Draft Report

2011 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:

North American Hydro Holdings
116 North State Street
Neshkoro, Wisconsin 54960

Draft – November 17, 2011

Table of Contents

Summary

2011 marked the eighth 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 during the 2nd full week of April 2011. The Ice-Out sampling event occurred on April 25, 2011. River flow, based on Flambeau (Upper) Hydroelectric Project records, was approximately 746 cubic feet per second. Sampling occurred between 8:30 a.m. and 9:18 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 27, 2011. Northern Lake Service, Inc issued a laboratory report on May 2, 2011. 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 601 cubic feet per second during the July 12, 2011 sampling event. Sampling occurred between 8:20 a.m. and 8:48 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 July 13, 2011. Northern Lake Service, Inc issued a laboratory report on July 20, 2011. 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 488 cubic feet per second during the August 18, 2011 sampling event. Sampling occurred between 8:00 a.m. and 8:44 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 19, 2011. Northern Lake Service, Inc issued a laboratory report on August 25, 2011. No unusual levels of Chlorophyll a, True Color, or Total Phosphorus were noted in the laboratory reports.

In general, the weather during the 2011 monitoring season was about normal. Average temperatures were approximately 0.1 to 4.3 degrees below normal during the months of April, July, and August and 1.9 to 2.1 degrees above normal for the months of May and June. However, precipitation was above normal during the months of April and July, and August and below normal for the months of May and June. **(Refer to 2011 Monthly Temperature and Precipitation Table page 7)**

A summary of a comparison between the 2010 and 2011 (**Refer to 2011 Flambeau Upper Project Sampling Comparison Table 2010-2011 page 8**) sampling results are as follows:

1. Water Clarity – Increased
2. Chlorophyll a – Decreased in April and July – Increased in August
3. Color – Decreased
4. Total Phosphorus – Decreased
5. Overall, D.O. – Increased
6. Water Temperatures – Increased in July and August – Decreased in April

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. . That and 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 2012 beginning with the Ice-Out sampling event.

2011
Sampling Results
Table

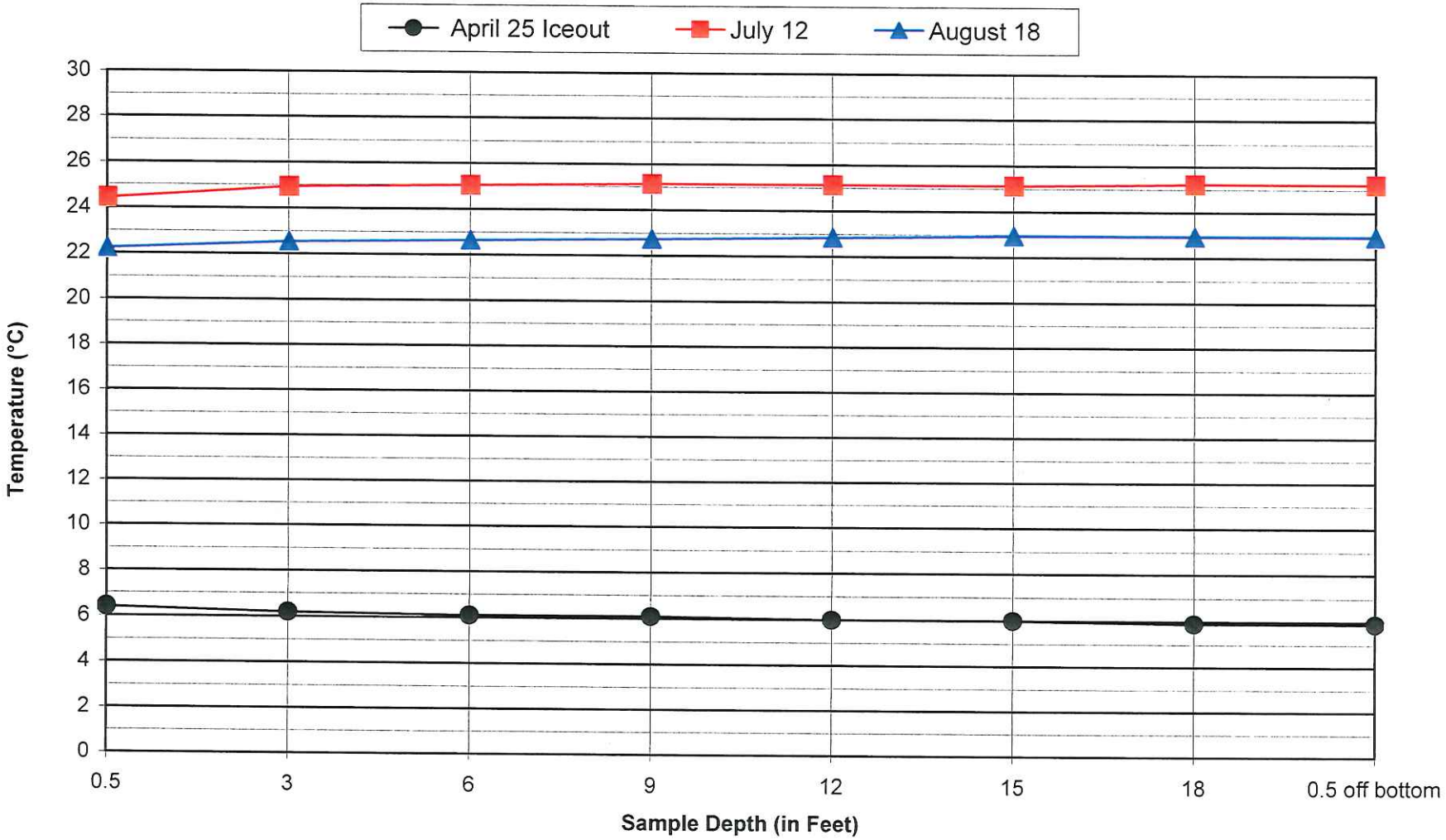
Flambeau (Upper) Hydroelectric Project - FERC Project # 2640
2011 Water Quality Sampling Data

	April 25, 2011			July 12, 2011			August 18,2011		
Project Flow (c.f.s.)	746			601			488		
Dissolved Oxygen	**Time**	**D.O. (mg/L)**	**Water Temp. (°C)**	**Time**	**D.O. (mg/L)**	**Water Temp. (°C)**	**Time**	**D.O. (mg/L)**	**Water Temp. (°C)**
0.5 feet below surface	9:10 AM	12.63	6.4	8:30 AM	7.70	24.4	8:30 AM	8.43	22.2
3 feet below surface	9:12 AM	12.75	6.2	8:31 AM	7.55	24.9	8:31 AM	8.31	22.5
6 feet below surface	9:13 AM	12.80	6.1	8:32 AM	7.51	25.0	8:32 AM	8.31	22.6
9 feet below surface	9:14 AM	12.83	6.1	8:33 AM	7.48	25.1	8:33 AM	8.28	22.7
12 feet below surface	9:15 AM	12.86	6.0	8:34 AM	7.49	25.1	8:34 AM	8.25	22.8
15 feet below surface	9:16 AM	12.91	6.0	8:35 AM	7.43	25.1	8:35 AM	8.22	22.9
18 feet below surface	9:17 AM	12.88	5.9	8:36 AM	7.37	25.2	8:36 AM	8.14	22.9
0.5 feet above bottom	9:18 AM	12.85	5.9	8:37 AM	7.37	25.2	8:37 AM	8.13	22.9
Secchi Disk	**Time**	**Depth (ft)**		**Time**	**Depth (ft)**		**Time**	**Depth (ft)**	
Feet below surface	8:40 AM	3.50		8:48 AM	3.8		8:40 AM	2.90	
Chlorophyll a	**Time**	**ug/L**		**Time**	**ug/L**		**Time**	**ug/L**	
3 feet below surface	8:45 AM	0.51		8:40 AM	5.8		8:41 AM	11	
Color (True)	**Time**	**C.P.U. Units**	**LOD**	**Time**	**C.P.U. Units**	**LOD**	**Time**	**C.P.U. Units**	**LOD**
3 feet below surface	8:50 AM	100.0	10*	8:42 AM	70.0	5.0*	8:43 AM	120.0	10*
Total Phosphorus	**Time**	**mg/L**	**LOD**	**Time**	**mg/L**	**LOD**	**Time**	**mg/L**	**LOD**
3 feet below surface	8:55 AM	0.025	0.0070*	8:44 AM	0.038	0.0070*	8:44 AM	0.033	0.0070*
3 feet above bottom	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

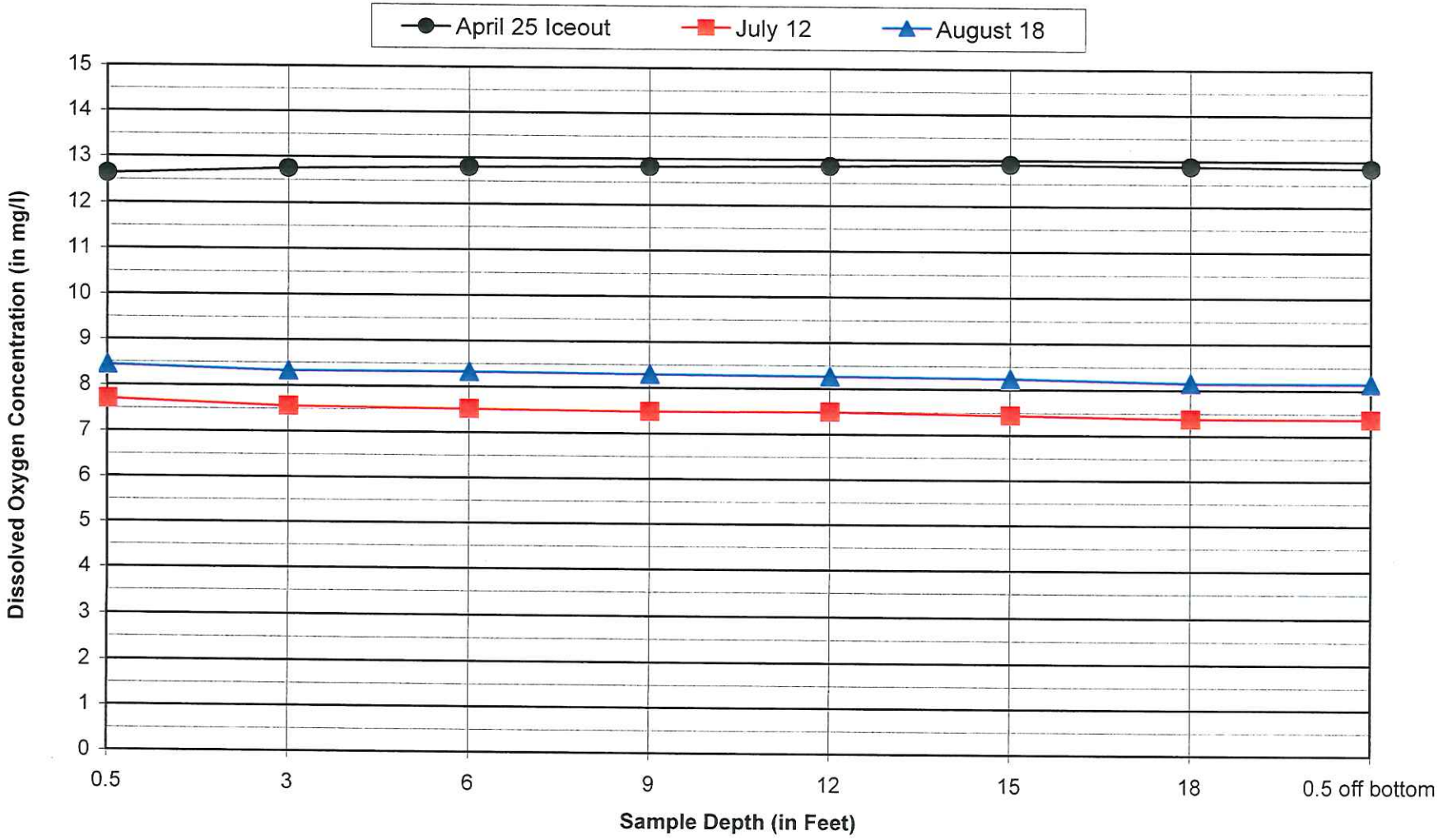
*Considered Reporting Limits

2011
Temperature
and
Dissolved Oxygen
Graphs

Upper Impoundment - FERC # 2640
2011 Temperature Samples



Upper Impoundment - FERC # 2640
2011 Dissolved Oxygen Samples



2011
Monthly Temperature
and
Precipitation
Table

2011 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-10	77	22	46.9	3.4	554	682	3.88	7.7	2.46	158%
November-10	56	3	30.5	2.5	1032	1124	2.42	27.9	2.12	114%
December-10	36	-16	12.8	-1.2	1609	1587	2.08	18.1	0.94	221%
January-11	26	-25	7.1	-1.3	1788	1771	1.11	18.5	1.12	99%
February-11	52	-18	14.5	-0.3	1405	1422	0.31	3.2	0.83	37%
March-11	46	-11	24.0	-1.4	1263	1244	0.82	7.4	1.69	49%
April-11	65	24	39.1	0.1	770	787	3.79	10.6	2.09	181%
May-11	75	27	49.7	-2.1	465	421	2.27	T	2.95	77%
June-11	83	42	58.0	-1.9	204	180	3.72	0.0	4.25	88%
July-11	92	49	69.8	4.3	28	69	4.57	0.0	4.20	109%
August-11	86	29	66.8	2.5	23	86	5.71	0.0	3.70	154%
September-11	84	30	56.2	0.6	287	298	1.48	T	4.11	36%

Source: NOAA/Duluth, MN

To calculate HDD or Heating Degree Days--If the departure from normal is a negative number (-) you add this to the total below the HDD column
If the departure from normal is a plus number (+) you subtract this from the total below the HDD column
Calculations for NDD or Normal Degree Days follow the same formula

2011
Flambeau Upper
Sampling Comparison Table
2010—2011

2011 Flambeau Upper
Project Sampling Comparison Table
To Previous Year

Year	Month	Secchi Disk Depth (ft)	Chlorophyll a ug/l	Color (True) C.P.U. Units	Total Phosphorus Below Surface mg/l	Total Phosphorus Above Bottom mg/l	Lowest D.O. mg/l	Highest D.O. mg/l	Lowest Water Temp. °C	Highest Water Temp. °C
2010	April	3.25	5.7	100	.028	N/A	11.03	11.48	9.9	10.5
2011	April	3.5	0.51	100	0.025	0.028	12.63	12.91	5.9	6.4
2010	July	2.0	7.7	200	.042	N/A	7.11	7.41	23.5	23.5
2011	July	3.8	5.8	70	0.038	N/A	7.37	7.70	24.4	25.2
2010	August	2.2	5.7	200	.044	N/A	7.62	7.36	20.8	21.2
2011	August	2.9	11	120	0.033	N/A	8.13	8.43	22.2	22.9

Upper Impoundment

Sampling Location

Map

WISCONSIN CONSERVATION DEPARTMENT

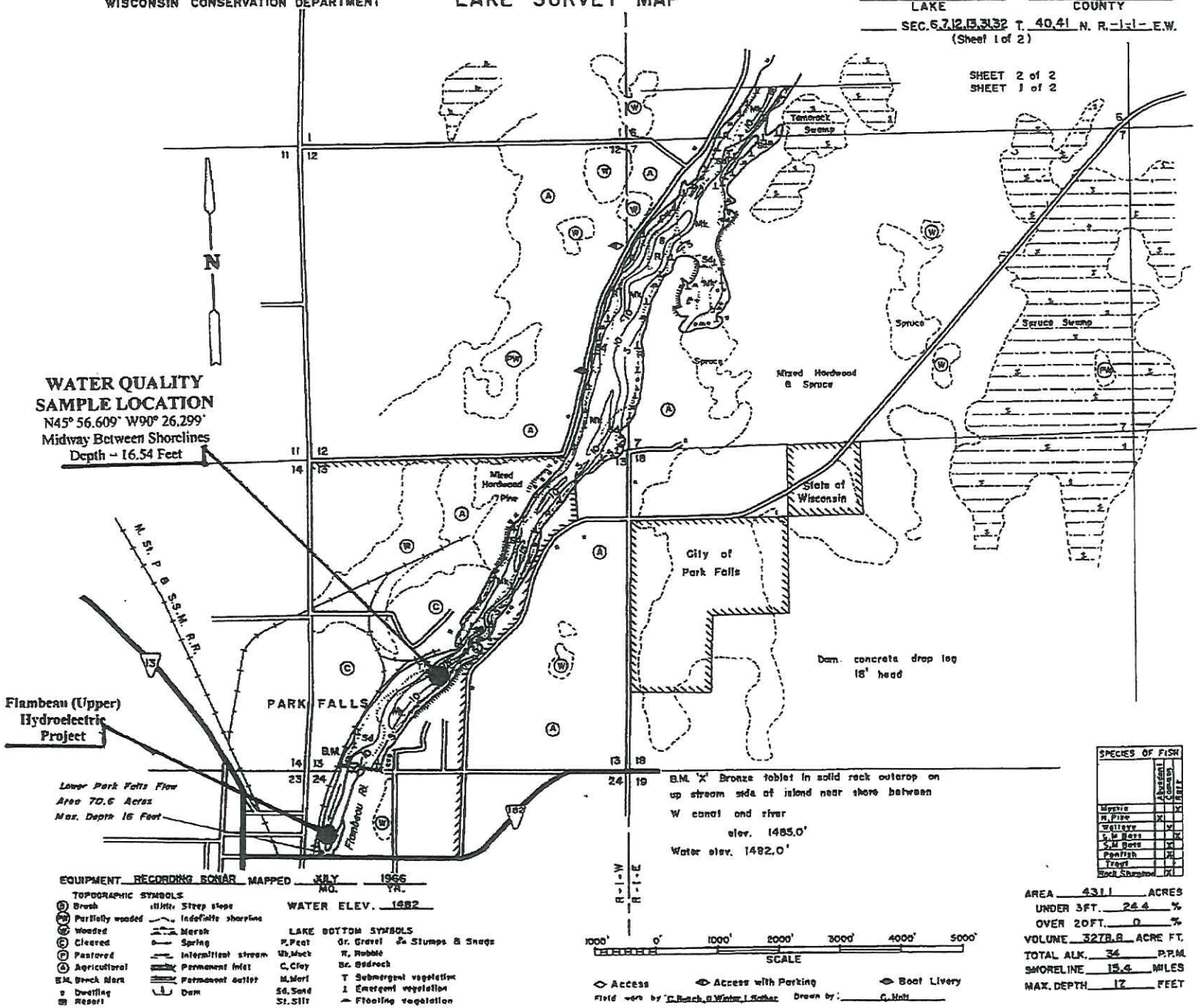
LAKE SURVEY MAP

UPPER PARK FALLS LAKE — PRICE & ASHLAND COUNTY

SEC. 6,7,12,13,31,32 T. 40,41 N. R. 1-1- E.W.

(Sheet 1 of 2)

SHEET 2 of 2
SHEET 1 of 2



EQUIPMENT RECORDING SONAR MAPPED JULY MO. 1966 YR.

WATER ELEV. 1482

TOPOGRAPHIC SYMBOLS

- Brush
- Partially wooded
- Wooded
- Cleared
- Pastured
- Agricultural
- B.M. Bench Mark
- Dwelling
- Resort
- Cliffs, Steep slope
- Indefinite shoreline
- Marsh
- Spring
- Intermittent stream
- Permanent inlet
- Permanent outlet
- Dam

LAKE BOTTOM SYMBOLS

- P. Peat
- Mk. Muck
- C. Clay
- M. Marl
- Sd. Sand
- Si. Silt
- Gr. Gravel
- Stumps & Snags
- R. Rubble
- Br. Bedrock
- T Submergent vegetation
- Emergent vegetation
- Floating vegetation

Access — Access with Parking — Boat Livery

Field work by C. Beach, G. Winter, I. Sather Drawn by: C. Holt

SPECIES OF FISH	Abundant	Common	Rare
Muskie			X
N. Pike	X		
Walleye		X	
S. W. Bass			X
S.M. Bass		X	
Panfish		X	
Trout		X	
Rock Sturgeon		X	

AREA 431.1 ACRES
UNDER 3FT. 24.4 %
OVER 20FT. 0 %
VOLUME 3278.8 ACRE FT.
TOTAL ALK. 34 P.P.M.
SHORELINE 15.4 MILES
MAX. DEPTH 17 FEET

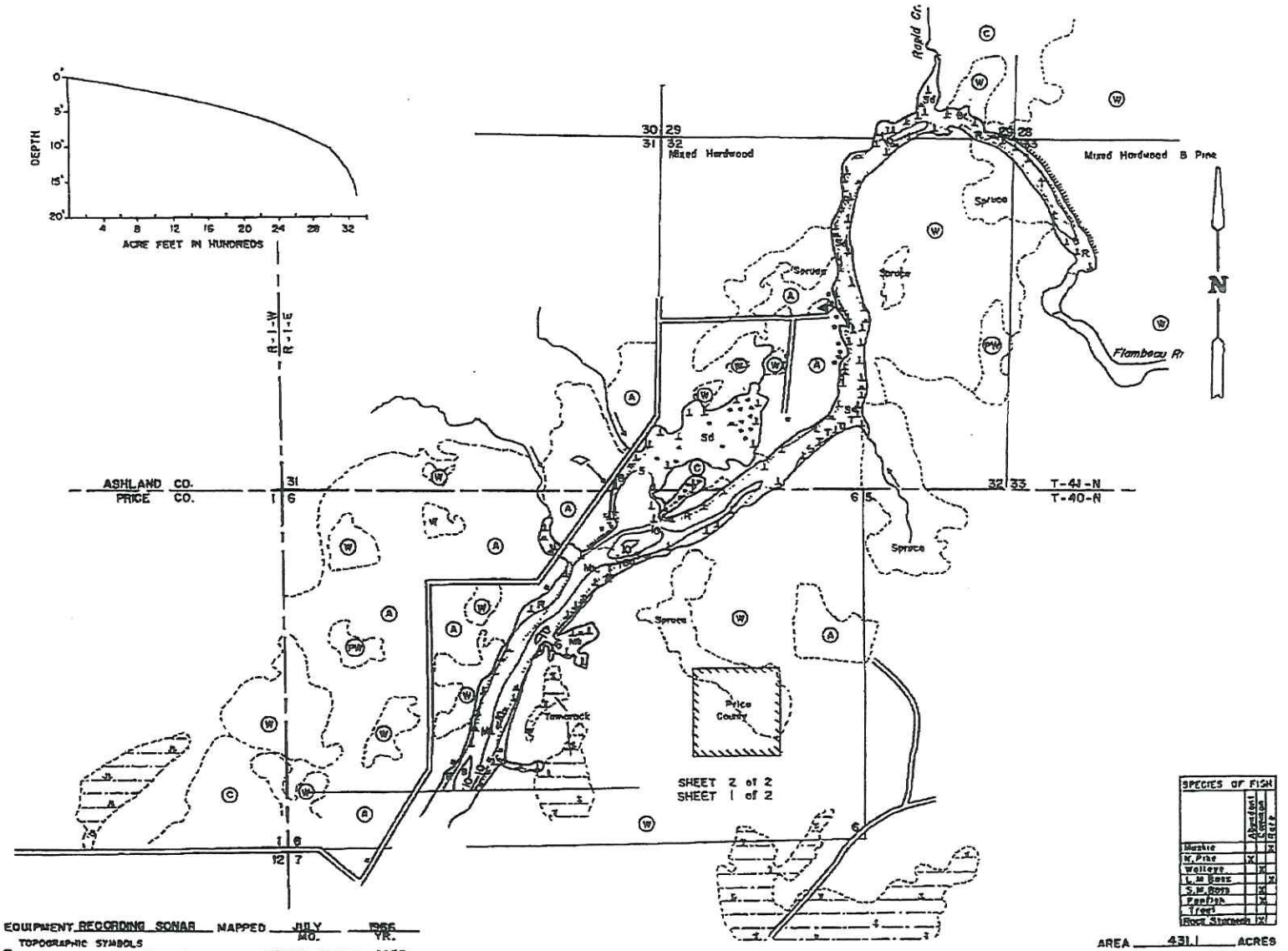
WISCONSIN CONSERVATION DEPARTMENT

LAKE SURVEY MAP

UPPER PARK FALLS LAKE — PRICE & ASHLAND COUNTY

SEC. 6,7,12,13,31,32 T. 40,41 N. R. 1-1- E.W.

(Sheet 2 of 2)



EQUIPMENT RECORDING SONAR MAPPED JULY MO. 1956 YR.

WATER ELEV. 1482

TOPOGRAPHIC SYMBOLS

- Brush
- Partially wooded
- Wooded
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◇ Access ◆ Access with Parking ◆ Boat Livery

Field work by C.Burch, R.Winter, J. Sather Drawn by C. Holt

SPECIES OF FISH	Abundant	Common	Rare
Muskie			X
N. Pike	X		
Walleye		X	
L.M. Bass			X
S.M. Bass		X	
Pan Fish		X	
Trout			
Rock Sturgeon (x)			

AREA 431.1 ACRES

UNDER 3FT. 24.4 %

OVER 20FT. 0 %

VOLUME 3278.8 ACRE FT.

TOTAL ALK. 34 P.P.M.

SHORELINE 15.4 MILES

MAX. DEPTH 17 FEET

Appendix A

April 25, 2011 Sampling Documents

IMPOUNDMENT SAMPLING LOG

2011 Water Quality Study - Flambeau (Upper) Hydroelectric Project - FERC #2640

HWL 1486.73 CFS 746

Date: 4/25/11

Pre-Sampling Data:

Time: 8:30 Barometer: 29.98 Air Temp: 8.8 °C Wind Speed: CALM

Sky Conditions: BRIGHT + SUNSHINE

Precipitation within Last 24 Hours: NO

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

Where The Batterys Changed? ☒ Yes ☐ No If Yes, When Changed: 4/25/11

Battery Status: FULL Charge

Calibration Time: March 2011 Method: Factory

Sampling Depth Profile: Measured Depth to Bottom of the Impoundment: 19.1 feet

Secchi Disk Depth: (E0.1 foot): 3.5 feet. Time: 8:40

Chlorophyll a (3 feet below surface)

Lab Sample I.D. #: 20110425-1A		
Time	Quantity (ml)	Filtered
8:45	1000	NO

True Color (3 feet below surface)

Lab Sample I.D. #: 20110425-1B	
Time	Quantity (ml)
8:50	250

D.O. Sample Data

Depth	Time	D.O. (mg/l)	°C
0.5 feet below surface	9:10	12.63	6.4
3 feet	9:12	12.75	6.2
6 feet	9:13	12.80	6.1
9 feet	9:14	12.83	6.1
12 feet	9:15	12.86	6.0
15 feet	9:16	12.91	6.0
18 feet	9:17	12.88	5.9
21 feet			
24 feet			
0.5 feet above bottom	9:18	12.85	5.9

Phosphorus

Lab Sample I.D. #: 20110425-1C (3 feet below surface)	
Time	Preserved ?
8:55	H2SO4

Lab Sample I.D. #: (3 feet above bottom)	
Time	Preserved ?

Comments: Sampling location is N45 56.609 W90 26.299

Performed By: GARY RAST + HARVEY NOLAN Gary Rast

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

ANALYTICAL REPORT

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

NLS Project: 161114
NLS Customer: 93918

Client: North American Hydro Holdings Inc
Attn: Gary Rast
116 North State Street
P O Box 167
Neshkoro, WI 54960 0167

Fax: 920 293 8087 Phone: 920 293 4628

Project: Flambeau

20110425 1-A NLS ID: 609391
COC: 131785 Matrix: SW
Collected: 04/25/11 14:30 Received: 04/27/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chlorophyll, all species	see attached					05/02/11	10200-H	721026460
Lab filtration for Chlorophyll	yes					04/27/11	NA	721026460

20110425 2-A NLS ID: 609392
COC: 131785 Matrix: SW
Collected: 04/25/11 14:30 Received: 04/27/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chlorophyll, all species	see attached					05/02/11	10200-H	721026460
Lab filtration for Chlorophyll	yes					04/27/11	NA	721026460

20110425 3-A NLS ID: 609393
COC: 131785 Matrix: SW
Collected: 04/25/11 14:30 Received: 04/27/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chlorophyll, all species	see attached					05/02/11	10200-H	721026460
Lab filtration for Chlorophyll	yes					04/27/11	NA	721026460

20110425 4-A NLS ID: 609394
COC: 131785 Matrix: SW
Collected: 04/25/11 14:30 Received: 04/27/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chlorophyll, all species	see attached					05/02/11	10200-H	721026460
Lab filtration for Chlorophyll	yes					04/27/11	NA	721026460

20110425 1-B NLS ID: 609395
COC: 131785 Matrix: SW
Collected: 04/25/11 14:31 Received: 04/27/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Color, APHA (true)	100	C.P.U.	2	10*		04/27/11	SM 2120-B 20ed	721026460
Lab filtration	yes					04/27/11	NA	721026460
	Filtration was required to remove turbidity.							

20110425 2-B NLS ID: 609396
COC: 131785 Matrix: SW
Collected: 04/25/11 14:31 Received: 04/27/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Color, APHA (true)	80	C.P.U.	2	10*		04/27/11	SM 2120-B 20ed	721026460
Lab filtration	yes					04/27/11	NA	721026460
	Filtration was required to remove turbidity.							

20110425 3-B NLS ID: 609397
COC: 131785 Matrix: SW
Collected: 04/25/11 14:31 Received: 04/27/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Color, APHA (true)	80	C.P.U.	2	10*		04/27/11	SM 2120-B 20ed	721026460
Lab filtration	yes					04/27/11	NA	721026460
	Filtration was required to remove turbidity.							

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ANALYTICAL REPORT

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WDATCP Laboratory Certification No. 105-330
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Client: North American Hydro Holdings Inc
Attn: Gary Rast
116 North State Street
P O Box 167
Neshkoro, WI 54960 0167

NLS Project: 161114
NLS Customer: 93918
Fax: 920 293 8087 Phone: 920 293 4628

Project: Flambeau

20110425 4-B NLS ID: 609398
COC: 131785 Matrix: SW
Collected: 04/25/11 14:31 Received: 04/27/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Color, APHA (true)	100	C.P.U.	2	10*		04/27/11	SM 2120-B 20ed	721026460
Lab filtration	yes					04/27/11	NA	721026460
	Filtration was required to remove turbidity.							

20110425 1-C NLS ID: 609399
COC: 131785 Matrix: SW
Collected: 04/25/11 14:32 Received: 04/27/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Phosphorus, tot. as P	0.025	mg/L	1	0.0070*		04/29/11	SM 4500P-E 20ed	721026460

20110425 2-C NLS ID: 609400
COC: 131785 Matrix: SW
Collected: 04/25/11 14:32 Received: 04/27/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Phosphorus, tot. as P	0.032	mg/L	1	0.0070*		04/29/11	SM 4500P-E 20ed	721026460

20110425 3-C NLS ID: 609401
COC: 131785 Matrix: SW
Collected: 04/25/11 14:32 Received: 04/27/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Phosphorus, tot. as P	0.033	mg/L	1	0.0070*		04/29/11	SM 4500P-E 20ed	721026460

20110425 4-C NLS ID: 609402
COC: 131785 Matrix: SW
Collected: 04/25/11 14:32 Received: 04/27/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Phosphorus, tot. as P	0.039	mg/L	1	0.0070*		04/29/11	SM 4500P-E 20ed	721026460

20110425 2-D NLS ID: 609403
COC: 131785 Matrix: SW
Collected: 04/25/11 14:35 Received: 04/27/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Phosphorus, tot. as P	0.028	mg/L	1	0.0070*		04/29/11	SM 4500P-E 20ed	721026460

20110425 3-D NLS ID: 609404
COC: 131785 Matrix: SW
Collected: 04/25/11 14:35 Received: 04/27/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Phosphorus, tot. as P	0.031	mg/L	1	0.0070*		04/29/11	SM 4500P-E 20ed	721026460

20110425 4-D NLS ID: 609405
COC: 131785 Matrix: SW
Collected: 04/25/11 14:35 Received: 04/27/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Phosphorus, tot. as P	0.044	mg/L	1	0.0070*		04/29/11	SM 4500P-E 20ed	721026460

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ANALYTICAL REPORT

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Client: North American Hydro Holdings Inc
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116 North State Street
P O Box 167
Neshkoro, WI 54960 0167

NLS Project: 161114
NLS Customer: 93918

Fax: 920 293 8087 Phone: 920 293 4628

Project: Flambeau

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

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

Reviewed by:

Authorized by:
R. T. Krueger
President

Northern Lake Service, Inc.
Chlorophyll Results

Customer: North American Hydro Holdings Inc
Project: 161114
Flambeau

Sample	Description	CC a	Pheo a	TC a	TC b	TC c
609391	20110425 1-A	1.1	0.0*	0.51	0.0*	0.0*
609392	20110425 2-A	1.7	0.0*	0.77	0.0*	0.0*
609393	20110425 3-A	3.8	0.0*	2.1	0.0*	0.0*
609394	20110425 4-A	5.9	0.0*	3.9	0.0*	0.0*

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/cm^2 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

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

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. 131785

CLIENT: NORTH AMERICAN HYDRO
ADDRESS: [illegible] P.O BOX 167
CITY: NESHKORO STATE: WI. ZIP: 54960
PROJECT DESCRIPTION / NO.: PLAN BEND
QUOTATION NO.:
DNR FID #:
DNR LICENSE #:
CONTACT: GARY RAST
PHONE: 920-293-4628 EXT 15
PURCHASE ORDER NO.: VERBAL
FAX: 920-293-8087

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

ITEM NO.	NLS LAB. NO.	SAMPLE ID	COLLECTION DATE	COLLECTION TIME	MATRIX (See above)		Chlorophyll A	True Color	Phosphorus	Phosphorus								COLLECTION REMARKS (i.e. DNR Well ID #)
1.	609391	201104251-2-3-4A	4/25	8:45-2:30	RIVER WATER		X											
2.		201104251-2-3-4B	4/25	8:50-2:31	"			X										
3.		201104251-2-3-4C	4/25	8:55-2:32	"				X									
4.	609405	201104251-2-3-4D	4/25	10:10-2:31	"					X								
5.																		
6.																		
7.																		
8.																		
9.																		
10.																		

ONE SAMPLE PER LINE

NORTH AMERICAN HYDRO
N[illegible] COUNTY ROAD
PARK FALLS, WI [illegible]

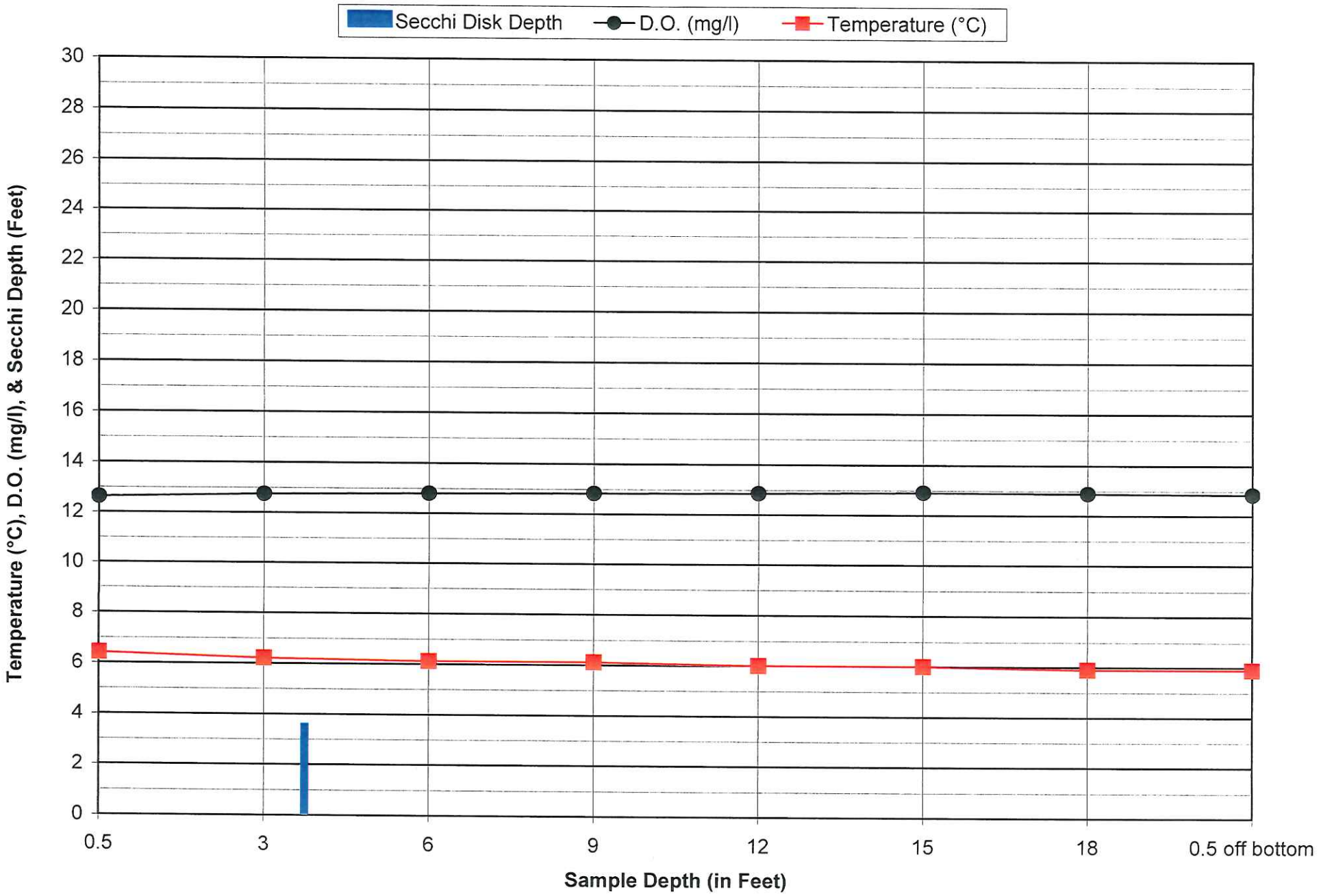
COLLECTED BY (signature): [signature] CUSTODY SEAL NO. (IF ANY) DATE/TIME: 4/25/11 8:45-2:35
RELINQUISHED BY (signature): [signature] RECEIVED BY (signature): DATE/TIME:
DISPATCHED BY (signature): [signature] METHOD OF TRANSPORT: UPS DATE/TIME: 4/25/11 4:00
RECEIVED AT NLS BY (signature): Annamarie Combs DATE/TIME: 4/27/11 9:45 CONDITION: [illegible] TEMP.:
COOLER #: 28-121
REMARKS & OTHER INFORMATION:
WDNR FACILITY NUMBER:
E-MAIL ADDRESS:

REPORT TO: SAME ATTN: GARY
INVOICE TO: SAME

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.

Upper Impoundment - FERC # 2640
April 25, 2011 Iceout Sampling Event



Appendix B

July 12, 2011 Sampling Documents

IMPOUNDMENT SAMPLING LOG

2011 Water Quality Study - Flambeau (Upper) Hydroelectric Project - FERC #2640

HWL - 1486.65
CFS - 601

Date: 7/12/11

Pre-Sampling Data:

Time: 8:20 Barometer: 30.07 Air Temp: 17.77 °C Wind Speed: NW 6MPH

Sky Conditions: BRIGHT SUN, BREEZE, CLEAR

Precipitation within Last 24 Hours: NO

D.O. Meter Calibration: Instrument Model Used: HACH HQ400

Where The Batterys Changed? ☐ Yes ☒ No If Yes, When Changed:

Battery Status: 70% Charge

Calibration Time: March 2011 Method: Factory

Sampling Depth Profile: Measured Depth to Bottom of the Impoundment: 18.5 feet

Secchi Disk Depth: (E0.1 foot): 3.8 feet. Time: 8:48

Chlorophyll a (3 feet below surface)

Lab Sample I.D. #: 20110712-1A		
Time	Quantity (ml)	Filtered
8:40	1000	NO

True Color (3 feet below surface)

Lab Sample I.D. #: 20110712-1B	
Time	Quantity (ml)
8:42	250

D.O. Sample Data

Depth	Time	D.O. (mg/l)	°C
0.5 feet below surface	8:30	7.70	24.4
3 feet	8:31	7.55	24.9
6 feet	8:32	7.51	25.0
9 feet	8:33	7.48	25.1
12 feet	8:34	7.49	25.1
15 feet	8:35	7.43	25.1
18 feet	8:36	7.37	25.2
21 feet			
24 feet			
0.5 feet above bottom	8:37	7.37	25.2

Phosphorus

Lab Sample I.D. #: 20110712-1C (3 feet below surface)	
Time	Preserved ?
8:44	H_2SO_4

Lab Sample I.D. #: (3 feet above bottom)	
Time	Preserved ?

Comments: Sampling location is N45 56.609 W90 26.299

Performed By: GARY RAST + ANDIS.

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

ANALYTICAL REPORT

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

NLS Project: 164693
NLS Customer: 93918

Client: North American Hydro Holdings Inc
Attn: Gary Rast
116 North State Street
P O Box 167
Neshkoro, WI 54960 0167

Fax: 920 293 8087 Phone: 920 293 4628

Project: Flambeau

20110712-1A NLS ID: 621076
COC: 134048 Matrix: SW
Collected: 07/12/11 08:44 Received: 07/13/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chlorophyll, all species	see attached					07/19/11	10200-H	721026460
Lab filtration for Chlorophyll	yes					07/13/11	NA	721026460

20110712-2A NLS ID: 621077
COC: 134048 Matrix: SW
Collected: 07/12/11 08:44 Received: 07/13/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chlorophyll, all species	see attached					07/19/11	10200-H	721026460
Lab filtration for Chlorophyll	yes					07/13/11	NA	721026460

20110712-3A NLS ID: 621078
COC: 134048 Matrix: SW
Collected: 07/12/11 08:44 Received: 07/13/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chlorophyll, all species	see attached					07/19/11	10200-H	721026460
Lab filtration for Chlorophyll	yes					07/13/11	NA	721026460

20110712-4A NLS ID: 621079
COC: 134048 Matrix: SW
Collected: 07/12/11 08:44 Received: 07/13/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chlorophyll, all species	see attached					07/19/11	10200-H	721026460
Lab filtration for Chlorophyll	yes					07/13/11	NA	721026460

20110712-1B NLS ID: 621080
COC: 134048 Matrix: SW
Collected: 07/12/11 10:19 Received: 07/13/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Color, APHA (true)	70	C.P.U.	1	5.0*		07/13/11	SM 2120-B 20ed	721026460

20110712-2B NLS ID: 621081
COC: 134048 Matrix: SW
Collected: 07/12/11 10:19 Received: 07/13/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Color, APHA (true)	80	C.P.U.	2	10*		07/13/11	SM 2120-B 20ed	721026460

20110712-3B NLS ID: 621082
COC: 134048 Matrix: SW
Collected: 07/12/11 10:19 Received: 07/13/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Color, APHA (true)	70	C.P.U.	1	5.0*		07/13/11	SM 2120-B 20ed	721026460

20110712-4B NLS ID: 621083
COC: 134048 Matrix: SW
Collected: 07/12/11 10:19 Received: 07/13/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Color, APHA (true)	80	C.P.U.	2	10*		07/13/11	SM 2120-B 20ed	721026460

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

ANALYTICAL REPORT

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

Client: North American Hydro Holdings Inc
Attn: Gary Rast
116 North State Street
P O Box 167
Neshkoro, WI 54960 0167

NLS Project: 164693
NLS Customer: 93918
Fax: 920 293 8087 Phone: 920 293 4628

Project: Flambeau

20110712-1C NLS ID: 621084
COC: 134048 Matrix: SW
Collected: 07/12/11 12:22 Received: 07/13/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Phosphorus, tot. as P	0.038	mg/L	1	0.0070*		07/15/11	SM 4500P-E 20ed	721026460

20110712-2C NLS ID: 621085
COC: 134048 Matrix: SW
Collected: 07/12/11 12:22 Received: 07/13/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Phosphorus, tot. as P	0.042	mg/L	1	0.0070*		07/15/11	SM 4500P-E 20ed	721026460

20110712-3C NLS ID: 621086
COC: 134048 Matrix: SW
Collected: 07/12/11 12:22 Received: 07/13/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Phosphorus, tot. as P	0.057	mg/L	1	0.0070*		07/15/11	SM 4500P-E 20ed	721026460

20110712-4C NLS ID: 621087
COC: 134048 Matrix: SW
Collected: 07/12/11 12:22 Received: 07/13/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Phosphorus, tot. as P	0.061	mg/L	1	0.0070*		07/15/11	SM 4500P-E 20ed	721026460

20110712-2D NLS ID: 621088
COC: 134048 Matrix: SW
Collected: 07/12/11 14:28 Received: 07/13/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Phosphorus, tot. as P	0.041	mg/L	1	0.0070*		07/15/11	SM 4500P-E 20ed	721026460

20110712-3D NLS ID: 621089
COC: 134048 Matrix: SW
Collected: 07/12/11 14:28 Received: 07/13/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Phosphorus, tot. as P	0.049	mg/L	1	0.0070*		07/15/11	SM 4500P-E 20ed	721026460

20110712-4D NLS ID: 621090
COC: 134048 Matrix: SW
Collected: 07/12/11 14:28 Received: 07/13/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Phosphorus, tot. as P	0.075	mg/L	1	0.0070*		07/15/11	SM 4500P-E 20ed	721026460

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

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

Reviewed by:

Authorized by:
R. T. Krueger
President

Northern Lake Service, Inc.
Chlorophyll Results

Customer: North American Hydro Holdings Inc
Project: 164693
Flambeau

Sample	Description	CC a	Pheo a	TC a	TC b	TC c
621076	20110712-1A	5.3	0.49	5.8	0.31	0.48
621077	20110712-2A	5.3	0.19	5.6	0.1	0.24
621078	20110712-3A	16	0.41	16	1.3	1.1
621079	20110712-4A	20	0.91	21	1.4	1.4

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/cm^2 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

WI DATCP 105-000330

NO. 134048

CLIENT	NORTH AMERICAN HYDRO
ADDRESS	P.O. BOX 167 116 STATE STREET
CITY / STATE / ZIP	NESHKORO / WI / 54960
PROJECT DESCRIPTION / NO.	LAMBEAU
QUOTATION NO.	
DNR FID #	
DNR LICENSE #	
CONTACT	GARY RAST
PHONE	920-293-4628
PURCHASE ORDER NO.	VERBAL
FAX	

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

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 DATE	COLLECTION TIME	MATRIX (See above)	Chlorophyll	True Color	Phosphorus	Phosphorus									COLLECTION REMARKS (i.e. DNR Well ID #)
1.	1076	20110712-1,2,3,4 A	7/12/11	8:40 / 8:44	RIVER WATER	X												
2.	089-082	20110712-1,2,3,4 B	7/12/11	10:15 / 10:19	"		X											
3.	089-083	20110712-1,2,3,4-C	7/12/11	12:15 - 12:22	"			X										
4.	089-090	20110712-1,2,3,4-D	7/12/11	2:22 - 2:28	"				X									
5.																		
6.																		
7.																		
8.																		
9.																		
10.																		

COLLECTED BY (signature)	CUSTODY SEAL NO. (IF ANY)	DATE/TIME 7/12/11 8:40 / 2:28
RELINQUISHED BY (signature)	RECEIVED BY (signature)	DATE/TIME
DISPATCHED BY (signature)	METHOD OF TRANSPORT: UPS	DATE/TIME 7/12/11 3:10

REPORT TO: SAME AS ABOVE

INVOICE TO: SAME AS ABOVE

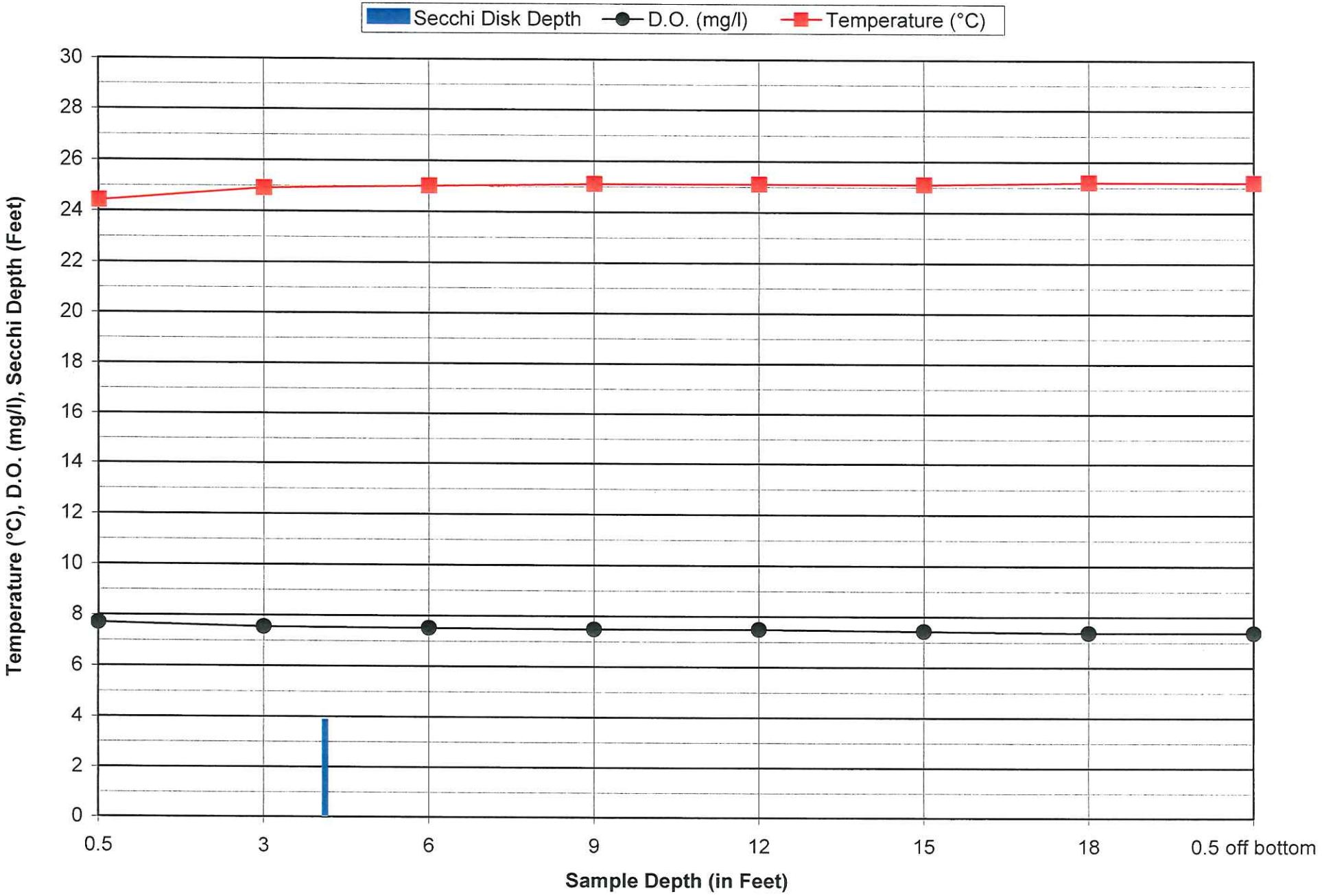
RECEIVED AT NLS BY (signature)	DATE/TIME 7/13/11	0945	CONDITION / TEMP.
COOLER # 28-1246	REMARKS & OTHER INFORMATION: UPS		
WDNR FACILITY NUMBER	E-MAIL ADDRESS		

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.

DUPLICATE COPY

Upper Impoundment - FERC # 2640
July 12, 2011 Sampling Event



Appendix C

August 18, 2011 Sampling Documents

IMPOUNDMENT SAMPLING LOG

2011 Water Quality Study - Flambeau (Upper) Hydroelectric Project - FERC #2640

HWL -1486.6 CFS - 488
TWL -

Date: 8/18/11

Pre-Sampling Data:

Time: 8:00 Barometer: 30.02 Air Temp: 16.1 °C Wind Speed: CALM

Sky Conditions: BRIGHT SUN, FAIR, + CLEAR

Precipitation within Last 24 Hours: NO

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

Where The Batterys Changed? ☐ Yes ☒ No If Yes, When Changed:

Battery Status: 60% Charge

Calibration Time: March 2011 Method: Factory

Sampling Depth Profile: Measured Depth to Bottom of the Impoundment: 19.2 feet

Secchi Disk Depth: (E0.1 foot): 7.9 feet. Time: 8:40

Chlorophyll a (3 feet below surface)

Lab Sample I.D. #: 20110818IA		
Time	Quantity (ml)	Filtered
8:41 am	1000	NO

True Color (3 feet below surface)

Lab Sample I.D. #: 20110818IB	
Time	Quantity (ml)
8:43	250

D.O. Sample Data

Depth	Time	D.O. (mg/l)	°C
0.5 feet below surface	8:30	8.43	22.2
3 feet	8:31	8.31	22.5
6 feet	8:32	8.31	22.6
9 feet	8:33	8.28	22.7
12 feet	8:34	8.25	22.8
15 feet	8:35	8.22	22.9
18 feet	8:36	8.14	22.9
21 feet			
24 feet			
0.5 feet above bottom	8:37	8.13	22.9

Phosphorus

Lab Sample I.D. #: 20110818IC (3 feet below surface)	
Time	Preserved ?
8:44	H_2SO_4

Lab Sample I.D. #: (3 feet above bottom)	
Time	Preserved ?

Comments: Sampling location is N45 56.609 W90 26.299

Performed By: GARY RAST Gary Rast

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

ANALYTICAL REPORT

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

NLS Project: 166720
NLS Customer: 93918

Client: North American Hydro Holdings Inc
Attn: Gary Rast
116 North State Street
P O Box 167
Neshkoro, WI 54960 0167

Fax: 920 293 8087 Phone: 920 293 4628

Project: Flambeau

20110818 1A NLS ID: 627776
COC: 136803 Matrix: SW
Collected: 08/18/11 14:00 Received: 08/19/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chlorophyll, all species	see attached					08/24/11	10200-H	721026460
Lab filtration for Chlorophyll	yes					08/19/11	NA	721026460

20110818 2A NLS ID: 627777
COC: 136803 Matrix: SW
Collected: 08/18/11 14:00 Received: 08/19/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chlorophyll, all species	see attached					08/24/11	10200-H	721026460
Lab filtration for Chlorophyll	yes					08/19/11	NA	721026460

20110818 3A NLS ID: 627778
COC: 136803 Matrix: SW
Collected: 08/18/11 14:00 Received: 08/19/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chlorophyll, all species	see attached					08/24/11	10200-H	721026460
Lab filtration for Chlorophyll	yes					08/19/11	NA	721026460

20110818 4A NLS ID: 627779
COC: 136803 Matrix: SW
Collected: 08/18/11 14:00 Received: 08/19/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Chlorophyll, all species	see attached					08/24/11	10200-H	721026460
Lab filtration for Chlorophyll	yes					08/19/11	NA	721026460

20110818 1B NLS ID: 627780
COC: 136803 Matrix: SW
Collected: 08/18/11 14:02 Received: 08/19/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Color, APHA (true)	120	C.P.U.	2	10*		08/20/11	SM 2120-B 20ed	721026460

20110818 2B NLS ID: 627781
COC: 136803 Matrix: SW
Collected: 08/18/11 14:02 Received: 08/19/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Color, APHA (true)	120	C.P.U.	2	10*		08/20/11	SM 2120-B 20ed	721026460

20110818 3B NLS ID: 627782
COC: 136803 Matrix: SW
Collected: 08/18/11 14:02 Received: 08/19/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Color, APHA (true)	140	C.P.U.	2	10*		08/20/11	SM 2120-B 20ed	721026460

20110818 4B NLS ID: 627783
COC: 136803 Matrix: SW
Collected: 08/18/11 14:02 Received: 08/19/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Color, APHA (true)	140	C.P.U.	2	10*		08/20/11	SM 2120-B 20ed	721026460

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

ANALYTICAL REPORT

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

NLS Project: 166720
NLS Customer: 93918

Client: North American Hydro Holdings Inc
Attn: Gary Rast
116 North State Street
P O Box 167
Neshkoro, WI 54960 0167

Fax: 920 293 8087 Phone: 920 293 4628

Project: Flambeau

20110818 1C NLS ID: 627784
COC: 136803 Matrix: SW
Collected: 08/18/11 14:04 Received: 08/19/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Phosphorus, tot. as P	0.033	mg/L	1	0.0070*		08/24/11	SM 4500P-E 20ed	721026460

20110818 2C NLS ID: 627785
COC: 136803 Matrix: SW
Collected: 08/18/11 14:04 Received: 08/19/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Phosphorus, tot. as P	0.048	mg/L	1	0.0070*		08/24/11	SM 4500P-E 20ed	721026460

20110818 3C NLS ID: 627786
COC: 136803 Matrix: SW
Collected: 08/18/11 14:04 Received: 08/19/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Phosphorus, tot. as P	0.052	mg/L	1	0.0070*		08/24/11	SM 4500P-E 20ed	721026460

20110818 4C NLS ID: 627787
COC: 136803 Matrix: SW
Collected: 08/18/11 14:04 Received: 08/19/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Phosphorus, tot. as P	0.051	mg/L	1	0.0070*		08/24/11	SM 4500P-E 20ed	721026460

20110818 2D NLS ID: 627788
COC: 136803 Matrix: SW
Collected: 08/18/11 14:06 Received: 08/19/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Phosphorus, tot. as P	0.047	mg/L	1	0.0070*		08/24/11	SM 4500P-E 20ed	721026460

20110818 3D NLS ID: 627789
COC: 136803 Matrix: SW
Collected: 08/18/11 14:06 Received: 08/19/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Phosphorus, tot. as P	0.051	mg/L	1	0.0070*		08/24/11	SM 4500P-E 20ed	721026460

20110818 4D NLS ID: 627790
COC: 136803 Matrix: SW
Collected: 08/18/11 14:06 Received: 08/19/11

Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Phosphorus, tot. as P	0.051	mg/L	1	0.0070*		08/24/11	SM 4500P-E 20ed	721026460

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

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

Reviewed by:

Authorized by:
R. T. Krueger
President

Northern Lake Service, Inc.
Chlorophyll Results

Customer: North American Hydro Holdings Inc
Project: 166720
Flambeau

Sample	Description	CC a	Pheo a	TC a	TC b	TC c
627776	20110818 1A	10	0.51	11	0.55	0.83
627777	20110818 2A	12	1.4	13	0.91	1.2
627778	20110818 3A	12	2	14	0.82	0.88
627779	20110818 4A	12	2	14	1.1	1.1

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/cm^2 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

WI DATCP 105-000330

AUG 26 2011

CLIENT	NORTH AMERICAN HYDRO
ADDRESS	PO BOX 167
CITY	WESTBORO
STATE	WI
ZIP	54490
PROJECT DESCRIPTION / NO.	FLAMBEAU
QUOTATION NO.	
DNR FID #	
DNR LICENSE #	
CONTACT	GARY RAST
PHONE	920-293-4628 EXT 15
PURCHASE ORDER NO.	VERBAL
FAX	

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.

NO. 136803

ITEM NO.	NLS LAB. NO.	SAMPLE ID	COLLECTION DATE	COLLECTION TIME	MATRIX (See above)	ANALYZE PER ORDER OF ANALYSIS: CHLOROPHYLL A	1 BLUE GREEN PHOSPHORUS	PH & SPHORUS	COLLECTION REMARKS (i.e. DNR Well ID #)
1.	627776	20110818,1,2,3,4,A	8/18/11	8:41-2:00	RIVER WATER	X			
2.		20110818,1,2,3,4,B	8/18/11	8:43 2:02	"		X		
3.		20110818,1,2,3,4,C	8/18/11	8:44 2:04	"			X	
4.		20110818,1,2,3,4,D	8/18/11	10:30 2:06	"			X	
5.									
6.									
7.									
8.									
9.									
10.	627790								

COLLECTED BY (signature)	CUSTODY SEAL NO. (IF ANY)	DATE/TIME 8/18/11 8:41-2:04
RELINQUISHED BY (signature)	RECEIVED BY (signature)	DATE/TIME 8/18/11 3:30
DISPATCHED BY (signature)	METHOD OF TRANSPORT: UPS	DATE/TIME 8/18/11 3:30

RECEIVED AT NLS BY (signature)	DATE/TIME 8/19/11 10:00	CONDITION	TEMP.
COOLER # 28-97	REMARKS & OTHER INFORMATION		
	WDNR FACILITY NUMBER	E-MAIL ADDRESS	

REPORT TO: SAME ATTN: GARY

INVOICE TO: SAME

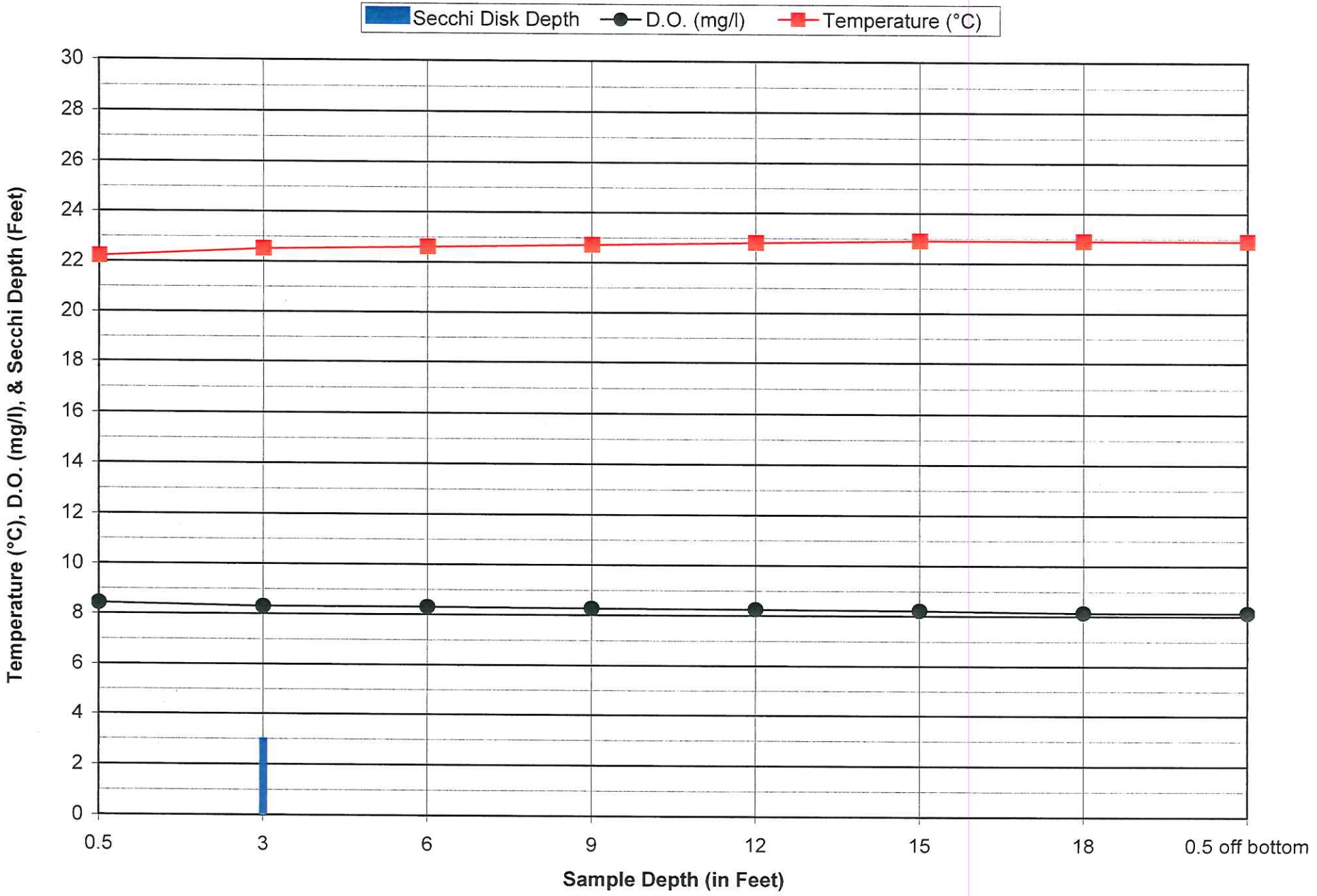
PRESERVATIVE:
NP = no preservative
S = sulfuric acid
N = nitric acid
Z = zinc acetate
M = methanol
OH = sodium hydroxide
HA = hydrochloric & ascorbic acid
H = hydrochloric acid

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.

DUPLICATE COPY

Upper Impoundment - FERC # 2640
August 18, 2011 Sampling Event



Appendix D

Agency Correspondence

Gary Rast FILE COPY

From: Scheirer, Jeffrey W - DNR [Jeffrey.Scheirer@Wisconsin.gov]
Sent: Wednesday, August 25, 2010 9:32 AM
To: Gary Rast
Subject: RE: Low D O At Clam River

Gary, A notification by e-mail should be sufficient to meet your reporting requirements in the water quality monitoring plans for all of Flambeau Hydro's hydroelectric projects. There's really no need to contact the Department by phone and duplicate that contact with a follow-up e-mail when you detect dissolved oxygen concentrations below the standard of 5 mg/l. A single e-mail notice for each occurrence will be just fine. Please add Craig Roesler, our Water Quality Biologist, to the list of recipients for this notification. Craig's e-mail address is craig.roesler@wisconsin.gov. Thanks. Jeff Scheirer

---

From: Gary Rast [mailto:Gary.rast@nahydro.com]
Sent: Tuesday, August 24, 2010 9:26 AM
To: Louise_Clemency@fws.gov; Scheirer, Jeffrey W - DNR
Cc: Melissa Chamberlin
Subject: Low D O At Clam River

Dear Agencies,

This message is sent following a phone call to notify you of below standard DO readings (August) taken at the Clam River Hydro Project. The August water quality monitoring took place on August 23, 2010. Sampling started at 1:10 pm and ended at 1:34 pm. Low Dissolved Oxygen readings were encountered beginning at .5 meter from the surface (DO 4.16 & Temp 24.4) and continuing all the way thru the reading taken at .5 meter above bottom (DO 3.32 & Temp 23.3). Attached is a copy of the August DO Sample Data. If you have any questions please contact me using the contact information found below.

Gary

Gary Rast
Environmental Specialist
North American Hydro Holdings
116 N. State Street
P.O. Box 167
Neshkoro, WI 54960

Tel: 920-293-4628 Ext 15
Cell: 920-570-0995
Fax: 920-293-8087
Email: gary.rast@nahydro.com

FILE COPY

Gary Rast

From: Louise_Clemency@fws.gov
Sent: Wednesday, August 25, 2010 10:36 AM
To: Gary Rast
Cc: Nick_Utrup@fws.gov
Subject: Re: Notification Of Low DO @ Danbury

Attachments: pic19169.jpg; 10-08-25 GGR DNB 2010 Aug WQ Doc.pdf


pic19169.jpg


10-08-25 GGR DNB 2010 Aug WQ D...

Gary,
Thank you for the email notification below, which followed your phone message this morning.

If possible, I would prefer that you provide your FERC-required water quality monitoring notifications for all NA Hydro FERC-lisenced projects to
my office via email rather than via phone/voice mail message. The format
of your email, below, is a more useful format for us than a voice message.

Thank you,
Louise

Louise Clemency
Field Supervisor
Wisconsin Ecological Services Office
U.S. Fish and Wildlife Service
2661 Scott Tower Drive
New Franken, Wisconsin 54229-9565
920-866-1725
920-866-1710 Fax

"Gary Rast"
<Gary.rast@nahydro.com>
08/25/2010 09:20 AM

To
<Louise_Clemency@fws.gov>,
<jeffrey.scheirer@wisconsin.gov>
cc
"Melissa Chamberlin"
<melissa.chamberlin@nahydro.com>
Subject
Notification Of Low DO @ Danbury