



A FOLD STUDY OF THE LADY LORETTA AREA, N.W. QUEENSLAND

by

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ABSTRACT

Interest in the Lady Loretta area of N.W. Queensland is centred around the occurrence of stratiform lead-zinc mineralization in Lower Proterozoic rocks belonging to the Paradise Creek Formation. The mineralization is associated with two rock types:

- a) a contorted 'bedded' lead-zinc sulphide rock,
- b) a transposed barite, chert, pyrite, sphalerite rock,

The host rocks are typically carbonaceous, pyritic and dolomitic pelites and psammopelites of locally variable thickness.

Four (4) groups of folds have been recognized within the area:

- F₁ - Caused by local intraformational slumping of the mineralized rocks (to which it is restricted) during diagenesis; responsible for the associated deformations of these rocks; and helps to explain their compositional and thickness variability.
- F₂ - Associated with a chlorite zone greenschist facies metamorphic event and a fanned slaty cleavage; responsible for the macroscopic geometry of the area.
- F₃ and F₄ - Locally developed as low amplitude folds and warps; associated with a poorly defined axial plane structure.

Silicification and ferrugination, in association with both favourable climatic conditions and mineral assemblages, have been able to both preserve and accentuate the poorly developed structural elements associated with the fold groups above, and has thus enabled their documentation.

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