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Memorandum on

Tungsten Occurrence at the

CHARLESTON HILL NATIONAL GOLD - SILVER PROPERTY

Santa Rosa Mountains, Humboldt County, Nevada

By Peter Drakeman

Location

On September 5, 1943, the writer visited the Charleston Hill National property, located at a 6200 foot elevation in the Santa Rosa Mountains, 27.5 miles northwest from Winnemucca, Nevada. The property is reached from Winnemucca by driving 24.4 miles northwest on U.S. Highway 95, then driving 3.1 miles north along a dirt road which leads directly to the mine.

Ownership and History

The 13 claims comprising the property were located by Mr. and Mrs. Clough in 1919 for gold and silver. A camp was built at that time and a 1200 foot tunnel prospecting for gold and silver was driven near the camp. A mill was constructed, but has never milled ore from this tunnel.

After the death of Mr. Clough, Mrs. Mary L. Clough became president of the Charleston Hill National Company.

No work was done recently in the tunnel until the discovery of scheelite, several months ago.

Development Work and Equipment

No work has been done in the tunnel in exploration for tungsten aside from chipping scheelite from the walls in several places. No surface exploration work has been done.

A 30-ton mill, designed to treat gold ore, a blacksmith shop, and a compressor house, all in poor repair, are on the property. In the tunnel are 1100 feet of track and one ore car. The owner has a drill, compressor, and broken-down engine. Approximately 3 gallons of water per minute flow from the tunnel.

Geology

The property is underlain by a metasedimentary series, striking N30E, and dipping moderately to the west. Hornfels is interbanded with shale and schist. Cutting the sediments is a large, steeply-dipping granodiorite dike, 250 feet wide, and a smaller aplite dike. The hornfels is hard and silicified near the intrusive contacts, and the granodiorite becomes fine grained at the contacts.

Pyrite and other sulfides are scattered through the sediments and intrusives, and all rock types are cut by quartz seams and veins, varying from a fraction of an inch to 2 feet in width. The larger veins carry no scheelite, but are reported to contain gold and silver, as well as pyrite and chalcopyrite. The narrow seams, less than an inch wide, carry scheelite. Some seams of $\frac{1}{4}$ to $\frac{1}{2}$ inch wide are nearly half scheelite.

Only 5 colors of scheelite were found in an ultra violet examination of the surface. The 50% slope above the tunnel is almost entirely covered with granite and quartz float shot out or dumped from an old cut further up the hill.

Scheelite Deposits

The scheelite occurs only in the narrow seams, in an amount inversely proportional to the width of the seam. No scheelite was observed to be disseminated in any of the rocks. There is little difference between the amounts of scheelite in the intrusives and the metasediments.

The concentration of scheelite is greatest at the intersection of 2 or more seams. In one place, 350 feet from the portal of the tunnel, several seams intersect to give a grade of 1.0% WO_3 for a 2 foot width. It is predicted, however, that the grade will rapidly decrease in all directions.

Ore Reserves

There is little likelihood that reserves of commercial ore will be developed on the property.

Peter Joralemon
Junior Geologist
September 7, 1943

T. B. Nolan (3)
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File

GEOLOGIC PLAN

OF THE WORKINGS OF THE

CHARLESTON HILL NATIONAL GOLD-SILVER PROPERTY

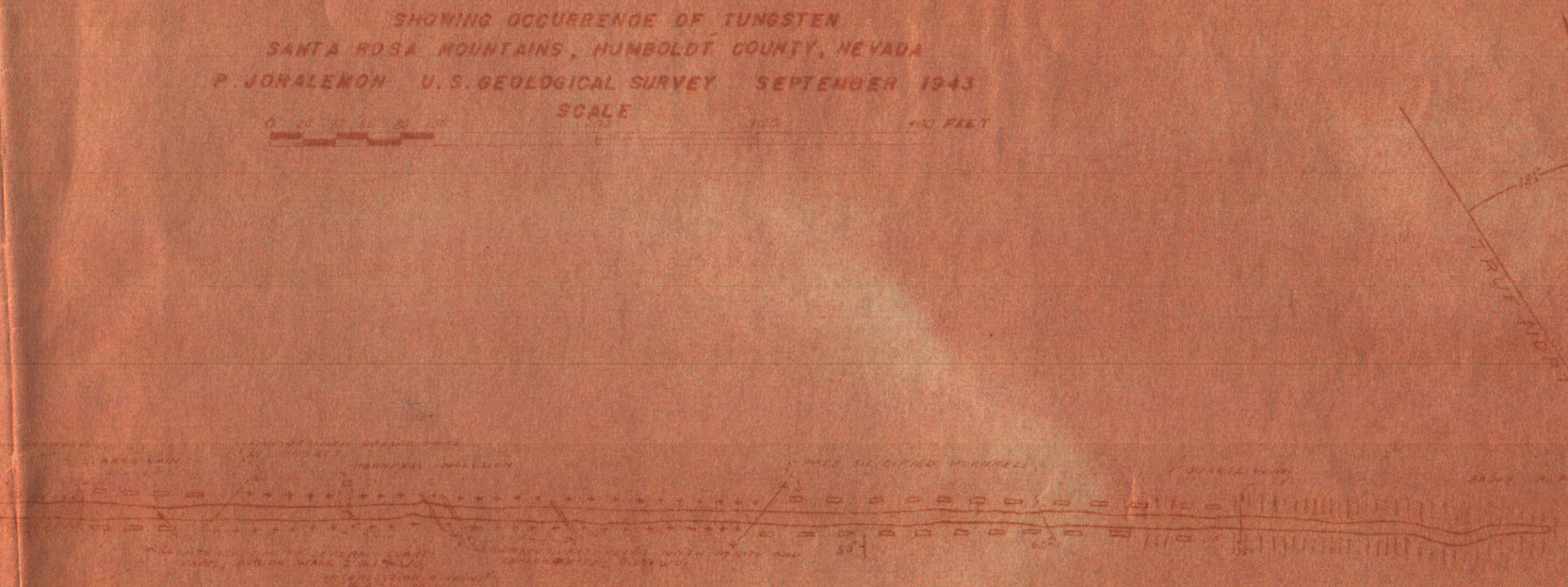
SHOWING OCCURRENCE OF TUNGSTEN

SANTA ROSA MOUNTAINS, HUMBOLDT COUNTY, NEVADA

P. JONALEMON U.S. GEOLOGICAL SURVEY SEPTEMBER 1943

SCALE

0 100 200 400 FEET



EXPLANATION

HORNFELS

GRANODIORITE

SHALE

APLITE

SCHIST

SCHEELITE IN VEIN

FAULT