

CASE HISTORY

TIME-LAPSE GWC MONITORING DELIVERS ACCURATE ANALYSIS

APPLICATION

Reservoir Evaluation

TECHNOLOGY

Memory Pulsed Neutron
Neutron 1.69 (MPNN)

LOCATION

Europe

CUSTOMER CHALLENGE

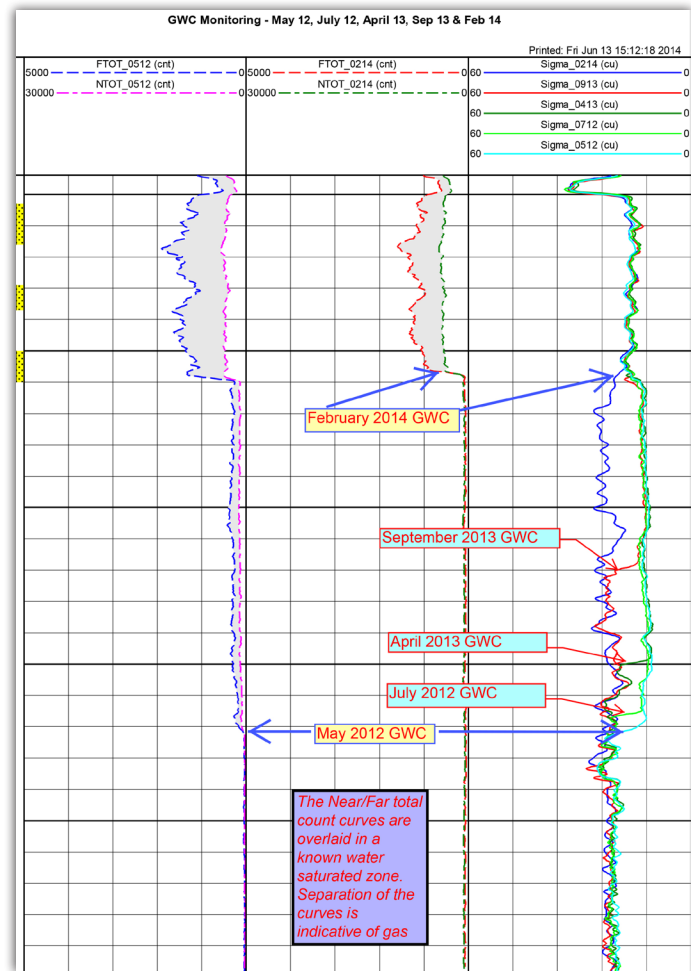
The operator was required to accurately monitor the formation Gas/Water Contact (GWC) in a newly completed well over a two year period. It was imperative that the well intervention activities were performed efficiently and without any operational downtime. Logistical and pressure control maintenance confirmed that slickline was defined as the most efficient method of tool conveyance and limited rig-up space demanded a compact tool string. These factors meant that the operator needed to procure highly reliable memory pulsed neutron technology.

SCIENTIFIC SOLUTION

Scientific Drilling provided their Memory Pulsed Neutron Neutron 1.69 tool to drill a well, targeting a high water drive, permeable sandstone that was perforated and tested successfully. Five runs were performed over an approximate two year period, with excellent quality data acquired from every run. The MPNN logs revealed the GWC rise was unambiguous, also representing excellent repeatability.

CUSTOMER VALUE

The MPNN has a track record with 15 years of reliable field service that provided the operator with the ultimate confidence. The Time-Lapse analysis identified the changing rate at which the GWC was rising. This provided the customer with the information to assess whether the GWC was accelerating, decelerating or remaining constant. In addition, the surveys were successful in predicting water break through. The MPNN Time-Lapse analysis was then used to plan the water shut-off, optimize recovery by changing the production rates, and predict the end of field life.



GAS WATER CONTACT TIME-LAPSE

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