AP21

Successful Placement and Testing of a Horizontal Well in an Ultra-thin Mafraq Reservoirs in the Sultanate of Oman

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SUMMARY

This paper describes the planning, execution, data acquisition and successful completion & well test of a horizontal well into a ultra thin Mafraq carbonate reservoir in the north of Oman. The reservoir spreads laterally like a blanket.

Five vertical well tests into the same reservoir had a production range from 0.05 to 0.5 Mm3/d. This range could not be explained. A horizontal well was the only way to access the volume. The learning from a unique outcrop analogue and the vertical appraisal wells have been used to place a successful horizontal well with a stable production at a rate which succeeded the expectations. The key to the success was the integration of all disciplines during the planning and real time monitoring during the execution phase. Without constant interaction and challenging between the disciplines, this would not have been possible. Special core test for stimulation planning, newest LWD tools for steering and formation evaluation are the key novel technologies.
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