to this locality, and of woodruffite, hitherto not recorded from the Indian manganese deposits.

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BOOK REVIEWS

MUELLER (W. M.), editor. *Advances in X-Ray Analysis.* Volume 4. Plenum Press (New York), 1961. viii+568 pp. Price $15.00.

This book reports thirty-eight papers, with discussion, presented at the Ninth Annual Conference on Application of X-Ray Analysis, held at the University of Denver, Colorado, in August 1960. It covers a wide range of industrial and research applications, mostly of little or no direct mineralogical interest.

Four papers deal with diffraction apparatus, e.g. counter and furnace attachments for a Weissenberg camera; eleven papers describe straightforward applications of, mainly powder, diffraction methods to identification and simple structural problems, &c., e.g. reinvestigation of the lower titanium oxides; two papers describe application of computers to the interpretation of data on preferred orientation in polycrystalline materials and to deriving the radial distribution curve for amorphous materials (the latter describes changes in the structure of amorphous silica–alumina cracking catalysts on heating in steam); three papers describe applications of X-ray absorption measurements to the control of industrial processes. Fourteen papers are devoted to apparatus and methods in X-ray fluorescence analysis, including two papers on rock and cement analysis respectively.

As a memento of the occasion, the book is excellent, and this is

obviously its main purpose. Like many of its kind, it is composed mainly of 'bread-and-butter' reports, put together for the occasion out of any suitable work in progress, and is thus of limited and ephemeral appeal generally. The presentation of the book is excellent, but the price, for what it contains, is exorbitant. R. J. D.

SINKANKAS (John). *Gemstones and Minerals—How and where to find them.* Princeton, New Jersey; New York, Toronto, London (D. Van Nostrand Company, Inc.), 1961. 387 pp., 133 figs. including 80 pls. Price *U.S.* $8.95.

This book, dealing with the search for and collection of valuable mineral specimens and gem-stones, contains an abundance of good, sound, practical information, much of which is not to be found in other texts on mineralogy, prospecting, and economic mineral deposits.

The first two chapters deal in detail with the organizing and planning of prospecting trips, and describe the many useful tools and items of equipment, upon which may well depend the success or failure of an expedition. Sources of information, maps, and equipment, together with other useful addresses, are given for all fifty states of the U.S.A., the Provinces and Territories of Canada, and also for the countries of Central America. (Appendixes III, IV, and V.)

Excellent chapters describing rock classes and types, their recognition in the field, likely associated mineral deposits, and the methods by which mineral deposits form, will provide the novice with a good working knowledge of geology, and will undoubtedly save him countless hours of wasted search in areas where valuable minerals and gem-stones could not possibly be encountered.

A chapter on collecting practices associated with various types of deposits should be most welcome. Emphasis is rightly placed on pegmatites and many pages, plates, and diagrams are devoted to the systematic examination of these deposits. Useful hints on the locating of cavities and gem-pockets are given, as are also methods of extracting valuable crystals and gems from them. Later chapters contain useful advice, not available elsewhere, on trimming, cleaning, preserving, storing, and exhibiting specimens, and on how to market extra material.

The book is written in clear, straightforward language, is well illustrated, and should be very well received by all amateur rock-hounds and gem-seekers. For the more experienced amateurs and also for professional mineral and gem collectors, it will most certainly prove a welcome and useful companion. R. A. N.