

An Effective Review to Identify the Most Important Advances in Petroleum Production Engineering

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Abstract

The upstream of the petroleum industry involves itself in the business of oil and gas exploration and production (E & P) activities. While the exploration activities find oil and gas reserves, the production activities deliver oil and gas to the downstream of the industry. The petroleum production is definitely the heart of the petroleum industry. Petroleum production engineering is that part of petroleum engineering that attempts to maximize oil and gas production in a cost-effective manner. To achieve this objective, production engineers need to have a thorough understanding of the petroleum production systems with which they work. The purpose of this paper is to identify the most important advances in petroleum production engineering in the past decade. Of course, a review paper in the allotted space simply cannot do justice to all new technologies, especially those that are advances to established techniques. We then expound upon two technologies that we feel have made already or have the capacity of quantum impact on the petroleum industry. These are high-permeability fracturing (often referred to in the vernacular as frac-pack and variants) and complex well architecture which deals with wells with a main or mother bore from which branches are drilled.

Keywords: Petroleum production, Permeability, Fracture, well architecture.