AAPG Methods in Exploration Series, No. 10 "Development Geology Reference Manual"


Review by Christopher G. Kendall

Usually when I review a book I read the foreword to get a sense of who the authors or editors intended the audience of the book to be, then I look through the table of contents to determine what the book is about, and then I read each chapter to gain an overall impression of the book. Having reviewed the general content of the book, I make some critical statements about the book, the nature of the illustrations, whether the objectives of the authors have been met, and then make recommendations to the potential readers. In the case of this particular book, I began by reading the foreword, and then having skimmed through the book I realized that this foreword was appropriate to the book review. Here it is:

"Whether evaluating offshore wells in an international arena or managing a domestic waterflood, a development geologist is often called on to bridge the gap between geologists, geophysicists, geochemists, petrophysicists, and drilling, production, and reservoir engineers. This requires a broad knowledge base of specific techniques and technologies, as well as the ability to integrate and communicate multidisciplinary data. These skills are rarely learned in a college classroom; instead they are learned on the job.

With this in mind, the AAPG Development Geology Reference Manual was designed to guide both newcomers and more experienced hands through a spectrum of concepts, technologies, and methods that encompass the day-to-day work of a development geologist. The Manual is not intended to be a definitive work on any one topic, but is a handy desktop or field reference where key facts on many topics are presented in a succinct, easy-to-use format. The Manual provides a great deal of specific, practical information, including

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- Cross references to other chapters in the Manual where additional information is given on a particular topic
- Common abbreviations and conversion formulas
- Lists of References Cited (given at the end of each of the ten parts) that can serve as a starting point for additional literature searches

The loose-leaf, three-ring binder format was chosen so that pertinent chapters can be taken out and used in the field or in discussions with colleagues down the hall. This format also allows room for personal notes and for addition of updates as the various technical areas continue to expand and evolve.

The Manual comprises ten parts that fall into four broad categories. The first group consists of Parts 1 and 2, which are related to activities that usually precede drilling or reservoir development. In Part 1, Land and Leasing, James Tinkler discusses land and leasing practices, including objectives and procedures for acquiring acreage tracts. In Part 2, Economics and Risk Assessment, Pete Rose and Robert Thompson discuss fundamental economic considerations related to oil and gas exploitation.

The second group consists of three parts that focus on well site equipment and data collection and analyses. Part 3, Well site Methods, is edited by Arnold Woods, Byram Reed, and Diana Morton-Thompson and contains chapters on drilling and evaluation equipment and on wellsite data collection and interpretation, including common logging equipment, and interpretation
methods. Part 5 on Laboratory Methods, edited by Frank Ethridge, concentrates on laboratory analytical methods and data interpretation.

The third broad group comprises three parts that cover integration and interpretation of data for reservoir description. Part 6 on Geological Methods, edited by Roger Slatt, contains chapters on techniques and approaches that can be used to evaluate a variety of reservoir types, as well as material on statistical analysis of geological data. Geophysical Methods, Part 7, is edited by Peter Duncan and includes information on seismic and other remote data acquisition, processing, and interpretation. Integrated Computer Methods, Part 8, edited by Brian Shaw, explains how to use computers to quantify and present reservoir data effectively from a geological and geophysical perspective.

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The chapters included in this comprehensive manual were solicited from a wide spectrum of authors. There are approximately 125 individual authors and editors that represent many major corporations, independents, consultants, service companies, state agencies, and universities. Although care was taken to edit papers for greater clarity and to coordinate the topics as much as possible, the reader will find a variety of writing styles and content levels in the different parts. If the reader has questions about the information presented in a particular chapter, the authors encourage the readers to contact the author(s) of the chapter directly.

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