

PYRITIZATION OF TRACE METALS IN THE NORTH BRAZILIAN COASTAL SEDIMENTS: CAPE CASSIPORE.

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PYRITIZATION OF TRACE METALS IN THE NORTH BRAZILIAN COASTAL SEDIMENTS : CAPE CASSIPORE ANDRADE, R.C.B. and PATCHINEELAM, S.R. Departamento de Geoquímica, Universidade Federal Fluminense, Niterói-RJ, Brazil. During the cruise of the R/V Seaward Johnson to the Brazilian coastal zone north of the Amazon River, several coastal and near shore sediment cores were collected by U.S and Brazilian scientists, for biogeochemical and sedimentological studies. For present study three cores were selected: 1) Rhizophora mangrove fringe 2) near shore at the 5 meters bathymetric contour 3) close to Avicennia mangrove vegetation. A sequential extraction technique was used to separate the trace metals associated with sulfidic mineral phase. The results disclosed a close relationship between the depth and the degree of pyritization (DOP) and the degree of trace metal pyritization (DTMP) in the rhizophora sediments. The near shore sediments exhibited such a relationship only with DOP. Such relationships were not observed in the third core. Previous anerobic incubation tests on Amazon surface sediments have demonstrated that iron and manganese are released into the porewaters from the lateritic coated sand particles and are responsible for authigenic mineral precipitations. The mangrove vegetation effectively traps sand particles. It is likely that the amount of lateritic particles, the redox reactions at rhizosphere and the intensity of diagenetic processes are responsible for these differences