

# INTEGRITY CASE STUDY MULTISTRING CORROSION ASSESSMENT

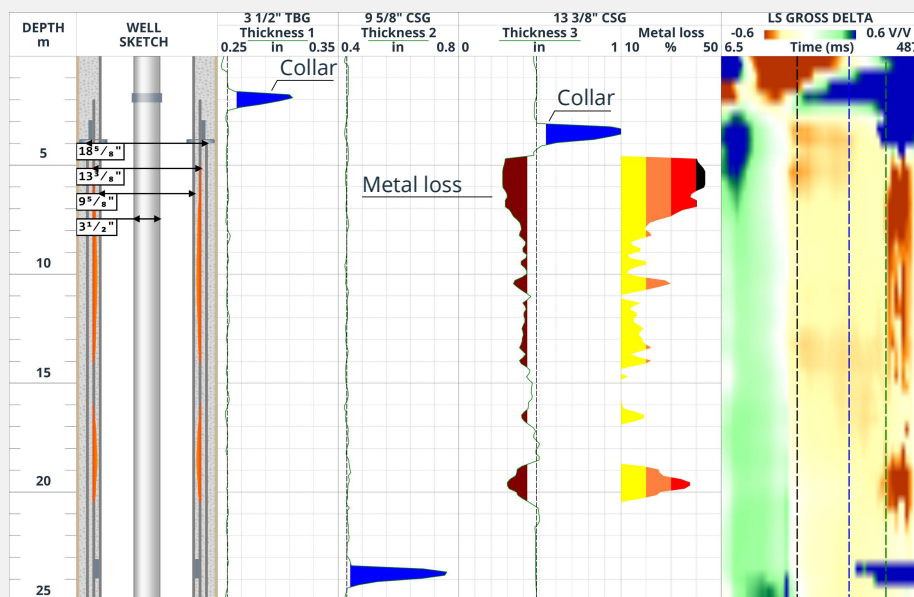
## Challenge

Shallow aquifers can cause poor cementing, which can lead to corrosion in the upper sections of conductor, surface and intermediate casings. This is a common issue for onshore oil and gas fields. However, checking for corrosion can be time-consuming and costly. A client wanted to locate and quantify corrosion in the outer casing of a well and thus minimise excavation work.

## Solution

The latest generation of TGT's EmPulse well integrity platform can locate corrosion and evaluate the degree of metal loss in up to four strings. The individual thicknesses of all the casings and the tubing were calculated using TGT's proprietary numerical simulation software. Severe corrosion was identified in the 13 $\frac{3}{8}$ -in. casing in a shallow zone; the 9 $\frac{5}{8}$ -in. casing was found to be in good condition.

EmPulse® platform saves operator \$0.5 million by revealing corrosion in surface casing through multiple casing strings.



EmPulse technology is designed and built completely in-house by TGT to evaluate pipe wall thickness and metal loss in up to four concentric casing strings. In this example, EmPulse technology has quantified >40% metal loss in the 13-3/8\" surface casing.

## Outcome

The survey results helped the client to determine the optimum excavation depth and perform a successful workover that avoided leaks, wellhead support failures and other potential issues. As a result, the client adopted EmPulse technology as a cost-effective alternative to exploratory excavations, thereby helping to save about \$0.5 million.