

*Clay Research, Vol. 39, No. 1, pp. 16-22 (2020)*

## **Ground Water Potential Zones using Vertical Electrical Sounding (VES) Data in Osman Sagar and Himayath Sagar Reservoirs Catchment Area**

**VARALAKSHMI VAJJA <sup>1</sup> AND VENKATESWARA RAO BEKKAM <sup>2</sup>**

*<sup>1</sup> Department of Civil Engineering, Marri Laxman Reddy Institute of Technology and Management, Dundigal, Hyderabad 500 043, India*

*<sup>2</sup> Institute of science and technology, Jawaharlal Nehru Technological University Hyderabad, Hyderabad, 500090, India*

**Abstract** – *Out of many geophysical methods like Seismic methods, Electromagnetic methods, Magnetic method, Gravity method etc., resistivity method is familiar to identify the ground water potential zones in view of resistivity variations of rocks with presence or absence of water. Surface geoelectrical investigations were carried out in the Osman sagar and Himayath sagar reservoir catchment area and used in order to know the thicknesses of different layers below the near surface of the earth. A total of 77 soundings are collected spreading over the entire area. All these soundings are conducted using Schlumberger configuration with a maximum half-distance of current electrode separation ( $AB/2$ ) equal to 100 m until the sounding curve attained “S” line which is an indication of establishment of contact with electrical basement points. From the result it is observed that the major aquifers are located in the northern half of the basin. More over the entire basin is covered by four principle layers namely soil layer, weathered layer, fractured layer and basement. The major aquifer layers are weathered and fractured layers whose thicknesses are varying from point to point.*

**Keywords** : Contour map; electrical resistivity method; Groundwater potential zone; subsurface layer, VES.