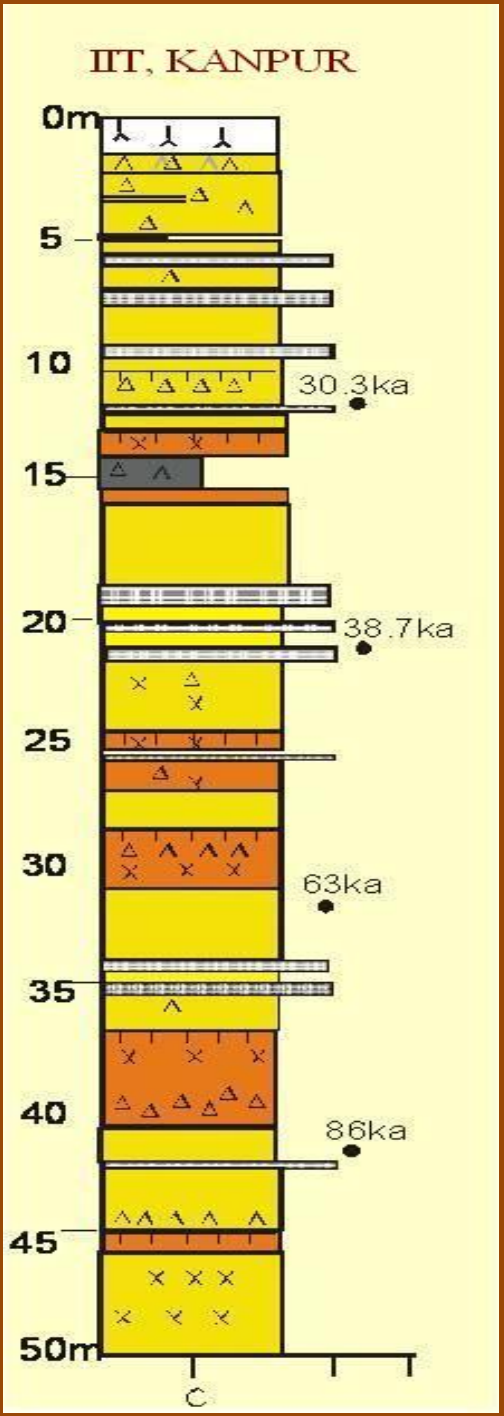
IIT, KANPUR CORE



Floodplain facies

- F1: Yellow-brown mud
- F2: Red-brown mud
- F3: Thin silt/sand sheets
- F4: Tough pale clay
- F5: Kankar

- C1: Fine to medium sand
- C2: Silt and very fine sand

Lacustrine & Eolian facies

- L1: Dark clay
- E1: Thick silt/sand sheets

The entire core consists of floodplain facies (F1 to F5),and is divided into floodplain accretion units on the basis of layers that exhibit a higher intensity of pedogenesis The dominant floodplain facies is yellow–brown mud (F1) associated with thin silt sheets (F3). The upper part of each accretion unit is marked by red–brown mud (F2), generally associated with abundant kankar (facies F5), mottling, and local tough clay (F4). Silty layers are more prominent in the upper part of the core. Individual facies show generally similar bulk mineralogy with a quartz-dominated (~65%) assemblage, lesser mica (20–25%) and feldspar (10–15%). The silty intervals show higher mica contents (N35%). LOI values match thin layers of carbonate nodules (facies F5) associated with silty intervals (facies C2), and they fluctuate strongly with values up to 15%. Illite predominates, close to 80% in most samples, followed by chlorite and kaolinite. In places, the relative abundance of kaolinite is high (e.g. ~25% at 20 m depth) at the expense of illite and chlorite.

Ref: Sinha, R., Bhattacharjee, P., Sangode, S.J., Gibling, M.R. and Tandon, S.K., Jain, M. Godfrey, D. (2007). Valley and interfluve sediments in the southern Ganga plains, India: exploring facies and magnetic signatures. Sedimentary Geology, 201, 386-411.