CASE STUDY: UTICA SHALE, USA

NaviTrak UT outperforms competition to deliver superior EM performance in challenging Utica formations

CHALLENGES

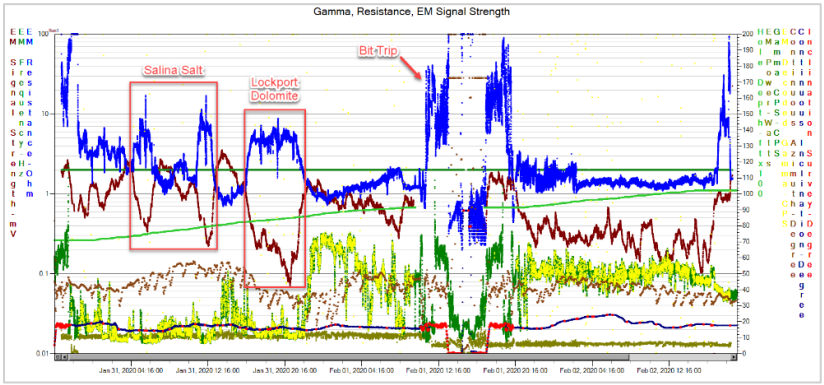
- Provide effective EM signal decoding in air drilling applications through formations historically difficult for EM signal propagation.
- Maintain high transmission rates without EM signal interruption
- Mitigate battery costs by keeping power usage low while maintaining high-quality decoding results

SOLUTION

- Baker Hughes deployed its NaviTrak™ UT directional and gamma MWD service to:
  - Overcome poor EM signal transmission areas in Utica with a multi antenna array surface receiver
  - Eliminate signal losses and improve signal-to-noise with superior EM signal decoding
  - Provide telemetry configuration and data rate flexibility to adjust the tool in less than a minute – improved time savings over flow and rotary downlinks
  - Mitigate battery costs with just 5 watts of power (compared to 30 watts with other providers)

RESULTS

- Effectively transmitted EM signal through limestone, sandstone, and salt formations in two Utica wells
- Delivered EM decoding at equivalent or faster data rates compared to other providers—with no EM signal interruption
- Provided superior performance at a lower battery cost



This plot of NaviTrak UT's EM decoding results in one Utica well shows that as formation resistance increases (in the Salina Salt and Lockport Dolomite), EM signal strength only drops to 0.1miilivolt (mv). This is still ten times higher than NaviTrak UT's EM decoding threshold at surface (0.01mv).

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