

Rec'd 7-12-93

Flambeau Mining Company  
Subsidiary of Kennecott Corporation  
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**Kennecott**

July 9, 1993

Mr. Tom Bauman  
Bureau of Wastewater Management  
Wisconsin Dept. of Natural Resources  
101 South Webster  
Madison, WI 53707

RE: Flambeau Mining Company - WPDES Permit No. WI-0047376

Dear Mr. Hansen:

Flambeau Mining Company's (Flambeau's) WPDES Permit No. WI-0047376, Part I, Section C, Condition (7) states the following regarding aluminum, arsenic, beryllium, chromium, hexavalent chromium, nickel, selenium, silver, and zinc:

*"In the first twelve analyses of the treated effluent conducted on a weekly frequency, if this substance is not consistently detected using the analytical method specified below, or is consistently detected at a concentration at or below the level of concern, no additional monitoring for the substance will be required unless indicated by a demonstration of effluent toxicity. In addition, the effluent limitation for that substance contained in Part I, B, listed above, will not be effective. If the first twelve reported concentrations of the substance do not consistently meet the concentration criteria described above, the effluent limitation shown above shall be effective. Monitoring shall continue on no less than a monthly basis."*

Flambeau has concluded at a minimum the first twelve analyses conducted on at least a weekly frequency at Outfall 001 of the substances of concern in Part I, C. (7) of Flambeau's WPDES Permit. The attached table summarizes this analytical data from the date at which the Sulfide Precipitation Treatment was initiated on March 25, 1993 to present date. Prior to initiation of the Sulfide Precipitation Treatment, the primary water treated within Flambeau's wastewater treatment plant (WTP) consisted of groundwater removed from under the Surge Pond and Runoff Pond liners via the underdrains. Analytical results of this data would not be representative of the degree of treatment capable of Flambeau's WTP.

The data generated for the effluent from Outfall 001 was evaluated in two ways. First, if the data generated for a parameter has always been below the level of concern, Flambeau viewed this as conclusive in meeting the requirement of Part I, Section C, Condition (7).

If all of the data points did not fall below the level of concern, the data was statistically evaluated to determine if the data is "consistently" below the level of concern. In doing this, the average and standard deviation for the data set was calculated. Three standard deviations were added to the average value to determine a 99.7% confidence level for the data set. If this value is below the effluent limit in the permit, Flambeau feels that this demonstrates that the data is "consistently" below the level of concern.

The data is shown in table and graphic form. As you can see, three parameters have one or more data points that fall above the level of concern: aluminum, nickel and zinc. Of these three parameters, aluminum and nickel have demonstrated that at a 99.7% confidence level, the effluent will not exceed the effluent limit in the permit. In fact, aluminum has only one data point which exceeds the level of concern. This data point however is less than one half of the effluent limit.

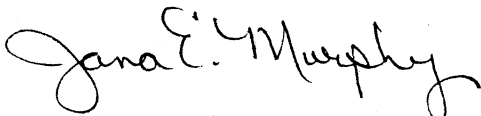
Even though Nickel has more data points that fall above the level of concern, the 99.7% confidence level for the data is only 63 ug/l. With a weekly effluent limit of 156 ug/l and a daily limit of 445 ug/l Flambeau feels that nickel also is proven to be "consistently" below the level of concern.

While zinc has always fallen below the effluent limit in the permit, it can not be statistically shown that it is "consistently" below the level of concern.

Therefore, the only substance which was not "consistently detected at a concentration at or below the level of concern" was zinc. Therefore, pursuant to Flambeau's WPDES Permit, Part I, C. (7) no additional monitoring for aluminum, arsenic, beryllium, chromium, hexavalent chromium, nickel, selenium, and silver will be conducted unless indicated by a demonstration of effluent toxicity. Monitoring for total recoverable zinc will continue on no less than a monthly basis.

If you have any questions or concerns please contact me at 715-532-6690 Ext. 717.

Sincerely,  
FLAMBEAU MINING COMPANY



Jana E. Murphy  
Supervisor of Environmental Affairs

Attachment

cc: Larry Mercado, Flambeau Mining Company  
Larry Lynch, WDNR  
Ken Markart, WDNR  
Jim Hansen, WDNR  
Clarence Glotfelty, Rusk Co. Zoning  
Al Christianson, City of Ladysmith  
Bernice Dukerschein, Rusk Co. Board  
Tom Reigel, Town of Grant  
Jim Hutchison, Foth & Van Dyke  
Jerry Berg, Foth & Van Dyke

FLAMBEAU MINING COMPANY  
EFFLUENT DATA EVALUATION

SUBSTANCE	Al*	As*	Be*	T. Cr	Hex. Cr	Ni*	Se*	Ag*	Zn*
LEVEL OF CONCERN	300 ug/l	146 ug/l	20 ug/l	196 ug/l	7 ug/l	31.2 ug/l	23 ug/l	1.3 ug/l	60 ug/l

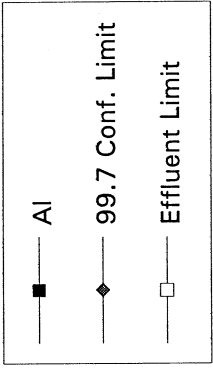
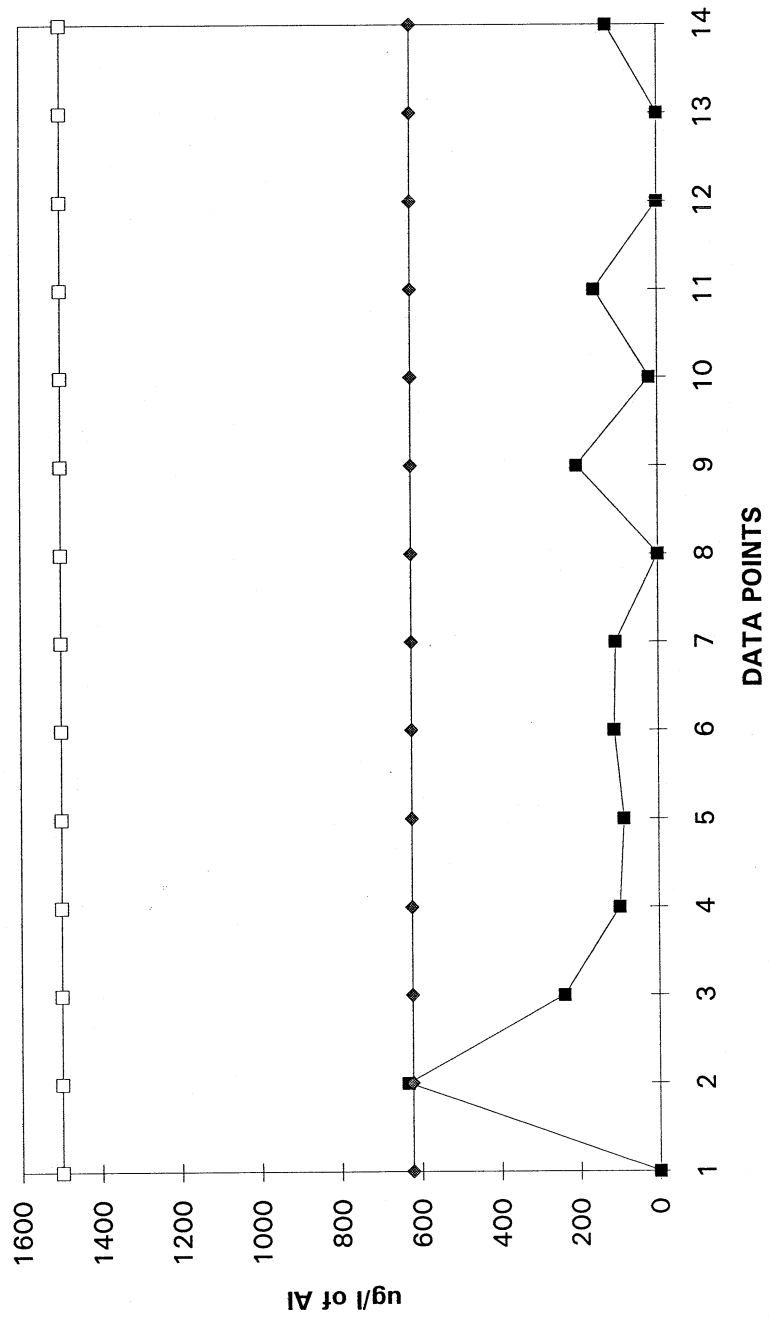
3/29/93	<16	<1.4	<0.2	<3.2	<20	<10	<5.0	<0.71	13
3/30/93				<3.2		14			
3/31/93				<3.2		14			
4/1/93	634	<1.4	<0.2	<3.2	<20	37	<5.0	<0.72	21
4/2/93				<3.2		32			
4/3/93				<3.2		41			
4/8/93	240	<1.4	<0.2	<3.2	<20	41	<5.0	<0.72	30
4/9/93				<3.2		36			
4/10/93				<3.2		32			
4/16/93	99	<1.1	<0.2	<3.2	<20	14	<2.4	<0.72	142
4/19/93				<3.2		14			
4/20/93				<3.2		18			
4/22/93	88	<1.1	<0.2	<3.2	<20	<10	<2.4	<0.72	99
4/23/93				<3.2		16			
4/24/93				<3.2		15			
4/29/93	112	<1.1	<0.2	<3.2	<20	26	<2.4	<0.72	177
4/30/93				<3.2		36			
5/2/93	108	<1.1	<0.2	<3.2	<20	48	<2.4	<0.72	232
5/3/93				<3.2		35			
5/4/93				<3.2		24			
5/8/93	<16	<1.1	<0.2	<3.2	<20	<10	<2.4	<0.72	15
5/10/93				<3.2		<10			
5/11/93				<3.2		13			
5/15/93	205	<1.1	<0.2	<3.2	<20	20	<2.4	<0.72	201
5/17/93				<3.2		27			
5/18/93				<3.2		34			
5/22/93	21	<1.1	<0.2	<3.2	<20	14	<2.4	<0.72	150
5/24/93				<3.2		40			
5/25/93				<3.2		35			
5/29/93	160	<1.1	<0.2	<3.2	<20	16	<2.4	<0.72	123
5/31/93				<3.2		<10			
6/1/93	<16	<1.1	<0.2	<3.2	<20	<10	<2.4	<0.72	67
6/2/93				<3.2		10			
6/3/93				<3.2		10			
6/8/93	<16	<1.1	<0.2	<3.2	<20	11	<2.4	<0.72	33
6/9/93				<3.2		21			
6/14/93				<3.2		29			
6/15/93	129	<1.1	<0.2	<3.2	<20	38	<2.4	<0.72	75
6/16/93				<3.2		29			
6/17/93				<3.2		16			

AVERAGE	128	0	0	0	0	21	0	0	98
STANDARD DEVIATION	165	N/A	N/A	N/A	N/A	14	N/A	N/A	74
99.7% CONFIDENCE LEVEL	623	N/A	N/A	N/A	N/A	63	N/A	N/A	320
NUMBER OF ANALYSES	14	14	14	40	13	40	14	14	14

\*These substances analyzed as Total Recoverable.

# FLAMBEAU MINING COMPANY

## EFFLUENT DATA EVALUATION - ALUMINUM



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## EFFLUENT DATA EVALUATION - NICKEL

