

Arsenic behavior in a modern sediment column from the Iriomote Island

Harue Masuda[1], Kaori Okazaki[2]

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

<http://www.sci.osaka-cu.ac.jp/geos/geo1/Masuda.html>

Arsenic and its concerned chemical composition were analyzed for a sediment column taken from the intertidal zone in the Iriomote Island, Okinawa. Desorption from detrital particles and decomposition of oxides supply arsenic acids into the porewater in the layer 60cm above the impermeable layer (IL, 3m depths from the surface). Formation of organic species of arsenic becomes maximum at the depths of 40cm above the IL. In the deeper portion of 20cm above IL, sulfate reducing bacterial activity causes arsenic fixation into the sulfide minerals. In this sediment column, redox condition associated with biochemical reaction at the depth where penetrated seawater becomes stagnant is an important role to control the arsenic behavior.