THE RING STRUCTURE AND FORMATION OF HYDROCARBON IN NORTH CHINA

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Abstract

Ring structure is a kind of structural form formed in different geological times. A complete ring structure consists of inner ring, middle ring and outer ring. The inner ring is the tractive-tensile area with basement arched upward. Normal faults and volcanic rocks developed and fault-subsided basin were formed there. The middle and outer rings are mainly compressive areas with folded arcs, granite arcs, overthrusts and nappes.

More than ten ring structures are found in North China. They compose four NW-SE trending ring structural chains which are the traces of mantle heat source acted on shifting land block during the Meso-Cenozoic.

The fault subsided basin formed in the late evolution stage of the raising of mantle heat source and crust expansion. If it has proper size, depth and sediments of great thickness, and also has source-reservoir-cap rock assemblage, it will certainly develop into a hydrocarbon basin.

Oil and gas fields have been found in three ring structures and oil shows are discovered in another one in north China. All of them are related to Meso-Cenozoic fault-depressed basin.

油气资源评价研究结果表明我国油气资源丰富

北京石油勘探开发科学研究院完成的"中国石油天然气资源评价研究总报告"，于今年7月份经五十多位石油地质专家评议，通过了部级鉴定。与会专家一致认为，报告所提出的我国石油总资源量787.5亿吨，天然气（含煤成气）总资源量为33.3万亿立方米，是有科学根据的；发展我国石油、天然气工业，资源条件是有保证的。

"六五"期间，为制定我国中、长期石油工业发展规划，同时也为近期勘探部署提供科学依据，石油工业部组织动员了20多个油田、院（所）等单位，约千人的科技攻关队伍，经过五年多时间，完成了30多份区域性资源评价报告约500余万字。在此基础上，北京石油勘探开发科学研究院从1985年以来，开展了九个方面的石油地质基础及资源评价理论与方法的系统研究，经过两年时间，完成了总报告的研究、编写工作。

这次全国油气资源评价研究的基础资料丰富、扎实。充分利用了79000多口钻井资料，142万多公里的地震剖面等物探资料，以及大量岩心分析、化验和卫片解译资料。并且开展了构造、沉积、生油、油气藏形成等石油地质基础研究，进一步丰富和发展了陆相成油理论。

采用先进的资源评价理论与方法，是这次油气资评研究工作的一个主要特点。工作中首先对国外50余种评价方法进行了分析、优选，结合我国石油地质条件及实验模拟结果，研制了适应我国情况的油气资源评价新方法。采用自己建立的评价系统对全国陆上和海域的250多个沉积盆地和沉积岩分布区6000m深度以内尚未发现的潜在石油、石油伴生气、煤成气资源量进行了全面、系统、科学、统一的评价和定量测算。对2000年油气工业发展规划提出了战略方向和布局意见。因此，这一成果为制定我国石油工业长期发展规划和近期勘探部署提供了重要依据。

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