

# **Estimation of Sustained Groundwater Resource Potential by Analyzing Aquifer Depth Lithology in Selebar Subdistrict, Bengkulu**

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## **ABSTRACT**

Rapid development in one city often ignores the availability of groundwater. This can have negative impacts on the environment and the sustainability of future development. However, information regarding the availability of groundwater reserves is still quite difficult to access and not easy to analyze. Without a good understanding of groundwater reserves, development can risk water supply shortages, environmental damage, and long-term unsustainability. Geoelectric resistivity explains the nature of electrical flow in rocks at a certain depth. This is done through the injection of low-frequency electric current into the earth's surface. The potential electrode records the result as a potential difference. Next, we will obtain a variation of the voltage difference with the same current. With certain calculations, resistance variations will be obtained, which can interpret information about the structure, depth, and type of material through which it passes. This research is aimed at determining the resistivity value of rocks as a reference for groundwater drilling wells. The resistivity geoelectric method was carried out in the research area in Selebar Subdistrict. The results showed that the alleged water-bearing layers were found at varying depths, starting from 60 to 150 meters, and consisted of sandstone, clay, groundwater, and gravel rock lithology.

**Keywords:** Aquifer, groundwater, resistivity, sustainable, sandstone