

ABI-43 Full Waveform Acoustic Televiewer

Relatively new to the televiewer field the ABI-43 is a new generation Acoustic Televiewer. The ABI-43 is a slightly larger tool at 43mm and about the same length as the ABI-40 but was built in a modular design so as to accept in the near future additional tools above the acoustic head. Designed for the oil field with deeper depths and hotter temperatures this tool's rating is 30 degs C higher than the ABI-40. Once again the ABI-43 was upgraded with a faster down-hole digital processors and with 2 different focusing heads. The longer focused head will allow logging in larger holes and the smaller head would allow logging in the smaller typical holes used by the ABI-40 tools. This ability allows the operator to get better images in multiple hole sizes and is normally run at faster baud rates.

Upon receiving the ABI-43 we put it to work right away in our deeper 2300-2400 meter holes where borehole temperatures were in the 80 – 85c range. The performance was every bit as good as the ABI-40 in most cases even with the larger focusing head. The speed of data acquisition was increased due to the faster modems and higher head spin rates.

As the ABI-40 the ABI-43 was designed to do casing thickness inspections well with additional settings and controls for even more flexibility in its setup.

Technical specifications are as follows:

Length	63" (2.0 m)
Diameter	1.7" (43 mm)
Weight	15 lbs (10 Kg)
Pressure Rating	800 bar (? kPa)
Use	45 mm to 400+ mm 2" to 20" boreholes
Operating temps	32–256 deg F(0-135 deg C)
Measurement range	Very high resolution borehole acoustic televiewer.
Sensor	APS544
Inclination accuracy	0.5 deg
Orientation	3 Ax Mag, 3 accel
Azimuthal accuracy	1.0 deg
Long head Focal Length	8"
Short head focal length	4"
Head spin rate	20 RPS

The ABI-43 televiewer is a centralized borehole acoustic televiewer redesigned to log more efficiently with higher baud rate communications in hotter hole settings. The 43 was designed with or without in-line centralization to aid in ease of access in a wider variety of hole sizes and to centralize the tool better in these variety of holes. It is a full waveform televiewer tool which in this new tool allows the operator selectively acquire data utilizing controls/settings while viewing the full waveform arrivals. This makes it much easier to selectively narrow the acoustic time-gate window arrival desired

in order to capture the casing thickness or the arrival of the fractured rock through PVC pipe.

Recent open hole logging activity conducted by Southwest Exploration this year showed great data acquisition in a 17.5” well drilled in northern Arizona. So we think there is a lot of potential for this tool to function in much larger diameter holes than the ABI-40 given the right well conditions and give the same great data quality expected in all the smaller holes.

Well casing inspection and evaluation is a major focus of this tool's design as in the ABI-40 with additional controls and settings. As in the ABI-40 this tool is a full waveform acoustic tool so the access to timing gates and additional parameters can be set in the field to provide the client with a “1st look” evaluation in the field with a field PDF print. The data is then brought back to the office for post processing involving a number of steps to complete the data analysis. Initial data acquisition in 12-18” cased wells show great detail, faster acquisition and more accurate evaluation and processing.