DMA Form 1

DEFENSE MINERALS ADMINISTRATION
Control Slip

CONTROLLED DOCUMENT

DMA Docket No. 3322

DO NOT DETACH THIS SLIP

Action on this document is recorded and controlled in Reports and Records Branch. Any movement of this document between divisions or offices of DMA or movement outside DMA must be reported to the Reports and Records Branch. Actions taken that affect status of the case must also be reported.

This document has been recorded as

Exploration Assistance

Any action taken to change the type of request for assistance must be promptly reported to the Reports and Records Branch. Use DMA Form 2 for submitting these reports.

Cys to USBM & USGS

Routing Slip

To:	400	Date	4/23/54
To:	Oper Comm	Date	5-7-54
To:	Oper Comm	Date	7-30-54
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	

DO NOT DETACH

CONTROLLED DOCUMENT

JUL 30 1954

Denied

San Joaquin Chemical Co.
1506 Clark
Fresno, California

Re: Docket No. DMEA 3322 - Tungsten
Red Bud Mine
Fresno County, California

Gentlemen:

Your application for aid for an exploration project and other data available to us in Washington relating to the above named 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 small amounts of tungsten mineralization on your property, indicates to us that the probability of disclosing minable ore reserves by your proposed program is not sufficiently promising to justify Government participation. We regret to advise, under the circumstances, that your application for exploration assistance is denied.

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

Sincerely yours,

J. D. Mittendorf

Administrator

JHOPKINS:fcc
7-21-54
cc to: Docket
Code 400
Adm. Reading File
Operating Comm.
FT. Reg. III
R. W. Geehan, USBM
E. L. Newcomb, USGS, Rm. 5227

AUG 4 1954

Mr. L. L. Touton
935 Park Circle Drive
Fresno, California

Re: Docket No. DMEA 3322 - Tungsten
San Joaquin Chemical Co.
Red Bud mine
Fresno County, California

Dear Mr. Touton:

This will acknowledge your letter of July 26, 1954, in regard to the status of an application by the San Joaquin Chemical Co. for exploration assistance.

Your letter crossed in the mail with our letter of July 30 which advised the applicant that the referenced request for exploration assistance had been denied. Careful study of all our information indicated to us that the probability of disclosing minable ore reserves by the proposed program was not sufficiently promising to justify Government participation.

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

Sincerely yours,

SIGNED

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

cc: Docket
Code 400
Adm. Read. File
Field Team, Reg. 3
R. W. Geehan, USBM
E. L. Newcomb, USGS

FARutledge/ls
8/4/54

400

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

420 Custom House
555 Battery Street
San Francisco 11, Calif.

Memorandum

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

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA-3322 - Tungsten
San Joaquin Chemical Co.
Red Bud Mine
Fresno County, California

Reference is made to your letter dated May 7, 1954, requesting a field examination of the subject mine.

Attached are four copies of a report on the examination of the mine entitled "DMEA-3322, Red Bud Mine, Fresno County, California, (Tungsten)," by J. H. Sheahan, Mining Engineer, U. S. Bureau of Mines, and H. K. Stager, Geologist, U. S. Geological Survey, dated July 2, 1954.

The engineer and geologist are in agreement that the property does not warrant assistance for further exploration by the use of Government funds. There are practically no measured ore reserves at the property. All of the known pods of scheelite-bearing material have been mined. One sample, cut across the back at the bottom of the No. 3 incline, contained 1.01 % WO_3. This sample represented the best material observed at the mine and is in a pod containing only a few tons of ore. Because of the erratic distribution of the scheelite-bearing pods, any method of exploration would result in expenditures exceeding the value of the ore to be discovered.

Mr. Roscoe Smith and I concur with the recommendations that have been made by the engineer and geologist.

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: Roscoe Smith, USGS
A. C. Johnson, Reno

Reviewed by
DMEA OPERATING COMMITTEE
7-23-54
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA-3322, Red Bud Mine

Fresno County, California

(Tungsten)

B. H. Sheahan, Mining Engineer
U. S. Bureau of Mines

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

July 2, 1954

Reviewed by
DMEA OPERATING COMMITTEE
7-23-54
(date)

EXAMINATION REPORT

Docket No.: DMEA-3322 (Tungsten)

Name and address of applicant: San Joaquin Chemical Co.
1504 Clark
Fresno, Calif.

Name and location of property: Red Bud Mine
Fresno County, Calif.

SUMMARY

The property includes 80 acres of land which is owned by an Indian family. Mr. A. C. Marne and associates hold a lease from the owners. Mr. L. L. Teuton, electrical engineer, representing the San Joaquin Chemical Co., have made an unsuccessful attempt to operate the mine, and have applied for exploration assistance with DMEA funds.

The tungsten deposits occur in marble formed by contact metamorphism of impure limestone. Production has amounted to approximately 600 tons of scheelite bearing ore which contained 300 units of WO_3.

There are practically no measured ore reserves at the property. All of the known pods of scheelite-bearing material have been mined. One sample, cut across the back at the bottom of the No. 3 incline, contained 1.61% WO_3. This sample represented the best material observed at the mine and is in a pod containing only a few tons of ore. Because of the erratic distribution of the scheelite-bearing pods, any method of exploration would result in expenditures exceeding the value of the ore to be dis-

covered.

Mr. L. L. Touten and associates have unfortunately invested about $40,000.00 in the property. A mill was constructed before ore reserves were established at the mine. Some custom ore has been milled at the property, however, the available supply is small.

CONCLUSIONS AND RECOMMENDATIONS

The scheelite-bearing tactite pods at the Red Bud Mine are small and erratically distributed. The cost of diamond drilling, or other methods of exploration, required to discover these pods of ore will probably greatly exceed the value of the ore to be discovered.

It is recommended by the examining engineer and geologist that Government assistance under the DMEA program be denied.

TIME SPENT ON PROPERTY

The engineer and geologist were accompanied by Mr. L. L. Touten, the principal applicant on May 26 and 27, 1954. Mr. Albert C. Horns represented the applicant part time.

Surface and underground workings were lamped with ultra violet light and examined. Past, present and future plans were discussed with Mr. L. L. Touten.

NAME AND LOCATION OF PROPERTY

The Red Bud Mine, located in the S. 1/2 of NE 1/4 of section 15, Township 11 South, Range 24 East, M.D.B.&M., Fresno County, California, is 42 miles northeast of Fresno, Calif. The road from Clovis,

California to the property is paved. This road is narrow and crooked, but is open all year (figs. 1 and 2). The total distance from Clovis to the mill is 28.1 miles. The property is reached from Clovis by following State Highway 168 northeast through Academy, turn right on Watts Valley road at a distance of 22.5 miles, turn left on the Sycamore Creek at 26.6 miles, and follow a narrow winding paved road 1.5 mile to the mill located on the property.

COMPETENCY OF APPLICANT

Mr. L. L. Touton is a graduate electrical engineer. He is also registered in the State of California as a Chemical and Electrical Engineer. Mr. Touton has experience in operating his own chemical and engineering business. Although Mr. Touton has a very good background as an electrical and chemical engineer, he does lack mining experience. He and his associates have invested over $40,000.00 on the property. A mill was constructed before adequate ore reserves were established.

Mr. A. C. Horne has been connected with the property for about five years, and had apparently advocated the construction of the mill. Mr. Horne has experience as a diamond drill operator, leaser, mill operator, prospector and to some extent a promoter. One miner, employed at the property, was skilled in his occupation.

The financial responsibility of the applicant or Mr. L. L. Touton was claimed by him to be good.

APPLICANT'S PROPERTY RIGHTS

The property is owned by an Indian family which includes P. D. Spence and Harry Spence who live near the Cold Spring Indian Reservation.

Mr. Albert C. Horne and H. R. Williams are lessees from the owners. The lease includes 80 acres of land which are in the S. 1/2 of the NE 1/4 of Section 15, T. 11 S., R. 24 E., M.D.B.&M. The agreement was entered into on January 13, 1954 and includes sixteen terms and conditions described in detail with the applicant's docket DMEA-5322 (Tungsten).

Mr. Albert C. Horne and H. R. Williams signed the application for DMEA assistance. Mr. L. L. Teuten, who represents the San Joaquin Chemical Company, is actually the principal applicant. He did not sign the application for DMEA assistance. He considers that he is a contingent owner, providing sufficient ore can be discovered.

DESCRIPTION OF PROPERTY

Surface facilities include a camp suitable for the accommodation of eight workmen. Domestic water is obtained for the camp by way of a 1-1/4 mile pipe line with a capacity of 10 g.p.m. A 2-phase electric power transmission line services the camp and the Indian Reservation. Electric power rates are high and are used only for camp purposes and lights at the mine and for small requirements at the mill.

Mine workings consist of several shallow prospect pits (fig. 2). Water obtained from mine workings amounted to approximately 500 gallons

per day which is utilized at the small milling plant. The workings at pits No. 1, 3, and 4 were in poor condition to conduct a mining operation.

The operator's milling plant consists of a gravity concentrator. The capacity is less than 1-1/2 tons per hour.

EQUIPMENT

Equipment located on the property includes the following items:

Mill equipment:	Condition
1 Ore bin (18-ton capacity)	Good
1 Primary crusher (6" x 8")	Fair
1 Elevator 4" x 6" chain (25')	Fair
1 Secondary crusher	Good
1 Conveyer belt (40' x 16")	Poor
1 Ore bin (secondary 14-ton capacity)	Good
1 Concentrate drier and scales	Fair
1 Ball mill (2' x 4') (V-Belt drive)	Fair
1 Concentration table 7' x 20' (Overstrom)	Good
1 Shop with welding equipment, assorted tools, and laboratory equipment	Good

Mine equipment:	
1 Diamond drill, air operated with 180' EX rods, 75' casing and tools	Fair
1 Jeep, 1/4-ton	Fair
1 Truck, 1 ton	Poor
1 Truck with crane attachment and 3/8" cable, 600# bucket	Poor
1 Hoist, electric drive with V-Belt and 1/4" cable	Poor
1 Rock drill with jackleg and steel	Fair
1 Rock drill jackhammer and steel	Fair
1 Air compressor, 105 c.f.m. (gasoline engine drive)	Good
1 D-2 dozer (gasoline)	Poor
1 D-4 tractor with loader	Fair
Miscellaneous small tools, pipe, pumps and lumber	

SAMPLING

After carefully examining the property with ultraviolet light, very few places could be found to sample that would show any tungsten. A grab sample from spillage around the ore bin and conveyer assayed 0.25% WO_3. A 50-ton tailing pond assayed less than 0.01% WO_3 and a few units of concentrates assayed 60.77% WO_3. A select sample of the ore representing only a few tons showed 1.01% WO_3.

LABOR AND SUPPLIES

Labor and most supplies are obtained from Fresno, Calif. The prevailing wage scale for labor is $12.00 per day, however, skilled miners earn over $15.00 per day and are scarce.

GEOLOGY

The area of the Red Bud mine is underlain by metamorphic and igneous rocks, chiefly mica-quartz schist, marble, and tactite, which are remnants of roof-pendants in granodiorite. The geology and tungsten deposits of the district have been described by Krauskopf [1/].

The eastern half of the Red Bud property is underlain by granodiorite. It is a light-gray, medium-grained rock containing quartz, plagioclase, hornblende, and biotite. Near the contact with metamorphic rocks the percentage of dark minerals has been greatly increased by the assimilation of metamorphic material by the granitic magma, forming a zone of hybrid rock or migmatite.

Underlying the western half of the property is a large pendant of mica-quartz schist that strikes about N. 15° E. and dips 60° SE. A few

1/ Krauskopf, Konrad B., 1953, Tungsten Deposits of Madera, Fresno and Tulare Counties, California: Calif. Div. of Mines Special Report 35.

thin lenses of tactite have formed in the more calcareous zones along the eastern edge of the main schist body near the contact with granodiorite. Three small pendants of schist are separated from the main body by granodiorite (see fig. 2). The southernmost of these isolated schist bodies contains a pod of nearly pure, white, coarsely-crystallized marble that has been mined for use as roofing material. A few small isolated grains of scheelite were noted in the marble. The other two pendants contain similar coarse-grained marble and in addition contain pods of garnet-epidote tactite. The tungsten ore bodies are in the tactite.

ORE DEPOSITS

The tungsten deposits occur in tactite, formed by contact metamorphism of impure limestone, into which tungsten-bearing solutions have been introduced. Scheelite is the only ore mineral present in the deposits.

Garnet-epidote tactite, containing pods of coarse-grained scheelite, occurs at and near the contact of the calcareous rocks with the granodiorite. The largest body of tactite is exposed in the No. 3 shaft. Other smaller scheelite-bearing tactite pods are exposed in the No. 1 and No. 4 shafts and in the No. 2 and No. 6 pits.

The deposit at the No. 1 shaft (see fig. 2) consisted of a pod of scheelite-bearing tactite in a pendant of schist and marble. The pod, estimated to have contained about 100 tons of material, was mined out from a small pit about 30 feet in diameter and a vertical shaft, now caved

and flooded but said to be about 50 feet deep. A solution cavity, also flooded, in the marble next to the shaft is said to have contained scattered scheelite crystals on the walls.

A lens of tactite about 40 feet long, 1 to 5 feet wide, 20 feet deep, and containing about 60 tons of ore grade material, was mined from the No. 2 pit. The lens contained ore grade material along the margins where the width did not exceed about 2 feet but was less than ore grade in the thicker portions.

About 400 tons of scheelite-bearing material has been mined from pods scattered throughout a tactite lens exposed in the No. 3 inclined shaft. The tactite lens is from 1 to 10 feet thick between granodiorite and white crystalline marble. A 3-foot sample (BM-269) cut across the back at the bottom of the shaft contained 1.01 percent WO_3. This sample represents the best material observed in the mine and is in a pod containing only a few tons of ore.

A scheelite-bearing tactite pod containing about 100 tons of ore was mined from the No. 4 shaft. The shaft, or pit, is about 20 feet long, 10 feet wide, and 15 feet deep with a narrow 12-foot drift at the bottom. The tactite lens, between granodiorite and schist, ended in white crystalline marble at the bottom of the shaft. The operators stated that the tactite mined from this pod contained crystals of scheelite up to two inches thick and showed the field team specimens of crystal fragments over 1 inch thick that had been mined from this pod. The shaft is flooded but was

pumped out for the examination.

Other showings of scheelite-bearing material are exposed in pits Nos. 5, 6, and 7 but are confined to lenses of tactite less than 1 foot thick and a few feet in length and depth.

About 600 tons of scheelite-bearing ore, containing 300 units of WO_3, has been produced from the Red Bud mine. Most of this ore has been mined from the No. 1, 3, and 4 shafts.

ORE RESERVES

There are no measured reserves, and less than a hundred tons of indicated reserves, on the Red Bud property. All of the known pods of scheelite-bearing material have been mined to depths where they are too narrow, or where the grade has fallen too low, for profitable mining. It is probable that other pods of the type that have been mined exist in the tactite body between the No. 3 and No. 4 shafts. Assuming the concentration of ore pods in this block of ground between the two shafts is equal to the concentration in the ground that has already been mined, a reserve block 160 feet long, 30 feet deep, 2 feet thick, and containing 900 tons of ore is inferred. An additional 100 tons of ore is inferred to be present in the other small tactite body on the north side of the No. 1 shaft. Total inferred reserves therefore consist of 1,000 tons of ore with an average grade of 0.5 percent WO_3.

PROPOSED EXPLORATION

The applicants' original proposal consisted of 3 diamond-drill holes

of about 100 feet each to be drilled under pits Nos. 5, 6, and 8 (see fig. 2) and a series of 60-foot holes to be drilled from underground stations in No. 3 and No. 4 shafts, perpendicular to the hanging and foot walls and also along the strike of the tactite zone. Total footage to be drilled was estimated at 1,000 feet. Also included in the original proposal was the construction of 600 feet of road to drill sites below pits Nos. 6 and 8. The total cost of the program was estimated at $4,000.

At the time of the field examination the applicants had changed their plan of exploration to eliminate the road construction and the drilling in the vicinity of pits Nos. 5, 6, and 8. Their revised plan consists of drilling five holes to explore the tactite zone along the granodiorite contact between No. 3 and No. 4 shafts and several holes to explore the ground between No. 1 and No. 3 shafts. The total footage to be drilled remains at 1,000 feet and the total cost at $4,000. The applicants own an air driven EX diamond drill and propose to do the drilling themselves.

The ground to be explored under the revised drilling program is the most favorable geologically for the discovery of scheelite-bearing tactite pods of the type already mined but it is almost certain that the cost of such exploration will exceed the value of the ore to be found. The geology of the deposit and the geologic factors limiting the amount of ore that could be found by the proposed exploration plan were discussed with the applicants in considerable detail at the time of the examination.

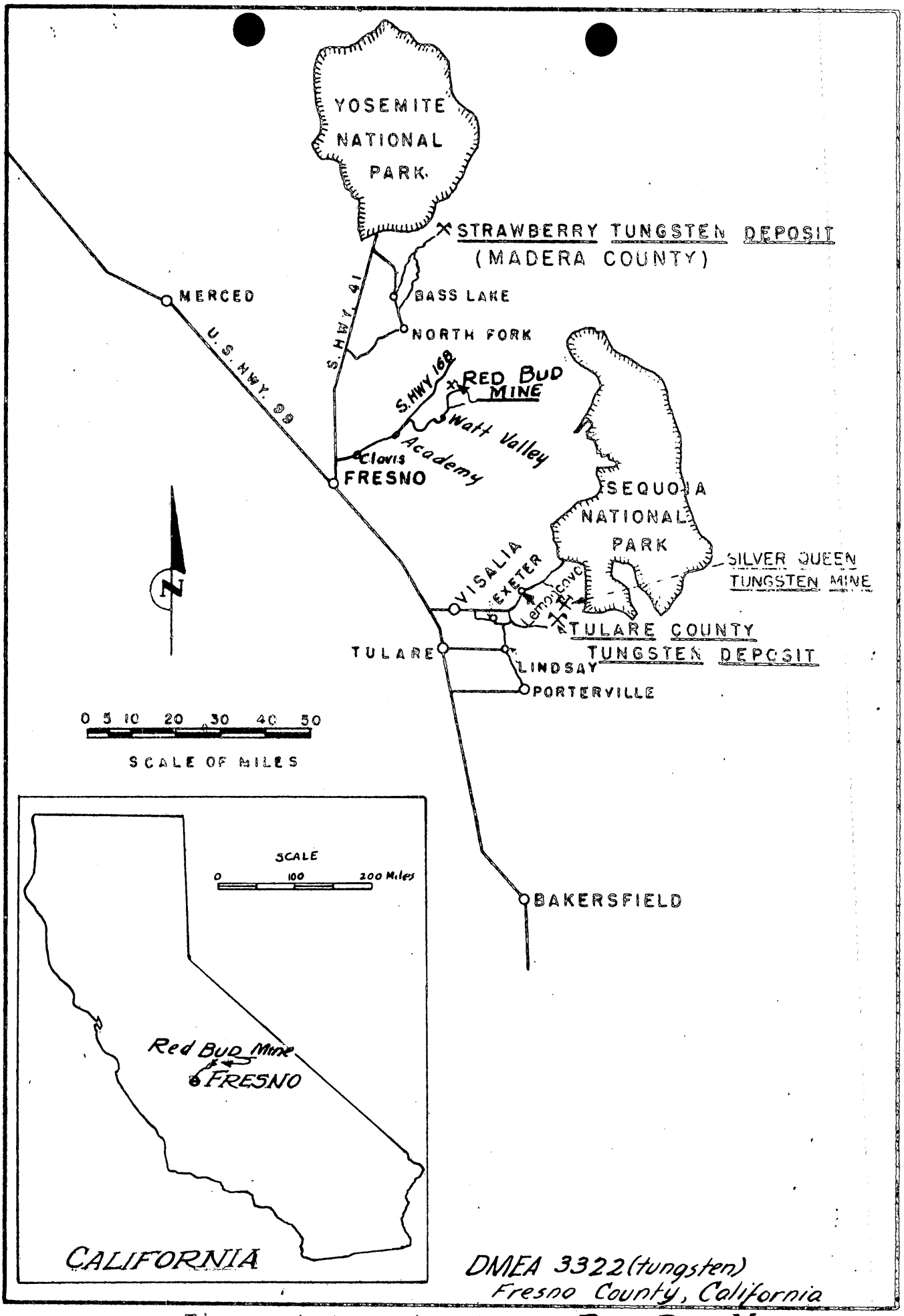


Figure 1. Location Map. RED BUD MINE

IN REPLY REFER TO:

400

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

July 23, 1954

Memorandum

Re: DMEA-3322
San Joaquin Chem. Co.
Red Bud Mine
Fresco County, Calif.
$4,000
Tungsten

To: Mr. W. S. Martin, DMEA

From: R. D. Trace, USGS

Subject: Review of field team report

The applicant proposes to drill five holes to explore the tactite zone along the granodiorite contact between No. 3 and No. 4 shafts, and several holes to explore the ground between No. 1 and No. 3 shafts. The field team believes that the cost of such exploration will exceed the value of the ore to be found, and they recommend the project be denied.

I concur with the conclusions of the field team and recommend that the application be denied.

R. T. Trace
Geologist

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro Alloys Division

Subject: Denial of application for exploration assistance in the amount of $4,000.00
Docket No. DMEA 3322 - Tungsten
San Joaquin Chemical Co.
Red Bud Mine
Fresno County, California

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

1. The area of the Red Bud mine is underlain by metamorphic and igneous rocks, chiefly mica-quartz schist, marble and tactite, which are remnants of roof-pendants in granodiorite.

Underlying the western half of the property is a large pendant of mica-quartz schist that strikes about N 15° E and dips 60° S. E. A few thin lenses of tactite have formed in the more calcareous zones near the granodiorite contact.

The tungsten deposits occur in tactite. The largest body of tactite is exposed in the No. 3 shaft. Other smaller scheelite-bearing tactite pods are exposed in the No. 1 and No. 4 shafts and in the No. 2 and No. 6 pits.

Other showings of scheelite-bearing material are exposed in pits Nos. 5, 6, and 7 but are confined to lenses of tactite less than 1 foot thick and a few feet in length and depth.

About 600 tons of scheelite-bearing ore, containing 300 units of WO_3 has been produced from the Red Bud mine. Most of this ore has been mined from Nos. 1, 3, and 4 shafts.

A 3-foot sample cut across the back of the No. 3 shaft contained 1.03 percent WO_3. This sample represents the best material observed in the mine and is in pod containing only a few tons of ore.

2. There are no measured reserves and less than a hundred tons of indicated reserves on the Red Bud property.

3. All of the known pods of scheelite-bearing material have been mined to depths where they are too narrow, or where the grade has fallen too low, for profitable mining. It is probable that other pods of the type that have been mined exist in the tactite body between No. 3 and No. 4 shafts.

Assuming the concentration of pods in this block is equal to that of the block mined, a reserve of 900 tons of ore containing 0.5 percent WO_3 can be inferred. An additional 100 tons is inferred in a small tactite body on the north side of No. 1 shaft making a total of 1000 tons of inferred ore with an average grade of 0.5 percent WO_3.

4. The Field Team concludes that the cost of the proposed exploration by diamond drilling or other methods is almost certain to exceed the value of the ore to be found, and recommends, therefore, that the application be denied.

5. The Commodity Divisions of the Geological Survey and Bureau of Mines concur in the recommendation.

F. A. Rutledge, Acting Chief
Iron and Ferro-Alloys Division

JHopkins:fec
7-21-54
cc to: Docket
Code 400
Adm. Reading File
Operating Comm.

MAY 14 1954

Mr. L. L. Tourton
935 Park Circle Drive
Fresno, California

Re: Docket No. DMEA 3322 - Tungsten
San Joaquin Chemical Co.
Red Rad mine
Fresno County, California

Dear Mr. Tourton:

This will acknowledge receipt of your letter of May 11, 1954, advising us that you are affiliated with the subject applicant. You also asked for a report on the status of the captioned application.

Under date of May 7, 1954, we requested Mr. Miller, Executive Officer, DMEA Field Team, Region III, 1082 Flood Building, 870 Market Street, San Francisco 2, California, to arrange a field examination of your affiliate's mine.

We note your offer to provide any further information required to expedite consideration of the same application and we feel sure that Mr. Miller will apply directly to you if he needs anything of the sort.

Sincerely yours,

[illegible]

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

WSMartin:fcc
5-14-54
cc to: Docket
Admr. Reading File
Code 400

MAY 7 - 1954

San Joaquin Chemical Co.
1506 Clark
Fresno, California

Re: Docket No. DMEA 3322 - Tungsten
Red Bud mine
Fresno 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. H. C. Miller, Executive Officer, DMEA Field Team, Region III, 1012 Flood Building, 870 Market Street, San Francisco 2, California, for a field examination of the property.

Any assistance that you may render the members of the Field Team will be appreciated.

Sincerely yours,

C. O. Mittendorf

Administrator

FARutledge:fec
5-4-54
cc to: Docket
Code 400
FT. Reg. 3
Admr. Reading File
Operating Comm.
R. W. Geehan, USBM
T. P. Thayer, USGS

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

140

MAY 7 - 1954

Mr. H. C. Miller, Executive Officer
DMEA Field Team, Region III
1012 Flood Building
870 Market Street
San Francisco 2, California

Re: Docket No. DMEA-3322 - Tungsten
San Joaquin Chemical Co.
Red Bud mine
Fresno County, California

Dear Mr. Miller:

The above-docketed application for exploration assistance is being referred to your office for a field examination of the property. Two copies of a memorandum by P. W. Guild, Geological Survey, relevant to this application, are enclosed for your information.

In the event that Government participation in the subject project is recommended, an Owner's Consent to Lien will be required.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

Enclosures 2

FARutledge/HCRubin/emd 5/5/54

Copy to: Docket
Adm. R. File
Operating Comm.
W. S. Martin
R. W. Geehan, USBM
T. P. Thayer, USGS
J. L. Hofflund
H. C. Rubin
chron.
pending

Approved:

J. H. Hedges

Member, Bureau of Mines

T. P. Thayer

Member, Geological Survey

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

Mr. H. C. Miller, Executive Officer
DMEA Field Team, Region III
1012 Flood Building
870 Market Street
San Francisco 2, California

Re: Docket No. DMEA 3322 - Tungsten
San Joaquin Chemical Co.
Red Bud mine
Fresno County, California

Dear Mr. Miller:

The above-docketed application for exploration assistance is being referred to your office for a field examination of the property. Two copies of an relevant memorandum by P. W. Guild, Geological Survey, are enclosed for your information.

~~In reviewing the application, it was noted that H.W. Williams and Albert C. Horne's lease on the subject property is for a three year period ending April 30, 1957. In order to allow sufficient time to protect the Government's interest, if Government participation in an exploration program is recommended, the Applicant should be advised that the lease should be extended by amendment for a term ending not sooner than January 1, 1965.~~ Owner's Consent to Lien forms will ~~also~~ be required.

Sincerely yours,

APPROVED:

Chairman, Operating Committee

Member, Bureau of Mines

Member, Geological Survey

Enclosures

400

IN REPLY REFER TO:

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

Defense Minerals Administration
RECEIVED
APR 28 1954

April 28, 1954

Memorandum

To: W. S. Martin, DMEA

From: P. W. Guild, USGS

Subject: DMEA 3322 - TUNGSTEN
Red Bud Mine
San Joaquin Chemical Co.
1506 Clark, Fresno, Calif.

Copy retained 400

Summary: The applicants propose diamond drilling in a scheelite-bearing contact zone from which a little concentrate is said to have been produced in a 2-ton mill. Some bulldozer work is also proposed.

Background: Lemmon's unpublished "Tungsten deposits of the United States" contains the following:

> "Red Bud Mine: SE 1/4 sec. 15, T. 11 S., R. 24 E., Dimuba quad., Alt. 1600 ft. On paved road. Owned by A. Feuerstein (1943). Geology Scheelite in small scattered bodies of tactite, some with 1 to 2 percent WO_3, in schist; tactite exposed in adit for 2 ft. width. 30 ft. length, averaging 1% WO_3. Prospected by 30-ft. adit and many surface cuts. Production in 1943 about 100 units of WO_3".

Note that the locations are slightly different. Lemmon gives the SE 1/4, the applicant the S 1/2 of the NE 1/4. The deposits may not be the same, although they probably are.

Comments: The applicant's description of the drilling is not very precise. Total footage is apparently in excess of 1000 feet. The applicants propose to purchase a drill and do the work themselves, but I feel that the cost estimate may be low. No sample data have been submitted.

Recommendation: Refer the application to the Field Team for examination, sampling of the deposits, and definition of the target areas.

DOCKET
Surname:
Rutledge

AUG - 4 1954

Mr. L. L. Touton
935 Park Circle Drive
Fresno, California

Re: Docket No. DMEA 3322 - Tungsten
San Joaquin Chemical Co.
Red Bud mine
Fresno County, California

Dear Mr. Touton:

This will acknowledge your letter of July 26, 1954, in regard to the status of an application by the San Joaquin Chemical Co. for exploration assistance.

Your letter crossed in the mail with our letter of July 30 which advised the applicant that the referenced request for exploration assistance had been denied. Careful study of all our information indicated to us that the probability of disclosing minable ore reserves by the proposed program was not sufficiently promising to justify Government participation.

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

Sincerely yours,

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

cc: Docket
Code 400
Adm. Read. File
Field Team, Reg. 3
R. W. Geehan, USBM
E. L. Newcomb, USGS

FARutledge/ls
8/4/54

R&G

400

DOCKET
SURNAME
Rutledge
Hopkins
Leyhan
Jarrabee
Hedges
Selfridge
Hefferman

JUL 30 1954

San Joaquin Chemical Co.
1506 Clark
Fresno, California

Re: Docket No. DMEA 3322 - Tungsten
Red Bud Mine
Fresno County, California

Gentlemen:

Your application for aid for an exploration project and other data available to us in Washington relating to the above named 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 small amounts of tungsten mineralization on your property, indicates to us that the probability of disclosing minable ore reserves by your proposed program is not sufficiently promising to justify Government participation. We regret to advise, under the circumstances, that your application for exploration assistance is denied.

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

Sincerely yours,

C. O. Mittendorf (for)

Administrator

JHOPKINS:fcc
7-21-54
cc to: Docket
Code 400
Adm. Reading File
Operating Comm.
FT. Reg. III
R. W. Geehan, USBM
E. L. Newcomb, USGS, Rm. 5227

R.C.S.

400

Docket
Surname
Hopkins
Rutledge
Leslie

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro Alloys Division

Subject: Denial of application for exploration assistance in the amount of $4,000.00
Docket No. DMEA 3322 - Tungsten
San Joaquin Chemical Co.
Red Bud Mine
Fresno County, California

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

1. The area of the Red Bud mine is underlain by metamorphic and igneous rocks, chiefly mica-quartz schist, marble and tactite, which are remnants of roof-pendants in granodiorite.

Underlying the western half of the property is a large pendant of mica-quartz schist that strikes about N 15° E and dips 60° S. E. A few thin lenses of tactite have formed in the more calcareous zones near the granodiorite contact.

The tungsten deposits occur in tactite. The largest body of tactite is exposed in the No. 3 shaft. Other smaller scheelite-bearing tactite pods are exposed in the No. 1 and No. 4 shafts and in the No. 2 and No. 6 pits.

Other showings of scheelite-bearing material are exposed in pits Nos. 5, 6, and 7 but are confined to lenses of tactite less than 1 foot thick and a few feet in length and depth.

About 600 tons of scheelite-bearing ore, containing 300 units of WO_3 has been produced from the Red Bud mine. Most of this ore has been mined from Nos. 1, 3, and 4 shafts.

A 3-foot sample cut across the back of the No. 3 shaft contained 1.01 percent WO_3. This sample represents the best material observed in the mine and is in a pod containing only a few tons of ore.

R.C.S.

2. There are no measured reserves and less than a hundred tons of indicated reserves on the Red Bud property.

3. All of the known pods of scheelite-bearing material have been mined to depths where they are too narrow, or where the grade has fallen too low, for profitable mining. It is probable that other pods of the type that have been mined exist in the tactite body between No. 3 and No. 4 shafts.

Assuming the concentration of pods in this block is equal to that of the block mined, a reserve of 900 tons of ore containing 0.5 percent WO_3 can be inferred. An additional 100 tons is inferred in a small tactite body on the north side of No. 1 shaft making a total of 1000 tons of inferred ore with an average grade of 0.5 percent WO_3.

4. The Field Team concludes that the cost of the proposed exploration by diamond drilling or other methods is almost certain to exceed the value of the ore to be found, and recommends, therefore, that the application be denied.

5. The Commodity Divisions of the Geological Survey and Bureau of Mines concur in the recommendation.

F. A. Rutledge, Acting Chief
Iron and Ferro-Alloys Division

JHopkins:fec
7-21-54
cc to: Docket
Code 400
Adm. Reading File
Operating Comm.

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

MEMORANDUM

JUL 30 1954

To: Administrator, DMEA

From: Iron and Ferro Alloys Division

Subject: Denial of application for exploration assistance in the amount of $4,000.00
Docket No. DMEA 3322 - Tungsten
San Joaquin Chemical Co.
Red Bud Mine
Fresno County, California

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

1. The area of the Red Bud mine is underlain by metamorphic and igneous rocks, chiefly mica-quartz schist, marble and tactite, which are remnants of roof-pendants in granodiorite.

Underlying the western half of the property is a large pendant of mica-quartz schist that strikes about N 15° E and dips 60° S. E. A few thin lenses of tactite have formed in the more calcareous zones near the granodiorite contract.

The tungsten deposits occur in tactite. The largest body of tactite is exposed in the No. 3 shaft. Other smaller scheelite-bearing tactite pods are exposed in the No. 1 and No. 4 shafts and in the No. 2 and No. 6 pits.

Other showings of scheelite-bearing material are exposed in pits Nos. 5, 6, and 7 but are confined to lenses of tactite less than 1 foot thick and a few feet in length and depth.

About 600 tons of scheelite-bearing ore, containing 300 units of WO_3 has been produced from the Red Bud mine. Most of this ore has been mined from Nos. 1, 3, and 4 shafts.

A 3-foot sample cut across the back of the No. 3 shaft contained 1.01 percent WO_3. This sample represents the best material observed in the mine and is in a pod containing only a few tons of ore.

2. There are no measured reserves and less than a hundred tons of indicated reserves on the Red Bud property.

3. All of the known pods of scheelite-bearing material have been mined to depths where they are too narrow, or where the grade has fallen too low, for profitable mining. It is probable that other pods of the type that have been mined exist in the tactite body between No. 3 and No. 4 shafts.

Assuming the concentration of pods in this block is equal to that of the block mined, a reserve of 900 tons of ore containing 0.5 percent WO_3 can be inferred. An additional 100 tons is inferred in a small tactite body on the north side of No. 1 shaft making a total of 1000 tons of inferred ore with an average grade of 0.5 percent WO_3.

4. The Field Team concludes that the cost of the proposed exploration by diamond drilling or other methods is almost certain to exceed the value of the ore to be found, and recommends, therefore, that the application be denied.

5. The Commodity Divisions of the Geological Survey and Bureau of Mines concur in the recommendation.

F. A. Rutledge

F. A. Rutledge, Acting Chief
Iron and Ferro-Alloys Division

Docket

L.L.TOUTON
935 PARK CIRCLE DR. FRESNO, CALIFORNIA

JR.

JULY 26TH, 1954

MR. ROBERT E. ADAMS, CHIEF
OPERATION'S CONTROL & STATISTICS DIV
DEFENSE MINERALS EXPLORATION DIV
DEPARTMENT OF THE INTERIOR
WASHINGTON, D. C.

San Joaquin Chemical Co.

DEAR SIR: SUBJECT: DMEA-3322, RED BUD MINE

ABOUT 70 DAYS AGO, YOU SENT TO OUR MINE, THE RED BUD MINE, TWO OF YOUR ABLE MEN TO INVESTIGATE OUR APPLICATION FOR EXPLORATION ASSTSTANCE. YOUR MEN MR. SHEAHAN AND MR STAGER BOTH SEEMED FAVORABLY IMPRESSED WITH OUR MINE AND MILL AND WITH THE POSSIBILITIES OF SUCCESSFUL EXPLORATION. WE HAVE THEREFOR BEEN ANXIOUSLY AWAITING THE DECISION THAT YOU HAVE MADE AFTER CONSIDERING ALL OF THE DATA SO THAT WE CAN GO AHEAD. WE WERE TOLD THAT THE AVERAGE TIME THAT SHOULD ELAPSE BEFORE WE RECIEVED YOUR DECISION WAS ABOUT 60 DAYS. MORE TIME THAN THIS HAS ALREADY ELAPSED AND THEREFOR WE WRIT ASKING YOU FOR A REPORT OF YOUR PROGRESS IN THESE CONSIDERATIONS AND TO SEE IF YOU REQUIRE FURTHER DATA THAT WE COULD FURNISH.

YOURS TRULY,

L. L. Touton

prepared denial 7/21/54
To O.C. on 7 in 7/30.

IN REPLY REFER TO:

Docket

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

July 23, 1954

Memorandum

Re: DMEA-3322
San Joaquin Chem. Co.
Red Bud Mine
Fresco County, Calif.
$4,000
Tungsten

To: Mr. W. S. Martin, DMEA

From: R. D. Trace, USGS

Subject: Review of field team report

The applicant proposes to drill five holes to explore the tactite zone along the granodiorite contact between No. 3 and No. 4 shafts, and several holes to explore the ground between No. 1 and No. 3 shafts. The field team believes that the cost of such exploration will exceed the value of the ore to be found, and they recommend the project be denied.

I concur with the conclusions of the field team and recommend that the application be denied.

R. D. Trace

R. D. Trace
Geologist

IN REPLY REFER TO:

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

July 23, 1954

Memorandum

Re: IMEA-3322
San Joaquin Chem. Co.
Red Bud Mine
Fresco County, Calif.
$4,000
Tungsten

To: Mr. W. S. Martin, IMEA

From: R. D. Trace, USGS

Subject: Review of field team report

The applicant proposes to drill five holes to explore the tactite zone along the granodiorite contact between No. 3 and No. 4 shafts, and several holes to explore the ground between No. 1 and No. 3 shafts. The field team believes that the cost of such exploration will exceed the value of the ore to be found, and they recommend the project be denied.

I concur with the conclusions of the field team and recommend that the application be denied.

R. T. Trace
Geologist

IN REPLY REFER TO:

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

July 23, 1954

Memorandum

To: Mr. W. S. Martin, DMEA

From: R. D. Trace, USGS

Subject: Review of field team report

Re: DMEA-3322
San Joaquin Chem. Co.
Red Bud Mine
Fresco County, Calif.
$4,000
Tungsten

The applicant proposes to drill five holes to explore the tactite zone along the granodiorite contact between No. 3 and No. 4 shafts, and several holes to explore the ground between No. 1 and No. 3 shafts. The field team believes that the cost of such exploration will exceed the value of the ore to be found, and they recommend the project be denied.

I concur with the conclusions of the field team and recommend that the application be denied.

R. T. Trace
Geologist

MF-500

UNITED STATE
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

REFERENCE SLIP

DATE 7-27-54

REFERRED TO:

1. ~~Miss Curtin~~
2. ~~Operating Committee~~
3. ~~Miss Curtin, Rm. 4539~~
4. 400

FOR:

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

REMARKS: Field Exam. Report
~~For Agenda 7/23/54~~

Check (X) before the items needing attention.

ROBERT F. ADAMS
Initials of sender.

GPO 16—63815-1

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

420 Custom House
555 Battery Street
San Francisco 11, Calif.

Memorandum

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

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA-3322 - Tungsten
San Joaquin Chemical Co.
Red Bud Mine
Fresno County, California

Reference is made to your letter dated May 7, 1954, requesting a field examination of the subject mine.

Attached are four copies of a report on the examination of the mine entitled "DMEA-3322, Red Bud Mine, Fresno County, California, (Tungsten)," by B. H. Sheahan, Mining Engineer, U. S. Bureau of Mines, and H. K. Stager, Geologist, U. S. Geological Survey, dated July 2, 1954.

The engineer and geologist are in agreement that the property does not warrant assistance for further exploration by the use of Government funds. There are practically no measured ore reserves at the property. All of the known pods of scheelite-bearing material have been mined. One sample, cut across the back at the bottom of the No. 3 incline, contained 1.01 % WO_3. This sample represented the best material observed at the mine and is in a pod containing only a few tons of ore. Because of the erratic distribution of the scheelite-bearing pods, any method of exploration would result in expenditures exceeding the value of the ore to be discovered.

Mr. Roscoe Smith and I concur with the recommendations that have been made by the engineer and geologist.

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: Roscoe Smith, USGS
A. C. Johnson, Reno

Reviewed by
DMEA OPERATING COMMITTEE
7-23-54
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA-3322, Red Bud Mine

Fresno County, California

(Tungsten)

B. H. Sheahan, Mining Engineer
U. S. Bureau of Mines

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

July 2, 1954

Reviewed by
DMEA OPERATING COMMITTEE
7-23-54
(date)

EXAMINATION REPORT

Docket No.: DMEA-3322 (Tungsten)

Name and address of applicant: San Joaquin Chemical Co.
1506 Clark
Fresno, Calif.

Name and location of property: Red Bud Mine
Fresno County, Calif.

gcs
7/30/54

SUMMARY

The property includes 80 acres of land which is owned by an Indian family. Mr. A. C. Horne and associates hold a lease from the owners. Mr. L. L. Touton, electrical engineer, representing the San Joaquin Chemical Co., have made an unsuccessful attempt to operate the mine, and have applied for exploration assistance with DMEA funds.

The tungsten deposits occur in tactite formed by contact metamorphism of impure limestone. Production has amounted to approximately 600 tons of scheelite bearing ore which contained 300 units of WO_3.

There are practically no measured ore reserves at the property. All of the known pods of scheelite-bearing material have been mined. One sample, cut across the back at the bottom of the No. 3 incline, contained 1.01% WO_3. This sample represented the best material observed at the mine and is in a pod containing only a few tons of ore. Because of the erratic distribution of the scheelite-bearing pods, any method of exploration would result in expenditures exceeding the value of the ore to be dis-

covered.

Mr. L. L. Touton and associates have unfortunately invested about $40,000.00 in the property. A mill was constructed before ore reserves were established at the mine. Some custom ore has been milled at the property, however, the available supply is small.

CONCLUSIONS AND RECOMMENDATIONS

The scheelite-bearing tactite pods at the Red Bud Mine are small and erratically distributed. The cost of diamond drilling, or other methods of exploration, required to discover these pods of ore will probably greatly exceed the value of the ore to be discovered.

It is recommended by the examining engineer and geologist that Government assistance under the DMEA program be denied.

TIME SPENT ON PROPERTY

The engineer and geologist were accompanied by Mr. L. L. Touton, the principal applicant on May 26 and 27, 1954. Mr. Albert C. Horns represented the applicant part time.

Surface and underground workings were lamped with ultra violet light and examined. Past, present and future plans were discussed with Mr. L. L. Touton.

NAME AND LOCATION OF PROPERTY

The Red Bud Mine, located in the S. 1/2 of NE 1/4 of section 15, Township 11 South, Range 24 East, M.D.B.&M., Fresno County, California, is 42 miles northeast of Fresno, Calif. The road from Clovis,

California to the property is paved. This road is narrow and crooked, but is open all year (figs. 1 and 2). The total distance from Clovis to the mill is 28.1 miles. The property is reached from Clovis by following State Highway 168 northeast through Academy, turn right on Watts Valley road at a distance of 22.5 miles, turn left on the Sycamore Creek at 26.6 miles, and follow a narrow winding paved road 1.5 mile to the mill located on the property.

COMPETENCY OF APPLICANT

Mr. L. L. Touton is a graduate electrical engineer. He is also registered in the State of California as a Chemical and Electrical Engineer. Mr. Touton has experience in operating his own chemical and engineering business. Although Mr. Touton has a very good background as an electrical and chemical engineer, he does lack mining experience. He and his associates have invested over $40,000.00 on the property. A mill was constructed before adequate ore reserves were established.

Mr. A. C. Horne has been connected with the property for about five years, and had apparently advocated the construction of the mill. Mr. Horne has experience as a diamond drill operator, leaser, mill operator, prospector and to some extent a promoter. One miner, employed at the property, was skilled in his occupation.

The financial responsibility of the applicant or Mr. L. L. Touton was claimed by him to be good.

APPLICANT'S PROPERTY RIGHTS

The property is owned by an Indian family which includes P. D. Spence and Harry Spence who live near the Cold Spring Indian Reservation.

Mr. Albert C. Horne and H. R. Williams are lessees from the owners. The lease includes 80 acres of land which are in the S. 1/2 of the NE 1/4 of Section 15, T. 11 S., R. 24 E., M.D.B.&M. The agreement was entered into on January 13, 1954 and includes sixteen terms and conditions described in detail with the applicant's docket DMEA-3322 (Tungsten).

Mr. Albert C. Horne and H. R. Williams signed the application for DMEA assistance. Mr. L. D. Touton, who represents the San Joaquin Chemical Company, is actually the principal applicant. He did not sign the application for DMEA assistance. He considers that he is a contingent owner, providing sufficient ore can be discovered.

DESCRIPTION OF PROPERTY

Surface facilities include a camp suitable for the accommodation of eight workmen. Domestic water is obtained for the camp by way of a 1-1/4 mile pipe line with a capacity of 10 g.p.m. A 2-phase electric power transmission line services the camp and the Indian Reservation. Electric power rates are high and are used only for camp purposes and lights at the mine and for small requirements at the mill.

Mine workings consist of several shallow prospect pits (fig. 2). Water obtained from mine workings amounted to approximately 500 gallons

per day which is utilized at the small milling plant. The workings at pits No. 1, 3, and 4 were in poor condition to conduct a mining operation.

The operator's milling plant consists of a gravity concentrator. The capacity is less than 1-1/2 tons per hour.

EQUIPMENT

Equipment located on the property includes the following items:

Mill equipment:	Condition
1 Ore bin (18-ton capacity)	Good
1 Primary crusher (6" x 8")	Fair
1 Elevator 4" x 6" chain (25')	Fair
1 Secondary crusher	Good
1 Conveyor belt (40' x 16")	Poor
1 Ore bin (secondary 14-ton capacity)	Good
1 Concentrate drier and scales	Fair
1 Ball mill (2' x 4') (V-Belt drive)	Fair
1 Concentration table 7' x 20' (Overstrom)	Good
1 Shop with welding equipment, assorted tools, and laboratory equipment	Good

Mine equipment:	
1 Diamond drill, air operated with 180' EX rods, 75' casing and tools	Fair
1 Jeep, 1/4-ton	Fair
1 Truck, 1 ton	Poor
1 Truck with crane attachment and 3/8" cable, 600# bucket	Poor
1 Hoist, electric drive with V-Belt and 1/4" cable	Poor
1 Rock drill with jackleg and steel	Fair
1 Rock drill jackhammer and steel	Fair
1 Air compressor, 105 c.f.m. (gasoline engine drive)	Good
1 D-2 dozer (gasoline)	Poor
1 D-4 tractor with loader	Fair
Miscellaneous small tools, pipe, pumps and lumber	

SAMPLING

After carefully examining the property with ultraviolet light, very few places could be found to sample that would show any tungsten. A grab sample from spillage around the ore bin and conveyor assayed 0.25% WO_3. A 50-ton tailing pond assayed less than 0.01% WO_3 and a few units of concentrates assayed 60.77% WO_3. A select sample of the ore representing only a few tons showed 1.01% WO_3.

LABOR AND SUPPLIES

Labor and most supplies are obtained from Fresno, Calif. The prevailing wage scale for labor is $12.00 per day, however, skilled miners earn over $15.00 per day and are scarce.

GEOLOGY

The area of the Red Bud mine is underlain by metamorphic and igneous rocks, chiefly mica-quartz schist, marble, and tactite, which are remnants of roof-pendants in granodiorite. The geology and tungsten deposits of the district have been described by Krauskopf [1/].

The eastern half of the Red Bud property is underlain by granodiorite. It is a light-gray, medium-grained rock containing quartz, plagioclase, hornblende, and biotite. Near the contact with metamorphic rocks the percentage of dark minerals has been greatly increased by the assimilation of metamorphic material by the granitic magma, forming a zone of hybrid rock or migmatite.

Underlying the western half of the property is a large pendant of mica-quartz schist that strikes about N. 15° E. and dips 60° SE. A few

1/ Krauskopf, Konrad B., 1953, Tungsten Deposits of Madera, Fresno and Tulare Counties, California: Calif. Div. of Mines Special Report 35.

thin lenses of tactite have formed in the more calcareous zones along the eastern edge of the main schist body near the contact with granodiorite. Three small pendants of schist are separated from the main body by granodiorite (see fig. 2). The southernmost of these isolated schist bodies contains a pod of nearly pure, white, coarsely-crystallized marble that has been mined for use as roofing material. A few small isolated grains of scheelite were noted in the marble. The other two pendants contain similar coarse-grained marble and in addition contain pods of garnet-epidote tactite. The tungsten ore bodies are in the tactite.

ORE DEPOSITS

The tungsten deposits occur in tactite, formed by contact metamorphism of impure limestone, into which tungsten-bearing solutions have been introduced. Scheelite is the only ore mineral present in the deposits.

Garnet-epidote tactite, containing pods of coarse-grained scheelite, occurs at and near the contact of the calcareous rocks with the granodiorite. The largest body of tactite is exposed in the No. 3 shaft. Other smaller scheelite-bearing tactite pods are exposed in the No. 1 and No. 4 shafts and in the No. 2 and No. 6 pits.

The deposit at the No. 1 shaft (see fig. 2) consisted of a pod of scheelite-bearing tactite in a pendant of schist and marble. The pod, estimated to have contained about 100 tons of material, was mined out from a small pit about 30 feet in diameter and a vertical shaft, now caved

and flooded but said to be about 50 feet deep. A solution cavity, also flooded, in the marble next to the shaft is said to have contained scattered scheelite crystals on the walls.

A lens of tactite about 40 feet long, 1 to 5 feet wide, 20 feet deep, and containing about 60 tons of ore grade material, was mined from the No. 2 pit. The lens contained ore grade material along the margins where the width did not exceed about 2 feet but was less than ore grade in the thicker portions.

About 400 tons of scheelite-bearing material has been mined from pods scattered throughout a tactite lens exposed in the No. 3 inclined shaft. The tactite lens is from 1 to 10 feet thick between granodiorite and white crystalline marble. A 3-foot sample (BM-269) cut across the back at the bottom of the shaft contained 1.01 percent WO_3. This sample represents the best material observed in the mine and is in a pod containing only a few tons of ore.

A scheelite-bearing tactite pod containing about 100 tons of ore was mined from the No. 4 shaft. The shaft, or pit, is about 20 feet long, 10 feet wide, and 15 feet deep with a narrow 12-foot drift at the bottom. The tactite lens, between granodiorite and schist, ended in white crystalline marble at the bottom of the shaft. The operators stated that the tactite mined from this pod contained crystals of scheelite up to two inches thick and showed the field team specimens of crystal fragments over 1 inch thick that had been mined from this pod. The shaft is flooded but was

pumped out for the examination.

Other showings of scheelite-bearing material are exposed in pits Nos. 5, 6, and 7 but are confined to lenses of tactite less than 1 foot thick and a few feet in length and depth.

About 600 tons of scheelite-bearing ore, containing 300 units of WO_3, has been produced from the Red Bud mine. Most of this ore has been mined from the No. 1, 3, and 4 shafts.

ORE RESERVES

There are no measured reserves, and less than a hundred tons of indicated reserves, on the Red Bud property. All of the known pods of scheelite-bearing material have been mined to depths where they are too narrow, or where the grade has fallen too low, for profitable mining. It is probable that other pods of the type that have been mined exist in the tactite body between the No. 3 and No. 4 shafts. Assuming the concentration of ore pods in this block of ground between the two shafts is equal to the concentration in the ground that has already been mined, a reserve block 160 feet long, 30 feet deep, 2 feet thick, and containing 900 tons of ore is inferred. An additional 100 tons of ore is inferred to be present in the other small tactite body on the north side of the No. 1 shaft. Total inferred reserves therefore consist of 1,000 tons of ore with an average grade of 0.5 percent WO_3.

PROPOSED EXPLORATION

The applicants' original proposal consisted of 3 diamond-drill holes

of about 100 feet each to be drilled under pits Nos. 5, 6, and 8 (see fig. 2) and a series of 60-foot holes to be drilled from underground stations in No. 3 and No. 4 shafts, perpendicular to the hanging and foot walls and also along the strike of the tactite zone. Total footage to be drilled was estimated at 1,000 feet. Also included in the original proposal was the construction of 600 feet of road to drill sites below pits Nos. 6 and 8. The total cost of the program was estimated at $4,000.

At the time of the field examination the applicants had changed their plan of exploration to eliminate the road construction and the drilling in the vicinity of pits Nos. 5, 6, and 8. Their revised plan consists of drilling five holes to explore the tactite zone along the granodiorite contact between No. 3 and No. 4 shafts and several holes to explore the ground between No. 1 and No. 3 shafts. The total footage to be drilled remains at 1,000 feet and the total cost at $4,000. The applicants own an air driven EX diamond drill and propose to do the drilling themselves.

The ground to be explored under the revised drilling program is the most favorable geologically for the discovery of scheelite-bearing tactite pods of the type already mined but it is almost certain that the cost of such exploration will exceed the value of the ore to be found. The geology of the deposit and the geologic factors limiting the amount of ore that could be found by the proposed exploration plan were discussed with the applicants in considerable detail at the time of the examination.

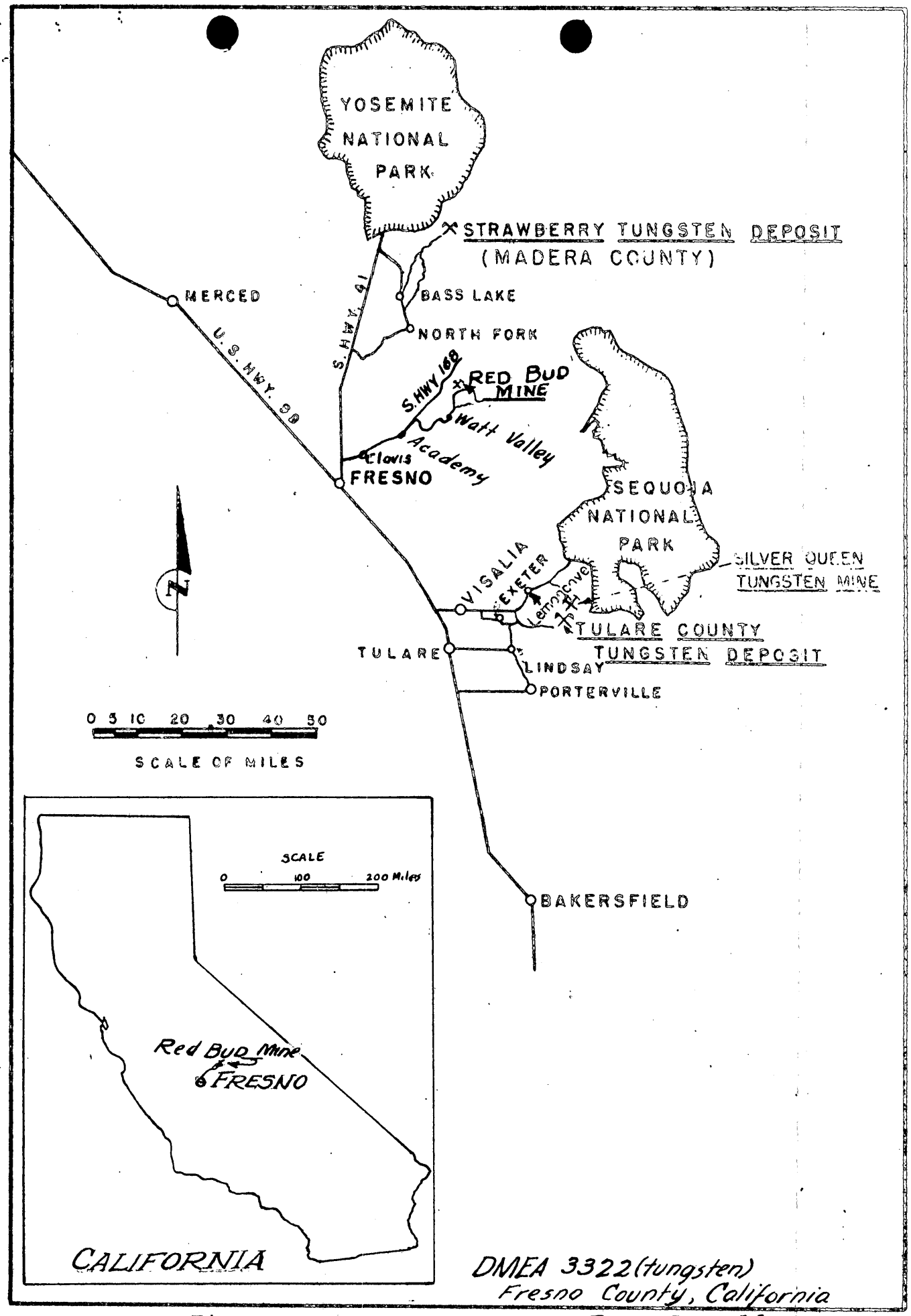


Figure 1. Location Map. RED BUD MINE

400

DOCKET
SURNAME
Martin
Mitchenson

MAY 1 4 1954

Mr. L. L. Touton
935 Park Circle Drive
Fresno, California

Re: Docket No. DMEA 3322 - Tungsten
San Joaquin Chemical Co.
Red Bud mine
Fresno County, California

Dear Mr. Touton:

This will acknowledge receipt of your letter of May 11, 1954, advising us that you are affiliated with the subject applicant. You also asked for a report on the status of the captioned application.

Under date of May 7, 1954, we requested Mr. Miller, Executive Officer, DMEA Field Team, Region III, 1012 Flood Building, 870 Market Street, San Francisco 2, California, to arrange a field examination of your affiliate's mine.

We note your offer to provide any further information required to expedite consideration of the same application and we feel sure that Mr. Miller will apply directly to you if he needs anything of the sort.

Sincerely yours,

SIGNED

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

WSMartin:foc
5-14-54
cc to: Docket
Admr. Reading File
Code 400

R.C.G.

L.L.TOUTON
935 PARK CIRCLE DR.

FRESNO, CALIFORNIA

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 13 1954

MAY 11, 1954

WSM

R. E. ADAMS
DEFENSE MINERALS ADM
WASHINGTON 25, D. C.

DEAR SIR: SUBJECT: DMEA-3322

ON APRIL 23, I RECIEVED NOTICE THAT YOU WERE CONSIDERING AN APPLICATION FOR EXPLORATION FROM THE SAN JOAQUIN CHEMICAL CO, WITH WHOM I AM AFFILIATED. OUR APPLICATION WAS FILED AT THE SUGGESTION OF MR. MILLER OF YOUR SAN FRANCISCO OFFICE AND IT WAS OUR UNDERSTANDING THAT WE SHOULD HAVE HAD SOME WORD FROM YOU BY NOW.

AS WE ARE MOST ANXIOUS TO FORM OUR PLANS FOR THIS EXPLORATION, I WOULD LIKE TO KNOW THE STATUS OF CONSIDERATION OF OUR APPLICATION AND TO KNOW IF YOU REQUIRE ANY FURTHER INFORMATION TO EXPEDITE THIS CONSIDERATION.

5/7 - to T.T.

YOURS TRULY,

L. L. Touton

FILE COPY
SURNAME:

Rutledge
Martin
Geehan
Rubin
Hoffmeyer
Selfridge
Hofflund

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

140

Rewritten by

MAY 7 - 1954

Mr. H. C. Miller, Executive Officer
DMEA Field Team, Region III
1012 Flood Building
870 Market Street
San Francisco 2, California

Re: Docket No. DMEA-3322 - Tungsten
San Joaquin Chemical Co.
Red Bud mine
Fresno County, California

Dear Mr. Miller:

The above-docketed application for exploration assistance is being referred to your office for a field examination of the property. Two copies of a memorandum by P. W. Guild, Geological Survey, relevant to this application, are enclosed for your information.

In the event that Government participation in the subject project is recommended, an Owner's Consent to Lien will be required.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (JHB)

FARutledge/HCRubin/emd ~~HX~~ 5/5/54

Copy to: Docket
Adm. R. File
Operating Comm.
W. S. Martin
R. W. Geehan, USBM
T. P. Thayer, USGS
J. L. Hofflund
H. C. Rubin
chron.
pending

Enclosures 2

Approved:

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

T. P. Thayer
Member, Geological Survey (JHB)

R.C.S.

Docket
Surname
Rutledge
Martin
Geehan

Mr. H. C. Miller, Executive Officer
DMEA Field Team, Region III
1012 Flood Building
870 Market Street
San Francisco 2, California

Re: Docket No. DMEA 3322 - Tungsten
San Joaquin Chemical Co.
Red Rock mine
Fresno County, California

Dear Mr. Miller:

The above-docketed application for exploration assistance is being referred to your office for a field examination of the property. Two copies of an relevant memorandum by P. W. Guild, Geological Survey, are enclosed for your information.

In reviewing the application, it was noted that H.W. Williams and Albert C. Herms's lease on the subject property is for a three year period ending April 30, 1957. In order to allow sufficient time to protect the Government's interest, if Government participation in an exploration program is recommended, the Applicant should be advised that the lease should be extended by amendment for a term ending not sooner than January 1, 1965. Owner's Consent to Mine forms will also be required.

Sincerely yours,

APPROVED:

Chairman, Operating Committee

FARutledge:Loc
5-4-54
cc to: Docket
Code 400
Admr. Reading File
Operating Comm.
FT. Reg. 3
R. W. Geehan, USBM
T. P. Thayer, USGS

Member, Bureau of Mines

Member, Geological Survey

Enclosures

400

Docket
Surname

Rutledge
Martin
Geehan
Rubin
Hotlund
Fredors
Thayer
Selfridge
Johnson

MAY 7 1954

San Joaquin Chemical Co.
1506 Clark
Fresno, California

Re: Docket No. DMEA 3322 - Tungsten
Red Rock mine
Fresno 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. H. C. Miller, Executive Officer, DMEA Field Team, Region III, 1012 Flood Building, 870 Market Street, San Francisco 2, California, for a field examination of the property.

Any assistance that you may render the members of the Field Team will be appreciated.

Sincerely yours,

C. O. Mittendorf

Administrator

FARutledge:foc
5-4-54
cc to: Docket
Code 400
FT. Reg. 3
Admr. Reading File
Operating Comm.
R. W. Geehan, USBM
T. P. Thayer, USGS

R.C.S.

Docket

IN REPLY REFER TO:

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

Defense Minerals Administration
RECEIVED
APR 28 1954

April 28, 1954

WSM

Memorandum

To: W. S. Martin, DMEA

From: P. W. Guild, USGS

Copy retained 400

Subject: DMEA 3322 - TUNGSTEN
Red Bud Mine
San Joaquin Chemical Co.
1506 Clark, Fresno, Calif.

Summary: The applicants propose diamond drilling in a scheelite-bearing contact zone from which a little concentrate is said to have been produced in a 2-ton mill. Some bulldozer work is also proposed.

Background: Lemmon's unpublished "Tungsten deposits of the United States" contains the following:

> "Red Bud Mine: SE 1/4 sec. 15, T. 11 S., R. 24 E., Dinuba quad., Alt. 1600 ft. On paved road. Owned by A. Feuerstein (1943). Geology Scheelite in small scattered bodies of tactite, some with 1 to 2 percent WO_3, in schist; tactite exposed in adit for 2 ft. width. 30 ft. length, averaging 1% WO_3. Prospected by 30-ft. adit and many surface cuts. Production in 1943 about 100 units of WO_3".

Note that the locations are slightly different. Lemmon gives the SE 1/4, the applicant the S 1/2 of the NE 1/4. The deposits may not be the same, although they probably are.

Comments: The applicant's description of the drilling is not very precise. Total footage is apparently in excess of 1000 feet. The applicants propose to purchase a drill and do the work themselves, but I feel that the cost estimate may be low. No sample data have been submitted.

Recommendation: Refer the application to the Field Team for examination, sampling of the deposits, and definition of the target areas.

PWGuild

April 23, 1954

Subject: DMEA-3322
Re: Exploration Assistance
Red Bud Mine

San Joaquin Chemical Co.
1506 Clark
Fresno, California

Gentlemen:

The receipt of your application dated April 21, 1954 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-3322 and referred to the Iron and Ferro Alloys Division.

Kindly refer to DMEA-3322 in any future correspondence relating to your application.

Sincerely yours,

Robert E. Adams
Chief, Operation's Control
and Statistics Division

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

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

RECEIVED
MAR 23 1954

Not to be filled in by applicant

Docket No. 3322
Metal or Mineral Tungsten
Date Received
Estimated Cost $4,000
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:

SAN JOAQUIN CHEMICAL CO
1506 CLARK
FRESNO, CALIF

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

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

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

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

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract

80 ACRES SOUTH ½ OF NORTH EAST ¼ OF SECTION 15, TOWNSHIP 11 SOUTH RANGE 24 EAST, M. D. B. & M.

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

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

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.

(*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.

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes.

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

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you.

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

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

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

SCHEELITE

(*b*) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings, and the location of the proposed exploration work as related to such features as contacts, veins, ore-bearing beds, etc.

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

30 60DAYS

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations.

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

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

(*b*) *Labor, supervision, consultants.*—Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants.

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

(*d*) *Operating equipment.*—Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be.

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project.

(*f*) *New buildings, improvements, installations.*—Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project.

(*g*) *Miscellaneous.*—Furnish a detailed list showing the cost of repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance, and payroll taxes.

(*h*) *Contingencies.*—Give an estimate of any necessary allowances for contingencies not included in the costs stated above.

NOTE.—No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or any other indirect costs, or work performed or costs incurred before the date of the contract, should be included in the estimate of costs.

7. (*a*) Are you prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation (Sec. 7, DMEA No. 1)?

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

☑ Money ☑ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper.

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

Dated April 21, 1954

(Applicant)

By H. R. Williams

Albert C. Jaime

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

SAN JOAQUIN CHEM CO.

1. INDIVIDUALS OWNING SAN JOAQUIN CHEMICAL CO AS PARTNERSHIP

H. R. WILLIAMS
2023 TERRACE
FRESNO, CALIF

A. C. HORNE
514 WEST LAMONA
FRESNO, CALIF

3. MINE IS KNOWN AS RED BUD MINE
COPY OF THE LEASE ATTACHED

4. A) OUR INTEREST IN THE FOLLOWING IS 100%. THE MINE WORKINGS AND PROSPECTS ARE EASILY AVAILABLE BEING BUT ONE HOURS DRIVE FR FROM FRESNO CALIFORNIA ON HARD SURFACT COUNTY ROADS. WE HAVE REMOVED ORE ON A COMMERCIAL BASIS FROM WORKINGS LABELED #1, #2, & #3 ALL OF WHICH LIE ON A STRIKE OF 14 DEG EAST OF NORTH WITH A 64 DEG DIP TOWARD 104 DEG. # 1 WORKING CONSISTS OF A SHAFT ALONG THE DIP ABOUT 54 FT DEEP. THE SHAFT WAS SUNK IN GOOD QUALITY ORE ALTHOUGH THE VEIN WAS FROM 18" TO 4' WIDE. OPERATIONS WERE SUSPENDED ON THIS HOLE AS A DANGEROUS CONDITION DEVELOPED AT THE PORTAL DUE TO EARTH MOVEMENT WHICH WOULD HAVE NECESSITATED EXPENSIVE BULKHEADS . IT WAS THUS THOUGHT CHEAPER TO WORK THE ORE FROM THE #3 LOC LOCATION. #3 WORKING IS PRESENTLY BEING WORKED. IT CONSISTS OF A WINZE 48' LONG RUNNING AT A DEPRESSED ANGLE OF ABOUT 8 DEG ALONG THE STRIKE OF THE VEIN THEN TURNING DONWARD 65 DEG FOLLOWING THE VEIN. THIS WORKING IS WELL TIMBERED AND IN FIRM ROCK AND THE ORE BODY WHILE QUITE RICH IS FROM 18" TO 4' WIDE. #4 WORKING CONSISTS OF A SHAFT 35' DEEP WITH ABOUT 16' OF HORIZONTAL UNTIMBERED DRIFT ALONG THE STRIKE, TOWARD #3. WE HAVE PROBED THE FORMATION AS WELL AS WE CAN WITH PRECUSSION DRILLS AND WITH EXPERIENCED MINERS AND HAVE DETERMINED THE SOUTHEAST HANGING WALL TO BE A LARGE GRANITE BODY AT LEAST 14' THICH IN #3 AND UNINTERRUPTED ON THE SURFACE. THE NORTH WEST CONFINE OF THE VEIN IS A WIDE LIMESTONE BEDDING AT LEAST 40' WIDE AS DETERMINED FROM A CROSSCUT RUN IN #3. THE CREEK BED SEEMS TO BE A FAULT LINE AND IS FULL OF SLIPS AND CRACKS AS DETERMINED BY VISUAL INSPECTION OF #4 AND WATER LEAKAGE IN THE WORKINGS. WATER FLOWS IN THE CREEK ONLY AFTER RAINS. THERE IS ANOTHER VEIN LAYING PARALELL TO THE VEIN CONTAINING #1, 3, &4 AS DETERMINED FROM PROSPECTS #5, 6, 8, 9, ALONG THE OUTCROP OF THE VEIN. THERE HAS RECENTLY BEEN A MINE STARTED ON THIS SAME VEIN AT A POINT JUST NORTH OF OUR NORTH BORDER. THIS NEW MINE IS ON INDIAN RESERVATION. BEFORE THIS LAND WAS THROWN OPEN TO BID, THE BUREAU OF INDIAN AFFAIRS GEOLOGIZED THI PARCLE AND THE GEOLOGIST WENT OVER THE OUTCROPS ON OUR SIDE OF THE LAND. HE INFORMED US THAT WE HAD EXCELLENT PROSPECTS OF A DISCOVERY AND HE RECOMMENDED THAT THE GOVERNMENT THROW THE RESERVATION OPEN TO BID. THERE APPEARS TO BE A LIMESTONE SANDWICH BETWEEN GRANITE IN THIS VEIN. THE LIMESTONE HAS THE SAME STRIKE AND DIP AS THE VEIN THAT WE ARE PRESENTLY WORKING AT #3. THE WIDTH OF THE LIMESTONE BED IS ABOUT 300 FT AS DETERMINED FROM THE FACE AT THE FORMER CALCITE WORKINGS. THE PROSPECT HOLES ARE ON THE SOUTHEAST SIDE OF THE OUTCROPPING AND HAVE ALL SHOWN GOOD COLOR AND A VEIN WIDTH OF AT LEAST 18". WE HAVE ANOTHER LIMESTONE VEIN OF UNDETERMINED WIDTH ON APPROXIMATELY THE SAME DIP AND STRIKE AT PROSPECT #7 WHICH CONTAINS A SERIES OF HOLES. #7 SHOWS GOOD QUALITY TUNGSTEN AT THE SURFACE.

SAN JOAQUIN CHEMICAL CO.

THERE IS A VERY GOOD TUNGSTEN PROPERTY ON A PARALELL VEIN LYING ABOUT 600 FT WEST OF OUR WEST LINE. THE ORE THERE IS OF NOT LESS THAN 8 FT AND IS OF HIGH QUALITY. IT IS OWNED BY ONE MR. BENSEN.
WE OWN A MILL THAT WILL HANDLE 2 T. P. HR OF ORE. WE HAVE A ONE TABLE CONCENTRATION PLANT. THIS MILL IS CONTROLLED BY DAILY HEADS AND TAIL SAMPLES AND WILL CONSISTANTLY PRODUCE OPWARDS OF 65% RECOVERY. WE HAVE COMPLETE ASSAY AND COST CONTROL ACCOUNTING FACILITIES AVAILABLE. WE HAVE A SMALL SHOP THAT IS ADEQUATE. OUR PLANT INVESTMENT IS ABOUT $35,000.

B) THISWMILL HAS PRODUCED ABOUT 200 TON UNITS OF TUNGSTEN OF A QUALITY OF 60% WO_3 AND WITH ONLY A TRIFLING PENALTY FOR SULPHUR IN SOME LOTS ONLY.

C) THE GEOLOGY OF THE PROPERTY IS DESCRIBED IN SUB PARAGRAPH A AND MAY BE SUMMARIZED AS FOLLOWS: WE HAVE AT LEAST THREE DISTINCT LAYERS OF LIMESTONE LYING PARALELL WITH ONE ANOTHER AND ALL SHOWING TUNGSTEN ALL ALONG THEIR OUTCROPPING MARGINS. THESE LIMESTONE LAYERS ARE AT LEAST 50 FT THICK TO 300 FT THICH AND ARE SANDWICHED IN BETWEEN LARGE BODIES OF PRIMARY GRANITE. THE VEIN CONTAINING PROSPECT #6 LIES IN SUCH A MANNER THAT IT COULD IN ALL PROBABILITYBE OPEN PIT MINNED OF THE SIDE OF THE HILL. THERE IS A GOOD MINE ON THIS SAME VEIN TO THE NORTH. THERE IS ALSO A GOOD MINE TO THE WEST OF US ON A PARAL PARALELL VEIN. WE HAVE HAD GOOD VERBAL REPORTS FROM GOVERNMENT GEOLOGISTS WHO LOOKED OUR PROPERTY OVER WHEN GEOLOGIZING THE 80 ACRES TO THE NORTH OF US. WE HAVE A GOOD MILL AND MINING STAFF. WE ARE RUNNING OUT OF ORE IN THE PRESENT WORKINGS WHICH ARE NOT LOCATED IN THE MOST CONVENIENT WAY FOR MINING. WE DO NOT HAVE SUFFICIENT FUNDS TO CARRY OUT THE SEARCH PROGRAM OURSELVES IN THE MANNER WHICH WE FEEL IT SHOULD BE DONE TO PROVE UP THE ORE RESERVES ON THE HILL.

D) WE ARE ON COUNTY HARD SURFACE ROAD, ONE HOURS DRIVE FROM FRESNO CALIF. WE HAVE NO SNOW AND ALL YEAR OPERATING CONDITIONS.

E) WE HAVE A LIBERAL MANPOWER SITUATION, SUPPLIES ARE BUT AN HOUR AWAY, WE HAVE 2200 VOLT POWER FROM P. G. & E. WE HAVE WATER FROM OUR CREEK FOR 9 MONTHS A YEAR AND CAN DRILL WELL FOR 100 GPM FOR $ 1000 APPROX.

5. A) WE WISH TO EXPLORE FOR SCHEELITE.

B) WE WISH TO DIAMOND DRILL 3 HOLES ON VEIN CONTAINING PROSPECT #6 ABOUT 300 FT DEEP. WE WILL DRILL PERPENDICULAR TO THE DIP OF THE VEIN STARTING ABOUT 100 FT BELOW THE PROSPECT OUTCROPPINGS AT PROSPECT #6 AND #5, & #8. WE WILL ALSO CORE DRIL THE VEIN CONTAINING #3 WITH A SERIES OF SHALLOW HOLES ABOUT 60 FT FROM INSIDE #3 AND #4 HOLES PERPENDICULAR TO THE HANGING A AND FOOT WALLS AND ALONG THE VEIN. OTHER DRILLING OR MODIFICATIO OF THIS SCHEDULE WILL BE MADE AS WORK PROGRESSES. WE THUS ESTIMARE ABOUT 1000 FT OF CORE DRILL HOLE, ABOUT 30% THROUGH D.G. AND THE BALANCE THROUGH FAIRLY SOFT LIMESTONES AND PEGMATIT WE WILL DO ALL ASSAY WORK IN OUT WELL EQUIPPED LABORATORIES. WE WILL HAVE ABOUT 600 FT OR ROAD TO BUILD ALONG THE FACE OF THE HILL ALONG PROSPECT #6 VEIN.

C) WORK WILL START WITHIN 30 DAYS FROM CONTRACT AND BE COMPLETED 60 DAYS.

SAN JOAQUIN CHEMICAL CO

5 D) WE HAVE BEEN OPERATING A MONE AND MILL ON THIS PROPERTY FOR THREE YEARS AND HAVE TRAINED PERSONELL. MR A. C. HORNE WILL BE IN CHARGE OF THE WORK UNDER THE SUPERVISION OF L. L. TOUTON. MR. HORNE HAS BEEN IN THE MINING AND MILLING BUSINESS FOR 20 YEARS AS A MINER MILL HAND AND OPERATOR IN THE GRASS VALLEY GOLD SECTION OF CALIFORNIA AND IN THE FRESNO COUNTY TUNGSTEN AREAS. MR HORNE HAS HAD EXTENSIVE EXPERIENCE AS A DIAMIND DRILL OPERATOR. MR. TOUTON IS A REGISTERED CHEMICAL AND ELECTRICAL ENGINEER IN THE STATE OF CALIFORNIA. HE IS A M. I. T. GRADUATE IN ELECTRICAL ENGINEERING AND HAS HAD WIDE EXPERIENCE AS AN ENGINEER AND BUSINESS MAN.

6) A. THE APPLICANT WILL LET 30 HRS WORK WITH BULLDOZER ON CATIPILLAR D6 TRACTOR IN BUILDING ROAD AND TRENCHING. THIS WILL COST $400 CONSIDERING MOVING TIME.

B. WE WILL CHARGE THE LABOR OF THREE MEN TO THIS WORK. THIS WILL AMOUNT TO $1600.

C. WE WILL PURCHASE A JOY BROS DRILLING OUTFIT FOR APPROX $2200 WHICH WE WILL KEEP OR RESELL AFTER THE WORK IS DONE FOR WHAT THE JOY MFG CO PEOPLE TELL US IS A REASONABLE FIGURE OF $1200 MAKING THE COST OF EQUIPMENT $1000. WE WILL USE ABOUT $210 OF SUPPLIES AND THE PUMPING EQUIPMENT AND ACTUAL LABORATORY EQUIPMENT WE WILL FURNISH GRATIS.

F. NO NEW BUILDINGS WILL BE NEEDED.

H. WE FEEL THAT A CONTINGINCY OF $1000 SHOULD BE CONSIDERED MAKING THE TOTAL PROJECT VALUE OF BUDGET AT$ 4,000.

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Denver Federal Center
Denver, Colorado

OFFICIAL BUSINESS

THIRD CLASS MAIL

Mr. E. Wm. Ellis
Defense Minerals Exploration Administration
Interior Building, Room 4640
Washington 25, D. C.

THIS AGREEMENT OF LEASE, made and entered into this 13th day of January, 1954, by and between P. D. SPENCE and LUTIE SPENCE, his wife, PATTI E. QUALLS (formerly Patti E. Spence), EDWARD S. SPENCE and HARRY G. SPENCE, herein designated as Lessors, and H. R. WILLIAMS and ALBERT C. HORNE, herein designated as Lessees,

W I T N E S S E T H:

For and in consideration of the payments herein agreed to be made and of the performance of the Lessors and Lessees of the provisions of this lease on their part to be observed and performed, Lessors hereby lease and demise to Lessees for mining purposes, and Lessees hereby hire and take of and from the Lessors all that certain real property situated in the County of Fresno, State of California, more particularly described as follows:

The South Half of the Northeast Quarter of Section 15, Township 11 South, Range 24 East, M.D.B. & M.;

Said leasing and hiring are made upon the following terms and conditions:

FIRST: The term of this lease shall commence on the 1st day of May, 1954, and shall continue for a term of three years, ending on the 30th day of April, 1957.

SECOND: Lessees shall pay to Lessors as rental for said leased premises, a fixed monthly rental of $50.00 per month, payable on the 1st day of each and every month during the term of this lease, commencing on the 1st day of May, 1954, plus the additional rent hereinafter fixed.

THIRD: That if, in any quarterly or three month period during the term of this lease, the gross sales of all ores, minerals and concentrates mined, milled, shipped and sold from said leased premises by Lessees, exceeds the sum of $1,500.00, the Lessees hereby agree to pay to Lessors, in addition to the fixed monthly rental as aforesaid, and as additional rent, in each quarter or three month period that such excess shall occur, and within and not later than 30 days after the end of each such quarter, a sum equal to ten per cent (10%) of such quarterly gross

DWELLE & DWELLE
ATTORNEYS AT LAW
3707 IOWA AVENUE
FRESNO, CALIFORNIA
PHONE 2-6103

sales in excess of $1,500.00. All rental, both fixed and additional, the Lessees hereby agree to pay to Lessors at such place or places as may be designated from time to time by Lessors, and without deduction, default or delay, and until further notice shall be given to Lessees by Lessors, the Lessees shall make all rental payments to P. D. Spence, at Tollhouse, California, who is hereby authorized to receive and receipt for the same. That the premises are leased to the Lessees upon the condition that they are to be utilized by the Lessees exclusively, for the purpose of extracting minerals therefrom and for the purpose of taking, processing, storing, removing and disposing of same; and Lessees agree that their operation on said premises shall be conducted in a lawful and orderly manner, and in conformity with all laws and ordinances which now are or may hereafter be during the continuance of this lease, applicable to such business operations conducted on said business premises by Lessees. Lessees hereby agree to forthwith upon the commencement of this lease begin the mining and removal of minerals, (and tungsten in particular) from said leased premises, and to continue to remove and ship said minerals as soon as practicable after their recovery, to Twining Laboratories at Fresno, California, for analysis and the determination of the values thereof. Lessees hereby agree to keep a complete and accurate set of books covering their operations under this lease and to allow Lessors access to such books at all reasonable times for the purpose of inspecting same or making copies thereof. Lessees further hereby agree to render to Lessors a quarterly report showing the quantity of ores, concentrates and minerals recovered and produced from said premises, which said report shall be rendered and delivered to Lessors not later than 30 days after the end of each quarter and which shall be accompanied with copies of all Twining Laboratory reports on minerals tested and sold and a statement of the full amount received from the sale of said minerals showing the date of such sales and to whom sold. Accompanying each such quarterly report shall be Lessees' check made payable in a sum equivalent to 10% of the gross sales in excess of $1,500.00 of all ores mined, milled, shipped and sold during the preceding three calendar months covered by said report. Until further notice shall be given to Lessees by Lessors, the said rental payments and reports shall be

DWELLE & DWELLE
ATTORNEYS AT LAW
3707 IOWA AVENUE
FRESNO, CALIFORNIA
PHONE 2-6103

made payable to and delivered to said P. D. Spence, who is hereby authorized to receive and receipt for the same.

FOURTH: Lessees hereby further agree that all operations on said premises shall be conducted by them in a good and miner-like manner, and in accordance with the most approved methods of mining in vogue in the vicinity in which said mining property is situated. Lessees further agree that they shall promptly pay for all labor, materials and supplies used and employed by them in connection with their mining operations, and shall keep said premises free from any mechanics or materialmans liens or other encumbrances.

FIFTH: The Lessors shall be privileged at any and all times during the term hereof, to enter upon said premises during regular business hours for the purpose of inspecting the operations of the Lessees hereunder, and for the purpose of posting and keeping posted on said leased premises any notices which they might deem necessary or required for the purpose of giving the notification as required by law that they shall not be responsible for any of Lessees' obligations incurred by virtue of their operations on said premises.

SIXTH: In the event of the sale or assignment of the interest of the Lessees hereunder upon any attachment, execution, bankruptcy proceeding, assignment for the benefit of creditors, by operation of law or otherwise, whether by operation of law or voluntarily made, shall, at the option of the Lessors, render this lease wholly void and without any force or effect, and said Lessors may thereupon without notice re-enter and take possession of said leased property and eject all persons therefrom and remove all property of said Lessees.

SEVENTH: The Lessors shall continue to have the right to the use of the surface of said land for agriculture and grazing purposes to such an extent as will not interfere with the proper operation of the lease for minerals. The Lessees agree to conduct the operations so as to interfere as little as is consistent with the economical operation of the property for mining with the use of the land for agricultural and grazing purposes. Whenever required by Lessors in

DWELLE & DWELLE
ATTORNEYS AT LAW
3707 IOWA AVENUE
FRESNO, CALIFORNIA
PHONE 2-5103

writing, the Lessees shall fence all open cuts, tunnels and shafts that may be considered a menace to the livestock and in order to safeguard the livestock on said leased premises. Lessees further agree to pay Lessors for all damages to livestock caused by their operations under this lease. In the event the parties hereto are unable to agree on the amount of such damage, then the same shall be left to arbitration. At the end of the term of this lease, or any sooner termination thereof, the Lessees agree to leave fenced all open cuts, tunnels and shafts on said premises.

EIGHTH: The Lessors shall not be liable for any injuries to goods, properties, effects or persons in or upon said premises, nor for any claim by whomsoever made for personal injuries or death by reason of the damaged or defective condition of any goods, properties or effects of Lessees or for any reason otherwise whatsoever. Lessees agree to conduct operations on said leased premises with due regard to the safety of all employees and all other persons, and to maintain said property and all equipment or personal property thereon in a safe and suitable condition with a view to the safety of their employees and of the public, and agree to hold the Lessors harmless of and from any and all claims for damages or personal injuries or death resulting therefrom sustained on said premises or mining operations thereon, and Lessees agree to at all times provide and maintain adequate proper workmens compensation coverage and public liability and property damage coverage at minimum limits of $100,000.00 and $200,000.00 and to provide Lessors with proof of the maintenance of said coverage either by allowing the Lessors to retain and hold the original insurance policies in this respect or by providing that such insurance coverage cannot be revoked or cancelled without the Lessors' written consent.

NINTH: Lessors warrant that they are the owners of the property covered hereby, and that the title thereto is free and clear of all liens, encumbrances and objections, except current County Taxes.

DWELLE & DWELLE
ATTORNEYS AT LAW
3707 IOWA AVENUE
FRESNO, CALIFORNIA
PHONE 2-6103

The Lessees shall pay all taxes on their improvements constructed on said leased premises or taxes on minerals stored on the leased property during the term hereof, and shall in addition, pay all of the increase of taxes on the leased premises, caused by the discovery of any valuable mine rals thereon, and whether assessed upon said land, or as mineral rights, or as otherwise, provided Lessors are called upon to pay and actually pay such increased tax.

TENTH: At the end of the term of this lease, or a sooner termination hereof for any reason, Lessees shall be privileged for a period of sixty days thereafter to remove from said premises all structures, mining equipment and all other removable improvements installed by Lessees thereon, none of which shall be deemed and considered as fixtures. Otherwise, however, if the Lessees shall abandon, vacate or surrender said premises, or be dispossessed by process of law, any personal property belonging to Lessees and left on the premises shall be deemed to be abandoned at the option of the Lessors, or may be removed and stored in any public warehouse or elsewhere at the cost of, and for the account of the Lessees. If the Lessees shall be in default in the performance of any condition or covenant herein contained, and shall abandon, vacate or surrender said premises, besides other remedies or rights the Lessors may have, it shall be optional with the Lessors to re-let or re-lease the said premises (with or without terminating this lease and/or taking possession of the demised premises by court action or otherwise) for such rent, for such time and upon such terms as the Lessors may see fit, and, if a sufficient sum shall not be thus realized during the term originally provided for by this lease after paying the expense of such re-letting or re-leasing and collecting to satisfy the rent hereby reserved, the Lessees agree to satisfy and pay any deficiency, month by month.

ELEVENTH: Any notice to or demand upon Lessors required or permitted to be made under the provisions of this agreement, or otherwise by law, may be given to or made upon Lessors either personally or by

DWELLE & DWELLE
ATTORNEYS AT LAW
2707 IOWA AVENUE
FRESNO, CALIFORNIA
PHONE 2-6103

registered mail addressed to P. D. Spence at Toll House, California, and deposited in the United States Mail. Any notice to or demand upon Lessees required or permitted to be made under the provisions of this agreement, or otherwise by law, may be given to or made upon Lessees either personally or by registered mail addressed to Lessees at 1506 Clark Street, Fresno, California, and deposited in the United States Mail. Either party may substitute a new address within the State of California in lieu of that herein designated by giving the other party written notice of such substituted address.

TWELFTH: At such time and from time to time as Lessees shall determine, Lessees shall be privileged to construct, maintain and operate on said premises, equipment and structures of a size and character suitable, convenient or necessary in the mining of said premises, and shall be privileged to cross said premises with mining equipment and exercise any rights otherwise with respect thereto as may be required in the conduct of Lessees' mining operation on said leased premises. Lessees also shall have the right and privilege to construct a dam across the stream bed on said leased premises in order to store and preserve a reservoir and supply of water with which to conduct their mining operations, provided, however, that such right and privilege shall be subject to the Lessees obtaining any and all necessary permits as may be required by the proper Governmental agencies and provided also that livestock of Lessors grazing on said leased premises shall have the right to the water from said reservoir.

THIRTEENTH: In the event of default in performance by Lessees of any of the provisions of this agreement on Lessees' part to be observed and performed, and such default continues without correction by Lessees for a period of thirty (30) days from and after written notice of such default from Lessors, then and in such event Lessors at their option shall be entitled to terminate this agreement and all rights and privileges of Lessees hereunder and Lessors may re-enter said premises and remove all persons therefrom. Upon such termination,

DWELLE & DWELLE
ATTORNEYS AT LAW
3707 IOWA AVENUE
FRESNO, CALIFORNIA
PHONE 2-6103

Lessors shall be entitled to retain any and all rent theretofore paid and to receive any and all rent which may at said time have accrued and remained unpaid, and shall further be entitled upon their request therefor to the execution and delivery by Lessees of a quitclaim deed to said premises evidencing the surrender by Lessees of all rights and privileges in said premises created by this agreement, or it shall be optional with the Lessors to re-let or re-lease the said premises (with or without terminating this lease and/or taking possession of the leased premises by court action or otherwise) for such time and upon such terms as the Lessors may deem fit, and if a sufficient sum shall not be thus realized during the term originally provided for by this lease after paying expenses of such re-letting or re-leasing and collecting to satisfy the rent hereby reserved, the Lessees agree to satisfy and pay any deficiency month by month.

FOURTEENTH: In case suit be brought for the recovery of any rent due or to become due under the terms of this lease, or by reason of the breach of any covenants or conditions on the part of the Lessees to be complied with or performed, or for the recovery of possession of the demised premises, and Lessors prevail in such action, the Lessees shall and will pay to the Lessors an attorney's fee in a reasonable amount to be fixed by the court, and the Lessors shall be entitled to recover the same as part of the judgment in any such action and to have the same taxed and allowed by the court as a part of the costs of such action.

FIFTEENTH: That no waiver by Lessors at any time of any of the terms, conditions, covenants or agreements of this lease shall be deemed or taken as a waiver at any time thereafter of the same or any other term, condition, covenant or agreement herein contained, or of the strict and prompt performance thereof by Lessees. No delay, failure or omission of the Lessors to re-enter the leased premises or to exercise any right, power, privilege or option arising from any default, or subsequent acceptance of rent then or thereafter accrued, shall

DWELLE & DWELLE
ATTORNEYS AT LAW
3707 IOWA AVENUE
FRESNO, CALIFORNIA
PHONE 2-6103

impair any such right, power, privilege or option, or be construed to be a waiver of any such default or relinquishment thereof, or acquiescence therein, and no notice by the Lessors shall be required to restore or revive time as of the essence hereof after waiver by the Lessors or default in one or more instances. No option, right, power, remedy or privilege of the Lessors shall be construed as being exhausted or discharged by the exercise thereof in one or more instances. It is agreed that each and all of the rights, powers, options or remedies given the Lessors by this lease are cumulative, and that no one of them is exclusive of the other or exclusive of any remedies provided by law, and that the exercise of one right, power, option or remedy by the Lessors shall not impair their right to any other right, power, option or remedy.

SIXTEENTH: That the covenants and conditions herein contained shall, subject to the provisions as to assignment, apply to and bind the heirs, executors, administrators, successors and assigns of the parties hereto.

Time is of the essence of this lease.

IN WITNESS WHEREOF, the Lessors and the Lessees have hereunto set their hands the day and year first above written.

Jean Spence
Executrix of the Last Will and Testament of Harry G. Spence, deceased.

Patti C. Grulla

Lita Spence

P D Spence

Edward S. Spence

Lessors.

Albert C. Dowe

H. R. Williams

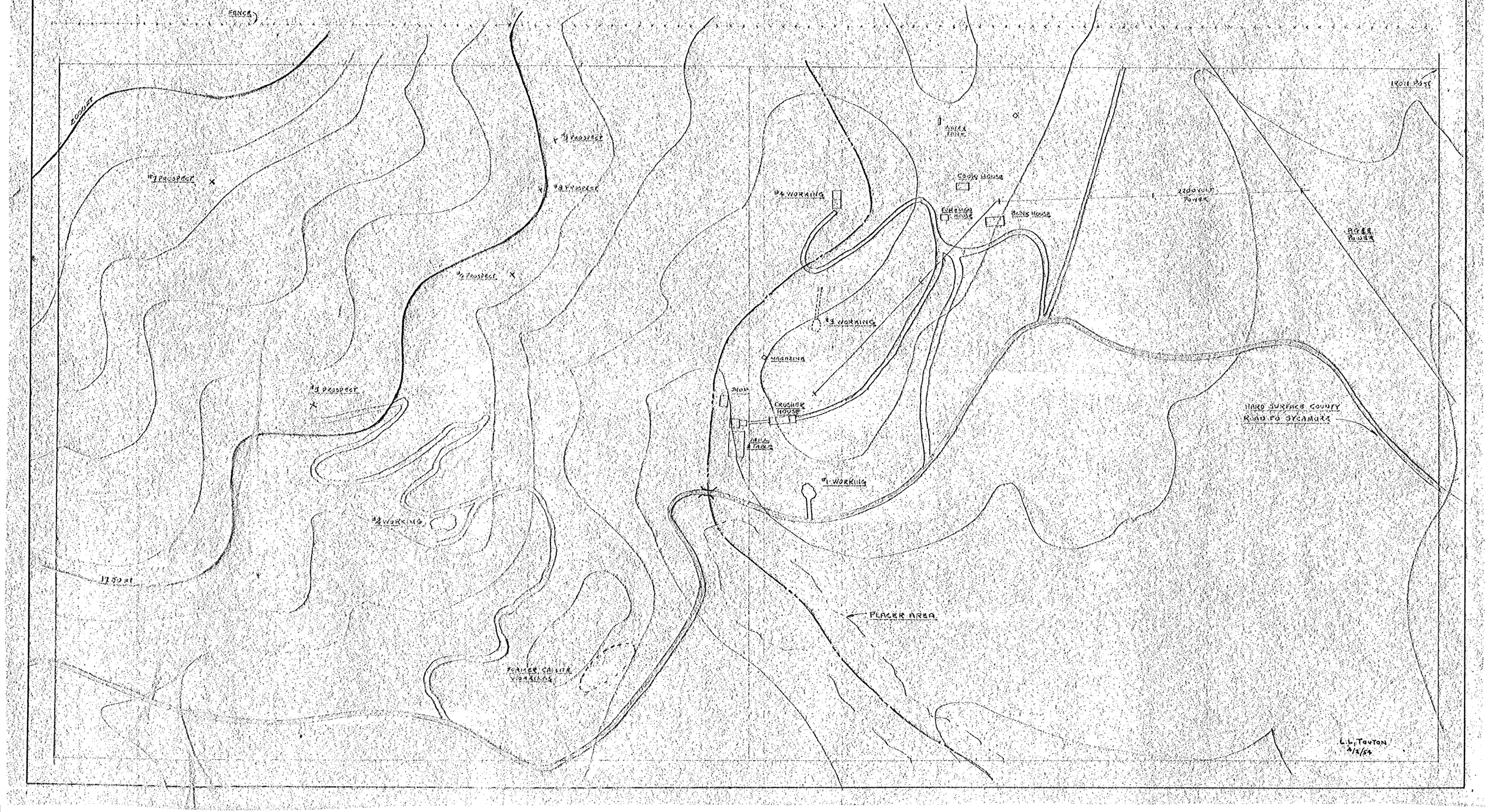
Lessees.

DWELLE & DWELLE
ATTORNEYS AT LAW
3707 IOWA AVENUE
FRESNO, CALIFORNIA
PHONE 2-6103

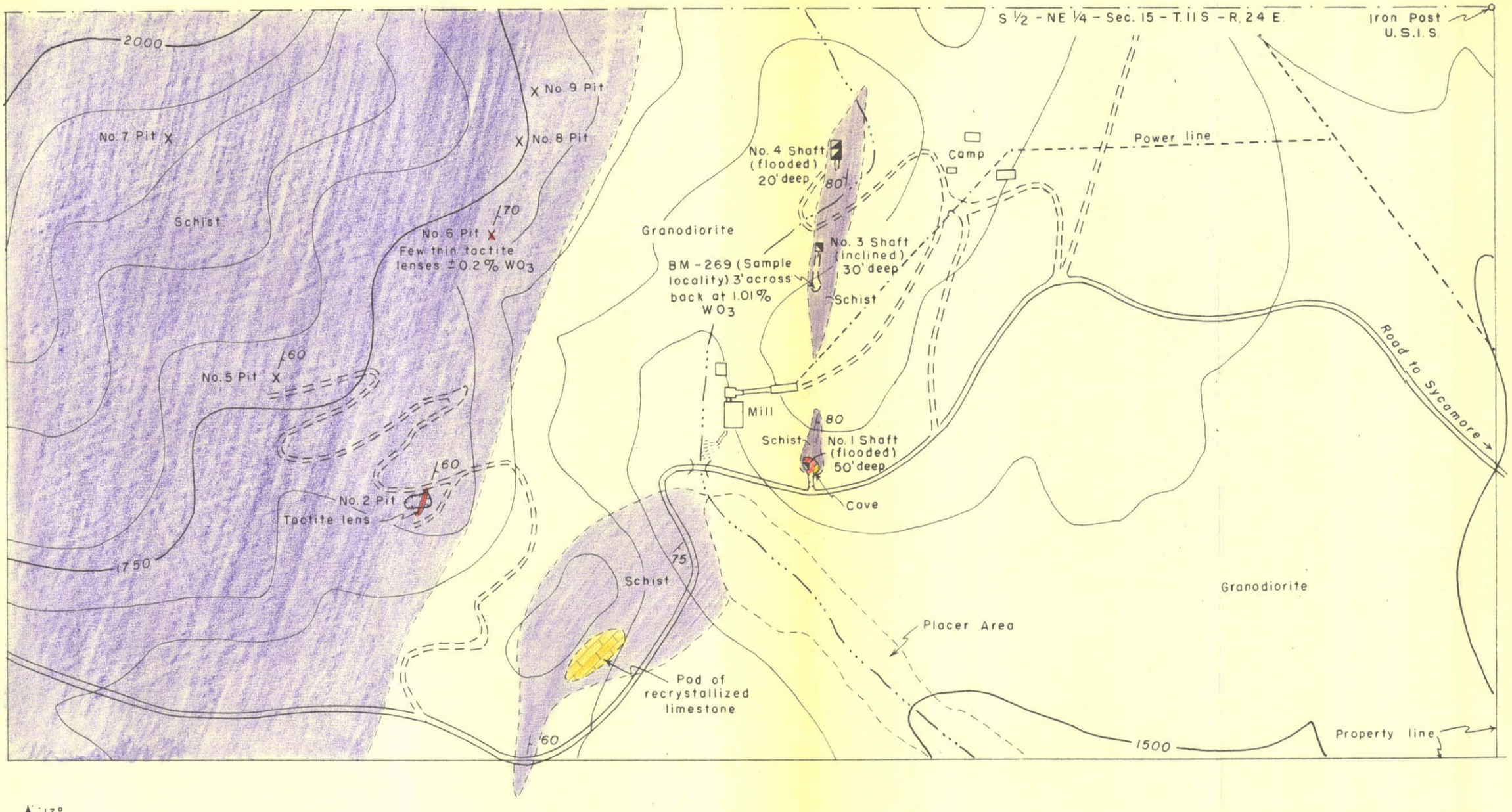
RED BUD MINE

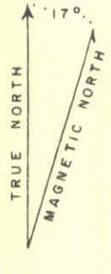
SCALE 1" = 1000'

S½-NE¼-T11S-R24E-FRESNO COUNTY-CALIFORNIA



COLD SPRING INDIAN RESERVATION





Geology by H. K. Stager on Company Base Map
May, 1954

SKETCH MAP OF RED BUD MINE, SAN JOAQUIN CHEMICAL COMPANY

FRESNO COUNTY, CALIFORNIA

200 0 200 400 FEET

FIGURE 2