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Exploration Progress in China Offshore

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There are ten sedimentary basins developed in China offshore, predominated by the continental rift basins, which afford over 700,000 km² areas for oil and gas exploration. Up to now oil and gas are mostly discovered in Cenozoic formations.

The exploration of China offshore can be traced back to 1960's, but large-scale offshore exploration was only started and carried out 1980's with the cooperation with the foreign counterparts. CNOOC self-operating exploration, gradually growing up from weak to strong, becomes the present leading exploration in China offshore. By the end of 2010, about one million km of 2D and 86,000 km² of 3D seismic data were acquired and 1295 exploration wells were drilled. As a result, 178 oil and gas fields and 158 hydrocarbon bearing structures were found, which results in accumulative oil reserve of 3.3 billion tons and gas reserves of 695.6 billion cubic meters. Correspondingly, the annual production increased from 90,000 tons in 1982 to 50,000,000 tons oil equivalent in 2010.

In recent years, China offshore exploration is stepping into its golden era with discovered reserves continuously reaching record highs. Over 20 moderate- to huge-sized fields were found which increased oil and gas in place by near 2 billion and 500 billion cubic meters respectively and supported the robust off-shore production increase. With the exploration concepts expanding from highs to depressions, a large number of moderate- to large -sized light oil fields were found in Bohai offshore, forming five field groups, each sized over 100 million tons. The new fields also improve the previously heavy oil dominated reserve structure of Bohai offshore. Deepwater exploration, starting from Baiyun sag with the delineation of a series of moderate-sized fields, now extends into other basins in the northern South China Sea. With the new exploration fields continuously opening up, hydrocarbon-rich depressions such as Enping, Laizhouwan were identified.

China Offshore still has huge exploration potential for its plentiful oil and gas resource and relatively low exploration extent. The discovered resources merely account for about a third of the estimated total resources. We believe that exploration success will be achieved through seeking new plays and new trap types in matured regions, identifying new regions and new hydrocarbon-rich depressions in frontier, speeding up the deepwater exploration, together with the strengthening on the studies of the prospect and reserve areas and exploration of the pre-Tertiary basins and high temperature and high pressure regions.