www.geomatrix.co.uk
sales@geomatrix.co.uk
Tel: 01525 383438

QL40-ABI-2G Data Sheet

The **ABI40** is the next generation of the pioneering FAC40. Building on 20 years of experience and market leadership, the new system features the industry-standard focused acoustic head, a new deviation subsystem, and completely redesigned electronics. The upgraded electronic architecture incorporates a 14-bit @ 10 MHz A/D converter, directly coupled to a super-fast 75 Mops DSP processor, enabling complex real-time data processing on each individual ultrasonic wave train.

Geomatrix Earth Science Limited, Unit 20 Eden Way, Pages Industrial Park, Leighton Buzzard, Bedfordshire, LU7 4TZ

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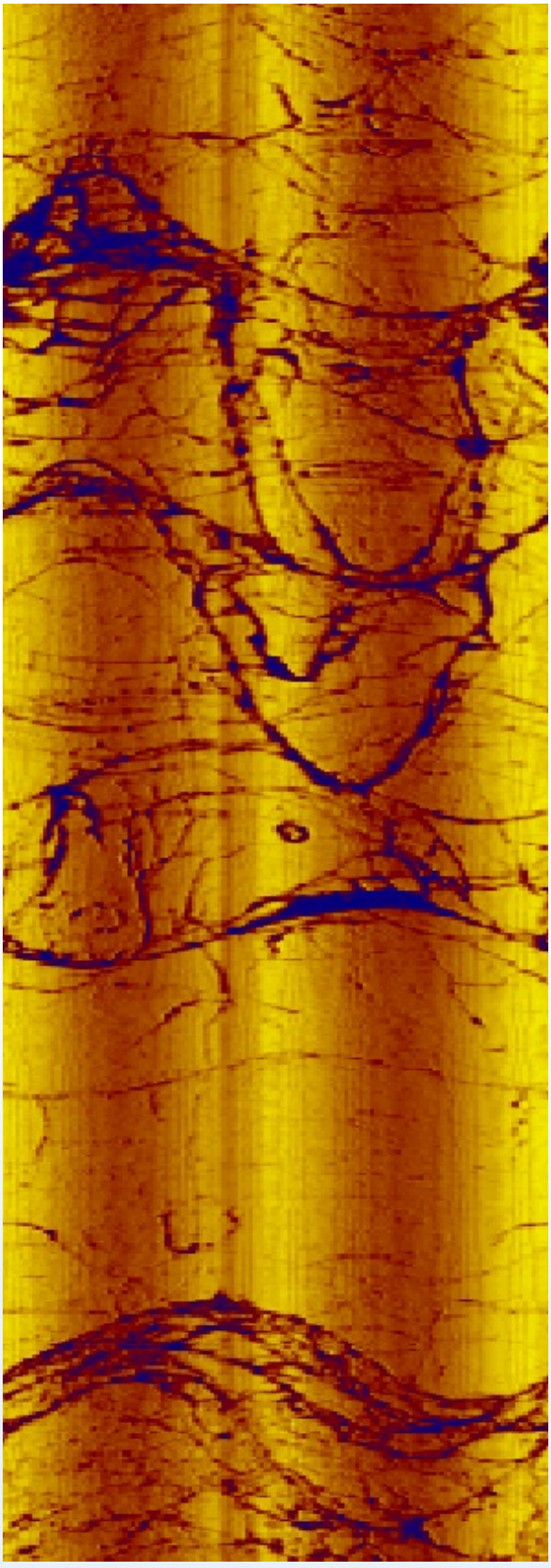

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Typical acoustic log small rock fractures. Image courtesy of Mount Sopris Instruments.

The **ABI40** tool generates an image of the borehole wall by transmitting ultrasound pulses from a rotating sensor. It records the amplitude and travel time of the signals reflected at the interface between the mud and borehole wall. The amplitude of these reflections indicates the properties of the surrounding rock, while the travel time reflects the borehole shape and diameter. This allows for exceptionally accurate borehole diameter measurements, making the tool ideal for casing inspection and structural geology.

Applications

- Detailed and oriented caliper and structural information
- Borehole deformation (stress field analysis)
- Fracture detection and evaluation
- Breakout analysis
- Detection of thin beds
- Determination of bedding dip
- Lithology characterization
- Rock strength assessment
- Casing inspection and corrosion evaluation
- Steel casing thickness measurement

A built-in high-precision orientation package, featuring a 3-axis fluxgate magnetometer and 3 accelerometers, allows for image orientation to a global reference and the determination of the borehole's azimuth and inclination. Sophisticated algorithms and real-time processes further enhance the tool's capabilities for casing thickness measurement, corrosion evaluation, and measurement behind PVC casings.

For large borehole investigations, the QL40-ABI2G-VLB second-generation televiewer is available. It is specifically designed to assist in evaluating corrosion and cement bond mapping in 10-30 inch diameter boreholes..

WellCAD Image & Structure Interpretation (ISI) Workspace

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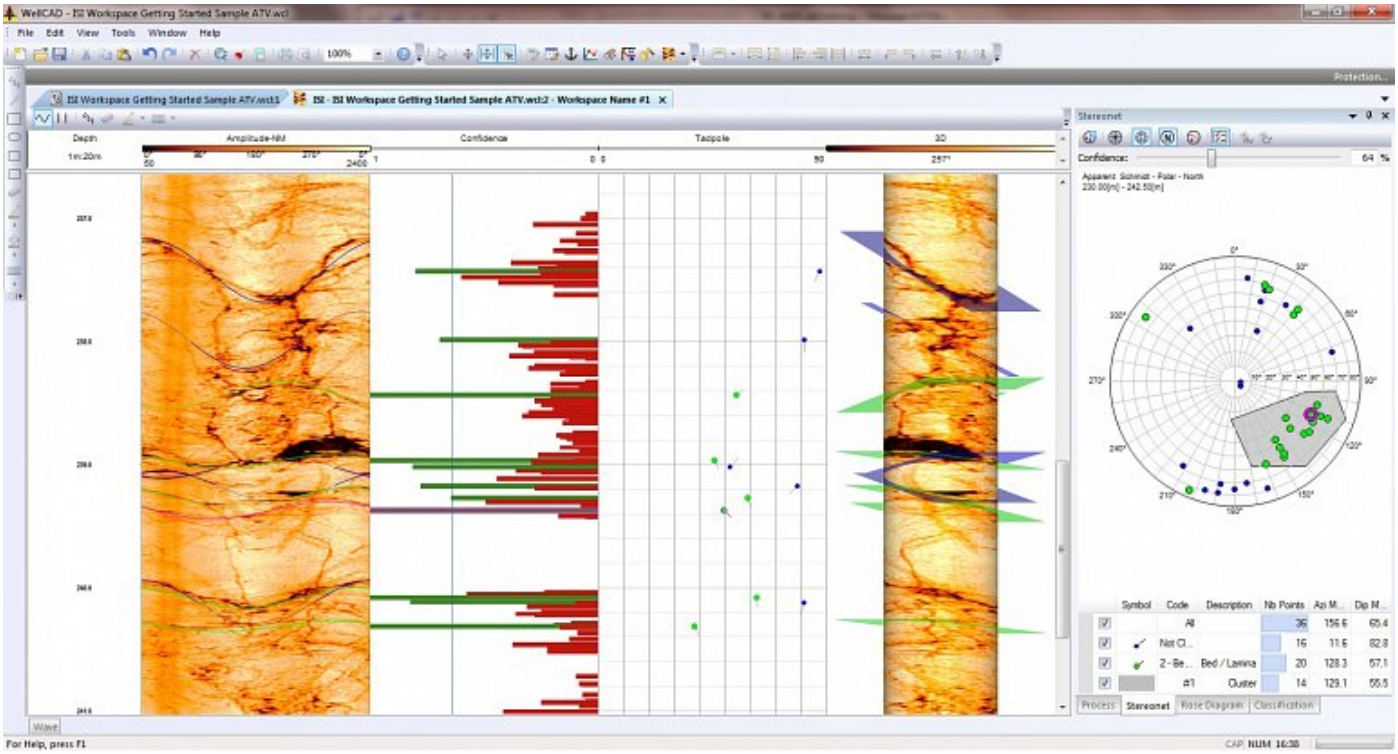

The Image & Structure Interpretation (ISI) module for WellCAD provides a comprehensive tool kit for analysing acoustic logs. Image courtesy of Mount Sopris Instruments.

Operating Conditions

W - Water ?
M - Mud ?
D- Dry

S - Steel ?
P - PVC Borehole ?
UC- Uncased ?

*Centralization is required

Product Dimensions

Physical	Dimensions (L x W x H)	Weight
(instrument only)	161cm x 4.2cm x 4.2cm	6.7kg

Technical Specifications

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Acoustic Sensor:	Fixed transducer, rotating focusing mirror. Focus optimized for 15.2 cm borehole.
Frequency:	1.2 MHz.
Acoustic Beam Width:	1.5 mm focal distance.
Rotation Speed:	Up to 35 Revolutions/sec.
Samples per Rev:	72, 144, 216, 288, and 360.
Measurement Range:	5 to 51 cm / 2” to 20” borehole.
Caliper Resolution:	0.08 mm / .003.
Orientation Sensor:	APS 544, 3-Axis Magnetometer and Accelerometer.
Inclination Accuracy:	± 0.5 º.
Azimuth Accuracy:	± 1.2 º.

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