

1. Record Nr.	UNINA9910253990403321
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Titolo	Integrative Understanding of Shale Gas Reservoirs [[electronic resource] /] / by Kun Sang Lee, Tae Hong Kim
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2016
ISBN	3-319-29296-X
Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (131 p.)
Collana	SpringerBriefs in Applied Sciences and Technology, , 2191-530X
Disciplina	553.285
Soggetti	Fossil fuels Geotechnical engineering Fossil Fuels (incl. Carbon Capture) Geotechnical Engineering & Applied Earth Sciences
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 at the end of each chapters.
Nota di contenuto	Introduction -- Characteristics of Shale Reservoirs -- Numerical Modeling -- Performance Analysis.-Future Technologies.
Sommario/riassunto	This timely book begins with an overview of shale gas reservoir features such as natural fracture systems, multi-fractured horizontal wells, adsorption/desorption of methane, and non-linear flow within the reservoir. Geomechanical modelling, an aspect of importance in ultra-low permeability reservoirs, is also presented in detail. Taking these complex features of shale reservoirs into account, the authors develop a numerical model, which is verified with field data using the history matching technique. Based on this model, the pressure transient and production characteristics of a fractured horizontal well in a shale gas reservoir are analysed with respect to reservoir and fracture properties. Methods for the estimation of shale properties are also detailed. Minifrac tests, rate transient tests (RTA), and type curve matching are used to estimate the initial pressure, permeability, and fracture half-length. Lastly, future technologies such as the technique of injecting CO ₂ into shale reservoirs are presented. The book will be of interest to industrial practitioners, as well as to academics and graduate students in the field of reservoir engineering.

