Unlock and De-risk Rabab/Stringers Potential Using Integrated Approach

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ABSTRACT

Rabab Harweel Integrated Project (RHIP) is known to be the most complex and expensive integrated project within PDO. Rabab & Ghafeer A2C fields are holding about third of the liquid resources and most of the NAG under the RHIP project.

The Rabab Field planned to be fully developed as part of a RHIP project to integrate the oil and gas fields to maximize the recovery of oil, gas and condensate. The field reservoir is a carbonate stringer encased within the salt with high pressure (Reservoir initial pressure of ~470 bar), high H2S (~4 %) and CO2 (upto 15%). Gas Directorate in Oman has recently started an ambitious tight and deep gas programme by drilling several development wells for a complex sour gas field in South Oman, the Rabab field. The reservoirs are at great depths, with high temperatures, unknown pressure regimes, and uncertain reservoir properties.

The main challenge when drilling for these reservoirs (carbonate stringers) is the ability to safely drilling through the Salt, over-pressured shallow floater existence, accurately identify good reservoir properties & successfully fracture the prospective zones (Grainstones, Thrombolites).

This paper presents how the integration of various unconventional data sources, data acquisition & analysis was used to reduce reservoir and well development challenges. Integration of core and log data with Quantitative Interpretation (QI) results enhanced the chance of successful reservoir characterization to better understand areas of good reservoir quality, fracability, etc. The initial drilling results are promising where QI plays a major role in de-risking the Rabab gas project wells that are on the drilling sequence for 2017-2019. The paper will also highlight some of the additional challenges that the team is expecting to encounter.