

1. Record Nr.	UNINA9910811627303321
Autore	Wheaton Richard
Titolo	Fundamentals of applied reservoir engineering : appraisal, economics and optimization // Richard Wheaton
Pubbl/distr/stampa	Amsterdam, [Netherlands] : , : Gulf Professional Publishing, , 2016 ©2016
ISBN	0-08-101900-9
Descrizione fisica	1 online resource (250 p.)
Disciplina	622.3382
Soggetti	Oil reservoir engineering Gas reservoirs Petroleum engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Front Cover; FUNDAMENTALS OF APPLIED RESERVOIR ENGINEERING; FUNDAMENTALS OF APPLIED RESERVOIR ENGINEERING; Copyright; CONTENTS; LIST OF FIGURES; FOREWORD; 1 - Introduction; 2 - Basic Rock and Fluid Properties; 2.1 FUNDAMENTALS; 2.2 POROSITY; 2.2.1 Basics; 2.2.2 Measurement of Porosity; 2.2.2.1 Wire Line Logs; 2.2.2.2 Laboratory Measurement of Porosity; 2.2.3 Variable Nature of Porosity; 2.2.4 Net to Gross (NTG); 2.3 PERMEABILITY; 2.3.1 Basics; 2.3.2 Measurement of Permeability; 2.3.2.1 Laboratory Determination of Permeability; 2.3.2.2 Permeability From Well-Test Analysis 2.3.2.3 Darcy's Law in Field Units 2.3.3 Permeability Variation in a Reservoir; 2.3.4 Vertical and Horizontal Permeability; 2.4 WETTABILITY; 2.4.1 Basics; 2.4.1.1 Hysteresis; 2.4.1.2 Imbibition and Drainage; 2.4.2 Measuring Wettability; 2.5 SATURATION AND CAPILLARY PRESSURE; 2.5.1 Saturation; 2.5.2 Capillary Pressure; 2.5.3 Reservoir Saturation With Depth; 2.5.3.1 Oil-Water Reservoirs With a Gas Cap; 2.6 RELATIVE PERMEABILITY; 2.6.1 Basics; 2.6.2 Oil-Water Systems; 2.6.3 Gas-Water Systems; 2.6.4 Gas-Oil Relative Permeability; 2.6.5 Semi-Empirical Equations for Two-Phase Relative Permeabilities 2.6.6 Three-Phase Relative Permeabilities 2.6.7 Measurement of Relative Permeability; 2.6.8 Excel Software for Producing Empirical Relative Permeability and Capillary Pressure Curves; 2.7 RESERVOIR FLUIDS;

2.7.1 Basics; 2.7.1.1 Hydrocarbons; 2.7.1.2 Inerts; 2.7.1.3 Types of Reservoir Fluid; 2.7.2 Relationship Between Gas and Oil Phases-Single-Component Systems; 2.7.3 Phase Equilibria in Multicomponent Systems; 2.7.3.1 A Different Representation-Two-Pseudocomponent Pressure Composition Plots; 2.7.4 Volume Changes With Pressure and Temperature (PVT Relationships)  
2.7.5 Obtaining Representative Reservoir Fluid Samples  
2.7.5.1 Surface Flow Testing; 2.7.5.2 Direct Reservoir Fluid Sampling-Repeat Formation Testing; 2.7.6 Laboratory Studies on Reservoir Fluids; 2.7.6.1 Constant Volume Depletion for Gas and Gas Condensate Systems; 2.7.6.2 Constant Composition Expansion; 2.7.6.3 Differential Depletion for Oil; 2.7.7 Use of Equations of State in Reservoir Engineering; 2.7.7.1 Real Gases; 2.7.8 Black Oil Model; 2.7.8.1 Formation Volume Factors; 2.7.8.1.1 Oil FVF; 2.7.8.1.2 Gas FVF; 2.7.8.2 Solution GOR  
2.7.9 Excel Software for Producing Empirical Black Oil Curves  
2.7.10 Compositional Flash Calculations; 2.7.10.1 Chemical Potentials; 2.7.10.2 Fugacities; 2.7.10.3 For a Real Gas; 2.7.10.4 Cubic Equation of State of Form; Solved to Give PVT Relationships; 2.7.10.5 Allowing Composition of Coexisting Phases to Be Determined; 2.8 QUESTIONS AND EXERCISES; 2.9 FURTHER READING; 2.10 SOFTWARE; 3 - Well-Test Analysis; 3.1 INTRODUCTION; 3.2 BASIC EQUATIONS; 3.3 LINE SOURCE-INFINITE RESERVOIR; 3.4 BOUNDED RESERVOIR WITH "NO FLOW" BOUNDARY; 3.5 CONSTANT PRESSURE BOUNDARY; 3.6 SKIN EFFECTS  
3.7 WELLBORE STORAGE

---