

Radiological Analysis of Environmental Samples in some points of the Coast of the Gulf of Mexico and Coast of Quintana Roo, Mexico.

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Abstract

We describe in this paper the results obtained by the project "Radiological analysis of environmental samples in some points of the coast of the Gulf of Mexico and coast of Quintana Roo, Mexico". The purpose of the study is to identify and quantify the natural and anthropogenic radionuclides present from sediments, sand and seawater from several sites located along the coast of the Gulf of Mexico and the Caribbean Sea. The samples are analysed in a Canberra Multichannel analyzer system for gamma spectrometry, equipped with a detector of hyperpure germanium and a Genie 2000 software, in the "Laboratory of Radiological Analysis of Environmental Samples", belonging to the Physics Department, Faculty of Sciences, National Autonomous University of Mexico (UNAM).

The geographic sites where samples were taken include the states of Tamaulipas, Veracruz, Tabasco, Campeche, Yucatan and Quintana Roo. The results of this studies will be published at the end of the project and we hope they will be useful for the national health and industrial sectors.

Until now we have identified and measured the presence of natural radionuclides such as Potassium-40 (K-40), Bismuth 212 (Bi-212), Lead-212 (Pb-212), Bismuth-214 (Bi-214), Lead-214 (Pb-214), Radium-226 (Ra-226), Actinium 228 (Ac-228), Uranium-235 (U-235), as well as some anthropogenic radionuclides found near the Laguna Verde Nuclear Power Plant.

The project is scheduled to last for three years, finishing in 2009. At its ending we shall be able to present conclusions and identify some tendencies, in connection with the background and possible radioactive contamination of the studied zones.

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