Spectral Noise Log (SNL)

Features

• Ability to detect flows through multiple tubulars
• Ability to distinguish flow behind pipe from flow inside pipe
• Combinability with other logging tools to provide a complete well evaluation in a single run
• Slim tool design allowing safe and easy deployment through the smallest completion tubing and restrictions

Applications

• Leak Detection (tubing/casing/packer leaks)
• Diagnosis of Sustained Casing Pressure
• Reservoir Characterization and Formation Evaluation
• Borehole and Reservoir Performance
• Location of open perforations
• Identification of flow zones behind pipe
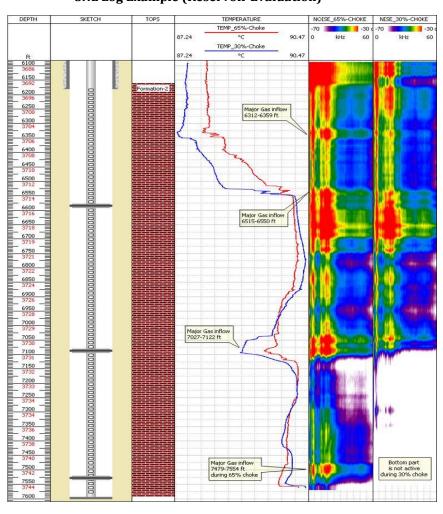• Identification of channeling behind pipe

SNL Tool Specification

General Specs	
Max Operating Pres	15,000PSI (103MPa)
Max Operating Temp	350°F (176°C)
Diameter	1-1/2" (38 mm)
Length	2.6 ft. (0.8 m)
Weight	8.8 lbs (4.0 kg)
Housing Material	Titanium
Acoustic Sensor	
Dynamic Range	90 dB
Operating Freq Range	8 Hz to 60,000 Hz
Operation Mode	Stationary
Nb Spectral Channels	1024 (512 + 512)
Memory	
Capacity	2 GB
Sampling	.5 to 255 sec

Description

Spectral Noise Tool (SNL) is a memory tool used to carry out various well diagnostic studies including Well Integrity Evaluation, Production Performance and Reservoir Monitoring. This device measures Acoustic Spectrum within the range of 8 Hz to 60,000 Hz with very high frequency resolution.

The tool uses very sensitive acoustic sensor to be able to measure sound produced downhole by either gas or liquid flow. Measurements are taken over a wide frequency range, enabling a very effective way of leak detection a well as detection of various kinds of gas, water, or oil flow, including flow behind the pipe.

SNL Log Example (Reservoir Evaluation)