

引用本文:

解习农, 张成, 任建业, 姚伯初, 万玲, 陈慧, 康波.南海南北大陆边缘盆地构造演化差异性对油气成藏条件控制[J] 地球物理学报, 2011,V54(12): 3280-3291,DOI: 10.3969/j.issn.0001-5733.2011.12.026

XIE Xi-Nong, ZHANG Cheng, REN Jian-Ye, Yao Bo-Chu, WAN Ling, CHEN Hui, KANG Bo.Effects of distinct tectonic evolutions on hydrocarbon accumulation in northern and southern continental marginal basins of South China Sea.Chinese J.Geophys. (in Chinese),2011,V54(12): 3280-3291,DOI: 10.3969/j.issn.0001-5733.2011.12.026

## 南海南北大陆边缘盆地构造演化差异性对油气成藏条件控制

解习农<sup>1</sup>, 张成<sup>1</sup>, 任建业<sup>1</sup>, 姚伯初<sup>2</sup>, 万玲<sup>2</sup>, 陈慧<sup>1</sup>, 康波<sup>1\*</sup>

1. 中国地质大学(武汉)构造与油气资源教育部重点实验室,武汉 430074;
2. 国土资源部广州海洋地质调查局,广州 510760

Effects of distinct tectonic evolutions on hydrocarbon accumulation in northern and southern continental marginal basins of South China Sea

XIE Xi-Nong<sup>1</sup>, ZHANG Cheng<sup>1</sup>, REN Jian-Ye<sup>1</sup>, Yao Bo-Chu<sup>2</sup>, WAN Ling<sup>2</sup>, CHEN Hui<sup>1</sup>, KANG Bo<sup>1\*</sup>

1. Key Laboratory of Tectonics and Petroleum Resources(China University of Geosciences), Ministry of Education, Wuhan 430074, China;
2. Guangzhou Marine Geological Survey Bureau, Ministry of Land and Resources, Guangzhou 510760, China

摘要

参考文献

相关文章

Download: PDF (1553KB) HTML 1KB Export: BibTeX or EndNote (RIS) Supporting Info

**摘要** 南海大陆边缘盆地由于边界条件的差异,形成了离散型、走滑-伸展型和伸展-挠曲复合型3类陆缘盆地.这些盆地由于其构造演化差异性,导致了盆地沉积充填存在较大差异,相应地导致这些盆地油气成藏条件及油气资源量的巨大差异.南海北部离散型大陆边缘盆地主要发育湖相泥岩和海相泥岩烃源岩,尽管存在较好的湖相烃源岩,但由于各断陷分隔且面积较小,因而油气主要富集于各富烃凹陷周缘.南海南部伸展-挠曲复合型大陆边缘盆地构造演化差异明显,南部曾母盆地周缘前陆阶段早于礼乐盆地、北康盆地和南薇西盆地,一方面由于坳陷面积大及相应的海陆交互煤系地层及海相泥岩烃源岩面积大、厚度大,另一方面断坳转换时期(15.5 Ma)缓慢的沉降速率导致大面积碳酸盐岩及礁灰岩广泛发育,形成了较为有利的生储盖组合.南海西部走滑-伸展型陆缘盆地介于上述两者之间,具有较厚的沉积物充填和高热流值,油气聚集以天然气藏为主.总之,无论是烃源岩分布范围及厚度,还是储集层,特别是礁灰岩储层分布以及生储盖组合等方面,南海南部大陆边缘盆地油气成藏条件均优于北部大陆边缘盆地,前者具有更优的油气勘探前景.

**关键词:** 构造演化 油气成藏 生烃凹陷 南海大陆边缘盆地

**Abstract:** Three distinct continental marginal basin types are developed in the South China Sea, i.e. divergence, transform-extensional and flexural-extensional complex types based on the boundary conditions. Difference in tectonic evolution in those basins results in great distinct in sedimentary fill and associated accumulating conditions of hydrocarbon. Source rocks of lacustrine and marine mudstones are mainly developed in northern diverging continental marginal basins in northern South China Sea. Although there developed good continental lacustrine sources, limited hydrocarbon accumulation occur in the adjacent areas around these separated depressions with a relative small scope distribution. In the southern flexural-extensional complex continental marginal basins of the South China Sea, the Zengmu basin underwent the peripheral foreland tectonic stage earlier than other basins such as the Lile, Beikang and Nanweixi basins. An available hydrocarbon accumulating condition occur in those basins, where there are not only large areas and thicknesses of depressions with the sources of coal-bearing and marine mudstones, but also formation of a broad carbonate and reef reservoirs resulted from slow subsidence rates during terminating period of the South China Sea spreading (about 15.5 Ma). The transform-extensional type of basins in western continental margins of the South China Sea are characterized by natural gases accumulation due to very thick sediments and high heat flow values. Considering of all kinds of geological conditions mentioned above, we believe that the hydrocarbon-bearing perspectives in southern continental marginal basins are superior to these northern continental marginal basins.

**Keywords:** Tectonic evolution Hydrocarbon accumulation Hydrocarbon-bearing depression Continental marginal basins of South China Sea

Received 2011-08-10;

Fund:

国家重点基础研究发展计划(2007CB411705)和国家自然科学基金重大研究计划"南海深海过程演变"重点支持项目(91028009)资助.

### 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](#)

About author: 解习农,男,1963年生,教授,1983年毕业于武汉地质学院煤及油气地质专业,1992年获得中国地质大学(武汉)博士学位,一直从事煤、油气地质及海洋地质的教学与科研工作.E-mail: xnxie@cug.edu.cn

链接本文:

<http://www.geophy.cn/CN/10.3969/j.issn.0001-5733.2011.12.026> 或 <http://www.geophy.cn/CN/Y2011/V54/I12/3280>

Copyright 2010 by 地球物理学报