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## Deep groundwater potential based on well logging analysis at Kapuk-Cengkareng, west Jakarta, DKI Jakarta, Indonesia

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Jakarta capital special region is the province that densely populated with rapidly growing infrastructure but less attention for the environmental condition. This makes some social problem happened like lack of clean water supply. Shallow groundwater and river water condition that has contaminated make the layer of deep water carrier (aquifer) should be done. This research aims to provide the people insight about deep groundwater potential and determine the depth and location where the aquifer can be found in Jakarta's area, particularly in Kapuk-Cengkareng's people. This research was conducted by geophysical method namely Well Logging Analysis. Well Logging is the geophysical method to know the subsurface lithology with the physical characteristic. The result from the research can be interpreted that there are four of the deep groundwater layer zone with different quality. The good groundwater layer can be found in layers with good porosity and permeability. By analyzing the curves, it can be known that most of the layers which were found in this wellbore are clay stone with low resistivity and high gamma radiation. The resistivity value of the clay stone layers is about 2-4 ohm-meter with 65-80 Cps gamma radiation. There are several layers with high resistivity value and low gamma radiation (sand stone) that can be potential for being an aquifer. This is reinforced by the sand layer with a right-leaning SP log curve proving that this layer is permeable. These layers have 4-9 ohm-meter resistivity value with 40-65 Cps gamma radiation.

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