ARRAY NOISE TOOL (ANT)

The tool employs a set of innovative differential measurements to enable excellent rejection of unwanted noise such as “road noise” produced while the tool is moving in the wellbore. The sensor array also allows propagation-direction processing to further extract weak fluid movement sounds from behind multiple pipes.

By coupling both differential sensors with array processing this tool can acquire accurate measurements while logging up or down. This saves time and improves effectiveness in any leak detection applications.

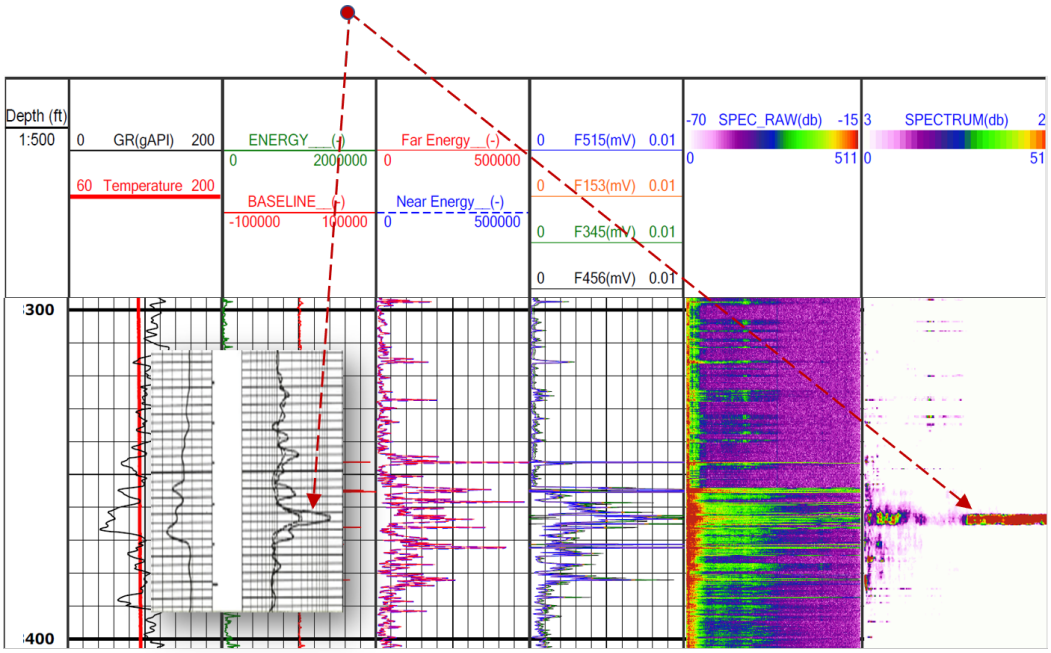
Differential measurements are enabled by employing quadrature sensors configured in the X and Y planes. The opposing signals are subtracted digitally to create the differential measurements. This leads to road noise and other unwanted common mode signals to be removed while the leak source signals are enhanced. With accurate sensor matching and tool calibration the tool achieves 30dB of common mode signals rejection.

Application & Features

- Leak Detection (tubing/casing/packer leaks)
- Diagnosis of Sustained Casing Pressure
- Location of open perforations
- Identification of flow zones behind pipe
- Identification of channeling behind pipe
- Total of 38 Hydrophones
- Sensor Configuration: 3 monopole + 6 differential
- X & Y Differential + Wave Propagation
- Provides accurate results while logging continuously
- Spectral Analysis
- Excellent (> 30dB) Road Noise Rejection
- Azimuthal Sensitivity
- Combinable with all Pegasus Series Tools

LOG EXAMPLE

Leak Source: Shallow sand stringer charged from producing interval 1500+ feet below



GENERAL SPECS	
	ANT – Array Noise Tool
Maximum Operating Pressure	15,000PSI (103 MPa)
Maximum Operating Temperature	350°F (175°C)
Diameter	1-11/16 in (43 mm)
Length	8.40 ft. (2.56 m)
Tool Weight	30.39 LBS (14.0 KG)
Logging Speed & Range	20 FPM / 40,000 ft.
Logging Sample Rate	4 SPF
Application	Dynamic & Stationary, Wireline/Memory
Signal Range	10 CH - 500Hz to 60 kHz with 130 dB-170dB (AGC)
Logging Modes	Survey and Scan
Borehole Temperature Log	-13°F–347°F (-25°C–175°C)
Log Data	Hybrid - Internal memory and configurable SRO
Interface	Pegasus™ dual CAN-Bus, 18V to 36V for 3W
Internal Measurements	Temperature, Voltage and Accelerometer
13 Wire Feedthrough	Through Wired for Inline Operation

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