

Product True Integrity

Cement Seal Integrity

Validates sealing performance in cemented annuli

What it delivers

Annular flow and sustained annulus pressure due to poor cement is a prevailing industry concern. But cement evaluation techniques only look at cement condition, not its sealing performance.

Cement Seal Integrity evaluates the seal performance of cemented annuli and reveals the presence of annular flow throughout the well system.

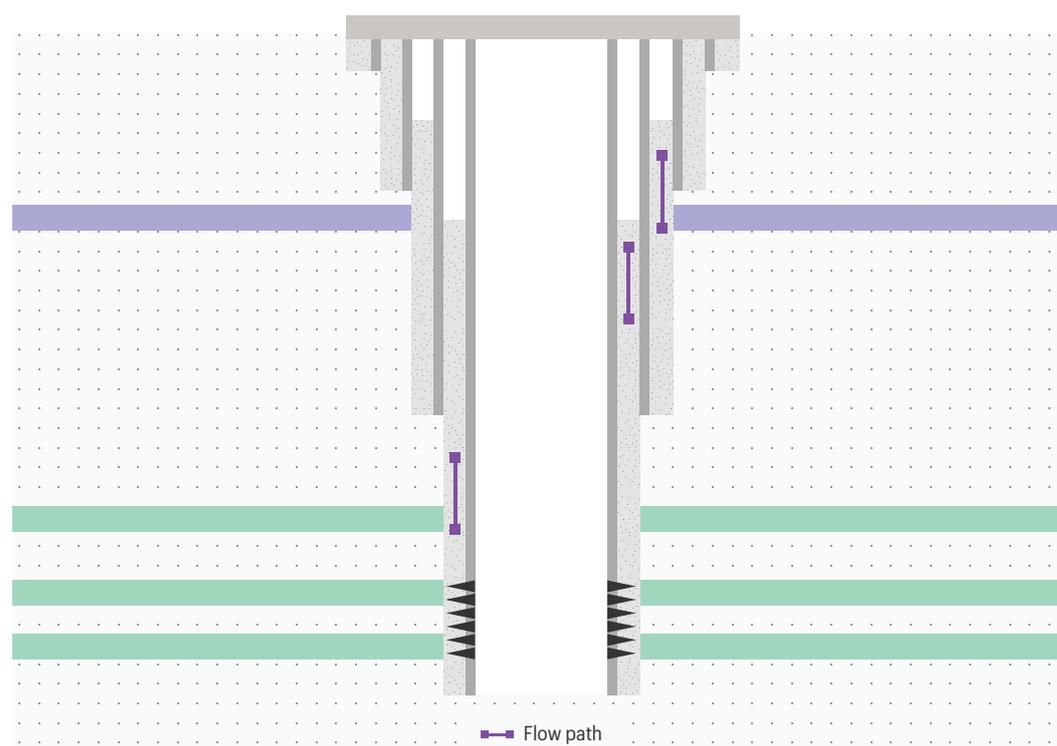
Delivered by our True Integrity system using the Chorus (acoustic) platform; Cement Seal Integrity provides the insights needed to restore and ensure annulus integrity.

Cement Seal Integrity is used routinely as a proactive measure to validate annulus integrity during well construction. This proactive approach complements traditional cement evaluation techniques to deliver a more secure well and avoid costly future problems.



Well sketch shows a range of typical cement barrier leaks and unwanted flowpaths, that Cement Seal Integrity can diagnose.

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



Indicative logplot for Cement Seal Integrity

The passive acoustic response obtained by Chorus indicated two active formations (wide frequency high amplitude pattern) which are connected via cement channelling (low frequency, but high amplitude pattern).

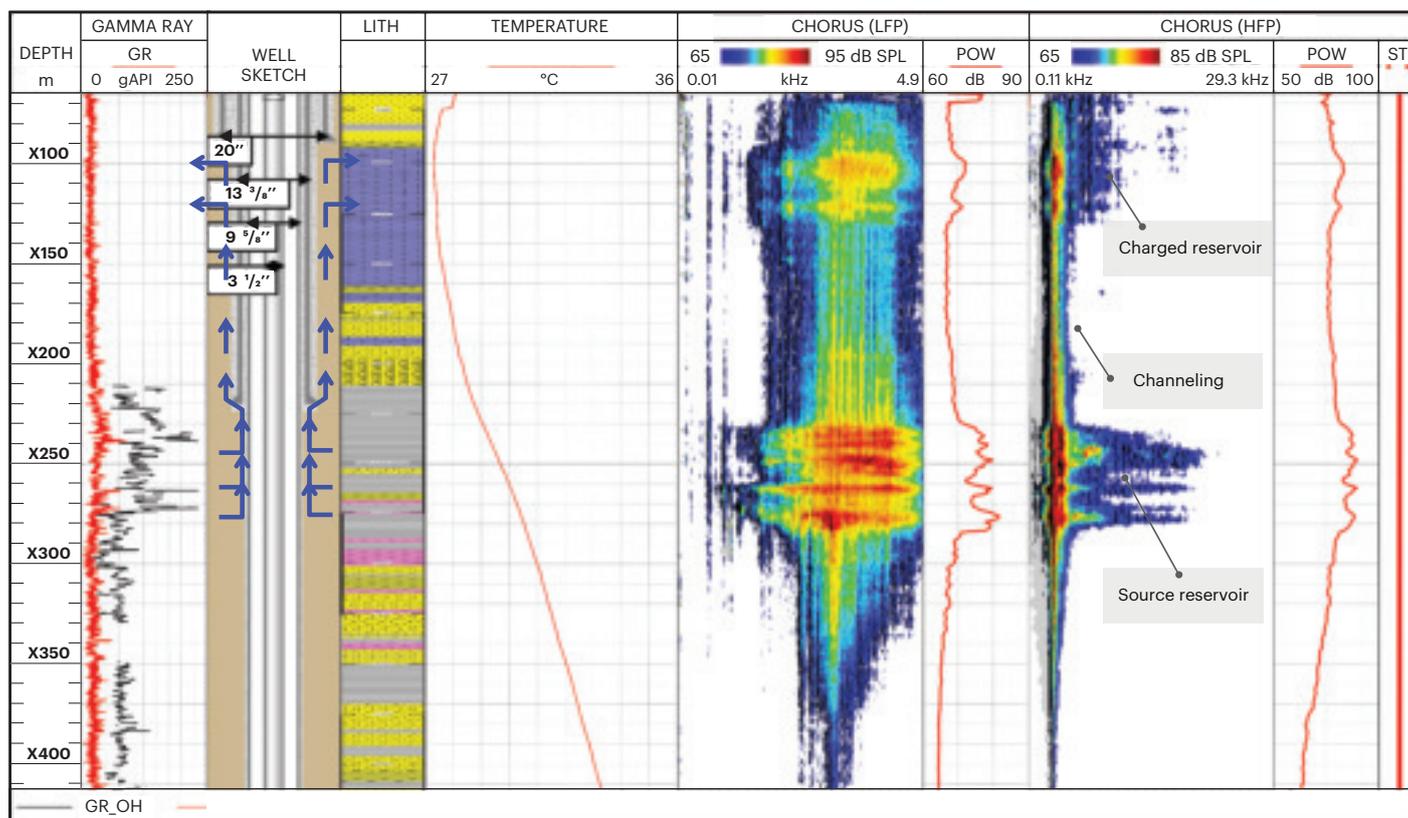
The case also shows the sensitivity of Chorus over a temperature response, which demonstrates how effective the Chorus can be in location of minor cement channelling and reservoir activity.

Challenges

- Evaluate seal integrity & sealing performance of cemented annuli
- Sustained pressure in one or more cemented annuli [SAP]
- Abnormal production or injection performance
- Channelling or micro-annulus detection
- Planning workover or P&A programmes

Benefits

- Comprehensive diagnosis of leaks and channelling in cemented annuli
- Validation of cement seal performance
- Locate micro-channelling
- Mitigate integrity risk and ensure regulatory compliance
- Rapid deployment through-tubing minimises disruption and cost
- Locate annular leaks and flowpaths behind casing rapidly and accurately
- Better remediation decisions, precisely targeted
- Optimise or validate pre- or -post workover or P&A programmes



Case studies

CS014: Spectral acoustic logging and high-precision temperature logging enable crossflow and leak detection through multiple well barriers

Technical papers

SPE-175450: Spectral Noise Logging Integrated with High-Precision Temperature Logging for a Multi-Well Leak Detection Survey in South Alberta

SPE-195789-MS: The importance of reliable barrier verification in the P and A environment