



GORDON

TECHNOLOGIES

"Providing Innovation with Excellence"

AZIMUTHAL GAMMA RAY SPECIFICATIONS

THE HIGHEST CONTRAST RETRIEVABLE SENSOR ON THE MARKET.

- Market-leading 23:1 Front to Back ratio as compared to the typical off-the-shelf 2:1.

DUAL GAMMA MEASUREMENTS

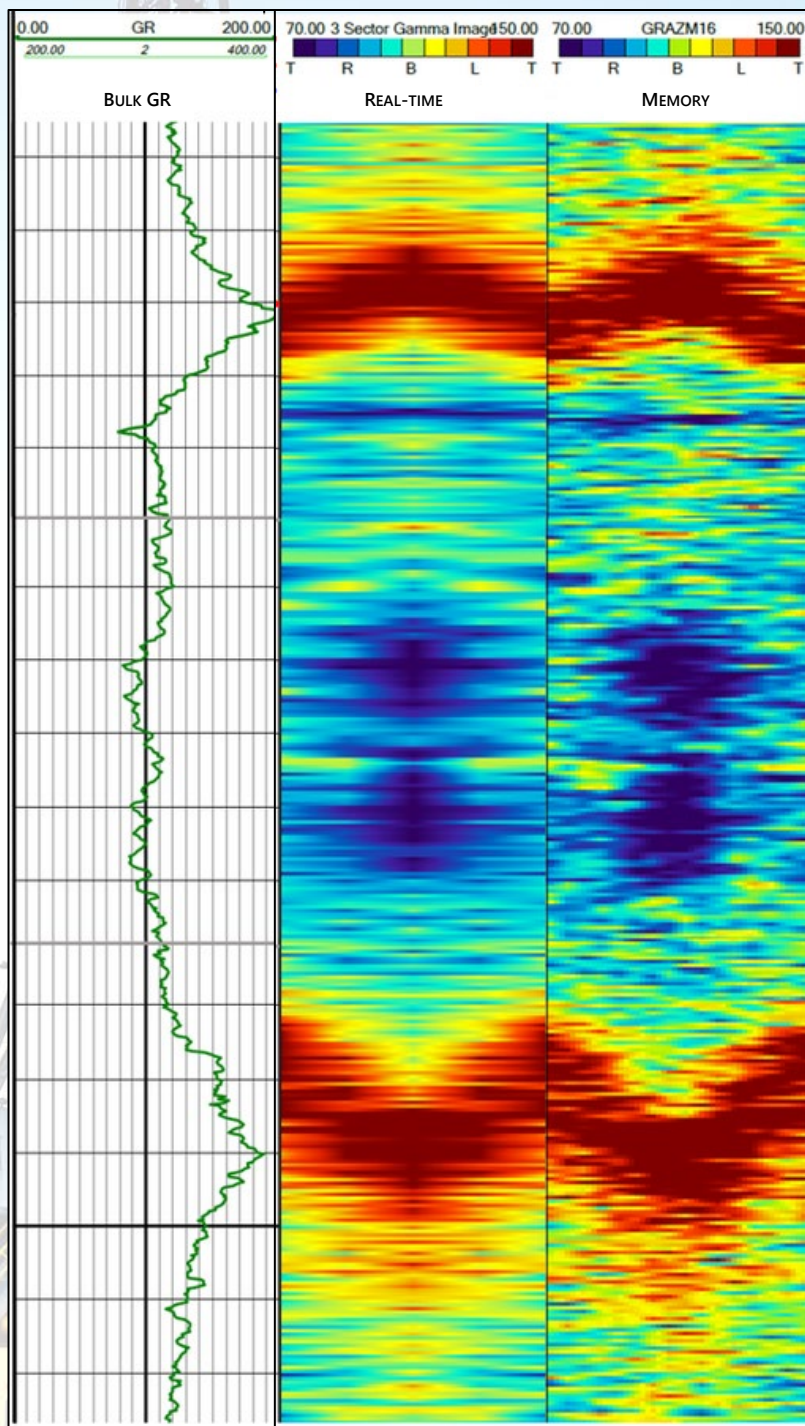
- Gordon's AGR is coupled with our standard bulk gamma sensor to enhance geo-steering decision-making while sliding or rotating.

RETRIEVABLE DESIGN

- Gordon's engineering team was able to balance sensor design with operators' needs to provide a sensor that is retrievable in a 6.75" BHA.
- 6.75" AGR collars feature high-torque, double-shouldered connections and a focused gamma window for improved resolution.

CUSTOM LOG-PLOTTING SOFTWARE IS STANDARD

- Dedicated software with customizable color palettes and available real-time logging updates will help you make the most informed geo-steering decisions on the fly.



ELECTRONICS

GAMMA SENSOR

- **Detector Type:** Scintillator Crystal/Photo-Multiplier Tube
- **Operating Temperature:** -50°C to 177°C
- **Survival Temperature:** 200°C
- **Vibration Survivability:** 30G, 50 to 250 Hz random
- **Sensitivity:** ~.37 ct/API
- **Accuracy:** +/- 3% count rate change over the full temperature scale
- **Gain Stabilization:** Open Loop Gain Temperature Compensation
- **API calibrated**

AZIMUTHAL CONTROLLER

- **Operating Temperature:** -25°C to 150°C
- **Survival Temperature:** 175°C
- **Communication:** qMix or CAN
- **Memory:** 150-200 hours of continuous recording
- **Inputs:** Up to 3 simultaneous gamma sensor inputs
- **Dual-Use Controller:** Operates as both a DM and AGR Controller
- **Environmental Lifetime Tracking**
- **HASS tested**

DATA

REAL-TIME

- 4-sector image, Up and Down Curves, and Bulk Gamma
- Total Gamma measurement
- **Timing:** 24 to 25 seconds for a 4-sector image with bulk gamma (at 0.375 data rate)
- **Logging:** Image plotting provided by dedicated software with customizable color palette
- **Data Compression:** 8-sectors and Bulk Gamma sent in 27 bits

MEMORY

- 16-sector image
- **Resolution/Capture Frequency:** 10 seconds

BHA

6-3/4"

- Max Flow Rate: 740 GPM (flow area restricted)
- Collar ID: 3 3/4"
- Retrievable: Yes
- Connection Compatibility: 4 1/2" IF
- Features High-Torque, Double-Shoulder Connections

Sample BHA:

#	BHA Component	Connection (Top Bttm.)	Nominal OD	Nominal ID (Top Bttm.)	MUT (Top Bttm.) [kft-lb]
6	Rental NMDC	4-1/2" IF 4-1/2" IF	6-3/4"	3-3/4" 3-3/4"	28 28
5	AGR Fin Cutter Sub	4-1/2" IF XT54	6-3/4"	3-3/4" 3-3/4"	28 55
4	AGR NMDC	XT54 XT54	6-3/4"	3-3/4" 3-3/4"	55 55
3	AGR UBHO	XT54 4-1/2" IF	6-3/4"	4-1/8" 2-1/2"	55 33
2	Motor	4-1/2" IF 4-1/2" REG	--	--	--
1	Bit	--	--	--	--

4-3/4"

- Max Flow Rate: 400 GPM (flow area restricted)
- Collar ID: 3 1/4"
- Retrievable: No
- Connection Compatibility: 3 1/2" IF

Sample BHA:

#	BHA Component	Connection (Top Bttm.)	Nominal OD	Nominal ID (Top Bttm.)	MUT (Top Bttm.) [kft-lb]
6	Rental NMDC	3-1/2" IF 3-1/2" IF	4-3/4"	2-11/16" 2-11/16"	9 9
5	AGR NMDC (BxB)	3-1/2" IF 3-1/2" IF	4-3/4"	3-1/4" 3-1/4"	9 9
4	AGR Pony (PxP)	3-1/2" IF 3-1/2" IF	4-3/4"	2-11/16" 2-11/16"	9 9
3	AGR UBHO	3-1/2" IF 3-1/2" IF	4-3/4"	3-7/16" 2-3/8"	9 9
2	Motor	3-1/2" IF 3-1/2" REG	--	--	--
1	Bit	--	--	--	--