Rec 3/15/13 put on BRRTS 3/15/13 (43)

REI
CIVIL & ENVIRONMENTAL ENGINEERING, SURVEYING

March 13, 2013

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 an attachment. The facility is an operating plating facility which specializes in metallic plating of various plastic components.

SUMMARY OF DATES AND WORK COMPLETED

- **October 4, 2012** - REI completed Phase II Environmental Site Investigation
- **November 29, 2012** - REI reports contamination to WDNR
- **December 10, 2012** - REI prepares and submits investigation work plan
- **December 11, 2012** - REI onsite to install, develop, and sample monitoring wells 1-5
- **December 19, 2012** - REI onsite to collect soil samples around previously leaking floor drain
- **January 3, 2013** - REI onsite to sample MW5 and install, develop, and sample monitoring wells 6 and 7
- **February 14, 2013** – REI onsite to install MW8 and MW9
- **February 19, 2013** – REI onsite to develop and sample MW8 and MW9
- **March 5, 2013** – REI onsite to sample all monitoring wells

INITIAL GROUNDWATER ANALYTICAL RESULTS

A Phase II Environmental Site Investigation was completed on October 4, 2012. Groundwater samples collected from Geoprobe Hydraulic Push Borings, advanced by Geiss Soil and Samples, indicated that groundwater contamination was present on the site. Initial groundwater monitoring wells, MW1-MW5, were installed by Giles Engineering Associates. These wells were surveyed, developed and sampled for the first time on December 11, 2012. The extent of groundwater contamination was not defined. Therefore, On January 3, 2013, Giles Engineering Associates was

subcontracted to advance two (2) additional groundwater monitoring wells (MW6 and MW7). These wells were sampled and the horizontal extent of the contamination was not yet defined. Giles Engineering Associates was subcontracted to install two (2) additional monitoring wells (MW8 and MW9) on February 14, 2013. These wells were sampled on February 19, 2013 with analytical results revealing that the horizontal extent of the contamination was not yet defined. Figure 3c provides an updated groundwater flow map with the location of all nine (9) monitoring wells depicted. Groundwater elevation data was collected prior to sampling and is summarized on Table 3 and groundwater analytical results from the monitoring wells are summarized on Tables 4a-4i.

CONCLUSIONS AND RECOMMENDATIONS

Based on the latest groundwater analytical results, the down gradient extent of groundwater contamination needs further definition. Installation of additional monitoring wells will be necessary to completely define the extent of the contamination. Additional down gradient wells would need to be installed on the adjoining property, owned by Phillips Medisize. As of March 13, 2013, Phillips Medisize has remained resistant to the installation of monitoring wells on their property and permission has not been acquired.

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 ascheunemann@REIengineering.com to further discuss.

Sincerely,
REI Engineering, Inc.

Adam T. Scheunemann
Environmental Scientist

Attachments

Table 3 – Groundwater Elevation Summary
Table 4a-4i – Groundwater Analytical Results Summaries
Figure 3c – Groundwater Contour Map (3/5/2013)
Attachment A –Laboratory Analytical Reports

TABLE 3
GROUNDWATER ELEVATION SUMMARY
Phillips Plating, North Lake Avenue, Phillips, WI

Well	MW1	MW2	MW3	MW4	MW5	MW6	MW7	MW8	MW9
TOC Elevation	1459.82	1457.24	1461.33	1459.19	1457.51	1458.16	1453.30	1457.92	1455.91
Ground Elevation	1460.22	1457.58	1461.59	1459.52	1457.99	1458.67	1454.02	1458.23	1456.33
Top of Screen Elevation	1445.92	1442.94	1446.85	1444.85	1443.86	1448.49	1443.76	1447.86	1445.85
Well Depth	23.90	24.30	24.48	24.34	23.65	19.67	19.54	20.06	20.06
Depth to Water (from TOC)									
12/12/2012	12.76	12.58	15.43	13.79	15.70	NI	NI	NI	NI
1/3/2013	13.06	12.83	15.74	14.02	15.77	16.76	15.04	NI	NI
2/6/2013	13.49	13.24	16.08	14.19	15.84	16.85	15.19	NI	NI
2/19/2013	NC	NC	NC	NC	NC	NC	NC	9.78	17.39
3/5/2013	13.76	13.50	16.33	14.46	15.74	16.76	15.12	9.78	17.37
Water Elevation									
12/12/2012	1447.06	1444.66	1445.9	1445.4	1441.81	NI	NI	NI	NI
1/3/2013	1446.76	1444.41	1445.59	1445.17	1441.74	1441.40	1438.26	NI	NI
2/6/2013	1446.33	1444.00	1445.25	1445.00	1441.67	1441.31	1438.11	NI	NI
2/19/2013	NC	NC	NC	NC	NC	NC	NC	1448.45	1438.94
3/5/2013	1446.06	1443.74	1445.00	1444.73	1441.77	1441.40	1438.18	1448.14	1438.54
Average Depth to Water (from Top of Casing)	13.27	13.04	15.90	14.12	15.76	16.79	15.12	9.78	17.38
Average Elevation of Water (at Groundwater Surface)	1446.55	1444.20	1445.44	1445.08	1441.75	1441.37	1438.18	1448.30	1438.74
Minimum Depth to Water (from Top of casing)	12.76	12.58	15.43	13.79	15.70	16.76	15.04	9.78	17.37

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

TABLE 4a

GROUNDWATER ANALYTICAL RESULTS SUMMARY

Phillips Plating, North Lake Avenue, Phillips, WI

			MW-1	
PARAMETER	**ES**	**PAL**	12/11/2012	3/5/2013
Metals (ug/L)				
Arsenic	10	1	<0.50	<4.4
Barium	2000	400	280	230
Cadmium	5	0.5	<0.10	*0.91J*
Total Chromium	100	10	2	<1.2
Lead	15	1.5	<0.10	1.5J
Mercury	2	0.2	<0.025	<0.10
Nickel	100	20	5.5	7.7J
Selenium	50	10	<2.0	<6.6
Silver	50	10	<0.13	<1.4
Chromium, Hexavalent (mg/L)			<0.0017	<0.0034

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

TABLE 4b

GROUNDWATER ANALYTICAL RESULTS SUMMARY

Phillips Plating, North Lake Avenue, Phillips, WI

			MW-2	
PARAMETER	**ES**	**PAL**	12/11/2012	3/5/2013
Metals (ug/L)				
Arsenic	10	1	<0.50	<4.4
Barium	2000	400	180	190
Cadmium	5	0.5	<0.10	0.40J
Total Chromium	100	10	1.4	<1.2
Lead	15	1.5	<0.10	1.3J
Mercury	2	0.2	<0.025	<0.10
Nickel	100	20	9.0	4.5J
Selenium	50	10	<2.0	<6.6
Silver	50	10	<0.13	<1.4
Chromium, Hexavalent (mg/L)			<0.0017	<0.0034

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

TABLE 4c

GROUNDWATER ANALYTICAL RESULTS SUMMARY

Phillips Plating, North Lake Avenue, Phillips, WI

			MW-3	
PARAMETER	**ES**	**PAL**	12/11/2012	3/5/2013
Metals (ug/L)				
Arsenic	10	1	<0.50	<4.4
Barium	2000	400	25	57.2
Cadmium	5	0.5	<0.10	<0.38
Total Chromium	100	10	2.2	<1.2
Lead	15	1.5	<0.10	2.2J
Mercury	2	0.2	<0.025	<0.10
Nickel	100	20	1.4	1.5J
Selenium	50	10	<2.0	<6.6
Silver	50	10	<0.13	<1.4
Chromium, Hexavalent (mg/L)			<0.0017	<0.0034

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

TABLE 4d

GROUNDWATER ANALYTICAL RESULTS SUMMARY

Phillips Plating, North Lake Avenue, Phillips, WI

			MW-4	
PARAMETER	**ES**	**PAL**	12/11/2012	3/5/2013
Metals (ug/L)				
Arsenic	10	1	<0.50	<4.4
Barium	2000	400	45	29.2
Cadmium	5	0.5	<0.10	<0.38
Total Chromium	100	10	3.4	1.5J
Lead	15	1.5	<0.10	<1.2
Mercury	2	0.2	<0.025	<0.10
Nickel	100	20	6.8	3.5J
Selenium	50	10	<2.0	<6.6
Silver	50	10	<0.13	<1.4
Chromium, Hexavalent (mg/L)			<0.0017	<0.0034

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

TABLE 4e

GROUNDWATER ANALYTICAL RESULTS SUMMARY

Phillips Plating, North Lake Avenue, Phillips, WI

			MW-5		
PARAMETER	**ES**	**PAL**	12/11/2012	1/3/2013	3/5/2013
Metals (ug/L)					
Arsenic	10	1	<0.50	<4.7	<4.4
Barium	2000	400	110	138	*686*
Cadmium	5	0.5	<0.10	<0.39	*1.8J*
Total Chromium	100	10	***430***	***414***	***359***
Lead	15	1.5	<0.10	<1.4	*2.5J*
Mercury	2	0.2	<0.025	<0.10	<0.10
Nickel	100	20	***440***	***787***	***6230***
Selenium	50	10	<2.0	<5.8	<6.6
Silver	50	10	<0.13	<2.3	<1.4
Chromium, Hexavalent (mg/L)			0.59	0.46	0.33

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

TABLE 4f

GROUNDWATER ANALYTICAL RESULTS SUMMARY

Phillips Plating, North Lake Avenue, Phillips, WI

			MW-6	
PARAMETER	**ES**	**PAL**	1/3/2013	3/5/2013
Metals (ug/L)				
Arsenic	10	1	<4.7	<4.4
Barium	2000	400	225	112
Cadmium	5	0.5	*1.6J*	*0.87J*
Total Chromium	100	10	***323***	***146***
Lead	15	1.5	*2.5J*	*2.2J*
Mercury	2	0.2	*0.28*	*0.23*
Nickel	100	20	***14100***	***9820***
Selenium	50	10	<5.8	<6.6
Silver	50	10	<2.3	<1.4
Chromium, Hexavalent (mg/L)			0.14	0.14

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

TABLE 4g

GROUNDWATER ANALYTICAL RESULTS SUMMARY

Phillips Plating, North Lake Avenue, Phillips, WI

			MW-7	
PARAMETER	**ES**	**PAL**	1/3/2013	3/5/2013
Metals (ug/L)				
Arsenic	10	1	<4.7	<4.4
Barium	2000	400	*841*	*661*
Cadmium	5	0.5	<0.39	*0.58J*
Total Chromium	100	10	<2.4	<1.2
Lead	15	1.5	<1.4	<1.2
Mercury	2	0.2	<0.10	<0.10
Nickel	100	20	6.1J	4.3J
Selenium	50	10	<5.8	<6.6
Silver	50	10	<2.3	2.0J
Chromium, Hexavalent (mg/L)			<0.0039	<0.0034

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

TABLE 4h

GROUNDWATER ANALYTICAL RESULTS SUMMARY

Phillips Plating, North Lake Avenue, Phillips, WI

			MW-8	
PARAMETER	**ES**	**PAL**	2/19/2013	3/5/2013
Metals (ug/L)				
Arsenic	10	1	<4.4	<4.4
Barium	2000	400	50.5	39.5
Cadmium	5	0.5	<0.38	<0.38
Total Chromium	100	10	***537***	***507***
Lead	15	1.5	<1.2	1.5J
Mercury	2	0.2	<0.10	<0.10
Nickel	100	20	***278***	***546***
Selenium	50	10	<6.6	<6.6
Silver	50	10	<1.4	<1.4
Chromium, Hexavalent (mg/L)			0.53	0.46

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

TABLE 4i

GROUNDWATER ANALYTICAL RESULTS SUMMARY

Phillips Plating, North Lake Avenue, Phillips, WI

			MW-9	
PARAMETER	**ES**	**PAL**	2/19/2013	3/5/2013
Metals (ug/L)				
Arsenic	10	1	<4.4	<4.4
Barium	2000	400	214	150
Cadmium	5	0.5	*0.63J*	***15.0***
Total Chromium	100	10	***2,160***	***862***
Lead	15	1.5	*3.1J*	*4.8J*
Mercury	2	0.2	<0.10	<0.10
Nickel	100	20	*65.8*	17.8
Selenium	50	10	<6.6	<6.6
Silver	50	10	<1.4	<1.4
Chromium, Hexavalent (mg/L)			2.3	0.85

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

LONG LAKE

FAYETTE STREET

SHAW STREET

ASPHALT PARKING

1443.74
MW2

1444.73 MW4

GP6B

GP6C

GP6

MW5
1441.77

GP6D

GP7

1445.00
MW3

GP7B

GP7C

GP5

1441.4
MW6

PHILLIPS PLATING

HA

HIGHWAY 13 (LAKE AVENUE)

1438.18
MW7

MW9
1438.54

MW8
1438.54

GP4

EXISTING BUILDING

1446.06
MW1

GP1

GP2

GP3

GRAVEL

1445.5
1444.5
1443.5
1442.5
1441.5
1440.5
1439.5
1438.5

LEGEND

0 100

SCALE: 1" = 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)
- (D) 850 GALLON WASTE TREATMENT PROCESS TANK (SLUDGE DEWATERING TANK)
- (E) 550 GALLON WASTE TREATMENT PROCESS TANK (BATCH TREATMENT TANK)
- (F) 600 GALLON WASTE TREATMENT PROCESS TANK (PLATING LINE COLLECTION TANK)

- 1445.8 GROUNDWATER CONTOUR LINE
- GROUNDWATER FLOW DIRECTION
- PROPERTY BOUNDARY
- PHILLIPS PLATING PROPERTY

REI Engineering, INC.

REI CIVIL & ENVIRONMENTAL ENGINEERING, SURVEYING

PHILLIPS PLATING CORP.
984 N LAKE AVENUE
PHILLIPS, WISCONSIN

FIGURE 3c : GROUNDWATER CONTOUR MAP (03/05/2013)

PROJECT No.	DRAWN BY:	DATE:
6134B	TAW	3/6/2013

DRAWING FILE: J:\DRAFTING\6134B PHILLIPS PLATING\DWG\6134B-GW-030513.DWG LAYOUT: GW PLOTTED: MAR 06, 2013 - 1:21PM PLOTTED BY: TODDW

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www.pacelabs.com

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

February 26, 2013

Adam Scheunemann
REI
4680 N 20th Ave
Wausau, WI 54401

RE: Project: Phillips Plating Corp 6134B
Pace Project No.: 4074148

Dear Adam Scheunemann:
Enclosed are the analytical results for sample(s) received by the laboratory on February 20, 2013. 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

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

CERTIFICATIONS

Project: Phillips Plating Corp 6134B
Pace Project No.: 4074148

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
US Dept of Agriculture #: S-76505
Wisconsin Certification #: 405132750

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SAMPLE SUMMARY

Project: Phillips Plating Corp 6134B
Pace Project No.: 4074148

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4074148001	**MW8**	Water	02/19/13 13:00	02/20/13 11:24
4074148002	**MW9**	Water	02/19/13 12:30	02/20/13 11:24

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SAMPLE ANALYTE COUNT

Project: Phillips Plating Corp 6134B
Pace Project No.: 4074148

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4074148001	**MW8**	EPA 6010	DLB	8
		EPA 7470	CMS	1
		SM 3500-Cr B (Online)	DEY	1
4074148002	**MW9**	EPA 6010	DLB	8
		EPA 7470	CMS	1
		SM 3500-Cr B (Online)	DEY	1

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ANALYTICAL RESULTS

Project: Phillips Plating Corp 6134B
Pace Project No.: 4074148

Sample: MW8 **Lab ID: 4074148001** Collected: 02/19/13 13:00 Received: 02/20/13 11:24 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Arsenic, Dissolved	**<4.4**	ug/L	20.0	4.4	1		02/26/13 09:34	7440-38-2	
Barium, Dissolved	**50.5**	ug/L	5.0	1.1	1		02/26/13 09:34	7440-39-3	
Cadmium, Dissolved	**<0.38**	ug/L	5.0	0.38	1		02/26/13 09:34	7440-43-9	
Chromium, Dissolved	**537**	ug/L	5.0	1.2	1		02/26/13 09:34	7440-47-3	
Lead, Dissolved	**<1.2**	ug/L	7.5	1.2	1		02/26/13 09:34	7439-92-1	
Nickel, Dissolved	**278**	ug/L	10.0	0.75	1		02/26/13 09:34	7440-02-0	
Selenium, Dissolved	**<6.6**	ug/L	20.0	6.6	1		02/26/13 09:34	7782-49-2	
Silver, Dissolved	**<1.4**	ug/L	10.0	1.4	1		02/26/13 09:34	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury, Dissolved	**<0.10**	ug/L	0.20	0.10	1	02/25/13 11:05	02/25/13 17:03	7439-97-6	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.53**	mg/L	0.10	0.017	5		02/20/13 11:40	18540-29-9	M0

Sample: MW9 **Lab ID: 4074148002** Collected: 02/19/13 12:30 Received: 02/20/13 11:24 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Arsenic, Dissolved	**<4.4**	ug/L	20.0	4.4	1		02/26/13 09:36	7440-38-2	
Barium, Dissolved	**214**	ug/L	5.0	1.1	1		02/26/13 09:36	7440-39-3	
Cadmium, Dissolved	**0.63J**	ug/L	5.0	0.38	1		02/26/13 09:36	7440-43-9	
Chromium, Dissolved	**2160**	ug/L	5.0	1.2	1		02/26/13 09:36	7440-47-3	
Lead, Dissolved	**3.1J**	ug/L	7.5	1.2	1		02/26/13 09:36	7439-92-1	
Nickel, Dissolved	**65.8**	ug/L	10.0	0.75	1		02/26/13 09:36	7440-02-0	
Selenium, Dissolved	**<6.6**	ug/L	20.0	6.6	1		02/26/13 09:36	7782-49-2	
Silver, Dissolved	**<1.4**	ug/L	10.0	1.4	1		02/26/13 09:36	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury, Dissolved	**<0.10**	ug/L	0.20	0.10	1	02/25/13 11:05	02/25/13 17:13	7439-97-6	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**2.3**	mg/L	0.10	0.017	5		02/20/13 11:40	18540-29-9	

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QUALITY CONTROL DATA

Project: Phillips Plating Corp 6134B
Pace Project No.: 4074148

QC Batch: ICP/7175 Analysis Method: EPA 6010
QC Batch Method: EPA 6010 Analysis Description: ICP Metals, Trace, Dissolved
Associated Lab Samples: 4074148001, 4074148002

METHOD BLANK: 752816 Matrix: Water
Associated Lab Samples: 4074148001, 4074148002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	<4.4	20.0	02/22/13 13:04	
Barium, Dissolved	ug/L	<1.1	5.0	02/22/13 13:04	
Cadmium, Dissolved	ug/L	<0.38	5.0	02/22/13 13:04	
Chromium, Dissolved	ug/L	<1.2	5.0	02/22/13 13:04	
Lead, Dissolved	ug/L	<1.2	7.5	02/22/13 13:04	
Nickel, Dissolved	ug/L	<0.75	10.0	02/22/13 13:04	
Selenium, Dissolved	ug/L	<6.6	20.0	02/22/13 13:04	
Silver, Dissolved	ug/L	<1.4	10.0	02/22/13 13:04	

LABORATORY CONTROL SAMPLE: 752817

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	500	444	89	80-120	
Barium, Dissolved	ug/L	500	446	89	80-120	
Cadmium, Dissolved	ug/L	500	452	90	80-120	
Chromium, Dissolved	ug/L	500	467	93	80-120	
Lead, Dissolved	ug/L	500	463	93	80-120	
Nickel, Dissolved	ug/L	500	465	93	80-120	
Selenium, Dissolved	ug/L	500	445	89	80-120	
Silver, Dissolved	ug/L	250	224	90	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 752818 752819

Parameter	Units	4073818011 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	<100	2500	2500	2490	2530	99	101	75-125	2	20	
Barium, Dissolved	ug/L	795	1000	1000	1620	1650	83	86	75-125	2	20	
Cadmium, Dissolved	ug/L	<10.0	1000	1000	909	921	91	92	75-125	1	20	
Chromium, Dissolved	ug/L	<10.0	1000	1000	900	922	90	92	75-125	2	20	
Lead, Dissolved	ug/L	<15.0	1000	1000	913	925	91	92	75-125	1	20	
Nickel, Dissolved	ug/L	<20.0	1000	1000	922	937	92	93	75-125	2	20	
Selenium, Dissolved	ug/L	<40.0	1000	1000	898	943	90	94	75-125	5	20	
Silver, Dissolved	ug/L	<20.0	500	500	451	457	90	91	75-125	1	20	

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QUALITY CONTROL DATA

Project: Phillips Plating Corp 6134B
Pace Project No.: 4074148

QC Batch: MERP/3523 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury Dissolved
Associated Lab Samples: 4074148001, 4074148002

METHOD BLANK: 753560 Matrix: Water
Associated Lab Samples: 4074148001, 4074148002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	<0.10	0.20	02/25/13 16:59	

METHOD BLANK: 753566 Matrix: Water
Associated Lab Samples: 4074148001, 4074148002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	<0.10	0.20	02/25/13 17:35	1q

LABORATORY CONTROL SAMPLE: 753561

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.8	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 753562 753563

Parameter	Units	4074148001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	<0.10	5	5	4.9	4.9	98	98	85-115	0	20	

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QUALITY CONTROL DATA

Project: Phillips Plating Corp 6134B
Pace Project No.: 4074148

QC Batch: WETA/16371 Analysis Method: SM 3500-Cr B (Online)
QC Batch Method: SM 3500-Cr B (Online) Analysis Description: Chromium, Hexavalent by 3500
Associated Lab Samples: 4074148001, 4074148002

METHOD BLANK: 752008 Matrix: Water
Associated Lab Samples: 4074148001, 4074148002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium, Hexavalent	mg/L	<0.0034	0.020	02/20/13 11:40	

LABORATORY CONTROL SAMPLE: 752009

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	mg/L	.3	0.32	106	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 752010 752011

Parameter	Units	4074148001 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	0.53	1.5	1.5	2.6	2.4	139	127	90-110	7	20	M0

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QUALIFIERS

Project: Phillips Plating Corp 6134B
Pace Project No.: 4074148

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.

PRL - Pace Reporting 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.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

1q	FILTER BLANK FOR SAMPLE 4074216038.
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: Phillips Plating Corp 6134B
Pace Project No.: 4074148

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4074148001	**MW8**	EPA 6010	ICP/7175		
4074148002	**MW9**	EPA 6010	ICP/7175		
4074148001	**MW8**	EPA 7470	MERP/3523	EPA 7470	MERC/4298
4074148002	**MW9**	EPA 7470	MERP/3523	EPA 7470	MERC/4298
4074148001	**MW8**	SM 3500-Cr B (Online)	WETA/16371		
4074148002	**MW9**	SM 3500-Cr B (Online)	WETA/16371		

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

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CHAIN OF CUSTODY

(Please Print Clearly)	
Company Name:	RET Engineering
Branch/Location:	Wausau
Project Contact:	Adam Schaumann
Phone:	715 675 9784
Project Number:	61343
Project Name:	Phillips Plating Corp.
Project State:	WI
Sampled By (Print):	Jared Sceus
Sampled By (Sign):	Jared Sceus
PO #:	Regulatory Program:

*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

Quote #:	
Mail To Contact:	Adam Schaumann
Mail To Company:	RET Engineering
Mail To Address:	4080 N 20th Ave Wausau WI 54401
Invoice To Contact:	Adam Schaumann
Invoice To Company:	RET Engineering
Invoice To Address:	SAA
Invoice To Phone:	715-675-9784

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: RCRA Metals	Ni	Hex Chrome	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
001	MW8	2/19/13	1:00	GW		D	x	x	x		3-250ml p ADD ↓	
002	MW9	2/19/13	12:30	GW		D	x	x	x			

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed: 2/25/13

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 Sceus-RET	2/19/13 2 PM		
			2-20-13 11:34A

PACE Project No. 10741148

Receipt Temp = ROI °C

Sample Receipt pH
OK / Adjusted

Cooler Custody Seal
Present / Not Present
Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

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Pace Analytical

Sample Condition Upon Receipt

Client Name: REI Project # 4074148

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace Other _____

Tracking #: _____

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

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

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

Thermometer Used NA Type of Ice: (Wet) Blue Dry None ☐ Samples on ice, cooling process has begun

Cooler Temperature R01 Biological Tissue is Frozen: ☐ yes ☐ no

Temp Blank Present: ☐ yes ☑ no

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

Optional
Proj. Due Date:
Proj. Name:

Person examining contents:
Date: 2/20/13
Initials: CMA

		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.
Short Hold Time Analysis (<72hr):	☑Yes ☐No ☐N/A	6.
Rush Turn Around Time Requested:	☑Yes ☐No ☐N/A	7. 2/25/13 CMA 2/20/13
Sufficient Volume: CMA 2/20/13	☑Yes ☐No ☐N/A	8. Unpreserved bottles received 100mls CMA 2/20/13
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace 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: -Includes date/time/ID/Analysis Matrix: W	☑Yes ☐No ☐N/A	12.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13. pH ≤ 2 CMA 2/20/13
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☐No	Initial when completed CMA / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 2-20-13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

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March 08, 2013

Adam Scheunemann
REI
4680 N 20th Ave
Wausau, WI 54401

RE: Project: 6134B PHILLIPS PLATING
Pace Project No.: 4074595

Dear Adam Scheunemann:
Enclosed are the analytical results for sample(s) received by the laboratory on March 06, 2013. 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

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CERTIFICATIONS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 4074595

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
US Dept of Agriculture #: S-76505
Wisconsin Certification #: 405132750

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SAMPLE SUMMARY

Project: 6134B PHILLIPS PLATING
Pace Project No.: 4074595

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4074595001	MW1	Water	03/05/13 12:00	03/06/13 08:15
4074595002	MW2	Water	03/05/13 12:30	03/06/13 08:15
4074595003	MW3	Water	03/05/13 12:15	03/06/13 08:15
4074595004	MW4	Water	03/05/13 13:00	03/06/13 08:15
4074595005	MW5	Water	03/05/13 13:15	03/06/13 08:15
4074595006	MW6	Water	03/05/13 13:30	03/06/13 08:15
4074595007	MW7	Water	03/05/13 12:45	03/06/13 08:15
4074595008	MW8	Water	03/05/13 13:45	03/06/13 08:15
4074595009	MW9	Water	03/05/13 14:00	03/06/13 08:15

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SAMPLE ANALYTE COUNT

Project: 6134B PHILLIPS PLATING
Pace Project No.: 4074595

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4074595001	**MW1**	EPA 6010	DLB	8
		EPA 7470	CMS	1
		SM 3500-Cr B (Online)	DEY	1
4074595002	**MW2**	EPA 6010	DLB	8
		EPA 7470	CMS	1
		SM 3500-Cr B (Online)	DEY	1
4074595003	**MW3**	EPA 6010	DLB	8
		EPA 7470	CMS	1
		SM 3500-Cr B (Online)	DEY	1
4074595004	**MW4**	EPA 6010	DLB	8
		EPA 7470	CMS	1
		SM 3500-Cr B (Online)	DEY	1
4074595005	**MW5**	EPA 6010	DLB	8
		EPA 7470	CMS	1
		SM 3500-Cr B (Online)	DEY	1
4074595006	**MW6**	EPA 6010	DLB	8
		EPA 7470	CMS	1
		SM 3500-Cr B (Online)	DEY	1
4074595007	**MW7**	EPA 6010	DLB	8
		EPA 7470	CMS	1
		SM 3500-Cr B (Online)	DEY	1
4074595008	**MW8**	EPA 6010	DLB	8
		EPA 7470	CMS	1
		SM 3500-Cr B (Online)	DEY	1
4074595009	**MW9**	EPA 6010	DLB	8
		EPA 7470	CMS	1
		SM 3500-Cr B (Online)	DEY	1

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ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 4074595

Sample: MW1 **Lab ID: 4074595001** Collected: 03/05/13 12:00 Received: 03/06/13 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Arsenic, Dissolved	**<4.4**	ug/L	20.0	4.4	1		03/06/13 12:38	7440-38-2	
Barium, Dissolved	**230**	ug/L	5.0	1.1	1		03/06/13 12:38	7440-39-3	
Cadmium, Dissolved	**0.91J**	ug/L	5.0	0.38	1		03/06/13 12:38	7440-43-9	
Chromium, Dissolved	**<1.2**	ug/L	5.0	1.2	1		03/06/13 12:38	7440-47-3	
Lead, Dissolved	**1.5J**	ug/L	7.5	1.2	1		03/06/13 12:38	7439-92-1	
Nickel, Dissolved	**7.7J**	ug/L	10.0	0.75	1		03/06/13 12:38	7440-02-0	
Selenium, Dissolved	**<6.6**	ug/L	20.0	6.6	1		03/06/13 12:38	7782-49-2	
Silver, Dissolved	**<1.4**	ug/L	10.0	1.4	1		03/06/13 12:38	7440-22-4	M0,R1
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury, Dissolved	**<0.10**	ug/L	0.20	0.10	1	03/06/13 19:10	03/07/13 10:47	7439-97-6	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.0034**	mg/L	0.020	0.0034	1		03/06/13 10:15	18540-29-9	

Sample: MW2 **Lab ID: 4074595002** Collected: 03/05/13 12:30 Received: 03/06/13 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Arsenic, Dissolved	**<4.4**	ug/L	20.0	4.4	1		03/06/13 12:44	7440-38-2	
Barium, Dissolved	**190**	ug/L	5.0	1.1	1		03/06/13 12:44	7440-39-3	
Cadmium, Dissolved	**0.40J**	ug/L	5.0	0.38	1		03/06/13 12:44	7440-43-9	
Chromium, Dissolved	**<1.2**	ug/L	5.0	1.2	1		03/06/13 12:44	7440-47-3	
Lead, Dissolved	**1.3J**	ug/L	7.5	1.2	1		03/06/13 12:44	7439-92-1	
Nickel, Dissolved	**4.5J**	ug/L	10.0	0.75	1		03/06/13 12:44	7440-02-0	
Selenium, Dissolved	**<6.6**	ug/L	20.0	6.6	1		03/06/13 12:44	7782-49-2	
Silver, Dissolved	**<1.4**	ug/L	10.0	1.4	1		03/06/13 12:44	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury, Dissolved	**<0.10**	ug/L	0.20	0.10	1	03/06/13 19:10	03/07/13 10:53	7439-97-6	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.0034**	mg/L	0.020	0.0034	1		03/06/13 10:15	18540-29-9	

Sample: MW3 **Lab ID: 4074595003** Collected: 03/05/13 12:15 Received: 03/06/13 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Arsenic, Dissolved	**<4.4**	ug/L	20.0	4.4	1		03/06/13 12:46	7440-38-2	
Barium, Dissolved	**57.2**	ug/L	5.0	1.1	1		03/06/13 12:46	7440-39-3	

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ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 4074595

Sample: MW3 Lab ID: **4074595003** Collected: 03/05/13 12:15 Received: 03/06/13 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Cadmium, Dissolved	**<0.38**	ug/L	5.0	0.38	1		03/06/13 12:46	7440-43-9	
Chromium, Dissolved	**<1.2**	ug/L	5.0	1.2	1		03/06/13 12:46	7440-47-3	
Lead, Dissolved	**2.2J**	ug/L	7.5	1.2	1		03/06/13 12:46	7439-92-1	
Nickel, Dissolved	**1.5J**	ug/L	10.0	0.75	1		03/06/13 12:46	7440-02-0	
Selenium, Dissolved	**<6.6**	ug/L	20.0	6.6	1		03/06/13 12:46	7782-49-2	
Silver, Dissolved	**<1.4**	ug/L	10.0	1.4	1		03/06/13 12:46	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury, Dissolved	**<0.10**	ug/L	0.20	0.10	1	03/06/13 19:10	03/07/13 11:00	7439-97-6	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.0034**	mg/L	0.020	0.0034	1		03/06/13 10:15	18540-29-9	

Sample: MW4 Lab ID: **4074595004** Collected: 03/05/13 13:00 Received: 03/06/13 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Arsenic, Dissolved	**<4.4**	ug/L	20.0	4.4	1		03/06/13 12:49	7440-38-2	
Barium, Dissolved	**29.2**	ug/L	5.0	1.1	1		03/06/13 12:49	7440-39-3	
Cadmium, Dissolved	**<0.38**	ug/L	5.0	0.38	1		03/06/13 12:49	7440-43-9	
Chromium, Dissolved	**1.5J**	ug/L	5.0	1.2	1		03/06/13 12:49	7440-47-3	
Lead, Dissolved	**<1.2**	ug/L	7.5	1.2	1		03/06/13 12:49	7439-92-1	
Nickel, Dissolved	**3.5J**	ug/L	10.0	0.75	1		03/06/13 12:49	7440-02-0	
Selenium, Dissolved	**<6.6**	ug/L	20.0	6.6	1		03/06/13 12:49	7782-49-2	
Silver, Dissolved	**<1.4**	ug/L	10.0	1.4	1		03/06/13 12:49	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury, Dissolved	**<0.10**	ug/L	0.20	0.10	1	03/06/13 19:10	03/07/13 11:02	7439-97-6	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.0034**	mg/L	0.020	0.0034	1		03/06/13 10:15	18540-29-9	

Sample: MW5 Lab ID: **4074595005** Collected: 03/05/13 13:15 Received: 03/06/13 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Arsenic, Dissolved	**<4.4**	ug/L	20.0	4.4	1		03/06/13 12:51	7440-38-2	
Barium, Dissolved	**686**	ug/L	5.0	1.1	1		03/06/13 12:51	7440-39-3	
Cadmium, Dissolved	**1.8J**	ug/L	5.0	0.38	1		03/06/13 12:51	7440-43-9	
Chromium, Dissolved	**359**	ug/L	5.0	1.2	1		03/06/13 12:51	7440-47-3	

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ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 4074595

Sample: MW5 **Lab ID: 4074595005** Collected: 03/05/13 13:15 Received: 03/06/13 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Lead, Dissolved	**2.5J**	ug/L	7.5	1.2	1		03/06/13 12:51	7439-92-1	
Nickel, Dissolved	**6230**	ug/L	10.0	0.75	1		03/06/13 12:51	7440-02-0	
Selenium, Dissolved	**<6.6**	ug/L	20.0	6.6	1		03/06/13 12:51	7782-49-2	
Silver, Dissolved	**<1.4**	ug/L	10.0	1.4	1		03/06/13 12:51	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury, Dissolved	**<0.10**	ug/L	0.20	0.10	1	03/06/13 19:10	03/07/13 11:04	7439-97-6	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.33**	mg/L	0.020	0.0034	1		03/06/13 10:15	18540-29-9	

Sample: MW6 **Lab ID: 4074595006** Collected: 03/05/13 13:30 Received: 03/06/13 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Arsenic, Dissolved	**<4.4**	ug/L	20.0	4.4	1		03/06/13 12:53	7440-38-2	
Barium, Dissolved	**112**	ug/L	5.0	1.1	1		03/06/13 12:53	7440-39-3	
Cadmium, Dissolved	**0.87J**	ug/L	5.0	0.38	1		03/06/13 12:53	7440-43-9	
Chromium, Dissolved	**146**	ug/L	5.0	1.2	1		03/06/13 12:53	7440-47-3	
Lead, Dissolved	**2.2J**	ug/L	7.5	1.2	1		03/06/13 12:53	7439-92-1	
Nickel, Dissolved	**9820**	ug/L	10.0	0.75	1		03/06/13 12:53	7440-02-0	
Selenium, Dissolved	**<6.6**	ug/L	20.0	6.6	1		03/06/13 12:53	7782-49-2	
Silver, Dissolved	**<1.4**	ug/L	10.0	1.4	1		03/06/13 12:53	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury, Dissolved	**0.23**	ug/L	0.20	0.10	1	03/06/13 19:10	03/07/13 11:06	7439-97-6	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.14**	mg/L	0.020	0.0034	1		03/06/13 10:15	18540-29-9	

Sample: MW7 **Lab ID: 4074595007** Collected: 03/05/13 12:45 Received: 03/06/13 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Arsenic, Dissolved	**<4.4**	ug/L	20.0	4.4	1		03/06/13 13:00	7440-38-2	
Barium, Dissolved	**661**	ug/L	5.0	1.1	1		03/06/13 13:00	7440-39-3	
Cadmium, Dissolved	**0.58J**	ug/L	5.0	0.38	1		03/06/13 13:00	7440-43-9	
Chromium, Dissolved	**<1.2**	ug/L	5.0	1.2	1		03/06/13 13:00	7440-47-3	
Lead, Dissolved	**<1.2**	ug/L	7.5	1.2	1		03/06/13 13:00	7439-92-1	
Nickel, Dissolved	**4.3J**	ug/L	10.0	0.75	1		03/06/13 13:00	7440-02-0	

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ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 4074595

Sample: MW7 Lab ID: **4074595007** Collected: 03/05/13 12:45 Received: 03/06/13 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Selenium, Dissolved	**<6.6**	ug/L	20.0	6.6	1		03/06/13 13:00	7782-49-2	
Silver, Dissolved	**2.0J**	ug/L	10.0	1.4	1		03/06/13 13:00	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury, Dissolved	**<0.10**	ug/L	0.20	0.10	1	03/06/13 19:10	03/07/13 11:08	7439-97-6	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**<0.0034**	mg/L	0.020	0.0034	1		03/06/13 10:15	18540-29-9	

Sample: MW8 Lab ID: **4074595008** Collected: 03/05/13 13:45 Received: 03/06/13 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Arsenic, Dissolved	**<4.4**	ug/L	20.0	4.4	1		03/06/13 13:02	7440-38-2	
Barium, Dissolved	**39.5**	ug/L	5.0	1.1	1		03/06/13 13:02	7440-39-3	
Cadmium, Dissolved	**<0.38**	ug/L	5.0	0.38	1		03/06/13 13:02	7440-43-9	
Chromium, Dissolved	**507**	ug/L	5.0	1.2	1		03/06/13 13:02	7440-47-3	
Lead, Dissolved	**1.5J**	ug/L	7.5	1.2	1		03/06/13 13:02	7439-92-1	
Nickel, Dissolved	**546**	ug/L	10.0	0.75	1		03/06/13 13:02	7440-02-0	
Selenium, Dissolved	**<6.6**	ug/L	20.0	6.6	1		03/06/13 13:02	7782-49-2	
Silver, Dissolved	**<1.4**	ug/L	10.0	1.4	1		03/06/13 13:02	7440-22-4	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury, Dissolved	**<0.10**	ug/L	0.20	0.10	1	03/06/13 19:10	03/07/13 11:10	7439-97-6	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.46**	mg/L	0.020	0.0034	1		03/06/13 10:15	18540-29-9	

Sample: MW9 Lab ID: **4074595009** Collected: 03/05/13 14:00 Received: 03/06/13 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved	Analytical Method: EPA 6010								
Arsenic, Dissolved	**<4.4**	ug/L	20.0	4.4	1		03/06/13 13:04	7440-38-2	
Barium, Dissolved	**150**	ug/L	5.0	1.1	1		03/06/13 13:04	7440-39-3	
Cadmium, Dissolved	**15.0**	ug/L	5.0	0.38	1		03/06/13 13:04	7440-43-9	
Chromium, Dissolved	**862**	ug/L	5.0	1.2	1		03/06/13 13:04	7440-47-3	
Lead, Dissolved	**4.8J**	ug/L	7.5	1.2	1		03/06/13 13:04	7439-92-1	
Nickel, Dissolved	**17.8**	ug/L	10.0	0.75	1		03/06/13 13:04	7440-02-0	
Selenium, Dissolved	**<6.6**	ug/L	20.0	6.6	1		03/06/13 13:04	7782-49-2	
Silver, Dissolved	**<1.4**	ug/L	10.0	1.4	1		03/06/13 13:04	7440-22-4	

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ANALYTICAL RESULTS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 4074595

Sample: MW9 **Lab ID: 4074595009** Collected: 03/05/13 14:00 Received: 03/06/13 08:15 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury, Dissolved	**<0.10**	ug/L	0.20	0.10	1	03/06/13 19:10	03/07/13 11:12	7439-97-6	
Chromium, Hexavalent	Analytical Method: SM 3500-Cr B (Online)								
Chromium, Hexavalent	**0.85**	mg/L	0.050	0.0086	2.5		03/06/13 10:15	18540-29-9	

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QUALITY CONTROL DATA

Project: 6134B PHILLIPS PLATING
Pace Project No.: 4074595

QC Batch: ICP/7219 Analysis Method: EPA 6010
QC Batch Method: EPA 6010 Analysis Description: ICP Metals, Trace, Dissolved
Associated Lab Samples: 4074595001, 4074595002, 4074595003, 4074595004, 4074595005, 4074595006, 4074595007, 4074595008, 4074595009

METHOD BLANK: 756992 Matrix: Water
Associated Lab Samples: 4074595001, 4074595002, 4074595003, 4074595004, 4074595005, 4074595006, 4074595007, 4074595008, 4074595009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	<4.4	20.0	03/06/13 12:34	
Barium, Dissolved	ug/L	<1.1	5.0	03/06/13 12:34	
Cadmium, Dissolved	ug/L	<0.38	5.0	03/06/13 12:34	
Chromium, Dissolved	ug/L	<1.2	5.0	03/06/13 12:34	
Lead, Dissolved	ug/L	<1.2	7.5	03/06/13 12:34	
Nickel, Dissolved	ug/L	<0.75	10.0	03/06/13 12:34	
Selenium, Dissolved	ug/L	<6.6	20.0	03/06/13 12:34	
Silver, Dissolved	ug/L	<1.4	10.0	03/06/13 12:34	

LABORATORY CONTROL SAMPLE: 756993

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	500	479	96	80-120	
Barium, Dissolved	ug/L	500	487	97	80-120	
Cadmium, Dissolved	ug/L	500	480	96	80-120	
Chromium, Dissolved	ug/L	500	483	97	80-120	
Lead, Dissolved	ug/L	500	488	98	80-120	
Nickel, Dissolved	ug/L	500	487	97	80-120	
Selenium, Dissolved	ug/L	500	472	94	80-120	
Silver, Dissolved	ug/L	250	237	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 756994 756995

Parameter	Units	4074595001 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	<4.4	500	500	470	485	94	97	75-125	3	20	
Barium, Dissolved	ug/L	230	500	500	705	710	95	96	75-125	1	20	
Cadmium, Dissolved	ug/L	0.91J	500	500	482	490	96	98	75-125	2	20	
Chromium, Dissolved	ug/L	<1.2	500	500	479	485	96	97	75-125	1	20	
Lead, Dissolved	ug/L	1.5J	500	500	474	488	95	97	75-125	3	20	
Nickel, Dissolved	ug/L	7.7J	500	500	482	494	95	97	75-125	3	20	
Selenium, Dissolved	ug/L	<6.6	500	500	397	415	79	83	75-125	4	20	
Silver, Dissolved	ug/L	<1.4	250	250	177	226	71	90	75-125	24	20	M0,R1

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QUALITY CONTROL DATA

Project: 6134B PHILLIPS PLATING
Pace Project No.: 4074595

QC Batch: MERP/3547 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury Dissolved
Associated Lab Samples: 4074595001, 4074595002, 4074595003, 4074595004, 4074595005, 4074595006, 4074595007, 4074595008, 4074595009

METHOD BLANK: 757198 Matrix: Water
Associated Lab Samples: 4074595001, 4074595002, 4074595003, 4074595004, 4074595005, 4074595006, 4074595007, 4074595008, 4074595009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	<0.10	0.20	03/07/13 10:43	

LABORATORY CONTROL SAMPLE: 757199

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.9	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 757200 757201

Parameter	Units	4074595001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	<0.10	5	5	5.1	5.0	101	99	85-115	2	20	

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QUALITY CONTROL DATA

Project: 6134B PHILLIPS PLATING
Pace Project No.: 4074595

QC Batch: WETA/16541 Analysis Method: SM 3500-Cr B (Online)
QC Batch Method: SM 3500-Cr B (Online) Analysis Description: Chromium, Hexavalent by 3500
Associated Lab Samples: 4074595001, 4074595002, 4074595003, 4074595004, 4074595005, 4074595006, 4074595007, 4074595008, 4074595009

METHOD BLANK: 757355 Matrix: Water
Associated Lab Samples: 4074595001, 4074595002, 4074595003, 4074595004, 4074595005, 4074595006, 4074595007, 4074595008, 4074595009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium, Hexavalent	mg/L	<0.0034	0.020	03/06/13 10:15	

LABORATORY CONTROL SAMPLE: 757356

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: 757357 757358

Parameter	Units	4074595001 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	<0.0034	.3	.3	0.30	0.30	100	100	90-110	1	20	

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QUALIFIERS

Project: 6134B PHILLIPS PLATING
Pace Project No.: 4074595

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.

PRL - Pace Reporting 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.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 6134B PHILLIPS PLATING
Pace Project No.: 4074595

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4074595001	**MW1**	EPA 6010	ICP/7219		
4074595002	**MW2**	EPA 6010	ICP/7219		
4074595003	**MW3**	EPA 6010	ICP/7219		
4074595004	**MW4**	EPA 6010	ICP/7219		
4074595005	**MW5**	EPA 6010	ICP/7219		
4074595006	**MW6**	EPA 6010	ICP/7219		
4074595007	**MW7**	EPA 6010	ICP/7219		
4074595008	**MW8**	EPA 6010	ICP/7219		
4074595009	**MW9**	EPA 6010	ICP/7219		
4074595001	**MW1**	EPA 7470	MERP/3547	EPA 7470	MERC/4343
4074595002	**MW2**	EPA 7470	MERP/3547	EPA 7470	MERC/4343
4074595003	**MW3**	EPA 7470	MERP/3547	EPA 7470	MERC/4343
4074595004	**MW4**	EPA 7470	MERP/3547	EPA 7470	MERC/4343
4074595005	**MW5**	EPA 7470	MERP/3547	EPA 7470	MERC/4343
4074595006	**MW6**	EPA 7470	MERP/3547	EPA 7470	MERC/4343
4074595007	**MW7**	EPA 7470	MERP/3547	EPA 7470	MERC/4343
4074595008	**MW8**	EPA 7470	MERP/3547	EPA 7470	MERC/4343
4074595009	**MW9**	EPA 7470	MERP/3547	EPA 7470	MERC/4343
4074595001	**MW1**	SM 3500-Cr B (Online)	WETA/16541		
4074595002	**MW2**	SM 3500-Cr B (Online)	WETA/16541		
4074595003	**MW3**	SM 3500-Cr B (Online)	WETA/16541		
4074595004	**MW4**	SM 3500-Cr B (Online)	WETA/16541		
4074595005	**MW5**	SM 3500-Cr B (Online)	WETA/16541		
4074595006	**MW6**	SM 3500-Cr B (Online)	WETA/16541		
4074595007	**MW7**	SM 3500-Cr B (Online)	WETA/16541		
4074595008	**MW8**	SM 3500-Cr B (Online)	WETA/16541		
4074595009	**MW9**	SM 3500-Cr B (Online)	WETA/16541		

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4074595

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:	RLI Engineering
Branch/Location:	Wausau
Project Contact:	Adam Schaumenmann
Phone:	715 675 9784
Project Number:	61348
Project Name:	Phillips Plating
Project State:	WI
Sampled By (Print):	Adam Schaumenmann
Sampled By (Sign):	
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	Adam Schaumenmann
Mail To Company:	RLI Engineering
Mail To Address:	4080 N 20th Ave Wausau WI 54401
Invoice To Contact:	SAA
Invoice To Company:	SAA
Invoice To Address:	SAA
Invoice To Phone:	715 675 9784

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: RCRA Metals	Hex Chrome	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
					Y	D					
001	MW1	3/5/13	12:00	GW	X	X	X		Rush	3-250ml hp ADD	
002	MW2		12:30		X	X	X				
003	MW3		12:15		X	X	X				
004	MW4		1:00		X	X	X				
005	MW5		1:15		X	X	X				
006	MW6		1:30		X	X	X				
007	MW7		12:45		X	X	X				
008	MW8		1:45		X	X	X				
009	MW9		2:00		X	X	X				

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed: 3/11/13

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:
	3/5/13 7:30PM		
Walco	3/6/13 0815		3/6/13 0815

PACE Project No. 4074595
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

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Sample Condition Upon Receipt

Client Name: REI Eng. Project # 4074595

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☑ Commercial ☐ Pace Other WaTco

Tracking #: 311364

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: R01 Biological Tissue is Frozen: ☐ yes ☐ no

Temp Blank Present: ☐ yes ☑ no

Person examining contents: Date: 3/6/13 Initials: CMH

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. 3/11/13 CMH 3/6/13
Sufficient Volume:	☐Yes ☑No ☐N/A	8. all bottles only have about 50-100mls CMH 3/6/13
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 / 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: 3/6/13