WPDES permit application for the Kennecott Flambeau Project. 1989

[s.l.]: [s.n.], 1989

Foth & Van Dyke

New Sources
New Dischargers for
processed waste waters

WPDES Permit Application for the Kennecott Flambeau Project

Scope I.D.: 87K10

Kennecott Minerals Company
Ladysmith, Wisconsin

April 1989

Kennecott Minerals Company
1515 Mineral Square
P.O. Box 11248
Salt Lake City, Utah 84147
Telephone (801) 322-8460
FAX (801) 583-3129

April 1, 1989

Kennecott

87K10-57

Michael Witt, Chief
Industrial Wastewater Section
Wisconsin Department of Natural Resources
P. O. Box 7921
Madison, WI 53707

Dear Mr. Witt:

RE: Kennecott Flambeau Project
WPDES Permit Application

Kennecott Minerals Company (Kennecott) is pleased to submit to the Wisconsin Department of Natural Resources (WDNR) the enclosed WPDES discharge permit application. The permit application includes the following documents:

Application Form 1 - General Information, Consolidated Permits Program

Application Form 2D - New Sources and New Dischargers: Application for Permit to discharge process wastewater

Preliminary Engineering Report for Wastewater Treatment Facilities - Kennecott Flambeau Project

This application and report are being submitted pursuant to Wis. Stat. ch. 147.

A comprehensive Environmental Impact Report for the Flambeau Project has also been submitted to the WDNR. The document contains 12 months of background monitoring data for the Flambeau River. This data will provide the WDNR with the information regarding receiving water characteristics needed to establish discharge limits per Wis. Admin. Code Chs. NR 105 and NR 106.

The primary discharge points will consist of an outfall for the project's wastewater treatment plant and an outfall for the project's settling ponds. Both outfalls will discharge to the Flambeau River. Also included in the proposed project is the flexibility to discharge treated water from the wastewater treatment plant and the settling ponds to a wetland located near the proposed open pit. Hydrologic studies have shown that mining operations may disrupt water flow to the wetland. To avoid adverse impacts to the wetland, the project includes provisions to replace any disrupted water flow when needed, with water from the wastewater treatment plant and/or from the settling ponds.

With respect to NR 207 "Water Quality Antidegradation," Kennecott hereby makes the following statements.

1. The Flambeau River is considered a fish and aquatic life water as defined under NR 102.13.

2. As provided for in Wis. Admin. Code NR 207.05(3), Kennecott waives the procedure in s. NR 207.05(2)(a) to (d). The mining project will accommodate important economic and social development through an increase in employment and other factors enumerated under NR 207.04(1)(c). Estimations of this impact are available in Section 3.13 of the Environmental Impact Report.

3. The proposed discharges cannot be altered through the use of additional conservation or recycling measures beyond those already employed. The discharges will consist of pit groundwater inflows and storm water runoff which comes in contact with the ore, Type II material, Type I material, overburden, and/or saprolite. Every effort has been made to limit the area impacted by this project and thus limit the amount of storm water runoff generated from the site. See Section 4.0 of the EIR for further discussion of this issue.

4. The wastewater treatment facilities, designed by Ford, Bacon & Davis provides the technology needed to meet water quality effluent limits. This technology has been evaluated through bench scale tests which are discussed in the attached Preliminary Engineering Report. Alternate technologies were evaluated in the preliminary evaluation of the wastewater treatment processes but were ruled out for various reasons.

5. Alternate discharge locations have been considered. One such alternate includes the discharge of treated water to a wetland. This discharge is a part of the remedial process for the mining project. The mine development may cut off the natural water supply for a wetland within the boundaries of the mine site. The effluent discharge is one alternative for maintaining water in the wetland. The wetland may not need the entire volume of water available through the wastewater treatment systems and therefore cannot be

considered the primary discharge point for the effluent discharge.

Based on the statements above, water quality based effluent limitations should not be based on NR 207.

As per an agreement developed with the Department, it is our understanding that the WDNR will distribute this report to all appropriate state and federal agencies. Kennecott will distribute this document to appropriate public officials.

We are requesting that the WDNR review this application as expeditiously as possible such that permitting activities associated with the project can continue in a timely manner. If you have any questions or comments as you review this report, please contact us at your convenience.

Sincerely,

KENNECOTT

Lawrence E. Mercando

Lawrence E. Mercando
Director, Process Development

Enclosure

cc: Robert Ramharter, WDNR (w/30 encl.)
John Kaiser, Chairman, Rusk County Board (w/encl.)
Robert Plantz, Chairman, Town of Grant (w/encl.)
Martin Reynolds, Mayor, City of Ladysmith (w/encl.)
Norm Arndt, Rusk County Zoning Administrator (w/encl.)
Edwarde R. May, James Askew Associates Inc. (w/encl.)
Ladysmith Office, Kennecott (w/encl.)
Henry J. Handzel, DeWitt, Porter *et al.* (w/encl.)
Master File (w/encl.)

Please print or type in the unshaded areas only
(fill—in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-R0175

FORM 1 GENERAL | EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

F | | T A C D

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill—in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill—in area*(s)* below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold—faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
B. Does or will this facility *(either existing or proposed)* include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a discharge to waters of the U.S.? (FORM 2D)	X		X
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP: KENNECOTT MINERALS COMPANY

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 MERCANDO, LAWRENCE, E., DIR. PROC. DEV	801 322 8460

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 1515 MINERAL SQUARE

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 SALT LAKE CITY	UT	84112

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 STATE HIGHWAY 27

B. COUNTY NAME

RUSK

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
6 TOWN OF GRANT	WI	54848	

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

VII. SIC CODES (4-digit, in order of priority)

A. FIRST	B. SECOND
7 1021 (specify) Copper Ore Mining	7 (specify)
C. THIRD	**D. FOURTH**
7 (specify)	7 (specify)

VIII. OPERATOR INFORMATION

A. NAME

8 KENNECOTT MINERALS COMPANY

B. Is the name listed in Item VIII-A also the owner? [X] YES [ ] NO (66)

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)

F = FEDERAL; S = STATE; P = PRIVATE; M = PUBLIC (other than federal or state); O = OTHER (specify)

(specify)

D. PHONE (area code & no.) A 801 322 8460

E. STREET OR P.O. BOX

1515 MINERAL SQUARE

F. CITY OR TOWN

8 SALT LAKE CITY

G. STATE UT

H. ZIP CODE 84112

IX. INDIAN LAND

Is the facility located on Indian lands? [ ] YES [X] NO (82)

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water) 9 N NA	**D. PSD** (Air Emissions from Proposed Sources) 9 P NA
B. UIC (Underground Injection of Fluids) 9 U NA	**E. OTHER** (specify) 9 NA (specify)
C. RCRA (Hazardous Wastes) 9 R NA	**E. OTHER** (specify) 9 NA (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

Kennecott will be operating an open pit copper mine at this site. The ore will be crushed at this site and then shipped via railroad to an out-of-state processing facility.

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
Lawrence E. Mercando Director, Process Development	Lawrence E Mercando	4-1-89

COMMENTS FOR OFFICIAL USE ONLY

C

☆ U.S. GOVERNMENT PRINTING OFFICE: 1980—323-829/6355

Please type or print in the unshaded areas only

EPA ID Number *(copy from Item 1 of Form 1)*

Form Approved
OMB No. 2040-0086
Approval expires 7-31-88

Form 2D NPDES

EPA New Sources and New Dischargers Application for Permit to Discharge Process Wastewater

I. Outfall Location

For each outfall, list the latitude and longitude, and the name of the receiving water.

Outfall Number *(list)*	Latitude			Longitude			Receiving Water *(name)*
	Deg	Min	Sec	Deg	Min	Sec	
001	45	26	20	91	07	10	Flambeau River
002	45	26	30	91	07	20	Flambeau River
ALT-002	45	26	20	91	07	20	Wetland Discharge to Maintain Water in a Wetland

II. Discharge Date *(When do you expect to begin discharging?)*

August 1990

III. Flows, Sources of Pollution, and Treatment Technologies

A. For each outfall, provide a description of (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and stormwater runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

Outfall Number	1. Operations Contributing Flow *(list)*	2. Average Flow *(include units)*	3. Treatment *(Description or List Codes from Table 2D-1)*
001	Storm water runoff from mining operation and Type II	117 GPM*	2-C (Lime), 2-D (Polymer), 2-C (Sulfide), 1-Q, 2-K
	material storage pile		
	Groundwater entering mine	397 GPM	
002	Storm water runoff from Type I material storage	28 GPM*	1-U 2-C (Lime), 2-D (Polymer)**
	pile		
	Groundwater and precipitation entering the open pit during	243 GPM*	
	preproduction stripping		
	*Estimated flows based on average annual precipitation		
	**1-U sedimentation is the primary form of treatment if needed,		
	2-D, polymer and 2-C (Lime) will be used to enhance settling.		

B. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item III-A. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

C. Except for storm runoff, leaks, or spills, will any of the discharges described in item III-A be intermittent or seasonal?

☐ Yes *(complete the following table)* ☒ No *(go to item IV)*

Outfall Number	1. Frequency		2. Flow		
	a. Days Per Week *(specify average)*	b. Months Per Year *(specify average)*	a. Maximum Daily Flow Rate *(in mgd)*	b. Maximum Total Volume *(specify with units)*	c. Duration *(in days)*

IV. Production

If there is an applicable production-based effluent guideline or NSPS, for each outfall list the estimated level of production (projection of actual production level, not design), expressed in the terms and units used in the applicable effluent guideline or NSPS, for each of the first 3 years of operation. If production is likely to vary, you may also submit alternative estimates (attach a separate sheet).

Year	a. Quantity Per Day	b. Units of Measure	c. Operation, Product, Material, etc *(specify)*
			N.A.

CONTINUE ON NEXT PAGE

CONTINUED FROM THE FRONT	EPA ID Number *(copy from Item 1 of Form 1)*	Outfall Number 001

V. Effluent Characteristics

A, and B: These items require you to report estimated amounts *(both concentration and mass)* of the pollutants to be discharged from each of your outfalls. Each part of this item addresses a different set of pollutants and should be completed in accordance with the specific instructions for that part. Data for each outfall should be on a separate page. Attach additional sheets of paper if necessary.

General Instructions *(See table 2D-2 for Pollutants)*

Each part of this item requests you to provide an estimated daily maximum and average for certain pollutants and the source of information. Data for all pollutants in Group A, for all outfalls, must be submitted unless waived by the permitting authority. For all outfalls, data for pollutants in Group B should be reported only for pollutants which you believe will be present or are limited directly by an effluent limitations guideline or NSPS or indirectly through limitations on an indicator pollutant.

1. Pollutant	2. Maximum Daily Value *(include units)*	3. Average Daily Value *(include units)*	4. Source *(see instructions)*
B.O.D. mg/1	30	20	4
B.O.D. lbs/day	228	123	
C.O.D. mg/1	50	20	4
C.O.D. lbs/day	480	123	
TOC mg/1	50	20	4
TOC lbs/day	480	123	
T.S.S. mg/1	30	20	1, 4
T.S.S. lbs/day	288	123	
Flow GPM	800	514	1, 4
Flow MGD	1.152	0.74016	
Ammonia (N)(1) mg/1	<2	<2	4
Ammonia (N)(1)	<19	<12.3	
Temperature	Ambient		4
pH s.u.	9.0	6.5	1, 4
Sulfate mg/1	400	300	4
Sulfate lbs/day	3,843	1,852	
Sulfide mg/1	10	5	4
Sulfide lbs/day	96	30.9	
(1) No ammonia will be generated from the mining operation. This should not be a			
permitted parameter.			

CONTINUED FROM THE FRONT	EPA ID Number *(copy from Item 1 of Form 1)*	Outfall Number 001

V. Effluent Characteristics

A, and B. These items require you to report estimated amounts *(both concentration and mass)* of the pollutants to be discharged from each of your outfalls. Each part of this item addresses a different set of pollutants and should be completed in accordance with the specific instructions for that part. Data for each outfall should be on a separate page. Attach additional sheets of paper if necessary.

General Instructions *(See table 2D-2 for Pollutants)*

Each part of this item requests you to provide an estimated daily maximum and average for certain pollutants and the source of information. Data for all pollutants in Group A, for all outfalls, must be submitted unless waived by the permitting authority. For all outfalls, data for pollutants in Group B should be reported only for pollutants which you believe will be present or are limited directly by an effluent limitations guideline or NSPS or indirectly through limitations on an indicator pollutant.

1. Pollutant	2. Maximum Daily Value *(include units)*	3. Average Daily Value *(include units)*	4. Source *(see instructions)*
Aluminum mg/1	<5	<5	4
Aluminum lbs/day	<48	<30.9	
Iron mg/1	1.0	0.3	4
Iron lbs/day	9.61	1.85	
Magnesium(2) mg/1	40	10	4
Magnesium(2) lbs/day	384	61.7	
Arsenic ug/1	90	5.0	4
Arsenic lbs/day	0.86	0.031	
Copper ug/1	20(3)	<20(3)	1, 4
Copper lbs/day	0.192	<0.123	
Mercury(4) ug/1	0.5	<0.5	1, 4
Mercury(4) lbs/day	0.0048	<0.0031	
Selenium ug/1	200	20	4
Selenium lbs/day	1.922	0.123	

(2) No permit limits should be applied to Mg - this only represents background levels.

(3) EPA's document "SW-846" lists a detection limit for copper of 20 ug/1.

(4) Background studies have not shown mercury to be in excess of detection limits (0.5 ug/1). No effluent limit should be established.

CONTINUED FROM THE FRONT	EPA ID Number *(copy from Item 1 of Form 1)*	Outfall Number 001

V. Effluent Characteristics

A, and B. These items require you to report estimated amounts *(both concentration and mass)* of the pollutants to be discharged from each of your outfalls. Each part of this item addresses a different set of pollutants and should be completed in accordance with the specific instructions for that part. Data for each outfall should be on a separate page. Attach additional sheets of paper if necessary.

General Instructions *(See table 2D-2 for Pollutants)*

Each part of this item requests you to provide an estimated daily maximum and average for certain pollutants and the source of information. Data for all pollutants in Group A, for all outfalls, must be submitted unless waived by the permitting authority. For all outfalls, data for pollutants in Group B should be reported only for pollutants which you believe will be present or are limited directly by an effluent limitations guideline or NSPS or indirectly through limitations on an indicator pollutant.

1. Pollutant	2. Maximum Daily Value *(include units)*	3. Average Daily Value *(include units)*	4. Source *(see instructions)*
Silver[(5)] ug/1	<10	<10	1, 4
Silver lbs/day	<0.096	<0.062	
Cadmium ug/1	5.0	<5.0	1, 4
Cadmium lbs/day	0.048	<0.031	
Lead ug/1	100	<100	1, 4
Lead lbs/day	0.96	<0.617	
Nickel mg/1	1.0	<0.04	1, 4
Nickel lbs/day	9.6	<0.247	
Zinc ug/1	80	<30	1, 4
Zinc lbs/day	0.769	<0.185	
Chromium, total ug/1	50	<50	1, 4
Chromium, total lbs/day	0.48	<0.309	
Manganese mg/1	1.0	0.1	
Manganese lbs/day	9.61	0.617	

(5) EPA's document "SW-846" lists the detection limit for silver at 10 ug/1.

CONTINUED FROM THE FRONT	EPA ID Number *(copy from Item 1 of Form 1)*	Outfall Number 002

V. Effluent Characteristics

A, and B. These items require you to report estimated amounts *(both concentration and mass)* of the pollutants to be discharged from each of your outfalls. Each part of this item addresses a different set of pollutants and should be completed in accordance with the specific instructions for that part. Data for each outfall should be on a separate page. Attach additional sheets of paper if necessary.

General Instructions *(See table 2D-2 for Pollutants)*

Each part of this item requests you to provide an estimated daily maximum and average for certain pollutants and the source of information. Data for all pollutants in Group A, for all outfalls, must be submitted unless waived by the permitting authority. For all outfalls, data for pollutants in Group B should be reported only for pollutants which you believe will be present or are limited directly by an effluent limitations guideline or NSPS or indirectly through limitations on an indicator pollutant.

1. Pollutant	2. Maximum Daily Value *(include units)*	3. Average Daily Value *(include units)*	4. Source *(see instructions)*
B.O.D. mg/1	30	20	4
B.O.D. lbs/day	2,864	6.73	
C.O.D. mg/1	50	20	4
C.O.D. lbs/day	4,774	6.73	
TOC mg/1	50	20	4
TOC lbs/day	4,774	6.73	
T.S.S. mg/1	30	20	1, 4
T.S.S. lbs/day	2,864	6.73	
Flow GPM	7,950	28	1, 4
Flow MGD	11.448	0.04032	
Ammonia (N)(1) mg/1	<2	<2	4
Ammonia (N)(1) lbs/day	<191	<0.67	
Temperature	Ambient		4
pH s.u.	9.0	6.5	1, 4
Sulfate mg/1	400	300	4
Sulfate lbs/day	38,191	101	
Sulfide mg/1	10	5	4
Sulfide lbs/day	955	1.68	

(1) No ammonia will be generated from the mining operation. This should not be a permitted parameter.

CONTINUED FROM THE FRONT	EPA ID Number *(copy from Item 1 of Form 1)*	Outfall Number 002

V. Effluent Characteristics

A, and B: These items require you to report estimated amounts *(both concentration and mass)* of the pollutants to be discharged from each of your outfalls. Each part of this item addresses a different set of pollutants and should be completed in accordance with the specific instructions for that part. Data for each outfall should be on a separate page. Attach additional sheets of paper if necessary.

General Instructions *(See table 2D-2 for Pollutants)*

Each part of this item requests you to provide an estimated daily maximum and average for certain pollutants and the source of information. Data for all pollutants in Group A, for all outfalls, must be submitted unless waived by the permitting authority. For all outfalls, data for pollutants in Group B should be reported only for pollutants which you believe will be present or are limited directly by an effluent limitations guideline or NSPS or indirectly through limitations on an indicator pollutant.

1. Pollutant	2. Maximum Daily Value *(include units)*	3. Average Daily Value *(include units)*	4. Source *(see instructions)*
Aluminum mg/1	<5	<5	4
Aluminum lbs/day	<477	<1.68	
Iron mg/1	1.0	0.3	4
Iron lbs/day	95.48	0.10	
Magnesium(2) mg/1	40	10	4
Magnesium(2) mg/1	3,819	3.36	
Arsenic ug/1	90	5.0	4
Arsenic lbs/day	8.59	0.002	
Copper ug/1	20(3)	<20(3)	1, 4
Copper lbs/day	1.91	<0.007	
Mercury(4) ug/1	0.5	<0.5	1, 4
Mercury(4) lbs/day	0.048	<0.0002	
Selenium ug/1	200	20	4
Selenium lbs/day	19.1	0.007	

(2) No permit limits should be applied to Mg - this only represents background levels.

(3) EPA's document "SW-846" lists a detection limit for copper of 20 ug/1.

(4) Background studies have not shown mercury to be in excess of detection limits (0.5 ug/1). No effluent limits should be established.

CONTINUED FROM THE FRONT	EPA ID Number *(copy from Item 1 of Form 1)*	Outfall Number 002

V. Effluent Characteristics

A, and B. These items require you to report estimated amounts *(both concentration and mass)* of the pollutants to be discharged from each of your outfalls. Each part of this item addresses a different set of pollutants and should be completed in accordance with the specific instructions for that part. Data for each outfall should be on a separate page. Attach additional sheets of paper if necessary.

General Instructions *(See table 2D-2 for Pollutants)*

Each part of this item requests you to provide an estimated daily maximum and average for certain pollutants and the source of information. Data for all pollutants in Group A, for all outfalls, must be submitted unless waived by the permitting authority. For all outfalls, data for pollutants in Group B should be reported only for pollutants which you believe will be present or are limited directly by an effluent limitations guideline or NSPS or indirectly through limitations on an indicator pollutant.

1. Pollutant	2. Maximum Daily Value *(include units)*	3. Average Daily Value *(include units)*	4. Source *(see instructions)*
Silver[(5)] ug/l	<10	<10	1, 4
Silver lbs/day	<0.95	<0.003	
Cadmium ug/l	5.0	<5.0	1, 4
Cadmium lbs/day	0.48	<0.002	
Lead ug/l	100	<100	1, 4
Lead lbs/day	9.55	<0.034	
Nickel mg/l	1.0	<0.004	1, 4
Nickel lbs/day	95.48	<0.013	
Zinc ug/l	80	<30	1, 4
Zinc lbs/day	7.64	<0.01	
Chromium, total ug/l	50	<50	1, 4
Chromium, total lbs/day	4.77	<0.017	
Manganese mg/l	1.0	0.1	
Manganese lbs/day	95.48	0.034	
[(5)] EPA's document "SW-846" lists the detection limit for silver at 10 ug/l.			

CONTINUED FROM THE FRONT	EPA ID Number *(copy from Item 1 of Form 1)*	

C. Use the space below to list any of the pollutants listed in Table 2D-3 of the instructions which you know or have reason to believe will be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it will be present.

1. Pollutant	2. Reason for Discharge
None	

VI. Engineering Report on Wastewater Treatment

A. If there is any technical evaluation concerning your wastewater treatment, including engineering reports or pilot plant studies, check the appropriate box below.

☒ Report Available ☐ No Report

B. Provide the name and location of any existing plant(s) which, to the best of your knowledge, resembles this production facility with respect to production processes, wastewater constituents, or wastewater treatments.

Name	Location
No facilities are known to exist which duplicate the combination of ore type, wastewater constituents, and chosen treatment technology.	

EPA ID Number *(copy from item one of Form 1)*

VII. Other Information *(Optional)*

Use the space below to expand upon any of the above questions or to bring to the attention of the reviewer any other information you feel should be considered in establishing permit limitations for the proposed facility. Attach additional sheets if necessary.

Please see attached

VIII. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. Name and Official Title *(type or print)*	B. Phone No.
Lawrence E. Mercando, Director, Process Development	(801) 322-8460
C. Signature: Lawrence E Mercando	D. Date Signed: 4-1-89

☆U.S. Government Printing Office : 1986 -491-191/52940

VII. Other information (Optional)

The following figures can be found in the Preliminary Engineering Report submitted as a supplement to this application:

Site Topographic Map

Site Plot Plan

Flow Diagram - Wastewater Treatment Plant

Flow Diagram - Sedimentation Basin

B. Kennecott Minerals Company proposes to operate an open pit mine. The ore taken from the mine will only be crushed at the site. The crushed ore will be shipped to an out-of-state processing facility.

Outfalls 001 and 002 will primarily discharge to the Flambeau River. The mine may be interrupting the flow of water to a wetland near the proposed open pit. To mitigate this impact, some or all of the water from outfalls 001 and/or 002 may be directed to this wetland as an alternate water supply. This water will then serve a useful and beneficial purpose.

Flow for outfalls 001 and 002 reflect the stages of mine development. Groundwater and precipitation from the pit will be directed to outfall 002 during preproduction stripping. Once this water has come in contact with the high sulfur waste rock and/or the ore, it will be directed to the wastewater treatment facility for outfall 001. Average flow calculation for Section V of this form reflect pit area discharge through 001.

Simply because a parameter is listed in Section V, Effluent Characteristics, it should not necessarily be regulated through a WPDES discharge permit. This list was prepared with the intention of addressing those parameters listed in Group A and selected parameters which applied to this mining project from Group B. Parameters from the following sections have no applicability to this project:

Section 2
Section 3
- GC/MS Fraction - Volatile Compounds
- GC/MS Fraction - Acid Compounds
- GC/MS Fraction - Base/Neutral Compounds
- GC/MS Fraction - Pesticides

Toxic Pollutant
Hazardous Substances

In establishing effluent limits, consideration must be given to analytical methods and their associated detection limits. The instrumentation which will be available on site for analysis will be an Atomic Absorption Spectrophotometer with direct aspiration flame analysis capabilities. The detection limits for these analytical procedures are listed in EPA's document SW846, page 7000-2. The applicable parameters and their detection limits are listed below:

Cadmium	0.005 mg/l
Chromium	0.05 mg/l
Copper	0.02 mg/l
Lead	0.1 mg/l
Nickel	0.04 mg/l
Selenium	0.002 mg/l
Silver	0.01 mg/l
Zinc	0.005 mg/l

In the event that water quality standards present limits which are lower than the detection limits listed above, the detection limits should be used to establish the effluent limits.