

Paper Number: 1977

## Using geophysics to find suitable rock aggregates as replacement for fluvial sand in Botswana

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This work presents the first results from an ongoing cooperation project between the Department of Geological Survey (DGS) in Botswana and the Geological Survey of Sweden (SGU). The purpose of the project is to find suitable rock to produce aggregate for concrete and roads in Botswana. We show in this paper how different geophysical methods can be used in this process. Airborne data together with the available bedrock information are used to find suitable areas for bedrock sampling and later strength testing<sup>1</sup>. Measurements of the gamma radiation are crucial since rock material with very high natural gamma radiation should not be used as building material in houses<sup>2</sup>. Where airborne gamma radiation data are available it should be used initially to identify certain areas with high gamma radiation. The airborne magnetic data together with ground magnetic measurements were used to define the lateral extent of certain rock types. Measurements of the magnetic susceptibility on outcrops are essential here in order to determine the cause of a magnetic anomaly. Our results from gamma radiation measurements on outcrops have revealed a syenitic rock with very high radiation that should not be used for building purposes<sup>3-5</sup>. Also the Gaborone granite complex show high gamma radiation while mafic and sedimentary rock show low gamma radiation.

### *References:*

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