

Characteristics of Deepwater Deposits from Outcrops: Depositional Models and Processes, Architectural Elements, and Statistics

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Reservoir characterization (setting, models, external and internal geometries, architectural elements, and flow unit properties) is critical to the modeling and economic development of deepwater reservoirs. Analogs, including subsurface, “modern” depositional systems, and outcrops, are an essential part of that characterization effort. Outcrops have historically provided one of the best analog data sets for conceptual data and modeling but quantitative data is often limited. For example, connectivity factors that are important for field development and for constraining potential reservoir performance are most often extracted from a very limited data set.

To meet the need for more comprehensive descriptions and statistics on deepwater reservoirs, we have compiled data on more than 100 classic and new deepwater outcrops from around the world and summarized them in an AAPG Atlas of Deepwater Outcrops. In addition to descriptions of the architectures, which are broadly classified into sheets, channels, and thinbeds, a uniform collection of statistical data has been obtained with bed thicknesses, bed lengths, and other physical properties of reservoir, non-reservoir, and mass transport complex elements. A summary of the statistics, architectural elements, models, and classification are included in the presentation.