Elements Of Petroleum Geology Second Edition

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Unconventional Petroleum Geology John Wiley & Sons
This book provides a self-contained introduction to the simulation of flow and transport in porous media, written by a developer of numerical methods. The reader will learn how to implement reservoir simulation models and computational algorithms in a robust and efficient manner. The book contains a large number of numerical examples, all fully equipped with online code and data, allowing the reader to reproduce results, and use them as a starting point for their own work. All of the examples in the book are based on the MATLAB Reservoir Simulation Toolbox (MRST), an open-source toolbox popular popularity in both academic institutions and the petroleum industry. The book can also be seen as a user guide to the MRST software. It will prove invaluable for researchers, professionals and advanced students using reservoir simulation methods. This title is also available as Open Access on Cambridge Core.
Petroleum Geology of Libya John Wiley & Sons
All geologists need a broad understanding of science to understand the processes they study and analytical techniques. In particular, geology students need to grasp the basic physics behind these processes, which this book provides in plain language and simple mathematics. It gives the reader information that will enable him to ascertain the validity of what he reads in scientific literature. Water, an essential component of geology, is emphasized, and many published errors on water are discernible when armed with this text. This updated edition discusses a wide range of topics, including electromagnetic radiation from optics to gamma rays, atomic structure and age-dating, heat and heat flow, electricity and magnetism, stress and strain, sea waves, acoustics, and fluids and fluid flow. The book gives basic definitions and dimensions and also some warnings about misunderstanding mathematical statistics, particularly of linear regression analysis, and unenlightened computation.
Practical Reservoir Engineering and Characterization Springer

Science & Business Media
Geology – Basics for Engineers (second edition) presents the physical and chemical characteristics of the Earth, the nature and the properties of rocks and unconsolidated deposits/sediments, the action of water, how the Earth is transformed by various phenomena at different scales of time and space. The book shows the engineer how to take geological conditions into account in their projects, and how to exploit a wide range of natural resources in an intelligent way, reduce geological hazards, and manage subsurface pollution. This second edition has been fully revised and updated. Through a problem-based learning approach, this instructional text imparts knowledge and practical experience to engineering students (undergraduate and graduate level), as well as to experts in the fields of civil engineering, environmental engineering, earth sciences, architecture, land and urban planning. Free digital supplements to the book, found on the book page, contain solutions to the problems and animations that show additional facets of the living Earth. The original French edition of the book (2007) won the prestigious Roberval Prize, an international contest organized by the University of Technology of Compiegne in collaboration with the General Council of Oise, France. Geology, Basics for Engineers was selected out of a total of 110 candidates. The jury praised the book as a "very well conceived teaching textbook" and underscored its highly didactic nature, as well as the excellent quality of its illustrations. Features: Offers an exhaustive outline of the methods and techniques used in geology, with a study of the nature and properties of the principal soils and rocks Helps students understand how geological conditions should be taken into account by the engineer by taking a problem-solving approach Contains extensive figures and examples, solutions to probems, and illustrative animations Presents a highly didactic and synthetic work intended for engineering students as well as experts in civil engineering, environmental engineering, the earth sciences, and architecture

Petroleum Geoscience Springer Science & Business Media
Basin Analysis is an advanced undergraduate andpostgraduate text aimed at understanding sedimentary basins asgeodynamic entities. The rationale of the book is that knowledge ofthe basic principles of the thermo-mechanical behaviour of thelithosphere, the dynamics of the mantle, and the functioning ofsediment routing systems provides a sound background for studyingsedimentary basins, and is a pre-requisite for the exploitation ofresources contained in their sedimentary rocks. The third editionincorporates new

developments in the burgeoning field of basinanalysis while retaining the successful structure and overallphilosophy of the first two editions. The text is divided into 4 parts that establish the geodynamicalenvironment for sedimentary basins and the physical state of thelithosphere, followed by a coverage of the mechanics of basinformation, an integrated analysis of the controls on the basin-filland its burial and thermal history, and concludes with anapplication of basin analysis principles in petroleum playassessment, including a discussion of unconventional hydrocarbonplays. The text is richly supplemented by Appendices providingmathematical derivations of a wide range of processes affecting theformation of basins and their sedimentary fills. Many of theseAppendices include practical exercises that give the readerhands-on experience of quantitative solutions to important basinanalysis processes. Now in full colour and a larger format, this third edition is acomprehensive update and expansion of the previous editions, and represents a rigorous yet accessible guide to problemsolving in this most integrative of geoscientific disciplines. Additional resources for this book can be found at: ahref="http://www.wiley.com/go/allen/basinanalysis"www.wiley.com/go/allen/basinanalysis/a.

Nontechnical Guide to Petroleum Geology, Exploration, Drilling, and Production CRC Press

Unconventional Petroleum Geology, 2nd Edition presents the latest research results of global conventional and unconventional petroleum exploration and production. The first part covers the basics of unconventional petroleum geology: introduction, concept of unconventional petroleum geology, unconventional oil and gas reservoirs, and the origin and distribution of unconventional oil and gas. The second part is focused on unconventional petroleum development technologies, including a series of technologies on resource assessment, lab analysis, geophysical interpretation, and drilling and completion. The third and final section features case studies of unconventional hydrocarbon resources, including tight oil and gas, shale oil and gas, coal bed methane, heavy oil, gas hydrates and oil and gas in volcanic and metamorphic rocks. Provides an up-to-date, systematic, and comprehensive overview of all unconventional hydrocarbons, defining the scope of Unconventional Petroleum Geology Reorganizes and updates more than half of the first edition content, including four new chapters Includes a glossary on unconventional petroleum types, including tight-sandstone oil and gas, coal-bed gas, shale gas, oil and gas in fissure-cave-type carbonate rocks, in volcanic reservoirs, and in metamorphic rocks, heavy crude oil and natural bitumen, and gas hydrates Presents new theories, new methods, new technologies and new management methods, helping to meet the demands of technology development and production requirements in unconventional plays

Physics for Geologists, Second Edition Elsevier

This book is about exploration for oil and gas and focuses particularly on seismic exploration in the hunt for hydrocarbons. The first part, "The Hunt for Hydrocarbons," gives general background informa tion, with an introductory chapter on the beginnings of the oil business followed by three chapters that in clude elements of petroleum geology, geophysical methods, and drilling and logging. The second part, "Seismic Exploration for Hydrocarbons," consists of two chapters that describe rudiments of the seismic method and velocity measurements; two chapters dis cussing theory based on wave propagation and the convolutional model; and a chapter devoted to each of the three phases of seismic exploration: acquisi tion, processing, and interpretation. I have concen trated on seismic exploration because most of the oil and gas that has been found has been located by this method, and it is the only method that has the poten tial for the increased precision needed in what Hal bouty (1982) calls "the deliberate search for the subtle trap. " In contrast to elementary and

introductory books that present the seismic method superficially and qualitatively, this book develops the method quanti tatively, using only elementary mathematics (algebra and trigonometry), so that readers should be able to do things afterwards that they couldn't do before, and thereby get a deeper appreciation of the business of hunting for hydrocarbons. The book also probes into some sophisticated topics that wouldn't be mentioned IX x use in short courses at a variety of levels.
W.H. Freeman

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

Stratigraphic reservoir characterization for petroleum geologists, geophysicists, and engineers Amer Assn of Petroleum Geologists

Expert petroleum geologists David Roberts and Albert Bally bring you Regional Geology and Tectonics: Principles of Geologic Analysis, volume one in a three-volume series covering Phanerozoic regional geology and tectonics. It has been written to provide you with a detailed overview of geologic rift systems, passive margins, and cratonic basins, it features the basic principles necessary to grasping the conceptual approaches to hydrocarbon exploration in a broad range of geological settings globally. Named a 2013 Outstanding Academic Title by the American Library Association's Choice publication A "how-to" regional geology primer that provides a detailed overview of tectonics, rift systems, passive margins, and cratonic basins The principles of regional geological analysis and the main geological and geophysical tools are discussed in detail. The tectonics of the world are captured and identified in detail through a series of unique geographic maps, allowing quick access to exact tectonic locations. Serves as the ideal introductory overview and complementary reference to the core concepts of regional geology and tectonics offered in volumes two and three in the series.

Petroleum Exploration: A Quantitative Introduction Springer Science & Business Media

This publication is a general introduction to common openhole logging measurements, both wire line and MWD/LWD, and the interpretation of those measurements to determine the traditional analytical goals of porosity, fluid saturation, and lithology/mineralogy. It is arranged by the interpretation goals of the data, rather than by the underlying physics of the measurements. The appendix files contain digital versions of the data from the case studies, a summary guide to the measurements and their interpretation, and a simple spreadsheet containing some of the more common interpretation algorithms.

Geology of California Springer Science & Business Media

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

Introduction to Petroleum Engineering Gulf Professional Publishing

This third edition of Elements of Petroleum

Geology is completely updated and revised to reflect the vast changes in the years since publication of the First Edition. This book is a useful primer for geophysicists, geologists, and petroleum engineers in the oil industry who wish to expand their knowledge beyond their specialized area. It is also an excellent introductory text for a university course in petroleum geoscience. Elements of Petroleum Geology begins with an account of the physical and chemical properties of petroleum, reviewing methods of petroleum exploration and production. These methods include drilling, geophysical exploration techniques, wireline logging, and subsurface geological mapping. After describing the temperatures and pressures of the subsurface environment and the hydrodynamics of connate fluids, Selley examines the generation and migration of petroleum, reservoir rocks and trapping mechanisms, and the habit of petroleum in sedimentary basins. The book contains an account of the composition and formation of tar sands and oil shales, and concludes with a brief review of prospect risk analysis, reserve estimation, and other economic topics. Updates the first edition completely Reviews the concepts and methodology of petroleum exploration and production Written by a preeminent petroleum geologist and sedimentologist with 30 years of petroleum exploration in remote corners of the world Contains information pertinent to geophysicists, geologists, and petroleum reservoir engineers

User Guide for the MATLAB Reservoir Simulation Toolbox (MRST) John Wiley & Sons

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

Basics for Engineers, Second Edition John Wiley & Sons Incorporated

This introduction to the geology of California covers all major geomorphic provinces and is organized from north to south.

Well Logging for Earth Scientists Partridge Publishing Singapore

Elements of Petroleum Geology is completely updated and revised to reflect the vast changes in the field since publication of the Second Edition. This book is a usefulprimer for geophysicists, geologists, and petroleum engineers in the oil industry who wish to expand their knowledge beyond their specialized area. It is also an excellent introductory text for a university course in petroleum geoscience. Elements of Petroleum Geology begins with an account of the physical and chemical properties of petroleum, reviewing methods of petroleum exploration and production. These methods include drilling, geophysical exploration techniques, wireline logging, and subsurface geological mapping. After describing the temperatures and pressures of the subsurface environment and the hydrodynamics of connate fluids, Selley examines the generation and migration of petroleum, reservoir rocks and trapping mechanisms, and the habit of petroleum in sedimentary basins.

Petroleum Engineer's Guide to Oil Field Chemicals and Fluids Elsevier

This Third Edition of Elements of Petroleum Geology is completely updated and revised to reflect the vast changes in the field since publication of the Second Edition. This book is a usefulprimer for geophysicists, geologists, and petroleum engineers in the oil industry who wish to expand their knowledge beyond their specialized area. It is also an excellent introductory text for a university course in petroleum geoscience. Elements of Petroleum Geology begins with an account of the physical and chemical properties of petroleum, reviewing methods of petroleum exploration and production. These methods include drilling, geophysical exploration techniques, wireline logging, and

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Reservoir Geomechanics Elsevier

This book is written as a practical field manual to effective. Each geolOgist has to develop his/her be used by geologists engaged in mineral explo own techniques and will ultimately be judged on ration. It is also hoped that it will serve as a text results, not the process by which these results and reference for students in Applied Geology were reached. In mineral exploration, the only courses of universities and colleges. The book 'right' way of doing anything is the way that aims to outline some of the practical skills that locates ore in the quickest and most cost-effective turn the graduate geologist into an explo manner. It is preferable, however, for an individ rationist:. It is intended as a practical 'how to' ual to develop his/her own method of operation book, rather than as a text on geological or ore after having tried, and become aware of, those deposit theory. procedures which experience has shown to work An explorationist is a professional who search well and which are generally accepted in indus try as good exploration practice. es for ore bodies in a scientific and structured way. Although an awkward and artificial term, The chapters of the book approximately fol this is the only available word to describe the low the steps which a typical exploration pro totality of the skills which are needed to locate gramme would go through. In Chapter 1, the and define economic mineralization.

Elements of Petroleum Science CRC Press

A comprehensive and richly illustrated overview of the Gulf of Mexico Basin, including its reservoirs, source rocks, tectonics and evolution.

Unconventional Petroleum Geology CRC Press

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.

Geostatistics and Petroleum Geology Cambridge University Press

This book covers "how oil & gas is formed ; how to find commercial quantitites ; how to drill, evaluate, and complete a well ; all the way through production and improved oil recovery." - back cover.

Elements of Petroleum Geology Gulf Professional Publishing

This is an extensive revision of a book that I wrote over ten years ago. My purpose then has remained unchanged: to introduce the concepts and methods of spatial

statistics to geologists and engineers working with oil and gas data. I believe I have accomplished more than that; just as I learned the basics of variography and kriging from books for mining engineers, this book could be used by scientists from many fields to learn the basics of the subject. I have tried to adopt an introductory and practical approach to the subject, knowing that books that detail the theory are available. What I say and write comes from my own experience. As a geologist working in the public sector, I have had the privilege of using geostatistics in funded research, in answering service requests from industry, and in short courses. I have taught geostatistics in the university classroom, and advised graduate students in theses and dissertations. I have attempted to anticipate the needs and questions of the enquiring scientist because I was there myself, and know the kind of questions and concerns I had at the time I was trying to learn the subject.