

ABSTRACT

APPLICATION OF RESISTIVITY METHOD USING WENNER-SCHLUMBERGER ARRAY TO IDENTIFYING THE STRUCTURE AND GEOMETRY OF COAL SEAMS AT SAMBOJA, KUTAI KERTANEGARA REGENCY, EAST BORNEO

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A half more of Samboja, Kutai Kartanegara District, East Borneo Province are forest and there is indication of coal on surface. To identifying condition of coal at subsurface doing geophysics surveys have been carried out using geophysics survey like geoelectric resistivity method using the Wenner-Schlumberger array. This study aims to identifying pesence of coal beneath the surface, determine the structures growth , prediction of geometry coal seam, and localized coal indication. The value resistivity response is to approach interpretation of qualitative and quantitative .

Resistivity method using Wenner-Schlumberger array effectively to coal exploration at measure point because of its has good lateral sensitivity, and continuio of coal seam also can identifying as structures geology because changing of lateal value is significant The data used are secondary data in the form of potential value (mV), electric current (m), electrical resistance (Ohm), the geometry factor (m), and the location of the geoelectric measurements. This research use 26 lines geoelectric resistivit , as well as inter-electrode spacing of 5 meters and a corresponding increase value of :n" factor with the length of each track is 200 meter.

Interpretation results are geoelectric 2D cross-section results that interpretation of 2D profiles that show a pattern of coal seam which high resistivity values > 400 Ohm.m, resistivity layer ranges between 10-100 Ohm.m sealstone, sandstone layers shaft ranged from 100 -400 Ohm.m. The depth and thickness of coal seams varies from each trajectory measurements, with depths ranging from 10-25 m from the surface.As well as the thickness of the coal seam is estimated between 5-7 meters. There are minor fault structure like normal fault and trusht fault. map of the distribution of coal seams is expected continiou of layer relative to the south-west trending northeast.

Keywords : coal, resistivity, Wenner-Schlumberger, East Borneo