DMEA Form 7
(12-56)

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Date	Surname	Code
9-5	Chapman	400
9-5	Martin	400
9/9	Renick	130
9/9	Sellnow	130
9/9	Kiilsgaard	130
		~~110~~
		~~100~~
9/9	P	220
		225

SEP 9 1957

Mr. William G. Forbes
7961 Willis Avenue
Van Nuys, California

Re: Docket No. DMEA 4519 - Tungsten
Nevada, et al., claims
Madison County, Montana

Dear Mr. Forbes:

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

Projects approved by the Defense Minerals Exploration Administration must, in its judgement, show definite promise of yielding material of acceptable grade in quantities that will significantly improve the mineral supply position of the National Defense Program.

Careful study of all our information, although noting the occurrence of tungsten mineralization on your property, indicates to us that the probability of disclosing significant ore reserves is not sufficiently promising to justify Government participation. Under these conditions we regret to advise you that your application is denied.

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

Sincerely yours,

Frank E. Johnson
ACTING Administrator

TLChapman/dlm 9-5-57
cc to: Code 400
Admr. R. File
Oper. Comm.
FT. REG I
Messrs. R. W. Holliday, USBM
T. H. Kiilsgard, USGS

8623

DMEA Form 7
(12-56)

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Date	Surname	Code
9-6	Chapman	400
9-6	Martin	400
		140

September 5, 1957

MEMORANDUM

To: Administrator

From: Division of Iron and Ferro-Alloys, DMEA

Subject: Denial of the subject application for exploration assistance in the amount of $125,000.00
William G. Forbes (Docket No. DMEA 4519 - Tungsten)
Nevada et al. claims
Madison County, Montana

Denial of the subject application is recommended by this Division based on the following information:

The Applicant, William G. Forbes, requested exploration assistance in the amount of $125,000.00 to drive an adit to cut outcropping veins at depth. Members of the Field Team attempted to examine the property on October 25, 1956, but due to a heavy snowstorm were forced to abandon the attempt. On July 5, 1957, the property was examined by R. D. Sample and W. C. Prinz, Geological Survey, and J. A. Bowsher, Bureau of Mines, accompanied by Tom Forbes, a son of the Applicant.

Applicant: William G. Forbes
7961 Willis Avenue
Van Nuys, California

Property and Ownership:

The Nevada et al., group of claims is owned by the Applicant and consists of 19 unpatented lode mining claims and 3 mill sites. The property is located in Madison County, Montana, and is recorded in the Court House at Virginia City, as follows:

Claim Name	Book No.	Page No.	Claim Name	Book No.	Page No
Nevada	166	521	Arkansas	166	223
Utah	166	523	Texas	166	219
Cherokee Strip	166	525	Arizona	166	225
Defender No.4	166	527	Kansas	166	215
Falcon	166	529	Idaho	166	213
Defender No.3	166	531	Montana	166	211
Defender No.2	166	533	Wyoming	166	221
Defender No.1	166	535	California	166	217
Oregon	166	537	Montana Millsite	168	99
Applesauce	166	539	Calif Millsite	168	95
Little Pocket	166	541	Idaho Millsite	168	97

8623

Geology: The property lies wholly within the late Cretaceous, or early Tertiary, Tobacco Root batholith. Reddish quartz monzonite is the predominant rock and is intrusive into pre-Belt gneisses and schists, and at a few localities in Paleozoic sediments. Mineralized quartz veins are found in zones or dikes of light-colored or quartz-rich igneous rocks. The veins are controlled by small shear planes and are fairly abundant throughout the district, but are variable in thickness and length, and some are arranged en echelon. The veins averaging about 2 feet in width consist mainly of quartz with some hubnerite, pyrite, chalcopyrite, sphalerite, galena and fluorite. The hubnerite is found in lenses or pods that occur erratically.

The main vein which the proposed adit was to cut is on the Idaho claim and is from 2 to 4 feet in width and not to exceed 150 feet in length. The veins in the area are found to be of short length, which indicates that they would be shallow in depth.

Development:

The work on the property consists of location and assessment work including pits, cuts and short tunnels.

Ore Values and Tonnage: One lot of 16 tons showing good tungsten values was mined and shipped to a small mill. No data are available as to the exact results of this shipment. One sample over a width of 3.6 feet in a pit on the Idaho claim assayed 1.6 percent WO_3.

The ore showings are so irregular and erratic it is not possible to make any estimate of ore tonnage. All indications are that there is little probability of finding any significant ore bodies of a minable grade.

Proposed Work:

The proposed work consists of driving an adit about 3,400 feet in length, to cut, at a depth of 1,600 feet, the vein or veins showing on the Idaho claim. The estimated cost is $125,000.00.

Conclusions and Recommendations:

The Field Team concludes that the area contains numerous quartz veins showing tungsten mineralization, but finds little probability of making a significant discovery, and recommends denial of the application.

The Commodity Divisions of the Geological Survey, and the Bureau of Mines concur in the conclusions and recommendations.

W S Martin

W. S. Martin, Director
Division of Iron and Ferro-Alloys

IN REPLY REFER TO:

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

Memorandum

September 4, 1957

To: W. S. Martin, Defense Minerals Exploration Administration

From: W. P. Williams, U. S. Geological Survey

Subject: Review of field examination report, DMEA 4519 (tungsten), William G. Forbes, Nevada et al. claims, Potosi mining district, Madison County, Montana

After field examination the field examiners report that the applicant's property is not favorable for the presence of commercial-size tungsten ore bodies.

Some of the main bad features of the property are that the hubnerite-bearing veins are short and discontinuous along strike; the veins do not appear to persist with depth; the distribution of hubnerite within the veins is sporadic; and, probably most important, there are no strong, geologic structures on the claims.

The examining team have demonstrated that the proposed exploration project would not have a good chance for success. Under the conditions I agree with the findings of the examining team and their recommendation for denial of the application.

W. P. Williams

W. P. Williams

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DMEA
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DATE	INITIALS	CODE
9/4	Q	220
9/4	WSM	400

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

OFFICIAL FILE COPY DMEA RECEIVED AUG 30 1957		
DATE	INITIALS	CODE
8/30	C	220
9/3	WSM	400

Date August 30, 1957

DMEA Docket No. 4519
DMEA Contract No.
Commodity tungsten
Name of applicant William G. Forbes
Name of property Nevada et al claims
Location of property Medison County, Montana
Estimated cost of project

Memorandum

To: W. S. Martin, Chief, Iron and Ferroalloys Division-DMEA
Through: Acting Chief, Branch of Ferrous Metals and Ferroalloys

From: R. W. Holliday, Commodity Specialist, Branch of Ferrous Metals and Ferroalloys

Subject: Review of Field Examination Report
(Application, Field Team Report, etc.)

1. Date of subject document: 7/26/57 2. Date received by reviewer: 8/26/57

3. Prior reports on this property known to reviewer: Yes [ ] No [X]

4. Prior reports on nearby properties known to reviewer: Yes [ ] No [X]

5. Information available on past production: Yes [ ] No [X]

6. Other pertinent factors known to reviewer: Yes [ ] No [X]

7. Explain items marked yes above:

8. Factors needing special consideration:
   a. Location [ ]
   b. Ownership [ ]
   c. Evidence of mineralization [ ]
   d. Geology [ ]
   e. Proposed exploration method [ ]
   f. Alternate exploration method [ ]
   g. Costs [ ]
   h. [ ]

9. Action recommended:
   a. Obtain information from applicant [ ]
   b. Refer to Field Team [ ]
   c. Denial [X]
   d. Agree with Field Team [X]
   e. Disagree with Field Team [ ]
   f. Suggest alternate plan [ ]
   g. Request another examination [ ]
   h. Approval [ ]
   i. Consult with Mr. _____ at _____ AEC office.

10. Remarks: (Use back of page if necessary)

R W Holliday
R. W. Holliday

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
So. 157 Howard Street
Spokane 4, Washington

OFFICIAL FILE COPY
D M E A
RECEIVED AUG 1 1957

DATE	INITIALS	CODE
8/18	C	220
8/23	C	130
8/23	WSM	220
		400

August 13, 1957

Mr. George C. Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: Docket No. DMEA-4519 (Tungsten)
William G. Forbes
Nevada et al. claims
Madison County, Montana

Dear Mr. Selfridge:

Enclosed are three copies of an examination report on the above-referenced property by William B. Prinz, Geologist, U. S. Geological Survey.

Prinz concludes that the veins are discontinuous and cannot be traced far along their strike, that mineralization is patchy and irregular and the occurrence of hubnerite is erratic, that no strong structures were seen on the property, and that there is no definite target area. He, therefore, recommends that the application be denied.

We concur with this recommendation.

By Field Team, Region I

Wing G. Agnew

Wing G. Agnew, Acting Exec. Officer
U. S. Bureau of Mines

Donald R. MacLaren

Donald R. MacLaren, Acting Member
U. S. Geological Survey

Enclosures

cc: USBM (2)
USGS (SRO)
Prinz

Reviewed by
DMEA OPERATING COMMITTEE
8-23-57
(date)

OFFICIAL FILE COPY
D M E A
RECEIVED AUG 19 1957

DATE	INITIALS	CODE
		130
		220

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
So. 157 Howard Street
Spokane 4, Washington

July 26, 1957

MEMORANDUM

To: DMEA Field Team, Region I

From: William B. Prinz, Geologist, U. S. Geological Survey

Subject: Field Examination Report, Docket No. DMEA-4519 (tungsten), William G. Forbes, Nevada et al. claims, Madison County, Montana

INTRODUCTION

An application for DMEA assistance to explore tungsten-bearing quartz veins in the Potosi Mining District, Madison County, Montana was submitted October 15, 1956 by William G. Forbes. The applicant proposes to explore the property by driving a 3,400-foot tunnel (pl. 1, line A-B-C) northeast and north from a mineralized outcrop at 7,400 feet elevation to intersect at depth tungsten-bearing quartz veins exposed at the surface at higher altitudes. He also suggests an alternate tunnel (pl. 1, line A-B-D) 2,700 feet long. The applicant estimates a cost of $125,000 for the program; Government participation would be $93,750.

Donald C. Alvord, Geologist, U. S. Geological Survey, and John A. Bowsher and Eldon C. Pattee, Mining Engineers, U. S. Bureau of Mines, tried to examine the property on October 25, 1956, and Alvord tried again on October 26; however, heavy snow forced cancellation of this examination. The property was finally examined July 5, 1957 by R. D. Sample and W. C. Prinz, Geologists, U. S. Geological Survey and J. A. Bowsher, Mining Engineer, U. S. Bureau of Mines, accompanied by Tom Forbes, Butte, Montana, the applicant's son.

A previous application for Government assistance, Docket No. DMA-1265X, The Flint Company, Charles M. Shaw, included part of the property covered by the present application. J. J. Quinlan, then a geologist with the U. S. Geological Survey, examined the property and on the basis of his report the application was denied. So far as is known, the present applicant, Mr. Forbes, had no interest in the property at the time of this denial.

Reviewed by
DMEA OPERATING COMMITTEE
8-23-57
(date)

Docket No. DMEA-3111 (tungsten), E. Roy Grigg's property, Madison County, Montana covers a series of claims a half to one mile west of the present applicant's properties. The character of the veins and geological setting in the two areas is similar. This application was also denied.

SUMMARY

Hubnerite-bearing quartz veins associated with shear zones in aplitic or alaskitic segregations in a late Cretaceous or early Tertiary quartz monzonite batholith are common in the area. However, these quartz veins are thin and discontinuous and mineralization is spotty and erratic. Therefore, it is recommended that the application be denied.

LOCATION AND ACCESSIBILITY

The property is in the Tobacco Root Mountains along the north side of South Willow Creek about 12 miles by road southwest of Pony, Montana. It is in T. 3 S., R. 3 W., Madison County, Montana (unsurveyed) in an area commonly referred to as the Potosi Mining District.

The lower (southern) portions of the applicant's property are at about 7,000 feet elevation and are accessible by a road following the valley of South Willow Creek. It can be reached from Pony, Montana by passenger car by the following route: At the fork in the Pony-Harrison road near the eastern edge of Pony, take the south fork eastward. Turn right at the road intersection about 3½ miles southeast of Pony and continue along the South Willow Creek road past the road to the Potosi Ranger Station (about 10 miles from Pony). At the fork 0.8 mile southwest of the Ranger Station road, take the road to the right and continue 2.3 miles further to the base of the hill near the applicant's properties. A steep road, now impassible because of fallen trees and washouts, winds through the claims west of the applicant's properties and ends at an old tunnel at an altitude of about 9,000 feet a quarter to a half mile west of the area covered in the present application. The applicant's northernmost claims reach an altitude of about 10,000 feet and at the present are accessible only on foot or horseback.

Because of severe winter conditions with heavy snowfall, the property is inaccessible during the winter months.

APPLICANT

The applicant, William G. Forbes, 7961 Willis Avenue, Van Nuys, California, is the sole owner of the claims described in this report. He proposes to establish a corporation to furnish his share of the money required by the project.

PROPERTY RIGHTS

The application includes 19 unpatented claims and 3 mill sites as listed below and shown on plate 1. All data are taken from the application and have not been verified by the examining team. Records at the Madison County Recorders Office, Virginia City, Montana, were not consulted.

Name	Book	Page	Certification No.
Nevada	166	521	11039
Utah	166	523	11040
Cherokee Strip	166	525	11041
Defender No. 4	166	527	11042
Falcon	166	529	11043
Defender No. 3	166	531	11044
Defender No. 2	166	533	11045
Defender No. 1	166	535	11046
Oregon	166	537	11047
Applesauce	166	539	11048
Little Pocket	166	541	11049
Arkansas	166	223	99461
Texas	166	219	99459
Arizona	166	225	99462
Kansas	166	215	99457
Idaho	166	213	99456
Montana	166	211	99455
Wyoming	166	221	99460
California	166	217	99458
Montana Millsite	168	99	99561
Calif. Millsite	168	95	99559
Idaho Millsite	168	97	99560

DESCRIPTION OF PROPERTY

The applicant's property lies on the north side of the valley of South Willow Creek at altitudes ranging from 7,000 feet in the south to 10,000 feet in the north. The slopes are generally steep, with gradients from 20° to 50°. On the applicant's property, the examining team saw only one place where any work had been done and this consisted of only minor diggings along a small mineralized quartz vein. Tom Forbes, who accompanied us on the examination trip, stated that more extensive work had been done on the Idaho claim to the north, but he was unable to find this area. This claim, however, has been examined by Quinlan (Docket No. DMA-1265X) and his description will be quoted in the following section.

GEOLOGY

The description of the regional geology is taken from the following:

Tansley, W., Schafer, P. A., and Hart, L. H., 1933, A geological reconnaissance of the Tobacco Root Mountains, Madison County, Montana: Montana Bureau of Mines and Geology, Memoir 9.

Hobbs, S. W., Report on the Potosi tungsten deposit: Confidential report, U. S. Geol. Survey, date about 1943.

The properties described in this report lie wholly within the late Cretaceous or early Tertiary Tobacco Root batholith, an intrusion probably related to the Boulder batholith. The batholith is about 17 miles long and 4 miles wide at its eastern end and 8 miles wide at its western end. It is elongated west-northwest. Reddish quartz monzonite is the predominant rock of the batholith and is intrusive into pre-Belt gneisses and schists and, at a few localities, into Paleozoic sediments. Most of the mineralized quartz veins are found in zones or dikes of light-colored and quartz-rich igneous rocks (alaskite or aplite), which are common within the batholith. The veins are controlled by small shear planes which, according to Hobbs, commonly strike N. 50°-80°E. and dip steeply northwest. These quartz veins are rather abundant throughout the district but are variable in thickness and strike length. Most of them cannot be traced more than 100 feet along strike, although Hobbs did find one vein continuous for 150 feet. The veins are all apparently rather short and some are arranged in an "en echelon" pattern. They range in thickness from a fraction of an inch to 13 feet and only average about 2 feet thick. The veins consist mainly of quartz with some hubnerite, pyrite, chalcopyrite,

sphalerite, galena, and fluorite. Hubnerite varies from fine needles to coarse crystals and only rarely is it present across the whole width of a vein. It is commonly found in lenses or pods whose occurrence is quite erratic.

The applicant's property is in the western part of the Tobacco Root batholith, about 5½ miles from the north edge, 5 miles from the west edge, and 2½ miles from the south edge. Tom Forbes showed the examining team six small quartz veins on the Defender No. 3 claim and on an adjacent claim to the east, which the applicant does not control. The quartz veins are associated with zones of sheared aplite or, more rarely, pegmatite, in pink quartz monzonite. Most of the veins strike between N. 30° E. and N. 15° W. and dip steeply west, but one vein strikes east-west and dips 75°N. The northerly striking veins are from 1 to 6 inches wide; the east-west vein is 16 inches wide. No vein could be traced far along strike and in one vertical cut, a vein pinched out in less than 20 feet downward.

The veins consist of milky white quartz with some pyrite, hubnerite, and chalcopyrite. The mineralization is patchy and only two of the thin veins contain hubnerite; the rest are barren.

Tom Forbes stated that the strongest vein was to the north on the Idaho claim, but after four hours of searching this area could not be found. However, this vein was studied by J. J. Quinlan in 1951 (Docket No. DMA-1265X) who describes it as follows:

"(IDAHO CLAIM)

"A 2- to 4-foot quartz vein in the sheared aplitic phase of the light-colored igneous rock mass is exposed in the Idaho claim discovery pit. The vein strikes N. 73° E. and dips 58°NW. Hubnerite occurs as small lenses and stringers in the quartz vein. The hubnerite mineralization appears to be very erratic. A sample 3.6 feet across the southwest face of the pit assayed 1.6 percent WO_3.

"75 to 100 feet northeast of the Idaho discovery pit is another small pit on the same vein; the tungsten mineralization in this pit is not as high grade as in the Idaho discovery pit.

"CONCLUSIONS

"The vein exposed on the Idaho claim is similar to the veins explored and sampled by the Montana Mineral Resources Survey in 1940, and the veins described in

Hobbs' report on the Potosi district. As the tungsten mineralization is known to be erratic and the veins pinch out in very short distances along the strike and dip, no exploration work by the DMA is warranted."

It is not known whether additional work has been done since Quinlan's examination.

CONCLUSIONS AND RECOMMENDATIONS

Although the area contains numerous quartz veins showing tungsten mineralization, it is concluded that the chance of making a significant discovery of tungsten ore on this property is poor. It is recommended that the application be denied because

(1) the veins are discontinuous and cannot be traced far along strike,

(2) mineralization is patchy and irregular and the occurrence of hubnerite is erratic,

(3) no strong mineralized structures were seen by the examining team on the applicant's property, and

(4) there is no definite target area.

The proposed tunnel ends 1,600 feet below mineralized ground on the Idaho claim but, according to Quinlan, the vein here cannot be traced far along strike. It is therefore improbable that they have appreciable vertical extent. In any event, the veins are too discontinuous and the mineralization too irregular to justify exploration by the long, expensive crosscut proposed by the applicant.

Enclosure

Distribution:
DMEA (3)
USBM(2)
USGS(SRO)
Docket
Prins

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
So. 157 Howard Street
Spokane 4, Washington

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DMEA
RECEIVED AUG 12 1957

DATE	INITIALS	CODE
8/12	P.	220
8/12	WSM	400

August 7, 1957

Mr. W. S. Martin, Acting Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: Docket No. DMEA-4519 (Tungsten)
William G. Forbes
Nevada et al. claims
Madison County, Montana

Dear Mr. Martin:

This is in reply to your letter of August 2, 1957, requesting us to advise you of the status of the above-referenced application.

Our monthly progress report for June 1957 indicates that an examination had been rescheduled for the week of July 1, 1957. The examination was made July 5, 1957. A report recommending denial is ready for final typing and should be in the mail within a week.

Sincerely yours,

A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region I

cc: USBM (2)
Prinz

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
8/2	Chapman	400
8/2	Martin	400
8/2	Martin	130
"	Johnson	110
"	[illegible]	100
8/2	[illegible]	225
		400

AUG - 2 1957

Mr. A. E. Weissenborn, Executive Officer
DMEA Field Team, Region I
South 157 Howard Street
Spokane 4, Washington

Re: Docket No. DMEA-4519 - Tungsten
William G. Forbes
Nevada et al. claims
Madison County, Montana

Dear Mr. Weissenborn:

Reference is made to the above-noted project. We would appreciate your advising us if an examination of the property has been made this year and, if so, when we may expect a report from the Field Team.

Sincerely yours,

W. S. Martin
ACTING Chairman, Operating Committee (JB)

APPROVED:

P. F. Yopes (JB)
Member, Bureau of Mines

Thor H. Kiilsgaard (JB)
Member, Geological Survey

TLCHAPMAN/esf - 8/2/57
cc to: Docket
Code 400
Admr. R. File
Oper. Comm.
FT REG I
Messrs. R. Holliday, USBM
THKiilsgaard, USGS

8623

Docket

WILLIAM G FORBES
GEOLOGIST
7961 WILLIS AVENUE
VAN NUYS, CALIFORNIA
STATE 5-0341

November 10, 1956

Mr. A.E. Weissenborn
Executive Officer, DMEA
Field Team, Region 1
Northwest District

Re: DMEA 4519

Dear Mr. Weissenborn:

I would like to thank you and Mr. Don Alvord for your efforts to effect inspection of the tungsten properties in Potosi.

We stayed on in Pony, Montana until November 5th, anticipating a break in the weather which did not develope, but prior to leaving for Van Nuys arrangements were made so that your office will be advised should conditions prevail which would permit a field party to accomplish an inspection and survey.

Letters from Mr. Mittendorf, Administrator, Washington, D.C. acknowledging reciept of application and its review by the Iron and Ferro-Alloys Division and from Mr. Allen Dacan, Chief of Operations Control Statistics Division advising the assignment of Docket No. 4519 were received.

Although we did not accomplish very much in the way of field inspection due to near blizzard conditions during our attempts, I feel that much has been accomplished by the opportunity afforded me to become better acquainted with DMEA through the efforts of Mr. Alvord of your staff, it was a pleasure to meet and work with him.

May I again express my appreciation for the efforts of your office.

Sincerely

Air Mail

Docket

IN REPLY REFER TO:

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

RECEIVED DEC 3 1956

November 29, 1956

Re: DMEA 4519
W. G. Forbes
Unnamed prospect
Madison County, Montana
Tungsten

W/M

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of memorandum by geologist giving reasons for not making a thorough examination of the property.

The reasons given are more than adequate and are so accepted.

N. E. Nelson

N. E. Nelson

IN REPLY REFER TO:

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

November 29, 1956

Re: DMEA 4519
W. G. Forbes
Unnamed prospect
Madison County, Montana
Tungsten

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of memorandum by geologist giving reasons for not making a thorough examination of the property.

The reasons given are more than adequate and are so accepted.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-11/29/56

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
Chrono
R. Holliday, 3517

IN REPLY REFER TO:

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

November 29, 1956

Re: DMEA 4519
W. G. Forbes
Unnamed prospect
Madison County, Montana
Tungsten

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of memorandum by geologist giving reasons for not making a thorough examination of the property.

The reasons given are more than adequate and are so accepted.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-11/29/56

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
Chrono
R. Holliday, 3517

Docket

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.
So. 157 Howard Street
Spokane 4, Washington

November 16, 1956

Mr. George C.Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

WSM

Re: Docket No. DMEA-4519 (Tungsten)
W. G. Forbes
Unnamed property
Potosi Mining District
Madison County, Montana

Dear Mr. Selfridge:

Enclosed are four copies of a memorandum by D. C. Alvord, U. S. Geological Survey, which describes in some detail the adverse conditions that blocked an attempt to make an examination of Mr. Forbes' property.

Although it was agreed between the examiners and the applicant that should the snow clear off another attempt to examine the property this fall would be made, it is doubtful that this can be done before late spring.

By Field Team Region I, NW Dist.

A E Weissenborn
A. E. Weissenborn, Exec. Officer
U. S. Geological Survey

Thomas E Howard
for: Wing G. Agnew, Member
U. S. Bureau of Mines

cc: USBM (2)
Alvord

Reviewed by
DMEA OPERATING COMMITTEE
11-19-56
(date)

RECEIVED
19 1956
DMEA

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

October 31, 1956

MEMORANDUM

To: DMEA Field Team, Region I, Northwest District

From: D. C. Alvord, Geologist, U. S. Geological Survey

Subject: Attempted Examination, Docket No. DMEA-4519 (Tungsten) W. G. Forbes, Unnamed property, Potosi Mining District, Madison County, Montana

An application to explore for tungsten in the Potosi mining district was received from W. G. Forbes on October 15, 1956. In an attempt to beat the snow to the outcrops, an examination was scheduled for the week of October 21 and Mr. Forbes was notified of our intentions.

Accordingly, on the morning of October 25, John Bowsher and Eldon Pattee, mining engineers of the U. S. Bureau of Mines, and I met at Pony, Montana, about 14 miles by truck trail northeast of the Potosi district. At this time the Tobacco Root mountains (hosts to the Potosi district) were clouded over and bitter winds, accompanied by occasional snow flurries, were howling through Pony. Indigenous opinion was that there would be six inches of snow in the Potosi district. Mr. Forbes had referred us to Ed Olin of Pony as guide to the property and as the owner of a four-wheeled drive vehicle. Mr. Olin was out chasing cattle, however, and we could not contact him until about 1:00 p.m. Mr. Olin was unable to accompany us to the property that afternoon as his house had just burned down and his wife wanted him around to help clean up the mess - besides which there appeared to be little to be gained from a visit to the property due to the winds and snow.

The remainder of the afternoon was spent at Pony awaiting the arrival of Mr. Forbes, who was due in that afternoon or evening from California, and of Mr. O'Donnel and Mr. Stassnos, mining engineer and prospector, respectively, reported to be in the Potosi district. O'Donnel and Stassnos showed up at Pony late in the afternoon and reported that due to severe winds and snow, they had given up their sampling program on Tuesday and had been deer hunting ever since. With that information Bowsher and Pattee

Reviewed by
DMEA OPERATING COMMITTEE
11-19-56
(date)

returned to Butte and I remained at Pony to meet Mr. Forbes.

Mr. Forbes arrived about 6:00 p.m. and the latter part of the evening was spent at his cabin discussing the application.

The following day was characterized by snow flurries and a general overcast. In the morning Mr. Forbes and I were able to reach the lower portions of his property (about 7,200 feet altitude) but snow cover made traverse of the steep slopes (30°) exceedingly difficult and only one outcrop was examined. In the afternoon we attempted to reach the upper portions of the property (9,500 feet altitude) where, according to Mr. Forbes, the more promising structures might still be exposed. Drifted snow and sharp curves, however, stopped our jeep at about 8,000 feet altitude and we retreated to Pony.

On parting, it was agreed that should the weather break and the snow clear off, Mr. Forbes or Ed Olin could contact the Spokane office and if feasible, another examination would be arranged for this fall.

Distribution:
DMEA (orig. and 3)
USBM (2)
Docket
Alvord

DOCKET
SURNAME

400 Martin
Mathews

NOV 20 1956

Mr. William O. Forbes
7961 Willis Avenue
Van Nuys, California

Re: Docket No. DMEA 4519 - Tungsten
Nevada et al. Claims
Madison County, Montana

Dear Mr. Forbes:

This will acknowledge receipt of your letter of November 10, 1956, to the Administrator.

We thank you for this information.

Sincerely yours,

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

WSMartin:foc
11/20/56
cc to: Docket
Code 400
Admr. Read. File
FT. REG. I - NW Dist/ (2)

R.L.S.

WILLIAM G. FORBES
GEOLOGIST
7961 WILLIS AVENUE
VAN NUYS, CALIFORNIA
STATE 5-0541

RECEIVED
NOV 13 1956
D.M.E.A.

Docket

November 10, 1956

Re: D & CA-4519

WSM

Mr. C. O. Mittendorf
Administrator, DMEA
Washington 25, D.C.

Dear Mr. Mittendorf:

Thank you for your letter of October 31, 1956 advising of the action on application assigned above docket number.

Mr. Don Alvord, Chief of Party from the Northwest Division under Executive Officer, Mr. Weissenborn, contacted me here and we arranged to meet in Pony, Montana on October 26th for an inspection of the tungsten properties, unfortunately the weather turned bad overnight as it can in that area and in spite of every effort on the part of Mr. Alvord we were unable to accomplish very much in the way of a field inspection at this time, however arrangements have been made that should the weather clear sufficiently the Spokane Field Office shall be notified and if possible the survey completed.

May I take this opportunity to express my appreciation of the friendly assistance and cooperation of your staff and field representatives.

Sincerely

W. G. Forbes

Docket

WILLIAM G. FORBES
GEOLOGIST
7961 WILLIS AVENUE
VAN NUYS, CALIFORNIA
STATE 5-0541

RECEIVED NOV 13 1956 D.M.E.A.

November 10, 1956

WSM

Mr. Allen S. Dakan
Chief Operations Control and
Statistics Division DMEA
Washington 25, D.C.

Re: DMEA 4519

Dear Mr. Dakan:

Thank you for your letter of October 26, 1956, outlining the action taken on application assigned above docket number.

We shall be happy to comply with instructions regarding future correspondence.

Sincerely

W G Forbes

No reply necessary

Docket

IN REPLY REFER TO:

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

RECEIVED NOV 2 1956 D.M.E.A.

November 1, 1956

Re: DMEA 4519
William G. Forbes
Forbes Group
Madison Co., Montana
$125,000.00 - Tungsten

WSM

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of application

The applicant requests assistance in driving a long adit, about 3,500 feet, to get under showings of hubnerite.

The showings are described in very general statements and no sampling appears to have been done, and no definite work program is outlined.

The Field Team planned an examination and it may have been made. As a matter of form, I recommend that the application be referred to the Field Team.

N. E. Nelson

N. E. Nelson

Copy retained 400

IN REPLY REFER TO:

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

November 1, 1956

Re: DMEA 4519
William G. Forbes
Forbes Group
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N. E. Nelson

N. E. Nelson

NENelson:iml
G-11/1/56

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
R. Holliday, 3517

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

IN REPLY REFER TO:

RECEIVED
NOV 2 1956
D.M.E.A.

November 1, 1956

Re: DMEA 4519
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Madison Co., Montana
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N. E. Nelson

N. E. Nelson

NENelson:iml
G-11/1/56

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
R. Holliday, 3517

Docket

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

Date October 30, 1956

DMEA Docket No. 4519
DMEA Contract No.
Commodity Tungsten
Name of applicant William G. Forbes
Name of property Unnamed property
Location of property Madison County, Montana
Estimated cost of project $125,000

Memorandum

To: W. S. Martin, Chief, Iron and Ferroalloys Division-DMEA
Through: Chief, Branch of Ferrous Metals & Ferroalloys

From: R. W. Holliday, Commodity Specialist, Branch of Ferrous Metals & Ferroalloys

Subject: Review of New Application
(Application, Field Team Report, etc.)

1. Date of subject document: 10/26/56. 2. Date received by reviewer: 10/29/56.

3. Prior reports on this property known to reviewer: Yes [X] No [ ]

4. Prior reports on nearby properties known to reviewer: Yes [ ] No [X]

5. Information available on past production: Yes [ ] No [X]

6. Other pertinent factors known to reviewer: Yes [ ] No [X]

7. Explain items marked yes above:

A previous application (DMEA Docket 3111) comprising part of the lands in this application was denied.

8. Factors needing special consideration:
   a. Location [ ]
   b. Ownership [ ]
   c. Evidence of mineralization [ ]
   d. Geology [ ]
   e. Proposed exploration method [ ]
   f. Alternate exploration method [ ]
   g. Costs [ ]
   h. [ ]

9. Action advised:
   a. Obtain information from applicant [ ]
   b. Refer to Field Team [X]
   c. Denial [ ]
   d. Agree with Field Team [ ]
      i. Consult with Mr. _____ at _____ AEC office.
   e. Disagree with Field Team [ ]
   f. Suggest alternate plan [ ]
   g. Request another examination [ ]
   h. Approval [ ]

10. Remarks: (Use back of page if necessary)

R W Holliday
R. W. Holliday

Copy retained 400

DOCKET
SURNAME
400 Chapman
Martin
Kiilsgaard
Lamb
Selfridge
Johnson

OCT 31 1956

Mr. William G. Forbes
7961 Willis Avenue
Van Nuys, California

Re: Docket No. DMEA 4519 - Tungsten
Nevada et al. Claims
Madison County, Montana

Dear Mr. Forbes:

Your application for exploration assistance for tungsten ores has been reviewed by the Iron and Ferro-Alloys Division of the Defense Minerals Exploration Administration and referred to Mr. A. E. Weissenborn, Executive Officer, DMEA Field Team, Region I - Northwest District, South 157 Howard Street, Spokane 4, Washington, for a field examination of the property.

Possibly you have already heard from the Field Team with regard to the time of the examination. Any assistance you can give the Field Team will be appreciated.

Sincerely yours,

C. O. Mittendorf

Administrator

TLCHAPMAN:foc
10/30/56
cc to: Docket
Code 400
Admr. Read. File
Oper. Comm.
FT. REG. I - NWDist.
Messrs. Robert Holliday, USBM
T. H. Kiilsgaard, USGS

R.C.L.

DOCKET
SURNAME
Chapman
Martin
Selfridge
Johnson

400

Mr. A. E. Weissenborn
Executive Officer
DMEA Field Team, Region I
Northwest District
South 157 Howard Street
Spokane 4, Washington

Re: Docket No. DMEA 4519 - Tungsten
William C. Forbes
Nevada et al. claims
Madison County, Montana

Dear Mr. Weissenborn:

Reference is made to your letter of October 23, 1956, transmitting three copies of an application for exploration assistance on the subject property, and stating that, due to the lateness of the season, you planned to make an examination of the property during the week of October 21.

We will, therefore, hold the application in abeyance until the report and recommendation of the Field Team have been received.

Sincerely yours,

George C. Selfridge
(SSY)
Chairman, Operating Committee

APPROVED:

Frank D. Lang
(SSY)
Member, Bureau of Mines

Thor H. Kiilsgaard
(SSY)
Member, Geological Survey

TLChapman:foc / 10/30/56
cc to: Docket
Code 400
Admr. Read. File
Oper. Comm.
FT. Reg. L - NWDist.
Messrs. Robert Holliday, USBM
T. H. Kiilsgaard, USGS

P. S. Copies of a memorandum dated October 30, 1956, by R. W. Holliday, Bureau of Mines, are enclosed for your information.

R.W.H.

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
Washington 25, D. C.

October 26, 1956

Mr. William G. Forbes
7961 Willis Ave.
Van Nuys, Calif.

Subject: DMEA-4519
Re: Exploration Assistance

Dear Mr. Forbes

Your application for exploration assistance, dated October 11, 1956 submitted to our office at Spokane, has been assigned Docket Number DMEA-4519 and referred to the Iron and Ferro-Alloys Division in the Washington office. Kindly identify all future correspondence relating to your application by this Docket Number.

Sincerely yours,

Allen S. Dakan, Chief
Operations Control and
Statistics Division

Copy to:

Region I,N.W. Spokane, Washington

Code 400

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D. C.~~
So. 157 Howard Street
Spokane 4, Washington

RECEIVED
OCT 26 1956

October 23, 1956

Mr. George C. Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: New application (Tungsten)
William G. Forbes
7961 Willis Avenue
Van Nuys, California
Unnamed property
Madison County, Montana

Dear Mr. Selfridge:

Enclosed are three copies of an application for assistance to explore for tungsten in the Potosi Mining District, Madison County, Montana. The fourth copy is being held for our files.

Due to the lateness of the season this property should be examined immediately; therefore, we are going to try to make an examination before the snow covers the outcrops, possibly during the week of October 21.

Sincerely yours,

Donald R. MacLaren

Donald R. MacLaren
For: A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region I
Northwest District

Enclosures
cc: USBM(2)
Alvord

RECEIVED
OCT 26 1956

October 11, 1956

Mr. A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region 1
Northwest District

Letter of Transmittal:

Dear Sir:

Thank you for your reply of September 19,1956. Enclosed is completed application form MF103, and attached data.

I am proceeding with the formation of a corporation for the express purpose of exploration and development of the properties described herein. The application is in my name at this time in order to expedite procedures, however when the corporation is completed it will supersede me as an endividual in this matter. Under the circumstances however this will permit us to proceed with the preliminary phases.

This application is somewhat sketchy and incomplete as regards questions No.5 thru No.7 and shall be amended to your satisfaction with regard to personnel and qualifications of said personnel as soon as determined by the corporate body. However if there is any pertinent data which I may have omitted I would appreciate your guidance.

Sincerely

William J. Forbes

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OCT 15 1956
U. S. G. S.
SPOKANE, WASH.

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

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OCT 26 1956

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

Not to be filled in by applicant

Docket No. DMEA - 4519
Metal or Mineral Tungsten
Date Received 10-26-56
Estimated Cost $125,000
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address:

William G. Forbes
7961 Willis Ave.,
Van Nuys, California.

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

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

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

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

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

19 claims &3 Mill sites located in the Potosi Mining District
Madison County, T-3-S, R-3-W Madison County, Montana.

(*b*) State any mine name by which the property is known. None

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

Claimholder and owner

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property.

(*e*) If you own the land, describe any liens or encumbrances on it none

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice. Attached

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

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

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

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

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

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OCT 15 1956
U. S. G. S.
SPOKANE, WASH.

16—66551-1

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

☐ Money ☐ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper.

CERTIFICATION

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

Dated October 11, 1956

William A. Forbes
(Applicant)

By .....

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

U. S. GOVERNMENT PRINTING OFFICE 16—66551-1

Supplemental Data MF103

Question 3.

RECEIVED
OCT 26 1956

(f) Property rights.

The following list shows Book and Page numbers of Records at the Madison County Recorders office located at Virginia City, Montana of the claims referred to herein.

TITLE	BOOK	PAGE	CERTIFICATION NO.
Nevada	166	521	11039
Utah	166	523	11040
Cherokee Strip	166	525	11041
Defender No.4	166	527	11042
Falcon	166	529	11043
Defender No.3	166	531	11044
Defender No.2	166	533	11045
Defender No.1	166	535	11046
Oregon	166	537	11047
Applesauce	166	539	11048
Little Pocket	166	541	11049
Arkansas	166	223	99461
Texas	166	219	99459
Arizona	166	225	99462
Kansas	166	215	99457
Idaho	166	213	99456
Montana	166	211	99455
Wyoming	166	221	99460
California	166	217	99458
Montana Millsite	168	99	99561
Calif. Millsite	168	95	99559
Idaho Millsite	168	97	99560

Supplemental Data MF103

Question 4.

(a) Physical Description.

Mining operations as such, past or present --- None

Exploration --- Prospecting and some exploratory work, for the major part of little importance, the primary objective being gold and silver. The most extensive exploratory work being done during the periods 1907-1911 and 1930-1933. Prospecting has been conducted in the area to some degree since 1866. While the tungsten contained in the mineral deposits of the area was known as early as 1906 its economic importance and low price resulted in the area being inactive thru the years.

At the present time activity is confined to a relatively small area, in general held by four separate interests.

1. A group of claims held by Dr.Greigg.
2. A group of 6 claims held by the Potosi Tungsten Corp. and at present under lease-option to O'Donnell & Schmidt Consulting Mining Engineers of New York.
3. One and a half claims held by Mr. Stassnos of Butte, Mont.
4. A group of 19 claims and 3 millsites held by the applicant. (See plat)

For the past several years Dr. Greigg has been conducting some exploratory work, the extent of which is unknown.

As of August 1956, O'Donnell & Schmidt have been constructing additional access roads preparatory to proposed exploratory and development work.

From time to time Mr. Stassnos conducts some exploratory work.

Since 1950 the applicant has conducted some exploratory work, constructed approximately one and three-quarter miles of road, and pursued geological survey and analysis relative to the area.

(b) Past and present production.

With the exception of approximately 16 tons of high grade tungsten ore shipped to the old Strawberry stamp mill two miles west of Pony during the period 1930-33, there has been and at present there is no production. It follows from the foregoing that there are no ore reserves blocked out, however from geological evidence, it is indicated that there is sufficient ore of a grade 1% plus contained $MnWO_3$ to support a full time operation of 100 T/D for many years.

(c) Geologic features, mineralization, reason for exploration.

General:

The following is a brief outline of the genesis of the ores of the area and an outline of its geologic history. Geology indicates that a long period of sedimentation which began

Supplemental Data MF103

Geologic features etc. continued.

during the pre-Cambrian and extended well into the Mesozic era, followed by the mountain making, or orogenic disturbance(Rocky Mountain Revolution) toward the close of the Cretaceous period and may have extended into the early Eocene period, resulting in overthrust faulting and the intrusion of the sedimentaries by the highly mineralized great Boulder Batholith in conjunction with what appear to be fragmental batholithic intrusions which may possibly be portions of the Boulder Batholith having lacolithic connection at depth.

The area under consideration is such a batholith or batholithic outlier observable over an area estimated to be approximately six (6) by seventeen (17) miles, being generally known as the Tobacco Root Batholith and on occasion the Potosi-Revenue Batholith.

Following the orogenic revolution, a period of relative stability permitted the lowering or partial peneplaining of the area by erosional forces by many hundreds of feet. During the Oligocene, Miocene and earlyPliocene, sedimentation progressed and resulted in warping, folding and faulting which elevated the now present mountains.

During the Pliocene and Pleistocene epochs, (Late Tertiary and early Quaternary) erosional processes continued and during middle Pleistocene time glaciation began at the higher elevations with the resulting encroachment on, and the recession from, the lower elevations. The present era followed closely that of glaciation, and the ensuing erosional processes reveal the present topography. Throughout the general area, and particularly in the Madison Valley large terminal moraines may be observed. Westward from the Potosi Hot Springs, along South Willow Creek is an area of terminal moraine and farther west near the head of Willow Creek small lakes have been dammed by morainal drifts.

The properties concerned in this description lie on the southern slope of a spur of the Tobacco Root Mountains at elevations ranging from 7200' to 10,000'. In general the terrain is relatively steep, measured gradients vary from 20 to 50 degrees, becoming progressively steeper with altitude.

Genesis of Ore Deposits:

The properties referred to herein lie entirely within the Tobacco Root Batholith, The approximate distance to its point of contact with the overlying sedimentaries is, to the south approximately four (4) miles, to the west approximately three (3) miles and to the east approximately six (6) miles

The batholith is comprised, in the main, of porphyritic Quartz Monzonite and the veins or dikes cutting the quartz monzonite are exposed on the surface and consist of hard, milky white massive quartz having a glossy texture similar to that of fissure veins of great depth and not comparable to the chalcedonic or opal type quartz typical of shallow veins formed near the surface.

Supplemental Data MF103

Geologic features etc. continued

The general trend of these veins is between 60 to 80 degrees NE-SW dipping steeply NW.

The predominant mineral is Hubnerite ($MnWo_4$) and its occurrance is in irregular bands or streaks and masses or bunches throughout the milky white, hard quartz. Crystallization ranges from minute finely disseminated crystals to crystals of a few inches in length by one half to three-quarters of an inch in width and comparable thickness, and at the surface is usually associated with its oxide Tungstite ($Wo_3 H_2O$) which is readily distinguished by its greenish to canary yellow color and its powdery appearance. Since tungsten minerals are attacked by dilute solutions of sulphuric acid slightly, it follows that the tungstite observed is the result of leaching by meteoric waters and natural acids and precipitated in crevices and fracture planes and on the exposed surfaces, and may possibly prove to be a source of secondary enrichment, as heavy concentrations have been noted in the outcrops.

It is to be noted that in general very little if any other minerals such as pyrite, are found associated with the Hubnerite. Fluorite of various colors but most generally white or bluish lavender was noted in several places, usually along the foot wall of an outcrop, however in my opinion it does not serve as an indicator of the genesis of the tungsten mineral and probably represents a later period of deposition as it is usually found in quantity in association with lead minerals and at various stages of deposition.

The veins or ore bearing dikes were probably formed under the following conditions. When the batholith was intruded subsequent to the folding of the thick sedimentary rock or earth crust it produced only slight metamorphic effects as a whole, either by heat or by contributed material on the intruded rock.

Structure indicates that the sedimentary rock formerly occupying the area now held by the granite has been removed in mass by truncation of the beds and this in part was caused by magmatic stoping, as the agent involved.

Contact phenomena plus the internal succession of rock type viz: Monzonite, Aplite, Pegmatite and Quartz indicate an increase of acidity in the magmatic reservoir.

As the batholith slowly cooled under a thick blanket of sedimentary rock, endokinetic fissures resulted from the shrinking and cooling of the uppermost portions of the monzonite. These fissures relieved the pressures and lowered the temperature and were again filled by a more acid material forming the Aplite and Pegmatite dikes. Further endokinetic fissuring was caused by the cooling of the magma from the plastic state, this effected a lowering of temperatures and caused an increase in vapor pressures. These fissures filled with the more acid portion of the magmas and entrained gases which upon condensation formed the massive white quartz and the tungsten mineral Hubnerite.

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Geologic features etc. continued

Later, after the upper portions of the batholith had solidified and cooled, exokinetic fissures formed along the quartz dikes which permitted the circulation of mesothermal solutions resulting in the deposition of Fluorite, and in one location on the Falcon claim, Fluorite, Pyrite, Chalcopyrite, Pyrargarite, Sphalerite and some copper group minerals.

The quartz monzonite porphry is light colored, greyish porphyritic rock, highly siliceous and resembling granite. It contains much quartz and feldspar, about equal amounts of orthoclase and plagioclase, very little muscovite, titanite, magnetite or chlorite.

The Aplite is also light colored greyish, fine grained rock consisting mostly of quartz and orthoclase with little plagioclase which appears to be largely converted to sericite (mica) also a little original muscovite and fluorite, and in a few instances some fluorite and pyrite that appear to be of later origin.

The pegmatite appears to be another phase of aplite that is more coarsely crystalline feldspar and quartz with very little other minerals.

The tungsten mineral Hubnerite formed wholly within the more acid quartz phase of the magma and is found disseminated through the quartz and not associated with the monzonite, aplite or pegmatite phase of the magma.

The deposits of tungsten covers an extensive area and it has been noted that close examination of outcroppings of this hard white quartz exposed on these properties will disclose crystals of Hubnerite and the characteristic greenish to canary yellow coating of tungstite even if only minute in size and quantity.

The veins or vein system or dikes described herein vary from a few inches in width to many feet and in some instances can be traced longitudinally for distances of several hundred feet. It would be difficult to estimate the possible quantity or extent of ore as veins of this type are known to persist to depths exceeding 8000'.

There is ample water and timber available on the properties to meet any requirement of mining and milling.

As indicated by the foregoing and in view of the economic position coupled with the strategic importance to the national defense program of this vital mineral, it follows that the exploration and development of reserves indicated would be of great benefit. I have proceeded to date with the preliminary exploration and investigation on the recommendations of

Mr. Tobey M.E. Supt. of operations at Glenn, Mont. for Minerals Engineering Co. of Grand Jct., Colo.
Mr. D. Carlysle Asst. Professor of Geology Univ. of Cal. L.A.
Mr. Norman Whitmore M.E. Pres. Meco Engineering Co. L.A. Cal.

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Question 4.

(d) Accessibility, roads, shipping, supply & residence points.

From Harrison on Montana highway No.1, six (6) miles via a gravelled all year all weather road to Pony, thence seven (7) milesvia a graded and periodically maintained secondary county road to Potosi Hot Springs and Ranger Station then approximately four (4) miles via relatively good country road to the location of the properties described herein.

Shipping could be by truck. The Great Northern R.R. serves Harrison and would constitute the nearest rail shipping point, however six (6) miles further north via highway 1. from Harrison is Sappington Junction on the main line of the Milwaukee R.R. which could also be used as a shipping point.

Residence -- The nearest point of residence would be Pony unless camp facilities were constructed at the location.

Supply -- Food supply can be had at any of several points namely, Pony, Harrison, Whitehall, Three Forks, Bozeman, Norris and Butte. Mining supplies and equipment are readly available in Butte, Mont. which is seventy-three (73) miles northwest and accessible at all times.

(e) Manpower, materials, supplies, equipment, water and power.

Man power can be drawn from the reservoir of experienced personnel in the area now idle due to the lack of active mining operations.

Materials and supplies are available in any quantity from suppliers throughout the U.S.,the only delay would be one of shipping facilities.

Water -- There is ample water to supply all requirements both for domestic and culinary purposes and any size mining and milling requirements.

Power -- There are no power facilities. Therefor the installation of a power plant is indicated to fill all requirements. There is a Montana Power Co. power line approximately sixteen (16) miles east. This line traverses Madison Valley in a NW-SE direction. Upon inquiry in 1955, the company indicated that a polyphase line could be extended to the properties at an estimated cost of $1600 per mile, this cost would be liquidated on an amortization plan based upon a percentage of power consumed.

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Question 5.

(a) Exploration project.

Mineral -- Tungsten

(b) It is proposed to drive a tunnel, the portal of which would be at an elevation of approximately 7600' (See Plat) and located on a massive outcrop which appears to be a continuation of a strong highly mineralized vein that is traceable at much higher altitudes and the accessibility of which would make exploration from these higher altitudes costly and impracticable. This tunnel if driven in a northeasterly and northerly direction would serve to explore a maximum area at a minimum cost and would serve as a main haulage tunnel in the event of a discovery of economic importance, further it would afford a more desireable and accessible site for the location of supplies and equipment. The lower altitude would result in greater equipment efficiency and also eliminate the necessity of transport over mountainous roads which may become dangerous,if not impassable in inclement weather and during the winter months plus eliminating the cost of construction of said roads.

(c) Time required for project. -- It has been indicated by reputable mining contractors that an exploratory tunnel of this length could be driven in approximately 300 working days. This does not take into consideration down time nor unforeseen contingencies, allowances for which, added to the indicated time required would tend to show an approximate period of two years for completion of the program.

(d) Background and experience. -- The applicant (owner) is a Qualified geologist and engineer, having 25 years experience in the petroleum, mining and general engineering field. The personnel that will supervise and direct the operation shall be the most highly qualified personnel available, and acceptable to DMEA and operator.

Question 6.

(a) It is proposed to contract the driving of the proposed tunnel. Tentative estimates of cost by reputable contractors are in the range of $35.00 per foot of tunnel driven, timbering where necessary extra.

(b) Labor, supervision and consultants. -- Labor to be supplied by the mining contractor. Supervisors and consultants, geologists and engineers qualified and acceptable to DMEA and operator.

(c) Operating equipment and supplies. -- To be determined by contractual agreement.

(d) Same as (c).

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Question 6.

(e) Rehabilitation and repairs. -- None

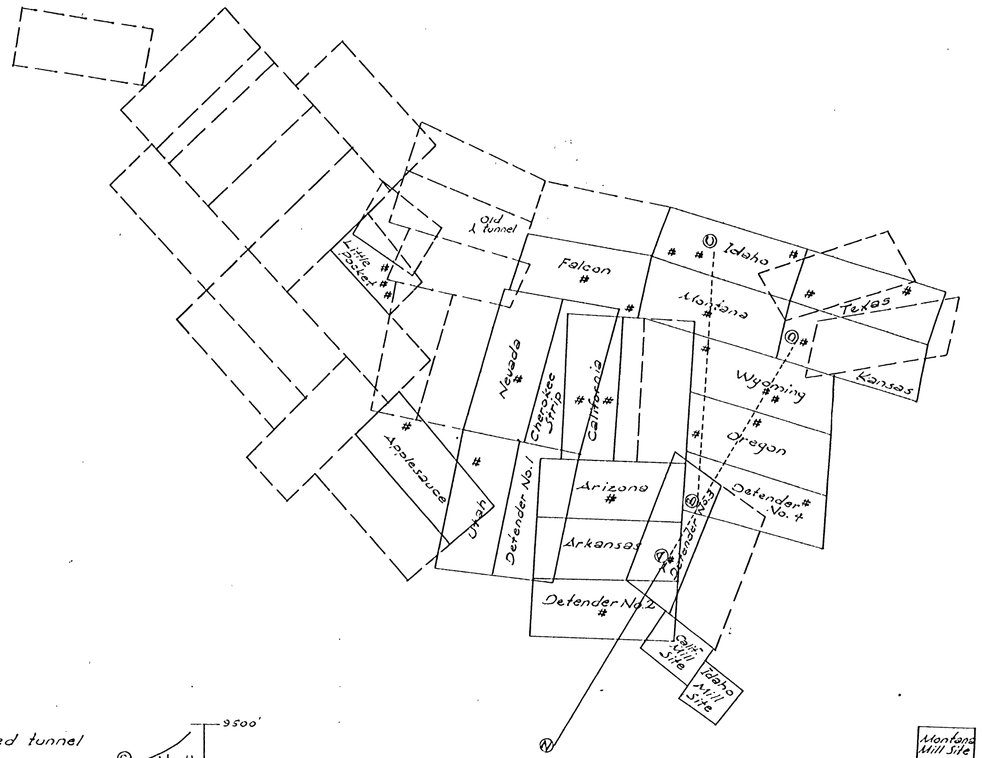
(f) New buildings, improvements and installations. -- In any event it will be necessary to construct new buildings for the protection and storage of equipment and supplies, laboratory, office etc. The actual requirements to be determined when all factors are available.

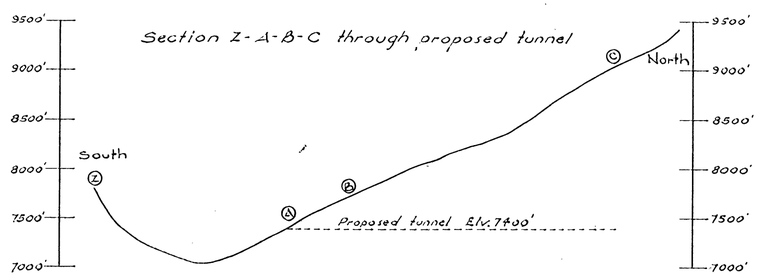
(g) Miscellaneous. -- Analytical work to be conducted by independant testing laboratories acceptable to DMEA and operator, preliminary field analysis to be done in operations laboratory. Certified Public Accountant acceptable to DMEA and operator. Workmans Compensation and employers liability. Industrial Accident Board, State of Montana at Helena. Public Liability and Property Damage insurance as indicated to be in the best interest of the operation and operator. (To be determined when all factors are available.) Workmans Compensation Insurance as of 1955 was based upon payroll the rate being approximately 11% of total payroll. Payroll Taxes as required by Federal, State and Local law.

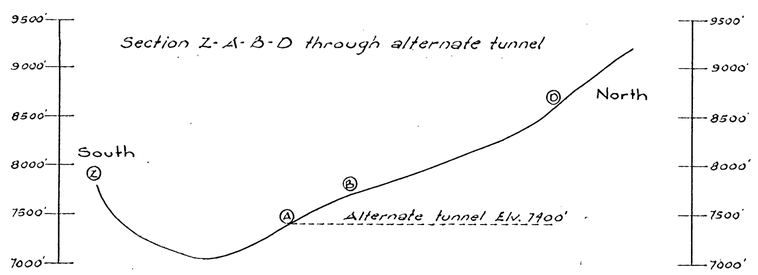
(h) In the absence of a thoroughly engineered plan for a project of this magnitude, only a very general estimate of approximate costs is possible and would indicate a minimum requirement of $125,000.

Question 7.

(a)&(b) Upon compeltion of the corporate body we shall be prepared to furnish our share of the costs in monies and allowable services of administrative and professional personnel.







EXPLANATION

Claim boundaries and locations of mineralized outcrops traced from applicants map

Cross sections constructed by W. C. Prinz from Harrison, Montana Quadrangle

————————	Claim boundaries (Claims held by W.G. Forbes)
— — — — — —	Claim boundaries (Claims held by others)
#	Outcrops (mineralized, approximate location)
Ⓐ Ⓑ - - - - - Ⓒ	Proposed tunnel
Ⓐ Ⓑ - - - - - Ⓓ	Alternate tunnel

CLAIM MAP AND CROSS SECTIONS
WILLIAM G. FORBES PROPERTY
POTOSI MINING DISTRICT
MADISON COUNTY, MONTANA

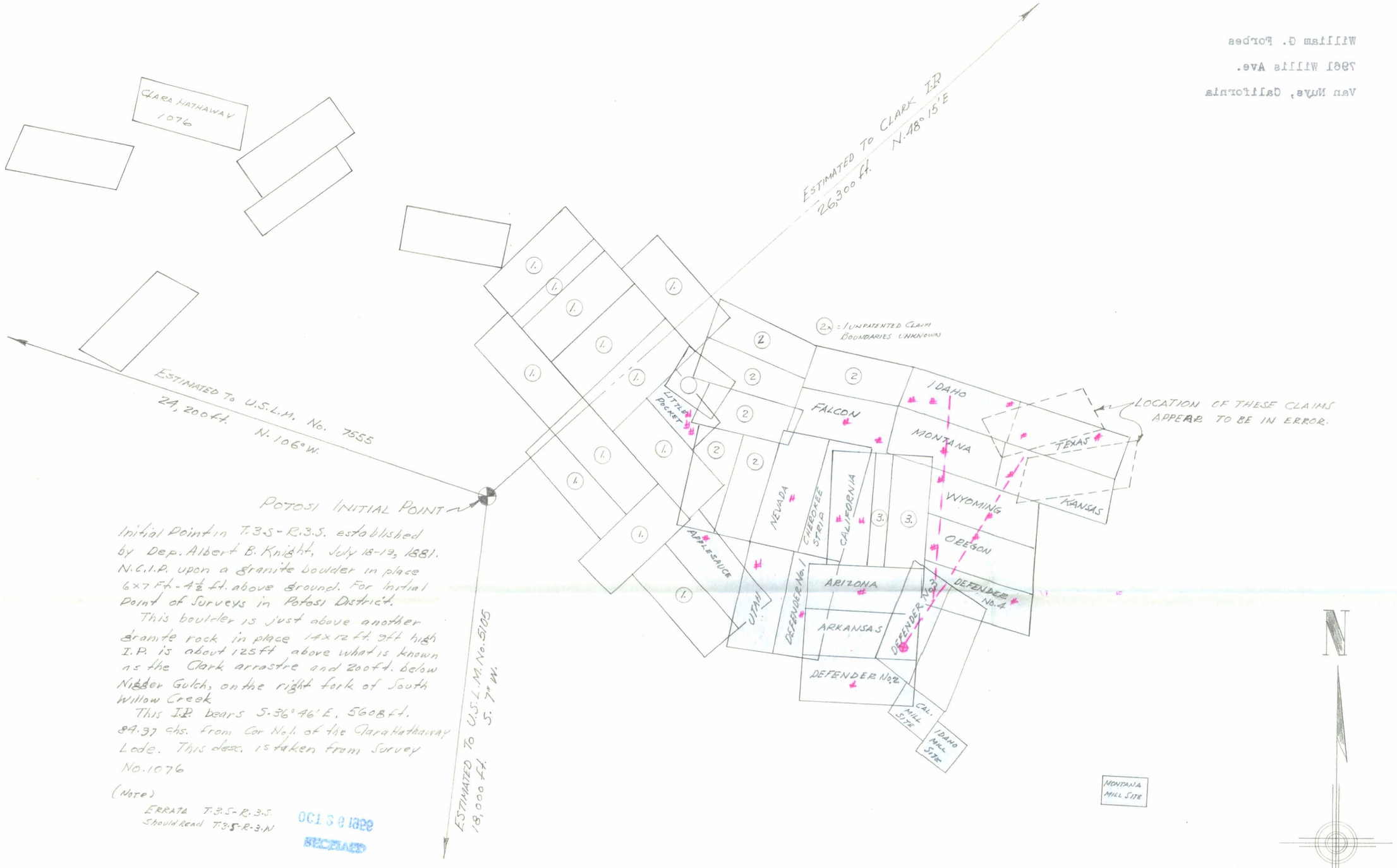
1000 0 1000 2000 Feet

JULY 1957

PLATE I

GEOLOGY BY W.C. PRINZ, U.S.G.S.

William G. Forbes
7961 Willis Ave.
Van Nuys, California



Initial Point in T.3-S-R.3-S. established by Dep. Albert B. Knight, July 18-19, 1881. N.C.I.P. upon a granite boulder in place 6x7 Ft-4½ ft. above ground. For Initial Point of Surveys in Potosi District.

This boulder is just above another granite rock in place 14x12 ft. 3ft high I.P. is about 125ft above what is known as the Clark arrastre and 200ft. below Nibber Gulch, on the right fork of South Willow Creek

This I.P. bears S.36°46' E. 5608 ft. 84.97 chs. from Cor No.1 of the Clara Hathaway Lode. This desc. is taken from Survey No. 1076

(Note)

ERRATA T.3.S-R.3.S.
Should Read T.3.S-R.3.N

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(1.) = PROPERTIES OF DR. GRIEGG.

(2.) PROPERTIES OF POTOSI TUNGSTEN Co.

(3.) PROPERTIES OF MR. T. STASSNOS.

- - - - = PROPOSED EXPLORATION SHOWING 2 POSSIBLE ROUTES ONLY 1 OF WHICH WOULD BE FOLLOWED.

= OUTCROPS (MINERALIZED) (APPROX. LOCATIONS)

⊕ = OUTCROP - 30ft WIDE MINERALIZED. POINT SUGGESTED AS POINT OF BEGINING.

POTOSI MINING DISTRICT

T-3-S-R-3-W MADISON Co. MONTANA

SCALE 1" = 1000'