1.	Record Nr.	UNINA9910779553403321
	Autore	Sheng James J
	Titolo	Enhanced oil recovery field case studies / / James J. Sheng
	Pubbl/distr/stampa	Waltham, Mass., : Elsevier, 2013 Waltham, MA : , : Gulf Professional Publishing, , 2013
	ISBN	1-299-47288-5 0-12-386546-8
	Descrizione fisica	1 online resource (xxiii, 685 pages) : illustrations (some color)
	Collana	Gale eBooks
	Disciplina	622.33827
	Soggetti	Enhanced oil recovery Petroleum engineering Oil reservoir engineering Oil fields - Production methods
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Description based upon print version of record.
	Nota di bibliografia	Includes bibliographical references and index.
	Nota di contenuto	Front Cover; Enhanced Oil Recovery Field Case Studies; Copyright Page; Contents; Preface; Contributors; Acknowledgments; 1 Gas Flooding; 1.1 What Is Gas Flooding?; 1.2 Gas Flood Design; 1.3 Technical and Economic Screening Process; 1.4 Gas Injection Design and WAG; 1.5 Phase Behavior; 1.5.1 Standard (or Basic) PVT Data; 1.5.2 Swelling Test; 1.5.3 Slim-Tube Test; 1.5.4 Multicontact Test; 1.5.5 Fluid Characterization Using an Equation-of-State; 1.6 MMP and Displacement Mechanisms; 1.6.1 Simplified Ternary Representation of Displacement Mechanisms for Field Gas Floods1.6.3 Determination of MMP; 1.7 Field Cases; 1.7.1 Slaughter Estate Unit CO2 Flood; 1.7.2 Immiscible Weeks Island Gravity Stable CO2 Flood; 1.7.3 Jay Little Escambia Creek Nitrogen Flood; 1.7.4 Overview of Field Experience; 1.8 Concluding Remarks; Abbreviations; References; 2 Enhanced Oil Recovery by Using CO2 Foams: Fundamentals and Field Applications; 2.1 Foam Fundamentals; 2.1.1 Why CO2 Is so Popular in Recent Years?; 2.1.2 Why CO2 Is of Interest Compared to Other Gases?; 2.1.3 Why CO2 Is Injected as Foams? 2.1.4 Foam in Porous Media: Creation and Coalescence Mechanisms2.

	 1.5 Foam in Porous Media: Three Foam States and Foam Generation; 2.1.6 Foam in Porous Media: Two Strong-Foam Regimes-High-Quality and Low-Quality Regimes; 2.1.7 Modeling Foams in Porous Media; 2.1.8 Foam Injection Methods and Gravity Segregation; 2.1.9 CO2- Foam Coreflood Experiments; 2.1.10 Effect of Subsurface Heterogeneity-Limiting Capillary Pressure and Limiting Water Saturation; 2.1.11 Foam-Oil Interactions; 2.2 Foam Field Applications, Siggins Field, Illinois 2.2.2 Steam Foam EOR, Midway Sunset Field, California2.2.3 CO2/N2 Foam Injection in Wilmington, California (1984); 2.2.4 CO2-Foam Injection in Rock Creek, Virginia (1984-1985); 2.2.5 CO2-Foam Injection in North Ward-Estes, Texas (1990-1991); 2.2.7 CO2-Foam Injection in the East Vacuum Grayburg/San Andres Unit, New Mexico (1991-1993); 2.2.8 CO2-Foam Injection in East Mallet Unit, Texas, and McElmo Creek Unit, Utah (1991-1994); 2.3 Typical Field Responses During CO2-Foam Applications 2.3.1 Diversion from High- to Low-Permeability Layers2.3.2 Typical Responses from Successful SAG Processes; 2.3.3 Typical Responses from Successful Surfactant-Gas Coinjection Processes; 2.4 Conclusions; Acknowledgment; Appendix-Expression of Gas-Mobility Reduction in the Presence of Foams; References; 3 Polymer Flooding-Fundamentals and Field Cases; 3.1 Polymers Classification; 3.2 Polymer Solution Viscosity; 3.2.1 Salinity and Concentration Effects; 3.2.2 Shear Effect; 3.3.1 Polymer Viscosity in Porous Media; 3.3.2 Polymer Retention
	3.3.3 Inaccessible Pore Volume
Sommario/riassunto	Enhanced Oil Recovery Field Case Studies bridges the gap between theory and practice in a range of real-world EOR settings. Areas covered include steam and polymer flooding, use of foam, in situ combustion, microorganisms, ""smart water""-based EOR in carbonates and sandstones, and many more. Oil industry professionals know that the key to a successful enhanced oil recovery project lies in anticipating the differences between plans and the realities found in the field. This book aids that effort, providing valuable case studies from more than 250 EOR pilot and field applicatio