2410 0040

P. Joralemon 10-17-43

2.76 tons

Item 41

Star tungsten

Memorandum on the El Dorado Tungsten Property Humboldt Mountains, Pershing County, Nevada

Abstract

The El Dorado tungsten property is located 10.4 miles south of Imlay, Nevada, and 3 miles east of U. S. Highway 50. The property is held by T. W. Hebbard of Winnemucca, Nevada. The property is underlain by massive limestone and thin beds of schist overlain by thin-bedded shale. A quartz-filled fracture cuts the sediments, and a series of bedded quartz veins branch from the main quartz vein. Scheelite occurs in large cobs in oxidized, limonitized zones in and near gouge faults. The ore zones are lenticular in shape and probably have but small lateral and vertical extent. The rotten character of the ore would make mining by narrow stoping easy, and the unusually large scheelite masses would facilitate sorting of the ore. 138 tons of 1% WO_3 measured ore and 260 tons of 1% WO_3 inferred ore are estimated to be on the property.

Location and Ownership

The author visited the El Dorado tungsten property on October 11 and 12. The property was reported by E.H. Bailey of the Geological Survey. It is located at an altitude of about 5500 feet in a canyon that lies north of El Dorado Canyon in the Humboldt Mountains, and joins El Dorado Canyon near its mouth. The property is 3 miles east of U.S. Highway 50 and is reached by a gravel and dirt road that turns east from U.S. Highway 50, 10.4 miles south of Imlay, Nevada.

The property is owned by T.W. Hebbard. When the author visited the property, Mr. Hebbard was away, and no information could be obtained regarding the number of claims or the history of the property. In 1937, the property was located by A.J.Hankins and was called the Sunny Day Claim, but it is believed that Mr. Hebbard has reclaimed the property more recently.

Development and Equipment

The development work on the property is concentrated in an area 900 feet long and 400 feet wide. There are 5 adits on the property; one 60 feet long, one 220 feet long, one 50 feet long, one 80 feet long, and one 30 feet long. There are also 4 small pits and trenches and a 20 foot shaft. All of these workings were apparently driven a number of years ago, and the tungsten workings consist only of a small amount of stoping in the main adit.

No equipment was on the property other than fixtures from an old compressor. A miner who was looking at the property reported that Mr. Hebbard owned a compressor and was planning to move it to the property during the winter.

Geology

The property is underlain by a sedimentary series that is cut by a quartz-filled fracture. In the sedimentary series is a wide shale bed underlain by massive blue limestone interbedded with schist. The sediments strike from N 20 W to N 20 E, and dip from 45 to 55 degrees west.

The main quartz body varies in width from a few feet to 35 feet, strikes N 60 W, and in general dips 60 degrees south. Branching from this vein are a series of bedding veins, varying in width from a few inches to 10 feet. In the zone of the quartz veins, the limestone and schist are brecciated and filled with quartz veinlets.

The faults on the property show no evidence of any major movements, but the movement is evidently both pre-mineral and post-mineral. Many of the veins are bounded by fault gouge and slickenside, and calcite and some scheelite were found in large unbroken crystals in a gouge zone. The faults are roughly parallel to two planes: one is the bedding plane and the other is the plane of the main quartz zone.

The property is reported to have been worked for silver, and some antimony is said to occur on the property. Some malachite was found in the oxidized zone, and the schist originally contained much disseminated pyrite which has, to a large extent, been oxidized to limonite. Some scheelite also occurs on the property.

The lowest and westernmost adit was driven in shale and intersected limestone in the face. It was evidently driven to intersect the quartz vein at a greater depth.

The main adit was driven along the southern edge of the main vein. 120 feet in unnel, the vein narrows considerably and is offset to the south by a fault. It able that this is only a branch of the main vein that continues north of the he two northern branches of the vein are apparently exploratory crosscuts, as ollow any single structure. It is in these branches that the main con- heelite occurs. A winze sunk 30 feet in the northern branch of the

tunnel follows a narrow seam on the hanging wall. Ten feet below the level, this seam widens from 2 inches to a foot. A narrow spiral raise on the north side of the drift follows a narrow quartz seam up for 40 feet at a 45 degree incline. The sediments cut by the quartz are limestone and narrow beds of oxidized schist.

The next adit eastward, driven to the north, follows quartz stringers that cut limestone and schist.

On the same level, a short adit driven to the south begins on the main vein and continues in sheared limestone. A small open stope has been cut to the surface on a sheared and oxidized zone around a gouge fault. Whether this stope was cut for silver or scheelite is not known, but scheelite occurs along the sheared zone.

The easternmost adit follows quartz seams in limestone. The shaft is inaccessible.

Scheelite Deposits

The scheelite occurs in and adjacent to gouge zones in the limestone. It is usually, but not always, associated with quartz. In the inaccessible shaft at the east end of the property, some fine-grained scheelite was seen disseminated through the limestone near the main quartz vein, but all other occurrences of scheelite on the property are as unusually large masses. In the main adit, the average size of the scheelite masses was 1 to 2 inches in diameter.

In the main adit, no scheelite occurs in or near the main quartz vein in the west part of the adit. Where the vein narrows and is offset, the scheelite occurs along gouge zones. In the short crosscut driven to the west from the western branch of the adit, a narrow bedding vein was intersected, and the same vein was cut again in the raise 6 feet above. The vein, which has been oxidized to a small extent, has an average thickness of one foot, and an average grade of 2.0% WO_3.

The winze in the east end of the adit follows a narrow seam down. At the adit level, the seam shows only 2 inches of gouge and no scheelite. Ten feet below the level, the seam widens to a foot and averages 6 inches to a foot in width for the lower 20 feet of the winze. Where it widens, the scheelite occurs in spotty high-grade masses, averaging 1.0% WO_3 for the 1 foot width. It occurs in oxidized, limonitized

gouge material

The main occurrence of scheelite in the main adit is the ore in the central branch of the tunnel near the east end. Here the scheelite lies in an oxidized zone immediately south of a gouge fault striking and dipping parallel to the gouge fault in the winze. This ore zone is followed for a length of ten feet and averages 2 feet wide. It is cut off on the west by a bedding fault, and it cuts outside the drift to the east. The scheelite is in large masses, sometimes 5 inches in diameter, and averages 6.0% WO_3 for the 2 foot width.

In the open stope in the adit to the east, the scheelite occurs in an oxidized gouge zone striking parallel to the main quartz vein. The gouge zone averages 2 feet in width with an average grade of 1.0% WO_3. The scheelite is coarse-grained and spotty.

The shaft is inaccessible, but a few fine grains of scheelite were seen near the collar. From the amount of scheelite seen in the fines on the dump, it is supposed that more scheelite may occur further down the shaft.

The author, accompanied by M.R. Klepper, made an ultra-violet light examination of the surface, and no scheelite was seen in any place not described above. None of the ore bodies found underground appear to crop on the surface. From this evidence, it appears that scheelite occurs in narrow pods and lenses lying along shear zones and pinching out in all directions. More pods may occur on the property, but further underground development work would be required to find them.

Ore Reserves

The extent of the ore pods could not be determined, but it i s believed that the pods have only a small lateral and vertical extent. The ore would be relatively simple to mine by narrow stopes because of the soft nature of the ore rock. Mr. Hebbard has already sorted 2 tons of 6.0% WO_3 ore, and has sacked 2 sacks of 4.0% WO_3 ore.

Measured ore on the property is estimated at 138 tons of 1.0% WO_3. Inferred ore is estimated at 260 tons of 1.0% WO_3 ore. Because of the limited showings exposed by the workings, the inferred and indicated ore would be the same.

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October 17, 1943

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File