



DEPARTMENT OF STATE LANDS

STATE CAPITOL

HELENA 59601

(406) 449-2074

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AUG 29 1975

ENVIRONMENTAL QUALITY
COUNCIL

August 27, 1975

MEMO

TO: Board of Land Commissioners

FROM: Ted Schwinden, Commissioner

Department staff met last week with representatives of the Anaconda Company and other state agencies relative to an emergency situation in the Upper Blackfoot River drainage.

The Anaconda Company seeks to replace the Mike Horse Tailings Dam before freeze-up and has submitted an application for a contract from this Department to mine gravel in the drainage to utilize in dam construction. Our existing reclamation regulations appear to preclude such activity in a stream channel even under emergency conditions, or where potential benefits would occur. The problem is underscored by another potential emergency situation involving a county bridge in the Hamilton area. We therefore request that the board approve the filing of an emergency rule to permit issuance of an open-cut reclamation contract to Anaconda and other appropriate applicants.

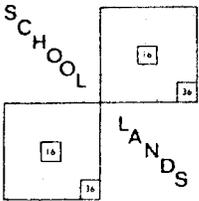
Attached for your review are copies of relevant correspondence and the environmental assessment prepared by the reclamation division.

Enc.

Copy to: John Reuss, Director, EQC

STATE BOARD OF
LAND COMMISSIONERS
THOMAS L. JUDGE
GOVERNOR
DOLORES COLBURG
SUPT. OF PUBLIC INSTRUCTION
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TED SCHWINDEN
COMMISSIONER



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RESOURCE
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RECEIVED

AUG 29 1975

REASONS FOR ADOPTING AN EMERGENCY RULE ENVIRONMENTAL QUALITY
TO AMEND 26-2.10(6)-S10140 COUNCIL

Heavy rain and snowmelt during the week of June 15, 1975 caused the Mike Horse Tailings Dam, near Lincoln, to fill and break on the morning of June 20, 1975. An estimated 100,000 tons of mill tailings washed into Beartrap Creek and the Upper Blackfoot River drainage. The Anaconda Company has temporarily repaired the existing dam outlet works. It is fully expected that additional large quantities of tailings will be deposited in the Blackfoot drainage system next year and successive years, if the situation is not corrected.

Several alternatives were considered by the Anaconda Company, the Department of Health, the Department of Fish and Game and the U.S. Forest Service. The only technical and environmentally feasible approach was the reconstruction of the present dam and the installation of a spillway. In order to accomplish such reconstruction it is necessary to secure the proper earth materials to implement the plan. The most available and best source of material for a porous section of the dam is along the stream channel of the Upper Blackfoot River. The plan calls for the removal of gravel from the flood plain for use in the dam and possible realignment of portions of the Upper Blackfoot River.

Such a plan is apparently precluded by present rule 26-2.10(6)-S10140 because subsection (3) states that "No excavations will be allowed on any river or live stream channel or floodways at locations likely to cause detrimental erosion or offer a new stream channel to the river or stream at times of flooding."

All parties involved, including the several state agencies, agree that it is of utmost importance to implement the plan and to correct the present situation before the next spring runoff. In order to achieve that goal, it is necessary to start reconstruction as soon as possible. Due to the short field season, delays in the project would make reconstruction impossible this fall. Failure to reconstruct the Mike Horse Dam this fall would place the quality of water of the river in imminent peril and would clearly impact the public health and welfare of the public because of the pollution which would occur to the Blackfoot drainage.

The department of state lands was first made aware of the alternatives and the final plan on August 14, 1975. The estimated time needed to reconstruct the dam and complete the plan is six (6) weeks. If the Board of Land Commissioners used the formal notice and filing procedure as per Section 82-4204, the proposed rule would not be effective until the first part of November at the earliest. Therefore mining in the stream channel could not take place until sometime in mid-November. Such a time frame would in all probability preclude the completion of the plan.

The department has also been contacted regarding another potential emergency involving a county bridge near Hamilton. That situation

reportedly may require mining a previous stream channel in order to prevent damage to the bridge approaches. The department is investigating the matter.

It is therefore necessary to promulgate and file the proposed emergency rule.

CHAPTER 10

EMERGENCY RULE TO AMEND

26-2.10(6)-S10140 APPROVAL OR DISAPPROVAL OF AN APPLI-
CATION FOR A CONTRACT

Subsection (3) of this rule is being amended to allow approval of a contract to mine on floodplains or in stream channels when such approval is required in emergency situations or when demonstrable beneficial results will occur.

(3) No excavations will be allowed on any river or live stream channels or floodways at locations likely to cause detrimental erosion or offer a new channel to the river or stream at times of flooding; except that such excavations may be allowed when necessary to protect the health, safety or welfare of the people of the State of Montana or when it is demonstrated to the department that beneficial results will ensue.

Environmental Assessment

Division: Reclamation - Open Cut
Prepared by: Joseph N. Murphy, Chief, Open Cut Mining Bureau
Date: August 20, 1975

A. Description of Proposed Action:

Excavation of sand and gravel from the upper Blackfoot River stream channel in order to repair the Mike Horse Dam which breached June 20, 1975.

B. Environmental impact of proposed action:

Stabilization and relocation of the stream channel into an area of "clean" gravel that has not been affected by deposition of metal bearing tailings from the breached Mike Horse Dam.

C. Adverse environmental effects which cannot be avoided:

Short term downstream sedimentation from gravel excavations which could affect water quality and fish habitat.

D. Alternatives:

Prohibit mining in the stream channel thereby preventing reconstruction of the Mike Horse Dam which in turn would have a catastrophic effect on the Blackfoot River during the 1976 spring runoff in which at least an additional 100,000 - 200,000 tons of metal bearing tailings would be released into the drainage.

E. Short term use - long term productivity

Excavate the stream channel, repair the dam, relocate and stabilize the stream preventing any further deposition of mine tailings into the Blackfoot River drainage. Water quality could possibly be improved enough to accomodate fish habitat.

F. Comments:

See letters of-August 18, 1975, from Frank Laird, Anaconda Co.
-August 19, 1975, from M.K. Botz, Dept. of Health
and Environmental Sciences
-August 19, 1975, from Jim Posewitz, Department
of Fish and Game.

August 18, 1975

Mr. Ted Schwinden
Commissioner
Department of State Lands
Capitol Station (1625 Eleventh Avenue)
Helena, Montana 59601

Dear Mr. Schwinden:

Pursuant to the meeting held in your conference room on August 18, 1975, with members of the Department of State Lands, Department of Fish and Game and the Department of Health, the following is a brief summation of the events which caused failure of the Mike Horse Tailings Dam, its environmental affects, and the proposed plans for repair.

Heavy rain and snowmelt caused flooding conditions in the Mike Horse drainage during the week of June 15, 1975. On the evening of June 19, failure of the headgate, washout of the bypass ditch, and mud cover of the underflow discharge culvert caused the pond to fill. Early on the morning of June 20, 1975, water exited the rock spillway on the east side of the dam. The rock structure was incompetent -- failed, and eventually eroded the pillar between tails and native rock causing erosion of the settled tailings. It has been estimated that more than 100,000 tons of tailings washed into Beartrap Creek and the upper Blackfoot River drainage.

At a meeting held in the Board of Health offices on August 14, with the above state agencies and a representative of the United States Forest Service, the following engineering alternatives were reviewed:

1. Reconstruction of the dam and construction of a spillway.
2. Construction of a second dam located below the present tailings pond and impoundment area.

Mr. Ted Schwinden
August 18, 1975
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3. Construction of a surface water collection and diversion system around the tailings pond.

4. Remining and disposal of the tailings to either a new location or placement in the nonoperative Mike Horse Mine from which they came.

5. Do nothing.

Following review of the above plans, it was decided that the only technical, and environmentally feasible approach would be reconstruction of the present dam and installation of a spillway.

Two types of fill materials will be required for engineered reconstruction: 1) impervious clay utilized for core material and 2) porous gravel needed for drainage. Reclamation of borrow pit areas will be as outlined in our "Application for Contract" submitted to the Department of State Lands.

If no action is taken, it can be anticipated that at least an additional 100,000 to 200,000 tons of tailings would be released into the Blackfoot River drainage during the runoff in the spring of 1976.

Construction must begin immediately if the project is to be completed this year. Since fill material cannot be compacted under freezing conditions, the dam must be completed within the six to eight remaining weeks of warm weather. In addition, fabrication and delivery of the reinforced concrete spillway pipe requires five to six weeks and the order must be placed as soon as possible if the

Mr. Ted Schwinden
August 18, 1975
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installation is to be completed before winter.

Sincerely,

THE ANACONDA COMPANY

By Frank J. Laird, Jr.
Frank J. Laird, Jr.
Director of Environmental Engineering
The Anaconda Company
General Mining Division

Department of Health and Environmental Sciences
STATE OF MONTANA HELENA, MONTANA 59601

John S. Anderson, M.D.
DIRECTOR

August 19, 1975

Ted Schwinden, Commissioner
Commissioner's Office
Department of State Lands
1625 11th Avenue
Helena, Montana 59601

Dear Mr. Schwinden:

As you requested in our meeting on Monday morning, August 18, 1975, we are describing our agency's involvement in rehabilitation of the Mike Horse Mine Dam. As was related to you in the meeting, the Mike Horse Dam failed in mid-June causing significant pollution of the Upper Blackfoot River by suspended sediment and by toxic metals associated with these sediments. Our agency has concluded, based on field and laboratory testing of the stream and tailings from the Mike Horse Dam, that there was a substantial chemical and physical degradation of water quality in the stream due to the failure of the dam. Our agency directed the Anaconda Company to examine the dam and prepare an engineering plan for correction of the problem to insure waters of the Upper Blackfoot River would be protected from future pollution. The plan developed by the Anaconda Company, together with their consultant Dames and Moore, is to essentially rebuild the Mike Horse Dam and to install additional outlet works in the dam. This plan was presented to our agency by the Anaconda Company on August 14, 1975. The Anaconda Company has temporarily repaired the existing dam outlet works; however, the temporary nature of the repairs is such that a failure of the outlet works during next spring's runoff will occur if additional repairs are not made this fall. There is an estimated one million cubic yards of metal-bearing mine tailings in the reservoir behind the Mike Horse Dam of which an estimated 200,000 cubic yards entered the stream system this spring. We fully expect the dam to contribute an additional large quantity of tailings to the Blackfoot River next year if the dam is not repaired during this construction season.

Failure to construct the Mike Horse Dam this fall would place the quality of water of the river in imminent peril and would clearly impact the public welfare in the sense that pollution of the Upper Blackfoot River would certainly occur next spring due to washing of additional mine tailings from the Mike Horse Dam area. A careful review of all alternative plans for a solution to this problem has convinced our agency that the plan put forth by the Anaconda Company together with their consultants is the best practicable plan to restore the area and reduce the pollution hazard due to mine tailings to an acceptable risk. The plan, in our opinion, offers the best long-term solution to the tailings pollution problem. Due to the short field season, it is necessary that reconstruction of the dam and control works start as soon as possible. Any delays beyond a few weeks will make reconstruction impossible this fall; thus, subsequent water pollution in the spring of 1976 will be imminent.

One problem that had developed with respect to reconstruction of the Mike Horse Dam is the availability of earth materials to use in dam construction. The most available and best source of material for a porous section of the dam is along the stream channel of the Upper Blackfoot River downstream from the dam and above Shave Creek. This would involve removal of gravel for use in the dam from the floodplain of the Blackfoot River and possible realignment of portions of the stream. This gravel deposit is the most available and most suitable for reconstruction of the Mike Horse Dam. Removal of gravel from the channel of the Upper Blackfoot River, in the opinion of our agency, could improve the quality of water emanating from the Upper Blackfoot River for several reasons. These are:

1. The channel could be relocated into an area of "clean" gravel that has not been affected by deposition of metal-bearing tailings from the breached Mike Horse Dam.
2. A channel design can be developed that will assist in settling and aeration of waters in this portion of the river.
3. The physical habitat of the channel can be altered by construction techniques such that it will be a better habitat for aquatic organisms.

In the discussions with you on August 18, the Anaconda Company project consultants described the need to use gravel from this stream bed for reconstruction of the Mike Horse Dam. Our agency would endorse the use of this material as being the most appropriate source of construction material and for potential benefits that would occur from reshaping of portions of the Upper Blackfoot River channel. Alternate sources of gravel are not readily available in the area, and many alternate sources would be from areas that may impact high quality waters in the Upper Blackfoot River drainage.

Based on a field examination of the area and based on my experience as a hydrologist and water quality engineer, it is my opinion that the Blackfoot River in the area proposed for gravel removal has meandered back and forth across the canyon numerous times. In addition to natural meandering of the stream, due to floods, the channel has been moved in its channel numerous times due to man's activity. Results of these channel changes are to create a broad, rather flat floodplain consisting of gravel and sand with intermixed mine debris that extends essentially from one canyon wall to the opposite canyon wall. It is my opinion that the stream has meandered across this floodplain both in geologic time and has repeatedly been moved across this channel by man's activities during the mining and post-mining phases in the area. After the recent flooding of June 1975 the county moved portions of the channel to accommodate a county road to the Mike Horse Dam mine. Any gravel removal activities in this canyon would certainly be from the active floodplain of the stream channel. By careful design, I believe that a stream channel can be realigned to not only accommodate the stream during its normal flow and offer an improved aquatic habitat, but also the area can be reshaped by gravel removal to make the channel less prone to erosion problems and channel changes during flooding.

Mr. Schwinden
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August 19, 1975

It is my understanding that the removal of gravel from this channel would be subject to your mining regulations. If the removal of gravel and reshaping of the area cannot be accomplished under existing mining regulations, we would request you to look at the possibility of emergency rule making to expedite the ability of the material for use in construction. Failure to utilize this readily available gravel source may result in postponement of the reconstruction of the Mike Horse Dam, which as mentioned previously in this letter, would most assuredly lead to substantial water pollution in the spring of 1976. For the reasons outlined in this letter, our agency would request that you use whatever measures possible, including the use of the emergency rule to authorize the removal of these gravel materials in reconstruction of the Mike Horse Dam.

Yours truly,



M. K. Botz, P.E.
Water Quality Bureau
Environmental Sciences Division

MKB:vlf

STATE OF MONTANA



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STATE OF MONTANA
DEPT. OF STATE LANDS
AND INVESTMENTS

DEPARTMENT OF

FISH AND GAME

Helena, Montana 59601
August 19, 1975

Mr. Ted Schwinden, Commissioner
Department of State Lands
Helena, Montana 59601

Dear Ted:

In reference to the meeting held August 18, 1975 in your office with representatives of the Anaconda Company, State Lands Department, Department of Health and Environmental Sciences and Department of Fish and Game, we offer the following comments on the application by the Anaconda Company for removal of gravel from the floodplain of the Blackfoot River to repair the Mike Horse tailings dam.

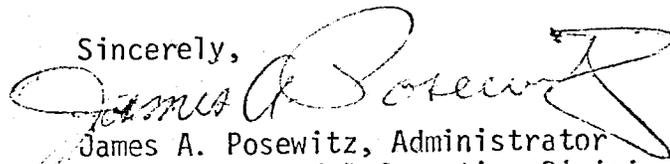
We agree provisions must be made prior to the 1976 spring runoff period to prevent further washout of mine tailings into the Blackfoot River, since the tailings are both a real and potential water quality problem to aquatic organisms.

The section of the Blackfoot River where gravel would be removed has been extensively altered, both naturally and by man, numerous times in the past, and is presently unsuitable as physical habitat for fish. Removal of gravel from the channel in a manner which would restore physical fish habitat would be an improvement over the existing situation.

Siltation will be a problem during repair of the dam and removal of gravel from the channel. Provisions should be made to minimize silt flowing downstream from the construction area. Excavation should be done "in the dry" whenever possible.

We plan to review the area at an early date with our hydrologist, Dr. Don Reichmuth, to determine the most feasible method to reconstruct the stream channel. We request that this department be consulted by the applicant during formulation and implementation of reclamation plans for the area covered by the permit.

Sincerely,


James A. Posewitz, Administrator
Environment and Information Division

JAP/LES/sd

cc: Ken Knudson

REASONS FOR ADOPTING AN EMERGENCY RULE
TO AMEND 26-2.10(6)-S10140

Heavy rain and snowmelt during the week of June 15, 1975 caused the Mike Horse Tailings Dam, near Lincoln, to fill and break on the morning of June 20, 1975. An estimated 100,000 tons of mill tailings washed into Beartrap Creek and the Upper Blackfoot River drainage. The Anaconda Company has temporarily repaired the existing dam outlet works. It is fully expected that additional large quantities of tailings will be deposited in the Blackfoot drainage system next year and successive years, if the situation is not corrected.

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