rev 5.4	721026460
Nickel, tot. recoverable as Ni by ICP-MS	69	ug/L	1	0.50*	1.0*	11/09/15	EPA 200.8, Rev 5.4	721026460
Metals digestion - tot. recov. ICP-MS	yes					11/06/15	EPA 200.8M, Rev 5.4	721026460

MW11 NLS ID: 892354
COC: :2 Matrix: GW
Collected: 11/03/15 11:15 Received: 11/04/15

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chromium, Hex. as Cr+6	ND	ug/L	1	1.1*	3.4*	11/04/15	3500-Cr B-2009	721026460
Chromium, dis. as Cr by ICP-MS	ND	ug/L	1	0.50*	1.0*	11/06/15	EPA 200.8, Rev 5.4	721026460
Chromium, tot. recoverable as Cr by ICP-MS	7.4	ug/L	1	0.50*	1.0*	11/09/15	EPA 200.8, Rev 5.4	721026460
Nickel, dis. as Ni by ICP-MS	[0.52]	ug/L	1	0.50*	1.0*	11/06/15	EPA 200.8, Rev 5.4	721026460
Nickel, tot. recoverable as Ni by ICP-MS	6.5	ug/L	1	0.50*	1.0*	11/09/15	EPA 200.8, Rev 5.4	721026460
Metals digestion - tot. recov. ICP-MS	yes					11/06/15	EPA 200.8M, Rev 5.4	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.

LOD = Limit of Detection LOQ = Limit of Quantitation ND = Not Detected (< LOD) 1000 ug/L = 1 mg/L
DWB = Dry Weight Basis NA = Not Applicable %DWB = (mg/kg DWB) / 10000
MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:

Authorized by:
R. T. Krueger
President

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

March 03, 2016

Ken Lassa
REI
4080 North 20th Avenue
Wausau, WI 54401

RE: Project: 6134B PHILLIPS PLATING
Pace Project No.: 40128531

Dear Ken Lassa:
Enclosed are the analytical results for sample(s) received by the laboratory on February 23, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40128531

Green Bay Certification IDs
1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
Virginia VELAP ID: 460263
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
US Dept of Agriculture #: S-76505
Virginia VELAP Certification ID: 460263
Virginia VELAP ID: 460263
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40128531

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40128531001	**MW1**	Water	02/22/16 10:15	02/23/16 08:45
40128531002	**MW2**	Water	02/22/16 11:15	02/23/16 08:45
40128531003	**MW5**	Water	02/22/16 11:30	02/23/16 08:45
40128531004	**MW6**	Water	02/22/16 13:15	02/23/16 08:45
40128531005	**MW7**	Water	02/22/16 11:00	02/23/16 08:45
40128531006	**MW8**	Water	02/22/16 11:45	02/23/16 08:45
40128531007	**MW9**	Water	02/22/16 12:45	02/23/16 08:45
40128531008	**MW10**	Water	02/22/16 12:30	02/23/16 08:45
40128531009	**MW11**	Water	02/22/16 12:00	02/23/16 08:45
40128531010	**MW12**	Water	02/22/16 10:45	02/23/16 08:45
40128531011	**PZ1**	Water	02/22/16 13:00	02/23/16 08:45

Pace Analytical Services, Inc.
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(920)469-2436

SAMPLE ANALYTE COUNT

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40128531

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40128531001	**MW1**	EPA 6010	DLB	4	PASI-G
		SM 3500-Cr B (Online)	DDY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40128531002	**MW2**	EPA 6010	DLB	4	PASI-G
		SM 3500-Cr B (Online)	DDY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40128531003	**MW5**	EPA 6010	DLB	4	PASI-G
		SM 3500-Cr B (Online)	DDY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40128531004	**MW6**	EPA 6010	DLB	4	PASI-G
		SM 3500-Cr B (Online)	DDY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40128531005	**MW7**	EPA 6010	DLB	4	PASI-G
		SM 3500-Cr B (Online)	DDY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40128531006	**MW8**	EPA 6010	DLB	4	PASI-G
		SM 3500-Cr B (Online)	DDY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40128531007	**MW9**	EPA 6010	DLB	4	PASI-G
		SM 3500-Cr B (Online)	DDY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40128531008	**MW10**	EPA 6010	DLB	4	PASI-G
		SM 3500-Cr B (Online)	DDY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40128531009	**MW11**	EPA 6010	DLB	4	PASI-G
		SM 3500-Cr B (Online)	DDY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40128531010	**MW12**	EPA 6010	DLB	4	PASI-G

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40128531

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 3500-Cr B (Online)	DDY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40128531011	**PZ1**	EPA 6010	DLB	4	PASI-G
		SM 3500-Cr B (Online)	DDY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40128531

Sample: MW1 **Lab ID: 40128531001** Collected: 02/22/16 10:15 Received: 02/23/16 08:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**2.1J**	ug/L	10.0	2.1	1		03/02/16 16:51	7440-47-3	
Iron, Dissolved	**26.9J**	ug/L	100	12.9	1		03/02/16 16:51	7439-89-6	
Manganese, Dissolved	**15.8**	ug/L	5.0	1.4	1		03/02/16 16:51	7439-96-5	
Nickel, Dissolved	**98.8**	ug/L	10.0	1.4	1		03/02/16 16:51	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.0039**	mg/L	0.020	0.0039	1		02/23/16 09:55	18540-29-9	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**5.2**	mg/L	1.5	0.75	5		02/23/16 16:16	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**23.8**	mg/L	4.0	2.0	1		02/23/16 12:25	14808-79-8	M0

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40128531

Sample: MW2 **Lab ID: 40128531002** Collected: 02/22/16 11:15 Received: 02/23/16 08:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**<2.1**	ug/L	10.0	2.1	1		03/02/16 16:53	7440-47-3	
Iron, Dissolved	**28.7J**	ug/L	100	12.9	1		03/02/16 16:53	7439-89-6	
Manganese, Dissolved	**72.5**	ug/L	5.0	1.4	1		03/02/16 16:53	7439-96-5	
Nickel, Dissolved	**14.2**	ug/L	10.0	1.4	1		03/02/16 16:53	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.039**	mg/L	0.20	0.039	10		02/23/16 09:55	18540-29-9	D3
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**31.7**	mg/L	3.0	1.5	10		02/23/16 17:10	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**37.6**	mg/L	20.0	10.0	5		02/23/16 12:57	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40128531

Sample: MW5 **Lab ID: 40128531003** Collected: 02/22/16 11:30 Received: 02/23/16 08:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**351**	ug/L	10.0	2.1	1		03/02/16 16:56	7440-47-3	
Iron, Dissolved	**<12.9**	ug/L	100	12.9	1		03/02/16 16:56	7439-89-6	
Manganese, Dissolved	**6.5**	ug/L	5.0	1.4	1		03/02/16 16:56	7439-96-5	
Nickel, Dissolved	**462**	ug/L	10.0	1.4	1		03/02/16 16:56	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.097**	mg/L	0.50	0.097	25		02/23/16 09:55	18540-29-9	D3
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**4.3**	mg/L	1.5	0.75	5		02/23/16 13:08	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**30.1**	mg/L	20.0	10.0	5		02/23/16 13:08	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40128531

Sample: MW6 **Lab ID: 40128531004** Collected: 02/22/16 13:15 Received: 02/23/16 08:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**6960**	ug/L	10.0	2.1	1		03/02/16 16:58	7440-47-3	
Iron, Dissolved	**<12.9**	ug/L	100	12.9	1		03/02/16 16:58	7439-89-6	
Manganese, Dissolved	**669**	ug/L	5.0	1.4	1		03/02/16 16:58	7439-96-5	
Nickel, Dissolved	**8810**	ug/L	10.0	1.4	1		03/02/16 16:58	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**6.8**	mg/L	0.50	0.097	25		02/23/16 09:55	18540-29-9	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**8.4**	mg/L	1.5	0.75	5		02/23/16 13:19	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**256**	mg/L	20.0	10.0	5		02/23/16 13:19	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40128531

Sample: MW7 **Lab ID: 40128531005** Collected: 02/22/16 11:00 Received: 02/23/16 08:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**3.2J**	ug/L	10.0	2.1	1		03/02/16 17:00	7440-47-3	
Iron, Dissolved	**<12.9**	ug/L	100	12.9	1		03/02/16 17:00	7439-89-6	
Manganese, Dissolved	**1.8J**	ug/L	5.0	1.4	1		03/02/16 17:00	7439-96-5	
Nickel, Dissolved	**2.1J**	ug/L	10.0	1.4	1		03/02/16 17:00	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.039**	mg/L	0.20	0.039	10		02/23/16 09:55	18540-29-9	D3
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**4.2**	mg/L	1.5	0.75	5		02/23/16 13:30	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**40.8**	mg/L	20.0	10.0	5		02/23/16 13:30	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40128531

Sample: MW8 **Lab ID: 40128531006** Collected: 02/22/16 11:45 Received: 02/23/16 08:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**1270**	ug/L	10.0	2.1	1		03/02/16 17:07	7440-47-3	
Iron, Dissolved	**65.0J**	ug/L	100	12.9	1		03/02/16 17:07	7439-89-6	
Manganese, Dissolved	**160**	ug/L	5.0	1.4	1		03/02/16 17:07	7439-96-5	
Nickel, Dissolved	**1460**	ug/L	10.0	1.4	1		03/02/16 17:07	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**1.1**	mg/L	0.20	0.039	10		02/23/16 09:55	18540-29-9	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**7.5**	mg/L	1.5	0.75	5		02/23/16 13:40	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**24.9**	mg/L	20.0	10.0	5		02/23/16 13:40	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40128531

Sample: MW9 **Lab ID: 40128531007** Collected: 02/22/16 12:45 Received: 02/23/16 08:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**938**	ug/L	10.0	2.1	1		03/02/16 17:10	7440-47-3	
Iron, Dissolved	**<12.9**	ug/L	100	12.9	1		03/02/16 17:10	7439-89-6	
Manganese, Dissolved	**130**	ug/L	5.0	1.4	1		03/02/16 17:10	7439-96-5	
Nickel, Dissolved	**173**	ug/L	10.0	1.4	1		03/02/16 17:10	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.86**	mg/L	0.20	0.039	10		02/23/16 09:55	18540-29-9	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**8.7**	mg/L	1.5	0.75	5		02/23/16 13:51	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**63.6**	mg/L	20.0	10.0	5		02/23/16 13:51	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40128531

Sample: MW10 **Lab ID: 40128531008** Collected: 02/22/16 12:30 Received: 02/23/16 08:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**724**	ug/L	10.0	2.1	1		03/02/16 17:12	7440-47-3	
Iron, Dissolved	**<12.9**	ug/L	100	12.9	1		03/02/16 17:12	7439-89-6	
Manganese, Dissolved	**3.5J**	ug/L	5.0	1.4	1		03/02/16 17:12	7439-96-5	
Nickel, Dissolved	**171**	ug/L	10.0	1.4	1		03/02/16 17:12	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.74**	mg/L	0.10	0.019	5		02/23/16 09:55	18540-29-9	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**4.2**	mg/L	0.30	0.15	1		02/23/16 14:02	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**60.7**	mg/L	20.0	10.0	5		02/23/16 17:21	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40128531

Sample: MW11 **Lab ID: 40128531009** Collected: 02/22/16 12:00 Received: 02/23/16 08:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**<2.1**	ug/L	10.0	2.1	1		03/02/16 17:14	7440-47-3	
Iron, Dissolved	**674**	ug/L	100	12.9	1		03/02/16 17:14	7439-89-6	
Manganese, Dissolved	**130**	ug/L	5.0	1.4	1		03/02/16 17:14	7439-96-5	
Nickel, Dissolved	**<1.4**	ug/L	10.0	1.4	1		03/02/16 17:14	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.019**	mg/L	0.10	0.019	5		02/23/16 09:55	18540-29-9	D3
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**8.2**	mg/L	1.5	0.75	5		02/23/16 17:32	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**15.7**	mg/L	4.0	2.0	1		02/23/16 14:34	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40128531

Sample: MW12 **Lab ID: 40128531010** Collected: 02/22/16 10:45 Received: 02/23/16 08:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**<2.1**	ug/L	10.0	2.1	1		03/02/16 17:17	7440-47-3	
Iron, Dissolved	**<12.9**	ug/L	100	12.9	1		03/02/16 17:17	7439-89-6	
Manganese, Dissolved	**<1.4**	ug/L	5.0	1.4	1		03/02/16 17:17	7439-96-5	
Nickel, Dissolved	**<1.4**	ug/L	10.0	1.4	1		03/02/16 17:17	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.019**	mg/L	0.10	0.019	5		02/23/16 09:55	18540-29-9	D3
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**6.8**	mg/L	1.5	0.75	5		02/23/16 17:42	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**18.8**	mg/L	4.0	2.0	1		02/23/16 14:45	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40128531

Sample: PZ1 **Lab ID: 40128531011** Collected: 02/22/16 13:00 Received: 02/23/16 08:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**1740**	ug/L	10.0	2.1	1		03/02/16 17:19	7440-47-3	
Iron, Dissolved	**<12.9**	ug/L	100	12.9	1		03/02/16 17:19	7439-89-6	
Manganese, Dissolved	**16.6**	ug/L	5.0	1.4	1		03/02/16 17:19	7439-96-5	
Nickel, Dissolved	**1.7J**	ug/L	10.0	1.4	1		03/02/16 17:19	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**1.9**	mg/L	0.20	0.039	10		02/23/16 09:55	18540-29-9	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**4.3**	mg/L	1.5	0.75	5		02/23/16 17:53	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**44.0**	mg/L	20.0	10.0	5		02/23/16 17:53	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40128531

QC Batch: ICP/11865 Analysis Method: EPA 6010
QC Batch Method: EPA 6010 Analysis Description: ICP Metals, Trace, Dissolved
Associated Lab Samples: 40128531001, 40128531002, 40128531003, 40128531004, 40128531005, 40128531006, 40128531007, 40128531008, 40128531009, 40128531010, 40128531011

METHOD BLANK: 1299124 Matrix: Water
Associated Lab Samples: 40128531001, 40128531002, 40128531003, 40128531004, 40128531005, 40128531006, 40128531007, 40128531008, 40128531009, 40128531010, 40128531011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium, Dissolved	ug/L	<2.1	10.0	03/02/16 16:21	
Iron, Dissolved	ug/L	<12.9	100	03/02/16 16:21	
Manganese, Dissolved	ug/L	<1.4	5.0	03/02/16 16:21	
Nickel, Dissolved	ug/L	<1.4	10.0	03/02/16 16:21	

LABORATORY CONTROL SAMPLE: 1299125

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Dissolved	ug/L	500	473	95	80-120	
Iron, Dissolved	ug/L	5000	4610	92	80-120	
Manganese, Dissolved	ug/L	500	455	91	80-120	
Nickel, Dissolved	ug/L	500	490	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1299126 1299127

Parameter	Units	40128600009 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	<2.1	500	500	473	472	94	94	75-125	0	20	
Iron, Dissolved	ug/L	<12.9	5000	5000	4650	4610	93	92	75-125	1	20	
Manganese, Dissolved	ug/L	131	500	500	584	578	90	89	75-125	1	20	
Nickel, Dissolved	ug/L	5.8J	500	500	489	493	97	97	75-125	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40128531

QC Batch: WET/24453 Analysis Method: SM 3500-Cr B (Online)
QC Batch Method: SM 3500-Cr B (Online) Analysis Description: Chromium, Hexavalent by 3500
Associated Lab Samples: 40128531001, 40128531002, 40128531003, 40128531004, 40128531005, 40128531006, 40128531007, 40128531008, 40128531009, 40128531010, 40128531011

METHOD BLANK: 1298378 Matrix: Water
Associated Lab Samples: 40128531001, 40128531002, 40128531003, 40128531004, 40128531005, 40128531006, 40128531007, 40128531008, 40128531009, 40128531010, 40128531011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium, Hexavalent	mg/L	<0.0039	0.020	02/23/16 09:55	

LABORATORY CONTROL SAMPLE: 1298379

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	mg/L	.3	0.29	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1298380 1298381

Parameter	Units	40128531001 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	<0.0039	.3	.3	0.29	0.29	97	96	90-110	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1298382 1298383

Parameter	Units	40128531011 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	1.9	3	3	4.9	5.0	102	104	90-110	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40128531

QC Batch: WETA/32474 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 40128531001, 40128531002, 40128531003, 40128531004, 40128531005, 40128531006, 40128531007, 40128531008, 40128531009, 40128531010, 40128531011

METHOD BLANK: 1298418 Matrix: Water
Associated Lab Samples: 40128531001, 40128531002, 40128531003, 40128531004, 40128531005, 40128531006, 40128531007, 40128531008, 40128531009, 40128531010, 40128531011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrate as N	mg/L	<0.15	0.30	02/23/16 11:42	
Sulfate	mg/L	<2.0	4.0	02/23/16 11:42	

LABORATORY CONTROL SAMPLE: 1298419

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrate as N	mg/L	1.5	1.5	100	90-110	
Sulfate	mg/L	20	19.7	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1298420 1298421

Parameter	Units	40128531001 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	5.2	7.5	7.5	12.9	12.8	103	101	90-110	1	20	
Sulfate	mg/L	23.8	20	20	46.2	46.2	112	112	90-110	0	20	M0

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1298422 1298423

Parameter	Units	40128531011 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	11.9	11.9	101	101	90-110	0	20	
Sulfate	mg/L	44.0	100	100	142	142	98	98	90-110	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40128531

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.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay

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.: 40128531

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40128531001	**MW1**	EPA 6010	ICP/11865		
40128531002	**MW2**	EPA 6010	ICP/11865		
40128531003	**MW5**	EPA 6010	ICP/11865		
40128531004	**MW6**	EPA 6010	ICP/11865		
40128531005	**MW7**	EPA 6010	ICP/11865		
40128531006	**MW8**	EPA 6010	ICP/11865		
40128531007	**MW9**	EPA 6010	ICP/11865		
40128531008	**MW10**	EPA 6010	ICP/11865		
40128531009	**MW11**	EPA 6010	ICP/11865		
40128531010	**MW12**	EPA 6010	ICP/11865		
40128531011	**PZ1**	EPA 6010	ICP/11865		
40128531001	**MW1**	SM 3500-Cr B (Online)	WET/24453		
40128531002	**MW2**	SM 3500-Cr B (Online)	WET/24453		
40128531003	**MW5**	SM 3500-Cr B (Online)	WET/24453		
40128531004	**MW6**	SM 3500-Cr B (Online)	WET/24453		
40128531005	**MW7**	SM 3500-Cr B (Online)	WET/24453		
40128531006	**MW8**	SM 3500-Cr B (Online)	WET/24453		
40128531007	**MW9**	SM 3500-Cr B (Online)	WET/24453		
40128531008	**MW10**	SM 3500-Cr B (Online)	WET/24453		
40128531009	**MW11**	SM 3500-Cr B (Online)	WET/24453		
40128531010	**MW12**	SM 3500-Cr B (Online)	WET/24453		
40128531011	**PZ1**	SM 3500-Cr B (Online)	WET/24453		
40128531001	**MW1**	EPA 300.0	WETA/32474		
40128531002	**MW2**	EPA 300.0	WETA/32474		
40128531003	**MW5**	EPA 300.0	WETA/32474		
40128531004	**MW6**	EPA 300.0	WETA/32474		
40128531005	**MW7**	EPA 300.0	WETA/32474		
40128531006	**MW8**	EPA 300.0	WETA/32474		
40128531007	**MW9**	EPA 300.0	WETA/32474		
40128531008	**MW10**	EPA 300.0	WETA/32474		
40128531009	**MW11**	EPA 300.0	WETA/32474		
40128531010	**MW12**	EPA 300.0	WETA/32474		
40128531011	**PZ1**	EPA 300.0	WETA/32474		
40128531001	**MW1**	EPA 300.0	WETA/32474		
40128531002	**MW2**	EPA 300.0	WETA/32474		
40128531003	**MW5**	EPA 300.0	WETA/32474		
40128531004	**MW6**	EPA 300.0	WETA/32474		
40128531005	**MW7**	EPA 300.0	WETA/32474		
40128531006	**MW8**	EPA 300.0	WETA/32474		
40128531007	**MW9**	EPA 300.0	WETA/32474		
40128531008	**MW10**	EPA 300.0	WETA/32474		
40128531009	**MW11**	EPA 300.0	WETA/32474		
40128531010	**MW12**	EPA 300.0	WETA/32474		
40128531011	**PZ1**	EPA 300.0	WETA/32474		

REPORT OF LABORATORY ANALYSIS

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

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CHAIN OF CUSTODY

40128531

(Please Print Clearly)	
Company Name:	REI
Branch/Location:	Wausau
Project Contact:	Ken Lassa
Phone:	715-675-9784
Project Number:	6134B
Project Name:	Phillips Plating
Project State:	WI
Sampled By (Print):	Jared Szews
Sampled By (Sign):	Jared Szews
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	Ken Lassa
Mail To Company:	REI
Mail To Address:	klassa@REIengineering.com
Invoice To Contact:	SAA
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

*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

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 Cr, Ni, Mn, Fe, (Filtered)	Hex Cr	Nitrate	Sulfate	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
					Y	O	A	A	A				
001	MW1	2/22/16	10:15	GW								2-250ml/pND	
002	MW2		11:15										
003	MW5		11:30										
004	MW6		1:15										
005	MW7		11:00										
006	MW8		11:45										
007	MW9		12:45										
008	MW10		12:30										
009	MW11		12:00										
010	MW12		10:45										
011	PZ1		1:00										

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:
Jared Szews-REI	2/22/16 3PM		
Walco	2/23/16 0845	Rose Paul	2/23/16 0845

PACE Project No.: 40128531

Receipt Temp = R01 °C

Sample Receipt pH OK / Adjusted

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

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Sample Condition Upon Receipt

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

Project #: **WO# : 40128531**

40128531

Client Name: REI

Courier: ☐ Fed Ex ☐ UPS ☐ Client ☐ Pace Other: Walter

Tracking #: 989859-1

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

Cooler Temperature Uncorr: R01 /Corr: **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp Blank Present: ☐ yes ☒ no

Person examining contents:
Date: 2/23/16
Initials:

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

				Comments:
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	☐N/A	5.
- VOA Samples frozen upon receipt	☐Yes	☐No		Date/Time:
Short Hold Time Analysis (<72hr):	☒Yes	☐No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☒No	☐N/A	7.
Sufficient Volume:	☒Yes	☐No	☐N/A	8.
Correct Containers Used:	☒Yes	☐No	☐N/A	9.
-Pace Containers Used:	☒Yes	☐No	☐N/A	
-Pace IR Containers Used:	☐Yes	☐No	☒N/A	
Containers Intact:	☒Yes	☐No	☐N/A	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				
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	☒Yes	☐No	☐N/A	13. ☑HNO3 ☐ H2SO4 ☐ NaOH ☐ NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	☒Yes	☐No	☐N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	☐Yes	☒No		Initial when completed: TL / Lab Std #ID of preservative: / Date/Time:
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☒N/A	14.
Trip Blank Present:	☐Yes	☒No	☐N/A	15.
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:** 2-23-16

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: 255588
NLS Customer: 29027

Fax: 715 675 4060 Phone: 715 675 9784

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

Project: **Phillips Plating #6134B**

MW10 NLS ID: 906084
COC: :1 Matrix: GW
Collected: 02/22/16 12:30 Received: 02/23/16

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chromium, Hex. as Cr+6	660	ug/L	20	22*	68*	02/23/16	3500-Cr B-2009	721026460
	The matrix spike recovery was outside of the method required control limits of 85-115% at 80%.							
Chromium, dis. as Cr by ICP-MS	730	ug/L	1	0.50*	1.0*	02/26/16	EPA 200.8, Rev 5.4	721026460
Nickel, dis. as Ni by ICP-MS	170	ug/L	1	0.50*	1.0*	02/26/16	EPA 200.8, Rev 5.4	721026460

MW11 NLS ID: 906085
COC: :2 Matrix: GW
Collected: 02/22/16 12:00 Received: 02/23/16

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chromium, Hex. as Cr+6	[1.2]	ug/L	1	1.1*	3.4*	02/23/16	3500-Cr B-2009	721026460
Chromium, dis. as Cr by ICP-MS	ND	ug/L	1	0.50*	1.0*	02/26/16	EPA 200.8, Rev 5.4	721026460
Nickel, dis. as Ni by ICP-MS	[0.81]	ug/L	1	0.50*	1.0*	02/26/16	EPA 200.8, Rev 5.4	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

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

September 12, 2016

Ken Lassa
REI
4080 North 20th Avenue
Wausau, WI 54401

RE: Project: 6134B PHILLIPS PLATING
Pace Project No.: 40137565

Dear Ken Lassa:
Enclosed are the analytical results for sample(s) received by the laboratory on September 01, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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
Project Manager

Enclosures

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

CERTIFICATIONS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40137565

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
Virginia VELAP ID: 460263
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
US Dept of Agriculture #: S-76505
Virginia VELAP Certification ID: 460263
Virginia VELAP ID: 460263
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40137565

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40137565001	**MW1**	Water	08/31/16 08:45	09/01/16 09:00
40137565002	**MW2**	Water	08/31/16 09:50	09/01/16 09:00
40137565003	**MW4**	Water	08/31/16 11:10	09/01/16 09:00
40137565004	**MW6**	Water	08/31/16 12:15	09/01/16 09:00
40137565005	**MW7**	Water	08/31/16 09:30	09/01/16 09:00
40137565006	**MW8**	Water	08/31/16 10:15	09/01/16 09:00
40137565007	**MW9**	Water	08/31/16 11:40	09/01/16 09:00
40137565008	**MW10**	Water	08/31/16 10:50	09/01/16 09:00
40137565009	**MW11**	Water	08/31/16 10:40	09/01/16 09:00
40137565010	**MW12**	Water	08/31/16 09:05	09/01/16 09:00
40137565011	**PZ1**	Water	08/31/16 12:00	09/01/16 09:00

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SAMPLE ANALYTE COUNT

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40137565

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40137565001	**MW1**	EPA 6010	DLB	4	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40137565002	**MW2**	EPA 6010	DLB	4	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40137565003	**MW4**	EPA 6010	DLB	4	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40137565004	**MW6**	EPA 6010	DLB	4	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40137565005	**MW7**	EPA 6010	DLB	4	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40137565006	**MW8**	EPA 6010	DLB	4	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40137565007	**MW9**	EPA 6010	DLB	4	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40137565008	**MW10**	EPA 6010	DLB	4	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40137565009	**MW11**	EPA 6010	DLB	4	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40137565010	**MW12**	EPA 6010	DLB	4	PASI-G

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40137565

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 3500-Cr B (Online)	DEY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
40137565011	**PZ1**	EPA 6010	DLB	4	PASI-G
		SM 3500-Cr B (Online)	DEY	1	PASI-G
		EPA 300.0	HMB	1	PASI-G
		EPA 300.0	HMB	1	PASI-G

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40137565

Sample: MW1 **Lab ID: 40137565001** Collected: 08/31/16 08:45 Received: 09/01/16 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**<2.1**	ug/L	10.0	2.1	1		09/06/16 17:36	7440-47-3	
Iron, Dissolved	**30.6J**	ug/L	100	12.9	1		09/06/16 17:36	7439-89-6	
Manganese, Dissolved	**1.9J**	ug/L	5.0	1.4	1		09/06/16 17:36	7439-96-5	
Nickel, Dissolved	**93.0**	ug/L	10.0	1.4	1		09/06/16 17:36	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.026**	mg/L	0.086	0.026	5		09/01/16 09:15	18540-29-9	D3,H3
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**5.1**	mg/L	1.5	0.75	5		09/01/16 11:42	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**23.0**	mg/L	20.0	10.0	5		09/01/16 11:42	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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Green Bay, WI 54302
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ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40137565

Sample: MW2 **Lab ID: 40137565002** Collected: 08/31/16 09:50 Received: 09/01/16 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**<2.1**	ug/L	10.0	2.1	1		09/06/16 17:39	7440-47-3	
Iron, Dissolved	**41.9J**	ug/L	100	12.9	1		09/06/16 17:39	7439-89-6	
Manganese, Dissolved	**72.2**	ug/L	5.0	1.4	1		09/06/16 17:39	7439-96-5	
Nickel, Dissolved	**10.3**	ug/L	10.0	1.4	1		09/06/16 17:39	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.13**	mg/L	0.43	0.13	25		09/01/16 09:15	18540-29-9	D3
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**23.1**	mg/L	3.0	1.5	10		09/01/16 23:49	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**27.8**	mg/L	20.0	10.0	5		09/01/16 12:15	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
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ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40137565

Sample: MW4 **Lab ID: 40137565003** Collected: 08/31/16 11:10 Received: 09/01/16 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**<2.1**	ug/L	10.0	2.1	1		09/06/16 17:41	7440-47-3	
Iron, Dissolved	**<12.9**	ug/L	100	12.9	1		09/06/16 17:41	7439-89-6	
Manganese, Dissolved	**<1.4**	ug/L	5.0	1.4	1		09/06/16 17:41	7439-96-5	
Nickel, Dissolved	**<1.4**	ug/L	10.0	1.4	1		09/06/16 17:41	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.0051**	mg/L	0.017	0.0051	1		09/01/16 09:15	18540-29-9	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**3.1**	mg/L	1.5	0.75	5		09/01/16 12:26	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**11.9J**	mg/L	20.0	10.0	5		09/01/16 12:26	14808-79-8	D3

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40137565

Sample: MW6 **Lab ID: 40137565004** Collected: 08/31/16 12:15 Received: 09/01/16 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**7770**	ug/L	10.0	2.1	1		09/06/16 17:48	7440-47-3	
Iron, Dissolved	**<12.9**	ug/L	100	12.9	1		09/06/16 17:48	7439-89-6	
Manganese, Dissolved	**781**	ug/L	5.0	1.4	1		09/06/16 17:48	7439-96-5	
Nickel, Dissolved	**10100**	ug/L	10.0	1.4	1		09/06/16 17:48	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**7.4**	mg/L	0.43	0.13	25		09/01/16 09:15	18540-29-9	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**11.1**	mg/L	1.5	0.75	5		09/01/16 12:59	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**236**	mg/L	20.0	10.0	5		09/01/16 12:59	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40137565

Sample: MW7 **Lab ID: 40137565005** Collected: 08/31/16 09:30 Received: 09/01/16 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**<2.1**	ug/L	10.0	2.1	1		09/06/16 17:50	7440-47-3	
Iron, Dissolved	**<12.9**	ug/L	100	12.9	1		09/06/16 17:50	7439-89-6	
Manganese, Dissolved	**<1.4**	ug/L	5.0	1.4	1		09/06/16 17:50	7439-96-5	
Nickel, Dissolved	**1.8J**	ug/L	10.0	1.4	1		09/06/16 17:50	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.026**	mg/L	0.086	0.026	5		09/01/16 09:15	18540-29-9	D3
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**3.4**	mg/L	1.5	0.75	5		09/01/16 13:10	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**42.4**	mg/L	20.0	10.0	5		09/01/16 13:10	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40137565

Sample: MW8 **Lab ID: 40137565006** Collected: 08/31/16 10:15 Received: 09/01/16 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**488**	ug/L	10.0	2.1	1		09/06/16 17:53	7440-47-3	
Iron, Dissolved	**<12.9**	ug/L	100	12.9	1		09/06/16 17:53	7439-89-6	
Manganese, Dissolved	**105**	ug/L	5.0	1.4	1		09/06/16 17:53	7439-96-5	
Nickel, Dissolved	**1400**	ug/L	10.0	1.4	1		09/06/16 17:53	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.49**	mg/L	0.086	0.026	5		09/01/16 09:15	18540-29-9	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**6.6**	mg/L	1.5	0.75	5		09/01/16 13:21	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**<10.0**	mg/L	20.0	10.0	5		09/01/16 13:21	14808-79-8	D3

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40137565

Sample: MW9 **Lab ID: 40137565007** Collected: 08/31/16 11:40 Received: 09/01/16 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**361**	ug/L	10.0	2.1	1		09/06/16 17:55	7440-47-3	
Iron, Dissolved	**<12.9**	ug/L	100	12.9	1		09/06/16 17:55	7439-89-6	
Manganese, Dissolved	**134**	ug/L	5.0	1.4	1		09/06/16 17:55	7439-96-5	
Nickel, Dissolved	**229**	ug/L	10.0	1.4	1		09/06/16 17:55	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.40**	mg/L	0.17	0.051	10		09/01/16 09:15	18540-29-9	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**6.9**	mg/L	1.5	0.75	5		09/01/16 13:32	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**50.1**	mg/L	20.0	10.0	5		09/01/16 13:32	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40137565

Sample: MW10 **Lab ID: 40137565008** Collected: 08/31/16 10:50 Received: 09/01/16 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**217**	ug/L	10.0	2.1	1		09/06/16 17:58	7440-47-3	
Iron, Dissolved	**17.3J**	ug/L	100	12.9	1		09/06/16 17:58	7439-89-6	
Manganese, Dissolved	**1.8J**	ug/L	5.0	1.4	1		09/06/16 17:58	7439-96-5	
Nickel, Dissolved	**47.4**	ug/L	10.0	1.4	1		09/06/16 17:58	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.65**	mg/L	0.086	0.026	5		09/01/16 09:15	18540-29-9	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**3.0**	mg/L	1.5	0.75	5		09/01/16 13:43	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**70.3**	mg/L	20.0	10.0	5		09/01/16 13:43	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40137565

Sample: MW11 **Lab ID: 40137565009** Collected: 08/31/16 10:40 Received: 09/01/16 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**<2.1**	ug/L	10.0	2.1	1		09/06/16 18:00	7440-47-3	
Iron, Dissolved	**272**	ug/L	100	12.9	1		09/06/16 18:00	7439-89-6	
Manganese, Dissolved	**64.8**	ug/L	5.0	1.4	1		09/06/16 18:00	7439-96-5	
Nickel, Dissolved	**<1.4**	ug/L	10.0	1.4	1		09/06/16 18:00	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.026**	mg/L	0.086	0.026	5		09/01/16 09:15	18540-29-9	D3
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**5.4**	mg/L	1.5	0.75	5		09/01/16 13:54	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**15.7J**	mg/L	20.0	10.0	5		09/01/16 13:54	14808-79-8	D3

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40137565

Sample: MW12 **Lab ID: 40137565010** Collected: 08/31/16 09:05 Received: 09/01/16 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**<2.1**	ug/L	10.0	2.1	1		09/06/16 18:02	7440-47-3	
Iron, Dissolved	**<12.9**	ug/L	100	12.9	1		09/06/16 18:02	7439-89-6	
Manganese, Dissolved	**<1.4**	ug/L	5.0	1.4	1		09/06/16 18:02	7439-96-5	
Nickel, Dissolved	**<1.4**	ug/L	10.0	1.4	1		09/06/16 18:02	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.026**	mg/L	0.086	0.026	5		09/01/16 09:15	18540-29-9	D3,H1
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**5.3**	mg/L	1.5	0.75	5		09/01/16 14:05	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**16.1J**	mg/L	20.0	10.0	5		09/01/16 14:05	14808-79-8	D3

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40137565

Sample: PZ1 **Lab ID: 40137565011** Collected: 08/31/16 12:00 Received: 09/01/16 09:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Chromium, Dissolved	**1650**	ug/L	10.0	2.1	1		09/06/16 18:05	7440-47-3	
Iron, Dissolved	**<12.9**	ug/L	100	12.9	1		09/06/16 18:05	7439-89-6	
Manganese, Dissolved	**11.1**	ug/L	5.0	1.4	1		09/06/16 18:05	7439-96-5	
Nickel, Dissolved	**2.0J**	ug/L	10.0	1.4	1		09/06/16 18:05	7440-02-0	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**1.4**	mg/L	0.17	0.051	10		09/01/16 09:15	18540-29-9	
300.0 IC Anions	Analytical Method: EPA 300.0								
Nitrate as N	**3.8**	mg/L	1.5	0.75	5		09/01/16 14:17	14797-55-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
Sulfate	**39.3**	mg/L	20.0	10.0	5		09/01/16 14:17	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40137565

QC Batch: 234149 Analysis Method: EPA 6010
QC Batch Method: EPA 6010 Analysis Description: ICP Metals, Trace, Dissolved
Associated Lab Samples: 40137565001, 40137565002, 40137565003, 40137565004, 40137565005, 40137565006, 40137565007, 40137565008, 40137565009, 40137565010, 40137565011

METHOD BLANK: 1387410 Matrix: Water
Associated Lab Samples: 40137565001, 40137565002, 40137565003, 40137565004, 40137565005, 40137565006, 40137565007, 40137565008, 40137565009, 40137565010, 40137565011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium, Dissolved	ug/L	<2.1	10.0	09/06/16 17:01	
Iron, Dissolved	ug/L	<12.9	100	09/06/16 17:01	
Manganese, Dissolved	ug/L	<1.4	5.0	09/06/16 17:01	
Nickel, Dissolved	ug/L	<1.4	10.0	09/06/16 17:01	

LABORATORY CONTROL SAMPLE: 1387411

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Dissolved	ug/L	500	480	96	80-120	
Iron, Dissolved	ug/L	5000	4920	98	80-120	
Manganese, Dissolved	ug/L	500	473	95	80-120	
Nickel, Dissolved	ug/L	500	467	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1387412 1387413

Parameter	Units	40137652001 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	<2.1	500	500	484	478	97	96	75-125	1	20	
Iron, Dissolved	ug/L	40.6J	5000	5000	5000	4930	99	98	75-125	1	20	
Manganese, Dissolved	ug/L	4.9J	500	500	478	476	95	94	75-125	1	20	
Nickel, Dissolved	ug/L	2.8J	500	500	466	464	93	92	75-125	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40137565

QC Batch: 233879 Analysis Method: SM 3500-Cr B (Online)
QC Batch Method: SM 3500-Cr B (Online) Analysis Description: Chromium, Hexavalent by 3500
Associated Lab Samples: 40137565001, 40137565002, 40137565003, 40137565004, 40137565005, 40137565006, 40137565007, 40137565008, 40137565009, 40137565010, 40137565011

METHOD BLANK: 1385345 Matrix: Water
Associated Lab Samples: 40137565001, 40137565002, 40137565003, 40137565004, 40137565005, 40137565006, 40137565007, 40137565008, 40137565009, 40137565010, 40137565011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium, Hexavalent	mg/L	<0.0051	0.017	09/01/16 09:15	

LABORATORY CONTROL SAMPLE: 1385346

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	mg/L	.3	0.30	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1385347 1385348

Parameter	Units	40137565001 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	<0.026	1.5	1.5	1.5	1.6	99	104	90-110	5	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1385349 1385350

Parameter	Units	40137565011 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	1.4	3	3	4.6	4.5	107	103	90-110	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(920)469-2436

QUALITY CONTROL DATA

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40137565

QC Batch: 233893 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 40137565001, 40137565002, 40137565003, 40137565004, 40137565005, 40137565006, 40137565007, 40137565008, 40137565009, 40137565010, 40137565011

METHOD BLANK: 1385408 Matrix: Water
Associated Lab Samples: 40137565001, 40137565002, 40137565003, 40137565004, 40137565005, 40137565006, 40137565007, 40137565008, 40137565009, 40137565010, 40137565011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrate as N	mg/L	<0.15	0.30	09/01/16 10:47	
Sulfate	mg/L	<2.0	4.0	09/01/16 10:47	

LABORATORY CONTROL SAMPLE: 1385409

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrate as N	mg/L	1.5	1.6	108	90-110	
Sulfate	mg/L	20	21.1	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1385410 1385411

Parameter	Units	40137565001 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	5.1	7.5	7.5	12.8	12.8	103	103	90-110	0	20	
Sulfate	mg/L	23.0	100	100	119	119	96	96	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1385412 1385413

Parameter	Units	40137565011 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	3.8	7.5	7.5	11.6	11.7	103	105	90-110	1	20	
Sulfate	mg/L	39.3	100	100	139	141	99	102	90-110	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALIFIERS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40137565

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.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H1	Analysis conducted outside the recognized method holding time.
H3	Sample was received or analysis requested beyond the recognized method holding time.

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 6134B PHILLIPS PLATING
Pace Project No.: 40137565

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40137565001	**MW1**	EPA 6010	234149		
40137565002	**MW2**	EPA 6010	234149		
40137565003	**MW4**	EPA 6010	234149		
40137565004	**MW6**	EPA 6010	234149		
40137565005	**MW7**	EPA 6010	234149		
40137565006	**MW8**	EPA 6010	234149		
40137565007	**MW9**	EPA 6010	234149		
40137565008	**MW10**	EPA 6010	234149		
40137565009	**MW11**	EPA 6010	234149		
40137565010	**MW12**	EPA 6010	234149		
40137565011	**PZ1**	EPA 6010	234149		
40137565001	**MW1**	SM 3500-Cr B (Online)	233879		
40137565002	**MW2**	SM 3500-Cr B (Online)	233879		
40137565003	**MW4**	SM 3500-Cr B (Online)	233879		
40137565004	**MW6**	SM 3500-Cr B (Online)	233879		
40137565005	**MW7**	SM 3500-Cr B (Online)	233879		
40137565006	**MW8**	SM 3500-Cr B (Online)	233879		
40137565007	**MW9**	SM 3500-Cr B (Online)	233879		
40137565008	**MW10**	SM 3500-Cr B (Online)	233879		
40137565009	**MW11**	SM 3500-Cr B (Online)	233879		
40137565010	**MW12**	SM 3500-Cr B (Online)	233879		
40137565011	**PZ1**	SM 3500-Cr B (Online)	233879		
40137565001	**MW1**	EPA 300.0	233893		
40137565002	**MW2**	EPA 300.0	233893		
40137565003	**MW4**	EPA 300.0	233893		
40137565004	**MW6**	EPA 300.0	233893		
40137565005	**MW7**	EPA 300.0	233893		
40137565006	**MW8**	EPA 300.0	233893		
40137565007	**MW9**	EPA 300.0	233893		
40137565008	**MW10**	EPA 300.0	233893		
40137565009	**MW11**	EPA 300.0	233893		
40137565010	**MW12**	EPA 300.0	233893		
40137565011	**PZ1**	EPA 300.0	233893		
40137565001	**MW1**	EPA 300.0	233893		
40137565002	**MW2**	EPA 300.0	233893		
40137565003	**MW4**	EPA 300.0	233893		
40137565004	**MW6**	EPA 300.0	233893		
40137565005	**MW7**	EPA 300.0	233893		
40137565006	**MW8**	EPA 300.0	233893		
40137565007	**MW9**	EPA 300.0	233893		
40137565008	**MW10**	EPA 300.0	233893		
40137565009	**MW11**	EPA 300.0	233893		
40137565010	**MW12**	EPA 300.0	233893		
40137565011	**PZ1**	EPA 300.0	233893		

Pace Analytical®
www.pacelabs.com

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

CHAIN OF CUSTODY

401375605

(Please Print Clearly)	
Company Name:	REI
Branch/Location:	Wausau
Project Contact:	Brian Bailey
Phone:	715-675-9784
Project Number:	6134 B
Project Name:	Phillips Plating
Project State:	WI
Sampled By (Print):	Brian J Bailey
Sampled By (Sign):	BJ Bailey
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	Brian Bailey
Mail To Company:	REI
Mail To Address:	4080 N. 20th Ave Wausau, WI 54401
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

***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

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO) Y/N	PRESERVATION (CODE)* Pick Letter	Analyses Requested: Total Cr, Ni, Mg, Fe (Filtered)	Hex Cr.	Nitrate	Sulfate	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
					Y	D							
					N	A							
					N	A							
					N	A							
001	MW1	8/31/16	8:45A	GW			X	X	X	X		2-250ml p AD	
002	MW2		9:50A										
003	MW4		11:10A										
004	MW6		12:15P										
005	MW7		9:30A										
006	MW8		10:15A										
007	MW9		11:40A										
008	MW10		10:50A										
009	MW11		10:40A										
010	MW12		9:05A										
011	PZ1		12:00P										

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:
BJ Bailey	8/31/16 / 3:20P		
WalTCO	9/1/16 0900	[signature]	9/1/16 0900

PACE Project No.: 401375605

Receipt Temp = R01 °C

Sample Receipt pH: (OK) / Adjusted

Cooler Custody Seal: Present / (Not Present)

Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Sample Condition Upon Receipt

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

Pace Analytical™

Project #: WO#: 40137565

Client Name: REI

Courier: ☐ Fed Ex ☐ UPS ☑ Client ☐ Pace Other: Walt-co

Tracking #: 1141e899-1

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 N/A **Type of Ice:** (Wet) Blue Dry None ☒ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: K01 /Corr: **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp Blank Present: ☐ yes ☒ no

Person examining contents: Date: 9/1/16 Initials: TL

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

		Comments:
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: 9/1/16 TL	☒Yes ☒No ☐N/A	5 001 +010 arrived past hold
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time: 9/1/16 TL
Short Hold Time Analysis (<72hr):	☒Yes ☐No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☒No ☐N/A	7.
Sufficient Volume:	☒Yes ☐No ☐N/A	8.
Correct Containers Used:	☒Yes ☐No ☐N/A	9.
-Pace Containers Used:	☒Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☒N/A	
Containers Intact:	☒Yes ☐No ☐N/A	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		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	☒Yes ☐No ☐N/A	13. ☒HNO3 ☐ H2SO4 ☐ NaOH ☐ NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	☒Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	☐Yes ☒No	Initial when completed TL / Lab Std #ID of preservative / Date/ Time:
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☒N/A	14.
Trip Blank Present:	☐Yes ☒No ☐N/A	15.
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: 9-1-16

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: 266411
NLS Customer: 29027

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

Fax: 715 675 4060 Phone: 715 675 9784

Project: **Phillips Plating #6134B**

MW10 NLS ID: 942450
COC: :1 Matrix: GW
Collected: 08/31/16 10:50 Received: 09/01/16

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chromium, dis. as Cr by ICP	240	ug/L	1	0.32	1.0	09/01/16	SW846 6010	721026460
Chromium, Hex. as Cr+6	580	ug/L	20	22*	68*	09/01/16	3500-Cr B-2009	721026460
	Matrix spike recovery was below 85-115% method control but within in-house 81-115% QC limits at 81%.							
Nickel, dis. as Ni by ICP	53	ug/L	1	1.3	4.0	09/01/16	SW846 6010	721026460
Lab filtration	yes					09/01/16	NA	721026460

MW11 NLS ID: 942451
COC: :2 Matrix: GW
Collected: 08/31/16 10:40 Received: 09/01/16

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chromium, dis. as Cr by ICP	[0.88]	ug/L	1	0.32	1.0	09/01/16	SW846 6010	721026460
Chromium, Hex. as Cr+6	ND	ug/L	1	1.1*	3.4*	09/01/16	3500-Cr B-2009	721026460
Nickel, dis. as Ni by ICP	ND	ug/L	1	1.3	4.0	09/01/16	SW846 6010	721026460
Lab filtration	yes					09/01/16	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