

## Technical details of Thar Coalfield Blocks

### **Block-I**

#### **Location and accessibility**

- Serial. No: 40 L/2 (Toposheet No 5&6.)
- Name/Blocks: Block-I, Sinhar Vikian Varvai
- Area (Sq-Km): 122 Sq.Km.
- Latitude: 24°35'N & 24°44'N
- Longitude: 70°12'E & 70°18'E

In Sinhar Vikian-Varvai (Block-I) the coal seams are from 0.20 to 22.81 meters thick. The thickest coal seam is 22.81 meters, found at a depth of 167.61 meters. The minimum and maximum depth at which the first coal bed was hit is 137.04 and 178.72 meters. The Isopach map of cumulative coal thickness in Block-I show that the coal is decreasing towards south and southwest of the block while it is increasing towards east and north. The coal zone is more than 20 meters thick is in between and to the east of Sonar Vikian and Varvai. The thickest coal bed called the "Thar Coal Seam" is persistent over most of the area in the block. It attains a maximum thickness of 22.81 meters and has a uniform thickness of over 15 meters in most of the area. It covers an area of about 80 percent of the block.

The thickness of the overburden as found in the drill holes varies from 137 to 189 meters in the area. It consists of three kinds of material: dune sand, alluvium and sedimentary rocks of the Bara Formation above the first coal bed. The thickness of dune sand throughout the area (at inter dune drill sites) ranges between 51 and 90.70 meters and averages around 68 meters; alluvium thickness ranges between 58 and 100 meters and averages around 76 meters. The thickness of the bedrock above the first coal seam is normally quite thin and is generally less than 15 meters beneath the alluvium bedrock contact. In a few drill holes alluvium is found directly on the first coal seam. The bulk of the coal i.e. more than 90 percent is present between 50 and 120 meters below the sea level and can be mined by removing an overburden of 200 meters.

#### **Chemical Analysis**

The chemical characteristics of the coal samples are given below:

#### **Heating Values**

The weighted average of as received and moisture, mineral, a matter (MMM) free heating value of coal according to ASTM standards is lignite-B to lignite-A in rank. The maximum and minimum weighted average heating values (as received) in different drill holes are 5124 Btu/lb and 6398 Btu/lb

#### **Ash**

The average ash content of Block-I on as received basis is 6.53 %. The weighted average of ash content in different drill holes ranges between 3.42 to 10.05 %.

### **Fixed Carbon**

The weighted average of fixed carbon of the cumulative coal in Block-I is 20.11 c/o. It ranges between 17.88 to 23.73% in the block.

### **Volatile Matter**

The weighted average of volatile matter (as received basis) in Block-I is 30.11 %. The volatile matter ranges from 23.07 to 36.59 %

### **Moisture**

The weighted average moisture content in the block is 43.13% and it varies between 29.63 and 54.03 %.

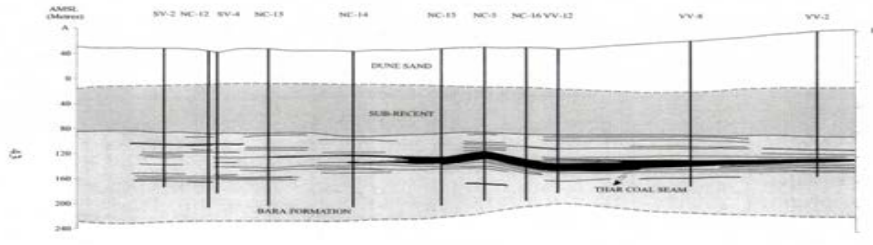
### **Sulphur**

The weighted average of sulphur content in the block is 0.92% and it varies between 0.45 and 1.53 %.

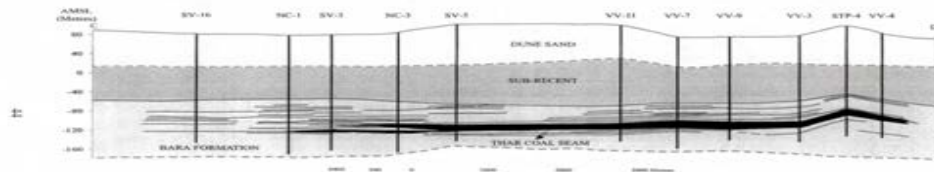
### **COAL RESERVES**

The estimated coal resources of the block of all categories are 3,566.91 million tonnes. These are as given below:

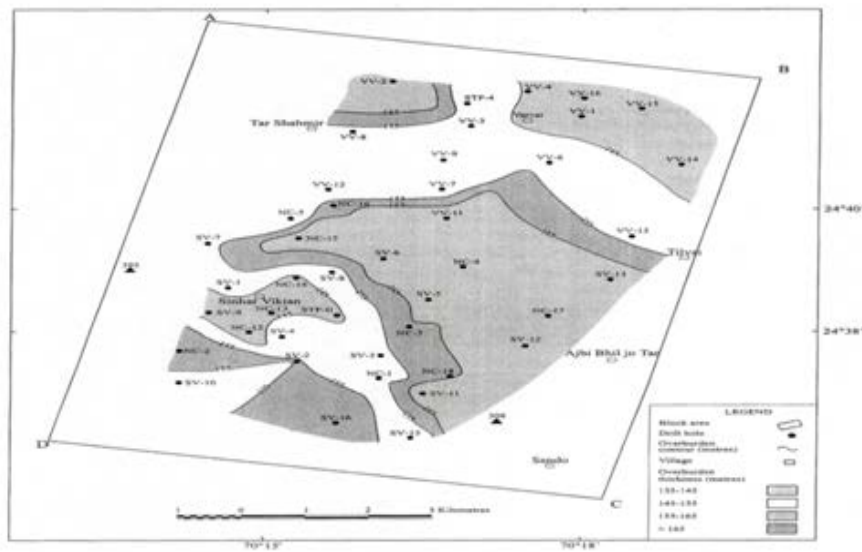
Measured reserves	620.42 million tonnes
Indicated reserves	1,918.06 million tonnes
Inferred reserves	1,028.43 million tonnes



CROSS-SECTION ALONG LINE AB, SINHAR VIKIAN VARVAI BLOCK -I, THAR COALFIELD, SINDH, PAKISTAN



CROSS-SECTION ALONG LINE CD, SINHAR VIKIAN VARVAI BLOCK-I, THAR COALFIELD, SINDH, PAKISTAN



OVERBURDEN ISOPACH MAP OF BLOCK-1, THAR COALFIELD, SINDH, PAKISTAN