Reconditioning Marine Seismic Data for Interactive Interpretation

M. D. Carter, J. A. Kruppenbach and S. L. Mobley
Energy Analysts, Inc., Landmark Co.
2205 Century Circle
Irving, TX 75062
USA

R. H. Matthews and E. Lawrence
TLC Data Processing Centre, Inc.
1306 Exchange Dr.
Richardson, TX 75081
USA

Abstract

The historical interpretation approach is based upon time and amplitude. Using the modern interpretive workstation, the full range of the seismic attributes can be examined in varying color and spatial distribution. Examples of traditional seismic data displayed using conventional methods are shown before and after workstation manipulation, with striking results.

The paper will also address procedures for the economical collection of additional data which will reinforce older available data, as well as planning cost effective acquisition of new data.

Porosity from Seismic Data, A Geostatistical Approach

P. M. Doyen, M. H. de Buyl and T. M. Guidish
Western Research
Western Geophysical Company
PO. Box 2469
10,001 Richmond Avenue
Houston, TX 77252
USA

Abstract

A geostatistical modelling technique called cokriging is used to describe the lateral variations of porosity, \( \phi \), in a synthetic and a real reservoir. Using this method, an error-qualified porosity model is estimated for each of the two reservoirs from sparse well porosity measurements and seismically derived velocities.

The method capitalizes on the high spatial density of the seismic measurements and on their correlation with \( \phi \). Compared with conventional reservoir models derived solely from sparse well control, the seismically consistent models are better spatially constrained and, hence, provide more detailed and accurate reconstructions of the porosity variations.