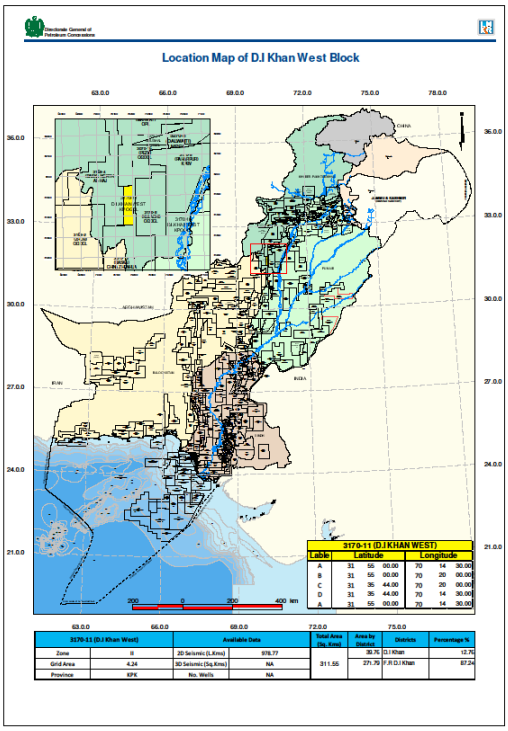
DIK WEST BLOCK (3170-11)

Introduction

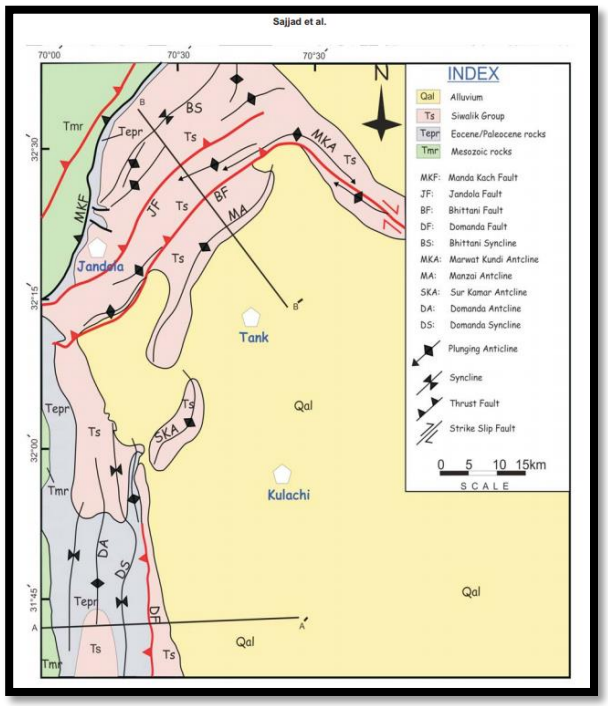
Spread over an area of about 300 Sq. km, within Dear Ismail Khan, the D. I. Khan West exploration block lies mostly in the District of Khyber Pakhtunkhwa province. Located about 300 km from Peshawar, the block falls in the Kohat-Bannu basin and is surrounded by successful discoveries such as Savi Ragha, Makora and Mamikhel, making it a great prospect. D.I. Khan West Block falls in productivity Zone-II.



Geology and tectonics

The northern Sulaiman ranges are integral part of the Himalayan foreland fold-thrust belt that surrounds the northwestern apex of Tank Reentrant of the North Western Frontier Province (NWFP), Pakistan. Despite several significant oil and gas discoveries in the southern and northwestern segments of the Himalayan foreland fold-thrust belt, Bhittani and northern Sulaiman ranges are still challenging frontiers for petroleum explorationists. The discovery of Savi Ragha within the Sulaiman Range has clearly established a working hydrocarbon system i.e. optimum timing of hydrocarbon generation, migration and entrapment.

Faulting in the region constitutes of simple and translational faults which also contribute in the creation of traps in the region. Additionally, anticlines are also a prominent part of the region and are contribute towards the trapping of hydrocarbons in the subsurface. (Sajjad et al. 2006)



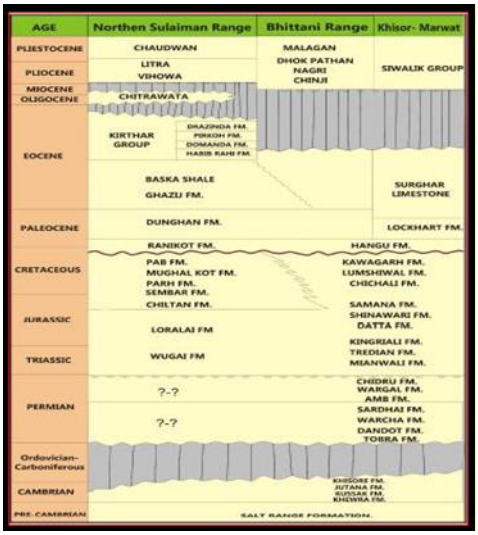
Stratigraphic sequence

The stratigraphic sequence constitutes an important petroleum system, including multiple source, reservoir and sealing horizons. Prerequisites for hydrocarbons generation and accumulation such as reservoir and source rocks are present throughout the Bhittani and Northern Sulaiman ranges along with thick shale providing sealing horizons to prevent the escape

of oil and gas, at various levels. Jurassic to Paleocene succession of the Bhittani and Sulaiman ranges comprises thick sequences of carbonates, claystone and mixed carbonate siliciclastic rocks representing a wide variety of shallow marine to deltaic environments of deposition. (Sajjad et al. 2006)

Generalized stratigraphic chart

(Courtesy KPOGCL)



Petroleum geology

The petroleum system is high impedance, characterized by multiple reservoirs and sealing horizons that are likely to be charged by multiple source rocks. The recent discoveries have proved the maturity, migration and entrapment of the hydrocarbons in the region and demands reappraisal as for as the complex structural evolution of the Himalayan fold-thrust belt, Bannu depression and the D. I. Khan Basin is concerned.

Source rock

Sembar (Cretaceous), Drazinda (Eocene) and Goru Formations (Cretaceous) make up the potential candidates of source rocks in the area.

Reservoirs

The reservoirs contributing to the production in the region include Chiltan (Jurassic), Pab, Mughalkot, Parh (Cretaceous) and Ranikot (Paleocene). In addition Habib Rahi (Eocene), Dunghan (Paleocene), Pirkoh (Eocene) are also considered essential regional reservoirs in the region.

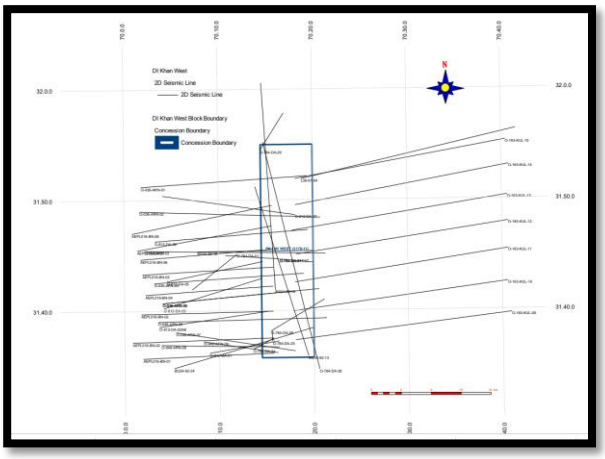
Seal

The regional seals in the area include formations like Pab (Cretaceous), Ghazij formation (Eocene), Drazinda (Eocene) and Sirki formations (Eocene). Some formations like the Ghazij formation date back to Eocene.

Traps

Considering the structural and stratigraphic aspect of the Bhittani and Northern Sulaiman ranges, it is believed that potential anticlinal culminations of en-echelon nature are present. Stratigraphic features like pinch-outs and drape features contribute towards trapping of the hydrocarbons in the region. In addition, rifting aging back to the Proterozoic eon is also a major source of traps in the area. (Sajjad et al. 2006)

DIK West Block Base Map



Well Data

Well Data is not available.

Seismic Data

2D SEISMIC DATA	3D SEISMIC DATA
Line Km = 978.7652	3D data is not available