

Abstract Submitted
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Gas NMR Characterization of Oil Shale ERIC SORTE, GERNOT LAICHER¹, BRIAN SAAM², University of Utah — Accurate descriptions and simulations of oil reservoirs such as carbonate-rich sedimentary rock are important for the efficient development and conversion of recoverable energy reserves. These descriptions depend on reliable measures of the properties of the formation rock such as absolute and effective porosity, mineralogical composition, permeability, and tortuosity. NMR signal relaxation time (T1 and T2) and measurements of restricted diffusion of gases in porous media can be used to probe multi-pore media, yielding valuable petrophysical information and allowing the characterization of internal topology and pore size distribution. We employ NMR techniques on imbibed fluorinated and hyperpolarized noble gases - gases with the unique properties of being chemically inert and minimally invasive while exhibiting favorable NMR properties - at various pressure and temperatures to characterize the shale heterogeneity. We show current results of our characterizations and explore ideas for future work.

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