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GEOLOGICAL & ECONOMIC EVALUATION
of the
DANNER TUNGSTEN PROPERTIES
Pershing County - Nevada

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August 14, 1956

The Eugene Range consists of ... or later ... **GEOLOGICAL & ECONOMIC EVALUATION** ... and ... of the ... range are related to the ... **DANNER TUNGSTEN PROPERTIES** ... found ... in the ... **Pershing County - Nevada**

Stratigraphy

INTRODUCTION

The following report is a preliminary evaluation of the claims and railroad leases owned by R. E. Danner & Associates, and leased by the Western Mercury & Uranium Corporation, made on July 30, 1956. All of the most significant tungsten occurrences were examined to determine the important geological and economic factors with respect to the potential of the property.

PROPERTY & ACCESSIBILITY

Western Mercury & Uranium Corporation has leased from R. E. Danner & Associates 3 1/4 Southern Pacific Railroad sections, (Sections 11, 13 and NE15, T34N, R33E and Section 17, T34N, R34E), 8 Tungsten Ridge claims and 6 Eugene claims, all in the Eugene Range. The area may be reached by 6 miles of fair gravel road from the large Nevada-Massachusetts tungsten mine which is 8 miles north of Mill City, Nevada, a small town on U. S. Highway 40, 28 miles west of Winnemucca, Nevada. One to two miles of road will soon be built over the range to connect with the western portion of the property which is now reached only by a much longer gravel road around the west side of the range.

Mineralization

HISTORY

The tungsten ... **Tungsten** was first discovered in the Eugene Mountains in 1917. By 1918-3 companies were mining and milling ore. In 1926, the Nevada-Massachusetts Company took over both companies and has operated quite continuously since then.

The best area, ... appears to be that ... Section 17

REGIONAL GEOLOGY

The Eugene Range consists of a series of metamorphosed Triassic or later sediments, intruded by numerous intermediate intrusives, and complicated by numerous faults. The tungsten deposits of the Nevada-Massachusetts mines in the southeastern end of the range are related to the metamorphism and faulting near the igneous-sedimentary contact zones. Tungsten occurrences are found scattered throughout the range but gold is more predominant in the northern part.

LOCAL GEOLOGY

Stratigraphy

Sedimentary - The metamorphosed sediments are probably Upper Triassic or later in age. The predominant metamorphic rock is gray, banded hornfels, which is quite limy in nature. Occasional marbleized limestone beds are present in the hornfels sequence. Quartzites and slates are also abundant in certain areas, especially the western portion of the Danner properties.

Igneous - The predominant intrusive rock is a granodiorite which is found as stocks and dikes throughout the area and is related to the mineralization. In addition, post-mineral hornblende andesite dikes are present.

Structure

The sediments uniformly strike about N20°E and dip about 60° - 70° west, except for minor variations due to folding and faulting. In the brief field time available, major structure features were not readily discernable but numerous faulted and brecciated zones were seen, although in most cases displacement is small. One crushed zone in the northeast corner of Section 11 exhibits blocks of sediments at all attitudes adjacent to a garnet bed, and the good tungsten showing in Section 17 is along a strong fault zone.

Mineralization

The tungsten occurs as scheelite in or near brecciated contact zones between granodiorite and hornfels and also along tension faults in quartzite. Garnet, epidote, and vitreous quartz are the chief gangue minerals. Only occasional scheelite has a slight yellowish cast, indicating the gradation to the molybdenite-bearing variety called powellite.

The best area, based on present exposures and geological conditions, appears to be that in the southeast corner of Section 17

and into the Eugene claim group in Section 20. A number of finger-like granodiorite dikes intruding hornfels, together with considerable brecciation and alteration along the contact, have been the site for a good showing of tungsten mineralization. A short adit and a couple of prospect pits along the contact is the only development work. At one spot an 8-foot cut sample averaged 0.90% WO₃. Other samples in the vicinity ran 0.26, 0.80, 0.37, 0.56 and 1.25% WO₃.

The northeast corner of Section 13 is the location from which Mr. George DeLong, leasor, made three shipments of ore from small pits as follows:

<u>Dry Tons</u>	<u>% WO₃</u>
5.48	0.81
5.95	0.62
6.22	0.87

This deposit is along tension faults in gray-brown quartzite. A granodiorite dike is about 25 feet away. Similar mineralization in quartzite is found on the Tungsten Ridge claims along the western edge of Section 14.

The third location of interest is in the extreme northeast corner of Section 11, where garnet has replaced the shale and limestone beds for a width of over 50 feet. Only a small amount of scheelite could be seen in the one exposure, but the environment is favorable and there is a possibility of better mineralization in the major portions covered by soil. This was the largest amount of garnet seen on the property, and garnet is the abundant gangue mineral at the Nevada-Massachusetts mine.

ECONOMIC FACTORS

Economic factors must be considered and will be briefly evaluated.

Milling

The ores must be milled and at present must be shipped to the only custom tungsten mill in the region, that of Getchell Mines, Inc. at Red House, Nevada, 77 miles away over mostly paved highway. They have been accepting custom ores for a number of years and will apparently continue to do so. The Nevada-Massachusetts mill is only 6 miles away which at present does not accept custom ores. However, the new tungsten purchase program, recently signed into law by the President, allows for the purchase at the base price of \$55.00 per unit, but only 5,000 units per month from any one operation. This may necessitate the buying of cus-

ten ores by Nevada-Massachusetts as their monthly production is undoubtedly above this figure. This would reduce the haulage costs by a substantial \$4.00 - \$5.00 per ton.

Mining

Climatic conditions are quite ideal in this area (6,000 - 7,000') for year-around operations as neither the winters nor summers are severe. Numerous large mining operations in the region attract a plentiful labor supply. A number of springs could furnish a fair water supply and other wells could be drilled if necessary. Mine timbers are not available from the immediate area and would be somewhat higher than normal cost. Housing is available in Mill City or Imlay, Nevada, 15-20 miles away.

Market

The tungsten purchase program has been extended until December 31, 1958 to purchase not more than 5,000 units per month from any one operation at \$55.00 per unit. This reasonably assures and get into operation, although it would be necessary to expedite such an operation to obtain maximum advantage of the guaranteed price.

CONCLUSIONS

- 1- The geological conditions are quite similar to the Nevada-Massachusetts mine and indicative of a possible economic tungsten mineralization. Practically no underground development or drilling has been done to prove or disprove the indications.
- 2- The number of tungsten occurrences on the Danner property is noteworthy, as shown on the index map, and additional exploratory work is certainly justified.
- 3- Economic factors are reasonably favorable and conducive to a possible economic mining operation.

RECOMMENDATIONS

- 1- The Danner property is very large and exploratory operations should be confined to certain favorable areas in the following order of favorability:

- (a) Southeast corner of Section 17 and northern portion of the Eugene claims.

(b) Tungsten Ridge claims along western edge of Section 14.

(c) Northeast corner of Section 11.

2- Geological mappings of these selected portions should first be done, followed by bulldozing to better expose the veins.

3- An evaluation of all geological and economic factors must then be made to determine whether diamond drilling or underground exploration would be the most feasible.

Respectfully submitted,

Charles E. Melbye

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August 14, 1956