



Smart Solutions for Today's Geoscientist



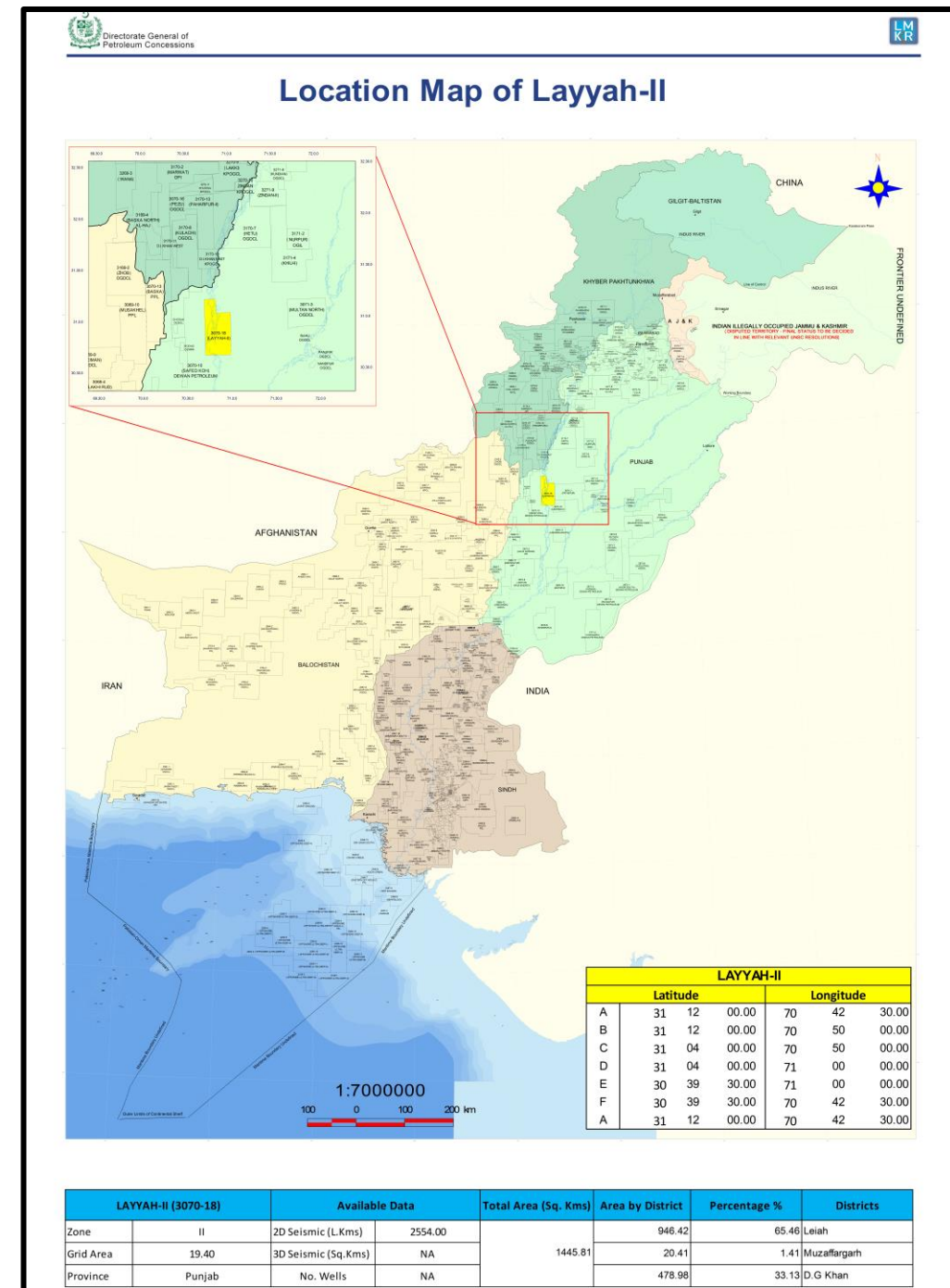
BLOCK: LAYYAH-II (3070-18)

ONSHORE BLOCK BIDDING ROUND 2025

MINISTRY OF ENERGY PETROLEUM DIVISION (DGPC)

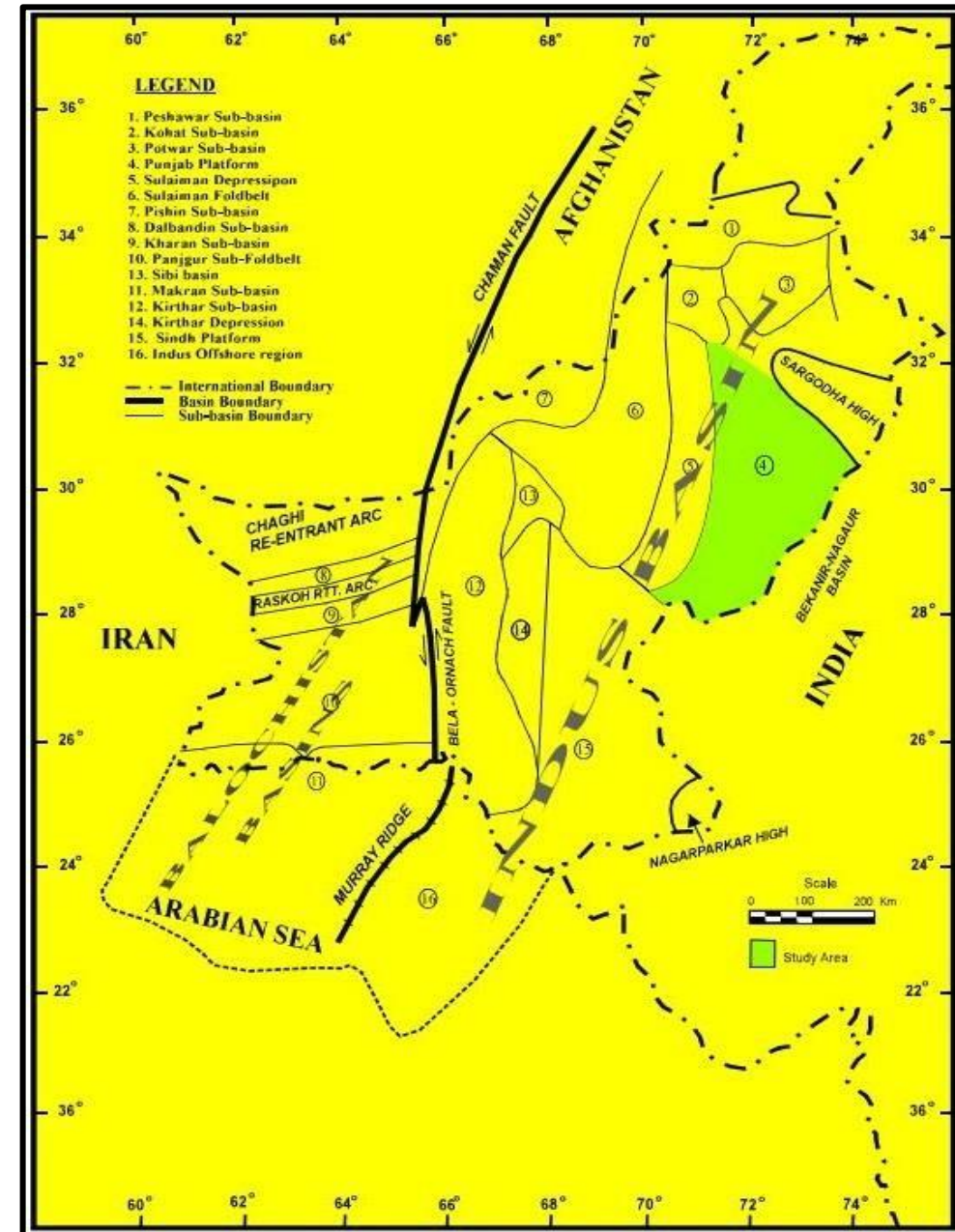
Introduction

- Layyah-II Block covers an area of 1445.81 Sq. Kms.
- Location: Leiah, Muzaffargarh and D.G Khan 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, OGDCL, UNOCAL and PPL acquired some 2D data approximately 2554.14 L. Kms in the block within the years 1973, 1983, 1994, 1995, 2012, 2014 and 2015.
- The Block is surrounded by D.I Khan East (North), Ladhana-II (South-East), Fathepur (East) and Dhodhak and RODHO (West) blocks.



Geological Map

- The basins of Potwar and Kohat Formation formed as a result of compressional tectonics over the leading edge of the salt range decollement.
- The slabs of rock (Kohat and Potwar) were uplifted over the continued thrusting of the decollement and extend towards the Main Boundary thrusts.
- The structures formed therein are mostly fault bounded and heavily thrust including reverse faults, duplex structures, compartmentalization and imbrication.
- Thick skinned tectonics are prevalent in these Basins, wherein a floor thrust is common from which various horse-splays of faults may arise.



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:

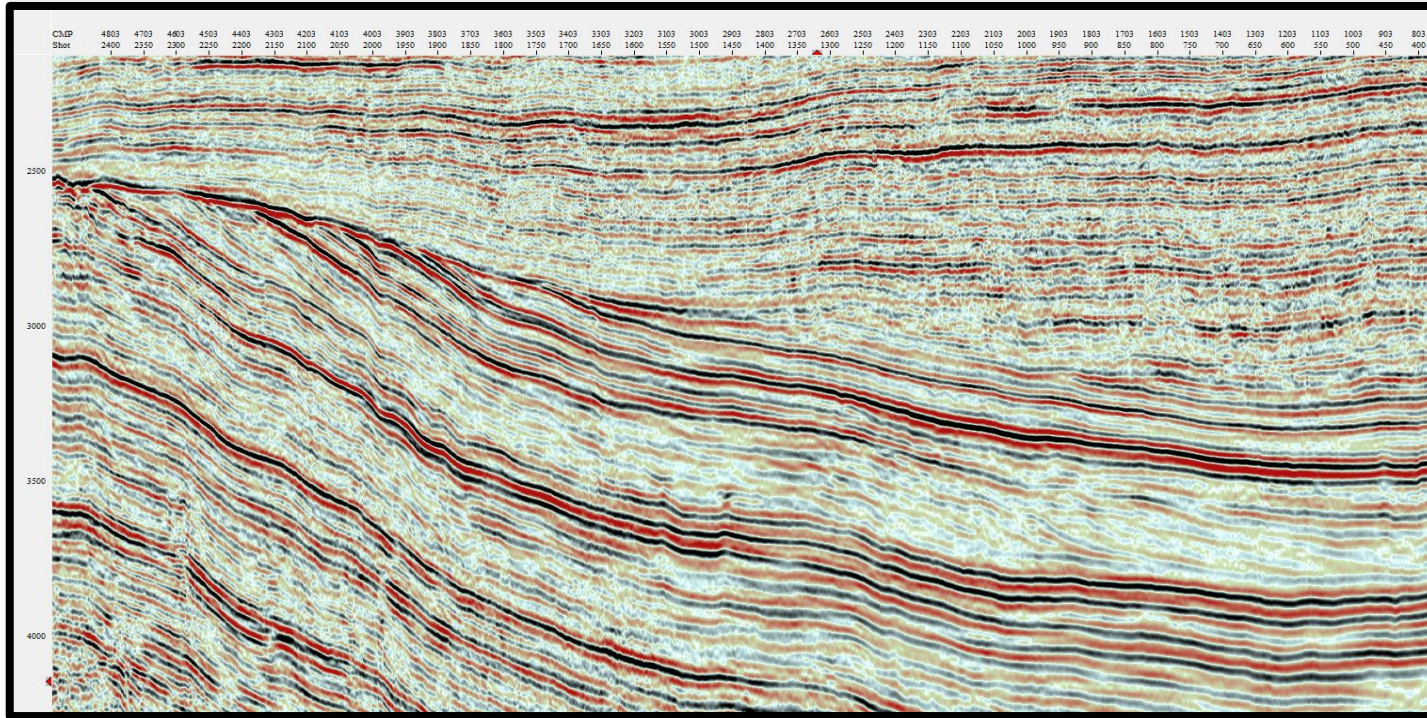
- Upper Goru Formation (Cretaceous), Ghazij Shale (Eocene) along with Sirki Shale (Eocene) acts as a seal.

Trap:

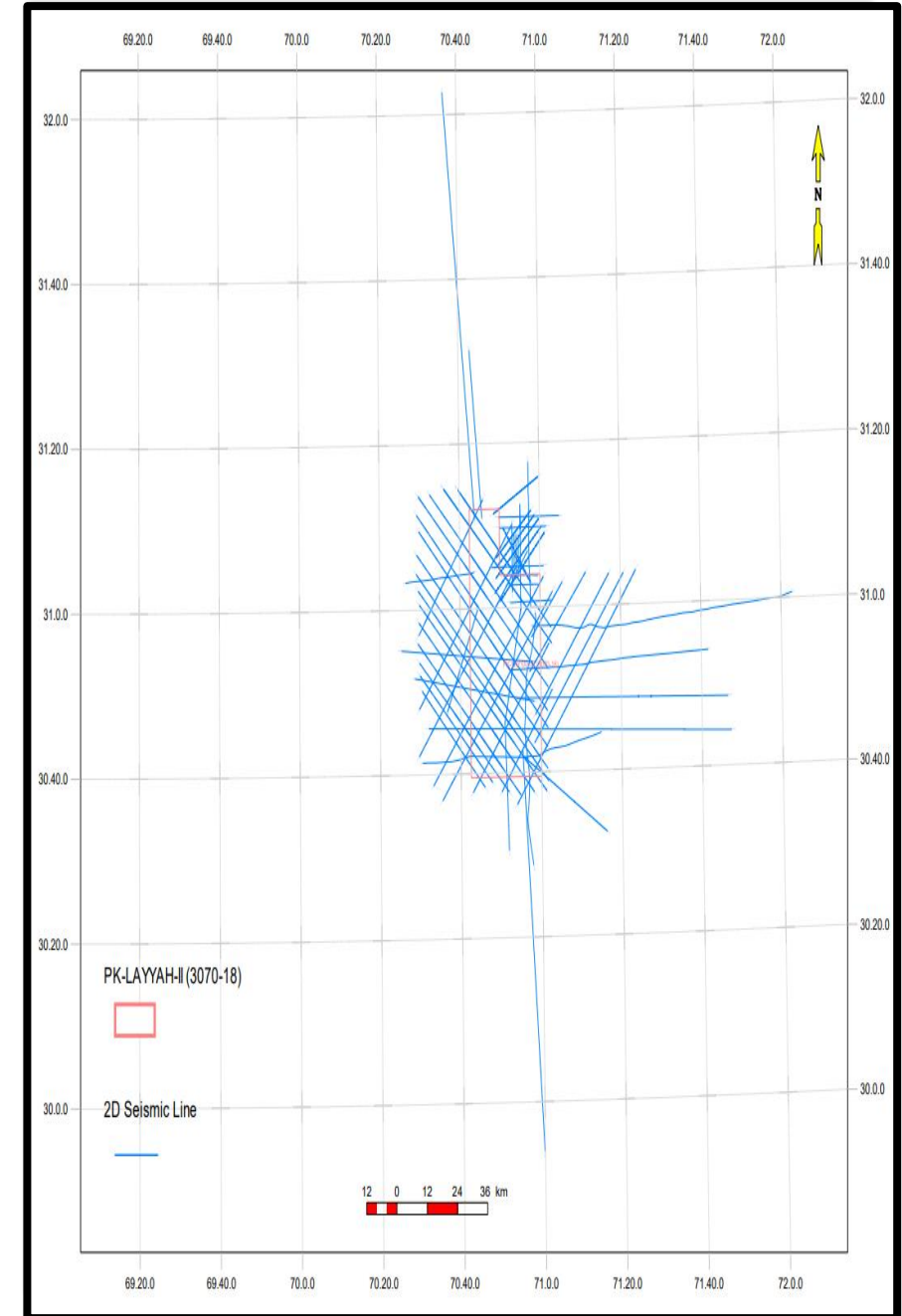
- Both structural and stratigraphic traps are present.

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	
	PARH FM.				R			
U P P E R C R E T A C E O U S	UPPER GORU MB.							
		SHALE INTERVAL	S	C				
	LOWER GORU MB.	"D" INTERVAL			C			
		"C" INTERVAL	S	C	R	*	Sawan, Mari Latif	
		"B" INTERVAL	S	C	R	*	Miano, Rehmat, Kadanwari	
		"A" INTERVAL			R	*		
LOWER CRETACEOUS	SEMBAR		S					
JURASSIC	CHILTAN							

Prospectivity

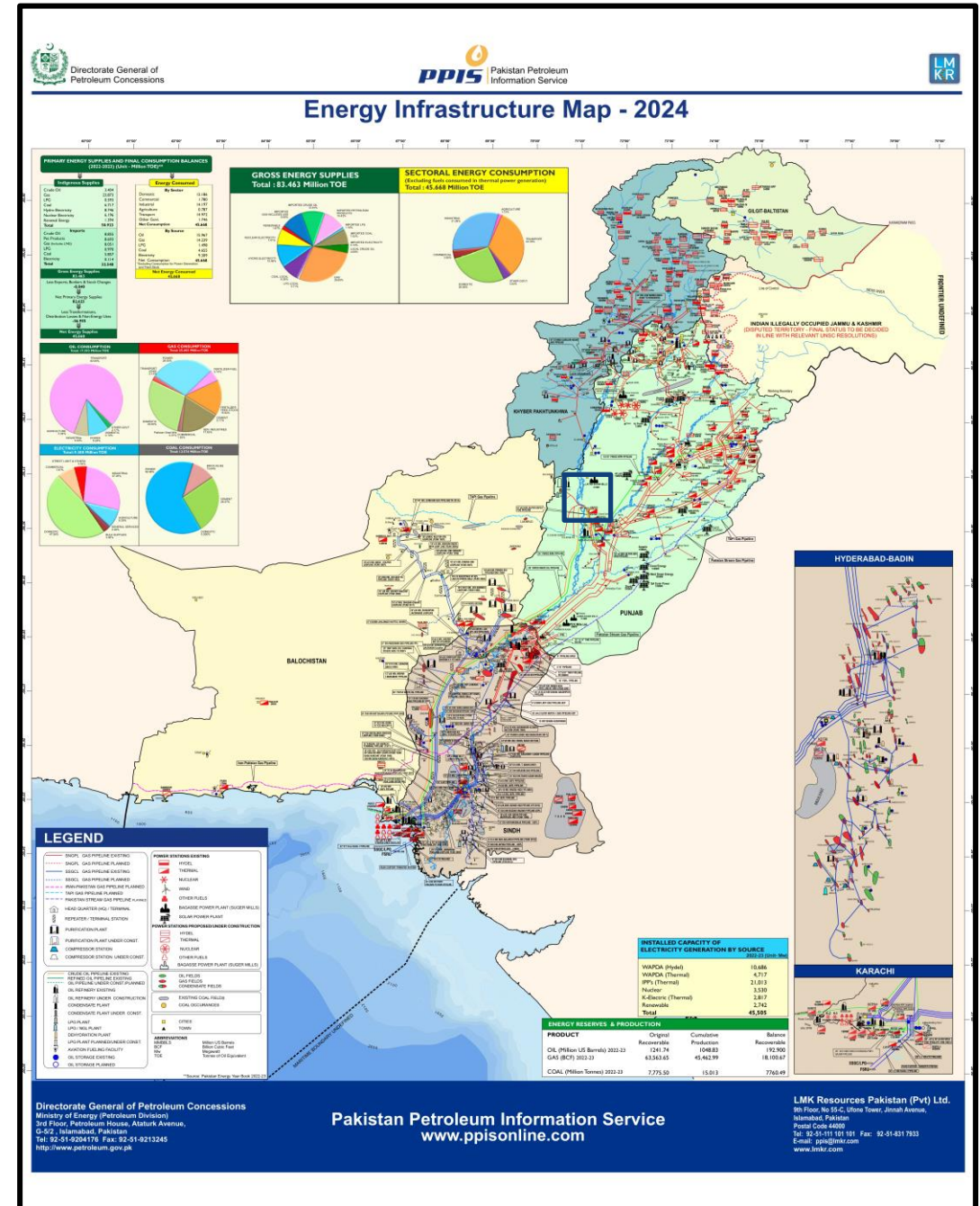


- The main trapping mechanism in this area is considered pinch outs traps with anticlinal structure.
- In recent past, nearby blocks have successful gas discoveries.
- High resolution seismic data can allow to delineate true potential of the block.



Infrastructure Map

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



Investment Benefits

- 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

