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南海北部边缘盆地N_2分布富集特征及成因类型判识

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摘要:

南海北部新生代准被动大陆边缘盆地区域地质背景特殊、地球动力学条件复杂，油气地质现象丰富多彩，不同成因类型油气分布均具有一定的规律性。该区油气勘探中不仅发现了大量的烃类气，而且还发现了较丰富的CO_2和N_2等非烃气。N_2等非烃气主要富集于西北边缘莺歌海盆地中央泥底辟构造带浅层及某些局部区域部分层段，其分布富集特征与该区非生物壳源型CO_2基本类似，具有平面上分区分块、剖面上分层分带的局部性富集特点。根据N_2地质地球化学特征，借鉴国内外较通用的判识划分方法及指标，可将该区N_2确定为大气成因、壳源型有机成因和壳源型有机—无机混合成因等3种主要成因类型。

关键词: 莺歌海盆地 N_2< sub>富集特点 N_2< sub>成因类型 氮及氦氩同位素 综合判识与确定

Distribution and Enrichment of Nitrogen in the Margin Basin of Northern South China Sea and Its Genesis

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Abstract:

The Cenozoic margin basin of northern South China Sea has the special regional geological setting and the complex geodynamic setting,associated with abundant oil and gas. The different genetic types of oil and gas are regularly distributed. Both large content of hydrocarbon gases and a lot of non\|hydrocarbon gases (i.e. CO_2, N_2,others) are discovered in the Marginal basin of northern South China Sea. N_2molecular is mainly enriched in the shallow layer of central mud diapir belt and some parts of layers in the Yinggehai basin. The N_2 distribution,which is similar with theCO_2 non-biological crust type,is characterized as partition block in plane and layering and zoning in profile. According to geological and geochemical characteristics of N_2,we use the typical pattern to identity the N_2 source,including atmosphere,organic matter,and mixing of organic and inorganic sources.

Keywords: Yinggehai basin Nitrogen enrichment features Nitrogen genetic type Nitrogen and helium and argon isotope Synthetical identification and determination.

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