RECENT GEOPHYSICAL TECHNOLOGY FOR GROUNDWATER EXPLORATION: OVERVIEW OF THE FREQUENCY SELECTION METHOD

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Abstract - Recent years has witnessed the emergence of several new geophysical technology for groundwater exploration. Telluric Electric Frequency Selection Method (TEFSM) and Telluric Magnetic Frequency Selection Method(TMFFS) are some of the new approaches which have shown potential. Firstly the study gives a summary of the principles of these approach. Examples of their application in different hydrogeology settings are presented. The study further highlights the mixed reception to the technology and discusses the strengths and limitations of the approaches. Unlike the traditional approaches which are expensive and time consuming, the new approaches are relatively cheaper and enables rapid assessment. Due these characteristics, the new technology has been favourably received in many low income regions. Despite recording success in several hydrogeology settings, the lack of detailed information about the principles, procedures for data analysis and interpretation is a limiting factor.

Keywords - Aquifers; Hydrogeology; Telluric Electric Frequency Selection Method (TEFSM); Telluric Magnetic Frequency Selection Method(TMFFS)