

TECHNICAL SHEET

CALIPER	ULTRASONIC	ABI
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Generalities																												
<p>Principle ABI (BoreHole TeleViewer) uses a fixed acoustic transducer and a rotating mirror to scan the borehole walls with a focused ultrasound beam. The amplitude and travel time of the reflected acoustic signal are recorded as separate image logs.</p> <p>Result The travel time log is equivalent to a high precision caliper and shows diameter changes within open fractures and “break-outs”. Directional information is also recorded and used to orient the images in real time.</p> <p>Interest Local stress studies (break-out), acoustic caliper, cased-hole studies (concretions, perforations in PVC only...).</p> <p>Options Magnetometric trajectometry, natural gamma sensor, structural analysis...</p>																												
Constraints / borehole																												
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">filling up</td> <td style="width: 33%;">: <input checked="" type="checkbox"/> water</td> <td style="width: 33%;">: <input checked="" type="checkbox"/> mud</td> <td style="width: 33%;">: <input type="checkbox"/> dry</td> </tr> <tr> <td>casing</td> <td>: <input type="checkbox"/> PVC</td> <td>: <input checked="" type="checkbox"/> steel</td> <td>: <input checked="" type="checkbox"/> open</td> </tr> <tr> <td>borehole</td> <td>: <input checked="" type="checkbox"/> cored</td> <td>: <input checked="" type="checkbox"/> destructive</td> <td></td> </tr> <tr> <td>max. depth</td> <td colspan="3">: 500 m</td> </tr> <tr> <td>effective diameter</td> <td colspan="3">: 70 mm – 400 mm</td> </tr> <tr> <td>temperature</td> <td colspan="3">: 0°C – 70°C (*)</td> </tr> <tr> <td>max. pressure</td> <td colspan="3">: 200 bars</td> </tr> </table>			filling up	: <input checked="" type="checkbox"/> water	: <input checked="" type="checkbox"/> mud	: <input type="checkbox"/> dry	casing	: <input type="checkbox"/> PVC	: <input checked="" type="checkbox"/> steel	: <input checked="" type="checkbox"/> open	borehole	: <input checked="" type="checkbox"/> cored	: <input checked="" type="checkbox"/> destructive		max. depth	: 500 m			effective diameter	: 70 mm – 400 mm			temperature	: 0°C – 70°C (*)			max. pressure	: 200 bars
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Technical specifications																												
<p>Dimensions</p> <ul style="list-style-type: none"> • length : 2060 mm • diameter : 42 mm • weight : 10 Kg <p>Elements</p> <ul style="list-style-type: none"> • 1 acoustic T-R head (1.5 MHz) : IMG • 1 magnetometer 3 axis (x,y,z) : MAG • 1 accelerometer 2 axis : ACC • 1 natural gamma sensor : GR 																												

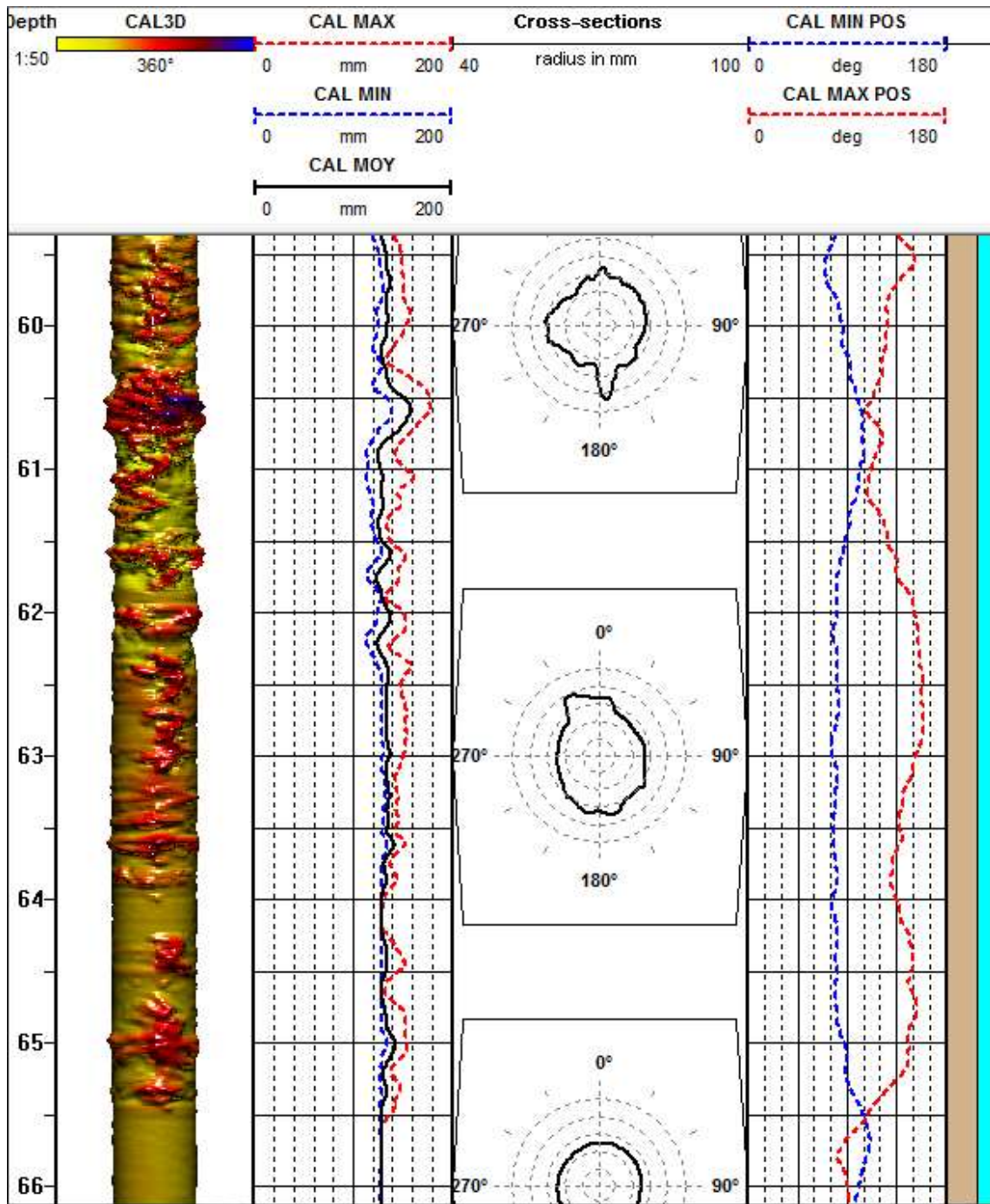
Records / Measures

<p>Records</p> <ul style="list-style-type: none"> • Tool : <input checked="" type="checkbox"/> centered <input type="checkbox"/> off-centered • Measure : <input checked="" type="checkbox"/> down <input checked="" type="checkbox"/> up • Rec. speed : depends on communication speed 	<p>Measures</p> <ul style="list-style-type: none"> • Horiz resolution : 90, 120, 180 or 360 pixels / 360° • Vert. resolution : depends on acquisition speed • Azim. accuracy : ± 1° • Incl. Accuracy : ± 0.5°
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(*) Available in high temperature version (until 125°C) and low temperature version (until -5°C)



Examples



Acoustic diameter interpretation

The amplitude of the reflected wave is color-coded, while the traveling time is distance-code in order to obtain a 3D colored representation of the borehole walls.