CASE STUDY: CANADA

NaviTrak UT logs challenging formation with both mud pulse and EM telemetry, reliably decodes data at higher rates to save 32 hours of drilling time

CHALLENGES

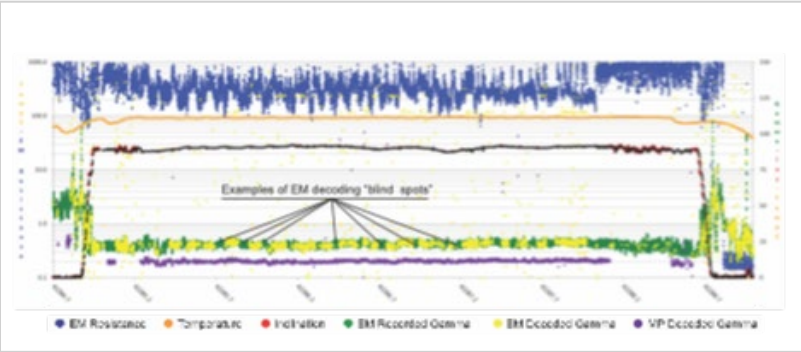
- EM decoding was unreliable while drilling a horizontal well into the Falher formation due to resistance variations in the formation
- Relying solely on mud pulse telemetry slowed drilling and hindered efficiency—inclination and azimuth were not available until four minutes or more after the pumps were restarted
- The drilling operation required a telemetry solution that provided the time savings and drilling efficiency benefits of EM, even if EM would not always be available in high-resistance zones

SOLUTION

- Baker Hughes deployed the Unified Telemetry platform of its NaviTrak™ UT directional and gamma MWD service to provide multichannel telemetry
- EM and mud pulse were decoded on simultaneous, independent channels to guarantee signal transmission
- When formation resistance increased to hinder EM decoding, directional drilling continued via mud pulse alone until the EM signal returned
- Multiple channels helped maintain higher data rates while avoiding the time and cost of pulling out of hole due to loss of EM signal

RESULTS

- Saved 32.35 hours when handling tools and surveying with EM
- Efficiently drilled out casing with mud pulse until EM signal returned
- Delivered greater drilling efficiency by maintaining high data rates and security
- Provided a steady stream of survey information to stay in the Falher formation while drilling the 5,387 m (17,674 ft) MD well



The NaviTrak UT service's Unified Telemetry maintained efficient, uninterrupted data decoding by relying on mud pulse to transmit data in high-resistance "blind spots" where EM decoding was lost.

bakerhughes.com

Baker Hughes