



New magnetic polarity stratigraphy of the mae moh basin in northern thailand

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This magnetostratigraphic study has been conducted on the Miocene Mae Moh basin, in the Lampang province, Northern Thailand. 194 paleomagnetic samples were collected from 65 stratigraphic levels from Na Khaem and Huai Luang formations. The studied sections are mainly composed of clay, sandstone and lignite. Rock magnetic experiments revealed that titanomagnetite, magnetite and hematite are the main carriers of magnetisation. Samples subjected to progressive thermal or alternating field demagnetization procedures exhibit a low stability and a high stability component, with either normal and reversed polarities. The reversal test is positive and indicates that the characteristic remnant magnetization directions correspond to the primary magnetization directions (McFadden and Mc Elhinny, 1990). The mean direction calculated for section 1 are: incl : 23.24 and decl. : 5.01 and incl. : 31.22 et decl. : 7.01 for section 2. These results don't document any rotation with respect to previous study (Benammi et al., 2002). In total, nine polarity zones (four normal and five reverse), that can be reliably be correlated the geomagnetic polarity time scale developed by Gradstein et al, 2004, are recognized from the studied sections. Based on the biochronological constraints, the magnetostartigraphic column of the Mae Moh formations correlates best with chron C5ACr-C5r.3r, between 14.1 and 12 Ma. This correlation revealed a mean sedimentation rate of approximately 21 cm/ky, and a age of 12.7 et 13.2 for the fossiliferous levels (J5, K1, K2) where the mammals remains were found