

REGIONAL SETTING OF THE TRIASSIC KUTCHO FORMATION,

A VOLCANO-SEDIMENTARY ARC, North-Central B.C.

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The Kutcho Formation hosts a significant massive sulphide deposit in north central British Columbia. The significance of the deposit, beyond its economic potential, lies in the fact that it is the first recognized volcanogenic massive sulphide deposit of Triassic age in northern British Columbia and that it has led to the recognition of acidic volcanic rocks during this time in the region.

The Kutcho Formation is part of a discrete structural belt, designated the King Salmon Assemblage, that spans the width of the Cry Lake map area. This belt continues across the Dease Lake map area into the Tulsequah map area (Souther, 1971), but no significant volcanic rocks have been recognized outside the Cry Lake map area. Rocks within the King Salmon Assemblage lie within a thrust sheet bounded to the north by the Nahlin Fault and to the south by the King Salmon Fault. Oldest rocks within this belt are volcano-sedimentary rocks of the Kutcho Formation which are overlain by an Upper Triassic limestone and a Lower Jurassic greywacke, shale sequence correlated with the Simura ^{Sinwa} Limestone and Incline Formation respectively. The belt is typified by tight, northwest trending, steeply northeast dipping, isoclinal folds with a singular well developed, penetrative foliation. This extreme deformation becomes less intense northeasterly across and northwesterly along the belt. Imbricate thrusting is evident at the leading edge of the belt and although poorly documented, may exist in foldings ^{through} throughout the belt. Metamorphism to lower greenschist facies is believed contemporaneous with deformation. Volcanic rocks of the belt are dominantly calcalkaline in composition with minor alkaline components possibly facies equivalents of the Triassic Takla Formation. Stratigraphic evidence and a radiometric age date of 210 ± 10 m.y. support an Upper Triassic age for Kutcho rocks. Lithological and chemical evidence suggests that rocks of the King Salmon Assemblage formed in an island arc environment adjacent a subduction zone on or near a paleocontinental margin.

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