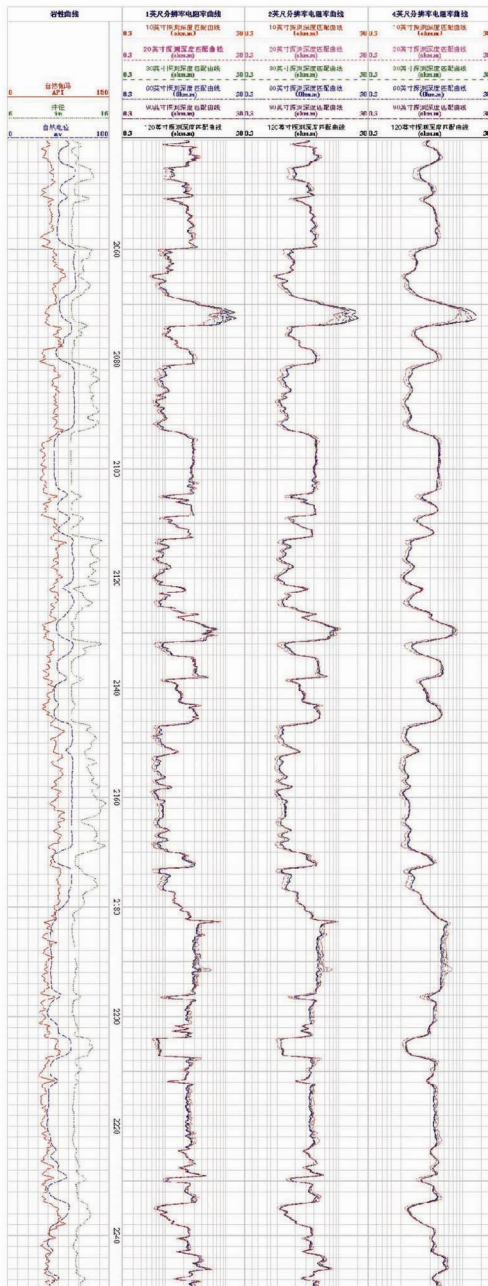


Array Induction Tool (AIT)

The Array Induction Tool (AIT) uses multi-spacing and multi-frequency measurements to acquire a complete set of data from the formations surrounding the borehole.

The multi-spacing measurements allow improved conductivity measurements in complex environments. The short-spacing measurements (as short as 6-inch spacing) allow improved correction for borehole, rugosity and invasion effects. The long-spacing measurements (up to 94-inch spacing) are useful in deep invasion situations. The multiple-frequency measurements allow for an improved skin-effect correction and data quality checking.

AIT allows us to characterize invasion profiles, even in oil-based muds.



Specifications

Maximum Temperature	400°F (200°C) for 3 hours
Maximum Pressure	20,000 psi (140MPa)
Instrument Lengths:	
Mandrel (make-up length)	19 ft. 9.9 in. (6.04 m.)
Electronics (make-up length)	7 ft. 3.7 in. (2.23 m.)
Total (make-up length)	27 ft. 1.6 in. (8.27 m.)
Instrument Weight:	
Mandrel	282 lbs. (127.9 kg)
Electronics	151 lbs. (68.5 kg)
Total	433 lbs. (196.4 kg)
Instrument Diameter	3.63 in. (92.2 mm.)
Logging speed:	
Recommended	30 ft/min
Maximum	60 ft/min at 4 samples per foot 100 ft/min at 2 samples per foot
Focussed conductivities:	
Depths of investigation	10, 20, 30, 60, 90, 120in.
Apparent vertical resolution	true or matched to 1, 2 or 4ft.
Measurement Range:	0.1 to 2000 ohm-m
Measurement Accuracy (homogenous formations):	
60, 90, 120in. depth of investigation	±1 mS/m, ±2% of reading
30in. depth of investigation	±2 mS/m, ±2% of reading
20in. depth of investigation	±4 mS/m, ±2% of reading
10in. depth of investigation	±10 mS/m, ±2% of reading
Borehole Properties	
6 in hole	Rt/Rm < 7000
8 in hole	Rt/Rm < 2000
12 in hole	Rt/Rm < 1000
Hole Size	4.5 in. to 20 in.
Hole Deviation	Vertical to Horizontal
Minimum Radius of Curvature	24 ft. (7.30m)
Tensile Strength	50,000 lbf. (22,500kg)
Compressive Strength	6500 lbf. (2925kg) (in 14 in. hole) 7600 lbf. (3420kg) (in 12 ¹ / ₄ in. hole) 12800(5760kg) lbf. (in 8 in. hole)
Wireline Requirements	7 conductor
Calibration Environment:	10 feet off ground 30 feet from metallic materials

