

THE STRATIGRAPHY OF THE WIANAMATTA GROUP TRIASSIC SYSTEM, SYDNEY BASIN

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(Plate xii, ten text-figures; eight maps.)

Introduction.

Methods of Mapping.

Stratigraphy.

A. General Definition.

B. Liverpool Sub-group: (i) Ashfield Shale; (ii) Minchinbury Sandstone; (iii) Bringelly Shale.

C. Camden Sub-group: (i) Potts Hill Sandstone; (ii) Annan Shale; (iii) Razorback Sandstone; (iv) Picton Formation; (v) Prudhoe Shale.

Sedimentary Petrology and Petrography of the Sandstone Formations.

The Sedimentary Environment and Sedimentary Tectonics.

Post-Depositional Tectonics.

SYNOPSIS.

The Wianamatta Group has been divided into two Sub-groups—The Liverpool Sub-group (lower, approximately 400 feet thick, predominantly shale lithology) and the Camden Sub-group (upper, approximately 350 feet thick, sandstone lithology prominent with shale). The Liverpool Sub-group includes three formations (Ashfield Shale, Minchinbury Sandstone, Bringelly Shale). The Camden Sub-group includes five formations (Potts Hill Sandstone, Annan Shale, Razorback Sandstone, Picton Formation, Prudhoe Shale).

The sedimentary petrology of the graywacke-type sandstones and the relation of the lithology to the sedimentary environment and tectonics is discussed. A new element, the *envirotope*, is defined to be used with the elements lithotope and tectotope (Krumbein and Sloss, 1951) to describe a lithologic sequence.

Post-depositional tectonics are briefly discussed and a new series of tectonic features described from the south-western suburbs of Sydney.

INTRODUCTION.

The sequence of rocks forming what has become known as the Wianamatta Group of the Triassic System in the Sydney Basin has long been neglected by local workers. Osborne (1948) pointed out the general lack of information on the local Triassic sequence and this first stimulated the writer to complete the present work.

In essence, the problem was to study the outcrop of the Wianamatta Group and determine if consistent and definite divisions could be made on lithologic grounds—divisions that had previously and commonly been regarded as unmappable. Fieldwork, together with interpretation of the available bore data, has shown that consistent and mappable divisions can be made.

It is hoped, and it already seems likely, that this work will be of some practical value to officers of the many Public Utilities who are directly concerned with the nature of the rock type of the Sydney Basin.

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