

# **GEOLOGY OF THE ADHI OIL AND GAS-CONDENSATE FIELD AND THE APPLICATION OF 3D MULTI-ATTRIBUTES GEOVOLUME VISUALIZATION INTERPRETATION TECHNIQUES TO ENHANCE THE STRUCTURAL AND RESERVOIR INFORMATION**

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Adhi represents a typical pop-up and salt-cored structure located in eastern Potwar. The popped-up core is bounded by thrusts, which rather circumvent the anticline. Miocene rocks are exposed at the surface while the reservoir targets of Eocene carbonates; Permian conglomerates and Cambrian sandstones are encountered within 2200- 2700m in the core area. The field has been on production since 1980 and produces oil and gas from Sakesar limestone, and gas/condensate from Tobra and Khewra clastics. Structural complexities and highpressure problems in the post-Eocene sediments have been the major cause of failure of several wells on the structure. The interpretation of more than 1 000 line km of vintage 2D seismic data did not fully resolve the subsurface geometry of this complex structure. 3D seismic data was, therefore, recorded during 1998-1999 in the Adhi ML. The data (30 fold) was shot over the Adhi structure with the aim to improve its subsurface structural delineation, including the bounding thrust faults and the flanks to select location for appraisal/development wells.

The 3D data improved the understanding and mapping of different reservoirs and helped resolve the structural complexities. The application of the Geovolume Visualization Interpretation technique on Adhi 3D data has further improved the internal as well as external reservoir information and has resulted in better understanding of the geological model.