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Research Notes on Atlanta Nev.

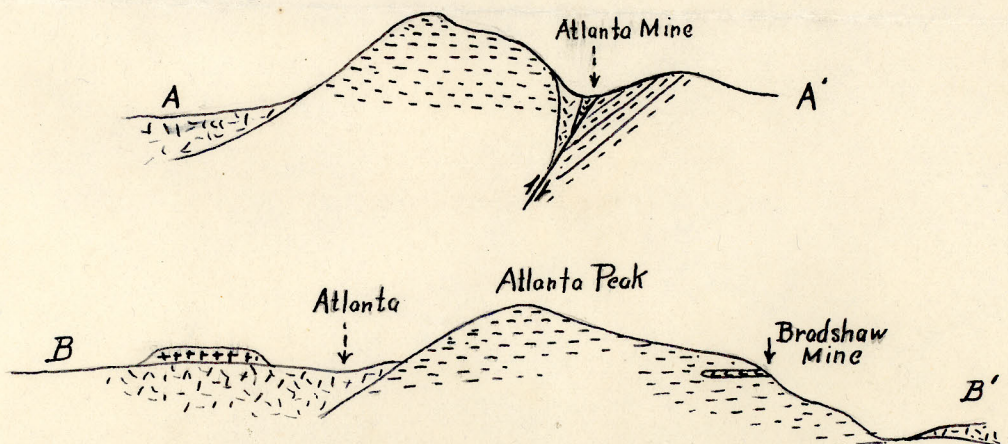
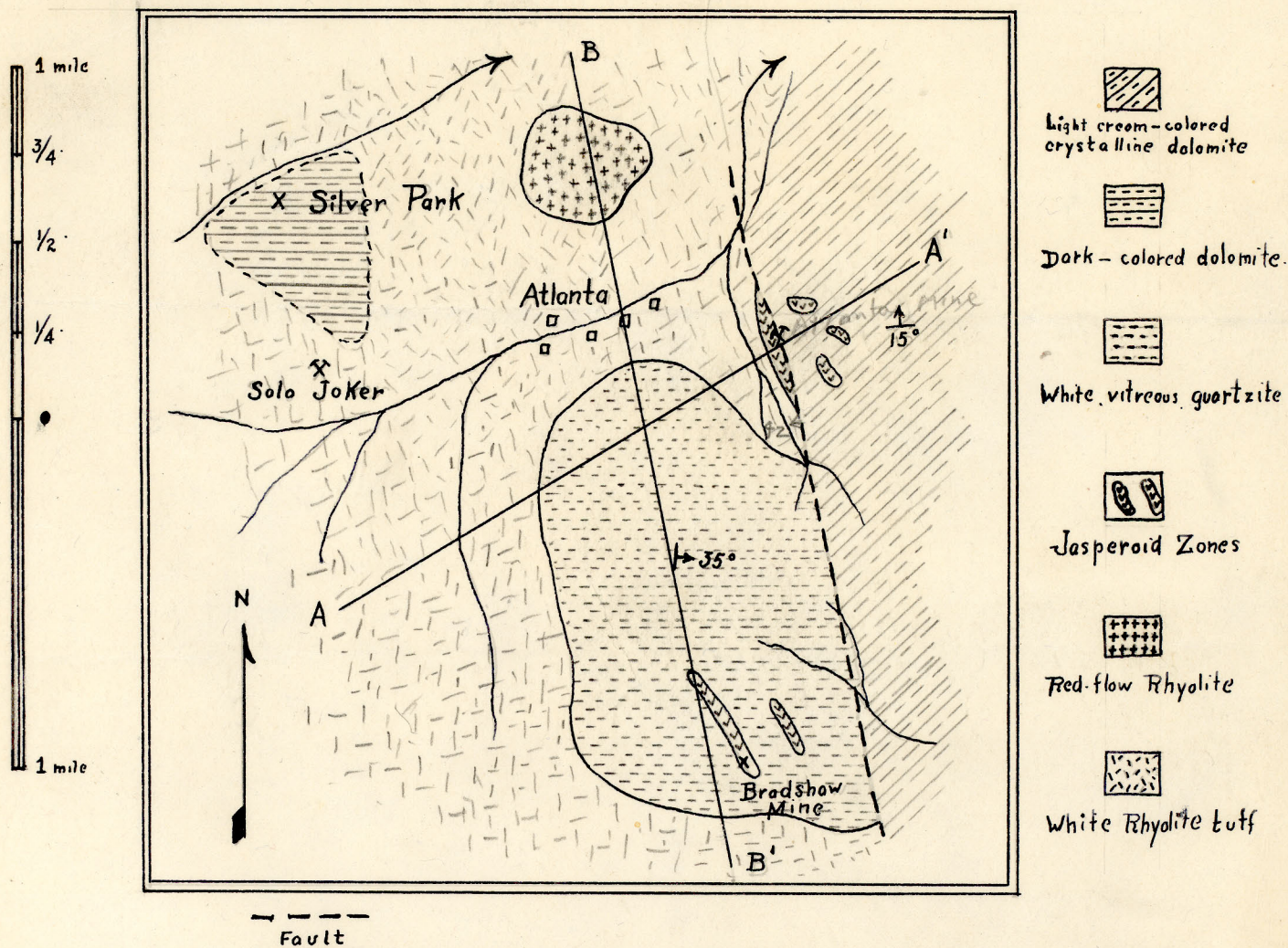
by
Earle B. Seaborn

Return to
Nevada state

see RME 2048, 1956
AEC

Reno, Nevada - Nov. 14, 1932.

Sketch Map and Sections of the Atlanta District, Nev.



U.S.G.S. - Bulletin 648 -

Notes on Some Mining Districts in Eastern Nevada
by

James M. Hill

Atlanta District - Occurrence of the ores:-

" At the Atlanta, Bradshaw, and Solo Joker mines the ores occur in zones of cemented breccia along zones of faulting. At the Bradshaw the rich silver minerals occur in fractures in a dense, very hard, red jasper. The ore zones at the Atlanta and Solo Joker are more open breccias, consisting of fragments of limestone, rhyolite tuff, quartzite, chert, and jasper, partly cemented by quartz, and containing much limonite and some pyrolusite. Some of the ore from these properties has the cellular platy structure commonly developed in veins of the late Tertiary period of mineralization. In this kind of ore the quartz is seen to be replacing barite. The fact that these ores occur in faults involving the rhyolite tuff, and that fragments of the tuff are included in the silicified breccias, is clear evidence that they were formed after the extrusion of those lavas which Spurr assigns to early Tertiary time. At all the mines of the district silver and gold are the valuable constituents of the ores, and so far as known the base metals play a very minor part in the mineralization. At all of the properties silver is an important constituent of the ore, though at the Atlanta mine gold is the most important. Very minor amounts of copper and lead carbonates are present in most of the ore, but limonite and manganese oxide are present in all of it.

Atlanta Mine.- The Atlanta group of 11 patented claims and 5 locations was acquired by the Atlanta Consolidated Gold Mining & Milling Co. in 1906. The group covers the north and east sides

" of Atlanta Peak, and the principal development work is on the fault east of that mountain. The vertical shaft, equipped with a 50 h.p. steam hoist, was 225 feet deep in October, 1913, with about 350 feet of crosscuts and drifts on the 100 ft. level and much less work on the 200 ft. level. The No2 shaft, about 500 ft. to the south, is 75 ft. deep, and some shallow workings one-fourth mile south of the hoist shaft are on the continuation of the ore zone.

" The main ore zone lies above or west of the fault, which separates limestone on the east from quartzite and rhyolite tuff on the west. This fault strikes approximately N. 30 degrees W. and dips 42 degrees WSW. in the main shaft and in the workings 1/4 mile south. At the latter place the fault clearly separates limestone on the footwall (east side) from quartzite on the west. Here it is an open crevice, between walls that in places are 2 - 4 ft. apart. There was apparently little mineralization at this locality.

"The main shaft starts in rhyolite tuff. It cuts the ore zone about 90 feet below the surface and passes out of it near the 200 ft. level. At the 100 ft. level the drift eastward shows the ore breccia to be 150 ft. wide and to rest upon a crystalline limestone footwall, and drifts north and south show it to be at least 100 ft. long. The ore breccia consists of fragments of rhyolite tuff (replaced by silica), chert, and limestone, partly cemented by white quartz. Thin sections of the altered tuff, examined under the microscope, show it to be completely silicified into a fine inequigranular aggregate of quartz. Some of the quartz is clear, but most of it is crowded with minute black inclusions, in many places arranged in plumelike forms. When examined under

"high power, some of the larger inclusions are seen to be red and translucent and are thought to be hematite, but the character of the great majority can not be determined.

" In some of the ore angular cells surrounded by narrow bands of quartz have replaced plates of barite. These resemble the quartz- adularia veins formed in late Tertiary time. A careful examination of several thin sections of this type of ore failed to show any adularia such as is commonly present in this type.

" The fine-grained free gold of this ore is largely carried in the limonitic material that partly cements the breccia. This consists predominantly of limonite, pyrolusite, and minute white quartz crystals. Some gold is said to occur in the hard silicified rhyolite tuff. On the limestone hill east and north of the Atlanta shaft, large croppings of red jasper along a north-northeast course intersect the main fault at an acute angle. It is said that all these croppings carry some gold, and that the main ore body, 75 ft. wide, averages \$4.25 in gold and silver a ton.

" Specimens of rhyolite tuff and ore, said to have been found at a depth of 145 ft. in the main shaft, are coated on joint planes with canary-yellow, finely crystalline carnotite that contains both uranium and vanadium. It was apparently deposited in joints formed after the gold mineralization of the ore."

Hewett, D. F. , "Carnotite in Southern Nevada", E&MJP 115, 1923.

" [In connection with this occurrence of carnotite, attention should be called to its resemblance to that at the Atlanta mine, Atlanta district, Lincoln County, Nevada. In describing this mine Hill stated : 'Specimens of rhyolite tuff and ore, said to have been found at a depth of 145 ft., in the mineshaft, are coated on joint planes with canary-yellow, finely crystalline carnotite that contains both uranium and vanadium. It was apparently deposited in joints formed after the gold mineralization of the ore.' In examining the Atlanta mine in April, 1922, I was unable to find any carnotite in place, but noted the resemblance of specimens showing carnotite with those from Sloan."

Developments at Atlanta, Nev. by Paul W. Meyers.
E. & M.J. - March 20, 1915 - Page 541.

"The Atlanta gold camp is situated in the northeastern part of Lincoln County, Nev., at an elevation of 6700 ft. It is about 45 miles north of Pioche and about 65 miles south of Ely, being connected with both camps by good wagon roads. "

" The outcroppings on the Consolidated property are on the west slope of a mountain which rises to a height of between 500 and 600 ft. above the valley, the prominent croppings being near the foot. Above these croppings the mountainside is of limestone, while porphyry appears below. The orebody appears to be in the altered limestone lying along a porphyry contact which has a general north-south strike and dips west at about 45 degrees, although strike and dip are so far indeterminate.

" The most characteristic feature of the orebody is its brecciation. The length of the outcrop as indicated by outcroppings masses of breccia is possibly 3000 ft. The width of the brecciated

zone is over 100 ft. To the south of the present workings the masses of breccia which appear on the surface carry angular fragments of chalcedony. The gold varies with the degree of alteration, and where manganese predominates it seems to diminish.

" There appear to be no definite limits to the orebodies. The outcrops wherever sampled have carried small amounts of gold. Two shafts, 300 ft. apart, have been sunk on the lower side of the two most prominent outcrops near the contact with the porphyry, and crosscuts from these shafts have shown ore of commercial grade only a short distance below the surface. The gold is largely in the free state and finely divided, so that pan tests would lead one to suppose a higher grade than that shown by subsequent assay. Developments to date have shown the lateral limits of commercial ore to have a dip corresponding to the dip of the porphyry contact, but the width of commercial ore in the brecciated zone is determined only by sampling, the values sometimes changing abruptly, but usually grading off gradually.

The workings in the two shafts comprise about 1500 ft., but the deepest development to date is only 215 ft. All the workings are dry. On the 200 ft. level the brecciated zone appears more oxidized and leached than on the 100 ft. level, with much manganese, some barite and traces of copper, but no sulphide minerals appear. The width of ore shown by sampling the main crosscut on the 200 ft. level is about 80 ft. The average gold content is lower than on the 100 ft. level, while the silver content is higher. The average grade of the ore shown to date depends upon the width considered. From careful samplings it can be conservatively stated that the workings in general show a width of 55 ft., which will run between \$3.50 and \$4.50 per ton, while the upper levels of both shafts show higher-grade portions of the orebody from 25 to 30 ft. in width, averaging from \$ 5.50 to \$7.00 per ton.

ATLANTA

(Silver Park, Silver Springs).

Quotations and copy:-

Mineral Resources, 1914 ; Vol. I. Page 689.

"Its mines, according to Hill, who visited them in 1914, are of two types. Silver ores of the oxidized type are found in veinlike replacements of limestone of supposed Cambrian age. Free-milling gold ores are exposed in the workings of the Atlanta mine. The ore is a partly cemented iron-stained fault breccia. The faulting evidently took place after the formation of the rhyolitic tuffs of early Tertiary age. Some of the quartz replaces barite and has the characteristic slaty cellular structure of deposits formed in the "late Tertiary" period of mineralization. The ores of this district are probably the most recently formed in all the camps mentioned in this summary of mines visited by Hill."

Quotation from Abbott, J.W., Min. and Sci. Press, Sept. 26, 1914.

" The rocks of the Silver Park district were originally sedimentaries, limestone and sandstone, cut by an immense dike of porphyry, and later by an intrusion of rhyolite, which appears to have been the source of the mineralization (mineral bearing solutions), and in or adjacent to this intrusion ore bodies were found. Much of the mineral-bearing material was a more or less complete replacement in the limestone shattered by the intrusion. The ore contains both gold and silver in commercial value, gold prevailing.