SHEBA

1971 WORK

010320

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SHEBA

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History

Work on the property was begun in 1964 when Anaconda Mining Co. Ltd. built access roads and conducted geological, induced potential, geochemical and magnetometer surveys. As a result of this work 11 holes were drilled totaling 7585 ft were drilled. In 1965 further induced potential surveys led to 2355 feet of drilling in 6 diamond drill holes. No work was done in 1966 but Sumitomo Metal Mining Co. optioned the ground in 1967. Mapping, a soil sampling program and more I.P. work were followed up by trenching and 4000 feet of percussion drilling in 15 holes. Much of the drilling was on or near the Jay 19 claim. In the first 5 months of 1968 Sumitomo carried out further mapping, soil sampling and IP surveys, bulldozed followed 42 trenches with total length 8400 feet, and did 1785 feet of percussion drilling in 5 holes. Late in 1968 Anaconda optioned the property once again. During 1969 they geologically conducted mapped local areas, did 2-3 line miles of IP survey and 5214 feet of diamond drilling in 7 holes. Little was done in 1970 but in 1971 an option was taken by Dowa Mining Co. Ltd. All the claims were geologically

(2)

mapped at 1" = 400' and 279 soil samples were taken along 5.3 miles of line on claims J1 to 7, J37 fraction, J38 fraction and J104 fraction. Subsequently, 12 diamond drill holes totalling 8569 feet were drilled on claims Jay 9 to 10 and 104 fraction, Cu 1, 3, 4 and 6, J4, 5, 7 and 38 and Ann 5 fraction. The 1971 drill holes and mapping done by Dept. of Mines and P.R. field crews as part of the Guichon project are the basis of this report.

General Geology

The claims are underlain by granitic rocks of the Guichon Creek batholith (Figure M1). Rocks of the Skeena variety (formerly called the Contact Phase - McMillan, 1970) (for rock type definitions shown on Table M2) underly the central part of the property and are flanked to the east and west by rocks of the Bethlehem phase. Farther east, the Bethlehem phase rocks give way to rocks of first the Guichon, then the Chataway varieties (Highland Valley phase). All the rocks are quartz diorites or granodiorites. Distinctions between them for mapping purposes are based on textural and color index criteria as outlined in Table 1.

The granitic rocks are cut by quartz plagioclase porphyry and aplite dykes. A small elongated body of Both said granodiorite enclosed in Skeena quartz diorite occurs near the north edge of the property.

Fauex,
Joint, and Vein Distribution

The property was mapped at 1"=1320' as part of the Gulchon Creek Batholith project. The geologic map, supplemented by outcrops located from company maps, is presented in Figure 1. On the basis of the 74 measurements which are represented in Figures 2 and 3 it is suggested that:

1. Most of the joints are steeply inclined,
2. Joints striking approximately 100° predominate,
3. ~~(Other maxima are suggested that)~~ joints striking approximately 025, 065 and 160° are common and equally well developed.

~~Fractures occupied by veins~~
Veins ~~vary~~ range widely in strike but those with ~~(from)~~ northerly and eastnortheast trends are most common. Few faults and veins with copper mineralization were mapped but those seen correlate roughly with the northerly and easterly joint sets. Most of the dykes encountered strike northward or eastnortheastward ~~Similarly,~~ Topographic lineaments have similar trends.

check date on Copper Mountain (4)

Veining

The most common types of veins consist of epidote with or without quartz, hematite, and chlorite. However, epidote-chlorite veins containing K-feldspar or sericite or calcite, and zeolite (Laumontite) also are common. Barite was found in hole 71-4 in a vuggy vein. Copper and molybdenite mineralization occur with quartz, chlorite-, epidote-, and sericite-bearing veins. Rarely, in explosion breccias associated with porphyry dykes (Fifarek, Carr, 1960) tourmaline and hematite occur along with calcite, chlorite, and sericite.

Alteration

In part, alteration is associated with veining and fracturing; the control in other instances is uncertain. Weak argillic and propylitic alteration are widespread. They locally are intensely developed. Phyllic and potassic alteration occur locally. Relatively better grade mineralization is usually found in relatively more intensely altered zones. eg drill holes # 71-3, 71-8, 71-9, 71-11, 71-12 (Table 2).

Twenty-six thin sections were examined of core samples from the 1971 drilling. In virtually every sample mafic minerals are altered to chlorite with or without calcite and/or epidote and feldspars are altered to clay minerals, sericite; or sericite plus calcite. Plagioclase color was variously pink or light to dark green but alteration minerals did not vary. Perhaps the oxidation state of finely disseminated iron within it oxide controls plagioclase color. However, kaolinite has been identified by x-ray analysis as the major component in zones where plagioclase has altered to a soft, white, chalky-textured mineral aggregate.

overall – veining, ~~mnlzn & alt^n are similar~~ in character ~~to that at Highmont~~

Alteration (continued)

The best mineralization encountered was in hole 71-11 from 450 to 500 feet. Two thin sections from this zone revealed quartz-poor rock in which plagioclase is partially altered to chlorite, calcite, and sericite. In one specimen interstitial calcite is prominent; in the other, finer grained areas of intergrown quartz, calcite, and feldspar occur. Bornite is the predominant copper sulphide in the zone and is associated with flaky sericite, calcite and hematite.

Alteration was apparently in part earlier than ~~and~~ in part synchronous with veining and mineralization. Judging by alteration in them it was at least in part later than emplacement of aplites and porphyry dykes. Locally, the dykes and aplites are veined and mineralized and some of the dykes are brecciated.

Occurrence of ~~Showings and~~ Mineralization

Chalcopyrite, bornite, molybdenite and minor amounts of pyrite occur in shear zones, breccias, alteration zones, and veins on the Sheba property. Where fracturing, alteration and vein development are most intense, grades are best.