400

JUN 14 1954

Hon. George W. Malone
United States Senate
Washington 25, D. C.

My dear Senator Malone:

Reference is made to your inquiry by letter of March 6, 1954, and our reply of March 18, 1954, concerning an application by Mr. Duard Crockett Wray of Fallon, Nevada, for exploration assistance, our docket No. DMEA 3268, Midnight Tungsten Mine, Inc.

Although the same claims had been carefully examined 2½ years previously by our predecessor agency, Defense Minerals Administration, a small amount of additional work was reported to us as having been completed, and our Field Team, therefore, made an entirely new examination. All the available data, however, confirm our belief that the possibilities of developing significant quantities of tungsten ore for the National Defense Program are too meager to warrant Government participation in exploring the property in question.

Accordingly, the above application for exploration aid has been denied, as you will note from the enclosed copy of our letter of today's date to Mr. Wray.

Sincerely yours,

C. O. Mittendorf

Administrator

Enclosure

CC: DOCKET
FIELD TEAM, REG. 3
CODE 400
OPER. COMM.
ADM. READ. FILE
R. W. GREHAN, USBM
T. P. THAYER, USGS

JHopkins:WSMartin/ls
6/9/54

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

Hon. George W. Malone
United States Senate
Washington 25, D. C.

My dear Senator Malone:

Reference is made to your inquiry by letter of March 6, 1954, and our reply of March 18, 1954, concerning an application by Mr. Duard Crockett Wray of Fallon, Nevada, for exploration assistance, our docket No. DMEA 3268, Midnight Tungsten Mine, Inc.

Although the same claims had been carefully examined 2½ years previously by our predecessor agency, Defense Minerals Administration, a small amount of additional work was reported to us as having been completed, and our Field Team, therefore, made an entirely new examination. All the available data, however, confirm our belief that the possibilities of developing significant quantities of tungsten ore for the National Defense Program are too meager to warrant Government participation in exploring the property in question.

Accordingly, the above application for exploration aid has been denied, as you will note from the enclosed copy of our letter of today's date to Mr. Wray.

Sincerely yours,

Administrator

Enclosure

400

JUN 14 1954

Mr. Duard Crockett Wray, President
Midnight Tungsten Mine, Inc.
P. O. Box 409
Fallon, Nevada

Re: Docket No. DMEA 3268 - Tungsten
Midnight mine
Churchill County, Nevada

Dear Mr. Wray:

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

Projects approved by the Defense Minerals Exploration Administration must, in its judgment, show definite promise of yielding materials of acceptable grade in quantities that will significantly improve the mineral supply position for 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 minable ore reserves by your proposed program is not sufficiently promising to justify Government participation. Under these circumstances, we regret to advise you that your application is denied.

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

Sincerely yours,

C. O. Mittendorf

Administrator

cc: DOCKET
FIELD TEAM, REG. 3
CODE 400
OPER. COMMITTEE
ADMIN. READ. FILE
R. W. GEEHAN, USBM
T. P. THAYER, USGS
MR. HOPKINS

JHopkins/ls 6/9/54

June 9, 1954

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division

Subject: Denial of application for exploration assistance in the amount of $30,000
Docket No. DMEA 3268 - Tungsten
Midnight Tungsten Mine, Inc.
Midnight Tungsten Mine
Churchill County, Nevada

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

(1) The applicant requested exploration assistance in the amount of $30,000.00 to explore for tungsten on the Midnight Tungsten Mine, Churchill County, Nevada.

(2) The work proposed by the applicant lacks a definite target.

(3) As no ore is exposed and no ore is inferred, no target can be established and the work is still in the prospecting stage.

(4) The rock in the mine area is schist with three interbedded limy beds metamorphosed in certain localities to marbleized limestone and tactite. Along a strike length of 3000 feet, most of the tactite contains tungsten minerals in small amounts.

(5) No ore bodies of commercial grade are exposed on the Midnight prospect.

(6) A series of samples were taken in widely scattered areas by the examining engineers. Analytical results and locations are as follows:

Sample No.	% WO_3	Description
1651	* 0.01	Chips from an outcrop on No. 3 Bed
1652	* 0.01	Cut across 2' on No. 3 Bed
1653	* 0.01	Cut across 14" on No. 3 Bed.
1654	* 0.01	Cut across 1' vein material in 2nd trench south No. 2 Adit

*= Less than

(7) Development has consisted of small cuts and pits for location and assessment purposes, six dozer trenches, and two adits 75 and 120 feet in length.

(8) Production from the property is reported to have been 7 tons assaying 1.49 WO_3 from a single lens.

(9) No ore of mill grade is presently exposed in development openings.

(10) The examining engineer and geologist consider that the possibilities of developing mill grade ore are too meager to warrant Government participation in exploring the property.

(11) The Field Team recommends that no further consideration be given to the property.

(12) The Commodity Divisions of the Geological Survey and Bureau of Mines concur in the denial.

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

cc: DOCKET
CODE 400
ADM. READ. FILE
OPERATING COMMITTEE
MR. HOPKINS

JHopkins/ls 6/9/54

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

400

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

May 18, 1954

Memorandum

To: George C. Selfridge, Chairman, Operating Committee, DMEA
Interior Building, Washington 25, D. C.

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA-3268 - Tungsten
Midnight Tungsten Mine, Inc.
Midnight Mine, Churchill County, Nevada

Reference is made to your subject letter dated March 18, 1954, requesting a field examination of the Midnight Tungsten Mine.

The property was examined on April 1, 1954. Attached are four copies of the examiners' report entitled "DMEA-3268, Midnight Tungsten Mine, Churchill County, Nevada," by W. T. Benson, Mining Engineer, U. S. Bureau of Mines, and Roscoe M. Smith, Geologist, U. S. Geological Survey, dated May 12, 1954.

The engineer and geologist are in agreement that the possibilities of developing ore of mill grade are too meager to warrant Government participation to explore the weakly mineralized silicated sections found on the property. I concur with their recommendations.

As requested, the report on the property by Arthur Lakes is being returned to the applicant.

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

Attachment

Copy to: Roscoe Smith, USGS
A. C. Johnson, Reno

Reviewed by
DMEA OPERATING COMMITTEE
5/28/54
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA-3268, Midnight Tungsten Mine

Churchill County, Nevada

W. T. Benson, Mining Engineer
U. S. Bureau of Mines

Roscoe M. Smith, Geologist
U. S. Geological Survey

May 12, 1954

Reviewed by
DMEA OPERATING COMMITTEE
7/28/54
(date)

EXAMINATION REPORT

Docket No.: DMEA-3268 (Tungsten)

Name and address of applicant: Duard Crockett Wray
P. O. Box 409
Fallon, Nevada

Name and location of property: Midnight Tungsten Mine,
Churchill County, Nevada

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The Midnight Tungsten Mine, Inc., P. O. Box 409, Fallon, Nev., applied on February 26, 1954 to the Defense Minerals Exploration Administration for Government assistance in a $30,000 program to explore surface and underground showings of tungsten-bearing silicated sections on the Midnight group of claims, Churchill County, Nev.

A field examination was requested by the Executive Officer, DMEA Field Team, Region III to determine if the showings were sufficient to justify the program proposed by the applicant and to obtain other factual data necessary to clarify the application. Accordingly, an examination was made on April 1, 1954 by an engineer of the Bureau of Mines and a geologist of the Geological Survey.

The proposed work is predicated on recommendations of the applicant's consultant who has inferred an indefinite tonnage of mill grade ore. This estimate is based on the proximity of productive deposits located 28 to 117 miles distant; the mining of 7 tons of ore on the property reported

to contain 1.49 percent WO_3; the wide distribution of weakly mineralized favorable host rock; and the inference that the granite intrusive is a plug or stock. The field team representatives consider that these factors do not constitute a reliable basis for inference of mill grade ore on the Midnight property. While ore of mill grade may exist, the information currently available is insufficient to predict the location of the most favorable areas.

It is the considered opinions of the examining engineer and geologist that the possibilities of developing ore of mill grade are too meager to warrant Government participation to explore the weakly mineralized silicated sections found on the property. Further consideration is not recommended.

INTRODUCTION

In connection with an application for exploration assistance (docket No. DMEA-3268), the Midnight Tungsten Mine, Inc.'s property was visited on April 1, 1954 by an engineer of the Bureau of Mines and a geologist of the Geological Survey. The purpose of the visit was to inspect development openings recently constructed by the applicant, Duard Crockett Wray. Previously the property was the object of a prior application, Docket No. DMEA-1621X, Mark Harris, Bell Flat Tungsten claims. This application was withdrawn by Mr. Harris by letter dated January 21, 1952.

PROPERTY HOLDINGS AND ACCESSIBILITY

Property holdings comprise 10 unpatented lode mining claims known

as the Midnight group of 6 claims, the She-Lite group of 3 claims and the Gateway, situated in sec. 6, T. 14 N., R. 34 E., southeastern Churchill County, Nev., about 74 miles by road east of Fallon, the supply and shipping point on the Wazen to Fallon branch line of the Southern Pacific Railroad.

To reach the property from Fallon, Highway 50 is traveled east 49 miles to the turnoff on State Highway 23. This highway is followed south 15 miles to the Bell Flat turnoff. The Bell Flat road is then traveled 10 miles west to the property which lies on the east slope of Slate Mountain and on the west side of Bell Flat.

COMPETENCY OF APPLICANT

The applicant, Duard Crockett Wray, who would supervise the work, according to his statement, has had 21 years experience in the exploration and production from mines in Nevada, California, Arizona, and Wyoming.

Other members of the corporation include Merlin F. Crystal, P.O. Box 499, Fallon, Nev., and S. J. Higginbotham, P. O. Box 649, Fallon, Nevada, who have businesses in Fallon, and in no way would they be connected with the operation of the property.

Mr. Harris, one of the owners of the property, now operating the Western Hotel, Fallon, Nevada and who has had considerable mining experience, plans to assist Mr. Wray in supervising work on the property.

HISTORY

Claim locations were first made in 1941 by Mark Harris, P. O. Box 297, Fallon, Nev. The original locations comprised 12 unpatented lode mining claims, and later two claims, the Scheelite 3 and 4, were abandoned. In 1945 the property was leased to F. W. Cook, Las Vegas, Nev. He drove the No. 2 adit a distance of 50 feet and later relinquished his lease.

Following this operation, a small lens of ore about 30 feet above the No. 2 adit was mined in 1950 by a son of Mr. Harris and a brother-in-law. This lens produced 7 tons that assayed 1.49 percent WO_3.

The property, except for some work for assessment purposes, was idle until acquired by Midnight Tungsten Mines Inc. on a bond and lease arrangement. The Midnight Co. did considerable road construction, surface trenching with a dozer, and drove the No. 3 adit a distance of 75 feet. In these workings no ore of commercial grade was encountered, and at the time of visit, the property was idle.

PHYSICAL FEATURES

The claims are located in an area of moderately steep topography at an altitude of about 6,000 feet. Climate in the area is semi-arid with long hot summers and winters that are not too severe. Precipitation occurs usually as snow with occasional rains during the fall and spring months. Winter storms generally are not severe enough to impede or

stop mining operations. Sagebrush with some willow in the canyon bottoms and scattered growths of juniper and pinon at the higher altitudes constitute the vegetation on the property. Water is scarce. For domestic and mining use it is supplied in drums by truck from Gabbs, Nevada, 26 miles southeast.

No transmitted electric power is available. For generation of power, fuel oil is supplied in drums by truck from Fallon, 74 miles west.

HOUSING FACILITIES

A 10 by 12 foot frame structure, near the mouth of the canyon, and a wall tent is sufficient to accommodate a crew of 4 to 6 men.

EQUIPMENT

Equipment on the property includes a 110 cu. ft. portable compressor, a compression drill, hose, pipe, rail, a mine car, and a small assortment of hand tools.

DEVELOPMENT

In addition to small surface cuts and pits for location and assessment purposes, recent development consists of 6 dozer trenches, and 2 adits 75 and 120 feet in length (fig. 2).

GEOLOGY

The rock in the mine area is schist which contains three interbedded limy beds, and which has been intruded by granite, aplite, and rhyolite sills and dikes and cut by northwest striking faults.

The schist unit is at least 1500 feet thick and is thin bedded, dark gray to black, micaceous, and locally siliceous. It contains, in addition to the limy beds, interbedded layers of hornfels and calc-silicate rock. The beds strike N. 10-40 E. and dip 20° to 40° SE. The schist overlying the granite is buff colored owing to iron oxide stains along partings and fractures. The buff colored zone extends for several thousand feet along the foothills of the range, suggesting that there may be granite at shallow depths under the buff colored schist.

The limy beds are as much as 10 feet wide and are traced by discontinuous outcrops for 3000 feet along the strike. In two localities they are pure marbleized limestone, but in most places they have been metamorphosed to tactite which consists of epidote with lesser amounts of quartz and garnet. Most of the tactite contains small amounts of scheelite.

A granite sill (?) about 1500 feet thick crops out northeast of the mine area. Although the equidimensional shape of the outcrop suggests a stock, the western edge of the granite is sill-like. Jointing in the granite strikes N. 40 E. and dips 70° W.

A rhyolite dike about 50 feet wide that strikes northwest and dips steeply northeast crops out west of the mine area.

An aplite sill as much as 10 feet wide is reported to persist for 3000 feet along the strike. It lies between the granite sill and the underlying schist along the western edge of the granite, and appears to be later

than the granite, the mineralization, and the faulting.

The rocks are cut by faults in all attitudes: The most prominent set strikes northwest and dips steeply either northeast or southwest. Most faults are of small normal displacement. The largest fault (fig. 2) is inferred to occupy the most prominent canyon in the locality from the observations that (1) the tactite at the SheLite discovery, which is shown on the applicant's map to be the continuation of bed No. 3, does not project well; (2) the granite appears to be a sill; (3) the canyon truncates the rhyolite dike and the granite, (4) the only spring in the area lies in the bottom of the canyon, and (5) the fault pattern revealed in underground workings is parallel with the inferred fault.

ORE DEPOSITS

There are no ore bodies of commercial grade exposed on the Midnight prospect, but three tactite beds contain tungsten minerals in small amounts intermittently along a strike length of 3000 feet. The beds have been named No. 1, No. 2, and No. 3 in the order they are crossed ascending the hill. No. 3 is stratigraphically lowest but crops out at the highest altitude. The beds are about 250 feet apart stratigraphically.

The ore minerals are powellite and scheelite which occur in crystals up to 1/2 inch in diameter, commonly spaced several inches apart along fractures in the tactite beds. Both scheelite and powellite occur in the same specimen.

No. 1 Bed

This "bed" consists of two tactite layers, 5 feet and 4 feet thick separated by 2 feet of barren schist. These are overlain by an aplite sill 5-10 feet thick and underlain by schist containing many 1/4 to 1 inch epidote seams.

About half of the exposures reveal a few crystals of scheelite but none contained enough to warrant sampling. One specimen was found that was estimated to contain 0.1 percent WO_3. On the west side of the granite (fig. 2) the projection of the tactite is just below the granite sill where the aplite sill occupies the contact, but no tactite was seen in this locality. About 200 feet south of the granite the bed consists of 4 feet of marbleized limestone.

No. 2 Bed

The No. 2 "bed" also consists of two tactite layers, an upper one 6 inches thick and a lower one 2 feet thick separated by 2 feet of shale and hornfels. The bed is overlain and underlain by schist containing a few epidote seams.

This bed is reported to have yielded 7 tons of ore averaging 1.49 percent WO_3 from a small cut. The No. 2 adit (fig. 2) driven a few feet below the small cut revealed only low grade material. In the adit a bed of tactite 18 inches thick was estimated to contain 0.1 percent WO_3 in its highest grade portions. Underneath this is 4 feet of hornfels and schist estimated to contain 0.01 percent WO_3 or less.

The bed was explored in the adit for 120 feet along the strike but no ore was found, although the bed is weakly mineralized throughout. Four bulldozer cuts across the bed above the adit reveal mineralized tactite from 3 to 14 inches wide in the three lowest cuts and barren tactite in the highest cut. The highest grade material exposed was in the second cut. A sample taken here assayed 0.01 percent WO_3. A lenticular sill-like quartz vein 2 feet thick and a few feet long is exposed in a small pit above the second cut. A seam of pure scheelite 1 inch wide is reported to have been mined from this pit; the quartz contains a few specks of scheelite.

The No. 2 Bed has been traced for about 1000 feet along the strike, and is projected by the applicant northward across the inferred fault (fig. 2). The implication of the fault is that the projection is not valid.

No. 3 Bed

The "bed" consists of 3 feet of tactite containing scattered crystals of scheelite. It is overlain by mica schist and underlain by 3 feet of lime silicate rock which is underlain by schist. In No. 3 adit (fig. 2) a few scattered crystals of scheelite are found in the hanging wall schist. The tactite is not exposed in the adit owing to faults of small displacement. Outcrops above the adit contain scheelite and powellite across 1 to 3 feet of tactite estimated to average 0.01 percent WO_3 or less. In the canyon north of the adit, the bed is reported to be marbleized limestone.

SheLite discovery

The only exposure is the original discovery on the SheLite claims (fig. 2). Here the tactite is 27 inches thick and is underlain by 3 feet of lime silicate rock. Scheelite and powellite occur in the tactite and to a less extent in the lime silicate rock. A sample (BM-1652) across tactite and lime silicate rock assayed 0.01 percent WO_3. This tactite is considered by the applicant to be a continuation of the No. 3 bed, but it does not project well although it does resemble it lithologically.

SAMPLING

A series of samples were taken in widely separated areas for the purpose of determining the approximate grade of the exposed material. Details regarding them follows:

Sample No.	% WO_3	Description
1651	*0.01	Chip of broken ore in cut on outcrop No. 3 Bed.
1652	*0.01	Cut across 2 feet in outcrop north of canyon on No. 3 Bed.
1653	*0.01	Cut across 14 inches in outcrop on No. 3 Bed, 10 feet west of Station 20.
1654	*0.01	Cut across 1 foot vein material in second trench south No. 2 adit.

*Less than.

ORE RESERVES

There are no measured or indicated reserves on the Midnight-

SheLite claims. The applicant's consultant has inferred an indefinite tonnage of mill grade ore. This estimate is based on (1) the proximity of productive deposits located 28 to 117 miles distant; (2) the occurrence on the property of 7 tons reported to contain 1.49 percent WO_3; (3) the wide distribution of weakly mineralized favorable host rock; and (4) the inference that the granite intrusive is a plug or stock. The examining geologist and engineer consider that these factors do not constitute a reliable basis for inference of mill grade ore on the Midnight-SheLite claims. While ore of mill grade may exist, the information currently available is insufficient to predict the location of the most favorable areas. An estimate of inferred reserves cannot, therefore, be made.

PROPOSED EXPLORATION

The applicant proposes to explore the surface showings by surface trenches, adits and diamond drill holes as follows:

Water well - In Frenchman Flat	200 feet
Bed No. 2	
Extend No. 2 adit south	200 feet
Bulldoze surface cuts north of adit	unspecified
Drive adit north if bulldozing warrants	"
Bed No. 3	
Extend No. 3 adit south	200 feet
Diamond drill from wash below adit	200 feet
Crosscut adit if drill hole warrants	200 feet
Build road to SheLite discovery	1000 feet
Drift north from bottom of wash	unspecified
Drift south from bottom of wash	"

Bulldoze surface cuts above granite	unspecified
Diamond drill to cut No. 3 bed near granite	400 feet (2 holes)

He estimates the program will cost $30,000.00 and require 8 months to complete.

The objectives of the proposed work are to explore surface and underground sections of the mineralized beds in localities where ore minerals are known or inferred. The work could be accomplished in the manner which the applicant has proposed, but--as pointed out by P. W. Guild, memo March 16, 1954 to W. S. Martin, DMEA--the work is without a definite target. As no ore is exposed and no ore is inferred, no target can be established and the work is pure wild-catting.

CONCLUSIONS AND RECOMMENDATIONS

Tungsten mineralization on the Midnight and SheLite claims occurs intermittently in three widely separated tactite beds. No ore of mill grade is presently exposed in development openings. While ore of mill grade may exist, the information currently available is insufficient to predict the location of the most favorable areas.

The examining engineer and geologist consider the possibilities of developing mill grade ore are meager to warrant Government participation in exploring the property. Further consideration is not recommended.

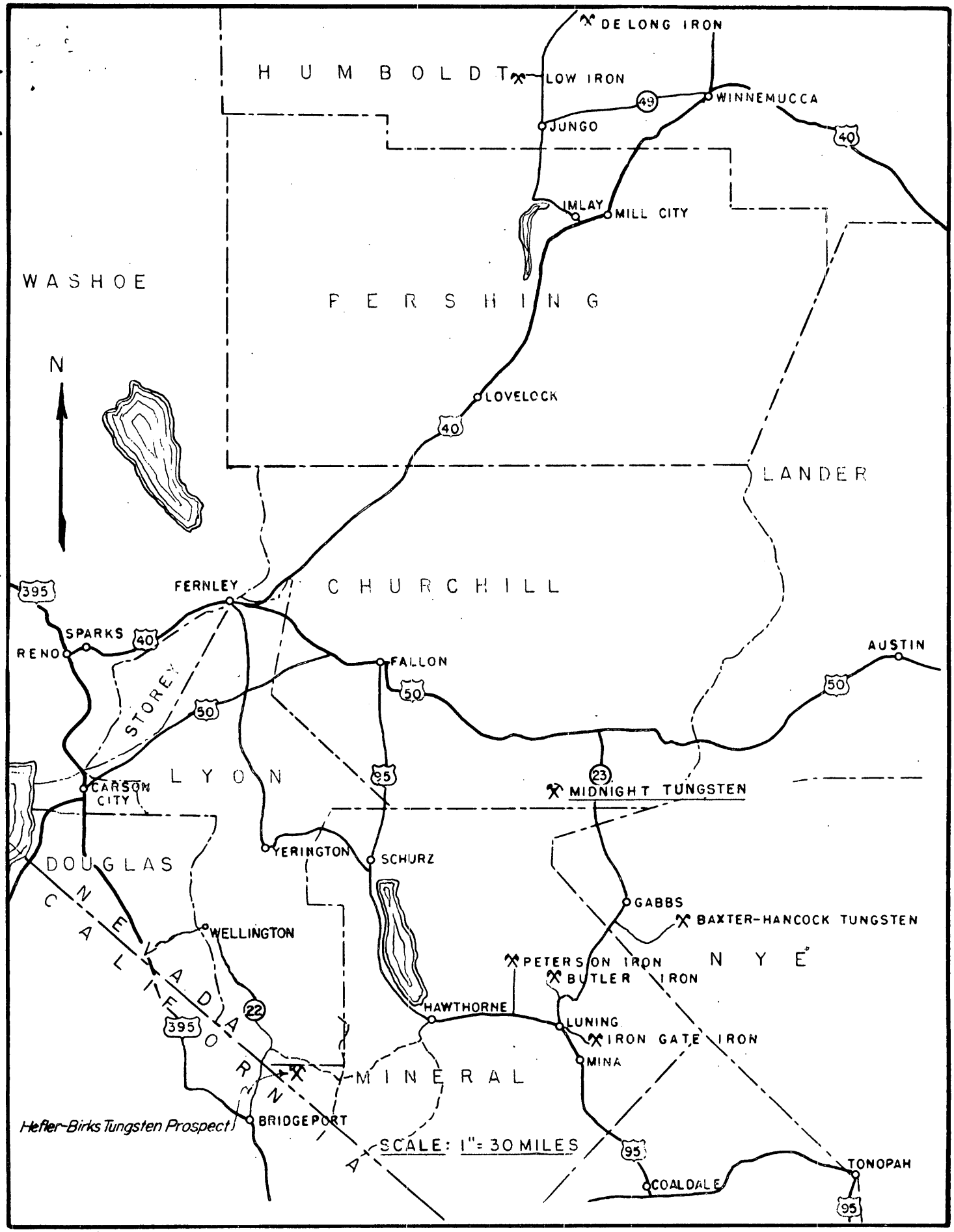

FIGURE 1. LOCATION MAP.

OFFICE OF THE ADMINISTRATOR

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

400

MAR 23 1954

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

Re: Docket No. DMEA 3268 - Tungsten
Midnight Tungsten Mine, Inc.
Midnight mine
Churchill County, Nevada

Dear Mr. Miller:

We are enclosing a copy of "Preliminary Report on the Midnight Tungsten Property, Churchill County, Nevada" by Arthur Lakes and a copy of the applicant's "Lease Option Agreement" to complete your file.

The original copy of Mr. Lakes' report is also enclosed and is to be returned to the applicant after review by the Field Team.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

Enclosures

APPROVED:

J. H. Hedges

Member, Bureau of Mines

D. M. Larrabee

Member, Geological Survey

cc: DOCKET
FT, REG. #3
OPER. COMM.
CODE 400
ADM. READ. FILE
R. W. GEEHAN, USBM
P. W. GUILD, USGS

FARutledge/ls
3/22/54

MAR 23 1954

Mr. Duard Crockett Wray, President
Midnight Tungsten Mine, Inc.
P. O. Box 409
Fallon, Nevada

Re: Docket No. DMEA 3268 - Tungsten
Midnight mine
Churchill County, Nevada

Dear Mr. Wray:

As requested in the above-docketed application for exploration assistance, we are returning the "Lease Option Agreement."

The report on the Midnight Tungsten Property, Churchill County, Nevada, by Arthur Lakes, will be returned to you by the Field Team after it has been reviewed.

Sincerely yours,

C. O. Mittendorf

Administrator

Enclosure

cc: DOCKET
FIELD TEAM, REG. III
CODE 400
ADM. READ. FILE

FARutledge/ls
3/22/54

MAR 16 1954

400

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

Re: Docket No. DMEA 3268-Tungsten
Midnight Tungsten Mine, Inc.
Midnight mine
Churchill County, Nevada

Dear Mr. Miller:

The above-dockated application for exploration assistance is being referred to your office for a field examination of the property. A copy of Arthur Lakes' report, mentioned in the application, is being prepared and will be forwarded under separate cover.

The subject property was the object of a prior application, Docket No. DMA 1621X, Mark Harris, Bell Flat Tungsten claims. This application was withdrawn by Mr. Harris by letter dated January 21, 1952.

Two copies of an applicable memorandum by P. W. Guild, Geological Survey, are enclosed for your information.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee

Enclosures

APPROVED:

J. H. Hedges
Member, Bureau of Mines

Philip W. Guild
Member, Geological Survey

cc: Docket
FT, Reg. 3
Oper. Comm.
Adm. Read. File
Code 400
R. W. Geehan, USBM
T. P. Thayer, USGS

FARutledge/ls
3/17/54

MAR 18 1954

Mr. Duard Crockett Wray, President
Midnight Tungsten Mines, Inc.
P. O. Box 409
Fallon, Nevada

Re: Docket No. DMEA 3268-Tungsten
Midnight mine
Churchill County, Nevada

Dear Mr. Wray:

The above-docketed application for exploration assistance has been reviewed by the Iron and Ferro-Alloys Division of the Defense Minerals Exploration Administration and referred to Mr. H. C. Miller, Executive Officer, DMEA Field Team, Region III, 1012 Flood Building, 870 Market Street, San Francisco 2, California, for a field examination of the property.

Any assistance that you can render the members of the Field Team will be appreciated.

Sincerely yours,

G. O. Mitterdorf

Administrator

cc: Docket

Field Team, Reg. 3
Code 400
Adm. Read. File
R. W. Geehan, USBM
T. P. Thayer, USGS

FARutledge/ls 3/17/54

MAR 1 6 1954

400

Hon. George W. Malone
United States Senate
Washington 25, D. C.

My dear Senator Malone:

Reference is made to your inquiry by letter of March 6, 1954, received March 15, 1954, concerning an application by Mr. Duard Crockett Wray of Fallon, Nevada, for exploration assistance, our docket No. DMEA 3268, Midnight Tungsten Mine, Inc.

The subject application is being referred to the Field Team, Region III, for a field examination of the property. Because of your indicated interest in this application, we shall keep you informed of its progress.

Sincerely yours,

J. C. Mittendorf

Administrator

cc: Docket
FT, Reg. 3
Code 400
Adm. Read. File
R. W. Geehan, USBM
T. P. Thayer, USGS

FARutledge/ls 3/17/54

400

IN REPLY REFER TO:

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

March 16, 1954

Memorandum

To: W. S. Martin, IMEA

From: P. W. Guild, USGS

Subject: IMEA-3268 - Tungsten
Midnight Tungsten Mine, Inc.
Duard Crockett Wray, President
P.O. Box 409, Fallon, Nevada

Summary: Midnight Tungsten Mine, Inc., holds a block of ten claims in southern Churchill County, Nevada, 26 miles from Gabbs. In 1951 application IMEA 1621x, Bell Flat Tungsten Claims, covering the same properties, was denied because the former applicant did not agree that more extensive surface exploration should precede underground work, although it was noted that some scheelite mineralization is present. The property was examined and reported upon at that time by E. J. Matson, Bureau of Mines.

The present applicants, who have an option to purchase, have carried out much of the work recommended to the former applicant at the time of the original denial. They submit a private mining report by Arthur Lakes describing the geology and workings as exposed in late summer, 1953. Work has apparently continued through the winter and more information should now be available. The applicants propose a $30,000 program to extend existing tunnels, bulldoze new trenches, diamond drill, drill for water etc.

The geology may be briefly summarized as spotty concentrations of scheelite in three limestone zones separated by limy schists. Mineralization is attributed to a granitic plug bordering the claims on the east. A number of croppings have been found, and work is proceeding at various places on several claims.

Comments: The merits of this application cannot be decided without a field examination. The property is interesting geologically, but the very nature of the rather widespread, relatively weak mineralization makes it difficult to know where to begin. The applicants themselves seem to be operating without definite targets, or rather, with several poorly defined targets. This is not intended as criticism, but as advice pointing out the necessity for a careful appraisal of how they are spending their money.

Specifically, the tunnel on Bed No. 2 (Map 5, Lakes' report) has relatively little back (40 feet), and seems to be an expensive way to explore a near-surface zone. The original suggestion made on Docket 1621x that more surface work needs to be done still seems justified. The applicants list work on Bed No. 1 in second place under 5b, but Lakes considers this to be the least promising horizon. Work on Bed No. 3, (Plate 4, Lakes' report) may be most promising, but I find no evidence that sampling is being done to confirm grade. (Matson suspected the presence of a high molybdenum content.) More surface cuts seem indicated before expensive drifting is done.

Lakes' suggestion that the intersection of the limestone beds with the granitic plug may offer the best chance for strong mineralization is geologically sound. Exploration to determine this by drilling is not feasible without water, but although the applicants request funds to drill for water they do not emphasise the necessity for it. Incidentally the calculations of drilling expenses under 6a are not correct.

Recommendation: Refer the application to the Field. All workings should be mapped and sampled. Precise target areas should be chosen and delineated on one or more maps. Some help in drawing up a concrete proposal may be necessary. A breakdown into successive stages will probably be advisable.

(3) cc: WSMartin

400 file

COPY

UNITED STATES SENATE

March 6, 1954

Dmea 3268

Mr. C. O. Mittendorf, Administrator
Defense Minerals Exploration Administration
Department of the Interior
Washington 25, D. C.

Dear Mr. Mittendorf:

Mr.Duard Crockett Wray of Fallon, Nevada, has advised me that on February 26th, 1954, an application was forwarded to your office for a Government Exploration Loan on Midnight Tungsten Mine, Inc.

It will be appreciated if you will keep me advised as to the progress of this application, and also if you will do whatever is possible to expedite prompt action on the application.

Looking forward to hearing from you, I am

Sincerely yours,

Sgd: Geo. W. Malone

George W. Malone, USS

COPY

400

3268

Post Office Box 409
Fallon, Nevada
Feb. 26th, 1954

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

Gentlemen:

Enclosed is our application for an exploration loan of $30,000.00 to prove if commercial ore-bodies exist on the Midnight Tungsten Mine, Inc., holdings. It is requested that this application be expedited and a decision rendered at the earliest possible date.

Formerly known as the Bell Flat Tungsten Mine, you have in your files considerable information on the property under DMA-1621X -- Tungsten, when an application for a small loan was made by the owners in 1951. This application was later canceled because the owners did not wish to change the work program approved by the Bureau of Mines Engineer from the Reno Office, and which your office wanted changed to do more surface exploration.

Since taking over this property, last fall, we have done considerable surface trenching with a dozer, and the showings of ore now justify exploration to prove if they will develop at depth. Mr. Arthur Lakes, Licensed Engineer, was hired last fall to make a thorough examination of the property, and if satisfactory, make recommendations for work to be done to explore it in an efficient manner. A copy of his report, which is to be returned, is enclosed along with the application. The exploration program outlined in the application is in conformity with his recommendations.

At the same time Mr. Lakes made the examination of our property, he also made an examination and report on the Tungsten Mountain Mine (Hill Top), 30 miles North of Eastgate. He is now in charge of operations at that mine, and his recommendations for a work program to develop the mine, have yielded results. They are now shipping ore to custom mills in Gabbs, and paying their own way. The location of this property with reference to the Midnight, is shown on Map No. 1 in his report.

To keep work continuing, we need government assistance. With the data you now have available on this project, we are hopeful that you can render an early decision.

Respectfully yours,

Signed: Duard Crockett Wray,

Duard Crockett Wray, Pres.
Midnight Tungsten Mine, Inc.

JAN 30 1952

Mr. Mark Harris
P.O. Box 297
Fallon, Nevada

Re: Docket No. DMA 1681X - Tungsten
Bell Flat Tungsten Claims
Churchill County, Nevada

Dear Mr. Harris:

Receipt of your letter of January 21, 1952, is acknowledged and your comments therein noted.

It was not our intent to revise the whole work program but to precede it with a small surface program which, if successful, would have aided in carrying out the underground phase.

Occasionally, we do not wholly agree with the programs outlined by members of our field teams. This difference of opinion can and does exist in any organization including large mining companies. We regret that it occurred in your particular instance where another party might have suggested sinking a limited distance on the presently exposed ore showings before contemplating driving adits or crosscuts.

As you requested, we are withdrawing your application and are herewith returning the following:

1 - Assay report, July 16, 1948, by Grimson & Nichols

1 - Small photostat map

1 - Blueprint map

1 - Letter, January 10, 1951, from Union Carbide and Carbon Corporation.

Sincerely yours,

C. O. Mittendorf

Acting Administrator
Defense Minerals Exploration Administration

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

Enclosures - 4

GGSelfridge'lm
1/28/52

JAN 1 5 1952

Mr. Mark Harris
P.O. Box 297
Fallon, Nevada

Re: Docket No. DMA 1621X - Tungsten
Nell Flat Tungsten Claims
Churchill County, Nevada

Dear Mr. Harris:

We have reviewed your application for an exploration loan on the above noted property in conjunction with other reports and information relating to the area.

It is our conclusion that the subject property warrants surface trenching and sampling for the purpose of defining and evaluating the outcrops of such ore shoots as may exist.

The underground exploration project, as presently set forth in the application, cannot be substantiated geologically at this time and is, therefore, premature.

We suggest that the above noted surface work be designated as "Step 1", and that the underground work be made subject to the data revealed by the surface work and be designated "Step 2".

If you will furnish us with an amendment to your application (4 copies) detailing the number of trenches, their length and depth and their location with respect to the claims and/or present surface openings, and the manner and cost of doing the work, we can then designate this work as "Step 1". The underground work noted in the present application can be then designated as "Step 2", the accomplishment of which will depend upon the results of "Step 1".

We will hold your application in abeyance pending receipt of the above requested amendment.

QLBrewer:lm
1/1152

Sincerely yours,

James C. Selfridge

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

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

George Selfridge, DMEA

January 4, 1952

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

Exploration application
Mark Harris et al
928 35th Street
Sacramento, Calif.

DMA 1621 X - Tungsten

Property: Bell Flat Tungsten Claims
(Midnight and Midnight No. 2)
Sec. 6, T. 14 N., R. 34 E.
Churchill County, Nevada

I have reviewed the field team report, dated October 19, 1951, received in Washington November 13 (examination September 20-21).

The field report does not provide any adequate justification for the recommendation that the proposed work be approved. The only samples that represent possible commercial ore (samples 4 and 5) were taken from the surface cut on the Midnight claim, where the vein is 2 feet wide. The adit beneath this outcrop contains no ore at the face.

The statements made July 9 in a letter to the applicant from Mr. Holderer, DMA, still hold. The property warrants surface trenching and sampling to determine if any ore shoots exist; any proposals for underground exploration are premature. I am attaching a copy of this letter herewith, to be returned to USGS files at your convenience.

I recommend that the proposal as presented be denied, but that the applicant be informed that DMEA will consider a modest program of trenching, sampling, and mapping.

DMLemmon:gt

Copy to: R.Geehan

370 DMA 1621 X

Mr. Mark Harris
928 35th Street
Sacramento, California

In reply please refer to
DMA-1621X Tungsten

Dear Mr. Harris:

Your application for an exploration loan has been referred to Mr. H. C. Miller, Executive Officer, Region III, DMA Field Team, 1012 Flood Building, 870 Market Street, San Francisco 2, California for a field examination.

Mr. Miller or his engineers will contact you in the near future.

Very truly yours,

SIGNED

Tom Lyon
Director, Supply Division

TJBallard:ll
August 30,1951
CC
Files
Adm. Reading Files
Reports and Records Unit
Mr. Lemmon
Mr. Geehan
Mr. Holderer
Field Team, Region III

Please return to Rm 5216 GSA Bldg
Dan Lemmon
1/4/52

July 9, 1951

Mr. Mark Harris
928 35th Street
Sacramento, California

In reply please refer to:
DMA-1621-X — Tungsten

Dear Mr. Harris:

We have carefully reviewed your application for an exploration project costing $10,000 at the Bell Flat tungsten prospects, Churchill County, Nevada. It appears to us that insufficient trenching and sampling has been done on the surface and that proposals for underground work are premature. Your statement lists 2 samples taken by Mr. Dobson on the Scheelite and Midnight No. 2 claims assaying 0.8 and 0.4 percent of WO_3, one sample taken by yourself on the Midnight claim assaying 1.5 percent, and a bulk sample of the same ore emounting to 6.7 tons which was sold to the Pine Creek mill of U. S. Vanadium Corporation at an assay of 1.49 percent. These 4 samples appear to represent small pods of ore rather than continuous mineralization in veins or beds.

It appears that some good tungsten ore is present in the open cut on the Midnight claim. It also appears from samples taken during World War II by a Government engineer that much of the fluorescent material on the claims is powellite, the assays of which were disappointingly low in tungsten.

Your comments on the high cost of custom milling at the Pine Creek mill are partly true for ores containing more than 1.0 percent of WO_3. For lower-grade ores, however, it can be shown that the milling charges are not unreasonable inasmuch as payments are based on 100 percent redovery compared to an expectable recovery of 60 to 70 percent in a small plant such as you might erect on your claims. The high molybdenum content in your ore necessitates chemical digestion of the concentrates for purification, an expensive procedure. When these factors are taken into consideration, a price of $18 per ton of ore assaying 0.5% WO_3 is not out of line when finished concentrates are priced at $65 per unit. Incidentally, we do not know of any sales of domestic tungsten concentrates at pricew above $65 per unit during 1951.

Return this with to D. Lemmon when convenient

Returned 1/10
PB

If your analysis of costs shows that the transportation to Hiko is too expensive, even though recovery is higher, you might be able to arrange for custom-milling at the Nevada Concentrate, Gabbs, or Nevada Tungsten Corp. mills.

We are enclosing a copy of our [illegible], the exploration contract, for your information so that you can see what exhibits are necessary as part of the contract. Exhibit A is particularly important, and should contain both a statement and a map showing precisely what work is to be done under the contract. The location and length should be given of all proposed trenches, adits, shafts, raises and other work. If you wish to provide the necessary exhibits, we will consider your application further.

Very truly yours,

George B. Holderer

George B. Holderer
Chief, Exploration Branch

Enclosure

DMLemmon:awj

cc:Adm. Reading File
Reports & Record Division
Field Team III
F I L E
Mr. Holderer
Mr. McCarran (2)
Mr. Lemmon

DRAFT

Mr. Mark Harris
928 35th Street
Sacramento, California

In reply please refer to DMA 1621 X
Tungsten

Dear Mr. Harris:

We have carefully reviewed your application for an exploration project costing $10,000 at the Bell Flat tungsten prospects, Churchill County, Nevada. It appears to us that insufficient trenching and sampling has been done on the surface, and that proposals for underground work are premature. Your statement lists 2 samples taken by Mr. Dobson on the Shelite and Midnight No. 2 claims assaying 0.8 and 0.4 percent of WO_3, one sample taken by yourself on the Midnight claim assaying 1.5 percent, and a bulk sample of the same ore amounting to 6.7 tons which was sold to the Pine Creek mill of U. S. Vanadium Corporation at an assay of 1.49 percent. These 4 samples appear to represent small pods of ore rather than continuous mineralization in veins or beds.

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concentrates are priced at $65 per unit. Incidentally, we do not know of any sales of domestic tungsten concentrates at prices above $65 per unit during 1951.

If your analysis of costs shows that the ~~minimum~~ transportation to Bishop is too ~~mucky~~ expensive, even though recovery is higher, you might be able to arrange for custom-milling at the Nevada Scheelite, ~~or~~ Gabbs, ~~mill~~ or Nevada Tungsten Corp. mills.

We are enclosing a copy of form MF-200, the exploration contract, for your information so that you can see what exhibits are necessary as part of the contract. Exhibit A is particularly important, and should consist both of a statement and a map showing precisely what work is to be done under the contract. The location and length should be given of all proposed trenches, adits, shafts, raises and other work. ~~Inthemeantime~~ If you wish to provide the necessary exhibits, we will consider your application further.

Very truly yours,

George B. Holderer
Chief, Tungsten Branch

enclosure

cc Field Team, Region III, San Francisco
~~[illegible]~~

Make extra copy to be left in file for probable request from McCarran

D. M. Lemmon July 3, 1951

Letter sent July 9, 1951
cc (2) to McCarran

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 2 - 1954

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. 3268
Metal or Mineral Tungsten
Date Received
Estimated Cost $30,000
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: Midnight Tungsten Mine, Inc.
Duard Crockett Gray, President
Post Office Box 409
Fallon, Nevada

(*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
All questions answered on attached pages.

(*b*) State any mine name by which the property is known.

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

(*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

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

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.

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 ....., 195__

.....
(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

Midnight Tungsten Mine, Inc.
Duard Crockett Gray, President
Post Office Box 409
Fallon, Nevada

DEPARTMENT OF THE INTERIOR
Bureau Mines Administration
RECEIVED
MAR 2 - 1954

1. (a) Midnight Tungsten Mine, Inc.
Duard Crockett Gray, President
Post Office Box 409
Fallon, Nevada

(b) Corporation incorporated under the laws of Nevada.

(c) Duard Crockett Gray, President
Post Office Box 409
Fallon, Nevada

Merlin P. Crystal, Vice President
P. O. Box #409
Fallon, Nevada

S. J. Higginbotham, Sec., Treas.
Lariat Hotel - Box #649
Fallon, Nevada

(d) Not applicable.

3. (a) Property is located 10 miles off State Highway No. 23, leading to the town of Gabbs, from which it is distant 26 miles. From Fallon, the property is reached by going east on Highway No. 50 49 miles to the intersection with Highway No. 23, turn right at this intersection and go 15 miles to sign on the Highway. Turn right and follow the gravel road 10 miles to the mine. The property, consisting of ten (10) claims, held by location under the mineral laws of the United States and the state of Nevada, lays on the East slope of Slate Mountain on the West side of Bell Flat, as shown on the Carson Sink Topographic Map of the U.S.G.S. A Mill-site, located 1.64 miles from a monument set on the property, as shown on Map No. 3 of the attached report, is also included. The proposed drilling for water will be on this area.

(b) Property is known as the Midnight Tungsten Mine, Inc. It is also known as the Bell Flat Tungsten Mine, under which name you already have considerable information from a report made by E.H. Hatsen of the Bureau of Mines, Reno Office during September 1951.

(c) Property is held under lease and option to purchase, Dated August 31st, 1953.

(d) Copy of the Lease and Option of Purchase is herewith attached as a part of this application.

(e) There are no liens or encumbrances against the property, and a search of the records will show the title is clear.

(f) The ten (10) mining claims known as the Sho-Lite, Sho-Lite No. 1; Sho-Lite No. 5; Midnight; Midnight No. 1; Midnight No. 2; Midnight No. 3; Midnight No. 4; Midnight No. 5; and the Gateway are recorded in Book 24 of Mines at the Churchill County Courthouse, Fallon, Nevada, on pages 199, 200, 209, 212, 214, 215,

Midnight Tungsten Mine, Inc.
Durrd Crockett Gray, President
Post Office Box 409
Fallon, Nevada

216, and 217 respectively. The Mill-site, located in September, 1953 is recorded in Book 26 of Mines, at the same place.

4. (a) On bed No. 2, shown on Map No. 2 of the report made by Arthur Lakes, Registered Engineer, and in detail on Map No. 5 of the same report, a tunnel is now in 93 feet on the vein. The last 31 feet of this tunnel was driven by the applicant. The open-cut, shown on Map No. 5, above this tunnel entrance, shown good ore on the other side of the faulted zone encountered in the tunnel. The applicant has put in four cuts across the vein, above this open -cut, with a "Dozer" to expose the vein for over 300 feet along the strike. Each of these cuts show sufficient ore to justify extending this tunnel ahead several hundred feet farther to find out if the indications found on the surface will open into an orcshoot at this level. If ore is found on this tunnel level, a 160 foot cross-cut adit will cut the vein more than 200 feet down the dip, below this tunnel level, and give good backs for stoping. This work is included in the application, if developments justify it.

On the upper vein, designated as No. 3 on Map No. 2 of the same report, and shown in detail, the ore exposure on Midnight No. 2 Claim on Map No. 4, work is now being done to prove this ore showing at depth, and along the strike. A good road has been built from the bottom of the wash, up to this showing of ore, with a "D8" Dozer, and any car can now drive right up to the workings. The Dozer was used to uncover the vein for over 100 feet South of the fault shown on Map No. 4, and shots put into the vein show it is mineralized enough to justify exploration at depth. The Dozer was also used to uncover the vein for 150 feet down the dip on the North side of the Ridge, and two contour cuts were made, one 150 feet below the ore showing on the top of the ridge, and one 100 feet below this showing of ore. On the 150 foot bench a tunnel has been started on the vein and is now in 35 feet. In this distance, two faults that were not known before, have been encountered and the vein shows enough mineralization to warrant extending it several hundred feet to cross the fault shown in the ore on top of the ridge and extend into the mineralized zone beyond. From the tunnel, a track extends out on a trestle with an apron on the end, so any ore found in drifting can be dumped and stock-piled on the bench below, where ample space is available to stockpile at least 1,000 tons. A switch has been put in and another track for waste laid on the working bench, giving ample room to dispose of all waste mined during operations. All of this work has been done at the expense of the applicant, and is continuing at this date.

(b) Seven (7) tons of ore were taken from the open-cut shown on Map No. 5, in about 1950, and shipped to the Vanadium Corp., at Bishop, Calif., for testing. This ore yielded returns of 1.49% WO3, and their laboratory test showed the ore amenable

Midnight Tungsten Mine, Inc.
Duard Crockett Wray, President
Post Office Box 409
Fallon, Nevada

to their flow-sheet of milling which consists of gravity concentration and flotation.

(c) The geology of this deposit shows it is a roof pendant up-lifted by the granite batholith. The granite is exposed as a plug on the North end of the property. Three limestone beds, that have been changed by contact metamorphic action to garnet, epidote, and quartz, are interbedded in a series of schist beds that dip approximately 35 degrees to the southeast and their broken ends butt into the granite plug. Bed No. 1, shown on Map No. 2 has a hanging wall formed by an Aplite Dike that can be traced for over 2,500 feet from where it leaves the granite. Where exposed in the bottom of the wash, approximately 500 feet south of the granite plug, the vein is about ten (10) feet in width and shows enough mineralization to warrant exploration. A tunnel started at this point will open up the vein at a good depth. Float is found in several places along this vein for another 2,000 feet to the south. No work of any kind has been done on this vein, and it is proposed to trench it in several places on the surface before starting a tunnel.

A comparison of the geology of this deposit, with the structure found at Tungsten, Nevada, where the Nevada-Scheelite Tungsten Corp., has been mining since 1917, will show a great similarity in both geology and the deposition of ore in shoots along the strike of the beds at some distance from the granite contact. This is not a contact deposit, but enrichments are possible where these beds contact the granite plug if this plug served as a channel for the ore solutions to follow. The mineralized beds, dipping out underneath Bell Flat are undoubtedly underlaid by granite in this area, and the solutions could also work up the dip of the beds from the granite now covered by sediments of the dry lake bed in Bell Flat. In comparing the geology of this deposit with that at Mill City, reference is made to the report made by Paul F. Kerr of Columbia University in 1934, and put out by the University of Nevada.

The geology in more detail is contained in the recent report made by Arthur Lakes, copy of which is to be returned after a decision is made on this application.

(d) As previously described in paragraph 3, Section (a), the property is readily accessible from Highway No. 23. Located 26 miles from the town of Gabbs with 16 miles of pavement and 10 miles of good gravel road with no heavy grades, ore can readily be shipped to custom mills that are now operating in Gabbs, where water and electric power are available.

(e) In the Gabbs and Fallon area, both accessible to the property, there is a good supply of experienced miners, and supplies and materials for mining are available. There is ample power and water at both places, but is hoped to develop water near the mine for operations on a large scale if ore showings justify the installation of a mill. Gasoline and Diesel fuel will be used for operations at the mine, and these can be purchased

Midnight Tungsten Mine, Inc.
Duane Crockett Gray, President
Post Office Box 409
Fallon, Nevada

wholesale in Fallon, and delivered by tank truck to the mine.

5. The exploration program is laid out in conformity with recommendations made in the report by Arthur Lakes, and which work to date shows should be done if substantial ore bodies are to be developed by a realistic exploration program.

(a) The mineral to be developed is Tungsten that occurs in the form of Scheelite.

(b) The tunnel shown on Map No. 3, on Bed No. 2, will be extended two hundred feet south. Boxer cuts will be made to expose the vein to the North, between the tunnel and the granite plug, and a tunnel driven North through the granite plug if surface showings justify. If this vein opens up pay ore that indicates going to depth, a cross-cut will be driven to tap this bed at a lower elevation, to give more backs for stoping.

On Bed No. 1, shown on Map No. 2, several cuts will be made with a dozer to expose the vein on it's southerly extention along the Aplite Dike that can be traced for 2,500 feet, and if results justify, a tunnel started from the lowest exposure in the wash to explore this vein at depth.

On Bed No. 3, shown on Map No. 2 of the report, the tunnel started on Midnight No. 2, will be continued two hundred feet to explore the vein at depth. If ore develops in this operation, and the consultant geologist recommends it, a horizontal diamond drill hole will be put in to tap the vein from wash level in the canyon to the south, and if the vein is found at that depth, a tunnel will be driven to cut it and mine from that level. Approximately a 200 feet diamond drill hole should cut the vein from this point as the vein dips with the slope of the hill.

To explore bed No. 3, from the showing of ore on the Sho-Lite Claim, that exposure being approximately 1,200 feet North from work now underway on the same vein on Midnight No. 2 Claim, a road approximately 1,000 feet in length will be built from the spring, shown on Map number 2, to the lowest exposure of the vein in the wash on the lower end of the Sho-Lite Claim. At that point, tunnels will be started both North and South to explore the vein, cuts will be made with the dozer on ore showings higher up, and cuts will also be made to find where the vein crosses the ridge on the summit above the granite plug. Below this showing of the vein, in the wash, the geologist will spot one or two diamond drill holes to tap the bed at some depth below wash level and also explore the possibility of enrichments along the contact with the granite.

(c) Work is already underway on a part of this program, but limited finances may curtail work until this loan is available. Just as soon as the loan is approved, work will be continued on a

Midnight Tungsten Mine, Inc.
Board Crockett Gray, President
Post Office Box 409
Fallon, Nevada

program that is laid out to be completed in eight (8) months from the date the contract is signed.

(d) The applicant Board Crockett Gray, who will supervise the work, has the following background in mining:
Twenty one years experience in the exploration of and production from mines in Nevada, California, Arizona and Wyoming.

I will also be assisted in planning and supervising the work by Hank Harris, a graduate mining engineer who was the discoverer of this deposit, is one of the owners from whom we are buying it, and who has also taken a substantial block of stock in the Midnight Tungsten Mine, Inc.

Note: In making our estimate of costs, neither Mr. Harris, or myself will receive any salary. We are both willing to devote our time to supervising the operations on that basis so every dollar available can go into the ground to prove if we have a mine.

6. This estimate of cost was gone over in detail with an engineer of the Bureau of Mines, in the Reno Office and approved by him.

(a) Independent contracts will be let to drill a 200 foot well on the site chosen by the geologist where Bell Flat drains into Frenchman Flat on the other side of the Range. A dike cutting across this outlet, forms a natural barrier to hold back a large under-ground pool of water in Bell Flat. At $7.50 per foot, total cost of drilling and casing the well is ---------- $1,500.00
Contract will also be let for diamond drilling approximately 600 feet estimated at $5.50 per foot.
Total for drilling ---------- $3,500.00

(b) Labor based on prevailing wage scale is estimated at $1,500.00 per month for four (4) men.
Total for labor ---------- $12,000.00
Industrial Insurance carried on workers ---------- 900.00
Supervision is not charged for, but fees for expert consultant services of a geologist is estimated at ---------- 1,000.00

(c) Gas and Oil for operating compressor, truck, dozer, etc. ---------- 1,200.00
Powder, Caps, and Fuse for mining ---------- 1,000.00
Lumber for mining operations ---------- 750.00
Mine rails ---------- 500.00

(d) Rental on two mounted 210 cu. ft. capacity compressors for eight months ---------- 2,400.00

Midnight Tungsten Mine, Inc.
Ward Crockett May, President
Post Office Box 499
Fallon, Nevada

Rental for "D" Dozer at $12.50 per hour, and cost of transportation to and from the job ----------$1,000.00

Purchase of two drills and foot-legs for drilling, with tungsten carbide bits and steel rods-------$1,200.00

Pump for deep well of enough capacity to operate 50 ton mill, and concrete blocks for building pump house----------$ 750.00

(e) Have good camp already established with facilities to take care of 8 workers. No repairs or rehabilitation is needed and this will be furnished without charge by the applicant.

(f) No new buildings are needed for the work outlined. A shop is already put up at present workings that provides storage space for all tools, and facilities for repairing them.

(g) Repairs to and maintenance of operating equipment is estimated at ----------$1,000.00
We have an ample supply of picks, shovels, bars, wrenches, and other small tools needed around the mine. Also have a welding set-up for making repairs or to build needed parts. Will need a small blower for the shop, and an anvil to sharpen handtools, etc. What repairs will be needed on mine cars, of which we have two, trucks, etc., is difficult to estimate. All present equipment is in good condition.

(h) The cost of repairs and maintenance of equipment as estimated in (g) should take care of any contingencies that might arise, so no amount is included for this item.

Total Cost ----------$30,000.00

7. (a) The Company is financially able to take care of our share of the proposed project.

(b) Our share of the costs will be paid in money each month after the progress reports have been made and approved, and the regular monthly check has been made by an engineer from the Bureau of Mines Office, in Reno.

Midnight Tungsten Mine, Inc.
Guard Crockett Wray, President
Post Office Box 409
Fallon, Nevada

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 March 1st, 1954

Midnight Tungsten Mine Inc.
(Applicant)

By Guard Crockett Wray - President

400

C O P Y

PRELIMINARY REPORT

ON THE

MIDMIGHT TUNGSTEN PROPERTY

CHURCHILL COUNTY, NEVADA

ARTHUR LAKES

SEPTEMBER 14, 1953

I N D E X

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PRELIMINARY REPORT
ON THE
MIDNIGHT TUNGSTEN PROPERTY
CHURCHILL COUNTY, NEVADA

SUMMARY:

Midnight Tungsten is a prospect whose ore developments have not yet reached status of a mine. Its ore probabilities rest largely in hopes that mine status will be attained by exploration development. Conditions found in this preliminary examination appear promising that this objective can be reached. Like all prospective ventures the speculative element is present and can be removed only by successful issue.

The prospect is easily accessible by established highways and road. It is in good geology for tungsten occurrence and has shown presence of tungsten by reported assays around 0.5% to 1.49% WO_3. It has highly productive neighbors (1) the long time profitable Nevada Scheelite about ten miles away, (2) recent disclosures at Baxter-Hancock, twenty-eight miles distant, which in its first eight days produced $30,000 worth of ore, and in less than a year is reported to have provided an additional $1,000,000, (3) Gabbs Exploration and its immediately adjacent ElCapitan are reported to have taken out around $2,500,000 during the past three years. Midnight property is in a growing tungsten area with new discoveries reported. It, and other prospects and mines are in east part of the Western Tungsten Arc containing Mill County, Nevada, (176 air-miles from Midnight) Bishop, Atolia, and other important California districts making this Western Arc predominant in U. S. tungsten production.

Rocks at Midnight are essentially schist interbedded on Midnight ground by three known ore favorable limestone beds, each about 250 feet apart and intruded at the east of Midnight by a granitic plug whose outcrop designates nearness of the granite base underlying the area and from which emanated tungsten bearing solutions rising along upsloping granite walls as conduits to entrance into, and mineralization of, ore-favorable beds that dip towards and into these conduits as illustrated on Plate 1.

From top to bottom these limestone-limy schist beds are: (1) Upper or "Aplite" bed being a thin limestone with enclosing lime schist overlaid by an aplitic sill that takes off S 20° to 25° W from southwest part of the granite plug and extends about 1700 feet through south part of Midnight group. Ownership of its dip possibilities is unlimited by property's extralateral rights. About 250 feet below No. 1 is stronger No. 2 or Middle bed being about two feet of limestone with additional enclosing limy schists striking about N 30° E and dipping 33° - 35° southeasterly for about 3000 feet through Midnight property. Its dip extension along northerly half will vary possibly 400 feet to 1000 feet between outcrop and where the bed is truncated by the granite plug as illustrated on Plate 1, its dip possibilities in property's south half are unlimited. About 250 feet below No. 2

or Middle bed is the strongest and most extensively exposed No. 3 or Lower bed about 10 feet width of limestone with added enclosing limy schists extending about 2200 feet through Midnight property at N 10°E and 35° to 40° dips southeast. Its extension may be longer if not cut off and offset by presumed fault coursing NE across northern part of property.

Ground configuration is such that showings on No. 1 (Upper) bed are at lower elevations, above which are showings on No. 2 (Middle) bed, and at highest exposure elevation is No. 3 (Lower) bed.

Disclosures on these beds comprise a small fraction of their length through the property so that they have hardly been scratched. On No. 1 bed the showings are a few scattered, highly garnetized WO_3 patched. On No. 2 the showings comprise: one cut that produced about seven tons of 1.49% ore, and another cut 140 feet southwest where small specimen tungsten was produced in quartz. A tunnel extends 95 feet southwest from 32 feet below the first cut and shows narrow, low grade WO_3 apparently improving southwest ahead of the face. This 140 feet length constitutes all the exposure in the 3000 feet bed length indicated within the property. No. 3 bed has been exposed at two localities 1250 feet apart. It is disclosed about 45 feet length by about 10 feet true width in two faulted segments at "Upper showing," and again at She Lite Cut 1250 feet northerly where it is about 6 feet of limestone, garnet, epidote, and quartz carrying WO_3. From here it has been periodically traced about 600 feet down hill to a strong similar showing at bottom of Spring gulch, the lowest elevation disclosed on this vein. Thus this vein has been disclosed at points 1250 feet apart and traced a total of about 640 feet out of its 2200 feet indicated course from southwest end of Midnight property to the presumed fault near She Lite cut.

No. 1 vein has possibilities of opening a few scattered high grade ore lenses, probably insufficient for economic returns. No. 2 vein has possibilities of opening a number of hot spots in vicinity of present workings and geologically should provide others along its north half opposite the granite plug. No. 3 vein has the best possibilities for ore tonnage, probably most of which will be mill grade close to the surface. Conditions indicate that No. 2 and No. 3 beds will show grade and quantity improvement in their downward dip extensions below surface, particularly in the north half of the property.

Water lack is the chief bottleneck of this property. No subsurface tests have been made in the vicinity. Presence of water is indicated by a dry well near camp and by a small seepage spring at Spring Creek about 2300 feet northwest from Camp. All gulches are confluent into Midnight gulch which courses southeast past tunnel cut out into Bell Flat near camp. It is suggested that a test hole be drilled near camp. If successful another try might be made where Spring gulch joins Midnight gulch. If unsuccessful at these two places, drill at canyon leaving Bell Flat at Millsite. If unsuccessful in all three places continuation of the present 28-mile water haul from Gabbs will be necessary which will obviously handicap production of low grade ore and of depth exploration.

The following work is advised:

1. Drill for water.
2. Bulldoze a series of exploratory cuts along No. 2 and No. 3 ore-favorable beds.
3. Diamond drill downward continuation of the ore-favorable beds if, and when water is developed and finances permit.
4. Advance present tunnel southwest under favorable bulldozer results obtained.
5. If surface exploration is satisfactory, drive tunnels: (a) northerly into No. 2 bed opposite granitic plug on any hot spot encountered by bulldozer exploration. (b) northerly tunnel from No. 3 bed's Spring gulch showing underneath She Lite showing. This will be the lowest elevation presently available on this bed. (c) likewise drive tunnel southwesterly from No. 3 bed's Spring gulch showing underneath "Upper showing."

CONCLUSIONS:

Whilst Midnight property is strictly prospective and thereby subject to speculative risk attending all prospect ventures, the various conditions found in this preliminary examination encourage expenditure of $50,000 divided into $10,000 sequences covering the various work steps, success or failure of each step determining the next. This sum should thorougly explore surface, shallow depths, and deeper drilled depths, in expectancy that a medium size mill-ore mine will develop and that hot spots will be found for shipment of good grade scheelite directly to custom mill for processing into commercial product.

The presently purely conjectural possibilities for contact ore within the zone where No. 2 and No. 3 beds are near to their truncation by the granite plug are worthy consideration. Work will only prove or disprove these possibilities whose success provide a very important adjunct to the whole.

I recommend Midnight as a likely prospect worthy of work and expenditures outlined in this report.

The body of this report more fully outlining data is attached, together with five maps illustrating data and conditions.

Fallon, Nevada
September 14, 1953

/s/ Arthur Lakes
(Arthur Lakes)

Licensed Engineer State of Washington
Professional Engineer Province of
British Columbia

P R O P E R T Y:

The property comprises ten unpatented claims (about 200 acres) in good standing and free from indebtedness.

The property is jointly owned by Mark Harris, Fallon, Nevada, Fred T. Pine, and William W. Brown, both of Las Vegas, Nevada, and is under lease option agreement dated August 30, 1953 to Duard Crockett Wray, Fallon, Nevada for $250,000 payable in 20 years at flat 8 per cent royalty on net return from con centrates or ore sold, with minimum payment of $300 per month starting January 1, 1954. All payments apply to retirement of the $250,000 purchase price. Mr. Wray assigned his contract to Midnight Tungsten Mine Inc., September 11, 1953.

Gateway claim is outside the tungsten mineralized zone. It covers the mouth of Midnight canyon and includes the campsite. Indications are that drilling on this claim might provide water, the lack of which is the chief bottleneck to mining operations on this property. The most westerly Midnight No. 1 and No. 3 claims are unprospected and their mineral possibilities are unknown.

The remaining seven claims cover northeast-southwest extensions of three ore-favorable limestone beds, each about 250 feet above the other, for indicated distances within Midnight property varying from 1700 to 3000 feet, as depicted on accompanying Map No. 2, and more fully described later in this report. Dip extensions vary from 800 feet on No. 2 bed to 1300 feet on No. 3 bed to where truncated by granite at the north part of the property, and to unlimited extralateral depth at the southern part of the property.

L O C A T I O N A N D A C C E S S:

The property is 76 miles from chief supply center at Fallon, via 51 miles over Highway 50, thence 15 miles over Highway 23 to a flat dirt road extending 10 miles across Bell Flat to Gateway camp. Up from camp is 2600 feet of road to the tunnel, and branching from it is 1100 feet of road up gully to rock-bound canyon extending up from spring at south end of She Lite claim. This road can excape the box canyong and be continued to the She Lite showing by an uphill switchback to the east. Part of the tunnel road is very steep. This can easily be remedied by bulldozing one switchback. The Upper showing is reached by steep cat road following up northwest ridge. This can be remedied by bulldozing a series of switchbacks to truck grade.

T O P O G R A P H Y:

Topography is important due to the flat 35° dip of ore-favorable limey beds in direcetion with surface downslope. This flat dip combined with widely divergent surface configuration in this multi-gulch-ridge area brings about great variation of the beds' surface trace (mostly buried by shallow overburden) from their true N 10°E to N 30°E course. Surface trace swings southeast and east down into gulches and visa versa swings north and west up hillslopes resulting in a very sinuous surface trace as depicted on Map No. 2. In this respect the surface traces are diagrammatical and, except for a few localities, are subject

to substantial alteration when and if a correct contour map is provided.

Conduct of economical bulldoze explotation should be guided by a correct contour map. The cheapest and most accurately satisfactory map would be derived by contouring from air pictures. I am informed that a party well equipped for air survey and mapping resides at Fallon.

E L E V A T I O N S:

Range from assumed 5800-feet above sea level at Gateway camp to (1) 6048 feet at tunnel, (2) 6361 feet at "Upper Showing," (3) 6265 feet at She Lite showing, and 5550 feet at Millsite.

F A C I L I T I E S:

The chief bottleneck at this property is lack of water, which is quite common in Nevada until subsurface water supply is gotten by drilling. At present water for camp and small mine work has been hauled in barrels 28 miles from Gabbs. At one time a well existed near Gateway camp (see Map No. 2), and a small seepage spring is in box canyon near south end of She Lite claim. The various gulches are confluent into the gulch leading from tunnel out past camp into Bell Flats. Parties experienced with water drilling inform me that likely places for subsurface water are in gulch deltas, not too far from gulch portals, where water-holding gravels maintain. For this reason it is suggested that a 6-inch test hole be sunk near camp in hopes of getting sufficient water for camp and mine purposes. It may be that sufficient water supply might be gotten to also supply a small mill. If success is met a series of larger holes could be drilled and it would be worth while to test further up Midnight canyon for a supply nearer the mining and exploration localities outlined later in this report.

The Millsite has been selected in Bell Flat about 1-3/4 miles from camp, because a canyon leading northerly is supposed to be the only drainage outlet from Bell Flat and hence is believed to be a possible source of a subsurface water in quantity to provide a good size tungsten mill.

One of the first endeavors will be to test for water at these places.

In the event that sufficient water is not provided for milling the Midnight, ore would be hauled 28 miles to mill at Gabbs, a not excessive distance for 1 per cent WO_3 ore. The necessity for local mill would arise in event that Midnight property opens large bodies of 0.5 per cent WO_3 ore that would not stand long haul to mill.

Any good grade ore disclosed in explotation will be hauled to Gabbs for mill processing to provide immediate dollar returns.

Power for mine will be supplied by Diesel oil engine, and for mill, provided, by Diesel-electric generator.

All mine and mill supplies can be obtained at Fallon and hauled the 66 miles over oiled highway, and 10 miles over dirt road to the property.

In common with desert regions there is no usable timber at or near the property. Such that may be required can be bought at Fallon as sawed timber at $110 per thousand board feet. The rock enclosing ore-favorable WO_3 zones should stand with minimum timber and some production at "Upper Showing" could be open pitted.

E C O N O M I C S:

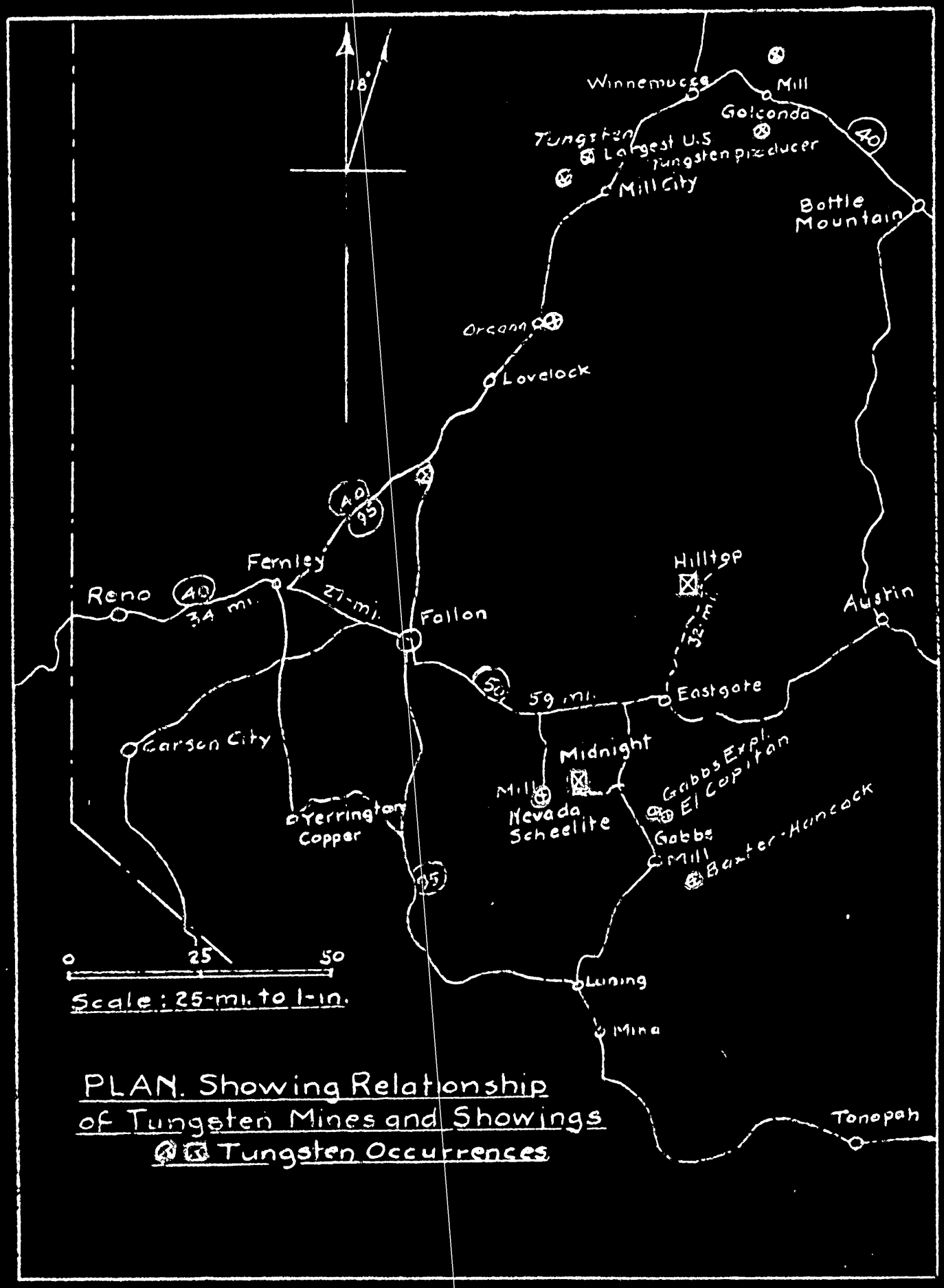
Termination of the $63 per unit (29#) floor for domestically produced WO_3 has been extended from July 1, 1956 to July 1, 1958 thus providing government guarantee for next five years. It is my understanding that this $63 per unit floor extends to termination date or until the United States" WO_3 stockpile reaches 3,000,000 units, a condition seemingly remote during the next five years in view of production limitations and competitions for industrial uses which have grown considerably during the last few years. Whilst the stockpile is built up by foreign purchase as well as by domestic production, it is doubtful that foreign sources can supply more than they have unless Korea and China should come into the picture. Korea as an ally, is having its important tungsten mines rehabilitated and will undoubtedly be a factor in the World tungsten market. On the other hand, China which is a dominant tungsten resource, would hardly wish to sell tungsten to its political enemies, nor would United States wish to buy from Communistic country and benefit its economy by U. S. dollars. Despite world changes that may come it is very doubtful that we would be on free tungsten market basis with anti-sympathetic nations for at least the next decade. It is economically advisable however that tungsten production be developed as quickly as possible to take advantage of the $63 floor price.

Tungsten, in common with the much rarer uranium and some other strategic metals, is in unique position not held by gold or silver, and not now held by lead, zinc, copper or other metals; in that it has price guarantee and tungsten will be in continuous growing industrial demand as well as strategically. For this reason the near future of a tungsten deal appears more assured than any of the commoner metals provided that a property can indicate possibilities for development of tonnage and WO_3 content to warrant economic operation.

Today the general minimum average required is 0.35 per cent to 0.4 per cent WO_3 and an average 1 per cent is considered on high side though most properties in vicinity of Midnight have averaged more than that. One United States larger operator has set basic requirements at 100,000 units running 0.6 per cent WO_3 or better, as objective for exploration development.

G E O L O G Y:

Mineralogically Midnight property is well placed in ore-favorable limestone beds immediately adjacent to a granitic plug which intrudes the generally schist formation.



PLAN. Showing Relationship of Tungsten Mines and Showings

Tungsten Occurrences

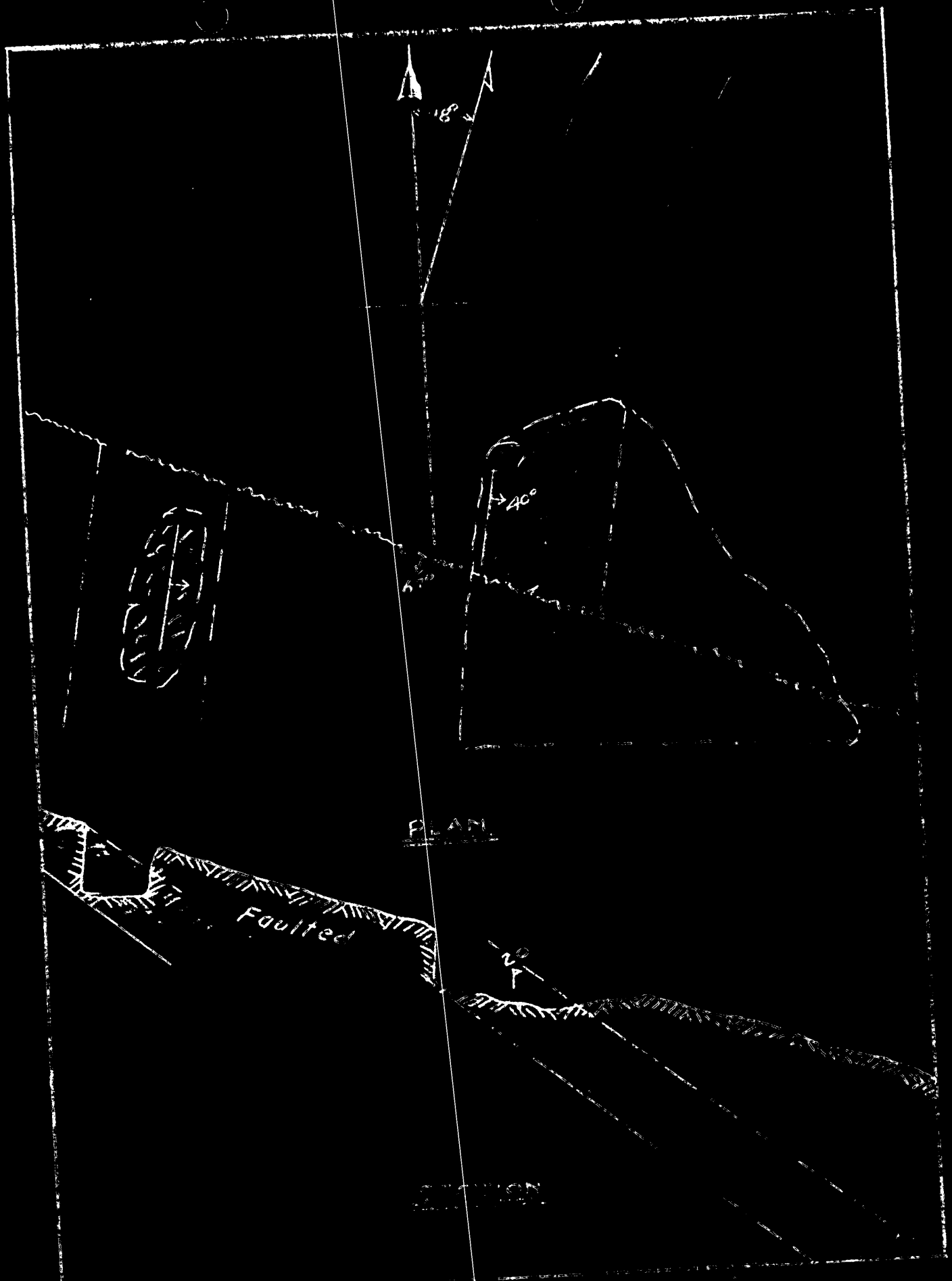
The property is approximately 10 miles from Nevada Scheelite, an important long time producer of contact metamorphic ore. It is 28 mile by road and highway from Gabbs where are tungsten mills and which centers important recent tungsten disclosures at: (1) Baxter-Hancock, about 28 air miles south east from Midnight, which produced $30,000 in first eight days after discovery and is reported to have provided about $1,000,000 within a year since discovery; (2) Gabbs Exploration and its immediately adjacent ElCapitan, about 15 air miles southeast from Midnight, which are reported to have exceeded $2,500,000 production in the past three years. About 50 air miles northeast from Midnight is the recently discovered spectacularly right Hilltop prospect. These mines and prospects fall into eastern part of the Western Tungsten Arc which includes Mill City, Nevada (117 air mailes north of Midnight), Bishop, and Atolia, California and other important producers and districts that have provided the larger part of United States tungsten production.

These nearby developments and the fact that Midnight has shown WO_3 running from a fraction of 1 per cent to 1.49 per cent are encouraging for Midnight tungsten prospects by further intelligent exploration. Obviously the better localities to hunt for tungsten deposits lie in areas where good tungsten miles have been found and in environment of ore-favorable geology.

LOCAL GEOLOGY:

The country rock enclosing Midnight property is essentially schist striking N. 20° E to N 19° with uniform dip 33° to 35° to southeast. This schist belt is interbedded by three known limestone-limy schist beds each about 250 feet apart. Its easterly extension, near Midnight property, is intruded by a granite mass trending north and easterly and varying from coarse at central part to highly acidic at rims. The shape, extent, and character of this granite mass indicates that it is a "plug" transecting strata and not a large sill conforming with formation strike and dip as previously described. This has important implications later described.

Off southwest from the granitic plug is an aplitic sill (conforming with strike and dip of sedimentary formation). This apolite overlies a thin limestone-limy schist bed and constitutes No. 1 or Upper vein (called "Aplite vein" herein.) At scattered localities along this "vein" alteration into garnet, epidote, quartz has provided some lenses of WO_3. Next below (about 250 feet) is a thin limestone bed locally enclosed by limy schist whose very meagre prospecting by two surface cuts and a 93 foot tunnel has produced WO_3 from a fraction of 1 per cent to 1.49 per cent (for about 7 tons at surface cut), and some specimen ore in quartz at another cut about 80 feet ahead from tunnel face. The rest of 3000 feet indicated course through Midnight property is unprospected, mostly covered by shallow overburden. Next below (about 250 feet) occurs the propertys widest and apparently most important limestone-limy schist belt. It has been more extensively prospected than the other two, at "Upper Showing" by 30 feet x 40 feet stripping on hanging wall, and by a short trench on faulted extension 40 feet west as shown on Map No. 4. Northerly and southerly extensions beyond these showings are covered by shallow overburden but 1250 feet northeast


18°
40°
PLAN
Faulted
20°
SECTION

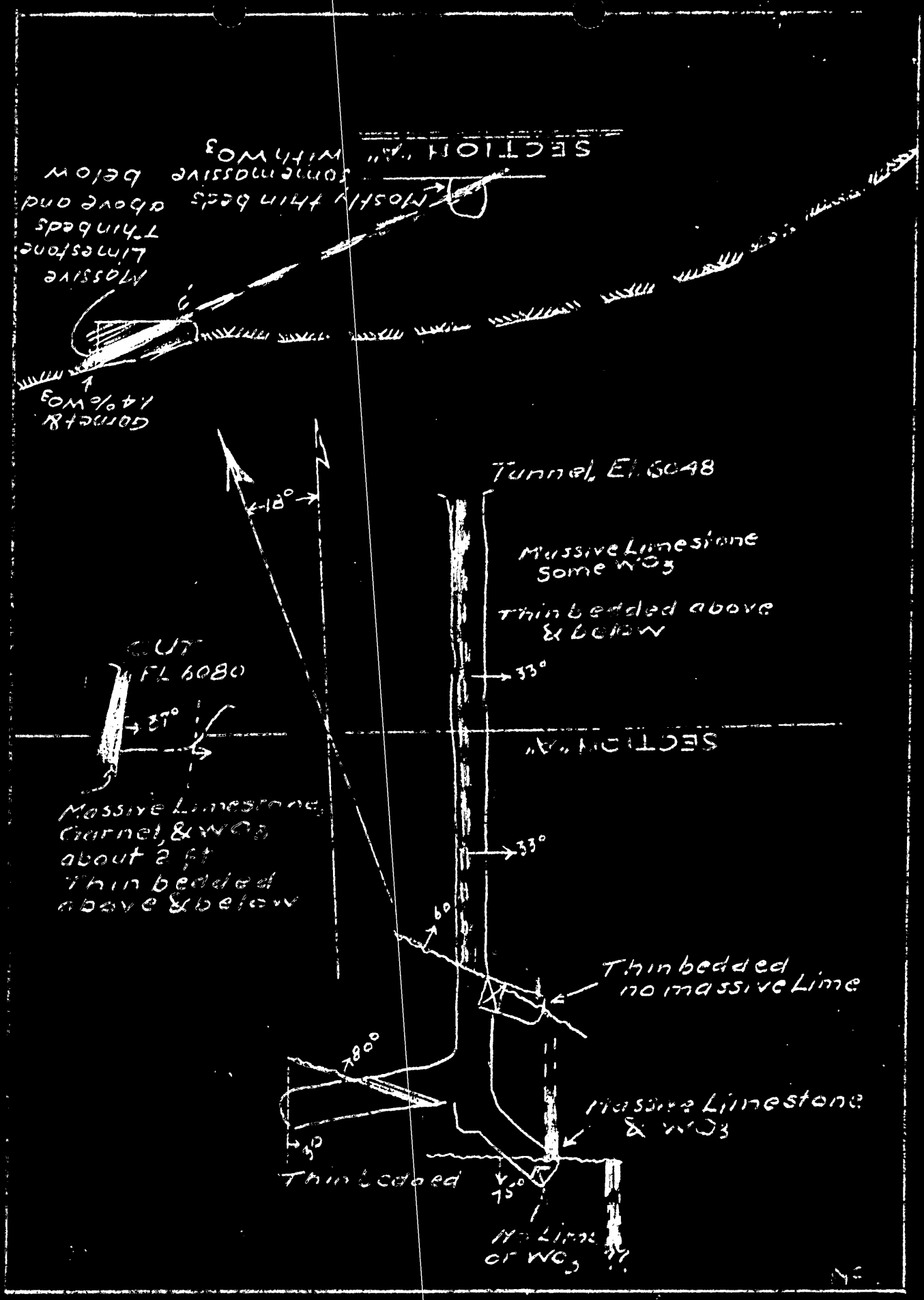
is a strong 20 feet width of mineral similar to that in the cut. Lamping of these localities is said to show good WO_3, but the per cent content is unknown. This is the longest exposure on the property and all the rest of No. 3 bed's extensions (except for the described "Upper Showing".) are under shallow overburden, hence only a small fraction of this bed has been scratched.

No. 2 Bed: The indicated horizontal extension of this bed through Midnight property is about 3000 feet, but aside from two cuts 140 feet apart and 93 feet tunnel under part of this distance, the bed's lateral extensions are covered by overburden hence a very small fraction of this bed has been exposed.

Map No. 5 shows the tunnel and the cut 32 feet higher from which came approximately 7 tons of 1.49 per cent WO_3 ore. This ore occurred in a two foot massive limy bed enclosed top and bottom by limy schist. The bed has been extensively garnetized and the ore carried down dip from west top to east bottom of the cut as shown in Section "A". The tunnel extends 95 feet S 19°W along downward continuation of limy schists. From portal to N 53°W striking, 60° north dipping fault 72 feet in from portal, tunnel roof and left side contains from 8 inches to 20 inches of massive limestone which periodically lamps but shows no continuity of WO_3. This is cut off by fault which as been followed up about 10 feet at plus 20°. At time of inspection this raise was in thin bedded limy schist but since then another round encountered massive limestone in the SE corner across the fault. This is reported to lamp WO_3. Results indicate that the fault is normal, dropped north segment about 5 feet and shifted it about 9 feet west.

At 86 feet a crosscut runs 25 feet westerly, cutting no massive limestone. A shear fault courses N 50°W (about parallel with first fault) and dips 80° northerly. This shifted the limy schist westerly but the south part of this crosscut is the schist that forms general formation of the area. At 93 feet a crosscut turns S 30° E for 15 feet or more. This crosses limy schist and near face is cut by a small fault striking N 70°W but dipping 75° southerly in opposite direction to the two previous faults. Over the muck at face blocky limestone occurs north of this fault and lamps WO_3. Since mucking out after my inspection it is reported that about 4 feet width of massive limestone that lamps WO_3 courses southwesterly from the small fault. The conditions indicate that the small fault is normal and has shifted the southern segment about two feet to the west. This showing will be followed southerly and if the drift is continued at about 80 feet should come under the downward extension of the quartz zone (87 feet higher) from which speciment WO_3 was taken. Another round in the crosscut might show that the limestone, containing WO_3 north of the fault, is also wider than shown in the tunnel corner.

No. 2 Bed: concists of limy schist underneath aplitic sill. This still extends southwest from the SW part of the granite plug and should extend therefrom about 1500 feet within the Midnight property. Its SE dip extensions would be unlimited by extralateral rights. Whilst there are patchy occurrences of garnet, epidote, and quartz lenses, this vein appears to me to have less economic importance than either No. 2 or No. 3. At a later date some exploration might provide small rich occurrences.



PLAN & SECTION "A" OF TUNNEL AREA.
SCALE: 20 ft to 1 in.

Contact metamorphic possibilities are: at present purely conjectural but in view of the indications that the granite is a plug transecting strata rather than a large sill striking and dipping conformably with formation, I present the following as a matter for consideration re possible depth occurrences in No. 2 and No. 3 beds. The attitude of these beds show that their occurrence west of the granitic plug will dip toward and be truncated by the plug. Elsewhere ore-favorable rocks dipping towards granite structures have proven highly WO_3 mineralized at contact zone. Upward extensions from these contract WO_3 masses along formation dip has reduced size and WO_3 content, the ore forming solutions getting more and more attenuated in upward extension until WO_3 is lacking. The garnetization, occurrence of epidote, etc indicates that surface of these beds is still within the high temperature zone of upward circulation of solutions from the hot granitic hearth from which the tungsten originated.

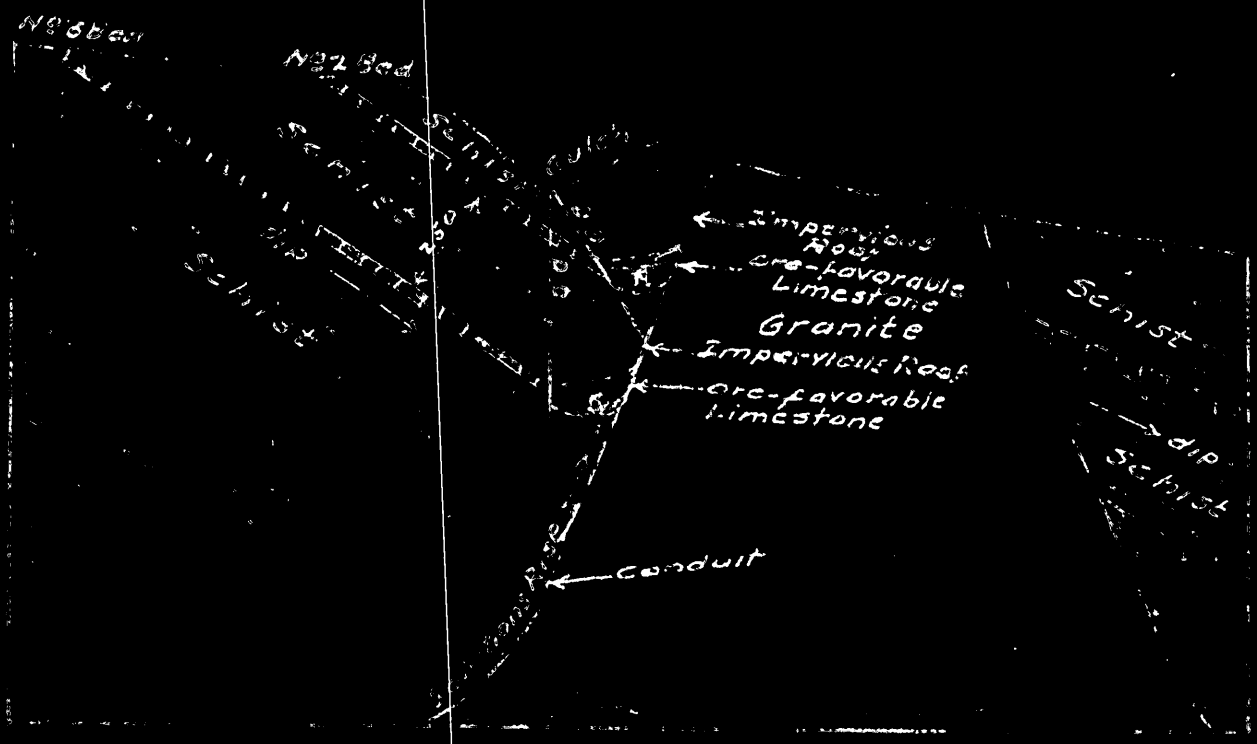
Where formation dips are away from the granitic plug they will lack the mineralizing effects because solutions arising along the granitic walls have no place to deposit. Herewith is a diagram illustrating this.

Basically the above illustrated occurrences are due to the transference of solutions with accompanying high temperature minerals from the igneous hearth along the granite wall as a conduit. When these solutions reach chemically and physically favorable beds and zones, replacement occurs out into the indipping beds retarded by overlying barrier of impervious, less ore-favorable rocks thereby forming ore bodies of varying size, usually larger and richer than the occurrences in upper zones along strata dips.

These conditions are geologically sound and have precedence in the important Emerald Mine, Salmo District, British Columbia. It must be understood that they are entirely problematical at Midnight and are not certain at this property. The chances for the occurrence of richer and larger ore bodies at contact zone appear good enough to be given consideration, and when water can be provided, should be diamond drilled. In any event probabilities are that the presently exposed showings and those expected by further exploration will show richer and stronger in their depth extensions. My sketch projection suggests that a vertical drill hole in canyon near the spring might reach No. 2 bed within 150 feet, and might reach a contact ore deposit in No. 3 bed at 500 to 600 feet. This hole might cut No. 2 bed in thinner part above its contact deposit hence another hole would be drilled pitching more westerly to cut its contact deposit, if any, and would cease when granite is encountered.

Drilling costs for short holes (up to say 600 feet) vary from $4.00 to $4.50 per foot at Emerald Mine, B.C. At Midnight the necessity for hauling water to drill holes would add to cost. If success is met in getting water at, or near camp, it could be piped about 2200 feet up easy grade to indicated drill sit. In that event diamond drilling would be feasible and worth while gamble. Obviously if water has to be hauled from Gabbs, drilling is out of the question.

PLATE 2.



DIAGRAMMATIC SECTION Illustrating theory of Possible Contact Ore and Bed enrichment.

SCALE: 400-ft to 1-in.

PROCEDURE:

Following advised work is presented in order of importance.

1. Drill for water at or near camp. If successful the water test at Millsite can await exploration-development proof of desirability and necessity for a mill. If unsuccessful at camp locality will have to drill Millsite vicinity in effort to bring water supply closer than Gabbs.

2. During the water test start bulldoze work by a series of exploration cuts along No. 2 and No. 3 beds in expectancy of finding hot spots. The northern extensions of these beds opposite the granite outcrop appears to me to be most favorable for possible hot spots due to their indicated nearness to the probable conduit for tungsten bearing solutions. However the ore grade found on the No. 2 vein in cuts above and beyond the tunnel warrant bulldozing between them and southwest beyond.

   The area between Upper and She Lite Showings should be explored in view of the strong Upper showing reported to average about 0.5 per cent WO_3 and significant heavy garnetization at No. 3 bed's lowest exposure closest to the granite outcrop in bottom of Spring Canyon and its encouraging indications from there uphill to She Lite cut.

   In this connection I reiterate that No. 2 bed's northeast extension on Map No. 2 is essentially diagrammatic, subject to considerable error that can only be determined by proper contour map or have to be expensively searched out by bulldozer.

3. Diamond drilling: When and if finances and water development permit, a series of drill holes should be run to (1) prove possible enrichment in downward continuation of northerly parts of No 2 and No. 3 beds and (2) to test the possibility for contact ore bodies as illustrated herein.

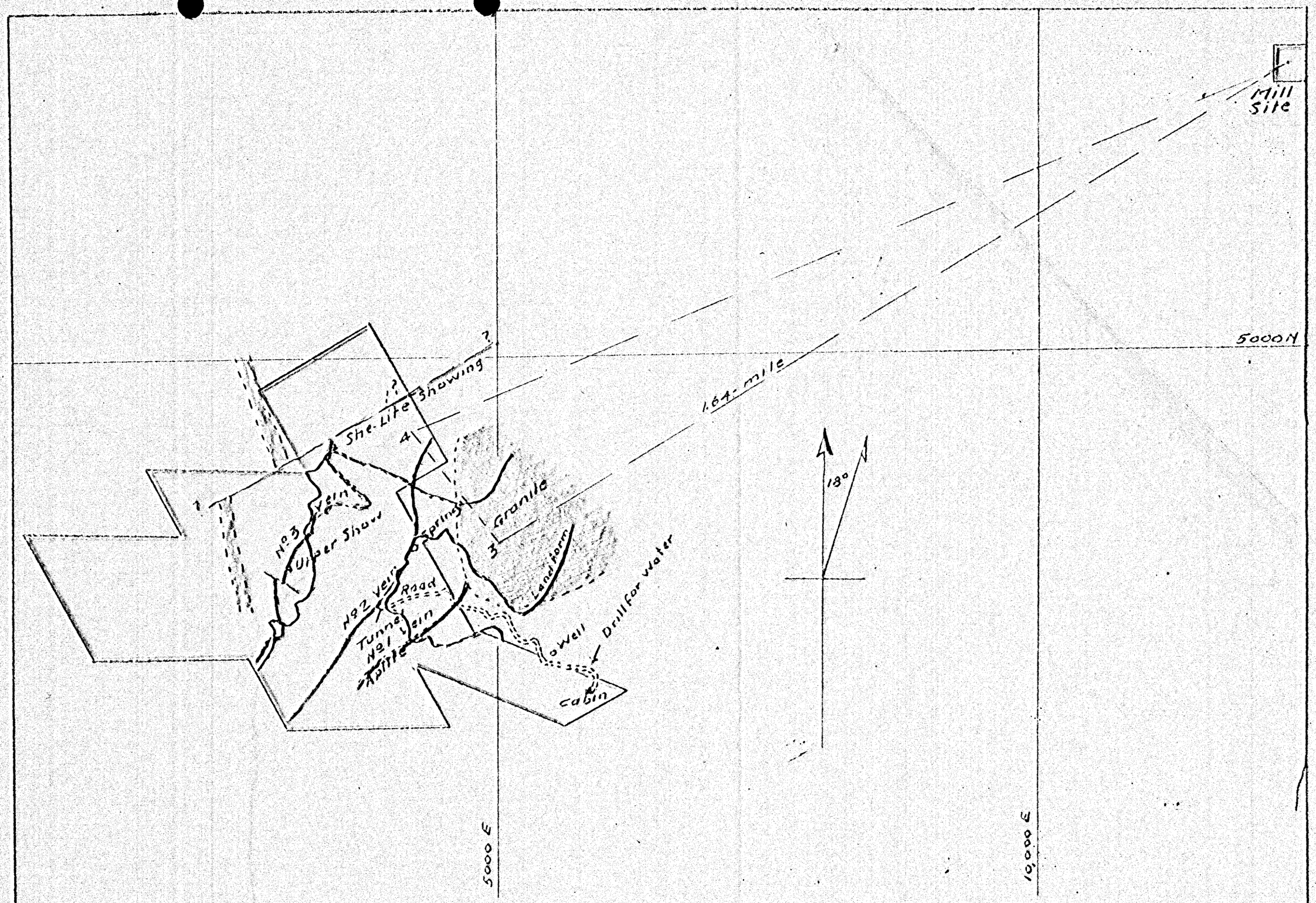
4. Advance present tunnel under satisfactory bulldozer results that may be obtained.

5. Tunnelling: If surface exploration proves satisfactory drive a northerly tunnel on north extension of No. 2 vein in hopes of hot spots and early production of good grade shipping ore.

   If surface exploration is satisfactory drive a northerly tunnel on No. 3 bed from vicinity of Spring gulch showing into downward extension of She Lite showing.

   Likewise if surface exploration is satisfactory between Upper Showing and Spring gulch, drive a southerly tunnel from Spring gulch showing under Upper Showing.

   Possibility for hot spots appear better along No. 2 bed at this moment, but No. 3 bed is much the widest and strongest and should provide preponderence of ore, possibly mill grade.

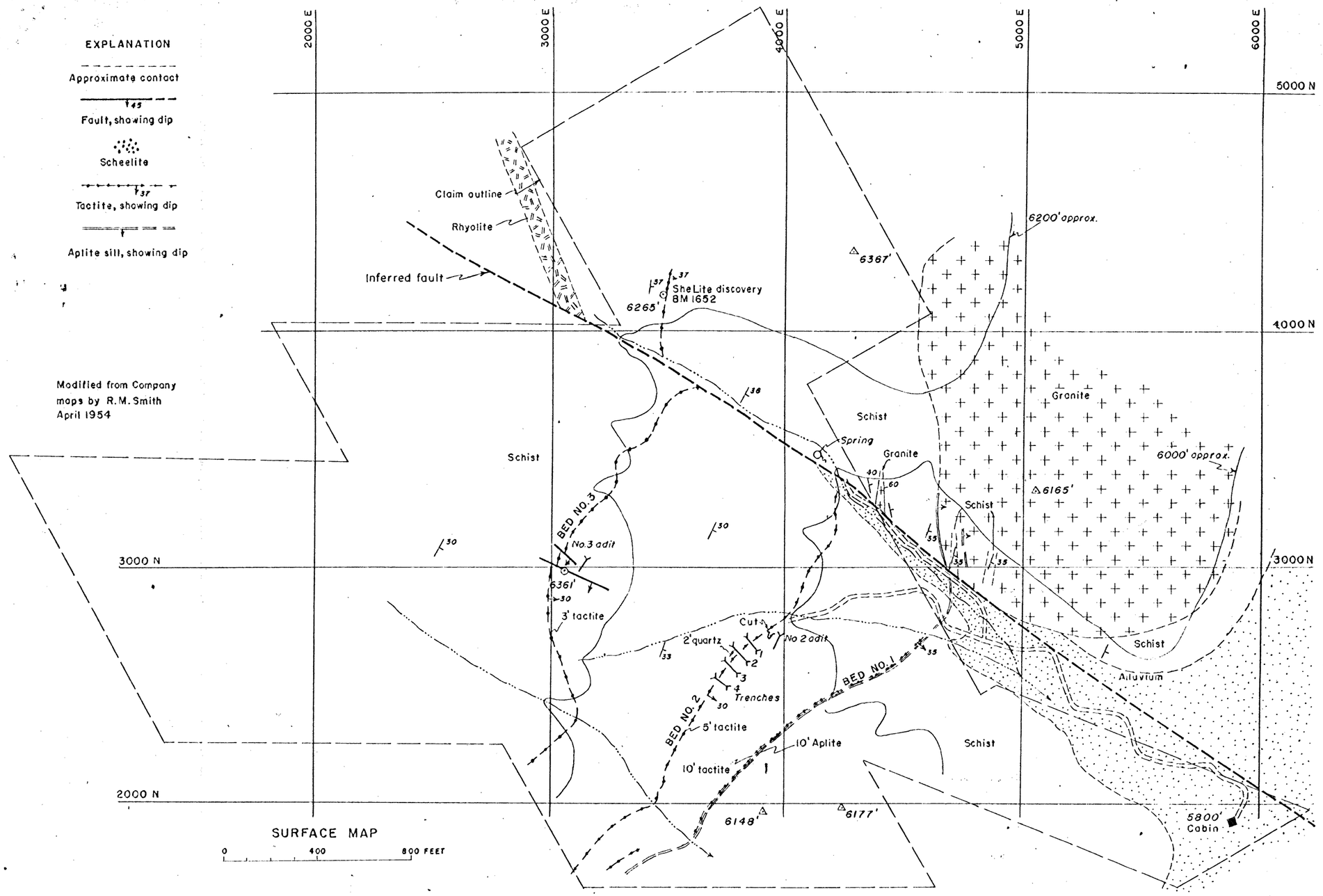


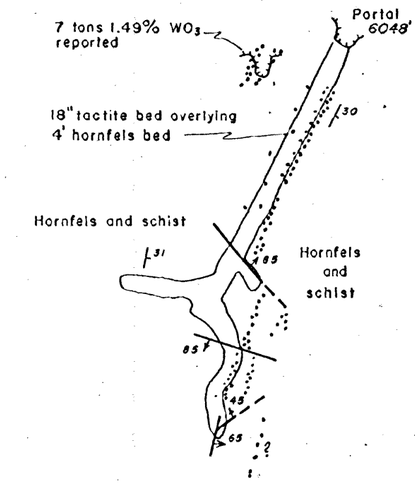
PLAN of MIDNIGHT TUNGSTEN PROPERTY and MILLSITE

SCALE: 1000-ft. to 1-in.

Arthur Lakes. 1953.

No. 6





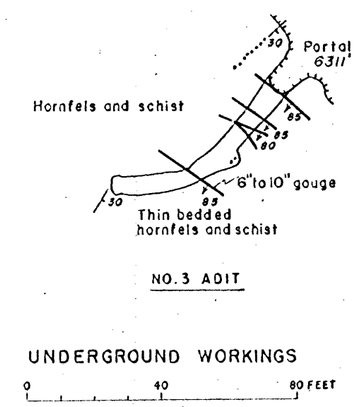


Figure 2. Midnight tungsten property, Churchill County, Nevada

occurs She Lite discovery cut 96 vertical feet lower than "Upper Showing" with same strike and dip and clearly the same ore-favorable bed. From this She Lite showing the vein outcrop has been traced about 600 feet down slope to box canyon where is a strong showing of garnet, epidote and quartz about 20 feet wide. The SW extension has not been traced but will undoubtedly come out at "Upper Showing."

About 400 feet west from She Lite showing in the gulch occurs a wide rhyolite dike striking northwest. Its southeast extension ceases at a side gulch but about 600 feet farther southwest occurs another strong rhyolite dike which progresses southeasterly through Midnight No. 3 and No. 1 claims. Conditions suggest that these two rhyolite dikes are the same faulted so that the northerly segment is offset easterly about 600 feet. If this proves a fact by further investigation this fault is the most extensive tectonic feature of the area. As the rhyolite is generally younger than WO_3 mineralization and definitely younger than the sedimentaries this fault would also offset the ore-favorable No. 3 (She Lite) and No. 2(Tunnel) beds are indicated on Map No. 2. Whilst this factor is unimportant regards Mignight exploration it should be considered for any prospecting northerly from She Lite No. 1 claim.

S H O W I N G S:

Of the three ore-favorable limestone beds the basal, No. 3 (Upper She Lite) is the strongest and, in my opinion, the most important for discovery of WO_3 both laterally and in depth though it is true that good grade lenses have been, and may be exposed by exploration along the No. 2 (Tunnel) and top No. 1 (Aplite) beds such as specimen ore found in quartz 80 feet ahead and 87 feet above present tunnel face and the approximately 7 tons of 1.49 per cent WO_3 mined from Cut 32 feet higher and near tunnel portal.

> No. 3 Bed: The indicated horizontal extension of this bed through Midnight property is about 2400 feet. Its southeast dip extension will vary from 1300 feet at north where truncated by granite plug to indefinite dip depths by extralateral rights at the southern section. At "Upper Showing" (Map No. 4) it has been stripped about 30 feet long by 20 feet wide at hanging wall, and again shown by cut 40 feet northwest which represents faulted section of the bed. The northwest striking, 67° southerly dipping fault has an apparent offset in normal fault direction whereby the westerly segment moved down about 25 vertical feet and shifted 70 to the west. The indicated limestone width here is about 10 feet. Both places lamp and whilst no assays are present it has been reported that they average 0.5 per cent WO_3.

The She Lite cut, 1250 feet from Upper Showing and 96 vertical feet lower, exposes from 4 to 5 feet of limestone, limy schist, quartz, garnet, epidote, etc. and is said to lamp well in WO_3. It has about every accessory mineral and should make good ore. The trace downhill to boy canyon, 600 feet more or less, is by a series of shallow cuts and surface outcrops. At canyon bottom

MIDNIGHT TUNGSTEN PROPERTY
CHURCHILL COUNTY, NEVADA
SCALE: 400 ft. to 1-in.
Arthur Lakes, 1953.

No 2