'The Sound of Silence': Innovative Approach to Confirm Barriers Using Spectral Noise logging by Gulfiia Ishmukhametova, NAM

After initial plug and abandonment activities in one reservoir, measurements showed pressure build up in the annuli. Spectral noise, high precision temperature and production logging were performed to determine the cause of sustained annulus pressure and the location of leaks. The data acquisition was performed both under shut-in and pressure bleed-off conditions and both log responses were compared to identify changes in noise patterns. The noise from specific events such as channelling or reservoir activity was detected, so the abandonment program could remediate these issues successfully.

Employing acoustic impedance properties and flexural wave imaging in annular material characterization by Kamaljeet Singh – Schlumberger

Worldwide, government and regulatory officials are informing the oil & gas industry that unproductive wells must be sealed to permanently remove these potential environmental threats. Services companies are developing tools and methods to limit the economic impact of fulfilling these obligations. A crucial requirement of permanent abandonment procedure is the placement of a cement plug across the wellbore and in the annuli of remaining casing sections in the well once upper sections have been successfully cut and pulled out.

This presentation aims to demonstrate the use of a multi sensor wireline tool to characterize annular material based on acoustic impedance properties and flexural wave imaging. This data is used to confirm annular barrier, support casing cut and pull optimization and evaluate Perforate, Wash & Cement (PWC) P&A technique.