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Department of Health and Environmental Sciences

STATE OF MONTANA HELENA, MONTANA 59601

*John S. Anderson M.D.
DIRECTOR

July 25, 1975

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ENVIRONMENTAL QUALITY COUNCIL

Honorable Tom Judge, Governor, State of Montana, Helena
State Library, Helena
Edward E. Scheitlin, P. O. Box 31, Virginia City
Dr. S. L. Groff, College of Mineral Science and Technology, Butte
Trout Unlimited, Box 238, Three Forks
County Commissioners, Madison County Courthouse, Virginia City
Charles Bovey, Virginia City
Ford Bovey, Virginia City
Department of Fish and Game, Helena
Department of Natural Resources and Conservation, Attn: Charles Parrett, Helena
Department of State Lands, Helena
Department of Community Affairs, Division of Planning, Helena
Bureau of Mines, U. S. Department of Interior, E. 315 Montgomery Ave., Spokane, Wash.
Environmental Quality Council, Helena
Bureau of Mines, U. S. Department of Interior, 636 Logan, Helena
Bureau of Land Management, U. S. Department of Interior, 810 Main, Billings
Beaverhead National Forest, Madison Ranger District, Box 366, Ennis
Madisonian, Virginia City
Butte Standard, Box 627, Butte
Environmental Information Center, Box 12, Helena
Madison County Planning Board, Attn: John Anderson III, Alder
Chris Kraft, Madison-Beaverhead Counties Sanitarian, Dillon

Pursuant to the Montana Environmental Policy Act, the following negative declaration has been prepared by the Department of Health and Environmental Sciences concerning a proposed gold mill to be constructed by Edward E. Scheitlin of Virginia City, Montana. Mr. Scheitlin made application for a construction permit for the mill, located a half mile southeast of Virginia City, on May 9, 1975.

The purpose of this negative declaration is to inform all interested governmental agencies and public groups of Air Quality Bureau's intent not to write an environmental impact statement regarding this facility. This declaration will be circulated for a period of 10 days following which a decision will be made as to whether or not a construction permit should be issued. If you care to comment on this proposed action, please do so within that allotted time.

Sincerely,

Thomas M. Ellerhoff
Technical Writer
Environmental Sciences Division

TME:kh

cc: Ben Wake
Water Quality Bureau

July 25, 1975

A NEGATIVE DECLARATION

FOR THE

EDWARD SCHEITLIN GOLD MILL

Mr. Scheitlin currently operates three mines which are known as the U. S. Grant mines. The mill site would be adjacent to Portal No. 3, located in the SW ¼, NW ¼, Sec. 26, T. 6 S., R. 3 W., of Madison County, approximately a half mile southeast of Virginia City on the west side of Alder Gulch. The location of the facility is indicated on the attached map.

The mill would be contained in a steel building approximately 100 feet long and 40 feet wide, and would have a processing capacity of about 100 tons of gold ore a day. The mill would use two crushers, three ball mills and several flotation cells to remove copper, lead, gold and silver from the ore. This concentrate would be shipped to a smelter for further processing.

The ground rock would be further treated by a sodium cyanide process to extract more gold and silver. After dissolution of gold and silver from the ground rock and filtering of the solution, the gold and silver would be precipitated from the solution by adding zinc powder. The resulting sludge would then be sent to a smelter for further processing.

The tailings or slurry would drain or be pumped through pipes across a proposed causeway to be built across Alder Creek to a proposed tailings pond.

The units within the mill which concern the Air Quality Bureau are the jaw crusher, vibrating grizzly, cone crusher, bucket elevator and fine ore bin. All of the units except a portion of the bucket elevator would be inside the building, therefore, dust generated in these units would be primarily an industrial hygiene problem, not an air pollution problem.

Movement of trucks along unpaved roads could be a source of particulate emissions. The road beds appear to be rocky enough that dust generation would not be a serious problem. Movement of ore outside the mill does not appear to be a problem since the ore contains about 6% water.

In an event the crushers, screens and elevator become a significant source of particulate emissions, a dust collector would be installed to collect the particulate.

The dust collector has been purchased and is located at the mill site ready for installation.

It is difficult to determine how much ore will come from each mine. If the mill is built, Mr. Scheitlin says he would open four other mines on his property. It is also likely other persons would open mines, providing the mill with additional sources of ore.

Initially, about 75% of the ore will come from the mine closest to the mill, with the remainder being delivered from nearby mines.

Since most of the equipment is situated inside the building, the noise problem should be minor.

The terrain surrounding the proposed site is brushy, and damage to the natural beauty and aesthetics of the area should be minimal. Some scarring of the landscape at the mine entrances would occur, and construction of the mill and tailings pond would disturb the area, but they are situated in the valley, which has been hydraulically mined and dredged several times.

The tailings pond location is not ideal due to its close proximity to Alder Creek. However, a universally acceptable disposal area has not been found because of high operational costs, the recreational nature of the Virginia City area, and rough terrain.

Locating the tailings pond across from the mill would allow the mill to operate long enough to be paid for, after which the additional cost of transporting dewatered tailings to another disposal area could be absorbed.

The possible contamination of Alder Creek is the most critical environmental problem associated with the mill; a records search revealed there is no flood plane delineation for Alder Creek.

Mr. Scheitlin has agreed to construct the pond according to the recommendations of the U. S. Bureau of Mines, minimizing the possibility of stream pollution from ground seepage or washout. Following these recommendations and receiving final approval from the Department of Health and Environmental Sciences' Water Quality Bureau would be requirements of the construction permit. When abandoned, the tailings would be covered by at least 3 inches of soil and planted to prevent a dust problem.

This pond is expected to hold the tailings from 3-5 years of milling. The ore from the mines is expected to last 10-20 years. When the pond is full, a new tailings disposal area will be established. This would require dewatering the tailings before hauling them to a disposal area by truck. Mr. Scheitlin has agreed to obtain approval of this disposal area from the Department of Health and Environmental Sciences prior to its construction. This would also be a condition of the construction permit.

The mill site was inspected by Dr. Ray L. Soderberg, P.E., from the Spokane Mining Research Center, U. S. Bureau of Mines, and Fred O. Gray, from the state Air Quality Bureau. The following requirements for the pond construction are based, in part, on their inspection.

The causeway across the creek would be constructed of bentonitic clay removed from the mill location. It would be clean and well compacted.

Two culverts would be placed in the creek in case one should become plugged. One would be 60 inches in diameter, and the other 24 inches.

The dike containing the tailings and water would have slopes no steeper than 2 to 1, be 8 feet across the top, have at least 2 feet of freeboard, and would be 12 feet high. No vegetation would be planted on the dike until the pond is abandoned. The toe of the dike would be 10 feet from the edge of the creek.

The pond would be about 450 feet long and 125 feet wide, with a maximum depth of about 12 feet.

The bottom of the pond will be cleaned and leveled prior to spreading the bentonite layer.

The dike will consist of four different materials. The inside layer would be an impervious clay about 6-8 inches thick. This layer will also cover the bottom of the pond. Bentonite from the same deposit used to seal the Virginia City sewage lagoons would be used. The second and primary dike material will be the same as the causeway material. Some of this may come from a new tunnel to be drilled into the hill at the west end of the causeway. The third layer will be a porous gravel material which would protect the second layer from possible sloughing off due to rain or seepage. This would come from the bottom of the pond area. The fourth and outer dike layer would be rip-rap. This would consist of rocks from 4 to 12 inches in diameter to protect the dike from wash-out. This material is available near the pond. The bottom half of the outside bank would be covered with rip-rap, 12 inches thick and 4 feet up the dike.

Three monitoring wells would be established between the creek and the dike, and another situated north of the pond. A cyanide monitor would be purchased to monitor ground water concentrations of cyanide at the four locations.

The decant water would be recycled. Slurry and decant water would be routed along the east edge of the mill access road, across the upstream side of the causeway and along the top of the dike. The slurry would enter the pond at several locations along the dike so the stream side of the pond would contain most of the settled-out tailings. This would make it more difficult for seepage into the creek. The decant water would be removed from the bank side of the pond and pumped back to the mill.

The economic impact of the mill would be significant in the Virginia City area. There have been three mining companies operating in the area, but recently they were notified that the type of ore they supply to Montana smelters is no longer being used. Collectively, they employ about 15 persons.

If construction of the mill is approved, it would help the local mining community, add to the tax base, generate additional tax revenues and lessen the dependence of Virginia City businesses on the seasonal tourist trade.

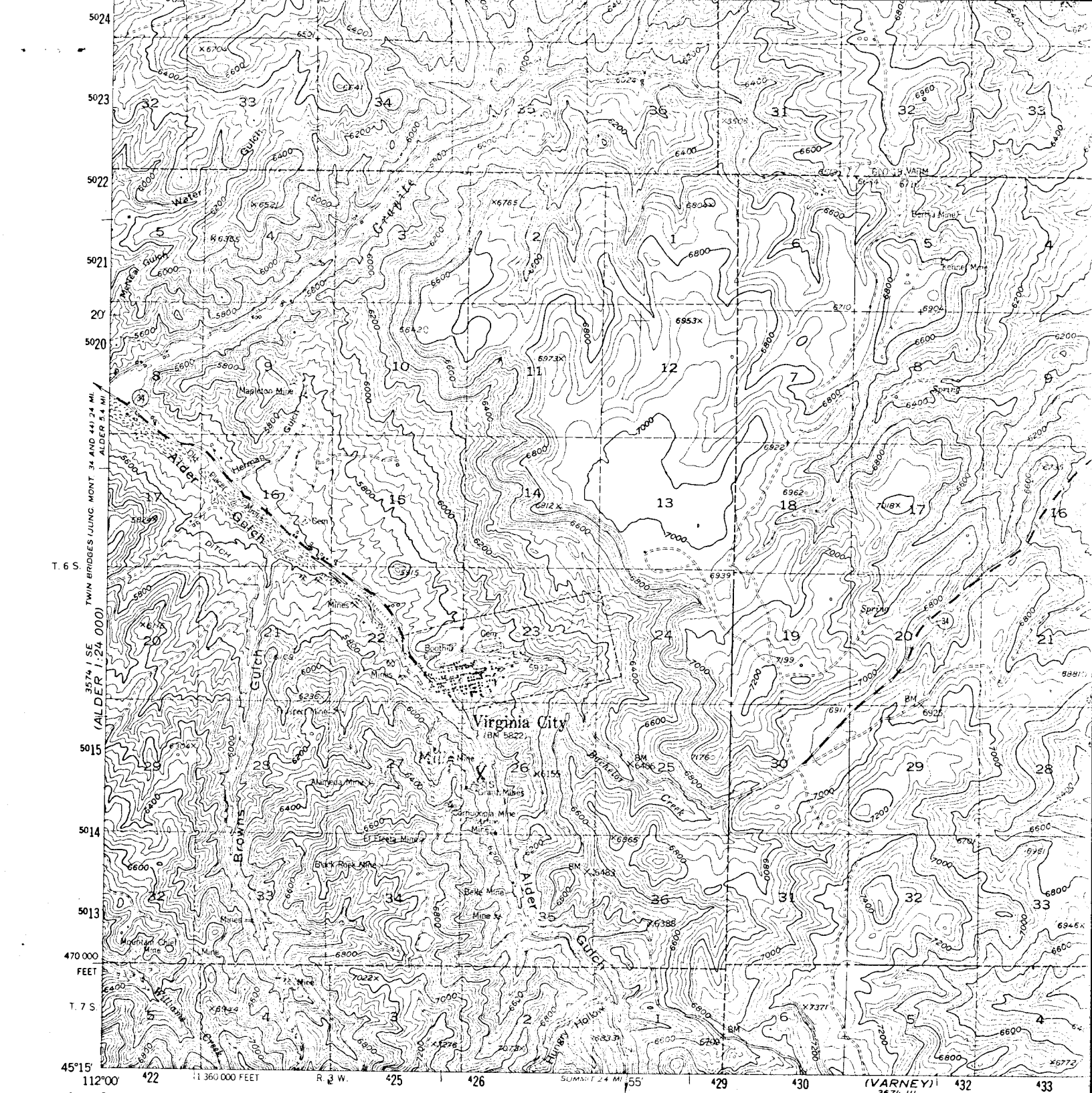
Alternatives

There are two alternatives available to the department, to issue a construction permit or not to issue a permit. From the data submitted, it appears that plans for air pollution control and waste disposal are in compliance with department standards and can satisfy department laws and regulations.

Conclusion

A construction permit will be issued 10 days after issuance of this declaration unless convincing response, supported by data, is received by the department.

(This negative declaration has been prepared by Fred O. Gray, Air Quality Bureau of the Environmental Sciences Division, and edited by Tom Ellerhoff, division technical writer.)



Stereo compilation by Fairchild Aerial Surveys, Inc. for the Bureau of Reclamation
Field examination and publication by the Geological Survey as part of the Department of the Interior program for the development of the Missouri River Basin

Control by USGS, and USC&GS

Topography from aerial photographs by stereoplanigraph methods
Aerial photographs taken 1947. Field check 1950

Polyconic projection. 1927 North American datum
10,000-foot grid based on Montana coordinate system, south zone

Dashed land lines indicate approximate locations

All mining features on this map are inactive unless otherwise indicated

Unchecked elevations are shown in brown

1000-meter Universal Transverse Mercator grid ticks, zone 12, shown in blue

UTM GRID AND 1950 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS