



Smart Solutions for Today's Geoscientist

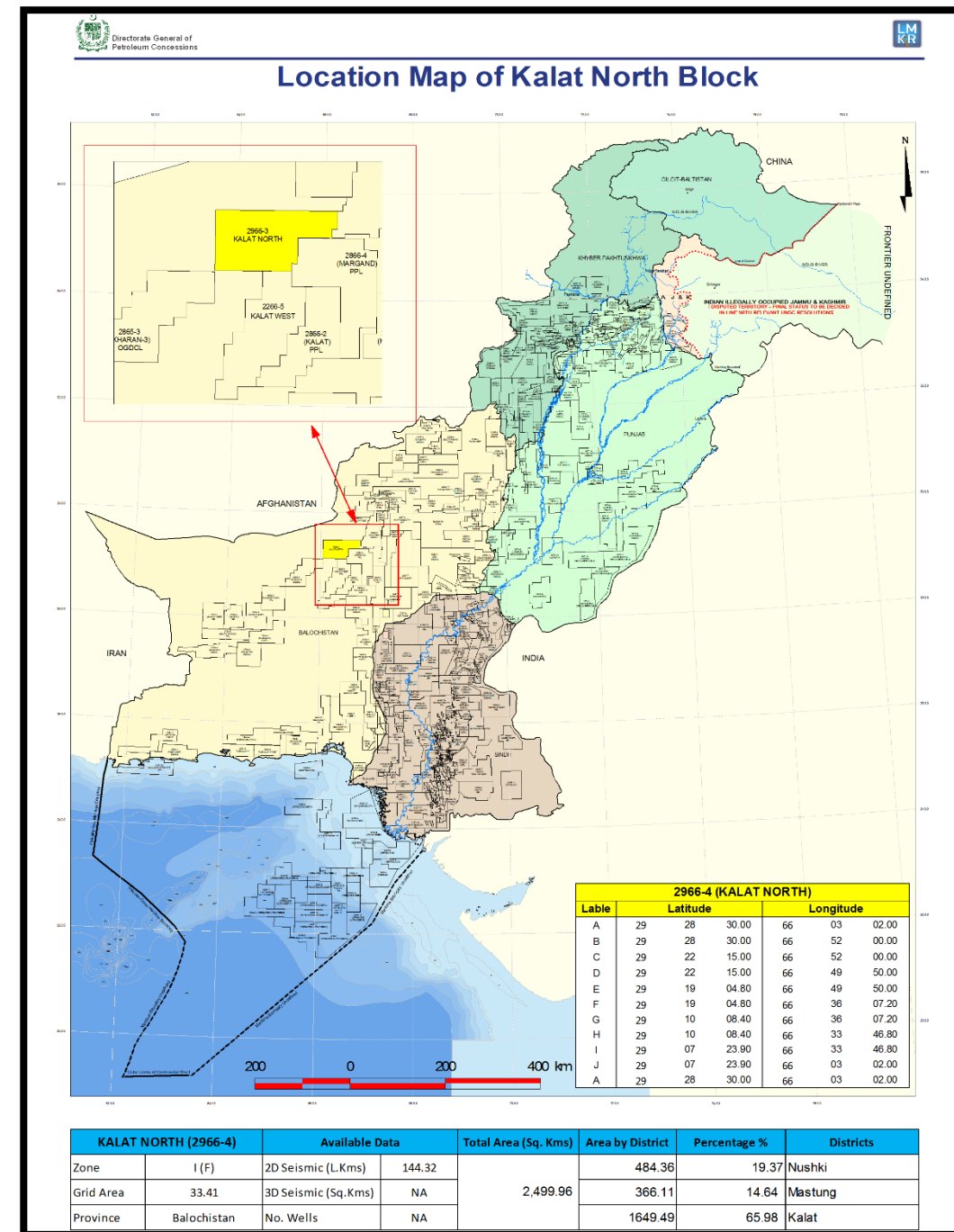


BLOCK: KALAT NORTH (2966-4)

DGPC BLOCK BIDDING ROUND 2023

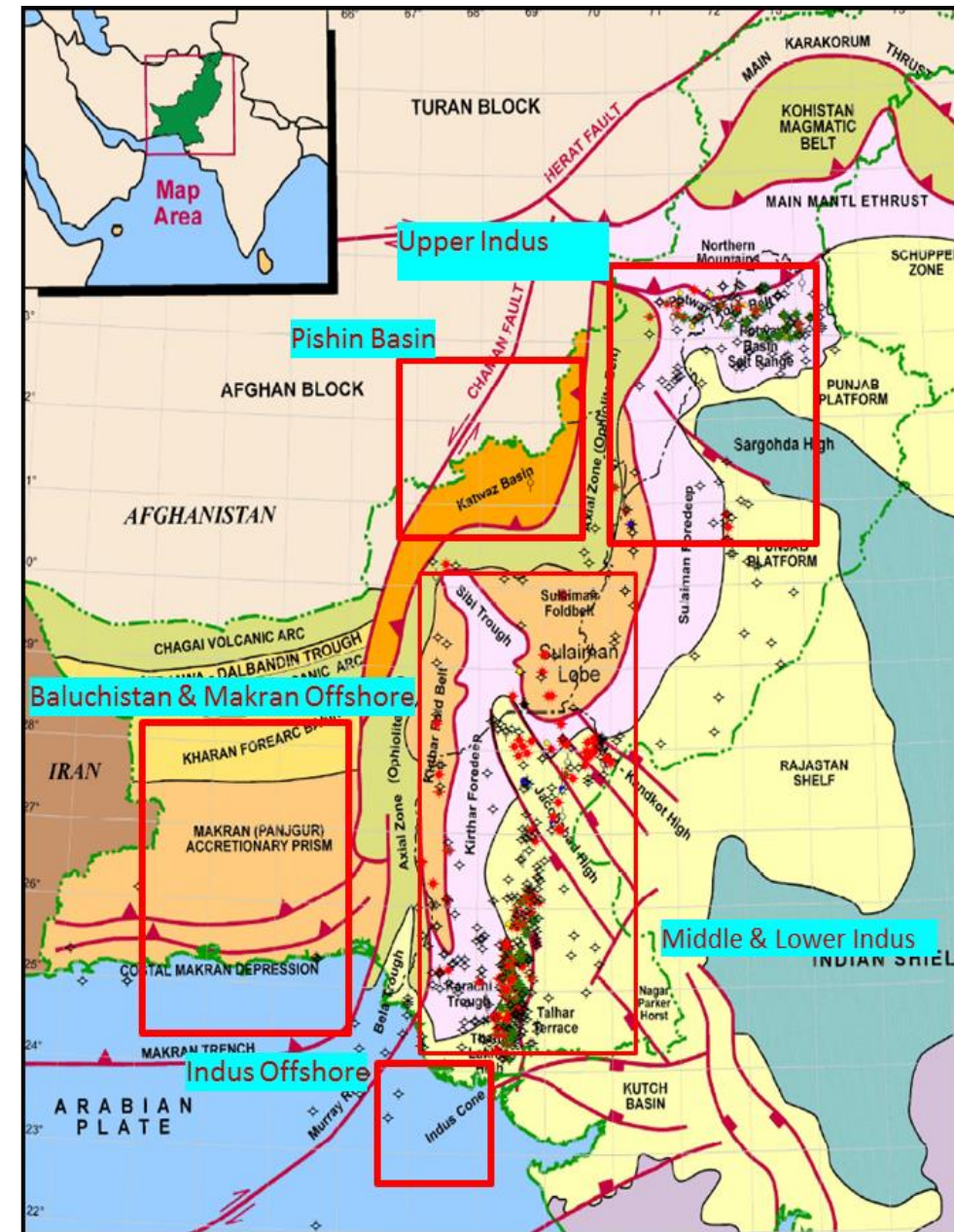
Introduction

- Kalat North Block covers an area of 2499.96 sq km
- Location: Nushki, Mastung and Kalat district, Balochistan, Pakistan
- Geological Basin: Balochistan, Basin Pakistan
- The block falls in Prospectivity Zone I(F)
- Estimated Resources of the Balochistan Basin*:
 - Oil: 8,676 million barrels
 - Gas: 78 trillion cubic feet
- PPL acquired some 2D data approximately 144.32 L.Kms in the block within the year 2009.
- The Block is surrounded by Zarghun West (North), Kalat West (South), Chal Bali (East) and Kuhan (West) blocks
- The wells drilled in the near vicinity is Kalat-X-01 and Morgandh-X-01



Geological Map

- Rocks have been deposited in varying sea level conditions, marine to continental environments, highlighting the dynamic tectonics having a strong impact on the sedimentation history.
- The Kalat Anticlinorium is composed mainly of thick to massive Jurassic limestone on NNE trending doubly plunging anticlinal hilly ranges.
- Kalat Plateau is located south of Kalat anticlinorium. It is apparently a large graben or depression filled with Eocene limestone. Numerous reverse and strike-slip faults can be observed. Khuzdar Knot, with an area of about 3000 sq km, is composed mainly of irregular shaped intensely deformed geological features.
- The area has been influenced by the tectonic events as a result of separation of the Indian Plate from the African Plate during the Jurassic and northward movement with anticlockwise rotation and collision with the Eurasian Plate in the north during Tertiary.
- Rifting formed horsts and grabens on the western margin of Indo-Pakistan Plate.



Petroleum System

■ Source rock:

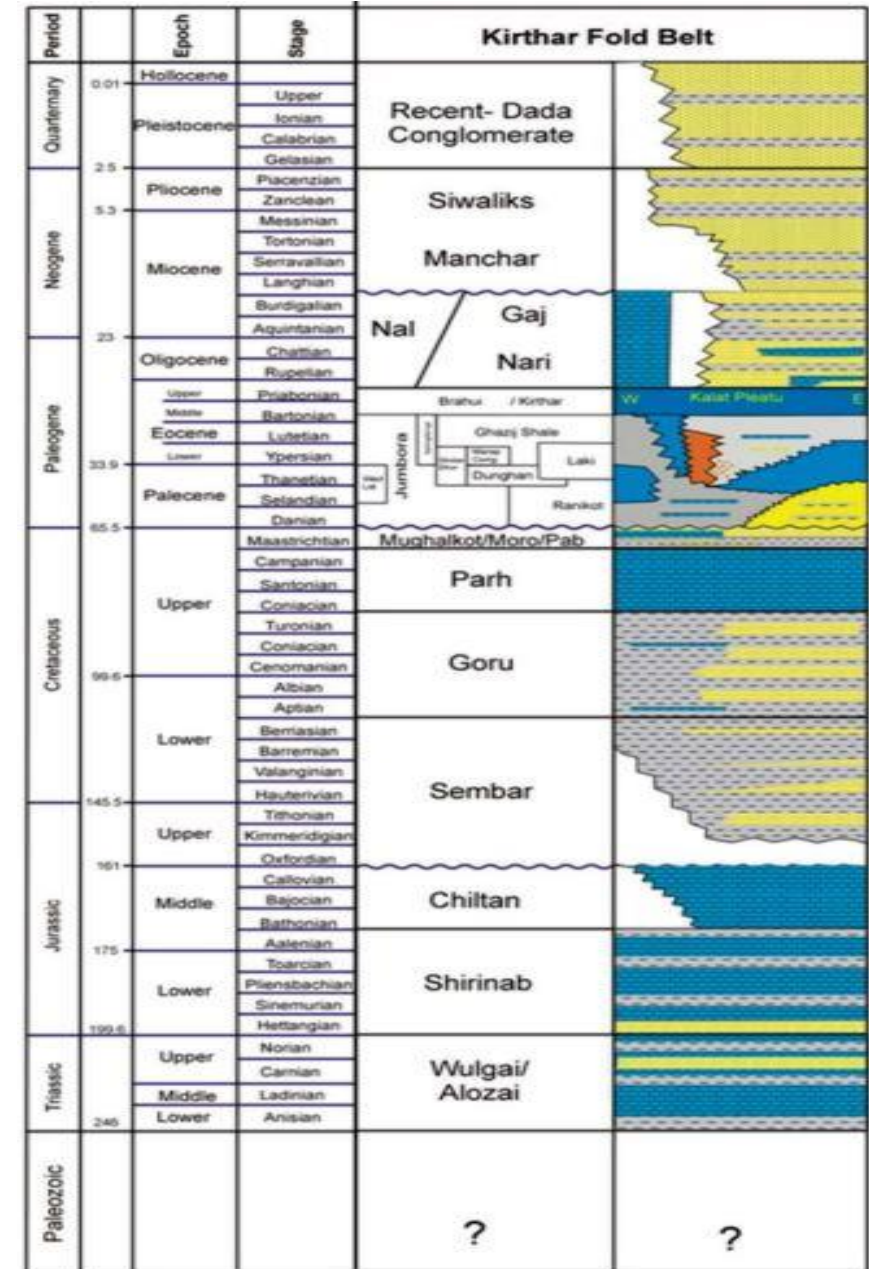
1. Anjira Member of the Shirinab Formation is considered as the main source rock.
2. The anoxic shales of the Early Cretaceous Sembar constitute the most prolific source rock in the area.

■ Reservoir rock:

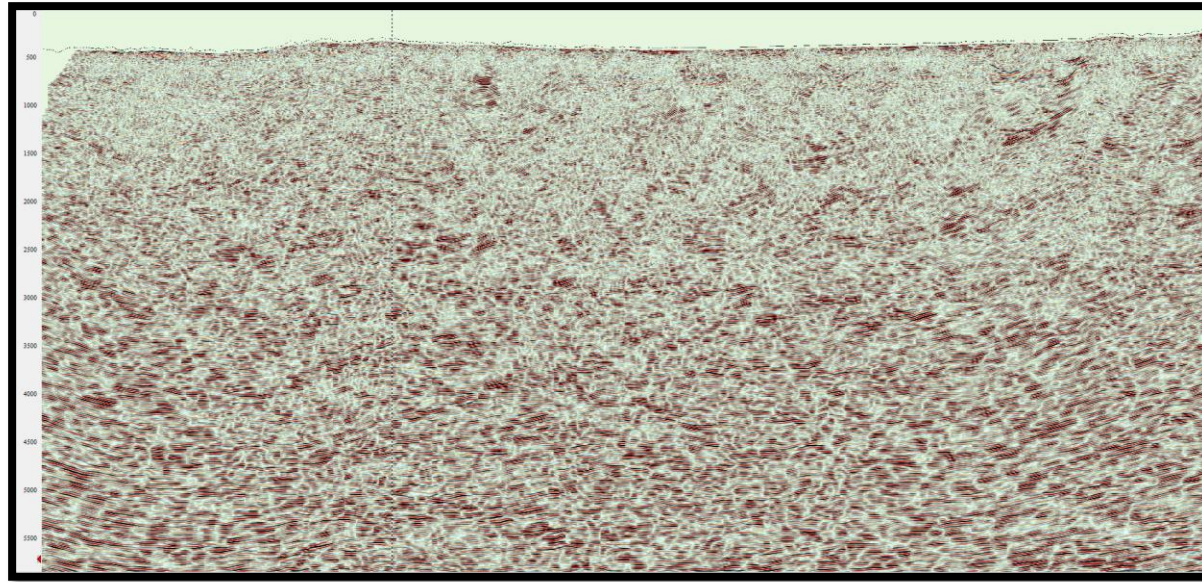
1. Sandstones of Lower Goru are the primary reservoirs in the Lower and Middle Indus Basins, whereas Mughalkot and Pab sandstones are the main producers in the frontal mountains of the Kirthar Fold Belt.
2. Dunghan limestone is in Nushki, Late Eocene Wakabi Sandstone is regarded as the main reservoir

■ Seal:

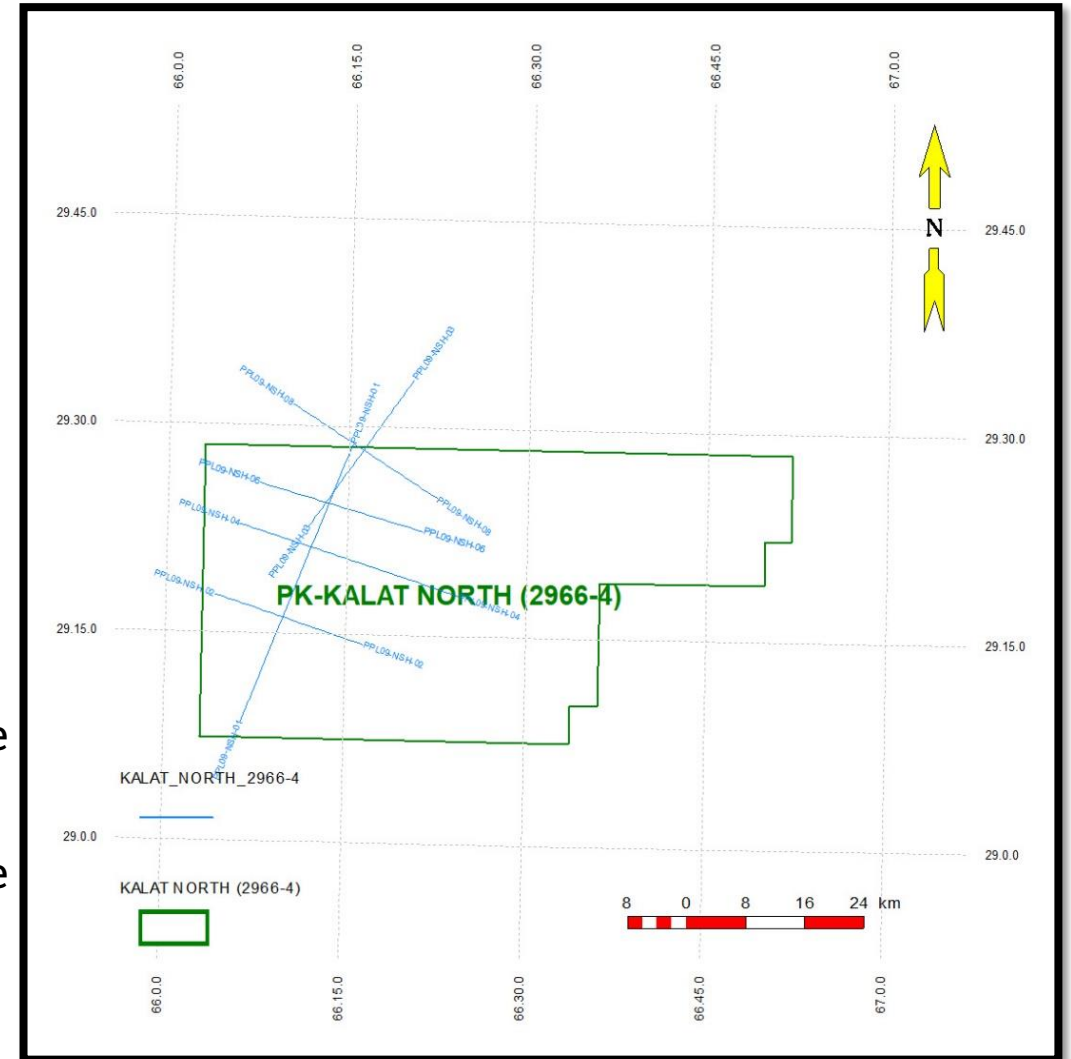
1. Lime muds and shales of Chiltan, Anjira and Spingwar formations can provide effective top seals.
2. The Cretaceous formations could be considered as effective top seal for the underlying Jurassic carbonate reservoirs.
3. Eocene Ghazij shales provide effective regional seal to the underlying Dunghan carbonates.
4. In Nushki area, the Oligocene Murga Faqirzai shales are considered top seal to the underlying Eocene reservoirs.



Prospectivity



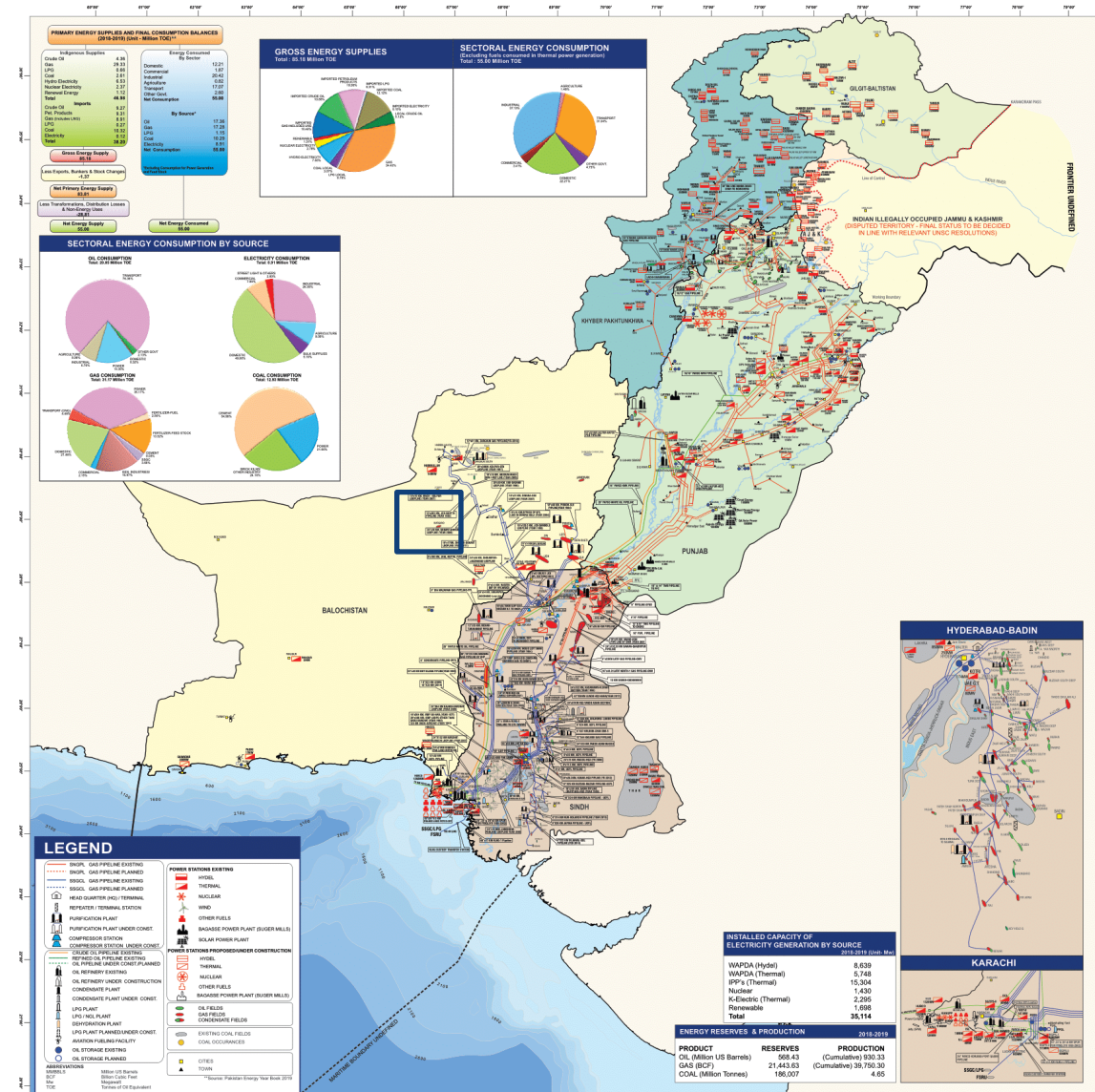
- The main trapping mechanism in this area is considered to be tilted fault block traps.
- High resolution seismic data can allow to delineate true potential of the block



Infrastructure Map

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

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
