1277
2

MAR 1 3 1952

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

Re: DMA Docket 1277 (Tungsten)
Giant Tungsten Mine
Pima County, Arizona

Dear Mr. East:

This will acknowledge receipt of your letter dated February 27, 1952 with which you enclosed one copy of the final report on the subject application and a copy of the denial letter sent to the applicant.

In addition to the two copies of a report required for the files of the Defense Minerals Exploration Administration, one copy each of all reports is required for the files of the Bureau of Mines and the Geological Survey. Will you, therefore, forward three additional copies of the above-referenced report to the Washington Office.

It is desired that the original and three copies of all future field reports be forwarded to the Washington Office.

Sincerely yours,

(signed) FRANK E. JOHNSON

Frank E. Johnson
Chairman, Operating Committee

APPROVED:

J. H. Hedges

For Bureau of Mines

T. P. Thayer

For Geological Survey

FEJohnson/hb

Copy to: Adm. Reading File
Docket
Operating Committee
✓Mr. Selfridge
Mr. Thayer, Rm. 5216 GSA
Mr. Hedges, Rm. 4604
Frank E. Johnson

March 10, 1952

Memorandum

To: Acting Administrator, Defense Minerals Exploration Administration

From: Iron and Ferro-Alloy Division, Defense Minerals Exploration Administration

Subject: Denial, by Region IV, of exploration project in the amount of $8,500.00
Docket No. DMA 1277X - Tungsten
W. H. Coplen
Giant Tungsten Mine
Pima County, Arizona

The field team report on the subject property, together with a copy of the letter of denial to the applicant, was received by this Division on March 6, 1952.

Our review of the field team report and other data in the docket file lead us to concur with the denial heretofore made by the Executive Officer of Region IV.

G. C. Selfridge

G. C. Selfridge, Chief
Iron and Ferro-Alloy Division

QLBrewer'lm
3/10/52

cc: Admn. Reading File
Docket
G. C. Selfridge
Q. L. Brewer

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

224 New Customhouse
Denver 2, Colorado

I + 7A

February 29, 1952

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 210

From: Field Team, Region IV

Subject: Final Report, DMA Docket 1277X, Giant Tungsten Prospect, Pima County, Arizona

With reference to DMA Docket 1227X, William H. Coplen's Giant Tungsten Prospect, Pima County, Arizona, please find enclosed the original and one copy of DMA Form 3b, a copy of the letter of denial to the applicant, and a copy of the Final Report.

J. H. East, Jr.

J. H. East, Jr.

A. H. Koschmann

A. H. Koschmann

Enclosures

A.E.C.

June 26, 1951

Mr. William H. Coplen
Box 1[illegible]
Sells, Arizona

In reply please refer to:
DMA-1277-X Tungsten

Dear Mr. Coplen:

Your application for an exploration loan has been referred to Mr. J. H. East, Jr., Executive Officer, DMA Field Team, Region IV, 230 New Customhouse Building, Denver 2, Colorado for a field appraisal.

Please contact Mr. East offering your cooperation and advise him who can show the property to his engineers.

Very truly yours,

Tom Lyon, Chairman
Coordinating Committee

TJBallard:AMJ

cc:Adm. Reading File
File
Mr. Strobel
Mr. Holderer
Regional Field Team, Region IV

I-2A

June 1, 1951

Mr. William H. Coplen
P. O. Box 133
Sells, Arizona

Subject: DMA-1277X
Re: Exploration Loan
Grand Mountain Claim
Giant Mine

My dear Mr. Coplen:

Receipt is acknowledged of your application and attachments of May 18, 1951 for an exploration loan under the Defense Production Act of 1950.

The application was assigned Docket Number DMA-1277X and was referred to Mr. F. A. Bradley, Chief, Tungsten Branch on May 28, 1951.

In any future correspondence relating to your application, kindly refer to DMA-1277X.

Sincerely yours,

LANDON F. STROBEL

Landon F. Strobel
Executive Secretary

LFSTROBEL:js
cc: Strobel-2
Files
√Bradley
Lyon

FRB
1 6-4-51

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

224 New Customhouse
Denver 2, Colorado

March 20, 1952

Memorandum

To: Frank E. Johnson, Chairman of the Operating Committee, Defense Minerals Exploration Administration

From: Executive Officer, Field Team, Region IV

Subject: Final Reports, DMA Docket 1277, (Tungsten) Giant Tungsten Mine, Pima County, Arizona and DMA Docket 1965 (Copper) Rowley Mine, Maricopa County, Arizona

In accordance with your request in your letters dated March 13, 1952, we are enclosing three copies of the final reports on each of the above applications.

W. H. King

W. H. King for
J. H. East, Jr.

Enclosures

Department of the Interior
Defense Minerals Administration
RECEIVED
MAR 24 1952

(Extra Copies)

Mining Division
Region IV

February 29, 1952

Memorandum

To: DMA Field Team, Region IV

From: Acting Chief, Mining Division, Region IV

Subject: Final Report, DMA Docket 1277X, Giant Tungsten Prospect, Pima County, Arizona

Enclosed herewith are the original and seven copies of the section on Summary, Conclusions and Recommendations by the Geological Survey and the Bureau of Mines. Also find enclosed the original and seven copies of the Engineering Report by the Bureau of Mines. These pertain to William M. Caplan's application for Government assistance in exploration work on his Giant Tungsten claims, Pima County, Arizona, estimated to cost $14,400.

We concur with the recommendations of the consulting engineer that the application be denied.

W. M. King

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 24 1952

Reviewed by
DMEA OPERATING COMMITTEE
3-28-52
(date)

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

200 New Customhouse
Denver 2, Colorado

January 21, 1952

Memorandum

To: DMA Field Team, Region IV

From: A. H. Koschmann

Subject: DMA Docket 1277X, Giant Tungsten Claims, W. H. Coplen, Pima County, Arizona

Enclosed are the original and 7 copies of the geologic report by C. 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 (8)

Mining Division
Date Rec'd.
FEB 1 - 1952
BUREAU OF MINES
Denver, Colorado

January 28, 1952

Memorandum

To : Wm. H. King, Denver, Colorado

From : Chief, Arizona-New Mexico Branch

Subject : Final Report, DMA Docket 1277X, Coplen's Giant Tungsten Mine, Pima County, Ariz.

Enclosed are original and 7 copies of the section on Summary, Conclusions and Recommendations by W. T. Griswold of the Bureau of Mines and C. S. Brenfield of the Geological Survey, and the section on Engineering by Griswold for the above report. A separate section on Geology will be submitted by the Geological Survey.

This report has my approval.

Brochure is enclosed.

WRS

Walter R. Storms

CC: W. H. King (7)
C. A. Anderson
DMA-1277X
DF

wrstorms:als

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

January 18, 1952

Memorandum

To: A. E. Koschmann, Denver, Colorado

From: A. F. Shride, Tucson, Arizona

Subject: Geologic Report, DMA 1277X, Giant Tungsten Claims, [illegible]. B. Coplan, Pima County, Arizona

Enclosed are the original and 7 copies of the above report by C. [illegible]. Bromfield of the Geological Survey.

This report and the recommendation that an exploration loan be denied, because of low tungsten content of the ore and high MoO_3 - WO_3 ratio, have my approval.

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

Enclosures 8

UNITED STATES
DEPARTMENT OF THE INTERIOR
OSCAR L. CHAPMAN, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMA-1277X, Coplan's Giant Tungsten Mine

Pima County, Arizona

William T. Griswold, Mining Engineer
U. S. Bureau of Mines

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

January 1952

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

By William T. Griswold[1] and Calvin S. Bromfield[2]

On May 28, 1951, W. H. Coplen of Sells, Ariz. applied to the Defense Minerals Administration for an exploration project on his Giant Tungsten claims in Pima County, Ariz. The project was to cost $11,400 of which the Government share would be $8,550. Coplen's original plan was to drive exploration adits under two prominent outcrops, one located on the Grand Mountain claim and the other on the Giant No. 3 claim. Coplen later amended his program to concentrate all exploration on the Grand Mountain claim.

An examining team first visited the property on July 26, 1951 but were not able to talk with Coplen as he was in Nevada at the time. It was not until January 7, 1952, that Coplen was able to accompany an examining team to his claims.

The Giant Tungsten group of unpatented claims is located on the Papago Indian reservation in Pima County, Ariz.

Molybdeniferous scheelite occurs in a bedded deposit restricted to a 4- to 5-foot zone of impure conglomeratic quartzite. The scheelite occurs as grains and aggregates of grains associated with sericite and idocrase. The bed is part of a sequence of metamorphic rocks which includes quartzites, phyllites and schists. The rocks dip westward at angles averaging between 30° to 40°. Repetition of similar

---

1/ Mining Engineer, U. S. Bureau of Mines
2/ Geologist, U. S. Geological Survey

beds, including the scheelite-bearing quartzite, is suggestive of faulting.

The applicant's proposal was to drift 200 feet on the scheelite-bearing quartzite on the Grand Mountain claim. Nine representative samples taken on the Grand Mountain claim during the examination indicated an average grade of about 0.2 percent WO_3 and 0.04 percent MoO_3. It is inferred that 5,000 tons of this low-grade material could be developed by the proposed work.

It is concluded that the grade of the deposit is uneconomical and that even if the grade of WO_3 was considerably better, the ratio of MoO_3 is so high as to subject the ore to prohibitive penalties. The possibility of finding commercial ore by further exploration is not considered favorable. Denial of the applicant's request for an exploration loan is, therefore recommended.

GIANT TUNGSTEN CLAIMS
(W. H. Coplen)
PIMA COUNTY, ARIZONA
DMA 1277X

TUNGSTEN

Geology

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

GIANT TUNGSTEN CLAIM
(W. H. Coplen)
PIMA COUNTY, ARIZONA
DPA 1277X

TUNGSTEN

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Proposed Exploration	5
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ILLUSTRATIONS

Fig. 1	Location Map	See Engineering Report
Fig. 2	Claim Map	" " "
Fig. 3	Vertical Section of Grand Mountain Claim	" " "

INTRODUCTION

The Giant Tungsten claims, subject of the exploration loan application docketed as DMA 12771, are on the southwestern edge of the Baboquivari Mountains in an area of moderate relief. The deposits are 32 miles by road south-southeast of Sells, Arizona (fig. 1) on the Papago Indian Reservation. They consist of 9 unpatented mining claims owned by the applicant, William B. Caplan of Sells, Arizona.

GENERAL GEOLOGY

Rocks

Little is on record concerning the general geology of the Baboquivari Mountains. They form a north-south trending mountain mass extending north from the Mexican border for 40 miles. The crest of the mountains to the east of the Giant claims is composed of granitic rocks. These rocks are flanked on the west by a westerly dipping series of metamorphosed rocks which include phyllites, schists, quartzites, and conglomerates. Crosscutting the northerly striking metamorphics are northwesterly to westerly trending rhyolite porphyry and intermediate phaneritic dikes. Volcanic rocks dominate the mountains to the north of the Giant claims in the region of Baboquivari Peak.

Structure

The metamorphic rocks in the vicinity of the Giant Tungsten claims have a general northerly strike, varying from slightly east to slightly west of north, and a westerly dip averaging from 30° to 40°. Repetition of the general sequence of beds in traversing across the strike of the beds is suggestive of faulting; however, this repetition

could represent a recurrence of similar conditions of sedimentation within the stratigraphic column.

ORE DEPOSITS

Molybdeniferous scheelite occurs in a bedded deposit restricted to a 4 to 5 feet impure conglomeratic quartzite zone in a light gray quartzite formation. The scheelite occurs as grains and aggregates of grains associated with zoisite and idocrase disseminated in the conglomeratic quartzite. The scheelite-bearing zone changes rather abruptly above and below into fine grained light gray quartzites barren of scheelite. Locally the footwall is a green phyllite, apparently a chloritic quartz-biotite rock. Within the zone, scheelite occurs in bands of greater or lesser concentration, but the bands themselves are discontinuous.

The quartzite beds containing the scheelite zone commonly crop out prominently on the tops of knolls and in places form dip slopes. On the Grand Mountain claim, which the applicant proposes to explore, the outcrop of the scheelite bearing quartzite zone can be traced for approximately 200 feet before it is concealed by talus.

The scheelite bearing bed can be followed intermittently along the strike from just north of the Grand Mountain claim at least to the Giant No. 5 claim, a distance of 2500 feet (Fig. 2). To the east on the Giant No. 3 and No. 7 claims apparently the same or a similar sequence of beds occur, and the scheelite occurrence is identical with that on the Grand Mountain claim. As previously stated, the repetition of similar sequences suggests faulting, but it may represent repetition of similar conditions of sedimentation.

The scheelite occurs in gangue which is largely composed of recrystallized detrital grains, pink zoisite (thulite?) and idocrase. Sparse malachite and chalcocite (?) also occur locally. In the conglomeratic phases, pebbles are elongate, the result of dynamic metamorphism.

The interesting association of scheelite with zoisite and particularly idocrase is suggestive of pyrometasomatic origin for the deposits. However, zoisite is a typical stress mineral and both it and idocrase might occur as products of the regional metamorphism of an impure conglomeratic quartzite having a calc-aluminous matrix such as a marl.

ORE RESERVES

Mine samples taken across the tungsten bearing zone at spaced intervals gave the following results (see Fig. 3):

Sample No.	Length of Sample Feet	WO_3	MoO_3
1	4	.12	.03
2	4	.10	.02
3	6	.30	.05
4	4	.26	.05
5	4	.14	.03
6	4	.32	.06
7	4	.06	.01
8	6	.11	.02
9	5	.31	.07

The average of mine samples is .19 percent WO_3 over an average zone width of 4.5 feet. The average MoO_3 content of 0.04 percent, approximately one-fifth that of the WO_3 content, would preclude the possibility of the ore reaching stockpile specifications, even if the WO_3 were of economic grade.

Assuming a width of 4 feet, 5,000 tons of approximately 0.2 percent WO_3 can be inferred above the proposed drift. Within this zone there are discontinuous bands having greater concentration of tungsten, and though it is probable that with sorting an upgraded product could be made, the grade is not economic under present conditions.

PROPOSED EXPLORATION

William B. Coplen, the applicant, proposes to carry out his exploration on the Grand Mountain claim. His present proposal is to drift 200 feet on the scheelite bearing bed to explore its continuity with depth. The drifting would be carried out in such a manner as to develop about 100 feet of backs. In addition the applicant would require about three miles of road over gently sloping pediment surface. The total cost would be approximately $8500.

GEOLOGIC CONCLUSIONS

Disseminated low grade molybdenum-bearing scheelite occurs persistently along the quartzite zone wherever it has been examined on the Giant Tungsten claims. The scheelite has a high molybdenum content. Existing penalties for molybdenum could not be borne by the low grade ore. Copper, another penalty element is present locally.

It is inferred that 5,000 tons of material averaging perhaps 0.2 percent WO_3, and .04 percent MoO_3 might be indicated by the proposed 200 foot drift. Showings on the Giant No. 3, 5, and 7 are of similar nature and similar potentiality.

It is concluded that because of tungsten content and detrimental molybdenum content the loan should be denied.

DMA-1277X, COPLEN'S GIANT TUNGSTEN MINE
PIMA COUNTY, ARIZONA

Engineering Report

By William T. Griswold
Mining Engineer
U. S. Bureau of Mines

January 1952

DMA-1277X, COPLEN'S GIANT TUNGSTEN MINE
PIMA COUNTY, ARIZONA

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INTRODUCTION

On June 27, 1951, the Coordinating Committee requested the Defense Minerals Exploration Administration Field Team, Region IV, to have an examination made of the Giant Tungsten mine, Pima County, Ariz. The object of the examination was to determine if the Giant property could qualify for an exploration loan requested by the owner and applicant, W. H. Coplen. Further information was requested on the following points:

1. The ability of the applicant to properly conduct the proposed project;

2. Detail of plan and costs for proposed exploration program;

3. Necessary additional facilities and cost;

4. Equipment needed and cost of purchase or rental;

6. Labor requirements and cost;

7. Does geology and sampling give evidence that the property has merit.

On July 26, 1951, C. F. Fubly of the Bureau of Mines and C. S. Bromfield of Geological Survey examined the property. However, the examiners were unable to find the owner and a report could not be completed until further information could be obtained from Coplen. No word was received from Coplen for several months and the docket was returned to the inactive files.

In December 1951, the applicant visited the Tucson office of the Bureau of Mines and made arrangements to reactivate his application. On January 7, 1952, W. T. Griswold of Bureau of Mines and C. S. Bromfield of the U. S. Geological Survey accompanied by Coplen made an examination of the property and discussed the applicant's proposed projects. All outcrops and location workings were inspected and samples taken along the most promising outcrop.

The examiners remained on the property until after dark in order to lamp several of the outcrops for fluorescent minerals. Lamping indicated the presence of extensive low-grade scheelite mineralization.

In discussing the project proposals, Coplen indicated that he desired to change his original proposals and concentrate exploration work on the one principal outcrop located on the Grand Mountain claim.

ACKNOWLEDGMENTS

Acknowledgments are due to W. H. Coplen, owner of the Giant claims, who accompanied the examining engineers and contributed valuable information on the property and on proposed exploration work.

Valuable information also was obtained from a partially completed report by C. F. Fubly of Bureau of Mines.

LOCATION, TOPOGRAPHY AND PHYSICAL FEATURES

The claims comprising the Giant group are located in Sec. 19, T. 20 S., R. 7 E., on the Papago Indian Reservation, Pima County, Arizona (figure 1). The claims can be reached by driving 21 miles south of

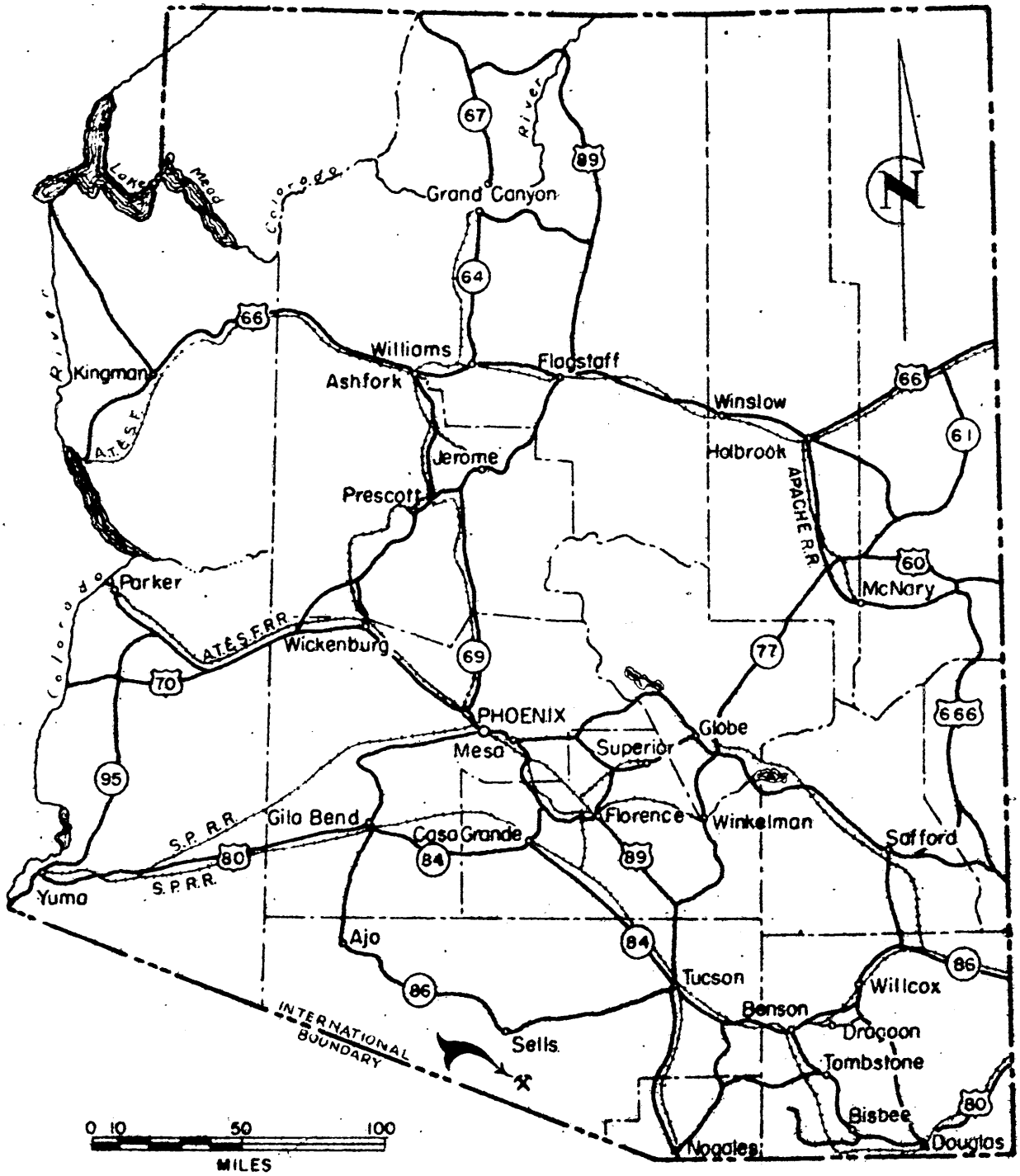

Fig. I LOCATION MAP
Giant Tungsten Mine
Pima County, Arizona

DMA-1277X

Sells on the Sells-San Miguel road, then easterly for about 7 miles on a poor desert road to the Government well of Chui Vaya. The claims are situated about three-quarters of a mile north of the Government well. There is no road from the well to the property but it can be reached by truck or Jeep.

The claims are located on the western foothills of the Babequivari Mountains at an altitude from 3,200 to 3,300 feet. Topographic relief in the area is moderate to steep, but would not offer any serious problem to road construction.

The climate is characteristic of the Piedmont areas of southern Arizona. The winters are mild but rainfall is scant and summers are extremely hot. Vegetation is limited to the usual cacti and scrub growth of desert trees.

HISTORY AND PRODUCTION

There has been no previous mining activity in the area. The applicant's claims were located in the early part of 1951. The only workings completed by him since that time are a few small location holes.

OWNERSHIP AND EXTENT

The Giant group is composed of 9 unpatented lode mining claims held by location. These claims are owned by William H. Coplen and are located on the Papago Indian reservation. There are no restrictions on the location of mining claims on this reservation.

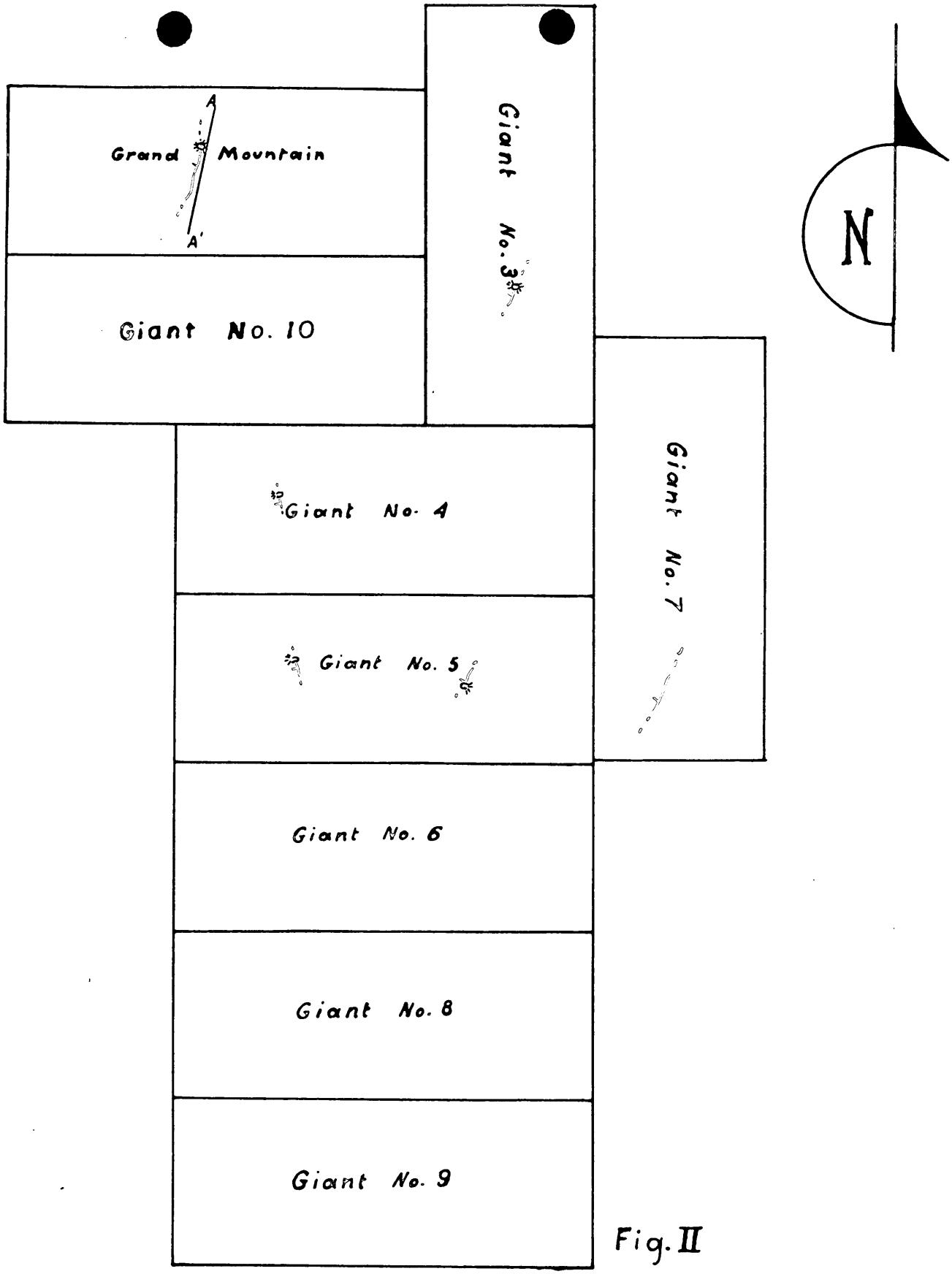

Fig. II

SKETCH CLAIM MAP OF GIANT GROUP

Pima County, Arizona.

Jan. 1952.

scale 1" = 500'

DMA-1277X

DESCRIPTION OF DEPOSIT

On the Giant Tungsten claims, scheelite occurs in association with zoisite and idocrase in a bed of impure conglomeratic quartzite. The scheelite-bearing quartzite bed is part of a westerly-dipping sequence of metamorphic rocks which include phyllites, schists and quartzites. Repetition of similar scheelite-bearing quartzite beds on several claims suggests faulting.

The scheelite-bearing zone is from 2 to 6 feet in width. It grades rather sharply above and below into barren light gray quartzites. Within this zone scheelite occurs in bands of greater or lesser concentration, but the bands themselves are discontinuous. The grade would appear to be submarginal. Nine samples taken along the most favorable outcrop gave an average grade of 0.19 percent WO_3 and 0.04 percent MoO_3.

ORE RESERVES

There are no measured or indicated ore reserves on the Giant or Grand Mountain claims. Outcrops show extensive areas of scheelite mineralization, but sampling of one of the most favorable outcrops shows the grade to be well below present economic limits. The average grade from 9 samples taken along the most favorable outcrop gave 0.19 percent WO_3 with 0.04 percent MoO_3.

The proposed exploration adit would probably develop approximately 5,000 tons of this low-grade material. Even if better grade material

could be discovered, indications are that the MoO_3 content would be so high as to bring prohibitive penalties when the ore was sold.

PRESENT STATUS

The Giant group of claims are raw prospects. No work has been done except a few location holes. The owner was in Fallon, Nevada working on other properties during most of 1951.

PROJECT PROPOSALS

Coplan's original proposals divided his project into the following three operations:

1. Construct a road from the Giant claims to the Chui Vaya road;

2. Drive a 200-foot exploration adit on the Grand Mountain claim;

3. Drive a 200-foot adit and 50-foot crosscut on the Giant No. 3 claim.

When the property was examined on January 7, 1952, Coplan expressed a desire to change his proposal and limit his work to the Grand Mountain claim. He offered two proposals. The first was to drive a 200-foot exploration adit on the vein. The second and alternate proposal was to sink a 100-foot inclined shaft and drift 100 feet on the vein. From a standpoint of costs the first proposal for a development adit was decided as the more desirable project even though a maximum of only about 100 feet of back could be attained (figure 3). In either case Coplan desired a Government loan only if

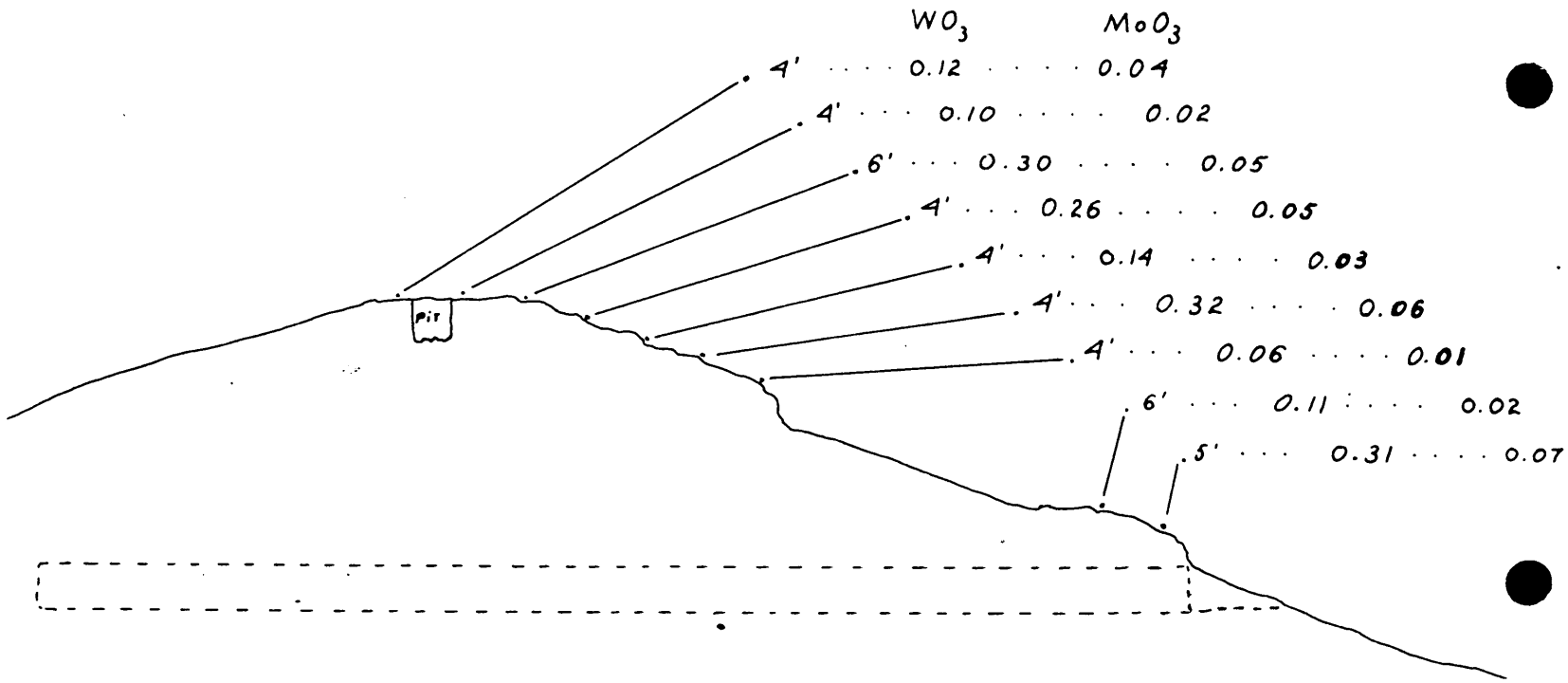

Fig. III VERTICAL SECTION AA'

Projection of vein and proposed adit.

scale: 1" = 30'

DMA-1277X

a bookkeeping method could be avoided and he could obtain a straight contract price for the work performed. He suggested that drifting be done on the basis of $35 per foot. This would make the Government's share $26.25 a foot. For shaft sinking, he wanted $70 per foot for a 1-compartment shaft. The applicant's cost estimate is reduced to 2 items as follows:

3 miles of road at $500/mile	$1,500
200 feet of drifting at $35/ft.	7,000
Total for project	$8,500

The examining engineers considered the applicant competent to carry out his proposed programs.

Transportation

Only 3/4 of a mile of road would be required to connect the applicant's property to the Chui Vaya well. However, this route would be steep and winding, and would require some blasting. By constructing about 3 miles of road the Chui Vaya road could be reached over only slightly rolling terrain of alluvial material. The construction of this road would probably cost more than the applicant's estimate. A figure of $2,500 would be more in line with present costs.

Manpower

The applicant plans on doing his own mining work, and hiring an Indian from the reservation to do the mucking and hand tramming. There should be an adequate supply of this type of unskilled labor.

Housing

The applicant has a van-body truck which he uses for living quarters. No other facilities would be required for initial exploration work.

Water

Water for drilling and camp purposes would have to be hauled to the project probably from wells 5 or 6 miles from the property. The Chui Vaya well is in a wash bottom with steep sides and is not easily reached by truck.

Equipment

The applicant would furnish all equipment required for the project, if he were given a contract price on a footage basis.

PRODUCTION PLAN

The applicant planned to drive his exploration adit on the vein and stockpile any ore that was mined. The drifting also would open ground that could be stoped to the surface. The stockpiled ore would then be hand-sorted to a 1 percent or better grade and trucked to the mill. The applicant believes that if enough ore were developed, the Picacho Mines Co. lead-zinc mill could be converted for milling scheelite. This mill, which is now idle, is located 40 miles from the Giant claims.

If the first project proved to be economic the applicant felt he could go ahead with further exploration and development without assistance.

SUMMARY

The deposit is situated in a remote part of Arizona, some 185 miles from the nearest tungsten mill. The grade and character of the mineralized outcrops do not indicate that the deposit has any commercial possibilities.

CONCLUSIONS AND RECOMMENDATIONS

Mineralization on the Giant and Grand Mountain claims is of such low grade that it does not appear to have any economic possibilities under present price and marketing conditions. Extensive outcrops in the area show only disseminated scheelite mineralization with no indication that further exploration would develop significant amounts of higher grade ore.

Therefore it is recommended that the request for an exploration loan be denied.

H. 13

FILE COPY
SURNAME:

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

MAR 1 3 1952

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

Re: DMA Docket 1277 (Tungsten)
Giant Tungsten Mine
Pima County, Arizona

Dear Mr. East:

This will acknowledge receipt of your letter dated February 29, 1952 with which you enclosed one copy of the final report on the subject application and a copy of the denial letter sent to the applicant.

In addition to the two copies of a report required for the files of the Defense Minerals Exploration Administration, one copy each of all reports is required for the files of the Bureau of Mines and the Geological Survey. Will you, therefore, forward three additional copies of the above-referenced report to the Washington Office.

It is desired that the original and three copies of all future field reports be forwarded to the Washington Office.

Sincerely yours,

(signed) FRANK E. JOHNSON E.L. 3/13/52

Frank E. Johnson (HB)
Chairman, Operating Committee

APPROVED:

J. H. Hedges (HB)
For Bureau of Mines

T. P. Thayer (HB)
For Geological Survey

FEJohnson/hb

Copy to: Adm. Reading File
Docket
Operating Committee
Mr. Selfridge
Mr. Thayer, Rm. 5216 GSA
Mr. Hedges, Rm. 4604
Frank E. Johnson

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

March 10, 1952

Noted
Com

Memorandum

To: Acting Administrator, Defense Minerals Exploration Administration

From: Iron and Ferro-Alloy Division, Defense Minerals Exploration Administration

Subject: Denial, by Region IV, of exploration project in the amount of $8,500.00
Docket No. DMA 1277X - Tungsten
W. H. Coplen
Giant Tungsten Mine
Pima County, Arizona

The field team report on the subject property, together with a copy of the letter of denial to the applicant, was received by this Division on March 6, 1952.

Our review of the field team report and other data in the docket file lead us to concur with the denial heretofore made by the Executive Officer of Region IV.

G. C. Selfridge

G. C. Selfridge, Chief
Iron and Ferro-Alloy Division

FILE COPY
SURNAME:

Brewer
Selfridge

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

March 10, 1952

Memorandum

To: Acting Administrator, Defense Minerals Exploration Administration

From: Iron and Ferro-Alloy Division, Defense Minerals Exploration Administration

Subject: Denial, by Region IV, of exploration project in the amount of $8,500.00
Docket No. DMA 1277X - Tungsten
W. H. Coplen
Giant Tungsten Mine
Pima County, Arizona

The field team report on the subject property, together with a copy of the letter of denial to the applicant, was received by this Division on March 6, 1952.

Our review of the field team report and other data in the docket file lead us to concur with the denial heretofore made by the Executive Officer of Region IV.

George C. Selfridge

G. C. Selfridge, Chief
Iron and Ferro-Alloy Division

QLBrewer'lm
3/10/52

cc: Admn. Reading File
Docket
G. C. Selfridge
Q. L. Brewer

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

224 New Customhouse
Denver 2, Colorado

February 29, 1952

Mr. William H. Coplen
Box 133
Sells, Arizona

Re: DMA Docket 1277X

Dear Mr. Coplen:

Your application for government assistance in exploration work on your Giant Tungsten Claims, Pima County, Arizona, has been carefully reviewed by the Defense Minerals Exploration Administration. A field examination has been made.

The geologic evidence and analytical results of the samples taken at your property do not favor the probability of making a significant discovery. Assays of the samples cut by the examining team show the grade of the tungsten to be very low and reveal a high ratio of molybdenum that would subject the ore to prohibitive penalties. Under these circumstances we regret to inform you that your application is denied.

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

Very truly yours,

J. H. East, Jr.
Field Team, Region IV

WLD:fwo

cc: Administrator, DMEA,
Washington, D. C.

W. R. Storms
DMA Subject, Chron
Koschmann

A. H. Koschmann
Field Team, Region IV

Mining Division
Region IV

February 29, 1952

Memorandum

To: DMA Field Team, Region IV

From: ALTING Chief, Mining Division, Region IV

Subject: Final Report, DMA Docket 18YTX, Giant Tungsten Prospect, Pima County, Arizona

Enclosed herewith are the original and seven copies of the section on Summary, Conclusions and Recommendations by the Geological Survey and the Bureau of Mines. Also ~~find~~ enclosed the original and seven copies of the Engineering Report by the Bureau of Mines. These pertain to William H. Caplan's application for Government assistance in exploration work on his Giant Tungsten claims, Pima County, Arizona, estimated to cost $14,400.

We concur with the recommendations of the examining engineer that the application be denied.

W. H. King

W. H. King

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 6 1952

Reviewed by the
DMEA OPERATING COMMITTEE
3-28-52.
(date)

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

200 New Customhouse
Denver 2, Colorado

January 21, 1952

Memorandum

To: DMA Field Team, Region IV

From: A. H. Koschmann

Subject: DMA Docket 1277X, Giant Tungsten Claims, W. H. Coplen, Pima County, Arizona

Enclosed are the original and 7 copies of the geologic report by C. 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 (8)

Mining Division
Date Rec'd.
FEB 1 - 1952
BUREAU OF MINES
Denver, Colorado

January 28, 1952

Memorandum

To : Wm. H. King, Denver, Colorado

From : Chief, Arizona-New Mexico Branch

Subject : Final Report, DMA Docket 1277X, Coplen's Giant Tungsten Mine, Pima County, Ariz.

Enclosed are original and 7 copies of the section on Summary, Conclusions and Recommendations by W. T. Griswold of the Bureau of Mines and C. S. Bromfield of the Geological Survey, and the section on Engineering by Griswold for the above report. A separate section on Geology will be submitted by the Geological Survey.

This report has my approval.

Brochure is enclosed.

WRS

Walter R. Storms

CC: W. H. King (7)
C. A. Anderson
DMA-1277X
DF

wrstorms:als

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

January 18, 1952

Memorandum

To: A. H. Koschmann, Denver, Colorado

From: A. F. Shride, Tucson, Arizona

Subject: Geologic Report, DMA 1277X, Giant Tungsten Claims, W. H. Coplen, Pima County, Arizona

Enclosed are the original and 7 copies of the above report by C. S. Brenfield of the Geological Survey.

This report and the recommendation that an exploration loan be denied, because of low tungsten content of the ore and high MoO_3 - WO_3 ratio, have my approval.

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

Enclosures 8

Mining Division
Date Rec'd.
FEB 1 - 1952
BUREAU OF MINES
Denver, Colorado

UNITED STATES
DEPARTMENT OF THE INTERIOR
OSCAR L. CHAPMAN, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMA-1277X, Coplen's Giant Tungsten Mine

Pima County, Arizona

William T. Griswold, Mining Engineer
U. S. Bureau of Mines

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

January 1952

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

By William T. Griswold[1] and Calvin S. Bromfield[2]

On May 28, 1951, W. H. Coplen of Sells, Ariz. applied to the Defense Minerals Administration for an exploration project on his Giant Tungsten claims in Pima County, Ariz. The project was to cost $11,400 of which the Government share would be $8,550. Coplen's original plan was to drive exploration adits under two prominent outcrops, one located on the Grand Mountain claim and the other on the Giant No. 3 claim. Coplen later amended his program to concentrate all exploration on the Grand Mountain claim.

An examining team first visited the property on July 26, 1951 but were not able to talk with Coplen as he was in Nevada at the time. It was not until January 7, 1952, that Coplen was able to accompany an examining team to his claims.

The Giant Tungsten group of unpatented claims is located on the Papago Indian reservation in Pima County, Ariz.

Molybdeniferous scheelite occurs in a bedded deposit restricted to a 4- to 5-foot zone of impure conglomeratic quartzite. The scheelite occurs as grains and aggregates of grains associated with zoisite and idocrase. The bed is part of a sequence of metamorphic rocks which includes quartzites, phyllites and schists. The rocks dip westward at angles averaging between 30° to 40°. Repetition of similar

---

1/ Mining Engineer, U. S. Bureau of Mines
2/ Geologist, U. S. Geological Survey

beds, including the scheelite-bearing quartzite, is suggestive of faulting.

The applicant's proposal was to drift 200 feet on the scheelite-bearing quartzite on the Grand Mountain claim. Nine representative samples taken on the Grand Mountain claim during the examination indicated an average grade of about 0.2 percent WO_3 and 0.04 percent MoO_3. It is inferred that 5,000 tons of this low-grade material could be developed by the proposed work.

It is concluded that the grade of the deposit is uneconomical and that even if the grade of WO_3 was considerably better, the ratio of MoO_3 is so high as to subject the ore to prohibitive penalties. The possibility of finding commercial ore by further exploration is not considered favorable. Denial of the applicant's request for an exploration loan is, therefore, recommended.

GIANT TUNGSTEN CLAIMS
(W. H. Coplen)
PIMA COUNTY, ARIZONA
DMA 1277X

TUNGSTEN

Geology

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

GIANT TUNGSTEN CLAIMS
(W. H. Coplen)
PIMA COUNTY, ARIZONA
DMA 1277X

TUNGSTEN

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Proposed Exploration	5
Geologic Conclusions	6

ILLUSTRATIONS

Fig. 1 Location Map	See Engineering Report
Fig. 2 Claim Map	" " "
Fig. 3 Vertical Section of Grand Mountain Claim	" " "

INTRODUCTION

The Giant Tungsten claims, subject of the exploration loan application docketed as DMA 1277X, are on the southwestern edge of the Baboquivari Mountains in an area of moderate relief. The deposits are 32 miles by road south-southeast of Sells, Arizona (fig. 1) on the Papago Indian Reservation. They consist of 9 unpatented mining claims owned by the applicant, William B. Coplen of Sells, Arizona.

GENERAL GEOLOGY

Rocks

Little is on record concerning the general geology of the Baboquivari Mountains. They form a north-south trending mountain mass extending north from the Mexican border for 40 miles. The crest of the mountains to the east of the Giant claims is composed of granitic rocks. These rocks are flanked on the west by a westerly dipping series of metamorphosed rocks which include phyllites, schists, quartzites, and conglomerates. Crosscutting the northerly striking metamorphics are northwesterly to westerly trending rhyolite porphyry and intermediate phaneritic dikes. Volcanic rocks dominate the mountains to the north of the Giant claims in the region of Baboquivari Peak.

Structure

The metamorphic rocks in the vicinity of the Giant Tungsten claims have a general northerly strike, varying from slightly east to slightly west of north, and a westerly dip averaging from 30° to 40°. Repetition of the general sequence of beds in traversing across the strike of the beds is suggestive of faulting; however, this repetition

could represent a recurrence of similar conditions of sedimentation within the stratigraphic column.

ORE DEPOSITS

Molybdeniferous scheelite occurs in a bedded deposit restricted to a 4 to 5 foot impure conglomeratic quartzite zone in a light gray quartzite formation. The scheelite occurs as grains and aggregates of grains associated with zoisite and idocrase disseminated in the conglomeratic quartzite. The scheelite-bearing zone changes rather abruptly above and below into fine grained light gray quartzites barren of scheelite. Locally the footwall is a green phyllite, apparently a chloritic quartz-biotite rock. Within the zone, scheelite occurs in bands of greater or lesser concentration, but the bands themselves are discontinuous.

The quartzite beds containing the scheelite zone commonly crop out prominently on the tops of knolls and in places forms dip slopes. On the Grand Mountain claim, which the applicant proposes to explore, the outcrop of the scheelite bearing quartzite zone can be traced for approximately 200 feet before it is concealed by talus.

The scheelite bearing bed can be followed intermittently along the strike from just north of the Grand Mountain claim at least to the Giant No. 5 claim, a distance of 2500 feet (Fig. 2). To the east on the Giant No. 3 and No. 7 claims apparently the same or a similar sequence of beds occur, and the scheelite occurrence is identical with that on the Grand Mountain claim. As previously stated, the repetition of similar sequences suggests faulting, but it may represent repetition of similar conditions of sedimentation.

The scheelite occurs in gangue which is largely composed of recrystallized detrital grains, pink zoisite (thulite?) and idocrase. Sparse malachite and chalcocite (?) also occur locally. In the conglomeratic phases, pebbles are elongate, the result of dynamic metamorphism.

The interesting association of scheelite with zoisite and particularly idocrase is suggestive of pyrometasomatic origin for the deposits. However, zoisite is a typical stress mineral and both it and idocrase might occur as products of the regional metamorphism of an impure conglomeratic quartzite having a calc-aluminous matrix such as a marl.

ORE RESERVES

Nine samples taken across the tungsten bearing zone at spaced intervals gave the following results (see Fig. 3):

Sample No.	Length of Sample Feet	%WO_3	%MoO_3
1	4	.12	.03
2	4	.10	.02
3	6	.30	.05
4	4	.26	.05
5	4	.14	.03
6	4	.32	.06
7	4	.06	.01
8	6	.11	.02
9	5	.31	.07

The average of mine samples is .19 percent WO_3 over an average zone width of 4.5 feet. The average MoO_3 content of 0.04 percent, approximately one-fifth that of the WO_3 content, would preclude the possibility of the ore reaching stockpile specifications, even if the WO_3 were of economic grade.

Recovery is based on Mo (metal) not MoO_3

Assuming a width of 4 feet, 5,000 tons of approximately 0.2 percent WO_3 can be inferred above the proposed drift. Within this zone there are discontinuous bands having greater concentration of tungsten, and though it is probable that with sorting an upgraded product could be made, the grade is not economic under present conditions.

PROPOSED EXPLORATION

William B. Coplen, the applicant, proposes to carry out his exploration on the Grand Mountain claim. His present proposal is to drift 200 feet on the scheelite bearing bed to explore its continuity with depth. The drifting would be carried out in such a manner as to develop about 100 feet of backs. In addition the applicant would require about three miles of road over gently sloping pediment surface. The total cost would be approximately $8500.

GEOLOGIC CONCLUSIONS

Disseminated low grade molybdenum-bearing scheelite occurs persistently along the quartzite zone wherever it has been examined on the Giant Tungsten claims. The scheelite has a high molybdenum content. Existing penalties for molybdenum could not be born by the low grade ore. Copper, another penalty element is present locally.

It is inferred that 5,000 tons of material averaging perhaps 0.2 percent WO_3, and .04 percent MoO_3 might be indicated by the proposed 200 foot drift. Showings on the Giant No. 3, 5, and 7 are of similar nature and similar potentiality.

It is concluded that because of tungsten content and detrimental molybdenum content the loan should be denied.

DMA-1277X, COPLEN'S GIANT TUNGSTEN MINE
PIMA COUNTY, ARIZONA

Engineering Report

By William T. Griswold
Mining Engineer
U. S. Bureau of Mines

January 1952

DMA-1277X, COPLEN'S GIANT TUNGSTEN MINE
PIMA COUNTY, ARIZONA

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ILLUSTRATIONS

Figure		Following page
1	Location map	2
2	Claim map	3
3	Vertical section AA' showing projection of vein and proposed adit	5

INTRODUCTION

On June 27, 1951, the Coordinating Committee requested the Defense Minerals Exploration Administration Field Team, Region IV, to have an examination made of the Giant Tungsten mine, Pima County, Ariz. The object of the examination was to determine if the Giant property could qualify for an exploration loan requested by the owner and applicant, W. H. Coplen. Further information was requested on the following points:

1. The ability of the applicant to properly conduct the proposed project;

2. Detail of plan and costs for proposed exploration program;

3. Necessary additional facilities and cost;

4. Equipment needed and cost of purchase or rental;

6. Labor requirements and cost;

7. Does geology and sampling give evidence that the property has merit.

On July 26, 1951, G. R. Rubly of the Bureau of Mines and C. S. Bromfield of Geological Survey examined the property. However, the examiners were unable to find the owner and a report could not be completed until further information could be obtained from Coplen. No word was received from Coplen for several months and the docket was returned to the inactive files.

In December 1951, the applicant visited the Tucson office of the Bureau of Mines and made arrangements to reactivate his application. On January 7, 1952, W. T. Griswold of Bureau of Mines and C. S. Bromfield of the U. S. Geological Survey accompanied by Coplen made an examination of the property and discussed the applicant's proposed projects. All outcrops and location workings were inspected and samples taken along the most promising outcrop.

The examiners remained on the property until after dark in order to lamp several of the outcrops for fluorescent minerals. Lamping indicated the presence of extensive low-grade scheelite mineralization.

In discussing the project proposals, Coplen indicated that he desired to change his original proposals and concentrate exploration work on the one principal outcrop located on the Grand Mountain claim.

ACKNOWLEDGMENTS

Acknowledgments are due to W. H. Coplen, owner of the Giant claims, who accompanied the examining engineers and contributed valuable information on the property and on proposed exploration work.

Valuable information also was obtained from a partially completed report by G. R. Rubly of Bureau of Mines.

LOCATION, TOPOGRAPHY AND PHYSICAL FEATURES

The claims comprising the Giant group are located in Sec. 19, T. 20 S., R. 7 E., on the Papago Indian Reservation, Pima County, Arizona (figure 1). The claims can be reached by driving 21 miles south of

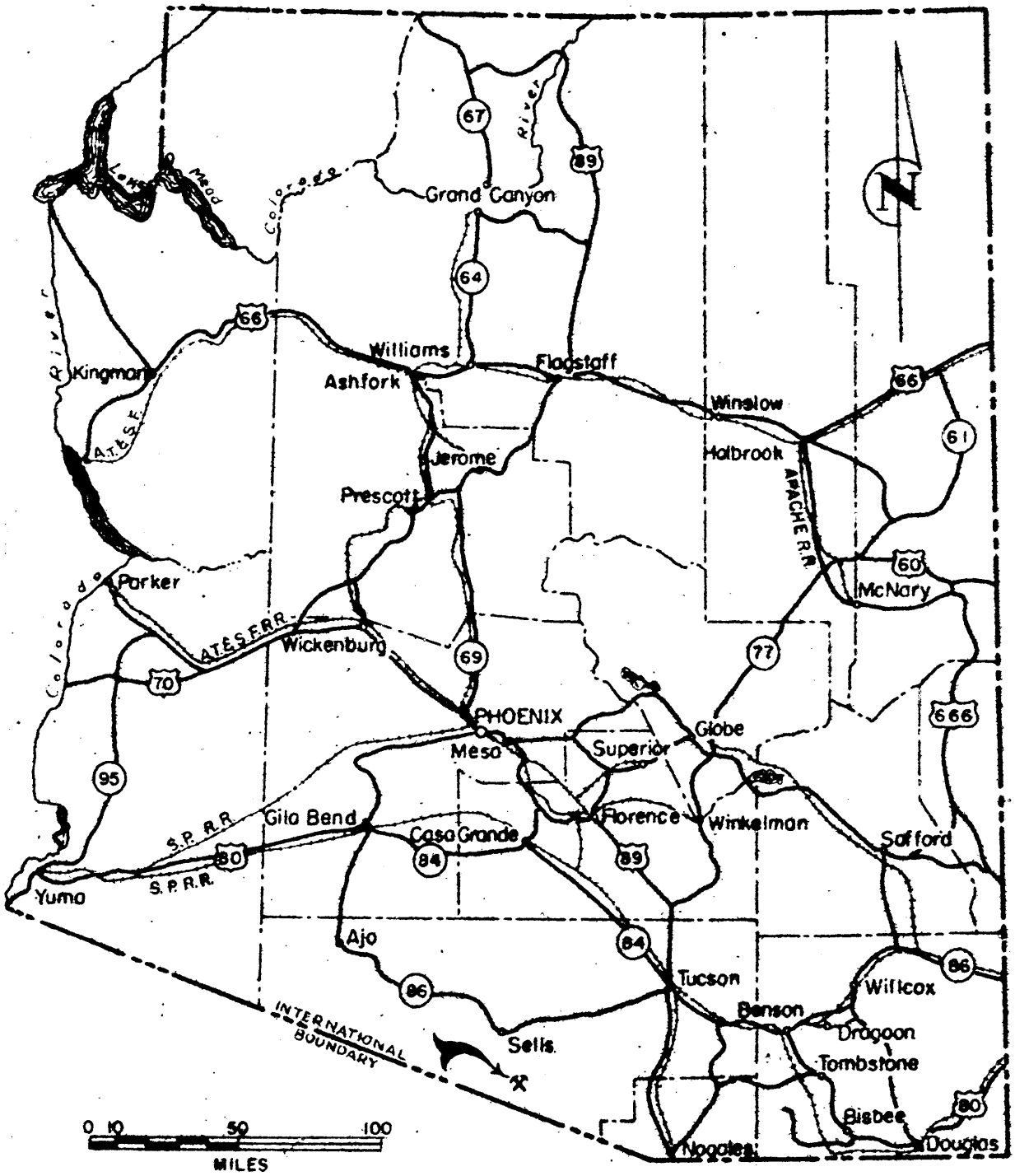


Fig. I LOCATION MAP
Giant Tungsten Mine
Pima County, Arizona

DMA-1277X

Sells on the Sells-San Miguel road, then easterly for about 7 miles on a poor desert road to the Government well of Chui Vaya. The claims are situated about three-quarters of a milesnorth of the Government well. There is no road from the well to the property but it can be reached by truck or Jeep.

The claims are located on the western foothills of the Baboquivari Mountains at an altitude from 3,200 to 3,300 feet. Topographic relief in the area is moderate to steep, but would not offer any serious problem to road construction.

The climate is characteristic of the Piedmont areas of southern Arizona. The winters are mild but rainfall is scant and summers are extremely hot. Vegetation is limited to the usual cacti and scrub growth of desert trees.

HISTORY AND PRODUCTION

There has been no previous mining activity in the area. The applicant's claims were located in the early part of 1951. The only workings completed by him since that time are a few small location holes.

OWNERSHIP AND EXTENT

The Giant group is composed of 9 unpatented lode mining claims held by location. These claims are owned by William H. Coplen and are located on the Papago Indian reservation. There are no restrictions on the location of mining claims on this reservation.

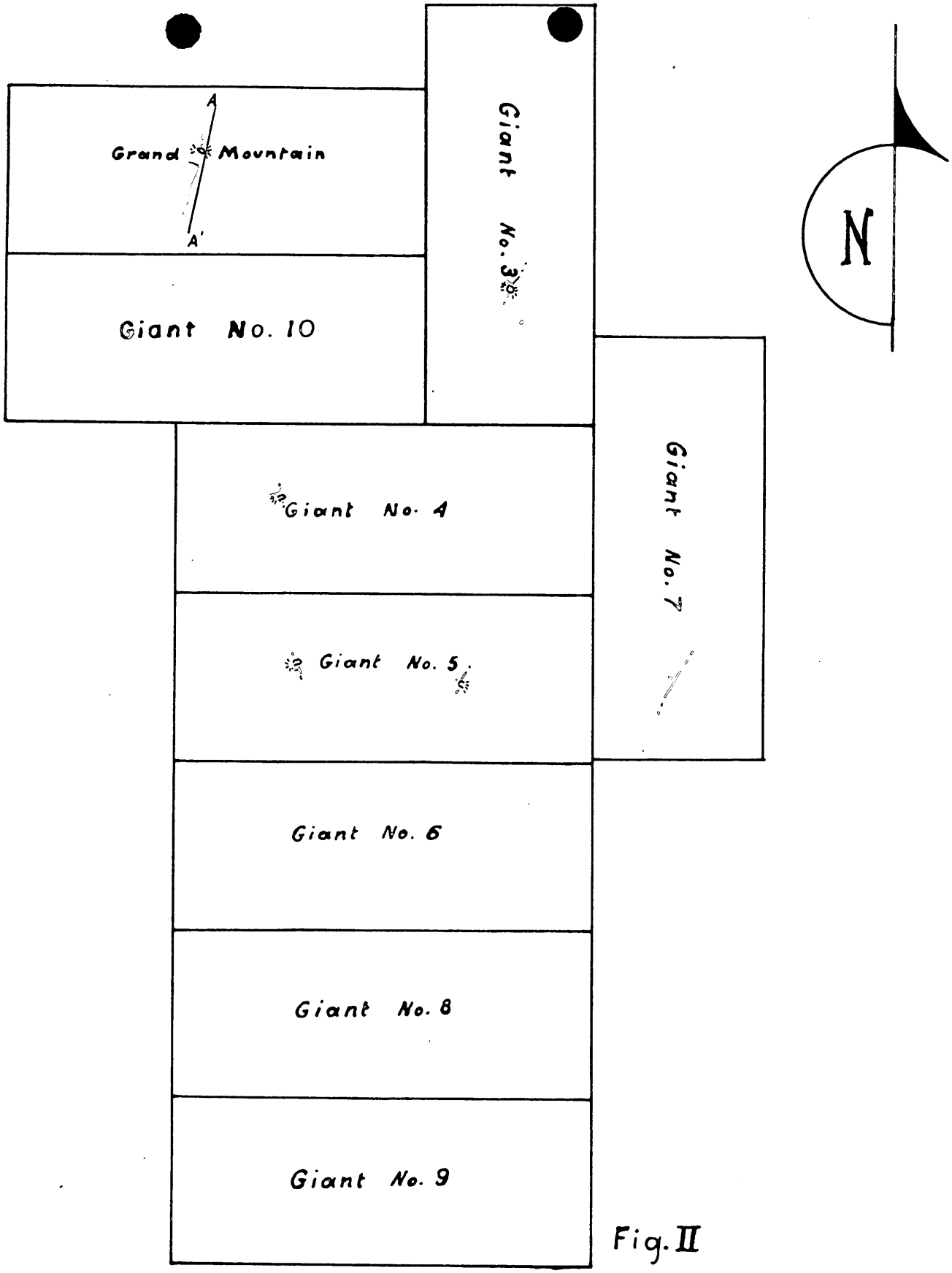


Fig. II

SKETCH CLAIM MAP OF GIANT GROUP

Pima County, Arizona.

Jan. 1952.

scale 1" = 500'

DMA-1277X

DESCRIPTION OF DEPOSIT

On the Giant Tungsten claims, scheelite occurs in association with zoisite and idocrase in a bed of impure conglomeratic quartzite. The scheelite-bearing quartzite bed is part of a westerly-dipping sequence of metamorphic rocks which include phyllites, schists and quartzites. Repetition of similar scheelite-bearing quartzite beds on several claims suggests faulting.

The scheelite-bearing zone is from 2 to 6 feet in width. It grades rather sharply above and below into barren light gray quartzites. Within this zone scheelite occurs in bands of greater or lesser concentration, but the bands themselves are discontinuous. The grade would appear to be submarginal. Nine samples taken along the most favorable outcrop gave an average grade of 0.19 percent WO_3 and 0.04 percent MoO_3.

ORE RESERVES

There are no measured or indicated ore reserves on the Giant or Grand Mountain claims. Outcrops show extensive areas of scheelite mineralization, but sampling of one of the most favorable outcrops shows the grade to be well below present economic limits. The average grade from 9 samples taken along the most favorable outcrop gave 0.19 percent WO_3 with 0.04 percent MoO_3.

The proposed exploration adit would probably develop approximately 5,000 tons of this low-grade material. Even if better grade material

could be discovered, indications are that the MoO_3 content would be so high as to bring prohibitive penalties when the ore was sold.

PRESENT STATUS

The Giant group of claims are raw prospects. No work has been done except a few location holes. The owner was in Fallon, Nevada working on other properties during most of 1951.

PROJECT PROPOSALS

Coplen's original proposals divided his project into the following three operations:

1. Construct a road from the Giant claims to the Chui Vaya road;

2. Drive a 200-foot exploration adit on the Grand Mountain claim;

3. Drive a 200-foot adit and 50-foot crosscut on the Giant No. 3 claim.

When the property was examined on January 7, 1952, Coplen expressed a desire to change his proposal and limit his work to the Grand Mountain claim. He offered two proposals. The first was to drive a 200-foot exploration adit on the vein. The second and alternate proposal was to sink a 100-foot inclined shaft and drift 100 feet on the vein. From a standpoint of costs the first proposal for a development adit was decided as the more desirable project even though a maximum of only about 100 foot of back could be attained (figure 3). In either case Coplen desired a Government loan only if

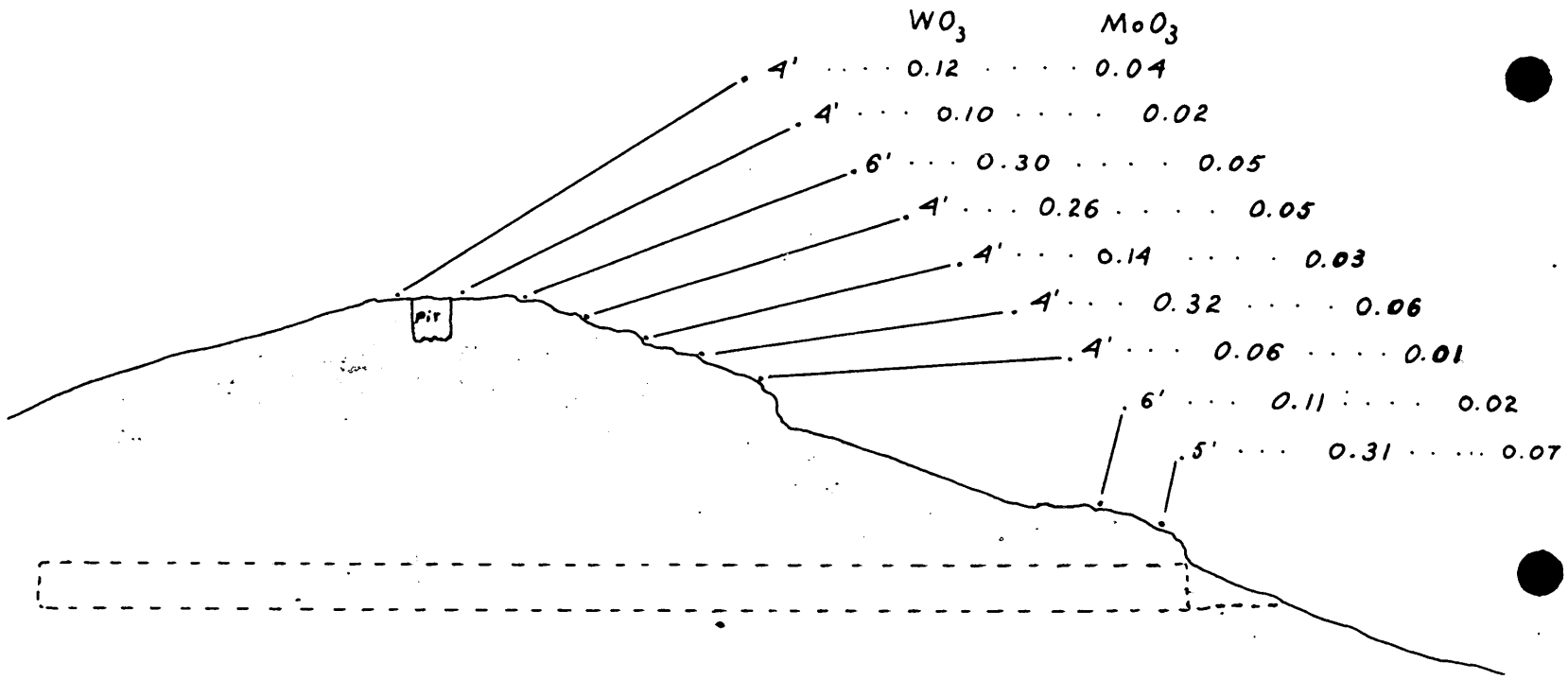


Fig. III VERTICAL SECTION AA'

Projection of vein and proposed adit.

scale: 1" = 30'

DMA-1277X

a bookkeeping method could be avoided and he could obtain a straight contract price for the work performed. He suggested that drifting be done on the basis of $35 per foot. This would make the Government's share $26.25 a foot. For shaft sinking, he wanted $70 per foot for a 1-compartment shaft. The applicant's cost estimate is reduced to 2 items as follows:

3 miles of road at $500/mile	$1,500
200 feet of drifting at $35/ft.	7,000
Total for project	$8,500

The examining engineers considered the applicant competent to carry out his proposed programs.

Transportation

Only 3/4 of a mile of road would be required to connect the applicant's property to the Chui Vaya well. However, this route would be steep and winding, and would require some blasting. By constructing about 3 miles of road the Chui Vaya road could be reached over only slightly rolling terrain of alluvial material. The construction of this road would probably cost more than the applicant's estimate. A figure of $2,500 would be more in line with present costs.

Manpower

The applicant plans on doing his own mining work, and hiring an Indian from the reservation to do the mucking and hand tramming. There should be an adequate supply of this type of unskilled labor.

Housing

The applicant has a van-body truck which he uses for living quarters. No other facilities would be required for initial exploration work.

Water

Water for drilling and camp purposes would have to be hauled to the project probably from wells 5 or 6 miles from the property. The Chui Vaya well is in a wash bottom with steep sides and is not easily reached by truck.

Equipment

The applicant would furnish all equipment required for the project, if he were given a contract price on a footage basis.

PRODUCTION PLAN

The applicant planned to drive his exploration adit on the vein and stockpile any ore that was mined. The drifting also would open ground that could be stoped to the surface. The stockpiled ore would then be hand-sorted to a 1 percent or better grade and trucked to the mill. The applicant believes that if enough ore were developed, the Picacho Mines Co. lead-zinc mill could be converted for milling scheelite. This mill, which is now idle, is located 40 miles from the Giant claims.

If the first project proved to be economic the applicant felt he could go ahead with further exploration and development without assistance.

SUMMARY

The deposit is situated in a remote part of Arizona, some 185 miles from the nearest tungsten mill. The grade and character of the mineralized outcrops do not indicate that the deposit has any commercial possibilities.

CONCLUSIONS AND RECOMMENDATIONS

Mineralization on the Giant and Grand Mountain claims is of such low grade that it does not appear to have any economic possibilities under present price and marketing conditions. Extensive outcrops in the area show only disseminated scheelite mineralization with no indication that further exploration would develop significant amounts of higher grade ore.

Therefore it is recommended that the request for an exploration loan be denied.

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

224 New Customhouse
Denver 2, Colorado

February 29, 1952

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 210

From: Field Team, Region IV

Subject: Final Report, DMA Docket 1277X, Giant Tungsten Prospect, Pima County, Arizona

With reference to DMA Docket 1227X, William H. Coplen's Giant Tungsten Prospect, Pima County, Arizona, please find enclosed the original and one copy of DMA Form 3b, a copy of the letter of denial to the applicant, and a copy of the Final Report.

J. H. East, Jr.

A. H. Koschmann

Enclosures

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 6 1952

8500

Memo

to Acting Admr DMEA

From Iron + Ferro Alloy Division D-M-E-A

Subject: Denial of exploration project in the amount of
Docket DMA 1277 Tungsten ~~Inert~~ W.H. Coplen
Giant Tungsten Mine
Pima County, Arizona

The denial of the subject application by this Division is based on the following information:—

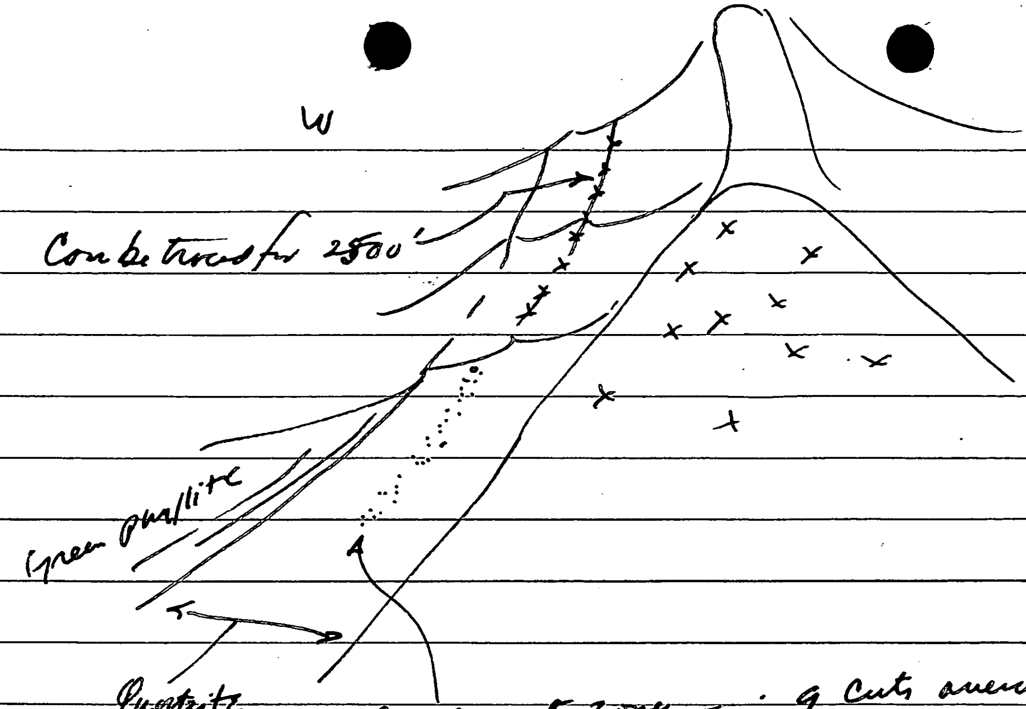
1. The scheelite-bearing zone is a conglomeratic phase of a fine grained quartzite lying on the west flank of the Baboquivari Mountains. The formation strikes north, dipping westerly, and the ore zone may be traced 2500 feet, and has a width of from 2 to 6 feet. The accessory minerals, zoisite and chlorite are ~~commonly~~ everywhere present, rather than the commonly expected minerals, garnet and epidote.

2. Analyses taken from 9 prominent outcrops revealed an average ~~WO3 content of approximately~~ of 0.19% WO_3 and 0.04 .04 MoO_3

Altho the report ~~makes~~ states that the high molybdenum content precludes the ~~[illegible]~~ sale of a concentrate from ~~these~~ ores having this analysis, the authors ~~[illegible]~~ thereof give no data to support their assumption ~~that~~ all (or any) of the molybdenum would be found in such a concentrate.

3) - The Fieldtrip Report concludes that because of the low tungsten content and the presence of ~~molybdenum~~ detrimental molybdenum, the deposit is submarginal; ~~[illegible]~~ ~~[illegible]~~ - that there is no indication that further exploration would develop significant amounts of higher grade ore, ~~[illegible]~~. and therefore recommend denial.

4)



Conglomerate zone – carrying scheelite 4 or 5 foot thick. 9 cuts average .19 WO_3, MoO_3 .04 } 4½' wide

Gangue minerals	Asso minerals
Idocrase	Malachite
Zoisite (thulite)	Chalcocite (?)

"Scheelite with zoisite and idocrase suggests pyrometasomatic origin"
(usually Dynamo-metamorphic) (?)

Proposes 100 ft of drift on vein and 3 miles of road – Total cost $8500.00

Denial principally on economic features, particularly the presence of moly – (and copper)

Excerpt from Monthly Report, Region IV, Mining Division, dated November 21, 1951, to December 20, 1951.

Arizona

DMA-1277X - Wm. J. Coplen's Giant Tungsten Mine, Pima County, Ariz.

Application has been placed in the inactive files.

Doc 1277

R 4070

12/4/51

[illegible]

OFFICE OF THE ADMINISTRATOR

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

DEPARTMENT OF THE INTERIOR
RECEIVED
DEC 3 1951
Defense Minerals Administration,
Production Expansion Division.

224 New Customhouse
Denver 2, Colorado

November 27, 1951

Memorandum

To: Executive Secretary, Defense Minerals Administration

From: DMA Field Team, Region IV

Subject: DMA Docket 1277X, Wm. H. Coplen, applicant; Giant Tungsten Mine, Pima County, Arizona

The applicant of the subject docket has left Arizona. He wrote from Fallon, Nevada that he would return in September. A letter to him at his Sells, Arizona address on October 5, 1951 was not answered.

In view of this we are placing his application in our inactive file.

J. H. East, Jr.

A. H. Koschmann

DEFENSE MINERALS ADMINISTRATION WASHINGTON, D.C.
DEC 3 8 36 AM '51

362#

Docket Mailed
JUN 27 1951

June 26, 1951

Mr. William H. Coplen
Box 11[illegible]
Sells, Arizona

In reply please refer to:
DMA-1277-I Tungsten

Dear Mr. Coplen:

Your application for an exploration loan has been referred to Mr. J. H. East, Jr., Executive Officer, DMA Field Team, Region IV, 23[illegible] New Customhouse Building, Denver 2, Colorado for a field appraisal.

Please contact Mr. East offering your cooperation and advise him who can show the property to his engineers.

Very truly yours,

Tom Lyon, Chairman
Coordinating Committee

TJBellard:AWJ

cc:Adm. Reading File
File
Mr. Strobel
Mr. Holderer
Regional Field Team, Region IV

FILE COPY
SURNAME:

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

Holderer
Brand
McKnight for
Rose
Moon

June 26, 1951

a.e.l.

Not stripped in R. & R.

Mr. William H. Coplen
Box 133
Sells, Arizona

In reply please refer to:
DMA-1277-X Tungsten

Dear Mr. Coplen:

Your application for an exploration loan has been referred to Mr. J. H. East, Jr., Executive Officer, DMA Field Team, Region IV, 230 New Customhouse Building, Denver 2, Colorado for a field appraisal.

Please contact Mr. East offering your cooperation and advise him who can show the property to his engineers.

Very truly yours,

Tom Lyon

Tom Lyon, Chairman
Coordinating Committee

TJBallard:AWJ

cc:Adm. Reading File
File
Mr. Strobel
Mr. Holderer
Regional Field Team, Region IV

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

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

Dear Sir:

We attach "Review of Application for Exploration Assistance"

on:

Docket No. _____

Commodity _____

Applicant ~~DMA 1277-X~~ Tungsten

Please expedite the consideration of this application with particular reference to the points raised in the attached "Review."

William H. Coplen, Box 133, Sells, Ariz.

Very truly yours,

Tom Lyon, Chairman
Coordinating Committee

_____
For Bureau of Mines

_____
For Geological Survey

6/5/51

Defense Minerals Administration

Review of Application for Exploration Assistance

Docket No. 1277-X

Commodity Tungsten

Total Amount $11,400

Govt. Participation $8,550

1. Name and Address of Applicant William H. Coplen
P.O. Box 133, Sells, Arizona

2. Location of Property 21 miles south of Sells by graded highway, thence 7 miles east by poor dirt road. In Vantano Mining District.

3. Mineral or metal Tungsten Is it listed in Section 9 of MO-5?

If not, application will be rejected.

4. Geologic probability of discovery—based on data in application (question #16, 17, 18, 20 and 22)*

Mines or Survey reports, etc., do you rate chances:

a) Good

b) Poor

c) None

d) Don't know—needs field examination Yes

e) Is there an alternative and favorable project? Yes
(If so, attach an explanation)

5. Is the applicant's right to the property clearly stated?
(question 5, 6, 7)*

6. If applicant is a lessee, is a copy of the lease attached?

Does the lease have sufficient time to run to cover a future

productive period?

*question numbers are those of MF-103

7. Are subordination agreements necessary? No

a) MF-201? _____

b) MF-202 _____

8. From the data presented, does the proposed project appear feasible from the point of view of:

a) Available manpower Yes

b) Equipment and supplies to be furnished - Yes
(Question 14 plus general knowledge of availability)*

c) Accessibility (question 12)* Yes

d) Water (question 13)* Yes

e) Power (question 13)* Doesn't need

Is a field check needed on any of these points? No

9. Does the experience of the applicant appear to be adequate to assure that he can properly conduct the proposed project? (question 4)* Determine

Is a field check needed on this point? Yes

10. Exhibit A. (questions 21 and 22)*

a) Is the project adequately described? No

If not, are there sufficient data given so that you can describe the project? No If so, attach a draft.

b) Is there an adequate map or sketch of the proposed work? NO

c) Is the proposed work "exploration" under the definition of Section 8, MO-5? Yes

If not, what part of it is? _____

Is this part a worthwhile exploration project?_____

d) Are the cost estimates detailed? Not well

Can they be summarized, as on page 2 of Procedural Instruction 5-A, from the available data? NO If so, attach a draft.

e) Are the cost estimates reasonable? Yes

f) Should more information be requested from applicant? Yes

g) Is a field examination necessary to complete Exhibit A? Yes

11. Exhibit B (question 23-d)*

a) Is it applicable? Yes

b) If so, are sufficient data furnished? NO If so, attach a draft.

c) Is a field check needed? Yes

12. Exhibit C (question 23-e, f and g)*

a) Is it applicable? Yes

b) Sufficient data? NO If so, attach a draft.

c) Are rents and charges reasonable? Check

d) Is a field check needed? Yes

13. Exhibit D (question 23-a, b)*

a) Are there sufficient data? Check

b) Is the schedule adequate for the work proposed? Check

c) Is the schedule excessive for the work proposed? Check

d) Are the proposed wages and salaries reasonable? Check

e) Is a field check needed? Yes

14. Exhibit E (question 23-c)*

a) Is it applicable? No

b) Sufficient data? Yes

c) Reasonable?

d) Field check needed? No

15. In your judgment, can the proposed work be done in the proposed time? Check

(All exploration must be completed within two years)

16. If field examination is not needed, attach your recommendation.

17. If field examination is needed, do you have any special instructions for the field team not indicated by your answers to the foregoing question? (1) Determine if surface sampling and geology indicates property merits exploration.
(2) Is the program proposed by the applicant satisfactory?
(3) Is the applicant qualified to manage the job.

Reviewed by: J. J. Ballard
SPH
G. L. Rumsey SPH

Date 6/26/51

97692

List of File to Field
DMA 1277-X
Tungsten
Wm H. Coplen, Box 133, Sells, Ariz.

1- Review of Exploration Application
2- Copies of MF-103 with typed answers to questions

FILE COPY
SURNAME:

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

June 1, 1951

Mr. William H. Coplen
P. O. Box 133
Sells, Arizona

Subject: DMA-1277X
Re: Exploration Loan
Grand Mountain Claim
Giant Mine

My dear Mr. Coplen:

Receipt is acknowledged of your application and attachments of May 18, 1951 for an exploration loan under the Defense Production Act of 1950.

The application was assigned Docket Number DMA-1277X and was referred to Mr. P. R. Bradley, Chief, Tungsten Branch on May 28, 1951.

In any future correspondence relating to your application, kindly refer to DMA-1277X.

Sincerely yours,

LANDON F. STROBEL

Landon F. Strobel
Executive Secretary

LFSTROBEL:js
cc: Strobel-2
√Files
Bradley
Lyon

DMA 1277-

856

June 1, 1951

Mr. William H. Coplen
P. O. Box 133
Sells, Arizona

Subject: DMA-1277X
Re: Exploration Loan
Grand Mountain Claim
Giant Mine

My dear Mr. Coplen:

Receipt is acknowledged of your application and attachments of May 18, 1951 for an exploration loan under the Defense Production Act of 1950.

The application was assigned Docket Number DMA-1277X and was referred to Mr. F. H. Bradley, Chief, Tungsten Branch on May 28, 1951.

In any future correspondence relating to your application, kindly refer to DMA-1277X.

Sincerely yours,

LANDON F. STROBEL

Landon F. Strobel
Executive Secretary

LFSTROBEL:js
cc: ✓Strobel-2
Files
Bradley
Lyon

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.
Approval expires 6-30-51.

APPLICATION FOR AID FOR AN EXPLORATION PROJECT PURSUANT TO MINERAL ORDER 5, UNDER DEFENSE PRODUCTION ACT OF 1950

DO NOT FILL IN THIS BLOCK

Docket No. DMA 1277X

Date received 5-28-51

Participation

Wm H Hopper
Po Box 133
Sells Ariz

Name and address of applicant

Date may 18/51

FILL IN THIS BLOCK

Date of application may 18/51

Estimated cost 11 200.00

Mineral or metal Tungsten

Percentage of Government participation 75%

Location of mine 28 miles S East of Sells Ariz Pima mining Dist.

Date of filing MF-100 may 18/51

DMA Docket Number, if available 1277X

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four signed copies of the application to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive officer thereof, with your name and address on each sheet of the application and all accompanying papers. If any question is inapplicable, or if you cannot answer it, so state on the form. Where the space provided for answer is insufficient, answer on a separate sheet, annex it to the application form, and refer to it in space for answer. If the application is approved, you will be presented with an exploration project contract on Form MF-200, for your signature.

THE APPLICANT

*1. Is applicant an individual, partnership, or corporation?
*2. If a partnership, state names and addresses of partners. none
*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders. none
*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project.
*5. Are you the owner or the lessee of the property? owner
6. If owner, state what claims, liens, or encumbrances, if any, are against the property. none
7. If lessee, attach a copy of the lease and state if it is in good standing.

NOTE.—It will be necessary to procure and attach to the exploration project contract agreements of claimants, lienors, encumbrances and lessors subordinating their interests in the property to the interest of the Government under the contract.

8. Furnish current financial statement, showing assets and liabilities, and a profit and loss statement. none
9. How much money is applicant prepared to invest in proposed project? Is it sufficient to pay your part of the cost of the project as detailed in question 23 of this application form, in accordance with the regulations on Government participation (Section 9 of Mineral Order 5)?

*If you have already answered these questions on MF-100, you are not required to answer the questions for this application.

16—64067-1

my labor, truck and management against Gov. money

THE PROPERTY

10. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property. Stud 1950 [illegible] [illegible]
    (*b*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

    NOTE.—If both areas are the same, so state. The only obligation to repay the Government is from the net earnings from any commercial discovery made in the area specified in (*b*) above in which the exploration is to be conducted, and the expenditure of funds which may be charged as costs of the project must be limited to that area or to work necessary to perform the exploration in that area.

*11. State the present and former names of the property, if any.

*12. State, in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distances and directions and kinds and conditions of roads.

*13. State source and quantity of water available for operations and its sufficiency at all seasons.
State amount of power to be used, rate per hour or other cost, and source.

*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work.

15. State in detail how the ore could be shipped and how and where milled.

*16. History:
    (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.
    (*b*) State briefly the known history and production of adjoining and neighboring properties.
    (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

*17. Production:
    (*a*) If mine is in production, furnish the following information:

	Tons per day	*Grade or analysis*	*Cost per ton*	*Net value per ton*
(1) Mining				
(2) Milling				
(3) Shipped or sold				

*18. Ore or mineral reserves: (If property is or has been operating.) none
    (*a*) Describe the ore or mineral deposits briefly.
    (*b*) Submit available maps and assay data.
    (*c*) Give estimated tonnage and grade of each class of ore reserves.

19. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted?

21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it.

    NOTE.—The Government will not participate in a project that will require more than 2 years to complete.

22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data.

THE REQUIREMENTS AND COSTS

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:
    (*a*) Labor, by numbers and classes (miners, muckers, millmen, etc.), with wages of each.
    (*b*) Supervisors, by numbers and positions, with salaries of each.
    (*c*) Cost of necessary repairs to existing facilities, structures, and buildings.
    (*d*) Cost of necessary installation or construction of additional facilities, structures, and buildings.
    (*e*) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.
    (*f*) Cost of rental for equipment which the operator proposes to rent.
    (*g*) Rental value of items of equipment which the operator now owns and which will be devoted to the work.
    (*h*) Cost of materials and supplies, including items of equipment costing less than $50 each.
    (*i*) Cost of power, water, utilities, and any other items not provided for above.

24. Furnish a time schedule of the project, stated in terms of months after project is approved, showing progress expected to be accomplished and the money expected to be spent.

CERTIFICATION

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this form and accompanying papers is correct and complete to the best of their knowledge and belief.

(Name of company)	By W. M. H. Copeland (Signature of authorized official)
May 18/51 (Date)	owner (Title)

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.

*Same as footnote on page 1.

16—64067-1 U. S. GOVERNMENT PRINTING OFFICE

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

April 20, 1951

Mr. William A. Coplan
Kel m, Arizona

Dear Mr. Coplan:

This is in response to your letter of March 30, 1951, which was held pending authorization of the Defense Minerals Administration exploration program.

Enclosed is a copy of the pertinent regulations Form DM-5, also five copies each of Form DM-100 (General Technical Data) and Form DM-102 (Application for Aid for an Exploration Project).

If you are interested in participating in this type of loan, please complete the above forms in quadruplicate and return to this office.

Very truly yours,

George B. Holderer

George B. Holderer, Acting Chief
Chrome-Manganese-Uranium Branch

Enclosure

TJBallard:ec

CC: Adm. Reading File
Mr. Strobel
Mr. Bradley
Files

LAUREN F. STROBEL

Bisbee Ariz
3/30/17

Mr. Ray H. Boyd.

I have just talked to Mr. Cunning of the State Bureau of Mineral Resources of Ariz. about the Sheelite or Tungsten prospect deal. He has referred me to you.

Here is the picture. I have recently discovered a very large low grade Tungsten prospect here in Ariz. very near the mexican border, of 1% or more. Price is high now but due to the amount of capital necessary to put this prospect into operation I find it hard to raise capital to do so.

FEB 5 1917
MINERAL RESOURCES
BUREAU OF MINES

under existing conditions
of present life in the
western market
it will not be worth
contribute but very small
amount of tungsten
concentrates. It is
cause of natural
if Dno condition [illegible]
we don't [illegible]
most of the small [illegible]
would need and light [illegible]
from [illegible] of [illegible]
the real [illegible]
with [illegible]
But if we could have
royalty to [illegible]
we can get all [illegible]
capital necessary [illegible]

(3)

at present small mining
is practically non existing
[illegible] not in view.
I leased mining antimony
[illegible] new, made good one year
[illegible] sold two more years to
[illegible] bottom of my ore
when sold last Dec.
price quoted 36 per lb.
received about 10 per lb.
no Desire on my part to
continue mining antimony
only one market on same
controlled fine for the
buyer.
afraid Tungsten will be
same can you put any
light on subject?
Thank you
yours truly Wm H. Ogden

4/6/51 Bradley — reply

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 6 - 1951
LANDON F. STROBEL
Executive Secretary

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

OFFICE OF
REGIONAL DIRECTOR

REGION IV

224 NEW CUSTOMHOUSE
DENVER 2, COLORADO

May 21, 1951

Memorandum

To: Landon Strobel, Executive Secretary, Defense Minerals Administration

From: DMA Field Team, Region IV

Subject: DMA applications

We are enclosing the following applications submitted to this office.

William H. Coplen
P. O. Box 133
Sells, Arizona (3 copies of MF-103)

Emperius Mining Company
Creede, Colorado (3 copies of MF-100)

D. H. Abel
Dixon, New Mexico (3 copies of MF-103)

Shannon Mine
Gleeson, Cochise Counyt, Arizona (3 copies of MF-100)

P. T. Allsman, Alternate

Enclosures
cc-DMA files

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

May 18/51

(4) a) The ~~last~~ owner has shipped copper ore to the magma Smelter at Superior Ariz.
mined Tungsten here near Sells in 1941 sold to mr. Armstrong in Tucson mined and shipped antimony ore last yr from near Fallon nev. to Farnado Tex to national Lead Smelter
I managed my own tire shops for three years Stockton Calif at 1017 S Windsor St. and made it pay. Mo. yes

(b) There are no liens of any kind against this prospect.

(7) no lease
(8) have none only payments on my new truck of about $600.00
(9) I have no money but would just up my work and truck ~~and~~ and some tools
10) I have truck with van bed 1950 model Stud. Suitable for living quarters as well as transportation to and from the property for supplies
B) The Grand mt. claim located in Ventana mining Dist north Western part of Grant mining property also on Grant no 3 claim

(11) Giant mine, present name no former name a new discovery

(12) The Giant mine is located 21 miles South of Sells Ariz. by graded Highway then due East 7 miles by poor dirt road. some additional road will have to be built to get in Equipment to work the desired Location

(13) Water available 7 miles from the property on graded Highway. Wind mills no cost Gov. wells

(14) none

(15) have a mill 11 miles north of Sells opperating This would be 38 or 39 miles

(4)

(15) We can haul with my truck
The ore values 30.00
per ton good mill grade
ment

(16) claims located winter of
1951 in jan Feb. mar.
april mos previous work
done, I have no reports

(17) no production
@ have several out croppings
4 ft wide and better of
$30.00 per ton values
average

(18) have no maps
assays taken on tiny tins?
.73 o/o cut sample across
8 ft vein above same claim
assay across 30 in. 1.44 o/o
7 mg stn - another vein

Sample on Grand mt. claim assays across 4 ft skin average 70 % Tung. vein 75 ft in length showing ore in outcrop

(18) I would estimate there is a possible tonnage of mill grade ore 5000 % or ½ % Tungsten ore here total of 5000 tons in sight

(19) This ore has very little if any of penalty material in it easy to mill.

(20) Scheelite, or large mill tonnage

(21) Would drive tunnel to 100 ft to get depth on

ore body on Grand mt
claim suitable for stoping
same
also would drive tunnel
to intersect ore shutes and
veins on Giant mo 3,
build necessary road to
get machinery on property
should complete this work
in 8 mo's
(22) I have commercial ore bodies
more on the service I wish
to determine if they go
to depth
The ore lies in a shear
zone in porous quartzite
same type of ore over 40 or 5
miles of country here,

(7)

(23)

A) one miner 12.00 per day
1 muckers 8.00 " "
B) one 3.00.00 per mo.
C) none
D) none
E) compressor 2500.
on rental of $175. per mo.
Jack hammer drills hose
water storage tank, Shell
bar bits 1000.00
F) rental on compressor 175 per mo.
G) truck for hauling and living
quarters cost 125.00 per mo.
H) mine supplies and groceries
225. per mo.
I) none
2) First month, coal into
property required compressor

and tools to mine brought
out to property tunnel
started on Grand mat.
claim total cost first
month $2000.
2. mo. drive tunnel 100 ft
cost 1200.
3 mo. finish tunnel
Total 200 ft cost 1200,
only ~~[illegible]~~ 100 ft of work
per mo.
4. mo. Gen construct road
up to Giant mo. cost
1200.00
5 mo. drive tunnel 100 ft
cost 1200
6 mo. finish tunnel 200 ft
Total
7 mo. drive Arno's Ritson

vein 60 ft 1200
& we would move back
to stand new drive ways
cut on the vein cost $1200.
~~completing~~ completing
work.
I will say that this
that I would manage
the work and also do
the mining hiring one
or two Indians to work.
also furnish my truck
at 125 per mo rental to
live in and for transportation
the rental to come on my
part
all work done intermittent
cost work here money
changes
125 per mo rental on truck additional to 1200