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

224 New Customhouse
Denver 2, Colorado

June 17, 1953.

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 200

From: Field Team, Region IV

Subject: Final Report, DMEA Docket 3004 (Molybdenum-Copper), Rare Metals Mine, Pinal County, Arizona.

Enclosed are the original and three copies of the final report on the subject docket, the original and one copy of Form 3b, and a copy of the letter of denial to the applicants.

W. H. King
W. H. King

A. H. Koschmann
A. H. Koschmann

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
6-29-53
(date)

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

224 New Customhouse
Denver 2, Colorado

June 17, 1953.

Mr. Arnold H. Johnson
55 North Matlock
Mesa, Arizona

Mr. Louie J. Marchese
1341 E. Van Buren Street
Phoenix, Arizona

Re: DMEA Docket No. 3004

Gentlemen:

Reference is made to your application for Government aid on the Rare Metals Molybdenum 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 molybdenum and copper by your proposed exploration program 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

A. H. Koschmann

A. H. Koschmann
Field Team, Region IV

HMC:cwm

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

Reviewed by
DMEA OPERATING COMMITTEE
6-29-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

June 17, 1953.

Memorandum

To: Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Final Report, DMEA Docket 3004 (Molybdenum-Copper), Rare Metals Mine, Pinal County, Arizona.

Enclosed are nine copies of the final report on the subject docket.

The examiners found no evidence on the surface or in the underground workings to warrant further exploration for molybdenum or copper and they recommend that the application be denied.

We concur in this recommendation.

W. H. King
W. H. King

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
6-29-53
(date)

MINING DIVISION
REGION IV

June 10, 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-3004, Rare Metals Molybdenum-Copper Mine, Riverside Mining District, Pinal County, Ariz.

Enclosed are original and 8 copies of the above report by M. J. Elsing and J. F. Haynes of the Bureau of Mines. A separate report will not be submitted by the Geological Survey as it did not participate in this examination.

As there seems very little chance of finding any substantial quantity of molybdenum and/or copper ore, the examiners recommend that an exploration loan be denied. I concur with their recommendation.

Brochure is enclosed.

Walter R. Storms

Walter R. Storms

CC W. H. King (8)
R. F. Robinson
DMEA-3004
DF

WRStorms:frj

Reviewed by
DMEA OPERATING COMMITTEE

6-29-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA-3004, Rare Metals Molybdenum-Copper Mine

Riverside Mining District, Pinal County, Arizona

M. J. Elsing, Consulting Mining Engineer
U. S. Bureau of Mines

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

June 1953

Reviewed by
DMEA OPERATING COMMITTEE
6-29-53
(date)

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

By M. J. Elsing[1] and J. F. Haynes[2]

On May 5, 1953, the Field Team, Region IV, of the Defense Minerals Exploration Administration requested that a report be made on the application of Johnson and Marchese for Government assistance in the exploration of their Rare Metal Mine, Riverside Mining District, Pinal County, Ariz. The applicants estimated that their project would cost $24,675.50. They expected to find ore containing molybdenum and copper. The application was given Docket No. DMEA-3004 (Molybdenum and Copper).

On May 18, 1953, M. J. Elsing and J. F. Haynes visited the property and examined the surface showings and the underground workings.

The property is situated about 3 miles west of Kelvin and is 1.5 miles south of the Southern Pacific Railroad, which at this point follows the Gila River.

In 1943, a Reconstruction Finance Corporation loan for $5,000 was obtained by Johnson, and some exploration was done. Work at the mine consists of a vertical shaft 85 feet deep, and 110 feet of drifts and crosscuts. After the failure of this project the equipment was sold for $1,800 and applied against the loan.

1/ Consulting Mining Engineer, U. S. Bureau of Mines
2/ Mining Engineer, U. S. Bureau of Mines

In 1952, Johnson reopened the mine and found the ground very difficult to handle. Considerable spiling has been done but in spite of this, two faces are badly caved and there is a large hole above one drift. Johnson claims to have done 40 feet of work in 3 faces. It is difficult to substantiate this.

The work on the 85-foot level is in a comparatively soft, sheared, decomposed granite. Mineralization includes quartz stringers with a little chalcopyrite. Molybdenite in minor amounts is present in a fault gouge. All workings are timbered and lagged.

Johnson is a very ingenious and skillful mechanic and has equipped the mine with very old equipment which seems to work satisfactorily. He admits that he has no minable ore reserves but this has not stopped him from erecting a small flotation mill near the Gila River. The mill is a model of neatness and order, and no doubt it too would operate satisfactorily if there were any ore to treat.

In January 1943, Charles A. Anderson of the U. S. Geological Survey examined the property with the view of finding additional possible sources of molybdenum for the war effort of World War II. In his report, Anderson stated that molybdenite occurred in a fault gouge in such minor amounts that sampling was unnecessary. He recommended that no work be done on the project because there were no indications that additional work would yield a minable deposit of molybdenite.

Since Anerson's examination in 1943, it is possible that a round or two may have been blasted in two or three faces. With this possible exception the workings are almost identical to the workings when he saw the mine. The work done, if any, has contributed no additional favorable information, and therefore it must be concluded that his opinion would be applicable today.

The examiners believe that there is no evidence on the surface or in the underground workings at the Rare Metals Mine to warrant the expectation that additional work will develop a minable deposit of molybdenum or copper. Therefore they recommend that the application of Johnson and Marchese for Government assistance in a project to cost $24,675.50 be denied.

DMEA-3004, RARE METALS MOLYBDENUM-COPPER MINE
RIVERSIDE MINING DISTRICT, PINAL COUNTY, ARIZONA

Engineering Report

By M. J. Elsing, Consulting Mining Engineer
U. S. Bureau of Mines

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

June 1953

DMEA-3004, RARE METALS MOLYBDENUM-COPPER MINE
RIVERSIDE MINING DISTRICT, PINAL COUNTY, ARIZONA

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On May 18, 1953, M. J. Elsing and J. F. Haynes visited the property, examined the surface showings, and the underground workings.

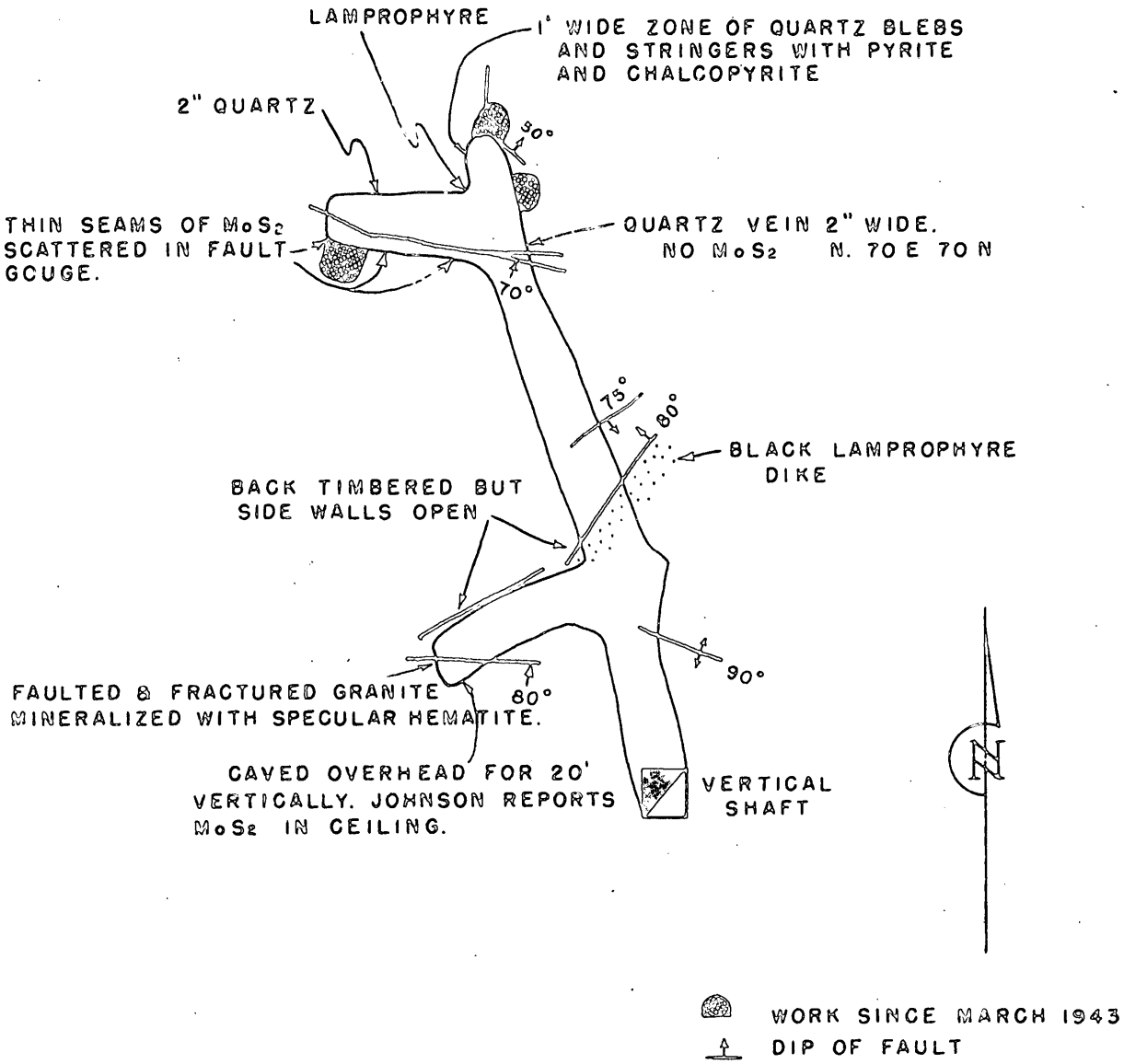
ACKNOWLEDGMENTS

Acknowledgments are due to Arnold H. Johnson, 55 North Matlock Street, Mesa, Ariz. and to his son for accompanying the examiners underground and through the applicants' mill.

Special acknowledgment is made of a report made on this property in March 1943 by Charles A. Anderson of the U. S. Geological Survey. A copy of his map of the underground workings accompanies the present examiners report (see figure 2).

LOCATION, TOPOGRAPHY AND PHYSICAL FEATURES

The property is located in sections 8, 9 and 17, T. 4 S., R. 13 E., Pinal County, Ariz. The property is reached from Florence, Ariz. by traveling east on the Florence-Kelvin county road. At a point 30 miles east of Florence at a mail box marked "A-Diamond Ranch", the Kelvin road is left and the ranch road is followed to the west.



COPY OF MAP BY C. A. ANDERSON
U. S. GEOLOGICAL SURVEY MARCH 1943

SCALE - 1" = 20'

DMEA 3004

FIGURE 2.- PLAN OF 85-FOOT LEVEL, RARE METALS MINE
RIVERSIDE MINING DISTRICT PINAL COUNTY, ARIZONA

The road passes the ranch and follows the railroad for about 2 miles from the mail box. A turn then is made to the southwest and at 3 miles from the mail box the mine is reached. From the mine there is a road running north to the river where the mill is located, a distance of approximately 1.5 miles. It is an additional 1.5 miles to a railroad loading ramp (see location map, figure 1).

The topography includes wide sandy washes separated by steep rounded areas of granite. The drainage is to the north where it joins the Gila River. The vegetation consists of the usual desert types common to areas in southern Arizona with altitudes of 2,000 to 3,000 feet.

HISTORY AND PRODUCTION

In 1943, the property was owned by the Riverside Mining Co., A. H. Johnson, president and manager. Work was done by means of a $5,000 loan from the Reconstruction Finance Corporation. No molybdenum or copper in minable amounts was found and work was suspended until recently. Johnson and his partner, Louie J. Marchese, now own the property and have made application for Government assistance for additional exploration.

The applicants have built a mill alongside the Gila River, 1.5 miles from the mine. Johnson stated that the mill would be operated as soon as ore was found in the mine. No production of molybdenum or copper has been made except specimens from some small stringers in a fault gouge.

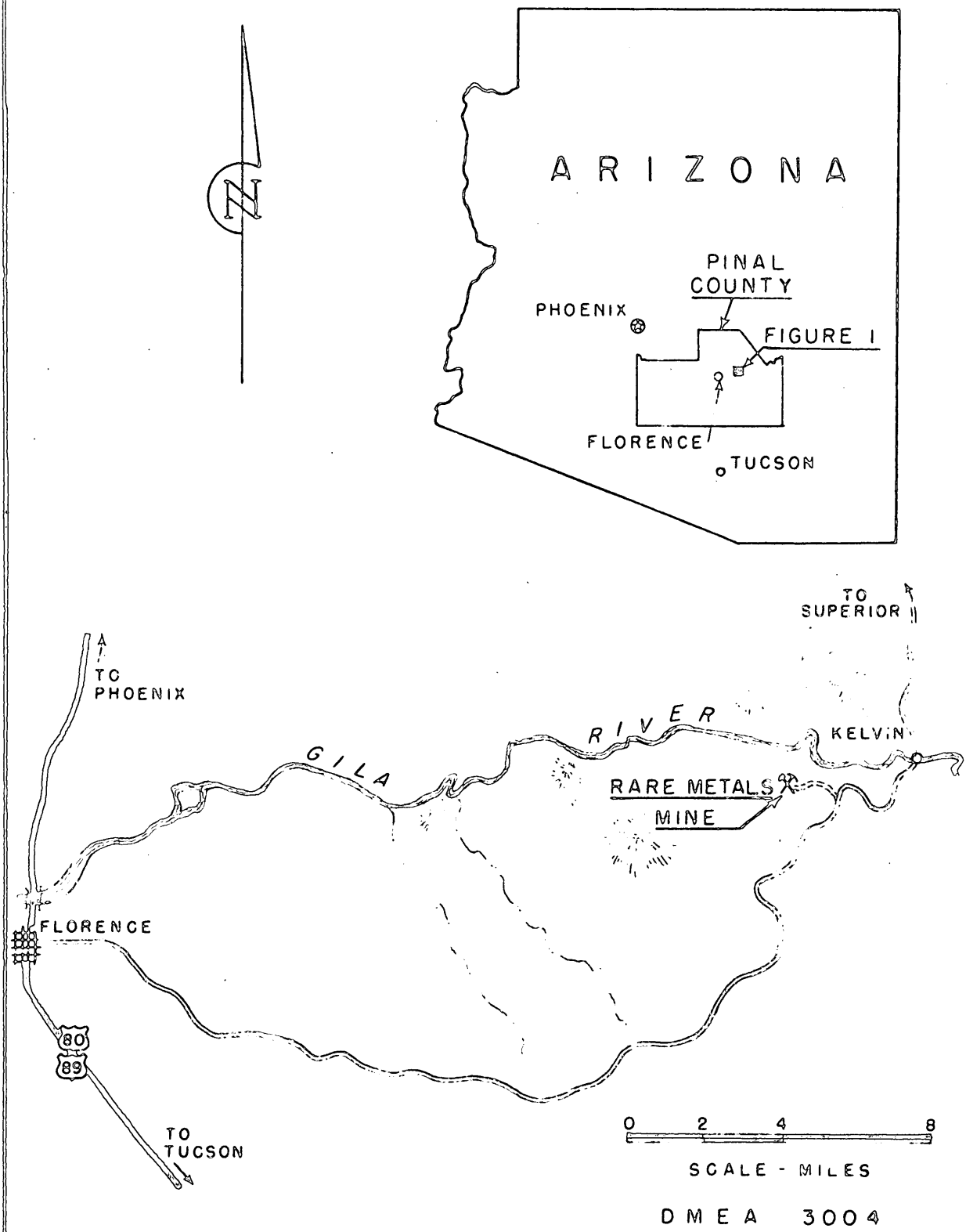


FIGURE 1. - LOCATION MAP - RARE METALS MINE
PINAL COUNTY, ARIZONA

Some $3,200 of the Reconstruction Finance Corporation loan was unpaid. Johnson stated that the equipment was sold for $1,800 which was applied to the repayment of the loan. He further stated that he had paid the loan interest.

Since September 1952, approximately $23,000 has been spent, of which some $15,000 was spent at the mill and the balance at the mine.

OWNERSHIP AND EXTENT

According to Johnson the property consists of 6 unpatented lode mining claims, presently owned by Johnson and Marchese. The location notices of these claims are recorded in the Office of the County Recorder at Florence, Ariz. as follows:

Claim	Book No.	Page No.
Rare Metals No. 1	51	228
Rare Metals No. 2	51	228
Rare Metals No. 3	77	117
Rare Metals No. 4	77	118
Rare Metals No. 5	77	119
Rare Metals No. 6	77	120

DESCRIPTION OF DEPOSIT

The following is quoted from the Andersen report of March 1943: "the country rock is coarse grained biotite granite and at the surface quartz porphyry and aplite dikes of variable width up to several feet trend east-west to northeast. - - - Quartz veins are exposed at the surface and underground. - - Underground quartz stringers form zones, 1 to 2 feet wide, striking N. 75 E. vertical dip. Some of the stringers carry pyrite, chalcopyrite and traces of molybdenite.

"The seams of molybdenite are too narrow and too far apart to constitute ore and no samples were taken for assaying as the grade is far too low for serious consideration as a hopeful prospect". (See figure 2).

The examiners had a copy of Anderson's map of the underground workings and found that no appreciable advance had been made in any of the headings as shown on Anderson's map. Considerable work has been done. This consists mostly of spiling through caved ground in an attempt to hold open the present workings. In an attempt to reach the face of the most norterly crosscut, enough caved material has been removed from the drift to create a large hole that extends for some 20 to 25 feet above the drift. A small amount of molybdenite occurs in the caved fault gouge as originally reported by Anderson. Johnson claims that some 40 feet of work has been done recently in three places. It is very difficult to corroborate this because of the caved condition of these faces. It does not seem possible that more than a round or two was blasted in any one of these faces. Whether 20 or 40 feet of new work was done is immaterial as this work contributed no information of a favorable character.

MINABLE ORE RESERVES

There are no minable ore reserves, which is admitted by Johnson, but he has built a mill for their treatment if and when they are found.

PRESENT STATUS

Exploration and Development

The Rare Metals mine is developed by a vertical shaft, 85 feet deep, and some 110 feet of drifts and crosscuts. All workings are closely timbered and the present working faces are badly caved.

Mining and Milling Equipment

Johnson is an expert mechanic and with the smallest capital outlay he has provided very ingenious equipment. He has taken an old time horse-whim and has connected it with an old motor car engine. This makes a very satisfactory hoist. He has an old compressor driven with a motor car engine, and a deep well pump. He also has set up a small electric light plant and has electric lights underground.

The mill includes a crusher, a ball mill, flotation cells, and a Wilfley table. Nearly every piece of equipment is second-hand and most of it is very old, but Johnson has the ability and skill to put it together so that it will function successfully.

PROJECT PROPOSALS

The applicant is exceedingly indefinite and vague in the exploration he proposes. His application states that the shaft is to be sunk from the present depth of 85 feet to a depth of 200 feet but no mention is made of the amount of drifting to be done at the 200-foot level.

His estimate of costs is as follows:

Applicant's Cost Estimate

Labor			
2 miners	200 shifts @	$15.15/day	$6,060.00
1 hoistman	200 shifts @	12.86/day	2,572.00
1 mucker	200 shifts @	15.15/day	3,030.00
1 superintendent	200 shifts @	20.00/day	4,000.00
Material and supplies			
8,250 lbs. powder	@	$11.00	907.50
8,000 ft. fuse	@	1.3¢	104.00
10 boxes caps	@	$2.50	25.00
50 gal. Cycil			37.00
2,000 gal. Gasoline		$0.26	520.00
8,000 ft. timber		$80.00	800.00
Replace present hoist with heavier machine for depth			1,200.00
workmen's compensation, employers liability, payroll tax, etc.			2,600.00
			$24,675.00

The applicant has estimated incorrectly the cost of powder which should be $22.00 per 100 pounds, instead of $11.00. A total of 8,000 board feet of timber at $80.00 per thousand should be $640.00 instead of $800.

The applicant lists his own equipment as follows:

1 25-horsepower gasoline hoist
1 Ingersoll-Rand compressor
1 Air receiver
1 Engine drive for compressor
1 2,000-watt A.C. light plant
1 Water pump and engine
1 Ore car
1 Ore bucket
3 Jackhammers, steel and hose
1 Ford dump truck
1 Dodge flat rack 1½ ton truck

Johnson outlined his proposal to the examiners in very much more specific terms. He stated he wished to sink his shaft 200 feet, or to a depth of 285 feet and that he wished to drive 330 feet of drifts and crosscuts on the 285-feet level.

The present shaft is vertical and is 4 by 6 feet in the clear. It has one compartment and is timbered with 6- by 6-inch timbers and is lagged. Sets are 5 feet apart. There is no manway and the ladder is vertical without offsets.

The applicant is willing to sink the shaft on contract at $60 per foot and do the drifting at $25 per foot. It is very doubtful that the mine inspector would permit sinking a vertical shaft to a depth of 285 feet with a vertical ladder in the hoisting compartment without offsets. In any event it is not likely that the applicant could sink his present shaft for $60 per foot and do the drifting from it on the 285-foot level for $25 per foot. The cost of the project on the basis of the contract price of work estimated by the applicant would be $12,000 for shaft sinking and $8,250 for drifting, or a total of $20,250.

If the project were feasible it would require a 1½-compartment shaft. The cost of sinking such a shaft would be at least $100 per foot, and the drifting would cost between $35.00 and $40.00 per foot, and possibly higher if the same kind of ground were encountered on the 285-foot level as was encountered on the 85-foot level where much spiling was required.

CONCLUSIONS

In March 1943, in his report on this property, Anderson stated: "I recommend that no additional work be done at the Rare Metals Mine as there are no indications that additional work will yield a minable deposit of molybdenite". Since 1943 a round or two has been blasted in three places but no change was noted that could possibly modify Anderson's opinion of 1943.

Johnson presented no logical reason for his belief that ore would be found at this property. He stated that the Magma ore body was deep, that San Manuel was deep, and his workings were too shallow, and that they were on top of a large ore deposit. There is not the slightest evidence to warrant the belief that additional work in depth would disclose even a small ore body.

RECOMMENDATIONS

In view of the fact that there is no evidence on the surface or in the underground workings at the Rare Metals Mine to warrant expectation that additional work will develop a minable deposit of malybdenum or copper, it is recommended that the application of Johnson and Marchese for Government assistance in a project to cost $24,675.50 be denied.

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

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DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUN 22 1953

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
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MINING DIVISION
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As there seems very little chance of finding any substantial quantity of molybdenum and/or copper ore, the examiners recommend that an exploration loan be denied. I concur with their recommendation.

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DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA-3004, Rare Metals Molybdenum-Copper Mine

Riverside Mining District, Pinal County, Arizona

M. J. Elsing, Consulting Mining Engineer
U. S. Bureau of Mines

J. F. Haynes, Mining Engineer
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June 1953

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DMEA-3004, RARE METALS MOLYBDENUM-COPPER MINE
RIVERSIDE MINING DISTRICT, PINAL COUNTY, ARIZONA

Engineering Report

By M. J. Elsing, Consulting Mining Engineer
U. S. Bureau of Mines

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

June 1953

DMEA-3004, RARE METALS MOLYBDENUM-COPPER MINE
RIVERSIDE MINING DISTRICT, PINAL COUNTY, ARIZONA

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INTRODUCTION

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OWNERSHIP AND EXTENT

According to Johnson the property consists of 6 unpatented lode mining claims, presently owned by Johnson and Marchese. The location notices of these claims are recorded in the Office of the County Recorder at Florence, Ariz. as follows:

Claim	Book No.	Page No.
Rare Metals No. 1	51	228
Rare Metals No. 2	51	228
Rare Metals No. 3	77	117
Rare Metals No. 4	77	118
Rare Metals No. 5	77	119
Rare Metals No. 6	77	120

DESCRIPTION OF DEPOSIT

The following is quoted from the Anderson report of March 1943: "the country rock is coarse grained biotite granite and at the surface quartz porphyry and aplite dikes of variable width up to several feet trend east-west to northeast. - - - Quartz veins are exposed at the surface and underground. - - Underground quartz stringers form zones, 1 to 2 feet wide, striking N. 75 E. vertical dip. Some of the stringers carry pyrite, chalcopyrite and traces of molybdenite.

"The seams of molybdenite are too narrow and too far apart to constitute ore and no samples were taken for assaying as the grade is far too low for serious consideration as a hopeful prospect". (See figure 2).

The examiners had a copy of Anderson's map of the underground workings and found that no appreciable advance had been made in any of the headings as shown on Anderson's map. Considerable work has been done. This consists mostly of spiling through caved ground in an attempt to hold open the present workings. In an attempt to reach the face of the most norterly crosscut, enough caved material has been removed from the drift to create a large hole that extends for some 20 to 25 feet above the drift. A small amount of molybdenite occurs in the caved fault gouge as originally reported by Anderson. Johnson claims that some 40 feet of work has been done redently in three places. It is very difficult to corroborate this because of the caved condition of these faces. It does not seem possible that more than a round or two was blasted in any one of these faces. Whether 20 or 40 feet of new work was done is immaterial as this work contributed no information of a favorable character.

MINABLE ORE RESERVES

There are no minable ore reserves, which is admitted by Johnson, but he has built a mill for their treatment if and when they are found.

PRESENT STATUS

Exploration and Development

The Rare Metals mine is developed by a vertical shaft, 85 feet deep, and some 110 feet of drifts and crosscuts. All workings are closely timbered and the present working faces are badly caved.

Mining and Milling Equipment

Johnson is an expert mechanic and with the smallest capital outlay he has provided very ingenious equipment. He has taken an old time horse-whim and has connected it with an old motor car engine. This makes a very satisfactory hoist. He has an old compressor driven with a motor car engine, and a deep well pump. He also has set up a small electric light plant and has electric lights underground.

The mill includes a crusher, a ball mill, flotation cells, and a Wilfley table. Nearly every piece of equipment is second-hand and most of it is very old, but Johnson has the ability and skill to put it together so that it will function successfully.

PROJECT PROPOSALS

The applicant is exceedingly indefinite and vague in the exploration he proposes. His application states that the shaft is to be sunk from the present depth of 85 feet to a depth of 200 feet but no mention is made of the amount of drifting to be done at the 200-foot level.

His estimate of costs is as follows:

Applicant's Cost Estimate

Labor		
2 miners	200 shifts @ $15.15/day	$6,060.00
1 hoistman	200 shifts @ 12.86/day	2,572.00
1 mucker	200 shifts @ 15.15/day	3,030.00
1 superintendent	200 shifts @ 20.00/day	4,000.00
Material and supplies		
8,250 lbs. powder	@ $11.00	907.50
8,000 ft. fuse	@ 1.3¢	104.00
10 boxes caps	@ $2.50	25.00
50 gal. Cyoil		37.00
2,000 gal. Gasoline	$0.26	520.00
8,000 ft. timber	$80.00	800.00
Replace present hoist with heavier machine for depth		1,200.00
Workmen's compensation, employers liability, payroll tax, etc.		2,600.00
		$24,675.00

The applicant has estimated incorrectly the cost of powder which should be $22.00 per 100 pounds, instead of $11.00. A total of 8,000 board feet of timber at $80.00 per thousand should be $640.00 instead of $800.

The applicant lists his own equipment as follows:

1 25-horsepower gasoline hoist
1 Ingersoll-Rand compressor
1 Air receiver
1 Engine drive for compressor
1 2,000-watt A.C. light plant
1 Water pump and engine
1 Ore car
1 Ore bucket
3 Jackhammers, steel and hose
1 Ford dump truck
1 Dodge flat rack 1½ ton truck

Johnson outlined his proposal to the examiners in very much more specific terms. He stated he wished to sink his shaft 200 feet, or to a depth of 285 feet and that he wished to drive 330 feet of drifts and crosscuts on the 285-foot level.

The present shaft is vertical and is 4 by 6 feet in the clear. It has one compartment and is timbered with 6- by 6-inch timbers and is lagged. Sets are 5 feet apart. There is no manway and the ladder is vertical without offsets.

The applicant is willing to sink the shaft on contract at $60 per foot and do the drifting at $25 per foot. It is very doubtful that the mine inspector would permit sinking a vertical shaft to a depth of 285 feet with a vertical ladder in the hoisting compartment without offsets. In any event it is not likely that the applicant could sink his present shaft for $60 per foot and do the drifting from it on the 285-foot level for $25 per foot. The cost of the project on the basis of the contract price of work estimated by the applicant would be $12,000 for shaft sinking and $8,250 for drifting, or a total of $20,250.

If the project were feasible it would require a 1½-compartment shaft. The cost of sinking such a shaft would be at least $100 per foot, and the drifting would cost between $35.00 and $40.00 per foot, and possibly higher if the same kind of ground were encountered on the 285-foot level as was encountered on the 85-foot level where much spiling was required.

CONCLUSIONS

In March 1943, in his report on this property, Anderson stated: "I recommend that no additional work be done at the Rare Metals Mine as there are no indications that additional work will yield a minable deposit of molybdenite". Since 1943 a round or two has been blasted in three places but no change was noted that could possibly modify Anderson's opinion of 1943.

Johnson presented no logical reason for his belief that ore would be found at this property. He stated that the Magma ore body was deep, that San Manuel was deep, and his workings were too shallow, and that they were on top of a large ore deposit. There is not the slightest evidence to warrant the belief that additional work in depth would disclose even a small ore body.

RECOMMENDATIONS

In view of the fact that there is no evidence on the surface or in the underground workings at the Rare Metals Mine to warrant expectation that additional work will develop a minable deposit of molybdenum or copper, it is recommended that the application of Johnson and Marchese for Government assistance in a project to cost $24,675.50 be denied.

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

224 New Customhouse
Denver 2, Colorado

April 24, 1953

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
DEMA
APR 27 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 application s for Government assistance in exploration work:

Paul H. Bennett
1825 Marine Street
Boulder, Colorado

Arnold H. Johnson
55 N. Matlock Street
Mesa, Arizona

and

Louie J. Marchese
1341 E. Van Buren Street
Phoenix, Arizona

Calvin Black and Keith Jones
Blanding, Utah

Lone Tree Mines
Box 185
Castledale, Utah

W. H. King

W. H. King

Enclosures

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

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DEPARTMENT OF THE INTERIOR
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Enclosures

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Form Approved.
Budget Bureau No. 42-R1035.2.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 27 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-3004
Metal or Mineral
Date Received 4/27/53
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: Arnold H. Johnson [redacted] Partner Louie J. Marchese
55 N. Matlock
Mesa, Arizona
1341 E. Van Buren St.
Phoenix, 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 (See Item 3-A) Enclosure

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

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

(*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

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

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.

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

(*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.

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

(*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.

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.

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)?

(*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 20,- , 195 3

Arnold H. Johnson
(Applicant)

By Same

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

ITEM - 3 Applicant's Property rights

A. Property consists of six unpatented mining claims, original claim located in 1939. These claims are in Section 8, 9, and 17 T. S. 4 South, range 13 east Gila and Salt Meridan. Pinal County Arizona as accompaning map shows.

B. Rare metals Molybdenum mine.

C. Owner

D. -

E. None

F. Claims recorded as follows:

No. 1	BOOK	51	PAGE 228
No. 2	-	-	-
No. 3	Book	77	117
Nol 4	Book	77	118
No. 5	"	"	119
No. 6	"	"	120

At County court house, Florence, Arizona.

ITEM 4 Physical Description

A. The work that has been done consists of a vertical shaft 85 feet deep fully timbered, 130 feet of drifting to cross cut the vein structure, 36 feet of drifting with the vein.

At present three men are employed drifting on the vein and cross-cutting.

We have for the past eight months been engaged in de-watering the mine, re-timbering all workings, placing new mine rails and piping. Also, we have done eighty feet of drifting.

All workings are in good repair and open to examination at present.

B. None

C. This area consists of granite rocks intruded by Monzonite, Schist and Quartz, and at the place of mineralization a shear zone crosses the vein structure for a width of approximately one hundred feet.

The Molybdenite and Copper is found in the Monzonite, Shcist and Quartz in narrow veins and disseminated through the Monzonite (See Map). All indications point to the fact that the present depth is at the zone of the top of the ore body, as veins in the floor carries good showings.

ITEM 4-C (Cont'd)

All ore bodies in or close to this area, such as the Magma mine at Superior, 9 miles by air line, the Ray deposit 8 miles by air line, and the San Manuel 18 miles, have been discovered at depths of from 200 to 1500 feet. I feel that my present depth is too shallow and the good ore is deeper.

All ore found to this time is primary consisting of Molybdenite and Calcopyrite.

D. Project is very accessible as the main state and county highway is only three miles from the mine, connected by a good road of gravel.

The railroad is one and one-half miles from the shaft with a siding three miles and a loading ramp.

The Gila river is one and one-half miles from the mine connecting with a mill site. We have a four room house on the mill site for miners to live in.

E. At present we are working three men and have more available at call. Materials and supplies can be purchased at Winkleman, 18 miles away, or Phoenix 48 miles. Also, we have been getting our timber at a sawmill from Payson, Arizona.

A new power line has been run to within three miles of the mine recently, and can be extended to mine at a moderate cost. Water is plentiful.

ITEM 5 <u>The Exploration Project</u>

The minerals contained are Molybdenite and Copper is in the form of Calcopyrite.

B. Work proposed will consist of deepening the present timbered shaft from eighty five feet to two hundred feet. The shaft will have to be timbered fully and possibly a larger pump will be installed to take care of the water, as the mine makes seepage of water at this level. The reason for more depth is to get under the sulphide ore body to prove it at depth, and to supply an amount of ore. The work proposed will cross cut the vein structure, (See map), at the point of intersection with the shear zone, in which the best mineralization h has been found.

C. The exploration will start at once when loan is granted, as we are active now, and will continue at the best speed until completed, which will take from four to six months.

D. Applicant has mined and prospected this property for ten years, and knows mining. He has worked for large mining Company's as Superintendent and Supervisor. Also, is a capable mechanical engineer and machinist.

ITEM 6- Estimate of Costs

A. None

B. Labor Estimate

2 miners	200 shifts	@ $15.15 / day	$ 6060.00
1 hoist man	"	12.86 / day	2572.00
1 mucker	"	14.10 / day	2820.00
1 working Foreman	"	15.15 / day	3030.00
1 Superintendent	"	20.00 / day	4000.00

C. Materials and Supplies

8250 lbs. powder	@ $ 11.00	$ 907.50
8000 ft. fuse	1.3	104.00
10 boxes caps	2.50	25.00
50 gal. Cyloil		37.00
2000 gal. Gasoline	.26	520.00
8000 ft. timber	8000	800.00

D. Equipment owned by operator

1 25 horsepower gaoline hoist
1 Ingersol Rand compressor
1 air receiver
1 engine drive for compressor
1 2000 watt A.C. lightplant
1 water pump and engine
1 ore car
1 ore bucket
3 jack hammers, steel and hose
1 Ford dump truck
1 Dodge flat rack 1½ ton truck

E. Replace present hoist with heavier machine for depth. $ 1200.00

F. None

G. Workmans compensation, Employers liability, payroll, tax, etc. $ 2600.00

ITEM -7

A. Yes

B. We will furnish our share of the costs in money, and use of equipment owned by us.

COPY

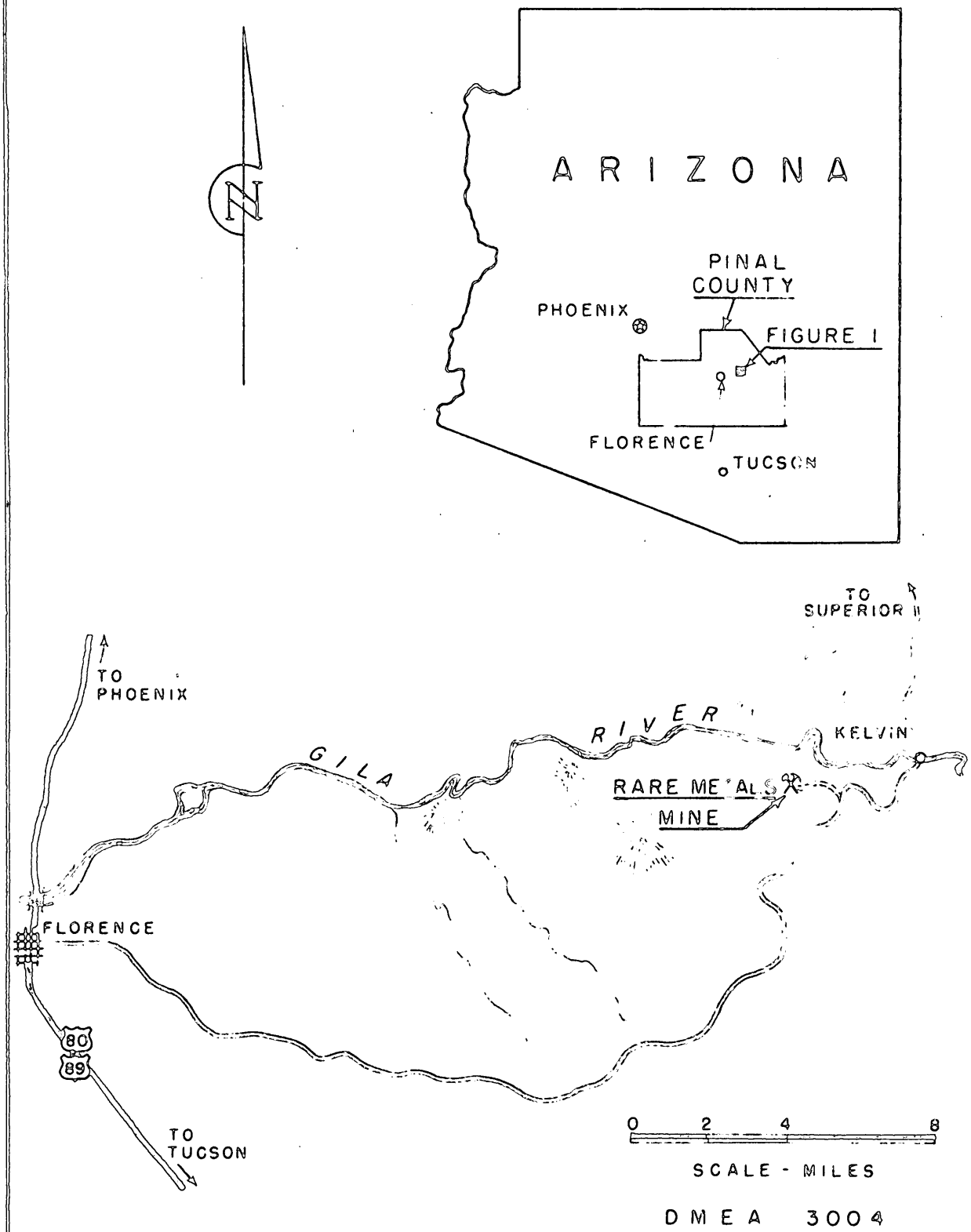
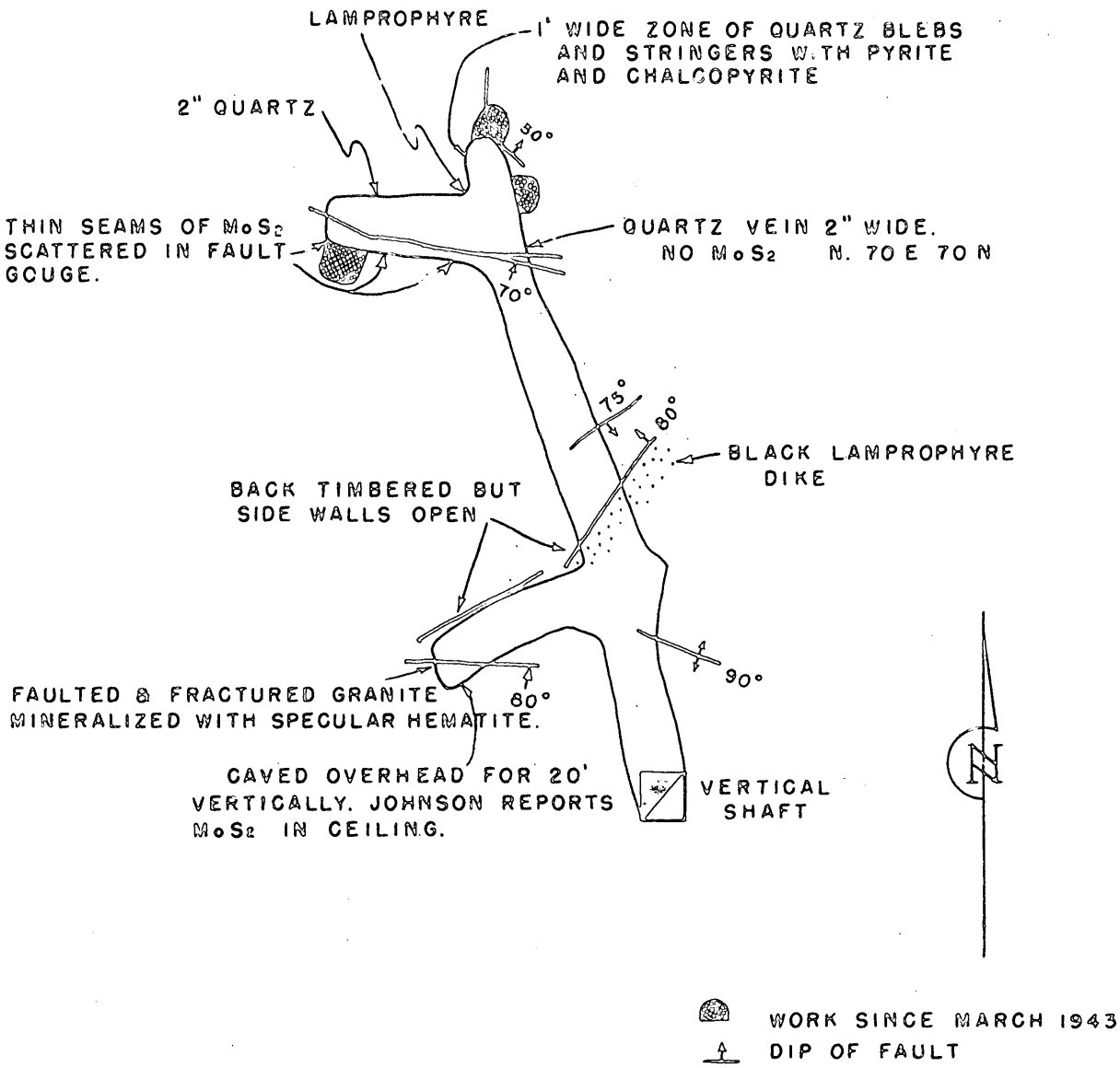


FIGURE 1. - LOCATION MAP - RARE METALS MINE
PINAL COUNTY, ARIZONA



COPY OF MAP BY C. A. ANDERSON
U. S. GEOLOGICAL SURVEY MARCH 1943

SCALE - 1" = 20'

DMEA 3004

FIGURE 2.- PLAN OF 85-FOOT LEVEL, RARE METALS MINE
RIVERSIDE MINING DISTRICT PINAL COUNTY, ARIZONA

WASHINGTON 25, D. C.

OFFICIAL BUSINESS

SPOKANE, WA. JE 12 PM

Mr. George C. Selfridge, Chairman

Operating Committee, DMEA

Department of the Interior

Washington 25, D. C.