

检索...

检索

高级检索 (<http://www.nggs.ac.cn/CN/1672-1926/home.shtml>)

作者投稿

专家审稿

编辑办公

天然气地球科学 (<http://www.nggs.ac.cn>)

· 非常规天然气 ·

◀ 上一篇 (<http://www.nggs.ac.cn/CN/abstract/abstract3868.shtml>)

下一篇 ▶ (<http://www.nggs.ac.cn/CN/abstract/abstract3870.shtml>)

中国南方下古生界页岩气远景区评价

肖贤明, 王茂林, 魏强, 田辉, 潘磊, 李腾飞 ▼

Evaluation of Lower Paleozoic Shale with Shale Gas Prospect in South China

XIAO Xian-ming, WANG Mao-lin, WEI Qiang, TIAN Hui, PAN Lei, LI Teng-fei ▼



PDF (PC)

256

摘要/Abstract

摘要 :

中国南方下古生界海相页岩成熟度很高,且经历了后期强烈构造改造,成为有别于北美页岩的典型特征。在对比中国南方下古生界与美国页岩、中国南方下志留统与下寒武统页岩地质地球化学差异的基础上,通过对储集物性、保存条件、含气性等相关数据的综合研究,探讨了页岩气远景区的评价指标。提出等效镜质组反射率( $E_{qR_O}$ )>3.5%的区域为页岩气高风险区,在 $E_{qR_O}$ 值为2.0%~3.5%的范围内,保存条件是页岩含气性的主控因素。在此基础上,提出了抬升/褶皱区(四川盆地)及褶皱断裂区(四川盆地以外)下志留统与下寒武统页岩气远景区评价指标体系。认为:埋藏深度<1 500m的南方下古生界页岩不具备页岩气开发潜力;四川盆地下古生界页岩普遍存在流体超压,TOC>1.5%的下志留统页岩与TOC>2.0%的下寒武统页岩均具有页岩气潜力。在褶皱断裂区,预测深层页岩(下志留统>2 000m;下寒武统>2 500~3 000m)达到具经济开发价值的含气量限定值,将成为该类地区下一步重点勘探的领域。

**关键词:** 南方, 下古生界, 页岩气, 远景区, 评价指标

Abstract:

The Lower Paleozoic shale in south China has very high maturity and experienced a strong tectonic reformation, which is quite different from the North American shale. This study, based on a comparison on geological and geochemical characteristics between the Lower Paleozoic and American shales as well as between the Lower Cambrian and Lower Silurian shales in south China, made a comprehensive investigation of the reservoir property, preservation condition, gas content and other related data of the Lower Paleozoic shale, and discussed the evaluation criteria for shale gas prospective areas. It is deemed that shale with an equivalent vitrinite reflectance ( $E_{qR_O}$ ) > 3.5% will have a high risk for shale gas exploration. In the range of 2.0%~3.5% of  $E_{qR_O}$ , the preservation condition becomes a main controlling factor on shale gas. The evaluation criteria of the Lower Silurian and Lower Cambrian shales are proposed for the uplifted/folded area (Sichuan Basin) as well as the folded/faulted area (outside the Sichuan Basin). It is believed that the Lower Paleozoic shale with a burial depth < 1 500 m has no industrial shale gas potential. Within the Sichuan Basin, the Lower Paleozoic shale system presents an overpressure, and the Lower Cambrian shale with TOC > 1.5% and the Lower Silurian shale with TOC > 2.0% have gas potential. In the faulted/folded area, it is predicted that the deeply-burial shale (Lower Silurian > 2 000 m and Lower Cambrian > 2 500-3 000 m) reaches the limit value of gas content with economic potential, and will become the focus for further exploration and development in this type of area.

**Key words:** South China, Lower Paleozoic, Shale gas, Prospecting area, Evaluation criteria

中图分类号:

TE122.1

参考文献

相关文章 15

Metrics

本文评价

推荐阅读 0

✉ Email Alert ([../alert/showAlertInfo.do](http://alert/showAlertInfo.do))  RSS ([../rss/showRssInfo.do](http://rss/showRssInfo.do))

地址：甘肃省兰州市天水中路8号 (730000)

电话：(0931)8277790 Email: [geogas@lzb.ac.cn](mailto:geogas@lzb.ac.cn)

版权所有 © 2018 天然气地球科学 编辑部



(<http://www.miitbeian.gov.cn>)

陇ICP备05000311号-2