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DMA Docket No. 3803

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Exploration

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400

AUG 10 1955

Messrs. Frank O. Fulden & Henry J. Holloway
681 - I Street
Chula Vista, California

Re: Docket No. DMEA 3003 - Tungsten
BLM Mineral Lease L. A. 092358
San Diego County, California

Gentlemen:

Your application for aid for an exploration project and other data available to us in Washington concerning the above referenced property have been 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 all our information, although noting the occurrence of a small amount of tungsten mineralization on your property, indicates to us that the probability of disclosing minable tungsten ore reserves by your proposed program is not sufficiently promising to justify Government participation. Under these circumstances, we regret to advise you that your application is denied.

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

Sincerely yours,

C. O. Mittendorf

Administrator

FARUTLEDGE:fec
7-29-55
cc to: Docket
Code 400
Adm. Read. File
Operating Comm.
FT. REG. II
Messrs. Holliday, USBM
Kilsgaard, USGS

July 29, 1955

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of request for exploration assistance in the amount of $20,000
Docket No. DMEA 3803 - Tungsten
Frank G. Felden & Henry J. Holloway
BLM Mineral Lease L.A. 092353
San Diego County, California

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

1. The applicants desired to explore for tungsten by diamond drilling 2500 feet at their property in the Anza Desert State Park, San Diego, California. The total production to date from this property consists of 128 pounds of 51 percent WO_3 concentrated from about three tons of ore sorted from that mined in sinking 75 feet of shaft and 50 feet of open cut.

2. The tungsten occurs as small pods and lenses of scheelite bearing tactite in schist. The largest lens mined was about 20 feet long, 10 feet high, and 1 foot wide and contained about 20 tons of material with an average grade of 0.08 percent WO_3.

3. The examining field team recommended denial of the subject application because: "The size of the target and the tonnage and grade of the inferred reserves do not justify the proposed program."

4. The Field Team concurs with the denial.

5. The Commodity Division of the Geological Survey and the Commodity Division of the Bureau of Mines concur with the denial.

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

FARutledge:fcc
cc to: Docket
Code 400
Adm. Read. File
Operating Comm.

IN REPLY REFER TO:

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

RECEIVED
JUL 29 1955

July 29, 1955

Re: DMEA 3803
Felden & Holloway
Felden & Holloway Prospect
San Diego Co., Calif.
$20,000 - Tungsten

Memorandum

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

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

Subject: Review of Field Team report.

The field examiners found very meager showings of scheelite-bearing tactite at this property. Considerable work has been done and little is left to the imagination.

I concur with the recommendation of denial of the Field Team.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-7/29/55

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

July 29, 1955

Re: DMEA 3803
Feldon & Holloway
Feldon & Holloway Prospect
San Diego Co., Calif.
$20,000 - Tungsten

Memorandum

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

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N. E. Nelson

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NENelson:iml
G-7/29/55

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

IN REPLY REFER TO:

400

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

RECEIVED

July 29, 1955

Re: DMEA 3803
Felden & Holloway
Felden & Holloway Prospect
San Diego Co., Calif.
$20,000 - Tungsten

Memorandum

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

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

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NENelson:iml
G-7/29/55

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

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

400

1605 Evans Avenue
Reno, Nevada

July 18, 1955

Memorandum

To: Operating Committee, DMEA, Interior Building
Washington 25, D. C.

WSM

From: Executive Officer, DMEA Field Team, Region II

Subject: Docket No. DMEA-3803 - Tungsten
Frank G. Felden & Henry J. Holloway, Parters
BLM Mineral Lease L.A. 092358
San Diego County, California

In accordance with your letter of May 19, 1955, the above subject property was examined on June 15, 1955.

Attached are four copies of a report by H. K. Stager, Geological Survey and J. D. Warne, Bureau of Mines, in which it is recommended that the application for DMEA exploration aid be denied.

Roscoe Smith and I concur in the recommendations.

S. Ricker

Attach.

SRicker:gh
cc: R. M. Smith
File

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION II

APPLICATION REPORT

DMEA-3803 (Tungsten)
Frank G. Felden and Henry J. Holloway
Felden & Holloway Prospect (BLM Mineral Lease L.A. 092358)
San Diego County, California

by

J. D. Warne
Mining Engineer
U. S. Bureau of Mines

H. K. Stager
Geologist
U. S. Geological Survey

July 13, 1955

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ILLUSTRATIONS

Figure 1. Location map

2. Geologic sketch map of the Felden and Holloway tungsten prospect, San Diego County, California

INTRODUCTION

Frank G. Felden and Henry J. Holloway, 681 I Street, Chula Vista, California applied for Government assistance in a $20,000 program under the Defense Minerals Exploration Administration, docket number 3803, to explore for tungsten on their Bureau of Land Management Mineral Lease No. L.A. 092358, San Diego County, California. The applicants wish to explore for lenses of scheelite-bearing tactite in schist with a program consisting of 2,500 feet of diamond drilling.

A field examination was requested by the Operating Committee, and was made by H. K. Stager of the Geological Survey and J. D. Warne of the Bureau of Mines on June 15, 1955, accompanied by Mr. Frank C. Felden, one of the applicants.

The open pits and a shallow inclined shaft were inspected and mapped. Five samples were taken by the examiners to check the grade of the ore that was exposed in the workings and stockpiled on the property.

CONCLUSIONS AND RECOMMENDATIONS

The tungsten deposit at the Felden and Holloway prospect consists of pods and lenses of scheelite-bearing tactite in schist. The results of the examination indicate that although the deposit contains a few tons of scheelite-bearing material there is little probability of finding minable bodies of tungsten ore with the proposed program.

The applicants proposed a program consisting of 2,500 feet of diamond drilling to test the downward extent of several small outcrops of scheelite-bearing tactite. The estimated total cost of the proposed program is $20,000 of which the Government's share would be $15,000.

The size of the target and the tonnage and grade of the inferred reserves do not justify the proposed program. It is recommended that Government assistance under the DMEA program be denied.

LOCATION, ACCESSIBILITY, LOCAL RESOURCES

The Felden-Holloway BLM Mineral tungsten lease is located within the Anza Desert State Park in sec. 26, T. 13 S., R. 5 E., S.B.B.&M., San Diego County, California (Fig. 1).

The mine is reached by travelling east six miles from Banner, California on State Highway No. 78 to the junction of the old Butterfield stage road, where there is a monument; thence south on a gravel road nine miles to the mine access road; and finally one mile southeastward along this road, which is too steep for an ordinary passenger car.

Mine supplies can be obtained from San Diego, Calif., 90 miles distant, or from the Los Angeles area. No experienced mine labor is available. Water must be hauled 15 miles from Banner. No electric power is available within the immediate vicinity of the property.

HISTORY AND PRODUCTION

Exploration work has been performed at this property since November 1952. The most extensive work was done after 1954, when the final portion of a mine access road was completed.

Total production to date consists of 128 pounds of 51 percent WO_3 concentrates extracted from about three tons of sorted ore from an open cut and shallow shaft near the southern end of the property.

PROPERTY AND OWNERSHIP

The mine property consists of 320 acres within the Anza Desert State Park and is held under lease No. L.A. 092358 by Mr. F. G. Felden from the Department of the Interior, Bureau of Land Management.

The superfluous and erratic nature of exploration work already done and the type of work proposed indicate that the applicants' ability to perform the proposed exploration work is questionable. They have had little previous mining experience and have no drilling experience.

DEVELOPMENT

No buildings, equipment, or other surface facilities are on the property.

Underground development consists of a 10-foot adit and 40-foot inclined winze near the north end of the exploration area. At the south end of the property there are two adjacent shafts 40 feet and 10 feet deep and a pit 15 feet deep which was sunk from the face of a 40-foot open cut. Several other shallow test pits and trenches were excavated to explore along about 2,500 feet of the mineralized tactite zone.

GENERAL GEOLOGY

The Felden and Holloway lease is in an area of moderate relief on the west flank of the Vallecito Mountains. The rock exposed in the vicinity of the mine is chiefly the Julian quartz-mica schist of Triassic age. The schist is cut by numerous pegmatite dikes and has been intruded by tongues of the Stonewall granodiorite of probable Jurassic age.

The Julian schist is composed chiefly of quartz, biotite, muscovite, and plagioclase. It is fine-grained, well foliated, and typically brownish gray in color. It is locally interbedded with beds of gray to white quartzite and by lenses of garnet tactite a few feet thick. It is within these lenses of garnet tactite that the ore bodies occur.

The Stonewall granodiorite crops out as narrow tongues along the ridge and in the steep slopes above the mine workings. It is not exposed in the mine workings.

The pegmatite dikes in the mine area are from a few inches to several feet thick and consist chiefly of quartz and feldspar with minor amounts of mica and tourmaline.

Foliation is well developed in the schist and strikes north and is vertical or dips steeply east or west. Numerous randomly oriented faults cut the rocks in the vicinity of the mine workings but apparently exercised little or no control on tungsten deposition.

ORE DEPOSITS

The tungsten bodies are small irregular pods and lenses, in mica schist, containing from a few pounds to several tons of ore each. The largest lens mined was about 20 feet long, 10 feet high, and 1 foot wide and contained about 20 tons of material with an average grade of 0.08 percent WO_3. The lenses are concordant with the foliation in the schist and strike from N. 10° E. to N. 30° W. and dip from about 70° to the west to about 75° east.

Scheelite, the only ore mineral present, occurs as disseminated crystals, as much as one-half inch in cross section, in garnet tactite. Gangue minerals are grossularite garnet, graphite, calcite, epidote, and quartz.

About 30 tons of scheelite-bearing tactite with an average grade of about 0.08 percent WO_3 has been mined from the open pits and underground workings on the property. Except for 3 tons of this material that was shipped to a mill this material is stockpiled on the property. The grade of the 3 tons of ore milled was estimated to be about 1.5 percent WO_3 and yielded 3.25 units of WO_3. This ore was hand sorted from the south pit and was accumulated over a period of several months.

SAMPLING

Five samples were taken for analysis:

Sample No.	% WO_3	Description
1	0.75	2-ft. chip across back of inclined winze, 23 feet below adit.
2	0.08	Grab of 12T stockpile at adit and winze.
3	0.08	Grab of 8T stockpile at portal of adit to winze.
4	0.01	Grab of 6T stockpile at collar of 40-ft. shaft.
5	0.11	Grab of 7T of ore from open cut and 15-ft. shaft where previous production was derived.

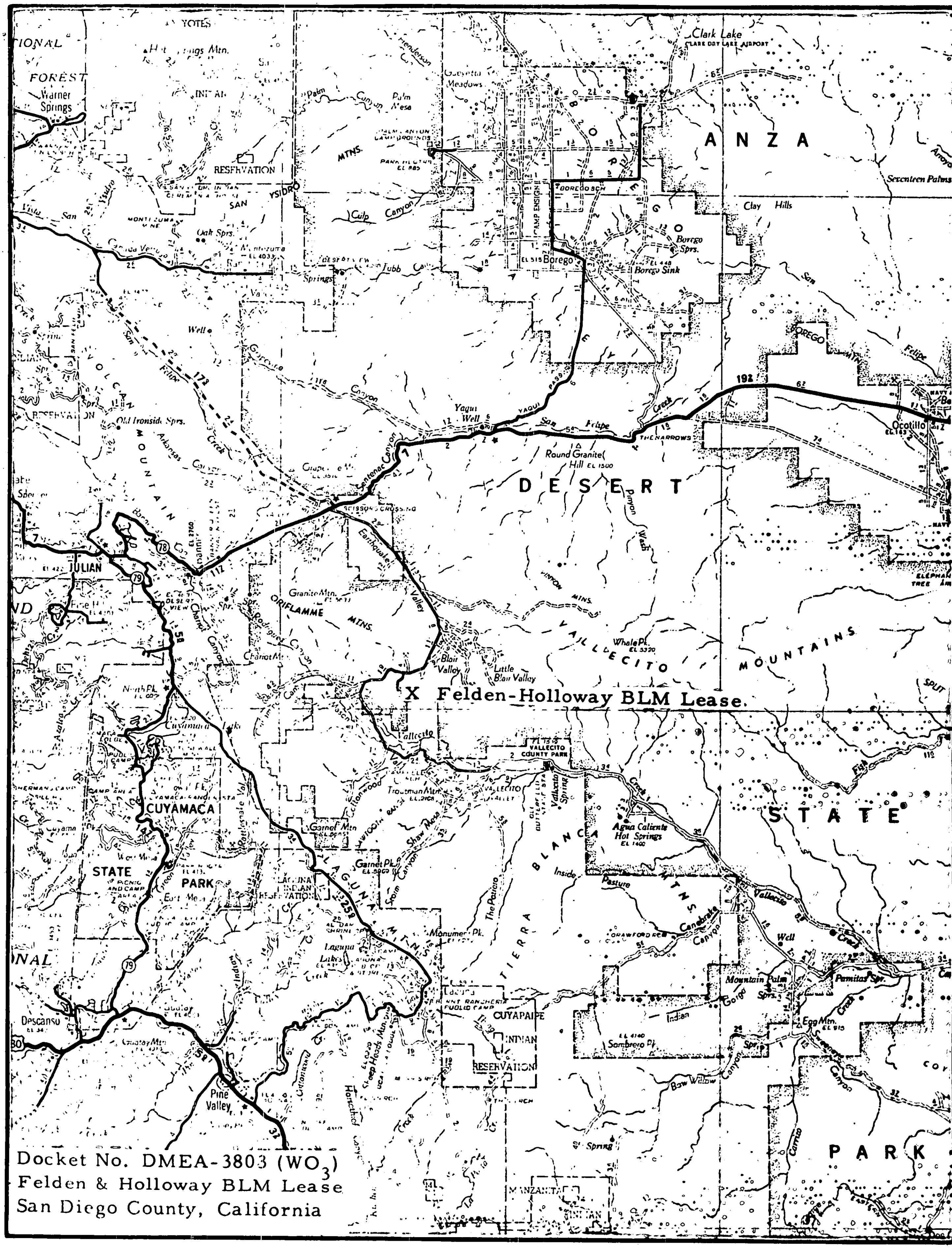
ORE RESERVES

Except for a few pounds of tungsten-bearing material exposed as thin lenses and pods in the open pits and underground workings, there are no measured or indicated ore reserves on the property. Inferred reserves may total as much as 100 tons of material containing about 0.1 percent WO_3 in pods and lenses similar to those that have been mined. From this low grade material perhaps 5 tons averaging 1. percent might be sorted. These reserves may be found by following the thin weakly mineralized lenses exposed in the present workings or by trenching the other tactite outcrops in the area.

PROPOSED EXPLORATION

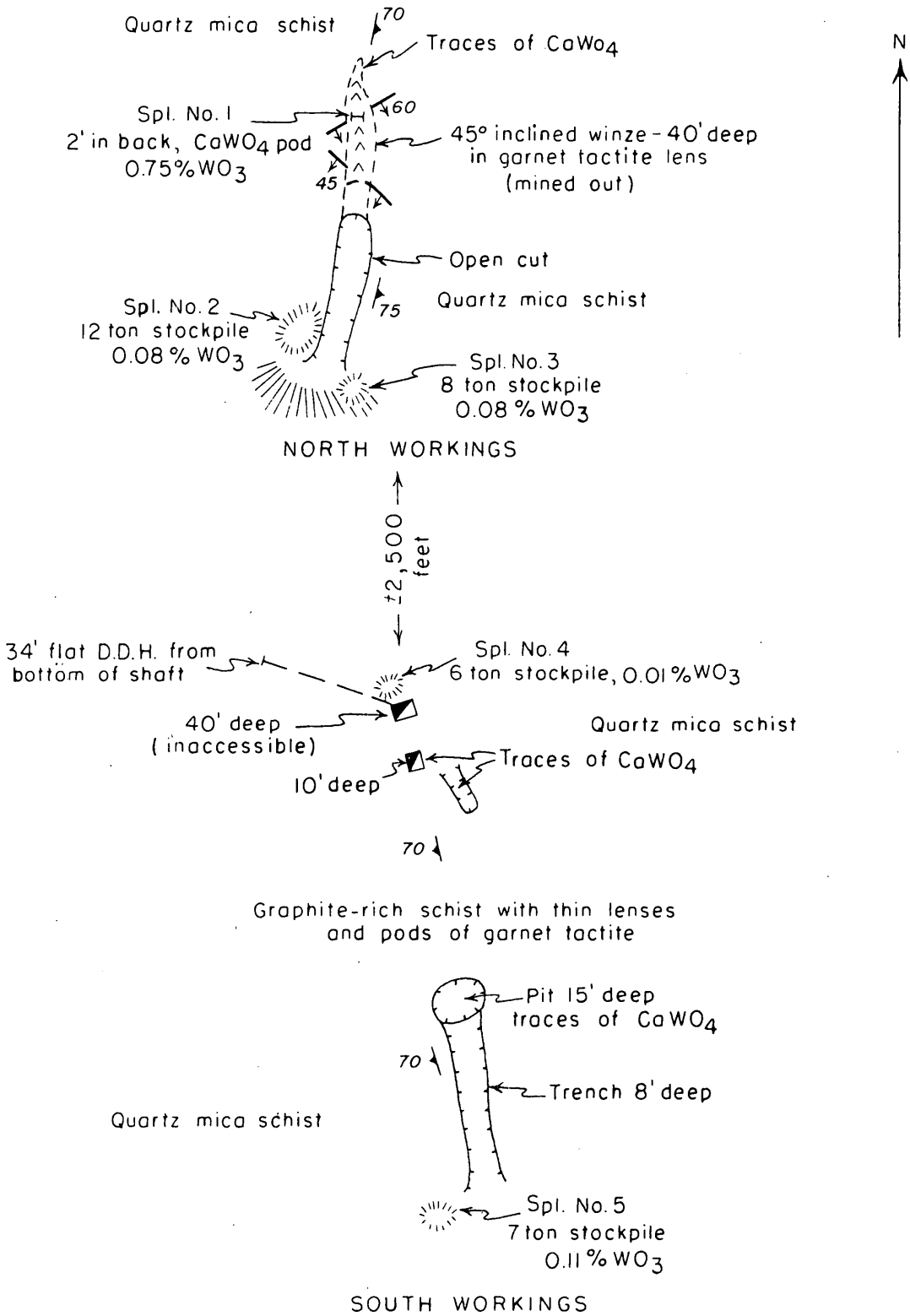
The applicants have proposed an exploration program consisting of 2,500 feet of AX diamond core drilling. This work would be confined to the area of the open pits and shaft at the south end of the property (Fig. 2) and would consist of vertical and inclined holes from 100 to 500 feet in depth to test the downward extent of tactite lenses exposed at the surface and to search for other lenses that may be present at depth. They estimate the cost of the work would be $20,000.

The tungsten bodies that are the target of the proposed exploration are so small and erratically distributed that the probability of cutting an ore body with a diamond drill hole in the area to be explored is almost negligible. To drill for targets of this size and distribution would require a great number of closely spaced holes and the cost would exceed the value of the ore found. Underground exploration by adit or shaft, as has already been attempted, would likewise cost more than the value of the ore reserves that can be inferred from present exposures.



Docket No. DMEA-3803 (WO_3)
Felden & Holloway BLM Lease
San Diego County, California

Fig. 1 LOCATION MAP CALIFORNIA



GEOLOGIC SKETCH MAP OF THE FELDEN AND HOLLOWAY TUNGSTEN PROSPECT
SAN DIEGO COUNTY, CALIFORNIA

40 0 40 80 FEET

Figure 2

400

MAY 1 9 1955

Messrs. Frank G. Feldon & Henry J. Holloway
681 - I Street
Chula Vista, California

Re: Docket No. DMEA 3803 - Tungsten
BLM Mineral Lease L.A. 092358
San Diego County, California

Gentlemen:

The above-docketed application for exploration assistance has been reviewed by the Iron and Ferro-Alloys Division of the Defense Minerals Exploration Administration and referred to Mr. Spangler Richter, Executive Officer, DMEA Field Team, Region II, 1605 Evans Avenue, Reno, Nevada, for a field examination of the property.

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

As the lease by which you control the subject property has recently been amended, it would be appreciated if you would furnish this Administration with four copies of the amended lease dated April 12, 1955.

Sincerely yours,

C. O. Mittendorf

Administrator

FARutledge:fcc
5-18-55
cc to: Docket
Code 400
Adm. Reading File
Operating Comm.
FT. REG. II
Messrs. Holliday, USBM
Kiilsgaard, USGS

MAY 1 9 1955

Mr. Spangler Richer, Executive Officer
DMEA Field Team, Region II
1605 Evans Avenue
Reno, Nevada

Re: Docket No. DMEA 3803 - Tungsten
Frank G. Felden & Henry J. Holloway,
Partners
BLM Mineral Lease L.A. 092358
San Diego County, California

Dear Mr. Richer:

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

In reviewing the application, several descriptions of the property area were noted. The description set forth under Article 3(c) of form MF-103 is correct and agrees with that contained in the revised lease amended as of April 12, 1955.

Two copies of a relevant memorandum dated May 11, 1955, by N. E. Nelson, Geological Survey, are enclosed for your information.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee

Enclosure

APPROVED:

J. H. Hedges
Member, Bureau of Mines

Thor H. Kiilsgaard
Member, Geological Survey

FARutledge:fec
5-18-55
cc to: Docket
Code 400
Adm. Reading File
Operating Comm.
FT. REG. II
Messrs. Holliday, USBM
Kiilsgaard, USGS

IN REPLY REFER TO:

400

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

Defense Minerals Administration
RECEIVED
MAY 13 1955

May 11, 1955

Re: DMEA-3803
Frank G. Felden
Felden-Halloway
Prospect
Julian, San Diego
County, Calif.
$20,000 - Tungsten

Memorandum

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

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

Subject: Review of application

An up-to-date report on this prospect is needed. The reports by L. P. Pearce (1952) and D. M. Van Sickle (1953) covers but part of the shaft work listed under '2' General Technical Data.

For the footage of work done, 75 feet of shaft and 50 feet of open cut, the scheelite recovered is small, 65 pounds, 3.25 units of WO_3. From the reports, especially that of Van Sickle, it may be inferred that scheelite is present in several garnet zones. No estimate of the average grade of the skarn has been made. A careful examination with a mineralite should indicate whether or not the average is better than the production suggests.

A Field Team report is recommended.

N. E. Nelson

N. E. Nelson

NENelson:hlm
G-5/11/55

Copy to: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
R. W. Holliday, 3513 Interior

DOCKET
SURNAME

400 Chapman
Martin
Holliday
Nelson
Kilsgaard
Gyhon
Ryhanson

AUG 1 0 1955

Messrs. Frank O. Felden & Henry J. Holloway
681 - I Street
Chula Vista, California

Re: Docket No. DMEA 3803 - Tungsten
BLM Mineral Lease L. A. 092358
San Diego County, California

Gentlemen:

Your application for aid for an exploration project and other data available to us in Washington concerning the above referenced property have been 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 all our information, although noting the occurrence of a small amount of tungsten mineralization on your property, indicates to us that the probability of disclosing minable tungsten ore reserves by your proposed program is not sufficiently promising to justify Government participation. Under these circumstances, we regret to advise you that your application is denied.

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

Sincerely yours,

C. O. Mittendorf

Administrator

FARUTIEDGE:foc
7-29-55
cc to: Docket
Code 400
Adm. Read. File
Operating Comm.
FT. REG. II
Messrs. Holliday, USBM
Killsgaard, USGS

R.G.

IN REPLY REFER TO:

Docket

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

RECEIVED
AUG - 1 1955

July 29, 1955

Re: DMEA 3803
Felden & Holloway
Felden & Holloway Prospect
San Diego Co., Calif.
$20,000 - Tungsten

WSM

Memorandum

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

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

Subject: Review of Field Team report.

The field examiners found very meager showings of scheelite-bearing tactite at this property. Considerable work has been done and little is left to the imagination.

I concur with the recommendation of denial of the Field Team.

N. E. Nelson

N. E. Nelson

denied case

Copy retained 400

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

July 29, 1955

~~AUG 1 0 1955~~

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of request for exploration assistance in the amount of $20,000
Docket No. DMEA 3803 - Tungsten
Frank G. Felden & Henry J. Holloway
BLM Mineral Lease L.A. 092358
San Diego County, California

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

1. The applicants desired to explore for tungsten by diamond drilling 2500 feet at their property in the Anza Desert State Park, San Diego, California. The total production to date from this property consists of 128 pounds of 51 percent WO_3 concentrated from about three tons of ore sorted from that mined in sinking 75 feet of shaft and 50 feet of open cut.

2. The tungsten occurs as small pods and lenses of scheelite bearing tactite in schist. The largest lens mined was about 20 feet long, 10 feet high, and 1 foot wide and contained about 20 tons of material with an average grade of 0.08 percent WO_3.

3. The examining field team supports or [illegible] recommended denial of the subject application because: "The size of the target and the tonnage and grade of the inferred reserves do not justify the proposed program."

4. The Field Team concurs with the denial.

5. The Commodity Division of the Geological Survey and the Commodity Division of the Bureau of Mines concur with the denial.

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

DOCKET
SURNAME
Chapman
Martin
Nelson

July 29, 1955

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of request for exploration assistance in the amount of $20,000
Docket No. DMEA 3803 - Tungsten
Frank G. Felden & Henry J. Holloway
BLM Mineral Lease L.A. 092358
San Diego County, California

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

FARutledge:foc
cc to: Docket
Code 400
Adm. Read. File
Operating Comm.

R M Ea
Docket

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

1605 Evans Avenue
Reno, Nevada

July 18, 1955

WBM

Memorandum

To: Operating Committee, DMEA, Interior Building
Washington 25, D. C.

From: Executive Officer, DMEA Field Team, Region II

Subject: Docket No. DMEA-3803 - Tungsten
Frank G. Felden & Henry J. Holloway, Parters
BLM Mineral Lease L.A. 092358
San Diego County, California

In accordance with your letter of May 19, 1955, the above subject property was examined on June 15, 1955.

Attached are four copies of a report by H. K. Stager, Geological Survey and J. D. Warne, Bureau of Mines, in which it is recommended that the application for DMEA exploration aid be denied.

Roscoe Smith and I concur in the recommendations.

S. Ricker

Attach.

Reviewed by
DMEA OPERATING COMMITTEE
7-25-55
(Date)

BUREAU OF MINES
WASHINGTON, D. C.

JUL 20 8 50 AM '55

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION II

APPLICATION REPORT

DMEA-3803 (Tungsten)
Frank G. Felden and Henry J. Holloway
Felden & Holloway Prospect (BLM Mineral Lease L.A. 092358)
San Diego County, California

by

J. D. Warne
Mining Engineer
U. S. Bureau of Mines

H. K. Stager
Geologist
U. S. Geological Survey

July 13, 1955

Reviewed by
DMEA OPERATING COMMITTEE
7-25-55
(Date)

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Ore Reserves	6
Proposed Exploration	6

ILLUSTRATIONS

Figure 1. Location map

2. Geologic sketch map of the Felden and Holloway tungsten prospect, San Diego County, California

INTRODUCTION

Frank G. Felden and Henry J. Holloway, 681 I Street, Chula Vista, California applied for Government assistance in a $20,000 program under the Defense Minerals Exploration Administration, docket number 3803, to explore for tungsten on their Bureau of Land Management Mineral Lease No. L.A. 092358, San Diego County, California. The applicants wish to explore for lenses of scheelite-bearing tactite in schist with a program consisting of 2,500 feet of diamond drilling.

A field examination was requested by the Operating Committee, and was made by H. K. Stager of the Geological Survey and J. D. Warne of the Bureau of Mines on June 15, 1955, accompanied by Mr. Frank C. Felden, one of the applicants.

The open pits and a shallow inclined shaft were inspected and mapped. Five samples were taken by the examiners to check the grade of the ore that was exposed in the workings and stockpiled on the property.

CONCLUSIONS AND RECOMMENDATIONS

The tungsten deposit at the Felden and Holloway prospect consists of pods and lenses of scheelite-bearing tactite in schist. The results of the examination indicate that although the deposit contains a few tons of scheelite-bearing material there is little probability of finding minable bodies of tungsten ore with the proposed program.

The applicants proposed a program consisting of 2,500 feet of diamond drilling to test the downward extent of several small outcrops of scheelite-bearing tactite. The estimated total cost of the proposed program is $20,000 of which the Government's share would be $15,000.

The size of the target and the tonnage and grade of the inferred reserves do not justify the proposed program. It is recommended that Government assistance under the DMEA program be denied.

LOCATION, ACCESSIBILITY, LOCAL RESOURCES

The Felden-Holloway BLM Mineral tungsten lease is located within the Anza Desert State Park in sec. 26, T. 13 S., R. 5 W., S.B.B.&M., San Diego County, California (Fig. 1).

The mine is reached by travelling east six miles from Banner, California on State Highway No. 78 to the junction of the old Butterfield stage road, where there is a monument; thence south on a gravel road nine miles to the mine access road; and finally one mile southeastward along this road, which is too steep for an ordinary passenger car.

Mine supplies can be obtained from San Diego, Calif., 90 miles distant, or from the Los Angeles area. No experienced mine labor is available. Water must be hauled 15 miles from Banner. No electric power is available within the immediate vicinity of the property.

HISTORY AND PRODUCTION

Exploration work has been performed at this property since November 1952. The most extensive work was done after 1954, when the final portion of a mine access road was completed.

Total production to date consists of 128 pounds of 51 percent WO_3 concentrates extracted from about three tons of sorted ore from an open cut and shallow shaft near the southern end of the property.

PROPERTY AND OWNERSHIP

The mine property consists of 320 acres within the Anza Desert State Park and is held under lease No. L.A. 092358 by Mr. F. G. Felden from the Department of the Interior, Bureau of Land Management.

The superfluous and erratic nature of exploration work already done and the type of work proposed indicate that the applicants' ability to perform the proposed exploration work is questionable. They have had little previous mining experience and have no drilling experience.

DEVELOPMENT

No buildings, equipment, or other surface facilities are on the property.

Underground development consists of a 10-foot adit and 40-foot inclined winze near the north end of the exploration area. At the south end of the property there are two adjacent shafts 40 feet and 10 feet deep and a pit 15 feet deep which was sunk from the face of a 40-foot open cut. Several other shallow test pits and trenches were excavated to explore along about 2,500 feet of the mineralized tactite zone.

GENERAL GEOLOGY

The Felden and Holloway lease is in an area of moderate relief on the west flank of the Vallecito Mountains. The rock exposed in the vicinity of the mine is chiefly the Julian quartz-mica schist of Triassic age. The schist is cut by numerous pegmatite dikes and has been intruded by tongues of the Stonewall granodiorite of probable Jurassic age.

The Julian schist is composed chiefly of quartz, biotite, muscovite, and plagioclase. It is fine-grained, well foliated, and typically brownish gray in color. It is locally interbedded with beds of gray to white quartzite and by lenses of garnet tactite a few feet thick. It is within these lenses of garnet tactite that the ore bodies occur.

The Stonewall granodiorite crops out as narrow tongues along the ridge and in the steep slopes above the mine workings. It is not exposed in the mine workings.

The pegmatite dikes in the mine area are from a few inches to several feet thick and consist chiefly of quartz and feldspar with minor amounts of mica and tourmaline.

Foliation is well developed in the schist and strikes north and is vertical or dips steeply east or west. Numerous randomly oriented faults cut the rocks in the vicinity of the mine workings but apparently exercised little or no control on tungsten deposition.

ORE DEPOSITS

The tungsten bodies are small irregular pods and lenses, in mica schist, containing from a few pounds to several tons of ore each. The largest lens mined was about 20 feet long, 10 feet high, and 1 foot wide and contained about 20 tons of material with an average grade of 0.08 percent WO_3. The lenses are concordant with the foliation in the schist and strike from N. 10° E. to N. 30° W. and dip from about 70° to the west to about 75° east.

Scheelite, the only ore mineral present, occurs as disseminated crystals, as much as one-half inch in cross section, in garnet tactite. Gangue minerals are grossularite garnet, graphite, calcite, epidote, and quartz.

About 30 tons of scheelite-bearing tactite with an average grade of about 0.08 percent WO_3 has been mined from the open pits and underground workings on the property. Except for 3 tons of this material that was shipped to a mill this material is stockpiled on the property. The grade of the 3 tons of ore milled was estimated to be about 1.5 percent WO_3 and yielded 3.25 units of WO_3. This ore was hand sorted from the south pit and was accumulated over a period of several months.

SAMPLING

Five samples were taken for analysis:

Sample No.	% WO_3	Description
1	0.75	2-ft. chip across back of inclined winze, 23 feet below adit.
2	0.08	Grab of 12T stockpile at adit and winze.
3	0.08	Grab of 8T stockpile at portal of adit to winze.
4	0.01	Grab of 6T stockpile at collar of 40-ft. shaft.
5	0.11	Grab of 7T of ore from open cut and 15-ft. shaft where previous production was derived.

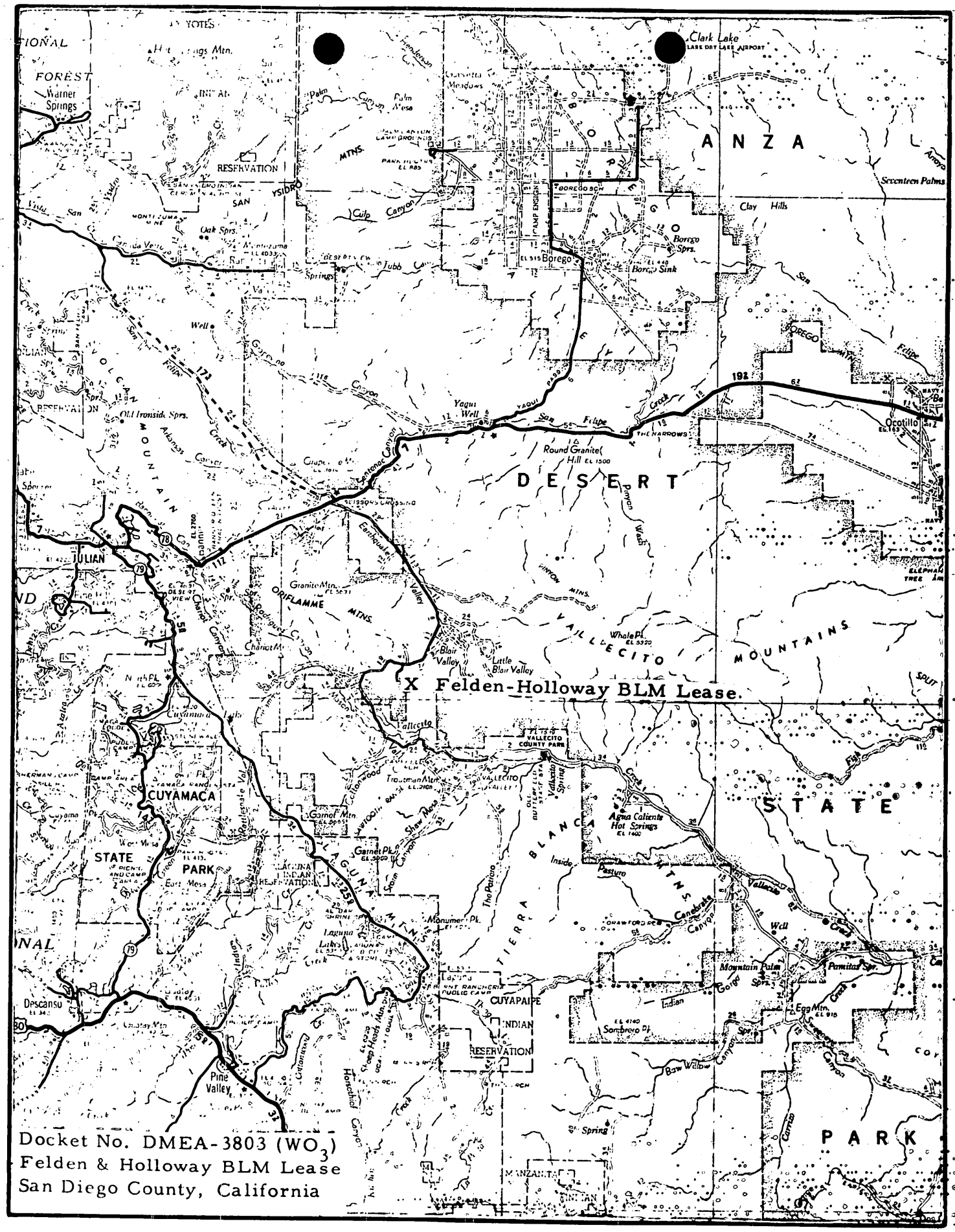
ORE RESERVES

Except for a few pounds of tungsten-bearing material exposed as thin lenses and pods in the open pits and underground workings, there are no measured or indicated ore reserves on the property. Inferred reserves may total as much as 100 tons of material containing about 0.1 percent WO_3 in pods and lenses similar to those that have been mined. From this low grade material perhaps 5 tons averaging 1. percent might be sorted. These reserves may be found by following the thin weakly mineralized lenses exposed in the present workings or by trenching the other tactite outcrops in the area.

PROPOSED EXPLORATION

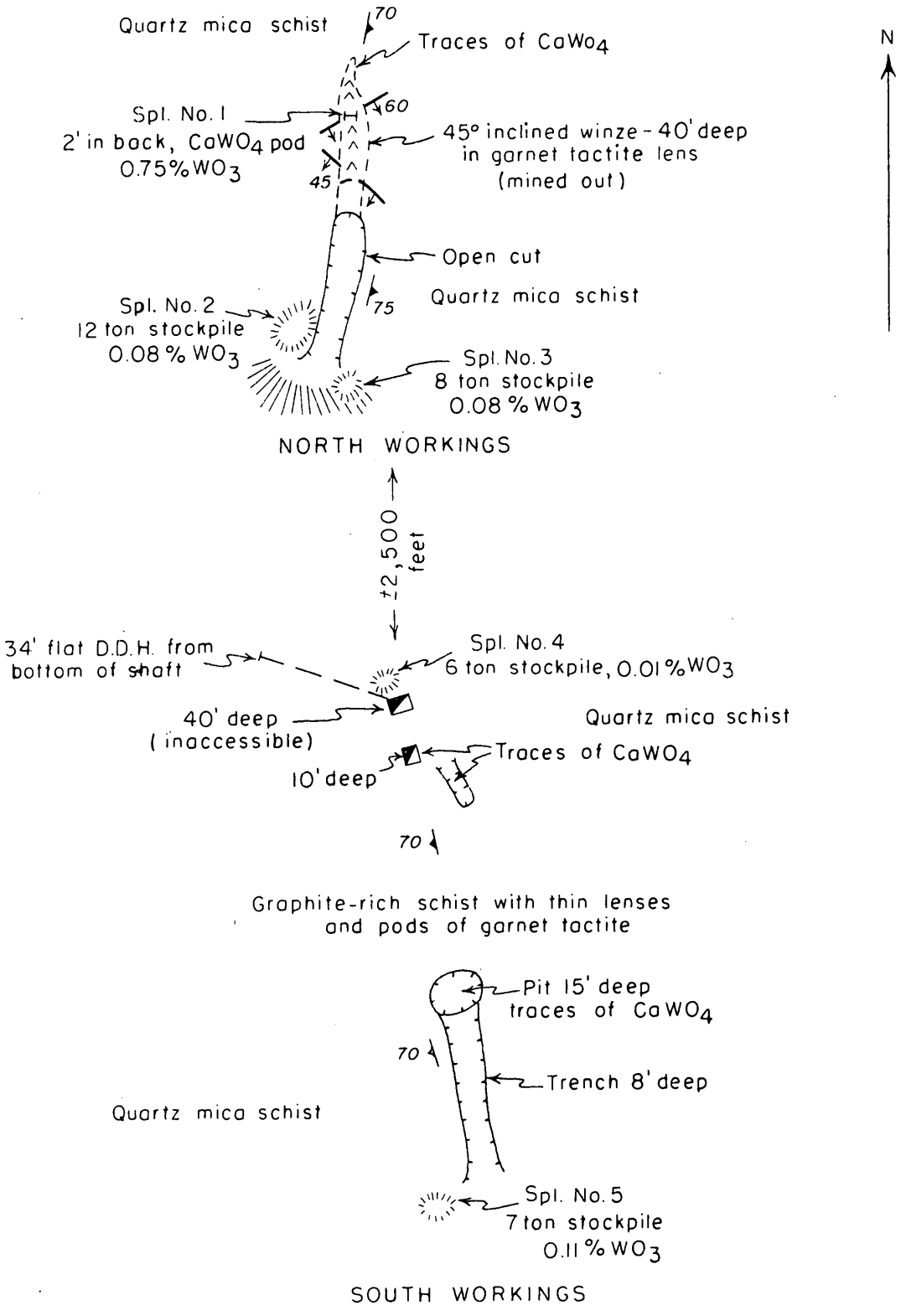
The applicants have proposed an exploration program consisting of 2,500 feet of AX diamond core drilling. This work would be confined to the area of the open pits and shaft at the south end of the property (Fig. 2) and would consist of vertical and inclined holes from 100 to 500 feet in depth to test the downward extent of tactite lenses exposed at the surface and to search for other lenses that may be present at depth. They estimate the cost of the work would be $20,000.

The tungsten bodies that are the target of the proposed exploration are so small and erratically distributed that the probability of cutting an ore body with a diamond drill hole in the area to be explored is almost negligible. To drill for targets of this size and distribution would require a great number of closely spaced holes and the cost would exceed the value of the ore found. Underground exploration by adit or shaft, as has already been attempted, would likewise cost more than the value of the ore reserves that can be inferred from present exposures.



Docket No. DMEA-3803 (WO_3)
Felden & Holloway BLM Lease
San Diego County, California

Fig. 1 LOCATION MAP CALIFORNIA



GEOLOGIC SKETCH MAP OF THE FELDEN AND HOLLOWAY TUNGSTEN PROSPECT
SAN DIEGO COUNTY, CALIFORNIA

40 0 40 80 FEET

Figure 2

RECEIVED
JUL [illegible] 1985

Chula Vista, Calif
681- I Street
May 25th, 1955

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 31 1955

United States Department of the Interior
Defense Minerals Exploration Administration
Washington. 25. D.C.

WSM

Re: Docket # DMEA-3803
BLM Mineral Lease La. 092358
San Diego County, Calif

Gentlemen

Enclose find 4 copies of Partial Relinquishment of Mineral Lease La. 092358, which you requested in your letter dated May 19th, Would be happy to meet Mr Ricker, in Julian, Calif. any time, if he would notify me date and time he will be there,

Thank you, for your prompt action on my application,

Sincerely yours
F. B. Felden

IN REPLY REFER TO:

Los Angeles
092358

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Land Office
1515 Post Office Building
Los Angeles 12, California

April 28, 1955

DECISION

Frank G. Felden	:	Mineral Lease
	:	Los Angeles 092358

Partial Relinquishment
Accepted

On February 1, 1955 a modified lease was granted under the provisions of the act of March 3, 1933, as amended, to Frank G. Felden, embracing the W½SW¼ sec. 25, E½SW¼, E½SE¼ sec. 26, and N½NE¼ sec. 35, T. 13 S., R. 5 E., S.B.M., California.

A relinquishment of the lease insofar as it covers the W½SW¼ sec. 25, E½SW¼ sec. 26, and NW¼NE¼ sec. 35, was filed by the lessee on April 12, 1955. Since there is no reason to withhold assent to the partial relinquishment, the lease is canceled as to these subdivisions.

The lease remains intact as to E½SE¼ sec. 26, and NE¼NE¼ sec. 35, T. 13 S., R. 5 E., S.B.M., containing 120 acres.

Paul B. Witmer
Manager

16.0:f
cc: Mining Supervisor, USGS
American Bonding Co. of Baltimore

TRUE COPY
BY
RODNEY STOKES CO.
870 THIRD AVENUE
SAN DIEGO

MAY 24 1955

C. Dow

IN REPLY REFER TO:

Los Angeles
092358

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Land Office
1515 Post Office Building
Los Angeles 12, California

April 28, 1955

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	:	Los Angeles 092358

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Paul B. Witmer
Manager

16.0:f
cc: Mining Supervisor, USGS
American Bonding Co. of Baltimore

TRUE COPY

BY

RODNEY STOKES CO.

870 THIRD AVENUE

SAN DIEGO

MAY 24 1955

MAY 31 1955
RECEIVED
Minerals Administration
Bureau of Mine Inspection

IN REPLY REFER TO:

Los Angeles
092358

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Land Office
1515 Post Office Building
Los Angeles 12, California

April 28, 1955

DECISION

Frank G. Felden	:	Mineral Lease
	:	Los Angeles 092358

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Paul B. Witmer
Manager

16.0:f
cc: Mining Supervisor, USGS
American Bonding Co. of Baltimore

TRUE COPY

BY

RODNEY STOKES CO.

870 THIRD AVENUE
SAN DIEGO

MAY 24 1955

C. Downs

Department of the Interior
Bureau of Mines Administration
RECEIVED
MAY 31 1955

IN REPLY REFER TO:

Los Angeles
092358

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Land Office
1515 Post Office Building
Los Angeles 12, California

April 28, 1955

DECISION

Frank G. Felden	:	Mineral Lease
	:	Los Angeles 092358

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Paul B. Witmer
Manager

16.0:f
cc: Mining Supervisor, USGS
American Bonding Co. of Baltimore

TRUE COPY

BY

RODNEY STOKES CO.

870 THIRD AVENUE
SAN DIEGO

MAY 24 1955

DEPARTMENT OF THE ARMY
Robert Lindsay
Administrator
RECEIVED
MAY 31 1955

DOCKET
SURNAME

400

Martin
Hedges
Kiilsgaard
Selfridge
Fehlmann

MAY 19 1955

Messrs. Frank G. Falden & Henry J. Halloran
681 - I Street
Chula Vista, California

Re: Docket No. DMEA 3803 - Tungsten
BLM Mineral Lease L.A. 092358
San Diego County, California

Gentlemen:

The above-docketed application for exploration assistance has been reviewed by the Iron and Ferro-Alloys Division of the Defense Minerals Exploration Administration and referred to Mr. Spangler Richmond, Executive Officer, DMEA Field Team, Region II, 1605 Evans Avenue, Reno, Nevada, for a field examination of the property.

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

As the lease by which you control the subject property has recently been amended, it would be appreciated if you would furnish this Administration with four copies of the amended lease dated April 12, 1955.

Sincerely yours,

C. O. Mittendorf

Administrator

FARutledge:foc
5-18-55
cc to: Docket
Code 400
Adm. Reading File
Operating Comm.
FT. REG. II
Messrs. Holliday, USBM
Kiilsgaard, USGS

R.C.B.

DOCKET
SURNAME

400

Martin
Holliday
Selfridge
Johnson

MAY 1 9 1955

Mr. Spangler Rickert, Executive Officer
DMEA Field Team, Region II
1605 Evans Avenue
Reno, Nevada

Re: Docket No. DMEA 3803 - Tungsten
Frank G. Felden & Henry J. Holloway,
Partners
BLM Mineral Lease L.A. 092358
San Diego County, California

Dear Mr. Rickert:

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

In reviewing the application, several descriptions of the property area were noted. The description set forth under Article 3(a) of form MF-103 is correct and agrees with that contained in the revised lease issued as of April 12, 1955.

Two copies of a relevant memorandum dated May 11, 1955, by M. E. Nelson, Geological Survey, are enclosed for your information.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (JHB)

Enclosure

APPROVED:

J. H. Hedges (JHB)
Member, Bureau of Mines

Thor H. Kiilsgaard (JHB)
Member, Geological Survey

FARutledge:foc
5-18-55
cc to: Docket
Code 400
Adm. Reading File
Operating Comm.
FT. REG. II
Messrs. Holliday, USBM
Kiilsgaard, USGS

R.C.J.

IN REPLY REFER TO:

Hacked

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 13 1955

May 11, 1955

Re: DMEA-3803
Frank G. Felden
Felden-Halloway
Prospect
Julian, San Diego
County, Calif.
$20,000 - Tungsten

WSM

Memorandum

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

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

Subject: Review of application

An up-to-date report on this prospect is needed. The reports by L. P. Pearce (1952) and D. M. Van Sickle (1953) cover~~s~~ but part of the shaft work listed under '2' General Technical Data.

For the footage of work done, 75 feet of shaft and 50 feet of open cut, the scheelite recovered is small, 65 pounds, 3.25 units of WO_3. From the reports, especially that of Van Sickle, it may be inferred that scheelite is present in several garnet zones. No estimate of the average grade of the skarn has been made. A careful examination with a mineralite should indicate whether or not the average is better than the production suggests.

A Field Team report is recommended.

N. E. Nelson

N. E. Nelson

Copy retained 400

May 9, 1955
Subject: DMEA-3803
Re: Exploration Assistance
Tungsten

Mr. Frank G. Felden and
Mr. Jenry J. Holloway, Partners
681 - I Street,
Chula Vista, California.

Gentlemen:

The receipt of your application dated April 20, 1955 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA - 3803 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

By phone 5/11/55
Mr. Abernethy, USGS, CD, advised lease amended April 19, 1955
to E 1/2 S E 1/4 Sec. 26
N E 1/4 N E 1/4 Sec 35 which checks
with description in application under 3(c)

60932

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

Department of the Interior
Defense Minerals Administration
RECEIVED
MAY 6 - 1955

APR 21 1955

Mr. Frank G. Felden
~~c/o Banner Store~~ 681- I Street
~~Julian~~, California
Chula Vista,

Dear Mr. Felden:

This will acknowledge receipt of four copies of application form, MF-102, on which you request financial assistance on an exploration project.

Please be advised that the proper form for use in applying for financial assistance on an exploration project is MF-103, five copies of which are enclosed. It would be appreciated if you would prepare the form MF-103 and return your application in an original and three copies.

There is also enclosed for your information a copy of DMEA Order-1, Amended, together with a copy of the pamphlet, "The Defense Minerals Exploration Program," which explains the minerals exploration program in detail.

Sincerely yours,

Robert E. Adams

Robert E. Adams, Chief
Operations Control and
Statistics Division

Enclosures 3

Thank you
Frank G. Felden

Enclose find Form MF-100, did not know if I should of sent these or not.

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

MAY 6 - 1955

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. 3803
Metal or Mineral Tungsten
Date Received May 6, 1955
Estimated Cost $20,000
Participation (Government %) 75

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: Frank G. Felden and Henry J. Holloway, Partners.
681 - I Street, Chula Vista, California.

(*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. Partnership

(*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 Data Attached

(*b*) State any mine name by which the property is known. None

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

(*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. Copy of Lease attached

(*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. None

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. Data Attached

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades. None

(*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. Data Attached

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

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

16—66551-1

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

(*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. Core Drilling

(*c*) The work will start within 30 days and be completed within Six 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. Data Attached

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

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

(*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)? Yes

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

[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 April 20th, 1955

Frank G. Felden
(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

RECEIVED
JUN 6 - 1956

ESTIMATE OF COSTS.

(a)	Core Drilling Contract 2500 lineal feet @ $7.50 per foot	$18750.00
(b)	Engineering & Assaying (Estimate)	1250.00
		$20000.00

(c) Included in drilling contract.

(d) Included in drilling contract.

(e) None.

(f) None.

(g) None.

(h) None.

COPY

Defense Minerals Administration
RECEIVED
MAR 21 1951

Financial Statement of Henry J.Halloway.

Overland Theatre,2514 Woodson Rd.,Overland,Mo.	$50,000.00
Gem Theatre,8840 St.Charles Road,St.John's Mo.	$-100,000.00
	$150,000.00

all paid for.

Witness; Geo R. Jamison

Henry J. Halloway

Defense Minerals Administration
MAR 6 - 1951

General Technical Data.

Following information applicable to Form MF-100, application of Frank G. Felden and Henry J. Halloway.

1. (a) Tungsten Ore (Sheelite)
   (b) None

2. U. S. Department of the Interior, Bureau of Land Management Mineral Leases. No. L. A. 092358
   (a) 40 linear feet of vertical shaft (4'X6')
   (b) 38 " " " incline shaft.
   (c) None.
   (d) 50 linear feet of open cut
   No pumping required, all shafts and cuts dry.

3. (a) 21 miles east of Julian, California
   (b) Mason Valley Mining District
   (c) East one half (½) of Southeast quarter (¼) of Section 26 and the Northeast one quarter of the Northeast one quarter (¼) of Section 35, all in the Toenship 13 South, Range 5 East, S. B. M.
   (d) San Diego County, California.

4. (a) Have been doing development work for the past three years.
   (b) Lessee

5. Have been doing development work for the past three years, have an estimated twenty tons of milling ore stock-piled at lease; have milled about three tons ore in pilot mill and recovered 128 pounds of 51% Tungsten Trioxide. This ore was hand selected.

6. Have prospected and done development work on this property and have had 15 years experience in Hardware and Lumber, contracting and all types of construction.

7. (a) Answered under Paragraph 2 above.
   (b) None.
   (c) Enclosing reports from U. S. Department of the Interior Mining Branch, Salt Lake City, Utah, also Mr. Van Sickle, Geoligist, Los Angeles, Bureau of Land Management.

COPY

Form MF-100
(May 1951)

DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 21 1955

Form approved.
Budget Bureau No. 42-R1026.

GENERAL TECHNICAL DATA
FOR USE UNDER THE
DEFENSE PRODUCTION ACT OF 1950

NOT TO BE FILLED IN BY APPLICANT

Docket No. _____

Date received _____

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 6 - 1955

[Frank C. Fuller, c/o Homer Laughlin, Julian, California
Henry F. Holloway, 5050 St. Charles Rd.,
St. Louis 14, Missouri.]

Name and address of applicant

Date Apr. 20, 1955.

INSTRUCTIONS

This form is to be filed with Defense Minerals Administration, Department of the Interior, Washington 25, D. C. It should be accompanied by appropriate application form when a specific type of Government assistance is requested, in the form of (1) loan, (2) purchase contract, (3) Government guarantee of a private loan, (4) priorities or allocation of mining equipment, and maintenance, repair and operating supplies, and (5) other forms of Government assistance that might arise under the Act. Submit four (4) signed copies of the form and accompanying papers. Name and address should be stamped or typed on each sheet of this form and all accompanying papers. *When a question is inapplicable it should be so stated on the form.* Additional sheets may be attached in answering any questions or in supplying additional information. (IF YOU CANNOT ANSWER A QUESTION, SO STATE.) If a question is answered elsewhere indicate where answered. It is not necessary to answer it again.

GENERAL TECHNICAL DATA

Supply the following information on separate sheets, arranged, numbered, and lettered as indicated:

1. Materials produced:
   (*a*) What are the chief mine, mill, or smelter products?
   (*b*) What are the byproducts, if any?
2. Name(s) and type(s) of mine(s), mill(s), smelter(s), refinery(ies), pit(s), quarry (ies), drilling operation(s). Include old names of property, if any. Show extent of workings, including the following:
   (*a*) Linear feet of shafts.
   (*b*) Linear feet of drifts and crosscuts.
   (*c*) Linear feet of tunnels or adits.
   (*d*) Linear feet of other mine openings (explain briefly).

   Indicate whether mine is flooded or not. Describe any pumping problems. Give size or productive capacity.
3. For each operation listed above supply the following:
   (*a*) Distance and direction from nearest town and shipping point.
   (*b*) Mining district.
   (*c*) Township, Section, Range.
   (*d*) County, State.
4. (*a*) State whether or not property is now in operation, and if in operation, by whom operated.
   (*b*) Are you operating this property as:
   - ☐ Owner.
   - ☒ Lessee.
   - ☐ Contractor.
5. Number of years in production _____

   If not in production or operation, estimated date when production will begin _____
6. Experience of operators:

   Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who manage the project.
7. History:
   (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for suspension of operation.
   (*b*) State briefly the known history and production of adjoining and neighboring properties.
   (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

8. Names and addresses of Officers, Directors, or Partners, and in addition thereto, the five largest stockholders if applicant is a corporation.

Name and Address (a)	Official Title (If officer is also director indicate by "D") (b)	Total of Annual Salary, Commissions, Bonuses, Etc., Received From Applicant and Affiliates During Last Fiscal Year (c)	Estimated Net Worth Outside of Interest in Applicant (d)	Number of Shares Held in Applicant Corporation: Common (e)	Number of Shares Held in Applicant Corporation: Preferred (f)	Life Insurance Carried for Benefit of Applicant: Amount (g)	Life Insurance Carried for Benefit of Applicant: Net Cash Surrender Value After Loans (h)
Not Applicable							
	Total		x x x x x			x x x x x	x x x x x

If more lines are needed continue on separate sheet.

9. Capital Stock Issues:

For Corporate Applicants

Item	Authorized (a)	Outstanding (b)	Par Value (c)	Number of Shares Outstanding (d)	Dividend Rate Last Paid* (e)
Common stock Not Applicable		$	$		
Preferred stock	$	$	$		

*Indicate period covered.

10. Production:

Item	Kind of Product (a)	1948 Total (b)	1949 Total (c)	1950 Total (d)	Present Average Monthly (e)
1. Quantity of product mined or quarried (Short, long, metric tons; barrels; pounds; etc.)	None				
2. Quantity of product processed (specify unit of measure and type of process)	None				
3. Quantity and grade of product sold or shipped (specify units of measure)	None				

11. Do you contemplate a change in the present average monthly rate of production? If so, state estimated maximum monthly production and basis of change. Not Applicable

12. Ore or Mineral Reserves:

(a) Describe the ore or mineral deposit briefly. Accompany the application by any available report on the geology and ore reserves.

Report Enclosed

(b) If deposit is other than placer:

(1) Submit assay plans and/or sections showing location and size of proved (measured) and probable (indicated) ore or mineral reserve.

(2) State the tonnage (indicate type of ton) and grade of each class of ore reserve, as above, and show how computed. Tabulated total ore reserve as follows:

TOTAL ORE OR MINERAL RESERVES

Ore or Mineral Reserve	Estimated Tons	Metal or Mineral Content Per Ton (Grade)	Gross Value Per Ton	Recoverable Unit Value Per Ton	Estimated Cost of Production Per Ton
	(a)	(b)		(d)	(e)
Measured (proved)	Unknown - Purpose of loan is to determine this.				
Indicated (probable)					

Not Applicable

(c) If placer:

(1) Give estimated total yardage and average marketable mineral content of each deposit.

(2) Submit map showing location of placer deposit and surrounding area, with all test holes or pits. Submit logs of each hole and test pit with depth and average value of each.

(3) Describe gravel, stating whether fine, medium or coarse; loose, tight, cemented, or frozen, and whether it contains stumps or boulders more than 1 foot in diameter; if so, how large, and in what proportion.

(4) Describe bedrock, giving type (granite, sandstone, shale, etc.) and state whether it is hard or soft, smooth, uneven or rough.

(5) Describe overburden, stating whether loose, tight, or cemented; fine or coarse textured; furnish estimate of average thickness and total amount.

(6) Tabulate the reserves using the form outlined above for ore or mineral reserves.

Report by L. A. Pearce - Enclosed

13. Access Roads:

Give road distances to shipping, supply and residence points, stating kind and condition of roads.

None - Core drilling contractor will supply water for his use

14. Water Supply:

State source and quantity of water available for operations and whether sufficient for all seasons of year.

None

15. Power:

State amount of power used, rate per hour, and source thereof.

None

16. Labor:

State number and classes (miners, muckers, millmen, etc.) of men employed during a recent representative payroll period.

None

17. Equipment and Facilities:

Describe present equipment on the property, including buildings. (State condition.) List major pieces of equipment now owned or controlled and in serviceable condition available for this operation.

18. Are there any particular conditions or circumstances affecting your operations that are not described above? If so, explain.

No.

CERTIFICATION

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

(Name of company)

By Frank G. Felder
(Signature of authorized official)

April 20th 1955
(Date)

Henry J. Halloway
(Title)
PARTNER

Witness to signature Bo A. Jansson

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—63792-1

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Form 4-244

"RECEIVED
LAND OFFICE
LOS ANGELES, CALIF."

1955 MAR 4 AM 11:20

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

~~AMENDED LEASE~~

District Land Office at Los Angeles, Cal.

Serial No. 092358

MINING LEASE UNDER THE ACT OF MARCH 3, 1933 (47 Stat. 1487)
AS AMENDED

This indenture of lease, entered into, in triplicate, this **1st** day of **August**, 19**52**, by and between the United States of America, acting in this behalf by the ~~Secretary of the Interior~~ **Manager of the Land Office,**, party of the first part, hereinafter called the lessor, and **Frank G. Felden**, party of the second part, hereinafter called the lessee, under, pursuant, and subject to the terms and provisions of the Act of Congress, approved March 3, 1933 (47 Stat. 1487), as amended by the Act of June 5, 1936 (49 Stat. 1482) and as supplemented by the Act of June 29, 1936 (49 Stat. 2026), and to all reasonable regulations of the Secretary of the Interior issued pursuant thereto and now or hereafter in force, when not inconsistent with any express and specific provisions herein, which are made a part hereof.

Witnesseth:

That the lessor, in consideration of the rents and royalties to be paid and the covenants to be observed as herein set forth, does hereby grant and lease to the lessee the exclusive right and privilege to mine and dispose of all the **tungsten** in, upon, or under the following described tracts of land, situated in the **W½SW¼ sec. 25; E½SW¼, E½NW¼ sec. 26; NW¼NE¼ sec. 35, T. 13 S., R. 5 E., S.B.M., California,**

containing 320 acres, more or less, together with the right to construct all such works, structures, and appliances as may be necessary for the mining and removal of the leased minerals, and, subject to the conditions herein provided, to use so much of the surface as may reasonably be required in the exercise of the rights and privileges granted for a period of five years, subject to renewal, in the discretion of the Secretary, at the expiration thereof for additional periods of five years each, on such reasonable terms as may be prescribed by the Secretary of the Interior, at the time of such renewal.

Section 1. The lessee, in consideration of the lease of the rights and privileges aforesaid, hereby agrees:

(a) To commence mining within 12 months from the date hereof and thereafter to continue mining with reasonable diligence, and, except when operations are interrupted by strikes, the elements, or casualties not attributable to the lessee, to mine and produce during the second year following the approval of the modification and each succeeding year, minerals from the leased area, to the gross value of not less than Nine Thousand Six Hundred dollars, or to pay royalty on said gross value if the value of production be less, unless on application and showing made operations shall be suspended for not exceeding six months at any one time because of adverse market conditions, in which event such annual production requirement shall be reduced proportionately.

(b) To pay in advance for each acre or fraction thereof a rental of 25 cents for the first lease year and $1.00 per acre or fraction thereof for each subsequent lease year, the rental so paid for any one lease year to be credited against royalties accruing for that year; and to pay quarterly a royalty of ~~5~~ per centum of the gross value of the minerals mined at the point of shipment to market, such royalty to be paid to the Manager of the appropriate United States land office not later than 30 days after the period for which it accrues.

(c) To determine accurately the weight or quantity of all minerals mined from the leased premises, to enter such weight or quantity and the value thereof in books to be kept for such purpose and to furnish a written report within 30 days after the expiration of each quarter, under oath by the superintendent of the mine, or by an agent, designated by the lessee for such purpose, having personal knowledge of the facts, showing the amount of minerals mined during the quarter, their character and quality, the amount of the products any by-products disposed of and prices received therefor, and the amount in storage or held for sale.

(d) To maintain a corporate surety bond in the sum of $[redacted] furnished by the lessee as a condition for the issuance of this lease, which bond is conditioned upon compliance with the terms and provisions of this lease and the payment to the surface owner for any damage to the desert growth and scenic or other natural features or improvements which render the land valuable for the purposes for which it was granted resulting from operations under this lease.

(e) Deleted in compliance with EAR Order No. 569

~~(e) To the reservation pursuant to the provisions of the act of August 1, 1946 (60 Stat. 755), of all uranium, thorium or other material which has been or may hereafter be determined to be peculiarly essential to the production of fissionable materials, whether or not of commercial value, together with the right of the United States through its authorized agents or representatives at any time to enter upon the land and prospect for, mine and remove the same making just compensation for any damage or injury occasioned thereby.~~

(f) Not to discriminate against any employee or applicant for employment because of race, creed, color, or national origin, and to require an identical provision to be included in all subcontracts.

(g) To comply with all laws, rules and regulations of the surface owner for the safeguarding and protection of the plant life and the scenic and other natural features and improvements upon the leased lands so far as not inconsistent with the terms of this lease and of the regulations under which it was issued.

(h) To locate all mine workings and conduct mining operations in such manner as to cause the least possible injury to the surface, plant life and natural features and improvements of the surface and upon abandonment of any mining works, to condition the same to the satisfaction of the surface owner and not to travel across any of the patented area for the purposes of this lease except on a right of way approved by the surface owner.

(i) That no assignment or sublease of this lease or any interest therein shall be effective until approved by the lessor.

Section 2. The lessee also expressly agrees that:

(a) All mining and related operations shall be subject to the inspection of authorized representatives of the lessor, who may at all times enter upon the leased lands and survey and examine same and all surface and underground improvements, works, machinery, equipment, and operations, examine all books and records pertaining to operations under this lease and make copies of and extracts from any or all of the same, if desired.

(b) At the termination of this lease as the result of forfeiture thereof, the lessee shall deliver up to the lessor the lands covered thereby, including all fixtures, machinery, improvements, and appurtenances, other than strictly personal property, situated on any of said lands, in good order and condition, so as to permit immediate continued operation to the full extent and capacity of the leased premises.

Section 3. It is further mutually understood and agreed as follows:

(a) The lessor may, in writing, waive any breach of the covenants and conditions contained herein, but any such waiver shall extend only to the particular breach so waived and shall not limit the rights of the lessor with respect to any future breach; nor shall the waiver of a particular cause of forfeiture prevent cancellation of this lease for any other cause, or for the same cause occurring at another time.

(b) The lessee may, with the consent of the Secretary of the Interior, surrender and terminate this lease or any legal subdivision thereof, upon making adequate provision for the preservation of any mines or productive works or permanent improvements on the lands; paying all rents, royalties, and other debts due and payable to the lessor, all damages lawfully due to the owner of the surface as determined by agreement between the lessee and such owner or by a court having jurisdiction, and all wages or moneys due and payable to the workmen employed by the lessee.

(c) Upon default by the lessee in the performance or observance of any of the terms, covenants, and stipulations hereof, or the general regulations promulgated and in force at date hereof, the lessor may cancel the lease after notice to the lessee and opportunity to be heard, but this provision shall not be so construed as to deprive the lessor of any other legal or equitable remedy which he might otherwise have.

Section 4. The lessee shall carry out and observe regulations[1/] prescribed by the Secretary of the Interior and in force at the date hereof relative to (1) reasonable diligence, skill, and care in the operation of the leased property in accordance with approved methods and practices, (2) the prevention of waste, (3) the safety and welfare of miners, and (4) shall not

1/ 30 CFR Part 231.

employ any boy under the age of 16 years or any girl or woman without regard to age in any mine below the surface. Should the lessee fail to take prompt and necessary steps to prevent loss or damage to the mine, property, or premises, or danger to the employees, the lessor may enter on the premises and take such measures as may be deemed necessary to prevent such loss or damage or to correct the dangerous or unsafe condition of the mine or works thereof, which shall be at the expense of the lessee.

Section 5. Each obligation hereunder shall extend to and be binding upon, and every benefit hereof shall inure to, the heirs, executors, administrators, successors, or assigns of the respective parties hereto.

Section 6. The lessee also agrees that no Member of or Delegate to Congress, or Resident Commissioner, after his election or appointment, and either before or after he has qualified, and during his continuance in office, and no officer, agent, or employee of the Department of the Interior or of the owner of the surface shall be admitted to any share or part in this lease, or derive any benefit that may arise therefrom, and the provisions of section 3741 of the Revised Statutes of the United States and sections 114, 115, and 116 of the Criminal Code, Act of March 4, 1909 (35 Stat. 1109, 18 U.S.C. 204, 205, 206) relating to contracts, enter into and form a part of this lease so far as the same may be applicable.

Date of modified lease: February 1, 1955.

In witness whereof

THE UNITED STATES OF AMERICA,

By Joel R. Stone

~~Secretary of the Interior, Lessor~~
Manager, Land Office, Lessor

Frank G. Felden
Lessee.

Witnesses:

Lee Meredith

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Room 529
Post Office & Court House
Los Angeles 12, Calif.

September 10, 1953

Memorandum

To: B. W. Dyer, Regional Mining Supervisor

From: D. M. Van Sickle, Geologist

Subject: Mineral lease L.A. 092358

Reference is made to your letter of August 7, 1953, requesting a geologic examination of mineral lease L.A. 092358. The leased land consists of the W½E½ of section 26 in the unsurveyed T. 13 S., R. 5 W., S.B.B.&M., San Diego County, California. According to the lessee, Mr. F. G. Felden, an application has been filed to include the E½SW¼ and the E½SE¼ of section 26 and the W½SW¼ of section 25, and to exclude the W½NE¼ of section 26. These lands are situated in the Anza State Park, approximately eight miles by road south of California Highway No. 78, at an elevation between 2,700 and 3,200 feet. The region is quite arid, the only vegetation being various species of cacti, yucca, a few succulents, and sage brush.

The only map available which covers the area is the Army Engineers' Borego topographic quadrangle (15 min.). No aerial photographs were obtained, however, if it is found necessary to do further work in the area it is understood that photos may be obtained from the Production and Marketing Administration in Salt Lake City. A plane table map (fig. 1) was made to tie in the mineralized zones and other features with the known triangulation station, point Seyer, of the Army Engineers. Fig. 2 is a sketch map of the lessee's principal workings and the main mineralized zone on the lease. It should be noted that when the road to the prospect was surveyed the surveyor put a 3/4" iron pipe at what he called the southeast corner of the lease. This corner does not agree with the writer's projection of the section from the township to the west, as shown on fig. 1.

No geological information is available from published sources covering this area. However, data concerning stratigraphy and rock relationships were obtained mainly from the two following publications covering an area to the west and extending to within four miles of the leased land. D. L. Everhart, Geology of the Cuyamaca Peak Quadrangle: Calif. Div. Mines Bull. 159; S. C. Creasey, Geology and nickel mineralization of the Julian-Cuyamaca area, San Diego County: Calif. Jour. Mines & Geology, Vol. 42.

are abundant in all the rock units. In the Julian schist they generally are found to parallel the schistosity, but a few cut across the structure. In one instance where the schist has been folded the pegmatite conforms to the folding.

Other rock units undoubtedly crop out in the area, such as, Everhart's so-called Mixed Rock of Julian schist and Stonewall granodiorite, but no attempt was made to identify them.

Structure

The dominant structural feature is the northwest-southeast strike of the Julian schist. As a rule, the dip of the schist ranges from vertical to steeply northeast, and the strike from N. 10° W. to N. 30° W. Locally the schist can be seen to strike in various directions, generally near crystalline rock, as shown in fig. 2 near the mineralized zone. No faults could be definitely established, however, about 750 feet east of the shaft (fig. 1) a zone 2 to 6 feet wide in the schist body, having the appearance of a fault breccia, was observed trending northwest past the mine road and southeast more than 200 feet. Some of the large fragments, one foot in maximum dimension, lie in random attitudes, cemented with what appears to be caliche. No mineralization appears to be associated with this zone, however, and its relationship to the country rock of schist is doubtful, although it is probably a crushed zone in which fractures were subsequently filled by the caliche.

MINERALIZATION

Scheelite is the ore mineral and is found in varying concentrations throughout the garnet zone shown in fig. 2 and in several other smaller prospects over the lease where rocks containing garnet crop out. Other minerals associated with the zone are graphite, (usually near the contact with the schist) epidote, diopside?, vesuvianite?, and minor amounts of calcite. The origin of these garnet-rich deposits is probably attributed to a limy marl in the original sediments of the Julian schist which has subsequently been metamorphosed.

The lessee has prospected in two places (fig. 2). The large cut is about 50 feet long, 10 feet wide, and 10 to 12 feet deep at the south, and the vertical hole or shaft which has been sunk is close to 25 feet deep and 5 to 6 feet in diameter. Scheelite-bearing ore taken from the shaft is said to contain 1% scheelite. Several samples picked from the ore dump and viewed under ultra-violet light showed perhaps more than 1% scheelite, while other samples were barren. It appears that the mineralization in the zone is spotty

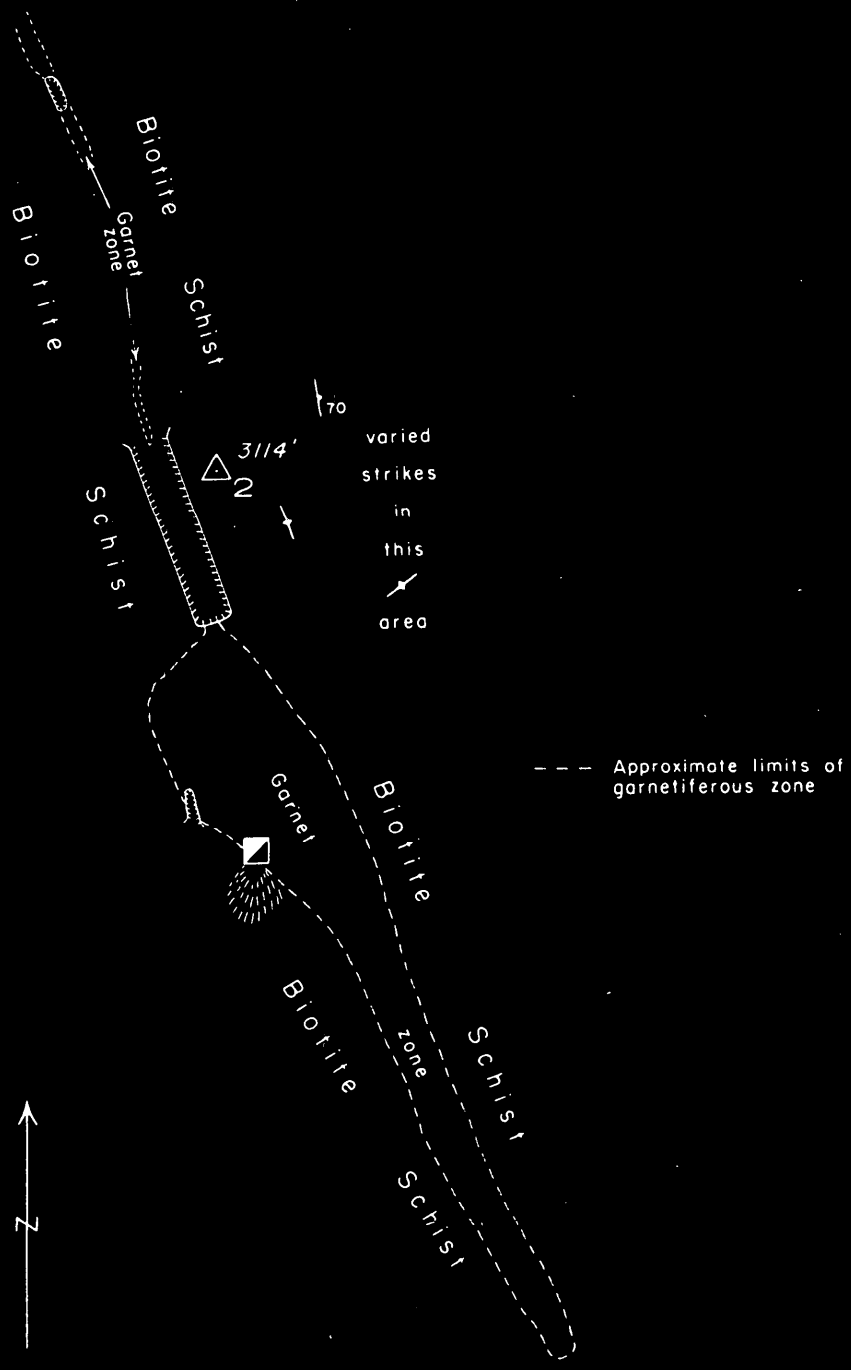
with some places containing good ore and others just showing an occasional fluorescence. The lessee with his small mill has concentrated about 70 pounds of 60% plus scheelite. Although the processed ore was hand picked it is evident that the lease should be further prospected, and more work should be done on the large mineralized area in fig. 2 to determine the lateral and vertical extent of the scheelite.

With the information available no estimate of the quality of ore or quantity of scheelite was attempted. It was found, however, that several garnet zones crop out in the vicinity. These zones appear to pinch out at either end along the strike which is parallel to the foliation or schistosity. The depth of the zones can only be inferred, but it seems likely they could extend in depth to crystalline igneous rock, which in this area would probably be in excess of 500 feet. Several of these smaller outcrops have been looked at and small amounts of scheelite have been noted in most of them.

D. M. Van Sickle, Geologist
Mineral Classification Branch

Copy to: J. D. Northrop
H. I. Smith

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 21 1955



SKETCH MAP OF MINERALIZED ZONE

Mineral Lease L. A. 092358

Scale: 1 inch = 50 feet

Figure 2

Prepared by D. M. Van Sickle

V. L. E.

GENERAL SERVICES ADMINISTRATION

REGION 9 - ARIZONA, CALIFORNIA, NEVADA
and TERRITORY OF HAWAII

CERTIFICATE OF AUTHORIZATION
Domestic Tungsten Program

Number 9 2118

Date October 17, 1951

To: F. G. Felden
1203 E. Orange Ave.
El Cajon, California

Your notice dated September 6, 1951, indicating your willingness to participate in the Domestic Tungsten Program and your undertaking to prospect for or produce tungsten, has been received. You are hereby authorized to deliver to the Government, in accordance with the terms of the Program, tungsten concentrates meeting the specifications contained therein. Reasonable notice should be given to the Government with respect to the availability of any tungsten concentrates for inspection

Robert B. Bradford

ROBERT B. BRADFORD
Regional Director

The following information is the result of a reconnaissance geologic examination of the leased area during August 19 and 20, 1953.

GENERAL GEOLOGY

Geologically this portion of the Borego quadrangle lies within the boundaries of the Peninsular Ranges geomorphic province of California and Lower California. Roughly the province extends from the Santa Ana River near Riverside on the northwest to the central part of Lower California on the southeast, and from the Salton Sea trough to the Pacific coastal plain. The region is a large, complex body of plutonic igneous rocks, with associated crystalline metamorphic rocks. In the Cuyamaca Peak quadrangle to the west of the area investigated, Everhart mapped eleven igneous rock units representative of the batholith ranging from olivine-rich gabbro through granite, to pegmatite dikes.

Rock Units

Julian schist

The Julian schist consists mainly of two metamorphic rocks, quartz-mica schist and quartzite. In the vicinity of the lease only the quartz-mica schist was recognized and it was chiefly quartz-biotite schist, extremely schistose, and generally fine-grained. Minor constituents which appear locally are quartz-biotite gneiss and quartz-biotite muscovite schists. This rock unit is the oldest exposed in the area. Its structures are cut off by all the igneous rocks in contact with it. Because of the lack of fossil evidence for a direct age determination, conclusions have been based on lithologic similarity to dated rocks. The designation of a Triassic age or older seems to satisfy all the possibilities. It has therefore been tentatively assigned to the Triassic age.

Stonewall granodiorite

Although the Stonewall granodiorite is not exposed in the immediate vicinity of the lease, it is found to crop out within a mile or so to the north and east. No attempt was made at this time to map its areal extent in the area. Generally it is light gray, medium to coarse grained, with a granular texture.

Pegmatite

Light-colored pegmatites containing potash feldspars and quartz occur throughout the area. Some appear as stringers or veins a few inches wide and others as dikes several feet wide. The pegmatites

A. H. HOLLAND, PRES.
EDMUND E. PHILLIPS, VICE-PRES.—GEN. MGR.

OUR MOTTO:—WHAT THERE IS IN IT, NO MORE, NO LESS.

M. E. HOLLAND, TREASURER
M. E. PHILLIPS, SECRETARY

THE COLORADO ASSAYING COMPANY

(Incorporated)

COMPLETE ANALYSIS ON ANY ORE $25.00 UP
THIS ANALYSIS WILL DETECT AND REPORT EVERY ELEMENT OR METAL THAT MAY BE PRESENT IN THE ORE, TOGETHER WITH THE PERCENTAGE AND VALUE OF EACH. IT IS THE MOST SATISFACTORY ANALYSIS TO APPLY ON ALL UNKNOWN ORES, WHOSE GENERAL APPEARANCE INDICATES PROBABLE VALUES

ASSAYERS AND CHEMISTS

2013 WELTON STREET

QUALITATIVE ANALYSIS $5.00
THIS ANALYSIS WILL DETECT AND REPORT THE ABSENCE OR PRESENCE OF THE FOLLOWING 23 METALS: LEAD, SILVER, MERCURY, GOLD, BISMUTH, ARSENIC, ANTIMONY, COPPER, CADMIUM, TIN, ALUMINUM, MANGANESE, COBALT, ZINC, CHROMIUM, STRONTIUM, IRON, NICKEL, BARIUM, CALCIUM, MAGNESIUM, TUNGSTEN AND MOLYBDENUM.

DENVER 1, COLO., Jan. 12, 1955.

Report on Spectrographic Analysis submitted by Mr. Frank G. Felden, Thermal, California.

* *

From Stockpile

ELEMENTS PRESENT	APPROXIMATE PERCENTAGES
Silicon	major
Aluminum	10.-15.
Calcium	5.-15.
Iron	3.-5.
Magnesium	5.
Sodium	2.-5.
Potassium	2.-3.
Tungsten	.5-2.
Manganese	.3-1.
Beryllium	.001
Titanium	.1-.3
Barium	.01-.05
Copper	.01
Lead	.001
Nickel	.01
Chromium	.001
Molybdenum	.01
Tin	.001
Vanadium	.001-.01
Gallium	.001
Zirconium	.01

Gold .01 ounces per ton - 35¢ per ton
Silver trace
Tungsten Trioxide 0.89%

REMARKS: This sample consists chiefly of white Feldspars (sodium potassium calcium aluminum silicate) with green Hornblende (complex calcium magnesium iron aluminum silicate), hard brown Garnet (calcium iron aluminum silicate) and soft black Graphite (carbon).
The heavy white crystalline are Scheelite (tungsten and lime).
The Tungsten is the only metal present of commercial value.

Respectfully submitted,

THE COLORADO ASSAYING COMPANY

Edmund E. Phillips

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 21 1955

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Mining Branch
306 Federal Building
Salt Lake City 1, Utah

MINING LEASE (TUNGSTEN) LOS ANGELES 092358
FRANK G. FELDEN

Examined by L. P. Pearce in company with Mr. Felden November 15, 1952.

The mine, presently a small surface trench or open-cut is located in the SW¼SE¼ sec. 26 and is reached by traveling east 6 miles from Banner on Highway 78 to the junction of the old Butterfield stage road, where there is a monument; thence south on the old road 9 miles to the mine road which turns off to the left; thence south about 3/4 of a mile to the mine located on a low ridge. The mine road is too steep for a passenger car. The lease is situated in the Anza State Park and the minerals situated therein subject to leasing under Act of Congress approved March 3, 1933, as amended by Act of June 5, 1935.

Geologically the country rock is of igneous origin and predominately granite and diorite, and numerous zones of metamorphosed rocks principally quartzite and mica schist with intruded veins of quartz are found in the area. In the Julian and Banner districts considerable gold was produced in the early days from the mineralized mica schists.

The mine is an open-cut in a bed of schist principally a graphite schist 4 feet to 5 feet thick. The metamorphosed zone is several hundred feet wide. The open-cut is about 20 feet long on the strike of the bed and about 10 feet deep. The bed strikes N. 20° W. and dips about 80° to the southeast. Both walls of the vein appeared to be biotite mica schist, however the footwall appeared to have undergone additional change in structure. An examination of the surface outcrops showed a large area of metamorphosed rocks of the same dip and strike as the mineralized bed. The rocks are principally mica schists which are very resistant to weathering resulting in the ridge and outcrop exposure of mineralized schist. A further examination of the ground showed that the hanging wall is a thick bed of mica schist and that the footwall which is thin, is in proximity with a bed of garnetiferous rocks and underlying limestone.

As the vein being mined is a schist principally graphite schist, it appears that the mineralization could not have been of a replacement type and it is assumed that the ore was introduced into the schist at a high pressure and very high temperatures from the igneous intrusive from the footwall side of the vein and that the garnetiferous outcrop has some intermediate connection with the mineralization. Examination of the garnetiferous outcrop with a mineralite by Mr. Felden indicates the presence of scheelite and it may be found that there are higher values between the footwall, and the intervening rock and the limestone, especially the contacts, and it is recommended that a cross-cut be driven from the footwall to prospect the intervening rock between the footwall and the limestone or by open-cut from the surface.

The examiner was present when the first shot was made in the ore body. The open-cut was covered with a tarpaulin so that mineralites which are used for sorting could be effective. The fragmented rock appeared to be of milling quality and the ore sorted out was estimated to be 1 to 2 percent scheelite. It was of interest to note that the footwall showed considerable scheelite.

As there are no mills to concentrate the ore in the vicinity the lessee has contacted the operator of a small inactive gold mill near Banning with the hope that this mill could crush and table a few tons a day. The lessee began mining November 1 and had mined and sorted out approximately 30 tons of ore up to the time of the examination; 12 tons of this amount are stored at the mill. He estimates the ore contains 1 to 2 percent scheelite.

It is the lessee's intention for the present to continue the open-cut southerly along the apex of the vein pending developments as to milling and the outcome of the values encountered in mining.

As the W$\frac{1}{2}$NE$\frac{1}{4}$ sec. 26 is off the mineralized zone the lessee was advised to apply for modification of the lease to exclude this acreage and to include land adjacent to the mine.

The township lines of 13 S., R. 5 E., were surveyed in 1858 and the section lines in 1879. The lessee has been unable to find any section corners, and has had to depend on the location of the main road with respect to the N$\frac{1}{4}$ corner section 26 as shown on the plats, and a recent topographic map to locate his lease lines. It is therefore recommended that the B.L.M. be advised and requested to resurvey section 26.

A geologic study of the area surrounding the mine by a survey geologist would be of advantage to the lessee and the government.

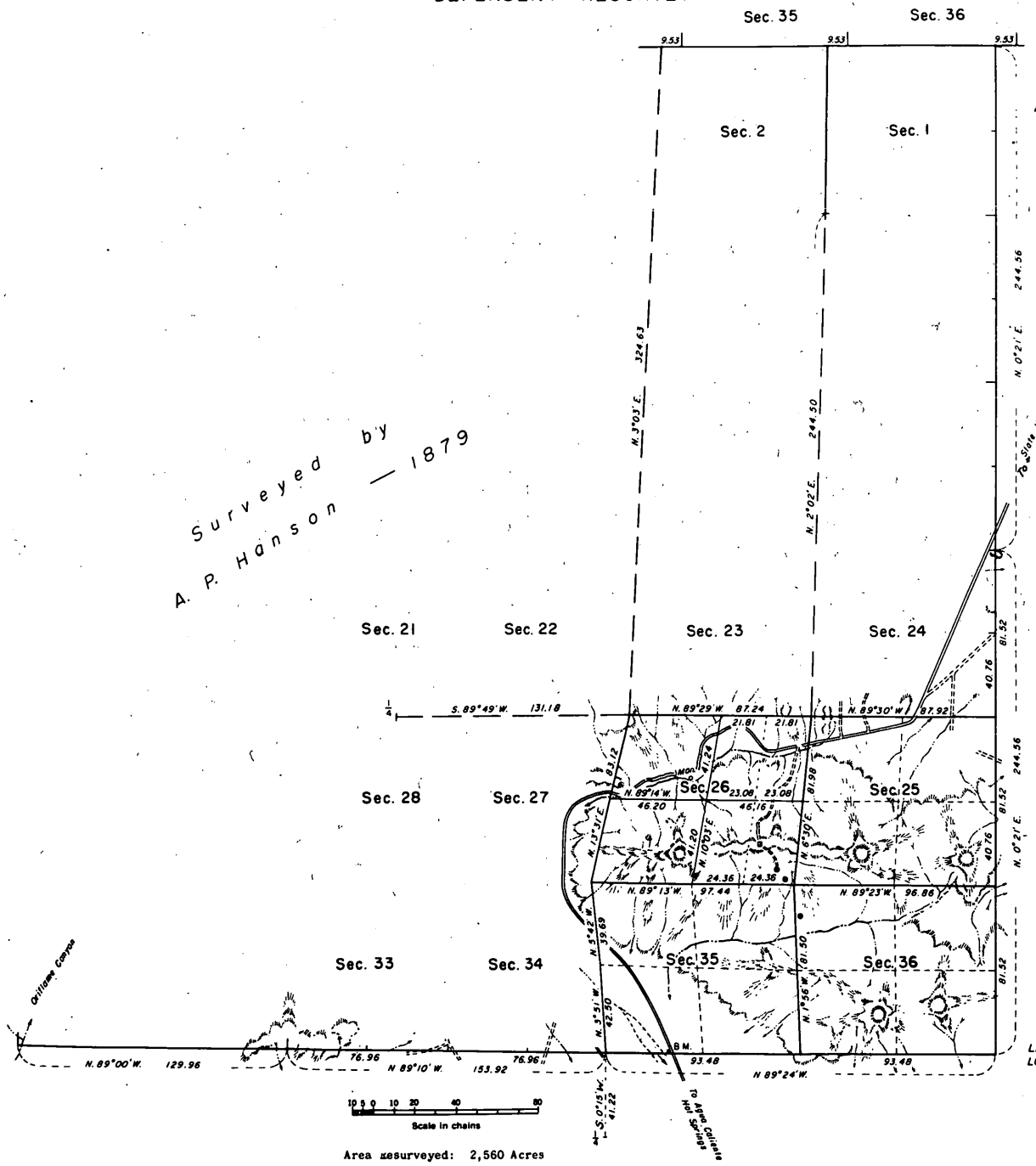
The help and courtesies extended to the examiner are acknowledged and appreciated.

L. P. Pearce
Mining Engineer

November 28, 1952

TOWNSHIP 13 SOUTH, RANGE 5 EAST OF THE SAN BERNARDINO MERIDIAN, CALIFORNIA

DEPENDENT RESURVEY



Area resurveyed: 2,560 Acres

This plat represents a retracement and reestablishment of a portion of the township boundaries and subdivisions designed to restore the corners in their original positions according to the best available evidence. The lottings and areas are as shown on plat of original survey approved July 26, 1880.

Resurvey of portions of East and South boundaries and a portion of the subdivisions and the survey of subdivisional lines within Section 26, executed by Quintin Campbell, Cadastral Engineer, and Chester A. Swiatek, Cartographer, February 19 to March 12, 1954, under special instructions for Group 396, California, dated September 24, 1953.

UNITED STATES
DEPARTMENT OF THE INTERIOR
Bureau of Land Management
Washington, D. C.
July 27, 1954

This plat is strictly conformable to the approved field notes, and the survey, having been correctly executed in accordance with the requirements of law and the regulations of this Bureau, is hereby accepted.

For the Director

Earl G. Harrington

Cadastral Engineering Officer

LATITUDE 32°59.5' N.
LONGITUDE 116°24.7' W.

DEPARTMENT OF THE INTERIOR
Bureau of Mines Minerals Administration
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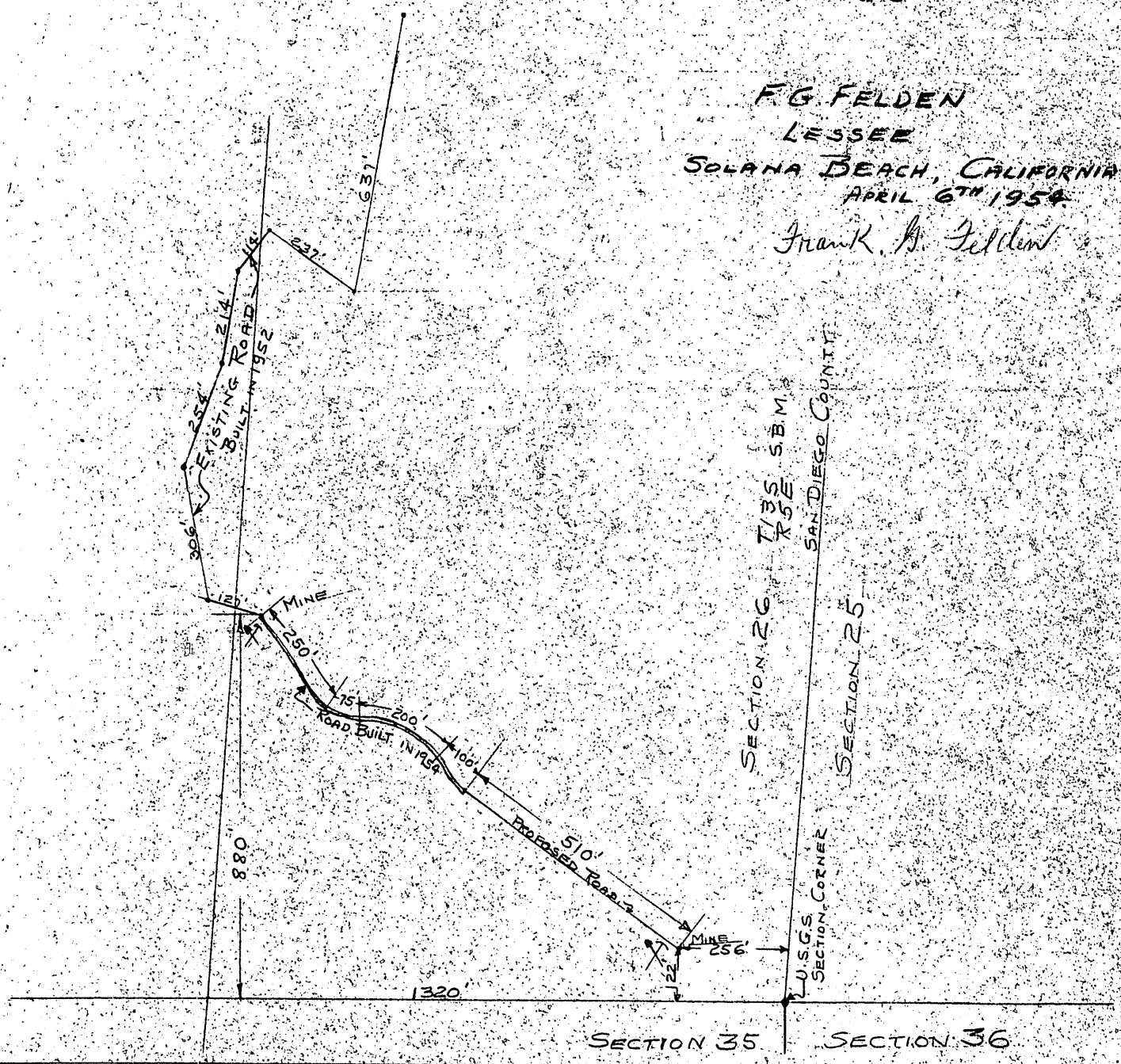
6 - 1954

AMENDED MINERAL LEASE No. LA 092358
U.S. DEPT OF INTERIOR
BUREAU OF LAND MANAGEMENT

F.G. FELDEN
LESSEE
SOLANA BEACH, CALIFORNIA
APRIL 6TH 1954

Frank G. Felden



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