

Van. GRC Jan 25/80

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GEOLOGY OF THE ADAMS PLATEAU - BARRIERE LAKES AREA, SOUTH-CENTRAL B.C.

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During 1978 and 1979, mapping was carried out at 1 inch equals 1/4 mile (1:15840) over an area of approximately 900 square kilometers from Chu Chua Creek on the north to Kwikoit Creek on the southeast and southwest from the Cretaceous Baldy Batholith to the Thompson River and Sinmax Creek.

Within this area, a thick pile of massive and pillow basalts of the Fennell Formation, generally correlated with the Mississippian Slide Mountain Group, grades eastward and upward through a 2 to 4 kilometer wide transition zone consisting of ribbon chert, cherty argillite, quartz feldspar porphyry, and at least two layers of intraformational conglomerate, into a succession of pelitic sediments, greenschist, felsic schists derived from acid volcanic rocks, carbonate and quartzite of the Eagle Bay Formation. Limestone lenses interbedded with pelitic rocks of this succession have yielded Lower to Upper Mississippian conodonts. To the south, along Barriere River, Fennell rocks are in fault contact with a succession of tuffaceous and calcareous metasediments, grits, minor carbonate, quartzite, and at least three distinct units of pillow lava. These are also considered to be part of the Eagle Bay Formation. This succession generally dips and faces northeast, and could represent a distal facies of the Fennell Formation. To the east, the central part of the Eagle Bay Formation within the study area is characterized by a thick succession of massive fragmental

and locally pillowed greenschist which contains thin but in places laterally continuous units of carbonate, quartzite and impure psammitic sediments as well as a major but discontinuous unit of white carbonate known as the Tshinakin Limestone. To the northeast, Eagle Bay rocks, which are all of lower greenschist metamorphic grade, are in abrupt contact with a succession of amphibolite, garnet-biotite schists, sillimanite schists, minor marble and quartzite, all of which are laced with pegmatite and cut by orthogneiss. The contact between this higher grade assemblage and Eagle Bay rocks follows a northwesterly trending line from the north shore of Adams Lake at Spapilem Creek to the northeast end of North Barriere Lake, and is most likely a fault.

Major units of felsic schist derived from acid volcanic rocks occur within the Eagle Bay Formation both in the Adams Plateau-Skwaam Bay area and in the Birk Creek-North Barriere Lake area. Polymetallic stratabound massive sulphide deposits with appreciable precious metal values are associated with the felsic schists in both areas. A different type of massive sulphide deposit, the C.C. deposit, occurs near Chu Chua Mountain. Mineralization there consists of massive-pyrite or magnetite and chalcopyrite in pillow basalts of the Fennell Formation. Other base metals are subordinate and precious metal contents are low in the C.C. deposit.

Eagle Bay rocks are generally highly foliated and deformed by at least two, and locally three, generations of mesoscopic structures. Fennell rocks, partly because of lithology and partly because metamorphic grade is lower, are generally less foliated and deformed.