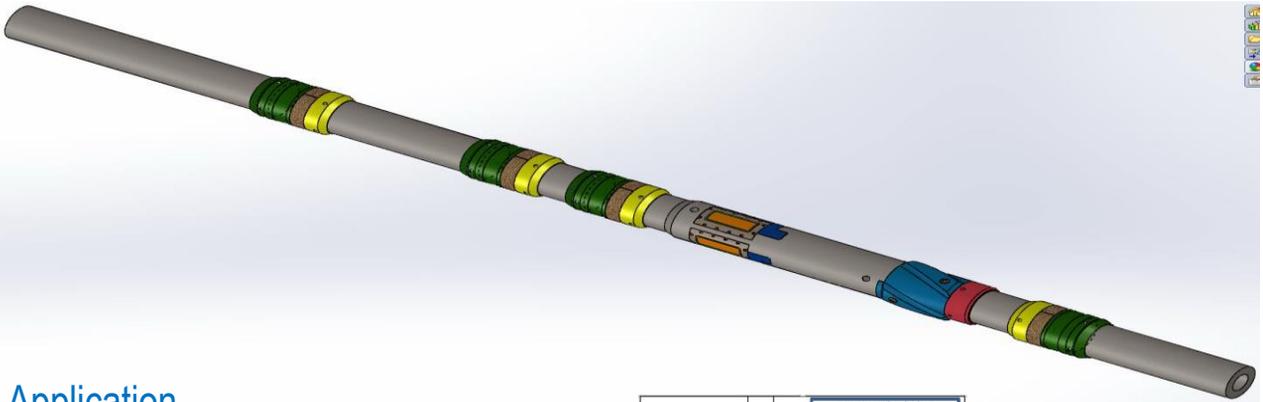


GeoFusion

Resistivity and Imaging While Drilling



Application

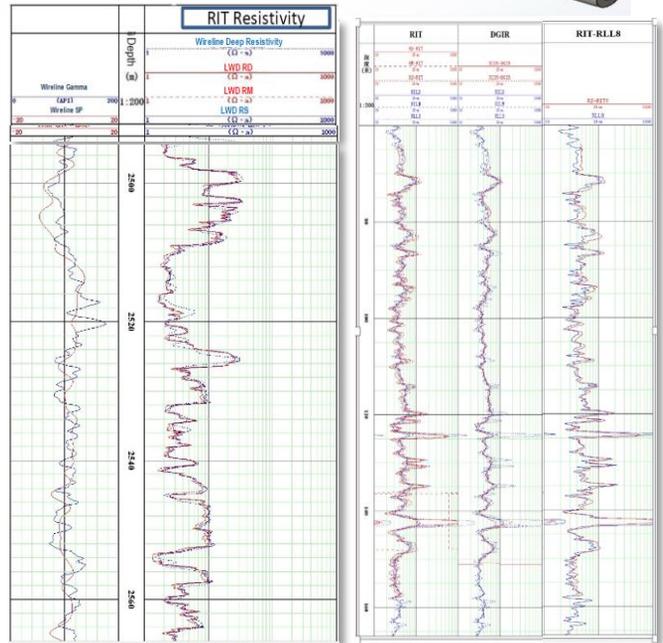
- Formation evaluation
- Geosteering and Geo-Stopping
- Geological structure

Benefit

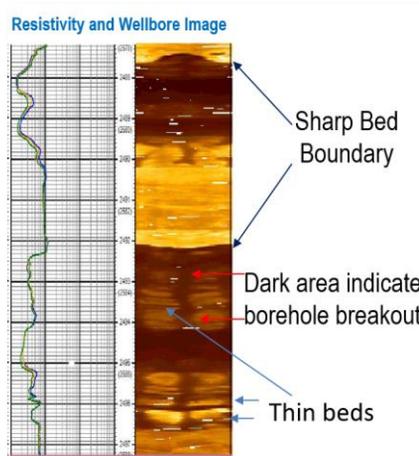
- Optimize well placement
- More accurate reserve estimate
- Data while drilling
- Stop drilling before entering depleted zones

Features

- Three focused resistivity measurements
- Quadrant resistivity during rotating or sliding
- 7 unfocused measurements in horizontal wells
- Fullbore images with 0.5-in resolution
- Largest LWD laterolog DOI in industry
- Resistivity range up to 20,000 Ohm-m
- Bit Resistivity measurement



GeoFusion Resistivity vs Wireline DLL



GeoFusion

Delivers focused quantitative array laterolog resistivity measurements and high resolution images while drilling.

It provides both improved depth of investigation and enhanced image quality and increased capability for boundary detection and geosteering.

Its state of the art electronics and robust design also decreases cost of service and improves efficiency.

General Specifications	475	675
Hole size (in.)	5 3/4" to 6 3/4"	8 1/2" to 9"
Tool length (ft)	19.3	15.0
Tool Weight (lbm)	1200	1500
Collar Dimensions		
Nominal diameter (in.), API	4.82	6.75
Maximum diameter (in.)	5.35	8.25
Top thread connection	NC38 box	NC50 box
Bottom thread connection	NC38 box	NC50 box
Max. operating temperature	350 degF [175degC]	
Power supply	MWD	
Tool power	6- 8.5 Watts	
Downhole Memory		
Capacity	1.0GB	
Recording time	400 Hrs	
MWD Communication	Q-bus or RS485	

Measurements Performance

Gamma Ray Range (gAPI)	0-250	N/A
Azimuth sectors	8	N/A
Vertical Resolution (in.)	10	N/A
Resistivity Range Ohm-m	0.1 to 20,000	
Accuracy: 0.1- 1000 Ohm-m	+-5%	
1000-2000 Ohm-m	+-10%	
> 2000 Ohm-m	+-20%	

	RUD*	RD	RM	RS
Depth of Investigation. (in)	20	15	11.6	8
Axial Resolution, (in.)	8	8	8	8
Image Resolution. (in.)	0.5			

Resistivity Environment

Water-based mud	Rm < 10 Ohm-m
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Mechanical Specifications	475	675
Dogleg Severity		
Rotary mode (°/100ft)	15	8
Sliding mode (°/100ft)	30	16
Hydraulics		
Max operating pressure (psi)	20,000	20,000
Flow range (gal/min)	0-400	0-800
Pressure drop constant C**	8,500	108,500
Max. sand content	3% by volume	
Max. system shock level	30 min at Shock Level 3	

* RUD is not a focused measurement.

** Pressure drop [psi] equals [mud weight (lbm/gal) x flow rate (gal/min)²]/C

