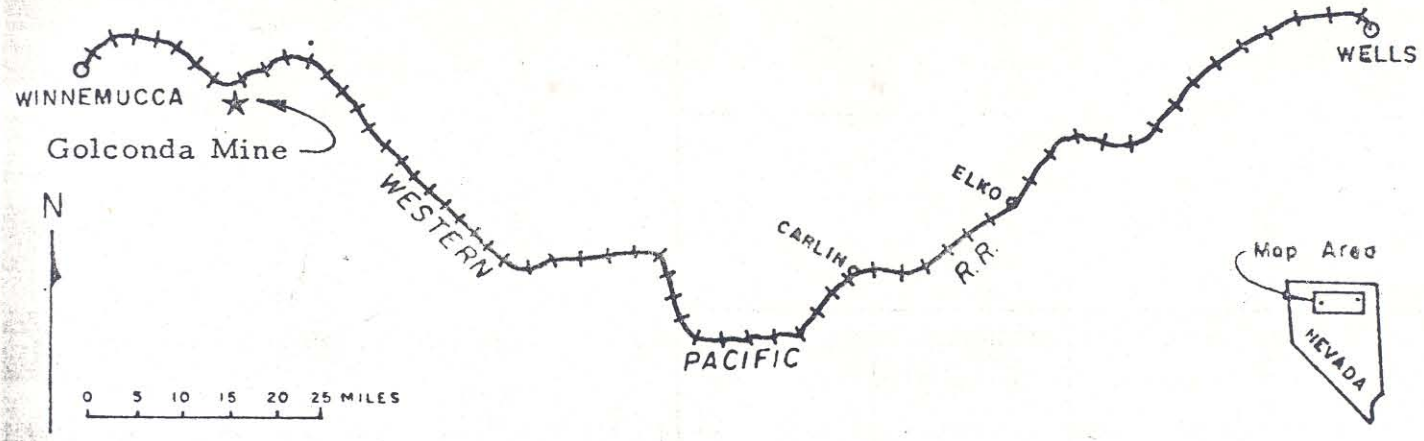
Carroll Bradberry & Associates
ENGINEERS · CONSULTANTS
LOS ALTOS · CALIFORNIA
INCORPORATED

BY: CCM
DATE: 12-20-64
W.O. 885.1
MINERAL: Tungsten and Manganese

MINERAL DEPOSIT ALONG WESTERN PACIFIC RAILROAD
WINNEMUCCA TO WELLS (128)

PROPERTY NAME: Golconda Mine
Item 29

2020 0029



LOCATION: Humboldt County, Nevada
W 1/2 1/4 OF NW 1/4 OF SEC 1 TWP 35N RGE 40E
DISTRICT:
MILEPOST:

POTENTIAL:
- ☐ LARGE
- ☐ IMMEDIATE
- ☒ MEDIUM
- ☐ NEAR FUTURE
- ☐ SMALL
- ☒ DISTANT FUTURE
- ☐ UNKNOWN

DESCRIPTION Pits and trenches in 6000 foot long by 1000 foot wide area yielded 103,000 tons of 0.78 percent WO_3; similar WO_3 content reported in dumps. The tungsten-bearing iron and manganese oxides with minor fluorite are in bedded (over)

OWNERSHIP Undetermined

ACCESS About 2 miles north to the Western Pacific Railroad and Highway 40.

SOURCES OF DATA Southern Pacific Railroad report, "Minerals for Industry", part 2, p. 114 (1964)

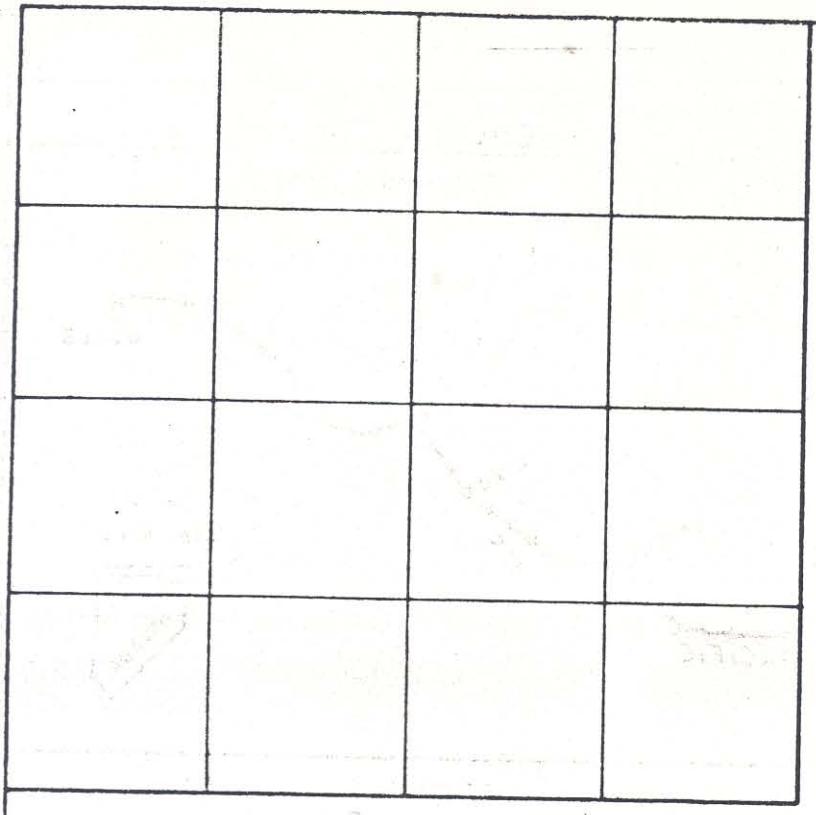
PRODUCTION 103,000 tons

RESERVES Undetermined

ECONOMICS Price is presently depressed on both tungsten and manganese, mainly due to available, rich foreign ores.

CONCLUSIONS Will undoubtedly be reopened in the future when the prices rise on either tungsten or manganese.

THE WESTERN PACIFIC RAILROAD COMPANY



Description: (Cont.) travestine, clay, and gravel deposits, 1 to 20 feet thick; locally clay contains up to 40 percent MnO_2 and 7 percent WO_3; the metallic oxides and travestine were deposited by thermal waters.

Golconda – GOLCONDA DIST.

The important Golconda deposits of ferruginous and manganiferous conglomerate are about 3 miles east of Golconda at the base of the Edna Mountains, in sec. 36, T. 36 N., R. 40 E., and sec. 1, T. 35 N., R. 40 E., Sonoma Range quadrangle. They lie at altitudes of 4,400 to 4,500 feet, slightly above the highest level of Pleistocene Lake Lahontan. The deposits were worked on a small scale for their manganese content in 1893 and during World War I. The presence of tungsten was first described by Penrose[1].

---

[1] Penrose, R. A. F., Jr., A Pleistocene manganese deposit near Golconda, Nevada: Jour. Geol., vol. 1, April-May 1893, pp. 275-282.

According to Vanderburg[1], total production of manganese ore was about

---

[1] Vanderburg, W. O., Reconnaissance of mining districts in Humboldt County, Nev.: U. S. Bur. Mines, Inf. Circ. 6995, pp. 22-23, 1938.

---

200 tons; a car sample of 30 tons shipped in 1918 assayed 32.5 percent Mn.

6.2 percent SiO_2, 1.5 percent W, 5.2 percent Fe, and 0.056 percent P.

In 1937, the Rare Metals Corporation, affiliate of the Nevada-Massachusetts Co., purchased the mineralized area, and in 1940 built a plant at Golconda for chemical digestion of the tungsten ore and production of synthetic calcium tungstate. The ore deposits were prospected with churn drills, and then were stripped of overburden and mined from open cuts. An estimated 100,000 units of WO_3 were produced in the years 1941-45, and the known bodies of high-grade ore were depleted. Material containing less than 0.8 to 1.0 percent of WO_3 could not be worked because of the high cost of chemical treatment. Large sub-marginal reserves containing about 0.5 percent of WO_3 were not workable at a profit.

The tungsten deposits are in undisturbed Pleistocene continental beds unconformably overlying highly deformed arenaceous shales which contain occasional layers of limestone and thin beds of quartzite (fig. 109). The Pleistocene beds consist largely of conglomerate with irregular lenses of clay and sand. Tungsten and manganese mineralization is present in

Fig. 109. Map and sections of the Golconda mine, and vicinity, Humboldt County, Nevada.

a belt that trends northeasterly for about 1 mile, and is one quarter mile wide. Four tungsten ore bodies were found in this belt. They are flat-lying, circular or oval, and are from a few inches to 25 feet thick. They have a caliche-like capping, called tufa in previous descriptions, above which is a thin layer of fanglomerate. The ore underlying the caliche is stained black from psilomelane, or brown from limonite. Both minerals appear to contain tungsten, although not in any constant ratio. Quantitatively, the limonitic ore is much more abundant than the manganiferous ore. Some layers of clay exposed in the deeper pits are largely replaced by very fine-grained pyrite, and it is possible that all the limonite was derived from original pyrite. Oxidation of the pyrite with formation of sulfuric acid may have been responsible for redistributing the tungsten content of the deposit after it was first formed.

Kerr[1], who published the only description of the deposits,

---

[1] Kerr, P. F., Tungsten-bearing manganese deposit at Goleonda, Nevada: Geol. Soc. America, Bull., vol. 51, pp. 1359-1390, 1940.

---

ascribed the mineralization to hot springs, which are now extinct. At the northeast edge of the mineralized belt, several narrow veins in the bedrock are composed of psilomelane, limonite, jarosite, quartz, and calcite, and contain tungsten. The veins, too narrow to be ore, are considered by Kerr to be the channels of mineralization leading to the hot springs.