

# Well Integrity Platform

Multi String Imaging (EmPulse 2 & 3\*)



**Oilfield Services**

"Stop Guessing - Listen to your Reservoir"

**Time lapse  
corrosion monitoring**

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

It is well known corrosion develops over time affecting well production performance as well as its safety. Time lapsed corrosion plans contribute to improve completion material selection, enhance downhole inhibitors assessing at the same time corrosion causes and its mechanisms. A systematic corrosion-monitoring plan contributes to minimize workovers and extend the life of a completion string, therefore the economic of the well and field.

**Problem:** Our customer set a plan to put on production a high rate oil producer with a relatively high H<sub>2</sub>S content (> 10%). Because of the high rates, H<sub>2</sub>S content and possibility of corrosion development, they decided to have a metal loss base line survey followed by another survey a year afterwards.

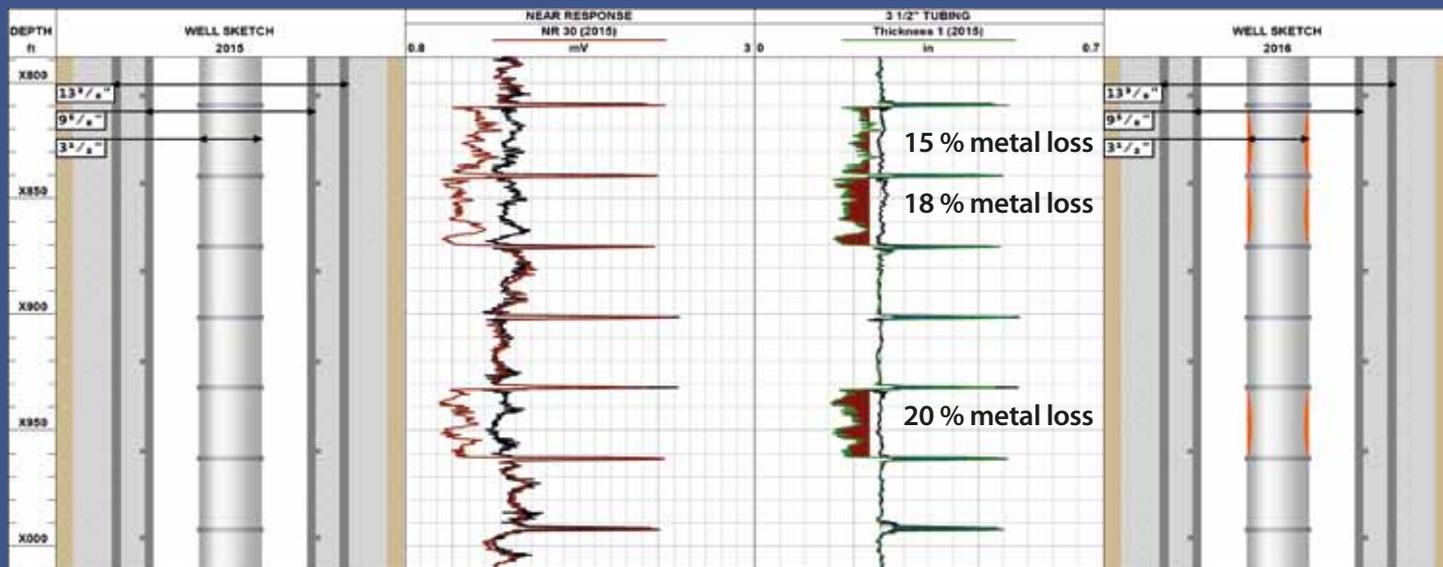
**Diagnostic:** TGT performed both surveys in the same well evaluating 3 1/2" tubing in addition to 9 5/8" and 13 3/8" casings. The first survey was done in 2015 while the second was performed a year later in 2016, both surveys using EmPulse 3\*

**Findings:** The first survey was performed in new strings on a well, which was just put on line for production. The EmPulse 3\*, as expected, showed no signs of metal loss or corrosion in the evaluated strings.

The second survey was done a year later, and it showed very good results on the 9 5/8" and 13 3/8" casings with no metal loss and excellent repeatability compared to previous year survey. This finding suggested a good Customer inhibitor selection.

The 3 1/2" in tubing showed also good repeatability in most of the evaluated interval, however the EmPulse 3\* showed 3 joints with over 20% metal loss (see figure) suggesting problems with the tubing material at early stage

**Actions:** Based on the findings, the Customer implemented a formal time lapsed monitoring plan in the field to gather further information on casing corrosion and monitoring the inhibitor performance. They also assessed and changed the tubing metallurgy with the objective to avoid early workovers due to corrosion.



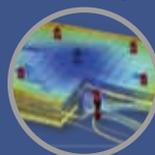
Reservoir Characterization



Well Integrity



Cross Well Diagnostics



Email: [info@tgtoil.com](mailto:info@tgtoil.com)

[www.tgtoil.com](http://www.tgtoil.com)



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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.