

I. C. 6941

course of the mineralization. Most of this work was done by lessees in searching for shipping ore.

The formations are principally andesite and rhyolite intruded into granite. The mineralization appears to be associated with a dike 40 to 50 feet wide. The mineralized zone is roughly 4,000 feet long and 60 to 200 feet wide, traversed with numerous seams and small fissures filled with quartz carrying gold, silver, lead, pyrite, and a little copper. The individual seams are too small and irregular to be mined separately, but thorough sampling may show that the seams are numerous and rich enough to carry the intervening rock making a low-grade ore.

Sporadic sampling in places by Mr. Donnelly showed values varying from \$1.60 to \$16 per ton. In addition, numerous pannings indicated a wide distribution of values. More thorough sampling is necessary to determine the value of the deposit. Probably the only hope for the district is the possibility of developing a large tonnage of milling grade ore.

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MARIETTA DISTRICT

The Marietta, also known as the Black Mountain district, is in the vicinity of the old camp of Marietta 25 miles by automobile road southwest of Mina and 10 miles west of Belleville, the latter a station on the narrow-gage railroad that runs between Mina and Keeler, Calif.

The Endowment mine was discovered in this area in the early sixties, shortly after the discovery of Aurora. In recent years the principal property has been the Moho mine.

Moho Mine

The Moho mine, on the south slope of the Excelsior Mountains, is accessible by automobile road from Mina 15 miles distant. The mine was located in 1903, and considerable work was done in searching for shipping ore. Property is credited with a production of \$75,000, made mostly by lessees.

With the increase in the price for gold, interest in the property was renewed. It was sampled by Earl Bohannon; and a small company, called the Federal Mining and Engineering Co., acquired 12 unpatented claims. In 1935, a pilot milling plant employing cyanidation was erected. This plant has a capacity of 25 tons per day, and up to October 1936 about 1,500 tons of dump ore had been milled.

The mill equipment includes a Dorr classifier in closed circuit with a home-made rod mill 5 feet long and 28 inches in diameter, 2 Parral agitators, a clarifier, and 2 solution tanks. Power for milling is furnished by a 60-horsepower Holt gasoline engine.

Dump material is fine, so that primary crushing is not necessary. Ore is ground to minus 60-mesh in a 2-pound-strength cyanide solution. Lime

consumption is 7 pounds and cyanide consumption 1/2 pound per ton. Precipitation is effected with zinc shavings. The recovery by cyanidation is reported to be 90 percent on ore averaging about \$8 per ton.

Water for milling is pumped from Marietta Springs through a 2-inch-diameter pipe line 4,500 feet long. Approximately 25 gallons of water per minute are pumped by Gould Triplex pump, size 3 1/2 by 5 inches, driven by Fairbanks-Morse Z-type, 10-horsepower, gasoline engine. Water is under head of 350 feet.

Mine development consists of one tunnel driven 1,200 feet on a vein, nine shorter tunnels, and several shafts, the deepest of which is 300 feet. Total underground workings comprise 3,500 feet.

The formation is mainly andesite. The ore occurs in a series of veins that average 3 1/2 to 4 feet in width and dip about 70°. One vein is traceable on the surface for a distance of 1 mile. The values are chiefly in gold, with some silver. Lead in the form of cerussite is present in the ore in amounts averaging about 2 percent.

Before the property was purchased it was sampled by 900 cut samples and, according to Bohannon, at least 100,000 tons of ore averaging \$9 per ton in gold and silver have been blocked out. During the last 2 years several sets of lessors working on the property produced \$12,000 in shipping ore. Mining is done by hand. The royalty payments are 15 percent of the net smelter returns on ore having a value of \$30 per ton or less and 20 percent above \$30 per ton.

The smelter returns on a shipment of ore made by W. J. Forbes on March 1, 1935, to American Smelting & Refining Co., furnished the following data:

Metal quotations: Au \$34.9125 per oz.
Ag .64 1/8 per oz.

Settlement assay: Au 1.015 oz.
Ag 6.3 oz.
Pb 1.4 percent

Value Au at \$31.8125 per oz. \$32.30
Ag less 0.5 oz. at \$0.64125 3.72
Total 36.02 per ton

Treatment charges: Base charge \$3.50
10% excess over \$20 1.60
5.10
Labor increase 1.06
5.16 per ton

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	Pounds	
Wet weight	119,164	
Less 10.48% moisture	12,488	
Net weight	106,676	53.338 tons at \$30.86 \$1,646.01
Freight advanced at	\$4.30 per ton	\$245.87
Demurrage		6.00
Fed. Min. & Engr. Co., 15 percent		207.57
		459.44
		Net proceeds 1,186.57

The trucking cost to railroad is \$1.50 per ton; distance of haul, 13 miles.

Endowment Mine

The Endowment mine is 3 miles northerly from the old camp of Marietta. This property comprises five unpatented claims owned by B. F. Baker and A. V. Reeves of Mina, Nev.

Property was idle from 1884 until 1923, when it was worked by lessees. In 1926 lessees shipped 144 tons of ore averaging 81.6 ounces in silver, \$2.34 in gold, 3.83 percent copper, 5.25 percent lead, and 7.6 percent zinc.

Production from this mine, according to statements of men familiar with the property, has been approximately \$150,000, although some estimates in earlier reports give a figure as high as \$1,500,000 prior to 1884.

In recent years the property has been idle.

Development consists of a tunnel reported to be 500 feet long, a winze 333 feet deep sunk from the tunnel level, and several other winzes.

Two veins occur in quartzite and quartzite conglomerate with interbedded argillite. The width of the veins ranges from several inches to 6 feet. The principal values are in silver associated with cerussite, smithsonite and copper carbonates near the surface, while at depth galena, sphalerite, pyrite, and a little chalcopyrite are associated with silver.

The following account of the mine taken from an early report by Whitehill¹¹ is of interest.

The vein matter is decomposed and carries carbonate of lead, argentiferous galena, and iron. By mill process the ore yields from \$50 to \$125 in silver. A tunnel has been run in on the vein a distance of 500 feet and connects with a shaft at a depth of 200 feet. From this tunnel level two winzes have been sunk 200 feet, a distance of 300 feet apart. The pay ore is about 5 feet in width,

¹¹/ Whitehill, H. R., Biennial Report of the State Mineralogist of the State of Nevada for years 1877-78-79, p. 25.

though the vein matter is much wider. The 5-stamp quartz-mill, erected at Philadelphia by the State of Nevada for the Centennial Exhibition, was removed to this district and has run very successfully on the ores obtained here. The Endowment is an incorporated company, the stock of which is listed in the San Francisco Stock and Exchange Board. The assessments levied have been \$50,000 and the yield of bullion \$88,764.

Rutty Group

The Rutty group of three unpatented claims owned by Joe Rutty of Marietta is on the south slope of the Excelsior Mountains about 1 1/2 miles north of the camp. Rutty, an old time Cripple Creek miner, has worked his property by himself since 1910 and made a living from it.

The mine workings comprise four adits driven at various elevations, which, with subsidiary workings, total about 4,000 feet. The ore is mined by hand and is packed down the hill on burros for trucking to the mill.

The Rutty mill is a small affair equipped with a 12- by 8-inch jaw crusher, two stamps weighing 1,050 pounds each, and an amalgamation plate 8 feet long and 3 feet wide. The stamps and crusher are driven by an old automobile engine. Water for milling is pumped by a 3-horsepower Fairbanks-Morse Z-type engine from a well 23 feet deep near the mill site.

The ore bodies are small and bunchy and occur along cross fractures in limestone. Values are mainly in gold. According to Rutty considerable ore that will average \$6 per ton at current metal prices is developed on his property. This ore is too low grade to be mined under existing conditions.

Gold Gulch Mining & Milling Co.

The Gold Gulch Mining & Milling Co. was incorporated in 1929 as a re-organization of the London Silver Lead Mines Co. In December 1934 this property was sold at sheriff's sale to C. E. Flagg of Reno, Nev. The property which has been idle for several years, comprises 14 claims several miles northeast of Marietta and about 12 miles from Belleville.

Development work consists of a two-compartment shaft 150 feet long and some lateral workings. In 1928 a mill was erected at the Marietta. Mill equipment includes a Dodge crusher, a Denver quartz mill, and two concentrating tables powered by a Fairbanks-Morse gasoline engine.

Judging from the size of the tailings dump, the mill treated only a few tons of ore.

Annett Group

Several miles east of Marietta is a barite deposit covered by four unpatented claims owned by Al Annett of Mina. Belleville, on the Mina-Keeler narrow-gage railroad 11 miles east of the property, is the nearest shipping point. No production has ever been made.

Development consists of a tunnel 80 feet long and several open-cuts. The barite is in a series of parallel veins, each averaging about 6 feet in width.

MOUNTAIN VIEW DISTRICT

The Mountain View or Granite district is near two abandoned camps of the same name, about 1 1/2 miles apart, near the crest of the north end of the Wassuk Range 9 miles northwest of Schurz.

Gold was discovered at Mountain View by William Wilson in 1904, when the area formed part of the Walker Lake Indian reservation. In 1906, part of the reservation was thrown open to prospectors, and several claims were located at Mountain View by William Wilson. About 1908 some gold ore carrying some silver was mined and treated at a 5-stamp mill then operating at Nordyke, 15 miles from Mountain View. Later, a small stamp mill operated for a short time at Mountain View.

Small amounts of copper ore carrying a little gold and silver and some oxidized gold ore have been shipped by lessees, but in recent years there has been no activity in the area.

The formation is principally granodiorite. At the Mountain View mine the mineralization follows a narrow decomposed diorite dike that dips about vertical. The vein filling is principally quartz and iron oxide.

A vein 8 to 25 feet in width at the surface shows copper carbonate in a gangue of quartz and crushed granodiorite. A tunnel several hundred feet long was driven to prospect this deposit at depth, but no commercial ore was found.

MOUNTAIN GRANT DISTRICT

The Mountain Grant, also known as the East Walker district, covers that portion of the Wassuk Range that lies between Cory Canyon on the south and Cottonwood Canyon on the north. A considerable portion of this area has been withdrawn from the public land in order to establish the Naval Ammunition Depot at Hawthorne.

The area in the vicinity of Mountain Grant is accessible by automobile road via either Cottonwood or Cory Canyon. This road was constructed in 1934 and 1935 by the Civil Conservation Corp under the supervision of the Forest Service and the Naval Ammunition Depot at Hawthorne.

The principal property in the district in the early days was the Big Indian mine. In recent years the only mining activity has been small-scale operations by owners or lessees. For the past 3 years the principal property has been a small-scale placer operation in Laphan Meadows.

Grant Mountain Gold Mine

The Grant Mountain Gold Mine is owned by C. B. Murray, of Reno, and associates. This company owns 13 unpatented placer claims at Laphan Meadows,