

„Petroleum Production Engineering”

author M. Čikeš

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Book review



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The book „Petroleum Production Engineering“ (see **Figure 1**) written by Marin Čikeš, Ph. D., a retired Full Professor of the Faculty of Mining, Geology and Petroleum Engineering of the University of Zagreb was published in the year 2015, as a university textbook (*Manualia universitatis studiorum Zagrabiensis*). The publisher is the Faculty of Mining, Geology and Petroleum Engineering (RGN faculty), the University of Zagreb, and an edition of 500 copies was financially supported by INA - Oil industry, d. d. and the Croatian section of the Society of Petroleum Engineers (SPE). It is the author's second textbook, while the first entitled, „The Technology of Oil Production using Downhole Pumps” was published in 2006, co-authored by academic Mirko Zelić.

The textbook covers the field of petroleum production. It is published in the B₅ format on 524 pages with a total of 167 colour pictures and 15 tables, containing extensive nomenclature, bibliography and an index. Petroleum production includes two distinct, but very connected systems: reservoir and well. The textbook describes the so-called natural flow production, where the reservoir energy (pressure) is enough to raise fluids from the bottom of the well to the surface, while the artificial methods such as downhole pumps are given in the previous book. Petroleum production engineering is a part of petroleum engineering, which seeks to maximize production in a cost effective way, so the textbook follows that definition and also relates to other areas of petroleum engineering, and all of that is covered in the book's five chapters.

In the first chapter, *The basic properties of oil and gas reservoirs*, these terms are described in detail: the thermodynamic properties of hydrocarbons, the physical properties of reservoir rocks and the physical properties of the reservoir fluid. In the second chapter, *The fluid flow in the oil and gas reservoirs*, mathematical models are derived for fluid flow in the reservoir, shown through the six sections. In the third chapter, entitled *The analysis of the fluid flow in the oil and gas reservoirs*, which contains five sections, the complete well testing analysis is included. In the fourth chapter, *The fluid flow in the well*, the fundamental laws of fluid flow are given through five sections. The fifth chapter, *The analysis of the oil and gas production system*, describes the method of NODAL analysis of the entire well production system, for the purpose of optimization of the individual system components.

The book is a valuable scientific work, developed during the years of the author's scientific and lecturing work in the Department of Petroleum Engineering at the RGN faculty, Zagreb. Its publication is an event of great significance to the students of undergraduate, graduate and doctoral studies of petroleum engineering, as well as to a wider scientific and professional public in the oil and gas business of the Republic of Croatia. The book is available for rent or purchase at special prices for students and others, in the library of the RGN faculty.

About the author:

Marin Čikeš, as a Full Professor of the Faculty of Mining, Geology and Petroleum Engineering of the University of Zagreb, was a member of the Department of Petroleum Engineering and a lecturer of several courses on all of the petroleum engineering studies: Production of oil and gas I and II, Well testing I and II, Well stimulation. Before that, he worked as much as a full thirty years in the oil companies, while at the same time publishing more than 30 papers in foreign journals and at international conferences. In addition to the two mentioned textbooks, in 2012, he also co-authored a book published by the publishing house Springer, and all his published papers are available in his bibliography on the website <http://bib.irb.hr/lista-radova?autor=197740>.

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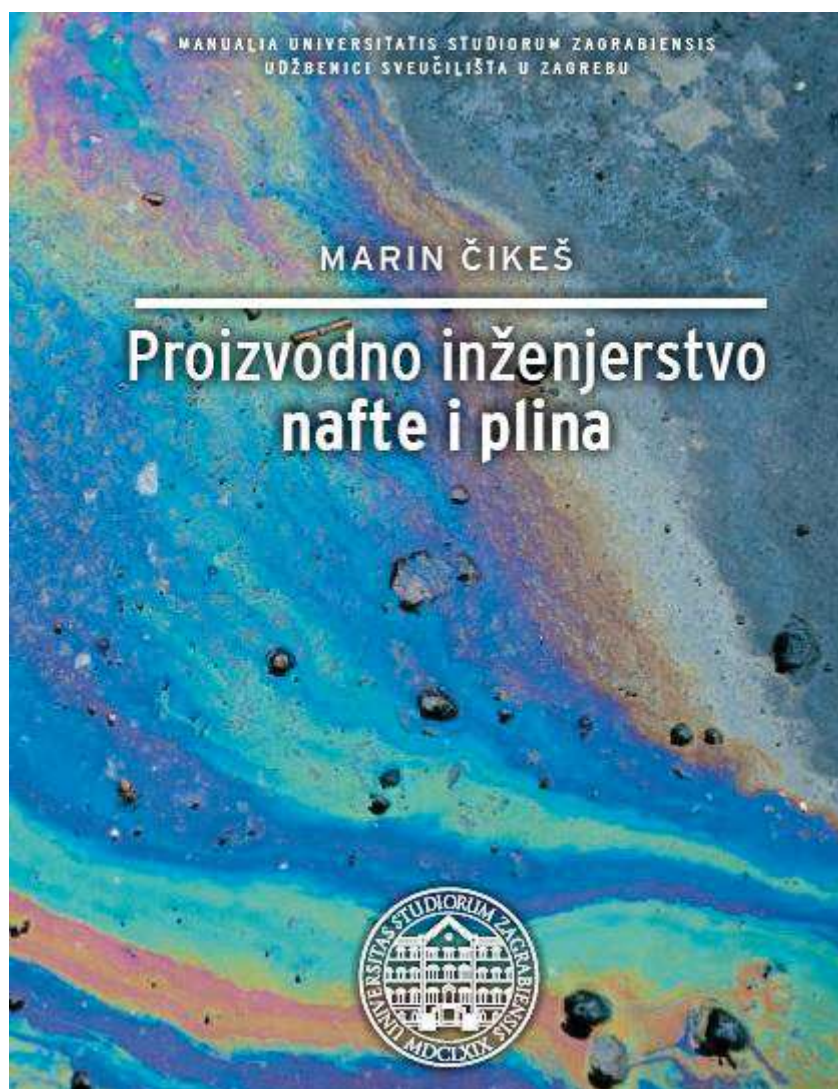


Figure 1: Cover of the book „Petroleum Production Engineering” author M. Čikeš

Slika 1: Korice knjige „Proizvodno inženjerstvo nafte i plina” autora M. Čikeša