Accepted Manuscript

A review on pore structure characterization in tight sandstones

Jin Lai, Guiwen Wang, Ziyuan Wang, Jing Chen, Xiaojiao Pang, Shuchen Wang, Zhenglong Zhou, Zhibo He, Ziqiang Qin, Xuqiang Fan

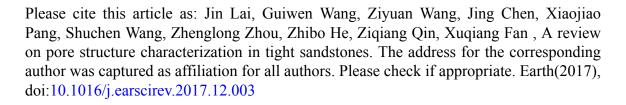
PII: S0012-8252(17)30522-6

DOI: doi:10.1016/j.earscirev.2017.12.003

Reference: EARTH 2543

To appear in: Earth-Science Reviews

Received date: 9 October 2017
Revised date: 28 November 2017
Accepted date: 5 December 2017



This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



ACCEPTED MANUSCRIPT

A review on pore structure characterization in tight sandstones

Jin Lai ^{1,2}, Guiwen Wang ^{1,2}, Ziyuan Wang ³, Jing Chen ², Xiaojiao Pang ², Shuchen Wang ²,

Zhenglong Zhou ², Zhibo He ², Ziqiang Qin ⁴, Xuqiang Fan ²

- 1. State Key Laboratory of Petroleum Resources and Prospecting, China University of Petroleum-Beijing, 102249, China
- 2. College of Geosciences, China University of Petroleum-Beijing, 102249, China
- 3. School of Earth and Space Science, Peking University, Beijing, 100871, China
- 4. Department of Petroleum Engineering, University of Wyoming, E Lewis Street, Engineering Building, Laramie, Wyoming 82071-2000, USA

Corresponding author: Dr. Jin Lai, 18 Fuxue Road, Changping District, Beijing, China, 102249.

Tel.: +861089733435; Fax.: +861089734158; E-mail: sisylaijin@163.com

Prof. Guiwen Wang, E-mail: wanggw@cup.edu.cn

Abstract:

Tight sandstone reservoirs typically contain a wide pore throat sizes ranging from the nano-scale to micro-scale, and have complex pore geometry and pore throat structure. Microscopic pore throat structures are the most important factors affecting the macroscopic reservoir quality and fluid flow in tight sandstones. Evaluation and characterization quantitatively the microscopic pore structures, including pore geometry, pore size distribution, and pore connectivity, are of great importance for maintaining and enhancing petroleum recovery. This paper critically reviews the pore throat structures of tight sandstones, as assessed from peer reviewed papers in the literature as well as from the authors' personal experiences, in the particular contexts of comprehensive characterization and description of the entire pore throat structure using various complementary techniques. The depositional controls and diagenetic imprints on reservoir quality and pore structure are firstly discussed. The pore systems including pore throat type, pore geometry, pore size and connectivity,

Download English Version:

https://daneshyari.com/en/article/8913065

Download Persian Version:

https://daneshyari.com/article/8913065

<u>Daneshyari.com</u>