

## **Microporosity in Arab Formation Carbonates**

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### **Abstract**

Microporosity occurs throughout Arab Formation carbonates of Saudi Arabia, and affects the log response, fluid flow properties and ultimate recoveries of reservoirs in these rocks. Qualitative examination of Arab samples indicates that microporosity occurs as four major types: microporous grains, microporous matrix, microporous fibrous to bladed cements and microporous equant cements. Quantitative estimation of microporosity abundance was measured in two ways: (1) thin section point counts and (2) pore throat size distributions derived from capillary pressure data. Point count data shows that microporosity can vary widely from sample to sample, ranging from 0% to 100% of the total measured porosity of a sample. Capillary pressure data confirms the volumetric significance of pore throats that are 10 microns or less in size. Variations in microporosity abundance and type appear to be controlled by depositional texture, grain mineralogy and grain microstructure.