PREFACE

The area host rock exposures which are predominantly arenaceous with alternations of small to moderate shale bands. Occasional development of carbonaceous shale and coal streaks are also seen.

The sandstones which occupy bulk of the area of investigation show strike trends of NE-SW with moderate to high dips towards SE and, fining upward trend towards the shaly contact. The fining upwards characteristics of the lithoassociations look to be seasonal increments. Coarseness of the sands increase in a north westerly direction while argillaceous and carbonaceous content increase south easterly. Considering this trend and an increase in the amount of shale, one may visualise deepening of the basin southwards. Overall, the area from north to south shows younging trend.

A hypothetical sedimentation model constructed for the generalised sedimentary sequences suggest rapid sedimentation and high energy conditions for the basal part of the column, mostly of the upper flow regime. The upper part may be interpreted as sediments filling abandoned chute channels. Influence of a distributary network of channels and occasional marine interference in a quiet water shelf setup cannot be ruled out. The overall tectonic setup of the system then, was a stable one.

The present sandstones are fine grained, dominantly unimodal, better sorted, mainly positively skewed and leptokurtic. A Precambrian (continental-block) area may be envisaged as a source of the detritus for the present compositionally and texturally matured quartz-arenites deposited under humid to semi-humid climatic conditions where diagenetic affect was moderate.

Introspection of all the present findings and existing literatures suggest that in the area of investigation, in the Oligocene Period, largely channel environments with intermittent tidal to shallow marine conditions prevailed. The probable provenance was from north - northeast and east.

Structural attitude of the area suggests effects of episodes of post-depositional tectonic plays in the neighbouring area. Presence of the Dauki fault south of the area and, the Cachar-Tripura folded belt in the vicinity vindicates the same.