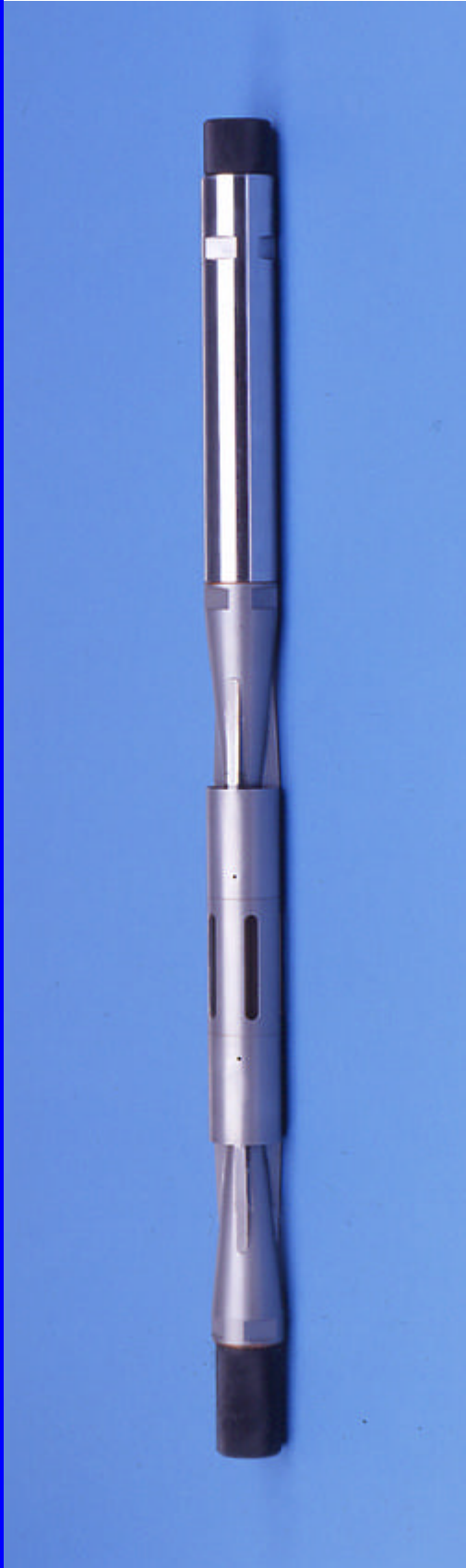


ENHANCED CAPACITANCE WATER HOLD-UP TOOL

CWH

Production Logging Tools



DESCRIPTION

The enhanced Sondex Capacitance Water Hold-up Tool operates in the same manner as a standard tool, but has improved circuitry. This provides a better response to changes of fluid when the water-cut value is high.

The improved design, in addition to providing greater discrimination in higher water cuts, also minimises the "watering out" effect. This effect results in tool output continuing to indicate water even though the surrounding fluid has been replaced by hydrocarbons.

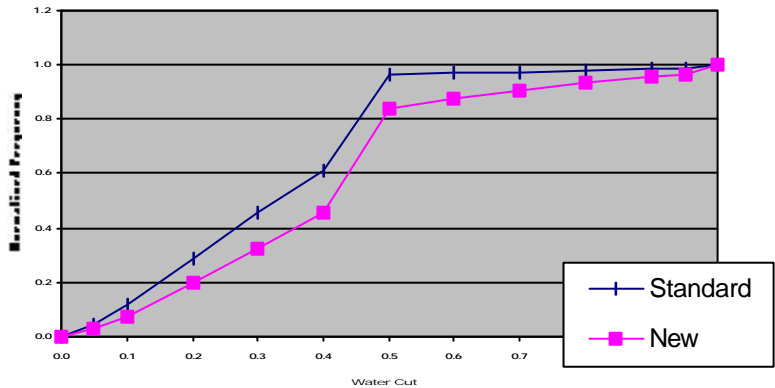
OPERATING PRINCIPLE

The tool is essentially an annular capacitor with the central probe and external cage acting as the capacitor plates and the well fluid flowing between the plates as the dielectric. The difference in the dielectrics of water & oil are detected by the tool and output as a frequency change. Water hold-up is determined by reference to a hold-up / fractional response chart.

APPLICATIONS

- Multi-Phase Production Profiling.
- Oil / Gas / Water Hold-up Calculations
- Qualitative Analysis of Water Loaded Up Wells.
- Qualitative Analysis of High GOR, Water Free Wells.

Response of Enhanced Tool v Standard Tool



SPECIFICATION

	Memory	Wireline
Supply Voltage	+12v DC	+80v DC
Current	3mA	13mA
Resolution	1%	
Effective Range	0-48% Water-cut	
Max. Pressure	15k psi (12k psi 1 1/2")	
Max. Temperature	350 degrees F (177C)	
Length	26.125" (218mm)	
Measure Point	8.6" (218mm)	
Diameter	1 11/16" (43mm); 1 1/2" (38mm); 2 1/8" (54mm)	
Weight (1 11/16")	10lbs (4.5kg)	
Max Working Pull	6,700 lbs (3045kg)	
Materials	Corrosion Resistant Throughout	