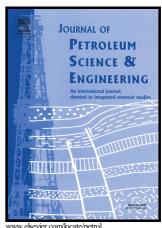
# Author's Accepted Manuscript

Tectonic fractures in the Lower Cretaceous Xiagou Formation of Qingxi Oilfield, Jiuxi Basin, NW China Part one: Characteristics and controlling factors

Wei Ju, Weifeng Sun



www.csever.com rocate peace

PII: S0920-4105(16)30308-4

DOI: http://dx.doi.org/10.1016/j.petrol.2016.07.042

Reference: PETROL3575

To appear in: Journal of Petroleum Science and Engineering

Received date: 27 October 2015 Revised date: 27 July 2016 Accepted date: 28 July 2016

Cite this article as: Wei Ju and Weifeng Sun, Tectonic fractures in the Lower Cretaceous Xiagou Formation of Qingxi Oilfield, Jiuxi Basin, NW China Par one: Characteristics and controlling factors, *Journal of Petroleum Science and Engineering*, http://dx.doi.org/10.1016/j.petrol.2016.07.042

This is a PDF file of an unedited manuscript that has been accepted fo publication. As a service to our customers we are providing this early version o the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable 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

Tectonic fractures in the Lower Cretaceous Xiagou Formation of Qingxi Oilfield,
Jiuxi Basin, NW China Part one: Characteristics and controlling factors

Wei Ju<sup>a,b</sup>, Weifeng Sun<sup>a,c\*</sup>

<sup>a</sup>School of Resources and Geoscience, China University of Mining and Technology, Xuzhou 221116, China;

<sup>b</sup>Key Laboratory of Coalbed Methane Resources and Reservoir Formation Process, Ministry of Education, China

University of Mining and Technology, Xuzhou 221008, China;

<sup>c</sup>PetroChina Research Institute of Petroleum Exploration and Development, Beijing 100083, China;

\* Corresponding author. E-mail: sunweifeng1986@163.com.

#### **Abstract:**

The Lower Cretaceous Xiagou Formation of Qingxi Oilfield is a typical reservoir with low porosity and permeability in China. Fractures within the Xiagou Formation play an important role in the petroleum exploration and development. In the present study, analysis data of conventional drill core, thin section and imaging logging were used to determine the characteristics and controlling factors of tectonic fractures in the Xiagou Formation. The majority of tectonic fractures in the Xiagou Formation were unfilled, and their apertures were less than 1.0×10<sup>-4</sup> m. The dominant strikes of tectonic fractures were in the NE-SW and NW-SE directions. Approximately 68.8% of tectonic fractures were bedding fractures, followed by oblique fractures (about 18.2%) and vertical fractures (about 13.0%). In different places, the densities of tectonic fractures varied greatly. The controlling factors, including tectonic and non-tectonic factors, for tectonic fractures in the Xiagou Formation were confirmed, which have been analyzed qualitatively or semi-quantitatively. Analysis of tectonic factors indicated that tectonic fractures were more probably formed (or the fracture density was high) in regions with larger stress gradients and/or closer to faults. Within the same tectonic setting and stress field, non-tectonic factors of the lithology and mineral composition became the dominant factors governing the development of tectonic fractures. Analysis of non-tectonic factors showed that tectonic fractures were most developed in dolomitic mudstone. The fracture density was positively related to the proportion of brittle minerals in rocks of the Xiagou Formation.

**Keywords:** fracture parameters; controlling factors; tectonic fractures; Xiagou Formation; Qingxi Oilfield

## Download English Version:

# https://daneshyari.com/en/article/8125930

Download Persian Version:

https://daneshyari.com/article/8125930

<u>Daneshyari.com</u>