1. Lease dated June 25, 1943
H. O. Johanson one Tower,

DMA-1[illegible]xx, Brownstone Mine
Inyo County, California
(tungsten)

Method of Exploration

Exploration of the Brownstone mine by means of diamond drilling as proposed by the applicant has been questioned by the Tungsten Committee as the most practical method of exploration, and the question referred to me for an opinion. Presumably the committee has in mind exploration by extending the adit and by raising. The accompanying plate should serve to bring out the numerous difficulties of using either method. Neither method of exploration has any great advantage over the other, but in my opinion the greater flexibility possible in diamond drilling, and the fact that downward exploration is feasible, makes diamond drilling the preferred method.

The main objections to diamond drilling are that it will be difficult to keep the borings in the plane of the ore body, the borings will pass through aplite and pegmatite dikes for considerable parts of their lengths and may miss important segments of ore, the borings may be deflected from their courses, especially by the dikes, and the results of the drilling may be subject to more than one interpretation. On the other hand, level workings and raises will pass through dikes for equivalent distances, the cost will be greater, and the difficulty and expense of sinking virtually precludes downward exploration of the ore body. If the tactite in the face of the adit contained enough scheelite to constitute ore, extension of the drift would seem a reasonable step, but little scheelite is evident in the face and in the few feet of the drift east of the easternmost raise.

Paul C. Bateman
U. S. Geological Survey

DMA-1456x, Brownstone Mine
Inyo County, California
(tungsten)

Review of Cost Estimates

I think at least $5,000.00 can be lopped off the cost estimate, or made a contingent fund for possible additional diamond drilling. Following are a few random thoughts about costs: Diamond drilling here costs about $5.00 per foot, but some contracts are as low as $4.00. According to my information, this includes the diamond driller and one helper. Mr. Johanson, part owner and former operator of the mine, tells me that there is no need for a man at the upper tram terminal. The driller or his assistant can easily take care of the simple operation at the upper end. Mr. Johanson also says that a man who operated the lower end of the tram is available at about $14.00 per day--say $100 per week. The tram was operated briefly a couple of weeks ago and is ready to operate now, although it is possible some small repairs may be desirable. Saddle horses can be hired from the pack station near the lower tram terminal. The tourist rate is $5.00 per day per animal. No horse sitter is necessary. Mr. Johanson proposes charging a rental of $50.00 per day for his compressor at the mine, a possible additional expense not listed by the applicant. A tent and cooking equipment would probably be a needless expense. The lower tram terminal is only a half-hour by car from Bishop, and there is little chance that the men will want to live in a tent. Perhaps a pickup is necessary, but $1,000.00 seems to me an overcharge for 6 weeks' rental. Undoubtedly money would be saved by keeping an engineer or geologist with the diamond drill to log the cores and direct the drilling, but $1,000.00 for 4 trips by Heron seems excessive. Probably only 2 trips would be necessary in the 4 to 6 weeks it would take to complete the drilling. Unless there are serious difficulties, 4 weeks should be adequate time for the job, and 6 weeks should be considered a maximum.

Paul C. Bateman
U. S. Geological Survey

400

MAY 21 1952

Mr. H. A. Batchelor
569 North Rossmore
Los Angeles 4, California

Re: Docket No. DMA 1456 - Tungsten
Brownstone Mine
Inyo County, California

Dear Mr. Batchelor:

Thank you for your letter of May 14, 1952, in which you inform us that it might be just as well that the subject application be placed in our inactive file.

We have removed the docket from our active file and now consider the matter closed.

Sincerely yours,

C. O. Mittendorf

Acting Administrator
Defense Minerals Exploration
Administration

GCSelfridge:ls
5/20/52

Copy to: Docket
Admn. Reading File
Field Team, Region 3
G. C. Selfridge
D. M. Lemmon, USGS
R. W. Geehan, USBM

402

MAY 8 1952

Mr. N. A. Batchelor
659 North Rossmore
Los Angeles 4, California

Re: Docket No. DMA 1456 - Tungsten
Brownstone Mine
Inyo County, California

Dear Mr. Batchelor:

Review of the subject docket indicates that we now have been waiting six months since your letter of October 30, 1951, in which you requested Mr. Miller to keep the docket in good standing for a short while longer until you were able to secure the landlord's subordination agreement. We wrote you on February 14, 1952, concerning the agreement and asked you to advise us as to the progress in this matter. To date we have not had an answer to our letter.

We wish to cooperate with you in the matter of allowing ample time, but if the needed subordination agreement has not been received by June 1, 1952, we will then remove your application from the active file and consider the matter closed.

Sincerely yours,

C. O. Mittendorf

Acting Administrator
Defense Minerals Exploration
Administration

GCSelfridge:ls
5/5/52

cc: Admn. Reading File
Docket
G. C. Selfridge
Field Team, Region 3
R. W. Geehan, USBM
D. M. Lemmon, USGS

FEB 14 1952

Mr. K. A. Batchelor
659 North Rossmore
Los Angeles 4, California

Re: Docket No. DMA 1456X - Tungsten
Brownstone Mine
Inyo County, California

Dear Mr. Batchelor:

Our files show that your application has been awaiting receipt from you of the Landlord's Subordination Agreement since October 30, 1951. Please advise as to progress in this instance as processing of this application has been held in abeyance pending receipt of the requested form.

If you do not wish or are unable to continue with your application, please so inform us and we shall remove it from the active files and consider the matter closed.

Sincerely yours,

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

CLBrewer:GCSelfridge:ls
2/13/52

Copy to: Admn. Reading File
Docket
R. W. Geehan, USBM
D. M. Lemmon, USGS
Field Team, Region III
G. C. Selfridge
C. L. Brewer

August 7, 1953

Mr. Thomas W. LeSage
LeSage & Bowman
522 Parkway Building
Pasadena 1, California

Dear Mr. LeSage:

This confirms your calls by telephone of August 4 and 6 with reference to the status of the access road application of the Brownstone Mining Company near Bishop, California.

On July 30, the Bureau of Public Roads forwarded to us their report of investigation for 1.5 miles of access road to the Brownstone Mine including an estimated cost of $20,000.

Access road funds recently made available by The Congress for fiscal 1954 provide for only about 22% of the total cost of such projects already certified to the Bureau of Public Roads. It is the policy of the Bureau of Public Roads to immediately apply available funds to the highest priority jobs that have accumulated in their backlog of certified and unprogramed projects and, therefore, all funds have been allocated. It is possible that The Congress will provide supplemental access road funds for fiscal 1954.

In order for us to certify your application to the Bureau of Public Roads we need the following information:

1. The tonnage of assured and probable ore reserves you have blocked out including WO_3 and the method by which you arrived at these figures. In the event you have an engineer's report covering the calculation of the reserves or a recent report by the California State Bureau of Mines, it would be helpful. So far as we know the Geological Survey or the Bureau of Mines have made no recent reports on the Brownstone. If available, include a map indicating the ore reserves.

2. A listing of your monthly shipments of ore since October 13, 1952, showing dry weight, percent WO_3 and dollar value.

3. Plan and extent for increasing production.

4. Number of shifts operating the mine and number of men employed daily at the mine.

5. Your application gives the capacity of the tram as 50 tons per day while the report from the Bureau of Public Roads states the capacity as 75 tons per day. Please advise the maximum daily capacity of the tram.

Any other information which you believe to be applicable will be appreciated.

Very truly yours,

Geo. H. Roll, Acting Director
Mining Requirements Division

400

FILE COPY
SURNAME:

Selfridge

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

MAY 21 1952

Mr. H. A. Batchelor
569 North Rossmore
Los Angeles 4, California

Re: Docket No. DMA 1456 - Tungsten
Brownstone Mine
Inyo County, California

Dear Mr. Batchelor:

Thank you for your letter of May 14, 1952, in which you inform us that it might be just as well that the subject application be placed in our inactive file.

We have removed the docket from our active file and now consider the matter closed.

Sincerely yours,

cc

C. O. Mittendorf (fw) 5-21

Acting Administrator
Defense Minerals Exploration
Administration

GCSelfridge:ls
5/20/52

Copy to: Docket
Admn. Reading File
Field Team, Region 3
G. C. Selfridge
D. M. Lemmon, USGS
R. W. Geehan, USBM

H. A. BATCHELOR
569 NORTH ROSSMORE
LOS ANGELES 4, CALIFORNIA

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 16 1952

May 14, 1952

Defense Minerals Administration
Washington 25, D. C.

Re: Docket No. 1456X - Tungsten
Brownstone Mine
Inyo County, California

Gentlemen:

The tremendous amount of snow in the Pine Creek area has apparently destroyed the tramway which is essential in working the above mine. The cost of replacing the tram would put a different light upon this situation, and untill we are able to get in to the property (probably late June) I think that this application might as well be placed on your inactive list.

I advised your San Francisco office of this situation when I was in that city last week.

Thanking you for your patience and courtesy in this matter, I remain,

Very truly,

H. A. Batchelor

H. A. Batchelor

FILE COPY
SURNAME:

Selfridge

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

Mr. H. A. Batcheler
1959 North Rossmore
Los Angeles 4, California

MAY 8 1952

Re: Docket No. DMA 1456X - Tungsten
Brownstone Mine
Inyo County, California

Dear Mr. Batcheler:

Review of the subject docket indicates that we now have been waiting six months since your letter of October 30, 1951, in which you requested Mr. Miller to keep the docket in good standing for a short while longer until you were able to secure the landlord's subordination agreement. We wrote you on February 14, 1952, concerning the agreement and asked you to advise us as to the progress in this matter. To date we have not had an answer to our letter.

We wish to cooperate with you in the matter of allowing ample time, but if the needed subordination agreement has not been received by June 1, 1952, we will then remove your application from the active file and consider the matter closed.

Sincerely yours,

C. O. Mittendorf (for)

Acting Administrator
Defense Minerals Exploration
Administration

GCSelfridge:ls
5/5/52

cc: Admn. Reading File
Docket
G. C.Selfridge
Field Team, Region 3
R. W. Geehan, USBM
D. M. Lemmon, USGS

5/1/52

Mr. Selfridge:

Re: DMA 146

Mr. Miller in Nov. 1951 said it looked doubtful that applicant could get LL forms.

In early February 1952 we asked applicant if he wants to continue application or close it. No reply has been received. Shall I write a letter of follow-up to applicant or send him one saying we conclude due to the lapse of several months' time that he can't secure the LL forms and are accordingly closing his docket?

ls

June 1

ok remind in another month.

FILE COPY
SURNAME:

Brewer
Selfridge
Mitt

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

FEB 14 1952

Mr. H. A. Batchelor
659 North Rossmore
Los Angeles 4, California

Re: Docket No. DMA 1456X - Tungsten
Brownstone Mine
Inyo County, California

Dear Mr. Batchelor:

Our files show that your application has been awaiting receipt from you of the Landlord's Subordination Agreement since October 30, 1951. Please advise as to progress in this instance as processing of this application has been held in abeyance pending receipt of the requested form.

If you do not wish or are unable to continue with your application, please so inform us and we shall remove it from the active files and consider the matter closed.

Sincerely yours,

George C. Selfridge

G.C.S. 2-14-52

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

QLBrewer:GCSelfridge:ls
2/13/52

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

Can't get auto-dun
apron from owner.
Wish that Docket
be kept open.
HH

E OF THE ADMINISTRATOR

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

DEPARTMENT OF THE INTERIOR
RECEIVED
DEC 5 1951
Defense Minerals Administration,
Production Expansion Division.

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

Office of
Executive Officer
DMA Field Team
Region III

November 1, 1951

Memorandum

To: George B. Holderer, Chief, Tungsten Branch, Defense Minerals Administration, Washington, D. C.

From: Executive Officer, DMA Field Team, Region III

Subject: DMA-1456X (Tungsten) - Brownstone Mine, Inyo County, California - H. A. Batchelor

For your attention I am attaching a copy of a letter received in this office on October 31, concerning the difficulty the subject applicant is having in getting the Landlord's Subordination Agreement signed in time for any work to be commenced at the Brownstone mine this year.

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

Attachment

Copy to: E. H. Bailey, USGS

OFFICIAL FILE COPY

To		Date

DEFENSE MINERALS
ADMINISTRATION
WASHINGTON, D.C.
Nov 20 1 27 PM '51

C
O
P
Y

H. A. BATCHELOR
569 North Rossmore
Los Angeles 4, California

October 30, 1951

U. S. Department of the Interior
Defense Minerals Administration
1012 Flood Building
870 Market Street
San Francisco 2, California

Re: Docket DMA - 1456X, Tungsten

Attention: Mr. H. C. Miller

Gentlemen:

The attorney for the El Diablo Mining Company which holds the Brownstone Lease, advises me that he sees no chance of getting the Landlord's Subordination Agreement signed in time for any work to be commenced this year; in fact, he seems rather pessimistic about the entire situation.

However, I am hopeful that we shall be able to work out a satisfactory solution to this problem over the next few weeks and would appreciate your kindness in keeping this particular docket in good standing for a short while longer.

I deeply appreciate your kindness and patience in this matter.

Very sincerely yours,

/s/ H. A. Batchelor

H. A. Batchelor

HAB:ld

OFFICE OF THE ADMINISTRATOR

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

Office of
Executive Officer
DMA Field Team
Region III

1012 Flood Bldg.
870 Market St.
San Francisco 2, Calif.

October 30, 1951

Memorandum

To: George B. Holderer, Chief, Tungsten Branch, Defense Minerals Administration, Washington, D. C.

From: Executive Officer, DMA Field Team, Region III

Subject: DMA-1456X (Tungsten) - Brownstone Mine, Inyo County, Calif.-H. A. Batchelor

In order that your records may be complete, we are returning herewith subject docket forwarded to us with Mr. Lyon's letter dated September 14. This docket should have accompanied our memorandum of October 23 addressed to you.

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

Attachment

OFFICIAL FILE COPY

NOV 5 1951

List of File to Miller

DMA-1456 X Tungsten
H. A. Batchelor

1. 1 Form MF-103 with attachments
2. 1 Report by Bateman on application with map
3. 1 Print map with applicant's hole layout
4. 1 Copy letter Lyon to Miller 7/9/51
5. 1 Copy letter to Holderer to Batchelor 8/14/51
6. 1 Letter to Batchelor to DMA 9/4/51

9/10/51

OFFICE OF THE ADMINISTRATOR

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS ADMINISTRATION

WASHINGTON 25, D. C.

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

Office of
Executive Officer
DMA Field Team
Region III

DEPARTMENT OF THE INTERIOR
RECEIVED
DEC 3 1951
Defense Minerals Administration,
Production Expansion Division.

October 23, 1951

Memorandum

To: George B. Holderer, Chief, Tungsten Branch, Defense Minerals Administration, Washington, D. C.

From: Executive Officer, DMA Field Team, Region III

Subject: DMA-1456X (Tungsten) - Brownstone Mine, Inyo County, California - H. A. Batchelor.

Reference is made to your letter dated August 14 to Mr. Batchelor in which you requested certain information from him. Mr. Batchelor and I have corresponded considerably on matters concerning his loan application, and on October 17 he called at the office for the second time to present his program and costs.

Attached are four copies of an itemized estimate of the cost of the proposed project, together with four copies of a map showing the locations of the proposed diamond drill holes.

The location of the proposed 200-foot drift from the end of the adit is not shown on the map. It is, however, to be run in a general southeast direction, approximately along the line of diamond drill hole D-1. Mr. Batchelor's engineer suggested the need for this drift when Dwight Lemon and Paul Bateman of the Geological Survey visited the property a couple of weeks ago so that Mr. Lemon is familiar with the reason for the drift and its possible justification.

Mr. Batchelor told me that he has arranged for an extension of his option and that he will send me six copies of the new option, six copies of the Landlord's Subordination Agreement, and six copies of the diamond drilling contract. To date these have not arrived, but they will be forwarded to you as soon as they do.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 29 1951

Mr. Batchelor is desirous of completing as much work under an exploration loan contract as can be done this Fall. There is a possibility that his crew may not be snowed out until late December, but there is nothing sure about when snow fall may cause operations to cease. If the work is not completed this Fall, it will be some time around May 15 before they can be resumed. Some haste in bringing the operation to final conclusion, therefore, is desirable.

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

Attachments

Copy to: E. H. Bailey, USGS

Brownstone Mine
Inyo County, Calif.
DMA-1456X, Tungsten

ESTIMATED COST OF PROJECT

1500 ft. diamond drilling at $6.00 per foot (contract). Includes man to operate tramway, man to tend horses, etc., in fact, everything except the following:	$	9,000
Engineer, $500 per month - 2 months		1,000
Rental of tram from owners of property $100 per month. Two months. Value of tram $40,000.		200
Rental of compressor $450 per month, 2 months. Compressor being rented from owners of property at above rental. Compressor is a 315 cubic foot Diesel driven machine. Cost of operating the compressor including diesel oil, lubricating oil, etc. is included in the $6 per foot diamond drilling figure.		900
Assays, sampling, etc.		500
Transportation for engineer to and from Bishop to mine, 20 miles each way at 8 cents per mile, 60 days		192
Drifting 200 ft. from end of adit in a southeast direction if ore is found in diamond drill hold D-1. Drift would explore since ground not touched by diamond drill holes (Contract job) $35 per foot 1/		7,000
Sampling and assaying drift samples		200
Total	$	18,992

1/ Contract cost includes all incidental items.

Bryanstone Mine
Inyo County, Calif.
[illegible], Tungsten

ESTIMATED COST OF PROJECT

1500 ft. diamond drilling at $6.00 per foot (contract). Includes man to operate tramway, man to tend horses, etc., in fact, everything except the followings	$ 9,000
Engineer, $500 per month - 2 months	1,000
Rental of tram from owners of property $100 per month. Two months. Value of tram $40,000.	200
Rental of compressor $450 per month, 7 months. Compressor being rented from owners of property at above rental. Compressor is a 315 cubic feet Diesel driven machine. Cost of operating the compressor including diesel oil, lubricating oil, etc. is included in the $6 per foot diamond drilling figure.	[illegible]
Assays, sampling, etc.	500
Transportation for engineer to and from Bishop to mine, 20 miles each way at 8 cents per mile, 60 days	192
Drifting 200 ft. from end of adit in a southeast direction if ore is found in diamond drill hold D-1. Drift would explore virgin ground not touched by diamond drill holes (Contract job) $35 per foot. 1/	7,000
Sampling and assaying drift samples	200
Total	$ 18,[illegible]

1/ Contract cost includes all incidental items.

Bronstone Mine
Inyo County, Calif.
[illegible], Tungsten

ESTIMATED COST OF PROJECT

1500 ft. diamond drilling at $6.00 per foot (contract). Includes men to operate tramway, men to tend hoisting, etc., in fact, everything except the followings	$ 9,000
Engineer, $500 per month - 2 months	1,000
Rental of tram from owners of property $100 per month. Two months. Value of tram $40,000.	200
Rental of compressor $450 per month, 2 months. Compressor being rented from owners of property at above rental. Compressor is a 315 cubic foot Diesel driven machine. Cost of operating the compressor including diesel oil, lubricating oil, etc. is included in the $6 per foot diamond drilling figure.	900
Assays, sampling, etc.	300
Transportation for engineer to and from Bishop to mine, 20 miles each way at 8 cents per mile, 60 days	192
Drifting 200 ft. from end of adit in a southeast direction if ore is found in diamond drill hole #4. Drift would explore zinc ground not touched by diamond drill holes (Contract job) $35 per foot 1/	7,000
Sampling and assaying drift samples	300
Total	$ 18,892

1/ Contract cost including all incidental items.

Brownstone Mine
Inyo County, Calif.
Scheelite, Tungsten

ESTIMATED COST OF PROJECT

1500 ft. diamond drilling at $6.00 per foot (contract). Includes man to operate tunnel, man to tend hoists, etc., in fact, everything except the following:	$ 9,000
Engineer, $500 per month - 2 months	1,000
Rental of team from owners of property $100 per month. Two months. Value of team $[illegible].	200
Rental of compressor $450 per month, 2 months. Compressor being rented from owners of property at above rental. Compressor is a 335 cubic foot Diesel driven machine. Cost of operating the compressor including diesel oil, lubricating oil, etc. is included in the $6 per foot diamond drilling figure.	900
Assays, sampling, etc.	500
Transportation for engineer to and from Bishop to mine, 20 miles each way at 8 cents per mile, 60 days	192
Drifting 200 ft. from end of adit in a southeast direction if ore is found in diamond drill hold holes. Drift would explore mines ground not touched by diamond drill holes (Contract job) $35 per foot 1/	7,000
Sampling and assaying drift samples	200
Total	$ 18,992

1/ Contract cost including all incidental items.

340 FILE COPY
SURNAME:

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

Holderer
Ballard

AIR MAIL

SEP 14

G.E.S.

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

In reply please refer to
DMA-1456 Tungsten

Dear Mr. Miller:

We are returning part of the subject docket to you with the request that you prepare the necessary contract forms for Mr. Batchelor, H.A.

We wrote Mr. Batchelor on August 14 for additional information and enclose the map with the proposed drill holes. An ideal exploration program is not possible under the difficult topographic conditions, and the drill hole layouts may be alright. However, it appears that one hole might serve for the two "A" and "B" - 45° holes shown on the map. We leave this to your judgement.

There are some other items that will need clarification in the various exhibits to go with the contract.

Very truly yours,

SIGNED BJ 9/14

Tom Lyon, Director
Supply Division

Enclosure

TJBallard:ec
Sept. 10, 1951

CC: Adm. Reading File
Reports and Records Unit
Field Team, Region III
Mr. Holderer
Mr. Batchelor

List of File to Miller

DMA-1456 X Tungsten
H. A. Batchelor

1. 1 Form MF-103 with attachments
2. 1 Report by Bateman on application with map
3. 1 Print map with applicant's hole layout
4. 1 Copy letter Lyon to Miller 7/9/51
5. 1 Copy letter to Holderer to Batchelor 8/14/51
6. 1 Letter to Batchelor to DMA 9/4/51

9/10/51

340

H. A. BATCHELOR
569 North Rossmore
Los Angeles 4, California

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 6-1951

September 4, 1951

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

Re: DMA 1456X Tungsten

Gentlemen:

I enclose the map mailed me on August 14 on which Mr. Heron has indicated in orange the location of the proposed drill holes.

Hole A will dip at 45°
" B " " " 45°
" C " be horizontal
" D " " pointed upward at about 60° depending upon slope of the cliff surface.
Hole C & D will probably be 400 to 500 feet in length.

Regarding my estimate of expenses. It is entirely probable that truck rental, the cost of horses, etc., will fall considerably under the indicated figures although these items are all essential to the operation. The estimate for engineering is not too high as competent supervision at all times during the drilling is imperative.

Neither Mr. Heron nor myself is prone to spend money needlessly and my share of whatever funds may be necessary will be provided promptly and without question. The work will be done under Mr. Heron's direction and it is his opinion that an excellent chance exists for the development of really big tonnage in this operation and this, within a few hundred yards of the United States Vanadium plant so large trucking costs, etc., will be unnecessary.

I am convinced that this operation merits your consideration but if anything is to be accomplished this year, we must get our equipment on the ground before cold weather interferes.

Yours very sincerely,

H. A. Batchelor

HAB:AC

DMA Docket File

340
FILE COPY
SURNAME:

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

Holderer
Ballard

AUG 14 1951

Mr. E. A. Batchelor
569 North Rossmore
Los Angeles 4, California

In reply please refer to
DMA 1456X Tungsten

Dear Mr. Batchelor:

The following additional information is needed in connection with your application for an exploration loan:

21 - Please show the locations of your proposed drill holes on the enclosed map.

23 - Please show the costs as requested under the different exhibits (a),(b),(c),etc. The costs for a six weeks or two months program appear excessive, for example:

Pick-up truck rental	$1,000
Saddle horses and feed	1,000
Tent and cooking equipment	750
Three laborers	1,600
Engineering costs	1,800
Insurance	1,000
Miscellaneous	1,000

We realize that ideal positions for drilling can not be obtained under such difficult topographic conditions, but we are unable to determine clearly your hole locations from the description given.

Very truly yours,

George B. Holderer

8/14 cc

George B. Holderer
Chief, Tungsten Branch

TJBallard:bl

CC: Adm. Reading File
Reports & Records Unit
Mr. Holderer
Files

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

AUG 14 1951

Mr. E. A. Batchelor
569 North Rossmore
Los Angeles 4, California

In reply please refer to
DMA 1456X Tungsten

Dear Mr. Batchelor:

The following additional information is needed in connection with your application for an exploration loan:

21 - Please show the locations of your proposed drill holes on the enclosed map.

23 - Please show the costs as requested under the different exhibits (a),(b),(c),etc. The costs for a six weeks or two months program appear excessive, for example:

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Saddle horses and feed	1,000
Tent and cooking equipment	750
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Engineering costs	1,800
Insurance	1,000
Miscellaneous	1,000

We realize that ideal positions for drilling can not be obtained under such difficult topographic conditions, but we are unable to determine clearly your hole locations from the description given.

Very truly yours,

George B. Holderer

George B. Holderer
Chief, Tungsten Branch

TJBallard:bl

CC: Adm. Reading File
Reports & Records Unit
Mr. Holderer
Files

UNITED STATES
DEPARTMENT OF THE INTERIOR

~~BUREAU OF MINES~~
~~REGION XXXX~~
DEFENSE MINERALS ADMINISTRATION

~~OFFICE OF~~
~~REGIONAL DIRECTOR~~
Office of
Executive Officer
DMA Field Team
Region III

~~MC APPRAISERS BLDG~~
~~631 SANSOME STREET~~
~~SAN FRANCISCO 11, CALIF.~~
1012 Flood Building
870 Market Street
San Francisco 2, Calif.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG 6 1951

August 2, 1951

Memorandum

Gave Lemmon Copy 8/10/51

To: Tom Lyon, Chairman, Coordinating Committee, Defense Minerals Administration, Washington 25, D. C.

From: Executive Officer, DMA Field Team, Region III

Subject: Docket DMA-1456-X - Tungsten

Reference is to your subject letter to me, dated July 9. Attached are statements prepared by Mr. Paul C. Bateman of the Geological Survey, in reply to your request for data concerning method and costs of exploration proposed in subject docket at the Brownstone Tungsten claims, Inyo County, California. Also attached are four copies of a geologic map of the mine area that will be helpful in judging the best method for exploring the property.

Mr. Bateman agrees with the applicant that diamond drilling should be preferred over mining exploration, but he believes the work proposed can be accomplished for about $5000 less than the $20,000 requested by the applicant.

Mr. Bateman passed on to Mr. Bailey of the Geological Survey some additional information which he obtained from a source that he did not want to quote. The information may be of some value in your consideration of applicant's proposal. A local diamond-drilling firm has offered to drill the property for $4 a foot. In connection with the rental of a compressor, only the usual fee for use of such equipment will be made ($50 per day has been proposed), and that will include the wages of the man to operate the compressor who operates the tram at the lower terminal.

Subject docket is being returned herewith.

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

Attachment

Copy to: E. H. Bailey (w/o attachment)

DMA 1456x Brownstone Mine
Inyo County, California
(tungsten)

Method of Exploration

Exploration of the Brownstone mine by means of diamond drilling as proposed by the applicant has been questioned by the Tungsten Committee as the most practical method of exploration, and the question referred to me for an opinion. Presumably the committee has in mind exploration by extending the adit and by raising. The accompanying plate should serve to bring out the numerous difficulties of using either method. Neither method of exploration has any great advantage over the other, but in my opinion the greater flexibility possible in diamond drilling, and the fact that downward exploration is feasible, makes diamond drilling the preferred method.

The main objections to diamond drilling are that it will be difficult to keep the borings in the plane of the ore body, the borings will pass through aplite and pegmatite dikes for considerable parts of their lengths and may miss important segments of ore, the borings may be deflected from their courses, especially by the dikes, and the results of the drilling may be subject to more than one interpretation. On the other hand, level workings and raises will pass through dikes for equivalent distances, the cost will be greater, and the difficulty and expense of sinking virtually precludes downward exploration of the ore body. If the tactite in the face of the adit contained enough scheelite to constitute ore,extension of the drift would seem a reasonable step, but little scheelite is evident in the face and in the few feet of the drift east of the easternmost raise.

DMA-1456x, Brownstone Mine
Inyo County, California
(tungsten)

Review of Cost Estimates

I think at least $5,000.00 can be lopped off the cost estimate, or made a contingent fund for possible additional diamond drilling. Following are a few random thoughts about costs: Diamond drilling here costs about $5.00 per foot, but some contracts are as low as $4.00. According to my information, this includes the diamond driller and one helper. Mr. Johanson, part owner and former operator of the mine, tells me that there is no need for a man at the upper tram terminal. The driller or his assistant can easily take care of the simple operation at the upper end. Mr. Johanson also says that a man who operated the lower end of the tram is available at about $14.00 per day--say $100 per week. The tram was operated briefly a couple of weeks ago and is ready to operate now, although it is possible some small repairs may be desirable. Saddle horses can be hired from the pack station near the lower tram terminal. The tourist rate is $5.00 per day per animal. No horse sitter is necessary. Mr. Johanson proposes charging a rental of $50.00 per day for his compressor at the mine, a possible additional expense not listed by the applicant. A tent and cooking equipment would probably be a needless expense. The lower tram terminal is only a half-hour by car from Bishop, and there is little chance that the men will want to live in a tent. Perhaps a pickup is necessary, but $1,000.00 seems to me an overcharge for 6 weeks' rental. Undoubtedly money would be saved by keeping an engineer or geologist with the diamond drill to log the cores and direct the drilling, but $1,000.00 for 4 trips by Heron seems excessive. Probably only 2 trips would be necessary in the 4 to 6 weeks it would take to complete the drilling. Unless there are serious difficulties, 4 weeks should be adequate time for the job, and 6 weeks should be considered a maximum.

Paul C. Bateman
U. S. Geological Survey

Mr. Bateman says he has considerable confidence in Mr. Johanson & is sure he will give a fair deal in the matter with which he is concerned. WEW.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

102 Old Mint Building
San Francisco 3, California

July 27, 1951

Subject: DMA 1456x, Tungsten

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG 6 1951

Mr. H. C. Miller
U. S. Bureau of Mines
1012 Flood Building
San Francisco 3, California

Dear Mr. Miller:

Enclosed are statements prepared by Paul C. Bateman of the Geological Survey in reply to Tom Lyon's request for data regarding method and costs of exploration proposed in DMA-1456x, Brownstone Tungsten claims, Inyo County, California. Also enclosed are five copies of a geologic map of the mine area that will be useful in judging the best method for exploring the property.

Mr. Bateman agrees with the applicant that diamond drilling is to be preferred over mining exploration, but he believes the work proposed can be accomplished for about $5000 less than the $20,000 requested by the applicant.

Sincerely yours,

Edgar H. Bailey

Enclosures

Method of Exploration

Exploration of the Brownstone mine by means of diamond drilling as proposed by the applicant has been questioned by the Tungsten Committee as the most practical method of exploration, and the question referred to me for an opinion. Presumably the committee has in mind exploration by extending the adit and by raising. The accompanying plate should serve to bring out the numerous difficulties of using either method. Neither method of exploration has any great advantage over the other, but in my opinion the greater flexibility possible in diamond drilling, and the fact that downward exploration is feasible, makes diamond drilling the preferred method.

The main objections to diamond drilling are that it will be difficult to keep the borings in the plane of the ore body, the borings will pass through aplite and pegmatite dikes for considerable parts of their lengths and may miss important segments of ore, the borings may be deflected from their courses, especially by the dikes, and the results of the drilling may be subject to more than one interpretation. On the other hand, level workings and raises will pass through dikes for equivalent distances, the cost will be greater, and the difficulty and expense of sinking virtually precludes downward exploration of the ore body. If the tactite in the face of the adit contained enough scheelite to constitute ore, extension of the drift would seem a reasonable step, but little scheelite is evident in the face and in the few feet of the drift east of the easternmost raise.

Paul G. Bateman
U. S. Geological Survey

DMA-1456x, Brownstone Mine
Inyo County, California
(tungsten)

Review of Cost Estimates

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Paul C. Bateman
U. S. Geological Survey

Fri

FILE COPY
SURNAME:

Holden
Lemmon/H

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

July 9, 1951

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

In reply please refer to
DMA-1456I Tungsten

Dear Mr. Miller:

Our review of Mr. Batchelor's application for an exploration project costing $20,000.00 at the Brownstone Tungsten Claims, Inyo County, California suggests that the costs are excessive for the work proposed, and that diamond drilling is not the best way of exploring the property, inasmuch as mining equipment is on the site ready for use.

The deposit apparently has possibilities of contributing a moderate tonnage of tungsten ore to the Pine Creek mill. Any reasonable proposal would be given favorable consideration here.

Discussion with Paul Bateman of the Geological Survey and with the applicant may be all that is necessary to obtain information on which you can base your advice to us.

The docket is enclosed.

Sincerely yours,

Tom Lyon

Tom Lyon
Chairman, Coordinating Committee

Enclosure

Approved:

DMLemmon:bl

CC: Adm. Reading File
Mr. Holderer
Mr. Strobel
Field Team - Region III
Coordinating Committee
Mr. Lemmon
Files

Bureau of Mines

Mr Knight
Geological Survey

FILE COPY
SURNAME:

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

Holoen
Lemmon
McKnight per
Rose

July 5, 1951

Mr. H. A. Batchelor
569 North Kenmore
Los Angeles 4, California

In reply please refer to
DMA-14561 Tungsten

Not stripped in R. R.

Dear Mr. Batchelor:

We have reviewed your application for an exploration project of $20,000.00 to diamond drill the Brownstone Tungsten Claims, Pine Creek, Inyo County, California. We believe the costs of the proposed project are excessive for the work planned, and we are not convinced that diamond drilling is the most practical method of exploring the ore body.

Therefore, we have referred the proposal to Mr. H. C. Miller, Executive Officer, DMA Field Team, Region III, 1012 Flood Building, 870 Market Street, San Francisco, California, and have requested him to review the proposal.

Sincerely yours,

Tom Lyon

Tom Lyon
Director, Supply Division

DMLemmon:bl

CC: Adm. Reading File
Mr. Strobel
Mr. Holderer
Regional Field Team - Region III
Mr. Lemmon
Files

July 6, 1951

Index of file sent to Dick L. Dean.

DMA-1456 Tungsten
Pine Creek District
Inyo County, California

2 Copies application attached to form MF-103
Exhibits included.

To	Noted	Date
Answered		

DEPARTMENT OF INTERIOR
BUREAU OF MINES
REGION III
RECEIVED
JUL 11 1951
SAN FRANCISCO, CALIFORNIA

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

A. E. C.

July 5, 1951

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

In reply please refer to
DMA-1456I Tungsten

Dear Mr. Miller:

H. a.

Our review of Mr. Batchelor's application for an exploration project costing $20,000.00 at the Brownstone Tungsten Claims, Inyo County, California suggests that the costs are excessive for the work proposed, and that diamond drilling is not the best way of exploring the property, inasmuch as mining equipment is on the site ready for use.

The deposit apparently has possibilities of contributing a moderate tonnage of tungsten ore to the Pine Creek mill. Any reasonable proposal would be given favorable consideration here.

Discussion with Paul Bateman of the Geological Survey and with the applicant may be all that is necessary to obtain information on which you can base your advice to us.

The docket is enclosed.

Sincerely yours,

Tom Lyon

Tom Lyon
Chairman, Coordinating Committee

Enclosure

Approved:

E. Moon

Bureau of Mines

W Knight

Geological Survey

DMLemmon:bl

CC: Adm. Reading File
Mr. Holderer
Mr. Strobel
Field Team - Region III
Coordinating Committee
Mr. Lemmon
Files

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

July 5, 1951

Mr. H. A. Batchelor
369 North Rossmore
Los Angeles 4, California

In reply please refer to
DMA-1456X Tungsten

Dear Mr. Batchelor:

We have reviewed your application for an exploration project of $20,000.00 to diamond drill the Brownstone Tungsten Claims, Pine Creek, Inyo County, California. We believe the costs of the proposed project are excessive for the work planned, and we are not convinced that diamond drilling is the most practical method of exploring the ore body.

Therefore, we have referred the proposal to Mr. H. C. Miller, Executive Officer, DMA Field Team, Region III, 1012 Flood Building, 870 Market Street, San Francisco, California, and have requested him to review the proposal.

Sincerely yours,

Tom Lyon
Director, Supply Division

DMLemmon:bl

CC: Adm. Reading File
Mr. Strobel
Mr. Holderer
Regional Field Team - Region III
Mr. Lemmon
Files

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

DMA 1456 X Temple

Dear Mr. Miller:

Our review of Mr Batchelor's application for an exploration project costing $20,000 at the Pinson Tungsten Claims, Inyo County, California suggests that the costs are excessive for the work proposed, and that diamond drilling is not the best way of exploring the property inasmuch as mining equipment is ~~already~~ on the site ready for use.

The deposit apparently has possibilities of contributing a moderate tonnage of tungsten ore to the Pine Creek mill. Any reasonable proposal would be given favorable consideration here.

Discussion with Paul Bateman of the Geological Survey and with the applicant may be ~~sufficient~~ all that is necessary to obtain information on which you can base your advice to us. The docket is enclosed.

Sincerely yours

Tom Lyon
Chairman, Coordinating Committee

Enclosure.

~~Approved~~

Approved

Bureau of Mines

Geological Survey

DM Lemmon
July 1, 1950

FILE COPY
SURNAME:

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

June 7, 1951

Mr. H. A. Batchelor
569 North Rossmore
Los Angeles 4, California

Subject: DMA-1456X
Re: Exploration Loan
Brownstone No. 1, 2,
Myrtle No. 1, 2,
Brownie No. 1, 2

My dear Mr. Batchelor:

Receipt is acknowledged of your application and attachments of May 25, 1951 for an exploration loan under the Defense Production Act of 1950.

The application was assigned Docket Number DMA-1456X and was referred to Mr. P. H. Bradley, Chief, Tungsten Branch on June 5, 1951.

In any future correspondence relating to your application, kindly refer to DMA-1456X.

Sincerely yours,

LANDON F. STROBEL

Landon F. Strobel
Executive Secretary

LFSTROBEL:js
cc: Strobel
√Files
Bradley
Lyon

DMA 1456

852

Call Bateman

45 750
45
300
270
35

1456-Y Brownstone

Costs are excessive.

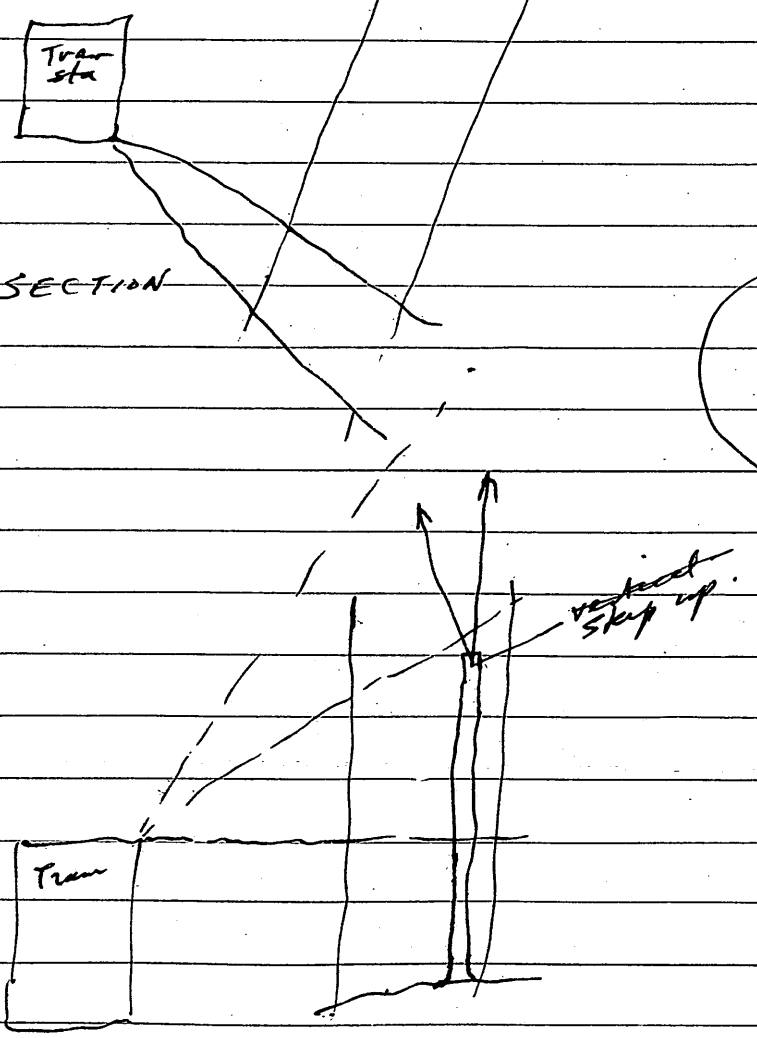
It is recommended that this application be denied. The proposed expenditures are high for the work done, and the objective is strictly to determine whether or not to take up the option. If drilling is successful, the applicant will want another $100 000 to continue development. I think that it would make more sense to start stripping one from present faces. No definite maps or statement about position and length of drill holes.

DAL.

Costs Pick expended $1,000 seems high for 6 sweaters.

Tent + Cooking gear $750 is equal to $16.66/day

Heron 12 days $1,000 Not necessary in addition to engineer



1500 ft drilling
3 holes down from tran sta
2 holes ahead of adit
2 holes step up from adit.

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.
Approval expires 6-30-51.

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

DO NOT FILL IN THIS BLOCK

Docket No. Dma-1456X

Date received 5/31/51

Participation

DEPARTMENT OF INTERIOR
BUREAU OF MINES
REGION III
RECEIVED
JUL 11 1951
SAN FRANCISCO, CALIFORNIA

H. A. Batchelor
569 North Rossmore
Los Angeles 4, California

Name and address of applicant

Date May 25, 1951

FILL IN THIS BLOCK

Date of application May 25, 1951

Estimated cost $20,000.00

Mineral or metal Tungsten

Percentage of Government participation 75%

Location of mine Pine Creek District, Inyo County, California

Date of filing MF-100 No Filing

DMA Docket Number, if available

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four signed copies of the application to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive officer thereof, with your name and address on each sheet of the application and all accompanying papers. If any question is inapplicable, or if you cannot answer it, so state on the form. Where the space provided for answer is insufficient, answer on a separate sheet, annex it to the application form, and refer to it in space for answer. If the application is approved, you will be presented with an exploration project contract on Form MF-200, for your signature.

THE APPLICANT

*1. Is applicant an individual, partnership, or corporation?
*2. If a partnership, state names and addresses of partners.
*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders.
*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project.
*5. Are you the owner or the lessee of the property?
6. If owner, state what claims, liens, or encumbrances, if any, are against the property.
7. If lessee, attach a copy of the lease and state if it is in good standing.

NOTE.—It will be necessary to procure and attach to the exploration project contract agreements of claimants, lienors, encumbrances and lessors subordinating their interests in the property to the interest of the Government under the contract.

8. Furnish current financial statement, showing assets and liabilities, and a profit and loss statement.
9. How much money is applicant prepared to invest in proposed project? Is it sufficient to pay your part of the cost of the project as detailed in question 23 of this application form, in accordance with the regulations on Government participation (Section 9 of Mineral Order 5)?

*If you have already answered these questions on MF-100, you are not required to answer the questions for this application.

16—64067-1

THE PROPERTY

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

    NOTE.—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 (*b*) 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.

*11. State the present and former names of the property, if any.

*12. State, in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distances and directions and kinds and conditions of roads.

*13. State source and quantity of water available for operations and its sufficiency at all seasons.
State amount of power to be used, rate per hour or other cost, and source.

*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work.

15. State in detail how the ore could be shipped and how and where milled.

*16. History:
    (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.
    (*b*) State briefly the known history and production of adjoining and neighboring properties.
    (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

*17. Production:
    (*a*) If mine is in production, furnish the following information:

	Tons per day	*Grade or analysis*	*Cost per ton*	*Net value per ton*
(1) Mining				
(2) Milling				
(3) Shipped or sold				

*18. Ore or mineral reserves: (If property is or has been operating.)
    (*a*) Describe the ore or mineral deposits briefly.
    (*b*) Submit available maps and assay data.
    (*c*) Give estimated tonnage and grade of each class of ore reserves.

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

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted?

21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it.

    NOTE.—The Government will not participate in a project that will require more than 2 years to complete.

22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data.

THE REQUIREMENTS AND COSTS

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:
    (*a*) Labor, by numbers and classes (miners, muckers, millmen, etc.), with wages of each.
    (*b*) Supervisors, by numbers and positions, with salaries of each.
    (*c*) Cost of necessary repairs to existing facilities, structures, and buildings.
    (*d*) Cost of necessary installation or construction of additional facilities, structures, and buildings.
    (*e*) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.
    (*f*) Cost of rental for equipment which the operator proposes to rent.
    (*g*) Rental value of items of equipment which the operator now owns and which will be devoted to the work.
    (*h*) Cost of materials and supplies, including items of equipment costing less than $50 each.
    (*i*) Cost of power, water, utilities, and any other items not provided for above.

24. Furnish a time schedule of the project, stated in terms of months after project is approved, showing progress expected to be accomplished and the money expected to be spent.

CERTIFICATION

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

(Name of company)

By [illegible] (Signature of authorized official)

26 May 1951 (Date)

(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.

*Same as footnote on page 1.

16—64067-1 U. S. GOVERNMENT PRINTING OFFICE

H. A. BATCHELOR
569 North Rossmore
Los Angeles 4, California

May 25, 1951

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

Gentlemen:

In connection with the attached Application for Aid For an Exploration Project Pursuant to Mineral Order 5, Under Defense Production Act of 1950, I believe the following facts are relevant and should be considered:

The property in question has been inspected recently and thoroughly geologized by Mr. Paul C. Bateman, U.S.G.S., 102 Old Mint Building, San Francisco 3, California. Mr. Bateman is well-acquainted with our engineer, Mr. Charles M. Heron, Mining Engineer, 465 North Segovia, San Gabriel, California. Certain maps and data supplied by Mr. Batement to the owners of the property were made available to us during our examination on May 16, 1951. We did not feel that we had authority to make copies of these maps or sketches, hence none are included with this Application but I am sure that any information Mr. Bateman has on the property in question, while not yet in published form, is already available to your office and might well be considered in passing upon this Application.

1. The Applicant for the initial loan of $15,000.00 is an individual and preliminary work under our program will be done for my account. Later work, if undertaken, will be done by a corporation to be formed.

4(a). The Applicant has been engaged in placer mining in Canada for the past four years; previous to that, has made a great number of inspection trips with Mr. Heron and investigated many mining properties and operations in Canada, the Western States and Mexico. The Applicant's business experience covers many years with New York Stock Exchange firms, the operation of a lumber business in Michigan and years of experience in real estate and building in New York and California.

4(b). The development program and future operation of this property, if any, will be under the direct supervision of Mr. Charles M. Heron, who will have with him several competent mining men with whom we have long been associated. Mr. Heron's reputation is well-known in this City, and it is his conservative enthusiasm for this property which is responsible for the present undertaking. As above mentioned, Mr. Paul C. Bateman of the U.S.G.S. is fully acquainted with Mr. Heron and his ability. Further references for Mr. Heron are as follows:

Mr. Harvey S. Mudd, Pacific Mutual Building, Los Angeles 14, Calif.

H. A. Batchelor
569 North Rossmore
Los Angeles 4, California

Mr. William C. Browning, Goldfield American Development Company, Pacific Mutual Building, Los Angeles 14, Calif.
Mr. Walter Abel, California State Corporation Commission, Mirror Building, 2nd and Spring Streets, Los Angeles 12, California
Mr. E. Ord Slater, President, Smith-Emery Co., Los Angeles, Calif.

5. An Option for Mining Lease, a copy of which is attached, covering the subject property, is at present held by Mr. Reid J. Sampson, California State Building, Los Angeles, but the Lease with Option to Purchase will be made directly to me, or my assigns, in the event my Application for Government assistance receives favorable consideration.

9. Mr. Heron estimates that the preliminary exploration of this property will cost approximately $20,000.00. I am well able to supply $5,000.00 to cover my share of such a project and will deposit a check for that amount in the Bank of America at Bishop when notified that Government assistance on the balance will be made available.

10. Description of this property is contained in the attached Option for Mining Lease. The operating property consists of a 2800 foot aerial gravity tramway extending from the mine workings to a 300-ton ore bin situated close to the U. S. Vanadium millyards. If the proposed drilling gives satisfactory results, we anticipate establishing a 15-man camp in this area and constructing a jeep road to the mine entrance. At present, a trail for horses is used and men are taken from the lower tram station to the mine on horseback. There are two compressors at the mine, together with the usual drills, tools, Power is secured from the Diesel compressor engine.

12. This property is located within a few hundred yards of the U. S. Vanadium Company mill on Pine Creek. This plant is described in great detail in the May 1951 Engineering and Mining Journal. The small building located on a flat area shown in the lower left hand corner of the picture in connection with this article is the lower tram station of the Brownstone operation.

13. Ample water for all purposes may be secured from Pine Creek which passes within a few hundred feet of the mine working and within a few hundred feet of the lower tram terminal for camp site.

15. Ore will be mined, sorted under lamps at the mine, waste discarded and ore moved over the tram to the ore bins at the lower tram terminal. At this point, it might be stockpiled as it would then be within a few yards of the U. S. Vanadium mill, or it could be moved directly into the mill for custom milling.

H. A. Batchelor
569 North Rossmore
Los Angeles 4, California

16(a). Previous operations carried on in 1946 and 1947 included construction of tramway said to have cost $50,000.00. Inspection of this tramway indicates that the value was very reasonable and that the tram could not be duplicated for that amount today. Because of the low price for tungsten ore during this period and excessive operating costs, the owners were unable to make a profit, consequently operations shut down. It might be mentioned at this point that the present owners are unable to operate the property at this time for reasons of health and the difficulty of working at that altitude.

16(b). This property is near U. S. Vanadium mine and plant; the area is fully described by U. S. G. S. publications and is considered one of the great tungsten areas in California.

16(c). Please refer to Charles M. Heron's letter to the writer. Further information regarding the property and area in question may be had from a recent geological study made by Paul C. Bateman of the U. S. G. S.

17. Mine has been idle for the past three years.

18(a). The ore occurs in a band of tactite lying between granite on the west and altered limestone on the east. These rocks, including the tactite, are cut by frequent sills and dikes of aplite obviously later than the tactite or other two rocks. The scheelite is finely and uniformly disseminated through the tactite. The tactite and aplite are so distinct that sorting before the ore is sent to the tram should be very effective. Photo No. 4 shows very clearly the size and persistence of the tactite body.

18(b). During Mr. Heron's examination of the property on May 16, 1951, we were accompanied by Mr. H. O. Johanson of Bishop, one of the owners of the property, who supervised the original operations. Mr. Johanson had copies of maps made by Mr. Paul C. Bateman of the U.S.G.S. and these were available to us. We had no permission to copy these maps and made none of our own.

There has been a very few feet of development work upon the stope. The face of the drift shows some ore. There is a raise carried a short distance above the top of the stope (perhaps 25 to 30 feet) which has passed through an aplite sill and is now in good ore, which was estimated to be of at least 1% grade.

19. The drilling of three holes pointed below the tram station and cutting the tactite zone at different depths, also one or two holes cut the zone in advance of the face of the drift, and one or two holes pointed upward at maximum angles, should give an excellent picture of future possibilities. There are definitely no

H. A. Batchelor
569 North Rossmore
Los Angeles 4, California

ore reserves developed at the present time. We believe that the drilling program could be completed within six weeks, and it is Mr. Heron's firm conviction that such drilling would uncover large shows of ore, which has prompted the writer to apply for Government assistance in this project.

21. It is proposed to have the diamond drilling done by contract. Transportation from lower tram level to point of drilling will be furnished by Applicant.

23. Estimated costs of the original drilling program are as follows:

Rehabilitation of Tramway	$ 500.00
Pick-up Truck rental	1,000.00
Fuel and Oil for Compressors	300.00
Saddle horses and feed	1,000.00
Tent and cooking equipment for men at lower tram station	750.00
Diamond drilling 1500 feet at $5.00 a foot (this requires 6 weeks)	7,500.00
During this period, we will need 1 man at lower station	600.00 — OK
1 handyman for horses	400.00 not necessary
1 man at upper station	600.00 no based
1 engineer to watch cores	800.00 too much
4 inspection trips permitting Mr. Heron to spend 3 days on each trip at the mine	1,000.00
Industrial insurance	1,000.00 ?
Miscellaneous	1,000.00 ?
	$17,450.00

This statement covers only the drilling of 1500 feet. It might be advisable to carry this to 2500 feet if results were promising. However, if drilling led to anticipated findings, I would immediately commence serious mining operations requiring the erection of a camp at the lower tram terminal, construction of a jeep road to the mine which would probably cost $5,000.00 and the organization of a 15-man crew. These men are all available at this time and it is Mr. Heron's belief that, should our first drilling results prove satisfactory, we would be shipping ore within two months, or less. Under the terms of the Option, we would have use of all equipment now at the mine until a decision to take over and fully develop the property was made, at which time purchase of the compressors and miscellaneous equipment would require approximately $12,000.00 and other expenses as indicated by Mr. Heron would probably entail expenditure of $100,000.00. Application for this would, of course, be made following a successful drilling program.

C
O
P
Y

CHARLES M. HERON
Mining Engineer

465 North Segovia Avenue
San Gabriel, California
May 19, 1951

Mr. Harry A. Batchelor
569 N. Rossmore Ave.
Los Angeles, California

Dear Mr. Batchelor:

Herewith I wish to give my impressions of the Brownstone Tungsten mine, which we visited on May 16.

The Brownstone group comprises 4 unpatented claims. They are situated on the steep slope on the south side of Pine Creek Canyon, about 20 miles south-west of Bishop. The claims are adjoining, or in the immediate vicinity of the United States Vanadium Company's mill property, and access to the claims is through the mill yards of that company.

The Brownstone mine is reached by paved road as far as the U. S. Vanadium mill; thence about 350 feet to the lower tram terminal of the Brownstone aerial tram by a poor dirt road. From the lower tram terminal a steep but good trail about 2800 feet in length leads to the upper terminal and the entrance to the mine. This steep trail is probably entirely impassable for much of the six months during which heavy snows are a common occurrence.

The topography of the area surrounding the mine is such that a house for the mining crew can be built only by blasting into an overhanging cliff face near the mine - a difficult but essential and not impossible task. With such a house, and the tram in good working condition, as it seems to be, work could be carried on with no serious interruptions throughout the winter. Eventually the mine must have some sort of housing if the operation is to be more than a small leasing type of mine. However, during the drilling and the early drifting work, the operation can be carried on as it has in the past, transporting the men on hose-back from the lower tram terminal; this means a six-hour day in the mine, which is a heavy handicap.

The outcrop of ore appears prominently on the fact of an almost vertical cliff, with granite lying to the west and limestone to the east, and a zone of tactite which includes the ore, lying between. These are all cut by numerous west dipping aplite dikes or sills. This tactite is about twenty feet wide where it is exposed on the face of the cliff and it extends upwards from where it is hidden by talus for something over a hundred and fifty feet (not measured).

During my brief examination, I made no attempt to survey the workings. Mr. Johanson had an excellent sketch of the workings which might perhaps be obtainable if necessary. The upper tram terminal is in a large underground station about 55 feet long and as much as 18 feet wide with a 10 stub at one side for a store room. A raise from the terminal room connects with the adit level, 24 feet

above. The adit level is about 65 feet long and ore has been stoped from above this level. The stope reaches a maximum height of about 35 feet; its average width is 14 feet. At the west end of the stope a raise has been carried up about thirty feet. At this height it passes through an aplite sill and encounters good looking ore; the scheelite is uniformly disseminated through the tactite and from observation with an ultra-violet lamp I should say the ore would run well over 1% WO_3. In its present state this face doesn't give any indication as to what tonnage may be expected, but it is a good showing.

From October 1946 for about a year the owners of the claims leased the Tungstar Mill, about two miles away, and produced 608.4 units of scheelite. The record does not show how many tons were milled to produce this amount, but it was stated that the heads averaged about .5% WO_3. From the sketch which Mr. Johanson loaned me I made a rough calculation which indicates that 1540 tons came from the stope which produced 608.4 units; this shows roughly .4% recovered, indicating mill heads averaging .50% (assuming 80% extraction).

The U. S. Vanadium mill is now equipped to take custom ore, for which they pay for the scheelite at the rate of $37.00 per unit recovered - no charge for milling. The ore must average not less than .30% WO_3. This market for the crude ore will undoubtedly be advantageous at the beginning of operations, but if a stockpile is established within a reasonable distance, where the shipper was paid for the scheelite at more nearly its true market value, that would make his operating problems must simpler.

In its present condition the property needs a serious development program, which certainly seems to be warranted from what can be seen. The upper tram terminal station affords an excellent opportunity for a substantial amount of diamond drilling. Core recovery should be exceptionally high. A series of holes fanned out at different angles from a point near the entrance to the station would give excellent information as to what lies below the adit level and in advance of the present face. Perhaps as much as a thousand feet could be drilled to good advantage from this one location.

The adit level affords a favorable opportunity for some extensive drifting, and frequent cross-cuts. Later drifting on other levels will probably be required. The drifting program should be delayed until a few drill holes are finished.

The suggestions made for development work are based on what can be seen in the immediate area surrounding the work already done. There is a large exposure of tactite two or three hundred feet up the cliff from the adit, which cannot be reached at present, but which seems to indicate that there are substantial possibilities for a long-range development program.

The equipment appears to be in good condition, except one compressor noted below. The tram is a gravity tram, but is equipped with a small air-driven engine for reversing the tram in case of

emergency. It could be used for hoisting the diamond drilling equipment and the water. There are two 315 cu.ft. Sullivan-Caterpillar compressors, one apparently in perfect running condition and the other in need of extensive repairs. There are 10 half-ton tram buckets.

There are certain unique difficulties, perhaps no more serious than those experienced in starting most new properties; even for the diamond drilling program horses would have to be supplied to take the men up the hill each morning; the tram would have to be operated during such a program, requiring a man at the upper and lower terminals during the shift.

At the beginning of the work capital would have to be provided for the following purposes:

(a) At least four saddle horses at the start, for drillers, an engineer and one other;
(b) Payment for compressors, miscellaneous tools and equipment, which will be due in a few weeks;
(c) Fuel and oil for compressors and tram;
(d) Payroll for a small crew, including an engineer to watch cores;
(e) Capital for at least 1,000 feet of drilling;
(f) Industrial insurance;
(g) One small tent or cabin at the lower terminal of the tram.
(h) A moderate amount of working capital.

When the drifting starts, this amount will have to be increased to take care of an increased crew, and as soon as assured reserves warrant such a project, some sort of bunk and cook house should be built under the cliff at the mine to assure some increased degree of efficiency. It is difficult to be accurate in this estimate but it is safe to say that the drilling phase of the program should not be started with less than $20,000 available to meet the first expenses. When the drifting and construction phase of the program is started there should be assured at least $100,000.

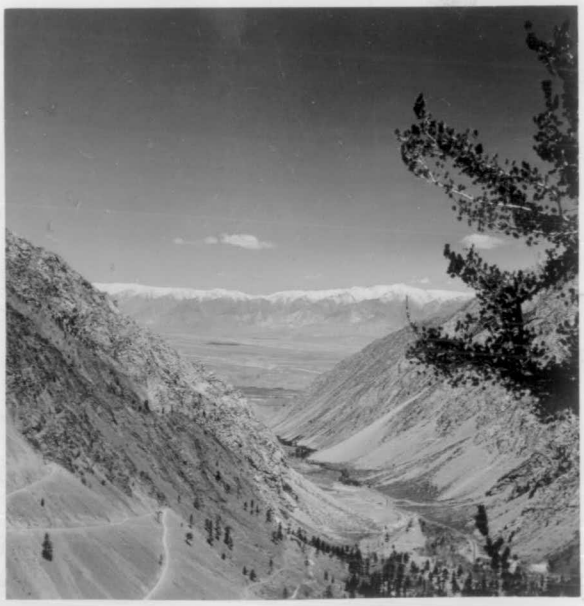
Obviously this is a somewhat costly project, but the chance of developing a substantial ore reserve seems to warrant the first phase - from what is now apparent.

Sincerely yours,

/s/ CHAS. M. HERON

Charles M. Heron

1. Looking up Pine Creek showing location of U. S. Vanadium Mill and Brownstone Claims, upper tramway terminal and mine workings in circle.



2-3 Taken from portai of adit level looking down Pine Creek and below to U. S. Vanadium Plant.

Dark band going up face of cliff gives some idea of extent of tactite in which ore occurs. Width of this band is 15 to 20 feet. Lower left corner, compressor sheds and portal to tram station. Portal to first level is just beyond figure on snow and second opening about 48 feet above.

OPTION FOR MINING LEASE

THIS AGREEMENT, made and entered into this 1st day of April, 1951, by and between EL DIABLO MINING COMPANY, a California corporation, hereinafter referred to as "Optionor" and REID J. SAMPSON, hereinafter referred to as "Optionee",

W I T N E S S E T H:

WHEREAS, the Optionor is now in possession of four mining claims known as Brownstone No. 1, Brownstone No. 2, Myrtle No. 1, Myrtle No. 2, and two mill site claims known as Brownie No. 1 and Brownie No. 2, more complete and definite descriptions of which are set forth in the form of lease referred to herein and attached hereto and all of which claims are located in Inyo County, California, and

WHEREAS, the Optionor is the lessee under a certain lease dated June 25, 1943, wherein the owners of said claims are the lessors and the Optionor is the lessee, and

WHEREAS, the parties to this agreement desire to grant to the Optionee for the period specified, the sole right and option to enter into a sublease with the Optionors covering said claims,

NOW, THEREFORE, it is agreed as follows:

1.

This option shall extend only for the period from April 1, 1951 to and including July 31, 1951 and if it be not exercised by the Optionee or his successor or successors in interest it shall automatically lapse without the necessity of any notice whatsoever.

2.

The Optionee shall have the right to enter upon any and all of said claims and to conduct and carry on such preliminary

and exploratory work, including core drilling, as it may deem necessary or advisable in order to explore any ore body within any of said claims and to take samples therefrom and use for such purposes all of the mechanical and physical facilities upon or connected with any of said claims, including the right to use the aerial tramway and all its appurtenances. The Optionee shall pay in cash the fair market value of all supplies and materials of the Optionor which are used by the Optionee during the period of this Option.

3.

This option may be exercised at any time prior to its expiration and if it be exercised, then the parties hereto shall forthwith execute a sublease in the form attached hereto and shall thereafter be bound by all of the terms and provisions thereof. Exercise of this option can only be made by the giving of written notice to Optionor within the option period. Such notice shall be mailed or delivered to the office of Clyde C. Triplett, 610 Rowan Building, Los Angeles, California, and shall not be deemed to be given until received in the office of Clyde C. Triplett.

4.

The Optionee shall have the right to assign this option to any person, firm, or corporation and upon such assignment the assignee shall succeed to all the rights of the Optionee under this agreement. If, however, the Optionee or his successor or successors in interest should die before the exercise of this option, then it shall immediately lapse and no notice of any kind shall be required to effectively terminate the same.

5.

This agreement shall not be recorded by any of the parties hereto and if it should be recorded in the Office of the County

Recorder of any County in the State of California, then it shall immediately terminate.

WITNESS our hands the day and year first above written.

EL DIABLO MINING COMPANY,
a corporation,

ATTEST:

By /s/ CHARLES G. SCHORF
President

H. O. JOHANSON
Secretary

OPTIONOR

(SEAL)

/s/ REID J. SAMPSON
REID J. SAMPSON

OPTIONEE

MINING LEASE WITH OPTION TO PURCHASE

THIS AGREEMENT, made this _____ day of _____, 1951, by and between EL DIABLO MINING COMPANY, a California corporation, hereinafter referred to as "Lessor" and _____ _____, hereinafter referred to as "Lessee",

W I T N E S S E T H:

WHEREAS, the Lessor is now in possession, under terms of a written lease with the owners, of the following described mining claims, all of which are located in Inyo County, California,

Brownstone No. 1 and Brownstone No. 2, Notices of Locations of which were recorded in the Office of the County Recorder of said County on September 16, 1940, in Volume 44 at Page 1 of Mining Locations,

Myrtle No. 1, Notice of Location of which was recorded on September 10, 1941, in Book 55 at Page 79 of Mining Locations, and

Myrtle No. 2, Notice of Location of which was recorded on April 28, 1942, in Book 55, at Page 314 of Mining Locations, in the Office of the County Recorder of Inyo County, and

Brownie No. 1 Mill Site, Notice of Location being recorded October 1, 1941, in Volume "C", at Page 468, Land and Water Claims, and

Brownie No. 2, Mill Site, Notice of Location being recorded October 1, 1941, in Volume "C", Page 469, Land and Water Claims, in the Office of the County Recorder of Inyo County,

and

WHEREAS, with the consent of the owners of said claims the Lessor desires to sublease the same to the Lessee with the option on the part of the Lessee to purchase the same,

NOW, THEREFORE, it is agreed as follows:

1.

It is understood that this is a sublease and wherever the term "Lessor" is used herein it is intended to mean "Sublessor" and wherever the term "Lessee" is used it is intended to mean

"Sublessee" and wherever this document is referred to as a "Lease" it is understood the term "Lease" is used as though it were synonymous with "Sublease".

2.

An inventory of all of the machinery, equipment, and supplies of the Lessor located upon said mining claims, or any of them, or attached to the same, or connected with the same, including an aerial tramway and ore bins and all water lines and pipe lines, whether wholly or partially upon all or any of said claims, shall be immediately taken and the Lessee shall forthwith pay to the Lessor the present fair market value of all bits, hand tools, hoses and other expendable mining materials and supplies which the Lessee may desire to purchase and use in connection with the mining operations to be carried on, in accordance with the terms of this lease. Any such items of personal property as the Lessee does not desire to purchase and use shall remain the property of the Lessor. Such personal property and equipment, exclusive of the aerial tramway and its appurtenances, as may not come under the classification just mentioned, including such items as air compressors, slushers, track and other items of personal property of like nature, which is not readily consumed or expended through the use thereof and which is not in the nature of small tools and small items of personal property which can be conveniently transported by hand, shall be immediately delivered to the possession of the Lessee and the Lessee shall have the privilege of using the same for a pe iod of ninety days from the date hereof; provided, the Lessee shall pay monthly to the Lessor a reasonable rental value thereof which rental value shall be that specified in a standard list of rentals for second-hand machinery and equipment providing the items of equipment are described in such publication, otherwise the rental price for such items

sold shall be the present fair rental value thereof. If the Lessee does not quitclaim said mining claims and cancel this lease within ninety days from the date hereof, then the Lessee shall purchase from the Lessor at or before the expiration of said ninety day period all of the machinery and equipment covered by the rental provisions of this paragraph and the purchase price therefor shall be the sum of $_____. The rental theretofore paid for the use of the same shall apply upon such purchase price and the balance shall be paid to the Lessor in cash on or before the expiration of said ninety day period. The Lessee agrees during said ninety day period to keep and maintain all of the machinery and equipment covered by the rental provisions of this paragraph in good mechanical condition, making all necessary repairs thereto and if the same be not purchased by the Lessee under the terms hereof, then to return the same to the Lessor on or before the expiration of said ninety day period in as good mechanical condition and order as when the same was received by the Lessee, ordinary wear and tear excepted.

3.

The Lessee shall have the right to use, operate and maintain the aerial tramway connected with said mining claims and belonging to the Lessor, including the ore bins and all of its appurtenances, and if the Lessee exercises the right to use said aerial tramway, then the Lessee shall pay to the Lessor in cash, as rental for the use of the same, seventy-five cents (75¢) per ton for all ore or rock transported on such tramway from the upper to the lower station which does not carry, on the average, more than six-tenths of one per cent tungsten trioxide and if the average is more than six-tenths of one per cent, then the rental price for the use of said tramway shall be increased at the rate of one

and two-thirds cents (1-2/3¢) per ton for each additional one-tenth of one per cent but said rental price shall in no event be more than one dollar ($1.00) per ton. When and if the total rental for the use of said tramway paid to the Lessor shall equal the sum of forty thousand dollars ($40,000.00), then the title to said tramway and all of its appurtenances shall pass to the Lessee. If this lease be terminated prior to the receipt by the Lessor of the sum of forty thousand dollars ($40,000.00), then all rental payments made by the Lessee for the use of said tramway shall be considered to be rent and shall not vest in the Lessee any right, title, or interest of any kind in or to said tramway or any of its appurtenances. During such time as the Lessee may be using said tramway, Lessee shall keep the same and all of its appurtenances in good mechanical condition and shall make all necessary repairs in order that when the same is redelivered to the possession of the Lessor, if such redelivery should take place, it shall be in good working mechanical condition and shall be in as good condition as when received by the Lessee, ordinary wear and tear alone excepted.

4.

The Lessee shall immediately take possession under the terms hereof of said mining claims for the purpose of prospecting, working and developing the same with the view of the purchase thereof and the Lessor hereby grants to the Lessee for and during such term or period as the Lessee shall perform, keep and comply with every covenant, term and condition hereof on the Lessee's part to be kept and performed, the immediate possession and right to the exclusive possession of the said mining and mill site claims and the whole thereof with the water rights, if any, thereto appertaining and gives to the Lessee the option to pur-

chase the same for the full purchase price of two hundred fifty thousand dollars ($250,000.00) lawful money of the United States, without interest, to be paid to the Lessor in installments as hereinafter provided.

5.

Lessees are hereby expressly granted the right to enter upon said premises and to mine and explore the same and to take, remove and dispose of any and all metals or minerals or other substances (organic or inorganic) and whether existing as placer, lode or other type of deposit on or beneath the surface of said property so long as this contract shall be and remain in full force and effect. That said mining operations to be conducted by the Lessees may be by any method selected by the Lessees as the most practical, expedient and economical method to be pursued in the extraction and recovery of minerals on the said lands.

6.

All mining operations shall at all times be conducted and carried on in a good and minerlike fashion and in accordance with the established and accepted practices and not otherwise. Any or all timbers, lumber, track or pipes that are now in or upon the premises may be removed from one area thereof to another so long as the same is used upon or in the premises and that by so doing the underground workings are not endangered in such areas as may be considered active working areas. The Lessor or its duly appointed agents or representatives shall have the privilege of entering into and inspecting said property and all improvements and workings thereon from the purpose of ascertaining the manner in which the Lessee is carrying on said operations.

7.

The Lessee shall, within thirty days from the date hereof,

commence mining operations on said premises and thereafter conduct the same diligently and shall cause to be performed on said premises one hundred fifty shifts or more of labor within every thirty days in such mining operations and in the development of said property as a mine, the term "shift" meaning a workman employed to labor on or in said mine in furtherance of the mining projects contemplated by this agreement of one day of eight hours work or such other maximum working day as may be prescribed by law or other governmental regulations; a suspension of work due to unavoidable accidents, strikes, acts of God, war, weather conditions or other casualties beyond the control of the Lessee excepted.

8.

The Lessee may, at any time during the term herein stated, surrender this lease and agreement, together with the possession of said claims hereinabove described, upon the giving of written notice to that effect to the Lessor and thereupon be relieved of all future obligations hereunder but such surrender shall not release the Lessee from any obligation or liability theretofore accrued by him hereunder, including any liability arising out of the provisions hereof with reference to the purchase or rental of mining machinery, equipment, supplies, etc.

9.

As a further and additional consideration of this agreement, the Lessee shall pay to the Lessor at Bishop, California, as rental for said claims and as royalty payments ten per cent of all monies received from the sale of tungsten and/or other minerals mined or produced from said claims or any part thereof. If a milling charge has been deducted before payment to Lessee, ten per cent of such charge shall be included in payment to Lessor. Commencing _____ _____, 1951 a minimum royalty payment of $ None per month shall be paid to the Lessor. All minimum monthly

royalty payments shall be applied upon the total actual royalties during that monthly period and the actual royalties for any other monthly period shall not be applied to the minimum royalty obligation for any other monthly period. If the Lessee shall mill or reduce tungsten, ore or other minerals from said claims, he shall ship all concentrates or other minerals to a recognized custom mill or smelter or shall sell the same to a licensed purchaser or to some governmental agency. In the event of a disposition of unmilled or concentrated ores produced from said claims, they shall be disposed of by the Lessee in the customary channels of trade and commerce. All sales of minerals produced from said property shall be for not less than the current market value thereof on the open competitive market.

10.

Within thirty days after the receipt by the Lessee of any payment for sale or shipment of ore or concentrate produced from said property, Lessee shall pay the hereinbefore designated percentage of royalty on the gross yield and value of said ores or concentrate as evidenced by the mint, mill, or smelter returns or shipping or billing invoices therefor, without deducting therefrom any mint charges, smelter costs, transportation charges, commissions, taxes, insurance or other costs or charges whatsoever. All royalty payments made by the Lessee to the Lessor, as aforesaid, shall constitute rental for said real property and shall also constitute payments upon the balance of said purchase price of said real property in the event the Lessee shall elect to exercise the option to purchase the same. All payments to be made on account of royalty, as hereinabove specified, shall be accompanied by a mint, smelter, or mill return or shipping or billing invoice evidencing the gross yield of said ores or concentrates and the gross return or sale price.

11.

The Lessor shall have access to all shipping and refining returns, milling or production records, and all records giving information of the amount of minerals produced, extracted, or removed by the Lessee from said real property and all the proceeds thereof.

12.

The Lessee may assign this lease or any interest therein and may sublease the whole or any portion of said real property and this lease shall be binding upon and extend to the assigns, successors, administrators, executors, and heirs of the parties hereto.

13.

The Lessor shall not be liable nor responsible for any work or labor of any kind or character done or performed in, on, or upon said property during the life of this agreement or for any material or materials furnished to be used or used in, on, or upon, or in connection with the work of said property and the Lessee will post, in the name of the Lessor, notices of non-responsibility as provided in the laws of the State of California, immediately upon the beginning of the construction of any building or improvement upon said property and the Lessee will pay all expenses and charges of each and every nature for which it shall become expressly or impliedly liable in anywise connected with the working of this property during the life of this agreement and will protect and save harmless the said property from all claims and liens of every nature arising out of any act or omission of the Lessee.

14.

The Lessor shall have the right to enter upon said property at any time to post notice of non-responsibility or to inspect

all or any part of the same or to inspect the machinery and equipment belonging to the Lessor or in which the Lessor has any interest of any kind.

15.

The Lessee agrees that as soon as work shall be commenced by any employee upon said property under this agreement, he will procure and carry a policy of insurance for the protection of the parties hereto for any injury or injuries to employees under the Workmen's Compensation Insurance and Safety Act of the State of California and under all acts amendatory thereto and to carry and keep the same in effect at the Lessee's own expense.

16.

All development work done and all improvements made upon said property shall be in accordance with the requirements, rules, and regulations of the Industrial Accident Commission of the State of California and shall constitute the annual assessment work required to maintain the said mining claims. The Lessee agrees to perform the necessary assessment work and to provide the necessary improvements to so maintain said mining claims to the extent required by law and to record proper proof of labor in connection therewith in the office of the County Recorder of Inyo County, California, on or before the 15th day of June of each year during the term of this agreement or any extension thereof. The Lessee shall pay, before delinquency, all personal property taxes assessed against any personal property which he may install upon the said mining claim and shall pay, before delinquency, all personal property taxes on any other personal property which may belong to the Lessor, but which is being rented or used by the Lessee and the Lessee shall pay, before delinquency, all real

property taxes, if any, which may be assessed against said property.

17.

Time is of the essence of this agreement and each and every covenant, term, or condition herein contained on the part of the Lessee to be kept and performed shall be and is hereby made a condition of this agreement. In the event the Lessee shall fail or refuse to keep or perform any covenant, term, or condition set forth herein for thirty days after written notice of default specifying the particulars of said alleged default, Lessor may, at its option, with written notice to the Lessee and without waiving any right hereunder, terminate this agreement and with or without process of law may expel, remove, or put the Lessee out of possession of the real and personal property described herein, but such termination shall not release the Lessee from any obligation or liability theretofore incurred under the provisions hereof. Notwithstanding anything herein to the contrary, no notice of termination need be given with respect to default in the payment of any installments of royalties as and when the same may become due by the terms hereof and that this agreement may be terminated for failure to pay royalties due without the service of any notice of default with respect thereto. Waiver of one default by the Lessor shall not be deemed to be a waiver of any other default.

18.

In the event of the termination of this contract in any manner other than by the consummation of the sale of said real properties, the Lessee may remove all machinery and equipment, including underground and surface pumps and other personal property which may hereafter be placed on said property by the Lessee, said removal to be accomplished within ninety days, weather and road conditions permitting, after the termination of this contract

as aforesaid, provided the Lessee is not indebted to the Lessor for the payment of any sum of money which may be due under the terms hereof and if so indebted, the Lessee shall not have the right to remove any of such personal property until after such indebtedness has been paid in full. It is understood and agreed that any of the following improvements hereafter placed upon said property shall remain thereon and shall be surrendered therewith, to-wit, all buildings, including mill buildings, storage buildings, bunkers for the storing of ore, flumes, ditches, gallows or head frames to any shaft, all ladders, underground timbering and other improvements which may be actually affixed to the land itself. In the event of the termination of this contract, as aforesaid, all sums of money theretofore paid to the Lessor shall be regarded as liquidated damages for the prior use and occupation of said real property and improvements and shall be so retained by the Lessor. In the event the Lessee shall elect to terminate this agreement prior to the term fixed in the same, the Lessee shall and will peacefully and quietly surrender and yield said premises to the Lessor and execute and deliver to the Lessor a quitclaim deed or other appropriate instrument by the terms of which the Lessee shall surrender all his right, title and interest in and to all of said claims and premises and the Lessee shall thereupon be relieved from all obligations with respect to the performance of the terms of this agreement, save and excepting those existing at the time of the execution of said quitclaim deed or other appropriate instrument.

19.

This agreement shall inure to the benefit of and shall bind the successors, assigns, heirs, administrators and executors of the parties hereto. It is understood that a portion of the

automobile road to the real property, covered by this lease, is owned and operated by the U. S. Vanadium Corporation and the Lessor makes no warranty with reference thereto.

IN WITNESS WHEREOF, the parties hereto have executed this agreement the day and year first above written.

ATTEST:

/s/ H. O. JOHANSON
Secretary.

EL DIABLO MINING COMPANY,
a corporation,

By /s/ CHARLES G. SCHARF
President

LESSOR

/s/ REID J. SAMPSON

LESSEE

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1095.
Approval expires 6-30-51.

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

DO NOT FILL IN THIS BLOCK

Docket No. DMA-1456X

Date received 7/21/51

Participation

DEPARTMENT OF INTERIOR
BUREAU OF MINES
REGION III
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H. A. Batchelor
569 North Rossmore
Los Angeles 4, California

Name and address of applicant

Date May 25, 1951

FILL IN THIS BLOCK

Date of application May 25, 1951

Estimated cost $20,000.00

Mineral or metal Tungsten

Percentage of Government participation 75%

Location of mine Pine Creek District, Inyo County, California

Date of filing MF-100 No Filing

DMA Docket Number, if available

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four signed copies of the application to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive officer thereof, with your name and address on each sheet of the application and all accompanying papers. If any question is inapplicable, or if you cannot answer it, so state on the form. Where the space provided for answer is insufficient, answer on a separate sheet, annex it to the application form, and refer to it in space for answer. If the application is approved, you will be presented with an exploration project contract on Form MF-200, for your signature.

THE APPLICANT

*1. Is applicant an individual, partnership, or corporation?
*2. If a partnership, state names and addresses of partners.
*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders.
*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project.
*5. Are you the owner or the lessee of the property?
6. If owner, state what claims, liens, or encumbrances, if any, are against the property.
7. If lessee, attach a copy of the lease and state if it is in good standing.

NOTE.—It will be necessary to procure and attach to the exploration project contract agreements of claimants, lienors, encumbrances and lessors subordinating their interests in the property to the interest of the Government under the contract.

8. Furnish current financial statement, showing assets and liabilities, and a profit and loss statement.
9. How much money is applicant prepared to invest in proposed project? Is it sufficient to pay your part of the cost of the project as detailed in question 23 of this application form, in accordance with the regulations on Government participation (Section 9 of Mineral Order 5)?

*If you have already answered these questions on MF-100, you are not required to answer the questions for this application.

16—64067-1

THE PROPERTY

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

    NOTE.—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 (*b*) 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.

*11. State the present and former names of the property, if any.
*12. State, in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distances and directions and kinds and conditions of roads.
*13. State source and quantity of water available for operations and its sufficiency at all seasons.
State amount of power to be used, rate per hour or other cost, and source.
*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work.
15. State in detail how the ore could be shipped and how and where milled.
*16. History:
    (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.
    (*b*) State briefly the known history and production of adjoining and neighboring properties.
    (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.
*17. Production:
    (*a*) If mine is in production, furnish the following information:

	Tons per day	*Grade or analysis*	*Cost per ton*	*Net value per ton*
(1) Mining				
(2) Milling				
(3) Shipped or sold				

*18. Ore or mineral reserves: (If property is or has been operating.)
    (*a*) Describe the ore or mineral deposits briefly.
    (*b*) Submit available maps and assay data.
    (*c*) Give estimated tonnage and grade of each class of ore reserves.
19. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted?
21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it.

    NOTE.—The Government will not participate in a project that will require more than 2 years to complete.

22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data.

THE REQUIREMENTS AND COSTS

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:
    (*a*) Labor, by numbers and classes (miners, muckers, millmen, etc.), with wages of each.
    (*b*) Supervisors, by numbers and positions, with salaries of each.
    (*c*) Cost of necessary repairs to existing facilities, structures, and buildings.
    (*d*) Cost of necessary installation or construction of additional facilities, structures, and buildings.
    (*e*) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.
    (*f*) Cost of rental for equipment which the operator proposes to rent.
    (*g*) Rental value of items of equipment which the operator now owns and which will be devoted to the work.
    (*h*) Cost of materials and supplies, including items of equipment costing less than $50 each.
    (*i*) Cost of power, water, utilities, and any other items not provided for above.
24. Furnish a time schedule of the project, stated in terms of months after project is approved, showing progress expected to be accomplished and the money expected to be spent.

CERTIFICATION

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

(Name of company) By (Signature of authorized official)

26 May 1951
(Date) (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.

*Same as footnote on page 1.

16—64067-1 U. S. GOVERNMENT PRINTING OFFICE

H. A. BATCHELOR
569 North Rossmore
Los Angeles 4, California

May 25, 1951

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

Gentlemen:

In connection with the attached Application for Aid For an Exploration Project Pursuant to Mineral Order 5, Under Defense Production Act of 1950, I believe the following facts are relevant and should be considered:

The property in question has been inspected recently and thoroughly geologized by Mr. Paul C. Bateman, U.S.G.S., 102 Old Mint Building, San Francisco 3, California. Mr. Bateman is well-acquainted with our engineer, Mr. Charles M. Heron, Mining Engineer, 465 North Segovia, San Gabriel, California. Certain maps and data supplied by Mr. Batement to the owners of the property were made available to us during our examination on May 16, 1951. We did not feel that we had authority to make copies of these maps or sketches, hence none are included with this Application but I am sure that any information Mr. Bateman has on the property in question, while not yet in published form, is already available to your office and might well be considered in passing upon this Application.

1. The Applicant for the initial loan of $15,000.00 is an individual and preliminary work under our program will be done for my account. Later work, if undertaken, will be done by a corporation to be formed.

4(a). The Applicant has been engaged in placer mining in Canada for the past four years; previous to that, has made a great number of inspection trips with Mr. Heron and investigated many mining properties and operations in Canada, the Western States and Mexico. The Applicant's business experience covers many years with New York Stock Exchange firms, the operation of a lumber business in Michigan and years of experience in real estate and building in New York and California.

4(b). The development program and future operation of this property, if any, will be under the direct supervision of Mr. Charles M. Heron, who will have with him several competent mining men with whom we have long been associated. Mr. Heron's reputation is well-known in this City, and it is his conservative enthusiasm for this property which is responsible for the present undertaking. As above mentioned, Mr. Paul C. Bateman of the U.S.G.S. is fully acquainted with Mr. Heron and his ability. Further references for Mr. Heron are as follows:

Mr. Harvey S. Mudd, Pacific Mutual Building, Los Angeles 14, Calif.

H. A. Batchelor
569 North Rossmore
Los Angeles 4, California

Mr. William C. Browning, Goldfield American Development Company, Pacific Mutual Building, Los Angeles 14, Calif.
Mr. Walter Abel, California State Corporation Commission, Mirror Building, 2nd and Spring Streets, Los Angeles 12, California
Mr. E. Ord Slater, President, Smith-Emery Co., Los Angeles, Calif.

5. An Option for Mining Lease, a copy of which is attached, covering the subject property, is at present held by Mr. Reid J. Sampson, California State Building, Los Angeles, but the Lease with Option to Purchase will be made directly to me, or my assigns, in the event my Application for Government assistance receives favorable consideration.

9. Mr. Heron estimates that the preliminary exploration of this property will cost approximately $20,000.00. I am well able to supply $5,000.00 to cover my share of such a project and will deposit a check for that amount in the Bank of America at Bishop when notified that Government assistance on the balance will be made available.

10. Description of this property is contained in the attached Option for Mining Lease. The operating property consists of a 2800 foot aerial gravity tramway extending from the mine workings to a 300-ton ore bin situated close to the U. S. Vanadium millyards. If the proposed drilling gives satisfactory results, we anticipate establishing a 15-man camp in this area and constructing a jeep road to the mine entrance. At present, a trail for horses is used and men are taken from the lower tram station to the mine on horseback. There are two compressors at the mine, together with the usual drills, tools, Power is secured from the Diesel compressor engine.

12. This property is located within a few hundred yards of the U. S. Vanadium Company mill on Pine Creek. This plant is described in great detail in the May 1951 Engineering and Mining Journal. The small building located on a flat area shown in the lower left hand corner of the picture in connection with this article is the lower tram station of the Brownstone operation.

13. Ample water for all purposes may be secured from Pine Creek which passes within a few hundred feet of the mine working and within a few hundred feet of the lower tram terminal for camp site.

15. Ore will be mined, sorted under lamps at the mine, waste discarded and ore moved over the tram to the ore bins at the lower tram terminal. At this point, it might be stockpiled as it would then be within a few yards of the U. S. Vanadium mill, or it could be moved directly into the mill for custom milling.

H. A. Batchelor
569 North Rossmore
Los Angeles 4, California

16(a). Previous operations carried on in 1946 and 1947 included construction of tramway said to have cost $50,000.00. Inspection of this tramway indicates that the value was very reasonable and that the tram could not be duplicated for that amount today. Because of the low price for tungsten ore during this period and excessive operating costs, the owners were unable to make a profit, consequently operations shut down. It might be mentioned at this point that the present owners are unable to operate the property at this time for reasons of health and the difficulty of working at that altitude.

16(b). This property is near U. S. Vanadium mine and plant; the area is fully described by U. S. G. S. publications and is considered one of the great tungsten areas in California.

16(c). Please refer to Charles M. Heron's letter to the writer. Further information regarding the property and area in question may be had from a recent geological study made by Paul C. Bateman of the U. S. G. S.

17. Mine has been idle for the past three years.

18(a). The ore occurs in a band of tactite lying between granite on the west and altered limestone on the east. These rocks, including the tactite, are cut by frequent sills and dikes of aplite obviously later than the tactite or other two rocks. The scheelite is finely and uniformly diseminated through the tactite. The tactite and aplite are so distinct that sorting before the ore is sent to the tram should be very effective. Photo No. 4 shows very clearly the size and persistence of the tactite body.

18(b). During Mr. Heron's examination of the property on May 16, 1951, we were accompanied by Mr. H. O. Johanson of Bishop, one of the owners of the property, who supervised the original operations. Mr. Johanson had copies of maps made by Mr. Paul C. Bateman of the U.S.G.S. and these were available to us. We had no permission to copy these maps and made none of our own.

There has been a very few feet of development work upon the stope. The face of the drift shows some ore. There is a raise carried a short distance above the top of the stope (perhaps 25 to 30 feet) which has passed through an aplite sill and is now in good ore, which was estimated to be of at least 1% grade.

19. The drilling of three holes pointed below the tram station and cutting the tactite zone at different depths, also one or two holes cut the zone in advance of the face of the drift, and one or two holes pointed upward at maximum angles, should give an excellent picture of future possibilities. There are definitely no

ore reserves developed at the present time. We believe that the drilling program could be completed within six weeks, and it is Mr. Heron's firm conviction that such drilling would uncover large shows of ore, which has prompted the writer to apply for Government assistance in this project.

21. It is proposed to have the diamond drilling done by contract. Transportation from lower tram level to point of drilling will be furnished by Applicant.

23. Estimated costs of the original drilling program are as follows:

Rehabilitation of Tramway	$ 500.00
Pick-up Truck rental	1,000.00
Fuel and Oil for Compressors	300.00
Saddle horses and feed	1,000.00
Tent and cooking equipment for men at lower tram station	750.00
Diamond drilling 1500 feet at $5.00 a foot (this requires 6 weeks)	7,500.00
During this period, we will need 1 man at lower station	600.00
1 handyman for horses	400.00
1 man at upper station	600.00
1 engineer to watch cores	800.00
4 inspection trips permitting Mr. Heron to spend 3 days on each trip at the mine	1,000.00
Industrial insurance	1,000.00
Miscellaneous	1,000.00
	$17,450.00

This statement covers only the drilling of 1500 feet. It might be advisable to carry this to 2500 feet if results were promising. However, if drilling led to anticipated findings, I would immediately commence serious mining operations requiring the erection of a camp at the lower tram terminal, construction of a jeep road to the mine which would probably cost $5,000.00 and the organization of a 15-man crew. These men are all available at this time and it is Mr. Heron's belief that, should our first drilling results prove satisfactory, we would be shipping ore within two months, or less. Under the terms of the Option, we would have use of all equipment now at the mine until a decision to take over and fully develop the property was made, at which time purchase of the compressors and miscellaneous equipment would require approximately $12,000.00 and other expenses as indicated by Mr. Heron would probably entail expenditure of $100,000.00. Application for this would, of course, be made following a successful drilling program.

C
O
P
Y

CHARLES M. HERON
Mining Engineer

465 North Segovia Avenue
San Gabriel, California
May 19, 1951

Mr. Harry A. Batchelor
569 N. Rossmore Ave.
Los Angeles, California

Dear Mr. Batchelor:

Herewith I wish to give my impressions of the Brownstone Tungsten mine, which we visited on May 16.

The Brownstone group comprises 4 unpatented claims. They are situated on the steep slope on the south side of Pine Creek Canyon, about 20 miles south-west of Bishop. The claims are adjoining, or in the immediate vicinity of the United States Vanadium Company's mill property, and access to the claims is through the mill yards of that company.

The Brownstone mine is reached by paved road as far as the U. S. Vanadium mill; thence about 350 feet to the lower tram terminal of the Brownstone aerial tram by a poor dirt road. From the lower tram terminal a steep but good trail about 2800 feet in length leads to the upper terminal and the entrance to the mine. This steep trail is probably entirely impassable for much of the six months during which heavy snows are a common occurrence.

The topography of the area surrounding the mine is such that a house for the mining crew can be built only by blasting into an overhanging cliff face near the mine - a difficult but essential and not impossible task. With such a house, and the tram in good working condition, as it seems to be, work could be carried on with no serious interruptions throughout the winter. Eventually the mine must have some sort of housing if the operation is to be more than a small leasing type of mine. However, during the drilling and the early drifting work, the operation can be carried on as it has in the past, transporting the men on hose-back from the lower tram terminal; this means a six-hour day in the mine, which is a heavy handicap.

The outcrop of ore appears prominently on the fact of an almost vertical cliff, with granite lying to the west and limestone to the east, and a zone of tactite which includes the ore, lying between. These are all cut by numerous west dipping aplite dikes or sills. This tactite is about twenty feet wide where it is exposed on the face of the cliff and it extends upwards from where it is hidden by talus for something over a hundred and fifty feet (not measured).

During my brief examination, I made no attempt to survey the workings. Mr. Johanson had an excellent sketch of the workings which might perhaps be obtainable if necessary. The upper tram terminal is in a large underground station about 55 feet long and as much as 18 feet wide with a 10 stub at one side for a store room. A raise from the terminal room connects with the adit level, 24 feet

above. The adit level is about 65 feet long and ore has been stoped from above this level. The stope reaches a maximum height of about 35 feet; its average width is 14 feet. At the west end of the stope a raise has been carried up about thirty feet. At this height it passes through an aplite sill and encounters good looking ore; the scheelite is uniformly disseminated through the tactite and from observation with an ultra-violet lamp I should say the ore would run well over 1% WO_3. In its present state this face doesn't give any indication as to what tonnage may be expected, but it is a good showing.

From October 1946 for about a year the owners of the claims leased the Tungstar Mill, about two miles away, and produced 608.4 units of scheelite. The record does not show how many tons were milled to produce this amount, but it was stated that the heads averaged about .5% WO_3. From the sketch which Mr. Johanson loaned me I made a rough calculation which indicates that 1540 tons came from the stope which produced 608.4 units; this shows roughly .4% recovered, indicating mill heads averaging .50% (assuming 80% extraction).

The U. S. Vanadium mill is now equipped to take custom ore, for which they pay for the scheelite at the rate of $37.00 per unit recovered - no charge for milling. The ore must average not less than .30% WO_3. This market for the crude ore will undoubtedly be advantageous at the beginning of operations, but if a stockpile is established within a reasonable distance, where the shipper was paid for the scheelite at more nearly its true market value, that would make his operating problems must simpler.

In its present condition the property needs a serious development program, which certainly seems to be warranted from what can be seen. The upper tram terminal station affords an excellent opportunity for a substantial amount of diamond drilling. Core recovery should be exceptionally high. A series of holes fanned out at different angles from a point near the entrance to the station would give excellent information as to what lies below the adit level and in advance of the present face. Perhaps as much as a thousand feet could be drilled to good advantage from this one location.

The adit level affords a favorable opportunity for some extensive drifting, and frequent cross-cuts. Later drifting on other levels will probably be required. The drifting program should be delayed until a few drill holes are finished.

The suggestions made for development work are based on what can be seen in the immediate area surrounding the work already done. There is a large exposure of tactite two or three hundred feet up the cliff from the adit, which cannot be reached at present, but which seems to indicate that there are substantial possibilities for a long-range development program.

The equipment appears to be in good condition, except one compressor noted below. The tram is a gravity tram, but is equipped with a small air-driven engine for reversing the tram in case of

emergency. It could be used for hoisting the diamond drilling equipment and the water. There are two 315 cu.ft. Sullivan-Caterpillar compressors, one apparently in perfect running condition and the other in need of extensive repairs. There are 10 half-ton tram buckets.

There are certain unique difficulties, perhaps no more serious than those experienced in starting most new properties; even for the diamond drilling program horses would have to be supplied to take the men up the hill each morning; the tram would have to be operated during such a program, requiring a man at the upper and lower terminals during the shift.

At the beginning of the work capital would have to be provided for the following purposes:

(a) At least four saddle horses at the start, for drillers, an engineer and one other;
(b) Payment for compressors, miscellaneous tools and equipment, which will be due in a few weeks;
(c) Fuel and oil for compressors and tram;
(d) Payroll for a small crew, including an engineer to watch cores;
(e) Capital for at least 1,000 feet of drilling;
(f) Industrial insurance;
(g) One small tent or cabin at the lower terminal of the tram.
(h) A moderate amount of working capital.

When the drifting starts, this amount will have to be increased to take care of an increased crew, and as soon as assured reserves warrant such a project, some sort of bunk and cook house should be built under the cliff at the mine to assure some increased degree of efficiency. It is difficult to be accurate in this estimate but it is safe to say that the drilling phase of the program should not be started with less than $20,000 available to meet the first expenses. When the drifting and construction phase of the program is started there should be assured at least $100,000.

Obviously this is a somewhat costly project, but the chance of developing a substantial ore reserve seems to warrant the first phase - from what is now apparent.

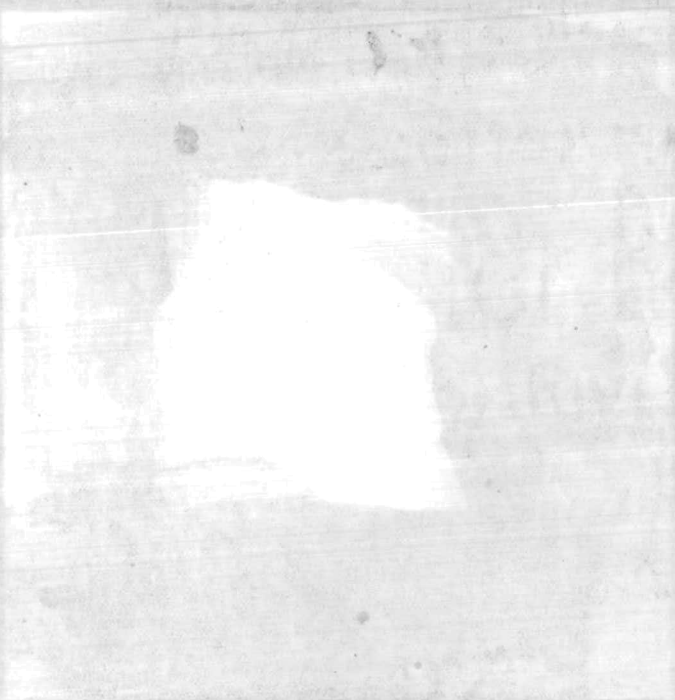
Sincerely yours,

/s/ CHAS. M. HERON

Charles M. Heron

1. Looking up Pine Creek showing location of U. S. Vanadium Mill and Brownstone Claims, upper tramway terminal and mine workings in circle.

2-3 Taken from portal of adit level looking down Pine Creek and below to U. S. Vanadium Plant.



Dark band going up face of cliff gives some idea of extent of tactite in which ore occurs. Width of this band is 15 to 20 feet. Lower left corner, compressor sheds and portal to tram station. Portal to first level is just beyond figure on snow and second opening about 48 feet above.

OPTION FOR MINING LEASE

THIS AGREEMENT, made and entered into this 1st day of April, 1951, by and between EL DIABLO MINING COMPANY, a California corporation, hereinafter referred to as "Optionor" and REID J. SAMPSON, hereinafter referred to as "Optionee",

W I T N E S S E T H:

WHEREAS, the Optionor is now in possession of four mining claims known as Brownstone No. 1, Brownstone No. 2, Myrtle No. 1, Myrtle No. 2, and two mill site claims known as Brownie No. 1 and Brownie No. 2, more complete and definite descriptions of which are set forth in the form of lease referred to herein and attached hereto and all of which claims are located in Inyo County, California, and

WHEREAS, the Optionor is the lessee under a certain lease dated June 25, 1943, wherein the owners of said claims are the lessors and the Optionor is the lessee, and

WHEREAS, the parties to this agreement desire to grant to the Optionee for the period specified, the sole right and option to enter into a sublease with the Optionors covering said claims,

NOW, THEREFORE, it is agreed as follows:

1.

This option shall extend only for the period from April 1, 1951 to and including July 31, 1951 and if it be not exercised by the Optionee or his successor or successors in interest it shall automatically lapse without the necessity of any notice whatsoever.

2.

The Optionee shall have the right to enter upon any and of said claims and to conduct and carry on such preliminary

and exploratory work, including core drilling, as it may deem necessary or advisable in order to explore any ore body within any of said claims and to take samples therefrom and use for such purposes all of the mechanical and physical facilities upon or connected with any of said claims, including the right to use the aerial tramway and all its appurtenances. The Optionee shall pay in cash the fair market value of all supplies and materials of the Optionor which are used by the Optionee during the period of this Option.

3.

This option may be exercised at any time prior to its expiration and if it be exercised, then the parties hereto shall forthwith execute a sublease in the form attached hereto and shall thereafter be bound by all of the terms and provisions thereof. Exercise of this option can only be made by the giving of written notice to Optionor within the option period. Such notice shall be mailed or delivered to the office of Clyde C. Triplett, 610 Rowan Building, Los Angeles, California, and shall not be deemed to be given until received in the office of Clyde C. Triplett.

4.

The Optionee shall have the right to assign this option to any person, firm, or corporation and upon such assignment the assignee shall succeed to all the rights of the Optionee under this agreement. If, however, the Optionee or his successor or successors in interest should die before the exercise of this option, then it shall immediately lapse and no notice of any kind shall be required to effectively terminate the same.

5.

This agreement shall not be recorded by any of the parties hereto and if it should be recorded in the Office of the County

Recorder of any County in the State of California, then it shall immediately terminate.

WITNESS our hands the day and year first above written.

EL DIABLO MINING COMPANY,
a corporation,

ATTEST:

By /s/ CHARLES G. SCHORF
President

H. O. JOHANSON
Secretary

OPTIONOR

(SEAL)

/s/ REID J. SAMPSON
REID J. SAMPSON

OPTIONEE

MINING LEASE WITH OPTION TO PURCHASE

THIS AGREEMENT, made this _____ day of _____, 1951, by and between EL DIABLO MINING COMPANY, a California corporation, hereinafter referred to as "Lessor" and _____ _____, hereinafter referred to as "Lessee",

W I T N E S S E T H:

WHEREAS, the Lessor is now in possession, under terms of a written lease with the owners, of the following described mining claims, all of which are located in Inyo County, California,

> Brownstone No. 1 and Brownstone No. 2, Notices of Locations of which were recorded in the Office of the County Recorder of said County on September 16, 1940, in Volume 44 at Page 1 of Mining Locations,
>
> Myrtle No. 1, Notice of Location of which was recorded on September 10, 1941, in Book 55 at Page 79 of Mining Locations, and
>
> Myrtle No. 2, Notice of Location of which was recorded on April 28, 1942, in Book 55, at Page 314 of Mining Locations, in the Office of the County Recorder of Inyo County, and
>
> Brownie No. 1 Mill Site, Notice of Location being recorded October 1, 1941, in Volume "C", at Page 468, Land and Water Claims, and
>
> Brownie No. 2, Mill Site, Notice of Location being recorded October 1, 1941, in Volume "C", Page 469, Land and Water Claims, in the Office of the County Recorder of Inyo County,

and

WHEREAS, with the consent of the owners of said claims the Lessor desires to sublease the same to the Lessee with the option on the part of the Lessee to purchase the same,

NOW, THEREFORE, it is agreed as follows:

1.

It is understood that this is a sublease and wherever the term "Lessor" is used herein it is intended to mean "Sublessor" and wherever the term "Lessee" is used it is intended to mean

"Sublessee" and wherever this document is referred to as a "Lease" it is understood the term "Lease" is used as though it were synonymous with "Sublease".

2.

An inventory of all of the machinery, equipment, and supplies of the Lessor located upon said mining claims, or any of them, or attached to the same, or connected with the same, including an aerial tramway and ore bins and all water lines and pipe lines, whether wholly or partially upon all or any of said claims, shall be immediately taken and the Lessee shall forthwith pay to the Lessor the present fair market value of all bits, hand tools, hoses and other expendable mining materials and supplies which the Lessee may desire to purchase and use in connection with the mining operations to be carried on, in accordance with the terms of this lease. Any such items of personal property as the Lessee does not desire to purchase and use shall remain the property of the Lessor. Such personal property and equipment, exclusive of the aerial tramway and its appurtenances, as may not come under the classification just mentioned, including such items as air compressors, slushers, track and other items of personal property of like nature, which is not readily consumed or expended through the use thereof and which is not in the nature of small tools and small items of personal property which can be conveniently transported by hand, shall be immediately delivered to the possession of the Lessee and the Lessee shall have the privilege of using the same for a pe iod of ninety days from the date hereof; provided, the Lessee shall pay monthly to the Lessor a reasonable rental value thereof which rental value shall be that specified in a standard list of rentals for second-hand machinery and equipment providing the items of equipment are described in such publication, otherwise the rental price for such items

sold shall be the present fair rental value thereof. If the Lessee does not quitclaim said mining claims and cancel this lease within ninety days from the date hereof, then the Lessee shall purchase from the Lessor at or before the expiration of said ninety day period all of the machinery and equipment covered by the rental provisions of this paragraph and the purchase price therefor shall be the sum of $_____. The rental theretofore paid for the use of the same shall apply upon such purchase price and the balance shall be paid to the Lessor in cash on or before the expiration of said ninety day period. The Lessee agrees during said ninety day period to keep and maintain all of the machinery and equipment covered by the rental provisions of this paragraph in good mechanical condition, making all necessary repairs thereto and if the same be not purchased by the Lessee under the terms hereof, then to return the same to the Lessor on or before the expiration of said ninety day period in as good mechanical condition and order as when the same was received by the Lessee, ordinary wear and tear excepted.

3.

The Lessee shall have the right to use, operate and maintain the aerial tramway connected with said mining claims and belonging to the Lessor, including the ore bins and all of its appurtenances, and if the Lessee exercises the right to use said aerial tramway, then the Lessee shall pay to the Lessor in cash, as rental for the use of the same, seventy-five cents (75¢) per ton for all ore or rock transported on such tramway from the upper to the lower station which does not carry, on the average, more than six-tenths of one per cent tungsten trioxide and if the average is more than six-tenths of one per cent, then the rental price for the use of said tramway shall be increased at the rate of one

and two-thirds cents (1-2/3¢) per ton for each additional one-tenth of one per cent but said rental price shall in no event be more than one dollar ($1.00) per ton. When and if the total rental for the use of said tramway paid to the Lessor shall equal the sum of forty thousand dollars ($40,000.00), then the title to said tramway and all of its appurtenances shall pass to the Lessee. If this lease be terminated prior to the receipt by the Lessor of the sum of forty thousand dollars ($40,000.00), then all rental payments made by the Lessee for the use of said tramway shall be considered to be rent and shall not vest in the Lessee any right, title, or interest of any kind in or to said tramway or any of its appurtenances. During such time as the Lessee may be using said tramway, Lessee shall keep the same and all of its appurtenances in good mechanical condition and shall make all necessary repairs in order that when the same is redelivered to the possession of the Lessor, if such redelivery should take place, it shall be in good working mechanical condition and shall be in as good condition as when received by the Lessee, ordinary wear and tear alone excepted.

4.

The Lessee shall immediately take possession under the terms hereof of said mining claims for the purpose of prospecting, working and developing the same with the view of the purchase thereof and the Lessor hereby grants to the Lessee for and during such term or period as the Lessee shall perform, keep and comply with every covenant, term and condition hereof on the Lessee's part to be kept and performed, the immediate possession and right to the exclusive possession of the said mining and mill site claims and the whole thereof with the water rights, if any, thereto appertaining and gives to the Lessee the option to pur-

chase the same for the full purchase price of two hundred fifty thousand dollars ($250,000.00) lawful money of the United States, without interest, to be paid to the Lessor in installments as hereinafter provided.

5.

Lessees are hereby expressly granted the right to enter upon said premises and to mine and explore the same and to take, remove and dispose of any and all metals or minerals or other substances (organic or inorganic) and whether existing as placer, lode or other type of deposit on or beneath the surface of said property so long as this contract shall be and remain in full force and effect. That said mining operations to be conducted by the Lessees may be by any method selected by the Lessees as the most practical, expedient and economical method to be pursued in the extraction and recovery of minerals on the said lands.

6.

All mining operations shall at all times be conducted and carried on in a good and minerlike fashion and in accordance with the established and accepted practices and not otherwise. Any or all timbers, lumber, track or pipes that are now in or upon the premises may be removed from one area thereof to another so long as the same is used upon or in the premises and that by so doing the underground workings are not endangered in such areas as may be considered active working areas. The Lessor or its duly appointed agents or representatives shall have the privilege of entering into and inspecting said property and all improvements and workings thereon from the purpose of ascertaining the manner in which the Lessee is carrying on said operations.

7.

The Lessee shall, within thirty days from the date hereof,

commence mining operations on said premises and thereafter conduct the same diligently and shall cause to be performed on said premises one hundred fifty shifts or more of labor within every thirty days in such mining operations and in the development of said property as a mine, the term "shift" meaning a workman employed to labor on or in said mine in furtherance of the mining projects contemplated by this agreement of one day of eight hours work or such other maximum working day as may be prescribed by law or other governmental regulations; a suspension of work due to unavoidable accidents, strikes, acts of God, war, weather conditions or other casualties beyond the control of the Lessee excepted.

8.

The Lessee may, at any time during the term herein stated, surrender this lease and agreement, together with the possession of said claims hereinabove described, upon the giving of written notice to that effect to the Lessor and thereupon be relieved of all future obligations hereunder but such surrender shall not release the Lessee from any obligation or liability theretofore accrued by him hereunder, including any liability arising out of the provisions hereof with reference to the purchase or rental of mining machinery, equipment, supplies, etc.

9.

As a further and additional consideration of this agreement, the Lessee shall pay to the Lessor at Bishop, California, as rental for said claims and as royalty payments ten per cent of all monies received from the sale of tungsten and/or other minerals mined or produced from said claims or any part thereof. If a milling charge has been deducted before payment to Lessee, ten per cent of such charge shall be included in payment to Lessor. Commencing _____ _____, 1951 a minimum royalty payment of $ None per month shall be paid to the Lessor. All minimum monthly

royalty payments shall be applied upon the total actual royalties during that monthly period and the actual royalties for any other monthly period shall not be applied to the minimum royalty obligation for any other monthly period. If the Lessee shall mill or reduce tungsten, ore or other minerals from said claims, he shall ship all concentrates or other minerals to a recognized custom mill or smelter or shall sell the same to a licensed purchaser or to some governmental agency. In the event of a disposition of unmilled or concentrated ores produced from said claims, they shall be disposed of by the Lessee in the customary channels of trade and commerce. All sales of minerals produced from said property shall be for not less than the current market value thereof on the open competitive market.

10.

Within thirty days after the receipt by the Lessee of any payment for sale or shipment of ore or concentrate produced from said property, Lessee shall pay the hereinbefore designated percentage of royalty on the gross yield and value of said ores or concentrate as evidenced by the mint, mill, or smelter returns or shipping or billing invoices therefor, without deducting therefrom any mint charges, smelter costs, transportation charges, commissions, taxes, insurance or other costs or charges whatsoever. All royalty payments made by the Lessee to the Lessor, as aforesaid, shall constitute rental for said real property and shall also constitute payments upon the balance of said purchase price of said real property in the event the Lessee shall elect to exercise the option to purchase the same. All payments to be made on account of royalty, as hereinabove specified, shall be accompanied by a mint, smelter, or mill return or shipping or billing invoice evidencing the gross yield of said ores or concentrates and the gross return or sale price.

11.

The Lessor shall have access to all shipping and refining returns, milling or production records, and all records giving information of the amount of minerals produced, extracted, or removed by the Lessee from said real property and all the proceeds thereof.

12.

The Lessee may assign this lease or any interest therein and may sublease the whole or any portion of said real property and this lease shall be binding upon and extend to the assigns, successors, administrators, executors, and heirs of the parties hereto.

13.

The Lessor shall not be liable nor responsible for any work or labor of any kind or character done or performed in, on, or upon said property during the life of this agreement or for any material or materials furnished to be used or used in, on, or upon, or in connection with the work of said property and the Lessee will post, in the name of the Lessor, notices of non-responsibility as provided in the laws of the State of California, immediately upon the beginning of the construction of any building or improvement upon said property and the Lessee will pay all expenses and charges of each and every nature for which it shall become expressly or impliedly liable in anywise connected with the working of this property during the life of this agreement and will protect and save harmless the said property from all claims and liens of every nature arising out of any act or omission of the Lessee.

14.

The Lessor shall have the right to enter upon said property at any time to post notice of non-responsibility or to inspect

all or any part of the same or to inspect the machinery and equipment belonging to the Lessor or in which the Lessor has any interest of any kind.

15.

The Lessee agrees that as soon as work shall be commenced by any employee upon said property under this agreement, he will procure and carry a policy of insurance for the protection of the parties hereto for any injury or injuries to employees under the Workmen's Compensation Insurance and Safety Act of the State of California and under all acts amendatory thereto and to carry and keep the same in effect at the Lessee's own expense.

16.

All development work done and all improvements made upon said property shall be in accordance with the requirements, rules, and regulations of the Industrial Accident Commission of the State of California and shall constitute the annual assessment work required to maintain the said mining claims. The Lessee agrees to perform the necessary assessment work and to provide the necessary improvements to so maintain said mining claims to the extent required by law and to record proper proof of labor in connection therewith in the office of the County Recorder of Inyo County, California, on or before the 15th day of June of each year during the term of this agreement or any extension thereof. The Lessee shall pay, before delinquency, all personal property taxes assessed against any personal property which he may install upon the said mining claim and shall pay, before delinquency, all personal property taxes on any other personal property which may belong to the Lessor, but which is being rented or used by the Lessee and the Lessee shall pay, before delinquency, all real

property taxes, if any, which may be assessed against said property.

17.

Time is of the essence of this agreement and each and every covenant, term, or condition herein contained on the part of the Lessee to be kept and performed shall be and is hereby made a condition of this agreement. In the event the Lessee shall fail or refuse to keep or perform any covenant, term, or condition set forth herein for thirty days after written notice of default specifying the particulars of said alleged default, Lessor may, at its option, with written notice to the Lessee and without waiving any right hereunder, terminate this agreement and with or without process of law may expel, remove, or put the Lessee out of possession of the real and personal property described herein, but such termination shall not release the Lessee from any obligation or liability theretofore incurred under the provisions hereof. Notwithstanding anything herein to the contrary, no notice of termination need be given with respect to default in the payment of any installments of royalties as and when the same may become due by the terms hereof and that this agreement may be terminated for failure to pay royalties due without the service of any notice of default with respect thereto. Waiver of one default by the Lessor shall not be deemed to be a waiver of any other default.

18.

In the event of the termination of this contract in any manner other than by the consummation of the sale of said real properties, the Lessee may remove all machinery and equipment, including underground and surface pumps and other personal property which may hereafter be placed on said property by the Lessee, said removal to be accomplished within ninety days, weather and road conditions permitting, after the termination of this contract

as aforesaid, provided the Lessee is not indebted to the Lessor for the payment of any sum of money which may be due under the terms hereof and if so indebted, the Lessee shall not have the right to remove any of such personal property until after such indebtedness has been paid in full. It is understood and agreed that any of the following improvements hereafter placed upon said property shall remain thereon and shall be surrendered therewith, to-wit, all buildings, including mill buildings, storage buildings, bunkers for the storing of ore, flumes, ditches, gallows or head frames to any shaft, all ladders, underground timbering and other improvements which may be actually affixed to the land itself. In the event of the termination of this contract, as aforesaid, all sums of money theretofore paid to the Lessor shall be regarded as liquidated damages for the prior use and occupation of said real property and improvements and shall be so retained by the Lessor. In the event the Lessee shall elect to terminate this agreement prior to the term fixed in the same, the Lessee shall and will peacefully and quietly surrender and yield said premises to the Lessor and execute and deliver to the Lessor a quitclaim deed or other appropriate instrument by the terms of which the Lessee shall surrender all his right, title and interest in and to all of said claims and premises and the Lessee shall thereupon be relieved from all obligations with respect to the performance of the terms of this agreement, save and excepting those existing at the time of the execution of said quitclaim deed or other appropriate instrument.

19.

This agreement shall inure to the benefit of and shall bind the successors, assigns, heirs, administrators and executors of the parties hereto. It is understood that a portion of the

automobile road to the real property, covered by this lease, is owned and operated by the U. S. Vanadium Corporation and the Lessor makes no warranty with reference thereto.

IN WITNESS WHEREOF, the parties hereto have executed this agreement the day and year first above written.

ATTEST:

/s/ H. O. JOHANSON
Secretary.

EL DIABLO MINING COMPANY,
a corporation,

By /s/ CHARLES G. SCHARF
President

LESSOR

/s/ REID J. SAMPSON

LESSEE

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.
Approval expires 6-30-51.

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

DO NOT FILL IN THIS BLOCK

Docket No. DMA-1456X

Date received 5/31/51

Participation

H. A. Batchelor
569 North Rossmore
Los Angeles 4, California

Name and address of applicant

Date May 25, 1951

FILL IN THIS BLOCK

Date of application May 25, 1951

Estimated cost $20,000.00

Mineral or metal Tungsten

Percentage of Government participation 75%

Location of mine Pine Creek District, Inyo County, California

Date of filing MF-100 No Filing

DMA Docket Number, if available

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four signed copies of the application to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive officer thereof, with your name and address on each sheet of the application and all accompanying papers. If any question is inapplicable, or if you cannot answer it, so state on the form. Where the space provided for answer is insufficient, answer on a separate sheet, annex it to the application form, and refer to it in space for answer. If the application is approved, you will be presented with an exploration project contract on Form MF-200, for your signature.

THE APPLICANT

*1. Is applicant an individual, partnership, or corporation?
*2. If a partnership, state names and addresses of partners.
*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders.
*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project.
*5. Are you the owner or the lessee of the property?
6. If owner, state what claims, liens, or encumbrances, if any, are against the property.
7. If lessee, attach a copy of the lease and state if it is in good standing.

NOTE.—It will be necessary to procure and attach to the exploration project contract agreements of claimants, lienors, encumbrances and lessors subordinating their interests in the property to the interest of the Government under the contract.

8. Furnish current financial statement, showing assets and liabilities, and a profit and loss statement.
9. How much money is applicant prepared to invest in proposed project? Is it sufficient to pay your part of the cost of the project as detailed in question 23 of this application form, in accordance with the regulations on Government participation (Section 9 of Mineral Order 5)?

*If you have already answered these questions on MF-100, you are not required to answer the questions for this application.

16—64067-1

THE PROPERTY

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

    NOTE.—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 (*b*) 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.

*11. State the present and former names of the property, if any.

*12. State, in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distances and directions and kinds and conditions of roads.

*13. State source and quantity of water available for operations and its sufficiency at all seasons.
State amount of power to be used, rate per hour or other cost, and source.

*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work.

15. State in detail how the ore could be shipped and how and where milled.

*16. History:
    (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.
    (*b*) State briefly the known history and production of adjoining and neighboring properties.
    (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

*17. Production:
    (*a*) If mine is in production, furnish the following information:

	Tons per day	*Grade or analysis*	*Cost per ton*	*Net value per ton*
(1) Mining				
(2) Milling				
(3) Shipped or sold				

*18. Ore or mineral reserves: (If property is or has been operating.)
    (*a*) Describe the ore or mineral deposits briefly.
    (*b*) Submit available maps and assay data.
    (*c*) Give estimated tonnage and grade of each class of ore reserves.

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

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted?

21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it.

    NOTE.—The Government will not participate in a project that will require more than 2 years to complete.

22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data.

THE REQUIREMENTS AND COSTS

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:
    (*a*) Labor, by numbers and classes (miners, muckers, millmen, etc.), with wages of each.
    (*b*) Supervisors, by numbers and positions, with salaries of each.
    (*c*) Cost of necessary repairs to existing facilities, structures, and buildings.
    (*d*) Cost of necessary installation or construction of additional facilities, structures, and buildings.
    (*e*) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.
    (*f*) Cost of rental for equipment which the operator proposes to rent.
    (*g*) Rental value of items of equipment which the operator now owns and which will be devoted to the work.
    (*h*) Cost of materials and supplies, including items of equipment costing less than $50 each.
    (*i*) Cost of power, water, utilities, and any other items not provided for above.

24. Furnish a time schedule of the project, stated in terms of months after project is approved, showing progress expected to be accomplished and the money expected to be spent.

CERTIFICATION

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

(Name of company)

By [signature]
(Signature of authorized official)

26 May 1957
(Date)

(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.

*Same as footnote on page 1.

16—64067-1 U. S. GOVERNMENT PRINTING OFFICE

H. A. BATCHELOR
569 North Rossmore
Los Angeles 4, California

May 25, 1951

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

Gentlemen:

In connection with the attached Application for Aid For an Exploration Project Pursuant to Mineral Order 5, Under Defense Production Act of 1950, I believe the following facts are relevant and should be considered:

The property in question has been inspected recently and thoroughly geologized by Mr. Paul C. Bateman, U.S.G.S., 102 Old Mint Building, San Francisco 3, California. Mr. Bateman is well-acquainted with our engineer, Mr. Charles M. Heron, Mining Engineer, 465 North Segovia, San Gabriel, California. Certain maps and data supplied by Mr. Batement to the owners of the property were made available to us during our examination on May 16, 1951. We did not feel that we had authority to make copies of these maps or sketches, hence none are included with this Application but I am sure that any information Mr. Bateman has on the property in question, while not yet in published form, is already available to your office and might well be considered in passing upon this Application.

1. The Applicant for the initial loan of $15,000.00 is an individual and preliminary work under our program will be done for my account. Later work, if undertaken, will be done by a corporation to be formed.

4(a). The Applicant has been engaged in placer mining in Canada for the past four years; previous to that, has made a great number of inspection trips with Mr. Heron and investigated many mining properties and operations in Canada, the Western States and Mexico. The Applicant's business experience covers many years with New York Stock Exchange firms, the operation of a lumber business in Michigan and years of experience in real estate and building in New York and California.

4(b). The development program and future operation of this property, if any, will be under the direct supervision of Mr. Charles M. Heron, who will have with him several competent mining men with whom we have long been associated. Mr. Heron's reputation is well-known in this City, and it is his conservative enthusiasm for this property which is responsible for the present undertaking. As above mentioned, Mr. Paul C. Bateman of the U.S.G.S. is fully acquainted with Mr. Heron and his ability. Further references for Mr. Heron are as follows:

Mr. Harvey S. Mudd, Pacific Mutual Building, Los Angeles 14, Calif.

H. A. Batchelor
569 North Rossmore
Los Angeles 4, California

Mr. William C. Browning, Goldfield American Development Company, Pacific Mutual Building, Los Angeles 14, Calif.
Mr. Walter Abel, California State Corporation Commission, Mirror Building, 2nd and Spring Streets, Los Angeles 12, California
Mr. E. Ord Slater, President, Smith-Emery Co., Los Angeles, Calif.

5. An Option for Mining Lease, a copy of which is attached, covering the subject property, is at present held by Mr. Reid J. Sampson, California State Building, Los Angeles, but the Lease with Option to Purchase will be made directly to me, or my assigns, in the event my Application for Government assistance receives favorable consideration.

9. Mr. Heron estimates that the preliminary exploration of this property will cost approximately $20,000.00. I am well able to supply $5,000.00 to cover my share of such a project and will deposit a check for that amount in the Bank of America at Bishop when notified that Government assistance on the balance will be made available.

10. Description of this property is contained in the attached Option for Mining Lease. The operating property consists of a 2800 foot aerial gravity tramway extending from the mine workings to a 300-ton ore bin situated close to the U. S. Vanadium millyards. If the proposed drilling gives satisfactory results, we anticipate establishing a 15-man camp in this area and constructing a jeep road to the mine entrance. At present, a trail for horses is used and men are taken from the lower tram station to the mine on horseback. There are two compressors at the mine, together with the usual drills, tools, Power is secured from the Diesel compressor engine.

12. This property is located within a few hundred yards of the U. S. Vanadium Company mill on Pine Creek. This plant is described in great detail in the May 1951 Engineering and Mining Journal. The small building located on a flat area shown in the lower left hand corner of the picture in connection with this article is the lower tram station of the Brownstone operation.

13. Ample water for all purposes may be secured from Pine Creek which passes within a few hundred feet of the mine working and within a few hundred feet of the lower tram terminal for camp site.

15. Ore will be mined, sorted under lamps at the mine, waste discarded and ore moved over the tram to the ore bins at the lower tram terminal. At this point, it might be stockpiled as it would then be within a few yards of the U. S. Vanadium mill, or it could be moved directly into the mill for custom milling.

H. A. Batchelor
569 North Rossmore
Los Angeles 4, California

16(a). Previous operations carried on in 1946 and 1947 included construction of tramway said to have cost $50,000.00. Inspection of this tramway indicates that the value was very reasonable and that the tram could not be duplicated for that amount today. Because of the low price for tungsten ore during this period and excessive operating costs, the owners were unable to make a profit, consequently operations shut down. It might be mentioned at this point that the present owners are unable to operate the property at this time for reasons of health and the difficulty of working at that altitude.

16(b). This property is near U. S. Vanadium mine and plant; the area is fully described by U. S. G. S. publications and is considered one of the great tungsten areas in California.

16(c). Please refer to Charles M. Heron's letter to the writer. Further information regarding the property and area in question may be had from a recent geological study made by Paul C. Bateman of the U. S. G. S.

17. Mine has been idle for the past three years.

18(a). The ore occurs in a band of tactite lying between granite on the west and altered limestone on the east. These rocks, including the tactite, are cut by frequent sills and dikes of aplite obviously later than the tactite or other two rocks. The scheelite is finely and uniformly diseminated through the tactite. The tactite and aplite are so distinct that sorting before the ore is sent to the tram should be very effective. Photo No. 4 shows very clearly the size and persistence of the tactite body.

18(b). During Mr. Heron's examination of the property on May 16, 1951, we were accompanied by Mr. H. O. Johanson of Bishop, one of the owners of the property, who supervised the original operations. Mr. Johanson had copies of maps made by Mr. Paul C. Bateman of the U.S.G.S. and these were available to us. We had no permission to copy these maps and made none of our own.

There has been a very few feet of development work upon the stope. The face of the drift shows some ore. There is a raise carried a short distance above the top of the stope (perhaps 25 to 30 feet) which has passed through an aplite sill and is now in good ore, which was estimated to be of at least 1% grade.

19. The drilling of three holes pointed below the tram station and cutting the tactite zone at different depths, also one or two holes cut the zone in advance of the face of the drift, and one or two holes pointed upward at maximum angles, should give an excellent picture of future possibilities. There are definitely no

ore reserves developed at the present time. We believe that the drilling program could be completed within six weeks, and it is Mr. Heron's firm conviction that such drilling would uncover large shows of ore, which has prompted the writer to apply for Government assistance in this project.

21. It is proposed to have the diamond drilling done by contract. Transportation from lower tram level to point of drilling will be furnished by Applicant.

23. Estimated costs of the original drilling program are as follows:

Rehabilitation of Tramway	$ 500.00
Pick-up Truck rental	1,000.00
Fuel and Oil for Compressors	300.00
Saddle horses and feed	1,000.00
Tent and cooking equipment for men at lower tram station	750.00
Diamond drilling 1500 feet at $5.00 a foot (this requires 6 weeks)	7,500.00
During this period, we will need 1 man at lower station	600.00
1 handyman for horses	400.00
1 man at upper station	600.00
1 engineer to watch cores	800.00
4 inspection trips permitting Mr. Heron to spend 3 days on each trip at the mine	1,000.00
Industrial insurance	1,000.00
Miscellaneous	1,000.00
	$17,450.00

This statement covers only the drilling of 1500 feet. It might be advisable to carry this to 2500 feet if results were promising. However, if drilling led to anticipated findings, I would immediately commence serious mining operations requiring the erection of a camp at the lower tram terminal, construction of a jeep road to the mine which would probably cost $5,000.00 and the organization of a 15-man crew. These men are all available at this time and it is Mr. Heron's belief that, should our first drilling results prove satisfactory, we would be shipping ore within two months, or less. Under the terms of the Option, we would have use of all equipment now at the mine until a decision to take over and fully develop the property was made, at which time purchase of the compressors and miscellaneous equipment would require approximately $12,000.00 and other expenses as indicated by Mr. Heron would probably entail expenditure of $100,000.00. Application for this would, of course, be made following a successful drilling program.

CHARLES M. HERON
MINING ENGINEER

465 North Segovia Avenue,
San Gabriel, California,
May 19, 1951.

Mr. Harry A. Batchelor,
569 N. Rossmore Ave.,
Los Angeles, California.

Dear Mr. Batchelor;

Herewith I wish to give my impressions of the Brownstone Tungsten mine, which we visited on May 16.

The Brownstone group comprises 4 unpatented claims. They are situated on the steep slope on the south side of Pine Creek Canyon, about 20 miles south-west of Bishop. The claims are adjoining, or in the immediate vicinity of the United States Vanadium Company's mill property, and access to the claims is through the mill yards of that company.

The Brownstone mine is reached by paved road as far as the U.S.Vanadium mill; thence about 350 feet to the lower tram terminal of the Brownstone arial tram by a poor dirt road. From the lower tram terminal a steep but good trail about 2800 feet in length leads to the upper terminal and the entrance to the mine. This steep trail is probably entirely impassable for much of the six months during which heavy snows are a common occurrence.

The topography of the area surrounding the mine is such that a house for the mining crew can be built only by blasting into an overhanging cliff face near the mine,-a difficult but essential and not impossible task. With such a house, and the tram in good working condition, as it seems to be, work could be carried on with no serious interruptions throughout the winter. Eventually the mine must have some sort of housing if the operation is to be more that a small leasing type of mine. However, during the drilling and the early drifting work, the operation can be carried on as it has in the past, transporting the men on horse-back from the lower tram terminal; this means a six-hour day in the mine, which is a heavy handicap.

The outcrop of ore appears prominently on the face of an almost vertical cliff, with granite lying to the west and limestone to the east, and a zone of tactite which includes the ore, lying between. These are all cut by numerous west dipping aplite dikes or sills. This tactite is about twenty feet wide where it is exposed on the face of the cliff and it extends upwards from where it is hidden by talus for something over a hundred and fifty feet (not measured).

During my brief examination, I made no attempt to survey the workings. Mr. Johanson had an excellent sketch of the workings which might perhaps be obtainable if necessary. The upper tram terminal is in a large underground station, about 55 feet long and as much as 18 feet wide with a 10 stub at one side for a store room. A raise from the terminal room connects with the adit level, 24 feet

above. The adit level is about 65 feet long and ore has been stoped from above this level. The stope reaches a maximum height of about 35 feet; its average width is 14 feet. At the west end of the stope a raise has been carried up about thirty feet. At this height it passes through an aplite sill and encounters good looking ore; the scheelite is uniformly disseminated through the tactite and from observation with an ultra-violet lamp I should say the ore would run well over 1% WO_3. In its present state this face doesn't give any indication as to what tonnage may be expected, but it is a good showing.

From October 1946 for about a year the owners of the claims leased the Tungstar Mill, about two miles away, and produced 608.4 units of scheelite. The record does not show how many tons was milled to produce this amount, but it was stated that the heads averaged about .5% WO_3. From the sketch which Mr. Johanson loaned me I made a rough calculation which indicates that 1540 tons came from the stope which produced 608.4 units; this shows roughly .4% recovered, indicating mill heads averaging .50% (assuming 80% extraction).

The U.S.Vanadium mill is now equipped to take custom ore, for which they pay for the scheelite at the rate of $37.00 per unit recovered,- no charge for milling. The ore must average not less than .30% WO_3. This market for the crude ore will undoubtedly be advantageous at the beginning of operations, but if a stockpile is established within a reasonable distance, where the shipper was paid for the scheelite at more nearly its true market value, that would make his operating problems much simpler.

In its present condition the property needs a serious development program, which certainly seems to be warranted from what can be seen. The upper tram terminal station affords an excellent opportunity for a substantial amount of diamond drilling. Core recovery should be exceptionally high. A series of holes fanned out at different angles from a point near the entrance to the station would give excellent information as to what lies below the adit level and in advance of the present face. Perhaps as much as a thousand feet could be drilled to good advantage from this one location.

The adit level affords a favorable opportunity for some extensive drifting, and frequent cross-cuts. Later drifting on other levels will probably be required. The drifting program should be delayed until a few drill holes are finished.

The suggestions made for development work are based on what can be seen in the immediate area surrounding the work already done. There is a large exposure of tactite two or three hundred feet up the cliff from the adit, which cannot be reached at present, but which seems to indicate that there are substantial possibilities for a long-range development program.

The equipment appears to be in good condition, except one compressor noted below. The tram is a gravity tram, but is equipped with a small air driven engine for reversing the tram in case of

emergency. It could be used for hoisting the diamond drilling equipment and the water. There are two 315 cu. ft. Sullivan-Caterpillar compressors, one apparently in perfect running condition and the other in need of extensive repairs. There are 10 half-ton tram buckets.

There are certain unique difficulties, perhaps no more serious than those experienced in starting most new properties; even for the diamond drilling program horses would have to be supplied to take the men up the hill each morning; the tram would have to be operated during such a program, requiring a man at the upper and lower terminals during the shift.

At the beginning of the work capital would have to be provided for the following purposes:

(a) At least four saddle horses, at the start, for drillers, an engineer and one other;
(b) Payment for compressors, miscellaneous tools and equipment, which will be due in a few weeks;
(c) Fuel and oil for compressors and tram;
(d) Pay roll for a small crew, including an engineer to watch cores;
(e) Capital for at least 1,000 feet of drilling;
(f) Industrial insurance;
(g) One small tent or cabin at the lower terminal of the tram.
(h) A moderate amount of working capital.

When the drifting starts this amount will have to be increased to take care of an increased crew, and as soon as assured reserves warrant such a project, some sort of bunk and cook house should be built under the cliff at the mine, to assure some increased degree of efficiency. It is difficult to beaccurate in this estimate but it is safe to say that the drilling phase of the program should not be started with less than $20,000 available to meet the first expenses. When the drifting and construction phase of the program is started there should be assured at least $100,000.

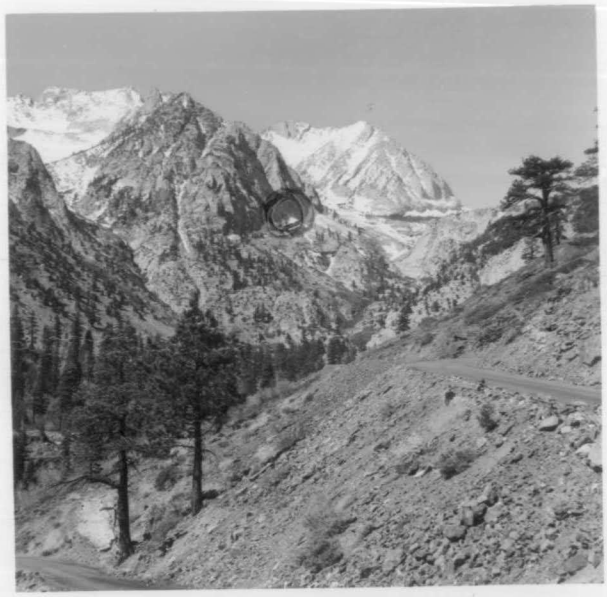
Obviously this is a somewhat costly project, but the chance of developing a substantial ore reserve seems to warrant the first phase,- from what is now apparent.

Sincerely yours

Chas. M. Heron

Charles M. Heron.

Dark band going up face of cliff gives some idea of extent of tactite in which ore occurs. Width of this band is 15 to 20 feet. Lower left corner, compressor sheds and portal to tram station. Portal to first level is just beyond figure on snow and second opening about 48 feet above.



1. Looking up Pine Creek showing location of U. S. Vanadium Mill and Brownstone Claims, upper tramway terminal and mine workings in circle.

2-3 Taken from portal of adit level looking down Pine Creek and below to U. S. Vanadium Plant

OPTION FOR MINING LEASE

THIS AGREEMENT, made and entered into this 1st day of April, 1951, by and between EL DIABLO MINING COMPANY, a California corporation, hereinafter referred to as "Optionor" and REID J. SAMPSON, hereinafter referred to as "Optionee",

W I T N E S S E T H:

WHEREAS, the Optionor is now in possession of four mining claims known as Brownstone No. 1, Brownstone No. 2, Myrtle No. 1, Myrtle No. 2, and two mill site claims known as Brownie No. 1 and Brownie No. 2, more complete and definite descriptions of which are set forth in the form of lease referred to herein and attached hereto and all of which claims are located in Inyo County, California, and

WHEREAS, the Optionor is the lessee under a certain lease dated June 25, 1943, wherein the owners of said claims are the lessors and the Optionor is the lessee, and

WHEREAS, the parties to this agreement desire to grant to the Optionee for the period specified, the sole right and option to enter into a sublease with the Optionors covering said claims,

NOW, THEREFORE, it is agreed as follows:

1.

This option shall extend only for the period from April 1, 1951 to and including July 31, 1951 and if it be not exercised by the Optionee or his successor or successors in interest it shall automatically lapse without the necessity of any notice whatsoever.

2.

The Optionee shall have the right to enter upon any and all of said claims and to conduct and carry on such preliminary

and exploratory work, including core drilling, as it may deem necessary or advisable in order to explore any ore body within any of said claims and to take samples therefrom and use for such purposes all of the mechanical and physical facilities upon or connected with any of said claims, including the right to use the aerial tramway and all its appurtenances. The Optionee shall pay in cash the fair market value of all supplies and materials of the Optionor which are used by the Optionee during the period of this Option.

3.

This option may be exercised at any time prior to its expiration and if it be exercised, then the parties hereto shall forthwith execute a sublease in the form attached hereto and shall thereafter be bound by all of the terms and provisions thereof. Exercise of this option can only be made by the giving of written notice to Optionor within the option period. Such notice shall be mailed or delivered to the office of Clyde C. Triplett, 610 Rowan Building, Los Angeles, California, and shall not be deemed to be given until received in the office of Clyde C. Triplett.

4.

The Optionee shall have the right to assign this option to any person, firm, or corporation and upon such assignment the assignee shall succeed to all the rights of the Optionee under this agreement. If, however, the Optionee or his successor or successors in interest should die before the exercise of this option, then it shall immediately lapse and no notice of any kind shall be required to effectively terminate the same.

5.

This agreement shall not be recorded by any of the parties hereto and if it should be recorded in the Office of the County

Recorder of any County in the State of California, then it shall immediately terminate.

WITNESS our hands the day and year first above written.

EL DIABLO MINING COMPANY,
a corporation,

ATTEST:

By /s/ CHARLES G. SCHORF
President

H. O. JOHANSON
Secretary

OPTIONOR

(SEAL)

/s/ REID J. SAMPSON
REID J. SAMPSON

OPTIONEE

MINING LEASE WITH OPTION TO PURCHASE

THIS AGREEMENT, made this _____ day of _____, 1951, by and between EL DIABLO MINING COMPANY, a California corporation, hereinafter referred to as "Lessor" and _____ _____, hereinafter referred to as "Lessee",

W I T N E S S E T H:

WHEREAS, the Lessor is now in possession, under terms of a written lease with the owners, of the following described mining claims, all of which are located in Inyo County, California,

Brownstone No. 1 and Brownstone No. 2, Notices of Locations of which were recorded in the Office of the County Recorder of said County on September 16, 1940, in Volume 44 at Page 1 of Mining Locations,

Myrtle No. 1, Notice of Location of which was recorded on September 10, 1941, in Book 55 at Page 79 of Mining Locations, and

Myrtle No. 2, Notice of Location of which was recorded on April 28, 1942, in Book 55, at Page 314 of Mining Locations, in the Office of the County Recorder of Inyo County, and

Brownie No. 1 Mill Site, Notice of Location being recorded October 1, 1941, in Volume "C", at Page 468, Land and Water Claims, and

Brownie No. 2, Mill Site, Notice of Location being recorded October 1, 1941, in Volume "C", Page 469, Land and Water Claims, in the Office of the County Recorder of Inyo County,

and

WHEREAS, with the consent of the owners of said claims the Lessor desires to sublease the same to the Lessee with the option on the part of the Lessee to purchase the same,

NOW, THEREFORE, it is agreed as follows:

1.

It is understood that this is a sublease and wherever the term "Lessor" is used herein it is intended to mean "Sublessor" and wherever the term "Lessee" is used it is intended to mean

"Sublessee" and wherever this document is referred to as a "Lease" it is understood the term "Lease" is used as though it were synonymous with "Sublease".

2.

An inventory of all of the machinery, equipment, and supplies of the Lessor located upon said mining claims, or any of them, or attached to the same, or connected with the same, including an aerial tramway and ore bins and all water lines and pipe lines, whether wholly or partially upon all or any of said claims, shall be immediately taken and the Lessee shall forthwith pay to the Lessor the present fair market value of all bits, hand tools, hoses and other expendable mining materials and supplies which the Lessee may desire to purchase and use in connection with the mining operations to be carried on, in accordance with the terms of this lease. Any such items of personal property as the Lessee does not desire to purchase and use shall remain the property of the Lessor. Such personal property and equipment, exclusive of the aerial tramway and its appurtenances, as may not come under the classification just mentioned, including such items as air compressors, slushers, track and other items of personal property of like nature, which is not readily consumed or expended through the use thereof and which is not in the nature of small tools and small items of personal property which can be conveniently transported by hand, shall be immediately delivered to the possession of the Lessee and the Lessee shall have the privilege of using the same for a period of ninety days from the date hereof; provided, the Lessee shall pay monthly to the Lessor a reasonable rental value thereof which rental value shall be that specified in a standard list of rentals for second-hand machinery and equipment providing the items of equipment are described in such publication, otherwise the rental price for such items

sold shall be the present fair rental value thereof. If the Lessee does not quitclaim said mining claims and cancel this lease within ninety days from the date hereof, then the Lessee shall purchase from the Lessor at or before the expiration of said ninety day period all of the machinery and equipment covered by the rental provisions of this paragraph and the purchase price therefor shall be the sum of $_____. The rental theretofore paid for the use of the same shall apply upon such purchase price and the balance shall be paid to the Lessor in cash on or before the expiration of said ninety day period. The Lessee agrees during said ninety day period to keep and maintain all of the machinery and equipment covered by the rental provisions of this paragraph in good mechanical condition, making all necessary repairs thereto and if the same be not purchased by the Lessee under the terms hereof, then to return the same to the Lessor on or before the expiration of said ninety day period in as good mechanical condition and order as when the same was received by the Lessee, ordinary wear and tear excepted.

3.

The Lessee shall have the right to use, operate and maintain the aerial tramway connected with said mining claims and belonging to the Lessor, including the ore bins and all of its appurtenances, and if the Lessee exercises the right to use said aerial tramway, then the Lessee shall pay to the Lessor in cash, as rental for the use of the same, seventy-five cents (75¢) per ton for all ore or rock transported on such tramway from the upper to the lower station which does not carry, on the average, more than six-tenths of one per cent tungsten trioxide and if the average is more than six-tenths of one per cent, then the rental price for the use of said tramway shall be increased at the rate of one

and two-thirds cents (1-2/3¢) per ton for each additional one-tenth of one per cent but said rental price shall in no event be more than one dollar ($1.00) per ton. When and if the total rental for the use of said tramway paid to the Lessor shall equal the sum of forty thousand dollars ($40,000.00), then the title to said tramway and all of its appurtenances shall pass to the Lessee. If this lease be terminated prior to the receipt by the Lessor of the sum of forty thousand dollars ($40,000.00), then all rental payments made by the Lessee for the use of said tramway shall be considered to be rent and shall not vest in the Lessee any right, title, or interest of any kind in or to said tramway or any of its appurtenances. During such time as the Lessee may be using said tramway, Lessee shall keep the same and all of its appurtenances in good mechanical condition and shall make all necessary repairs in order that when the same is redelivered to the possession of the Lessor, if such redelivery should take place, it shall be in good working mechanical condition and shall be in as good condition as when received by the Lessee, ordinary wear and tear alone excepted.

4.

The Lessee shall immediately take possession under the terms hereof of said mining claims for the purpose of prospecting, working and developing the same with the view of the purchase thereof and the Lessor hereby grants to the Lessee for and during such term or period as the Lessee shall perform, keep and comply with every covenant, term and condition hereof on the Lessee's part to be kept and performed, the immediate possession and right to the exclusive possession of the said mining and mill site claims and the whole thereof with the water rights, if any, thereto appertaining and gives to the Lessee the option to pur-

chase the same for the full purchase price of two hundred fifty thousand dollars ($250,000.00) lawful money of the United States, without interest, to be paid to the Lessor in installments as hereinafter provided.

5.

Lessees are hereby expressly granted the right to enter upon said premises and to mine and explore the same and to take, remove and dispose of any and all metals or minerals or other substances (organic or inorganic) and whether existing as placer, lode or other type of deposit on or beneath the surface of said property so long as this contract shall be and remain in full force and effect. That said mining operations to be conducted by the Lessees may be by any method selected by the Lessees as the most practical, expedient and economical method to be pursued in the extraction and recovery of minerals on the said lands.

6.

All mining operations shall at all times be conducted and carried on in a good and minerlike fashion and in accordance with the established and accepted practices and not otherwise. Any or all timbers, lumber, track or pipes that are now in or upon the premises may be removed from one area thereof to another so long as the same is used upon or in the premises and that by so doing the underground workings are not endangered in such areas as may be considered active working areas. The Lessor or its duly appointed agents or representatives shall have the privilege of entering into and inspecting said property and all improvements and workings thereon from the purpose of ascertaining the manner in which the Lessee is carrying on said operations.

7.

The Lessee shall, within thirty days from the date hereof,

commence mining operations on said premises and thereafter conduct the same diligently and shall cause to be performed on said premises one hundred fifty shifts or more of labor within every thirty days in such mining operations and in the development of said property as a mine, the term "shift" meaning a workman employed to labor on or in said mine in furtherance of the mining projects contemplated by this agreement of one day of eight hours work or such other maximum working day as may be prescribed by law or other governmental regulations; a suspension of work due to unavoidable accidents, strikes, acts of God, war, weather conditions or other casualties beyond the control of the Lessee excepted.

8.

The Lessee may, at any time during the term herein stated, surrender this lease and agreement, together with the possession of said claims hereinabove described, upon the giving of written notice to that effect to the Lessor and thereupon be relieved of all future obligations hereunder but such surrender shall not release the Lessee from any obligation or liability theretofore accrued by him hereunder, including any liability arising out of the provisions hereof with reference to the purchase or rental of mining machinery, equipment, supplies, etc.

9.

As a further and additional consideration of this agreement, the Lessee shall pay to the Lessor at Bishop, California, as rental for said claims and as royalty payments ten per cent of all monies received from the sale of tungsten and/or other minerals mined or produced from said claims or any part thereof. If a milling charge has been deducted before payment to Lessee, ten per cent of such charge shall be included in payment to Lessor. Commencing _____ _____, 1951 a minimum royalty payment of $ None per month shall be paid to the Lessor. All minimum monthly

royalty payments shall be applied upon the total actual royalties during that monthly period and the actual royalties for any other monthly period shall not be applied to the minimum royalty obligation for any other monthly period. If the Lessee shall mill or reduce tungsten, ore or other minerals from said claims, he shall ship all concentrates or other minerals to a recognized custom mill or smelter or shall sell the same to a licensed purchaser or to some governmental agency. In the event of a disposition of unmilled or concentrated ores produced from said claims, they shall be disposed of by the Lessee in the customary channels of trade and commerce. All sales of minerals produced from said property shall be for not less than the current market value thereof on the open competitive market.

10.

Within thirty days after the receipt by the Lessee of any payment for sale or shipment of ore or concentrate produced from said property, Lessee shall pay the hereinbefore designated percentage of royalty on the gross yield and value of said ores or concentrate as evidenced by the mint, mill, or smelter returns or shipping or billing invoices therefor, without deducting therefrom any mint charges, smelter costs, transportation charges, commissions, taxes, insurance or other costs or charges whatsoever. All royalty payments made by the Lessee to the Lessor, as aforesaid, shall constitute rental for said real property and shall also constitute payments upon the balance of said purchase price of said real property in the event the Lessee shall elect to exercise the option to purchase the same. All payments to be made on account of royalty, as hereinabove specified, shall be accompanied by a mint, smelter, or mill return or shipping or billing invoice evidencing the gross yield of said ores or concentrates and the gross return or sale price.

11.

The Lessor shall have access to all shipping and refining returns, milling or production records, and all records giving information of the amount of minerals produced, extracted, or removed by the Lessee from said real property and all the proceeds thereof.

12.

The Lessee may assign this lease or any interest therein and may sublease the whole or any portion of said real property and this lease shall be binding upon and extend to the assigns, successors, administrators, executors, and heirs of the parties hereto.

13.

The Lessor shall not be liable nor responsible for any work or labor of any kind or character done or performed in, on, or upon said property during the life of this agreement or for any material or materials furnished to be used or used in, on, or upon, or in connection with the work of said property and the Lessee will post, in the name of the Lessor, notices of non-responsibility as provided in the laws of the State of California, immediately upon the beginning of the construction of any building or improvement upon said property and the Lessee will pay all expenses and charges of each and every nature for which it shall become expressly or impliedly liable in anywise connected with the working of this property during the life of this agreement and will protect and save harmless the said property from all claims and liens of every nature arising out of any act or omission of the Lessee.

14.

The Lessor shall have the right to enter upon said property at any time to post notice of non-responsibility or to inspect

all or any part of the same or to inspect the machinery and equipment belonging to the Lessor or in which the Lessor has any interest of any kind.

15.

The Lessee agrees that as soon as work shall be commenced by any employee upon said property under this agreement, he will procure and carry a policy of insurance for the protection of the parties hereto for any injury or injuries to employees under the Workmen's Compensation Insurance and Safety Act of the State of California and under all acts amendatory thereto and to carry and keep the same in effect at the Lessee's own expense.

16.

All development work done and all improvements made upon said property shall be in accordance with the requirements, rules, and regulations of the Industrial Accident Commission of the State of California and shall constitute the annual assessment work required to maintain the said mining claims. The Lessee agrees to perform the necessary assessment work and to provide the necessary improvements to so maintain said mining claims to the extent required by law and to record proper proof of labor in connection therewith in the office of the County Recorder of Inyo County, California, on or before the 15th day of June of each year during the term of this agreement or any extension thereof. The Lessee shall pay, before delinquency, all personal property taxes assessed against any personal property which he may install upon the said mining claim and shall pay, before delinquency, all personal property taxes on any other personal property which may belong to the Lessor, but which is being rented or used by the Lessee and the Lessee shall pay, before delinquency, all real

property taxes, if any, which may be assessed against said property.

17.

Time is of the essence of this agreement and each and every covenant, term, or condition herein contained on the part of the Lessee to be kept and performed shall be and is hereby made a condition of this agreement. In the event the Lessee shall fail or refuse to keep or perform any covenant, term, or condition set forth herein for thirty days after written notice of default specifying the particulars of said alleged default, Lessor may, at its option, with written notice to the Lessee and without waiving any right hereunder, terminate this agreement and with or without process of law may expel, remove, or put the Lessee out of possession of the real and personal property described herein, but such termination shall not release the Lessee from any obligation or liability theretofore incurred under the provisions hereof. Notwithstanding anything herein to the contrary, no notice of termination need be given with respect to default in the payment of any installments of royalties as and when the same may become due by the terms hereof and that this agreement may be terminated for failure to pay royalties due without the service of any notice of default with respect thereto. Waiver of one default by the Lessor shall not be deemed to be a waiver of any other default.

18.

In the event of the termination of this contract in any manner other than by the consummation of the sale of said real properties, the Lessee may remove all machinery and equipment, including underground and surface pumps and other personal property which may hereafter be placed on said property by the Lessee, said removal to be accomplished within ninety days, weather and road conditions permitting, after the termination of this contract

as aforesaid, provided the Lessee is not indebted to the Lessor for the payment of any sum of money which may be due under the terms hereof and if so indebted, the Lessee shall not have the right to remove any of such personal property until after such indebtedness has been paid in full. It is understood and agreed that any of the following improvements hereafter placed upon said property shall remain thereon and shall be surrendered therewith, to-wit, all buildings, including mill buildings, storage buildings, bunkers for the storing of ore, flumes, ditches, gallows or head frames to any shaft, all ladders, underground timbering and other improvements which may be actually affixed to the land itself. In the event of the termination of this contract, as aforesaid, all sums of money theretofore paid to the Lessor shall be regarded as liquidated damages for the prior use and occupation of said real property and improvements and shall be so retained by the Lessor. In the event the Lessee shall elect to terminate this agreement prior to the term fixed in the same, the Lessee shall and will peacefully and quietly surrender and yield said premises to the Lessor and execute and deliver to the Lessor a quitclaim deed or other appropriate instrument by the terms of which the Lessee shall surrender all his right, title and interest in and to all of said claims and premises and the Lessee shall thereupon be relieved from all obligations with respect to the performance of the terms of this agreement, save and excepting those existing at the time of the execution of said quitclaim deed or other appropriate instrument.

19.

This agreement shall inure to the benefit of and shall bind the successors, assigns, heirs, administrators and executors of the parties hereto. It is understood that a portion of the

automobile road to the real property, covered by this lease, is owned and operated by the U. S. Vanadium Corporation and the Lessor makes no warranty with reference thereto.

IN WITNESS WHEREOF, the parties hereto have executed this agreement the day and year first above written.

ATTEST:

/s/ H. O. JOHANSON
Secretary.

EL DIABLO MINING COMPANY,
a corporation,

By /s/ CHARLES G. SCHARF
President

LESSOR

/s/ REID J. SAMPSON

LESSEE

Form MF-103
(April 1951)

U. DEPARTMENT OF THE INTER R
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.
Approval expires 6-30-51.

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

DO NOT FILL IN THIS BLOCK

Docket No. DMA-1456 X

Date received 5/31/51

Participation

H. A. Batchelor
569 North Rossmore
Los Angeles 4, California

Name and address of applicant

Date May 25, 1951

FILL IN THIS BLOCK

Date of application May 25, 1951

Estimated cost $20,000.00

Mineral or metal Tungsten

Percentage of Government participation 75%

Location of mine Pine Creek District, Inyo County, California

Date of filing MF-100 No Filing

DMA Docket Number, if available

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four signed copies of the application to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive officer thereof, with your name and address on each sheet of the application and all accompanying papers. If any question is inapplicable, or if you cannot answer it, so state on the form. Where the space provided for answer is insufficient, answer on a separate sheet, annex it to the application form, and refer to it in space for answer. If the application is approved, you will be presented with an exploration project contract on Form MF-200, for your signature.

THE APPLICANT

*1. Is applicant an individual, partnership, or corporation?
*2. If a partnership, state names and addresses of partners.
*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders.
*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project.
*5. Are you the owner or the lessee of the property?
6. If owner, state what claims, liens, or encumbrances, if any, are against the property.
7. If lessee, attach a copy of the lease and state if it is in good standing.

NOTE.—It will be necessary to procure and attach to the exploration project contract agreements of claimants, lienors, encumbrances and lessors subordinating their interests in the property to the interest of the Government under the contract.

8. Furnish current financial statement, showing assets and liabilities, and a profit and loss statement.
9. How much money is applicant prepared to invest in proposed project? Is it sufficient to pay your part of the cost of the project as detailed in question 23 of this application form, in accordance with the regulations on Government participation (Section 9 of Mineral Order 5)?

*If you have already answered these questions on MF-100, you are not required to answer the questions for this application.

16—64067-1

THE PROPERTY

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

    NOTE.—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 (*b*) 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.

*11. State the present and former names of the property, if any.
*12. State, in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distances and directions and kinds and conditions of roads.
*13. State source and quantity of water available for operations and its sufficiency at all seasons.
State amount of power to be used, rate per hour or other cost, and source.
*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work.
15. State in detail how the ore could be shipped and how and where milled.
*16. History:
    (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.
    (*b*) State briefly the known history and production of adjoining and neighboring properties.
    (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.
*17. Production:
    (*a*) If mine is in production, furnish the following information:

	Tons per day	*Grade or analysis*	*Cost per ton*	*Net value per ton*
(1) Mining				
(2) Milling				
(3) Shipped or sold				

*18. Ore or mineral reserves: (If property is or has been operating.)
    (*a*) Describe the ore or mineral deposits briefly.
    (*b*) Submit available maps and assay data.
    (*c*) Give estimated tonnage and grade of each class of ore reserves.
19. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted?
21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it.

    NOTE.—The Government will not participate in a project that will require more than 2 years to complete.
22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data.

THE REQUIREMENTS AND COSTS

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:
    (*a*) Labor, by numbers and classes (miners, muckers, millmen, etc.), with wages of each.
    (*b*) Supervisors, by numbers and positions, with salaries of each.
    (*c*) Cost of necessary repairs to existing facilities, structures, and buildings.
    (*d*) Cost of necessary installation or construction of additional facilities, structures, and buildings.
    (*e*) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.
    (*f*) Cost of rental for equipment which the operator proposes to rent.
    (*g*) Rental value of items of equipment which the operator now owns and which will be devoted to the work.
    (*h*) Cost of materials and supplies, including items of equipment costing less than $50 each.
    (*i*) Cost of power, water, utilities, and any other items not provided for above.
24. Furnish a time schedule of the project, stated in terms of months after project is approved, showing progress expected to be accomplished and the money expected to be spent.

CERTIFICATION

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

(Name of company) By [illegible] (Signature of authorized official)

26 May 1951 (Date) (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.

*Same as footnote on page 1.

16—64067-1 U. S. GOVERNMENT PRINTING OFFICE

H. A. BATCHELOR
569 North Rossmore
Los Angeles 4, California

May 25, 1951

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

Gentlemen:

In connection with the attached Application for Aid For an Exploration Project Pursuant to Mineral Order 5, Under Defense Production Act of 1950, I believe the following facts are relevant and should be considered:

The property in question has been inspected recently and thoroughly geologized by Mr. Paul C. Bateman, U.S.G.S., 102 Old Mint Building, San Francisco 3, California. Mr. Bateman is well-acquainted with our engineer, Mr. Charles M. Heron, Mining Engineer, 465 North Segovia, San Gabriel, California. Certain maps and data supplied by Mr. Batement to the owners of the property were made available to us during our examination on May 16, 1951. We did not feel that we had authority to make copies of these maps or sketches, hence none are included with this Application but I am sure that any information Mr. Bateman has on the property in question, while not yet in published form, is already available to your office and might well be considered in passing upon this Application.

1. The Applicant for the initial loan of $15,000.00 is an individual and preliminary work under our program will be done for my account. Later work, if undertaken, will be done by a corporation to be formed.

4(a). The Applicant has been engaged in placer mining in Canada for the past four years; previous to that, has made a great number of inspection trips with Mr. Heron and investigated many mining properties and operations in Canada, the Western States and Mexico. The Applicant's business experience covers many years with New York Stock Exchange firms, the operation of a lumber business in Michigan and years of experience in real estate and building in New York and California.

4(b). The development program and future operation of this property, if any, will be under the direct supervision of Mr. Charles M. Heron, who will have with him several competent mining men with whom we have long been associated. Mr. Heron's reputation is well-known in this City, and it is his conservative enthusiasm for this property which is responsible for the present undertaking. As above mentioned, Mr. Paul C. Bateman of the U.S.G.S. is fully acquainted with Mr. Heron and his ability. Further references for Mr. Heron are as follows:

Mr. Harvey S. Mudd, Pacific Mutual Building, Los Angeles 14, Calif.

H. A. Batchelor
569 North Rossmore
Los Angeles 4, California

Mr. William C. Browning, Goldfield American Development Company, Pacific Mutual Building, Los Angeles 14, Calif.
Mr. Walter Abel, California State Corporation Commission, Mirror Building, 2nd and Spring Streets, Los Angeles 12, California
Mr. E. Ord Slater, President, Smith-Emery Co., Los Angeles, Calif.

5. An Option for Mining Lease, a copy of which is attached, covering the subject property, is at present held by Mr. Reid J. Sampson, California State Building, Los Angeles, but the Lease with Option to Purchase will be made directly to me, or my assigns, in the event my Application for Government assistance receives favorable consideration.

9. Mr. Heron estimates that the preliminary exploration of this property will cost approximately $20,000.00. I am well able to supply $5,000.00 to cover my share of such a project and will deposit a check for that amount in the Bank of America at Bishop when notified that Government assistance on the balance will be made available.

10. Description of this property is contained in the attached Option for Mining Lease. The operating property consists of a 2800 foot aerial gravity tramway extending from the mine workings to a 300-ton ore bin situated close to the U. S. Vanadium millyards. If the proposed drilling gives satisfactory results, we anticipate establishing a 15-man camp in this area and constructing a jeep road to the mine entrance. At present, a trail for horses is used and men are taken from the lower tram station to the mine on horseback. There are two compressors at the mine, together with the usual drills, tools, Power is secured from the Diesel compressor engine.

12. This property is located within a few hundred yards of the U. S. Vanadium Company mill on Pine Creek. This plant is described in great detail in the May 1951 Engineering and Mining Journal. The small building located on a flat area shown in the lower left hand corner of the picture in connection with this article is the lower tram station of the Brownstone operation.

13. Ample water for all purposes may be secured from Pine Creek which passes within a few hundred feet of the mine working and within a few hundred feet of the lower tram terminal for camp site.

15. Ore will be mined, sorted under lamps at the mine, waste discarded and ore moved over the tram to the ore bins at the lower tram terminal. At this point, it might be stockpiled as it would then be within a few yards of the U. S. Vanadium mill, or it could be moved directly into the mill for custom milling.

H. A. Batchelor
569 North Rossmore
Los Angeles 4, California

16(a). Previous operations carried on in 1946 and 1947 included construction of tramway said to have cost $50,000.00. Inspection of this tramway indicates that the value was very reasonable and that the tram could not be duplicated for that amount today. Because of the low price for tungsten ore during this period and excessive operating costs, the owners were unable to make a profit, consequently operations shut down. It might be mentioned at this point that the present owners are unable to operate the property at this time for reasons of health and the difficulty of working at that altitude.

16(b). This property is near U. S. Vanadium mine and plant; the area is fully described by U. S. G. S. publications and is considered one of the great tungsten areas in California.

16(c). Please refer to Charles M. Heron's letter to the writer. Further information regarding the property and area in question may be had from a recent geological study made by Paul C. Bateman of the U. S. G. S.

17. Mine has been idle for the past three years.

18(a). The ore occurs in a band of tactite lying between granite on the west and altered limestone on the east. These rocks, including the tactite, are cut by frequent sills and dikes of aplite obviously later than the tactite or other two rocks. The scheelite is finely and uniformly disseminated through the tactite. The tactite and aplite are so distinct that sorting before the ore is sent to the tram should be very effective. Photo No. 4 shows very clearly the size and persistence of the tactite body.

18(b). During Mr. Heron's examination of the property on May 16, 1951, we were accompanied by Mr. H. O. Johanson of Bishop, one of the owners of the property, who supervised the original operations. Mr. Johanson had copies of maps made by Mr. Paul C. Bateman of the U.S.G.S. and these were available to us. We had no permission to copy these maps and made none of our own.

There has been a very few feet of development work upon the stope. The face of the drift shows some ore. There is a raise carried a short distance above the top of the stope (perhaps 25 to 30 feet) which has passed through an aplite sill and is now in good ore, which was estimated to be of at least 1% grade.

19. The drilling of three holes pointed below the tram station and cutting the tactite zone at different depths, also one or two holes cut the zone in advance of the face of the drift, and one or two holes pointed upward at maximum angles, should give an excellent picture of future possibilities. There are definitely no

ore reserves developed at the present time. We believe that the drilling program could be completed within six weeks, and it is Mr. Heron's firm conviction that such drilling would uncover large shows of ore, which has prompted the writer to apply for Government assistance in this project.

21. It is proposed to have the diamond drilling done by contract. Transportation from lower tram level to point of drilling will be furnished by Applicant.

23. Estimated costs of the original drilling program are as follows:

Rehabilitation of Tramway	$ 500.00
Pick-up Truck rental	1,000.00
Fuel and Oil for Compressors	300.00
Saddle horses and feed	1,000.00
Tent and cooking equipment for men at lower tram station	750.00
Diamond drilling 1500 feet at $5.00 a foot (this requires 6 weeks)	7,500.00
During this period, we will need 1 man at lower station	600.00
1 handyman for horses	400.00
1 man at upper station	600.00
1 engineer to watch cores	800.00
4 inspection trips permitting Mr. Heron to spend 3 days on each trip at the mine	1,000.00
Industrial insurance	1,000.00
Miscellaneous	1,000.00
	$17,450.00

This statement covers only the drilling of 1500 feet. It might be advisable to carry this to 2500 feet if results were promising. However, if drilling led to anticipated findings, I would immediately commence serious mining operations requiring the erection of a camp at the lower tram terminal, construction of a jeep road to the mine which would probably cost $5,000.00 and the organization of a 15-man crew. These men are all available at this time and it is Mr. Heron's belief that, should our first drilling results prove satisfactory, we would be shipping ore within two months, or less. Under the terms of the Option, we would have use of all equipment now at the mine until a decision to take over and fully develop the property was made, at which time purchase of the compressors and miscellaneous equipment would require approximately $12,000.00 and other expenses as indicated by Mr. Heron would probably entail expenditure of $100,000.00. Application for this would, of course, be made following a successful drilling program.

C
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CHARLES M. HERON
Mining Engineer

465 North Segovia Avenue
San Gabriel, California
May 19, 1951

Mr. Harry A. Batchelor
569 N. Rossmore Ave.
Los Angeles, California

Dear Mr. Batchelor:

Herewith I wish to give my impressions of the Brownstone Tungsten mine, which we visited on May 16.

The Brownstone group comprises 4 unpatented claims. They are situated on the steep slope on the south side of Pine Creek Canyon, about 20 miles south-west of Bishop. The claims are adjoining, or in the immediate vicinity of the United States Vanadium Company's mill property, and access to the claims is through the mill yards of that company.

The Brownstone mine is reached by paved road as far as the U. S. Vanadium mill; thence about 350 feet to the lower tram terminal of the Brownstone aerial tram by a poor dirt road. From the lower tram terminal a steep but good trail about 2800 feet in length leads to the upper terminal and the entrance to the mine. This steep trail is probably entirely impassable for much of the six months during which heavy snows are a common occurrence.

The topography of the area surrounding the mine is such that a house for the mining crew can be built only by blasting into an overhanging cliff face near the mine - a difficult but essential and not impossible task. With such a house, and the tram in good working condition, as it seems to be, work could be carried on with no serious interruptions throughout the winter. Eventually the mine must have some sort of housing if the operation is to be more than a small leasing type of mine. However, during the drilling and the early drifting work, the operation can be carried on as it has in the past, transporting the men on hose-back from the lower tram terminal; this means a six-hour day in the mine, which is a heavy handicap.

The outcrop of ore appears prominently on the fact of an almost vertical cliff, with granite lying to the west and limestone to the east, and a zone of tactite which includes the ore, lying between. These are all cut by numerous west dipping aplite dikes or sills. This tactite is about twenty feet wide where it is exposed on the face of the cliff and it extends upwards from where it is hidden by talus for something over a hundred and fifty feet (not measured).

During my brief examination, I made no attempt to survey the workings. Mr. Johanson had an excellent sketch of the workings which might perhaps be obtainable if necessary. The upper tram terminal is in a large underground station about 55 feet long and as much as 18 feet wide with a 10 stub at one side for a store room. A raise from the terminal room connects with the adit level, 24 feet

above. The adit level is about 65 feet long and ore has been stoped from above this level. The stope reaches a maximum height of about 35 feet; its average width is 14 feet. At the west end of the stope a raise has been carried up about thirty feet. At this height it passes through an aplite sill and encounters good looking ore; the scheelite is uniformly disseminated through the tactite and from observation with an ultra-violet lamp I should say the ore would run well over 1% WO_3. In its present state this face doesn't give any indication as to what tonnage may be expected, but it is a good showing.

From October 1946 for about a year the owners of the claims leased the Tungstar Mill, about two miles away, and produced 608.4 units of scheelite. The record does not show how many tons were milled to produce this amount, but it was stated that the heads averaged about .5% WO_3. From the sketch which Mr. Johanson loaned me I made a rough calculation which indicates that 1540 tons came from the stope which produced 608.4 units; this shows roughly .4% recovered, indicating mill heads averaging .50% (assuming 80% extraction).

The U. S. Vanadium mill is now equipped to take custom ore, for which they pay for the scheelite at the rate of $37.00 per unit recovered - no charge for milling. The ore must average not less than .30% WO_3. This market for the crude ore will undoubtedly be advantageous at the beginning of operations, but if a stockpile is established within a reasonable distance, where the shipper was paid for the scheelite at more nearly its true market value, that would make his operating problems must simpler.

In its present condition the property needs a serious development program, which certainly seems to be warranted from what can be seen. The upper tram terminal station affords an excellent opportunity for a substantial amount of diamond drilling. Core recovery should be exceptionally high. A series of holes fanned out at different angles from a point near the entrance to the station would give excellent information as to what lies below the adit level and in advance of the present face. Perhaps as much as a thousand feet could be drilled to good advantage from this one location.

The adit level affords a favorable opportunity for some extensive drifting, and frequent cross-cuts, Later drifting on other levels will probably be required. The drifting program should be delayed until a few drill holes are finished.

The suggestions made for development work are based on what can be seen in the immediate area surrounding the work already done. There is a large exposure of tactite two or three hundred feet up the cliff from the adit, which cannot be reached at present, but which seems to indicate that there are substantial possibilities for a long-range development program.

The equipment appears to be in good condition, except one compressor noted below. The tram is a gravity tram, but is equipped with a small air-driven engine for reversing the tram in case of

emergency. It could be used for hoisting the diamond drilling equipment and the water. There are two 315 cu.ft. Sullivan-Caterpillar compressors, one apparently in perfect running condition and the other in need of extensive repairs. There are 10 half-ton tram buckets.

There are certain unique difficulties, perhaps no more serious than those experienced in starting most new properties; even for the diamond drilling program horses would have to be supplied to take the men up the hill each morning; the tram would have to be operated during such a program, requiring a man at the upper and lower terminals during the shift.

At the beginning of the work capital would have to be provided for the following purposes:

(a) At least four saddle horses at the start, for drillers, an engineer and one other;
(b) Payment for compressors, miscellaneous tools and equipment, which will be due in a few weeks;
(c) Fuel and oil for compressors and tram;
(d) Payroll for a small crew, including an engineer to watch cores;
(e) Capital for at least 1,000 feet of drilling;
(f) Industrial insurance;
(g) One small tent or cabin at the lower terminal of the tram.
(h) A moderate amount of working capital.

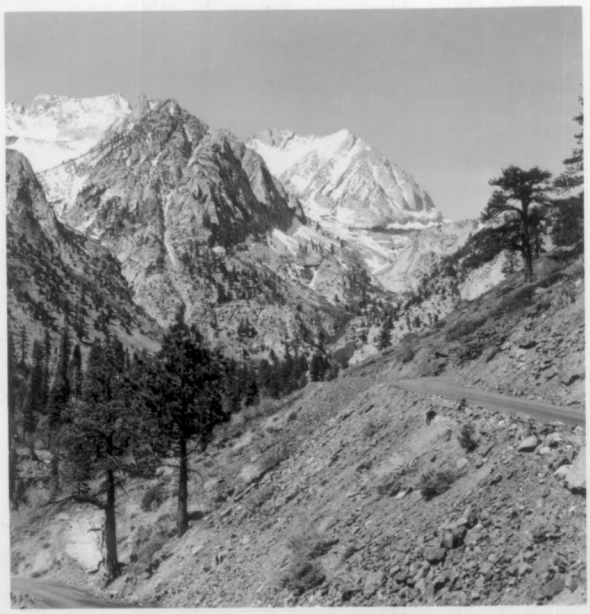
When the drifting starts, this amount will have to be increased to take care of an increased crew, and as soon as assured reserves warrant such a project, some sort of bunk and cook house should be built under the cliff at the mine to assure some increased degree of efficiency. It is difficult to be accurate in this estimate but it is safe to say that the drilling phase of the program should not be started with less than $20,000 available to meet the first expenses. When the drifting and construction phase of the program is started there should be assured at least $100,000.

Obviously this is a somewhat costly project, but the chance of developing a substantial ore reserve seems to warrant the first phase - from what is now apparent.

Sincerely yours,

/s/ CHAS. M. HERON

Charles M. Heron



1. Looking up Pine Creek showing location of U. S. Vanadium Mill and Brownstone Claims, upper tramway terminal and mine workings in circle.

2-3 Taken from portal of adit level looking down Pine Creek and below to U. S. Vanadium Plant.

Dark band going up face of cliff gives some idea of extent of tactite in which ore occurs. Width of this band is 15 to 20 feet. Lower left corner, compressor sheds and portal to tram station. Portal to first level is just beyond figure on snow and second opening about 48 feet above.

OPTION FOR MINING LEASE

THIS AGREEMENT, made and entered into this 1st day of April, 1951, by and between EL DIABLO MINING COMPANY, a California corporation, hereinafter referred to as "Optionor" and REID J. SAMPSON, hereinafter referred to as "Optionee",

W I T N E S S E T H:

WHEREAS, the Optionor is now in possession of four mining claims known as Brownstone No. 1, Brownstone No. 2, Myrtle No. 1, Myrtle No. 2, and two mill site claims known as Brownie No. 1 and Brownie No. 2, more complete and definite descriptions of which are set forth in the form of lease referred to herein and attached hereto and all of which claims are located in Inyo County, California, and

WHEREAS, the Optionor is the lessee under a certain lease dated June 25, 1943, wherein the owners of said claims are the lessors and the Optionor is the lessee, and

WHEREAS, the parties to this agreement desire to grant to the Optionee for the period specified, the sole right and option to enter into a sublease with the Optionors covering said claims,

NOW, THEREFORE, it is agreed as follows:

1.

This option shall extend only for the period from April 1, 1951 to and including July 31, 1951 and if it be not exercised by the Optionee or his successor or successors in interest it shall automatically lapse without the necessity of any notice whatsoever.

2.

The Optionee shall have the right to enter upon any and all of said claims and to conduct and carry on such preliminary

and exploratory work, including core drilling, as it may deem necessary or advisable in order to explore any ore body within any of said claims and to take samples therefrom and use for such purposes all of the mechanical and physical facilities upon or connected with any of said claims, including the right to use the aerial tramway and all its appurtenances. The Optionee shall pay in cash the fair market value of all supplies and materials of the Optionor which are used by the Optionee during the period of this Option.

3.

This option may be exercised at any time prior to its expiration and if it be exercised, then the parties hereto shall forthwith execute a sublease in the form attached hereto and shall thereafter be bound by all of the terms and provisions thereof. Exercise of this option can only be made by the giving of written notice to Optionor within the option period. Such notice shall be mailed or delivered to the office of Clyde C. Triplett, 610 Rowan Building, Los Angeles, California, and shall not be deemed to be given until received in the office of Clyde C. Triplett.

4.

The Optionee shall have the right to assign this option to any person, firm, or corporation and upon such assignment the assignee shall succeed to all the rights of the Optionee under this agreement. If, however, the Optionee or his successor or successors in interest should die before the exercise of this option, then it shall immediately lapse and no notice of any kind shall be required to effectively terminate the same.

5.

This agreement shall not be recorded by any of the parties hereto and if it should be recorded in the Office of the County

Recorder of any County in the State of California, then it shall immediately terminate.

WITNESS our hands the day and year first above written.

EL DIABLO MINING COMPANY,
a corporation,

ATTEST:

By /s/ CHARLES G. SCHORF
President

H. O. JOHANSON
Secretary

OPTIONOR

(SEAL)

/s/ REID J. SAMPSON
REID J. SAMPSON

OPTIONEE

MINING LEASE WITH OPTION TO PURCHASE

THIS AGREEMENT, made this _____ day of _____, 1951, by and between EL DIABLO MINING COMPANY, a California corporation, hereinafter referred to as "Lessor" and _____ _____, hereinafter referred to as "Lessee",

W I T N E S S E T H:

WHEREAS, the Lessor is now in possession, under terms of a written lease with the owners, of the following described mining claims, all of which are located in Inyo County, California,

> Brownstone No. 1 and Brownstone No. 2, Notices of Locations of which were recorded in the Office of the County Recorder of said County on September 16, 1940, in Volume 44 at Page 1 of Mining Locations,
>
> Myrtle No. 1, Notice of Location of which was recorded on September 10, 1941, in Book 55 at Page 79 of Mining Locations, and
>
> Myrtle No. 2, Notice of Location of which was recorded on April 28, 1942, in Book 55, at Page 314 of Mining Locations, in the Office of the County Recorder of Inyo County, and
>
> Brownie No. 1 Mill Site, Notice of Location being recorded October 1, 1941, in Volume "C", at Page 468, Land and Water Claims, and
>
> Brownie No. 2, Mill Site, Notice of Location being recorded October 1, 1941, in Volume "C", Page 469, Land and Water Claims, in the Office of the County Recorder of Inyo County,

and

WHEREAS, with the consent of the owners of said claims the Lessor desires to sublease the same to the Lessee with the option on the part of the Lessee to purchase the same,

NOW, THEREFORE, it is agreed as follows:

1.

It is understood that this is a sublease and wherever the term "Lessor" is used herein it is intended to mean "Sublessor" and wherever the term "Lessee" is used it is intended to mean

"Sublessee" and wherever this document is referred to as a "Lease" it is understood the term "Lease" is used as though it were synonymous with "Sublease".

2.

An inventory of all of the machinery, equipment, and supplies of the Lessor located upon said mining claims, or any of them, or attached to the same, or connected with the same, including an aerial tramway and ore bins and all water lines and pipe lines, whether wholly or partially upon all or any of said claims, shall be immediately taken and the Lessee shall forthwith pay to the Lessor the present fair market value of all bits, hand tools, hoses and other expendable mining materials and supplies which the Lessee may desire to purchase and use in connection with the mining operations to be carried on, in accordance with the terms of this lease. Any such items of personal property as the Lessee does not desire to purchase and use shall remain the property of the Lessor. Such personal property and equipment, exclusive of the aerial tramway and its appurtenances, as may not come under the classification just mentioned, including such items as air compressors, slushers, track and other items of personal property of like nature, which is not readily consumed or expended through the use thereof and which is not in the nature of small tools and small items of personal property which can be conveniently transported by hand, shall be immediately delivered to the possession of the Lessee and the Lessee shall have the privilege of using the same for a pe iod of ninety days from the date hereof; provided, the Lessee shall pay monthly to the Lessor a reasonable rental value thereof which rental value shall be that specified in a standard list of rentals for second-hand machinery and equipment providing the items of equipment are described in such publication, otherwise the rental price for such items

sold shall be the present fair rental value thereof. If the Lessee does not quitclaim said mining claims and cancel this lease within ninety days from the date hereof, then the Lessee shall purchase from the Lessor at or before the expiration of said ninety day period all of the machinery and equipment covered by the rental provisions of this paragraph and the purchase price therefor shall be the sum of $_____. The rental theretofore paid for the use of the same shall apply upon such purchase price and the balance shall be paid to the Lessor in cash on or before the expiration of said ninety day period. The Lessee agrees during said ninety day period to keep and maintain all of the machinery and equipment covered by the rental provisions of this paragraph in good mechanical condition, making all necessary repairs thereto and if the same be not purchased by the Lessee under the terms hereof, then to return the same to the Lessor on or before the expiration of said ninety day period in as good mechanical condition and order as when the same was received by the Lessee, ordinary wear and tear excepted.

3.

The Lessee shall have the right to use, operate and maintain the aerial tramway connected with said mining claims and belonging to the Lessor, including the ore bins and all of its appurtenances, and if the Lessee exercises the right to use said aerial tramway, then the Lessee shall pay to the Lessor in cash, as rental for the use of the same, seventy-five cents (75¢) per ton for all ore or rock transported on such tramway from the upper to the lower station which does not carry, on the average, more than six-tenths of one per cent tungsten trioxide and if the average is more than six-tenths of one per cent, then the rental price for the use of said tramway shall be increased at the rate of one

and two-thirds cents (1-2/3¢) per ton for each additional one-tenth of one per cent but said rental price shall in no event be more than one dollar ($1.00) per ton. When and if the total rental for the use of said tramway paid to the Lessor shall equal the sum of forty thousand dollars ($40,000.00), then the title to said tramway and all of its appurtenances shall pass to the Lessee. If this lease be terminated prior to the receipt by the Lessor of the sum of forty thousand dollars ($40,000.00), then all rental payments made by the Lessee for the use of said tramway shall be considered to be rent and shall not vest in the Lessee any right, title, or interest of any kind in or to said tramway or any of its appurtenances. During such time as the Lessee may be using said tramway, Lessee shall keep the same and all of its appurtenances in good mechanical condition and shall make all necessary repairs in order that when the same is redelivered to the possession of the Lessor, if such redelivery should take place, it shall be in good working mechanical condition and shall be in as good condition as when received by the Lessee, ordinary wear and tear alone excepted.

4.

The Lessee shall immediately take possession under the terms hereof of said mining claims for the purpose of prospecting, working and developing the same with the view of the purchase thereof and the Lessor hereby grants to the Lessee for and during such term or period as the Lessee shall perform, keep and comply with every covenant, term and condition hereof on the Lessee's part to be kept and performed, the immediate possession and right to the exclusive possession of the said mining and mill site claims and the whole thereof with the water rights, if any, thereto appertaining and gives to the Lessee the option to pur-

chase the same for the full purchase price of two hundred fifty thousand dollars ($250,000.00) lawful money of the United States, without interest, to be paid to the Lessor in installments as hereinafter provided.

5.

Lessees are hereby expressly granted the right to enter upon said premises and to mine and explore the same and to take, remove and dispose of any and all metals or minerals or other substances (organic or inorganic) and whether existing as placer, lode or other type of deposit on or beneath the surface of said property so long as this contract shall be and remain in full force and effect. That said mining operations to be conducted by the Lessees may be by any method selected by the Lessees as the most practical, expedient and economical method to be pursued in the extraction and recovery of minerals on the said lands.

6.

All mining operations shall at all times be conducted and carried on in a good and minerlike fashion and in accordance with the established and accepted practices and not otherwise. Any or all timbers, lumber, track or pipes that are now in or upon the premises may be removed from one area thereof to another so long as the same is used upon or in the premises and that by so doing the underground workings are not endangered in such areas as may be considered active working areas. The Lessor or its duly appointed agents or representatives shall have the privilege of entering into and inspecting said property and all improvements and workings thereon from the purpose of ascertaining the manner in which the Lessee is carrying on said operations.

7.

The Lessee shall, within thirty days from the date hereof,

commence mining operations on said premises and thereafter conduct the same diligently and shall cause to be performed on said premises one hundred fifty shifts or more of labor within every thirty days in such mining operations and in the development of said property as a mine, the term "shift" meaning a workman employed to labor on or in said mine in furtherance of the mining projects contemplated by this agreement of one day of eight hours work or such other maximum working day as may be prescribed by law or other governmental regulations; a suspension of work due to unavoidable accidents, strikes, acts of God, war, weather conditions or other casualties beyond the control of the Lessee excepted.

8.

The Lessee may, at any time during the term herein stated, surrender this lease and agreement, together with the possession of said claims hereinabove described, upon the giving of written notice to that effect to the Lessor and thereupon be relieved of all future obligations hereunder but such surrender shall not release the Lessee from any obligation or liability theretofore accrued by him hereunder, including any liability arising out of the provisions hereof with reference to the purchase or rental of mining machinery, equipment, supplies, etc.

9.

As a further and additional consideration of this agreement, the Lessee shall pay to the Lessor at Bishop, California, as rental for said claims and as royalty payments ten per cent of all monies received from the sale of tungsten and/or other minerals mined or produced from said claims or any part thereof. If a milling charge has been deducted before payment to Lessee, ten per cent of such charge shall be included in payment to Lessor. Commencing _____ _____, 1951 a minimum royalty payment of $ None per month shall be paid to the Lessor. All minimum monthly

royalty payments shall be applied upon the total actual royalties during that monthly period and the actual royalties for any other monthly period shall not be applied to the minimum royalty obligation for any other monthly period. If the Lessee shall mill or reduce tungsten, ore or other minerals from said claims, he shall ship all concentrates or other minerals to a recognized custom mill or smelter or shall sell the same to a licensed purchaser or to some governmental agency. In the event of a disposition of unmilled or concentrated ores produced from said claims, they shall be disposed of by the Lessee in the customary channels of trade and commerce. All sales of minerals produced from said property shall be for not less than the current market value thereof on the open competitive market.

10.

Within thirty days after the receipt by the Lessee of any payment for sale or shipment of ore or concentrate produced from said property, Lessee shall pay the hereinbefore designated percentage of royalty on the gross yield and value of said ores or concentrate as evidenced by the mint, mill, or smelter returns or shipping or billing invoices therefor, without deducting therefrom any mint charges, smelter costs, transportation charges, commissions, taxes, insurance or other costs or charges whatsoever. All royalty payments made by the Lessee to the Lessor, as aforesaid, shall constitute rental for said real property and shall also constitute payments upon the balance of said purchase price of said real property in the event the Lessee shall elect to exercise the option to purchase the same. All payments to be made on account of royalty, as hereinabove specified, shall be accompanied by a mint, smelter, or mill return or shipping or billing invoice evidencing the gross yield of said ores or concentrates and the gross return or sale price.

11.

The Lessor shall have access to all shipping and refining returns, milling or production records, and all records giving infomation of the amount of minerals produced, extracted, or removed by the Lessee from said real property and all the proceeds thereof.

12.

The Lessee may assign this lease or any interest therein and may sublease the whole or any portion of said real property and this lease shall be binding upon and extend to the assigns, successors, administrators, executors, and heirs of the parties hereto.

13.

The Lessor shall not be liable nor responsible for any work or labor of any kind or character done or performed in, on, or upon said property during the life of this agreement or for any material or materials furnished to be used or used in, on, or upon, or in connection with the work of said property and the Lessee will post, in the name of the Lessor, notices of non-responsibility as provided in the laws of the State of California, immediately upon the beginning of the construction of any building or improvement upon said property and the Lessee will pay all expenses and charges of each and every nature for which it shall become expressly or impliedly liable in anywise connected with the working of this property during the life of this agreement and will protect and save harmless the said property from all claims and liens of every nature arising out of any act or omission of the Lessee.

14.

The Lessor shall have the right to enter upon said property at any time to post notice of non-responsibility or to inspect

all or any part of the same or to inspect the machinery and equipment belonging to the Lessor or in which the Lessor has any interest of any kind.

15.

The Lessee agrees that as soon as work shall be commenced by any employee upon said property under this agreement, he will procure and carry a policy of insurance for the protection of the parties hereto for any injury or injuries to employees under the Workmen's Compensation Insurance and Safety Act of the State of California and under all acts amendatory thereto and to carry and keep the same in effect at the Lessee's own expense.

16.

All development work done and all improvements made upon said property shall be in accordance with the requirements, rules, and regulations of the Industrial Accident Commission of the State of California and shall constitute the annual assessment work required to maintain the said mining claims. The Lessee agrees to perform the necessary assessment work and to provide the necessary improvements to so maintain said mining claims to the extent required by law and to record proper proof of labor in connection therewith in the office of the County Recorder of Inyo County, California, on or before the 15th day of June of each year during the term of this agreement or any extension thereof. The Lessee shall pay, before delinquency, all personal property taxes assessed against any personal property which he may install upon the said mining claim and shall pay, before delinquency, all personal property taxes on any other personal property which may belong to the Lessor, but which is being rented or used by the Lessee and the Lessee shall pay, before delinquency, all real

property taxes, if any, which may be assessed against said property.

17.

Time is of the essence of this agreement and each and every covenant, term, or condition herein contained on the part of the Lessee to be kept and performed shall be and is hereby made a condition of this agreement. In the event the Lessee shall fail or refuse to keep or perform any covenant, term, or condition set forth herein for thirty days after written notice of default specifying the particulars of said alleged default, Lessor may, at its option, with written notice to the Lessee and without waiving any right hereunder, terminate this agreement and with or without process of law may expel, remove, or put the Lessee out of possession of the real and personal property described herein, but such termination shall not release the Lessee from any obligation or liability theretofore incurred under the provisions hereof. Notwithstanding anything herein to the contrary, no notice of termination need be given with respect to default in the payment of any installments of royalties as and when the same may become due by the terms hereof and that this agreement may be terminated for failure to pay royalties due without the service of any notice of default with respect thereto. Waiver of one default by the Lessor shall not be deemed to be a waiver of any other default.

18.

In the event of the termination of this contract in any manner other than by the consummation of the sale of said real properties, the Lessee may remove all machinery and equipment, including underground and surface pumps and other personal property which may hereafter be placed on said property by the Lessee, said removal to be accomplished within ninety days, weather and road conditions permitting, after the termination of this contract

as aforesaid, provided the Lessee is not indebted to the Lessor for the payment of any sum of money which may be due under the terms hereof and if so indebted, the Lessee shall not have the right to remove any of such personal property until after such indebtedness has been paid in full. It is understood and agreed that any of the following improvements hereafter placed upon said property shall remain thereon and shall be surrendered therewith, to-wit, all buildings, including mill buildings, storage buildings, bunkers for the storing of ore, flumes, ditches, gallows or head frames to any shaft, all ladders, underground timbering and other improvements which may be actually affixed to the land itself. In the event of the termination of this contract, as aforesaid, all sums of money theretofore paid to the Lessor shall be regarded as liquidated damages for the prior use and occupation of said real property and improvements and shall be so retained by the Lessor. In the event the Lessee shall elect to terminate this agreement prior to the term fixed in the same, the Lessee shall and will peacefully and quietly surrender and yield said premises to the Lessor and execute and deliver to the Lessor a quitclaim deed or other appropriate instrument by the terms of which the Lessee shall surrender all his right, title and interest in and to all of said claims and premises and the Lessee shall thereupon be relieved from all obligations with respect to the performance of the terms of this agreement, save and excepting those existing at the time of the execution of said quitclaim deed or other appropriate instrument.

19.

This agreement shall inure to the benefit of and shall bind the successors, assigns, heirs, administrators and executors of the parties hereto. It is understood that a portion of the

automobile road to the real property, covered by this lease, is owned and operated by the U. S. Vanadium Corporation and the Lessor makes no warranty with reference thereto.

IN WITNESS WHEREOF, the parties hereto have executed this agreement the day and year first above written.

ATTEST:

/s/ H. O. JOHANSON
Secretary.

EL DIABLO MINING COMPANY,
a corporation,

By /s/ CHARLES G. SCHARF
President

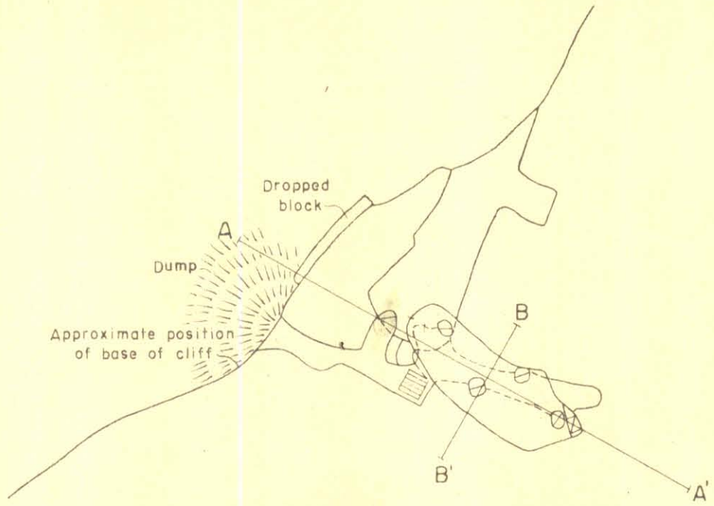
LESSOR

/s/ REID J. SAMPSON

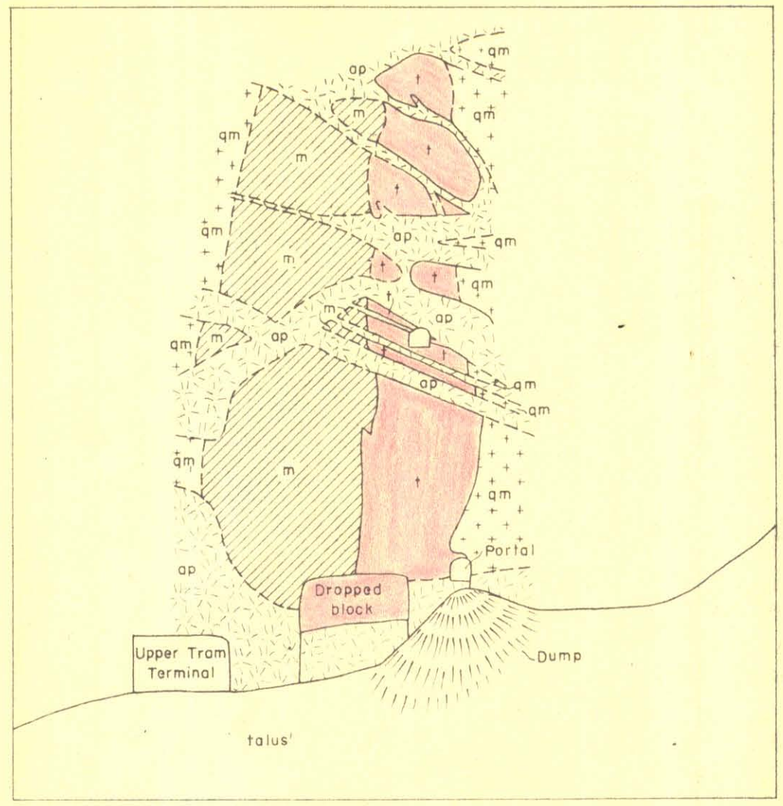
LESSEE

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

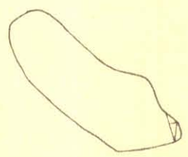
DMA 1456 X
(TUNGSTEN)



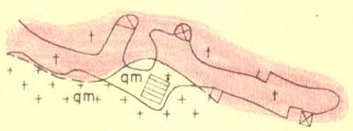
COMPOSITE MAP OF MINE WORKINGS



SKETCH OF CLIFF FACE



STOPE



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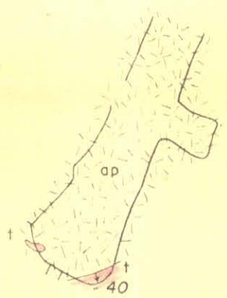
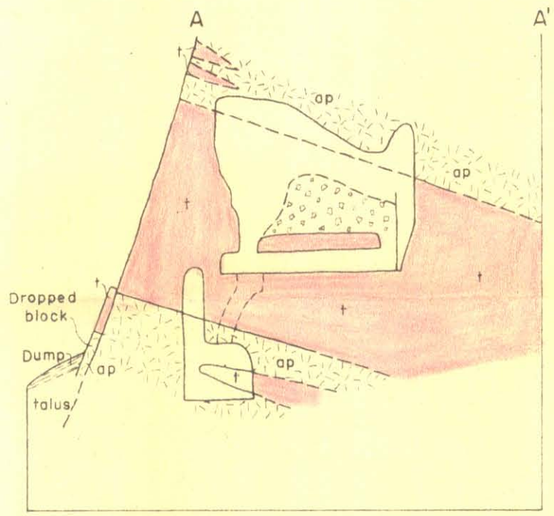
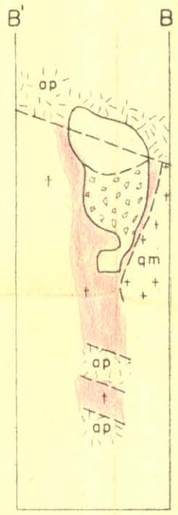


UPPER TRAM TERMINAL



LONGITUDINAL SECTION A-A'



CROSS SECTION B-B'

EXPLANATION

t — Tactite

m — Marble

ap — Aplite and pegmatite dikes

qm — Quartz monzonite

Contact (Dashed where inferred)

Strike and dip of bed

Foot of raise or winze

Head of raise or winze

Ore chute

Stope fill

Grizzly

Boundary of mine workings (Dashed where projected)

N

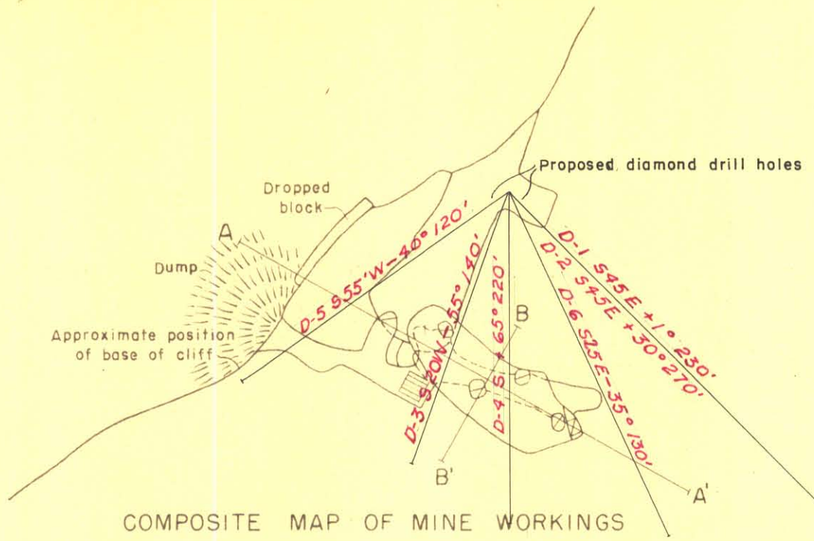
Paul C. Bateman, September 1947

BROWNSTONE MINE, INYO COUNTY, CALIFORNIA

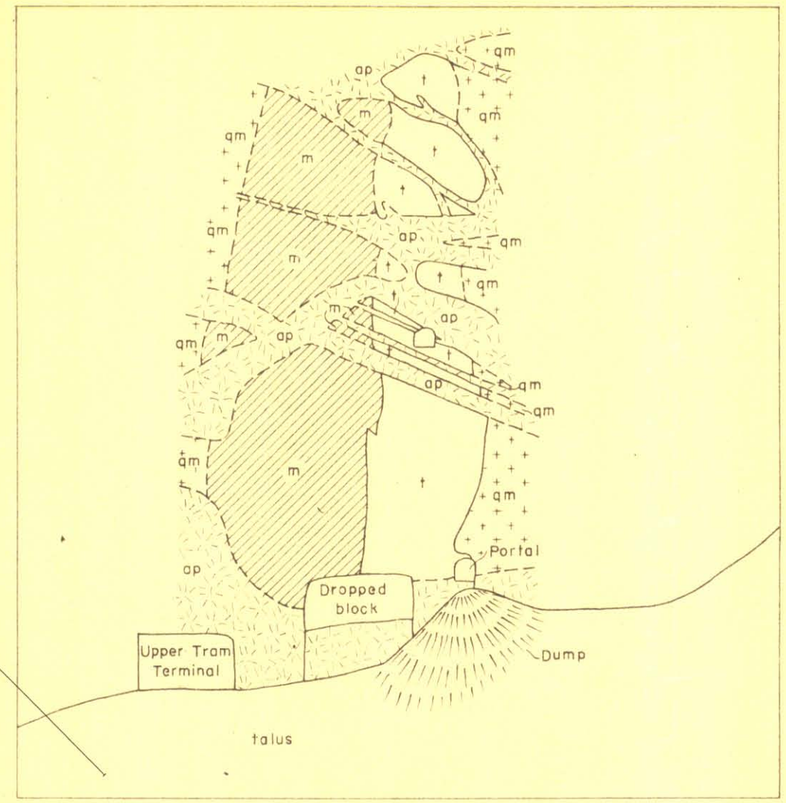
0 40 80 120 140 Feet

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DMA 1456 X
(TUNGSTEN)

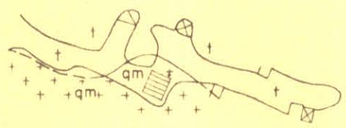


COMPOSITE MAP OF MINE WORKINGS



SKETCH OF CLIFF FACE

STOPE



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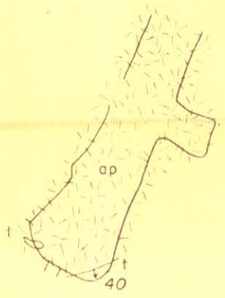
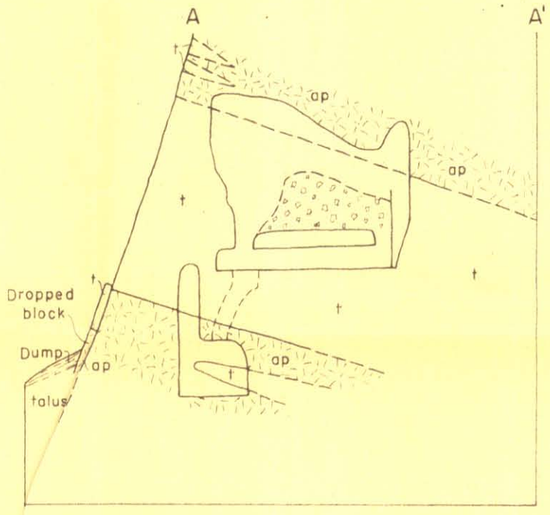
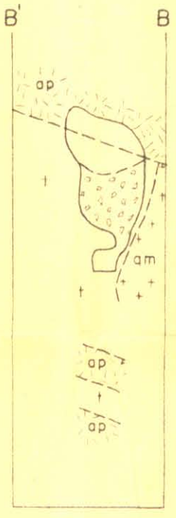


UPPER TRAM TERMINAL



LONGITUDINAL SECTION A-A'



CROSS SECTION B-B'

EXPLANATION

t — Tactite

m — Marble

ap — Aplite and pegmatite dikes

qm — Quartz monzonite

Contact (Dashed where inferred)

Strike and dip of bed

Foot of raise or winze

Head of raise or winze

Ore chute

Stope fill

Grizzly

Boundary of mine workings (Dashed where projected)

N

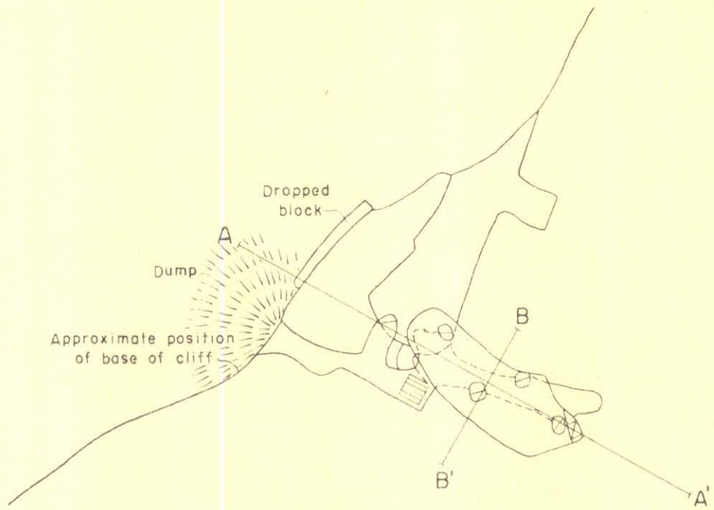
Paul C. Bateman, September 1947

BROWNSTONE MINE, INYO COUNTY, CALIFORNIA

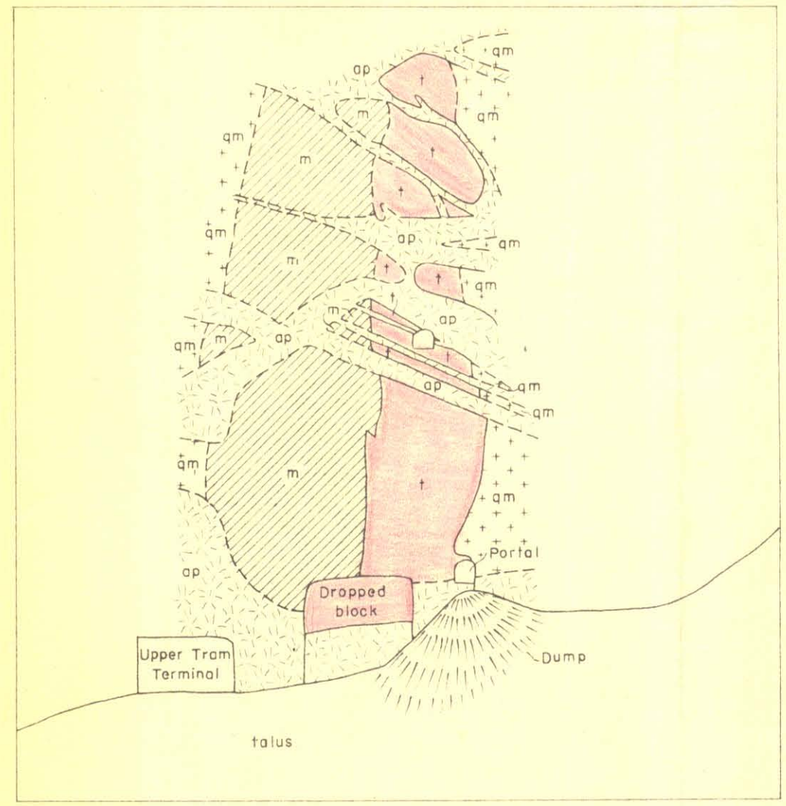
0 40 80 120 140 Feet

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DMA 1456 X
(TUNGSTEN)



COMPOSITE MAP OF MINE WORKINGS



SKETCH OF CLIFF FACE

EXPLANATION

Tactite

Marble

Aplite and pegmatite dikes

Quartz monzonite

Contact
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Boundary of mine workings
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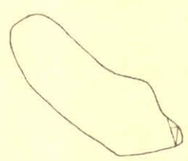
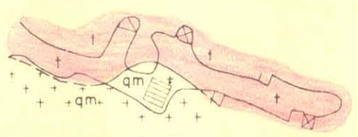
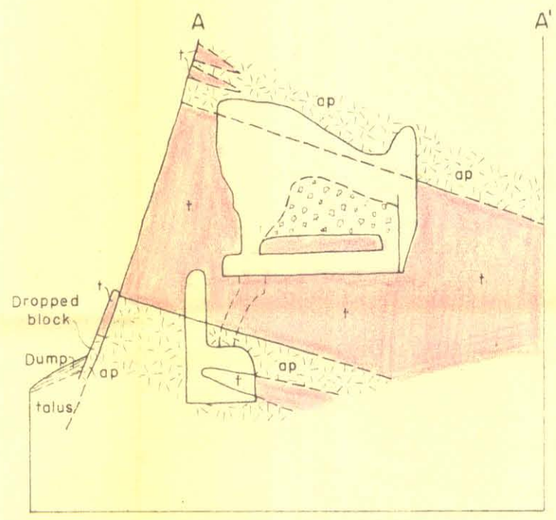


STOPE

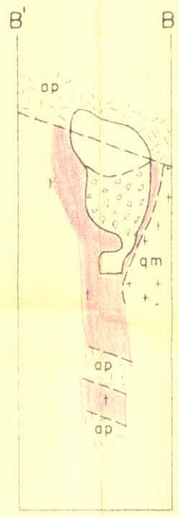


ADIT

UPPER TRAM TERMINAL



LONGITUDINAL SECTION A-A'



CROSS SECTION B-B'

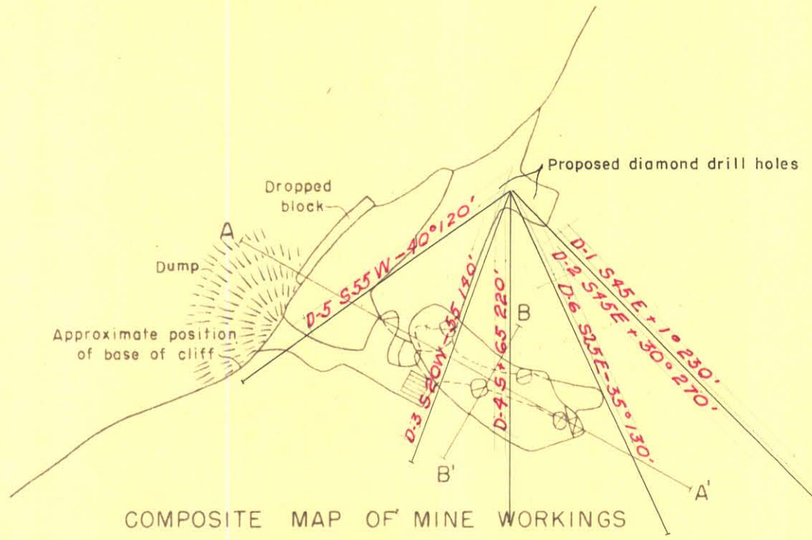
Paul C. Bateman, September 1947

BROWNSTONE MINE, INYO COUNTY, CALIFORNIA

0 40 80 120 140 Feet

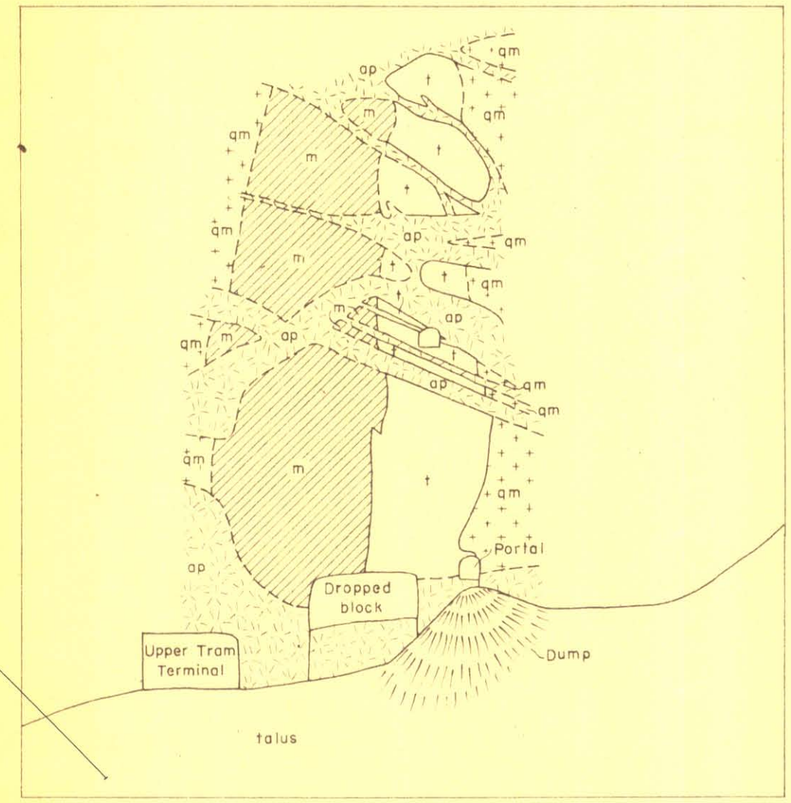
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DMA 1456 X
(TUNGSTEN)



COMPOSITE MAP OF MINE WORKINGS

STOPE



SKETCH OF CLIFF FACE

EXPLANATION

- t — Tactite
- m — Marble
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- qm — Quartz monzonite
- Contact (Dashed where inferred)
- Strike and dip of bed
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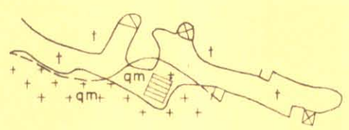
- Head of raise or winze
- Ore chute
- Stope fill
- Grizzly
- Boundary of mine workings (Dashed where projected)
- N

Paul C. Bateman, September 1947



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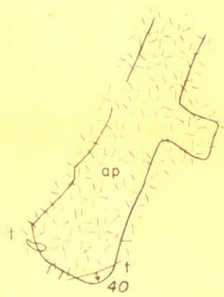
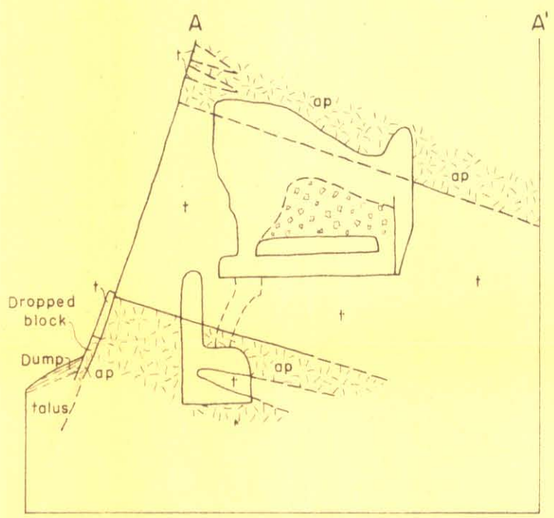
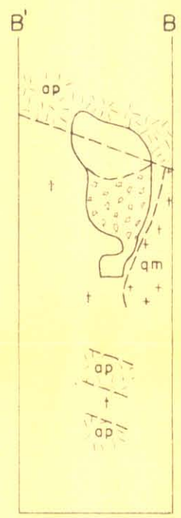


UPPER TRAM TERMINAL



LONGITUDINAL SECTION A-A'



CROSS SECTION B-B'

BROWNSTONE MINE, INYO COUNTY, CALIFORNIA

0 40 80 120 140 Feet

UNITED STATES DEPARTMENT OF THE INTERIOR
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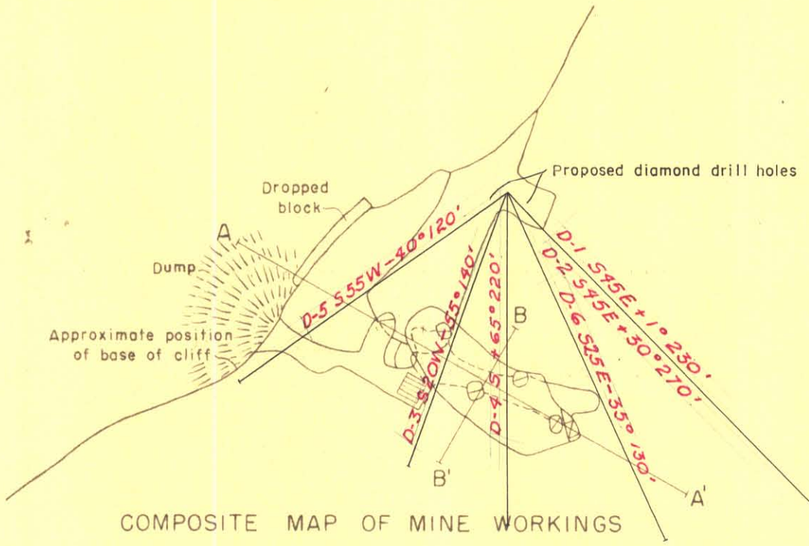
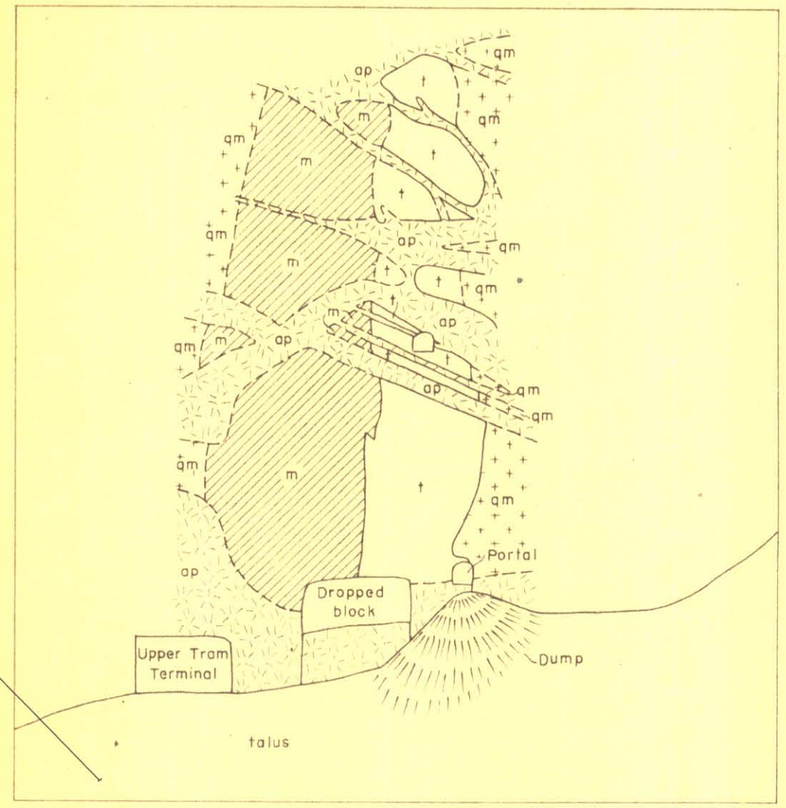
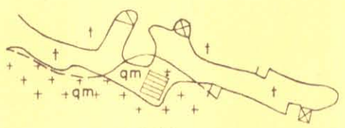


COMPOSITE MAP OF MINE WORKINGS



SKETCH OF CLIFF FACE

STOPE



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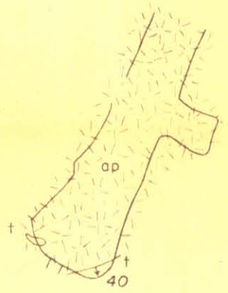
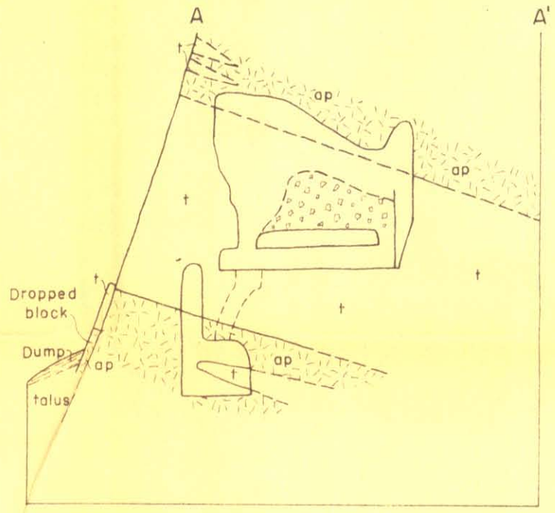
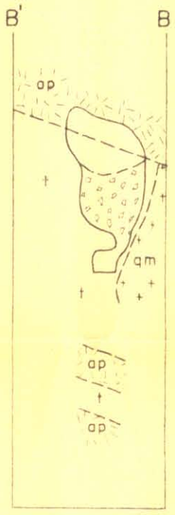


UPPER TRAM TERMINAL



LONGITUDINAL SECTION A-A'



CROSS SECTION B-B'

EXPLANATION

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- m — Marble
- ap — Aplite and pegmatite dikes
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- Contact (Dashed where inferred)
- Strike and dip of bed
- Foot of raise or winze
- Head of raise or winze
- Ore chute
- Stope fill
- Grizzly
- Boundary of mine workings (Dashed where projected)

N

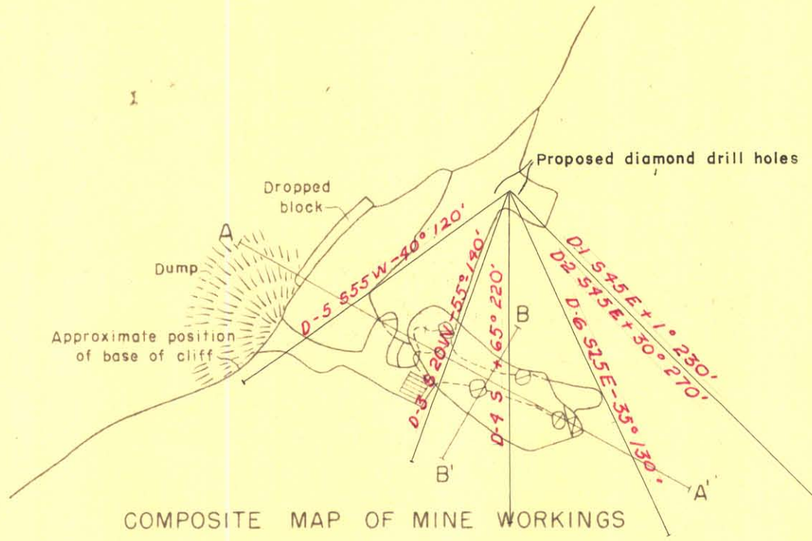
Paul C. Bateman, September 1947

BROWNSTONE MINE, INYO COUNTY, CALIFORNIA

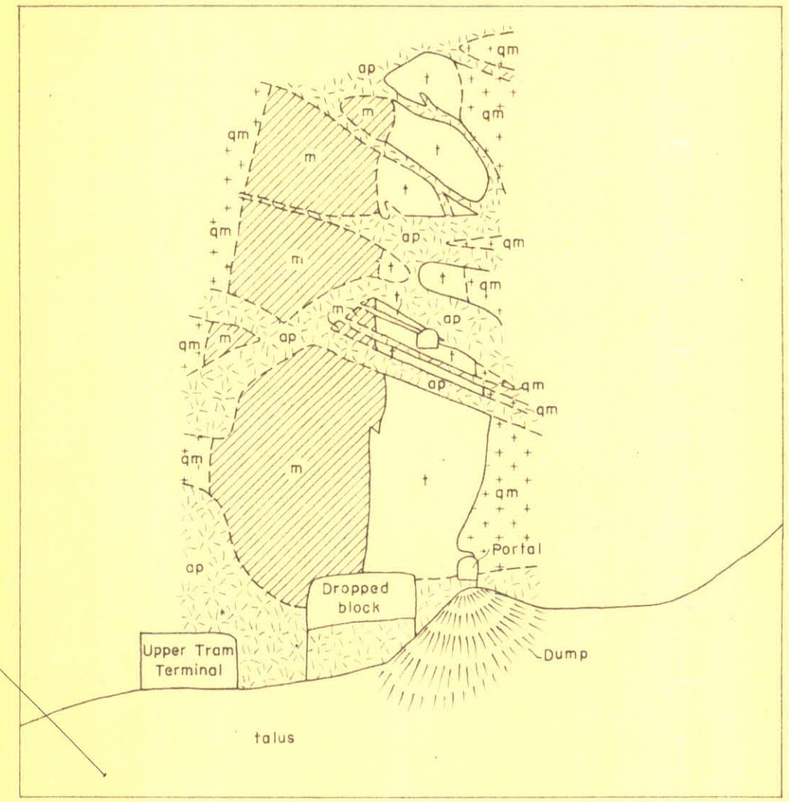
0 40 80 120 140 Feet

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DMA 1456 X
(TUNGSTEN)



COMPOSITE MAP OF MINE WORKINGS



SKETCH OF CLIFF FACE

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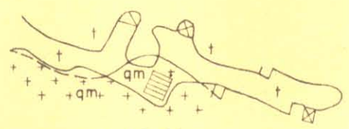
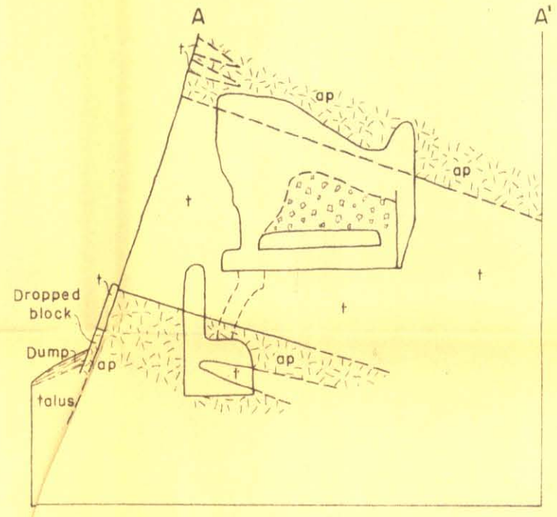


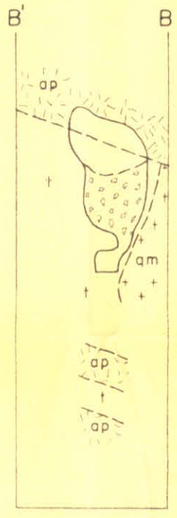
ADIT

STOPE

UPPER TRAM TERMINAL



LONGITUDINAL SECTION A-A'



CROSS SECTION B-B'

Paul C Bateman, September 1947

BROWNSTONE MINE, INYO COUNTY, CALIFORNIA

0 40 80 120 140 Feet