May 7, 1951

Memorandum

To: Langdon Pershel, Executive Secretary, Defense Materials Administration

From: DMA Field Team, Region IV

Subject: DMA Project 241, Bath mine, Pelori Mining Company, Yavapai county, Arizona

We are enclosing the original and three copies of the report on the above Project.

You will note that the field team do not recommend further consideration of this property.

We concur in the recommendation.

F. T. Allsman, Geologist

A. H. Koschmann
A. H. Koschmann

Attachments
One copy by air mail
Two copies by regular mail

Copies to DMA files
Allsman
Koschmann
Storms
Anderson

RUTH MINE (CALARI MINING COMPANY)
YAVAPAI COUNTY, ARIZONA

Defense Minerals Administration
Report Docket 242

APPROVED:

P. T. Allsman, Alternate

A. H. Koschmann

United States Department of the Interior
Defense Minerals Administration
James Boyd, Administrator

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

224 NEW CUSTOMHOUSE
DENVER 2, COLORADO

May 4, 1951

Memorandum

To: DMAField Team, Region IV

From: Chief, Mining Division

Subject: DMADocket 242, Ruth mine, Calari Mining Company, Yavapai county, Arizona

The report on the above application has been reviewed. It is noted that the examiners suggest that the applicant open the mine for inspection. Presumably this would be a proper activity under the DMA regulations on a matching fund basis, however, the information submitted hardly warrants even the advance of half the modest sum required to make an additional investigation.

Further consideration is not justified.

P. T. Allsman

Attachments

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P.O.Box 4126, University Station
Tucson, Arizona

Mining Division
Date Rec'd.
APR 27 1951
BUREAU OF MINES
Denver, Colorado

April 23, 1951

Memorandum

To: Mr. P. T. Allsman, Denver, Colorado
Mr. A. H. Koschmann, Denver, Colorado

From: Chief, Arizona-New Mexico Br., Mining Div., Region IV
District Supervisor, Arizona-New Mexico

Subject: DMA Docket #242, Ruth Mine (Calari Mining Company), Yavapai County, Arizona

Enclosed are original and 11 copies of the above report by L. A. Stewart and C. A. Anderson. Please return one copy to Storms and one copy to Anderson.

This report was started as an integrated report before instructions were received to write separate reports on geology and engineering. Final checking in the field was delayed because of snow cover, and did not change earlier written report.

This report recommends that the application for a loan be denied. If applicant unwaters the mine and cleans up the lower levels for examination, the application for a loan should be reconsidered.

We approve of this recommendation.

Walter R. Storms

W. R. Storms, Chief, Ariz.-N. Mex.
Br., Mining Div., Region IV

Charles A. Anderson

Charles A. Anderson
District Supervisor, Ariz.- N. Mex.

RUTH MINE (GALARI MINING COMPANY)

YAVAPAI COUNTY, ARIZONA

By L. A. Stewart[1] and G. A. Anderson[2]

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1/ Mining Engineer, Arizona-New Mexico Branch, Mining Division, Region IV, U. S. Bureau of Mines, Tucson, Arizona.

2/ Geologist, U. S. Geological Survey, Prescott, Arizona.

SUMMARY AND CONCLUSIONS

The applicant wishes a loan of $267,950 to unwater the Ruth mine, drive 1200 feet of underground workings, and erect a 150 ton selective flotation mill. The ore deposit consists of a narrow quartz vein containing scattered sulfides of lead, zinc, and copper. No minable ore of appreciable tonnage was observed in the mine openings available for examination. Dump ore of 4000 tons contains less than 1 percent lead, between 2 and 3 percent of zinc, and about 2 oz. of silver per ton.

It is recommended that the application for a loan be denied. If the applicant unwaters the mine and cleans up the lower levels for examination, the application for a loan should be reconsidered.

INTRODUCTION

This report covers information obtained during the course of an examination of the Ruth Mine, Yavapai County, Arizona. The examination was made in connection with a request by the Calari Mining Company, L. F. Albrecht, President, 406 Kress Building, Long Beach 12, California, for governmental aid under the Defense Production Act of 1950, to start production from a lead-zinc vein on this property.

The application for governmental aid, docketed as DMA #242, states that a loan of $267,950.00 is requested. This request is broken down as follows: 1) $2,600 for labor and equipment to unwater the mine; 2) $46,350.00 for labor and equipment to open up 1,200 feet of additional underground openings (deepen shaft 200 feet, drifts 500 feet long, and 500 feet of raises); 3) $221,600.00 for the erection of a 150 ton selective flotation mill. The applicant states that the 2nd and 3rd request should be contingent upon the success of the prior requests.

According to the applicant, unwatering the mine will expose 8,000 tons of milling ore plus 12,000 tons of shipping ore having a gross value of $345,000.00. The proposed underground development should block out 100,000 tons of ore having a gross value of $5,000,000.00. The applicant states further that after development, 150 tons of direct shipping ore could be mined each week, and if a mill is constructed, 200 tons of ore per day could be milled in a 150 ton mill owing to the coarse texture of the sulfide minerals.

The reserves include 4,000 tons of dump ore which is supposed to contain .09 oz. of gold per ton ; 3.1 oz. of silver per ton, 3.2 percent of lead and 4.7 percent of zinc, estimated to have a value of $20.00 per ton.

No collateral is offered for security in payment of the loan.

The property was examined on February 27, 1951 by C. A. Anderson of the Geological Survey, and L. A. Stewart and W. T. Griswold of the Bureau of Mines. L. F. Albrecht, President of the Calari Mining Company guided the government men to the property. A Brunton-tape map was made of the only accessible mine workings and accompanies this report. Inclement weather and snow cover made it impossible to observe the surface exposures of the vein on February 27, and the surface was examined subsequently on April 3, 1951.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The Ruth mine is in the Hassayampa mining district, Yavapai County, Arizona, 5 miles airline south of Prescott, the county seat. The mine is on the boundary of sections 29 and 32, T 13 N, R 2 W., Gila and Salt River meridian and base line. The property is accessible from Prescott by traveling 6 miles south on paved highway 89 and turning southeast for 1.7 miles on a graded dirt road (fig. 1).

The topography is moderately rugged and the mine is to the east of Indian Creek, a tributary to Hassayampa Creek. The elevation at the mine is approximately 5,600 feet.

The property is located in an oak and pine forest and timber for a small mining operation is available.

At Prescott, the temperature ranges from -21 to 110 degrees and the annual mean temperature is about 53 degrees. Annual precipitation at Prescott averages about 18 inches which includes about 30 inches of snowfall yearly. The Ruth mine is at a comparable elevation to Prescott, and the climate is substantially the same. Heavy snowfall might close a mining operation for a very short time.

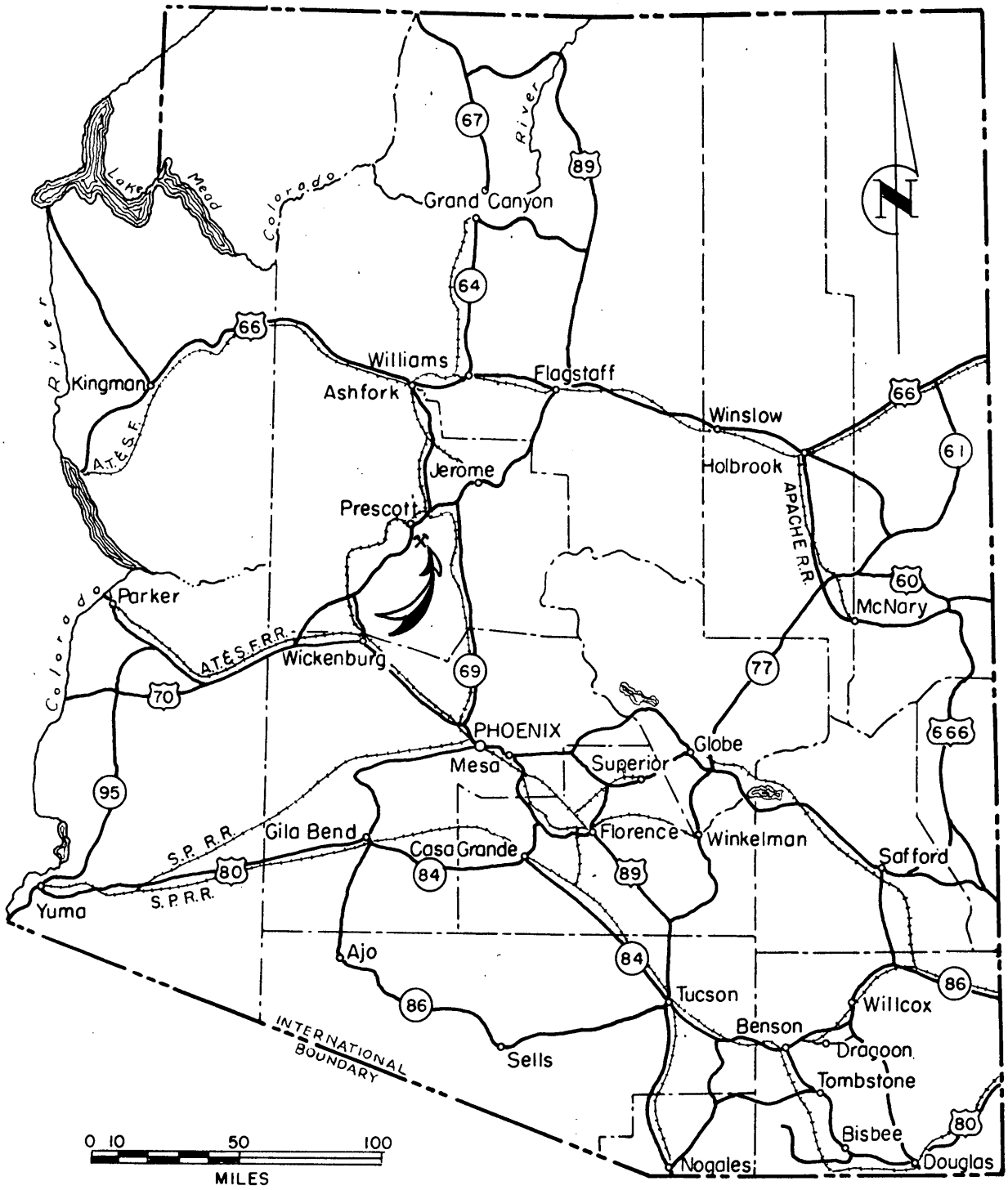


Figure 1. Location map, Ruth Mine, Yavapai County, Arizona.

HISTORY AND PRODUCTION

It is reported that the Ruth mine was opened for gold about 1880. Later production in 1911-1913, 1916, and 1926 has been chiefly lead, zinc, and silver. No record is available as to the total tonnage that has been mined and shipped; incomplete records indicate perhaps several car loads, mostly of shipping ore to smelters, but one shipment was made to the Iron King custom mill at Humboldt, Arizona. In 1943, a 50 ton mill was on the property for milling dump ore, but only 50 tons of ore was milled at that date.

OWNERSHIP AND EXTENT

The owner of the Ruth mine is the Calari Mining Company, 406 Kress Building, Long Beach 12, California. This company is a California corporation with 132 stockholders, the majority living in Long Beach, California. This company purchased the mine from B. S. Meacham in 1944.

The property consists of the Ruth patented claim of approximately 20 acres; the fraction Anna lode claim of about 10 acres, the Alice lode claim of 20 acres, and the Ruth millsite held by occupancy. Adjoining these claims to the northwest is a quarter section of patented land owned by some members of the group interested in the Ruth mine.

GEOLOGY

The Ruth mine is in the pre-Cambrian Bradshaw granite that is intrusive into nearby Yavapai schist. Small pegmatite dikes are present in the granite. In the first level of the mine, a fine-grained dark rock is essentially parallel to the vein, on the footwall side of the vein. Presumably this rock is a dike, diabase or lamprophyre, intrusive into the granite.

The vein is a typical fissure type of quartz vein containing scattered sulfide minerals. The strike of the vein is essentially N. 20° W. and the dip ranges from 45° to 50° E. The granite country rock is crushed and sericitized along the vein zone, forming definite hanging and foot walls. The width of the altered zone ranges from 2 inches to 4½ feet along the 250 feet of exposures in the first level (fig. 2). Quartz veins ranging from 1 to 6 inches in width ramify through the crushed and sericitized granite. Some of the quartz contains black tourmaline, pyrite, and ankerite. Galena, sphalerite, and some chalcopyrite form irregular bunches in the vein. One lens of high grade galena, 6 inches in width, is present in the first level and some of this streak has been mined in a small underhand stope.

A manway raise to the surface connects with the stope shown on Figure 2. The vein pinches out in the upper part of the stope. A small lens of vein material is visible along one side of the raise, sulfide-bearing quartz veins 1 to 2 inches wide ramify through altered rock 2 feet wide. No other sulfide-bearing portions of the vein are visible in the raise.

A prospect shaft 630 feet south-southeast of the main shaft exposes the vein, 2 to 3 inches wide. Galena, pyrite, and covellite coatings on sphalerite (?) in quartz vein fragments are present in the dump. Malachite and azurite coatings are present also.

Another prospect shaft, 300 feet northwest of the portal of the adit, exposes white quartz vein 2 feet wide. Fragments of the vein on the dump contain splotches of chalcopyrite, galena, sphalerite, and pyrite.

ORE RESERVES

No minable ore of any appreciable tonnage was observed in the first level or raise as the veins are too narrow and the sphalerite and galena are too sporadic in distribution to constitute minable ore. The applicant stated, orally, that the best ore is in the lower levels, south of the main shaft. All of this ground is under water and no assay plans are in possession of the applicant to substantiate these claims. Until the mine is unwatered, no checking of reserves in the mine is possible.

The applicant states that there are 4000 tons of ore on the dump, having an estimated value of $20.00 per ton. Measurements of the dump by us show that this tonnage estimate is of the right order of magnitude. Two assay returns are given by the applicant, made by E. E. Hand, Jr., dated 1940.

	Gold oz.	Silver oz.	Cu percent	Pb percent	Zn percent
Dump pit sampling	0.04	2.2	.12	1.4	4.6
Dump 15 ton mill run	0.05	2.6	.18	1.8	3.3

A grab sample of the dump was made by Marlow D. Phelps of the U. S. Bureau of Mines, on September 6, 1943, with the following results: lead 0.3 percent; zinc 3.6 percent.

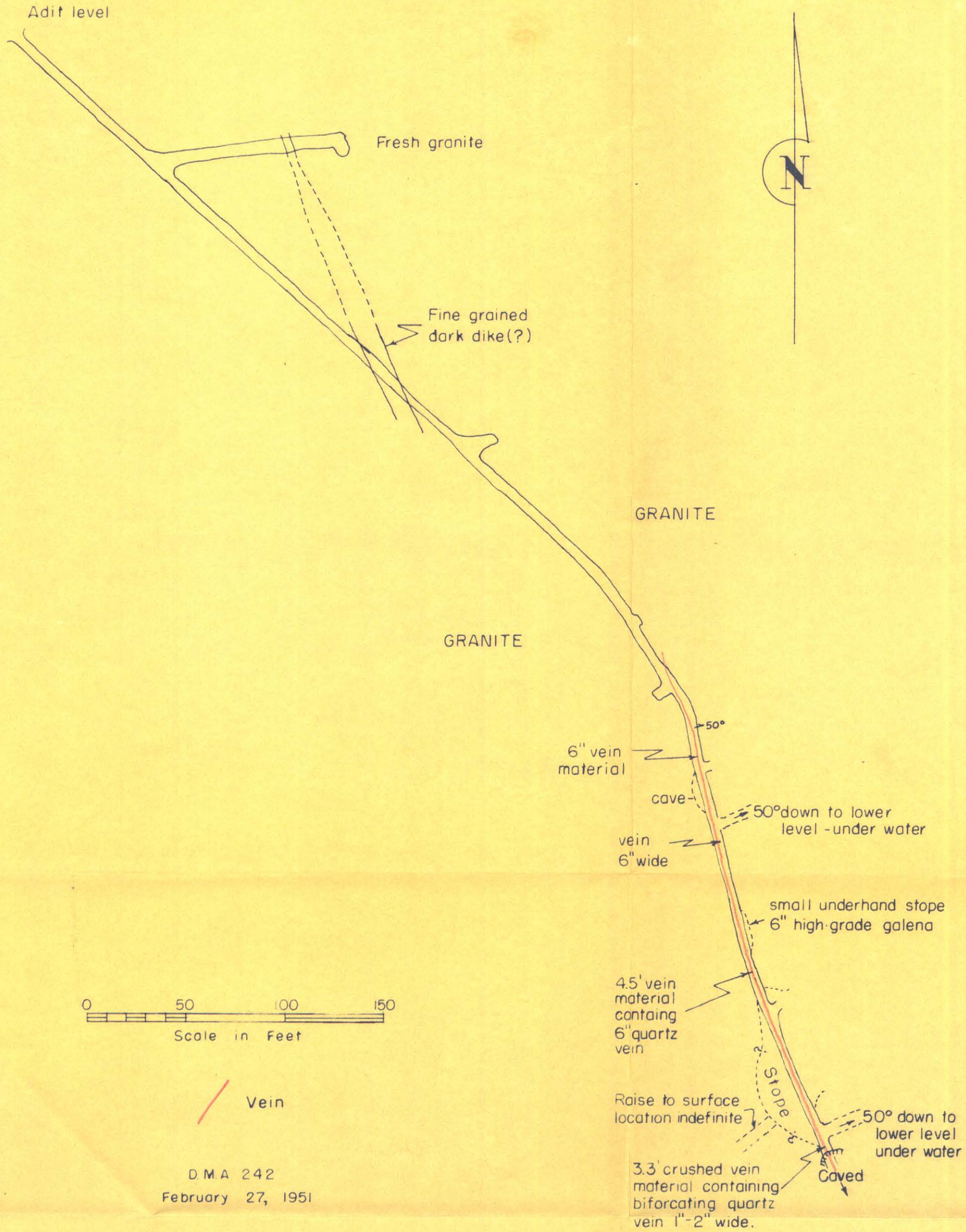
A large dump sample was collected by Anderson, Stewart, and Griswold on April 3, 1951 by taking small pit samples in a grid pattern over the surface and by random sampling from the southwestern face. This sample was quartered and submitted to Jacobs Assay Office, Tucson, Arizona, for assaying with the following results:

Gold oz.	Silver oz.	Cu percent	Pb percent	Zn percent
0.015	1.7	0.06	0.85	1.55

The grade of the dump apparently is less than 1 percent lead, between 2 and 3 percent zinc, and about 2 oz. of silver per ton.

CONCLUSIONS

On the basis of the mining openings available for our observation, no ore reserves can be estimated, and it is our recommendation that the application for a loan be denied. If the applicant unwaters the mine and cleans up the drifts so that the lower levels are available for examination, it is recommended that the application for a loan be reconsidered.



D.M.A 242
February 27, 1951

C. A. Anderson, U. S. Geological Survey
L. A. Stewart, U. S. Bureau of Mines

Figure 2.- Brunton-tape map, 1st level, Ruth Mine, Yavapai County, Arizona.