

## NORTH DHURNAL BLOCK (3372-25)

### Introduction

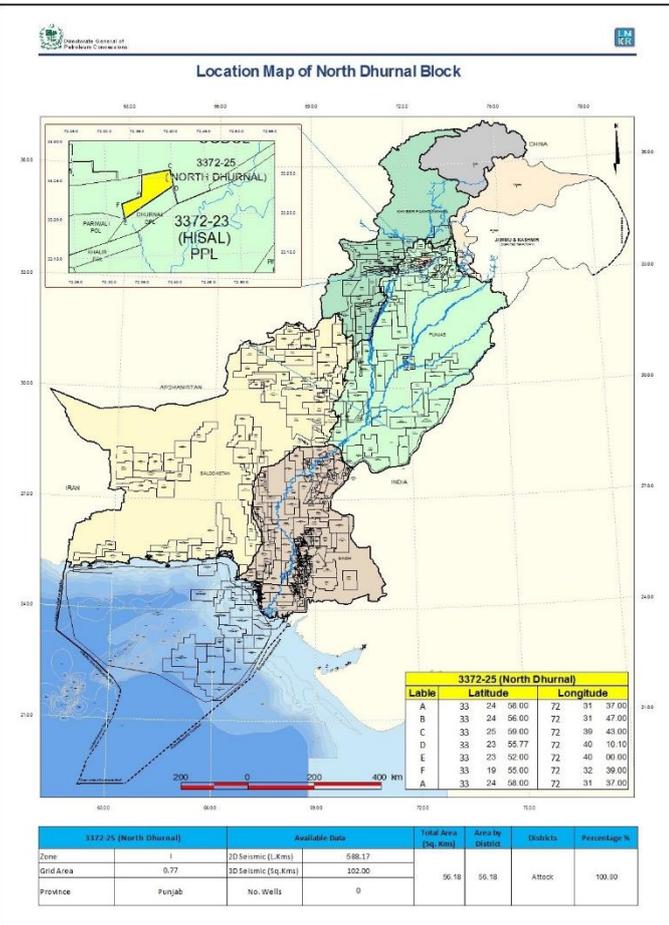
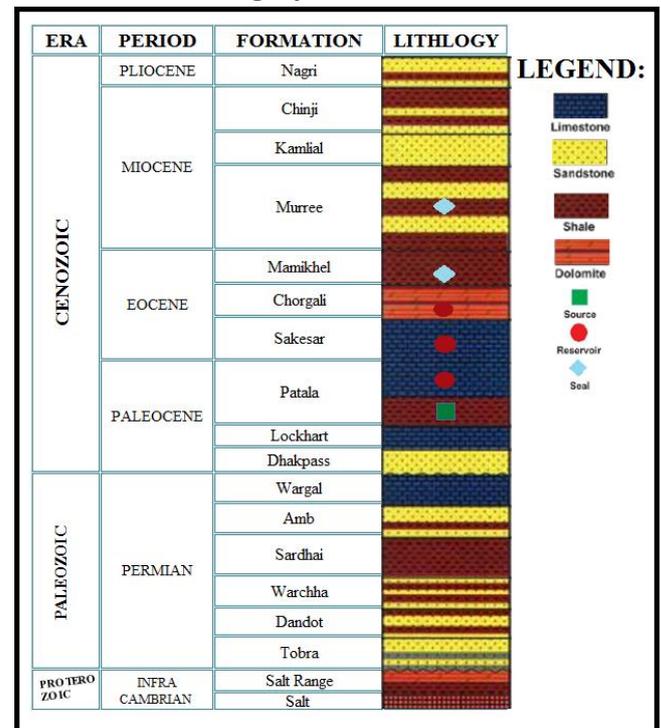
North Dhurnal Block covers an area 56.18 sq km and is located in Attock district of Punjab Pakistan. Geologically, it lies in the Upper Indus Basin of Pakistan. The block falls in Prospectivity Zone I.

above north dipping basement, which indicates Decollement which acts regionally in the Potwar plateau. The ‘popup’ structures are most common in these sub basins (Suppe and Medwedeff, 1984; Suppe, 1985; Butler, 1982).

### Stratigraphic Sequence

The stratigraphy of this area is well developed along with the stratigraphy of Salt Range (Gee, 1989). Whereas, the stratigraphy along the North Potwar Deformed Zone, commonly known as NPZ is not well established because of lack of deep drilling in that area.

### Generalized Stratigraphic Chart



### Geology and Tectonics

During the Pre-Cambrian time, basement was twisted because of which the Cambrian and older strata are dipping towards the east. The substantial uplift and erosion which is the result from the general west-ward tilt of the western Indian Craton, marks the post-Cretaceous period in the Potwar sub-basin. Because of this, sedimentary sequence was progressively more deeply truncated in the east and in the eastern most part of the disturbed basin. Formerly a lot of detailed work is done on this sub-basin which suggests the presence of numerous characteristics such as disharmonic folding, thrusting of strata's

### Petroleum Play

In North Dhurnal block compressional thrust associated environment exists, which gives rise to structural traps in the area.

### Source

The source rocks in Potwar sub basin range from Infra-Cambrian to the Eocene age. The organic rich shales of Paleocene age are mainly considered as

source rocks of Potwar oil fields (Bender and Raza., 1995).

### Reservoir

The carbonates of Chorgali and Sakesar Formations (Eocene) are one of the main producing reservoirs of this area. The Limestones of the Patala Formation (Paleocene) also contain good reservoirs of hydrocarbons. Khewra Formation (Cambrian) is the main potential reservoir of Potwar sub basin (Kazmi and Jan., 1997).

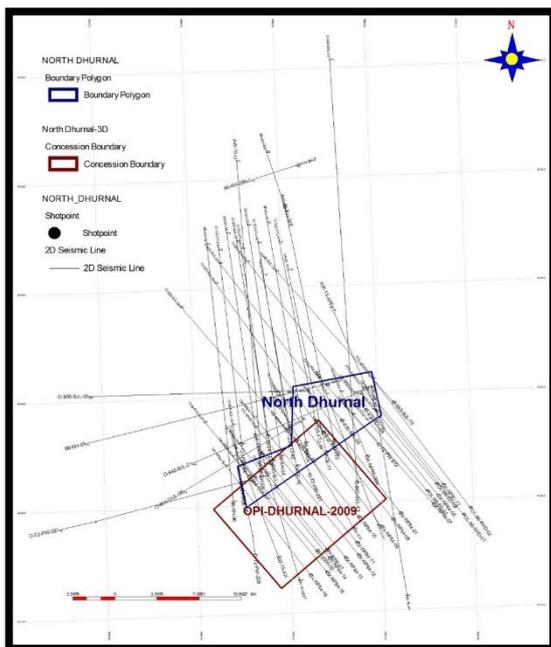
### Seal

The shales of Murree Formation (Miocene) along with clays provide effective lateral and vertical seal to reservoirs of Eocene ages (Kazmi and Jan., 1997).

### Trap

The thin skin tectonics do not involve the basement, so most of the traps were formed by which above Pre-Cambrian salts faulted anticlines, popups and flower structures were formed.

### North Dhurnal Block Base Map



### Well Data

Well is not drilled in this block.

### Seismic Data

2D SEISMIC DATA	3D SEISMIC DATA
Line km = 588.17	Area km <sup>2</sup> = 102.00