SEP 3 0 1952

Mr. Alexander Tucker
260 South Beverly Drive
Beverly Hills, California

Re: Docket No. DMA 7567 - Tungsten
Marsau Enterprises, Inc.
T-Zone Tungsten Property
Lander County, Nevada

Dear Mr. Tucker:

Reference is made to your letter of May 3, 1952, requesting reconsideration of the Administration's decision denying exploration assistance for the subject property, then identified as Docket No. DMA 1968. Reference is also made to our reply of May 13, 1952, advising that we were arranging for re-examination of the mineralized zone in its entirety and in somewhat more detail.

The re-examination of the above property has been completed, confirming the existence of a large tonnage of scheelite-bearing actinolite-calcite rock having the tungsten mineralization so scattered that no well defined ore zones can be outlined, indicating to us that the probability of disclosing minable ore reserves by the proposed program is not sufficiently promising to justify Government participation.

We regret, therefore, to inform you that after reconsideration we do not find justification for approval of the subject application. This conclusion is reached without prejudice, however, and if your further prospecting should find evidence more favorable to the property, we would be pleased to consider an application for an exploration project on a scale suited to the significance of the showings.

WSMartin:lm
9/29/52

Sincerely yours,

C. O. Mittendorf

Administrator

cc: Admn. Reading File
Docket
E. W. Gaehan, USBM
D. M. Lemmon, USGS
Field Team Reg. III
Operating Committee
C. C. Selfridge
W. S. Martin

Acting Administrator, DMEA August 19, 1952

Iron and Ferro-Alloy Division, DMEA

2567

Denial of exploration project in the amount of $50,000.00
(Later amended to $15,000.00)
Docket No. DMEA 2567 - Tungsten
Marsam Enterprises, Inc.
T-Bone Tungsten Property
Lander County, Nevada

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

1. The subject property was re-examined in the field because we received a request for reconsideration claiming among other grounds that subsequent prospecting had found additional mineralization. The previous denial had been justified by our memorandum of April 10, 1952, under the former Docket No. DMA 1964X - Tungsten.

2. In asking for a re-examination, by a different field team, we requested: (1) close examination of the entire mineralized zone; (2) sampling of the mineralized outcrop, where warranted; and (3) sampling of the entire 43-foot adit.

3. The new field team followed the mineralized zone for about a mile to the east of the adit and lamped the few exposed outcrops, finding them all barren. The same zone was found to extend to the west for at least 2,000 feet and was estimated, after lamping, to be similar in average grade to the ore exposed in the adit, that is, between 0.1 and 0.2 percent WO_3.

4. Two channel samples, one from the same actinolite-calcite lens in which the adit is driven, and one from a parallel lens, were taken from the outcrops but were not accepted for grade calculation because the assay results were lower than the lamped estimates made before cutting the samples. Similarly, a chip sample of the hand-picked ore and one of run of mine rock were assayed but were considered unacceptable for the same reason.

5. The adit had been advanced 7 feet between November 15, 1951 and July 3, 1952. Two channel samples cut in the newly exposed face of the adit gave a weighted average grade over

a 5-foot width of 0.14 percent WO_3, which was in substantial agreement with the grade estimated by lumping. The new field team also recalculated the grade estimate for the adit based on the two samples cut in the face by the former field team and arrived at a weighted average grade over a 5-foot width of 0.23 percent WO_3. The recalculation took no account of the back sample which was cut by the former team some 15 feet west of the face at that time, and which assayed less than 0.01 percent WO_3 over 4.0 feet, although it was described as "cut across the scheelite-bearing layer".

6. On the basis of the re-examination, it was concluded that the deposit contains a large tonnage of scheelite-bearing rock in a zone at least 2,000 feet long. The grade of the mineralized rock, however, is estimated to be less than 0.2 percent WO_3 and, therefore, the deposit is submarginal.

7. In requesting the re-examination, we also advised that if further work appeared to be necessary, after receipt of the assays of the new samples, a project should be drawn up and detailed information should be given us concerning the necessary costs. The field team, without submitting any project, recommends that exploration be restricted to surface trenching and sampling provided the Government is interested in appraising the property as a potential low-grade reserve in the event of a future national emergency.

8. The field team further recommends that the applicant's proposal to explore the deposit by drifting and crosscutting be denied.

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

WSMartin'lm
8/19/52

cc: Admn. Reading File
Docket
G. C. Selfridge
W. S. Martin

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

dmea 2567

Office of
Executive Officer
DMEA Field Team
Region III

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

August 8, 1952

Memorandum

To: Frank E. Johnson, Chairman, Operating Committee, DMEA, Interior Building, Washington 25, D. C.

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 2567 (formerly DMA 1964) - Tungsten - T-Bone Tungsten Property, Lander County, Nevada, Field Re-examination

Reference is made to your memorandum, dated May 13, 1952, requesting a re-examination of the subject property by a different field team from that which made the original examination.

The requested examination has been made and there are attached herewith four copies of a report - DMEA 2567, Marsam Enterprises, Inc., Lander County, Nevada (T-Bone Tungsten Property) by H. L. Sobel and W. P. Irwin, Geologists of the U. S. Geological Survey, dated August 5, 1952.

The examining geologists report that the deposit contains a large tonnage of scheelite-bearing rock in a zone at least 2,000 feet long. The grade of the mineralized rock, however, is estimated to be less than 0.2 percent WO_3 and, therefore, the deposit is submarginal.

It is recommended that the applicant's proposal to explore the deposit by drifting and crosscutting be denied. If the Government is interested in appraising the property as a potential low-grade reserve in the event of a future national emergency, it is recommended that exploration be restricted to surface trenching and sampling.

H. C. MILLER

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

Copy to E. H. Bailey, USGS
A. C. Johnson, Reno (with copy of report)

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

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA 2567, Marsam Enterprises, Inc.

Lander County, Nevada

(T-Bone Tungsten Property)

H. L. Sobel, Geologist
W. P. Irwin, Geologist
U. S. Geological Survey

August 5, 1952

Introduction

The T-Bone tungsten property is the subject of a request by Marsam Enterprises, Inc., for a DMA exploration loan. It was examined on November 14 and 15, 1951 by a team consisting of E. J. Matson of the Bureau of Mines, and R. M. Smith and Reed Craig of the Geological Survey. They estimated that the deposit contained 100 tons of indicated ore with a grade of 0.5 percent WO_3 and 2000 tons of inferred ore with a grade of 0.5 percent WO_3. They recommended that Marsam Enterprises, Inc., be granted a contract to explore the deposit by extending the present adit 100 feet and driving two 25-foot crosscuts. The total cost of the 150 feet of proposed workings was to be $15,000.

The field team's report was reviewed in Washington, and, contrary to the recommendation, the loan was denied. The denial was received unfavorably by Marsam Enterprises, Inc., inasmuch as the denial was inconsistent with the encouragement given by the field team during the examination. Marsam Enterprises, Inc., requested that the docket be reconsidered, and this request was referred to the Field Team. In response to that request, the T-Bone tungsten property was examined by W. P. Irwin and H. L. Sobel of the Geological Survey in the company of F. D. Shuck, mine manager, on July 3 and 4, 1952.

Judging from copies of letters and memos referring to the subject, the loan was denied because of three principal beliefs; (1) the grade of the ore is marginal to sub-marginal, (2) the tonnage is too small to warrant mining marginal to sub-marginal ore, and (3) the exploration cost of $100.00 per foot of proposed workings is unreasonably high. The following is a discussion of the points outlined above in view of the re-examination.

Grade

Matson and Smith cut two channel samples across mineralized lenses in the actinolite-calcite bed exposed in the face of the T-Bone adit. One sample was 2.0 feet wide and assayed 0.44 percent WO_3, the other was 0.3 feet wide and assayed 0.88 percent WO_3. The weighted average of the samples is 0.5 percent WO_3 across a width of 2.3 feet; the rock between and on either side of the samples presumably was barren. On the basis of these samples, Matson and Smith estimated that the block of ground extending 200 feet beyond the face of the adit, from the surface to the adit level, contained a reserve of 2000 tons of inferred ore with a grade of 0.5 percent WO_3 over 2.3 feet. This 2.3 foot sample width is not considered representative of the mineable ore inasmuch as the minimum practical mining width is about 5 feet. The mineralized rock should be evaluated over this width to give the expected grade of run-of-mine ore. Recalculated for a width of 5 feet the weighted average of the two samples is 0.23 percent WO_3.

Subsequent to the examination by Matson and Smith, the adit was advanced 7 feet along the mineralized bed. During re-examination by Irwin and Sobel two chip samples, each about 5.2 feet long, were cut across the newly-exposed face. One sample, cut 1 foot above the floor of the adit, assayed 0.02 percent WO_3; the other, taken 4 feet above the floor of the adit,

assayed 0.26 percent WO_3. The weighted average grade of the two samples over a 5-foot width is 0.14 percent WO_3, which is similar to the grade of the samples cut by Matson and Smith weighted over a 5-foot width. The approximate grade of the rock exposed in the face is substantiated further by a grade of between 0.15 and 0.20 percent WO_3 estimated by lamping.

The mineralized zone along the surface was found to extend up the ridge to the west of the adit for at least 2,000 feet (see plates 1,2 and 3), and lamping revealed it to be of a grade similar to that of the ore exposed in the adit. Individual outcrops lamped as high as 2.0 percent WO_3 but the average grade of all outcrops of actinolite-calcite rock was estimated to be between 0.1 and 0.2 percent WO_3. Matson and Smith also estimated that "the average grade of the tungsten-bearing rock in the outcrops will probably not exceed 0.2 percent WO_3".

Four other samples were cut by Irwin and Sobel in the vicinity of the adit. They are listed below with their locations, widths, and assay results. All four sample locations were lamped at night and the samples cut the following day under plain light. Because of the incongruous assay results, the grades estimated by lamping prior to sampling are listed.

No.	Width	Location	%WO_3	Lamped estimate % WO_3
3	-	chip sample from 20-ton pile of hand-picked ore	0.01	0.5
4	-	dump sample (run of mine rock)	0.01	0.1 to 0.2
5	2	actinolite-calcite bed 10 ft. south of portal of adit	0.06	0.1 to 0.2
6	4.5	actinolite-calcite bed 10 ft. above portal of adit (same bed adit is driven in)	0.08	0.1 to 0.2

These samples do not appear to be representative of the grade of the bulk ore. Sample 3, of hand-picked rock, obviously should be disregarded since it assayed less than the cuts in the face of the adit, yet lamped considerably higher than the face. Samples 4 and 6 when lamped were estimated to be representative of the rock exposed in the adit but also assayed far lower than the samples in the face. The incongruity between the lamping estimates and assay results of the samples is difficult to explain. The loss of fines might be a factor, but certainly does not account entirely for the discrepencies. The only rational explanation seems to be that although the sample locations apparently contain fairly evenly-distributed scheelite, the four samples, by chance, were taken in unusually barren areas. These four samples, therefore, have not been included in any grade calculation.

Geology and Tonnage

Disseminated scheelite is restricted to various parallel beds of actinolite-calcite rock within a 50-foot zone of interbedded schist and

actinolite-calcite rock, bounded on either side by fairly persistent beds of quartzite (see plate 2). The entire zone is vertical or dips steeply to the south. Indifidual beds of mineralized actinolite-calcite rock range from 1 to 10 feet in width. Owing to the extensive overburden, they cannot be traced for more than 10 to 20 feet along their strike. Judging from the distribution of outcrops, it is probable that individual beds are not continuous for the entire length of the zone but pinch and swell along the strike as well as down the dip. It seems likely, however, that at any point along the zone the composite thickness of the actinolite-calcite rock will be somewhat similar.

The adit was driven into a single bed at least 5 feet thick. Two other beds, 1 foot thick and 2 feet thick respectively are exposed within the 10 feet of schist south of the adit portal. The remainder of the zone to the north is covered. About 500 feet west of the adit five individual lenses of actinolite-calcite rock crop out within the 50-foot width of schist. The aggregate width of the five beds is about 20 feet. From these outcrops and from the relative amount of actinolite-calcite rock exposed throughout the area, it is estimated that from 20 to 40 percent of the rock within the zone consists of scheelite-bearing actinolite-calcite rock; the remaining 60 to 80 percent is barren.

The ridge west of the adit slopes +30° for about 1000 feet, then the slope decreases to an average of +20° for the next 1000 feet. Because of the great strike length of the deposit along the ridge, it is probable that the entire zone extends downdip at least to the adit level.

East of the adit the mineralized zone is less clearly defined owing to thick overburden. Samples from a group of outcrops of actinolite-calcite rock about 1000 feet east of the adit were lamped and were found to be nearly barren. About a mile east of the adit, apparently on the same zone on the Caruso No. 3 claim, an outcrop of actinolite-calcite rock that Mr. Shuck though contained scheelite in economic amounts was lamped and found to be barren. Further prospecting to the east to expose the zone is necessary before it can be evaluated.

The zone within the triangular block of ground outlined to the west of the adit has a slope length of 2000 feet, a horizontal length of 1800 feet, a maximum vertical height of 840 feet at the western end, and an average thickness of 50 feet. Assuming 12 cubic feet of rock to the ton, about 3,500,000 tons of rock is within the block. Of this amount it is estimated that 30 percent, or about 1,000,000 tons is mineralized actinolite-calcite rock with an estimated grade between 0.1 and 0.2 percent WO_3. Probably much of this tonnage, perhaps more than half, is contained in beds less than 5 feet thick.

Cost of Exploration

The revised exploration project proposed by Matson and Smith consisted of 100 feet of drifting and 50 feet of crosscutting. The project was to cost $15,000 or $100 per foot of work, and it would require 15 weeks to complete.

According to Mr. Shuck, the unreasonably high cost estimate was primarily due to the proposal that two shifts of miners be employed rather than one shift. The mine camp as it exists can adequately house one shift of miners without any rehabilitation or expenditure. To house a second

shift would require the expenditure of almost $1,800 for furnishings and would result in the loss of several weeks time to construct the camp, thereby greatly increasing the cost of labor and supervision.

Mr. Shuck explained that by utilizing one shift of miners, he could drive an average of 2.5 feet per shift, and by starting work immediately complete the 150 feet of work in about 60 working days, or three months. On this basis he roughly estimated the cost per foot would be only $40 for a total project cost of $6000. Probably the applicant would accept a contract on a unit cost basis of $40 per foot.

Mining Factors

Mr. Shuck seemed to agree that the mineralized actinolite-calcite rock averaged only about 0.2 percent WO_3. He thinks, however, that although this grade of ore is normally considered submarginal, it can be mined at a profit in this case because of two favorable factors.

First, the mineralized rock appears to be highly amenable to hand-sorting. Near the portal of the adit is a 20-ton pile of hand-picked ore, with a grade estimated by lamping to be about 0.5 percent WO_3. The average size of the blocks within the pile is about 0.5 feet in largest dimension, indicating that under efficient conditions, the rock could be picked rapidly and therefore at a low labor cost.

The second favorable factor is the erection of the Sunnyside tungsten mill on the east side of Smokey Valley, about 16 miles by road east of the T-Bone prospect. The mill is to employ tabling and flotation, and will have a capacity of 50 tons a day. According to Mr. Shuck, who is also manager of the mill, it is owned solely by Samuel Weiler, major stockholder of the Marsam Enterprises, Inc. Mr. Shuck estimates the mill will recover 85 percent of the WO_3 content of the T-Bone ore at a cost of $4.00 per ton. He plans to amortize the mill with profits from custom ores which will be charged at a rate of $8.00 a ton, thereby allowing the T-Bone ore to run at cost.

Conclusions

The mineralized zone on the T-Bone property is about 50 feet wide and extends on the surface for at least 2000 feet up the hill to the west of the adit without apparent change in grade or occurrence. It is probable the entire zone continues downdip at least to the adit level, and thus a block of ground which contains about 3,500,000 tons of schist and scheelite-bearing rock is inferred. Of this amount, it is estimated that 30 percent of the block, or about 1,000,000 tons, is scheelite-bearing actinolite-calcite rock. The actinolite-calcite beds range from 1 to 10 feet in width and pinch and swell along the strike as well as down the dip.

The samples cut in the adit by Matson and Smith, recalculated over a mining width of 5 feet, have a weighted average grade of 0.23 percent WO_3. Two samples cut in the face of the adit by Irwin and Sobel have a weighted average of 0.14 percent WO_3 over a width of 5 feet. On the basis of these samples and the lamping of about 2000 feet of the zone, the grade of all actinolite-calcite rock within the zone is estimated to be between 0.1 and 0.2 percent WO_3.

Although the actinolite-calcite rock is amenable to hand-sorting and the applicant is now constructing a mill in Smokey Valley, the deposit is sub-marginal. Extending the adit is not recommended as the grade of the rock is not expected to differ along the strike to any significant degree.

Because of the large tonnage of scheelite-bearing rock involved, however, it is possible the Government might be interested in knowing more of the deposit; in the event of future national emergency the deposit might constitute a significant low-grade reserve. If further data is desired it is recommended that exploration be restricted to surface trenching and sampling to determine accurately the grade and extent of the mineralized rock.

Plate 1. Looking westward from discovery monument of Caruso no. 3 claim. Dashed line represents trace of lamped 2000 foot length of scheelite-bearing zone. Adit is at lower end of dashed line. Note steep southerly dip of beds.

Plate 2. Looking westward along trace of nearly vertical beds. Portal of adit in gulch to left of building. Lumped portion of scheelite-bearing zone extends from portal of adit to beyond crest of hill.

Plate 3. Looking westward along scheelite-bearing zone from point about 1000 feet west of portal of adit. Beds dip steeply south. Scheelite-bearing zone lapses 1000 feet westward to highest point in background.

400

DEFENSE MINERALS EXPLORATION ADMINISTRATION

GCSelfridge

5284 3538

June 25, 1952

R. C. MILLER, EXECUTIVE OFFICER, DMEA FIELD TEAM, REGION III
1012 FLOOD BUILDING, 870 MARKET STREET, SAN FRANCISCO, CALIFORNIA

RETEL DMEA 2567 (DMA 1964) T-BONE TUNGSTEN PROPERTY. APPLICANT SHOULD SUBMIT FORM MP-100 WITH ONLY SECTION 8 COMPLETED IN DETAIL.

(signed) FRANK B. JOHNSON

FRANK B. JOHNSON, CHAIRMAN
OPERATING COMMITTEE, DMEA

GCSelfridge:ls 6/25/52

CC: Docket
Admn. Reading File
G. C. Selfridge
Audits
Mr. Johnson
J. H. Hedges
T. P. Thayer
Operating Committee

400

COPY

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

Office of
Executive Officer
DMEA Field Team
Region III

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

June 11, 1952

Mr. F. D. Shuck
Marsam Enterprises, Inc.
211 South Beverly Drive
Beverly Hills, California

Subject: Docket DMEA-2567 - Tungsten
Marsam Enterprises, Inc.
T-Bone Tungsten Property
Lander County, Nevada

Dear Mr. Shuck:

On May 16, I addressed a letter to Mr. Alexander Tucker, 260 South Beverly Drive, Beverly Hills, California re Docket DMA-1964, requesting him to notify me when the six signed copies of the Landlord's Subordination Agreement, covering the T-Bone Tungsten Property, had been sent to Washington as instructed in my letter, dated January 31, 1952. To date we have received no reply to the May 16 letter.

Our Washington Office has now informed me that your request for reconsideration of the denial action taken on your original application for exploration assistance under Docket DMA-1964 has been assigned a new docket number - DMEA-2567. Under the new docket number we are being requested to re-examine your property. Such examination, however, will not be made until we have been assured that Landlord's Subordination Agreements have been sent to Washington, or proof of financial responsibility and ability to repay the exploration assistance have been furnished that might make it possible to waive the requirement of the agreement.

An early reply will be appreciated.

Very truly yours,

/s/ H. C. Mibler

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

Copy to: E. H. Bailey, USGS
DMEA, Washington, D. C.

JUN 5 1952

Marsam Enterprises, Inc.
211 South Beverly Drive
Beverly Hills, California

Gentlemen:

Reference is made to your request for reconsideration of the denial action taken on your application for exploration assistance originally filed under Docket No. DMA-1964.

Please be advised that the reconsideration of your exploration assistance application has been assigned a new docket number, DMEA-2567.

Please identify any future correspondence by Docket No. DMEA-2567.

Sincerely yours,

ROBERT E. ADAMS

Robert E. Adams
Administrative Officer
Defense Minerals Exploration
Administration

REAdams/meb
6-4-52
cc to: Adm.Reading File
Mails & Files Br.
Region III (2)
Mr. Selfridge

IN REPLY REFER TO:

G-MD-DML

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

March 12, 1952

Memorandum

To: George C. Selfridge, DMEA

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

Subject: Field Report on exploration application DMA 1964 - Tungsten
Marsam Enterprises, Inc.
T-Bone Tungsten Property
Sec. 5 T. 17 N., R. 44 E.
Toyabe Range, Lander County, Nevada

The T-Bone property was examined on November 14 and 15, 1951 by R. M. Smith of the Geological Survey and E. J. Mateen of the Bureau of Mines. Their report, dated January 18, 1952, recommends consideration of a proposal to drift 100 feet west from the face of the present 43-foot adit, and to crosscut 25 feet north and south from the new face. This work will cost $15,000 ($100 per foot) according to the applicant.

The field examination showed that scheelite is present in 3 layers of actinolite-calcite rock in schist. The layers are 1/2 to 10 feet wide; in the adit, the layer exposed is 40 feet long, 2 feet thick, and averages about 0.4 percent of WO_3. The average content of WO_3 in the outcrops is about 0.2 percent.

The field team estimate of inferred ore reserves in the adit and for 200 feet west is 1,100 tons containing 0.4 percent of WO_3. In addition, 1,000 tons of similar grade may be present in parallel layers.

Conclusions

1) The mineralization described on the T-Bone claims contains 0.4 or less percent of WO_3, is in thin beds, and is submarginal at this locality because there is no likelihood of sufficient tonnage to permit low-cost mining and milling.

2) The proposed cost of the project is excessive for the amount of mineralization that might be found. The actual work proposed by the field team as stage 1 should be done for about a third of the estimated cost.

3) Trenching and sampling of mineralized zones at the surface should be done in much greater detail before underground workings are warranted.

4) The sampling and/or assaying done by the applicant is suspect.

Recommendation

The property might warrant a little exploration as suggested by the Field Team. However, it appears that the mineralization will be submarginal, and no significant discovery will be made. Therefore, it is recommended that the application be denied unless the applicant can bring his costs down to a reasonable basis.

DM Lemmon

DMLemmon:gt

May 3, 1952

Hon. Mr. C. O. Mittendorf, Acting Administrator Defense Minerals Administration
United States Department of the Interior
Washington 25, D. C.

Re: Docket No. DMA 1964X - Tungsten
T-Bone Tungsten Property
Lander County, Nevada

Dear Mr. Mittendorf:

Receipt is acknowledged of a letter from the Defense Minerals Administration, dated April 15, 1952, in which it was stated by your department that some marginal ore was found in the above-entitled property, indicating little probability of making a significant mineral discovery on the basis of which our application for assistance in this exploratory project was denied.

It is the purpose of this letter to ask you to re-review that denial on the basis of the following information received from Mr. F. D. Shuck, who is the general manager in charge of such mine. In Mr. Shuck's letter to us, dated April 29, 1952, he makes the following statements:

"1. The Sunnyside Milling Co. is building a custom mill to be in operation in June, 1952. This mill is 11 miles from the T Bone Mine and will make what is now a marginal ore a profitable ore due to savings in hauling charges, a difference of $10.50 per ton of ore, plus any profit from the flotation concentrates which we do not get when shipping to U. S. Vanadium at Pine Creek. The flotation concentrates can be sold to the Nevada Scheelite near Fallon Nevada and gives a further saving in freight over the haul to Bishop. I am enclosing copies of the metallurgy on the Marsam ore.

"2. The revised loan in the amount of $15,000.00 was made out by Mr. Matson and F. D. Shuck and approved by Mr. Johnson of the U. S. Bureau of Mines, Reno office. The program was approved by Mr. Matson, Mining Division, and Mr. Reed Craig and Mr. Roscoe Smith of the U. S. Geological Survey according to Mr. Johnson of the U. S. Bureau of Mines DMA of Reno Nevada. The Washington denial is inconsistent with this statement.

"3. In a 1919 report on Nevada it was stated that Geologically there was no commercial tungsten in the Nevada area. Production since that time refutes this report.

"4. Since the original application was written, some prospecting east of the Pork Chop end line showed the T. Bone lode to extend east of the previously known croppings. The three Caruso claims, each 1500 feet in length are traversed by the T Bone Lode. This discloses the lode to be 7500 feet in length and the vein is 12 feet wide at the east end of the Caruso #3 claim which is the easternmost claim. The exposures on the three Caruso claims all showed Scheelite under the lamp and parts of it appeared to be commercial ore. Wherever the T Bone vein has been exposed below the surface effects of erosion, the scheelite content has increased.

"5. Since Marsam started development work several other tungsten discoveries have been made and located and some of them sold. The Newmont Mining Co. is developing a lode on Ophir Canyon south of the T Bone and is driving a 600 foot drift for development. McGinnis and Crouch - 3 miles north of the T Bone have exposed an area 50 by 300 feet by dozer stripping. This ore averaged .45% WO_3. Meyers Brothers have a lode 2½ miles in length and it shows scheelite for the entire length. It may not be geologically logical but Tungsten is in the area. Is it commercial? Let's see.

"The Linka Mine shipped 2673.49 tons averaging 0.722171% WO_3 to stockpile at Battle Mountain during World War II and were just getting started when the war ended. They will resume operations when the Sunnyside Mill is ready to receive ore.

"The Peer Mine has shipped 1500 tons of ore to U. S. Vanadium at Pine Creek and are still shipping. This ore has averaged .85% WO_3.

From the above stated information, together with the metallurgy of the ore, there would seem to be strong indications upon which a granting of the exploratory loan is warranted. The two points we would like to emphasize in addition to what Mr. Shuck has stated is that so far our client has invested a sum in excess of $20,000.00 in the mine and is prepared to invest a considerably greater sum. It is believed that this money, together with the loan from your department will prove a very valuable aid to the government in its program of trying to get tungsten in this critical time.

We would like to emphasize one other fact which is contained in the quotation from paragraph designated "1" above. Our client is expending

a sum in excess of $35,000.00 in building a custom mill in the immediate mine area which will be in operation sometime in the month of June, 1952. You will note that because of the monies expended for the erection of this mill, there will be a saving of $10.50 per ton from ore mined in its immediate area. As noted, marginal ore under these circumstances becomes a profitable venture. Furthermore, the other mines in this area will be afforded an opportunity to operate profitably where heretofore they were unable to do so. In fact, it makes feasible the opening of other projects in this area. Viewing the entire project, that is, our client's mine together with the investment in the mill, plus the assistance this will furnish to other projects in the area, all together will tend to serve the best interests of the government in its desire to secure the greatest amount of tungsten ore for needed war purposes.

Under the circumstances, we feel that a reconsideration of the Department's decision is justified and the conclusion reached for the allowance of the loan requested.

Very truly yours,

Alexander Tucker

AT:cp
Enclosures

Test #3. Marsam Ore

Sample #3.

Minerals:
1. Quartz
2. Calcite
3. Garnet
4. Scheelite
5. Pyrite - Trace

Procedure: The ore was ground to 48 mesh and tabled. The middlings and tailings were combined and treated by flotation without further grinding.

Results of Test #3.

Products	Wt. Grams	$\%WO_3$	%Ext.	Reagents Lbs/Ton		Head Screen Anal. Mesh	%	P H
Heads	2000	0.44		Soda Ash	10.0	48	8.2	11
Table Conc.	9.4	44.48	47.7	Sodium Silicate	3.0	65	13.3	
Flot. Conc.	20.1	11.40	26.3	Quebracho	0.5	100	18.3	
Tails	1970.5	0.12		Aerosol-18	0.4	150	19.4	
	Total		74.0	Oleic Acid	0.5	200	14.3	
				R.708	0.3	-200	26.5	
				B-23	0.2			

Remarks: 15.3% of the flotation concentrate was soluable in weak acetic acid due to contained calcite. Difficulty was experienced in obtaining a stable froth. In further testing, a set of reagents could probably be found that would give better results.

Test #4. Marsam Ore

Minerals: 1. Quartz
2. Calcite
4. Garnet
5. Pyrite - Trace

Procedure: The ore was ground to 48 mesh and tabled. The middlings and tailings were combined and treated by flotation without further grinding.

Results of Test #4.

Product	Wt. Grams	$\%WO_3$	%Ext.	Reagents Lbs/ton		Head Screen Anal. Mesh	%	P H
Heads	2000	0.52		Soda Ash	7.0	48	16	10
Table Conc.	5.05	34.54	16.8	Sodium Silicate	3.0	65	12	
Flot. Conc.	44.7	12.64	64.7	Quebracho	0.4	100	11	
Tails	1950.25	0.10		Aerosol-18	0.2	150	13	
		Total	81.5	Oelic Acid	0.1	200	17	
				R-708	0.2	-200	31	

Remarks: This test was run at lower PH than Test #3 to create a better froth and lower the reagent consumption. This procedure increased the extraction about 7% over that obtained in Test #3. The reagents still leave much to be desired in the way of producing a high grade concentrate by flotation. The flotation concentrate was 42.3% soluble in weak acetic acid.

MARSAM ORE Test #5

Minerals:

1- quartz
2- calcite
3- garnet
4- scheelite
5- pyrite (Trace)

Procedure: This ore was ground to 100 mesh, and treated by flotation with a ph of 9.5

Product	Wt. gms	WO_3	% Ext.	Reagents	#/ton	Head Screen Ana. Mesh	%
Heads	500	0.495		Soda Ash	6.0	100	5
Concen.	5460	4.50	98%	Sod.Sil.	3.0	150	10
Tails	446	0.01		Quebracho	0.4	200	26
				Aerosol-18	0.2	-200	59
				Oleic Acid	0.6		
				R-708	1.2		

Remarks: This test was run to raise the extraction by flotation and no attempt was made to attain a high grade concentrate. The ore was ground very fine to insure the liberation of the scheelite from the gangue minerals. The flotation concentrate was then treated with weak acetic acid, and the concentrate was 62.8 % soluable in the acid.

The water used in this test was from the Spencer Hot springs wells.

Claude Hammond, Met. Eng.