

COAL RESOURCES OF SINDH: DISCOVERY OF LARGE LIGNITIC COAL DEPOSITS IN THAR

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Abstract

Coal from Lakhra in Sindh Province is found in 1853 by Baloch Nomads. After that many coalfields are discovered in Sindh. Recently due to discoveries of Thar coal deposits in Sindh Province, the Pakistan is ranked 7th internationally regarding lignitic coal reserves. But Pakistan is unluckily importing coal so far. Coal deposits are extensively developed in all the four provinces of Pakistan and also Azad Kashmir. Coal from different areas of Pakistan generally ranges from lignite to high volatile bituminous. These coals are friable, with relatively high content of ash and sulphur. As a result of research by Malkani in 2012, Malkani and Mahmood in early 2016 the total coal reserves of Pakistan increased upto 186,288.05mt with break up as Sindh 185457mt, Balochistan 458.72mt, Punjab 235mt, Khyber Pakhtunkhwa 126.74mt and Azad Kashmir 10.59 mt. The bulk of coal reserves are found more than 99% in Sindh Province and more than 94% in Thar coalfields of Sindh. In Sindh it occurs in Sonda-Thatta (3700mt), Lakhra (1328mt), Indus East (1777mt), Badin (850mt), Meting-Jhampir (161mt), Jheruck (1823mt) Ongar (312mt) and Thar (175506mt, which is one of the largest coalfields in the world). Stratigraphically the coal confined in to two different stratigraphic horizons/position i.e., in the Middle Paleocene Bara Formation of Ranikot Group and Early Eocene Sohnari Formation of Laki Group.

Thar Coalfields hosts 175,506mt which puts Pakistan amongst the 7th largest lignitic coal deposits of world. This coalfield is spread over 9000 km² with 140km N-S and 65km E-W extension (40L/1, 2, 5, 6). About 410km metalled road upto Mithi from Karachi via Hyderabad-Mirpurkhas-Naukot and also via Thatta-Badin-Naukot to Mithi is available. From Mithi to the coalfield, sandy track is covered by 4*4 vehicles. The coalfield rests on Pre-Cambrian shield rocks and is covered by sand dunes. The coal thickness varies from 0.20-22.81m. There are maximum 20 coal seams. The most common depth is 150-203m. The overburden varies from 114-245m above the top coal seam. The claystone is the roof and floor rock. There are 4 blocks. The reserves of Block-I show 3566mt with detail as 620mt measured, 1918mt indicated and 1028 inferred. Block-II shows 1584mt with 640mt measured and 944mt indicated whereas Block-III shows 2006mt with 411mt measured, 1337mt indicated and 258mt inferred reserves. Finally, Block-IV shows 2559 mt with 637mt measured, 1640mt indicated and 282mt inferred reserves with rest of Thar coalfield showing 165,791mt with a detail of 392mt measured, 3556mt indicated and 49138mt inferred reserves. The grand total of Thar coalfield reserves is 175,506mt with 2700mt measured, 9395mt indicated, 50706 inferred, 112,705mt hypothetical reserves.