ROCK MECHANICS CONTRIBUTION TO THE DETERMINATION OF FLUID FLOW PROPERTIES

Maurice J. Boutéca, Jean-Paul Sarda and Jérôme Laurent
Institut Français du Pétrole

Abstract Biot's theory, which couples fluid flow and rock deformation, is investigated from the petrophysicist standpoint. The rock deformation contribution to the diffusivity equation is discussed and experimental recommendations are made for the measurement of the compressibilities. An experimental procedure is explained and results obtained within our lab are presented and discussed. An equation is established to estimate the Biot's coefficient b for a carbonate of given porosity.