

ALASKA LEGISLATURE COMMITTEE FILES 1987-1988 8672  
4985 HRES HB 524

537

# DRAFT

Register , 1988 ENVIRONMENTAL CONSERVATION 18 AAC  
70.032

18 AAC 70.032 is amended to read:

18 AAC 70.032. MIXING ZONES. (a) In applying the water quality criteria [OF 18 AAC 70.020], the department will, in its discretion, prescribe in its permits or certifications a volume of dilution for an effluent or substance within a receiving water unless there is a significant potential that [. WATER QUALITY STANDARDS MAY BE EXCEEDED WITHIN THIS MIXING ZONE. HOWEVER, THE STANDARDS MUST BE MET AT EVERY POINT OUTSIDE ITS BOUNDARIES. THE DEPARTMENT WILL NOT ALLOW MIXING ZONES IF]

(1) pollutants discharged could [THERE IS SIGNIFICANT POTENTIAL FOR ADVERSE ENVIRONMENTAL OR HEALTH EFFECTS DUE TO DISCHARGE OF A SUBSTANCE THAT] bioaccumulate[S IN FOOD CHAINS]; concentrate[S] or persist in the environment [IN SEDIMENTS]; cause [OR IS PERSISTENT,] carcinogenic, mutagenic, or teratogenic effects; or otherwise present a risk to human health; [, OR (2) OTHER POTENTIAL ENVIRONMENTAL OR HEALTH EFFECTS ARE SO ADVERSE THAT A MIXING ZONE IS NOT APPROPRIATE.]

(2) there could be adverse impacts on anadromous fish spawning or rearing, or a barrier to migrator species formed; or

(3) there could be environmental effects so adverse

# DRAFT

that a mixing zone is not appropriate.

The water quality criteria of 18 AAC 70.020 and the antidegradation requirement of 18 AAC 70.010(c) may be exceeded within a [A] mixing zone [WILL BE GRANTED ONLY AFTER THE APPLICANT HAS SHOWN TO THE DEPARTMENT'S SATISFACTION THAT THE WASTES OR SUBSTANCES THAT MAY EXCEED THE WATER QUALITY CRITERIA LIMITS WILL BE TREATED USING THE METHODS FOUND BY THE DEPARTMENT TO BE MOST EFFECTIVE].

[(b) THE DEPARTMENT WILL, IN ITS DISCRETION, ESTABLISH EFFLUENT LIMITATION REQUIREMENTS IN ITS WASTEWATER DISPOSAL PERMITS IN LIEU OF OR IN ADDITION TO A DEFINED MIXING ZONE.]

[(c) NO INDIVIDUAL MIXING ZONE OR COMBINATION OF MIXING ZONES WILL BE PERMITTED TO FORM A BARRIER TO THE MIGRATORY ROUTES OF AQUATIC SPECIES.]

(b) [(d)] In determining whether a mixing zone is appropriate and the size of mixing zones, the department will consider [THE FOLLOWING:]

(1) the physical, biological, and chemical characteristics of the receiving water, including volume and flow rate;

(2) the effects [OF] the discharge may have on the

# DRAFT

[PRESENT AND ANTICIPATED PROTECTED WATER] uses [AND QUALITY] of the receiving water;

(3) the mixing characteristics of the receiving water;  
and

(4) the characteristics of the effluent, including volume, flow rate, and quality after achieving BAT or other applicable technology-based effluent requirements [AND COMPOSITION].

(c) In determining whether a mixing zone is appropriate and the size of mixing zones, the department will ensure that other water uses are protected.

(d) Mixing zones shall be as small as practicable and shall be consistent with the provisions of this chapter.

(e) Unless it is demonstrated to the satisfaction of the department [, IN ACCORDANCE WITH (f) OF THIS SECTION,] that the size limitations can be increased, mixing zones will [BE AS SMALL AS PRACTICABLE AND WILL] comply with the following size limitations:

[(1) THE CUMULATIVE LINEAR WIDTH OF THE MIXING ZONE(S) INTERSECTED ON ANY GIVEN CROSS SECTION OF A RIVER OR STREAM WILL NOT EXCEED ONE THIRD OF THE TOTAL WIDTH OF THAT CROSS SECTION;]

# DRAFT

(1) [(2)] The total horizontal area allocated to all mixing zones on a lake will not exceed 10 percent of the lake's surface area;

(2) [(3)] The cumulative linear length of the mixing zone(s) intersected on any given cross section of an estuary, inlet, cove, channel, or other marine water measured at mean lower low water may not exceed 10 percent of the total length of that cross section, nor may the total horizontal area allocated to mixing zones in these waters exceed 10 percent of the surface area measured at mean lower low water.

[(f) A PERSON CONDUCTING AN OPERATION FOR WHICH A MIXING ZONE IS SOUGHT OR REQUIRED BY THE DEPARTMENT SHALL SUBMIT TO THE DEPARTMENT ALL INFORMATION NECESSARY FOR ASSIGNMENT OF A MIXING ZONE, INCLUDING

(1) THE TYPE OF OPERATION BEING CONDUCTED;

(2) THE CHARACTERISTICS OF THE EFFLUENT OR MATERIAL, INCLUDING FLOW RATE AND COMPOSITION;

(3) THE CHARACTERISTICS OF THE RECEIVING WATER AT THE LOCATION OF THE PROPOSED DISCHARGE OR ACTIVITY, INCLUDING BUT NOT LIMITED TO, WHERE APPROPRIATE, WATER QUALITY, FLOW RATE, CURRENT PATTERNS, DEPTH AND WIDTH, AND SEASONAL CHANGES;

# DRAFT

(4) A DESCRIPTION OF THE EXTENT TO WHICH THE OPERATION MAY IMPACT THE PHYSICAL, BIOLOGICAL AND CHEMICAL CHARACTERISTICS OF THE RECEIVING WATER; AND

(5) A PROPOSED DESIGN FOR OUTFALL AND DIFFUSER STRUCTURES.] (In effect before 7/28/59; am 5/24/70, Reg. 34; am 8/28/71, Reg. 39; am 10/22/72, Reg. 44; am 8/12/73, Reg. 47; am 2/2/79, Reg. 69; am 4/23/79, Reg. 70; am 9/19/79, Reg. 71; am 3/30/84, Reg. 89; am / /88, Register )

Authority: AS 46.03.020(10)(A)

AS 46.03.070

AS 46.03.080

AS 46.03.100

AS 46.03.110

# Alaska State Legislature

**STEVE FRANK**

DISTRICT 20A  
Finance Committee

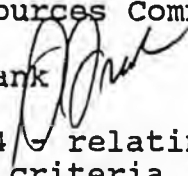
1125 Sunset Drive  
Fairbanks, Alaska 99701



While in Juneau  
P.O. Box V  
Juneau, Alaska 99811  
(907) 465-3709

## House of Representatives

TO: The House Resources Committee

FROM: Rep. Steve Frank 

RE: House Bill 524 relating to the application of water quality criteria

DATE: May 3, 1988

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House Bill 524 spells out the terms and conditions for the use of placer mining mixing zones to achieve water quality standards.

This legislation would provide for mixing zones unless the Department "...determines that toxic pollutants are being discharged that will accumulate or concentrate in the environment, are carcinogens, would present a significant risk to human health, or would form a barrier to migratory species."

The idea of a mixing zone is not a new concept and state statutes allow the Department of Environmental Conservation to authorize their use. Furthermore, the Environmental Protection Agency (EPA) is currently granting modified turbidity levels to some seventy miners who are utilizing mixing zones. The only new provision created by the legislation is that mixing zones would be mandated unless DEC finds adverse environmental impacts from mixing zones.

The stream water quality outside the mixing zone would still have to meet State water quality standards. In determining the size of the mixing zone, the department would be required to consider the characteristics of the receiving water, and effects on the downstream uses.

Thank you for your consideration.

Pg. #1

# POLAR MINING INC.

4545 WOOD RIVER DR. - FAIRBANKS, ALASKA 99701 - (907) 479-2493

April 21, 1988

Rep. Steve Frank  
District 20A  
Juneau, Alaska 99811

Dear Congressman Steve Frank:

We the undersigned do endorse House Bill 524 regarding mixing zones. This basic industry is being run out of business by the very ones that should be encouraging us, so any step from our representatives like H.B. 524 is appreciated and endorsed by:

<u>SIGNATURE</u>	<u>PRINT NAME</u>	<u>ADDRESS</u>
<i>Donald J. May</i>	Donald J. May	4545 Wood River Dr. Fairbanks
<i>Dan May</i>	Dan May	P.O. Box 10528 FBKS AK
<i>Bill Stephens II</i>	Bill STEPHENS II	P.O. Box 60460 FBKS AK
<i>Earl Hutchinson</i>	Earl Hutchinson	P.O. Box 127 Central AK
<i>Monte Hill</i>	Monte Hill	932 Kokomo FBKS AK
<i>Daniel Tullar</i>	Daniel Tullar	P.O. Box 81573 Fbx AK 99708
<i>Greg Smith</i>	Greg Smith	P.O. Box 10333 FBKS 99710
<i>Jim May Jr</i>	Jim May Jr	1192 St Anton FBKS 99702
<i>Mike A Klaus</i>	Mike A Klaus	1331 OPP. way FBKS 99701
<i>Dave Dziubinski</i>	DAVE DZIOBINSKI	P.O. Box 81971 Fbx AK 99708
<i>Jeff Stout</i>	Jeff Stout	Box 2898 Soldotna AK 99669
<i>Robert Bell</i>	Robert Bell	3920 Frenchman Rd FBKS 99709
<i>Jim O'Leary</i>	Jim O'LEARY	1423 FAIRBANKS AVE. 99707
<i>Jim Bennett</i>	Jim Bennett	Gen. Delivery Fairbanks AK. 99701
<i>Darrell Paine</i>	DARRELL PAINE	P.O. Box 58570 FAIRBANKS AK. 99711
<i>Cecil Cox</i>	CECIL COX	P.O. Box 10 Fbx AK 99701
<i>Chris Fagan</i>	Chris FAGAN	312 BRIAN OF AVE 99701
<i>Ruth May</i>	Ruth May	4545 Wood River Drive Fbx AK 99709
<i>Darlene Snodgrass</i>	Darlene Snodgrass	1245 Vance Lane Fbks AK 99710
<i>IL Regan</i>	IL Regan	Box 1176 Fairbanks AK 99709
<i>Russell N. Qualley</i>	Russell N Qualley	1025 Homes Rd North Pole FBKS, AK
<i>Paul Borella</i>	Paul Borella	1215 9TH AVE 99701
<i>Chuck Kirscher</i>	Chuck Kirscher	2404 @ C. P. FBKS AK 99701

# POLAR MINING INC.

4545 WOOD RIVER DR. - FAIRBANKS, ALASKA 99701 - (907) 479-2493

Pg. #2

April 21, 1988

Rep. Steve Frank  
District 20A  
Juneau, Alaska 99811

Dear Congressman Steve Frank:

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<u>SIGNATURE</u>	<u>PRINT NAME</u>	<u>ADDRESS</u>
<u>[Signature]</u>	<u>John E. BERSEVIN</u>	<u>Box 82189, FBKS 99708</u>
<u>[Signature]</u>	<u>Mike Hawks</u>	<u>Box 72895 Fbs 99707</u>
<u>[Signature]</u>	<u>LAYNE GARDNER</u>	<u>284 CINDY DR. FBKS 99701</u>
<u>[Signature]</u>	<u>Wallace F Baird</u>	<u>1/4 mi Steese Hwy</u>
<u>[Signature]</u>	<u>DAVID A Frenzel</u>	<u>P.O. Box 771392 Eagle River</u>
<u>[Signature]</u>	<u>KENNETH R. NYQUIST</u>	<u>P.O. Box 84196 FBKS 99708</u>
<u>[Signature]</u>	<u>Francis STAMPS</u>	<u>P.O. Box 58295 FBKS 99711</u>
<u>[Signature]</u>	<u>Richard L. Gullisaw</u>	<u>PO BOX 82329 FBKS 99708</u>
<u>[Signature]</u>	<u>Kyle Branum</u>	<u>900 Jugor Dr. FBKS 99701</u>
<u>[Signature]</u>	<u>MARK GUIN</u>	<u>1955 Perkins Dr FBKS 99709</u>
<u>[Signature]</u>	<u>DONALD M. READ</u>	<u>P.O. Box 1638, FAIRBANKS, AK. 99707</u>
<u>[Signature]</u>	<u>MELVIN L. STOVER</u>	<u>4193 ROSEBUD, FAIRBANKS, AK 99709</u>
<u>[Signature]</u>	<u>Stanley C Rybschek</u>	<u>P.O. Box 55694 - Fairbanks AK 99701</u>
<u>[Signature]</u>	<u>Rose Rybschek</u>	<u>Box 55698, N. Pole 99705</u>
<u>[Signature]</u>	<u>Duane Anderson</u>	<u>320 DUNBAR FBKS 99701</u>
<u>[Signature]</u>	<u>Dan Stodgess</u>	<u>1245 Lance Lane</u>
<u>[Signature]</u>	<u>James A Find</u>	<u>1320 6th Ave FBKS</u>
<u>[Signature]</u>	<u>DAVID M GRAHAM</u>	<u>1206 WINTERGREEN LN, NORTH POLE AK 99705</u>
<u>[Signature]</u>	<u>Amy LINCOLN</u>	<u>1604 MARIKA #13 Fairbanks AK 99709</u>
<u>[Signature]</u>	<u>Nitar T. Nielsen</u>	<u>2017 Snowy Owl Lane - FBKS, AK 99702</u>
<u>[Signature]</u>	<u>JAN E. D. CASE</u>	<u>379 MILLISIDE FBKS AK</u>
<u>[Signature]</u>	<u>JAMES W. TUJVEL</u>	<u>P.O. Box 1553 FAIRBANKS AK 99707</u>
<u>[Signature]</u>	<u>Edwin C. Gelvin</u>	<u>Box 76 Central 99730</u>

Pg. #3,

# POLAR MINING INC.

4545 WOOD RIVER DR. - FAIRBANKS, ALASKA 99701 - (907) 479-2493

April 21, 1988

Rep. Steve Frank  
District 20A  
Juneau, Alaska 99811

Dear Congressman Steve Frank:

We the undersigned do endorse House Bill 524 regarding mixing zones. This basic industry is being run out of business by the very ones that should be encouraging us, so any step from our representatives like H.B. 524 is appreciated and endorsed by:

SIGNATURE

PRINT NAME

ADDRESS

	Phil HALUPSTOCK	208 MARY LAIGH
	MILAN LAFLIN	2233 JACK ST FBKS, AK.
	JIM HANDY	15 1/2 Rosella
	Barbara Barker	1260 Silverberry Drive FBKS
	Ray Kimberlin	1317 Holdover FBKS AK.
	CURT SMITH	3294 JUDY LN. NORTH PALE
	Max C. Lynd Jr.	2733 DENSON - FBKS, AK
	VERNON HINES	2004 Capitol Ave FBKS
	Bill Hunt	PO 83896 FBKS
	JOHN HARDY	767 Air Park Dr. FBKS, AK
	JUNE HARDY	767 AIR PARK DR FBKS AK
	Hugh STEINK	1525 CROSSAN, FBKS.
	HENRY C. HARTLEY	591 Brewster ST FBKS 99712
	WM. W. LANG	Box 80589 COLLEGE AK 99709
	Mel Lofthus	1913 Esquire Ave. FBKS AK 99709
	James A. Gault	116 1/2 STANLEY Central 99730
	James E. Sather	7 1/2 Mi. Arctic Circle HOT SPRING RD Central AK 99735
	KENNETH E. BROWN	NOTTINGHAM ROAD
	STEPHEN GOUGH	114 RIDGETOP Lp FAIRBANKS AK 99705
	EARLE A. COWN	1301 AURORA DR. FBKS AK - 99703
	Leonard E. Johnson	PO Box 42 FBKS AK, 99707
	Glenn D. Bouton	BOX 9122 Cold F., 99701
	Lee D. ...	165 Farmers ... 99712

P.O. Box 71  
FBX 99707

Pg #4.

# POLAR MINING INC.

4545 WOOD RIVER DR. - FAIRBANKS, ALASKA 99701 - (907) 479-2493

April 21, 1988

Rep. Steve Frank  
District 20A  
Juneau, Alaska 99811

Dear Congressman Steve Frank:

We the undersigned do endorse House Bill 524 regarding mixing zones. This basic industry is being run out of business by the very ones that should be encouraging us, so any step from our representatives like H.B. 524 is appreciated and endorsed by:

<u>SIGNATURE</u>	<u>PRINT NAME</u>	<u>ADDRESS</u>
<i>Teresa Gillitzer</i>	TERESA GILLITZER	PO Box 55656, North Pole, AK
<i>Tim McKay</i>	Tim McKay	2552 Steese Hwy N. 99712
<i>Ed Schmidt</i>	ED SCHMIDT	4717 HARVARD CIRCLE, FAI, AK 99709
<i>David J Hopkins</i>	David J Hopkins	117 Conover Dr, Fair AK
<i>Alan Bergman</i>	ALAN BERGMAN	117 Conover Dr - FAIR -
<i>Samuel E. Schneider</i>	SAMUEL E. SCHNEIDER	PO Box 25028 Ester AK 99725
<i>Sam C. Skidmore</i>	SAM C. SKIDMORE	P.O. Box 470 FAIRBANKS, AK 99701
<i>David J Hopkins</i>	David J Hopkins	10 mile Steese Fair, AK.

DEAR CONGRESSMEN & SENATORS & CONGRESSWOMEN  
 ENCLOSED ARE SOME OF OUR EMPLOYEES & ASSOCIATES WHO FAVOR THIS BILL -  
 WE NEED HELP BADLY, IF MINING IS TO CONTINUE, WILL YOU STOP THIS VIABLE INDUSTRY?  
 THANKING YOU Sincerely  
 Ronald May  
 VP OF POLAR MINING INC.



# HOUSE COMMITTEE REPORT

(7)

Date referred: 2/15/88

FURTHER REFERRALS:

Resources

DATE: 4-20-88

The Health, Education and Social Services Committee has considered HB 524

"An Act relating to the application of water quality criteria."

**RECOMMENDS:**

- replace with CSHB 524 (HESS)  the same title
- attached amendment(s)  a new title
- do pass
- do not pass
- no recommendation
- individual recommendations
- additional referral to the \_\_\_\_\_ Committee

**ADOPTS:**  \_\_\_\_\_ letter of intent

**ATTACHES NEW FISCAL NOTE(S):**

- fiscal impact  same as previous fiscal note published \_\_\_\_\_
- zero fiscal note  same as previous zero fiscal note published \_\_\_\_\_
- zero with analysis

**SIGNING TO PASS:**

[Signature]

[Signature]

[Signature]

\_\_\_\_\_

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**SIGNING OTHER RECOMMENDATIONS:**

[Signature] (no rec.)

[Signature] (no rec.)

[Signature] (no rec.)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

[Signature]  
 Co-chairman's signature  
[Signature]

Original sponsors: Frank, Miller,  
Boyer and Shultz

1 IN THE HOUSE

2 CS FOR HOUSE BILL NO. 524 (H.E.S.S.)

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 FIFTEENTH LEGISLATURE - SECOND SESSION

5 A BILL

6 For an Act entitled: "An Act relating to the application of water quality  
7 criteria to placer mining."

8 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

9 \* Section 1. AS 46.03.(80 is amended by adding a new subsection to  
10 read:

11 (b) In applying water quality criteria to placer mining, the  
12 department shall prescribe in its permits or certifications a volume  
13 of dilution for an effluent or substance within a mixing zone of the  
14 receiving water unless the department determines that toxic pollutants  
15 are being discharged that will accumulate or concentrate in the  
16 environment, are carcinogens, would present a significant risk to  
17 human health, or would form a barrier to migratory species. The water  
18 quality criteria and antidegradation requirements of the regulations  
19 of the Environmental Protection Agency may be exceeded in placer  
20 mining within the mixing zone of the receiving water. The mixing zone  
21 of the receiving water in placer mining shall be as small as practica-  
22 ble. In determining the size of the mixing zone of the receiving  
23 water in placer mining, the department shall consider

24 (1) the physical, biological, and chemical characteristics  
25 of the receiving water, including volume and flow rate;

26 (2) the effects of the discharge upon the uses of the  
27 receiving water;

28 (3) the mixing characteristics of the receiving water; and

29 (4) the characteristics of the effluent, including volume

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and flow rate.

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FISCAL NOTE

REQUEST:

Revision Date: 4/21/88  
Title: Relating to the application of water quality criteria to placer mining.  
Sponsor: Frank, Miller, Boyer and Shultz  
Requestor: Rep. Frank

Agency Affected: Environmental Conservation  
BRU: Environmental Quality  
Components: Southcentral and Northern Regional Offices

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 88	FY 89	FY 90	FY 91	FY 92	FY 93
PERSONAL SERVICES		181.0	181.0	136.0	136.0	136.0
TRAVEL		32.0	32.0	32.0	16.0	16.0
CONTRACTUAL		98.9	98.9	98.9	58.0	58.0
SUPPLIES		2.5	2.5	2.5	1.5	1.5
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING		314.4	314.4	314.4	211.5	211.5
CAPITAL						
REVENUE						

FUNDING: (Thousands of Dollars)

GENERAL FUND		314.4	314.4	314.4	211.5	211.5
FEDERAL FUNDS						
OTHER						
TOTAL		314.4	314.4	314.4	211.5	211.5

POSITIONS:

FULL-TIME		5.0	5.0	5.0	3.0	3.0
PART-TIME						
TEMPORARY						

ANALYSIS : (Attach a separate page if necessary)

(See attached)

Prepared by: Dan Easton Phone: 465-2640  
Division: Environmental Quality Date: 4-29-88

Approved by Commissioner: Dennis D. Kelso Date: 4-29-88  
Agency: Environmental Conservation

Distribution (by preparer):

- Legislative Finance
- Legislative Sponsor
- Requestor
- Office of Management and Budget
- Impacted Agency(ies)

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

CSHB 524 FISCAL NOTE ANALYSIS

As a result of its own efforts on placer mining mixing zones, the Department had previously developed costs to designate site-specific mixing zones for all placer mining discharges over a three-year period and included those costs in its budget request. Estimated annual costs for FY 89 through FY 91 are \$314.4. This would provide personal services and support costs for four new technical positions, two in Anchorage and two in Fairbanks, and one-half clerical position in each of these locations.

The technical positions would collect information on the physical, chemical and biological characteristics of specific placer mining streams; information on the uses of the streams; and the characteristics of each placer mining discharge including volume and flow rate as required by CSHB 524. Using this information, the positions will perform mixing calculations, designate a mixing zone for each of the approximately 450 placer mining discharges, and work with the U.S. Environmental Protection Agency (EPA) to modify the federal wastewater discharge (NPDES) permits to incorporate the new mixing zones.

The costs also include \$73.9 for contractual support in obtaining required flow and biological information.

Costs would decrease in FY 92 and subsequent years to \$211.5. This includes funding for two technical positions and one clerical position, and \$43.0 in contractual support. This continued level of effort will be required to process new applications for mixing zones and to modify existing mixing zones as the nature of the mining operations change.

FISCAL NOTE

REQUEST:

Revision Date: 4/21/88  
Title: Relating to the application of water quality criteria to placer mining.  
Sponsor: Frank, Miller, Boyer and Shultz  
Requestor: Rep. Frank

Agency Affected: Environmental Conservation  
BRU: Environmental Quality  
Components: Southcentral and Northern Regional Offices

EXPENDITURES/REVENUES: (Thousands of Dollars)

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MISCELLANEOUS						
TOTAL OPERATING		314.4	314.4	314.4	211.5	211.5

CAPITAL						
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REVENUE						
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GENERAL FUND		314.4	314.4	314.4	211.5	211.5
FEDERAL FUNDS						
OTHER						
TOTAL		314.4	314.4	314.4	211.5	211.5

POSITIONS:

FULL-TIME		5.0	5.0	5.0	3.0	3.0
PART-TIME						
TEMPORARY						

ANALYSIS : (Attach a separate page if necessary)  
(See attached)

Prepared by: Dan Easton Phone: 465-2640  
Division: Environmental Quality Date: 5/2/88

Approved by Commissioner: Dennis D. Kelso Date: 5/2/88  
Agency: Environmental Conservation

Distribution (by preparer):  
Legislative Finance  
Legislative Sponsor  
Requestor  
Office of Management and Budget  
Impacted Agency(ies)

# STATE OF ALASKA

**DEPT. OF ENVIRONMENTAL CONSERVATION**

STEVE COWPER, GOVERNOR

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

April 30, 1988

## FISCAL NOTE ANALYSIS CSHB 524

As a result of its own efforts on placer mining mixing zones, the Department had previously developed costs to designate site-specific mixing zones for all placer mining discharges over a three-year period and included those costs in its budget request. Estimated annual costs for FY 89 through FY 91 are \$314.4. This would provide personal services and support costs for four new technical positions, two in Anchorage and two in Fairbanks, and one-half clerical position in each of these locations.

The technical positions would collect information on the physical, chemical and biological characteristics of specific placer mining streams; information on the uses of the streams; and the characteristics of each placer mining discharge including volume and flow rate as required by CSHB 524. Using this information, the positions will perform mixing calculations, designate a mixing zone for each of the approximately 450 placer mining discharges, and work with the U.S. Environmental Protection Agency (EPA) to modify the federal wastewater discharge (NPDES) permits to incorporate the new mixing zones.

The costs also include \$73.9 for contractual support in obtaining required flow and biological information.

Costs would decrease in FY 92 and subsequent years to \$211.5. This includes funding for two technical positions and one clerical position, and \$43.0 in contractual support. This continued level of effort will be required to process new applications for mixing zones and to modify existing mixing zones as the mining operations change.

# STATE OF ALASKA

DEPT. OF ENVIRONMENTAL CONSERVATION

STEVE COWPER, GOVERNOR

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

April 30, 1988

## POSITION PAPER CSHB524

### Title:

An act relating to the application of water quality criteria to placer mining.

### Effect of the Bill:

This bill requires that the Department establish a mixing zone for each placer mining discharge, except in certain circumstances.

### Background:

Mixing zones are designated portions of waterbodies where wastes are allowed to mix with, and be diluted by, natural waters. The State's water quality standards (standards designed to protect water quality for certain uses) do not apply within mixing zones. Mixing zones for particular discharges are designated in state or federal wastewater discharge permits.

Mixing zones are useful in managing certain types of wastewater discharges. Consequently, the Department presently designates mixing zones for many discharges, including those associated with placer mining.

### Department Position:

The mixing zone provision as set out in CSHB 524 presents several problems which are outlined below. The Department opposes the bill.

1. The level of specificity of CSHB 524 is best reserved for administrative regulation.

Viewed in the context of the Department's other enabling statutes, CSHB 524 would be an anomaly because of its specificity and special treatment of one class of dischargers. At present, AS 46.03.080 authorizes the Department to establish water quality standards. The Department has adopted water quality standard regulations in 18 AAC 70. Section .032 of that regulation provides for designating mixing zones. CSHB 524 would legislate a new provision specifically for placer mining discharges. The

Department believes that changes to the mixing zone provision of the water quality standard regulation are most appropriately accomplished through the administrative rulemaking process, instead of the legislative process. In fact, the Department is presently considering public comment on proposed amendments to this part of the water quality standard regulation.

2. CSHB 524 would allow mixing zones that adversely impact or eliminate other uses of Alaska's waters.

The proposed legislation prohibits mixing zones for placer mining discharges that contain particularly harmful or dangerous substances, and requires that mixing zones be as small as practicable. It also states that the Department shall consider the effects of the discharge on the uses of the receiving waters in determining the size of mixing zones for placer mines.

A mixing zone provision should also protect water quality for other uses where they exist. For example, a mixing zone should not be allowed to render a stream used as a source of village drinking water unfit for that purpose. Similarly, mixing zones should not be allowed to degrade water quality in areas used for salmon spawning. CSHB 524 would mandate designation of mixing zones wherever there is a placer mining discharge. The impacts on other uses must only be considered, not prevented.

3. Passage of CSHB 524 may result in federal intervention into the State's water quality standards.

The State's water quality standards--including the mixing zone provision--are subject to review and approval by the U.S. Environmental Protection Agency (EPA). For the reasons mentioned previously, there is a question as to whether the EPA would approve a mixing zone provision as embodied in CSHB 524. The Department asked the EPA for their opinion as to whether HB 524 as it was first introduced (prior to the committee substitute) would comply with the intent of the Clean Water Act and be approved. Their response is attached.

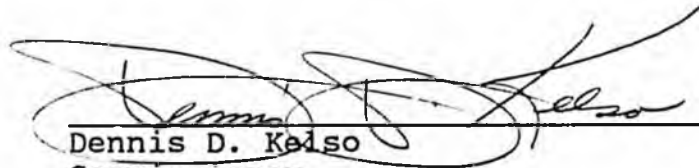
#### Suggested Revisions:

The Department believes that a mixing zone provision is best set out in state regulation. However, to ensure that mixing zones are designated for placer mining discharges, AS 46.03.080 could be amended to add a new subsection to read:

- (b) In applying water quality criteria to placer mining discharges, the Department shall prescribe mixing zones where appropriate.

Fiscal Effect:

Estimated annual costs for FY 89 through FY 91 are \$334,400 per year. See fiscal note analysis for details.

A handwritten signature in black ink, appearing to read "Dennis D. Kelso", is written over a horizontal line. The signature is stylized and somewhat cursive.

Dennis D. Kelso  
Commissioner

4/2/88

U.S. ENVIRONMENTAL PROTECTION AGENCY  
REGION 10  
1200 SIXTH AVENUE  
SEATTLE, WASHINGTON 98101



APD 5 1338

REPLY TO  
ATTN OF WD-139

Larry Dietrick, Director  
Alaska Department of Environmental Conservation  
P.O. Box 0  
Juneau, Alaska 99811-1800

Dear Mr. Dietrick:

We have reviewed House Bill No. 524, "An Act relating to the application of water quality criteria," which mandates the prescription of a mixing zone for all discharges subject to the Department of Environmental Conservation's permitting or certification. We have considered the proposed legislation in light of our mixing zone guidance as contained in the Water Quality Standards Handbook (U.S. EPA, 1983).

As you know, whether to establish a mixing zone policy is a matter of state discretion. However, such a policy must be consistent with the Clean Water Act and is subject to the approval of the Regional Administrator. Whether this legislation poses any major conflict with the Act is unclear; however, it does raise significant technical questions that must be resolved before we can make a final determination.

1. Would a mixing zone be required in all permits regardless of considerations not specified in HB 524?

Our guidance is clear in stating that a mixing zone may be allowed." The proposed bill, however, requires a mixing zone in all but a few special circumstances (i.e., the discharge of toxic pollutants "that will accumulate or concentrate in the environment, are carcinogens, would present a significant risk to human health, or would form a barrier to migratory species"). The Standards Handbook makes clear that "Careful consideration must be given to the appropriateness of a mixing zone," and lists several factors that are not provided for in HB 524. Further, the guidance states that "The ecological and human health effects may be so adverse that a mixing zone is not appropriate." Thus mixing zones in certain key ecological areas (e.g., salmon spawning areas) would be prohibited. In addition, our policy states that, in designating mixing zones, other designated beneficial uses shall be protected, not just "considered," as is required by the bill.

2. Is the intent of the bill to allow acute toxicity within a mixing zone?

Numeric quality criteria can be exceeded in a mixing zone only "as long as acutely toxic conditions are prevented."

3. Does the legislation provide a blanket exemption for settleable solids within a mixing zone?

The guidance also states that "Any mixing zone shall be free of point or nonpoint source related...materials in concentrations that settle to form objectionable deposits," and free of other deleterious agents.

4. How would the stipulation that "a mixing zone shall be as small as practicable" be applied? Will practicability be based on the assimilative capacity of the receiving water or on the resources of the discharger?

The application of a mixing zone cannot exempt a discharge from compliance with the state's antidegradation policy as provided by HB 524. The bottom line is that existing beneficial uses must be protected. Mandatory mixing zones for all discharges clearly would have the potential to reduce or eliminate existing beneficial uses on some waterbodies. Providing that the mixing zone be as "small as practicable" does not ensure that it would or could be so small as to avoid harm to existing uses.

5. Why does the bill provide for exceedances of the "water quality criteria and antidegradation requirements of the regulations of the Environmental Protection Agency?"

The relevant water quality standards are those of the state of Alaska.

We appreciate this opportunity to provide advance review of HB 524. Should you have questions, please call me, or your staff may call Fletcher Shives at (206) 442-8293.

Sincerely,



Robert S. Burd  
Director, Water Division





# SIERRA CLUB LEGAL DEFENSE FUND, INC.

Ancient, Mt. McKinley

Ansel Adams

419 6th Street, Suite 323

Juneau, Alaska 99801

(907) 586-2751

## ALASKA OFFICE

Lauri J. Adams  
Philip S. Barnett  
*Staff Attorneys*

Fern L. Shepard  
*Law Associate*

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Suite 200  
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(202) 667-4500

### NORTHWEST OFFICE

216 First Avenue South  
Suite 330  
Seattle, WA 98104  
(206) 343-7340

## H.B. 524 MIXES UP CLEAN WATER ACT REQUIREMENTS

### Summary of Testimony to be Presented to the House Resources Committee

by

Philip S. Barnett

May 2, 1988

The Alaska Environmental Lobby has asked me to review House Bill No. 524 for compliance with the federal Clean Water Act and other legal requirements. I have done so and have found serious deficiencies.

Due to these deficiencies, HB 524 will in all likelihood prove counter-productive. The placer mining industry is making significant progress in cleaning up its effluent. What it needs is encouragement to continue these efforts -- not unlawful and retrograde legislation that will lead to more pollution and litigation.

### I. *Mixing Zones Are Illegal when They Are Unnecessary*

Initially, HB 524 is illegal because it would require DEC to prescribe mixing zones in its certifications in instances where the discharger can achieve compliance with water-quality standards without a mixing zone.

The Clean Water Act uses two levels of pollution controls: technology-based ones under § 301(b)(2)(A) of the Act and water-quality ones under § 301(b)(1)(C) of the Act. When Alaska certifies a federal discharge permit, it is required by federal law to certify that *both* levels of pollution control will be met. CWA § 410(a).

This means that when the technology-based requirements (which require the use of the best available technology) are sufficient to provide for attainment of water-quality standards at the end of the pipe, DEC may not legally certify a mixing zone. To do so would be to allow the discharger to pollute beyond the levels required by the BAT limitation.

Nonetheless, because it requires mandatory mixing zones in all instances, HB 524 violates this elementary principle.

### II. *Mixing Zones Are Illegal when They Would Impair Designated Uses*

HB 524 requires DEC to authorize the use of mixing zones even when the only practical mixing zone would destroy a designated use of a waterbody. This is illegal

because it undermines the whole purpose of water-quality standards -- namely, to protect the designated uses. 40 C.F.R. § 131.6(c).

For example, some placer miners use the entire flow of a stream for their operations. If these miners are allowed to violate water-quality standards at the end of the pipe, these violations will continue for the rest of the length of the stream, thus eliminating the designated uses that are protected by the water-quality standards along the entire stream.

In effect, there can't be a mixing zone when the effect would be the de facto reclassification of the waterbody, contrary to HB 524.

### III. *Conventional Pollutants Can Cause Serious Water-Quality Problems*

Another problem with HB 524 is that it fails to recognize that conventional pollutants can irreparably damage water quality.

HB 524 does specify a limited number of instances when mixing zones can be denied; however, in each instance, DEC must determine that "toxic pollutants" are threatening the environment in some way. This is too restrictive. For example, if the only practical mixing zone happens to encompass an important spawning bed for salmon or other fish, a discharger should not be able to bury the bed in mud within the mixing zone.

Yet unless HB 524 is modified to reflect the fact that nontoxic pollutants can cause problems sufficient to justify denial of a mixing zone, such results are realistic possibilities.

### IV. *Mandatory Mixing Zones Will Overtax DEC*

Finally, a quite practical problem is posed by HB 524. It requires that DEC provide a site-specific mixing zone (based on a consideration of four enumerated factors) for each of the thousands of dischargers in the state. But DEC doesn't have the resources to put such a system in place. It is one thing to ask a agency to evaluate a request for a mixing zone when the discharger has the burden of proving its desirability, as the current law provides; it is another thing altogether to require an agency to carry the burden of proof for the discharger, as HB 524 proposes.

There could be only one result from mandatory mixing zone requirement, in short: an overworked agency that regularly makes arbitrary and capricious mixing-zone determinations.

### V. *Conclusion*

In sum, HB 524 is a textbook example of why the Legislature should leave the nuts and bolts of drafting a mixing-zone regulation to DEC. It deals with a complex problem in a superficial way, and in so doing, it creates far more problems than it solves.

Mixing zones have a role to play in the administration of Alaska's water-quality standards. But this role should be fleshed out by DEC, not the Legislature, since DEC has (or should have) the resources and expertise to resolve the complexities of the issue in a practical and legal way.

# STATE OF ALASKA

cc HBS24/member  
+ cc Sam's mining file  
and cc -> Ned  
STEVE COWPER, GOVERNOR

**DEPT. OF ENVIRONMENTAL CONSERVATION**  
OFFICE OF THE COMMISSIONER  
P.O. BOX O, JUNEAU, ALASKA 99811-1800

Telephone: (907)  
Address:  
(907) 465-2600

May 6, 1988

The Honorable Sam Cotten  
Co-Chair  
House Resources Committee  
P.O. Box V  
Juneau, Alaska 99811

Dear Representative Cotten:

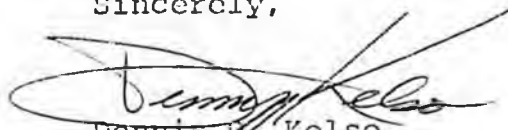
I am writing to inform you of the status of the amendments to the Water Quality Standards (18 AAC 70) and the Department's Administrative Procedures (18 AAC 15) proposed in October 1987. The amendments involve changing the mixing zone provision and adding a new provision for start-up variances. Our objective is to provide more flexibility for placer mining while protecting other water uses and complying with legal requirements.

The original public comment period was to have closed on December 24. We extended the public comment period, and accepted additional comments through February 12, 1988. We received many excellent comments and have spent the time since the close of the comment period carefully considering them all. The Attorney General's Office helped us with the legal questions raised.

As a result of the comments and suggestions received, we have rewritten the proposed amendments to the mixing zone provision. A copy of the amendments showing the revisions is attached. We are currently working on the start-up variance provision and expect to have revisions completed soon. I will send you a copy of this amendment when we have the revised wording.

I appreciate your interest in the Water Quality Standards, and will continue to keep you informed.

Sincerely,



Dennis E. Kelso  
Commissioner

Enclosure

# DRAFT

Register  
70.032

1988

ENVIRONMENTAL CONSERVATION

18 AAC

18 AAC 70.032 is amended to read:

18 AAC 70.032. MIXING ZONES. (a) In applying the water quality criteria [OF 18 AAC 70.020], the department will, in its discretion, prescribe in its permits or certifications a volume of dilution for an effluent or substance within a receiving water unless there is a significant potential that [. WATER QUALITY STANDARDS MAY BE EXCEEDED WITHIN THIS MIXING ZONE. HOWEVER, THE STANDARDS MUST BE MET AT EVERY POINT OUTSIDE ITS BOUNDARIES. THE DEPARTMENT WILL NOT ALLOW MIXING ZONES IF]

(1) pollutants discharged could [THERE IS SIGNIFICANT POTENTIAL FOR ADVERSE ENVIRONMENTAL OR HEALTH EFFECTS DUE TO DISCHARGE OF A SUBSTANCE THAT] bioaccumulate[S IN FOOD CHAINS]; concentrate[S] or persist in the environment [IN SEDIMENTS]; cause [OR IS PERSISTENT,] carcinogenic, mutagenic, or teratogenic effects; or otherwise present a risk to human health; [, OR (2) OTHER POTENTIAL ENVIRONMENTAL OR HEALTH EFFECTS ARE SO ADVERSE THAT A MIXING ZONE IS NOT APPROPRIATE.]

(2) there could be adverse impacts on anadromous fish spawning or rearing, or a barrier to migratory species formed; or

(3) there could be environmental effects so adverse

# DRAFT

that a mixing zone is not appropriate.

The water quality criteria of 18 AAC 70.020 and the antidegradation requirement of 18 AAC 70.010(c) may be exceeded within a [A] mixing zone [WILL BE GRANTED ONLY AFTER THE APPLICANT HAS SHOWN TO THE DEPARTMENT'S SATISFACTION THAT THE WASTES OR SUBSTANCES THAT MAY EXCEED THE WATER QUALITY CRITERIA LIMITS WILL BE TREATED USING THE METHODS FOUND BY THE DEPARTMENT TO BE MOST EFFECTIVE].

[(b) THE DEPARTMENT WILL, IN ITS DISCRETION, ESTABLISH EFFLUENT LIMITATION REQUIREMENTS IN ITS WASTEWATER DISPOSAL PERMITS IN LIEU OF OR IN ADDITION TO A DEFINED MIXING ZONE.]

[(c) NO INDIVIDUAL MIXING ZONE OR COMBINATION OF MIXING ZONES WILL BE PERMITTED TO FORM A BARRIER TO THE MIGRATORY ROUTES OF AQUATIC SPECIES.]

(b) [(d)] In determining whether a mixing zone is appropriate and the size of mixing zones, the department will consider [THE FOLLOWING:]

(1) the physical, biological, and chemical characteristics of the receiving water, including volume and flow rate;

(2) the effects [OF] the discharge may have on the

# DRAFT

[PRESENT AND ANTICIPATED PROTECTED WATER] uses [AND QUALITY] of the receiving water;

(3) the mixing characteristics of the receiving water;  
and

(4) the characteristics of the effluent, including volume, flow rate, and quality after achieving BAT or other applicable technology-based effluent requirements [AND COMPOSITION].

(c) In determining whether a mixing zone is appropriate and the size of mixing zones, the department will ensure that other water uses are protected.

(d) Mixing zones shall be as small as practicable and shall be consistent with the provisions of this chapter.

(e) Unless it is demonstrated to the satisfaction of the department [, IN ACCORDANCE WITH (f) OF THIS SECTION,] that the size limitations can be increased, mixing zones will [BE AS SMALL AS PRACTICABLE AND WILL] comply with the following size limitations:

[ (1) THE CUMULATIVE LINEAR WIDTH OF THE MIXING ZONE(S) INTERSECTED ON ANY GIVEN CROSS SECTION OF A RIVER OR STREAM WILL NOT EXCEED ONE THIRD OF THE TOTAL WIDTH OF THAT CROSS SECTION; ]

# DRAFT

(1) [(2)] The total horizontal area allocated to all mixing zones on a lake will not exceed 10 percent of the lake's surface area;

(2) [(3)] The cumulative linear length of the mixing zone(s) intersected on any given cross section of an estuary, inlet, cove, channel, or other marine water measured at mean lower low water may not exceed 10 percent of the total length of that cross section, nor may the total horizontal area allocated to mixing zones in these waters exceed 10 percent of the surface area measured at mean lower low water.

[(f) A PERSON CONDUCTING AN OPERATION FOR WHICH A MIXING ZONE IS SOUGHT OR REQUIRED BY THE DEPARTMENT SHALL SUBMIT TO THE DEPARTMENT ALL INFORMATION NECESSARY FOR ASSIGNMENT OF A MIXING ZONE, INCLUDING

(1) THE TYPE OF OPERATION BEING CONDUCTED;

(2) THE CHARACTERISTICS OF THE EFFLUENT OR MATERIAL, INCLUDING FLOW RATE AND COMPOSITION;

(3) THE CHARACTERISTICS OF THE RECEIVING WATER AT THE LOCATION OF THE PROPOSED DISCHARGE OR ACTIVITY, INCLUDING BUT NOT LIMITED TO, WHERE APPROPRIATE, WATER QUALITY, FLOW RATE, CURRENT PATTERNS, DEPTH AND WIDTH, AND SEASONAL CHANGES;

# DRAFT

(4) A DESCRIPTION OF THE EXTENT TO WHICH THE OPERATION MAY IMPACT THE PHYSICAL, BIOLOGICAL AND CHEMICAL CHARACTERISTICS OF THE RECEIVING WATER; AND

(5) A PROPOSED DESIGN FOR OUTFALL AND DIFFUSER STRUCTURES.] (In effect before 7/28/59; am 5/24/70, Reg. 34; am 8/28/71, Reg. 39; am 10/22/72, Reg. 44; am 8/12/73, Reg. 47; am 2/2/79, Reg. 69; am 4/23/79, Reg. 70; am 9/19/79, Reg. 71; am 3/30/84, Reg. 89; am / /88, Register )

Authority: AS 46.03.020(10) (A)

AS 46.03.070

AS 46.03.080

AS 46.03.100

AS 46.03.110

# HOUSE COMMITTEE REPORT

(7)

Date referred: 2/15/88

FURTHER REFERRALS:

Resources

DATE: 4-20-88

The Health, Education and Social Services Committee has considered HB 524

"An Act relating to the application of water quality criteria."

**RECOMMENDS:**

- replace with CSHB 524 (HESS)  the same title
- attached amendment(s)  a new title
- do pass
- do not pass
- no recommendation
- individual recommendations
- additional referral to the \_\_\_\_\_ Committee

**ADOPTS:**  \_\_\_\_\_ letter of intent

**ATTACHES NEW FISCAL NOTE(S):**

- fiscal impact  same as previous fiscal note published \_\_\_\_\_
- zero fiscal note  same as previous zero fiscal note published \_\_\_\_\_
- zero with analysis

**SIGNING TO PASS:**

[Signature]

[Signature]

ROBERT E. PEARSON

\_\_\_\_\_

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\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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**SIGNING OTHER RECOMMENDATIONS:**

[Signature] (no rec.)

[Signature] (no rec.)

[Signature] (no rec.)

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\_\_\_\_\_

[Signature]  
Co-Chairman's signature

[Signature]

Original sponsors: Frank, Miller,  
Boyer and Shultz

1 IN THE HOUSE

2 CS FOR HOUSE BILL NO. 524 (H.E.S.S.)

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 FIFTEENTH LEGISLATURE - SECOND SESSION

5 A BILL

6 For an Act entitled: "An Act relating to the application of water quality  
7 criteria to placer mining."

8 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

9 \* Section 1. AS 46.03.080 is amended by adding a new subsection to  
10 read:

11 (b) In applying water quality criteria to placer mining, the  
12 department shall prescribe in its permits or certifications a volume  
13 of dilution for an effluent or substance within a mixing zone of the  
14 receiving water unless the department determines that toxic pollutants  
15 are being discharged that will accumulate or concentrate in the  
16 environment, are carcinogens, would present a significant risk to  
17 human health, or would form a barrier to migratory species. The water  
18 quality criteria and antidegradation requirements of the regulations  
19 of the Environmental Protection Agency may be exceeded in placer  
20 mining within the mixing zone of the receiving water. The mixing zone  
21 of the receiving water in placer mining shall be as small as practica-  
22 ble. In determining the size of the mixing zone of the receiving  
23 water in placer mining, the department shall consider

24 (1) the physical, biological, and chemical characteristics  
25 of the receiving water, including volume and flow rate;

26 (2) the effects of the discharge upon the uses of the  
27 receiving water;

28 (3) the mixing characteristics of the receiving water; and

29 (4) the characteristics of the effluent, including volume

and flow rate.

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STATE OF ALASKA  
THE LEGISLATURE

POUCH Y - STATE CAPITOL  
JUNEAU, ALASKA 99811  
907-465-3800

LEGISLATIVE AFFAIRS AGENCY  
LEGISLATIVE REFERENCE LIBRARY

May, 1988

Copies of minutes listed below were originally included in this file. The minutes are available on the STAIRS database CMPR. In order to save space copies of minutes have not been left in the files.

Mary Van Nimwegen

House HESS 3-29-88  
4-6-88

# STATE OF ALASKA

DEPT. OF ENVIRONMENTAL CONSERVATION

STEVE COWPER, GOVERNOR

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

April 30, 1988

## POSITION PAPER CSHB524

### Title:

An act relating to the application of water quality criteria to placer mining.

### Effect of the Bill:

This bill requires that the Department establish a mixing zone for each placer mining discharge, except in certain circumstances.

### Background:

Mixing zones are designated portions of waterbodies where wastes are allowed to mix with, and be diluted by, natural waters. The State's water quality standards (standards designed to protect water quality for certain uses) do not apply within mixing zones. Mixing zones for particular discharges are designated in state or federal wastewater discharge permits.

Mixing zones are useful in managing certain types of wastewater discharges. Consequently, the Department presently designates mixing zones for many discharges, including those associated with placer mining.

### Department Position:

The mixing zone provision as set out in CSHB 524 presents several problems which are outlined below. The Department opposes the bill.

1. The level of specificity of CSHB 524 is best reserved for administrative regulation.

Viewed in the context of the Department's other enabling statutes, CSHB 524 would be an anomaly because of its specificity and special treatment of one class of dischargers. At present, AS 46.03.080 authorizes the Department to establish water quality standards. The Department has adopted water quality standard regulations in 18 AAC 70. Section .032 of that regulation provides for designating mixing zones. CSHB 524 would legislate a new provision specifically for placer mining discharges. The

Department believes that changes to the mixing zone provision of the water quality standard regulation are most appropriately accomplished through the administrative rulemaking process, instead of the legislative process. In fact, the Department is presently considering public comment on proposed amendments to this part of the water quality standard regulation.

2. CSHB 524 would allow mixing zones that adversely impact or eliminate other uses of Alaska's waters.

The proposed legislation prohibits mixing zones for placer mining discharges that contain particularly harmful or dangerous substances, and requires that mixing zones be as small as practicable. It also states that the Department shall consider the effects of the discharge on the uses of the receiving waters in determining the size of mixing zones for placer mines.

A mixing zone provision should also protect water quality for other uses where they exist. For example, a mixing zone should not be allowed to render a stream used as a source of village drinking water unfit for that purpose. Similarly, mixing zones should not be allowed to degrade water quality in areas used for salmon spawning. CSHB 524 would mandate designation of mixing zones wherever there is a placer mining discharge. The impacts on other uses must only be considered, not prevented.

3. Passage of CSHB 524 may result in federal intervention into the State's water quality standards.

The State's water quality standards--including the mixing zone provision--are subject to review and approval by the U.S. Environmental Protection Agency (EPA). For the reasons mentioned previously, there is a question as to whether the EPA would approve a mixing zone provision as embodied in CSHB 524. The Department asked the EPA for their opinion as to whether HB 524 as it was first introduced (prior to the committee substitute) would comply with the intent of the Clean Water Act and be approved. Their response is attached.

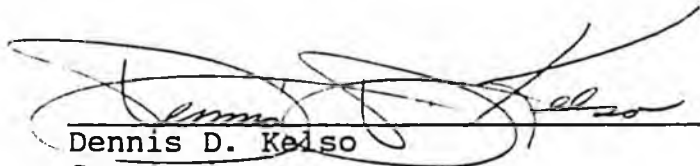
Suggested Revisions:

The Department believes that a mixing zone provision is best set out in state regulation. However, to ensure that mixing zones are designated for placer mining discharges, AS 46.03.080 could be amended to add a new subsection to read:

- (b) In applying water quality criteria to placer mining discharges, the Department shall prescribe mixing zones where appropriate.

Fiscal Effect:

Estimated annual costs for FY 89 through FY 91 are \$314,400 per year. See fiscal note analysis for details.



Dennis D. Kelso  
Commissioner

4/1/83

U.S. ENVIRONMENTAL PROTECTION AGENCY  
REGION 10

1200 SIXTH AVENUE  
SEATTLE, WASHINGTON 98101

APR 5 1983



REPLY TO  
ATTN OF WD-139

Larry Dietrick, Director  
Alaska Department of Environmental Conservation  
P.O. Box 0  
Juneau, Alaska 99811-1800

Dear Mr. Dietrick:

We have reviewed House Bill No. 524, "An Act relating to the application of water quality criteria," which mandates the prescription of a mixing zone for all discharges subject to the Department of Environmental Conservation's permitting or certification. We have considered the proposed legislation in light of our mixing zone guidance as contained in the Water Quality Standards Handbook (U.S. EPA, 1983).

As you know, whether to establish a mixing zone policy is a matter of state discretion. However, such a policy must be consistent with the Clean Water Act and is subject to the approval of the Regional Administrator. Whether this legislation poses any major conflict with the Act is unclear; however, it does raise significant technical questions that must be resolved before we can make a final determination.

1. Would a mixing zone be required in all permits regardless of considerations not specified in HB 524?

Our guidance is clear in stating that a mixing zone may be allowed." The proposed bill, however, requires a mixing zone in all but a few special circumstances (i.e., the discharge of toxic pollutants "that will accumulate or concentrate in the environment, are carcinogens, would present a significant risk to human health, or would form a barrier to migratory species"). The Standards Handbook makes clear that "Careful consideration must be given to the appropriateness of a mixing zone," and lists several factors that are not provided for in HB 524. Further, the guidance states that "The ecological and human health effects may be so adverse that a mixing zone is not appropriate." Thus mixing zones in certain key ecological areas (e.g., salmon spawning areas) would be prohibited. In addition, our policy states that, in designating mixing zones, other designated beneficial uses shall be protected, not just "considered," as is required by the bill.

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Numeric quality criteria can be exceeded in a mixing zone only "as long as acutely toxic conditions are prevented."

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The guidance also states that "Any mixing zone shall be free of point or nonpoint source related....materials in concentrations that settle to form objectionable deposits," and free of other deleterious agents.

4. How would the stipulation that "a mixing zone shall be as small as practicable" be applied? Will practicability be based on the assimilative capacity of the receiving water or on the resources of the discharger?

The application of a mixing zone cannot exempt a discharge from compliance with the state's antidegradation policy as provided by HB 524. The bottom line is that existing beneficial uses must be protected. Mandatory mixing zones for all discharges clearly would have the potential to reduce or eliminate existing beneficial uses on some waterbodies. Providing that the mixing zone be as "small as practicable" does not ensure that it would or could be so small as to avoid harm to existing uses.

5. Why does the bill provide for exceedances of the "water quality criteria and antidegradation requirements of the regulations of the Environmental Protection Agency?"

The relevant water quality standards are those of the state of Alaska.

We appreciate this opportunity to provide advance review of HB 524. Should you have questions, please call me, or your staff may call Fletcher Shives at (206) 442-8293.

Sincerely,



Robert S. Burd  
Director, Water Division

FISCAL NOTE

REQUEST:

Revision Date: 4/21/88  
Title: Relating to the application of water quality criteria to placer mining.  
Sponsor: Frank, Miller, Boyer and Shultz  
Requestor: Rep. Frank

Agency Affected: Environmental Conservation  
BRU: Environmental Quality  
Components: Southcentral and Northern Regional Offices

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 88	FY 89	FY 90	FY 91	FY 92	FY 93
PERSONAL SERVICES		181.0	181.0	181.0	136.0	136.0
TRAVEL		32.0	32.0	32.0	16.0	16.0
CONTRACTUAL		98.9	98.9	98.9	58.0	58.0
SUPPLIES		2.5	2.5	2.5	1.5	1.5
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING		314.4	314.4	314.4	211.5	211.5

CAPITAL						
---------	--	--	--	--	--	--

REVENUE						
---------	--	--	--	--	--	--

FUNDING: (Thousands of Dollars)

GENERAL FUND		314.4	314.4	314.4	211.5	211.5
FEDERAL FUNDS						
OTHER						
TOTAL		314.4	314.4	314.4	211.5	211.5

POSITIONS:

FULL-TIME		5.0	5.0	5.0	3.0	3.0
PART-TIME						
TEMPORARY						

ANALYSIS : (Attach a separate page if necessary)  
(See attached)

Prepared by: Dan Easton Phone: 465-2640  
Division: Environmental Quality Date: 5/2/88

Approved by Commissioner: Dennis D. Kelso Date: 5/2/88  
Agency: Environmental Conservation

Distribution (by preparer):  
Legislative Finance  
Legislative Sponsor  
Requestor  
Office of Management and Budget  
Impacted Agency(ies)

# STATE OF ALASKA

## DEPT. OF ENVIRONMENTAL CONSERVATION

STEVE COWPER, GOVERNOR

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

April 30, 1988

### FISCAL NOTE ANALYSIS CSHB 524

As a result of its own efforts on placer mining mixing zones, the Department had previously developed costs to designate site-specific mixing zones for all placer mining discharges over a three-year period and included those costs in its budget request. Estimated annual costs for FY 89 through FY 91 are \$314.4. This would provide personal services and support costs for four new technical positions, two in Anchorage and two in Fairbanks, and one-half clerical position in each of these locations.

The technical positions would collect information on the physical, chemical and biological characteristics of specific placer mining streams; information on the uses of the streams; and the characteristics of each placer mining discharge including volume and flow rate as required by CSHB 524. Using this information, the positions will perform mixing calculations, designate a mixing zone for each of the approximately 450 placer mining discharges, and work with the U.S. Environmental Protection Agency (EPA) to modify the federal wastewater discharge (NPDES) permits to incorporate the new mixing zones.

The costs also include \$73.9 for contractual support in obtaining required flow and biological information.

Costs would decrease in FY 92 and subsequent years to \$211.5. This includes funding for two technical positions and one clerical position, and \$43.0 in contractual support. This continued level of effort will be required to process new applications for mixing zones and to modify existing mixing zones as the mining operations change.

# Alaska State Legislature

**STEVE FRANK**

DISTRICT 20A  
Finance Committee

1125 Sunset Drive  
Fairbanks, Alaska 99701



While in Juneau  
P.O. Box V  
Juneau, Alaska 99811  
(907) 465-3709

## House of Representatives

TO: House HESS Committee members

FROM: Rep. Steve Frank

RE: House Bill 524 - relating to the application of water quality criteria

DATE: March 29, 1988

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House Bill 524 would spell out the terms and conditions for the use of mixing zones to achieve water quality standards.

The Departments of Environmental Conservation (DEC), Natural Resources (DNR), and Fish & Game (ADF&G) have been instructed by the Governor, in a memo dated March 30, 1987, to find solutions to the current water quality problems facing the placer mining industry. However, the DEC has proposed changes to existing mixing zone regulations that would further reduce, rather than increase, the availability of a mixing zone solution to the water quality problem.

The Department's proposed regulations will place an undue burden on placer miners by requiring them to make determinations as to threats to human health, biological spawning areas, existing and potential uses of water bodies, and barriers to migration of aquatic life. Miners are not qualified to make such technical determinations. It is more appropriate for trained departmental officials to make these determinations. The burden to establish whether these threats exist should properly reside with the Department.

HB 524 would provide for mixing zones unless the Department "...determines that toxic pollutants are being discharged that will accumulate or concentrate in the environment, are carcinogens, would present a significant risk to human health, or would form a barrier to migratory species."

The stream water quality outside the mixing zone would still have to meet State water quality standards. In determining the size of the mixing zone, the department would be required to consider the characteristics of the receiving water, and effects on the downstream uses.

In summary, Governor Cowper has stated that a resolution to this problem must "...be clearly legal under the federal Clean Water Act; and it must protect the rights of both placer miners and other water users." House Bill 524 accomplishes both of these objectives.

①

PRESS RELEASE

2/9/88

The Alaska Miners Association (AMA) and other members of Alaska's industry take issue with proposed regulatory changes to the water quality regulations by the Department of Environmental Conservation (DEC). The proposed changes deal with mixing zones and start-up variances. The current status is the result of several years of effort by the AMA and others to establish reasonable and attainable water quality regulations within the state. The DEC proposed regulations provide virtually no relief. In an effort to provide meaningful input to the agency the AMA has developed language for the proposed regulations that is fully in compliance with the Clean Water Act and the Environmental Protection Agency (EPA) regulations. Other parts of the regulations will be addressed in later meetings between the two groups.

The DEC proposed regulatory considerations, according to Randy Farnigh of the law firm of Farleigh & Waldock, are of limited benefit. The proposed changes to the mixing zone regulations "...are generally more to the detriment than benefit of the placer industry...Generally speaking, the proposed addition of the start-up variance language is an improvement over the present regulations only because the present regulations permit short term variances only for non-point sources of water pollution."

The DEC water quality regulations in existence have been challenged by the AMA and others as being unattainable. The onerous criteria threatened to shut down the placer mining industry in Alaska and severely encumber many of the other industries. In a DEC internal memo from John Reeves to Randy Bayliss dated 3/13/84, Mr. Reeves noted that

"The figures speak for themselves. If a minimum of 34% of all Alaskan mines up to a maximum of 96% of Alaskan mines are forced into closure because of enforcement of stipulations included in this permit it hardly seems like 'Best Available Technology Economically Achievable' is reflected in this permit. It doesn't appear that recycle technology is in fact economically achievable at all. I would like to know what technology economically achievable could force closure of 96% of Alaskan placer mines with a loss of 628 jobs and a 31 million dollar reduction loss. Surely there is other technology EPA studied that may force closure of the remaining 4%. . . It can be stated that there is no and will be no easy solutions to this problem of mining and resultant turbidity. The least we can do is insure that if miners do incur the cost burden to comply with water quality standards, there is a bottom line where government regulators say good enough. By raising the settleable solids limit to 15 ml/l and mandating a 25 NTU standard the EPA has provided the miners with some relief. State water quality standards cite no measureable increase for sediment and 5 NTU's as applicable to mining operations on all Alaskan streams unless otherwise reclassified."

Protests to the regulations in the form of a petition dated December 26, 1986 to the DEC inspired the new Commissioner of DEC, Mr. Dennis Kelso, in early 1987 to request dropping petition action in lieu of meeting to work out differences. The AMA conditionally withdrew the petition and formed a multi-industry committee to meet with DEC personnel to work various aspects of the water quality regulations. A list was developed that promised to provide some relief to the industries. It included changes to the language to include mixing zones, a start-up variance, restructuring of uses, stream reclassification and assumption of the NPDES permitting (which is now EPA controlled). Timely meetings were held throughout the year. Efforts were devoted to redrafting the mixing zone and start-up variance provisions of the regulations with intentions of addressing other issues as time and finances allowed. Repeated comments that the results were not framed in a constructive and objective manner produced no changes.

In a memo from Governor Cowper to the Commissioners of DNR, DEC, and DE&G dated 5/30/87 several important aspects of the water quality regulations were discussed:

"We need a clear set of rules, standards, and procedures that everyone can understand. Miners must be able to operate with the assurance that rules will not keep changing."

"Continuation of the status quo is not acceptable."

Governor Cowper went on to discuss enforcement policy, technical assistance, review of regulations and policies, permitting, and other issues. The tone was to advocate cooperative and objective interchange.

The newly proposed language was published by the DEC on October 27, 1987 for public comment. The proposed changes were negative and generally more restrictive than the existing language.

The AMA has responded to the public hearings process of the proposed changes by developing regulatory language addressing the "mixing zone" and "start-up variance" issues. The language is entirely in compliance with the Clean Water Act, the EPA regulations and most of the producing industries. Downstream users will be protected.

The water quality committee will continue to work with the DEC on the other issues. These issues include stream reclassification, water quality criteria, restructuring of uses and NPDES program assumption.

Currently all streams in Alaska but 2 are classified for all uses. The most stringent use of all uses is for drinking water. Can you imagine drinking from the Matanuska river - it is classified for drinking water use. The reclassification process is set out in section .055 of the water quality standards and in 40 CFR 131.10 (g) - (j). It is a process by which non-existing and unattainable uses of a water body may be excluded from protection under the water quality standards and the standards modified accordingly. Streams or groups of streams are studied to establish which

uses are existing or non-existing, and which uses are attainable or unattainable. Non-existing and unattainable uses are excluded from protection by amending the classification.

The water quality criteria review will involve examination of the latest scientific information on the effects of turbidity and total suspended solids on various water uses, and propose amendments to the water quality criteria where appropriate. At present, Alaska's standards include both numerical criteria for turbidity and narrative criteria for sediment. These criteria have been evaluated in a report prepared by L. A. Peterson & Associates entitled Alaska Particulates Criteria Review. This report, along with scientific information published subsequent to the report, might be evaluated to assess whether other measurements of particulates could be used and the appropriate particulate levels associated with these alternate measurements. The results of this evaluation could be used to develop proposed amendments to the water quality standards.

In a letter from Dr. R. Johnson to Wally Scarborough (EPA) dated 6/7/83 the issue of turbidity is addressed in support of the impossibility of attaining current criteria:

"... During my seven years in Alaska, I have become increasingly convinced that attainment of low turbidity levels on effluents from even well-designed settling ponds associated with placer mining operations is very difficult because of the fine particles associated with sluicing operations in Alaska. As I testified at a March, 1981 Evidentiary hearing in Anchorage, even a settling pond the size of Lake Superior will not remove some of the fine particles found in Alaskan soils."

Alaska's water quality standards are structured to protect seven freshwater uses: drinking, agriculture, aquaculture, industry, contact recreation, non-contact recreation, and aquatic life. It may be possible to propose modifications to the structure of protected uses to better reflect the different types of uses of Alaskan waters. For example, one type of drinking water use might be serving as a source for public drinking water systems. One type of aquatic life use might be salmon spawning and rearing. Of course, there would be other types of drinking and aquatic life uses. Once the different types of uses were established, specific water quality criteria would be established for each type of use.

At present, permits for most wastewater discharges in the State of Alaska are issued by the EPA under the federal National Pollutant Discharge Elimination System (NPDES) program. The Clean Water Act contains provisions for state assumption of the program whereby the permits are issued by participating states in accordance with EPA regulations and guidance.

MEMORANDUM

4. State Water Quality Regulations

Commissioner Kelsa and the Alaska Miners Association (AMA) have begun a process to develop agreement about what the Clean Water Act requires and to identify areas of flexibility available to the state in water quality regulations, especially areas where site specific factors can be considered.

I fully support this effort. Although there are no guarantees that a solution will be found, the process may produce valuable tools that can be used singly or in combination. It is important that views of fishermen, environmental groups, village representatives and other interested Alaskans, as well as the miners, be considered. Consultations with these other groups should be part of the overall effort. In addition, please keep the Placer Mining Advisory Group and the AMC apprised of your efforts.

5. State Permitting

The tri-agency permit application process must operate efficiently and a placer miner should be able to deal with state permits through a single application. Please review the permitting process and take any actions you deem appropriate to improve the efficiency of this system.

6. BLM vs. Sierra Club Lawsuit

By copy of this memorandum, I am directing the Department of Law to file an *amicus curiae* brief in this lawsuit. It is important that the brief be crafted carefully to ensure that the state can mediate, if necessary, to enable responsible placer mining to continue. It is also important that the brief avoid issues which could prove detrimental to the state's overall interests on other resource matters involving the federal government. Please provide assistance to the Department of Law in preparing these materials.

Our basic position should oppose judicial relief that would penalize miners for any errors that the court concludes BLM has made. We should oppose a blanket injunction that precludes all mining and should urge that if the court finds for the appellants, the order be framed in such a way that the state can help the parties negotiate a solution.

7. Federal Effluent Guidelines (Best Available Technology Economically Achievable)

The Environmental Protection Agency (EPA) has just published its proposed effluent guidelines for the placer mining industry, establishing the pollution control technology considered by EPA to be economically achievable.

TO: Commissioner Judith M. Brady  
Department of Natural Resources

DATE: March 30, 1987

Commissioner Don M. Collinsworth  
Department of Fish and Game

Commissioner Dennis D. Kelsa  
Department of Environmental Conservation

PHONE: 465-3500

FROM: Steve Cooper  
Governor

SUBJECT: Placer Mining

I have assigned a high priority to resolving the conflicts between placer miners and other water users. The miners believe they are faced with an impossible situation; they express concern about unattainable standards and unreasonable regulations. At the same time, other users of Alaska's water--fishermen, village residents, recreational users--express concern about the impacts of placer mining on their uses; they fear degradation of water quality leading to a loss of drinking water, fish habitat, and other values.

We need a clear set of rules, standards, and procedures that everyone can understand. Miners must be able to operate with the assurance that rules will not keep changing.

Continuation of the status quo is not acceptable.

We need to resolve these conflicts in a positive way, avoiding the adversarial relationships that have characterized this policy area.

A stable resolution will require two things. It must be clearly legal under the federal Clean Water Act; and it must protect the rights of both placer miners and other water users.

Only if these two requirements are met can we avoid years of slow, expensive, unpredictable litigation with the inevitable loss of state resource management prerogatives to the courts.

We can help bring about a stable resolution to the problem. By ensuring reasonable, litigation-proof rules and fair enforcement, we can create a regulatory climate in which placer miners and

Commissioners -3- March 30, 1987

other water users will have confidence. In addition, I want my administration to set a positive, cooperative tone: working with the miners and other groups to find policy options and mediating between the miners and other users to avoid or resolve conflicts.

I direct you, as Commissioners of the state's three resource agencies, to work together to complete the following tasks, before the 1988 mining season.

1. Enforcement Policy

The state's enforcement program should emphasize technical assistance to miners who are making good faith efforts to maintain water quality, as well as protection of community drinking water sources, fish resources, and recreational uses. Please take appropriate actions to ensure that enforcement action is not taken against any miner who operates proper settling ponds for a violation of water quality standards where the violation results from upstream sources. In addition, no miner should be required to clean up natural background conditions or an upstream violation.

2. Technical Assistance

I expect the Department of Natural Resources, as well as the Departments of Environmental Conservation (DEC) and Fish and Game (DF&G) to provide technical assistance to operators in following state regulations. Nowhere is this more important than in working with placer miners.

Commissioner Brady has requested and received my support for two new positions in the Division of Mining to provide appropriate technical assistance to placer miners in part to help them mine more efficiently and to satisfy water quality requirements. Although neither DEC nor DF&G has staff added to their respective budgets for these functions, I expect you to work cooperatively with the placer miners in order to prevent water quality problems, where possible, or to resolve problems. Technical assistance will emphasize innovative operating techniques and improved mining methods. I believe this assistance can also help develop a more positive relationship between all three agencies and the miners.

3. Review of Regulations and Policies

Please conduct a thorough review of your agency's regulations and policies in order to determine whether there are duplicative provisions or unnecessary requirements and to take action as needed to correct any deficiencies. I would appreciate your providing me a written report describing your findings and any corrective actions you propose. Because this subject is of interest to the Alaska Minerals Commission (AMC), please consult with the Commission about the results of your review.

Commissioners -4- March 30, 1987

Because these guidelines are so important to the industry, I intend to see that the state is prepared to participate fully in the technical debate on their merits. By copy of this memorandum, I am asking the Department of Commerce and Economic Development to join with your departments in taking a hard look at the guidelines to see if they are based upon realistic assumptions and Alaskan data. When you have completed your analysis, we will prepare comments to EPA. While the state does not have a direct decision-making role on the effluent guidelines, I strongly believe that a well-reasoned, analytical position will have the greatest success in advancing the state's view.

My goal is for the state to participate as constructively as possible in creating a stable regulatory climate for the placer mining industry. A successful approach must be fair to the placer miners and acceptable to other water users. In order to reach this goal, the state must apply its best resources toward helping to find a reasonable approach. This is especially important in technical debates, such as discussion of the effluent guidelines. I am confident that through our combined efforts we can achieve the kind of progress that this important public policy issue deserves.

cc: Senator Don Bennett  
Senator Bettye Fahrenkamp  
Senator Jack Conhill  
Senator John Binkley  
Senator Willie Hensley  
Representative Adelheid Herrmann  
Representative Mike Miller  
Attorney General Grace Berg Scheible  
Department of Law  
Commissioner Tony Smith  
Department of Commerce and Economic Development  
Rod Swope, Special Assistant  
Office of the Governor  
Bob Crogan, Associate Director  
Division of Governmental Coordination

DATE: January 27, 1988  
TO: THE ALASKA MINERS ASSOCIATION, INC.  
SUBJECT: Proposed Changes to 18 AAC 70.016 Start Up Variances  
And 18 AAC 70.032 Mixing Zones

Mixing Zones

18 AAC 70.032. MIXING ZONES.

(a) In applying the water quality criteria the department will prescribe in its permits or certifications a volume of dilution for an effluent or substance within a receiving water unless (1) toxic pollutants are discharged which bioaccumulate, are carcinogens, or which concentrate in the environment, or otherwise present significant risk to human health, or (2) such a zone would form a barrier to migratory species. The water quality criteria of 18 AAC 70.020 and the antidegradation requirement of 18 AAC 70.010(c) may be exceeded within this mixing zone.

(b) In determining the size of mixing zones, the department will consider the following:

(1) the physical, biological, and chemical characteristics of the receiving water, including volume and flow rate;

(2) the effects of the discharge upon the uses of the receiving water;

(3) the mixing characteristics of the receiving water; and

(4) the characteristics of the effluent, including volume and flow rate.

(c) The mixing zone shall be as small as practicable.

18 AAC 70.032. MIXING ZONES. (a) In applying the water quality criteria of 18 AAC 70.020, the department will, in its discretion, prescribe in its permits or certifications a volume of dilution for an effluent or substance within a receiving water. Water quality standards may be exceeded within this mixing zone. However, the standards must be met at every point outside its boundaries. The department will not allow mixing zones if (1) there is significant potential for adverse environmental or health effects due to discharge of a substance that bioaccumulates in food chains; concentrates in sediments; or is persistent, carcinogenic, mutagenic, or teratogenic, or (2) other potential environmental or health effects are so adverse that a mixing zone is not appropriate. A mixing zone will be granted only after the applicant has shown to the department's satisfaction that the wastes or

substances that may exceed the water quality criteria limits will be treated using the methods found by the department to be most effective:

(b) The department will, in its discretion, establish effluent limitation requirements in its wastewater disposal permits in lieu of or in addition to a defined mixing zone.

(c) No individual mixing zone or combination of mixing zones will be permitted to form a barrier to the migratory routes of aquatic species.

(d) In determining the size of mixing zones, the department will consider the following:

(1) the physical, biological and chemical characteristics of the receiving water;

(2) the effects of the discharge on the present and anticipated protected water uses and quality of the receiving water;

(3) the mixing characteristics of the receiving water; and

(4) the characteristics of the effluent, including flow rate and composition.

(e) Unless it is demonstrated to the satisfaction of the department, in accordance with (f) of this section, that the size limitations can be increased, mixing zones will be as small as practicable and will comply with the following

(1) the cumulative linear width of the mixing zone(s) intersected on any given cross section of a river or stream will not exceed one third of the total width of that cross section;

(2) the total horizontal area allocated to all mixing zones on a lake will not exceed 10 percent of the lake's surface area;

(3) the cumulative linear length of the mixing zone(s) intersected on any given cross section of an estuary, inlet, cove, channel, or other marine water measured at mean lower low water may not exceed 10 percent of the total length of that

cross section, nor may the total horizontal area allocated to mixing zones in these waters exceed 10 percent of the surface area measured at mean lower low water.

(f) A person conducting an operation for which a mixing zone is sought or required by the department shall submit to the department all information necessary for assignment of a mixing zone, including

(1) the type of operation being conducted;

(2) the characteristics of the effluent or material, including flow rate and composition;

(3) the characteristics of the receiving water at the location of the proposed discharge or activity, including but not limited to, where appropriate, water quality, flow rate, current patterns, depth and width, and seasonal changes;

(4) a description of the extent to which the operation may impact the physical, biological and chemical characteristics of the receiving water; and

(5) a proposed design for outfall and diffuser structures. (In effect before 7/28/59; am 1/24/70, Reg. 34; am 8/28/71, Reg. 39; am 10/22/72, Reg. 44; am 8/12/73, Reg. 47; am 1/2/79, Reg. 69; am 4/23/79, Reg. 70; am 1/19/79, Reg. 71; am 3/30/84, Reg. 89)

Authority: AS 46.03.020(10)(A)

AS 46.03.070

AS 46.03.080

AS 46.03.100

AS 46.03.110

AMENDMENTS

Water Quality Standards (18 AAC 70)  
and  
Administrative Procedures (18 AAC 15)

(October 27, 1987)

Following are proposed amendments to 18 AAC 70.032, a proposed new section 18 AAC 70.016, and proposed amendments to 18 AAC 15.070. The amendments to 18 AAC 70.032 and 18 AAC 15.070 are shown using a convention where wording to be added is underlined. Wording to be deleted is capitalized and shown in brackets. Note that the proposed new section 18 AAC 70.016 is not depicted using this convention and is simply described as a new section in the lead-in sentence.

Mixing Zones

18 AAC 70.032 is amended to read:

18 AAC 70.032. MIXING ZONES. (a) In applying the water quality criteria of 18 AAC 70.020, the department will, in its discretion, prescribe in its permits or certifications a volume of dilution for an effluent or substance within a receiving water. Water quality standards may be exceeded within this mixing zone. However, the standards must be met at every point outside its boundaries. The department will not allow mixing zones if

(1) there is significant potential for adverse environmental or health effects due to discharge of a substance that bioaccumulates in food chains; concentrates in sediments; or is persistent, carcinogenic, autagenic, or teratogenic; or

(2) other potential environmental or health effects are so adverse that a mixing zone is not appropriate.

A mixing zone will be granted only after the applicant has shown to the department's satisfaction that the wastes or substances that may exceed the water quality criteria limits will be treated using the methods found by the department to be most effective.

(b) The department will, in its discretion, establish effluent limitation requirements in its wastewater disposal permits in lieu of or in addition to a defined mixing zone.

(c) The department will prescribe a mixing zone only if an applicant for a permit or certification shows to the department's satisfaction that the mixing zone, alone or in combination with other mixing zones,

(1) will not present a significant threat to human health;

(2) will not cause a significant adverse effect on important biological areas, such as spawning or rearing areas;

(3) will not cause a significant adverse effect on existing or potential uses of the waterway, including, but not limited to, growth and reproduction of aquatic life;

(4) will not form a barrier to migration of aquatic life;

(5) is simply configured with clearly identified limits; and

(6) complies with the size limitations set out in (d) of this section. (NO INDIVIDUAL MIXING ZONE OR COMBINATION OF MIXING ZONES WILL BE PERMITTED TO FORM A BARRIER TO THE MIGRATORY ROUTES OF AQUATIC SPECIES.)

(d) In determining the size of mixing zones, the department will consider the following:

(1) the physical, biological and chemical characteristics of the receiving water;

(2) the effects of the discharge on the existing (PRESENT) and potential (ANTICIPATED PROTECTED) water uses and quality of the receiving water;

(3) the mixing characteristics of the receiving water; and

(4) the characteristics of the effluent, including flow rate and composition.

(e) The size of different mixing zones will vary depending on the characteristics of a particular site. In all cases, the department will require that mixing zones be as small as practicable. Unless it is demonstrated to the satisfaction of the department in accordance with (c) and (d) [(f)] of this section, that the size limitations can be increased, mixing zones (WILL BE AS SMALL AS PRACTICABLE AND) will comply with the following size limitations:

(1) in rivers, streams and creeks where it is practical to restrict mixing to a portion of the waterway width, the cumulative width of any one or more mixing zones will not exceed one third of the total waterway width (THE CUMULATIVE LINEAR WIDTH OF THE MIXING ZONE(S) INTERSECTED ON ANY GIVEN CROSS SECTION OF A RIVER OR STREAM WILL NOT EXCEED ONE THIRD OF THE TOTAL WIDTH OF THAT CROSS SECTION);

(2) the total horizontal area allocated to all mixing zones on a lake will not exceed ten percent of the lake's surface area;

(3) the cumulative linear length of the mixing zone(s) intersected on any given cross section of an estuary, inlet, cove, channel, or other marine water measured at mean lower low water may not exceed ten percent of the total length of that cross section, nor may the total horizontal area allocated to mixing zones in these waters exceed ten percent of the surface area measured at mean lower low water.

(f) A person conducting an operation for which a mixing zone is sought or required by the department shall submit to the department all information necessary to designate a mixing zone, including

(1) the type of operation being conducted;

(2) the characteristics of the effluent or material, including flow rate and composition;

(3) the characteristics of the receiving water at the location of the proposed discharge or activity, including but not limited to, where appropriate, water quality, flow rate, current patterns, depth and width, and seasonal changes;

(4) a description of the extent to which the operation may impact the physical, biological and chemical characteristics of the receiving water; and

(5) a proposed design for outfall and diffuser structures.



# ALASKA MINERS ASSOCIATION, INC.

501 W. Northern Lights Blvd., Suite 203, Anchorage, AK 99503 (907) 276-0347

February 4, 1988

The Honorable Steve Cowper  
Governor  
State of Alaska  
P.O. Box A  
Juneau, AK 99811-0101

Dear Governor Cowper:

Attached per our discussion and previous letters is a copy of our response to the proposed mixing zone and start-up variance regulations by the Department of Environmental Conservation. Our position is that the DEC proposed regulations are, at best, a very minor step in a positive direction and we therefore reject the proposal; we are proposing an alternative wording to the regulations. This proposal is fully in compliance with the Clean Water Act and the EPA regulations, meets with miner acceptance and partially satisfies the intent of your memo to the Commissioners of 3/30/87. We appreciate the opportunity to keep you apprised of the process and your support of our proposal.

The DEC proposed mixing zone and start-up variance regulations are unacceptable to us because they are negative in tone and impose more controls on the industry than are currently in place. The DEC's mixing zone proposed regulations are generally more to the detriment than benefit of the placer industry. The proposed start-up variance language is an improvement over the present regulations in that the present regulations permit short term variances only for non-point sources of water discharge. No economic consideration for implementation has been included in either issue; they refer only to "most effective" considerations. The language is subjective and leaves a lot of discretion to any regulator's or enforcer's interpretation.

Your memo of 3/30/87 states that "We need a clear set of rules, standards, and procedures that everyone can understand. Miners must be able to operate with the assurance that rules will not keep changing."

"Continuation of the status quo is not acceptable."



ALASKA MINERS ASSOCIATION, INC.

"A stable resolution will require two things. It must be clearly legal under the Federal Clean Water Act; and it must protect the rights of both placer miners and other water users."

Our proposed language does exactly that. It is simple, straight forward and positive. The adoption of these regulations will provide partial relief to some miners. We will continue to work the identified problems of NPDES assumption, water quality criteria, stream reclassification and restructuring of uses. Please refer to the attached documentation for further definition.

Respectfully yours,

ALASKA MINERS ASSOCIATION, INC.

Claude Morris  
Co-Chairman Water Quality Committee

[cs/wateract.cow](http://cs/wateract.cow)

Enclosure



# ALASKA MINERS ASSOCIATION, INC.

501 W Northern Lights Blvd., Suite 203, Anchorage, AK 99503 (907) 276-0347

February 4, 1988

Commissioner Dennis Kelso  
Alaska Department of Environmental Conservation  
Water Quality Management Section  
P.O. Box 0  
Juneau, AK 99811-1800

Dear Commissioner Kelso:

Attached is our response to the proposed mixing zone and start-up variance regulations by the Department of Environmental Conservation. Our position is that the DEC proposed regulations, as written, do not give any regulatory relief to the industry and we therefore reject that proposal. The language used is negative in tone and imposes more controls on the industry than regulations that are currently in place. The DEC's proposed mixing zone regulations are generally more to the detriment than benefit of the placer mining industry. The proposed start-up variance language is an improvement over the present regulations in that point sources of water discharge are also included. But the scope of its application is so limited and the language used is so subjective that the final product offers very little to the placer industry. With minor changes to the short term variance language, to include variances for point source discharges, the objective of the start-up variance concept is better achieved.

The adoption of mixing zone and short-term variance regulations is the first step needed to help some miners continue to operate legally under the letter of the law in the face of what are presently unattainable water quality standards. We are not looking for a solution for the irresponsible operator. Our intent is to protect the rights of other water users and the rights of the placer miner. We believe that this goal can be achieved.

As you can see, it is not the concept of the proposed regulations that we are opposed to, but rather the language that was used in the proposed regulations. Therefore, we are proposing an alternative wording to the regulations. Any changes which lessens the objectives of our proposed language for mixing zones



ALASKA MINERS ASSOCIATION, INC.

and short term variances would not satisfactorily address the concerns expressed to us by representatives of the placer industry. This proposal is in full compliance with the Clean Water Act and the EPA regulations, meets with miner acceptance, and follows the intent of the Governor's memo to the Commissioners (March 30, 1987), which states that:

"Continuation of the status quo is not acceptable."

"A stable resolution will require two things. It must be clearly legal under the Federal Clean Water Act; and it must protect the rights of both placer miners and other water users."

Our proposed language does exactly that. It is simple, straight forward and positive. It is the much needed first step that the State must take with would create a positive platform from which we can continue to work on the other identified problems of water quality criteria, restructuring of water uses, stream reclassification, and NPDES assumption.

The Industry Water User Group will continue to work with the DEC to remedy the water use concerns of not only the placer mining industry, but of all water user industries.

Sincerely,

ALASKA MINERS ASSOCIATION, INC.

*Claude Morris*  
Claude Morris  
Co-Chairman, Industry Water User Group

cs/kelso.dra



# Alaska Environmental Lobby, Inc.

P.O. Box 22151 Juneau, Alaska 99802

907-586-2345

## HB 524: Water Quality Criteria

HB 524 is yet another attempt to allow the placer mining industry in Alaska to circumvent the requirements of the law. The federal Clean Water Act was enacted not only to clean up our waterways, but also to keep pristine waters unpolluted. HB 524 would have Alaska operating outside the prescribed methods of stream re-classification mandated under the Clean Water Act.

HB 524 would do the following:

- remove the department's discretionary function and force DEC to prescribe a volume of dilution for an effluent within a mixing zone.
- delineate a place to violate the law by allowing EPA's water quality criteria and antidegradation requirements to be exceeded in the mixing zone.
- create open-ended mixing zones, with no direction to protect for other uses.
- potentially impair designated uses. There is no provision to protect the environment and could allow settleable solids to be discharged inappropriately (i.e., on a salmon spawning bed).
- conflict with the Clean Water Act. It is not lawful to have a mixing zone unless it is technologically needed. Discharges must be as clean as is technologically feasible.
- constitute a de facto re-classification of our streams without following the mandated procedure for such action.

HB 524 would affect the following:

- commercial, sport, and subsistence fisheries. Clean water is necessary to support Alaska's fisheries. Increases in turbidity in streams has been scientifically proven to: (1) disrupt plant growth basic to aquatic food chain; (2) restrict the ability of sight-feeding fish to forage; (3) damage gills of fish; and (4) prevent visual fish-counting necessary to commercial fish management.
- downstream drinking water users, both permanent residents of the area and recreational users.
- aesthetic qualities that provide the general rules for protecting water against environmental insults.

The Alaska Environmental Lobby strongly opposes HB 524. We find it interferes with an administrative procedure already in place and is probably contrary to the Clean Water Act. The State cannot preclude attainment of use and indeed, must protect now for future uses of our waters. This legislation extends far beyond the placer mining industry; it affects discharges for other industries as well. It takes away our guarantee that other designated uses will be protected.

Issue paper by Daniel B. Perry. 3/25/88.

# Fairbanks

Fairbanks, Alaska

Sunday, March 27, 1988—A-3

## Water quality on placer-mining rivers improves

By FRED PRATT  
Correspondent

Placer miners are adopting effective pollution control measures, government officials said here Saturday, and their work shows in cleaner water of Alaska's rivers.

The comments came during an "agency session" with state and federal officials at the conclusion of the three-day annual placer mining conference at Alaskaland.

Water-quality monitoring shows a "general trend toward improvement" on five Interior placer-mining streams, Larry Dietrick of the Alaska Department of Environmental Conservation said. Only three operations were cited for violations, Dietrick added, two for settling pond problems and one for not following his plan of operation. All responded with corrections when notified.

Pointing to a "significant increase" in use of wastewater treatment techniques by miners, Dietrick said 1987 mine inspections showed the following:

- Mines using full recycling systems and having no discharge of wastewater grew from five in 1986 to 31 in 1987.

- Surveys found 51 mines using at least some water recycling, up from 14 in 1986.

- Use of tailings to filter wastewater increased from seven in 1986 to 44 in 1987.

- Seven mines now use "tundra filters" to absorb wastewater, up from only two last year; and

- Use of chemical flocculents to draw fine sediments from wastewater grew from two operations in 1986 to eight in 1987.

Dietrick said DEC found no mines operating without settling ponds and the number found with

violations for improper pond design or size dropped from 38 to 12.

"No operations were shut down for water-quality violations where we think the miner was working within his plan of operation," Dietrick said. The plan is submitted by the miner when applying for his state permit, and state agencies can change the plan to add specific stipulations when they grant the permit.

Al Ewing, representing the federal Environmental Protection Agency, said his agency found a significant increase in the number of mines meeting federal standards for settleable solids.

In 1984, Ewing said, only 39 percent of the mines inspected were reducing settleable solids to below the federal limits. In 1985 EPA found 42 percent of the mines in compliance, and in 1986 the figure improved to 55 percent.

In 1987 EPA found 77 percent of the mines it inspected met the limits, and Ewing noted that state officials found 92 percent compliance. The difference between state and federal figures came because the EPA officials focused testing on mines where they expected to find violations, while DEC made a broader sample.

"My own observation is that this represents the result of a cooperative effort with the mining industry," Ewing said. "It shows the cumulative effect on the part of all parties to help move this process toward the point we can all live with."

Settleable solids measure larger particles that sink out of water over a specified time, and the standards are among the easier water quality limits for placer miners to meet.

Miners say turbidity standards, which measure finer particles that

stay in suspension even after settling pond treatment, are all but impossible to meet, but Ewing noted that EPA does not have a major enforcement effort on that front.

Not all the miners accepted the rosy picture.

Don Stein suggested that a greater percentage of mines are meeting EPA standards because more mines are being closed by the effects of government regulation. Noting that Alaska had 700 operating placer mines a few years ago and has only 200 now, he said the number of operating mines will decrease gradually until there is 100 percent compliance but only a very few mines left.

Ewing said there is no question that there are fewer mines operating now, and that enforcement of water quality regulations is responsible for at least some of the

decline. "We're implementing the law in the most reasonable way we know how, and that can result in a few people going out of business," Ewing said.

Pat Wrightman of the state Division of Governmental Coordination told the group that coastal zone management plan compliance has not been a problem in granting mining permits.

In the year ending Sept. 1, 1987, her office granted nine consistency findings for placer mines operating in coastal zone areas, and gave 36 consistency findings with stipulations. Seven permit applications were withdrawn, Wrightman added, but none were denied.

The U.S. Army Corps of Engineers, which recently entered the placer mining permit arena with new wetlands regulations, and the U.S. Park Service were not represented at the meeting.



# Alaska State Legislature

Please enter into the record my testimony to the HESS  
committee name  
 committee on HB 574, dated 03/29/88  
bill/subject

I oppose this. The state can't afford it. I'm con-  
 cerned about any risk to human health and the  
 food chain. I don't like carcinogens or mutagens  
 either going into the environment. We are seeing  
 some progress now in cleaning up H2O. This bill  
 will send the wrong signal to industry at this  
 time. Industry should not externalize its costs.  
 The burdens of cleaning up their mess should be  
 on them. This bill is for miners but streams will  
 slip in through the loop hole. Subsistence is an  
 industry too.

Signed: *David Lacey*  
 Testifier

Self

Representing (Optional)

Box 817.65, College 99708

Address

4562871

Phone No.

①

FISCAL NOTE

REQUEST:

Revision Date: \_\_\_\_\_  
Title: Relating to the application of water quality criteria.

Agency Affected: Environmental Conservation  
BRU: Environmental Quality

Sponsor: Frank, Miller, Bover and Shultz  
Requestor: House HESS

Components: Southeast, Southcentral and Northern Regional Offices

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 88	FY 89	FY 90	FY 91	FY 92	FY 93
PERSONAL SERVICES	0	858.0				
TRAVEL	0	90.0				
CONTRACTUAL	0	185.0				
SUPPLIES	0	9.0				
EQUIPMENT	0	27.0	9.0			
LAND & STRUCTURES	0	0	0	0	0	0
GRANTS, CLAIMS	0	0	0	0	0	0
MISCELLANEOUS	0	0	0	0	0	0
TOTAL OPERATING	0	1,169.0	438.3	352.1	573.6	489.7

CAPITAL	0	0	0	0	0	0
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REVENUE	0	0	0	0	0	0
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FUNDING: (Thousands of Dollars)

GENERAL FUND	0	1,057.0	438.3	352.1	573.6	489.7
FEDERAL FUNDS	0	0	0	0	0	0
OTHER	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0

POSITIONS:

FULL-TIME	18.0					
PART-TIME	0	0	0	0	0	0
TEMPORARY	0	0	0	0	0	0

ANALYSIS : (Attach a separate page if necessary)

See Attachment

Prepared by: Dan Easton, Deputy Director  
Division: Division of Environmental Quality

Phone: 465-2640  
Date: 4/6/88

Approved by Commissioner: [Signature]  
Agency: Environmental Conservation

Date: April 14, 1988

Distribution (by preparer):

- Legislative Finance
- Legislative Sponsor
- Requestor
- Office of Management and Budget
- Impacted Agency(ies)

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

HB 524 FISCAL NOTE ANALYSIS

(April 4, 1988)

The fiscal note includes funding to determine mixing zones for all wastewater discharges in Alaska as required by HB 524. While the Department presently includes mixing zones in many of the state and federal wastewater discharge permits it issues or certifies, HB 524 mandates that mixing zones be issued for all wastewater discharges and alters the sizing criteria.

Consequently, new mixing zones would have to be calculated. HB 524 also moves the burden of providing information and mixing zone calculations from the permit applicant to the Department.

The annual costs associated with implementing HB 524 were derived using the number of state and federal wastewater permits due to be reissued in each of the next five fiscal years. A new mixing zone would be calculated as each wastewater permit was due for renewal. Because the term of most wastewater permits is five years, this has the effect of spreading the total costs over a five-year period. (The drawback to this approach is that years would pass before mixing zones could be calculated for some discharges. In the interim, the legal status of the permits

awaiting designation of a new mixing zone would be unclear.) For purposes of projecting costs, it was assumed that the number of wastewater permits in effect would not change from current levels.

To begin to implement HB 524 in FY 89, a total of 18 new positions would be required to calculate a mixing zone for each of the 724 permits to be reissued. Of these positions, three will be non-technical support positions. The other 15 would be technical staff. The technical staff would be assigned the following responsibilities:

- o As required by HB 524, for each wastewater discharge, the new positions would collect information pertaining to: the physical, chemical, biological and mixing characteristics of the receiving waters; the uses of the receiving waters; and the characteristics of the effluent. In many cases, collecting this information would require travel to the site. For major discharges, the Department would contract with consultants to provide the required information.
  
- o The new positions would calculate dilution and mixing rates, and mathematically model the mixing of the effluent and receiving waters to predict pollutant concentrations as a function of distance from the outfall. For major discharges such as those from pulp mills, the ballast water treatment

facility at Valdez, and off-shore mining operations, computer models will be used. For smaller, simpler discharges, staff would hand-calculate mixing behavior.

- o From predicted pollutant concentrations, the new staff would delineate mixing zones on the basis of the "as small as practicable" criterion prescribed by HB 524. The Department would then designate the mixing zones in state wastewater permits. For wastewater discharges permitted under the federal wastewater permitting (NPDES) program, the Department will request that the U.S. Environmental Protection Agency (EPA) include the mixing zones in the federal permits.

In addition to the personal services and support costs for the required 18 new positions, the fiscal note includes contractual funds in the amount of \$95.0 for FY 89. These funds will be needed to secure technical consultant assistance in collecting information and calculating mixing zones for major discharges to marine waters.

Annual costs decrease from FY 89 levels as the number of permits due for renewal decrease. While not shown on the fiscal note, the FY 94 costs would again rise to FY 89 levels.

The costs for mixing zone calculations could be reduced approximately by half if the bill were applied only to fresh waters. This would exclude most major industrial facilities and seafood processing plants.

U.S. ENVIRONMENTAL PROTECTION AGENCY  
REGION 10  
1200 SIXTH AVENUE  
SEATTLE, WASHINGTON 98101

REPLY TO  
ATTN OF:

WD-139

Ms. Cheryl Jong  
Alaska Miners Association  
501 W. Northern Lights, Suite 203  
Anchorage, AK 99503

Dear Ms. Jong:

In response to your phone request, I have reviewed your organization's January 20, 1987, petition for revision of Alaska's water quality standards. My review was based solely on the consistency of the proposed revisions with federal laws and regulations. I did not address sections of the standards which were not revised, nor did I address the consistency of the proposed revisions with state laws.

Detailed comments are provided in the enclosure. In general, however, two major issues can be identified. First, several of the proposed revisions directly conflict with federal requirements. As the agency designated to oversee state water quality standards, EPA would be forced to disapprove these revisions if formally adopted by the state. Second, and perhaps more importantly, I don't feel these revisions really accomplish what was intended. During our conversation, you indicated that your emphasis on the role of "natural conditions" in "setting" the water quality standards was intended to be a means of removing unattainable uses without having to go through the process of use reclassification. This intent is not clear from the revisions as written. If clarified, the result of these changes could be the removal of designated uses. Under federal law, the only appropriate vehicle for the removal of unattainable uses is through the reclassification process.

The emphasis on "natural conditions" creates the impression that natural conditions should, per se, influence water quality criteria. Natural conditions already influence water quality standards by determining which uses are attainable, and the degree to which they are attainable, in any given water body. Once those uses are determined, the water quality criteria are based solely on the maximum levels of pollution which will not cause any adverse effects upon the use.

EXHIBIT 2

Page 2

I hope that my comments are of value to you. Should you have any further questions, or need clarification on any of the issues discussed, please feel free to call me at (206) 442-8514.

Sincerely,

*Rick Albright*

Rick Albright  
Regional Water Quality Standards Coordinator

cc: Keith Kalton, ADEC  
Dan Easton, ADEC

ENVIRONMENTAL PROTECTION AGENCY  
REGION 10  
COMMENTS ON THE PETITION TO AMEND ALASKA'S WATER QUALITY  
STANDARDS, SUBMITTED JANUARY 20, 1987

The Alaska Miners' Association submitted a petition to amend the Alaska Water Quality Standards (18 AAC 70) on January 20, 1987. The following detailed review of the proposed revisions was based upon their consistency with federal regulations (primarily the Clean Water Act and the Water Quality Standards Regulation), as well as relevant policy and guidance documents. The comments do not reflect consistency with any state or local laws and regulations.

In general, several of the proposed revisions conflict to some degree with federal requirements. Examples that directly conflict with federal requirements are the changes to the antidegradation provisions and the mixing zone policy. If these revisions were formally adopted by the state, and submitted to the Environmental Protection Agency (EPA) for approval (as required under Section 303(c) of the Clean Water Act), EPA would be required to disapprove them as inconsistent with federal law. There are other provisions which might be disapproved as well, but more information would be required before such a decision could be made. Examples are the changes to the water quality criteria, which must be justified by a technical evaluation, and the reliance upon "natural conditions" in defining acceptable water quality changes. These and the other proposed revisions are discussed in detail below.

18 AAC 70.010 General

(a) Read literally, this revision essentially states that "natural conditions" establish the water quality standards. The definition of "natural condition" on page 24 of the standards refers to "...conditions that exist(ed) in a water body before any human-caused discharge to, or addition of material to, the water." This implies that any change in conditions would constitute a violation of water quality standards, and would create more stringent standards than presently exist.

A phone conversation with Cheryl Jong of the Alaska Miners' Association clarified the purpose for including the phrase "established by natural conditions" in the standards. The intent was to unilaterally restrict the designation of beneficial uses to those which are attainable in a specific water body, given the naturally occurring conditions. This could, in effect, amount to the removal of currently designated uses. This can be accomplished according to federal regulations, but only through the reclassification process. As part of this process, a use attainability analysis would be required, as federal law prohibits the removal of uses which are attainable.

(c) The changes to this section are unapprovable for two reasons. First, they eliminate the antidegradation provisions from the standards. These provisions are an essential component of state standards under federal law. Second, the revised language implies that water quality criteria can be changed as a result of a permit issuance or certification, or as a result of reclassification. (Reclassification may result in a different set of criteria being applied to a particular water body, but would not result in a change in the criterion for a specific use.)

(c)(3) Insertion of the word "economically" changes the meaning of this provision, making it inconsistent with federal law. EPA's antidegradation policy provides that the quality of high quality waters (defined as waters whose quality exceeds those levels necessary to protect designated uses) can only be lowered after achieving "the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control." For placer miners, this would mean successfully implementing the "Best Professional Judgement" (BPJ) level of treatment control currently specified in the NPDES permits. Economics is not a factor for consideration unless levels of treatment more stringent than BPJ are considered.

(d) See (a) above.

#### 18 AAC 70.015. Short-Term Variance

(a) This change does not present any conflicts as long as several limitations are adhered to. Activities for which short-term variances may be granted are generally either the result of emergency situations or activities of an extremely short duration. Such activities cover a time span of hours or days, not months or seasons, with exceedances of water quality criteria usually only lasting during the actual project. In addition, these activities generally cause only small exceedances of the criteria, and can cause no lasting or recurring water quality problems.

(a)(1)/(a)(2) Once again, insertion of the word "economically" changes the meaning of this provision. Economically, the most effective treatment may be no treatment. However, a certain minimum level of water quality protection is required before economics becomes a consideration.

#### 18 AAC 70.020. Protected Water Use Classes and Criteria

Several of the criteria for protecting beneficial uses from the adverse affects of turbidity and sediment are proposed. Federal regulations do provide for criteria changes. However, proposed changes must be accompanied by a technical justification before EPA can approve the change. The justification must demonstrate that the changes in the criteria will still provide for the full protection of designated uses.

The proposed turbidity criteria are based on changes relative to the "natural conditions on a basin-wide average." This provision is unapprovable as it does not guarantee the protection of designated uses. For example, an activity in a relatively clear tributary of a basin could, if other waters in the basin had naturally turbid waters, legally produce high turbidity levels, resulting in a significant impact to local fish populations. This would violate federal law, which mandates that all designated uses be protected in all stream segments.

In certain cases, the proposed criteria could actually be more stringent than the existing criteria. This could occur where turbidity in a basin was generally lower than 50 NTU.

The turbidity criterion for protection of water supply for aquaculture is absent altogether in the proposed standards. Was this an oversight? If not, the complete removal of a criterion could not be shown to protect a designated use, and such a change in the standards would be unapprovable.

The proposed sediment criteria for drinking water supply and contact recreation appear to far exceed the water quality levels necessary to protect these uses. Therefore, it does not appear possible that EPA could approve these criteria changes.

18 AAC 70.025. Site-Specific Criteria

(a)(1) Site-specific criteria should be based on a "site" rather than a "watershed basin," as this allows greater flexibility. When appropriate, a watershed basin could be considered as a site. In other instances, however, a site could be much smaller than a watershed basin. In this latter case, a less stringent site-specific criterion may result in impairment of designated uses if applied over an entire basin.

In addition, this provision should be changed to also reflect the condition when a criterion is less stringent than necessary to protect the corresponding use class. If a designated use is not protected by the existing criteria, federal law would require that the criteria be changed to protect the use.

(b) Site-specific criteria are by definition reflective of natural conditions in a watershed. For example, a watershed with naturally high concentrations of metals in the water may support a population of fish and invertebrates locally adapted to those high concentrations. Site-specific criteria for the metals in question would be appropriate, and would be based upon the tolerance of the resident organisms to the naturally high metals concentrations. The determining factor in site-specific criteria development, however, is not the natural conditions themselves, but the susceptibility of the use to any potential impacts.

18 AAC 70.032. Mixing Zones

(a) The proposed changes imply that a mixing zone must be designated. Under federal law, a state must not be obligated to designate a mixing zone in all cases.

For the mixing zone provisions to remain consistent with federal guidelines, the limitations in the existing standards as to where mixing zones are prohibited must be kept. In particular, the prohibitions against mixing zones must remain in the standards when 1) toxic pollutants are discharged which bioaccumulate, are carcinogens, or which concentrate in the environment, or 2) one or more zones could form a barrier to migratory species.

(a)(2) The existing reference to human health effects has been deleted in the proposed revisions. This change is inappropriate, as consideration of human health effects is a mandatory component of water quality standards.

It appears that provisions (a)(1) and (a)(2) could conflict, as (a)(1) implies that a mixing zone designation is mandatory. These provisions will comply with federal requirements only if provision (a)(2) takes precedence over provision (a)(1). [This could be accomplished by inserting the word "only" after the word "granted" in (a)(1).]

(b) The existing requirement that the characteristics of the effluent be considered in determining the sizes of mixing zones must be kept. This is of particular concern when toxic pollutants will be present in a proposed discharge (which is not generally a concern for placer mining discharges).

The restrictions on the maximum size limits of the mixing zones should also remain in this section. The requirement in (b)(4) that mixing zones be as small as practicable should result in mixing zones smaller than the maximum limits whenever feasible.

The existing provision allowing the department the option of designating effluent requirements in lieu of or in addition to a defined mixing zone should be kept for clarification. However, the department will have this option regardless of whether or not the provision is written into the mixing zone policy.

(b)(2) The existing language in the standards requires consideration of the effects of the discharge on present and anticipated uses, while the proposed revisions require consideration of effects on the "natural quality of the receiving water." The existing language is more appropriate, as the ultimate concern of water quality standards is the protection of designated uses, not just the natural quality of the water itself. If a discharge will affect the natural quality of the water with little or no effect on beneficial uses, designation of a mixing zone must be an allowable option (as long as all other aspects of the standards, including antidegradation, are complied with).

#### 18 AAC 70.055. Procedure For Reclassification

The existing list of waters that may not be reclassified is deleted in the proposed revisions. It is a matter of state discretion whether or not this list is present in the standards. However, the types of waters appearing on the list are typically high quality waters for which reclassification of uses would generally be difficult to justify.

Please be aware that the state is not under any federal obligation to remove use designations. In certain cases, however, particularly when the "fishable/swimmable" goals of the Clean Water Act are not designated, the state may be under obligation to add uses not currently designated. Where "fishable/swimmable" uses are not attainable, use attainability analyses are required. These must be updated every three years during the triennial review of water quality standards, to verify that conditions have not changed to the point where the uses have become attainable.

#### 18 AAC 70.057. Seasonal Use Criteria

Seasonal use criteria are allowed under federal regulations when appropriate.

(a)(1) This proposed condition is unapprovable under Federal law, as averaging the natural condition over the time a watershed (or stream segment) is used may allow degradation of designated uses. As an example, consider the average condition of a stream which is turbid during the high runoff period (early summer) and clear during the low flow period (late summer-early fall). The average condition (moderate turbidity) may allow an impact to a sensitive use (e.g., fish spawning) which primarily occurs during, and is dependent upon, the low turbidity/suspended sediment conditions occurring during low flow periods. However, separate criteria could apply during the high flow and low flow periods, as long as conditions were not created during one season (or time interval) which precluded attainment of a use during another season.



# Alaska State Legislature

Please enter into the record my testimony to the HD Resources  
committee name  
 committee on HB 524 , dated 05/03/88  
bill/subject

lets promote the maturation of this industry. Dont send the wrong signals now. Lets keep making progress as clean as we can. we dont know that there will be enforcement. where is the money for it? lets meet the EPA Regs

Signed: Dave Lacey  
Testifier

self

Representing (Optional)  
Box 81765, College 99708

Address  
4562871

Phone No.

5-1954B  
Bradley  
4/19/88

Original sponsors: Frank, Miller,  
Boyer and Shultz

1 IN THE HOUSE

*Title needs work*

2 CS FOR HOUSE BILL NO. 524 ( )

3 IN THE LEGISLATURE OF THE STATE OF ALASKA

4 FIFTEENTH LEGISLATURE - SECOND SESSION

5 A BILL

6 For an Act entitled: "An Act relating to the application of water quality  
7 criteria to placer mining."

8 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

9 \* Section 1. AS 46.03.080 is amended by adding a new subsection to  
10 read:

11 (b) In applying water quality criteria to placer mining, the  
12 department shall <sup>allow it must apply for a prescription</sup> prescribe in its permits or certifications a volume  
13 of dilution for an effluent or substance within a mixing zone of the  
14 receiving water unless the department determines that toxic pollutants  
15 are being discharged that will accumulate or concentrate in the  
16 environment <sup>in toxic amounts</sup> are carcinogens, would present a significant risk to  
17 human health, or would form a barrier to migratory species. The water  
18 quality criteria <sup>EPA</sup> [and antidegradation requirements of the regulations]  
19 of the <sup>State of Alaska</sup> [Environmental Protection Agency] may be exceeded in placer  
20 mining within the mixing zone of the receiving water. The mixing zone  
21 of the receiving water in placer mining shall be as small as practica-  
22 ble <sup>and shall be free of point or non point source related materials</sup>. In determining the size of the mixing zone of the receiving  
23 water in placer mining, the department shall consider

- 24 (1) the physical, biological, and chemical characteristics
- 25 of the receiving water, including volume and flow rate;
- 26 (2) the effects of the discharge upon the uses of the
- 27 receiving water;
- 28 (3) the mixing characteristics of the receiving water; and
- 29 (4) the characteristics of the effluent, including volume

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WORK DRAFT

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and flow rate.

4/21/53

U.S. ENVIRONMENTAL PROTECTION AGENCY  
REGION 10  
1200 SIXTH AVENUE  
SEATTLE, WASHINGTON 98101



APR 5 1983

REPLY TO ATT'Y OF WD-139

Larry Dietrick, Director  
Alaska Department of Environmental Conservation  
P.O. Box 0  
Juneau, Alaska 99811-1800

Dear Mr. Dietrick:

We have reviewed House Bill No. 524, "An Act relating to the application of water quality criteria," which mandates the prescription of a mixing zone for all discharges subject to the Department of Environmental Conservation's permitting or certification. We have considered the proposed legislation in light of our mixing zone guidance as contained in the Water Quality Standards Handbook (U.S. EPA, 1983).

As you know, whether to establish a mixing zone policy is a matter of state discretion. However, such a policy must be consistent with the Clean Water Act and is subject to the approval of the Regional Administrator. Whether this legislation poses any major conflict with the Act is unclear; however, it does raise significant technical questions that must be resolved before we can make a final determination.

1. Would a mixing zone be required in all permits regardless of considerations not specified in HB 524?

Our guidance is clear in stating that a mixing zone may be allowed." The proposed bill, however, requires a mixing zone in all but a few special circumstances (i.e., the discharge of toxic pollutants "that will accumulate or concentrate in the environment, are carcinogens, would present a significant risk to human health, or would form a barrier to migratory species"). The Standards Handbook makes clear that "Careful consideration must be given to the appropriateness of a mixing zone," and lists several factors that are not provided for in HB 524. Further, the guidance states that "The ecological and human health effects may be so adverse that a mixing zone is not appropriate." Thus mixing zones in certain key ecological areas (e.g., salmon spawning areas) would be prohibited. In addition, our policy states that, in designating mixing zones, other designated beneficial uses shall be protected, not just "considered," as is required by the bill.

2. Is the intent of the bill to allow acute toxicity within a mixing zone?

Numeric quality criteria can be exceeded in a mixing zone only "as long as acutely toxic conditions are prevented."

3. Does the legislation provide a blanket exemption for settleable solids within a mixing zone?

The guidance also states that "Any mixing zone shall be free of point or nonpoint source related....materials in concentrations that settle to form objectionable deposits," and free of other deleterious agents.

4. How would the stipulation that "a mixing zone shall be as small as practicable" be applied? Will practicability be based on the assimilative capacity of the receiving water or on the resources of the discharger?

The application of a mixing zone cannot exempt a discharge from compliance with the state's antidegradation policy as provided by HB 524. The bottom line is that existing beneficial uses must be protected. Mandatory mixing zones for all discharges clearly would have the potential to reduce or eliminate existing beneficial uses on some waterbodies. Providing that the mixing zone be as "small as practicable" does not ensure that it would or could be so small as to avoid harm to existing uses.

5. Why does the bill provide for exceedances of the "water quality criteria and antidegradation requirements of the regulations of the Environmental Protection Agency?"

The relevant water quality standards are those of the state of Alaska.

We appreciate this opportunity to provide advance review of HB 524. Should you have questions, please call me, or your staff may call Fletcher Shives at (206) 442-8293.

Sincerely,



Robert S. Burd  
Director, Water Division

# STATE OF ALASKA

## DEPT. OF ENVIRONMENTAL CONSERVATION

STEVE COWPER, GOVERNOR

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

April 30, 1968

### POSITION PAPER CSHB524

#### Title:

An act relating to the application of water quality criteria to placer mining.

#### Effect of the Bill:

This bill requires that the Department establish a mixing zone for each placer mining discharge, except in certain circumstances.

#### Background:

Mixing zones are designated portions of waterbodies where wastes are allowed to mix with, and be diluted by, natural waters. The State's water quality standards (standards designed to protect water quality for certain uses) do not apply within mixing zones. Mixing zones for particular discharges are designated in state or federal wastewater discharge permits.

Mixing zones are useful in managing certain types of wastewater discharges. Consequently, the Department presently designates mixing zones for many discharges, including those associated with placer mining.

#### Department Position:

The mixing zone provision as set out in CSHB 524 presents several problems which are outlined below. The Department opposes the bill.

1. The level of specificity of CSHB 524 is best reserved for administrative regulation.

Viewed in the context of the Department's other enabling statutes, CSHB 524 would be an anomaly because of its specificity and special treatment of one class of dischargers. At present, AS 46.03.080 authorizes the Department to establish water quality standards. The Department has adopted water quality standard regulations in 18 AAC 70. Section .032 of that regulation provides for designating mixing zones. CSHB 524 would legislate a new provision specifically for placer mining discharges. The

Department believes that changes to the mixing zone provision of the water quality standard regulation are most appropriately accomplished through the administrative rulemaking process, instead of the legislative process. In fact, the Department is presently considering public comment on proposed amendments to this part of the water quality standard regulation.

2. CSHB 524 would allow mixing zones that adversely impact or eliminate other uses of Alaska's waters.

The proposed legislation prohibits mixing zones for placer mining discharges that contain particularly harmful or dangerous substances, and requires that mixing zones be as small as practicable. It also states that the Department shall consider the effects of the discharge on the uses of the receiving waters in determining the size of mixing zones for placer mines.

A mixing zone provision should also protect water quality for other uses where they exist. For example, a mixing zone should not be allowed to render a stream used as a source of village drinking water unfit for that purpose. Similarly, mixing zones should not be allowed to degrade water quality in areas used for salmon spawning. CSHB 524 would mandate designation of mixing zones wherever there is a placer mining discharge. The impacts on other uses must only be considered, not prevented.

3. Passage of CSHB 524 may result in federal intervention into the State's water quality standards.

The State's water quality standards--including the mixing zone provision--are subject to review and approval by the U.S. Environmental Protection Agency (EPA). For the reasons mentioned previously, there is a question as to whether the EPA would approve a mixing zone provision as embodied in CSHB 524. The Department asked the EPA for their opinion as to whether HB 524 as it was first introduced (prior to the committee substitute) would comply with the intent of the Clean Water Act and be approved. Their response is attached.

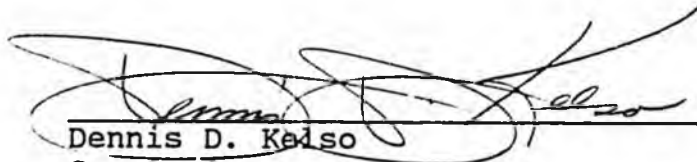
Suggested Revisions:

The Department believes that a mixing zone provision is best set out in state regulation. However, to ensure that mixing zones are designated for placer mining discharges, AS 46.03.080 could be amended to add a new subsection to read:

- (b) In applying water quality criteria to placer mining discharges, the Department shall prescribe mixing zones where appropriate.

Fiscal Effect:

Estimated annual costs for FY 89 through FY 91 are \$314,400 per year. See fiscal note analysis for details.



Dennis D. Kelso  
Commissioner

# Alaska State Legislature

**STEVE FRANK**

DISTRICT 20A  
Finance Committee

1125 Sunset Drive  
Fairbanks, Alaska 99701



While in Juneau  
P.O. Box V  
Juneau, Alaska 99811  
(907) 465-3709

## House of Representatives

TO: House HESS Committee members

FROM: Rep. Steve Frank

RE: House Bill 524 - relating to the application of water quality criteria

DATE: March 29, 1988

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House Bill 524 would spell out the terms and conditions for the use of mixing zones to achieve water quality standards.

The Departments of Environmental Conservation (DEC), Natural Resources (DNR), and Fish & Game (ADF&G) have been instructed by the Governor, in a memo dated March 30, 1987, to find solutions to the current water quality problems facing the placer mining industry. However, the DEC has proposed changes to existing mixing zone regulations that would further reduce, rather than increase, the availability of a mixing zone solution to the water quality problem.

The Department's proposed regulations will place an undue burden on placer miners by requiring them to make determinations as to threats to human health, biological spawning areas, existing and potential uses of water bodies, and barriers to migration of aquatic life. Miners are not qualified to make such technical determinations. It is more appropriate for trained departmental officials to make these determinations. The burden to establish whether these threats exist should properly reside with the Department.

HB 524 would provide for mixing zones unless the Department "...determines that toxic pollutants are being discharged that will accumulate or concentrate in the environment, are carcinogens, would present a significant risk to human health, or would form a barrier to migratory species."

The stream water quality outside the mixing zone would still have to meet State water quality standards. In determining the size of the mixing zone, the department would be required to consider the characteristics of the receiving water, and effects on the downstream uses.

In summary, Governor Cowper has stated that a resolution to this problem must "...be clearly legal under the federal Clean Water Act; and it must protect the rights of both placer miners and other water users." House Bill 524 accomplishes both of these objectives.

①

**PRESS RELEASE**

2/9/88

The Alaska Miners Association (AMA) and other members of Alaska's industry take issue with proposed regulatory changes to the water quality regulations by the Department of Environmental Conservation (DEC). The proposed changes deal with mixing zones and start-up variances. The current status is the result of several years of effort by the AMA and others to establish reasonable and attainable water quality regulations within the state. The DEC proposed regulations provide virtually no relief. In an effort to provide meaningful input to the agency the AMA has developed language for the proposed regulations that is fully in compliance with the Clean Water Act and the Environmental Protection Agency (EPA) regulations. Other parts of the regulations will be addressed in later meetings between the two groups.

The DEC proposed regulatory considerations, according to Randy Farleigh of the law firm of Farleigh & Waddock, are of limited benefit. The proposed changes to the mixing zone regulations "...are generally more to the detriment than benefit of the placer industry....Generally speaking, the proposed addition of the start-up variance language is an improvement over the present regulations only because the present regulations permit short term variances only for non-point sources of water pollution."

The DEC water quality regulations in existence have been challenged by the AMA and others as being unattainable. The onerous criteria threatened to shut down the placer mining industry in Alaska and severely encumber many of the other industries. In a DEC internal memo from John Reeves to Randy Bayliss dated 3/13/84, Mr. Reeves noted that

"The figures speak for themselves. If a minimum of 34% of all Alaskan mines up to a maximum of 96% of Alaskan mines are forced into closure because of enforcement of stipulations included in this permit it hardly seems like 'Best Available Technology Economically Achievable' is reflected in this permit. It doesn't appear that recycle technology is in fact economically achievable at all. I would like to know what technology economically achievable could force closure of 96% of Alaskan placer mines with a loss of 628 jobs and a \$1 million dollar reduction loss. Surely there is other technology EPA studied that may force closure of the remaining 4%... It can be stated that there is no and will be no easy solutions to this problem of mining and resultant turbidity. The least we can do is insure that if miners do incur the cost burden to comply with water quality standards, there is a bottom line where government regulators say good enough. By raising the settleable solids limit to 15 ml/l and mandating a 25 NTU standard the EPA has provided the miners with some relief. State water quality standards cite no measureable increase for sediment and 5 NTU's as applicable to mining operations on all Alaskan streams unless otherwise reclassified."

Protests to the regulations in the form of a petition dated December 26, 1986 to the DEC inspired the new Commissioner of DEC, Mr. Dennis Kelso, in early 1987 to request dropping petition action in lieu of meeting to work out differences. The AMA conditionally withdrew the petition and formed a multi-industry committee to meet with DEC personnel to work various aspects of the water quality regulations. A list was developed that promised to provide some relief to the industries. It included changes to the language to include mixing zones, a start-up variance, restructuring of uses, stream reclassification and assumption of the NPDES permitting (which is now EPA controlled). Timely meetings were held throughout the year. Efforts were devoted to redoing the mixing zone and start-up variance provisions of the regulations with intentions of addressing other issues as time and finances allowed. Repeated comments that the results were not framed in a constructive and objective manner produced no changes.

In a memo from Governor Cowper to the Commissioners of DNR, DEC, and DE&G dated 3/30/87 several important aspects of the water quality regulations were discussed:

"We need a clear set of rules, standards, and procedures that everyone can understand. Miners must be able to operate with the assurance that rules will not keep changing."

"Continuation of the status quo is not acceptable."

Governor Cowper went on to discuss enforcement policy, technical assistance, review of regulations and policies, permitting, and other issues. The tone was to advocate cooperative and objective interchange.

The newly proposed language was published by the DEC on October 27, 1987 for public comment. The proposed changes were negative and generally more restrictive than the existing language.

The AMA has responded to the public hearings process of the proposed changes by developing regulatory language addressing the "mixing zone" and "start-up variance" issues. The language is entirely in compliance with the Clean Water Act, the EPA regulations and most of the producing industries. Downstream users will be protected.

The water quality committee will continue to work with the DEC on the other issues. These issues include stream reclassification, water quality criteria, restructuring of uses and NPDES program assumption.

Currently all streams in Alaska but 2 are classified for all uses. The most stringent use of all uses is for drinking water. Can you imagine drinking from the Matanucka river - it is classified for drinking water use. The reclassification process is set out in section .055 of the water quality standards and in 40 CFR 131.10 (g) - (j). It is a process by which non-existing and unattainable uses of a water body may be excluded from protection under the water quality standards and the standards modified accordingly. Streams or groups of streams are studied to establish which

uses are existing or non-existing, and which uses are attainable or unattainable. Non-existing and unattainable uses are excluded from protection by amending the classification.

The water quality criteria review will involve examination of the latest scientific information on the effects of turbidity and total suspended solids on various water uses, and propose amendments to the water quality criteria where appropriate. At present, Alaska's standards include both numerical criteria for turbidity and narrative criteria for sediment. These criteria have been evaluated in a report prepared by L. A. Peterson & Associates entitled Alaska Particulates Criteria Review. This report, along with scientific information published subsequent to the report, might be evaluated to assess whether other measurements of particulates could be used and the appropriate particulate levels associated with these alternate measurements. The results of this evaluation could be used to develop proposed amendments to the water quality standards.

In a letter from Dr. R. Johnson to Wally Scarborough (EPA) dated 6/7/85 the issue of turbidity is addressed in support of the impossibility of attaining current criteria:

"... During my seven years in Alaska, I have become increasingly convinced that attainment of low turbidity levels on effluents from even well-designed settling ponds associated with placer mining operations is very difficult because of the fine particles associated with sluicing operations in Alaska. As I testified at a March, 1981 Evidentiary hearing in Anchorage, even a settling pond the size of Lake Superior will not remove some of the fine particles found in Alaskan soils."

Alaska's water quality standards are structured to protect seven freshwater uses: drinking, agriculture, aquaculture, industry, contact recreation, non-contact recreation, and aquatic life. It may be possible to propose modifications to the structure of protected uses to better reflect the different types of uses of Alaskan waters. For example, one type of drinking water use might be serving as a source for public drinking water systems. One type of aquatic life use might be salmon spawning and rearing. Of course, there would be other types of drinking and aquatic life uses. Once the different types of uses were established, specific water quality criteria would be established for each type of use.

At present, permits for most wastewater discharges in the State of Alaska are issued by the EPA under the federal National Pollutant Discharge Elimination System (NPDES) program. The Clean Water Act contains provisions for state assumption of the program whereby the permits are issued by participating states in accordance with EPA regulations and guidance.

MEMORANDUM

TO: Commissioner Judith M. Brady  
Department of Natural Resources

DATE: March 30, 1987

Commissioner Don W. Collinsworth  
Department of Fish and Game

Commissioner Dennis D. Kelso  
Department of Environmental  
Conservation

PHONE: 465-3500

FROM: Steve Cooper  
Governor

SUBJECT: Placer Mining

I have assigned a high priority to resolving the conflicts between placer miners and other water users. The miners believe they are faced with an impossible situation; they express concern about unsustainable standards and unreasonable regulations. At the same time, other users of Alaska's water--fishermen, village residents, recreational users--express concern about the impacts of placer mining on their uses; they fear degradation of water quality leading to a loss of drinking water, fish habitat, and other values.

We need a clear set of rules, standards, and procedures that everyone can understand. Miners must be able to operate with the assurance that rules will not keep changing.

Continuation of the status quo is not acceptable.

We need to resolve these conflicts in a positive way, avoiding the adversarial relationships that have characterized this policy area.

A stable resolution will require two things. It must be clearly legal under the federal Clean Water Act; and it must protect the rights of both placer miners and other water users.

Only if these two requirements are met can we avoid years of slow, expensive, unpredictable litigation with the inevitable loss of state resource management prerogatives to the courts.

We can help bring about a stable resolution to the problem. By ensuring reasonable, litigation-proof rules and fair enforcement, we can create a regulatory climate in which placer miners and

Commissioners -2- March 30, 1987

other water users will have confidence. In addition, I want my administration to set a positive, cooperative tone: working with the miners and other groups to find policy options and mediating between the miners and other users to avoid or resolve conflicts.

I direct you, as commissioners of the state's three resource agencies, to work together to complete the following tasks, before the 1988 mining season.

1. Enforcement Policy

The state's enforcement program should emphasize technical assistance to miners who are making good faith efforts to maintain water quality, as well as protection of community drinking water sources, fish resources, and recreational uses. Please take appropriate actions to ensure that enforcement action is not taken against any miner who operates proper settling ponds for a violation of water quality standards where the violation results from upstream sources. In addition, no miner should be required to clean up natural background conditions or an upstream violation.

2. Technical Assistance

I expect the Department of Natural Resources, as well as the Departments of Environmental Conservation (DEC) and Fish and Game (DF&G) to provide technical assistance to operators in following state regulations. Nowhere is this more important than in working with placer miners.

Commissioner Brady has requested and received my support for two new positions in the Division of Mining to provide appropriate technical assistance to placer miners in part to help them mine more efficiently and to satisfy water quality requirements. Although neither DEC nor DF&G has staff added to their respective budgets for these functions, I expect you to work cooperatively with the placer miners in order to prevent water quality problems, where possible, or to resolve problems. Technical assistance will emphasize innovative operating techniques and improved mining methods. I believe this assistance can also help develop a more positive relationship between all three agencies and the miners.

3. Review of Regulations and Policies

Please conduct a thorough review of your agency's regulations and policies in order to determine whether there are duplicative provisions or unnecessary requirements and to take action as needed to correct any deficiencies. I would appreciate your providing me a written report describing your findings and any corrective actions you propose. Because this subject is of interest to the Alaska Minerals Commission (AMC), please consult with the Commission about the results of your review.

4. State Water Quality Regulations

Commissioner Kelso and the Alaska Miners Association (AMA) have begun a process to develop agreement about what the Clean Water Act requires and to identify areas of flexibility available to the state in water quality regulations, especially areas where site specific factors can be considered.

I fully support this effort. Although there are no guarantees that a solution will be found, the process may produce valuable tools that can be used singly or in combination. It is important that views of fishermen, environmental groups, village representatives and other interested Alaskans, as well as the miners, be considered. Consultations with these other groups should be part of the overall effort. In addition, please keep the Placer Mining Advisory Group and the AMC apprised of your efforts.

5. State Permitting

The tri-agency permit application process must operate efficiently and a placer miner should be able to deal with state permits through a single application. Please review the permitting process and take any actions you deem appropriate to improve the efficiency of this system.

6. BLM vs. Sierra Club Lawsuit

By copy of this memorandum, I am directing the Department of Law to file an amicus curiae brief in this lawsuit. It is important that the brief be crafted carefully to ensure that the state can mediate, if necessary, to enable responsible placer mining to continue. It is also important that the brief avoid issues which could prove detrimental to the state's overall interests on other resource matters involving the federal government. Please provide assistance to the Department of Law in preparing these materials.

Our basic position should oppose judicial relief that would penalize miners for any errors that the court concludes MLM has made. We should oppose a blanket injunction that precludes all mining and should urge that if the court finds for the appellants, the order be framed in such a way that the state can help the parties negotiate a solution.

7. Federal Effluent Guidelines (Best Available Technology Economically Achievable)

The Environmental Protection Agency (EPA) has just published its proposed effluent guidelines for the placer mining industry, establishing the pollution control technology considered by EPA to be economically achievable.

Commissioners -4- March 30, 1987

Because these guidelines are so important to the industry, I intend to see that the state is prepared to participate fully in the technical debate on their merits. By copy of this memorandum, I am asking the Department of Commerce and Economic Development to join with your departments in taking a hard look at the guidelines to see if they are based upon realistic assumptions and Alaskan data. When you have completed your analysis, we will prepare comments to EPA. While the state does not have a direct decision-making role on the effluent guidelines, I strongly believe that a well-reasoned, analytical position will have the greatest success in advancing the state's view.

My goal is for the state to participate as constructively as possible in creating a stable regulatory climate for the placer mining industry. A successful approach must be fair to the placer miners and acceptable to other water users. In order to reach this goal, the state must apply its best resources toward helping to find a reasonable approach. This is especially important in technical debates, such as discussion of the effluent guidelines. I am confident that through our combined efforts we can achieve the kind of progress that this important public policy issue deserves.

cc: Senator Don Bennett  
Senator Bettye Mahrenkamp  
Senator Jack Coyhill  
Senator John Binkley  
Senator Willie Hansley  
Representative Adelheid Herrmann  
Representative Mike Miller  
Attorney General Grace Berg Schallie  
Department of Law  
Commissioner Tony Smith  
Department of Commerce and Economic  
Development  
Rod Swops, Special Assistant  
Office of the Governor  
Bob Groyan, Associate Director  
Division of Governmental Coordination

DATE: January 27, 1988  
TO: THE ALASKA MINERS ASSOCIATION, INC.  
SUBJECT: Proposed Changes to 18 AAC 70.016 Start Up Variances  
And 18 AAC 70.032 Mixing Zones

Mixing Zones

18 AAC 70.032. MIXING ZONES.

(a) In applying the water quality criteria the department will prescribe in its permits or certifications a volume of dilution for an effluent or substance within a receiving water unless (1) toxic pollutants are discharged which bioaccumulate, are carcinogens, or which concentrate in the environment, or otherwise present significant risk to human health, or (2) such a zone would form a barrier to migratory species. The water quality criteria of 18 AAC 70.020 and the antidegradation requirement of 18 AAC 70.010(c) may be exceeded within this mixing zone.

(b) In determining the size of mixing zones, the department will consider the following:

(1) the physical, biological, and chemical characteristics of the receiving water, including volume and flow rate;

(2) the effects of the discharge upon the uses of the receiving water;

(3) the mixing characteristics of the receiving water; and

(4) the characteristics of the effluent, including volume and flow rate.

(c) The mixing zone shall be as small as practicable.

18 AAC 70.032. MIXING ZONES. (a) In applying the water quality criteria of 18 AAC 70.020, the department will, in its discretion, prescribe in its permits or certifications a volume of dilution for an effluent or substance within a receiving water. Water quality standards may be exceeded within this mixing zone. However, the standards must be met at every point outside its boundaries. The department will not allow mixing zones if (1) there is significant potential for adverse environmental or health effects due to discharge of a substance that bioaccumulates in food chains; concentrates in sediments; or is persistent, carcinogenic, mutagenic, or teratogenic, or (2) other potential environmental or health effects are so adverse that a mixing zone is not appropriate. A mixing zone will be granted only after the applicant has shown to the department's satisfaction that the wastes or

substances that may exceed the water quality criteria limits will be treated using the methods found by the department to be most effective:

(b) The department will, in its discretion, establish effluent limitation requirements in its wastewater disposal permits in lieu of or in addition to a defined mixing zone.

(c) No individual mixing zone or combination of mixing zones will be permitted to form a barrier to the migratory routes of aquatic species.

(d) In determining the size of mixing zones, the department will consider the following:

(1) the physical, biological and chemical characteristics of the receiving water;

(2) the effects of the discharge on the present and anticipated protected water uses and quality of the receiving water;

(3) the mixing characteristics of the receiving water; and

(4) the characteristics of the effluent, including flow rate and composition.

(e) Unless it is demonstrated to the satisfaction of the department, in accordance with (f) of this section, that the size limitations can be increased, mixing zones will be as small as practicable and will comply with the following size limitations:

(1) the cumulative linear width of the mixing zone(s) intersected on any given cross section of a river or stream will not exceed one third of the total width of that cross section;

(2) the total horizontal area allocated to all mixing zones on a lake will not exceed 10 percent of the lake's surface area;

(3) the cumulative linear length of the mixing zone(s) intersected on any given cross section of an estuary, inlet, cove, channel, or other marine water measured at mean lower low water may not exceed 10 percent of the total length of that

cross section, nor may the total horizontal area allocated to mixing zones in these waters exceed 10 percent of the surface area measured at mean lower low water.

(f) A person conducting an operation for which a mixing zone is sought or required by the department shall submit to the department all information necessary for assignment of a mixing zone, including

(1) the type of operation being conducted;

(2) the characteristics of the effluent or material, including flow rate and composition;

(3) the characteristics of the receiving water at the location of the proposed discharge or activity, including but not limited to, where appropriate, water quality, flow rate, current patterns, depth and width, and seasonal changes;

(4) a description of the extent to which the operation may impact the physical, biological and chemical characteristics of the receiving water; and

(5) a proposed design for outfall and diffuser structures. (In effect before 7/28/59; am 1/24/70, Reg. 34; am 8/28/71, Reg. 39; am 10/22/72, Reg. 44; am 8/12/73, Reg. 47; am 1/2/79, Reg. 69; am 4/23/79, Reg. 70; am 1/19/79, Reg. 71; am 3/30/84, Reg. 89)

Authority: AS 46.03.020(10)(A)

AS 46.03.070

AS 46.03.080

AS 46.03.100

AS 46.03.110

AMENDMENTS

Water Quality Standards (18 AAC 70)  
and  
Administrative Procedures (18 AAC 15)

(October 27, 1987)

Following are proposed amendments to 18 AAC 70.032, a proposed new section 18 AAC 70.016, and proposed amendments to 18 AAC 15.070. The amendments to 18 AAC 70.032 and 18 AAC 15.070 are shown using a convention where wording to be added is underlined. Wording to be deleted is capitalized and shown in brackets. Note that the proposed new section 18 AAC 70.016 is not depicted using this convention and is simply described as a new section in the lead-in sentence.

Mixing Zones

18 AAC 70.032 is amended to read:

18 AAC 70.032. MIXING ZONES. (a) In applying the water quality criteria of 18 AAC 70.020, the department will, in its discretion, prescribe in its permits or certifications a volume of dilution for an effluent or substance within a receiving water. Water quality standards may be exceeded within this mixing zone. However, the standards must be met at every point outside its boundaries. The department will not allow mixing zones if

(1) there is significant potential for adverse environmental or health effects due to discharge of a substance that bioaccumulates in food chains; concentrates in sediments; or is persistent, carcinogenic, mutagenic, or teratogenic; or

(2) other potential environmental or health effects are so adverse that a mixing zone is not appropriate.

A mixing zone will be granted only after the applicant has shown to the department's satisfaction that the wastes or substances that may exceed the water quality criteria limits will be treated using the methods found by the department to be most effective.

(b) The department will, in its discretion, establish effluent limitation requirements in its wastewater disposal permits in lieu of or in addition to a defined mixing zone.

(c) The department will prescribe a mixing zone only if an applicant for a permit or certification shows to the department's satisfaction that the mixing zone, alone or in combination with other mixing zones,

(1) will not present a significant threat to human health;

(2) will not cause a significant adverse effect on important biological areas, such as spawning or feeding areas;

(3) will not cause a significant adverse effect on existing or potential users of the waterbody, including, but not limited to, growth and propagation of aquatic life;

(4) will not form a barrier to migration of aquatic life;

(5) is simply configured with clearly identified limits; and

(6) complies with the size limitations set out in (d) of this section. (NO INDIVIDUAL MIXING ZONE OR COMBINATION OF MIXING ZONES WILL BE PERMITTED TO FORM A BARRIER TO THE MANDATORY ROUTES OF AQUATIC SPECIES.)

(d) In determining the size of mixing zones, the department will consider the following:

(1) the physical, biological and chemical characteristics of the receiving water;

(2) the effects of the discharge on the existing (PRESENT) and potential (ANTICIPATED PROTECTED) water uses and quality of the receiving water;

(3) the mixing characteristics of the receiving water; and

(4) the characteristics of the effluent, including flow rate and composition.

(e) The size of different mixing zones will vary depending on the characteristics of a particular site. In all cases, the department will require that mixing zones be as small as practicable. Unless it is demonstrated to the satisfaction of the department in accordance with (c) and (d) [(f)] of this section, that the size limitations can be increased, mixing zones (WILL BE AS SMALL AS PRACTICABLE AND) will comply with the following size limitations:

(1) in rivers, streams and creeks where it is practical to restrict mixing to a portion of the waterway width, the cumulative width of any one or more mixing zones will not exceed one third of the total waterway width (THE CUMULATIVE LINEAR WIDTH OF THE MIXING ZONE(S) INTERSECTED ON ANY GIVEN CROSS SECTION OF A RIVER OR STREAM WILL NOT EXCEED ONE THIRD OF THE TOTAL WIDTH OF THAT CROSS SECTION);

(2) the total horizontal area allocated to all mixing zones on a lake will not exceed ten percent of the lake's surface area;

(3) the cumulative linear length of the mixing zone(s) intersected on any given cross section of an estuary, inlet, cove, channel, or other marine water measured at mean lower low water may not exceed ten percent of the total length of that cross section, nor may the total horizontal area allocated to mixing zones in these waters exceed ten percent of the surface area measured at mean lower low water.

(f) A person conducting an operation for which a mixing zone is sought or required by the department shall submit to the department all information necessary to designate a mixing zone, including

(1) the type of operation being conducted;

(2) the characteristics of the effluent or material, including flow rate and composition;

(3) the characteristics of the receiving water at the location of the proposed discharge or activity, including but not limited to, where appropriate, water quality, flow rate, current patterns, depth and width, and seasonal changes;

(4) a description of the extent to which the operation may impact the physical, biological and chemical characteristics of the receiving water; and

(5) a proposed design for outfall and diffuser structures.



# ALASKA MINERS ASSOCIATION, INC.

501 W. Northern Lights Blvd., Suite 203, Anchorage, AK 99503 (907) 276-0347

February 4, 1988

The Honorable Steve Cowper  
Governor  
State of Alaska  
P.O. Box A  
Juneau, AK 99811-0101

Dear Governor Cowper:

Attached per our discussion and previous letters is a copy of our response to the proposed mixing zone and start-up variance regulations by the Department of Environmental Conservation. Our position is that the DEC proposed regulations are, at best, a very minor step in a positive direction and we therefore reject the proposal; we are proposing an alternative wording to the regulations. This proposal is fully in compliance with the Clean Water Act and the EPA regulations, meets with miner acceptance and partially satisfies the intent of your memo to the Commissioners of 3/30/87. We appreciate the opportunity to keep you apprised of the process and your support of our proposal.

The DEC proposed mixing zone and start-up variance regulations are unacceptable to us because they are negative in tone and impose more controls on the industry than are currently in place. The DEC's mixing zone proposed regulations are generally more to the detriment than benefit of the placer industry. The proposed start-up variance language is an improvement over the present regulations in that the present regulations permit short term variance only for non-point sources of water discharge. No economic consideration for implementation has been included in either issue; they refer only to "most effective" considerations. The language is subjective and leaves a lot of discretion to any regulator's or enforcer's interpretation.

Your memo of 3/30/87 states that "We need a clear set of rules, standards, and procedures that everyone can understand. Miners must be able to operate with the assurance that rules will not keep changing."

"Continuation of the status quo is not acceptable."