The Hydrocarbon Potential of the DPR Korea: the Last Exploration Frontier?

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Despite hydrocarbon exploration with input from international companies since the 1970s on both land and sea and good evidence for oil and gas in most of the sedimentary basins, the Democratic People's Republic of Korea has yet to establish any sustained or commercial hydrocarbon production.

There is an extensive if somewhat dated 2D seismic database covering the West Sea in which a number of exploration wells were drilled in the 1980s, with two wells testing oil at rates of up to 400 bopd establishing the presence of potentially commercial oil resources. A major challenge is to locate much of the field data for the earlier geophysical surveys, as much of the data owned by the Koreans were lost in a fire at a Russian data storage centre in the early 1990s.

The East Sea has a 2D seismic database available that extends into deep water. Two stratigraphic test wells drilled in water depths of up to 90m some 30 years ago both encountered shows of oil and gas, as well as reservoir quality sands.

Onshore the situation is more varied – a number of wells have been drilled in most basins, recording shows of oil and gas, with one shallow stratigraphic test well in the Anju Basin drilled for coal and subsequently deepened reportedly flowing oil at up to 7 tons/day, for a limited period. Other basins have reported seeps of oil and gas, and the author has personally observed and sampled a number of such seeps from several basins, a number of which were analysed in the UK.

Despite the political situation, the DPR Korea offers good potential for substantial volumes of oil and gas to be found close to the domestic and international energy-hungry markets of the Korean peninsula and Japan.