

BOOK REVIEWS

The Literature of Mineralogy. By Michael O'Donogue. The British Library, London, 1986, 85 pages. £12.00.

This booklet describes the periodicals and major books on mineralogy that are available within the British Library, which has a good collection. Each book is accurately and critically reviewed in a brief and interesting manner. Books are covered that would interest both the professional and amateur mineralogist. The quality of presentation is high.

The book is useful as a bibliographical collection, but it is not complete since the earlier editions of the Mineral Powder Diffraction File (1986) and Quantitative Data File for Ore Minerals (1986) are missing. Since the seventeen chapter headings each occupy a single page, the book is relatively expensive.

Peter Bayliss
University of Calgary

ERRATUM

Quantitative Data File for Ore Minerals (second edition). By A.J. Criddle and C.J. Stanley. British Museum (Natural History), London, 1986, 420 pages. £45.00.

A review of this publication was published in volume 25, part 1, page 198. The price is as quoted above, and not £95.00. We apologize for this error.

The Carswell Structure Uranium Deposits, Saskatchewan (R. Laine, D. Alonso & M. Svab, eds.). Geological Association of Canada Special Paper 29, 1986. 230 pages. \$35 (members), \$42 (nonmembers), plus \$3 for handling and postage.

The Carswell circular structure, located in the western part of the Athabasca Basin in northern Saskatchewan, has attracted the interest of geoscientists since the early 1950s. This circular structure, almost 40 km in diameter, has a 20 km core composed of retrograded granulite-facies ortho- and paragneisses. The core complex is surrounded by an inward dipping ring of deformed Helikian Upper Athabasca Group arenaceous and dolomitic sediments.

In the late 1960s, a reconnaissance airborne survey located several anomalies and, during ground

follow-up, uraniferous boulders were discovered in Pleistocene deposits. Nearly two decades of multi-disciplinary data-collection ensued, with interpretation and re-evaluation that culminated in the discovery of several high-grade unconformity-type uranium deposits and an insight into this new type of ore deposit.

The goal of this volume has been well achieved: collection and clear presentation of the wealth of scientific observations by researchers in international mining companies, government and universities. The combination of eighteen informative, well-illustrated papers and the 1:50 000 scale colored map focuses on basement and cover-rock stratigraphy and structure, the geochemistry and mineralogy of regional and local lithological units, ore deposits and their contained mineral species, geochronology and geophysics. Many of the papers document stratigraphic, structural and mineralogical parameters that are critical in the search for evaluation and delineation of unconformity-type uranium mineralization. Noteworthy papers are those of Pagel and Svab on the petrographic and geochemical variations between unaltered and altered metamorphic rocks hosting the deposits, Ruhlmann and Pagel & Ruhlmann on the relationship of ore-mineral assemblages to host rock, and Ey *et al.*, Blaise & Koning and Tona *et al.* on the structural control of major ore-deposits and the influence exerted by the structure on the type and distribution of alteration.

In summary, this volume is *highly recommended* as a resource text for exploration geologists and students of ore deposits.

A.R. Miller
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Kimberlites: Mineralogy, Geochemistry and Petrology. By Roger H. Mitchell. Plenum, New York, 1986, 442 pages. \$65.00 (U.S.).

As stated in the preface, "this is a book about the petrology of kimberlites . . . the book is to provide a comprehensive survey and critique of the advances made in kimberlite studies over the last twenty five years . . . is intended to be informative to the neophyte and of lasting value to the specialist . . . and it is hoped that it will serve to stimulate further kimberlite studies."

The book is divided into the descriptive (field observations, tectonic settings, petrography and classifications), mineralogical, geochemical and experimental aspects of kimberlite petrology. The level of detail is exemplified by the chapter on mineralogy, which alone occupies about one third of the text. Certainly this part of the book is aimed at the specialist, not the neophyte. The book is concluded with a chapter summarizing the present state of knowledge of the petrogenesis of kimberlite magmas.

Because kimberlites are thought to represent magmas derived from the deepest source-regions of the upper mantle, they provide geochemical probes of the deeper parts of the Earth's interior. Thus, although kimberlites can be categorized as exotic rocks of rare occurrence and subordinate volume

compared to major igneous rock-types, they have attracted much attention. Four international conferences have been held between 1973 and 1986 to provide forums for discussion of the petrology of kimberlites. Mitchell's monograph is a welcome synthesis of all the work over the last 15-20 years and goes a long way toward highlighting areas for future research. Although there is an abundance of data on kimberlites, there are no truly comprehensive petrogenetic models to pull all the facts together.

The book is well produced, not too extravagantly priced, and will be essential reading for kimberlite buffs everywhere.

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OXFORD

JOURNAL OF PETROLOGY

Executive Editor: B G J Upton, (Executive Editor), Grant Institute of Geology, Edinburgh

This is the only journal published in either the United Kingdom or the United States that is concerned specifically with igneous and metamorphic petrology and allied mineralogy.

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