

DartFusion

Directional Array Resistivity Tool



Directional Resistivity Tool	DartFusion 475				DartFusion 675						
General Specifications											
LWD Directional Propagation Resistivity Tool											
Drill Collar Nominal OD	4.75 in (API)				6.75 in (API)						
Max. Diameter	5.375 in				7.35 in						
Hole Size Range	5.75 in to 6.75 in				8.0 in to 10 in						
Tool Length	192 in.				192 in.						
Tool Weight	1200 lbm				1800 lbm						
Max. Dogleg Severity	15°/100 ft Rotating 30°/100 ft Sliding				8°/100 ft Rotating 16°/100 ft Sliding						
Max. Temperature	150°C (300°F) 175°C (350°F) option				150°C (300°F) 175°C (350°F) option						
Max. Pressure	20,000 psi, 25,000 psi option				20,000 psi, 25,000 psi option						
Max. Flow Rate	400 galUS/min				800 galUS/min						
Mud Type	WBM/OBM/SOBM										
Power Option	External Battery /Turbine										
Memory	More than 200 hrs (continuously)										
Resistivity Measurement Specifications											
Operating Frequencies	2MHz, 500 kHz, 125 KHz										
Resistivity Range/Accuracy			Range		Accuracy		Range		Accuracy		
	2 MHz PS		0.1-60 ohm.m		+-2%		60-3000 ohm.m		+-0.3 mS/m		
	500 KHz PS		0.1-10 ohm.m		+-2%		10-100 ohm.m		+- 2 mS/m		
	2 MHz ATT		0.1-20 ohm.m		+-4%		20-50 ohm.m		+- 2 mS/m		
500 KHz ATT		0.1-5 ohm.m		+-5%		5-10 ohm.m		+- 10 mS/m			
Measurement Spacing	20 in		28 in		36 in		44 in		52 in		
Depth of Investigation	2 MHz	20" (PS)	38" (AT)	23" (PS)	43" (AT)	26" (PS)	48" (AT)	29" (PS)	53" (AT)	31" (PS)	58" (AT)
	500 kHz	27" (PS)	59" (AT)	34" (PS)	63" (AT)	40" (PS)	67" (AT)	46" (PS)	70" (AT)	50" (PS)	73" (AT)
Vertical Resolution	2 MHz	0.8' (PS)	2.0' (AT)	0.8' (PS)	2' (AT)	0.8' (PS)	2' (AT)	0.8' (PS)	2' (AT)	0.8' (PS)	2.0' (AT)
	500 kHz	1.0' (PS)	3.0' (AT)	1.0' (PS)	3.5' (AT)	1.2' (PS)	3.5' (AT)	1.2' (PS)	3.5' (AT)	1.2' (PS)	3.5' (AT)
Directional Resistivity Measurement Specifications											
Operating Frequencies	2 MHz, 500 kHz, 125 kHz										
Azimuth Coverage	360°										
Boundary Detection Range	~ 20 ft in optimal conditions										
Measurement Spacing	24 in, 48 in, 60 in, 80 in, 120 in										
Gamma Measurement Specifications											
Range	0 – 500 gAPI										
Azimuth Sectors	8										
Vertical Resolution	10 in										

Application

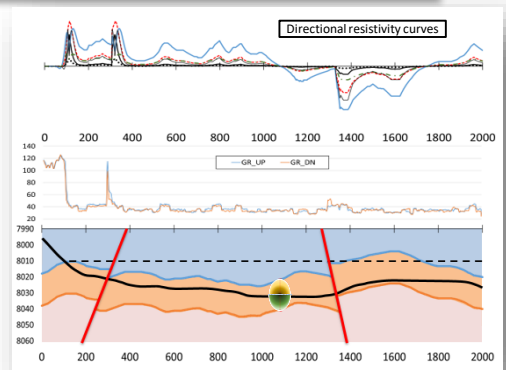
- Geosteering
- Accurate formation evaluation in all mud types
- Geological structure

Benefit

- Bed boundary detection and resistivity capabilities in real time
- Optimize well placement
- More accurate reserve estimate in all mud types

Features

- 20 borehole compensated propagation resistivity measurements allows for advanced environmental corrections providing true resistivity
- Multiple directional measurements for boundary detection in real time
- Gamma Ray images from Azimuthal Gamma Ray sensor
- Deepest boundary detection (20ft) and also deepest resistivity DOI in industry



GeoSteering in Real Time

Geosteering requires realtime bed boundary measurements to be used proactively to navigate the well through reservoirs, maximizing payzone and the ultimate recovery.

Industry limitations

Resistivity tools from independent OEM's have difficulty resolving bed boundary distances and directions. As such, maximization of payzone cannot be exploited.

Oliden solution

DartFusion technology allows for precise well placement and navigation through complex reservoirs via realtime discoveries of the bed boundary contact points, both distance and direction. Pilot Wells can even be eliminated.

