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

224 New Customhouse
Denver 2, Colorado

March 12, 1954.

Memorandum

To: Secretary to the Operating Committee, Defense Minerals Exploration Administration

From: Field Team, Region IV

Subject: Report of Examination - Docket DMEA-3219 (Tungsten), R. & R. Tungsten Corporation, Green Back Claims, Yavapai County, Arizona.

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

The Administrator, at the request of the applicant, withdrew the application February 18, 1954.

W. H. King

A. H. Koschmann

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

March 12, 1954.

Memorandum

To: Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Report of Examination - DMEA Docket 3219 (Tungsten), R. & R. Tungsten Corporation, Green Back Claims, Yavapai County, Arizona.

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

The applicant requested his application be withdrawn upon the advice of his engineer.

The Administrator, DMEA, withdrew the application February 18, 1954.

W. H. King

Enclosures

Mar. 4, 1954

Memorandum

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

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

Subject : Report on Docket DMA-3219, M. and M. Tungsten Corp.'s Green Back Tungsten Claims, Yavapai County, Ariz.

Enclosed are original and 3 copies of the section on Summary, Conclusions and Recommendations by A. J. Romslo of the Bureau of Mines and R. Bryner of the Geological Survey, and the section on Engineering by Romslo. A separate report on the geology will be submitted by the Geological Survey.

As the deposit did not seem to contain substantial quantities of tungsten ore when examined by the applicant's consulting geologist, the company withdrew its application. The DMA examiners also concluded that a significant discovery would not be made by the proposed exploratory work. I concur with their conclusions.

Procedure is enclosed.

Walter R. Storms

Walter R. Storms

cc: W. A. King (8)
A. F. Shride
DMA-3219
MF

WRStorms:frj

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Defense Minerals Exploration Administration
Denver Federal Center
Denver 2, Colorado

March 8, 1954

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 3219 (tungsten), R. & R. Tungsten Corporation, Greenback Claims, Yavapai County, Arizona

Enclosed are 9 copies of a geologic report by Leonid Bryner of the U. S. Geological Survey covering the above docket.

It has been recommended that the loan be denied.

E. N. Hershman
for A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (9)

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

P. O. Box 4126, University Station
Tucson 5, Arizona

March 3, 1954

To: A. H. Koschmann, Denver, Colorado

From: John W. Faick, Tucson, Arizona

Subject: DMEA 3219 (Tungsten), R.& R. Tungsten Corporation, Greenback Claims, Yavapai County, Arizona.

Enclosed are the original and 8 copies of the above report by Leonid Bryner. This report recommends denial of the application, but the R. and R. Tungsten Corporation withdrew the application since the report was prepared.

The report contains some geologic data which may be of value in the future.

John W. Faick
Geologist

JWFaick:mvt

Copies to Koschmann (8)
Storms
Shride

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA-3219, R. & R. Tungsten Corporation

Green Back Claims

Yavapai County, Arizona

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

and

L. Brynar, Geologist
U. S. Geological Survey

March 1954

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

By T. M. Romalo[1] and L. Bryner[2]

The Green Back tungsten property, Yavapai County, Ariz., was examined during January 1954 by the Defense Minerals Exploration Administration in connection with an application for Governmental aid by the R. & R. Tungsten Corp. The application, docketed as DMEA-3219, contained a proposal for both exploratory and development work, costing an estimated $98,500.00. During February 1954, the corporation withdrew the application upon the recommendation of its consultant who had participated in the examination. The consultant found the property contained insufficient tungsten values to justify the corporation's proposed operations.

The examination was confined to one mining claim where tungsten mineralization was revealed in rock outcrops that had been explored by several sample channels and a small trench. The deposit occurred as a vein in metamorphic quartz-biotite rock that was surrounded by mica schist. Scheelite was the tungsten mineral, occurring as disseminated grains in the central portion of the vein.

The mineralized portion of the vein, as determined by inspection with a ultra-violet light and by sampling, averaged about 1 feet in width over a length of 570 feet. The indicated reserves of tungstiferous rock in this zone are estimated at 40 tons containing 0.25 percent WO_3 per feet of depth. Inferred reserves, similar in grade to that of the indicated reserves, are placed at 3,000 tons of which possibly 400 tons contain 1 to 2 percent WO_3.

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

The examination indicated that the deposit does not contain significant reserves of tungsten ore, and that the possibilities of developing substantial reserves of presently economic ore are unfavorable.

GREENBACK TUNGSTEN DEPOSIT

YAVAPAI COUNTY, ARIZONA

DMEA 3219

R. and R. TUNGSTEN CORPORATION, APPLICANT

Geology

By Leonid Bryner

Geologist, U. S. Geological Survey

GREENBACK TUNGSTEN DEPOSIT

YAVAPAI COUNTY, ARIZONA

DMRA 3219

by

Leonid Bryner

Geologist, U. S. Geological Survey

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Figure 2 Following page 1

INTRODUCTION

The Greenback tungsten deposit is located on Cowboy Wash, Yavapai County, Arizona. The deposit was examined from a geologic and from an engineering standpoint for its tungsten potentialities. The geologic part of this examination is reported below. The examination was confined to one claim.

GENERAL GEOLOGY

The Greenback deposit is in the Mexican Highland physiographic province and in the Arizona pegmatite belt. The ore consists of scheelite sparsely, and erratically disseminated in a vein of quartz, feldspar, and epidote in pre-Cambrian rocks (fig. 2).

The vein is in a light gray metamorphic rock that consists mainly of quartz and biotite. The biotite is dark green and occurs in elongate clusters, which impart a rude schistosity to the rock. In a few places this rock is dark green and appears to consist of amphibole as well as biotite and relatively little quartz. This facies is not schistose.

A tan to silvery-white mica schist surrounds the quartz-biotite body. This rock is markedly schistose in contrast to the quartz-biotite rock. In both rocks the schistosity strikes about N. 60° W. and dips 70° N.E. to about vertical. The relationship between the vein and the two rock types is shown in figure 2.

The quartz-feldspar-epidote vein is relatively hard and projects at the surface several feet above the surrounding rocks. The center zone of the vein is predominantly quartz with feldspar in large crystals and masses. This zone is a few inches to about 2 feet thick. It is bordered on each side by thinner zones in which epidote is the predominant mineral. The epidote is in large crystals and clusters of crystals. Beyond the epidote zones the vein grades out in a network of quartz and epidote veinlets into the surrounding rock. The maximum thickness of the vein is about 6 feet, though in places it is only a few inches thick. Its total observed length is about 650 feet. It has been exposed below the surface to a depth of about 11½ feet at one point. The attitude of the vein generally conforms with the schistosity of the surrounding rocks. A narrow and shorter vein parallels the main one, and a quartz vein branches from the main vein as shown in figure 2.

Two sharp bends in the contact between the mica-schist and the quartz-biotite rock near the center of the vein outcrop seem to be only partially reflected in the vein, suggesting that the vein postdates the deformation that caused these bends.

THE ORE DEPOSIT

The ore mineral is scheelite disseminated through the vein as grains and sparse fracture coatings, and confined almost entirely to the central quartz-feldspar zone. The scheelite zone is about 2 feet wide at most; the average width is 1 foot. Along the vein the scheelite is erratically distributed for an observed distance of about 550 feet (fig. 2). Except for three short intervals where the vein is concealed, the scheelite is known to persist, though mostly in very low concentrations, to within 40 or 60 feet of the exposed ends of

the vein. A reconnaissance with ultra-violet light of the ground for about 1000 feet uphill beyond the northwest end of the vein revealed scheelite in the float for the first 200 feet or so, though no scheelite was seen in place. A similar reconnaissance downhill for about 400 feet beyond the southeast end of the vein did not reveal any scheelite. The persistence of the scheelite in depth is unknown, but where the vein has been exposed by trenching to a maximum depth of 11½ feet no change in scheelite concentration was noted.

As viewed by ultra-violet light there is great diversity in the grain size of the scheelite and in its concentration in different parts of the vein. The grains generally are closely associated with feldspar. Fracture coatings of scheelite are comparatively rare. Most of the scheelite has a yellowish tint under ultra-violet light.

There are several probable though unproved ore controls in this deposit. The confinement of most of the scheelite to the quartz-feldspar zone and the close association of the scheelite with feldspar in this zone have already been mentioned. In addition there is a rough correlation between the thickness of the vein and the grade of the deposit. The thicker parts generally contain the highest concentration of scheelite. The highest concentration of scheelite also is confined to the part of the vein opposite the sharp bends in the contact between the mica-schist and the quartz-biotite rock. Deformation of the quartz-biotite rock in this locality may have opened fractures that served as channelways for the scheelite mineralization.

ORE RESERVES

The thickness and grade of the vein was estimated from six samples and from an examination of the outcrop by ultra-violet light. The assay data and the estimated thicknesses and grades along the vein are shown in figure 2. Calculations from these estimates give an average mineralized width of 1 foot and an average grade of 0.25% WO_3. Based on a mineralized outcrop length of 550 feet, reserves of about 40 tons per foot of depth are indicated. On the assumption that the difference in elevation between the highest and lowest exposures of scheelite, about 120 feet, might reasonably represent about the average depth of the deposit, the total reserves inferred is about 5,000 tons of the grade of the indicated ore. Of this amount perhaps 300 to 400 tons is ore averaging between 1% and 2% WO_3. The deposit contains no measured ore.

CONCLUSIONS

The average scheelite-bearing rock of this deposit is too low grade for economic mining. The comparatively high grade parts of the deposit comprise too small a tonnage to be worth exploiting alone. Therefore, exploration is not warranted and it is recommended that a loan be denied.

DMEA-3219, R. & R. TUNGSTEN CORPORATION
GREEN BACK CLAIMS
YAVAPAI COUNTY, ARIZONA

Engineering Report

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

March 1954

DMEA-3219, R. & R. TUNGSTEN CORPORATION
GREEN BACK CLAIMS
YAVAPAI COUNTY, ARIZONA

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INTRODUCTION

The Green Back tungsten property, Yavapai County, Ariz., was examined in connection with an application by the R. & R. Tungsten Corp. for Governmental assistance on an exploratory project costing an estimated $98,500.00. The examination was made by the Defense Minerals Exploration Administration, under docket DMEA-3219, as part of the program authorized by the Defense Production Act of 1950, as amended.

The examination was made on January 25 and 27, 1954 by L. Bryner, Geological Survey and T. M. Remale, Bureau of Mines. The applicant's consultant, E. P. Chapman, Jr., Chapman and Wood, Mining Engineers and Geologists, Albuquerque, N. Mex., participated in the examination that was confined to one mining claim.

The corporation notified the Defense Minerals Exploration Administration on February 15, 1954 that it wished to withdraw its application because Mr. Chapman's findings proved that the property did not contain sufficient tungsten values to justify the proposed operations. In compliance with the request, the corporation was notified that the withdrawal was effected on February 18, 1954.

LOCATION AND ACCESSIBILITY

The Green Back claims are about 45 air miles northwest of Wickenburg, Ariz., a town on U. S. Highways 60, 70 and 89 (figure 1). Wickenburg and the village of Congress Junction, 16 miles to the northwest on U. S. Highway 89, are stations on the Ashfork-Phoenix Branch of the Santa Fe Railroad. The claims may be reached from Congress Junction by traveling 0.1 mile north on the highway, thence

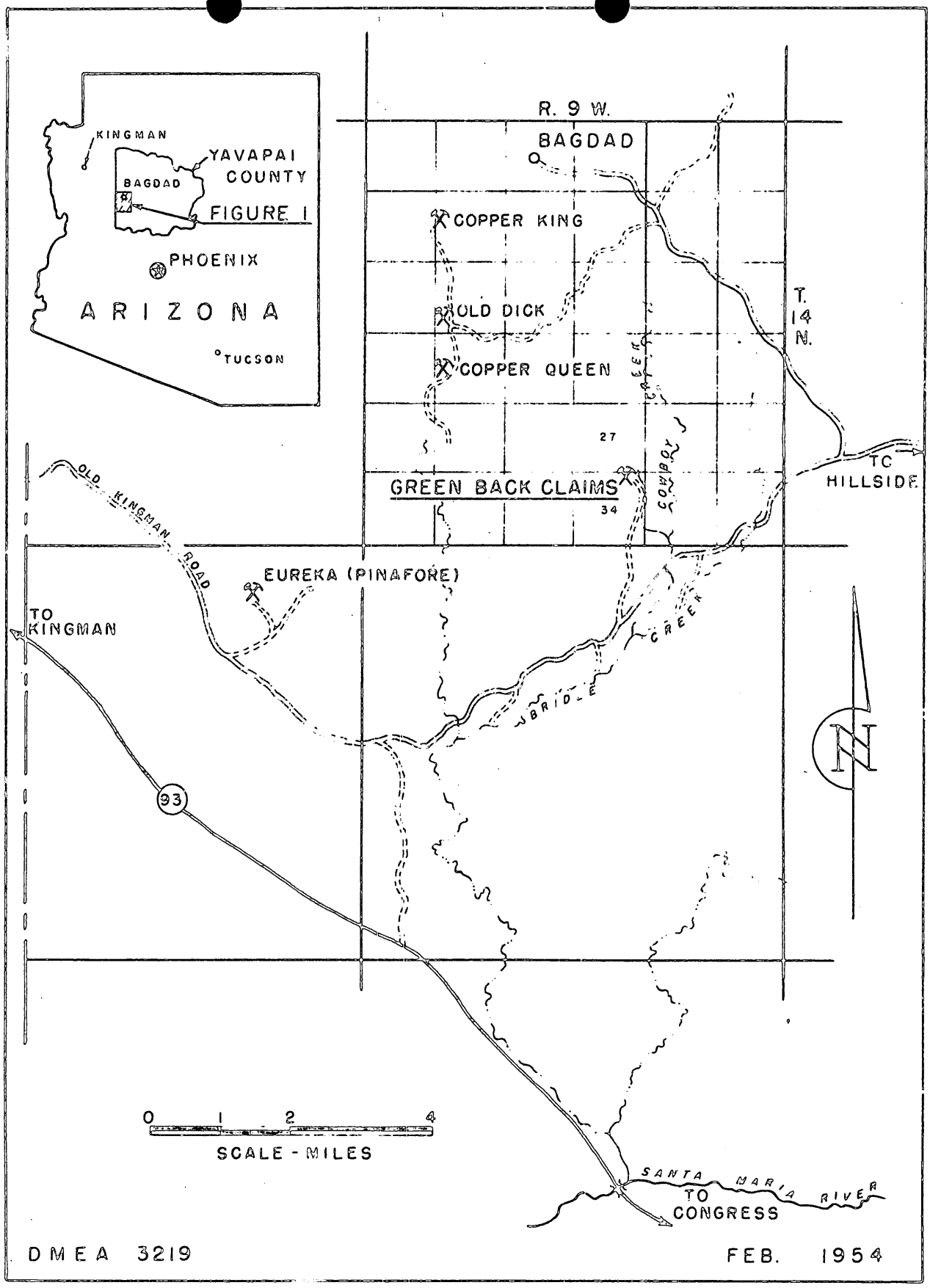

FIGURE I. - LOCATION MAP - GREEN BACK CLAIMS

R & R TUNGSTEN CORPORATION YAVAPAI COUNTY, ARIZONA

2.2 miles southwesterly on State Highway 71, and thence 31.1 miles northwesterly on State Highway 93 to a junction with the old Kingman road. The latter road is followed northerly for 2.6 miles to a junction with the Bagdad road. That road then is followed easterly for 4.9 miles. At this point, 0.4 mile beyond ranch buildings and a windmill on the south side of the road, a trail is followed 2.3 miles northerly to recent workings on one of the mining claims. All travel from Highway 71 is over dirt roads.

Hillside, Ariz., a village about 25 miles by road southeast of the property, is the nearest railroad shipping point. It is a station on the Ashfork-Phoenix Branch of the Santa Fe Railroad and the shipping point for the Bagdad Copper Corp. The latter company is located at Bagdad, Ariz., about 5 air miles north of the Green Back claims.

PHYSICAL FEATURES AND CLIMATE

The Green Back claims are at an average altitude of about 3,300 feet in an area of moderately rugged topography. Miller Mountain attains a peak altitude of 4,382 feet approximately one mile northwest of the claims.

The summers are hot and winters are moderate. Annual precipitation at Bagdad, about 5 miles to the north, averages about 14.4 inches. It occurs mainly as heavy rainfalls during July and August, and as light showers and snowfalls during January and February. Drainage is southward to the Santa Maria River. There are no permanent streams in the district.

Vegetation consists mainly of a light growth of cacti, shrubs, and a few palo verde trees.

Water for domestic and cattle raising purposes is obtainable at a few wells located close to the major dry washes.

HISTORY AND PRODUCTION

The dates of discovery of the deposit, and locations of the mining claims are unknown. Exploratory work, confined to a small trench and several sample channels, appears to have been done within the last year or two. Field evidence indicates that no ore has been produced from the deposit.

PROPERTY AND OWNERSHIP

The property, according to the applicant, consists of 8 claims recorded by J. L. Russell, Wickenburg, Ariz., as follows:

Claim No.	Book	Page	Location
3837	18	370	Recorders Office, Prescott, Yavapai County, Ariz.
3838	18	371	Same as 3837
4780	20	576	Same as 3837
4781	20	577	Same as 3837
4782	20	578	Same as 3837
4783	20	579	Same as 3837
4784	20	580	Same as 3837
4785	20	581	Same as 3837

The R. & R. Tungsten Corp. holds the eight claims under an Operational Royalty agreement dated September 28, 1953. The agreement states that the claims comprise properties "forming a general L shape with about 1,600 feet on one leg and about 4,000 feet on the other leg with a general width throughout of approximately 500 feet". It specifies that certain payments before production are to

be deducted from royalty payments of 5 percent "when the actual head feed of ore fed into the primary crusher averages 1% WO_3 by Assay".

GEOLOGY AND DEPOSIT

The dominant rocks of the claim examined are mica schist of pre-Cambrian age, and a metamorphosed rock composed mainly of quartz and biotite. The schist is tan to silvery-white in color. It is markedly schistose in contrast to the gray quartz-biotite rock that it encircles. Both rocks strike about N. 60° W. and dip from about vertical to N. 70° E. (see figure 2 in Geological Report).

The tungsten deposit occurs as a vein in the quartz-biotite rock. The principal vein is about 650 feet long and a few inches to about 6 feet wide. Its central portion is composed mainly of quartz and feldspar. The border zones are composed of epidote and lesser amounts of quartz and feldspar. The attitude of the vein generally conforms to the schistosity of the surrounding rocks. It is relatively hard and projects several feet above these rocks at a few places. A narrow and shorter vein parallels the principal vein.

Scheelite, the tungsten mineral, occurs as disseminated grains and sparse fracture coatings in the vein and in float rock. The scheelite in the vein is confined almost entirely to the quartz-feldspar zone.

ORE RESERVES

Sampling and Analyses

Ore reserve estimates were prepared from the assays of 6 samples taken across the mineralized portion of the vein and from information

obtained by inspection of the deposit with an ultra-violet light (see figure 2 in the Geological Report). Another assay, not shown on figure 2, was obtained from a sample representing about 1 ton of ore that had been mined from the vein where exposed by a side-hill trench. The trench, about 5 feet wide, 15 feet long, and 11.5 feet deep at the face, was the only significant excavation on the claim. Other excavations were confined to several channels, each about 1 feet deep and 1 foot wide, that had been cut by the applicant. An inspection of these channels with the ultra-violet light showed that the applicant had obtained a 5-foot width for the mineralized zone by including about 1 feet of barren vein rock and 3 feet of tungstiferous float rock. An estimate of the degree of mineralization could not be made from the meager data supplied with the application.

E. P. Chapman, consultant for the applicant, took 2 check samples during the examination. The applicant assayed these samples and portions of these taken by the examining engineer. These assays checked very closely with the analyses obtained by the Bureau of Mines at Tucson.

Ore Reserves

The deposit contains no measurable ore.

Indicated reserves of tungstiferous rock are estimated at 40 tons containing 0.25 percent WO_3 per foot of depth.

Inferred reserves of tungsten bearing rock, similar in grade to that of the indicated reserves, are estimated to be about 5,000 tons. Included in these reserves are possibly 400 tons of rock containing 1 to 2 percent WO_3.

The indicated reserves of tungstiferous rock do not constitute ore because the average WO_3 content is substantially lower than that necessary for economic exploitation. Total production costs, with a mining dilution of 20 percent and a mill recovery of 70 percent, have been estimated at $45.00 to $50.00 per ton of ore. On this basis, a profitable operation could not be expected unless the ore contained a minimum of 1.0 percent WO_3. Ore of this grade is confined to 2 separated, small zones containing an estimated total of less than 4 tons per foot of depth.

CONCLUSIONS

Exploration of the Green Back deposit would not be justified at present because the reserves of indicated tungsten-bearing rock are not significant, and there is no reason to expect an increase in either the extent or degree of mineralization with depth.

The application has been withdrawn by the R. & R. Tungsten Corp.

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

224 New Customhouse
Denver 2, Colorado

February 24, 1954

Memorandum

To: W. R. Storms

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket No. 3219 (Tungsten), R & R Tungsten Corp., Yavapai County, Arizona

Enclosed is a copy of a letter from P. S. Lasdon of the R & R Tungsten Corporation to the Defense Minerals Exploration Administration requesting the withdrawal of his application.

Also enclosed is the Administrator's reply dated February 18, 1954, to the applicant complying with his request.

Since the field examination has been completed, the Report of Examination should be sent to this office as usual.

W. H. King

Enclosures

HMC:es

cc: Docket
Mittendorf
Chron.
Koschmann (2)

400

Martin
Putin

FEB 18 1954

Mr. F. S. Lasdon
R & R Tungsten Corporation
Boulevard
Kenilworth, New Jersey

Re: Docket No. DMEA 3219 - Tungsten
R & R Tungsten Corporation
Green Back claims Nos. 1 - 8
Yavapai County, Arizona

Dear Mr. Lasdon:

This will acknowledge receipt of your letter of February 15, 1954, advising us of the conclusions reached by your examining engineer, Mr. E. P. Chapman, Jr., of Chapman & Wood, Albuquerque, New Mexico, after his examination of the subject property, which examination coincided with one made by our Field Team on January 25, 26, and 27, 1954.

We note that you wish to withdraw your application, and we are complying with your request, effective today.

Your kind comments on our cooperation are appreciated, and we thank you for bringing the subject property to our attention.

Sincerely yours,

O. O. Mittendorf (fw)

Administrator

WSMartin/ls
2/18/54
cc: DOCKET
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CODE No. 400

ADM. READ. FILE
R. W. GEEHAN, USBM
T. P. THAYER, USGS

R.C.S. 2-18-54

3219

R & R Tungsten Corporation

BOULEVARD
KENILWORTH, NEW JERSEY

CHestnut 5-3200 - 3203

DEPARTMENT OF THE INTERIOR
Defense Minerals
RECD.
FEB 16 1954

February 15, 1954

Mr. William S. Martin
Defense Minerals Exploration Administration
Department of the Interior
Washington 25, D. C.

dmea 3219 WSM

Dear Mr. Martin:

I sincerely regret having delayed writing you this letter due to the fact that I have been ill for several weeks at home and in the hospital but have now recovered and feel quite well.

Our company has received a report from Mr. E. P. Chapman, Jr. of Chapman & Wood, mining engineers and geologists of Albuquerque, New Mexico, with letter attached, dated January 29, 1954. Among other statements made by Mr. Chapman is one to the effect that a team representing your organization joined him at the Greenback lode claim in Yavapai County, Arizona on January 25, 26 and 27, 1954 and, after a thorough examination and pulp sampling, part of which was sent to our company laboratories for examination and analysis, Mr. Chapman in conclusion, suggested that their findings and our subsequent analysis do not prove sufficient Tungsten values to warrant a full-scale production operation as planned by us.

In view of these findings our company has decided to request the with-drawal of our application, sent you some time ago, for the exploration of these Tungsten properties.

May we take this opportunity to thank you and your department for your prompt cooperation in sending your field team to examine this proposal.

Perhaps DMEA 2617-Reg 4-Idaho E 567 contract on Hubnerite mine Gunnison Co. Colo. with U.S. Tungsten Co. for $9,775.00 Contract Dated 7-10-53 Ext 1-10-54 Operations received & extension requested

In the meantime, we have received a proposal from The Calcium Company, 1111 South Windermere Road, Littleton Colorado, to finance their Hubnerite Tungsten mining operation whereby we were to aid in building a fairly large mill. We were told that DMEA has approved some exploration funds and that the findings were of a rather substantial nature. May we respectfully request your advice and information as to the initial results of your investigation, and whether your organization would accept our application and receive your considered approval, if we were prepared to place our organization behind this effort and decided to do further development and diamond drilling to determine ore reserves.

Looking forward to hearing from you at your earliest convenience we remain,

Yours very truly,
R & R TUNGSTEN CORPORATION

P. S. LASDON

PSL:HS

Copy retained DMEA

Chapman
Martin
Geehan
Selfridge

DEC 30 1953

Mr. W. H. King, Executive Officer
DMEA Field Team, Region IV
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. DMEA 3219 - Tungsten
R & R Tungsten Corporation
Green Back Claims Nos. 1 through 8
Yavapai County, Arizona

Dear Mr. King:

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

Enclosed are two copies of a concise memorandum on the subject, from T. P. Thayer, U. S. Geological Survey, dated December 22, 1953. Also enclosed is copy of a letter of December 7, 1953, from the R & R Tungsten Corporation, with additional data to be added to the subject application. Please note the suggestion that you contact Chapman & Wood, 536 Jefferson Street, N. E., Albuquerque, New Mexico, consultants for that corporation, who will have a representative at the location to discuss the project with the Field Team.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee

Enclosures

APPROVED:

J. H. Hedges
Member, Bureau of Mines

D. M. Larrabee
Member, Geological Survey

Copy ad: DOCKET
CODE 400
OPER. COMMITTEE
ADM. READ. FILE
FT. REG. IV
D. W. GEEHAN, USBM
T. P. THAYER, USGS

TLChapman/WSMartin/ls 12/29/53

R.C.S.
12-30-53

400

Chapman
Martin
Gahany
Forester
Hedges
Selfridge

DEC 3 0 1953

Mr. P. S. Lasdon, President
R & R Tungsten Corporation
Boulevard
Kenilworth, New Jersey

Re: Docket No. DMEA 3219 - Tungsten
Green Back Claims Nos. 1 through 8
Yavapai County, Arizona

Dear Mr. Lasdon:

Your application for exploration assistance on the subject property has been carefully reviewed and has been referred to Mr. W. H. King, Executive Officer, DMEA Field Team, Region IV, 224 New Customhouse Building, Denver 2, Colorado, for a field examination of the property.

The Regional Office, as suggested in your letter of December 7, 1953, will contact Chapman & Wood, 536 Jefferson Street, NE., Albuquerque, New Mexico, at an early date in regard to the examination of the Green Back Claims. Any assistance given to the members of the Field Team during the examination will be appreciated.

Sincerely yours,

C. O. Mittendorf (fw)

Administrator

TLChapman/foc
12-29-53
cc: Docket
Code 400
Oper. Comm.
Admr. Read. File
FT. Reg. 4
R. W. Geehan, USBM
T. P. Thayer, USGS

R.C.G. 12-30-53

Docket

IN REPLY REFER TO:

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

December 22, 1953

WSM

Memorandum

To: W. S. Martin, DMEA

From: T.P. Thayer, USGS

Subject; DMEA-3219 Tungsten
R. & R Tungsten Corporation
Boulevard
Kenilworth, New Jersey

The applicants appear to have some tungstiferous rock in Western Arizona, but beyond that I do not see much documentation for a DMEA project.

The docket should be sent to the field for evaluation of merit for a project and whatever else may be needed.

T.P. Thayer

T.P. Thayer

MDL
Docket cy.

R & R Tungsten Corporation

BOULEVARD
KENILWORTH, NEW JERSEY
CHestnut 5-3200 - 3203

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 8 - 1953

December 7, 1953

DMEA-3219

WSM

Mr. William S. Martin
Defense Minerals Exploration Administration
Department of the Interior,
Washington 25, D. C.

Re: Additional data to be added to application for Exploratory Loan.

Dear Mr. Martin:

Your courtesy and cooperation extended during our visit to your office is indeed greatly appreciated.

You have asked, and we are herewith submitting additional data to accompany our application for D.M.E.A. Exploratory Loan, concerning the test results of Sutton Steele & Steele.

The reporting firm is a manufacturer of concentrating equipment, with head-office in Dallas, Texas.

The results tabulated at the bottom of the report indicate the yielded products to be:

#1 represents concentrates
#2 represents rich middlings
#3 represents lean middlings
#4 represents tailings

Samples of the respective products were received from Sutton Steele & Steele, and assays were prepared in our laboratory with the following results: (representing the #1 products of each fraction)

-14 + 28 fraction - - - - - 67.18% WO_3
-28 + 48 fraction - - - - - 72.43% WO_3
-48 + 100 fraction - - - - - 55.58% WO_3

The products from Sutton Steele & Steele air-tabling were further treated on a high intensity magnetic separator, and the final product assayed in our laboratory. The results of the assays are as follows:

-14 + 28 fraction - - - - - 72.48% WO_3
-28 + 48 fraction - - - - - 74.93% WO_3

The minus 8, plus 14 fraction contained a larger percentage of locked values than could be considered normal for proper separation. Further, since contaminated ore was processed, containing some small degree of metallic scrap, the -8+14 fraction held these items which reported with the #1 product. The sampled material was separated by hand including all locked values, no matter how small. The final assay on this sample came to 69.27% WO_3.

R & R Tungsten Corporation
BOULEVARD
KENILWORTH, NEW JERSEY
CHestnut 5-3200 - 3203

In addition to submitting the data requested, we feel that it would be advisable to indicate the present plans of operations to be carried on under the exploration project.

TRENCHING - Two points of information will be sought in trenching. The first point of information desired will be the analyses of the deposit. The second point of information will be for data as to formation, continuity, and nature of the vein, or dike.

#1 The first location of trenching would be 100 feet easterly from the existing trench into the dike. This first trench would be made approximately six feet deep, and about seven feet long to allow for probing two feet either side of the presently indicated dike width.

#2 The existing probe trench would be continued approximately seven more feet, or two feet beyond the dike or vein wall, and at the same level of the existing trench.

#3 Approximately seventy-eight feet in a westerly direction along the dike, or vein, from the #2 trenching location, a shallow trench is to be sunk to probe the extent of the high quartz content scheelite bearing rock of this location. The width at this point is ten feet, thus indicating that a trench of fourteen feet would be required in order to probe either side of the vein.

#4 Approximately ninety feet westerly from the #2 trench, a deep trenching must be undertaken to determine the nature of the continuing dike or vein which has overburden at this point, and to determine the geological data relative to the juncture of a vein striking off at this point. Trench will vary from eight to twelve feet deep, depending upon the depth required to expose sufficient evidence.

#5 Approximately one hundred ninety five feet westerly from #2, a trench of about forty feet length would cross-cut the present known main dike where rich values show by field lamping for three feet width, and then across the material separating this dike from the parallel dike which should be cross-cut some twenty or thirty feet distant. About five to six feet of rock should be removed from the main dike, the separating material should be trenched to about ten feet depth to study potential veinlets between the two dikes, and the far dike in turn should be trenched about eight feet deep in view of the absence of prominent outcroppings.

#6 Approximately three hundred feet westerly from #2 along the main dike, a trench should be placed to probe the apparent faulting at this point. Width could only be determined during operation, progressing only sufficiently wide to delineate the width of the fault.

R & R Tungsten Corporation
BOULEVARD
KENILWORTH, NEW JERSEY
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Mr. William S. Martin:

#7 Approximately 486 feet westerly from #2 along main dike, trench should cross-cut the main dike at six feet depth to determine the change in content, the trench would be continued through the separating rock and cross-cut the parallel dike. The latter section of the dike, across the parallel dike might have to be sunk about eight feet in view of over-burden at that point. The original location on the main dike has not been chip sampled, but shows the best content of the dike.

#8 The overburden located at point (b) in the Map of Dike Formation, should be trenched to prove continuity of the two parallel dikes, and to indicate the potential source of dike running in direction (a) to (g) of the map. This latter dike is assumed to be a divergent vein, or dike striking off of the main formation, just as the dike of vein noted on the map as (d). This trench would be dug by Bull-dozer and would be approximately 50 to 100 feet in length. Depth of trench might vary from ten to twenty feet.

#9 #10 Two cross trenchings would be placed along the exposures noted at (c) of the map. The trenches at this location should be about ten to twelve feet deep, and cross-cutting both dikes (or veins). Both of these locations should be bulk sampled to allow for the preparation of concentrates to determine the contaminent content.

#11 Deep trenching by bull-dozer at mid-point between (d) of map and (e) to locate the vein and allow assay over four feet minimum depth of dike or vein structure.

ADIT AND DRIFT WORK

Subject to confirmation of the mining consultants, dike material is to be exposed at depth below the existing probe trench (#36A) with sufficient drifting to permit study of the ore potentials up to and just past the faulting, (#40). Shaft to be sunk at 36A to unfractured zone, and raise at farthest point of drift.

The foregoing suggestions have been made in the interest of supplying the field team with the locations of the intended trenching and drift work.

At the time your field team contemplates their visit, we would suggest that they contact Chapman & Wood, 536 Jefferson Street, NE, Albuquerque, New Mexico, consultants for our firm for this deposit. Chapman & Wood will have a representative at the location to assist the field team and to discuss any portion of the contract that may need clarification.

We trust that the foregoing will have amplified the presentation of facts, and that we will in turn be hearing from you shortly.

Sincerely yours,
R & R TUNGSTEN CORPORATION

P. S. Lasdon, President

PSL:HS

DEPARTMENT OF GEOLOGY and MINERALOGY

UNIVERSITY OF ARIZONA

TUCSON, ARIZONA

November 29, 1953
1545 E. Water St.,
Tucson, Arizona

Mr. P. S. Lasdon
President
R & R Tungsten Corporation
Boulevard
Kenilworth, New Jersey

Subject: Supplementary report of examination of scheelite specimens submitted by Mr. Brown.

The results of this study show that the scheelite is present in single and aggregates of irregularily shaped grains ranging in size from 0.1mm. to 0.8mm. A typical grain measures 0.2 mm. by 0.45 mm. The percentage of scheelite present is on the average less than one percent. In one localized area values around three percent were found.

(Signed) Robert L. DuBois

Geologist

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

R & R Tungsten Corporation
Kenilworth, New Jersey

December 4, 1953

Subject: DMEA-3219
Re: Exploration Assistance
Green Back Claims #1 thru 8

Dear Mr. Lasdon:

The receipt of your application dated December 3,1953, for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-3219 and referred to the Iron and Ferro-Alloys Division.

Kindly refer to DMEA-3219 in any future correspondence relating to your application.

Sincerely yours,

ROBERT E. ADAMS

Robert E. Adams
Chief, Operations Control
and Statistics Division

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 4 - 1953

R & R Tungsten Corporation
BOULEVARD
KENILWORTH, NEW JERSEY
CHestnut 5-3200 - 3203

December 3, 1953

Mr. William S. Martin,
Defense Minerals Exploration Administration
U. S. Department of the Interior
Interior Building
Washington 25, D.C.

Dear Mr. Martin:

In pursuance to our previous meeting had with you some weeks ago, we are herewith delivering to you by hand, all the necessary forms properly filled out, requesting your good self to examine our presented facts and upon completion of which approve our application for an exploratory loan covering the anticipated work to be done on our Green Back Tungsten Mine in Arizona.

We have attached all the necessary supporting facts that we feel you would require in reaching your favorable decision.

Please note that our presentation covers the first of our eight claims in our territory and we are planning to add additional claims within a reasonable period of time.

We would like to state, because of the experience and background of the president of the R & R Tungsten Corporation in the Tungsten field, it will be possible for us to be in a position to assign reputable and recognized mining engineers and geologists to take over the necessary responsibility to properly program the anticipated expenditures for the exploration work in this initial undertaking.

We sincerely hope that our application will receive your usual prompt consideration and attention.

Very truly yours,

R & R TUNGSTEN CORPORATION

P. S. LASDON
President

PSL:HS
enc.

OFFICE OF PRICE STABILIZATION

WASHINGTON 25, D. C.

OFFICE OF DIRECTOR

March 16, 1951

Mr. P. S. Lasdon
Reduction and Refining Company
Kenilworth, New Jersey

Dear Mr. Lasdon:

It gives me great pleasure to appoint you as a member of the industry advisory committee which will advise the Office of Price Stabilization on price regulations affecting the ferro tungsten industry. I am enclosing for your information a list of the entire membership of this committee.

So that you may know the rules under which our industry advisory committees must operate in order to conform with the Defense Production Act of 1950, I am enclosing a copy of Price Procedural Regulation No. 2. It sets forth in some detail the duties and privileges of industry advisory committee members. Assurances have been given by the Department of Justice that, if the provisions of this regulation are observed, meetings of the industry advisory committees will not be prohibited by the anti-trust laws.

I have delegated responsibility for the operations of the industry advisory committee program to the Office of Industry Advisory Committees. Meetings of the committees will be presided over at all times by a member of my price staff.

We are very grateful that you are willing to serve your Government in this capacity. I hope very much that the relations between the employees of this agency and the industry you represent will be at all times cordial and cooperative, even though the problems we have to face are difficult and complicated.

Sincerely yours,

Michael V. DiSalle

Michael V. DiSalle
Director

Enclosures

OFFICE OF PRICE STABILIZATION

WASHINGTON 25, D. C.

OFFICE OF DIRECTOR

March 25, 1953

Mr. P. S. Lasdon
Reduction and Refining Company
Kenilworth, New Jersey

Ferrotungsten Industry Advisory Committee

Dear Mr. Lasdon:

I am hereby disbanding the committee of which you are a member since price controls have been removed from your industry.

Such success as there has been in the control of prices has been due in no small measure to two things. The first has been the large number of qualified business men who left their businesses and served this agency in various operating and executive capacities. The second has been the great wealth of advice that has been made available through the medium of industry advisory committees, which advice was checked against the standards developed under the law to secure even-handed justice.

We appreciate your willingness to serve and earnestly hope the service has been a valuable experience to you. Without this voluntary work of business men we could not have succeeded at all in protecting the home front in the days of national emergency.

Sincerely yours,

Joseph H. Freehill

Joseph H. Freehill

United States of America

War Production Board

PHILIP S. LASDON

Member of the

SPECIAL TUNGSTEN PRODUCTS SEGMENT OF THE
MOLYBDENUM AND TUNGSTEN WIRE AND ROD

Industry Advisory Committee

Has given freely of his time, judgment and experience, and for loyal service to the war effort merits this recognition on behalf of a grateful Nation.

J A Krug

Chairman, War Production Board.

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

Defense Minerals Administration
RECEIVED
DEC 4 - 1953

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

Not to be filled in by applicant

Docket No. DMEA-3219
Metal or Mineral
Date Received 12-4-53
Estimated Cost
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: R & R TUNGSTEN CORPORATION
KENILWORTH, NEW JERSEY
A corporation organized in the state of New Jersey Vice-P.S.Lasdon,Pres.,Stuart Lasdon,Treas.,Lloyd Lasdon,Sec.,Alfred D.Brown Pres.

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

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

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

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

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract
See Supporting Papers
8 Claims of land located in the Yavapai County of Arizona.Said Claims registered in the County Recorder's Office: #3837 and 3838,also 4780 thru 4785

(*b*) State any mine name by which the property is known. Green Back Claims No. 1 thru 8

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise Lessee under Contract. Copy of said contract is presented as supporting paper.

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

(*e*) If you own the land, describe any liens or encumbrances on it No encumbrances exist according to complete investigation of the present owner, Mr. J. L. Russell

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice. Required information submitted complete under section 3A

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. See Supporting papers

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

(*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. See supporting papers

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

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

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore Tungsten in Scheelite form

(*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. See Supporting Papers

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

(*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. See Supporting papers

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.). See Supporting papers

(*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. See Supporting papers

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

(*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. See Supporting papers

(*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. None

(*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. See papers

(*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. See supporting papers

(*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)? Yes

(*b*) How do you propose to furnish your share of the costs? We shall participate under Sec.7, DMEA No. 1 provision to the extent as required under Scheelite Tungsten mining.

[X] 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 December 3, 1953

R & R TUNGSTEN CORPORATION
(Applicant)

By [signature]

P. S. LASDON
President

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 4 - 1953

R & R Tungsten Corporation
BOULEVARD
KENILWORTH, NEW JERSEY
CHestnut 5-3200 - 3203

SUPPORTING PAPERS RELATIVE TO COMPLETION OF THE DMEA NO. 1 APPLICATION:

3. (a) Title and Description of Claims:
Claim # 3837 recorded in Book 18 Page 370 Recorder of Records, Yavapai County, Arizona

# 3838	"	"	"	18	"	371
# 4780	"	"	"	20	"	576
# 4781	"	"	"	20	"	577
# 4782	"	"	"	20	"	578
# 4783	"	"	"	20	"	579
# 4784	"	"	"	20	"	580
# 4785	"	"	"	20	"	581

The above claims are located in between Wickenburg and Kingman approximately 11 miles north of the Junction of the new Kingman Highway and Bagdad Road --T 14 North Range 9 West, Sections 27 and 34.

4. (a) Operations on the property have been limited to preliminary probing. One trench of thirty feet into the hillside exposing approximately 20 feet of dike has been made by the claim-holder. Dike surface for 348 feet has been stripped and chipped by the applicant to determine the character of the dike.

(b) Production to date has been minor, consisting mainly of the material removed when probing the dike wall as completed by the claim-holder.

(c) The deposit consists of dikes, or pegmatites, situated in the heart of the Arizona Pegmatite Belt (Lake Mead to Phoenix). General geology of the area is Pre Cambrian Granitic. The deposits, from preliminary inspection, lie in zones of varying enrichment, persisting throughout each pegmatite or dike length. Habit of the variance has been studied along 348 feet of dike by uncovering the in-place rock, and the general tendancy has been studied along outcroppings for a total of 514 feet (inclusive of the chip sampled 348 feet). The studied section is along what appears to be the main dike. However, the property has numerous dikes, both parallel and divergent, over 5,000 feet in length. (Map of one claim section is submitted).

The country rock consists mostly of metamorphics. (Schists, altered lime bearing sediments, feldspar, and some granitics). Also, granite dikes and limestone dikes running parallel to the present dikes of interest The ore zones in general show tendancy of steep dipping. The dike rock is a mixture of scheelite, granitics, feldspar. Petrographic study of dike rock as prepared by Dr. Robert L. DuBois of the University of Arizona is submitted.

Report from Sutton, Steele & Steele
Dallas, Texas
Equipment Mfgr & Engineers

MF-203
(Revised July 1, 1953)

OWNER'S CONSENT TO LIEN

WHEREAS, the undersigned, as owner, co-owner, lessor, or seller has an interest in certain property in the State of ARIZONA, County of YAVAPAI, described as follows: 1/ GREEN BACK CLAIMS No. 1 thru 8 - RECORDED IN Yavapai County records

Claim # 3837	Book	18	Page	370	Claim # 4782	Book	20	Page	578
# 3838	"	18	"	371	# 4783	"	20	"	579
# 4780	"	20	"	576	# 4784	"	20	"	580
# 4781	"	20	"	577	# 4785	"	20	"	581

which is the subject of a proposed exploration project contract, hereinafter called the "contract", between the United States of America, hereinafter called the "Government", and

2/ R & R TUNGSTEN CORPORATION
KENILWORTH, NEW JERSEY

hereinafter called the "Operator"; and

WHEREAS, under the provisions of said contract the Government is entitled to a percentage royalty on production (as set forth on the reverse side hereof) and to other rights and equities which do or may conflict with or be adverse to the rights of the undersigned:

NOW THEREFORE, the undersigned, in consideration of said contract and as an inducement to the Government to enter into same, undertakes and agrees as follows:

1. The Government's equity in and right to dismantle, sever, take possession of, and remove and dispose of facilities, buildings, fixtures, equipment, or other items as provided in the contract, or any amendment thereof, shall prevail over and be prior and superior to any conflicting or adverse rights of the undersigned, and the Government is authorized to enter upon the land for such purposes.

2. To secure the payment to the Government of the percentage royalty on production 3/ provided for under the terms of said exploration project contract, or any amendment thereof, there is hereby granted to the Government a lien upon the land above referred to and upon any production of minerals therefrom, until said royalty is fully paid or ten years have elapsed from the date of the contract, whichever occurs first.

3. The undersigned shall commit no act nor assert any claim that may contravene or conflict with the lien, claim, or rights of the Government under the provisions of said contract. This agreement shall be binding upon the heirs, executors, administrators, successors, and assigns of the undersigned.

4. Changes and added provisions NONE

Dated this 3rd day of December, 1953.

James Russeo [Seal]

[Seal]

[Seal]

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/ Insert the name of the Operator as it will appear in the exploration project contract.

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

Repayment by Operator.--a. Certification.--If at any time the Government considers that a discovery or development from which production may be made has resulted from the exploration work, the Government, at any time not later than six months after the Operator has rendered the final report and final account, may so certify in writing to the Operator. Such certification shall describe broadly or indicate the nature of the discovery or development.

b. Percentage royalty.--The Operator, or his successor in interest, shall pay to the Government a royalty on all minerals mined or produced from the land described in Article 2,--(1) regardless of any certification of discovery or development, from the date of the contract until the lapse of the time within which the Government may make such certification of discovery or development, or until the total net amount contributed by the Government, without interest, is fully repaid, whichever occurs first, unless the Government waives its right to a royalty; or (2) if the Government makes a certification of discovery or development, for a period of ten years (or other period fixed by the contract) from the date of the contract, or until the total net amount contributed by the Government, without interest, is fully repaid, whichever occurs first. Said royalty shall be a percentage of the net smelter returns, the net concentrator returns, or other net amounts realized from the sale or other disposition of any such production, in whatever form disposed of, including ore, concentrates, or metal, as follows:

(a) One and one-half (1½) percent of any such net amounts not in excess of eight dollars ($8.00) per ton.

(b) One and one-half (1½) percent of any such net amounts, plus one-half (½) percent of such net amounts for each additional full fifty cents ($0.50) by which such net amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such net amounts.

(For instance: the percentage royalty on a net amount of five dollars ($5.00) per ton, would be one and one-half (1½) percent; on a net amount of ten dollars ($10.00) per ton, three and one-half (3½) percent.)

c. Definitions.--As here used, "net smelter returns", "net concentrator returns", and "other net amounts realized from the sale or other disposition", mean gross revenue from sales; or if not sold, the market value of the material after it is mined in the form in which and the place where it is held. In the case of integrated operations in which the material is not disposed of as such, these terms mean what is or would be gross income from mining operations for percentage depletion purposes in income tax determination.

d. Lien for Payment.--To secure the payment of its percentage royalty, the Government shall have and is hereby granted a lien upon the land described in Article 2 and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

e. Notice to Purchasers.--The Operator shall notify any purchaser of the production of the Government's royalty interest, and shall authorize and direct the purchaser to pay the royalty directly to the Government and to furnish the Government with copies of the settlement sheets; but failure or refusal by the purchaser to comply shall not relieve the Operator of liability to pay any royalty falling due.

f. No Obligation to Produce.--This article is not to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any mining or production operations.

OPTION

OPERATIONAL ROYALTY AGREEMENT

WHEREAS, J. L. RUSSELL, a resident citizen of the State of Arizona, residing at Wickenberg, Arizona, (hereinafter called "Russell") has filed and is now a legal holder of certain mining rights and claims on State lands in the State of Arizona, which claims are briefly and generally described as (but not limited to) claim No. 1 filed in the recorders office of Tucson, Arizona under book 18, page 370; claim No. 2 filed in the recorders office of Tucson, Arizona, book 18, page 371 and approximately six other claims likewise filed in the recorders office at Tucson, Arizona, which claims are generally known as "Greenback Claims" covering certain lands located approximately fifty miles westnorthwest of Congress, Arizona, approximately ten miles southeast of Bagdad, Arizona and about eight miles north of the T Junction of the New Kingman Highway of the Bagdad Road, comprising properties forming a general L shape with about 1000 feet on one leg and about 4000 feet on the other leg with a general width throughout of approximately 500 feet, together with all dikes, and stringers now on the property on which one shallow test pit has been presently opened disclosing the possibility of commercial quantities of scheelite, and

WHEREAS R & R Tungsten Corporation, a New Jersey Corporation, with offices at Kennilworth, New Jersey, (hereinafter called "R & R") is desirous of obtaining all rights and privileges to said lands, claims and grants for the purpose of commercially exploiting the same and, as a preliminary thereto, to obtain an option for the examination, proving and searching of such lands, claims and grants, and,

WHEREAS, all the parties hereto recognize that the within option will require the expenditure of sizeable amounts for the exploitation, processing and assaying of such minerals or any other deposits as may be found on such lands or claims in commercial quantities, now therefore, it is mutually and

severally agreed as follows:-

1. "Russell" hereby, gives, grants and conveys to "R & R" an option, unlimited in scope, for a period of ninety (90) days from the date of these presents for the purpose of exploring, processing and assaying any minerals on said claims or lands of "Russell". In such exploration it is understood that certain examinations, surveys and reports of the United States Government are required, and any delay arising or occurring in connection therewith shall automatically extend the time of the option hereby granted, it being the purpose and intent of all the parties hereto to continue the interest of "R & R" in the said lands, claims and grants until the final reports of the United States Government or the interested Bureau of Department thereof have been obtained.

2. At any time during the currency of the option herein granted, "R & R" may declare that the said lands, grants or claims are or are not estimated to be a sound commercial venture. If it is declared that the said lands, grants or claims are not estimated to be a sound commercial venture, then this agree--ment shall thereupon become null and void and neither party shall have any claim upon or right over or against the other. If, however, it is declared that the said lands, grants or claims present the prospects of a sound commercial venture, the parties hereto agree to further continue the operations, exploitations and explorations of the said lands, grants or claims on a commercial venture. Any declaration to be made hereunder shall be made by "R & R" and only after completion of the necessary United States Governments surveys, inspections and reports are completed. Each party hereto shall be furnished with copies of such surveys, inspections and reports.

3. Upon a declaration by "R & R" that commercial possibilities are presented, the commercial venture shall be under the exclusive control, jurisdiction and direction of "R & R" who shall thereupon pay to "Russell" the sum of Fifteen Hundred Dollars ($1,500.00) as and for the consideration of the

option herein granted and the inception of the commercial venture. Thirty (30) days thereafter and for each succeeding thirty (30) days for a period of three succeeding months, "R & R" shall pay "Russell" the additional sums of Five Hundred Dollars ($500.00) each month until an additional amount of Fifteen Hundred Dollars ($1,500.00) has been paid, making a total payment of Three Thousand Dollars ($3,000.00) to "Russell.

4. To implement the commercial venture, "R & R" proposes and expects to erect a mill on said lands as promptly as practical and next following the payment to "Russell" of the total of Three Thousand Dllars ($3,000.00) as hereinbefore provided (and during the period of erection of such a mill) "R & R" will pay "Russell" One Hundred Dollars ($100.00) per month.

5. All payments made to "Russell" shall be considered "on-account" payments subject to being deducted from royalties as hereinafter agreed.

6. When and after the said mill is in commercial productive operation and the concentrate ores thereby derived shall be sold, the said J. L. Russell shall receive 5 percentum of the net commercial sales price of the ore so sold when the actual mean feed of ore from the Russell property, fed into the primary crusher averages 1% WO_3 by Assay, as and for a continuing option, license and privilege to the said "R & R" for continuous operation and production Said payments to be made 60 days after the sale of the said concentrates or ores has been effected and the purchaser actually paid the invoice billed. Actual financial settlements to be effected quarter-annually. Invoices for the sale of the said concentrates or ores shall be reported to the said "Russell" on a monthly basis, the said "R & R" shall be the sole and exclusive arbiter to determine in its discretion the outlet or sales price, the ultimate consumer, and the terms or conditions on which the said concentrates or ores shall be sold. It is further understood that 50% of all production at the concentrate mill will be offered for purchase to the stock pile agency of the United States Government at the then governmental price. The balance of production will be offered to the Reduction and Refining Co. (a partnership) at a price per unit of WO_3 to permit its competitive operation in its industry. Further, in addition to royalty payments on scheelite, it is further agreed that on any and all economicably saleable by-products from the milling of scheelite, "Russell" shall receive 7½ percentum of the net commercial sales price of the by-product ore so sold. The said "Russell" binds himself absolutely and unconditionally to accept the discretion of the said "R & R".

7. The said "Russell" represents and warrents that the claims hereinbefore generally described of which he will furnish certified copies within ten days after the signing of this agreement are not all the claims presently recorded in his name nor all the claims he will ultimately file, but as an inducement to "R & R" to enter upon the venture hereinbefore outlined and described, he , the said "Russell" agrees to assign or include any and all claims which the said "Russell" now has or may obtain in the future, within a space of 5 miles in any direction from the boundaries of the claims herein described, to the said "R & R" under the same terms and conditions as herein stated, it being the intention of the parties to associate themselves in a single common venture.

~~7. The said "Russell" represents and warrants that the claims hereinbefore generally described of which he will furnish certified copies within ten days after the signing of this agreement are not all the claims presently recorded in his name nor all the claims he will ultimately file, but as an inducement to "R & R" to enter upon the venture hereinbefore outlined and described he, the said "Russell" agrees that upon the request of "R & R" to assign or include any and all claims which the said "Russell" now has or may obtain in the future, to the said "R & R" under the same terms and conditions as herein stated, it being the intention of the parties to associate themselves in a single common venture.~~

deleted

8. Nothing herein contained shall bind or require the said "R & R" to explore, exploit, assay, process or in any other way to work the said claims or lands if the productivity thereof shall not be commercially profitable nor during periods of depression to continue operations excepting only as and on such terms and conditions and at such time as the commercial price permits a reasonable marginal profit after allowing the royalties to "Russell" as hereinbefore provided. Should operations or any associated work in connection therewith be interrupted or stopped, the within agreement shall, nevertheless, continue and the said "Russell" specifically agrees that he will not do or cause anything to be done to obstruct, interfere or in any way hinder the resumption of operations upon the restoration of a market in the said concentrates or ores which shall provide a reasonable profit on the sale thereof.

9. "Russell" hereby warrants that the grants and claims hereinbefore mentioned are free and clear of all debts, taxes, liens or encumbrances and no part thereof have in any way been hypothecated, pledged or otherwise reduced and that he will forever warrant and defend his title thereto against any and all adverse claims at his own cost.

10. "Russell" agrees that he will cooperate with "R & R", any field teams of the U. S. Bureau of Mines, the U. S. Geological Survey Bureau and other

authorized or recognized departments of the U. S. Government whenever requested so to do by "R & R" and will execute any further documents, applications, statements or papers as may be required and proper to further or effectuate the purpose and intent of this agreement.

IN WITNESS WHEREOF, the parties have caused these presents to be signed and delivered on this 3 day of September 1953

Witness

Notary Public

My Commission Expires Sept. 27, 1954

J. L. Russell

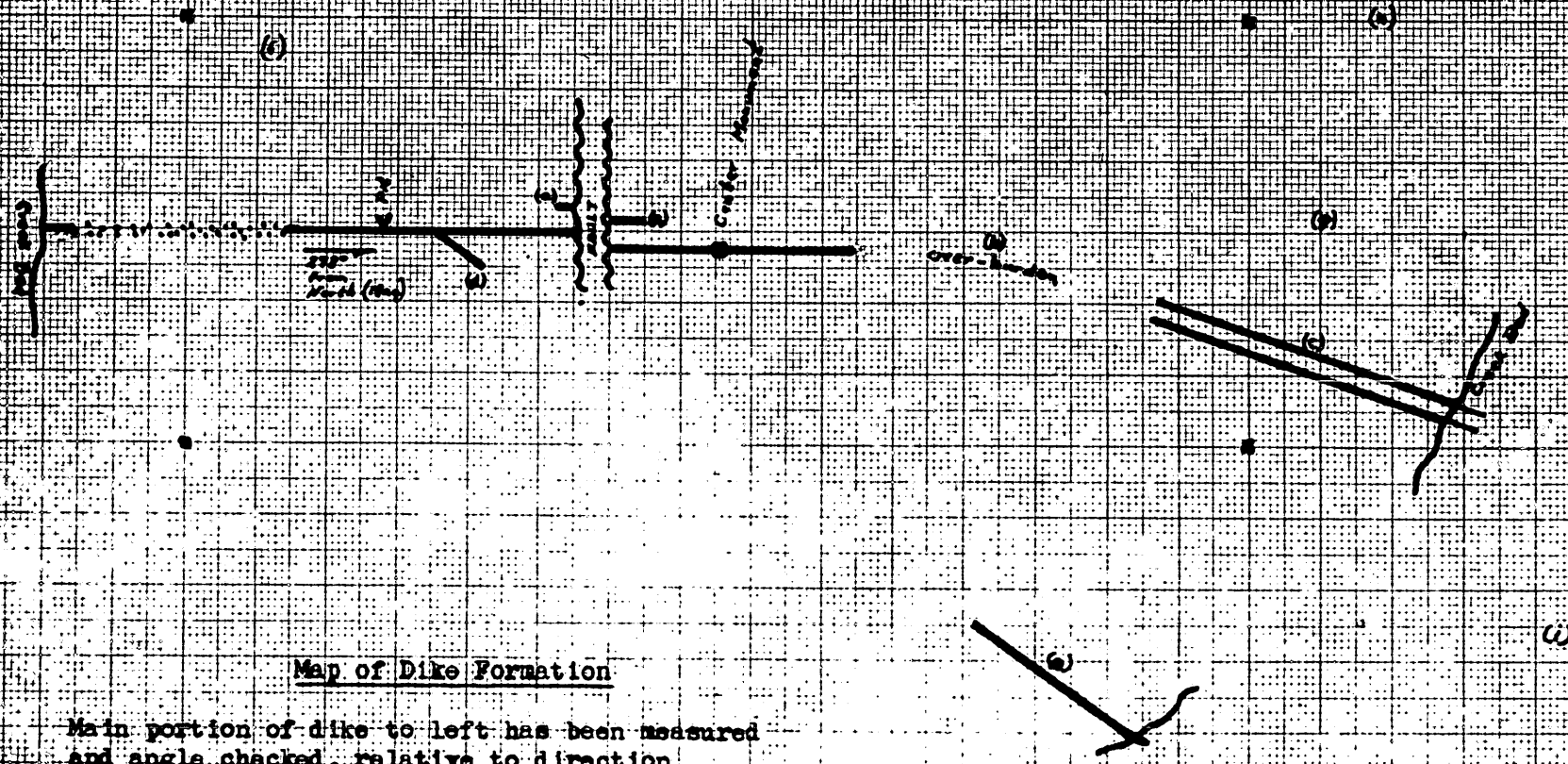
J. L. Russell

Attest

R & R Tungsten Corporation

By

AMERICAN PAD & PAPER CO., HOLYOKE, MASS.



Map of Dike Formation

Main portion of dike to left has been measured and angle checked, relative to direction.

Exact angles of the continuing portions have not been checked. However, (b) and (c) have been fully measured.

SCALE - 1 square equal to 10 feet.

Graf representing one claim as outlined by asterisks.

H & R TUNGSTEN CORPORATION

Percentage of Minerals present in Rock Specimens

October 29, 1953

Mineral Name	H-1	H-2	M-1	M-2	M-3 (2)	M-4	M-5	M-6	M-7	M-8	L-1	L-2
Quartz	30	45	10	5		5	5	20	M	15	40	25
Orthoclase	5		25	30	80	15	35	40	15	5	40	30
Plagioclase (3)	5		10	30		5	40	20	15			20
Epidote and Clinozoisite	60	30	50	15	20	45	10	15	35	40	15	20
Garnet		20				30			35	40		
Actinolite		M	M				5	5	M	M		
Muscovite			M	M				M				
Biotite												M
Chlorite											5	
Apatite			M	M		M	5	M	M			M
Sphene							M	M			M	M
Sericite	M	M	M	20	M	M	M	M	M	M	M	M
Kaolin	M	M	5		M	M	M	M	M	M	M	M
Opaque	M	M							M			
Unknown (4)		5	M				M		M	M		

(1) M notes that a minor amount of this mineral is present.

(2) This specimen is banded, composed of bands, totaling 75% of the rock, containing a fine grained aggregate of quartz, orthoclase, plagioclase, sericite, and kaolin. Other bands, totaling 25% of the rock, contain 85% epidote-clinozoisite and 15% quartz.

(3) By extinction angles the plagioclase was determined as albite (apx. Ab95).

(4) Some optical properties of the unknown mineral are as follows:

1. Birefringence 0.004-0.006, 1st order gray.
2. n_γ is above 1.7.
3. Colorless in plain light.
4. Believed to be uniaxial negative.

Signed

Robert L. Du Bois

Robert L. Du Bois
Geologist

TRUE COPY OF REPORT FROM SUTTON STEELE & STEELE RELATIVE TO GREENBACK TEST

TEST NO: 53-104

10-27-53

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 4 1953

SHIPPER: Reduction Refining Co.

ADDRESS: Kennilworth, New Jersey

MATERIAL: Tungsten Ore

NET WT. RECEIVED - 364 POUNDS

OBJECT: Produce a Tungsten Condentrate

TEST APPARATUS: Jaw Crusher, Rolls, Attrition Mill, Lab Screen, Models BX-100 and V-80 Separators.

PROCEDURE:

The crude as received was crushed through 8 mesh and was screenedized with results as follows:

SIZE	WT.(#)	%
- 8 / 14	175.00	50.0
-14 / 28	69.50	19.9
-28 / 48	35.50	10.1
-48 / 100	29.00	8.3
-100	40.75	11.7
	349.75	100.0

The Model BX-100 Separator and Model V-80 Separator were used to separate the four fractions above 100 mesh into four (4) products with results as follows:

SIZE - 8 / 14 FR. *

Prod.	WT. (#)	%
1	4.75	3.2
2	25.50	17.2
3	45.75	30.9
4	72.00	48.7
	148.00	100.0

SIZE - 14 / 28 FR.

Prod.	Wt. (#)	%
1	0.89	1.7
2	2.07	4.0
3	21.80	21.8
4	37.75	72.5
	52.60	100.0

SIZE - 28 / 48 FR.

Prod.	Wt. (#)	%
1	0.85	2.5
2	4.15	12.2
3	10.07	29.7
4	18.84	55.6
	33.91	100.0

SIZE - 48 / 100 FR.

Prod.	Wt. (#)	%
1	0.72	2.7
2	4.00	15.0
3	3.00	11.2
4	19.00	71.00
	26.72	100.0

* High percent of locked values

L. J. Fulton, Jr.

R & R Tungsten Corporation
BOULEVARD
KENILWORTH, NEW JERSEY
CHestnut 5-3200 - 3203

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 4 - 1953

SUPPORTING PAPERS RELATIVE TO COMPLETION OF THE DMEA NO. 1 APPLICATION:

4. (c) The Scheelite varies in its occurance from pieces 1" or more in diameter to fine grained well disceminated material. Average from chip samples of 348 feet was .147% WO_3.

Individual Trenchings: Ore lot # 36B - R & R determination .50% WO_3.
" " # 38A - " " trace "
" " # 39B - " " .44% "

Ore Claim # 3 - R & R determination 2.20% WO_3.

Thorough exploration is desired to determine the true character of the over-all deposit, determining the number of dikes, their true length and habit, the analysis variables of the various dikes, the reserve of good grade scheelite bearing rock, and the application of the contained minerals to a proper milling operation.

(d) Access road to the actual site of the deposit has been kept in poor repair to discourage scurious investigations. Full plans have been made for the completion of the road through a local contractor. There are no prominences that would hamper grading of the road. It is suggested that the applicant be notified of any intended visit by DMEA field teams in order that transportation could be arranged.

Nearest shipping point, approx. 18 miles distant, Hillside, Arizona.

Equipment supply points, would be Wickenburg (50 mi.) and Prescott (72 mi.) for normal supplies. More complete supplies could be arranged through mine supply houses of the forementioned locations, or procured through the firms in Phoenix.

Housing facilities are presently available within a 12 mile radius of the mine. Future plans for our mining operation include housing facilities closer to the mine itself.

(3) Manpower -

Mining: Experienced miners are available in the area, resulting from curtailed activity in Colorado and Nevada. One group, headed by a miner of 35 years experience has indicated their desire to work on this project.

Milling: Experienced millmen are available in the area for the same reason outlined above.

Supplies: Firms in both Wickenburg and Prescott have been contacted relative to normal mine and mill supplies. Assurance that prompt service would be given, has been obtained in both locations mentioned. General supplies are available in both the foregoing locations.

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4. (e) Continued:

Equipment: As yet, no specific flow sheet has been completed. The exact equipment required will of course be established as a result of the findings of the developmental program. Studies completed to date indicate a relatively simple milling operation due to absence of contaminents.

In general, the normal items of equipment required have been stated to be available either as semi-prompt delivery from the manufacturer, or as completely reconditioned and A-1 used pieces.

Water: The exact status of the water supply has not been completely determined. Intended site of the pump for the water supply is close to a location presently being used for ranch and cattle water supply. This location would be on Bridle Creek where the stream has several miles of head water distance, and where deep alluvium is reported. Tests of this source, two nearer sources, and inspection of the faults for underground reserves will be carried on during the development phase.

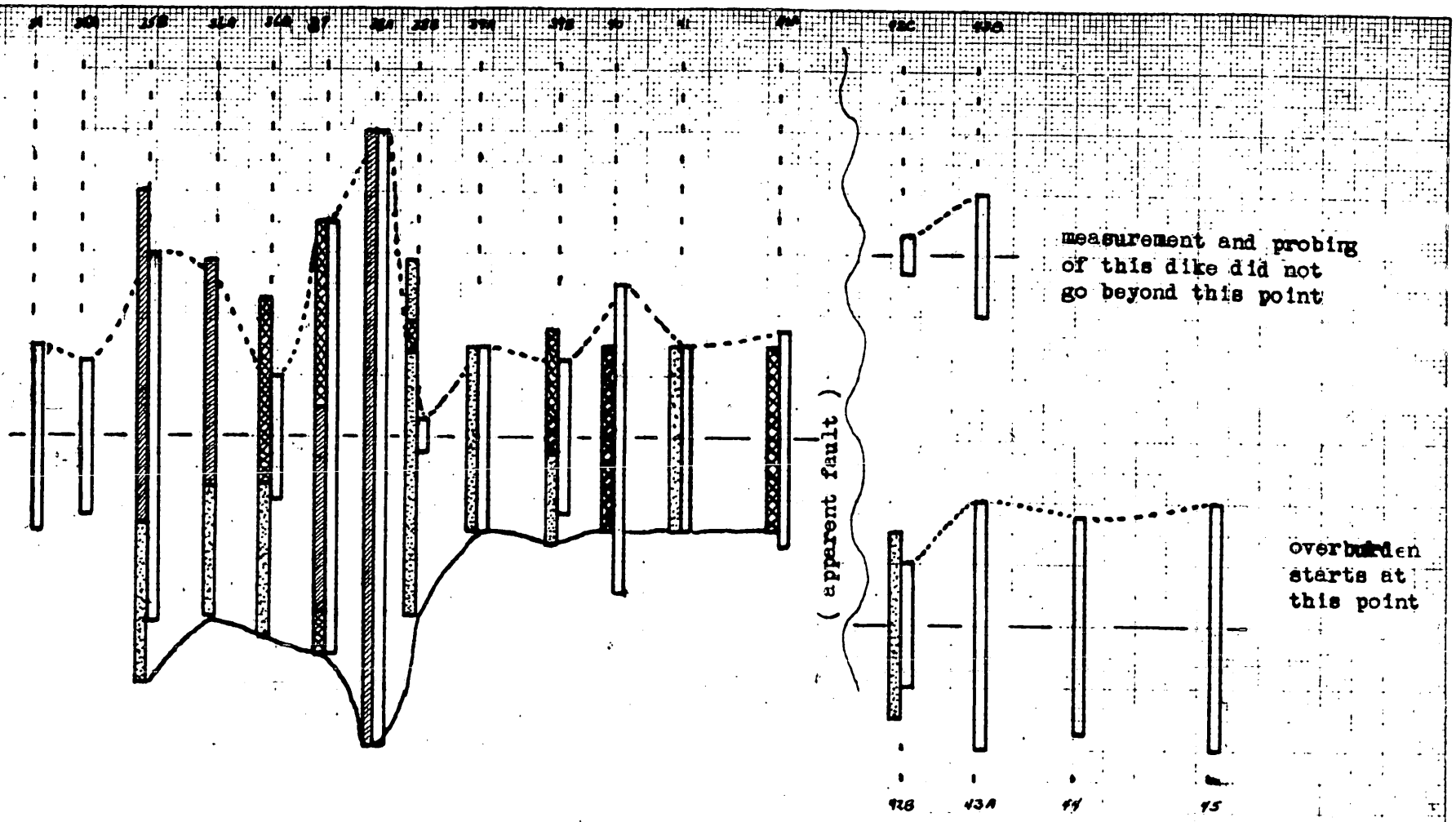
Power: The Arizona Public Service Corp. has indicated willingness to supply power and will survey the matter of installation upon authorization for the work based upon our expressed interest. In addition, an independent deisel generator plant is being studied.

5. (b) Work proposed during the developmental stage would fall into two general catagories. Preliminary phase would be limited to the claim that presently shows greatest promise, coupled with surface or field work on the remaining claims to determine continuity and for mapping. Initial phase would be responsible to develop sufficient reserves to assure the operation and amortization of investment commensurate with the risk. A second phase would establish the ultimate reserves and the future enlargement of the proposed mill and facilities.

Rough maps of the work performed to date are enclosed.

(c) Exploratory work will start within thirty days of the awarding of the contract and will be completed in approximately ninety days for the first phase, and within approximately 180 days for the overall project.

Form No. 641—10 Millimeters to Centimeter
AMERICAN PAD & PAPER CO., HOLYOKE, MASS.



Trenched section showing good evidences of scheelite by lamp inspection
Trenched section showing moderate evidences of scheelite by lamp inspection
Trenched section showing poor evidence of scheelite by lamp inspection
Comparative size of outcropping nexteto trench, or proposed stripping location
Imaginary center line of dike
Rough conformity line outlining dike established by stripping
Rough conformity line outlining dike established by outcroppings

SCALE - - Horizontal 1 sq. - 3 ft ; Verticle 10 sq. - 1 ft.

Graf showing dike measurements:

Clear sections show measurement of outcropping
Cross-hatched sections show measurements of
developed trenching.

R & R TUNGSTEN CORPORATION

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SUPPORTING PAPERS RELATIVE TO COMPLETION OF THE DMEA NO. 1 APPLICATION:

5. (d) Mr. P. S. Lasdon, President of the R & R Tungsten Corporation, in addition to his experience in Tungsten Hydro-metalurgy, as part owner of the Reduction & Refining Company, Kenilworth, N.J., producers for many years of Hydrogen Reduced Tungsten Metal Powder and its compounds, Tungstic Oxide and Tungstic Acid, has had some years of experience in general mining in this country. He was formerly part owner of the Continental Fuel Exporting Corporation, owners and operators of a coal mine in Gallitzin, Pa. During the late years of 1951-53 he was a member of the Advisory Committee of the Office of Price Administration and National Production Authority, in the Tungsten Section Division, both in Washington, D.C. and during 1943-46 years was a member of the Advisory Committee of the War Production Board in the Tungsten Division. He is the father of Mr. Lloyd Lasdon, a graduate of Purdue University, and Mr. Stuart Lasdon, a graduate of Lafayette College.

Mr. Alfred D. Brown was a former consultant geologist with Foreign Economic Administration and is acquainted with mining activities in various parts of the world.

It is the further intent of the R & R Tungsten Corporation to appoint a recognized reputable geologist, specifically experienced in the Tungsten ore field, with the view of consultation and possibly supervision of the contemplated exploration project.

6. (a) Contract for Driving of adit and tunnel for 300 feet at $ 14.00 per head wall foot - $ 4200. (tunnel dimension being 5 ft x 7 ft.)
Contract for Rise of 80 feet at average cost of $ 27.00 per foot of shaft, or $2,000.
Contract for Drilling and proving of wells for water supply on bridle creek as well as creek beds adjacent to mine property $1,000.

(b) Labor - 8 laborers @ 1.50 per hr for 5 days -$ 2.25 per hr. Saturday total of 90 days - estimate $ 8500.

Mining Engineer, Supervision and Consultants for period of 90 days $4000.
Geologist - for period of 90 days - - $ 3000.
Two topographers for period of 30 days - $ 800.

(c) Operating Materials and Supplies: (Mining)

Compressor and Drilling equipment -3 months period -	$ 2400.
Timbering - $ 28.00 per set for 1,000 foot tunnel -	2800.
200 foot Rise for Air Shaft -	1000.

(d)

Drill- Steel	$1,000.
Explosives -	550.
Power Generation for Electric	500.
Dump cars - rental for 90 days -	900.
Miscellaneous and tools -	400.
	3350

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SUPPORTING PAPERS RELATIVE TO COMPLETION OF THE DMEA NO. 1 APPLICATION:

6. (f) Rough work - Three wooden shacks - $ 2500.

(g) Miscellaneous - 500.

(h) Contingencies - 3000.

The following information pertains to the Milling investigation - work to be done:

Employment of Consulting firm to thoroughly study the milling potentials of the ore of the deposits within the limitation of water and other conditions of the location:

1 - Consultants to obtain representative samples to verify metallurgical findings.

2 - Consultants shall check all metallurgical findings towards designing processes.

3 - Consultants shall erect and operate pilot plant for study of the ore processes.

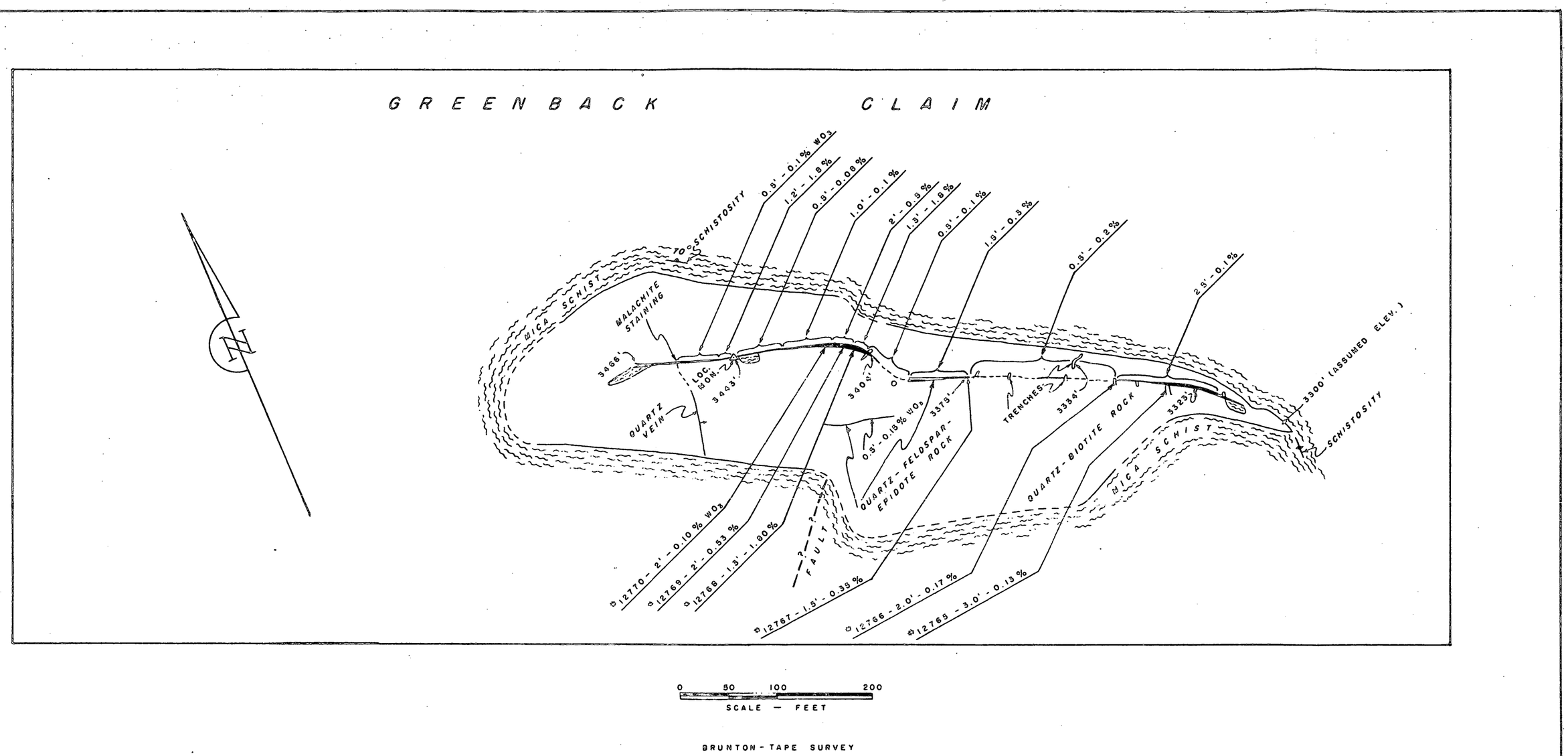
The above operation is expected to take approximately 30 days with an approximate estimate of $ 6,000.

Cost of pilot plant equipment for dry operation subject to changes according to findings by consultants - approximately $ 20,000.

Data or information pertaining to geophysical examination: employment of competent consultant for purpose of obtaining geophysic inspection of claims for delineation of dikes both as to placement, number, width and depth - approximate estimate - $ 20,000.

Diamond drilling of ten locations to determine nature and continuity of dike below dike outcroppings: average length of hole - 250 feet; total drilling - 2,500 feet; estimated cost - $ 18,000.

Approximate grand total - $98,850.



SAMPLE NUMBERS REFER TO U. S. BUREAU OF MINES ASSAYS OF SAMPLES TAKEN DURING EXAMINATION. WIDTHS AND PERCENT WO_3 WITHOUT NUMBERS ARE ESTIMATES.

DMEA 3219

FEBRUARY 1954

FIGURE 2. - GEOLOGIC AND ASSAY MAP - GREENBACK TUNGSTEN DEPOSIT
YAVAPAI COUNTY, ARIZONA