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GEOLOGY OF THE NORTHERN PART OF CHITTAGONG DISTRICT BANGLADESH

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ABSTRACT

Geological mapping of the northern region of Chittagong district was carried out during the field seasons of the period from 1968 to 1971 on a scale of 1 : 50,000. The area covering 500 square miles lies between latitudes 23° 10″ and 23° 50′ and longitude 92°6 and 92° 30′. A geological map of the area was prepared on a scale of 1 : 250,000.

Sandstone, shale and siltstone are the dominant rocks exposed in the area. Rocks of the Bhuban (Middle and Upper), Boka Bil, Tipam, Dupi Tila and Dihing formation are folded into an asymmetrical plunging anticline that extends from Chittagong city to beyond Zorarganj near the Feni river. The age of the rocks ranges from Miocene to Pliocene.

Middle and Upper Bhuban formations are exposed in the steeper western flank, but due to a major fault some of the stratigraphic units of the sequence are missing from the western flank. The major fault is running straight in NNW—SSE direction parallel to the general trend of the structure.

Geological History of the area, and the result of the heavy minerals study of different formations have been discussed in the report.

Sitakund limestone contains 70 5 to 94·0% of $CaCo_3$ and is being used in the Karnaphuli Paper Mills Limited. The total reserves of Sitakund limestone is 16·635 tons. Shale and clay can be commercially used in the manufacture of light wieght aggregates. These rocks are also being consumed by the various brick fields. Tipam and Dupi Tila sandstones are used as a constructional material. Hard calcareous sandstone lenses of Surma Group and sandstone conceretions of Tipam Formation are being used as road gravels, and for the Chandpur Town Protection Scheme. The calcareous sand stone contains 33·44 to 53·07% $Si0_2$, 3·59 to 4·8% $Fe20_2$, 27·61 to 43·46% $CaC0_3$, 4·31 to 6·06% $MgC0_3$ and 0·22 to 0·69% moisture.

The stratigraphic sequence of Sitakund asymmetrical anticline with its existing gas-shows suggest the structure is prospective for oil and gas exploration.

Groundwater along the coastal belt is slightly saline. Tipam and Dupi Tila sandstone are good aquifers and the groundwater can be developed for drinking and irrigational purposes. Favourable sites are available for the construction of small dams.