TAHTSA LAKE 676108
93E

~53°
~127°

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Timing and Structural Control of Volcanism, Plutonism and Hydrothermal Activity in Evolution of the Tahtsa Lake Porphyry Cu-Mo District, Central B.C.

by

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At Tahtsa Lake, on the east edge of the Coast Plutonic complex in west central British Columbia, porphyry Cu-Mo type mineral occurrences are associated with Upper Cretaceous and Eocene age intrusions. These intrusions, and their attendant hydrothermal systems, are exhumed to various stratigraphic levels in an arcuate belt enclosing a fault-bounded area of subsidence interpreted to be the remains of a collapsed caldera. Up to a 1.5 km thickness of relatively flat-lying earliest Upper Cretaceous volcanic strata occur within the area of subsidence. Potassium-argon age dating of volcanic and plutonic rocks suggests that caldera collapse and related extrusive activity took place c.a. 87 Ma and was followed by several distinct episodes of magmatic resurgence spanning a time interval of at least 35 million years. It is speculated that localization of intrusive centers and associated mineral deposits was in part controlled by structural features established during caldera formation and in part by periodic changes to an extensional tectonic regime.

See BCDM Bull 75, 82 (1985)
Geology & mineral deposits of Tahtsa Lake district west central BC D.G. MacIntyre.