

from NBME OFR 83-9  
See also 83-10 for  
geochemical results.

(75)

Item 2

ROCK CREEK DISTRICT

3980 0002

The Rock Creek district is located due west of Tuscarora along the lower northwest flank of the Tuscarora Mountains. The mines in the district lie along the Rock Creek and Dry Creek drainages. The Falcon mine, which is patented, and the Rock Creek "prospect" are the major workings. However, there are several other mines in the district not shown on the Mt. Blitzen 15' topographic quadrangle. (For locations of minesites, see Mt. Blitzen 15' map accompanying this report). The undeveloped areas between the minesites are covered by unpatented claims. Some large claim blocks surround the Rock Creek prospect area. Although we observed no active exploration in the district at the time of our visit, all of the properties showed evidence of recent (1-5 years ago) development or activity.

Quartz veins containing ruby silver were first mined in 1876 at the Falcon mine. Between 1879 and 1928, a small amount of silver (4,685 oz.) and gold (14 oz.) were produced, mostly from the Falcon mine. The production total includes ore derived from the nearby Divide mine, which, in this report, is treated as a separate district (see Divide district).

In 1944, Bailey and Phoenix stated that the district contained two "little developed quicksilver prospects," named the Rock Creek and Teapot prospects. By the 1960's, Lawrence, 1963, reported there had been additional and continued prospecting for mercury. Since then, surface exploration for mercury and possibly associated precious metal deposits has continued in previously mined and unmined areas. Cordero Mining Co. drilled an area near the Teapot property in 1964. Cinnabar was found within 100' of the surface in

about one-third of the 116 holes drilled (Smith, 1976). Today, the Rock Creek "prospect" is one of the best developed properties in the district. Several adits, inclined shafts and trenches cover the east facing slope at the minesite. Roads to the mines are recently graded, possibly in preparation for future drilling or other exploration work. A double barrel retort lies below the underground workings.

The oldest rocks exposed in the Rock Creek area are siliceous Paleozoic sediments of the western facies group. However, the majority of the area is covered by Tertiary volcanics ranging in age from Eocene (?) to Miocene (?) (Hope and Coats, 1976). The oldest volcanic units are flows and ash-flow tuffs of andesitic to rhyolitic composition. These rocks are overlain by flows, welded tuffs and tuffaceous or clastic sediments which are similar in composition to the older extrusives. The best exposures of the older volcanics are in drainages and basins. The younger volcanics are preserved in remnants at higher elevations. Throughout the district, the volcanics are disturbed by numerous high-angle faults. Many of the more extensive faults are north or northeast-striking.

"Basement" exposures of western facies sediments exist in windows and faulted wedges within the predominately volcanic terrain. Interbedded cherts and quartzites are exposed along a roadcut one mile south of the Falcon mine. In the western portion of the district, the volcanics overlies sandstones and siltstones of the Permian Horse Creek Formation. Presently, all of the ore deposits in the district are hosted by the Tertiary rocks. As yet, none are located in the Paleozoic sediments.

The Mount Neva Pluton intrudes western facies rocks and older andesites and rhyolites approximately 2.5 miles southeast of the Falcon Mine. The intrusive is a hornblende-biotite granodiorite that displays both porphyritic and

granophyric textures. A few small stocks, probably related to the main pluton, are present north and south of the district. A K-Ar age determination obtained from biotite dates the pluton at 38.4 m.y. (Coats and McKee, 1972). Some andesitic dikes or shallow-intrusive bodies may occur in the district (Lawrence, 1963), but none were observed at the minesites we visited.

The ore minerals in the Rock Creek district are deposited in the north-striking fissure veins and shear zones which generally cut the older Tertiary andesitic or rhyolitic flows and tuffs. Siliceous breccias and quartz veins are found on the dumps of most minesites. The breccias usually contain bleached, argillized and silicified volcanic rock fragments. The fragments are cross-cut by vitreous grey quartz veinlets and generally contain sulfides (mostly pyrite). The matrix of the breccias consist of sugary white quartz or banded chalcedony. A few samples display evidence of multiple veining and silicification. The quartz in the breccias usually contains pyrite, cinnabar, metacinnabar (?), and a low proportion of fine grey sulfides not identified. The quartz veins in the district consist of finely banded or swirled opaline or chalcedony. Pyrite is ubiquitous and cinnabar, specularite(?), and Feoxs are common. Some vuggy quartz occupies fault zones, having been deposited along open fractures or cracks. These veins may predate the formation of the more massive chalcedonic veins and veinlets.

The banded chalcedonic veins observed at the Silver V claims average about 1' in width. The veins were emplaced along a north-striking shear zone. The host andesites are bleached white and argillized or silicified along the fault zone. The rocks at the minesties are sheared and iron-stained.

At the Rock Creek "prospect", lenses and veinlets of opaline silica replace a dacite(?) tuff along a highly silicified, steeply inclined,

north-striking fault zone. Dark red to black mercury minerals were observed in the opaline material deposited on fracture surfaces and in replacement pods in the host rock. A sample of banded opalite with fossil reed impressions and scattered sprays of cinnabar was collected from "float" near the adits. The source of the opalite was not found in outcrop exposures at the minesites.

Although stibnite was not observed in any of the vein samples collected from the district, Lawrence, 1963, reports the presence of antimony at five locations, including the Falcon Mine, Fisher (Silver V) prospect, Red Cow prospect, Rock Creek prospect and an occurrence in section 10, T40W, R49E. The most common antimony mineral is stibnite which occurs in vuggy quartz veins or quartz filled fractures within the silicified fault zones. Some white and yellow antimony oxides also occur. At the Falcon Mine, antimony occurs as pyrargyrite in vuggy quartz, chalcedony and in the silicified andesite host.

Current and continued interest in the district is prompted by several factors. The district is relatively little known and lies close to the rich silver-gold deposits of Tuscarora. Also, there are extensive areas of altered volcanics cut by shallow-level, hydrothermal vein and breccia deposits. The district contains a Tertiary intrusive body and is cut by numerous, high-angle structures. Mercury and antimony are known to occur, in addition to silver and some gold. These factors are useful indicators in the prospecting of bulk mineable precious metal deposits.

#### Selected References:

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