PDPT06-58

Surface Reservoir Analogue and Sedimentology Study of Fluvial Channel Deposits of Talang Akar Formation, Air Batu Village, South Sumatera Province, Indonesia

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Air Batu village occupies the South Sumatera basin as a back arc basin conducted to the tertiary volcanic arc. Air Batu village lies on Palembang sub-basin. Physiographically, Air Batu village located between Sunda Shelf in the eastern part and Barisan Mountain Arc in the western part boundary who consequences as provenance to South Sumatera Basin. Oligocene localized uplift fluvio-deltaic and basin sag stage marine transgressive sedimentary rocks identified in South Sumatera Basin include calcareous sandstone, quartz sandstone inserted by claystone, shale and thin layer of coal. Air Batu village stratigraphically consists of Talang Akar Formation and Gumai Formation, Air Benakat Formation and Kasai Formation. Imperative point of our study focused on Talang Akar Formation whih exposed widely in Air Batu village. Sedimentology study plays a significant role to understand the depositional environment of Talang Akar sandstone. Measuring section in Air Batu village was carried out analysis used as supplementary data for transport mechanism. Thin section analysis also employed to know the relation between mineral composition and diagenetic process related to reservoir quality. This paper provides detailed facies and variety composition of Talang Akar Formation and it's implication on reservoir quality of sandstone. Detailed measuring section shows that transportation mechanism of sandstone is laminary current in fluvial system sometimes found marine transgressive deposites including Delta. Several samples have been identified for each provenance from Air Batu village. Changing grain size composition and increasing silicification and calcification affected the diagenetic process. Generally, Air Batu village porosity ranges with classification poor-good porosity.

Warta Geologi (Newsletter of the Geological Society of Malaysia), Vol. 43, No. 3, July-September 2017