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# Applied Well Log Analysis And Interpretation

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Applied Well Cementing Engineering  
Applied Open-Hole Log Analysis  
Advanced Well Logging  
Encyclopedia of Well Logging  
Principles and Applications of Well Logging  
Basic Well Log Analysis  
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The Geological Interpretation of Well Logs  
Well Logging and Geology  
Applied Statistical Modeling and Data Analytics

Recent Advances in Practical Applied Well Test Analysis  
Well Logging for Earth Scientists

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Applied Well Cementing Engineering Editions OPHRYS  
Applied Statistical Modeling and Data Analytics: A Practical Guide for the Petroleum Geosciences provides a practical guide to many of the classical and modern statistical techniques that have become established for oil and gas professionals in recent years. It serves as a "how to" reference volume for the practicing petroleum engineer or geoscientist interested in applying statistical methods in formation evaluation, reservoir characterization, reservoir modeling and management, and uncertainty quantification. Beginning with a foundational discussion of exploratory data analysis, probability distributions and linear regression modeling, the book focuses on fundamentals and practical examples of such key topics as multivariate analysis, uncertainty quantification, data-driven modeling, and experimental design and response surface analysis. Data sets from the petroleum geosciences are extensively used to demonstrate the applicability of these techniques. The book will also be useful for professionals dealing with subsurface flow problems in hydrogeology, geologic carbon sequestration, and nuclear waste disposal. Authored by internationally renowned experts in developing and applying statistical methods for oil & gas and other subsurface problem domains Written by practitioners for practitioners Presents an easy to follow narrative which progresses from simple concepts to more challenging ones Includes online resources with software applications and practical examples for the most relevant and popular statistical methods, using data sets from the petroleum geosciences Addresses the theory and practice of statistical modeling and data analytics from the perspective of petroleum geoscience applications

*Applied Open-Hole Log Analysis* Institutes for Energy Development

The motivation behind the development of well logging tools and techniques has primarily been ultimately directed toward the

ability to have in situ assaying of a particular target zone. Computers have greatly aided log analysts in developing systems, and accordingly, log analysts have expanded their horizons to not only look at individual wells, but to use log analysis also as an exploration tool. This publication includes chapters that will assist the analyst, such as tool descriptions; basic analysis of logs; quick look techniques; computer analysis, and geologic analysis.

Advanced Well Logging Elsevier

Starting with the fundamentals, the book takes you through the study of individual curves on the log and the development of a complete picture to a study of supplementary curves and advanced methods of analysis. By providing a thorough working knowledge of the factors involved in log interpretation - porosity, permeability, resistivity, etc. - helps give a better understanding of the assumptions and limitations of analysis that service companies seldom report. In addition, illustrated procedures guide through each subject, and sample exercises at the end of each chapter give students an opportunity to test their knowledge.

Encyclopedia of Well Logging Society of Petroleum Engineers  
An indispensable tool, Theory, Measurement and Interpretation of Well Logs introduces the three primary phases of well-logging technology to engineering and geosciences students. This text offers an in-depth study of the electric, radioactive, and acoustic properties of sedimentary rocks. Mathematical and empirical models relate a formation property of interest to the property measured with the logging tool. Openhole logging techniques are covered, along with concepts of traditional and modern tools.

ADDITIONAL RESOURCES: You may want to consider this related SPE training course: Well Log Interpretation Essentials

**Principles and Applications of Well Logging** National Academies Press

Well testing is a valuable and economical tool in the oil and gas industry. Thanks to the advances in mathematical modeling, measurement devices and computer capabilities, well testing continues to be a growing subject. The information obtained from well testing is analysed with the purpose of obtaining important reservoir information useful for hydrocarbon field management.

The intricate mathematical models developed from numerous researchers during past and recent years attempt to show the benefit of mathematics in well test interpretation. This book revolves around the TDS technique. This revolutionary method is strongly based in the logarithm pressure derivative versus time log-log plot. It is applied to specific regions, features and flow regimes, which can be easily identified in the pressure derivative curve so several analytical expressions are obtained for a practical, easy and exact way of conducting a well test interpretation. This tool is too powerful and also allows verifying most of the estimated parameters. All the known commercial software include it without referring to it as the original name. During several years of providing training to several engineers and companies in Latin America, the author has noticed that whoever knows and uses the TDS technique will take it as its favorite interpretation method. Then, they take the outcomes from TDS to computer software to set the bounds for a faster and less risky model. The book contains the latest applications of the TDS technique to several important reservoir/fluid scenarios. Several step-by-step examples are given for a better understanding of the interpretation methodology in such important scenarios as heavy oil, conductive faults, enhanced oil recovery, fractured wells and naturally fractured reservoirs, among others.

*Basic Well Log Analysis* McGraw-Hill Companies

Several excellent books on well log interpretation have already been published. However, I feel that these books do not place enough emphasis on the inherent uncertainties in tool responses or on the related and very practical problem of selecting suitable data points for statistical or quantitative calculations. Thus, I have written this book not only to introduce the newcomer to this very complex art and science, but also to provide him or her with the necessary tools to produce better interpretations. The problems at the end of each chapter are essential to a more complete understanding of the subject matter and include many practical notes based on problems I have encountered in actual applications. This book emphasizes that you develop your own concepts and understanding of the underlying principles, rather

than acquiring a compendium of knowledge based on certain rules of thumb. If you are to successfully interpret welllogs, you need to be able to apply your knowledge to new problems that may not follow the preconceived ideas and approaches you would follow if you approached well log analysis from a cookbook standpoint.

*Radiation Source Use and Replacement* Editions OPHRYS

The petroleum geologist and engineer must have a working knowledge of petrophysics in order to find oil reservoirs, devise the best plan for getting it out of the ground, then start drilling. This book offers the engineer and geologist a manual to accomplish these goals, providing much-needed calculations and formulas on fluid flow, rock properties, and many other topics that are encountered every day. New updated material covers topics that have emerged in the petrochemical industry since 1997. Contains information and calculations that the engineer or geologist must use in daily activities to find oil and devise a plan to get it out of the ground Filled with problems and solutions, perfect for use in undergraduate, graduate, or professional courses Covers real-life problems and cases for the practicing engineer

*Bibliography of Borehole Geophysics as Applied to Ground-water Hydrology* Gulf Professional Publishing

This book primarily focuses on the principles and applications of electric logging, sonic logging, nuclear logging, production logging and NMR logging, especially LWD tools, Sondex production logging tools and other advanced image logging techniques, such as ECLIPS 5700, EXCELL 2000 etc. that have been developed and used in the last two decades. Moreover, it examines the fundamentals of rock mechanics, which contribute to applications concerning the stability of borehole sidewall, safety density window of drilling fluid, fracturing etc. As such, the book offers a valuable resource for a wide range of readers, including students majoring in petrophysics, geophysics, geology and seismology, and engineers working in well logging and exploitation.

*Geological Applications of Well Logs* Editions Technips

In the United States there are several thousand devices containing high-activity radiation sources licensed for use in areas ranging from medical uses such as cancer therapy to safety uses such as testing of structures and industrial equipment. Those radiation sources are licensed by the U.S. Nuclear Regulatory

Commission and state agencies. Concerns have been raised about the safety and security of the radiation sources, particularly amid fears that they could be used to create dirty bombs, or radiological dispersal device (RDD). In response to a request from Congress, the U.S. Nuclear Regulatory Commission asked the National Research Council to conduct a study to review the uses of high-risk radiation sources and the feasibility of replacing them with lower risk alternatives. The study concludes that the U.S. government should consider factors such as potential economic consequences of misuse of the radiation sources into its assessments of risk. Although the committee found that replacements of most sources are possible, it is not economically feasible in some cases. The committee recommends that the U.S. government take steps to in the near term to replace radioactive cesium chloride radiation sources, a potential "dirty bomb" ingredient used in some medical and research equipment, with lower-risk alternatives. The committee further recommends that longer term efforts be undertaken to replace other sources. The book presents a number of options for making those replacements.

*Geological Well Logs* Elsevier

Applied Well Cementing Engineering delivers the latest technologies, case studies, and procedures to identify the challenges, understand the framework, and implement the solutions for today's cementing and petroleum engineers. Covering the basics and advances, this contributed reference gives the complete design, flow and job execution in a structured process. Authors, collectively, bring together knowledge from over 250 years of experience in cementing and condense their knowledge into this book. Real-life successful and unsuccessful case studies are included to explain lessons learned about the technologies used today. Other topics include job simulation, displacement efficiency, and hydraulics. A practical guide for cementing engineer, Applied Well Cementing Engineering, gives a critical reference for better job execution. Provides a practical guide and industry best practices for both new and seasoned engineers Independent chapters enable the readers to quickly access specific subjects Gain a complete framework of a cementing job with a detailed road map from casing equipment to plug and abandonment

*Encyclopedia of Well Log...* Editions TECHNIP

"The aim of this book is to provide students, trainees and engineers with a manual covering all well-logging measurements ranging from drilling to production, from oil to minerals going by way of geothermal energy. Each chapter is necessarily a summary, especially in the field of conventional measurements which are effectively described by service companies and some authors, but each topic can be followed further by means of the bibliographic lists which give the best references in each field."-- Preface

**Well Log Formation Evaluation** Springer Science & Business Media

The first edition of this book demystified the process of well log analysis for students, researchers and practitioners. In the two decades since, the industry has changed enormously: technical staffs are smaller, and hydrocarbons are harder to locate, quantify, and produce. New drilling techniques have engendered new measurement devices incorporated into the drilling string. Corporate restructuring and the "graying" of the workforce have caused a scarcity in technical competence involved in the search and exploitation of petroleum. The updated 2nd Edition reviews logging measurement technology developed in the last twenty years, and expands the petrophysical applications of the measurements.

*Geologic Well Log Analysis* Nova Science Publishers

This hand guide in the Gulf Drilling Guides series offers practical techniques that are valuable to petrophysicists and engineers in their day-to-day jobs. Based on the author's many years of experience working in oil companies around the world, this guide is a comprehensive collection of techniques and rules of thumb that work. The primary functions of the drilling or petroleum engineer are to ensure that the right operational decisions are made during the course of drilling and testing a well, from data gathering, completion and testing, and thereafter to provide the necessary parameters to enable an accurate static and dynamic model of the reservoir to be constructed. This guide supplies these, and many other, answers to their everyday problems. There are chapters on NMR logging, core analysis, sampling, and interpretation of the data to give the engineer a full picture of the formation. There is no other single guide like this, covering all aspects of well logging and formation evaluation, completely updated with the latest techniques and applications. · A valuable

reference dedicated solely to well logging and formation evaluation. · Comprehensive coverage of the latest technologies and practices, including, troubleshooting for stuck pipe, operational decisions, and logging contracts. · Packed with money-saving and time saving strategies for the engineer working in the field.

**Water-resources Investigations Report** Butterworth-Heinemann

This book deals with image-processing problems that arise in the process of automating some aspects of well log analysis. Each problem is first described in log analysis terms - that is, what task is performed by a log analyst and how it is accomplished in manual processing. Then algorithms for automating each function are presented and their meanings from the point of view of log analysis and image processing are explained. The term image processing is understood here, in its broadest sense, as any processing of any images. I developed many of the algorithms presented in this book for particular independent applications. Later, when I realized that they used some common techniques for analysis of logging curves, I applied these techniques in designing new algorithms. To present the algorithms here, I first formulate a minimization principle that has proved useful in a number of applications. Then I describe image-processing problems and their solutions based on this principle and some other common techniques. Finally, I describe alternative approaches. At first reading, readers may choose to skip the chapter describing the minimization principle and come back to it later when they have seen how the principle can be applied. This order of reading is further justified by the fact that the formulas that apply the general principle are different for each application, so their derivation is repeated each time independently.

*Transactions of the SPWLA ... Annual Logging Symposium* Elsevier

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This revised and rewritten edition presents an account of the various open-hole log tools and the data they generate. In particular, it provides a comprehensive geological interpretation of the derived data enabling the geologist to capitalize fully upon well data.

Essentials of Modern Open-hole Log Interpretation Springer

The first edition of this book demystified the process of well log analysis for students, researchers and practitioners. In the two decades since, the industry has changed enormously: technical staffs are smaller, and hydrocarbons are harder to locate, quantify, and produce. New drilling techniques have engendered new measurement devices incorporated into the drilling string. Corporate restructuring and the "graying" of the workforce have caused a scarcity in technical competence involved in the search and exploitation of petroleum. The updated 2nd Edition reviews logging measurement technology developed in the last twenty years, and expands the petrophysical applications of the measurements.

Well Logging for Earth Scientists Springer Science & Business Media

This book addresses vital issues, such as the evaluation of shale gas reservoirs and their production. Topics include the cased-hole logging environment, reservoir fluid properties; flow regimes; temperature, noise, cement bond, and pulsed neutron logging; and casing inspection. Production logging charts and tables are included in the appendices. The work serves as a comprehensive reference for production engineers with upstream E&P companies, well logging service company employees, university students, and petroleum industry training professionals.

*The Geological Interpretation of Well Logs* Springer Science & Business Media

"The aim of this book is to provide students, trainees and

engineers with a manual covering all well-logging measurements ranging from drilling to production, from oil to minerals going by way of geothermal energy. Each chapter is necessarily a summary, especially in the field of conventional measurements which are effectively described by service companies and some authors, but each topic can be followed further by means of the bibliographic lists which give the best references in each field."-- Preface

**Contributions in Petroleum Geology and Engineering: Volume 2** Springer

Logging has come a long way from the simple electrical devices of the early years. Today's tools are considerably more accurate and are used for an increasingly diverse number of tasks. Among these are tools that characterise geological properties of rocks in the borehole. Combined with new technology to drill deviated wells, the geoscientist now has tools which allow him to characterise and develop reservoirs more accurately than ever. This book, written for researchers, graduate students and practising geoscientists, documents these techniques and illustrates their use in a number of typical case studies.

**Basic Well Log Analysis for Geologists** Springer

Following the success of the Drilling Data Handbook, Editions Technip has designed this book to cover the well logging principles and its applications. This well logging handbook first edition starts with a summary on geology and petrophysics focusing mainly on its applications. The wide range of logging measurements and applications is covered through eleven sections, each of them organized into four chapters. All in all, this is a strongly-bound, user-friendly book with useful information for those involved in all aspects and applications of well-logging. The paging is notched and externally labelled alphabetically to allow a quick access.