DATA SHEET

HALLIBURTON

WELL INTERVENTION

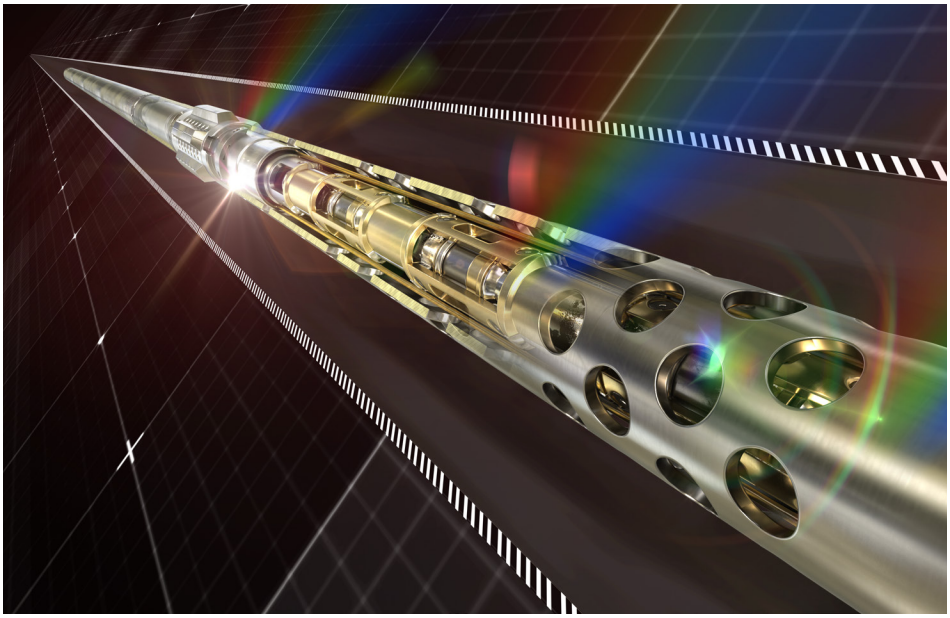
IntelliScope™ leak and flow diagnostic service

FEATURES

- Eight sensitive cylindrical hydrophones
- Individual receiver autogain
- Broad frequency range
- Wide dynamic range
- Characterizes detected flow as rate and flow composition with 2D flow map
- E-line, RELAY™ digital slickline system, and memory conveyance
- Combinable with all Intelli-portfolio services

BENEFITS

- More precise vertical and radial flow detection
- Identifies low- and high-level leaks in a single pass
- Removes road noise and maintains signal
- Identifies leaks through multiple barriers
- Comprehensive integrity diagnostics when combined with other Intelli-portfolio services
- Fast processing turnaround to assist rig operations



The Halliburton IntelliScope™ leak and flow diagnostic service 3D flow imaging in and around wellbore.

Overview

The Halliburton IntelliScope™ leak and flow diagnostic service is a cutting-edge acoustic analysis tool that uses an array of eight highly sensitive hydrophones to detect and characterize communication paths and flow areas both vertically and radially within the wellbore in real time. The service deploys enhanced signal processing and advanced road noise filtering techniques to triangulate the sound or flow source in or around the wellbore. The radial locator has become an invaluable tool to identify the depth of active flow zones, determine which annulus or component of a completion system leaks, and assess whether the flow is localized or distributed.

The IntelliScope service revolutionizes wellbore efficiency with its continuous mode to identify potential leak and flow areas. It also offers stationary measurements to refine and confirm leak locations by monitoring activity. With post-run data analysis, the IntelliScope service can estimate the flow rate, composition, and phase at the identified flow locations to provide comprehensive insights for optimal well management.

Tool dimensions and ratings

MEASUREMENT SPECIFICATIONS	
Measurement principle	High-definition array hydrophones
Measurement type	Frequency Amplitude Slowness energy
Number of hydrophones	8
Recording channels	High-frequency panel 100 Hz to 100 KHz 50 or 100 ms at 500 KHz memory (49996 per waveform) 5 ms at 125 KHz real time (624 per waveform) Low frequency panel 10 Hz – 8 KHz
Measurement outputs	Power spectrum density LFP & HFP Acoustic amplitude Slowness energy shift Slowness energy map Radial location map 2D flow map
Depth of investigation	0.85 inches to 10 feet depending upon the number of casings, thickness of tubing, casing and distance of casings from the axis of the tool.
Frequency range	10 to 100,000 Hz
Dynamic range SPL	133 dB
Minimum detectable level SPL	60 dB

GENERAL TOOL SPECIFICATIONS	
Maximum temperature	350°F (177°C)
Maximum OD	1.69 in. (4.29 cm)
Tool length	12 ft (3.66 m)
Maximum pressure	15,000 psi (103 421 Kpa)
Minimum restriction	1.8 in. (4.57 cm)
Tool weight	45 lb (20.41 kg)
Tool housing	Corrosion resistant

OPERATIONAL SPECIFICATIONS	
Combinability	All Halliburton 1553 tools
Tool positioning	Centralized
Maximum logging speed	10.0 ft/min (3 m/min)
Memory deployment	Halliburton memory pack (HMP)
Digital slickline deployment	RELAY™ digital slickline system
Borehole fluids	Salt, fresh, oil, air

For more information, contact your local Halliburton representative or visit us on the web at www.halliburton.com