

Well Integrity Platform

Multi String Imaging (EmPulse 2 & 3*)



Oilfield Services

"Stop Guessing - Listen to your Reservoir"

Thickness and Corrosion Evaluation

EmPulse 2 & 3* are the latest TGT's generation of thickness and corrosion evaluation tool. The tools are fast response electromagnetic memory logging tools which measures the thicknesses of multiple strings independently helping to understand and evaluate the well integrity condition. It is part of TGT's Well Integrity Platform oriented to assess proactively downhole equipment status, string wall thickness, corrosion analysis and monitoring, time lapsed corrosion monitoring.

Case Study

Assessing corrosion and metal loss to evaluate well condition, well performance, MAASP and other operating parameters is a constant activity during the life cycle of a well. The ability to perform a precise diagnostics rigless represent an advantage as well as cost savings to operating companies.

Problem: The Customer was preparing to embark into a well integrity campaign including corrosion and metal loss diagnostics. Prior to it, they decided to evaluate the available thru tubing electromagnetic technologies in the market to assess the accuracy of the different providers.

Diagnosis: TGT among four major companies were requested to conduct a blind yard test. The Customer performed, thru a 3rd party company, a series of blind defects to assess tool accuracy and sensitivity. The set consisted into a three scenarios. The scenarios were:

A: 4-1/2" Tbg inside a 9-5/8" Csg (centralized, tilted and laid down)

B: 3-1/2" Tbg inside a 9-5/8" Csg

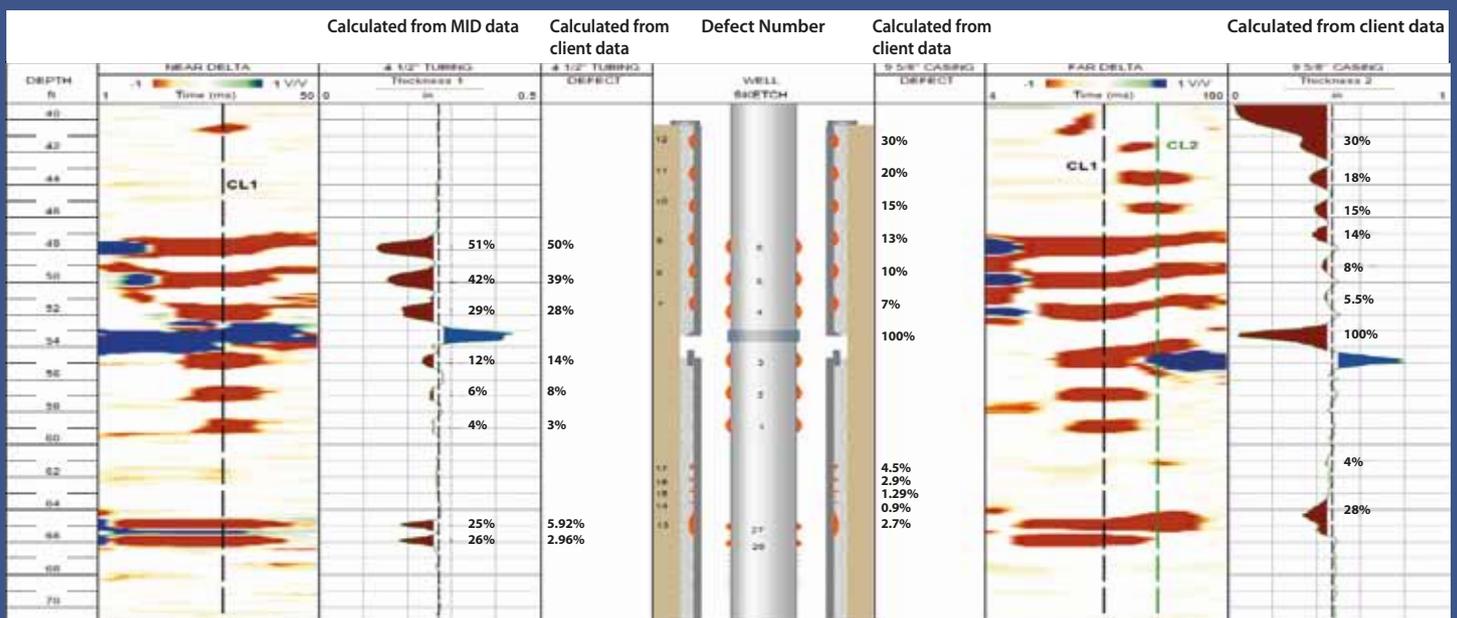
C: 5-1/2" Tbg inside a 9-5/8" Csg

Findings: The log annexed shows the results of scenario A.

TGT EmPulse * was able to measure independently the thickness and corrosion on three different strings with ranking first among all others.

- TGT first string evaluation resulted with better results even compared with multifinger calipers.
- All the defects for both tubing and casing were detected confirming specifications and tool accuracy as well as a significant advantage over competitors.
- Furthermore, when the tubing was tilted or decentralized the sensitivity of the tool was less affected than competitors tools.
- Logging speed had small influence in tool sensitivity compared with other assessed technologies.
- TGT's EmPulse * was superior in terms of acquisition with over 180 channels and superior processing capabilities.

Actions: The Customer selected TGT's as the best technology in the market for independent assessment of multiple strings for thickness and corrosion evaluation assigning TGT the scope of work above mentioned.



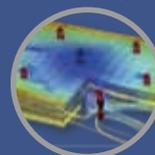
Reservoir Characterization



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.