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BELMONT DISTRICT

LOCATION

The Belmont mining district is located north and south of the town of Belmont, Nye County. The district is located mainly along a north-south trending range of low hills that extend between the Toquima Range and the Monitor Range, and form the division line between Ralston and Monitor Valleys. The mines and prospects of the district are within the southern half of Township 9 North, Range 45 East and the northern half of Township 8 North, Range 45 East. The principal mines are located about one mile southeast of the old town of Belmont but mines in Hillen Canyon northwest of Belmont, at the mouth of Silver Creek west of Belmont, and at Monarch, south of Belmont, are included in this district.

HISTORY

The first locations at Belmont were made in October 1865, and a district called Philadelphia was organized. In 1866, the name was changed to Silver Bend, but was changed back to the original name within the year (Thompson and Wset, 1881). A ten-stamp mill was built in 1866, a twenty-stamp mill was constructed in 1867, and a forty-stamp mill was constructed in 1868. These mills had all ceased operating by 1876, but other smaller mills operated up to about 1895 when most activity at Belmont came to an end (thompson and West, 1881; Lincoln, 1923). Most of the production came in the early years, and by 1885 the combination of declining silver prices and increased costs of pumping water finally forced closure of the mines. Ore mined prior to 1885 had an average value of about \$80 per ton and ranged in value from about \$25 to \$250 per ton (Nash and others, 1985).

In 1915, electric power was brought in from Manhattan, the mines were dewatered, and an attempt to reactivate them was made. Insufficient silver ore was located to support new mining operations, and the district has been largely idle since that time. In the late 1960's and early 1970's, mining interests financed by Howard Hughes (Summa Corp.) acquired most of the Belmont Mines and conducted exploration; these efforts were apparently unsuccessful. More recently, a heap-leach operation was commenced at the site of the Highbridge mill to treat old dumps from the adjacent mines. This facility was inactive at the time of our examination, and appears to have been abandoned.

Very little information is available on the Monarch camp area south of Belmont. Paher (1970) dismisses the camp as strictly a land promotion active about 1906. Lincoln (1923), however, mentions that turquoise was discovered in the district in 1909. This is probably the time of discovery of the turquoise at Monarch described by Kral (1951). There is no activity at Monarch at the present time.

GEOLOGIC SETTING

The Belmont district straddles a contact zone between a Late Cretaceous granitic pluton and Cambrian and Ordovician quartzite, siltstone, mudstone, shale and carbonate strata. In the vicinity of the major mines on Highbridge Hill, the exposed strata are commonly dark-gray shale, mudstone, and siltstone that have undergone mild metamorphism to phyllitic shale, argillite, and slate

(Kleinhampl and Ziony, 1984). Granite of the Belmont pluton crop out west of the town of Belmont and underlie most of the western part of the district. A broad contact zone several hundred feet wide surrounds the granite. Aplitic dikes and sills, and sills of granitic porphyry are commonly present within the contact zone of the granite and within the marginal zone of the intrusive as well (Kleinhampl and Ziony, 1984).

Small outcrops of diabase, serpentinite, and peridotite crop out just south of Monarch. These rocks are inferred to be Paleozoic or early Mesozoic age by Kleinhampl and Ziony (1984).

Total production of the Belmont district is shown as about \$3.8 million, 1866-1951 (Kleinhampl and Ziony, 1984). Lincoln (1923), however, credits the district with about \$15 in production.

ORE DEPOSITS

According to observations made by S. F. Emmons in 1868 (reported in Hague, 1870), two main vein systems or ledges were mined at Belmont in the 1860's. An eastern vein, called the Highbridge and Transylvania ledges, was in limestone and slate. To the west about 1000 feet was a vein in quartzite called the Arizona-El Dorado. As reported by Emmons, the veins are generally conformable with bedding of the enclosing host rocks; the dip of both sedimentary rocks and veins is about 40 degrees to the east. The veins mined in the old Belmont workings were 3 to 12 feet wide and consisted of massive white quartz with bunches or disseminated particles of silver minerals. The pay zone tended to be along the ganging wall of the vein. Silver minerals present were reported to be silver chloride and stettinite (possibly a mixture of pyrargyrite and tetrahedrite). Samples collected from the dumps of the Arizona and Highbridge Mines contained visible cerargyrite and galena as well as molybdenite. Most of the high-grade ore mined in the early period of the district came from the upper 500 feet of the veins. At least one of the mines, however, contained rich ore down to the 1000 foot level (Kleinhampl and Ziony, 1984).

Northwest of Belmont, along the south side of Hillen Canyon, two separate clusters of old workings explore quartz vein systems which cut Ordovician limestone. The workings in both areas are quite extensive, but neither area is described in literature on the district.

At the northernmost workings, located about one and one half miles northwest of Belmont, five deep shafts were sunk along a North 30 degree East, near-vertical vein which occupies a fault zone in thin-bedded limestone. The limestone is silicified along the zone. Vein quartz collected from dumps here contained pyrite, galena, stibnite, and tetrahedrite.

About one half mile northwest of Belmont, seven shallow inclines and numerous cuts expose a northwest-striking brecciated quartz vein system formed along bedding planes in a dark gray limestone. In 1983, Phelps Dodge Corp. staked this area but it is not known if they are active at this time.

Tungsten occurs at two separate localities in the southern and western parts of the district. Wolframite-huebnerite bearing quartz veins occur at the Falcon prospect near the mouth of Silver Creek, about 4 miles west of Belmont

and a thin quartz vein, also containing wolframite-huebnerite, was prospected at the Old Windlass property two miles south of Belmont. About 37 tons of ore is reported to have been shipped from the Falcon prospect, no production is reported from the Old Windlass property (Stager and Tingley, in prep.).

The turquoise property at Monarch occurs within a silicified shear zone which cuts serpentinite. This area has been recently staked by U. S. Minerals Exploration Co., Arvada, CO.

GEOCHEMICAL RELATIONSHIPS

A detailed study of the geochemical relationships present in the Belmont silver ores has been done by the U.S. Geological Survey (Nash and others, 1985). That work was, however, confined to the central district, southwest of the town of Belmont. Our sampling, while not as intense as that done by the U.S.G.S., was more extensive.

Ore samples collected by us from the central Belmont Mines contained high silver values, but no detectable gold, associated with anomalous arsenic, antimony, lead, zinc, and copper. Molybdenum values were anomalous in all samples and one value greater than 2000 ppm was obtained. In contrast, samples collected from the vein deposits northwest of Belmont contained detectable gold values along with high silver. Samples from this area were low in molybdenum. Arsenic, antimony, lead, zinc, and copper were all anomalous in the northern area, but all values, except for zinc, were much lower than found southwest of Belmont. Zinc was the only element, except gold, that increased in value at the northern mines.

The sample taken from the "turquoise" prospect at Monarch was relatively low in copper content but reported high chrome and nickel present. Much of the green mineral present at this prospect must be the nickel mineral garnierite.

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