

# Geoseismic modelling of anticlinal structures of Sakhi Sarwar, Drigri and Kotrum in the south of Zindapir area of Sulaiman Fold Belt with the help of seismic reflection data

Shazia Asim<sup>1</sup>; Sarfraz Hussain Solangi<sup>2</sup>; M. Qasim Mirza<sup>1</sup> and Shabeer Ahmed Abbasi<sup>3</sup>

<sup>1</sup>*Department of Earth Sciences, Quaid-i-Azam University, Islamabad*

<sup>2</sup>*Centre for Pure and Applied Geology, University of Sindh, Jamshoro*

<sup>3</sup>*Oil & Gas Development Company Limited*

[shazia@qau.edu.pk](mailto:shazia@qau.edu.pk)

## Abstract

These anticlines lie in the south of Zindapir anticline, a part of Safed Koh trend (N-S trending), which is a first line of folding on the folded flank of Sub-Sulaiman Foredeep. In the East of area, Punjab Monocline is present and Sulaiman Fold and Thrust belt is present in west. This area is a Frontal fault propagation folded zone. Research area lies in south of Safed Koh trend, Central Indus Basin. Seismic lines are interpreted to get stratigraphical and structural information of subsurface. The general stratigraphic successions are marked on lines 954-FZP-06 (south of 976-FZP-06) and LMT95-09 with the help of well Sakhi Sarwar-01. Seismic line 976-FZP-06 lies in Fazilpur area that shows Sakhi Sarwar anticline with a flower structure present in the core suggesting wrenching along with compression. Time contouring maps of Paleocene, Eocene and Oligocene show the formations are getting shallow in east. Seismic profiles 914-RPR-03 (34 Km) and 914-RPR-05, (26 Km) lie in NW of Rajanpur area of District D.G.Khan. Reflectors are marked & correlated with the help of wells Drigri-01 and Kotrum-01, located near line 914-RPR-03 and 914-RPR-05 respectively. Depth sections of Drigri and Kotrum anticlines are prepared. These structures lie in the SE of Sakhi Sarwar anticline. Folding is prominent in reflectors. Drigri anticline has E-W trend over 17 Km approximately and the reverse Faults are present on both flanks of a fold. Whereas the cross section of Kotrum anticline shows the amplitude of fold is low suggesting that folding die out at the Southern part. Trend of the fold is NE-SW. Depth sections show that a thickness of sedimentary cover is 8 Km approx. Thickness of Nagri Formation and Chinji Formation (Miocene- Pliocene) is 1700 m approx. Nari Formation (Oligocene) is overlain by Gaj (Vehowa) Formation in the area. Eocene & Paleocene are 1300 m & 800 m thick respectively. Basement is uplifted in the east.