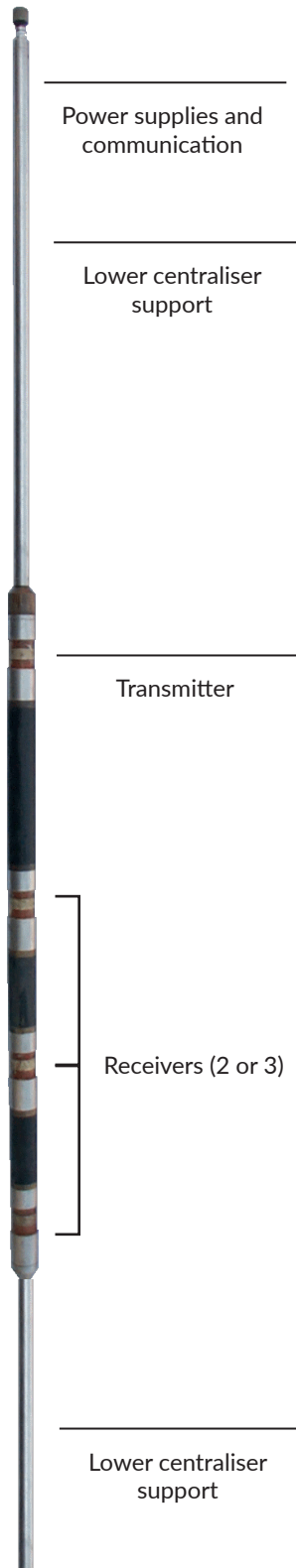


Full Wave Sonic probe FWS 60 & FWS 60G



The advantage of the **FWS 60** tool is that it digitises and transmits to the surface the full sonic waveform arriving at each receiver during a userconfigurable sampling window. With the option to select both the sampling rate and length of each stage, delayed arrivals such as Stoneley can be acquired without losing vital detail over the earlier part of the acquisition window.

The sonic wavetrain data provided by the **FWS 60** has many applications : such as the determination of formation mechanical properties, fracture analysis, cement bond assessment and permeability estimation.

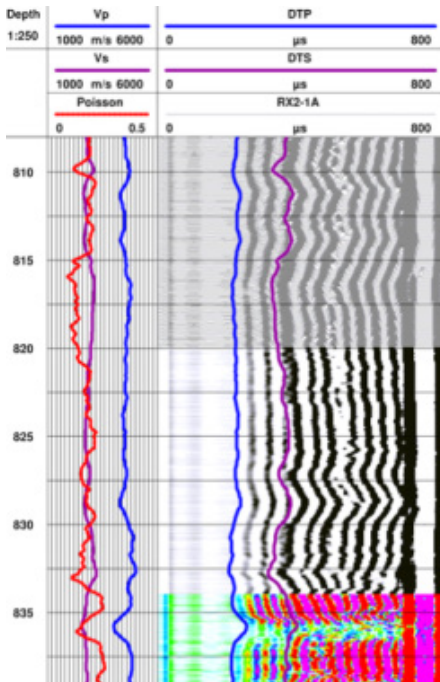
SPECIFICATIONS :

- Diameter : 42 mm / 60 mm
- Length :
 - 3420 mm with 1 TX & 3 RX
 - 350 mm less on all configurations (without gamma ray sensor)
- Weight : 21.0 Kg for 3420 mm version
- Max. Temp / Pressure : 70°C/200 bar
- Signal frequency : 12 – 15 KHz
- Acquisition : 16 Bit / 96 dB dynamic
- Sampling : 256 – 512 – 1024 at 4µsec (250.000/sec)

OPTIONS ACCESSORIES :

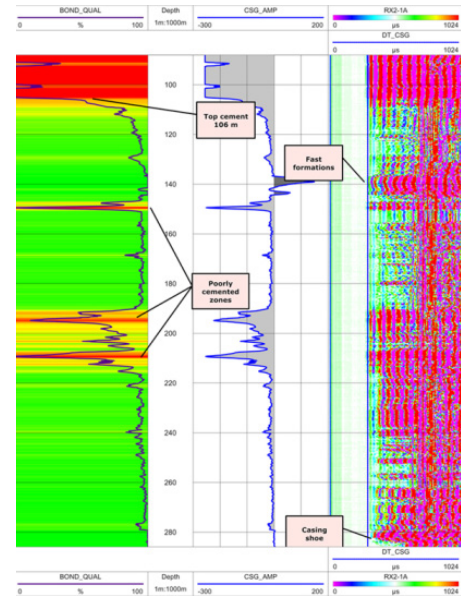
- Gamma ray sensor
- Bowspring centralisers, centraliser collar, supplementary sinker weight, transport case

Examples

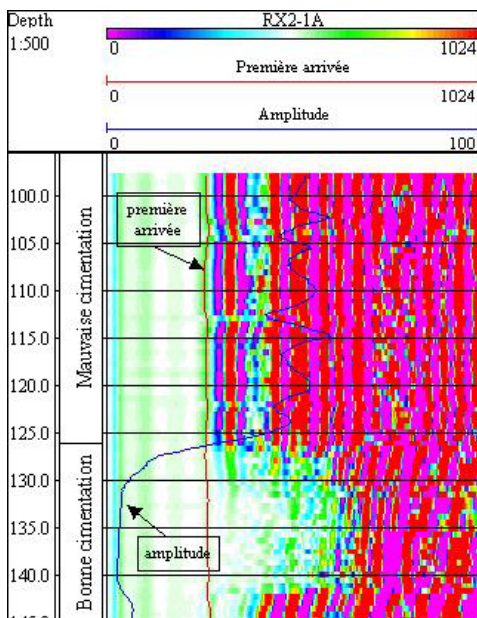


3 possibilities for presenting waveform data :

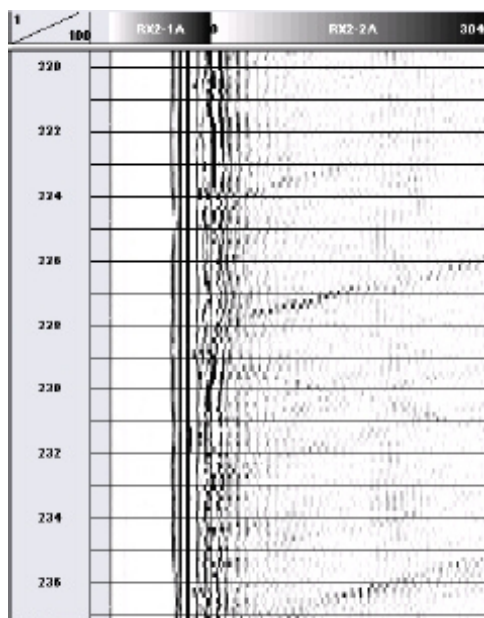
- wiggle
- black & white VDL
- colour VDL



Example cement bond log presentation



Example of variable density log sonic data presentation



Detection of reflected stoneley arrivals generated at permeable fractures