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## A Ground Penetrating Radar and Electrical Resistivity Tomography Prospection for Detecting Sterile Bodies in the Phosphatic Bearing of Sidi Chennane (Morocco)

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### ABSTRACT

In Sidi Chennane deposits (Morocco), the phosphatic series is composed of regular interbedded phosphatic and marly limestone layers. Exploitation of the phosphate in these deposits collides frequently with problems bound to the existence, in this series, of sterile bodies qualified as derangements. They cause two kinds of problems: 1) as they are hard, compact and masked by a Quaternary cover, they disturb the exploitation in some yards and give bad reserve calculation; 2) even the use of wells and mechanical boreholes did not evidence their delimitation. Our study shows that these bodies can be detected and delimited using ground penetrating radar and electrical resistivity tomography methods. It is based on the acquisition and the interpretation of series tests using these methods carried out above visible sterile bodies in a trench of exploitation in order to have geologically valid information. The article concerns to the analysis of the results and of the proceeding for a possible large geophysics survey.

### KEYWORDS

Phosphatic Series, Sterile Bodies, Geophysical Prospecting, GPR and ERT Methods

### Cite this paper

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