

# Use of Geophysics in the Identification of Areas Favorable to the Establishment of Village Hydraulic Boreholes in the Boké Mining Area: Case of the Urban Municipality

Moussa Diallo<sup>1,2\*</sup>, Ahmed Amara Konaté<sup>1,2</sup>, Mory Kourouma<sup>1,2</sup>, Fassidy Oularé<sup>1,2</sup>

<sup>1</sup>Centre Emergent Africain Mines et Société, Institut Supérieur des Mines et Géologie de Boké, BP 84, Baralandé, Republic of Guinea

<sup>2</sup>Laboratoire de Recherche Appliquée en Géoscience et Environnement, Institut Supérieur des Mines et Géologie de Boké, BP 84, Boké, Baralandé, Republic of Guinea

\*Corresponding Author

## ABSTRACT

The Boké region, with its immense bauxite resources, has been the object of interest from several mining companies for several years. Being the subject of several mining investments, it is the appropriate target of several job seekers in the country and in the sub-region. This massive movement of job seekers to the area and other natural factors have had a strong impact on the basic social needs of the populations of the area. Among these needs, we have the need for electricity, health, housing, water, etc. For the case of water, the surface waters and shallow waters used by the population are rapidly drying up and others are exposed to the risk of pollution from human activities and industrial installations. Boreholes for village hydraulics, which constitute means of remediation, have a failure rate of 25% due to the poor choice of the zone for the installation of the boreholes. From the analysis of the above problems, there is therefore a need to seek new water resources of high quality and quantity and to use methods to minimize the rate of drilling failure in the area. This work aims to determine the best forms of anomalies favorable to the establishment of village hydraulic boreholes in the Boké area. To achieve this objective, a geophysical campaign during which Schlumberger type electrical profiles (AMNB) were carried out on six sites in the area. At the end of this campaign, the best forms of anomalies identified in the area were known. They are the W and U shapes.

**Keywords:** Groundwater, Electrical profiles, Hydraulic boreholes.

