

APPLICATION OF RESISTIVITY GEOELECTRIC METHOD FOR PREDICTING SUBSURFACE LITHOLOGY AT ALAS KOTA SITE

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Abstract. *The Alas Kota Site is one of the relics from the Hindu-Buddhist period in Jember. This site is located in Langsepan Hamlet, Kranjingan Village, Sumbersari District. The presence of red brick fragments on the ground surface and buried red brick structures provide evidence of natural events that have affected this site. This research aims to identify subsurface structures at the site. The method used is the Wenner-Schlumberger configuration of the geoelectric method. A total of 5 line measurements were conducted, with line 1 and 2 being 54 meters long with a spacing of 1.5 meters, while line 3, 4, and 5 were 42 meters long with a spacing of 1.5 meters. The processed data resulted in cross-sectional data in both 2D and 3D formats. Based on the processing results, the surface materials consist of clay, passive clay, andesitic rock, and sand. The distribution of clay resistivity values ranges from 4.58 Ωm to 42.7 Ωm , passive clay associated with red brick structures with resistivity values ranging from 42.7 Ωm to 104 Ωm , and andesitic rock and sand with resistivity values $> 104 \Omega m$. The subsurface materials at the site originate from the breakdown of rock formations at the location and from the eruptions of Mount Raung.*

Keywords: *Alas Kota Site; Geoelectric; Lithology; Resistivity; Wenner-Schlumberger*