

2013 Production of China's Shale Gas Reaches 200 Million Cubic Meters and the First Transportation Pipeline Constructed

HAO Ziguo^{1,2}, FEI Hongcai^{1,2}, LIU Lian^{1,2} and Susan TURNER²

¹ *Chinese Academy of Geological Sciences, Beijing 100037, China*

² *Editorial office of Acta Geologica Sinica (English edition)*

Results of the global shale gas resources show that minable resources of global shale gas are 187 trillion cubic meters (tcm), of which China accounts for 36 tcm (about 20% of the total amount), which is mainly distributed in the Sichuan Basin, Yangtze Terrace, and Ordos Basin. From 2009 to 2012, China completed an accumulative number of 129 drilling wells related to shale gas, including 46 investigated vertical wells, 55 exploration wells and 28 evaluation wells, with 2012 production ranging from 25 million cubic meters (mcm) to 30 mcm.

ChinaPetro has established two national-level shale-gas demonstration zones, one of which is the Changning-Weiyuan Demo Zone in Sichuan Province, in which 16 wells have been completed and 12 passed through fracture and extraction testing, with 2000 to 30000 cm per day for a vertical well and 10000 to 16000 cm for a horizontal well. The other demo zone is located in Zhaotong, Yuannan Province, and here 7 wells have been completed, with 2500 cm per day for a vertical well and 15000 to 36000 cm for a horizontal well.

Because the former testing is naturally stable, the PetroChina Southwest Oil & Gasfield Company formally began “The Shale Gas Trial Pipeline Project of the Changning Region” in June 2013. When completed and put into production, it will become China's first pipeline especially for shale gas. This pipeline in the Changning region will start with No. 201-H1 gas station and end at Shuanghe station, and will link with the Texi (Sichuang)-Anbian (Yunnan) pipeline. The total length of the pipeline reaches 92.8 km, with a designed pressure of 6.3 MPa and an estimated daily transportation amount of 4.5 mcm. As telecommunication fiber cable is being paved simultaneously with the pipeline, future shale-gas stations will be able to be controlled and managed digitally.

Although construction of this pipeline marks the first step in China's shale-gas exploration and exploitation, the cost issue has become a bottleneck constraining large-scale commercial exploration because of the deep burial of the shale gas and the high cost of drilling and fracturing. Therefore, there is still some way to go before profitable exploration for shale gas ensues.