Integration of Outcrop and Modern Analogs in Reservoir Modeling

Building robust 3-D reservoir models is a major challenge that requires incorporation of geologically defined input parameters. This publication provides an overview of current approaches used in the development of geologically constrained and integrated reservoir models.

Each of the 18 papers addresses various stages in the process of creating a reservoir model through the development and incorporation of an analog, extracting the quantitative input parameters on lateral and vertical variability, and the development and modification of a 3-D reservoir model based upon geologically constrained data.

This applied volume is divided into two sections. The first is a set of papers illustrating the value and methodology of acquiring geometrical data on the lateral and vertical distribution of reservoir facies, within a sequence stratigraphic framework, using both outcrop analogs and detailed study of modern depositional systems. The second section includes both case studies where outcrop and modern analog data have been incorporated into subsurface reservoir models, as well as papers that illustrate recent advances in simulation and geostatistical methodologies. Together, the two sections provide a comprehensive look at integrated reservoir modeling.