UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.

224 New Customhouse
Denver 2, Colorado

October 3, 1951

Memorandum

To: Executive Secretary, Defense Minerals Administration

From: DMA Field Team, Region IV

Subject: DMA Docket 1341X, EMM Mining & Development Corporation, Antelope Claims, Pima Mining District, Pima County, Arizona

Enclosed herewith are the original and two copies of the report on the EMM Mining and Development Corporation as listed above.

We concur with the recommendations of the field examiners that the loan be denied.

The brochure is returned herewith.

J. H. East, Jr.

for A. H. Koschmann

Enclosures

JHE:ld

cc: DMA

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.

200 New Customhouse
Denver 2, Colorado

September 28, 1951

Memorandum

To: DMA Field Team, Region IV

From: A. H. Koschmann

Subject: DMA Docket 1341X, EMM Mining and Development Corporation, Antelope Claims, Pima Mining District, Pima County, Arizona

Enclosed are the original and 7 copies of the geologic report by Calvin S. Bromfield of the U. S. Geological Survey covering the above docket. It has been recommended that the loan be denied.

A. H. Koschmann

A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (9)

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

~~September 7, 1951~~

SEP 25 1951

Memorandum

To: Field Team, Region IV, Denver, Colorado
Through: Mr. A. H. Koschmann

From: Mr. A. F. Shride, Tucson, Arizona

Subject: Report on DMA 1341X, EMM Mining and Development Corporation, Antelope Claims, Pima Mining District, Pima County, Arizona

Enclosed are the original and 7 copies of the above report by C. S. Bromfield of the Geological Survey. This is the complete report; there will be no engineering report to accompany this geologic report.

This report and the recommendation that an exploration loan be denied, because of lack of geologic possibility of discovering a minable orebody, have my approval. The brochure is enclosed.

A. F. Shride

A. F. Shride
Acting District Supervisor
Arizona-New Mexico

Enclosures 9

SEP 1951
RECEIVED
U.S. Geological Survey
Mineral Deposits Branch
Denver

# PIMA MINING AND DEVELOPMENT CORPORATION
# APPLEGATE CLAIMS, PIMA MINING DISTRICT
# PIMA COUNTY, ARIZONA
# MAP 1LAK

## Geology

By Calvin S. Bromfield
Geologist, U. S. Geological Survey

KNM MINING AND DEVELOPMENT CORPORATION
ANTELOPE CLAIMS, PIMA MINING DISTRICT
PIMA COUNTY, ARIZONA
DMA 134IX

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## INTRODUCTION

The KMM Mining and Development Corporation submitted a request for a development loan dated May 24, 1951 under the Defense Production Act of 1950. A subsequent letter from the Lead-Zinc Branch of the DMA suggested that because the applicants had insufficient proven reserves they should enter an application for an exploration loan. This was done under date of June 21, 1951. The applicants, Mr. Frank McCarger, President of the KMM Mining and Development Corp., and Mr. Rex McBurnes, Vice-President, have outlined a project estimated to cost $17,025, of which the Government would participate to the extent of half the cost.

The docket was received in the Tucson office of the Defense Minerals Administration with a request that a geologic appraisal be made as to the feasibility of an exploration project. An engineering report was requested only if the geologic report was favorable.

The property was visited on August 17, 1951 and again on August 24, 1951. Thanks are due to Frank McCarger for courtesies extended to the examining geologist.

## LOCATION

The Antelope 1, 2, and 3 claims of the KMM Mining and Development Corp. are in the Pima Mining District 22 road miles south of Tucson, Arizona. They are located in the west central portion of sec. 15, T. 17 S., R. 12 E. (fig. 1). An excellently maintained highway from Tucson passes within two miles of the claims. A good desert road runs southwest from the highway to the property (fig. 1).

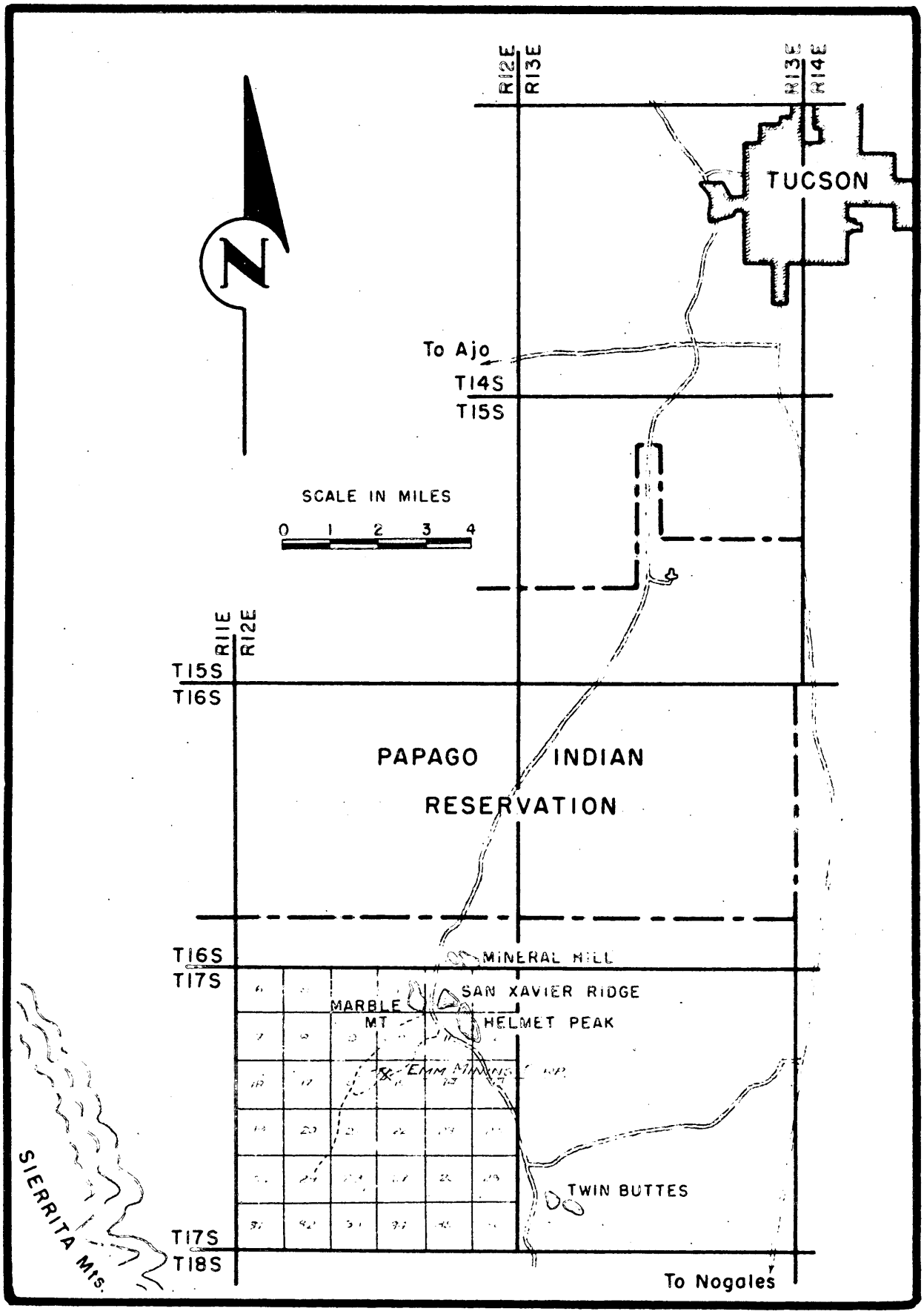



FIG. 1 LOCATION MAP OF EMM MINING CORP.

DMA 1341 X

## OWNERSHIP AND EXTENT

The three contiguous claims known as the Antelope 1, 2, and 3 (formerly known as the Ohio 3, 7, and 6 respectively) are owned by J. W. and Leona Mills and according to the application are under a 10 year lease and option to Frank McCargar, Rex McBarnes, and H. C. Ertel. The writer was informed at the time of his visit to the property that H. C. Ertel's interest in the corporation has been purchased, and he is no longer connected with the enterprise.

## GENERAL GEOLOGICAL SETTING

The Antelope claims lie within an area of brecciated andesite. This area forms an elongated outcrop extending in a northeast direction from the claims for about 4000 feet and there adjoins Cretaceous arkoses and shales, and it extends a similar distance to the southwest where it disappears under alluvium. The andesite outcrop is from 1000 to 3000 feet wide and is bordered on the east and south by alluvium and on the west by granite (fig. 2). The Paymaster Mine 2500 feet to the west of the Antelope claims expose granite in the shaft at a depth of 300 feet. Granite probably underlies the andesite at no great depth.

To the north of the bordering Cretaceous rocks and about two miles northeasterly from the Antelope claims is a complexly faulted area of Paleozoic rock in which contact metamorphic deposits occur in limestone. The San Xavier Mine is located in this area, and it is from here that the important production of base metals in the district has come.

## ORE DEPOSITS

The mineralization in the area occurs in narrow fissure fillings in andesite. The veins trend northerly to northeasterly. On the main

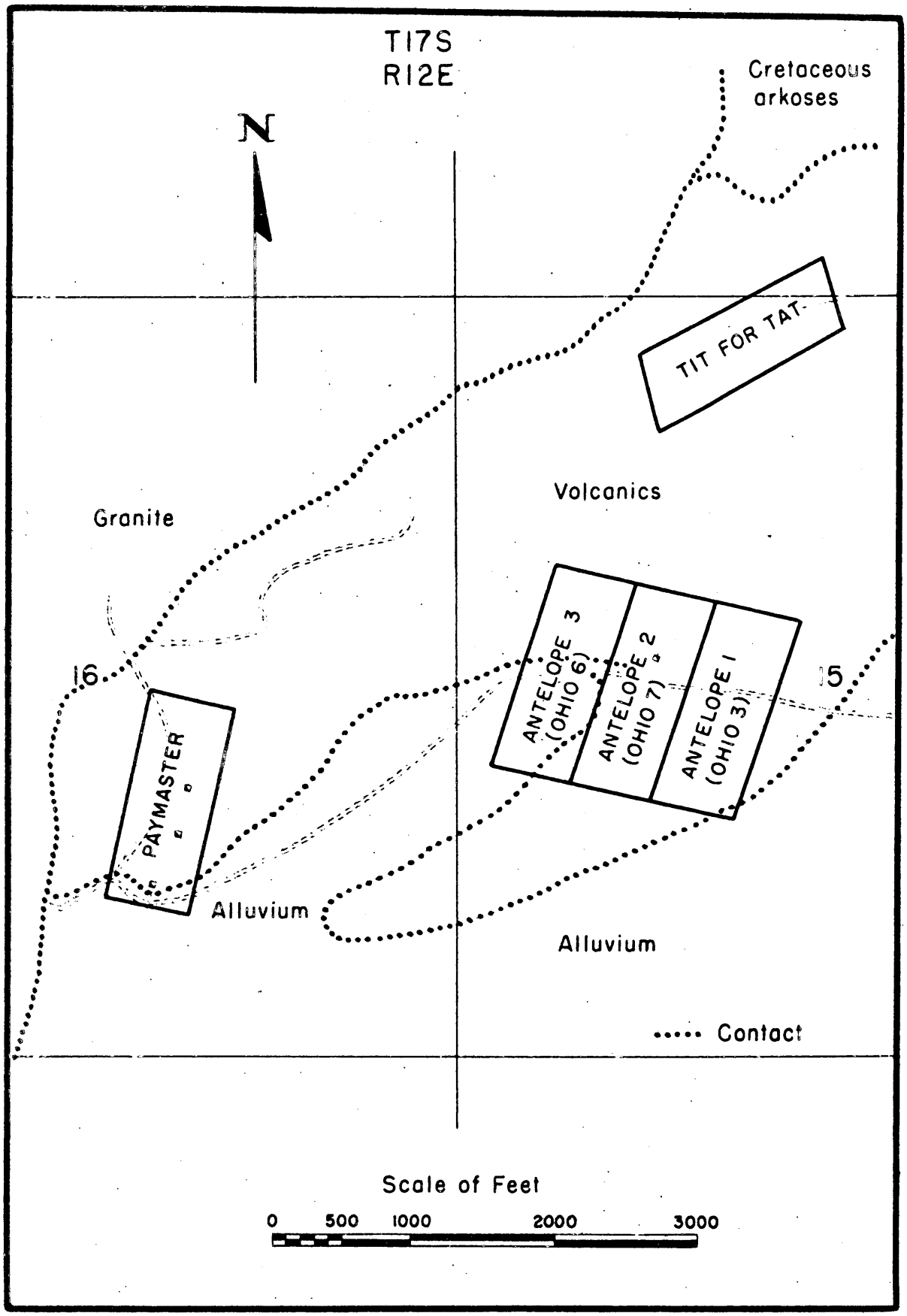



FIG 2 ANTELOPE CLAIMS & VICINITY WITH GEOLOGIC RELATIONS

DMA 1341X

vein of the Antelope claims the vein strikes N. 7° E. and dips steeply to the west. It has been opened by a 132 feet shaft on the vein and by a total of about 180 feet of drifting on the 50 and 100 feet levels. The 100 foot level is not accessible as water is standing in the shaft 60 feet from the collar. These workings are known as the Antelope Mine. The average width of the vein is from 1 to 2 feet. Where the vein was observed on the 50 foot level, it was composed of clayey gouge with sparse mineralization. At the north end the vein is composed of 1-3 inches of gouge; at the south end the vein has a width of 17 inches. A small amount of galena and sphalerite was observed at the south end of the 50 foot level, and a little sphalerite near the north end, otherwise the vein is barren.

Twenty feet down from the collar of the shaft on the south side the vein had a width of 31 inches with some galena in a limonitic gouge matrix. The applicants were working here at the time of the first visit to the property. When the property was revisited a week later, the applicants had shot a round out and the face was barren (see Sample 1, fig. 3, and table below). In the shaft set immediately below this "pocket" the vein was barren. It is characteristic in this area for the mineralization to be in discontinuous pockets.

As far as the writer was able to determine there is no recorded production from this prospect.

Some sphalerite and galena and a few grains of chalcopyrite were observed. Silver in the district when it occurs is largely in argentiferous tetrahedrite. The gangue of the veins is composed of limonitic gouge and a little quartz.

Three channel samples were taken to gain an idea of the tenor of the vein material. They are all of very low grade. Sample 1 represents the best of the vein material in the accessible workings. For sample locations, see figure 3.

TABLE I

| Sample No. | Remarks | Width (Inches) | Gold oz/ton | Silver oz/ton | Lead % | Zinc % |
|---|---|---|---|---|---|---|
| 1 | Face of gouged pocket in shaft | 20 | trace | 0.4 | 0.3 | 0.3 |
| 2 | "Best" material seen | 17 | .02 | 0.4 | 0.9 | 0.4 |
| 3 | Average vein material | 22 | trace | 0.4 | 0.2 | 0.2 |

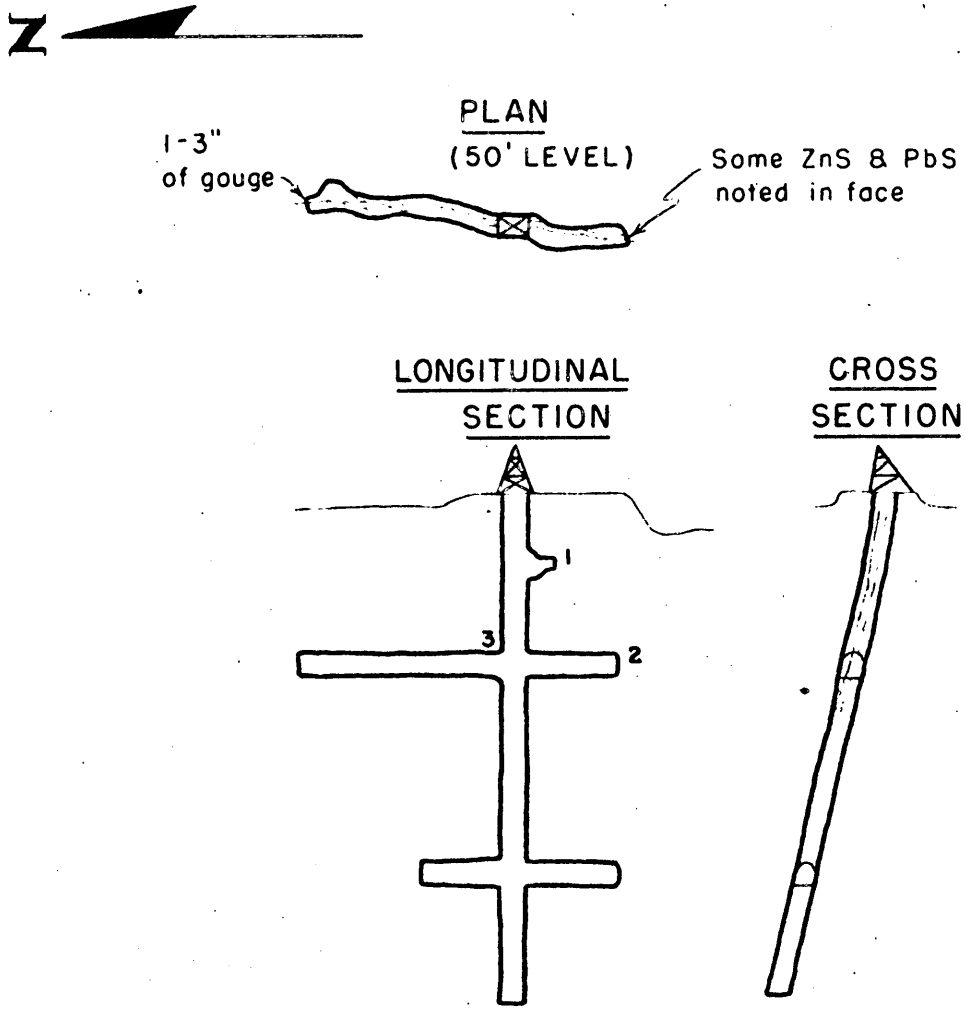
These samples indicate that the vein material cannot even be considered as a low grade mill ore, as contended by the applicants. The applicants have taken no systematic samples of the vein, and were relying largely on hearsay.

ORE RESERVES

There are no measured, indicated, or inferred reserves above the 50 feet level of the Antelope Mine. The 100 feet level is inaccessible and there are no positive data on the vein. It cannot logically be assumed that there will be any appreciable change in vein character. Dump material supposedly representing the lower portions of the mine show that little mineralization is present there.

PROPOSED EXPLORATION

It is proposed by the applicants to extend the shaft from the 132 foot to the 300 foot level and to drift north and south for 50 feet on the 150, 200, 250, and 300 foot levels. This exploration is based on the assumption that ore of higher grade will be encountered at depth.




| SAMPLE | LENGTH | DESCRIPTION | Au | Ag | Pb | Zn |
|---|---|---|---|---|---|---|
| 1 | 20" | FACE OF GOUGED POCKET IN SHAFT | Tr. | 0.4 | 0.3 | 0.3 |
| 2 | 17" | LIMONITIC GOUGE, SOME Pbs, ZnS | 0.02 | 8.4 | 0.9 | 0.4 |
| 3 | 22" | AVERAGE VEIN MATERIAL | Tr. | 0.4 | 0.2 | 0.2 |

SCALE 1" = 50'

FIG. 3 PLAN & SECTIONS WITH ASSAYS EMM MINING CO.
DMA 1341X

The applicants rightly have little expectations of finding any ore above the 50 foot level, and are placing their hope on ore which they expect to come in with depth. There is no geologic basis for this hope.

## CONCLUSIONS

In the work which has been done on the claims of the EMM Mining and Development Corporation up to the present time no recorded production has been made. In the shaft and on the 50 foot level of the Antelope Mine no encouraging sign has been discovered. The vein as exposed is essentially barren. Any likely discovery is apt to consist of small pockets of a few tons distributed sparingly within the narrow vein. In addition there is no geologic reason to expect the ore to become more abundant or of higher grade with depth. This misconception seems to be the hope of the applicants.

It is concluded that there has been insufficient discovery of minable material in ratio to the amount of work done on the vein to give reasonable expectation of making a significant discovery of lead-zinc ore through further exploration. Therefore, from a geologic viewpoint, the application cannot be recommended.

OCT 16 1951

Re: Docket DMA-1341

MATERIAL RECEIVED
OFFICE
REGION IV
OCT 22 1951
BUREAU OF MINES
DENVER, COLORADO

Sam Mining and Development Corporation
Ruby Star Rt., Box 9
Tucson, Arizona

Gentlemen:

The Lead-Zinc Branch has received a field team report based upon an examination of your property, the Antelope claims, in Pima County, Arizona.

Review of this report indicates, on the basis of geologic evidence, that there is little possibility of finding a substantial body of commercial ore at depth and that further exploration is not warranted. In view of this, we are not able to justify an expenditure of public funds for the work you propose. I regret, therefore, that your application must be denied.

We wish to thank you for bringing this property to our attention.

Very truly yours,

Tom Lyon

Tom Lyon, Director
Supply Division

EJLyons:emp
G 10-12-51
Copies to: J.H. East, Jr. (2)
Chief, Lead-Zinc Br.
E. T. McKnight 4204 GSA
O. M. Bishop
Directors r. files 4214 GSA
Br. r. files 4214 GSA
Administrators r. files

Rejected

J. H. East, Jr.

REGIONAL DIRECTOR'S OFFICE
REGION IV
OCT 18 1951
BUREAU OF MINES
DENVER, COLORADO

350

OCT 16 1951

Memorandum

To: Reports and Records Unit
Administrative Management Div.

From: Chief, Lead-Zinc Branch

Docket DMA-1341X
Emma Mining and Development Corporation, Tucson, Ariz.
Antelope Claims, Pima County, Arizona
Exploration loan, $17,025
Lead, zinc

Subject: Recommendation for denial of exploration loan.

A field team report on the geology of the Antelope claims of the Emma Mining and Development Corporation has been received by the Lead-Zinc Branch.

The workings consist of a 132 shaft on the vein and a total of 120 ft. of drifting on the 50 and 100 foot levels. The 100 ft. level is not accessible because of water.

The claims are in an area of brecciated andesite which extends northeast from the claims about 4000 ft. The andesite area is from 1000 to 3000 ft. wide in a NW-SE direction. On the west side granite is present and it is present and it is probable that granite underlies the andesite at no great depth.

Mineralization occurs in narrow fissures which trend northerly or northeasterly. The main vein on the Antelope claims strikes N 7° E, and dips steeply to the west. Its average width is from 1 to 2 feet. Where observed, the vein was composed of clayey gouge with very sparse mineralization consisting of sphalerite and galena and a few grains of chalcopyrite. Three samples were taken by the examining geologist. No. 1 taken over a width of 20 inches from the face of a gouged pocket in the shaft 20 ft. below the collar assayed. Tr. Au, 0.4 oz. Ag, 0.3% Pb, and 0.3% Zn. No. 2 taken over a width of 17 inches from the vein at the south face of the 50 ft. level assayed 0.02 oz. Au, 0.4 oz. Ag, 0.9% Pb, and 0.4% Zn. No. 3 taken from the vein on the north side of the shaft over a width of 22 inches assayed Tr. Au, 0.4 oz. Ag, 0.2% Pb, and 0.2% Zn. This last sample was considered average vein material.

No recorded production is known from this prospect and there are no measured, indicated, or inferred reserves above the 50 ft. level.

The applicant originally applied for a direct loan, but at the suggestion of the Lead-Zinc Branch in Washington changed it to an exploration loan. The proposed exploration, which it is estimated would cost $17,025, consists of deepening the shaft to the 300 ft. level and drifting north and south from the shaft a distance of 50 ft. in each direction on the 150, 200, 250, and 300 foot level.

Because the present vein showings are very poor and there is no geologic evidence to indicate a better grade of ore at depth, the field team recommends that the application be denied. The Lead-Zinc Branch concurs with this recommendation.

The following material is attached:

3 copies Form NSRB-146
3 copies Form MF-103
3 " " MF-100
1 copy of field team report.

T. P. Billings, Chief
Lead-Zinc Branch

Approved:
Tom Lyon

Director, Supply Division

EJLyons:emp
G 10-11-51
Copies to: J. H. East, Jr. Region IV (2)
Chief, Lead-Zinc Branch
E. T. McKnight 4204 GSA
O. M. Bishop
Directors r. files 4214 GSA
Br. r. files 4214 GSA
Administrators r. files
DMA docket files

[redacted]
Denver 2, Colorado

October 3, [redacted]

[redacted]

To: Executive Secretary, Defense Minerals Administration

From: DMA Field Team, Region IV

Subject: DMA Project [redacted], [redacted] Mining & Development Corporation, Antelope Claims, [redacted] Mining District, [redacted] County, Arizona

Enclosed herewith are the original and two copies of the report on the [redacted] Mining and Development Corporation as listed above.

We concur with the recommendations of the field examiners that the loan be denied.

The brochure is returned herewith.

J. H. EAST, JR.

J. H. East, Jr.

for [redacted]

[redacted]

[redacted]

cc: DMA -

July 25, 1951

Memorandum

To: W. R. Storms (with brochure)

(Through Chief, Mining Division)

Charles Anderson

From: DMA Field Team, Region IV

Subject: DMA 1341X, Emm Mining and Development Corp., Antelope Zinc-Lead Claims, Emm Mining District, Pima County, Arizona

Enclosed is the above brochure for a development loan of $20,000.

According to the information submitted, a large part of the above amount is for exploration.

Please contact the applicant about their participating in an exploration project before making an examination.

J. H. East, Jr.

A. H. Koschmann

Enclosure

JE
cc: DMA
Koschmann

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.

JUL 20 1951

JUL 3 1951
DENVER, COLORADO

Docket DMA-1341X
Emm Mining & Development Corp.
Lead, silver, zinc
Exploration loan
Pima district, Ariz.

Mr. J. H. East, Jr.
Executive Officer, DMA Field Team
Region IV
224 New Customhouse
Denver 2, Colorado

Dear Mr. East:

Subject docket is referred to the field for advice.

The property lies very close to the property on which a development loan and an exploration loan are being requested by the Tucson Mining Company (DMA 1722X), which is also being referred to the field. The Emm Mining Company property should receive a geologic appraisal as an exploration project. If this appraisal shows that it has geologic merit, the engineering phases of the application should then be considered.

Very truly yours,

Tom Lyon

Chairman
Coordinating Committee

Lowell B. Moon
For the Bureau of Mines

Dwight M. Lemmon
For the Geological Survey

July 18, 1951

Re: Docket D A-1341X
Lead,silver,zinc

Eom Mining and Development Corporation
Ruby Star Rt. Box 9
Tucson, Arizona

Gentlemen:

Your application (Docket DMA-1341X) for an exploration loan under the provisions of the Defense Production Act of 1950 has been reviewed by the Lead-Zinc Branch of the Defense Minerals Administration. Before final decision can be taken on your request, it will be necessary to obtain additional information on your property. Your application, therefore, has been referred to Mr. J. H. East, Jr., Executive Officer, DMA Field Team, 224 New Customhouse, Denver 2, Colorado, with the request that the needed information be supplied to us.

Very truly yours,

Tom Lyon

Tom Lyon, Director
Supply Division

ETMcKNIGHT:emp
G 7-18-51
Copies to: J. H. East, Jr. Region IV (2)
Chief, Lead-Zinc Br.
E. T. McKnight 4204 GSA
R. H. Mote
Reports and Records Unit
Directors r. file 4214 GSA
Br. r. file 4214 GSA
Files

DMA.

REGIONAL DIRECTOR'S
OFFICE
REGION IV
JUN 8 - 1951
BUREAU OF MINES
DENVER, COLORADO

Copies to: J. H. East, Jr. Region II (2)
Chief, Lead-Zinc Br.
E. T. McKnight 4264 GSA
L. B. Moon
R. H. Mote
L. F. Strobel
Tom Lyon

Directors r. file 4214
Br. reading file 4214 GSA
GSA Files

June 5, 1951

Re: Docket DMA-1341

Mr. Frank McCargar
Ruby Star Rt. Box 9
Tucson, Arizona

Dear Mr. McCargar:

Your application for a Government loan amounting to $20,000 for development of your mine has been reviewed by the Lead-Zinc Branch of the Defense Minerals Administration.

To be eligible for a direct loan in the full amount needed to finance a mining operation it is necessary for an applicant to have sufficient proven reserves of strategic minerals to justify the loan. Your application indicates that your mine is not developed to the stage where you can give any tonnage for proven ore, and part of your application is for sinking your shaft to the 350 foot level with exploration work on 4 of the levels thus tapped, in order to locate ore in depth. Federal aid for this type of work can be given under the exploration program recently approved by the Defense Minerals Administration. This program calls for participation on the part of the applicant to the extent of 50 per cent for lead-zinc exploration. Funds advanced by the Government will be considered a loan to be repaid if the exploration is profitable, but to be cancelled if unsuccessful. Information on the exploration program and the necessary forms for making application are enclosed.

If you should care to apply for exploration aid under this program you should fill out and return the application form (MF-103). The deadline for the applications was May 31, which allows a relatively short time to carry out the negotiations that have to be completed by July 1, on which date the law under which the program is set up expires. However, we anticipate that the Congress may renew this law, hence, if you are interested in making application under the program, you should send in your application promptly. If there is time available, it might be handled before July 1 deadline. It would expedite handling if the application is specific concerning the work that is proposed.

Very truly yours,

Otto Herres

Otto Herres, Chief
Lead-Zinc Branch

Enclosure