

# Petroleum Production Engineering Boyun Guo

Types of Petroleum Engineers Introduction to Oil & Gas Production Contracts, Money Terms & Economics - with Dr. Rocky Detomo  
 PAO base oils manufactured? Data Analytics for Oil and Gas Industry using Power BI Part 1 Oil and Gas Process Engineering The journey of natural gas [Webinar]: 10 Reservoir Engineering Analyses What is BPV | Back Pressure Valve | Two way Check Valve?  
 Python For Reservoir Production Engineering P1 Hugo D'Alarch from Bolivia - MSc Petroleum production Engineering NEW - LIQUIFIED NATURAL GAS [LNG] VALUE CHAIN EXPLAINED Borris Manufacturing Co produces and sells specialized equipment used in the petroleum industry T  
 Natural Gas Engineering  
 Petroleum Production Systems  
 Hydraulic Fracturing Chemicals and Fluids Technology  
 Working Guide to Petroleum and Natural Gas Production Engineering  
 Offshore Pipelines  
 Deviated Holes  
 Reservoir Formation Damage  
 Petroleum Production Engineering, A Computer-Assisted Approach  
 Advanced Well Completion Engineering  
 Hydraulic Fracturing and Well Stimulation  
 Production and Storage  
 Contamination Control in the Natural Gas Industry  
 Towards Developing Reservoir Emulators  
 Advanced Natural Gas Engineering  
 Fundamentals of Reservoir Engineering  
 Applied Petroleum Reservoir Engineering

*Petroleum Production Engineering*  
 Boyun Guo

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## LAM LARSEN

**Natural Gas Engineering** Gulf Professional Publishing  
 Understanding the properties of a reservoir's fluids and creating a successful model based on lab data and calculation are required for every reservoir engineer in oil and gas today, and with reservoirs becoming more complex, engineers and managers are back to reinforcing the fundamentals. PVT (pressure-volume-temperature) reports are one way to achieve better parameters, and Equations of State and PVT Analysis, 2nd Edition, helps engineers to fine tune their reservoir problem-solving skills and achieve better modeling and maximum asset development. Designed for training sessions for new and existing engineers, Equations of State and PVT Analysis, 2nd Edition, will prepare reservoir engineers for complex hydrocarbon and natural gas systems with more sophisticated EOS models, correlations and examples from the hottest locations around the world such as the Gulf of Mexico, North Sea and China, and Q&A at the end of each chapter. Resources are maximized with this must-have reference. Improve with new material on practical applications, lab analysis, and real-world sampling from wells to gain better understanding of PVT properties for crude and natural gas Sharpen your reservoir models with added content on how to tune EOS parameters accurately Solve more unconventional problems with field examples on phase behavior characteristics of shale and heavy oil

**Petroleum Production Systems** Oil & Gas Consultants International

**Petroleum Production Systems**, Second Edition, is the comprehensive source for clear and fundamental methods for about modern petroleum production engineering practice. Written by four leading experts, it thoroughly introduces modern principles of petroleum production systems design and operation, fully considering the combined behavior of reservoirs, surface equipment, pipeline systems, and storage facilities. Long considered the definitive text for production engineers, this edition adds extensive new coverage of hydraulic fracturing, with emphasis on well productivity optimization. It presents new chapters on horizontal wells and well performance evaluation, including production data analysis and sand management. This edition features: A structured approach spanning classical production engineering, well testing, production logging, artificial lift, and matrix and hydraulic fracture stimulation; Revisions throughout to reflect recent innovations and extensive feedback from both students and colleagues; Detailed coverage of modern best practices and their rationales; Unconventional oil and gas well design; Many new examples and problems; Detailed data sets for three characteristic reservoir types: an undersaturated oil reservoir, a saturated oil reservoir, and a gas reservoir.  
**Hydraulic Fracturing Chemicals and Fluids Technology** Elsevier  
 Provides a comprehensive treatment of natural gas engineering, covering most operations of the gas engineering. It is appropriate for courses in natural gas engineering, advanced reservoir engineering and petroleum engineering offered in departments of chemical engineering.

**Working Guide to Petroleum and Natural Gas Production Engineering** Petroleum Production Engineering

Hydraulic fracturing (or "fracking") has been a source of both achievement and controversy for years, and it continues to be a hot-button issue all over the world. It has made the United States an energy exporting country once again and kept the price of gasoline low, for consumers and companies. On the other hand, it has been potentially a dangerous and destructive practice that has led to environmental problems and health issues. It is a

deeply important subject for the petroleum engineer to explore as much as possible. This collection of papers is the first in the series, Sustainable Energy Engineering, tackling this very complex process of hydraulic fracturing and its environmental and economic ramifications. Born out of the journal by the same name, formerly published by Scrivener Publishing, most of the articles in this volume have been updated, and there are some new additions, as well, to keep the engineer abreast of any updates and new methods in the industry. Truly a snapshot of the state-of-the-art, this groundbreaking volume is a must-have for any petroleum engineer working in the field, environmental engineers, petroleum engineering students, and any other engineer or scientist working with hydraulic fracturing.  
**Offshore Pipelines** Gulf Professional Publishing  
 "This book is fast becoming the standard text in its field", wrote a reviewer in the Journal of Canadian Petroleum Technology soon after the first appearance of Dake's book. This prediction quickly came true: it has become the standard text and has been reprinted many times. The author's aim - to provide students and teachers with a coherent account of the basic physics of reservoir engineering - has been most successfully achieved. No prior knowledge of reservoir engineering is necessary. The material is dealt with in a concise, unified and applied manner, and only the simplest and most straightforward mathematical techniques are used. This low-priced paperback edition will continue to be an invaluable teaching aid for years to come.

**Deviated Holes** Gulf Professional Publishing  
 Petroleum engineering now has its own true classic handbook that reflects the profession's status as a mature major engineering discipline. Formerly titled the Practical Petroleum Engineer's Handbook, by Joseph Zaba and W.T. Doherty (editors), this new, completely updated two-volume set is expanded and revised to give petroleum engineers a comprehensive source of industry standards and engineering practices. It is packed with the key, practical information and data that petroleum engineers rely upon daily. The result of a fifteen-year effort, this handbook covers the gamut of oil and gas engineering topics to provide a reliable source of engineering and reference information for analyzing and solving problems. It also reflects the growing role of natural gas in industrial development by integrating natural gas topics throughout both volumes. More than a dozen leading industry experts-academia and industry-contributed to this two-volume set to provide the best, most comprehensive source of petroleum engineering information available.

**Reservoir Formation Damage** Gulf Professional Publishing  
 Natural gas is playing an increasing role in meeting world energy demands because of its abundance, versatility, and its clean burning nature. As a result, lots of new gas exploration, field development and production activities are under way, especially in places where natural gas until recently was labeled as "stranded". Because a significant portion of natural gas reserves worldwide are located across bodies of water, gas transportation in the form of LNG or CNG becomes an issue as well. Finally natural gas is viewed in comparison to the recently touted alternatives. Therefore, there is a need to have a book covering all the unique aspects and challenges related to natural gas from the upstream to midstream and downstream. All these new issues have not been addressed in depth in any existing book. To bridge the gap, Xiuli Wang and Michael Economides have written a new book called Advanced Natural Gas Engineering. This book will serve as a reference for all engineers and professionals in the energy business. It can also be a textbook for students in petroleum and chemical engineering curricula and in training departments for a large group of companies.

**Petroleum Production Engineering, A Computer-Assisted Approach** Gulf Professional Publishing

The demand for energy consumption is increasing rapidly. To avoid the impending energy crunch, more producers are switching from oil to natural gas. While natural gas engineering is well documented through many sources, the computer applications that provide a crucial role in engineering design and analysis are not well published, and emerging technologies, such as shale gas drilling, are generating more advanced applications for engineers to utilize on the job. To keep producers updated, Boyun Guo and Ali Ghalambor have enhanced their best-selling manual, Natural Gas Engineering Handbook, to continue to provide upcoming and practicing engineers the full scope of natural gas engineering with a computer-assisted approach. This must-have handbook includes: A focus on real-world essentials rather than theory Illustrative examples throughout the text Working spreadsheet programs for all the engineering calculations on a free and easy to use companion site Exercise problems at the end of every chapter, including newly added questions utilizing the spreadsheet programs Expanded sections covering today's technologies, such as multi-fractured horizontal wells and shale gas wells

**Advanced Well Completion Engineering** Pennwell Corporation  
 Reservoir Formation Damage, Second edition is a comprehensive treatise of the theory and modeling of common formation damage problems and is an important guide for research and development, laboratory testing for diagnosis and effective treatment, and tailor-fit- design of optimal strategies for mitigation of reservoir formation damage. The new edition includes field case histories and simulated scenarios demonstrating the consequences of formation damage in petroleum reservoirs Faruk Civan, Ph.D., is an Alumni Chair Professor in the Mewbourne School of Petroleum and Geological Engineering at the University of Oklahoma in Norman. Dr. Civan has received numerous honors and awards, including five distinguished lectureship awards and the 2003 SPE Distinguished Achievement Award for Petroleum Engineering Faculty. Petroleum engineers and managers get critical material on evaluation, prevention, and remediation of formation damage which can save or cost millions in profits from a mechanistic point of view State-of-the-Art knowledge and valuable insights into the nature of processes and operational practices causing formation damage Provides new strategies designed to minimize the impact of and avoid formation damage in petroleum reservoirs with the newest drilling, monitoring, and detection techniques

## HYDRAULIC FRACTURING AND WELL STIMULATION

Gulf Professional Publishing  
**Petroleum Production Engineering, A Computer-Assisted Approach** provides handy guidelines to designing, analyzing and optimizing petroleum production systems. Broken into four parts, this book covers the full scope of petroleum production engineering, featuring stepwise calculations and computer-based spreadsheet programs. Part one contains discussions of petroleum production engineering fundamentals, empirical models for production decline analysis, and the performance of oil and natural gas wells. Part two presents principles of designing and selecting the main components of petroleum production systems including: well tubing, separation and dehydration systems, liquid pumps, gas compressors, and pipelines for oil and gas transportation. Part three introduces artificial lift methods, including sucker rod pumping systems, gas lift technology, electrical submersible pumps and other artificial lift systems. Part four is comprised of production enhancement techniques including, identifying well problems, designing acidizing jobs, guidelines to hydraulic fracturing and job evaluation techniques, and production optimization techniques. \*Provides complete coverage of the latest techniques used for designing and analyzing petroleum

production systems \*Increases efficiency and addresses common problems by utilizing the computer-based solutions discussed within the book \* Presents principles of designing and selecting the main components of petroleum production systems

### PRODUCTION AND STORAGE

McGraw-Hill Economics Department

**Petroleum Production Engineering, A Computer-Assisted Approach** provides handy guidelines to designing, analyzing and optimizing petroleum production systems. Broken into four parts, this book covers the full scope of petroleum production engineering, featuring stepwise calculations and computer-based spreadsheet programs. Part one contains discussions of petroleum production engineering fundamentals, empirical models for production decline analysis, and the performance of oil and natural gas wells. Part two presents principles of designing and selecting the main components of petroleum production systems including: well tubing, separation and dehydration systems, liquid pumps, gas compressors, and pipelines for oil and gas transportation. Part three introduces artificial lift methods, including sucker rod pumping systems, gas lift technology, electrical submersible pumps and other artificial lift systems. Part four is comprised of production enhancement techniques including, identifying well problems, designing acidizing jobs, guidelines to hydraulic fracturing and job evaluation techniques, and production optimization techniques. \*Provides complete coverage of the latest techniques used for designing and analyzing petroleum production systems \*Increases efficiency and addresses common problems by utilizing the computer-based solutions discussed within the book \* Presents principles of designing and selecting the main components of petroleum production systems

**Contamination Control in the Natural Gas Industry** Elsevier

**Offshore Pipelines** covers the full scope of pipeline development from pipeline designing, installing, and testing to operating. It gathers the authors' experiences gained through years of designing, installing, testing, and operating submarine pipelines. The aim is to provide engineers and management personnel a guideline to achieve cost-effective management in their offshore and deepwater pipeline development and operations. The book is organized into three parts. Part I presents design practices used in developing submarine oil and gas pipelines and risers. Contents of this part include selection of pipe size, coating, and insulation. Part II provides guidelines for pipeline installations. It focuses on controlling bending stresses and pipe stability during laying pipelines. Part III deals with problems that occur during pipeline operations. Topics covered include pipeline testing and commissioning, flow assurance engineering, and pigging operations. This book is written primarily for new and experienced engineers and management personnel who work on oil and gas pipelines in offshore and deepwater. It can also be used as a reference for college students of undergraduate and graduate levels in Ocean Engineering, Mechanical Engineering, and Petroleum Engineering. \* Pipeline design engineers will learn how to design low-cost pipelines allowing long-term operability and safety. \* Pipeline operation engineers and management personnel will learn how to operate their pipeline systems in a cost effective manner. \* Deepwater pipelining is a new technology developed in the past ten years and growing quickly.

**Towards Developing Reservoir Emulators** BoD – Books on Demand

Applied Drilling Engineering presents engineering science

fundamentals as well as examples of engineering applications involving those fundamentals.

**Advanced Natural Gas Engineering** Gulf Professional Publishing Petroleum engineers continue to need cost saving and environmentally sustainable products and methods for today's hydraulic fracturing operations. Hydraulic Fracturing Chemicals and Fluid Technology, Second Edition, continues to deliver an easy-to-use manual of fluid formulations to meet specific job needs. Enhanced with more environmental aspects, this reference helps engineers and fluid specialists select and use the appropriate chemicals for any hydraulic fracturing job. New information concerning nanotechnology applications such as wellbore sealant and proppants are added to enhance operations in a sustainable manner while saving on production costs. Other updates include low recovery of fracturing water in shale, surfactants for waterless hydraulic fracturing, and expanded produced water treatment. Rounding out with updated references and patents for easy reference, Hydraulic Fracturing Chemicals and Fluid Technology, Second Edition, gives engineers a critical guide on selecting better products to boost productions while strengthening environmental enhancement and consideration. Gain insight with new information surrounding environmental contamination and produced water treatment methods Save on production costs with new nanoparticle-enhanced fluids and applications Eliminate guesswork with systematic approach to fluid technology organized by project need

**Fundamentals of Reservoir Engineering** Gulf Professional Publishing

This concise technical handbook, written to aid drilling engineers and drilling supervisors in underbalanced drilling (UBD) operations, includes detailed calculations. In fact, readers can easily code the mathematical models presented in this book and build their own UBD simulators in spreadsheet programs. Guo and Ghalambor cover much needed information on the applications for drilling water wells, mine boreholes, geotechnical boreholes, and oil and gas recovery wells by providing illustrative examples throughout the text. Further, they include a complete set of engineering charts with a thorough description of theory and principles. Contents: Underbalanced drilling basics Air, gas, mist, and unstable foam drilling Stable foam drilling Aerated liquid drilling Selecting compressor units Field applications Appendices (Required air flow rates for air drilling vertical holes; required gas flow rates for gas drilling vertical holes; required air flow rates for air drilling deviated holes).

**Applied Petroleum Reservoir Engineering** John Wiley & Sons

**Petroleum Production Engineering** Gulf Professional Publishing **Introduction to Petroleum Engineering** Pearson Presents key concepts and terminology for a multidisciplinary range of topics in petroleum engineering Places oil and gas production in the global energy context Introduces all of the key concepts that are needed to understand oil and gas production from exploration through abandonment Reviews fundamental terminology and concepts from geology, geophysics, petrophysics, drilling, production and reservoir engineering Includes many worked practical examples within each chapter and exercises at the end of each chapter highlight and reinforce material in the chapter Includes a solutions manual for academic adopters

**A Computer-Assisted Approach** Elsevier

Completions are the conduit between hydrocarbon reservoirs and

surface facilities. They are a fundamental part of any hydrocarbon field development project. They have to be designed for safely maximising the hydrocarbon recovery from the well and may have to last for many years under ever changing conditions. Issues include: connection with the reservoir rock, avoiding sand production, selecting the correct interval, pumps and other forms of artificial lift, safety and integrity, equipment selection and installation and future well interventions. \* Course book based on course well completion design by TRACS International \* Unique in its field: Coverage of offshore, subsea, and landbased completions in all of the major hydrocarbon basins of the world. \* Full colour **Petroleum Production Engineering** John Wiley & Sons This second edition of the original volume adds significant new innovations for revolutionizing the processes and methods used in petroleum reservoir simulations. With the advent of shale drilling, hydraulic fracturing, and underbalanced drilling has come a virtual renaissance of scientific methodologies in the oil and gas industry. New ways of thinking are being pioneered, and Dr. Islam and his team have, for years now, been at the forefront of these important changes. This book clarifies the underlying mathematics and physics behind reservoir simulation and makes it easy to have a range of simulation results along with their respective probability. This makes the risk analysis based on knowledge rather than guess work. The book offers by far the strongest tool for engineers and managers to back up reservoir simulation predictions with real science. The book adds transparency and ease to the process of reservoir simulation in way never witnessed before. Finally, No other book provides readers complete access to the 3D, 3-phase reservoir simulation software that is available with this text. A must-have for any reservoir engineer or petroleum engineer working upstream, whether in exploration, drilling, or production, this text is also a valuable textbook for advanced students and graduate students in petroleum or chemical engineering departments.

**Formulas and Calculations for Drilling, Production and Workover** Wiley-Scrivener

**Petroleum Production Engineering, Second Edition**, updates both the new and veteran engineer on how to employ day-to-day production fundamentals to solve real-world challenges with modern technology. Enhanced to include equations and references with today's more complex systems, such as working with horizontal wells, workovers, and an entire new section of chapters dedicated to flow assurance, this go-to reference remains the most all-inclusive source for answering all upstream and midstream production issues. Completely updated with five sections covering the entire production spectrum, including well productivity, equipment and facilities, well stimulation and workover, artificial lift methods, and flow assurance, this updated edition continues to deliver the most practical applied production techniques, answers, and methods for today's production engineer and manager. In addition, updated Excel spreadsheets that cover the most critical production equations from the book are included for download. Updated to cover today's critical production challenges, such as flow assurance, horizontal and multi-lateral wells, and workovers Guides users from theory to practical application with the help of over 50 online Excel spreadsheets that contain basic production equations, such as gas lift potential, multilateral gas well deliverability, and production forecasting Delivers an all-inclusive product with real-world answers for training or quick look up solutions for the entire petroleum production spectrum

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