
Unconventional Oil And Gas Resources Exploitation And Development Emerging Trends And Technologies In Petroleum Engineering

Unconventional Oil and Gas Development
Deep Shale Oil and Gas
Global Impact of Unconventional Energy Resources
Unconventional Reservoir Geomechanics
Techniques for Reservoir Engineering Analysis
Exploitation of Unconventional Oil and Gas Resources
Offshore Well Completion and Stimulation
Shale Reservoirs
Unconventional Gas and Tight Oil Exploitation
Resources and Federal Actions
Unconventional Oil and Natural Gas
Unconventional Oil and Gas Development
Environmental and Public Health Requirements, Risks and Size of Shale Resources
Development of Unconventional Reservoirs
Environmental and Health Issues in Unconventional Oil and Gas Development
Fluid Phase Behavior for Conventional and Unconventional Oil and Gas Reservoirs
Unconventional Petroleum Geology
Oil and Gas Production Handbook: An Introduction to Oil and Gas Production
Opportunities and Challenges for Innovation: Proceedings of a Workshop
Evaluation and Development
Exploitation of Unconventional Oil and Gas Resources - Hydraulic Fracturing and Other Recovery and Assessment Techniques
Shale Oil and Gas Handbook
Unconventional Hydrocarbon Resources
Unconventional Oil and Gas Resources Handbook
Evaluation and Development
A Global Perspective on Fracking and Shale Development
Shale Gas and Tight Oil
Unconventional: Natural Gas Developmt from Marcellus Shale
Well Production Performance Analysis for Shale Gas Reservoirs
Regulatory Policy and Local Community Responses to Environmental Concerns
Flowback and Produced Waters
Hydraulic Fracturing and Other Recovery and Assessment Techniques
Fracking: Environmental Protection and Development of Unconventional Oil and Gas Resources
Oil and Gas Wells
Exploitation and Development

The Fossil Fuel Revolution

Using Hydraulic Fracturing and Other Technologies: Proceedings of a Workshop

Unconventional Oil and Gas Resources Handbook

Unconventional Oil and Natural Gas

*Unconventional Oil And Gas Resources
Exploitation And Development
Emerging Trends And Technologies In
Petroleum Engineering*

Downloaded from ftp.wtvq.com by guest

QUINCY HOWE

Unconventional Oil and Gas Development Lulu.com

A comprehensive overview of the key geologic, geomechanical and engineering principles that govern the development of unconventional oil and gas reservoirs. Covering hydrocarbon-bearing formations, horizontal drilling, reservoir seismology and environmental impacts, this is an invaluable resource for geologists, geophysicists and reservoir engineers.

Deep Shale Oil and Gas Cambridge University Press

Produced water—water from underground formations that is brought to the surface during oil and gas production—is the greatest volume byproduct associated with oil and gas production. It is managed by some combination of underground injection, treatment and subsequent use, treatment and discharge, or evaporation, subject to compliance with state and federal regulations. Management of these waters is challenging not only for industry and regulators, but also for landowners and the public because of differences in the quality and quantity of produced water, varying infrastructure needs, costs, and environmental considerations associated with produced water disposal, storage, and transport. Unconventional oil and gas development involves technologies that combine horizontal drilling with the practice of hydraulic fracturing. Hydraulic fracturing is a controlled, high-pressure injection of fluid and proppant into a well to generate fractures in the rock formation containing the oil or gas. After the hydraulic fracture procedure is completed, the injected fluid is allowed to flow back into the well, leaving the proppant in the newly created fractures. As a result, a portion of the injected water returns to the surface and this water is called "flowback water" which initially may mix with the naturally occurring produced water from the formation. The chemistry and volume of water returning to the surface from

unconventional oil and gas operations thus changes during the lifetime of the well due to the amount of fluid used in the initial stage of well development, the amount of water naturally occurring in the geologic formation, the original water and rock chemistry, the type of hydrocarbon being produced, and the way in which production is conducted. The volume and composition of flowback and produced waters vary with geography, time, and site-specific factors. A workshop was conducted by the National Academies of Sciences, Engineering, and Medicine to highlight the challenges and opportunities associated in managing produced water from unconventional hydrocarbon development, and particularly in the area of potential beneficial uses for these waters. This publication summarizes the presentations and discussions from the workshop.

Global Impact of Unconventional Energy Resources

Lexington Books

New applications of horizontal drilling techniques and hydraulic fracturing, in which water, sand, and chemical additives are injected under high pressure to create and maintain fractures in underground formations, allow oil and natural gas from shale formations to be developed. As exploration and development of shale oil and gas have increased, including in areas of the country without a history of oil and natural gas development, questions have been raised about the estimates of the size of these resources, as well as the processes used to extract them. This book examines the environmental and public health requirements, risks, and size of shale resources of unconventional oil and gas development.

Unconventional Reservoir Geomechanics Gulf Professional Publishing

The aim of this book is to present some advances in different aspects of oil and gas technology. Two chapters are dedicated to the scientific research in the domain of reservoir engineering and characterization. Four chapters are dedicated to the field of well drilling and performance and another chapter is related to oil and transport.

Techniques for Reservoir Engineering Analysis Elsevier

As the shale revolution continues in North America, unconventional resource markets are emerging on every continent. In the next eight to ten years, more than 100,000 wells and one- to two-million hydraulic fracturing stages could be executed, resulting in close to one trillion dollars in industry spending. This growth has prompted professionals experienced in conventional oil and gas exploitation and development to acquire practical knowledge of the unconventional realm. *Unconventional Oil and Gas Resources: Exploitation and Development* provides a comprehensive understanding of the latest advances in the exploitation and development of unconventional resources. With an emphasis on shale, this book: Addresses all aspects of the exploitation and development process, from data mining and accounting to drilling, completion, stimulation, production, and environmental issues Offers in-depth coverage of sub-surface measurements (geological, geophysical, petrophysical, geochemical, and geomechanical) and their interpretation Discusses the use of microseismic, fiber optic, and tracer reservoir monitoring technologies and JewelSuite™ reservoir modeling software Presents the viewpoints of internationally respected experts and researchers from leading exploration and production (E&P) companies and academic institutions Explores future trends in reservoir technologies for unconventional resources development *Unconventional Oil and Gas Resources: Exploitation and Development* aids geologists, geophysicists, petrophysicists, geomechanic specialists, and drilling, completion, stimulation, production, and reservoir engineers in the environmentally safe exploitation and development of unconventional resources like shale.

Exploitation of Unconventional Oil and Gas Resources Rand Corporation

Unconventional Oil and Gas Resources Handbook: Evaluation and Development is a must-have, helpful handbook that brings a wealth of information to engineers and geoscientists. Bridging between subsurface and production, the handbook provides

engineers and geoscientists with effective methodology to better define resources and reservoirs. Better reservoir knowledge and innovative technologies are making unconventional resources economically possible, and multidisciplinary approaches in evaluating these resources are critical to successful development. *Unconventional Oil and Gas Resources Handbook* takes this approach, covering a wide range of topics for developing these resources including exploration, evaluation, drilling, completion, and production. Topics include theory, methodology, and case histories and will help to improve the understanding, integrated evaluation, and effective development of unconventional resources. Presents methods for a full development cycle of unconventional resources, from exploration through production. Explores multidisciplinary integrations for evaluation and development of unconventional resources and covers a broad range of reservoir characterization methods and development scenarios. Delivers balanced information with multiple contributors from both academia and industry. Provides case histories involving geological analysis, geomechanical analysis, reservoir modeling, hydraulic fracturing treatment, microseismic monitoring, well performance and refracturing for development of unconventional reservoirs.

Offshore Well Completion and Stimulation Springer Nature
Well Production Performance Analysis for Shale Gas Reservoirs is urgently needed by the petroleum community for unconventional oil and gas resources development and production. Features an in-depth analysis of shale gas horizontal fractured wells and how they differ from their conventional counterparts. Includes detailed information about the testing of fractured horizontal wells before and after fracturing. Offers in-depth analysis of numerical simulation and the importance of this tool for the development of shale gas reservoirs.

Shale Reservoirs Unconventional Oil and Gas Resources Handbook Evaluation and Development

In this report, RAND researchers assess the potential future production levels, production costs, greenhouse gases, and other environmental implications of synthetic crude oil from oil sands and fuels produced via coal liquefaction relative to conventional petroleum-based transportation fuels. The findings indicate the potential cost-competitiveness of these alternative fuels and potential economic-environmental trade-offs from their

deployment.

Unconventional Gas and Tight Oil Exploitation John Wiley & Sons

This report focuses on the growth in U.S. oil and natural gas production driven primarily by tight oil formations and shale gas formations. It also reviews selected federal environmental regulatory and research initiatives related to unconventional oil and gas extraction, including the Bureau of Land Management (BLM) hydraulic fracturing rule (finalized in March 2015) and Environmental Protection Agency (EPA) actions.

Resources and Federal Actions Royal Society of Chemistry
Unconventional Oil and Gas Resources Handbook Evaluation and Development Gulf Professional Publishing
Unconventional Oil and Natural Gas AAPG

New applications of horizontal drilling techniques and hydraulic fracturing, in which water, sand, and chemical additives are injected under high pressure to create and maintain fractures in underground formations, allow oil and natural gas from shale formations to be developed. As exploration and development of shale oil and gas have increased, including in areas of the country without a history of oil and natural gas development, questions have been raised about the estimates of the size of these resources, as well as the processes used to extract them. This book examines the environmental and public health requirements, risks, and size of shale resources of unconventional oil and gas development.

Unconventional Oil and Gas Development BiblioGov

A comprehensive guide to the technology, science, safety, and environmental assessment and cleanup related to hydraulic fracturing for oil and gas resources. *Fracking: Environmental Protection and Development of Unconventional Oil and Gas Resources* focuses on hydraulic fracturing related to oil and gas drilling, spills and leaks, and environmental impacts, and the side-effects or unintended consequences of resource extraction. The book starts with the history of oil and gas drilling associated with hydraulic fracturing and explains the geologic and technical issues of fracking of tight formation. This practical guide also describes the geology of petroleum hydrocarbon resources, as well as the methods of verification for environmentally safe resource extraction. Numerous case studies from the U.S. EPA and other agencies and universities are featured, showing safe

and appropriate resource extraction, as well as verified case studies where water resources have been impacted by drilling and production activities. This important and timely book concludes with a variety of background soil, vapor, and groundwater sampling methods to minimize impacts and provide data to lower the chances of future environmental damage and litigation. Monitoring and sampling programs during and after drilling and production activities are explained, and cost recovery methods are described for when environmental damages occur. Provides a better understanding of the controversy related to hydraulic fracturing. Covers hydraulic fracturing technologies, and the geology and chemistry of tight shale and sandstone resources. Features numerous case studies by the U.S. EPA and other agencies. Evaluates planning and sampling methods of minimizing environmental impacts. Explains remediation methods if environmental impacts are confirmed. Includes cost recovery techniques and data requirements for impacts from hydraulic fracturing.

Environmental and Public Health Requirements, Risks and Size of Shale Resources National Academies Press

Fluid Phase Behavior for Conventional and Unconventional Oil and Gas Reservoirs delivers information on the role of PVT (pressure-volume-temperature) tests/data in various aspects, in particular reserve estimation, reservoir modeling, flow assurance, and enhanced oil recovery for both conventional and unconventional reservoirs. This must-have reference also prepares engineers on the importance of PVT tests, how to evaluate the data, develop an effective management plan for flow assurance, and gain perspective of flow characterization, with a particular focus on shale oil, shale gas, gas hydrates, and tight oil making. This book is a critical resource for today's reservoir engineer, helping them effectively manage and maximize a company's oil and gas reservoir assets. Provides tactics on reservoir phase behavior and dynamics with new information on shale oil and gas hydrates. Helps readers improve on the effect of salt concentration and application to CO₂-Acid Gas Disposal with content on water-hydrocarbon systems. Provides practical experience with PVT and tuning of EOS with additional online excel spreadsheet examples.
Development of Unconventional Reservoirs CRC Press
Oil and gas well completion and stimulation technologies to develop unconventional hydrocarbon resources in the United

States have evolved over the past several decades, particularly in relation to the development of shale oil and shale gas. Shale oil and shale gas resources and the technology associated with their production are often termed "unconventional" because the oil and gas trapped inside the shale or other low-permeability rock formation cannot be extracted using conventional technologies. Since about 2005, the application of these technologies to fields in the U.S. have helped produce natural gas and oil in volumes that allowed the country to reduce its crude oil imports by more than 50% and to become a net natural gas exporter. The regional and national economic and energy advances gained through production and use of these resources have been accompanied, however, by rapid expansion of the infrastructure associated with the development of these fields and public concern over the impacts to surface- and groundwater, air, land, and communities where the resources are extracted. The intent of the first day of the workshop of the National Academies of Sciences, Engineering, and Medicine's Roundtable on Unconventional Hydrocarbon Development was to discuss onshore unconventional hydrocarbon development in the context of potential environmental impacts and the ways in which the risks of these kinds of impacts can be managed. Specifically, the workshop sought to examine the lifecycle development of these fields, including decommissioning and reclamation of wells and related surface and pipeline infrastructure, and the approaches from industry practice, scientific research, and regulation that could help to ensure management of the operations in ways that minimize impacts to the environment throughout their active lifetimes and after operations have ceased. This publication summarizes the presentations and discussions from the workshop.

Environmental and Health Issues in Unconventional Oil and Gas Development BoD – Books on Demand

A comprehensive textbook presenting techniques for the analysis and characterization of shale plays Significant reserves of hydrocarbons cannot be extracted using conventional methods. Improvements in techniques such as horizontal drilling and hydraulic fracturing have increased access to unconventional hydrocarbon resources, ushering in the "shale boom" and disrupting the energy sector. Unconventional Hydrocarbon Resources: Techniques for Reservoir Engineering Analysis covers the geochemistry, petrophysics, geomechanics, and economics of

unconventional shale oil plays. The text uses a step-by-step approach to demonstrate industry-standard workflows for calculating resource volume and optimizing the extraction process. Volume highlights include: Methods for rock and fluid characterization of unconventional shale plays A workflow for analyzing wells with stimulated reservoir volume regions An unconventional approach to understanding of fluid flow through porous media A comprehensive summary of discoveries of massive shale resources worldwide Data from Eagle Ford, Woodford, Wolfcamp, and The Bakken shale plays Examples, homework assignments, projects, and access to supplementary online resources Hands-on teaching materials for use in petroleum engineering software applications The American Geophysical Union promotes discovery in Earth and space science for the benefit of humanity. Its publications disseminate scientific knowledge and provide resources for researchers, students, and professionals.

Fluid Phase Behavior for Conventional and Unconventional Oil and Gas Reservoirs McGraw-Hill Education

The United States has seen resurgence in petroleum production, mainly driven by technology improvements-especially hydraulic fracturing and directional drilling-developed for natural gas production from shale formations. Application of these technologies enabled natural gas to be economically produced from shale and other unconventional formations, and contributed to the United States becoming the world's largest natural gas producer in 2009. Use of these technologies has also contributed to the rise in U.S. oil production over the last few years. In 2009, annual oil production increased over 2008, the first annual rise since 1991, and has continued to increase each year since. Between January 2008 and May 2014, U.S. monthly crude oil production rose by 3.2 million barrels per day, with about 85% of the increase coming from shale and related tight oil formations in Texas and North Dakota. Other tight oil plays are also being developed, helping raise the prospect of energy independence, especially for North America. The rapid expansion of tight oil and shale gas extraction using high-volume hydraulic fracturing has raised concerns about its potential environmental and health impacts. These concerns include potential direct impacts to groundwater and surface water quality, water supplies, and air quality. In addition, some have raised concerns about potential

long-term and indirect impacts from reliance on fossil fuels and resulting greenhouse gas emissions and influence on broader energy economics. This report focuses mainly on actions related to controlling potential direct impacts. States are the primary regulators of oil and gas production on non-federal lands. State laws and regulations governing oil and gas production have been evolving across the states in response to changes in production practices as producers have expanded into tight oil, shale gas, and other unconventional hydrocarbon formations. However, state rules vary considerably, leading to calls for more federal oversight of unconventional oil and gas extraction activities, and hydraulic fracturing specifically. Although provisions of several federal environmental laws can apply to certain activities related to oil and gas production, proposals to expand federal regulation in this area have been highly controversial. Some advocates of a larger federal role point to a wide range of differences among state regulatory regimes, and argue that a national framework is needed to ensure a consistent minimum level of protection for surface and groundwater resources, and air quality. Others argue against more federal involvement, and point to the long-established state oil and natural gas regulatory programs, regional differences in geology and water resources, and concern over regulatory redundancy. The federal role in regulating oil and gas extraction activities-and hydraulic fracturing, in particular-has been the subject of considerable debate and legislative proposals for several years, but legislation has not been enacted. While congressional debate has continued, the Administration has pursued a number of regulatory initiatives related to unconventional oil and gas development under existing statutory authorities.

Unconventional Petroleum Geology MDPI

The extraction of natural gas from shale formations is no simple task and perhaps the most expensive when compared to over unconventional gases. Although, its popularity has grown over the years, there is much to be done to make their production and processing more cost-effective. Brief but comprehensive, Shale Gas Production Processes begins with an overview of the chemistry, engineering and technology of shale gas. This is quickly followed by self-contained chapters concerning new and evolving process technologies and their applications as well as environmental regulations. Written in an easy to read format,

Shale Gas Production Processes will prove useful for those scientists and engineers already engaged in fossil fuel science and technology as well as scientists, non-scientists, engineers, and non-engineers who wish to gain a general overview or update of the science and technology of shale gas. In addition, the book discusses methods used to reduce environmental footprint and improve well performance. Updates on the evolving processes and new processes Provides overview of the chemistry, engineering, and technology of shale gas Guides the reader through the latest environmental regulation regarding production and processing of shale

Oil and Gas Production Handbook: An Introduction to Oil and Gas Production Newnes

The US shale boom and efforts by other countries to exploit their shale resources could reshape energy and environmental landscapes across the world. But how might those landscapes change? Will countries with significant physical reserves try to exploit them? Will they protect or harm local communities and the global climate? Will the benefits be shared or retained by powerful interests? And how will these decisions be made? The Shale Dilemma brings together experts working at the forefront of shale gas issues on four continents to explain how countries reach their decisions on shale development. Using a common analytical framework, the authors identify both local factors and transnational patterns in the decision-making process. Eight case studies reveal the trade-offs each country makes as it decides whether to pursue, delay, or block development. Those outcomes in turn reflect the nature of a country's political process and the

power of interest groups on both sides of the issue. The contributors also ask whether the economic arguments made by the shale industry and its government supporters have overshadowed the concerns of local communities for information on the effects of shale operations, and for tax policies and regulations to ensure broad-based economic development and environmental protection. As an informative and even-handed account, The Shale Dilemma recommends practical steps to help countries reach better, more transparent, and more far-sighted decisions.

Opportunities and Challenges for Innovation: Proceedings of a Workshop Nova Science Pub Incorporated

The Fossil Fuel Revolution: Shale Gas and Tight Oil describes the remarkable new energy resources being obtained from shale gas and tight oil through a combination of directional drilling and staged hydraulic fracturing, opening up substantial new energy reserves for the 21st Century. The book includes the history of shale gas development, the technology used to economically recover hydrocarbons, and descriptions of the ten primary shale gas resources of the United States. International shale resources, environmental concerns, and policy issues are also addressed. This book is intended as a reference on shale gas and tight oil for industry members, undergraduate and graduate students, engineers and geoscientists. Provides a cross-cutting view of shale gas and tight oil in the context of geology, petroleum engineering, and the practical aspects of production Includes a comprehensive description of productive and prospective shales in one book, allowing readers to compare and contrast production

from different shale plays Addresses environmental and policy issues and compares alternative energy resources in terms of economics and sustainability Features an extensive resource list of peer-reviewed references, websites, and journals provided at the end of each chapter

Evaluation and Development Gulf Professional Publishing
Unconventional Petroleum Geology is the first book of its kind to collectively identify, catalog, and assess the exploration and recovery potential of the Earth's unconventional hydrocarbons. Advances in hydrocarbon technology and petroleum development systems have recently made the exploration of unconventional hydrocarbons—such as shale gas, tight sandstone oil and gas, heavy oil, tar sand, and coalbed methane—the hottest trend in the petroleum industry. Detailed case studies act as real-world application templates, making the book's concepts immediately practical and useful by exploration geologists. The logical and intuitive three-part approach of systematically identifying an unconventional hydrocarbon, cataloguing its accumulation features, and assessing its exploration and recovery potential can be immediately implemented in the field—anywhere in the world. Provides a detailed assessment of the exploration and recovery potential of the full range of unconventional hydrocarbons More than 300 illustrations—many in full color—capture the detailed intricacies and associated technological advances in unconventional hydrocarbon exploration More than 20 case studies and examples from around the world conclude each chapter and aid in the application of key exploration and recovery techniques