

Serpentinites

by **David S. O'Hanley**, published by Oxford University Press, Oxford Monographs on Geology and Geophysics No. 34, ISBN 0-19-508254-0, 277 pages, 1996, \$95.00.

Review by **Christopher G. Kendall**

This unusual book was written to present the state of the art of our understanding of serpentinites. The book was written for specialists in serpentinites and tectonic physicists who may be able to use serpentinites for tectonic reconstruction. The author explains how these rocks are associated with the ocean floor and their occurrence within ophiolites and greenstone belts; and how the presence of serpentinization of peridotites can be used to identify magnetic anomalies and used to unravel tectonic history. This book is clearly written and well illustrated. There are numerous photomicrographs, phase diagrams, and maps dealing with serpentinites.

The book begins with a historical survey of serpentinites and then discusses serpentine minerals and the processes that form them, how they occur in outcrop, and how they can be described in thin section. Then it goes on to discuss how hydration and serpentinization of peridotites takes place, and how serpentinites can be recrystallized and replaced, or deserpentinized, and then it discusses rodingites, albitites, and other rocks formed by metasomatism, and carbonates, sulfides, and serpentine-related mineralization. There is a chapter on geochemical and geophysical data, serpentinization events, chrysotile asbestos deposits, serpentinites in their tectonic settings, and it ends with an epilogue on the study of serpentinites and how they can be used to understand geological processes associated with peridotites and mountain chains.

This is a specialist's handbook, with well written, clearly presented, information on serpentinites. Undergraduates and graduate students who study these rocks will find it useful. The author quotes W. W. Moorhouse in 1959 with the statement, "very curious textures result from the replacement of the olivine," and then complains that Moorhouse goes on to say nothing about them. In contrast, David O'Hanley definitely has a great deal to say about serpentinites and this text will undoubtedly be the bible on this topic for some time to come.

A magnum opus on the topic, definitely a niche subject, represented by a very professional piece of work for those of you who have an interest or need to know more about serpentinites!