Product True Integrity

Primary Seal Integrity

Validates sealing performance of primary barriers

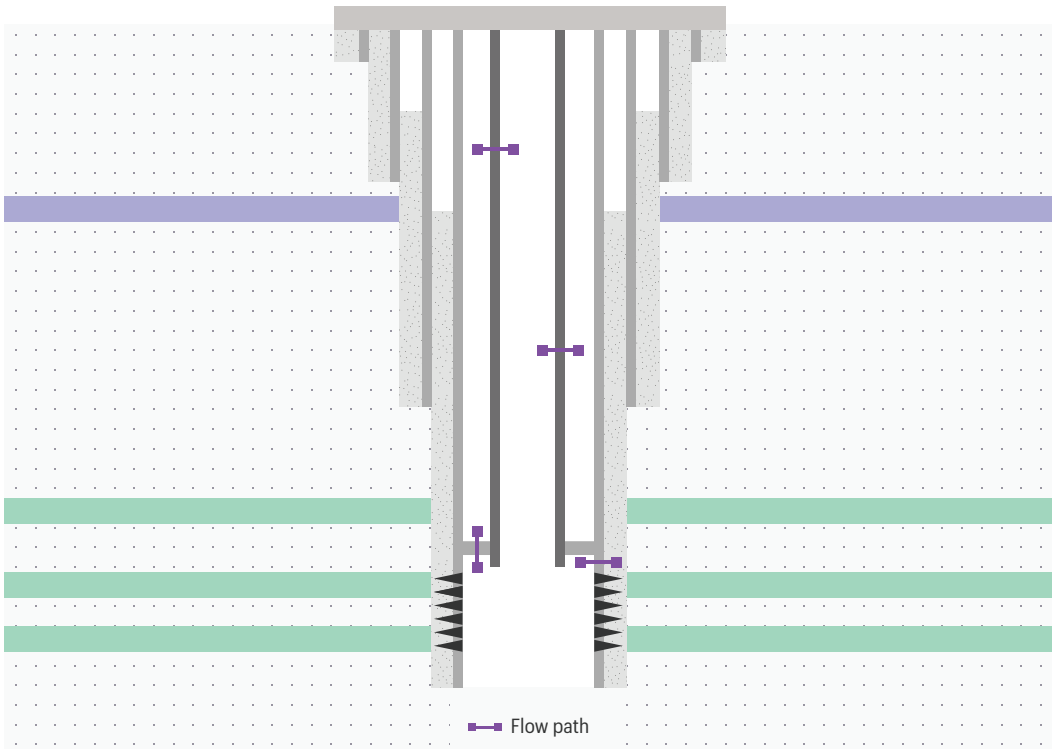
What it delivers

Primary barriers are the first line of defense in protecting well system integrity. Failures here need to be diagnosed quickly to avoid unsafe operations, lost production and the risk of escalation.

Primary Seal Integrity locates leaks and evaluates the seal performance of all primary barriers quickly and accurately, throughout the well system.

Delivered by our True Integrity system using the Chorus (acoustic) platform; Primary Seal Integrity provides a clear diagnosis of leaks and unwanted flowpaths so the right corrective action can be taken, and barriers can be validated to confirm integrity.

Primary Seal Integrity is used in a targeted fashion to pinpoint a suspected integrity breach in the tubing or other primary barrier components. Following proper diagnosis, breaches can be fixed more reliably and efficiently.



Well sketch shows a range of typical primary barrier leaks and unwanted flowpaths that Primary Seal Integrity can diagnose.

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

Challenges

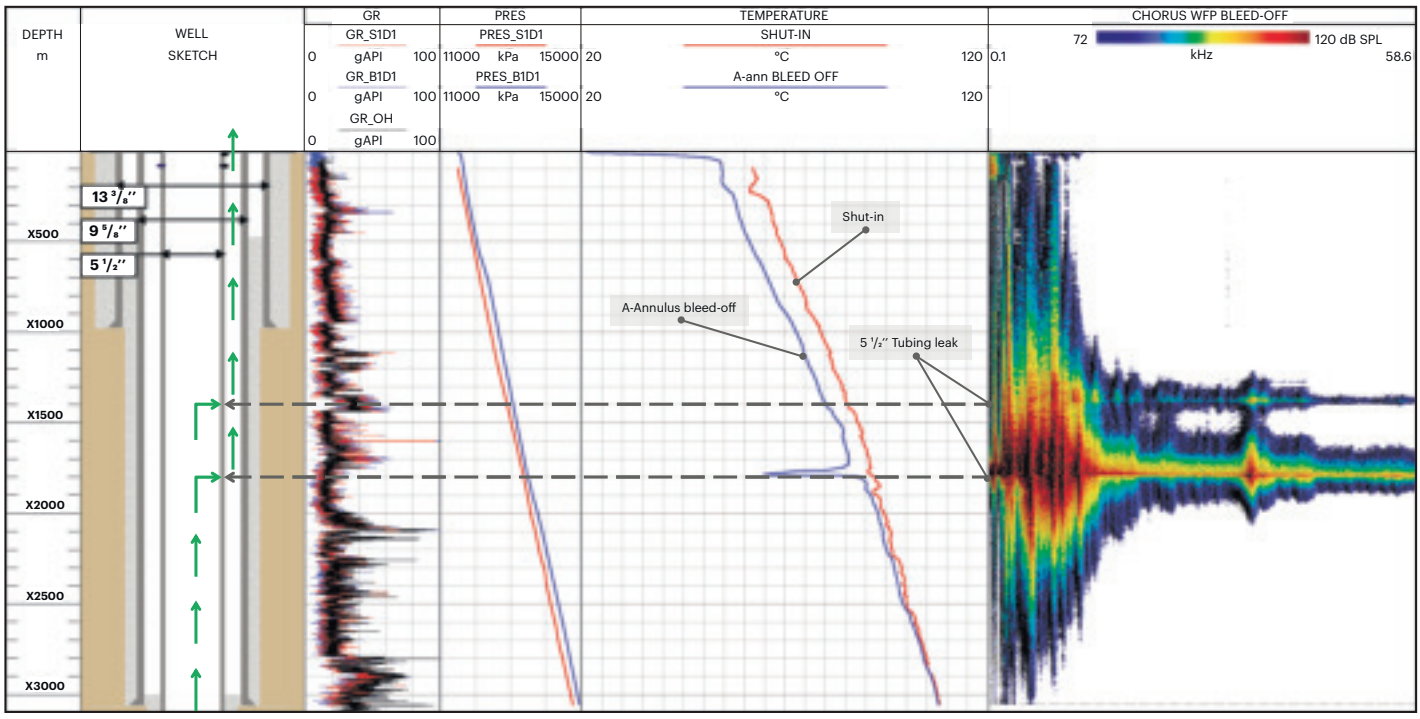
- Evaluate seal integrity & sealing performance of primary barriers
- Sustained pressure in A-annulus [SAP]
- Abnormal production or injection performance
- Primary barrier leaks
- Micro-leaks in primary barriers
- Leaks in completion components such as gas-lift valves and mandrels
- Tubing pressure test failure
- Planning workover or P&A programmes

Benefits

- Comprehensive diagnosis of leaks in primary barriers throughout the well system
- Identify true source of SAP in A-annulus
- Locate micro-leaks
- Mitigate integrity risk and ensure regulatory compliance
- Rapid deployment through-tubing minimises disruption and cost
- Locate leaks rapidly, accurately and completely
- Better remediation decisions, precisely targeted
- Optimise or validate pre- or -post workover or P&A programmes

Indicative logplot for Primary Seal Integrity
Sustained annulus pressure known to be between 5½" completion string and A-annulus. Primary Tube Integrity was used to identify the source of pressure build up.

Confirmed communication between tubing and A-annulus, but no communication with B and C annuli. Logplot shows two 5½" completion string leaks at interval 1369 – 1384 mbdf and 1784.0 – 1789.0 mbdf.



Technical papers

SPE-191735-MS: Complete Assessment of Complex Unconventional Saudi Arabian Producer Using High Definition Spectral Noise Logging and Numerical Temperature Modeling

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

SPE-188656-MS: An Integrated Approach to the Integrity Diagnostics of Underground Gas Storage Wells