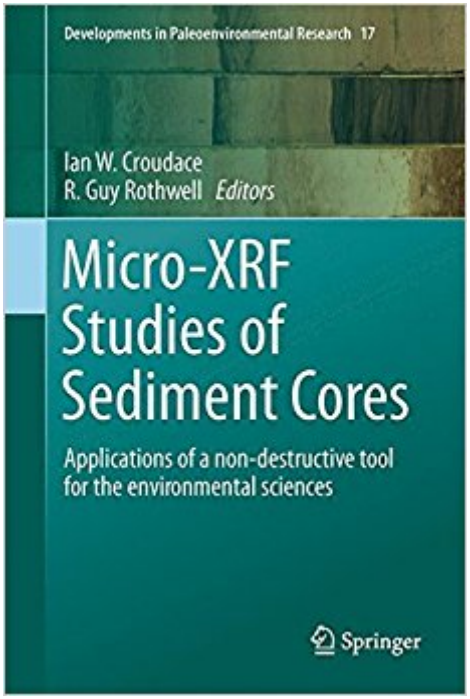
Micro-XRF Studies Of Sediment Cores: Applications Of A Non-destructive Tool For The Environmental Sciences (Developments In Paleoenvironmental Research)



Synopsis

This volume presents papers on the use of micro-XRF core scanners in palaeoenvironmental research. It contains a broad ranging view of instrument capability and points to future developments that will help contribute to higher precision elemental data and faster core analysis. Readers will find a diverse range of research by leading experts that have used micro-XRF core scanners in a wide range of scientific applications. The book includes specific application papers reporting on the use of XRF core scanners in a variety of marine, lacustrine, and pollution studies. In addition, coverage also examines practical aspects of core scanner usage, data optimisation and data calibration and interpretation.In a little over a decade, micro-XRF sediment core scanners have made a substantive contribution to palaeoenvironmental research. Their impact is based on their ability to rapidly, non-destructively and automatically scan sediment cores. Not only do they rapidly provide important proxy data without damaging samples, but they can obtain environmental data at decadal, annual and even sub-annual scales. This volume will help both experienced and new users of these non-destructive core scanners take full advantage of one of the most powerful geochemical screening tools in the environmental scientist's toolbox.

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Customer Reviews

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Ian Croudace is a geochemist with more than 40 years research experience, holds an academic position at the University of Southampton (Ocean and Earth Science) and is Director of GAU-Radioanalytical.Â He is a specialist in several branches of analytical geochemistry including X-ray fluorescence spectrometry, gamma ray spectrometry and radioanalytical chemistry and has published more than 135 papers in the international geochemical and chemical literature. During his career he has supervised 26 PhD students on a variety of geochemical topics.Â He has also co-developed an industry standard instrument for extracting tritium and C-14 from nuclear and related materials. With NOC colleague Guy Rothwell in 2000 he conceived the fundamental design of what became the prototype Itrax X-ray corescanner.Â He jointly obtained development funding, identified and commissioned the analytical partner (Cox Analytical) and contributed to the realisation of the first Itrax core scanner that emerged in 2003.Guy Rothwell is a marine sedimentologist and Curator of the British Ocean Sediment Core Research Facility (BOSCORF), the UK's national deep-sea core repository, located at the National Oceanography Centre, Southampton. He has participated in over 25 research cruises including two legs of the Ocean Drilling Program. He and colleague Ian Croudace conceived of and secured the funds to realise the prototype Itrax core scanner and contributed to its design. He is author of Minerals and Mineraloids in Marine Sediments (Elsevier Applied Science, 1989) and editor of New Techniques in Sediment Core Analysis (Geological Society of London Special Publication, 2006).

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