

STANDARD CATALOG OF GEM VALUES, 2nd Edition

By Anna M. Miller and John Sinkankas, 271 pp., illus., publ. by Geoscience Press, Tucson, AZ, 1994. US\$24.00*

This update of Dr. Sinkankas' 1968 *Van Nostrand's Standard Catalog of Gems* carries through most of the same basic information in simple terms that made the original a classic. It is an excellent introduction to the characteristics of value in gem rough, cut stones, engraved gems, gem carvings, and pearls. One of the first price guides ever published, it still covers areas that none of its current competitors have reached, especially in gem rough and uncommon stones.

Unfortunately, the editing and reproduction of the second edition are not of the same quality as the first. The frequent typographical errors, misspellings, partial sentences, and misdirected references—not seen in the first edition—detract from the book's readability. The same 15 black-and-white photos were sharper 25 years ago. In addition, the 1994 volume continues factual errors found in the original edition (e.g., De Beers rough diamond sales are still called "sightings") as well as some out-of-date information and locality names (e.g., Rhodesia, Peking). The updated section on faceted diamonds is especially weak, both in facts and prices.

Prices quoted are identified as "1993 U.S. average retail prices," but the authors do not explain what constitutes retail markets for gem rough, loose stones, and the like. As with any price list, the usefulness of this one is limited by how broadly the material being valued is categorized. Vague descriptions with wide price ranges are almost never wrong, but they are of limited benefit to buyers, sellers, and appraisers. On the positive side, the price listings do give indications of the extremes of the markets for each variety, as described.

In this second edition, the strong content outweighs the disappointing publication quality. I look forward to a more polished third edition.

CHARLES I. CARMONA
Guild Laboratories Inc.
Los Angeles, California

Reviews

SUSAN B. JOHNSON AND
JANA E. MIYAHIRA, EDITORS

OTHER BOOKS RECEIVED

Diamond Exploration into the 21st Century, edited by W. L. Griffin, 367 pp., illus., publ. as Vol. 53 of the *Journal of Geochemical Exploration*, Elsevier Science, Amsterdam, 1995, US\$250. Diamond exploration is being feverishly conducted on all continents except Antarctica; currently about US\$400 million is spent annually. This collection of 18 invited papers by authors from eight countries gives an overview of modern diamond exploration research, techniques, and results. Four papers from Russia are particularly interesting, given the Russians' success in diamond exploration and the fact that their approaches developed differently because of their long isolation.

The volume is divided into four parts: (1) *Background* (5 papers) covers the formation of diamonds and the nature, abundance, location, and selected economic aspects of primary (pipe) deposits; (2) *Area Selection* (3 papers) discusses geologic controls and prediction of favorable areas for primary deposits; (3) *Finding the Target* (6 papers) considers proper methods for collecting indicator mineral samples, laboratory processing, and geophysical exploration methods, as well as the basic principles of alluvial diamond exploration; and (4) *Prioritisation and Evaluation* (4 papers) includes interpretation of the chemical compositions of indicator minerals, petrographic studies, and statistical evaluation of several parameters (e.g., microdiamond counts) used to determine those pipes that are likely to be economic—recognizing that fewer than 1% of all pipes discovered will be economic.

This book contains much newly released information on diamond exploration. Knowledgeable gemologists will find the *Background* part particularly valuable.

A. A. LEVINSON
University of Calgary
Calgary, Alberta, Canada

The New Alchemists: Breaking Through the Barriers of High Pressure, by Robert M. Hazen, xvi, 287 pp., illus., publ. by Smithsonian Press, Washington, DC, 1993. US\$23.00.* Although the title may sound more like a chemical treatise than anything to do with gems, the "high pressure" is actually that needed to convert carbon into diamond. In fact, this book is a valuable history of the long search for successful diamond synthesis.

The author provides an interesting, readable text, mostly written in the style of *National Geographic* magazine. It is based on his long experience in high-pressure research in the laboratory of the Carnegie Institute, Washington, DC. In the course of his work, he learned much about early experiments in high-pressure research—as by Percy W. Bridgman (1882–1961), Loring Coes Jr. (1915–1978), and others—which ultimately led to the success of General Electric and ASEA, the Swedish equivalent of GE (ASEA actually produced synthetic diamond before GE, but, for some still unexplained reason, according to Hazen, kept this fact secret). Hazen relates the official and personal struggles of these investigators in a very entertaining fashion, with the result that much anecdote leavens what otherwise might have been a dull text.

This treatise is the best background source for the modern history of diamond synthesis. It is wholeheartedly recommended to all students of diamond history.

JOHN SINKANKAS
Perilithon Books
San Diego, California

*This book is available for purchase through the GIA Bookstore, 1660 Stewart Street, Santa Monica, CA 90404. Telephone (800) 421-7250, ext. 282; outside the U.S. (310) 829-2991, ext. 282. Fax: (310) 449-1161.