

Paper P18

The Upper Eocene to Upper Oligocene Ransi Conglomerate of the Tatau Formation in the Tatau-Bintulu area, Sarawak

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A recent study in the Tatau-Bintulu area indicates that the Ransi Conglomerate which was originally date as Upper Miocene to Pliocene (Kamaludin Hassan, 2004) is part of the Upper Eocene to Upper Oligocene Tatau Formation. This finding is inconsistent with that of Liechti, et.al (1960) who proposed that is was equivalent to the Middle to Upper Miocene Begrih Formation while Ismail (2000) proposed that it was equivalent to the Upper Miocene to Pliocene Balingian Formation.

This paper discusses the paleo-environment, stratigraphy and its relationship to its adjacent formations. These were used to reconstruct the geological history of the Tatau area. The Ransi Conglomerate is placed at the base of the Tatau formation. It is made up of mostly thick bedded conglomerate and pebbly sandstone interbedded with thin shale horizons. The rounded to sub-rounded conglomerate clasts with mainly soft sandstone clasts and minor shale pebbles in the Pelungau area were up to cobble size while the fine grain conglomerate in Tutong Hill, Tatau Horst and Ransi Hill range from pebble to granule size and are mainly composed of angular to sub-angular clasts of chert, vein quartz pebbles and metamorphic fragments. Most of the sandy beds are quartzitic and light grey in colour but a very thick black carbonaceous horizon was found at the base of the light coloured horizon in the Horat Pacific Quarry in the northeastern part of the Tatau Horst. Cross bedding is common with the mostly graded-bedded sandstone bed indicating that these are channel sands.

The discovery of significant burrowing in many Ransi Conglomerate sections together with marine microfossils suggest that it was deposited by channels into a shallow marine to lower coastal plain environment. The source of the Ransi Conglomerate was largely from the radiolarian rich chert and metamorphic rock bearing older Rajang Group located to the south as indicated by paleocurrent directions. The present of volcanic clasts suggest active volcanism in the hinterland during the deposition of the Ransi Conglomerate. Some of the volcanic clasts were most probably from the Arip Volcanic and also Bukit Piring subvolcanic exposures located to the southward of the basin.

References

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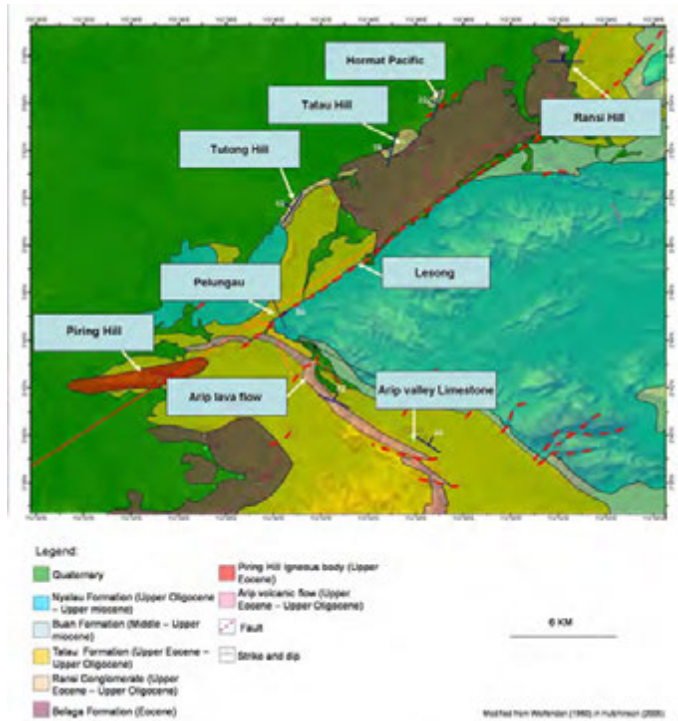


Figure 1: Geological map (modified from Wolfenden, 1960 in Hutchison, 2005)