

## **Distribution and genesis of mercury rich gas in China**

JIAN LI<sup>12\*</sup>, QITUAN YAN<sup>12</sup>, ZHONGXI HAN<sup>12</sup>  
AND AISHENG HAO<sup>12</sup>

<sup>1</sup>Langfang Branch, Research Institute of Petroleum Exploration & Development, PetroChina, Langfang 065007, China

<sup>2</sup>Laboratory of Gas Reservoir Formation & Development, CNPC, Langfang, 065007, China

Mercury is a common harmful element in natural gas. Mercury could be hazard for human's health. It could also corrode pipelines and causes serious safety accidents. So, it is important to study distribution and genesis of mercury rich gas in China. In this paper, the author detected gas from about 500 gas wells of eight basins in China. Mercury content varies (0 to 2240000ng/m<sup>3</sup> gas). Gas in Songliao basin and Tarim basin is rich in mercury. Mercury content in many wells in these two basins is higher than 500000ng/m<sup>3</sup>. Mercury content of gas in Bohai Bay basin, Ordos basin and Junggar basin is relatively high(some higher than 50000 ng/m<sup>3</sup>). Mercury content of gas in Sichuan basin, Turpan basin and Qaidam basin is low(0 to 42000 ng/m<sup>3</sup>). Gas of high mercury content in China mainly distributed in the active structural background, such as rift basins and foreland basin. Based on measuring the mercury content in coal and gas generation from coal, we consider that coal would have the ability to supply enough mercury for forming high mercury content in natural gas. Many factors could lead to high mercury content in gas, such as source rock, deep giant rift and volcanic activity. High mercury contents in natural gas are controlled by mercury enriched source rock, sufficient heating force and necessary conservation temperature. According to mercury's physical and chemical properties as well as depositional environment, burial and evolution process of coal, the accumulation of mercury in natural gas can be divided into five stages like as transportation, sedimentation, burial, release, and conservation.