



NORTHWEST BRITISH COLUMBIA

KUTCHO CREEK MAP—AREA
(104I/1W)

By A. Panteleyev

During 1976 J.W.H. Monger, D. E. Pearson, and the writer discovered sparse coral and other fauna in limestone associated with fragmental rocks and sericite schists 3 kilometres west of Kutcho Creek. Later identification by E.W. Bamber (J.W.H. Monger, personal communication, 1976) of the coral as a Scleractinian type of Mesozoic age has raised concern that similar rocks east of Kutcho Creek which host massive sulphide deposits are also Mesozoic rather than Paleozoic as suggested earlier (Geological Fieldwork, 1976, p. 75; Geology in British Columbia, 1975, p. G 87).

Detailed examination during 1977 of the bedded succession west of Kutcho Creek lends support to the suggestion that the mineralized rocks to the east are indeed Mesozoic. This conclusion is based on the observation that the fossiliferous limestone unit is both overlain and underlain by quartzose volcanoclastic rocks and sericite schists which are lateral equivalents of the mineralized rocks to the east. Recent regional mapping by the Geological Survey of Canada also interprets the Kutcho Creek volcanic rocks and the overlying sedimentary assemblage to be part of a Mesozoic map unit (L. Thorstad, personal communication, 1977).

Thus there now exists an apparent conflict between the sole radiometric date, a 275 ± 15 Ma rubidium-strontium isochron date reported earlier (Geological Fieldwork, 1976, p. 75) and the combined stratigraphic and faunal evidence.

GNAT PASS DEPOSIT
(104I/5W)

By A. Panteleyev

The Gnat Pass porphyry copper deposit (June, Stikine, September mineral claims) of Deas Lake Mines Limited was located in 1960 and actively explored from 1965 to 1968. In addition to extensive surface work, a total of 57,035 feet (17 384 metres) of diamond drilling was completed in 102 diamond-drill holes. Most of the work was done in the main or 'Hill' zone although a few drill holes were put down in small, subsidiary mineralized zones including the 'Creek' zone. Reserves are reported to be 18 million tonnes containing 0.44 per cent copper or 32 million tonnes containing 0.389 per cent copper allowing for 20 per cent dilution by wallrock containing 0.15 per cent copper (Ministry of Mines and Petroleum Resources, Mineral Deposit Inventory File).

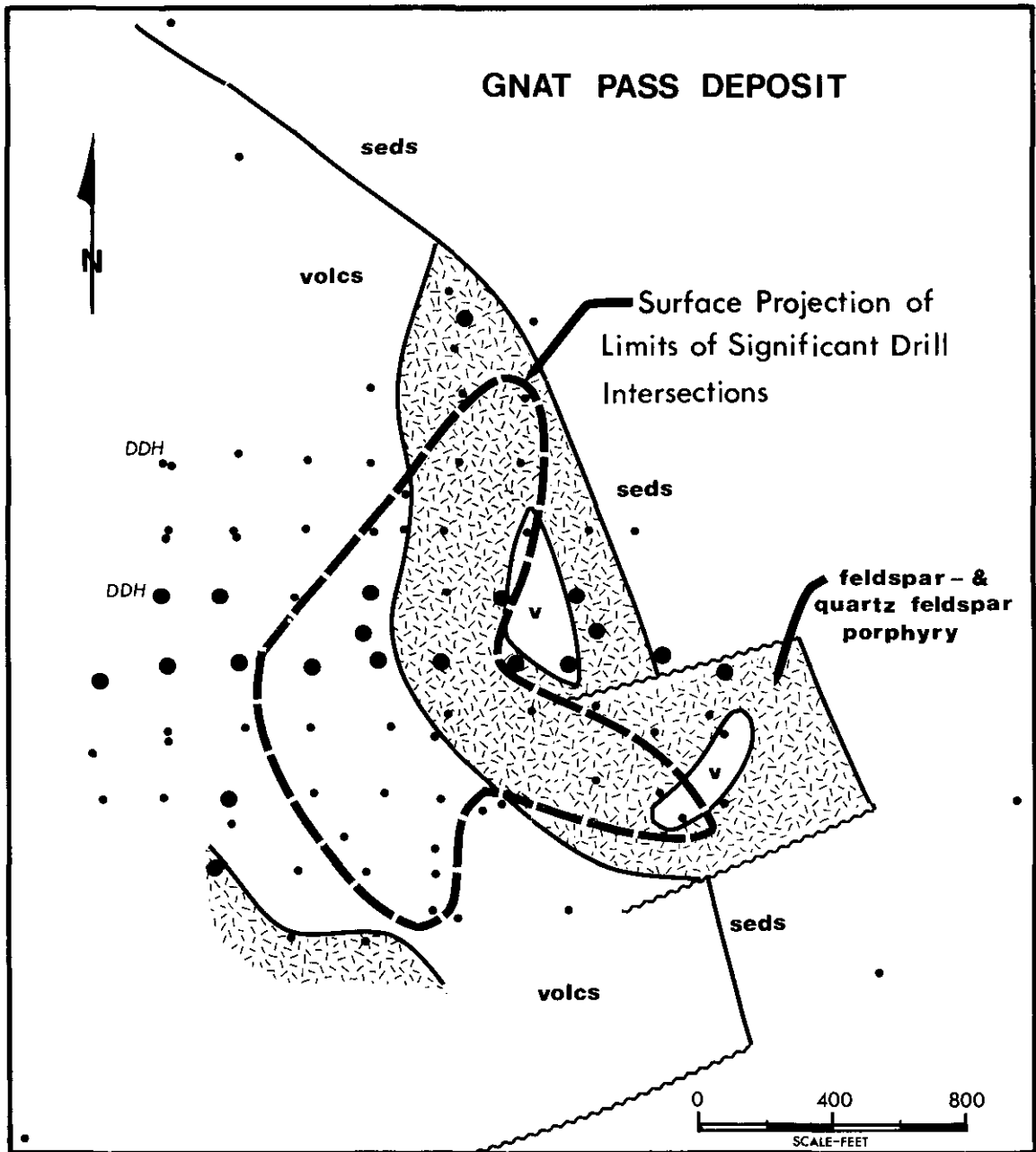


Figure 9. Gnat Pass deposit, simplified geology.

The proximity of the newly completed Stewart-Cassiar road (Highway 37) and the paucity of recorded geologic data made it desirable to review the economic potential and geology of this deposit. Resulting conclusions based on geologic mapping and examination of 20 diamond-drill holes are:

The deposit is small and has been thoroughly tested. The limited size potential of the main (Hill) zone has been demonstrated by extensive drilling and surface stripping (Fig. 9).

The main zone of economic interest is made up of a network of north and northwesterly trending fracture zones that are associated with irregular eastward-dipping feldspar porphyry and quartz feldspar porphyry intrusions. Feldspar porphyry intrusions are commonly pyritic whereas copper mineralized zones are present mainly as narrow chalcopyrite-magnetite-hematite and rare bornite-bearing fracture zones in andesite and pyroxene basalt or as narrow chalcopyrite-tourmaline-carbonate breccia zones proximal to or within feldspar porphyry intrusions. Gold and silver content is insignificant.

The presence of quartz-bearing feldspar porphyry and feldspar porphyry with a siliceous groundmass makes it questionable whether this deposit is a member of the alkaline suite or syenite-type porphyry copper deposit.

REFERENCE

Jeffery, W. G. (1966): June, Stikine, September, Etc., *Minister of Mines, B.C.*, Ann. Rept., 1966, pp. 19, 20.