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Item 5

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EXHIBIT VI

FEBRUARY 1938

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
HAROLD L. ICKES, SECRETARY

BUREAU OF MINES  
JOHN W. FINCH, DIRECTOR

INFORMATION CIRCULAR

RECONNAISSANCE OF MINING DISTRICTS IN  
HUMBOLDT COUNTY, NEV.



BY

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Development work comprises several adits, the longest of which is 220 feet. Underground workings total approximately 2,000 feet. The only equipment on the property consists of a 20-stamp mill from which all machinery except the stamps and crusher has been removed.

Values are in gold, which is present in oxidized material in a quartzite formation.

#### Rare Metals Corporation

In 1937 the Rare Metals Corporation acquired six unpatented claims owned by M. C. Bauder and associates and other property in the area.

Development comprises several shallow shafts, a number of open cuts, and several short adits, totaling in all about 700 feet of work. There is no equipment on the property.

Total production of manganese is probably about 200 tons. The manganese deposits are of unusual interest because they contain tungsten, first reported by Penrose<sup>2</sup>. The manganese occurs in thin lenses underlain by shale and overlain by a capping of soil and tufa generally not more than a few feet thick. The manganese is composed of soft sooty oxide with streaks and bunches of iron oxides along the margin. A car sample of 30 tons shipped in June 1918 gave the following analyses:

Manganese, 32.5 percent  
Silica, 6.2 percent  
Tungsten, 1.5 percent

Iron, 5.2 percent  
Phosphorus, 0.056 percent

#### GOLD RUN DISTRICT

Gold Run (also known as the Adelaide) district is in southeast Humboldt County on the east slope of the Sonoma Range about 12 miles south of Golconda, a station on the Southern Pacific Railroad. The district was organized in 1866, and in 1868 an 8-stamp pan-amalgamation mill was erected in this area to treat ores from the Golconda and Hope mines. In 1889 A. S. Bates and associates made some copper matte at Adelaide which was shipped to New Jersey. In 1897 the Glasgow and Western Exploration Co., controlled by Scotch interests, acquired the principal mines in the district and constructed a 12-mile narrow-gage railroad from Adelaide to Golconda. A concentrating plant and smelter were erected at Golconda. The smelter included two Bruckner roasting furnaces and three small reverberatory smelting furnaces with a combined capacity of 90 tons per day. The smelter started to operate in 1898 and ran fairly continuously until 1905. In 1907 the concentrator was remodeled to employ the Macquisten process. This mill ran for 1 1/2 years, after which operations were suspended. In 1911 the Golconda mill and smelter were abandoned.

Penrose, R. A. F., Jr., Manganese, Its Uses, Ores, and Deposits: Arkansas Geol. Survey Ann. Rept. for 1890, vol. 1. p. 470, 1893.

A Pleistocene Manganese Deposit near Golconda, Nev.: Jour. Geol. vol. 1, 1893, pp. 275-282.

In 1916 the Adelaide mine was purchased by the Yerington Mountain Copper Co., which operated the mine for several years during the War.

In recent years the district has been intermittently active, with a number of small company operations and by lessees. Production from the district from 1907 to 1936 is shown in table 3.

Placer gold was discovered along Gold Run Creek in 1886, and the place were worked in a desultory manner by small-scale sluicing and rocking for a number of years. In 1901 V. L. Bliss and William Evans acquired the principal placer deposits on Gold Run Creek and built a flume and pipeline. This plant operated for several years. According to A. J. Langwith of Winnemucca, who has been familiar with mining activities in the district since 1890, the total placer production has been about \$30,000.

#### Adelaide Mine

The Adelaide mine comprises a group of five patented claims owned by Humboldt County. The claims were acquired by the county for non-payment of taxes. The bulk of the production in the Adelaide district was derived from this mine during the period when it was operated by the Glasgow and Western Exploration Co.

Development work consists of the main shaft, 300 feet deep, an adit 2,000 feet long, and other workings, totaling about 1 mile in length. The lower portion of the main shaft has been filled with water for a number of years. There is no equipment on the property.

The formation consists of calcareous shale with intercalated beds of limestone. The ore occurs in the limestone layers and is composed chiefly of chalcopyrite, pyrrhotite, a little sphalerite, and galena disseminated in a gangue of calcite, garnet, vesuvianite, and other silicates. Several specimens of ore on the dumps near the main shaft were collected by the writer and showed a little scheelite.

Due to the presence of the heavy gangue minerals in the ore, the attempt to concentrate by gravity method in the early days was not satisfactory. Experimental tests were made also to concentrate the ore by the Blake-Morscher electrostatic process.

The Macquisten-tube process employed by the Glasgow and Western Exploration Co. is interesting in that it was among the first flotation plants to be erected in the United States. The process was patented in 1904 by A. P. S. Macquisten.

A description of this ingenious process is given by Ingalls<sup>10/</sup>. No chemical or physical agents were used except ordinary crushing, and the sulphide minerals were floated on water while the quartz and other gangue minerals sank to the bottom. The weak part of the process was the difficult encountered in recovering the minerals from the slime. The capacity of the Golconda plant was 125 tons per day.

<sup>10/</sup> Ingalls, W. R., Concentration Upside Down: Eng. & Min. Jour., vol. 84, 1907, pp. 765-770.