

GROUNDWATER POTENTIAL, SOUTH CORE UNIVERSITY OF AGRICULTURE COMMUNITY MAKURDI, CENTRAL, NIGERIA

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ABSTRACT

The present study was carryout in Southcore Community University of Agriculture Makurdi to determine the suitability or viability of drilling a borehole for the people in the community.

The Ohmega resistivity meter was employed using Schlumberger electrode configuration. The data generated was interpreted using WinResist software programme after generating the layers using Microsoft excel.

However, the study revealed that the area has four geoelectric layers. The aquifer zone is found on layer three {3}. The Vertical Electrical Sounding {VES 1} indicated four geoelectric layers with the aquifer zone found on layer three {3}. Layer three has a resistivity of 607.9Ωm and a thickness of 33.9m. Also in VES 2 the aquifer zone is found on layer 3 with a resistivity of 71.2Ωm and a thickness of 63.6m. The overburden thickness in the area ranges between 0.5m to approximately 1.0m.

Furthermore, a borehole was drilled in the vicinity of VES 1 at a depth of 50.0m and the lithology description recorded while drilling correlated well with the geoelectric layers. However groundwater development through borehole drilling is possible in the area.

KEYWORDS: Resistivity, Overburden Thickness, Geo-Electric, Lithology and Sedimentary