DMA Form 1

DEFENSE MINERALS ADMINISTRATION
Control Slip Tungsten.

CONTROLLED DOCUMENT

DMEA ~~DMA~~ ~~XXXX~~ Docket No. 2256

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 PROJECT

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.

Routing Slip DMA, Mr. Lilfinger

To:	IRON & ~~FERRO ALLOYS~~	Date	11-27-51
To:	Operating Com	Date	2-25-52
To:	Operating Com	Date	5-28-52.
To:	130	Date	6-25-57
To:	130	Date	7-5-57
To:	110	Date	7-8-57
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DO NOT DETACH

CONTROLLED DOCUMENT

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

C O P Y

Office of
Executive Officer
DMEA Field Team
Region III

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

April 25, 1952

Memorandum

To: Frank E. Johnson, Chairman, Operating Committee,
Defense Minerals Exploration Administration
Washington 25, D. C.

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA-2256 (Tungsten) - Tungsten Hill Mine,
Inyo County, California

Reference is made to your subject "Review of Application for Exploration Assistance", dated February 26, 1952

Attached are four copies of a report, "DMEA-2256, Tungsten Hill Mine, Inyo County, California", by Benjamin H. Sheahan, Mining Engineer, U. S. Bureau of Mines, and E. M. MacKevett, Geologist, U. S. Geological Survey, dated April 23, 1952.

According to the conclusions of the engineer and geologist, it is unlikely that the property could be developed into a significant producer of tungsten ore. Their recommendations and conclusions on the property state that Government assistance should be denied.

The subject docket is being returned herewith.

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

Attachments

Copy to E. H. Bailey, USGS

More
Spares
to
Throw
Out

WSM

MF-202

LANDLORD'S SUBORDINATION AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, the undersigned is the owners in fee simple of that certain parcel of ground in the county of EXO, State of CALIFORNIA, described in a certain Exploration Project Contract dated _____, 195__, between STERLING CARTER, the Lessee of said property, and the United States of America;

NOW, THEREFORE, the undersigned, as Lessor of said property under lease dated NOVEMBER 24, 1951, does by these presents subordinate all of his right, title, and interest under the provisions of said lease to the right, title, and interest of the United States of America under the provisions of said Exploration Project Contract, and agrees that the lien and claim of the United States of America under the provisions of said contract shall be prior to the undersigned's rights to rentals or royalties under the terms of said lease; and

The undersigned further agrees that if said leasehold interest should be surrendered or if said lease should terminate at any time prior to the expiration of the rights of the United States of America under said Exploration Project Contract, the undersigned shall assume and does hereby assume all of the obligations of the Lessee under said Exploration Project Contract to make repayment to the United States of America according to the terms of said contract; and

The undersigned agrees to commit no act, nor assert any claim under judicial process or otherwise that may contravene or conflict with the prior lien and claim of the United States of America under the provisions of said Exploration Project Contract.

This undertaking and covenant shall be binding upon the heirs, successors, and assigns of the undersigned.

Dated this 19th day of November, 1951

G Crawford

G. Crawford

Department of the Interior
Defense Minerals Administration
MAR 1 1952

U. S. GOVERNMENT PRINTING OFFICE 16—64582-1

Jessie Crawford

Jessie Crawford - His wife.

MF-202

LANDLORD'S SUBORDINATION AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, the undersigned is the owner in fee simple of that certain parcel of ground in the county of _____, State of _____, described in a certain Exploration Project Contract dated _____, 195__, between _____, the Lessee of said property, and the United States of America;

NOW, THEREFORE, the undersigned, as Lessor of said property under lease dated _____ _____, does by these presents subordinate all of his right, title, and interest under the provisions of said lease to the right, title, and interest of the United States of America under the provisions of said Exploration Project Contract, and agrees that the lien and claim of the United States of America under the provisions of said contract shall be prior to the undersigned's rights to rentals or royalties under the terms of said lease; and

The undersigned further agrees that if said leasehold interest should be surrendered or if said lease should terminate at any time prior to the expiration of the rights of the United States of America under said Exploration Project Contract, the undersigned shall assume and does hereby assume all of the obligations of the Lessee under said Exploration Project Contract to make repayment to the United States of America according to the terms of said contract; and

The undersigned agrees to commit no act, nor assert any claim under judicial process or otherwise that may contravene or conflict with the prior lien and claim of the United States of America under the provisions of said Exploration Project Contract.

This undertaking and covenant shall be binding upon the heirs, successors, and assigns of the undersigned.

Dated this _____ day of _____, 195_

J Crawford

U. S. GOVERNMENT PRINTING OFFICE 16—64582-1

Jessie Crawford

MF-202

LANDLORD'S SUBORDINATION AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, the undersigned is the owner in fee simple of that certain parcel of ground in the county of INYO, State of CALIFORNIA, described in a certain Exploration Project Contract dated _____, 195__, between GERALDINE CARTER, the Lessee of said property, and the United States of America;

NOW, THEREFORE, the undersigned, as Lessor of said property under lease dated NOVEMBER 14, 1951, does by these presents subordinate all of his right, title, and interest under the provisions of said lease to the right, title, and interest of the United States of America under the provisions of said Exploration Project Contract, and agrees that the lien and claim of the United States of America under the provisions of said contract shall be prior to the undersigned's rights to rentals or royalties under the terms of said lease; and

The undersigned further agrees that if said leasehold interest should be surrendered or if said lease should terminate at any time prior to the expiration of the rights of the United States of America under said Exploration Project Contract, the undersigned shall assume and does hereby assume all of the obligations of the Lessee under said Exploration Project Contract to make repayment to the United States of America according to the terms of said contract; and

The undersigned agrees to commit no act, nor assert any claim under judicial process or otherwise that may contravene or conflict with the prior lien and claim of the United States of America under the provisions of said Exploration Project Contract.

This undertaking and covenant shall be binding upon the heirs, successors, and assigns of the undersigned.

Dated this 19th day of November, 195.1

G Crawford

G. Crawford

U. S. GOVERNMENT PRINTING OFFICE 16—64582-1

MAR 17 1952

Jessie Crawford

Jessie Crawford - his wife.

MF-202

LANDLORD'S SUBORDINATION AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, the undersigned is the owner in fee simple of that certain parcel of ground in the county of [illegible], State of [illegible], described in a certain Exploration Project Contract dated _____, 195__, between [illegible], the Lessee of said property, and the United States of America;

NOW, THEREFORE, the undersigned, as Lessor of said property under lease dated _____ [illegible], does by these presents subordinate all of his right, title, and interest under the provisions of said lease to the right, title, and interest of the United States of America under the provisions of said Exploration Project Contract, and agrees that the lien and claim of the United States of America under the provisions of said contract shall be prior to the undersigned's rights to rentals or royalties under the terms of said lease; and

The undersigned further agrees that if said leasehold interest should be surrendered or if said lease should terminate at any time prior to the expiration of the rights of the United States of America under said Exploration Project Contract, the undersigned shall assume and does hereby assume all of the obligations of the Lessee under said Exploration Project Contract to make repayment to the United States of America according to the terms of said contract; and

The undersigned agrees to commit no act, nor assert any claim under judicial process or otherwise that may contravene or conflict with the prior lien and claim of the United States of America under the provisions of said Exploration Project Contract.

This undertaking and covenant shall be binding upon the heirs, successors, and assigns of the undersigned.

Dated this 19th day of November, 195[illegible]

G. Crawford

G. Crawford

U. S. GOVERNMENT PRINTING OFFICE 16—64582-1

MAR 1[illegible] 1952

Jessie Crawford

Jessie Crawford, his wife.

MF-202

LANDLORD'S SUBORDINATION AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, the undersigned is the owner in fee simple of that certain parcel of ground in the county of [illegible], State of [illegible], described in a certain Exploration Project Contract dated _____, 195__, between [illegible], the Lessee of said property, and the United States of America;

NOW, THEREFORE, the undersigned, as Lessor of said property under lease dated _____ [illegible] 24, 1951, does by these presents subordinate all of his right, title, and interest under the provisions of said lease to the right, title, and interest of the United States of America under the provisions of said Exploration Project Contract, and agrees that the lien and claim of the United States of America under the provisions of said contract shall be prior to the undersigned's rights to rentals or royalties under the terms of said lease; and

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This undertaking and covenant shall be binding upon the heirs, successors, and assigns of the undersigned.

Dated this [illegible] day of [illegible], 195[illegible]

[illegible]

G. Crawford

G. Crawford

MAR 1[illegible] 1952

U. S. GOVERNMENT PRINTING OFFICE 16—64582-1

Jessie Crawford

Jessie Crawford - [illegible]

MF-202

LANDLORD'S SUBORDINATION AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, the undersigned is the owner in fee simple of that certain parcel of ground in the county of INYO, State of CALIFORNIA, described in a certain Exploration Project Contract dated _____, 195__, between STERLING CARTER, the Lessee of said property, and the United States of America;

NOW, THEREFORE, the undersigned, as Lessor of said property under lease dated NOVEMBER 14, 1951, does by these presents subordinate all of his right, title, and interest under the provisions of said lease to the right, title, and interest of the United States of America under the provisions of said Exploration Project Contract, and agrees that the lien and claim of the United States of America under the provisions of said contract shall be prior to the undersigned's rights to rentals or royalties under the terms of said lease; and

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The undersigned agrees to commit no act, nor assert any claim under judicial process or otherwise that may contravene or conflict with the prior lien and claim of the United States of America under the provisions of said Exploration Project Contract.

This undertaking and covenant shall be binding upon the heirs, successors, and assigns of the undersigned.

Dated this _____ day of _____, 195__

G. Crawford

U. S. GOVERNMENT PRINTING OFFICE 16—64582-1

Jessie Crawford
His Wife

MF-202

LANDLORD'S SUBORDINATION AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, the undersigned is the owner in fee simple of that certain parcel of ground in the county of INYO, State of CALIFORNIA, described in a certain Exploration Project Contract dated _____, 195__, between SIERLIRO CARTER, the Lessee of said property, and the United States of America;

NOW, THEREFORE, the undersigned, as Lessor of said property under lease dated NOVEMBER 14, 1951, does by these presents subordinate all of his right, title, and interest under the provisions of said lease to the right, title, and interest of the United States of America under the provisions of said Exploration Project Contract, and agrees that the lien and claim of the United States of America under the provisions of said contract shall be prior to the undersigned's rights to rentals or royalties under the terms of said lease; and

The undersigned further agrees that if said leasehold interest should be surrendered or if said lease should terminate at any time prior to the expiration of the rights of the United States of America under said Exploration Project Contract, the undersigned shall assume and does hereby assume all of the obligations of the Lessee under said Exploration Project Contract to make repayment to the United States of America according to the terms of said contract; and

The undersigned agrees to commit no act, nor assert any claim under judicial process or otherwise that may contravene or conflict with the prior lien and claim of the United States of America under the provisions of said Exploration Project Contract.

This undertaking and covenant shall be binding upon the heirs, successors, and assigns of the undersigned.

Dated this _____ day of _____, 195__

G. Crawford

U. S. GOVERNMENT PRINTING OFFICE 16—64582-1

Jessie Crawford
HIS WIFE

MF-202

LANDLORD'S SUBORDINATION AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, the undersigned is the owner in fee simple of that certain parcel of ground in the county of [illegible], State of CALIFORNIA, described in a certain Exploration Project Contract dated ....., 195...., between GEORGINA CARTER,

the Lessee of said property, and the United States of America;

NOW, THEREFORE, the undersigned, as Lessor of said property under lease dated NOVEMBER 14 ,1951, does by these presents subordinate all of his right, title, and interest under the provisions of said lease to the right, title, and interest of the United States of America under the provisions of said Exploration Project Contract, and agrees that the lien and claim of the United States of America under the provisions of said contract shall be prior to the undersigned's rights to rentals or royalties under the terms of said lease; and

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This undertaking and covenant shall be binding upon the heirs, successors, and assigns of the undersigned.

Dated this ..... day of ....., 195....

G. Crawford

U. S. GOVERNMENT PRINTING OFFICE 16—64582-1

Jessie Crawford
His Wife

George Selfridge, DMEA

January 2, 1952

D. M. Lemmon, U. S. Geological Survey

Exploration application $27,210.38
Sterling Carter
Murphys, Calaveras County
California

DMEA 2256 - Tungsten

Property: Tungsten Hill mine
(Hece claims)
Tungsten Hills, Inyo County, Calif.

This property is presumably identical with the Tungsten Peak prospect, described by P. C. Bateman (California J. of Mines & Geology, vol. 46, no. 1, Jan. 1950, p. 37), who stated: "The tactite found so far does not contain sufficient scheelite to be of commercial grade as indicated under ultra-violet light."

The proposal made by the applicant is to sink the shaft another 100 feet and drift on the contact. The cost estimates are padded excessively with inessentials such as a light plant ($850), housing and boarding house (even though the mine is near town), ultravielet lights ($300 - about 4 times too much). I suspect that in this district 100 feet of shaft and 200 feet of drift could be contracted for much less than the amount requested.

The information submitted concerning geology and tenor of ore is inadequate.

I suggest that the docket be referred to the field team, San Francisco, for comment about the geologic merit of the property.

DM Lemmon

DMLemmon:gt

Copies to: Geehan

George Selfridge, DMEA

January 2, 1952

D. M. Lemmon, U. S. Geological Survey

Exploration application $27,210.38
Sterling Carter
Murphys, Calaveras County
California

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(Heco claims)
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DM Lemmon

DMLemmon:gt

Copies to: Geehan

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

[illegible] 1, 195[illegible]

To: George Selfridge, DMEA

From: [illegible] J. Gochan

Subject: [illegible] Application [illegible]
[illegible]
[illegible]
[illegible]
Inyo County, California

It is recommended that subject application be [illegible] [illegible] [illegible] [illegible].

[illegible] J. Gochan

JJGochan:ok

cc: Mr. Gochan
Mr. Kellin
Ferrous M&A
Mr. Selfridge

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

[illegible] 7, 1954

To: George Selfridge, LMPA

From: [illegible]

Subject: Exploration Application [illegible]
[illegible]
[illegible]
Hampton Hills,
Inyo County, California

[illegible]

[illegible]

[illegible]

WGoodman:ek

cc: Mr. Goodman
Mr. Ratlin
Territorial M&A
Mr. Selfridge

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

February 7, 1952

To: George Delbridge, Chief A

From: Robert W. Geehan

Subject: Exploration Application
Sunshine Carter
Sunshine Hill Mine
Sunshine Hills,
Mono County, California

Chief A Asst.
Sunshine

It is recommended that subject application be referred to the field team for comment.

Robert W. Geehan

RWGeehan:mjl

cc: Mr. Geehan
Mr. Ratlin
Lorne's MRA
Mr. Delbridge

Form MF-103
(Revised June 1951)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.1.

4.

DEFENSE MINERALS ADMINISTRATION WASHINGTON, D. C.

MF-103 Should Be Filed With General Technical Data Form MF-100

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

NOV 26 1 53 PM '51

Not To Be Filled in by Applicant

Docket No. D.M.E.A. 2256
Metal or Mineral
Date Received 11-26-51
Amount $
Participation (Government %)

Name and address of applicant

Sterling Carter
Calaveras County
Murphys, California

Date November 19, 1951.

If you have already filed MF-100, give date filed _____, type of assistance requested _____,

DMA Docket Number (if available) _____

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four copies each, of the signed application form, General Technical Data Form MF-100, and answers to questions as specified, to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive office thereof, with your name and address on each sheet of the application and all accompanying papers. If you have previously filed MF-100, it is not necessary to file it again. However, you should indicate in space provided above the type of assistance previously applied for (loans, procurement contracts, etc.) and DMA Docket Number, if available. *When a question is inapplicable it should be so stated in the form.* Additional sheets should be attached in answering any questions or in supplying additional information. IF YOU CANNOT ANSWER A QUESTION, SO STATE.

1. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property.

   (*b*) If you are not the owner of the property, submit a copy of the lease, purchase option, or other agreements under which you are authorized to operate the property with each copy of your application.

   (*c*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

   NOTE: (1) If both areas are the same, so state. The only obligation to repay the Government is from the net earnings from any commercial discovery made in the area specified in (*c*) above in which the exploration is to be conducted, and the expenditure of funds which may be charged as costs of the project must be limited to that area or to work necessary to perform the exploration in that area.

   (2) If applicant is not the owner of the property or if there are any liens or encumbrances against the property, copy of agreements of claimants, lienors, encumbrances, and lessors subordinating their interests in the property to the interest of the Government under the Exploration Project Contract will be required for attachment to the Contract.

2. (*a*) What metals or minerals do you expect to find?

   (*b*) Furnish statement of the geologic features of your property, giving type of ore deposit and reasons for expecting to find commercial ore bodies. Illustrate with maps or sketches. If you have a geologic or engineering report, or assay maps showing width and grade, please send them with application, stating whether or not you wish to have them returned.

The information requested in questions 3, 4, 5, 6, 7, 8, and 9 below should be answered specifically and in detail, as this information will be attached to and incorporated as part of the Exploration Project Contract, if such contract is entered into with you by the Government.

ANSWER EACH QUESTION ON SEPARATE SHEETS OF PAPER AND SUBMIT A COPY OF EACH ANSWER FOR EACH COPY OF YOUR APPLICATION.

3. (*a*) Describe fully the proposed work and give the total cost of the project.

   (*b*) State the time required to start the project and to complete it.

4. Submit a map or sketch of the property involved showing a plan (and cross section, if needed) of the present mine workings and the *location of the proposed exploration work* as related to geologic features, such as contacts, veins, ore-bearing beds, etc.

5. Furnish an itemized list of existing facilities, buildings, installations, and fixtures with a statement of the cost of any necessary rehabilitation or repairs to put into useful and operable condition.

6. Furnish a detailed list of additional facilities, buildings, and fixtures to be purchased, installed, or erected by you, with the estimated cost of each item.

7. Furnish a detailed list of operating equipment, separated into items to be—

   (*a*) Rented

   (*b*) Purchased

   (*c*) Furnished by you

   with the rental, purchase price, or depreciation of each item, as the case may be, to be charged as a cost of the project.

8. Furnish an itemized schedule of labor, by numbers and classes (miners, muckers, etc.) and of supervisors by numbers and positions, with the maximum wages or salaries to be paid to each.

9. Furnish a detailed list with estimated cost of each item for materials, supplies, engineering, assaying, accounting, power, water, utilities, and any other items not provided for above.

10. (*a*) How much are you prepared to invest in the proposed project?

    (*b*) Is this amount sufficient to pay your part of the cost of the project, in accordance with the regulations on Government participation (Sec. 9 of MO–5)?

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

CERTIFICATION

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

Sterling Carter Company (Name of company) By Sterling Carter (Signature of authorized official)

November 19, 1951. (Date) Owner (Title)

Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

U. S. GOVERNMENT PRINTING OFFICE 16—64067-2

1. (a) DESCRIPTION OF PROPERTY:

Four un-patented claims situated in Round Valley Mining District, Inyo County, California, the Neco No. 1, No. 2, No. 3 and No. 4, and more particularly known as the Tungsten Hill Mine.

Located atop large hills at south rim of Round Valley, fifteen miles by all year road in a westerly direction from the town of Bishop, California. All of this road is paved except 2.7 mi. of graded dirt road from Highway 395 to base of hills and 1.3 mi. of bulldozed road up grade to mine.

Elevation at the mine is around 5,000 ft. or 500 ft. above the valley.

Extent of work done on the property, excepting several cuts and roadwork is;

THE MINE:

Shaft 85 ft. deep is inclined about 67 degrees from the horizontal to the west, toward center of hill. This shaft is about 75' down the east side of hill from a one room house at crest of hill. About 50' below shaft collar there is a 30' tunnel extending easterly from the shaft to hillside. At this level and at the 70' level there are several drifts in various directions, ranging in length from 6' to 25'.

THE ORE:

The vein dips about 55 degrees to the west, in the general direction of the shaft. The collar of the shaft is practically at the vein outcropping. The vein varies in width from 4' to 6' generally but widens in places and seems to widen with depth.

Values of tungsten ore ranges from .9% to .75% scheelite at the 50' level and increases in value with depth.

Vein material is similar to a packed placer, soft, and easy to pick down. No timbering except in some wide places.

EXISTING FACILITIES:

Timber head-frame with ore bin under for truckloading.

Good bucket-skids and ladder in shaft.

Small hoist-house.

Frame bunk-house consisting of one room and screen porch.

One backhouse.

Power line to Vernalis Plant crosses property.

(b) Copy of "Option and Lease Agreement" attached.

(c) Fees No. 1 (Of Fees No. 1, No. 2, No. 3 and No. 4) of Tungsten Hill Mine, Round Valley Mining District, Inyo County, California. Notice of location recorded in Vol. 89, page 487, Records of Inyo County Recorder at Independence, California.

Both areas are the same.

Position of ground to be explored is below and adjacent to existing workings.

Attached also is owner's "Landlord's Subordination Agreement".

2. (a) I expect to find scheelite.

(b) [illegible]:

Granite-limestone contact, dipping about 55 degrees to the east and striking about north.

[illegible]:

A soft, granular, fine sand-and-gravel appearing ore, compacted, with small to pinhead and larger size crystals of scheelite disseminated evenly throughout the ore. The vein is about 4' to 6' wide and follows down the granite-limestone contact zone which is a mixture of the two rocks.

[illegible]:

Bulldozed and handmade cuts have resulted in ore being found along the vein across the four claims, and beyond. To the north about one quarter mile and down the hill there is a glory-hole scheelite mine which was worked extensively during the first World War and is now being reopened. The ore was rich, I understand, and it is planned to also work the old tailings.

The ore is of such a type that mining costs should not be high and milling costs should not exceed greatly those of milling placer deposits.

Fine screen trommeling of mine-run ore removes over 50% of the values, in a sand-size ready for tabling. The ore generally can be broken by hand. Ore gets a little softer and richer with depth. Values below the 50' level range from .5% to .75% and higher. 2.1% Ore is exposed at the bottom of a winze near the bottom of the shaft.

Width of the vein tends to widen with depth.

I FURTHER [illegible] THE [illegible]:

The geology and topography at the mine,

The fact that the mine is in a very rich general tungsten area,

The mine was worked profitably when the price of a unit of WO3 was as low as $23.00, and

Because ore from the mine, this month, was being milled profitably on a 50-50 basis by a small hand mill near Bishop, which mill would cost not over $1,000.00 to assemble.

IF THE VEIN IS [illegible] ON THE [illegible];

And the vein is drifted on both ways for a reasonable distance and crosscut to determine the width and to determine if other veins exist, I believe,

A SUFFICIENT AMOUNT OF COMMERCIAL ORE WILL BE FOUND TO JUSTIFY;

Drifting under and into the newly discovered ore body from far down the east slope, where,

There is a very good mill and tailings site, and

Where water could more easily be pumped to,

A road being built from the existing road, down the hill, to shorten the road considerably,

Installation of a mill, bins and conveyor belts, to handle shrink-stoped ore from the mine,

Drilling a well on the edge of Round Valley, or securing the use of gravity water previously used at mill at Glory-hole mine nearby,

Installing facilities for pumping and storing water for mine, milling and camp use,

Building necessary facilities for housing employees and personel, etc. and

Bringing power to the mine from line which crosses property, nearby,

TO [illegible] THE.

3. (a) PROPOSED WORK.

Repair existing one mile grade-road by widening turns, removing rough spots and re-routing the road in places.

Repair and strengthen existing head-frame and ore-bin.

Enlarge existing small hoist-house to accomodate larger unit.

Replace present bucket-skids in shaft with metal track.

Instal hoist, cable and ore skip.

Instal compressor and air lines.

Instal water tank, ground and mine lines.

Instal electric generator, surface and mine lines and fixtures.

Instal track and car in existing tunnel to handle waste.

Instal first-aid kits and facilities required by law.

Build tool, supply and repair shop. This to house compressor and generator.

Level existing bunk-house, repair and put into habitable condition.

Add office and record-room to bunk-house.

Add propane or oil for cooking and heating, with stove and heaters.

Instal furniture and refrigerator in bunk-house.

Build powder magazine.

Sink existing 85' shaft an added 100', plus 10' for sump, and along ore.

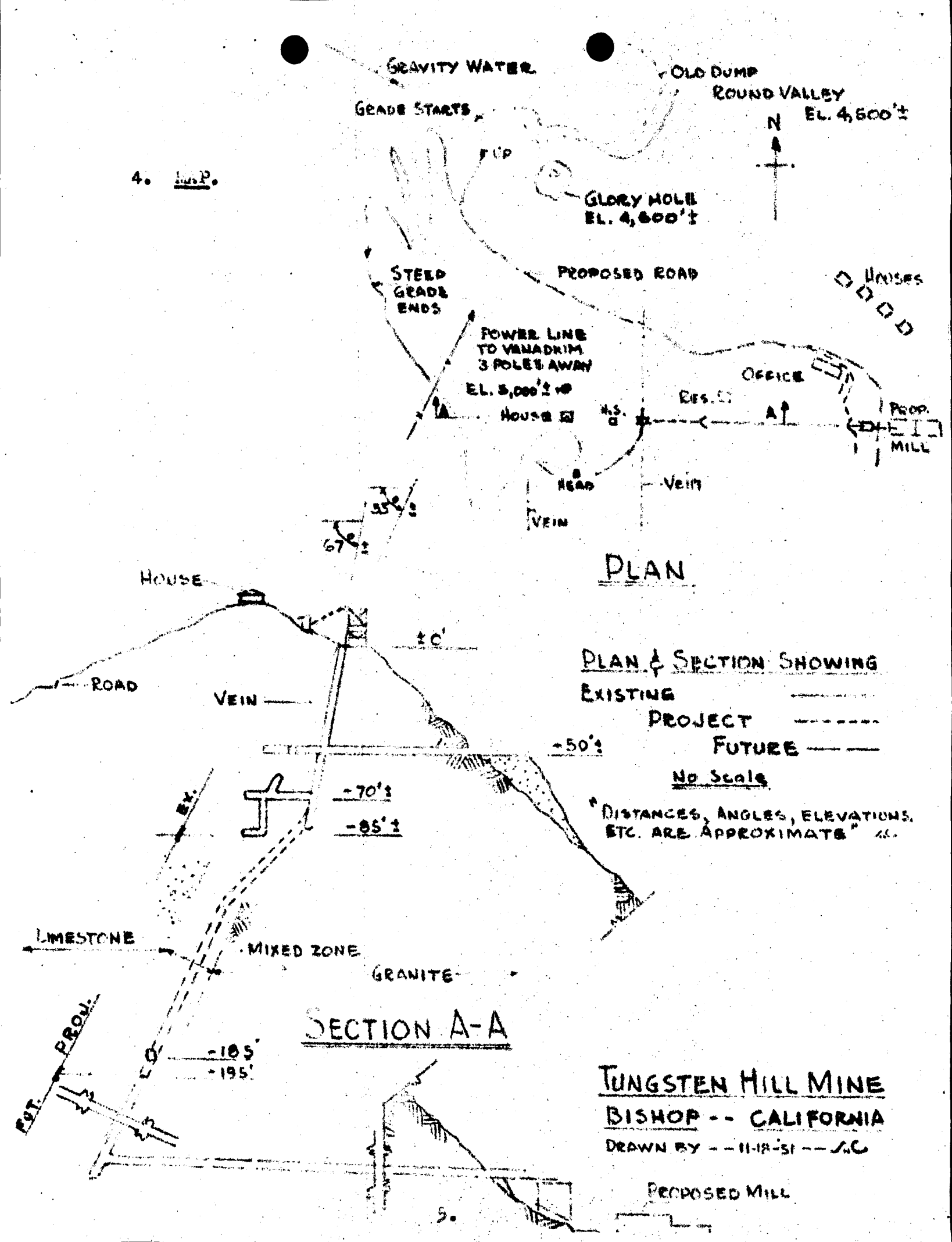
If still in commercial ore at above depth, drift both ways along vein for 100' each way.

TOTAL COST OF PROJECT ---------- $27,210.00

(b) The project will be started within two weeks from the time approval and contract is received, weather permitting.

Project can be completed in 4½ months.

4. Map.


GRAVITY WATER
OLD DUMP
ROUND VALLEY
EL. 4,500'±
GRADE STARTS
N
TOP
GLORY HOLE
EL. 4,600'±
STEEP GRADE ENDS
PROPOSED ROAD
HOUSES
POWER LINE TO VANADIUM 3 POLES AWAY
EL. 5,000'± up
OFFICE
RES.
HOUSE
A
PROP. MILL
HEAD
VEIN
VEIN
35°±
67°±
PLAN
HOUSE
±0'
ROAD
VEIN
-50'±
-70'±
-85'±
EX.
PLAN & SECTION SHOWING
EXISTING
PROJECT
FUTURE
No Scale
"DISTANCES, ANGLES, ELEVATIONS, ETC. ARE APPROXIMATE"
LIMESTONE
MIXED ZONE
GRANITE
SECTION A-A
PROJ.
EXT.
0'
-185'
-195'
TUNGSTEN HILL MINE
BISHOP -- CALIFORNIA
DRAWN BY -- 11-18-51 -- S.C.
PROPOSED MILL

5. EXISTING FACILITIES.

Practically all of the existing facilities have to be repaired and improved so you are referred to other questions numbers for;

Rental of bulldozer, and

Cost of; Labor, Equipment, Supplies and Materials, which are included under these headings.

6. ADDITIONAL FACILITIES, ETC;

Water tank ---------- 25.00

Office and record room (Covered in Material and Labor).

Furniture and refrigerator (For bunk-house). --- 600.00

Cookstove and heaters ----------325.00

Black-lights for mine ---------- 300.00

TOTAL ----------1,250.00

7. OPERATING EQUIPMENT.

(a) RENTAL:

Bulldozer with operator (10 Days @ 100.00 per day) to do roadwork. ----------$1,000.00

(b) Purchased:

Hoist with power unit, cable and skip ------- 900.00

Compressor with power unit ---------- 1,600.00

Electric generator with power unit ---------- 850.00

Three ore cars ---------- 220.00

Truck ---------- 2,225.00

Air drill, Carset drill steel, Bit sharpener, Spade-tool and Gad, Airhose and Jack-leg ---------- 920.00

Pump for dewatering ---------- 55.00

TOTAL --------7,790.00

(c) NONE.

8. LABOR.

One general supervisor and accountant (Sterling Carter) $12.00 per day (3/4 Time x $16.00 per day) for 4.5 months --$1,169.16

One mine superintendent - $20.00 per day for 4.5 Mos. --- 2,[illegible]8.20

Three laborers - $14.33 per day for 4.5 months - repair, construction, mining and mucking ---------- 4,163.39

One truckdriver and general helper $14.33 per day for 4.5 months ---------- 1,395.13

Occasional labor and specialists ---------- 900.00

TOTAL ----------$9,907.88

9. MATERIALS;

Heavy Timbers:

Repair existing head-frame and ore-bin ----------$ 150.00

Replace existing bucket-skids with metal track and extend for 110'. ---------- 250.00

Mine timbers ---------- 150.00

Rough Lumber:

Enlarge existing hoist-house ---------- 25.00

New tool, supplies and repair shop (To house new generator and compressor) ---------- 325.00

Small office and record-room added to existing house ---- 150.00

Powder magazine ---------- 25.00

Other Materials:

Corrugated metal ---------- 200.00

Spikes, nails and bolts ---------- 50.00

Nails, spikes and ties ---------- 800.00

Rods, washers and nuts ---------- 25.00

Cement, gravel and sand ---------- 25.00

Electric wire, for mine and domestic, with switches, globes and fixtures ---------- 50.00

Miscellaneous material for upkeep of equipment ---------- 500.00

Amount carried forward ----------$2,525.00

Amount brought forward ----------	$2,525.00
Pipe;	
Water supply, domestic, drilling and ejecting, with valves and fittings ----------	150.00
Air, with valves and fittings ----------	200.00
SUPPLIES:	
First aid ----------	50.00
Office, records and accounting ----------	75.00
Fuel;	
Heating and cooking ----------	67.50
Gasoline for generator ----------	145.00
Gasoline for compressor ----------	450.00
Gasoline for truck ----------	135.00
Oil, lubricating ----------	25.00
Powder, Caps and Fuse;	
Roadwork ----------	135.00
Sinking and drifting ----------	1,600.00
Tools, miscellaneous for repair-shop ----------	200.00
Shovels, shovel-plates, picks etc. for mining --------	75.00
Miscellaneous tools and supplies ----------	500.00
Insurance on truck, workmen etc. ----------	470.00
Assaying ----------	200.00
Contingencies ----------	1,100.00
Total ----------	$8,132.50

10. (a) I am prepared to invest up to $7,000.00.

(b) Yes, this amount will pay my part of the cost.

11. A small mill is planned for the mine to work the ore taken out to eliminate the necessity of storing the ore.

Form MF-103
(Revised June 1951)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.1.

3.

MF-103 Should Be Filed With General Technical Data Form MF-100

DEFENSE MINERALS ADMINISTRATION WASHINGTON, D. C.

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

Nov 26 1 52 PM '51

Not To Be Filled in by Applicant

Docket No. D.M.E.A. 2256
Metal or Mineral
Date Received 11-26-51
Amount $
Participation (Government %)

Name and address of applicant

Sterling Carter
Calaveras County
Murphys, California

Date November 19, 1951.

If you have already filed MF-100, give date filed _____, type of assistance requested _____,

DMA Docket Number (if available) _____

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four copies each, of the signed application form, General Technical Data Form MF-100, and answers to questions as specified, to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive office thereof, with your name and address on each sheet of the application and all accompanying papers. If you have previously filed MF-100, it is not necessary to file it again. However, you should indicate in space provided above the type of assistance previously applied for (loans, procurement contracts, etc.) and DMA Docket Number, if available. *When a question is inapplicable it should be so stated in the form.* Additional sheets should be attached in answering any questions or in supplying additional information. IF YOU CANNOT ANSWER A QUESTION, SO STATE.

1. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property.

   (*b*) If you are not the owner of the property, submit a copy of the lease, purchase option, or other agreements under which you are authorized to operate the property with each copy of your application.

   (*c*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

   NOTE: (1) If both areas are the same, so state. The only obligation to repay the Government is from the net earnings from any commercial discovery made in the area specified in (*c*) above in which the exploration is to be conducted, and the expenditure of funds which may be charged as costs of the project must be limited to that area or to work necessary to perform the exploration in that area.

   (2) If applicant is not the owner of the property or if there are any liens or encumbrances against the property, copy of agreements of claimants, lienors, encumbrances, and lessors subordinating their interests in the property to the interest of the Government under the Exploration Project Contract will be required for attachment to the Contract.

2. (*a*) What metals or minerals do you expect to find?

   (*b*) Furnish statement of the geologic features of your property, giving type of ore deposit and reasons for expecting to find commercial ore bodies. Illustrate with maps or sketches. If you have a geologic or engineering report, or assay maps showing width and grade, please send them with application, stating whether or not you wish to have them returned.

The information requested in questions 3, 4, 5, 6, 7, 8, and 9 below should be answered specifically and in detail, as this information will be attached to and incorporated as part of the Exploration Project Contract, if such contract is entered into with you by the Government.

ANSWER EACH QUESTION ON SEPARATE SHEETS OF PAPER AND SUBMIT A COPY OF EACH ANSWER FOR EACH COPY OF YOUR APPLICATION.

3. (*a*) Describe fully the proposed work and give the total cost of the project.

   (*b*) State the time required to start the project and to complete it.

4. Submit a map or sketch of the property involved showing a plan (and cross section, if needed) of the present mine workings and the *location of the proposed exploration work* as related to geologic features, such as contacts, veins, ore-bearing beds, etc.

5. Furnish an itemized list of existing facilities, buildings, installations, and fixtures with a statement of the cost of any necessary rehabilitation or repairs to put into useful and operable condition.

6. Furnish a detailed list of additional facilities, buildings, and fixtures to be purchased, installed, or erected by you, with the estimated cost of each item.

7. Furnish a detailed list of operating equipment, separated into items to be—

   (*a*) Rented

   (*b*) Purchased

   (*c*) Furnished by you

   with the rental, purchase price, or depreciation of each item, as the case may be, to be charged as a cost of the project.

8. Furnish an itemized schedule of labor, by numbers and classes (miners, muckers, etc.) and of supervisors by numbers and positions, with the maximum wages or salaries to be paid to each.

9. Furnish a detailed list with estimated cost of each item for materials, supplies, engineering, assaying, accounting, power, water, utilities, and any other items not provided for above.

10. (*a*) How much are you prepared to invest in the proposed project?

    (*b*) Is this amount sufficient to pay your part of the cost of the project, in accordance with the regulations on Government participation (Sec. 9 of MO–5)?

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

CERTIFICATION

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

Sterling Carter Company
(Name of company)

By Sterling Carter
(Signature of authorized official)

November 19, 1951.
(Date)

Owner
(Title)

Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

U. S. GOVERNMENT PRINTING OFFICE 16—64067-2

1. (a) DESCRIPTION OF PROPERTY:

Four un-patented claims situated in Round Valley Mining District, Inyo County, California, the Neco No. 1, No. 2, No. 3 and No. 4, and more perticularly known as the Tungsten Hill Mine.

Located atop large hills at south rim of Round Valley, fifteen miles by all year road in a westerly direction from the town of Bishop, California. All of this road is paved except 2.7 mi. of graded dirt road from highway 395 to base of hills and 1.3 mi. of bulldozed road up grade to mine.

Elevation at the mine is around 5,000 ft. or 500 ft. above the valley.

Extent of work done on the property, excepting several cuts and roadwork is;

THE MINE:

Shaft 85 ft. deep is inclined about 67 degrees from the horizontal to the west, toward center of hill. This shaft is about 75' down the east side of hill from a one room house at crest of hill. About 50' below shaft collar there is a 50' tunnel extending easterly from the shaft to hillside. At this level and at the 70' level there are several drifts in various directions, ranging in length from 6' to 25'.

THE ORE:

The vein dips about 55 degrees to the west, in the general direction of the shaft. The collar of the shaft is practically at the vein outcropping. The vein varies in width from 4' to 6' generally but widens in places and seems to widen with depth.

Values of tungsten ore ranges from .5% to .75% scheelite at the 50' level and increases in value with depth.

Vein material is similar to a packed placer, soft, and easy to pick down. No timbering except in some wide places.

EXISTING FACILITIES:

Timber head-frame with ore bin under for truckloading.

Good bucket-skids and ladder in shaft.

Small hoist-house.

Frame bunk-house consisting of one room and closed porch.

One backhouse.

Power line to Vanadium Plant crosses property.

(b) Copy of "Option and Lease Agreement" attached.

(c) Neco No. 1 (Or Neco No. 1, No. 2, No. 3 and No. 4) of Tungsten Hill Mine, Round Valley Mining District, Inyo County, California. Notice of location recorded in Vol. 83, page 487, Records of Inyo County Recorder at Independence, California.

Both areas are the same.

Position of ground to be explored is below and adjacent to existing workings.

Attached also is owner's "Landlord's Subordination Agreement".

2. (a) I expect to find scheelite.

(b) GEOLOGIC FEATURES AT THE MINE:

Granite-limestone contact, dipping about 55 degrees to the west and striking about north.

TYPE OF DEPOSIT:

A soft, granular, fine sand-and-gravel appearing ore, compacted, with small to pinhead and larger size crystals of scheelite disseminated evenly throughout the ore. The vein is about 4' to 6' wide and follows down the granite-limestone contact zone which is a mixture of the two rocks.

REASONS FOR BELIEVING TO FIND COMMERCIAL ORE BODIES:

Bulldozed and handmade cuts have resulted in ore being found along the vein across the four claims, and beyond. To the north about one quarter mile and down the hill there is a glory-hole scheelite mine which was worked extensively during the first world war and is now being reopened. The ore was rich, I understand, and it is planned to also work the old tailings.

The ore is of such a type that mining costs should not be high and milling costs should not exceed greatly those of milling placer deposits.

Fine screen trommeling of mine-run ore removes over 50% of the values, in a sand-size ready for tabling. The ore generally can be broken by hand. Ore gets a little softer and richer with depth. Values below the 50' level range from .5% to .75% and higher. 2.1% ore is exposed at the bottom of a winze near the bottom of the shaft.

Width of the vein tends to widen with depth.

I FURTHER REASONABLY BELIEVE TO BE COMMERCIAL ORE DUE TO:

The geology and topography at the mine,

The fact that the mine is in a very rich general tungsten area,

The mine was worked profitably when the price of a unit of WO3 was as low as $28.00, and

Because ore from the mine, this month, was being milled profitably on a 50-50 basis by a small hand mill near Bishop, which mill would cost not over $1,000.00 to assemble.

IF THE SHAFT IS SUNK TO A GREATER DEPTH;

And the vein is drifted on both ways for a reasonable distance and crosscut to determine the width and to determine if other veins exist, I believe,

A SUFFICIENT AMOUNT OF COMMERCIAL ORE WILL BE FOUND TO JUSTIFY;

Drifting under and into the newly discovered ore body from far down the east slope, where,

There is a very good mill and tailings site, and

Where water could more easily be pumped to,

A road being built from the existing road, down the hill, to shorten the road considerably,

Installation of a mill, bins and conveyor belts, to handle shrink-stoped ore from the mine,

Drilling a well on the edge of Round Valley, or securing the use of gravity water previously used at mill at Glory-hole mine nearby,

Installing facilities for pumping and storing water for mine, milling and camp use,

Building necessary facilities for housing employees and personel, etc. and

Bringing power to the mine from line which crosses property, nearby,

TO INSURE MORE EARNINGS.

3. (a) PROPOSED WORK.

Repair existing one mile grade-road by widening turns, removing rough spots and re-routing the road in places.

Repair and strengthen existing head-frame and ore-bin.

Enlarge existing small hoist-house to accomodate larger unit.

Replace present bucket-skids in shaft with metal track.

Instal hoist, cable and ore skip.

Instal compressor and air lines.

Instal water tank, ground and mine lines.

Instal electric generator, surface and mine lines and fixtures.

Instal track and car in existing tunnel to handle waste.

Instal first-aid kits and facilities required by law.

Build tool, supply and repair shop. This to house compressor and generator.

Level existing bunk-house, repair and put into habitable condition.

Add office and record-room to bunk-house.

Add propane or oil for cooking and heating, with stove and heaters.

Instal furniture and refrigerator in bunk-house.

Build powder magazine.

Sink existing 85' shaft an added 100', plus 10' for sump, and along ore.

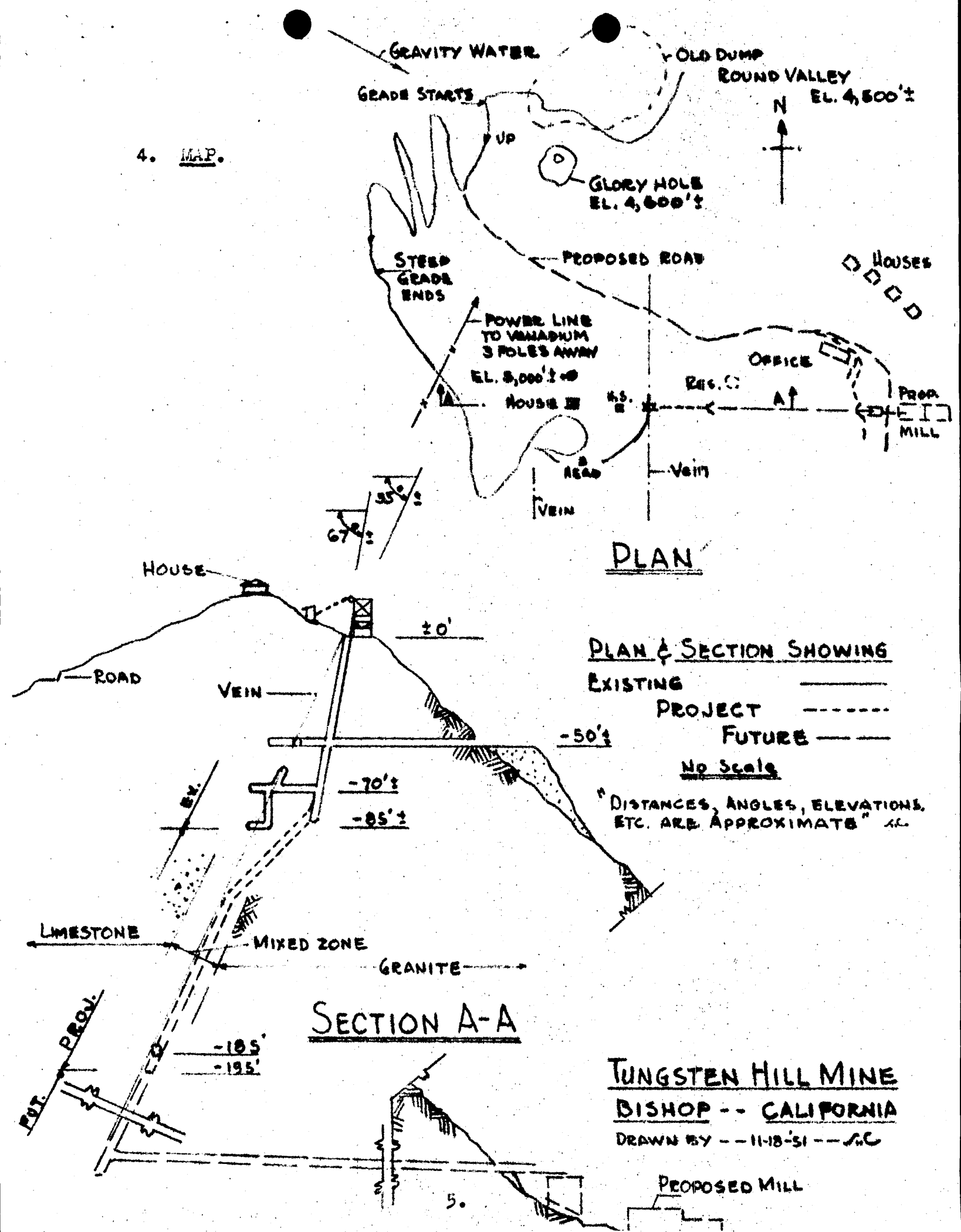
If still in commercial ore at above depth, drift both ways along vein for 100' each way.

TOTAL COST OF PROJECT ---------- $27,210.38

(b) The project will be started within two weeks from the time approval and contract is received, weather permitting.

Project can be completed in 4½ months.

4. MAP.


GRAVITY WATER
OLD DUMP
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GRADE STARTS
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STEEP GRADE ENDS
PROPOSED ROAD
HOUSES
POWER LINE TO VANADIUM 3 POLES AWAY
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REC. C
A
PROP. MILL
ROAD
VEIN
VEIN
35°±
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-185'
-195'
PROPOSED MILL
TUNGSTEN HILL MINE
BISHOP -- CALIFORNIA
DRAWN BY -- 11-18-51 -- S.C.

5. EXISTING FACILITIES.

Practically all of the existing facilities have to be repaired and improved so you are referred to other questions numbers for;

Rental of bulldozer, and

Cost of; Labor, Equipment, Supplies and Materials, which are included under these headings.

6. ADDITIONAL FACILITIES, ETC;

Water tank ---------- $ 25.00

Office and record room (Covered in Material and Labor).

Furniture and refrigerator (For bunk-house). --- 600.00

Cookstove and heaters ----------325.00

Black-lights for mine ---------- 300.00

TOTAL ---------$1,250.00

7. OPERATING EQUIPMENT.

(a) RENTED:

Bulldozer with operator (10 Days @ $100.00 per day) to do roadwork. ----------$1,000.00

(b) Purchased:

Hoist with power unit, cable and skip ------- 900.00

Compressor with power unit ---------- 1,600.00

Electric generator with power unit ---------- 850.00

Three ore cars ---------- 220.00

Truck ---------- 2,225.00

Air drill, Carset drill steel, Bit sharpener, Spade-tool and Gad, Airhose and Jack-leg ---------- 930.00

Pump for dewatering ---------- 65.00

TOTAL --------$7,790.00

(c) NONE.

8. LABOR.

One general supervisor and accountant (Sterling Carter) $12.00 per day (3/4 Time x $16.00 per day) for 4.5 months --$1,169.16

One mine superintendent @ $20.00 per day for 4.5 mos. --- 2,538.20

Three laborers @ $14.33 per day for 4.5 months - repair, construction, mining and mucking ---------- 4,185.39

One truckdriver and general helper @ 14.33 per day for 4.5 months ---------- 1,395.13

Occasional labor and specialists ---------- 900.00

TOTAL ----------$9,987.88

9. MATERIALS;

Heavy Timbers:

Repair existing head-frame and ore-bin ----------$ 150.00

Replace existing bucket-skids with metal track and extend for 110'. ---------- 250.00

Mine timbers ---------- 150.00

Rough Lumber:

Enlarge existing hoist-house ---------- 25.00

New tool, supplies and repair shop (To house new generator and compressor) ---------- 325.00

Small office and record-room added to existing house ---- 150.00

Powder magazine ---------- 25.00

Other Materials:

Corrugated metal ---------- 200.00

Spikes, nails and bolts ----------$ 50.00

Rails, spikes and ties ---------- 800.00

Rods, washers and nuts ---------- 25.00

Cement, gravel and sand ---------- 25.00

Electric wire, for mine and domestic, with switches, globes and fixtures ---------- 50.00

Miscellaneous material for upkeep of equipment ---------- 300.00

Amount carried forward ----------$2,525.00

Amount brought forward ----------	$2,525.00
Pipe;	
Water supply, domestic, drilling and ejecting, with valves and fittings ----------	150.00
Air, with valves and fittings ----------	200.00
SUPPLIES:	
First aid ----------	50.00
Office, records and accounting ----------	75.00
Fuel;	
Heating and cooking ----------	67.50
Gasoline for generator ----------	145.00
Gasoline for compressor ----------	450.00
Gasoline for truck ----------	135.00
Oil, lubricating ----------	25.00
Powder, Caps and Fuse;	
Roadwork ----------	135.00
Sinking and drifting ----------	1,600.00
Tools, miscellaneous for repair-shop ----------	200.00
Shovels, shovel-plates, picks etc. for mining --------	75.00
Miscellaneous tools and supplies ----------	500.00
Insurance on truck, workmen etc. ----------	470.00
Assaying ----------	300.00
Contingencies ----------	1,100.00
TOTAL ----------	$8,182.50

10. (a) I am prepared to invest up to $7,000.00.

(b) Yes, this amount will pay my part of the cost.

11. A small mill is planned for the mine to work the ore taken out to eliminate the necessity of storing the ore.

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

Original surnamed by Brewer Selfridge

FEB 26 1952

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

Dear Sir:

We attach "Review of Application for Exploration Assistance" on:

Applicant Sterling Carter

Project No. 2256

Commodity Tungsten

Amount $ 27,210.38

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

Sincerely yours,

(signed) FRANK E. JOHNSON

Chairman, Operating Committee (JHS)
Defense Minerals Exploration
Administration

APPROVED:

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

J. P. Thayer (RA)
Member, Geological Survey

Defense Minerals Administration

Review of Application for Exploration Assistance

Docket No. 2256

Commodity Tungsten

Total Amount $27,210.38

Govt. Participation $20,407.78

1. Name and Address of Applicant Sterling Carter

Murphys, California

2. Location of Property Round Valley District

Inyo County, California

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

If not, application will be rejected.

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

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

a) Good

b) Poor Yes

c) None

d) ~~XXXXXXXXXX~~—needs field examination to check on grade of ore and geologic background.

e) Is there an alternative and favorable project? Possibly, needs investigation.
(If so, attach an explanation)

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

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

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

productive period? Time unspecified, but Landlord's Subordination Agreement protects DMEA.

*question numbers are those of MF-103

7. Are subordination agreements necessary? Yes

a) MF-201?

b) MF-202? Yes

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

a) Available manpower Doubtful, in specific area

b) Equipment and supplies Yes
(question 14 plus general knowledge of availability)*

c) Accessibility (question 12)* Yes

d) Water (question 13)* Yes

e) Power (question 13)* Yes

Is a field check needed on any of these points? Yes, as to local labor supply

9. Does the experience of the applicant appear to be adequate to assure that he can properly conduct the proposed project? (question 4)* No - This must be checked.

Is a field check needed on this point? Yes

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

a) Is the project adequately described? No

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

b) Is there an adequate map or sketch of the proposed work? Yes

c) Is the proposed work "exploration" under the definition of Section 8, MO-5? Yes, but requires checking on the ground.

If not, what part of it is?

Is this part a worthwhile exploration project?_____

d) Are the cost estimates detailed? Yes

Can they be summarized, as on page 2 of Procedural Instruction 5-A, from the available data? — If so, attach a draft.

e) Are the cost estimates reasonable? Probably, but need checking

f) Should more information be requested from applicant? —

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

11. Exhibit B (question 23-d)*

a) Is it applicable? Yes

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

c) Is a field check needed? Yes

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

a) Is it applicable? Yes

b) Sufficient data? Yes If so, attach a draft.

c) Are rents and charges reasonable? Yes

d) Is a field check needed? Yes

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

a) Are there sufficient data? Yes

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

c) Is the schedule excessive for the work proposed? No superintendent needed.

d) Are the proposed wages and salaries reasonable? Yes

e) Is a field check needed? Yes

14. Exhibit E (question 23-c)*

a) Is it applicable? Yes

b) Sufficient data? No

c) Reasonable?

d) Field check needed? Yes

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

(All exploration must be completed within two years)

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

17. If field examination is needed, do you have any special instructions for the field team not indicated by your answers to the foregoing question? The field team is requested to determine a geologic target, if any, and to amend the application to cover the exploration work required to attain the said target. The applicant lists several items not essential for an exploration of this magnitude; these cannot be included in the loan. The applicant's competence must be reported upon. A rough draft of Exhibit A of the contract should be prepared and forwarded to DMEA with the field team report.

Enclosures:

1 - MM-103
1 - Copy of lease
1 - Landlord's Subordination
1 - USGS letter

Reviewed by: Q. L. Brewer

Date 2/19/52

DMEA 2256
Sterling Carter

OPTION AND LEASE AGREEMENT.

Bishop, California.

This memorandum of option and lease made and executed this 14TH day of November, 1951, by and between G. CRAWFORD and JESSIE CRAWFORD, parties of the first part, hereinafter known as Owners, and STERLING CARTER, party of the second part, hereinafter known as Lessee,

W I T N E S S E T H :

That in consideration of rents, royalties, payments, covenants and agreements hereinafter set forth on the part of the Lessee to be paid, kept and performed, the Owners have let, optioned, demised and leased, and by these presents do lease, option, demise and let unto the Lessee all those certain unpatented mining claims in Round Valley Mining District, in the County of Inyo, State of California, and particularly described as follows:

HECO No. 1
HECO NO. 2
HECO NO. 3 and
HECO NO. 4
All situated in Round Valley Mining District,

and more particularly known as the Tungsten Hill Mine, located about fifteen miles by road westerly from Bishop, Inyo County, California. Notice of location of said claims is duly recorded in Vol. 83, page 487 of the records of the County Recorder, at Independence, California.

In consideration of said Option and Lease the Lessee does hereby covenant for himself, his assigns and heirs as follows:

TERMS OF THIS AGREEMENT:

1. As time is the essence of this Option and Agreement, there will be a period of four (4) months from date of execution of this instrument in which Lessee will have:

a. Full privilege to explore, prospect, drift, sink, stope and to extract ores, sell, ship and/or mill ores and/or concentrates.

b. Option to buy mine according to terms stated herein.

LUCY M. ABRIBAT
PUBLIC STENOGRAPHER
NOTARY
BISHOP, CALIFORNIA

2. Lessee will pay to the Owners throughout the life of this Agreement a royalty of ten (10) per cent of the gross returns received from the sale of tungsten concentrates, also ten (10) per cent of the net smelter or mint returns on other products from said mining property, according to the following schedule:

60 days from date - $350.00 Minimum
3 Months " " - $350.00 Minimum
4 Months " " - $350.00 Minimum
5 Months " " - $300.00 Minimum

And a minimum per month thereafter, during the life of this Agreement, of $300.00 until the full purchase price is paid. During the 4 months Option period only of this Agreement, the term "Gross Returns" means the net returns from sale of concentrates, after mill costs are deducted.

3. Full Purchase Price to be paid by Lessee for the above mentioned property, and according to the Minimum Royalty payment schedule, is to be TWENTY-FIVE THOUSAND ($25,000.00) DOLLARS. All payments made by Lessee to Owner are to be applied toward this Full Purchase Price, and any payments made to owners in excess of the Minimum Royalty payments by Lessee are to be applied to the full purchase price.

4. When the Full Purchase price is paid to owners by Lessee, Owners is to receive an Over-Riding Royalty of TWO (2)%PER CENT under the following conditions:-Owners hereby gives the Lessee an option on this TWO (2)%PER CENT Royalty for the sum of TWENTY-THOUSAND ($20,000.00) DOLLARS with the privilege of paying this amount in six semi-annual payments, and at no interest from date in writing of Lessees execution of Option on this TWO (2)% PER CENT Royalty.

5. Good and sufficient quit/claim deed by owners is to be placed in escrow with the Bank of America, Bishop, California, or other institution agreeable to both Owners and Lessee, along with copy of this Agreement, and with escrow instructions. Within Fifteen (15) Days after Lessee has paid the Full Purchase Price, this above quit/claim deed is to be delivered to Lessee.

LUCY M. ABRIBAT
PUBLIC STENOGRAPHER
NOTARY
BISHOP, CALIFORNIA

6. After four months from date of this Agreement, Lessee is to have done thirty (30) man-shifts of work, or the equivalent Per Month at the mine, unless delay, lay-off or idleness if cause by strike, riot, flood, bad weather, Act of God, or for any other reason not under the direct control of Lessee.

7. Mining is to be done in a minerlike manner. Timbering will be done with due regard of the safety of the miners. ANY AND ALL stoping or raising done is to be in accordance with the Mining Safety Laws of the STATE OF CALIFORNIA. *Stoping to be done only in newly developed ore.*

8. This undertaking and covenant shall be binding upon the heirs, successors, and assigns of the undersigned.

9. Owners or their duly elected representative shall have the privilege to enter the premises and inspect the mine, but at their own risk, and also to examine the books and accounts of the Lessee at any reasonable time. Owners shall be supplied with sales receipts, engineers reports, assay reports, and records of the mine during the time of this Agreement. Lessee is to have the full use of all existing facilities now at the mine.

10. The Lessee further agrees to keep accurate books of accounts showing the approximate amount of ore extracted from said leased premises, the amount of concentrates milled, sold or shipped, and the amount of money received therefore.

11. Lessee agrees to keep posted in a conspicuous place or places notices of Non-Responsibility upon the said premises as required by the Laws of the STATE OF CALIFORNIA.

12. Lessee will at all times keep and save harmless the Owners from any responsibility to person or persons from liability.

13. Lessee will carry adequate policy, or policies of Workmen's Compensation and Insurance in accordance with the Laws of the STATE OF CALIFORNIA. And the Lessee will operate said premises in full accordance with the Laws and Regulations pertaining to the operations thereof.

LUCY M. ABRIBAT
PUBLIC STENOGRAPHER
NOTARY
BISHOP, CALIFORNIA

14. Lessee agrees to pay, before the same become delinquent, all taxes and assessments against all improvements on said premises.

15. Upon abandonment of said premises, or upon termination of this Agreement the Lessee shall deliver to Owners a quitclaim deed and surrender all rights, title and interest in and to said mining premises and shall have the privilege of removing within NINETY (90) DAYS Abandonment or termination of this Agreement, weather conditions permitting, all equipment improvements and mining machinery placed by Lessee upon or in said premises, excepting timber and other placements protecting said mine.

16. Lessee agrees to perform during the term thereof the annual assessments required by Law. Such assessment work to be completed and performed, and proof of the work as required on or before the 15th day of June of each year, during the life of this Agreement.

17. Lessee agrees at all times to keep said mining premises free from all liens by reason of the operation of it, by persons acting through or under him, and to pay all debts before same shall become delinquent, such as those incurred in the operation of said premises, such as labor and supplies or anything else which might or would be a lien due to failure to pay.

18. As time and the covenants hereof are of the essence of this Agreement, should Lessee remain in default of any term, covenant or condition hereof for a period of Fifteen (15) Days, after written notice shall have been served upon Lessee this Lease and Option shall be terminated and be of no further force, save and excepting that he shall not be relieved of any obligations arising from such termination, or for Royalties due or to become due on account of ore extracted from said premises, previous thereto, Upon such termination Owner shall retain all payments previously paid under the terms hereof, and Owner shall be entitled to enter upon said premises and each and every portion thereof, remove any and all persons therefrom, with or without process of Law.

LUCY M. ABRIBAT
PUBLIC STENOGRAPHER
NOTARY
BISHOP, CALIFORNIA

19. No assignment or transfer of interest hereunder or subletting of any portion of premises shall be valid for any purposes whatsoever, unless and until Lessee has received written consent from the Owners and informing them of the name of the person or persons to whom such an assignment, transferm or subletting is to be made, and of the address to which such person or persons may be directed as herein provided.

All notices and demands herein provided for shall be deemed to be given and made if deposited in U. S. Post Office, registered, and postage fully paid and directed to address as herein after provided below.

IN WITNESS HEREOF, The Parties hereto have set their hands and seals the day and year first above written.

G. Crawford — Box 275 Bishop, Calif.
G.Crawford — Address

Jessie Crawford
Jessie Crawford — (His wife)

OWNERS

Sterling Carter — Mustangs, Calif.
Sterling Carter — Address

LESSEE

LUCY M. ABRIBAT
PUBLIC STENOGRAPHER
NOTARY
BISHOP, CALIFORNIA

OPTION AND LEASE AGREEMENT

Bishop, California

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HECO No.1 HECO No. 2 HECO No. 3 and HECO No. 4	All situated in Round Valley Mining District,

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5. Good and sufficient quit claim deed by owners is to be placed in escrow with the Bank of America, BBishop, California, or other institution agreeable to both Owners and Lessee, along with copy of this Agreement, and with escrow instructions. This above quit claim deed is to be delivered to Lessee within fifteen (15) days after Lessee has paid the Full Purchase Price.

6. After four months from date of this Agreement, Lessee is to have done thirty (30) man-shifts of work, or the equivalent Per Month at the mine, unless delay, lay-off or idleness is caused by strike, riot, flood, bad weather, Act of God, or for any other reason not under the direct control of Lessee.

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8. This undertaking and covenant shall be binding upon the heirs, successors, and assigns of the undersigned.

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16. Lessee agrees to perform during the term thereof the annual assessments required by Law. Such assessment work to be completed and performed, and proof of the work as required on or before the 15th day of June of each year, during the life of this Agreement.

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19. No assignment or transfer of interest hereunder or subletting of any portion of premises shall be valid for any purposes whatsoever, unless and until Lessee has received written consent from the Owners and informing them of the name of the person or persons to whom such an assignment, transfer or subletting is to be made, and of the address to which such person or persons may be directed as herein provided.

All notices and demands herein provided for shall be deemed to be given and made if deposited in U. S. Post Office, registered, and postage fully paid and directed to address as herein after provided below.

IN WITNESS HEREOF, The Parties hereto have set their hands and seals the day and year first above written.

G. Crawford Address

Jessie Crawford (His wife)

OWNERS

Sterling Carter Address

Lessee

MAY 8 9

Mr. Sterling Carter
Murphys, California

Re: Docket No. 2256 - Tungsten
Tungsten Hill Mine
Inyo County, California

Dear Mr. Carter:

Your application for exploration assistance and other information relating to your application available to us in Washington, have been carefully reviewed.

This information, while noting a small amount of medium grade ore on your property, indicates that geologically there is little probability of making a significant discovery of tungsten. I regret, therefore, to inform you that your application is denied.

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

Sincerely yours,

C. O. Mittendorf

Acting Administrator
Defense Minerals Exploration
Administration

NJHurley:ls
5/12/52

CC: Docket
Admn. Reading File
Field Team, Region 3
Operating Committee
G. C. Selfridge
N. J. Hurley
R. W. Lemmon, USGS
R. W. Geehan, USBM

All
Spares
to
throw
out
WSM

Acting Administrator, DMEA

May 12, 1952

Iron and Ferro-Alloy Division, DMEA

Denial of exploration Project in the amount of $27,210.38
Sterling Carter
Docket No. DMEA 2256 - Tungsten
Tungsten Hill Mine
Inyo County, California

The subject application was denied by this Division for the following reasons:

(1) A small amount of tungsten occurs on this property as finely disseminated grains of scheelite scattered sparingly throughout the calc-silicate rock and tactite of a contact-metamorphic deposit. The best local concentration of the mineral actually exposed is a small pocket about 30 feet long containing about 900 tons of inferred ore assaying 0.80% WO_3. Outside of this one small ore shoot, the deposit is estimated to contain about 0.10% WO_3.

The meager results of the physical prospecting already performed and the lack of favorable geological features make it appear unlikely that the property would be a potential source of tungsten in quantities sufficient to warrant Government aid.

(2) The property has already produced about 180 tons of ore reported to assay 0.50% WO_3. Indications are that under a prudent scale of operations a small additional tonnage can be economically produced at the present favorable market for tungsten. The cost of the development project, however, is far in excess of the current value of any new ore likely to be realized.

(3) The Field Team recommends that the request for Government assistance be denied.

(4) The commodity division of the U. S. Geological Survey also recommends that the application be rejected.

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

NJHurley:ls
5/12/52

cc: Docket
Admn. Reading File

cc: N. J. Hurley
G. C. Selfridge

IN REPLY REFER TO:
G-[illegible]D-DIL

400

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

May 7, 1952

Memorandum

To: George C. Selfridge, DMEA

From: D. M. Lemmon, USGS

Subject: Field Report
Tungsten Hill mine
Tungsten Hills, Inyo County
California

DMEA 2256 - Tungsten

The Tungsten Hill (Little Shot) mine was examined March 12, 1952 by Benjamin H. Sheahan of the Bureau of Mines and E. M. MacKevett of the Geological Survey. Their report, dated April 23, recommends denial of the exploration loan. It is unlikely that the work proposed would result in a significant discovery of tungsten ore.

I concur with the Field Team recommendation that the proposal be denied.

Don Lemmon

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

DEFENSE MINERALS ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA-2256, Tungsten Hill Mine

Inyo County, Calif.

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

E. M. MacKevett, Geologist
U. S. Geological Survey

April 23, 1952

APR 22 1952

Reviewed by
DMEA INTERATING COMMITTEE
5-7-52
(NB) (date)

DOCKET DMEA-2256

TUNGSTEN HILL MINE
Inyo County, Calif.

SUMMARY

The Tungsten Hill mine (Little Shot Mine) is a small tungsten property located along the northeast slope of the Tungsten Hills, Inyo County, Calif. The property is 12 miles by road northwest of Bishop, Calif., and at an altitude of 5,600 feet.

Four unpatented mining claims are held by Mr. and Mrs. G. Crawford who have leased the property to Mr. Sterling Carter, the applicant for Government assistance.

The ore in the Tungsten Hill mine occurs in small pocketlike masses which are enclosed in low-grade tactite and light colored calc-silicate rock.

It is unlikely that the mine can be developed to a producer of a significant amount of tungsten.

Government participation in the proposed exploration is not recommended.

INTRODUCTION

The Tungsten Hill mine was examined by an engineer[1] of the U. S. Bureau of Mines with a geologist[2] of the U. S. Geological Survey on March 12, 1952. Mr. Sterling Carter, the applicant requesting Government assistance was unable to accompany the engineer and geologist on the examination; however, Mr. Carter delegated

1/ Benjamin H. Sheahan.
2/ E. M. MacKevett.

Mr. Arthur K. Wilson, Jr., manager of the Red Hill Mill (Mountain States Uranium Corporation), to accompany the Field Team.

Mr. Arthur K. Wilson, Jr. acted as guide to the property (fig. 2a) and accompanied the geologist and engineer underground. He was not familiar with applicants plans other than that Carter intended to apply for a Government loan.

To reach the property from Bishop, California; U. S. Highway 395 is followed northwesterly 8 miles, turn left and follow graded road 2.7 miles westerly to a point near the Round Valley Mine where a steep winding sidehill grade is followed easterly 1.3 miles to the main shaft. At the time of the examination this main road was blocked by snow drifts. It was necessary to reach the property by way of a jeep trail extending past the southwest corner of sec. 1, T. 7 S., R. 31 E., M.D.B.&M. from Tungsten City.

Property holdings comprise four unpatented lode mining claims, known as Keco No. 1, No. 2, No. 3, and No. 4, located in the southwest 1/4 of section 35, T. 6 S., R. 31 E., M.D.B.&M., Inyo County, Calif. On the Mt. Tom Quadrangle sheet, edition of 1951, the main workings are shown as the "Little Shot Mine".

HISTORY

The discovery of scheelite on the property was apparently made prior to 1940. The exact date was not determined. The main adit was indicated on plate 74 of Geological Survey Bulletin 922-Q in 1940. The main adit was mapped by P. C. Bateman of the U.S.G.S. in 1944.

A "Non Liability Notice" posted on the only dwelling shows that H. V. Hague, C. Hague, Tom Coleman and the present owners G. Crawford and wife had leased the property to A. R. Hill.

According to a reference to the property published by the California Journal of Mines and Geology, Vol. 47, No. 1, P. 90, "the property was leased from June to December 1948 by C. H. Brooks and associates, 1506 N. 5th Street, Santa Ana, Calif. About 180 tons of ore was shipped to the Red Hill mill, west of Bishop. The grade of the ore based upon mill recovery was about 0.50% WO_3. Two 50-feet diamond drill holes were bored".

Mr. Sterling Carter of Murphys, Calif., obtained a bond and lease on the property from G. Crawford and Jessie Crawford, P. O. Box 275, Bishop, Calif., on November 14, 1951. On November 19, 1951, Mr. Carter applied for Government assistance to do exploration work.

PHYSICAL FEATURES

The main workings on the claims are at an altitude of 5,600 feet on the northeast slope of the Tungsten Hills (fig. 2a). Round Valley which is one mile to the north is about 800 feet lower. Precipitation during the winter months amounts to several inches. The property is exposed to high velocity winds. The only dwelling was anchored to the ground.

Water must be hauled to the property for both domestic and mine use from Round Valley. The Bishop Power Company reported that a 4,160 volt power line was located in the valley a few miles north of the property. A 55,000 volt transmission line to U. S. Vanadium passes near by.

The haulage road is in good condition with the exception of the last 1.5 miles of steep winding road to the property.

EQUIPMENT

There is practically no equipment at the mine and surface improvements are in poor condition. A list of these items follow:

1--Timber headframe	Poor	condition.
1--Ore bin, 10-ton capacity	"	"
1--Frame dwelling	"	"
1--Water tank, 100-gallon	Fair	"
2--Boxes detachable drill bits; dull	Poor	"

DEVELOPMENT AND MINE WORKINGS (See map)

The property was developed by an incline shaft approximately 80 feet in depth. The collar and first 20 feet was timbered and measured 4 feet by 4 feet in the clear.

An adit intersected the shaft on the 45-foot level. Waste was apparently hauled out this level. Ore was hoisted to the surface and dumped in a small bin.

A lower level was driven from the incline shaft at an elevation 27 feet below the adit level. An underhand stope from this level was worked by the installation of an underground hoist.

Most of the drifts and crosscuts have stood well and have required but little timbering. The small stoped areas are not safe and more timber should have been used to support the back.

Ventilation on the lower level was not good and was very bad in a short raise which was considered unsafe to enter.

SAMPLING AND LAMPING WITH ULTRA VIOLET LIGHT

The mine workings were carefully mapped and lamped with ultra violet light. Practically all ore faces on the adit level were mined out from past operations.

The lower workings from the incline shaft were sampled as shown on the map.

Sample No.	Width/ft.	$\%WO_3$
S-89	8	0.66
S-90	7	1.24
S-91	6	0.75
S-92	6	0.06
S-93	4	0.06
S-94	4.5	Less than 0.01

Sample S-90 was higher than lamping estimates indicated and should be checked in the field.

GEOLOGY

The Tungsten Hill (Little Shot) deposit is of the contact-metamorphic type. Scheelite is localized in favorable metamorphosed beds near intrusive rock. The mine lies in a screen of metamorphic rock (Round Valley pendant) between granite on the north and east and quartz monzonite on the south. Light-colored calc-silicate rock, tactite, and marble constitute the rocks in the immediate vicinity of the mine. On the surface the marble is about 20 feet thick. West of the mine area quartzite is the most abundant rock type and is penetrated by several alaskite sills, but neither quartzite nor alaskite are exposed in the mine workings. The deposit has been described as it was in 1944 by P. C. Bateman, M. P. Erickson and P. D. Proctor[5].

5/ Bateman, P.C., Erickson, M.P., and Proctor, P.D., Geology and tungsten deposits of the Tungsten Hills, Inyo Co., Calif.: Calif. Jour. Mines and Geology, vol. 46, No. 1, p. 42, Jan. 1950.

On the surface and in the adit level the metamorphic beds generally strike around N. 45° W. and dip from 50° to 80° SE. Deeper, the beds steepen and in the lower workings dip northwesterly, producing a "roll" in the bedding. Numerous small post-ore shears and fractures occur within the scheelite-bearing tactite and calc-silicate rock.

Scheelite, prevailingly in crystals the size of a pin head, but ranging up to a quarter of an inch in maximum dimension, is disseminated in iron-and manganese (?) -stained parts of the calc-silicate rock and tactite. These stained areas are most prominent where fractures are abundant. Megascopically identifiable minerals in the tactite are cinnamon-colored garnet, calcite, quartz and pyroxene. Most of the scheelite is soft and powdery; consequently, it may be somewhat difficult to concentrate in a gravity mill.

The only exposed body of potential ore is a pocket-like concentration of scheelite in the southwestern part of the lower workings. This body is about 15 feet long and 50 feet wide. Assay data indicates it averages about 0.80 percent WO_3. This body is in a highly sheared and contorted zone and possibly is localized by pre-ore cross fractures. Presumably pockets of similar ore have been mined from the upper workings where small irregular shaped dog-hole stopes suggest former local scheelite concentration. Although scheelite is sporadically disseminated throughout the calc-silicate rock and tactite the average grade away from the single ore shoot appears under ultraviolet light to be only about 0.10 percent WO_3.

ORE RESERVES

All the reserves are contained in the small ore shoot exposed in the southwestern part of the lower level. Inasmuch as this ore does

not extend upward to the adit level, it is thought to be a small lenselike body similar to others that have apparently been mined out. On the lower level, the ore body is 15 feet wide and 50 feet long; if it is assumed to extend 10 feet above and 10 feet below the level it contains about 900 tons of ore (on the further assumption that 10 cubic feet of ore weighs one ton). Six samples were taken from the lower level - of these, three from the ore body average 0.80 percent WO_3. This figure is somewhat in excess of the grade of ore that has been milled. Norman and Stewart[4] report that about 180 tons of ore averaging about 0.50 percent WO_3 was mined by lessees in 1946. Presumably this ore was selectively mined from small ore shoots. If a grade of 0.80 percent WO_3 is assumed, the 900 tons of inferred ore contains about 700 units of WO_3. According to the terms of the present lease the applicant is not permitted to mine any ore above the lower workings. Therefore, the reserve that can be mined by the applicant is only half the total -- approximately 450 tons of inferred ore containing about 350 units of WO_3.

PROPOSED EXPLORATION

The applicant proposes to sink the existing shaft an additional 100 feet, and if in commercial ore at the bottom of the shaft to drift 100 feet each way along the strike of the ore body. Inasmuch as the present shaft is not in commercial ore and the downward projection of the shaft seems unlikely to intersect ore, deepening the shaft without other preliminary exploration seems overly hazardous. If the ore body

4/ Norman, L.A., Jr., and Stewart, R.M., Mines and Mineral Resources of Inyo Co., Calif.: Calif. Jour. of Mines and Geology, vol. 47, No. 1, p. 90, Jan. 1951.

is to be explored at depth, the most feasible plan appears to be to sink on the pocketlike ore body exposed in the lower workings. Probably this ore does not extend more than 10 or 15 feet beneath the present workings, but if it should extend as much as 20 feet below the lower workings, it may then be feasible to sink the shaft an additional 80 feet and crosscut under the ore body.

Diamond drilling is not recommended because it is doubtful if satisfactory cores could be obtained in the highly oxidized tactite and calc-silicate rock.

GEOLOGIST'S CONCLUSIONS

The ore in the Tungsten Hill mine is in small pocketlike masses which are enclosed in low-grade tactite and light-colored calc-silicate rock. The only ore of commercial grade now exposed is a small mass estimated at only 250 tons of inferred ore containing 700 units of WO_3. Although this mass of ore may be shown by further exploration to be somewhat larger than estimated and other similar small masses may be found, it is unlikely that the mine can be developed into a producer of significant amounts of tungsten. For this reason government participation in the proposed exploration is not recommended. Participation in a more limited program may be warranted if the need for tungsten is sufficiently great.

DISCUSSION

Mr. Sterling Carter, the applicant requesting the Government loan, has an option and lease agreement on the four unpatented mining claims. Under Article 7 of this agreement included with docket DMEA-2256, the following statement was included: "Stoping to be done only in newly

developed ore."

The one ore body exposed in the lower workings would be costly to mine due to excessive handling of ore and waste.

Mr. A. K. Wilson gave no report on the competence of Mr. Carter, but expressed the opinion that he thought that there were more deserving properties in the area than the Tungsten Hill Mine.

Several items not essential to an exploration project were listed in the applicants request.

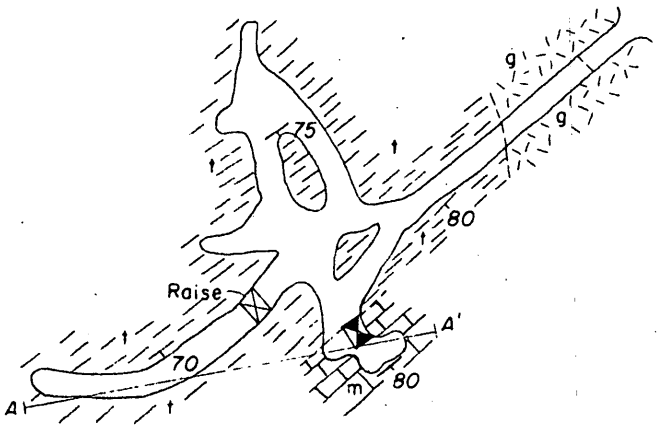
CONCLUSIONS

The request for Government assistance on the property should be denied.

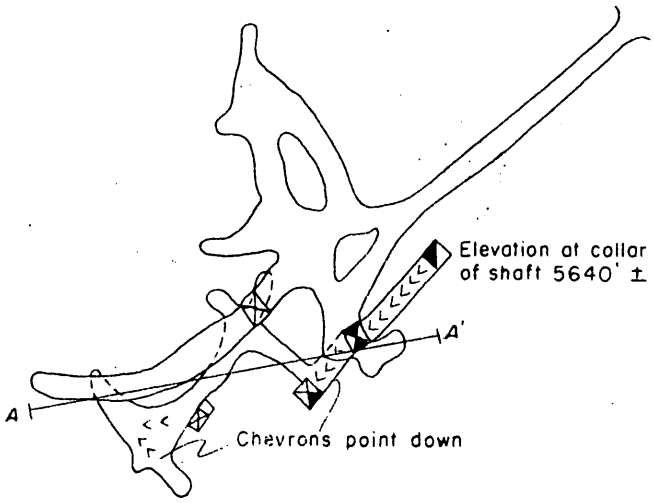
Two or three experienced leasers should be able to earn wages mining the ore exposed on the lower level.

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

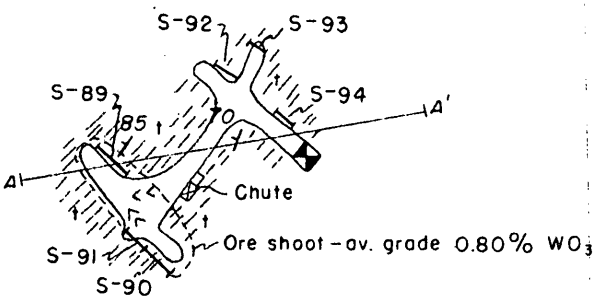
DMA-2256
(TUNGSTEN)



ADIT LEVEL

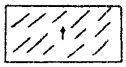


COMPOSITE MAP

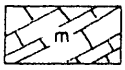


LOWER WORKINGS

EXPLANATION



Iron-stained calc-silicate rock and tactite



Marble

Granite

Approximately located contact

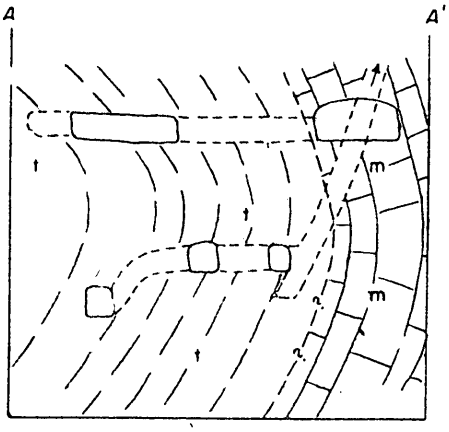
70
Strike and dip of beds

Shaft at surface

Shaft going above and below levels

Bottom of shaft

S-90
Sample locality
(Showing length of sample)



SECTION A-A'

Mapped by P. C. Bateman, 1944,
and E. M. MacKevett and B. Sheehan, March 1952

TUNGSTEN HILL (LITTLE SHOT) MINE, INYO COUNTY, CALIFORNIA

40 0 40 80 Feet

Figure 2a.- Tungsten Hill Mine, Main Shaft
Looking southeast toward Bishop, Calif.

Figure 2b.- Tungsten Hill Mine, looking northerly
E. M. MacKevett on left and A. K. Wilson.

Mr. Sterling Carter
Calaveras County
Murphys, California

Re: Docket No. DWMA 2256X - Tungsten
Rowand Valley District
Inyo County, California

Dear Mr. Carter:

Herewith are seven (7) copies of the Landlord's Subordination Agreement which are to be filed with your application. Please favor us with six (6) signed copies thereof.

Your application will be held in abeyance pending receipt of these forms.

Sincerely yours,

O. C. Selfridge

O. C. Selfridge, Acting Chief
Iron and Ferro-Alloy Division

2/7/52
OLBrewer'lm
Enclosures - 7

cc: Admn. Reading File
Docket
E. W. Cochran, USBM
D. M. Lemmon, USGS
Field Team Reg. III
O. C. Selfridge
O. L. Brewer

Feb 11, 1952

Mr. Sterling Carter

Burbank, California

Re: Docket No. [illegible] 22567 - Tungsten
Round Valley District
Inyo County, California
(Submitted November 26, 1951)

Dear Mr. Carter:

In answer to your letter of February 5, 1951, regarding the present status of the subject application, we have the following to report:

1. The information submitted covering geology and value of ore is inadequate.

2. The costs submitted are much higher than those normally occurring in the area.

3. The cost estimate includes items which are not essential to an exploration project.

4. Signed copies of the Landlord's Subordination Agreement have not been filed.

In summary of the foregoing, it is apparent that a field team examination will have to be made at a time when the weather permits, that the total amount requested ($27,210.38) will necessarily be drastically reduced, and that the necessary legal forms be furnished. It appears unlikely that a contract could be signed before mid-summer, provided, of course, that the examination by the field team is affirmative.

Sincerely yours,

[illegible] Mittendorf

Acting Administrator
Defense Minerals Exploration
Administration

CLBrewer:ls
2/8/52

Copy to: Adm. Read. File
Docket
E. W. Gaehen, U. S. B. M.
D. M. Lemmon, U.S.G.S.
Field Team, Region 3
G. C. Selfridge
C. L. Brewer

Mr. Sterling Carter
Murphys, California

Re: Docket No. DMEA 2256X - Tungsten
Inyo County, California

Dear Mr. Carter:

Your application for assistance in exploring the Tungsten Hill mine in Inyo County, California, Docket No. DMEA 2256X, has been reviewed by the Iron and Ferro-Alloy Division of Defense Minerals Exploration Administration, and has been 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.

The Regional Office will contact you at an early date in regard to the examination of your property. Any assistance that you can render the field team during the examination will be appreciated.

Sincerely yours,

C. O. Mittendorf

Acting Administrator
Defense Minerals Exploration
Administration

QLBrewer:lm
2/19/52

cc: Admn. Reading File
Docket
R. W. Geehan, USBM
D. M. Lemmon, USGS
Field Team Reg. III
G. C. Selfridge
Q. L. Brewer

Mr. Sterling Carter
Murphys, California

Re: Docket No. DMEA 2256X - Tungsten
Inyo County, California

Dear Mr. Carter:

In response to your letter of February 15, 1952, you are herewith informed that we are referring your application to the DMEA Field Team for a field examination, and requesting, at the same time, the amendment of your application so as to conform to the loan requirements of the Defense Minerals Exploration Administration and to direct the work toward the attainment of such objectives as may be revealed by their examination of the subject property.

No expenditures made prior to the signing of the contract may be included as a part of the work specified in the contract.

Sincerely yours,

G. C. Selfridge

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

QLBrewer:lm
2/19/52

cc: Admn. Reading File
Docket
R. W. Seehan, USBM
D. M. Lemmon, USGS
Field Team Reg. III
G. C. Selfridge
Q. L. Brewer

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

file

3/26

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

Dear Sir:

We attach "Review of Application for Exploration Assistance" on:

Applicant Sterling Carter

Docket No. 2256

Commodity Tungsten

Amount $ 27,210.38

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

Sincerely yours,

Chairman, Operating Committee
Defense Minerals Exploration
Administration

APPROVED:

Director, Bureau of Mines

Director, Geological Survey

Defense Minerals Administration

Review of Application for Exploration Assistance

Docket No. DMA 2256

Commodity Tungsten

Total Amount 27,210.38

Govt. Participation 20,407.78

1. Name and Address of Applicant Sterling Carter, Murphys, California

2. Location of Property Round Valley District, Inyo County, Calif.

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

If not, application will be rejected.

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

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

a) Good

b) Poor Yes.

c) None

d) ~~Don't know~~—needs field examination to check on grade of ore and Geologic Background

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

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

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

Does the lease have sufficient time to run to cover a future productive period? Time Unspecified, but Forbids Subordination protects DMEA.

*question numbers are those of MF-103

7. Are subordination agreements necessary? Yes -

a) MF-201? _____

b) MF-202? Yes (~~[illegible]~~.

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

a) Available manpower Doubtful, in specific area

b) Equipment and supplies Yes
(question 14 plus general knowledge of availability)*

c) Accessibility (question 12)* Yes

d) Water (question 13)* Yes

e) Power (question 13)* Yes

Is a field check needed on any of these points? Yes, as to Local Labor Supply

9. Does the experience of the applicant appear to be adequate to assure that he can properly conduct the proposed project? (question 4)* No - This must be checked -

Is a field check needed on this point? Yes

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

a) Is the project adequately described? No

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

b) Is there an adequate map or sketch of the proposed work? Yes

c) Is the proposed work "exploration" under the definition of Section 8, MO-5? Yes, but requires checking on the ground

If not, what part of it is? _____

Is this part a worthwhile exploration project? _____

d) Are the cost estimates detailed? Yes

Can they be summarized, as on page 2 of Procedural Instruction 5-A, from the available data? — If so, attach a draft.

e) Are the cost estimates reasonable? Probably, but need checking

f) Should more information be requested from applicant? —

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

11. Exhibit B (question 23-d)*

a) Is it applicable? Yes

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

c) Is a field check needed? Yes

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

a) Is it applicable? Yes

b) Sufficient data? Yes If so, attach a draft. —

c) Are rents and charges reasonable? Yes

d) Is a field check needed? Yes

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

a) Are there sufficient data? Yes

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

c) Is the schedule excessive for the work proposed? Yes - No Superintendent needed

d) Are the proposed wages and salaries reasonable? Yes

e) Is a field check needed? Yes

14. Exhibit E (question 23-c)*

a) Is it applicable? Yes

b) Sufficient data? No

c) Reasonable?

d) Field check needed? yes

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

(All exploration must be completed within two years)

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

17. If field examination is needed, do you have any special instructions for the field team not indicated by your answers to the foregoing question? The field team is requested to determine a geologic target, if any, and to amend the application to cover the exploration work required to attain the said target. The applicant lists several items not ~~required~~ essential for an exploration of this magnitude; these cannot be included in the loan. The applicant's competence must be reported upon. A rough draft of Exhibit "A" of the contract should be prepared and forwarded to DMEA with the field team report.

Reviewed by: J. S. Brewer

Date 2/19-1952

Inc
1- M.7.103
1- copy of lease
1- Landlord Authorization
1- USGS letter

FILE COPY
SURNAME:

Hurley
Selfridge
Hudson
Hedges
Lemmon
R. Johnson

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

Mr. Sterling Carter
Murphys, California

Re: Docket No. 2256 - Tungsten
Tungsten Hill Mine
Inyo County, California

Dear Mr. Carter:

Your application for exploration assistance and other information relating to your application available to us in Washington, have been carefully reviewed.

This information, while noting a small amount of medium grade ore on your property, indicates that geologically there is little probability of making a significant discovery of tungsten. I regret, therefore, to inform you that your application is denied.

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

Sincerely yours,

C. O. Mittendorf (fw) 5/29

Acting Administrator
Defense Minerals Exploration
Administration

NJHurley:ls
5/12/52

CC: Docket
Admn. Reading File
Field Team, Region 3
Operating Committee
G. C. Selfridge
N. J. Hurley
D. M. Lemmon, USGS
R. W. Geehan, USBM

FILE COPY
SURNAME:

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

Acting Administrator, DMEA

Iron and Ferro-Alloy Division, DMEA

May 12, 1952

Hurley
Selfridge
Gaskins
Lemmon

Denial of exploration Project in the amount of $27,210.38
Sterling Carter
Docket No. DMEA 2256 - Tungsten
Tungsten Hill Mine
Inyo County, California

The subject application was denied by this Division for the following reasons:

(1) A small amount of tungsten occurs on this property as finely disseminated grains of scheelite scattered sparingly throughout the calc-silicate rock and tactite of a contact-metamorphic deposit. The best local concentration of the mineral actually exposed is a small pocket about 30 feet long containing about 900 tons of inferred ore assaying 0.80% WO_3. Outside of this one small ore shoot, the deposit is estimated to contain about 0.10% WO_3.

The meager results of the physical prospecting already performed and the lack of favorable geological features make it appear unlikely that the property would be a potential source of tungsten in quantities sufficient to warrant Government aid.

(2) The property has already produced about 180 tons of ore reported to assay 0.50% WO_3. Indications are that under a prudent scale of operations a small additional tonnage can be economically produced at the present favorable market for tungsten. The cost of the development project, however, is far in excess of the current value of any new ore likely to be realized.

(3) The Field Team recommends that the request for Government assistance be denied.

(4) The commodity division of the U. S. Geological Survey also recommends that the application be rejected.

George C. Selfridge

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

NJHurley:ls
5/12/52

cc: Docket
Admn. Reading File
Operating Committee

cc: N. J. Hurley
G. C. Selfridge

STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

TO : Acting Administrator, DMEA DATE: May 12, 1952

FROM : Iron and Ferro-Alloy Division, DMEA

SUBJECT: Denial of exploration project in the amount of $27,210.38
Sterling Carter
Docket No. DMEA 2256 - Tungsten
Tungsten Hill Mine
Inyo County, California

The subject application was denied by this Division for the following reasons:

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The meager results of the physical prospecting already performed and the lack of favorable geological features make it appear unlikely that the property would be a potential source of tungsten in quantities sufficient to warrant Government aid.

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(3) The Field Team recommends that the request for Government assistance be denied.

(4) The commodity division of the U. S. Geological Survey also recommends that the application be rejected.

G. C. Selfridge.

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

G-MD-DML

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

May 7, 1952

Memorandum

To: George C. Selfridge, DMEA

From: D. M. Lemmon, USGS

Subject: Field Report
Tungsten Hill mine
Tungsten Hills, Inyo County
California

DMEA 2256 - Tungsten

The Tungsten Hill (Little Shot) mine was examined March 12, 1952 by Benjamin H. Sheahan of the Bureau of Mines and E. M. MacKevett of the Geological Survey. Their report, dated April 23, recommends denial of the exploration loan. It is unlikely that the work proposed would result in a significant discovery of tungsten ore.

I concur with the Field Team recommendation that the proposal be denied.

D. M. Lemmon

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 7 1952

Copy retained 40

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

Office of
Executive Officer
DMEA Field Team
Region III

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

April 25, 1952

Memorandum

To: Frank E. Johnson, Chairman, Operating Committee, Defense Minerals Exploration Administration, Washington 25, D. C.

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA-2256 (Tungsten) - Tungsten Hill Mine, Inyo County, California

Reference is made to your subject "Review of Application for Exploration Assistance", dated February 26, 1952.

Attached are four copies of a report, "DMEA-2256, Tungsten Hill Mine, Inyo County, California", by Benjamin H. Sheahan, Mining Engineer, U. S. Bureau of Mines, and E. M. MacKevett, Geologist, U. S. Geological Survey, dated April 23, 1952.

According to the conclusions of the engineer and geologist, it is unlikely that the property could be developed into a significant producer of tungsten ore. Their recommendations and conclusions on the property state that Government assistance should be denied.

The subject docket is being returned herewith.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 28 1952

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

Attachments

Copy to E. H. Bailey, USGS

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

DEFENSE MINERALS ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA-2256, Tungsten Hill Mine

Inyo County, Calif.

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

E. M. MacKevett, Geologist
U. S. Geological Survey

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
LIBRARY
APR 29 1952

April 23, 1952

Reviewed by
DMEA OPERATING COMMITTEE
5-7-52
(HB) (date)

DOCKET DMEA-2256

TUNGSTEN HILL MINE
Inyo County, Calif.

SUMMARY

The Tungsten Hill mine (Little Shot Mine) is a small tungsten property located along the northeast slope of the Tungsten Hills, Inyo County, Calif. The property is 12 miles by road northwest of Bishop, Calif., and at an altitude of 5,600 feet.

Four unpatented mining claims are held by Mr. and Mrs. G. Crawford who have leased the property to Mr. Sterling Carter, the applicant for Government assistance.

The ore in the Tungsten Hill mine occurs in small pocketlike masses which are enclosed in low-grade tactite and light colored calc-silicate rock.

It is unlikely that the mine can be developed to a producer of a significant amount of tungsten.

Government participation in the proposed exploration is not recommended.

INTRODUCTION

The Tungsten Hill mine was examined by an engineer[1/] of the U. S. Bureau of Mines with a geologist[2/] of the U. S. Geological Survey on March 12, 1952. Mr. Sterling Carter, the applicant requesting Government assistance was unable to accompany the engineer and geologist on the examination; however, Mr. Carter delegated

1/ Benjamin H. Sheahan.
2/ E. M. MacKevett.

Mr. Arthur K. Wilson, Jr., manager of the Red Hill Mill (Mountain States Uranium Corporation), to accompany the Field Team.

Mr. Arthur K. Wilson, Jr. acted as guide to the property (fig. 2a) and accompanied the geologist and engineer underground. He was not familiar with applicants plans other than that Carter intended to apply for a Government loan.

To reach the property from Bishop, California; U. S. Highway 395 is followed northwesterly 8 miles, turn left and follow graded road 2.7 miles westerly to a point near the Round Valley Mine where a steep winding sidehill grade is followed easterly 1.3 miles to the main shaft. At the time of the examination this main road was blocked by snow drifts. It was necessary to reach the property by way of a jeep trail extending past the southwest corner of sec. 1, T. 7 S., R. 31 E., M.D.B.&M. from Tungsten City.

Property holdings comprise four unpatented lode mining claims, known as Heco No. 1, No. 2, No. 3, and No. 4, located in the southwest 1/4 of section 35, T. 6 S., R. 31 E., M.D.B.&M., Inyo County, Calif. On the Mt. Tom Quadrangle sheet, edition of 1951, the main workings are shown as the "Little Shot Mine".

HISTORY

The discovery of scheelite on the property was apparently made prior to 1940. The exact date was not determined. The main adit was indicated on plate 74 of Geological Survey Bulletin 922-Q in 1940. The main adit was mapped by P. C. Bateman of the U.S.G.S. in 1944.

A "Non Liability Notice" posted on the only dwelling shows that H. V. Hague, C. Hague, Tom Coleman and the present owners G. Crawford and wife had leased the property to A. R. Hill.

According to a reference to the property published by the California Journal of Mines and Geology, Vol. 47, No. 1, P. 90, "the property was leased from June to December 1948 by C. H. Brooks and associates, 1505 W. 5th Street, Santa Ana, Calif. About 180 tons of ore was shipped to the Red Hill mill, west of Bishop. The grade of the ore based upon mill recovery was about 0.50% WO_3. Two 50-foot diamond drill holes were bored".

Mr. Sterling Carter of Murphys, Calif., obtained a bond and lease on the property from G. Crawford and Jessie Crawford, P. O. Box 275, Bishop, Calif., on November 14, 1951. On November 19, 1951, Mr. Carter applied for Government assistance to do exploration work.

PHYSICAL FEATURES

The main workings on the claims are at an altitude of 5,600 feet on the northeast slope of the Tungsten Hills (fig. 2a). Round Valley which is one mile to the north is about 800 feet lower. Precipitation during the winter months amounts to several inches. The property is exposed to high velocity winds. The only dwelling was anchored to the ground.

Water must be hauled to the property for both domestic and mine use from Round Valley. The Bishop Power Company reported that a 4,160 volt power line was located in the valley a few miles north of the property. A 55,000 volt transmission line to U. S. Vanadium passes near by.

The haulage road is in good condition with the exception of the last 1.3 miles of steep winding road to the property.

EQUIPMENT

There is practically no equipment at the mine and surface improvements are in poor condition. A list of these items follow:

1--Timber headframe	Poor	condition.
1--Ore bin, 10-ton capacity	"	"
1--Frame dwelling	"	"
1--Water tank, 100-gallon	Fair	"
2--Boxes detachable drill bits; dull	Poor	"

DEVELOPMENT AND MINE WORKINGS (See map)

The property was developed by an incline shaft approximately 80 feet in depth. The collar and first 20 feet was timbered and measured 4 feet by 4 feet in the clear.

An adit intersected the shaft on the 45-foot level. Waste was apparently hauled out this level. Ore was hoisted to the surface and dumped in a small bin.

A lower level was driven from the incline shaft at an elevation 27 feet below the adit level. An underhand stope from this level was worked by the installation of an underground hoist.

Most of the drifts and crosscuts have stood well and have required but little timbering. The small stoped areas are not safe and more timber should have been used to support the back.

Ventilation on the lower level was not good and was very bad in a short raise which was considered unsafe to enter.

SAMPLING AND LAMPING WITH ULTRA VIOLET LIGHT

The mine workings were carefully mapped and lamped with ultra violet light. Practically all ore faces on the adit level were mined out from past operations.

The lower workings from the incline shaft were sampled as shown on the map.

Sample No.	Width/ft.	%, WO_3
S-89	8	0.66
S-90	7	1.24
S-91	6	0.75
S-92	6	0.06
S-93	4	0.05
S-94	4.5	Less than 0.01

Sample S-90 was higher than lamping estimates indicated and should be checked in the field.

GEOLOGY

The Tungsten Hill (Little Shot) deposit is of the contact-metamorphic type. Scheelite is localized in favorable metamorphosed beds near intrusive rock. The mine lies in a screen of metamorphic rock (Round Valley pendant) between granite on the north and east and quartz monzonite on the south. Light-colored calc-silicate rock, tactite, and marble constitute the rocks in the immediate vicinity of the mine. On the surface the marble is about 20 feet thick. West of the mine area quartzite is the most abundant rock type and is penetrated by several alaskite sills, but neither quartzite nor alaskite are exposed in the mine workings. The deposit has been described as it was in 1944 by P. C. Bateman, M. P. Erickson and P. D. Proctor[3/].

3/ Bateman, P.C., Erickson, M.P., and Proctor, P.D., Geology and tungsten deposits of the Tungsten Hills, Inyo Co., Calif.: Calif. Jour. Mines and Geology, vol. 46, No. 1, p. 42, Jan. 1950.

? { STRIKE NW
DIPS SE & NW — ?

On the surface and in the adit level the metamorphic beds generally strike around N. 45° W. and dip from 50° to 80° SE. Deeper, the beds steepen and in the lower workings dip northwesterly, producing a "roll" in the bedding. Numerous small post-ore shears and fractures occur within the scheelite-bearing tactite and calc-silicate rock.

SHOULD BE "N45°E" (SEE MAP)

Scheelite, prevailingly in crystals the size of a pin head, but ranging up to a quarter of an inch in maximum dimension, is disseminated in iron-and manganese (?) -stained parts of the calc-silicate rock and tactite. These stained areas are most prominent where fractures are abundant. Megascopically identifiable minerals in the tactite are cinnamon-colored garnet, calcite, quartz and pyroxene. Most of the scheelite is soft and powdery; consequently, it may be somewhat difficult to concentrate in a gravity mill.

The only exposed body of potential ore is a pocket-like concentration of scheelite in the southwestern part of the lower workings. This body is about 15 feet long and 30 feet wide. Assay data indicates it averages about 0.80 percent WO_3. This body is in a highly sheared and contorted zone and possibly is localized by pre-ore cross fractures. Presumably pockets of similar ore have been mined from the upper workings where small irregular shaped dog-hole stopes suggest former local scheelite concentration. Although scheelite is sporadically disseminated throughout the calc-silicate rock and tactite the average grade away from the single ore shoot appears under ultraviolet light to be only about 0.10 percent WO_3.

ORE RESERVES

All the reserves are contained in the small ore shoot exposed in the southwestern part of the lower level. Inasmuch as this ore does

not extend upward to the adit level, it is thought to be a small lenselike body similar to others that have apparently been mined out. On the lower level, the ore body is 15 feet wide and 30 feet long; if it is assumed to extend 10 feet above and 10 feet below the level it contains about 900 tons of ore (on the further assumption that 10 cubic feet of ore weighs one ton). Six samples were taken from the lower level - of these, three from the ore body average 0.80 percent WO_3. This figure is somewhat in excess of the grade of ore that has been milled. Norman and Stewart[4/] report that about 180 tons of ore averaging about 0.50 percent WO_3 was mined by lessees in 1946. Presumably this ore was selectively mined from small ore shoots. If a grade of 0.80 percent WO_3 is assumed, the 900 tons of inferred ore contains about 700 units of WO_3. According to the terms of the present lease the applicant is not permitted to mine any ore above the lower workings. Therefore, the reserve that can be mined by the applicant is only half the total -- approximately 450 tons of inferred ore containing about 350 units of WO_3.

PROPOSED EXPLORATION

The applicant proposes to sink the existing shaft an additional 100 feet, and if in commercial ore at the bottom of the shaft to drift 100 feet each way along the strike of the ore body. Inasmuch as the present shaft is not in commercial ore and the downward projection of the shaft seems unlikely to intersect ore, deepening the shaft without other preliminary exploration seems overly hazardous. If the ore body

4/ Norman, L.A., Jr., and Stewart, R.M., Mines and Mineral Resources of Inyo Co., Calif.: Calif. Jour. of Mines and Geology, vol. 47, No. 1, p. 90, Jan. 1951.

is to be explored at depth, the most feasible plan appears to be to sink on the pocketlike ore body exposed in the lower workings. Probably this ore does not extend more than 10 or 15 feet beneath the present workings, but if it should extend as much as 20 feet below the lower workings, it may then be feasible to sink the shaft an additional 50 feet and crosscut under the ore body.

Diamond drilling is not recommended because it is doubtful if satisfactory cores could be obtained in the highly oxidized tactite and calc-silicate rock.

GEOLOGIST'S CONCLUSIONS

The ore in the Tungsten Hill mine is in small pocketlike masses which are enclosed in low-grade tactite and light-colored calc-silicate rock. The only ore of commercial grade now exposed is a small mass estimated at only 900 tons of inferred ore containing 700 units of WO_3. Although this mass of ore may be shown by further exploration to be somewhat larger than estimated and other similar small masses may be found, it is unlikely that the mine can be developed into a producer of significant amounts of tungsten. For this reason government participation in the proposed exploration is not recommended. Participation in a more limited program may be warranted if the need for tungsten is sufficiently great.

DISCUSSION

Mr. Sterling Carter, the applicant requesting the Government loan, has an option and lease agreement on the four unpatented mining claims. Under Article 7 of this agreement included with docket DMEA-2256, the following statement was included: "Stoping to be done only in newly

developed ore."

The one ore body exposed in the lower workings would be costly to mine due to excessive handling of ore and waste.

Mr. A. K. Wilson gave no report on the competence of Mr. Carter, but expressed the opinion that he thought that there were more deserving properties in the area than the Tungsten Hill Mine.

Several items not essential to an exploration project were listed in the applicants request.

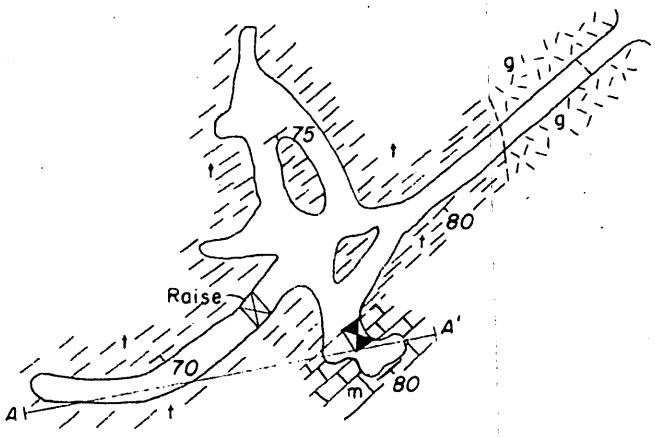
CONCLUSIONS

The request for Government assistance on the property should be denied.

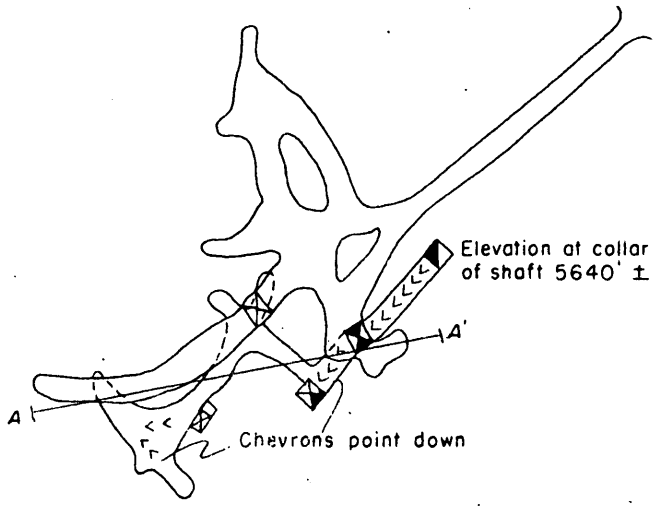
Two or three experienced leasers should be able to earn wages mining the ore exposed on the lower level.

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

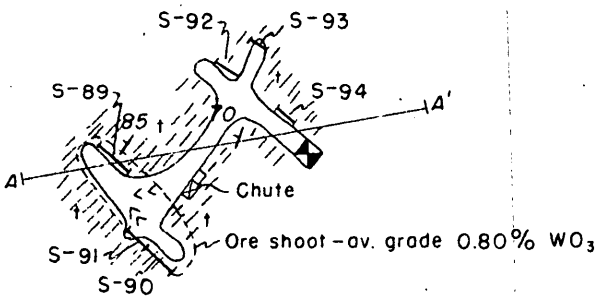
DMA-2256
(TUNGSTEN)



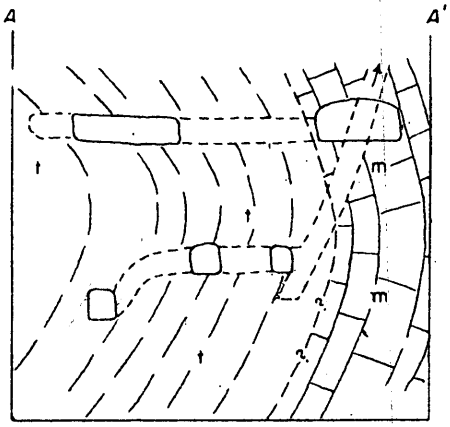
ADIT LEVEL



COMPOSITE MAP



LOWER WORKINGS



SECTION A-A'

N

EXPLANATION

Iron-stained calc-silicate rock and tactite

Marble

Granite

Approximately located contact

70
Strike and dip of beds

Shaft at surface

Shaft going above and below levels

Bottom of shaft

S-90
Sample locality
(Showing length of sample)

Mapped by P. C. Bateman, 1944,
and E. M. MacKevett and B. Sheehan, March 1952

TUNGSTEN HILL (LITTLE SHOT) MINE, INYO COUNTY, CALIFORNIA

40 0 40 80 Feet

Figure 2a.- Tungsten Hill Mine, Main Shaft
Looking southeast toward Bishop, Calif.

Figure 2b.- Tungsten Hill Mine, looking northerly
E. M. MacKevett on left and A. K. Wilson.

Sterling Carter
Murphys, California
(Calaveras County)

March 10, 1952

Mr. G. C. Selfridge
Defense Minerals Administration
Washington 25, D. C.

Dear Sir; Re: DMEA 2256X

Refering to your letter of February 11th enclosed are the six copies of Landlord's Subordination Agreement you requested.

I can't understand how the other copies were not received as four of them were pinned to my application and the other two were loose in the letter. However you have enough of them now.

In order for me to get these additional signed copies it was necessary for me to go to Bishop, Calif. through a snow storm in the high Sierras, as the owner of the mine told me that he would not sign them when I telephoned him from here after I did not receive them by return mail as I had requested.

Sincerely,

Sterling Carter

Sterling Carter.

SC:M
Enc. 6

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 17 1952

MF-202

LANDLORD'S SUBORDINATION AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, the undersigned is the owner~~s~~ in fee simple of that certain parcel of ground in the county of INYO, State of CALIFORNIA, described in a certain Exploration Project Contract dated _____, 195__, between STERLING CARTER, the Lessee of said property, and the United States of America;

NOW, THEREFORE, the undersigned, as Lessor of said property under lease dated NOVEMBER 14, 1951, does by these presents subordinate all of his right, title, and interest under the provisions of said lease to the right, title, and interest of the United States of America under the provisions of said Exploration Project Contract, and agrees that the lien and claim of the United States of America under the provisions of said contract shall be prior to the undersigned's rights to rentals or royalties under the terms of said lease; and

The undersigned further agrees that if said leasehold interest should be surrendered or if said lease should terminate at any time prior to the expiration of the rights of the United States of America under said Exploration Project Contract, the undersigned shall assume and does hereby assume all of the obligations of the Lessee under said Exploration Project Contract to make repayment to the United States of America according to the terms of said contract; and

The undersigned agrees to commit no act, nor assert any claim under judicial process or otherwise that may contravene or conflict with the prior lien and claim of the United States of America under the provisions of said Exploration Project Contract.

This undertaking and covenant shall be binding upon the heirs, successors, and assigns of the undersigned.

Dated this 19th day of November, 1951

G Crawford
G. Crawford

LIBRARY OF THE PRESIDENT
Defense Mapping Agency
MAR 1 1952

U. S. GOVERNMENT PRINTING OFFICE 16—64582-1

Jessie Crawford
Jessie Crawford - His wife.

FILE COPY
SURNAME:

Brewer
Selfridge

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

FEB 26 1952

Mr. Sterling Carter
Murphys, California

Re: Docket No. DMEA 2256X - Tungsten
Inyo County, California

Dear Mr. Carter:

In response to your letter of February 15, 1952, you are herewith informed that we are referring your application to the DMEA Field Team for a field examination, and requesting, at the same time, the amendment of your application so as to conform to the loan requirements of the Defense Minerals Exploration Administration and to direct the work toward the attainment of such objectives as may be revealed by their examination of the subject property.

No expenditures made prior to the signing of the contract may be included as a part of the work specified in the contract.

Sincerely yours,

George C. Selfridge

2/26

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

QLBrewer'lm
2/19/52

cc: Admn. Reading File
Docket
R. W. Geehan, USBM
D. M. Lemmon, USGS
Field Team Reg. III
G. C. Selfridge
Q. L. Brewer

FILE COPY
SURNAME:

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

Brewer
Selfridge
Dyer
Johnson

FEB 26 1952

Mr. Sterling Carter
Murphys, California

Re: Docket No. DMEA 2256X - Tungsten
Inyo County, California

Dear Mr. Carter:

Your application for assistance in exploring the Tungsten Hill mine in Inyo County, California, Docket No. DMEA 2256X, has been reviewed by the Iron and Ferro-Alloy Division of Defense Minerals Exploration Administration, and has been 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.

The Regional Office will contact you at an early date in regard to the examination of your property. Any assistance that you can render the field team during the examination will be appreciated.

Sincerely yours,

C. O. Mittendorf (for) cc 2/26

Acting Administrator
Defense Minerals Exploration
Administration

QLBrewer:lm
2/19/52

cc: Admn. Reading File
✓ Docket
R. W. Geehan, USBM
D. M. Lemmon, USGS
Field Team Reg. III
G. C. Selfridge
Q. L. Brewer

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

FEB 26 1952

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

Brewer
Selfridge

Dear Sir:

We attach "Review of Application for Exploration Assistance" on:

Applicant Sterling Carter

Docket No. 2256

Commodity Tungsten

Amount $ 27,210.38

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

Sincerely yours,

Frank E. Johnson
Chairman, Operating Committee
Defense Minerals Exploration
Administration

APPROVED:

B. N. Hedges
Member, Bureau of Mines

T. P. Thayer
Member, Geological Survey

Defense Minerals Administration

Review of Application for Exploration Assistance

Docket No. 2256

Commodity Tungsten

Total Amount $27,210.38

Govt. Participation $20,407.78

1. Name and Address of Applicant Sterling Carter

Murphys, California

2. Location of Property Round Valley District

Inyo County, California

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

If not, application will be rejected.

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

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

a) Good

b) Poor Yes

c) None

d) ~~XXXXXXXXXX~~--needs field examination to check on grade of ore and geologic background.

e) Is there an alternative and favorable project? Possibly, needs investigation.
(If so, attach an explanation)

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

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

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

productive period? Time unspecified, but Landlord's Subordination Agreement protects DMEA.

*question numbers are those of MF-103

7. Are subordination agreements necessary? Yes

a) MF-201?

b) MF-202? Yes

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

a) Available manpower Doubtful, in specific area

b) Equipment and supplies Yes
(question 14 plus general knowledge of availability)*

c) Accessibility (question 12)* Yes

d) Water (question 13)* Yes

e) Power (question 13)* Yes

Is a field check needed on any of these points? Yes, as to local labor supply

9. Does the experience of the applicant appear to be adequate to assure that he can properly conduct the proposed project? (question 4)* No - This must be checked.

Is a field check needed on this point? Yes

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

a) Is the project adequately described? No

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

b) Is there an adequate map or sketch of the proposed work? Yes

c) Is the proposed work "exploration" under the definition of Section 8, MO-5? Yes, but requires checking on the ground.

If not, what part of it is?

Is this part a worthwhile exploration project?_____

d) Are the cost estimates detailed? **Yes**

Can they be summarized, as on page 2 of Procedural Instruction 5-A, from the available data? ---- If so, attach a draft.

e) Are the cost estimates reasonable? **Probably, but need checking**

f) Should more information be requested from applicant? ----

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

11. Exhibit B (question 23-d)*

a) Is it applicable? **Yes**

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

c) Is a field check needed? **Yes**

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

a) Is it applicable? **Yes**

b) Sufficient data? **Yes** If so, attach a draft.

c) Are rents and charges reasonable? **Yes**

d) Is a field check needed? **Yes**

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

a) Are there sufficient data? **Yes**

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

c) Is the schedule excessive for the work proposed? **No superintendent needed.**

d) Are the proposed wages and salaries reasonable? **Yes**

e) Is a field check needed? **Yes**

14. Exhibit E (question 23-c)*

a) Is it applicable? Yes

b) Sufficient data? No

c) Reasonable?

d) Field check needed? Yes

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

(All exploration must be completed within two years)

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

17. If field examination is needed, do you have any special instructions for the field team not indicated by your answers to the foregoing question? The field team is requested to determine a geologic target, if any, and to amend the application to cover the exploration work required to attain the said target. The applicant lists several items not essential for an exploration of this magnitude; these cannot be included in the loan. The applicant's competence must be reported upon. A rough draft of Exhibit A of the contract should be prepared and forwarded to DMEA with the field team report.

Enclosures:

1 - MF-103
1 - Copy of lease
1 - Landlord's Subordination
1 - USGS letter

Reviewed by: Q. L. Brewer

Date 2/19/52

DEPARTMENT OF INTERIOR
BUREAU OF MINES
REGION III
RECEIVED

1968 FEB 27 AM 11: 14

SAN FRANCISCO, CALIFORNIA

Sterling Carter
Murphys, California
(Calaveras County)

February 15, 1952

Defense Minerals Administration
FEB 18 1952

The Defense Minerals Administration
Department of the Interior
Washington 25, D. C.

Gentlemen; Re: Docket No. DMEA 2256X

I am in receipt of your letter dated February 11, 1952 in which you enclosed seven forms of the Landlord's Subordination Agreement, with the statement that I have not filed them with you as yet. Upon checking my records I find that I sent you six copies with my application, November 19, 1951. Four of them are fastened between the application and copy of my agreement with the owner. However, I am getting the six new copies signed by the owner and will mail them to you very soon.

Refering to your summary and mention of a field team, a team can get to the mine now. The elevation is between five and six thousand feet. The mine is located atop the hill at the north end of Tungsten Hills, at the south east edge of Round Valley, and eight and one half miles east and one mile north of the Vanadium Mill up Pine Creek. (See California, Mt. Goddard Quadrangle)

Field report?

I plan to be in Bishop March 3rd, and if the field team could be there then I would like to go to the mine with them.

Refering to item 1: Do you want an engineer's report of the geology? In my letter to you dated Feb. 5, 1952 I sent you the results of two assays and a spectrographic analysis of the ore. Do you want some more samples taken and assayed?

Concerning item 2: I wish you would be more specific and let me know which costs you refer to. I have been advised that my estimates are too low.

Item 3: The items I included are essential to me. Whether or not they could be included in the project is another point. I am agreeable to cutting any item out which cannot be included, according to your policy, or rules.

I was warned repeatedly not to apply for a project. After talking to the so called small tungsten miner in the Bishop area and hearing their "Gripes" against the government I went to San Francisco and talked to Mr. Burgess and Mr. Miller of your Department and was assured that the "Gripes" were not based on fact, but misunderstanding, and that I had a very good chance to get approval if I applied for a project. Mr. Miller told me that I should get action in from one to two months. The way my application if faring, and the mention in your letter that approval may not come until the middle of this coming summer leads me to believe that some of the things I heard from the Bishop miners may possibly be true.

In spite of the warnings I was optomist enough to believe that if the government really wanted tungsten produced then the small miner had just as good a chance as the large operators or corporations.

If you will read the contract I have with the owner of the property I am going to develop you will see that time is very important to me. To hold the mine I will have to do a certain amount of work per month, minimum, plus a minimum monthly royalty payment.

If the government is going to put me off until the middle of the summer then I will have to get to work at the mine. My plans will of necessity be drastically changed. I will have to use the skid boards and bucket to draw the ore instead of putting in track and a car. My equipment will have to be scaled down to a minimum in order to buy it at all. Most of it will have to be second-hand.

Now, the question I would like to have answered is this: If I go ahead with the development and exploratory work at the mine can any of this work be included in the project if and when there is one? I ask this question because as time goes on my matching money will get smaller and smaller. It is conceivable that by the time the project is approved my money will be entirely spent. What then?

If I can supply you with any information which will expedite my application please let me know what it is.

Sincerely,

Sterling Carter

Sterling Carter.

SC:M

P. S. Does the X added to my Docket No. mean that it is Ex?

FILE COPY 400
SURNAME:

Brewer
Selfridge

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

FEB 11 1952

Mr. Sterling Carter

Murphys, California

Re: Docket No. DMEA 2256X - Tungsten
Round Valley District
Inyo County, California
(Submitted November 26, 1951)

Dear Mr. Carter:

In answer to your letter of February 5, 1951, regarding the present status of the subject application, we have the following to report:

1. The information submitted covering geology and value of ore is inadequate.

2. The costs submitted are much higher than those normally occurring in the area.

3. The cost estimate includes items which are not essential to an exploration project.

4. Signed copies of the Landlord's Subordination Agreement have not been filed. X X on file

In summary of the foregoing, it is apparent that a field team examination will have to be made at a time when the weather permits, that the total amount requested ($27,210.38) will necessarily be drastically reduced, and that the necessary legal forms be furnished. It appears unlikely that a contract could be signed before mid-summer, provided, of course, that the examination by the field team is affirmative.

Sincerely yours,

C. O. Mittendorf (for) 2/11/52

Acting Administrator
Defense Minerals Exploration
Administration

QLBrewer:ls
2/8/52

Copy to: Adm. Read. File
Docket
R. W. Geehan, U. S. B. M.
D. M. Lemmon, U.S.G.S.
Field Team, Region 3
G. C. Selfridge
Q. L. Brewer

FILE COPY
SURNAME:

Brewer
Selfridge

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

Mr. Sterling Carter
Calaveras County
Murphys, California

Re: Docket No. DMEA 2256X - Tungsten
Round Valley District
Inyo County, California

Dear Mr. Carter:

Herewith are seven (7) copies of the Landlord's Subordination Agreement which are to be filed with your application. Please favor us with six (6) signed copies thereof.

Your application will be held in abeyance pending receipt of these forms.

Sincerely yours,

George C. Selfridge ce 2/11/52

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

2/7/52
QLBrewer'lm
Enclosures - 7

cc: Admn. Reading File
Docket
R. W. Geehan, USBM
D. M. Lemmon, USGS
Field Team Reg. III
G. C. Selfridge
Q. L. Brewer

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

February 7, 1952

To: George Selfridge, DMEA

From: Robert W. Geehan

Subject: Exploration Application
Sterling Carter
Tungsten Hill Mine
Tungsten Hills,
Inyo County, California

DMEA 2256.
Tungsten

It is recommended that subject application be referred to the field team for comment.

Robert W. Geehan

Robert W. Geehan

Sterling Carter
Murphys, California
(Calaveras County)

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 7 1952

February 5, 1952

The Defence Minerals Administration
Department of the Interior
Washington 25, D. C.

Gentlemen; Re: DMEA - 2256

On November 19, 1951 I mailed an application to you for aid for an Exploration Project at the Tungsten Hill Mine near Bishop, Inyo County, California. I have your acknowledgement of the receipt of same, received by me December 2, 1951.

As I have heard nothing further about it I called Mr. H. C. Miller in San Francisco today and asked for his advice. He advised me to write you and ask for the status of my application.

My contract, lease & option, with the owner calls for me to make cash payments to him of $350.00 for three months, ie., on Jan. 13, Feb. 13 and March 13, 1952. Thereafter I am to make a minimum monthly royalty payment of $300.00. Beginning with the month of March 13, 1952 I will have to do a minimum of 30 man-shifts per month to hold my contract. I have made my first cash payment and will keep up the other payments.

When I talked to Mr. Miller in San Francisco last Fall he told me, when I asked how long it would take to get an answer one way or the other on my application, that it would take from one to two months.

I signed the mine contract and have made my plans with the belief that I would get action on the application within two months at the most. Now that two and one half months have passed I am beginning to worry, and am wondering how much longer I will have to wait. If the answer is a rejection I would very much like to learn it at the earliest date in order to conserve my assets. I would then go to the mine at once to start work, but due to limited finances, in a very restricted manner. If the answer is to be an affirmative one then I can wait for another month before I start work at the mine.

So, will you please let me know, at your earliest opportunity what the answer is going to be, and what the present status of the application is.

Recently I have received the following assays and Qualitative Spectrographic Analysis: Bottom of winze, C. M. Ball of Berkeley gave 1.56% WO3. Copy enclosed. Abbot Hanks of San Francisco gave 0.60% WO3 on an average of three samples taken at the 50 ft. level. Analysis of same sample; Less than .03% - copper, potassium, molybdenum, vanadium, titanium, zinc, nickel, strontium, chromium. .03% to .30% - Magnesium, sodium, manganese. .30% to 3% - Aluminum, tungsten. 3% to 30% - Silicon, iron, calcium.

this is a copy the graphic analysis
QB

Sincerely,

Sterling Carter

SC:M enc. Assay sheet.

Sterling Carter.

Phone AShberry 3-5854

ASSAY CERTIFICATE
C. M. BALL
ASSAYER-CHEMIST

911 University Avenue
Berkeley 2, California

Jan. 3, 1952

Sterling Carter

OUR NUMBER	YOUR DESCRIPTION OF SAMPLE	% WO_3	%	%	%	%	%	%	%
20746	#1 sample, bottom of winze	1.56							

C M Ball

STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

TO : George Selfridge, DMEA DATE: January 2, 1952

FROM : D. M. Lemmon, U. S. Geological Survey

SUBJECT: Exploration application $27,210.38 DMEA 2256 - Tungsten
Sterling Carter
Murphys, Calaveras County
California

To Geo S.

Property: Tungsten Hill mine
(Heco claims)
Tungsten Hills, Inyo County, Calif.

This property is presumably identical with the Tungsten Peak prospect, described by P. C. Bateman (California J. of Mines & Geology, vol. 46, no. 1, Jan. 1950, p. 37), who stated: "The tactite found so far does not contain sufficient scheelite to be of commercial grade as indicated under ultra-violet light."

The proposal made by the applicant is to sink the shaft another 100 feet and drift on the contact. The cost estimates are padded excessively with inessentials such as a light plant ($850), housing and boarding house (even though the mine is near town), ultraviolet lights ($300 - about 4 times too much). I suspect that in this district 100 feet of shaft and 200 feet of drift could be contracted for much less than the amount requested.

The information submitted concerning geology and tenor of ore is inadequate.

I suggest that the docket be referred to the field team, San Francisco, for comment about the geologic merit of the property.

DM Lemmon

Subject: DMEA-2256
Re: Exploration Loan
Heco No. 1, 2, 3, & 4

Mr. Sterling Carter
Calaveras County
Murphys, California

My dear Mr. Carter:

This will acknowledge receipt of your application dated November 19, 1951 for a loan under the Defense Production Act of 1950.

Your application was assigned Docket Number DMEA-2256 and referred to the Iron & Ferro-Alloys Branch.

Kindly refer to DMEA-2256 in any future correspondence relating to your application.

Sincerely yours,

ROBERT E. ADAMS

Robert E. Adams, Chief
Reports & Records Unit

7862

Sterling Carter
Murphys, California
(Calaveras County)

DEFENSE MINERALS
ADMINISTRATION
WASHINGTON, D. C.

November 19, 19 NOV 26 1 52 PM '51

The Defense Minerals Administration,
Department of the Interior,
Washington 25, D. C.

Dear Sirs;

Enclosed herewith, in quadruplicate, is my application for a project under Mineral Order 5, as amended.

I hold two copies of the "Option and Lease Agreement", signed and Notarised.

I also have, under date of October 30, 1951, CERTIFICATE OF AUTHORIZATION, Domestic Tungsten Program, Number 9 2124. If this number is the same as DMA Docket Number will you please add it to my applications. If it is not will you please send me five forms MF-100 to fill out.

Sincerely,

Sterling Carter.

SC:m
4 Encl.

Form MF-103
(Revised June 1951)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.1.

2.

MF-103 Should Be Filed With General Technical Data Form MF-100

DEFENSE MINERALS ADMINISTRATION WASHINGTON, D. C.

NOV 26 1 52 PM '51

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

Not To Be Filled in by Applicant

Docket No. D.M.E.A. 2256
Metal or Mineral
Date Received 11-26-51
Amount $
Participation (Government %)

Name and address of applicant

Sterling Carter
Calaveras County
Murphys, California

Date November 19, 1951.

If you have already filed MF-100, give date filed _____, type of assistance requested _____,

DMA Docket Number (if available) _____

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four copies each, of the signed application form, General Technical Data Form MF-100, and answers to questions as specified, to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive office thereof, with your name and address on each sheet of the application and all accompanying papers. If you have previously filed MF-100, it is not necessary to file it again. However, you should indicate in space provided above the type of assistance previously applied for (loans, procurement contracts, etc.) and DMA Docket Number, if available. *When a question is inapplicable it should be so stated in the form.* Additional sheets should be attached in answering any questions or in supplying additional information. IF YOU CANNOT ANSWER A QUESTION, SO STATE.

1. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property.

   (*b*) If you are not the owner of the property, submit a copy of the lease, purchase option, or other agreements under which you are authorized to operate the property with each copy of your application.

   (*c*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

   NOTE: (1) If both areas are the same, so state. The only obligation to repay the Government is from the net earnings from any commercial discovery made in the area specified in (*c*) above in which the exploration is to be conducted, and the expenditure of funds which may be charged as costs of the project must be limited to that area or to work necessary to perform the exploration in that area.

   (2) If applicant is not the owner of the property or if there are any liens or encumbrances against the property, copy of agreements of claimants, lienors, encumbrances, and lessors subordinating their interests in the property to the interest of the Government under the Exploration Project Contract will be required for attachment to the Contract.

2. (*a*) What metals or minerals do you expect to find?

   (*b*) Furnish statement of the geologic features of your property, giving type of ore deposit and reasons for expecting to find commercial ore bodies. Illustrate with maps or sketches. If you have a geologic or engineering report, or assay maps showing width and grade, please send them with application, stating whether or not you wish to have them returned.

16—64067-2

Copy - with Notes

The information requested [illegible] tions 3, 4, 5, 6, 7, 8, and 9 below should be [illegible] ered specifically and in detail, as this information will be attached to and incorporated as part of the Exploration Project Contract, if such contract is entered into with you by the Government.

ANSWER EACH QUESTION ON SEPARATE SHEETS OF PAPER AND SUBMIT A COPY OF EACH ANSWER FOR EACH COPY OF YOUR APPLICATION.

3. (*a*) Describe fully the proposed work and give the total cost of the project.

   (*b*) State the time required to start the project and to complete it.

4. Submit a map or sketch of the property involved showing a plan (and cross section, if needed) of the present mine workings and the *location of the proposed exploration work* as related to geologic features, such as contacts, veins, ore-bearing beds, etc.

5. Furnish an itemized list of existing facilities, buildings, installations, and fixtures with a statement of the cost of any necessary rehabilitation or repairs to put into useful and operable condition.

6. Furnish a detailed list of additional facilities, buildings, and fixtures to be purchased, installed, or erected by you, with the estimated cost of each item.

7. Furnish a detailed list of operating equipment, separated into items to be—

   (*a*) Rented

   (*b*) Purchased

   (*c*) Furnished by you

   with the rental, purchase price, or depreciation of each item, as the case may be, to be charged as a cost of the project.

8. Furnish an itemized schedule of labor, by numbers and classes (miners, muckers, etc.) and of supervisors by numbers and positions, with the maximum wages or salaries to be paid to each.

9. Furnish a detailed list with estimated cost of each item for materials, supplies, engineering, assaying, accounting, power, water, utilities, and any other items not provided for above.

10. (*a*) How much are you prepared to invest in the proposed project?

    (*b*) Is this amount sufficient to pay your part of the cost of the project, in accordance with the regulations on Government participation (Sec. 9 of MO–5)?

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

CERTIFICATION

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

Sterling Carter Company
(Name of company)

By Sterling Carter
(Signature of authorized official)

November 19, 1951.
(Date)

Owner
(Title)

Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

U. S. GOVERNMENT PRINTING OFFICE 16—64067-2

1. (a) DESCRIPTION OF PROPERTY:

Four un-patented claims situated in Round Valley Mining District, Inyo County, California, the Heco No. 1, No. 2, No. 3 and No. 4, and more perticularly known as the Tungsten Hill Mine.

Located atop large hills at south rim of Round Valley, fifteen miles by all year road in a westerly direction from the town of Bishop, California. All of this road is paved except 2.7 mi. of graded dirt road from highway 395 to base of hills and 1.3 mi. of bulldozed road up grade to mine.

Elevation at the mine is around 5,000 ft. or 500 ft. above the valley.

Extent of work done on the property, excepting several cuts and roadwork is;

THE MINE:

Shaft 85 ft. deep is inclined about 67 degrees from the horizontal to the west, toward center of hill. This shaft is about 75' down the east side of hill from a one room house at crest of hill. About 50' below shaft collar there is a 50' tunnel extending easterly from the shaft to hillside. At this level and at the 70' level there are several drifts in various directions, ranging in length from 6' to 25'.

THE ORE:

The vein dips about 55 degrees to the west, in the general direction of the shaft. The collar of the shaft is practically at the vein outcropping. The vein varies in width from 4' to 6' generally but widens in places and seems to widen with depth.

Values of tungsten ore ranges from .5% to .75% scheelite at the 50' level and increases in value with depth.

Vein material is similar to a packed placer, soft, and easy to pick down. No timbering except in some wide places.

EXISTING FACILITIES:

Timber head-frame with ore bin under for truckloading.

Wood bucket-skids and ladder in shaft.

Small hoist-house.

Frame bunk-house consisting of one room and closed porch.

One backhouse.

Power line to Vanadium Plant crosses property.

(b) Copy of "Option and Lease Agreement" attached.

(c) Heco No. 1 (Of Heco No. 1, No. 2, No. 3 and No. 4) of Tungsten Hill Mine, Round Valley Mining District, Inyo County, California. Notice of location recorded in Vol. 83, page 487, Records of Inyo County Recorder at Independence, California.

Both areas are the same.

Position of ground to be explored is below and adjacent to existing workings.

Attached also is owner's "Landlord's Subordination Agreement".

2. (a) I expect to find scheelite.

(b) GEOLOGIC FEATURE AT THE MINE:

Granite-limestone contact, dipping about 55 degrees to the west and striking about north.

TYPE OF DEPOSIT:

A soft, granular, fine sand-and-gravel appearing ore, compacted, with small to pinhead and larger size crystals of scheelite disseminated evenly throughout the ore. The vein is about 4' to 6' wide and follows down the granite-limestone contact zone which is a mixture of the two rocks.

REASONS FOR EXPECTING TO FIND COMMERCIAL ORE BODIES:

Bulldozed and handmade cuts have resulted in ore being found along the vein across the four claims, and beyond. To the north about one quarter mile and down the hill there is a glory-hole scheelite mine which was worked extensively during the first world war and is now being reopened. The ore was rich, I understand, and it is planned to also work the old tailings.

The ore is of such a type that mining costs should not be high and milling costs should not exceed greatly those of milling placer deposits.

Fine screen trommeling of mine-run ore removes over 50% of the values, in a sand-size ready for tabling. The ore generally can be broken by hand. Ore gets a little softer and richer with depth. Values below the 50' level range from .5% to .75% and higher. 2.1% Ore is exposed at the bottom of a winze near the bottom of the shaft.

Width of the vein tends to widen with depth.

I FURTHER REASONABLY EXPECT TO FIND COMMERCIAL ORE DUE TO:

The geology and topography at the mine,

The fact that the mine is in a very rich general tungsten area,

The mine was worked profitably when the price of a unit of WO3 was as low as $28.00, and

Because ore from the mine, this month, was being milled profitably on a 50-50 basis by a small hand mill near Bishop, which mill would cost not over $1,000.00 to assemble.

IF THE SHAFT IS SUNK TO A GREATER DEPTH;

And the vein is drifted on both ways for a reasonable distance and crosscut to determine the width and to determine if other veins exist, I believe,

A SUFFICIENT AMOUNT OF COMMERCIAL ORE WILL BE FOUND TO WARRANT;

Drifting under and into the newly discovered ore body from far down the east slope, where,

There is a very good mill and tailings site, and

where water could more easily be pumped to,

A road being built from the existing road, down the hill, to shorten the road considerably,

Installation of a mill, bins and conveyor belts, to handle shrink-stoped ore from the mine,

Drilling a well on the edge of Round Valley, or securing the use of gravity water previously used at mill at glory-hole mine nearby, water rights?

Installing facilities for pumping and storing water for mine, milling and camp use,

Building necessary facilities for housing employees and personel, etc. and unnecessary near Town!

Bringing power to the mine from line which crosses property, nearby,

TO PRODUCE MORE TUNGSTEN.

Check on Voltage

~~bad~~

3. (a) PROPOSED WORK.

Repair existing one mile grade-road by widening turns, removing rough spots and re-routing the road in places.

Repair and strengthen existing head-frame and ore-bin.

Enlarge existing small hoist-house to accomodate larger unit.

Replace present bucket-skids in shaft with metal track.

Instal hoist, cable and ore skip.

Instal compressor and air lines.

Instal water tank, ground and mine lines.

Instal electric generator, surface and mine lines and fixtures. ?

Instal track and car in existing tunnel to handle waste.

Instal first-aid kits and facilities required by law.

Build tool, supply and repair shop. This to house compressor and generator.

Level existing bunk-house, repair and put into habitable condition. why need ?

Add office and record-room to bunk-house.

Add propane or oil for cooking and heating, with stove and heaters.

Instal furniture and refrigerator in bunk-house.

Build powder magazine.

Sink existing 85' shaft an added 100', plus 10' for sump, and along ore.

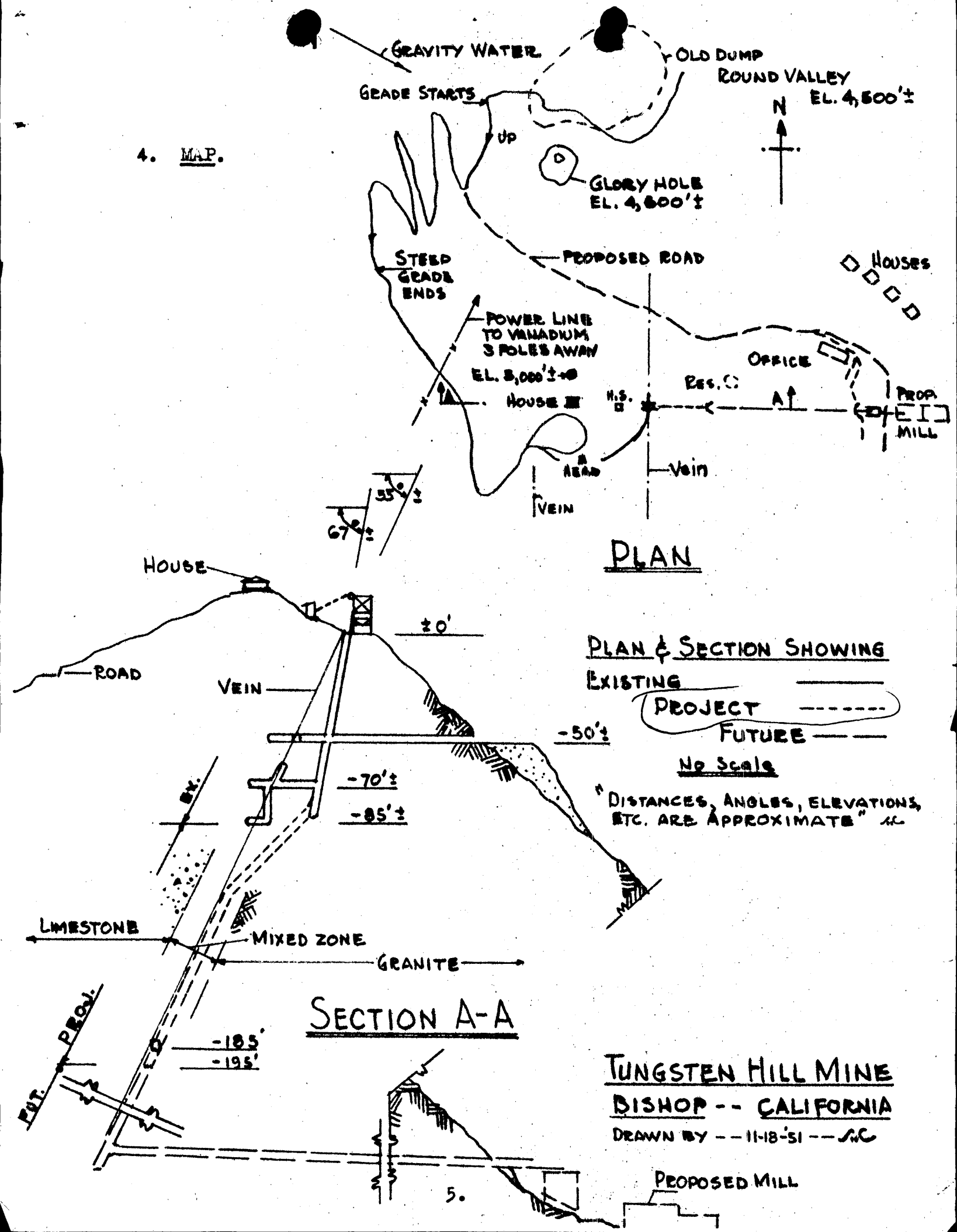
If still in commercial ore at above depth, drift both ways along vein for 100' each way.

TOTAL COST OF PROJECT ---------- $27,210.38

(b) The project will be started within two weeks from the time approval and contract is received, weather permitting.

Project can be completed in 4½ months.

4. MAP.


GRAVITY WATER
OLD DUMP
ROUND VALLEY
EL. 4,500'±
GRADE STARTS
UP
N
GLORY HOLE
EL. 4,600'±
STEEP GRADE ENDS
PROPOSED ROAD
HOUSES
POWER LINE TO VANADIUM 3 POLES AWAY
EL. 3,000'±
HOUSE
OFFICE
RES.
H.S.
A
PROP. MILL
HEAD
VEIN
VEIN
35°±
67°±
PLAN
HOUSE
±0'
ROAD
VEIN
-50'±
-70'±
-85'±
EXT.
LIMESTONE
MIXED ZONE
GRANITE
SECTION A-A
PROJ.
EXT.
-185'
-195'
PROPOSED MILL
PLAN & SECTION SHOWING
EXISTING
PROJECT
FUTURE
No Scale
"DISTANCES, ANGLES, ELEVATIONS, ETC. ARE APPROXIMATE"
TUNGSTEN HILL MINE
BISHOP -- CALIFORNIA
DRAWN BY -- 11-18-51 -- S.W.C.

5. EXISTING FACILITIES.

Practically all of the existing facilities have to be repaired and improved so you are referred to other questions numbers for;

Rental of bulldozer, and

Cost of; Labor, Equipment, Supplies and Materials, which are included under these headings.

6. ADDITIONAL FACILITIES, ETC;

Water tank ----------	$ 25.00
Office and record room (Covered in Material and Labor).	
Furniture and refrigerator (For bunk-house). ---	600.00
Cookstove and heaters ----------	325.00
Black-lights for mine ----------	300.00
TOTAL ** ------	$1,250.00

7. OPERATING EQUIPMENT.

(a) RENTED:

Bulldozer with operator (10 Days @ $100.00 per day) to do roadwork. ----------	$1,000.00

(b) Purchased:

Hoist with power unit, cable and skip -------	900.00
Compressor with power unit ----------	1,600.00
Electric generator with power unit ----------	850.00
Three ore cars ----------	220.00
Truck ----------	2,225.00
Air drill, Carset drill steel, Bit sharpener, Spade-tool and Gad, Airhose and Jack-leg ----------	930.00
Pump for dewatering ----------	65.00
TOTAL --------	$7,790.00

(c) NONE.

8. LABOR.

One general supervisor and accountant (Sterling Carter) @ $12.00 per day (3/4 Time x $16.00 per day) for 4.5 months --$1,169.16

One mine superintendent @ $20.00 per day for 4.5 Mos. --- 2,338.20

Three laborers @ $14.33 per day for 4.5 months - repair, construction, mining and mucking ---------- 4,185.39

One truckdriver and general helper @14.33 per day for 4.5 months ---------- 1,395.13

Occasional labor and specialists ---------- 900.00 — ?

TOTAL ----------$9,987.88

9. MATERIALS;

Heavy Timbers:

Repair existing head-frame and ore-bin ----------$ 150.00

Replace existing bucket-skids with metal track and extend for 110'. ---------- 250.00

Mine timbers ---------- 150.00

Rough Lumber:

Enlarge existing hoist-house ---------- 25.00

New tool, supplies and repair shop (To house new generator and compressor) ---------- 325.00

Small office and record-room added to existing house ---- 150.00

Powder magazine ---------- 25.00

Other Materials:

Corrugated metal ---------- 200.00

Spikes, nails and bolts ---------- 50.00

Rails, spikes and ties ---------- 800.00

Rods, washers and nuts ---------- 25.00

Cement, gravel and sand ---------- 25.00

Electric wire, for mine and domestic, with switches, globes and fixtures ---------- 50.00

Miscellaneous material for upkeep of equipment ---------- 300.00

Amount carried forward ----------$2,525.00

Amount brought forward	$2,525.00
Pipe;	
Water supply, domestic, drilling and ejecting, with valves and fittings	150.00
Air, with valves and fittings	200.00
SUPPLIES:	
First aid	50.00
Office, records and accounting	75.00
Fuel;	
Heating and cooking	67.50
Gasoline for generator	145.00
Gasoline for compressor	450.00
Gasoline for truck	135.00
Oil, lubricating	25.00
Powder, Caps and Fuse;	
Roadwork	135.00
Sinking and drifting	1,600.00
Tools, miscellaneous for repair-shop	200.00
Shovels, shovel-plates, picks etc. for mining	75.00
Miscellaneous tools and supplies	500.00
Insurance on truck, workmen etc.	470.00
Assaying	300.00
Contingencies	1,100.00 ?
TOTAL	$8,182.50

10. (a) I am prepared to invest up to $7,000.00.

(b) Yes, this amount will pay my part of the cost.

11. A small mill is planned for the mine to work the ore taken out to eliminate the necessity of storing the ore.

Form MF-103
(Revised June 1951)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.1.

DEFENSE MINERALS ADMINISTRATION WASHINGTON, D. C.

MF-103 Should Be Filed With General Technical Data Form MF-100

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

NOV 26 1 52 PM '51

Not To Be Filled in by Applicant

Docket No. D.M.E.A. 2256
Metal or Mineral
Date Received 11-26-51
Amount $
Participation (Government %)

Name and address of applicant

Sterling Carter
Calaveras County
Murphys, California

Date November 19, 1951.

If you have already filed MF-100, give date filed _____, type of assistance requested _____,

DMA Docket Number (if available) _____

INSTRUCTIONS

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1. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property.

   (*b*) If you are not the owner of the property, submit a copy of the lease, purchase option, or other agreements under which you are authorized to operate the property with each copy of your application.

   (*c*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

   NOTE: (1) If both areas are the same, so state. The only obligation to repay the Government is from the net earnings from any commercial discovery made in the area specified in (*c*) above in which the exploration is to be conducted, and the expenditure of funds which may be charged as costs of the project must be limited to that area or to work necessary to perform the exploration in that area.

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2. (*a*) What metals or minerals do you expect to find?

   (*b*) Furnish statement of the geologic features of your property, giving type of ore deposit and reasons for expecting to find commercial ore bodies. Illustrate with maps or sketches. If you have a geologic or engineering report, or assay maps showing width and grade, please send them with application, stating whether or not you wish to have them returned.

16—64067-2

Orig - No notes

The information requested in questions 3, 4, 5, 6, 7, 8, and 9 below should be answered specifically and in detail, as this information will be attached to and incorporated as part of the Exploration Project Contract, if such contract is entered into with you by the Government.

ANSWER EACH QUESTION ON SEPARATE SHEETS OF PAPER AND SUBMIT A COPY OF EACH ANSWER FOR EACH COPY OF YOUR APPLICATION.

3. (*a*) Describe fully the proposed work and give the total cost of the project.

   (*b*) State the time required to start the project and to complete it.

4. Submit a map or sketch of the property involved showing a plan (and cross section, if needed) of the present mine workings and the *location of the proposed exploration work* as related to geologic features, such as contacts, veins, ore-bearing beds, etc.

5. Furnish an itemized list of existing facilities, buildings, installations, and fixtures with a statement of the cost of any necessary rehabilitation or repairs to put into useful and operable condition.

6. Furnish a detailed list of additional facilities, buildings, and fixtures to be purchased, installed, or erected by you, with the estimated cost of each item.

7. Furnish a detailed list of operating equipment, separated into items to be—

   (*a*) Rented

   (*b*) Purchased

   (*c*) Furnished by you

   with the rental, purchase price, or depreciation of each item, as the case may be, to be charged as a cost of the project.

8. Furnish an itemized schedule of labor, by numbers and classes (miners, muckers, etc.) and of supervisors by numbers and positions, with the maximum wages or salaries to be paid to each.

9. Furnish a detailed list with estimated cost of each item for materials, supplies, engineering, assaying, accounting, power, water, utilities, and any other items not provided for above.

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

CERTIFICATION

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

Sterling Carter Company
(Name of company)

By Sterling Carter
(Signature of authorized official)

November 19, 1951.
(Date)

Owner
(Title)

Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

U. S. GOVERNMENT PRINTING OFFICE 16—64067-2

1. (a) DESCRIPTION OF PROPERTY:

Four un-patented claims situated in Round Valley Mining District, Inyo County, California, the Heco No. 1, No. 2, No. 3 and No. 4, and more perticularly known as the Tungsten Hill Mine.

Located atop large hills at south rim of Round Valley, fifteen miles by all year road in a westerly direction from the town of Bishop, California. All of this road is paved except 2.7 mi. of graded dirt road from highway 395 to base of hills and 1.3 mi. of bulldozed road up grade to mine.

Elevation at the mine is around 5,000 ft. or 500 ft. above the valley.

Extent of work done on the property, excepting several cuts and roadwork is;

THE MINE:

Shaft 85 ft. deep is inclined about 67 degrees from the horizontal to the west, toward center of hill. This shaft is about 75' down the east side of hill from a one room house at crest of hill. About 50' below shaft collar there is a 50' tunnel extending easterly from the shaft to hillside. At this level and at the 70' level there are several drifts in various directions, ranging in length from 6' to 25'.

THE ORE:

The vein dips about 55 degrees to the west, in the general direction of the shaft. The collar of the shaft is practically at the vein outcropping. The vein varies in width from 4' to 6' generally but widens in places and seems to widen with depth.

Values of tungsten ore ranges from .5% to .75% scheelite at the 50' level and increases in value with depth.

Vein material is similar to a packed placer, soft, and easy to pick down. No timbering except in some wide places.

EXISTING FACILITIES:

Timber head-frame with ore bin under for truckloading.

Wood bucket-skids and ladder in shaft.

Small hoist-house.

Frame bunk-house consisting of one room and closed porch.

One backhouse.

Power line to Vanadium Plant crosses property.

(b) Copy of "Option and Lease Agreement" attached.

(c) Heco No. 1 (Of Heco No. 1, No. 2, No. 3 and No. 4) of Tungsten Hill Mine, Round Valley Mining District, Inyo County, California. Notice of location recorded in Vol. 83, page 487, Records of Inyo County Recorder at Independence, California.

Both areas are the same.

Position of ground to be explored is below and adjacent to existing workings.

Attached also is owner's "Landlord's Subordination Agreement".

2. (a) I expect to find scheelite.

(b) GEOLOGIC FEATURE AT THE MINE:

Granite-limestone contact, dipping about 55 degrees to the west and striking about north.

TYPE OF DEPOSIT:

A soft, granular, fine sand-and-gravel appearing ore, compacted, with small to pinhead and larger size crystals of scheelite disseminated evenly throughout the ore. The vein is about 4' to 6' wide and follows down the granite-limestone contact zone which is a mixture of the two rocks.

REASONS FOR EXPECTING TO FIND COMMERCIAL ORE BODIES:

Bulldozed and handmade cuts have resulted in ore being found along the vein across the four claims, and beyond. To the north about one quarter mile and down the hill there is a glory-hole scheelite mine which was worked extensively during the first world war and is now being reopened. The ore was rich, I understand, and it is planned to also work the old tailings.

The ore is of such a type that mining costs should not be high and milling costs should not exceed greatly those of milling placer deposits.

Fine screen trommeling of mine-run ore removes over 50% of the values, in a sand-size ready for tabling. The ore generally can be broken by hand. Ore gets a little softer and richer with depth. Values below the 50' level range from .5% to .75% and higher. 2.1% Ore is exposed at the bottom of a winze near the bottom of the shaft.

Width of the vein tends to widen with depth.

I FURTHER REASONABLY EXPECT TO FIND COMMERCIAL ORE DUE TO:

The geology and topography at the mine,

The fact that the mine is in a very rich general tungsten area,

The mine was worked profitably when the price of a unit of WO_3 was as low as $28.00, and

Because ore from the mine, this month, was being milled profitably on a 50-50 basis by a small hand mill near Bishop, which mill would cost not over $1,000.00 to assemble.

IF THE SHAFT IS SUNK TO A GREATER DEPTH;

And the vein is drifted on both ways for a reasonable distance and crosscut to determine the width and to determine if other veins exist, I believe,

A SUFFICIENT AMOUNT OF COMMERCIAL ORE WILL BE FOUND TO WARRANT;

Drifting under and into the newly discovered ore body from far down the east slope, where,

There is a very good mill and tailings site, and

Where water could more easily be pumped to,

A road being built from the existing road, down the hill, to shorten the road considerably,

Installation of a mill, bins and conveyor belts, to handle shrink-stoped ore from the mine,

Drilling a well on the edge of Round Valley, or securing the use of gravity water previously used at mill at glory-hole mine nearby,

Installing facilities for pumping and storing water for mine, milling and camp use,

Building necessary facilities for housing employees and personel, etc. and

Bringing power to the mine from line which crosses property, nearby,

TO PRODUCE MORE TUNGSTEN.

3. (a) PROPOSED WORK.

Repair existing one mile grade-road by widening turns, removing rough spots and re-routing the road in places.

Repair and strengthen existing head-frame and ore-bin.

Enlarge existing small hoist-house to accomodate larger unit.

Replace present bucket-skids in shaft with metal track.

Instal hoist, cable and ore skip.

Instal compressor and air lines.

Instal water tank, ground and mine lines.

Instal electric generator, surface and mine lines and fixtures.

Instal track and car in existing tunnel to handle waste.

Instal first-aid kits and facilities required by law.

Build tool, supply and repair shop. This to house compressor and generator.

Level existing bunk-house, repair and put into habitable condition.

Add office and record-room to bunk-house.

Add propane or oil for cooking and heating, with stove and heaters.

Instal furniture and refrigerator in bunk-house.

Build powder magazine.

Sink existing 85' shaft an added 100', plus 10' for sump, and along ore.

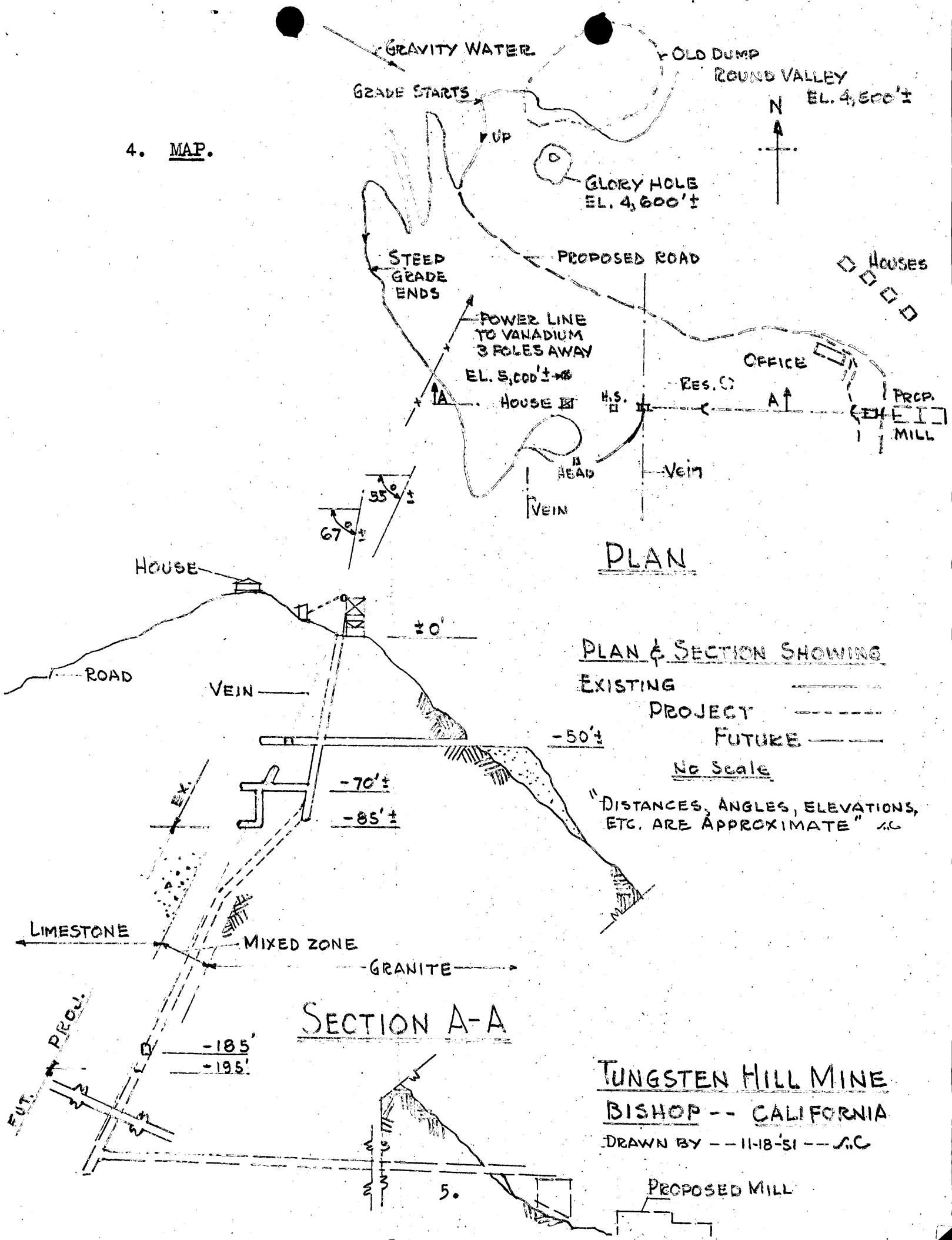
If still in commercial ore at above depth, drift both ways along vein for 100' each way.

TOTAL COST OF PROJECT ---------- $27,210.38

(b) The project will be started within two weeks from the time approval and contract is received, weather permitting.

Project can be completed in 4½ months.

4. **MAP.**


GRAVITY WATER
OLD DUMP
ROUND VALLEY
EL. 4,600'±
GRADE STARTS
UP
N
GLORY HOLE
EL. 4,600'±
STEEP GRADE ENDS
PROPOSED ROAD
HOUSES
POWER LINE TO VANADIUM 3 POLES AWAY
EL. 5,000'±
OFFICE
RES.
A
HOUSE
H.S.
A
PROP. MILL
HEAD
VEIN
VEIN
55°±
67°±
PLAN
HOUSE
±0'
ROAD
VEIN
-50'±
-70'±
-85'±
PLAN & SECTION SHOWING
EXISTING
PROJECT
FUTURE
No Scale
"DISTANCES, ANGLES, ELEVATIONS, ETC. ARE APPROXIMATE" J.C.
LIMESTONE
MIXED ZONE
GRANITE
SECTION A-A
FUT. PROJ.
-185'
-195'
TUNGSTEN HILL MINE
BISHOP -- CALIFORNIA
DRAWN BY -- 11-18-51 -- J.C.
PROPOSED MILL

5. EXISTING FACILITIES.

Practically all of the existing facilities have to be repaired and improved so you are referred to other questions numbers for;

Rental of bulldozer, and

Cost of; Labor, Equipment, Supplies and Materials, which are included under these headings.

6. ADDITIONAL FACILITIES, ETC;

Water tank	$ 25.00
Office and record room (Covered in Material and Labor).	
Furniture and refrigerator (For bunk-house).	600.00
Cookstove and heaters	325.00
Black-lights for mine	300.00
TOTAL **	$1,250.00

7. OPERATING EQUIPMENT.

(a) RENTED:

Bulldozer with operator (10 Days @ $100.00 per day) to do roadwork.	$1,000.00

(b) Purchased:

Hoist with power unit, cable and skip	900.00
Compressor with power unit	1,600.00
Electric generator with power unit	850.00
Three ore cars	220.00
Truck	2,225.00
Air drill, Carset drill steel, Bit sharpener, Spade-tool and Gad, Airhose and Jack-leg	930.00
Pump for dewatering	65.00
TOTAL	$7,790.00

(c) NONE.

8. LABOR.

One general supervisor and accountant (Sterling Carter) @ $12.00 per day (3/4 Time x $16.00 per day) for 4.5 months --$1,169.16

One mine superintendent @ $20.00 per day for 4.5 Mos. --- 2,338.20

Three laborers @ $14.33 per day for 4.5 months - repair, construction, mining and mucking ---------- 4,185.39

One truckdriver and general helper @14.33 per day for 4.5 months ---------- 1,395.13

Occasional labor and specialists ---------- 900.00

TOTAL ----------$9,987.88

9. MATERIALS;

Heavy Timbers:

Repair existing head-frame and ore-bin ----------$ 150.00

Replace existing bucket-skids with metal track and extend for 110'. ---------- 250.00

Mine timbers ---------- 150.00

Rough Lumber:

Enlarge existing hoist-house ---------- 25.00

New tool, supplies and repair shop (To house new generator and compressor) ---------- 325.00

Small office and record-room added to existing house ---- 150.00

Powder magazine ---------- 25.00

Other Materials:

Corrugated metal ---------- 200.00

Spikes, nails and bolts ----------c 50.00

Rails, spikes and ties ---------- 800.00

Rods, washers and nuts ---------- 25.00

Cement, gravel and sand ---------- 25.00

Electric wire, for mine and domestic, with switches, globes and fixtures ---------- 50.00

Miscellaneous material for upkeep of equipment ---------- 300.00

Amount carried forward ----------$2,525.00

Amount brought forward	$2,525.00
Pipe;	
Water supply, domestic, drilling and ejecting, with valves and fittings	130.00
Air, with valves and fittings	200.00
SUPPLIES:	
First aid	50.00
Office, records and accounting	75.00
Fuel;	
Heating and cooking	67.50
Gasoline for generator	145.00
Gasoline for compressor	450.00
Gasoline for truck	135.00
Oil, lubricating	25.00
Powder, Caps and Fuse;	
Roadwork	135.00
Sinking and drifting	1,600.00
Tools, miscellaneous for repair-shop	200.00
Shovels, shovel-plates, picks etc. for mining	75.00
Miscellaneous tools and supplies	500.00
Insurance on truck, workmen etc.	470.00
Assaying	300.00
Contingencies	1,100.00
TOTAL	$8,182.50

10. (a) I am prepared to invest up to $7,000.00.

(b) Yes, this amount will pay my part of the cost.

11. A small mill is planned for the mine to work the ore taken out to eliminate the necessity of storing the ore.

MF-202

LANDLORD'S SUBORDINATION AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, the undersigned is the owner in fee simple of that certain parcel of ground in the county of INYO, State of CALIFORNIA, described in a certain Exploration Project Contract dated _____, 195__, between STERLING CARTER, the Lessee of said property, and the United States of America;

NOW, THEREFORE, the undersigned, as Lessor of said property under lease dated NOVEMBER 14 ,1951, does by these presents subordinate all of his right, title, and interest under the provisions of said lease to the right, title, and interest of the United States of America under the provisions of said Exploration Project Contract, and agrees that the lien and claim of the United States of America under the provisions of said contract shall be prior to the undersigned's rights to rentals or royalties under the terms of said lease; and

The undersigned further agrees that if said leasehold interest should be surrendered or if said lease should terminate at any time prior to the expiration of the rights of the United States of America under said Exploration Project Contract, the undersigned shall assume and does hereby assume all of the obligations of the Lessee under said Exploration Project Contract to make repayment to the United States of America according to the terms of said contract; and

The undersigned agrees to commit no act, nor assert any claim under judicial process or otherwise that may contravene or conflict with the prior lien and claim of the United States of America under the provisions of said Exploration Project Contract.

This undertaking and covenant shall be binding upon the heirs, successors, and assigns of the undersigned.

Dated this _____ day of _____, 195__

G Crawford

U. S. GOVERNMENT PRINTING OFFICE 16—64582-1

Jessie Crawford
His Wife

Left here to show he was right about sending them in - However, no date

OPTION AND LEASE AGREEMENT.

Bishop, California.

This memorandum of option and lease made and executed this 14TH day of November, 1951, by and between G. CRAWFORD and JESSIE CRAWFORD, parties of the first part, hereinafter known as Owners, and STERLING CARTER, party of the second part, hereinafter known as Lessee,

W I T N E S S E T H :

That in consideration of rents, royalties, payments, covenants and agreements hereinafter set forth on the part of the Lessee to be paid, kept and performed, the Owners have let, optioned, demised and leased, and by these presents do lease, option, demise and let unto the Lessee all those certain unpatented mining claims in Round Valley Mining District, in the County of Inyo, State of California, and particularly described as follows:

HECO No. 1
HECO NO. 2
HECO NO. 3 and
HECO NO. 4

All situated in Round Valley Mining District, and more particularly known as the Tungsten Hill Mine, located about fifteen miles by road westerly from Bishop, Inyo County, California. Notice of location of said claims is duly recorded in Vol. 83, page 487 of the records of the County Recorder, at Independence, California.

In consideration of said Option and Lease the Lessee does hereby covenant for himself, his assigns and heirs as follows:

TERMS OF THIS AGREEMENT:

1. As time is the essence of this Option and Agreement, there will be a period of four (4) months from date of execution of this instrument in which Lessee will have:

a. Full privilege to explore, prospect, drift, sink, stope and to extract ores, sell, ship and/or mill ores and/or concentrates.

b. Option to buy mine according to terms stated herein.

Copy — Signed

2. Lessee will pay to the Owners throughout the life of this Agreement a royalty of ten (10) per cent of the gross returns received from the sale of tungsten concentrates, also ten (10) per cent of the net smelter or mint returns on other products from said mining property, according to the following schedule:

60 days from date - $350.00 Minimum
3 Months " " - $350.00 Minimum
4 Months " " - $350.00 Minimum
5 Months " " - $300.00 Minimum

And a minimum per month thereafter, during the life of this Agreement, of $300.00 until the full purchase price is paid. During the 4 months Option period only of this Agreement, the term "Gross Returns" means the net returns from sale of concentrates, after mill costs are deducted.

3. Full Purchase Price to be paid by Lessee for the above mentioned property, and according to the Minimum Royalty payment schedule, is to be TWENTY-FIVE THOUSAND ($25,000.00) DOLLARS. All payments made by Lessee to Owner are to be applied toward this Full Purchase Price, and any payments made to owners in excess of the Minimum Royalty payments by Lessee are to be applied to the full purchase price.

4. When the Full Purchase price is paid to owners by Lessee, Owners is to receive an Over-Riding Royalty of TWO (2)% PER CENT under the following conditions:-Owners hereby gives the Lessee an option on this TWO (2)% PER CENT Royalty for the sum of TWENTY-THOUSAND ($20,000.00) DOLLARS with the privilege of paying this amount in six semi-annual payments, and at no interest from date in writing of Lessees execution of Option on this TWO (2)% PER CENT Royalty.

5. Good and sufficient quit/claim deed by owners is to be placed in escrow with the Bank of America, Bishop, California, or other institution agreeable to both Owners and Lessee, along with copy of this Agreement, and with escrow instructions. Within Fifteen (15) Days This above quit/claim deed is to be delivered to Lessee after Lessee has paid the Full Purchase Price.

LUCY M. ABRIBAT
PUBLIC STENOGRAPHER
NOTARY
BISHOP, CALIFORNIA

6. After four months from date of this Agreement, Lessee is to have done thirty (30) man-shifts of work, or the equivalent Per Month at the mine, unless delay, lay-off or idleness if cause by strike, riot, flood, bad weather, Act of God, or for any other reason not under the direct control of Lessee.

7. Mining is to be done in a minerlike manner. Timbering will be done with due regard of the safety of the miners. ANY AND ALL stoping or raising done is to be in accordance with the Mining Safety Laws of the STATE OF CALIFORNIA. Stoping to be done only in newly developed ore.

8. This undertaking and covenant shall be binding upon the heirs, successors, and assigns of the undersigned.

9. Owners or their duly elected representative shall have the privilege to enter the premises and inspect the mine, but at their own risk, and also to examine the books and accounts of the Lessee at any reasonable time. Owners shall be supplied with sales receipts, engineers reports, assay reports, and records of the mine during the time of this Agreement. Lessee is to have the full use of all existing facilities now at the mine.

10. The Lessee further agrees to keep accurate books of accounts showing the approximate amount of ore extracted from said leased premises, the amount of concentrates milled, sold or shipped, and the amount of money received therefore.

11. Lessee agrees to keep posted in a conspicuous place or places notices of Non-Responsibility upon the said premises as required by the Laws of the STATE OF CALIFORNIA.

12. Lessee will at all times keep and save harmless the Owners from any responsibility to person or persons from liability.

13. Lessee will carry adequate policy, or policies of Workmen's Compensation and Insurance in accordance with the Laws of the STATE OF CALIFORNIA. And the Lessee will operate said premises in full accordance with the Laws and Regulations pertaining to the operations thereof.

LUCY M. ABRIBAT
PUBLIC STENOGRAPHER
NOTARY
BISHOP, CALIFORNIA

14. Lessee agrees to pay, before the same become delinquent, all taxes and assessments against all improvements on said premises.

15. Upon abandonment of said premises, or upon termination of this Agreement the Lessee shall deliver to Owners a quitclaim deed and surrender all rights, title and interest in and to said mining premises and shall have the privilege of removing within NINETY (90) DAYS Abandonment or termination of this Agreement, weather conditions permitting, all equipment improvements and mining machinery placed by Lessee upon or in said premises, excepting timber and other placements protecting said mine.

16. Lessee agrees to perform during the term thereof the annual assessments required by Law. Such assessment work to be completed and performed, and proof of the work as required on or before the 15th day of June of each year, during the life of this Agreement.

17. Lessee agrees at all times to keep said mining premises free from all liens by reason of the operation of it, by persons acting through or under him, and to pay all debts before same shall become delinquent, such as those incurred in the operation of said premises, such as labor and supplies or anything else which might or would be a lien due to failure to pay.

18. As time and the covenants hereof are of the essence of this Agreement, should Lessee remain in default of any term, covenant or condition hereof for a period of Fifteen (15) Days, after written notice shall have been served upon Lessee this Lease and Option shall be terminated and be of no further force, save and excepting that he shall not be relieved of any obligations arising from suchtermination, or for Royalties due or to become due on account of ore extracted from said premises, previous thereto, Upon such termination Owner shall retain all payments previously paid under the terms hereof,and Owner shall be entitled to enter upon said premises and each and every portion thereof, remove any and all persons therefrom, with or without process of Law.

LUCY M. ABRIBAT
PUBLIC STENOGRAPHER
NOTARY
BISHOP, CALIFORNIA

19. No assignment or transfer of interest hereunder or subletting of any portion of premises shall be valid for any purposes whatsoever, unless and until Lessee has received written consent from the Owners and informing them of the name of the person or persons to whom such an assignment, transferm or subletting is to be made, and of the address to which such person or persons may be directed as herein provided.

All notices and demands herein provided for shall be deemed to be given and made if deposited in U. S. Post Office, registered, and postage fully paid and directed to address as herein after provided below.

IN WITNESS HEREOF, The Parties hereto have set their hands and seals the day and year first above written.

G. Crawford Box 275 Bishop, Calif.
G.Crawford Address

Jessie Crawford
Jessie Crawford (His wife)

OWNERS

Sterling Carter Murphys, Calif.
Sterling Carter Address

LESSEE

LUCY M. ABRIBAT
PUBLIC STENOGRAPHER
NOTARY
BISHOP, CALIFORNIA

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Bishop, California

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W I T N E S S E T H :

That in consideration of rents, royalties, payments, covenants and agreements hereinafter set forth on the part of the Lessee to be paid, kept and performed, the Owners have let, optioned, demised and leased, and by these presents do lease, option, demise and let unto the Lessee all those certain unpatented mining claims in Round Valley Mining District, in the County of Inyo, State of California, and particularly described as follows:

HECO No.1 HECO No. 2 HECO No. 3 and HECO No. 4	All situated in Round Valley Mining District,

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Orig - Unsigned

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G. Crawford Address

Jessie Crawford (His wife)

OWNERS

Sterling Carter Address

Lessee