MacLaren

Docket - noted MLS 8/30/65

August 25, 1965

Memorandum

To: Chief, Office of Minerals Exploration

From: Harold Kirkemo

Subject: On-site examination report
OME-6418 (Gold-Silver)
James Donald Eckerson
Belle Mine
Jefferson County, Montana

INTRODUCTION

The Belle mine property was examined on June 25, 1965, by the writer who was accompanied by the Applicant, Mr. James D. Eckerson. The purpose of the visit was to examine a recently discovered "24-foot wide surface lead" near the Belle vein.

The present Applicant's mother submitted an application in 1954 for DMEA assistance to explore the mine, but withdrew the application in 1955 for lack of funds to finance her share of the proposed program (DMEA Docket 3312).

The original OME application was for a program to explore the Belle vein at a cost of $17,322.50. This was revised later to include work on the adjacent new discovery, and the estimated cost was raised to $40,472.50. The latter proposal consisted of 450 feet of tunnel rehabilitation, 300 feet of drift and crosscut, 10 days of trenching with a bulldozer, 100 feet of shaft sinking, 14 miles of road repair, renting and purchasing miscellaneous items.

SUMMARY, CONCLUSIONS, AND RECOMMENDATION

No underground or surface exploration or development work has been done on the Belle vein since 1950 when the property was mapped by a Geological Survey geologist. The Applicant's

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financial resources and mining competency have not improved since 1954, and the access road is in further disrepair. The new discovery is a 4 to 18-inch wide quartz vein, virtually barren of ore values, which is exposed for 24 feet in a surface cut about 350 feet north of the Belle vein.

The present potential of the Belle mine is less attractive than in 1954 considering higher operating costs now and the greater amount of rehabilitation work necessary to gain access into the mine. The recently discovered vein does not add to the potential of the property.

It is recommended that the application for exploration assistance be denied because no worthwhile exploration targets are evident from the available geologic facts.

LOCATION AND ACCESSIBILITY

The Belle mine is in the Tizer Basin area in the southern Elkhorn Mountainsabout 18 miles airline southeast of Helena, Montana, and in sec. 15, T. 7 N., R. 2 W. The mine portal is on the east side of Moose Creek, a tributary of Crow Creek, at an altitude of 6,840 feet. (See Figure 1).

The mine is accessible on a 13.5-mile road extending east from U. S. Highway 91 at Jefferson City. The road follows Prickly Pear Creek to its headwaters, crosses a divide into Tizer Creek, crosses another divide east of Bullock Hill at an altitude of 7,360 feet, crosses Crow Creek, and follows Moose Creek north to the mine. Only 4-wheel drive vehicles can negotiate the road because of washouts, swampy areas, rocks, and steep grades. The round trip for this examination required about five hours of driving.

GEOLOGY

The geology of the Belle mine was described by Mr. Robert A. Weeks, geologist, U. S. Geological Survey, and published in U. S. Geological Survey Professional Paper 292, page 73, as follows:

> "A narrow vein in andesitic crystal tuff has been explored by a 700-foot adit at the Belle mine near the mouth of Moose Creek. The vein has been traced at the surface for about 2,000 feet. In the accessible part of the adit the vein trends N. 75° - 80°E. and

dips from 50°SE to vertical. In places it consists of one or more bands of quartz as much as 6 inches thick with smaller amounts of calcite, pyrite, and galena. In other places the vein is a zone of altered andesitic rock as much as 6 feet thick containing disseminated pyrite and galena. Malachite stain is common in the oxidized part of the vein. Typically the rock adjacent to the vein is bleached and pyritic andesitic tuff. The ore produced until 1950 is reported to have averaged 0.77 ounce of gold, 17 ounces of silver, and 17 percent lead, and to have a total value of $16,000."

Since September 1950 when Mr. Weeks examined the property, the mine has become entirely inaccessible because of caves and surface slough at the portal. No new work has been done on the surface to explore the Belle vein.

The reported "24-foot wide lead adjacent to the main lead" is a white quartz vein exposed in a surface cut about 500 feet above the portal of the Belle mine and about 350 feet north of a vein outcrop which the Applicant identified as the main lead (Belle vein). It occurs in tuff, is exposed along 24 feet of the surface cut, strikes N. 80°E., dips 73°S., and is 4 to 18 inches wide. (See Figure 1).

The assays listed below of three samples cut from the vein indicate that it is virtually barren of mineral values.

		Oz. per ton		Percent	
Sample No.	Width	Gold	Silver	Lead	Copper
558 B	4 inches	0.01	0.2	None	Trace
559 B	18 "	0.01	0.7	None	Trace
560 B	6 "	0.01	Trace	None	Trace

No geologic structure is associated with the vein to warrant exploration for possible ore shoots in the vein, and there was no exposure of vein material elsewhere to support the application for OME assistance.

Reasons why the property as now developed could not be recommended for an OME contract were discussed with the Applicant. The main reasons cited were the excessive rehabilitation necessary to enter

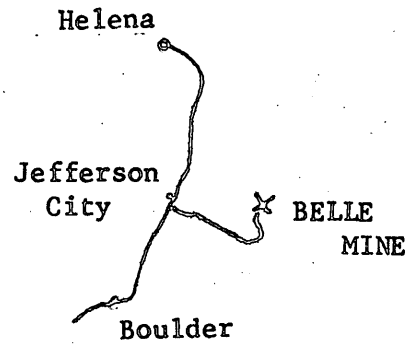
and examine present mine workings; the poor outlook for discovering anything of consequence on the "new discovery"; and the work necessary to improve the access road.

The inexperience of the Applicant in mining and in evaluating exploration costs was evident from the discussion and from the information submitted with the application.

Harold Kirkemo

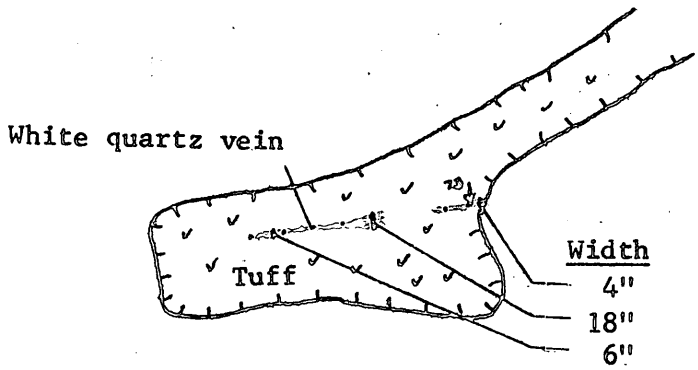
Harold Kirkemo

HKirkemo/mm
cc: MacLaren (2)
USGS (SRO)
Kirkemo



Scale: 1" = 18.5 miles

Index Map
Belle Mine
Jefferson County, Montana



Scale: 1" = 20'

Assays

Width	Oz. per ton Au.	Oz. per ton Ag.	Percent Pb.	Percent Cu.
4"	0.01	0.2	none	trace
18"	0.01	0.7	"	"
6"	0.01	trace	"	"

Geologic and Assay Map
of Vein in Surface Cut
350 feet north of Belle Vein
Belle Mine
Jefferson County, Montana

Figure 1