

December 28, 2015

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 2015 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 2015 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. 2015 was the twelfth year monitoring was conducted since the license was issued, but is the 4th year of submittal by RWE on the behalf of the Licensee. Monitoring was conducted on April 14, July 7, and August 4, 2015. No issues were encountered during the 2015 monitoring season. All data has been entered into the SWIMS Data Base. The draft report was sent to the agencies by letter dated October 6, 2015 for review and comment. No comments have been received as of the date of this letter. The next scheduled monitoring event will be conducted in 2016.

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
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

Jason Kreuzscher
Mr. Jason Kreuzscher
Vice President, Operations

Attachments: Flambeau Upper Final Rpt 2015 W Q Mon Data – Dec. 23, 2015
Flambeau Lower Final Rpt 2015 W Q Mon Data – Dec. 23, 2015
Flambeau Pixley Final Rpt 2015 W Q Mon Data – Dec. 23, 2015
Flambeau Crowley Final Rpt 2015 W Q Mon Data – Dec.23, 2015

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

Final Report

2015 Water Quality Monitoring Data

For the

Flambeau (Upper) Hydroelectric Project
FERC Project #2640
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 23, 2015

Table of Contents

I.	Summary	3
II.	2015 Sampling Results Table	5
III.	2015 Temperature and Dissolved Oxygen Sampling Event Graphs	6
IV.	2015 Monthly Temperature and Precipitation Table	7
V.	2015 Flambeau Upper Sampling Comparison Table.....	8
VI.	Sampling Location Map.....	9
	APPENDIX A - April 14, 2015 Ice-Out Sampling Documents.....	10
	APPENDIX B - July 7, 2015 Sampling Documents.....	11
	APPENDIX C - August 4, 2015 Sampling Documents.....	12
	APPENDIX D - Agency Correspondence.....	13

Summary

2015 marked the twelfth year of water quality sampling under the FERC approved “Water Quality Monitoring Plan Per License Article 408 for the Flambeau (Upper) Hydroelectric Project – FERC Project # 2640 – Flambeau Hydro, LLC”. Sampling was accomplished according to the plan and was un-eventful, with no major problems or concerns.

Ice-Out occurred between Agenda and Nine Mile Landing on the North Fork of the Flambeau River sometime during the week beginning April 5th, 2015. The Ice-Out sampling event occurred on April 14, 2015. River flow, based on the Flambeau (Upper) Hydroelectric Project records, was approximately 602 cubic feet per second. Sampling occurred between 7:45 a.m. and 8:15 a.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 April 15, 2015. Northern Lake Service, Inc. issued a laboratory report on April 29, 2015. No unusual levels of Chlorophyll a, True Color, or Total Phosphorus were noted in the laboratory reports.

River flow, based on Flambeau (Upper) Hydroelectric Project records, was approximately 912 cubic feet per second during the July 7, 2015 sampling event. Sampling occurred between 7:45 a.m. and 8:25 a.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 8, 2015. Northern Lake Service, Inc. issued a laboratory report on July 31, 2015. No unusual levels of Chlorophyll a, True Color, or Total Phosphorus were noted in the laboratory reports.

River flow, based on Flambeau (Upper) Hydroelectric Project records, was approximately 666 cubic feet per second during the August 4, 2015 sampling event. Sampling occurred between 8:00 a.m. and 8:30 a.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 5, 2015. Northern Lake Service, Inc. issued a laboratory report on August 11, 2015. 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 2015 monitoring season appeared slightly warmer in April, May, June, July, & August, with lower than normal precipitation in the months of April, June, July, and higher than normal precipitation in May and August. **(Refer to 2015 Monthly Temp and Precipitation Table page 7)**

A summary of a comparison between the 2011 thru 2015 **(Refer to 2015 Flambeau Upper Project Sampling Comparison Table 2011-2015 page 8)** sampling results are as follows:

1. Water Clarity – S Increased I Out, Increased July & Aug
2. Chlorophyll a – Increased I Out, July, & Aug
3. Color – Increased I Out, Decreased July & Aug
4. Total Phosphorus – Ave I Out, Decreased July & Aug
5. Overall, D.O. – Increased I Out, S Increased July, S Decreased Aug
6. Water Temperatures – S Decreased I Out, Decreased July, & S Decreased Aug

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 Upper Hydroelectric Project is set to take place in 2016 beginning with the Ice-Out sampling event.

**2015
Sampling Results
Table**

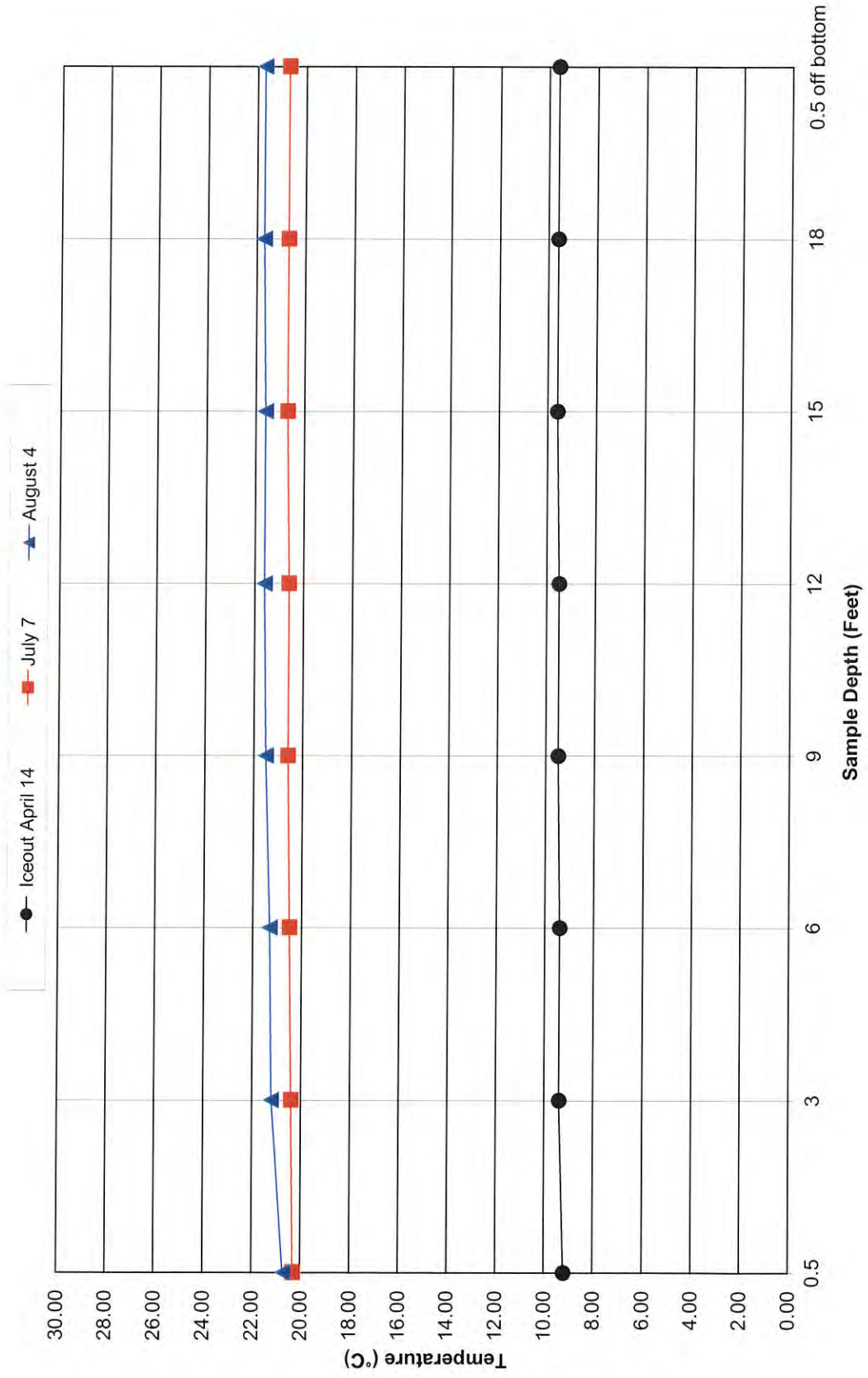
Flambeau (Upper) Hydroelectric Project - FERC Project # 2640 2015 Water Quality Sampling Data

	Ice Out April 14, 2015	July 7, 2015	August 4, 2015																																																																																	
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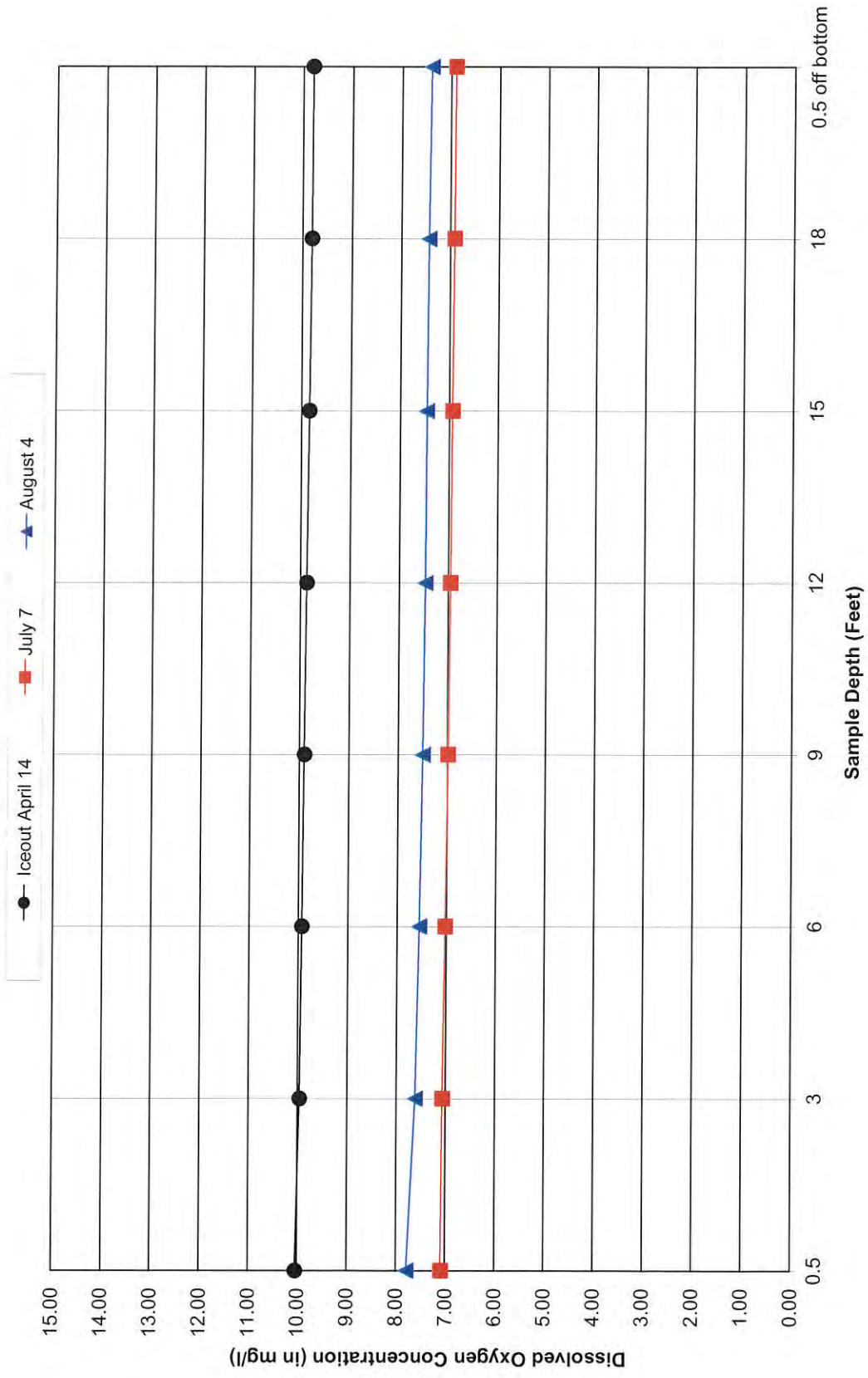
*Considered Reporting Limits

2015
Temperature/Dissolved Oxygen
Graphs

Upper Impoundment - FERC # 2640 2015 Temperature Samples



Upper Impoundment - FERC # 2640 2015 Dissolved Oxygen Samples



2015
Monthly Temperature/Precipitation
Table

2015 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-14	69.0	23.0	44.8	1.6	622	678	1.80	0.10	2.85	63%
November-14	51.0	-9.0	21.8	-7.0	1289	1080	0.98	16.40	2.09	47%
December-14	43.0	-10.0	21.5	6.7	1341	1556	1.26	8.60	1.21	104%
January-15	12.7	-18.0	40.0	2.5	1616	1699	0.46	6.60	0.96	48%
February-15	27.0	-19.0	5.2	-9.9	1667	1399	0.38	8.20	0.81	47%
March-15	64.0	-14.0	30.6	4.7	1059	1210	0.79	8.10	1.49	53%
April-15	76.0	22.0	42.2	2.6	675	762	1.03	1.20	2.43	42%
May-15	83.0	32.0	51.7	0.3	409	426	3.73	T	3.23	115%
June-15	84.0	36.0	61.4	1.3	121	179	3.64	T	4.23	86%
July-15	89.0	48.0	69.2	3.4	15	63	3.01	0.00	3.85	78%
August-15	93.0	42.0	65.3	1.0	81	86	4.09	0.00	3.70	111%
September-15	85.0	34.0	61.5	5.9	149	298	6.81	0.00	4.11	166%

Source: NOAA/Duluth, MN

**2015
Flambeau Upper
Sampling Comparison Table
2011—2015**

Flambeau Upper
Project Sampling Comparison Table

2011 Thru Current Year

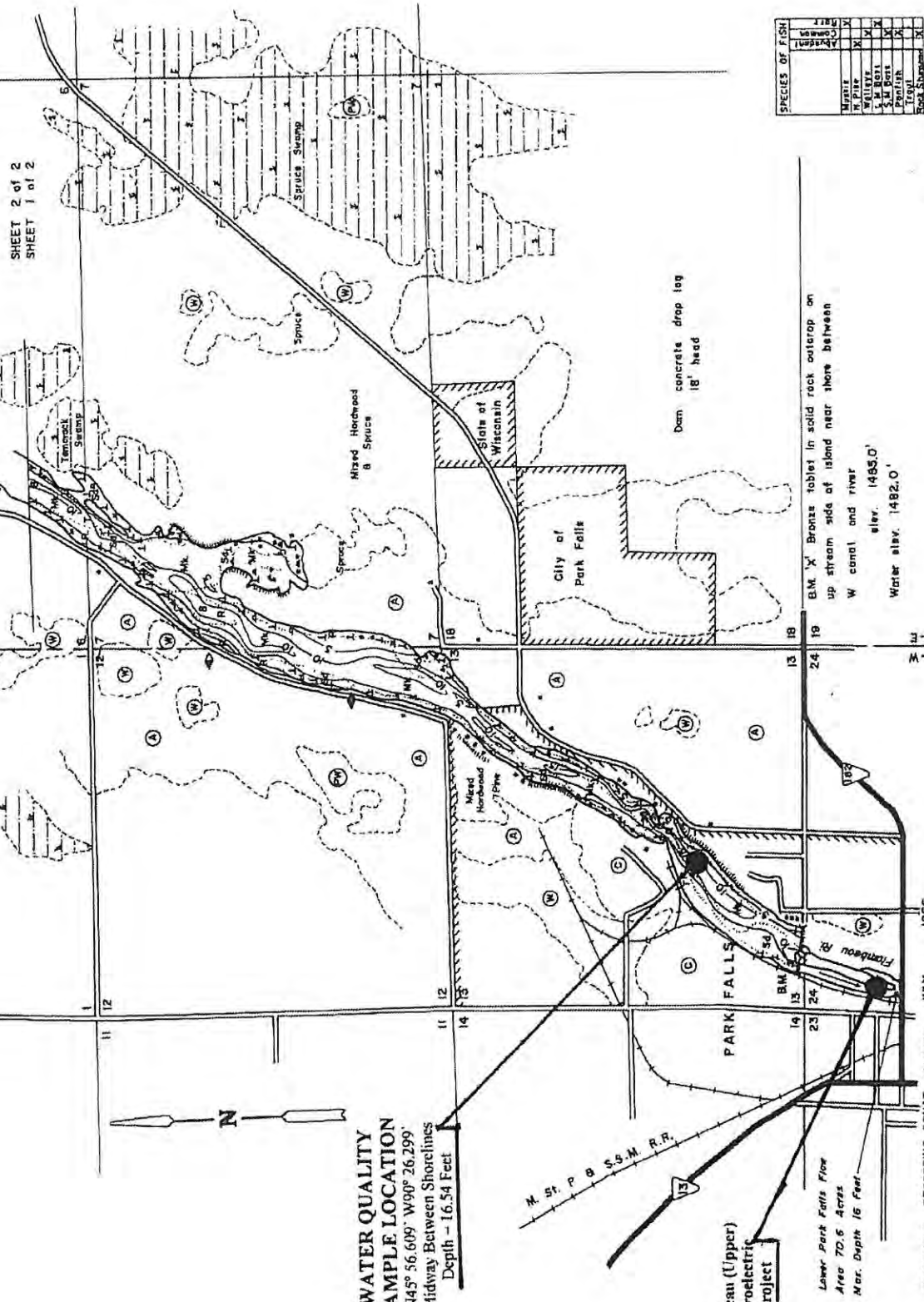
Year	Month	Secchi Depth (m)	Chlorophyll a ug/l	Color (True) C.P.U. Units	Total Phosphorus Below Surface mg/l	Total Phosphorus Above Bottom mg/l	Low D.O. mg/l	High D.O. mg/l	Low Water Temp. °C	High Water Temp. °C
2011	April	3.50	0.51	100.00	0.025	0.028	12.63	12.91	5.90	6.40
2012	April	3.50	1.00	100.00	0.027		12.01	11.71	8.50	8.90
2013	May									
2014	June	3.20	1.90	130.00	0.024		7.09	7.37	17.60	17.80
2015	April	3.60	2.90	130.00	0.026		9.80	10.04	9.20	9.60
Minimum	April/June	3.20	0.51	100.00	0.024	0.028	7.09	7.37	5.90	6.40
Maximum	April/June	3.60	2.90	130.00	0.027	0.028	12.63	12.91	17.60	17.80
Average	April/June	3.45	1.58	115.00	0.026	0.028	10.38	10.51	10.30	10.68
2011	July	3.80	5.80	70.00	0.038		7.37	7.70	24.40	25.20
2012	July	3.50	5.90	70.00	0.036		6.56	6.91	24.30	24.80
2013	July	3.10	1.60	150.00	0.026		6.35	6.41	24.00	24.20
2014	July	3.50	3.20	100.00	0.035		7.19	7.35	21.00	21.30
2015	July	3.90	3.50	80.00	0.017		6.91	7.10	20.30	20.70
Minimum	July	3.10	1.60	70.00	0.017	0.000	6.35	6.41	20.30	20.70
Maximum	July	3.90	5.90	150.00	0.038	0.000	7.37	7.70	24.40	25.20
Average	July	3.56	4.00	94.00	0.030	#DIV/0!	6.88	7.09	22.80	23.24
2011	August	2.90	11.00	120.00	0.033		8.13	8.43	22.20	22.90
2012	August	2.70	12.00	70.00	0.037		7.61	8.08	22.70	22.90
2013	August	3.30	6.00	130.00	0.066		7.45	7.69	19.50	19.70
2014	August	3.10	5.60	100.00	0.024		6.88	7.12	21.00	21.60
2015	August	3.50	16.00	70.00	0.029		7.40	7.79	20.70	21.70
Minimum	August	2.70	5.60	70.00	0.024	0.000	6.88	7.12	19.50	19.70
Maximum	August	3.50	16.00	130.00	0.066	0.000	8.13	8.43	22.70	22.90
Average	August	3.10	10.12	98.00	0.038	#DIV/0!	7.49	7.82	21.22	21.76
No Sample or Discontinued										

**Upper Impoundment
Sampling Location
Map**

WISCONSIN CONSERVATION DEPARTMENT
 UPPER PARK FALLS LAKE
 PRICE & ASHLAND COUNTY
 SEC. 6, 7, 12, 13, 23, 32 T. 40, 41 N. R. 1, 1-E-W.
 (Sheet 1 of 2)

LAKE SURVEY MAP

UPPER PARK FALLS LAKE
 PRICE & ASHLAND COUNTY
 SEC. 6, 7, 12, 13, 23, 32 T. 40, 41 N. R. 1, 1-E-W.
 (Sheet 1 of 2)



WATER QUALITY SAMPLE LOCATION
 N45° 56.609' W90° 26.299'
 Midway Between Shorelines
 Depth - 16.54 Feet

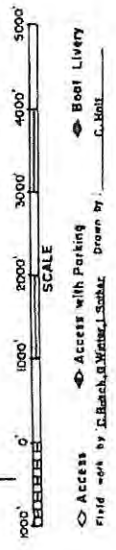
Flambeau (Upper) Hydroelectric Project

Lower Park Falls Flow Area 70.6 Acres
 Max. Depth 16 Feet

- EQUIPMENT RECORDING SYMBOL MAPPED JULY 1955**
- TOPOGRAPHIC SYMBOLS**
 Break
 Partially wooded
 Wetland
 Cleared
 Pastured
 Agricultural
 Brush
 Swamp
 Marsh
 Spring
 Intermittent stream
 Perennial inlet
 Perennial outlet
 Dam
- WATER ELEV. 1502**
- LAKE BOTTOM SYMBOLS**
 P. Peat
 M. Muck
 C. Clay
 M. Marl
 S. Sand
 S. Silt
- VEGETATION SYMBOLS**
 S. Spruce
 M. Mixed Hardwood & Spruce
 Sl. Slough of Wisconsin
 T. Submergent vegetation
 E. Emergent vegetation
 F. Floating vegetation

SPECIES OF FISH	
Walleye	X
Whitefish	X
S. M. Bass	X
S. M. Perch	X
Rock Bass	X
Rock Bass	X

AREA 431.1 ACRES
 UNDER 3 FT. 24.4 %
 OVER 20 FT. 0 %
 VOLUME 3278.8 ACRE FT.
 TOTAL ALK. 34 P.P.M.
 SHORELINE 15.9 MILES
 MAX. DEPTH 17 FEET



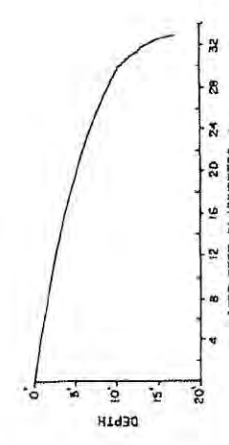
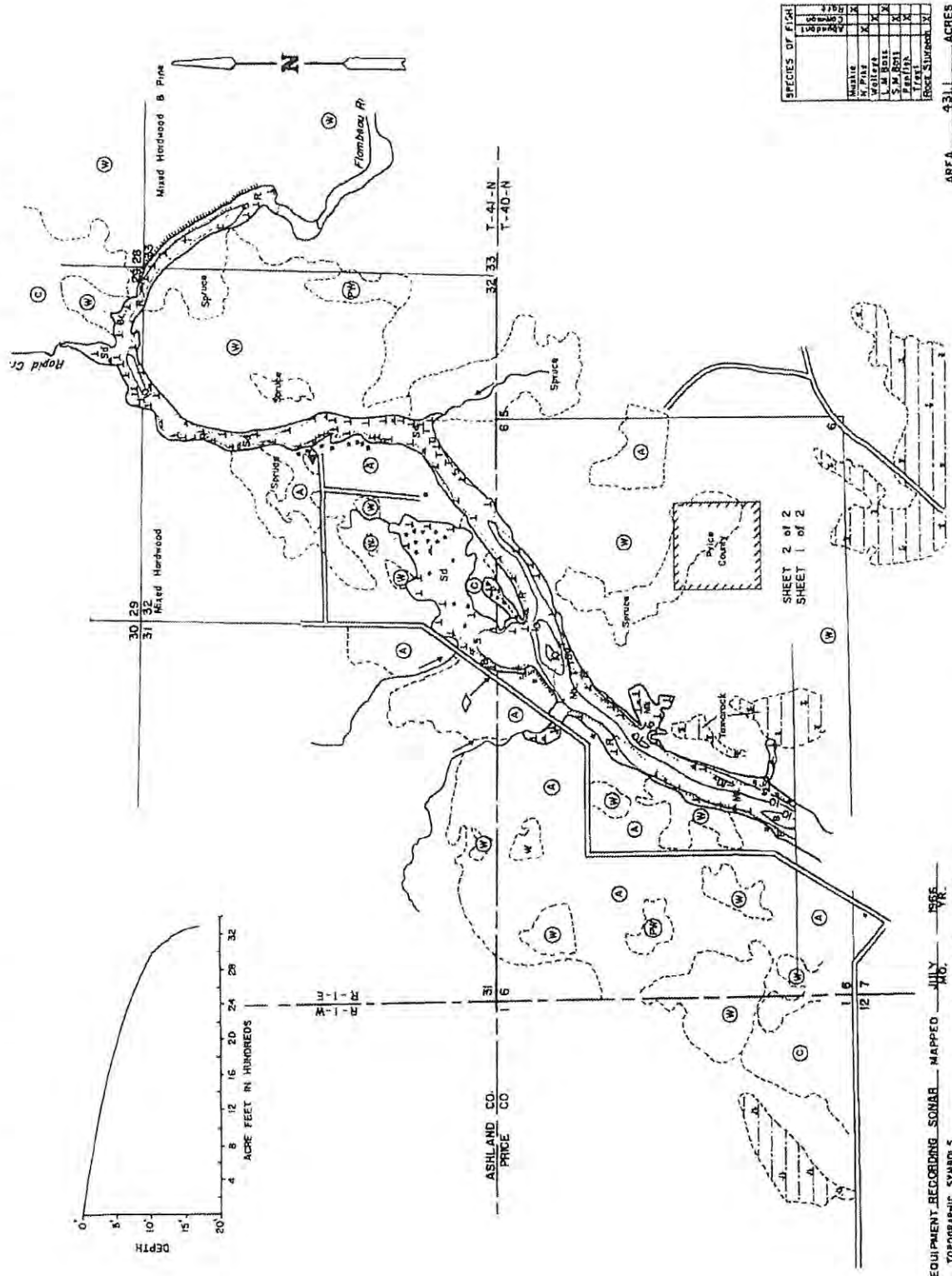
BM 'X' Bronze tablet in solid rock outcrop on up stream side of island near shore between W canal and river
 Water elev. 1485.0'
 Water elev. 1482.0'

Dam concrete drop log 16' head

Access with Parking
 Access by J. Beach, Water, L. Sobar
 Drawn by C. Holt

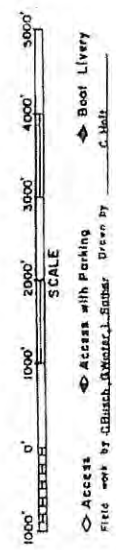
LAKE SURVEY MAP

UPPER PARK FALLS LAKE
PRICE B. ASHLAND COUNTY
SEC. 6, 7, 12, 13, 31, 32 T. 40, 41 N. R. 1, 2 E.W.
(Sheet 2 of 2)



SPECIES OF FISH	
12	Rock Bass
13	Rock Bass
14	Rock Bass
15	Rock Bass
16	Rock Bass
17	Rock Bass
18	Rock Bass
19	Rock Bass
20	Rock Bass
21	Rock Bass
22	Rock Bass
23	Rock Bass
24	Rock Bass
25	Rock Bass
26	Rock Bass
27	Rock Bass
28	Rock Bass
29	Rock Bass
30	Rock Bass
31	Rock Bass
32	Rock Bass
33	Rock Bass
34	Rock Bass
35	Rock Bass
36	Rock Bass
37	Rock Bass
38	Rock Bass
39	Rock Bass
40	Rock Bass
41	Rock Bass
42	Rock Bass
43	Rock Bass
44	Rock Bass
45	Rock Bass
46	Rock Bass
47	Rock Bass
48	Rock Bass
49	Rock Bass
50	Rock Bass

AREA 431.1 ACRES
UNDER 3 FT. 24.4 %
OVER 20 FT. 0 %
VOLUME 3228.8 ACRE FT.
TOTAL ALK. 34 P.M.
SHORELINE 15.4 MILES
MAX. DEPTH 17 FEET



- EQUIPMENT RECORDING SYMBOLS MAPPED JULY 1965
- Green Steep slope
 - Partially wooded Indefinite shoreline
 - Wetlands Marsh
 - Cleared Spring
 - Pasture Intermittent stream
 - Agricultural Permanent inlet
 - B.H. Bench Mark
 - Dwelling
 - Resort
- WATER ELEV. 1482
- P. Post
 - M. Bench
 - C. Clay
 - M. Marl
 - Sd. Sand
 - Sl. Silt
 - Stumps & Snags
 - R. Rubble
 - Br. Bedrock
 - T. Submerged vegetation
 - E. Emergent vegetation
 - Flooding vegetation

SHEET 2 OF 2
SHEET 1 OF 2

Appendix A

April 14, 2015 Ice-Out Sampling Documents

IMPOUNDMENT SAMPLING LOG

2015 Water Quality Study - Flambeau Upper Hydroelectric Project - FERC #2640

HWL - 1486.79

Date: 4/14/15

Pre-Sampling Data: TWL - 1467.4 CFS - 602

Time: 7:45 Barometer: 30.22 Air Temp: 55 °C Wind Speed: CALM

Sky Conditions: BRIGHT SUN, FAIR, + CLEAN

Precipitation within Last 24 Hours: NO

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

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

Battery Status: 100% Charge

Calibration Time: 3/11/2015 Method: Factory

Sampling Depth Profile: Measured Depth to Bottom of the Impoundment: 19.0 Feet

Secchi Disk Depth: (E0.1 Foot) 3.6 Feet Time: 7:55

Chlorophyll a (3 Feet Below Surface)

Lab Sample I.D.#: 04/14/15/1A

Time	Quantity (ml)	Filtered
<u>8:00</u>	<u>1000</u>	<u>NO</u>

True Color (3 Feet Below Surface)

Lab Sample I.D.#: 04/14/15/1B

Time	Quantity (ml)
<u>8:02</u>	<u>250</u>

D.O. Sample Data

Depth	Time	D.O. (mg/l)	°C
.5 Ft Below Surface	<u>8:05</u>	<u>10.04</u>	<u>9.2</u>
3 Feet	<u>8:06</u>	<u>9.96</u>	<u>9.4</u>
6 Feet	<u>8:07</u>	<u>9.93</u>	<u>9.4</u>
9 Feet	<u>8:08</u>	<u>9.90</u>	<u>9.5</u>
12 Feet	<u>8:09</u>	<u>9.87</u>	<u>9.5</u>
15 Feet	<u>8:10</u>	<u>9.84</u>	<u>9.6</u>
18 Feet	<u>8:12</u>	<u>9.81</u>	<u>9.6</u>
21 Feet			
24 Feet			
.5 Ft Above Bottom	<u>8:15</u>	<u>9.80</u>	<u>9.6</u>

Phosphorus

Lab Sample I.D.#: 04/13/15/1C
(3 Feet Below Surface)

Time	Preserved?
<u>8:04</u>	<u>H2SO4</u>

Lab Sample I.D.#: _____
(3 Feet Above Bottom)

Time	Preserved?
_____	_____

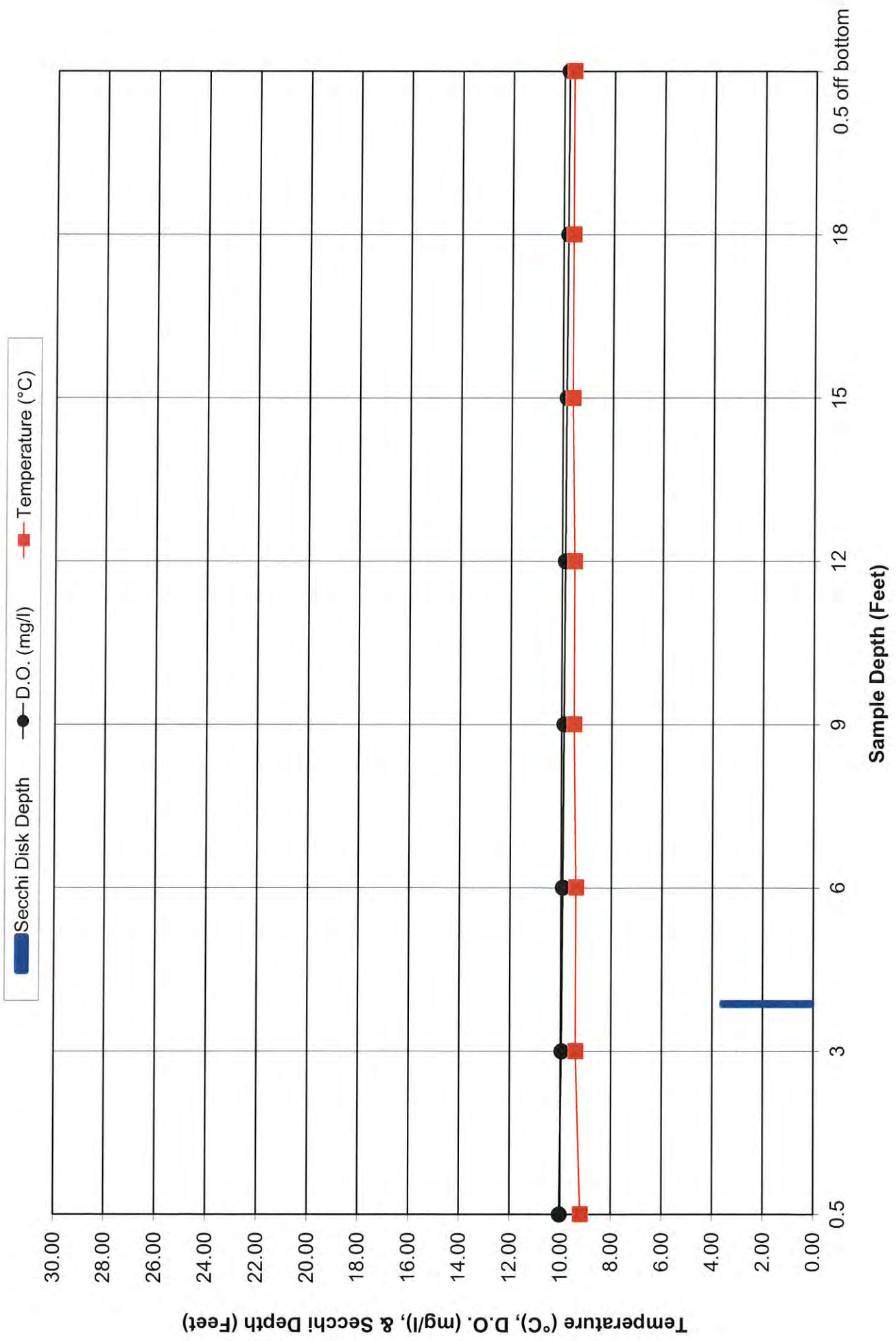
Sample Location: N45° 56.609' W90° 26.299'

Comments: _____

Performed By: GARY RAST + PAUL LEHMAN

Upper Impoundment - FERC # 2640

April 14, 2015 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

WDR Laboratory ID No. 721026460
 WDATCP Laboratory Certification No. 105-330
 EPA Laboratory ID No. WI000034
 Printed: 04/29/15 Code: NNNN-S Page 1 of 3

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

NLS Project: 238669
NLS Customer: 102823
 Phone: 855 994 9376

Project:	Flam (4)	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
0414151A NLS ID: 854082	COC: 167768:1 Matrix: SW Collected: 04/14/15 08:00 Received: 04/15/15	see attached yes					04/28/15 04/16/15	10200-H NA	721026460 721026460
0414152A NLS ID: 854083	COC: 167768:1 Matrix: SW Collected: 04/14/15 08:00 Received: 04/15/15	see attached yes					04/28/15 04/16/15	10200-H NA	721026460 721026460
0414153A NLS ID: 854084	COC: 167768:1 Matrix: SW Collected: 04/14/15 08:00 Received: 04/15/15	see attached yes					04/28/15 04/16/15	10200-H NA	721026460 721026460
0414154A NLS ID: 854085	COC: 167768:1 Matrix: SW Collected: 04/14/15 08:00 Received: 04/15/15	see attached yes					04/28/15 04/16/15	10200-H NA	721026460 721026460
0414151B NLS ID: 854086	COC: 167768:2 Matrix: SW Collected: 04/14/15 08:02 Received: 04/15/15	130 yes	C.P.U.	5	25*		04/15/15 04/15/15	SM 2120-B 20ed NA	721026460 721026460
0414152B NLS ID: 854087	COC: 167768:2 Matrix: SW Collected: 04/14/15 08:02 Received: 04/15/15	130 yes	C.P.U.	5	25*		04/15/15 04/15/15	SM 2120-B 20ed NA	721026460 721026460
0414153B NLS ID: 854088	COC: 167768:2 Matrix: SW Collected: 04/14/15 08:02 Received: 04/15/15	130 yes	C.P.U.	5	25*		04/15/15 04/15/15	SM 2120-B 20ed NA	721026460 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

WDR Laboratory ID No. 721026460
 WDATCP Laboratory Certification No. 105-330
 EPA Laboratory ID No. WI000034
 Printed: 04/29/15 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: 238669
NLS Customer: 102823
 Phone: 855 994 9376

Project	Flam (4)	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab	
0414154B NLS ID: 854089										
COC: 167768:2 Matrix: SW										
Collected: 04/14/15 08:02 Received: 04/15/15										
Parameter										
Color, APHA (true)										
Lab filtration										
0414151C NLS ID: 854090										
COC: 167768:3 Matrix: SW										
Collected: 04/14/15 08:04 Received: 04/15/15										
Parameter										
Phosphorus, tot. as P										
Result	130	C.P.U.	5	25*			04/15/15	SM 2120-B 20ed	721026460	
	yes						04/15/15	NA	721026460	
0414152C NLS ID: 854091										
COC: 167768:3 Matrix: SW										
Collected: 04/14/15 08:04 Received: 04/15/15										
Parameter										
Phosphorus, tot. as P										
Result	0.026	mg/L	1	0.0070*			04/22/15	SM 4500P-E 20ed	721026460	
	0.038	mg/L	1	0.0070*			04/22/15	SM 4500P-E 20ed	721026460	
0414153C NLS ID: 854092										
COC: 167768:3 Matrix: SW										
Collected: 04/14/15 08:04 Received: 04/15/15										
Parameter										
Phosphorus, tot. as P										
Result	0.037	mg/L	1	0.0070*			04/22/15	SM 4500P-E 20ed	721026460	
	0.047	mg/L	1	0.0070*			04/22/15	SM 4500P-E 20ed	721026460	
0414154C NLS ID: 854093										
COC: 167768:3 Matrix: SW										
Collected: 04/14/15 08:04 Received: 04/15/15										
Parameter										
Phosphorus, tot. as P										
Result	0.047	mg/L	1	0.0070*			04/22/15	SM 4500P-E 20ed	721026460	
	0.080	mg/L	1	0.0070*			04/22/15	SM 4500P-E 20ed	721026460	
0414152D NLS ID: 854094										
COC: 167768:4 Matrix: SW										
Collected: 04/14/15 09:40 Received: 04/15/15										
Parameter										
Phosphorus, tot. as P										
Result	0.030	mg/L	1	0.0070*			04/22/15	SM 4500P-E 20ed	721026460	
	0.036	mg/L	1	0.0070*			04/22/15	SM 4500P-E 20ed	721026460	
0414153D NLS ID: 854095										
COC: 167768:4 Matrix: SW										
Collected: 04/14/15 09:40 Received: 04/15/15										
Parameter										
Phosphorus, tot. as P										
Result	0.030	mg/L	1	0.0070*			04/22/15	SM 4500P-E 20ed	721026460	
	0.036	mg/L	1	0.0070*			04/22/15	SM 4500P-E 20ed	721026460	
0414154D NLS ID: 854096										
COC: 167768:4 Matrix: SW										
Collected: 04/14/15 09:40 Received: 04/15/15										
Parameter										
Phosphorus, tot. as P										
Result	0.036	mg/L	1	0.0070*			04/22/15	SM 4500P-E 20ed	721026460	
	0.036	mg/L	1	0.0070*			04/22/15	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. WI000034
Printed: 04/29/15 Code: NNNN-S Page 3 of 3
NLS Project: 238669
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 and/or solids content.

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

MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:



Authorized by:
R. T. Krueger
President

Northern Lake Service, Inc.
Chlorophyll Results

Customer: Renewable World Energies
Project: 238669
Flam (4)

Sample	Description	CC a	Pheo a	TC a	TC b	TC c
854082	0414151A	2.7	0.19	2.9	0.23	0.49
854083	0414152A	2.8	0.19	3	0.13	0.55
854084	0414153A	0.86	0.69	1.3	0.16	0.28
854085	0414154A	4.8	0.29	5.1	0.3	0.84

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.

SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

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

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

CLIENT: RENEWABLE WORLD ENERGIES
 ADDRESS: 100 S STATE ST PO BOX 264
 CITY: MESKORO WI STATE: WI ZIP: 54960
 PROJECT DESCRIPTION / NO.: FLAMING QUOTATION NO.:
 DNR FID # _____ DNR LICENSE # _____
 CONTACT: GARY RAST PHONE: 855-994-9376
 PURCHASER / ORDER NO.: VERBAL FAX: 820-293-4100

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 _____

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

TRUE COLOR
 PHOS
 PHOS



NO. 167768

ITEM NO.	WIS. LAB. NO.	SAMPLE ID	COLLECTION DATE	TIME	MATRIX (See above)	COLLECTION REMARKS (i.e. DNR Well ID #)
1.	854082-085	0414151234A	4/14/15	8:00	RIVER WATER	
2.	086-089	0414151234B	11	8:07:24	"	X
3.	090-093	0414151234C	11	8:04:25	"	X
4.	094-096	0414152234D	4/14/15	9:10-9:30	"	X
5.						
6.						
7.						
8.						
9.						
10.						

COLLECTED BY (signature): [Signature] DATE/TIME: 4/14/15 8:00-1:30
 RELINQUISHED BY (signature): _____ DATE/TIME: _____
 DISPATCHED BY (signature): [Signature] DATE/TIME: 4/14/15 3:00pm
 RECEIVED BY (signature): _____ DATE/TIME: _____
 METHOD OF TRANSPORT: UPS
 RECEIVED BY (signature): _____ DATE/TIME: _____
 RECEIVED AT (signature): [Signature] DATE/TIME: 4-15-15 10:15 AM
 CONDITION: _____
 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
 S = sulfuric acid M = methanol H = hydrochloric acid

REPORT TO: SAME AS ABOVE
 INVOICE TO: ATTN GARY
1001 STEPHENSON ST
NORWAY MI 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.

Appendix B

July 7, 2015 Sampling Documents

IMPOUNDMENT SAMPLING LOG

2015 Water Quality Study - Flambeau Upper Hydroelectric Project - FERC #2640

CFS: 912 HwL: 1486.77 Date: 7/7/15

Pre-Sampling Data:

TWL: 1467.60

Time: 7:45 Barometer: 30.10 Air Temp: 10.6 °C Wind Speed: NW @ 5 MPH

Sky Conditions: OVERCAST

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: 60% Charge

Calibration Time: 3/11/2015 Method: Factory

Sampling Depth Profile: Measured Depth to Bottom of the Impoundment: 18.6 Feet

Secchi Disk Depth: (E0.1 Foot) 3.9 Feet Time: 8:00

Chlorophyll a (3 Feet Below Surface)

Lab Sample I.D.#: <u>150707-1A</u>		
Time	Quantity (ml)	Filtered
<u>8:10</u>	<u>1000</u>	<u>No</u>

True Color (3 Feet Below Surface)

Lab Sample I.D.#: <u>150707-1B</u>	
Time	Quantity (ml)
<u>8:13</u>	<u>250</u>

D.O. Sample Data

Depth	Time	D.O. (mg/l)	°C
.5 Ft Below Surface	<u>8:17</u>	<u>7.10</u>	<u>20.3</u>
3 Feet	<u>8:18</u>	<u>7.07</u>	<u>20.4</u>
6 Feet	<u>8:19</u>	<u>7.03</u>	<u>20.5</u>
9 Feet	<u>8:20</u>	<u>6.99</u>	<u>20.6</u>
12 Feet	<u>8:21</u>	<u>6.96</u>	<u>20.6</u>
15 Feet	<u>8:22</u>	<u>6.94</u>	<u>20.7</u>
18 Feet	<u>8:23</u>	<u>6.92</u>	<u>20.7</u>
21 Feet			
24 Feet			
.5 Ft Above Bottom	<u>8:25</u>	<u>6.91</u>	<u>20.7</u>

Phosphorus

Lab Sample I.D.#: <u>150707-1C</u>	
(3 Feet Below Surface)	
Time	Preserved?
<u>8:15</u>	<u>H2SO4</u>

Lab Sample I.D.#: _____	
(3 Feet Above Bottom)	
Time	Preserved?
_____	_____

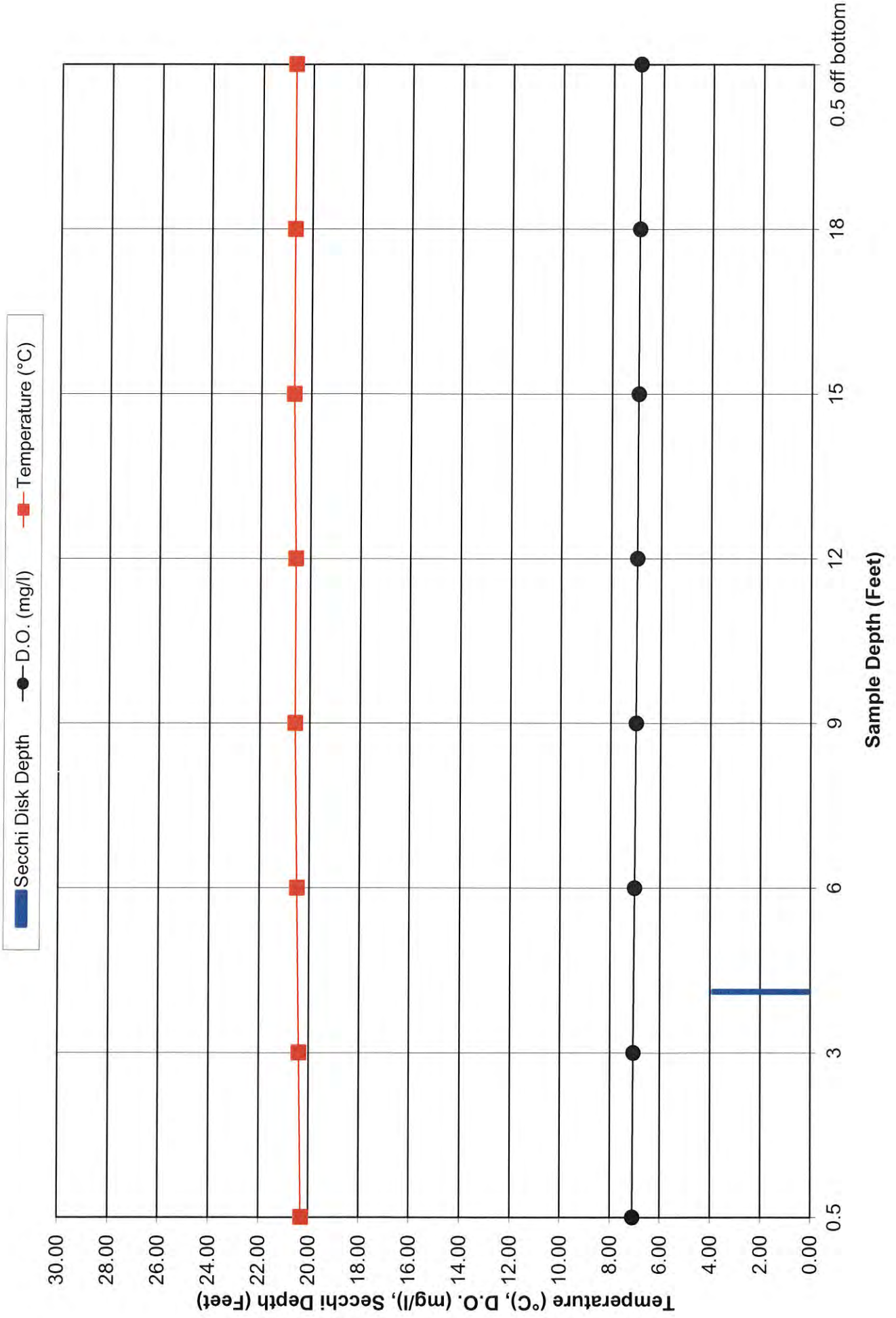
Sample Location: N45° 56.609' W90° 26.299'

Comments: _____

Performed By: GARY RAST + PAUL LEHMAN

Upper Impoundment - FERC # 2640

July 7, 2015 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. W100034

Printed: 07/31/15 Code: NNNN-S Page 1 of 3
 NLS Project: 243355
 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:	Flam (4)	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
150707-1A NLS ID: 869296									
COC: 179119:1 Matrix: SW									
Collected: 07/07/15 14:00 Received: 07/08/15									
Parameter	Chlorophyll, all species	see attached					07/29/15	10200-H	721026460
	Lab filtration for Chlorophyll	yes					07/10/15	NA	721026460
150707-2A NLS ID: 869297									
COC: 179119:1 Matrix: SW									
Collected: 07/07/15 14:00 Received: 07/08/15									
Parameter	Chlorophyll, all species	see attached					07/29/15	10200-H	721026460
	Lab filtration for Chlorophyll	yes					07/10/15	NA	721026460
150707-3A NLS ID: 869298									
COC: 179119:1 Matrix: SW									
Collected: 07/07/15 14:00 Received: 07/08/15									
Parameter	Chlorophyll, all species	see attached					07/29/15	10200-H	721026460
	Lab filtration for Chlorophyll	yes					07/10/15	NA	721026460
150707-4A NLS ID: 869299									
COC: 179119:2 Matrix: SW									
Collected: 07/07/15 14:00 Received: 07/08/15									
Parameter	Chlorophyll, all species	see attached					07/29/15	10200-H	721026460
	Lab filtration for Chlorophyll	yes					07/10/15	NA	721026460
150707-1B NLS ID: 869300									
COC: 179119:2 Matrix: SW									
Collected: 07/07/15 14:02 Received: 07/08/15									
Parameter	Color, APHA (true)	80	C.P.U.	2	10*		07/08/15	SM 2120-B 20ed	721026460
	Lab filtration	yes					07/08/15	NA	721026460
150707-2B NLS ID: 869301									
COC: 179119:2 Matrix: SW									
Collected: 07/07/15 14:02 Received: 07/08/15									
Parameter	Color, APHA (true)	80	C.P.U.	2	10*		07/08/15	SM 2120-B 20ed	721026460
	Lab filtration	yes					07/08/15	NA	721026460
150707-3B NLS ID: 869302									
COC: 179119:2 Matrix: SW									
Collected: 07/07/15 14:02 Received: 07/08/15									
Parameter	Color, APHA (true)	80	C.P.U.	2	10*		07/08/15	SM 2120-B 20ed	721026460
	Lab filtration	yes					07/08/15	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: 07/31/15 Code: NNNN-S Page 2 of 3
 NLS Project: 243355
 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: Flam (4)

150707-4B NLS ID: 869303

COC: 179119:3 Matrix: SW
 Collected: 07/07/15 14:02 Received: 07/08/15

Parameter

Color, APHA (true)
 Lab filtration

Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
80	C.P.U.	2	10*		07/08/15	SM 2120-B 20ed	721026460
yes					07/08/15	NA	721026460

150707-1C NLS ID: 869304

COC: 179119:3 Matrix: SW
 Collected: 07/07/15 14:04 Received: 07/08/15

Parameter

Phosphorus, tot. as P

Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
0.017	mg/L	1	0.0070*		07/09/15	4500-P E-1999	721026460

150707-2C NLS ID: 869305

COC: 179119:3 Matrix: SW
 Collected: 07/07/15 14:04 Received: 07/08/15

Parameter

Phosphorus, tot. as P

Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
0.026	mg/L	1	0.0070*		07/09/15	4500-P E-1999	721026460

150707-3C NLS ID: 869306

COC: 179119:3 Matrix: SW
 Collected: 07/07/15 14:04 Received: 07/08/15

Parameter

Phosphorus, tot. as P

Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
0.032	mg/L	1	0.0070*		07/09/15	4500-P E-1999	721026460

150707-4C NLS ID: 869307

COC: 179119:3 Matrix: SW
 Collected: 07/07/15 14:04 Received: 07/08/15

Parameter

Phosphorus, tot. as P

Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
0.032	mg/L	1	0.0070*		07/09/15	4500-P E-1999	721026460

150707-2D NLS ID: 869308

COC: 179119:5 Matrix: SW
 Collected: 07/07/15 14:05 Received: 07/08/15

Parameter

Phosphorus, tot. as P

Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
0.027	mg/L	1	0.0070*		07/09/15	4500-P E-1999	721026460

150707-3D NLS ID: 869309

COC: 179119:5 Matrix: SW
 Collected: 07/07/15 14:05 Received: 07/08/15

Parameter

Phosphorus, tot. as P

Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
0.031	mg/L	1	0.0070*		07/09/15	4500-P E-1999	721026460

150707-4D NLS ID: 869310

COC: 179119:5 Matrix: SW
 Collected: 07/07/15 14:05 Received: 07/08/15

Parameter

Phosphorus, tot. as P

Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
0.034	mg/L	1	0.0070*		07/09/15	4500-P E-1999	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: 07/31/15 Code: NNNN-S Page 3 of 3

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

NLS Project: 243355

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 and/or solids content.

LOD = Limit of Detection LOQ = Limit of Quantitation ND = Not Detected (< LOD) 1000 ug/L = 1 mg/L

DWB = Dry Weight Basis NA = Not Applicable %DWB = (mg/kg DWB) / 10000

MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:



Authorized by:
R. T. Krueger
President

Northern Lake Service, Inc.
Chlorophyll Results

Customer: Renewable World Energies
Project: 243355
Flam (4)

Sample	Description	CC a	Pheo a	TC a	TC b	TC c
869296	150707-1A	2.7	1.3	3.5	0.48	1.5
869297	150707-2A	3	1.6	4	0.28	0.78
869298	150707-3A	3.4	1.1	4.2	0.078	0.49
869299	150707-4A	3.7	1.2	4.6	0.22	0.35

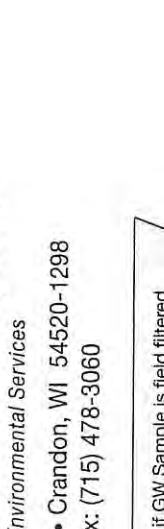
CC a = Corrected Chlorophyll a
Pheo a = Pheophytin a
TC a = Trichromatic Chlorophyll a
TC b = Trichromatic Chlorophyll b
TC c = Trichromatic Chlorophyll c
Units = ug/L for Water, ug/cm² for periphyton samplers

*: 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.

SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

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



NO. 179119

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

CLIENT: RENEWABLE WORLD ENTERPRISES
 ADDRESS: 100 STATE ST PO BOX 264
 CITY: NESHKOR STATE: WI ZIP: 54966
 PROJECT DESCRIPTION: HAZARDOUS WASTE QUOTATION NO. _____
 DNR FID # _____ DNR LICENSE # _____
 CONTACT: CARY RAST PHONE: 855-994-9376
 PURCHASE ORDER NO: VERBAL FAX: 920-293-4100

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

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 _____

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		PHOS	TRIF	
1.	8162916	150707-1-4A	7/7	8:10	RIVER WATER	X	X	
2.	8162916	150707-1-4B	7/7	8:13	RIVER WATER	X	X	
3.	816310	150707-1-4C	7/7	8:15	HA	X	X	
4.	150707-1-4D	150707-1-4D	7/7	8:15	HA	X	X	
5.	150707-2-4D	150707-2-4D	7/7	9:20	HA	X	X	
6.								
7.								
8.								
9.								
10.								

REPORT TO: SAME AS ABOVE
 INVOICE TO: ATTN: CARY
1001 STEPHENSONS PLEET
NORWAY, MI 49870

CUSTOMER SEAL NO. (IF ANY): 7/7/15 8:10-2:05
 RECEIVED BY (signature): [Signature] DATE/TIME: 7/7/15 8:00
 METHOD OF TRANSPORT: UPS
 DATE/TIME: 7-8-15 10:15 TEMP.: _____
 CONDITION: GOOD
 REMARKS & OTHER INFORMATION: _____

COLLECTED BY (signature): [Signature]
 RELINQUISHED BY (signature): [Signature]
 DISPLAYED BY (signature): [Signature]
 RECEIVED AT NLS BY (signature): [Signature]
 COOLER # _____
 PRESERVATIVE: N = nitric acid, OH = sodium hydroxide, Z = zinc acetate, HA = hydrochloric & ascorbic acid, M = methanol, H = hydrochloric acid, S = sulfuric acid
 WDNR FACILITY NUMBER _____ E-MAIL ADDRESS _____

IMPORTANT:
 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.

Appendix C

August 4, 2015 Sampling Documents

IMPOUNDMENT SAMPLING LOG

2015 Water Quality Study - Flambeau Upper Hydroelectric Project - FERC #2640

HWL - 1486.54
 TWL - 1467.6

Date: 8/11/15

Pre-Sampling Data:

666-CFS

Time: 8:00 Barometer: 29.94 Air Temp: 13.9 °C Wind Speed: NW 5 MPH

Sky Conditions: FAIR, CLEAR, + SUNSHINE

Precipitation within Last 24 Hours: NO

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

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

Battery Status: 75% Charge

Calibration Time: 3/11/2015 Method: Factory

Sampling Depth Profile: Measured Depth to Bottom of the Impoundment: 19.0 Feet

Secchi Disk Depth: (E0.1 Foot) 3.5 Feet Time: 8:05

Chlorophyll a (3 Feet Below Surface)

Lab Sample I.D.#: <u>080415-1A</u>		
Time	Quantity (ml)	Filtered
<u>8:10</u>	<u>1000</u>	<u>NO</u>

True Color (3 Feet Below Surface)

Lab Sample I.D.#: <u>080415-1B</u>	
Time	Quantity (ml)
<u>8:13</u>	<u>250</u>

D.O. Sample Data

Depth	Time	D.O. (mg/l)	°C
.5 Ft Below Surface	<u>8:20</u>	<u>7.79</u>	<u>20.7</u>
3 Feet	<u>8:21</u>	<u>7.62</u>	<u>21.2</u>
6 Feet	<u>8:22</u>	<u>7.55</u>	<u>21.3</u>
9 Feet	<u>8:23</u>	<u>7.50</u>	<u>21.5</u>
12 Feet	<u>8:24</u>	<u>7.47</u>	<u>21.6</u>
15 Feet	<u>8:25</u>	<u>7.46</u>	<u>21.6</u>
18 Feet	<u>8:26</u>	<u>7.44</u>	<u>21.7</u>
21 Feet	 	 	
24 Feet	 	 	
.5 Ft Above Bottom	<u>8:30</u>	<u>7.40</u>	<u>21.7</u>

Phosphorus

Lab Sample I.D.#: <u>080415-1C</u>	
(3 Feet Below Surface)	
Time	Preserved?
<u>8:15</u>	<u>H2SO4</u>

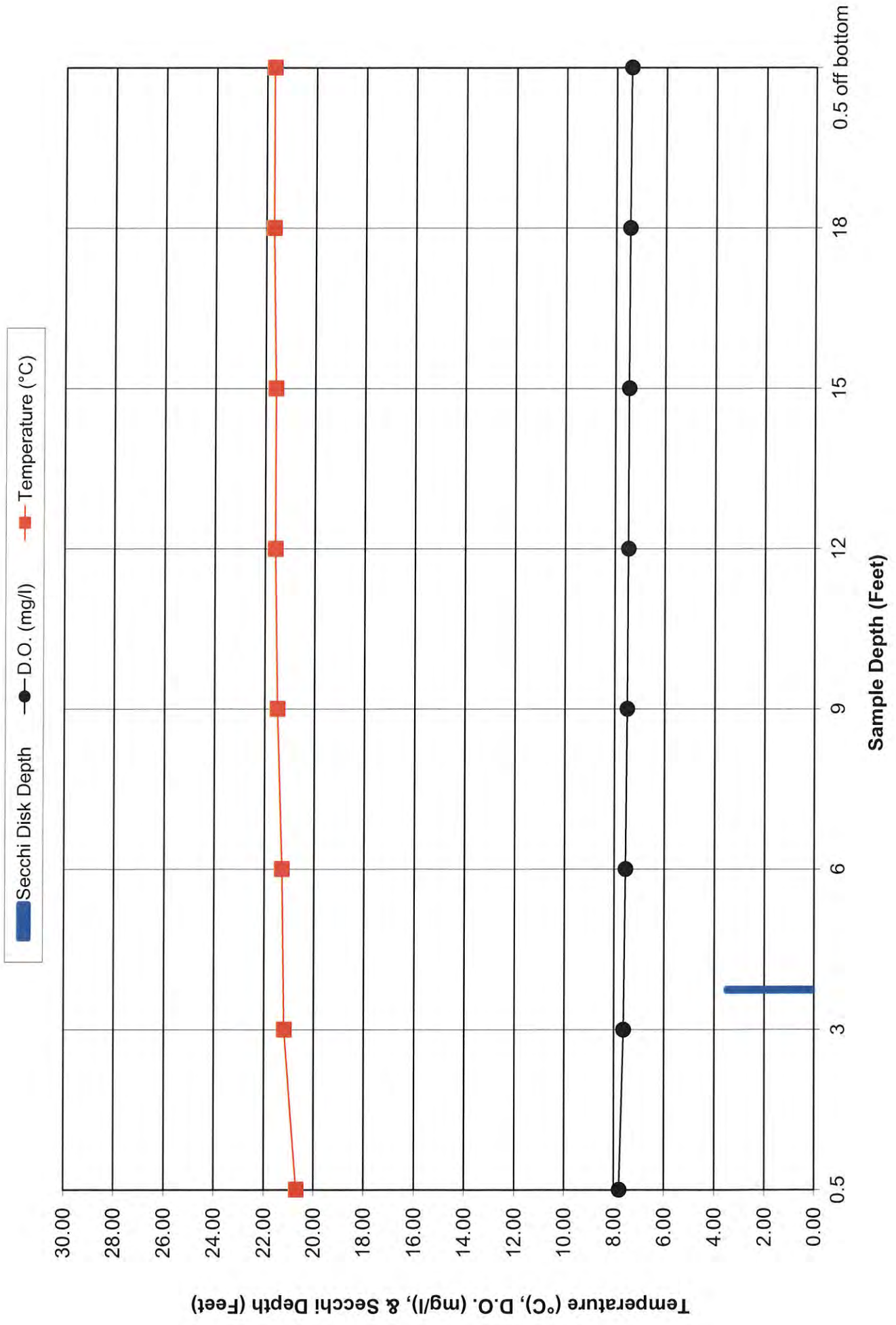
Lab Sample I.D.#: _____	
(3 Feet Above Bottom)	
Time	Preserved?
 	

Sample Location: N45° 56.609' W90° 26.299'

Comments: _____

Performed By: GARY RAST + BEN RICHARD

Upper Impoundment - FERC # 2640 August 4, 2015 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: 08/11/15 Code: NNNN-S Page 1 of 2

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

NLS Project: 245126
NLS Customer: 102823
 Phone: 855 994 9376

Project: Flambeau (4)

Project	Flambeau (4)	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
080415 1A NLS ID: 874899	COC: 185810:1 Matrix: SW Collected: 08/04/15 08:10 Received: 08/05/15	see attached yes					08/07/15 08/06/15	10200-H NA	721026460 721026460
080415 2A NLS ID: 874900	COC: 185810:1 Matrix: SW Collected: 08/04/15 08:10 Received: 08/05/15	see attached yes					08/07/15 08/06/15	10200-H NA	721026460 721026460
080415 3A NLS ID: 874901	COC: 185810:1 Matrix: SW Collected: 08/04/15 08:10 Received: 08/05/15	see attached yes					08/07/15 08/06/15	10200-H NA	721026460 721026460
080415 4A NLS ID: 874902	COC: 185810:1 Matrix: SW Collected: 08/04/15 08:10 Received: 08/05/15	see attached yes					08/07/15 08/06/15	10200-H NA	721026460 721026460
080415 1B NLS ID: 874903	COC: 185810:2 Matrix: SW Collected: 08/04/15 08:10 Received: 08/05/15	see attached yes					08/07/15 08/06/15	10200-H NA	721026460 721026460
080415 2B NLS ID: 874904	COC: 185810:2 Matrix: SW Collected: 08/04/15 08:10 Received: 08/05/15	70 yes	C.P.U.	1	5.0*		08/05/15 08/05/15	SM 2120-B 20ed NA	721026460 721026460
080415 3B NLS ID: 874905	COC: 185810:2 Matrix: SW Collected: 08/04/15 08:10 Received: 08/05/15	70 yes	C.P.U.	1	5.0*		08/05/15 08/05/15	SM 2120-B 20ed NA	721026460 721026460
080415 4B NLS ID: 874906	COC: 185810:2 Matrix: SW Collected: 08/04/15 08:10 Received: 08/05/15	60 yes	C.P.U.	1	5.0*		08/05/15 08/05/15	SM 2120-B 20ed NA	721026460 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: 08/11/15 Code: NNNN-S Page 2 of 2
 NLS Project: 245126
 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)

080415 4B NLS ID: 874906

COC: 185810:2 Matrix: SW

Collected: 08/04/15 08:10 Received: 08/05/15

Parameter

Color, APHA (true)

Lab filtration

Result
60
yes

Units
C.P.U.

Dilution
1

LOD
5.0*

LOQ

Analyzed
08/05/15
08/05/15

Method
SM 2120-B 20ed
NA

Lab
721026460
721026460

080415 1C NLS ID: 874907

COC: 185810:3 Matrix: SW

Collected: 08/04/15 08:10 Received: 08/05/15

Parameter

Phosphorus, tot. as P

Result
0.029

Units
mg/L

Dilution
1

LOD
0.0070*

LOQ

Analyzed
08/06/15

Method
4500-P E-1999

Lab
721026460

080415 2C NLS ID: 874908

COC: 185810:3 Matrix: SW

Collected: 08/04/15 08:10 Received: 08/05/15

Parameter

Phosphorus, tot. as P

Result
0.031

Units
mg/L

Dilution
1

LOD
0.0070*

LOQ

Analyzed
08/06/15

Method
4500-P E-1999

Lab
721026460

080415 3C NLS ID: 874909

COC: 185810:3 Matrix: SW

Collected: 08/04/15 08:10 Received: 08/05/15

Parameter

Phosphorus, tot. as P

Result
0.037

Units
mg/L

Dilution
1

LOD
0.0070*

LOQ

Analyzed
08/06/15

Method
4500-P E-1999

Lab
721026460

080415 4C NLS ID: 874910

COC: 185810:3 Matrix: SW

Collected: 08/04/15 08:10 Received: 08/05/15

Parameter

Phosphorus, tot. as P

Result
0.039

Units
mg/L

Dilution
1

LOD
0.0070*

LOQ

Analyzed
08/06/15

Method
4500-P E-1999

Lab
721026460

080415 3D NLS ID: 874911

COC: 185810:4 Matrix: SW

Collected: 08/04/15 08:10 Received: 08/05/15

Parameter

Phosphorus, tot. as P

Result
0.031

Units
mg/L

Dilution
1

LOD
0.0070*

LOQ

Analyzed
08/06/15

Method
4500-P E-1999

Lab
721026460

080415 4D NLS ID: 874912

COC: 185810:4 Matrix: SW

Collected: 08/04/15 08:10 Received: 08/05/15

Parameter

Phosphorus, tot. as P

Result
0.030

Units
mg/L

Dilution
1

LOD
0.0070*

LOQ

Analyzed
08/06/15


Method
4500-P E-1999

Lab
721026460

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

LOD = Limit of Detection
 DWB = Dry Weight Basis
 MCL = Maximum Contaminant Levels for Drinking Water Samples

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

Reviewed by: 
 R. T. Krueger
 President

Authorized by:
 R. T. Krueger
 President

Northern Lake Service, Inc.
Chlorophyll Results

Customer: Renewable World Energies
Project: 245126
Flambeau (4)

Sample	Description	CC a	Pheo a	TC a	TC b	TC c
874899	080415 1A	16	0.0*	16	0.0*	1.1
874900	080415 2A	14	0.0*	14	0.0*	1
874901	080415 3A	20	0.0*	20	0.0*	1.3
874902	080415 4A	17	0.0*	17	0.0*	1.2

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
 TATP 105-000330

CLIENT: RENEWABLE WOOD ENERGY
 ADDRESS: 1005 STATE ST PO BOX 264
 CITY: NESHKORO STATE: WI QUOTATION NO.: 54960
 PROJECT DESCRIPTION: FLAMBEAU CH
 DNR FID #: _____ DNR LICENSE #: _____
 CONTACT: GARY PHONE: 855-994-9326
 PURCHASE ORDER NO.: _____ FAX: 920-293-4100

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

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



NO. 185810

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			
1	1874899	0804151-4A	8/14/15	8:10	PLUVIAL WATER	PHOS	
2		1-4B				PHOS	
3		1-4C				PHOS	
4		2-4D		1:15			
5							
6							
7							
8	912						
9							
10							

REPORT TO: SAME ABOVE
 INVOICE TO: ATTN: GARY
1001 STEPAERSON STREET
NORWAY MI 49870

DATE/TIME: 8/4/15 8:10-1:15
 CUSTODY SEAL NO. (IF ANY): _____
 RECEIVED BY (signature): [Signature]
 METHOD OF TRANSPORT: ULPS
 DATE/TIME: 8/4/15 3:00
 DATE/TIME: 8-5-15 10:15
 CONDITION: CH10
 TEMP.: _____
 REMARKS & OTHER INFORMATION: _____
 WDNR FACILITY NUMBER: _____ E-MAIL ADDRESS: _____
 COOLER #: _____
 PRESERVATIVE: _____
 NP = no preservative
 S = sulfuric acid
 N = nitric acid
 Z = zinc acetate
 M = methanol
 OH = sodium hydroxide
 HA = hydrochloric & ascorbic acid
 H = hydrochloric acid

IMPORTANT:
 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.

Appendix D

Agency Correspondence



October 6, 2015

Mr. Nick Utrup
U.S. Fish and Wildlife Service
WI/MN 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 2015 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 2015 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. 2015 marked the twelfth year of water quality sampling. 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 2015 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

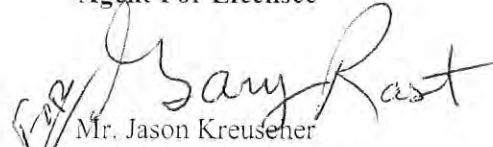
Corporate Office
P.O. Box 264
100 S. State Street
Neshkoro, WI 54960
Fax: 920-293-4100

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 Kreuzener
Vice President, Operations

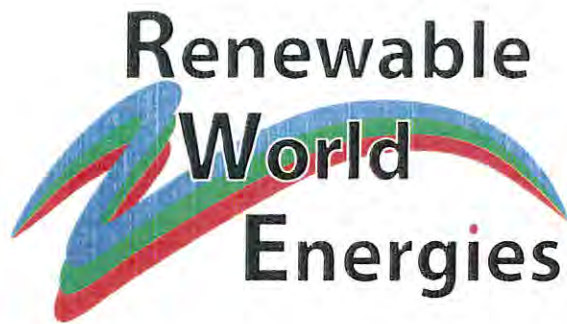
Attachments: Draft Report 2015 Water Quality Monitoring Data Flambeau Upper Hydroelectric Project
– October 5, 2015

Draft Report 2015 Water Quality Monitoring Data Flambeau Lower Hydroelectric
Project – October 5, 2015

Draft Report 2015 Water Quality Monitoring Data Flambeau Pixley Hydroelectric
Project – October 6, 2015

Draft Report 2015 Water Quality Monitoring Data Flambeau Crowley Hydroelectric
Project – October 6, 2015

Cc: RWE, Corporate



January 4, 2016

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 2015 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 2015 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. 2015 was the twelfth year monitoring was conducted since the license was issued, but is the 4th year of submittal by RWE on the behalf of the Licensee. Monitoring was conducted on April 14, July 7, and August 4, 2015. No issues were encountered during the 2015 monitoring season. All data has been entered into the SWIMS Data Base. The draft report was sent to the agencies by letter dated October 6, 2015 for review and comment. No comments have been received as of the date of this letter. The next scheduled monitoring event will be conducted in 2016.

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.

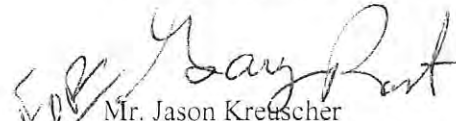
Corporate Office
P.O. Box 264
100 S. State Street
Neshkoro, WI 54960
Fax: 920-293-4100

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 Kreischer
Vice President, Operations

Attachments: Flambeau Upper Final Rpt 2015 W Q Mon Data – Dec. 23, 2015
Flambeau Lower Final Rpt 2015 W Q Mon Data – Dec. 23, 2015
Flambeau Pixley Final Rpt 2015 W Q Mon Data – Dec. 23, 2015
Flambeau Crowley Final Rpt 2015 W Q Mon Data – Dec.23, 2015

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

Final Report

2015 Water Quality Monitoring Data

For the

Flambeau (Lower) Hydroelectric Project
FERC Project #2421
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 23, 2015

Table of Contents

I.	Summary	3
II.	2015 Sampling Results Table	5
III.	2015 Temperature and Dissolved Oxygen Sampling Event Graphs	6
IV.	2015 Monthly Temperature and Precipitation Table	7
V.	2015 Flambeau Lower Sampling Comparison Table	8
VI.	Sampling Location Map.....	9
	APPENDIX A - April 14, 2015 Ice-Out Sampling Documents.....	10
	APPENDIX B - July 7, 2015 Sampling Documents.....	11
	APPENDIX C - August 4, 2015 Sampling Documents.....	12
	APPENDIX D - Agency Correspondence.....	13

Summary

2015 marked the twelfth year of water quality sampling under the FERC approved “Water Quality Monitoring Plan Per License Article 406 for the Flambeau (Lower) Hydroelectric Project – FERC Project # 2421 – 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 5th, 2015. The Ice-Out sampling event occurred on April 14, 2015. River flow, based on the Flambeau (Lower) Hydroelectric Project records, was approximately 485 cubic feet per second. Sampling occurred between 9:30 a.m. and 9:52 a.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 April 15, 2015. Northern Lake Service, Inc. issued a laboratory report on April 29, 2015. No unusual levels of Chlorophyll a and True Color were noted in the laboratory reports; however, Total Phosphorus was somewhat elevated from previous years.

River flow, based on Flambeau (Lower) Hydroelectric Project records, was approximately 828 cubic feet per second during the July 7, 2015 sampling event. Sampling occurred between 9:00 a.m. and 9:25 a.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 8, 2015. Northern Lake Service, Inc. issued a laboratory report on July 31, 2015. No unusual levels of Chlorophyll a, True Color, or Total Phosphorus were noted in the laboratory reports.

River flow, based on Flambeau (Lower) Hydroelectric Project records, was approximately 677 cubic feet per second during the August 4, 2015 sampling event. Sampling occurred between 9:25 a.m. and 9:48 a.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 5, 2015. Northern Lake Service, Inc. issued a laboratory report on August 11, 2015. No unusual levels of Chlorophyll a, True Color, or Total Phosphorus were noted in the laboratory reports. No data was supplied for the Bottom Phosphorus sample. The reason is that no sample bottle was supplied for the sampling event.

In general, the weather (temperature and rainfall) during the 2015 monitoring season appeared slightly warmer in April, May, June, July, & August, with lower than normal precipitation in the months of April, June, July, and higher than normal precipitation in May and August. **(Refer to 2015 Monthly Temp and Precipitation Table page 7)**

A summary of a comparison between the 2011 thru 2015 **(Refer to 2015 Flambeau Lower Project Sampling Comparison Table 2011-2015 page 8)** sampling results are as follows:

1. Water Clarity – S Increased I Out, Ave July, & Increased Aug
2. Chlorophyll a – Increased I Out, July, & Aug
3. Color – Ave I Out, S Decreased July, decreased Aug
4. Total Phosphorus – Increased I Out, Decreased July & Aug
5. Overall, D.O. – Decreased I Out, S Increased July & Aug

6. Water Temperatures – Decreased I Out, July, & Ave/S Increased Aug

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 Lower Hydroelectric Project is set to take place in 2016 beginning with the Ice-Out sampling event.

**2015
Sampling Results
Table**

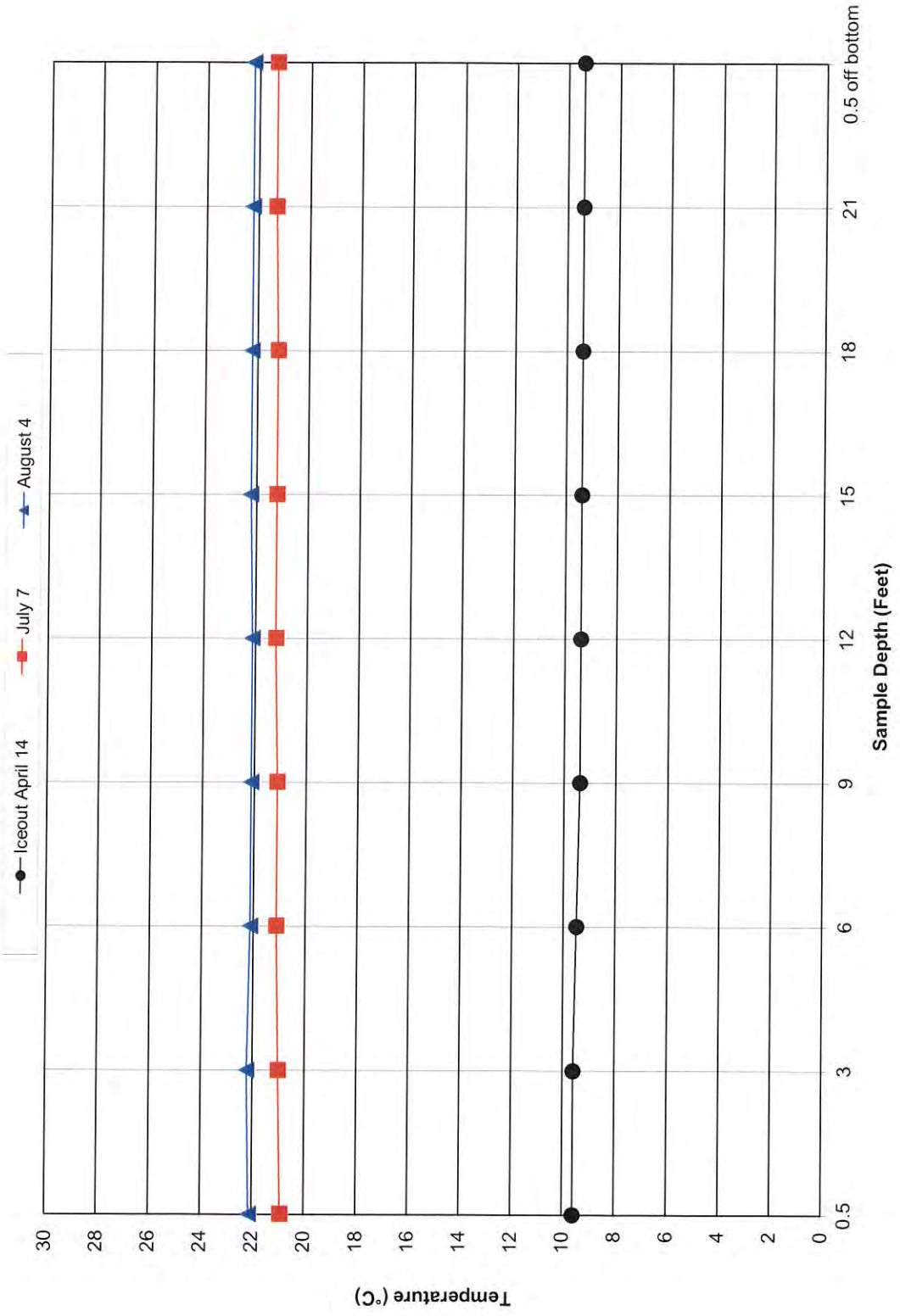
Flambeau (Lower) Hydroelectric Project - FERC Project # 2421 2015 Water Quality Sampling Data

	Ice out April 14, 2015	July 7, 2015	August 4, 2015																																																																																										
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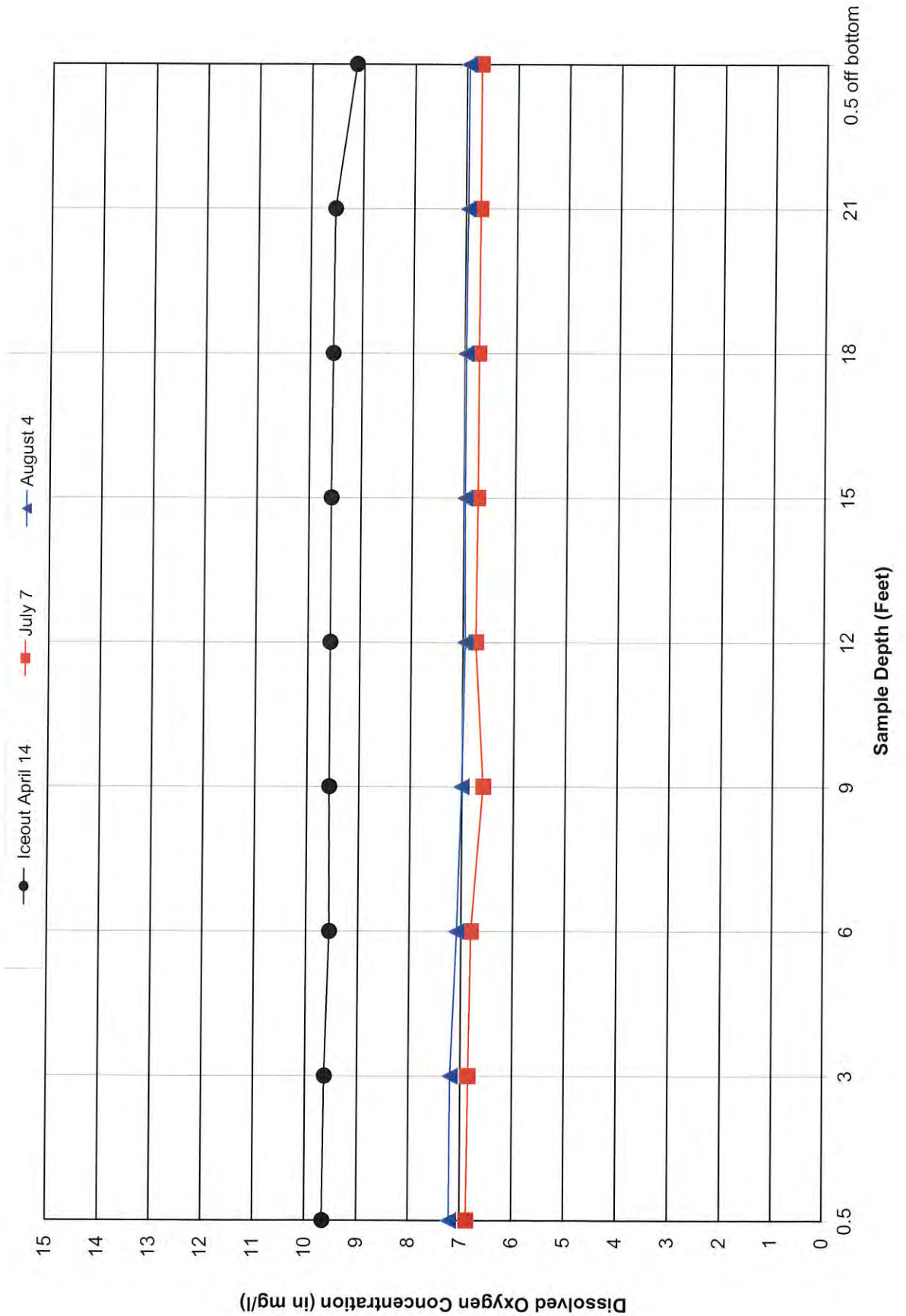
No Sample - No Bottle Supplied
* Considered Reporting Limits

2015
Temperature/Dissolved Oxygen
Graphs

Lower Impoundment - FERC # 2421 2015 Temperature Samples



Lower Impoundment - FERC # 2421 2015 Dissolved Oxygen Samples



2015
Monthly Temperature/Precipitation
Table

2015 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-14	69.0	23.0	44.8	1.6	622	678	1.80	0.10	2.85	63%
November-14	51.0	-9.0	21.8	-7.0	1289	1080	0.98	16.40	2.09	47%
December-14	43.0	-10.0	21.5	6.7	1341	1556	1.26	8.60	1.21	104%
January-15	12.7	-18.0	40.0	2.5	1616	1699	0.46	6.60	0.96	48%
February-15	27.0	-19.0	5.2	-9.9	1667	1399	0.38	8.20	0.81	47%
March-15	64.0	-14.0	30.6	4.7	1059	1210	0.79	8.10	1.49	53%
April-15	76.0	22.0	42.2	2.6	675	762	1.03	1.20	2.43	42%
May-15	83.0	32.0	51.7	0.3	409	426	3.73	T	3.23	115%
June-15	84.0	36.0	61.4	1.3	121	179	3.64	T	4.23	86%
July-15	89.0	48.0	69.2	3.4	15	63	3.01	0.00	3.85	78%
August-15	93.0	42.0	65.3	1.0	81	86	4.09	0.00	3.70	111%
September-15	85.0	34.0	61.5	5.9	149	298	6.81	0.00	4.11	166%

Source: NOAA/Duluth, MN

**2015
Flambeau Lower
Sampling Comparison Table
2011—2015**

**Lower Impoundment
Sampling Location
Map**

Appendix A

April 14, 2015 Ice-Out Sampling Documents

IMPOUNDMENT SAMPLING LOG

2015 Water Quality Study - Flambeau Lower Hydroelectric Project - FERC #2421

HWL - 1467.2

Date: 4/14/15

Pre-Sampling Data: TWL - 1448.4 CFS - 485

Time: 9:30 Barometer: 30.24 Air Temp: 10.5 °C Wind Speed: SW 7 MPH

Sky Conditions: BRIGHT SUN, FAIR, + CLEAR

Precipitation within Last 24 Hours: NO

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

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

Battery Status: 100% Charge

Calibration Time: 3/11/2015 Method: Factory

Sampling Depth Profile: Measured Depth to Bottom of the Impoundment: 21.7 Feet

Secchi Disk Depth: (E0.1 Foot) 3.3 Feet Time: 9:35

Chlorophyll a (3 Feet Below Surface)

Lab Sample I.D.#: <u>0414152A</u>		
Time	Quantity (ml)	Filtered
<u>9:37</u>	<u>1000</u>	<u>NO</u>

True Color (3 Feet Below Surface)

Lab Sample I.D.#: <u>0414152A</u>	
Time	Quantity (ml)
<u>9:38</u>	<u>250</u>

D.O. Sample Data

Depth	Time	D.O. (mg/l)	°C
.5 Ft Below Surface	<u>9:42</u>	<u>9.66</u>	<u>9.6</u>
3 Feet	<u>9:43</u>	<u>9.63</u>	<u>9.6</u>
6 Feet	<u>9:44</u>	<u>9.55</u>	<u>9.5</u>
9 Feet	<u>9:45</u>	<u>9.57</u>	<u>9.4</u>
12 Feet	<u>9:46</u>	<u>9.57</u>	<u>9.4</u>
15 Feet	<u>9:47</u>	<u>9.57</u>	<u>9.4</u>
18 Feet	<u>9:48</u>	<u>9.55</u>	<u>9.4</u>
21 Feet	<u>9:50</u>	<u>9.53</u>	<u>9.4</u>
24 Feet			
.5 Ft Above Bottom	<u>9:52</u>	<u>9.14</u>	<u>9.4</u>

Phosphorus

Lab Sample I.D.#: <u>0414152C</u>	
(3 Feet Below Surface)	
Time	Preserved?
<u>9:39</u>	<u>H2SO4</u>

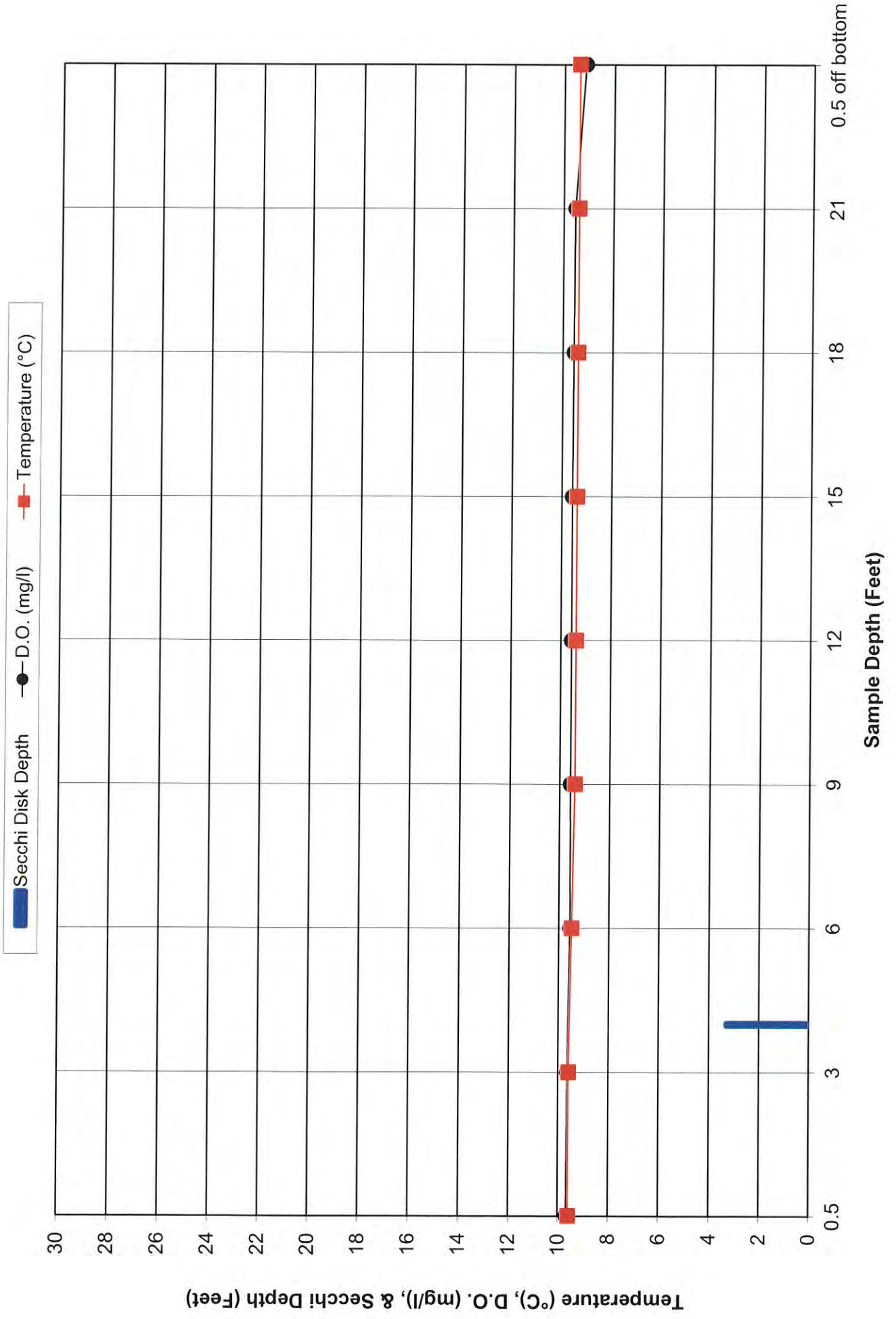
Lab Sample I.D.#: <u>0414152D</u>	
(3 Feet Above Bottom)	
Time	Preserved?
<u>9:40</u>	<u>H2SO4</u>

Sample Location: N45° 54.828' W90° 26.822'

Comments: _____

Performed By: GARY RAST + PAUL LEHMAN

Lower Impoundment - FERC # 2421 April 14, 2015 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

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: 04/29/15 Code: NNNN-S Page 3 of 3
NLS Project: 238669
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 and/or solids content.

LOD = Limit of Detection LOQ = Not Detected (< LOD) 1000 ug/L = 1 mg/L
DWB = Dry Weight Basis %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: 238669
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>
854082	0414151A	2.7	0.19	2.9	0.23	0.49
854083	0414152A	2.8	0.19	3	0.13	0.55
854084	0414153A	0.86	0.69	1.3	0.16	0.28
854085	0414154A	4.8	0.29	5.1	0.3	0.84

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.

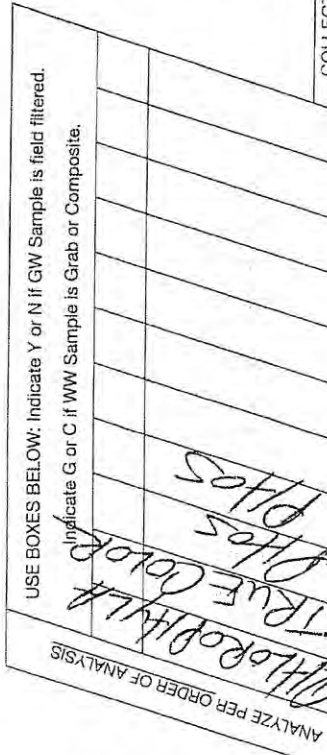
SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

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

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

CLIENT: RENEWABLE WORLD ENERGIES
 ADDRESS: 1005 STATE ST PO BOX 264
 CITY: MESAKORO WI STATE: WI ZIP: 54960
 PROJECT DESCRIPTION / NO.: FLANGES QUOTATION NO.:
 DNR FID # _____ DNR LICENSE # _____
 CONTACT: GARY RAST PHONE: 855-994-9376
 PURCHASE ORDER NO.: VERBAL FAX: 820-293-4108



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

ITEM NO.	WIS LABELING	SAMPLE ID	DATE	COLLECTION TIME	MATRIX (See above)	ANALYZE PER ORDER OF ANALYSIS	COLLECTION REMARKS (i.e. DNR Well ID #)
1	854082-085	0414151234A	4/14/15	8:00	RIVER WATER	X Chlorophyll a X pH X TRUE COLOR	
2	086-089	0414151234B	"	8:07	"	X	
3	090-093	0414151234C	"	8:07	"	X	
4	094-096	0414152340	4/14/15	9:40	"	X	
5.							
6.							
7.							
8.							
9.							
10.							



NO. 167768

REPORT TO: SAME AS ABOVE
 ATTN: GARY
 INVOICE TO: RWE
1001 STEPHENSON ST
NORWAY MI 49870

CUSTOMER SEAL NO. (IF ANY): 4/14/15 8:00 - 1:30
 RECEIVED BY (signature): [Signature]
 METHOD OF TRANSPORT: UPS
 DATE/TIME: 4/14/15 3:00 PM
 DATE/TIME: 4-15-15 10:15 AM
 CONDITION: ON ICE
 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
 S = sulfuric acid M = methanol H = hydrochloric acid

IMPORTANT:
 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.

Appendix B

July 7, 2015 Sampling Documents

IMPOUNDMENT SAMPLING LOG

2015 Water Quality Study - Flambeau Lower Hydroelectric Project - FERC #2421

CFS = 828

HWL = 1467.22 Date: 7/7/15
TWL = 1448.70

Pre-Sampling Data:

Time: 9:00 Barometer: 30.10 Air Temp: 12.2 °C Wind Speed: N @ 8 MPH

Sky Conditions: MOSTLY CLOUDY

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: 60% Charge

Calibration Time: 3/11/2015 Method: Factory

Sampling Depth Profile: Measured Depth to Bottom of the Impoundment: 21.5 Feet

Secchi Disk Depth: (E0.1 Foot) 3.5 Feet Time: 9:10

Chlorophyll a (3 Feet Below Surface)

Lab Sample I.D.#: 150707-2A		
Time	Quantity (ml)	Filtered
9:20	1000	NO

True Color (3 Feet Below Surface)

Lab Sample I.D.#: 150707-2B	
Time	Quantity (ml)
9:22	250

D.O. Sample Data

Depth	Time	D.O. (mg/l)	°C
.5 Ft Below Surface	9:11	6.88	20.9
3 Feet	9:12	6.85	21.0
6 Feet	9:13	6.81	21.1
9 Feet	9:14	6.59	21.1
12 Feet	9:15	6.75	21.2
15 Feet	9:16	6.73	21.2
18 Feet	9:17	6.73	21.2
21 Feet	9:18	6.72	21.3
24 Feet			
.5 Ft Above Bottom	9:19	6.72	21.3

Phosphorus

Lab Sample I.D.#: 150707-2C	
(3 Feet Below Surface)	
Time	Preserved?
9:23	H2SO4

Lab Sample I.D.#: 150707-2D	
(3 Feet Above Bottom)	
Time	Preserved?
9:25	H2SO4

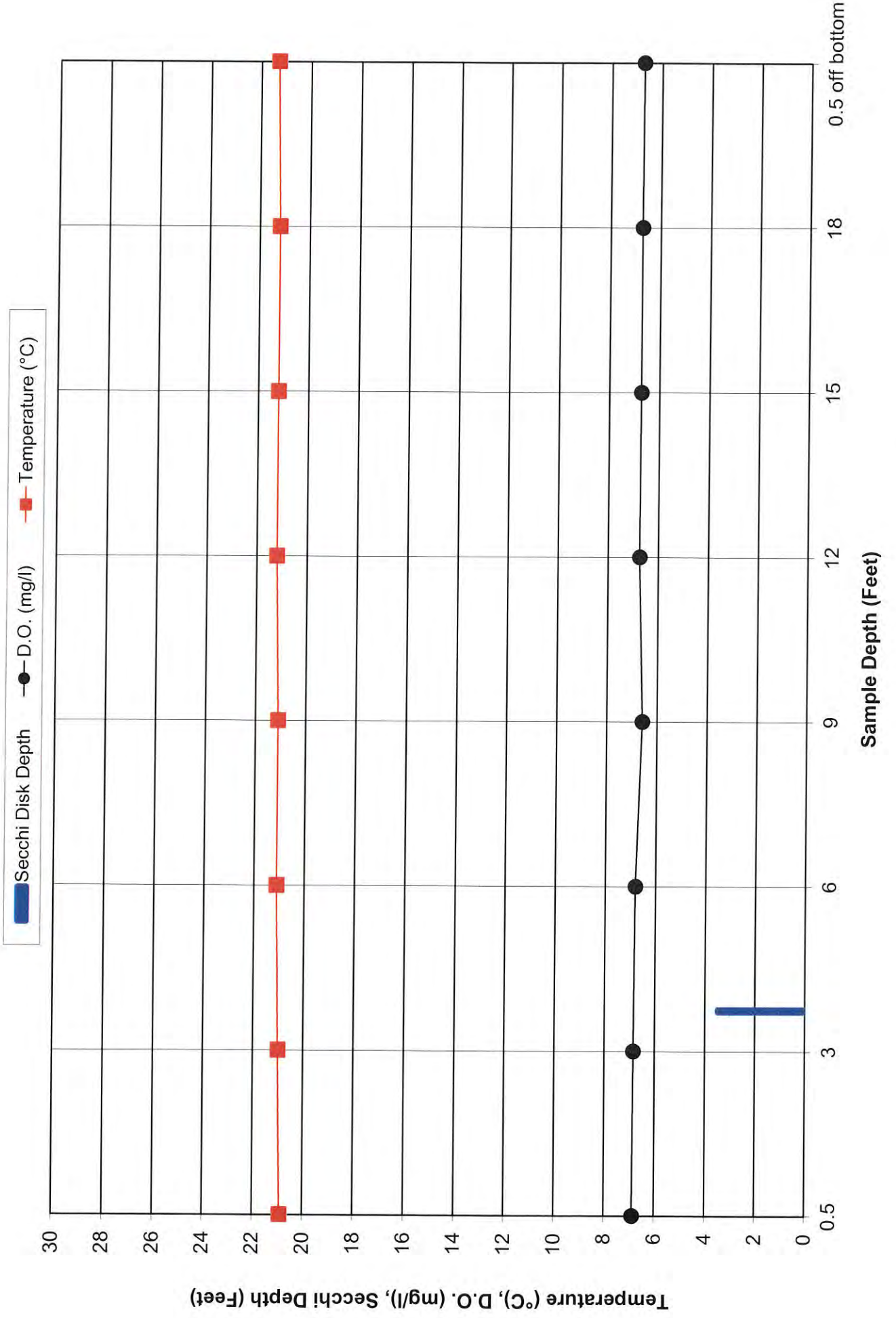
Sample Location: N45° 54.828' W90° 26.822'

Comments: _____

Performed By: GARY RAST & PAUL LEHMAN

Lower Impoundment - FERC # 2421

July 7, 2015 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: 07/31/15 Code: NNNN-S Page 1 of 3

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

NLS Project: 243355
NLS Customer: 102823
 Phone: 855 994 9376

Project:	Flam (4)	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
150707-1A NLS ID: 869296									
COC: 179119:1 Matrix: SW									
Collected: 07/07/15 14:00 Received: 07/08/15									
Parameter									
Chlorophyll, all species									
Lab filtration for Chlorophyll									
150707-2A NLS ID: 869297									
COC: 179119:1 Matrix: SW									
Collected: 07/07/15 14:00 Received: 07/08/15									
Parameter									
Chlorophyll, all species									
Lab filtration for Chlorophyll									
150707-3A NLS ID: 869298									
COC: 179119:1 Matrix: SW									
Collected: 07/07/15 14:00 Received: 07/08/15									
Parameter									
Chlorophyll, all species									
Lab filtration for Chlorophyll									
150707-4A NLS ID: 869299									
COC: 179119:2 Matrix: SW									
Collected: 07/07/15 14:00 Received: 07/08/15									
Parameter									
Chlorophyll, all species									
Lab filtration for Chlorophyll									
150707-1B NLS ID: 869300									
COC: 179119:2 Matrix: SW									
Collected: 07/07/15 14:02 Received: 07/08/15									
Parameter									
Color, APHA (true)									
Lab filtration									
150707-2B NLS ID: 869301									
COC: 179119:2 Matrix: SW									
Collected: 07/07/15 14:02 Received: 07/08/15									
Parameter									
Color, APHA (true)									
Lab filtration									
150707-3B NLS ID: 869302									
COC: 179119:2 Matrix: SW									
Collected: 07/07/15 14:02 Received: 07/08/15									
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: 07/31/15 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: 243355
NLS Customer: 102823
 Phone: 855 994 9376

Project	Flam (4)	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
150707-4B NLS ID: 869303									
COC: 179119:3 Matrix: SW									
Collected: 07/07/15 14:02 Received: 07/08/15									
Parameter									
Color, APHA (true)	80	C.P.U.	2	10*			07/08/15	SM 2120-B 20ed	721026460
Lab filtration	yes						07/08/15	NA	721026460
150707-1C NLS ID: 869304									
COC: 179119:3 Matrix: SW									
Collected: 07/07/15 14:04 Received: 07/08/15									
Parameter									
Phosphorus, tot. as P	0.017	mg/L	1	0.0070*			07/09/15	4500-P E-1999	721026460
150707-2C NLS ID: 869305									
COC: 179119:3 Matrix: SW									
Collected: 07/07/15 14:04 Received: 07/08/15									
Parameter									
Phosphorus, tot. as P	0.026	mg/L	1	0.0070*			07/09/15	4500-P E-1999	721026460
150707-3C NLS ID: 869306									
COC: 179119:3 Matrix: SW									
Collected: 07/07/15 14:04 Received: 07/08/15									
Parameter									
Phosphorus, tot. as P	0.032	mg/L	1	0.0070*			07/09/15	4500-P E-1999	721026460
150707-4C NLS ID: 869307									
COC: 179119:3 Matrix: SW									
Collected: 07/07/15 14:04 Received: 07/08/15									
Parameter									
Phosphorus, tot. as P	0.032	mg/L	1	0.0070*			07/09/15	4500-P E-1999	721026460
150707-2D NLS ID: 869308									
COC: 179119:5 Matrix: SW									
Collected: 07/07/15 14:05 Received: 07/08/15									
Parameter									
Phosphorus, tot. as P	0.027	mg/L	1	0.0070*			07/09/15	4500-P E-1999	721026460
150707-3D NLS ID: 869309									
COC: 179119:5 Matrix: SW									
Collected: 07/07/15 14:05 Received: 07/08/15									
Parameter									
Phosphorus, tot. as P	0.031	mg/L	1	0.0070*			07/09/15	4500-P E-1999	721026460
150707-4D NLS ID: 869310									
COC: 179119:5 Matrix: SW									
Collected: 07/07/15 14:05 Received: 07/08/15									
Parameter									
Phosphorus, tot. as P	0.034	mg/L	1	0.0070*			07/09/15	4500-P E-1999	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: 07/31/15 Code: NNNN-S Page 3 of 3

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

NLS Project: 243355

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 and/or solids content.

LOD = Limit of Detection LOQ = Limit of Quantitation ND = Not Detected (< LOD) 1000 ug/L = 1 mg/L

DWB = Dry Weight Basis NA = Not Applicable %DWB = (mg/kg DWB) / 10000

MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:



Authorized by:
R. T. Krueger
President

Northern Lake Service, Inc.
Chlorophyll Results

Customer: Renewable World Energies
Project: 243355
Flam (4)

Sample	Description	CC a	Pheo a	TC a	TC b	TC c
869296	150707-1A	2.7	1.3	3.5	0.48	1.5
869297	150707-2A	3	1.6	4	0.28	0.78
869298	150707-3A	3.4	1.1	4.2	0.078	0.49
869299	150707-4A	3.7	1.2	4.6	0.22	0.35

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
 WI DATCP 105-000330

CLIENT: RENEWABLE WORLD ENERGIES
 ADDRESS: 100 STATE ST PO BOX 264
 CITY: NESHOR STATE: WI ZIP: 54966
 PROJECT DESCRIPTION NO.: PHOS QUOTATION NO.: PHOS
 DNR FID #: _____ DNR LICENSE #: _____
 CONTACT: CARY RAST PHONE: 855-994-9376
 PURCHASE ORDER NO.: VERBAL FAX: 920-293-4100

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

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.	MIS. LAB. NO.	SAMPLE ID	COLLECTION		MATRIX (See above)	ANALYZE PER ORDER OF ANALYSIS										COLLECTION REMARKS (i.e. DNR Well ID #)	
			DATE	TIME		1	2	3	4	5	6	7	8	9	10		
1.	896296	150707-1-4A	7/7	8:10	WATER	X	X	X	X	X	X	X	X	X	X	X	
2.	↓	150707-1-4B	7/7	8:13	WATER	X	X	X	X	X	X	X	X	X	X	X	
3.	896310	150707-1-4C	7/7	8:15	WATER	X	X	X	X	X	X	X	X	X	X	X	
4.	150707-1-4D	150707-1-4B	7/7	8:15	WATER	X	X	X	X	X	X	X	X	X	X	X	
5.	150707-2-1D	150707-2-1D	7/7	9:20	WATER	X	X	X	X	X	X	X	X	X	X	X	
6.																	
7.																	
8.																	
9.																	
10.																	



NO. 179119

COLLECTED BY (signature): [Signature] DATE/TIME: 7/7/15 8:10-8:05
 RELINQUISHED BY (signature): [Signature] DATE/TIME: _____
 DISPATCHED BY (signature): [Signature] DATE/TIME: 7/7/15 3:00
 RECEIVED AT NLS BY (signature): [Signature] DATE/TIME: 7-8-15 10:15 TEMP.: _____
 RECEIVED BY (signature): _____ DATE/TIME: _____
 METHOD OF TRANSPORT: UPS CONDITION: GOOD
 REMARKS & OTHER INFORMATION: _____
 WDNR FACILITY NUMBER: _____ E-MAIL ADDRESS: _____

REPORT TO: SAME AS ABOVE
 INVOICE TO: ATTN CARY
1001 STEPHENSONS STREET
NORWAY, MI 49870

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

IMPORTANT!
 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.

Appendix C

August 4, 2015 Sampling Documents

IMPOUNDMENT SAMPLING LOG

2015 Water Quality Study - Flambeau Lower Hydroelectric Project - FERC #2421
 HWL - 1467.32 Date: 8/4/15
 TWL - 1448.6 677 CFS

Pre-Sampling Data:

Time: 9:25 Barometer: 29.98 Air Temp: 17.2 °C Wind Speed: W 6 MPH

Sky Conditions: FAIR, CLEAR, + SUNSHINE

Precipitation within Last 24 Hours: NO

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

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

Battery Status: 75% Charge

Calibration Time: 3/11/2015 Method: Factory

Sampling Depth Profile: Measured Depth to Bottom of the Impoundment: 21.5 Feet

Secchi Disk Depth: (E0.1 Foot) 4.0 Feet Time: 9:35

Chlorophyll a (3 Feet Below Surface)

Lab Sample I.D.#: 080415-2A		
Time	Quantity (ml)	Filtered
9:30	1000	NO

True Color (3 Feet Below Surface)

Lab Sample I.D.#: 080415-2B	
Time	Quantity (ml)
9:32	250

D.O. Sample Data

Depth	Time	D.O. (mg/l)	°C
.5 Ft Below Surface	9:40	7.21	22.1
3 Feet	9:41	7.2	22.2
6 Feet	9:42	7.09	22.1
9 Feet	9:43	7.01	22.1
12 Feet	9:44	6.96	22.1
15 Feet	9:45	6.98	22.2
18 Feet	9:46	6.98	22.2
21 Feet	9:47	6.96	22.2
24 Feet			
.5 Ft Above Bottom	9:48	6.96	22.2

Phosphorus

Lab Sample I.D.#: 080415-2C	
(3 Feet Below Surface)	
Time	Preserved?
9:34	H2504

Lab Sample I.D.#: 080415-2D	
(3 Feet Above Bottom)	
Time	Preserved?

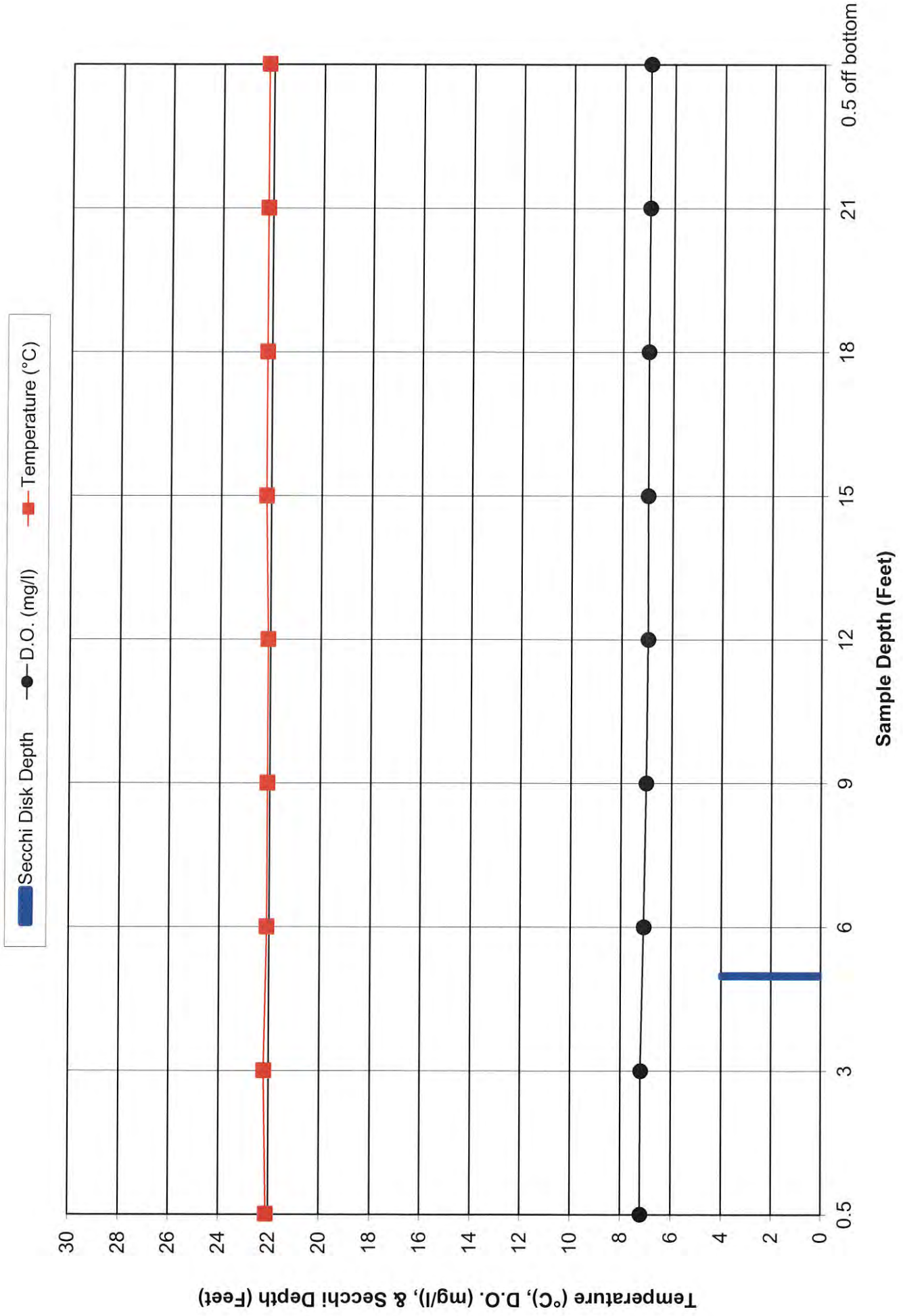
NO SAMPLE BOTTLE PROVIDED

Sample Location: N45° 54.828' W90° 26.822'

Comments: _____

Performed By: CARY RAST & BEN RICHARD

Lower Impoundment - FERC # 2421 August 4, 2015 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: 08/11/15 Code: NNNN-S Page 1 of 2

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

NLS Project: 245126
NLS Customer: 102823
 Phone: 855 994 9376

Project:	Flambeau (4)
080415 1A NLS ID: 874899	
COC: 185810:1 Matrix: SW	
Collected: 08/04/15 08:10 Received: 08/05/15	
Parameter	
Chlorophyll, all species	
Lab filtration for Chlorophyll	
Result	see attached
	yes
Units	
Dilution	
LOD	
LOQ	
Analyzed	08/07/15
Method	10200-H
Lab	721026460
	721026460
080415 2A NLS ID: 874900	
COC: 185810:1 Matrix: SW	
Collected: 08/04/15 08:10 Received: 08/05/15	
Parameter	
Chlorophyll, all species	
Lab filtration for Chlorophyll	
Result	see attached
	yes
Units	
Dilution	
LOD	
LOQ	
Analyzed	08/07/15
Method	10200-H
Lab	721026460
	721026460
080415 3A NLS ID: 874901	
COC: 185810:1 Matrix: SW	
Collected: 08/04/15 08:10 Received: 08/05/15	
Parameter	
Chlorophyll, all species	
Lab filtration for Chlorophyll	
Result	see attached
	yes
Units	
Dilution	
LOD	
LOQ	
Analyzed	08/07/15
Method	10200-H
Lab	721026460
	721026460
080415 4A NLS ID: 874902	
COC: 185810:1 Matrix: SW	
Collected: 08/04/15 08:10 Received: 08/05/15	
Parameter	
Chlorophyll, all species	
Lab filtration for Chlorophyll	
Result	see attached
	yes
Units	
Dilution	
LOD	
LOQ	
Analyzed	08/07/15
Method	10200-H
Lab	721026460
	721026460
080415 1B NLS ID: 874903	
COC: 185810:2 Matrix: SW	
Collected: 08/04/15 08:10 Received: 08/05/15	
Parameter	
Color, APHA (true)	
Lab filtration	
Result	70
	yes
Units	C.P.U.
Dilution	1
LOD	5.0*
LOQ	
Analyzed	08/05/15
Method	SM 2120-B 20ed
Lab	721026460
	721026460
080415 2B NLS ID: 874904	
COC: 185810:2 Matrix: SW	
Collected: 08/04/15 08:10 Received: 08/05/15	
Parameter	
Color, APHA (true)	
Lab filtration	
Result	70
	yes
Units	C.P.U.
Dilution	1
LOD	5.0*
LOQ	
Analyzed	08/05/15
Method	SM 2120-B 20ed
Lab	721026460
	721026460
080415 3B NLS ID: 874905	
COC: 185810:2 Matrix: SW	
Collected: 08/04/15 08:10 Received: 08/05/15	
Parameter	
Color, APHA (true)	
Lab filtration	
Result	60
	yes
Units	C.P.U.
Dilution	1
LOD	5.0*
LOQ	
Analyzed	08/05/15
Method	SM 2120-B 20ed
Lab	721026460
	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: 08/11/15 Code: NNNN-S Page 2 of 2
 NLS Project: 245126
 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)

080415 4B NLS ID: 874906

COC: 185810:2 Matrix: SW
 Collected: 08/04/15 08:10 Received: 08/05/15

Parameter

Color, APHA (true)
 Lab filtration

Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
60	C.P.U.	1	5.0*		08/05/15	SM 2120-B 20ed	721026460
yes					08/05/15	NA	721026460

080415 1C NLS ID: 874907

COC: 185810:3 Matrix: SW
 Collected: 08/04/15 08:10 Received: 08/05/15

Parameter

Phosphorus, tot. as P

Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
0.029	mg/L	1	0.0070*		08/06/15	4500-P E-1999	721026460

080415 2C NLS ID: 874908

COC: 185810:3 Matrix: SW
 Collected: 08/04/15 08:10 Received: 08/05/15

Parameter

Phosphorus, tot. as P

Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
0.031	mg/L	1	0.0070*		08/06/15	4500-P E-1999	721026460

080415 3C NLS ID: 874909

COC: 185810:3 Matrix: SW
 Collected: 08/04/15 08:10 Received: 08/05/15

Parameter

Phosphorus, tot. as P

Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
0.037	mg/L	1	0.0070*		08/06/15	4500-P E-1999	721026460

080415 4C NLS ID: 874910

COC: 185810:3 Matrix: SW
 Collected: 08/04/15 08:10 Received: 08/05/15

Parameter

Phosphorus, tot. as P

Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
0.039	mg/L	1	0.0070*		08/06/15	4500-P E-1999	721026460

080415 3D NLS ID: 874911

COC: 185810:4 Matrix: SW
 Collected: 08/04/15 08:10 Received: 08/05/15

Parameter

Phosphorus, tot. as P

Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
0.031	mg/L	1	0.0070*		08/06/15	4500-P E-1999	721026460

080415 4D NLS ID: 874912

COC: 185810:4 Matrix: SW
 Collected: 08/04/15 08:10 Received: 08/05/15

Parameter


Phosphorus, tot. as P

Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
0.030	mg/L	1	0.0070*		08/06/15	4500-P E-1999	721026460

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

LOD = Limit of Detection
 DWB = Dry Weight Basis
 MCL = Maximum Contaminant Levels for Drinking Water Samples

ND = Not Detected (< LOD)
 %DWB = (mg/kg DWB) / 10000
 Shaded results indicate >MCL.

Reviewed by: 
 Authorized by: R. T. Krueger, President

Northern Lake Service, Inc.
Chlorophyll Results

Customer: Renewable World Energies
Project: 245126
Flambeau (4)

Sample	Description	CC a	Pheo a	TC a	TC b	TC c
874899	080415 1A	16	0.0*	16	0.0*	1.1
874900	080415 2A	14	0.0*	14	0.0*	1
874901	080415 3A	20	0.0*	20	0.0*	1.3
874902	080415 4A	17	0.0*	17	0.0*	1.2

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) 478-3066

SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

Wisconsin Lab Cert. No. 721026460
 ATCP 105-000330

CLIENT: RENEWABLE WORLD ENERGY
 ADDRESS: 1005 STATE ST PO BOX 264
 CITY: NESHKORO STATE: WI QUOTATION NO.: 54960
 PROJECT DESCRIPTION: FLAMBEAU (H)
 DNR FID #: _____ DNR LICENSE #: _____
 CONTACT: GARY PHONE: 855-994-9376
 PURCHASE ORDER NO.: VERBAL FAX: 920-293-4100

- 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

ANALYZE PER ORDER OF ANALYSIS
 @ HLO RPH/LN
 T color
 P HOS
 P HOS



NO. 185810

ITEM NO.	INLS LAB NO.	SAMPLE ID	DATE	COLLECTION TIME	MATRIX (See above)	COLLECTION REMARKS (i.e. DNR Well ID #)
1	1874899	08041514A	8/14/15	8:10	RIVER WATER	
2		11 1-4B				
3		11 1-4C				
4		11 2-4D				
5				1:15		
6						
7						
8						
9	912					
10						

REPORT TO: SAME ABOVE
 INVOICE TO: ATTN: GARY
1001 STEPHENSON STREET
NORWAY MI 49870

CUSTODY SEAL NO. (IF ANY): _____ DATE/TIME: 8/4/15 8:10-1:15
 RECEIVED BY (signature): [Signature] DATE/TIME: _____
 METHOD OF TRANSPORT: UPS DATE/TIME: 8/4/15 3:00
 DATE/TIME: 8-5-15 10:15 CONDITION: CH10 TEMP: _____
 REMARKS & OTHER INFORMATION: _____
 WDNR FACILITY NUMBER: _____ E-MAIL ADDRESS: _____
 RECEIVED BY (signature): [Signature]
 RECEIVED BY (signature): [Signature]
 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

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



October 6, 2015

Mr. Nick Utrup
U.S. Fish and Wildlife Service
WI/MN 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 2015 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 2015 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. 2015 marked the twelfth year of water quality sampling. 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 2015 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

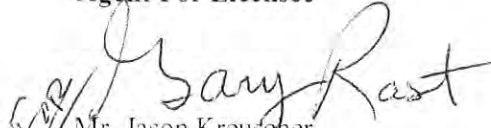
Corporate Office
P.O. Box 264
100 S. State Street
Neshkoro, WI 54960
Fax: 920-293-4100

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 Kreuzener
Vice President, Operations

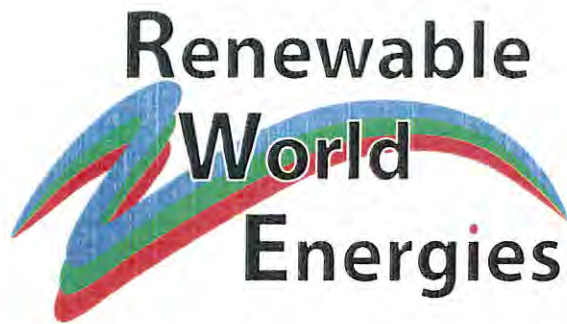
Attachments: Draft Report 2015 Water Quality Monitoring Data Flambeau Upper Hydroelectric Project
– October 5, 2015

Draft Report 2015 Water Quality Monitoring Data Flambeau Lower Hydroelectric
Project – October 5, 2015

Draft Report 2015 Water Quality Monitoring Data Flambeau Pixley Hydroelectric
Project – October 6, 2015

Draft Report 2015 Water Quality Monitoring Data Flambeau Crowley Hydroelectric
Project – October 6, 2015

Cc: RWE, Corporate



January 4, 2016

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 2015 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 2015 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. 2015 was the twelfth year monitoring was conducted since the license was issued, but is the 4th year of submittal by RWE on the behalf of the Licensee. Monitoring was conducted on April 14, July 7, and August 4, 2015. No issues were encountered during the 2015 monitoring season. All data has been entered into the SWIMS Data Base. The draft report was sent to the agencies by letter dated October 6, 2015 for review and comment. No comments have been received as of the date of this letter. The next scheduled monitoring event will be conducted in 2016.

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.

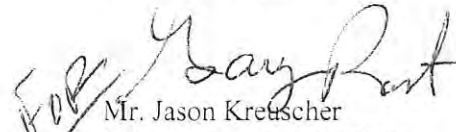
Corporate Office
P.O. Box 264
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Fax: 920-293-4100

Phone: 855-99HYDRO
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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 Kreischer
Vice President, Operations

Attachments: Flambeau Upper Final Rpt 2015 W Q Mon Data – Dec. 23, 2015
Flambeau Lower Final Rpt 2015 W Q Mon Data – Dec. 23, 2015
Flambeau Pixley Final Rpt 2015 W Q Mon Data – Dec. 23, 2015
Flambeau Crowley Final Rpt 2015 W Q Mon Data – Dec.23, 2015

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

Final Report

2015 Water Quality Monitoring Data

for the

Pixley Hydroelectric Project
FERC Project #2395
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 23, 2015

Table of Contents

I.	Summary	3
II.	2015 Sampling Results Table	5
III.	2015 Temperature and Dissolved Oxygen Sampling Event Graphs	6
IV.	2015 Monthly Temperature and Precipitation Table	7
V.	2015 Flambeau Pixley Sampling Comparison Table.....	8
VI.	Sampling Location Map.....	9
	APPENDIX A - April 14, 2015 Ice-Out Sampling Documents.....	10
	APPENDIX B - July 7, 2015 Sampling Documents.....	11
	APPENDIX C - August 4, 2015 Sampling Documents.....	12
	APPENDIX D - Agency Correspondence.....	13

Summary

2015 marked the twelfth year of water quality sampling under the FERC approved “Water Quality Monitoring Plan Per License Article 406 for the Flambeau (Pixley) Hydroelectric Project – FERC Project # 2395 – Flambeau Hydro, LLC”. Sampling was accomplished according to the plan and was un-eventful, with no major problems or concerns.

Ice-Out occurred between Agenda and Nine Mile Landing on the North Fork of the Flambeau River sometime during the week beginning April 5th, 2015. The Ice-Out sampling event occurred on April 14, 2015. River flow, based on the Flambeau (Pixley) Hydroelectric Project records, was approximately 645 cubic feet per second. Sampling occurred between 11:00 a.m. and 11:30 a.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 April 15, 2015. Northern Lake Service, Inc. issued a laboratory report on April 29, 2015. No unusual levels of Chlorophyll a, True Color, or Total Phosphorus were noted in the laboratory reports.

River flow, based on Flambeau (Pixley) Hydroelectric Project records, was approximately 853 cubic feet per second during the July 7, 2015 sampling event. Sampling occurred between 11:15 a.m. and 11:45 a.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 8, 2015. Northern Lake Service, Inc. issued a laboratory report on August July 31, 2015. No unusual levels of Chlorophyll a, True Color, or Total Phosphorus were noted in the laboratory reports.

River flow, based on Flambeau (Pixley) Hydroelectric Project records, was approximately 751 cubic feet per second during the August 4, 2015 sampling event. Sampling occurred between 11:00 a.m. and 11:28 a.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 5, 2015. Northern Lake Service, Inc issued a laboratory report on August 11, 2015. 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 2015 monitoring season appeared slightly warmer in April, May, June, July, & August, with lower than normal precipitation in the months of April, June, July, and higher than normal precipitation in May and August. (**Refer to 2015 Monthly Temp and Precipitation Table page 7**)

A summary of a comparison between the 2011 thru 2015 (**Refer to 2015 Flambeau Pixley Project Sampling Comparison Table 2011-2015 page 8**) sampling results are as follows:

1. Water Clarity – Increased I Out, July & Decreased Aug
2. Chlorophyll a – Decreased I Out , July, & Increased Aug
3. Color – Ave I Out, Decreased July & Aug
4. Total Phosphorus – S Increased I Out, Decreased July & Aug
5. Overall D.O. – S Decreased I Out, July, & Aug
6. Water Temperatures – Decreased I Out, July, & Ave Aug

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 Pixley Hydroelectric Project is set to take place in 2016 beginning with the Ice-Out sampling event.

**2015
Sampling Results
Table**

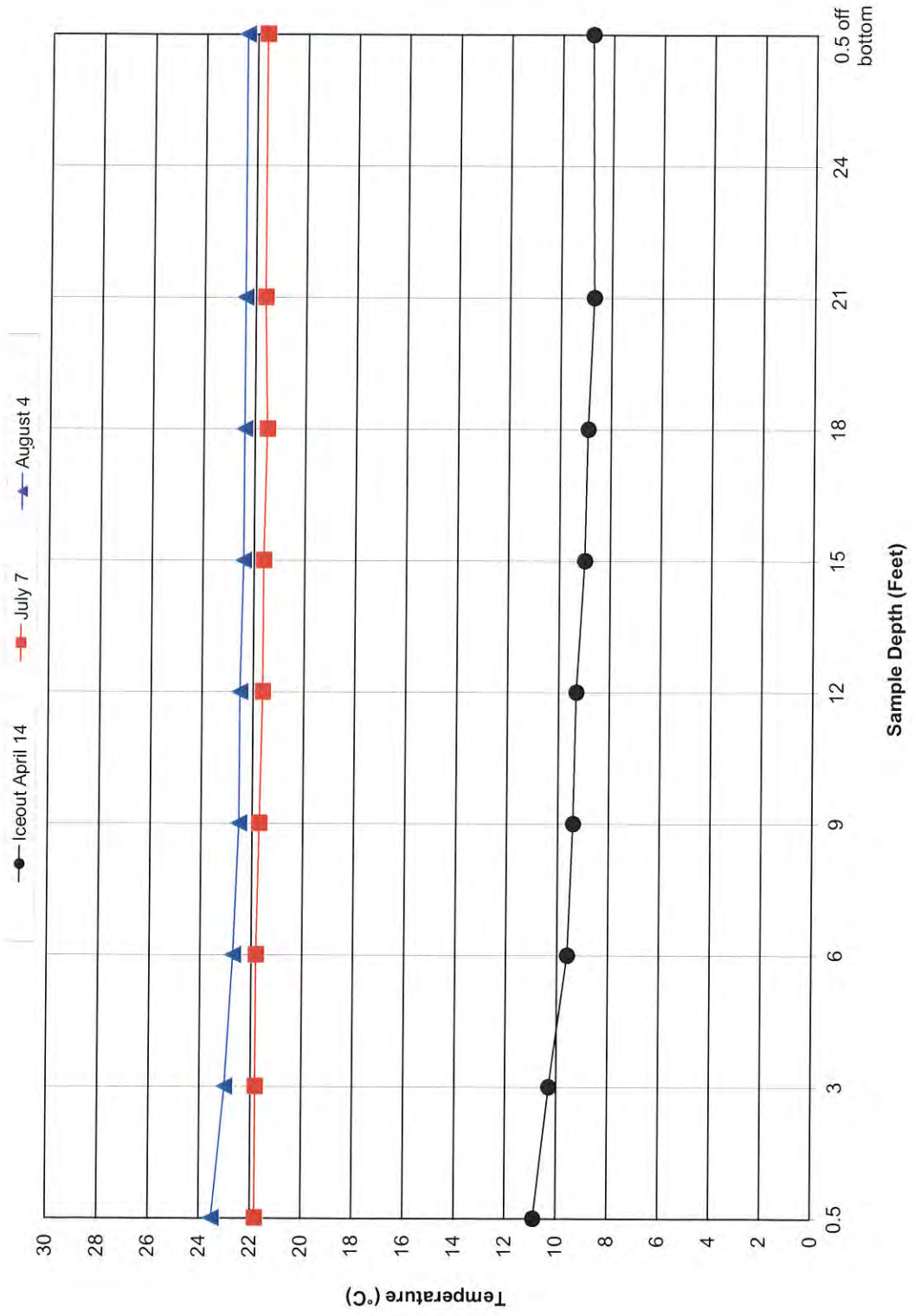
**Pixley Hydroelectric Project - FERC Project # 2395
2015 Water Quality Sampling Data**

	Ice Out April 14, 2015		July 7, 2015		August 4, 2015	
Project Flow (c.f.s.)	645		853		751	
Dissolved Oxygen	Time	D.O. (mg/L)	Time	D.O. (mg/L)	Time	D.O. (mg/L)
0.5 feet below surface	11:17 AM	9.55	11:31 AM	6.43	11:20 AM	7.92
3 feet below surface	11:18 AM	9.72	11:32 AM	6.37	11:21 AM	7.60
6 feet below surface	11:19 AM	9.74	11:33 AM	6.29	11:22 AM	7.15
9 feet below surface	11:20 AM	9.71	11:35 AM	6.20	11:23 AM	6.69
12 feet below surface	11:21 AM	9.84	11:36 AM	6.28	11:24 AM	6.52
15 feet below surface	11:22 AM	9.72	11:37 AM	6.03	11:25 AM	6.49
18 feet below surface	11:24 AM	9.70	11:40 AM	5.95	11:26 AM	6.43
21 feet below surface	11:25 AM	9.67	11:42 AM	5.55	11:27 AM	6.42
24 feet below surface	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
0.5 feet above bottom	11:30 AM	9.74	11:45 AM	5.40	11:28 AM	6.42
		Water Temp. (°C)		Water Temp. (°C)		Water Temp. (°C)
		10.90		21.80		23.50
		10.30		21.80		23.00
		9.60		21.80		22.70
		9.40		21.70		22.50
		9.30		21.60		22.50
		9.00		21.60		22.40
		8.90		21.50		22.40
		8.70		21.60		22.40
		#N/A		#N/A		#N/A
		8.80		21.60		22.40
Secchi Disk	Time	Depth (ft)	Time	Depth (ft)	Time	Depth (ft)
Feet below surface	11:05 AM	36.00	11:20 AM	3.20	11:05 AM	2.80
Chlorophyll a	Time	ug/L	Time	ug/L	Time	ug/L
3 feet below surface	11:10 AM	1.30	11:25 AM	4.20	11:10	20.00
Color (True)	Time	C.P.U. Units	Time	C.P.U. Units	Time	C.P.U. Units
3 feet below surface	11:12 AM	130.00	11:27 AM	80.00	11:12 AM	60.00
		25*		10*		5*
Total Phosphorus	Time	mg/L	Time	mg/L	Time	mg/L
3 feet below surface	11:13 AM	0.037	11:28 AM	0.032	11:13 AM	0.037
3 feet above bottom	11:15 AM	0.030	11:30 AM	0.031	11:15 AM	0.031
		LOD		LOD		LOD
		0.0070*		0.0070*		0.0070*
		0.0070*		0.0070*		0.0070*

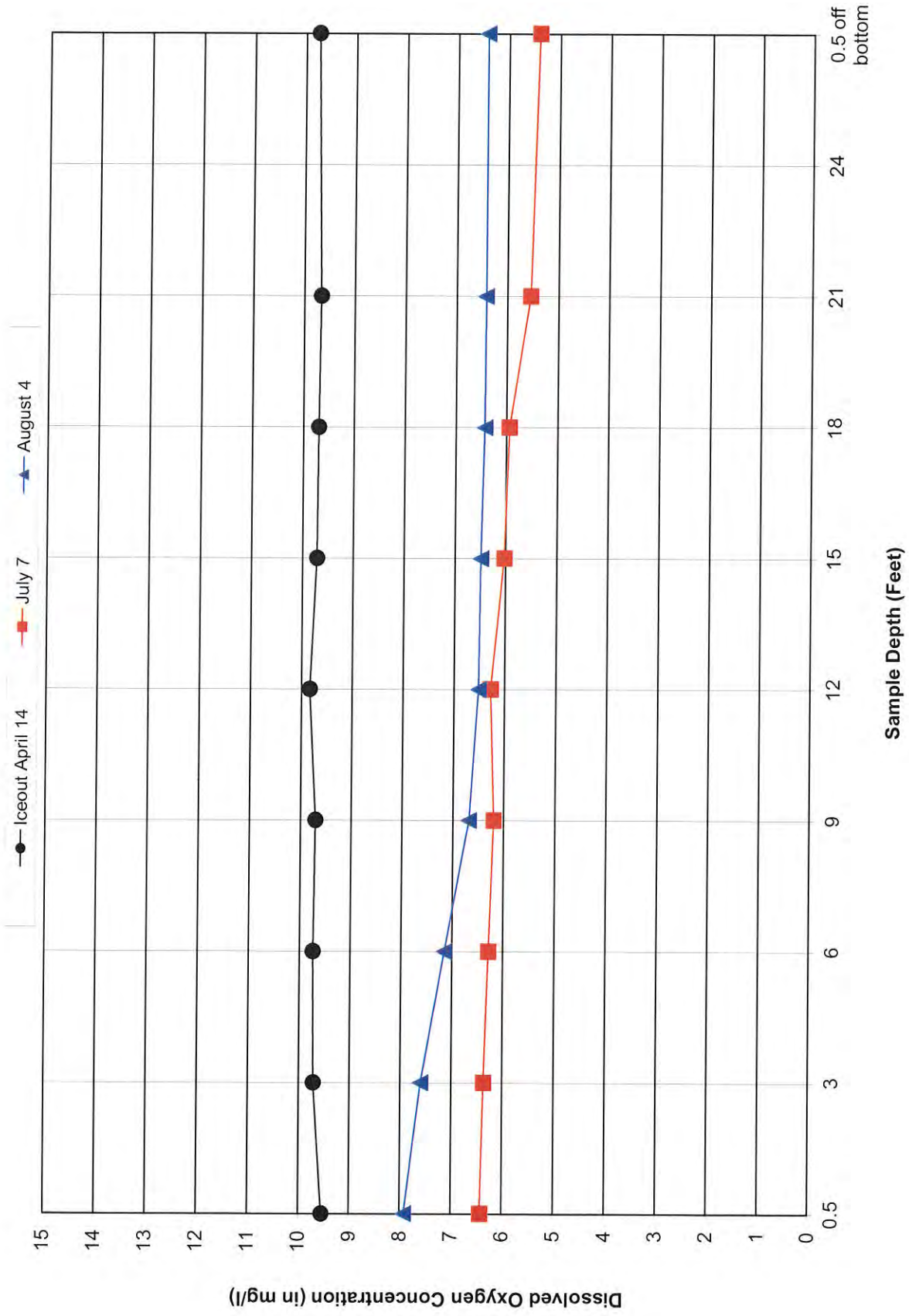
* Considered Reporting Limits

2015
Temperature/Dissolved Oxygen
Graphs

Pixley Impoundment - FERC # 2395 2015 Temperature Samples



Pixelley Impoundment - FERC # 2395 2015 Dissolved Oxygen Samples



2015
Monthly Temperature/Precipitation
Table

2015 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-14	69.0	23.0	44.8	1.6	622	678	1.80	0.10	2.85	63%
November-14	51.0	-9.0	21.8	-7.0	1289	1080	0.98	16.40	2.09	47%
December-14	43.0	-10.0	21.5	6.7	1341	1556	1.26	8.60	1.21	104%
January-15	12.7	-18.0	40.0	2.5	1616	1699	0.46	6.60	0.96	48%
February-15	27.0	-19.0	5.2	-9.9	1667	1399	0.38	8.20	0.81	47%
March-15	64.0	-14.0	30.6	4.7	1059	1210	0.79	8.10	1.49	53%
April-15	76.0	22.0	42.2	2.6	675	762	1.03	1.20	2.43	42%
May-15	83.0	32.0	51.7	0.3	409	426	3.73	T	3.23	115%
June-15	84.0	36.0	61.4	1.3	121	179	3.64	T	4.23	86%
July-15	89.0	48.0	69.2	3.4	15	63	3.01	0.00	3.85	78%
August-15	93.0	42.0	65.3	1.0	81	86	4.09	0.00	3.70	111%
September-15	85.0	34.0	61.5	5.9	149	298	6.81	0.00	4.11	166%

Source: NOAA/Duluth, MN

2015
Flambeau Pixley
Sampling Comparison Table
2011—2015

Flambeau Pixley

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	3.20	2.10	80.00	0.033	0.031	11.64	12.05	6.60	11.70
2012	April	3.10	1.70	140.00	0.039		10.94	11.26	9.30	10.00
2013	May									
2014	June	3.00	1.40	130.00	0.030	0.031	6.70	6.94	19.00	22.30
2015	April	3.60	1.30	130.00	0.037	0.030	9.55	9.84	8.70	10.90
Minimum	April/June	3.00	1.30	80.00	0.030	0.030	6.70	6.94	6.60	10.00
Maximum	April/June	3.60	2.10	140.00	0.039	0.031	11.64	12.05	19.00	22.30
Average	April/June	3.23	1.63	120.00	0.035	0.031	9.71	10.02	10.90	13.73
2011	July	3.00	16.00	70.00	0.057	0.041	6.62	8.25	25.40	25.80
2012	July	3.10	8.80	100.00	0.057	0.041	5.52	6.40	25.70	27.20
2013	July	2.10	6.20	150.00	0.044	0.043	5.24	5.85	25.10	25.30
2014	July	3.00	5.40	130.00	0.047	0.050	6.02	7.28	21.20	21.90
2015	July	3.20	4.20	80.00	0.032	0.031	5.40	6.43	21.60	21.80
Minimum	July	2.10	4.20	70.00	0.032	0.031	5.24	5.85	21.20	21.80
Maximum	July	3.20	16.00	150.00	0.057	0.050	6.62	8.25	25.70	27.20
Average	July	2.88	8.12	106.00	0.047	0.041	5.76	6.84	23.80	24.40
2011	August	3.10	14.00	140.00	0.052	0.047	7.74	7.44	23.50	26.00
2012	August	2.50	26.00	100.00	0.048	0.050	5.93	9.32	23.80	24.60
2013	August	3.33	6.30	150.00	0.110	0.071	6.41	6.84	20.10	20.60
2014	August	3.70	6.20	100.00	0.037	0.035	6.18	6.56	22.30	22.60
2015	August	2.80	20.00	60.00	0.037	0.031	6.42	7.92	22.40	23.50
Minimum	August	2.50	6.20	60.00	0.037	0.031	5.93	6.56	20.10	20.60
Maximum	August	3.70	26.00	150.00	0.110	0.071	7.74	9.32	23.80	26.00
Average	August	3.09	14.50	110.00	0.057	0.047	6.54	7.62	22.42	23.46
No Sample										

**Pixley Impoundment
Sampling Location
Map**

WISCONSIN CONSERVATION DEPARTMENT

LAKE SURVEY MAP

PRICE FLOWAGE
LAKE
COUNTY
SEC. 33-34-35-36
T. 29-50-N. R. 1-E-W.



Pixley
Hydroelectric
Project

SECTION 33
SECTION 34
SECTION 35
SECTION 36

**WATER QUALITY
SAMPLE LOCATION**
N45° 52.838' W90° 30.684'
150 Feet From E. Shoreline
Depth = 19.92 Feet

FIG. 1467-7112276 - (Bureau field) north
P.S. Control Located center of station in
line of north wall of power station.
Site loc. - 1453.40'
Water level - 1448.00'

PICKETS ON FISH	
1	100
2	200
3	300
4	400
5	500
6	600
7	700
8	800
9	900
10	1000

AREA	AREA	AREA
UNDER 2 FT.	OVER 2 FT.	TOTAL
1.47	1.17	2.64
VOLUME	DEPTH	ACRE FT.
30	30	900
SPONSOR	DATE	MILES
MAINT.	DEPTH	FEET

- TEMPERATURE STRINGS
- DEPTH
- WATER ELEV. - 1458.00'
- LAKE BOTTOM STRINGS
- P. Pond
- M. Mud
- H. Hill
- S. Sand
- C. Clay
- G. Gravel
- S. Shrub
- T. Temporary vegetation
- P. Permanent vegetation
- S. Sand
- 1. L. Lake
- S. S. Shore



SCALE
1" = 100' HORIZONTAL
1" = 10' VERTICAL

© Aerial
◊ Access with Planning
◊ Dredged
◊ Dred Library

Map by: L. Smith, C. Smith, R. Smith, A. L. Smith

Appendix A

April 14, 2015 Ice-Out Sampling
Documents

IMPOUNDMENT SAMPLING LOG

2015 Water Quality Study - Flambeau Pixley Hydroelectric Project - FERC #2395

HWL - 1448.7

Date: 4/14/15

Pre-Sampling Data: TWL - 1427.5 CFS - 645

Time: 11:00 Barometer: 30.25 Air Temp: 13.3 °C Wind Speed: W 7 MPH @ 16 MPH

Sky Conditions: BRIGHT SUN, FAIR, + CLEAR

Precipitation within Last 24 Hours: NO

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

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

Battery Status: 100% Charge

Calibration Time: 3/11/2015 Method: Factory

Sampling Depth Profile: Measured Depth to Bottom of the Impoundment: 22.1 Feet

Secchi Disk Depth: (E0.1 Foot) 3.6 Feet Time: 11:05

Chlorophyll a (3 Feet Below Surface)

Lab Sample I.D.#: <u>0414153A</u>		
Time	Quantity (ml)	Filtered
<u>11:10</u>	<u>1000</u>	<u>NO</u>

True Color (3 Feet Below Surface)

Lab Sample I.D.#: <u>0414153B</u>	
Time	Quantity (ml)
<u>11:12</u>	<u>250</u>

D.O. Sample Data

Depth	Time	D.O. (mg/l)	°C
.5 Ft Below Surface	<u>11:17</u>	<u>9.55</u>	<u>10.9</u>
3 Feet	<u>11:18</u>	<u>9.72</u>	<u>10.3</u>
6 Feet	<u>11:19</u>	<u>9.74</u>	<u>9.6</u>
9 Feet	<u>11:20</u>	<u>9.71</u>	<u>9.4</u>
12 Feet	<u>11:21</u>	<u>9.84</u>	<u>9.3</u>
15 Feet	<u>11:22</u>	<u>9.72</u>	<u>9.0</u>
18 Feet	<u>11:24</u>	<u>9.79</u>	<u>8.9</u>
21 Feet	<u>11:25</u>	<u>9.69</u>	<u>8.7</u>
24 Feet			
.5 Ft Above Bottom	<u>11:30</u>	<u>9.74</u>	<u>8.8</u>

Phosphorus

Lab Sample I.D.#: <u>0414153C</u>	
(3 Feet Below Surface)	
Time	Preserved?
<u>11:13</u>	<u>H2504</u>

Lab Sample I.D.#: <u>0414153D</u>	
(3 Feet Above Bottom)	
Time	Preserved?
<u>11:15</u>	<u>H2504</u>

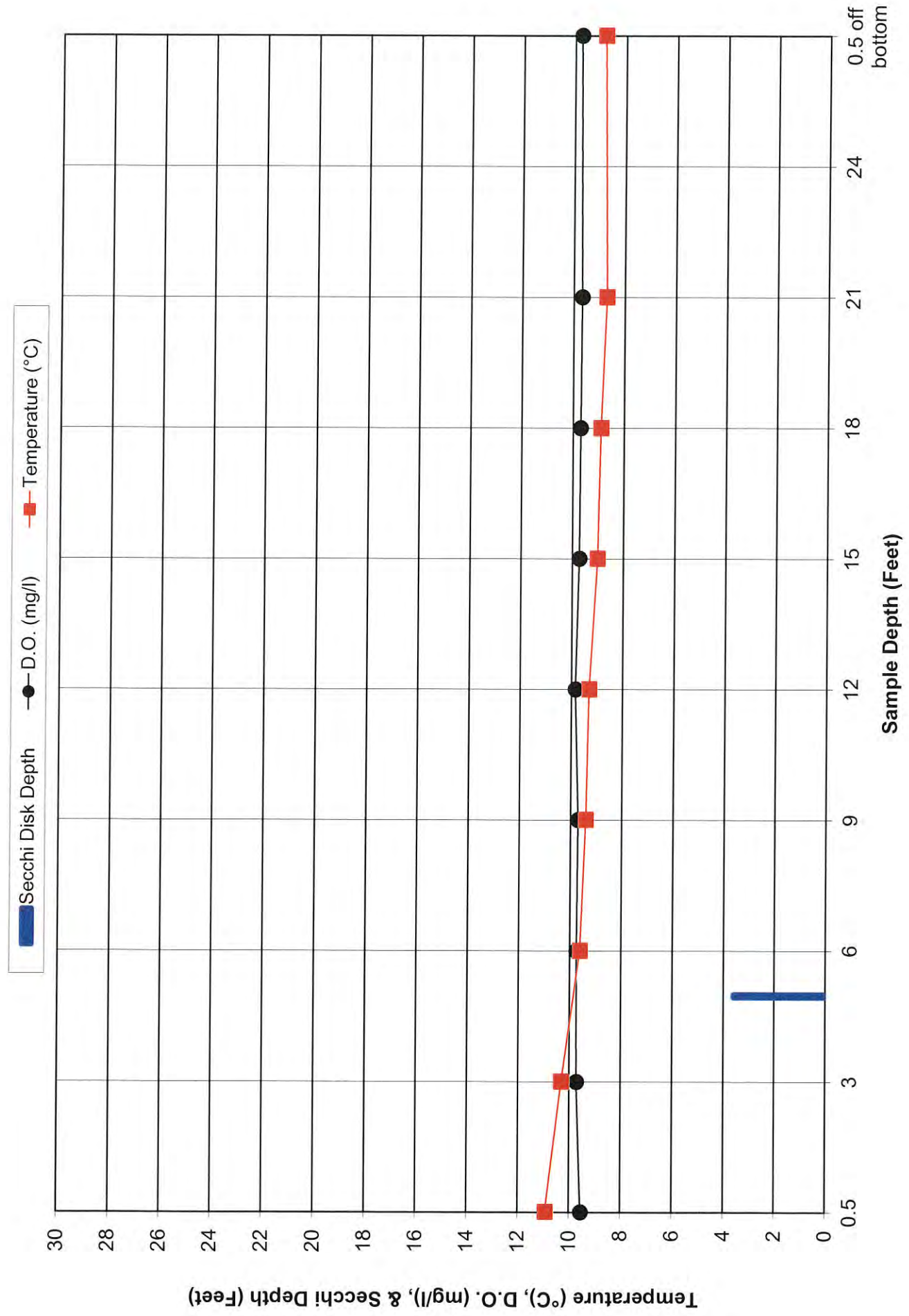
Sample Location: N45° 52.838' W90° 30.684'

Comments: _____

Performed By: GARY RAST + BEN RICHARD

Pixley Impoundment - FERC # 2395

April 14, 2015 Iceout Sampling Event



ANALYTICAL REPORT

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

Printed: 04/29/15 Code: NNNN-S Page 1 of 3
 NLS Project: 238669
 NLS Customer: 102823
 Phone: 855 994 9376

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

Project: Flam (4)

0414151A NLS ID: 854082

COC: 167768:1 Matrix: SW

Collected: 04/14/15 08:00 Received: 04/15/15

Parameter

Chlorophyll, all species

Lab filtration for Chlorophyll

Result
see attached
yes

Units

Analyzed
04/28/15
04/16/15

Method
10200-H
NA

Lab
721026460
721026460

0414152A NLS ID: 854083

COC: 167768:1 Matrix: SW

Collected: 04/14/15 08:00 Received: 04/15/15

Parameter

Chlorophyll, all species

Lab filtration for Chlorophyll

Result
see attached
yes

Units

Analyzed
04/28/15
04/16/15

Method
10200-H
NA

Lab
721026460
721026460

0414153A NLS ID: 854084

COC: 167768:1 Matrix: SW

Collected: 04/14/15 08:00 Received: 04/15/15

Parameter

Chlorophyll, all species

Lab filtration for Chlorophyll

Result
see attached
yes

Units

Analyzed
04/28/15
04/16/15

Method
10200-H
NA

Lab
721026460
721026460

0414154A NLS ID: 854085

COC: 167768:1 Matrix: SW

Collected: 04/14/15 08:00 Received: 04/15/15

Parameter

Chlorophyll, all species

Lab filtration for Chlorophyll

Result
see attached
yes

Units

Analyzed
04/28/15
04/16/15

Method
10200-H
NA

Lab
721026460
721026460

0414151B NLS ID: 854086

COC: 167768:2 Matrix: SW

Collected: 04/14/15 08:02 Received: 04/15/15

Parameter

Color, APHA (true)

Lab filtration

Result
130
yes

Units
C.P.U.

Dilution
5

Analyzed
04/15/15
04/15/15

Method
SM 2120-B 20ed
NA

Lab
721026460
721026460

0414152B NLS ID: 854087

COC: 167768:2 Matrix: SW

Collected: 04/14/15 08:02 Received: 04/15/15

Parameter

Color, APHA (true)

Lab filtration

Result
130
yes

Units
C.P.U.

Dilution
5

Analyzed
04/15/15
04/15/15

Method
SM 2120-B 20ed
NA

Lab
721026460
721026460

0414153B NLS ID: 854088

COC: 167768:2 Matrix: SW

Collected: 04/14/15 08:02 Received: 04/15/15

Parameter

Color, APHA (true)

Lab filtration

Result
130
yes

Units
C.P.U.

Dilution
5

Analyzed
04/15/15
04/15/15

Method
SM 2120-B 20ed
NA

Lab
721026460
721026460

ANALYTICAL REPORT

WDR Laboratory ID No. 721026460
 WDATCP Laboratory Certification No. 105-330
 EPA Laboratory ID No. WI00034
 Printed: 04/29/15 Code: NNNN-S Page 2 of 3

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

NLS Project: 238669
 NLS Customer: 102823
 Phone: 855 994 9376

Project: Flam (4)

0414154B NLS ID: 854089													
COC: 167768:2 Matrix: SW													
Collected: 04/14/15 08:02 Received: 04/15/15													
Parameter		Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab				
Color, APHA (true)		130	C.P.U.	5	25*		04/15/15	SM 2120-B 20ed	721026460				
Lab filtration		yes					04/15/15	NA	721026460				
0414151C NLS ID: 854090													
COC: 167768:3 Matrix: SW													
Collected: 04/14/15 08:04 Received: 04/15/15													
Parameter		Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab				
Phosphorus, tot. as P		0.026	mg/L	1	0.0070*		04/22/15	SM 4500P-E 20ed	721026460				
0414152C NLS ID: 854091													
COC: 167768:3 Matrix: SW													
Collected: 04/14/15 08:04 Received: 04/15/15													
Parameter		Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab				
Phosphorus, tot. as P		0.036	mg/L	1	0.0070*		04/22/15	SM 4500P-E 20ed	721026460				
0414153C NLS ID: 854092													
COC: 167768:3 Matrix: SW													
Collected: 04/14/15 08:04 Received: 04/15/15													
Parameter		Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab				
Phosphorus, tot. as P		0.037	mg/L	1	0.0070*		04/22/15	SM 4500P-E 20ed	721026460				
0414154C NLS ID: 854093													
COC: 167768:3 Matrix: SW													
Collected: 04/14/15 08:04 Received: 04/15/15													
Parameter		Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab				
Phosphorus, tot. as P		0.047	mg/L	1	0.0070*		04/22/15	SM 4500P-E 20ed	721026460				
0414152D NLS ID: 854094													
COC: 167768:4 Matrix: SW													
Collected: 04/14/15 09:40 Received: 04/15/15													
Parameter		Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab				
Phosphorus, tot. as P		0.080	mg/L	1	0.0070*		04/22/15	SM 4500P-E 20ed	721026460				
0414153D NLS ID: 854095													
COC: 167768:4 Matrix: SW													
Collected: 04/14/15 09:40 Received: 04/15/15													
Parameter		Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab				
Phosphorus, tot. as P		0.030	mg/L	1	0.0070*		04/22/15	SM 4500P-E 20ed	721026460				
0414154D NLS ID: 854096													
COC: 167768:4 Matrix: SW													
Collected: 04/14/15 09:40 Received: 04/15/15													
Parameter		Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab				
Phosphorus, tot. as P		0.036	mg/L	1	0.0070*		04/22/15	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: 04/29/15 Code: NNNN-S Page 3 of 3
NLS Project: 238669
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: 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 and/or solids content.

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

MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.

Reviewed by:



Authorized by:
R. T. Krueger
President

Northern Lake Service, Inc.
Chlorophyll Results

Customer: Renewable World Energies
Project: 238669
Flam (4)

Sample	Description	CC a	Pheo a	TC a	TC b	TC c
854082	0414151A	2.7	0.19	2.9	0.23	0.49
854083	0414152A	2.8	0.19	3	0.13	0.55
854084	0414153A	0.86	0.69	1.3	0.16	0.28
854085	0414154A	4.8	0.29	5.1	0.3	0.84

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.

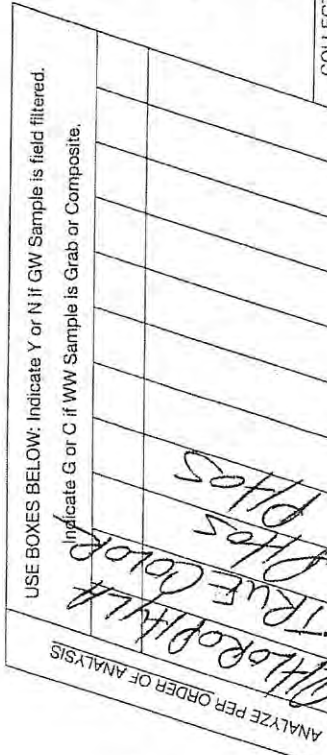
SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

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

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

CLIENT: RENEWABLE WORLD ENERGIES
 ADDRESS: 200 S STATE ST PO BOX 264
 CITY: MESAKORO WI STATE: WI ZIP: 54960
 PROJECT DESCRIPTION / NO.: FLAMING QUOTATION NO.:
 DNR FID #: _____ DNR LICENSE # _____
 CONTACT: GARY RAST PHONE: 855-994-9376
 PURCHASE ORDER NO.: VERBAL FAX: 820-293-4108



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

ITEM NO.	WIS. LAB. NO.	SAMPLE ID	DATE	COLLECTION TIME	MATRIX (See above)	ANALYZE PER ORDER OF ANALYSIS	COLLECTION REMARKS (i.e. DNR Well ID #)
1.	854082-085	04/14/15 1234A	4/14/15	8:00	RIVER WATER	X Chlorophyll a X TRUE COLOR X pHos X pHos	
2.	086-089	04/14/15 1234B	"	8:07	"	X	
3.	090-093	04/14/15 1234C	"	8:07	"	X	
4.	094-096	04/14/15 2340	4/14/15	9:40 - 1:30	"	X	
5.							
6.							
7.							
8.							
9.							
10.							



NO. 167768

COLLECTED BY (signature): [Signature] CUSTODY SEAL NO. (IF ANY): 4/14/15 8:00 - 1:30 DATE/TIME: 4/14/15 8:00 - 1:30
 RELINQUISHED BY (signature): _____ RECEIVED BY (signature): _____ DATE/TIME: _____
 DISPATCHED BY (signature): [Signature] METHOD OF TRANSPORT: UPS DATE/TIME: 4/14/15 3:00 PM
 RECEIVED ANALYS BY (signature): [Signature] DATE/TIME: 4-15-15 10:15 AM CONDITION: _____
 REMARKS & OTHER INFORMATION: _____

REPORT TO: SAME AS ABOVE
 ATTN: GARY
 INVOICE TO: RWE
1001 STEPHENOW ST
NORWAY MI 49870

COOLER # _____
 PRESERVATIVE: N = nitric acid OH = sodium hydroxide
 Z = zinc acetate HA = hydrochloric & ascorbic acid
 M = methanol H = hydrochloric acid
 S = sulfuric acid

IMPORTANT:

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.

Appendix B

July 7, 2015 Sampling Documents

IMPOUNDMENT SAMPLING LOG

2015 Water Quality Study - Flambeau Pixley Hydroelectric Project - FERC #2395

CFS = 853

HWL = 1448.09
TWL = 1427.69

Date: 7/7/15

Pre-Sampling Data:

Time: 11:15 Barometer: 30.11 Air Temp: 15 °C Wind Speed: N9MPH @ 16MPH

Sky Conditions: MOSTLY CLOUDY - SOME PERIODS OF SUNSHINE

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: 6090 Charge

Calibration Time: 3/11/2015 Method: Factory

Sampling Depth Profile: Measured Depth to Bottom of the Impoundment: 21.5 Feet

Secchi Disk Depth: (E0.1 Foot) 3.2 Feet Time: 11:20

Chlorophyll a (3 Feet Below Surface)

Lab Sample I.D.#: 150707-3A		
Time	Quantity (ml)	Filtered
11:25	1000	100

True Color (3 Feet Below Surface)

Lab Sample I.D.#: 150707-3B	
Time	Quantity (ml)
11:27	250

D.O. Sample Data

Depth	Time	D.O. (mg/l)	°C
.5 Ft Below Surface	11:31	6.43	21.8
3 Feet	11:32	6.37	21.8
6 Feet	11:33	6.29	21.8
9 Feet	11:35	6.20	21.7
12 Feet	11:36	6.28	21.6
15 Feet	11:37	6.03	21.6
18 Feet	11:40	5.95	21.5
21 Feet	11:42	5.55	21.6
24 Feet			
.5 Ft Above Bottom	11:45	5.40	21.6

Phosphorus

Lab Sample I.D.#: 150707-3C	
(3 Feet Below Surface)	
Time	Preserved?
11:28	H2SO4

Lab Sample I.D.#: 150707-3D	
(3 Feet Above Bottom)	
Time	Preserved?
11:30	H2SO4

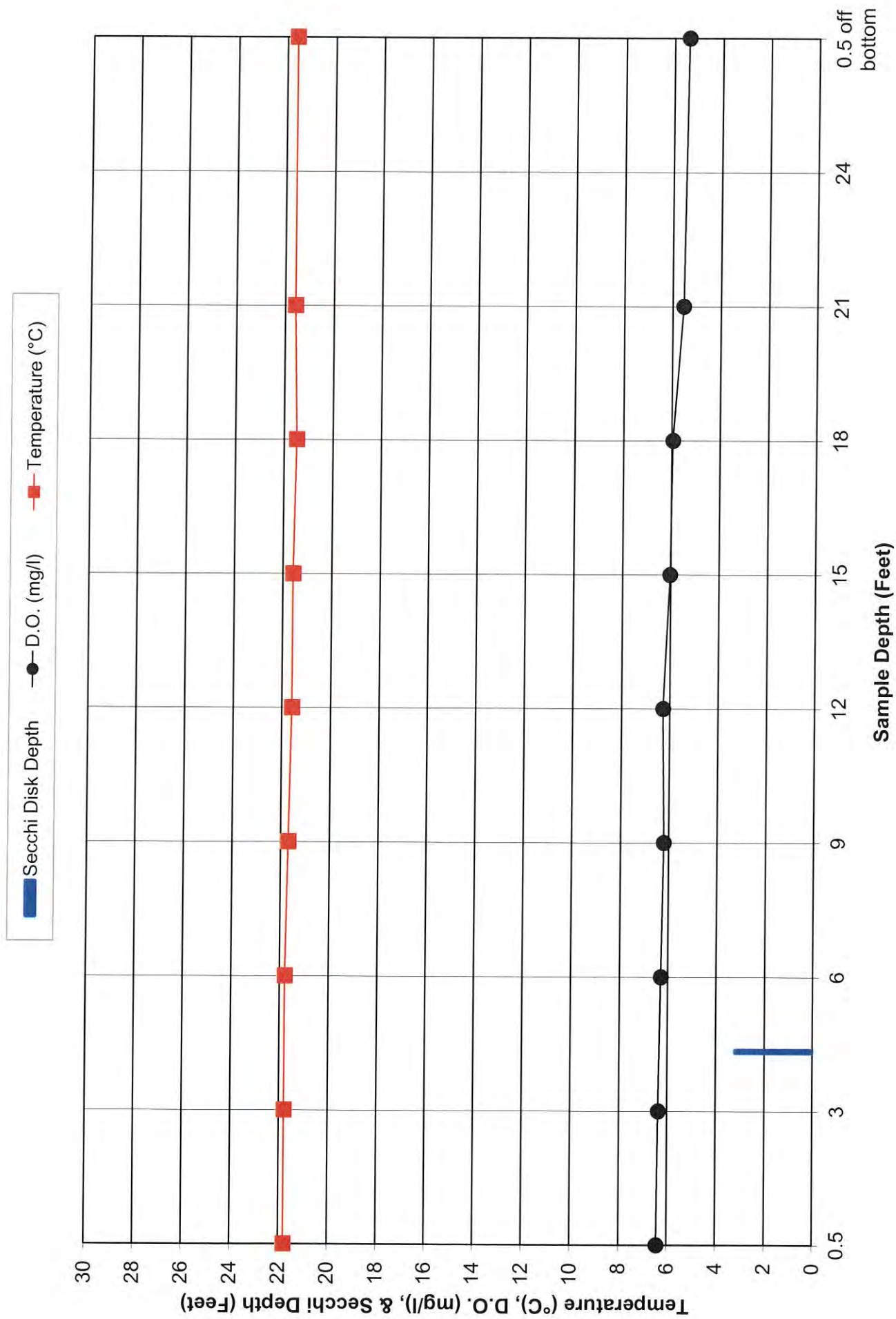
Sample Location: N45° 52.838' W90° 30.684'

Comments: _____

Performed By: GARY RAST + WAYNE KOSTERMAN

Pixley Impoundment - FERC # 2395

July 7, 2015 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. W100034

Printed: 07/31/15 Code: NNNN-S Page 1 of 3

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

NLS Project: 243355
NLS Customer: 102823
 Phone: 855 994 9376

Project:	Flam (4)	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
150707-1A NLS ID: 869296									
COC: 179119:1 Matrix: SW									
Collected: 07/07/15 14:00 Received: 07/08/15									
Parameter	Chlorophyll, all species	see attached					07/29/15	10200-H	721026460
	Lab filtration for Chlorophyll	yes					07/10/15	NA	721026460
150707-2A NLS ID: 869297									
COC: 179119:1 Matrix: SW									
Collected: 07/07/15 14:00 Received: 07/08/15									
Parameter	Chlorophyll, all species	see attached					07/29/15	10200-H	721026460
	Lab filtration for Chlorophyll	yes					07/10/15	NA	721026460
150707-3A NLS ID: 869298									
COC: 179119:1 Matrix: SW									
Collected: 07/07/15 14:00 Received: 07/08/15									
Parameter	Chlorophyll, all species	see attached					07/29/15	10200-H	721026460
	Lab filtration for Chlorophyll	yes					07/10/15	NA	721026460
150707-4A NLS ID: 869299									
COC: 179119:2 Matrix: SW									
Collected: 07/07/15 14:00 Received: 07/08/15									
Parameter	Chlorophyll, all species	see attached					07/29/15	10200-H	721026460
	Lab filtration for Chlorophyll	yes					07/10/15	NA	721026460
150707-1B NLS ID: 869300									
COC: 179119:2 Matrix: SW									
Collected: 07/07/15 14:02 Received: 07/08/15									
Parameter	Color, APHA (true)	80	C.P.U.	2	10*		07/08/15	SM 2120-B 20ed	721026460
	Lab filtration	yes					07/08/15	NA	721026460
150707-2B NLS ID: 869301									
COC: 179119:2 Matrix: SW									
Collected: 07/07/15 14:02 Received: 07/08/15									
Parameter	Color, APHA (true)	80	C.P.U.	2	10*		07/08/15	SM 2120-B 20ed	721026460
	Lab filtration	yes					07/08/15	NA	721026460
150707-3B NLS ID: 869302									
COC: 179119:2 Matrix: SW									
Collected: 07/07/15 14:02 Received: 07/08/15									
Parameter	Color, APHA (true)	80	C.P.U.	2	10*		07/08/15	SM 2120-B 20ed	721026460
	Lab filtration	yes					07/08/15	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: 07/31/15 Code: NNNN-S Page 3 of 3

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

NLS Project: 243355

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 and/or solids content.

LOD = Limit of Detection LOQ = Limit of Quantitation ND = Not Detected (< LOD) 1000 ug/L = 1 mg/L

DWB = Dry Weight Basis NA = Not Applicable %DWB = (mg/kg DWB) / 10000

MCL = Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.



Reviewed by:

Authorized by:
R. T. Krueger
President

Northern Lake Service, Inc.
Chlorophyll Results

Customer: Renewable World Energies
Project: 243355
Flam (4)

Sample	Description	CC a	Pheo a	TC a	TC b	TC c
869296	150707-1A	2.7	1.3	3.5	0.48	1.5
869297	150707-2A	3	1.6	4	0.28	0.78
869298	150707-3A	3.4	1.1	4.2	0.078	0.49
869299	150707-4A	3.7	1.2	4.6	0.22	0.35

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
 WI DATCP 105-000330

CLIENT: RENEWABLE WORLD ENTERPRISES
 ADDRESS: 100 STATE ST PO BOX 264
 CITY: NESHOR STATE: WI ZIP: 54966
 PROJECT DESCRIPTION NO.: PHOS QUOTATION NO.:
 DNR FID #: _____ DNR LICENSE # _____
 CONTACT: CARY RAST PHONE: 855-994-9376
 PURCHASE ORDER NO.: VERBAL FAX: 920-293-4100

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

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		Chlorophyll a	TRP	Phos	Phos	Phos	Phos	Phos	Phos	Phos	Phos		Phos
1.	896296	150707-1-4A	7/7	8:10	RIVER WATER	X	X	X	X	X	X	X	X	X	X	X	
2.	896300	150707-1-4B	7/7	8:13	WATER	X	X	X	X	X	X	X	X	X	X	X	
3.	896310	150707-1-4C	7/7	8:15	WATER	X	X	X	X	X	X	X	X	X	X	X	
4.	150707-1-4D	150707-1-4D	7/7	8:24	WATER	X	X	X	X	X	X	X	X	X	X	X	
5.	150707-2-1D	150707-2-1D	7/7	9:20	WATER	X	X	X	X	X	X	X	X	X	X	X	
6.																	
7.																	
8.																	
9.																	
10.																	



NO. 179119

COLLECTED BY (signature): [Signature] DATE/TIME: 7/7/15 8:10-8:15
 RELINQUISHED BY (signature): [Signature] DATE/TIME:
 DISPATCHED BY (signature): [Signature] DATE/TIME: 7/7/15 3:00
 RECEIVED AT NLS BY (signature): [Signature] DATE/TIME: 7-8-15 10:15
 RECEIVED BY (signature): [Signature] DATE/TIME:
 METHOD OF TRANSPORT: UPS TEMP.:
 CONDITION: GOOD
 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
 S = sulfuric acid M = methanol H = hydrochloric acid

REPORT TO: SAME AS ABOVE
 INVOICE TO: ATTN CARY
1001 STEPHENSONS STREET
NORWAY, MI 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.

Appendix C

August 4, 2015 Sampling Documents

IMPOUNDMENT SAMPLING LOG

2015 Water Quality Study - Flambeau Pixley Hydroelectric Project - FERC #2395

HWL - 1448.35

Date: 8/4/15

Pre-Sampling Data: TWL - 1427.6 751 CFS
 Time: 11:00 Barometer: 29.99 Air Temp: 18.9 °C Wind Speed: NW 9 C 16 MPH
 Sky Conditions: MOSTLY CLOUDY + SUNSHINE
 Precipitation within Last 24 Hours: NO

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

Battery Status: 75% Charge

Calibration Time: 3/11/2015 Method: Factory

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

Secchi Disk Depth: (E0.1 Foot) 2.8 Feet Time: 11:05

Chlorophyll a (3 Feet Below Surface)

Lab Sample I.D.# : 080415-3A		
Time	Quantity (ml)	Filtered
11:10	1000	NO

True Color (3 Feet Below Surface)

Lab Sample I.D.# : 080415-3B	
Time	Quantity (ml)
11:12	250

D.O. Sample Data

Depth	Time	D.O. (mg/l)	°C
.5 Ft Below Surface	11:20	7.97	23.5
3 Feet	11:21	7.60	23.0
6 Feet	11:22	7.15	22.7
9 Feet	11:23	6.69	22.5
12 Feet	11:24	6.52	22.5
15 Feet	11:25	6.49	22.4
18 Feet	11:26	6.43	22.4
21 Feet	11:27	6.42	22.4
24 Feet			
.5 Ft Above Bottom	11:28	6.42	22.4

Phosphorus

Lab Sample I.D.# : 080415-3C	
(3 Feet Below Surface)	
Time	Preserved?
11:17	142504

Lab Sample I.D.# : 080415-3D	
(3 Feet Above Bottom)	
Time	Preserved?
11:15	142504

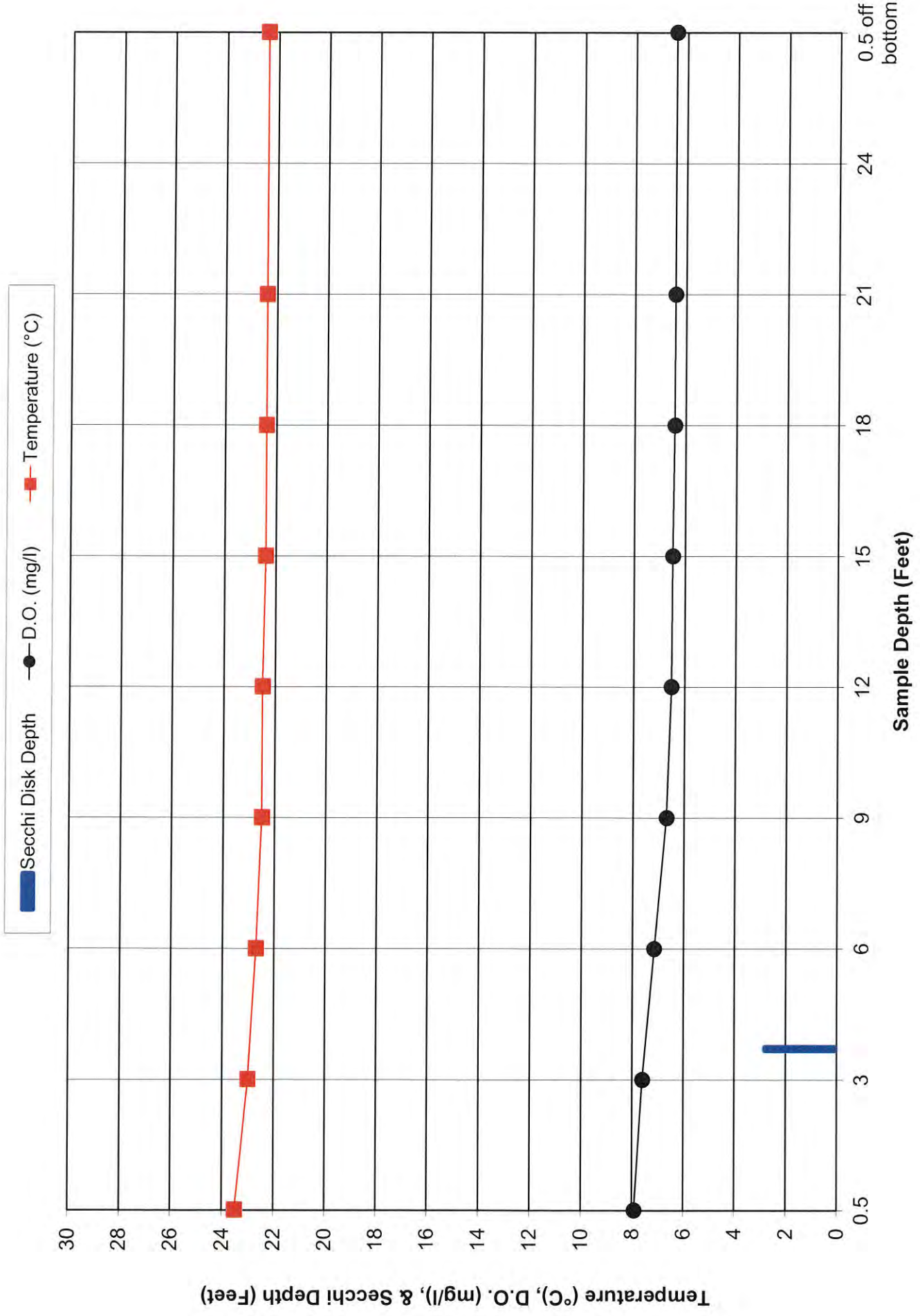
Sample Location: N45° 52.838' W90° 30.684'

Comments: _____

Performed By: GARY RAST + WAYNE KOSTERMAN

Pixley Impoundment - FERC # 2395

August 4, 2015 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: 08/11/15 Code: NNNN-S Page 2 of 2
 NLS Project: 245126
 NLS Customer: 102823
 Phone: 855 994 9376

Project:	Flambeau (4)	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
080415 4B NLS ID: 874906	COC: 185810:2 Matrix: SW Collected: 08/04/15 08:10 Received: 08/05/15	60	C.P.U.	1	5.0*		08/05/15	SM 2120-B 20ed	721026460
Parameter	Color, APHA (true)	yes					08/05/15	NA	721026460
080415 1C NLS ID: 874907	COC: 185810:3 Matrix: SW Collected: 08/04/15 08:10 Received: 08/05/15	0.029	mg/L	1	0.0070*		08/06/15	4500-P E-1999	721026460
Parameter	Phosphorus, tot. as P								
080415 2C NLS ID: 874908	COC: 185810:3 Matrix: SW Collected: 08/04/15 08:10 Received: 08/05/15	0.031	mg/L	1	0.0070*		08/06/15	4500-P E-1999	721026460
Parameter	Phosphorus, tot. as P								
080415 3C NLS ID: 874909	COC: 185810:3 Matrix: SW Collected: 08/04/15 08:10 Received: 08/05/15	0.037	mg/L	1	0.0070*		08/06/15	4500-P E-1999	721026460
Parameter	Phosphorus, tot. as P								
080415 4C NLS ID: 874910	COC: 185810:3 Matrix: SW Collected: 08/04/15 08:10 Received: 08/05/15	0.039	mg/L	1	0.0070*		08/06/15	4500-P E-1999	721026460
Parameter	Phosphorus, tot. as P								
080415 3D NLS ID: 874911	COC: 185810:4 Matrix: SW Collected: 08/04/15 08:10 Received: 08/05/15	0.031	mg/L	1	0.0070*		08/06/15	4500-P E-1999	721026460
Parameter	Phosphorus, tot. as P								
080415 4D NLS ID: 874912	COC: 185810:4 Matrix: SW Collected: 08/04/15 08:10 Received: 08/05/15	0.030	mg/L	1	0.0070*		08/06/15	4500-P E-1999	721026460
Parameter	Phosphorus, tot. as P								

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

LOD = Limit of Detection
 LOQ = Limit of Quantitation
 DWB = Dry Weight Basis
 MCL = Maximum Contaminant Levels for Drinking Water Samples

ND = Not Detected (< LOD)
 %DWB = (mg/kg DWB) / 10000
 Shaded results indicate >MCL.

Reviewed by: 

Authorized by:
 R. T. Krueger
 President

Northern Lake Service, Inc.
Chlorophyll Results

Customer: Renewable World Energies
Project: 245126
Flambeau (4)

Sample	Description	CC a	Pheo a	TC a	TC b	TC c
874899	080415 1A	16	0.0*	16	0.0*	1.1
874900	080415 2A	14	0.0*	14	0.0*	1
874901	080415 3A	20	0.0*	20	0.0*	1.3
874902	080415 4A	17	0.0*	17	0.0*	1.2

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



NO. 185810

SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

Wisconsin Lab Cert. No. 721026460
 Analytical Laboratory and Environmental Services
 400 North Lake Avenue • Crandon, WI 54520-1298
 Tel: (715) 478-2777 • Fax: (715) 478-3060

CLIENT: RENEWABLE WORLD ENERGY
 ADDRESS: 1003 STATE ST PO BOX 264
 CITY: NESHKORO STATE: WI QUOTATION NO.: 54960
 PROJECT DESCRIPTION: FLAMBEAU CHS
 DNR FID #: _____ DNR LICENSE #: _____
 CONTACT: GARY PHONE: 855-994-9376
 PURCHASE ORDER NO.: VERBAL FAX: 920-293-4100

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

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

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		CHLOROPHYLL A	TOTAL PHOS	AMMONIA	AMMONIUM	NITRATE	NITRITES	COD	BOD	COOLANT	COOLING WATER		PHOS	PHOS								
1	1874899	08041514A	8/14/15	8:10	RIVER WATER	X																				
2		1-4B																								
3		1-4C																								
4		2-4D																								
5				1:15																						
6																										
7																										
8																										
9	912																									
10																										

REPORT TO: SAME ABOVE

INVOICE TO: ATTN: GARY
1001 STEPHENSON STREET
NORWAY MI 49870

CUSTOMER SEAL NO. (IF ANY): _____

RECEIVED BY (signature): [Signature] DATE/TIME: 8/4/15 8:10-1:15

RELINQUISHED BY (signature): [Signature] DATE/TIME: _____

DISPATCHED BY (signature): [Signature] DATE/TIME: 8/4/15 3:00

RECEIVED BY (signature): [Signature] DATE/TIME: 8-5-15 10:15

CONDITION: CHL TEMP: _____

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

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.

Appendix D

Agency Correspondence



October 6, 2015

Mr. Nick Utrup
U.S. Fish and Wildlife Service
WI/MN 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 2015 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 2015 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. 2015 marked the twelfth year of water quality sampling. 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 2015 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

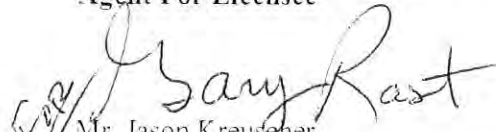
Corporate Office
P.O. Box 264
100 S. State Street
Neshkoro, WI 54960
Fax: 920-293-4100

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 Kreusener
Vice President, Operations

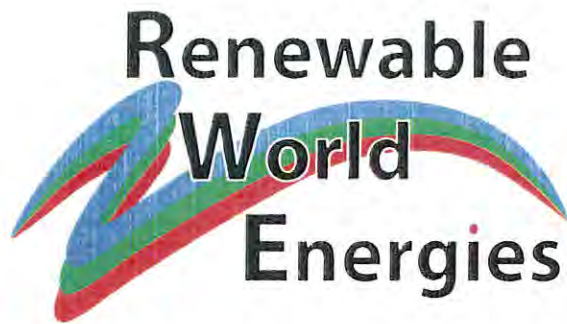
Attachments: Draft Report 2015 Water Quality Monitoring Data Flambeau Upper Hydroelectric Project
– October 5, 2015

Draft Report 2015 Water Quality Monitoring Data Flambeau Lower Hydroelectric
Project – October 5, 2015

Draft Report 2015 Water Quality Monitoring Data Flambeau Pixley Hydroelectric
Project – October 6, 2015

Draft Report 2015 Water Quality Monitoring Data Flambeau Crowley Hydroelectric
Project – October 6, 2015

Cc: RWE, Corporate



January 4, 2016

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 2015 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 2015 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. 2015 was the twelfth year monitoring was conducted since the license was issued, but is the 4th year of submittal by RWE on the behalf of the Licensee. Monitoring was conducted on April 14, July 7, and August 4, 2015. No issues were encountered during the 2015 monitoring season. All data has been entered into the SWIMS Data Base. The draft report was sent to the agencies by letter dated October 6, 2015 for review and comment. No comments have been received as of the date of this letter. The next scheduled monitoring event will be conducted in 2016.

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.

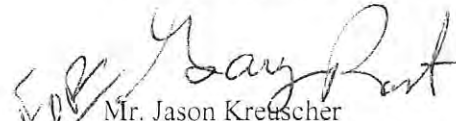
Corporate Office
P.O. Box 264
100 S. State Street
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Phone: 855-99HYDRO
(855-994-9376)
www.renewableworldenergies.com

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



Sincerely,
Renewable World Energies, LLC
Agent for Licensee


Mr. Jason Kreischer
Vice President, Operations

Attachments: Flambeau Upper Final Rpt 2015 W Q Mon Data – Dec. 23, 2015
Flambeau Lower Final Rpt 2015 W Q Mon Data – Dec. 23, 2015
Flambeau Pixley Final Rpt 2015 W Q Mon Data – Dec. 23, 2015
Flambeau Crowley Final Rpt 2015 W Q Mon Data – Dec.23, 2015

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

Final Report

2015 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 23, 2015

Table of Contents

I.	Summary.....	3
II.	2015 Sampling Results Table	5
III.	2015 Temperature and Dissolved Oxygen Sampling Event Graphs	6
IV.	2015 Monthly Temperature and Precipitation Table	7
V.	2015 Flambeau Crowley Sampling Comparison Table	8
VI.	Sampling Location Map.....	9
	APPENDIX A - April 14, 2015 Ice-Out Sampling Documents.....	10
	APPENDIX B - July 7, 2015 Sampling Documents.....	11
	APPENDIX C - August 4, 2015 Sampling Documents.....	12
	APPENDIX D - Agency Correspondence.....	13

Summary

2014 marked the twelfth 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 5th, 2015. The Ice-Out sampling Event occurred on April 14, 2015. River flow, based on the Flambeau (Crowley) Hydroelectric Project records, was approximately 792 cubic feet per second. Sampling occurred between 1:15 p.m. and 1:45 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 April 15, 2015. Northern Lake Service, Inc. issued a laboratory report on April 29, 2015. No unusual levels of True Color, or Total Phosphorus were noted in the laboratory reports; however Chlorophyll a was elevated from previous years.

River flow, based on Crowley Hydroelectric Project records, was approximately 1260 cubic feet per second during the July 7, 2015 sampling event. Sampling occurred between 1:30 p.m. and 2:05 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 8, 2015. Northern Lake Service, Inc. issued a laboratory report on July 31, 2015. 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 584 cubic feet per second during the August 4, 2015 sampling event. Sampling occurred between 1:00 p.m. and 1:28 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 5, 2015. Northern Lake Service, Inc. issued a laboratory report on August 11, 2015. 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 2015 monitoring season appeared slightly warmer in April, May, June, July, & August, with lower than normal precipitation in the months of April, June, July, and higher than normal precipitation in May and August. (**Refer to 2015 Monthly Temp and Precipitation Table page 7**)

A summary of a comparison between the 2011 thru 2015 (**Refer to 2015 Flambeau Crowley Project Sampling Comparison Table 2011-2015 page 8**) sampling results are as follows:

1. Water Clarity – Increased I Out, July, & Aug
2. Chlorophyll a – Increased I Out, Aug, & Decreased July
3. Color – Decreased I Out, July, & Aug
4. Total Phosphorus – Ave/S Increased I Out, Decreased Jul & Aug
5. Overall, D.O. – Ave/S Increased I Out, July, & Increased Aug
6. Water Temperatures – Decreased I Out, July, & Aug

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 2016 beginning with the Ice-Out sampling event.

**2015
Sampling Results
Table**

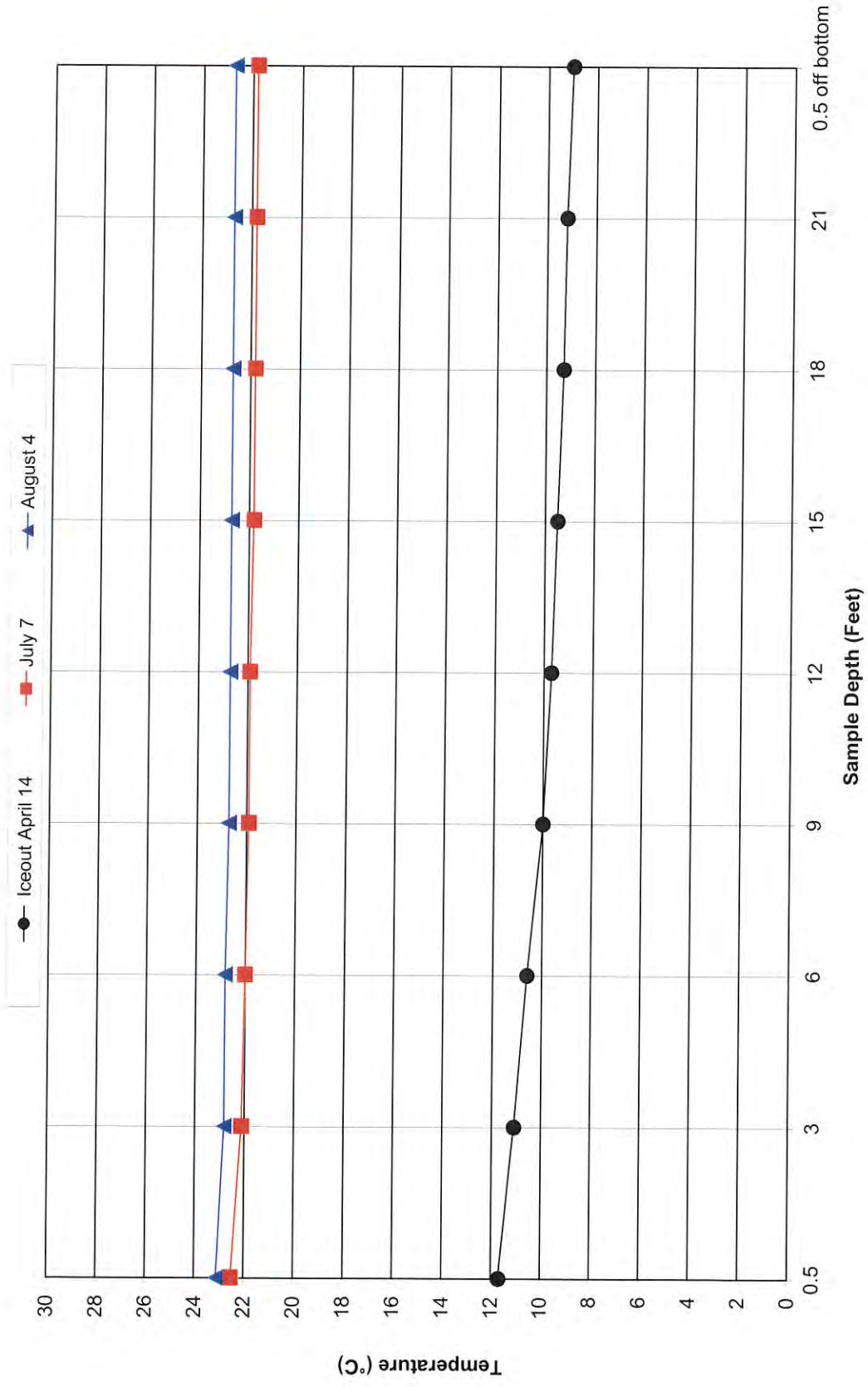
Crowley Hydroelectric Project - FERC Project # 2473 2015 Water Quality Sampling Data

	Ice Out April 14, 2015	July 7, 2015	August 4, 2015																																																																																										
Project Flow (c.f.s.)	792	1260	584																																																																																										
Dissolved Oxygen	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Time</th> <th>D.O. (mg/L)</th> <th>Water Temp. (°C)</th> </tr> </thead> <tbody> <tr><td>1:31 PM</td><td>9.52</td><td>11.70</td></tr> <tr><td>1:32 PM</td><td>9.67</td><td>11.10</td></tr> <tr><td>1:33 PM</td><td>9.65</td><td>10.60</td></tr> <tr><td>1:35 PM</td><td>9.71</td><td>10.00</td></tr> <tr><td>1:36 PM</td><td>9.73</td><td>9.70</td></tr> <tr><td>1:37 PM</td><td>9.74</td><td>9.50</td></tr> <tr><td>1:38 PM</td><td>9.78</td><td>9.30</td></tr> <tr><td>1:40 PM</td><td>9.78</td><td>9.20</td></tr> <tr><td>1:45 PM</td><td>9.78</td><td>9.00</td></tr> </tbody> </table>	Time	D.O. (mg/L)	Water Temp. (°C)	1:31 PM	9.52	11.70	1:32 PM	9.67	11.10	1:33 PM	9.65	10.60	1:35 PM	9.71	10.00	1:36 PM	9.73	9.70	1:37 PM	9.74	9.50	1:38 PM	9.78	9.30	1:40 PM	9.78	9.20	1:45 PM	9.78	9.00	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Time</th> <th>D.O. (mg/L)</th> <th>Water Temp. (°C)</th> </tr> </thead> <tbody> <tr><td>1:36 PM</td><td>6.47</td><td>22.50</td></tr> <tr><td>1:37 PM</td><td>6.29</td><td>22.10</td></tr> <tr><td>1:38 PM</td><td>6.25</td><td>22.00</td></tr> <tr><td>1:39 PM</td><td>6.23</td><td>21.90</td></tr> <tr><td>1:40 PM</td><td>6.20</td><td>21.90</td></tr> <tr><td>1:41 PM</td><td>6.15</td><td>21.80</td></tr> <tr><td>1:42 PM</td><td>6.13</td><td>21.80</td></tr> <tr><td>1:43 PM</td><td>6.09</td><td>21.80</td></tr> <tr><td>1:44 PM</td><td>6.09</td><td>21.80</td></tr> </tbody> </table>	Time	D.O. (mg/L)	Water Temp. (°C)	1:36 PM	6.47	22.50	1:37 PM	6.29	22.10	1:38 PM	6.25	22.00	1:39 PM	6.23	21.90	1:40 PM	6.20	21.90	1:41 PM	6.15	21.80	1:42 PM	6.13	21.80	1:43 PM	6.09	21.80	1:44 PM	6.09	21.80	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Time</th> <th>D.O. (mg/L)</th> <th>Water Temp. (°C)</th> </tr> </thead> <tbody> <tr><td>1:20 PM</td><td>7.32</td><td>23.10</td></tr> <tr><td>1:21 PM</td><td>7.00</td><td>22.80</td></tr> <tr><td>1:22 PM</td><td>6.92</td><td>22.80</td></tr> <tr><td>1:23 PM</td><td>6.68</td><td>22.70</td></tr> <tr><td>1:24 PM</td><td>6.61</td><td>22.70</td></tr> <tr><td>1:25 PM</td><td>6.57</td><td>22.70</td></tr> <tr><td>1:26 PM</td><td>6.53</td><td>22.70</td></tr> <tr><td>1:27 PM</td><td>6.52</td><td>22.70</td></tr> <tr><td>1:28 PM</td><td>6.48</td><td>22.70</td></tr> </tbody> </table>	Time	D.O. (mg/L)	Water Temp. (°C)	1:20 PM	7.32	23.10	1:21 PM	7.00	22.80	1:22 PM	6.92	22.80	1:23 PM	6.68	22.70	1:24 PM	6.61	22.70	1:25 PM	6.57	22.70	1:26 PM	6.53	22.70	1:27 PM	6.52	22.70	1:28 PM	6.48	22.70
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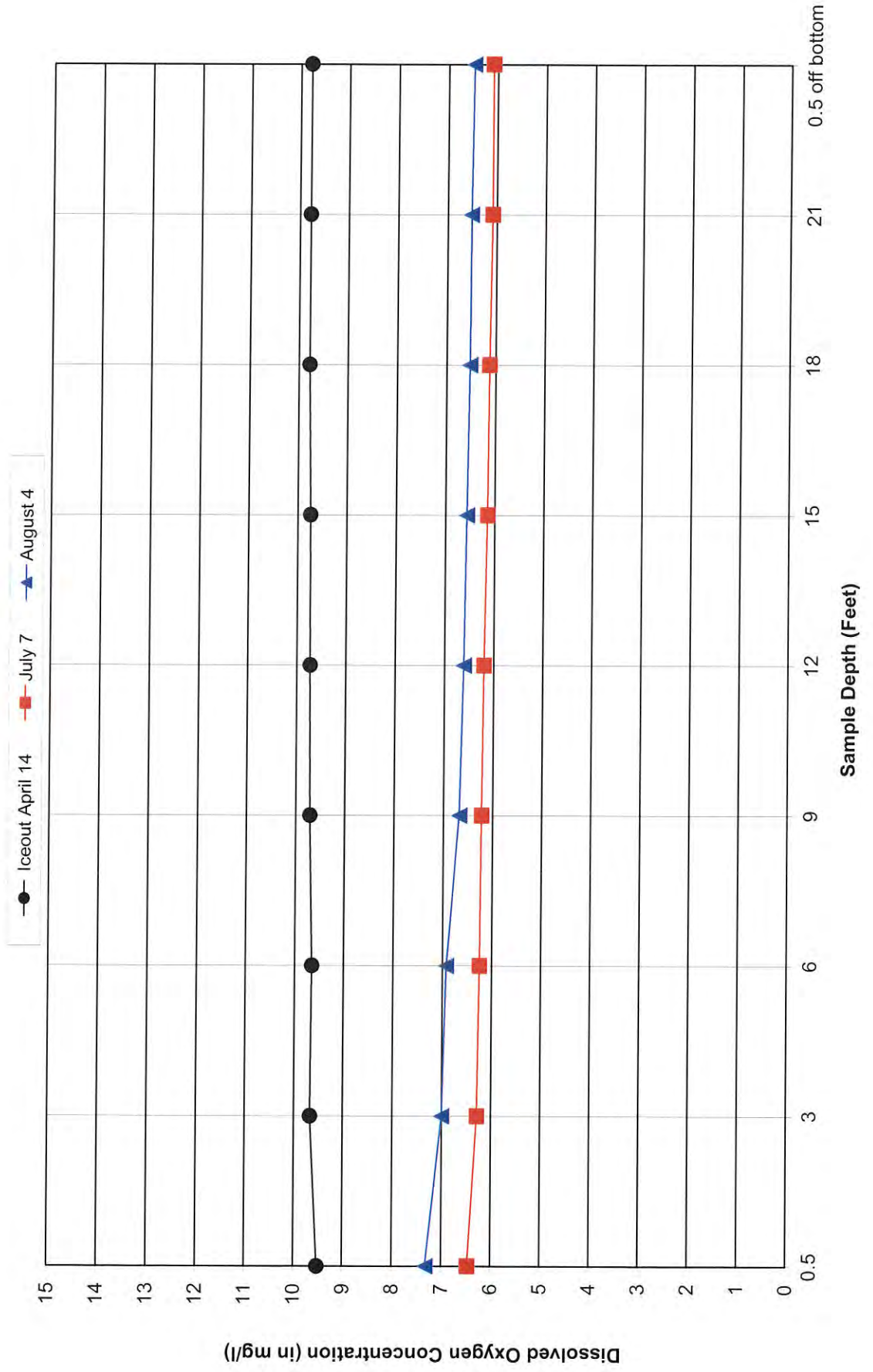
* Considered Reporting Limits

2015
Temperature/Dissolved Oxygen
Graphs

Crowley Impoundment - FERC # 2473 2015 Temperature Samples



Crowley Impoundment - FERC # 2473 2015 Dissolved Oxygen Samples



2015
Monthly Temperature/Precipitation
Table

2015 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-14	69.0	23.0	44.8	1.6	622	678	1.80	0.10	2.85	63%
November-14	51.0	-9.0	21.8	-7.0	1289	1080	0.98	16.40	2.09	47%
December-14	43.0	-10.0	21.5	6.7	1341	1556	1.26	8.60	1.21	104%
January-15	12.7	-18.0	40.0	2.5	1616	1699	0.46	6.60	0.96	48%
February-15	27.0	-19.0	5.2	-9.9	1667	1399	0.38	8.20	0.81	47%
March-15	64.0	-14.0	30.6	4.7	1059	1210	0.79	8.10	1.49	53%
April-15	76.0	22.0	42.2	2.6	675	762	1.03	1.20	2.43	42%
May-15	83.0	32.0	51.7	0.3	409	426	3.73	T	3.23	115%
June-15	84.0	36.0	61.4	1.3	121	179	3.64	T	4.23	86%
July-15	89.0	48.0	69.2	3.4	15	63	3.01	0.00	3.85	78%
August-15	93.0	42.0	65.3	1.0	81	86	4.09	0.00	3.70	111%
September-15	85.0	34.0	61.5	5.9	149	298	6.81	0.00	4.11	166%

Source: NOAA/Duluth, MN

**2015
Flambeau Crowley
Sampling Comparison Table
2011—2015**

Flambeau Crowley

Project Sampling Comparison Table

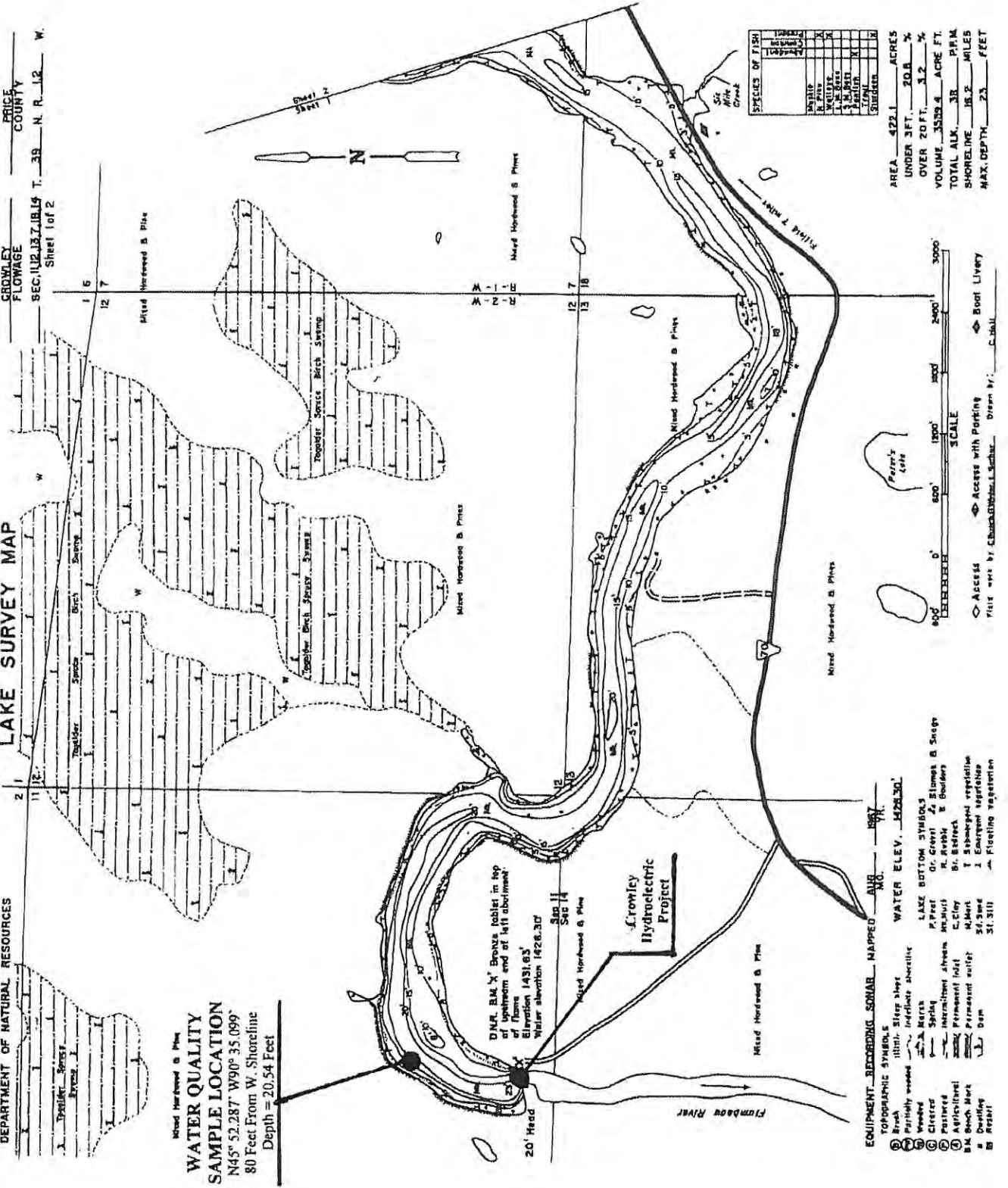
2011 Thru Current Year

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
2015	April	3.50	5.10	13.00	0.047	0.036	9.52	9.78	9.00	11.70
Minimum	April/June	3.00	1.70	13.00	0.031	0.029	6.61	6.97	6.50	10.40
Maximum	April/June	3.50	5.10	150.00	0.047	0.044	11.73	12.01	19.00	21.90
Average	April/June	3.33	3.10	95.75	0.040	0.036	9.29	9.78	10.83	13.95
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
2015	July	4.00	4.60	80.00	0.032	0.034	6.09	6.47	22.80	22.50
Minimum	July	2.90	4.60	80.00	0.032	0.034	1.67	5.65	21.70	22.20
Maximum	July	4.00	21.00	150.00	0.061	0.087	6.09	8.90	25.30	28.00
Average	July	3.27	10.68	112.00	0.049	0.057	4.18	6.96	23.76	24.82
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
2015	August	3.00	17.00	60.00	0.039	0.030	6.48	7.32	22.70	23.10
Minimum	August	1.30	4.80	60.00	0.039	0.030	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	2.74	11.94	102.00	0.056	0.047	6.08	7.29	22.44	23.98
No Sample										

**Crowley Impoundment
Sampling Location
Map**

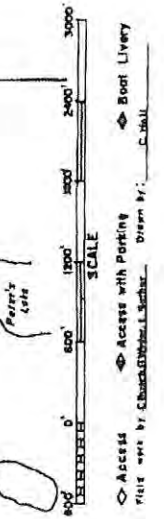
LAKE SURVEY MAP

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



SPECIES OF FISH	
WALLEY	X
MUSKELLONGE	X
BASS	X
YELLOW PERCH	X
SMelt	X
MINNICOINTON	X
SAUGER	X
SHRIMP	X
STURGEON	X

AREA 422.1 ACRES
UNDER 3 FT. 20.8 %
OVER 20 FT. 3.2 %
VOLUME 3539.4 ACRE FT.
TOTAL ALK. 3R P.F.M.
SHORELINE 16.2 MILES
MAX. DEPTH 23 FEET

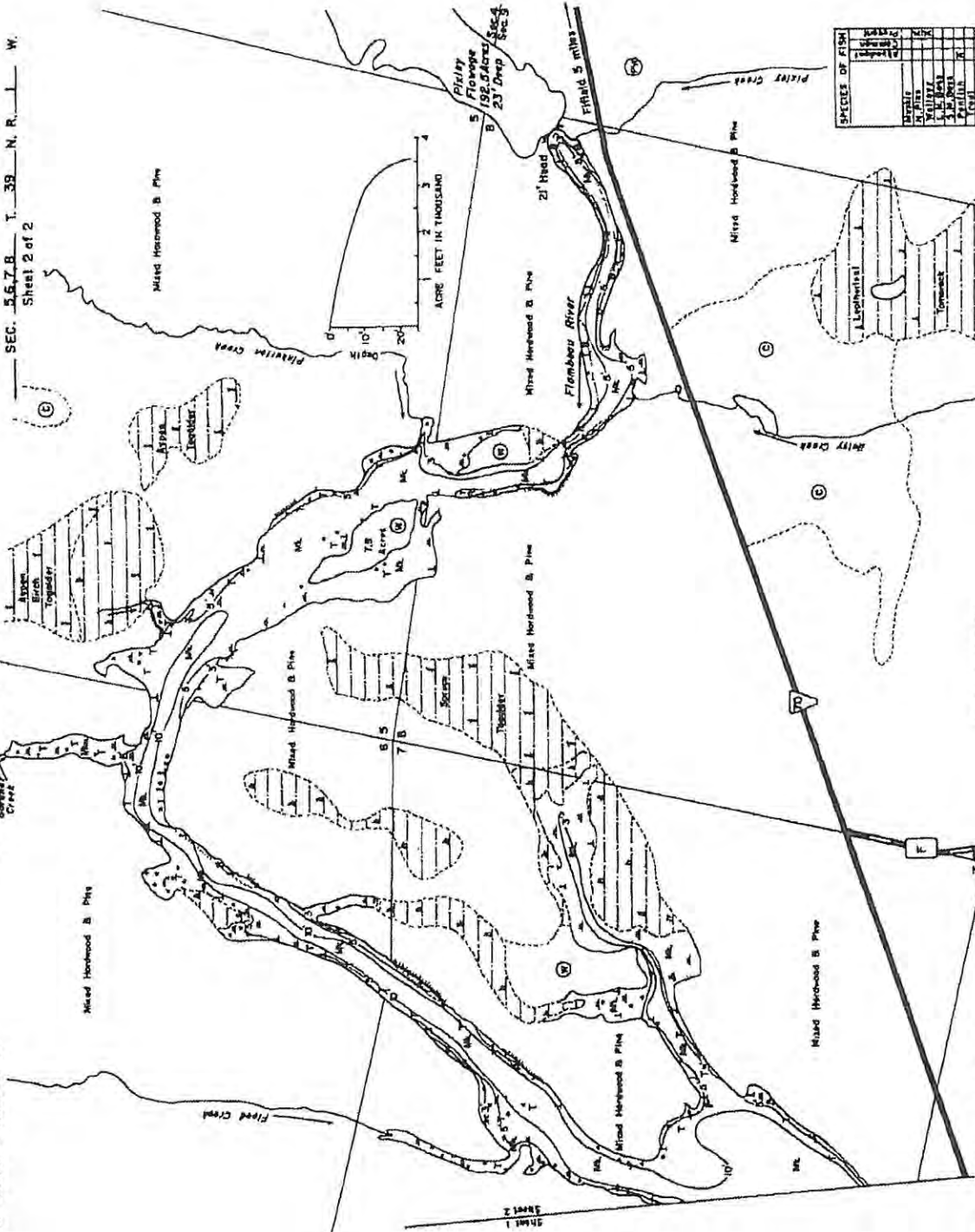


EQUIPMENT	TOPOGRAPHIC SYMBOLS	WATER ELEV. HIGH 30'
Brack	100-ft. Strip Shore	WATER ELEV. HIGH 30'
Bar	100-ft. Shore	LAKE BOTTOM SYMBOLS
Circle	Inlet or Abutment	W. 100' 20' Slows & Steep
Circle	Shore	W. 100' 20' Slows & Steep
Circle	Inlet or Abutment	W. 100' 20' Slows & Steep
Circle	Shore	W. 100' 20' Slows & Steep
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FUMBUR RIVER

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

Brook Trout	1
Whitefish	1
Walleye	1
Yellow Perch	1
Smallmouth Bass	1
Rock Bass	1
White Sucker	1
Blackchin Shiner	1
Golden Shiner	1
Common Carp	1
Channel Catfish	1
Bluegill	1
Rock Bass	1
White Sucker	1
Blackchin Shiner	1
Golden Shiner	1
Common Carp	1
Channel Catfish	1
Bluegill	1

AREA 422.1 ACRES
UNDER 20 FT. 3.2 %
OVER 20 FT. 3.2 %
TOTAL A.L.K. 333.4 ACRE FT.
TOTAL A.L.K. 38 P.P.M.
SHORELINE 18.2 MILES
MAX. DEPTH 23 FEET

- EQUIPMENT RECORDED SONAR MAPPED AUG 1987
WATER ELEV. 1428.30'
- TOPOGRAPHIC SYMBOLS**
- Shrub
 - Perennially wooded
 - Wooded
 - Clear
 - Pasture
 - Agricultural
 - B.M. Bench Mark
 - Dredging
 - Reservoir
- LAKE BOTTOM SYMBOLS**
- P. Peat
 - M. Muck
 - C. Clay
 - Sd. Sand
 - Sl. Silt
 - Gravel
 - Stumps & Shrub
 - R. Rocks
 - B. Barriers
 - Submerged vegetation
 - Emergent vegetation
 - Floating vegetation
- Other Symbols:**
- Steep slope
 - Identify shoreline
 - Spring
 - Intermittent stream
 - Permanent inlet
 - Permanent outlet
 - Dam

Appendix A

April 14, 2015 Ice-Out Sampling Documents

IMPOUNDMENT SAMPLING LOG

2015 Water Quality Study - Flambeau Crowley Hydroelectric Project - FERC #2473

HWL-1427.08

Date: 4/14/15

Pre-Sampling Data: TWL-1406.5

CFS 792

Time: 1:15 Barometer: 30.23 Air Temp: 15.5 °C Wind Speed: NW 3MPH

Sky Conditions: BRIGHT SUN, FAIR, + CLEAR

Precipitation within Last 24 Hours: NO

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

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

Battery Status: 100% Charge

Calibration Time: 3/11/2015 Method: Factory

Sampling Depth Profile: Measured Depth to Bottom of the Impoundment: 22.3 Feet

Secchi Disk Depth: (E0.1 Foot) 3.5 Feet Time: 1:20

Chlorophyll a (3 Feet Below Surface)

Lab Sample I.D.# : 0414154A		
Time	Quantity (ml)	Filtered
1:22	1000	NO

True Color (3 Feet Below Surface)

Lab Sample I.D.# : 0414154B	
Time	Quantity (ml)
1:24	250

D.O. Sample Data

Depth	Time	D.O. (mg/l)	°C
.5 Ft Below Surface	1:31	9.52	11.7
3 Feet	1:32	9.67	11.1
6 Feet	1:33	9.65	10.6
9 Feet	1:35	9.71	10.0
12 Feet	1:36	9.73	9.7
15 Feet	1:37	9.74	9.5
18 Feet	1:38	9.78	9.3
21 Feet	1:40	9.78	9.2
24 Feet			
.5 Ft Above Bottom	1:45	9.78	9.0

Phosphorus

Lab Sample I.D.# : 0414154C	
(3 Feet Below Surface)	
Time	Preserved?
1:25	H2SO4

Lab Sample I.D.# : 0414154D	
(3 Feet Above Bottom)	
Time	Preserved?
1:30	H2SO4

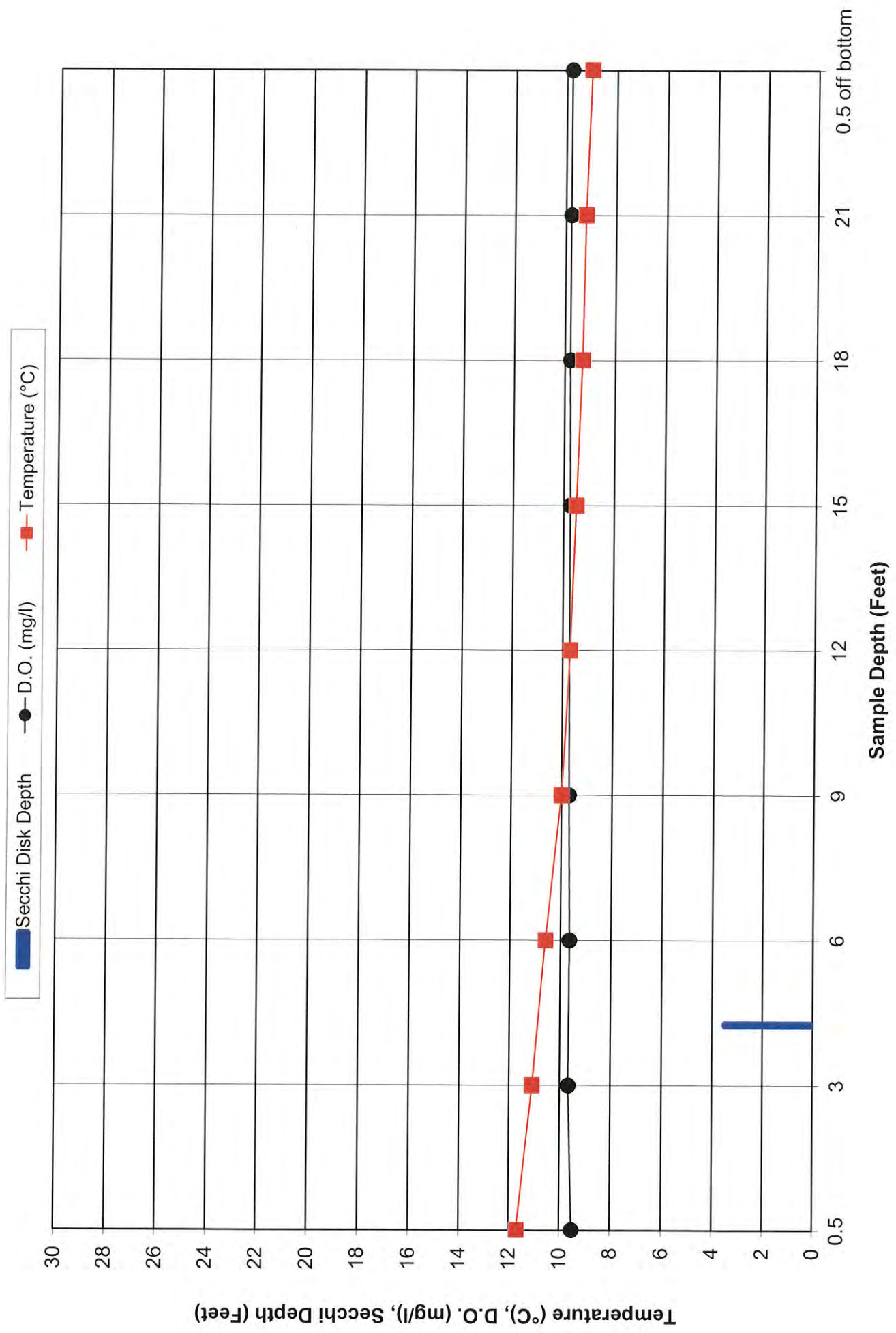
Sample Location: N45° 52.287' W90° 35.099'

Comments: _____

Performed By: GARY RUST + BEN RICHARD

Crowley Impoundment - FERC # 2473

April 14, 2015 Iceout Sampling Event



ANALYTICAL REPORT

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

Printed: 04/29/15 Code: NNNN-S Page 1 of 3

NLS Project: 238669
 NLS Customer: 102823
 Phone: 855 994 9376

NORTHERN LAKE SERVICE, INC.
 Analytical Laboratory and Environmental Services
 400 North Lake Avenue - Crandon, WI 54920
 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

Project: Flam (4)

0414151A NLS ID: 854082										
COC: 167768:1 Matrix: SW										
Collected: 04/14/15 08:00 Received: 04/15/15										
Parameter										
Chlorophyll, all species	Result	see attached	Units		Dilution	LOD	LOQ	Analyzed	Method	Lab
Lab filtration for Chlorophyll	yes							04/28/15	10200-H	721026460
0414152A NLS ID: 854083										
COC: 167768:1 Matrix: SW										
Collected: 04/14/15 08:00 Received: 04/15/15										
Parameter										
Chlorophyll, all species	Result	see attached	Units		Dilution	LOD	LOQ	Analyzed	Method	Lab
Lab filtration for Chlorophyll	yes							04/28/15	10200-H	721026460
0414153A NLS ID: 854084										
COC: 167768:1 Matrix: SW										
Collected: 04/14/15 08:00 Received: 04/15/15										
Parameter										
Chlorophyll, all species	Result	see attached	Units		Dilution	LOD	LOQ	Analyzed	Method	Lab
Lab filtration for Chlorophyll	yes							04/16/15	NA	721026460
0414154A NLS ID: 854085										
COC: 167768:1 Matrix: SW										
Collected: 04/14/15 08:00 Received: 04/15/15										
Parameter										
Chlorophyll, all species	Result	see attached	Units		Dilution	LOD	LOQ	Analyzed	Method	Lab
Lab filtration for Chlorophyll	yes							04/16/15	NA	721026460
0414151B NLS ID: 854086										
COC: 167768:2 Matrix: SW										
Collected: 04/14/15 08:02 Received: 04/15/15										
Parameter										
Color, APHA (true)	Result	130	Units	C.P.U.	Dilution	LOD	LOQ	Analyzed	Method	Lab
Lab filtration	yes				5	25*		04/15/15	SM 2120-B 20ed	721026460
0414152B NLS ID: 854087										
COC: 167768:2 Matrix: SW										
Collected: 04/14/15 08:02 Received: 04/15/15										
Parameter										
Color, APHA (true)	Result	130	Units	C.P.U.	Dilution	LOD	LOQ	Analyzed	Method	Lab
Lab filtration	yes				5	25*		04/15/15	SM 2120-B 20ed	721026460
0414153B NLS ID: 854088										
COC: 167768:2 Matrix: SW										
Collected: 04/14/15 08:02 Received: 04/15/15										
Parameter										
Color, APHA (true)	Result	130	Units	C.P.U.	Dilution	LOD	LOQ	Analyzed	Method	Lab
Lab filtration	yes				5	25*		04/15/15	SM 2120-B 20ed	721026460

ANALYTICAL REPORT

WDR Laboratory ID No. 721026460
 WDATCP Laboratory Certification No. 105-330
 EPA Laboratory ID No. WI00034
 Printed: 04/29/15 Code: NNNN-S Page 2 of 3

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

NLS Project: 238669
NLS Customer: 102823
 Phone: 855 994 9376

Project: Flam (4)

0414154B NLS ID: 854089									
COC: 167768:2 Matrix: SW									
Collected: 04/14/15 08:02 Received: 04/15/15									
Parameter									
Color, APHA (true)									
Lab filtration									
Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab		
130	C.P.U.	5	25*		04/15/15	SM 2120-B 20ed	721026460		
yes					04/15/15	NA	721026460		
0414151C NLS ID: 854090									
COC: 167768:3 Matrix: SW									
Collected: 04/14/15 08:04 Received: 04/15/15									
Parameter									
Phosphorus, tot. as P									
Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab		
0.026	mg/L	1	0.0070*		04/22/15	SM 4500P-E 20ed	721026460		
0414152C NLS ID: 854091									
COC: 167768:3 Matrix: SW									
Collected: 04/14/15 08:04 Received: 04/15/15									
Parameter									
Phosphorus, tot. as P									
Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab		
0.038	mg/L	1	0.0070*		04/22/15	SM 4500P-E 20ed	721026460		
0414153C NLS ID: 854092									
COC: 167768:3 Matrix: SW									
Collected: 04/14/15 08:04 Received: 04/15/15									
Parameter									
Phosphorus, tot. as P									
Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab		
0.037	mg/L	1	0.0070*		04/22/15	SM 4500P-E 20ed	721026460		
0414154C NLS ID: 854093									
COC: 167768:3 Matrix: SW									
Collected: 04/14/15 08:04 Received: 04/15/15									
Parameter									
Phosphorus, tot. as P									
Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab		
0.047	mg/L	1	0.0070*		04/22/15	SM 4500P-E 20ed	721026460		
0414152D NLS ID: 854094									
COC: 167768:4 Matrix: SW									
Collected: 04/14/15 09:40 Received: 04/15/15									
Parameter									
Phosphorus, tot. as P									
Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab		
0.080	mg/L	1	0.0070*		04/22/15	SM 4500P-E 20ed	721026460		
0414153D NLS ID: 854095									
COC: 167768:4 Matrix: SW									
Collected: 04/14/15 09:40 Received: 04/15/15									
Parameter									
Phosphorus, tot. as P									
Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab		
0.030	mg/L	1	0.0070*		04/22/15	SM 4500P-E 20ed	721026460		
0414154D NLS ID: 854096									
COC: 167768:4 Matrix: SW									
Collected: 04/14/15 09:40 Received: 04/15/15									
Parameter									
Phosphorus, tot. as P									
Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab		
0.036	mg/L	1	0.0070*		04/22/15	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. WI000034
Printed: 04/29/15 Code: NNNN-S Page 3 of 3
NLS Project: 238669
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 and/or solids content.

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

Reviewed by:



Authorized by:
R. T. Krueger
President

Northern Lake Service, Inc.
Chlorophyll Results

Customer: Renewable World Energies
Project: 238669
Flam (4)

Sample	Description	CC a	Pheo a	TC a	TC b	TC c
854082	0414151A	2.7	0.19	2.9	0.23	0.49
854083	0414152A	2.8	0.19	3	0.13	0.55
854084	0414153A	0.86	0.69	1.3	0.16	0.28
854085	0414154A	4.8	0.29	5.1	0.3	0.84

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.

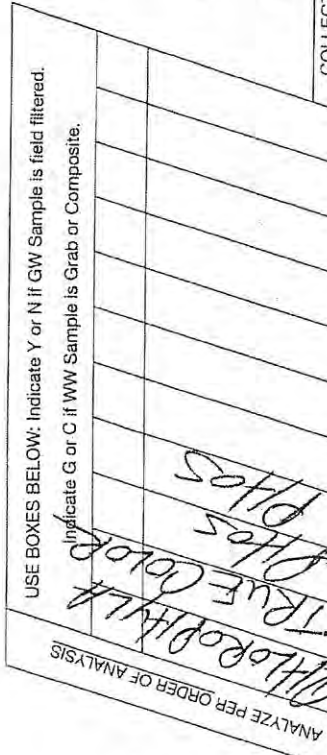
SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

NORTHERN LAKE SERVICE, INC.

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

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

CLIENT: RENEWABLE WORLD ENERGIES
 ADDRESS: 1005 STATE ST PO BOX 264
 CITY: MESAKORO WI STATE: WI ZIP: 54960
 PROJECT DESCRIPTION / NO.: FLANGES QUOTATION NO.:
 DNR FID # _____ DNR LICENSE # _____
 CONTACT: GARY RAST PHONE: 855-994-9376
 PURCHASE ORDER NO: VERBAL FAX: 820-293-4108



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

NO. 167768

ITEM NO.	THIS IS A...	SAMPLE ID	DATE	COLLECTION TIME	MATRIX (See above)	ANALYZE PER ORDER OF ANALYSIS	COLLECTION REMARKS (i.e. DNR Well ID #)
1.	854082-085	0414151234A	4/14/15	8:00	RIVER WATER	X Chlorophyll a X TRUE COLOR pH/15 pH/15	
2.	086-089	0414151234B	"	8:07:24	"	X	
3.	090-083	0414151234C	"	8:07:25	"	X	
4.	094-096	0414152340	4/14/15	9:40-1:30	"	X	
5.							
6.							
7.							
8.							
9.							
10.							

REPORT TO: SAME AS ABOVE
 ATTN: GARY
 INVOICE TO: RWE
1001 STEPHEN ST
NORWAY MI 49870

CUSTOMER SEAL NO. (IF ANY): 4/14/15 8:00 - 1:30 DATE/TIME
 RECEIVED BY (signature): [Signature] DATE/TIME: 4/14/15 3:00 PM
 METHOD OF TRANSPORT: UPS DATE/TIME: 4-15-15 10:15 AM
 CONDITION: ON ICE TEMP.:
 REMARKS & OTHER INFORMATION:
 WDNR FACILITY NUMBER: _____ E-MAIL ADDRESS: _____

COOLER # _____
 PRESERVATIVE: N = nitric acid OH = sodium hydroxide
 Z = zinc acetate HA = hydrochloric & ascorbic acid
 M = methanol H = hydrochloric acid
 S = sulfuric acid

IMPORTANT:
 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.

Appendix B

July 7, 2015 Sampling Documents

IMPOUNDMENT SAMPLING LOG

2015 Water Quality Study - Flambeau Crowley Hydroelectric Project - FERC #2473

CFS = 1260 HWL = 1427.16 Date: 7/7/15

Pre-Sampling Data:

TWL = 1407.35

Time: 1:30 Barometer: 30.12 Air Temp: 17.8 °C Wind Speed: N 8 MPH @ 17 mph

Sky Conditions: MOSTLY CLOUDY - SOME PERIODS OF SUNSHINE

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: 60% Charge

Calibration Time: 3/11/2015 Method: Factory

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

Secchi Disk Depth: (E0.1 Foot) 4.0 Feet Time: 1:35

Chlorophyll a (3 Feet Below Surface)

Lab Sample I.D.#: 150707-4A		
Time	Quantity (ml)	Filtered
2:00	1000	No

True Color (3 Feet Below Surface)

Lab Sample I.D.#: 150707-4B	
Time	Quantity (ml)
2:02	250

D.O. Sample Data

Depth	Time	D.O. (mg/l)	°C
.5 Ft Below Surface	1:36	6.47	22.5
3 Feet	1:37	6.29	22.1
6 Feet	1:38	6.25	22.0
9 Feet	1:39	6.23	21.9
12 Feet	1:40	6.20	21.8
15 Feet	1:41	6.15	21.8
18 Feet	1:42	6.13	21.8
21 Feet	1:43	6.09	21.8
24 Feet			
.5 Ft Above Bottom	1:44	6.09	21.8

Phosphorus

Lab Sample I.D.#: 150707-4C	
(3 Feet Below Surface)	
Time	Preserved?
2:04	H2SO4

Lab Sample I.D.#: 150707-4D	
(3 Feet Above Bottom)	
Time	Preserved?
2:05	H2SO4

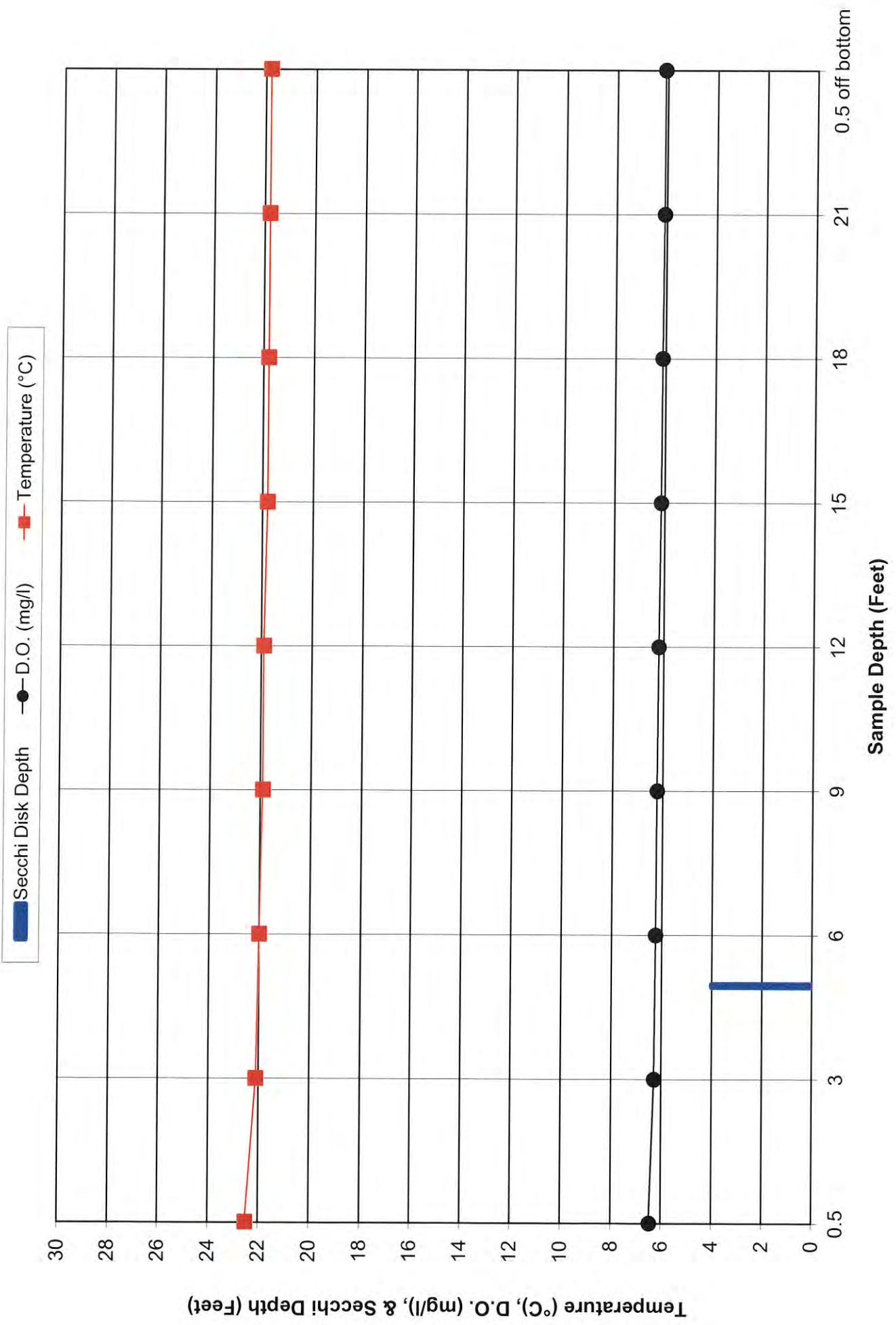
Sample Location: N45° 52.287' W90° 35.099'

Comments: _____

Performed By: GARY RAST + WAYNE KOSTERMAN

Crowley Impoundment - FERC # 2473

July 7, 2015 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: 07/31/15 Code: NNNN-S Page 1 of 3

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

NLS Project: 243355
NLS Customer: 102823
 Phone: 855 994 9376

Project:	Flam (4)	Result	Units	Dilution	LOD	LOQ	Method	Lab
150707-1A NLS ID: 869296								
COC: 179119:1 Matrix: SW								
Collected: 07/07/15 14:00 Received: 07/08/15								
Parameter	Chlorophyll, all species	see attached					10200-H	721026460
	Lab filtration for Chlorophyll	yes					NA	721026460
150707-2A NLS ID: 869297								
COC: 179119:1 Matrix: SW								
Collected: 07/07/15 14:00 Received: 07/08/15								
Parameter	Chlorophyll, all species	see attached					10200-H	721026460
	Lab filtration for Chlorophyll	yes					NA	721026460
150707-3A NLS ID: 869298								
COC: 179119:1 Matrix: SW								
Collected: 07/07/15 14:00 Received: 07/08/15								
Parameter	Chlorophyll, all species	see attached					10200-H	721026460
	Lab filtration for Chlorophyll	yes					NA	721026460
150707-4A NLS ID: 869299								
COC: 179119:2 Matrix: SW								
Collected: 07/07/15 14:00 Received: 07/08/15								
Parameter	Chlorophyll, all species	see attached					10200-H	721026460
	Lab filtration for Chlorophyll	yes					NA	721026460
150707-1B NLS ID: 869300								
COC: 179119:2 Matrix: SW								
Collected: 07/07/15 14:02 Received: 07/08/15								
Parameter	Color, APHA (true)	80	C.P.U.	2	10*		SM 2120-B 20ed	721026460
	Lab filtration	yes					NA	721026460
150707-2B NLS ID: 869301								
COC: 179119:2 Matrix: SW								
Collected: 07/07/15 14:02 Received: 07/08/15								
Parameter	Color, APHA (true)	80	C.P.U.	2	10*		SM 2120-B 20ed	721026460
	Lab filtration	yes					NA	721026460
150707-3B NLS ID: 869302								
COC: 179119:2 Matrix: SW								
Collected: 07/07/15 14:02 Received: 07/08/15								
Parameter	Color, APHA (true)	80	C.P.U.	2	10*		SM 2120-B 20ed	721026460
	Lab filtration	yes					NA	721026460

ANALYTICAL REPORT

NORTHERN LAKE SERVICE, INC.
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WDNR Laboratory ID No. 721026460
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 EPA Laboratory ID No. WI00034

Printed: 07/31/15 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: 243355
NLS Customer: 102823
 Phone: 855 994 9376

Project:	Flam (4)
150707-4B NLS ID: 869303	
COC: 179119:3 Matrix: SW	
Collected: 07/07/15 14:02 Received: 07/08/15	
Parameter	
Color, APHA (true)	
Lab filtration	
Result	80
	yes
Units	C.P.U.
Dilution	2
LOD	10*
LOQ	
Analyzed	07/08/15
Method	SM 2120-B 20ed
Lab	721026460
150707-1C NLS ID: 869304	
COC: 179119:3 Matrix: SW	
Collected: 07/07/15 14:04 Received: 07/08/15	
Parameter	
Phosphorus, tot. as P	
Result	0.017
Units	mg/L
Dilution	1
LOD	0.0070*
LOQ	
Analyzed	07/09/15
Method	4500-P E-1999
Lab	721026460
150707-2C NLS ID: 869305	
COC: 179119:3 Matrix: SW	
Collected: 07/07/15 14:04 Received: 07/08/15	
Parameter	
Phosphorus, tot. as P	
Result	0.026
Units	mg/L
Dilution	1
LOD	0.0070*
LOQ	
Analyzed	07/09/15
Method	4500-P E-1999
Lab	721026460
150707-3C NLS ID: 869306	
COC: 179119:3 Matrix: SW	
Collected: 07/07/15 14:04 Received: 07/08/15	
Parameter	
Phosphorus, tot. as P	
Result	0.032
Units	mg/L
Dilution	1
LOD	0.0070*
LOQ	
Analyzed	07/09/15
Method	4500-P E-1999
Lab	721026460
150707-4C NLS ID: 869307	
COC: 179119:3 Matrix: SW	
Collected: 07/07/15 14:04 Received: 07/08/15	
Parameter	
Phosphorus, tot. as P	
Result	0.032
Units	mg/L
Dilution	1
LOD	0.0070*
LOQ	
Analyzed	07/09/15
Method	4500-P E-1999
Lab	721026460
150707-2D NLS ID: 869308	
COC: 179119:5 Matrix: SW	
Collected: 07/07/15 14:05 Received: 07/08/15	
Parameter	
Phosphorus, tot. as P	
Result	0.032
Units	mg/L
Dilution	1
LOD	0.0070*
LOQ	
Analyzed	07/09/15
Method	4500-P E-1999
Lab	721026460
150707-3D NLS ID: 869309	
COC: 179119:5 Matrix: SW	
Collected: 07/07/15 14:05 Received: 07/08/15	
Parameter	
Phosphorus, tot. as P	
Result	0.027
Units	mg/L
Dilution	1
LOD	0.0070*
LOQ	
Analyzed	07/09/15
Method	4500-P E-1999
Lab	721026460
150707-4D NLS ID: 869310	
COC: 179119:5 Matrix: SW	
Collected: 07/07/15 14:05 Received: 07/08/15	
Parameter	
Phosphorus, tot. as P	
Result	0.031
Units	mg/L
Dilution	1
LOD	0.0070*
LOQ	
Analyzed	07/09/15
Method	4500-P E-1999
Lab	721026460
150707-4E NLS ID: 869311	
COC: 179119:5 Matrix: SW	
Collected: 07/07/15 14:05 Received: 07/08/15	
Parameter	
Phosphorus, tot. as P	
Result	0.034
Units	mg/L
Dilution	1
LOD	0.0070*
LOQ	
Analyzed	07/09/15
Method	4500-P E-1999
Lab	721026460

ANALYTICAL REPORT

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Printed: 07/31/15 Code: NNNN-S Page 3 of 3

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

NLS Project: 243355

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 and/or solids content.

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

Reviewed by:



Authorized by:
R. T. Krueger
President

Northern Lake Service, Inc.
Chlorophyll Results

Customer: Renewable World Energies
Project: 243355
Flam (4)

Sample	Description	CC a	Pheo a	TC a	TC b	TC c
869296	150707-1A	2.7	1.3	3.5	0.48	1.5
869297	150707-2A	3	1.6	4	0.28	0.78
869298	150707-3A	3.4	1.1	4.2	0.078	0.49
869299	150707-4A	3.7	1.2	4.6	0.22	0.35

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

WISCONSIN RECORD OF CUSTODY RECORD

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

SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

CLIENT: RENEWABLE WORLD ENERGIES
 ADDRESS: 700 STATE ST PO BOX 269
 CITY: NESHKOR STATE: WI ZIP: 54966
 PROJECT DESCRIPTION NO.: FLAME GAS QUOTATION NO.:
 DNR FID # _____ DNR LICENSE # _____
 CONTACT: CARY RAST PHONE: 855-994-9376
 PURCHASE ORDER NO.: VERBAL FAX: 920-293-4100

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

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. 179119

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		TR	PHOS	PHOS	PHOS	PHOS	PHOS	PHOS	PHOS	PHOS	PHOS	
1.	8162916	150707-1-4A	7/7	RIVER WATER	8:10	X	X	X	X	X	X	X	X	X	X	
2.	816310	150707-1-4B	7/7	WATER	8:13	X	X	X	X	X	X	X	X	X	X	
3.	816310	150707-1-4C	7/7	WATER	8:15	X	X	X	X	X	X	X	X	X	X	
4.	150707-2-4A	150707-2-4A	7/7	WATER	8:20											
5.	150707-2-4D	150707-2-4D	7/7	WATER	8:25	X	X	X	X	X	X	X	X	X	X	
6.																
7.																
8.																
9.																
10.																

REPORT TO: SAME AS ABOVE
 INVOICE TO: ATTN CARY
1001 STEPHENSONS STREET
NORWAY, MI 49870

COLLECTED BY (signature): [Signature] DATE/TIME: 7/7/15 8:10-8:25
 RELINQUISHED BY (signature): [Signature] DATE/TIME: 7/15 3:00
 DISPATCHED BY (signature): [Signature] DATE/TIME: 7/15 3:00
 RECEIVED AT NLS BY (signature): [Signature] DATE/TIME: 7-8-15 10:15 TEMP: 6m
 RECEIVED BY (signature): [Signature] DATE/TIME: 7/15 8:10-8:25
 METHOD OF TRANSPORT: UPS CONDITION: 6m
 REMARKS & OTHER INFORMATION: TRIP TO PHOS

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

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. CLIENT MAY KEEP PINK COPY.
 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.

Appendix C

August 4, 2015 Sampling Documents

IMPOUNDMENT SAMPLING LOG

2015 Water Quality Study - Flambeau Crowley Hydroelectric Project - FERC #2473

HWL - 1427.34

Date: 8/4/15

Pre-Sampling Data: TWL - 1406.6 584 CFS

Time: 1:00 Barometer: 29.97 Air Temp: 20.5 °C Wind Speed: NW 7 MPH

Sky Conditions: PARTLY CLOUDY + SUNSHINE

Precipitation within Last 24 Hours: NO

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

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

Battery Status: 75% Charge

Calibration Time: 3/11/2015 Method: Factory

Sampling Depth Profile: Measured Depth to Bottom of the Impoundment: 22.1 Feet

Secchi Disk Depth: (E0.1 Foot) 3.0 Feet Time: 1:05

Chlorophyll a (3 Feet Below Surface)

Lab Sample I.D.#:	080415-4A	
Time	Quantity (ml)	Filtered
1:10	1000	NO

True Color (3 Feet Below Surface)

Lab Sample I.D.#:	080415-4B	
Time	Quantity (ml)	
1:12	250	

D.O. Sample Data

Depth	Time	D.O. (mg/l)	°C
.5 Ft Below Surface	1:20	7.32	22.1
3 Feet	1:21	7.00	22.8
6 Feet	1:22	6.92	22.8
9 Feet	1:23	6.68	22.7
12 Feet	1:24	6.61	22.7
15 Feet	1:25	6.57	22.7
18 Feet	1:26	6.53	22.7
21 Feet	1:27	6.52	22.7
24 Feet			
.5 Ft Above Bottom	1:28	6.48	22.7

Phosphorus

Lab Sample I.D.#:	080415-4C	
(3 Feet Below Surface)		
Time	Preserved?	
1:14	H2SO4	

Lab Sample I.D.#:	080415-4D	
(3 Feet Above Bottom)		
Time	Preserved?	
1:15	H2SO4	

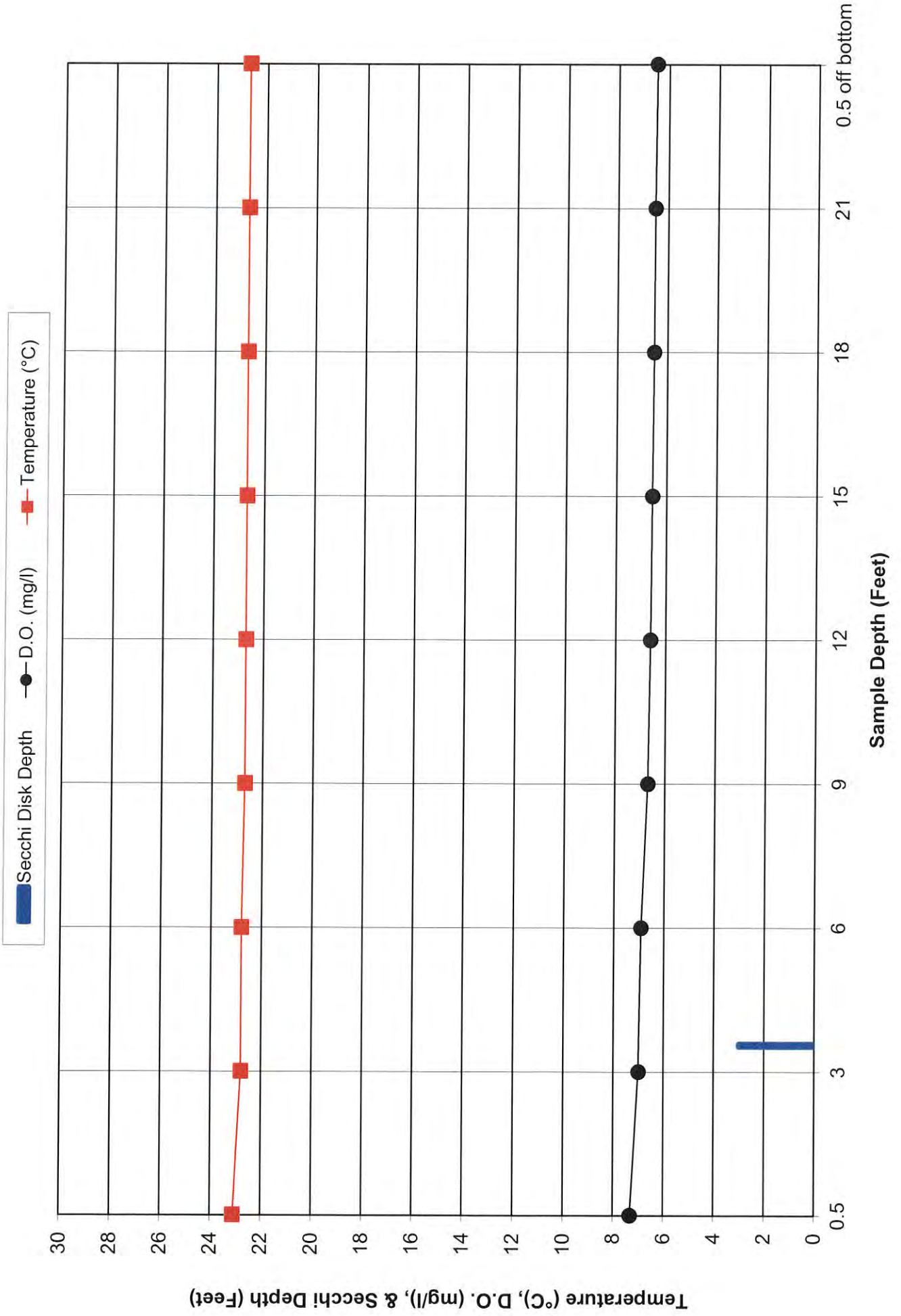
Sample Location: N45° 52.287' W90° 35.099'

Comments: _____

Performed By: GARY RAST + WAYNE KOSTERMAN

Crowley Impoundment - FERC # 2473

August 4, 2015 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

WDR 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: 08/11/15 Code: NNNN-S Page 1 of 2
 NLS Project: 245126
 NLS Customer: 102823
 Phone: 855 994 9376

Project:	Flambeau (4)
080415 1A NLS ID: 874899	
COC: 185810:1 Matrix: SW	
Collected: 08/04/15 08:10 Received: 08/05/15	
Parameter	
Chlorophyll, all species	
Lab filtration for Chlorophyll	
080415 2A NLS ID: 874900	
COC: 185810:1 Matrix: SW	
Collected: 08/04/15 08:10 Received: 08/05/15	
Parameter	
Chlorophyll, all species	
Lab filtration for Chlorophyll	
080415 3A NLS ID: 874901	
COC: 185810:1 Matrix: SW	
Collected: 08/04/15 08:10 Received: 08/05/15	
Parameter	
Chlorophyll, all species	
Lab filtration for Chlorophyll	
080415 4A NLS ID: 874902	
COC: 185810:1 Matrix: SW	
Collected: 08/04/15 08:10 Received: 08/05/15	
Parameter	
Chlorophyll, all species	
Lab filtration for Chlorophyll	
080415 1B NLS ID: 874903	
COC: 185810:2 Matrix: SW	
Collected: 08/04/15 08:10 Received: 08/05/15	
Parameter	
Color, APHA (true)	
Lab filtration	
080415 2B NLS ID: 874904	
COC: 185810:2 Matrix: SW	
Collected: 08/04/15 08:10 Received: 08/05/15	
Parameter	
Color, APHA (true)	
Lab filtration	
080415 3B NLS ID: 874905	
COC: 185810:2 Matrix: SW	
Collected: 08/04/15 08:10 Received: 08/05/15	
Parameter	
Color, APHA (true)	
Lab filtration	

Result	see attached	yes	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
see attached	yes						08/07/15	10200-H	721026460
see attached	yes						08/06/15	NA	721026460
see attached	yes						08/07/15	10200-H	721026460
see attached	yes						08/06/15	NA	721026460
see attached	yes						08/07/15	10200-H	721026460
see attached	yes						08/06/15	NA	721026460
70		yes	C.P.U.	1	5.0*		08/05/15	SM 2120-B 20ed	721026460
70		yes	C.P.U.	1	5.0*		08/05/15	SM 2120-B 20ed	721026460
60		yes	C.P.U.	1	5.0*		08/05/15	SM 2120-B 20ed	721026460
							08/05/15	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: 08/11/15 Code: NNNN-S Page 2 of 2
 NLS Project: 245126
 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)

080415 4B NLS ID: 874906

COC: 185810:2 Matrix: SW
 Collected: 08/04/15 08:10 Received: 08/05/15

Parameter

Color, APHA (true)
 Lab filtration

Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
60	C.P.U.	1	5.0*		08/05/15	SM 2120-B 20ed	721026460
yes					08/05/15	NA	721026460

080415 1C NLS ID: 874907

COC: 185810:3 Matrix: SW
 Collected: 08/04/15 08:10 Received: 08/05/15

Parameter

Phosphorus, tot. as P

Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
0.029	mg/L	1	0.0070*		08/06/15	4500-P E-1999	721026460

080415 2C NLS ID: 874908

COC: 185810:3 Matrix: SW
 Collected: 08/04/15 08:10 Received: 08/05/15

Parameter

Phosphorus, tot. as P

Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
0.031	mg/L	1	0.0070*		08/06/15	4500-P E-1999	721026460

080415 3C NLS ID: 874909

COC: 185810:3 Matrix: SW
 Collected: 08/04/15 08:10 Received: 08/05/15

Parameter

Phosphorus, tot. as P

Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
0.037	mg/L	1	0.0070*		08/06/15	4500-P E-1999	721026460

080415 4C NLS ID: 874910

COC: 185810:3 Matrix: SW
 Collected: 08/04/15 08:10 Received: 08/05/15

Parameter

Phosphorus, tot. as P

Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
0.039	mg/L	1	0.0070*		08/06/15	4500-P E-1999	721026460

080415 3D NLS ID: 874911

COC: 185810:4 Matrix: SW
 Collected: 08/04/15 08:10 Received: 08/05/15

Parameter

Phosphorus, tot. as P

Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
0.031	mg/L	1	0.0070*		08/06/15	4500-P E-1999	721026460

080415 4D NLS ID: 874912

COC: 185810:4 Matrix: SW
 Collected: 08/04/15 08:10 Received: 08/05/15

Parameter


Phosphorus, tot. as P

Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
0.030	mg/L	1	0.0070*		08/06/15	4500-P E-1999	721026460

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

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

1000 ug/L = 1 mg/L

Reviewed by: 
 R. T. Krueger
 President

Authorized by:
 R. T. Krueger
 President

Northern Lake Service, Inc.
Chlorophyll Results

Customer: Renewable World Energies
Project: 245126
Flambeau (4)

Sample	Description	CC a	Pheo a	TC a	TC b	TC c
874899	080415 1A	16	0.0*	16	0.0*	1.1
874900	080415 2A	14	0.0*	14	0.0*	1
874901	080415 3A	20	0.0*	20	0.0*	1.3
874902	080415 4A	17	0.0*	17	0.0*	1.2

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
 ATCP 105-000330

CLIENT: RENEWABLE WORLD ENERGY
 ADDRESS: 1005 STATE ST PO BOX 267
 CITY: NESTLEWOOD STATE: WI QUOTATION NO.: 54960
 PROJECT DESCRIPTION: LAKE BEAU (4)
 DNR FID #: _____ DNR LICENSE #: _____
 CONTACT: GARY PHONE: 855-994-9376
 PURCHASE ORDER NO.: _____ FAX: 920-293-4100
 VERBAL

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

ANALYZE PER ORDER OF ANALYSIS
 CHLOROPHYLL A
 PHOS
 PHOS
 T COLOR



NO. 185810

ITEM NO.	NLS LAB #	SAMPLE ID	COLLECTION		MATRIX (See above)	COLLECTION REMARKS (i.e. DNR Well ID #)
			DATE	TIME		
1	1874899	D8041514A	8/14/15	8:10	RIVER WATER	
2	"	1-4B				
3	"	1-4C				
4	"	2-4D				
5				1:15		
6						
7						
8						
9	912					
10						

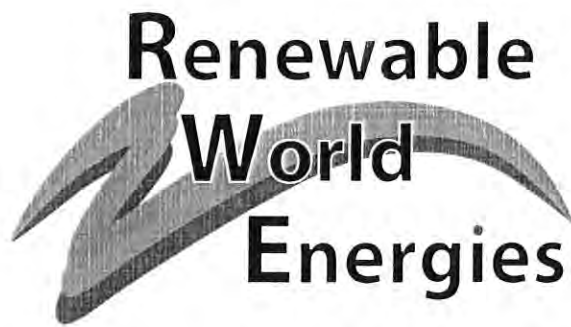
REPORT TO: SAME ABOVE
 INVOICE TO: ATTN: GARY
1001 STEPHENSON STREET
NORWAY MI 49870

CUSTODY SEAL NO. (IF ANY): _____ DATE/TIME: 8/14/15 8:10-1:15
 RECEIVED BY (signature): _____ DATE/TIME: _____
 METHOD OF TRANSPORT: UPS DATE/TIME: 8/14/15 3:00
 DATE/TIME: 8-5-15 10:15 CONDITION: CA10 TEMP.: _____
 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
IMPORTANT:
 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.

Appendix D

Agency Correspondence



October 6, 2015

Mr. Nick Utrup
U.S. Fish and Wildlife Service
WI/MN 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 2015 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 2015 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. 2015 marked the twelfth year of water quality sampling. 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 2015 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

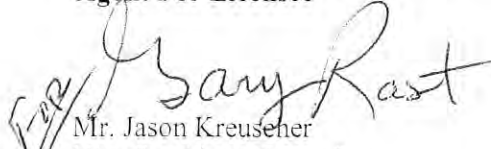
Corporate Office
P.O. Box 264
100 S. State Street
Neshkoro, WI 54960
Fax: 920-293-4100

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 Kreuzener
Vice President, Operations

Attachments: Draft Report 2015 Water Quality Monitoring Data Flambeau Upper Hydroelectric Project
– October 5, 2015

Draft Report 2015 Water Quality Monitoring Data Flambeau Lower Hydroelectric
Project – October 5, 2015

Draft Report 2015 Water Quality Monitoring Data Flambeau Pixley Hydroelectric
Project – October 6, 2015

Draft Report 2015 Water Quality Monitoring Data Flambeau Crowley Hydroelectric
Project – October 6, 2015

Cc: RWE, Corporate