Renewable World Energies

February 23, 2021

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

RE: Winter Hydroelectric Project
FERC Project Number P-2064
Flambeau Hydro LLC
Final Report 2020 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 2020 Water Quality Monitoring Data* for the Winter Hydroelectric Project. The Federal Energy Regulatory Commission "FERC" issued a License to Flambeau on August 12, 2005. A revised Water Quality Certification was issued August 19, 2008. This report is submitted as a requirement of that License pursuant to License Article 401 Condition N, Appendix A. 2020 was the 14th year monitoring was conducted since the license was issued, but is the 9th year of submittal by RWE on the behalf of the Licensee.

Monitoring was conducted on April 7, July 20, and August 13, 2020. No issues were encountered during the 2020 monitoring season. The draft report was sent to the agencies by an attachment to an email on December 11, 2020 for review and comment. The DNR did send a reply of no comment, but that our protocols for monitoring could be changing. The next scheduled monitoring event will be conducted in 2021.

If you have any questions concerning this submittal, please contact Brian Kreuscher at the Renewable World Energies, LLC offices @ 855-994-9376 Ext 230. He can also be reached by e-mail at bkreuscher@rwehydro.com.

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Sincerely,
Renewable World Energies, LLC
Agent for Licensee

For Mr. Jason Kreuscher
Vice President, Operations

Attachment: Final Report 2020 Water Quality Monitoring Data
Correspondence

Cc: Paul Strong, USFS
Jason Krebill, USFS
Cheryl Laatsch, WDNR
Nick Utrup, USFWS

Report

2020 Water Quality Monitoring Data

for the

Winter Hydroelectric Project

FERC Project #2064

Flambeau Hydro, LLC

East Fork of the Chippewa River,
Sawyer County, Wisconsin

Respectfully Submitted by:

Angie Stine

WHITE WATER ASSOCIATES, INC.

429 River Lane, P.O. Box 27
Amasa, Michigan 49903

Phone: 906-822-7889

Summary Winter Hydroelectric Project – FERC #2064

2020 marked the fourteenth year of water quality sampling under FERC License issued August 12, 2006 Per Article 401, Water Quality Certification Condition N, Appendix A for the Winter Hydroelectric Project – FERC Project # 2064 – Flambeau Hydro LLC. Monitoring was conducted on April 7, July 20, and August 13, 2020. This document contains all of the associated records for the 2020 monitoring along with summary figures and tables in four appendices: (1) Appendix A (Figures 1-4), (2) Appendix B (Tables 1-3), (3) Appendix C (sampling logs by date), and (4) Appendix D (laboratory reports and chains of custody).

A map of the Winter Hydroelectric Project is shown in Figure 1 indicating the water quality sampling location.

Monitoring results for 2020 are shown in Table 1. No unusual Temperature (Figure 2) or Dissolved Oxygen (Figure 3) readings were observed. The Secchi depths are shown in Figure 4.

In general, the weather (temperature and rainfall) during 2020 monitoring season appeared slightly warmer in October, December, January, March, May to August, with lower than normal precipitation in February, April, May, June, August, and September, and normal to high precipitation in the months of October, November, December, January, and March (Table 2). Sampling and testing of the samples were coordinated with the sampling done at the Flambeau Projects (Upper, Lower, Pixley, Crowley). These projects are located on the North Fork of the Flambeau River, Price County, Wisconsin. Protocol, procedures, and sampling design followed that of the Flambeau Projects.

Ice-Out occurred on the East Fork of the Chippewa sometime during the week beginning April 1, 2020. The Ice-Out sampling event occurred on April 7, 2020. River flow, based on the Winter Hydroelectric Project records, was approximately 2624 cubic feet per second. Sampling occurred between 1400 and 1405. Samples were taken without incident. No unusual D.O. or Temperature readings were observed. Samples for laboratory analysis were delivered to White Water Associates, Inc. laboratory in Amasa, MI on April 9, 2020. White Water Associates, Inc. issued a laboratory report on August 31, 2020. No unusual levels of Chlorophyll *a*, True Color, or Total Phosphorus were noted in the laboratory reports.

River flow, based on the Winter Hydroelectric Project records, was approximately 375 cubic feet per second during the July 20, 2020 sampling event. Sampling occurred between 1350 and 1400. Samples were taken without incident. No unusual D.O. or Temperature readings were observed. Samples for laboratory analysis were delivered to White Water Associates, Inc. laboratory in Amasa, MI on July 23, 2020. White Water Associates, Inc. issued a laboratory report on August 31, 2020. No unusual levels of Chlorophyll *a*, True Color, or Total Phosphorus were noted in the laboratory reports.

River flow, based on the Winter Hydroelectric Project records, was approximately 576 cubic feet per second during the August 13, 2020 sampling event. Sampling occurred between 1152 and 1200. Samples were taken without incident. No unusual D.O. or Temperature readings were observed. Samples for laboratory analysis were delivered to White Water Associates, Inc. laboratory in Amasa, MI on August

14, 2020. White Water Associates, Inc. issued a laboratory report on September 11, 2020. No unusual levels of Chlorophyll *a*, True Color, or Total Phosphorus were noted in the laboratory reports.

A summary of a comparison between the 2013 thru 2020 (Table 3) sampling results are as follows:

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

The next scheduled Water Quality Monitoring at the Winter Hydroelectric Project is set to take place in 2021 beginning with the Ice-Out sampling event.

Appendix A – Winter Hydroelectric Project Figures

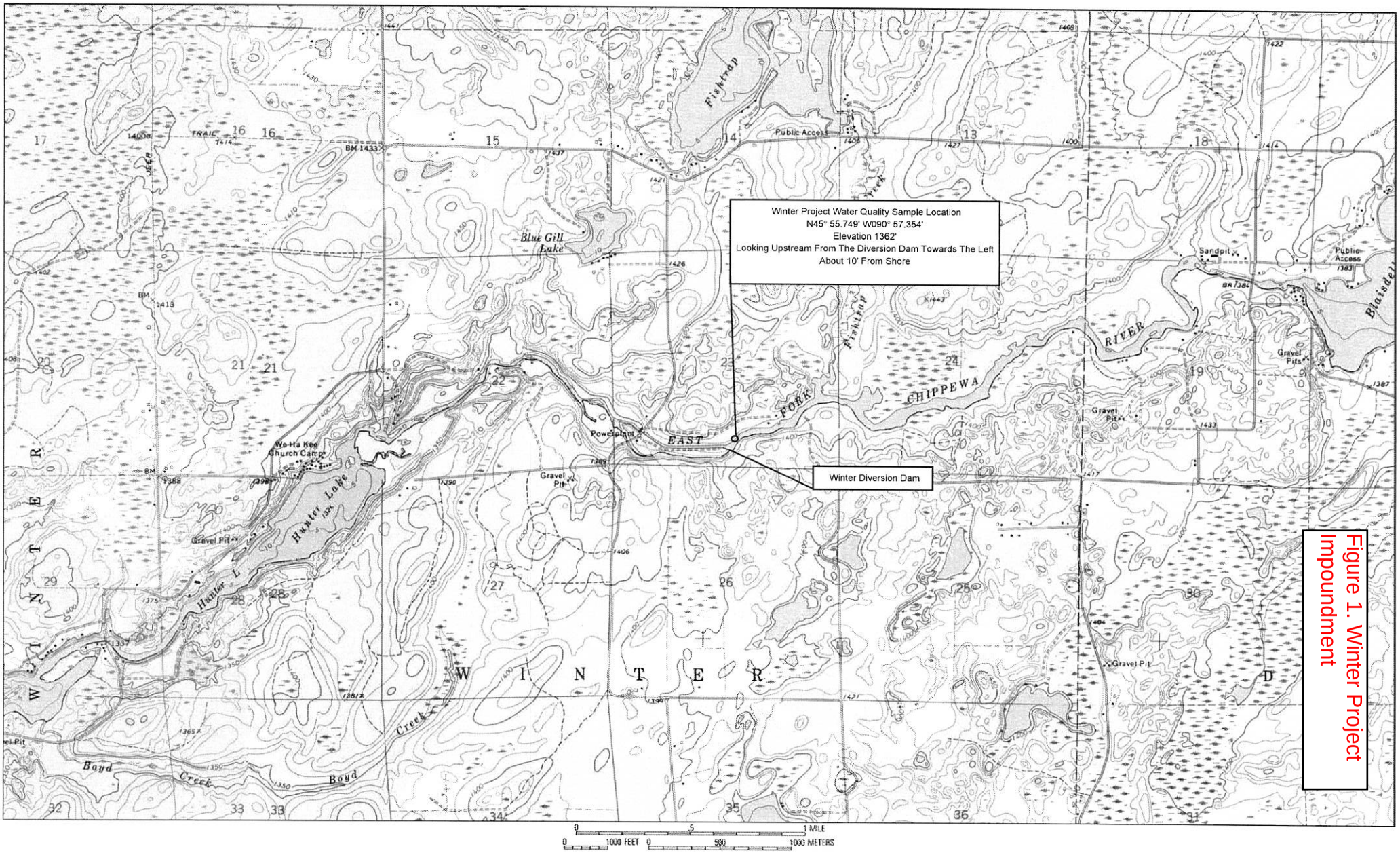


Figure 1. Winter Project Impoundment

Figure 2. Winter Impoundment - FERC #2064
2020 Temperature Profiles

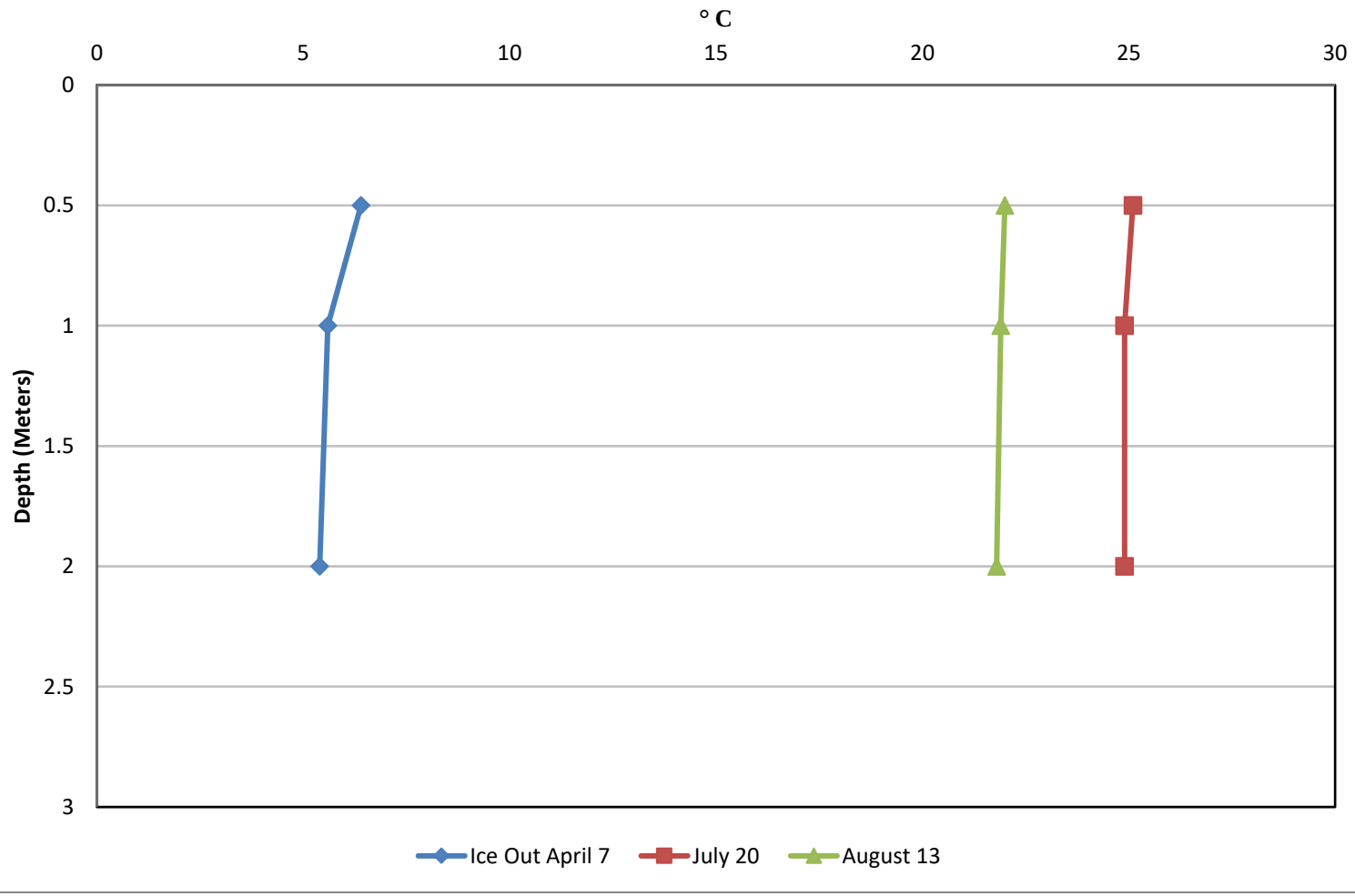
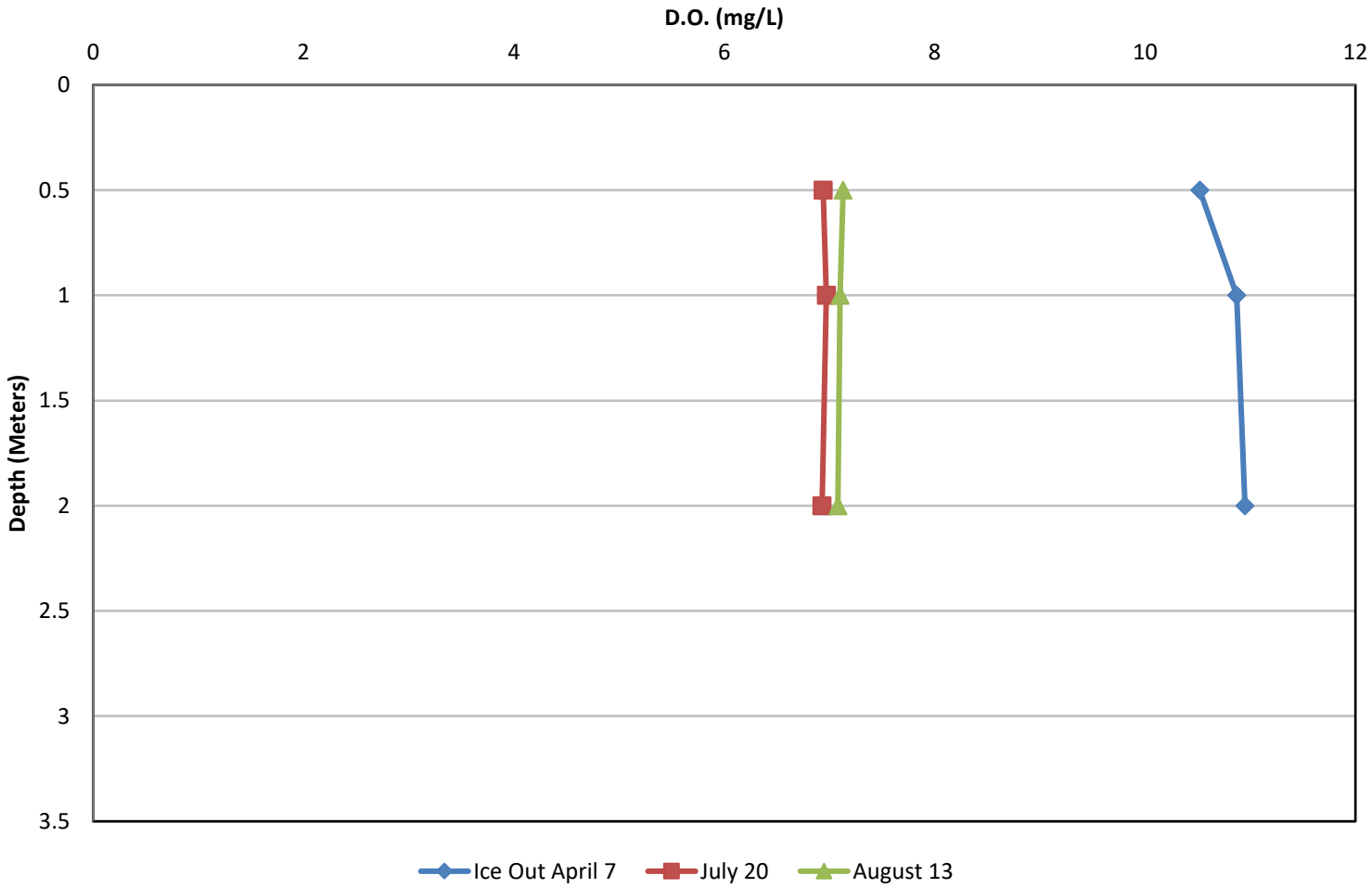


Figure 3. Winter Impoundment - FERC #2064
2020 Dissolved Oxygen Profiles



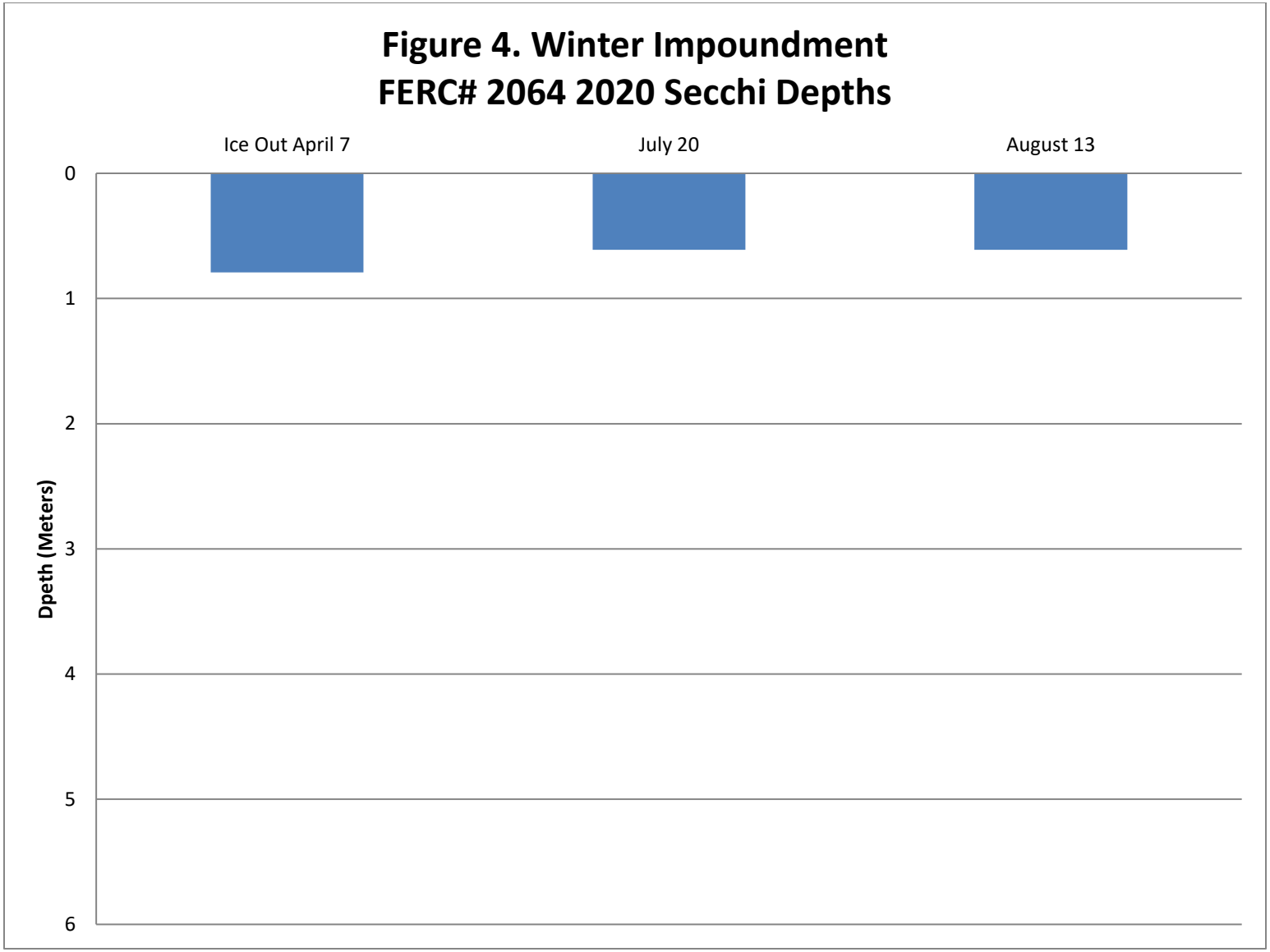


Figure 4. Winter Impoundment
FERC# 2064 2020 Secchi Depths
Ice Out April 7
July 20
August 13
0
1
2
3
4
5
6
Dpeth (Meters)

Appendix B – Winter Hydroelectric Project Tables

Table 1. Winter Hydroelectric Project – FERC Project # 2064: 2020 Water Quality Sampling Data

	Ice Out April 7, 2020			July 20, 2020			August 13, 2020		
Project Flow (c.f.s)	2624			375			576		
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 meter below surface	13:59:22	10.52	6.4	13:55:11	6.94	25.1	11:52:22	7.13	22.0
1 meter below surface	13:59:30	10.87	5.6	13:57:16	6.97	24.9	11:52:54	7.10	21.9
2 meters below surface	14:00:00	10.95	5.4	13:58:32	6.93	24.9	11:53:31	7.08	21.8
3 meters below surface	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
0.5 meter above bottom	14:01:42	10.95	5.4	14:00:00	6.94	24.9	11:54:01	7.08	21.8
Secchi Disk	**Time**	**Depth (m)**		**Time**	**Depth (m)**		**Time**	**Depth (m)**	
Meters below surface	1400	0.792		13:51	0.61		12:00	0.61	
Chlorophyll *a*	**Time**	**µg/L**		**Time**	**µg/L**		**Time**	**µg/L**	
1 meter below surface	14:00	0.80		13:53	1.90		12:00	1.80	
Color (True)	**Time**	**C.P.U. Units**	**LOD**	**Time**	**C.P.U. Units**	**LOD**	**Time**	**C.P.U. Units**	**LOD**
1 meter below surface	1400	65.00	5*	13:54	75.00	5*	12:00	72.0	5*
Total Phosphorus	**Time**	**mg/L**	**LOD**	**Time**	**mg/L**	**LOD**	**Time**	**mg/L**	**LOD**
1 meter below surface	1400	0.072	0.01*	13:54	0.053	0.008*	13:52	0.019	0.008*
1 meter above bottom	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
* Considered Method Detection Limit N/A = Not Applicable									

Table 2. 2019/20 Water Year Monthly Temperature and Precipitation for Winter, 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 - 19	72	19	44.5	1.3	625	678	4.42	0.9	2.85	64
November - 19	47	-2	26.3	-2.5	1156	1088	2.30	27.7	2.09	91
December - 19	39	-16	17.4	2.6	1470	1556	2.69	22.7	1.21	45
January – 20	32	-16	16.1	5.9	1509	1699	1.37	17.7	0.96	70
February – 20	43	-21	14.4	-2.2	1461	1399	0.18	5.4	0.81	22
March – 20	51	3	29.4	3.5	1098	1210	1.74	10.1	1.49	86
April – 20	66	14	37.2	-2.4	824	762	1.30	50.8	2.43	53
May – 20	81	25	51.6	0.2	412	426	0.94	0.00	3.23	29
June – 20	89	38	64.2	4.1	89	179	0.69	0.00	4.23	16
July – 20	93	47	69.9	4.1	22	63	5.25	0.00	3.85	73
August – 20	86	48	67.0	2.7	24	86	2.72	0.00	3.70	74
September - 20	81	28	54.6	-1.0	305	298	0.85	0.00	4.11	21

Source: NOAA/Duluth, MN

Table 3. Winter Project Sampling Comparison Table: 2013 Thru Current Year									
Year	**Month**	**Secchi Depth**	**Chlorophyll *a***	**Color (True)**	**Total Phosphorus**	**Low D.O.**	**High D.O.**	**Low Water Temp.**	**High Water Temp.**
		meters	**µg/L**	**C.P.U. Units**	**Below Surface mg/L**	**mg/L**	**mg/L**	**° C**	**° C**
2013	May	1.20	1.90	250.00	0.036	9.34	9.61	6.90	7.80
2014	June	1.50	2.30	300.00	0.055	6.98	7.07	19.90	20.10
2015	April	0.80	3.70	180.00	0.036	9.57	9.72	10.00	11.60
2016	March	0.67	0.41	40.00	0.020	11.30	11.49	3.10	3.60
2017	April	1.03	3.90	35.00	0.022	10.15	10.30	7.20	8.10
2018	May	0.94	ND	55.00	0.025	7.79	8.01	16.40	17.50
2019	April	0.90	2.10	35.00	0.099	10.43	10.60	5.50	5.90
2020	April	0.792	0.80	65.00	0.072	10.52	10.95	5.40	6.40
Minimum	March-June	0.67	0.41	35.00	0.020	6.98	7.07	3.10	3.60
Maximum	March-June	1.50	3.90	300.00	0.099	11.30	11.49	19.90	20.10
Average	March-June	0.98	2.16	120.00	0.046	9.51	9.72	9.30	10.13
2013	July	0.80	1.90	400.00	0.064	5.05	5.21	25.20	26.10
2014	July	0.60	1.50	250.0	0.050	6.31	6.44	19.00	19.40
2015	July	0.70	1.80	25.00	0.044	6.47	6.53	22.30	22.30
2016	July	0.70	2.20	85.00	0.035	5.77	5.86	22.60	23.10
2017	July	1.40	3.10	55.00	0.033	6.31	6.43	24.20	24.30
2018	July	0.85	3.10	10.00	0.054	5.10	5.30	25.40	26.50
2019	July	1.22	3.50	50.00	0.031	7.32	7.36	24.00	24.70
2020	July	0.061	1.90	75.00	0.053	6.94	6.97	24.90	25.10
Minimum	July	0.60	1.50	10.00	0.031	5.05	5.21	19.00	19.40
Maximum	July	1.40	3.50	400.00	0.064	7.32	7.36	25.40	26.50
Average	July	0.86	2.38	118.75	0.046	6.16	6.26	23.45	23.94
2013	August	0.90	2.00	200.00	0.120	5.49	6.10	20.00	20.10
2014	August	0.90	1.80	150.00	0.040	6.54	6.68	23.70	23.80
2015	August	0.70	3.30	300.00	0.051	5.95	6.10	22.80	23.20
2016	August	0.98	1.50	60.00	0.038	5.83	5.96	23.50	24.80
2017	August	1.40	2.80	40.00	0.023	6.66	6.79	20.30	20.30
2018	August	1.20	2.80	100.00	0.041	6.75	6.92	20.70	21.40
2019	August	1.52	2.70	55.00	0.028	7.32	7.59	24.70	25.40
2020	August	0.61	1.80	72.00	0.019	7.08	7.13	21.80	22.00
Minimum	August	0.61	1.50	40.00	0.019	5.49	5.96	20.00	20.10
Maximum	August	1.52	3.30	300.00	0.120	7.32	7.59	24.70	25.40
Average	August	1.03	2.34	122.13	0.045	6.45	6.66	22.21	22.61

Appendix C – Winter Impoundment Project Sampling Logs

IMPOUNDMENT SAMPLING LOG

Water Quality Study Location Winter

Hydroelectric Project – FERC # 2064

Date: 4-7-2020

Pre-Sampling Data:

HWL 1330.52 TWL 1327.35 CFS 26.24

Sample Location: N45° 55.749
W90° 57.354

Performed by:
Angie Stini Sean Coyon

Time: 14:00 Barometer: 29.02

Air Temp 61 °F Wind Speed: W 5mpH

Sky Conditions: Partly Cloudy

Precipitation within Last 24 Hours: yes

D.O. Meter Calibration:

Instrument Model Used: HQ40D

Were the batteries changed? ☐ Yes ☒ No

If yes, when were they changed: _____

Battery Status: 80 % Charge

Calibration Method: Factory

Sampling Depth Profile: Measured depth to bottom of impoundment: 2.5 Meters

Secchi Depth (± 0.1)		
Time 1403	2.6	(Feet) Meters

Comments:

Chlorophyll *a* (1 Meter below surface horizontal sampler)		
Time 1400	Quantity (ml)	Filtered
	1000	In Lab
Preservative	$MgCO_3$	

True Color (1 Meter below surface horizontal sampler)
Time 1400

Total Phosphorus (1 Meter below surface horizontal sampler)	
Time 1400	Preservative
	H_2SO_4

~~Total Phosphorus~~ (1 Meter above bottom horizontal sampler)	
Time	Preservative
	H_2SO_4

D.O. and Temperature Profile			
Depth (Meters)	Time	D.O. (mg/L)	Temperature °C
0.5 below surface	1359.22	10.52	6.4
1	14:00.0	10.87	5.6
2.5	14:00.0	10.95	5.4
3			
4			
5			
6			
7			
8			
0.5 above bottom	1401.42	10.95	5.4

*If D.O. is below 5.0 mg/L notify agency and measure D.O. at 1.0 foot intervals if <5.0 mg/L.

WHITE WATER ASSOCIATES, INC.

IMPOUNDMENT SAMPLING LOG

Water Quality Study Location: Winter

Hydroelectric Project – FERC #: 2064

Date: 7-20-2020

Pre-Sampling Data:

HWL 1320.79 TWL 1315.33 CFS 375

Sample Location: N45° 55.749
W090° 57.554

Performed by: Breanna Kempfainen Sean Caron

Time: 13:50 Barometer: 30.02 in

Air Temp: 71 °F Wind Speed: NW 6mph

Sky Conditions: 50% clouds

Precipitation within Last 24 Hours: NO

D.O. Meter Calibration:

Instrument Model Used: HQ40D

Were the batteries changed? ☐ Yes ☒ No

If yes, when were they changed: _____

Battery Status: 40 % Charge

Calibration Method: Factory

Sampling Depth Profile: Measured depth to bottom of impoundment: 2.5 Meters

Secchi Depth (± 0.1)		
Time 13:51	2.0 (Feet)	Meters

Comments:

Chlorophyll *a* (1 Meter below surface horizontal sampler)		
Time 13:53	Quantity (ml)	Filtered
	1000	In Lab
Preservative	$MgCO_3$	

True Color (1 Meter below surface horizontal sampler)
Time 13:54

Total Phosphorus (1 Meter below surface horizontal sampler)	
Time 13:54	Preservative
	H_2SO_4

Total Phosphorus (1 Meter above bottom horizontal sampler)	
Time	Preservative
	H_2SO_4

D.O. and Temperature Profile			
Depth (Meters)	Time	D.O. (mg/L)	Temperature °C
0.5 below surface	13:55:11	6.94	25.1
1	13:57:16	6.97	24.9
1.5	13:58:32	6.93	24.9
3			
4			
5			
6			
7			
8			
0.5 above bottom	14:00:10	6.94	24.9

*If D.O. is below 5.0 mg/L notify agency and measure D.O. at 1.0 foot intervals if <5.0 mg/L.

WHITE WATER ASSOCIATES, INC.

IMPOUNDMENT SAMPLING LOG

Water Quality Study Location Winter

Hydroelectric Project – FERC # 2064

Date: 8-13-2020

Pre-Sampling Data:

HWL 1330.16 TWL 1325.50 CFS 574

Sample Location: N45° 55.749
W90° 57.354

Performed by:
Angie Shea Sean Coran

Time: 1152 Barometer: 30.07

Air Temp: 64 °F Wind Speed: SE 6mph

Sky Conditions: 100 Clouds

Precipitation within Last 24 Hours: yes

D.O. Meter Calibration:

Instrument Model Used: HQ40D

Were the batteries changed? ☐ Yes ☒ No

If yes, when were they changed: _____

Battery Status: 20 % Charge

Calibration Method: Factory

Sampling Depth Profile: Measured depth to bottom of impoundment: 2 Meters

Secchi Depth (± 0.1)			
Time	2	(Feet)	Meters

Comments:

Chlorophyll *a* (1 Meter below surface horizontal sampler)		
Time 12:00	Quantity (ml)	Filtered
	1000	In Lab
Preservative	$MgCO_3$	

True Color (1 Meter below surface horizontal sampler)
Time 12:06

Total Phosphorus (1 Meter below surface horizontal sampler)	
Time 12:00	Preservative
	H_2SO_4

Total Phosphorus (1 Meter above bottom horizontal sampler)	
Time	Preservative
	H_2SO_4

D.O. and Temperature Profile			
Depth (Meters)	Time	D.O. (mg/L)	Temperature ° C
0.5 below surface	11:52.22	7.13	22.0
1	11:52.54	7.10	21.9
2	11:53.31	7.05	21.8
3			
4			
5			
6			
7			
8			
0.5 above bottom	11:54.01	7.08	21.8

*If D.O. is below 5.0 mg/L notify agency and measure D.O. at 1.0 foot intervals if <5.0 mg/L.

WHITE WATER ASSOCIATES, INC.

Appendix D – Winter Hydroelectric Project Lab Reports and Chains of Custody

Cover Page

ANALYTICAL REPORT

WHITE WATER ASSOCIATES, INC.

429 River Lane • PO Box 27 Amasa, MI 49903 • Ph (906) 822-7889 • Fax -7977

Client: RWE **WWA Job #:** 88427

Project: Monitoring

Date Received: 4/9/2020 **Date Reported:** 8/31/2020

Sample Number	Client Sample ID	Date/Time Sampled	Sample Matrix
88427-001	Winter	4/7/2020 14:00	Water

Comments (if any):

TAL Cert. 9937, 9925

Key to Laboratory Flags:

*: RPD/RSD exceeds limits.
B: The analyte was found in the associated blank as well as in the sample.
J: The quantitation is an estimated value because the result is less than the sample quantitation limit but greater than the detection limit.
M: A matrix effect was present.
Q: Batch QC data associated with the analysis does not meet the stated objectives
H: Indicates analytical holding time exceedance.
P: A manual peak selection or manual integration was performed to correct an erroneous software selection.
N: For reporting results that are non-target analytes, when requested by client for Mass Spec reporting.
T: Tentatively Identified Compound.
ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit
ppm = mg/L (liquid) or mg/kg (solid), ppb = ug/L (liquid) or ug/kg (solid)
For coliform, Negative = No coliform bacteria detected, Positive = Coliform bacteria detected

Sample Types:
S = Solids, DW = Drinking water, D = Dissolved, T = Total, TC = TCLP extract, SP = SPLP extract

All samples were received intact and properly preserved unless otherwise noted. The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without the written approval of this laboratory. The Chain of Custody is attached.

This report satisfies the requirements of your project but has not been prepared to comply with NELAP reporting requirements.

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and White Water Associates Standard Operating Procedures. Exceptions, if any, are discussed in the accompanying sample narrative. Release of this Final Report is authorized by White Water Associates management, as is verified by the following signature.

Approved By: Electronically signed by Bette J. Premo

Bette J. Premo

WI DNR Lab Certification Number: 999971280
MI EGLE Certification Number: 9306
DoD-ELAP Accreditation Number: 65802 by PJLA for Environmental Testing
ISO/IEC 17025:2005 Accredited

ANALYTICAL REPORT

WHITE WATER ASSOCIATES, INC.

429 River Lane • PO Box 27 Amasa, MI 49903 • Ph (906) 822-7889 • Fax -7977

Client: RWE **WWA Job #:** 88427

Project: Monitoring

Date Received: 4/9/2020 **Date Reported:** 8/31/2020

Sample Results

Sample No. / ID / Description / Matrix	Result	Flags	Units	Date/Time	Method	MDL	MQL	Analyst
88427-001 / Winter / Water								
General Chemistry Parameters								
Chlorophyll a	0.80		mg/m3	4/10/2020 13:20	10200H	NA	NA	AH
Color	65		CU	4/13/2020 12:00	2120B	5	5	WS
Total Phosphorus LL (t)	0.072	J	mg/L	5/6/2020 10:13	4500-P E	0.041	0.10	OL

TAL Cert. 9937, 9925

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit,
ppm = mg/L (liquid) or mg/kg (solid), ppb = ug/L (liquid) or ug/kg (solid)

VGut 4/14/20

Version 191002

Job # (WWA office use): 88427 /

CHAIN-OF-CUSTODY RECORD

WHITE WATER ASSOCIATES, INC.

429 River Lane, P.O. Box 27
Amasa, Michigan 49903

Phone: (906) 822-7889, Fax -7977
Web: white-water-associates.com

CLIENT NAME / BILL TO	EMAIL ADDRESS
KWE /	
ADDRESS	TELEPHONE
CITY / STATE / ZIP	CONTRACT / PO / PROJECT NAME / WSSN#
	Monitoring
SAMPLER NAME (print first/last name)	COUNTY OF LOCATION / PAGE
Angie Shine	PAGE 1 OF 1 — Indicate if more than one page of COC records used
SAMPLER'S SIGNATURE	Check off preservatives for each bottle upon arrival and indicate total number of bottles. WWA database contains bottle preservation details.

ANALYSIS TYPE REQUESTED (Attach list if neeeded)

Instructions to White Water
Send my report by:
____ email
____ mail

Unless otherwise noted, drinking water report copies are sent to EGLE and Health Dept.

REMARKS (Note any special instructions provided by client or conditions of receipt noted by WWA lab staff. Also note any residual chlorine.)

SAMPLE ID AND LOCATION (Containers for each sample may be combined on one line.)	DATE	TIME	SAMPLE MATRIX: Drinking water	Aqueous	Sed.	Soil	Other:	CONTAINERS / PRESERVATIVES: None	H2SO4	HNO3	HCl	NaOH	Na Thio	Other:	Total Number of Containers	Chl G	Tons	Color
Winter	4-7-20	14:00		X				X	X						3	X	X	X

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Comments/sample temp on receipt:
	4-9-20	16:47				Packing: Ice ✓ Cooler ✓
Relinquished by:	Date:	Time:	Received by:	Date: 4-9-20	Time: 1550	

WHITE - RETURN W/ REPORT CANARY - W/ SAMPLES PINK - CUSTOMER

UPS☐ FedEx☐ USPS☐ Client☐ Other WWA

Cover Page

ANALYTICAL REPORT

WHITE WATER ASSOCIATES, INC.
429 River Lane • PO Box 27 Amasa, MI 49903 • Ph (906) 822-7889 • Fax -7977

Client: RWE **WWA Job #:** 90259

Project: Monitoring

Date Received: 7/23/2020 **Date Reported:** 8/31/2020

Sample Number	Client Sample ID	Date/Time Sampled	Sample Matrix
90259-001	Winter	7/20/2020 13:53	Water
90259-002	Winter	7/20/2020 13:54	Water

ANALYTICAL REPORT

WHITE WATER ASSOCIATES, INC.
429 River Lane • PO Box 27 Amasa, MI 49903 • Ph (906) 822-7889 • Fax -7977

Client: RWE **WWA Job #:** 90259

Comments (if any):

Key to Laboratory Flags:

*: RPD/RSD exceeds limits.
B: The analyte was found in the associated blank as well as in the sample.
J: The quantitation is an estimated value because the result is less than the sample quantitation limit but greater than the detection limit.
M: A matrix effect was present.
Q: Batch QC data associated with the analysis does not meet the stated objectives
H: Indicates analytical holding time exceedance.
P: A manual peak selection or manual integration was performed to correct an erroneous software selection.
N: For reporting results that are non-target analytes, when requested by client for Mass Spec reporting.
T: Tentatively Identified Compound.
ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit
ppm = mg/L (liquid) or mg/kg (solid), ppb = ug/L (liquid) or ug/kg (solid)
For coliform, Negative = No coliform bacteria detected, Positive = Coliform bacteria detected

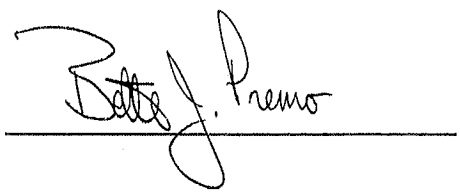
Sample Types:
S = Solids, DW = Drinking water, D = Dissolved, T = Total, TC = TCLP extract, SP = SPLP extract

All samples were received intact and properly preserved unless otherwise noted. The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without the written approval of this laboratory. The Chain of Custody is attached.

This report satisfies the requirements of your project but has not been prepared to comply with NELAP reporting requirements.

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and White Water Associates Standard Operating Procedures. Exceptions, if any, are discussed in the accompanying sample narrative. Release of this Final Report is authorized by White Water Associates management, as is verified by the following signature.

Approved By: Electronically signed by Bette J. Premo



WI DNR Lab Certification Number: 999971280
MI EGLE Certification Number: 9306
DoD-ELAP Accreditation Number: 65802 by PJLA for Environmental Testing
ISO/IEC 17025:2005 Accredited

ANALYTICAL REPORT

WHITE WATER ASSOCIATES, INC.
429 River Lane • PO Box 27 Amasa, MI 49903 • Ph (906) 822-7889 • Fax -7977

Client: RWE **WWA Job #:** 90259

Project: Monitoring

Date Received: 7/23/2020 **Date Reported:** 8/31/2020

Sample Results

Sample No. / ID / Description / Matrix	Result	Flags	Units	Date/Time	Method	MDL	MQL	Analyst
90259-001 / Winter / Water								
General Chemistry Parameters								
Chlorophyll a	1.9		mg/m3	7/27/2020 12:50	10200H	NA	NA	AH
90259-002 / Winter / Water								
General Chemistry Parameters								
Color	75		CU	7/23/2020 15:30	2120B	5	5	WS
Total Phosphorus (t)	0.053		mg/L	7/31/2020 14:21	365.4	0.008	0.050	NK

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit,
ppm = mg/L (liquid) or mg/kg (solid), ppb = ug/L (liquid) or ug/kg (solid)

JGW 7/23/20
Version 191002

Job # (WWA office use): 90259 -

CHAIN-OF-CUSTODY RECORD

WHITE WATER ASSOCIATES, INC.

429 River Lane, P.O. Box 27
Amasa, Michigan 49903

Phone: (906) 822-7889, Fax -7977
Web: white-water-associates.com

CLIENT NAME / BILL TO: RWE

EMAIL ADDRESS:

ADDRESS:

TELEPHONE:

CITY | STATE | ZIP:

CONTRACT / PO / PROJECT NAME / WSSN#: Monitoring

SAMPLER NAME (print first/last name): Sean Caron

COUNTY OF LOCATION:

PAGE 1 OF 1 — Indicate if more than one page of COC records used

SAMPLER'S SIGNATURE: Sean Caron

Check off preservatives for each bottle upon arrival and indicate total number of bottles. WWA database contains bottle preservation details.

ANALYSIS TYPE REQUESTED (Attach list if neeeded)

Instructions to White Water
Send my report by:
____ email
____ mail

Unless otherwise noted, drinking water report copies are sent to EGLE and Health Dept.

REMARKS (Note any special instructions provided by client or conditions of receipt noted by WWA lab staff. Also note any residual chlorine.)

SAMPLE ID AND LOCATION (Containers for each sample may be combined on one line.)	DATE	TIME	SAMPLE MATRIX: Drinking water	Aqueous	Sed.	Soil	Other:	CONTAINERS / PRESERVATIVES: None	H2SO4	HNO3	HCl	NaOH	Na Thio	Other:	Total Number of Containers	Chl G	Tphas	Color
Winter				X				X	X						3	X	X	X
1	7-20-20	13:53														X		
2	7-20-20	13:54															X	
2	7-20-20	13:54																X

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Sean Caron	7-22-20	16:50			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
				7/24/20	8:30

Comments/sample temp on receipt: 5°

Packing: Ice ✓ Cooler ✓

UPS☐ FedEx☐ USPS☐ Client☐ Other WWA

WHITE - RETURN W/ REPORT CANARY - W/ SAMPLES PINK - CUSTOMER

Cover Page

ANALYTICAL REPORT

WHITE WATER ASSOCIATES, INC.

429 River Lane • PO Box 27 Amasa, MI 49903 • Ph (906) 822-7889 • Fax -7977

Client: RWE **WWA Job #:** 90677

Project: Monitoring

Date Received: 8/14/2020 **Date Reported:** 9/11/2020

Sample Number	Client Sample ID	Date/Time Sampled	Sample Matrix
90677-001	Winter	8/13/2020 12:00	Water

Comments (if any):

Key to Laboratory Flags:

*: RPD/RSD exceeds limits.
B: The analyte was found in the associated blank as well as in the sample.
J: The quantitation is an estimated value because the result is less than the sample quantitation limit but greater than the detection limit.
M: A matrix effect was present.
Q: Batch QC data associated with the analysis does not meet the stated objectives
H: Indicates analytical holding time exceedance.
P: A manual peak selection or manual integration was performed to correct an erroneous software selection.
N: For reporting results that are non-target analytes, when requested by client for Mass Spec reporting.
T: Tentatively Identified Compound.
ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit
ppm = mg/L (liquid) or mg/kg (solid), ppb = ug/L (liquid) or ug/kg (solid)
For coliform, Negative = No coliform bacteria detected, Positive = Coliform bacteria detected

Sample Types:
S = Solids, DW = Drinking water, D = Dissolved, T = Total, TC = TCLP extract, SP = SPLP extract

All samples were received intact and properly preserved unless otherwise noted. The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without the written approval of this laboratory. The Chain of Custody is attached.

This report satisfies the requirements of your project but has not been prepared to comply with NELAP reporting requirements.

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and White Water Associates Standard Operating Procedures. Exceptions, if any, are discussed in the accompanying sample narrative. Release of this Final Report is authorized by White Water Associates management, as is verified by the following signature.

Approved By: Electronically signed by Bette J. Premo

Bette J. Premo

WI DNR Lab Certification Number: 999971280
MI EGLE Certification Number: 9306
DoD-ELAP Accreditation Number: 65802 by PJLA for Environmental Testing
ISO/IEC 17025:2005 Accredited

ANALYTICAL REPORT

WHITE WATER ASSOCIATES, INC.
429 River Lane • PO Box 27 Amasa, MI 49903 • Ph (906) 822-7889 • Fax -7977

Client: RWE **WWA Job #:** 90677

Project: Monitoring

Date Received: 8/14/2020 **Date Reported:** 9/11/2020

Sample Results

Sample No. / ID / Description / Matrix	Result	Flags	Units	Date/Time	Method	MDL	MQL	Analyst
90677-001 / Winter / Water								
General Chemistry Parameters								
Chlorophyll a	1.8		mg/m3	8/18/2020 10:00	10200H	NA	NA	AH
Color	72		CU	8/14/2020 14:00	2120B	10	10	NK
Total Phosphorus (t)	0.019		mg/L	9/9/2020 17:51	SM 4500 PE	0.0050	0.010	OL

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit,
ppm = mg/L (liquid) or mg/kg (solid), ppb = ug/L (liquid) or ug/kg (solid)

JGut 8/17/20 Version 191002

Job # (WWA office use): 90677

CHAIN-OF-CUSTODY RECORD

WHITE WATER ASSOCIATES, INC.

429 River Lane, P.O. Box 27
Amasa, Michigan 49903

Phone: (906) 822-7889, Fax -7977
Web: white-water-associates.com

CLIENT NAME / BILL TO: RWE

EMAIL ADDRESS:

ADDRESS:

TELEPHONE:

CITY | STATE | ZIP:

CONTRACT / PO / PROJECT NAME / WSSN#: Monitoring

SAMPLER NAME (print first/last name): Sean Cavan

COUNTY OF LOCATION:

PAGE 1 OF 1 — Indicate if more than one page of COC records used

SAMPLER'S SIGNATURE:

Check off preservatives for each bottle upon arrival and indicate total number of bottles. WWA database contains bottle preservation details.

ANALYSIS TYPE REQUESTED (Attach list if neeeded)

Instructions to White Water
Send my report by:
____ email
____ mail

Unless otherwise noted, drinking water report copies are sent to EGLE and Health Dept.

REMARKS (Note any special instructions provided by client or conditions of receipt noted by WWA lab staff. Also note any residual chlorine.)

SAMPLE ID AND LOCATION (Containers for each sample may be combined on one line.)	DATE	TIME	SAMPLE MATRIX: Drinking water	Aqueous	Sed.	Soil	Other:	CONTAINERS / PRESERVATIVES: None	H2SO4	HNO3	HCl	NaOH	Na Thio	Other:	Total Number of Containers	Chla	Tphos	Color
Winter	8-13-20	12:00		X				X	X						3	X	X	X

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
	8-13-20	16:15			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
				8/13/20	4:30

Comments/sample temp on receipt: 2

Packing: Ice ___ Cooler ✓

UPS☐ FedEx☐ USPS☐ Client☐ Other WWA

WHITE - RETURN W/ REPORT CANARY - W/ SAMPLES PINK - CUSTOMER

RE: Winter (P-2064) Draft Water Quality Report

Haller, Macaulay G - DNR <macaulay.haller@wisconsin.gov>

Mon 1/4/2021 5:05 PM

To: Brian Kreuscher <bkreuscher@rwehydro.com>
Cc: Laatsch, Cheryl - DNR <Cheryl.Laatsch@wisconsin.gov>; Haller, Macaulay G - DNR <macaulay.haller@wisconsin.gov>; Nick Utrup <nick_utrup@fws.gov>; sreinecke@fs.fed.us <sreinecke@fs.fed.us>; pstrong@fs.fed.us <pstrong@fs.fed.us>

Hi Brian,

The Wisconsin DNR does not have any comments to provide on the 2020 Draft Water Quality Report for Winter Hydro Project, received December 11, 2020.

The department is currently reviewing water quality monitoring protocols for statewide FERC projects. The department may reach out to RWE in the future to discuss updating RWE's water quality monitoring protocols for their applicable projects.

Thank you for the opportunity to comment,

Macaulay Haller
Wisconsin Department of Natural Resources
Macaulay.Haller@wisconsin.gov

From: Brian Kreuscher <bkreuscher@rwehydro.com>
Sent: Friday, December 11, 2020 12:52 PM
To: Laatsch, Cheryl - DNR <Cheryl.Laatsch@wisconsin.gov>; Nick Utrup <nick_utrup@fws.gov>; Sue Reinecke <sreinecke@fs.fed.us>; Paul Strong <pstrong@fs.fed.us>
Subject: Winter (P-2064) Draft Water Quality Report

All,

Attached is the Draft Water Quality Report for Winter. Please review and provide any comments you may have to me within 60 days for FERC submittal.

Thanks

Brian Kreuscher

Renewable World Energies
Regulatory & Compliance
855-994-9376 x230