1. Record Nr. UNINA9911004803503321

Autore	Darling Toby
Titolo	Well logging and formation evaluation / / Toby Darling
Pubbl/distr/stampa	Amsterdam ; ; Boston, : Elsevier Burlington, MA, : Gulf Professional Pub., c2005
ISBN	9786610631308 9780080457956 9780080557953 0080557953 978-0-0805-5795-6 9780080557956
Descrizione fisica	1 online resource (ix, 326 pages) : illustrations
Collana	Gulf drilling guides
Disciplina	622/.1828/072
Soggetti	Geophysical well logging - Statistical methods Geophysical well logging - Mathematical models Prospecting - Geophysical methods
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references (pages 309-312) and index.
Nota di contenuto	Introduction; 1. Basics; 1.1 Terminology; 1.2 Basic Log Types; 1.3 Logging Contracts; 1.4 Preparing a Logging Programme; 1.5 Operational Decisions; 1.6 Coring; 1.7 Wellsite Mud Logging; 1.8 Testing/Production Issues; 2. Quicklook Log Interpretation; 2.1 Basic Quality Control; 2.2 Identifying the Reservoir; 2.3 Identifying the Fluid Type and Contacts; 2.4 Calculating the Porosity; 2.5 Calculating Hydrocarbon Saturation; 2.6 Presenting the Results; 2.7 Pressure/Sampling; 2.8 Permeability Determination; 3. Full Interpretation; 3.1 Net Sand Definition; 3.2 Porosity Calculation 3.3 Archie Saturation3.4 Permeability; 4. Saturation/Height Analysis; 4.1 Core Capillary Pressure Analysis; 4.2 Log-Derived Functions; 5. Advanced Log Interpretation Techniques; 5.1 Shaly Sand Analysis; 5.2 Carbonates; 5.3 Multi-Mineral/Statistical Models; 5.4 NMR Logging; 5.5 Fuzzy Logic; 5.6 Thin Beds; 5.7 Thermal Decay Neutron Interpretation; 5.8 Error Analyses; 5.9 Borehole Corrections; 6. Integration with

Seismic; 6.1 Synthetic Seismograms; 6.2 Fluid Replacement Modelling; 6.3 Acoustic/Elastic Impedance Modelling; 7. Rock Mechanics Issues; 8. Value Of Information
9. Equity Determinations9.1 Basis for Equity Determination; 9.2 Procedures/Timing for Equity Determination; 9.3 The Role of the Petrophysicist; 10. Production Geology Issues; 10.1 Understanding Geological Maps; 10.2 Basic Geological Concepts; 11. Reservoir Engineering Issues; 11.1 Behavior of Gases; 11.2 Behavior of Oil/Wet Gas Reservoirs; 11.3 Material Balance; 11.4 Darcy's Law; 11.5 Well Testing; 12. Homing-in Techniques; 12.1 Magnetostatic Homing-in; 12.2 Electromagnetic Homing-in; 13. Well Deviation, Surveying, and Geosteering; 13.1 Well Deviation; 13.2 Surveying; 13.3 Geosteering 13.4 Horizontal Wells Drilled above a Contact13.5 Estimating the Productivity Index for Long Horizontal Wells; Appendix 1: Test Well 1 Data Sheet; Appendix 2: Additional Data for Full Evaluation; Appendix 3: Solutions to Exercises; Appendix 4: Additional Mathematics Theory; Appendix 5: Abbreviations and Acronyms; Appendix 6: Useful Conversion Units and Constants; Appendix 7: Contractor Tool Mnemonics; Bibliography; About the Author; Acknowledgments; Index

Sommario/riassunto

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 paramet