Thrust Block Identification and Interpretation Using 2-D Seismic in Kal Area

Submitted By

Abrar Niaz

Raja Kamran Naseeb

Wahas Ahmed

Faculty of Earth & Environmental Sciences

Bahria University, Islamabad

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ABSTRACT

The seismic lines 952-GJN-52, 952-GJN-53, 952-GJN-56, 952-GJN-57 and 952-GJN-58 lie in the southern part of Potwar sub-basin. These lines were acquired by OGDCL in Gujar Khan Exploration License Area in Chakwal District of Punjab Province. This seismic data and well data of Kal-01 were obtained from LMKR by the approval from DGPC.

Prominent reflectors are marked in seismic sections of lines 952-GJN-52, 952-GJN-53, 952-GJN-56, 952-GJN-57 and 952-GJN-58. These reflectors indicate the top of source, reservoir and cap rocks which are Patala Formation, Sakesar Formation and Chorgali Formation respectively.

Depth sections are also constructed with the help of velocity information. Depth sections show probably the thin-skinned deformation.

Time contour map of the area is made by time-reading of Chorgali Formation in five seismic sections. It indicated that the structure is faulted anticline. The major axis of the structure is NE-SW and goes well with the regional trend.

There are two major breaks in the burial history of the area. One is from Ordovician to Carboniferous because the whole Potwar basin was uplifted during that time. The other is from Late Permian to Cretaceous because the rocks from west to east in the Potwar basin were eroded due to significant Pre-Paleocene tectonic uplift.