

SpectraView®

LWD Spectral and Azimuthal Gamma Ray

Unlock the full value of natural Gamma Ray measurement by extracting information encoded in its spectrum and azimuthal distribution.

Highlights

Elemental concentration of potassium (K), uranium (U) and thorium (Th) in the formation around borehole as well as azimuthally-binned images derived from SpectraView measurements bring value to numerous workflows and applications.

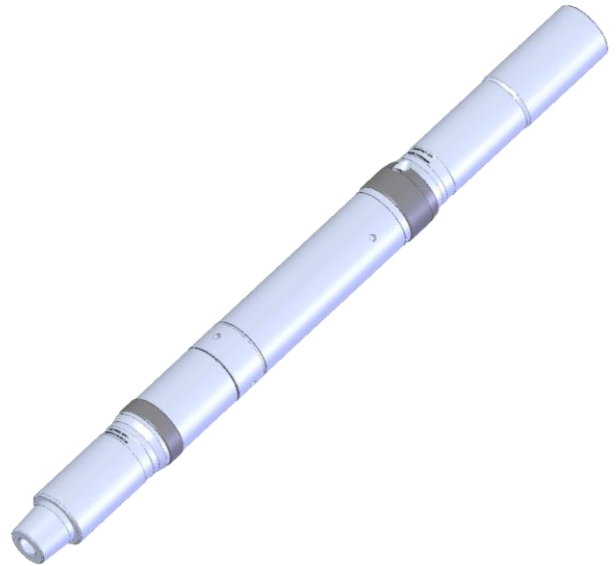
SpectraView tool is memory based, runs on its own battery power, with standard API mechanical connections, allowing it to be included in any BHA.

Proprietary acquisition scheme allows for extreme flexibility of post-processing parameters and optimization of the output for specific application.

Proprietary gain stabilization methodology does not use radioactive sources

Applications

- Lithology determination
- Sedimentology
- Unconformity detection
- Pay zone identification
- Completion optimization
- Cross-well communication



Deliverables

- Standard API calibrated Total Gamma Ray
- Azimuthally binned Gamma Ray images
- K, U, and Th elemental concentrations
- Azimuthally binned elemental concentration images
- RPM statistics and tool face
- 3-axis vibration, stick-slip and whirl
- Temperature

Complementary Companion Services

- **FracView®**
LWD Borehole Imager and Caliper
- **DrillView®**
Drilling Conditions Monitor
- **DeepView®**
Extreme size DLIS Log Viewer
- **Interpretation Services**

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Measurement and Performance Specifications

PARAMETER	SPECIFICATION			
	Potassium	Thorium	Uranium	GR Counts
Measurement Range (*)	0 – 20%	0 – 300 ppm	0 – 300 ppm	0 – 1200 gAPI
Measurement Accuracy (**)	Larger of 0.2% weight – fraction or 5% reading	Larger of 0.5 ppm or 5% of reading	Larger of 0.5 ppm or 5% of reading	Larger of 2 gAPI or 5% of reading
Repeatability/ Precision (**)	0.25% weight-fraction rms	2.2 ppm rms	1.3 ppm rms	1.7% rms
Azimuthal GR	Binning GR counts into 2, 4, 8, or 16 bins			
Gain Stabilization	Source-less, using a proprietary gain compensation methodology			
Orientation	High-side, Magnetic			
Radial and Axial Acceleration	Range	±40g, 240 Hz (-3dB BW)		
Torsional Acceleration	Range	±2,500 rad/s ² , 240 Hz (-3dB BW)		
RPM	Range	±5,000 RPM		
Temperature Measurement	Sensor Range	-40 to 190°C		
	Accuracy	±1.5°C		
	Precision	0.02°C rms		
Data Recording	Nominal 200 hours			
Power Source	Internal batteries			

Mechanical and Environmental Specifications

PARAMETER	475	675
Nominal Collar OD, in. (mm)	4.75 (120.7)	6.75 (171.5)
Maximum Collar OD, in. (mm)	5.25 (133.4)	7.25 (184.2)
	5.59 (142.0) with spiral fins	
Mud Flow Channel ID, in. (mm)	1.25 (31.8)	2.00 (50.8)
Tool Length, in. (mm)	112 (2844.8)	81.1 (2059.9)
Tool Weight, lbs	490	715
Connections	NC40, Box-Box	NC50, Box-Pin
Make-up Torque, ft-lb	12,000	30,000
Maximum Compression, lbf	200,000	400,000
Maximum Torque, ft-lb	20,000	50,000
Overpull w/o rotation, operational, lbf	400,000	750,000
Max DLS rotating, deg / 100 ft	15	10
Max DLS sliding, deg / 100 ft	30	21
Max Mud Flow Rate, GPM (< 2% sand)	350	750
Max Operating Temperature, °F (°C), standard	302 (150)	302 (150)
	high	329 (165)
	extreme	347 (175)
Maximum Operating Pressure, PSI	20,000	20,000

(*) based on typical concentrations observed

(**) standard 100 gAPI shale (2% K, 12 ppm Th, 6 ppm U) using 20 second averaging window, homogeneous formation, centralized within borehole