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Item 3

NHA 3401

GREEN ANTIMONY MINE, Pershing County, Nevada

Geology

NE NE The mine area is underlain by diorite that has intruded and slightly metamorphosed limestone. The contact between the limestone and the diorite cuts northwest across the saddle about 100 feet northwest of the mine workings (Fig. 2). Because of the lack of recrystallization or silicification of the limestone, it may be in fault contact with the diorite.

The limestone is buff to gray in color, and close to the contact with the diorite, it contains quartz and a small amount of disseminated pyrite.

The diorite is gray-green, fine to medium-coarse grained rock that is similar to diorite found elsewhere in the Humboldt Range and in the neighboring East and Stillwater Ranges. Where fresh, it is composed mainly of light gray plagioclase and dark green pyroxene. In the vicinity of the highly altered zone along which is found the antimony mineralization, the diorite is in places silicified, and in other places the ferromagnesian minerals are altered to chlorite and the plagioclase is darker gray.

Ore deposits

The ore occurs in a highly altered zone along what is suspected to be a major northeast-trending fault zone that dips from 40° to 50° southeast. The altered zone extends from a point several hundred feet northeast of the mine workings to a point 1500 to 2000 feet southwest of the southernmost (4973; Sample No. 8) pit (Fig. 2).

The ore is mainly the lead-antimony sulfide jamesonite. In the upper levels it has been oxidized to antimony oxides and the lead-antimony oxide bismutite, although some jamesonite is found wherever a little ore was left. Some oxidation has taken place on the lower level, but most of the ore occurs as jamesonite. Pyrite is associated with the jamesonite.

From the size and distribution of the stopes, and the size and number of ore shipments, the ore appears to occur as "bunches" or pockets that are erratically distributed along the latered zone. Very little ore has been left in the upper level: a small pod remains in the lower level, but less than a thousand pounds (1/2 ton) is indicated. No ore is inferred.

Locally, alteration is intense, and in the vicinity of the mine slight alteration extends outward from the main zone of alteration for as much as 150 feet. The country rock is almost entirely altered to a yellow, brown, and white clay along the 5 to 15 foot zone of high alteration. Underground, pure white kaolin(?) is found associated with the ore. Gypsum, in some places in seams from 2 inches to almost 1/2 foot thick occurs along with the kaolin associated with the oxidized ore.

Alteration has completely destroyed preexisting structures. In only one place in the underground workings is there a suggestion of cross-faulting, or any other structure other than the main northeast-trending altered zone, that might have served to control the erratic ore deposition.

GREEN Sb MINE

No. 1 1.20 percent Sb
 3.9 " Pb
 0.01 oz. Au
 0.70 " Ag

No. 2 21.50 percent Sb
 0.6 " Pb
 0.025 oz. Au
 16.20 " Ag

No. 3 32.95 percent Sb
 2.4 " Pb
 0.07 oz. Au
 14. " Ag