Contribution ID: **2** Type: **not specified**

ANALYSIS OF THE STABILITY OF TAILINGS DAMS IN A SAHELIAN CONTEXT: THE CASE OF THE SANBRADO MINE IN BURKINA FASO

The SANBRADO mine tailings storage facility has been installed in a river, so we note a habitual presence of water on the south and south-east sides of the tailings storage facility. Also, the existence of power poles on the northeast side of the dam prevented the embankment from being sloped as originally planned.
The aim of this study is to carry out numerical modelling using Geostudio software to analyse the stability of the embankment in general, and to carry out electrical tomography to identify any fractures and cavities, and to check the state of the subsoil.
The electrical prospecting method used in this study is based on measuring the apparent resistivity of the ground to the passage of an electric current. Numerical simulations were carried out using the SLOPE/W code.
The safety factor values were calculated using the Fellenius method, the simplified Bishop method and the Morgenstern method, all of which are based on the limit equilibrium method.
Diagonal profiles were used to obtain a cross-section of the dike. The overall resistivity values are low to medium. However, there are high resistivities in some areas. This variation in electrical resistivity across the embankment indicates a multi-layered structure of the fill and the nature of the materials used.

Key words: Stability, embankment, electrical tomography

Primary author: Mrs SAKANDE, Fatimata Bintou (Laboratoire Géosciences et Environnement (LaGE))

Co-authors: Prof. NABA, Séta (Laboratoire Géosciences et Environnement (LaGE)); Prof. BELEM, Tikou (Université de Québec en Abitibi-Témiscamingue)

Presenter: Mrs SAKANDE, Fatimata Bintou (Laboratoire Géosciences et Environnement (LaGE))