Lantern Awards Category K-2: Capabilites Booklet or Brochure Over 4 Pages

The Science of Shale, Schlumberger Unconventional Resources

47-Page Book

The Science of Shale addresses multiple topics, from the emerging global shale market to the development of new services and products. Read about these topics and more in the attached book, carefully returning it into the pocket afterwards so that others may also enjoy.

A New Era - International Expansion, Spread Overview

Although shale resource estimates will likely change over time, the initial estimate of technically recoverable shale gas resources in 41 countries is 7,299 trillion cubic feet (Tcf).[†] To put that into perspective, just 1 Tcf is enough to heat 15 million homes for a year.[‡] For all shale, including liquids, conservative estimates for oil and gas resources exceed 2 trillion barrels of oil equivalent.

International Expansion

The shift to shale holds enormous potential for countries such as China, South Africa, and Argentina, which sit atop wide expanses of organic shale resources. Unconventional resource development will create millions of jobs and provide centuries of clean, domestic power. However, operators must first overcome completion quality challenges—and address infrastructure, land access, regulations, and the acceptance of hydraulic fracturing by local populations.

Shale Potential

All over the world, operators seek the vast oil and natural gas resources still residing within these ultralow-permeability organic mudstone sediments. The potential of shale is tremendous, but converting these resources into commercially viable reserves requires breakthrough technology and the right economic conditions. In this modern industrial age, we must provide affordable and plentiful energy for future generations—while extracting resources in a safer, more environmentally responsible manner.

Organic source rocks have been found on every continent. These are just some of the most significant unconventional oil and gas deposits around the globe.

Spotlight on China

The US Energy Information Administration (EIA) estimates that China has 1,115 Tcf of technically recoverable shale gas, making it the world's largest shale gas resource. Still in the early exploration phase, China must find a way to develop these resources despite challenges such as hilly terrain, high population density, limited transportation, and constrained water supply. It has set an ambitious goal of producing more than 2,000 Bcf/year—a staggering 6% of its energy needs—by 2020.

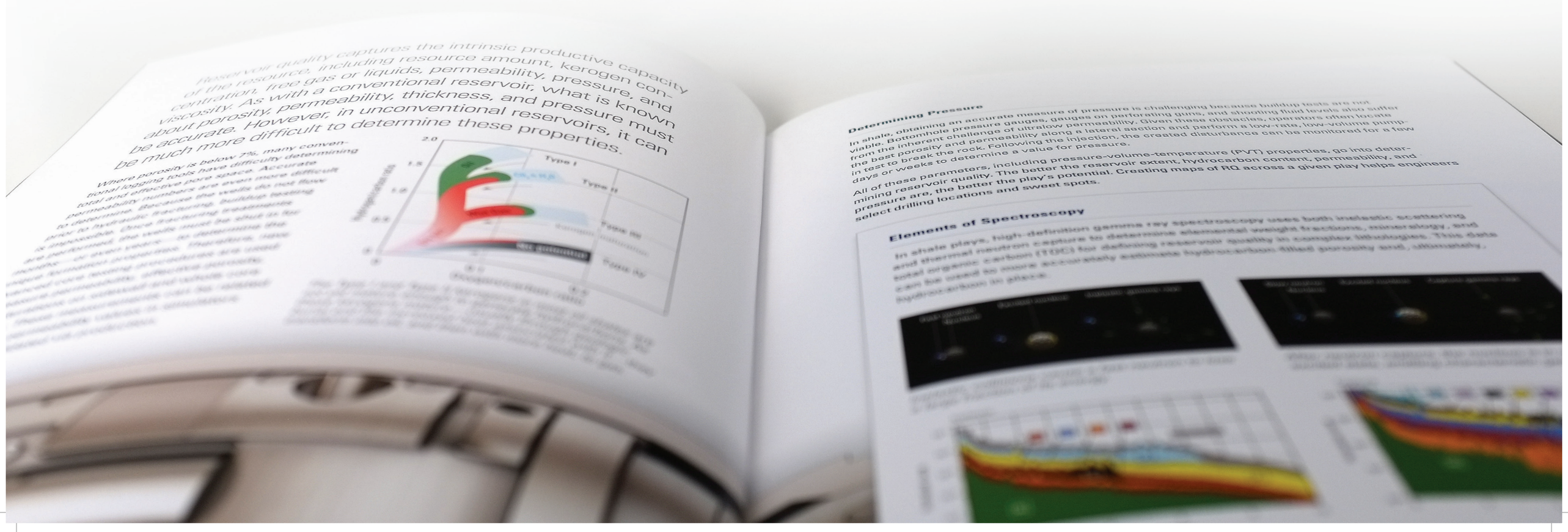
[†]Source: US Energy Information Administration
[‡]Source: US National Energy Technology Laboratory

Schlumberger

The Science of Shale

The Science of Shale explores the various processes and technologies used in finding, developing, and producing shale resources. Once viewed as uneconomic source rock, shale reservoirs have become much sought after; new developments have made their production commercially viable while addressing safety, environmental, water, and land-use sustainability concerns. This booklet addresses multiple topics, from the emerging global shale market to the development of new services and products.

Also discussed are the characteristics of shale reservoirs, including permeability, heterogeneity, and basinal architecture. Throughout *The Science of Shale*, facts relating to shale introduce the theme of each chapter. The dynamic layout incorporates case studies as well as multiple sidebars for a more in-depth look at current services used for shale operations.



Lantern Awards Category K-2: Capabilites Booklet or Brochure Over 4 Pages

The Science of Shale, Schlumberger Unconventional Resources

Chapter 1 - Unconventional Resources, Introduction Detail

Chapter 5 - Completion Quality, Detail

Chapter 1 - Unconventional Resources, Detail

Chapter 8 - Integration And Colloboration, Detail