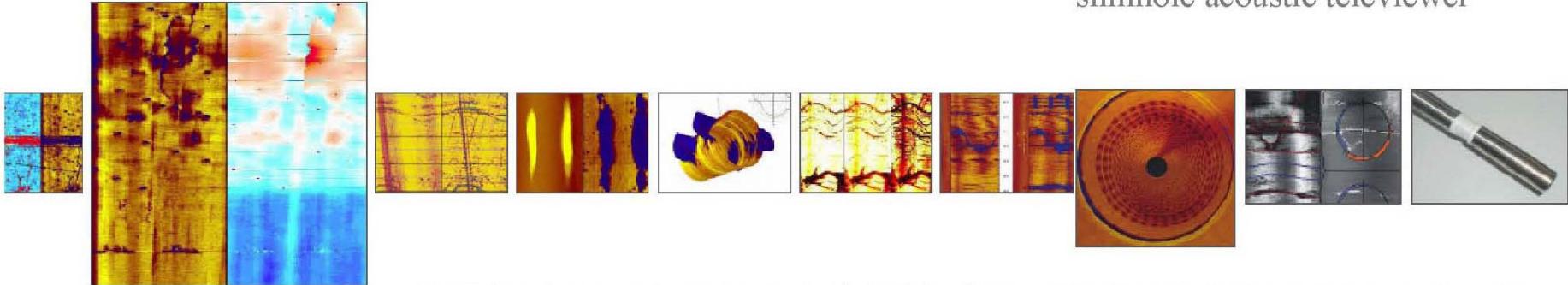




ABI ()

slimhole acoustic televiewer



Acoustic borehole scanner tools generate an image of the borehole wall by transmitting ultrasound pulses from a rotating sensor and recording the amplitude and travel time of the signals reflected at the interface between mud and formation (borehole wall).

The purpose of the acoustic borehole imaging tool is to provide detailed, oriented caliper and structural information on the basis of high resolution, ultrasonic travel time and amplitude images. The travel time is used to determine exceptionally accurate borehole diameter data, which makes the tool ideal for borehole deformation description (stress field analysis) and casing inspection. Travel time is also used for quality control of the amplitude measurement.

The amplitude of the reflection from the borehole wall is representative of the acoustic (elastic) properties of the surrounding rock therefore, the tool is ideal for fracture detection and geotechnical rock classification.

Most common applications are:

- fracture detection and evaluation
- detection of thin beds
- determination of bedding dip
- lithological characterization
- breakout analysis
- monitoring of earth stress field
- casing inspection (inner corrosion only)
- high resolution caliper measurements



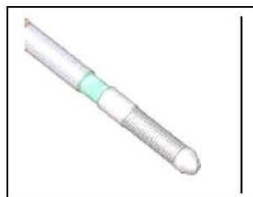
ABI40

slimhole acoustic televiewer



ABI43

slimhole acoustic televiewer



ABI85-92

high temperature acoustic televiewer



Technical specifications

Diameter	40mm (1.575")
Length	1.6 m (63")
Weight	6kgs
Max temp	70°C
Max pressure	200 bar
Borehole diameter	2" to 20" depending on borehole conditions
Logging speed	variable function of resolution, wireline and surface system
Cable type	mono, four-conductor, seven-conductor, coax
Digital data transmission	
Compatibility	Matrix - ALTIgger - Abox
Telemetry	automatic telemetry according to the cable length /type
Acoustic sensor	fixed transducer and rotating focusing mirror
Focusing	6"
Frequency	1.2 MHz
Rotation speed	up to 10 revolutions per second
Samples per revolution	72, 144, 288 user selected
Caliper resolution	0.08mm (0.003")
Deviation sensor	APS 544 - 3 axis magnetometer, 3 accelerometers.
Inclination accuracy	+/- 0.5 degree
Azimuth accuracy	+/- 1.5 degree <i>Actual accuracy may vary upon operational conditions.</i>
Natural gamma sensor	(Optional)
Detector	50mm x 25mm NaI (Ti), scintillation crystal

Technical specifications

Diameter	43mm (1"11/16)
Length	1.77 m (70")
Weight	10kgs
Max temp	125°C
Max pressure	800 bar
Borehole diameter	2" to 20" depending on borehole conditions
Logging speed	variable function of resolution, wireline and surface system
Cable type	mono, four-conductor, seven conductor, coax
Digital data transmission	
Compatibility	Matrix - ALTIgger - Abox
Telemetry	automatic telemetry according to the cable length /type
Acoustic sensor	fixed transducer and rotating focusing mirror
Focusing	4" or 8"
Frequency	1.2 MHz
Rotation speed	up to 20 revolutions per second
Samples per revolution	72, 144, 288 user selected
Caliper resolution	0.08mm (0.003")
Deviation sensor	APS 544 - 3 axis magnetometer, 3 accelerometers.
Inclination accuracy	+/- 0.5 degree
Azimuth accuracy	+/- 1.5 degree <i>Actual accuracy may vary upon operational conditions.</i>
Natural gamma sensor	(In development)

Technical specifications

	ABI85	ABI92
Diameter:	85 mm (3" 3/8)	92 mm (3" 5/8)
Length		
With "inline" centralizers	5.2 m (205")	id
Without "inline" centralizers	3.7 m (145")	id
Weight	150 Kgs	180 Kgs
Max temp	275°C (300°C) for 10 hours	id
Max pressure	800 bar (12000 PSI)	1400 bar (20000 PSI)
Borehole diameter	4" to 20" depending on borehole conditions	id
Logging speed	variable function of resolution, wireline and surface system	id
Cable type	mono, four-conductor, seven-conductor, coax	
Digital data transmission		
Compatibility	ALTIgger	
Telemetry	automatic telemetry according to the cable length /type	
Acoustic sensor	fixed transducer and rotating focusing mirror	
Focusing	8"1/2	
Frequency	1.2 MHz	
Rotation speed	up to 4 revolutions per second	
Samples per revolution	72, 144, 288 user selected	
Caliper resolution	0.08mm (0.003")	
Deviation sensor	APS 544 - 3 axis magnetometer, 3 accelerometers.	
Inclination accuracy	+/- 0.5 degree	
Azimuth accuracy	+/- 1.5 degree	
Natural gamma sensor	(In development)	