

WELL INTEGRITY PLATFORM

EMPULSE SERVICE

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Case study

SURFACE CASING CORROSION EVALUATION

The presence of a shallow aquifer can be the cause of poor cementing and can lead to corrosion in the upper sections of conductor, surface and intermediate casings, which seems to be the case in most onshore oil and gas fields.

Problem

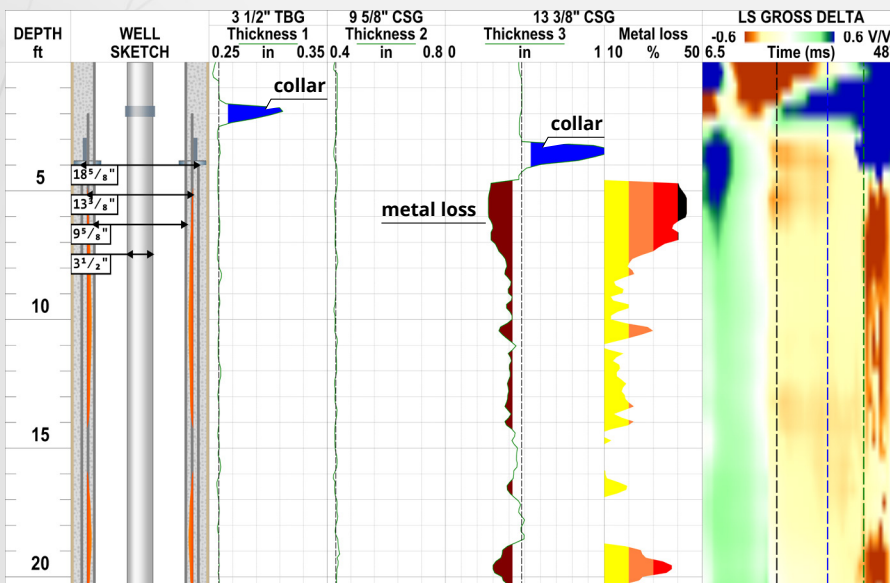
Checking corrosion in the surface casing is both time-consuming and costly. The objective in this case was to employ the EmPulse technology to locate and quantify corrosion in the outer casing and thus minimise excavation.

Solution

The latest generation of TGT's electromagnetic corrosion detection technology, EmPulse*, is capable of locating corrosion and quantifying its degree of metal loss in up to three strings. The individual thicknesses of all casings and tubing were calculated using TGT's proprietary numerical simulation software, and severe corrosion was identified in 13-3/8" casing in a shallow zone, while 9 5/8" casing was found to be in good condition (see illustration).

Client's actions

The survey results aided the Client to determine the optimum excavation depth and perform a successful workover avoiding leaks, well-head support failures and other potential issues. As a result, the EmPulse technology was adopted as a cost-effective alternative to exploratory excavations. This well set an estimated saving of around half a million USD for the Client.



Corrosion in the surface (13 3/8") casing

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Description

EmPulse is TGT's latest generation of electromagnetic logging tools designed to evaluate the individual thicknesses of up to three concentric metal pipe strings and thus analyse well integrity.

Applications

- Surface casing corrosion evaluation
- External corrosion evaluation
- Time lapse corrosion monitoring
- Pre-plug & abandonment assessment

*TGT's patented or patent-pending technologies

