

## **GEOPHYSICAL PROSPECTING TECHNIQUES TO DELINEATE FLUVIAL PREHISTORIC SHELL DEPOSITS (SAMBAQUI) IN ARCHAEOLOGICAL SITE OF MIRACATU-SP**

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Geophysical prospecting techniques are used for detailed exploration of a site leading typically to the precise location of buried features such as pits, kilns and paleofiring. These shallow investigation methods have been applied in archaeological sites to delineate excavation places using anomalies in physical properties of soil due anthropic action of prehistoric man. In this work are presented results of field measurements in Miracatu-SP archaeological site using a NaI(Tl) scintillator, a fluxgate magnetometer in gradiometer configuration and geoelectric dipole-dipole equipment. The natural radioactivity mapping by gamma spectrometry allowed us to delineate prehistoric shell deposits. Some geophysical works were realized with success in fluvial shell accumulations located in Capelinha, municipality of Cajati-SP. The radiometric methods are based in facts that shells have low concentration of radioactive minerals, and can to attenuate gamma rays. Moreover, on these buried deposits, the distance between soil and detector increase, lowering counts in gamma detector. Then, the presence of these deposits are detected by negative anomalies of gamma counts along a profile. Buried archaeological features as pottery kilns and other fired clay structures produce a localized increase in the magnetic field intensity because of the weak permanent magnetism which is acquired as a result of the firing. This thermoremanent magnetism is associated with ferrimagnetic iron oxides dispersed in the clay, as a result of the fires and decaying organic material associated with human habitation. These integrated interpretations will give a good support to archaeological excavations and will allow to push on the field work.