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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 28 1953

224 New Customhouse
Denver 2, Colorado

September 24, 1953.

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 200

From: Field Team, Region IV

Subject: Report of Examination, DMEA Docket 3018 (Copper-Lead-Zinc), Tijuana Mines, Inc., Herr Mine, Santa Cruz County, Arizona.

Enclosed are four copies of the Report of Examination on the subject docket, a copy of the letter of denial to the applicant and two copies of Form 3b.

W. H. King
W. H. King

A. H. Koschmann
A. H. Koschmann

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
10-2-53
(date)

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

224 New Customhouse
Denver 2, Colorado

September 24, 1953.

Mr. Charles T. Tucker, President
Tijuana Mines, Inc.
931 East Denton Lane
Phoenix, Arizona

Re: Docket No. DMEA-3018

Dear Mr. Tucker:

Reference is made to your application for Government aid on the Barr Mine.

Projects approved by the Defense Minerals Exploration Administration must, in its judgment, show definite promise of yielding material of acceptable grade, and in quantities that will significantly improve the mineral supply position for the National Defense Program.

A careful study of your property and data available to this agency, reveals that the probability of disclosing mineable reserves of copper, lead and zinc is not considered sufficiently promising to justify Government participation. Under these circumstances, we regret to advise that your application for exploration aid is denied.

Very truly yours,

W. H. King
W. H. King
Field Team, Region IV

HMC:cwm

cc: Docket
Administrator, DMEA
WRStorms
RFRobinson
AHKoschmann (2)
Chron.

A. H. Koschmann
A. H. Koschmann
Field Team, Region IV

Reviewed by
DMEA OPERATING COMMITTEE
10-2-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

September 24, 1953.

Memorandum

To: Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Report of Examination - DMEA Docket 3018 (Copper-Lead-Zinc), Tijuana Mines, Inc., Herr Mine, Santa Cruz County, Arizona.

Enclosed are nine copies of the Report of Examination on the subject docket.

The applicant proposed to explore the property by sinking and drifting at an estimated cost of $37,585.00.

The engineer examiners concur in the recommendation that the application be denied because they believe no significant amount of ore would be found by further exploratory work.

We concur in this recommendation.

W. E. King

W. E. King

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
10-2-53
(date)

OFFICE OF THE DIRECTOR
Bureau of Mines
RECEIVED
SEP 23 1953

MINING DIVISION
REGION IV

July 28, 1953

Memorandum

To : W. H. King, Chief, Mining Division, Region IV

From : Chief, Mining Methods Br., Mining Div., Region IV

Subject : Report on Docket DMEA-3018, Tijuana Mines, Inc., Herr Copper-Lead-Zinc Prospect, Tyndall Mining District, Santa Cruz County, Ariz.

Enclosed are original and 8 copies of a report on the above property by L. L. Farnham and J. F. Haynes of the Bureau of Mines. The Geological Survey has indicated that it intends to examine this property at some future date, so it may submit a report on the geology.

The examiners report that the veins are very narrow and that probably no substantial quantity of ore would be found by additional exploratory work, so they recommend denial of a loan. I concur with their recommendation.

Brochure is enclosed.

Walter R. Storms

Walter R. Storms

CC W. H. King (8)
R. F. Robinson
DMEA-3018
DF

WRStorms:frj

Reviewed by
DMEA OPERATING COMMITTEE
10-2-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P.O. Box 4126, University Station
Tucson 5, Arizona

Airmail

September 14, 1953

Memorandum

To: Field Team Region IV
Through A. H. Koschmann A.H.K.

From: A. F. Shride

Subject: DMEA-3318, Herr Prospect, Tijuana Mines, Incorporated, Santa Cruz County, Arizona

Messrs. Farnham and Haynes of the Bureau of Mines have examined the above property and collected data that indicates a DMEA exploration loan should be denied. From the data available we concur with their recommendation and Geological Survey personnel will not examine the property or submit a report.

A. F. Shride

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

Reviewed by
DMEA OPERATING COMMITTEE

10-2-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA-3018, Tijuana Mines, Inc., Herr Copper-Lead-Zinc Prospect

Tyndall Mining District, Santa Cruz County, Arizona

L. L. Farnham, Mining Engineer
U. S. Bureau of Mines

J. F. Haynes, Mining Engineer
U. S. Bureau of Mines

July 1953

Reviewed by
DMEA CENTRAL C[illegible]
10-2-53
(date)

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

By L. L. Farnham[1] and J. F. Haynes[1]

In May 1953, the Tijuana Mines, Inc. applied to the Defense Minerals Exploration Administration under the Defense Production Act of 1950, as amended, for an exploration loan amounting to $37,835. The application was docketed as DMEA-3018. The funds requested were for the purpose of exploring a lead-zinc-copper prospect situated in the Tyndall Mining District of Santa Cruz County, Ariz. The property was visited by the examiners on May 20, 1953.

The property, comprising 3 unpatented lode claims, was located by the applicant company in 1952. Only a limited amount of exploration had been attempted and no appreciable production resulted.

Small amounts of lead, zinc, and copper minerals were found on the property in quartz veins that cut granitic rocks. The mineralization was localized along portions of the veins in small lenticular bodies that were separated by intervals of barren wall rocks.

The most promising of the surface exposures had been explored by a shaft 55 feet deep and a drift which followed the fracture for 100 feet. In the shaft, the vein averaged about 10 inches wide. The largest mineralized lense encountered in the drift had an average width of 20 inches and a length of 35 feet. The vein in the other 65 feet of the drift was but a few inches wide.

1/ Mining Engineers, U. S. Bureau of Mines

The better mineralized material recovered from this 155 feet of exploration work amounted to some 15 tons. This material, as sampled at a custom mill, averaged 0.01 ounces of gold, 1.10 ounces of silver per ton, 2.6 percent lead, 3.0 percent zinc, and 0.76 percent copper.

It was concluded from these facts that the deposits were of insufficient size and grade as to be of significance. There was no evidence indicating the probability that substantially larger or higher grade deposits would be found by the proposed exploration. Therefore, it is recommended that the application for the lease be denied.

DMEA-2018, TIJUANA MINES, INC., HEAR COPPER-LEAD-ZINC PROSPECT
TYNDALL MINING DISTRICT, SANTA CRUZ COUNTY, ARIZONA

Engineering Report

By L. L. Farnham and J. F. Haynes
Mining Engineers
U. S. Bureau of Mines

July 1953

Reviewed by
DMEA OPERATING COMMITTEE
10-2-53
(date)

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Bureau Mines Minerals
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DMEA-3018, TIJUANA MINES, INC., HERR COPPER-LEAD-ZINC PROSPECT
TINDALL MINING DISTRICT, SANTA CRUZ COUNTY, ARIZONA

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INTRODUCTION

In May 1953, The Tijuana Mines, Inc. applied to the Defense Minerals Exploration Administration under the Defense Production Act of 1950, as amended, for an exploration loan amounting to $37,525. The application was docketed as DMEA-3018. The funds requested were for the purpose of exploring a lead-zinc-copper prospect by means of additional shaft sinking and drifting. The property was visited on May 29, 1953.

ACKNOWLEDGMENTS

Acknowledgments hereby are made to Charles T. Tucker, R. S. Rehfeld, and Jos. G. O'Brien, officials of the applicant company, for their assistance during the examination of the property.

LOCATION AND PHYSICAL FEATURES

The claims are situated in secs. 21 and 22, T. 20 S., R. 14 E., Tyndall mining district of Santa Cruz County, Ariz.

The property may be reached from Tucson by traveling south on Highway 89 for 36 miles to the Amado post office, thence easterly over a dirt road for 11 miles to the site of the proposed exploration (figure 1).

The claims lie well up on the western slope of the Santa Rita Mountains in an area of rugged topography. The altitude ranges from about 5,500 to 6,000 feet above sea level.

HISTORY AND PRODUCTION

The claims were located by the applicant company early in 1952. Old prospect openings were found that would indicate that the property had been located and abandoned at some time prior to

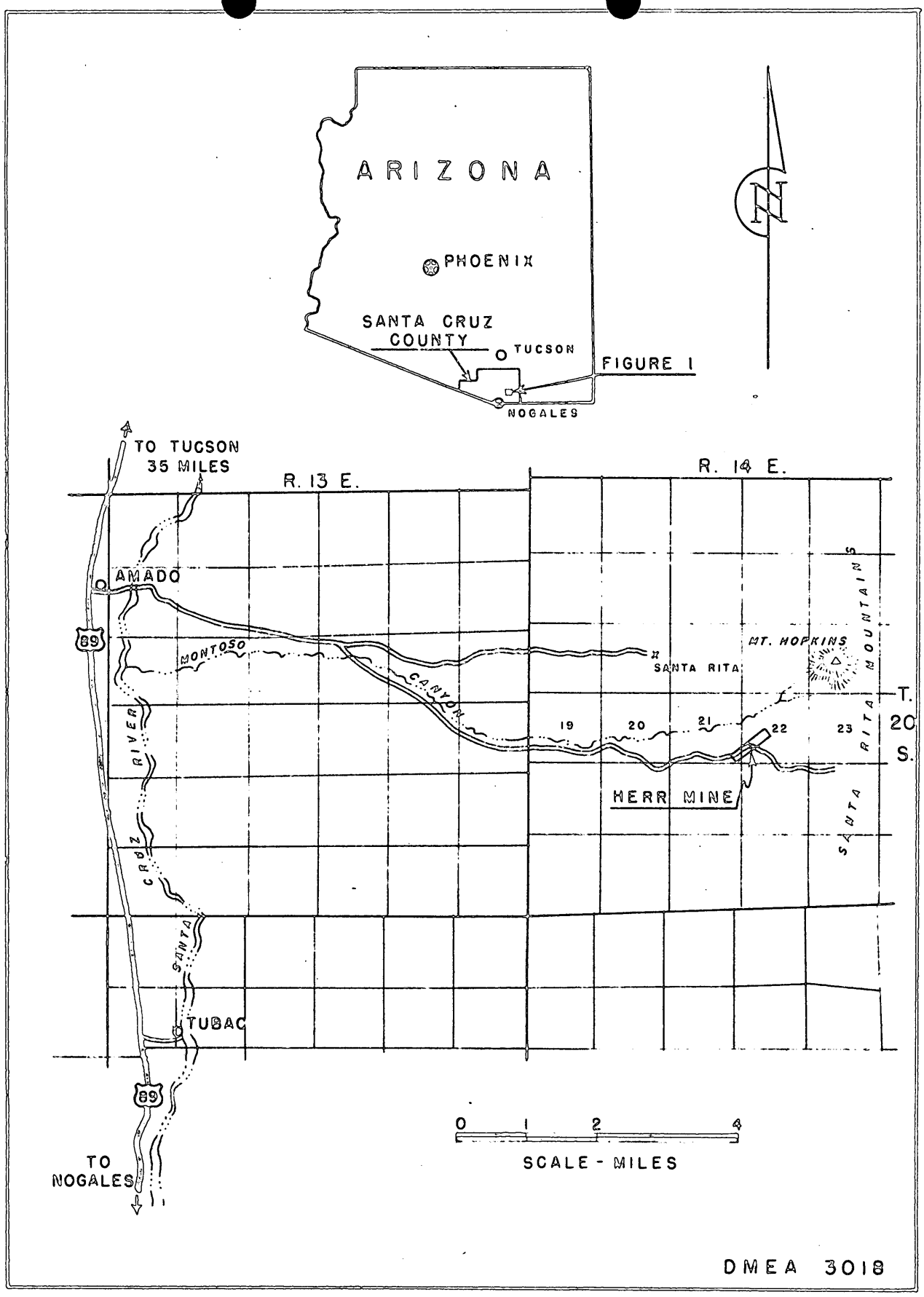


FIGURE 1. - LOCATION MAP - TIJUANA MINES, INC.
TYNDALL MINING DISTRICT - SANTA CRUZ COUNTY, ARIZONA

its acquisition by the applicant. There was no evidence that any appreciable amount of ore had been produced.

Exploration work on the claims was started by the applicant late in 1952 and terminated early in May of 1953.

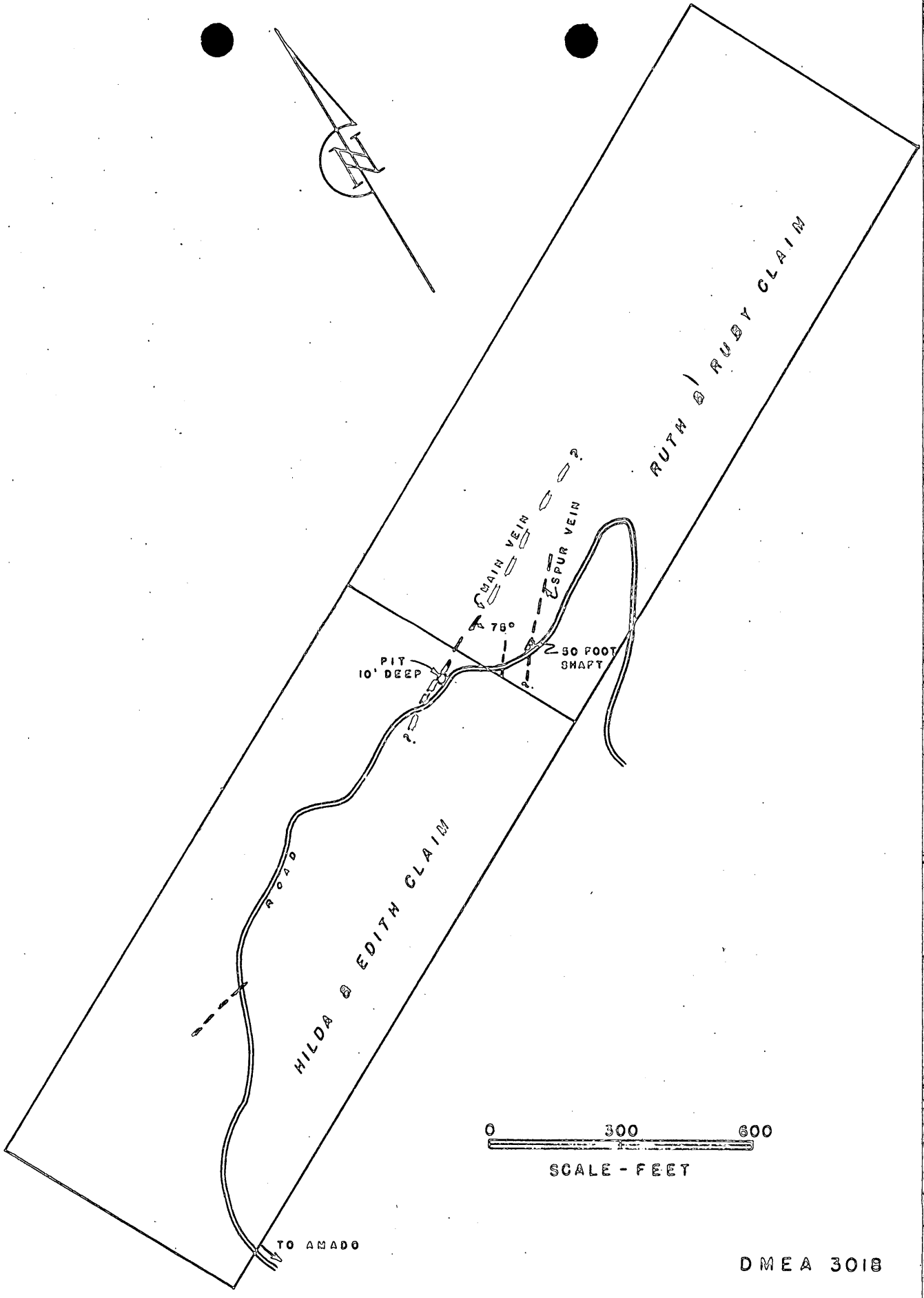
OWNERSHIP AND EXTENT

The property, known as the Herr mine, consists of 2 adjoining unpatented lode claims named the Hilda-and-Edith, and the Ruth-and-Ruby. They were recorded in March 1952 by the Tijuana Mines, Inc.

DESCRIPTION OF THE DEPOSITS

Small scattered amounts of lead-zinc and copper mineralization occurred on the subject property in portions of 2 quartz veins that cut the granitic core rocks of the Santa Rita range. The largest of the veins, trending N. 60° E. and dipping steeply southeasterly, cropped out prominently for a distance of several hundred feet. It was composed of massive flinty quartz and silicified wall rocks, had poorly defined walls, and ranged from 3 to 15 feet in width. This vein had been explored by a pit, some 8 feet in diameter and 10 feet deep, situated near the north center end line of the Hilda-and-Edith claim (figure 2).

Small, irregular, disseminated spots of partially oxidized pyrite, sphalerite, and galena with minor amounts of copper minerals were exposed in a narrow strand of the vein at the southerly end of the pit. No appreciable mineralization was evident in the opposite end or along the sides of the excavation. An inspection of the



DMEA 3018

FIGURE 2. - CLAIM MAP - HERR MINE OF TIJUANA MINES, INC. SANTA CRUZ COUNTY, ARIZONA

outcrop for several hundred feet northeast of the pit failed to reveal any gossan or other evidence that this portion of the vein had ever contained appreciable amounts of ore minerals. A short distance southwest of the pit the vein passed under a cover of talus.

The other fracture, known as the spur vein and upon which the proposed work was contemplated, was exposed by the road at a point some 200 feet east of the above mentioned pit (figure 2). This fracture, striking N. 45° E., ranged from a mere stringer to a maximum width of 2 feet. Because of its narrow and erratic width the outcrop was traceable for only about 100 feet northeast of the road. As observed in this distance there were intervals along the outcrop that appeared to have been mineralized. Southwest of the road this fracture, like the larger vein, was covered with talus.

The sulphide minerals in the spur vein, consisting principally of pyrite, sphalerite, galena, and chalcopyrite, were disseminated in short quartz lenses. These mineralized pods were separated along the fracture by intervals of unmineralized wall rocks.

Near the southerly end of the Ruth-and-Ruby claim a vertical shaft, about 6 by 10 feet in rock section, had followed the spur vein to a depth of 55 feet. Near the bottom of the shaft a drift

had continued to follow the fracture in a northeasterly direction for about 100 feet (figure 3). In the shaft the vein varied from 2 to 18 inches in width, probably averaging about 10 inches. At a depth of 25 feet the quartz narrowed to about 2 inches and remained in that pinched condition for about 10 feet. Several feet of water covered the floor of the drift on the 50-foot level at the time of the visit, so this portion of the work was not accessible. According to the applicant, the vein in the first half of the drift was only a few inches wide. In the last half of the level a lense of mineralized quartz was encountered that ranged from 6 to 27 inches in width and was said to have averaged about 20 inces wide along a drift length of 35 feet (figure 3). The quartz was but a few inches wide in the face of the drift where the work was terminated.

ORE RESERVES

No minable ore had been exposed by the former work. During the shaft sinking and drifting practically all of the better mineralized material was either hand-sorted from the broken rock, or mined selectively. This higher grade material, amounting in all to 15.5 tons, was trucked to the Iron King flotation mill at Humboldt, Ariz. where it was sampled and concentrated. The settlement sheet, issued May 5, 1953 by the mill, showed that this material averaged 0.01 ounces gold, 1.10 ounces silver per ton, 2.6 percent lead, 3.0 percent zinc, and 0.76 percent copper. After deducting the milling charge of $4.50 a ton the lot had a net mill value of $1.87 a ton.

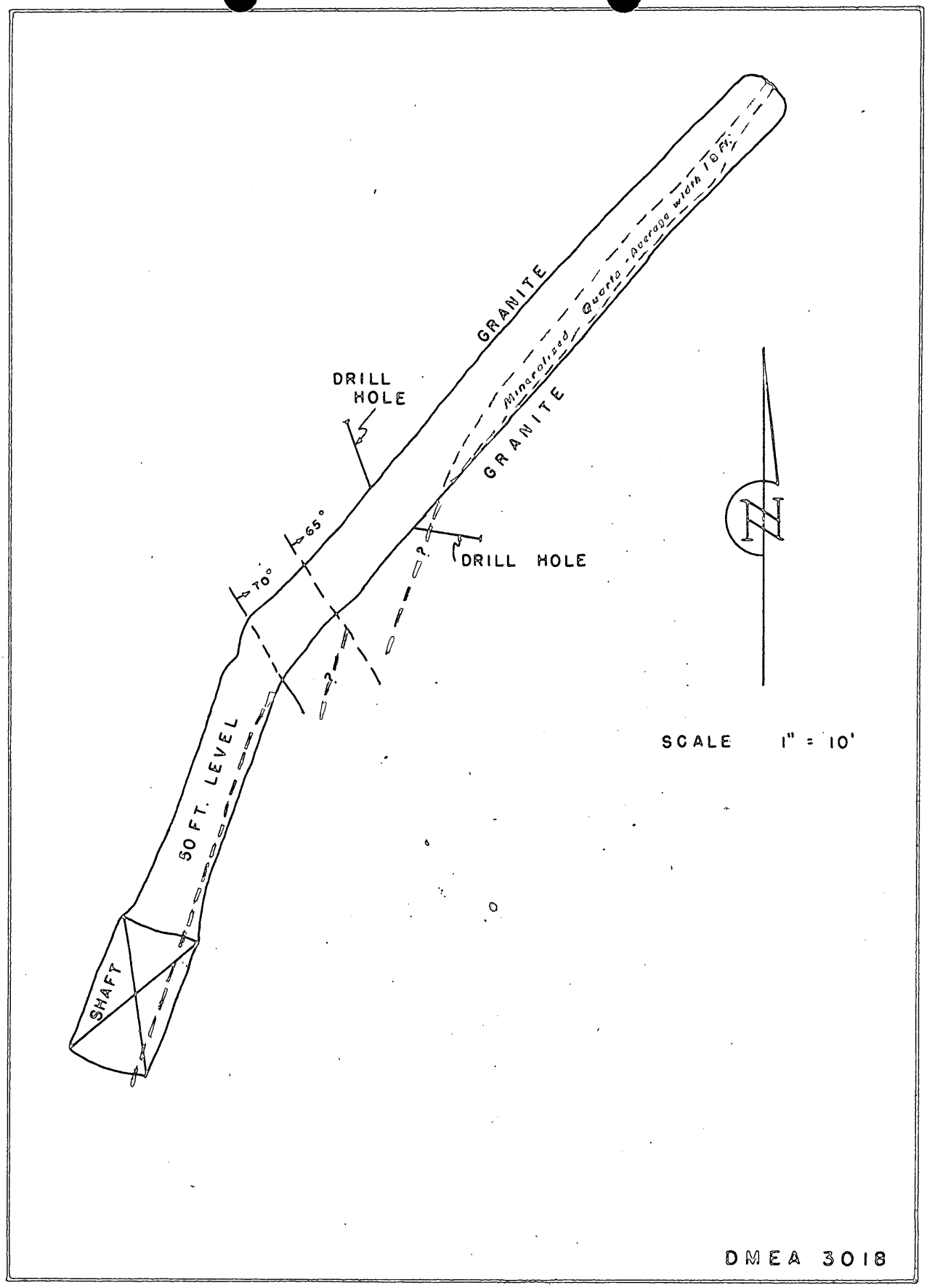


FIGURE 3. - PLAN OF 50-FT. LEVEL - HERR MINE
TIJUANA MINES, INC. SANTA CRUZ COUNTY, ARIZONA

It would appear that this shipment constituted a representative sample of the vein and can be accepted as indicative of the grade of the better mineralized material that could be expected if further exploration were attempted.

PROPOSED EXPLORATION AND COSTS

The applicant proposed to sink the present shaft on the spur vein an additional 120 feet, or to a depth of 175 feet, and then drive one level for a distance of 400 feet.

The costs of performing this proposed work as shown in the application are as follows:

3 men underground, 176 shifts each @ $15	$7,920
2 men on surface, 176 shifts each @ $15	5,280
Supervision, engineering & geological consultants	8,000
Operating materials and supplies	6,325
New buildings	2,000
Analytical and accounting	4,000
Compensation insurance and payroll taxes	3,000
Road maintenance and installation of cattle guards	1,000
Total cost as estimated by applicant	$37,525

Some of these costs are not allowable, others appear high, and some are too low. It appears certain that the amount of work proposed could not be completed in 176 shifts as estimated by the applicant. At least 300 shifts would seem a more reasonable estimate. On this basis the total cost of the project would probably be of the order of $50,000.

CONCLUSIONS AND RECOMMENDATIONS

The mineralized portions of the veins on the subject property were much too small and too low in grade to be of significance. The mineralization was confined to disconnected quartz lenses having

widths measurable in inches, and lengths limited to a few tens of feet. The lead, zinc, and copper content of the veins, as disclosed by the former exploration, was far below a minable grade. Other and similar lenses no doubt exist but there was no evidence to indicate the probability that substantial ore bodies would be found by the proposed exploration. Consequently it is recommended that the application for the loan be denied.

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 28 1953

224 New Customhouse
Denver 2, Colorado

September 24, 1953.

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 200

From: Field Team, Region IV

Subject: Report of Examination, DMEA Docket 3018 (Copper-Lead-Zinc), Tijuana Mines, Inc., Herr Mine, Santa Cruz County, Arizona.

Enclosed are four copies of the Report of Examination on the subject docket, a copy of the letter of denial to the applicant and two copies of Form 3b.

W. H. King
W. H. King

A. H. Koschmann
A. H. Koschmann

Enclosures

FILMED

OFFICE OF THE ADMINISTRATOR

COPY

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

224 New Customhouse
Denver 2, Colorado

September 24, 1953

Mr. Charles T. Tucker, President
Tijuana Mines, Inc.
931 East Denton Lane
Phoenix, Arizona

Re: Docket No. DMEA-3018

Dear Mr. Tucker:

Reference is made to your application for Government aid on the Herr Mine.

Projects approved by the Defense Minerals Exploration Administration must, in its judgment, show definite promise of yielding material of acceptable grade, and in quantities that will significantly improve the mineral supply position for the National Defense Program.

A careful study of your property and data available to this agency, reveals that the probability of disclosing mineable reserves of copper, lead and zinc is not considered sufficiently promising to justify Government participation. Under these circumstances, we regret to advise that your application for exploration aid is denied.

Very truly yours,

/s/ W. H. King
Field Team, Region IV

/s/ A. H. Koschmann
Field Team, Region IV

DENIED

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

September 24, 1953.

Memorandum

To: Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Report of Examination - DMEA Docket 3018 (Copper-Lead-Zinc), Tijuana Mines, Inc., Herr Mine, Santa Cruz County, Arizona.

Enclosed are nine copies of the Report of Examination on the subject docket.

The applicant proposed to explore the property by sinking and drifting at an estimated cost of $37,525.00.

The engineer examiners concur in the recommendation that the application be denied because they believe no significant amount of ore would be found by further exploratory work.

We concur in this recommendation.

W. H. King
W. H. King

Enclosures

MINING DIVISION
REGION IV

Memorandum

July 28, 1953

To : W. H. King, Chief, Mining Division, Region IV

From : Chief, Mining Methods Br., Mining Div., Region IV

Subject : Report on Docket DMEA-3018, Tijuana Mines, Inc., Herr Copper-Lead-Zinc Prospect, Tyndall Mining District, Santa Cruz County, Ariz.

Enclosed are original and 8 copies of a report on the above property by L. L. Farnham and J. F. Haynes of the Bureau of Mines. The Geological Survey has indicated that it intends to examine this property at some future date, so it may submit a report on the geology.

The examiners report that the veins are very narrow and that probably no substantial quantity of ore would be found by additional exploratory work, so they recommend denial of a loan. I concur with their recommendation.

Brochure is enclosed.

Walter R. Storms

Walter R. Storms

CC W. H. King (8)
R. F. Robinson
DMEA-3018
DF

WRStorms:frj

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P.O. Box 4126, University Station
Tucson 5, Arizona

Airmail

September 14, 1953

Memorandum

To: Field Team Region IV
Through A. H. Koschmann G.N.K.

From: A. F. Shride

Subject: DMEA-3018, Herr Prospect, Tijuana Mines, Incorporated, Santa Cruz County, Arizona

Messrs. Farnham and Haynes of the Bureau of Mines have examined the above property and collected data that indicates a DMEA exploration loan should be denied. From the data available we Concur with their recommendation and Geological Survey personnel will not examine the property or submit a report.

A. F. Shride

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
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SEP 30 1953

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA-3018, Tijuana Mines, Inc., Herr Copper-Lead-Zinc Prospect

Tyndall Mining District, Santa Cruz County, Arizona

L. L. Farnham, Mining Engineer
U. S. Bureau of Mines

J. F. Haynes, Mining Engineer
U. S. Bureau of Mines

July 1953

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

By L. L. Farnham[1] and J. F. Haynes[1]

In May 1953, the Tijuana Mines, Inc. applied to the Defense Minerals Exploration Administration under the Defense Production Act of 1950, as amended, for an exploration loan amounting to $37,525. The application was docketed as DMEA-3018. The funds requested were for the purpose of exploring a lead-zinc-copper prospect situated in the Tyndall Mining District of Santa Cruz County, Ariz. The property was visited by the examiners on May 29, 1953.

The property, comprising 2 unpatented lode claims, was located by the applicant company in 1952. Only a limited amount of exploration had been attempted and no appreciable production resulted.

Small amounts of lead, zinc, and copper minerals were found on the property in quartz veins that cut granitic rocks. The mineralization was localized along portions of the veins in small lenticular bodies that were separated by intervals of barren wall rocks.

The most promising of the surface exposures had been explored by a shaft 55 feet deep and a drift which followed the fracture for 100 feet. In the shaft, the vein averaged about 10 inches wide. The largest mineralized lense encountered in the drift had an average width of 20 inches and a length of 35 feet. The vein in the other 65 feet of the drift was but a few inches wide.

1/ Mining Engineers, U. S. Bureau of Mines

The better mineralized material recovered from this 155 feet of exploration work amounted to some 15 tons. This material, as sampled at a custom mill, averaged 0.01 ounces of gold, 1.10 ounces of silver per ton, 2.6 percent lead, 3.0 percent zinc, and 0.76 percent copper.

It was concluded from these facts that the deposits were of insufficient size and grade as to be of significance. There was no evidence indicating the probability that substantially larger or higher grade deposits would be found by the proposed exploration. Therefore, it is recommended that the application for the loan be denied.

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...Minerals Administration
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DMEA-3018, TIJUANA MINES, INC., HERR COPPER-LEAD-ZINC PROSPECT TYNDALL MINING DISTRICT, SANTA CRUZ COUNTY, ARIZONA

Engineering Report

By L. L. Farnham and J. F. Haynes
Mining Engineers
U. S. Bureau of Mines

July 1953

DMEA-3018, TIJUANA MINES, INC., HERR COPPER-LEAD-ZINC PROSPECT
TYNDALL MINING DISTRICT, SANTA CRUZ COUNTY, ARIZONA

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DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
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SEP 30 1953

INTRODUCTION

In May 1953, The Tijuana Mines, Inc. applied to the Defense Minerals Exploration Administration under the Defense Production Act of 1950, as amended, for an exploration loan amounting to $37,525. The application was docketed as DMEA-3018. The funds requested were for the purpose of exploring a lead-zinc-copper prospect by means of additional shaft sinking and drifting. The property was visited on May 29, 1953.

ACKNOWLEDGMENTS

Acknowledgments hereby are made to Charles T. Tucker, R. W. Rehfeld, and Jos. G. O'Brien, officials of the applicant company, for their assistance during the examination of the property.

LOCATION AND PHYSICAL FEATURES

The claims are situated in secs. 21 and 22, T. 20 S., R. 14 E., Tyndall mining district of Santa Cruz County, Ariz.

The property may be reached from Tucson by traveling south on Highway 89 for 36 miles to the Amado post office, thence easterly over a dirt road for 11 miles to the site of the proposed exploration (figure 1).

The claims lie well up on the western slope of the Santa Rita Mountains in an area of rugged topography. The altitude ranges from about 5,500 to 6,000 feet above sea level.

HISTORY AND PRODUCTION

The claims were located by the applicant company early in 1952. Old prospect openings were found that would indicate that the property had been located and abandoned at some time prior to

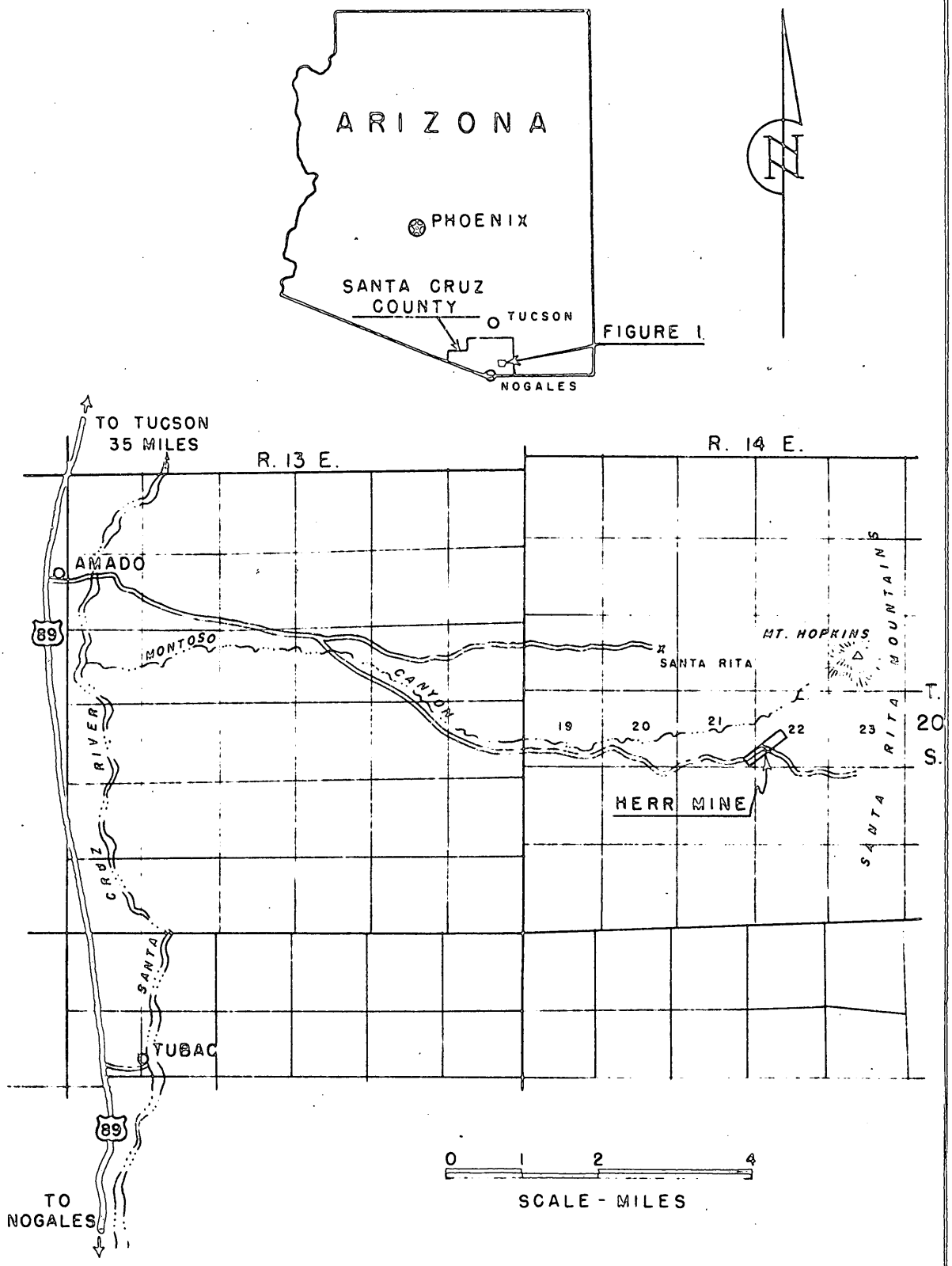


FIGURE 1. - LOCATION MAP - TIJUANA MINES, INC.
TYNDALL MINING DISTRICT - SANTA CRUZ COUNTY, ARIZONA

its acquisition by the applicant. There was no evidence that any appreciable amount of ore had been produced.

Exploration work on the claims was started by the applicant late in 1952 and terminated early in May of 1953.

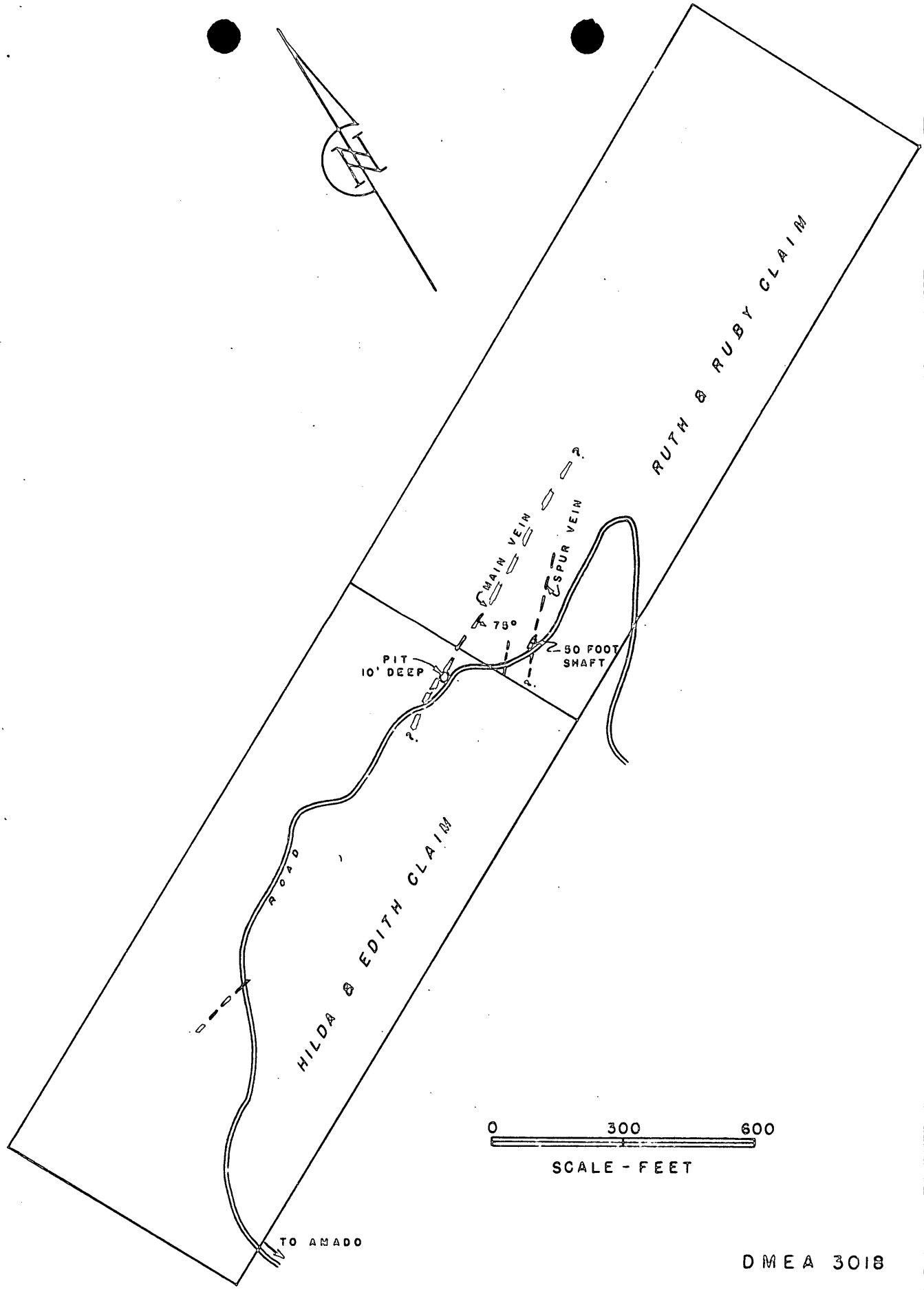
OWNERSHIP AND EXTENT

The property, known as the Herr mine, consists of 2 adjoining unpatented lode claims named the Hilda-and-Edith, and the Ruth-and-Ruby. They were recorded in March 1952 by the Tijuana Mines, Inc.

DESCRIPTION OF THE DEPOSITS

Small scattered amounts of lead-zinc and copper mineralization occurred on the subject property in portions of 2 quartz veins that cut the granitic core rocks of the Santa Rita range. The largest of the veins, trending N. 60° E. and dipping steeply southeasterly, cropped out prominently for a distance of several hundred feet. It was composed of massive flinty quartz and silicified wall rocks, had poorly defined walls, and ranged from 3 to 15 feet in width. This vein had been explored by a pit, some 8 feet in diameter and 10 feet deep, situated near the north center end line of the Hilda-and-Edith claim (figure 2).

Small, irregular, disseminated spots of partially oxidized pyrite, sphalerite, and galena with minor amounts of copper minerals were exposed in a narrow strand of the vein at the southerly end of the pit. No appreciable mineralization was evident in the opposite end or along the sides of the excavation. An inspection of the



DMEA 3018

FIGURE 2.- CLAIM MAP - HERR MINE OF TIJUANA MINES, INC. SANTA CRUZ COUNTY, ARIZONA

outcrop for several hundred feet northeast of the pit failed to reveal any gossan or other evidence that this portion of the vein had ever contained appreciable amounts of ore minerals. A short distance southwest of the pit the vein passed under a cover of talus.

The other fracture, known as the spur vein and upon which the proposed work was contemplated, was exposed by the road at a point some 200 feet east of the above mentioned pit (figure 2). This fracture, striking N. 45° E., ranged from a mere stringer to a maximum width of 2 feet. Because of its narrow and erratic width the outcrop was traceable for only about 100 feet northeast of the road. As observed in this distance there were intervals along the outcrop that appeared to have been mineralized. Southwest of the road this fracture, like the larger vein, was covered with talus.

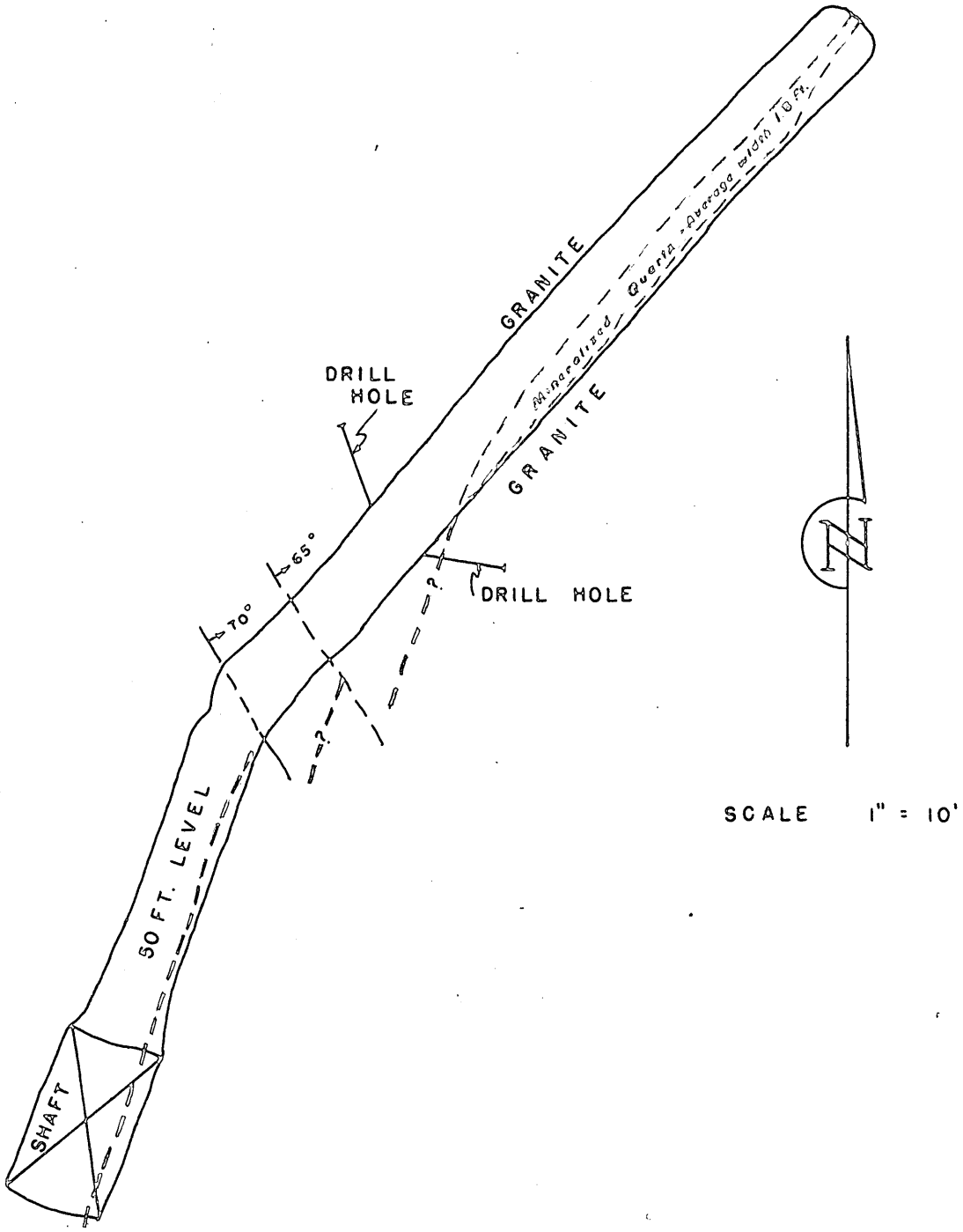
The sulphide minerals in the spur vein, consisting principally of pyrite, sphalerite, galena, and chalcopyrite, were disseminated in short quartz lenses. These mineralized pods were separated along the fracture by intervals of unmineralized wall rocks.

Near the southerly end of the Ruth-and-Ruby claim a vertical shaft, about 6 by 10 feet in rock section, had followed the spur vein to a depth of 55 feet. Near the bottom of the shaft a drift

had continued to follow the fracture in a northeasterly direction for about 100 feet (figure 3). In the shaft the vein varied from 2 to 18 inches in width, probably averaging about 10 inches. At a depth of 25 feet the quartz narrowed to about 2 inches and remained in that pinched condition for about 10 feet. Several feet of water covered the floor of the drift on the 50-foot level at the time of the visit, so this portion of the work was not accessible. According to the applicant, the vein in the first half of the drift was only a few inches wide. In the last half of the level a lense of mineralized quartz was encountered that ranged from 6 to 27 inches in width and was said to have averaged about 20 inces wide along a drift length of 35 feet (figure 3). The quartz was but a few inches wide in the face of the drift where the work was terminated.

ORE RESERVES

No minable ore had been exposed by the former work. During the shaft sinking and drifting practically all of the better mineralized material was either hand-sorted from the broken rock, or mined selectively. This higher grade material, amounting in all to 15.5 tons, was trucked to the Iron King flotation mill at Humboldt, Ariz. where it was sampled and concentrated. The settlement sheet, issued May 5, 1953 by the mill, showed that this material averaged 0.01 ounces gold, 1.10 ounces silver per ton, 2.6 percent lead, 3.0 percent zinc, and 0.76 percent copper. After deducting the milling charge of $4.50 a ton the lot had a net mill value of $1.87 a ton.



DMEA 3018

FIGURE 3. - PLAN OF 50-FT. LEVEL - HERR MINE
TIJUANA MINES, INC. SANTA CRUZ COUNTY, ARIZONA

It would appear that this shipment constituted a representative sample of the vein and can be accepted as indicative of the grade of the better mineralized material that could be expected if further exploration were attempted.

PROPOSED EXPLORATION AND COSTS

The applicant proposed to sink the present shaft on the spur vein an additional 120 feet, or to a depth of 175 feet, and then drive one level for a distance of 400 feet.

The costs of performing this proposed work as shown in the application are as follows:

3 men underground, 176 shifts each @ $15	$7,920
2 men on surface, 176 shifts each @ $15	5,280
Supervision, engineering & geological consultants	8,000
Operating materials and supplies	6,325
New buildings	2,000
Analytical and accounting	4,000
Compensation insurance and payroll taxes	3,000
Road maintenance and installation of cattle guards	1,000
Total cost as estimated by applicant	$37,525

Some of these costs are not allowable, others appear high, and some are too low. It appears certain that the amount of work proposed could not be completed in 176 shifts as estimated by the applicant. At least 300 shifts would seem a more reasonable estimate. On this basis the total cost of the project would probably be of the order of $50,000.

CONCLUSIONS AND RECOMMENDATIONS

The mineralized portions of the veins on the subject property were much too small and too low in grade to be of significance. The mineralization was confined to disconnected quartz lenses having

widths measurable in inches, and lengths limited to a few tens of feet. The lead, zinc, and copper content of the veins, as disclosed by the former exploration, was far below a minable grade. Other and similar lenses no doubt exist but there was no evidence to indicate the probability that substantial ore bodies would be found by the proposed exploration. Consequently it is recommended that the application for the loan be denied.

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

224 New Customhouse
Denver 2, Colorado

May 1, 1953.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 5 1953

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: Code 200

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docketing for Exploration Assistance

Enclosed herewith in duplicate is DMA Form 3a and MF-103, and supporting data pertaining to the following applications for Government assistance in exploration work:

Tijuana Mines, Inc. - DMEA-3018
931 East Denton Lane
Phoenix, Arizona

Irl Conway and Ed Conway - DMEA-3019
Tonto Basin
Arizona

Millard Garner and D. J. Royer - DMEA-3020
Norwood
Colorado

James L. McBroom - DMEA-3021
Box 184
Nederland, Colorado

W. H. King
W. H. King

Enclosures

Min. Div. 4-17-53

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Approved.
Budget Bureau No. 42-R1035.2.

Defense Minerals Administration
RECEIVED
MAY 5 1953

APPLICATION FOR AID IN AN EXPLORATION PROJECT, PURSUANT TO DMEA ORDER 1, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

Not to be filled in by applicant

Docket No. DMEA-3018
Metal or Mineral
Date Received 5/5/53
Estimated Cost
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: TIJUANA MINES, INC.,
931 East Denton Lane, Phoenix, Arizona
Incorporated under the laws of the State of Arizona

(*b*) If other than an individual, add to your name above whether a corporation, partnership, etc., and the name of the State in which incorporated or otherwise organized.

(*c*) If a corporation, add to above statement, titles, names and addresses of officers.

(*d*) If a partnership, add to the above statement the names and addresses of all partners.

2. *General.*—Read DMEA Order 1, "Government Aid in Defense Exploration Projects," before completing this application. Submit this application and all accompanying papers in quadruplicate (four copies), with your name and address on each sheet of the application and on all accompanying papers. Where sufficient space is not provided on the form for all required information, state it on an accompanying paper, with a reference in each case to the instruction to which it refers by number. Comply with all applicable instructions; or, if not applicable, so state. File the application with Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest field executive officer thereof.

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract

(*b*) State any mine name by which the property is known. HERR MINE.

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise OWNERS.

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property.

(*e*) If you own the land, describe any liens or encumbrances on it NONE.

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice. See Item # 3 (a)

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes.

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades.

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you.

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points.

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power.

16—66551-1

See attached papers for information not specifically given on this form for the above items.

5. *The exploration project.*—(a) State the mineral or minerals for which you wish to explore Copper - lead - zinc.

(*b*) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings, and the location of the proposed exploration work as related to such features as contacts, veins, ore-bearing beds, etc. Attached.

(*c*) The work will start within 10 days and be completed within ..... months from the date of an exploration project contract. Attached.

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations. Attached.

6. *Estimate of costs.*—Furnish a detailed estimate of the costs of the proposed work (you will have to use a separate sheet), under the following headings. Add the totals under all headings to give the estimated total cost of the project:

(*a*) *Independent contracts.*—(Note.—If the applicant does not intend to let any of the work to contractors, write "none" after this item. To the extent that the work is to be contracted, do not repeat the cost of the contract-work in subsequent items.) State the cost of any proposed independent contracts for the performance of all or any part of the work, expressed in terms of units of work (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.).

(*b*) *Labor, supervision, consultants.*—Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants.

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel.

(*d*) *Operating equipment.*—Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be.

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project.

(*f*) *New buildings, improvements, installations.*—Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project.

(*g*) *Miscellaneous.*—Furnish a detailed list showing the cost of repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance, and payroll taxes.

(*h*) *Contingencies.*—Give an estimate of any necessary allowances for contingencies not included in the costs stated above.

NOTE.—No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or any other indirect costs, or work performed or costs incurred before the date of the contract, should be included in the estimate of costs. See attached papers for specific information.

7. (*a*) Are you prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation (Sec. 7, DMEA No. 1)? Yes.

(*b*) How do you propose to furnish your share of the costs?

[X] Money [X] Use of equipment owned by you [ ] Other

Explain in detail on acompanying paper.

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

Dated April 11, 1953

TIJUANA MINES, INC.
(Applicant)

By Chas T. Tucker

Charles T. Tucker, Pres.

Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

U. S. GOVERNMENT PRINTING OFFICE 16—66551-1

TIJUANA MINES, INC.,
931 E. Denton Lane
Phoenix, Arizona

Re: Form - 103 Application For Aid In An Exploration Project.

Item # 1 (c) Names and Addresses of Officers:

Charles T. Tucker, Pres. 931 E. Denton Lane, Phoenix, Ariz.
Harold W. Rehfeld, Vice-pres. 1670 Ridgewood Lane, St.Paul, Minnesota.
Raymond W. Rehfeld, Sec'y & Treas. 4040 E. Pinchot, Phoenix, Ariz.

Item # 3 (a) The property consists of two (2) adjoining unpatented lode mining claims, of approximately twenty (20) acres each, with ownership vested in Tijuana Mines, Inc., under the mining laws of the United States and the State of Arizona. The claims were recorded as the "Hilda & Edith" and the "Ruth & Ruby" and lie chiefly in Sec.22, T 20 S, R 14 E - G&SRB&M, Tyndall Mining District, Santa Cruz County, Arizona. The locations are recorded in the office of the Recorder of Santa Cruz County, Arizona, Nogales, Arizona, in book 28 M Pages 17 and 18. See Fig. #2 for Township Plat. and #3 for "Claim Map."

Item # 4 (a) Mountain side drilled, blasted and cleared out to make room for shaft sinking.

Built forty (40) foot Head-frame, have a 105 CFM, new compressor with auxiliary air receiver, water pressure tank all permanently piped on the job, one - 25 HP hoist-complete and in use every day. One - air cooled gasoline powered deep well pump to keep workings dry.

Shaft sunk to fifty-five (55) feet below road level, seventy-five (75) feet below land level.

Run a drift, which was eighty-five (85) feet long at close of work week on April, 10, 1953.

Applicant owns this mine out right. Applicant is exploring this property for bodies of copper - lead - zinc. Mine is open for examination purposes, with good mine road right up to operating shaft.

(b) No past production, very small amount of ore now being salvaged from drifting operations.

Ore reserves - the engineer in charge of applicant's operation, Mr. Joseph G. O'Brien, E M , estimates that this mine will produce (65,000) sixty-five thousand tons of ore for every two-hundred (200) feet of depth and should extend to a depth of twenty-two hundred (2200) feet. See Assay Maps and Metallurgical Test by the Univ. of Arizona, Bureau of Mines, for values.

Item # 4 (cont'd)

(c) See RECONNAISSANCE REPORT on The Herr Mine. Also see Maps Figures # 3-4-5-6 and 7.

Reasons for exploring are best expressed in the last paragraph of Page 2, of the letter of transmittal accompanying the Reconnaissance Report on the Herr Mine.

(d) The project is easily accessible by a good road built with the applicant's funds in the amount of $26,324.66 for an approximate distance of four (4) miles. The distance to the nearest shipping point (Amado, Arizona) is approximately 9.4 miles.

(e) Man power - materials - supplies and equipment all available from nearby Tucson and Nogales, Arizona. Water for mining purposes available at mine.

Page 2 - Item # 5 (b) If this loan is granted, applicant propses to sink the present shaft to a depth of(175) one-hundred-seventy-five feet with one level of approximately four-hundred (400) feet in length.

(c) Completed within eight (8) months, on a one (1) shift per day basis. 176 working days.

(d) Operations will be under the supervision of a mining engineer with over forty (40) years of experience.

Item - # 6 (a) None.

(b) Three (3) underground men, miner, mucker and trammer @ $15.00 per day per man.		$ 7920.00
One (1) all-round surface man and one hoist man @ $15.00 per day per man.		5280.00
Supervision, engineering and geological consultants		8000.00
(c) Gasoline, oil, grease, etc	$ 1000.00	
Timbers & lumber	2000.00	
Blasting supplies	500.00	
500 feet - 1½" air pipe	150.00	
500 " 1" water "	150.00	
Fittings, valves, clamps, etc for above	100.00	
120 feet of 2" water line for pumping	75.00	
800 feet of 16# T. rails-fishplates spikes & bolts	1200.00	
Drill steel	150.00	
Rock bits and sharpening	1000.00	
Total Operating materials & supplies		6325.00

Page 2 - Item # 6 (cont'd)

(d) Operating equipment:

40' Head frame-complete	$ 4000.00	
Deep well pump and pipe	150.00	
Hoisting equipment complete	1350.00	
New compressor - 105 CFM	3450.00	
Small tools	200.00	
1949 - One ton Studebaker truck	1000.00	
one jack hammer	345.00	
150 feet air and water hose	60.00	
one water pressure tank	40.00	
one air receiver tank - aux.	65.00	
200 feet 2" pipe, with valves & fittings	80.00	
150 " 1½" "	37.50	
40 " 1" " with fittings	15.00	
Timber and lumber	300.00	
Blasting supplies	200.00	
Three - 6' x 12' cattle guards(not installed)	750.00	
Total Operating equipment/owned by Applicant	$ 12042.50	
Access road built with Applicant's funds at a cost of	26324.66	
Total Facilities provided by Applicant		$38367.16

(e) None.

(f) One building 12' x 25' - combintation office, change room & equipment	$ 2000.00	
(g) No rehabilitation expense or repairs to operator's equipment required.		
Analytical and accounting	$ 4000.00	
Workmens compensation ins, payroll taxes and insurances	$ 3000.00	
(h) Road maintanence (approx. four miles) and installation of three cattle guards	$ 1000.00	
Total of F-G & H	$10000.00	
Total of # 6-(b)	21200.00	
Total of # 6-(g)	6325.00	
Grand total of Item #6 "Estimated cost of Project"		$ 37525.00

*NOTE
Form MF-100 filed Nov. 14,1951 - Docket # MS-2798