We Energies
800 Industrial Park Drive
Iron Mountain, MI 49801

www.we-energies.com

January 31, 2014

Ms. Kimberly Bose
Federal Energy Regulatory Commission
Division of Licensing and Compliance
888 First Street NE Washington, DC 20426

Dear Ms. Bose

RE: Article 405 – Water Quality Monitoring Report
Article 406 – Water Chemistry / Sediment Chemistry Monitoring Report

Chalk Hill – FERC No. 2394
White Rapids – FERC No. 2357

Wisconsin Electric Power Company (WE) doing business as We Energies, is hereby electronically filing the results of the water quality, water chemistry, and sediment chemistry monitoring for the above mentioned Projects performed during 2013 in fulfillment of the monitoring plan approved and incorporated in the articles identified above by the FERC for these Projects.

The results of this work satisfy the current Water Quality / Water Chemistry / Sediment Chemistry aspects of the Water Quality Monitoring Plan. The original Water Quality Monitoring Plan (Article 405) was approved by the Commission by order dated January 21, 1998 while, the Water Chemistry / Sediment Chemistry Monitoring Plan (Article 406) was approved by the Commission by order dated December 30, 1997. The Water Quality Monitoring Plan was subsequently modified by the Company, approved by the state agencies, and filed with the Commission in correspondence dated July 17, 2001. Both Plans were further modified and approved by the Commission by order dated July 28, 2004.

Included in this filing are the following:

Exhibit A – Results of spot check measurements of temperature and dissolved oxygen
Exhibit B – Results of the quarterly water chemistry measurements
Exhibit C – Lab results for sediment samples collected from the Chalk Hill and White Rapids flowages

With respect to spot check measurements, no violations of Michigan's water quality standards for temperature and dissolved oxygen were found with this revised monitoring program in 2013.

The patterns in water chemistry analytical results among stations and across seasons were substantially similar with data collected in 2008, 2003 and 1998 as well as in line with baseline measurements made in 1989-90, contained in Appendix 11 and 10 of the final license applications for the White Rapids and Chalk Hill Projects, respectively.

The sediment collected from Chalk Hill & White Rapids appeared to have higher concentrations of metals and nutrients relative to what was found in 2008. The values for Chalk Hill were also generally lower than values for White Rapids.

Please call me at (906) 779-4099 if you have any questions concerning this filing.

Sincerely,

Mr. Todd P. Jastremski, Manager
Hydroelectric Operations Division

cc: Kyle Kruger – MDNR
Gary Kohlhepp – MDEQ
Cheryl Laatsch – WDNR
John Zygaj – FERC CRO

CHALK HILL HYDROELECTRIC
PROJECT FERC No. 2394

WHITE RAPIDS HYDROELECTRIC
PROJECT FERC No. 2357

EXHIBIT A

RESULTS OF SPOT CHECK MEASUREMENTS OF TEMPERATURE AN DISSOLVED OXYGEN

We Energies
January 2014

DO & TEMPERATURE MEASUREMENT LOG SHEET

	"Z" BRIDGE UPSTREAM OF CHALK HILL			WHITE RAPIDS TAILRACE				Note: All DO readings by titration.
DATE	TIME	DO IN PPM	TEMP ^{O}C	TIME	DO IN PPM	TEMP ^{O}C	River Flow	REMARKS
6/3/2013	1000	9.00	18.0	1030	10.00	18.0	High	60°, sunny, High water flow
6/5/2013	930	12.00	16.0	1015	13.00	17.0	High	60°, cloudy, High river flow
6/7/2013	1050	10.00	16.0	1145	9.60	17.0	High	65°, partly cloudy, High river flow
6/10/2013	820	8.60	17.0	900	8.80	18.0	Normal	63°, mostly sunny, windy
6/12/2013	820	8.40	20.0	850	8.20	21.0	Normal	70°, mostly sunny, calm
6/14/2013	915	8.50	19.0	1015	8.00	21.0	Normal	60°, sunny, calm
6/17/2013	900	8.60	21.0	940	7.70	22.0	Normal	60°, Cloudy, calm
6/19/2013	815	8.40	20.0	900	7.60	21.0	Normal	58°, Sunny, calm
6/21/2013	830	8.30	21.0	858	7.10	22.0	Normal	65°, Rainy, calm
6/24/2013	805	8.10	21.0	855	7.00	21.0	Normal	70°, Sunny, calm
6/26/2013	810	7.60	23.0	900	6.90	24.0	Normal	65°, Coudy, calm
6/28/2013	810	9.10	23.0	1115	7.20	23.0	Normal	60°, Cloudy, Breezy
7/1/2013	820	8.30	21.0	906	7.60	23.0	Normal	60°, Sunny, calm
7/3/2013	810	8.30	22.0	854	7.30	23.0	Normal	65°, mostly cloudy, calm
7/5/2013	820	7.30	23.0	920	6.90	24.0	Normal	80°, Sunny, calm
7/8/2013	805	7.20	25.0	850	7.60	26.0	Normal	72°, Cloudy, calm
7/11/2013	810	7.60	23.0	857	6.80	24.0	Normal	68°, Sunny, Breezy
7/12/2013	1115	8.60	24.0	1155	7.00	24.0	Normal	76°, Rainy, calm
7/16/2013	850	8.10	26.0	930	7.60	26.0	Normal	79°, Sunny, calm
7/17/2013	800	7.00	27.0	850	6.50	27.0	Normal	79°, Sunny, calm
7/19/2013	1040	7.50	28.0	1115	6.50	28.0	Normal	83°, Sunny, Windy
7/22/2013	830	7.80	23.0	910	6.00	26.0	Normal	71°, Sunny, Windy
7/24/2013	845	8.10	22.0	930	7.30	24.0	Normal	71°, Sunny, calm
7/26/2013	835	7.50	23.0	935	7.50	24.0	Normal	72°, Rainy, calm
7/30/2013	815	8.00	22.0	900	7.00	21.0	Normal	65°, Rainy, calm
7/31/2013	1030	9.00	21.0	1100	6.90	20.0	Normal	75°, Mostly sunny, Breezy
8/2/2013	950	8.70	19.0	1030	7.00	20.0	Normal	72°, Sunny, Windy
8/5/2013	810	8.20	17.0	857	7.50	19.0	Normal	60°, Cloudy, calm
8/7/2013	900	8.70	17.0	945	7.10	17.0	Normal	58°, Cloudy, Windy
8/9/2013	800	7.80	17.0	845	6.80	17.0	Normal	54°, Sunny, calm
8/12/2013	835	8.00	17.0	920	7.40	18.0	Normal	56°, Rainy, calm

DO & TEMPERATURE MEASUREMENT LOG SHEET

	"Z" BRIDGE UPSTREAM OF CHALK HILL			WHITE RAPIDS TAILRACE				Note: All DO readings by titration.
DATE	TIME	DO IN PPM	TEMP ^{O}C	TIME	DO IN PPM	TEMP ^{O}C	River Flow	REMARKS
8/15/2013	1115	7.70	16.0	1300	7.00	17.0	Normal	75°, Sunny, calm
8/16/2013	830	7.60	16.0	935	7.10	17.0	Normal	65°, Sunny, Breezy
8/19/2013	1000	6.70	18.0	1300	6.50	18.0	Normal	78°, Sunny, calm
8/21/2013	815	6.90	20.0	905	7.80	19.0	Normal	71°, Sunny, Breezy
8/23/2013	1010	7.80	19.0	1055	7.20	20.0	Normal	69°, Sunny, calm
8/26/2013	845	6.70	21.0	945	7.50	21.0	Normal	70°, Cloudy, calm
8/28/2013	1400	8.50	22.0	1500	6.20	22.0	Normal	77°, Sunny, calm
8/30/2013	653	7.20	21.0	740	6.10	22.0	Normal	69°, Cloudy, Breezy
9/2/2013	700	7.00	19.0	740	5.40	20.0	Normal	65°, Cloudy, Windy
9/5/2013	820	7.40	16.0	910	7.10	18.0	Normal	55°, Sunny, calm
9/6/2013	704	7.50	17.0	745	7.70	17.0	Normal	56°, Sunny, calm
9/9/2013	835	7.50	17.0	912	7.50	18.0	Normal	58°, Cloudy, calm
9/11/2013	940	7.60	18.0	1020	7.60	18.0	Normal	80°, Sunny, calm
9/13/2013	900	8.00	14.0	1010	7.50	17.0	Normal	55°, Sunny, Breezy
9/16/2013	950	9.60	13.0	1030	9.10	15.0	Normal	65°, Sunny, Breezy
9/17/2013	710	8.10	13.0	802	7.60	14.0	Normal	52°, Sunny, calm
9/20/2013	920	7.70	15.0	955	8.00	16.0	Normal	60°, Cloudy, calm
9/23/2013	810	8.10	7.0	850	6.70	9.0	Normal	52°, Sunny, calm
9/25/2013	805	8.80	9.0	856	8.60	9.0	Normal	56°, Foggy, calm
9/27/2013	800	7.90	9.0	847	7.40	8.0	Normal	60°, Sunny, calm

CHALK HILL HYDROELECTRIC
PROJECT FERC No. 2394

WHITE RAPIDS HYDROELECTRIC
PROJECT FERC No. 2357

EXHIBIT B

RESULTS OF QUARTERLY WATER CHEMISTRY MEASUREMENTS

We Energies
January 2014

Chalk Hills and White Rapids 2013 Chemistry Data

Site	Date	Field Temp	Field Cond	Field pH	Field DO	Alkalinity as CaCO3	TSS	TDS	Sulfate	Color	Ammonia Nitrogen	Total Nitrogen*	TKN	Total N NO2+NO3	TP	TOC	Chlorophyll a CC a	Nitrite as N	Nitrate as N	Ca	Mg	Hardness as CaCO3
		Degree C	umhos	S.U.	mg/l	mg/l	mg/l	mg/l	mg/l	Units	mg/l	mg/l	mg/l	mg/l	mg/l	ppm	ug/l	mg/l	mg/l	mg/l	mg/l	mg/l
CHTR	5/22/2013	15.6	162	7.7	11.2	62.6	3.6	136	11.6	114	<0.25	0.98	0.75	0.23	0.043	12.5	2.0	<0.10	0.23	17.6	7.9	77
CHTR	7/10/2013	24.1	209	7.6	8.9	83.0	4.0	150	11.9	91	<0.25	0.69	0.52	0.17	0.045	14.1	1.3	<0.10	0.22	21.7	9.7	94
CHTR	10/2/2013	17.3	323	8.1	8.8	115.0	2.6	164	19.7	65	<0.25	0.52	0.52	0.00	0.078	10.7	0.68	<0.10	<0.15	25.4	11.8	112
CHTR	12/10/2013	0.10	252	7.9	ND	105.0	1.4	196	17.6	86	<0.25	0.81	0.61	0.20	<0.0074	15.0	0.64	<0.10	0.24	27.4	12.3	119
WRTR	5/22/2013	15.8	151	7.8	8.6	62.2	2.4	122	11.3	109	<0.25	0.95	0.72	0.23	0.027	12.4	0.56	<0.10	0.23	16.8	7.5	73
WRTR	7/10/2013	24.8	198	7.6	6.4	78.0	1.8	148	12.2	87	<0.25	0.70	0.53	0.17	0.029	13.8	0.80	<0.10	0.22	21.0	9.4	91
WRTR	10/2/2013	17.9	402	8.5	8.6	114.0	2.6	142	18.9	68	<0.25	0.70	0.55	0.15	0.078	11.0	0.42	<0.10	0.15	24.7	11.6	109
WRTR	12/10/2013	0.25	268	8.0	14.9	108.0	1.0	168	16.6	85	<0.25	0.82	0.63	0.19	0.012	14.7	0.43	<0.10	0.24	27.1	12.2	118
HWZ	5/22/2013	14.8	173	7.9	9.4	74.0	3.8	152	12.1	110	<0.25	1.0	0.78	0.22	0.016	13.3	1.9	<0.10	0.22	19.6	8.9	85
HWZ	7/10/2013	22.4	214	7.8	7.3	98.7	6.8	166	11.2	95	<0.25	0.69	0.52	0.17	0.036	14.8	0.64	<0.10	0.21	25.7	11.6	112
HWZ	10/2/2013	17.3	323	8.2	10.0	115.0	1.2	190	20.1	64	<0.25	0.54	0.54	0.00	0.059	10.8	1.1	<0.10	<0.15	25.4	11.8	112
HWZ	12/10/2013	-0.10	226	8.7	5.8	113.0	1.6	164	18.7	82	<0.25	2.10	0.68	1.40	<0.0074	14.5	1.3	<0.10	0.25	29.2	13.3	128
QC-WRTR	5/22/2013					60.8	1.8	130	11.3	110	<0.25	0.96	0.73	0.23	0.032	12.4	1.3	<0.10	0.23	17.3	7.7	75
QC-HWZ	7/10/2013					82.3	3.6	156	12.0	94	<0.25	0.74	0.57	0.17	0.040	13.8	0.80	<0.10	0.22	22.1	9.9	96
QC-HWZ	10/2/2013					117.0	1.4	170	20.2	64	<0.25	0.55	0.55	0.00	0.086	10.8	0.95	<0.10	<0.15	25.4	11.5	111
QC-HWZ	12/10/2013					115.0	1.8	182	18.7	83	<0.25	1.4	0.64	0.81	0.110	14.8	0.86	<0.10	0.25	29	13	127

CHTR- Chalk Hill Tail race
WRTR- White Rapids Tailrace
HWZ- From river near the HWY Z bridge.

Highlighted data is qualified as the estimated concentration is above the adjusted method detection limit and below the adjusted reporting limit.

* Total Nitrogen - TKN +NO3+NO2 Calculation

HWZ- Samples collected on 12/10/13 were collected very near the shoreline as the river had iced over and this was the only location we could get through the ice. Overall , the 12/10 results were very similar to other quarters, other than total nitrogen, which may have resulted from runoff contained near the shoreline.

ND-No data due to meter problems.

CHALK HILL HYDROELECTRIC
PROJECT FERC No. 2394

WHITE RAPIDS HYDROELECTRIC
PROJECT FERC No. 2357

EXHIBIT C

LABORATORY RESULTS FOR SEDIMENT SAMPLES COLLECTED FROM CHALK HILL AND WHITE RAPIDS FLOWAGES

We Energies
January 2014

Pace Analytical®
www.pacelabs.com

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

July 25, 2013

Russ Rick
WE Energies
333 W. Everett Street
Milwaukee, WI 53201

RE: Project: HYDRO SEDIMENT
Pace Project No.: 4080882

Dear Russ Rick:
Enclosed are the analytical results for sample(s) received by the laboratory on July 10, 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.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

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: HYDRO SEDIMENT
Pace Project No.: 4080882

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Hawaii Certification #Pace
Idaho Certification #: MN00064
Illinois Certification #: 200011
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia/DCLS Certification #: 002521
Virginia/VELAP Certification #: 460163
Washington Certification #: C754
West Virginia Certification #: 382
Wisconsin Certification #: 999407970

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

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: HYDRO SEDIMENT
Pace Project No.: 4080882

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4080882001	**CH-1**	Solid	07/09/13 14:00	07/10/13 11:34
4080882002	**CH-2**	Solid	07/09/13 14:20	07/10/13 11:34
4080882003	**WR-1**	Solid	07/09/13 16:00	07/10/13 11:34
4080882004	**WR-2**	Solid	07/09/13 16:20	07/10/13 11:34

Pace Analytical®
www.pacelabs.com

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

SAMPLE ANALYTE COUNT

Project: HYDRO SEDIMENT
Pace Project No.: 4080882

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
4080882001	**CH-1**	EPA 8082	BLM	10	PASI-G
		EPA 6010	MMZ	11	PASI-G
		EPA 7471	CMS	1	PASI-G
		ASTM D2974-87	MAV	1	PASI-G
		EPA 160.4	HKV	1	PASI-G
		EPA 9071	AS1	1	PASI-M
		TKN+NO3+NO2 Calculation	CCR	1	PASI-G
		EPA 351.2	HMB	1	PASI-G
		EPA 353.2	HMB	1	PASI-G
		EPA 365.4	DAW	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
4080882002	**CH-2**	EPA 8082	BLM	10	PASI-G
		EPA 6010	MMZ	11	PASI-G
		EPA 7471	CMS	1	PASI-G
		ASTM D2974-87	MAV	1	PASI-G
		EPA 160.4	HKV	1	PASI-G
		EPA 9071	AS1	1	PASI-M
		TKN+NO3+NO2 Calculation	CCR	1	PASI-G
		EPA 351.2	HMB	1	PASI-G
		EPA 353.2	HMB	1	PASI-G
		EPA 365.4	DAW	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
4080882003	**WR-1**	EPA 8082	BLM	10	PASI-G
		EPA 6010	MMZ	11	PASI-G
		EPA 7471	CMS	1	PASI-G
		ASTM D2974-87	MAV	1	PASI-G
		EPA 160.4	HKV	1	PASI-G
		EPA 9071	AS1	1	PASI-M
		TKN+NO3+NO2 Calculation	CCR	1	PASI-G
		EPA 351.2	HMB	1	PASI-G
		EPA 353.2	HMB	1	PASI-G
		EPA 365.4	DAW	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
4080882004	**WR-2**	EPA 8082	BLM	10	PASI-G
		EPA 6010	MMZ	11	PASI-G
		EPA 7471	CMS	1	PASI-G
		ASTM D2974-87	MAV	1	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: HYDRO SEDIMENT
Pace Project No.: 4080882

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 160.4	HKV	1	PASI-G
		EPA 9071	AS1	1	PASI-M
		TKN+NO3+NO2 Calculation	CCR	1	PASI-G
		EPA 351.2	HMB	1	PASI-G
		EPA 353.2	HMB	1	PASI-G
		EPA 365.4	DAW	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G

REPORT OF LABORATORY ANALYSIS

Pace Analytical®
www.pacelabs.com

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

ANALYTICAL RESULTS

Project: HYDRO SEDIMENT
Pace Project No.: 4080882

Sample: CH-1 **Lab ID: 4080882001** Collected: 07/09/13 14:00 Received: 07/10/13 11:34 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB	Analytical Method: EPA 8082 Preparation Method: EPA 3541								
PCB-1016 (Aroclor 1016)	**<130**	ug/kg	260	130	1	07/11/13 12:00	07/11/13 21:40	12674-11-2	
PCB-1221 (Aroclor 1221)	**<130**	ug/kg	260	130	1	07/11/13 12:00	07/11/13 21:40	11104-28-2	
PCB-1232 (Aroclor 1232)	**<130**	ug/kg	260	130	1	07/11/13 12:00	07/11/13 21:40	11141-16-5	
PCB-1242 (Aroclor 1242)	**<130**	ug/kg	260	130	1	07/11/13 12:00	07/11/13 21:40	53469-21-9	
PCB-1248 (Aroclor 1248)	**<130**	ug/kg	260	130	1	07/11/13 12:00	07/11/13 21:40	12672-29-6	
PCB-1254 (Aroclor 1254)	**<130**	ug/kg	260	130	1	07/11/13 12:00	07/11/13 21:40	11097-69-1	
PCB-1260 (Aroclor 1260)	**<130**	ug/kg	260	130	1	07/11/13 12:00	07/11/13 21:40	11096-82-5	
PCB, Total	**<130**	ug/kg	260	130	1	07/11/13 12:00	07/11/13 21:40	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	88	%	40-130		1	07/11/13 12:00	07/11/13 21:40	877-09-8	
Decachlorobiphenyl (S)	92	%	48-130		1	07/11/13 12:00	07/11/13 21:40	2051-24-3	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**11.2**	mg/kg	9.1	2.5	1	07/11/13 14:10	07/15/13 10:09	7440-38-2	
Barium	**112**	mg/kg	2.3	0.40	1	07/11/13 14:10	07/15/13 10:09	7440-39-3	
Cadmium	**0.91J**	mg/kg	2.3	0.23	1	07/11/13 14:10	07/15/13 10:09	7440-43-9	
Chromium	**33.5**	mg/kg	2.3	0.57	1	07/11/13 14:10	07/15/13 10:09	7440-47-3	
Copper	**25.1**	mg/kg	4.6	0.74	1	07/11/13 14:10	07/15/13 10:09	7440-50-8	
Lead	**16.3**	mg/kg	4.6	1.3	1	07/11/13 14:10	07/15/13 10:09	7439-92-1	
Manganese	**2150**	mg/kg	2.3	0.14	1	07/11/13 14:10	07/15/13 10:09	7439-96-5	
Nickel	**16.4**	mg/kg	4.6	0.48	1	07/11/13 14:10	07/15/13 10:09	7440-02-0	
Selenium	**<2.7**	mg/kg	9.1	2.7	1	07/11/13 14:10	07/15/13 10:09	7782-49-2	
Silver	**<0.98**	mg/kg	4.6	0.98	1	07/11/13 14:10	07/15/13 10:09	7440-22-4	
Zinc	**104**	mg/kg	18.3	1.2	1	07/11/13 14:10	07/15/13 10:09	7440-66-6	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**0.26**	mg/kg	0.029	0.015	1	07/11/13 11:25	07/12/13 12:15	7439-97-6	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**80.8**	%	0.10	0.10	1		07/10/13 16:54		
160.4 Total Volatile Solids	Analytical Method: EPA 160.4								
Total Volatile Solids	**20.8**	% (w/w)	0.10	0.10	1		07/11/13 11:39		
9071 Oil and Grease, Soxhlet	Analytical Method: EPA 9071 Preparation Method: EPA 3540								
Oil and Grease	**<326**	mg/kg	1290	326	1	07/20/13 15:40	07/20/13 15:40		
Total Nitrogen Calculation	Analytical Method: TKN+NO3+NO2 Calculation								
Nitrogen	**7190**	mg/kg	520	72.7	5.195		07/23/13 08:01	7727-37-9	1q
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2								
Nitrogen, Kjeldahl, Total	**7180**	mg/kg	520	72.7	1	07/11/13 18:44	07/11/13 21:50	7727-37-9	

REPORT OF LABORATORY ANALYSIS

Pace Analytical®
www.pacelabs.com

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

ANALYTICAL RESULTS

Project: HYDRO SEDIMENT
Pace Project No.: 4080882

Sample: CH-1 **Lab ID: 4080882001** Collected: 07/09/13 14:00 Received: 07/10/13 11:34 Matrix: Solid
Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
353.2 Nitrogen, NO2/NO3	Analytical Method: EPA 353.2 Preparation Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**9.4J**	mg/kg	12.9	6.5	1	07/11/13 22:54	07/12/13 16:44		B
365.4 Total Phosphorus	Analytical Method: EPA 365.4 Preparation Method: EPA 365.4								
Phosphorus	**1370**	mg/kg	126	63.0	1	07/12/13 09:24	07/12/13 13:26	7723-14-0	
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
Surrogates									
RPD%	**13.0**	%			1		07/19/13 09:12		
Total Organic Carbon	**82200**	mg/kg	20000	2490	1		07/19/13 09:09	7440-44-0	
Total Organic Carbon	**93600**	mg/kg	16700	2070	1		07/19/13 09:12	7440-44-0	
Mean Total Organic Carbon	**87900**	mg/kg	18300	2280	1		07/19/13 09:12	7440-44-0	

Sample: CH-2 **Lab ID: 4080882002** Collected: 07/09/13 14:20 Received: 07/10/13 11:34 Matrix: Solid
Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB	Analytical Method: EPA 8082 Preparation Method: EPA 3541								
PCB-1016 (Aroclor 1016)	**<133**	ug/kg	266	133	1	07/11/13 12:00	07/11/13 21:58	12674-11-2	
PCB-1221 (Aroclor 1221)	**<133**	ug/kg	266	133	1	07/11/13 12:00	07/11/13 21:58	11104-28-2	
PCB-1232 (Aroclor 1232)	**<133**	ug/kg	266	133	1	07/11/13 12:00	07/11/13 21:58	11141-16-5	
PCB-1242 (Aroclor 1242)	**<133**	ug/kg	266	133	1	07/11/13 12:00	07/11/13 21:58	53469-21-9	
PCB-1248 (Aroclor 1248)	**<133**	ug/kg	266	133	1	07/11/13 12:00	07/11/13 21:58	12672-29-6	
PCB-1254 (Aroclor 1254)	**<133**	ug/kg	266	133	1	07/11/13 12:00	07/11/13 21:58	11097-69-1	
PCB-1260 (Aroclor 1260)	**<133**	ug/kg	266	133	1	07/11/13 12:00	07/11/13 21:58	11096-82-5	
PCB, Total	**<133**	ug/kg	266	133	1	07/11/13 12:00	07/11/13 21:58	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	86	%	40-130		1	07/11/13 12:00	07/11/13 21:58	877-09-8	
Decachlorobiphenyl (S)	84	%	48-130		1	07/11/13 12:00	07/11/13 21:58	2051-24-3	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**12.1**	mg/kg	9.3	2.5	1	07/11/13 14:10	07/15/13 10:16	7440-38-2	
Barium	**122**	mg/kg	2.3	0.40	1	07/11/13 14:10	07/15/13 10:16	7440-39-3	
Cadmium	**0.85J**	mg/kg	2.3	0.24	1	07/11/13 14:10	07/15/13 10:16	7440-43-9	
Chromium	**32.7**	mg/kg	2.3	0.58	1	07/11/13 14:10	07/15/13 10:16	7440-47-3	
Copper	**23.5**	mg/kg	4.6	0.75	1	07/11/13 14:10	07/15/13 10:16	7440-50-8	
Lead	**14.9**	mg/kg	4.6	1.4	1	07/11/13 14:10	07/15/13 10:16	7439-92-1	
Manganese	**2750**	mg/kg	2.3	0.14	1	07/11/13 14:10	07/15/13 10:16	7439-96-5	
Nickel	**16.4**	mg/kg	4.6	0.49	1	07/11/13 14:10	07/15/13 10:16	7440-02-0	
Selenium	**<2.7**	mg/kg	9.3	2.7	1	07/11/13 14:10	07/15/13 10:16	7782-49-2	
Silver	**<0.99**	mg/kg	4.6	0.99	1	07/11/13 14:10	07/15/13 10:16	7440-22-4	
Zinc	**100**	mg/kg	18.5	1.2	1	07/11/13 14:10	07/15/13 10:16	7440-66-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical®
www.pacelabs.com

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

ANALYTICAL RESULTS

Project: HYDRO SEDIMENT
Pace Project No.: 4080882

Sample: CH-2 **Lab ID: 4080882002** Collected: 07/09/13 14:20 Received: 07/10/13 11:34 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**0.24**	mg/kg	0.035	0.018	1	07/11/13 11:25	07/12/13 12:17	7439-97-6	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**81.2**	%	0.10	0.10	1		07/10/13 16:54		
160.4 Total Volatile Solids	Analytical Method: EPA 160.4								
Total Volatile Solids	**20.7**	% (w/w)	0.10	0.10	1		07/11/13 11:46		
9071 Oil and Grease, Soxhlet	Analytical Method: EPA 9071 Preparation Method: EPA 3540								
Oil and Grease	**<333**	mg/kg	1320	333	1	07/20/13 15:40	07/20/13 15:40		
Total Nitrogen Calculation	Analytical Method: TKN+NO3+NO2 Calculation								
Nitrogen	**8160**	mg/kg	463	64.8	4.63		07/23/13 08:01	7727-37-9	1q
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2								
Nitrogen, Kjeldahl, Total	**8150**	mg/kg	463	64.8	1	07/11/13 18:44	07/11/13 21:51	7727-37-9	
353.2 Nitrogen, NO2/NO3	Analytical Method: EPA 353.2 Preparation Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**8.4J**	mg/kg	13.2	6.6	1	07/11/13 22:54	07/12/13 16:47		B
365.4 Total Phosphorus	Analytical Method: EPA 365.4 Preparation Method: EPA 365.4								
Phosphorus	**1220**	mg/kg	177	88.7	1	07/12/13 09:24	07/12/13 13:27	7723-14-0	
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
Surrogates									
RPD%	**5.9**	%			1		07/19/13 09:26		
Total Organic Carbon	**68900**	mg/kg	25000	3110	1		07/19/13 09:23	7440-44-0	
Total Organic Carbon	**64900**	mg/kg	20000	2490	1		07/19/13 09:26	7440-44-0	
Mean Total Organic Carbon	**66900**	mg/kg	22500	2800	1		07/19/13 09:26	7440-44-0	

Sample: WR-1 **Lab ID: 4080882003** Collected: 07/09/13 16:00 Received: 07/10/13 11:34 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB	Analytical Method: EPA 8082 Preparation Method: EPA 3541								
PCB-1016 (Aroclor 1016)	**<173**	ug/kg	346	173	1	07/11/13 12:00	07/11/13 22:15	12674-11-2	
PCB-1221 (Aroclor 1221)	**<173**	ug/kg	346	173	1	07/11/13 12:00	07/11/13 22:15	11104-28-2	
PCB-1232 (Aroclor 1232)	**<173**	ug/kg	346	173	1	07/11/13 12:00	07/11/13 22:15	11141-16-5	
PCB-1242 (Aroclor 1242)	**<173**	ug/kg	346	173	1	07/11/13 12:00	07/11/13 22:15	53469-21-9	
PCB-1248 (Aroclor 1248)	**<173**	ug/kg	346	173	1	07/11/13 12:00	07/11/13 22:15	12672-29-6	
PCB-1254 (Aroclor 1254)	**<173**	ug/kg	346	173	1	07/11/13 12:00	07/11/13 22:15	11097-69-1	

REPORT OF LABORATORY ANALYSIS

Pace Analytical®
www.pacelabs.com

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

ANALYTICAL RESULTS

Project: HYDRO SEDIMENT
Pace Project No.: 4080882

Sample: WR-1 **Lab ID: 4080882003** Collected: 07/09/13 16:00 Received: 07/10/13 11:34 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB	Analytical Method: EPA 8082 Preparation Method: EPA 3541								
PCB-1260 (Aroclor 1260)	**<173**	ug/kg	346	173	1	07/11/13 12:00	07/11/13 22:15	11096-82-5	
PCB, Total	**<173**	ug/kg	346	173	1	07/11/13 12:00	07/11/13 22:15	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	88	%	40-130		1	07/11/13 12:00	07/11/13 22:15	877-09-8	
Decachlorobiphenyl (S)	77	%	48-130		1	07/11/13 12:00	07/11/13 22:15	2051-24-3	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**12.2J**	mg/kg	12.9	3.5	1	07/11/13 14:10	07/15/13 10:18	7440-38-2	
Barium	**164**	mg/kg	3.2	0.56	1	07/11/13 14:10	07/15/13 10:18	7440-39-3	
Cadmium	**1.1J**	mg/kg	3.2	0.33	1	07/11/13 14:10	07/15/13 10:18	7440-43-9	
Chromium	**41.6**	mg/kg	3.2	0.81	1	07/11/13 14:10	07/15/13 10:18	7440-47-3	
Copper	**28.8**	mg/kg	6.5	1.0	1	07/11/13 14:10	07/15/13 10:18	7440-50-8	
Lead	**19.6**	mg/kg	6.5	1.9	1	07/11/13 14:10	07/15/13 10:18	7439-92-1	
Manganese	**3440**	mg/kg	3.2	0.20	1	07/11/13 14:10	07/15/13 10:18	7439-96-5	
Nickel	**21.0**	mg/kg	6.5	0.68	1	07/11/13 14:10	07/15/13 10:18	7440-02-0	
Selenium	**<3.8**	mg/kg	12.9	3.8	1	07/11/13 14:10	07/15/13 10:18	7782-49-2	
Silver	**<1.4**	mg/kg	6.5	1.4	1	07/11/13 14:10	07/15/13 10:18	7440-22-4	
Zinc	**122**	mg/kg	25.9	1.7	1	07/11/13 14:10	07/15/13 10:18	7440-66-6	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**0.31**	mg/kg	0.038	0.019	1	07/11/13 11:25	07/12/13 12:19	7439-97-6	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**85.6**	%	0.10	0.10	1		07/10/13 16:54		
160.4 Total Volatile Solids	Analytical Method: EPA 160.4								
Total Volatile Solids	**23.3**	% (w/w)	0.10	0.10	1		07/11/13 11:48		
9071 Oil and Grease, Soxhlet	Analytical Method: EPA 9071 Preparation Method: EPA 3540								
Oil and Grease	**<432**	mg/kg	1710	432	1	07/20/13 15:40	07/20/13 15:40		
Total Nitrogen Calculation	Analytical Method: TKN+NO3+NO2 Calculation								
Nitrogen	**7440**	mg/kg	659	92.3	6.59		07/23/13 08:01	7727-37-9	1q
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2								
Nitrogen, Kjeldahl, Total	**7430**	mg/kg	659	92.3	1	07/11/13 18:44	07/11/13 21:52	7727-37-9	
353.2 Nitrogen, NO2/NO3	Analytical Method: EPA 353.2 Preparation Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**10.9J**	mg/kg	17.1	8.6	1	07/11/13 22:54	07/12/13 16:48		B
365.4 Total Phosphorus	Analytical Method: EPA 365.4 Preparation Method: EPA 365.4								
Phosphorus	**1190**	mg/kg	213	106	1	07/12/13 09:24	07/12/13 13:27	7723-14-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical®
www.pacelabs.com

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

ANALYTICAL RESULTS

Project: HYDRO SEDIMENT
Pace Project No.: 4080882

Sample: WR-1 **Lab ID: 4080882003** Collected: 07/09/13 16:00 Received: 07/10/13 11:34 Matrix: Solid
Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
Surrogates									
RPD%	**14.2**	%			1		07/19/13 09:33		
Total Organic Carbon	**98000**	mg/kg	50000	6220	1		07/19/13 09:30	7440-44-0	
Total Organic Carbon	**113000**	mg/kg	50000	6220	1		07/19/13 09:33	7440-44-0	
Mean Total Organic Carbon	**105000**	mg/kg	50000	6220	1		07/19/13 09:33	7440-44-0	

Sample: WR-2 **Lab ID: 4080882004** Collected: 07/09/13 16:20 Received: 07/10/13 11:34 Matrix: Solid
Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB	Analytical Method: EPA 8082 Preparation Method: EPA 3541								
PCB-1016 (Aroclor 1016)	**<184**	ug/kg	367	184	1	07/11/13 12:00	07/11/13 22:32	12674-11-2	
PCB-1221 (Aroclor 1221)	**<184**	ug/kg	367	184	1	07/11/13 12:00	07/11/13 22:32	11104-28-2	
PCB-1232 (Aroclor 1232)	**<184**	ug/kg	367	184	1	07/11/13 12:00	07/11/13 22:32	11141-16-5	
PCB-1242 (Aroclor 1242)	**<184**	ug/kg	367	184	1	07/11/13 12:00	07/11/13 22:32	53469-21-9	
PCB-1248 (Aroclor 1248)	**<184**	ug/kg	367	184	1	07/11/13 12:00	07/11/13 22:32	12672-29-6	
PCB-1254 (Aroclor 1254)	**<184**	ug/kg	367	184	1	07/11/13 12:00	07/11/13 22:32	11097-69-1	
PCB-1260 (Aroclor 1260)	**<184**	ug/kg	367	184	1	07/11/13 12:00	07/11/13 22:32	11096-82-5	
PCB, Total	**<184**	ug/kg	367	184	1	07/11/13 12:00	07/11/13 22:32	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	89	%	40-130		1	07/11/13 12:00	07/11/13 22:32	877-09-8	
Decachlorobiphenyl (S)	80	%	48-130		1	07/11/13 12:00	07/11/13 22:32	2051-24-3	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**13.8J**	mg/kg	13.9	3.8	1	07/11/13 14:10	07/15/13 10:21	7440-38-2	
Barium	**196**	mg/kg	3.5	0.60	1	07/11/13 14:10	07/15/13 10:21	7440-39-3	
Cadmium	**1.3J**	mg/kg	3.5	0.35	1	07/11/13 14:10	07/15/13 10:21	7440-43-9	
Chromium	**46.1**	mg/kg	3.5	0.87	1	07/11/13 14:10	07/15/13 10:21	7440-47-3	
Copper	**33.1**	mg/kg	6.9	1.1	1	07/11/13 14:10	07/15/13 10:21	7440-50-8	
Lead	**22.7**	mg/kg	6.9	2.0	1	07/11/13 14:10	07/15/13 10:21	7439-92-1	
Manganese	**4510**	mg/kg	3.5	0.21	1	07/11/13 14:10	07/15/13 10:21	7439-96-5	
Nickel	**21.4**	mg/kg	6.9	0.73	1	07/11/13 14:10	07/15/13 10:21	7440-02-0	
Selenium	**<4.1**	mg/kg	13.9	4.1	1	07/11/13 14:10	07/15/13 10:21	7782-49-2	
Silver	**<1.5**	mg/kg	6.9	1.5	1	07/11/13 14:10	07/15/13 10:21	7440-22-4	
Zinc	**137**	mg/kg	27.8	1.9	1	07/11/13 14:10	07/15/13 10:21	7440-66-6	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**0.34**	mg/kg	0.045	0.023	1	07/11/13 11:25	07/12/13 12:21	7439-97-6	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**86.4**	%	0.10	0.10	1		07/10/13 16:54		

REPORT OF LABORATORY ANALYSIS

Pace Analytical®
www.pacelabs.com

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

ANALYTICAL RESULTS

Project: HYDRO SEDIMENT
Pace Project No.: 4080882

Sample: WR-2 **Lab ID: 4080882004** Collected: 07/09/13 16:20 Received: 07/10/13 11:34 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
160.4 Total Volatile Solids	Analytical Method: EPA 160.4								
Total Volatile Solids	**24.4**	% (w/w)	0.10	0.10	1		07/11/13 11:49		
9071 Oil and Grease, Soxhlet	Analytical Method: EPA 9071 Preparation Method: EPA 3540								
Oil and Grease	**<459**	mg/kg	1820	459	1	07/20/13 15:40	07/20/13 15:40		
Total Nitrogen Calculation	Analytical Method: TKN+NO3+NO2 Calculation								
Nitrogen	**9070**	mg/kg	700	98.0	7		07/23/13 08:01	7727-37-9	1q
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2								
Nitrogen, Kjeldahl, Total	**9060**	mg/kg	700	98.0	1	07/11/13 18:44	07/11/13 21:53	7727-37-9	
353.2 Nitrogen, NO2/NO3	Analytical Method: EPA 353.2 Preparation Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**10.5J**	mg/kg	18.3	9.1	1	07/11/13 22:54	07/12/13 16:49		B
365.4 Total Phosphorus	Analytical Method: EPA 365.4 Preparation Method: EPA 365.4								
Phosphorus	**1890**	mg/kg	267	134	1	07/12/13 09:24	07/12/13 13:28	7723-14-0	
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
Surrogates									
RPD%	**13.4**	%			1		07/19/13 09:39		
Total Organic Carbon	**142000**	mg/kg	33300	4140	1		07/19/13 09:36	7440-44-0	
Total Organic Carbon	**124000**	mg/kg	50000	6220	1		07/19/13 09:39	7440-44-0	
Mean Total Organic Carbon	**133000**	mg/kg	41700	5180	1		07/19/13 09:39	7440-44-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical®
www.pacelabs.com

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

QUALITY CONTROL DATA

Project: HYDRO SEDIMENT
Pace Project No.: 4080882

QC Batch: MERP/3739 Analysis Method: EPA 7471
QC Batch Method: EPA 7471 Analysis Description: 7471 Mercury
Associated Lab Samples: 4080882001, 4080882002, 4080882003, 4080882004

METHOD BLANK: 820896 Matrix: Solid
Associated Lab Samples: 4080882001, 4080882002, 4080882003, 4080882004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/kg	<0.0033	0.0067	07/12/13 11:20	

LABORATORY CONTROL SAMPLE: 820897

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	.17	0.17	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 820898 820899

Parameter	Units	4080685005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/kg	0.19	.18	.2	0.34	0.37	81	96	85-115	8	20	M0

REPORT OF LABORATORY ANALYSIS

Pace Analytical®
www.pacelabs.com

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

QUALITY CONTROL DATA

Project: HYDRO SEDIMENT
Pace Project No.: 4080882

QC Batch: MPRP/8779 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET
Associated Lab Samples: 4080882001, 4080882002, 4080882003, 4080882004

METHOD BLANK: 821268 Matrix: Solid
Associated Lab Samples: 4080882001, 4080882002, 4080882003, 4080882004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	<0.54	2.0	07/15/13 09:33	
Barium	mg/kg	<0.087	0.50	07/15/13 09:33	
Cadmium	mg/kg	<0.051	0.50	07/15/13 09:33	
Chromium	mg/kg	<0.13	0.50	07/15/13 09:33	
Copper	mg/kg	<0.16	1.0	07/15/13 09:33	
Lead	mg/kg	<0.29	1.0	07/15/13 09:33	
Manganese	mg/kg	0.098J	0.50	07/15/13 09:33	
Nickel	mg/kg	<0.11	1.0	07/15/13 09:33	
Selenium	mg/kg	<0.59	2.0	07/15/13 09:33	
Silver	mg/kg	<0.21	1.0	07/15/13 09:33	
Zinc	mg/kg	<0.27	4.0	07/15/13 09:33	

LABORATORY CONTROL SAMPLE: 821269

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	50	48.0	96	80-120	
Barium	mg/kg	50	48.2	96	80-120	
Cadmium	mg/kg	50	47.6	95	80-120	
Chromium	mg/kg	50	48.2	96	80-120	
Copper	mg/kg	50	47.6	95	80-120	
Lead	mg/kg	50	47.7	95	80-120	
Manganese	mg/kg	50	48.4	97	80-120	
Nickel	mg/kg	50	49.0	98	80-120	
Selenium	mg/kg	50	48.8	98	80-120	
Silver	mg/kg	25	20.3	81	80-120	
Zinc	mg/kg	50	48.8	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 821270 821271

Parameter	Units	4080864002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	1.8J	53	53.1	48.0	48.6	87	88	75-125	1	20	
Barium	mg/kg	21.0	53	53.1	71.9	70.3	96	93	75-125	2	20	
Cadmium	mg/kg	0.071J	53	53.1	46.3	46.5	87	87	75-125	0	20	
Chromium	mg/kg	5.2	53	53.1	53.6	53.5	91	91	75-125	0	20	
Copper	mg/kg	6.8	53	53.1	54.3	54.6	90	90	75-125	1	20	
Lead	mg/kg	5.6	53	53.1	52.0	51.9	88	87	75-125	0	20	
Manganese	mg/kg	170	53	53.1	244	241	139	134	75-125	1	20	M0
Nickel	mg/kg	4.4	53	53.1	53.6	52.6	93	91	75-125	2	20	
Selenium	mg/kg	<0.63	53	53.1	46.6	46.5	88	87	75-125	0	20	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: HYDRO SEDIMENT
Pace Project No.: 4080882

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 821270 821271

Parameter	Units	4080864002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Silver	mg/kg	<0.23	26.5	26.6	19.8	19.8	75	74	75-125	0	20	M0
Zinc	mg/kg	10.7	53	53.1	58.4	59.8	90	92	75-125	2	20	

REPORT OF LABORATORY ANALYSIS

Pace Analytical®
www.pacelabs.com

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

QUALITY CONTROL DATA

Project: HYDRO SEDIMENT
Pace Project No.: 4080882

QC Batch: OEXT/18941 Analysis Method: EPA 8082
QC Batch Method: EPA 3541 Analysis Description: 8082 GCS PCB
Associated Lab Samples: 4080882001, 4080882002, 4080882003, 4080882004

METHOD BLANK: 820805 Matrix: Solid
Associated Lab Samples: 4080882001, 4080882002, 4080882003, 4080882004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<25.0	50.0	07/11/13 20:14	
PCB-1221 (Aroclor 1221)	ug/kg	<25.0	50.0	07/11/13 20:14	
PCB-1232 (Aroclor 1232)	ug/kg	<25.0	50.0	07/11/13 20:14	
PCB-1242 (Aroclor 1242)	ug/kg	<25.0	50.0	07/11/13 20:14	
PCB-1248 (Aroclor 1248)	ug/kg	<25.0	50.0	07/11/13 20:14	
PCB-1254 (Aroclor 1254)	ug/kg	<25.0	50.0	07/11/13 20:14	
PCB-1260 (Aroclor 1260)	ug/kg	<25.0	50.0	07/11/13 20:14	
Decachlorobiphenyl (S)	%	102	48-130	07/11/13 20:14	
Tetrachloro-m-xylene (S)	%	92	40-130	07/11/13 20:14	

LABORATORY CONTROL SAMPLE: 820806

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg		<25.0			
PCB-1221 (Aroclor 1221)	ug/kg		<25.0			
PCB-1232 (Aroclor 1232)	ug/kg		<25.0			
PCB-1242 (Aroclor 1242)	ug/kg		<25.0			
PCB-1248 (Aroclor 1248)	ug/kg		<25.0			
PCB-1254 (Aroclor 1254)	ug/kg		<25.0			
PCB-1260 (Aroclor 1260)	ug/kg	500	504	101	70-130	
Decachlorobiphenyl (S)	%			103	48-130	
Tetrachloro-m-xylene (S)	%			92	40-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 820807 820808

Parameter	Units	4080899001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	ug/kg	<26.9			<26.9	<26.9					31	
PCB-1221 (Aroclor 1221)	ug/kg	<26.9			<26.9	<26.9					31	
PCB-1232 (Aroclor 1232)	ug/kg	<26.9			<26.9	<26.9					31	
PCB-1242 (Aroclor 1242)	ug/kg	44.2J			48.9J	52.8J					31	
PCB-1248 (Aroclor 1248)	ug/kg	<26.9			<26.9	<26.9					31	
PCB-1254 (Aroclor 1254)	ug/kg	<26.9			<26.9	<26.9					31	
PCB-1260 (Aroclor 1260)	ug/kg	<26.9	538	538	535	545	99	101	40-149	2	31	
Decachlorobiphenyl (S)	%						98	104	48-130			
Tetrachloro-m-xylene (S)	%						90	94	40-130			

REPORT OF LABORATORY ANALYSIS

Pace Analytical®
www.pacelabs.com

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

QUALITY CONTROL DATA

Project: HYDRO SEDIMENT
Pace Project No.: 4080882

QC Batch: PMST/8648 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 4080882001, 4080882002, 4080882003, 4080882004

SAMPLE DUPLICATE: 820691

Parameter	Units	4080843001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	5.9	5.9	0	10	

REPORT OF LABORATORY ANALYSIS

Pace Analytical®
www.pacelabs.com

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

QUALITY CONTROL DATA

Project: HYDRO SEDIMENT
Pace Project No.: 4080882

QC Batch: WET/15593 Analysis Method: EPA 160.4
QC Batch Method: EPA 160.4 Analysis Description: 160.4 Total Volatile Solids
Associated Lab Samples: 4080882001, 4080882002, 4080882003, 4080882004

METHOD BLANK: 821094 Matrix: Solid
Associated Lab Samples: 4080882001, 4080882002, 4080882003, 4080882004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Volatile Solids	% (w/w)	<0.10	0.10	07/11/13 11:36	

SAMPLE DUPLICATE: 821096

Parameter	Units	4080882004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Volatile Solids	% (w/w)	24.4	24.2	1	20	

Pace Analytical®
www.pacelabs.com

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

QUALITY CONTROL DATA

Project: HYDRO SEDIMENT
Pace Project No.: 4080882

QC Batch: WET/31383 Analysis Method: EPA 9071
QC Batch Method: EPA 3540 Analysis Description: 9071 SOX, Oil and Grease
Associated Lab Samples: 4080882001, 4080882002, 4080882003, 4080882004

METHOD BLANK: 1482656 Matrix: Solid
Associated Lab Samples: 4080882001, 4080882002, 4080882003, 4080882004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/kg	<63.0	250	07/20/13 15:40	

LABORATORY CONTROL SAMPLE: 1482657

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/kg	2000	1940	97	78-114	

MATRIX SPIKE SAMPLE: 1482658

Parameter	Units	10235715001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/kg	163000	28800	271000	374	78-114	M1

SAMPLE DUPLICATE: 1482659

Parameter	Units	10235715001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/kg	163000	202000	21	18	D6

REPORT OF LABORATORY ANALYSIS

Pace Analytical®
www.pacelabs.com

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

QUALITY CONTROL DATA

Project: HYDRO SEDIMENT
Pace Project No.: 4080882

QC Batch: WETA/18487 Analysis Method: EPA 351.2
QC Batch Method: EPA 351.2 Analysis Description: 351.2 TKN
Associated Lab Samples: 4080882001, 4080882002, 4080882003, 4080882004

METHOD BLANK: 821371 Matrix: Solid
Associated Lab Samples: 4080882001, 4080882002, 4080882003, 4080882004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Kjeldahl, Total	mg/kg	<14.0	100	07/11/13 21:37	

LABORATORY CONTROL SAMPLE: 821372

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Kjeldahl, Total	mg/kg	500	471	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 821373 821374

Parameter	Units	10234503001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Kjeldahl, Total	mg/kg	4420	560	560	5830	4770	251	62	80-120	20	20	P6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 821375 821376

Parameter	Units	4080897004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Kjeldahl, Total	mg/kg	3.6 % (w/w)	14900	13700	54200	53300	120	124	80-120	2	20	M0

REPORT OF LABORATORY ANALYSIS

Pace Analytical®
www.pacelabs.com

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

QUALITY CONTROL DATA

Project: HYDRO SEDIMENT
Pace Project No.: 4080882

QC Batch: WETA/18501 Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite
Associated Lab Samples: 4080882001, 4080882002, 4080882003, 4080882004

METHOD BLANK: 821526 Matrix: Solid
Associated Lab Samples: 4080882001, 4080882002, 4080882003, 4080882004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/kg	2.3J	2.5	07/12/13 16:36	

LABORATORY CONTROL SAMPLE: 821527

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/kg	25	29.1	116	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 821528 821529

Parameter	Units	10233986001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/kg	13.1	29.9	29.8	45.7	45.2	109	108	80-120	1	20	

REPORT OF LABORATORY ANALYSIS

Pace Analytical®
www.pacelabs.com

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

QUALITY CONTROL DATA

Project: HYDRO SEDIMENT
Pace Project No.: 4080882

QC Batch: WETA/18507 Analysis Method: EPA 365.4
QC Batch Method: EPA 365.4 Analysis Description: 365.4 Total Phosphorus
Associated Lab Samples: 4080882001, 4080882002, 4080882003, 4080882004

METHOD BLANK: 821595 Matrix: Solid
Associated Lab Samples: 4080882001, 4080882002, 4080882003, 4080882004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phosphorus	mg/kg	<20.0	40.0	07/12/13 13:21	

LABORATORY CONTROL SAMPLE: 821596

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phosphorus	mg/kg	500	488	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 821597 821598

Parameter	Units	4080882004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Phosphorus	mg/kg	1890	3340	3340	5130	5400	97	105	80-120	5	20	

REPORT OF LABORATORY ANALYSIS

Pace Analytical®
www.pacelabs.com

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

QUALITY CONTROL DATA

Project: HYDRO SEDIMENT
Pace Project No.: 4080882

QC Batch: WETA/18599 Analysis Method: EPA 9060 Modified
QC Batch Method: EPA 9060 Modified Analysis Description: 9060 TOC Average
Associated Lab Samples: 4080882001, 4080882002, 4080882003, 4080882004

METHOD BLANK: 825696 Matrix: Solid
Associated Lab Samples: 4080882001, 4080882002, 4080882003, 4080882004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/kg	<31.1	250	07/19/13 08:01	

LABORATORY CONTROL SAMPLE: 825697

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/kg	1000	1050	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 825698 825699

Parameter	Units	4081030011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	1950	3210	3250	4700	5640	86	113	50-150	18	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 825700 825701

Parameter	Units	10234977009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	22800	10300	8890	30700	32600	78	110	50-150	6	30	

Pace Analytical®
www.pacelabs.com

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

QUALIFIERS

Project: HYDRO SEDIMENT
Pace Project No.: 4080882

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.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay
PASI-M	Pace Analytical Services - Minneapolis

BATCH QUALIFIERS

Batch: WETA/18599

[WB]	Results reported on dry weight basis per cited method.

Batch: WETA/18600

[WB]	Results reported on dry weight basis per cited method.

ANALYTE QUALIFIERS

1q	Dilution for calculation purposes only.
B	Analyte was detected in the associated method blank.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
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: HYDRO SEDIMENT
Pace Project No.: 4080882

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4080882001	**CH-1**	EPA 3541	OEXT/18941	EPA 8082	GCSV/9841
4080882002	**CH-2**	EPA 3541	OEXT/18941	EPA 8082	GCSV/9841
4080882003	**WR-1**	EPA 3541	OEXT/18941	EPA 8082	GCSV/9841
4080882004	**WR-2**	EPA 3541	OEXT/18941	EPA 8082	GCSV/9841
4080882001	**CH-1**	EPA 3050	MPRP/8779	EPA 6010	ICP/7781
4080882002	**CH-2**	EPA 3050	MPRP/8779	EPA 6010	ICP/7781
4080882003	**WR-1**	EPA 3050	MPRP/8779	EPA 6010	ICP/7781
4080882004	**WR-2**	EPA 3050	MPRP/8779	EPA 6010	ICP/7781
4080882001	**CH-1**	EPA 7471	MERP/3739	EPA 7471	MERC/4687
4080882002	**CH-2**	EPA 7471	MERP/3739	EPA 7471	MERC/4687
4080882003	**WR-1**	EPA 7471	MERP/3739	EPA 7471	MERC/4687
4080882004	**WR-2**	EPA 7471	MERP/3739	EPA 7471	MERC/4687
4080882001	**CH-1**	ASTM D2974-87	PMST/8648		
4080882002	**CH-2**	ASTM D2974-87	PMST/8648		
4080882003	**WR-1**	ASTM D2974-87	PMST/8648		
4080882004	**WR-2**	ASTM D2974-87	PMST/8648		
4080882001	**CH-1**	EPA 160.4	WET/15593		
4080882002	**CH-2**	EPA 160.4	WET/15593		
4080882003	**WR-1**	EPA 160.4	WET/15593		
4080882004	**WR-2**	EPA 160.4	WET/15593		
4080882001	**CH-1**	EPA 3540	WET/31383	EPA 9071	WET/31438
4080882002	**CH-2**	EPA 3540	WET/31383	EPA 9071	WET/31438
4080882003	**WR-1**	EPA 3540	WET/31383	EPA 9071	WET/31438
4080882004	**WR-2**	EPA 3540	WET/31383	EPA 9071	WET/31438
4080882001	**CH-1**	TKN+NO3+NO2 Calculation	WET/15712		
4080882002	**CH-2**	TKN+NO3+NO2 Calculation	WET/15712		
4080882003	**WR-1**	TKN+NO3+NO2 Calculation	WET/15712		
4080882004	**WR-2**	TKN+NO3+NO2 Calculation	WET/15712		
4080882001	**CH-1**	EPA 351.2	WETA/18487	EPA 351.2	WETA/18495
4080882002	**CH-2**	EPA 351.2	WETA/18487	EPA 351.2	WETA/18495
4080882003	**WR-1**	EPA 351.2	WETA/18487	EPA 351.2	WETA/18495
4080882004	**WR-2**	EPA 351.2	WETA/18487	EPA 351.2	WETA/18495
4080882001	**CH-1**	EPA 353.2	WETA/18501	EPA 353.2	WETA/18503
4080882002	**CH-2**	EPA 353.2	WETA/18501	EPA 353.2	WETA/18503
4080882003	**WR-1**	EPA 353.2	WETA/18501	EPA 353.2	WETA/18503
4080882004	**WR-2**	EPA 353.2	WETA/18501	EPA 353.2	WETA/18503
4080882001	**CH-1**	EPA 365.4	WETA/18507	EPA 365.4	WETA/18510
4080882002	**CH-2**	EPA 365.4	WETA/18507	EPA 365.4	WETA/18510
4080882003	**WR-1**	EPA 365.4	WETA/18507	EPA 365.4	WETA/18510
4080882004	**WR-2**	EPA 365.4	WETA/18507	EPA 365.4	WETA/18510
4080882001	**CH-1**	EPA 9060 Modified	WETA/18599		

Pace Analytical®
www.pacelabs.com

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: HYDRO SEDIMENT
Pace Project No.: 4080882

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4080882001	**CH-1**	EPA 9060 Modified	WETA/18600		
4080882002	**CH-2**	EPA 9060 Modified	WETA/18599		
4080882002	**CH-2**	EPA 9060 Modified	WETA/18600		
4080882003	**WR-1**	EPA 9060 Modified	WETA/18599		
4080882003	**WR-1**	EPA 9060 Modified	WETA/18600		
4080882004	**WR-2**	EPA 9060 Modified	WETA/18599		
4080882004	**WR-2**	EPA 9060 Modified	WETA/18600		

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

Pace Analytical®
www.pacelabs.com

CHAIN OF CUSTODY

JBF

4080552

(Please Print Clearly)	
Company Name:	WE ENERGIES
Branch/Location:	ENV. DEPT
Project Contact:	DAVE KOLLA KOWSKY
Phone:	414-221-2185
Project Number:	SEDIMENT
Project Name:	HYDRO ~~STEAM STA~~
Project State:	
Sampled By (Print):	RUSS RICK
Sampled By (Sign):	Russ Rick
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:	
Mail To Company:	
Mail To Address:	
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

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

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

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

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO) Y/N	PRESERVATION (CODE)* Pick Letter	Analyses Requested: METALS	TKN, NH3, TOTAL PHOSPHORUS	TOC	PCB	ACID VOLATILES SULFIDE TPO4	TVS, DIV/GRAN*	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
001	CH-1	7/9/13	1400	SL			1	1	1	1	1	1	5-4ozag[A], 1-4ozp[A]		
002	CH-2	7/9/13	1420	SL			1	1	1	1	1	1			
003	WR-1	7/9/13	1600	SL			1	1	1	1	1	1	5-4ozag[A]	1-4ozp[A]	
004	WR-2	7/9/13	1620	SL			1	1	1	1	1	1	5-100mlag[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:
Russ Rick	7-10-13 1134	Susan Kilgore	7/10/13 1134

PACE Project No.: 4080552

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

4080852

Analysis required for sediment sampling at WE Energies WR/CH

There will be replicates from 2 stations and all 4 samples should be analyzed.

METALS	
Total Arsenic	4 samples plastic unpres.
Total Barium	
Total Cadmium	
Total Chromium	
Total Copper	
Total Lead	
Total Manganese	
Total Mercury	
Total Nickel	
Total Selenium	
Total Silver	
Total Zinc	
TKN, N+N, Total Nitrogen	4 samples amber unpres.
Total Organic Carbon	4 samples ambe runpres.
Total PCB	4 samples ambe runpres.
Acid Volatile Sulfides & TP04	4 samples amber unpres.
Oil/grease & TVS	4 samples ambe runpres.

Russ Rick - 414-221-2177

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

Pace Analytical™

Sample Condition Upon Receipt

Client Name: We Energies Project # 4052882

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 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: 7-10-13
Initials: SKW

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: 7/10/13 SKW	☒Yes ☐No ☐N/A	2. No project state, filtered, or preservation 7/10/13 SKW
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: S		
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:** 7-10-13

TRIMATRIX LABORATORIES

July 24, 2013

Pace Analytical - Green Bay
Attn: Mr. Brian Basten
1241 Bellevue
Green Bay, WI 54302

Project: Subcontract Laboratory Services

Dear Mr. Brian Basten,

Enclosed is a copy of the laboratory report for the following work order(s) received by TriMatrix Laboratories:

Work Order	Received	Description
1307178	07/12/2013	4080882/HYDRO SEDIMENT

This report relates only to the sample(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Program (NELAP) and/or one of the following certification programs:

ACLASS DoD-ELAP/ISO17025 (#ADE-1542); Arkansas DEP (#88-0730/12-056-0); Florida DEP (#E87622-24); Georgia EPD (#E87622-24); Illinois DEP (#200026/003059); Kansas DPH (#E-10302); Kentucky DEP (#0021); Louisiana DEP (#83658); Michigan DPH (#0034); Minnesota DPH (#491715); New York ELAP (#11776/48855); North Carolina DNRE (#659); Texas CEQ (#T104704495-13-3); Virginia DCLS (#460153/1622); Wisconsin DNR (#999472650); USDA Soil Import Permit (#P330-12-00236).

Any qualification or narration of results, including sample acceptance requirements and test exceptions to the above referenced programs, is presented in the Statement of Data Qualifications section of this report. Estimates of analytical uncertainties and certification documents for the test results contained within this report are available upon request.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

James D. McFadden
Project Chemist

5560 Corporate Exchange Court SE ♦ Grand Rapids, MI 49512 ♦ 616.975.4500 ♦ Fax 616.942.7463 ♦ www.trimatrixlabs.com

TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Pace Analytical - Green Bay**	Work Order:	**1307178**
Project:	Subcontract Laboratory Services	Description:	4080882/HYDRO SEDIMENT
Client Sample ID:	**CH-1**	Sampled:	07/09/13 14:00
Lab Sample ID:	**1307178-01**	Sampled By:	Client
Matrix:	Soil	Received:	07/12/13 08:30

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Acid Volatile Sulfides	**17**	13	2.3	umols/g dry wt.	80	EPA-821-R-91-100	07/17/13 21:35	HLB	1307399
Percent Solids	**24**	0.1	0.1	%	1	USEPA-3550C	07/15/13 12:00	KLA	1307201

5560 Corporate Exchange Court SE ♦ Grand Rapids, MI 49512 ♦ 616.975.4500 ♦ Fax 616.942.7463 ♦ www.trimatrixlabs.com

TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Pace Analytical - Green Bay**	Work Order:	**1307178**
Project:	Subcontract Laboratory Services	Description:	4080882/HYDRO SEDIMENT
Client Sample ID:	**CH-2**	Sampled:	07/09/13 14:20
Lab Sample ID:	**1307178-02**	Sampled By:	Client
Matrix:	Soil	Received:	07/12/13 08:30

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Acid Volatile Sulfides	**12**	1.4	0.24	umols/g dry wt.	8	EPA-821-R-91-100	07/17/13 21:37	HLB	1307399
Percent Solids	**23**	0.1	0.1	%	1	USEPA-3550C	07/15/13 12:00	KLA	1307201

5560 Corporate Exchange Court SE ♦ Grand Rapids, MI 49512 ♦ 616.975.4500 ♦ Fax 616.942.7463 ♦ www.trimatrixlabs.com

TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Pace Analytical - Green Bay**	Work Order:	**1307178**
Project:	Subcontract Laboratory Services	Description:	4080882/HYDRO SEDIMENT
Client Sample ID:	**WR-1**	Sampled:	07/09/13 16:00
Lab Sample ID:	**1307178-03**	Sampled By:	Client
Matrix:	Soil	Received:	07/12/13 08:30

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Acid Volatile Sulfides	**4.5**	2.1	0.35	umols/g dry wt.	8	EPA-821-R-91-100	07/17/13 21:44	HLB	1307399
Percent Solids	**16**	0.1	0.1	%	1	USEPA-3550C	07/15/13 12:00	KLA	1307201

5560 Corporate Exchange Court SE ♦ Grand Rapids, MI 49512 ♦ 616.975.4500 ♦ Fax 616.942.7463 ♦ www.trimatrixlabs.com

TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Pace Analytical - Green Bay**	Work Order:	**1307178**
Project:	Subcontract Laboratory Services	Description:	4080882/HYDRO SEDIMENT
Client Sample ID:	**WR-2**	Sampled:	07/09/13 16:20
Lab Sample ID:	**1307178-04**	Sampled By:	Client
Matrix:	Soil	Received:	07/12/13 08:30

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Acid Volatile Sulfides	**6.3**	2.4	0.42	umols/g dry wt.	8	EPA-821-R-91-100	07/17/13 21:45	HLB	1307399
Percent Solids	**15**	0.1	0.1	%	1	USEPA-3550C	07/15/13 12:00	KLA	1307201

5560 Corporate Exchange Court SE ♦ Grand Rapids, MI 49512 ♦ 616.975.4500 ♦ Fax 616.942.7463 ♦ www.trimatrixlabs.com

TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: **Acid Volatile Sulfides**/EPA-821-R-91-100										
QC Batch: 1307399 (Method Specific Preparation)							Analyzed:	07/17/2013	By: HLB	
Method Blank			0.040 U	umols/g dry wt.					0.040	
Laboratory Control Sample		0.202	**0.199**	umols/g dry wt.	98	85-105			0.040	
1307178-02 [CH-2]										
Matrix Spike	12.1	0.202	**12.3**	umols/g dry wt.	125	50-150			1.3	
Duplicate	12.1		**11.6**	umols/g dry wt.			4	20	1.3	
Analyte: **Percent Solids**/USEPA-3550C										
QC Batch: 1307201 (General Inorganic Prep)							Analyzed:	07/15/2013	By: KLA	
Method Blank			0.1 U	%					0.1	
1307178-02 [CH-2]										
Duplicate	23		**22**	%			**6**	5	0.1	

5560 Corporate Exchange Court SE ♦ Grand Rapids, MI 49512 ♦ 616.975.4500 ♦ Fax 616.942.7463 ♦ www.trimatrixlabs.com

TRIMATRIX LABORATORIES

STATEMENT OF DATA QUALIFICATIONS

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Qualification: The following reported test methods and analyte(s) are exceptions to our NELAP Fields of Accreditation, or for which accreditation is not required, applicable, or available.

Analysis: EPA-821-R-91-100

Analyte(s): Acid Volatile Sulfides

5560 Corporate Exchange Court SE ♦ Grand Rapids, MI 49512 ♦ 616.975.4500 ♦ Fax 616.942.7463 ♦ www.trimatrixlabs.com

Chain of Custody 11788 5-9 TriMatrix

Pace Analytical
www.pacelabs.com

Workorder: 4080882 **Workorder Name:** HYDRO SEDIMENT **Results Requested** 7/24/2013

Report / Invoice To	Subcontract To
Pace Analytical Brian Basten 1241 Bellevue St, STE9 Green Bay, WI 54302	P.O. 1307178

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: None	Requested Analysis: Acid Volatile Sulfides	LAB USE ONLY
1	CH-1	7/9/2013 14:00	4080882001	Solid	1	X	125ml. ↓ Amber jar 125
2	CH-2	7/9/2013 14:20	4080882002	Solid	1	X	
3	WR-1	7/9/2013 16:00	4080882003	Solid	1	X	
4	WR-2	7/9/2013 16:20	4080882004	Solid	1	X	
5							

Transfers	Released By	Date/Time	Received By	Date/Time
1	7/11/13	1600	Lyn Romeyn	7/12/13 0830
2				
3				

Comments

Cooler Temperature on Receipt 4.2 °C Custody Seal (Y) or N Received on Ice (Y) or N Samples Intact (Y) or N

Wednesday, July 10, 2013 3:49:32 PM FMT-ALL-C-002rev.00 24March2009 Page 1 of 1

5560 Corporate Exchange Court SE ◆ Grand Rapids, MI 49512 ◆ 616.975.4500 ◆ Fax 616.942.7463 ◆ www.trimatrixlabs.com

TRIMATRIX LABORATORIES

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: Pace Analytical | Work Order #: 1307178 | New / Add To
Receipt Record Page/Line #: 5-9 | Project Chemist: JDM | Sample #s:

Recorded by (initials/date): SR 7/12/13

Cooler (checked) / Box / Other ___ | Qty Received: 1

Thermometer Used: IR Gun (#202) (checked) / Digital Thermometer (#54) / Other (# ___) | See Additional Cooler Information Form

	Cooler 1	Cooler 2	Cooler 3	Cooler 4
Cooler #	Pace			
Time	1045			
Custody Seals	None (checked) / Present / Intact / Present / Not Intact	None / Present / Intact / Present / Not Intact	None / Present / Intact / Present / Not Intact	None / Present / Intact / Present / Not Intact
Coolant Location	Dispersed (circled) / Top / Middle / Bottom	Dispersed / Top / Middle / Bottom	Dispersed / Top / Middle / Bottom	Dispersed / Top / Middle / Bottom
Coolant/Temperature Taken Via	Loose Ice / Avg 2-3 containers (checked); Bagged Ice / Avg 2-3 containers; Blue Ice / Avg 2-3 containers; None / Avg 2-3 containers	Loose Ice; Bagged Ice; Blue Ice; None	Loose Ice; Bagged Ice; Blue Ice; None	Loose Ice; Bagged Ice; Blue Ice; None
Alternate Temperature Taken Via	Temperature Blank (TB); 1 Container	Temperature Blank (TB); 1 Container	Temperature Blank (TB); 1 Container	Temperature Blank (TB); 1 Container

Cooler	Reading	Recorded °C	Correction Factor °C	Actual °C
1	Temp Blank			
1	1	4.1	–	4.1
1	2	5.3	–	5.3
1	3	3.3	–	3.3
1	Average °C			4.2
2	Temp Blank / 1 / 2 / 3 / Average °C			
3	Temp Blank / 1 / 2 / 3 / Average °C			
4	Temp Blank / 1 / 2 / 3 / Average °C			

TB location: Representative / Not Representative

Cooler ID on COC? / VOC Trip Blank received? (each cooler)

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☑	☐	Chain of Custody record(s)? If No, Initiated By ___
☑		Received for Lab Signed/Date/Time?
☑	☐	Shipping document?
☐	☑	Other ___

COC Information

☐ TriMatrix COC ☑ Other 11788

COC ID Numbers:

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☑	☐	Sample Date and Time matches COC?
☑		Container type completed on COC?
☑	☐	All container types indicated are received?

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☑	☐	☐	VOC vials / TOX containers have headspace?
☑	☐	☐	Extra sample locations / containers not listed on COC?

Check Sample Preservation

N/A	Yes	No	
	☑	☐	Average sample temperature ≤6° C?
☑	☐	☐	Was thermal preservation required?
☑	☐		If "No", Project Chemist Approval Intials: ___
☑	☐		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☑	☐		Completed Sample Preservation Verification Form?
☑	☐	☐	Samples chemically preserved correctly?
☑	☐		If "No", added orange tag?
	☐	☑	Received pre-preserved VOC soils? ☐ MeOH ☐ Na_2SO_4

Check for Short Hold-Time Prep/Analyses

- ☐ Bacteriological
- ☐ Air Bags
- ☐ EnCores / Methanol Pre-Preserved
- ☐ Formaldehyde/Aldehyde
- ☐ Green-tagged containers
- ☐ Yellow/White-tagged 1L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
- ☐ NONE RECEIVED
- ☑ RECEIVED, COCs TO LAB(S)

Notes

☐ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
7/12/13 0830	7/12/13 1045	Yes / No (circled)

Log In Forms - Receiving.Log-In_Checklist revision: 3.4

5560 Corporate Exchange Court SE ♦ Grand Rapids, MI 49512 ♦ 616.975.4500 ♦ Fax 616.942.7463 ♦ www.trimatrixlabs.com

Document Content(s)