



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

**Cover Page**

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**Client:** Premo, Dean

**WWA Job #:** 71410

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**Project:** Hagerman Lake

**Date Received:** 8/21/2017

**Date Reported:** 9/14/2017

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<b>Sample Number</b>	<b>Client Sample ID</b>	<b>Date Sampled</b>	<b>Sample Matrix</b>
71410-001	Epi	08/19/17	Water
71410-002	Hypo	08/19/17	Water
71410-003	Hagerman Lake	08/21/17	Water



# WHITE WATER ASSOCIATES, INC.

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**Comments (if any):**

**Key to Laboratory Flags:**

- \*: RPD 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.
- U: The analyte was analyzed for, but not detected.
- P: A manual peak selection or manual integration was performed to correct an erroneous software selection.

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:**

WI DNR Lab Certification Number: 999971280

MI DEQ Certification Number: 9306

DoD-ELAP Accreditation Number: 65802

ISO/IEC 17025:2005 Accredited



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## Sample Results

Sample No. / ID / Description / Matrix	Result	Flags	Units	Date/Time	Method	MDL	MQL	Analyst
<b>71410-001 / Epi / Hagerman Lake / Water</b>								
<b>General Chemistry Parameters</b>								
Alkalinity	64		mg/L	8/30/2017 13:15	2320B	5	20	WS
Ammonia-N	0.01	J	mg/L	8/31/2017 11:04	4500-NH3 G	0.01	0.04	NK
chlorophyll a	2.1		mg/m3	9/7/2017 10:00	10200H	NA	NA	LY
Conductivity Lab	130		umho/cm	8/21/2017 10:40	2510B	1	2	LY
Hardness (t)	62		mg/L	9/5/2017 12:58	2340B	0.3	1.1	SB
Nitrate/Nitrite-N	ND		mg/L	8/24/2017 14:58	4500-NO3- F	0.06	0.20	NK
Nitrate-N	ND		mg/L	8/24/2017 14:58	4500-NO3- F	0.09	0.20	NK
Nitrite-N	ND		mg/L	8/21/2017 11:01	4500-NO3- F	0.01	0.02	NK
P-Alkalinity	ND		mg/L	8/30/2017 13:15	2320B	3	10	WS
pH Lab	8.1		pH Units	8/21/2017 9:55	4500H+ B	0.10	0.10	LY
Total Kjeldahl Nitrogen (t)	0.31	Q*	mg/L	8/23/2017 12:02	351.2	0.08	0.20	NK
Total Phosphorus (t)	ND		mg/L	8/31/2017 16:11	365.4	0.009	0.050	NK
<b>Trace Metals - Total</b>								
Calcium (t)	15		mg/L	9/5/2017 21:09	200.7	0.05	0.12	SB
Magnesium (t)	5.8		mg/L	9/5/2017 21:09	200.7	0.06	0.20	SB

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Project: Hagerman Lake

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Date Reported: 9/14/2017

### Sample Results

Sample No. / ID / Description / Matrix	Result	Flags	Units	Date/Time	Method	MDL	MQL	Analyst
<b>71410-002 / Hypo / Hagerman Lake / Water</b>								
<b>General Chemistry Parameters</b>								
Alkalinity	66		mg/L	8/30/2017 13:20	2320B	5	20	WS
Ammonia-N	0.04		mg/L	8/31/2017 11:06	4500-NH3 G	0.01	0.04	NK
Conductivity Lab	140		umho/cm	8/21/2017 10:40	2510B	1	2	LY
Hardness (t)	68		mg/L	9/5/2017 12:58	2340B	0.3	1.1	SB
Nitrate/Nitrite-N	ND		mg/L	8/24/2017 14:59	4500-NO3- F	0.06	0.20	NK
Nitrate-N	ND		mg/L	8/24/2017 14:59	4500-NO3- F	0.09	0.20	NK
Nitrite-N	ND		mg/L	8/21/2017 11:03	4500-NO3- F	0.01	0.02	NK
P-Alkalinity	ND		mg/L	8/30/2017 13:20	2320B	3	10	WS
pH Lab	6.9		pH Units	8/21/2017 9:55	4500H+ B	0.10	0.10	LY
Total Kjeldahl Nitrogen (t)	0.52	Q	mg/L	8/23/2017 12:09	351.2	0.08	0.20	NK
Total Phosphorus (t)	0.063		mg/L	8/31/2017 16:12	365.4	0.009	0.050	NK
<b>Trace Metals - Total</b>								
Calcium (t)	17		mg/L	9/5/2017 21:22	200.7	0.05	0.12	SB
Magnesium (t)	6.1		mg/L	9/5/2017 21:22	200.7	0.06	0.20	SB
<b>71410-003 / Hagerman Lake / SW / Water</b>								
<b>General Chemistry Parameters</b>								
E. coli	4		MPN/100mL	8/21/2017 10:15	Modified Colitag	1	1	LY

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)

**CHAIN-OF-CUSTODY RECORD**

Job # (WWA office use): **71410**



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 <i>Hagerman Lake</i>		EMAIL ADDRESS												
ADDRESS		TELEPHONE												
CITY	STATE	ZIP	CONTRACT / PO / PROJECT NAME / WSSN#											
SAMPLER NAME (print first/last name) <i>Angie Sbm</i>		PAGE <b>1</b> OF <b>1</b>	Indicate if more than one page of COC records used											
SAMPLER'S SIGNATURE <i>Angie Sbm</i>		Check off preservatives for each bottle upon arrival and indicate total number of bottles. WWA database contains bottle preservation details.												
SAMPLE ID AND LOCATION Containers for each sample may be combined on one line.	DATE	TIME	CONTAINERS / PRESERVATIVES							Total Number of Containers				
			Drinking Water	Aqueous	Sed.	Soil	Other:	None	H2SO4		HNO3	HCl	NaOH	ZnAc/NaOH
1 <i>Epi</i>	8-19-17	9:10		X										5
2 <i>Hypo</i>	"	9:00		X										5
3 <i>E. coli</i>	8-21-17	6:10		X										10

ANALYSIS TYPE REQUESTED (Attach list if needed)

PH Cond	X																			
Chl A	X																			
Hardness	X																			
TKN	X																			
TP NH3	X																			
NO2	X																			
Calcium Magnesium	X																			

Instructions to White Water  
Send my report by:  
email \_\_\_\_\_  
mail \_\_\_\_\_

Unless otherwise noted, drinking water report copies are sent to MDEQ 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.)

**1 No 1 liter bottle for Chl A**

**0218/21/17**

Packing: Ice   
Cooler

Comments/Sample temp. on receipt:

**4°C**

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
<i>Angie Sbm</i>	8-21-17	6:45	<i>Cookley Haag</i>	8/21/17	900

UPS  FedEx  USPS  Client  Other **WWA**

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