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**Stratigraphy, Petrography and Origin of the Te Kuiti Group in
the West Piopio Area**

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Abstract

THE Oligocene Te Kuiti Group in the west Piopio area is divided into two major units—the lower Te Anga Subgroup and the upper Castle Craig Subgroup—following the work of Barrett (1967). Within the upper subgroup, two formations are recognised and are correlated with the Orahiri and Otorohanga formations of Kear and Schofield (1959).

The Te Kuiti sediments were deposited as the sea transgressed over a broadly undulating surface of low relief that was dominated by a prominent north-trending ridge in the east. Deposition continued until this ridge was almost completely covered. The contact with the overlying Mahoenui Group is discussed and evidence presented to show that the two groups are conformable.

The various lithologies are examined in finer detail than has been the case in the past, and thin-section data is used extensively on Te Kuiti rocks for the first time. This has led to the recognition of seven members within the two formations of the Castle Craig Subgroup. A number of facies are also recognised. Isopach maps for each of the major units, stratigraphic columns for the Castle Craig Subgroup, and a detailed cross-section are presented.

The boundaries of the major units are examined in some detail. It is postulated that the Te Anga–Castle Craig boundary is approximately isochronous in the area and the change in lithology and inferred depositional environment across this boundary is the result of specific changes in the source area which supplied terrigenous sediment to the basin. The Otorohanga–Orahiri boundary is shown to be time-transgressive, and the change in depositional environment reflected in the rocks across this boundary is thought to be the result of more subtle changes in paleogeography.

Finally, the petrographic and stratigraphic data is interpreted, and a synthesis of the depositional history of the Te Kuiti Group in the area is attempted.

INTRODUCTION

THIS paper deals with the Te Kuiti Group in an area of approximately fifty square miles lying to the west of Piopio and about fourteen miles south of Te Kuiti (Fig. 1). The area covers much of the south-east corner of N.Z.M.S. 1, Sheet N82, except for a small portion south and east of New Plymouth–Te Kuiti main highway. Thirty-nine stratigraphic columns were measured in the area and

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