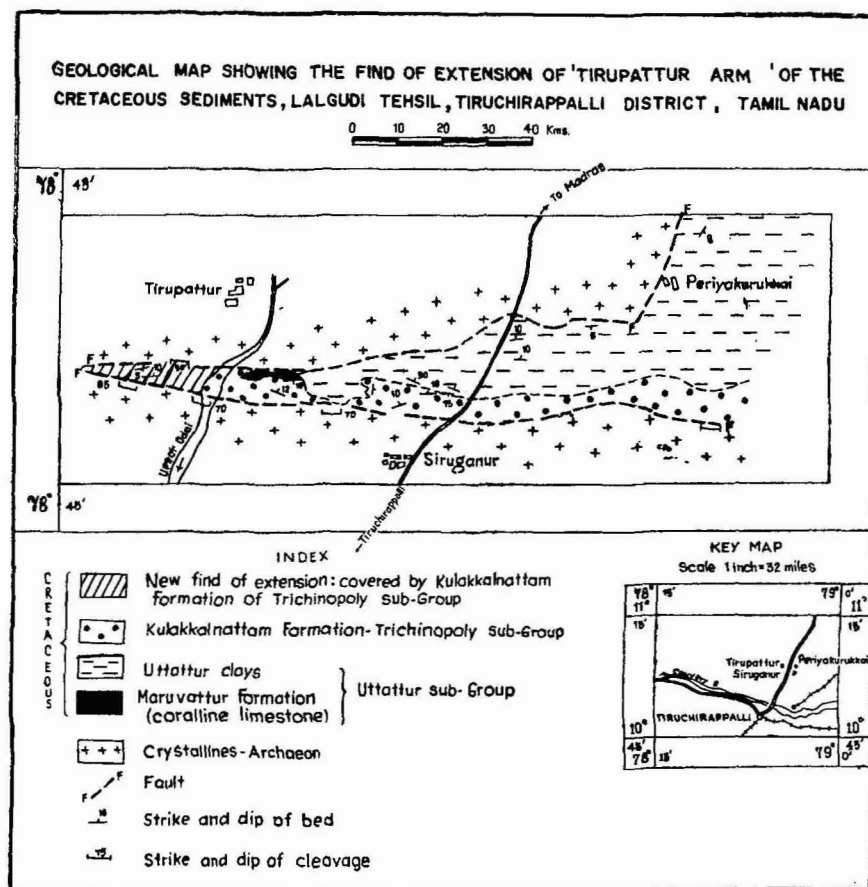


Note on the extension of Cretaceous basin in Tirupattur area Tiruchirapalli District, Tamil Nadu

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The Cretaceous rocks of the main Tiruchirapalli basin extend in the form of a narrow zone cutting across the National Highway No. 45 between 289 and 287 km stones. This was traced by the earlier workers up to Upper Odai (stream) one km to the south of Tirupattur village ($11^{\circ}02' : 78^{\circ}47' - 58 \text{ I/16}$) (Fig. 1). During the course of



lithostratigraphic mapping of the Cretaceous basin it was found that this zone extends further west over a distance of 1.6 km. This observation brings out not only the extent of the original marine Cretaceous basin but opens up the possibility of finding additional resources of limestone.

The succession of rock formations in this narrow zone, which may be termed the 'Tirupattur Arm' is as follows:

Sandstones, conglomerate with intercalated shales	Trichinopoly rocks	Upper Cretaceous
-----Unconformity-----		
Clays	Uttattur rocks	Upper Cretaceous
Coralline limestone		
-----Unconformity-----		
Pyroxene granulites, hornblende gneiss and schist	Archaeon	

The Trichinopoly rocks consisting of medium to coarse-grained sandstone, pebbly and cobbly sandstone, conglomerate and calcareous conglomeratic sandstone with intercalated thinly bedded shales, are mainly exposed to the east of Uppar stream. They unconformably overlie Uttattur coralline limestone which forms small outcrops and sub-crops in quarries. The Trichinopoly rocks are seen to extend westwards for another 1.6 km as sub-crops below the stream alluvium and as outcrops west of the stream with a width of about 350 metres, gradually narrowing in a westerly direction. These rocks show low but distinct inward dips along either side of this 'Tirupattur Arm'.

The total length of this zone is about 7.9 km with a width varying from 1.26 km on the east to 50 metres near the western end. The Archaean gneisses on either side of this zone are highly sheared with the development of closely spaced cleavages, biotite and chlorite. The cleavages on either side of the sediments dip inward at steep angles and the sheared rocks are traversed by veins of quartz. The narrow zone in which the marine sediments were deposited was of the nature of a graben.

The faulting is inferred to be pre-sedimentation. If the faulting had been post sedimentation then the sediments would have been dipping steeply, and they themselves would have been brecciated/sheared and veined by quartz. However, the low inward dips indicate that the faults must have been reactivated after the deposition of the sediments resulting in the present low dips due to drag along the faults.

The coralline limestone is being mined for the manufacture of chemicals by Sakti Pipes Limited and other firms near Tirupattur. There is every possibility of locating chemical/cement grade limestones below the Trichinopoly rocks in the 1.6 km extension of the basin.

The plate appended to this note shows the extension discovered.

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