

**MAJOR AND TRACE ELEMENT RECORDS AT VIRAÇÃO LAGOON SEDIMENTS,
FERNADO DE NORONHA ARCHIPELAGO, BRAZIL, DATED BY ^{210}Pb**

Sandra R. Damatto, Déborah I. T. Fávaro Sonia M.B. Oliveira, Eldemar A. Menor, Alex S. Moraes,
Bárbara P. Mazzilli

¹Instituto de Pesquisas Energéticas e Nucleares, IPEN, – Divisão de Radiometria Ambiental -
CMRA– Travessa R 400, Cidade Universitária, SP 05508-900, Brazil. damatto@ipen.br

Fernado de Noronha is an isolated group of 21 volcanic islands located in the South Equatorial Atlantic, approximately 545 km from Recife, PE, Brazil. This archipelago is a protected and isolated habitat with restrict access. Viração Lagoon, at 20 meters above the sea level, is a pristine small lake located in the main island. Two sediment cores (27 and 41 cm-long) were extracted in order to determine the chemical and mineralogical composition of the sediments, and also the sedimentation rates. The sediments are made up of smectite, hematite and Ti oxides. The sedimentation rate was determined for the 27 cm-long core using the ^{210}Pb dating method. The results allow distinguishing three periods with mean sedimentation rates of 1 cm y^{-1} (2001-1994), 0.57 cm y^{-1} (1994 -1980) and 0.18 cm y^{-1} (1979-1934). The mean sedimentation rate for the whole period is 0.4 cm.y^{-1} . As, Ba, Br, Co, Cr, Cs, Hg, Rb, Sb, Sc, Se, Ta, Th, U, Zn and some REE were determined by NAA and major elements by XRF. Their concentrations are similar to those reported for NASC, except for Fe, Ti, REE, Cr and Zn, which are enriched. There are increasing concentrations of Al, Ca, Fe, Mn, P, Cr, Se and REE, and decreasing concentrations of Br and Rb with depth. These data suggest that there is a geochemical response to the changes of the sedimentation rates. Therefore, they can provide an additional proxy to reconstruct environmental changes.

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