

from NBMG OFR 83-9

See also 83-10 for
geochemical results.

(47)
Item 3

1050 0003

CHARLESTON DISTRICT

The Charleston district covers the mountainous portion of northern Elko County between Jarbidge and Charleston. The main part of the district is centered approximately 15 miles south-southwest of Jarbidge. In the past, the district was known as the Copper Mountain and Cornwall districts. The southern half of the district, which contains the townsite of Charleston, is BLM administered. The northern half, which contains the most productive lode mines in the district, is within the boundaries of the Humboldt National Forest.

The district was first organized following the discovery of placer deposits along Seventy-six Creek probably in 1876. Post-volcanic gravels located along the Bruneau River and its' south-west draining tributaries yielded an estimated 300 oz. of gold before 1900 (Johnson, 1973). Mining of the fine gold from these and other placer deposits was revived in the 1930's. The most productive placers were worked thoroughly during these periods due to the availability of water in Seventy-six Creek.

Numerous shallow prospects and several mines were developed in lode deposits proximate to the Copper Mountains in the early 1900's. Small quantities of gold, silver, copper, tungsten and antimony were produced. The most productive mines of this type are situated on the lower south and east flanks of the Copper Mountains.

Although the early production figures for gold, silver and copper are not known, the Batholith mine, located in the northern part of the district, is known to have produced 452 units of WO_3 between 1954 and 1956 (Stager, in press). In more recent years some barite has been produced from the

Seventy-six Creek barite mine located on the east side of Seventy-six Creek. At the time of our examination of the district, both the Seventy-six Creek barite mine and the Prunty mine showed current or recent evidence of activity.

The Copper Mountain area is underlain predominately by lower Paleozoic quartzites which are interbedded with schists, phyllites and slates. Remnants of younger Paleozoic limestones and argillites occur locally, especially along the base of the Copper Mountains. Throughout the entire area, the sediments are typically highly deformed, steeply tilted, folded and cut by numerous high-angle normal faults. At the mine sites, the rocks are recrystallized and hornfelsed due to the intrusion of granitic or dioritic dikes and quartz veins. The dikes and veins may be related to the Cretaceous Coffee Pot stock located at the north end of the Copper Mountains or to the later extrusive episode of mid-Cenozoic volcanics which cover the southern and eastern portions of the district.

One of the major structural features of the southern part of the district is the presence of a northwest-striking normal fault which follows the western edge of the Copper Mountains. This fault downdrops Tertiary volcanic rocks against Cambrian and upper Paleozoic sediments. In trenches developed near the Rescue mine, limestones are intruded by dioritic dikes along an orientation which mimicks this fault zone. Recrystallization of the limestone is evident and both the limestone and intrusive rock are notably altered and iron-stained. Quartz veins cutting the exposed intrusive contain pyrite, chalcopyrite and gossan. Samples of vein material collected by Lawrence, 1963, contained 18.44% antimony, 15.7% zinc, 0.12 ounce gold/ton and 2.88 ounce silver/ton.

The Prunty and St. Elmo or Slattery mines are the major group of workings in the district. The mines are collectively referred to as the Virginia mine by Smith, 1976. They are located on the west side of Seventy-six Creek about 3.3 miles north of Charleston. In 1907, 30-40 tons of antimony were produced from one of the mines in the area, but production of gold, silver or copper is not known. Unpublished sources of information (see NBMG Mining District Files, #47, Charleston district) indicate the mine was quite active in the early 1930's. At present, the underground mines are actively being worked for gold and silver on a small scale.

Outcrops near the lower adits of the Prunty mine consist of steeply dipping, fractured, hornfelsed slates and argillites. The sediments are cut by near vertical monzonitic and dioritic intrusive dikes and quartz veins. Some of the dikes are iron-stained and contain sulfides, mostly pyrite. The orientation of the workings up slope from the creek suggests a vein (fault?) strike of N20-30W. Quartz vein from the dump is in part brecciated and contains unoxidized pyrite, arsenopyrite, galena, chalcopyrite, sphalerite, stibnite and pyrrhotite. Coarse needles of stibnite are especially abundant in calcite and barite gangue found with the quartz vein material. Although the mine has a long history of activity, the ore is high-grade and apparently still profitably mined for its precious metal content.

Less than one mile south of the Prunty mine, the Seventy-six Creek barite mine is actively being developed. There is some recorded production from the deposit since it was examined in late 1980 (see field write-up for Seventy-six Creek barite mine). The barite occurs in stratiform deposits which reach up to 12' in thickness. The host rocks are argillites, cherts and limestones of the probable northern equivalent of the Ordovician Vinini

Formation (?). (Papke, in press). Although the property was not visited in the field examination of the area in 1982, trenching and dozer roads can be seen along the east side of the creek in the vicinity of the mine.

The northernmost mine in the district is the Batholith mine. According to Stager, (in press), almost 1,000 tons of tungsten ore averaging 1.0% to 0.5% WO_3 was mined from open pit and underground methods in the 1950's. Molybdenite and powellite are associated with the scheelite (Schilling, 1968). The mine is situated on the contact between limestones, shales and quartzites and a small body of quartz monzonite. The intrusive is eroded and overlain by Pleistocene moraine deposits. Its close proximity to the Coffee Pot stock (see Alder district) and similar compositional character may indicate the small body is connected at depth to the larger stock.

The Batholith mine was visited and sampled in the summer of 1980. A small hill at the mine site is composed of a bedded section of tactite and silicated shales and quartzites. The altered sediments are cut by northwest-striking quartz veins. A sample of massive garnet tactite collected from the mine was analyzed and found to contain 1000 ppm molybdenum and 50 ppm tungsten in addition to high manganese and moderate zinc.

Selected References:

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