

The relationship between electrical characteristics and sedimentary environment of marine clay

Daisaku Kawamura[1], Koichi Nakagawa[2]

[1] Geosciences, Osaka City Univ, [2] Geosci., Osaka City Univ.

The factors responsible for the electrical characteristics of the clayey materials are not thoroughly understood. Clay samples from boring core have been used to determine the relationship between resistivity and the sedimentary environment. A practical system to measure the electrical resistivity both at the outcrop and in the laboratory has been utilized in the present study. The analyzed samples were from the marine bed Ma 3 (0.86 MA) of Osaka Group in Osaka Basin. This bed shows low-high-low-high resistivity pattern, upward from Azuki volcanic ash layer at its bottom. This pattern can be well correlated to the distribution pattern of marine and non-marine diatom species, and it is also in good agreement to the result of oxygen isotope analysis of the deep-sea core sample.