

Well Integrity Platform

Spectral Fluid Losses (SPEC-FL*)



Oilfield Services

“Stop Guessing - Listen to your Reservoir”

Drilling Fluid Losses Identification

TGT’s Well Integrity Platform is being built to address the ever changing Oil & Gas market and its need for high quality services. Our range of memory logging services addresses the full well lifecycle, and provides Operators with tool packages to assist in the critical decision making process of well optimization.

Case Study

Drilling fluid losses are undesired drilling events, which add complexity in terms of well control, cementing and completions operations. Curing fluid losses is time consuming and increases well AFE dramatically.

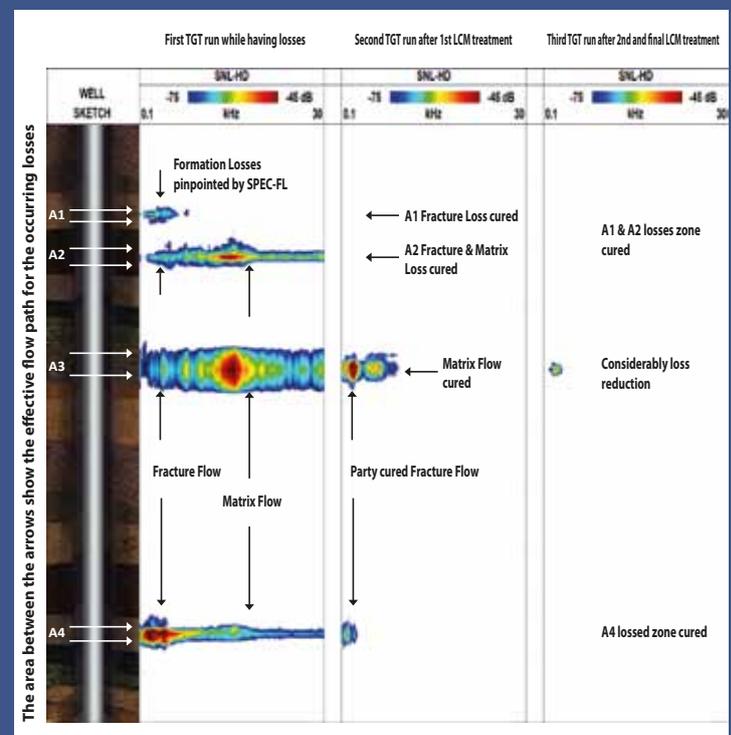
TGT Spectral Fluid Losses services (SPEC-FL*) locate the loss circulation zone and the effective loss flow allowing our Customers to mud weight, drilling hydraulics, and other parameters to regain well control.

Problem: The well was under drilling operations when sudden losses started. While trying to control the losses, by adjusting mud weight, a gas kick with high H₂S concentration happened at shallow sections of the reservoir. The operator controlled the kick by adjusting back the mud weight however the losses continued for several weeks. The operator tried to adjust the mud parameters however the well was quite unstable. Multiple LCM pills were pumped to the bottom of the interval increasing dramatically both the cost drilling fluids and chemicals as well as AFE due to unexpected additional rig and services costs.

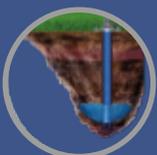
Diagnosis: TGT was consulted and requested to survey Spectral Fluid Loss survey (SPEC-FL) to pin point the losses and their effective flow interval. SPEC-FL* which is a combination of high precision temperature with spectral logging noise high definition was logged thru the drilling string. The survey was performed during the drilling losses period.

Findings: The log is showed that the losses were not occurring in the expected interval estimated by the client (bottom interval of the drilling sting) but several hundred meters higher up. In addition to determining the losses were not in the expected formation, the log determined four large intervals where the losses were occurring with two components: a fracture component (low frequency) meaning fluid been lost because of the fractures present and matrix component (high noise frequency). Additionally to this, the effective flow interval of the losing depth was determine. d

Actions: Once TGT pinpoint the losses interval, and determined the effective flow height of formation fluid intake. The operator initiated a focalized LCM treatment in the areas determined by the log. After the treatment, TGT performed a second log to understand the effectiveness of the treatment. The log findings showed that the losses in unit A1 and A2 have been controlled. At the same time TGT found out that the matrix component of the flow losses in units A3 and A4 is been also cured. Due to the criticality of the well and in order to safely regain well control, the Operator decided to add a second LCM treatment (different LCM material) in the remaining areas where A3 and A4. TGT surveyed the well again suggesting that A4 losses were cure and the large component of losses due to the fractures in A3 have been controlled to its majority.



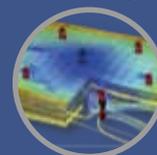
Reservoir Characterization



Well Integrity



Cross Well Diagnostics



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Oilfield Services

TGT is an oilfield services provider supplying game-changing logging and reservoir modeling technologies. The company offers advanced solutions in the areas of Reservoir Characterization, Well Integrity and Cross Well Diagnostics. TGT proprietary services can be deployed through multiple strings, on any conveyance type and in any well.

Our patented software and modeling techniques coupled with a strong geoscience team, allows TGT to offer unique solutions to Customers globally.

TGT prides itself on in-house research and development (R&D) as well as first class manufacturing (MFG) capabilities. We hold several patents, copyright technologies and applications. As an organization we continue to innovate and actively contribute to the industry with regular technical publications including SPE.