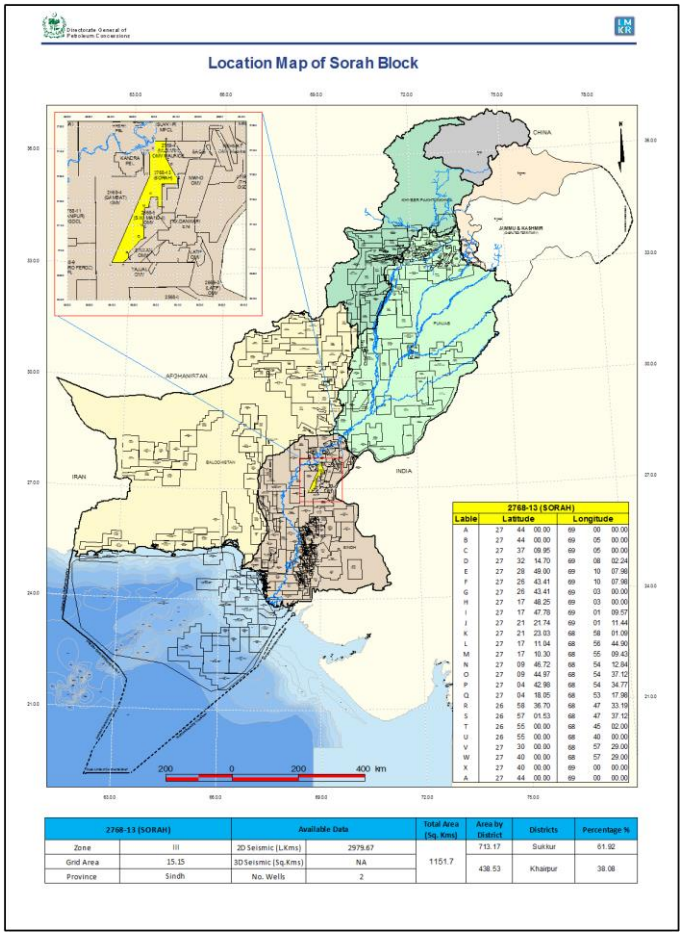
SORAH BLOCK (2768-13)

Introduction

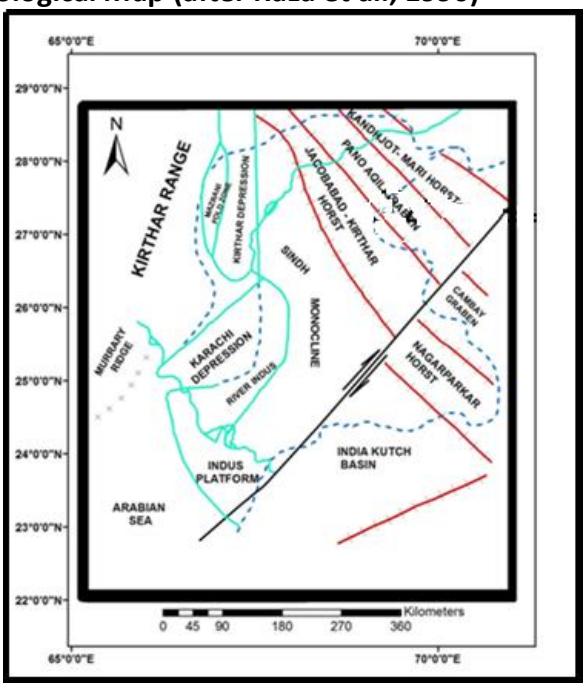
Sorah Block covers an area of 1151.7 sq km and is located in Sukkur and Khairpur districts of Sindh Province of Pakistan. Geologically, it lies in the Central Indus Platform Basin of Pakistan. The block falls in Prospectivity Zone III.



Geology and Tectonics

The block is located in Central Indus Basin. This block begins to close during the deposition of Ghazij shale, Khan et al., (1999). The systems of deltaic deposition reflect the closing of this basin which penetrates from the north-west side into the basin. The closing remains persistent during the deposition of the Kirthar Formation until the beginning of plate collision in the Late Eocene times. The Paleo-coast lines trimmed the foreland depocenter situated in the east, north, and west during Eocene. These Paleo-coast lines traveled in the direction of the south as the Siwaliks, the Nari Formation, and the Gaj Formation filled the continental material into the basin with the passage of time. The transgression of basin margin is controlled by different stratigraphic events in the eastern part of basin.

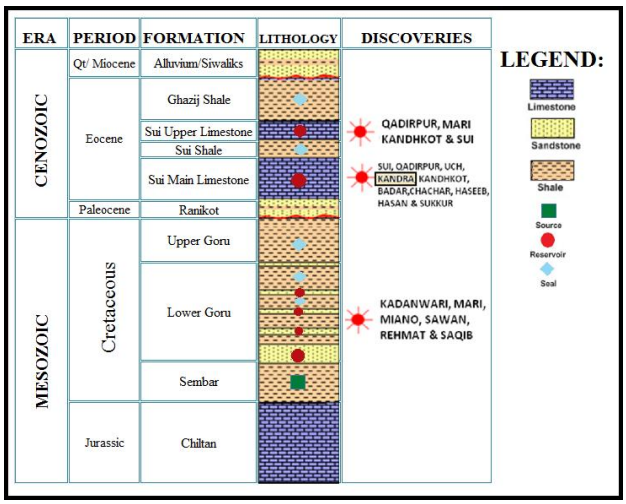
Geological Map (after Raza et al., 1990)



Stratigraphic Sequence

The stratigraphy in the block ranges from Pliocene to Jurassic strata. The major unconformities are present at Base Pliocene and Base Paleocene levels.

Generalized Stratigraphic Chart



Petroleum Play

The source rocks having good to very good potential with appropriate maturity levels to generate hydrocarbons are present in the area. In Paleocene and Eocene formations good potential reservoirs are present. Effective seals along with structural as well as stratigraphic traps exist in the area.

Source

The established source rock in the Central Indus Basin is the Sembar Formation (Early Cretaceous). The Sembar Formation holds prosperous source rocks for a gas generation as these source rocks have attained the desired maturity (Quadri and Shuaib, 1986).

Reservoir

The most proved reservoirs in this region are sandstones of the lower part of the Lower Goru Formation (Cretaceous), the Ranikot Formation sandstones (Paleocene), and Sui Main Limestone (Eocene) (Iqbal et al., 2011).

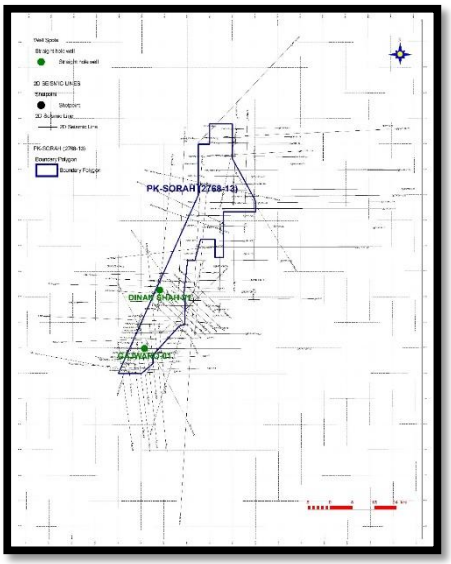
Seal

The known seals present in the system are shales. These shales have beds of sand covering the reservoirs. In producing fields, the thin shale beds are considered as effective seals (Iqbal et al., 2011).

Trap

Both structural and stratigraphical traps are present in the area. The normal faults blocks and negative flower structures along with stratigraphical traps offer significant trapping system. The extensional regime exist in this area which give rise to Horst and Graben's structures. The prospect of sand lenses stratigraphic traps cannot be ruled out. The effective trapping mechanism for the entrapment of hydrocarbons in the Lower Goru sand reservoirs is provided by the transgressive shales of the Ghazij Formation (Eocene), the Upper and Lower Goru Formation (Cretaceous) (Quadri and Shuaib, 1986).

Sorah Block Base Map



Well Data

WELL NAME	SPUD DATE	OPERATOR	WELL TD(m)	TD FORMATION	PRIMRY TARGET
DINAN SHAH-01	18/02/2008	OMV	1140	Sui Main Limestone	Sui Main Limestone
GAJWARO-01	08/01/1999	OMV	3598	Lower Goru "A"	Lower Goru Sands

Seismic Data

2D SEISMIC DATA	3D SEISMIC DATA
Line km = 2,979.67	3D data is not available