

SEISMIC DATA ACQUISITION AND INTERPRETATION
IN CENTRAL UTAH

Dale Gray, Speaker
Margaret L. Turner, Co-Author

ABSTRACT

In central Utah along the Hingeline area geologists and geophysicists face some of the most complex geologic structural problems with structures and even provinces having multiple ages and styles of deformation. In addition to complex structural geology, there is also related rapid change in facies, multiple unconformities and other stratigraphic complexities.

In many cases seismic data can be used to resolve the geologic questions of the origin and history of particular geologic phenomena. Regional reconnaissance seismic sections are used to illustrate key geologic structural styles and stratigraphic relationships in the transition zone between the Basin and Range province and the Colorado Plateau. Additional seismic sections are used in the Sanpete Valley area to illustrate salt diapirs overthrust and key stratigraphic relationships.

Quality seismic data, when carefully integrated with surface and subsurface geologic information, can yield a more complete understanding of the complex interrelationships of the structural and stratigraphic evolution of the Hingeline province which will result in a more successful hydrocarbon, geothermal and mining exploration effort.