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Thorium accumulation in the sedimentary environment of the Vigo Ria (NW Iberian Peninsula)

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Thorium levels and their association with Fe, Sc, Ca, and Particulate Organic Carbon (POC) were re-searched in sediments of the Vigo Ria in order to assess the influence of radioactive gneisses from the neighbouring continental Galin~eiro Complex. Sediment of 50 surface samples and 1 core was analysed by ICP-MS and the results were validated with certificate reference material from marine sediment. It was found that Th accumulates in the middle Ria zone (9–15 mg kg⁻¹) as a result of the terrestrial source. The thorium concentration in the Ria (average: 9.4±5.1 mg kg⁻¹) is not anthropogenically impacted in accordance with its own regional background level (11.4±3.5 mg kg⁻¹), which is two times higher than the content in earth's crust. Throughout the relationship Th/Fe, Th may be associated with the iron cycle in the Ria, probably through iron oxy-hydroxide scavenging.

Palabras clave: Thorium, sediment, Ria, Galicia, NW Spain

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