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Routine core analysis, feasibility of complementary methods for characterizing sandstone cores

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This Paper is based on detailed mineralogical, structural, petrophysical and geochemical studies of sandstone core samples, using routine methods. These include Magnetic Resonance Imaging (MRI), Nuclear Magnetic Resonance (NMR), X-ray Computer Tomography (CT) Scanning, particle size analysis, point counting based on petrographic thin sections, Environmental Scanning Microscopy (ESEM), X-Ray Diffraction (XRD), and X-Ray Fluorescence (XRF). In this study we present the feasibility of these methods of measurements. Four types of sandstones (Slick Rock Aeolian, Fife, Locharbriggs and Berea sandstones) that differ in differ in grain size, porosity and mineralogy, have been characterized. The results of the different methods used were found to be consistent with each other, but the combination of a variety of methods has allowed a full characterization of the rock samples.