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W.B.

PROPERTY NAME: Alligator Ridge Mine

OTHER NAMES:

MINERAL COMMODITY(IES): Au

TYPE OF DEPOSIT: Disseminated

ACCESSIBILITY:

OWNERSHIP: Amselco Minerals Inc. (with Occidental Minerals)

PRODUCTION:

HISTORY: Mine opened in July 1981. Discovered by a prospector on grubstake. On-site construction and small-scale mining in 1980

County: White Pine

Mining District: Bald Mountain?

AMS Sheet:

Quad Sheet:

Sec. _____, T _____, R _____

Coordinate (UTM): west side of Alligator Ridge

North _____ m

East _____ m

Zone

DEVELOPMENT: One larger open pit (Vantage I), two more adjacent being stripped of waste.

ACTIVITY AT TIME OF EXAMINATION: Mining.

GEOLOGY: The deposit was discovered by the sampling of jasperoids; most original samples were 0.1-1 ppm Au. In 1979 a detailed soil sample grid was applied, followed by refined geologic mapping and 12 shallow drill holes. The first hole ran 0.12 oz/ton from 15'-130'. Three main ore bodies (Vantage I, II, III), Vantage I exposed at surface (see attached map), plus several smaller "satellite" ore bodies. The ore occurs in silicified siltstone and jasperoid; it is generally highly fractured, silicified siltstone. Oxidized ore is somewhat iron-stained. The Vantage I ore body is predominantly oxidized ore with a few small patches of carbonaceous ore. Vantage II and III contain more carbonaceous material. Oxidation is probably supergene, rather than hypogene. Alteration consists of jasperoid (silicification) and de-calcification of carbonate rocks. The fractures in the ore are both open and tight; the open ones often contain jarosite, barite and quartz. Very sparse visible gold is present in local quartz veins. The Vantage ore bodies are along NE-trending faults which parallel and they splay-off of the Alligator Ridge Fault, a major Basin-Range fault with probable post-ore movement. The Vantage F/T(s) may be scissors fault. Au as well as geochemical amounts of Hg, Sb, As are anomalous in ore but drop off rapidly outside ore bodies. The mineralization is along high-angle faults near the Devils Gate - Pilot Shale contact. There may be three types of jasperoid: 1) strata-bound at Devils Gate - Pilot contact, 2) along vert. fractures and faults, and 3) pervasive silicification. Oxidized ore apparently had 1-2% pyrite before oxidation - sparse pyrite pseudomorphs are seen. Silicification is a fair-to-good guide to ore. Carbonaceous ore is generally higher in Au and significantly higher in Ag, than is oxidized ore. Silver generally low in ore; dore bars are ~7% Ag. Au could be tied up with sulfides (pyrite, stibnite) or carbon in carbonaceous ore; the few Au needles or dipyramids of Au in oxidized ore were seen in narrow quartz veins. There is jasperoid in overlying Joana Ls. also, and according to some geologists at the mine patchy outcrops of tertiary volcanic/lastic sedimentary rocks are altered and may contain low-grade Au mineralization. Overlying Tertiary basalts are not much altered. There is no

REMARKS: good age control on the deposit, although there is a general feeling it may be Tertiary. Some samples of jasperoid (Devils Gate) contain stibnite crystals several cm long. Cavities in oxidized ore are lined with drusy quartz which can be coated with Kaolinite? The mineralization in the Vantage ore bodies is believed to be controlled by high-angle faults and fractures.

Published reserves (5 million tons, 0.12 oz/ton) could be doubled if grade was cut in half. The extraction is heap-leach, cyanide, carbon stripping. Ore is crushed to 5/8", put on pads up to 14' high; base of pad is 1' of compacted silt. Now they agglomerate ore w/ 10 lbs/ton of cement. They have had problems w/ channeling in heaps.

REFERENCES: Mine tour arranged by Geological Society of Nevada, including 25 Sep 81 talk in Ely by Walter Schule and Steve Sutherland of Amseko

EXAMINER: W. J. Garside

DATE VISITED: 26 Sep 81