

The Geology of Antarctica

edited by **Robert J. Tingey**, *Oxford Monographs on Geology and Geophysics*, Clarendon Press, Oxford 1991, ISBN 0-19-854467-7

Review by **Christopher G. Kendall**

In the preface, the editor, Robert Tingey, explains the purpose of the book is to open up Antarctica geology to a wider group of earth scientists. Since he felt that the geology of Antarctica covers such a range of topics, he brought together a variety of geologists for this purpose. So, the book is written for the interested, but uninformed geologists. It has 19 chapters and begins with the Archaean and Protozoic rocks of Antarctica. Then, it moves on to late Protozoic and middle Palaeozoic rocks of Antarctica, a discussion of Devonian and Triassic of the Beacon supergroup, including the super group of the Trans-Antarctic mountains.

The Mesozoic, Tholeiitic igneous rocks of Antarctica. Dufek intrusion, tectonic development of the Scotia Arc region. The Marie Bird Land volcanic region and its relation to Cainozoic of the W. Antarctic rift system, the Antarctic continental shelf from the marine, geological and geophysical perspective. The configuration of the subglacial crust, the history of the Antarctic ice sheet, the Cainozoic glacial record of S. Victoria land.

The Paleozoic invertebrates of Antarctica, invertebrate fossils, the Mesozoic and Cainozoic the Antarctic history of terrestrial vegetation, the fossil fishes, tetrapods, the metallic and mineral resources and meteorites of Antarctica.

Each Chapter is illustrated with maps, cross sections, photos, some photomicrographs all in a consistent style.

It is obvious that Tingey has taken great pains to insure a high quality to the production of this book. Type is dark and clear. Text is well referenced. Many of the references date to early 1900s from the early phases of geological investigation of Antarctica. The majority are related to the 70s and late 80s. The Chapter on petroleum resources might represent the greatest interest to those working in oil companies. This chapter is general in character but well referenced for those interested in tracking the offshore geology of Antarctica.

As it's pointed out in the text, it is largely on the basis of the inhospitable conditions and the lack of any giant structures downgrade the potential for the economic production. Environmental rather than discovery potential is the overwhelming factor.

This text is mainly rather general in its character, but it does bring together most of the aspects of the geology of Antarctica. The book should end up on the shelves of those involved in the geology of Antarctica or those who have an interest in it. The book does not lend itself much to geological or geophysical researchers except as a reference source, but is a well conceived and thoroughly researched book on Antarctica.

I am pleased to have this book on my shelf and I think that the Oxford press and Tingey should be congratulated on this book.