

**Flambeau Mining Company**  
4700 Daybreak Parkway  
South Jordan, UT 84095  
801-204-2526



December 26, 2017

Mr. Dave Siebert  
Bureau Director  
Wisconsin Department of Natural Resources  
101 S. Webster Street – GEF2  
P.O. Box 7921  
Madison, WI 53707-7921

RE: Flambeau Mining Company  
License # 03180  
Facility ID 855034730  
Environmental Surface Water Monitoring (Second Half of 2017)

Dear Dave:

Enclosed please find copies of the second half of 2017 environmental monitoring surface water data which include analyses of surface water collected from sample stations SW-C1 and SW-C9. Sampling was completed in accordance with the approved monitoring plan prepared for IP-NO-2015-55-01907.

Stream flow, field results, and analytical results are provided in Table 1. Three surface water sampling events were completed on: August 27, 2017; September 26, 2017; and October 7, 2017. A fourth sampling event was not conducted during the second half of 2017 as a fourth qualifying rain event did not occur prior to the event completion date of November 30, 2017.

Duplicate samples for each of the three events were collected for SW-C1 (SW-DUP-2017-X).

If you have any questions, please contact me at (801) 204-2526 or Sharon Kozicki, of Foth Infrastructure & Environment, LLC, at (920) 496-6737.

Sincerely



Dave Cline  
President – Flambeau Mining Company

Enclosures

Mr. Dave Siebert  
Wisconsin DNR  
December 26, 2017  
Page 2

cc: Sharon Kozicki, Foth Infrastructure & Environment, LLC  
Kyle McLaughlin, WDNR  
Zoe C McManama, WDNR  
Al Christianson, City of Ladysmith (w/o enclosures)  
Pete Boss, Rusk Co. (w/o enclosures)  
Tom Riegel, Town of Grant (w/o enclosures)  
CeCe Tesky, Rusk Co. Zoning (w/o enclosures)

**Second Half of 2017**  
**2017 Fall Surface Water Analytical Data**

**Table 1**  
**Surface Water Analytical Summary**  
**Second Half of 2017**  
**Flambeau Mining Company**

Location	Sample ID	SW-C1			SW-C9			SW-C1		
		SW-C1-2017_8	SW-C1-2017-9	SW-C1-2017_1007	SW-C9-2017_8	SW-C9-2017-9	SW-C9-2017_1007	SW-DUP-2017_8	SW-DUP-2017-9	SW-DUP-2017_1007
Sample Date		8/27/2017	9/26/2017	10/7/2017	8/27/2017	9/26/2017	10/7/2017	8/27/2017	9/26/2017	10/7/2017
<b>Stream Flow</b>	<b>Units</b>									
	cfs	0.87	0.65	7	0.7	0.5	5.79	--	--	--
<b>Parameter</b>	<b>Units</b>									
Copper	µg/L	15.5	17.1	13.6	18.4	18.0	13.9	15.3	17.4	13.6
Dissolved Oxygen	mg/L	7.02	5.57	7.64	5.48	2.68	5.12			
Hardness	mg/L	39.6	48.8	18.3	14.6	15.4	10.1	39.0	49.1	18.9
pH	s.u.	6.76	6.76	6.51	6.09	6.07	6.10			
Redox Potential	mV	94.30	37.90	122.40	115.50	56.20	124.30			
Specific Conductance	umhos/cm	178.00	192.00	78.00	98.00	92.00	46.00			
Temperature	deg c	16.58	17.60	13.94	16.17	17.40	13.68			
Total Suspended Solids	mg/L	6.0	3.2	4.2 R1	2.2	2.4	2.4	6.6	3.0	3.4
Zinc	µg/L	14.0 J	14.0 J	9.9 J	17.6	16.9	15.3 J	13.5 J	14.6 J	10.5 J

Notes:

1. Stream Flow calculations were performed with Flowmaster program with the following assumptions: for C9 culvert (36" diameter concrete box (n=0.013) slope= 0.0083 ft/ft); for C1 culvert (60" with smooth interior (n=0.012), slope = 0.0106 ft/ft).

J: Estimated concentration at or above Limit of Detection and below the Limit of Quantitation.

cfs: cubic feet per second

µg/L: micrograms per liter

mg/L: milligrams per liter

s.u.: standard unit

mV: millivolts

umhos/cm: micromhos per centimeter

deg c: degrees Celsius

Prepared by: MCC2

Checked by: NMG1



Pace Analytical Services, LLC  
1241 Bellevue Street - Suite 9  
Green Bay, WI 54302  
(920)469-2436

September 07, 2017

SHARON KOZICKI  
Foth Infrastructure & Environment, LLC  
2121 Innovation Court  
Suite 300  
De Pere, WI 54115

RE: Project: 1ST FALL SW EVENT  
Pace Project No.: 40155830

Dear SHARON KOZICKI:

Enclosed are the analytical results for sample(s) received by the laboratory on August 30, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

*Tod Noltemeyer*

Tod Noltemeyer  
tod.noltemeyer@pacelabs.com  
(920)469-2436  
Project Manager

Enclosures

cc: Heather Hallett, Foth Infrastructure & Environment  
Max Malmquist, Flambeau Mining Co



## REPORT OF LABORATORY ANALYSIS

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**Pace Analytical Services, LLC**  
1241 Bellevue Street - Suite 9  
Green Bay, WI 54302  
(920)469-2436

## CERTIFICATIONS

Project: 1ST FALL SW EVENT  
Pace Project No.: 40155830

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### Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302  
Florida/NELAP Certification #: E87948  
Illinois Certification #: 200050  
Kentucky UST Certification #: 82  
Louisiana Certification #: 04168  
Minnesota Certification #: 055-999-334  
New York Certification #: 12064  
North Dakota Certification #: R-150

Virginia VELAP ID: 460263  
South Carolina Certification #: 83006001  
Texas Certification #: T104704529-14-1  
Wisconsin Certification #: 405132750  
Wisconsin DATCP Certification #: 105-444  
USDA Soil Permit #: P330-16-00157  
Federal Fish & Wildlife Permit #: LE51774A-0

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1241 Bellevue Street - Suite 9  
Green Bay, WI 54302  
(920)469-2436

### SAMPLE SUMMARY

Project: 1ST FALL SW EVENT  
Pace Project No.: 40155830

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Lab ID	Sample ID	Matrix	Date Collected	Date Received
40155830001	SW-C1-2017_8	Water	08/27/17 13:05	08/30/17 08:45
40155830002	SW-C9-2017_8	Water	08/27/17 14:00	08/30/17 08:45
40155830003	SW-DUP-2017_8	Water	08/27/17 00:00	08/30/17 08:45

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### SAMPLE ANALYTE COUNT

Project: 1ST FALL SW EVENT  
Pace Project No.: 40155830

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Lab ID	Sample ID	Method	Analysts	Analytes Reported
40155830001	SW-C1-2017_8	EPA 6020	DS1	3
		SM 2540D	JMN	1
40155830002	SW-C9-2017_8	EPA 6020	DS1	3
		SM 2540D	JMN	1
40155830003	SW-DUP-2017_8	EPA 6020	DS1	3
		SM 2540D	JMN	1

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## PROJECT NARRATIVE

Project: 1ST FALL SW EVENT  
Pace Project No.: 40155830

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**Method:** EPA 6020  
**Description:** 6020 MET ICPMS  
**Client:** FOTH INFRASTRUCTURE & ENVIRONMENT  
**Date:** September 07, 2017

### General Information:

3 samples were analyzed for EPA 6020. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Additional Comments:

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: 1ST FALL SW EVENT  
Pace Project No.: 40155830

---

**Method:** SM 2540D  
**Description:** 2540D Total Suspended Solids  
**Client:** FOTH INFRASTRUCTURE & ENVIRONMENT  
**Date:** September 07, 2017

### General Information:

3 samples were analyzed for SM 2540D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: 266336

R1: RPD value was outside control limits.

- DUP (Lab ID: 1565409)
  - Total Suspended Solids
- DUP (Lab ID: 1565580)
  - Total Suspended Solids

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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### ANALYTICAL RESULTS

Project: 1ST FALL SW EVENT  
 Pace Project No.: 40155830

Sample: SW-C1-2017\_8 Lab ID: 40155830001 Collected: 08/27/17 13:05 Received: 08/30/17 08:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>6020 MET ICPMS</b>		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Copper	<b>15.5</b>	ug/L	3.6	1.1	1	09/05/17 08:48	09/06/17 08:29	7440-50-8	
Total Hardness by 2340B	<b>39.6</b>	mg/L	5.0	0.15	1	09/05/17 08:48	09/06/17 08:29		
Zinc	<b>14.0J</b>	ug/L	15.3	4.6	1	09/05/17 08:48	09/06/17 08:29	7440-66-6	
<b>2540D Total Suspended Solids</b>		Analytical Method: SM 2540D							
Total Suspended Solids	<b>6.0</b>	mg/L	4.0	1.9	1		08/31/17 10:37		R1

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**ANALYTICAL RESULTS**

Project: 1ST FALL SW EVENT  
 Pace Project No.: 40155830

Sample: SW-C9-2017\_8 Lab ID: 40155830002 Collected: 08/27/17 14:00 Received: 08/30/17 08:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>6020 MET ICPMS</b>		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Copper	18.4	ug/L	3.6	1.1	1	09/05/17 08:48	09/06/17 09:10	7440-50-8	
Total Hardness by 2340B	14.6	mg/L	5.0	0.15	1	09/05/17 08:48	09/06/17 09:10		
Zinc	17.6	ug/L	15.3	4.6	1	09/05/17 08:48	09/06/17 09:10	7440-66-6	
<b>2540D Total Suspended Solids</b>		Analytical Method: SM 2540D							
Total Suspended Solids	2.2	mg/L	2.0	0.95	1		08/31/17 10:37		

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**ANALYTICAL RESULTS**

Project: 1ST FALL SW EVENT  
 Pace Project No.: 40155830

Sample: SW-DUP-2017\_8 Lab ID: 40155830003 Collected: 08/27/17 00:00 Received: 08/30/17 08:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>6020 MET ICPMS</b>		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Copper	15.3	ug/L	3.6	1.1	1	09/05/17 08:48	09/06/17 09:23	7440-50-8	
Total Hardness by 2340B	39.0	mg/L	5.0	0.15	1	09/05/17 08:48	09/06/17 09:23		
Zinc	13.5J	ug/L	15.3	4.6	1	09/05/17 08:48	09/06/17 09:23	7440-66-6	
<b>2540D Total Suspended Solids</b>		Analytical Method: SM 2540D							
Total Suspended Solids	6.6	mg/L	2.0	0.95	1		08/31/17 10:38		

**REPORT OF LABORATORY ANALYSIS**

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**QUALITY CONTROL DATA**

Project: 1ST FALL SW EVENT  
 Pace Project No.: 40155830

QC Batch: 266587 Analysis Method: EPA 6020  
 QC Batch Method: EPA 3010 Analysis Description: 6020 MET  
 Associated Lab Samples: 40155830001, 40155830002, 40155830003

METHOD BLANK: 1567406 Matrix: Water  
 Associated Lab Samples: 40155830001, 40155830002, 40155830003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Copper	ug/L	<1.1	3.6	09/06/17 07:48	
Total Hardness by 2340B	mg/L	<0.15	5.0	09/06/17 07:48	
Zinc	ug/L	<4.6	15.3	09/06/17 07:48	

LABORATORY CONTROL SAMPLE: 1567407

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Copper	ug/L	500	506	101	80-120	
Total Hardness by 2340B	mg/L		32.1			
Zinc	ug/L	500	523	105	80-120	

MATRIX SPIKE SAMPLE: 1567625

Parameter	Units	40155830001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Copper	ug/L	15.5	500	525	102	75-125	
Total Hardness by 2340B	mg/L	39.6		70.1			
Zinc	ug/L	14.0J	500	541	105	75-125	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

**REPORT OF LABORATORY ANALYSIS**

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**QUALITY CONTROL DATA**

Project: 1ST FALL SW EVENT  
 Pace Project No.: 40155830

QC Batch: 266336 Analysis Method: SM 2540D  
 QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids  
 Associated Lab Samples: 40155830001, 40155830002, 40155830003

METHOD BLANK: 1565406 Matrix: Water  
 Associated Lab Samples: 40155830001, 40155830002, 40155830003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	<0.48	1.0	08/31/17 10:37	

LABORATORY CONTROL SAMPLE: 1565407

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Suspended Solids	mg/L	100	104	104	80-120	

SAMPLE DUPLICATE: 1565409

Parameter	Units	40155835001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	29.3	33.3	13	5	R1

SAMPLE DUPLICATE: 1565580

Parameter	Units	40155830001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	6.0	5.2	14	5	R1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALIFIERS

Project: 1ST FALL SW EVENT  
Pace Project No.: 40155830

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.  
ND - Not Detected at or above LOD.  
J - Estimated concentration at or above the LOD and below the LOQ.  
LOD - Limit of Detection adjusted for dilution factor and percent moisture.  
LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.  
S - Surrogate  
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.  
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.  
LCS(D) - Laboratory Control Sample (Duplicate)  
MS(D) - Matrix Spike (Duplicate)  
DUP - Sample Duplicate  
RPD - Relative Percent Difference  
NC - Not Calculable.  
SG - Silica Gel - Clean-Up  
U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.  
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.  
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.  
TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

R1 RPD value was outside control limits.

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1ST FALL SW EVENT  
Pace Project No.: 40155830

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40155830001	SW-C1-2017_8	EPA 3010	266587	EPA 6020	266717
40155830002	SW-C9-2017_8	EPA 3010	266587	EPA 6020	266717
40155830003	SW-DUP-2017_8	EPA 3010	266587	EPA 6020	266717
40155830001	SW-C1-2017_8	SM 2540D	266336		
40155830002	SW-C9-2017_8	SM 2540D	266336		
40155830003	SW-DUP-2017_8	SM 2540D	266336		

### REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)

Company Name: **FLAMBEAU METALS CO.**  
 Branch/Location: **Lodgsmith, WI**  
 Project Contact: **Sharon Koricki**  
 Phone: **(420) 496-6737**  
 Project Number:  
 Project Name: **1st Fall SW Event**  
 Project State: **Wisconsin**  
 Sampled By (Print): **Max Malinowski**  
 Sampled By (Sign): *Max Malinowski*  
 PO #: **Regulatory Program:**



# CHAIN OF CUSTODY

A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH  
 H= Sodium Bisulfate Solution I= Sodium Thiosulfate J=Other

UPPER MIDWEST REGION  
 MN: 612-607-1700 WI: 920-469-2436

*SMW*

*40155830*

PAGE LAB #	CLIENT FIELD ID	DATE	TIME	MATRIX	Analyses Requested		Y/N	Pick Letter	Quote #:	Mail To Contact:	Mail To Company:	Mail To Address:	Invoice To Contact:	Invoice To Company:	Invoice To Address:	Invoice To Phone:	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #	
					T.S.S	Cu, Zn (metals)														
001	SW-C1-2017-8	8/27/17	13:05	SW	X	X				Sharon Koricki	F0th	2121 Innovation Ct, De Pere, WI 54115	Sharon Koricki	F0th	(420) 496-6737		1-1LP A 1-250mLP D			
002	SW-C9-2017-8		14:00	SW	X	X														
003	SW-DUP-2017-8			SW	X	X														

Rush Turnaround Time Requested - Prelims  
 (Rush TAT subject to approval/surcharge)  
 Date Needed:  
 Transmit Prelim Rush Results by (complete what you want):  
 Email #1:  
 Email #2:  
 Telephone:  
 Fax:

Relinquished By: *Max Malinowski* Date/Time: 8/24/17 8:00  
 Relinquished By: *Waltco* Date/Time: 8/30/17 0845  
 Relinquished By:  
 Relinquished By:

Received By: *Loisler Waltrao* Date/Time: 8/24/17 8:00  
 Received By: *Kim Retha Pace* Date/Time: 8/30/17 0845  
 Received By:  
 Received By:

PACE Project No. *40155830*  
 Receipt Temp = *20.1* °C  
 Sample Receipt pH *OK* Adjusted  
 Cooler Custody Seal Present / Not Present  
 Intact / Not Intact



Sample Condition Upon Receipt

Pace Analytical Services, LLC. - Green Bay WI
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Project #:

WO#: 40155830



Client Name: Flambeau Mining

Courier: Fed Ex UPS Client Pace Other: waltco

Tracking #: 1470314-1

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer Used NA

Type of Ice: Wet Blue Dry None

Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 20 / Corr:

Biological Tissue is Frozen: yes no

Temp Blank Present: yes no

Person examining contents:
Date: 8-30-17
Initials: KR

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

Comments:

Table with 15 rows of inspection items and checkboxes. Includes items like 'Chain of Custody Present', 'Short Hold Time Analysis', 'Rush Turn Around Time Requested', 'Containers Intact', 'Sample Labels match COC', 'All containers needing preservation have been checked', 'Headspace in VOA Vials', 'Trip Blank Present'.

Client Notification/ Resolution:
Person Contacted: Date/Time:
Comments/ Resolution: If checked, see attached form for additional comments

Project Manager Review: RMR for TW Date: 8/30/17



Pace Analytical Services, LLC  
1241 Bellevue Street - Suite 9  
Green Bay, WI 54302  
(920)469-2436

October 06, 2017

SHARON KOZICKI  
Foth Infrastructure & Environment, LLC  
2121 Innovation Court  
Suite 300  
De Pere, WI 54115

RE: Project: 2ND FALL SW EVENT  
Pace Project No.: 40157530

Dear SHARON KOZICKI:

Enclosed are the analytical results for sample(s) received by the laboratory on September 28, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

*Tod Noltemeyer*

Tod Noltemeyer  
tod.noltemeyer@pacelabs.com  
(920)469-2436  
Project Manager

Enclosures

cc: Heather Hallett, Foth Infrastructure & Environment  
Max Malmquist, Flambeau Mining Co



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Green Bay, WI 54302  
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## CERTIFICATIONS

Project: 2ND FALL SW EVENT  
Pace Project No.: 40157530

---

### Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302  
Florida/NELAP Certification #: E87948  
Illinois Certification #: 200050  
Kentucky UST Certification #: 82  
Louisiana Certification #: 04168  
Minnesota Certification #: 055-999-334  
New York Certification #: 12064  
North Dakota Certification #: R-150

Virginia VELAP ID: 460263  
South Carolina Certification #: 83006001  
Texas Certification #: T104704529-14-1  
Wisconsin Certification #: 405132750  
Wisconsin DATCP Certification #: 105-444  
USDA Soil Permit #: P330-16-00157  
Federal Fish & Wildlife Permit #: LE51774A-0

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### SAMPLE SUMMARY

Project: 2ND FALL SW EVENT  
Pace Project No.: 40157530

---

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40157530001	SW-C1-2017-9	Water	09/26/17 10:45	09/28/17 08:45
40157530002	SW-C9-2017-9	Water	09/26/17 11:30	09/28/17 08:45
40157530003	SW-DUP-2017-9	Water	09/26/17 00:00	09/28/17 08:45

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### SAMPLE ANALYTE COUNT

Project: 2ND FALL SW EVENT  
Pace Project No.: 40157530

---

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40157530001	SW-C1-2017-9	EPA 6020	DS1	3
		SM 2540D	JMN	1
40157530002	SW-C9-2017-9	EPA 6020	DS1	3
		SM 2540D	JMN	1
40157530003	SW-DUP-2017-9	EPA 6020	DS1	3
		SM 2540D	JMN	1

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## PROJECT NARRATIVE

Project: 2ND FALL SW EVENT  
Pace Project No.: 40157530

---

**Method:** EPA 6020  
**Description:** 6020 MET ICPMS  
**Client:** FOTH INFRASTRUCTURE & ENVIRONMENT  
**Date:** October 06, 2017

### General Information:

3 samples were analyzed for EPA 6020. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Additional Comments:

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: 2ND FALL SW EVENT  
Pace Project No.: 40157530

---

**Method:** SM 2540D  
**Description:** 2540D Total Suspended Solids  
**Client:** FOTH INFRASTRUCTURE & ENVIRONMENT  
**Date:** October 06, 2017

### General Information:

3 samples were analyzed for SM 2540D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: 268961

R1: RPD value was outside control limits.

- DUP (Lab ID: 1580074)
  - Total Suspended Solids
- DUP (Lab ID: 1580075)
  - Total Suspended Solids

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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**ANALYTICAL RESULTS**

Project: 2ND FALL SW EVENT  
 Pace Project No.: 40157530

Sample: SW-C1-2017-9 Lab ID: 40157530001 Collected: 09/26/17 10:45 Received: 09/28/17 08:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>6020 MET ICPMS</b>		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Copper	17.1	ug/L	3.6	1.1	1	10/02/17 09:19	10/03/17 09:28	7440-50-8	
Total Hardness by 2340B	48.8	mg/L	5.0	0.15	1	10/02/17 09:19	10/03/17 09:28		
Zinc	14.0J	ug/L	15.3	4.6	1	10/02/17 09:19	10/03/17 09:28	7440-66-6	
<b>2540D Total Suspended Solids</b>		Analytical Method: SM 2540D							
Total Suspended Solids	3.2	mg/L	2.0	0.95	1		09/28/17 16:21		

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Pace Analytical Services, LLC  
 1241 Bellevue Street - Suite 9  
 Green Bay, WI 54302  
 (920)469-2436

**ANALYTICAL RESULTS**

Project: 2ND FALL SW EVENT  
 Pace Project No.: 40157530

Sample: SW-C9-2017-9 Lab ID: 40157530002 Collected: 09/26/17 11:30 Received: 09/28/17 08:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>6020 MET ICPMS</b>		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Copper	<b>18.0</b>	ug/L	3.6	1.1	1	10/02/17 09:19	10/03/17 09:35	7440-50-8	
Total Hardness by 2340B	<b>15.4</b>	mg/L	5.0	0.15	1	10/02/17 09:19	10/03/17 09:35		
Zinc	<b>16.9</b>	ug/L	15.3	4.6	1	10/02/17 09:19	10/03/17 09:35	7440-66-6	
<b>2540D Total Suspended Solids</b>		Analytical Method: SM 2540D							
Total Suspended Solids	<b>2.4</b>	mg/L	2.0	0.95	1		09/29/17 11:16		

**REPORT OF LABORATORY ANALYSIS**

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**ANALYTICAL RESULTS**

Project: 2ND FALL SW EVENT  
 Pace Project No.: 40157530

Sample: SW-DUP-2017-9 Lab ID: 40157530003 Collected: 09/26/17 00:00 Received: 09/28/17 08:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>6020 MET ICPMS</b>		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Copper	17.4	ug/L	3.6	1.1	1	10/02/17 09:19	10/03/17 09:43	7440-50-8	
Total Hardness by 2340B	49.1	mg/L	5.0	0.15	1	10/02/17 09:19	10/03/17 09:43		
Zinc	14.6J	ug/L	15.3	4.6	1	10/02/17 09:19	10/03/17 09:43	7440-66-6	
<b>2540D Total Suspended Solids</b>		Analytical Method: SM 2540D							
Total Suspended Solids	3.0	mg/L	2.0	0.95	1		09/29/17 11:16		

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**QUALITY CONTROL DATA**

Project: 2ND FALL SW EVENT  
 Pace Project No.: 40157530

QC Batch: 269147 Analysis Method: EPA 6020  
 QC Batch Method: EPA 3010 Analysis Description: 6020 MET  
 Associated Lab Samples: 40157530001, 40157530002, 40157530003

METHOD BLANK: 1581807 Matrix: Water  
 Associated Lab Samples: 40157530001, 40157530002, 40157530003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Copper	ug/L	<1.1	3.6	10/03/17 06:20	
Total Hardness by 2340B	mg/L	<0.15	5.0	10/03/17 06:20	
Zinc	ug/L	<4.6	15.3	10/03/17 06:20	

LABORATORY CONTROL SAMPLE: 1581808

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Copper	ug/L	500	506	101	80-120	
Total Hardness by 2340B	mg/L		31.9			
Zinc	ug/L	500	524	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1581809 1581810

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		40157521001 Result	Spike Conc.	Spike Conc.	MS Result					
Copper	ug/L	17.9	500	500	521	524	101	101	75-125	1 20
Total Hardness by 2340B	mg/L	48.9			79.5	76.7				4 20
Zinc	ug/L	15.2J	500	500	546	548	106	107	75-125	0 20

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**QUALITY CONTROL DATA**

Project: 2ND FALL SW EVENT  
 Pace Project No.: 40157530

QC Batch: 268961 Analysis Method: SM 2540D  
 QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids  
 Associated Lab Samples: 40157530001

METHOD BLANK: 1580072 Matrix: Water  
 Associated Lab Samples: 40157530001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	<0.48	1.0	09/28/17 16:17	

LABORATORY CONTROL SAMPLE: 1580073

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Suspended Solids	mg/L	100	100	100	80-120	

SAMPLE DUPLICATE: 1580074

Parameter	Units	40157486005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	407	451	10	5	R1

SAMPLE DUPLICATE: 1580075

Parameter	Units	40157516001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	12.0	10.8	11	5	R1

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**QUALITY CONTROL DATA**

Project: 2ND FALL SW EVENT  
 Pace Project No.: 40157530

QC Batch: 269042 Analysis Method: SM 2540D  
 QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids  
 Associated Lab Samples: 40157530002, 40157530003

METHOD BLANK: 1580664 Matrix: Water  
 Associated Lab Samples: 40157530002, 40157530003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	<0.48	1.0	09/29/17 11:16	

LABORATORY CONTROL SAMPLE: 1580665

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Suspended Solids	mg/L	100	104	104	80-120	

SAMPLE DUPLICATE: 1580666

Parameter	Units	40157547001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	13.3	13.3	0	5	

SAMPLE DUPLICATE: 1580667

Parameter	Units	40157549012 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	48.4	50.4	4	5	

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## QUALIFIERS

Project: 2ND FALL SW EVENT  
Pace Project No.: 40157530

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.  
ND - Not Detected at or above LOD.  
J - Estimated concentration at or above the LOD and below the LOQ.  
LOD - Limit of Detection adjusted for dilution factor and percent moisture.  
LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.  
S - Surrogate  
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.  
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.  
LCS(D) - Laboratory Control Sample (Duplicate)  
MS(D) - Matrix Spike (Duplicate)  
DUP - Sample Duplicate  
RPD - Relative Percent Difference  
NC - Not Calculable.  
SG - Silica Gel - Clean-Up  
U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.  
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.  
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.  
TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

R1 RPD value was outside control limits.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 2ND FALL SW EVENT  
Pace Project No.: 40157530

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40157530001	SW-C1-2017-9	EPA 3010	269147	EPA 6020	269242
40157530002	SW-C9-2017-9	EPA 3010	269147	EPA 6020	269242
40157530003	SW-DUP-2017-9	EPA 3010	269147	EPA 6020	269242
40157530001	SW-C1-2017-9	SM 2540D	268961		
40157530002	SW-C9-2017-9	SM 2540D	269042		
40157530003	SW-DUP-2017-9	SM 2540D	269042		

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(Please Print Clearly)

Company Name: **FLAMBEAU TRILING CO.**  
 Branch/Location: **Ladysmith, WI**  
 Project Contact: **Sharon Kozicki**  
 Phone: **(920) 446-6737**  
 Project Number: **2nd Fall SW Event**  
 Project Name: **Wisconsin**  
 Project State: **Wisconsin**  
 Sampled By (Print): **Max Malinquist**  
 Sampled By (Sign): *Max Malinquist*  
 PO #: **Max Malinquist**  
 Regulatory Program:

**Matrix Codes**  
 A = Air, B = Bioa, C = Charcoal, O = Oil, S = Soil, SI = Sludge  
 W = Water, DW = Drinking Water, GW = Ground Water, SW = Surface Water, WW = Waste Water, WP = Wipe  
 FILTERED? (YES/NO)  
 PRESERVATION (CODE)\*  
 A=None, B=HCL, C=H2SO4, D=HNO3, E=DI Water, F=Methanol, G=NaOH, H=Sodium Bisulfate Solution, I=Sodium Thiosulfate, J=Other

# CHAIN OF CUSTODY



**UPPER MIDWEST REGION**  
 MN: 612-607-1700 WI: 920-469-2436

40157530

PAGE LAB #	CLIENT FIELD ID	COLLECTION DATE	TIME	MATRIX	Analyses Requested		V/N	Y/N	Filtered?	Preservation
					Peak	Lab				
001	SW-C1-2017-9	9/24/17	1045	SW	X	T.S.S				
002	SW-C9-2017-9	9/24/17	1130	SW	X	Metals, Cu, Zn				
003	SW-DOP-2017-9	9/26/17		SW	X	Hardness				

**Quote #:** \_\_\_\_\_

**Mail To Contact:** Sharon Kozicki

**Mail To Company:** Foth

**Mail To Address:** 2121 Innovation Ct. DePere, WI 54115

**Invoice To Contact:** Sharon Kozicki

**Invoice To Company:** Foth

**Invoice To Address:** 2121 Innovation Ct. DePere, WI 54115

**Invoice To Phone:** (920) 446-6737

**CLIENT COMMENTS:** 1-11/14 1-20/17

**LAB COMMENTS (Lab Use Only):** Profile #

**Rush Turnaround Time Requested - Prelims**  
 (Rush TAT subject to approval/surcharge)  
 Date Needed: \_\_\_\_\_

Transmit Prelim Rush Results by (complete what you want):  
 Email #1: \_\_\_\_\_  
 Email #2: \_\_\_\_\_  
 Telephone: \_\_\_\_\_  
 Fax: \_\_\_\_\_

Samples on HOLD are subject to special pricing and release of liability

**Relinquished By:** Max Malinquist  
 Date/Time: 9/27/17 8:00

**Relinquished By:** Max Malinquist  
 Date/Time: 9/28/17 08:15

**Relinquished By:** \_\_\_\_\_  
 Date/Time: \_\_\_\_\_

**Relinquished By:** \_\_\_\_\_  
 Date/Time: \_\_\_\_\_

**Received By:** Decker (w/ctrls)  
 Date/Time: 9/27/17 8:00

**Received By:** Sharon Kozicki  
 Date/Time: 9/28/17 08:15

**Received By:** \_\_\_\_\_  
 Date/Time: \_\_\_\_\_

**Received By:** \_\_\_\_\_  
 Date/Time: \_\_\_\_\_

**PAGE Project No.:** 90157530

Receipt Temp = **POI** °C

Sample Receipt pH: **OK** Adjusted

Cooler Custody Seal: **Present / Not Present**

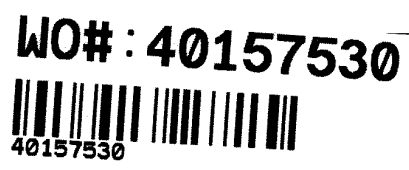
Intact / Not Intact

**Sample Condition Upon Receipt**

Pace Analytical Services, LLC. - Green Bay WI  
1241 Bellevue Street, Suite 9  
Green Bay, WI 54302



**Client Name:** Hambour Mining Project # WO# : 40157530



**Courier:**  Fed Ex  UPS  Client  Pace Other: Walter  
**Tracking #:** 1499448

**Custody Seal on Cooler/Box Present:**  yes  no **Seals intact:**  yes  no

**Custody Seal on Samples Present:**  yes  no **Seals intact:**  yes  no

**Packing Material:**  Bubble Wrap  Bubble Bags  None  Other

**Thermometer Used:** N/A **Type of Ice:**  Wet  Blue  Dry  None  Samples on ice, cooling process has begun

**Cooler Temperature:** Uncorr: ROT / Corr: **Biological Tissue is Frozen:**  yes  no

**Temp Blank Present:**  yes  no

**Person examining contents:**  
Date: 9-28-17  
Initials: [Signature]

Temp should be above freezing to 6°C.  
Biota Samples may be received at ≤ 0°C.

	Comments:
Chain of Custody Present: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1. Original and a copy. 9-28-17 [Signature]
Chain of Custody Filled Out: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5. 001 - Collect date is 9/26.
- VOA Samples frozen upon receipt <input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time: 9-28-17 [Signature]
Short Hold Time Analysis (<72hr): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	8. No MS/MSD Volume 9-28-17 [Signature]
Correct Containers Used: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
- Pace Containers Used: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
- Pace IR Containers Used: <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
- Includes date/time/ID/Analysis Matrix: <u>W</u>	
All containers needing preservation have been checked. (Non-Compliance noted in 13.) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <input checked="" type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> NaOH <input type="checkbox"/> NaOH + ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
(HNO3, H2SO4, NaOH+ZnAct ≥9, NaOH ≥12)	
Exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed: <u>[Signature]</u> Lab Std #/ID of preservative: _____ Date/Time: _____
Headspace in VOA Vials (>6mm): <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____	

**Client Notification/ Resolution:** \_\_\_\_\_ If checked, see attached form for additional comments   
Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
Comments/ Resolution: \_\_\_\_\_

**Project Manager Review:** RMP for TW **Date:** 9/28/17



Pace Analytical Services, LLC  
1241 Bellevue Street - Suite 9  
Green Bay, WI 54302  
(920)469-2436

October 25, 2017

SHARON KOZICKI  
Foth Infrastructure & Environment, LLC  
2121 Innovation Court  
Suite 300  
De Pere, WI 54115

RE: Project: 3RD FALL SW EVENT  
Pace Project No.: 40158356

Dear SHARON KOZICKI:

Enclosed are the analytical results for sample(s) received by the laboratory on October 11, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

*Tod Noltemeyer*

Tod Noltemeyer  
tod.noltemeyer@pacelabs.com  
(920)469-2436  
Project Manager

Enclosures

cc: Heather Hallett, Foth Infrastructure & Environment  
Max Malmquist, Flambeau Mining Co



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1241 Bellevue Street - Suite 9  
Green Bay, WI 54302  
(920)469-2436

## CERTIFICATIONS

Project: 3RD FALL SW EVENT  
Pace Project No.: 40158356

---

### Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302  
Florida/NELAP Certification #: E87948  
Illinois Certification #: 200050  
Kentucky UST Certification #: 82  
Louisiana Certification #: 04168  
Minnesota Certification #: 055-999-334  
New York Certification #: 12064  
North Dakota Certification #: R-150

Virginia VELAP ID: 460263  
South Carolina Certification #: 83006001  
Texas Certification #: T104704529-14-1  
Wisconsin Certification #: 405132750  
Wisconsin DATCP Certification #: 105-444  
USDA Soil Permit #: P330-16-00157  
Federal Fish & Wildlife Permit #: LE51774A-0

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Green Bay, WI 54302  
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### SAMPLE SUMMARY

Project: 3RD FALL SW EVENT  
Pace Project No.: 40158356

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Lab ID	Sample ID	Matrix	Date Collected	Date Received
40158356001	SW-C1-2017_1007	Water	10/07/17 16:10	10/11/17 08:58
40158356002	SW-C9-2017_1007	Water	10/07/17 16:55	10/11/17 08:58
40158356003	SW-DUP-2017_1007	Water	10/07/17 00:00	10/11/17 08:58

### REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: 3RD FALL SW EVENT  
Pace Project No.: 40158356

---

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40158356001	SW-C1-2017_1007	EPA 6020	SDW	3
		SM 2540D	JMN	1
40158356002	SW-C9-2017_1007	EPA 6020	SDW	3
		SM 2540D	JMN	1
40158356003	SW-DUP-2017_1007	EPA 6020	SDW	3
		SM 2540D	JMN	1

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## PROJECT NARRATIVE

Project: 3RD FALL SW EVENT  
Pace Project No.: 40158356

---

**Method:** EPA 6020  
**Description:** 6020 MET ICPMS  
**Client:** FOTH INFRASTRUCTURE & ENVIRONMENT  
**Date:** October 25, 2017

### General Information:

3 samples were analyzed for EPA 6020. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Additional Comments:

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: 3RD FALL SW EVENT  
Pace Project No.: 40158356

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**Method:** SM 2540D  
**Description:** 2540D Total Suspended Solids  
**Client:** FOTH INFRASTRUCTURE & ENVIRONMENT  
**Date:** October 25, 2017

### General Information:

3 samples were analyzed for SM 2540D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: 270376

R1: RPD value was outside control limits.

- DUP (Lab ID: 1589070)
  - Total Suspended Solids
- DUP (Lab ID: 1589071)
  - Total Suspended Solids

### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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Pace Analytical Services, LLC  
 1241 Bellevue Street - Suite 9  
 Green Bay, WI 54302  
 (920)469-2436

**ANALYTICAL RESULTS**

Project: 3RD FALL SW EVENT  
 Pace Project No.: 40158356

Sample: SW-C1-2017\_1007 Lab ID: 40158356001 Collected: 10/07/17 16:10 Received: 10/11/17 08:58 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>6020 MET ICPMS</b>		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Copper	13.6	ug/L	3.6	1.1	1	10/13/17 08:35	10/20/17 03:37	7440-50-8	
Total Hardness by 2340B	18.3	mg/L	5.0	0.15	1	10/13/17 08:35	10/20/17 03:37		
Zinc	9.9J	ug/L	15.3	4.6	1	10/13/17 08:35	10/20/17 03:37	7440-66-6	
<b>2540D Total Suspended Solids</b>		Analytical Method: SM 2540D							
Total Suspended Solids	4.2	mg/L	2.0	0.95	1		10/12/17 11:39		R1

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**ANALYTICAL RESULTS**

Project: 3RD FALL SW EVENT  
 Pace Project No.: 40158356

Sample: SW-C9-2017\_1007 Lab ID: 40158356002 Collected: 10/07/17 16:55 Received: 10/11/17 08:58 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>6020 MET ICPMS</b>		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Copper	13.9	ug/L	3.6	1.1	1	10/13/17 08:35	10/20/17 03:44	7440-50-8	
Total Hardness by 2340B	10.1	mg/L	5.0	0.15	1	10/13/17 08:35	10/20/17 03:44		
Zinc	15.3J	ug/L	15.3	4.6	1	10/13/17 08:35	10/20/17 03:44	7440-66-6	
<b>2540D Total Suspended Solids</b>		Analytical Method: SM 2540D							
Total Suspended Solids	2.4	mg/L	2.0	0.95	1		10/12/17 11:39		

**REPORT OF LABORATORY ANALYSIS**

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**ANALYTICAL RESULTS**

Project: 3RD FALL SW EVENT  
 Pace Project No.: 40158356

Sample: SW-DUP-2017\_1007 Lab ID: 40158356003 Collected: 10/07/17 00:00 Received: 10/11/17 08:58 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>6020 MET ICPMS</b>		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Copper	<b>13.6</b>	ug/L	3.6	1.1	1	10/13/17 08:35	10/20/17 03:52	7440-50-8	
Total Hardness by 2340B	<b>18.9</b>	mg/L	5.0	0.15	1	10/13/17 08:35	10/20/17 03:52		
Zinc	<b>10.5J</b>	ug/L	15.3	4.6	1	10/13/17 08:35	10/20/17 03:52	7440-66-6	
<b>2540D Total Suspended Solids</b>		Analytical Method: SM 2540D							
Total Suspended Solids	<b>3.4</b>	mg/L	2.0	0.95	1		10/12/17 11:40		

**REPORT OF LABORATORY ANALYSIS**

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**QUALITY CONTROL DATA**

Project: 3RD FALL SW EVENT  
 Pace Project No.: 40158356

QC Batch: 270495 Analysis Method: EPA 6020  
 QC Batch Method: EPA 3010 Analysis Description: 6020 MET  
 Associated Lab Samples: 40158356001, 40158356002, 40158356003

METHOD BLANK: 1589793 Matrix: Water  
 Associated Lab Samples: 40158356001, 40158356002, 40158356003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Copper	ug/L	<1.1	3.6	10/20/17 01:45	
Total Hardness by 2340B	mg/L	<0.15	5.0	10/20/17 01:45	
Zinc	ug/L	<4.6	15.3	10/20/17 01:45	

LABORATORY CONTROL SAMPLE: 1589794

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Copper	ug/L	500	496	99	80-120	
Total Hardness by 2340B	mg/L		34.1			
Zinc	ug/L	500	501	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1589795 1589796

Parameter	Units	MS		MSD		% Rec		% Rec Limits	Max RPD	Qual
		40158355001 Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	% Rec			
Copper	ug/L	13.9	500	500	511	510	99	99	75-125	0 20
Total Hardness by 2340B	mg/L	19.2			55.1	51.7				6 20
Zinc	ug/L	10.3J	500	500	514	508	101	99	75-125	1 20

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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**QUALITY CONTROL DATA**

Project: 3RD FALL SW EVENT  
 Pace Project No.: 40158356

QC Batch: 270376 Analysis Method: SM 2540D  
 QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids  
 Associated Lab Samples: 40158356001, 40158356002, 40158356003

METHOD BLANK: 1589024 Matrix: Water  
 Associated Lab Samples: 40158356001, 40158356002, 40158356003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	<0.48	1.0	10/12/17 11:38	

LABORATORY CONTROL SAMPLE: 1589025

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Suspended Solids	mg/L	100	104	104	80-120	

SAMPLE DUPLICATE: 1589070

Parameter	Units	40158355001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4.0	4.4	10	5	R1

SAMPLE DUPLICATE: 1589071

Parameter	Units	40158356001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4.2	4.6	9	5	R1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

**REPORT OF LABORATORY ANALYSIS**

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## QUALIFIERS

Project: 3RD FALL SW EVENT  
Pace Project No.: 40158356

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.  
ND - Not Detected at or above LOD.  
J - Estimated concentration at or above the LOD and below the LOQ.  
LOD - Limit of Detection adjusted for dilution factor and percent moisture.  
LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.  
S - Surrogate  
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.  
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.  
LCS(D) - Laboratory Control Sample (Duplicate)  
MS(D) - Matrix Spike (Duplicate)  
DUP - Sample Duplicate  
RPD - Relative Percent Difference  
NC - Not Calculable.  
SG - Silica Gel - Clean-Up  
U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.  
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.  
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.  
TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

R1 RPD value was outside control limits.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 3RD FALL SW EVENT  
Pace Project No.: 40158356

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Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40158356001	SW-C1-2017_1007	EPA 3010	270495	EPA 6020	270561
40158356002	SW-C9-2017_1007	EPA 3010	270495	EPA 6020	270561
40158356003	SW-DUP-2017_1007	EPA 3010	270495	EPA 6020	270561
40158356001	SW-C1-2017_1007	SM 2540D	270376		
40158356002	SW-C9-2017_1007	SM 2540D	270376		
40158356003	SW-DUP-2017_1007	SM 2540D	270376		

### REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)

Company Name: **FLAMBEAU MINING CO.**  
 Branch/Location: **Ladysmith, WI**  
 Project Contact: **Sharon Kozicki**  
 Phone: **(920) 496-6737**  
 Project Number:  
 Project Name: **3rd Fall SW Event**  
 Project State: **Wisconsin**  
 Sampled By (Print): **Max Malmquist**  
 Sampled By (Sign): **Max Malmquist**  
 PO #:



UPPER MIDWEST REGION  
 MN: 612-607-1700 WI: 920-469-2436

40158356

### CHAIN OF CUSTODY

**\*Preservation Codes**  
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH  
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?  
(YES/NO)  
 PRESERVATION  
(CODE)\*

Y/N	Pick Letter	Matrix Codes	Analyses Requested	DATE	TIME	MATRIX
N	A	W = Water	T.S.S Metals, Cu, Zn Isotopes	10/7/17	16:10	SW
N	D	DW = Drinking Water		10/7/17	16:55	SW
		SW = Surface Water		10/7/17		SW

Quote #: **40158356**  
 Mail To Contact: **Sharon Kozicki**  
 Mail To Company: **Foth**  
 Mail To Address: **2121 Innovation Ct. De Pere, WI 54115**  
 Invoice To Contact: **Sharon Kozicki**  
 Invoice To Company: **Foth**  
 Invoice To Address: **2121 Innovation Ct De Pere, WI 54115**  
 Invoice To Phone: **(920) 496-6737**

CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
1-ILP <sup>A</sup> ↓	1-2 <sup>comlp</sup> ↓	

**Data Package Options** (billable)  
 EPA Level III  
 EPA Level IV

**MS/MSD**  
 On your sample (billable)  
 NOT needed on your sample

**Matrix Codes**  
 A = Air W = Water  
 B = Biota DW = Drinking Water  
 C = Charcoal GW = Ground Water  
 O = Oil SW = Surface Water  
 S = Soil WW = Waste Water  
 Sl = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
001	SW-C1-2017-10	10/7/17	16:10	SW
002	SW-CA-2017-10	10/7/17	16:55	SW
003	SW-DOP-2017-10	10/7/17		SW

Rush Turnaround Time Requested - Prelims  
 (Rush TAT subject to approval/surcharge)  
 Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:  
 Email #2:  
 Telephone:  
 Fax:

Samples on HOLD are subject to special pricing and release of liability

Relinquished By: **Max Malmquist** Date/Time: **10/10/17 8:00**  
 Relinquished By: **Waltco** Date/Time: **10/11/17 0858**  
 Relinquished By: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Relinquished By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received By: **Waltco (carrier)** Date/Time: **10/10/17 8:00**  
 Received By: **Sharon Kozicki** Date/Time: **0858**  
 Received By: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

PACE Project No. **40158356**  
 Receipt Temp = **RO1** °C  
 Sample Receipt pH  
 OK / Adjusted  
**Cooler Custody Seal**  
 Present / Not Present  
 Intact / Not Intact



Sample Condition Upon Receipt

Pace Analytical Services, LLC. - Green Bay WI
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Project #: WO#: 40158356

Client Name: Flambeau Mining

Courier: Fed Ex UPS Client Pace Other: Walco

Tracking #: 513095-2

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer Used NA Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: JCorr: ROI Biological Tissue is Frozen: yes no

Temp Blank Present: yes no

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

Person examining contents:
Date: 10/11/17
Initials: [Signature]

Comments:

Table with 15 rows of inspection items and checkboxes. Includes items like Chain of Custody Present, Short Hold Time Analysis, and Containers Intact. Includes handwritten notes such as 'no MS/MSD' and 'sample rec'd partially frozen'.

Client Notification/ Resolution:
Person Contacted: Date/Time:
Comments/ Resolution:

Project Manager Review: [Signature] Date: 10-11-17