~~East Range~~

(293)

4000 0012 East Range — Rose Creek Dist Item 13

The East Range tungsten-manganese deposit is in secs. 3 and 4, T. 34 N., R. 36 E., about 15 miles southwest of Winnemucca and 0.5 mile east of U. S. Highway 40 where it crosses the Humboldt County line. The deposit was located in 1939 by F. R. O'Leary. Tungsten-bearing manganese oxides are found locally in a number of short calcite veins that cut through Triassic slate and shale, and range in width from a fraction of an inch to 4 feet. Analyses appear to show that tungsten content increases with manganese content. The highest grade material analysed in the Geological Survey laboratory, representing sorted iron and manganese oxides, contained 18.6 percent of Mn and 0.88 percent of WO_3. Exploratory work consists of a few shallow pits and trenches, none of which exposed commercial ore bodies.

Rose Creek[1]

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[1] Roberts, R. J., The Rose Creek tungsten mine, Pershing County, Nevada: U. S. Geol. Survey Bull. 940-A, 14 p., 1943.

The Rose Creek mine, in sec. 6, T. 34 N., R. 37 E., is in the northeastern part of the East Range and 11 miles southwest of Winnemucca. Tungsten was discovered in 1936; in 1937, the U. S. Vanadium Corporation purchased the property and prospected it by surface trenching and through several adits and a 200-foot inclined winze. The mine was leased in 1942 to W. C. Rigg, who, in 1943-44, shipped 8,170 tons of ore containing 2,892 units of WO_3 to a Metals Reserve Co. stockpile. This ore was subsequently concentrated at the Getchell mill.

Scheelite is found in a thin tactite bed composed dominantly of diopside, actinolite, feldspar, and quarts, with subordinate epidote, calcite, and zoisite, and minor quantities of apatite, sphene, scheelite, pyrite, molybdenite, sphalerite, arsenopyrite, and chalcopyrite. The scheelite ranges in size from crystals too small to be seen with the unaided eye to crystals half an inch in length.

The ore bed strikes NE. and dips 30° - 45° NW., parallel to the bedding of the enclosing argillite (fig. 137). The bed thins and swells

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Fig. 137. Geologic map (and section) of the Rose Creek mine and vicinity, Pershing County, Nevada.

along the strike and down the dip, averages about 2 feet thick, and is locally as much as 4 feet thick. The tungsten content is variable, ranging up to 5.0 percent of WO_3; the average is about 1.5 percent. It is reported that the ore also contains as much as 1.5 percent of copper and 0.14 ounce of gold per ton. Part of the scheelite fluoresces bluish white, part pale yellow, indicating a molybdenum content estimated at 1.8 percent. Some crystals consist entirely of the white fluorescent variety, others of the yellow, but more commonly both varieties occur irregularly intergrown in the same crystal.

The surface ore is oxidized; the sulfides have been altered to limonitic iron oxides and the silicates to clay minerals. The altered rock is commonly stained with copper carbonates and silicates and is porous. The depth of oxidation is shallow, ranging from 5 to about 10 feet, and is greatest where the rock is fractured.

In 1942, the ore body was partially developed for a length of 400 feet and for a distance of 200 feet down dip (a vertical distance of 110 feet) (fig. 138). It is cut by numerous lamprophyre and diabase

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Fig. 138. Geologic map and section of workings of the Rose Creek mine, Pershing County, Nevada.

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dikes. The ore layer is also broken by many small faults, none of which has a throw greater than 10 feet. These faults add difficulty and cost to stoping.