

Appendix C

Fish Sampling

Blue Iris Environmental, Inc.
Memorandum

October 17, 2005

TO: Jana Murphy, Flambeau Mining Company

FR: Bill West, Blue Iris Environmental, Inc.

RE: Report on Activities Associated with 2005 Fish Sampling
Flambeau River, Ladysmith, Wisconsin

Introduction

On September 20 and 21, 2005, representatives of EA Associates, Deerfield, Illinois and Blue Iris Environmental, Inc., electroshocked two impoundments on the Flambeau River located above and below the Flambeau Mining Site. These impoundments included the flowage above the Ladysmith Dam, Ladysmith, Wisconsin (upstream sample location) and above the Thornapple Dam (downstream location). The purpose of this activity was to conduct metals analysis of fish (walleye) tissue at specified sites above and below the mining outfalls. In addition to tissue analysis, captured fish are required to be aged, sexed, lengths recorded, and stomach contents evaluated. Relative abundance of all fish encountered was also to be recorded for each flowage.

Methods

Acceptable sampling methods for fish collection include hook and line, electrofishing, and fyke netting. As in previous years, electrofishing was used for the collection of walleye. Per the Mining Permit, walleye in the following size ranges were targeted for collection:

- 10 to 12 inches - one fish
- 12 to 15 inches - two fish
- 15 to 18 inches - three fish
- 18 to 22 inches - two fish
- > 22 inches - one fish

Electrofishing was conducted on the Thornapple Flowage on September 20, 2005 and on the Ladysmith Flowage on September 21, 2005. Approximately 30-35% of the workable shoreline of the Thornapple Flowage was sampled (5.2 hours of energized time). Weather conditions at the

initiation of the collection period included a clear sky with a temperature in the lower 50s (°F). Initial water conditions included a temperature of 21.5 °C, dissolved oxygen of 8.7 mg/L, and conductivity of 138 umhos/cm (all measurements taken near the boat ramp prior to sampling).

Approximately 30-35% of the workable shoreline of the Ladysmith Flowage was sampled (5.8 hours of energized time). Weather conditions ranged from overcast to periods of thunderstorms, air temperature in the low 50s (°F) and wind was calm to gusty. Initial water conditions included a temperature of 23.4 °C, dissolved oxygen of 9.3 mg/L, and conductivity of 134 umhos/cm (all measurements taken at the boat ramp prior to sampling).

During each of the collection efforts, observed fish species were recorded. As in previous years, fish in the largest walleye size class were not obtained. Therefore, fish collected in the next lower size class were substituted for the largest size. Walleye which met the criteria for length were set aside in tubs of ice water for further processing. Walleye were measured for length, filleted, and certain organs were extracted for analysis. Scales of each walleye were extracted for aging and on the largest walleye, dorsal spines were also taken. Paired walleye fillets were bagged separately for analysis. The livers from each of the nine walleye from a single flowage were composited into a single sample for analysis. Individual walleye stomachs were extracted and preserved in formalin, the contents of which were analyzed on an individual basis. Walleye fillets and livers once processed were placed on ice for transport to Northern Lake Service, Crandon, Wisconsin, for analysis. Walleye stomachs were retained by Blue Iris Environmental, Inc. for analysis.

Results and Discussion

The physical data of the walleye collected for analysis is provided in Table 1. Total species of fish observed and their relative abundance are provided in Table 2. An analysis of the stomach contents of the walleye is provided in Table 3. Analytical results of fish tissue and liver are provided in Tables 4 and 5 respectively. A copy of the analytical results relative to this report is provided in Appendix 1.

Data which is provided in Tables 1 through 5 is consistent with the data which was obtained in previous years.

A review of the historical information (data from 1991 to 2000) suggests that relative values for copper in walleye liver from the Thornapple Flowage and from the Ladysmith Flowage are consistent. Moreover, it is observed that year-to-year increases and decreases in concentrations of copper in the liver of walleye are comparable from the upstream flowage to the downstream flowage. Since 1996 copper levels in both upstream and downstream samples have remained stable.

Mercury levels in fish tissue have decreased since 1991 in both upstream and downstream samples. It is noted that beginning in about 1997 there is an increase in the number of values reported that fell between the level of quantitation (LOQ) and level of detection (LOD) and that

the frequency of such data becomes more common through 2005. It is believed that this occurrence is due to the use of more sophisticated mercury testing and greater emphasis on the use of low level mercury techniques in the lab.

Based on review of the data, it is concluded that the operation of the mine, including the time window when reclamation and habitat restoration activities are being conducted, has had no impact on the concentrations of metals which are observed in the liver or tissue of walleye.

Table 1
Physical Data of Walleye
Flambeau River, Ladysmith, Wisconsin
September 2005

ID No.	Length (mm)	Weight (g)	Sex	Age
Thornapple Flowage				
WE-TA-01	269	155	U*	1+
WE-TA-02	339	305	F	3+
WE-TA-03	341	300	M	3+
WE-TA-04	343	290	F	3+
WE-TA-05	350	320	M	3+
WE-TA-06	372	370	F	4+
WE-TA-07	382	485	F	4+
WE-TA-08	393	515	M	5+
WE-TA-09	463	860	M	6+
Ladysmith Flowage				
WE-LS-01	278	180	U	1+
WE-LS-02	317	250	M	2+
WE-LS-03	332	300	F	3+
WE-LS-04	373	430	F	3+
WE-LS-05	383	455	F	3+
WE-LS-06	384	460	M	3+
WE-LS-07	386	500	F	3+
WE-LS-08	404	540	M	4+
WE-LS-09	433	675	F	5+

*U=unsexed, M=male, F=female

Prepared by: WMW
Checked by: BJW

Table 2
Fish Species Observed
Flambeau River, Ladysmith, Wisconsin
September 2005

Species	Relative Abundance	
	Thorneapple Flowage	Ladysmith Flowage
Northern pike	C	C
Muskellunge	C	P
Golden shiner	A	C
Rosyface shiner	P	---
White sucker	P	P
Silver redhorse	C	P
Golden redhorse	P	---
Shorthead redhorse	P	---
Burbot	P	P
Rock bass	A	A
Pumpkinseed sunfish	A	P
Smallmouth bass	A	C
Black crappie	P	---
Yellow perch	A	A
Logperch	C	C
Blackside darter	P	---
Walleye	A	A
Lake sturgeon	---	P
Brown bullhead	---	P
Yellow bullhead	---	P
Trout-perch	---	P

A = abundant

C = common

P = present

--- = not observed in that particular flowage

Table 3
Stomach Analysis of Walleye
Flambeau River, Ladysmith, Wisconsin
September 2005

Sample ID	Percent Full	Type of Content	General Comment
WE-TA-01	Empty	None	None
WE-TA-02	10%	Indiscernible matter	Mostly digested
WE-TA-03	Empty	None	None
WE-TA-04	Empty	None	None
WE-TA-05	Empty	None	None
WE-TA-06	5%	Part of crayfish	Mostly digested
WE-TA-07	5%	12.7mm minnow	Mostly digested
WE-TA-08	Empty	None	None
WE-TA-09	90%	63.5mm minnow (Lepomis sp.)	Partially digested
WE-LS-01	Empty	None	None
WE-LS-02	Empty	None	None
WE-LS-03	100%	76.2mm minnow	Partially digested
WE-LS-04	Empty	None	None
WE-LS-05	Empty	None	None
WE-LS-06	10%	Indiscernible matter	Mostly digested
WE-LS-07	Empty	None	None
WE-LS-08	Empty*	70mm perch*	Intact, undigested
WE-LS-09	100%	70mm mammal	Intact, undigested

*perch was not in the stomach but in the tract above the stomach

Table 4
Fish Tissue Analysis
Flambeau River, Ladysmith, Wisconsin
Mercury 1991 - 2005 (mg/kg)

Fish ID No.	Year										
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2005
Thornapple Flowage											
WE-TA-01	0.09	0.78	0.40	0.10	0.08	0.12	0.16	<0.24>	<0.054	<0.14>	<0.083>
WE-TA-02	1.00	0.55	0.40	0.18	0.10	0.09	0.13	<0.13>	<0.074>	<0.18>	<0.083>
WE-TA-03	0.60	0.59	0.20	0.19	0.09	0.19	0.15	<0.24>	0.22	<0.19>	<0.083>
WE-TA-04	0.80	0.52	0.48	0.21	0.13	0.13	0.66	<0.24>	<0.12>	<0.10	<0.15>
WE-TA-05	0.40	0.68	0.39	0.37	0.12	0.16	<0.072>	<0.20>	<0.11>	<0.16>	<0.14>
WE-TA-06	0.70	0.76	0.33	0.88	0.12	0.19	0.14	0.29	0.37	<0.19>	<0.15>
WE-TA-07	0.60	0.44	1.10	0.59	0.14	0.35	0.14	<0.19>	<0.11>	<0.19>	<0.22>
WE-TA-08	0.80	0.47	0.63	0.29	0.13	0.23	0.14	<0.20>	<0.040>	<0.12>	<0.22>
WE-TA-09	0.60	0.38	0.91	0.32	0.13	0.19	0.52	<0.22>	<0.14>	0.51	<0.21>
Average Concentration	0.71	0.57	0.54	0.35	0.12	0.17	0.20	0.22	0.14	0.20	<0.22

Data appearing in brackets (<>) were observed in concentrations between the level of detection (LOD) and the level of quantitation (LOQ)

Prepared by: WMW
Checked by: BJW

**Table 4 (cont.)
Fish Tissue Analysis
Flambeau River, Ladysmith, Wisconsin
Mercury 1991 - 2005 (mg/kg)**

Fish ID No.	Year										
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2005
	Ladysmith Flowage										
WE-LS-01	0.90	0.99	0.68	0.35	0.19	0.17	<0.079>	<0.20>	<0.046>	0.94	<0.10>
WE-LS-02	0.80	0.94	0.67	0.45	0.12	0.23	0.25	0.27	0.13	<0.27>	0.34
WE-LS-03	0.80	0.79	0.55	0.31	0.18	0.44	0.34	<0.19>	<0.066>	<0.16>	<0.19>
WE-LS-04	0.70	0.85	0.44	0.25	0.16	0.27	0.16	0.27	0.20	<0.10>	0.39
WE-LS-05	0.90	0.81	0.81	0.53	0.15	0.30	0.12	0.29	0.15	<0.18>	<0.21>
WE-LS-06	0.60	0.91	0.66	0.35	0.15	0.50	0.34	0.34	0.18	<0.27>	0.29
WE-LS-07	0.80	0.82	0.71	0.25	0.29	0.40	0.32	0.33	0.19	<0.25>	<0.22>
WE-LS-08	0.60	0.96	0.76	0.18	0.25	0.38	0.22	0.31	<0.14>	<0.27>	0.29
WE-LS-09	0.60	0.55	0.77	0.31	0.29	0.38	0.26	0.50	<0.10>	<0.27>	0.41
Average Concentration	0.67	0.84	0.67	0.33	0.20	0.34	0.20	0.30	0.13	0.30	0.27

Data appearing in brackets (<>) were observed in concentrations between the level of detection (LOD) and the level of quantitation (LOQ)

Prepared by: WMW
Checked by: BJW

Table 5
Metals Analysis of Walleye Liver
Flambeau River, Ladysmith, Wisconsin
1991 - 2005 (mg/kg)

Sample ID	Cd	Cr	Cu	Ni	Pb	Zn	Al	Hg	As	Se	Ag	Fe	Mn
Thornapple Flowage													
WE-TA-1-9 1991	0.1	0.2	1.5	0.4	1.3	17	1.1	0.3	0.02	0.51	0.2	73	1.5
WE-TA-1-9 1992	<0.1	<0.1	1.6	<0.2	<0.1	33	15	0.2	<0.04	0.6	<0.1	96	1.6
WE-TA-1-9 1993	0.10	<0.10	4.3	<0.2	<0.05	21	1.6	0.45	<0.09	0.70	0.03	110	1.6
WE-TA-1-9 1994	<0.27	<0.63	1.2	<0.72	<3.9	16	7.9	0.12	<1.3	<1.3	<0.45	140	1.4
WE-TA-1-9 1995	<0.9	<1.2	3.6	0.34	<1.1	14	1.8	0.07	<0.60	<0.65	<0.30	99	1.6
WE-TA-1-9 1996	0.10	0.31	45(40*)	0.64	<1.1	29	2.3	<0.01	<0.26	0.97	<0.29	72	1.1
WE-TA-1-9 1997	<0.21>	<0.45 >	45(43*)	<0.77	<1.3	30	1.9	0.13	<0.86	<1.2> >	<0.48 >	110	1.3
WE-TA-1-9 1998	<0.15>	<0.20 >	33	<0.27 >	<0.80	21	1.3	<0.15>	<0.27	<0.40 >	<0.040	75	1.1
WE-TA-1-9 1999	0.20	<0.11	46	0.69	<0.74	28	5.0	<0.047>	<0.30	<0.62 >	<0.13 >	110	1.4
WE-TA-1-9 2000	0.21	<0.14	48	<0.54 >	<1.3	30	<0.90>	0.36	<0.37	<0.34 >	<0.11 >	130	2.0
WE-TA-1-9 2005	<0.30>	<0.20	51	<0.47	<2.2	31	<2.8	<0.10>	<0.49	<0.57	<0.19	160	2.1

Table 5 (cont.)

**Metals Analysis of Walleye Liver
Flambeau River, Ladysmith, Wisconsin
1991 - 2005 (mg/kg)**

Sample ID	Cd	Cr	Cu	Ni	Pb	Zn	Al	Hg	As	Se	Ag	Fe	Mn
Ladysmith Flowage													
WE-LS-1-9 1991	0.1	0.3	6.0	0.5	1.2	18	2.9	0.3	0.02	0.48	0.2	67	1.4
WE-LS-1-9 1992	0.2	0.2	9.6	<0.2	<0.1	37	14	0.4	<0.05	0.6	<0.1	59	2.0
WE-LS-1-9 1993	0.19	<0.08	17	0.17	<0.04	22	1.6	0.28	<0.09	0.64	0.07	63	1.3
WE-LS-1-9 1994	0.32	<0.58	3.1	<0.67	<3.7	19	4.0	0.19	<1.4	<1.4	<0.42	76	1.6
WE-LS-1-9 1995	<0.10	<0.13	13	0.47	<1.2	18	1.5	0.26	<0.54	1.2	<0.33	56	1.3
WE-LS-1-9 1996	0.18	0.30	26(45*)	0.96	<1.3	22	2.2	0.22	<0.27	0.76	<0.34	68	1.3
WE-LS-1-9 1997	0.48	<0.46 >	33(33*)	<0.33 >	<1.1	27	5.2	0.22	<0.90	<1.0	<0.41	90	1.8
WE-LS-1-9 1998	0.37	<0.14 >	29	<0.42 >	<0.92 >	18	2.4	<0.24>	<0.23	<0.38 >	<0.034	54	1.8
WE-LS-1-9 1999	0.23	<0.23 >	25	<0.43 >	<0.75	23	4.5	0.11	<0.31	<0.75 >	<0.037	79	2.1
WE-LS-1-9 2000	0.20	<0.14	32	<0.61 >	<1.3	25	<0.59>	<0.23>	<0.37	<0.30	<0.10 >	92	1.7
WE-LS-1-9 2005	0.55	<0.22	28	<0.52	<2.4	27	<3.1	<0.14>	<0.53	<0.62	<0.22	96	2.2

Data for the Thornapple Flowage have sample ID#386253, Data for the Ladysmith Flowage have sample ID#386264
Data in appearing brackets (<>) were observed in concentrations between the level of detection (LOD) and level of quantitation (LOQ)

Prepared by: WMW
Checked by: BJW

*Values in parentheses were derived from re-digestion and re-run of laboratory analytical process and which are believed to be representative of the copper concentrations present in the walleye liver.

Appendix 1

Analytical Data - Fish Tissue Analysis 2005

ANALYTICAL REPORT

NORTHERN LAKE SERVICE, INC.
 Analytical Laboratory and Environmental Services
 400 North Lake Avenue - Crandon, WI 54520
 Ph: (715)-478-2777 Fax: (715)-478-3060

WDNR Laboratory ID No. 721026460
 WDATCP Laboratory Certification No. 105-330
 EPA Laboratory ID No. WI00034
 Printed: 10/17/05 Code: S Page 1 of 4

Client: Blue Iris Environmental Inc
 Attn: William M West
 N5811 Twelve Corners Road
 Black Creek, WI 54106 7936

NLS Project: 93119
NLS Customer: 90830
 Fax: 920 738 7774 Phone: 920 730 5684

Project: Flambeau Mining Co

WE-TA-01 NLS ID: 386245									
Ref. Line 1 COC 28082 WE-TA-01 Matrix: TI									
Collected: 09/20/05 00:00 Received: 09/22/05									
Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab	
Mercury (Tissue) by CVAA	[0.083]	mg/Kg WWB	1	0.079	0.28	10/05/05	SW846 7470	721026460	
WE-TA-02 NLS ID: 386246									
Ref. Line 2 COC 28082 WE-TA-02 Matrix: TI									
Collected: 09/20/05 00:00 Received: 09/22/05									
Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab	
Mercury (Tissue) by CVAA	[0.083]	mg/Kg WWB	1	0.079	0.28	10/05/05	SW846 7470	721026460	
WE-TA-04 NLS ID: 386247									
Ref. Line 3 COC 28082 WE-TA-04 Matrix: TI									
Collected: 09/20/05 00:00 Received: 09/22/05									
Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab	
Mercury (Tissue) by CVAA	[0.15]	mg/Kg WWB	1	0.079	0.28	10/05/05	SW846 7470	721026460	
WE-TA-05 NLS ID: 386248									
Ref. Line 4 COC 28082 WE-TA-05 Matrix: TI									
Collected: 09/20/05 00:00 Received: 09/22/05									
Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab	
Mercury (Tissue) by CVAA	[0.14]	mg/Kg WWB	1	0.079	0.28	10/05/05	SW846 7470	721026460	
WE-TA-06 NLS ID: 386249									
Ref. Line 5 COC 28082 WE-TA-06 Matrix: TI									
Collected: 09/20/05 00:00 Received: 09/22/05									
Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab	
Mercury (Tissue) by CVAA	[0.15]	mg/Kg WWB	1	0.079	0.28	10/05/05	SW846 7470	721026460	
WE-TA-07 NLS ID: 386250									
Ref. Line 6 COC 28082 WE-TA-07 Matrix: TI									
Collected: 09/20/05 00:00 Received: 09/22/05									
Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab	
Mercury (Tissue) by CVAA	[0.22]	mg/Kg WWB	1	0.079	0.28	10/05/05	SW846 7470	721026460	
WE-TA-08 NLS ID: 386251									
Ref. Line 7 COC 28082 WE-TA-08 Matrix: TI									
Collected: 09/20/05 00:00 Received: 09/22/05									
Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab	
Mercury (Tissue) by CVAA	[0.22]	mg/Kg WWB	1	0.079	0.28	10/05/05	SW846 7470	721026460	
WE-TA-09 NLS ID: 386252									
Ref. Line 8 COC 28082 WE-TA-09 Matrix: TI									
Collected: 09/20/05 00:00 Received: 09/22/05									
Parameter	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab	
Mercury (Tissue) by CVAA	[0.21]	mg/Kg WWB	1	0.079	0.28	10/05/05	SW846 7470	721026460	

ANALYTICAL REPORT

NORTHERN LAKE SERVICE, INC.
 Analytical Laboratory and Environmental Services
 400 North Lake Avenue - Crandon, WI 54520
 Ph: (715)-478-2777 Fax: (715)-478-3060

Client: Blue Iris Environmental Inc
 Attn: William M West
 N5811 Twelve Corners Road
 Black Creek, WI 54106 7936

Project: Flambeau Mining Co

WDNR Laboratory ID No. 721026460
 WDATCP Laboratory Certification No. 105-330
 EPA Laboratory ID No. WI00034

Printed: 10/17/05 Code: S Page 2 of 4
 NLS Project: 93119
 NLS Customer: 90830
 Fax: 920 738 7774 Phone: 920 730 5684

WE-TA-(1-9) NLS ID: 386253

Ref. Line 9 COC 28082 WE-TA-(1-9) Matrix: TI
 Collected: 09/20/05 00:00 Received: 09/22/05

Parameter

Parameter	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Aluminum, tot. recoverable as Al by ICP	mg/Kg WWB	1	2.8	10	10/14/05	SW846 6010	721026460
Arsenic, tot. recoverable as As by furnace AAS	mg/Kg WWB	20	0.49	1.7	10/10/05	SW846 7060	721026460
Cadmium, tot. recoverable as Cd by ICP	mg/Kg WWB	1	0.098	0.36	10/10/05	SW846 6010	721026460
Chromium, tot. recoverable as Cr by ICP	mg/Kg WWB	1	0.20	0.70	10/10/05	SW846 6010	721026460
Copper, tot. recoverable as Cu by ICP	mg/Kg WWB	1	0.078	0.29	10/10/05	SW846 6010	721026460
Iron, tot. recoverable as Fe by ICP	mg/Kg WWB	1	0.37	1.4	10/14/05	SW846 6010	721026460
Lead, tot. recoverable as Pb by ICP	mg/Kg WWB	1	2.2	7.8	10/14/05	SW846 6010	721026460
Manganese, tot. recoverable as Mn by ICP	mg/Kg WWB	1	0.044	0.13	10/11/05	SW846 6010	721026460
Mercury (Tissue) by CVAA	mg/Kg WWB	1	0.079	0.28	10/05/05	SW846 7470	721026460
Nickel, tot. recoverable as Ni by ICP	mg/Kg WWB	1	0.47	1.7	10/10/05	SW846 6010	721026460
Selenium, tot. recoverable as Se by furnace	mg/Kg WWB	20	0.57	2.0	10/10/05	SW846 7740	721026460
Silver, tot. recoverable as Ag by ICP	mg/Kg WWB	1	0.19	0.69	10/11/05	SW846 6010	721026460
Zinc, tot. recoverable as Zn by ICP	mg/Kg WWB	1	0.089	0.27	10/10/05	SW846 6010	721026460
Metals digestion - tot. recov. (solid) GF	yes				10/07/05	SW846 3050M	721026460
Metals digestion - tot. recov (solid) ICP	yes				10/07/05	SW846 3050M	721026460
Misc. Sample Prep	yes				10/04/05	NA	721026460

Sample was composited as instructed by client.

WE-TA-03 NLS ID: 386254

Ref. Line 10 COC 28082 WE-TA-03 Matrix: TI
 Collected: 09/20/05 00:00 Received: 09/22/05

Parameter

Parameter	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Mercury (Tissue) by CVAA	mg/Kg WWB	1	0.083	0.28	10/05/05	SW846 7470	721026460

WE-LS-01 NLS ID: 386255

Ref. Line 1 COC 28081 WE-LS-01 Matrix: TI
 Collected: 09/21/05 00:00 Received: 09/22/05

Parameter

Parameter	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Mercury (Tissue) by CVAA	mg/Kg WWB	1	0.10	0.28	10/05/05	SW846 7470	721026460

WE-LS-02 NLS ID: 386256

Ref. Line 2 COC 28081 WE-LS-02 Matrix: TI
 Collected: 09/21/05 00:00 Received: 09/22/05

Parameter

Parameter	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Mercury (Tissue) by CVAA	mg/Kg WWB	1	0.34	0.28	10/05/05	SW846 7470	721026460

WE-LS-03 NLS ID: 386257

Ref. Line 3 COC 28081 WE-LS-03 Matrix: TI
 Collected: 09/21/05 00:00 Received: 09/22/05

Parameter

Parameter	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Mercury (Tissue) by CVAA	mg/Kg WWB	1	0.19	0.28	10/05/05	SW846 7470	721026460

WE-LS-04 NLS ID: 386258

Ref. Line 4 COC 28081 WE-LS-04 Matrix: TI
 Collected: 09/21/05 00:00 Received: 09/22/05

Parameter

Parameter	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
Mercury (Tissue) by CVAA	mg/Kg WWB	1	0.39	0.28	10/05/05	SW846 7470	721026460

ANALYTICAL REPORT

NORTHERN LAKE SERVICE, INC.
 Analytical Laboratory and Environmental Services
 400 North Lake Avenue - Grandon, WI 54520
 Ph: (715)-478-2777 Fax: (715)-478-3060

WDNR Laboratory ID No. 721026460
 WDATCP Laboratory Certification No. 105-330
 EPA Laboratory ID No. WI00034

Printed: 10/17/05 Code: S Page 3 of 4

Client: Blue Iris Environmental Inc
 Attn: William M West
 N5811 Twelve Corners Road
 Black Creek, WI 54106 7936

NLS Project: 93119
NLS Customer: 90830
 Fax: 920 738 7774 Phone: 920 730 5684

Project: Flambeau Mining Co

Ref. Line	COC	NLS ID	Matrix	Collected	Received	Parameter	Units	Dilution	LOD	LOQ	Analyzed	Method	Lab
WE-LS-05		386259	WE-LS-05	TI									
Collected: 09/21/05 00:00 Received: 09/22/05													
Mercury (Tissue) by CVAA							mg/Kg WWB	1	0.079	0.28	10/05/05	SW846.7470	721026460
WE-LS-06		386260	WE-LS-06	TI									
Collected: 09/21/05 00:00 Received: 09/22/05													
Mercury (Tissue) by CVAA							mg/Kg WWB	1	0.079	0.28	10/05/05	SW846.7470	721026460
WE-LS-07		386261	WE-LS-07	TI									
Collected: 09/21/05 00:00 Received: 09/22/05													
Mercury (Tissue) by CVAA							mg/Kg WWB	1	0.079	0.28	10/05/05	SW846.7470	721026460
WE-LS-08		386262	WE-LS-08	TI									
Collected: 09/21/05 00:00 Received: 09/22/05													
Mercury (Tissue) by CVAA							mg/Kg WWB	1	0.079	0.28	10/05/05	SW846.7470	721026460
WE-LS-09		386263	WE-LS-09	TI									
Collected: 09/21/05 00:00 Received: 09/22/05													
Mercury (Tissue) by CVAA							mg/Kg WWB	1	0.079	0.28	10/05/05	SW846.7470	721026460
WE-LS-(1-9)		386264	WE-LS-(1-9)	TI									
Collected: 09/21/05 00:00 Received: 09/22/05													
Parameter							mg/Kg WWB	1	3.1	12	10/14/05	SW846.6010	721026460
Aluminum, tot. recoverable as Al by ICP							mg/Kg WWB	20	0.53	1.9	10/10/05	SW846.7060	721026460
Arsenic, tot. recoverable as As by furnace AAS							mg/Kg WWB	1	0.11	0.40	10/10/05	SW846.6010	721026460
Cadmium, tot. recoverable as Cd by ICP							mg/Kg WWB	1	0.22	0.79	10/10/05	SW846.6010	721026460
Chromium, tot. recoverable as Cr by ICP							mg/Kg WWB	1	0.088	0.33	10/10/05	SW846.6010	721026460
Copper, tot. recoverable as Cu by ICP							mg/Kg WWB	1	0.42	1.5	10/14/05	SW846.6010	721026460
Iron, tot. recoverable as Fe by ICP							mg/Kg WWB	1	2.4	8.8	10/14/05	SW846.6010	721026460
Lead, tot. recoverable as Pb by ICP							mg/Kg WWB	1	0.049	0.15	10/11/05	SW846.6010	721026460
Manganese, tot. recoverable as Mn by ICP							mg/Kg WWB	1	0.079	0.28	10/05/05	SW846.7470	721026460
Mercury (Tissue) by CVAA							mg/Kg WWB	1	0.52	1.9	10/10/05	SW846.6010	721026460
Nickel, tot. recoverable as Ni by ICP							mg/Kg WWB	20	0.62	2.1	10/10/05	SW846.7740	721026460
Selenium, tot. recoverable as Se by furnace							mg/Kg WWB	1	0.22	0.77	10/11/05	SW846.6010	721026460
Silver, tot. recoverable as Ag by ICP							mg/Kg WWB	1	0.10	0.30	10/10/05	SW846.6010	721026460
Zinc, tot. recoverable as Zn by ICP							mg/Kg WWB	1			10/07/05	SW846.3050M	721026460
Metals digestion - tot. recov. (solid) GF							yes				10/07/05	SW846.3050M	721026460
Metals digestion - tot. recov (solid) ICP							yes				10/04/05	NA	721026460
Misc. Sample Prep							yes						

Sample was composited as instructed by client.

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Printed: 10/17/05 Code: S Page 4 of 4

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Values in brackets represent results greater than or equal to the LOD but less than the LOQ and are within a region of "Less-Certain Quantitation". Results greater than or equal to the LOQ are considered to be in the region of "Certain Quantitation". LOD and/or LOQ tagged with an asterisk(*) are considered Reporting Limits. All LOD/LOQs adjusted to reflect dilution.

LOD = Limit of Detection LOQ = Limit of Quantitation ND = Not Detected 1000 ug/L = 1 mg/L

DWB = Dry Weight Basis NA = Not Applicable %DWB = (mg/kg DWB) / 10000

MCL = Maximum Contaminant Levels for Drinking Water Samples

Reviewed by:



Authorized by:
R. T. Krueger
President