RockPORE New Technology for Measuring Nanoporosity from Cuttings

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Abstract

The ability to quantify porosity is critical for characterizing and assessing conventional and unconventional petroleum reservoirs. A novel nanoporosity measurement tool for tight rock and shale reservoirs has been developed. Tight rock formations with nanoporosity require different techniques than conventional formations with microscopic pore networks. Using a reliable 3-step statistical calibration, the method yields nanoporosity measurements for rock cuttings and chips. The process involves reconciling grain density models with accurate mineralogy. Compared to costly wireline tools (e.g., gamma or density logs) this technology provides a cost-effective alternative to quantify porosity along the wellbore path. This work examines issues with conventional porosity measurement tools applied in unconventional resources. It also details our solution to the challenge of accurately quantifying nanoporosity in resource rock.