

四川盆地及其周缘上奥陶统-下志留统页岩气聚集条件

聂海宽¹, 张金川², 包书景¹, 边瑞康¹, 宋晓蛟³, 刘建斌^{4*}

1. 中国石化 石油勘探开发研究院, 北京 100083;
2. 中国地质大学 能源学院, 北京 100083;
3. 陕西省地质矿产 勘查开发局 第二综合物探大队, 陕西 西安 710016;
4. 中国石油 长城钻探工程有限公司 国际钻井公司, 北京 100101

Shale gas accumulation conditions of the Upper Ordovician-Lower Silurian in Sichuan Basin and its periphery

Nie Haikuan¹, Zhang Jinchuan², Bao Shujing¹, Bian Ruikang¹, Song Xiaojiao³, Liu Jianbin^{4*}

1. SINOPEC Exploration & Production Research Institute, Beijing 100083, China;
2. School of Energy Resources, China University of Geosciences, Beijing 100083, China;
3. The Second Comprehensive Geophysical Survey, Shaanxi Bureau of Geology and Mineral Exploration and Development, Xi' an, Shaanxi 710016, China;
4. GWDC International, CNPC, Beijing 100101, China

摘要	参考文献	相关文章
----	------	------

Download: [PDF \(997KB\)](#) [HTML](#) KB Export: [BibTeX](#) or [EndNote \(RIS\)](#) [Supporting Info](#)

摘要 通过对25处野外露头的观测、采样以及吸附气含量、地化参数和物性参数等测试分析,研究了四川盆地及其周缘上奥陶统-下志留统黑色页岩的沉积相、厚度及分布、有机质类型及含量、成熟度、孔隙度和含气量等页岩气成藏条件。与美国主要产气页岩相比,研究区发育的页岩具有沉积相有利、厚度大、有机碳含量高、成熟度高、孔隙度高和含气量高等特点,具备页岩气藏发育的良好地质条件。此外,建立了预测页岩气藏发育有利区的参数模型,采用综合信息叠合法预测四川盆地及其周缘上奥陶统-下志留统页岩气藏的有利发育区位于川南-黔北-鄂西-渝东和川(渝)东北-鄂西北等地。在各个有利区的具体指标中,川南-黔北有利区具有较高页岩含气量,是目前勘探较为现实的地区。根据实测含气量,采用体积法计算研究区上奥陶统-下志留统页岩气资源量为 $(2.2\sim 8.5)\times 10^{12}\text{ m}^3$,中值为 $5.3\times 10^{12}\text{ m}^3$ 。

关键词: 成藏条件 有利区带 上奥陶统 下志留统 页岩气 四川盆地

Abstract: The sedimentary facies, thickness, distribution, organic matter types and content, maturity, porosity, and gas content, of the Upper Ordovician-Lower Silurian dark shale in the Sichuan Basin and its periphery are investigated by field observation and sampling on 25 outcrops and laboratory test of adsorbed gas content, geochemical and physical parameters. In comparison with the major producing gas shales in U.S., the shale in the study area features in favorable sedimentary facies, large thickness, high TOC, high maturity, high porosity, and high gas content, all being favorable geological conditions for shale gas reservoir development. Parameter models were built for predicting shale gas play fairways. The results show that the shale gas play fairways in the study area occur in the Southern Sichuan-Northern Guizhou, Western Hubei-Eastern Chongqing and Northeastern Sichuan(Chongqing)-Northwestern Hubei, among which the Southern Sichuan-Northern Guizhou play fairway is relatively high in gas content, thus is most prospective in shale gas exploration at present. With the measured gas content, the volumetric method gave a resource volume in the range of 2.2-8.5 TCM and a median value of 5.3 TCM.

Keywords: accumulation condition play fairway Upper Ordovician Lower Silurian shale gas Sichuan Basin

Received 2011-12-01;

Fund: 全国油气资源战略选区调查与评价项目(2009GYXQ15)。

About author: 聂海宽(1982-),男,博士,油气成藏机理与非常规天然气。

引用本文:

聂海宽, 张金川, 包书景, 边瑞康, 宋晓蛟, 刘建斌. 四川盆地及其周缘上奥陶统-下志留统页岩气聚集条件[J] 石油与天然气地质, 2012, V(3): 335-345

Nie Haikuan, Zhang Jinchuan, Bao Shujing, Bian Ruikang, Song Xiaojiao, Liu Jianbin. Shale gas accumulation conditions of the Upper Ordovician-Lower Silurian in Sichuan Basin and its periphery[J] Oil & Gas Geology, 2012, V(3): 335-345

链接本文:

<http://ogg.pepris.com/CN/> 或 <http://ogg.pepris.com/CN/Y2012/V/13/335>

Service

- ▶ [把本文推荐给朋友](#)
- ▶ [加入我的书架](#)
- ▶ [加入引用管理器](#)
- ▶ [Email Alert](#)
- ▶ [RSS](#)

作者相关文章

- ▶ [聂海宽](#)
- ▶ [张金川](#)
- ▶ [包书景](#)
- ▶ [边瑞康](#)
- ▶ [宋晓蛟](#)
- ▶ [刘建斌](#)