

The background of the cover features a silhouette of an oil rig against a sunset sky. The bottom half of the image is overlaid with a digital pattern of binary code (0s and 1s) and glowing blue lines that form a network or data structure.

Edited by **Sid-Ali Ouadfeul**

Unconventional Hydrocarbon Resources

**Prediction and Modeling Using
Artificial Intelligence Approaches**

WILEY

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Prediction and Modeling Using Artificial Intelligence Approaches

Edited by Dr. Sid-Ali Ouadfeul

*Algerian Petroleum Institute
Sonatrach, Algeria*

WILEY

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Preface

Unconventional Hydrocarbon Resources: Prediction and Modeling Using Artificial Intelligence Approaches highlights novel concepts and techniques in tight reservoir exploration and discusses contribution of artificial intelligence such as neural network, machine learning, and fuzzy logic toward the exploration of these reservoirs. The book contains twenty-one chapters, and each chapter covers examples and applications to real data from different hydrocarbon fields such as the Barnett Shale (United States), Eagle Ford (United States), Baken Oil (United States), Oued Mya (Algeria), Hassi Terfa field (Algeria), Berkine Basin (Algeria), and Williston Basin (United States).

Volume highlights include geophysics of the tight and shale plays, petrophysics of the shale and tight sand gas reservoirs, geomechanic of shale gas reservoirs, wellbore stability in shale gas reservoirs, rock typing of tight sand reservoirs, and fluid flow and permeability of unconventional hydrocarbon reservoirs.

This book will be a valuable resource of information for students, instructors, and researchers working on unconventional hydrocarbon exploration, geophysics, geoen지니어ing, and energy.

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