



Smart Solutions for Today's Geoscientist



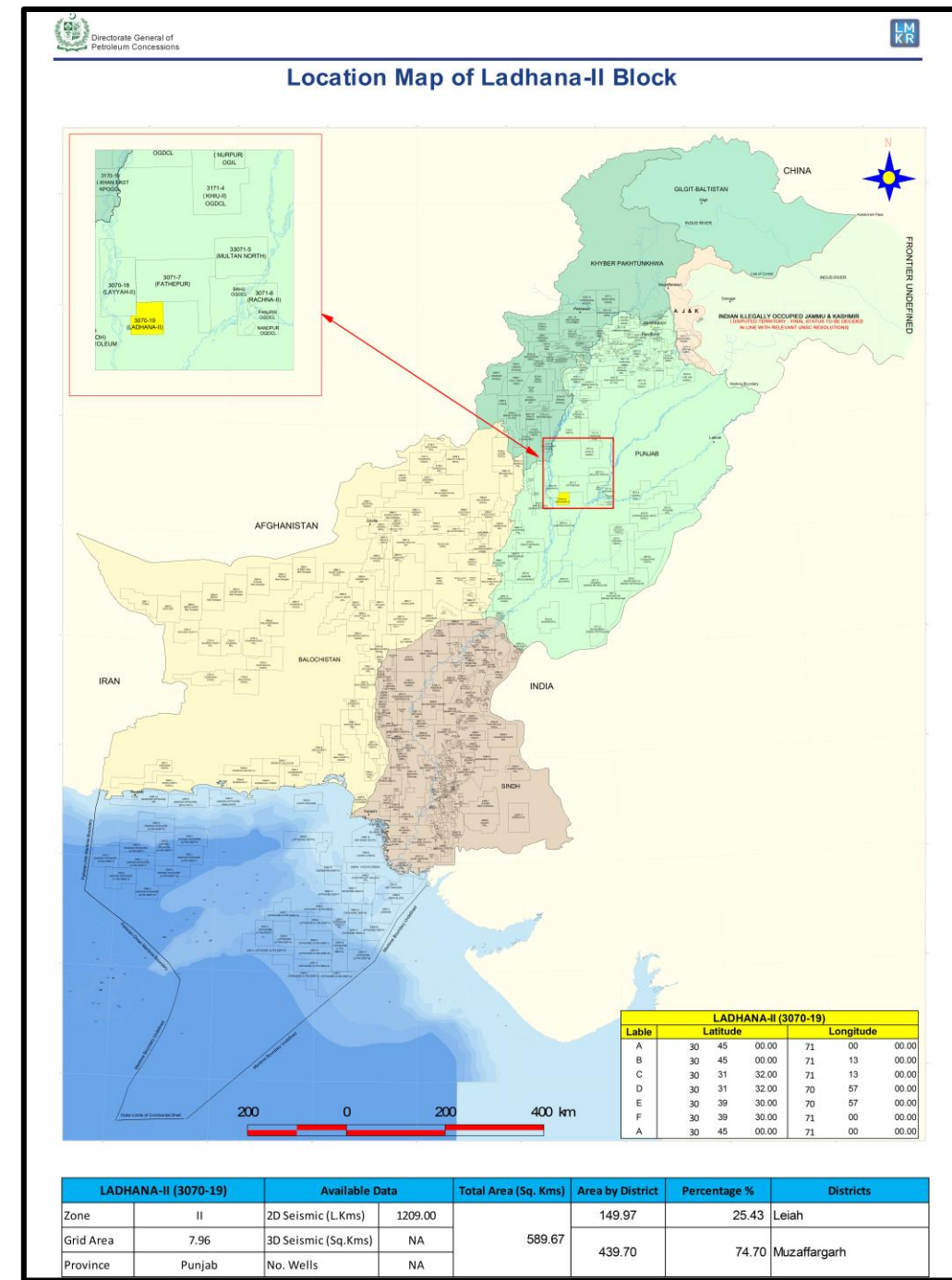
# BLOCK: LADHANA-II (3070-19)

ONSHORE BLOCK BIDDING ROUND 2025

MINISTRY OF ENERGY PETROLEUM DIVISION (DGPC)

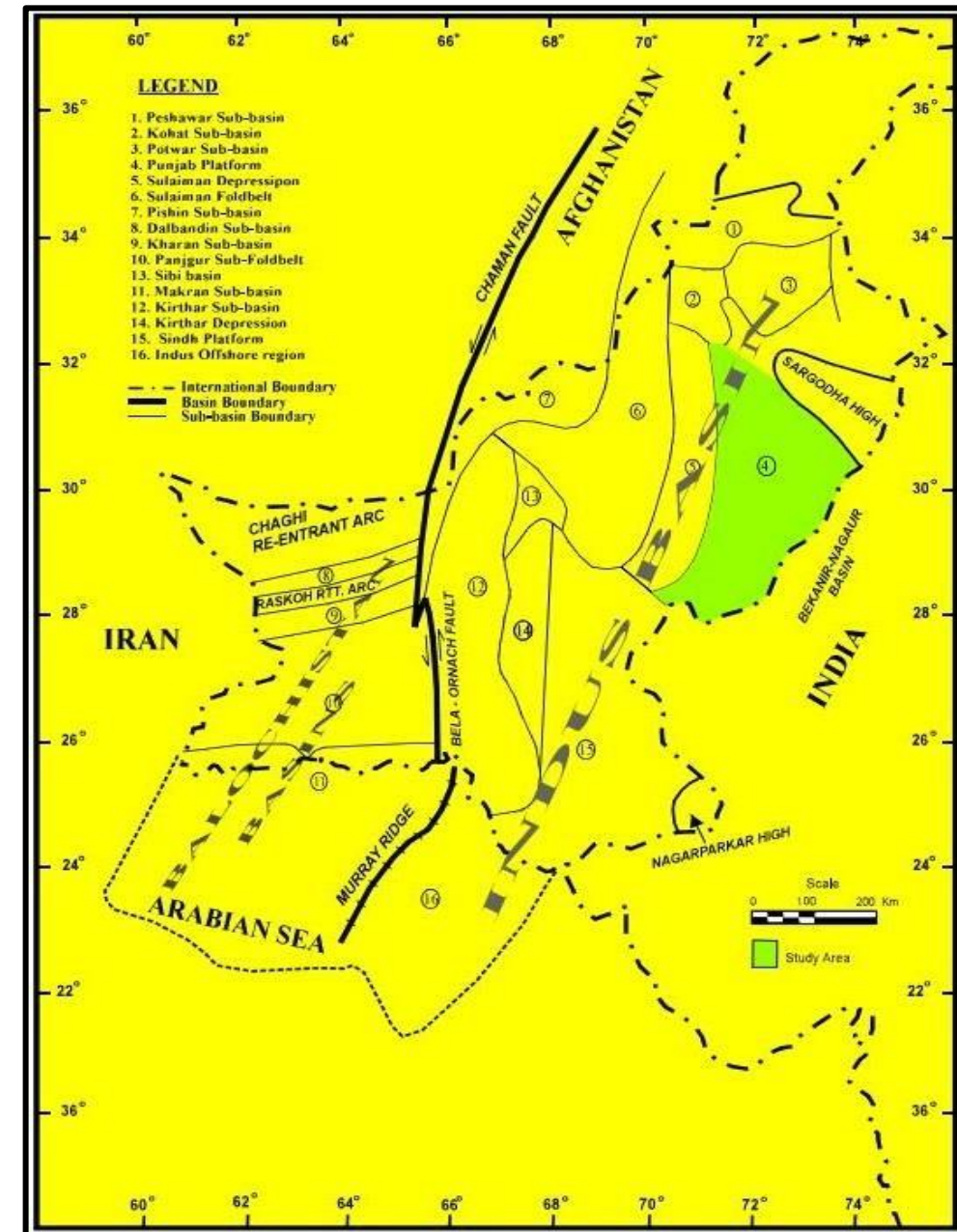
# Introduction

- Ladhana-II Block covers an area of 589.67 Sq. Kms.
- Location: Lies in Muzaffargarh and Leiah districts, Punjab, Pakistan.
- Geological Basin: Punjab Platform, Pakistan.
- The block falls in Prospectivity Zone II.
- Estimated Resources of the Central Indus Basin:
  - Oil: 2880 million barrels
  - Gas: 69.12 trillion cubic feet
- AMOCO and OGDCL acquired some 2D data approximately 1209 L. Kms in the block within the years 1973, 1983, 2014 and 2015.
- The Block is surrounded by Fatehpur and (North), Ladhana-South (South), Rachna-II (East) and Layyah-II (North-West) blocks.



# 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 250 m.y Gondwanaland was once again subjected to rifting during Permo-Triassic time.



# Petroleum System

## Source Rocks:

- Sembar Formation (Cretaceous) and Intra-Formational Shale units are the source rocks in the area.

## Reservoirs:

- Pirkoh (Late Eocene), Habib Rahi (Middle Eocene) , Sui main Limestone (Eocene), Dunghan (Paleocene) and first three sand intervals of Lower Goru Formation (Early Cretaceous) are reservoirs of the area.

## Seal:

- Upper Goru Formation (Cretaceous), Ghazij Shale (Eocene) along with Sirki Shale (Eocene) acts as a seal.

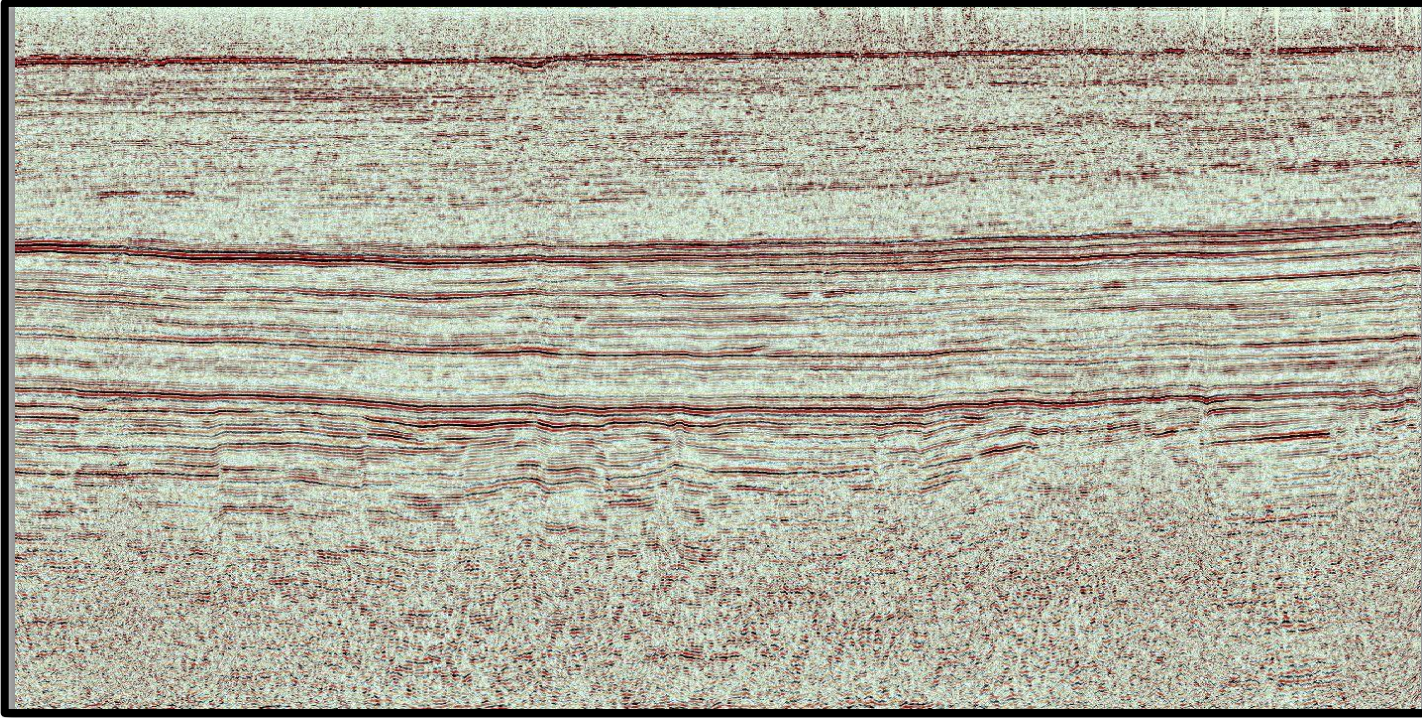
## Trap:

- Both structural and stratigraphic traps are present.

AGE	STRATIGRAPHY		LITHOLOGY	RESERVOIR POTENTIAL			OIL / GAS SHOWS	FIELDS
				SOURCE	CAPROCK	RESERVOIR		
RECENT / PLIOCENE	ALLUVIUM / SIWALIKS							
E O C E N E	KIRTHAR FM.	DRAZINDA MB.		C				
		PIRKOH MB.			R			
		SIRKI MB.		C				
		HABIB RAHI MB.			R	*		Mari
	LAKI FM.	GHAZIJ MB.		C				
		SUI MAIN LST. MB.			R	*		Kandhkot, Sui Qadirpur, Pirkoh
P A L E O C E N E	DUNGHAN FM.			C	R	*		Zarghun
	RANIKOT FM.			C			*	Pirkoh
					R			
	PARH FM.							
U P P E R C R E T A C E O U S	G O R U F M .	UPPER GORU MB.						
		SHALE INTERVAL		S	C			
		"D" INTERVAL			C			
		"C" INTERVAL		S	C	R	*	Sawan, Mari Latif
		"B" INTERVAL		S	C	R	*	Miano, Rehmat, Kadanwari
		"A" INTERVAL				R	*	
L O W E R C R E T A C E O U S	SEMBAR			S				
J U R A S S I C	CHILTAN							



# Prospectivity



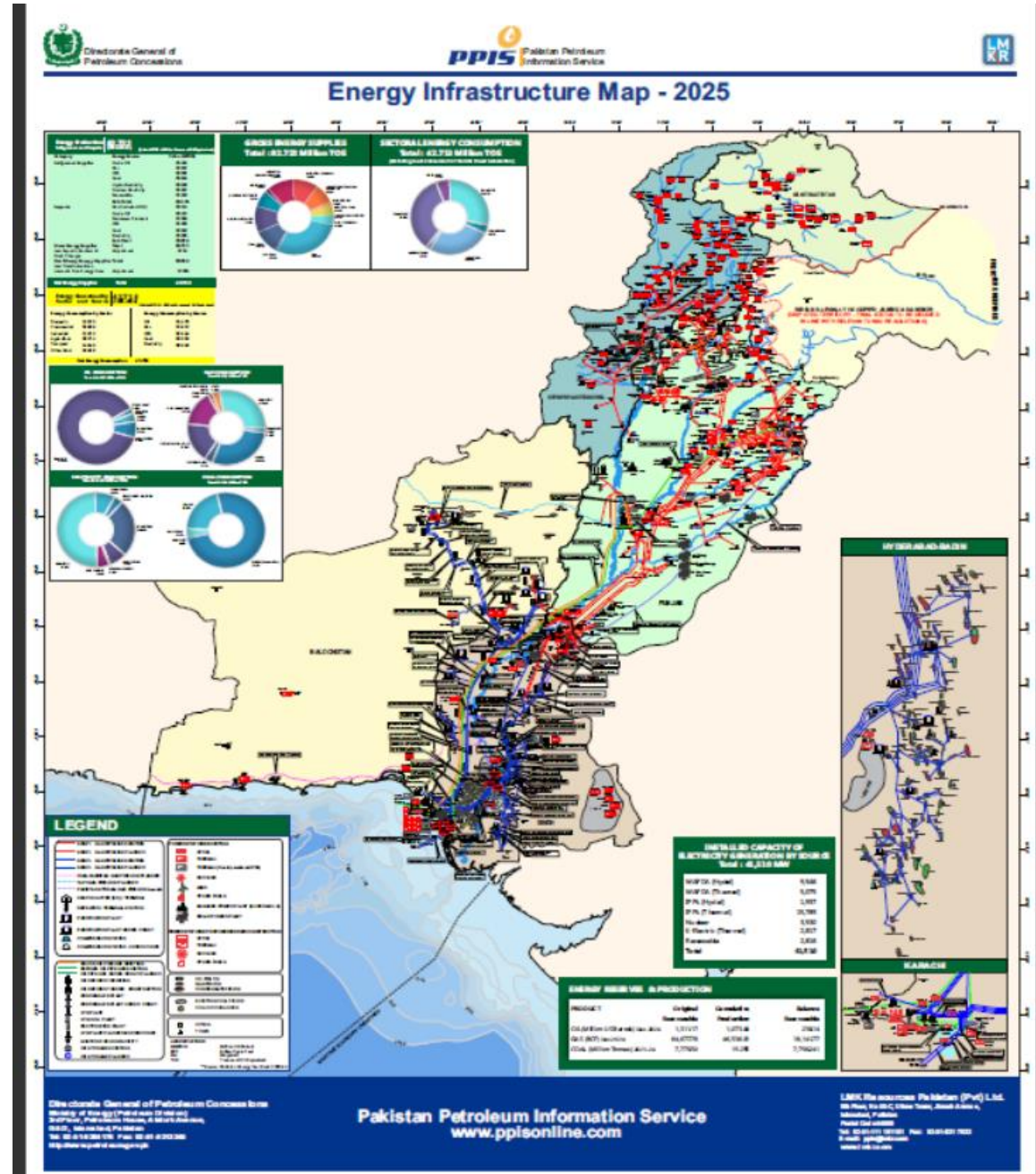
- The Proterozoic rifting caused normal faulting, that may offer traps for Infra-cambrian reservoirs.
- The truncation of Mesozoic and Late Paleozoic reservoirs below the Base Tertiary unconformity could provide a potential trapping mechanism.
- High resolution seismic data can allow to delineate true potential of the block.





# Infrastructure Map

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



# Investment Benefits

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- Low 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

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