# Geophysical Investigation of Groundwater Level Using Vertical Electrical Sounding (A Case Study of Ewu in Edo State Nigeria)

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*Abstract*- **In this research work, four Vertical Electrical Soundings (VES) were carried out in Ewu Town at various locations: Eguare-Ewu, Idunwele-Ewu, Flour Mill Road-Ewu and Eko-Ewu using the ABEM terrameter, by employing the Schlumberger electrode configuration system to determine the level of groundwater. From the analysis of field data and results of computer iteration, a maximum of four geoelectric layers were obtained. The first layer of geoelectric section was the lateritic top soil with thickness of 1.21m and 11.1m, for VES 1 and VES 2, with apparent resistivity of 438Ωm and 183Ωm. The possible aquiferous zone for sustaining groundwater are within the second and third layers for VES 1 and the fourth layer for VES 2, at a depth of 2.67m – 47m and infinity respectively. The apparent resistivity of the aquiferous layers of VES 1 and VES 2 are 797Ωm and 362Ωm respectively, which is fine sand layer. The apparent resistivity of the aquiferous layers of VES 3 and VES 4 are 5511Ωm and 129Ωm respectively with infinity thickness.**

*Key words:* **Geoelectric layer, aquiferous layers, groundwater**

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