

Heriot Watt Drilling Engineering

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Carbonate Reservoir Heterogeneity Vahid Tavakoli
2019-11-11 This book provides a comprehensive overview of the parameters and factors that cause heterogeneity in carbonate reservoirs, and examines how they interact with one another. It explores the various scales of heterogeneity, how they are caused,

and how they can be minimized, as well as how the scales affect each other, providing practical examples in each chapter. The book concludes by discussing the effect of heterogeneity on petrophysical evaluations. As reducing heterogeneity is the only way to obtain accurate carbonate reservoir characteristics at the regional scale, the book offers an important reference guide for all geologists, engineers, and modelers working with subsurface data.

New Scientist 1975-05-01 New Scientist magazine was launched in 1956 "for all those men and women who are interested in scientific discovery, and in its industrial, commercial and social consequences". The brand's mission is no different today - for its consumers, New Scientist reports, explores and interprets the results of human endeavour set in the context of society and culture.

Proceedings of the 3rd International Gas Processing Symposium Abdelwahab Aroussi 2012 Proceedings of the 3rd International Gas Processing Symposium; CopyrightPage; List of Contents; Preface; International Technical Committee Members (Reviewers); Exercising the Option of CO₂ Slippage to Mitigate Acid Gas Flaring During SRU Expansion Bellow Failure; Abstract; 1. Introduction; 2. Methodology to minimize Acid Gas Flaring; 3. Conclusion; Flare Reduction Options and Simulation for the Qatari Oil and Gas Industry; Abstract; 1. Introduction; 2. Ethylene process overview; 3. Flare Reduction -- Industrial Case Study;

4. Result and discussion; 5. Conclusions; 6. Acknowledgment
7. References
Review of Cooling Water Discharge Simulation Models; Abstract; 1. Introduction; 2. Model Comparison; 3. Conclusions; References; Combining post-combustion CO₂ capture with CO₂ utilization; Abstract; 1. Introduction; 2. Carbon capture; 3. Carbon dioxide disposal and utilization; 4. Conclusions; References; Step Change Adsorbents and Processes for CO₂ Capture "STEPCAP"; Abstract; 1. Introduction; 2. ...

SPE Drilling & Completion 2005

Water for Energy and Fuel Production Yatish T. Shah
2014-05-16 This text describes water's use in the production of raw fuels, as an energy carrier (e.g., hot water and steam), and as a reactant, reaction medium, and catalyst for the conversion of raw fuels to synthetic fuels. It explains how supercritical water is used to convert fossil- and bio-based feedstock to synthetic fuels in the presence and absence of a catalyst. It also explores water as a direct source of energy and fuel, such as hydrogen from water dissociation, methane from water-based clathrate molecules, and more.

Overpressures in Petroleum Exploration Alan Mitchell 1998

E-Training Practices for Professional Organizations
Paul Nicholson 2010-04-08 "E-Training Practices for Professional Organizations" is an essential reference for anyone interested in the integration of e-business, e-work and e-learning processes. The book collects,

for the first time, the proceedings from the 2003 IFIP eTrain Conference held in Pori, Finland. The text serves as a multi-disciplinary resource for information on the research, development and applications of all topics related to e-Learning. The first half of the book discusses theories, paradigms and their applications in academia and industry. The last half of the book examines learning environments, design issues and collaboration among the corporate, governmental and academic sectors. With academic and professional contributors, "E-Training Practices for Professional Organizations" reflects the multi-faceted and exciting nature of e-training studies. This volume presents the balanced view of past developments and current research necessary to truly reach the potential of this burgeoning field.

Petroleum Reservoir Rock and Fluid Properties, Second Edition Abhijit Y. Dandekar 2013-02-21 A strong foundation in reservoir rock and fluid properties is the backbone of almost all the activities in the petroleum industry. Suitable for undergraduate students in petroleum engineering, Petroleum Reservoir Rock and Fluid Properties, Second Edition offers a well-balanced, in-depth treatment of the fundamental concepts and practical aspects that encompass this vast discipline. New to the Second Edition Introductions to Stone II three-phase relative permeability model and unconventional oil and gas resources Discussions on low salinity water injection,

saturated reservoirs and production trends of five reservoir fluids, impact of mud filtrate invasion and heavy organics on samples, and flow assurance problems due to solid components of petroleum. Better plots for determining oil and water Corey exponents from relative permeability data. Inclusion of Rachford-Rice flash function, Plateau equation, and skin effect. Improved introduction to reservoir rock and fluid properties. Practice problems covering porosity, combined matrix-channel and matrix-fracture permeability, radial flow equations, drilling muds on fluid saturation, wettability concepts, three-phase oil relative permeability, petroleum reservoir fluids, various phase behavior concepts, phase behavior of five reservoir fluids, and recombined fluid composition. Detailed solved examples on absolute permeability, live reservoir fluid composition, true boiling point extended plus fractions properties, viscosity based on compositional data, and gas-liquid surface tension. Accessible to anyone with an engineering background, the text reveals the importance of understanding rock and fluid properties in petroleum engineering. Key literature references, mathematical expressions, and laboratory measurement techniques illustrate the correlations and influence between the various properties. Explaining how to acquire accurate and reliable data, the author describes coring and fluid sampling methods, issues related to handling samples for core analyses, and PVT studies. He also highlights

core and phase behavior analysis using laboratory tests and calculations to elucidate a wide range of properties.

Journal of Petroleum Technology 2005

Petroleum Engineering and Technology Schools 1996

Natural Gas Hydrates Yuguang Ye 2012-09-14

“Natural Gas Hydrates: Experimental Techniques and Their Applications” attempts to broadly integrate the most recent knowledge in the fields of hydrate experimental techniques in the laboratory. The book examines various experimental techniques in order to provide useful parameters for gas hydrate exploration and exploitation. It provides experimental techniques for gas hydrates, including the detection techniques, the thermo-physical properties, permeability and mechanical properties, geochemical abnormalities, stability and dissociation kinetics, exploitation conditions, as well as modern measurement technologies etc. This book will be of interest to experimental scientists who engage in gas hydrate experiments in the laboratory, and is also intended as a reference work for students concerned with gas hydrate research. Yuguang Ye is a distinguished professor of Experimental Geology at Qingdao Institute of Marine Geology, China Geological Survey, China. Professor Changling Liu works at the Qingdao Institute of Marine Geology, China Geological Survey, China. Petroleum Production Engineering Boyun Guo, 2017-02-10 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

Proceedings of the International Field Exploration and Development Conference 2020 Jia'en Lin 2021-06-17

This book is a compilation of selected papers from the 10th International Field Exploration and Development Conference (IFEDC 2020). The proceedings focuses on Reservoir Surveillance and Management, Reservoir Evaluation and Dynamic Description, Reservoir Production Stimulation and EOR, Ultra-Tight Reservoir, Unconventional Oil and Gas Resources Technology, Oil and Gas Well Production Testing, Geomechanics. The conference not only provides a platform to exchanges experience, but also promotes the development of scientific research in oil & gas exploration and production. The main audience for the work includes reservoir engineer, geological engineer, enterprise managers senior engineers as well as professional students.

Fluid Chemistry, Drilling and Completion Qiwei Wang

2021-11-04 Fluid Chemistry, Drilling and Completion, the latest release in the Oil and Gas Chemistry

Management series that covers all sectors of oil and gas chemicals (from drilling to production, processing, storage and transportation), delivers critical chemical oilfield basics while also covering the latest research developments and practical solutions. Organized by type of chemical, the book allows engineers to fully understand how to effectively control chemistry issues, make sound decisions, and mitigate challenges.

Sections cover downhole sampling, crude oil characterization, such as fingerprinting properties, data interpretation, chemicals specific to fluid loss control, and matrix stimulation chemicals. Supported by a list of contributing experts from both academia and industry, the book provides a necessary reference that bridges petroleum chemistry operations from theory, to safer, cost-effective applications. Offers a full range of oil field chemistry issues, including chapters focusing on unconventional reservoirs and water management. Helps users gain effective control on problems. Includes mitigation strategies from an industry list of experts and contributors. Delivers both up-to-date research developments and practical applications, bridging between theory and practice.

Impact of Human Activity on the Geological

Environment EUROCK 2005 Pavel Konecny 2005-05-

12 This work focuses on the impact of human activity on the geological environment and contains over 100 papers dealing with laboratory and field research

investigations in geomechanics, geoengineering and mathematical modelling. Topics covered are grouped into eight main themes: response of the rock mass to human impact; slope stability; field research;

laboratory research; stability of underground openings; mathematical modelling; stress measurements, and mineral and rock disintegration.

Successful Business Dealings and Management with China Oil, Gas and Chemical Giants Henry K. H.

Wang 2014-01-10 This book focuses on doing businesses successfully with China oil, gas and chemicals companies with real business cases on business management and contract negotiations all under one theme. Drawing on the author's extensive experiences and knowledge of the China oil, gas and chemicals industries, the book presents a comprehensive and practical guide to the China oil industry structure and major Chinese oil companies. It analyses China's oil, gas and chemicals markets and its growth into the largest oil consumption market in the world. It also examines energy security concerns and mitigation strategies to diversify crude import sources. The book also analyses the key domestic and international players in China including the largest state, multinational and national oil companies. It looks at the largest China oil, gas and chemical companies and analyses their profile, business, strategies, leaders with relevant case studies. It then examines successful engagement, negotiation and management with the China giants. The book illustrates with business case studies on successfully negotiating and managing business relations to foster trust and promote cooperation, as well as, the risks and rewards. Business leaders, universities, business schools and government agencies will appreciate the book with its in-depth knowledge and analysis of the China oil, gas and chemical industries together with relevant

business cases.

Petroleum Review 1975

Equations of State and PVT Analysis Tarek Ahmed

2016-03-02 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
Integrated Sand Management For Effective
Hydrocarbon Flow Assurance 2015-06-15 This
Handbook provides solutions to the fundamental
issues associated with wells and reservoirs
experiencing sanding problems, especially in
deepwater environments. Sand Management is a
massive challenge for the petroleum industry as it
extends its exploration activities to new frontiers.
Challenging ultra deepwater, High Pressure-High
Temperature (HP-HT) and Arctic environments require
engineers to drill more complex wells and manage
more complex reservoirs, the majority of which are
prone to massive sand production. Covering such
fundamentals as how to maximize individual wells and
field development performance, as well as how to
minimize operational cost, non-productive time and
guarantee flow assurance across the entire composite
production system from reservoirs through the
wellbore to the topside and flow lines, this handbook
explains that the biggest challenge facing operators is
the shortage of sand management personnel and
helps companies realize the value of their assets.
Reference for knowledge transfer and skills
development in sand management for effective flow
assurance Emphasis on HP-HT and deepwater
environments Meets the needs of new and practising
engineers alike as well as non-technical personnel

supporting the offshore industry

Artificial Intelligence and Data Analytics for Energy

Exploration and Production Fred Aminzadeh 2022-10-

04 ARTIFICIAL INTELLIGENCE AND DATA

ANALYTICS FOR ENERGY EXPLORATION AND

PRODUCTION This groundbreaking new book is

written by some of the foremost authorities on the

application of data science and artificial intelligence

techniques in exploration and production in the energy

industry, covering the most comprehensive and

updated new processes, concepts, and practical

applications in the field. The book provides an in-depth

treatment of the foundations of Artificial Intelligence

(AI) Machine Learning, and Data Analytics (DA). It also

includes many of AI-DA applications in oil and gas

reservoirs exploration, development, and production.

The book covers the basic technical details on many

tools used in “smart oil fields”. This includes topics

such as pattern recognition, neural networks, fuzzy

logic, evolutionary computing, expert systems, artificial

intelligence machine learning, human-computer

interface, natural language processing, data analytics

and next-generation visualization. While theoretical

details will be kept to the minimum, these topics are

introduced from oil and gas applications viewpoints. In

this volume, many case histories from the recent

applications of intelligent data to a number of different

oil and gas problems are highlighted. The applications

cover a wide spectrum of practical problems from

exploration to drilling and field development to production optimization, artificial lift, and secondary recovery. Also, the authors demonstrate the effectiveness of intelligent data analysis methods in dealing with many oil and gas problems requiring combining machine and human intelligence as well as dealing with linguistic and imprecise data and rules.

DRILLING ENGINEERING M. Rafiqul Islam 2020-09-13 Sustainable Oil and Gas Development Series: Drilling Engineering delivers research materials and emerging technologies that conform sustainability drilling criteria. Starting with ideal zero-waste solutions in drilling and long-term advantages, the reference discusses the sustainability approach through the use of non-linear solutions and works its way through the most conventional practices and procedures used today. Step-by-step formulations and examples are provided to demonstrate how to look at conventional practices versus sustainable approaches with eventually diverging towards a more sustainable alternative. Emerging technologies are covered and detailed sustainability analysis is included. Economic considerations, analysis, and long-term consequences, focusing on risk management round out the with conclusions and a extensive glossary. **Sustainable Oil and Gas Development Series: Drilling Engineering** gives today's petroleum and drilling engineers a guide how to analyze and evaluate their operations in a more environmentally-driven way. Proposes sustainable

technical criteria and strategies for today's most common drilling practices such as horizontal drilling, managed pressure drilling, and unconventional shale activity Discusses economic benefits and development challenges to invest in environmentally-friendly operations Highlights the most recent research, analysis, and challenges that remain including global optimization

Fundamentals of Sustainable Drilling Engineering M. E. Hossain 2015-02-02 The book clearly explains the concepts of the drilling engineering and presents the existing knowledge ranging from the history of drilling technology to well completion. This textbook takes on the difficult issue of sustainability in drilling engineering and tries to present the engineering terminologies in a clear manner so that the new hire, as well as the veteran driller, will be able to understand the drilling concepts with minimum effort. This textbook is an excellent resource for petroleum engineering students, drilling engineers, supervisors & managers, researchers and environmental engineers for planning every aspect of rig operations in the most sustainable, environmentally responsible manner, using the most up-to-date technological advancements in equipment and processes.

Proceedings of the International Field Exploration and Development Conference 2019 Jia'en Lin 2020-07-11

This book gathers selected papers from the 8th International Field Exploration and Development

Conference (IFEDC 2019) and addresses a broad range of topics, including: Low Permeability Reservoir, Unconventional Tight & Shale Oil Reservoir, Unconventional Heavy Oil and Coal Bed Gas, Digital and Intelligent Oilfield, Reservoir Dynamic Analysis, Oil and Gas Reservoir Surveillance and Management, Oil and Gas Reservoir Evaluation and Modeling, Drilling and Production Operation, Enhancement of Recovery, Oil and Gas Reservoir Exploration. The conference not only provided a platform to exchange experiences, but also promoted the advancement of scientific research in oil & gas exploration and production. The book is chiefly intended for industry experts, professors, researchers, senior engineers, and enterprise managers.

Wireline Formation Testing & Well Deliverability

George Stewart 2012 Modern reservoir engineering must accommodate for a complex set of heterogeneous phases contained in the well and petroleum reservoir. Achieving the optimal solution to reservoir problems involves employing sophisticated simulation techniques, executing complex well-completion actions and following up with constant attention to the changes within a reservoir. Renowned petroleum engineer George Stewart offers in-depth information in his latest book, Wireline Formation Testing and Well Deliverability. A companion to his recent book, Well Test Design & Analysis, this newest technical volume covers the widest range of possible

issues for reservoir engineering. Stewart's exhaustive explanations include the nuances of radial flow theory, examples of when to run production logs, and to well testing for drawdown in a commingled reservoir. The volume includes a CD containing chapters 13-17.

The Sea of Lost Opportunity Norman J. Smith 2011-04-13 This book is a contribution to the history of a vital stage of UK technical and economic development, perhaps the most important since the Second World War. It shows, from an industrial viewpoint, how the British handled the exploitation of their most significant natural resource gain of the 20th century.

Notwithstanding the nearly 30 years of government support through the Offshore Supplies Office, the UK has not reaped the full benefit of the North Sea discoveries; this book attempts to explain why. It will assist governments and industries faced with future instances of unforeseen, specialist and large-scale new demand to manage their reactions more effectively. It also throws light on how governments can pursue strategic industrial objectives while leaving market mechanisms to function with minimal interference, something some administrations – perhaps even the British – may wish to do now or in the future. Covers the entire period from the first well offshore Britain until the dismantling of the specific British industrial policy measures for offshore supplies Based in large measure upon archives not previously accessed and the private testimony/papers of

participants 'Drills down' to the level of individual company decisions through case study and other material. The only properly researched description of how the world's first major local content initiative developed.

Drilling Engineering 2014

Chemical Energy from Natural and Synthetic Gas

Yatish T. Shah 2017-03-16 Commercial development of energy from renewables and nuclear is critical to long-term industry and environmental goals. However, it will take time for them to economically compete with existing fossil fuel energy resources and their infrastructures. Gas fuels play an important role during and beyond this transition away from fossil fuel dominance to a balanced approach to fossil, nuclear, and renewable energies. Chemical Energy from Natural and Synthetic Gas illustrates this point by examining the many roles of natural and synthetic gas in the energy and fuel industry, addressing it as both a "transition" and "end game" fuel. The book describes various types of gaseous fuels and how they are recovered, purified, and converted to liquid fuels and electricity generation and used for other static and mobile applications. It emphasizes methane, syngas, and hydrogen as fuels, although other volatile hydrocarbons are considered. It also covers storage and transportation infrastructure for natural gas and hydrogen and methods and processes for cleaning and reforming synthetic gas. The book also deals

applications, such as the use of natural gas in power production in power plants, engines, turbines, and vehicle needs. Presents a unified and collective look at gas in the energy and fuel industry, addressing it as both a "transition" and "end game" fuel. Emphasizes methane, syngas, and hydrogen as fuels. Covers gas storage and transport infrastructure. Discusses thermal gasification, gas reforming, processing, purification and upgrading. Describes biogas and bio-hydrogen production. Deals with the use of natural gas in power production in power plants, engines, turbines, and vehicle needs.

Fracture and In-situ Stress Characterization of Hydrocarbon Reservoirs Geological Society of London 2003

Polymer-Improved Oil Recovery K.S. Sorbie 2013-11-21 The importance of oil in the world economy cannot be overstated, and methods for recovering oil will be the subject of much scientific and engineering research for many years to come. Even after the application of primary depletion and secondary recovery processes (usually waterflooding), much oil usually remains in a reservoir, and indeed in some heterogeneous reservoir systems as much as 70% of the original oil may remain. Thus, there is an enormous incentive for the development of improved or enhanced methods of oil recovery, aimed at recovering some portion of this remaining oil. The techniques used range from 'improved' secondary

flooding methods (including polymer and certain gas injection processes) through to 'enhanced' or 'tertiary' methods such as chemical (surfactant, caustic, foam), gas miscible (carbon dioxide, gas reinjection) and thermal (steam soak and drive, in-situ combustion).

The distinction between the classification of the methods usually refers to the target oil that the process seeks to recover. That is, in 'improved' recovery we are usually aiming to increase the oil sweep efficiency, whereas in 'tertiary' recovery we aim to mobilise and recover residual or capillary trapped oil. There are a few books and collections of articles which give general overviews of improved and enhanced oil recovery methods. However, for each recovery method, there is such a wide range of interconnected issues concerning the chemistry, physics and fluid mechanics of flow in porous media, that rarely are these adequately reviewed.

Hydrocarbon Exploration and Production Frank Jahn
1998-03-13 This book on hydrocarbon exploration and production is the first volume in the series Developments in Petroleum Science. The chapters are: The Field Life Cycle, Exploration, Drilling Engineering, Safety and The Environment, Reservoir Description, Volumetric Estimation, Field Appraisal, Reservoir Dynamic Behaviour, Well Dynamic Behaviour, Surface Facilities, Production Operations and Maintenance, Project and Contract Management, Petroleum Economics, Managing the Producing Field,

and Decommissioning.

Petroleum Reservoir Rock and Fluid Properties Abhijit Y. Dandekar 2006-02-23 A strong foundation in reservoir rock and fluid properties is the backbone of almost all the activities in the petroleum industry.

Petroleum Reservoir Rock and Fluid Properties offers a reliable representation of fundamental concepts and practical aspects that encompass this vast subject area. The book provides up-to-date coverage of vari

Deepwater Drilling Peter Aird 2018-12-03 Deepwater Drilling: Well Planning, Design, Engineering, Operations, and Technology Application presents necessary coverage on drilling engineering and well construction through the entire lifecycle process of deepwater wells. Authored by an expert with real-world experience, this book delivers illustrations and practical examples throughout to keep engineers up-to-speed and relevant in today's offshore technology. Starting with pre-planning stages, this reference dives into the rig's elaborate rig and equipment systems, including ROVs, rig inspection and auditing procedures. Moving on, critical drilling guidelines are covered, such as production casing, data acquisition and well control. Final sections cover managed pressure drilling, top and surface hole 'riserless' drilling, and decommissioning. Containing practical guidance and test questions, this book presents a long-awaited resource for today's offshore engineers and managers. Helps readers gain practical experience

from an author with over 35 years of offshore field know-how Presents offshore drilling operational best practices and tactics on well integrity for the entire lifecycle of deepwater wells Covers operations and personnel, from emergency response management, to drilling program outlines

SPE Drilling Engineering 1992

SPE Reservoir Evaluation & Engineering 2010

Theory and Technology of Drilling Engineering

Zhichuan Guan 2020-12-07 This book presents the theory and technologies of drilling operations. It covers the gamut of formulas and calculations for petroleum engineers that have been compiled over several years. Some of these formulas and calculations have been used for decades, while others help guide engineers through some of the industry's more recent technological breakthroughs. Comprehensively discussing all aspects of drilling technologies, and providing abundant figures, illustrations and tables, examples and exercises to facilitate the learning process, it is a valuable resource for students, scholars and engineers in the field of petroleum engineering.

Directional Drilling Tom Inglis 2013-11-11 Some 35 years ago I was somewhat precariously balanced in a drilling derrick aligning a whipstock into a directional hole in North Holland by the Stokenbury method, and no doubt thinking to myself that I was at the very forefront of technology. During the intervening period it has become obvious to many of us that some of the

most significant technical advances in the oil business have been made in drilling, and particularly in the fields of offshore and directional drilling. It has also become apparent that the quality of the technical literature describing these advances has not kept pace with that of the advances themselves in many instances. A particular glaring example of this has been in the field of directional drilling where a large literature gap has existed for many years. I am delighted to see this gap now filled with the present volume by my friend Tom Inglis. Indeed it is only after reading his comprehensive book that I realise the extent of my own ignorance of the latest techniques of directional drilling and how desirable it was to have an authoritative text on the subject. I feel sure that this volume will be welcomed by the industry and warmly recommend it to all who are in any way involved and interested in the fascinating world of drilling.

Standard Handbook of Petroleum and Natural Gas Engineering: William C. Lyons 1996-10-16 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.

Rock Mechanics as a Multidisciplinary Science Jean-Claude Roegiers 2020-12-17 Papers in the proceedings of the 32nd U.S. Symposium on Rock Mechanics were solicited to address the theme of 'Rock Mechanics as a Multidisciplinary Science'. The major goal was to assemble scientists and practitioners from various fields with interrelated interests in rock mechanics to share their common problems and approaches. The proceedings include three papers related to a special session on 'Lunar Rock Mechanics', as well as 121 technical papers covering areas such as: field observations, in-situ stresses, instrumentation/measurement techniques, fracturing, rock properties, dynamics/seismicity, modelling, laboratory testing, discontinuities/fluid flow, design, wellbore stability, and analysis.

Drilling Engineering Heriot-Watt Professors 2017-08-

25 Drilling Engineering Book

Intelligent Digital Oil and Gas Fields Gustavo Carvajal

2017-12-14 Intelligent Digital Oil and Gas Fields:

Concepts, Collaboration, and Right-time Decisions

delivers to the reader a roadmap through the fast-paced changes in the digital oil field landscape of technology in the form of new sensors, well mechanics such as downhole valves, data analytics and models for dealing with a barrage of data, and changes in the way professionals collaborate on decisions. The book introduces the new age of digital oil and gas technology and process components and provides a backdrop to the value and experience industry has achieved from these in the last few years. The book then takes the reader on a journey first at a well level through instrumentation and measurement for real-time data acquisition, and then provides practical information on analytics on the real-time data. Artificial intelligence techniques provide insights from the data. The road then travels to the "integrated asset" by detailing how companies utilize Integrated Asset Models to manage assets (reservoirs) within DOF context. From model to practice, new ways to operate smart wells enable optimizing the asset. Intelligent Digital Oil and Gas Fields is packed with examples and lessons learned from various case studies and provides extensive references for further reading and a final chapter on the "next generation digital oil field," e.g., cloud computing, big data analytics and advances

in nanotechnology. This book is a reference that can help managers, engineers, operations, and IT experts understand specifics on how to filter data to create useful information, address analytics, and link workflows across the production value chain enabling teams to make better decisions with a higher degree of certainty and reduced risk. Covers multiple examples and lessons learned from a variety of reservoirs from around the world and production situations Includes techniques on change management and collaboration Delivers real and readily applicable knowledge on technical equipment, workflows and data challenges such as acquisition and quality control that make up the digital oil and gas field solutions of today Describes collaborative systems and ways of working and how companies are transitioning work force to use the technology and making more optimal decisions