



# British Columbia Geological Survey Geological Fieldwork 1976

## ESTELLA – KOOTENAY KING AREAS (82G/12E)

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A study of the structure, stratigraphy, and lead-zinc mineralization of Purcell rocks in the Wasa area was initiated during the 1976 field season. Approximately 140 square kilometres of mountainous terrain, bounded by the Wild Horse River to the south and the east, Lewis Creek to the north, and the Kootenay River to the west, was mapped at a scale of 1:25 000. This mapping, intended for release as a preliminary map, includes the Estella and Kootenay King deposits.

The study is the first phase of a project designed to determine the structural and stratigraphic controls of lead-zinc mineralization in the Aldridge Formation in south-eastern British Columbia. Initially, the project will involve mapping of Purcell rocks east of the Rocky Mountain Trench. The study will emphasize detailed stratigraphic correlations in an attempt to determine the depositional environment and facies changes of the Aldridge Formation which are perhaps related to syn-depositional faulting.

The results of the 1976 field mapping are summarized below:

- (1) Argillite, siltstone, and quartzite of the lower Aldridge Formation conformably overlie coarser grained quartzites and siltstones of the Fort Steel Formation.
- (2) The Aldridge is largely composed of distal turbidites, thinly laminated argillites and siltstones, cross-laminated siltstone, and massive to laminated argillite and marl, divisions B, C, D, and E of the Bouma turbidite facies model (Walker, 1976). Graded quartzite layers, unit A of the Bouma model, are also fairly common.
- (3) Current directions, determined from cross-laminations in the argillite layers, and a general thinning of quartzite layers to the north indicate a northerly to westerly sediment transport direction.

### REFERENCE

Walker, R. G. (1976): Facies models 2. Turbidites and associated coarse clastic deposits; *Geoscience Canada*, Vol. 3, No. 1, pp. 25-36.