

173. NICKEL SORPTION KINETICS ON THE CLAY FRACTION OF A SOIL. D.R. Roberts and D.L. Sparks, Department of Plant and Soil Sciences, University of Delaware, Newark, Delaware, 19717-1303.

Soil mineral surfaces are capable of sorbing and retaining heavy metal ions and are therefore important in assessing the fate of heavy metal contaminants in the soil environment. Past studies of heavy metal sorption kinetics have focused on pure mineral components, with less emphasis placed on mixed systems. However, soil clay fractions in natural environments are rarely, if ever, composed of only one pure mineral component. This study examines Ni(II) sorption and desorption kinetics on the clay fraction ( $<0.002\text{mm}$ ) of a Matapeake silt loam. Samples were aged (days to months) using batch techniques at a pH of 7.5 with an initial Ni(II) concentration of 3mM. Desorption experiments were conducted at various times to assess the effect of aging on the release of Ni(II) from the clay fraction. Ascertaining the kinetics of nickel sorption on clay minerals is needed to propose possible sorption reaction mechanisms and assess the metal mobility/fate in natural environments.