

Product True Integrity

# Multi Tube Integrity

## Evaluates the metal condition and wall thickness of well system tubulars

### What it delivers

The miles of metal tubulars that form the backbone of your well system are fundamental to its integrity. Tracking the condition and wall thickness of all tubulars is essential to maintaining a secure well.

Multi Tube Integrity provides an accurate barrier-by-barrier assessment of up to four concentric tubulars from a single through-tubing deployment.

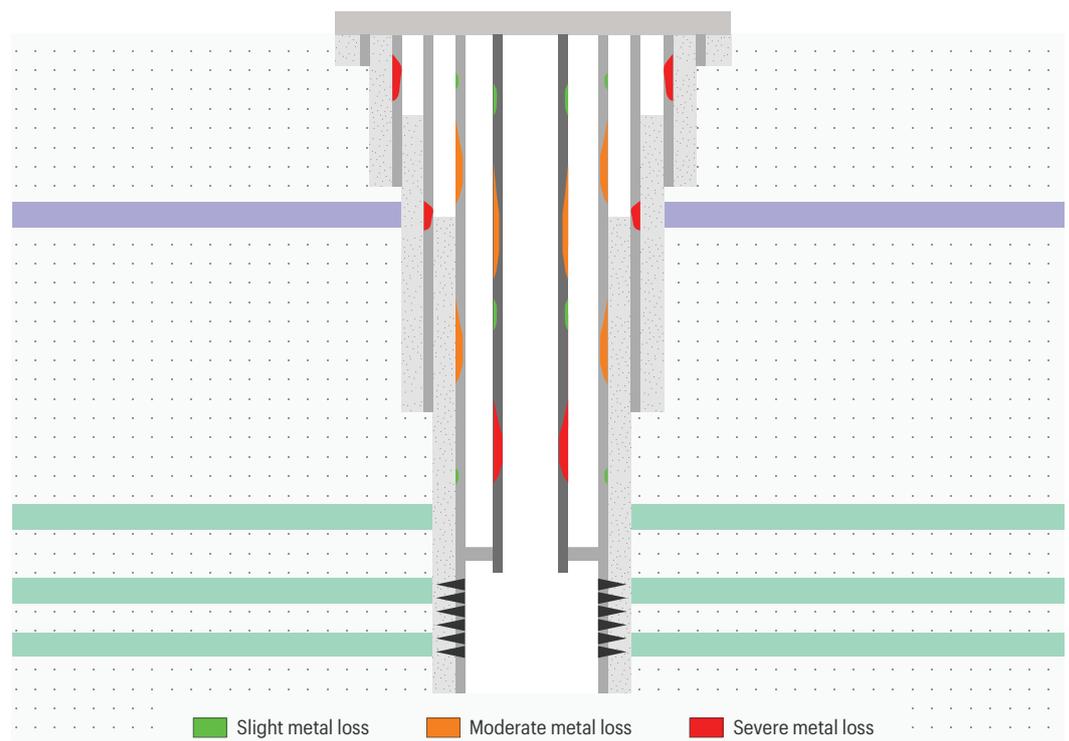
Powered by our True Integrity system using the Pulse (electromagnetic) platform;

Multi Tube Integrity is the industry's most accurate multi barrier diagnostic product.

Multi Tube Integrity if used routinely can support your ongoing integrity management programme, or in a targeted fashion to investigate a specific integrity breach. Our ability to assess up to four concentric tubulars simultaneously means that most of the well can be evaluated in a single deployment, without pulling the tubing.

Well sketch shows a range of typical barrier condition and metal loss scenarios that Multi Tube Integrity can diagnose.

Multi Tube Integrity gives you the clarity and insight needed to manage well system performance more effectively.



## Challenges

- Evaluate and manage tube integrity of multiple tubulars, even with scale
- Assessing maximum allowable annular surface pressure [MAASP]
- Identifying internal and external defects
- Pre-workover, pre-handover, or pre-abandonment assessment of completion
- Routine or targeted surveillance of tubular condition

## Benefits

- Proactive integrity management mitigates risk and maintains safe and productive operations
- Track and validate tube condition over time & spot tube weakness before it fails
- Through-tubing deployment in a single run minimises disruption and cost
- Understand true wall thickness
- Identify internal vs. external defects in primary tubes [when used with caliper]
- Maintain regulatory compliance & well system integrity

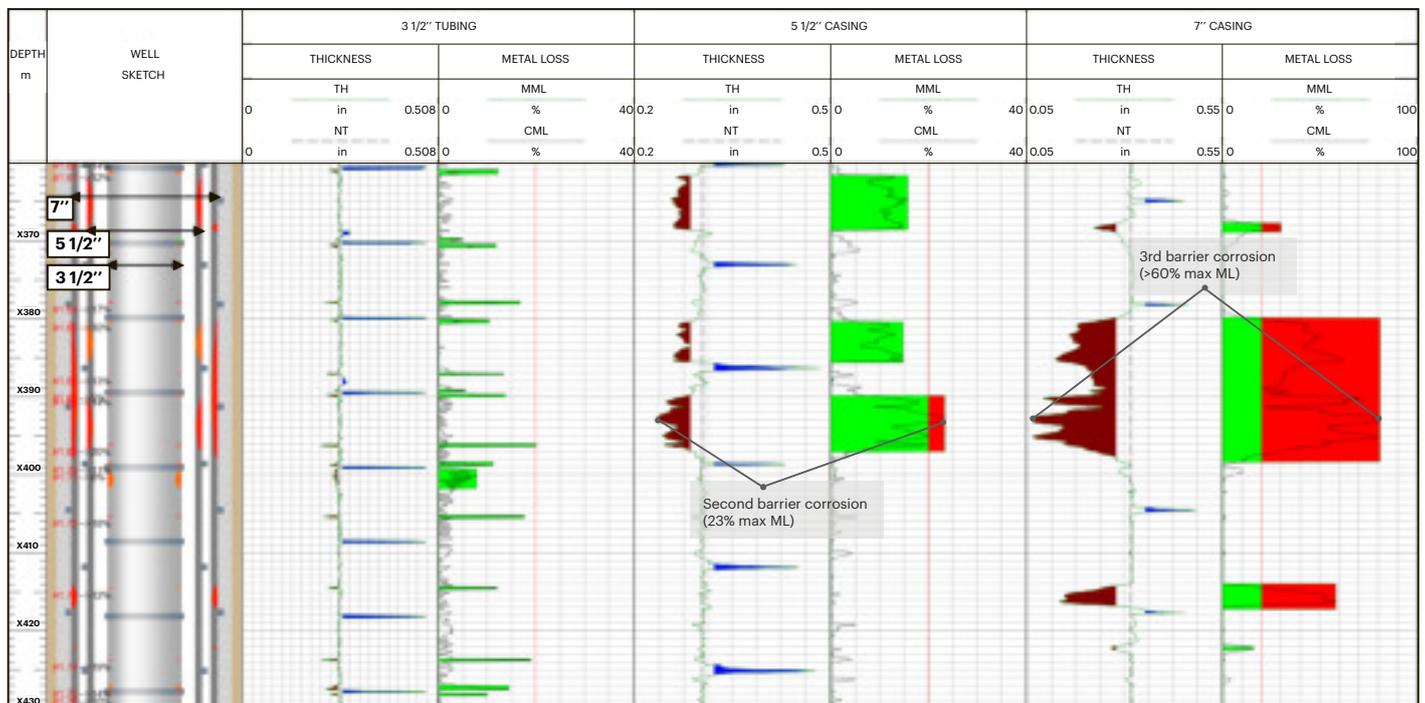
### Indicative logplot for Multi Tube Integrity

Oil producing well with suspected corrosion in multiple barriers.

1st barrier: 136 metal loss zones identified, showing 36% metal loss. 19 corrosion intervals showed >20% metal loss, and 69 significant findings suspected to be mechanical defects.

2nd barrier: 34 metal loss zones showing 24% metal loss. Two zones with >20% metal loss.

3rd barrier: 40 metal loss zones showing 60% metal loss. 24 zones with >20% metal loss.



### Case studies

CS005: Through-barrier tube diagnostics provides reliable low-cost solution to inspect surface casing condition

### Technical papers

SPE-190888-MS: Subsea Well Envelope Integrity Assessment Utilising Electromagnetic Pulse and Spectral Noise Logging

SPE-188547-MS: Cathodic Protection Effectiveness Evaluation in ADCO

Wells Utilising Multi Barrier Magnetic Defectoscopy

SPE-188258-MS: Field Trial Results For 3rd Barrier Evaluation Using Technology Of Individual Electromagnetic Metal Loss Logging

SPE-188422-MS: Well Integrity Management: Challenges in Extending Life of a Mature Gas Condensate Field