



Smart Solutions for Today's Geoscientist

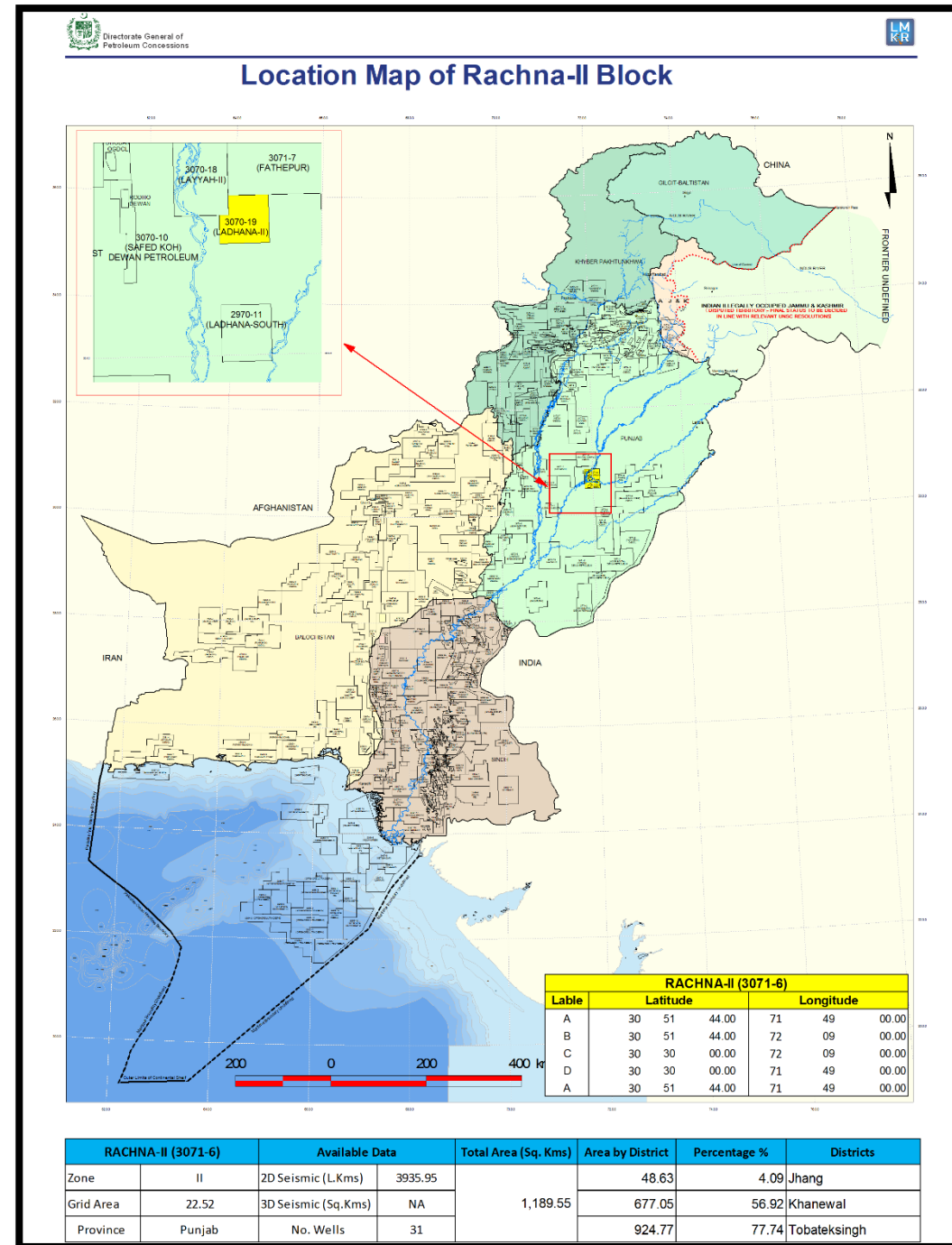


BLOCK: RACHNA-II (3071-6)

DGPC BLOCK BIDDING ROUND 2023

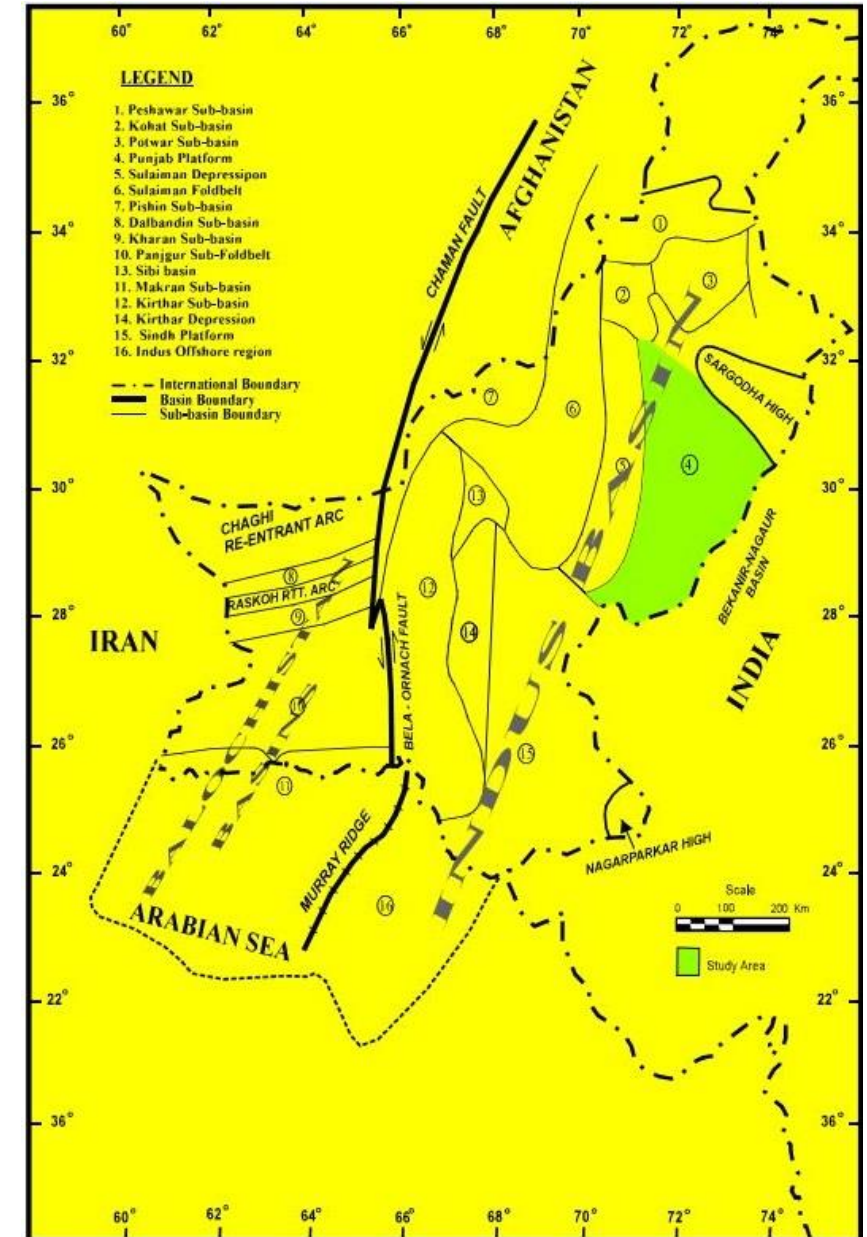
Introduction

- Rachna-II Block covers an area of 1189.55 sq.km
- Location: Jhang, Khanewal and Tobateksingh district, Punjab, Pakistan
- Geological Basin: Middle Indus, Basin Pakistan
- The block falls in Prospectivity Zone II
- Known petroleum volumes of the Indus Basin*:
 - Oil: 200 million barrels
 - Gas: 19.6 trillion cubic feet
- OGDCL, Amoco and Shell acquired some 2D data approximately 3935.95 L.Kms in the block within the years 1973, 1978, 1980, 1983, 1984, 1985, 1986, 1987, 2004, 2005, 2006, 2007, 2008, 2009, 2011 and 2012
- The Block is surrounded by Multan North (North) and Punjab and Shakar Ganj west (East).
- The wells drilled in the near vicinity is Bagh X-01, Multan North-01, Sohniwala-01 and Zakria 01.



Geological Map

- The Punjab Platform is a westward dipping monocline covered by alluvium and is situated at the eastern segment of the central portion of Indus Basin, Pakistan.
- It is bounded by Sargodha high in the north, Mari High in the south and merges into Sulaiman depression in the west, towards east it extends into Bikaner-Nagaur Basin of India.
- The rifting of Indian Plate as part of Gondwanaland super-continent started in Late Proterozoic time, which resulted in the deposition of Infra-Cambrian sediments over the Pre-Cambrian basement. The rift associated faults are visible on seismic profile of Bikaner-Nagaur basin and Punjab Platform.
- Whereas in Punjab Platform the normal faults show minor displacement. After a long hiatus of about 250m.y Gondwanaland was once again subjected to rifting during Permo-Triassic time.



Petroleum System

■ Source Rocks:

1. Carbonates of Bilara (Probable source) and oil shales of Salt Range (Potential source)
2. Shales of Amb Formation
3. Shales of Datta and Samanasuk formations
4. Shales of Chichali and carbonates of Parh and Mughalkot formations
5. Shales of Ranikot and Dungan Formations

■ Reservoir Rocks:

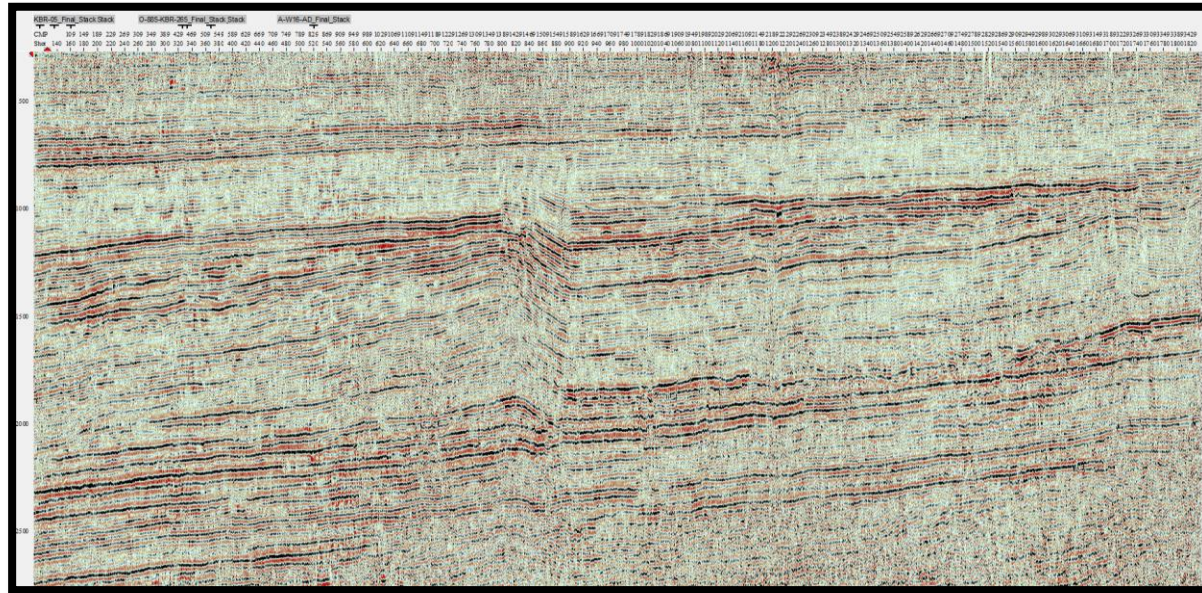
1. Jodhpur and Salt Range: Marginal to very good porosities
2. Khewra, Kussak and Baghanwala Formation: Marginal to very good porosities (Avg 5% - >20%)
3. Warcha and Amb Formations: Marginal to very good porosities(Avg 10% - > 30%)
4. Datta, Shinawari, Samanasuk/Chiltan Formations: Marginal to very good porosities (Avg 5% - >20%)
5. Lumshiwal / Lower Goru Formation: Very good porosities (Avg. >20%)
6. Sandstones of Ranikot / Hangu Formations: Very good porosities (Avg. >20%)
7. Laki, Sakesar and Chorgali Formations: Marginal to very good porosities (Avg 5% - >20%)

■ Seal

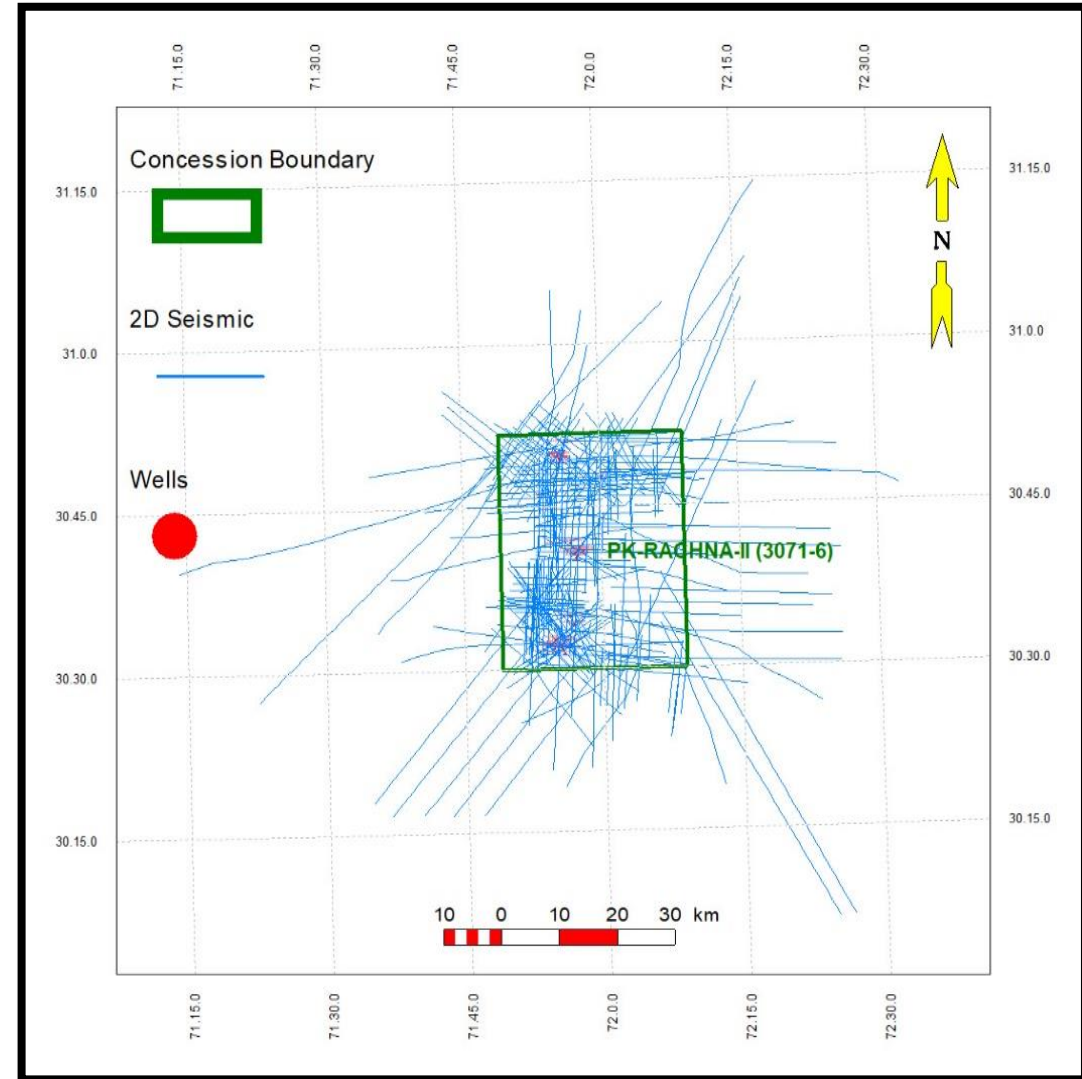
1. The Infracambrian evaporites
2. Carbonate/clastics sequences halite (salt)

Age	Formation	Thickness (m)	Lithology	Description	Source	Reservoir	Seal	Overburden	Trap	Generation Migration Accumulation	Preservation
MIOCENE-PLIOCENE	Alluvium	39									
	Siwalik	430		Sandstone Shale Siltstone							
Eocene	Habib Rahi	49		Limestone							
	Ghazij	250		Sandstone Shale Limestone							
CRETACEOUS	Ranikot	30		Sandstone Shale							
	Goru	900		Sandstone Shale Limestone Marl							
	Sember	150									
	Chiltan / Samanasuk	300		Shale Limestone Marl							
	Shinawari	200		Shale Limestone Marl							
PERMIAN	Warcha/ Dandot	110		Shale Conglomerates							
	Tobra	60		Sandstone Shale							
CAMBRIAN	Baghanwala	120		Sandstone Shale Silt							
	Jutana	70		Dolomite Shale							
	Kussak	150		Sandstone Shale Dolomite							
	Khewra	150		Sandstone Shale Dolomite							
INFRA-CAMBRIAN	Salt Range	210		Shale Sandstone Dolomite Salt							
	Basement										

Prospectivity



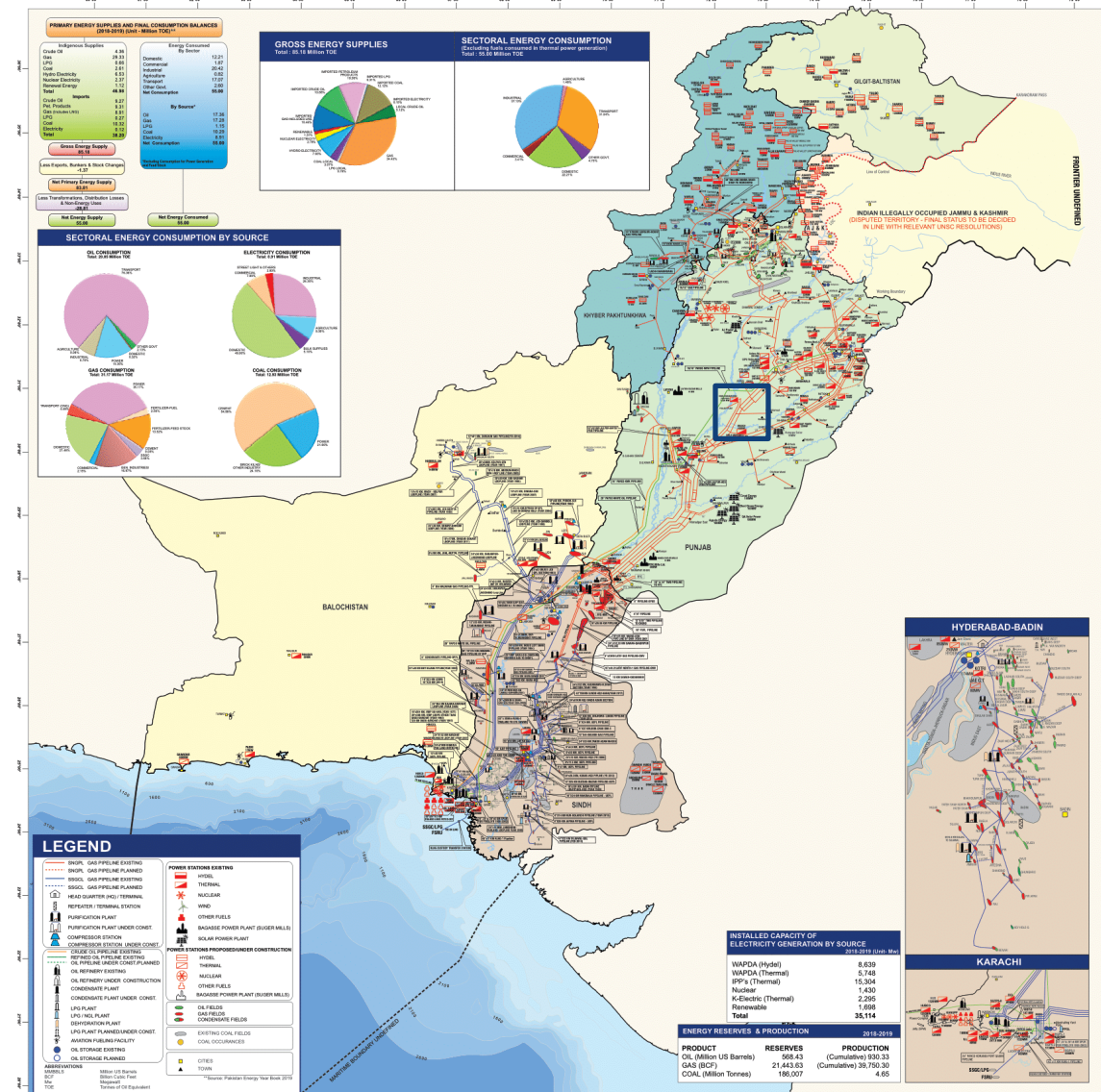
- Due to varied geodynamic conditions of, rifting, drifting, collision and under thrusting of the Indian Plate through geologic time, variable structural patterns have been developed in Punjab Platform which include traps associated with normal faults, salt-pushed structures and stratigraphic traps.
- High resolution seismic data can allow to delineate true potential of the block.



Infrastructure Map

- Government support to companies for infrastructure development
- Thermal power stations exist near the block.

Energy Infrastructure Map - 2020



Investment Benefits

- High risk, high reward
- Largest gas discovery in the geographic province
- Low cost on infrastructure development within limited timeframe
- Return on Investment within 3 years
- Attractive government policies for foreign investors
- Excellent purchase rate set by the Government against the discovered commodity
- Government will guarantee to buy the gas or oil discovered
- Attractive price in case of tight gas discovery.

Block Summary

Item	Indicators
Probable multiple sources in the region	Positive Indicator
Discoveries in Geographical Province	Positive Indicator
Nearby Infrastructure	Positive Indicator
ROI in 3 Years	Positive Indicator

THANK YOU
