

LABORATORY REPORT

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

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STATE CERTIFICATION LIST

State	Certification	State	Certification
Alabama	40700	Montana	CERT0026
Alaska	IN00035	Nebraska	E87775
Arizona	AZ0432	Nevada	IN000352015-1
Arkansas	IN035	New Hampshire*	2124
California	2920	New Mexico	IN00035
Colorado	IN035	New Jersey*	IN598
Colorado Radiochemistry	IN035	New York*	11398
Connecticut	PH-0132	North Carolina	18700
Delaware	IN035	North Dakota	R-035
Florida (Primary AB)*	E87775	Ohio	87775
Georgia	929	Oklahoma	D9508
Hawaii	IN035	Oregon*	IN200001
Idaho	IN00035/E87775	Pennsylvania*	68-00466
Illinois*	200001	Puerto Rico	IN00035
Illinois Microbiology	200001	Rhode Island	LAO00241
Indiana Chemistry	C-71-01	South Carolina	95005
Indiana Microbiology	M-76-07	South Dakota	IN00035
Iowa	098	Tennessee	TN02973
Kansas*	E-10233	Texas*	T104704187-14-7
Kentucky	90056	Texas/TCEQ	TX207
Louisiana*	LA150003	Utah*	IN00035
Maine	IN00035	Vermont	VT-8775
Maryland	209	Virginia*	00127
Massachusetts	M-IN035	Washington	C837
Michigan	9926	West Virginia	9927 C
Minnesota*	018-999-338	Wisconsin	999766900
Mississippi	IN035	Wyoming	IN035
Missouri	880		

*NELAP/TNI Recognized Accreditation Bodies

110 South Hill Street
 South Bend, IN 46617
 Tel: (574) 233-4777
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 1 800 332 4345

Laboratory Report

Client: Superior Watershed Partnership & Land Trust
 Attn: Geraldine Grant
 2 Peter White Drive
 Presque Isle Park
 Marquette, MI 49855
 Copies to: None

Report: 338445
 Priority: Standard Written
 Status: Final
 PWS ID: Not Supplied

Sample Information					
EEA ID #	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
3225406	HMWTP-EFF CEM-10010244	300.0	04/15/15 11:20	Client	04/16/15 09:00
3225406	HMWTP-EFF CEM-10010244	4500-F- C	04/15/15 11:20	Client	04/16/15 09:00
3225406	HMWTP-EFF CEM-10010244	2540 C	04/15/15 11:20	Client	04/16/15 09:00
3225406	HMWTP-EFF CEM-10010244	2540 D	04/15/15 11:20	Client	04/16/15 09:00
3225407	HMWTP-EFF CEM-10010244	4500-NH3 D	04/15/15 11:20	Client	04/16/15 09:00
3225408	HMWTP-EFF CEM-10010244	200.8	04/15/15 11:20	Client	04/16/15 09:00
3225409	HMWTP-EFF CEM-10010244	4500-P E	04/15/15 11:20	Client	04/16/15 09:00

Report Summary

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call James Van Fleit at (574) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from EEA.

James Van Fleit ASM

Authorized Signature

Title

05/01/2015

Date

Client Name: Superior Watershed Partnership & Land Trust
 Report #: 338445

Sampling Point: HMWTP-EFF CEM-10010244

PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
---	Solids, Dissolved	2540 C	500 ^	10	320	mg/L	---	04/21/15 09:18	3225406
---	Solids, Suspended	2540 D	---	10	< 10	mg/L	---	04/20/15 17:12	3225406
14808-79-8	Sulfate	300.0	250 ^	5.0	130	mg/L	---	04/23/15 02:31	3225406
16984-48-8	Fluoride	4500-F- C	4 *	0.1	0.1	mg/L	---	04/23/15 17:51	3225406
7664-41-7	Nitrogen, Ammonia	4500-NH3 D	---	0.1	< 0.1	mg/L	---	04/27/15 15:42	3225407
7723-14-0	Phosphorus	4500-P E	---	0.05	0.10	mg P/L	---	04/22/15 15:56	3225409

Metals									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
7440-36-0	Antimony	200.8	6 *	1.0	3.4	ug/L	---	04/20/15 16:37	3225408
7440-38-2	Arsenic	200.8	10 *	1.0	< 1.0	ug/L	---	04/20/15 16:37	3225408
7440-39-3	Barium	200.8	2000 *	2.0	8.3	ug/L	---	04/20/15 16:37	3225408
7440-42-8	Boron	200.8	---	5.0	72	ug/L	---	04/23/15 16:50	3225408
7440-43-9	Cadmium	200.8	5 *	1.0	< 1.0	ug/L	---	04/20/15 16:37	3225408
7440-47-3	Chromium	200.8	100 *	0.9	< 0.9	ug/L	---	04/20/15 16:37	3225408
7440-48-4	Cobalt	200.8	---	2.0	< 2.0	ug/L	---	04/20/15 16:37	3225408
7440-50-8	Copper	200.8	1300 !	1.0	< 1.0	ug/L	---	04/20/15 16:37	3225408
7439-92-1	Lead	200.8	15 !	1.0	< 1.0	ug/L	---	04/20/15 16:37	3225408
7439-93-2	Lithium	200.8	---	2.0	3.1	ug/L	---	04/20/15 16:37	3225408
7439-96-5	Manganese	200.8	50 ^	2.0	270	ug/L	---	04/20/15 16:37	3225408
7439-98-7	Molybdenum	200.8	---	2.0	8.0	ug/L	---	04/20/15 16:37	3225408
7440-02-0	Nickel	200.8	---	1.0	1.7	ug/L	---	04/20/15 16:37	3225408
7782-49-2	Selenium	200.8	50 *	2.0	< 2.0	ug/L	---	04/20/15 16:37	3225408
7440-24-6	Strontium	200.8	---	2.0	190	ug/L	---	04/20/15 16:37	3225408
7440-66-6	Zinc	200.8	5000 ^	5.0	< 5.0	ug/L	---	04/20/15 16:37	3225408

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL
Symbol:	*	^	!

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample aliquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.



Eaton Analytical

110 S. Hill Street
South Bend, IN 46617
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F: 1.574.233.8207

Order # 261516
Batch # 338445

www.eatonanalytical.com

CHAIN OF CUSTODY RECORD

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REPORT TO: **Shaded area for EEA use only**

LAB Number	COLLECTION		SAMPLER (Signature)	COMPLIANCE MONITORING	Yes	No	POPULATION SERVED	STATE (sample origin)	PROJECT NAME	PO#	# OF CONTAINERS	MATRIX CODE	TURNAROUND TIME
	DATE	TIME											
1	3225	406	4/15/15	11:20	X			MI	CEMP		4	56	56
2	407												
3	408												
4	409												
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													

RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME	LAB COMMENTS

MATRIX CODES:
 DW-DRINKING WATER
 RW-REAGENT WATER
 GW-GROUND WATER
 EW-EXPOSURE WATER
 SW-SURFACE WATER
 PW-POOL WATER
 WW-WASTE WATER

TURN-AROUND TIME (TAT) - SURCHARGES
 SW = Standard Written: (15 working days) 0%
 RV = Rush Verbal: (5 working days) 50%
 RW = Rush Written: (5 working days) 75%

CONDITIONS UPON RECEIPT (check one)
 Iced: Wet/Blue Ambient °C Upon Receipt 2.1 N/A

STAT* = Less than 48 hours
 IV* = Immediate Verbal: (3 working days) 100%
 IW* = Immediate Written: (3 working days) 125%
 SP* = Weekend, Holiday CALL
 STAT* = Less than 48 hours CALL

LAB COMMENTS:
 Table 11 included TOC
 Ammonia
 METALS
 T. Phos
 PK2
 PK2

Sample analysis will be provided according to the standard EEA/Water Services Terms, which are available upon request. Any other terms proposed by Customer are deemed material alterations and are rejected unless expressly agree to in writing by EEA.

Table 11
Humboldt Mill - NPDES Permit Water Treatment Plant Effluent Monitoring
Parameters, Frequency of Analysis, Analytical Methods, and Laboratory Reporting Limits

WTP Effluent	Frequency of Analysis	Sample Type	Analytical Methods	Laboratory Reporting Limit	Units
Field					
Dissolved Oxygen	Daily	Grab	Field	NA	mg/l
pH	Daily	Grab	Field	NA	S.U.
Outfall Observation	Daily	Grab	Field	NA	NA
Other					
Total Suspended Solids	Weekly	Grab	2540D	NA	mg/L
Total Dissolved Solids	Weekly	Grab	2540C	NA	mg/L
Biochemical Oxygen Demand (BOD)	2 x Month	Grab	5210B	NA	mg/l
Acute Toxicity	Monthly	Grab		NA	TU _A
Chronic Toxicity	Monthly	Grab		NA	TU _C
Anions					
Ammonia Nitrogen	2 x Month	Grab	4500-NH3 G	0.05	mg/l
Total Phosphorus	Weekly	Grab	4500-P E	0.01	mg/l
Fluoride	2 x Month	Grab	4500-F C	100	ug/l
Sulfate	Weekly	Grab	ASTMD516-90(02)	5	mg/l
Metals					
Total Antimony	2 x Month	Grab	200.7/200.8	1.0	ug/l
Total Arsenic	Weekly	Grab	200.7/200.8	1.0	ug/l
Total Barium	2 x Month	Grab	200.7/200.8	5.0	ug/l
Total Boron	2 x Month	Grab	200.7/200.8	20.0	ug/l
Total Cadmium	Weekly	Grab	200.7/200.8	0.2	ug/l
Total Chromium	2 x Month	Grab	200.7/200.8	1.0	ug/l
Total Cobalt	Weekly	Grab	200.7/200.8	15.0	ug/l
Total Copper	Weekly	Grab	200.7/200.8	1.0	ug/l
Total Lead	Weekly	Grab	200.7/200.8	1.0	ug/l
Total Lithium	2 x Month	Grab	200.7/200.8	8.0	ug/l
Total Manganese	Weekly	Grab	200.7/200.8	5.0	ug/l
Total Mercury	Weekly	Grab	1631E	0.5	ng/L
Total Molybdenum	2 x Month	Grab	200.7/200.8	25.0	ug/l
Total Nickel	Weekly	Grab	200.7/200.8	2.0	ug/l
Total Selenium	Weekly	Grab	200.7/200.8	1.0	ug/l
Total Strontium	2 x Month	Grab	200.7/200.8	5.0	ug/l
Total Zinc	Weekly	Grab	200.7/200.8	10.0	ug/l

Cyanide

North Shore Analytical, Inc.

4511 W. 1st St., Suite #1, Duluth, MN 55807

MDH Lab # 027-137-389
WDNR Lab # 399017190

Analytical Report

Project: CEMP

Superior Watershed Partnership

Attn: Geri Grant

2 Peter White Dr.

Marquette, MI 49855

Chain of Custody # 18416

Report Date: 4/30/2015

Sample Receipt Date: 4/17/2015

Phone: 906-228-6095 ex 13

Fax: 906-228-6863

EPA Method 1631E

Method Blanks (ng/L): < 0.100, < 0.100, < 0.100

Sample #	Client Sample ID	Mercury (ng/L)	Collection Date	Collection Time	Sampled By	Date Analyzed	Analyzed by	LOD (ng/L)	LOQ (ng/L)
76684	HMWTP-EFF CEM-10010244M	< 0.100	4/15/2015	11:20	Hunter King	4/29/2015	LC	0.10	0.30

Reported by: _____

Reviewed by: _____

If you have any questions or feedback please call

Chris Gross or Linda Christensen at 218-729-4658.

Revd. 5/5/15

Values in brackets represent results greater than the LOD but less than or equal to the LOQ and are within a region of "Less Certain Quantitation". Results greater than the LOQ are considered to be in the region of "Certain Quantitation".

LOD = Limit of Detection LOQ = Limit of Quantitation

Page 1 of 1

STP-COC-001
Revision Number: 5
Revision Date: 05/01/06

Record #: 184110

North Shore Analytical, Inc.

4511 W. 1st St., Suite #1
Duluth, MN 55807
Phone (218) 729-4658
Fax (218) 729-4659

Chain of Custody

Client Name: Superior Watershed Partnership										Report to: Geri Grand	Sampled by: Hunter King							
Address: 2 Peter White Dr										Phone: 906 2286095	Project: CEMP							
City: Margrethe										Fax:								
				State: MI	Zip: 49855													
NSA Lab #	704120	Bottle #	HAWIP-FFF	Client Sample Identification	CEM-002341M	Date Collected	4/15/15	Time Collected	11:20	Matrix	SW	Sample Type Composite	Grab	X	Container/Preservation	G/NA	Analysis Requested	Low level Hg
Transfer #	1	Relinquished By	C. Hunter King	Date	4/15/15	Time	14:00	Accepted By	[Signature]	Date	4/17/15	Time	1335	Condition	As is			
	2																	
	3																	
	4																	

ADDITIONAL COMMENTS:

Low-level mercury bottles supplied by North Shore Analytical?

KEY: Matrix:
SW = Surface Water
WW = Wastewater
P = Precipitation

Containers:
P = Plastic
G = Glass
B = Plastic Bag
T = Teflon/Fluoropolymer
NA = None Added
H = Hydrochloric Acid
B = Bromine Monochloride

Y

N