
THERMAL CONDUCTIVITY OF SOILS WITH HEAVY METALS CONCENTRATION FROM THE NIGER DELTA REGION OF NIGERIA

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Abstract

This paper presents the characteristic thermal and chemical properties of some surface soil samples from the oil-producing regions of Nigeria. A microprocessor-based thermal analyzer was used to determine the thermal conductivity while spectrophotometric procedure was employed to conduct the heavy metal concentration analysis. Thermal conductivity values were compared with heavy metal concentrations in each soil sample. The values of lead and cadmium and their respective measured thermal conductivities were highly correlated, with their correlation coefficients both greater than 0.900, while other metals showed no correlation.