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The Reconstruction of 3D Geo-Lithological Model of Pekan, Pahang: A Possible Onshore Extension of Penyu Basin

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Well data from both onshore and offshore of Pekan have showed that the Quaternary sedimensts are present in both onshore and offshore Pekan unlike the Tertiary sediments which are only found offshore. This could be well explained through the paleaoenvironment of the Tertiary sediments in Penyu Basin where it starts from continental (older sediments) to marine environment (younger sediments), which may suggest that transgression had occurred causing the Pahang River delta to be located where it is today. In fact, the presence of ancient river channels found in the Penyu Basin supports the transgression claim. Thus, to proof the possible extension of the basin, this paper aims to delineate the geometry of the basement at Pekan, Pahang as well as to study the distribution of different basement rock in the area by reconstructing the geo-lithogical model of Pekan, Pahang.

30 well data from previous work, done by the Jabatan Penyiasatan Kajibumi Malaysia in 1992 and 1993 are used in reconstructing the geo-lithological model. Utilizing the Lithoblending algorithm to reconstruct the geo-lithological model, allowed us to have a greater control on the model by using nearby well data to extend the lithology laterally rather than extrapolating vertically below the borehole which may lead to inaccuracy. The outcome of the geo-lithological model revealed that basement of the area deepens towards the shoreline (Fig.1) and there are two different types of basement rocks present in the study area namely Granite and Metasediment. The termination between these two basement rocks are found to be underlying the Sungai Pahang (Fig.2), which may correspond to the opening of the Penyu Basin.

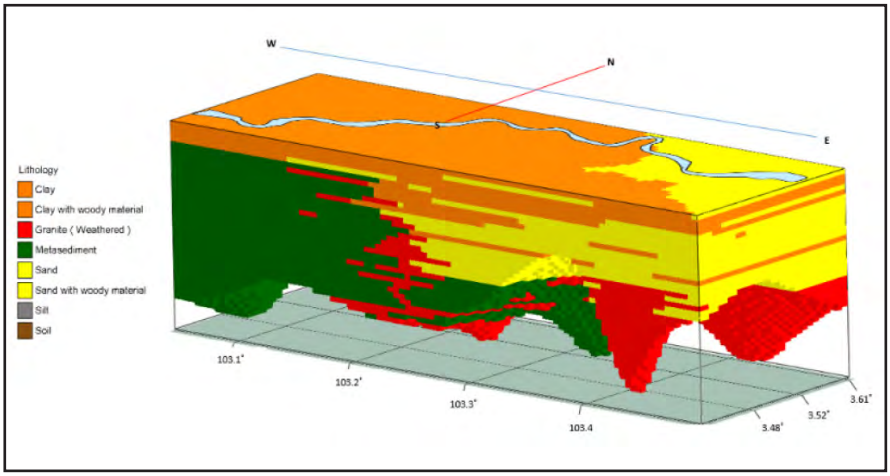

Figure 1: Geo-lithological model with W-E orientation.

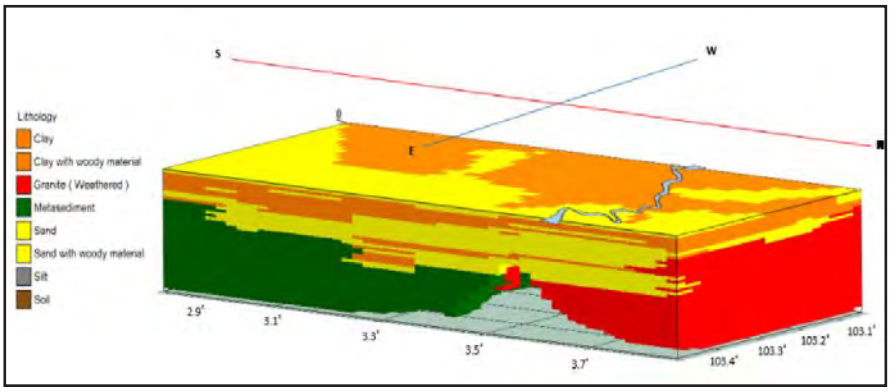

Figure 2: Geo-lithological model with N-S orientation.

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