A REVIEW OF THE TECTONIC AND METAMORPHIC HISTORY OF THE REGION AROUND LÜTZOW-HOLMBUKTA, EAST ANTARCTICA

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Abstract: Recent studies of the tectonic-metamorphic history of the Lützow-Holmbukta region are critically reviewed and summarized as follows.

First event (*ca.* 1900 Ma ago) is the high-pressure granulite facies metamorphism with recumbent and isoclinal folds. Second event (*ca.* 1100 Ma ago) is the intermediate pressure granulite facies metamorphism and charnockite formation probably associated with some folding tectonics. Third event (*ca.* 560 Ma ago or earlier) is the high amphibolite facies metamorphism associated with E-W upright foldings. Fourth event (*ca.* 460 Ma ago) is the low amphibolite facies metamorphism associated with N-S upright folds and faults and pink granite intrusion, succeeded by the greenschist facies or slightly lower grade metamorphism. Fifth event (Jurassic ?) is the fracturing under stress field with N-S maximum extensional axis.

Some problems and alternative explanations are briefly discussed with conclusions that there remain some problems on the preferred metamorphic-tectonic history.

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