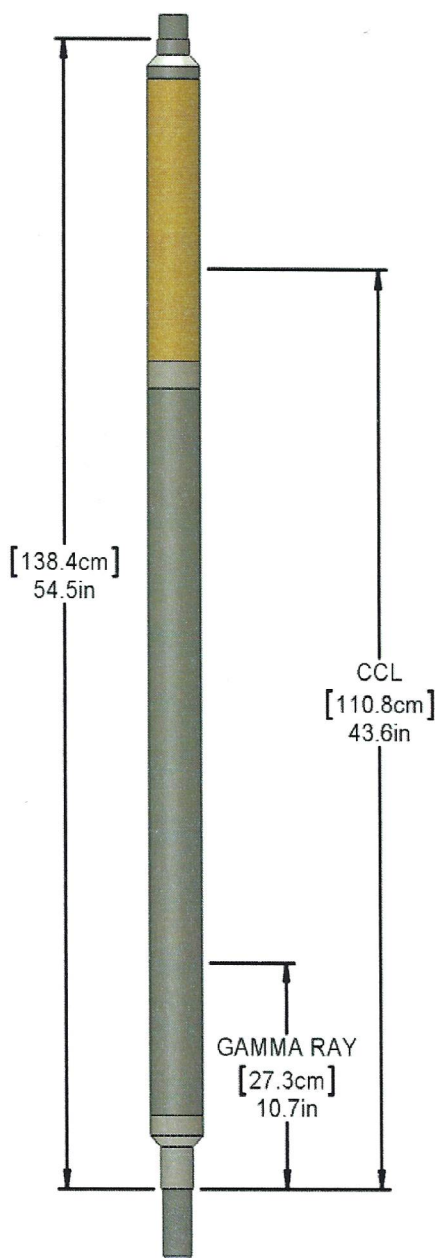


2.75 in. Gamma Ray-CCL Tool

Tool Part Number: 050-GR275-0001



DIMENSIONS AND RATINGS

Max Temp: 350°F (177°C) for 4 hr.	Max Press: 20,000 psi (137,895 Kpa)
Max OD: 2.75 in. (6.98 cm)	Min Csg/Tbg ID: 4.5 in (11.5 cm)
Length*: 4.54 ft (1.38 m)	Max Csg/Tbg OD: 7.0 in (17.8 cm)
Weight: 55 lb. (25.0 kg)	

BOREHOLE CONDITIONS

Borehole Fluids: Salt ■ Fresh ■ Oil ■ Air ■
Recommended Logging Speed: 60 ft (18.2m)/min: max. 100ft (30.5m)/min.at 0.08 ft (.02 m)sample rate
Tool Positioning: Centralized ■ Eccentralized ■

HARDWARE CHARACTERISTICS

	Gamma Ray	Collar Locator
Sensor Type:	Thallium Activated Sodium Iodide Crystal	Dual Magnet, Center Coil
Transmission Type:	Analog Pulse or Telemetry	Line Wobble or Telemetry
Telemetry Data Rate:	20 frames / sec @ 20 kHz	
Combinability:	Radii CBT, CBT, Temperature, CNT	

MEASUREMENT

	Gamma Ray	Collar Locator
Principle	Natural Gamma Radiation	Magnetic Flux Lines
Range	0-10,000 cps	4.5 in. to 7.0 in (11.5 cm to 17.8 cm)
Vertical Resolution	6 in (15.25 cm)	N/A
Depth of Investigation	N/A	N/A
Accuracy (1 SD):	± 5%	N/A
Sensitivity:	≈ 1.5 cps per API Unit	N/A
Primary Curves	GR (API)	CCL (mV)
Secondary Curves	Head Voltage, Internal Temperature (Telemetry Only)	

CALIBRATION

Primary:	Houston API Pits
Wellsite Verifier:	Thorium Blanket

PHYSICAL STRENGTHS*

Hardware	Tension	Compression	Torque
Tool Joints	65,000 lb	130,000 lb	150 ft-lb

* Strengths apply to new tools at 70°F (21°C) and 0 psi.

MEASURE POINTS

Measurement	Measure Point (Referenced from bottom of tool)
Gamma Ray	0.89 ft. (0.273 m)
Collar Locator	3.63 ft. (0.111 m)