

ZINC-LEAD OCCURRENCES NEAR ROBB LAKE, NORTHEASTERN BRITISH COLUMBIA

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Robb Lake area is located in the Rocky Mountains of Northeastern British Columbia and lies within a northwest-trending belt of Lower and mid-Paleozoic miogeoclinal carbonate rocks and shales exposed in a series of imbricated and folded thrust slices. Zinc-lead sulphide occurrences near Robb Lake are confined to secondary breccias within the Stone Formation, a dense grey dolostone of Middle Devonian age.

A thin calcarenite unit separates the Stone Formation from underlying Silurian carbonate rocks. The Besa River Formation, a black shale with calcareous interbeds, overlies the Stone Formation. The Dunedin Formation, a dark grey argillaceous limestone, superjacent to the Stone Formation elsewhere in the belt, does not appear to be present in the Robb Lake area.

The sulphide-bearing breccia zones are exposed in a northwest-trending valley, which transects the western flank of a large southeasterly plunging anticline of Silurian and Devonian rocks. The breccias appear to be random, disconnected bodies which vary in form, size, and stratigraphic position within the Stone Formation. Internally they are generally composed of loosely packed, angular, dolostone fragments cemented by white, crystalline dolomite, but details of internal fabric are variable. Characteristically, sphalerite rims the

dolostone fragments, whereas galena, which is much more rare, normally forms discrete grains within the dolomite matrix. Some of the breccia zones are roughly tabular in form and are broadly concordant with regional bedding; boundaries are irregular and often difficult to distinguish. Sub-vertical dilational fractures filled with dolostone fragments in secondary crystalline dolomite commonly extend from the breccia zones into the country rock.

A "solution-collapse" origin for the mineralized breccia zones is suggested from their internal and external morphology. The apparent lack of Dunedin rocks in the area may have resulted from development of a lower Upper Devonian karst erosion surface and subjacent aquifer extending down into the Stone Formation. The base of the Besa River Formation should be carefully examined for evidence of an unconformity.

The presence of secondary dolomite and sphalerite-galena mineralization as open space fillings implies that circulating connate and/or meteoric waters were the mineralizing agents.

Tel. conversation to Bob Thompson BCDM May 14

Will forward copy of GAC draft.

Says drilling to date, random, non-pred, poor correl. Min bx tends to be semi-conformable. 3rd dimension evident on belly terrane.

Bx may be fracture-controlled, not solution origin as previously thought.

Tect bx - Laramide. One bx body dips 70N on N facing slope 90°

to bedding. PB 2u along W flank SW-plunging anticline;

Vertical discordances along large-fault offsets - fault control.

Type of bx varies - all types, possibly.

Note! Cominco Richards Ck showing near Robb Lake - fracture control + replacement - different type?