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**The Stratigraphy and Environments of Deposition of
Early-Mid Pleistocene Sediments of the Pohangina Region,
Eastern Wanganui Basin, New Zealand.**

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ABSTRACT

The Pohangina Anticline is one of several growing structures on the northeastern Manawatu Plains. The axis of this asymmetrical anticline lies within the valley of the Pohangina River, with the strata on the western limb dipping gently 2-3° to the west, and those on the eastern limb dipping at up to 70° to the east. The axis of the anticline plunges at 1-2° to the south.

The sediments are 1.3-0.6 Ma in age. Age control is provided by several coarse pumiceous tuffs within the sediments. These time planes for regional correlation have been examined using electron microprobe analysis. The Rewa pumice (1.29 ± 0.12 Ma) lies near the base of the studied sequence. Pumice from the Potaka eruption (1.05 ± 0.05 Ma) is well exposed at several sites. The Kaukatea pumice (0.87 ± 0.05 Ma) is exposed as both tuff and airfall deposits, and the Kupe pumice (0.63 ± 0.08 Ma) appears near the top of the studied sequence. Using these tuffs and the dip of the beds, rates of deformation of 7° per 100 ka have been calculated.

The Castlecliffian/Nukumaruan sediments accumulated in a gradually shallowing marine environment. Conditions were shallow marine until about the time of the Potaka pumice eruption, above the Potaka the sediments are dominantly fluvial including lignites, overbank deposits and channel gravels, all deposited in a lower coastal plain setting.

Sequence stratigraphy and tephrochronology provide correlation of the studied section with age equivalent sections farther west at Castlecliff, Turakina and the Rangitikei River. Cyclothems 33 to 40 are present within the stratigraphy, and are characterised by alternating coarse and fine grained sediments, indicating climatic fluctuations.

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