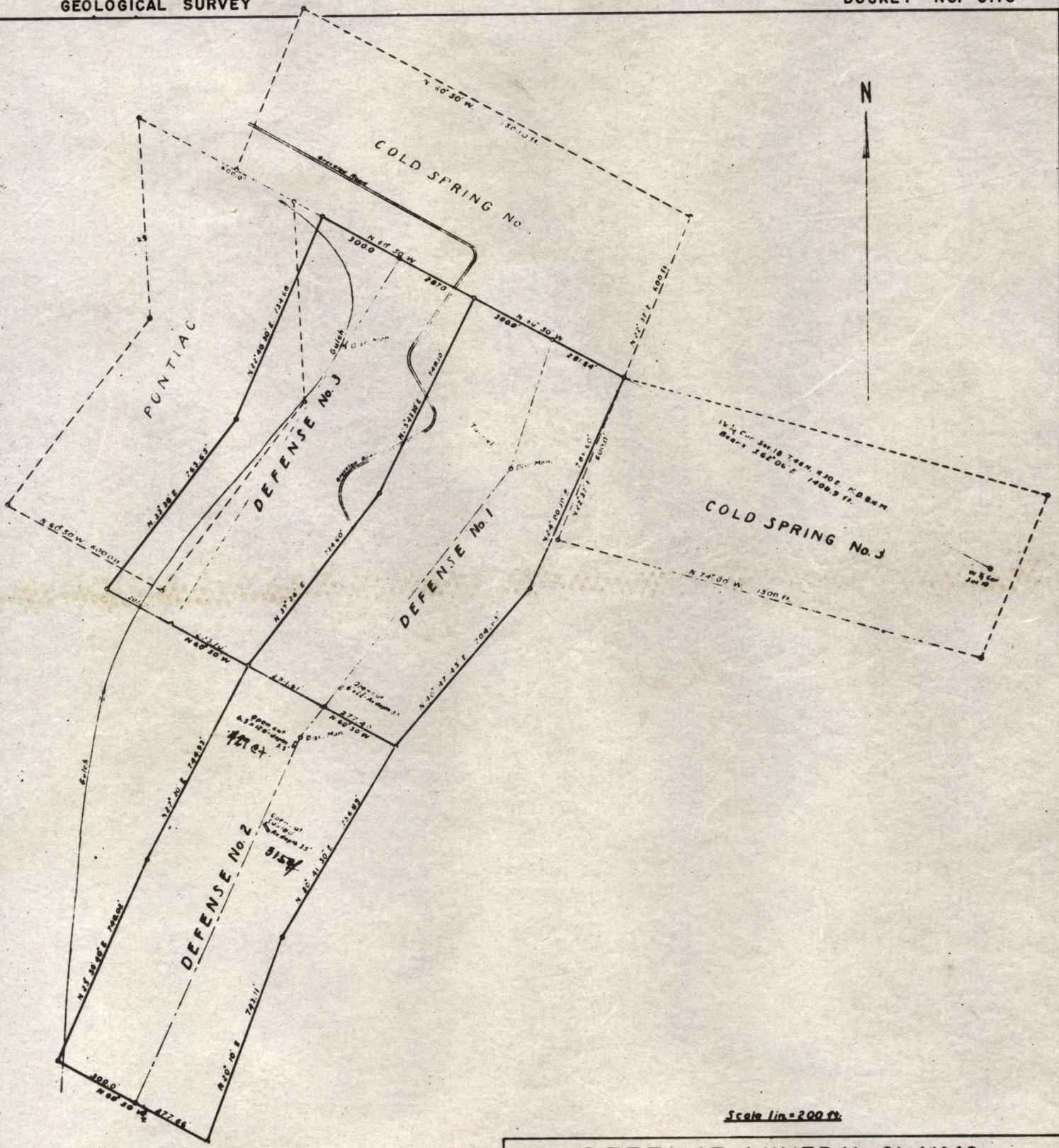
5030 0010

U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS EXPLORATION ADMINISTRATION
DOCKET NO. 3110



DEFENSE MINERAL CLAIMS
VICKSBURG MINING DISTRICT
HUMBOLDT COUNTY, NEVADA

Survey and map by W.A. Wentz, R.P.E. 58 - Winnemucca, Nev.
November 13, 1944

FIG. 4

FIG. 4 5030 0010

Item 13 (145)

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Item 2-5

A later name for Last Chance Claims

TUNGSTEN DEPOSITS OF NEVADA

Humboldt County

Warm Springs Mining District

Mine Name: LAST CHANCE CLAIMS ~~Golden Tungsten Prospect~~

Other Names: ~~Last Chance claims~~ GOLDEN TUNGSTON

Location: Sec. Unsurv., T. 45 N. ~~or S.~~, R. Unsurv. E.

U.T.M. 4624100 N. 0359050 E.

Long. _____ W., Lat. _____ N.

Base Map: Denio 7½', (15'), 2° Quad. (1966)

Tungsten Production: None ? units WO_3

Geologic Type: Skarn, Intrusive contact

Description of Deposit: (Geology, mineralogy, mine workings, history, ownership, etc.)

Located on the west side of the northern Pine Forest Range, about one mile north of the Ashdown Mine.

Scheelite occurs in thin bands of garnet tactite which formed along the western margin of the large Pine Forest intrusive mass. Intrusive rock underlies the entire claim area and the tactite bodies are shallow pendants in the intrusive. The scheelite is present in size ranging from flour-fine disseminations up to crystals 1/8" across and fluoresces a uniform golden yellow. Some small tactite pods may contain up to 0.5% WO_3, but most of the tactite is barren. (over)

References:

Tingley, J.V., 1976, Report of Field Exam

Prospect pits expose the contact zone for about 2000' along strike. Individual tactite masses reach thickness of only up to 3', probably extend down-dip no more than 15'

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Pine Forest Mountains

Defense WARM SPRINGS DIST.

The Defense tungsten mine is in the low hills at the north end of the Pine Forest Mountains, 16.2 miles by road southwest of Denio, ~~Oregon~~ NEVADA. The claims were located in 1942 by C. C. Crow, George Mathewson, Vern Cannon, Cecil Cannon, and Frank Cannon. In 1942-44, the property was leased to C. A. Wagner and J. Paul Jones. Production during this period was approximately 2,600 units from more than 3,000 tons of ore. The ore was milled at the old Ashdown mill, 4 miles south of the Defense mine. When examined in April 1943, the workings consisted of a short adit and open stope within 15 feet of the surface, a 25-foot winze and drift in ore, and a 285-foot adit that reached the ore zone at a vertical depth of 120 feet. On the adit level, drifts extended 100 feet along the contact.

Tactite containing scheelite is found at a bend in the contact

between granite and metamorphic rocks (fig. 110). The ore is a coarse-

Fig. 110. Geologic maps, section, and projection of the Defense mine, Humboldt County, Nevada.

grained aggregate of quartz, epidote, actinolite, and a little scheelite. The tactite replaced a thin bed of marble, remnants of which are left on the hanging wall. The length of the ore body at the surface is 25 feet, and increases to 85 feet within a few feet downward. On the adit level, 120 feet beneath the surface, ore extends for 75 feet, and is cut off by a fault on the northeast end. The width of ore ranges from 2 to 20 feet, and the grade from 0.5 to 2.0 percent of WO_3.

Although the contact is not well exposed, other ore shoots are probably not present at the surface, for no substantial amounts of float are found. At a point 500 feet southwest of the main ore body, scheelite-bearing tactite one foot wide is found in a trench

across the contact. A little scheelite occurs in a quarts vein 1,200 feet south of the adit, but the average grade of the 5-foot vein is estimated at only a few tenths of a percent of WO_3

Last Chance

The Last Chance claims, owned by M. A. Jones and J. S. Alexander in 1943, are 10 miles southwest of Denio, Nevada Oregon, and a few miles southwest ~~northeast~~ of the Defense mine. Four beds of tactite 1.5 to 2 feet wide and containing a little scheelite were exposed in 3 trenches. The only known production is 11 tons of ore assaying 0.58 percent of WO_3, shipped to Metals Reserve Co.

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MEMORANDUM

on the

LAST CHANCE PROPERTY, MARK M. FOSTER CLAIMS, AND W. B. STUART CLAIMS

ABSTRACT

The above listed tungsten properties are located about ten miles southwest of Denio, ~~Oregon~~ Nevada in the Pine Forest Mountains. There are seven claims to the Last Chance Property and they are owned by M. A. Jensen and J. C. Alexander of Denio, ~~Oregon~~ Nevada. The claims owned by Foster and Stuart adjoin the property owned by Jensen and Alexander. However, since the Foster and Stuart claims are almost wholly underlain igneous rocks only a few hours were spent examining them.

LAST CHANCE PROPERTY

LOCATION: The Last Chance Property is located some ten miles southwest of Denio, ~~Oregon~~ Nevada in the Pine Forest Mountains. The property is easily reached by an ungraded dirt road from Denio.

OWNERSHIP: The Last Chance Property is owned jointly by M. A. Jensen and J. C. Alexander of Denio, Oregon. The claims were originally owned by M. A. Jensen, who not having sufficient amount of money to develop the property, gave 50% to J. C. Alexander who is furnishing a small compressor and other necessary equipment to do preliminary development work.

It is the intentions of the present owners to develop the property to such an extent that it can be sold to a concern or group of persons capable to develop a mine and produce tungsten ore.

MINE WORKINGS: The mine workings to date consist of five shallow and short cuts and trenches which have exposed the scheelite-bearing zones in several places. The workings are limited and do not indicate enough to warrent a large scale developing program.

GEOLOGY: There are two main types of rocks in this particular region, igneous (granite, diorite, and gabbro) and metamorphic (mica schist, hornblende schist, and tactite). The Foster and Stuart properties are almost wholly underlain by the igneous rocks and in many places the granite could be seen as dikes intruding the diorite and gabbro.

The metamorphic rocks occur either as small isolated pendants or as wide bands and belts of considerable length and width. The Last Chance Property has the greatest amount of the schists and it is in these schists that the tactite zones are found. The tactite is composed essentially of pale green epidote with minor amounts of quartz, hornblende, and garnet. Each tactite zone, of which there are a number, will not average more than 2 feet in width and not enough trenching had been done to indicate their length and number.

GRADE OF ORE: In three of the small cuts (see accompanying sketch map, pits 1, 2, and 3) I was able to find a few scattered scheelite colors. The individual tactite zones exposed in these three cuts will average 1 1/2 to 2 feet in width and the grade of are in each zone would be less than 0.2 % WO_3. However, within ten feet of these three cuts (1,2,3) is a small pile of are which would not average more than 0.25% WO_3. These estimates were made with the aid of the ultra-violet lamp.

RESERVES: From all of the surface indications it is not likely that the Last Chance Property will produce a large tonage of tungsten ore.

MARK M. FOSTER CLAIMS

LOCATION: The Foster claims are located within a few hundred feet of the Last Chance Property. That is, ten miles southwest of Denio, ~~Oregon~~ NEVADA in the Pine Forest Mountains.

OWNERSHIP: Mark M. Foster owns the claims herein called the Foster claims. There are four claims in all and they are the northern extension of the Last Chance Property.

MINE WORKINGS: The mine workings are limited to one shallow cut in a completely surrounded cropping of schist.

GEOLOGY: The geology of this property is much the same as that for the Last Chance Property with the exception that there is very little schist and associated tactite on the Foster Claims. All of the scheelite found was found to be along fractures and seams in the granite and diorite. Portions of the gabbro had been metamorphosed so as to develop a considerable amount of epidote. However, none of these epidotized gabbro masses showed any scheelite.

RESERVES: It is not likely that the Foster Claims will produce any tungsten ore of commercial quantities.

W. B. STUART CLAIMS

LOCATION: Adjoining claims east of Foster.

OWNERSHIP: The property herein described as the Stuart Claims are owned by W. B. Stuart of Denio, ~~Oregon.~~ NEVADA

GEOLOGY: The only rocks visible on these claims were granite, diorite, and an epidotized gabbro. Along open fractures and seams one can readily see thin XXX plates of scheelite. However, not enough scheelite is present to indicate a commercial grade of ore. There are no mine workings.

RESERVES: It is not likely that the Stuart Claims will produce any tungsten ore of commercial quanitites.

GENERAL REMARKS: Of the three properties mentioned in the foregoing pages the Property owned by Messers Jensen and Alexander shows the most scheelite. On the Last Chance Property one can see scheelite-bearing tactite zones which may or may not contain more scheelite with depth and length. However, the present indications are none too incouraging and a great deal of cross cutting will have to be done in order to open the tactite zones for better study and estimation.

Respectfully submitted,

Charles W. Chesterman

Charles W. Chesterman
Junior Geologist, U. S. Geological Survey
Winnemucca, Nevada
General Delivery

T. B. Nolan (3)
S. G. Lasky (1)
Glenn L. Allen
Dwight M. Lemon
File

Sketch Map of the Workings on the Last chance Claim of the Last Chance Property Showing General Geology

Scale 1"=50'

Gr = Granite

Sch = Schist

T = Tactite

6-11-43

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C O P Y
1/15/43

DEFENSE MINE

"An additional note on tungsten near Denio seems worthwhile. M. A. Jensen and Joe Erquiaga of Denio have located ground surrounding the Defense mine. They have dug trenches and cuts all over the hill east of Cold Springs Canyon, and report abundant scheelite. I lamped this hillslope and found a few colors, questionably scheelite, and considerable green-fluorescing calcite. They have done very little work on their claims west of the Defense property, and, although they report scheelite from this area, I did not examine it."

from U.S.G.S
M.R. Klepper 1/12/43

(145)
Item 25

Supplementary Memorandum: Access Road

DEFENSE TUNGSTEN MINE

Humboldt County, Nevada

M. R. Klepper
April 5, 1943

Operation: January 6 - April 3, 1943

Since January 6, the lessees, C. A. Wagner and J. Paul Jones, have driven a crosscut to the ore shoot, drifted 75 feet in ore, and raised 95 feet in ore. They have overhauled the mill, and milled part of the accumulated tailings and about 300 tons of ore from the drift and raise. Twenty seven hundred and fifty pounds of concentrate containing 47.83% WO_3. and 4800 pounds averaging 60% plus have been shipped; twelve hundred pounds of about the same grade are ready to be shipped. .67% WO_3

Defense Ore Body

A map, projection, and section of the Defense ore body is attached. An irregular band of ore lies along the contact between granite and a schist series. Here and there unreplaced marble lies between the ore and the schist. The ore body is faulted off at the east end of the drift; ore fragments in the gouge suggest that a continuation of the shoot may be found in the footwall east of the fault. Mineralization in the last 30 feet of the west drift is very low grade.

A raise is being driven near the east border of the ore body. Ore has progressively improved in width and grade toward the top. The face, about 35 feet beneath the surface, contains 7 feet of 2% WO_3 ore, and the hanging wall is not exposed. At the surface directly above this part of the shoot (40 feet east of the glory hole), the granite contact is barren.

This work has blocked out at least 1800 tons of 0.75% WO_3 ore or 1350 units of WO_3. If any wide pods occur within this block, such as the one mined from the glory hole, the tonnage of ore may be consid

ably greater. There is no indication that the shoot will terminate abruptly below the level. It is interesting to note that the known vertical range of the ore shoot is more than three times the outcrop length, and almost twice the length of the shoot at the elevation of the adit.

Exploration

In view of the fact that about two thirds of the length of the main ore shoot does not crop out, it seems worthwhile to drift east and west along the contact. Ore fragments are in the gouge that terminates the ore shoot at the east end, and a faulted segment of the shoot may be found by crosscutting into the footwall.

It also seems worthwhile to prospect the contact beneath the small ore zone exposed on the surface, 500 feet southwest of the glory hole. This zone, and the contact south of it, could be explored by extending the short adit near the bottom of the canyon west of the glory hole (see sketch map).

Recommendations

I believe that in order to develop, mine, and mill the ore as economically as possible, two short roads should be built:

(I). The present road to the mine terminates at the bottom of the mine dump, 40 feet vertically below the portal of the mine adit. All timber and equipment must be carried by steep trail from the end of the road to the top of the dump. The approximate position of the proposed road is shown on the accompanying sketch map. This road would be 1500 feet long, all in medium textured overburden that is readily handled by a bulldozer. Grade would average 6%. It also seems worthwhile to continue this road southward to a short adit, a distance of 1500 feet. The southern part of the contact could then be prospected by drifting

northeast in this adit, at about the same elevation as the main adit. Proposed prospect work on the south side of the canyon would also be facilitated by this road.

(2). Along the present road to the mill there is a hundred foot length that involves a 22%grade and a sharp curve. This grade and curve could be eliminated by building a 700 foot by-pass in overburden containing some large blocks of slide rock.

Neither of the roads are absolutely necessary to insure continued operation of the property, but the first is desirable from the standpoint of economical operation and the second in consideration of automotive equipment and tires.

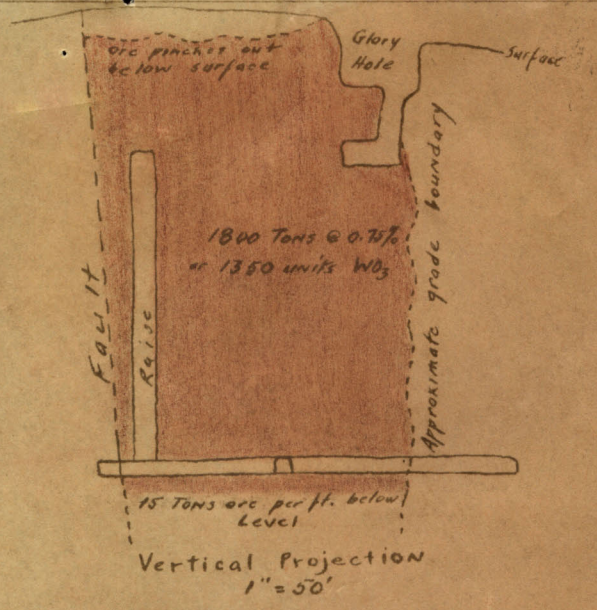
Production

The production data listed below is more complete than is the previous memorandum.

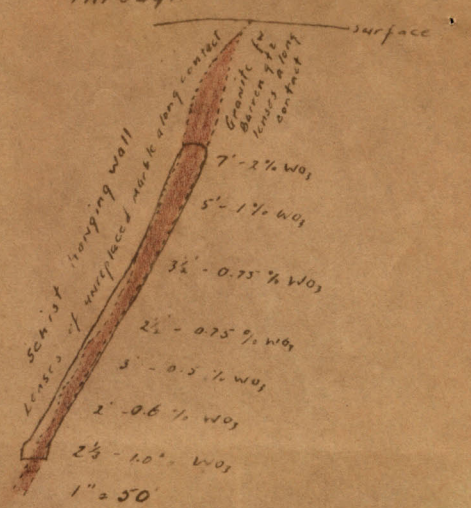
Year	Tons conc.	% WO_3	Units WO_3	Source
I942	I3	50-62	728 approx.	Glory hole;Cannon and partners
I942	I5.5	69	I070 approx.	Glory hole;Wagner and Jones
Feb. I943	I.375	47.8	66	Tailings
Mar. I943	2.9	60 plus	I74 approx.	Drift and raise
Total	2I.075		2038 approx.	

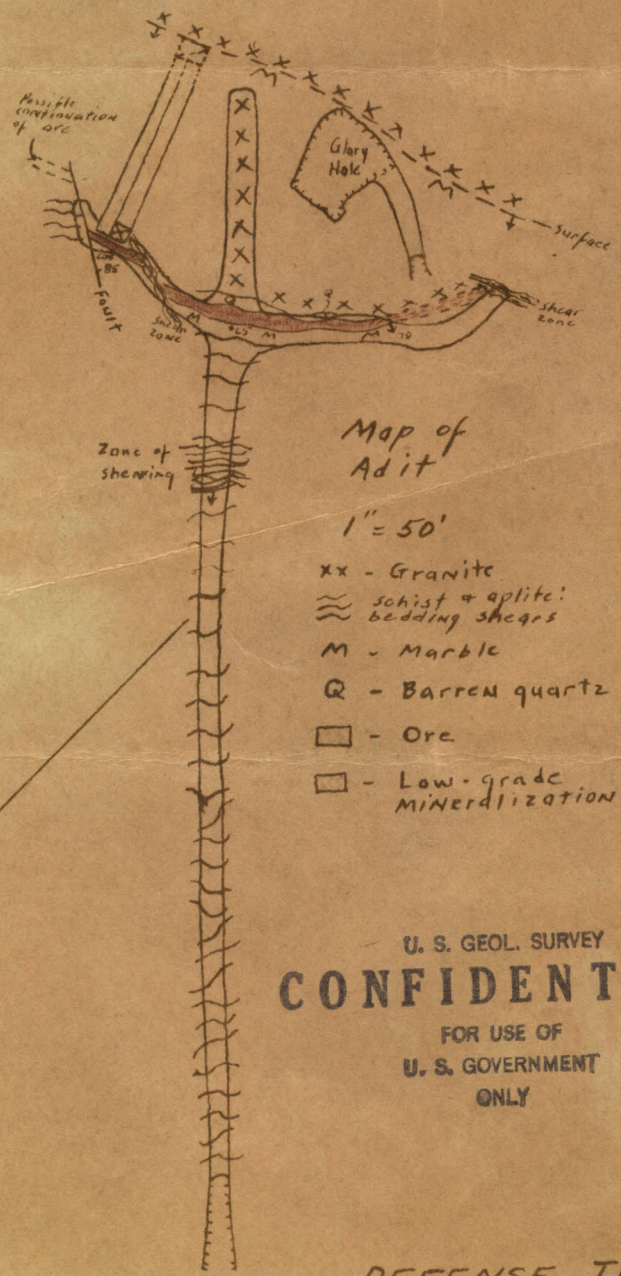
T. B. Nolan (3)
S. G. Lasky
D. M. Lemmon
G. L. Allen
File

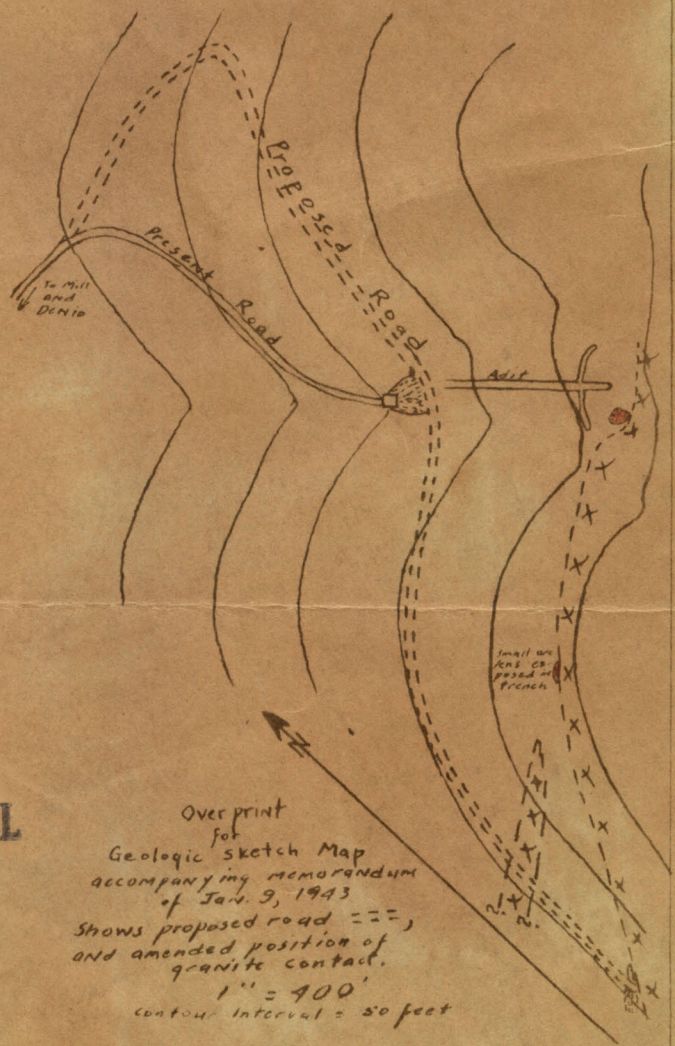
M. R. Klepper
Assistant Geologist
Mill City, Nevada
April 5, I943



Vertical Projection
1" = 50'







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ONLY

Overprint
for
Geologic sketch Map
accompanying memorandum
of Jan. 9, 1943
shows proposed road ---,
and amended position of
granite contact.
1" = 400'
contour interval = 50 feet

DEFENSE TUNGSTEN MINE

Humboldt Co., Nev., M.R. Klepper, U.S.G.S., April 4, 1943

Memorandum on the

DEFENSE TUNGSTEN MINE

Humboldt County, Nevada

by

M. R. Klepper

January 9, 1943

Location

On January 6, 1943 I examined the Defense tungsten mine in the Vicksburg mining district of northern Humboldt County, Nevada. The mine is 15.2 miles southwest of Denio, Oregon by graded dirt and gravel roads. Winnemucca, Nevada, the nearest railroad and supply point, is 105.3 miles distant. A mileage log between Winnemucca and the mine follows:

From Hotel Humboldt to junction of highways U. S. No. 95 (paved) and Nevada No. 8-A (graveled)- 30.5 miles. Turn west on 8-A. Continue 64.5 miles to intersection of 8-A and graded dirt road between Denio and Cedarville, California. Turn southwest and drive 10.3 miles toward Cedarville, then turn south for 1 mile on graded dirt road to mine.

The mine is in one of the low hills at the north end of the Pine Forest Mountains. The elevation in the vicinity of the mine ranges between 4700' and 4900', 400' above the level of Continental Lake (playa) in the valley to the north.

Winters are not severe and mining operations can be carried on throughout the year.

Ownership

In February 1942 three claims, Defense No. 1, 2 and 3, were located by C. C. Crow, Geo. Mathewson, and Vern, Cecil and Frank Cannon, all of Denio. On August 10 the property was leased to C. A. Wagner, Lovelock, Nevada and J. Paul Jones, San Francisco, California*. A $10,000 down

* Office: 369 Pine Street, San Francisco, California,

payment was made. The agreement stipulates that $10,000 payments be made at 6 month intervals until $50,000 has been received.

About a year ago Mr. Jones was active in the promotion of United Tungsten Mines Ltd., a stock company which owns a tungsten mill at Toy, Nevada and controls the Payday and Lobo mining claims adjoining the St. Anthony tungsten mine in Churchill Co., Nevada. Mr. Wagner was formerly interested in Oreana Extension, a claim adjoining the Oreana tungsten mine of Rare Metals Corp.

Production

The owners mined and milled about 1000 tons of scheelite ore from the glory hole (see map attached) between March 1 and August 10. Since then the lessees have mined and milled about the same tonnage. Mr. Vern Cannon, mine foreman, states that the ore yielded 0.75% WO_3 as an average, and that concentrates have assayed between 46% and 60% WO_3. If these figures are correct, and they seem to be reasonable, production from the property has been 1500 units of WO_3.

Mine Workings and Equipment

The ore body has been mined to an average depth of 40' below the outcrop from a glory hole and a level 25' below the floor of the glory hole. A cross cut is now being driven to intersect the ore body 75' below this level. The projected position of the ore body is 300' ahead of the face of this cross cut.

The contact between intrusive "granite" and the metamorphic rocks has been exposed in two shallow trenches. Pits, cuts, and short adits explore a quartz vein (or veins) that crosses the property. The vein was prospected for gold.

A compressor and necessary mining equipment are on the property.

Mill

The ore is concentrated in a 25-ton gravity mill, formerly the Ashdown gold mill. This mill is at the Ashdown camp, 4 miles southwest of the Defense mine by graded dirt road. The mill circuit contains a jaw crusher, Symons cone, Huntington mill, and four tables. Water is piped to storage tanks from a canyon 1 mile south of the mill. The supply is adequate for two 8 hour shifts a day. If a larger mill was warranted, ample water could probably be developed in the flat a few hundred feet below the present mill.

Recovery is probably about 60%. No attempt is made to stockpile the tailings.

Geology

The claims are underlain by a metamorphosed and faulted sequence of interbedded biotite schist, light-colored fine-grained gneiss, and at least one marble bed. A mass of gneissic biotite-hornblende "granite" has intruded the southern part of the area (see sketch map); many aplite dikes and sills cut the metamorphic rocks. In a few places along the "granite" contact scheelite has been introduced.

Northeasterly trending faults probably served as channelways for the introduction of scheelite. Quartz veins have been intruded along some faults belonging to this set. The vein outcrops shown on the sketch map may be faulted segments of a single vein.

Scheelite Deposits

The Defense ore body lies along the contact between marble and schist with intrusive gneissic "granite". (See map of glory hole). It is bounded on the north and south by northeasterly trending shear zones mineralized with scheelite. To the east it grades into barren marble, to

the west into schist.

The ore is a coarse-grained crystalline aggregate of quartz, epidote, actinolite and scheelite. Most of it has been formed by replacement of limestone; some occurs as thin stringers in the schist. Alteration is more complete, and the ore is of better grade, in and adjacent to the shear zones shown on the map of the glory hole. It is believed that most of the movement along these shears was pre-scheelite.

500' south of the Defense ore body a 1' zone of scheelite mineralization has been exposed in a trench across the intrusive contact. Scheelite-bearing float can be traced for 25' on each side of the trench. This short and narrow lens is too small to be worthwhile. No other mineralized zones have been found along the contact.

Near the south end of the property a quartz vein contains scheelite. The vein was prospected for gold by a 50' (?) adit, now caved. A few tenths of one per cent of scheelite is disseminated through the dump from this adit, and 20 tons of quartz estimated to contain between 0.5% and 0.75% WO_3 have been sorted from the dump. Scheelite appears to cement fractured vein quartz. The vein may average 5' in width.

The vein may contain a small scheelite ore shoot; the following considerations suggest that it is not likely to make a mine:

(1). Scheelite-bearing float along the strike of the vein is scarce; outcrops farther up hill are barren;

(2). Only a few tons of ore have been sorted from a few hundred tons of dump rock; the rest of the dump is low grade;

(3). Other outcrops and artificial exposures of this vein, or similar veins, are barren.

The lessees talk of building a road to this adit, and reopening it. One man with a wheelbarrow could reopen the adit in a few days, for it appears that most of the caved ground is overburden at the portal. Expend-

iture for a road would not be warranted until the adit is reopened and the vein examined.

Reserves

Reserves of known ore are limited to the Defense ore body. A few hundred tons remain between the surface and the level below the glory hole, and it is likely that the pipe-like body continues beneath this level. If the cross cut intersects a continuation of the shoot that compares in size and grade with the ore already mined, about 5000 tons of 1% WO_3 ore will be almost assured.

General Comments

The property is easily accessible. Additional roads are not needed, unless the caved adit on the quartz vein is reopened and a worthwhile ore shoot found.

The cross cut is being driven on contract at $4.00 a foot. $2000 should be ample to complete this exploration.

The lessees intend to remove the ore that remains in the glory hole area above the short drift, continue the cross cut to the ore body, and reopen the adit on the quartz vein. Enough ore is in sight to pay for this exploration.

M. R. Klepper
Assistant Geologist
Mill City, Nevada
January 9, 1943