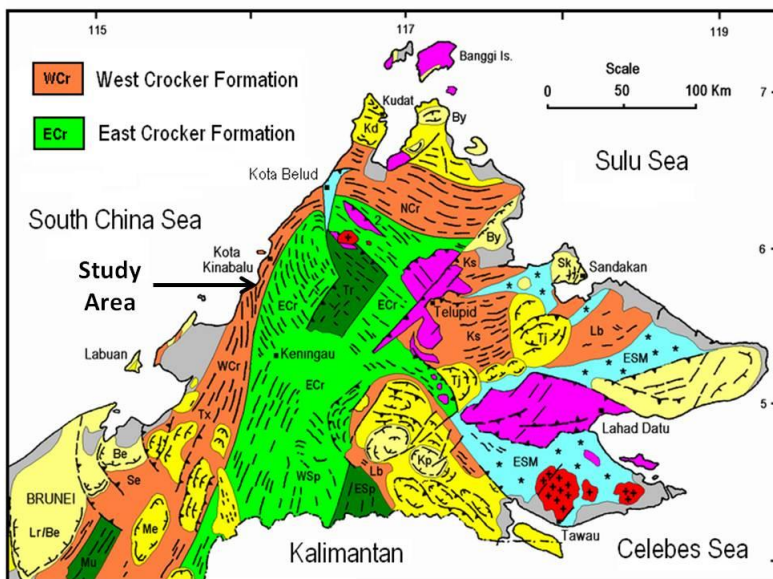


## **Mass Transport Deposit (MTD) in the Paleogene Submarine Fan of the Crocker Formation in Sabah, Malaysia**

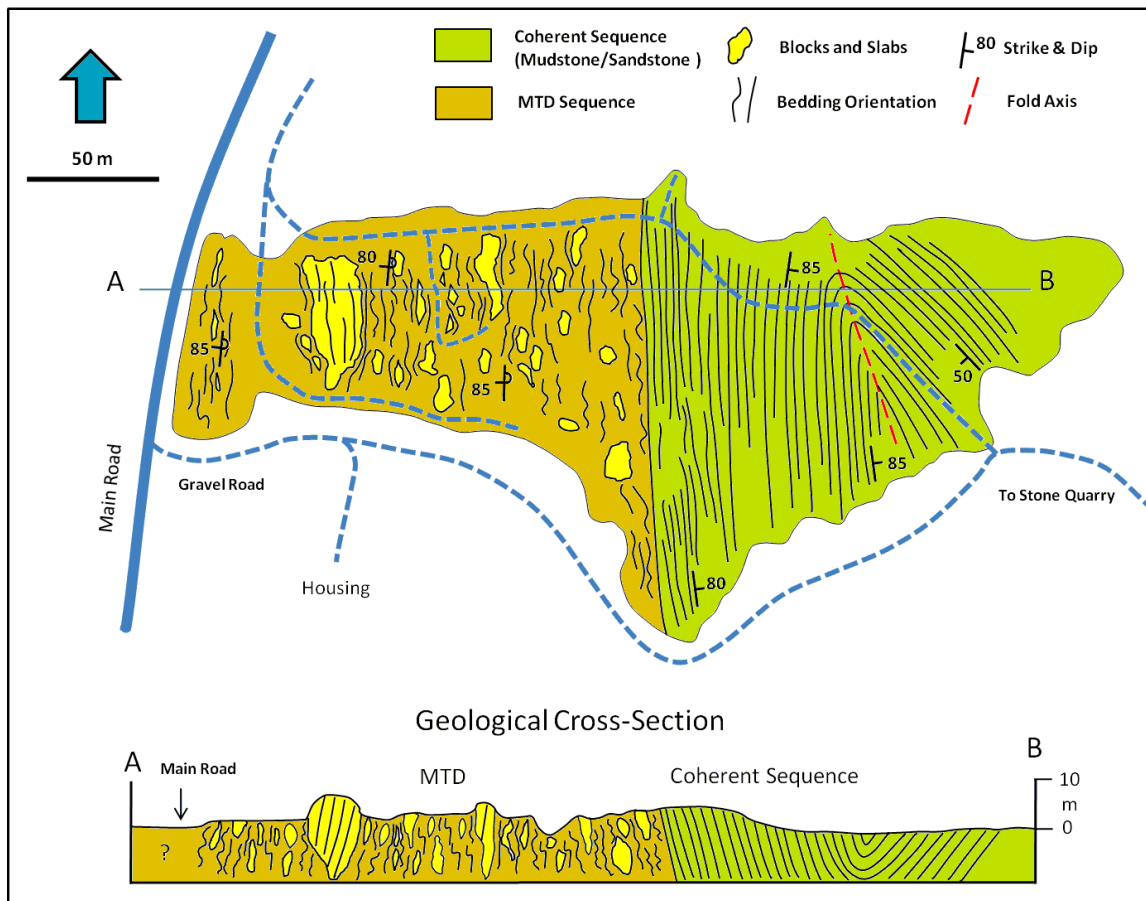
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### **Extended Abstract**

Recent mass transport deposits (MTD) or debrites is known to have occurred extensively offshore NW Borneo due to instabilities along the continental margin as a result of ongoing compressive deformation along the NW Borneo Trough. The Brunei Slide, a giant submarine landslide is a well documented example of MTD. This landslide covers an area of about 5300 km<sup>2</sup> with an average thickness of about 240 m (Gee et al., 2007). It is possible that similar large MTD may have occurred within ancient deep water sediments in NW Borneo. However to date most of the MTD documented onland, such as those commonly found within the Paleogene deep water sediments of the Crocker Formation in Sabah are quite small, less than 5 meters thick (Jackson et al., 2009; Zakaria et al., 2013). This paper describes a newly discovered large mass transport deposit (MTD) or debrites within the Oligocene West Crocker Formation in Western Sabah at Kawang Outcrop, located some 20 km south of Kota Kinabalu City (Figure 1). The Kawang MTD shows thickness of about 180 m and comprise of chaotic blocks and slabs of sandstone and shale sequence 20-30m wide and 10-50m long stacked on top of each other (Figures 2 & 3). The large slabs still retain its sedimentary sequence and are mostly oriented parallel to the regional N-S strike direction. Orientation of syn-sedimentary extensional and compressional features such as normal faults and slump folds within the blocks and slabs suggest sliding direction towards the North and Northeast. The MTD is overlain by a relatively intact thick sequence of grey mudstone with thin sandstone interbeds. It is interpreted that the Kawang MTD may have formed in response to periodic slope instabilities related to the development of the Crocker Formation accretionary belt.



**Figure 1.** Distribution of the Crocker Formation in Sabah and the location of the study area.



**Figure 2.** Geological map showing the distribution of blocks and slabs oriented approximately N-S within the Kawang MTD. The MTD is overlain by folded sequence of mudstones with thin sandstone interbeds.



**Figure 3.** Panoramic view from the south showing the MTD (left) overlain by coherent mudstone with thin sandstone sequence (right). See hat for scale.

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