

**PRESSURE CORING:
BETTER CORES FOR BETTER ANALYSES**

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Abstract. In critical applications where reservoir engineers and geologists need to analyze samples in near in-situ conditions, *pressure coring* may be the only method of obtaining complete core analysis. The procedure can be used for any project in which success is dependent upon accurate calculation of reserves in place, or the reaction of reservoir rock to alternative recovery techniques.

The self-contained pressure coring system provides a means of capturing and maintaining the core at or near bottomhole pressure, preventing gas expansion and fluid loss. A flushing gel is used to displace drilling mud from the core barrel while keeping in-situ pressure constant. Still contained in the inner tube barrel, the cores are frozen for transport to the laboratory, where controlled thawing allows accurate fluid saturation measurements.

A case history is presented to illustrate operation and results of the pressure coring system, which is able to provide types of information unobtainable with conventional means. In addition to fluid saturation data, pressure coring provides wettability and relative permeability measurements, mechanical property data such as compressibility and shear strength, and measurements of methane content and deliverability. Thus, use of this system results in greater accuracy in core analysis, and affords greater precision in evaluation of hydrocarbon reserves.