

Emerging, Emerged and Overlooked - Hydrocarbon Plays of Western and Central Mongolia

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Investigations for hydrocarbons in Mongolia have a long history, but despite some commercial successes the country remains largely unexplored. Field work studies over the last century have identified organically rich 'paper shales', shales and coals in numerous basins across this large country but only in a few basins in eastern Mongolia have significant exploration dollars been spent. To a large part this was driven by the recognition of the extension of the productive Late Jurassic-Early Cretaceous plays of the Hailer and Erlian basins in China into Mongolia. Despite indications from field studies of possible source rocks in central and western Mongolia, comprising over 250,000 km² of Palaeozoic to Tertiary basin fill, this part of the country has until recently remained largely, if not completely, unevaluated.

Petro Matad PLC licenced two large tracts of acreage in central western Mongolia in 2009 and pursued extensive field mapping, sample analysis, core-hole drilling, airborne FTG and HRAM and 2D seismic acquisition work programme, culminating with the first ever exploration wells being drilled in this part of Mongolia in 2018. Both the Snow Leopard-1 and Wild Horse-1 wells, drilled in blocks V and IV respectively, proved the presence of several petroleum systems and advanced significantly the understanding of stratigraphy and structural evolution of two previously undrilled basins. These results and recent exploration success in basins bordering southern Mongolia, have respectively illuminated the presence of high quality Mesozoic source rocks some 600 km west of current production in Mongolia and highlighted potential for older plays within large tracts of acreage that have yet to be evaluated by modern exploration technologies.

This paper aims to provide an update of the currently understanding of the hydrocarbon potential of central western Mongolia, drawing on previously unpublished data from Petro Matad's recent exploration activities.

Keywords: Mongolia, source rocks, petroleum systems, hydrocarbon potential