400

OCT 31 1955

Messrs. Leonard H. Cole,
Edward H. Schwartz, and
Charles A. Newin
Box 87
Riverside, California

Re: Docket No. DMEA 3893 -
Tungsten and Uranium
Goodman Mine
Yuma County, Arizona

Gentlemen:

Your application for aid for an exploration project and other data available to us in Washington relative to the above-mentioned property have been carefully reviewed.

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

Careful study of our information indicates that although tungsten and uranium mineralization occurs on the property, the probability of disclosing minable ore reserves by your proposed program is not sufficiently promising to justify Government participation. We regret to advise you, under these circumstances, that your application for exploration assistance is denied.

We wish to thank you for your interest in the Defense Minerals Exploration Administration program and for bringing your property to our attention.

Sincerely yours,

Frank E. Johnson

Acting Administrator

cc: Docket
Adm. Read. File
Code 400
Oper. Comm.
Thor Kiilsgaard, USGS
Robt. Holliday, USBM
FT, Reg. 3

ADMcMahon/ls 10/27/55

October 27, 1955

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of request for exploration assistance in the amount of $23,983.00
Docket No. DMEA 3893 - Tungsten and Uranium
Messrs. Leonard M. Cole, Edward H. Schwartz, and Charles A. Kewin, a partnership
Goodman Mine
Yuma County, Arizona

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

(1) The applicants, Messrs. Leonard M. Cole, Edward H. Schwartz, and Charles A. Kewin, a partnership, requested exploration assistance in the amount of $23,983.00 for road work, open pit explorations with a bulldozer, diamond drilling, drifting and construction of buildings for living quarters and storage.

(2) The property consists of eight (8) unpatented lode mining claims situated in secs. 23, 24, 25, and 26, T. 4 N., R. 21 W., Yuma County, Arizona. The partnership is owner of the four claims Sierra No. 1, Sierra No. 2, Sierra No. 3, and Sierra No. 5; and holds the Gold Belt claims (Nos. 1, 2, 3, and 4) under an Option-To-Purchase Agreement of May 13, 1955, with Angela G. Scott.

(3) The proposed exploration program is for 72 hours of bulldozer work to build and repair roads and open pit exploration; approximately 85 feet of drifting; and approximately 1,100 feet of core drilling.

(4) The mine has an early history as a small gold producer when about 2,000 feet of drifts, crosscuts and shafts were driven to explore quartz lenses along a fault zone in Precambrian granites, gneisses and schists. Scheelite is present in a few places in some of the remnants of quartz. Uranium mineralization was found only in two places along fractures, and these showings were very low grade. The deposit contains only a few tons of reserves of tungsten ore and no reserves of uranium ore.

(5) The examining team concludes that occurrence of scheelite in the property is sparsely and erratically distributed in remnants of quartz lenses left after gold mining; that uranium mineralization is rare and known occurrences are very small and low grade. They recommend the application be denied and the Field Team concurs in the recommendation.

(6) The Commodity Divisions of the Geological Survey and Bureau of Mines concur in recommending denial of the subject application.

W. S. Martin, Chief
Iron and Ferro-Alloys Division

cc: Docket
Adm. Read. File
Code 400
Oper. Committee

ADMcMahon/ls
10/27/55

IN REPLY REFER TO:

402

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D.C.

RECEIVED
OCT 14 1955

October 13, 1955

Re: DMEA 3893
Cole, Schwartz, & Kerin
Goodman Mine
Yuma County, Arizona
$23,983.00 - Tungsten, Uranium

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of Field Team report.

The applicants proposed an exploration program involving bulldozing, core drilling and drifting, of a gold vein, reported to have produced about $50,000. It was last worked for gold about 1934.

Scheelite occurs in scattered small concentrations and the uranium occurrences are even more scattered. The examiners estimate the tungsten reserve at possibly 10 tons of rock containing 1.0% WO_3. No uranium ore is known, no radioactive material of ore grade having been noted.

The general lack of material worth sampling supports the conclusions of the examiners that further work on this well prospected and developed vein is not justified.

I concur with the recommendation of the Field Team that the application be denied.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-10/13/55
cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
R. Holliday, 3513

Copy retained 400

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

RECEIVED OCT 7 - 1955

400

October 5, 1955

224 New Customhouse
Denver 2, Colorado

WSM

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Report of Examination, DMEA Docket 3893 (Tungsten-Uranium), Cole, Schwartz, and Kewin, Goodman Mine, Yuma County, Arizona

Enclosed are the original and three copies of the report pertaining to the above application.

The field examiners conclude that the chances are remote of finding any significant amount of tungsten or uranium as a result of further exploration on this property.

They recommend that the application be denied, and we concur in their recommendation.

W. M. Traver

W. M. Traver

E. N. Harshman

E. N. Harshman

Enclosures

RECEIVED
OCT 7 - 1955
DMEA
Date Rec'd.
SEP 26 1955
BUREAU OF MINES
Denver, Colorado
TRANSMITTED
OCT 5 - 5

Box 4097
Tucson 5, Arizona

September 21, 1955

Memorandum

To : W. M. Traver, Executive Officer, DMEA Field Team, Region III

From : Superintendent, Southwest Experiment Station

Subject : DMEA-3093, Cole, Schmurtz and Kerin, Goodman Tungsten-Uranium Mine, La Paz Mining District, Yuma County, Ariz.

Enclosed are original and 8 copies of the section on Engineering by T. M. Rosale of the Bureau of Mines. The sections on Summary, Conclusions and Recommendations, and on Geology will be submitted by the Geological Survey.

Because the chance of finding any significant quantity of tungsten or uranium by additional exploratory work seems remote, the DMEA examiners have recommended denial of Government assistance. I concur with this recommendation.

Brochure is enclosed.

Walter R. Storms

Walter R. Storms

CC W. M. Traver (8)
W. H. King
J. N. Faick
DMEA-3093
RF

WRStorms:frj

RECEIVED
OCT 7 - 1955

DMEA-3093, COLE, SCHWARTZ & EWIN, GOODMAN TUNGSTEN-URANIUM MINE
YUMA COUNTY, ARIZONA

Engineering Report

By T. M. Kemnitz
Mining Engineer
U. S. Bureau of Mines

September 1955

BMLA-3893, COLE, SCHWARTZ & KEVIN, GOODMAN TUNGSTEN
YUMA COUNTY, ARIZONA

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Engineering report	Page
Introduction	1
Location, accessibility, physical features and climate	1
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Extent and ownership of property	3
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Description of the deposits	4
Ore reserves	5
Conclusions and recommendations	5

ILLUSTRATIONS

Figure No.		Following page
1	Location map	1
2	Claim map	3
3	Geologic map	(See Geological Report)

INTRODUCTION

Leonard M. Cole, Edward H. Schwartz and Charles A. Kevin applied to the Defense Minerals Exploration Administration for aid in exploring for tungsten and uranium at the Goodman mine in Yuma County, Arizona. The application was received in Washington on July 11, 1955, docketed as DMEA-3083, reviewed by the Operating Committee, and referred to the Field Team of Region III for an examination of the property.

The application contained a proposed exploratory program involving road work and open pit explorations with a bulldozer, diamond drilling, drifting, and construction of buildings for living quarters and storage. Cost of the work was estimated at $23,983.00.

Field investigations were made on August 30, 1956 by Lemuel Weymer, geologist, U. S. Geological Survey and T. M. Rumble, mining engineer, U. S. Bureau of Mines. Leonard M. Cole and Charles A. Kevin, 2 of the 3 members of a partnership formed to explore the mine, accompanied the examining team.

LOCATION, ACCESSIBILITY, PHYSICAL FEATURES AND CLIMATE

The Goodman mine is about 9 air miles northwest of Hyrulburg, a village on U. S. Highway 80 and 79. It and adjacent claims of the application are described as being in secs. 23, 24, 25, and 26, T. 4 N., R. 22 W., Yuma County, Ariz. (Figure 1).

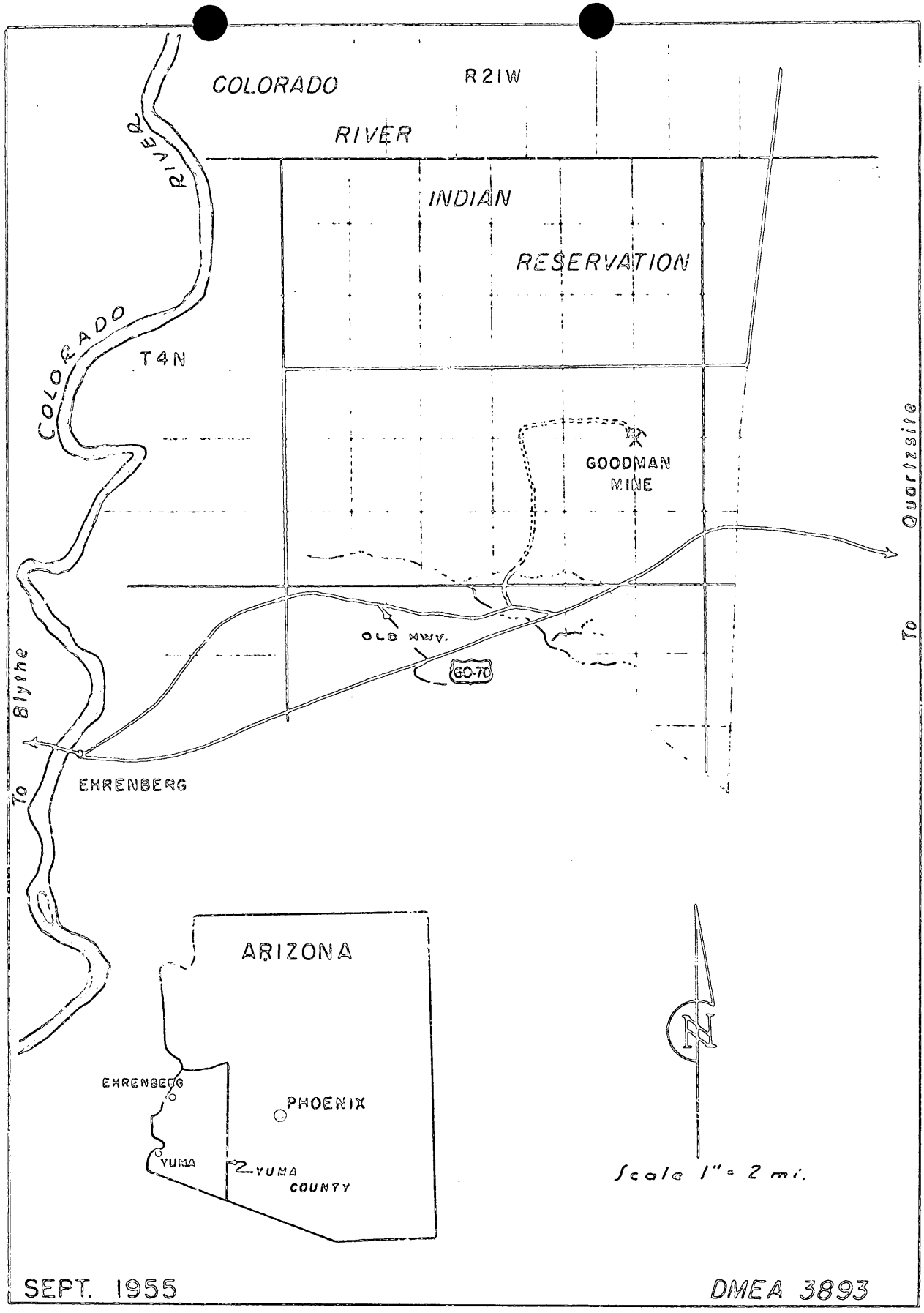

FIG.-1-LOCATION MAP, GOODMAN MINE, YUMA CO. ARIZ.

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OCT 7 - 1955

The property is accessible from Ehrenberg by traveling east 7.6 miles on old U. S. Highway 60-70, thence 3.3 miles north on a graded road to its junction with an easterly trending unimproved road. Turn right onto the unimproved road, signed "W. E. Jones Ranch", and proceed 1.1 miles to mine workings on Gold Belt Claim No. 1.

The Goodman mine is situated on the western slope of the north-south trending Dome Rock Mountains at an altitude of about 1,000 feet. The topography of the property is fairly rugged. It shows a maximum relief of about 500 feet, ranging from 750 to 1,250 feet in altitude.

Summers are hot and winters are mild. Precipitation probably does not exceed an annual average of 4 inches, all as rain. Drainage is westerly to the Colorado River.

Vegetation is confined to the usual variety of cacti and shrubs.

HISTORY AND PRODUCTION

The Goodman mine probably first was located during the period of 1860 to 1870 when many of the gold-bearing veins of the district were discovered. The mine, according to Jones,[1/] produced about $40,000.00 worth of gold prior to 1900, and $9,000.00 more from 1900 to 1914. Ore was hauled 15 miles to Quartzsite where it was treated in an amalgamation mill. In 1934 the mine was reopened and an amalgamation mill was installed on the property.

There is no readily available information regarding the operations of 1934. However, it is believed that this operation was of short duration and probably did not yield a significant amount of gold.

1/ Jones, E. L., Jr., Gold Deposits near Quartzsite, Ariz. U. S. Geol. Surv. Bull. 620, 1915, p. 58

During January 1955, Leonard M. Cole of the subject application noted radioactivity over the property while prospecting the district in his airplane. In May 1955, he acquired the property after finding that uranium and tungsten mineralization was present.

EXTENT AND OWNERSHIP OF THE PROPERTY

The property of the proposed explorations comprises 3 unpatented lode mining claims (figure 3). The applicant, a California partnership, is the owner of the Sierra claims and holds the Gold Belt claims under an Option-To-Purchase Agreement of May 13, 1955 with Angela O. Scott.

Members of the partnership are:

Leonard M. Cole, Box 27, Riverside, Calif.
Edward H. Schwartz, 4106 Heidi Rd., Riverside, Calif.
Charles A. Kevin, 3903 Greenfield Ave., Riverside, Calif.

PRESENT STATUS

There is no mining or milling equipment on the inactive property. Buildings are confined to a wooden ore bin on the Gold Belt No. 1 claim.

The principal mine workings, most of which are accessible, are on the Gold Belt Nos. 1 and 2 claims. They consist of about 2,000 feet of adits, drifts, crosscuts, and shafts. On the Gold Belt No. 1 open stopes have been worked from drifts off 2 upper adits. The observed stopes range from 4 to 10 feet in width and are several tens of feet in length along both the dip and strike. No workings have been driven from the lower adit that is less than 150 feet vertically

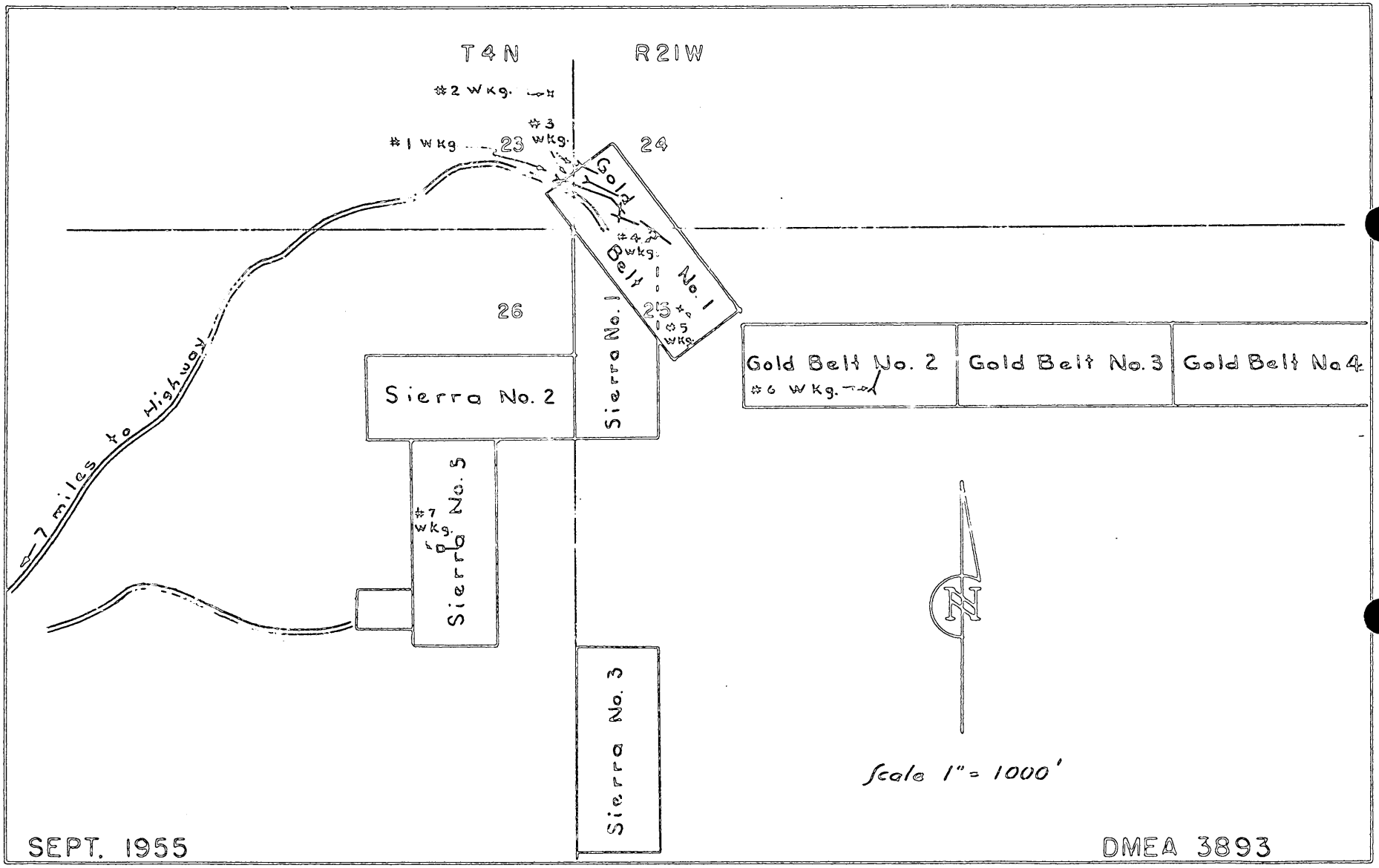

FIG.-2 - CLAIM MAP, GOODMAN MINE, YUMA CO. ARIZ.

the vein outcrop. On the Gold Belt No. 2 claim, the vein has been worked from a short adit and short inclined shafts. Open stoping has been done from a few hundred feet of drifts on the adit level and from a winze that is bottomed at about 75 feet below the adit level.

DESCRIPTION OF THE DEPOSITS

The gold ore apparently occurred in a number of quartz lenses in gneiss and schist. Most of the lenses were localized along a strong fault zone that strikes about N. 60° W. and dips moderately to the northeast.

Observed tungsten mineralization was confined mainly to No. 3 working (figure 3). There scheelite occurs sporadically along remnants of a quartz vein. By far the best showing is confined to a zone about 10 feet long and 6 to 10 inches wide. A sample obtained from the zone, U. S. B. M. 11446, assayed 1.09 percent WO_3. Scheelite also was noted at working No. 6 where it is confined to a band about 2 inches wide and 6 feet long. A small pit at the No. 2 working contains a few specs of scheelite, according to Dale.

Uranium mineralization was noted only near the bottom of a 70-foot inclined shaft on the Sierra No. 5 claim and in an adit of No. 1 workings. In the shaft the uranium showed as an efflorescence, green with an ultra-violet light, over an area of about 2 feet square.

[illegible], U.S.N.M. 11445, was obtained from this zone after scraping off the efflorescent material. It assayed 0.04 percent eU_3O_8. In the adit slight radioactivity was noted only along a fracture at about 350 feet from the portal.

ORE RESERVES

The property contains no measurable reserves of either tungsten or uranium minerals.

Indicated and inferred reserves of tungsten have been estimated at about 10 tons of rock containing about 1.0 percent WO_3.

Estimates of indicated and inferred reserves of uranium-bearing rock were not made because of the limited extent and grade of radioactive zones.

CONCLUSIONS AND RECOMMENDATIONS

Tungsten and uranium on the Goodman property occur separately in a few widely scattered small and meagerly mineralized zones.

Government participation in exploration of the Goodman mine is not recommended because chances of finding significant amounts of tungsten and uranium are almost nil.

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Defense Minerals Exploration Administration
Denver Federal Center
Denver, Colorado

DMEA
Date Rec'd
OCT 4 1955
BUREAU OF MINES
Denver, Colorado

October 3, 1955

TRANSMITTED
OCT 5 - 1955

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: E. N. Harshman

Subject: DMEA Docket 3893 (Tungsten and Uranium), Leonard M. Cole, Edward H. Schwartz, and Charles A. Kewin, Goodman mine, Yuma County, Arizona

Enclosed are the original and nine copies of a geologic report by Leonid Bryner, U. S. Geological Survey recommending denial of the subject application for exploration assistance.

No reference is made in the report to discussions of the merits of the project with representatives of the AEC. Uranium is, however, almost totally lacking in the old workings.

I concur with the recommendation that the application be denied.

E. N. Harshman

E. N. Harshman
Member, Field Team

Enclosures (10)

ENHarshman:arh

Box 4126 University Station
Tucson, Arizona

September 29, 1955

TRANSMITTED
OCT 5 - 1955

MEMORANDUM

To: E. N. Harshman

From: J. N. Faick, Tucson, Arizona

Subject: Goodman Mine, Yuma County, Arizona
DMEA 3893, Tungsten and Uranium

Enclosed are the original and 10 copies of a geological report by Leonid Bryner on the above subject property. Also enclosed is the Summary, Conclusions and Recommendations proposed jointly by T. M. Romslo, U. S. Bureau of Mines and Leonid Bryner, U. S. Geological Survey.

It is recommended that the application be denied because neither tungsten nor uranium appear to be present in significant amount. Indicated and inferred tungsten reserves are estimated to be about 10 tons of quartz vein material containing about one percent tungsten, and there are no uranium reserves.

I concur with the recommendation that the application be denied.

John N. Faick JB
John N. Faick

JNF:ms

cc. Harshman (10)
Storms

U. S. DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

RECEIVED
OCT 7 - 1955

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA 3893
GOODMAN MINE
COLE, SCHWARTZ, AND KEWIN, APPLICANTS
YUMA COUNTY, ARIZONA
(Tungsten, Uranium)

Leonid Bryner, Geologist
U. S. Geological Survey

T. M. Romslo, Mining Engineer
U. S. Bureau of Mines

September, 1955

U. S. DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

RECEIVED
OCT 7 - 1955

REGION III

EXAMINATION REPORT
DMEA 3893
GOODMAN MINE
COLE, SCHWARTZ, AND KEWIN, APPLICANTS
YUMA COUNTY, ARIZONA
(Tungsten, Uranium)

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RESERVES	6
CONCLUSIONS AND RECOMMENDATIONS	6

ILLUSTRATIONS

Fig. 1 - Location Map	See Engineering Report
Fig. 2 - Claim Map	" " "
Fig. 3 - Geologic Map	Following page 6

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

by Leonid Bryner[1] and T. M. Romalo[2]

In an application to the Defense Minerals Exploration Administration dated July 7, 1955, and docketed as DMEA-3893, L. M. Cole, E. H. Schwartz, and C. A. Mewin requested government participation in a program estimated to cost $23,983 to explore for tungsten and uranium at the Goodman Mine, Yuma County, Arizona.

The Goodman Mine has an early history as a small gold producer. The workings are almost all on the Gold Belt No. 1 Claim and consist of about 2,000 feet of drifts, crosscuts and shafts. Quartz lenses along a fault zone in Precambrian granites, gneisses and schists were mined for their gold content. The ore consisted of auriferous pyrite in the quartz. Scheelite is present in a few places in some of the remnants of quartz that were left after gold mining had practically depleted the deposit. Uranium mineralization was found only in two places along fractures, and these showings were very low grade. The deposit is estimated to contain only a few tons of reserves of tungsten ore and no reserves of uranium ore. The applicant proposed exploration work consisting mainly of drifting or core drilling mostly from or near the old workings. The possibilities of discovering a significant tonnage of tungsten or uranium ore are considered by the examiners to be very poor. It is recommended, therefore, that government participation in exploration at the Goodman Mine be denied.

1/ Geologist, U. S. Geological Survey, Tucson, Arizona

2/ Mining Engineer, U. S. Bureau of Mines, Tucson, Arizona

INTRODUCTION

In an application to the Defense Minerals Exploration Administration, dated July 7, 1955, L. M. Cole, E. H. Schwartz, and C. A. Kewin requested government participation in a program estimated to cost $23,983 to explore for tungsten and uranium at the Goodman Mine.

The Goodman Mine is located at the common corner of Secs. 23, 24, 25, and 26, T. 4 N., R. 21 W., Yuma County, Arizona. The property is reached from Ehrenberg on U. S. Highway 60-70 by driving east on the old highway 7.6 miles, then by dirt road for 4.4 miles. These roads and the mine are shown on the U. S. G. S. Dome Rock Mts. Quadrangle.

The applicant states he is a purchaser under contract of the Gold Belt claims and the owner of the Sierra claims. The owner of the Gold Belt claims is Angela G. Scott.

The examination was made on August 30 by T. M. Romslo of the U. S. Bureau of Mines and by the writer. L. M. Cole, representing the applicants, conducted the examiners over the property. The geologic examination consisted of this general reconnaissance with Cole and of mapping the part of the mine where the best tungsten showings were found. The conclusion drawn from this work is that the deposit has only trace amounts of uranium and poor possibilities as a tungsten producer.

The Goodman Mine has an early history as a small gold producer, and has been described by E. L. Jones, Jr.[1/]. Jones' report contains no reference to tungsten or uranium minerals in the mine.

1/ Jones, E. L., Jr., Gold Deposits near Quartzite, Arizona; Contributions to Economic Geology, Part I, Gold and Silver, U. S. Geol. Survey, Bull. 620, p. 55, 1916.

GEOLOGY

The Goodman Mine is on the east side of a small, northwesterly-trending valley in the western part of the Dome Rock Mountains. The country rock here is a Precambrian granite. This granite shows varying degrees of foliation, from almost normal granite to a rock that might better be described as gneiss. The granite also displays schistose phases as well as schist that apparently represents inclusions of finer grained rock in the original granite. The schistosity of the gneiss and schist strikes from NNW to WNW and the dip is a moderate northeasterly one.

The most prominent structural feature in the mine area is a fault zone trending N 60-65 W, and traceable through the Gold Belt No. 1 Claim and through most of the Gold Belt No. 2. The faults in the zone parallel the zone and dip moderately to the northeast. The fault zone seems to correspond to a zone in the granite in which schist is especially prevalent, so that it appears as though the presence of the relatively soft, cleavable schist may have caused the faulting to be localized along this particular zone. Although the strike of schistosity and the strike of the faults more or less correspond, the faults generally dip more steeply than the schistosity. Judging from the type of deformation along the faults it is inferred that the faulting was normal. Slickensides indicate that the latest movement was more or less vertical.

The mine workings, as shown in figure 2, are almost entirely confined to the Gold Belt No. 1 Claim, and consist of about 2000 feet of drifts, crosscuts and shafts. Most of the workings are drifts and stopes along the mineralized zone.

According to Jones the gold in this mine occurred with pyrite in massive quartz. Little of the vein quartz is left in the mine, but what was seen, bears out this description. The tungsten occurs as scheelite in the vein quartz. In the drift where the best tungsten values were found, coarsely crystalline calcite was found with the vein quartz but not with the scheelite. Specular hematite was occasionally recognized in the vein.

The main ore deposit, that is, the one on the Gold Belt Nos. 1 and 2, is practically worked out, but enough of it was seen to recognize its general features. The ore apparently was in a number of more or less parallel quartz lenses. Most of these lenses were along a single fault, but some of the ore bodies were off a hundred feet or more to one side of this main ore zone. This is shown by parallel but unconnected stopes on the Gold Belt No. 1 Claim. The largest quartz lenses probably were several hundred feet in their longest dimension. Jones says that widths up to 40 feet were mined but that the average width was 10 feet. The narrow widths shown in figure 3 probably are not typical, as the veins in this working are not the main ones, but are about 130 feet west of the stopes on the main vein. The veins were seen to pinch out very abruptly in the schist, which perhaps accounts for the fact that hardly any quartz was seen in the pillars.

Considered from the standpoint of tungsten content, the deposit is practically confined to the most persistent quartz vein at the south end of the No. 3 working (fig. 3). The applicant said that this drift contains better tungsten showings than anywhere else

in the mine. Here the scheelite occurs very sporadically in a vein that is one foot or less in thickness on the south wall of the drift and six inches or less on the north wall. The vein is evidently pinching out down dip, that is, from the south to the north wall. The distribution of scheelite in this vein, and the vein itself are shown in figure 3. The examiners also saw scheelite occurring in a similar manner in a stope of the No. 6 working (fig. 2). Here remnants of a quartz lens that strikes NW and dips 50 degrees NE were seen along the walls of this stope. The vein was narrowing across the stope from a maximum of about 5 feet to a few inches at the margins of the stope. Of an estimated 80 linear feet of vein exposed along the edges of the stope, only 6 feet showed scheelite and this was in a band about 2 inches wide. A small pit at the No. 2 working (fig. 2) contains a few spots of scheelite, according to Cole.

The deposit, viewed for its uranium content, was even more discouraging. A few square feet of uraniferous rock was seen at the bottom of a 70-foot, inclined shaft (working No. 7, fig. 2) on the Sierra No. 5 claim. The shaft, inclined at 40 degrees to the east, follows small shears in the granite. These shears trend slightly E or W of N. Quartz veins 2 or 3 inches in thickness follow some of the shears. Secondary uranium minerals apparently have been concentrated by water circulating along one of these shears, and evaporating in the shaft. The uranium occurs as an efflorescence that shows green under the ultra-violet light. The mineral was not identified. Also, in the No. 1 adit (fig. 2) about 390 feet from the portal, a fracture trending N 35° E and dipping 40° NW, showed slight radioactivity.

PRODUCTION AND GRADE

According to Jones[1] "about $40,000 was obtained from the Goodman Mine prior to 1900, and since that time Mr. W. E. Scott, of Quartzite, has mined ore to the value of $9,000, the average tenor of which was $65 per ton." This was gold ore. No shipments of ore for the tungsten or uranium content have been made.

One sample (U.S. Bureau of Mines No. 11446) was taken of what appears to be the highest grade scheelite showing on the property, one of those mentioned on page 4. The location of this showing in the No. 3 working is shown in figure 3. The sample assayed 1.09 percent WO_3. Lower grade showings in the same working are as limited in extent as this one relatively high grade showing. An estimate of average grade is not attempted here because, even if such an estimate could be confidently made, it would not be significant as it would apply to such a small tonnage of rock.

As already indicated, the uranium in this deposit is very low grade. A sample (U.S. Bur. of Mines 11445) of the best uranium showing, the one in Working No. 7, on the Sierra No. 5 claim, assayed radiometrically 0.04 percent eU_3O_8. It was not assayed chemically. Before this sample was taken, the face was scraped off, leaving none of the efflorescence which had registered on the Geiger counter during the radiometric reconnaissance of the shaft.

EXPLORATION

Past work in the mine probably did not include any appreciable exploration.

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[1] Op. cit., p. 55.

The exploration proposed by the applicant consists mainly of drifting or core drilling, mostly on or near the workings of the Gold Belt Nos. 1 and 2.

RESERVES

Inferred and indicated tungsten reserves are estimated at about 10 tons of rock averaging 1 percent WO_3. This is based on the showing sampled in Working No. 3. As the scheelite occurs at only a few places in the quartz lenses, and as the quartz lenses appear to have been mostly mined out for their gold content, the chances of discovering more tungsten reserves seem very poor. No reserves of uranium-bearing rock can be assigned to this deposit, both because of the low grade of the uranium-bearing rock that is known to exist on the property, and because these showings are so very limited in extent.

CONCLUSIONS AND RECOMMENDATIONS

Scheelite is sparsely and erratically distributed in remnants of quartz lenses that have been left after gold mining. There is one fair grade, very small occurrence, and several equally small but lower grade occurrences. If the scheelite were more consistently present in the quartz lenses it might be worth exploring for undiscovered quartz lenses, and incidentally, for more gold.

The uranium is apparently much rarer and, in its known occurrences, comparatively much lower grade than the tungsten-bearing parts of this deposit. It is recommended, therefore, that government participation in exploration for tungsten and uranium at the Goodman Mine be denied.

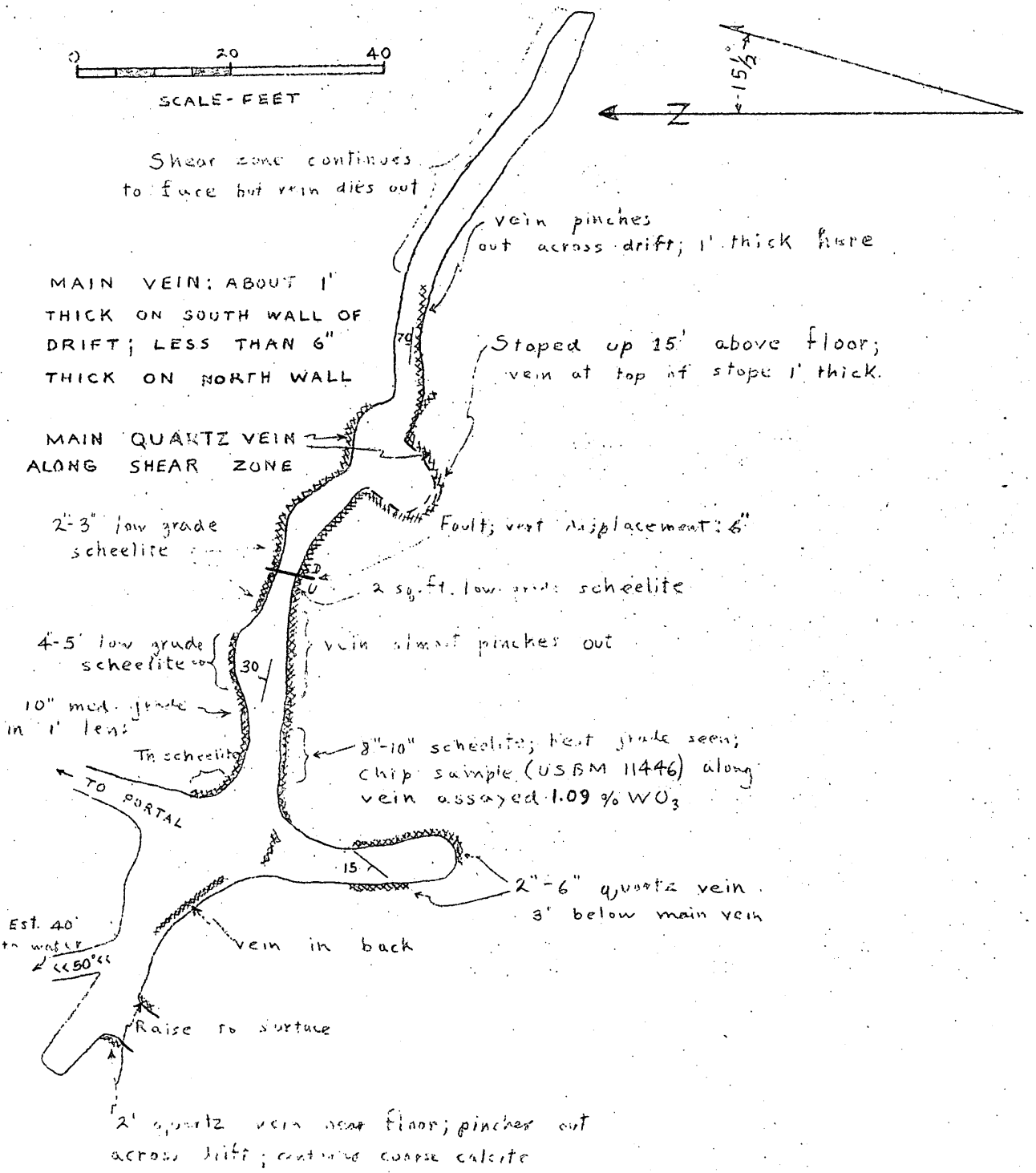

FIG. 3 — GEOLOGIC MAP, SOUTH PART OF NO. 3 WORKING, GOODMAN MINE, YUMA COUNTY, ARIZONA

EXPLANATION

70 Strike and dip of vein. Country rock is granite gneiss and schist. Brunton-tape survey. Geology by L. Bryner, 8/30/55. Scheelite mineralization shown in red.

DMEA 3893

400

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

RECEIVED
AUG - 4 1955

224 New Customhouse
Denver 2, Colorado

August 1, 1955

RECEIVED

WSM

Memorandum

To: W. R. Storms (w/brochure)
J. N. Faick

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA-3893 (Tungsten and Uranium), Leonard M. Cole, Edward H. Schwartz and Charles A. Kewin, Goodman Mine, Yuma County, Arizona

Enclosed is the subject application in the amount of $23,983.00. A field examination and suitable report are required.

For your information, attached is a copy of a letter from the Chairman of the Operating Committee and relevant memorandum from Thor H. Kiilsgaard on the subject docket.

W. M. TRAVER,

W. M. Traver

Enclosures

HMC:pw

cc: Subject
Chron
Sec.Op.Comm. (2)
Harshman

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

RECEIVED
AUG - 4 1955

224 New Customhouse
Denver 2, Colorado

August 1, 1955

Memorandum

To: W. R. Storms (w/brochure)
J. N. Feick

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA-3893 (Tungsten and Uranium), Leonard M. Cole, Edward H. Schwartz and Charles A. Kewin, Goodman Mine, Yuma County, Arizona

Enclosed is the subject application in the amount of $23,983.00. A field examination and suitable report are required.

For your information, attached is a copy of a letter from the Chairman of the Operating Committee and relevant memorandum from Thor H. Kiilsgaard on the subject docket.

W. M. TRAVER,

W. M. Traver

Enclosures

HMC:pw

cc: Subject
Chron
Sec.Op.Comm. (2)
Harshman

600

JUL 27 1955

Mr. Leonard M. Cole
P. O. Box 27
Riverside, California

Re: Docket No. DMTA 3093 - Tungsten
and Uranium
Goodwin Mine
Yuma County, Arizona

Dear Mr. Cole:

This will acknowledge receipt of your letter of July 23, 1955, with enclosed copy of spectrographic analysis reported to represent typical vein material from location #6 shown on your sketch map.

We thank you for this information.

Sincerely yours,

W. S. Martin, Chief
Iron and Ferro-Alloys Division

RMR
WSMartin/foe
7-26-55
cc to: Docket
Code 600
Adm. Read. File
FT. REG. III
R. W. Holliday, USBM
T. H. Kiilsgaard, USGS

400

JUL 2 7 1955

Mr. W. M. Traver, Executive Officer
DMEA Field Team, Region III
8th New Customhouse
Denver 2, Colorado

Re: Docket No. DMEA 3893 - Tungsten
and Uranium
Leonard H. Cole, Edward M. Schwartz,
and Charles A. Ewsin
Goodman Mine
Yuma County, Arizona

Dear Mr. Traver:

The above-docketed application for exploration assistance is being referred to your office for a field examination of the property.

Two copies of a relevant memorandum dated July 20, 1955, by Thor H. Kiilsgaard, U. S. Geological Survey, are enclosed for your information.

Sincerely yours,

W. S. Martin
ACTING Chairman, Operating Committee

Enclosure

FARutledge:fec
7-25-55
cc to: Docket
Code 400
Adm. Read. File
Operating Comm.
FT. REG. III
R. W. Holliday, USBM
T. H. Kiilsgaard, USGS

APPROVED:

/s/ Robert W. Geeham
Member, Bureau of Mines

Thor H. Kiilsgaard
Member, Geological Survey

JUL 27 1955

Messrs. Leonard M. Cole, Edward H. Schmerts,
and Charles A. Hazin
Box 27
Riverside, California

Re: Docket No. DMEA 3693 - Tungsten
and Uranium
Goodman Mine
Yuma County, Arizona

Gentlemen:

Reference is made to the above-docketed application for exploration assistance which has been reviewed by the Iron and Ferro-Alloys Division of the Defense Minerals Exploration Administration and referred to Mr. W. M. Trevena, Executive Officer, DMEA Field Team, Region XII, 254 New Customhouse, Denver 2, Colorado, for a field examination of the property.

Any assistance that you can give the members of the Field Team will be appreciated.

Six of the enclosed "Consent to Lease" forms (MF-203) should be executed by the owners of the Gold Bell claims and returned to this Administration.

Sincerely yours,

G. G. Mitscherlich

Administrator

FARutledge:fec
7-26-55
cc to: Docket
Code 400 ✓
Admr. Read. File
Operating Comm.
FT. REG. III
Robert Holliday, USBM
Thor H. Killsgaard, USGS

Enclosures

400

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

RECEIVED
JUL 2 1955

July 20, 1955

Copy retained 400

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

From: Thor N. Kiilsgaard, U. S. Geological Survey

Subject: Review of application, Gold Belt and Sierra claims (old Goodman mine), Yuma Co., Arizona, DMEA Docket 3893, (tungsten-uranium).

The applicant proposes an exploration program of bulldozing, core drilling, and drifting to further explore the cited property for tungsten and uranium. This work is based on the reported showing of scheelite throughout the area and because of the presence of carnotite and zippeite in old mine workings.

In the application the property is referred to as the Goodman mine; therefore, to obtain information on this mine I searched the library and consulted these references dealing with the area in which the mine is located. References found were 1) USGS Bulletin 620, and 2) Arizona Bureau of Mines Bulletin 137. In the Survey bulletin the Goodman mine is described as being located on a east-west quartz vein whose outcrop is more than 3 miles in length, and which ranges in width from a mere seam to more than 40 feet but whose average width is about 10 feet. The vein is in quartz-epidote schist, and has been explored by several inclined shafts and connecting drifts. It was formerly worked solely for its gold content, the gold occurring in pyrite in the quartz. Production prior to 1900 is estimated at $40,000, with an additional $9,000 being produced between 1900 and 1914. Average tenor of the ore was estimated at $65 per ton, this figure being based on the old price for gold. No mention is made in the reports of the presence of scheelite or uranium ore.

If the Goodman vein workings are still open, or if the long outcrop is still observable field examiners should have little trouble in evaluating the merits of this property. If the property is worth exploring there should be appreciable amounts of tungsten and uranium ores to be seen. The mere presence of scheelite in a quartz-gold vein is not unusual. For the most part, such tungsten occurrences do not warrant exploration as they are prone to be small and erratic, and very seldom are they in sufficient quantity to aggregate ore grade for the vein to be mined.

I recommend referring this application to the field for their report.

Thor H. Kiilsgaard

THKiilsgaard:iml
G-7/20/55

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
R. Holliday, 3513

400

DOCKET
Surname:
McMahon
Martin
Kilsgaard
Geehan
Selfridge

OCT 31 1955

Messrs. Leonard N. Cole,
Edward M. Schwartz, and
Charles A. Erwin
Box 27
Riverside, California

Re: Docket No. DMEA 3693 -
Tungsten and Uranium
Goodman Mine
Yuma County, Arizona

Gentlemen:

Your application for aid for an exploration project and other data available to us in Washington relative to the above-mentioned property have been carefully reviewed.

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

Careful study of our information indicates that although tungsten and uranium mineralization occurs on the property, the probability of disclosing minable ore reserves by your proposed program is not sufficiently promising to justify Government participation. We regret to advise you, under these circumstances, that your application for exploration assistance is denied.

We wish to thank you for your interest in the Defense Minerals Exploration Administration program and for bringing your property to our attention.

Sincerely yours,

Frank E. Johnson

Acting Administrator

cc: Docket
Adm. Read. File
Code 400
Oper. Comm.
Thor Kiilsgaard, USGS
Robt. Holliday, USBM
FT, Reg. 3

ADMcMahon/ls 10/27/55

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

October 27, 1955

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of request for exploration assistance in the amount of $23,983.00
Docket No. DMEA 3893 - Tungsten and Uranium
Messrs. Leonard M. Cole, Edward H. Schwartz, and Charles A. Kewin, a partnership
Goodman Mine
Yuma County, Arizona

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

(1) The applicants, Messrs. Leonard M. Cole, Edward H. Schwartz, and Charles A. Kewin, a partnership, requested exploration assistance in the amount of $23,983.00 for road work, open pit explorations with a bulldozer, diamond drilling, drifting and construction of buildings for living quarters and storage.

(2) The property consists of eight (8) unpatented lode mining claims situated in secs. 23, 24, 25, and 26, T. 4 N., R. 21 W., Yuma County, Arizona. The partnership is owner of the four claims Sierra No. 1, Sierra No. 2, Sierra No. 3, and Sierra No. 5; and holds the Gold Belt claims (Nos. 1, 2, 3, and 4) under an Option-To-Purchase Agreement of May 13, 1955, with Angela G. Scott.

(3) The proposed exploration program is for 72 hours of bulldozer work to build and repair roads and open pit exploration; approximately 85 feet of drifting; and approximately 1,100 feet of core drilling.

(4) The mine has an early history as a small gold producer when about 2,000 feet of drifts, crosscuts and shafts were driven to explore quartz lenses along a fault zone in Precambrian granites, gneisses and schists. Scheelite is present in a few places in some of the remnants of quartz. Uranium mineralization was found only in two places along fractures, and these showings were very low grade. The deposit contains only a few tons of reserves of tungsten ore and no reserves of uranium ore.

(5) The examining team concludes that occurrence of scheelite in the property is sparsely and erratically distributed in remnants of quartz lenses left after gold mining; that uranium mineralization is rare and known occurrences are very small and low grade. They recommend the application be denied and the Field Team concurs in the recommendation.

(6) The Commodity Divisions of the Geological Survey and Bureau of Mines concur in recommending denial of the subject application.

W S Martin

W. S. Martin, Chief
Iron and Ferro-Alloys Division

Docket
Surname:
McMahon
Martin

October 27, 1955

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of request for exploration assistance in the amount of $23,983.00
Docket No. DMEA 3893 - Tungsten and Uranium
Messrs. Leonard M. Cole, Edward H. Schwartz, and Charles A. Kewin, a partnership
Goodman Mine
Yuma County, Arizona

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(6) The Commodity Divisions of the Geological Survey and Bureau of Mines concur in recommending denial of the subject application.

W. S. Martin, Chief
Iron and Ferro-Alloys Division

cc: Docket
Adm. Read. File
Code 400
Oper. Committee

ADMcMahon/ls
10/27/55

Docket

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON 25, D. C.

October 26, 1955

Memorandum

To: Chief, Iron and Ferroalloys Division - DMEA
Through: Acting Chief, Branch of Ferrous Metals & Ferroalloys

From: Commodity Specialist

Subject: Docket No. DMEA 3893 - Tungsten
Cole, Schwartz and Kewin
Goodman Mine
Yuma County, Arizona
$23,983.00 - Tungsten

Subject application proposes a very extensive exploration considering the sparcity of mineralization in this particular area.

I concur with the recommendation of the field team that the application be denied.

R W Holliday
R. W. Holliday

Copy To: Ferrous Metals
Division of Minerals
Files

Dorkeo

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

RECEIVED
OCT 14 1955

October 13, 1955

Re: DMEA 3893
Cole, Schwartz, & Kewin
Goodman Mine
Yuma County, Arizona
$23,983.00 - Tungsten, Uranium

Copy retained 400

W3M

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of Field Team report.

The applicants proposed an exploration program involving bulldozing, core drilling and drifting, of a gold vein, reported to have produced about $50,000. It was last worked for gold about 1934.

Scheelite occurs in scattered small concentrations and the uranium occurrences are even more scattered. The examiners estimate the tungsten reserve at possibly 10 tons of rock containing 1.0% WO_3. No uranium ore is known, no radioactive material of ore grade having been noted.

The general lack of material worth sampling supports the conclusions of the examiners that further work on this well prospected and developed vein is not justified.

I concur with the recommendation of the Field Team that the application be denied.

N. E. Nelson

N. E. Nelson

Copy retained 400

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

RECEIVED
OCT 14 1955

October 13, 1955

Re: DMEA 3893
Cole, Schmarts, & Kewin
Goodman Mine
Yuma County, Arizona
$23,983.00 - Tungsten, Uranium

Memorandum

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The general lack of material worth sampling supports the conclusions of the examiners that further work on this well prospected and developed vein is not justified.

I concur with the recommendation of the Field Team that the application be denied.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-10/13/55
cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
R. Holliday, 3513

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

RECEIVED
OCT 14 1955

October 13, 1955

Re: DMEA 3893
Cole, Schwartz, & Kevin
Goodman Mine
Yuma County, Arizona
$23,983.00 - Tungsten, Uranium

Memorandum

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Subject: Review of Field Team report.

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N. E. Nelson

N. E. Nelson

NENelson:iml
G-10/13/55
cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
R. Holliday, 3513

Docket

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

RECEIVED OCT 7 - 1955

October 5, 1955

224 New Customhouse
Denver 2, Colorado

W34

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Report of Examination, DMEA Docket 3893 (Tungsten-Uranium), Cole, Schwartz, and Kewin, Goodman Mine, Yuma County, Arizona

Enclosed are the original and three copies of the report pertaining to the above application.

The field examiners conclude that the chances are remote of finding any significant amount of tungsten or uranium as a result of further exploration on this property.

They recommend that the application be denied, and we concur in their recommendation.

W. M. Traver

W. M. Traver

E. N. Harshman

E. N. Harshman

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
10-12-55
(date)

Docket

DMEA
Date Rec'd
SEP 26 1955

RECEIVED
OCT 7 - 1955

BUREAU OF MINES
Denver, Colorado

Box 4097
Tucson 5, Arizona

September 21, 1955

Memorandum

To : W. M. Traver, Executive Officer, DMEA Field Team, Region III

From : Superintendent, Southwest Experiment Station

TRANSMITTED
OCT 5 - 1955

Subject : DMEA-3093, Cole, Schwartz and Kerin, Jackman Tungsten-Uranium Mine, La Paz Mining District, Yuma County, Ariz.

Enclosed are original and 8 copies of the section on Engineering by T. M. Rennie of the Bureau of Mines. The sections on Summary, Conclusions and Recommendations, and on Geology will be submitted by the Geological Survey.

Because the chances of finding any significant quantity of tungsten or uranium by additional exploratory work seems remote, the DMEA examiners have recommended denial of Government assistance. I concur with this recommendation.

Brochure is enclosed.

Walter R. Storms

Walter R. Storms

CC W. M. Traver (8)
W. H. King
J. N. Falck
DMEA-3093
RF

WRStorms:frj

10-12-55

DMEA-3893, COLE, SCHWARTZ & KEWIN, GOODMAN TUNGSTEN-URANIUM MINE
YUMA COUNTY, ARIZONA

Engineering Report

By T. M. Romslo
Mining Engineer
U. S. Bureau of Mines

September 1955

Reviewed by
DMEA OPERATIONS COMMITTEE
10-12-55

RECEIVED
OCT 7 - 1955

DMEA-3893, COLE, SCHWARTZ & KEWIN, GOODMAN TUNGSTEN-URANIUM MINE
YUMA COUNTY, ARIZONA

CONTENTS

Engineering report — Page

Introduction — 1
Location, accessibility, physical features and climate — 1
History and production — 2
Extent and ownership of property — 3
Present status — 3
Description of the deposits — 4
Ore reserves — 5
Conclusions and recommendations — 5

ILLUSTRATIONS

Figure No. — Following page

1 Location map — 1
2 Claim map — 3
3 Geologic map — (See Geological Report)

RECEIVED
OCT 7 - 1955

INTRODUCTION

Leonard M. Cole, Edward H. Schwartz and Charles A. Kewin applied to the Defense Minerals Exploration Administration for aid in exploring for tungsten and uranium at the Goodman mine in Yuma County, Arizona. The application was received in Washington on July 11, 1955, docketed as DMEA-3893, reviewed by the Operating Committee, and referred to the Field Team of Region III for an examination of the property.

The application contained a proposed exploratory program involving road work and open pit explorations with a bulldozer, diamond drilling, drifting, and construction of buildings for living quarters and storage. Cost of the work was estimated at $23,983.00.

Field investigations were made on August 30, 1955 by Leonid Bryner, geologist, U. S. Geological Survey and T. M. Romslo, mining engineer, U. S. Bureau of Mines. Leonard M. Cole and Charles A. Kewin, 2 of the 3 members of a partnership formed to explore the mine, accompanied the examining team.

LOCATION, ACCESSIBILITY, PHYSICAL FEATURES AND CLIMATE

The Goodman mine is about 9 air miles northeast of Ehrenberg, a village on U. S. Highway 60 and 70. It and adjacent claims of the application are described as being in secs. 23, 24, 25, and 26, T. 4 N., R. 21 W., Yuma County, Ariz. (figure 1).

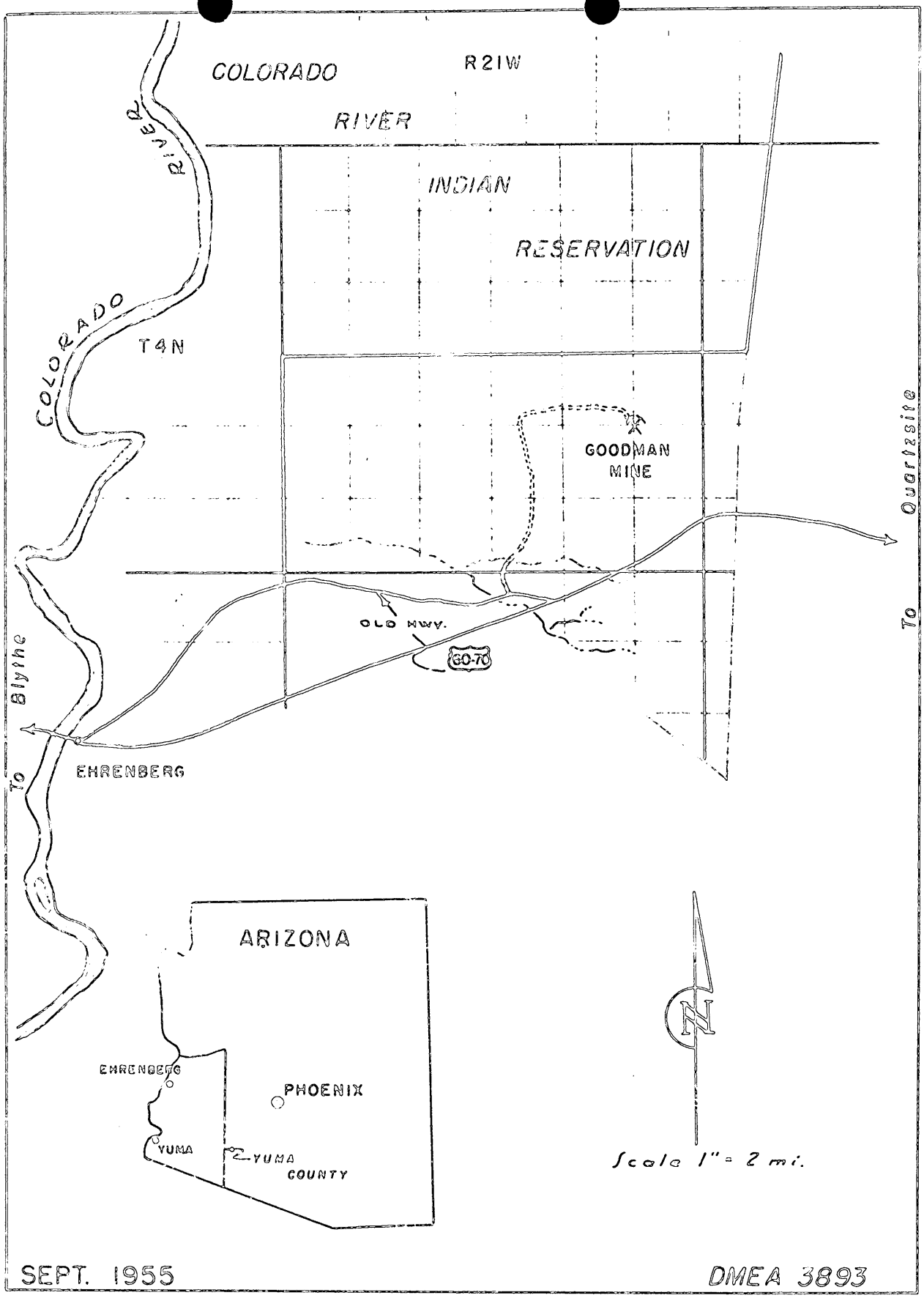

FIG.-1 LOCATION MAP, GOODMAN MINE, YUMA CO. ARIZ.

The property is accessible from Ehrenberg by traveling east 7.6 miles on old U. S. Highway 60-70, thence 3.3 miles north on a graded road to its junction with an easterly trending unimproved road. Turn right onto the unimproved road, signed "V. E. Jones Ranch", and proceed 1.1 miles to mine workings on Gold Belt Claim No. 1.

The Goodman mine is situated on the western slope of the north-south trending Dome Rock Mountains at an altitude of about 1,000 feet. The topography of the property is fairly rugged. It shows a maximum relief of about 500 feet, ranging from 750 to 1,250 feet in altitude.

Summers are hot and winters are mild. Precipitation probably does not exceed an annual average of 4 inches, all as rain. Drainage is westerly to the Colorado River.

Vegetation is confined to the usual variety of cacti and shrubs.

HISTORY AND PRODUCTION

The Goodman mine probably first was located during the period of 1860 to 1870 when many of the gold-bearing veins of the district were discovered. The mine, according to Jones,[1/] produced about $40,000.00 worth of gold prior to 1900, and $9,000.00 more from 1900 to 1914. Ore was hauled 15 miles to Quartzsite where it was treated in an amalgamation mill. In 1934 the mine was reopened and an amalgamation mill was installed on the property.

There is no readily available information regarding the operations of 1934. However, it is believed that this operation was of short duration and probably did not yield a significant amount of gold.

1/ Jones, E. L., Jr., Gold Deposits near Quartzsite, Ariz. U. S. Geol. Surv. Bull. 620, 1915, p. 55

During January 1955, Leonard M. Cole of the subject application noted radioactivity over the property while prospecting the district in his airplane. In May 1955, he acquired the property after finding that uranium and tungsten mineralization was present.

EXTENT AND OWNERSHIP OF THE PROPERTY

The property of the proposed explorations comprises 8 unpatented lode mining claims (figure 2). The applicant, a California partnership, is the owner of the Sierra claims and holds the Gold Belt claims under an Option-To-Purchase Agreement of May 13, 1955 with Angela G. Scott.

Members of the partnership are:

Leonard M. Cole, Box 27, Riverside, Calif.
Edward H. Schwartz, 4106 Heidi Rd., Riverside, Calif.
Charles A. Kewin, 5903 Greenfield Ave., Riverside, Calif.

PRESENT STATUS

There is no mining or milling equipment on the inactive property. Buildings are confined to a wooden ore bin on the Gold Belt No. 1 claim.

The principal mine workings, most of which are accessible, are on the Gold Belt Nos. 1 and 2 claims. They consist of about 2,000 feet of adits, drifts, crosscuts, and shafts. On the Gold Belt No. 1 open stopes have been worked from drifts off 2 upper adits. The observed stopes range from 4 to 10 feet in width and are several tens of feet in length along both the dip and strike. No workings have been driven from the lower adit that is less than 150 feet vertically

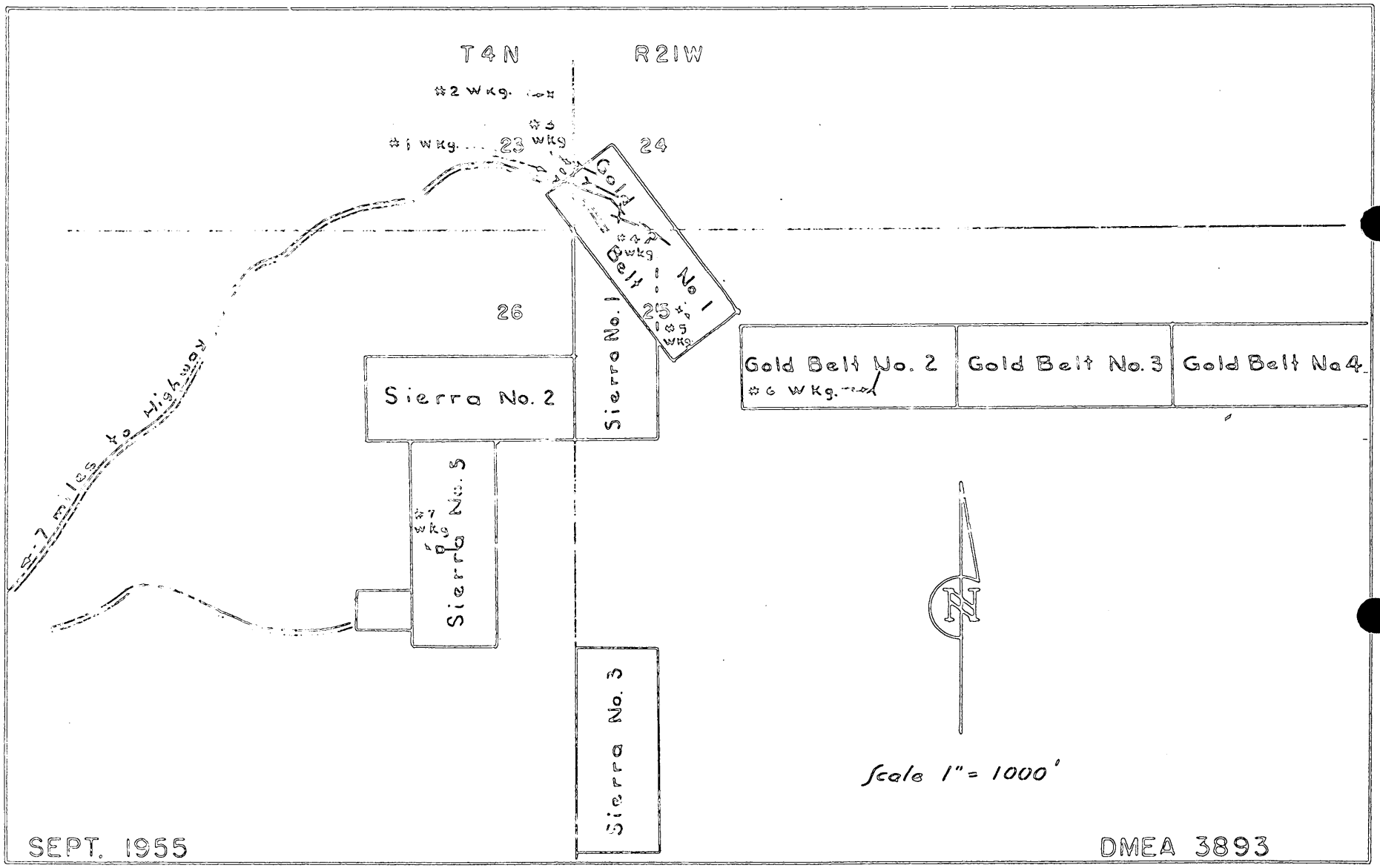

FIG. 2 - CLAIM MAP, GOODMAN MINE, YUMA CO. ARIZ.

below the vein outcrop. On the Gold Belt No. 2 claim, the vein has been worked from a short adit and short inclined shafts. Open stoping has been done from a few hundred feet of drifts on the adit level and from a winze that is bottomed at about 75 feet below the adit level.

DESCRIPTION OF THE DEPOSITS

The gold ore apparently occurred in a number of quartz lenses in gneiss and schist. Most of the lenses were localized along a strong fault zone that strikes about N. 60° W. and dips moderately to the northeast.

Observed tungsten mineralization was confined mainly to No. 3 working (figure 3). There scheelite occurs sporadically along remnants of a quartz vein. By far the best showing is confined to a zone about 10 feet long and 8 to 10 inches wide. A sample obtained from the zone, U. S. B. M. 11446, assayed 1.09 percent WO_3. Scheelite also was noted at working No. 6 where it is confined to a band about 2 inches wide and 6 feet long. A small pit at the No. 2 working contains a few spots of scheelite, according to Cole.

Uranium mineralization was noted only near the bottom of a 70-foot inclined shaft on the Sierra No. 5 claim and in an adit of No. 1 workings. In the shaft the uranium showed as an efflorescence, green with an ultra-violet light, over an area of about 2 feet square.

A sample, U.S.B.M. 11445, was obtained from this zone after scraping off the efflorescent material. It assayed 0.04 percent eU_3O_8. In the adit slight radioactivity was noted only along a fracture at about 390 feet from the portal.

ORE RESERVES

The property contains no measurable reserves of either tungsten or uranium minerals.

Indicated and inferred reserves of tungsten have been estimated at about 10 tons of rock containing about 1.0 percent WO_3.

Estimates of indicated and inferred reserves of uranium-bearing rock were not made because of the limited extent and grade of radioactive zones.

CONCLUSIONS AND RECOMMENDATIONS

Tungsten and uranium on the Goodman property occur separately in a few widely scattered small and meagerly mineralized zones.

Government participation in exploration of the Goodman mine is not recommended because chances of finding significant amounts of tungsten and uranium are almost nil.

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Defense Minerals Exploration Administration
Denver Federal Center
Denver, Colorado

RECEIVED OCT 7 - 1955

DMEA Date Rec'd. OCT 4 1955

BUREAU OF MINES Denver, Colorado

October 3, 1955

TRANSMITTED

OCT 5 - 1955

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: E. N. Harshman

Subject: DMEA Docket 3893 (Tungsten and Uranium), Leonard M. Cole, Edward H. Schwartz, and Charles A. Kewin, Goodman mine, Yuma County, Arizona

Enclosed are the original and nine copies of a geologic report by Leonid Bryner, U. S. Geological Survey recommending denial of the subject application for exploration assistance.

No reference is made in the report to discussions of the merits of the project with representatives of the AEC. Uranium is, however, almost totally lacking in the old workings.

I concur with the recommendation that the application be denied.

E. N. Harshman

E. N. Harshman
Member, Field Team

Enclosures (10)

ENHarshman:arh

RECEIVED BY
DMEA OPERATIONS ANALYSTS
10-12-55

MINERAL DEPOSITS
DMEA
RECEIVED
OCT 5 1955
U.S.
GEOLOGICAL SURVEY
DENVER, COLORADO

Box 4126 University Station
Tucson, Arizona

September 29, 1955

MEMORANDUM

TRANSMITTED
OCT 5 - 1955

To: E. H. Kerschman

From: J. N. Faick, Tucson, Arizona

Subject: Goodman Mine, Yuma County, Arizona
DMEA 3893, Tungsten and Uranium

Enclosed are the original and 10 copies of a geological report by Leonid Bryner on the above subject property. Also enclosed is the Summary, Conclusions and Recommendations proposed jointly by T. M. Bassin, U. S. Bureau of Mines and Leonid Bryner, U. S. Geological Survey.

It is recommended that the application be denied because neither tungsten nor uranium appear to be present in significant amount. Indicated and inferred tungsten reserves are estimated to be about 10 tons of quartz vein material containing about one percent tungsten, and there are no uranium reserves.

I concur with the recommendation that the application be denied.

John N. Faick JB
John N. Faick

JNF:rm

cc. Kerschman (10)
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10-12-55
JB

U. S. DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

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OCT 7 - 1955

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA 3893
GOODMAN MINE
COLE, SCHWARTZ, AND KEWIN, APPLICANTS
YUMA COUNTY, ARIZONA
(Tungsten, Uranium)

Leonid Bryner, Geologist
U. S. Geological Survey

T. M. Romslo, Mining Engineer
U. S. Bureau of Mines

September, 1955

Reviewed by
DMEA OPERATING COMMITTEE
10-12-55
(date)

U. S. DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

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EXAMINATION REPORT
DMEA 3893
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ILLUSTRATIONS

Fig. 1 - Location Map	See Engineering Report
Fig. 2 - Claim Map	" " "
Fig. 3 - Geologic Map	Following page 6

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

by Leonid Bryner[1] and T. M. Romslo[2]

In an application to the Defense Minerals Exploration Administration dated July 7, 1955, and docketed as DMEA-3893, L. M. Cole, E. H. Schwartz, and C. A. Kewin requested government participation in a program estimated to cost $23,983 to explore for tungsten and uranium at the Goodman Mine, Yuma County, Arizona.

The Goodman Mine has an early history as a small gold producer. The workings are almost all on the Gold Belt No. 1 Claim and consist of about 2,000 feet of drifts, crosscuts and shafts. Quartz lenses along a fault zone in Precambrian granites, gneisses and schists were mined for their gold content. The ore consisted of auriferous pyrite in the quartz. Scheelite is present in a few places in some of the remnants of quartz that were left after gold mining had practically depleted the deposit. Uranium mineralization was found only in two places along fractures, and these showings were very low grade. The deposit is estimated to contain only a few tons of reserves of tungsten ore and no reserves of uranium ore. The applicant proposed exploration work consisting mainly of drifting or core drilling mostly from or near the old workings. The possibilities of discovering a significant tonnage of tungsten or uranium ore are considered by the examiners to be very poor. It is recommended, therefore, that government participation in exploration at the Goodman Mine be denied.

1/ Geologist, U. S. Geological Survey, Tucson, Arizona

2/ Mining Engineer, U. S. Bureau of Mines, Tucson, Arizona

INTRODUCTION

In an application to the Defense Minerals Exploration Administration, dated July 7, 1955, L. M. Cole, E. H. Schwartz, and C. A. Kewin requested government participation in a program estimated to cost $23,983 to explore for tungsten and uranium at the Goodman Mine.

The Goodman Mine is located at the common corner of Secs. 23, 24, 25, and 26, T. 4 N., R. 21 W., Yuma County, Arizona. The property is reached from Ehrenberg on U. S. Highway 60-70 by driving east on the old highway 7.6 miles, then by dirt road for 4.4 miles. These roads and the mine are shown on the U. S. G. S. Dome Rock Mts. Quadrangle.

The applicant states he is a purchaser under contract of the Gold Belt claims and the owner of the Sierra claims. The owner of the Gold Belt claims is Angela G. Scott.

The examination was made on August 30 by T. M. Romslo of the U. S. Bureau of Mines and by the writer. L. M. Cole, representing the applicants, conducted the examiners over the property. The geologic examination consisted of this general reconnaissance with Cole and of mapping the part of the mine where the best tungsten showings were found. The conclusion drawn from this work is that the deposit has only trace amounts of uranium and poor possibilities as a tungsten producer.

The Goodman Mine has an early history as a small gold producer, and has been described by E. L. Jones, Jr.[1/]. Jones' report contains no reference to tungsten or uranium minerals in the mine.

1/ Jones, E. L., Jr., Gold Deposits near Quartzite, Arizona; Contributions to Economic Geology, Part I, Gold and Silver, U. S. Geol. Survey, Bull. 620, p. 55, 1916.

GEOLOGY

The Goodman Mine is on the east side of a small, northwesterly-trending valley in the western part of the Dome Rock Mountains. The country rock here is a Precambrian granite. This granite shows varying degrees of foliation, from almost normal granite to a rock that might better be described as gneiss. The granite also displays schistose phases as well as schist that apparently represents inclusions of finer grained rock in the original granite. The schistosity of the gneiss and schist strikes from NNW to WNW and the dip is a moderate northeasterly one.

The most prominent structural feature in the mine area is a fault zone trending N 60-65 W, and traceable through the Gold Belt No. 1 Claim and through most of the Gold Belt No. 2. The faults in the zone parallel the zone and dip moderately to the northeast. The fault zone seems to correspond to a zone in the granite in which schist is especially prevalent, so that it appears as though the presence of the relatively soft, cleavable schist may have caused the faulting to be localized along this particular zone. Although the strike of schistosity and the strike of the faults more or less correspond, the faults generally dip more steeply than the schistosity. Judging from the type of deformation along the faults it is inferred that the faulting was normal. Slickensides indicate that the latest movement was more or less vertical.

The mine workings, as shown in figure 2, are almost entirely confined to the Gold Belt No. 1 Claim, and consist of about 2000 feet of drifts, crosscuts and shafts. Most of the workings are drifts and stopes along the mineralized zone.

According to Jones the gold in this mine occurred with pyrite in massive quartz. Little of the vein quartz is left in the mine, but what was seen, bears out this description. The tungsten occurs as scheelite in the vein quartz. In the drift where the best tungsten values were found, coarsely crystalline calcite was found with the vein quartz but not with the scheelite. Specular hematite was occasionally recognized in the vein.

The main ore deposit, that is, the one on the Gold Belt Nos. 1 and 2, is practically worked out, but enough of it was seen to recognize its general features. The ore apparently was in a number of more or less parallel quartz lenses. Most of these lenses were along a single fault, but some of the ore bodies were off a hundred feet or more to one side of this main ore zone. This is shown by parallel but unconnected stopes on the Gold Belt No. 1 Claim. The largest quartz lenses probably were several hundred feet in their longest dimension. Jones says that widths up to 40 feet were mined but that the average width was 10 feet. The narrow widths shown in figure 3 probably are not typical, as the veins in this working are not the main ones, but are about 130 feet west of the stopes on the main vein. The veins were seen to pinch out very abruptly in the schist, which perhaps accounts for the fact that hardly any quartz was seen in the pillars.

Considered from the standpoint of tungsten content, the deposit is practically confined to the most persistent quartz vein at the south end of the No. 3 working (fig. 3). The applicant said that this drift contains better tungsten showings than anywhere else

in the mine. Here the scheelite occurs very sporadically in a vein that is one foot or less in thickness on the south wall of the drift and six inches or less on the north wall. The vein is evidently pinching out down dip, that is, from the south to the north wall. The distribution of scheelite in this vein, and the vein itself are shown in figure 3. The examiners also saw scheelite occurring in a similar manner in a stope of the No. 6 working (fig. 2). Here remnants of a quartz lens that strikes NW and dips 50 degrees NE were seen along the walls of this stope. The vein was narrowing across the stope from a maximum of about 5 feet to a few inches at the margins of the stope. Of an estimated 80 linear feet of vein exposed along the edges of the stope, only 6 feet showed scheelite and this was in a band about 2 inches wide. A small pit at the No. 2 working (fig. 2) contains a few spots of scheelite, according to Cole.

The deposit, viewed for its uranium content, was even more discouraging. A few square feet of uraniferous rock was seen at the bottom of a 70-foot, inclined shaft (working No. 7, fig. 2) on the Sierra No. 5 claim. The shaft, inclined at 40 degrees to the east, follows small shears in the granite. These shears trend slightly E or W of N. Quartz veins 2 or 3 inches in thickness follow some of the shears. Secondary uranium minerals apparently have been concentrated by water circulating along one of these shears, and evaporating in the shaft. The uranium occurs as an efflorescence that shows green under the ultra-violet light. The mineral was not identified. Also, in the No. 1 adit (fig. 2) about 390 feet from the portal, a fracture trending N 35° E and dipping 40° NW, showed slight radioactivity.

PRODUCTION AND GRADE

According to Jones[1] "about $40,000 was obtained from the Goodman Mine prior to 1900, and since that time Mr. W. E. Scott, of Quartzite, has mined ore to the value of $9,000, the average tenor of which was $65 per ton." This was gold ore. No shipments of ore for the tungsten or uranium content have been made.

One sample (U.S. Bureau of Mines No. 11446) was taken of what appears to be the highest grade scheelite showing on the property, one of those mentioned on page 4. The location of this showing in the No. 3 working is shown in figure 3. The sample assayed 1.09 percent WO_3. Lower grade showings in the same working are as limited in extent as this one relatively high grade showing. An estimate of average grade is not attempted here because, even if such an estimate could be confidently made, it would not be significant as it would apply to such a small tonnage of rock.

As already indicated, the uranium in this deposit is very low grade. A sample (U.S. Bur. of Mines 11445) of the best uranium showing, the one in Working No. 7, on the Sierra No. 5 claim, assayed radiometrically 0.04 percent eU_3O_8. It was not assayed chemically. Before this sample was taken, the face was scraped off, leaving none of the efflorescence which had registered on the Geiger counter during the radiometric reconnaissance of the shaft.

EXPLORATION

Past work in the mine probably did not include any appreciable exploration.

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[1] Op. cit., p. 55.

The exploration proposed by the applicant consists mainly of drifting or core drilling, mostly on or near the workings of the Gold Belt Nos. 1 and 2.

RESERVES

Inferred and indicated tungsten reserves are estimated at about 10 tons of rock averaging 1 percent WO_3. This is based on the showing sampled in Working No. 3. As the scheelite occurs at only a few places in the quartz lenses, and as the quartz lenses appear to have been mostly mined out for their gold content, the chances of discovering more tungsten reserves seem very poor. No reserves of uranium-bearing rock can be assigned to this deposit, both because of the low grade of the uranium-bearing rock that is known to exist on the property, and because these showings are so very limited in extent.

CONCLUSIONS AND RECOMMENDATIONS

Scheelite is sparsely and erratically distributed in remnants of quartz lenses that have been left after gold mining. There is one fair grade, very small occurrence, and several equally small but lower grade occurrences. If the scheelite were more consistently present in the quartz lenses it might be worth exploring for undiscovered quartz lenses, and incidentally, for more gold.

The uranium is apparently much rarer and, in its known occurrences, comparatively much lower grade than the tungsten-bearing parts of this deposit. It is recommended, therefore, that government participation in exploration for tungsten and uranium at the Goodman Mine be denied.

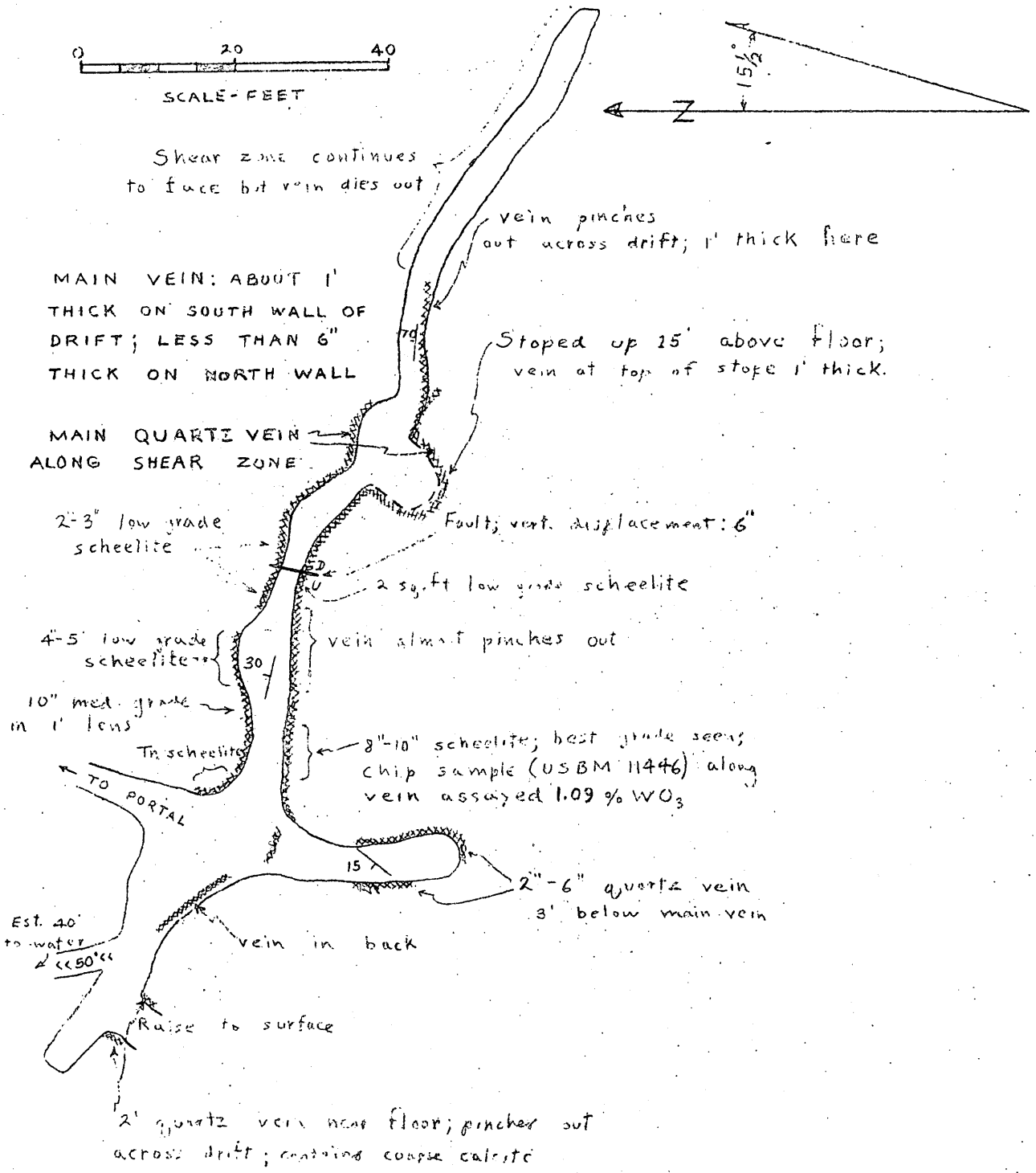

FIG. 3 — GEOLOGIC MAP, SOUTH PART OF NO. 3 WORKING, GOODMAN MINE, YUMA COUNTY, ARIZONA

EXPLANATION

75/ Strike and dip of vein. Country rock is granite gneiss and schist. Brunton-tape survey. Geology by L. Bryner, 8/30/55. Scheelite mineralization shown in red.

DMEA 3893

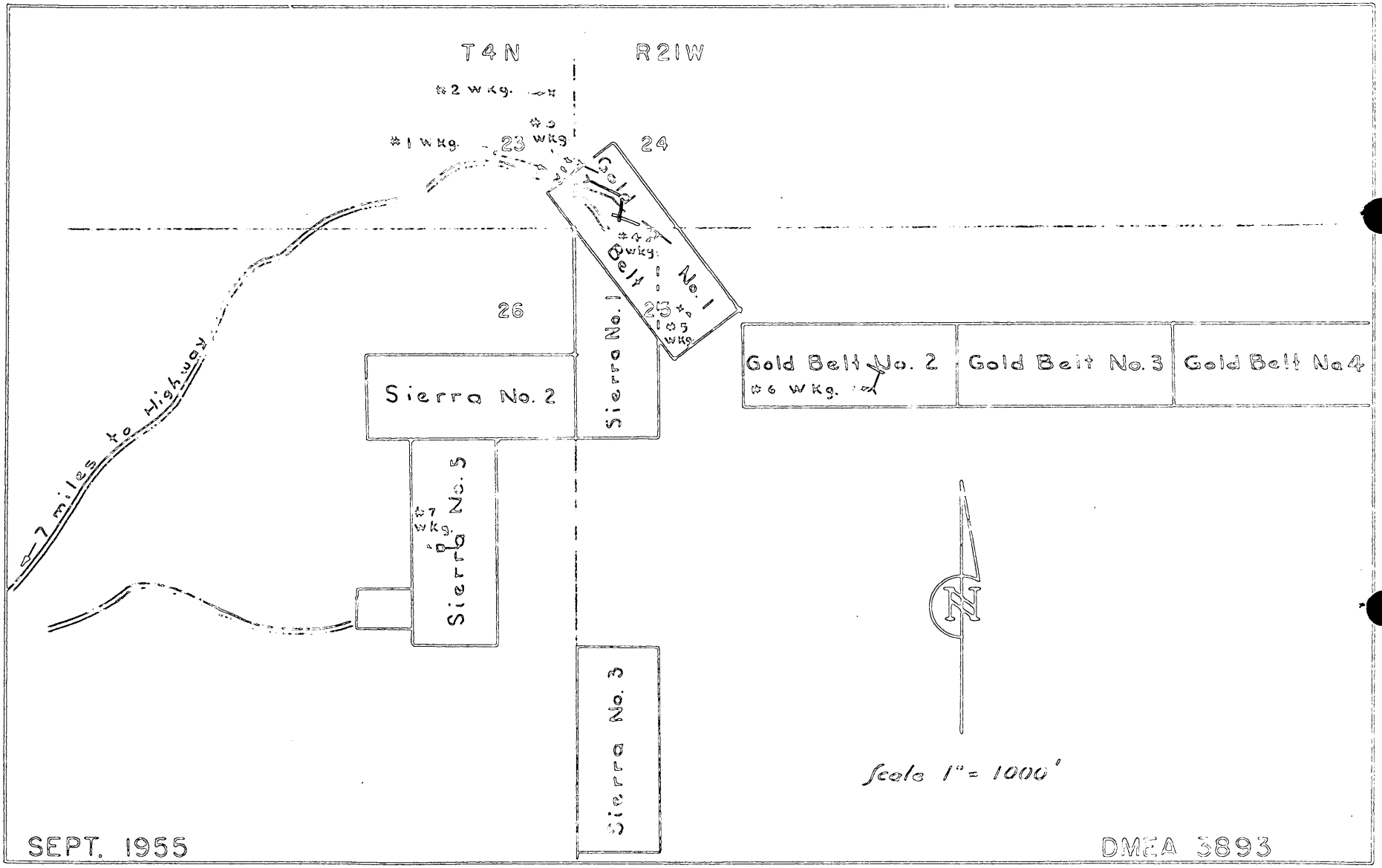

FIG.-2 - CLAIM MAP, GOODMAN MINE, YUMA CO ARIZ.

August 10, 1955
D.C.

Re: Docket - DMEA 3893
Goodman mine
Yuma Co. Arizona.

W. L. Martin, Chief
Iron & Ferro-Alloys Div. D.M.E.A.
U.S. Dept. of the Interior
Washington 25, D.C.

Dear Sir;

In reference to my communication of August 8th, the enclosed four photographs represent the fourth set of four different photographs of the Goodman mine property.

Very sincerely,

Leonard M. Cole
P.O. Box 27
Riverside, Calif.

3 more previous sets.

RECEIVED
AUG 15 1955

Riverside, California
August 8, 1955

WSM

W. S. Martin, Chief
Iron & Ferro-Alloys Division
Defense Minerals Exploration Administration
United States Department of the Interior
Washington 25, D. C.

Re: Docket DMEA 3893
Goodman Mine
Yuma Co., Ariz.

Dear Sir:

The numbers on the enclosed photographs correspond to the numbers shown on the sketch map accompanying my original application. There are three (3) sets of four (4) different photographs of the mining property assigned Docket No. DMEA 3893. The fourth (4th) set of these photographs will be forwarded under separate cover.

Very sincerely

Leonard M. Cole

Leonard M. Cole
P. O. Box 27
Riverside, California

Encls. (12)

4
5
6

1
3

3
4

Discovery location of Sierra Claim #5. Second uranium showing is in the shaft shown at right.

1
2
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Discovery location of Sierra claim #5. Second uranium showing is in the shaft shown at right.

MF-500

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

REFERENCE SLIP

DATE 8/9

REFERRED TO:

1. Mr Martin
2.
3.
4.

FOR:

..... Action	..... Recommendation
..... Approval	..... Record of .....
..... Comment	..... Referring to .....
..... Conference	..... Reply for signature of .....
..... Consideration	..... Rewriting
..... Filing	..... Signature
..... Instructions	..... Suggestions
..... Investigation	..... Your information
..... Initials	
..... Mailing	
..... Previous correspondence	

REMARKS: .....

Check (X) before the items needing attention.

George C. Selfridge
Initials of sender.

GPO 16—63815-1

1
3
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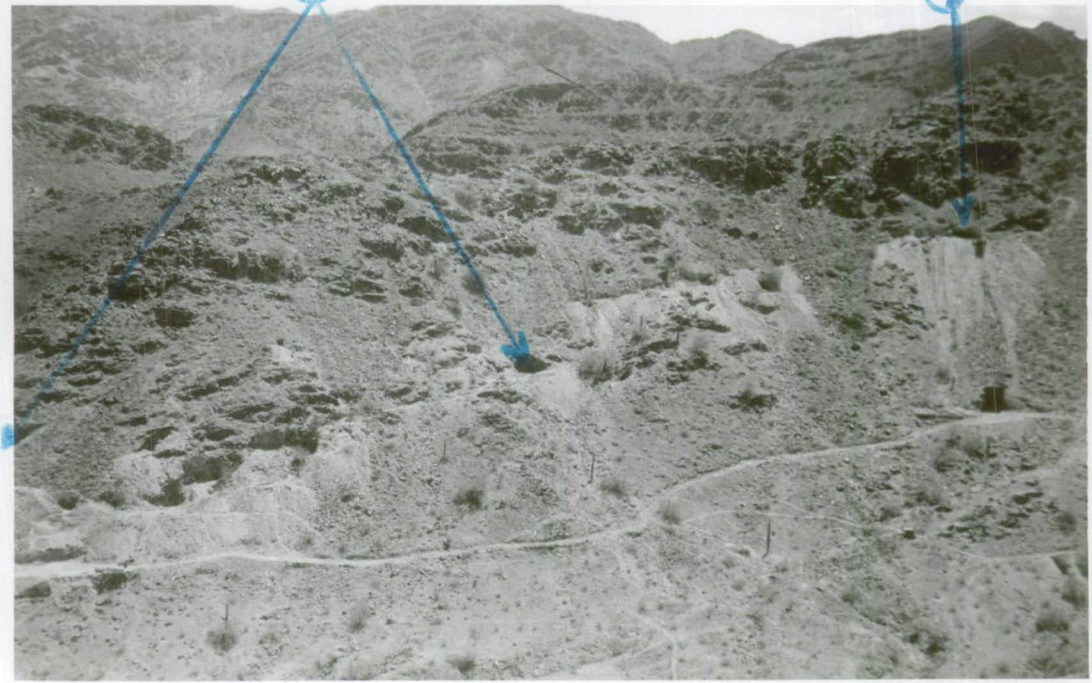
6

Discovery location of Sierra Claim #5. Second uranium showing is in the shaft shown at right.

1
3
2



4
5
6

JUN • 55

Uranium Discovery
Location upon Sierra
Claim #5.

photo taken 4/10/55

Discovery Location of Sierra Claim #5. Second uranium showing is in the shaft at right.

MF-500

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

REFERENCE SLIP

DATE .....

REFERRED TO:

1. Mr Martin
2. .....
3. .....
4. .....

FOR:

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..... Approval	..... Record
..... Comment	of .....
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..... Instructions	ture of .....
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REMARKS: .....

Check (X) before the items needing attention.

George C. Selfridge

Initials of sender.

GPO 16—63815-1

MF-203
Revised March 24, 1955

For Government's Use Only
EXPLORATION PROJECT CONTRACT
Operator
Docket No. DMEA- 3893
Contract No. Idm-E
Contract Date

RECEIVED
AUG - 3 1955

CONSENT TO LIEN

To the United States of America:

Referring to that certain land in the County of Yuma, State of Arizona, described as follows:1/

Gold Belt claims #1, #2, #3, & #4, located in T4N -R21W, in sections23, 24, 25, & 26. Recorded in book #35, pages 179 through 182. Also Sierra claim #5, located in T4N - R21W, section 26. Recorded in book #137, pages 499 through 503, official records of Yuma county, Arizona.

which is the subject of a proposed exploration project contract, hereinafter called the "contract," with the United States of America, hereinafter called the "Government;" in consideration of the contract and as an inducement to the Government to enter into it, the undersigned hereby--

1. Undertakes and agrees that property in which the Government may acquire an interest or equity under the contract may be dismantled, severed from the land, and removed, as may be provided in the contract; and the Government's interest and equity in such property shall be prior and superior to any adverse right or claim of the undersigned;

2. Grants to the Government a lien upon all of the undersigned's right, title, and interest in the land and upon any production of minerals therefrom to secure the payment to the Government of a percentage royalty on production as may be provided for by the contract;2/ and represents and undertakes that there are no claims, liens, or encumbrances upon the undersigned's right, title, or interest in the land prior to that hereby granted to the Government other than the following:3/

None, excepting the terms of the option on the Gold Belt claims.

3. Undertakes and agrees neither to commit any act nor assert any claim in conflict with the provisions of this Consent to Lien; and to give advance notice of the Government's rights under this Consent to Lien to any subsequent transferee, mortgagee, encumbrancer, or lessee of any of the undersigned's right, title, or interest in the land; and

1/ Either (a) insert the legal description of the land, or (b) strike out the words "as follows" and insert "in a lease [or contract, deed, or other document] dated _____, and recorded in book _____ page _____ official records of said county." If (b) is used, the book and page of recordation cannot be dispensed with. If the space provided is insufficient, use an Annex, and refer to the Annex in the space.

2/ Mining or production from the land is not required, and in the absence of production there is no obligation to repay the Government.

3/ Write "none" if that is the case. Do not leave lines blank.

4. Consents to all amendments and assignments of the contract without notice thereof, and agrees that this Consent to Lien shall extend and apply thereto.

5. Added provision: That no signifigant changes may be made in said contract without prior written notice of at least thirty days unless such changes have been mutually agreed upon by the Government and the undersigned.

Dated this 1st day of August, 1955.

Leonard M. Cole [Seal]

Edward H. Schurmann [Seal]

Charles A. Kenton [Seal]

I, Leonard M. Cole certify that I am the acting Administrator (Secretary, etc.) of the corporation named herein; that Leonard M. Cole who signed this agreement was then Acting Administrator (President or Vice-President, etc.) of said corporation; that said agreement was duly signed for and in behalf of said corporation by authority of its governing body, and was within the scope of its corporate powers.

[Corporate Seal]

MF-203
Revised March 24, 1955

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AUG - 3 1955

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Operator_____
Docket No. DMEA-_____
Contract No. Idm-E_____
Contract Date_____

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Gold Bolt claims #1, #2, #3, & #4, located in T4N -R21W, in sections23, 24, 25, & 26. Recorded in book #35, pages 179 through 182. Also Sierra claim #5, located in T4N - R21W, section 26. Recorded in book #137, pages 499 through 503, official records of Yuma county, Arizona.

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1. Undertakes and agrees that property in which the Government may acquire an interest or equity under the contract may be dismantled, severed from the land, and removed, as may be provided in the contract; and the Government's interest and equity in such property shall be prior and superior to any adverse right or claim of the undersigned;

2. Grants to the Government a lien upon all of the undersigned's right, title, and interest in the land and upon any production of minerals therefrom to secure the payment to the Government of a percentage royalty on production as may be provided for by the contract;2/ and represents and undertakes that there are no claims, liens, or encumbrances upon the undersigned's right, title, or interest in the land prior to that hereby granted to the Government other than the following:3/

None, excepting the terms of the option on the Gold Belt claims.

3. Undertakes and agrees neither to commit any act nor assert any claim in conflict with the provisions of this Consent to Lien; and to give advance notice of the Government's rights under this Consent to Lien to any subsequent transferee, mortgagee, encumbrancer, or lessee of any of the undersigned's right, title, or interest in the land; and

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3/ Write "none" if that is the case. Do not leave lines blank.

4. Consents to all amendments and assignments of the contract without notice thereof, and agrees that this Consent to Lien shall extend and apply thereto.

5. Added provision: That no significant changes may be made in said contract without prior written notice of at least thirty days unless such changes have been mutually agreed upon by the Government and the undersigned.

Dated this 1st day of August, 1955.

Leonard M. Cole [Seal]

Edward H. Schwartz [Seal]

Charles A. Kewes [Seal]

I, Leonard M. Cole certify that I am the acting Administrator (Secretary, etc.) of the corporation named herein; that Leonard M. Cole who signed this agreement was then Acting Administrator (President or Vice-President, etc.) of said corporation; that said agreement was duly signed for and in behalf of said corporation by authority of its governing body, and was within the scope of its corporate powers.

[Corporate Seal]

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Dated this 1st day of August, 1955.

Leonard M. Cole [Seal]

Edward H. Schwartz [Seal]

Charles A. Kelvin [Seal]

I, Leonard M. Cole certify that I am the acting Administrator (Secretary, etc.) of the corporation named herein; that Leonard M. Cole who signed this agreement was then acting Administrator (President or Vice-President, etc.) of said corporation; that said agreement was duly signed for and in behalf of said corporation by authority of its governing body, and was within the scope of its corporate powers.

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Leonard M. Cole [Seal]

Edward H. Schwartz [Seal]

Charles A Kewin [Seal]

I, Leonard M. Cole certify that I am the acting Administrator (Secretary, etc.) of the corporation named herein; that Leonard M. Cole who signed this agreement was then acting Administrator (President or Vice-President, etc.) of said corporation; that said agreement was duly signed for and in behalf of said corporation by authority of its governing body, and was within the scope of its corporate powers.

[Corporate Seal]

MF-203
Revised March 24, 1955

RECEIVED
AUG - 3 1955

For Government's Use Only
EXPLORATION PROJECT CONTRACT
Operator_____
Docket No. DMEA-_____
Contract No. Idm-E_____
Contract Date_____

CONSENT TO LIEN

To the United States of America:

Referring to that certain land in the County of Yuma, State of Arizona, described as follows:1/

Gold Belt claims #1, #2, #3, & #4, located in T4N - R21W, in sections 23, 24, 25, & 26. Recorded in book #35, pages 179 through 182. Also Sierra claim #5, located in T4N - R21W, section 26. Recorded in book #137, pages 499 through 503, official records of Yuma county Arizona.

which is the subject of a proposed exploration project contract, hereinafter called the "contract," with the United States of America, hereinafter called the "Government;" in consideration of the contract and as an inducement to the Government to enter into it, the undersigned hereby--

1. Undertakes and agrees that property in which the Government may acquire an interest or equity under the contract may be dismantled, severed from the land, and removed, as may be provided in the contract; and the Government's interest and equity in such property shall be prior and superior to any adverse right or claim of the undersigned;

2. Grants to the Government a lien upon all of the undersigned's right, title, and interest in the land and upon any production of minerals therefrom to secure the payment to the Government of a percentage royalty on production as may be provided for by the contract;2/ and represents and undertakes that there are no claims, liens, or encumbrances upon the undersigned's right, title, or interest in the land prior to that hereby granted to the Government other than the following:3/

None, excepting the terms of the option on the Gold Belt claims.

3. Undertakes and agrees neither to commit any act nor assert any claim in conflict with the provisions of this Consent to Lien; and to give advance notice of the Government's rights under this Consent to Lien to any subsequent transferee, mortgagee, encumbrancer, or lessee of any of the undersigned's right, title, or interest in the land; and

1/ Either (a) insert the legal description of the land, or (b) strike out the words "as follows" and insert "in a lease [or contract, deed, or other document] dated _____, and recorded in book _____ page _____ official records of said county." If (b) is used, the book and page of recordation cannot be dispensed with. If the space provided is insufficient, use an Annex, and refer to the Annex in the space.

2/ Mining or production from the land is not required, and in the absence of production there is no obligation to repay the Government.

3/ Write "none" if that is the case. Do not leave lines blank.

4. Consents to all amendments and assignments of the contract without notice thereof, and agrees that this Consent to Lien shall extend and apply thereto.

5. Added provision: That no significant changes may be made in said contract without prior written notice of at least thirty days unless such changes have been mutually agreed upon by the Government and the undersigned.

Dated this 1st day of August, 1955.

Leonard M. Cole [Seal]

Edward H. Schwartz [Seal]

Charles A. Kewin [Seal]

I, Leonard M. Cole certify that I am the acting Administrator (Secretary, etc.) of the corporation named herein; that Leonard M. Cole who signed this agreement was then acting Administrator (President or Vice-President, etc.) of said corporation; that said agreement was duly signed for and in behalf of said corporation by authority of its governing body, and was within the scope of its corporate powers.

[Corporate Seal]

MF-203
Revised March 24, 1955

For Government's Use Only
EXPLORATION PROJECT CONTRACT
Operator _____
Docket No. DMEA- _____
Contract No. Idm-E _____
Contract Date _____

RECEIVED
AUG - 3 1955

CONSENT TO LIEN

To the United States of America:

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Gold Belt claims #1, #2, #3, & #4, located in T4N - R21W, in sections 23, 24, 25, & 26. Recorded in book #35, pages 179 through 182. Also Sierra claim #5, located in T4N - R21W, section 26. Recorded in book #137, pages 499 through 503, official records of Yuma county Arizona.

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1. Undertakes and agrees that property in which the Government may acquire an interest or equity under the contract may be dismantled, severed from the land, and removed, as may be provided in the contract; and the Government's interest and equity in such property shall be prior and superior to any adverse right or claim of the undersigned;

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None, excepting the terms of the option on the Gold Belt claims.

3. Undertakes and agrees neither to commit any act nor assert any claim in conflict with the provisions of this Consent to Lien; and to give advance notice of the Government's rights under this Consent to Lien to any subsequent transferee, mortgagee, encumbrancer, or lessee of any of the undersigned's right, title, or interest in the land; and

1/ Either (a) insert the legal description of the land, or (b) strike out the words "as follows" and insert "in a lease [or contract, deed, or other document] dated _____, and recorded in book _____ page _____ official records of said county." If (b) is used, the book and page of recordation cannot be dispensed with. If the space provided is insufficient, use an Annex, and refer to the Annex in the space.

2/ Mining or production from the land is not required, and in the absence of production there is no obligation to repay the Government.

3/ Write "none" if that is the case. Do not leave lines blank.

4. Consents to all amendments and assignments of the contract without notice thereof, and agrees that this Consent to Lien shall extend and apply thereto.

5. Added provision: That no significant changes may be made in said contract without prior written notice of at least thirty days unless such changes have been mutually agreed upon by the Government and the undersigned.

Dated this 1st day of August, 1955.

Leonard M. Cole [Seal]

Edward A. Schwartz [Seal]

Charles A. Kewlin [Seal]

I, Leonard M. Cole certify that I am the acting Administrator (Secretary, etc.) of the corporation named herein; that Leonard M. Cole who signed this agreement was then acting Administrator (President or Vice-President, etc.) of said corporation; that said agreement was duly signed for and in behalf of said corporation by authority of its governing body, and was within the scope of its corporate powers.

[Corporate Seal]

400

DOCKET
SURNAME

Rutledge
Gibson
Kilsgaard
Martin
Johnson

JUL 27 1955

Messrs. Leonard H. Cole, Edward H. Schwartz,
and Charles A. Kewin
Box 27
Riverside, California

Re: Docket No. DMEA 3893 - Tungsten
and Uranium
Goodman Mine
Yuma County, Arizona

Gentlemen:

Reference is made to the above-docketed application for exploration assistance which has been reviewed by the Iron and Ferro-Alloys Division of the Defense Minerals Exploration Administration and referred to Mr. W. M. Traver, Executive Officer, DMEA Field Team, Region III, 224 New Customhouse, Denver 2, Colorado, for a field examination of the property.

Any assistance that you can give the members of the Field Team will be appreciated.

Six of the enclosed "Consent to Lien" forms (MF-203) should be executed by the owners of the Gold Belt claims and returned to this Administration.

Sincerely yours,

C. O. Mittenderf

Administrator

FARutledge:fec
7-26-55
cc to: Docket
Code 400
Admr. Read. File
Operating Comm.
FT. REG. III
Robert Holliday, USBM
Thor H. Kiilsgaard, USGS

Enclosure

R.C.L.

400 DOCKET
SURNAME
Martin
H.E. Jones

JUL 27 1955

Mr. Leonard M. Cole
P. O. Box 27
Riverside, California

Re: Docket No. DMEA 3893 - Tungsten
and Uranium
Goodman Mine
Yuma County, Arizona

Dear Mr. Cole:

This will acknowledge receipt of your letter of July 23, 1955, with enclosed copy of spectrographic analysis reported to represent typical vein material from location #6 shown on your sketch map.

We thank you for this information.

Sincerely yours,

W. S. Martin

W. S. Martin, Chief
Iron and Ferro-Alloys Division

EAR
WSMartin/foc
7-26-55
cc to: Docket
Code 400
Adm. Read. File
FT. REG. III
R. W. Holliday, USBM
T. H. Kiilsgaard, USGS

P.C.G.

DOCKET
SURNAME
400 Rutledge
McGee
Martin
Johnson

JUL 27 1955

Mr. W. M. Trever, Executive Officer
DMEA Field Team, Region III
8th New Customhouse
Denver 2, Colorado

Re: Docket No. DMEA 3693 - Tungsten and Uranium
Leonard M. Cole, Edward M. Schwartz, and Charles A. Erwin
Goodman Mine
Yuma County, Arizona

Dear Mr. Trever:

The above-docketed application for exploration assistance is being referred to your office for a field examination of the property.

Two copies of a relevant memorandum dated July 20, 1955, by Thor H. Kiilsgaard, U. S. Geological Survey, are enclosed for your information.

Sincerely yours,

W. S. Martin
ACTING Chairman, Operating Committee (J/B)

Enclosure

FARutledge:fec
7-25-55
cc to: Docket
Code 400
Adm. Read. File
Operating Comm.
FT. REG. III
R. W. Holliday, USBM
T. H. Kiilsgaard, USGS

APPROVED:

/s/ Robert W. Geehan (J/B)
Member, Bureau of Mines

Thor H. Kiilsgaard
Member, Geological Survey (J/B)

R-G-5

Docket

Riverside, California
July 22, 1955

RECEIVED
JUL 25 1955

U. S. Department of the Interior
Defense Minerals Exploration Adm.
Washington 25, D. C.

Attention: Robert E. Adams
Reference: DMEA-3893

WSM

Gentlemen:

I appreciate receipt of your letter of July 11, 1955 stating that my application has been assigned Docket Number DMEA-3893.

Prior to making application to DMEA for exploration assistance, I flew to San Francisco and consulted Mr. Miller in the DMEA office in that city. He was very favorably impressed with the samples that I had with me and assured me that the DME administration would be quite interested in developing the potentialities of such a mining property.

I am enclosing four (4) copies of an assay report of typical vein material in location #6 (shown on sketches included with original application) and shall send photographs of the area as soon as they are developed.

Sincerely

Leonard M. Cole
L. M. Cole

Box 27
Riverside, Calif.
Encls. 4

Copy of assay report to BLM
H.B.S. Gt. Reg 3.
7/26/56

LABORATORY CERTIFICATE

Keldon

research corporation

BOX 2555 TERMINAL ANNEX — LOS ANGELES 54, CALIFORNIA

LABORATORY: 2565 BELGRAVE AVE., HUNTINGTON PARK, CAL.

Date July 17, 1955

Submitted By Mr. Leonard M. Cole
P.O. Box 27
Riverside, Calif.

Lab. No.8283-1

Reference

Marking: Ore

ELEMENT	NOT LESS THAN	NOT MORE THAN	ELEMENT	NOT LESS THAN	NOT MORE THAN
Silicon	Major Constituent %		Barium	0.1 %	1.0 %
Aluminum	1.0	10.0	Columbium		
Magnesium	0.5	5.0	Nickel		
Iron	3.0	30.0	Beryllium		
Calcium	2.0	20.0	Molybdenum	0.03	0.3
Sodium	0.1	1.0	Vanadium	0.005	0.05
Potassium	0.3	3.0	Yttrium	0.03	0.3
Tellurium			Cadmium		
Gold			Copper	0.003	0.03
Boron			Silver		
Mercury			Tantalum		
Phosphorus			Zinc		
Lithium			Titanium	0.1	1.0
Thallium			Zirconium		
Lead	0.003	0.03	Palladium		
Tin			Rhodium		
Chromium			Ruthenium		
Arsenic			Cobalt		
Antimony			Lanthanum	0.005	0.05
Manganese	0.01	0.1	Strontium	0.05	0.5
			Thorium	0.05	0.5
Gallium			Rubidium		
Germanium			Tungsten	3.0	30.0
Platinum			Indium		
Bismuth			Uranium		

1. Percentage ranges represent the probable concentrations of the elements found to be present.

2. Fire assay is the method of choice for Gold and Platinum group elements; general spectrographic techniques are limited to ore concentrations greater than one or two ounces per ton.

3. Spectrochemical analysis is only one of several factors required for the complete evaluation of an ore sample; it should be regarded as a "Coarse Screen" used to estimate the advisability of additional study. Economic and minerological considerations are also necessary for a true appraisal of the specimen.

4. Special attention: WO_3 is reasonably high, perhaps 10%.

Respectfully submitted,

T.J. Rollins

T.J. Rollins

Keldon Research Corporation

TJR/t-3

THE USE OF THIS REPORT FOR ADVERTISING PURPOSES MUST RECEIVE OUR WRITTEN APPROVAL

Docket

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

RECEIVED

Copy retained 400

July 20, 1955

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

From: Thor H. Kiilsgaard, U. S. Geological Survey

Subject: Review of application, Gold Belt and Sierra claims (old Goodman mine), Yuma Co., Arizona, DMEA Docket 3893, (tungsten-uranium).

WSM

The applicant proposes an exploration program of bulldozing, core drilling, and drifting to further explore the cited property for tungsten and uranium. This work is based on the reported showing of scheelite throughout the area and because of the presence of carnotite and zippeite in old mine workings.

In the application the property is referred to as the Goodman mine; therefore, to obtain information on this mine I searched the library and consulted those references dealing with the area in which the mine is located. References found were 1) USGS Bulletin 620, and 2) Arizona Bureau of Mines Bulletin 137. In the Survey bulletin the Goodman mine is described as being located on a east-west quartz vein whose outcrop is more than 3 miles in length, and which ranges in width from a mere seam to more than 40 feet but whose average width is about 10 feet. The vein is in quartz-epidote schist, and has been explored by several inclined shafts and connecting drifts. It was formerly worked solely for its gold content, the gold occurring in pyrite in the quartz. Production prior to 1900 is estimated at $40,000, with an additional $9,000 being produced between 1900 and 1914. Average tenor of the ore was estimated at $65 per ton, this figure being based on the old price for gold. No mention is made in the reports of the presence of scheelite or uranium ore.

If the Goodman vein workings are still open, or if the long outcrop is still observable field examiners should have little trouble in evaluating the merits of this property. If the property is worth exploring there should be appreciable amounts of tungsten and uranium ores to be seen. The mere presence of scheelite in a quartz-gold vein is not unusual. For the most part, such tungsten occurrences do not warrant exploration as they are prone to be small and erratic, and very seldom are they in sufficient quantity to aggregate ore grade for the vein to be mined.

I recommend referring this application to the field for their report.

Thor H. Kiilsgaard

Thor H. Kiilsgaard

July 11, 1955
Subject: DMEA-3893
Re: Exploration Assistance
Goodman Mine

Leonard N. Cole
Box 27
Riverside, California

Dear Mr. Cole:

The receipt of your application dated July 7, 1955 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-3893 and referred to the Iron & Ferro-Alloys Division.

Kindly identify all future correspondence relating to your application by this docket number.

Sincerely yours,

Robert E. Adams, Chief
Operations Control and
Statistics Division

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

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

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

RECEIVED JUL 11 1955

Not to be filled in by applicant

Docket No. 3893
Metal or Mineral Tungsten & Uranium
Date Received 7-11-55
Estimated Cost $23,983
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: Leonard M. Cole — Box 27, Riverside, Calif (Phone — 92271W)
Edward H. Schwartz — 4106 Heidi Rd, Riverside, Calif.
Charles A. Kewin — 5903 Greenfield Ave, Riverside, Calif.
(A partnership formed in Calif)

(*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 Gold Belt claims #1, #2, #3 and #4. and the Sierra Claims #1, #2, #3 and #5, Located in T4N, R21W, sections 23, 24, 25 and 26. Yuma, County Arizona.

(*b*) State any mine name by which the property is known. Goodman Mine on Gold Belt Claim #1.

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise Purchasers under contract of Gold Belt claims and owners of Sierra Claims

(*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. (Copies enclosed)

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

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice. Gold Belt Claims — Yuma County Records, Book 35 pages 179 thru 182
Sierra Claims — Yuma County Records, — Book 137 pages 499 thru 503

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 Tungsten and/or Uranium

(*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 7 days and be completed within 10 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?

☒ Money ☒ 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 July 7, 1955

Leonard M. Cole
(Applicant)

By

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

TO WHOM IT MAY CONCERN:

It is my belief, based upon approximately 6 years of experience in mining and/or prospecting for metals and minerals, that the Gold Belt claims #1, #2, #3, & #4, and the Sierra claims #5, #2, & #3 have sufficient showings of scheelite and other valuable ores to justify exploration work for the purpose of locating and developing such main ore bodies as may exist on said claims.

James B. Simpson
Bouse, Arizona

TO WHOM IT MAY CONCERN:

It is my belief, based upon approximately 30 years of experience in mining and/or prospecting for metals and minerals, that the Gold Belt claims #1, #2, #3, & #4, and the Sierra claims #5, #2, & # 3 have sufficient showings of scheelite and other valuable ores to justify exploration work for the purpose of locating and developing such main ore bodies as may exist on said claims.

Jack C. Joyce
Essex, Calif. 92332

4. PHYSICAL DESCRIPTION

(a) The property has approximately 2500 feet in tunnels, shafts, etc. These workings were for the purpose of mining gold only and were accomplished over a period of from fifty to one hundred years. All mining operations were terminated in 1941 and no mining has been done on this property since that date. Nearly all parts of the mine workings are easily accessible and can be examined with little trouble.

(b) Past production of gold ore is unknown, but is probably obtainable if such information should be desired. Local information indicates that the gold content of the veins followed assayed $50.00 per ton, or better.

(c) The property is very highly mineralized and principally consists of veins lying at approximately a 45 degree angle and dipping generally to the North. The reasons for wishing to explore this property further are because of the various veins and showing of SCHEELITE throughout the area, and because of the showings of URANIUM in the form of CARNOTITE and ZIPPEITE in the lower workings. Aerial photographs of this area are being prepared and will be forwarded at an early date. Sketches are enclosed of the lay-out of the Gold Belt claims and of the Sierra claims. Also an enlarged sketch of the known locations of Scheelite and Uranium showings on the Gold Belt #1 claim.

(d) The properties are located approximately two miles from the U. S. Highways 60 and 70 and are presently accessible by automobile over a dirt road. Distances to shipping, supply and residence points are eight miles from this location to Blythe, California over U. S. Highways 60 and 70.

(e) There is ample availability of manpower in nearby mining communities and materials, supplies and equipment are available in Blythe. Water and power are to be provided at the location.

5. THE EXPLORATION PROJECT

(a) Tungsten ore (Scheelite) and/or Uranium ore (Carnotite and Pitchblend or Uraninite)

(b) Sketches and photos enclosed.

(c) Will start within seven (7) days and finish within ten (10) months.

(d) Nine (9) yars and of construction experience for L. M. Cole, who will provide general supervision and approximately thirty (30) years and of mining experience for Jack C. Joyce, who will provide all supervision on locations for core drilling and drifting, and for the actual exploration of ore bodies and veins, etc. (Subject to advice of qualified consultants.)

6. ESTIMATES OF COSTS

(The following prices on the necessary exploration work are based approximately on all information available to date. However, subsequent bids and sources of information will enable us to revise the enclosed estimates with the assistance of DMEA Field Engineers.)

(a) Independent contracts

1. Bulldozer work for road building, repair of existing roads, and open pit exploration work - approximately 9 days' work @ $14.00 per hour, 8 hours per day	$1005.00
2. Approximately 85 ft. of drifting @ $22.00 per ft.	1870.00
3. Approximately 1100 ft. of core drilling @ $4.50 per ft. (using core drilling machinery purchased for this purpose)	4950.00
Total	7825.00

(b) Labor, supervision, consultants

1. Miscellaneous labor, approximately 480 man hours @ $2.00 per hour	960.00
2. Supervision of road work, core drilling, drifting, building construction, etc. for entire exploration project at estimated 1200 hours @ $3.00 per hour	3600.00
3. Engineering and geological consultants for estimated 6 days @ $100 per day . . .	600.00
Total . . .	5160.00

(c) Operating materials and supplies

1. Fuel, lubricants, butane, etc. @ $45.00 per week for 40 weeks for power generating of all other machinery	1800.00
Total	1800.00

(d) Operating equipment

1. Air compressor unit with jack hammers for drifting & exploration of ore bodies; Truck to be furnished by operators; Core drilling rig (portable) to be purchased	$ 1300.00
Pump for water supply	135.00
Light plant (electric power generating system) 10 KW	1595.00

6. ESTIMATES OF COSTS (continued)

(e) Rehabilitation and repairs

1. Existing buildings total loss. No repairs on existing equipment

2. Additional excavation and improvement of existing well for water supply - Labor and materials (including water storage tank . . . . . $ 725.00

(f) New buildings, improvements, installations

1. Living quarters - 740 sq.ft. @ $5.50 a sq.ft. 3960.00

2. Equipment storage building 540.00

Total 4500.00

(g) Miscellaneous

1. Parts and labor for maintenance and repair of operating equipment 675.00

2. Ore assays and analyses 175.00

3. Bookkeeping to be done by operators

(h) Contingencies

1. Explosives for drifting and other exploration work - 6 boxes @ $15.50 per box - (includes caps and fuses) 93.00

Keldon
research corporation
BOX 2555 TERMINAL ANNEX . LOS ANGELES 54, CALIF. . LU 5335

LABORATORY CERTIFICATE

Submitted By

Date March 24, 1955

Reference

Mr. L. M. Cole
4106 Heidi Rd.
Riverside, Calif.

Lab. No.	6530-2
Marking	No. 2

Tungstic Oxide (WO_3) 3.88%

KELDON RESEARCH CORPORATION
Thomas J. Rollins

TJR/t-3

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LABORATORY CERTIFICATE

Keldon research corporation

BOX 2555 TERMINAL ANNEX · LOS ANGELES 54, CALIF. · [redacted]
LUDLOW 1-5335 · LUDLOW 1-5762 · 2565 BELGRAVE AVENUE · HUNTINGTON PARK, CALIF.

Submitted By Mr. L. M. Cole
P.O. Box 27
Riverside, Calif.

Date April 23, 1955
Lab. No.
Reference 7029-1

Marking: Sample #S-1

ELEMENT	NOT LESS THAN	NOT MORE THAN	ELEMENT	NOT LESS THAN	NOT MORE THAN
Silicon	Major Constituent %		Barium	. %	. %
Aluminum	2·0	20·0	Columbium	.	.
Magnesium	2·0	20·0	Nickel	0·01	0·1
Iron	1·0	10·0	Beryllium	.	.
Calcium	1·0	10·0	Molybdenum	.	.
Sodium	0·1	1·0	Vanadium	.	0·03
Potassium	0·1	1·0	Yttrium	0·003	0·03
Tellurium	.	.	Cadmium	.	.
Gold	.	.	Copper	0·005	0·05
Boron	.	.	Silver	.	.
Mercury	.	.	Tantalum	.	.
Phosphorus	.	.	Zinc	.	.
Lithium	.	.	Titanium	0·1	1·0
Thallium	.	.	Zirconium	0·03	0·3
Lead	.	0·01	Palladium	.	.
Tin	.	.	Rhodium	.	.
Chromium	.	.	Ruthenium	.	.
Arsenic	.	.	Cobalt	.	.
Antimony	.	.	Lanthanum	.	.
Manganese	0·01	0·1	Strontium	0·005	0·05
			Uranium	0.1	1.0
Gallium	0·001	0·01	Rubidium	.	.
Germanium	.	.	Tungsten	.	.
Platinum	.	.	Indium	.	.
Bismuth	.	.	Uranium Oxide*	.	.

* This amount indicates U_3O_8 or its radioactive equivalent.

1. Percentage ranges represent the probable concentrations of the elements found to be present.

2. Fire assay is the method of choice for Gold and Platinum group elements; general spectrographic techniques are limited to ore concentrations greater than one or two ounces per ton.

3. Spectrochemical analysis is only one of several factors required for the complete evaluation of an ore sample; it should be regarded as a "Coarse Screen" used to estimate the advisability of additional study. Economic and minerological considerations are also necessary for a true appraisal of the specimen.

Uranium approximately 0.3% in this sample.

4. Special attention:

Respectfully submitted,

TJR/t-3

T.J. Rollins

Keldon Research Corporation

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OPTION TO PURCHASE MINING CLAIMS

Received of Leonard M. Cole the sum of $100.00 as part payment for the following described Real Property situated in the La Paz mining district, County of Yuma, State of Arizona:

The Gold Belt Claims #1, #2, #3, and #4 located in sections 23, 24, 25, and 26, T4NR21W.

The entire purchase price to be paid for the above described Real Property to be forty thousand dollars, ($40,000.00), which sum is to be paid as follows: One hundred dollars,($100.00), to be paid on this date, May 13th, 1955, and during a period not to exceed six months from this date not less than one thousand dollars, ($1,000.00), in work performed and/or money spent in the search for and developement of any indicated or undeveloped saleable ores on any or all of the four Gold Belt Claims.

Payments of $100.00 per month or ten percent (10%), of the sale of ore, whichever is the greater, shall be paid monthly, starting not later than six months from this date and shall continue until the full purchase price has been paid or unless such payments should become 30 days delinquent. In which case the optioner or seller may demand immediate payment in full of the balance of the purchase price.

Failure of the optionee, or buyer, to meet this demand would render this contract void and of no effect and would release both parties from all obligations herein, all money paid under the terms of this contract and all improvements to the above property to be retained by the optioner, or seller, and all equipment and / or machinery furnished by the optionee or buyer, to be retained by the optionee or buyer.

Upon final payment of the full purchase of the above Real Property a good and sufficient quit claim deed is to be executed and delivered by the said Angela G. Scott et all, to Leonard M. Cole heirs or assigns, together with a clear title.

Dated this 13th day of May, 1955

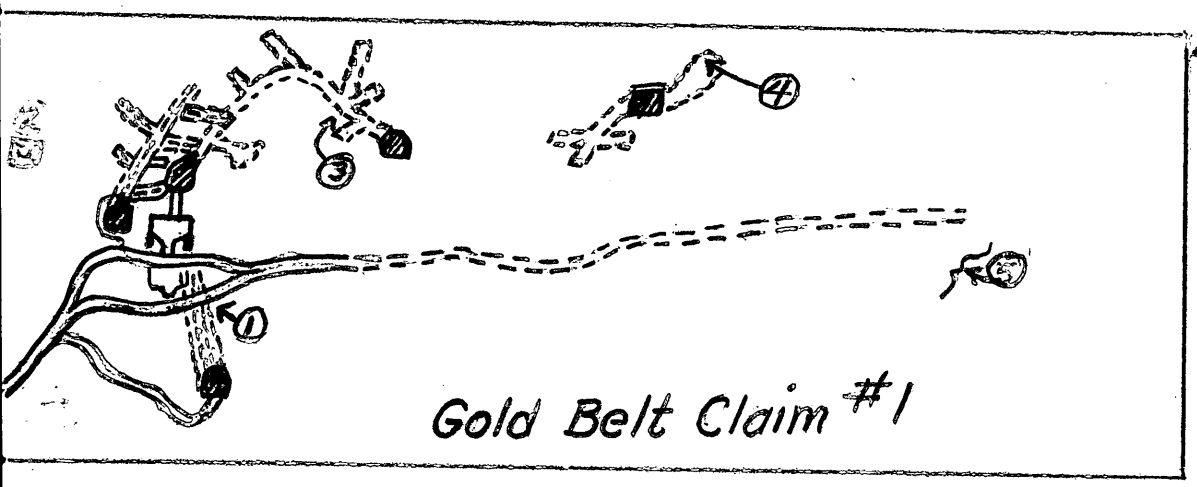
Charles A. Kewin
WITNESS

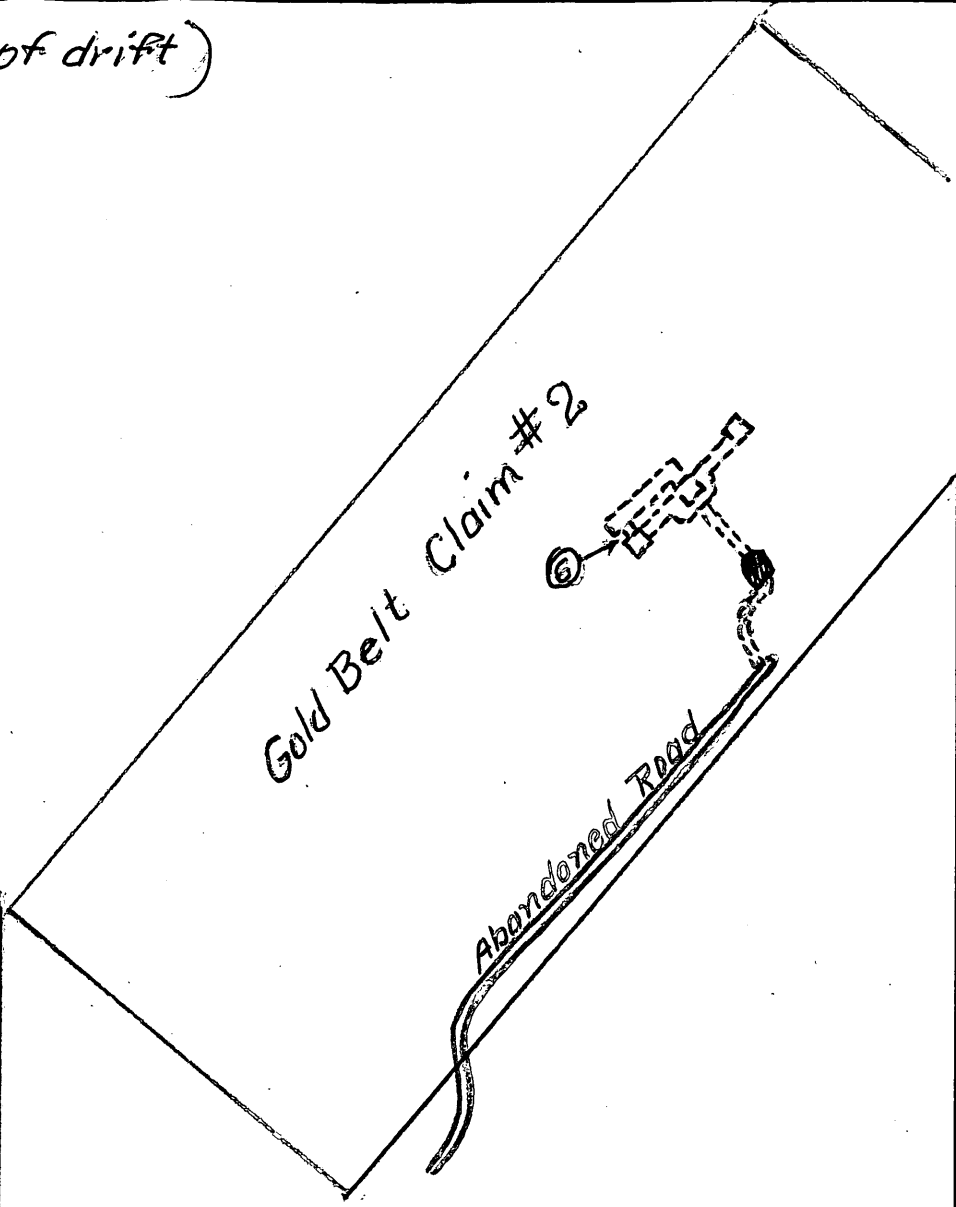
Leonard M. Cole

WITNESS

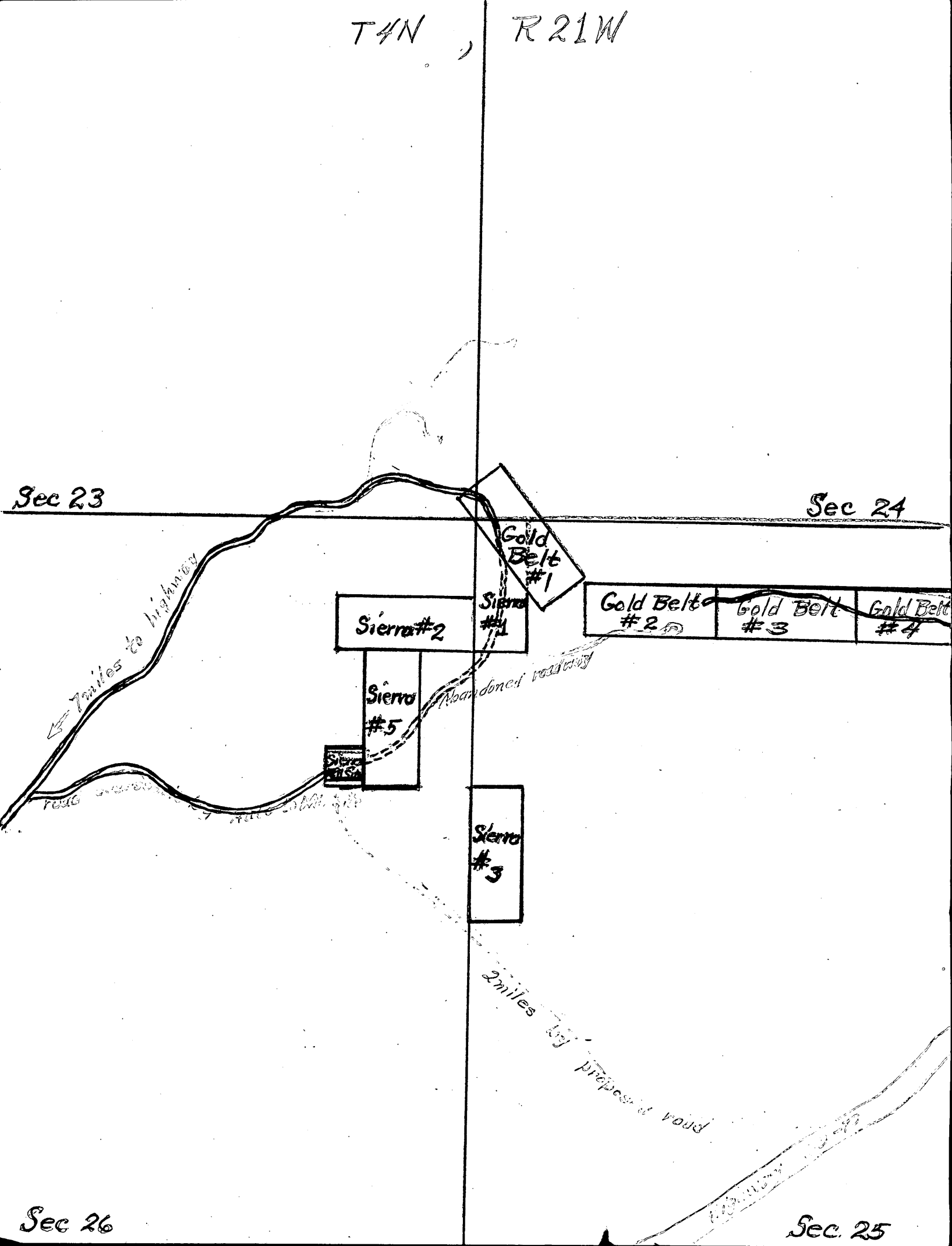
Angela G. Scott

(Proposed work on Sierra Claim #5 — up to 50' of drift and up to 400 feet of core drilling)





1 - Uranium — (We plan 20' to 50' of drift.
2 - Scheelite — (We plan on open pit excavation with bulldozer)
3 " — (Up to 30' of drift and/or up to 450' core drilling)
4 " — (No work planned for this location at present)
5 " — (Open pit work with bulldozer
6 " — (Up to 30 feet of drift and/or 250 ft of core drilling


T4N
R21W
Sec 23
Sec 24
Sec 26
Sec. 25
Gold Belt #1
Gold Belt #2
Gold Belt #3
Gold Belt #4
Sierra #1
Sierra #2
Sierra #3
Sierra #5
Sierra #6
Miles to highway
Abandoned roadway
2 miles by proposed road

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Operating Committee - DMEA.
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