Well Resolutions Technology

PayzoneTracker™

At-Bit Azimuthal Gamma & Continuous Inclination Tool

LOCK YOUR WELLBORE IN THE TARGET ZONE WITH THE HIGH-RESOLUTION AT-BIT AZIMUTHAL GAMMA TOOL

High-resolution azimuthal gamma measurements allow for well placement with greater confidence.

The built-in EM short-hop communication system enables at-bit data transmission to the surface in real time.

Both standard version (150°C) and high-temperature version (175°C) are available.

FEATURES AND BENEFITS

- Measures 4 quads gamma in real time and 16 sectors gamma in the tool memory
- Provides total gamma measurements in real time
- Powered by self-contained batteries with battery life up to 200 hours
- Downhole RPM measurement
- Short at-bit sub (2.92 ft. or 0.89m) optimizes bit steerability
- 3-axis shock & vibration monitoring in real time

APPLICATIONS

- Place wells accurately and maximize reservoir contact with a clear view of the geology around the bit while in rotating or sliding mode
- Identify target zones timely with the superior gamma ray images located as little as 1.3 ft. from the bit
- Early indication of changes in lithology
- Steer within formations with lateral dip and/or thickness changes

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PayzoneTracker has an outstanding track record of runs from hundreds of wells.

PayzoneTracker provides early warning of formation changes, while also indicating the orientation of bed boundaries relative to the boreholes.

PayzoneTracker extends the length of the productive interval by providing the high-quality at-bit measurements needed to make quick decisions and to keep horizontal or high-angle wellbores in the pay.

PayzoneTracker helps reduce directional drilling risk in critical situations with the built-in EM short-hop system for real-time data transmission. The EM short-hop system works in both water-base and oil-base muds.

TOOL FEATURE HIGHLIGHTS

- Modular design for great tool serviceability
- Very short length (2.92 ft or 0.89 m) enables very close sensor-to-bit distance
- Drop-in EM short-hop receiver module retains MWD tool string retrievability
- Available in 4-3/4 in., 6-3/4 in. and 8-in. collar sizes

SPECIFICATIONS			
Tool Size	4.75 in. (120.65mm)	6.75 in. (171.45mm)	8 in. (203.2mm)
Length	35 in. (889mm)		
Nominal OD/MAX OD/Max ID	5 in. / 5-1/4 in. / 1.313 in.	6-3/4 in. / 7 in. / 2.375 in.	8 in. / 8-1/4 in. / 3-1/4 in.
Connection PIN Up	3-1/2 REG (IF option)	4-1/2 REG (IF option)	5-1/2 REG (IF Option)
Connection Box Down	3-1/2 REG	4-1/2 REG	5-1/2 REG
Yield Strength	15,140 lbf-ft.	29,900 lbf-ft.	50,000 lbf-ft.
Make-up Torque	12,000 lbf-ft.	24,000 lbf-ft.	46,000 lbf-ft.
Max DLS Rotating, Sliding	15˚/100 ft., 30˚/100 ft.	8˚/100 ft., 16˚/100 ft.	6˚/100 ft., 12˚/100 ft.
Max Downhole Drilling Torque	12,000 lbf-ft.	24,000 lbf-ft.	46,000 lbf-ft.
Max RPM (Downhole)	300 RPM	300 RPM	200 RPM
Max Flow Rate	340 gpm	750 gpm	1,000 gpm
Max Operating Pressure	20,000 psi	20,000 psi	20,000 psi
Max Operating Temperature	150˚C (175˚C option)	150˚C (175˚C option)	150˚C (175˚C option)
Max Operating WOB	25,000 lbs	50,000 lbs	75,000 lbs
Max Sand Content	<1%	<1%	<1%
Max Number of Recuts	4	4	4
RECEIVER SUB			
Collar Gap Length	35 in. (889mm)		
Collar Gap Max OD	4.75 in.	6.75 in.	8 in.
Collar Gap Connection	3-1/2 IF	4/1/2 IF	5-1/2 IF
Collar Gap Yield Strength	18,000 lbf-ft.	34,000 lbf-ft.	75,000 lbf-ft.
Collar Gap Make Up Torque	12,000 lbf-ft.	24,000 lbf-ft.	58,000 lbf-ft.
Receiver Electronics Housing OD	1.875 in.		
MEASUREMENT			
Inclination @ Bit	**Range**	0–180 degrees	
	Accuracy	±0.2 degrees (sliding)	
	Measure Point to Bit	12 in.	
Azimuthal Gamma @ Bit	**Range**	0-1000 AAPI	
	Accuracy	±5API @ 250API	
	Number of Sectors	16	
	Measure Point to Bit	16 in.	
RECOMMENDED OPERATING PARAMETERS			
Battery Life	175–200 hours		
RPM	Max 200 for Minimum Fatigue		
Formation/Mud Resistivity	2 – 200 ohmm for optimal short-hopping		
Vibration	Max 20 grms, 50 – 100 Hz		
Shock	Max 500 G, 0.5ms (z-axis), 1000 G, 0.5ms (x- or y-axis)		
RUNNING BELOW A MUD MOTOR[1]			
Max Bend Setting	1.50˚	1.50˚	
Max DLS Rotating	8˚/100 ft.	6˚/100 ft.	
Max Surface RPM	60	60	
Max Mud Motor RPM	180	180	

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