



New England Research, Inc.

331 Olcott Drive, Suite L1
White River Junction, VT 05001 USA

+1 802.296.2401

www.ner.com

Boitnott, G. N. (1997) "Use of Complex Pore Pressure Transients to Measure Permeability of Rocks" Proceedings of SPE Annual Technical Conference and Exhibition, 5-8 October, San Antonio, Texas, 1997.

Abstract

While techniques for measuring permeability of core samples are well developed, many suffer from drawbacks in terms of ease of automation, duration of measurement, and limitations in range for a particular sample geometry and experimental set-up. Recent advances in computer automation of laboratory equipment have made it possible to control complex transients in pore pressure which can be used to measure permeability of core samples in a simple system. These transients can be tailored to have characteristics which have various advantages over traditional methods. Here we concentrate on one particular advantage: the ability to extend the use of transient techniques to samples with higher permeabilities. Through example measurements, we illustrate the ability to increase, by over an order of magnitude, the range of measurable permeabilities for a particular system. Methods of data reduction using frequency domain and time domain minimization are compared, and the relative advantages and drawbacks of each method are discussed.

Contact NER for more information.
