Borneo Journal of Resource Science and Technology (2018) 8(2): 109-116

SHORT COMMUNICATION

The Geology of Upper Baleh River, Kapit, Sarawak

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Received: 31 July 2018 Accepted: 6 December 2018 Published: 30 December 2018

ABSTRACT

Geological mapping of the proposed Baleh National Park, Sarawak was conducted during the Heart of Borneo Expedition in Mid November 2015 with Institute of Biodiversity and Environmental Conservation, Universiti Malaysia Sarawak. A geological map of the study area is compiled together with maps of the previous studies. The proposed Baleh National Park is made up of plateau and mountain chains. The topography of the study area is closely related to the geology. The plateau is underlain by the volcanic rocks which consists predominantly of tuff and dacitic rocks with scattered agglomerate, while the mountain chains are the ridges which striking east-west direction are underlain by slate interbedded with siltstone, sandstone and mud clast conglomerate of the Layar Member. The Layar Member of the Belaga Formation is suit of deep ocean marine deposits during the Late Cretaceous [100.5–66 million years ago (ma)]. The plateau of the Bukit Tiban was formed as a result of the volcanic eruption during the Late Miocene (11.6–5.3 ma). Several interesting geoheritage sites were observed in the study area.

Keywords: Bukit Tiban, columnar joints, dacite, geoheritage, Layar Member

The recent geological mapping of the Bukit Batu Tiban area is part of the proposed Baleh National Park. The site visit was carried out within a span of 11 days from 19th November until 29th November 2015. A group of 30 scientists from various background on flora and fauna travelled to collect baseline data before the area are to be gazetted as National Park. The distribution of rocks is significant in the study of flora and fauna diversity. The nature of the bedrocks fundamentally influences its overlying soil, and many plants and animal species are typical of certain soils that in turn are associated with certain underlying rocks. The objectives of the study were to map the geological formation which underlain the proposed Upper Baleh National Park as well as to locate the potential geoheritage sites.

The study area is located east of Kapit Town. It is bound by Longitude 114^0 6' E to 114^0 36' E and Latitude 1^0 25' N to 1^0 35.6'N (Figure 1). The overall accessibility to the study area is very poor. The area is connected by the logging track which is only accessible to the major logging pond at Putai. Putai is well served by the express boat once daily.

The geological mapping was carried out along designated route with different lithological characters to confirm the studies by the previous researchers. The access road from Logging base camp to Bukit Tiban and selected rivers were traversed using Global Positioning Station (GPS) to make accurate geological map. Rock samples were collected and geometrical aspect of outcrop were studied stratigraphically and structurally.

Topography – The topography of the area is made up of plateau and the mountain chains. The plateau area which is about 1000 m above sea level are located at the most eastern part of the study area bordering the Kalimantan, Indonesia. While the tableland stands above 1000 m, the area below is about 300 m to 1000 m above sea level formed mountain chains. The topography of the area is closely related to the geology. The tableland is underlain by the volcanic rocks which consists predominantly of tuff and dacitic rocks with scattered agglomerate. The prominent topographical features of these volcanic rock-type are very steep cliffs. The topography of the areas below the tableland is totally different; the mountain chains are the ridges which striking east-west direction are underlain by sedimentary