

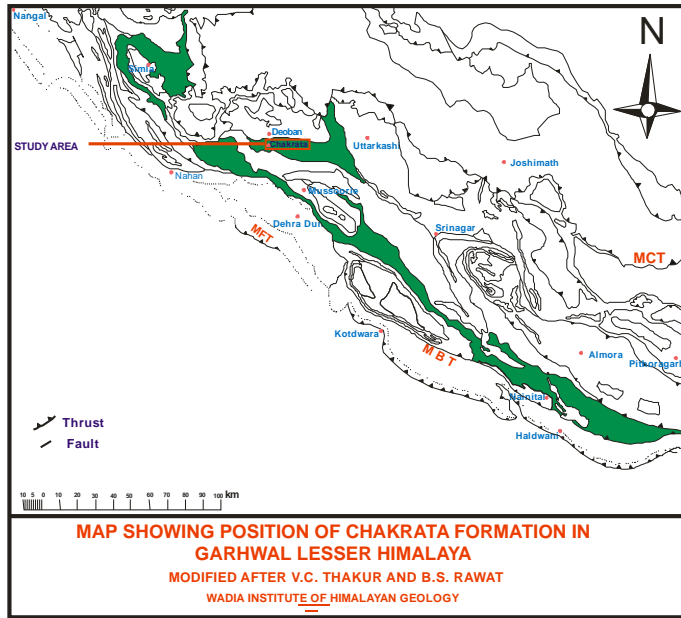
DEEP WATER SEDIMENTARY STRUCTURES IN FLYSCH OF CHAKRATA- FORMATION OF UTTARAKHAND LESSER HIMALAYA

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Abstract

The Chakrata Formation earlier called as Morar-Chakrata Beds, Saknidhar Formation or partly Simla slates consist of purple, dark green, greyish-green and grey greywacke and siltstones interbedded with dark green or black shales and slates. It is characterized by sedimentary structures like graded bedding (partly following Bauma-Cycle) different types of tool and scour marks, flute and load casts, intraformational minor folds and penecontemporaneous deformation features. The arenaceous- argillaceous component ratio, the thick rhythmic shales alternating with comparatively thin sandy turbiditic facies, absence of carbonate precipitation and conglomeratic rocks are other evidences based on which the formation has been recognized as a typical flysch deposited in a tectonically unstable rhythmically subsiding basin. All these structures as also the texture of the arenaceous facies and the presence of purple and maroon shales indicate its deposition in a turbidite environment. The shallow water features such as large scale cross-beddings, mudcracks, beach and dune features are generally absent. The rocks show very poor sorting and angularity of particles indicative of textural and mineralogical immaturity. All these characters are comparable with the present day deep sea-sediments.



| GROUP | FORMATION | AGE |
|-----------|-----------|------------------|
| SIRMUR | SUBATHU | LOWER EOCENE |
| | SINGTALI | PALAEOCENE |
| MUSSOORIE | TAL | CAMBRIAN |
| | KROL | LATE PROTEROZOIC |
| | BLAINI | |
| NAGTHAT | | |
| JAUNSAAR | CHANDPUR | LATE PROTEROZOIC |
| | MANDHALI | |
| | DEOBAN | |
| DAMTHA | RAUTGARA | LATE PROTEROZOIC |
| | CHAKRATA | |

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LITHOSTRATIGRAPHICAL SUCCESSION OF KUMAUN LESSER HIMALAYA

Until now the formation Lesser-Himalaya is not considered important from Petroleum prospect point of view owing to their complex tectonic settings. But of late the attention of scientific community is drawn towards their point of view it will be interesting to analyse the organic carbon content of this dark shale facies .which may proved to be a good source rock. The overlying Rautgara and Deoban Formation consisting of dominantly arenaceous and calcareous facies may serve as good reservoir rocks.