

Foth & Van Dyke
Memorandum

Appendix F to
Phase I Environmental
Site Assessment - Flambeau
Mining Co. (January 1999)

August 20, 1998

TO: Ron E. Poppie

CC: Jana E. Murphy, Flambeau Mining Co.,
Richard Dachel, Flambeau Mining Co.,
Russ Janeshek, Foth & Van Dyke

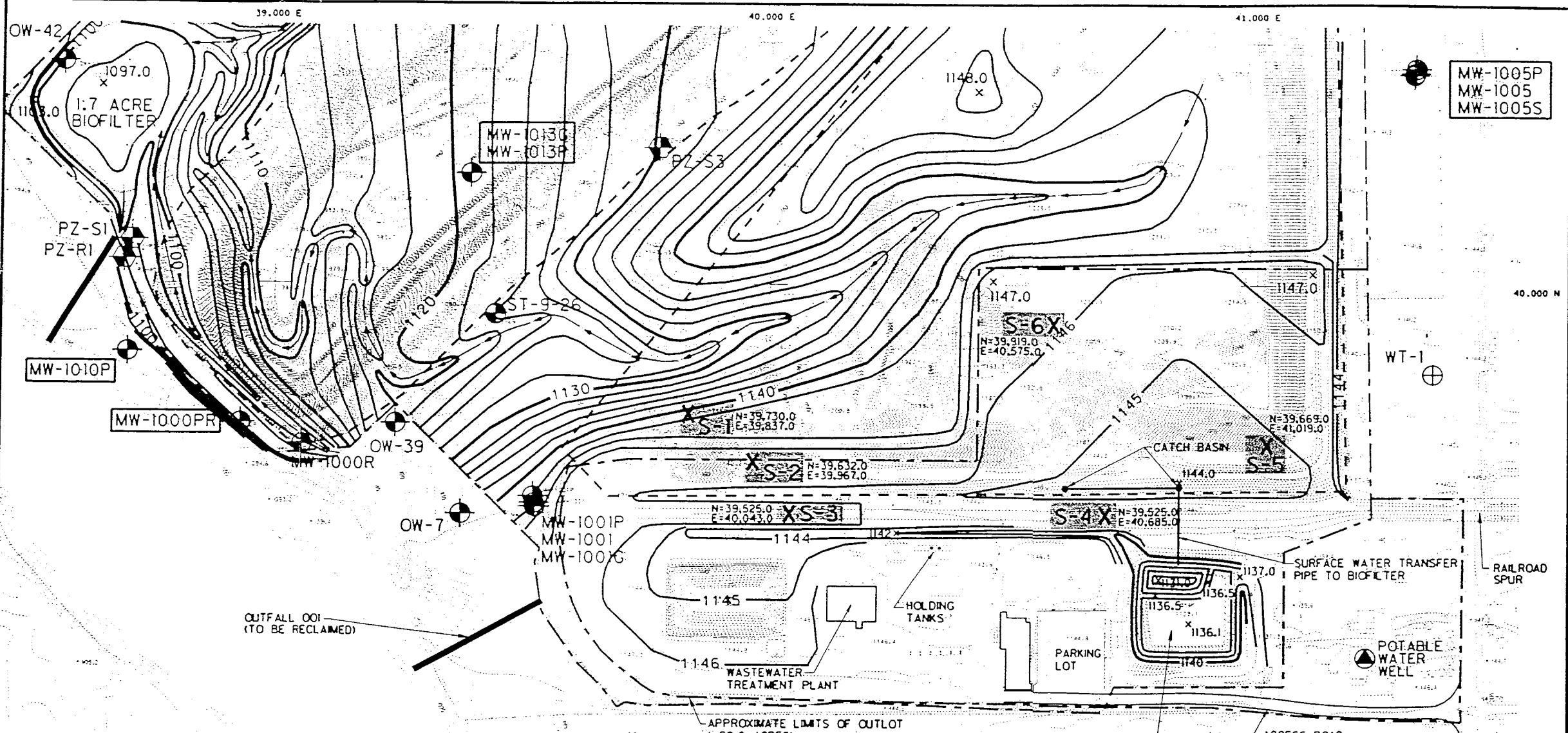
FR: Jim Hutchison, Foth & Van Dyke

RE: Phase II Soil Sampling Protocol

Soil samples will be obtained at the Flambeau Mining Company during the Phase I/II assessment of the site to document existing conditions at the end of reclamation activities performed at the cessation of active mining. A total of six samples will be obtained at the general locations shown on the attached Figure. The soil samples will be tested for copper. The following protocol shall be used during sample procurement:

1. Obtain sample bottles from the designated laboratory for sample transport.
2. Refer to the attached sample location map and obtain a soil sample from each location pursuant to the following:
 - A. At each location, excavate through any recent fill (fill placed within the calender year of 1998) to expose the subgrade that was in existence prior to 1998.
 - B. Obtain a representative soil sample from the subgrade at an approximate depth of six inches below the top of the subgrade.
 - C. Place the samples in appropriately labeled sample bottles provided by the Laboratory.
 - D. Fill out the appropriate chain of custody form.
 - E. Deliver the samples to the laboratory for testing.
3. Survey the sample locations for vertical and horizontal alignment. Note the vertical elevation of both the existing (current) grade and the elevation at which the sample was obtained at each location.

Any questions which arise during this work should be directed to me.



LEGEND

- EXISTING GROUND CONTOUR
- EXISTING SPOT ELEVATION
- - - DEPRESSION
- TREES AND/OR BRUSH
- EXISTING ROAD
- EXISTING BUILDING
- EXISTING FENCE
- MW-1003 MONITORING WELL
- MW-1005 WELL ON THE WATER QUALITY MONITORING PROGRAM
- PZ-S3 PIEZOMETER
- ⊕ WT-5 WETLAND STAFF GAUGE
- ⊕ POTABLE WATER WELL
- 1130 RECLAMATION CONTOUR (TOP OF 6" TOPSOIL GRADE)
- DRAINAGE SWALE
- S-5 X PROPOSED SOIL SAMPLE LOCATION

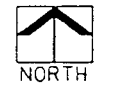
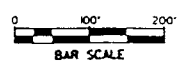
NOTES

1. SITE LOCATION: THE NE 1/4 OF SECTION 9 T34N, R6W, RUSK COUNTY, WISCONSIN.
2. TOPOGRAPHIC BASE MAP INSIDE DISTURBANCE LIMITS PREPARED FROM AERIAL SURVEY BY HORIZONS, INC., 3600 JET DR., RAPID CITY, SOUTH DAKOTA. DATE OF PHOTOGRAPH JULY 3, 1996.
TOPOGRAPHIC BASE MAP OUTSIDE DISTURBANCE LIMITS PREPARED FROM AERIAL SURVEY BY SURDEX CORP., CHESTERFIELD, MISSOURI. DATE OF PHOTOGRAPH APRIL 24, 1970. ROADS, TREES AND BUILDINGS WERE UPDATED AS PER AERIAL PHOTOGRAPH TAKEN BY HARRSHARD CORP., MINNEAPOLIS, MINNESOTA. DATE OF PHOTOGRAPH SEPTEMBER 14, 1987.
3. ELEVATIONS BASED ON MEAN SEA LEVEL DATUM. CONTOUR INTERVAL IS TWO FEET.
4. HORIZONTAL DATUM BASED ON PROJECT SITE GRID SYSTEM. SITE GRID COORDINATES CORRELATION TO STATE PLANE COORDINATES DERIVED AS FOLLOWS:

SITE GRID COORDINATES	STATE PLANE COORDINATES
CONTROL MONUMENT F-1	
40000 N •	587,357.8087 N
40000 E •	1,713,516.1229 E

THE ANGULAR ROTATION FROM STATE PLANE BEARINGS TO GRID BEARINGS IS 358°13'23" RIGHT WITH CONTROL POINT F-1 AS THE BASE POINT.

0.9 ACRE BIOFILTER



FLAMBAU MINING COMPANY

LADYSMITH, WISCONSIN
FLAMBAU MINE RECLAMATION

PROPOSED PHASE II SOIL
SAMPLING LOCATION DIAGRAM

FIGURE 1 AUGUST, 1998



1795 Industrial Drive
Green Bay, WI 54302
920-469-2136
800-7-ENCHEM
FAX: 920-469-8827

- Analytical Report -

Project Name : FLAMBEAU MINE

Project Number : 98W002

Field ID : FMC-SS-2

Lab Sample Number : 885058-001

WI DNR LAB ID : 405132750

Client : FOTH & VAN DYKE

Report Date : 9/16/98

Collection Date : 8/21/98

Matrix Type : SOIL

Inorganic Results

Test	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method	Analyst
Copper	74	0.11	0.35		mg/kg		9/14/98	SW846 3051	SW846 6010B	*MD
Solids, percent	91.6				%		8/26/98	SM2540G	SM2540G	DJB

All soil results are reported on a dry weight basis unless otherwise noted.



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- Analytical Report -

Project Name : FLAMBEAU MINE

Project Number : 98W002

Field ID : FMC-SS-6

Lab Sample Number : 885058-002

WI DNR LAB ID : 405132750

Client : FOTH & VAN DYKE

Report Date : 8/16/98

Collection Date : 8/21/98

Matrix Type : SOIL

Inorganic Results

Test	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method	Analyst
Copper	18	0.11	0.35		mg/kg		8/14/98	SW846 3051	SW846 6010B	*MD
Solids, percent	89.9				%		8/26/98	SM2540G	SM2540G	DJB

All soil results are reported on a dry weight basis unless otherwise noted.



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- Analytical Report -

Project Name : FLAMBEAU MINE

Project Number : 98W002

Field ID : FMC-SS-1

Lab Sample Number : 885058-003

WI DNR LAB ID : 405132750

Client : FOTH & VAN DYKE

Report Date : 9/16/98

Collection Date : 8/21/98

Matrix Type : SOIL

Inorganic Results

Test	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method	Analyst
Copper	16	0.11	0.35		mg/kg		9/14/98	SW846 3051	SW846 60108	MD
Solids, percent	91.1				%		8/26/98	SM2540G	SM2540G	DJE

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- Analytical Report -

Project Name : FLAMBEAU MINE
 Project Number : 98W002
 Field ID : FMC-SS-4
 Lab Sample Number : 885058-004
 WI DNR LAB ID : 405132750
 Client : FOTH & VAN DYKE
 Report Date : 9/16/98
 Collection Date : 8/21/98
 Matrix Type : SOIL

Inorganic Results

Test	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method	Analyst
Copper	230	0.11	0.35		mg/kg	*	9/14/98	SWB46 3051	SWB46 60108	TMD
Solids, percent	96.4				%		8/28/98	SM2540G	SM2540G	DJB

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- Analytical Report -

Project Name : FLAMBEAU MINE

Project Number : 98W002

Field ID : FMC-SS-3

Lab Sample Number : 885058-005

WI DNR LAB ID : 405132750

Client : FOTH & VAN DYKE

Report Date : 9/16/98

Collection Date : 8/21/98

Matrix Type : SOIL

Inorganic Results

Test	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method	Analyst
Copper	17	0.11	0.35		mg/kg		9/14/98	SW846 3051	SW846 6010B	MD
Solids, percent	91.8				%		8/26/98	SM2540G	SM2540G	DJB

All soil results are reported on a dry weight basis unless otherwise noted.



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- Analytical Report -

Project Name : FLAMBEAU MINE

Project Number : 98W002

Field ID : FMC-SS-5

Lab Sample Number : 885058-006

WI DNR LAB ID : 405132750

Client : FOTH & VAN DYKE

Report Date : 9/16/98

Collection Date : 8/21/98

Matrix Type : SOIL

Inorganic Results

Test	Result	LOD	LOQ	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method	Analyst
Copper	19	0.11	0.35		mg/kg		9/14/98	SW846 3051	SW846 6010B	TMD
Solids, percent	92.2				%		8/26/98	SM2540G	SM2540G	DJB

All soil results are reported on a dry weight basis unless otherwise noted.

Branch or Location: Green Bay, WI

Project Contact: JBH-1

Telephone: 920-497-2500

Project Number: FLAMBEAU MINE ^{RP}

Project Name: 98W002 ^{RP}

Project Location: LADYSMITH, WI

Sampled By (Print): RON POPPIE

Regulatory Program (circle): UST RCRA CLP SDWA
NPDES/WPDES CAA NR
Other

NR720 Confirmation Analysis Required? (circle): Y N
(En Chem will not confirm unless otherwise instructed.)



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Madison, WI 53711
608-232-3300 • 1-888-536-2436
FAX: 608-233-0502

Superior, WI 54880
715-392-5844 • 1-800-837-8238
FAX 715-392-5843

CHAIN OF CUSTODY

30260

Page 1 of 1

P.O. # _____ Quote # _____

Mail Report To: R. JANESHEK

Company: FOTH & VAN DYKE

Address: P.O. Box 19012

G.B., WIS. 54307-9012

Invoice To: ACCOUNTS PAYABLE

Company: SAME

Address: _____

Mail Invoice To: _____

FILTERED? (YES/NO)
PRESERVATION (CODE): A

ANALYSES REQUESTED
COPPER

SHADED AREA FOR LABORATORY USE ONLY

FIELD ID	SAMPLE DESCRIPTION	COLLECTION		FIELD SCREEN	MATRIX	GOOD COND.	TOTAL BOTTLES	COMMENTS	LABORATORY NUMBER
		DATE	TIME						
	FMC-SS-2	8/21/98	1420	X					
	FMC-SS-3		1440	X					
	FMC-SS-6		1500	X					
	FMC-SS-1		1545	X					
	FMC-SS-4		1555	X					
	FMC-SS-3		1730	X					

Preservation Code A=None B=HCL C=H2SO4 D=H2O3 E=EnCore F=Methanol** G=NaOH O=Other (Indicate) **If not using En Chem's methanol, indicate volume of methanol added and mark the appropriate samples.	Relinquished By: <u>Ron Poppie</u> Date/Time: <u>8/21/98 1355</u>	Received By: <u>Christina</u> Date/Time: <u>8/21/98 2203</u>	En Chem Project No.
	Relinquished By: <u>Christina</u> Date/Time: <u>8/25/98 930</u>	Received By: <u>Dennis Kaitz</u> Date/Time: <u>8/25/98/0930</u>	Sample Receipt Temp.
	Relinquished By: <u>Dennis Kaitz</u> Date/Time: <u>8/25/98/0930</u>	Received By: _____ Date/Time: _____	Sample Receipt pH (We/Metals)
	Relinquished By: _____ Date/Time: _____	Received By (En Chem): _____ Date/Time: _____	

Branch or Location: Green Bay, WI

Project Contact: JBH-1

Telephone: 920-497-2500

Project Number: FLAMBEAU MINE ^{RP}

Project Name: 98W002 ^{RP}

Project Location: LADYSMITH, WI

Sampled By (Print): RON POPPIE

Regulatory Program (circle): UST RCRA CLP SDWA
NPDES/WPDES CAA NR
Other _____

NR720 Confirmation Analysis Required? (circle): Y N
(En Chem will not confirm unless otherwise instructed.)



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FAX: 608-233-0502

Superior, WI 54880
715-392-5844 • 1-800-837-8238
FAX 715-392-5843

CHAIN OF CUSTODY

30260

Page 1 of 1

P.O. # _____ Quote # _____

Mail Report To: R. JANESHEK

Company: FOTH & VAN DYKE

Address: P.O. Box 19012

G.B., WIS. 54307-9012

Invoice To: ACCOUNTS PAYABLE

Company: SAME

Address: _____

Mail Invoice To: _____

FILTERED? (YES/NO)
PRESERVATION (CODE): A

ANALYSES REQUESTED
COPPER

SHADED AREA FOR LABORATORY USE ONLY

FIELD ID	SAMPLE DESCRIPTION	COLLECTION		FIELD SCREEN	MATRIX	GOOD COND.	TOTAL BOTTLES	COMMENTS	LABORATORY NUMBER
		DATE	TIME						
	FMC-SS-2	8/21/98	1420	X					
	FMC-SS-3		1440	X					
	FMC-SS-6		1500	X					
	FMC-SS-1		1545	X					
	FMC-SS-4		1555	X					
	FMC-SS-3		1730	X					

Preservation Code A=None B=HCL C=H2SO4 D=H2O3 E=EnCore F=Methanol** G=NaOH O=Other (Indicate) **If not using En Chem's methanol, indicate volume of methanol added and mark the appropriate samples.	Relinquished By: <u>Ron Poppie</u> Date/Time: <u>8/21/98 / 1355</u>	Received By: <u>Christina</u> Date/Time: <u>8/21/98 2203</u>	En Chem Project No.
	Relinquished By: <u>Christina</u> Date/Time: <u>8/25/98 930</u>	Received By: <u>Dennis Kaitz</u> Date/Time: <u>8/25/98/0930</u>	Sample Receipt Temp.
	Relinquished By: <u>Dennis Kaitz</u> Date/Time: <u>8/25/98/0930</u>	Received By: _____ Date/Time: _____	Sample Receipt pH (We/Metals)
	Relinquished By: _____ Date/Time: _____	Received By (En Chem): _____ Date/Time: _____	