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Chu Chua

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GEOLOGY OF THE CHU CHUA MASSIVE SULPHIDE  
DEPOSIT, SOUTH-CENTRAL B.C.

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The Chu Chua deposit has reserves of approximately 2 million tonnes of 2% copper, 0.4% zinc, 0.4 gm/tonne gold, and 8 gm/tonne silver, based on work done to the end of August, 1979.

The mineralization is associated with a zone of pyritic, siliceous rocks in tholeiitic, commonly pillowed, basalts of the Mississippian (?) Fennel Formation. Layering is subvertical and north-striking, and the deposit apparently faces west. Post mineral recrystallization under conditions of the greenschist facies uralitized pyroxene and saussuritized plagioclase. Except where they were destroyed by earlier hydrothermal alteration in the footwall of the deposit, however, original volcanic textures generally survived the regional metamorphism.

Mineralization occurs both in pyrite and magnetite lodes. Chalcopyrite and, to a lesser extent, sphalerite, are the ore minerals. Layering in the massive sulphide zones is poorly developed, and where seen, consists of alternating fine and coarser pyrite layers or chalcopyrite-rich layers. Copper-zinc distribution patterns are poorly developed.

The tholeiitic association, sparsity of zinc and lead, and poorly developed metal zoning suggest that the Chu Chua deposit is akin to the Cyprus cupriferous pyrite deposits. Hydrothermal alteration of the underlying basalts suggests that the deposit is proximal.