## **BOOK REVIEWS**

DEPOSITIONAL CONTROLS, DISTRIBUTION, AND EFFECTIVENESS OF WORLD'S PETROLEUM SOURCE ROCKS. By G. F. Ulmishek and H. D. Klemme, U. S. Geological Survey Bulletin 1931 (1990) 59 pp.

This important document of the U. S. Geological Survey contains four chapters with (1) an abstract, introduction, summary acknowledgements, and references, (2) six plates and (3) 1 to 16 figures and 2 data tables. The four chapters are (a) Methods, (b) Conditions of Deposition of Major Source Rocks, (c) Main Factors Controlling Deposition and Effectiveness of Source Rocks, and (d) Summary. The plates are maps showing plate tectonics, structural forms, petroleum basins and source rocks of Silurian, Upper Devonian – Tourmaisian, Pennsylvanian, Lower Permian, upper Jurassic, Middle Cretaceous and Oligocene-Miocene intervals. The figures are mostly line diagrams, maps and bar charts, to illustrate the subject matter of the bulletin.

The main thesis of the publication is that (1) six stratigraphic intervals representing a third of Phanerozoic time contain source rocks that have provided 80% of the known oil and gas reserves of the world; (2) The stratigraphic intervals are Silurian (9% of the world reserves), Upper Devonian-Tourmaisian (8%), Pennsylvanian-Lower Permian (8%), Upper Jurassic (25%), Middle Cretaceous (29%) and Oligocene-Miocene (12.5%). This uneven distribution of source-rocks presents no cyclicity and the factors that controlled the deposition of source-rocks varied from interval to interval. The areal distribution of the source-rocks, their quality and effectiveness seem to have been controlled by geologic age, palaeo-latitude of the depositional area, structural (morphotectonic) forms in which the source rocks were deposited and the evolution of biota. The ages of maturity of the source rocks indicate that a majority of discovered oil and gas of the world (more than 80%) are generated since Aptian times and nearly half of the world's petroleum has been generated and trapped since Oligocene.

The bulletin has revealing information that should attract the attention of active oil and gas exploration geologists of our country. A similar attempt as indicated in the bulletin has to be attempted in order to understand the source reservoir relations in the petroleum basins of India. This may lead to tremendous insights into source reservoir relationships and may help to evolve novel and very original exploration strategies.

This bulletin must be actively perused by all the geologists of our country seriously involved in oil and gas exploraton and development.

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GEOLOGICAL MAP OF BANGLADESH. Director General, Geological Survey of Bangladesh, 1990. Price Tk. 200. \$ 10/-.

We have been so much starved of good detailed geological maps in recent years that the publication of the geological map of Bangladesh on a scale of 1:1,000,000 is most welcome. The map is prepared under the direction of S. K. M. Abdullah, Director-General, Geological Survey of Bangladesh. Base has been compiled from LANDSAT satellite digital mosaic and other available topographic maps. Cartography is by James E. Queen of the U. S. Geological Survey. The map has been