CASE STUDY
Reference no. CS.CH.UK.WA.002

ALTUS Intervention

MAKING INTERVENTION SMARTER

CASED HOLE LOGGING

ENHANCED WELL INTEGRITY ASSURANCE FOR A MULTI-WELL CAMPAIGN

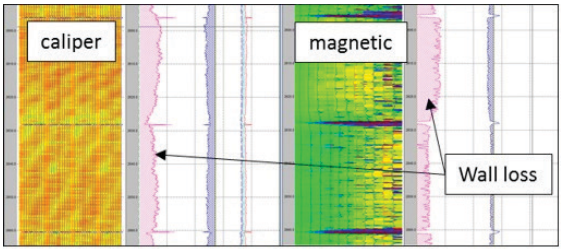
Country: UK
Year: 2016
Technologies: **Multi-Finger Caliper Tool ● Magnetic Thickness Logs**

Combines Multi-Finger Caliper with Magnetic Thickness Tools to generate enhances well integrity assurance for a multi-well campaign in an offshore underground gas storage facility.

- Integrated tool solution provides critical data for well integrity

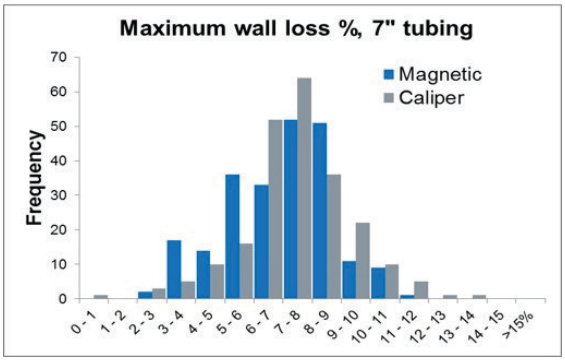
CHALLENGE

For maximum economic benefit an underground gas storage facility needs to be able to operate at the highest possible safe working pressure. Consequently, the integrity of the tubing and casing is critical. Whilst multi-finger caliper (MFC) logs provide a good indication of the condition of the inside of the tubing, they provide no information on potential corrosion on the outside, nor of metal loss in the casing or second tubing string.



SOLUTION

MFC logs accurately measure the ID, corrosion, scale and damage on the inside of pipe. Wall thickness or metal loss is estimated using the nominal pipe OD but these estimates are inaccurate if external corrosion or internal corrosion exists beneath scale. Pulsed eddy current Magnetic Thickness logs provide independent, quantitative measurements of the thickness of the tubing and of the casing. Metal loss is calculated with a reference to the nominal wall thickness. Combining both methods allows accurate assessment of metal loss and discrimination of loss from the inside or outside of the tubing. The casing wall thickness is also measured with the magnetic thickness tool.



RESULTS

The typical results for the 7" tubing are shown in the figure opposite. Although the sensor measurements from each tool are very different, a comparison of the continuous wall loss curves and summary overlay histograms provides assurance that the maximum wall loss per joint body is limited and there is no significant external corrosion. The findings from both tools verified that the underground gas storage facility could continue operating at the highest possible safe working pressure.