400

APR 9 1953

Mr. George F. Ogilvie
Star Tungsten Mine
595 "A" Street
Elko, Nevada

Re: Docket No. DMA 1452-X - Tungsten
George F. Ogilvie
Star Tungsten Mine
Elko County, Nevada

Dear Mr. Ogilvie:

This will acknowledge receipt of your letter of April 2, 1953, stating that you probably will be interested in an exploration contract for the subject project if you are unable to dispose of the subject property. Because the above letter was not received by this Division until after April 3, 1953, the docket has been transferred to the inactive files and closed. This transfer, however, was made without prejudice, and the information contained therein will be available if you decide later to submit a revised application.

We wish to thank you for your interest in the Defense Minerals Program and for bringing your property to our attention. Please be assured that a revised application for an exploration project similar to that suggested in our letter of December 29, 1952, will be given prompt consideration when received.

Sincerely yours,

W. S. Martin

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

cc: Docket
Field Team, Region 3
Code 400
Admn. Read. File
R. W. Geehan, USBM
D. M. Lemmon, USGS

FARutledge/hhb
4/8/53

400

April 6, 1953

Memorandum

To: Robert M. Adams, Chief
Operations Control and Statistics Division, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Removal of application from the active file:
Docket No. DMA 1452X - Tungsten
George F. Ogilvie
Star Tungsten Mine
Elko County, Nevada

A revised exploration program was submitted to the applicant on December 29, 1952, for his comments and approval. No answer to our request has been received, although on February 3, 1953, we again asked that in the interest of expediting the processing of the application he submit the requested comments; and by letter of March 3, 1953, we advised the applicant that if no further word was received by April 3, 1953, the application would be transferred to the inactive files and the matter closed.

To date, we have not received the requested comments, and we are, therefore, removing the docket from our Division files. The docket is transmitted herewith.

W. S. Martin

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

Attachment

Copy to: Field Team, Region III
Docket
Code 400
Admn. Read. File

FARutledge/ls
4/6/53

COPY

400

595 A Street
Elko Nevada
April 2, 1953

Mr. C. O. Mittendorf, Administrator
Defense Minerals Exploration Administration
Washington D C 25

Dear Mr. Mittendorf:-

RE DOCKET # DMA 1452X TUNGSTEN

We have been trying to sell the mine and mill and have one deal pending at the present time. If we complete the deal we will not be interested in the loan. If we do not we probably will be interested. However, we would much prefer selling if we can since my partner is bothered with arthritis and I am so busy with other business that it is difficult to give the mining operation sufficient supervision.

Regarding our comments on the loan the only criticism we have of the proposed plan is that we can hardly see the advantage of piling the broken rock in the North drift when it will have to be handled again and removed from the drift in order to mine the possible 1000 tons of ore already blocked out between the drift and the surface. Im sure the mine car track is still in the drift although covered with decomposed granite which has sluffed off the walls and we have a tugger hoist to lift the broken rock to the surface to get it out of the way permanently.

Sincerely yours
Sgd. George F. Ogilvie
Star Tungsten Mine

400

MAR 3 1953

Mr. George F. Ogilvie
Star Tungsten Mine
595 "A" Street
Elko, Nevada

re: Docket No. [illegible] 1452-X - Tungsten
George F. Ogilvie
Star Tungsten Mine
Ruby Range, Elko County, Nevada

Dear Mr. Ogilvie:

Reference is made to the subject application for exploration assistance at the Star Tungsten Mine.

On December [illegible], 1952, we submitted a revised exploration program to you for your comments. Because we received no reply and in the interest of expediting the processing of the application, we again asked for an early reply in our letter of February 3, 1953. To date we have not received the requested comments.

We wish to cooperate fully in the matter of allowing ample time, but if your comments on the proposal submitted in our letter of December 2[illegible], 1952, have not been received by April 3, 1953, we will then remove the application from the active file and consider the matter closed.

Sincerely yours,

C. O. Mitwedeit

Administrator

cc: Docket
Field Team, Region 3
Code 400
Admin. Asst. File
[illegible] W. Geghan, [illegible]
[illegible] Lemmon, [illegible]

FAHutledge/hhb
3/2/53

FEB 3 1953

Mr. George F. Ogilvie
Star Tungsten Mine
595 "A" Street
Elko, Nevada

Re: Docket No. DMA 1452-X - Tungsten
George F. Ogilvie
Star Tungsten Mine
Ruby Range, Elko County, Nevada

Dear Mr. Ogilvie:

Reference is made to the subject application for exploration assistance at the Star Tungsten Mine.

On December 29, 1952, we submitted a revised exploration program to you for your comments. To date we have not received an answer to our letter.

In the interest of expediting the processing of this application, we would appreciate an early reply.

Sincerely yours,

SIGNED

W. S. Martin, Acting Chief
Iron and Ferro-Alloy Division

cc: Docket
Field Team, Region 3
Code 400
Admn. Read File
R. W. Gechan, USBM
D. M. Lemmon, USGS

FARutledge/hhb
2/2/53

DEC 29 1952

Mr. George F. Ogilvie
Star Tungsten Mine
505 4th Street
Elko, Nevada

Re: Docket No. DMA 1452X - Tungsten
George F. Ogilvie
Star Tungsten Mine
Ruby Range, Elko County, Nevada

Dear Mr. Ogilvie:

Your application for exploration assistance and other data concerning the above-noted property available to us in Washington have been carefully reviewed.

The information suggests that the Government participate in the following exploration program if it is agreeable to you:

1. Drive a 50-foot crosscut east from a point about 15 feet south of the north face of the North drift to explore for the faulted section of the vein. Broken rock is to be removed by wheelbarrow and piled in the North drift.

2. Extend the North drift in a northwesterly direction for a distance of 50 feet along the tactite zone. Broken rock is to be removed by wheelbarrow and piled in the North drift.

3. Trench No. 1 - S. 25° E., 63 feet from the South shaft. Size of trench: approximately 25 feet long by 3 feet wide by 3 feet deep.

4. Trench No. 2 - S. 12° E., 75 feet from Trench No. 1. Size of trench: approximately 35 feet long by 3 feet wide by 3 feet deep.

If the suggested program has your approval, payment by the Government will be on the basis of 75 percent of an agreed unit price per foot of work completed. Unit prices set up for such a program follow:

50 feet of crosscut @ $35.00 per foot	$1,750.00
50 feet of drift @ $35.00 per foot	1,750.00
50 feet of trenching @ $4.00 per foot	200.00
25 tungsten analyses @ $4.00 per assay	100.00
	$3,800.00

We note also that you do not have sufficient money immediately available to pay your percentage of the project cost. You should have sufficient funds available to cover your share and also be able to finance the entire cost of the project for at least two months' operation as the Government does not advance funds for exploration projects. The Operator finances the project and at the end of the month submits a voucher for the work completed. Depending upon the clarity of the voucher, it may be from two to four weeks before the Operator is reimbursed for the Government's share, which in the case of tungsten is 75 percent.

Processing of your application will continue as soon as we hear from you.

Sincerely yours,

C. O. Mittendorf

Administrator

FAHutledge/GCSelfridge/ls
12/23/52

Copy to: Docket
Admn. Rend. File
Field Team, Reg. 3
F. A. Hutledge
G. C. Selfridge
D. M. Lemmon, USGS
R. W. Geehan, USBM

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 8 1952

(400)

Office of
Executive Officer
DMEA Field Team
Region III

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

Reviewed by
DMEA OPERATING COMMITTEE
12-15-52
(Date)

December 4, 1952

Memorandum

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

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMA-1452X (Tungsten), Star Tungsten Mine, Elko County, Nevada

Reference is made to your "Review of Application for Exploration Assistance," dated July 23, 1952, requesting us to outline a definite program of exploration with the applicant if recommendations of the Field Team are favorable.

Attached are four copies of a report, entitled DMA-1452X (Tungsten), Star Tungsten Mine, Elko County, Nevada by R. M. Smith and D. C. Laub, Geologists, U. S. Geological Survey and Glenn G. Gentry, Mining Engineer, U. S. Bureau of Mines, dated October 29, 1952.

The examining team did not concur with the exploration program submitted by the applicant but have proposed a revised program which they believe will adequately explore two of the ore bodies on the property. This program comprises:

1. South Shaft: Crosscut 50 feet and drift 50 feet on the 40-foot level - cut two surface trenches, each approximately 25 feet in length.

2. No. 7 ore body: Extend the existing open cut southeast for 50 feet.

The program is estimated to cost $3,910.70 and will require about 2-1/2 months to complete. The Government's share of the cost will be $2,933.03.

The Field Team concludes that there is a fair chance that a small body of tungsten ore will be revealed by each of the proposed projects, and recommend that the Government enter into a contract with the applicant to do the work.

H. C. MILLER

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

Attachment

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 8 1952

GCL
12/19/52

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

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMA-1452X (Tungsten), Star Tungsten Mine

Elko County, Nevada

R. M. Smith and D. C. Laub, Geologists
U. S. Geological Survey

Glenn G. Gentry, Mining Engineer
U. S. Bureau of Mines

October 29, 1952

Reviewed by
DMEA OPERATING COMMITTEE
12-15-52
(date)

Docket No.: DMA-1452X (Tungsten)

Name and address of applicant: George F. Ogilvie
595 A Street
Elko, Nevada

Name and location of property: Star Tungsten Mine
Elko County, Nevada

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Mr. George F. Ogilvie and Mr. Andrew W. Francis, partners, 595 A Street, Elko, Nevada, Docket DMA-1452 (tungsten) applied on May 26, 1951 to the Defense Minerals Exploration Administration for Government participation in a $15,000 program to explore surface and underground showings of ore at the Star Tungsten mine, Ruby Range, Elko County, Nev.

A field examination was requested on July 25, 1952 by the Field Team of Region III to determine whether the ore reserves are sufficient to justify the proposed project, to outline a suitable exploratory program, and to obtain the data necessary to complete a contract. Accordingly, an examination was made on August 26 and 27, 1952.

The applicant proposed to explore two deposits; the No. 7 ore body, where he proposed to drive four adits under the best outcrop, and the South shaft ore body, where he proposed to crosscut to, and sink a winze on a faulted segment of the ore body that was mined on the 40-foot level.

The exploratory program was discussed with the applicant and a revised program consisting of two phases was outlined:

1. South Shaft: Crosscut 50 feet and drift 50 feet on the 40-foot level - cut two surface trenches, each approximately 25 feet in length.

2. No. 7 ore body: Extend the existing open cut southeast for 50 feet.

The program is estimated to cost $3,910.70 and will require about 2½ months to complete. The Government's share of the cost will be $2,933.03.

It is concluded that there is a fair chance that a small body of tungsten ore will be revealed by each of the proposed projects, and it is recommended that the Government enter into a contract with the applicant to do the work.

TIME SPENT ON PROPERTY

Pursuant to the application, the Star Tungsten Mine was examined and sampled on August 26 and 27, 1952 by geologists[1] of the U. S. Geological Survey and an engineer[2] of the U. S. Bureau of Mines of Region III. The geologists and engineer also again conferred with Mr. Ogilvie at his residence in Elko, Nevada on August 31, 1952.

During the examination of the mining property, the examining engineers were accompanied over the surface of the claims by Mr. Ogilvie and Mr. Francis on August 26. However, the applicants did not accompany the Field Team during the examination of the underground workings of the South Shaft. Mr. Francis was physically unable to descend the shaft and Mr. Ogilvie stated that his knowledge of the underground workings was very limited and he had not been in the mine for several years.

On August 27 Mr. Ogilvie departed for Reno, Nevada to attend a County Commissioners meeting and Mr. Francis remained at the mine camp.

1/ R. M. Smith and D. C. Laub.
2/ Glenn G. Gentry.

The Field Team concentrated their examination on the area of the South shaft and the No. 7 claim ore body. These locations are areas where the applicants propose to do the exploration work and in which the most favorable scheelite deposition was observed.

LOCATION AND ACCESSIBILITY

The Star Tungsten Mine, owned by George F. Ogilvie of 595 A Street, Elko, Nevada and Andrew W. Francis of Ruby Valley, Nevada, consists of a group of 13 mining claims, unsurveyed, and held by right of location. The claims are reported to be located in sec. 18, T. 23 N., R. 58 E., M.D.B.& M., in an unnamed mining district of Elko County, Nev.

The mining property is reached by automobile by traveling south from Elko, Nev., via Nevada State Highway No. 46 for a distance of 43.3 miles over an all weather road, thence in an easterly direction 13.8 miles over an unimproved road.

The South shaft is situated 3.4 miles from the mill camp. One and one half miles of this mine road extends through a narrow canyon with heavy grades.

The mine is situated at an approximate altitude of 6700 feet above sea level in a rough and mountainous district. At this altitude, in the Ruby Range, the winter months usually bring stormy weather and heavy snowfall. Operations from December to March would probably be expensive and difficult and at times impossible unless adequate equipment was available for clearing the roads.

COMPETENCE OF APPLICANTS

Mr. Francis is physically unable to do any of the heavy work due to a back injury sustained at some unknown date in the past. He could

probably act in the capacity of a cook for men employed.

Mr. Ogilvie, while apparently in good physical condition, is one of the County Commissioners of Elko County, Nevada and has many and various duties to perform. These duties entail considerable travel and it is doubtful that he could spend much time at the mine. It would, therefore, be necessary to employ a thoroughly experienced miner as the lead man, who would be able to follow the instructions from Mr. Ogilvie.

The proposed exploration contract should therefore be drawn up on a cost per foot basis in order to eliminate lost time and unnecessary delays.

PROPERTY RIGHTS

The mining claims held by location by the applicants are as follows:

Claim	Recorded in Book No.	Page	
Star Tungsten	26	41	
" " No. 1	26	42	
" " No. 2	26	42	Recorded in the Office
" " No. 3	26	43	of the County Recorder,
" " No. 4	26	44	Elko County Courthouse,
" " No. 5	26	44	Elko, Nevada.
" " No. 6	26	45	
" " No. 7	26	46	

The above claims are situated in the Humboldt National Forest and were located on September 2, 1939 by E. Lane and Andrew Francis.

Star Tungsten No. 8	26	565	Recorded in the Office
" " No. 9	26	565	of the County Recorder,
" " No. 10	26	566	Elko County Courthouse,
" " No. 11	26	566	Elko, Nevada.

The above claims are situated in the Humboldt National Forest and were located on September 27, 1941 by E. Lane and Andrew Francis.

Claim	Recorded in Book No.	Page	
Star Tungsten No. 12	26	567	Recorded in the Office of the County Recorder, Elko County Courthouse, Elko, Nevada.

The above claim was located by A. W. Francis and George Ogilvie.

Star Tungsten No. 13 . . . . . Not recorded. Located in June or July of 1952 by A. W. Francis and George Ogilvie, situated in the Ruby Valley National Wildlife Refuge. This claim was located in order to reclaim mill tailings in the No. 2 tailing pond.

The 13 mining claims are unsurveyed and are in an unnamed mining district in Elko County, Nev. The applicants state that there are no liens, mortgages or debts against the mining claims.

During the month of October 1942, the applicants executed a lease on the mining claims to the Knowles brothers of Elko, Nevada and Mountain City, Nev. The lessee constructed a milling plant and actively operated the property until about July or August 1944 and apparently discontinued operations after October 9, 1944.

The applicants report that the above lease was not recorded and that neither party has notified the other that the lease has been cancelled or declared null and void.

The milling plant, owned by the Knowles brothers and containing the greater part of the milling machinery, still remains on the property.

DESCRIPTION OF THE PROPERTY

Surface facilities consist of the following:

7 Residence buildings	1 Garage and shop building
1 Change room	1 Steel water tank, 10' by 10'
1 Cookhouse	1500 Ft. of wood flume (11" by 11")

500 Ft. of 4-inch iron pipe
1 Ingersoll-Rand air compressor, 165 c.f.m., portable, mounted on steel wheels. Reported in good condition and in use by J. W. Mink at his tungsten mine, east of Wild Horse, Nev.
1 Ford truck, 1½-ton capacity. Fair condition.
2 Jackhammers)
1 Stoper) Fair condition.
Misc. air and water hose)

The camp buildings are in reasonably good condition and could accommodate about 20 man.

The Field Team concentrated their examination upon areas in which the applicant considered the most favorable possibilities to exist and where said applicant proposed to do the exploration work. This includes the South shaft, inclined slightly to the East to a depth of 40 feet and one drift, approximately 144 feet in length, extending in a northerly direction from the bottom of the shaft. The only facilities remaining at the shaft consists of a headframe, in need of considerable repairs or replacement, and the timber and bucket-guides down the shaft.

There are no surface facilities, of any nature, located at the No. 7 ore body.

GEOLOGY

The rocks of the Harrison Pass area are limestone and shale of Ordovician[3/4/] age which are intruded by a quartz monzonite stock. Near the contact -- in a zone about 1500 feet wide -- the limestone is metamorphosed to marble and the shale is metamorphosed to hornfels. Along the contact, small irregular tactite bodies have been formed from both

3/ Sharp, R. P., 1942, Bull, G.S.A., v. 53, p. 647, 690.
4/ Klepper, M. R., Oct. 1942, Report on the Star Tungsten Mine and vicinity, Elko County, Nevada, U.S.G.S., unpublished report.

marble and hornfels. Scheelite deposits are associated with the tactite.

In the mine area the metamorphic rocks strike northeast and dip 45° to 60° southeast (fig. 2). They are predominately hornfels which are dense, fine-grained, white, gray, or green, and are commonly thin-bedded. Interlayered with the hornfels are white, granular marble beds which range from a few inches to about 100 feet in thickness.

The quartz monzonite in the mine area constitutes the eastern edge of the Harrison Pass stock and is commonly an equigranular biotite quartz monzonite, although it is locally porphyritic. It weathers readily and generally does not form outcrops. It is cut by dikes of aplite, alaskite, and quartz monzonite which also occur as dikes and sills in the metamorphic rocks.

The tactite consists of garnet, pyroxene, epidote, quartz and calcite.

The contact zone trends northerly and is about 1500 feet wide. In this zone the contact is very irregular; in some places it is parallel to the bedding and in others it cuts across the beds.

The rocks are cut by low angle normal faults which strike northerly and dip west -- displacements of as much as 50 feet have been measured in the main ore body (fig. 2), but displacements of 5 to 10 feet are more common.

ORE DEPOSITS

The ore bodies are small, irregular tactite bodies which occur along the contact of the quartz monzonite with the metamorphic rocks.

The ore mineral is scheelite containing small amounts of molybdenum -- probably in powellite.

Tactite is formed along the contact of the intrusive rocks with marble and also with hornfels. Klepper found that marbel is more favorable for the formation of tactite than is hornfels.

Tungsten ore has been mined from several deposits in the area and two of these, the No. 7 ore body and the South shaft ore body, warrant further exploration. The other deposits are considered by the applicant to be worked out.

At the No. 7 ore body a tactite body ranging from 1 to 7 feet in width is partly exposed for a strike length of about 100 feet along the contact of hornfels and marble with a narrow tongue of granodiorite. The widest and highest grade tactite appears to have formed along the hornfels which dips steeply south. Three diamond-drill holes cut the contact below the outcrop and no tactite was recovered in the core, but none of these holes cut the contact along the downward continuation of the hornfels. Although it is unlikely that the tactite will continue to a depth of more than a few 10's of feet, the high grade of the ore (sample BM-322) warrants a small amount of exploratory work.

At the South shaft it is estimated that about 700 tons, averaging from 0.5 to 1.0 percent WO_3, has been mined between the surface and the 40-foot level from a tactite body along the contact of marble and hornfels with granodiorite. The best ore formed along the marble.

On the surface, south of the South shaft, along the contact of the granodiorite and hornfels, tactite is exposed in two small cuts. Here the tactite contains scheelite, and assays as high as 0.25 percent WO_3.

In the north face of the 40-foot level, the tactite zone is 7 to 8 feet wide and is exposed above a normal fault. A sample from this face assayed 0.77 percent WO_3.

SAMPLING

The following samples were taken by the Field Team:

Sample No.	%, WO_3	Description
BM-318	0.41	Shovel sample from No. 1 tailing pond. Estimated to contain about 1600 tons.
BM-319	0.28	Shovel sample from No. 2 tailing pond. Estimated to contain about 2000 tons.
BM-320	0.77	Width 27 inches. Face of North drift from bottom of the South shaft.
BM-321	0.46	Width 30 inches. South shaft. At bottom of the shaft and on south side of the shaft.
BM-322	2.06	Width 41 inches. Face of open cut No. 7 ore body.
BM-323	0.34	Width 22 inches. Surface exposure of tactite. S. 25° E, 63 feet from South shaft.
BM-324	0.01	Width 24 inches. Surface exposure of tactite and limestone - S. 12° E, 74 feet from BM-323.
BM-325	0.12	Width 4.3 feet - North drift off bottom of South shaft. On east wall of drift and 5 feet south of face of drift.
BM-326	0.42	Width 18 inches. Across back of North drift and 18 feet north of center line of South shaft.
BM-327	0.15	Width 24 inches. South end of main stope above North drift off South shaft.
BM-328	0.17	Width 37 inches. South side of South shaft and 12 feet above bottom of shaft.

Facilities for sampling other parts of the underground workings were not available and could not be provided by the applicant during the examination.

ORE RESERVES

Total reserves of 2,035 tons are estimated for the South shaft and No. 7 ore bodies and are summarized as follows:

South shaft ore body:

	Tons	%, WO_3	Units
Measured	25	0.5	12
Indicated	900	0.35	315
	(200	0.5	100)
Inferred	(200	0.35	70)
	(400	1.0	400)

No. 7 ore body:	Tons	%, WO_3	Units
Measured	10	2.0	5
Indicated	100	1.0	100
Inferred	200	1.0	200
Total	2055	0.59	1205

South shaft: Except for a few tons of ore around the edge of the old stope above the 40-foot level, there are no measured ore reserves in the South shaft ore body. About 900 tons of indicated ore, containing 0.35 percent WO_3, is estimated to be in the block above the 40-foot level (fig. 3 - section along line B-B'). Inferred reserves of a few hundred tons are estimated to be in three blocks:

1. North of the existing stope above the normal fault in the block 50 feet long, 3 feet wide, and 15 feet high - 200 tons containing 0.5 percent WO_3.
2. South of the South shaft between the normal fault and the surface, in the block 100 feet long, 3 feet wide and 30 feet high - 200 tons containing 0.35 percent WO_3. (In making this calculation, $\frac{1}{4}$ of the block is considered to be ore. This reserve is the objective of the proposed surface trenching.)
3. Below the normal fault east of the existing workings, in the block 100 feet long, 3 feet wide, and 15 feet down the dip -- 400 tons containing 1.0 percent WO_3. This block is the faulted segment of the ore body which was stoped above the 40-foot level.

No. 7 ore body: About 10 tons of measured ore containing about 2.0 percent WO_3 is exposed in the face of the open cut at the site of sample BM-522. About 100 tons of indicated ore containing 1.0 percent WO_3 is estimated to be in the block 50 feet long, 5 feet wide, and 10 feet high, above the level of the open cut and extending 50 feet south of the existing face.

In addition, 200 tons of ore containing 1.0 percent WO_3 are inferred to be in the block 50 feet long, 3 feet wide and 20 feet down the dip below the level of the existing open cut.

PAST PRODUCTION

The applicant reports a production of approximately 6,000 tons of crude ore, the greater part of which came from the shaft on the main ore body adjacent to the camp. These underground workings are reported to have been mined out but are now filled with water and could not be examined.

A tabulation of the tungsten concentrates produced, obtained from the applicants records, accompanies this report (see Appendix A).

MANPOWER - SUPPLIES

Water: No water is available at either of the sites of the proposed exploration and would have to be hauled via truck.

Power: There is no transmitted electric power in the district and it will be necessary to use machinery operated by either Diesel or gasoline engines.

Labor: The nearest source for experienced miners and mine labor is at Elko, Nev. The type of miners required for this job are difficult to obtain and it will probably require some time to secure desirable workmen.

PROPOSED EXPLORATION

The applicant has proposed an indefinite exploration project by means of a few tunnels, drifts and winzes; the lengths and depths of which would depend upon conditions as found but presently unknown to the applicant.

The applicant has estimated that it will require from one to one and one half years to complete the project at a cost of $10,000.00.

The Field Team do no consider that the applicants proposal, as outlined in his statement attached to the MF-103 application, under date of May 26, 1951, is justified by the geological evidence underground and of surface exposures.

The Field Team does however consider the property at the South shaft and the No. 7 ore body to have sufficient merit to justify a very modest exploration program and have proposed an alternate program which is estimated to cost $5,910.70 and should be completed in 57 working days.

Mr. George Ogilvie has advised the Field Team that it will be necessary for him to borrow sufficient funds to finance his share of the project and believes that he can borrow the money. Mr. Andrew Francis has advised the Field Team that he is presently unable to invest any money in the project.

It is therefore apparent that Mr. Ogilvie will have to finance the exploration program until such time as the monthly reports have been received, approved and paid. The starting date will no doubt depend upon Mr. Ogilvie's success in supplying the necessary funds for payroll and establishing credit for necessary mining supplies.

The proposed exploration work, if not started by Nov. 1 of this year, should be postponed until about May 1, 1953. This is due to expected weather and road conditions during the winter months, the isolation of the mine workings and the increased cost of operations during bad weather.

EXPLORATION PROJECT

Starting date: Probably not less than 15 days after contract is executed.

Time required to complete project: 57 working days.

Description of project:

South shaft ore body:

1. Drive a crosscut east for a distance of 50 feet from a point about 15 feet south of the north face of the North drift. This crosscut is to be no larger than 4½ feet wide by 6 feet in height. Broken rock is to be removed by wheelbarrow and piled in the North drift.

2. Extend the North drift in a northwesterly direction for a distance of 50 feet along the tactite zone. The size of the drift is not to exceed 4½ feet wide by 6 feet in height. Broken rock is to be removed by wheelbarrow and piled in the North drift.

3. Trench No. 1 - Surface - S. 25° E, 63 feet from the South shaft. Size of trench: 25 feet long by 3 feet wide by 3 feet deep.

4. Trench No. 2 - Surface - S. 12° E, 75 feet from Trench No. 1. Size of trench: 25 feet long by 3 feet wide by 3 feet deep.

5. Surface exploration of the No. 7 ore exposure. Ex-

tend the present open cut in a southeasterly direction for a distance of 50 feet. Width of cut not to exceed 4 feet. (Note:- The floor of the present open cut is approximately 8 feet below the surface).

Totals:	Drifting and crosscutting	100	feet
	Trenching	50	"
	Open cut	50	"
	Total	200	feet

Allowable costs of project:

a. Independent contracts . . . . . None

b. Labor

1 Miner-foreman	@	$15.00/day
1 Laborer-helper	@	14.00/day
1 Cook	@	5.00/day
1 Bookkeeper	@	100.00/month

c. Operating materials and supplies:

31	50-pound boxes of 40% dynamite @ $12.50	$387.50
5000	feet of fuse @ $14.25 per M	71.25
500	No. 8 blasting caps @ $2.75 per C	13.75
600	gals. gasoline for compressor @ $0.32	192.00
12	gals. compressor oil @ $2.50 per gal.	30.00
1	gal. center machine oil @ $3.00	3.00
150	feet BM - 2" by 4" and 1" by 4" material for ladders	15.00
25	pounds of nails @ $0.15	3.75
2	long handled, round point shovels @ $3.50/ea.	7.00
2	" " square " " @ $3.50 "	7.00
50	mine wedges @ $0.05 ea.	2.50
1	miners axe, single bit, 4½ pounds	5.00
1	double jack, with handle	5.00
1	single jack, " "	3.00
2	miners drift picks, handled @ $4.00 ea.	8.00
1	wheelbarrow, rubber tire	25.00
100	pounds miners carbide @ $0.08	8.00
100	gals. gasoline for trucks @ $0.32	32.00
10	qts. oil for trucks @ $0.35	3.50
	lubricating oil and cup grease	5.00
		$827.25

d. Operating equipment:

1. To be purchased . . . . . None

2. To be rented . . . . . None

3. Owned and furnished by the operator:

1 Ingersoll-Rand air compressor, 165 c.f.m. second hand, reported as in good condition. Estimated value $1500.00, monthly depreciation 1/60 . . . . $250.00 per month - 1.5 months	$375.00
1 Jackhammer, large, mounted, wet, estimated value $150.00, monthly depreciation 1/60 . . . $2.50 per month - 1.5 months	3.75
100 Feet of air hose) 100 Feet of water hose) second hand Estimated value $60.00, monthly depreciation 1/60 . . . $1.00 per month - 1.5 months	1.50
1 Column and bar (second hand). Estimated value $25.00, monthly depreciation 1/60 ... $0.42 per month - 1.5 months	.63
Drill steel (second hand) 18 pieces	
Drill bits (estimated at $200) new and used bits on hand @ $0.625 ea.	125.00
1 Ford truck, 1½-ton capacity. Estimated value $500.00, monthly depreciation 1/60 ... $8.33 per month - 1.5 months	12.50
1 Bit sharpener (second hand). Estimated value $50.00, monthly depreciation 1/60 ... $0.83 per month - 1.5 months	1.25
1 Truck, pickup, estimated value $1000.00, monthly depreciation 1/60 ... $16.66 per month - 1.5 months	25.00
500 Feet of 2-inch black iron pipe (second hand). Estimated value $0.12 per foot - $60.00, monthly depreciation 1/60 ... $1.00 per month - 1.5 months	1.50
	$546.13

e. Rehabilitation and repairs of existing buildings: None

f. New buildings, improvements and installations to be purchased, installed or constructed:

Installation of approximately 500 linear feet of 2-inch black iron pipe from compressor set up at the No. 1 tailing pond to the No. 7 ore body. Labor: 2 days time for 2 men @ $29.00 per day	$ 58.00

g. Miscellaneous:

The air compressor, owned by the applicants, is now in use at the J. W. Mink, Little Joe group of tungsten claims, situated approximately 15 miles east of Wild Horse, Nev., or approximately 137 miles north of the applicants property. This machine was apparently borrowed or rented by Mr. Mink and should be returned to the Star Tungsten mine at no cost to the exploration project.

Labor:	2 days time for 2 men in moving from the mine camp to the South shaft and installation of necessary air and water lines	58.00
Labor:	1 days time for 2 men constructing ladders	29.00
	2 days time for 2 men installing air and water lines and ladders down old raise north of the South shaft	58.00
Labor:	Moving air compressor from South shaft to No. 1 tailing pond for work on No. 7 ore body and installation of compressor - 1 days time for 2 men	29.00
	Installation of approximately 500 feet of 2-inch air line from compressor to No. 7 ore body - 2 men for 2 days time	58.00
Analytical work:		
	20 samples for WO_3 analysis @ $5.00	100.00

Total allowable labor cost:		
1 bookkeeper @ $100.00/month	2 months	$ 200.00
1 miner-foreman @15.00/day	57 days	855.00
1 miner's helper-laborer @ $14.00/day - 57 days		798.00
1 cook @ $5.00/day	57 days	285.00
		$2,138.00
	Add 14% insurance	299.32
		$2,437.32
Total allowable cost of operating materials and supplies		827.25
Total allowable cost of analytical work		100.00
Total allowable cost of monthly depreciation		546.13
Total cost of project		$3,910.70
Government participation 75% or $2,933.03		
Time required to complete project	57 days	

Mr. George Ogilvie and Andrew Francis should assemble the necessary equipment at the mine camp and place in good operating condition prior to the start of any exploration work and at no cost to the project.

Mr. Ogilvie is to direct and supervise the operations and to take samples and prepare the accounting and monthly reports on Form MF-104.

The mill building and concentrating machinery are owned by the Knowles brothers of Elko, Nev., and are located adjacent to the mine camp and alongside of the Harrison Pass Highway. The building is of frame construction covered with tar paper. The roof should be entirely recovered immediately in order to protect the machinery and equipment which consists of:

1 Coarse ore bin, timber construction, size 11.2 feet by 12 feet, bottom on 45 degree slope (good condition)
1 Conical, steel ore bin, extra heavy steel plate, about 50-ton capacity (good condition)
1 Kue-Ken balanced crusher, size 50 (10-inch by 24-inch) Serial No. 5016P6, 365 RPM (good condition)
1 Belt conveyor, belt 16-inch by 32 feet. Gear driven from line shaft. Small pinon gear badly worn. Belt appears in good condition.
1 International Diesel engine, 75-horsepower, 4-cylinder, No. UDF529, V-belt drive to crusher. Reported to be in good condition.
1 Wemco belt conveyor, steel frame, 16-inch by 51 feet belt. Model OBM-Serial No. 43-5591. Driven by electric motor. Appears to be in good condition.

1 Double deck vibrating screen No. 86755, screen size 24-inch by 48-inch. Mfg. by the Denver Equipment Co., electric motor driven. Motor has been removed. The screen appears to be in fair condition. (This is owned by the applicant).

1 Straub ball mill, No. 45, size 3 feet by 4 feet, V-belt driven by one Westinghouse electric motor, constant speed, 25-horsepower, 440 V., Serial No. 804259, Style 550475 PX. Appears to be in good condition, however, the ball mill liner plates could not be examined.

1 Settling cone, steel, 1/8-inch plate, 45-inches wide at top by 76 inches long by 58 inches deep. Looks to be in good condition.

1 Straub concentrating table, standard size. Looks to be in reasonably good condition. Deck linoleum in only fair condition. Riffles are in fair condition. The electric motor drive and line shaft have been removed.

1 Plat-o concentrating table, standard size, V-belt driven from electric motor. Electric motor and V-belts have been removed. Extra heavy riffles, 1-inch wide. Will be necessary to replace the deck linoleum. (Owned by the applicants).

1 Power unit: Cummins Diesel engine, 6-cylinder, water cooled. (No name plate or number on engine). Connected to: Palmer regulating alternator, 63KVA, 240V, 157 Amps., 50 KW, 1200 RPM, 3 ph, 60 cycle, No. 500400. V-belt drive to Palmer generator, type comp., 1.5-horsepower, 125 V, 12 amps, DC, 1725 RPM, No. 321TLC19775. Together with necessary wall, throw out switches. This equipment has not been operated since 1944 and therefore the condition is not determined.

1 Iron pan for concentrate dryer. 3/8-inch iron plate, 45 inches wide by 9 feet 6 inches long, with sides 6 inches deep. Looks to be in good condition.

1 Outside storage tank for Diesel fuel oil, steel tank, 56-inch diameter by 15 feet 5 inches long. Looks to be in good condition.

All iron pipe and pipe fittings in the mill are reported to be owned by the applicants.

The milling plant is reported to have been designed as a 50-ton plant. However, the applicant reports that the maximum daily tonnage treated, only amounted to 37 tons of crude ore.

It is considered probable that the Knowles brothers will sell the milling machinery to anyone who will pay the asking price. Therefore,

the Field Team has no information as to how long the plant will remain at the property.

GENERAL INFORMATION

The applicant has advised the Field Team that he is endeavoring to sell or lease the mining claims and has made a tentative offer to Mr. Warren Overholser of Gabbs, Nev. The purchase price asked amounts to $100,000.00, payable on a 25% Royalty basis and with a guaranteed minimum Royalty of $400.00 per month.

Whether or not the sale will be consummated is unknown.

APPENDIX "A"

Production by applicant: WO_3 concentrates

Date	Amount lbs	Assay %, WO_3	Lot No.	Units WO_3	Price	Exp.	Credits
Apr. 17, 1941	2245	30.0	1	33.675	$18.75	$29.03	$631.40
June 4 , 1941	1494	54.44	2	40.667	20.75	15.57	843.84
July 14, 1941	1802	61.15	3	55.096	21.75	15.96	1198.54
Aug. 7 , 1941	2446	61.00	4	74.603	21.75	18.86	1622.62
Sept. 4, 1941	2450	56.12	5	68.747	21.75	19.48	1495.25
Nov. 21, 1941	3395	55.20	6	93.702	20.75	24.41	1944.32
Jan. 7 , 1942	3881	51.40	7	99.742	20.75	23.14	2069.65
Feb. 18, 1942	4817	48.36	8	116.451	20.75	29.86	2416.35
Apr. 3 , 1942	9881	48.10	9	237.638	20.75	49.65	4930.99
Apr. 16, 1942	3300	47.92	10	79.068	20.75	29.23	1640.66
May 15, 1942	5768	52.20	11	150.545	20.75	34.48	3123.81
June 15, 1942	3513	49.44	12	86.771	20.75	28.64	1800.50
July 9 , 1942	3206	56.20	13	90.089	20.75	28.62	1869.34
Aug. 10, 1942	3689	60.30	14	111.223	23.15	26.02	2574.81
Sept. 30,1942	2123	52.65	15	55.888	22.15	17.12	1237.92
Nov. 23, 1942	4697	52.20	16	122.592	22.15	33.03	2713.41
	58707			1516.497		$423.09	$32115.21

Shipped to M.R.C.

Aug. 25, 1942	4692	12.58	1	29.512			93.84
Sept. 28,1942	4399	7.60	2	16.720			88.00
Nov. 30, 1942	2336	6.45	3	7.530			47.90
	11427			53.762			229.74

WO_3 concentrates produced by Knowles brothers and shipped to Metals Reserve.

Date	Amount lbs.	Assay %,WO_3	Lot No.	Units WO_3	Units Paid	Gross Receipts	Treatment	Settlement	25% Royalty
Jan. 13, 1944	20289	52.18	4	529.37	514.15	$ 15424.50	$ 808.28	$ 14,610.92	$ 3,652.73
Feb. 2 , 1944	20022	55.36	5	554.21	539.19	16175.70	824.51	15,349.98	3,835.25
Feb. 11, 1944	19928	51.30	6	511.15	496.21	14886.30	789.18	14,095.97	3,523.99
Apr. 12, 1944	19922	41.30	7	411.39	396.45	11893.50	688.34	11,205.04	2,802.76
Apr. 19, 1944	20053	35.20	8	352.95	337.91	10137.30	635.68	9,503.41	2,375.85
Apr. 19, 1944	16429	35.80	9	294.10	281.77	8453.10	515.90	7,928.91	1,982.23
Apr. 19, 1944	17598	37.80	10	328.82	315.77	9473.10	563.70	8,900.59	2,2[illegible]
May 15, 1944	17905	40.86	11	365.78	352.35	10570.50	607.48	9,963.95	2,4[illegible]
May 15, 1944	18181	47.00	12	427.28	413.84	12409.20	672.73	11,727.26	2,931.82
May 31, 1944	4760	49.00	13	116.62	113.05	3391.50	189.88	3,208.22	802.05
June 19, 1944	11193	50.65	14	283.49	275.09	8608.16	434.61	8,161.89	1,540.97
June 12, 1944	15990	53.40	15	424.35	414.94	9956.56	642.80	9,307.69	2,326.92
July 29, 1944	15949	59.60	16	475.31	463.35	11120.40	699.64	10,421.71	2,605.43
July 29, 1944	19624	53.00	17	520.04	505.32	12127.68	784.96	11,332.86	2,833.21
Oct. 9 , 1944	9938	45.80	18	566.69	227.58	4524.08	—	4,279.59	1,067.85
	247579			6,164.04	5,848.77	$156947.52	$8,205.69	$147,[illegible]	$36,[illegible]

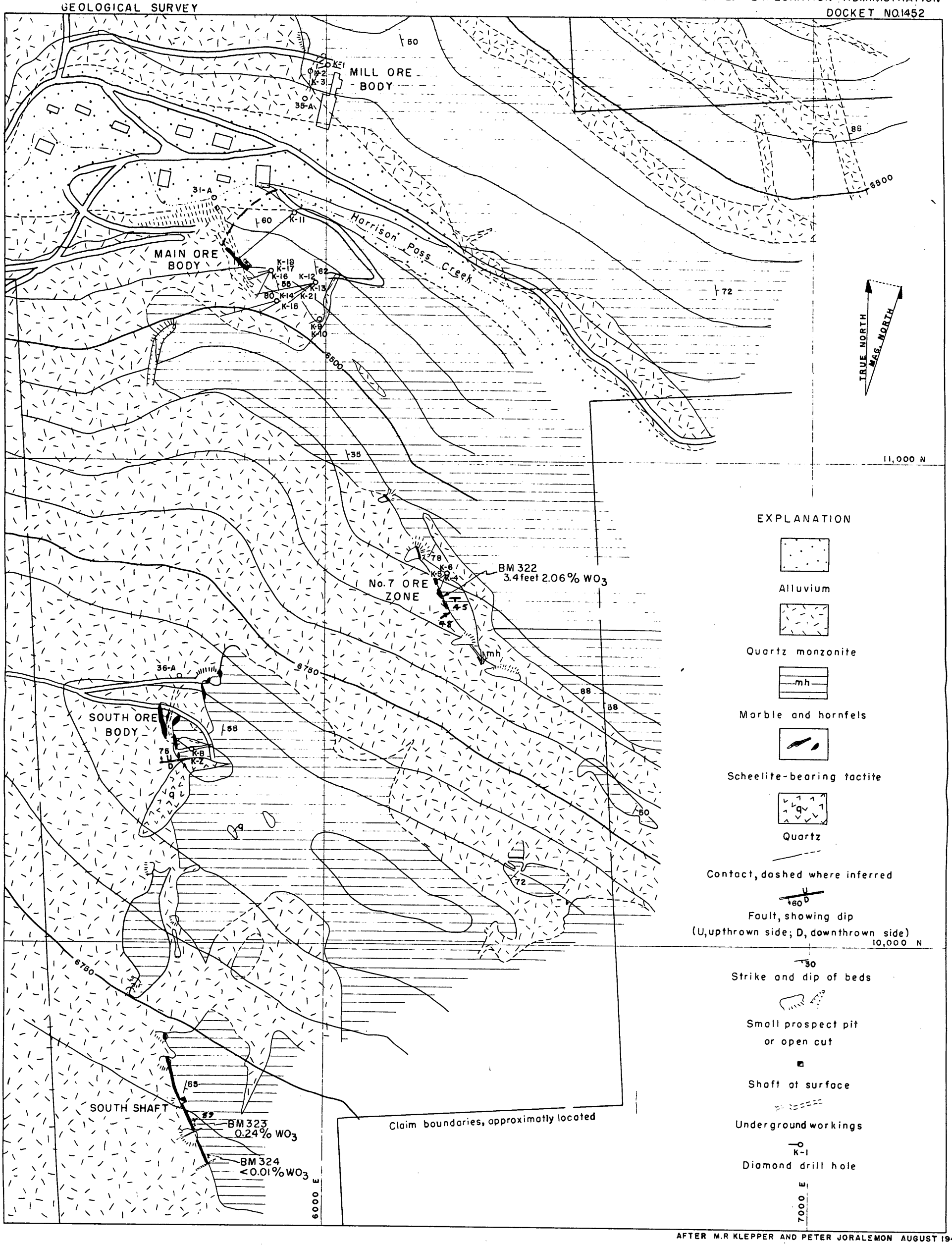
Total production compiled from applicants records

	Lbs. WO_3 concts.	Units WO_3	Total Receipts
1941	58,707	1,516.497	
1942	11,427	53.762	
1944	247,579	6,164.040	
Totals	317,713	7,734.299	$189,292.47

The above production data secured from applicants shipping receipts.

U. S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
DOCKET NO.1452

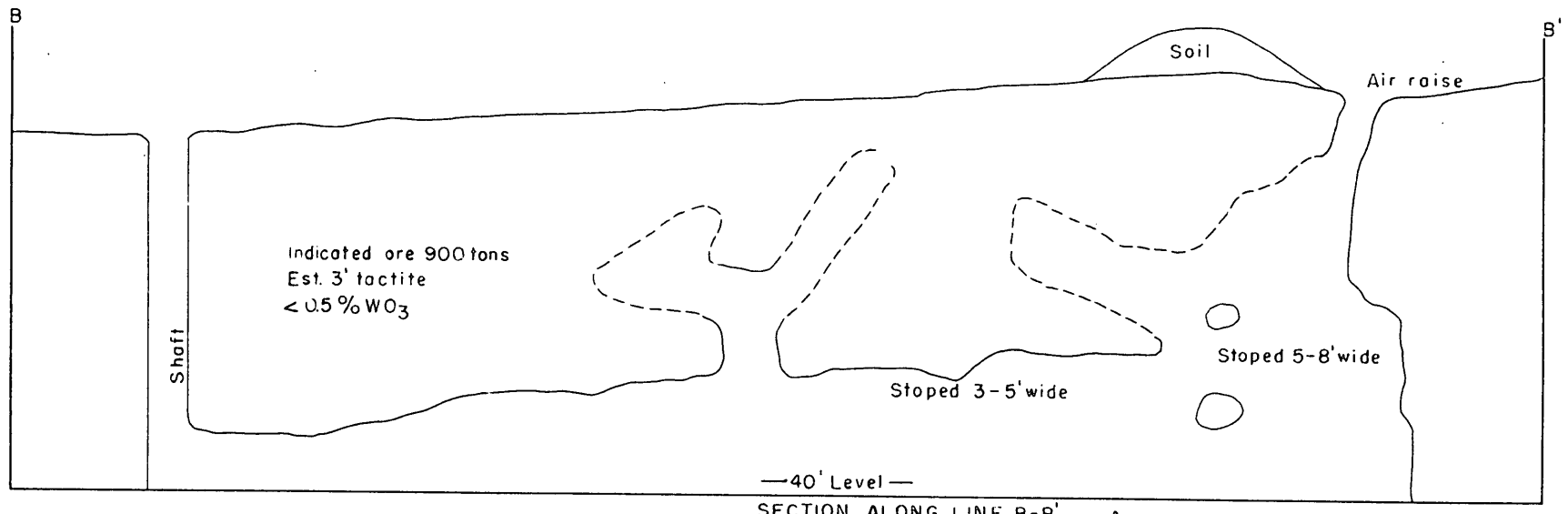


AFTER M.R KLEPPER AND PETER JORALEMON AUGUST 1943

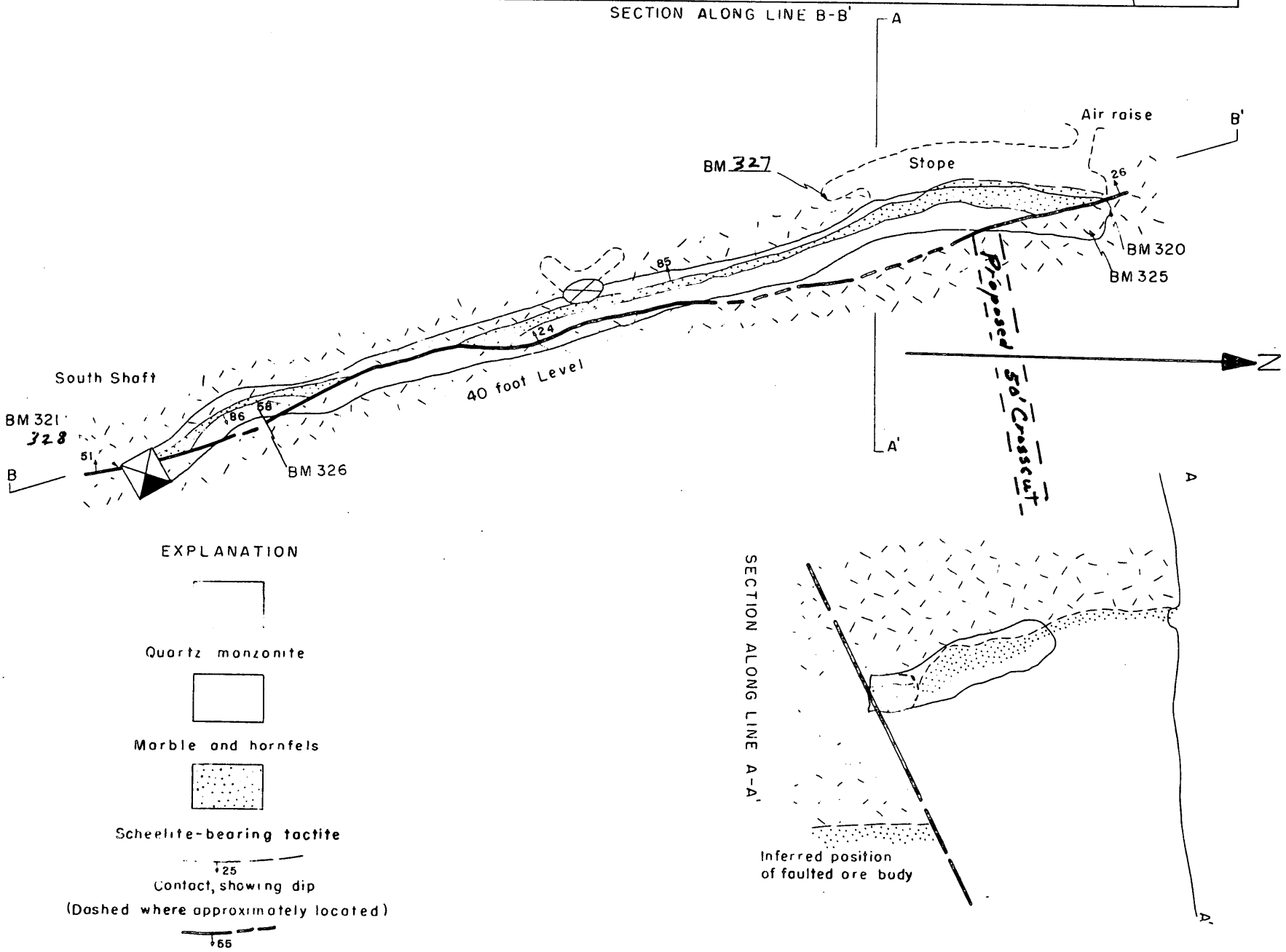
FIG. 2 GEOLOGIC MAP OF STAR TUNGSTEN PROPERTY

HARRISON PASS, ELKO COUNTY, NEVADA

0 200 400 FEET
Scale



SECTION ALONG LINE B-B'



SECTION ALONG LINE A-A'

Inferred position of faulted ore body

EXPLANATION

Quartz monzonite

Marble and hornfels

Scheelite-bearing tactite

25
Contact, showing dip
(Dashed where approximately located)

55
Fault, showing dip
(Dashed where approximately located)

30
Strike and dip of beds

Bottom of shaft

Foot of raise or winze

Sample No.	Width feet	Percent WO_3
BM 320	2.25	0.77
BM 321	2.5	0.46
BM 325	4.3	0.12
BM 326	1.5	0.42
BM 327	2.0	0.15
BM 328	3.1	0.17

GEOLOGY BY R. M. SMITH

FIG. 3

GEOLOGIC MAP OF THE 40 FOOT LEVEL
SOUTH SHAFT - STAR TUNGSTEN MINE
ELKO COUNTY, NEVADA

0 20 40 FEET
Scale

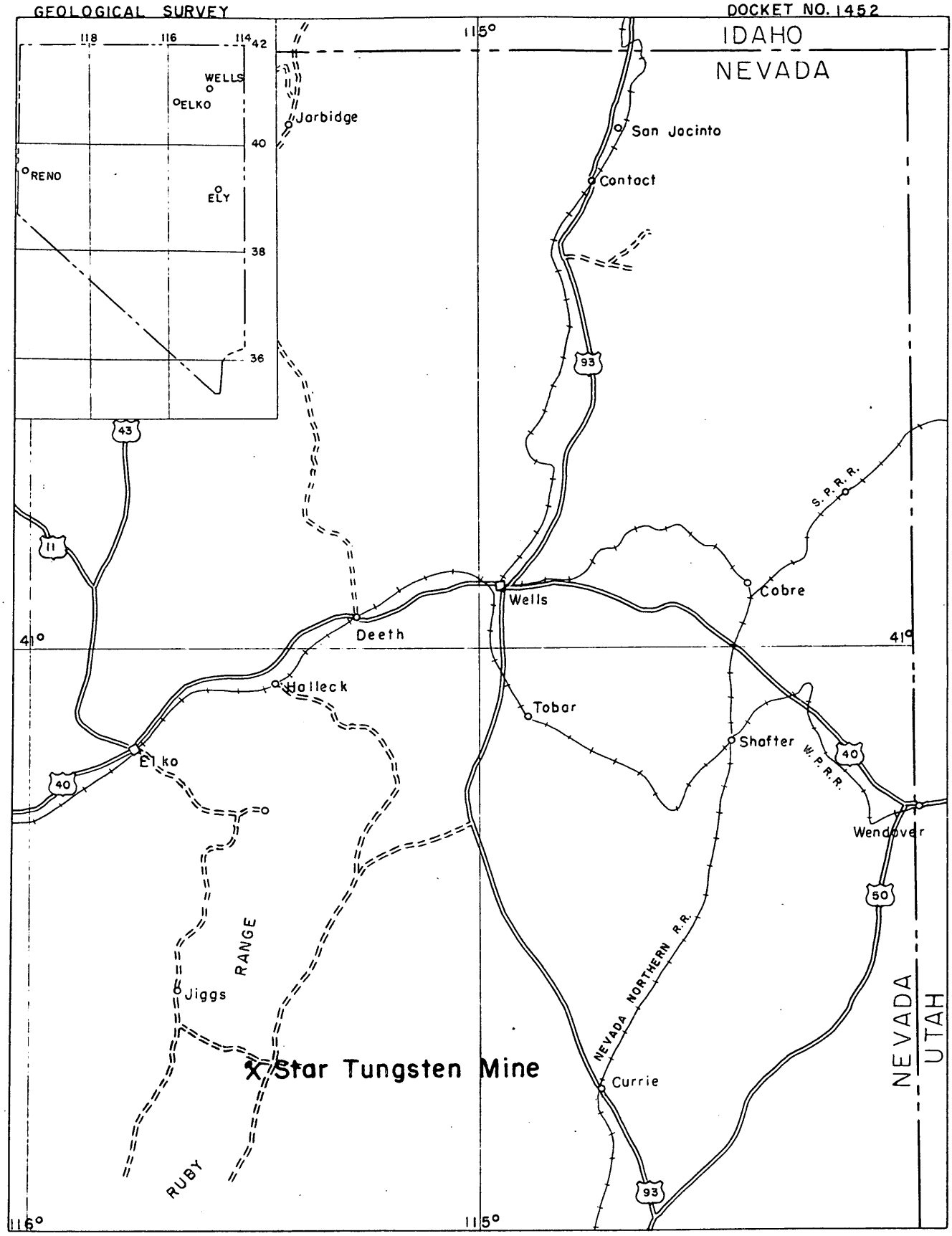


FIG. 1 INDEX MAP OF NEVADA

0 10 20 30 40 Miles

Scale 1:1,000,000

Mrs. L. M. Scott
[illegible]
Room 3538

IN REPLY REFER TO:

G-MD-CF

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

December 17, 1952

Memorandum

To: G. C. Selfridge

From: M. D. Crittenden

Subject: DMA 1452X (Tungsten)
Star Tungsten Mine
Elko County, Nevada

The Field Team Region III has examined the above property and propose to approve a contract for a total of $3,910.70 to explore two showings, one in the south shaft, the other in an open pit called the No. 7 orebody.

In the south shaft, a steeply dipping vein has been partially stoped to a depth of 40 feet, where it is cut off by a flat fault. The work proposed is based on reserves of 400 tons averaging .35 to .50 percent WO_3 in the part of the vein above the existing 40-foot level, and of an equal amount averaging 1 percent WO_3 in a faulted segment of the vein believed to exist somewhere east of the shaft.

I believe the field team should be asked (1) to state the evidence for the location of the faulted segment of the vein, and for assuming that a 50-foot cross-cut would reach it, (2) why the grade in the inferred segment should be 2 to 3 times as high as that in the observed segment! (3) If ore exists south of the shaft, why was it not mined during earlier operations?

Also, it is noted that the ore mined during World War II averaged 0.5 to 1.0 percent WO_3, but yielded concentrates containing only 35 to 50 percent WO_3. Is there any reason to believe that the material in the South vein averaging .35 to .75 percent WO_3 would yield a better product?

Several other factors appear to make consummation of the proposed contract undesirable.

(1) The low grade of the existing ore in the south shaft where most of the work is to be done.

(2) The lack of evidence presented to indicate that the vein is offset in the direction and for the distance shown.

(3) The fact that operations cannot be started until May, and the possibility that the applicants may have disposed of the property by that time.

Although the Field Team should be asked to supplement their report as specifically noted above, I believe the docket can be rejected without further delay on the basis of the information they have already supplied.

M. D. Crittenden

JUL 25 1952

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

Re: Docket No. DMA 1492X - Tungsten
George F. Ogilvie
Star Tungsten Mine
Ruby Range, Elko County, Nevada

Dear Mr. Miller:

Reference is made to the above docket. It seems extremely desirable that a field team examination be made of this property to determine if a Government contract for exploration is warranted.

If it appears that the recommendation of the field team will be favorable, particular attention should be given the following:

1. Strength of mineralization exposed and geologic evidence in favor of its continuance.

2. Check sampling of mineralization.

3. Legal description of property with book and page number for each recorded location notice.

4. Is experience of applicant adequate to manage project? Neither applicant includes any operating experience under his experience record.

5. If applicants can efficiently undertake the role of miners as they intend to do most of the work themselves. Their age, lack of experience, and probable physical condition (especially of Mr. Ogilvie) are apparently against this.

6. Items of equipment owned by applicants and their value for determining depreciation payments under contract.

7. Do applicants have sufficient money to furnish their share of expenditures?

8. A detailed program of exploration with all the necessary data to complete contract.

For your information we are enclosing the following:

2 Copies - Review of Application for Exploration Assistance.
1 Copy - KF-203.
2 Copies - Memo from D. M. Lemmon, USGS, July 21, 1952.
2 Copies - Memo from D. M. Lemmon, USGS, January 31, 1952.
2 Copies - Memo from R. W. Geehan, USBM, February 15, 1952.
2 Copies - Letter from Mr. Ogilvie, July 12, 1952.

Sincerely yours,

George C. Selfridge

ACTING Chairman, Operating Committee
Defense Minerals Exploration
Administration

Enclosures

F. A. Rutledge:lm
7/24/52

Approved:

J. H. Hedges

Member, Bureau of Mines

T. P. Thayer

Member, Geological Survey

cc: Admn. Reading File
Docket
R. W. Geehan, USBM
D. M. Lemmon, USGS
Field Team Reg. III
Operating Committee
G. C. Selfridge
F. A. Rutledge

Mr. George F. Ogilvie
Star Tungsten Mine
595 A Street
Elko, Nevada

Re: Docket No. DMA 1452X - Tungsten
George F. Ogilvie
Star Tungsten Mine
Ruby Range, Elko County, Nevada

Dear Mr. Ogilvie:

Your application for assistance in exploring tungsten occurrences at the Star Tungsten Mine has been reviewed by the Iron and Ferro-Alloy Division of the Defense Minerals Exploration Administration and has been referred to Mr. R. C. Miller, Executive Officer, DMEA Field Team, Region III, 1012 Flood Building, 870 Market Street, San Francisco 2, California, for a field examination.

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

Sincerely yours,

(signed) FRANK E. JOHNSON

Acting Administrator
Defense Minerals Exploration
Administration

FARutledge'lm
7/23/52

cc: Admn. Reading File
Docket
F. W. Geehan, USBM
D. M. Lemmon, USGS
Field Team Reg. III
G. C. Selfridge
F. A. Rutledge

IN REPLY REFER TO:
G-MD-CF

406

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

Memorandum

July 21, 1952

To: George C. Selfridge, DMEA

From: D. M. Lemmon, USGS

DMEA 1452 - Tungsten

Subject: Additional review of exploration application
Star Tungsten Mine
George F. Ogilvie
Ruby Range, Elko County, Nevada

The letter of July 12 from Ogilvie does little to clarify his previous application. Apparently Ogilvie's principal desire is to sell the property - a laudable ambition inasmuch as Ogilvie is not a miner and the property will not support any overhead. To date, Ogilvie, as owner, probably received the only profit from the past operation through royalties from Knowles Brothers, who operated as lessee in 1942-45.

James S. Wroth, consultant for DMPA, conferred with Ogilvie in Elko on July 15. In a personal letter to DMPA, he recites Ogilvie's story and recommends that a geologist be sent to outline a program of exploration.

The past history of the property does not indicate much chance of discovering enough ore to make a successful operation. A few thousand tons of 0.5 to 1.0 percent WO_3 might be found, not enough to warrant expenditure of additional Federal funds for production. This is not a new district but one in which the nature of the ore bodies is predictable.

Because of the expectable political pressure, it appears necessary to request the Field Team to send a geologist to consult with Ogilvie, examine his exploration proposals, and sample the accessible workings at the South shaft. Long-hole drilling from the bottom of the shaft might be used economically to locate the postulated offset ore body and to determine the best way to open it up (such as deepening the present shaft in preference to a crosscut and winze.) The economics of the property should be stressed in conversations with the applicant.

In further correspondence with Ogilvie from DMEA in Washington, it might be mentioned that the sale of mineral property is not a normal function of DMEA or the Bureau of Mines. The marginal character of the ore because of small size of ore bodies and expensive development required to mine them might also be pointed out.

D. M. Lemmon

Copy retained 400

EXPLORATION

400

Mr. George F. Gilvie
Star Tungsten Mine
595 [illegible] Street
Elko, Nevada

Re: Docket No. DMA 1452[illegible] - Tungsten
Star Tungsten Mine
Harrison Pass, Ruby Range
Elko County, Nevada

Dear Mr. Gilvie:

To date replies have not been received to our letters to you of March 19 and May 8, 1952, in which we requested additional information in order to further process your application for exploration assistance.

We note that your application is now more than one year old. We would like to process as quickly as possible all of the old DMA applications still in our active file but cannot do so unless applicants furnish us with requested information. We wish to cooperate with you in the matter of allowing ample time but if the needed information has not been received by July 15, 1952, we will then remove the application from our active file and consider the matter closed.

Sincerely yours,

C. O. Mittendorf

Acting Administrator
Defense Minerals Exploration
Administration

G[illegible]elfridge:ls 5/[illegible]/52

Copy to: Docket
Admn. Tracking File
Field Team, Region 3
G. [illegible]elfridge
R. [illegible] Graham, [illegible]
[illegible]. M. Lemmon, [illegible]

Mr. George F. Ogilvie
Star Tungsten Mine
595 "A" Street
Elko, Nevada

Re: Docket No. DMA 1452Y - Tungsten
Star Tungsten Mine
Harrison Pass, Ruby Range
Elko County, Nevada

Dear Mr. Ogilvie:

On March 19, 1952, we wrote you requesting additional detailed information regarding your proposed exploration program. To date we have not had a reply to our letter.

Will you please inform us whether or not you wish to proceed with your application for exploration aid? If so, please send us the requested information. If not, please request that we withdraw your application for such aid.

Sincerely yours,

George C. Selfridge

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

GCSelfridge:ls
5/5/52

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

QLBrewer:lm
3/18/52

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

3/19/52

Star Tungsten Mine
c/o George F. Ogilvie
595 "A" Street
Elko, Nevada

Re: Docket No. DMA 1452X - Tungsten
Star Tungsten Mine
Harrison Pass, Ruby Range
Elko County, Nevada

Dear Mr. Ogilvie:

Our recent review of DMA files has disclosed the above noted application.

The file discloses that your application was received on May 31, 1951, and was reviewed shortly thereafter. Your suggestion (Item 22 of your Form MM-103) in regard to obtaining maps and reports from the U. S. Geological Survey was followed, and copies thereof were sent you about July 15, 1951. No further correspondence in regard to the subject docket is in our file.

Our recent review of your application, with the said maps and report of the U. S. Geological Survey at hand, does not disclose information sufficiently in detail to substantiate a loan; in fact, the work proposed would not be warranted by the information now at hand.

Please favor us with additional detailed information as to the location of the proposed tunnels and the ore body expected to be encountered at your Location No. 1. At your Location No. 2, you state that the ore body was faulted to the east and that you propose to drift east to find the faulted portion. Please let us have more detailed information in regard to the geology and/or other factors which led to your conclusion in this respect.

Your application will be held in abeyance pending receipt of the above information.

Sincerely yours,

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

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

4005-7

March 12, 1952

Memorandum

To: Operating Committee

From: C. O. Mittendorf
Acting Administrator

Subject: DMA-1452X - Star Tungsten Mine (Tungsten)

I am reluctant to sign the letter of denial which has been prepared, and am returning the docket for your further consideration. I do not wish to imply that the application should be approved, but I do feel that I shall be on very weak ground when called upon to defend the proposed denial in view of the memoranda which are a part of the official record in this case.

It appears from the record that the application was received on May 31, 1951 and referred to the Tungsten Branch on June 5 following. On June 7 the Survey furnished the applicant with certain maps; however, no direct reference was made to their pending application. There is no record of any additional correspondence on the part of the applicant or DMA, or its successor, DMEA.

On January 28 the Iron and Ferro-Alloy Metals Division of DMEA reviewed the case, suggested that a field examination be made, and requested concurrence from the commodity specialists. It was felt that the field examination would have the dual purpose of first evaluating the property and, secondly, assisting the applicant to work out a detailed program of exploration with an estimate of the costs involved.

In Mr. Lemmon's memorandum of January 31 he does not specifically oppose a field examination. He feels that the information in Washington is adequate to evaluate the property and states, further, that the examination could not be made before late spring, in any event. He concludes with the recommendation that we write the applicant for information regarding the current status of the property and such other details of the proposed project as are necessary to consider the application further. I concur in his recommendation.

On February 15, 1952 Mr. Geehan reviewed Lemmon's memorandum and concurred with his recommendations.

Mr. Gentry, who was on loan from Region III, took the case at this point and has prepared an outright denial of the application. This denial was typed and came to my attention after Mr. Gentry returned to his official station in Reno. The denial has been surnamed by both Lemmon and Geehan, which seems to me to be a little inconsistent with the position they have taken in their recorded memoranda. Obviously there were some further discussions between Gentry, Lemmon, and Geehan which led to a decision to deny the application, but the point that disturbs me is that there is no official record as to why this later conclusion was reached. Mr. Selfridge was not a party to these discussions and therefore is unable to clarify the matter.

On the basis of the information before me, I believe we would be on much firmer ground to follow the recommendations of Lemmon and activate the case by letter to the applicant, rather than serve him with an outright denial. If you concur, then you will undoubtedly wish to correct your minutes accordingly and return the docket to the commodity groups for reconsideration.

C. O. Mittendorf

COMittendorf/fw/pa

cc: G. C. Selfridge
R. W. Geehan
D. M. Lemmon
J. H. Hedges
T. P. Thayer
Admr. Reading File
Mails and Files
Mr. Mittendorf
~~Field Team, Reg. III~~

Reviewed by
DMEA OPERATING COMMITTEE
3-12-52
(date) JHB

We concur with the last paragraph.

Signed: J. H. Hedges)
T. P. Thayer) Operating Committee
Frank E. Johnson)

400

February 28, 1952

Memorandum

To: Acting Administrator, Defense Minerals Exploration Administration

From: Iron and Ferro-Alloy Division, Defense Minerals Exploration Administration

Subject: Denial of exploration project in the amount of $10,000.00
Docket No. DMA 1452X - Tungsten
Star Tungsten Mine
Elko County, Nevada

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

1. The ore deposits previously mined are structurally complicated and a study of the geological maps submitted by the USGS suggests small and discontinuous lenses of tactite, limited by quartz monzonite and aplite on one side and marble and hornfels on the other side.

2. The metamorphic rocks have been altered to tactite along less than 5 per cent of the contact. The inferred tonnage is small and the chances for a significant mineral discovery are highly speculative.

3. The depth of the deposit as determined by the USGS is relatively shallow. The underground workings indicate that the contact is as irregular at depth as at the surface.

4. The prospecting, proposed by the applicant to develop an unknown block of ore in a faulted area, is in the nature of a guess.

5. The ore body represented by the applicant's sketch drawing is probably only a thin layer of ore not removed by the previous operators.

6. No information is available relative to the diamond drill holes put down by the Knowles brothers who operated the property during the war years, however, probably little or no ore of commercial value was found as the Knowles brothers relinquished their lease.

7. Production from the mine from 1940 to 1944 inclusive, is reported to have amounted to 7400 units of WO_3 and very likely the greater portion of the known ore deposits WAS removed. The Knowles brothers constructed a small mill adjacent to the mine and the mill still remains on the property, although the condition of the building and equipment is uncertain.

8. The applicants expect to manage the proposed operation and it appears that their experience in mining has been very limited.

George C. Selfridge

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

GGGentry'lm
2/28/52

cc: Admn. Reading File
Docket
G. C. Selfridge
G. G. Gentry

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

February 15, 1952

Memorandum

To: George Selfridge, D.M.E.A.

From: Robert W. Geehan, Bureau of Mines

Subject: Exploration Application DMA-1452
Star Tungsten Mine Tungsten
c/o George F. Orilvie
Elko County, Nevada

In accord with Lemmon, I recommend approval if a letter to the applicant results in satisfactory answers regarding current status of property, ownership and will, and if he will specifically indicate the proposed work on one of them and his.

Robert W. Geehan

RWGeehan:alk

cc: Mr. Geehan
Ferrous M&A
Mr. Katlin
Files

Mr. Selfridge

Denied on Feb 28th, 1952

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

G-MD-DML

file

January 31, 1952

Memorandum

To: George C. Selfridge, DMEA

From: D. M. Lemmon, U.S.G.S.

Subject: Exploration application $10,000 DMA-1452-X Tungsten
Star Tungsten Mine
c/o George F. Ogilvie
595 A Street
Elko, Nevada

Property: Star mine
Harrison Pass, Ruby Range
Secs. 17 and 20, T. 28 N., R. 58 E.
Elko County, Nevada

Mr. Ogilvie submitted this application on May 26 (received May 31) without supporting maps or a definite statement of lengths of proposed workings. On June 7, the Geological Survey mailed sets of maps of the property to Mr. Ogilvie, with the expectation that he would take the hint and send one copy to DMA showing the work proposed. Mr. Ogilvie did not acknowledge receipt of the maps, and apparently did not write again to DMA. Apparently DMA did nothing about the application after acknowledging on June 19 its receipt.

The Geological Survey mapped the area in 1942-43 and obtained sufficient information to evaluate Ogilvie's proposal. These maps were released to the public in 1943, and a set is attached herewith for use of D.M.E.A.

The work proposed in the application involves the amount that could be accomplished by 2 men in a year at a cost of $10,000. Drifts, crosscuts, and a winze, all of indeterminate length, are to be dug at 2 prospects which I have identified from the description given.

Location No. 1 is the same as the No. 7 Ore Zone shown on the USGS map at 10,700 N, 6,200 E. The map shows about 5 spots of tactite, each not more than 20 feet long, on a granite contact that cuts across limestone beds. Three drill holes are shown, representing work done by Knowles Brothers. The Geological Survey does not have logs of these holes. A statement by Klepper of the Geological Survey, in 1943, suggests that the tactite was eliminated by granite at a depth of 50 feet.

It appears that a crosscut adit 120 feet long is needed to gain 50 feet of depth. The limestone is a narrow peninsula in the intrusive and appears to be cut off at shallow depth.

The applicant plans successively lower adits to follow the ore downward, a proposal that does not seem warranted by the available information.

We have no information about the content of WO_3 except the fact that the Knowles Brothers did not consider the deposit worth further development.

Location No. 2 is the same as the South Shaft shown on the USGS map at coordinate 9,600 N, 5,800 E. At the surface, a layer of tactite 3 to 4 feet thick is exposed for a length of 100 feet. The average content of WO_3 was estimated at 0.25 percent; the part near the shaft contained about 0.4 percent. According to the applicant, the tactite layer was cut off by granite at a depth of 40 feet, and the contact is a flat fault. The granite contact is parallel to bedding in the limestone, and the tactite layer replaces a single bed.

It is proposed to crosscut east to find the offset contact, then sink a winze. The proposal seems aimed in the right direction, but the winze may not be practical from a mining viewpoint. The maximum offset shown in the main ore body along flat faults was 50 feet, and the majority of the offsets were in the order of 5 or 10 feet. The content of WO_3 may be only 0.25 percent rather than the 1.0 percent suggested by the applicant.

Conclusions:

1) The work proposed, or a modification of it, might uncover a few thousand tons of marginal ore. It is questionable if the material could be mined at a profit because the bodies are small, structurally complicated, and distant from milling facilities unless arrangements can be made to rehabilitate the mill on the property.

2) Small, high-grade shoots are probably present on the property at other localities, hidden beneath barren outcrops. We have no adequate guide to permit economical exploration, and the cost of discovery or mining would be excessive.

3) Except for assay data on the exposures beneath which exploration is planned, the information in Washington is adequate to evaluate the property. No field examination could be made before late spring.

4) Although no significant tungsten production can be expected from the work proposed, the costs and targets are no less favorable than in several other applications previously approved for loans.

Recommendation

I suggest a letter to the applicant requesting information about the current status of the property, the compressor, and the mill, and suggesting that the proposed work be indicated on a copy of the maps that he has if he wishes to go ahead with an exploration proposal.

If a satisfactory answer is received, an exploration project costing in the order of $10,000 is probably warranted.

D M Lemmon

Enclosure

DMLemmon:gt

Copies to: Director's read. file
Branch read. file

JAN 28 1952

Mr. Dwight Lemmon
U.S. Geological Survey
Room 5216, GSA Building
Washington 25, D. C.

Re: Docket No. DMA 1452X - Tungsten
Star Tungsten Mine
Elko County, Nevada

Dear Mr. Lemmon:

The subject docket, enclosed herewith, is in reference to an application which is dated May 26, 1951, and is presently being reviewed by this office.

Judging from the information contained in the attached letter from the applicant, this office considers that an examination by the field team might be justified. At the time of such examination, the field team could work out a detailed program of exploration and a breakdown of costs with the owners.

Will you please advise us whether or not you concur in a request for the field examination.

Sincerely yours,

George C. Selfridge

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

Enclosures

GGGentry'lm
1/25/52

cc: Admn. Reading File
Docket
G. C. Selfridge
G. G. Gentry

400

FILE COPY
SURNAME:

Rutledge
Martin
Mittelendorf

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

APR 9 1953

Mr. George F. Ogilvie
Star Tungsten Mine
595 "A" Street
Elko, Nevada

Re: Docket No. DMA 1452-X - Tungsten
George F. Ogilvie
Star Tungsten Mine
Elko County, Nevada

Dear Mr. Ogilvie:

This will acknowledge receipt of your letter of April 2, 1953, stating that you probably will be interested in an exploration contract for the subject project if you are unable to dispose of the subject property. Because the above letter was not received by this Division until after April 3, 1953, the docket has been transferred to the inactive files and closed. This transfer, however, was made without prejudice, and the information contained therein will be available if you decide later to submit a revised application.

We wish to thank you for your interest in the Defense Minerals Program and for bringing your property to our attention. Please be assured that a revised application for an exploration project similar to that suggested in our letter of December 29, 1952, will be given prompt consideration when received.

Sincerely yours,

W. S. Martin

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

cc: Docket
Field Team, Region 3
Code 400
Admn. Read. File
R. W. Geehan, USBM
D. M. Lemmon, USGS

FARutledge/hhb
4/8/53

8H.
4/9/53

COPY

595 A Street
Elko Nevada
April 2, 1953

Mr. C. O. Mittendorf, Administrator
Defense Minerals Exploration Administration
Washington D C 25

Dear Mr. Mittendorf:-

RE DOCKET # DMA 1452X TUNGSTEN

We have been trying to sell the mine and mill and have one deal pending at the present time. If we complete the deal we will not be interested in the loan. If we do not we probably will be interested. However, we would much prefer selling if we can since my partner is bothered with arthritis and I am so busy with other business that it is difficult to give the mining operation sufficient supervision.

Regarding our comments on the loan the only criticism we have of the proposed plan is that we can hardly see the advantage of piling the broken rock in the North drift when it will have to be handled again and removed from the drift in order to mine the possible 1000 tons of ore already blocked out between the drift and the surface. Im sure the mine car track is still in the drift although covered with decomposed granite which has sluffed off the walls and we have a tugger hoist to lift the broken rock to the surface to get it out of the way permanently.

Sincerely yours
Sgd. George F. Ogilvie
Star Tungsten Mine

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

April 6, 1953

Memorandum

To: Robert E. Adams, Chief
Operations Control and Statistics Division, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Removal of application from the active file:
Docket No. DMA 1452X - Tungsten
George F. Ogilvie
Star Tungsten Mine
Elko County, Nevada

A revised exploration program was submitted to the applicant on December 29, 1952, for his comments and approval. No answer to our request has been received, although on February 3, 1953, we again asked that in the interest of expediting the processing of the application he submit the requested comments; and by letter of March 3, 1953, we advised the applicant that if no further word was received by April 3, 1953, the application would be transferred to the inactive files and the matter closed.

To date, we have not received the requested comments, and we are, therefore, removing the docket from our Division files. The docket is transmitted herewith.

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

Attachment

400

FILE COPY
SURNAME:

Rutledge
Martin

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

W. S. in R. v R.

April 6, 1953

Memorandum

To: Robert E. Adams, Chief
Operations Control and Statistics Division, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Removal of application from the active file:
Docket No. DMA 1452X - Tungsten
George F. Ogilvie
Star Tungsten Mine
Elko County, Nevada

A revised exploration program was submitted to the applicant on December 29, 1952, for his comments and approval. No answer to our request has been received, although on February 3, 1953, we again asked that in the interest of expediting the processing of the application he submit the requested comments; and by letter of March 3, 1953, we advised the applicant that if no further word was received by April 3, 1953, the application would be transferred to the inactive files and the matter closed.

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W. S. Martin

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

Attachment

Copy to: Field Team, Region III
Docket
Code 400
Admn. Read. File

FARutledge/ls
4/6/53

595 A Street
Elko Nevada
April 2, 1953

Mr. C. O. Mittendorf, Administrator
Defense Minerals Exploration Administration
Washington DC 25

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 3 1953

Dear Mr Mittendorf:-

RE DOCKET #DMA 1452X Tungsten

We have been trying to sell the mine and mill and have one deal pending at the present time. If we complete the deal we will not be interested in the loan. If we do not we probably will be interested. However, we would much prefer selling if we can since my partner is bothered with arthritis and I am so busy with other business that it is difficult to give the mining operation sufficient supervision.

Regarding our comments on the loan the only criticism we have of the proposed plan is that we can hardly see the advantage of piling the broken rock in the north drift when it will have to be handled again and removed from the drift in order to mine the possible 1000 tons of ore ~~about~~ already blocked out between the drift and the surface. I'm sure the mine can track is still in the drift although covered with decomposed granite which has sluffed off the walls and we have a trigger hoist to lift the broken rock to the surface to get it out of the way permanently.

Sincerely yours
George T. Ogilvie
Star Tungsten Mine

Recd 2 pm
4-6-53
Code 400.

FILE COPY
SURNAME:

Rutledge
Martin

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

MAR 3 1953

Mr. George F. Ogilvie
Star Tungsten Mine
595 "A" Street
Elko, Nevada

Re: Docket No. DMA 1452-X - Tungsten
George F. Ogilvie
Star Tungsten Mine
Ruby Range, Elko County, Nevada

Dear Mr. Ogilvie:

Reference is made to the subject application for exploration assistance at the Star Tungsten Mine.

On December 29, 1952, we submitted a revised exploration program to you for your comments. Because we received no reply and in the interest of expediting the processing of the application, we again asked for an early reply by letter of February 3, 1953. To date we have not received the requested comments.

We wish to co-operate fully in the matter of allowing ample time, but if your comments on the program suggested in our letter of December 29, 1952, have not been received by April 3, 1953, we will then remove the application from the active file and consider the matter closed.

Sincerely yours,

C. O. Mittendorf (for) J.H.
3/3/53

Administrator

cc: Docket
Field Team, Region 3
Code 400
Admn. Read. File
R. W. Geehan, USBM
D. M. Lemmon, USGS

FARutledge/hhb
3/2/53

400

FILE COPY
SURNAME:

Rutledge
Martin

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

FEB 3 1953

Mr. George F. Ogilvie
Star Tungsten Mine
595 "A" Street
Elko, Nevada

Re: Docket No. DMA 1452-X - Tungsten
George F. Ogilvie
Star Tungsten Mine
Ruby Range, Elko County, Nevada

Dear Mr. Ogilvie:

Reference is made to the subject application for exploration assistance at the Star Tungsten Mine.

On December 29, 1952, we submitted a revised exploration program to you for your comments. To date we have not received an answer to our letter.

In the interest of expediting the processing of this application, we would appreciate an early reply.

Sincerely yours,

J.C. 2/3/53

COPY

W. S. Martin, Acting Chief
Iron and Ferro-Alloy Division

cc: Docket
Field Team, Region 3
Code 400
Admn. Read File
R. W. Geehan, USBM
D. M. Lemmon, USGS

FARutledge/hhb
2/2/53

Ogilvie & Farmer say they are the owners of the claim.

However claim 1-11, which were staked by E. Lane and Farmer, the copy of assignment by Lane of his interest to Farmer.

400

FILE COPY
SURNAME:

Rutledge
Ledge
Gephart

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

DEC 29 1952

Mr. George F. Ogilvie
Star Tungsten Mine
595 "A" Street
Elko, Nevada

Re: Docket No. DMX 1452X - Tungsten
George F. Ogilvie
Star Tungsten Mine
Ruby Range, Elko County, Nevada

Dear Mr. Ogilvie:

Your application for exploration assistance and other data concerning the above-noted property available to us in Washington have been carefully reviewed.

The information suggests that the Government participate in the following exploration program if it is agreeable to you:

1. Drive a 50-foot crosscut east from a point about 15 feet south of the north face of the North drift to explore for the faulted section of the vein. Broken rock is to be removed by wheelbarrow and piled in the North drift.

2. Extend the North drift in a northwesterly direction for a distance of 50 feet along the tactite zone. Broken rock is to be removed by wheelbarrow and piled in the North drift.

3. Trench No. 1 - S. 25° E., 63 feet from the South shaft. Size of trench: approximately 25 feet long by 3 feet wide by 3 feet deep.

4. Trench No. 2 - S. 12° E., 75 feet from Trench No. 1. Size of trench: approximately 25 feet long by 3 feet wide by 3 feet deep.

If the suggested program has your approval, payment by the Government will be on the basis of 75 percent of an agreed unit price per foot of work completed. Unit prices set up for such a program follow:

50 feet of crosscut @ $35.00 per foot	$1,750.00
50 feet of drift @ $35.00 per foot	1,750.00
50 feet of trenching @ $4.00 per foot	200.00
25 tungsten analyses @ $4.00 per assay	100.00
	$3,800.00

We note also that you do not have sufficient money immediately available to pay your percentage of the project cost. You should have sufficient funds available to cover your share and also be able to finance the entire cost of the project for at least two months' operation as the Government does not advance funds for exploration projects. The Operator finances the project and at the end of the month submits a voucher for the work completed. Depending upon the clarity of the voucher, it may be from two to four weeks before the Operator is reimbursed for the Government's share, which in the case of tungsten is 75 percent.

Processing of your application will continue as soon as we hear from you.

Sincerely yours,

C. O. Mittendorf (for)

Administrator

J.H.
12-29-52

FARutledge/GCSelfridge/ls
12/23/52

Copy to: Docket
Admn. Read. File
Field Team, Reg. 3
F. A. Rutledge
G. C. Selfridge
D. M. Lemmon, USGS
R. W. Geehan, USBM

IN REPLY REFER TO:

G-MD-CF

12/19/52

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

December 17, 1952

Memorandum

To: G. C. Selfridge

From: M. D. Crittenden

Subject: DMA 1452X (Tungsten)
Star Tungsten Mine
Elko County, Nevada

The Field Team Region III has examined the above property and propose to approve a contract for a total of $3,910.70 to explore two showings, one in the south shaft, the other in an open pit called the No. 7 orebody.

In the south shaft, a steeply dipping vein has been partially stoped to a depth of 40 feet, where it is cut off by a flat fault. The work proposed is based on reserves of 400 tons averaging .35 to .50 percent WO_3 in the part of the vein above the existing 40-foot level, and of an equal amount averaging 1 percent WO_3 in a faulted segment of the vein believed to exist somewhere east of the shaft.

I believe the field team should be asked (1) to state the evidence for the location of the faulted segment of the vein, and for assuming that a 50-foot cross-cut would reach it, (2) why the grade in the inferred segment should be 2 to 3 times as high as that in the observed segment! (3) If ore exists south of the shaft, why was it not mined during earlier operations?

Also, it is noted that the ore mined during World War II averaged 0.5 to 1.0 percent WO_3, but yielded concentrates containing only 35 to 50 percent WO_3. Is there any reason to believe that the material in the South vein averaging .35 to .75 percent WO_3 would yield a better product?

Several other factors appear to make consummation of the proposed contract undesirable.

(1) The low grade of the existing ore in the south shaft where most of the work is to be done.

(2) The lack of evidence presented to indicate that the vein is offset in the direction and for the distance shown.

Copy retained 400

(3) The fact that operations cannot be started until May, and the possibility that the applicants may have disposed of the property by that time.

Although the Field Team should be asked to supplement their report as specifically noted above, I believe the docket can be rejected without further delay on the basis of the information they have already supplied.

Max D. Crittenden Jr

M. D. Crittenden

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 8 1952

Office of
Executive Officer
DMEA Field Team
Region III

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

December 4, 1952

Memorandum

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

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMA-1452X (Tungsten), Star Tungsten Mine, Elko County, Nevada

Reference is made to your "Review of Application for Exploration Assistance," dated July 23, 1952, requesting us to outline a definite program of exploration with the applicant if recommendations of the Field Team are favorable.

Attached are four copies of a report, entitled DMA-1452X (Tungsten), Star Tungsten Mine, Elko County, Nevada by R. M. Smith and D. C. Laub, Geologists, U. S. Geological Survey and Glenn G. Gentry, Mining Engineer, U. S. Bureau of Mines, dated October 29, 1952.

The examining team did not concur with the exploration program submitted by the applicant but have proposed a revised program which they believe will adequately explore two of the ore bodies on the property. This program comprises:

1. South Shaft: Crosscut 50 feet and drift 50 feet on the 40-foot level - cut two surface trenches, each approximately 25 feet in length.

2. No. 7 ore body: Extend the existing open cut southeast for 50 feet.

The program is estimated to cost $3,910.70 and will require about 2-1/2 months to complete. The Government's share of the cost will be $2,933.03.

The Field Team concludes that there is a fair chance that a small body of tungsten ore will be revealed by each of the proposed projects, and recommend that the Government enter into a contract with the applicant to do the work.

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

Attachment

Reviewed by OC 12/15/52

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 8 1952

BCS
12/19/52

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

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMA-1452X (Tungsten), Star Tungsten Mine

Elko County, Nevada

R. M. Smith and D. C. Laub, Geologists
U. S. Geological Survey

Glenn G. Gentry, Mining Engineer
U. S. Bureau of Mines

October 29, 1952

Docket No.: DMA-1452X (Tungsten)

Name and address of applicant: George F. Ogilvie
595 A Street
Elko, Nevada

Name and location of property: Star Tungsten Mine
Elko County, Nevada

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Mr. George F. Ogilvie and Mr. Andrew W. Francis, partners, 595 A Street, Elko, Nevada, Docket DMEA-1452 (tungsten) applied on May 26, 1951 to the Defense Minerals Exploration Administration for Government participation in a $15,000 program to explore surface and underground showings of ore at the Star Tungsten mine, Ruby Range, Elko County, Nev.

A field examination was requested on July 25, 1952 by the Field Team of Region III to determine whether the ore reserves are sufficient to justify the proposed project, to outline a suitable exploratory program, and to obtain the data necessary to complete a contract. Accordingly, an examination was made on August 26 and 27, 1952.

The applicant proposed to explore two deposits; the No. 7 ore body, where he proposed to drive four adits under the best outcrop, and the South shaft ore body, where he proposed to crosscut to, and sink a winze on a faulted segment of the ore body that was mined on the 40-foot level.

The exploratory program was discussed with the applicant and a revised program consisting of two phases was outlined:

1. South Shaft: Crosscut 50 feet and drift 50 feet on the 40-foot level - cut two surface trenches, each approximately 25 feet in length.

2. No. 7 ore body: Extend the existing open cut southeast for 50 feet.

The program is estimated to cost $3,910.70 and will require about 2½ months to complete. The Government's share of the cost will be $2,933.03.

It is concluded that there is a fair chance that a small body of tungsten ore will be revealed by each of the proposed projects, and it is recommended that the Government enter into a contract with the applicant to do the work.

TIME SPENT ON PROPERTY

Pursuant to the application, the Star Tungsten Mine was examined and sampled on August 26 and 27, 1952 by geologists[1] of the U. S. Geological Survey and an engineer[2] of the U. S. Bureau of Mines of Region III. The geologists and engineer also again conferred with Mr. Ogilvie at his residence in Elko, Nevada on August 31, 1952.

During the examination of the mining property, the examining engineers were accompanied over the surface of the claims by Mr. Ogilvie and Mr. Francis on August 26. However, the applicants did not accompany the Field Team during the examination of the underground workings of the South Shaft. Mr. Francis was physically unable to descend the shaft and Mr. Ogilvie stated that his knowledge of the underground workings was very limited and he had not been in the mine for several years.

On August 27 Mr. Ogilvie departed for Reno, Nevada to attend a County Commissioners meeting and Mr. Francis remained at the mine camp.

1/ R. M. Smith and D. C. Laub.
2/ Glenn G. Gentry.

The Field Team concentrated their examination on the area of the South shaft and the No. 7 claim ore body. These locations are areas where the applicants propose to do the exploration work and in which the most favorable scheelite deposition was observed.

LOCATION AND ACCESSIBILITY

The Star Tungsten Mine, owned by George F. Ogilvie of 595 A Street, Elko, Nevada and Andrew W. Francis of Ruby Valley, Nevada, consists of a group of 13 mining claims, unsurveyed, and held by right of location. The claims are reported to be located in sec. 18, T. 28 N., R. 58 E., M.D.B.& M., in an unnamed mining district of Elko County, Nev.

The mining property is reached by automobile by traveling south from Elko, Nev., via Nevada State Highway No. 46 for a distance of 43.3 miles over an all weather road, thence in an easterly direction 13.8 miles over an unimproved road.

The South shaft is situated 3.4 miles from the mill camp. One and one half miles of this mine road extends through a narrow canyon with heavy grades.

The mine is situated at an approximate altitude of 6700 feet above sea level in a rough and mountainous district. At this altitude, in the Ruby Range, the winter months usually bring stormy weather and heavy snowfall. Operations from December to March would probably be expensive and difficult and at times impossible unless adequate equipment was available for clearing the roads.

COMPETENCE OF APPLICANTS

Mr. Francis is physically unable to do any of the heavy work due to a back injury sustained at some unknown date in the past. He could

probably act in the capacity of a cook for men employed.

Mr. Ogilvie, while apparently in good physical condition, is one of the County Commissioners of Elko County, Nevada and has many and various duties to perform. These duties entail considerable travel and it is doubtful that he could spend much time at the mine. It would, therefore, be necessary to employ a thoroughly experienced miner as the lead man, who would be able to follow the instructions from Mr. Ogilvie.

The proposed exploration contract should therefore be drawn up on a cost per foot basis in order to eliminate lost time and unnecessary delays.

PROPERTY RIGHTS

The mining claims held by location by the applicants are as follows:

Claim	Recorded in Book No.	Page	
Star Tungsten	26	41	
" " No. 1	26	42	
" " No. 2	26	42	Recorded in the Office
" " No. 3	26	43	of the County Recorder,
" " No. 4	26	44	Elko County Courthouse,
" " No. 5	26	44	Elko, Nevada.
" " No. 6	26	45	
" " No. 7	26	46	

The above claims are situated in the Humboldt National Forest and were located on September 2, 1939 by E. Lane and Andrew Francis.

Star Tungsten No. 8	26	565	Recorded in the Office
" " No. 9	26	565	of the County Recorder,
" " No. 10	26	566	Elko County Courthouse,
" " No. 11	26	566	Elko, Nevada.

The above claims are situated in the Humboldt National Forest and were located on September 27, 1941 by E. Lane and Andrew Francis.

Claim	Recorded in Book No.	Page	
Star Tungsten No. 12	26	567	Recorded in the Office of the County Recorder, Elko County Courthouse, Elko, Nevada.

The above claim was located by A. W. Francis and George Ogilvie.

Star Tungsten No. 13 . . . . . Not recorded. Located in June or July of 1952 by A. W. Francis and George Ogilvie, situated in the Ruby Valley National Wildlife Refuge. This claim was located in order to reclaim mill tailings in the No. 2 tailing pond.

The 13 mining claims are unsurveyed and are in an unnamed mining district in Elko County, Nev. The applicants state that there are no liens, mortgages or debts against the mining claims.

During the month of October 1942, the applicants executed a lease on the mining claims to the Knowles brothers of Elko, Nevada and Mountain City, Nev. The lessee constructed a milling plant and actively operated the property until about July or August 1944 and apparently discontinued operations after October 9, 1944.

The applicants report that the above lease was not recorded and that neither party has notified the other that the lease has been cancelled or declared null and void.

The milling plant, owned by the Knowles brothers and containing the greater part of the milling machinery, still remains on the property.

DESCRIPTION OF THE PROPERTY

Surface facilities consist of the following:

7 Residence buildings	1 Garage and shop building
1 Change room	1 Steel water tank, 10' by 10'
1 Cookhouse	1500 Ft. of wood flume (11" by 11")

500 Ft. of 4-inch iron pipe
1 Ingersoll-Rand air compressor, 165 c.f.m., portable, mounted on steel wheels. Reported in good condition and in use by J. W. Mink at his tungsten mine, east of Wild Horse, Nev.
1 Ford truck, 1½-ton capacity. Fair condition.
2 Jackhammers)
1 Stoper) Fair condition.
Misc. air and water hose)

The camp buildings are in reasonably good condition and could accommodate about 20 men.

The Field Team concentrated their examination upon areas in which the applicant considered the most favorable possibilities to exist and where said applicant proposed to do the exploration work. This includes the South shaft, inclined slightly to the East to a depth of 40 feet and one drift, approximately 144 feet in length, extending in a northerly direction from the bottom of the shaft. The only facilities remaining at the shaft consists of a headframe, in need of considerable repairs or replacement, and the timber and bucket-guides down the shaft.

There are no surface facilities, of any nature, located at the No. 7 ore body.

GEOLOGY

The rocks of the Harrison Pass area are limestone and shale of Ordovician[3/][4/] age which are intruded by a quartz monzonite stock. Near the contact -- in a zone about 1500 feet wide -- the limestone is metamorphosed to marble and the shale is metamorphosed to hornfels. Along the contact, small irregular tactite bodies have been formed from both

3/ Sharp, R. P., 1942, Bull, G.S.A., v. 53, p. 647, 690.
4/ Klepper, M. R., Oct. 1942, Report on the Star Tungsten Mine and vicinity, Elko County, Nevada, U.S.G.S., unpublished report.

marble and hornfels. Scheelite deposits are associated with the tactite.

In the mine area the metamorphic rocks strike northeast and dip 45° to 60° southeast (fig. 2). They are predominately hornfels which are dense, fine-grained, white, gray, or green, and are commonly thin-bedded. Interlayered with the hornfels are white, granular marble beds which range from a few inches to about 100 feet in thickness.

The quartz monzonite in the mine area constitutes the eastern edge of the Harrison Pass stock and is commonly an equigranular biotite quartz monzonite, although it is locally porphyritic. It weathers readily and generally does not form outcrops. It is cut by dikes of aplite, alaskite, and quartz monzonite which also occur as dikes and sills in the metamorphic rocks.

The tactite consists of garnet, pyroxene, epidote, quartz and calcite.

The contact zone trends northerly and is about 1500 feet wide. In this zone the contact is very irregular; in some places it is parallel to the bedding and in others it cuts across the beds.

The rocks are cut by low angle normal faults which strike northerly and dip west -- displacements of as much as 50 feet have been measured in the main ore body (fig. 2), but displacements of 5 to 10 feet are more common.

ORE DEPOSITS

The ore bodies are small, irregular tactite bodies which occur along the contact of the quartz monzonite with the metamorphic rocks.

The ore mineral is scheelite containing small amounts of molybdenum -- probably in powellite.

Tactite is formed along the contact of the intrusive rocks with marble and also with hornfels. Klepper found that marbel is more favorable for the formatiom of tactite than is hornfels.

Tungsten ore has been mined from several deposits in the area and two of these, the No. 7 ore body and the South shaft ore body, warrant further exploration. The other deposits are considered by the applicant to be worked out.

At the No. 7 ore body a tactite body ranging from 1 to 7 feet in width is partly exposed for a strike length of about 100 feet along the contact of hornfels and marble with a narrow tongue of granodiorite. The widest and highest grade tactite appears to have formed along the hornfels which dips steeply south. Three diamond-drill holes cut the contact below the outcrop and no tactite was recovered in the core, but none of these holes cut the contact along the downward continuation of the hornfels. Although it is unlikely that the tactite will continue to a depth of more than a few 10's of feet, the high grade of the ore (sample BM-322) warrants a small amount of exploratory work.

At the South shaft it is estimated that about 700 tons, averaging from 0.5 to 1.0 percent WO_3, has been mined between the surface and the 40-foot level from a tactite body along the contact of marble and hornfels with granodiorite. The best ore formed along the marble.

On the surface, south of the South shaft, along the contact of the granodiorite and hornfels, tactite is exposed in two small cuts. Here the tactite contains scheelite, and assays as high as 0.25 percent WO_3.

In the north face of the 40-foot level, the tactite zone is 7 to 8 feet wide and is exposed above a normal fault. A sample from this face assayed 0.77 percent WO_3.

SAMPLING

The following samples were taken by the Field Team:

Sample No.	%, WO_3	Description
BM-318	0.41	Shovel sample from No. 1 tailing pond. Estimated to contain about 1600 tons.
BM-319	0.28	Shovel sample from No. 2 tailing pond. Estimated to contain about 2000 tons.
BM-320	0.77	Width 27 inches. Face of North drift from bottom of the South shaft.
BM-321	0.46	Width 30 inches. South shaft. At bottom of the shaft and on south side of the shaft.
BM-322	2.06	Width 41 inches. Face of open cut No. 7 ore body.
BM-323	0.24	Width 22 inches. Surface exposure of tactite. S. 25° E, 63 feet from South shaft.
BM-324	0.01	Width 24 inches. Surface exposure of tactite and limestone - S. 12° E, 74 feet from BM-323.
BM-325	0.12	Width 4.3 feet - North drift off bottom of South shaft. On east wall of drift and 5 feet south of face of drift.
BM-326	0.42	Width 18 inches. Across back of North drift and 18 feet north of center line of South shaft.
BM-327	0.15	Width 24 inches. South end of main stope above North drift off South shaft.
BM-328	0.17	Width 37 inches. South side of South shaft and 12 feet above bottom of shaft.

Facilities for sampling other parts of the underground workings were not available and could not be provided by the applicant during the examination.

ORE RESERVES

Total reserves of 2,035 tons are estimated for the South shaft and No. 7 ore bodies and are summarized as follows:

South shaft ore body:

	Tons	%, WO_3	Units
Measured	25	0.5	12
Indicated	900	0.35	315
	(200	0.5	100)
Inferred	(200	0.35	70)
	(400	1.0	400)

No. 7 ore body:	Tons	%, WO_3	Units
Measured	10	2.0	5
Indicated	100	1.0	100
Inferred	200	1.0	200
Total	2035	0.59	1202

South shaft: Except for a few tons of ore around the edge of the old stope above the 40-foot level, there are no measured ore reserves in the South shaft ore body. About 900 tons of indicated ore, containing 0.35 percent WO_3, is estimated to be in the block above the 40-foot level (fig. 3 - section along line B-B'). Inferred reserves of a few hundred tons are estimated to be in three blocks:

1. North of the existing stope above the normal fault in the block 50 feet long, 3 feet wide, and 15 feet high - 200 tons containing 0.5 percent WO_3.
2. South of the South shaft between the normal fault and the surface, in the block 100 feet long, 3 feet wide and 30 feet high - 200 tons containing 0.35 percent WO_3. (In making this calculation, $\frac{1}{4}$ of the block is considered to be ore. This reserve is the objective of the proposed surface trenching.)
3. Below the normal fault east of the existing workings, in the block 100 feet long, 3 feet wide, and 15 feet down the dip -- 400 tons containing 1.0 percent WO_3. This block is the faulted segment of the ore body which was stoped above the 40-foot level.

No. 7 ore body: About 10 tons of measured ore containing about 2.0 percent WO_3 is exposed in the face of the open cut at the site of sample BM-322. About 100 tons of indicated ore containing 1.0 percent WO_3 is estimated to be in the block 50 feet long, 3 feet wide, and 10 feet high, above the level of the open cut and extending 50 feet south of the existing face.

In addition, 200 tons of ore containing 1.0 percent WO_3 are inferred to be in the block 50 feet long, 3 feet wide and 20 feet down the dip below the level of the existing open cut.

PAST PRODUCTION

The applicant reports a production of approximately 6,000 tons of crude ore, the greater part of which came from the shaft on the main ore body adjacent to the camp. These underground workings are reported to have been mined out but are now filled with water and could not be examined.

A tabulation of the tungsten concentrates produced, obtained from the applicants records, accompanies this report (see Appendix A).

MANPOWER - SUPPLIES

Water: No water is available at either of the sites of the proposed exploration and would have to be hauled via truck.

Power: There is no transmitted electric power in the district and it will be necessary to use machinery operated by either Diesel or gasoline engines.

Labor: The nearest source for experienced miners and mine labor is at Elko, Nev. The type of miners required for this job are difficult to obtain and it will probably require some time to secure desirable workmen.

PROPOSED EXPLORATION

The applicant has proposed an indefinite exploration project by means of a few tunnels, drifts and winzes; the lengths and depths of which would depend upon conditions as found but presently unknown to the applicant.

The applicant has estimated that it will require from one to one and one half years to complete the project at a cost of $10,000.00.

The Field Team do no consider that the applicants proposal, as outlined in his statement attached to the MF-103 application, under date of May 26, 1951, is justified by the geological evidence underground and of surface exposures.

The Field Team does however consider the property at the South shaft and the No. 7 ore body to have sufficient merit to justify a very modest exploration program and have proposed an alternate program which is estimated to cost $3,910.70 and should be completed in 57 working days.

Mr. George Ogilvie has advised the Field Team that it will be necessary for him to borrow sufficient funds to finance his share of the project and believes that he can borrow the money. Mr. Andrew Francis has advised the Field Team that he is presently unable to invest any money in the project.

It is therefore apparent that Mr. Ogilvie will have to finance the exploration program until such time as the monthly reports have been received, approved and paid. The starting date will no doubt depend upon Mr. Ogilvie's success in supplying the necessary funds for payroll and establishing credit for necessary mining supplies.

The proposed exploration work, if not started by Nov. 1 of this year, should be postponed until about May 1, 1953. This is due to expected weather and road conditions during the winter months, the isolation of the mine workings and the increased cost of operations during bad weather.

EXPLORATION PROJECT

Starting date: Probably not less than 15 days after contract is executed.

Time required to complete project: 57 working days.

Description of project:

South shaft ore body:

1. Drive a crosscut east for a distance of 50 feet from a point about 15 feet south of the north face of the North drift. This crosscut is to be no larger than $4\frac{1}{2}$ feet wide by 6 feet in height. Broken rock is to be removed by wheelbarrow and piled in the North drift. = 65' would [illegible]

2. Extend the North drift in a northwesterly direction for a distance of 50 feet along the tactite zone. The size of the drift is not to exceed $4\frac{1}{2}$ feet wide by 6 feet in height. Broken rock is to be removed by wheelbarrow and piled in the North drift. 65'

3. Trench No. 1 - Surface - S. 25° E, 63 feet from the South shaft. Size of trench: 25 feet long by 3 feet wide by 3 feet deep.

4. Trench No. 2 - Surface - S. 12° E, 75 feet from Trench No. 1. Size of trench: 25 feet long by 3 feet wide by 3 feet deep.

5. Surface exploration of the No. 7 ore exposure. Ex-

tend the present open cut in a southeasterly direction for a distance of 50 feet. Width of cut not to exceed 4 feet. (Note:- The floor of the present open cut is approximately 8 feet below the surface). ?

Totals:	Drifting and crosscutting	100	feet
	Trenching	50	"
	Open cut	50	"
	Total	200	feet

Allowable costs of project:

a. Independent contracts . . . . . None

b. Labor

1 Miner-foreman	@	$15.00/day
1 Laborer-helper	@	14.00/day
1 Cook	@	5.00/day
1 Bookkeeper	@	100.00/month

c. Operating materials and supplies:

31 50-pound boxes of 45% dynamite @ $12.50	$387.50
5000 feet of fuse @ $14.25 per M	71.25
500 No. 8 blasting caps @ $2.75 per C	13.75
600 gals. gasoline for compressor @ $0.32	192.00
12 gals. compressor oil @ $2.50 per gal.	30.00
1 gal. castor machine oil @ $3.00	3.00
150 feet BM - 2" by 4" and 1" by 4" material for ladders	15.00
25 pounds of nails @ $0.15	3.75
2 long handled, round point shovels @ $3.50/ea.	7.00
2 " " square " " @ $3.50 "	7.00
50 mine wedges @ $0.05 ea.	2.50
1 miners axe, single bit, 4½ pounds	5.00
1 double jack, with handle	5.00
1 single jack, " "	3.00
2 miners drift picks, handled @ $4.00 ea.	8.00
1 wheelbarrow, rubber tire	25.00
100 pounds miners carbide @ $0.08	8.00
100 gals. gasoline for trucks @ $0.32	32.00
10 qts. oil for trucks @ $0.35	3.50
lubricating oil and cup grease	5.00
	$827.25

d. Operating equipment:

1. To be purchased . . . . . None

2. To be rented . . . . . None

3. Owned and furnished by the operator:

1 Ingersoll-Rand air compressor, 165 c.f.m. second hand, reported as in good condition. Estimated value $1500.00, monthly depreciation 1/60 . . . . $250.00 per month - 1.5 months	$375.00
1 Jackhammer, large, mounted, wet, estimated value $150.00, monthly depreciation 1/60 . . . $2.50 per month - 1.5 months	3.75
100 Feet of air hose) 100 Feet of water hose) second hand Estimated value $60.00, monthly depreciation 1/60 . . . $1.00 per month - 1.5 months	1.50
1 Column and bar (second hand). Estimated value $25.00, monthly depreciation 1/60 ... $0.42 per month - 1.5 months	.63
Drill steel (second hand) 18 pieces	
Drill bits (estimated at $200) new and used bits on hand @ $0.625 ea.	125.00
1 Ford truck, 1½-ton capacity. Estimated value $500.00, monthly depreciation 1/60 ... $8.33 per month - 1.5 months	12.50
1 Bit sharpener (second hand). Estimated value $50.00, monthly depreciation 1/60 ... $0.83 per month - 1.5 months	1.25
1 Truck, pickup, estimated value $1000.00, monthly depreciation 1/60 ... $16.66 per month - 1.5 months	25.00
500 Feet of 2-inch black iron pipe (second hand). Estimated value $0.12 per foot - $60.00, monthly depreciation 1/60 ... $1.00 per month - 1.5 months	1.50
	$546.13

e. Rehabilitation and repairs of existing buildings: None

f. New buildings, improvements and installations to be purchased, installed or constructed:

Installation of approximately 500 linear feet of 2-inch black iron pipe from compressor set up at the No. 1 tailing pond to the No. 7 ore body. Labor: 2 days time for 2 men @ $29.00 per day	$ 58.00

g. Miscellaneous:

The air compressor, owned by the applicants, is now in use at the J. W. Mink, Little Joe group of tungsten claims, situated approximately 15 miles east of Wild Horse, Nev., or approximately 137 miles north of the applicants property. This machine was apparently borrowed or rented by Mr. Mink and should be returned to the Star Tungsten mine at no cost to the exploration project.

Labor:	2 days time for 2 men in moving from the mine camp to the South shaft and installation of necessary air and water lines	58.00
Labor:	1 days time for 2 men constructing ladders	29.00
	2 days time for 2 men installing air and water lines and ladders down old raise north of the South shaft	58.00
Labor:	Moving air compressor from South shaft to No. 1 tailing pond for work on No. 7 ore body and installation of compressor - 1 days time for 2 men	29.00
	Installation of approximately 500 feet of 2-inch air line from compressor to No. 7 ore body - 2 men for 2 days time	58.00
Analytical work:		
	20 samples for WO_3 analysis @ $5.00	100.00

Total allowable labor cost:		
1 bookkeeper @ $100.00/month	2 months	$ 200.00
1 miner-foreman @15.00/day	57 days	855.00
1 miner's helper-laborer @ $14.00/day - 57 days		798.00
1 cook @ $5.00/day	57 days	285.00
		$2,138.00
	Add 14% insurance	299.32
		$2,437.32
Total allowable cost of operating materials and supplies		827.25
Total allowable cost of analytical work		100.00
Total allowable cost of monthly depreciation		546.13
Total cost of project		$3,910.70
Government participation 75% or	$2,933.03	
Time required to complete project	57 days	

Mr. George Ogilvie and Andrew Francis should assemble the necessary equipment at the mine camp and place in good operating condition prior to the start of any exploration work and at no cost to the project.

Mr. Ogilvie is to direct and supervise the operations and to take samples and prepare the accounting and monthly reports on Form MF-104.

The mill building and concentrating machinery are owned by the Knowles brothers of Elko, Nev., and are located adjacent to the mine camp and alongside of the Harrison Pass Highway. The building is of frame construction covered with tar paper. The roof should be entirely recovered immediately in order to protect the machinery and equipment which consists of:

1 Coarse ore bin, timber construction, size 11.2 feet by 12 feet, bottom on 45 degree slope (good condition)
1 Conical, steel ore bin, extra heavy steel plate, about 50-ton capacity (good condition)
1 Kue-Ken balanced crusher, size 50 (10-inch by 24-inch) Serial No. 5016P6, 365 RPM (good condition)
1 Belt conveyor, belt 16-inch by 32 feet. Gear driven from line shaft. Small pinon gear badly worn. Belt appears in good condition.
1 International Diesel engine, 75-horsepower, 4-cylinder, No. UDF529, V-belt drive to crusher. Reported to be in good condition.
1 Wemco belt conveyor, steel frame, 16-inch by 51 feet belt. Model OBM-Serial No. 43-5391. Driven by electric motor. Appears to be in good condition.

1 Double deck vibrating screen No. S6733, screen size 24-inch by 48-inch. Mfg. by the Denver Equipment Co., electric motor driven. Motor has been removed. The screen appears to be in fair condition. (This is owned by the applicant).

1 Straub ball mill, No. 43, size 3 feet by 4 feet, V-belt driven by one Westinghouse electric motor, constant speed, 25-horsepower, 440 V., Serial No. 806259, Style 330475 PX. Appears to be in good condition, however, the ball mill liner plates could not be examined.

1 Settling cone, steel, 1/8-inch plate, 45-inches wide at top by 76 inches long by 58 inches deep. Looks to be in good condition.

1 Straub concentrating table, standard size. Looks to be in reasonably good condition. Deck linoleum in only fair condition. Riffles are in fair condition. The electric motor drive and line shaft have been removed.

1 Plat-o concentrating table, standard size, V-belt driven from electric motor. Electric motor and V-belts have been removed. Extra heavy riffles, 1-inch wide. Will be necessary to replace the deck linoleum. (Owned by the applicants).

1 Power unit: Cummins Diesel engine, 6-cylinder, water cooled. (No name plate or number on engine). Connected to: Palmer regulating alternator, 63KVA, 240V, 137 Amps., 50 KW, 1200 RPM, 3 ph, 60 cycle, No. 500400. V-belt drive to Palmer generator, type comp., 1.5-horsepower, 125 V, 12 amps, DC, 1725 RPM, No. 3217LC19775. Together with necessary wall, throw out switches. This equipment has not been operated since 1944 and therefore the condition is not determined.

1 Iron pan for concentrate dryer. 3/8-inch iron plate, 43 inches wide by 9 feet 6 inches long, with sides 6 inches deep. Looks to be in good condition.

1 Outside storage tank for Diesel fuel oil, steel tank, 56-inch diameter by 15 feet 5 inches long. Looks to be in good condition.

All iron pipe and pipe fittings in the mill are reported to be owned by the applicants.

The milling plant is reported to have been designed as a 50-ton plant. However, the applicant reports that the maximum daily tonnage treated, only amounted to 37 tons of crude ore.

It is considered probable that the Knowles brothers will sell the milling machinery to anyone who will pay the asking price. Therefore,

the Field Team has no information as to how long the plant will remain at the property.

GENERAL INFORMATION

The applicant has advised the Field Team that he is endeavoring to sell or lease the mining claims and has made a tentative offer to Mr. Warren Overholser of Gabbs, Nev. The purchase price asked amounts to $100,000.00, payable on a 25% Royalty basis and with a guaranteed minimum Royalty of $400.00 per month.

Whether or not the sale will be consummated is unknown.

APPENDIX "A"

Production by applicant: WO_3 concentrates

Date	Amount lbs	Assay %, WO_3	Lot No.	Units WO_3	Price	Exp.	Credits
Apr. 17, 1941	2245	30.0	1	33.675	$18.75	$29.03	$631.40
June 4 , 1941	1494	54.44	2	40.667	20.75	15.57	843.84
July 14, 1941	1802	61.15	3	55.096	21.75	15.95	1198.34
Aug. 7 , 1941	2446	61.00	4	74.603	21.75	18.86	1622.62
Sept. 4, 1941	2450	56.12	5	68.747	21.75	19.48	1495.25
Nov. 21, 1941	3395	55.20	6	93.702	20.75	24.41	1944.32
Jan. 7 , 1942	3881	51.40	7	99.742	20.75	23.14	2069.65
Feb. 18, 1942	4817	48.35	8	116.451	20.75	29.86	2416.35
Apr. 3 , 1942	9881	48.10	9	237.638	20.75	49.65	4930.99
Apr. 16, 1942	3300	47.92	10	79.068	20.75	29.23	1640.66
May 15, 1942	5768	52.20	11	150.545	20.75	34.48	3123.81
June 15, 1942	3513	49.44	12	86.771	20.75	28.64	1800.50
July 9 , 1942	3206	56.20	13	90.089	20.75	28.62	1869.34
Aug. 10, 1942	3689	60.30	14	111.223	23.15	26.02	2574.81
Sept. 30,1942	2123	52.65	15	55.888	22.15	17.12	1237.92
Nov. 23, 1942	4697	52.20	16	122.592	22.15	33.03	2715.41
	58707			1516.497		$423.09	$32115.21

Shipped to M.R.C.

Aug. 25, 1942	4692	12.58	1	29.512			93.84
Sept. 28,1942	4399	7.60	2	16.720			88.00
Nov. 30, 1942	2336	6.45	3	7.530			47.90
	11427			53.762			229.74

WO_3 concentrates produced by Knowles brothers and shipped to Metals Reserve.

Date	Amount lbs.	Assay %,WO_3	Lot No.	Units WO_3	Units Paid	Gross Receipts	Treatment	Settlement	25% Royalty
Jan. 13, 1944	20289	52.18	4	529.37	514.15	$ 15424.50	$ 803.28	$ 14,610.92	$ 3,652.73
Feb. 2 , 1944	20022	55.36	5	554.21	539.19	16175.70	824.51	15,340.98	3,835.25
Feb. 11, 1944	19928	51.30	6	511.15	496.21	14886.30	780.18	14,095.97	3,523.99
Apr. 12, 1944	19922	41.30	7	411.39	396.45	11893.50	680.34	11,203.04	2,800.76
Apr. 19, 1944	20053	35.20	8	352.95	337.91	10137.30	623.68	9,503.41	2,375.85
Apr. 19, 1944	16429	35.80	9	294.10	281.77	8453.10	515.90	7,928.91	1,982.23
Apr. 19, 1944	17398	37.80	10	328.82	315.77	9473.10	563.70	8,900.59	2,22[illegible]5
May 15, 1944	17903	40.86	11	365.78	352.35	10570.50	607.48	9,953.95	2,488.49
May 15, 1944	18181	47.00	12	427.28	413.64	12409.20	672.73	11,727.28	2,931.82
May 31, 1944	4760	49.00	13	116.62	113.05	3391.50	180.88	3,208.22	802.05
June 19, 1944	11193	50.65	14	283.49	275.09	6602.16	434.61	6,161.89	1,540.97
June 12, 1944	15990	53.40	15	426.93	414.94	9958.56	642.80	9,307.69	2,326.92
July 29, 1944	15949	59.60	16	475.31	463.35	11120.40	690.64	10,421.71	2,605.43
July 29, 1944	19624	53.00	17	520.04	505.32	12127.68	784.96	11,332.88	2,833.21
Oct. 9 , 1944	9938	45.80	18	566.60	227.58	4324.02	--	4,270.59	1,067.65
	247579			6,164.04	5,646.77	$156947.52	$8,805.69	$147,968.03	$36,992.50

Total production compiled from applicants records

	Lbs. WO_3 concts.	Units WO_3	Total Receipts
1941	58,707	1,516.497	
1942	11,427	53.762	
1944	247,579	6,164.040	
Totals	317,713	7,734.299	$189,292.47

The above production data secured from applicants shipping receipts.

U. S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
DOCKET NO. 1452

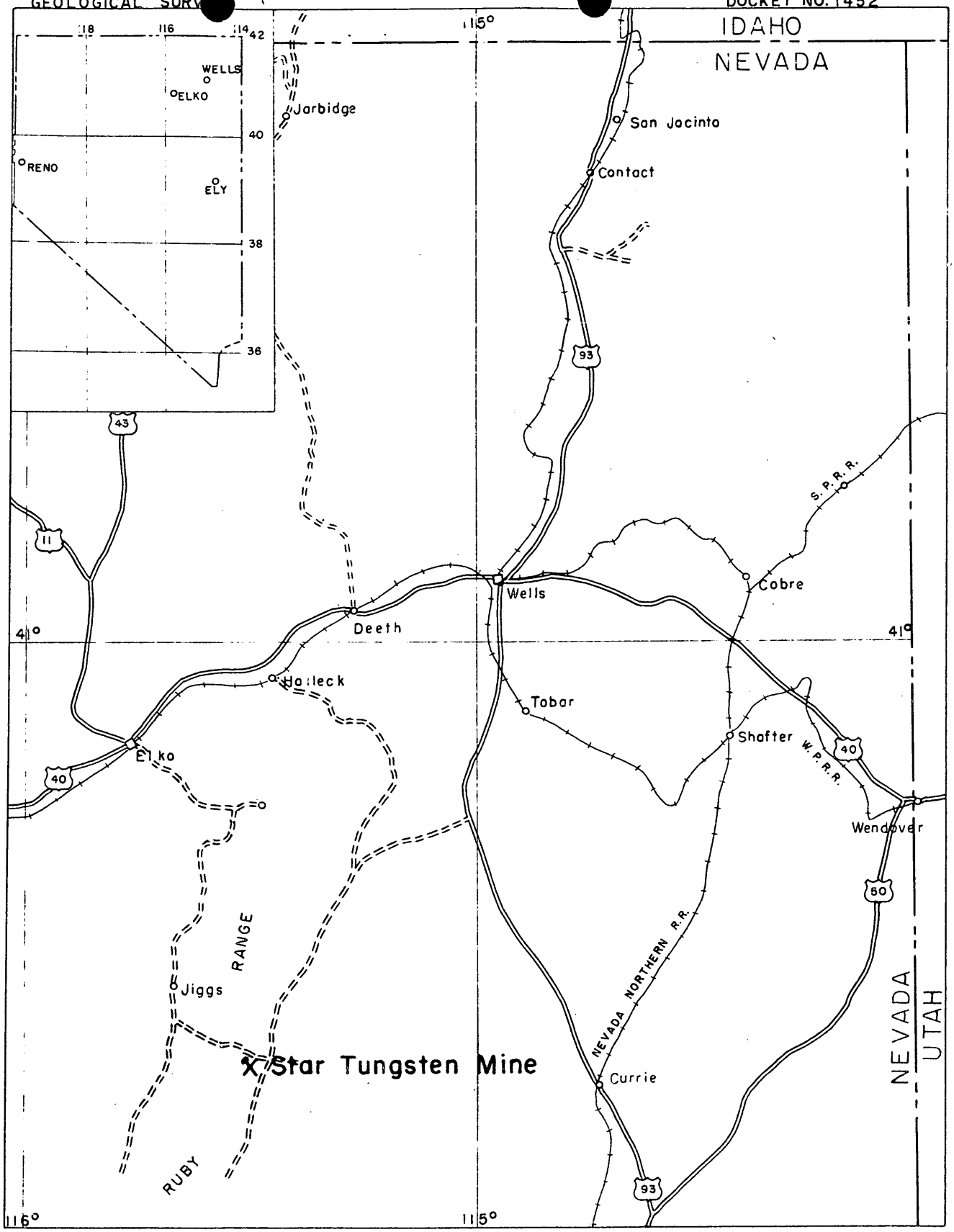


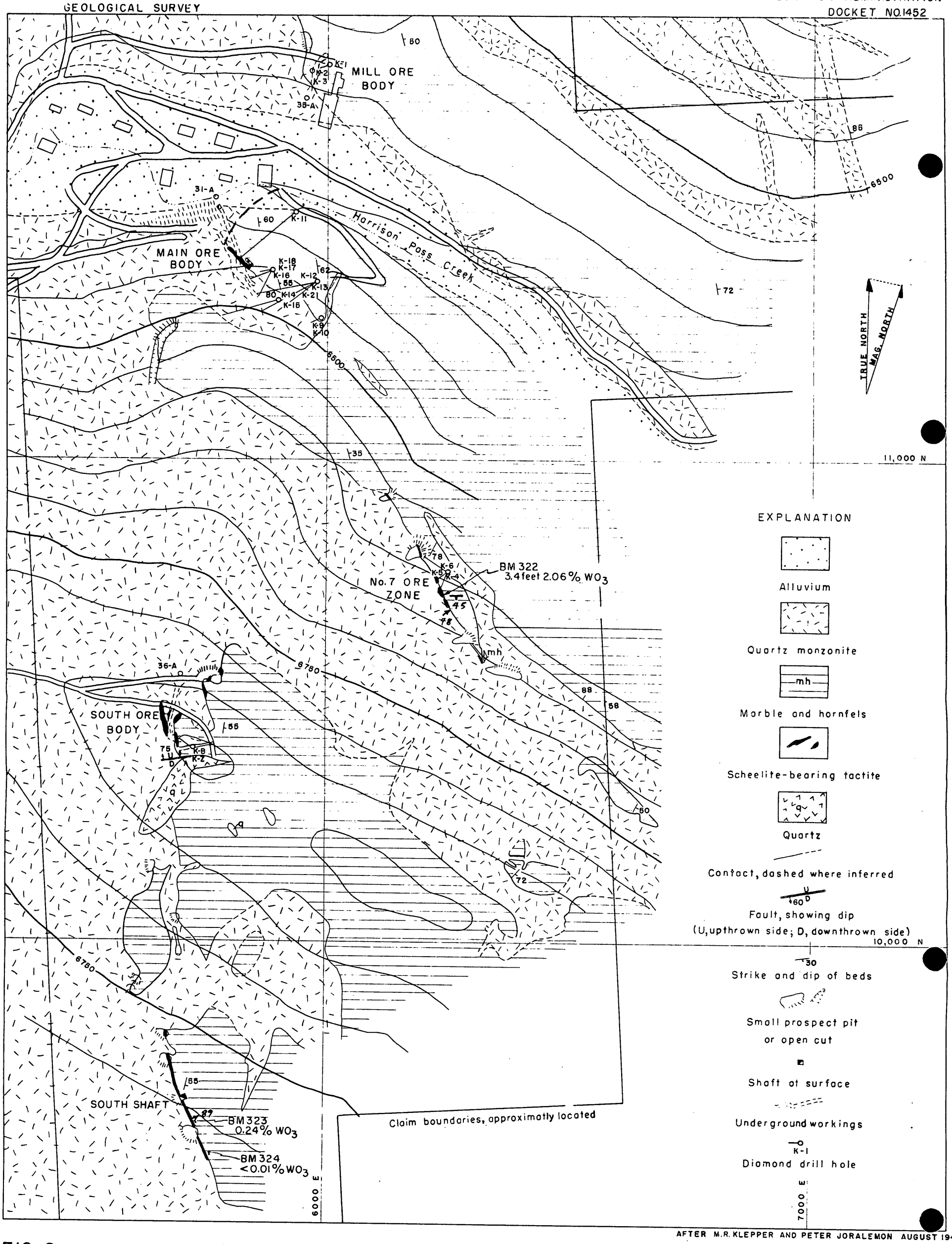
FIG. 1 INDEX MAP OF NEVADA

0 10 20 30 40 Miles

Scale 1:1,000,000

U. S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
DOCKET NO.1452



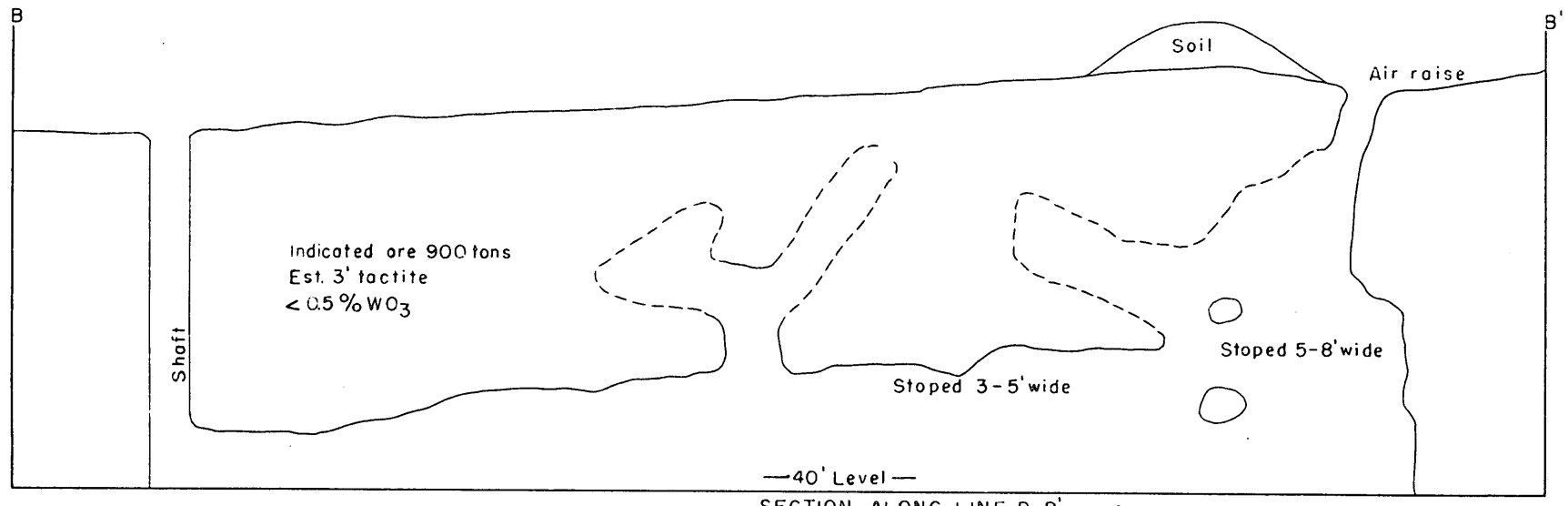
AFTER M.R. KLEPPER AND PETER JORALEMON AUGUST 1943

FIG. 2

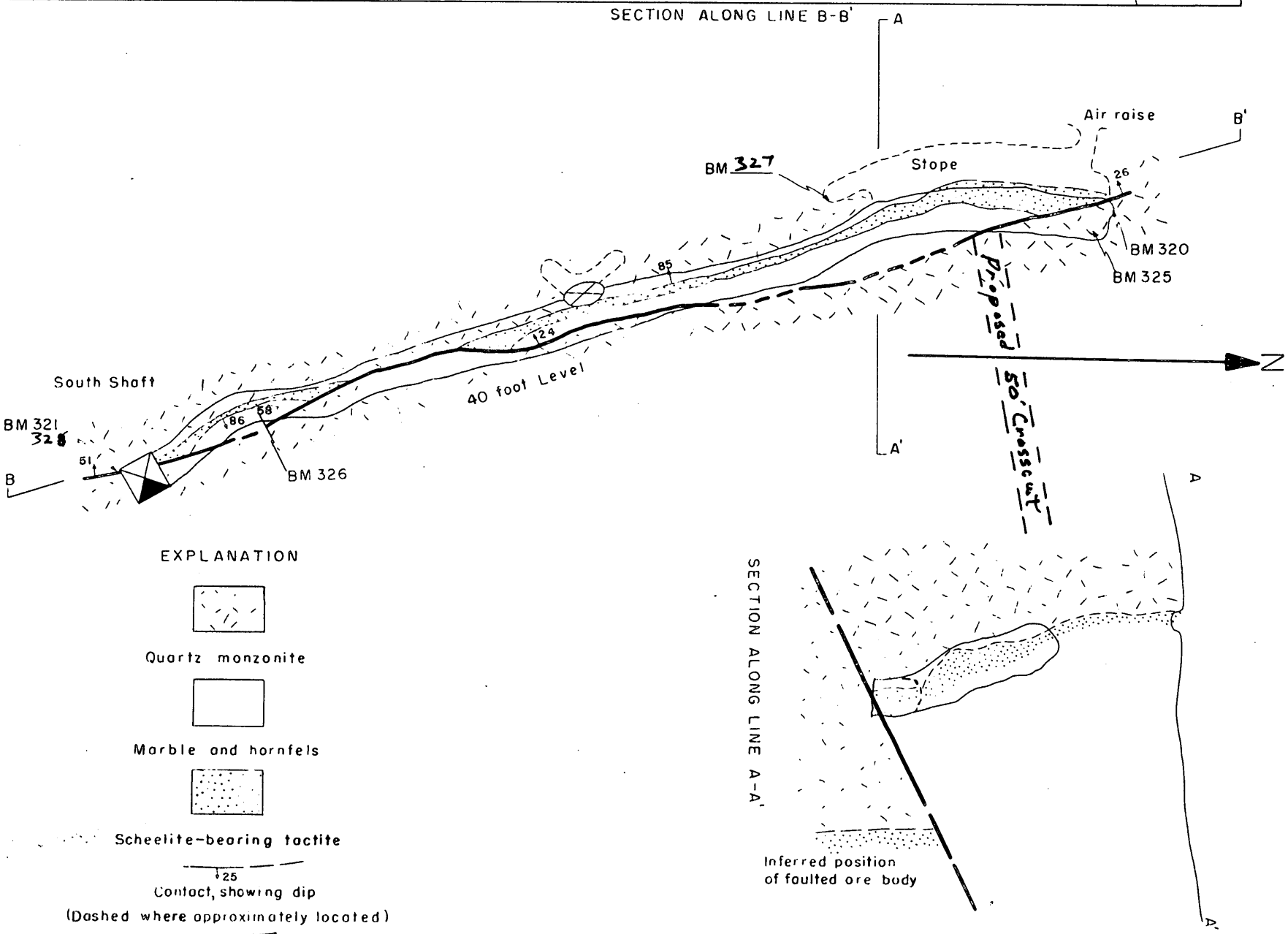
GEOLOGIC MAP OF STAR TUNGSTEN PROPERTY

HARRISON PASS, ELKO COUNTY, NEVADA

0 200 400 FEET
Scale



SECTION ALONG LINE B-B'



SECTION ALONG LINE A-A'

Inferred position of faulted ore body

EXPLANATION

Quartz monzonite

Marble and hornfels

Scheelite-bearing tactite

25
Contact, showing dip
(Dashed where approximately located)

55
Fault, showing dip
(Dashed where approximately located)

30
Strike and dip of beds

Bottom of shaft

Foot of raise or winze

Sample No.	Width feet	Percent WO_3
BM 320	2.25	0.17
BM 321	2.5	0.46
BM 325	4.3	0.12
BM 326	1.5	0.42
BM 327	2.0	0.15
BM 328	3.1	0.17

GEOLOGY BY R. M. SMITH

FIG. 3

GEOLOGIC MAP OF THE 40 FOOT LEVEL
SOUTH SHAFT - STAR TUNGSTEN MINE
ELKO COUNTY, NEVADA

0 20 40 FEET
Scale

COPY

Office of
Executive Officer
DMEA Field Team
Region III

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

December 4, 1952

Memorandum

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

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMA-1452X (Tungsten), Star Tungsten Mine, Elko County, Nevada

Reference is made to your "Review of Application for Exploration Assistance," dated July 23, 1952, requesting us to outline a definite program of exploration with the applicant if recommendations of the Field Team are favorable.

Attached are four copies of a report, entitled DMA-1452X (Tungsten), Star Tungsten Mine, Elko County, Nevada by R. M. Smith and D. C. Laub, Geologists, U. S. Geological Survey and Glenn G. Gentry, Mining Engineer, U. S. Bureau of Mines, dated October 29, 1952.

The examining team did not concur with the exploration program submitted by the applicant but have proposed a revised program which they believe will adequately explore two of the ore bodies on the property. This program comprises:

1. South Shaft: Crosscut 50 feet and drift 50 feet on the 40-foot level - cut two surface trenches, each approximately 25 feet in length.

2. No. 7 ore body: Extend the existing open cut southeast for 50 feet.

The program is estimated to cost $3,910.70 and will require about 2-1/2 months to complete. TheGovernment's share of the cost will be $2,933.03.

The Field Team concludes that there is a fair chance that a small body of tungsten ore will be revealed by each of the proposed projects, and recommend that the Government enter into a contract with the applicant to do the work.

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

Approved by
DMEA OPERATING COMMITTEE

Attachment

MF-500

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

REFERENCE SLIP

DATE 12/12

REFERRED TO:
1. Thayer
2.
3.
4.

FOR:

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

REMARKS: Agenda 12/15
Extra copy for us
[illegible]

Check (X) before the items needing attention.

Frank E. Johnson
(FEJ) *Initials of sender.*

GPO 16—63815-1

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

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMA-1458X (Tungsten), Star Tungsten Mine

Elko County, Nevada

R. M. Smith and D. C. Lamb, Geologists
U. S. Geological Survey

Glenn G. Gentry, Mining Engineer
U. S. Bureau of Mines

October 29, 1952

Developed by
DMEA OPERATING COMMITTEE

Docket No.: DMA-1452X (Tungsten)

Name and address of applicant: George F. Ogilvie
695 A Street
Elko, Nevada

Name and location of property: Star Tungsten Mine
Elko County, Nevada

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Mr. George F. Ogilvie and Mr. Andrew N. Francis, partners, 695 A Street, Elko, Nevada, Docket DMEA-1452 (tungsten) applied on May 26, 1951 to the Defense Minerals Exploration Administration for Government participation in a $15,000 program to explore surface and underground showings of ore at the Star Tungsten mine, Ruby Range, Elko County, Nev.

A field examination was requested on July 25, 1952 by the Field Team of Region III to determine whether the ore reserves are sufficient to justify the proposed project, to outline a suitable exploratory program, and to obtain the data necessary to complete a contract. Accordingly, an examination was made on August 26 and 27, 1952.

The applicant proposed to explore two deposits; the No. 7 ore body, where he proposed to drive four adits under the best outcrop, and the South shaft ore body, where he proposed to crosscut to, and sink a winze on a faulted segment of the ore body that was mined on the 40-foot level.

The exploratory program was discussed with the applicant and a revised program consisting of two phases was outlined:

1. South Shaft: Crosscut 50 feet and drift 50 feet on the 40-foot level - cut two surface trenches, each approximately 25 feet in length.

2. No. 7 ore body: Extend the existing open cut southeast for 50 feet.

The program is estimated to cost $3,910.70 and will require about 3½ months to complete. The Government's share of the cost will be $2,955.05.

It is concluded that there is a fair chance that a small body of tungsten ore will be revealed by each of the proposed projects, and it is recommended that the Government enter into a contract with the applicant to do the work.

TIME SPENT ON PROPERTY

Pursuant to the application, the Star Tungsten Mine was examined and sampled on August 26 and 27, 1952 by geologists[1] of the U. S. Geological Survey and an engineer[2] of the U. S. Bureau of Mines of Region III. The geologists and engineer also again conferred with Mr. Ogilvie at his residence in Elko, Nevada on August 31, 1952.

During the examination of the mining property, the examining engineers were accompanied over the surface of the claims by Mr. Ogilvie and Mr. Francis on August 26. However, the applicants did not accompany the Field Team during the examination of the underground workings of the South Shaft. Mr. Francis was physically unable to descend the shaft and Mr. Ogilvie stated that his knowledge of the underground workings was very limited and he had not been in the mine for several years.

On August 27 Mr. Ogilvie departed for Reno, Nevada to attend a County Commissioners meeting and Mr. Francis remained at the mine camp.

1/ R. M. Smith and D. C. Lamb.
2/ Glenn G. Gentry.

The Field Team concentrated their examination on the area of the South shaft and the No. 7 claim ore body. These locations are areas where the applicants propose to do the exploration work and in which the most favorable scheelite deposition was observed.

LOCATION AND ACCESSIBILITY

The Star Tungsten Mine, owned by George F. Ogilvie of 535 A Street, Elko, Nevada and Andrew W. Francis of Ruby Valley, Nevada, consists of a group of 15 mining claims, unsurveyed, and held by right of location. The claims are reported to be located in sec. 18, T. 23 N., R. 58 E., M.D.B.& M., in an unnamed mining district of Elko County, Nev.

The mining property is reached by automobile by traveling south from Elko, Nev., via Nevada State Highway No. 46 for a distance of 45.3 miles over an all weather road, thence in an easterly direction 15.8 miles over an unimproved road.

The South shaft is situated 3.4 miles from the mill camp. One and one half miles of this mine road extends through a narrow canyon with heavy grades.

The mine is situated at an approximate altitude of 6700 feet above sea level in a rough and mountainous district. At this altitude, in the Ruby Range, the winter months usually bring stormy weather and heavy snowfall. Operations from December to March would probably be expensive and difficult and at times impossible unless adequate equipment was available for clearing the roads.

COMPETENCE OF APPLICANTS

Mr. Francis is physically unable to do any of the heavy work due to a back injury sustained at some unknown date in the past. He could

probably act in the capacity of a cook for men employed.

Mr. Ogilvie, while apparently in good physical condition, is one of the County Commissioners of Elko County, Nevada and has many and various duties to perform. These duties entail considerable travel and it is doubtful that he could spend much time at the mine. It would, therefore, be necessary to employ a thoroughly experienced miner as the lead man, who would be able to follow the instructions from Mr. Ogilvie.

The proposed exploration contract should therefore be drawn up on a cost per foot basis in order to eliminate lost time and unnecessary delays.

PROPERTY RIGHTS

The mining claims held by location by the applicants are as follows:

Claim			Recorded in Book No.	Page	
Star Tungsten			26	41	
"	"	No. 1	26	42	
"	"	No. 2	26	42	Recorded in the Office
"	"	No. 3	26	43	of the County Recorder,
"	"	No. 4	26	44	Elko County Courthouse,
"	"	No. 5	26	44	Elko, Nevada.
"	"	No. 6	26	45	
"	"	No. 7	26	46	

The above claims are situated in the Humboldt National Forest and were located on September 2, 1939 by E. Lane and Andrew Francis.

Star Tungsten		No. 8	26	565	Recorded in the Office
"	"	No. 9	26	565	of the County Recorder,
"	"	No. 10	26	566	Elko County Courthouse,
"	"	No. 11	26	566	Elko, Nevada.

The above claims are situated in the Humboldt National Forest and were located on September 27, 1941 by E. Lane and Andrew Francis.

Claim	Recorded in Book No.	Page	
Star Tungsten No. 12	26	567	Recorded in the Office of the County Recorder, Elko County Courthouse, Elko, Nevada.

The above claim was located by A. W. Francis and George Ogilvie.

Star Tungsten No. 13 . . . . . Not recorded. Located in June or July of 1952 by A. W. Francis and George Ogilvie, situated in the Ruby Valley National Wildlife Refuge. This claim was located in order to reclaim mill tailings in the No. 2 tailing pond.

The 13 mining claims are unsurveyed and are in an unnamed mining district in Elko County, Nev. The applicants state that there are no liens, mortgages or debts against the mining claims.

During the month of October 1942, the applicants executed a lease on the mining claims to the Knowles brothers of Elko, Nevada and Mountain City, Nev. The lessee constructed a milling plant and actively operated the property until about July or August 1944 and apparently discontinued operations after October 9, 1944.

The applicants report that the above lease was not recorded and that neither party has notified the other that the lease has been cancelled or declared null and void.

The milling plant, owned by the Knowles brothers and containing the greater part of the milling machinery, still remains on the property.

DESCRIPTION OF THE PROPERTY

Surface facilities consist of the following:

7 Residence buildings	1 Garage and shop building
1 Change room	1 Steel water tank, 10' by 10'
1 Cookhouse	1500 Ft. of wood flume (11" by 11")

500 Ft. of 4-inch iron pipe
1 Ingersoll-Rand air compressor, 165 c.f.m., portable, mounted on steel wheels. Reported in good condition and in use by J. W. Mink at his tungsten mine, east of Wild Horse, Nev.
1 Ford truck, 1½-ton capacity. Fair condition.
2 Jackhammers)
1 Stoper) Fair condition.
Misc. air and water hose)

The camp buildings are in reasonably good condition and could accommodate about 20 men.

The Field Team concentrated their examination upon areas in which the applicant considered the most favorable possibilities to exist and where said applicant proposed to do the exploration work. This includes the South shaft, inclined slightly to the east to a depth of 40 feet and one drift, approximately 144 feet in length, extending in a northerly direction from the bottom of the shaft. The only facilities remaining at the shaft consists of a headframe, in need of considerable repairs or replacement, and the timber and bucket-guides down the shaft.

There are no surface facilities, of any nature, located at the No. 7 ore body.

GEOLOGY

The rocks of the Harrison Pass area are limestone and shale of Ordovician[3/4/] age which are intruded by a quartz monzonite stock. Near the contact -- in a zone about 1500 feet wide -- the limestone is metamorphosed to marble and the shale is metamorphosed to hornfels. Along the contact, small irregular tactite bodies have been formed from both

3/ Sharp, R. P., 1943, Bull, G.S.A., v. 55, p. 647, 650.
4/ Klepper, M. R., Oct. 1942, Report on the Star Tungsten Mine and vicinity, Elko County, Nevada, U.S.G.S., unpublished report.

marble and hornfels. Scheelite deposits are associated with the tactite.

In the mine area the metamorphic rocks strike northeast and dip 45° to 80° southeast (fig. 2). They are predominately hornfels which are dense, fine-grained, white, gray, or green, and are commonly thin-bedded. Interlayered with the hornfels are white, granular marble beds which range from a few inches to about 100 feet in thickness.

The quartz monzonite in the mine area constitutes the eastern edge of the Harrison Pass stock and is commonly an equigranular biotite quartz monzonite, although it is locally porphyritic. It weathers readily and generally does not form outcrops. It is cut by dikes of aplite, alaskite, and quartz monzonite which also occur as dikes and sills in the metamorphic rocks.

The tactite consists of garnet, pyroxene, epidote, quartz and calcite.

The contact zone trends northerly and is about 1500 feet wide. In this zone the contact is very irregular; in some places it is parallel to the bedding and in others it cuts across the beds.

The rocks are cut by low angle normal faults which strike northerly and dip west -- displacements of as much as 50 feet have been measured in the main ore body (fig. 2), but displacements of 5 to 10 feet are more common.

ORE DEPOSITS

The ore bodies are small, irregular tactite bodies which occur along the contact of the quartz monzonite with the metamorphic rocks.

The ore mineral is scheelite containing small amounts of molybdenum -- probably in powellite.

Tactite is formed along the contact of the intrusive rocks with marble and also with hornfels. Klepper found that marbel is more favorable for the formation of tactite than is hornfels.

Tungsten ore has been mined from several deposits in the area and two of these, the No. 7 ore body and the South shaft ore body, warrant further exploration. The other deposits are considered by the applicant to be worked out.

At the No. 7 ore body a tactite body ranging from 1 to 7 feet in width is partly exposed for a strike length of about 100 feet along the contact of hornfels and marble with a narrow tongue of granodiorite. The widest and highest grade tactite appears to have formed along the hornfels which dips steeply south. Three diamond-drill holes cut the contact below the outcrop and no tactite was recovered in the core, but none of these holes cut the contact along the downward continuation of the hornfels. Although it is unlikely that the tactite will continue to a depth of more than a few 10's of feet, the high grade of the ore (sample SM-322) warrants a small amount of exploratory work.

At the South shaft it is estimated that about 700 tons, averaging from 0.5 to 1.0 percent WO_3, has been mined between the surface and the 40-foot level from a tactite body along the contact of marble and hornfels with granodiorite. The best ore formed along the marble.

On the surface, south of the South shaft, along the contact of the granodiorite and hornfels, tactite is exposed in two small cuts. Here the tactite contains scheelite, and assays as high as 0.25 percent WO_3.

In the north face of the 40-foot level, the tactite zone is 7 to 8 feet wide and is exposed above a normal fault. A sample from this face assayed 0.77 percent WO_3.

SAMPLING

The following samples were taken by the Field Team:

Sample No.	Fe_2O_3	Description
BM-318	0.41	Shovel sample from No. 1 tailing pond. Estimated to contain about 1600 tons.
BM-319	0.28	Shovel sample from No. 2 tailing pond. Estimated to contain about 3000 tons.
BM-320	0.77	Width 27 inches. Face of North drift from bottom of the South shaft.
BM-321	0.46	Width 30 inches. South shaft. At bottom of the shaft and on south side of the shaft.
BM-322	2.06	Width 41 inches. Face of open cut No. 7 ore body.
BM-323	0.24	Width 22 inches. Surface exposure of taotite. S. 25° E, 63 feet from South shaft.
BM-324	0.01	Width 24 inches. Surface exposure of taotite and limestone - S. 12° E, 74 feet from BM-323.
BM-325	0.12	Width 4.3 feet - North drift off bottom of South shaft. On east wall of drift and 5 feet south of face of drift.
BM-326	0.42	Width 18 inches. Across back of North drift and 18 feet north of center line of South shaft.
BM-327	0.15	Width 24 inches. South end of main stope above North drift off South shaft.
BM-328	0.17	Width 37 inches. South side of South shaft and 12 feet above bottom of shaft.

Facilities for sampling other parts of the underground workings were not available and could not be provided by the applicant during the examination.

ORE RESERVES

Total reserves of 2,035 tons are estimated for the South shaft and No. 7 ore bodies and are summarized as follows:

South shaft ore body:

	Tons	Fe_2O_3	Units
Measured	25	0.5	12
Indicated	900	0.35	315
	(200	0.5	100)
Inferred	(200	0.35	70)
	(400	1.0	400)

No. 7 ore body:	Tons	% WO_3	Units
Measured	15	2.5	3
Indicated	100	1.0	100
Inferred	300	1.0	300
Total	2055	0.59	1203

South shaft: Except for a few tons of ore around the edge of the old stope above the 40-foot level, there are no measured ore reserves in the South shaft ore body. About 900 tons of indicated ore, containing 0.36 percent WO_3, is estimated to be in the block above the 40-foot level (fig. 5 - section along line B-B'). Inferred reserves of a few hundred tons are estimated to be in three blocks:

1. North of the existing stope above the normal fault in the block 50 feet long, 3 feet wide, and 15 feet high - 200 tons containing 0.5 percent WO_3.
2. South of the South shaft between the normal fault and the surface, in the block 100 feet long, 3 feet wide and 30 feet high - 200 tons containing 0.38 percent WO_3. (In making this calculation, ½ of the block is considered to be ore. This reserve is the objective of the proposed surface trenching.)
3. Below the normal fault east of the existing workings, in the block 100 feet long, 3 feet wide, and 15 feet down the dip -- 400 tons containing 1.0 percent WO_3. This block is the faulted segment of the ore body which was stoped above the 40-foot level.

Subjectively assigned by Kinnelon Mines

On mined estimated at 0.5 - 1.0

No. 7 ore body: About 10 tons of measured ore containing about 2.0 percent WO_3 is exposed in the face of the open cut at the site of sample BM-522. About 100 tons of indicated ore containing 1.0 percent WO_3 is estimated to be in the block 50 feet long, 3 feet wide, and 10 feet high, above the level of the open cut and extending 50 feet south of the existing face.

In addition, 200 tons of ore containing 1.0 percent WO_3 are inferred to be in the block 80 feet long, 3 feet wide and 20 feet down the dip below the level of the existing open cut.

PAST PRODUCTION

The applicant reports a production of approximately 6,000 tons of crude ore, the greater part of which came from the shaft on the main ore body adjacent to the camp. These underground workings are reported to have been mined out but are now filled with water and could not be examined.

A tabulation of the tungsten concentrates produced, obtained from the applicants records, accompanies this report (see Appendix A).

MANPOWER - SUPPLIES

Water: No water is available at either of the sites of the proposed exploration and would have to be hauled via truck.

Power: There is no transmitted electric power in the district and it will be necessary to use machinery operated by either Diesel or gasoline engines.

Labor: The nearest source for experienced miners and mine labor is at Elko, Nev. The type of miners required for this job are difficult to obtain and it will probably require some time to secure desirable workmen.

PROPOSED EXPLORATION

The applicant has proposed an indefinite exploration project by means of a few tunnels, drifts and winzes; the lengths and depths of which would depend upon conditions as found but presently unknown to the applicant.

The applicant has estimated that it will require from one to one and one half years to complete the project at a cost of $10,000.00.

The Field Team do no consider that the applicants proposal, as outlined in his statement attached to the MP-103 application, under date of May 26, 1951, is justified by the geological evidence underground and of surface exposures.

The Field Team does however consider the property at the South shaft and the No. 7 ore body to have sufficient merit to justify a very modest exploration program and have proposed an alternate program which is estimated to cost $3,910.70 and should be completed in 57 working days.

Mr. George Ogilvie has advised the Field Team that it will be necessary for him to borrow sufficient funds to finance his share of the project and believes that he can borrow the money. Mr. Andrew Francis has advised the Field Team that he is presently unable to invest any money in the project.

It is therefore apparent that Mr. Ogilvie will have to finance the exploration program until such time as the monthly reports have been received, approved and paid. The starting date will no doubt depend upon Mr. Ogilvie's success in supplying the necessary funds for payroll and establishing credit for necessary mining supplies.

The proposed exploration work, if not started by Nov. 1 of this year, should be postponed until about May 1, 1933. This is due to expected weather and road conditions during the winter months, the isolation of the mine workings and the increased cost of operations during bad weather.

EXPLORATION PROJECT

Starting date: Probably not less than 15 days after contract is executed.

Time required to complete project: 57 working days.

Description of project:

South shaft ore body:

1. Drive a crosscut east for a distance of 50 feet from a point about 15 feet south of the north face of the North drift. This crosscut is to be no larger than 4½ feet wide by 6 feet in height. Broken rock is to be removed by wheelbarrow and piled in the North drift.

2. Extend the North drift in a northwesterly direction for a distance of 50 feet along the tactite zone. The size of the drift is not to exceed 4½ feet wide by 6 feet in height. Broken rock is to be removed by wheelbarrow and piled in the North drift.

3. Trench No. 1 - Surface - S. 25° E, 65 feet from the South shaft. Size of trench: 25 feet long by 3 feet wide by 3 feet deep.

4. Trench No. 2 - Surface - S. 12° E, 75 feet from Trench No. 1. Size of trench: 25 feet long by 3 feet wide by 3 feet deep. No 7 Orebody

5. Surface exploration of the No. 7 ore exposure. Em-

tend the present open cut in a southeasterly direction for a distance of 50 feet. Width of cut not to exceed 4 feet. (Note:- The floor of the present open cut is approximately 8 feet below the surface).

Totals:	Drifting and crosscutting	100	feet
	Trenching	50	"
	Open cut	50	"
	Total	200	feet

Allowable costs of project:

a. Independent contracts . . . . . None

b. Labor

1 Miner-foreman	@	$15.00/day
1 Laborer-helper	@	14.00/day
1 Cook	@	5.00/day
1 Bookkeeper	@	100.00/month

c. Operating materials and supplies:

31	50-pound boxes of 45% dynamite @ $12.50	$387.50
5000	feet of fuse @ $14.25 per M	71.25
500	No. 8 blasting caps @ $2.75 per C	13.75
600	gals. gasoline for compressor @ $0.32	192.00
12	gals. compressor oil @ $2.50 per gal.	30.00
1	gal. caster machine oil @ $3.00	3.00
150	feet BM - 2" by 4" and 1" by 4" material for ladders	15.00
25	pounds of nails @ $0.15	3.75
2	long handled, round point shovels @ $3.50/ea.	7.00
2	" " square " " @ $3.50 "	7.00
50	mine wedges @ $0.05 ea.	2.50
1	miners axe, single bit, 4½ pounds	5.00
1	double jack, with handle	5.00
1	single jack, " "	3.00
2	miners drift picks, handled @ $4.00 ea.	8.00
1	wheelbarrow, rubber tire	25.00
100	pounds miners carbide @ $0.08	8.00
100	gals. gasoline for trucks @ $0.32	32.00
10	qts. oil for trucks @ $0.35	3.50
	lubricating oil and cup grease	5.00
		$827.25

6. Operating equipment:

1. To be purchased . . . . . None

2. To be rented . . . . . None

3. Owned and furnished by the operator:

1 Ingersoll-Rand air compressor, 165 c.f.m. second hand, reported as in good condition. Estimated value $1500.00, monthly depreciation 1/60 . . . . $250.00 per month - 1.5 months	$375.00
1 Jackhammer, large, mounted, wet, estimated value $150.00, monthly depreciation 1/60 . . . $2.50 per month - 1.5 months	3.75
100 Feet of air hose) 100 Feet of water hose) second hand Estimated value $60.00, monthly depreciation 1/60 . . . $1.00 per month - 1.5 months	1.50
1 Column and bar (second hand). Estimated value $25.00, monthly depreciation 1/60 ... $0.42 per month - 1.5 months	.63
Drill steel (second hand) 18 pieces	
Drill bits (estimated at $200) new and used bits on hand - $0.625 ea.	125.00
1 Ford truck, 1½-ton capacity. Estimated value $500.00, monthly depreciation 1/60 ... $8.33 per month - 1.5 months	12.50
1 Bit sharpener (second hand). Estimated value $50.00, monthly depreciation 1/60 ... $0.83 per month - 1.5 months	1.25
1 Truck, pickup, estimated value $1000.00, monthly depreciation 1/60 ... $16.66 per month - 1.5 months	25.00
500 Feet of 2-inch black iron pipe (second hand). Estimated value $0.12 per foot - $60.00, monthly depreciation 1/60 ... $1.00 per month - 1.5 months	1.50
	$546.13

e. Rehabilitation and repairs of existing buildings: None

f. New buildings, improvements and installations to be purchased, installed or constructed:

Installation of approximately 600 linear feet of 2-inch black iron pipe from compressor set up at the No. 1 tailing pond to the No. 7 ore body. Labor: 2 days time for 2 men @ $20.00 per day	$ 80.00

g. Miscellaneous:

The air compressor, owned by the applicants, is now in use at the J. W. Mink, Little Joe group of tungsten claims, situated approximately 15 miles east of Wild Horse, Nev., or approximately 137 miles north of the applicants property. This machine was apparently borrowed or rented by Mr. Mink and should be returned to the Star Tungsten mine at no cost to the exploration project.

Labor:	2 days time for 2 men in moving from the mine camp to the South shaft and installation of necessary air and water lines	80.00
Labor:	1 days time for 2 men constructing ladders	20.00
	2 days time for 2 men installing air and water lines and ladders down old raise north of the South shaft	80.00
Labor:	Moving air compressor from South shaft to No. 1 tailing pond for work on No. 7 ore body and installation of compressor - 1 days time for 2 men	20.00
	Installation of approximately 300 feet of 2-inch air line from compressor to No. 7 ore body - 2 men for 2 days time	80.00
Analytical work:	20 samples for WO_3 analysis @ $5.00	100.00

Total allowable labor cost:

1 bookkeeper @ $100.00/month	2 months	$ 200.00
1 miner-foreman $15.00/day	57 days	855.00
1 miner's helper-laborer @ $14.00/day - 57 days		798.00
1 cook @ $5.00/day	57 days	285.00
		$2,138.00
Add 14% insurance		299.32
		$2,437.32

Total allowable cost of operating materials and supplies	$27.25
Total allowable cost of analytical work	100.00
Total allowable cost of monthly depreciation	348.15
Total cost of project	$2,910.70

Government participation 75% or $2,183.03

Time required to complete project 57 days

Mr. George Ogilvie and Andrew Francis should assemble the necessary equipment at the mine camp and place in good operating condition prior to the start of any exploration work and at no cost to the project.

Mr. Ogilvie is to direct and supervise the operations and to take samples and prepare the accounting and monthly reports on Form MF-104.

The mill building and concentrating machinery are owned by the Knowles brothers of Nike, Nev., and are located adjacent to the mine camp and alongside of the Harrison Pass Highway. The building is of frame construction covered with tar paper. The roof should be entirely recovered immediately in order to protect the machinery and equipment which consists of:

1 Coarse ore bin, timber construction, size 11.2 feet by 12 feet, bottom on 45 degree slope (good condition)
1 Conical, steel ore bin, extra heavy steel plate, about 50-ton capacity (good condition)
1 Kue-Ken balanced crusher, size 50 (10-inch by 24-inch) Serial No. 50182W, 365 RPM (good condition)
1 Belt conveyor, belt 16-inch by 32 feet. Gear driven from line shaft. Small pinion gear badly worn. Belt appears in good condition.
1 International Diesel engine, 75-horsepower, 4-cylinder, No. UDF529, V-belt drive to crusher. Reported to be in good condition.
1 Aemco belt conveyor, steel frame, 16-inch by 51 feet belt. Model OBM-Serial No. 43-5391. Driven by electric motor. Appears to be in good condition.

1 Double deck vibrating screen No. 56755, screen size 36-inch by 48-inch. Mfg. by the Denver Equipment Co., electric motor driven. Motor has been removed. The screen appears to be in fair condition. (This is owned by the applicant).

1 Strong ball mill, No. 45, size 3 feet by 4 feet, V-belt driven by one Westinghouse electric motor, constant speed, 25-horsepower, 440 V., Serial No. [illegible], Style [illegible] PZ. Appears to be in good condition, however, the ball mill liner plates could not be examined.

1 Settling cone, steel, 1/8-inch plate, 45-inches wide at top by 76 inches long by 55 inches deep. Looks to be in good condition.

1 Strong concentrating table, standard size. Looks to be in reasonably good condition. Deck linoleum in only fair condition. Riffles are in fair condition. The electric motor drive and line shaft have been removed.

1 Plat-o concentrating table, standard size, V-belt driven from electric motor. Electric motor and V-belts have been removed. Extra heavy riffles, 1-inch wide. Will be necessary to replace the deck linoleum. (Owned by the applicants).

1 Power unit: Cummins Diesel engine, 6-cylinder, water cooled. (No name plate or number on engine). Connected to: Palmer regulating alternator, 65KVA, 240V, 157 Amps., 50 KW, 1200 RPM, 3 ph, 60 cycle, No. 300460. V-belt drive to Palmer generator, type comp., 1.5-horsepower, 125 V, 12 amps, DC, 1725 RPM, No. 321TL019775. Together with necessary wall, throw out switches. This equipment has not been operated since 1944 and therefore the condition is not determined.

1 Iron pan for concentrate dryer. 3/8-inch iron plate, 45 inches wide by 9 feet 6 inches long, with sides 6 inches deep. Looks to be in good condition.

1 Outside storage tank for Diesel fuel oil, steel tank, 56-inch diameter by 15 feet 5 inches long. Looks to be in good condition.

All iron pipe and pipe fittings in the mill are reported to be owned by the applicants.

The milling plant is reported to have been designed as a 50-ton plant. However, the applicant reports that the maximum daily tonnage treated, only amounted to 37 tons of crude ore.

It is considered probable that the Knowles brothers will sell the milling machinery to anyone who will pay the asking price. Therefore,

the Field Team has no information as to how long the plant will remain at the property.

GENERAL INFORMATION

The applicant has advised the Field Team that he is endeavoring to sell or lease the mining claims and has made a tentative offer to Mr. Harrwn Overholser of Gabbs, Nev. The purchase price asked amounts to $100,000.00, payable on a 25% Royalty basis and with a guaranteed minimum Royalty of $400.00 per month.

Whether or not the sale will be consummated is unknown.

APPENDIX "A"

Production by applicant: WO_3 concentrates

Date	Amount lbs	Assay % WO_3	Lot No.	Units WO_3	Price	Exp.	Credits
Apr. 17, 1941	2245	30.0	1	33.675	$18.75	$29.03	$631.40
June 4 , 1941	1494	54.44	2	40.667	20.75	15.57	843.84
July 14, 1941	1802	61.15	3	55.096	21.75	15.95	1198.34
Aug. 7 , 1941	2446	61.00	4	74.506	21.75	18.86	1622.62
Sept. 4, 1941	2450	56.12	5	68.747	21.75	19.48	1495.25
Nov. 21, 1941	3386	55.20	6	93.702	20.75	24.41	1944.32
Jan. 7 , 1942	3681	51.40	7	99.742	20.75	23.14	2069.65
Feb. 18, 1942	4817	48.35	8	116.451	20.75	29.86	2416.35
Apr. 3 , 1942	9881	48.10	9	237.638	20.75	49.65	4930.89
Apr. 16, 1942	3300	47.92	10	79.068	20.75	29.23	1640.66
May 18, 1942	5768	52.20	11	150.345	20.75	34.48	3123.81
June 15, 1942	3613	49.44	12	86.771	20.75	28.84	1800.39
July 9 , 1942	3206	56.29	13	90.289	20.75	28.62	1869.34
Aug. 10, 1942	3689	60.30	14	111.225	22.15	26.02	2574.81
Sept. 30,1942	2123	62.45	15	55.888	22.15	17.12	1237.32
Nov. 23, 1942	4697	52.20	16	122.592	22.15	25.25	2715.41
	58707			1516.497		$[illegible]	$[illegible]

Shipped to M.R.C.

Aug. 25, 1942	4692	12.58	1	29.512			55.84
Sept. 28,1942	4399	7.60	2	16.720			38.00
Nov. 30, 1942	2336	6.45	3	7.530			47.90
	11427			53.762			225.74

WO_3 concentrates produced by Knowles brothers and shipped to Metals Reserve.

Date	Amount lbs.	Assay % WO_3	Lot No.	Units WO_3	Units Paid	Gross Receipts	Treatment	Settlement	25% Royalty
Jan. 13, 1944	20259	52.18	4	529.37	514.15	$ 15424.50	$ 805.28	$ 14,610.92	$ 3,652.73
Feb. 2 , 1944	20022	55.36	5	554.21	539.19	16175.70	824.51	15,340.98	3,835.25
Feb. 11, 1944	19928	51.30	6	511.15	496.21	14886.30	780.18	14,095.27	3,523.99
Apr. 12, 1944	19922	41.30	7	411.39	396.45	11893.50	680.34	11,203.04	2,800.76
Apr. 19, 1944	20053	35.20	8	342.95	337.91	10137.30	623.68	9,503.41	2,375.85
Apr. 19, 1944	16429	35.80	9	294.10	281.77	8453.10	515.30	7,928.91	1,982.23
Apr. 19, 1944	17598	37.80	10	328.82	315.77	9473.10	563.70	8,900.59	2,225.15
May 15, 1944	17303	40.86	11	365.76	352.35	10570.50	607.46	9,963.95	2,488.49
May 15, 1944	18181	47.00	12	427.28	413.64	12409.20	672.73	11,727.28	2,931.82
May 31, 1944	4760	49.00	13	116.62	113.05	3391.50	180.88	3,208.22	802.05
June 19, 1944	11193	50.65	14	283.48	275.09	8602.16	434.61	8,161.89	1,540.97
June 12, 1944	15990	53.40	15	426.93	414.94	9958.58	642.80	9,307.69	2,326.92
July 29, 1944	15949	59.60	16	475.31	463.35	11120.40	690.64	10,421.71	2,606.43
July 29, 1944	18624	53.00	17	520.04	505.32	12127.68	764.96	11,332.88	2,833.21
Oct. 9 , 1944	9338	45.80	18	566.80	227.58	4324.02	--	4,270.59	1,067.65
	247575			6,164.54	5,846.77	$156947.52	$8,805.39	$147,968.05	$36,992.36

Total production compiled from applicants records

	Lbs. WO_3 concts.	Units WO_3	Total Receipts
1941	58,707	1,516.497	
1942	11,427	53.762	
1944	247,579	6,164.040	
Totals	317,713	7,734.299	$189,292.47

The above production data secured from applicants shipping receipts.

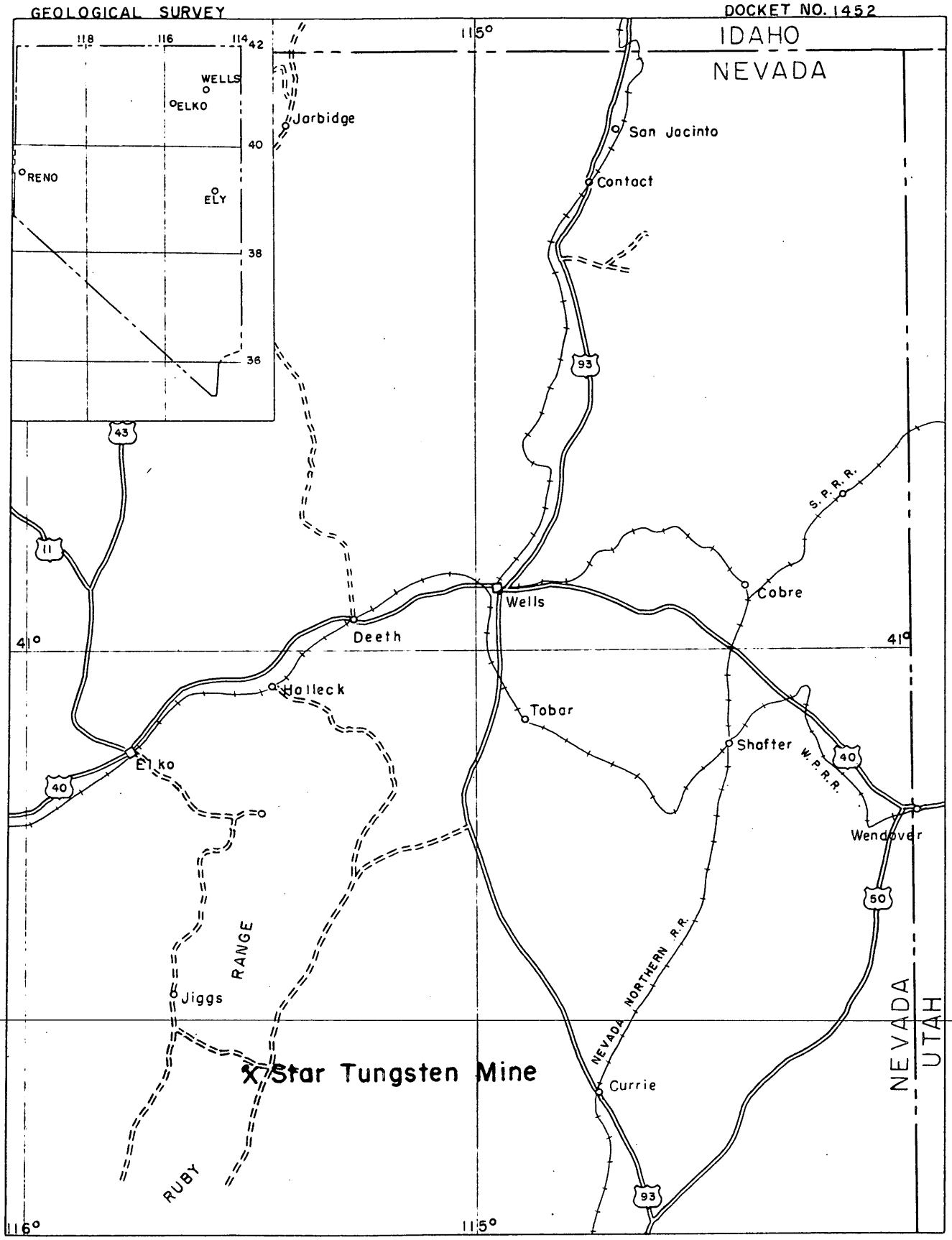


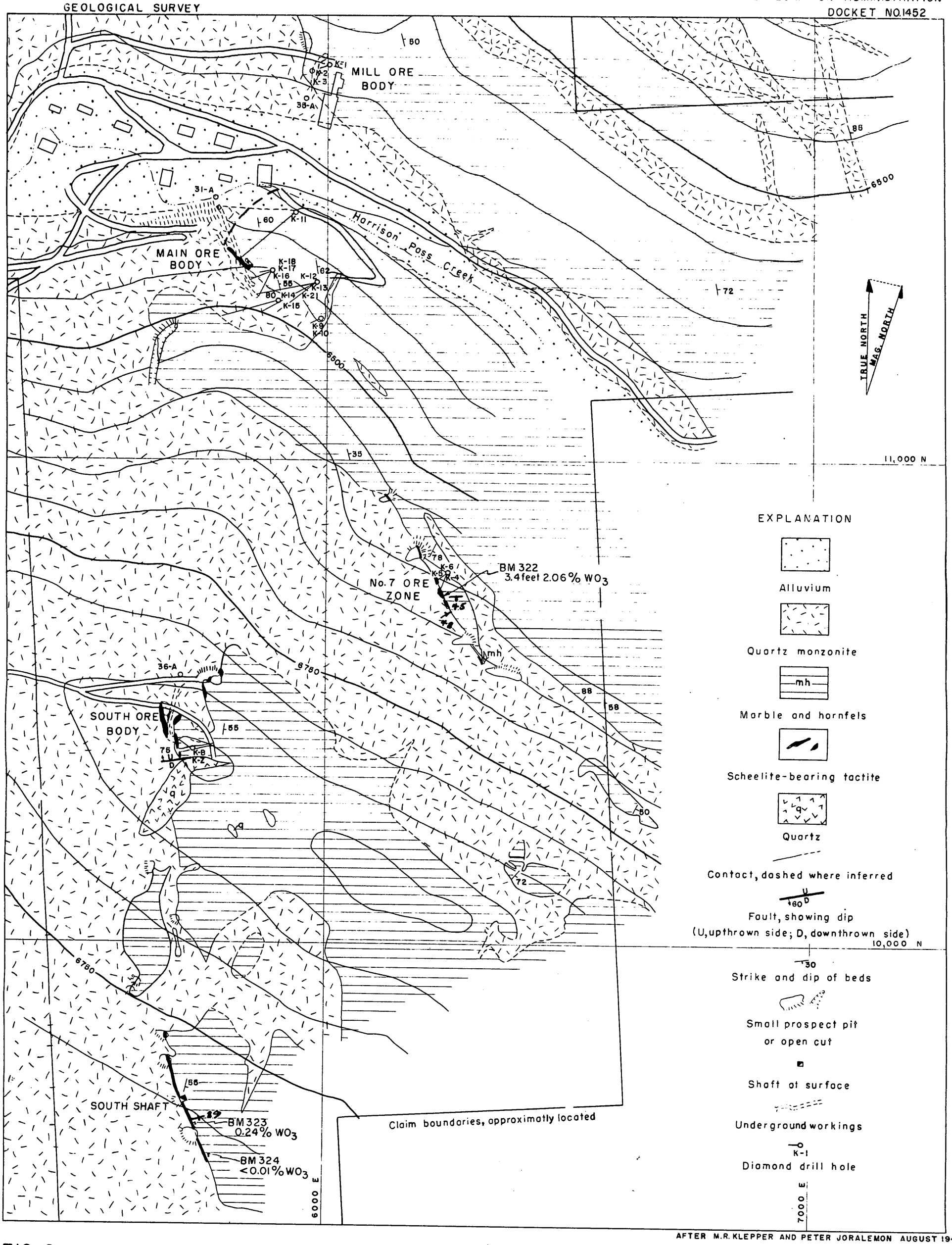
FIG. 1 INDEX MAP OF NEVADA

0 10 20 30 40 Miles

Scale 1:1,000,000

U. S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
DOCKET NO.1452



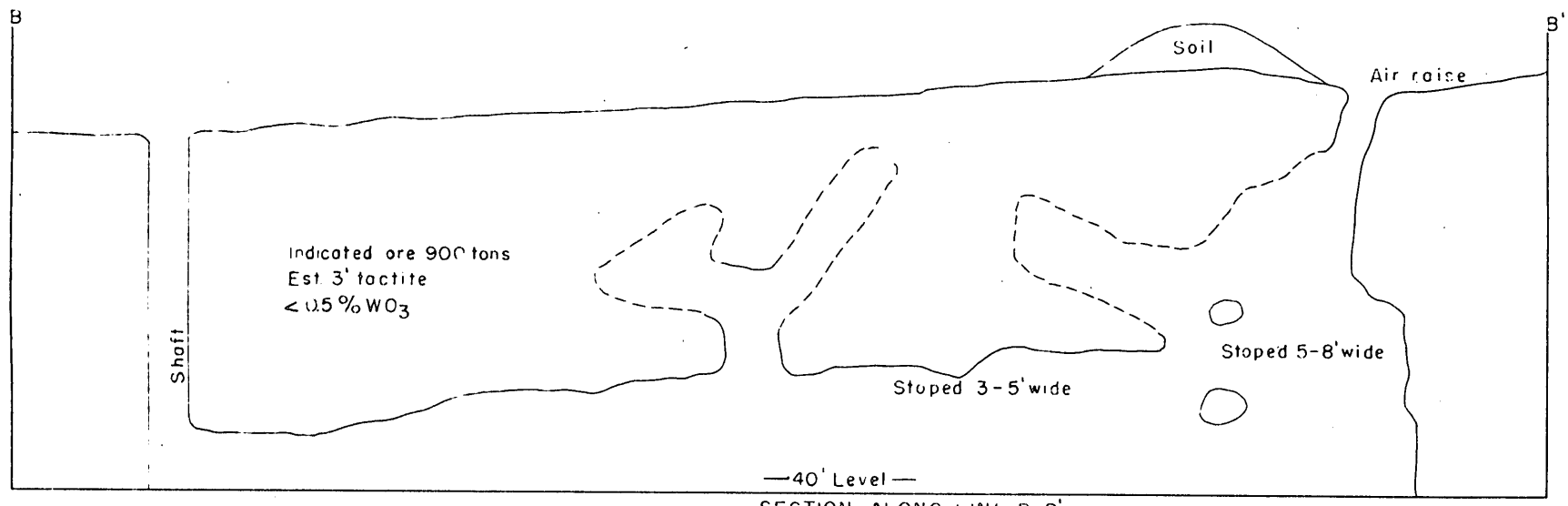
AFTER M.R. KLEPPER AND PETER JORALEMON AUGUST 1943

FIG. 2

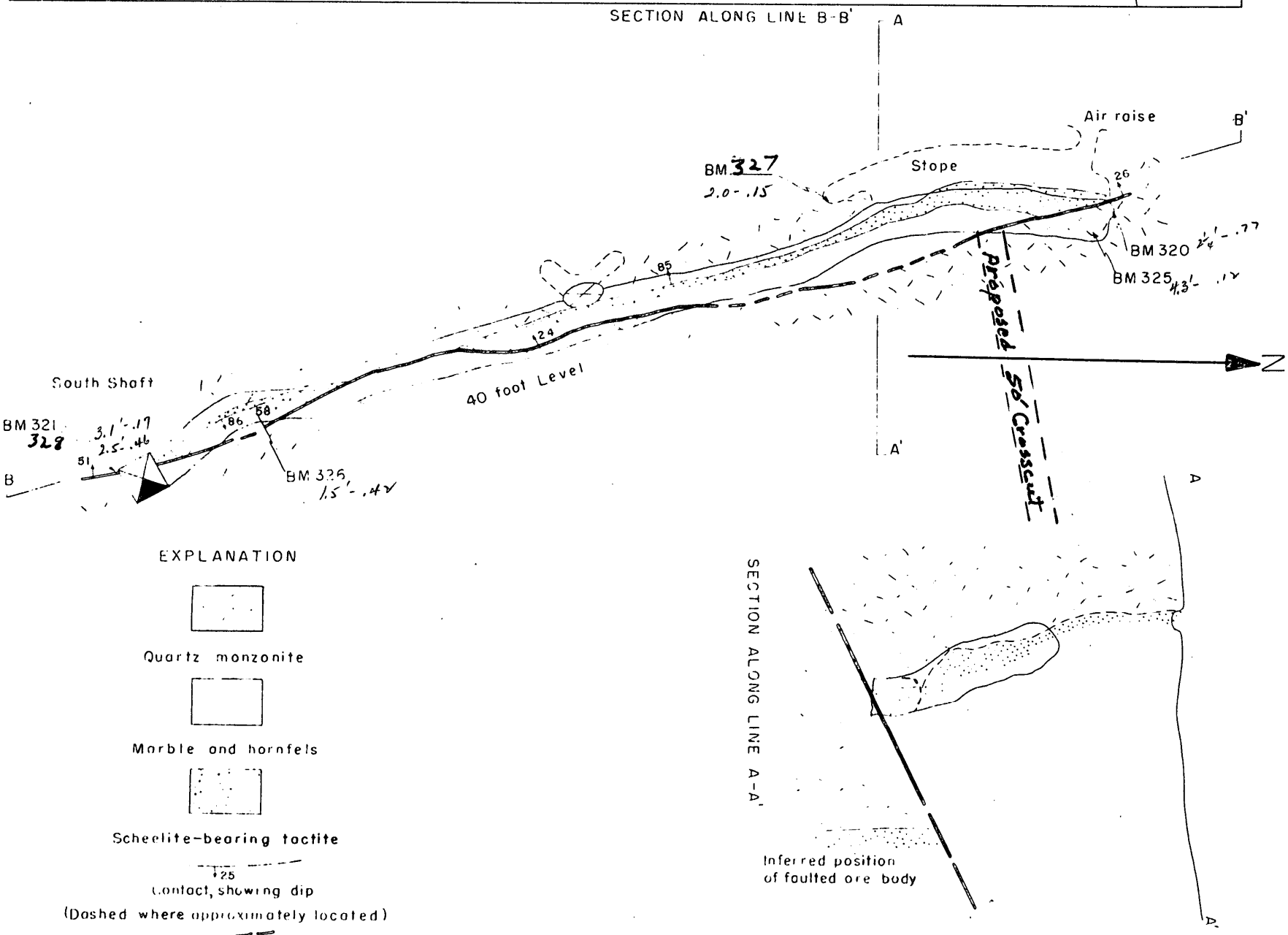
GEOLOGIC MAP OF STAR TUNGSTEN PROPERTY

HARRISON PASS, ELKO COUNTY, NEVADA

0 200 400 FEET
Scale



SECTION ALONG LINE B-B'



EXPLANATION

Quartz monzonite

Marble and hornfels

Scheelite-bearing tactite

25
Contact, showing dip
(Dashed where approximately located)

66
Fault, showing dip
(Dashed where approximately located)

50
Strike and dip of beds

Bottom of shaft

Foot of raise or winze

Sample No.	Width feet	Percent WO_3
BM 320	2.25	0.77
BM 321	2.5	0.46
BM 325	4.3	0.12
BM 326	1.5	0.42
BM 327	2.0	0.15
BM 328	3.1	0.17

GEOLOGY BY R. M. SMITH

FIG. 3

GEOLOGIC MAP OF THE 40 FOOT LEVEL
SOUTH SHAFT - STAR TUNGSTEN MINE
ELKO COUNTY, NEVADA

0 20 40 FEET
Scale

FILE COPY
SURNAME:

Rutledge
Selfridge
Hyburn
Thayer
Hedges

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

JUL 25 1952

Mr. George F. Ogilvie
Star Tungsten Mine
595 A Street
Elko, Nevada

Re: Docket No. DMA 1452X - Tungsten
George F. Ogilvie
Star Tungsten Mine
Ruby Range, Elko County, Nevada

Dear Mr. Ogilvie:

Your application for assistance in exploring tungsten occurrences at the Star Tungsten Mine has been reviewed by the Iron and Ferro-Alloy Division of the Defense Minerals Exploration Administration and has been referred to Mr. N. G. Miller, Executive Officer, DMEA Field Team, Region III, 1012 Flood Building, 870 Market Street, San Francisco 2, California, for a field examination.

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

Sincerely yours,

(signed) FRANK E. JOHNSON
(DHG)

7/25/52

Acting Administrator
Defense Minerals Exploration
Administration

FARutledge:lm
7/23/52

cc: Admn. Reading File
Docket
R. W. Geehan, USBM
D. M. Lemmon, USGS
Field Team Reg. III
G. C. Selfridge
F. A. Rutledge

Nov. 1 - Report in preparation. Will be submitted shortly

Docket 400
FILE COPY
SURNAME:

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

Rutledge
Selfridge
Fuhrman
Johnson

JUL 25 1952

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

Re: Docket No. DMA 1452X - Tungsten
George F. Ogilvie
Star Tungsten Mine
Ruby Range, Elko County, Nevada

Dear Mr. Miller:

Reference is made to the above docket. It seems extremely desirable that a field team examination be made of this property to determine if a Government contract for exploration is warranted.

If it appears that the recommendation of the field team will be favorable, particular attention should be given the following:

1. Strength of mineralization exposed and geologic evidence in favor of its continuance.

2. Check sampling of mineralization.

3. Legal description of property with book and page number for each recorded location notice.

4. Is experience of applicant adequate to manage project? Neither applicant includes any operating experience under his experience record.

5. If applicants can efficiently undertake the role of miners as they intend to do most of the work themselves. Their age, lack of experience, and probable physical condition (especially of Mr. Ogilvie) are apparently against this.

6. Items of equipment owned by applicants and their value for determining depreciation payments under contract.

7. Do applicants have sufficient money to furnish their share of expenditures?

8. A detailed program of exploration with all the necessary data to complete contract.

For your information we are enclosing the following:

2 Copies - Review of Application for Exploration Assistance.
1 Copy - MF-103.
2 Copies - Memo from D. M. Lemmon, USGS, July 21, 1952.
2 Copies - Memo from D. M. Lemmon, USGS, January 31, 1952.
2 Copies - Memo from R. W. Geehan, USBM, February 15, 1952.
2 Copies - Letter from Mr. Ogilvie, July 12, 1952.

Sincerely yours,

7/25/52
(JHB)

George C. Selfridge
ACTING Chairman, Operating Committee
Defense Minerals Exploration
Administration

Enclosures

F. A. Rutledge:lm
7/24/52

Approved:

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

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

cc: Admn. Reading File
Docket
R. W. Geehan, USBM
D. M. Lemmon, USGS
Field Team Reg. III
Operating Committee
G. C. Selfridge
F. A. Rutledge

Docket
J.G.R.

Defense Minerals Administration

Review of Application for Exploration Assistance

Docket No. DMA 1452 X

Commodity Tungsten

Total Amount $10,000.00

Govt. Participation $7,500.00

1. Name and Address of Applicant Star Tungsten Mine
George F. Ogilvie, 595 "A" Street, Elko, Nevada

2. Location of Property Ruby Range, Elko County, Nevada
in Sec. 17 & 20, T. 28 N.; R. 58 E., MDB&M

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

If not, application will be rejected.

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

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

a) Good for small tonnage of mill ore

b) Poor —

c) None —

d) Don't know—needs field examination —

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

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

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

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

productive period? —

*question numbers are those of MF-103

7. Are subordination agreements necessary? No

a) MF-201? No

b) MF-202? No

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

a) Available manpower Questionable

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

c) Accessibility (question 12)* Yes

d) Water (question 13)* Yes

e) Power (question 13)* Yes

Is a field check needed on any of these points? Yes - manpower & equipment

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

Is a field check needed on this point? Yes

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

a) Is the project adequately described? No.

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

b) Is there an adequate map or sketch of the proposed work? No

c) Is the proposed work "exploration" under the definition of Section 8, MO-5? Yes

If not, what part of it is? —

Is this part a worthwhile exploration project? —

d) Are the cost estimates detailed? No

Can they be summarized, as on page 2 of Procedural Instruction 5-A, from the available data? No If so, attach a draft.

e) Are the cost estimates reasonable? —

f) Should more information be requested from applicant? —

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

11. Exhibit B (question 23-d)*

a) Is it applicable? None needed

b) If so, are sufficient data furnished? — If so, attach a draft.

c) Is a field check needed? —

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

a) Is it applicable? Yes

b) Sufficient data? No If so, attach a draft.

c) Are rents and charges reasonable? —

d) Is a field check needed? Yes

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

a) Are there sufficient data? No

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

c) Is the schedule excessive for the work proposed? —

d) Are the proposed wages and salaries reasonable? —

e) Is a field check needed? Yes

14. Exhibit E (question 23-c)*

a) Is it applicable? Yes

b) Sufficient data? Yes

c) Reasonable? Yes

d) Field check needed? No.

15. In your judgment, can the proposed work be done in the proposed time? No definite program outlined so impossible to answer.

(All exploration must be completed within two years)

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

17. If field examination is needed, do you have any special instructions for the field team not indicated by your answers to the foregoing question? Outline a definite program of exploration with applicant if recommendations of Field Team are favorable.

Reviewed by: J. A. Rutledge

Date 7-23-52

IN REPLY REFER TO:

G-MD-CF

400

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

Memorandum

July 21, 1952

To: George C. Selfridge, DMEA

From: D. M. Lemmon, USGS

DMEA 1452 - Tungsten

Subject: Additional review of exploration application
Star Tungsten Mine
George F. Ogilvie
Ruby Range, Elko County, Nevada

The letter of July 12 from Ogilvie does little to clarify his previous application. Apparently Ogilvie's principal desire is to sell the property - a laudable ambition inasmuch as Ogilvie is not a miner and the property will not support any overhead. To date, Ogilvie, as owner, probably received the only profit from the past operation through royalties from Knowles Brothers, who operated as lessee in 1942-45.

James S. Wroth, consultant for DMPA, conferred with Ogilvie in Elko on July 15. In a personal letter to DMPA, he recites Ogilvie's story and recommends that a geologist be sent to outline a program of exploration.

The past history of the property does not indicate much chance of discovering enough ore to make a successful operation. A few thousand tons of 0.5 to 1.0 percent WO_3 might be found, not enough to warrant expenditure of additional Federal funds for production. This is not a new district but one in which the nature of the ore bodies is predictable.

Because of the expectable political pressure, it appears necessary to request the Field Team to send a geologist to consult with Ogilvie, examine his exploration proposals, and sample the accessible workings at the South shaft. Long-hole drilling from the bottom of the shaft might be used economically to locate the postulated offset ore body and to determine the best way to open it up (such as deepening the present shaft in preference to a crosscut and winze.) The economics of the property should be stressed in conversations with the applicant.

In further correspondence with Ogilvie from DMEA in Washington, it might be mentioned that the sale of mineral property is not a normal function of DMEA or the Bureau of Mines. The marginal character of the ore because of small size of ore bodies and expensive development required to mine them might also be pointed out.

D. M. Lemmon

Copy retained 400

MF-500

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

REFERENCE SLIP

DATE 7-15-52

REFERRED TO:

1. Code 400
2.
3.
4.

FOR:

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

REMARKS: .....

Check (X) before the items needing attention.

R. E. ADAMS

Initials of sender.

GPO 16—63815-1

595 A Street
Elko, Nevada
July 12, 1952

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUL 15 1952

Defense Minerals Exploration Administration
Washington, D. C.

Attn: C. O. Mittendorf

Re: Docket No. DMA1452X - Tungsten
Star Tungsten Mine
Harrison Pass, Ruby Range
Elko County, Nevada

Dear sirs:

I am sorry about delaying answering your letter of May 29, 1952, until almost the deadline date, furnishing, to the best of my ability, the information your office requested in Mr. Selfridge's letter of March 19th.

Since I am neither a geologist nor mining engineer, it is hard for me to give you any information that was not given in my original application, except to identify the location on the crude maps I drew, with the maps drawn by M. R. Klapper, J. H. Wiese, and Peter Joralemon for the Strategic Minerals Investigation in 1942, revised in 1943, copies of which were sent us about July, 1951; so you must have copies available.

Location No.1 on my map in the application is located at No.7 Ore Zone on the U.S.G.S. Map Sheet 2. Since it is a steep side-hill, we proposed to start a tunnel about 50' or 75' almost directly north of the outcrops shown on the U.S.G.S. map and tunnel south until we hit the ore zone which is on the contact between lime and granite. There is no way of telling the size of the orebody without a tunnel. There were two diamond drill holes at this location which were disappointing, but they were drilled without engineering advice and were drilled from the same location parallel to the strike of the contact instead of perpendicular to the strike of the orebody. If the first drill hole hit a fault and the drill went directly from lime to granite without showing tactite, then the second hole would have to have the same result. Whereas, had the holes been drilled perpendicular to the strike of the ore, with either different locations or with different angles for depth, the information would have been more valuable.

Location No.2 in my application is located at the South Shaft on the U.S.G.S. map sheet 2. Better than any way I can explain the faulting, I will refer you to the picture of the faulting shown at the mill orebody in the U.S.G.S. map sheet 4, and say that it is similar with the exception that the faulting at the south shaft is probably a little greater distance. The tactite orebody is on the contact of lime and granite. Both the footwall to the west and the floor of the 165' drift are granite, so there is only one direction for the continuation of the orebody to be, and that is east. How far the orebody has been displaced, I do not know, but I do not think over 10'. There has been no drilling at this location. There are numerous outcrops on the twelve claims where development work should be done, but I believe the best location for commercial production is on this Location No.2.

My delay in giving this information has been because we have been trying since April of this year to sell everything; mine, buildings, tailing ponds, and our interest in the milling machinery. Two outfits have promised to look over the property. One of them in April, for whom we held off trying to interest anyone else for two months, has been too busy with other mining operations to come. We expect another interested man to show up any day, since he was to return to Bishop, California, from the east on July 2nd. At present, buyers of tungsten properties are harder to find than they were in 1951.

If we do not sell soon, we are going to ship the two tailing ponds to the Getchell Mine ourselves, this summer. Getchell are paying $46 a unit with $6 treatment charge for 80% of the assay. Transportation charges are $8 per ton. One tailing pond assays .4%WO_3, the other .9%, since we milled about 3½% ore by the gravity method.

If we ship the tailing ponds, we should net about $30,000 less income tax and should be in good shape to cooperate with the D.M.E.A. on a development project. Since 7400 units WO_3 were milled by gravity methods, and marketed, there should be about 2400 units WO_3 in the tailings.

We would appreciate your consideration of our application and we would be glad to furnish any further information.we can. However, I think a U.S. Bureau of Mines representative who knows mining should confer and advise with us on the project. Besides, a U.S. Bureau of Mines man may know of some mining company that is looking for a property like ours. The tailing ponds should be an incentive to any prospective buyer.

Very truly yours,

George F. Ogilvie

George F. Ogilvie
For Star Tungsten Mine

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

13771

REFERENCE SLIP

DATE 7-21-52

REFERRED TO:

1. CODE 400 - Rm. 3538
2.
3.
4.

FOR:

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

REMARKS:

Check (X) before the items needing attention.

Adams (AL)
Initial of sender

INT.-DUP. SEC., WASH., D.C.

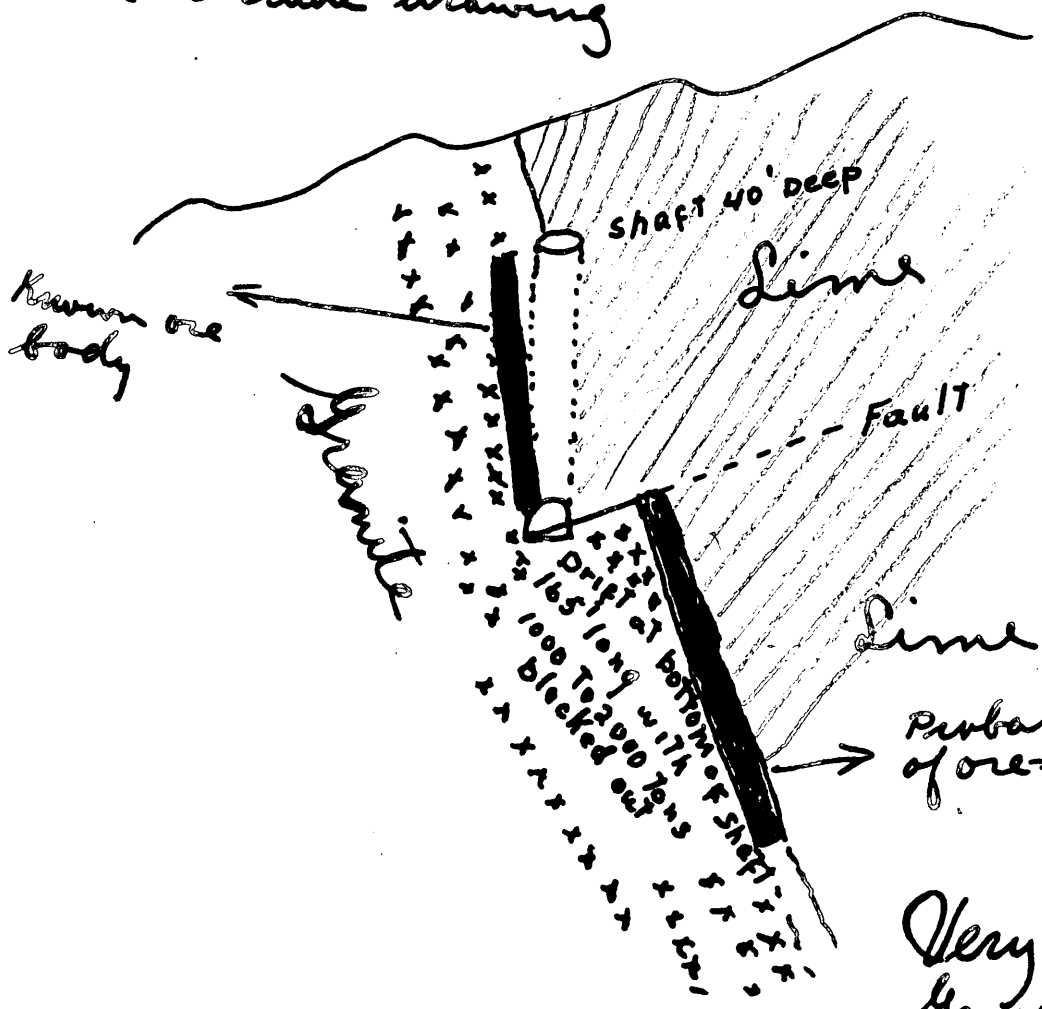
Elko Nevada
July 18, 1952

Defense Minerals Exploration Administration
Washington. D.C.

attention: C. O. Mittendorf
RE Docket No. DMA1452X Tungsten
Star Tungsten Mine
Harrison Pass, Ruby Range
Elko Co Nevada.

Dear Mr Mittendorf:

Mr. James Wroth, Consultant DMPA, was in Elko Tuesday and I went over my application and correspondence with him. He thought it would be more understandable if I would draw the faulting in Location No 2. My letter of July 12th 1952 explains it quite thoroughly, but he thought a picture would be better. I will, therefore draw a crude drawing



DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUL 21 1952

Very truly yours
George F. Ogilvie
for Star Tungsten Mine

FILE COPY
SURNAME:

Selfridge

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

Mr. George F. Ogilvie
Star Tungsten Mine
595 "A" Street
Elko, Nevada

Re: Docket No. DMA 1452X - Tungsten
Star Tungsten Mine
Harrison Pass, Ruby Range
Elko County, Nevada

Dear Mr. Ogilvie:

To date replies have not been received to our letters to you of March 19 and May 8, 1952, in which we requested additional information in order to further process your application for exploration assistance.

We note that your application is now more than one year old. We would like to process as quickly as possible all of the old DMA applications still in our active file but cannot do so unless applicants furnish us with requested information. We wish to cooperate with you in the matter of allowing ample time but if the needed information has not been received by July 15, 1952, we will then remove the application from our active file and consider the matter closed.

Sincerely yours,

C. O. Mittendorf (fw) CC 5/29

Acting Administrator
Defense Minerals Exploration
Administration

GCSelfridge:ls 5/28/52

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

5/1/52

Re 1452

Mr. Selfridge:

This is the case that we wanted to deny in February, but Mr. Mittendorf by his memo of March 12 remitted to the Operating Committee and then to us for further processing. The applicant has failed to answer our letter of 3/19/52 or indicate that he has any intention of providing the data we requested.

Perhaps we can now go ahead with the denial* or do you wish to send the applicant a follow-up first?

LS

* already prepared as of 2/28/52. If we don't hear by June 1, then letter of rejection should be effective.

FILE COPY
SURNAME:

Selfridge

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

MAY 8 1952

Mr. George F. Ogilvie
Star Tungsten Mine
595 "A" Street
Elko, Nevada

Re: Docket No. DMA 1452X - Tungsten
Star Tungsten Mine
Harrison Pass, Ruby Range
Elko County, Nevada

Dear Mr. Ogilvie:

On March 19, 1952, we wrote you requesting additional detailed information regarding your proposed exploration program. To date we have not had a reply to our letter.

Will you please inform us whether or not you wish to proceed with your application for exploration aid? If so, please send us the requested information. If not, please request that we withdraw your application for such aid.

Sincerely yours,

George C. Selfridge

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

GCSelfridge:ls
5/5/52

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

QLBrewer:lm
3/18/52

400

FILE COPY
SURNAME:

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

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

Brewer
Selfridge
MAR 1

MAR 1

Star Tungsten Mine
c/o George F. Ogilvie
595 "A" Street
Elko, Nevada

Re: Docket No. DMA 1452X - Tungsten
Star Tungsten Mine
Harrison Pass, Ruby Range
Elko County, Nevada

Dear Mr. Ogilvie:

Our recent review of DMA files has disclosed the above noted application.

The file discloses that your application was received on May 31, 1951, and was reviewed shortly thereafter. Your suggestion (Item 22 of your Form MF-103) in regard to obtaining maps and reports from the U. S. Geological Survey was followed, and copies thereof were sent you about July 15, 1951. No further correspondence in regard to the subject docket is in our file.

Our recent review of your application, with the said maps and report of the U. S. Geological Survey at hand, does not disclose information sufficiently in detail to substantiate a loan; in fact, the work proposed would not be warranted by the information now at hand.

Please favor us with additional detailed information as to the location of the proposed tunnels and the ore body expected to be encountered at your Location No. 1. At your Location No. 2, you state that the ore body was faulted to the east and that you propose to drift east to find the faulted portion. Please let us have more detailed information in regard to the geology and/or other factors which led to your conclusion in this respect.

Your application will be held in abeyance pending receipt of the above information.

Sincerely yours,

3/19

SIGNED

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

FILE COPY
SURNAME:

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

March 12, 1952

Memorandum

To: Operating Committee

From: C. O. Mittendorf
Acting Administrator

Subject: DMA-1452X - Star Tungsten Mine (Tungsten)

I am reluctant to sign the letter of denial which has been prepared, and am returning the docket for your further consideration. I do not wish to imply that the application should be approved, but I do feel that I shall be on very weak ground when called upon to defend the proposed denial in view of the memoranda which are a part of the official record in this case.

It appears from the record that the application was received on May 31, 1951 and referred to the Tungsten Branch on June 5 following. On June 7 the Survey furnished the applicant with certain maps; however, no direct reference was made to their pending application. There is no record of any additional correspondence on the part of the applicant or DMA, or its successor, DMEA.

On January 28 the Iron and Ferro-Alloy Metals Division of DMEA reviewed the case, suggested that a field examination be made, and requested concurrence from the commodity specialists. It was felt that the field examination would have the dual purpose of first evaluating the property and, secondly, assisting the applicant to work out a detailed program of exploration with an estimate of the costs involved.

In Mr. Lemmon's memorandum of January 31 he does not specifically oppose a field examination. He feels that the information in Washington is adequate to evaluate the property and states, further, that the examination could not be made before late spring, in any event. He concludes with the recommendation that we write the applicant for information regarding the current status of the property and such other details of the proposed project as are necessary to consider the application further. I concur in his recommendation.

On February 15, 1952 Mr. Geehan reviewed Lemmon's memorandum and concurred with his recommendations.

Mr. Gentry, who was on loan from Region III, took the case at this point and has prepared an outright denial of the application. This denial was typed and came to my attention after Mr. Gentry returned to his official station in Reno. The denial has been surnamed by both Lemmon and Geehan, which seems to me to be a little inconsistent with the position they have taken in their recorded memoranda. Obviously there were some further discussions between Gentry, Lemmon, and Geehan which led to a decision to deny the application, but the point that disturbs me is that there is no official record as to why this later conclusion was reached. Mr. Selfridge was not a party to these discussions and therefore is unable to clarify the matter.

On the basis of the information before me, I believe we would be on much firmer ground to follow the recommendations of Lemmon and activate the case by letter to the applicant, rather than serve him with an outright denial. If you concur, then you will undoubtedly wish to correct your minutes accordingly and return the docket to the commodity groups for reconsideration.

C. O. Mittendorf (CW)

COMittendorf/fw/pa

cc: G. C. Selfridge
R. W. Geehan
D. M. Lemmon
J. H. Hedges
T. P. Thayer
Admr. Reading File
Mails and Files
Mr. Mittendorf
~~Field Team, Reg. III~~

cc 3/12

We concur with the last paragraph.

Signed: J. H. Hedges, T. P. Thayer, and Frank E. Johnson

Reviewed by
DMEA OPERATING COMMITTEE

3-12-52
(date) (JB)

Form 6-95

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

REFERENCE SLIP

DATE 2/29

REFERRED TO:

1. ~~Mr. Mittendorf 4624 GSA~~
2. ~~Mr. Lanham 9211~~
3. ~~Mr. Geehan R 352~~
4. ~~Mr. Berry Off. Comm.~~
5. ~~Open Com~~
6. Mr. Mittendorf
7. Mr. Berry
8. Mail Room

FOR:

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

REMARKS:

See Selfridge.

Check (X) before the items needing attention.

George C. Selfridge

Initials of sender.

GPO 16—51162-1

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

Mr. George F. Ogilvie
Star Tungsten Mine
595 A Street
Elko, Nevada

Re: Docket No. DMA 1452X - Tungsten
Star Tungsten Mine
Elko County, Nevada

Dear Mr. Ogilvie:

Your application for aid for an exploration project and other data relating to your application available to us in Washington have been carefully reviewed.

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

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

Sincerely yours,

Acting Administrator
Defense Minerals Exploration
Administration

Mr. Mattendorf did not sign.

FILE COPY
SURNAME:

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

Secretary
Selfridge
Lemmon
Gehan
Hedges
Thayer
H. Johnson

Mr. George F. Ogilvie
Star Tungsten Mine
595 A Street
Elko, Nevada

Re: Docket No. DMA 1452X - Tungsten
Star Tungsten Mine
Elko County, Nevada

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Sincerely yours,

Acting Administrator
Defense Minerals Exploration
Administration

not mailed

GGGentry'lm
2/28/52

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

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

February 28, 1952

Memorandum

To: Acting Administrator, Defense Minerals Exploration Administration

From: Iron and Ferro-Alloy Division, Defense Minerals Exploration Administration

Subject: Denial of exploration project in the amount of $10,000.00
Docket No. DMA 1452X - Tungsten
Star Tungsten Mine
Elko County, Nevada

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

1. The ore deposits previously mined are structurally complicated and a study of the geological maps submitted by the USGS suggests small and discontinuous lenses of tactite, limited by quartz monzonite and aplite on one side and marble and hornfels on the other side.

2. The metamorphic rocks have been altered to tactite along less than 5 per cent of the contact. The inferred tonnage is small and the chances for a significant mineral discovery are highly speculative.

3. The depth of the deposit as determined by the USGS is relatively shallow. The underground workings indicate that the contact is as irregular at depth as at the surface.

4. The prospecting, proposed by the applicant to develop an unknown block of ore in a faulted area, is in the nature of a guess.

5. The ore body represented by the applicant's sketch drawing is probably only a thin layer of ore not removed by the previous operators.

6. No information is available relative to the diamond drill holes put down by the Knowles brothers who operated the property during the war years, however, probably little or no ore of commercial value was found as the Knowles brothers relinquished their lease.

7. Production from the mine from 1940 to 1944 inclusive, is reported to have amounted to 7400 units of WO_3 and very likely the greater portion of the known ore deposits was removed. The Knowles brothers constructed a small mill adjacent to the mine and the mill still remains on the property, although the condition of the building and equipment is uncertain.

8. The applicants expect to manage the proposed operation and it appears that their experience in mining has been very limited.

G. C. Selfridge.

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

Docket 400

FILE COPY
SURNAME:

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

February 28, 1952

Memorandum

To: Acting Administrator, Defense Minerals Exploration Administration

From: Iron and Ferro-Alloy Division, Defense Minerals Exploration Administration

Subject: Denial of exploration project in the amount of $10,000.00
Docket No. DMA 1452X - Tungsten
Star Tungsten Mine
Elko County, Nevada

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8. The applicants expect to manage the proposed operation and it appears that their experience in mining has been very limited.

George C. Selfridge

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

GGGentry'lm
2/28/52

cc: Admn. Reading File
Docket
G. C. Selfridge
G. G. Gentry

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

February 15, 1952

Memorandum

To: George Selfridge, D.M.E.A.

From: Robert W. Geehan, Bureau of Mines

Subject: Exploration Application
Star Tungsten Mine
c/o George F. Ogilvie
Elko County, Nevada

DMA-1452
Tungsten

In accord with Lemmon, I recommend approval if a letter to the applicant results in satisfactory answers regarding current status of property, compressor and mill, and if he'll specifically indicate the proposed work on one of maps sent him.

Robert W. Geehan

Robert W. Geehan

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 18 1952

1 copy removed

Feb-1-1952

Mr. R. W. Geehan, USGS
Room 3521-Interior Bldg

Re: Docket No. DMA 1452-Tungsten
Star Tungsten Mine
Elko County, Nevada

Dear Mr. Geehan:

Attached hereto, please find copies of data pertaining to the subject docket. Will you please let us have your opinion on this property.

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

Enclosures:

By: [illegible]

IN REPLY REFER TO:

G-MD-DML

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

January 31, 1952

Memorandum

To: George C. Selfridge, DMEA

From: D. M. Lemmon, U.S.G.S.

Subject: Exploration application $10,000 DMA-1452-X Tungsten
Star Tungsten Mine
c/o George F. Ogilvie
595 A Street
Elko, Nevada

Property: Star mine
Harrison Pass, Ruby Range
Secs. 17 and 20, T. 28 N., R. 58 E.
Elko County, Nevada

Mr. Ogilvie submitted this application on May 26 (received May 31) without supporting maps or a definite statement of lengths of proposed workings. On June 7, the Geological Survey mailed sets of maps of the property to Mr. Ogilvie, with the expectation that he would take the hint and send one copy to DMA showing the work proposed. Mr. Ogilvie did not acknowledge receipt of the maps, and apparently did not write again to DMA. Apparently DMA did nothing about the application after acknowledging on June 19 its receipt.

The Geological Survey mapped the area in 1942-43 and obtained sufficient information to evaluate Ogilvie's proposal. These maps were released to the public in 1943, and a set is attached herewith for use of D.M.E.A.

The work proposed in the application involves the amount that could be accomplished by 2 men in a year at a cost of $10,000. Drifts, crosscuts, and a winze, all of indeterminate length, are to be dug at 2 prospects which I have identified from the description given.

Location No. 1 is the same as the No. 7 Ore Zone shown on the USGS map at 10,700 N, 6,200 E. The map shows about 5 spots of tactite, each not more than 20 feet long, on a granite contact that cuts across limestone beds. Three drill holes are shown, representing work done by Knowles Brothers. The Geological Survey does not have logs of these holes. A statement by Klepper of the Geological Survey, in 1943, suggests that the tactite was eliminated by granite at a depth of 50 feet.

4) Although no significant tungsten production can be expected from the work proposed, the costs and targets are no less favorable than in several other applications previously approved for loans.

Recommendation

I suggest a letter to the applicant requesting information about the current status of the property, the compressor, and the mill, and suggesting that the proposed work be indicated on a copy of the maps that he has if he wishes to go ahead with an exploration proposal.

If a satisfactory answer is received, an exploration project costing in the order of $10,000 is probably warranted.

Dwight M. Lemmon

Enclosure

It appears that a crosscut adit 120 feet long is needed to gain 50 feet of depth. The limestone is a narrow peninsula in the intrusive and appears to be cut off at shallow depth.

The applicant plans successively lower adits to follow the ore downward, a proposal that does not seem warranted by the available information.

We have no information about the content of WO_3 except the fact that the Knowles Brothers did not consider the deposit worth further development.

Location No. 2 is the same as the South Shaft shown on the USGS map at coordinate 9,600 N, 5,800 E. At the surface, a layer of tactite 3 to 4 feet thick is exposed for a length of 100 feet. The average content of WO_3 was estimated at 0.25 percent; the part near the shaft contained about 0.4 percent. According to the applicant, the tactite layer was cut off by granite at a depth of 40 feet, and the contact is a flat fault. The granite contact is parallel to bedding in the limestone, and the tactite layer replaces a single bed.

It is proposed to crosscut east to find the offset contact, then sink a winze. The proposal seems aimed in the right direction, but the winze may not be practical from a mining viewpoint. The maximum offset shown in the main ore body along flat faults was 50 feet, and the majority of the offsets were in the order of 5 or 10 feet. The content of WO_3 may be only 0.25 percent rather than the 1.0 percent suggested by the applicant.

Conclusions:

1) The work proposed, or a modification of it, might uncover a few thousand tons of marginal ore. It is questionable if the material could be mined at a profit because the bodies are small, structurally complicated, and distant from milling facilities unless arrangements can be made to rehabilitate the mill on the property.

2) Small, high-grade shoots are probably present on the property at other localities, hidden beneath barren outcrops. We have no adequate guide to permit economical exploration, and the cost of discovery or mining would be excessive.

3) Except for assay data on the exposures beneath which exploration is planned, the information in Washington is adequate to evaluate the property. No field examination could be made before late spring.

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

JAN 28 1952

Mr. Dwight Lemmon
U.S. Geological Survey
Room 5216, GSA Building
Washington 25, D. C.

Re: Docket No. DMA 1452X - Tungsten
Star Tungsten Mine
Elko County, Nevada

Dear Mr. Lemmon:

The subject docket, enclosed herewith, is in reference to an application which is dated May 26, 1951, and is presently being reviewed by this office.

Judging from the information contained in the attached letter from the applicant, this office considers that an examination by the field team might be justified. At the time of such examination, the field team could work out a detailed program of exploration and a breakdown of costs with the owners.

Will you please advise us whether or not you concur in a request for the field examination.

Sincerely yours,

G. C. Selfridge

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

Enclosures

FILE COPY
SURNAME:

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

JAN 28 1952

Mr. Dwight Lemmon
U.S. Geological Survey
Room 5216, GSA Building
Washington 25, D. C.

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Star Tungsten Mine
Elko County, Nevada

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Sincerely yours,

George C. Selfridge

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

Enclosures

GGGentry:lm
1/25/52

cc: Admn. Reading File
Docket
G. C. Selfridge
G. G. Gentry

needs study and get information.

DMA 1452 - Tungsten

~~Jan. 1974~~

Docket mailed to
~~Dwight Lemmons, USGS~~
GSA Bldg. Room 3318

TO Gordon

Requesting his opinion on Field Team Examination of the Mine

Gentry

Mr. George P. Ogilvie
595 A. Street
Elko, Nevada

Dear Mr. Ogilvie:

Defense Minerals Administration informs us that you do not have a set of the geological maps of the Star Tungsten property, prepared in 1943 by R. R. Meyer.

These maps were released on open file in limited quantity in 1944. From our small supply, I am sending you 4 sets for your use. I suggest that a careful study of the maps and text might prove valuable in any plans for future exploration of the property. You will note that the work done by Lincoln Brothers during 1944 is not shown.

Sincerely yours,

for Olaf M. Rove, Chief
Mineral Deposits Branch

Enclosure

DMLemmon:gt

G 6/7/51

Copies to: Director's reading file, 4212
Division, 4240
Branch, 4206
Branch reading, 4212
D.M.A.

DMA 1452-X

Proposal not sufficiently thought out to warrant consideration now. Property might yield some, or if explored under direction of thoroughly competent geologist. Outcrop small.

Don Lemmon 6-7-51

FILE COPY
SURNAME:

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

June 19, 1951

Mr. George F. Ogilvie
595 A. Street
Elko, Nevada

Subject: DMA-1452X
Re: Exploration Loan -
Star Tungsten Mine

My dear Mr. Ogilvie:

Receipt is acknowledged of your application and attachments of May 26, 1951 for an exploration loan under the Defense Production Act of 1950.

The application was assigned Docket Number DMA-1452X and referred to Mr. George Holderer, Chief, Tungsten Branch on June 5, 1951.

In any future correspondence relating to your application, kindly refer to DMA-1452X.

Sincerely yours,

LANDON F. STROBEL
JC
Landon F. Strobel
Executive Secretary

L. F. Strobel:jc
cc: Strobel
✓File
Holderer
Lyon

June 19, 1951

Mr. George F. Ogilvie
595 A. Street
Elko, Nevada

Subject: DMA-1452X
Re: Exploration Loan -
Star Tungsten Mine

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Sincerely yours,

LANDON F. STROBEL

Landon F. Strobel
Executive Secretary

L. F. Strobel:jc
cc: Strobel
File
✓Holderer
Lyon

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-1452X

Date received 5/31/51

Participation

STAR TUNGSTEN MINE
care of George F. Ogilvie,
595 K. Street,
Elko, Nevada.

Name and address of applicant

Date May 26, 1951.

FILL IN THIS BLOCK

Date of application May 26, 1951.

Estimated cost $10,000.00

Mineral or metal Tungsten (scheelite)

Percentage of Government participation $7,500.00

Location of mine Harrison Pass, Elko County, Nevada.
Secs. 17 & 20, T28N, R58E, MDB&M.

Date of filing MF-100 not filed

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.

Star Tungsten Mine
(Name of company)

By George F. Ogilvie
(Signature of authorized official)

May 27, 1951
(Date)

Partner
(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

STAR TUNGSTEN MINE

care of George F. Ogilvie
595 A. Street
Elko, Nevada

1. Partnership.
2. George F. Ogilvie, 595 A. St., Elko, Nevada.-- undivided ½ interest
   Andrew W. Francis, Ruby Valley, Nevada. -- undivided ½ interest
   (Francis)
3. Not a Corporation.

4. Applicants will manage the project.
   (a) George F. Ogilvie - 56 years old - Until 1940 , Livestock Ranching almost exclusively - 1940-1942 , Insurance, Ranching & Mining , mostly mining - 1942-1948 Insurance & Ranching - 1948- May 1st, 1951 Ranching and Operator-Owner General Merchandise Store - Since Jan 1st 1951 Ranching and County Commissioner, Elko County with intentions of devoting major portion of time to mining - Pres.Nevada State Farm Bureau 1935-1946 - Director American Farm Bureau Federation, Chicago and Washington D.C., 1937-1946.
   (b) Andrew W. Francis - 47 years old - Until 1934 Carpenter, Mechanic and Ranching - 1934-1944 Mining - Since 1944 lives at Star Tungsten Mine ,taking care of property.

5. Owners.

6. No claims, liens, or encumbrances are against the property.

7. Does not apply.

8. Assets ; $12,000.00 to $15,000.00 in buildings, mine and milling machinery, tools, truck etc.
   Liabilities : none.
   Have no profit and loss statement, since mine has not operated since August 1944.

9. We expect to do a large portion of the labor ourselves, due to the shortage of good miners and also a shortage of cash on our own part. We will contribute more than the $2,500.00 required counting our own labor and use of our mining equipment.

10. Three 5-room houses, three 2-room houses, one 3-room cook house, one bath house, one machine shop and garage about 30 feet X 50 feet, and one mill building - all in very good condition except some of the roofs need repairing with roofing paper before another winter.
    Mining machinery : One Ingersol-Rand 160 cu. ft. portable Compressor - One Sullivan Stoper - One large Jack-hammer - One small Jack-hammer - One Gardner-Denver Compressed air Tugger Hoist - One large compressed air Booster Tank - 800feet 2" pipe for compressed air (should have 1300 feet if we can get back all of our pipe which the leasers in 1944 used) - One mine car - 300'or400' of mine track (double rail) - air hose , column and bar, bit sharpener, One 1½ Ton Ford Truck in fair condition. Note: (It might be possible that we will have to buy an air compressor, since we promise d another mining company that we would sell them the one listed above - but we dont know whether they have decided to take it or not)
    Milling machinery -not to be used in the exploration program - One 40 HP International Diesel Power Unit- One Kue-Ken (Straub Mfg. CO) Jaw Crusher- One Screen - One Wilfley concentrating table. The balance of the milling machinery (about 75% or 80% of the total milling machinery belongs to The Knowles Brothers and would have to be purchased from them before the mill could be put into operation.

Supplemental Sheet #2

STAR TUNGSTEN MINE

care of George F. Ogilvie
595 A. Street
ELKO, NEVADA

10. (a) 12 Unpatented Claims in Sections 17 & 20, T28N , R58E , MDB&M.
(b) Same as above.

11. STAR TUNGSTEN MINE (always)

12. Mine is 56 miles South of Elko, Nevada and 70 miles South of Wells, Nevada, along U.S.D.A. Forest Service Road Through Harrison Pass (maintained by Elko County Highway Dep't) and about 1½ miles East of County Road running North and South through Ruby Valley. Practically all of roads to either shipping point are either graveled or oiled highways. Elko is best shipping point in the summer and Wells is the best for winter because of snow.

13. Sufficient water for 50 Ton Mill right on property, Power - must use Diesel or Gas-oline

14. Described (by mistake) in Item #10 - see preceeding page.

15. Milled on Property and hauled to Elko or Wells by Truck.

16. (a) This property was discovered about 1916. Very little work was done on the property excepting location work until 1940. In 1940, three partners in the property -the present owners and applicants - George F. Ogilvie and Andrew W. Francis -along with a third partner at that time Eddie Lane, developed an exceptional showing of scheelite Late in 1940 we borrowed $5000.00 from the Molybdenum Corporation of America to construct a Mill. We began shipping shipping concentrates to the Molybdenum Corp. of America in April 1941. We continued mining, milling And shipping concentrates to the Moly.Corp. until Nov.1942 Altogether, weshipped 1516.5 units WO_3 to the Molybdenum Corp. In addition we shipped 53.76 Units WO_3 of low grade to Metals Reserve through U. S. Vanadium Co. In October 1942, we leased the property to Knowles Brothers and received 25% Royalty payments on their production. They constuucted a new and larger mill and operated the mine and mill until July or August 1944 . Their total production amounted to 5830.44 Units WO_3 which they shipped to Metals Reserve. Altogether the production from this mine has amounted to 7400 Units. Expiration of the $6.00 Gov't subsidy payment lowering of theprice of Tungsten, running out of ore running about 3% and having to handle 1% ore on a 25% Royalty Lease caused them to discontinue their Lease and the mine has not operatedsince. We tried to buy their machinery in the mill but they wanted $15,000.00 in spot cash without time payments, so we also decided to stop operating.
(b) The Campbell Property adjoining our property on the South has possibilities of production, but has never been developed. If he can be located we will try to his property from him.
(c) We have no reports available that I know of. The Bureau of Mines and the U. S. Geological Survey in their Investigations of Strategic Minerals must have voluminous Reports on this property in Washington D. C. 'Monte' Klepper and John Wiese made a thorough study of this property in the summer of 1942. About a year later 'Monte' Klepper and Mr Joralemon continued the study. Numerous other Bureau of Mines and U.S.G.S. men inspected the propertybetween 1941 and1943.

17. Mine is not in production at present time.

18. (a) The ore consists of scheelite, garnet, quartz and epidote with no impurities except a trace of molybdenum sulphide -no powellite - along a granite-limestone contact.
(b) No maps or assay sheets available. However, we know that one out-crops we wish to develop runs around 2½%, and at another place the ore assays around 1%.
(c) There is about 1000 to 2000 tons of 1%ore blocked out - this was developed by Knowles Brothers.

Supplemental Sheet # 3

STAR TUNGSTEN MINE

care of George F. Ogilvie
595 A Street
Elko, Nevada

19. If sufficient ore is developed to justify milling - which we feel quite certain will be - then we will either lease the property or we will ask for a Government loan with which to buy the Knowles Brothers milling machinery that is in the mill building on the property.

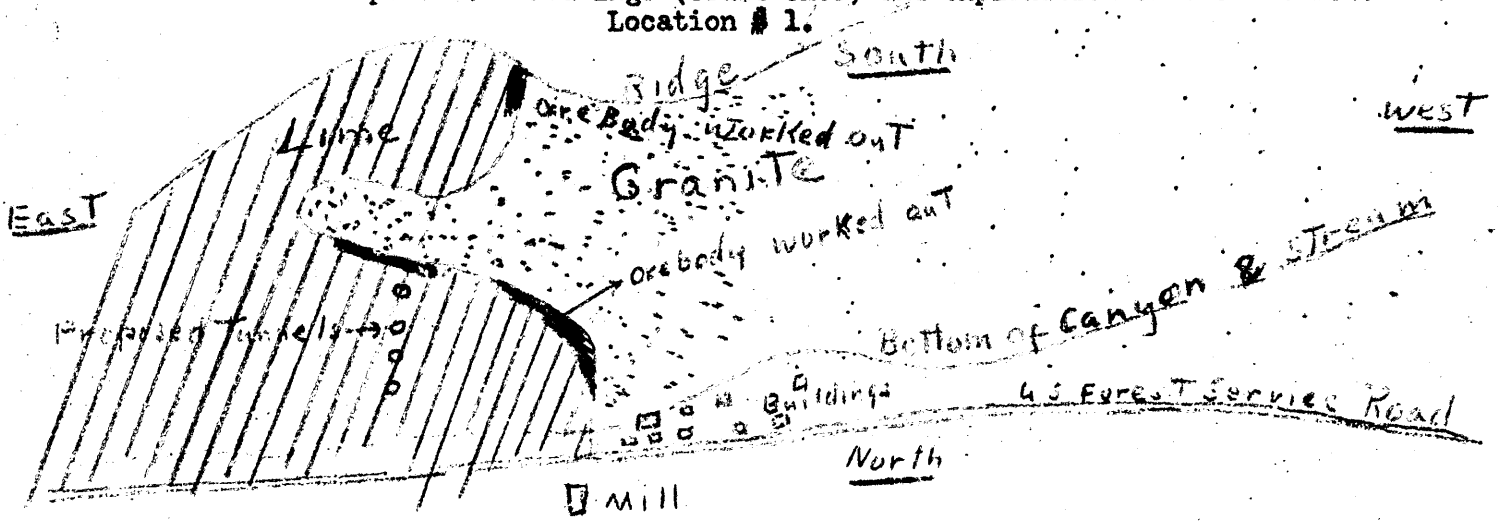
THE EXPLORATION

20. Tungsten ----- Calcium Tungstate.

21. We do not believe that is necessary to diamond drill the property, because we feel certain that we can develop at least two good ore bodies with a few tunnels, drifts, and shafts, thelenght and depths of which depends on conditions as we find them - but yet unknown. It will probably from one year to a year and a half to complete our program as planned.

22. Substantial amount of WO_3 has been produced from the property. All reports, Geological Maps and other data compiled by the U,S. Bureau of Mines, Geological Survey and other Gov't Agencies were for use by the Government and were not released to us. We understand that it was Government policy not to release this information to the mine owner, so that the owner could not commercialize on the reports. Suggest you get this information from the Bureau of Mines and Geological Survey. There are out-crops on all of the 12 claims, I think, but we want to confine our development at the present time to two places. Drawings (crude ones) and explanation of each follow.

Location # 1.



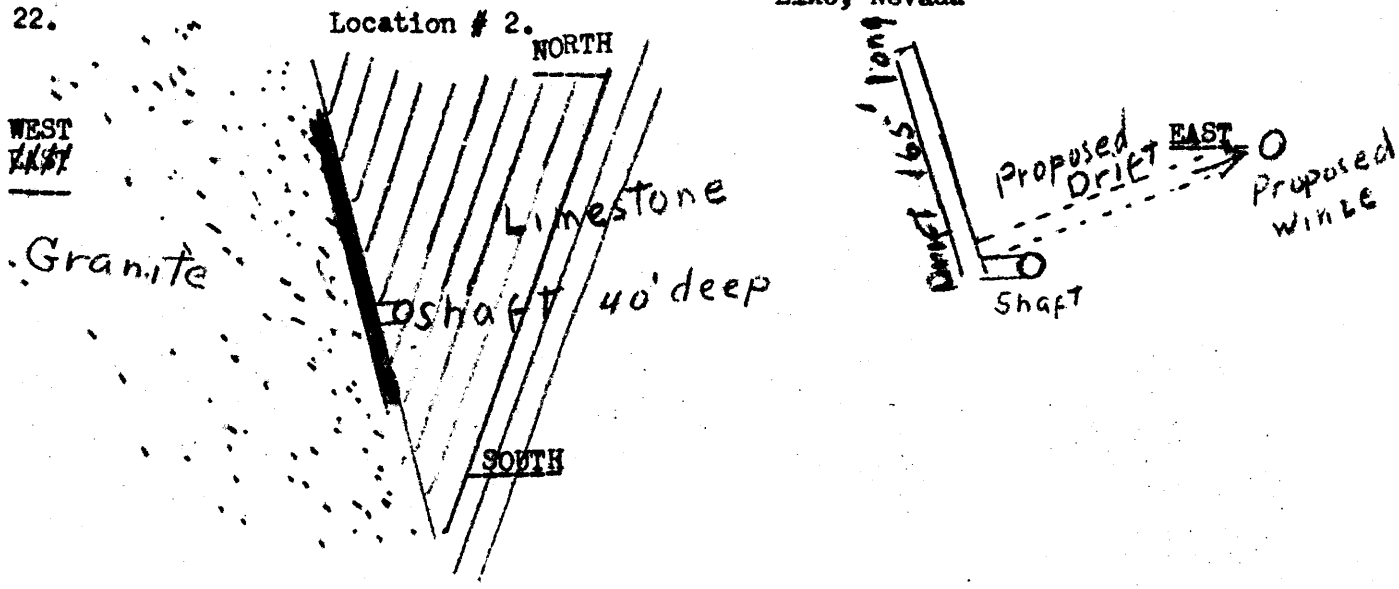
In the above drawing, I had to put South where North ought to be because this is a very steep side hill facing the North and I wanted to show the ore-body and the proposed tunnel sites. One out-crop in this location assayed 2½%. We planned on running the tunnel closest to the ore-body first so that we would have about 50 feet of backs when we hit the ore. We expect to drift East when we hit theore. Then we would do likewise with two or three more tunnels farther on down the hillside. We do not want to spend any more money than neccessary, in case the ore don't continue with depth.

Supplemental Sheet # 4.

STAR TUNGSTEN MINE

care of George F . Ogilvie
595 A. Street
Elko, Nevada

22.



THis ore-body is about 200 yards south of the ore-body at the top of the ridge shown in the first drawing as worked out. It extends at the surface for over 300 feet. Knowles Brothers sank a shaft 40 feet deep then drifted North on the ore 165 feet raising to the surface in one place for air. This is the place they were getting the ore for the mill when they gave up the lease. They left about 1000tons to 2000 tons of 1% ore blocked out when they quit. The drift is not long enough to show the lenght of the ore-body either North or South at this 40' level. However, at this 40' level the ore-body has faulted to the East. How far it has faulted we do not know -That is what we want to find out with this project. We do not think it has faulted very far - very probably only a few feet -due to the way the ore was cut off. The 165 foot drift is as straight as an arrow and on the ore all the way. In the 165 feet the ore was cut off as slick as a knife would cut a piece of cheese and thefaulting plane only raised a couple of feet the entire distance. When we find where the ore-body goes down we expect to sink on the ore. This hillside is not steep like the North hillside of Location #1.

THE REQUIRMENTS AND COSTS

23. (a). Two miners -300 days at $12.00 a day each ----------$7200.00
Note; We expect to do most of the work ourselves - barring sickness.
(b). None
(c). Roofing paper for roofs of buildings ----------$300.00
(d). None
(e). None unless the mining Co. we promised to sell our Air Compressor to buys it for $1500.00 . A new Compressor would probably cost $3500.00.
(f). None
(g). We will let the Government(Defense Minerals Administration) decide this.
(h). Gasoline,Diesel,Oil, Powder,Caps,Steel, Bits, etc, etc. $4000.00
(i). None

24. We expect to start the project just as soon as the project is approved and we receive the money. I believe the rest of this item is answered above.
We believe we will need all the money we are asking for to do the work we want to do * later on we may need more -if the new development work justifies more work.

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-1452X

Date received 5/31/51

Participation

STAR TUNGSTEN MINE

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Name and address of applicant

Date May 26, 1951.

FILL IN THIS BLOCK

Date of application May 26, 1951.

Estimated cost $10,000.00

Mineral or metal Tungsten (scheelite)

Percentage of Government participation $7,500.00

Location of mine Harrison Pass, Elko County, Nevada.

Secs. 17 & 20, T28N, R58E, MDB&M.

Date of filing MF-100 not filed

DMA Docket Number, if available

INSTRUCTIONS

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16—64067-1

THE PROPERTY

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*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.

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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.

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    (*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.
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	Tons per day	*Grade or analysis*	*Cost per ton*	*Net value per ton*
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21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it.

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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.

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Star Tungsten Mine (Name of company) — By George F. Ogilvie (Signature of authorized official)

May 27 1951 (Date) — Partner (Title)

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care of George F. Ogilvie
595 A. Street
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Andrew W. Francis, Ruby Valley, Nevada. --- undivided ½ interest
(Francis)
3. Not a Corporation.

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5. Owners.

6. No claims, liens, or encumbrances are against the property.

7. Does not apply.

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14. Described (by mistake) in Item #10 - see preceeding page.

15. Milled on Property and hauled to Elko or Wells by Truck.

16. (a) This property was discovered about 1916. Very little work was done on the property excepting location work until 1940. In 1940, three partners in the property -the present owners and applicants - George F. Ogilvie and Andrew W. Francis -along with a third partner at that time Eddie Lane, developed an exceptional showing of scheelite. Late in 1940 we borrowed $5000.00 from the Molybdenum Corporation of America to construct a Mill. We began shipping shipping concentrates to the Molybdenum Corp. of America in April 1941. We continued mining, milling And shipping concentrates to the Moly.Corp. until Nov.1942 Altogether, weshipped 1516.5 units WO_3 to the Molybdenum Corp. In addition we shipped 53.76 Units WO_3 of low grade to Metals Reserve through U. S. Vanadium Co. In October 1942, we leased the property to Knowles Brothers and received 25% Royalty payments on their production. They constuucted a new and larger mill and operated the mine and mill until July or August 1944 . Their total production amounted to 5830.44 Units WO_3 which they shipped to Metals Reserve. Altogether the production from this mine has amounted to 7400 Units. Expiration of the $6.00 Gov't subsidy payment lowering of theprice of Tungsten, running out of ore running about 3% and having to handle 1% ore on a 25% Royalty Lease caused them to discontinue their Lease and the mine has not operatedsince. We tried to buy their machinery in the mill but they wanted $15,000.00 in spot cash without time payments, so we also decided to stop operating.
(b) The Campbell Property adjoining our property on the South has possibilities of production, but has never been developed. If he can be located we will try to his property from him.
(c) We have no reports available that I know of. The Bureau of Mines and the U. S. Geological Survey in their Investigations of Strategic Minerals must have voluminous Reports on this property in Washington D. C. 'Monte' Klepper and John Wiese made a thorough study of this property in the summer of 1942. About a year later 'Monte' Klepper and Mr Joralemon continued the study. Numerous other Bureau of Mines and U.S.G.S. men inspected the propertybetween 1941 and1943.

17. Mine is not in production at present time.

18. (a) The ore consists of scheelite, garnet, quartz and epidote with no impurities except a trace of molybdenum sulphide -no powellite - along a granite-limestone contact.
(b) No maps or assay sheets available. However, we know that one out-crops we wish to develop runs around 2½%, and at another place the ore assays around 1%.
(c) There is about 1000 to 2000 tons of 1%ore blocked out - this was developed by Knowles Brothers.

Supplemental Sheet # 3

STAR TUNGSTEN MINE

care of George F. Ogilvie
595 A Street
Elko, Nevada

19. If sufficient ore is developed to justify milling - which we feel quite certain will be - then we will either lease the property or we will ask for a Government loan with which to buy the ~~mill that~~ Knowles Brothers milling machinery that is in the mill building on the property.

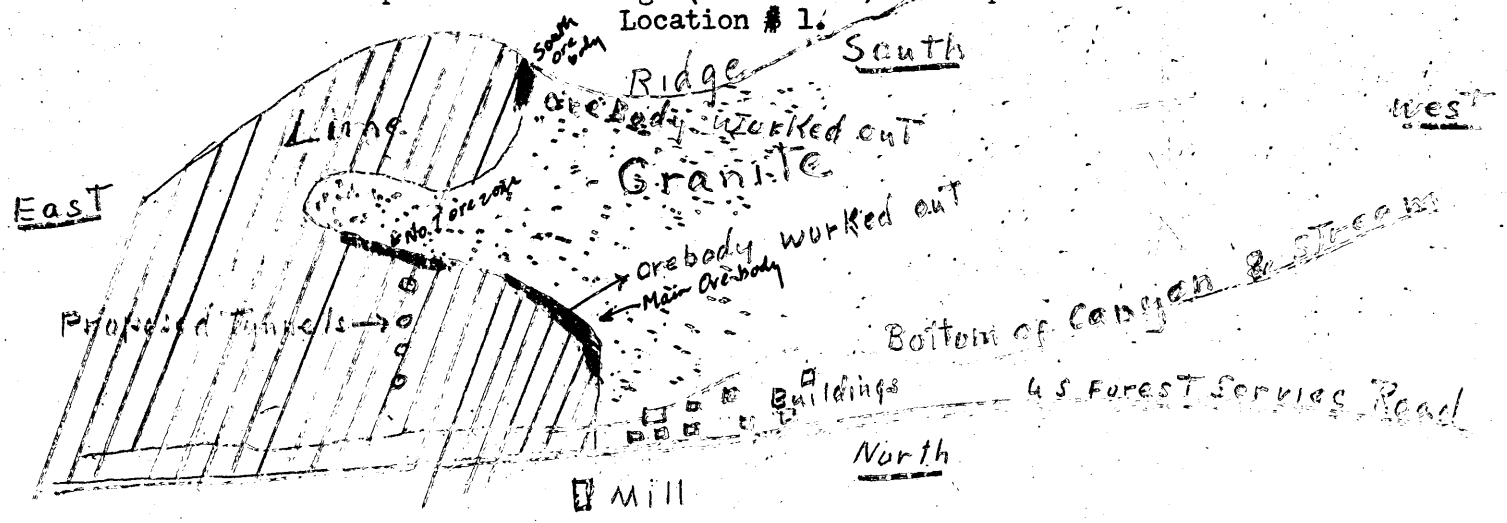
THE EXPLORATION

20. Tungsten ----- Calcium Tungstate.

21. We do not believe that is necessary to diamond drill the property, because we feel certain that we can develop at least two good ore bodies with a few tunnels, drifts, and shafts, thelenght and depths of which depends on conditions as we find them - but yet unknown. It will probably from one year to a year and a half to complete our program as planned.

22. Substantial amount of WO_3 has been produced from the property. All reports, Geological Maps and other data compiled by the U,S. Bureau of Mines, Geological Survey and other Gov't Agencies were for use by the Government and were not released to us. We understand that it was Government policy not to release this information to the mine owner, so that the owner could not commercialize on the reports. Suggest you get this information from the Bureau of Mines and Geological Survey. There are out-crops on all of the 12 claims, I think, but we want to confine our development at the present time to two places. Drawings (crude ones) and explanation of each follow.

Location # 1.



In the above drawing, I had to put South where North ought to be because this is a very steep side hill facing the North and I wanted to show the ore-body and the proposed tunnel sites. One out-crop in this location assayed 2½%. We planned on running the tunnel closest to the ore-body first so that we would have about 50 feet of backs when we hit the ore. We expect to drift East when we hit theore. Then we would do likewise with two or three more tunnels ~~farther~~ farther on down the hillside. We do not want to spend any more money than neccessary, in case the ore don't continue with depth.

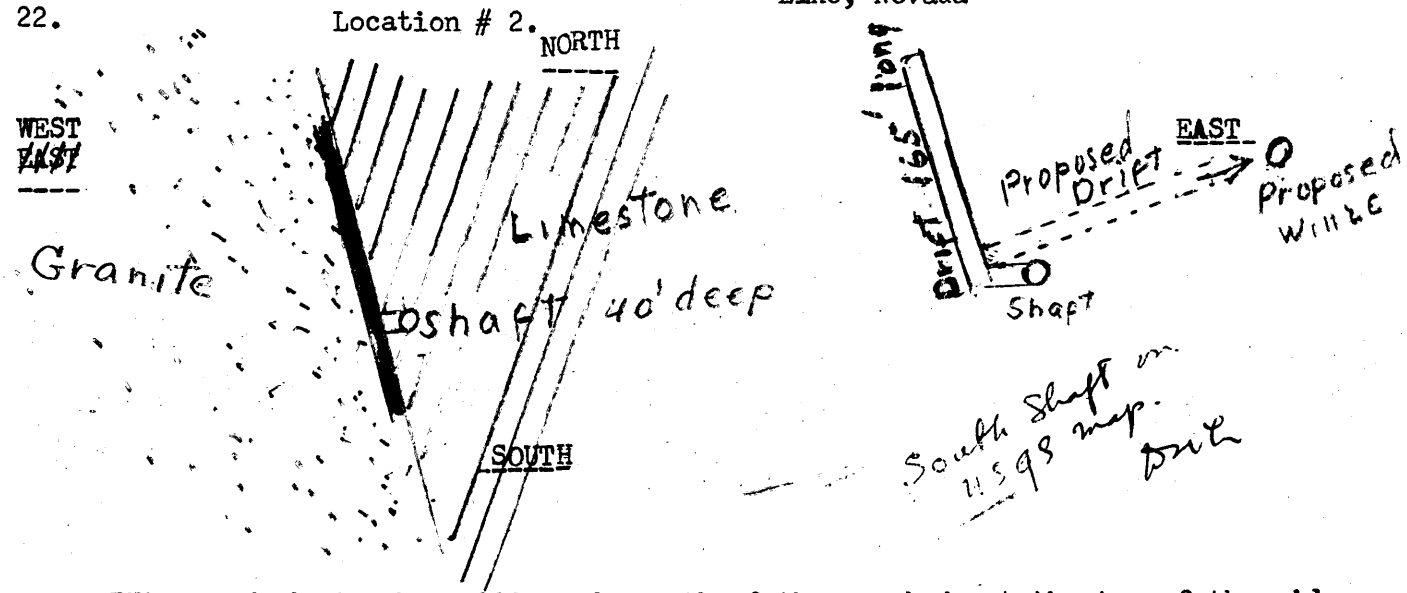
Equivalent to No. 7 on your USGS map. DAE

Supplemental Sheet # 4.

STAR TUNGSTEN MINE

care of George F . Ogilvie
595 A. Street
Elko, Nevada

22. Location # 2.



THis ore-body is about 200 yards south of the ore-body at the top of the ridge shown in the first drawing as worked out. It extends at the surface for over 300 feet. Knowles Brothers sank a shaft 40 feet deep then drifted North on the ore 165 feet raising to the surface in one place for air. This is the place they were getting the ore for the mill when they gave up the lease. They left about 1000tons to 2000 tons of 1% ore blocked out when they quit. The drift is not long enough to show the lenght of the ore-body either North or South at this 40' level. However, at this 40' level the ore-body has faulted to the East. How far it has faulted we do not know -That is what we want to find out with this project. We do not think it has faulted very far - very probably only a few feet -due to the way the ore was cut off. The 165 foot drift is as straight as an arrow and on the ore all the way. In the 165 feet the ore was cut off as slick as a knife would cut a piece of cheese and thefaulting plane only raised a couple of feet the entire distance. When we find where the ore-body goes down we expect to sink on the ore. This hillside is not steep like the North hillside of Location #1.

THE REQUIRMENTS AND COSTS

23. (a). Two miners -300 days at $12.00 a day each ----------$7200.00
Note; We expect to do most of the work ourselves - barring sickness.
(b). None
(c). Roofing paper for roofs of buildings ----------$300.00
(d). None
(e). None unless the mining Co. we promised to sell our Air Compressor to buys it for $1500.00 . A new Compressor would probably cost $3500.00.
(f). None
(g). We will let the Government(Defense Minerals Administration) decide this.
(h). Gasoline,Diesel,Oil, Powder,Caps,Steel, Bits, etc, etc. $4000.00
(i). None

24. We expect to start the project just as soon as the project is approved and we receive the money. I believe the rest of this item is answered above.
We believe we will need all the money we are asking for to do the work we want to do * later on we may need more -if the new development work justifies more work.

Form MF-103
(April 1951)

U. DEPARTMENT OF THE INTERI

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-1452X

Date received 7/31/51

Participation

STAR TUNGSTEN MINE

care of George F. Ogilvie,
595 A. Street,
Elko, Nevada.

Name and address of applicant

Date May 26, 1951.

FILL IN THIS BLOCK

Date of application May 26, 1951.

Estimated cost $10,000.00

Mineral or metal Tungsten (scheelite)

Percentage of Government participation $7,500.00

Location of mine Harrison Pass, Elko County, Nevada.

Secs. 17 & 20, T28N, R58E, MDB&M.

Date of filing MF-100 not filed

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.

Star Tungsten Mine
(Name of company)

By George F. Ogilvie
(Signature of authorized official)

May 27 1951
(Date)

Partner
(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

STAR TUNGSTEN MINE

care of George F. Ogilvie
595 A. Street
Elko, Nevada

1. Partnership.
2. George F. Ogilvie, 595 A. St., Elko, Nevada.-- undivided ½ interest
Andrew W. Francis, Ruby Valley, Nevada. --- undivided ½ interest
(Francis)
3. Not a Corporation.

4. Applicants will manage the project.
(a) George F. Ogilvie - 56 years old - Until 1940 , Livestock Ranching almost exclusively - 1940-1942 , Insurance, Ranching & Mining , mostly mining - 1942-1948 Insurance & Ranching - 1948- May 1st, 1951 Ranching and Operator-Owner General Merchandise Store - Since Jan 1st 1951 Ranching and County Commissioner, Elko County with intentions of devoting major portion of time to mining - Pres.Nevada State Farm Bureau 1935-1946 - Director American Farm Bureau Federation, Chicago and Washington D.C., 1937-1946.
(b) Andrew W. Francis - 47 years old - Until 1934 Carpenter, Mechanic and Ranching - 1934-1944 Mining - Since 1944 lives at Star Tungsten Mine ,taking care of property.

5. Owners.

6. No claims, liens, or encumbrances are against the property.

7. Does not apply.

8. Assets ; $12,000.00 to $15,000.00 in buildings, mine and milling machinery, tools, truck etc.
Liabilities : none.
Have no profit and loss statement, since mine has not operated since August 1944.

9. We expect to do a large portion of the labor ourselves, due to the shortage of good miners and also a shortage of cash on our own part. We will contribute more than the $2,500.00 required counting our own labor and use of our mining equipment.

10. Three 5-room houses, three 2-room houses, one 3-room cook house, one bath house, one machine shop and garage about 30 feet X 50 feet, and one mill building - all in very good condition except some of the roofs need repairing with roofing paper before another winter.
Mining machinery : One Ingersol-Rand 160 cu. ft. portable Compressor - One Sullivan Stoper - One large Jack-hammer - One small Jack-hammer - One Gardner-Denver Compressed air Tugger Hoist - One large compressed air Booster Tank - 800feet 2" pipe for compressed air (should have 1300 feet if we can get back all of our pipe which the leasers in 1944 used) - One mine car - 300'or400' of mine track (double rail) - air hose , column and bar, bit sharpener, One 1½ Ton Ford Truck in fair condition. Note: (It might be possible that we will have to buy an air compressor, since we promise d another mining company that we would sell them the one listed above - but we dont know whether they have decided to take it or not)
Milling machinery -not to be used in the exploration program - One 40 HP International Diesel Power Unit- One Kue-Ken (Straub Mfg. CO) Jaw Crusher- One Screen - One Wilfley concentrating table. The balance of the milling machinery (about 75% or 80% of the total milling machinery belongs to The Knowles Brothers and would have to be purchased from them before the mill could be put into operation.

Supplemental Sheet #2

STAR TUNGSTEN MINE

care of George F. Ogilvie
595 A. Street
ELKO, NEVADA

10. (a) 12 Unpatented Claims in Sections 17 & 20, T28N , R58E , MDB&M.
(b) Same as above.

11. STAR TUNGSTEN MINE (always)

12. Mine is 56 miles South of Elko, Nevada and 70 miles South of Wells, Nevada, along U.S.D.A. Forest Service Road Through Harrison Pass (maintained by Elko County Highway Dep't) and about 1½ miles East of County Road running North and South through Ruby Valley. Practically all of roads to either shipping point are either graveled or oiled highways. Elko is best shipping point in the summer and Wells is the best for winter because of snow.

13. Sufficient water for 50 Ton Mill right on property, Power - must use Diesel or Gas-oline

14. Described (by mistake) in Item #10 - see preceeding page.

15. Milled on Property and hauled to Elko or Wells by Truck.

16. (a) This property was discovered about 1916. Very little work was done on the property excepting location work until 1940. In 1940, three partners in the property -the present owners and applicants - George F. Ogilvie and Andrew W. Francis -along with a third partner at that time Eddie Lane, developed an exceptional showing of scheelite. Late in 1940 we borrowed $5000.00 from the Molybdenum Corporation of America to construct a Mill. We began shipping shipping concentrates to the Molybdenum Corp. of America in April 1941. We continued mining, milling And shipping concentrates to the Moly.Corp. until Nov.1942 Altogether, weshipped 1516.5 units WO_3 to the Molybdenum Corp. In addition we shipped 53.76 Units WO_3 of low grade to Metals Reserve through U. S. Vanadium Co. In October 1942, we leased the property to Knowles Brothers and received 25% Royalty payments on their production. They constuucted a new and larger mill and operated the mine and mill until July or August 1944 . Their total production amounted to 5830.44 Units WO_3 which they shipped to Metals Reserve. Altogether the production from this mine has amounted to 7400 Units. Expiration of the $6.00 Gov't subsidy payment lowering of theprice of Tungsten, running out of ore running about 3% and having to handle 1% ore on a 25% Royalty Lease caused them to discontinue their Lease and the mine has not operatedsince. We tried to buy their machinery in the mill but they wanted $15,000.00 in spot cash without time payments, so we also decided to stop operating.
(b) The Campbell Property adjoining our property on the South has possibilities of production, but has never been developed. If he can be located we will try to his property from him.
(c) We have no reports available that I know of. The Bureau of Mines and the U. S. Geological Survey in their Investigations of Strategic Minerals must have voluminous Reports on this property in Washington D. C. 'Monte' Klepper and John Wiese made a thorough study of this property in the summer of 1942. About a year later 'Monte' Klepper and Mr Joralemon continued the study. Numerous other Bureau of Mines and U.S.G.S. men inspected the propertybetween 1941 and1943.

17. Mine is not in production at present time.

18. (a) The ore consists of scheelite, garnet, quartz and epidote with no impurities except a trace of molybdenum sulphide -no powellite - along a granite-limestone contact.
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(c) There is about 1000 to 2000 tons of 1%ore blocked out - this was developed by Knowles Brothers.

Supplemental Sheet # 3

STAR TUNGSTEN MINE

care of George F. Ogilvie
595 A Street
Elko, Nevada

19. If sufficient ore is developed to justify milling - which we feel quite certain will be - then we will either lease the property or we will ask for a Government loan with which to buy the Knowles Brothers milling machinery that is in the mill building on the property.

THE EXPLORATION

20. Tungsten ----- Calcium Tungstate.

21. We do not believe that is necessary to diamond drill the property, because we feel certain that we can develop at least two good ore bodies with a few tunnels, drifts, and shafts, thelenght and depths of which depends on conditions as we find them - but yet unknown. It will probably from one year to a year and a half to complete our program as planned.

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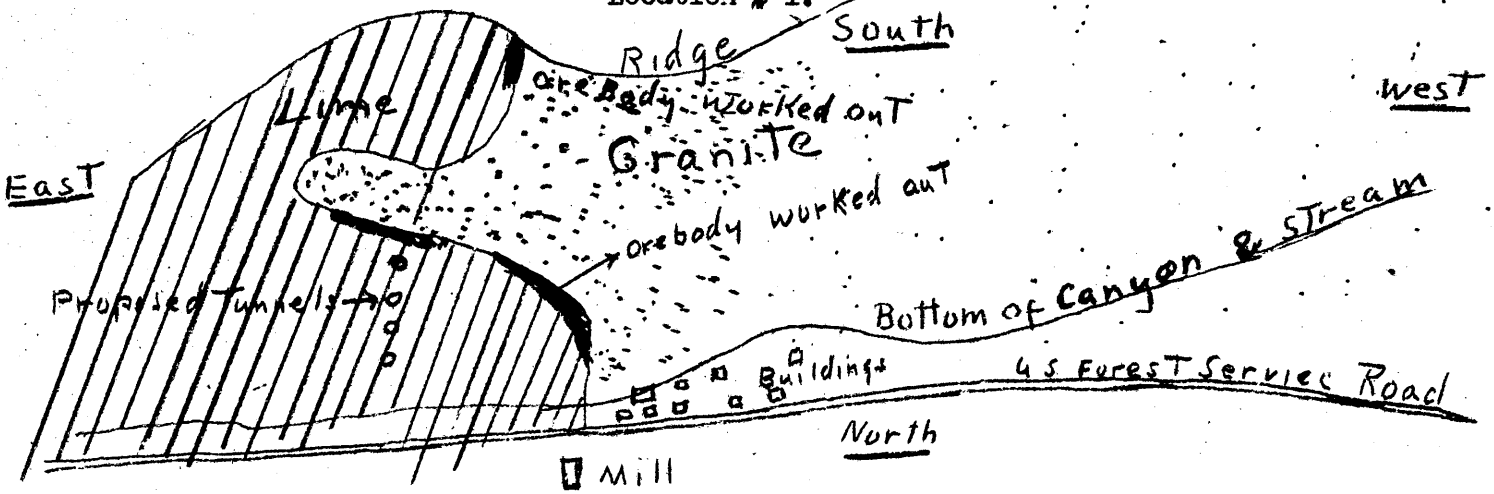
Location # 1.



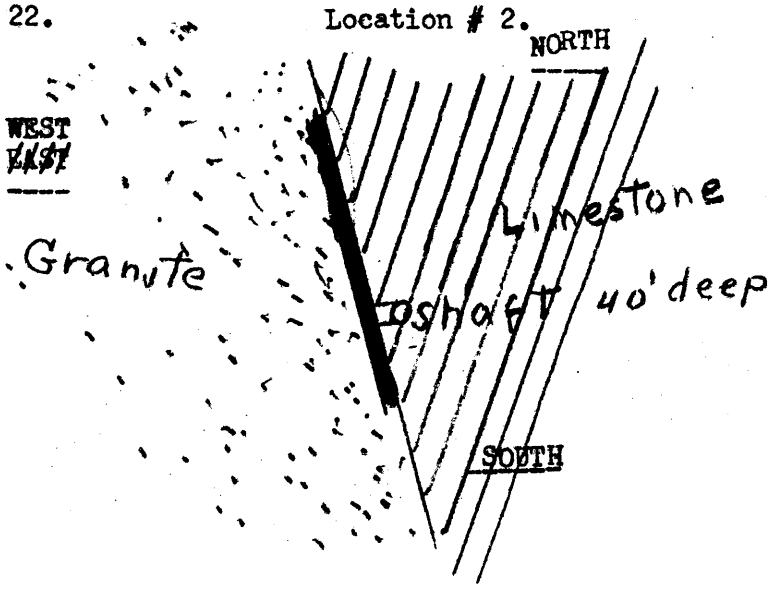
In the above drawing, I had to put South where aNorth ought to be because this is a very steep side hill facing the North and I wanted to show the ore-body and the proposed tunnel sites. One out-crop in this location assayed 2½%. We planned on running the tunnel closest to the ore-body first so that we would have about 50 feet of backs when we hit the ore. We expect to drift East when we hit theore. Then we would do likewise with two or three more tunnels farther on down the hillside. We do not want to spend any more money than neccessary, in case the ore don't continue with depth.

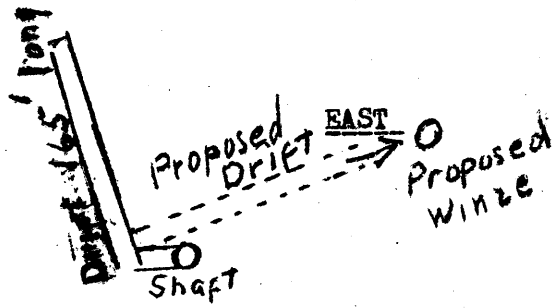
Supplemental Sheet # 4.

STAR TUNGSTEN MINE

care of George F . Ogilvie
595 A. Street
Elko, Nevada

22. Location # 2.





THis ore-body is about 200 yards south of the ore-body at the top of the ridge shown in the first drawing as worked out. It extends at the surface for over 300 feet. Knowles Brothers sank a shaft 40 feet deep then drifted North on the ore 165 feet raising to the surface in one place for air. This is the place they were getting the ore for the mill when they gave up the lease. They left about 1000tons to 2000 tons of 1% ore blocked out when they quit. The drift is not long enough to show the lenght of the ore-body either North or South at this 40' level. However, at this 40' level the ore-body has faulted to the East. How far it has faulted we do not know -That is what we want to find out with this project. We do not think it has faulted very far - very probably only a few feet -due to the way the ore was cut off. The 165 foot drift is as straight as an arrow and on the ore all the way. In the 165 feet the ore was cut off as slick as a knife would cut a piece of cheese and thefaulting plane only raised a couple of feet the entire distance. When we find where the ore-body goes down we expect to sink on the ore. This hillside is not steep like the North hillside of Location #1.

THE REQUIRMENTS AND COSTS

23. (a). Two miners -300 days at $12.00 a day each ----------$7200.00
Note; We expect to do most of the work ourselves - barring sickness.
(b). None
(c). Roofing paper for roofs of buildings ----------$300.00
(d). None
(e). None unless the mining Co. we promised to sell our Air Compressor to buys it for $1500.00 . A new Compressor would probably cost $3500.00.
(f). None
(g). We will let the Government(Defense Minerals Administration) decide this.
(h). Gasoline,Diesel,Oil, Powder,Caps,Steel, Bits, etc, etc. $4000.00
(i). None

24. We expect to start the project just as soon as the project is approved and we receive the money. I believe the rest of this item is answered above.
We believe we will need all the money we are asking for to do the work we want to do * later on we may need more -if the new development work justifies more work.

U. S. Government Messenger Envelope

Standard Form No. 65 (Rev. 1/46)

1. Use blocks consecutively, one at a time.
2. Void previous block.
3. Write clearly.

NAME OR TITLE OF PERSON, DEPARTMENT, ADDRESS, AND ROOM		NAME OR TITLE OF PERSON, DEPARTMENT, ADDRESS, AND ROOM	
~~Defense Fisheries~~ Adm	RUN / STOP	~~MR. G. O. MICHENDORF ROOM 4624~~	RUN / STOP
~~Mr Kelly~~	RUN / STOP	~~Mr. Wm Ennis Room 4640~~	RUN / STOP
~~FTA~~	RUN / STOP	~~Mr. Mittendorf Rm 4624~~	RUN / STOP
Commercial ~~Fisheries~~	RUN / STOP	Miss Lotte Rm 3531	RUN / STOP
Pay Roll Section	RUN / STOP		RUN / STOP
~~Disconnect~~	RUN / STOP		RUN / STOP
~~Mrs. Hoffman C. F. W. Room 6246~~	RUN / STOP		RUN / STOP
~~Mr. Green Natl Capital Park Rm. 1210~~	RUN / STOP		RUN / STOP
~~Mr. Ramsdell Rm 3021~~	RUN / STOP		RUN / STOP
~~Program Staff~~	RUN / STOP		RUN / STOP

Send surplus envelopes to supply room for reissue.

Use other side

16—38949a-2

Use RUN and STOP only when messenger service between Government buildings in Washington is required.
Your mail room has RUN and STOP information.

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Use other side first

☆ U. S. GOVERNMENT PRINTING OFFICE : 1951 16—38049a-2

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SHEET I

STRATEGIC MINERALS INVESTIGATIONS
PRELIMINARY MAP

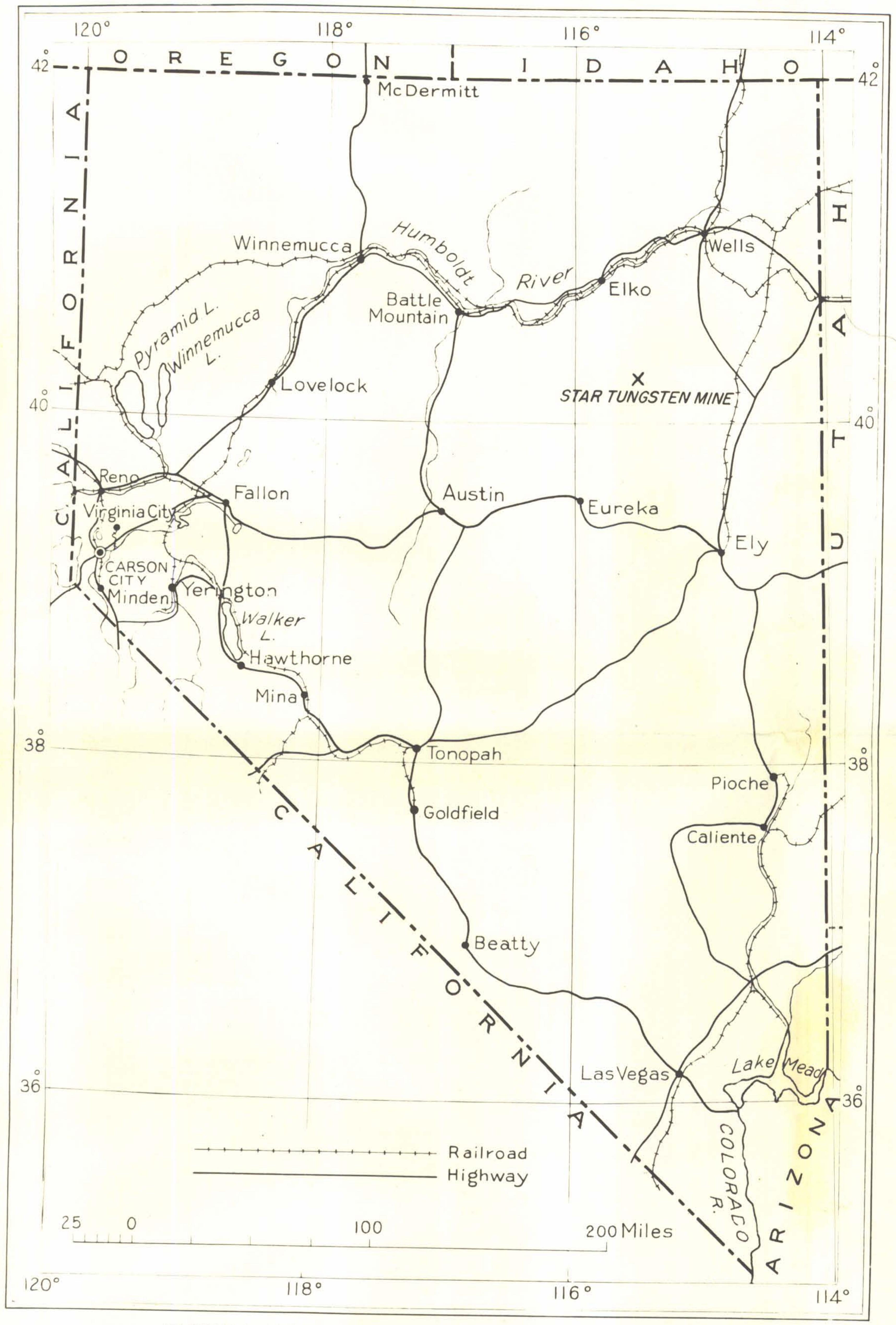


FIGURE I.– INDEX MAP OF NEVADA SHOWING LOCATION OF THE STAR TUNGSTEN MINE, ELKO COUNTY

STAR TUNGSTEN MINE AND VICINITY, HARRISON PASS, ELKO COUNTY, NEVADA

as of 1942 + 1943

Deposits of scheelite (calcium tungstate) occur at the Star Tungsten mine and on the adjacent Campbell property, in the NW¼ of T. 28 N., R. 58 E., Elko County, Nev., on the east slope of the Ruby Range, about 2 miles east of Harrison Pass (fig. 1). The area is easily accessible from the north and east. Elko is 53 miles away by gravel road via Harrison Pass; Currie and Warm Springs, on U. S. Highway 40, are each about 40 miles away by gravel roads via Ruby Valley. The Harrison Pass road may be blocked by snow for a month or more in winter, but the Ruby Valley roads are seldom impassable for more than a day or two at a time.

The deposits occur in small bodies of tactite in a northerly trending contact zone between a stock of quartz monzonite and beds of limestone metamorphosed to marble and hornfels.

These deposits were discovered as early as 1916 or 1917, but they were not actively developed until 1940, and production was first recorded in March 1941. The Star Tungsten mine, known in the past as the Star Tungsten group and the Ogilvie property, is owned jointly by George F. Ogilvie, E. Lane, and A. Francis, but has been leased since October 1942 to the Knowles Brothers, of Elko, Nev. The Campbell property, about 4500 feet S. 15° W. of the Star Tungsten mine, is owned by Russell Campbell, of Salt Lake City, and was also leased to the Knowles Brothers in September 1943.

The deposits were examined and mapped for the Geological Survey, United States Department of the Interior, by M. R. Klepper, who was assisted by John H. Wiese and C. Melvin Swinney, during five weeks in August and September 1942. M. R. Klepper and Peter Joralemon revisited the area during the first week in September 1943 and mapped the geology of the workings opened up during the previous year.

The igneous stock consists principally of white, coarse-grained biotite-quartz monzonite that weathers to a granular rubble of quartz and feldspar. Other types of intrusive igneous rock are closely associated with the quartz monzonite, especially along the eastern margin of the stock. As the contacts between the igneous rocks are generally concealed, and scheelite-bearing tactite was found in contact with all but one of the intrusive rock types, all the igneous rocks were mapped as a unit, designated on the maps as quartz monzonite (fig. 2).

The sedimentary rocks are chiefly impure limestones. In a belt, about 1,500 feet wide, adjacent to the igneous stock, the limestone has been metamorphosed to granular white marble and light-colored, dense, fine-grained hornfels. Hornfels predominates, but marble is more favorable to the formation of tactite, although in some zones both hornfels and marble grade into tactite, and in a few places the hornfels adjacent to the contact is sparsely mineralized with scheelite for a width of a few feet.

The metamorphic rocks form a simple homoclinal structure which dips 40° to 80° E. No major faults were recognized in the area, but the angular pattern of the contacts suggests that the intrusion may have been controlled by minor faults or by joints.

The principal igneous contact is very irregular, in places paralleling the bedding of the metamorphic rocks, elsewhere cutting sharply across it. Many apophyses extend from the main contact into the metamorphic rocks, in some places completely isolating blocks of these rocks. The underground workings and the diamond-drill holes indicate that the contact is as irregular in depth as at the surface.

Small, irregular bodies of tactite were formed locally in the sedimentary beds adjacent to the intrusive rocks where the metamorphism was most intense. The tactite is generally medium-grained and brown to green in color. It consists principally of quartz, garnet, epidote or pyroxene, calcite, and scheelite.

The metamorphic rocks have been altered to tactite along less than 5 percent of the contact. Adjacent to the tactite bodies, the igneous rock is commonly silicified and in places contains epidote and hornblende. Where the igneous contact cuts the bedding of the metamorphic rocks, one or more beds may be altered to tactite for distances of 25 feet or more, although adjacent, less favorable beds are altered for only a few inches to a few feet. The scheelite-bearing tactite bodies are tabular in outline where the contact is parallel to the bedding, and pipelike and irregular in plan where the contact cuts sharply across the bedding. Mineralization appears to have been localized chiefly by the presence of favorable beds and by proximity to the contact.

The Main ore body (fig. 2) is bounded on two sides by quartz monzonite and on two sides by marble and hornfels containing small irregular bodies of low-grade tactite, which tend to lie parallel to the bedding of the metamorphic rocks. The irregular shape of the ore body is due in part to irregularities of the igneous contact, in part to low-angle normal faults, none of which exceeds 50 feet in maximum displacement. In general the ore body tapers downward, and it is expected to terminate as shown in the projections on figure 3.

The ore body is explored by means of a 150-foot adit, a 65-foot winze, and short levels driven from the winze at depths of 45 and 65 feet below the collar (fig. 3). An inclined shaft has been driven beneath the ore body in preparation for the removal of the remaining ore, which is believed to average at least 1.25 percent of WO_3.

The South ore body (fig. 2) is exposed at the surface for a length of 70 feet and for an average width of 3 feet, and trends northward approximately parallel to the bedding of the metamorphic rocks. It is bordered by the aplitic margin of the main intrusive on the west and by alaskite and hornfels on the east.

A crosscut adit was driven to intersect this ore body at a depth of 50 feet, the maximum depth at which ore was found in holes drilled from the surface. The bottom of the ore shoot was intersected almost directly beneath the shallow shaft (fig. 4). At this level, the ore shoot strikes eastward and is pinched out by the encroachment of quartz monzonite from both the hanging-wall and footwall sides. The ore exposed at the adit level is probably continuous, or nearly continuous, with the ore at the surface, but, because of the irregularity of the intrusive contact, the ore zone cuts sharply across the bedding at the adit level, whereas it is essentially parallel to the bedding at the surface. In the adit, mineralized tongues extend away from the contact along favorable beds, but none of the exposed tongues are of minable width and grade. In September 1943 a stope had been started above the adit level and was to be carried through to the surface. The ore was expected to average between 1.5 and 2.0 percent of WO_3.

None of the other small lenses exposed in this area, either at the surface or in the adit, appear to be sufficiently high in WO_3 content to be minable at a profit.

applicants tract No 1 includes #7 ore body

The Mill ore body, about 50 feet west of the mill, is exposed at the surface for a length of 25 feet and a width of 4 feet (fig. 2). Here also the ore body lies along the main intrusive contact and is nearly parallel to the bedding. It is displaced a few feet by each of a series of low-angle normal faults (sec. C-C', fig. 4).

The ore body has been followed to a depth of 35 feet by a 70-foot adit (fig. 4). Development had been discontinued, however, in September 1943, as thin, relatively low grade slices of ore which averaged less than 0.75 percent of WO_3, could not be mined profitably.

At the south end of the property, a mineralized zone is exposed, by means of trenches along the main intrusive contact, for a length of 100 feet and for an average width of 3 to 4 feet. An exploratory shaft (South shaft, fig. 2) was being sunk near the south end of the zone in September 1943 and had then reached a depth of 15 feet. The mineralized zone has a steeply dipping footwall of quartz monzonite and is parallel or nearly parallel to the bedding of the metamorphic rocks. The tactite is estimated to average only about 0.25 percent of WO_3, although it contains about 0.4 percent of WO_3 near the shaft.

applicants portion No 2

A small lens of ore at one corner of a small pendant in the northern part of the area mapped has been explored by means of an open cut (North Open Cut, fig. 2). The ore exposed in the cut is estimated to contain from 1.0 to 1.5 percent of WO_3.

The ore body on the Campbell property extends along both contacts of a vertical quartz-monzonite dike that ranges from a few inches to 8 feet in width (fig. 5). Tactite occurs in favorable beds for varying distances from the dike, and the area of the surface exposure of the extremely irregular ore body amounts to 400 square feet. The tactite has been prospected by means of a few small cuts, and the Knowles Brothers, who leased the property in September 1943, planned to develop it as soon as weather permits during the following spring. The ore is believed to average 1.0 percent of WO_3. However, the occurrence of considerable sphalerite in the ore body might reduce the value of the concentrate from this ore.

A concentration of cobbles and boulders of tactite, some of which may be regarded as ore, occurs in the overburden concealing the igneous contact about 400 feet north of the ore body on the Campbell property. Trenching in this area might reveal ore in place.

Reserves of ore at the Star Tungsten mine and the adjacent Campbell property may amount to approximately 8,000 tons, containing about 9,000 units of WO_3. If it is found possible to treat profitably the old tailings at the Star Tungsten mine, this figure may be increased by a few hundred tons of low-grade material.

STAR TUNGSTEN MINE AND VICINITY, ELKO COUNTY, NEVADA

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SHEET 2

STRATEGIC MINERALS INVESTIGATIONS
PRELIMINARY MAP

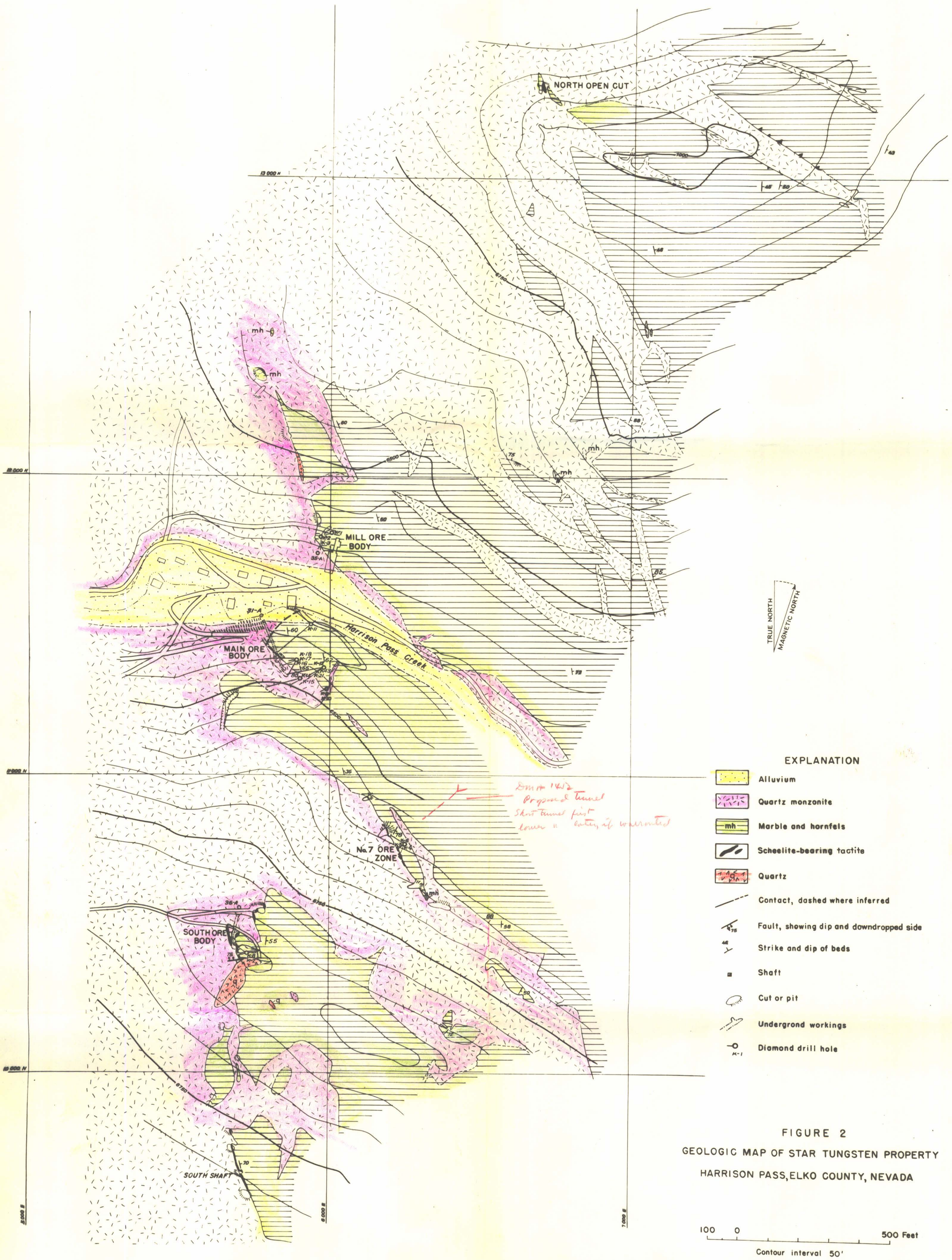


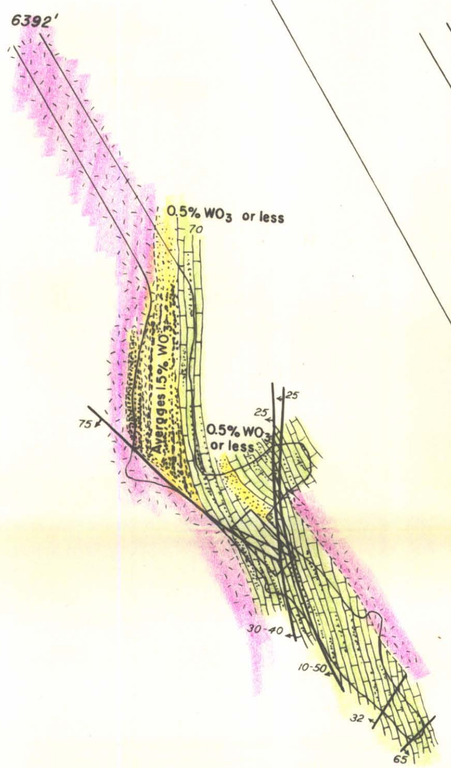
FIGURE 2

GEOLOGIC MAP OF STAR TUNGSTEN PROPERTY

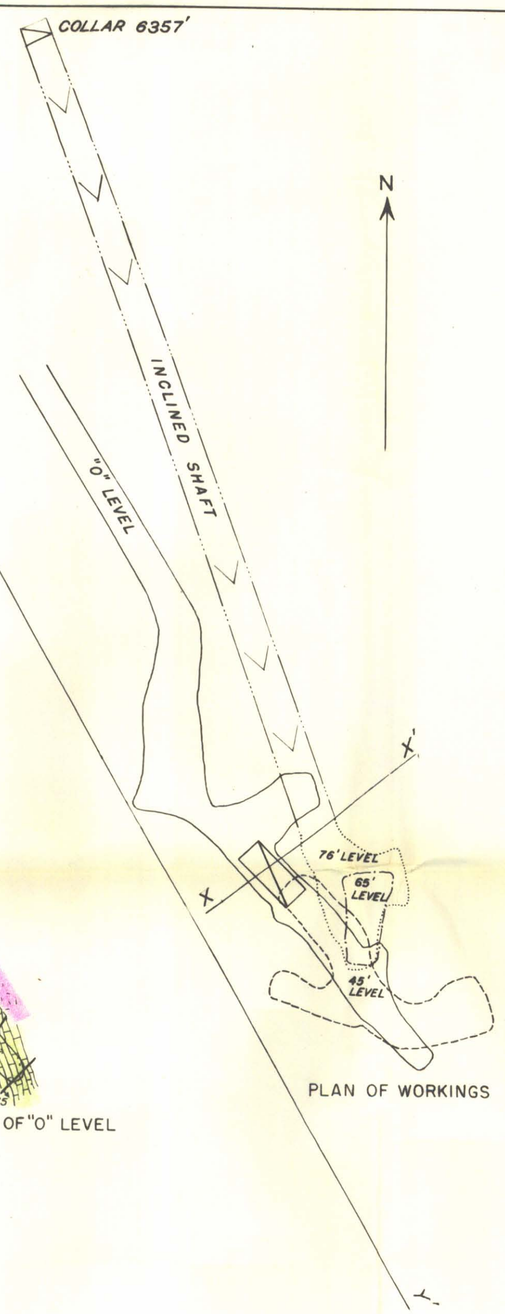
HARRISON PASS, ELKO COUNTY, NEVADA

Geology and topography by M.R.Klepper and J.H.Wiese July 1942
Revised by M.R.Klepper and Peter Joralemon August 1943

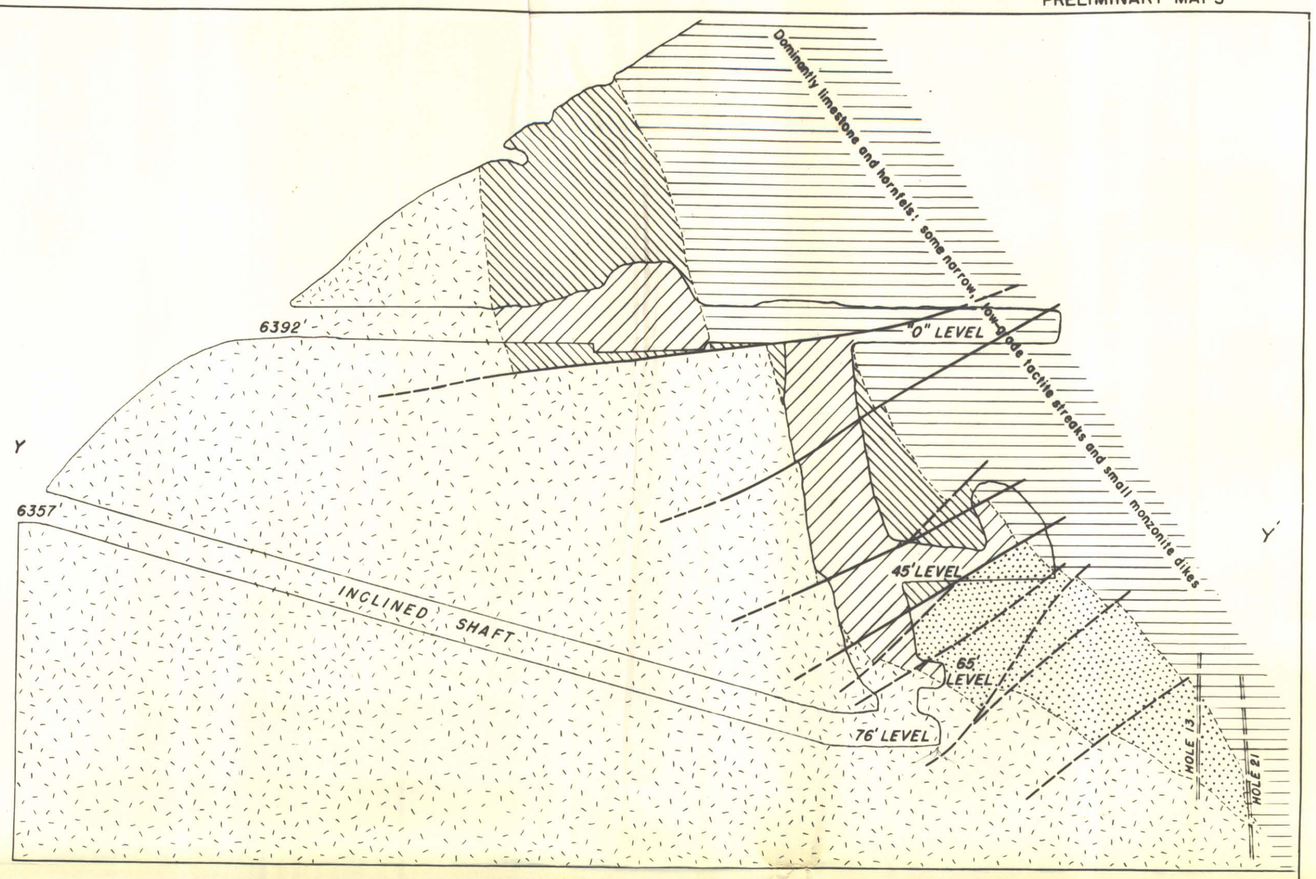
STAR TUNGSTEN MINE AND VICINITY, ELKO COUNTY, NEVADA



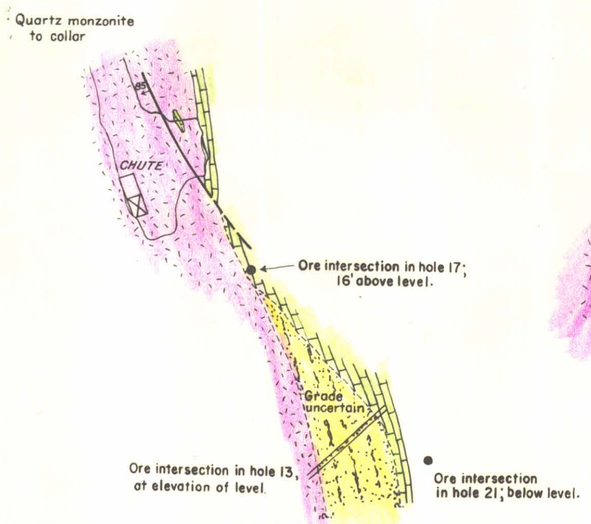
GEOLOGIC PLAN OF "0" LEVEL



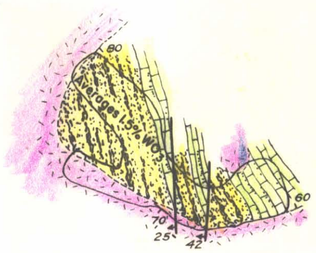
PLAN OF WORKINGS



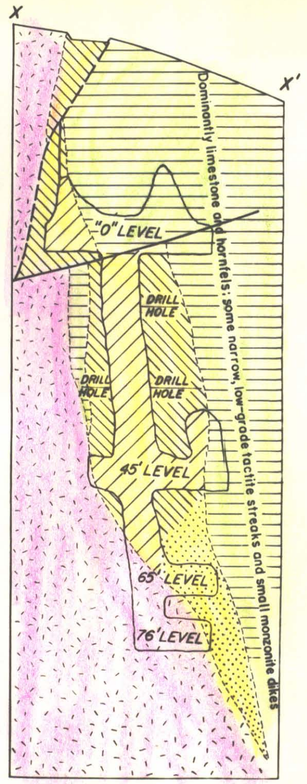
VERTICAL PROJECTION ALONG LINE Y-Y'



GEOLOGIC PLAN OF 76' LEVEL



GEOLOGIC PLAN OF 45' LEVEL



VERTICAL PROJECTION ALONG LINE X-X'

EXPLANATION

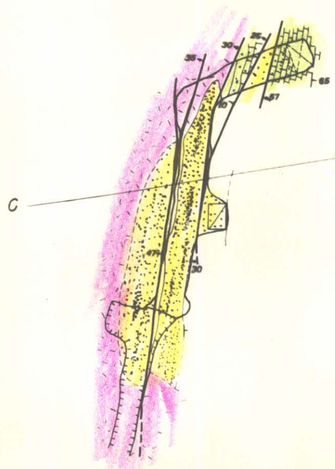
- Quartz monzonite and aplite
- Marble and hornfels, including streaks of low-grade tactite
- Scheelite-bearing tactite, concentration of dots on plans shows approximate grade in range between 0.1 and 3.0% WO_3
- Ore: stoped
- Ore: indicated and measured
- Ore: inferred
- Fault, showing dip, dashed where inferred
- Incline; chevrons point downward

FIGURE 3
GEOLOGY OF WORKINGS IN MAIN ORE BODY
STAR TUNGSTEN MINE
HARRISON PASS, ELKO COUNTY, NEVADA

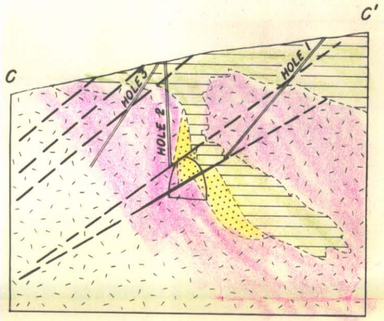
25 0 50 Feet

Original survey and geology by Klepper and Wiese, July 1942
Revised by Klepper and Joralemon, August 1943

STAR TUNGSTEN MINE AND VICINITY. ELKO COUNTY. NEVADA



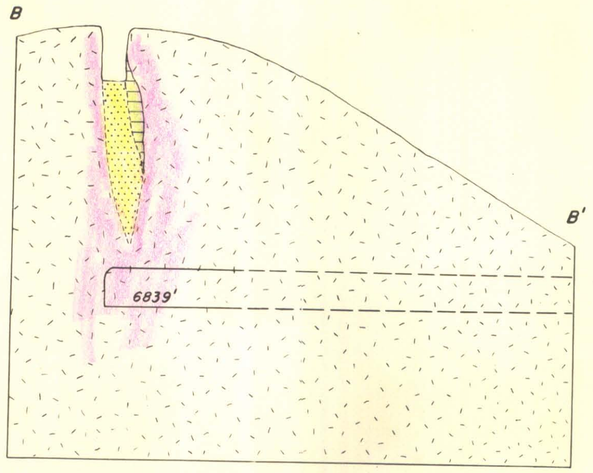
GEOLOGIC PLAN OF ADIT



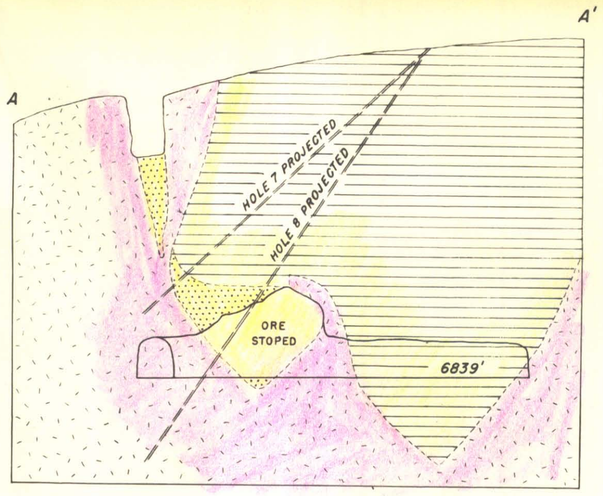
VERTICAL SECTION ALONG LINE C-C'

WORKINGS AT DRILL HOLE 35-A
(MILL ORE BODY)

GEOLOGIC PLAN OF ADIT



VERTICAL SECTION ALONG LINE B-B'



VERTICAL PROJECTION ALONG LINE A-A'
(GENERALIZED)

WORKINGS AT DRILL HOLE 36-A
(SOUTH ORE BODY)

EXPLANATION

- Quartz monzonite and aplite
- Marble and hornfels including small non-commercial streaks of tactite ore
- Scheelite-bearing tactite (In sections only)
- Tactite ore: concentration of dots shows approximate grade between 0.1 and 2.5% WO_3
- Fault, showing dip, dashed where inferred
- Strike and dip of beds
- Drill hole in plane of section
- Drill hole, projected

FIGURE 4
GEOLOGIC PLANS, SECTIONS AND PROJECTION OF WORKINGS AT
DDH. 35-A AND 36-A STAR TUNGSTEN MINE
HARRISON PASS, ELKO COUNTY, NEVADA

20 0 60 Feet

Survey and geology by M.R. Klepper and P. Joralemon September 1943

Detail of outlined area

EXPLANATION

- Quartz monzonite
- Hornfels
- Scheelite-bearing tactite
- Scheelite-bearing float
- Contact, dashed where inferred
- Cut
- Pit

FIGURE 5
GEOLOGIC MAP OF CAMPBELL TUNGSTEN PROPERTY
HARRISON PASS, ELKO COUNTY, NEVADA

100 0 500 Feet
Contour interval 50'

Geology by M.R. Klepper and C.M. Swinney, August 1942

STAR TUNGSTEN MINE AND VICINITY, ELKO COUNTY, NEVADA

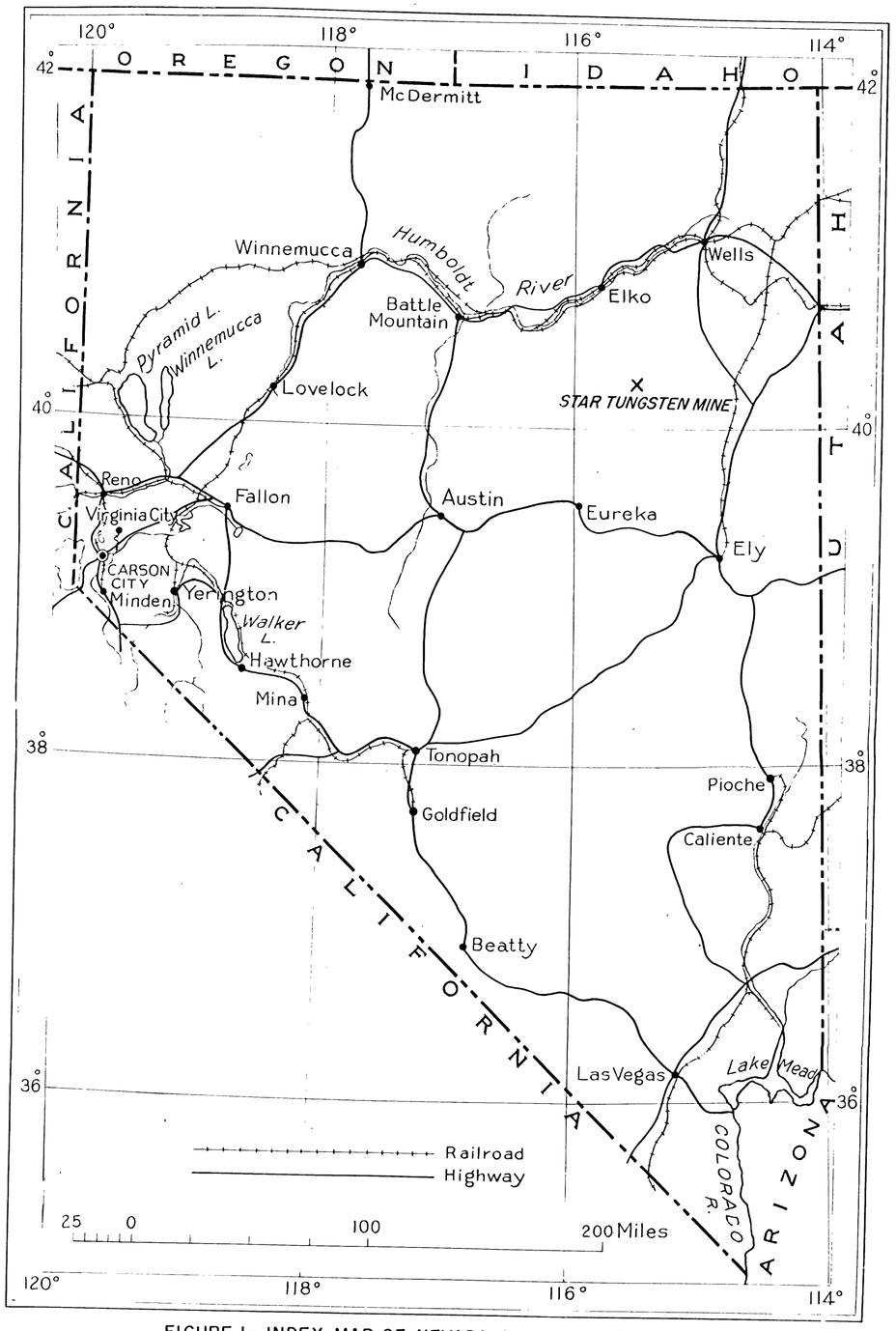


FIGURE 1.- INDEX MAP OF NEVADA SHOWING LOCATION OF THE STAR TUNGSTEN MINE, ELKO COUNTY

STAR TUNGSTEN MINE AND VICINITY, HARRISON PASS, ELKO COUNTY, NEVADA

Deposits of scheelite (calcium tungstate) occur at the Star Tungsten mine and on the adjacent Campbell property, in the NW¼ of T. 28 N., R. 58 E., Elko County, Nev., on the east slope of the Ruby Range, about 2 miles east of Harrison Pass (fig. 1). The area is easily accessible from the north and east. Elko is 53 miles away by gravel road via Harrison Pass; Currie and Warm Springs, on U. S. Highway 40, are each about 40 miles away by gravel roads via Ruby Valley. The Harrison Pass road may be blocked by snow for a month or more in winter, but the Ruby Valley roads are seldom impassable for more than a day or two at a time.

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UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SHEET 2

STRATEGIC MINERALS INVESTIGATIONS
PRELIMINARY MAP

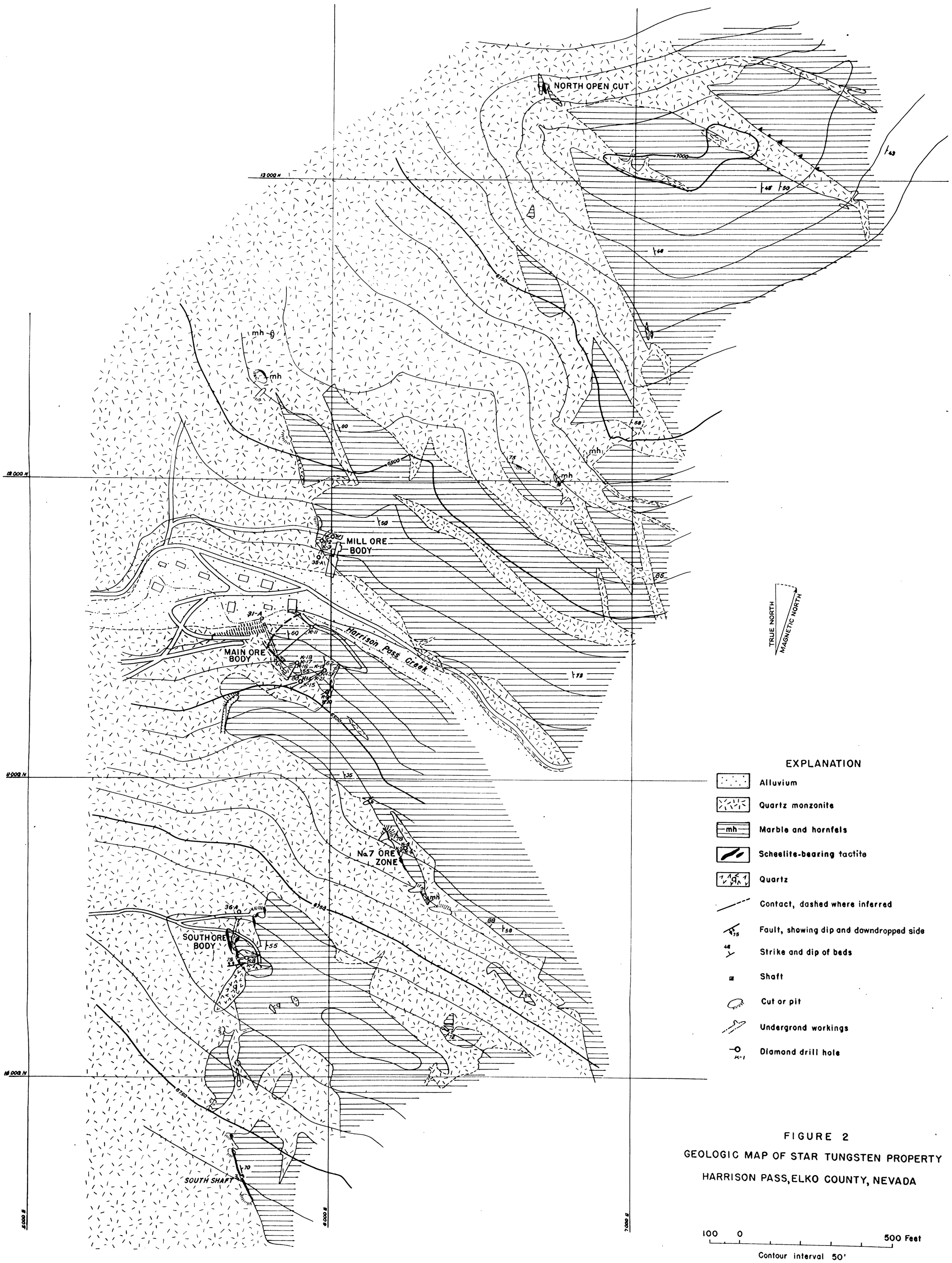

FIGURE 2

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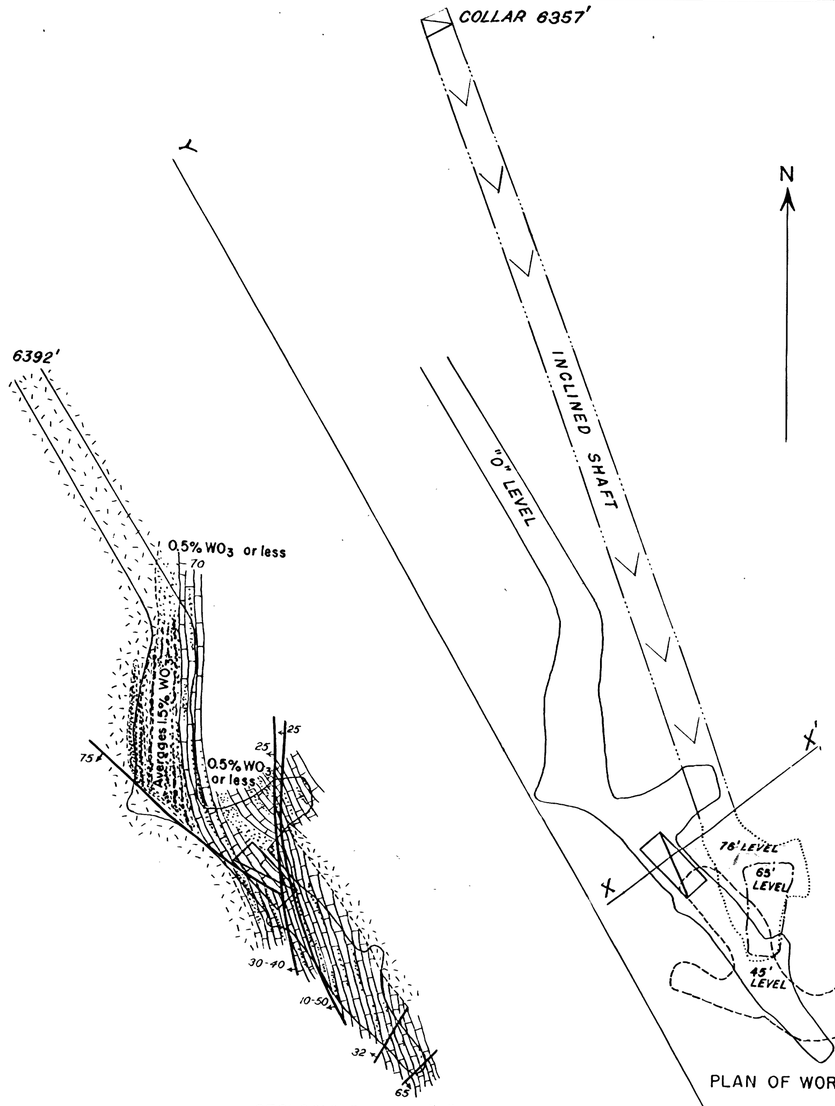
HARRISON PASS, ELKO COUNTY, NEVADA

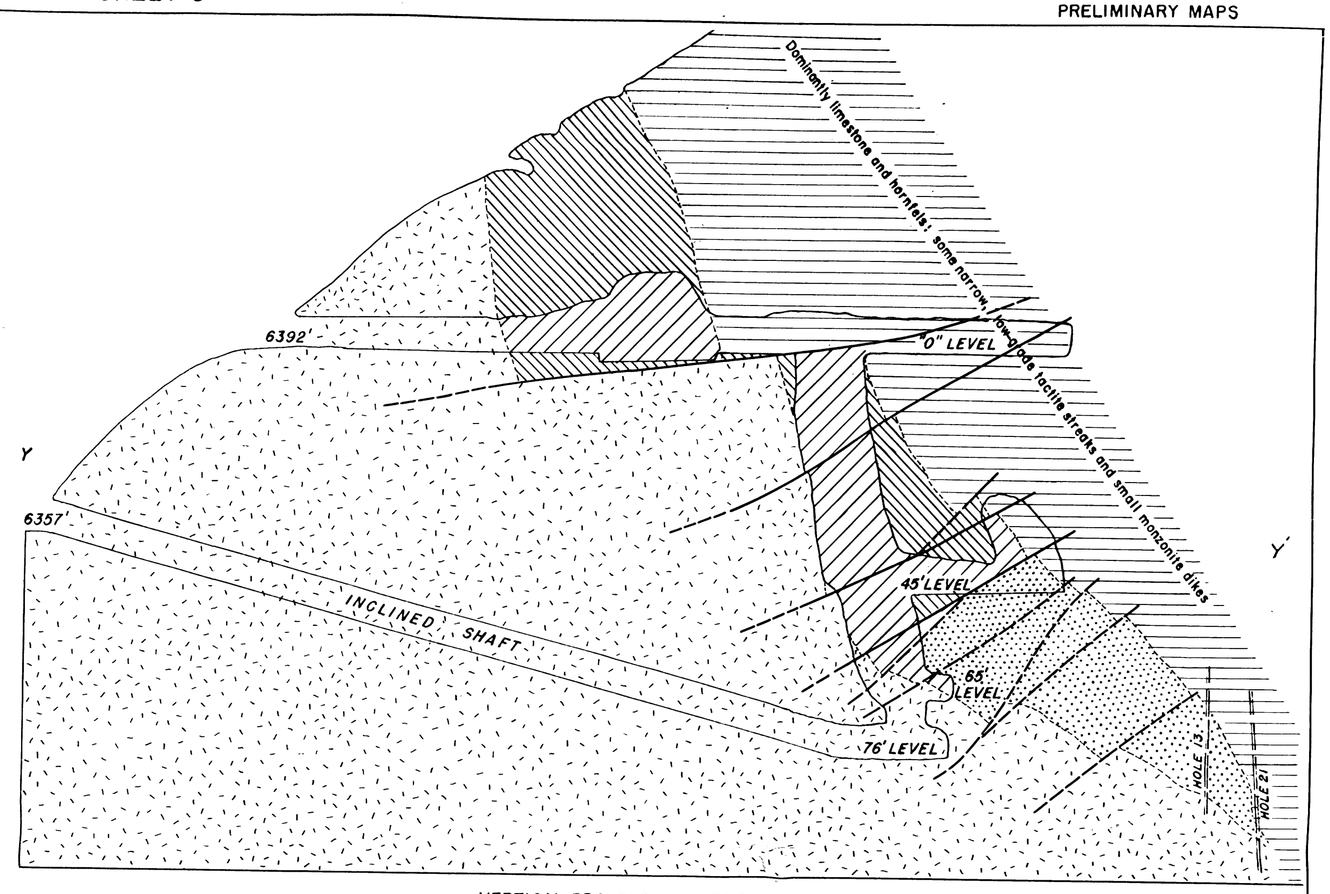
Geology and topography by M.R.Klepper and J.H.Wiese July 1942
Revised by M.R.Klepper and Peter Joralemon August 1943

STAR TUNGSTEN MINE AND VICINITY, ELKO COUNTY, NEVADA

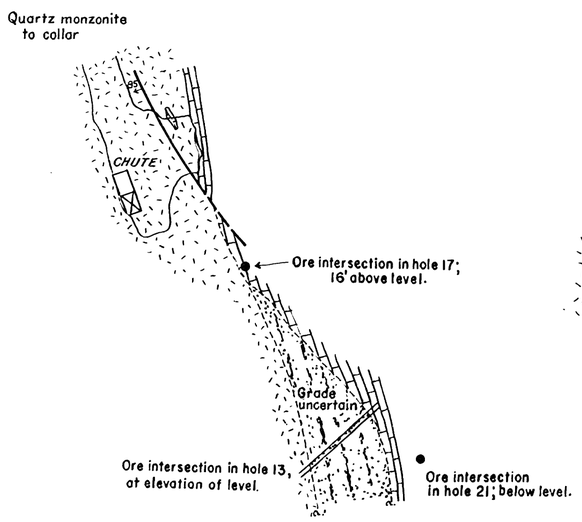


PLAN OF WORKINGS

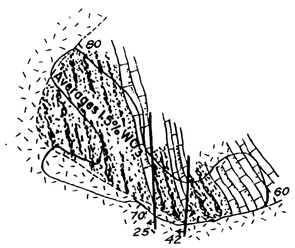
GEOLOGIC PLAN OF "0" LEVEL



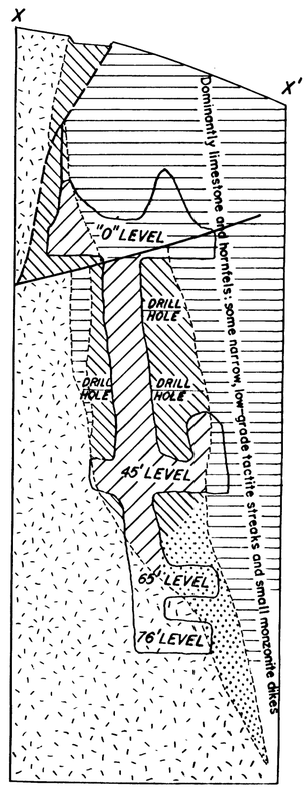
VERTICAL PROJECTION ALONG LINE Y-Y'



GEOLOGIC PLAN OF 76' LEVEL



GEOLOGIC PLAN OF 45' LEVEL



VERTICAL PROJECTION ALONG LINE X-X'

EXPLANATION

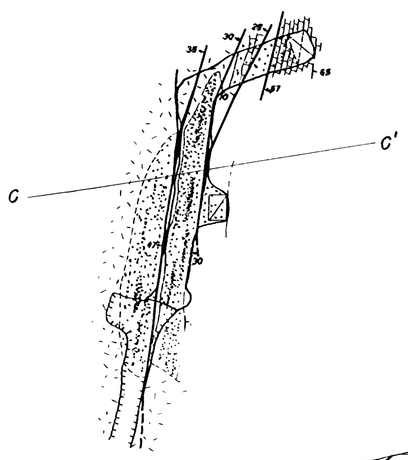
- Quartz monzonite and aplite
- Marble and hornfels, including streaks of low-grade tactite
- Scheelite-bearing tactite, concentration of dots on plans shows approximate grade in range between 0.1 and 3.0% WO_3
- Ore; stoped
- Ore: indicated and measured
- Ore: inferred
- 75 Fault, showing dip, dashed where inferred
- Incline; chevrons point downward

FIGURE 3
GEOLOGY OF WORKINGS IN MAIN ORE BODY
STAR TUNGSTEN MINE
HARRISON PASS, ELKO COUNTY, NEVADA

25 0 50 Feet

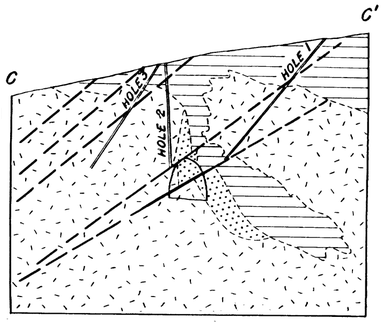
Original survey and geology by Klepper and Wiese, July 1942
Revised by Klepper and Joralemon, August 1943

STAR TUNGSTEN MINE AND VICINITY, ELKO COUNTY, NEVADA



● DRILL HOLE 35-A

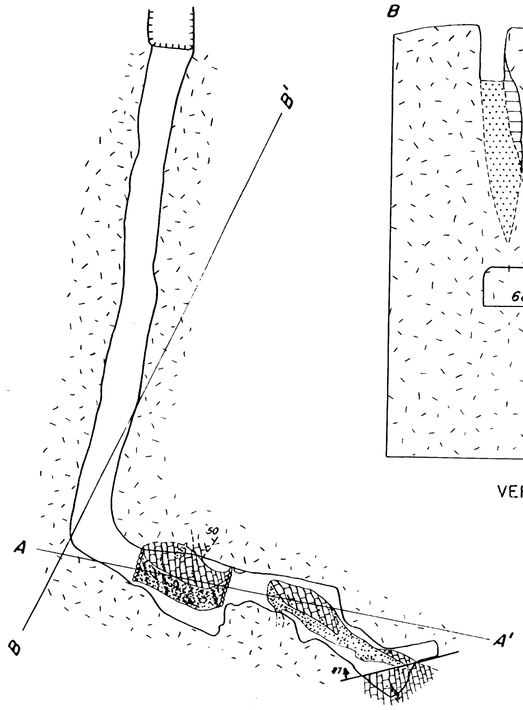
GEOLOGIC PLAN OF ADIT



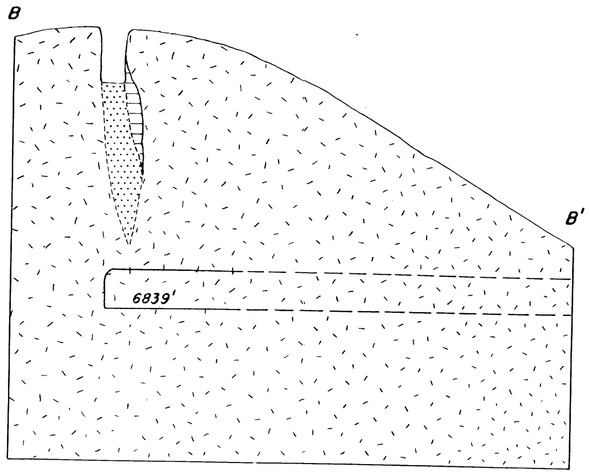
VERTICAL SECTION ALONG LINE C-C'

WORKINGS AT DRILL HOLE 35-A
(MILL ORE BODY)

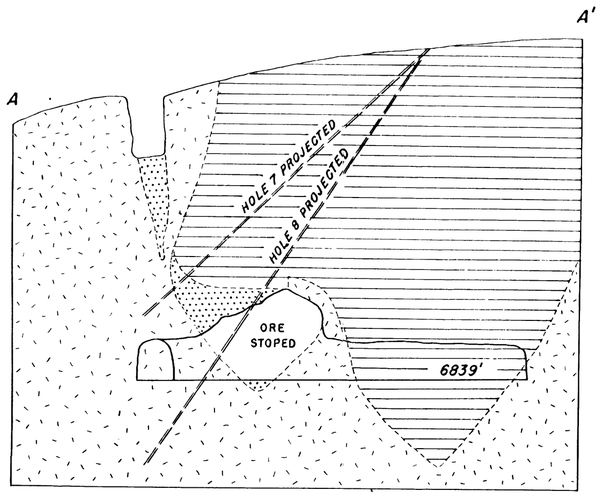
● DRILL HOLE 36-A



GEOLOGIC PLAN OF ADIT



VERTICAL SECTION ALONG LINE B-B'



VERTICAL PROJECTION ALONG LINE A-A'
(GENERALIZED)

WORKINGS AT DRILL HOLE 36-A
(SOUTH ORE BODY)

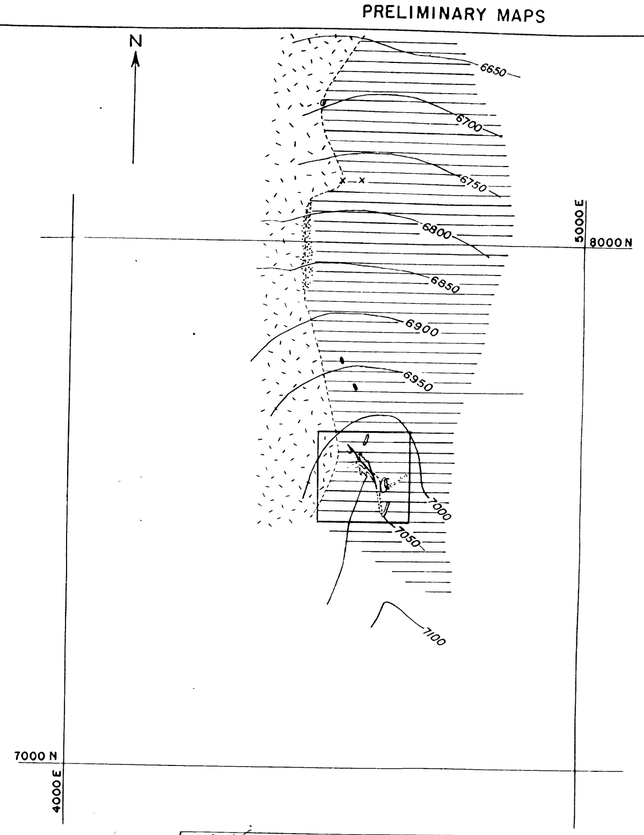
EXPLANATION

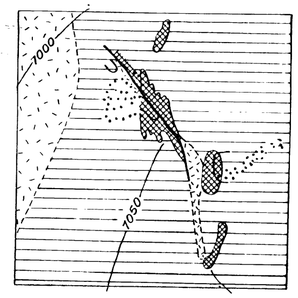
- Quartz monzonite and aplite
- Marble and hornfels including small non-commercial streaks of tactite ore
- Scheelite-bearing tactite (In sections only)
- Tactite ore: concentration of dots shows approximate grade between 0.1 and 2.5% WO_3
- 30 — Fault, showing dip, dashed where inferred
- 65 — Strike and dip of beds
- Drill hole in plane of section
- Drill hole, projected

FIGURE 4
GEOLOGIC PLANS, SECTIONS AND PROJECTION OF WORKINGS AT
DDH. 35-A AND 36-A STAR TUNGSTEN MINE
HARRISON PASS, ELKO COUNTY, NEVADA

20 0 60 Feet

Survey and geology by M.R. Klepper and P. Joralemon September 1943





Detail of outlined area

EXPLANATION

- Quartz monzonite
- Hornfels
- Scheelite-bearing tactite
- Scheelite-bearing float
- Contact, dashed where inferred
- Cut
- X Pit

FIGURE 5
GEOLOGIC MAP OF CAMPBELL TUNGSTEN PROPERTY
HARRISON PASS, ELKO COUNTY, NEVADA

100 0 500 Feet
Contour interval 50'

Geology by M.R. Klepper and C.M. Swinney, August 1942

STAR TUNGSTEN MINE AND VICINITY, ELKO COUNTY, NEVADA