

December 3, 2014

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

RE: Flambeau Hydroelectric Projects
FERC Project Number 2640 **FERC Project Number 2421**
FERC Project Number 2395 **FERC Project Number 2473**
Flambeau Hydro LLC
Final Report 2014 Water Quality Monitoring Data

Dear Ms. Bose:

On behalf of Flambeau Hydro LLC, "Flambeau" (Licensee), Renewable World Energies, LLC (RWE) is submitting a copy of the *Final Report 2014 Water Quality Monitoring Data* for each of the (4) Flambeau Hydroelectric Projects (Flambeau Upper, Flambeau Lower, Flambeau Pixley, and Flambeau Crowley). The report is a requirement of Flambeau's Federal license pursuant to articles 406 and 408 and the approved Water Quality Monitoring Plans for each. 2014 was the eleventh year monitoring was conducted since the license was issued, but is the 3rd year of submittal by RWE on the behalf of the Licensee.

Monitoring was conducted on June 10, July 14, and August 12, 2014. No out of the ordinary issues were encountered. Ice-Out occurred later than normal this year. High flows and dangerous water conditions prevented the Ice-Out sampling from occurring until June, as documented in the correspondence sections of the reports. The draft report was sent to the agencies by a letter dated October 29, 2014 as an attachment to an e-mail sent the same day for review and comment. No comments were received from WDNR or the USFWS. The next scheduled monitoring event will be conducted in 2015.

If you have any questions concerning this submittal, please contact Mr. Gary Rast at the Renewable World Energies, LLC offices @ 855-994-9376 Ext 105. He can also be reached by e-mail at grast@rwehydro.com.

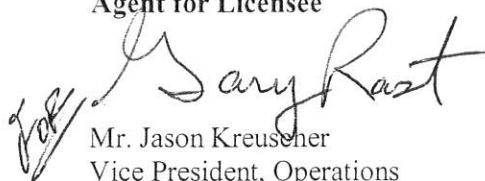
Corporate Office
P.O. Box 264
100 S. State Street
Neshkoro, WI 54960
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Phone: 855-99HYDRO
(855-994-9376)
www.renewableworldenergies.com

Administrative Office
1001 Stephenson Street
Norway, MI 49870
Fax: 906-563-9344



Sincerely,
Renewable World Energies, LLC
Agent for Licensee

A handwritten signature in black ink, appearing to read "Jason Kreusener". The signature is written in a cursive style with a large, prominent "J" and "K".

Mr. Jason Kreusener
Vice President, Operations

Attachments: Flambeau Upper Final Report 2014 Water Quality Monitoring Data - December 3, 2014
Flambeau Lower Final Report 2014 Water Quality Monitoring Data - December 3, 2014
Flambeau Pixley Final Report 2014 Water Quality Monitoring Data - December 3, 2014
Flambeau Crowley Final Report 2014 Water Quality Monitoring Data - December 3, 2014

Cc: Ms. Cheryl Laatsch, WDNR
Mr. Nick Utrup, USFWS
RWE, Corporate

Final Report

2014 Water Quality Monitoring Data

for the

Crowley Hydroelectric Project

FERC Project #2473

Flambeau Hydro, LLC

North Fork of the Flambeau River, Price County, Wisconsin

Respectfully Submitted by:

Renewable World Energies, LLC

100 State Street – P.O. Box 264

Neshkoro, Wisconsin 54960

Final – December 3, 2014

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Summary

2014 marked the eleventh year of water quality sampling under the FERC approved "Water Quality Monitoring Plan Per License Article 406 for the Crowley Hydroelectric Project – FERC Project # 2473 – Flambeau Hydro, LLC".

Ice-Out occurred between Agenda and Nine Mile Landing on the North Fork of the Flambeau River sometime during the week beginning April 20, 2014. The Licensee traveled to the region during the week of May 5, 2014 thru May 9, 2014 to conduct the monitoring. River flow, based on Crowley Hydroelectric Project records was over 4000 cubic feet per second during this time. High flows and dangerous conditions prevented sampling from being accomplished. The Licensee contacted agencies with this information and proposed the Ice-Out sampling be abandoned for 2014. The WDNR responded they wished the sampling be performed even if it could not be done until June. The Licensee gave the agencies an update on the sampling progress on May 27, 2014. They were told that nothing had been collected to that point; flows had come down quite a bit, however the boat barriers had not been installed at Upper or Lower. Sampling is on hold until at least the week of June 2nd or June 9th. The Ice-Out sampling event occurred on June 10, 2014. River flow, based on the Flambeau (Crowley) Hydroelectric Project records, was approximately 1470 cubic feet per second. Sampling occurred between 1:15 p.m. and 1:36 p.m. Samples were taken without incident. No unusual D.O. or Temperature readings were observed. Samples for laboratory analysis were delivered to Northern Lake Service, Inc. in Crandon, WI on June 11, 2014. Northern Lake Service, Inc. issued a laboratory report on June 19, 2014, and a revised report on July 17, 2014 (change in Chlorophyll a result). No unusual levels of Chlorophyll a, True Color, or Total Phosphorus were noted in the laboratory reports. However, the Chlorophyll a result was extremely low in comparison to past years Ice-Out sampling results.

River flow, based on Crowley Hydroelectric Project records, was approximately 1292 cubic feet per second during the July 14, 2014 sampling event. Sampling occurred between 1:00 p.m. and 1:30 p.m. Samples were taken without incident. No unusual D.O. or Temperature readings were observed. Samples for laboratory analysis were delivered to Northern Lake Service, Inc in Crandon, WI on July 15, 2014. Northern Lake Service, Inc. issued a laboratory report on July 22, 2014. No unusual levels of Chlorophyll a, True Color, or Total Phosphorus were noted in the laboratory reports.

River flow, based on Crowley Hydroelectric Project records, was approximately 855 cubic feet per second during the August 12, 2014 sampling event. Sampling occurred between 1:30 p.m. and 1:54 p.m. Samples were taken without incident. No unusual D.O. or Temperature readings were observed. Samples for laboratory analysis were delivered to Northern Lake Service, Inc in Crandon, WI on August 13, 2014. Northern Lake Service, Inc. issued a laboratory report on August 18, 2014. No unusual levels of Chlorophyll a, True Color, or Total Phosphorus were noted in the laboratory reports.

In general, the weather (temperature and rainfall) during the 2014 monitoring season appeared cooler in April, slightly warmer in May, June, July, and August with higher than normal precipitation in the months of April, May, June, and August. Temperatures in May, June, July, and August were about .5 degrees warmer than normal but precipitation was

slightly (11%) below normal for July. (**Refer to 2014 Monthly Temperature and Precipitation Table page 7**)

A summary of a comparison between the 2011 thru 2014 (**Refer to 2014 Flambeau Crowley Project Sampling Comparison Table 2011-2014 page 8**) sampling results are as follows:

1. Water Clarity – Increased Ice-Out – Normal or I Slightly July – Decreased August
2. Chlorophyll a – Normal or D Slightly Ice-Out – Decreased July/August
3. Color – Increased Ice-Out – Normal or I Slightly July – Normal or D Slightly August
4. Total Phosphorus – Decreased Ice-Out/August – Normal or D Slightly August
5. Overall, D.O. – Decreased Ice-Out/August – Normal or I Slightly July
6. Water Temperatures – Increased Ice-Out – Decreased July – Normal or I Slightly August

Correspondence from the agencies during 2010 indicated they would prefer that notifications of incidents be by e-mail only and that telephone contacts are not needed. All other correspondence can be found on page 13, **Appendix D**. The next scheduled Water Quality Monitoring at the Crowley Hydroelectric Project is set to take place in 2015 beginning with the Ice-Out sampling event.

**2014
Sampling Results
Table**

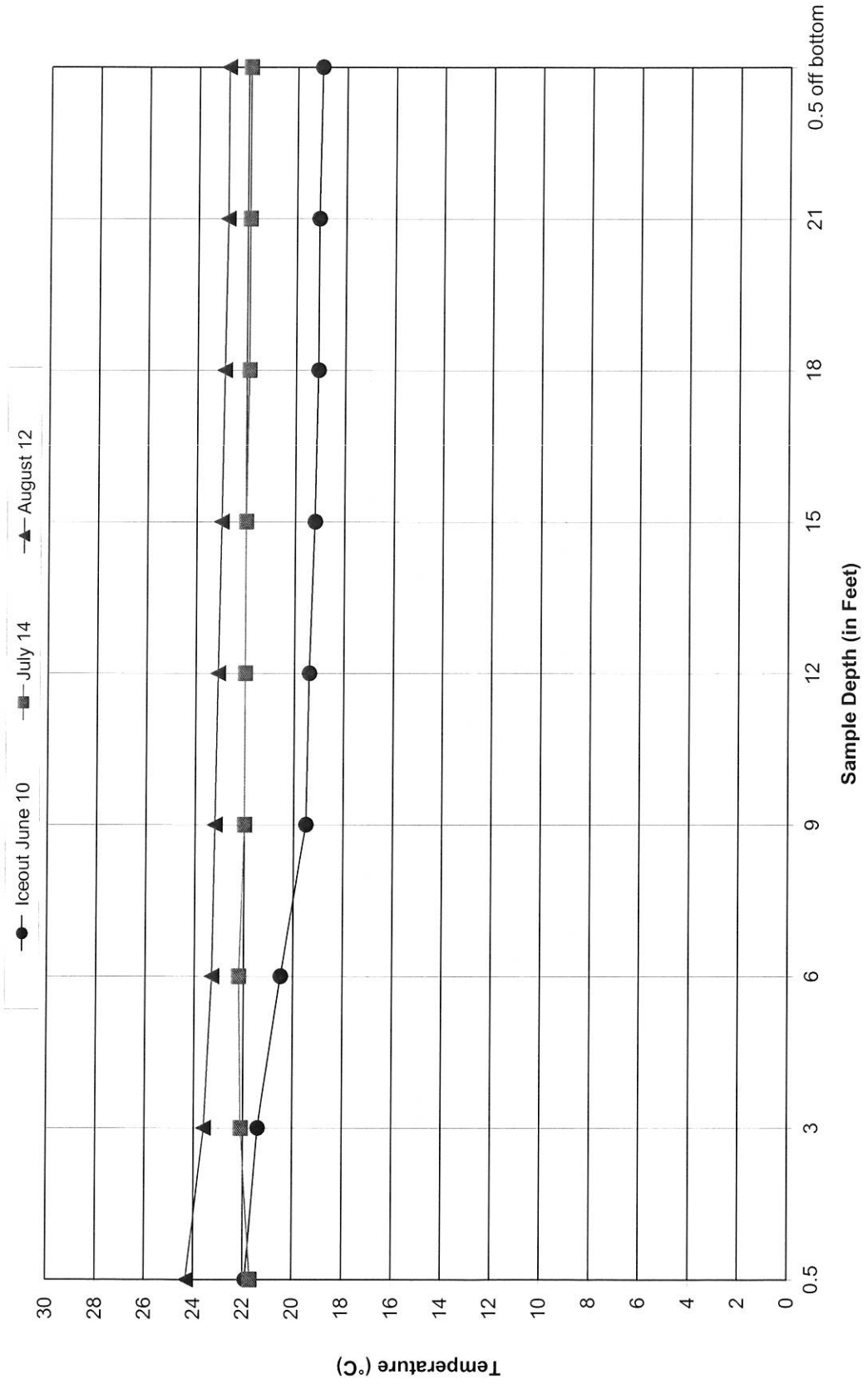
Crowley Hydroelectric Project - FERC Project # 2473 2014 Water Quality Sampling Data

	June 10, 2014	July 14, 2014	August 12, 2014
Project Flow (c.f.s.)	1470	1292	855
Dissolved Oxygen			
0.5 feet below surface	1:27 PM 6.97 21.90	1:20 PM 6.10 21.70	1:46 PM 5.65 24.30
3 feet below surface	1:29 PM 6.94 21.40	1:21 PM 6.38 22.10	1:47 PM 5.53 23.60
6 feet below surface	1:30 PM 6.75 20.50	1:22 PM 6.29 22.20	1:48 PM 5.40 23.30
9 feet below surface	1:31 PM 6.58 19.50	1:23 PM 6.13 22.00	1:49 PM 5.36 23.20
12 feet below surface	1:32 PM 6.58 19.40	1:24 PM 6.04 22.00	1:50 PM 5.37 23.10
15 feet below surface	1:33 PM 6.64 19.20	1:25 PM 5.99 22.00	1:51 PM 5.33 23.00
18 feet below surface	1:34 PM 6.64 19.10	1:26 PM 5.91 21.90	1:52 PM 5.31 22.90
21 feet below surface	1:35 PM 6.62 19.10	1:27 PM 5.88 21.90	1:53 PM 5.28 22.80
0.5 feet above bottom	1:36 PM 6.61 19.00	1:30 PM 5.78 21.90	1:54 PM 5.11 22.80
Secchi Disk			
3 feet below surface	1:17 PM 3.50	1:10 PM 3.25	1:32 PM 1.30
Chlorophyll a			
3 feet below surface	1:19 PM 0.047	1:12 PM 5.30	1:35 PM 6.90
Color (True)			
3 feet below surface	1:20 PM 150.00 25*	1:14 PM 130.00 25*	1:40 PM 100.0 25*
Total Phosphorus			
3 feet below surface	1:22 PM 0.031 0.0070*	1:15 PM 0.046 0.0070*	1:42 PM 0.047 0.0070*
3 feet above bottom	1:25 PM 0.029 0.0070*	1:17 PM 0.044 0.0070*	1:45 PM 0.051 0.0070*

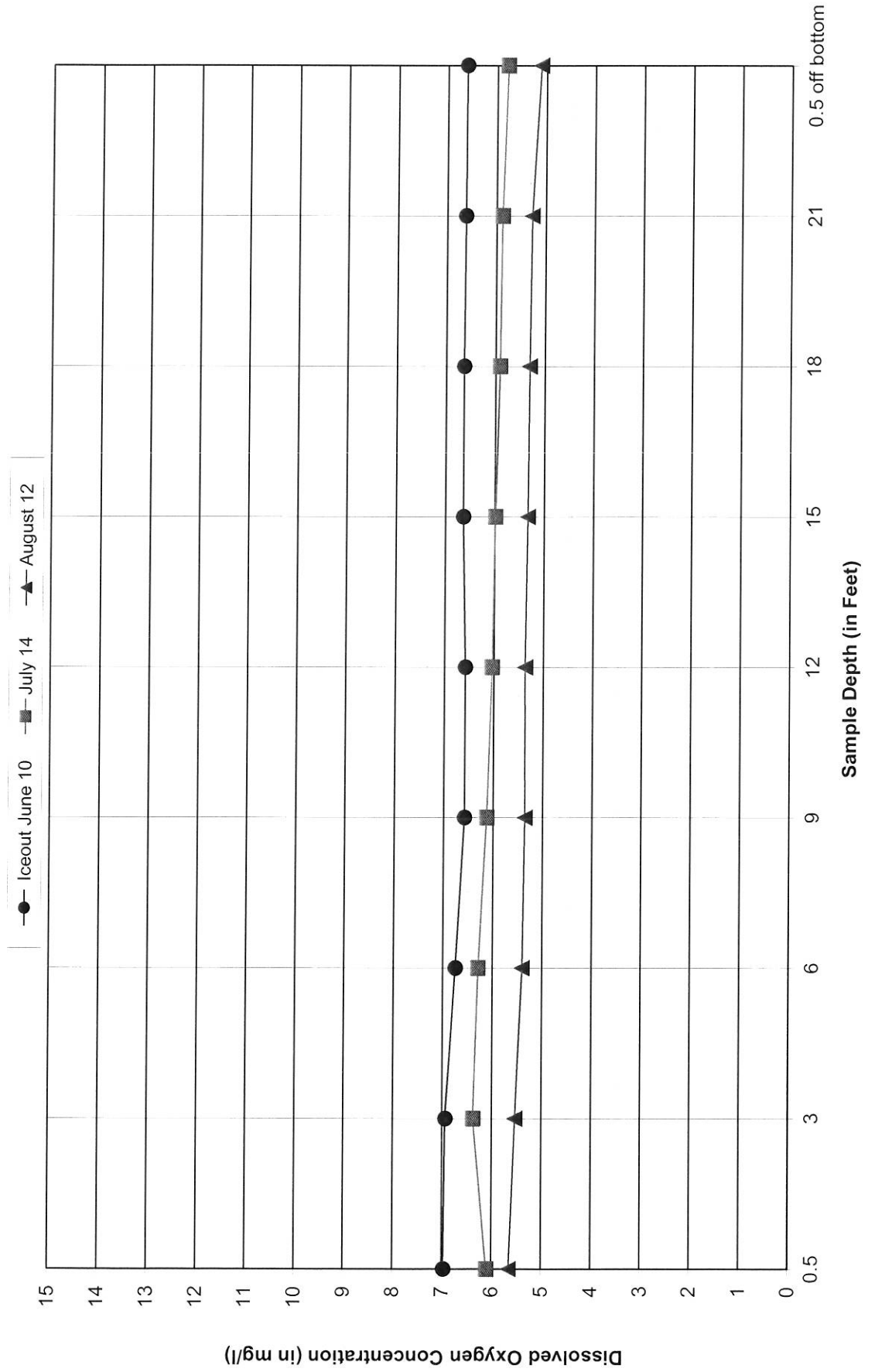
* Considered Reporting Limits

**2014
Temperature
and
Dissolved Oxygen
Graphs**

Crowley Impoundment - FERC # 2473 2014 Temperature Samples



Crowley Impoundment - FERC # 2473 2014 Dissolved Oxygen Samples



**2014
Monthly Temperature
and
Precipitation
Table**

2014 Water Year Monthly Temperature and Precipitation for Park Falls, Wisconsin

Month	Highest Temp.	Lowest Temp.	Average Temp.	Departure From Normal	Heating Degree Days	Normal Degree Days	Total Precip.	Total Snowfall	Normal Precip.	% of Normal Precipitation
October-13	74	21	45.0	1.8	610	678	3.93	0.3	5.01	78%
November-13	50	-3	27.9	-0.9	1105	1088	0.82	4.7	2.09	39%
December-13	35	-21	4.6	-10.2	1866	1556	2.88	39.9	1.21	238%
January-14	34	-28	1.6	-8.6	1955	1699	0.73	9.4	0.96	76%
February-14	41	-22	5.3	-9.8	1663	1399	2.12	29.5	0.81	262%
March-14	52	-23	18.4	-7.5	1439	1210	1.91	20.9	1.49	128%
April-14	66	11	35.1	-4.5	886	762	3.30	26.3	2.43	136%
May-14	85	31	51.9	0.5	414	426	4.37	T	3.23	135%
June-14	82	42	60.3	0.2	162	179	4.47	T	4.23	106%
July-14	88	45	66.3	0.5	40	63	3.42	0.0	3.85	89%
August-14	83	48	64.7	0.4	37	86	4.63	0.0	3.70	125%
September-14	81	34	57.4	1.8	227	298	1.64	0.0	4.11	40%

Source: NOAA/Duluth,
MN

**2014
Flambeau Crowley
Sampling Comparison Table
2011—2014**

Flambeau Crowley

Project Sampling Comparison Table

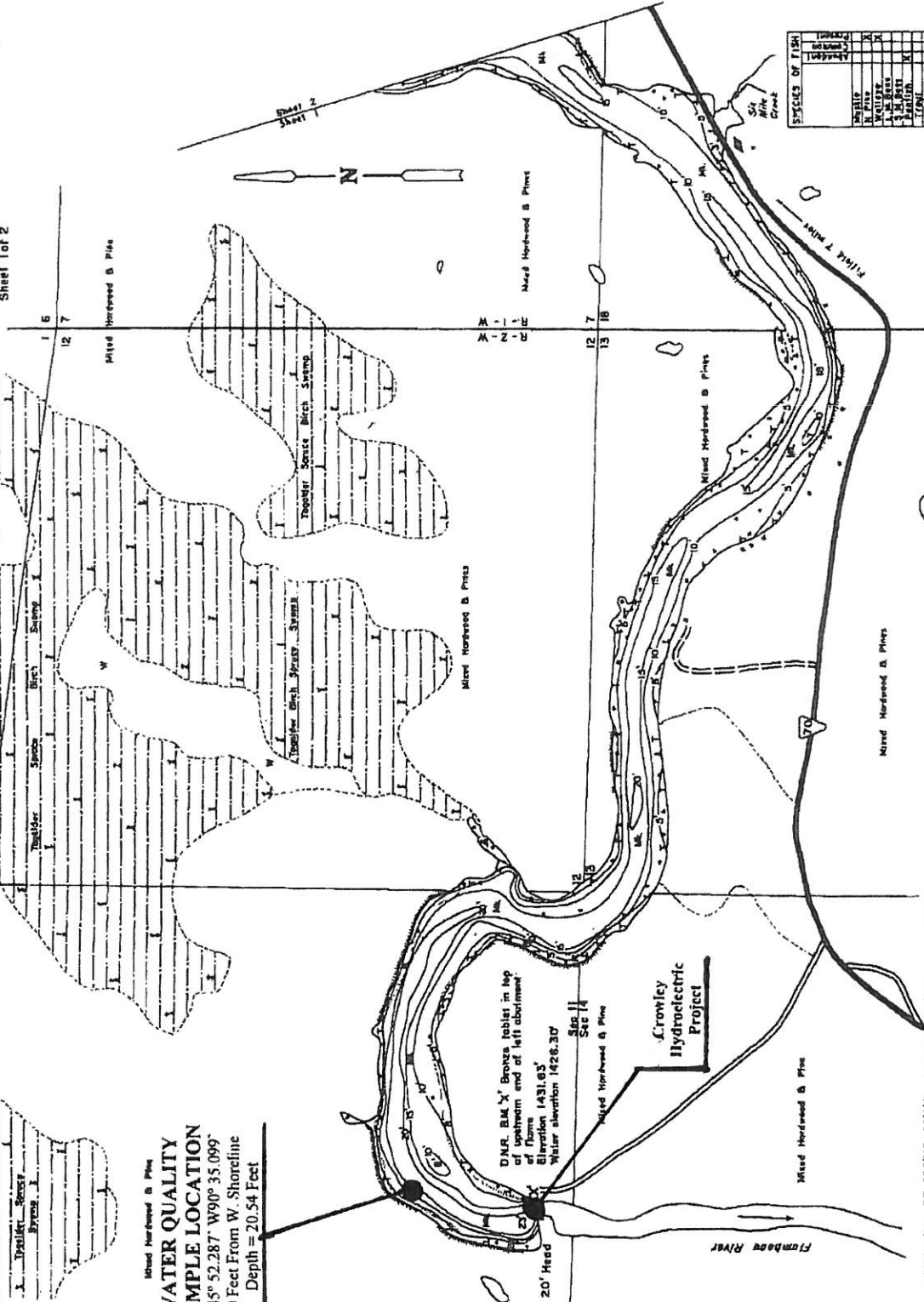
2011 Thru Current Year

Year	Month	Secchi Depth (m)	Chlorophyll a ug/l	Color (True) C.P.U. Units	Total Phosphorus Below Surface mg/l	Total Phosphorus Above Bottom mg/l	Low D.O. mg/l	High D.O. mg/l	Low Water Temp. °C	High Water Temp. °C
2011	April	3.00	3.90	100.00	0.039	0.044	11.73	12.01	6.50	10.40
2012	April	3.30	1.70	120.00	0.041		9.30	10.37	8.80	11.80
2013	May									
2014	June	3.50	1.70	150.00	0.031	0.029	6.61	6.97	19.00	21.90
Minimum	April/June	3.00	1.70	100.00	0.031	0.029	6.61	6.97	6.50	10.40
Maximum	April/June	3.50	3.90	150.00	0.041	0.044	11.73	12.01	19.00	21.90
Average	April/June	3.27	2.43	123.33	0.037	0.037	9.21	9.78	11.43	14.70
2011	July	2.90	21.00	80.00	0.061	0.075	3.52	8.90	24.40	26.20
2012	July	3.20	17.00	120.00	0.061	0.087	1.67	7.38	25.30	28.00
2013	July	3.00	5.50	150.00	0.046	0.045	3.83	5.65	24.60	25.20
2014	July	3.25	5.30	130.00	0.046	0.044	5.78	6.38	21.70	22.20
Minimum	July	2.90	5.30	80.00	0.046	0.044	1.67	5.65	21.70	22.20
Maximum	July	3.25	21.00	150.00	0.061	0.087	5.78	8.90	25.30	28.00
Average	July	3.09	12.20	120.00	0.054	0.063	3.70	7.08	24.00	25.40
2011	August	3.30	14.00	140.00	0.051	0.051	7.96	7.96	22.40	25.40
2012	August	3.00	17.00	80.00	0.043	0.042	5.22	9.27	23.70	25.30
2013	August	3.10	4.80	130.00	0.099	0.063	5.65	6.24	20.60	21.80
2014	August	1.30	6.90	100.00	0.047	0.051	5.11	5.65	22.80	24.30
Minimum	August	1.30	4.80	80.00	0.043	0.042	5.11	5.65	20.60	21.80
Maximum	August	3.30	17.00	140.00	0.099	0.063	7.96	9.27	23.70	25.40
Average	August	2.68	10.68	112.50	0.060	0.052	5.99	7.28	22.38	24.20
No Sample										

Crowley Impoundment
Sampling Location
Map

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
GROWLEY FLOWAGE
PRICE COUNTY
SEC. 12, 13, 7, 14, 15 T. 39 N. R. 12 W.
Sheet 1 of 2

Mixed Hardwood & Pine
WATER QUALITY
SAMPLE LOCATION
N45° 52.287' W90° 35.099'
80 Feet From W. Shoreline
Depth = 20.54 Feet



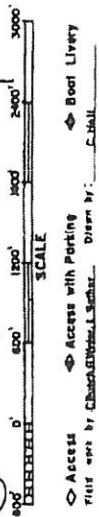
DNR B.M. 'X' Bronze Inset in top of upstream end of left abutment
Elevation 1431.03'
Water elevation 1428.30'
Sec 14
S4c 14
Mixed Hardwood & Pine

Crowley Hydroelectric Project

SPICES OF FISH

Trout	1
Walleye	1
Whitefish	1
Yellow Perch	1
Smallmouth Bass	1
Rock Bass	1
Brook Trout	1
Brook Silverside	1
Brook Stickleback	1
Brook Lampbrush	1
Brook Silverside	1
Brook Stickleback	1
Brook Lampbrush	1

AREA 422.1 ACRES
UNDER 3 FT. 20.8 %
OVER 20 FT. 3.2 %
TOTAL ALK. 38 P.P.M.
SHORELINE 18.2 MILES
MAX. DEPTH 23 FEET

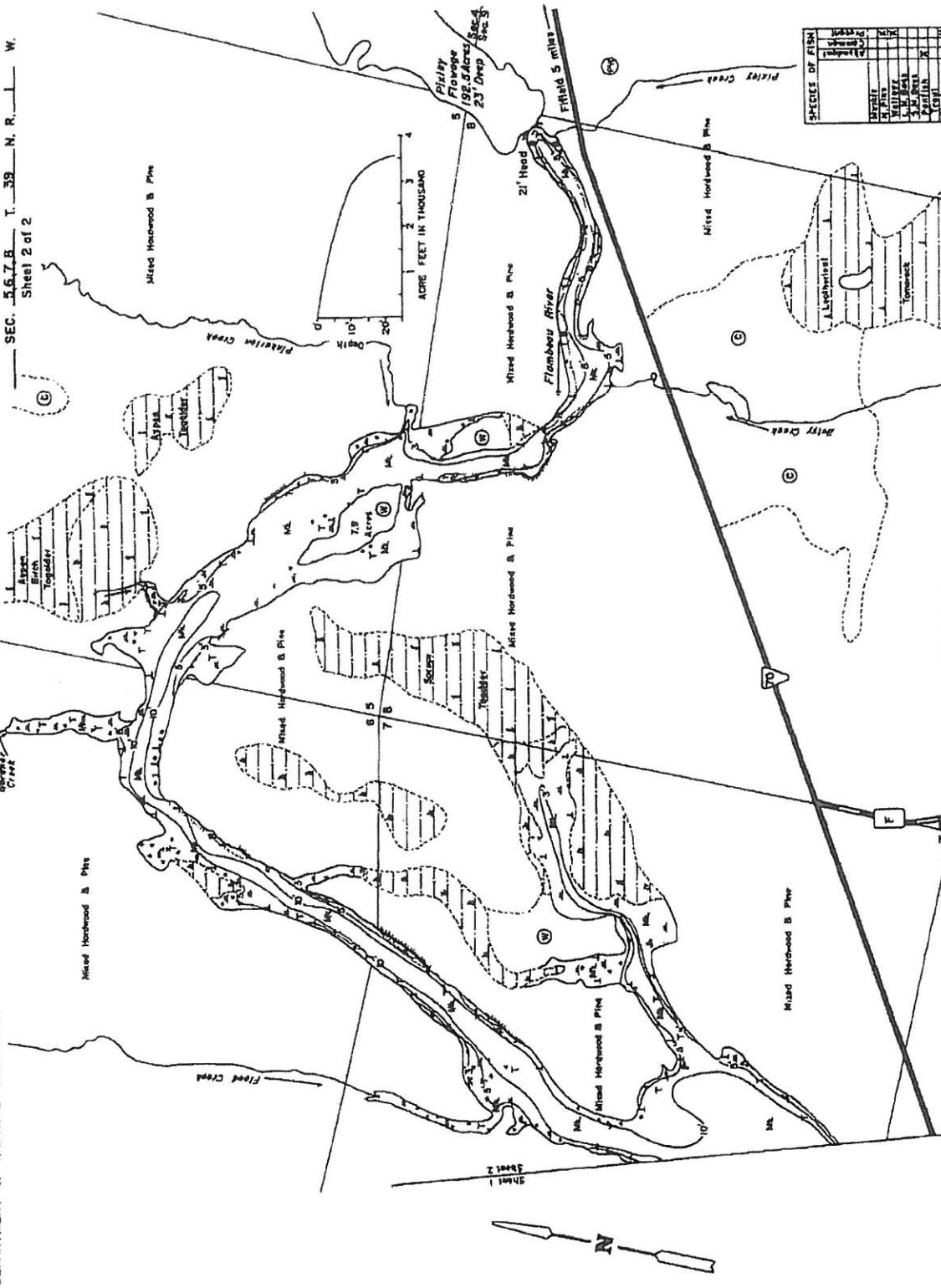


- EQUIPMENT RECORDED SCHAR MAPPED AUR 1987
- TOPOGRAPHIC SYMBOLS
- (1) Bench
 - (2) Partially wooded
 - (3) Wooded
 - (4) Clear
 - (5) Pasture
 - (6) Agricultural
 - (7) Bare Bank
 - (8) Road
 - (9) Dam
- WATER ELEV. 1428.30'
- LAKE BOTTOM SYMBOLS
- (A) Shallow
 - (B) Medium
 - (C) Deep
 - (D) Permanent water
 - (E) Seasonal water
 - (F) Dam
 - (G) Shallow vegetation
 - (H) Emergent vegetation
 - (I) Floating vegetation

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

LAKE SURVEY MAP

CROWLEY FLOWAGE
PRICE COUNTY
SEC. 5, 6, 7, 8 T. 39 N. R. 1 W.
Sheet 2 of 2



SPECIES OF FISH	
Walleye	1
Yellow Perch	1
Rock Bass	1
White Sucker	1
Bluegill	1
Golden Shiner	1
Common Carp	1
Channel Catfish	1
Striped Bass	1
Brook Trout	1
Smallmouth Bass	1
Rock Bass	1
White Sucker	1
Bluegill	1
Golden Shiner	1
Common Carp	1
Channel Catfish	1
Striped Bass	1
Brook Trout	1
Smallmouth Bass	1

AREA 422.1 ACRES
UNDER 3 FT. 32.2 %
OVER 20 FT. 3.2 %
VOLUME 3538.4 ACRE FT.
TOTAL ALK. 38 P.P.M.
SHORELINE 18.2 MILES
MAX. DEPTH 23 FEET

Scale: 1" = 1000'
600' 0' 600' 1200' 1800' 2400' 3000'

Access with Parking
Access
Boat Livery

Drawn by: G. Hall

- EQUIPMENT RECORDING SONAR MAPPED AUG 1967
- WATER ELEV. 1428.30'
- TOPOGRAPHIC SYMBOLS:
 (S) Steep slope
 (H) Hill
 (D) Depression
 (T) Trench
 (C) Contour
 (E) Elevation
 (M) Marsh
 (S) Swamp
 (W) Water
 (R) Road
 (F) Fence
 (D) Dam
 (B) Bench Mark
 (T) Tally
 (R) Road
- LAKE BOTTOM SYMBOLS:
 P. Peat
 M. Muck
 C. Clay
 S. Sand
 S1. Silt
 S2. Shale
 G. Gravel
 A. Rubble
 B. Boulders
 T. Submerged vegetation
 J. Emergent vegetation
 F. Floating vegetation

Appendix A

June 10, 2014 Ice-Out Sampling Documents

IMPOUNDMENT SAMPLING LOG

2014 Water Quality Study - Flambeau Crowley Hydroelectric Project - FERC #2473

Pre-Sampling Data: HWL - 1427.17 Date: 6/10/14
FWL - 1407.20 CFS - 1470
 Time: 1:15 Barometer: 29.99 Air Temp: 20.0 °C Wind Speed: E 7 MPH
 Sky Conditions: FAIR, CLEAR, & BRIGHT SUN
 Precipitation within Last 24 Hours: TRACE

D.O. Meter Calibration: Instrument Model Used: Hach HQ40d
 Were The Batterys Changed? Yes No If Yes, When Changed: _____

Battery Status: 80% Charge

Calibration Time: FEB. 2014 Method: _____ Factory _____

Sampling Depth Profile: Measured Depth to Bottom of the Impoundment: 22.0 Feet

Secchi Disk Depth: (E0.1 Foot) 3.5 Feet Time: 1:17

Chlorophyll a (3 Feet Below Surface)

Lab Sample I.D.# : <u>20140610-4A</u>		
Time	Quantity (ml)	Filtered
<u>1:19</u>	<u>1000</u>	<u>NO</u>

True Color (3 Feet Below Surface)

Lab Sample I.D.# : <u>20140610-4B</u>	
Time	Quantity (ml)
<u>1:20</u>	<u>250</u>

D.O. Sample Data

Depth	Time	D.O. (mg/l)	°C
.5 Ft Below Surface	<u>1:27</u>	<u>6.97</u>	<u>21.9</u>
3 Feet	<u>1:29</u>	<u>6.94</u>	<u>21.4</u>
6 Feet	<u>1:30</u>	<u>6.75</u>	<u>20.5</u>
9 Feet	<u>1:31</u>	<u>6.58</u>	<u>19.5</u>
12 Feet	<u>1:32</u>	<u>6.58</u>	<u>19.4</u>
15 Feet	<u>1:33</u>	<u>6.64</u>	<u>19.2</u>
18 Feet	<u>1:34</u>	<u>6.64</u>	<u>19.1</u>
21 Feet	<u>1:35</u>	<u>6.62</u>	<u>19.1</u>
24 Feet			
.5 Ft Above Bottom	<u>1:36</u>	<u>6.61</u>	<u>19.0</u>

Phosphorus

Lab Sample I.D.# : <u>20140610-4C</u>	
(3 Feet Below Surface)	
Time	Preserved?
<u>1:22</u>	<u>H2504</u>

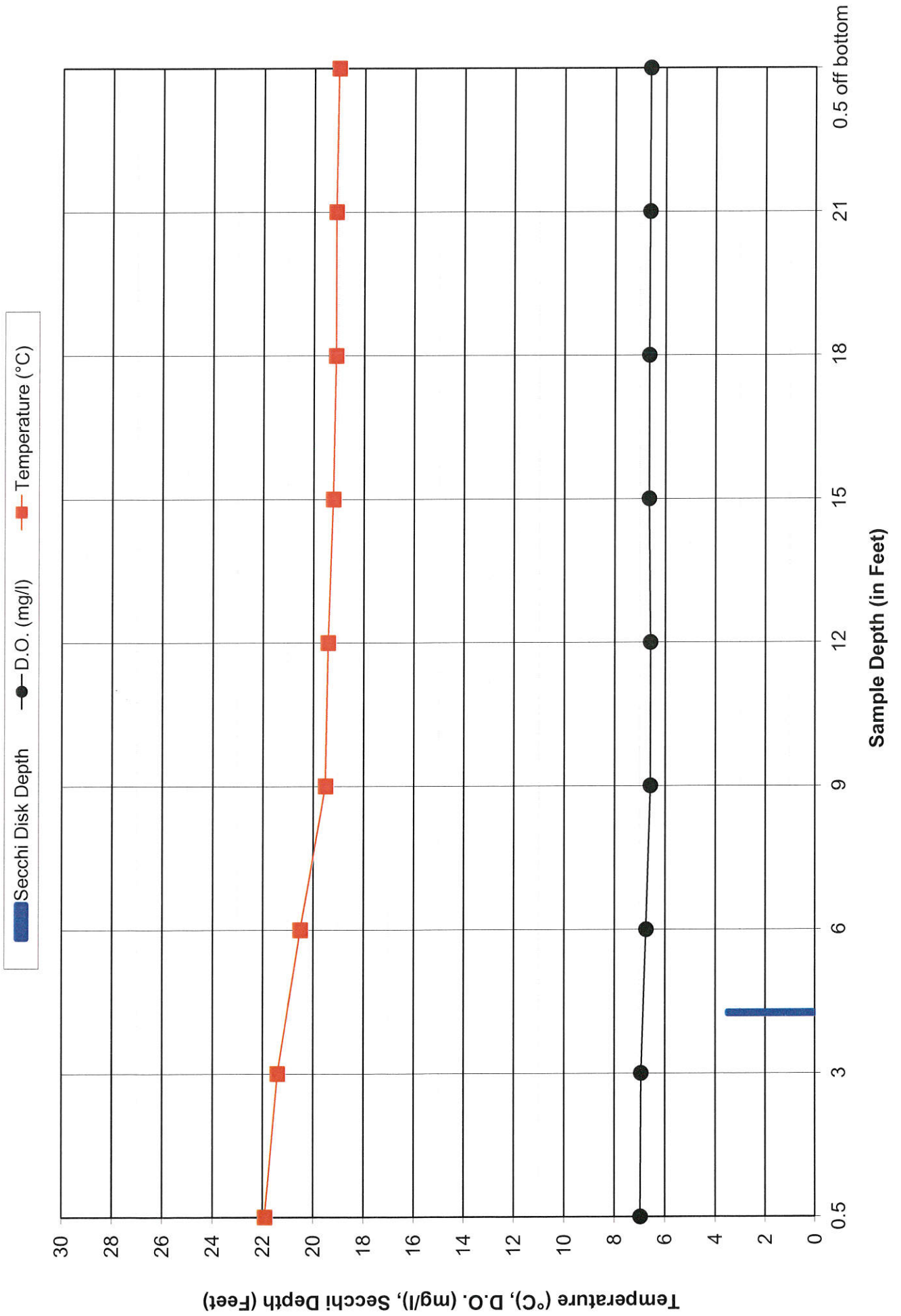
Lab Sample I.D.# : <u>20140610-4D</u>	
(3 Feet Above Bottom)	
Time	Preserved?
<u>1:25</u>	<u>H2504</u>

Sample Location: N45° 52.287' W90° 35.099'

Comments: _____

Performed By: CARY RAST

Crowley Impoundment - FERC # 2473 June 10, 2014 Iceout Sampling Event



ANALYTICAL REPORT

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

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

Client: Renewable World Energies
 Attn: Gary Rast
 100 State Street
 P.O. Box 264
 Neshkoro, WI 54960

Printed: 06/19/14 Code: NNNN-S Page 1 of 3
NLS Project: 220578
NLS Customer: 102823
 Phone: 855 994 9376

Project:	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
20140610-1A NLS ID: 795605							
COC: 174085:1 Matrix: SW							
Collected: 06/10/14 13:19 Received: 06/11/14							
Parameter							
Chlorophyll, all species							
Lab filtration for Chlorophyll							
20140610-2A NLS ID: 795606							
COC: 174085:1 Matrix: SW							
Collected: 06/10/14 13:19 Received: 06/11/14							
Parameter							
Chlorophyll, all species							
Lab filtration for Chlorophyll							
20140610-3A NLS ID: 795607							
COC: 174085:1 Matrix: SW							
Collected: 06/10/14 13:19 Received: 06/11/14							
Parameter							
Chlorophyll, all species							
Lab filtration for Chlorophyll							
20140610-4A NLS ID: 795608							
COC: 174085:1 Matrix: SW							
Collected: 06/10/14 13:19 Received: 06/11/14							
Parameter							
Chlorophyll, all species							
Lab filtration for Chlorophyll							
20140610-1B NLS ID: 795609							
COC: 174085:2 Matrix: SW							
Collected: 06/10/14 13:20 Received: 06/11/14							
Parameter							
Color, APHA (true)							
Lab filtration							
20140610-2B NLS ID: 795610							
COC: 174085:2 Matrix: SW							
Collected: 06/10/14 13:20 Received: 06/11/14							
Parameter							
Color, APHA (true)							
Lab filtration							
20140610-3B NLS ID: 795611							
COC: 174085:2 Matrix: SW							
Collected: 06/10/14 13:20 Received: 06/11/14							
Parameter							
Color, APHA (true)							
Lab filtration							

ANALYTICAL REPORT

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

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

Client: Renewable World Energies
 Attn: Gary Rast
 100 State Street
 P.O. Box 264
 Neshkoro, WI 54960

Printed: 06/19/14 Code: NNNN-S Page 2 of 3
 NLS Project: 220578
 NLS Customer: 102823
 Phone: 855 994 9376

Project: Flambeau (4)

20140610-4B NLS ID: 795612									
COC: 174085:2 Matrix: SW									
Collected: 06/10/14 13:20 Received: 06/11/14									
Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab	
Color, APHA (true)	150	C.P.U.	5	25*		06/12/14	SM 2120-B 20ed	721026460	
Lab filtration	yes					06/12/14	NA	721026460	
20140610-1C NLS ID: 795613									
COC: 174085:3 Matrix: SW									
Collected: 06/10/14 13:22 Received: 06/11/14									
Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab	
Phosphorus, tot. as P	0.024	mg/L	1	0.0070*		06/12/14	SM 4500P-E 20ed	721026460	
20140610-2C NLS ID: 795614									
COC: 174085:3 Matrix: SW									
Collected: 06/10/14 13:22 Received: 06/11/14									
Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab	
Phosphorus, tot. as P	0.025	mg/L	1	0.0070*		06/12/14	SM 4500P-E 20ed	721026460	
20140610-3C NLS ID: 795615									
COC: 174085:3 Matrix: SW									
Collected: 06/10/14 13:22 Received: 06/11/14									
Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab	
Phosphorus, tot. as P	0.030	mg/L	1	0.0070*		06/12/14	SM 4500P-E 20ed	721026460	
20140610-4C NLS ID: 795616									
COC: 174085:3 Matrix: SW									
Collected: 06/10/14 13:22 Received: 06/11/14									
Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab	
Phosphorus, tot. as P	0.031	mg/L	1	0.0070*		06/12/14	SM 4500P-E 20ed	721026460	
20140610-2D NLS ID: 795618									
COC: 174085:4 Matrix: SW									
Collected: 06/10/14 13:25 Received: 06/11/14									
Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab	
Phosphorus, tot. as P	0.027	mg/L	1	0.0070*		06/12/14	SM 4500P-E 20ed	721026460	
20140610-3D NLS ID: 795619									
COC: 174085:4 Matrix: SW									
Collected: 06/10/14 13:25 Received: 06/11/14									
Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab	
Phosphorus, tot. as P	0.031	mg/L	1	0.0070*		06/12/14	SM 4500P-E 20ed	721026460	
20140610-4D NLS ID: 795620									
COC: 174085:4 Matrix: SW									
Collected: 06/10/14 13:25 Received: 06/11/14									
Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab	
Phosphorus, tot. as P	0.029	mg/L	1	0.0070*		06/12/14	SM 4500P-E 20ed	721026460	

ANALYTICAL REPORT

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

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

Printed: 06/19/14 Code: NNNN-S Page 3 of 3
NLS Project: 220578
NLS Customer: 102823
Phone: 855 994 9376

Client: Renewable World Energies
Attn: Gary Rast
100 State Street
P.O. Box 264
Neshkoro, WI 54960

Project: Flambeau (4)

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantification". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantification". LOD and/or LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dilution.

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

Reviewed by:



Authorized by:
R. T. Krueger
President

Northern Lake Service, Inc.
Chlorophyll Results

Customer: Renewable World Energies
Project: 220578
Flambeau (4)

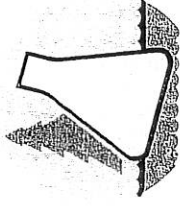
Sample	Description	CC a	Pheo a	TC a	TC b	TC c
795605	20140610-1A	1.9	0.0*	1.9	0.14	0.16
795606	20140610-2A	0.83	0.43	1.1	0.064	0.11
795607	20140610-3A	1.2	0.2	1.4	0.032	0.024
795608	20140610-4A	0.0*	4.1	0.047	0.82	0.38

CC a = Corrected Chlorophyll a
Pheo a = Pheophytin a
TC a = Trichromatic Chlorophyll a
TC b = Trichromatic Chlorophyll b
TC c = Trichromatic Chlorophyll c
Units = ug/L for Water, ug/cm² for periphyton samplers

*: The complex calculations used to differentiate the various chlorophyll species magnify error at low concentrations and sometimes produce negative values, which are reported as 0.0 on this report.

NORTHERN LAKE SERVICE, INC.
 Analytical Laboratory and Environmental Services
 400 North Lake Avenue • Crandon, WI 54520-1298
 Tel: (715) 478-2777 • Fax: (715) 478-3060

SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD
 Wisconsin Lab Cert. No. 721026460
 WISCONSIN WLP 105-000330



NO. 174085

CLIENT: **RENEWABLE WORLD ENERGIES LLC**
 ADDRESS: **100 S STATE STREET**
 CITY: **WESTKORO WI 54960**
 PROJECT DESCRIPTION: **FLAMBEAU (4)**
 DNR FID #: _____
 DNR LICENSE #: _____
 CONTACT: **GARY VERBAZ**
 PHONE: **855-994-9376**
 PURCHASE ORDER NO.: _____
 QUOTATION NO.: _____

USE BOXES BELOW: Indicate Y or N if GW Sample is field filtered.
 Indicate G or C if WW Sample is Grab or Composite.

ITEM NO.	SAMPLE ID	DATE	COLLECTION TIME	MATRIX (See above)	ANALYZE PER ORDER OF ANALYSIS										COLLECTION REMARKS (i.e. DNR Well ID #)	
					1	2	3	4	5	6	7	8	9	10		
1.	20140610-1A-4A	6/10/14	7:35-1:19	RIVER WATER	X											
2.	20140610-1B-4B	6/10/14	7:36-1:20	"	X											
3.	20140610-1C-4C	6/10/14	7:37-1:20	"	X											
4.	20140610-1D-4D	6/10/14	7:35-1:25	"	X											
5.																
6.																
7.																
8.																
9.																
10.																

REPORT TO: **SAME AS ABOVE**
 ATTN: **GARY**
 INVOICE TO: **RENEWABLE WORLD OPERATIONS**
1001 STEPHENSON STREET
ABORWAY MI 49870

COLLECTED BY (signature): _____
 RECEIVED BY (signature): _____
 DATE/TIME: **6/10/14 3:00PM**
 METHOD OF TRANSPORT: **UPS**
 DATE/TIME: **6/11/14 10:15 AM**
 CONDITION: **OK**
 REMARKS & OTHER INFORMATION: _____
 WDNR FACILITY NUMBER: _____
 E-MAIL ADDRESS: _____

COOLER # _____
 PRESERVATIVE: NP = no preservative, M = methanol, S = sulfuric acid, N = nitric acid, OH = sodium hydroxide, Z = zinc acetate, HA = hydrochloric & ascorbic acid, M = methanol, H = hydrochloric acid
 1. TO MEET REGULATORY REQUIREMENTS, THIS FORM MUST BE COMPLETED IN DETAIL AND INCLUDED IN THE COOLER CONTAINING THE SAMPLES DESCRIBED.
 2. PLEASE USE ONE LINE PER SAMPLE. NOT PER BOTTLE.
 3. RETURN THIS FORM WITH SAMPLES - CLIENT MAY KEEP PINK COPY.
 4. PARTIES COLLECTING SAMPLE, LISTED AS REPORT TO AND LISTED AS INVOICE TO AGREE TO STANDARD TERMS & CONDITIONS ON REVERSE.

IMPORTANT!

ANALYTICAL REPORT

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

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

Printed: 07/17/14 Code: NNNN-S Page 1 of 3
 Project revised on: 07/17/2014 ** See note below ** NLS Project: 220578
 NLS Customer: 102823
 Phone: 855 994 9376

Client: Renewable World Energies
 Attn: Gary Rast
 100 State Street
 P.O. Box 264
 Neshkoro, WI 54960

Project: Flambeau (4)

20140610-1A NLS ID: 795605

COC: 174085:1 Matrix: SW
 Collected: 06/10/14 13:19 Received: 06/11/14

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chlorophyll, all species	see attached					06/17/14	10200-H	721026460
Lab filtration for Chlorophyll	yes					06/12/14	NA	721026460

20140610-2A NLS ID: 795606

COC: 174085:1 Matrix: SW
 Collected: 06/10/14 13:19 Received: 06/11/14

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chlorophyll, all species	see attached					06/17/14	10200-H	721026460
Lab filtration for Chlorophyll	yes					06/12/14	NA	721026460

20140610-3A NLS ID: 795607

COC: 174085:1 Matrix: SW
 Collected: 06/10/14 13:19 Received: 06/11/14

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chlorophyll, all species	see attached					06/17/14	10200-H	721026460
Lab filtration for Chlorophyll	yes					06/12/14	NA	721026460

20140610-4A NLS ID: 795608

COC: 174085:1 Matrix: SW
 Collected: 06/10/14 13:19 Received: 06/11/14

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chlorophyll, all species	see attached					06/17/14	10200-H	721026460
Lab filtration for Chlorophyll	yes					06/12/14	NA	721026460

20140610-1B NLS ID: 795609

COC: 174085:2 Matrix: SW
 Collected: 06/10/14 13:20 Received: 06/11/14

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Color, APHA (true)	130	C.P.U.	5	25*		06/12/14	SM 2120-B 20ed	721026460
Lab filtration	yes					06/12/14	NA	721026460

20140610-2B NLS ID: 795610

COC: 174085:2 Matrix: SW
 Collected: 06/10/14 13:20 Received: 06/11/14

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Color, APHA (true)	130	C.P.U.	5	25*		06/12/14	SM 2120-B 20ed	721026460
Lab filtration	yes					06/12/14	NA	721026460

20140610-3B NLS ID: 795611

COC: 174085:2 Matrix: SW
 Collected: 06/10/14 13:20 Received: 06/11/14

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Color, APHA (true)	130	C.P.U.	5	25*		06/12/14	SM 2120-B 20ed	721026460
Lab filtration	yes					06/12/14	NA	721026460

ANALYTICAL REPORT

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

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


Printed: 07/17/14 Code: NNNN-S Page 3 of 3
Project revised on: 07/17/2014 ** See note below ** NLS Project: 220578
NLS Customer: 102823
Phone: 855 994 9376

Client: Renewable World Energies
Attn: Gary Rast
100 State Street
P.O. Box 264
Neshkoro, WI 54960

Project: Flambeau (4)

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and/or LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dilution.

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

Reviewed by:

R. T. Krueger
President

Revision note: The Chlorophyll template has been modified for sample 795608.

Northern Lake Service, Inc.
Chlorophyll Results

Customer: Renewable World Energies
Project: 220578
Flambeau (4)

<u>Sample</u>	<u>Description</u>	<u>CC a</u>	<u>Pheo a</u>	<u>IC a</u>	<u>IC b</u>	<u>IC c</u>
795605	20140610-1A	1.9	0.0*	1.9	0.14	0.16
795606	20140610-2A	0.83	0.43	1.1	0.064	0.11
795607	20140610-3A	1.2	0.2	1.4	0.032	0.024
795608	20140610-4A	1.5	0.31	1.7	0.053	0.14

CC a = Corrected Chlorophyll a

Pheo a = Pheophytin a

TC a = Trichromatic Chlorophyll a

TC b = Trichromatic Chlorophyll b

TC c = Trichromatic Chlorophyll c

Units = ug/L for Water, ug/cm² for periphyton samplers

*: The complex calculations used to differentiate the various chlorophyll species magnify error at low concentrations and sometimes produce negative values, which are reported as 0.0 on this report.

Appendix B

July 14, 2014 Sampling Documents

IMPOUNDMENT SAMPLING LOG

2014 Water Quality Study - Flambeau Crowley Hydroelectric Project - FERC #2473

HWL - 1427.2

Date: 7/14/14

Pre-Sampling Data: TWL-1406.9 CFS-1292

Time: 1:00 Barometer: 29.83 Air Temp: 15.0 °C Wind Speed: NW 3MPH

Sky Conditions: CLOUDY, OVERCAST

Precipitation within Last 24 Hours: NO-But RAIN @ PRESENT

D.O. Meter Calibration: Instrument Model Used: Hach HQ40d

Were The Batterys Changed? Yes No If Yes, When Changed: _____

Battery Status: 70% Charge

Calibration Time: FEB. 2014 Method: _____ Factory

Sampling Depth Profile: Measured Depth to Bottom of the Impoundment: 22.0 Feet

Secchi Disk Depth: (E0.1 Foot) 325 Feet Time: 1:10

Chlorophyll a (3 Feet Below Surface)

Lab Sample I.D.# : <u>071420144A</u>		
Time	Quantity (ml)	Filtered
<u>1:12</u>	<u>1000</u>	<u>NO</u>

True Color (3 Feet Below Surface)

Lab Sample I.D.# : <u>071420144B</u>	
Time	Quantity (ml)
<u>1:14</u>	<u>250</u>

D.O. Sample Data

Depth	Time	D.O. (mg/l)	°C
.5 Ft Below Surface	<u>1:20</u>	<u>6.10</u>	<u>21.7</u>
3 Feet	<u>1:21</u>	<u>6.38</u>	<u>22.1</u>
6 Feet	<u>1:22</u>	<u>6.29</u>	<u>22.2</u>
9 Feet	<u>1:23</u>	<u>6.13</u>	<u>22.0</u>
12 Feet	<u>1:24</u>	<u>6.04</u>	<u>22.0</u>
15 Feet	<u>1:25</u>	<u>5.99</u>	<u>22.0</u>
18 Feet	<u>1:26</u>	<u>5.91</u>	<u>21.9</u>
21 Feet	<u>1:27</u>	<u>5.88</u>	<u>21.7</u>
24 Feet			
5 Ft Above Bottom	<u>1:30</u>	<u>5.78</u>	<u>21.9</u>

Phosphorus

Lab Sample I.D.# : <u>071420144C</u>	
(3 Feet Below Surface)	
Time	Preserved?
<u>1:15</u>	<u>H2SO4</u>

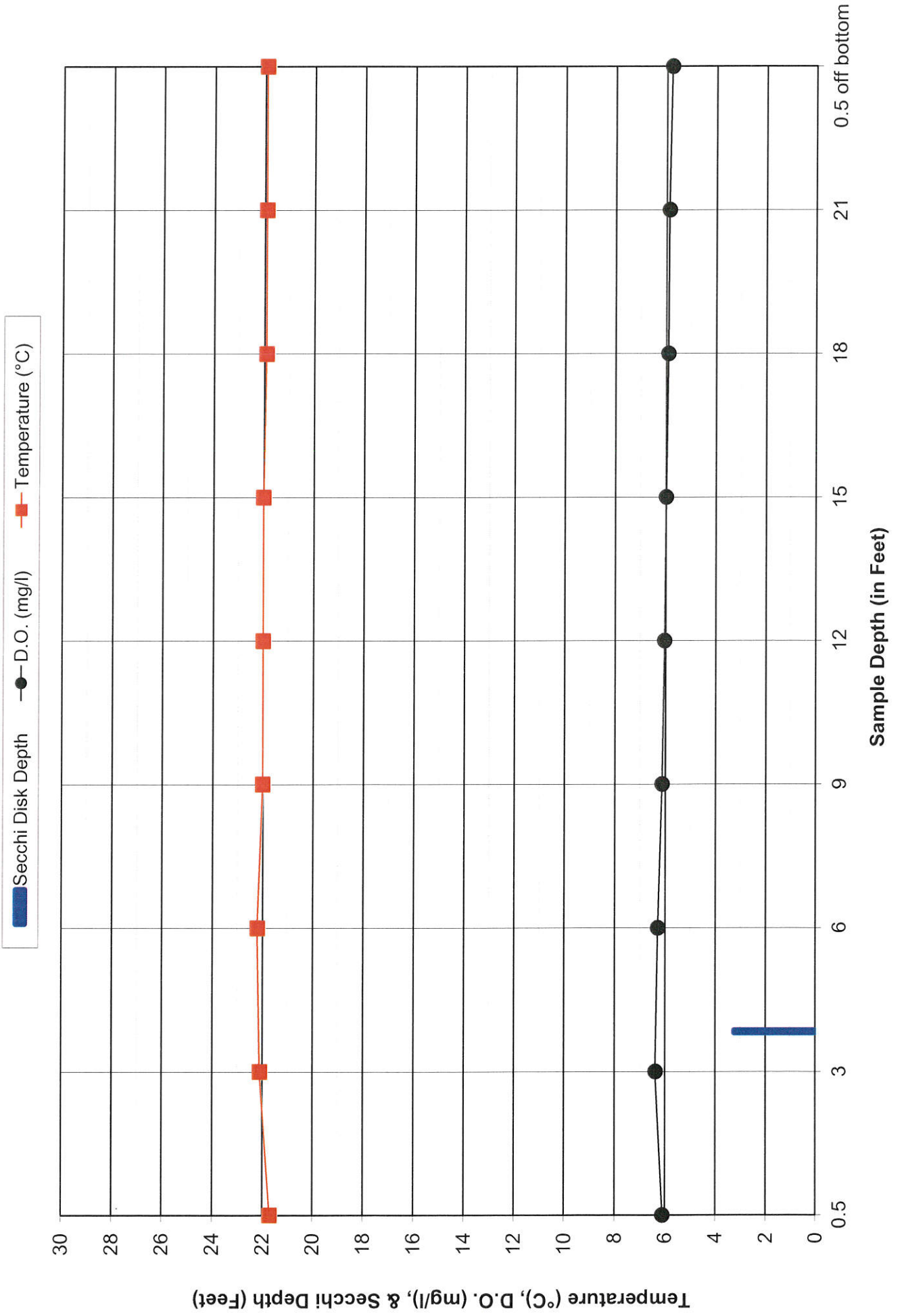
Lab Sample I.D.# : <u>071420144D</u>	
(3 Feet Above Bottom)	
Time	Preserved?
<u>1:17</u>	<u>H2SO4</u>

Sample Location: N45° 52.287' W90° 35.099'

Comments: _____

Performed By: Gary Rast

Crowley Impoundment - FERC # 2473 July 14, 2014 Sampling Event



ANALYTICAL REPORT

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

Client: Renewable World Energies
 Attn: Gary Rast
 100 State Street
 P.O. Box 264
 Neshkoro, WI 54960

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

Printed: 07/22/14 Code: NNNN-S Page 1 of 3
 NLS Project: 222726
 NLS Customer: 102823
 Phone: 855 994 9376

Project	FLAM (4)	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
07142014 1A NLS ID: 802602									
COC: 154999:1 Matrix: SW									
Collected: 07/14/14 13:12 Received: 07/15/14									
Parameter									
Chlorophyll, all species									
Lab filtration for Chlorophyll									
07142014 2A NLS ID: 802603									
COC: 154999:1 Matrix: SW									
Collected: 07/14/14 13:12 Received: 07/15/14									
Parameter									
Chlorophyll, all species									
Lab filtration for Chlorophyll									
07142014 3A NLS ID: 802604									
COC: 154999:1 Matrix: SW									
Collected: 07/14/14 13:12 Received: 07/15/14									
Parameter									
Chlorophyll, all species									
Lab filtration for Chlorophyll									
07142014 4A NLS ID: 802605									
COC: 154999:1 Matrix: SW									
Collected: 07/14/14 13:12 Received: 07/15/14									
Parameter									
Chlorophyll, all species									
Lab filtration for Chlorophyll									
07142014 1B NLS ID: 802606									
COC: 154999:2 Matrix: SW									
Collected: 07/14/14 13:14 Received: 07/15/14									
Parameter									
Color, APHA (true)									
Lab filtration									
07142014 2B NLS ID: 802607									
COC: 154999:2 Matrix: SW									
Collected: 07/14/14 13:14 Received: 07/15/14									
Parameter									
Color, APHA (true)									
Lab filtration									
07142014 3B NLS ID: 802608									
COC: 154999:2 Matrix: SW									
Collected: 07/14/14 13:14 Received: 07/15/14									
Parameter									
Color, APHA (true)									
Lab filtration									

ANALYTICAL REPORT

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

WDNR Laboratory ID No. 721026460
 WDATCP Laboratory Certification No. 105-330
 EPA Laboratory ID No. WI00034
 Printed: 07/22/14 Code: NNNN-S Page 2 of 3

Client: Renewable World Energies
 Attn: Gary Rast
 100 State Street
 P.O. Box 264
 Neshkoro, WI 54960

NLS Project: 222726
 NLS Customer: 102823
 Phone: 855 994 9376

Project	FLAM (4)	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
07142014 4B NLS ID: 802609	COC: 154999;2 Matrix: SW Collected: 07/14/14 13:14 Received: 07/15/14	130 yes	C.P.U.	5	25*		07/15/14 07/15/14	SM 2120-B 20ed NA	721026460 721026460
07142014 1C NLS ID: 802610	COC: 154999;3 Matrix: SW Collected: 07/14/14 13:15 Received: 07/15/14	0.035	mg/L	1	0.0070*		07/17/14	SM 4500P-E 20ed	721026460
07142014 2C NLS ID: 802611	COC: 154999;3 Matrix: SW Collected: 07/14/14 13:15 Received: 07/15/14	0.037	mg/L	1	0.0070*		07/17/14	SM 4500P-E 20ed	721026460
07142014 3C NLS ID: 802612	COC: 154999;3 Matrix: SW Collected: 07/14/14 13:15 Received: 07/15/14	0.047	mg/L	1	0.0070*		07/17/14	SM 4500P-E 20ed	721026460
07142014 4C NLS ID: 802613	COC: 154999;3 Matrix: SW Collected: 07/14/14 13:15 Received: 07/15/14	0.046	mg/L	1	0.0070*		07/17/14	SM 4500P-E 20ed	721026460
07142014 2D NLS ID: 802614	COC: 154999;4 Matrix: SW Collected: 07/14/14 13:17 Received: 07/15/14	0.038	mg/L	1	0.0070*		07/17/14	SM 4500P-E 20ed	721026460
07142014 3D NLS ID: 802615	COC: 154999;4 Matrix: SW Collected: 07/14/14 13:17 Received: 07/15/14	0.050	mg/L	1	0.0070*		07/17/14	SM 4500P-E 20ed	721026460
07142014 4D NLS ID: 802616	COC: 154999;4 Matrix: SW Collected: 07/14/14 13:17 Received: 07/15/14	0.044	mg/L	1	0.0070*		07/17/14	SM 4500P-E 20ed	721026460

ANALYTICAL REPORT

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

Client: Renewable World Energies
Attn: Gary Rast
100 State Street
P.O. Box 264
Neshkoro, WI 54960

WDNR Laboratory ID No. 721026460
WDATCP Laboratory Certification No. 105-330
EPA Laboratory ID No. WI00034
Printed: 07/22/14 Code: NNNN-S Page 3 of 3

NLS Project: 222726
NLS Customer: 102823
Phone: 855 994 9376

Project: FLAM (4)

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and/or LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dilution.

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

Reviewed by:



Authorized by:
R. T. Krueger
President

Northern Lake Service, Inc.
Chlorophyll Results

Customer: Renewable World Energies
Project: 222726
FLAM (4)

<u>Sample</u>	<u>Description</u>	<u>CC a</u>	<u>Pheo a</u>	<u>TC a</u>	<u>TC b</u>	<u>TC c</u>
802602	07142014 1A	2.8	0.56	3.2	0.08	0.35
802603	07142014 2A	2.5	0.71	3	0.062	0.24
802604	07142014 3A	4.5	1.1	5.4	0.083	0.51
802605	07142014 4A	4.5	0.95	5.3	0.15	0.57

CC a = Corrected Chlorophyll a
Pheo a = Pheophytin a
TC a = Trichromatic Chlorophyll a
TC b = Trichromatic Chlorophyll b
TC c = Trichromatic Chlorophyll c
Units = ug/L for Water, ug/cm² for periphyton samplers

*: The complex calculations used to differentiate the various chlorophyll species magnify error at low concentrations and sometimes produce negative values, which are reported as 0.0 on this report.

NUKIEHN LAKE SERVICE, INC.

Analytical Laboratory and Environmental Services
 400 North Lake Avenue • Crandon, WI 54520-1298
 Tel: (715) 478-2777 • Fax: (715) 478-3060

SAMPLE COLLECTION AND CHAIN OF CUSTODY KECUKU

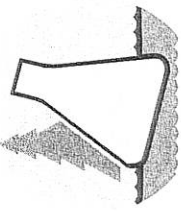
Wisconsin Lab Cert. No. 721026460
 WI DATCP 105-000330

CLIENT: **RENEWABLE WORLD ENERGIES**
 ADDRESS: **PO BOX 264 100 S. STATES STREET**
 CITY: **NESHKORO WI** ZIP: **54960**

PROJECT DESCRIPTION NO.: **PHAM (L)**
 QUOTATION NO.: **54960**
 DNR FID #: **---** DNR LICENSE #: **---**
 CONTACT: **GARY RAST** PHONE: **855-994-9376**
 PURCHASE ORDER NO.: **VERBAL** FAX: **920-293-4160**

USE BOXES BELOW: Indicate Y or N if GW Sample is field filtered.
 Indicate G or C if WW Sample is Grab or Composite.
 ANALYZE PER ORDER OF ANALYSIS

- MATRIX:
 SW = surface water
 WW = waste water
 GW = groundwater
 DW = drinking water
 TIS = tissue
 AIR = air
 SOIL = soil
 SED = sediment
 PROD = product
 SL = sludge
 OTHER



NO. 154999

ITEM NO.	NIS LAB No	SAMPLE ID	COLLECTION DATE	TIME	MATRIX (See above)	COLLECTION REMARKS (i.e. DNR Well ID #)
1.	071420141A-4A		7/14/14	7:40-1:20 PM	river	
2.	606-609	11	7/14/14	7:41-1:14 "		
3.	610-613	11	7/14/14	7:42-1:15 "		
4.	614-616	11	9:15-1:17			
5.						
6.						
7.						
8.						
9.						
10.						

COLLECTED BY (signature): *[Signature]* DATE/TIME: 7/14/14 7:40-1:17
 CUSTODY SEAL NO. (IF ANY):
 RELINQUISHED BY (signature): *[Signature]* RECEIVED BY (signature): *[Signature]*
 DISPATCHED BY (signature): *[Signature]* METHOD OF TRANSPORT: UPS
 DATE/TIME: 7/14/14 3:00
 RECEIVED AT NIS BY (signature): *[Signature]* DATE/TIME: 7-15-14 10:00
 CONDITION: CN W2
 REMARKS & OTHER INFORMATION:
 WDNR FACILITY NUMBER: E-MAIL ADDRESS:
 COOLER #:
 PRESERVATIVE: N = nitric acid, OH = sodium hydroxide, NP = no preservative, Z = zinc acetate, HA = hydrochloric & ascorbic acid, M = methanol, H = hydrochloric acid, S = sulfuric acid
 REPORT TO: SAME AS ABOVE ATTN: GARY
 INVOICE TO: RENEWABLE WORLD OPERATIONS, 1001 STEPHENSON STREET, NORWAY MICH 49870

1. TO MEET REGULATORY REQUIREMENTS, THIS FORM MUST BE COMPLETED IN DETAIL AND INCLUDED IN THE COOLER CONTAINING THE SAMPLES DESCRIBED.
 2. PLEASE USE ONE LINE PER SAMPLE, NOT PER BOTTLE.
 3. RETURN THIS FORM WITH SAMPLES - CLIENT MAY KEEP PINK COPY.
 4. PARTIES COLLECTING SAMPLE, LISTED AS REPORT TO AND LISTED AS INVOICE TO AGREE TO STANDARD TERMS & CONDITIONS ON REVERSE.

IMPORTANT!

Appendix C

August 12, 2014 Sampling Documents

IMPOUNDMENT SAMPLING LOG

2014 Water Quality Study - Flambeau Crowley Hydroelectric Project - FERC #2473

HWL - 1427.32

Date: 8/12/14

Pre-Sampling Data: TWL - 1406.7

PROJECT FLOW - 855

Time: 1:30 Barometer: 29.98 Air Temp: 18.89 °C Wind Speed: NW 13MPH Gust CFS 23MPH

Sky Conditions: SUNNY, PARTLY CLOUDY, VERY BREEZY

Precipitation within Last 24 Hours: YES

D.O. Meter Calibration: Instrument Model Used: Hach HQ40D

Were The Batterys Changed? Yes No If Yes, When Changed: _____

Battery Status: 50% Charge

Calibration Time: FEB. 2014 Method: _____ Factory

Sampling Depth Profile: Measured Depth to Bottom of the Impoundment: 22.0 Feet

Secchi Disk Depth: (E0.1 Foot) 1.3 Feet Time: 1:32

Chlorophyll a (3 Feet Below Surface)

Lab Sample I.D.#: <u>20140812-4A</u>		
Time	Quantity (ml)	Filtered
<u>1:35</u>	<u>1000</u>	<u>N/A</u>

True Color (3 Feet Below Surface)

Lab Sample I.D.#: <u>20140812-4B</u>	
Time	Quantity (ml)
<u>1:40</u>	<u>250</u>

D.O. Sample Data

Depth	Time	D.O. (mg/l)	°C
.5 Ft Below Surface	<u>1:46</u>	<u>5.65</u>	<u>24.3</u>
3 Feet	<u>1:47</u>	<u>5.53</u>	<u>23.6</u>
6 Feet	<u>1:48</u>	<u>5.40</u>	<u>23.3</u>
9 Feet	<u>1:49</u>	<u>5.36</u>	<u>23.2</u>
12 Feet	<u>1:50</u>	<u>5.37</u>	<u>23.1</u>
15 Feet	<u>1:51</u>	<u>5.33</u>	<u>23.0</u>
18 Feet	<u>1:52</u>	<u>5.31</u>	<u>22.9</u>
21 Feet	<u>1:53</u>	<u>5.28</u>	<u>22.8</u>
24 Feet			
.5 Ft Above Bottom	<u>1:54</u>	<u>5.11</u>	<u>22.8</u>

Phosphorus

Lab Sample I.D.#: <u>20140812-4C</u>	
(3 Feet Below Surface)	
Time	Preserved?
<u>1:42</u>	<u>H2SO4</u>

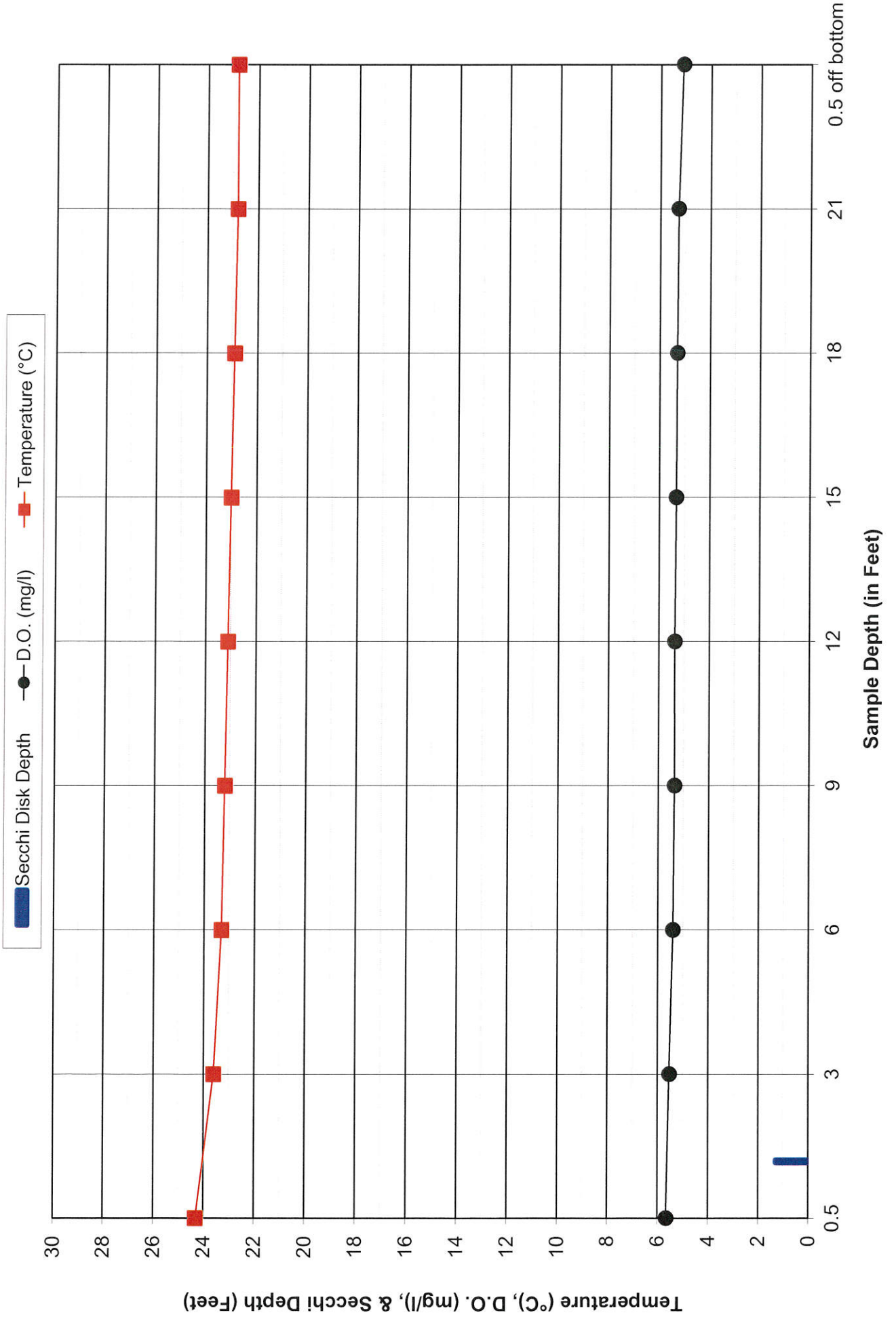
Lab Sample I.D.#: <u>20140812-4D</u>	
(3 Feet Above Bottom)	
Time	Preserved?
<u>1:45</u>	<u>H2SO4</u>

Sample Location: N45° 52.287' W90° 35.099'

Comments: _____

Performed By: GARY RAST + BEN RICHARD

Crowley Impoundment - FERC # 2473 August 12, 2014 Sampling Event



ANALYTICAL REPORT

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

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

Printed: 08/18/14 Code: NNNN-S Page 1 of 3
 NLS Project: 224853
 NLS Customer: 102823
 Phone: 855 994 9376

Client: Renewable World Energies
 Attn: Gary Rast
 100 State Street
 P.O. Box 264
 Neshkoro, WI 54960

Project	Flambeau (4)	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
20140812 1-A NLS ID: 809771									
COC: 160942:1 Matrix: SW									
Collected: 08/12/14 13:35 Received: 08/13/14									
Parameter									
Chlorophyll, all species									
Lab filtration for Chlorophyll									
20140812 2-A NLS ID: 809772									
COC: 160942:1 Matrix: SW									
Collected: 08/12/14 13:35 Received: 08/13/14									
Parameter									
Chlorophyll, all species									
Lab filtration for Chlorophyll									
20140812 3-A NLS ID: 809773									
COC: 160942:1 Matrix: SW									
Collected: 08/12/14 13:35 Received: 08/13/14									
Parameter									
Chlorophyll, all species									
Lab filtration for Chlorophyll									
20140812 4-A NLS ID: 809774									
COC: 160942:1 Matrix: SW									
Collected: 08/12/14 13:35 Received: 08/13/14									
Parameter									
Chlorophyll, all species									
Lab filtration for Chlorophyll									
20140812 1-B NLS ID: 809775									
COC: 160942:2 Matrix: SW									
Collected: 08/12/14 13:40 Received: 08/13/14									
Parameter									
Color, APHA (true)									
Lab filtration									
20140812 2-B NLS ID: 809776									
COC: 160942:2 Matrix: SW									
Collected: 08/12/14 13:40 Received: 08/13/14									
Parameter									
Color, APHA (true)									
Lab filtration									
20140812 3-B NLS ID: 809777									
COC: 160942:2 Matrix: SW									
Collected: 08/12/14 13:40 Received: 08/13/14									
Parameter									
Color, APHA (true)									
Lab filtration									

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

ANALYTICAL REPORT

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

Printed: 08/18/14 Code: NNNN-S Page 3 of 3
NLS Project: 224853
NLS Customer: 102823
Phone: 855 994 9376

Client: Renewable World Energies
Attn: Gary Rast
100 State Street
P.O. Box 264
Neshkoro, WI 54960

Project: Flambeau (4)

Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and/or LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dilution.

LOD = Limit of Detection
DWB = Dry Weight Basis
MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

LOQ = Limit of Quantitation
NA = Not Applicable
ND = Not Detected (< LOD)
1000 ug/L = 1 mg/L
%DWB = (mg/kg DWB) / 10000

Reviewed by:



Authorized by:
R. T. Krueger
President

Northern Lake Service, Inc.
Chlorophyll Results

Customer: Renewable World Energies
Project: 224853
Flambeau (4)

Sample	Description	CC a	Pheo a	TC a	TC b	TC c
809771	20140812 1-A	5.2	0.26	5.6	0.0*	0.44
809772	20140812 2-A	5.1	0.3	5.5	0.0*	0.37
809773	20140812 3-A	5.7	0.53	6.2	0.0*	0.36
809774	20140812 4-A	6.2	0.74	6.9	0.00082	0.48

CC a = Corrected Chlorophyll a
Pheo a = Pheophytin a
TC a = Trichromatic Chlorophyll a
TC b = Trichromatic Chlorophyll b
TC c = Trichromatic Chlorophyll c
Units = ug/L for Water, ug/cm² for periphyton samplers

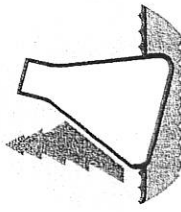
*: The complex calculations used to differentiate the various chlorophyll species magnify error at low concentrations and sometimes produce negative values, which are reported as 0.0 on this report.

NORTHERN LAKE SERVICE, INC.

Analytical Laboratory and Environmental Services
 400 North Lake Avenue • Crandon, WI 54520-1298
 Tel: (715) 478-2777 • Fax: (715) 478-3060

SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

Wisconsin Lab Cert. No. 721026460
 ANALYTICAL LABORATORY 105-000330



NO. 160942

CLIENT: RENEWABLE WORLD ENERGY
 ADDRESS: PO BOX 264 100 S. STATE STREET
 CITY: NESHKORO STATE: WI ZIP: 54960
 PROJECT DESCRIPTION / NO.: FLAMBEAU (4) QUOTATION NO. _____
 DNR FID # _____ DNR LICENSE # _____
 CONTACT: GARY PHONE: 855-994-9376
 PURCHASE ORDER NO.: VERBAL FAX: 820-293-4100

USE BOXES BELOW: Indicate Y or N if GW Sample is field filtered.
 Indicate G or C if WW Sample is Grab or Composite.

ITEM NO.	NLS LAB NO.	SAMPLE ID	COLLECTION		MATRIX (See above)	ANALYZE PER ORDER OF ANALYSIS		COLLECTION REMARKS (i.e. DNR Well ID #)
			DATE	TIME		TRUE DO	PHOS	
1.	771-774	20140812-1,2,3,4-A	8/12/14	7:37-1:35	RIVER WATER	X	X	
2.	775-778	1,2,3,4-B	8/12/14	7:35-1:40	"	X	X	
3.	779-782	1,1	8/12/14	7:40-1:42	"	X	X	
4.	783-785	2,3,4-A	8/12/14	7:45-1:45	"	X	X	
5.								
6.								
7.								
8.								
9.								
10.								

REPORT TO: SAME AS ABOVE
 INVOICE TO: ATTN: GARY
RENEWABLE WORLD OPERATIONS
1001 STEPHENSON STREET
NORWAY, MI 49870

CUSTODY SEAL NO. (IF ANY): _____
 RECEIVED BY (signature): [Signature] DATE/TIME: 8/12/14 7:37-1:45
 METHOD OF TRANSPORT: UPS DATE/TIME: 8/12/14 8:15
 DATE/TIME: 8-13-14 10:00 CONDITION: OK in TEMP.: _____
 REMARKS & OTHER INFORMATION: _____
 WDNF FACILITY NUMBER: _____ E-MAIL ADDRESS: _____
 RECEIVED AT NLS BY (signature): [Signature]
 COOLER # _____
 PRESERVATIVE: N = nitric acid OH = sodium hydroxide
 NP = no preservative Z = zinc acetate HA = hydrochloric & ascorbic acid
 S = sulfuric acid M = methanol H = hydrochloric acid

1. TO MEET REGULATORY REQUIREMENTS, THIS FORM **MUST** BE COMPLETED IN DETAIL AND INCLUDED IN THE COOLER CONTAINING THE SAMPLES DESCRIBED.
 2. PLEASE USE ONE LINE PER SAMPLE, **NOT** PER BOTTLE.
 3. RETURN THIS FORM WITH SAMPLES - CLIENT MAY KEEP PINK COPY.
 4. PARTIES COLLECTING SAMPLE, LISTED AS **REPORT TO** AND LISTED AS **INVOICE TO** AGREE TO STANDARD TERMS & CONDITIONS ON REVERSE.

IMPORTANT!

Appendix D

Agency Correspondence

Gary Rast

 COPY

From: Gary Rast
Sent: Wednesday, October 29, 2014 8:42 AM
To: 'Laatsch, Cheryl - DNR'; Utrup, Nick
Cc: Aneta Rietveld
Subject: 4 Flam 2014 Draft WQ Reports Message 4
Attachments: 14-10-29 GGR Flam In Ag Comment Draft 14 WQ Rpts.pdf; 14-10-29 GGR CRLY Draft Report 2014 WQM Data.pdf

Flambeau Crowley

Re-sent because file was too large and undeliverable. This one has been reduced in size.

Gary Rast
Regulatory/Compliance Manager



Renewable World Energies, LLC
100 S. State Street
P.O. Box 264
Neshkoro, WI 54960
Phone: 855-994-9376 Ext. 105
Fax: 920-293-4100
Cell: 920-570-0995
E-mail: grast@rwehydro.com

Gary Rast

From: Gary Rast
Sent: Wednesday, October 29, 2014 8:34 AM
To: 'Laatsch, Cheryl - DNR'; Utrup, Nick
Cc: Aneta Rietveld
Subject: 4 Flam 2014 Draft WQ Reports Message 4
Attachments: 14-10-29 GGR Flam In Ag Comment Draft 14 WQ Rpts.pdf; 14-10-29 GGR CRLY Draft Report 2014 WQM Data.pdf



Flambeau Crowley

Gary Rast
Regulatory/Compliance Manager



Renewable World Energies, LLC
100 S. State Street
P.O. Box 264
Neshkoro, WI 54960
Phone: 855-994-9376 Ext. 105
Fax: 920-293-4100
Cell: 920-570-0995
E-mail: grast@rwehydro.com

Gary Rast

 **COPY**

From: Gary Rast
Sent: Wednesday, October 29, 2014 8:30 AM
To: 'Laatsch, Cheryl - DNR'; Utrup, Nick
Cc: Aneta Rietveld
Subject: 4 Flam 2014 Draft WQ Reports Message 1
Attachments: 14-10-29 GGR Flam In Ag Comment Draft 14 WQ Rpts.pdf; 14-10-27 GGR FLUP Draft Report 2014 WQM Data.pdf

Cheryl & Nick,

Flambeau Upper

RWE is submitting the 4 Flambeau 2014 Draft WQ Reports for comment should you have any to offer. Because the files are large I will be sending 4 e-mail messages each with 1 project report and letter (October 29) attached. This message has Flambeau Upper attached. Submittal list is found below:

- Message 1 – Flambeau Upper (Dated October 27)
- Message 2 – Flambeau Lower (Dated October 27)
- Message 3 – Flambeau Pixley (Dated October 28)
- Message 4 – Flambeau Crowley (Dated October 29)

Gary

Gary Rast
Regulatory/Compliance Manager



Renewable World Energies, LLC
100 S. State Street
P.O. Box 264
Neshkoro, WI 54960
Phone: 855-994-9376 Ext. 105
Fax: 920-293-4100
Cell: 920-570-0995
E-mail: grast@rwehydro.com



October 29, 2014

Mr. Nick Utrup
U.S. Fish and Wildlife Service
WLMN Ecological Services Field Office
4101 American Boulevard East
Bloomington, MN 55425

Ms. Cheryl Laatsch
Statewide FERC Coordinator
Wisconsin Dept. of Natural Resources
N7725 HWY 28
Horicon, WI 53032

Re: **Flambeau Hydroelectric Projects**
FERC Project Numbers-Upper FERC # 2640, Lower FERC # 2421,
Pixley FERC # 2395, Crowley FERC # 2473
Flambeau Hydro LLC
Draft Reports 2014 Water Quality Monitoring Data

Dear Agencies:

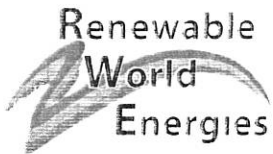
On behalf of Flambeau Hydro LLC ("Flambeau"), Licensee, Renewable World Energies, LLC is submitting a copy of its Draft Report 2014 Water Quality Monitoring Data for each of the Flambeau Projects. No problems were encountered with equipment, data, or the monitoring schedule in general. The report is a requirement of Flambeau's Federal license pursuant to article 406 and 408 and the approved Water Quality Monitoring Plans. The purpose of this letter is to formally invite you to comment on the draft reports. The Federal Energy Regulatory Commission's regulations allow for a 30 day formal review and comment period. Nothing out of the ordinary was experienced during the 2014 monitoring season except as noted in the reports. Thank you in advance for providing your responses in a timely manner so we can include your comments and recommendations, as appropriate, into our reports.

If you have any questions concerning the report, please contact Mr. Gary Rast at the Renewable World Energies, LLC offices @ 855-994-9376 ext. 105, or by email at: grast@rwehydro.com

Corporate Office
P.O. Box 264
100 S. State Street
Neshkoro, WI 54960
Fax: 920-293-4100

Phone: 855-99HYDRO
(855-994-9376)
www.renewableworldenergies.com

Administrative Office
1001 Stephenson Street
Norway, MI 49870
Fax: 906-563-9344



Sincerely,
Renewable World Energies, LLC
Agent For Licensee


Mr. Jason Kreuzscher
Vice President, Operations

Attachments: Draft Report 2014 Water Quality Monitoring Data Flambeau Upper Hydroelectric Project
– October 27, 2014

Draft Report 2014 Water Quality Monitoring Data Flambeau Lower Hydroelectric
Project – October 27, 2014


Draft Report 2014 Water Quality Monitoring Data Flambeau Pixley Hydroelectric
Project – October 28, 2014

Draft Report 2014 Water Quality Monitoring Data Flambeau Crowley Hydroelectric
Project – October 29, 2014

Cc: RWE, Corporate

Gary Rast

From: Gary Rast
Sent: Tuesday, May 27, 2014 8:58 AM
To: 'Laatsch, Cheryl - DNR'; Utrup, Nick
Subject: RE: water quality data collection

 COPY

Everyone,

Just sending an update on water sample collections (Ice-Out) at Winter and Flambeau projects. Nothing collected to this point. Flows have come down quite a bit in the last two weeks. However, the boat barriers are not in at Winter, Flambeau Upper or Flambeau Lower. Two of the three sites have access just slightly above the dams and sample points near the dams at most a couple hundred feet (Winter & Flambeau Lower). I will not attempt any sampling unless they are installed. A side note is that the 4 Flambeau projects must be done in sequence and on the same day. Sampling is on hold until at least the week of June 2nd or June 9th if you still want it done. I need to schedule Turtle/Eagle/Erosion and KBB surveys from now on as well.

Gary

Gary Rast
Regulatory/Compliance Manager



Renewable World Energies, LLC
100 S. State Street
P.O. Box 264
Neshkoro, WI 54960
Phone: 855-994-9376 Ext. 105
Fax: 920-293-4100
Cell: 920-570-0995
E-mail: grast@rwehydro.com

From: Laatsch, Cheryl - DNR [<mailto:Cheryl.Laatsch@wisconsin.gov>]
Sent: Tuesday, May 13, 2014 11:38 AM
To: Gary Rast
Subject: FW: water quality data collection

I have asked for clarification from Craig. Here is his response.


Thanks, Cheryl

From: Roesler, Craig P - DNR
Sent: Tuesday, May 13, 2014 11:12 AM
To: Laatsch, Cheryl - DNR; Hansen, James P - DNR
Cc: Aartila, Tom P - DNR
Subject: RE: water quality data collection

I would have them collect the samples as soon as conditions become safe. If it isn't possible in May, try for early June.

Gary Rast

From: Laatsch, Cheryl - DNR <Cheryl.Laatsch@wisconsin.gov>
Sent: Tuesday, May 13, 2014 11:38 AM
To: Gary Rast
Subject: FW: water quality data collection

 **COPY**

I have asked for clarification from Craig. Here is his response.

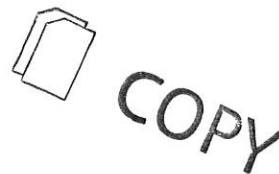
Thanks, Cheryl

From: Roesler, Craig P - DNR
Sent: Tuesday, May 13, 2014 11:12 AM
To: Laatsch, Cheryl - DNR; Hansen, James P - DNR
Cc: Aartila, Tom P - DNR
Subject: RE: water quality data collection

I would have them collect the samples as soon as conditions become safe. If it isn't possible in May, try for early June.

Gary Rast

From: Gary Rast
Sent: Tuesday, May 13, 2014 9:52 AM
To: 'Laatsch, Cheryl - DNR'
Cc: 'Jason Kreuzscher'; Cindy Skowronski; Aneta Rietveld
Subject: RE: water quality data collection



Cheryl,

Thanks for the response. However, last year a similar situation occurred at the Flambeau projects and we abandoned the sampling with agency consult. Why the inconsistency from year to year? Below is exact content of an e-mail sent to the agencies on May 22, 2013 addressing same type of issue and agencies agreed. Just asking where is the difference. **FYI—As of this morning, the flows at the Winter project are now 3,000 CFS as opposed to 2,000 CFS last week and the flows at the (4) Flambeau projects are at 6,500 CFS as opposed to 3,500 - 4,000 CFS last week.** We can try to check back together but next week is the last full week of May because Memorial Day is the following Monday. Gary

Everyone,

About 1 to 1.5 weeks ago I notified you that because of water conditions and no boat barriers being installed at the Flambeau projects the Ice-Out WQ monitoring would or could not be performed during the 2 week time period following Ice-Out. On Monday 5/20 I was notified that the barriers were installed and river conditions were approaching more normal conditions. Because weather looked favorable for Thursday 5/23 I made plans for that day. I was not aware that the area had received so much rain in the past couple of days and that runoff from surrounding areas were contributing so much. River conditions today 5/22 are horrible to say the least, about 1000 CFS more than when you were originally notified. I believe they are slightly one side or the other of 4000 CFS. I have been informed that another 500 CFS is to be released from the flowage later today, so conditions will worsen. I spoke to Jeff less than an hour ago and discussed doing some sort of modified monitoring while I am here. We agreed that was not a good thing because comparison to other years Ice-Out results would be very hard to make and the effort would not be worth much. Jeff and I agreed to skip the Ice-Out sampling all together because the effort would not yield good results and the safety concerns involving the monitoring. RWE asks for your understanding and agreement. Thanks

Gary

Gary Rast
Regulatory/Compliance Manager



Renewable World Energies, LLC
100 S. State Street
P.O. Box 264
Neshkoro, WI 54960
Phone: 855-994-9376 Ext. 105
Fax: 920-293-4100
Cell: 920-570-0995
E-mail: grast@rwehydro.com

From: Laatsch, Cheryl - DNR [<mailto:Cheryl.Laatsch@wisconsin.gov>]

Sent: Tuesday, May 13, 2014 8:28 AM

To: Gary Rast

Subject: water quality data collection

Staff agree that the sampling should be postponed. They have requested that you try to collect samples before the end of May. Lets check back with each other at the end of May to see how things are going. Thanks

Cheryl Laatsch

Statewide FERC Coordinator

Wisconsin Dept of Natural Resources


N7725 Hwy 28

Horicon WI 53032

(T) 920-387-7869 (Fax) 920-387-7888

Cheryl.laatsch@wisconsin.gov

Gary Rast

 COPY

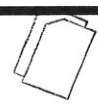
From: Laatsch, Cheryl - DNR <Cheryl.Laatsch@wisconsin.gov>
Sent: Tuesday, May 13, 2014 8:28 AM
To: Gary Rast
Subject: water quality data collection

Staff agree that the sampling should be postponed. They have requested that you try to collect samples before the end of May. Lets check back with each other at the end of May to see how things are going. Thanks

Cheryl Laatsch
Statewide FERC Coordinator
Wisconsin Dept of Natural Resources
N7725 Hwy 28
Horicon WI 53032
(T) 920-387-7869 (Fax) 920-387-7888
Cheryl.laatsch@wisconsin.gov

Gary Rast

From: Reinecke, Sue -FS <sreinecke@fs.fed.us>
Sent: Thursday, May 08, 2014 12:00 PM
To: Gary Rast
Cc: Higgins, Dale -FS
Subject: RE: Winter Ice Out WQ

 COPY

Hi Gary, FS concurs with your decision to not sample for safety reason due to high flows.

thanks
sue

Sue Reinecke, Forest Fisheries Biologist
Chequamegon-Nicolet NF
1170 4th Ave South
Park Falls, WI 54552
715-762-5185
sreinecke@fs.fed.us

From: Gary Rast [<mailto:grast@rwehydro.com>]
Sent: Thursday, May 08, 2014 10:42 AM
To: Laatsch, Cheryl - DNR; Utrup, Nick; Higgins, Dale -FS; Reinecke, Sue -FS
Cc: Jason Kreuzscher; Cindy Skowronski; Aneta Rietveld; David Anderson
Subject: Winter Ice Out WQ

Everyone,

I traveled up to the Winter Hydro this week to perform the Ice Out WQ sampling. The photos were taken May 7, 2014. The 1st photo shows the discharge (2004) CFS and 2nd photo is looking upstream from the dam. As you can see it is wild and no buoys are installed yet because of dangerous conditions. Sample site is just upstream of the buoys and just to the right of the large evergreen on left side of photo. The power canal is not shown but is on left side of the photo. According to WQ plan, the sampling can be done within 3 weeks of Ice Out. This week was the 2nd week since Ice Out. We do not expect conditions to improve in the near future which would put the Ice Out sampling outside of the 3 week window. **The licensee proposes to abandon the Ice Out sampling for 2014 because of these conditions and asks for your agreement.** If you require sampling to be performed, we can do it outside the timeframe when conditions improve but not until then. As a side note sampling was accomplished at the Clam River and Danbury projects this week. Please respond as soon as possible.


Gary

Gary Rast
Regulatory/Compliance Manager



Renewable World Energies, LLC

Gary Rast


COPY

From: Gary Rast
Sent: Thursday, May 08, 2014 10:42 AM
To: 'Laatsch, Cheryl - DNR'; Utrup, Nick; Higgins, Dale -FS (dhiggins@fs.fed.us); 'Reinecke, Sue -FS'
Cc: 'Jason Kreuzscher'; Cindy Skowronski; Aneta Rietveld; David Anderson
Subject: Winter Ice Out WQ
Attachments: WNTR Discharge May 7 (1).JPG; WNTR Upstream May 7.JPG

Everyone,

I traveled up to the Winter Hydro this week to perform the Ice Out WQ sampling. The photos were taken May 7, 2014. The 1st photo shows the discharge (2004) CFS and 2nd photo is looking upstream from the dam. As you can see it is wild and no buoys are installed yet because of dangerous conditions. Sample site is just upstream of the buoys and just to the right of the large evergreen on left side of photo. The power canal is not shown but is on left side of the photo. According to WQ plan, the sampling can be done within 3 weeks of Ice Out. This week was the 2nd week since Ice Out. We do not expect conditions to improve in the near future which would put the Ice Out sampling outside of the 3 week window. **The licensee proposes to abandon the Ice Out sampling for 2014 because of these conditions and asks for your agreement.** If you require sampling to be performed, we can do it outside the timeframe when conditions improve but not until then. As a side note sampling was accomplished at the Clam River and Danbury projects this week. Please respond as soon as possible.

Gary

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