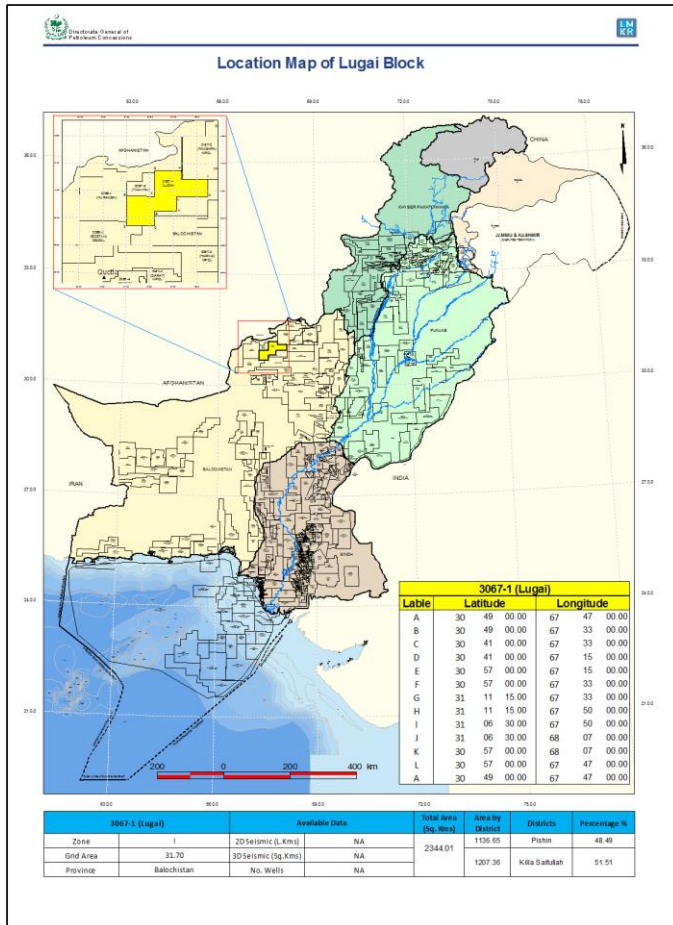


## LUGAI BLOCK (3067-1)

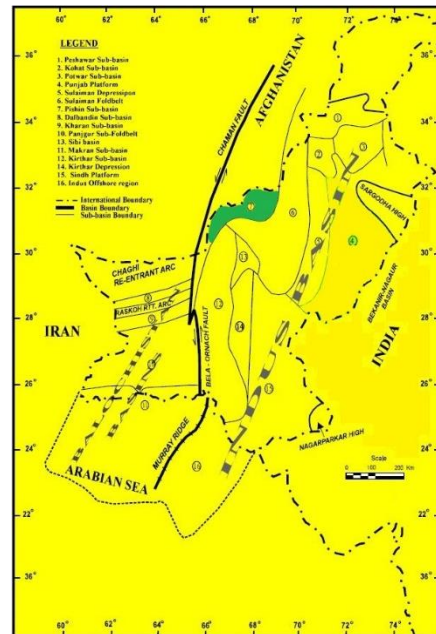
### Introduction

Lugai Block covers an area of 2344.01 sq km and is located in Pishin and Killa Saifullah districts of Balochistan Pakistan. Geologically, it lies in the Pishin Basin of Pakistan. The block falls in Prospectivity Zone I.



i.e., Chaman Transform Fault and Zhob Valley Thrust (Kazmi and Jan, 1997) according to its geological location. The thrust faults and folds (particularly tight anticlines and wide synclines) are the important structural elements of the area. In Eocene times, this Basin started receiving sediments from the north, which sustained till Pleistocene (Ahmad, 1991). The broad synclines and tight anticlines, structurally represent the area that is cut by reverse faults and thrust faults over the southern Zhob Ophiolites (Iqbal, 2004).

### Geological Map (Modified after Ahmed et al, 1994)



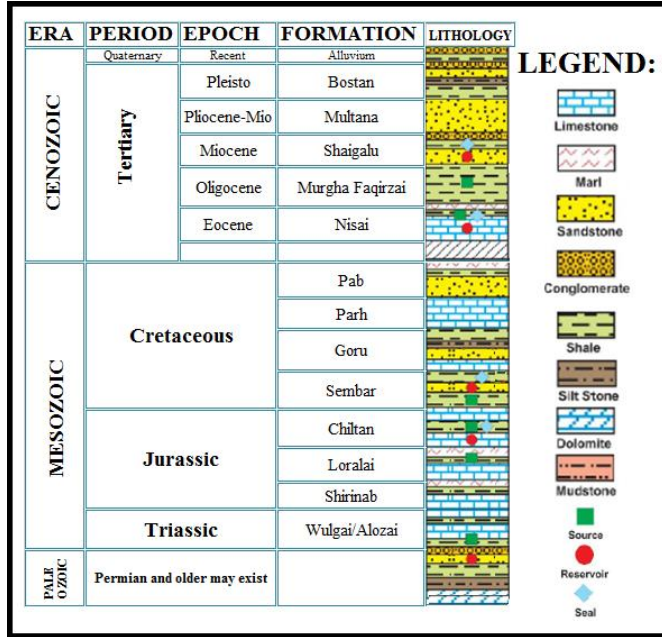
### Geology and Tectonics

The Pishin Basin is also known as the Kakar Khorasan Flysch Basin (Kazmi and Jan, 1997). The basin occupies the NW corner of the Indo-Pakistani Plate since Eocene epoch but now lies on the eastern and northeastern edge of Chaman Transform Fault and on northern side of Zhob Ophiolite and Thrust Belt. To the south and east it is bounded by the Zhob and Shinghar Chukhan Manda Faults respectively. It is terminated by the Chaman Transform Fault in the west. It is sandwiched between two major tectonic features

### Stratigraphic Sequence

In the block area, rocks from Recent to Jurassic age are exposed. The majority of the sedimentary sequence is dominated by younger (Post-Eocene) flysch like the stratigraphic units of the Balochistan Basin which shows that the basin is very immature.

## Generalized Stratigraphic Chart



### Petroleum Play

The risk factors are attached to the development of source, reservoir and traps in this area because the block is located in a geological frontier area having very little direct information.

#### Source

Nisai Formation (Eocene) in Kakar Khurasan basin has shown low to fair TOC values in surface samples, which can be presumed possessing better quality in unweathered conditions at depths. Moreover, the sediments of Jurassic age may also play an important role in the generation of hydrocarbon. The Triassic sediments exposed in the Axial Belt contain significant carbonaceous shales.

#### Reservoir

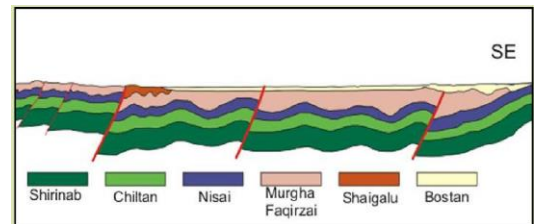
The sandstone of Nisai Formation which is medium to coarse grained, with pebbles at places can be considered the potential reservoir rock. The limestone horizons of Nisai Formation though apparently seem very tight, but may have secondary porosity at the crestal highs. The carbonates of Chiltan Formation could also be considered potential reservoir rock in the area as proven in the well Zirghun south#01 near Quetta.

### Seal

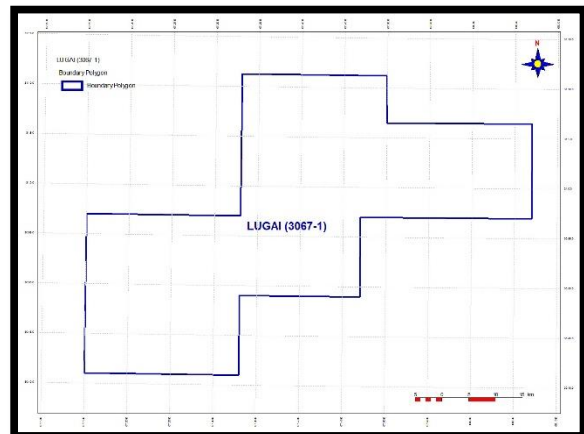
The shale intervals within the prospective horizons of “Nisai Formation” of Eocene age can act as seal. The shale beds of Murgha Faqir Zai Formation overlying the Nisai Formation might provide a regional seal for Eocene reservoirs. The shale intervals above the prospective horizons of Chiltan Formation of Jurassic age can act as seal.

### Trap

Kakar Khurasan basin is mostly imbricated with some high angle folds and numerous faults. The thrust anticlinal type of trapping mechanism is present in the area.



### Lugai Block Base Map



### Well Data

Wells are not drilled in this block.

### Seismic Data

2D SEISMIC DATA	3D SEISMIC DATA
2D data is not available	3D data is not available