

BOREHOLE PROFILE LOG

BOREHOLE PROFILE LOG									
COMPANY			GRAND MESA OPERATING COMPANY						
WELL			DADO 2-21						
FIELD			GUTRU						
COUNTY			LINCOLN						
STATE			COLORADO						
LOCATION			950' FNL & 1387' FWL SEC. 21 TWP 7S-55W						
SEC 21	TWP 7S	RGE 55W	Other Services		COMPENSATED SONIC				
Latitude	39.42989		ARRAY INDUCTION		NEUTRON				
Longitude	-103.550292		COMPACT IMAGER						
API Number	05-073-06770		MICRO LOG						
Permanent Datum GL, Elevation 5462 feet					Elevations:				
Log Measured From KB, 19.00 feet above Permanent Datum					KB 5481.00				
Drilling Measured From KB					DF 5480.00				
					GL 5462.00				
Date	16-MAR-2020								
Run Number	ONE								
Service Order	T8-201503								
Depth Driller	8559.00				feet				
Depth Logger	8554.00				feet				
First Reading	8511.00				feet				
Last Reading	478.00				feet				
Casing Driller	484.00				feet				
Casing Logger	478.00				feet				
Bit Size	7.875				inches				
Hole Fluid Type	WBM								
Density / Viscosity	9.20 lb/USg		75.00 sec/qt						
PH / Fluid Loss	10.00		5.60 ml/30Min						
Sample Source	FLOWLINE								
Rm @ Measured Temp	0.67 @101.0				ohm-m				
Rmf @ Measured Temp	0.50 @101.0				ohm-m				
Rmc @ Measured Temp	0.83 @101.0				ohm-m				
Source Rmf / Rmc	CALC		CALC						
Rm @ BHT	0.33 @209.0				ohm-m				
Time Since Circulation	5 HOURS								
Max Recorded Temp	209.00		deg F						
Equipment / Base	11008		MIDLAN						
Recorded By	HECTOR GARCIA				MARIO JOHNSON				
Witnessed By	GARET DINKEL								
Rig	WW DRILLING								

BOREHOLE RECORD

Last Edited: 16-MAR-2020 21:15

Bit Size inches	Depth From feet	Depth To feet
7.875	478.00	8554.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
CASING	8.625	0.00	478.00	24.00

REMARKS

PRIMARY SERVICES ACQUIRED: MCG: GAMMA RAY
MDN: DUAL NEUTRON
MPD: PHOTO DENSITY
MAI: ARRAY INDUCTION
MFE: FOCUSED ELECTRIC
MML: MICROLOG
MSS: COMPENSATED SONIC
CMI: COMPACT IMAGER

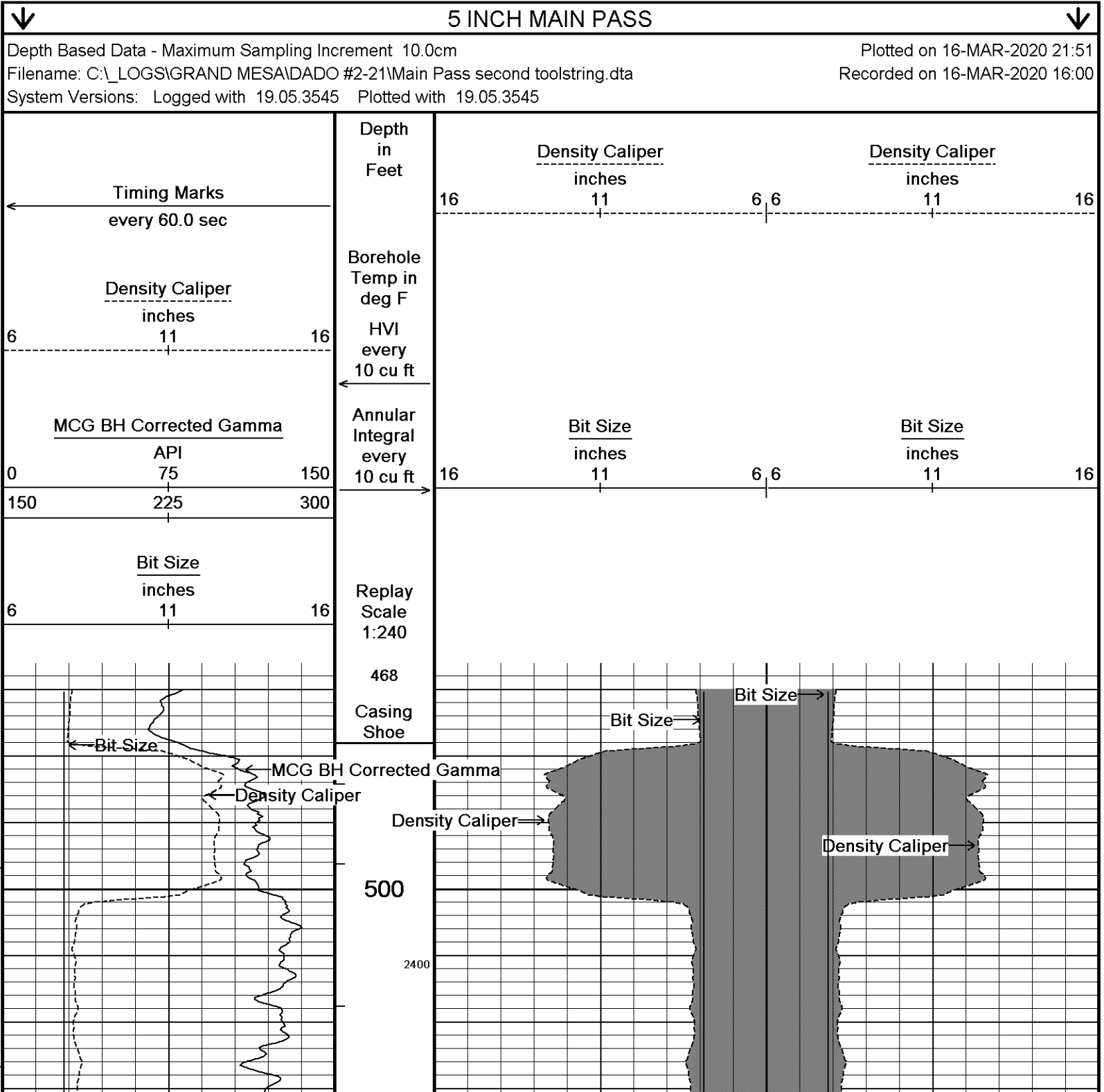
HARDWARE USED: MPD: 8 inch PROFILE PLATE
MDN: DOUBLE BOWSPRING.
MIM: OVERBODY CENTRALISER

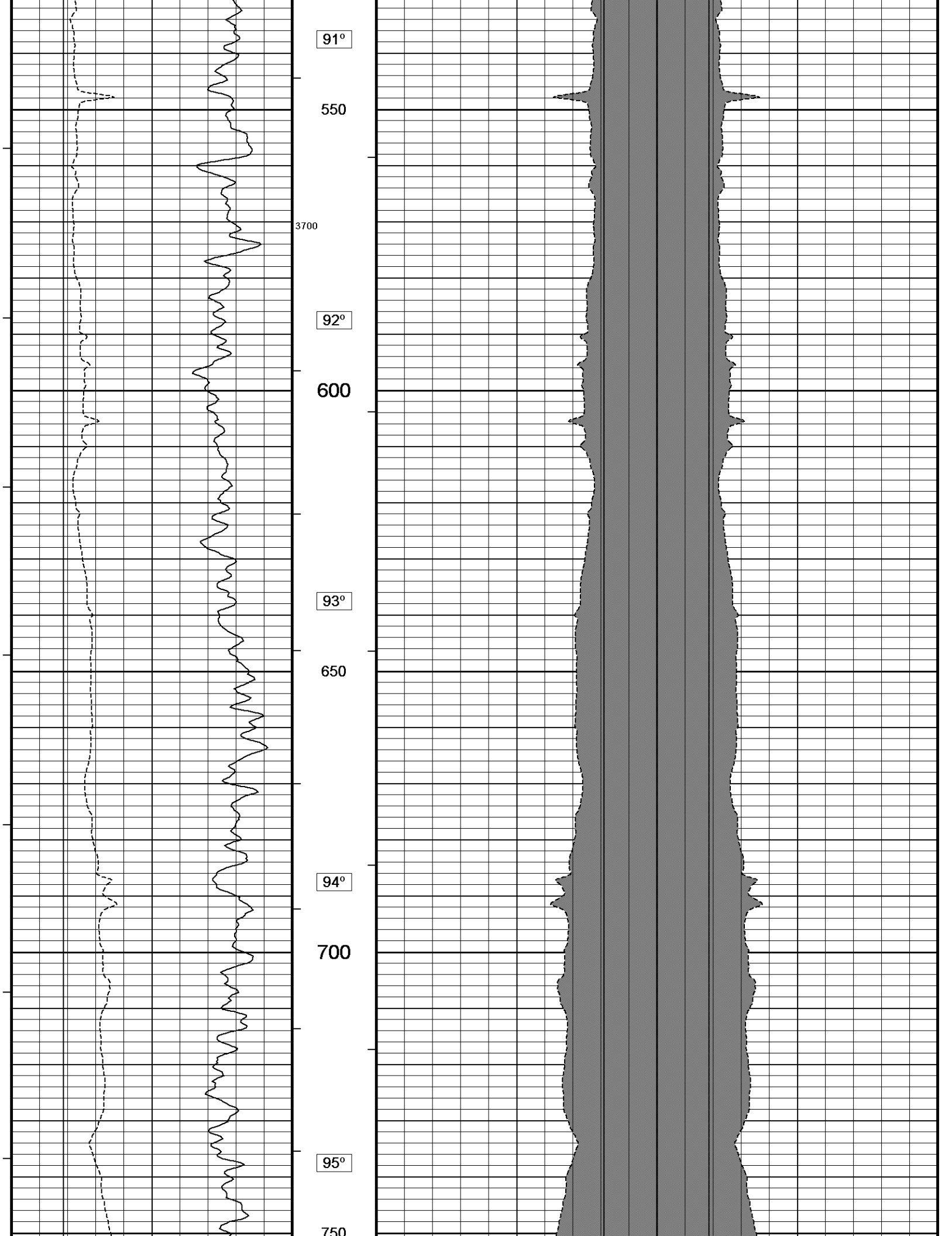
2.71 G/CC DENSITY MATRIX WAS USED TO CALCULATE POROSITY.

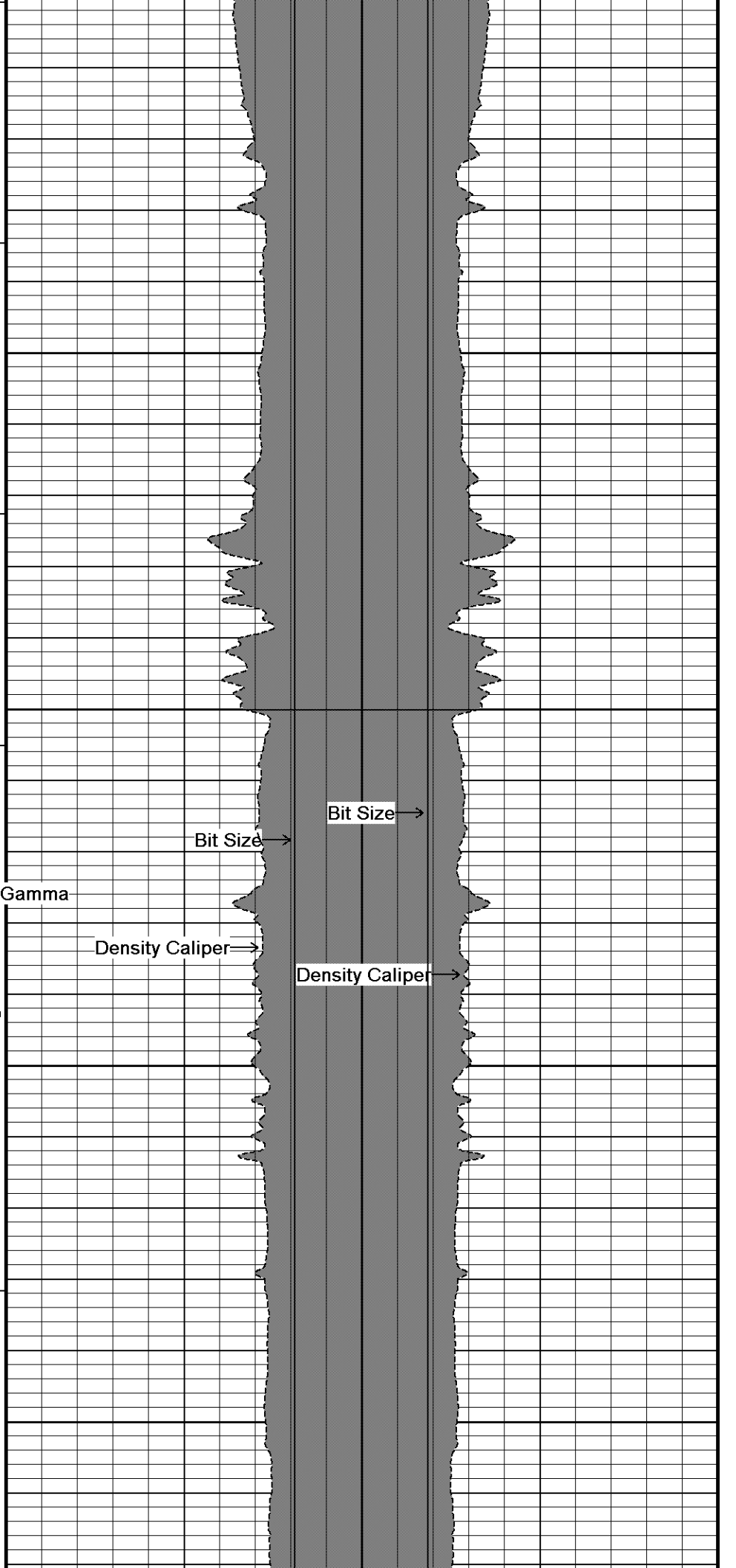
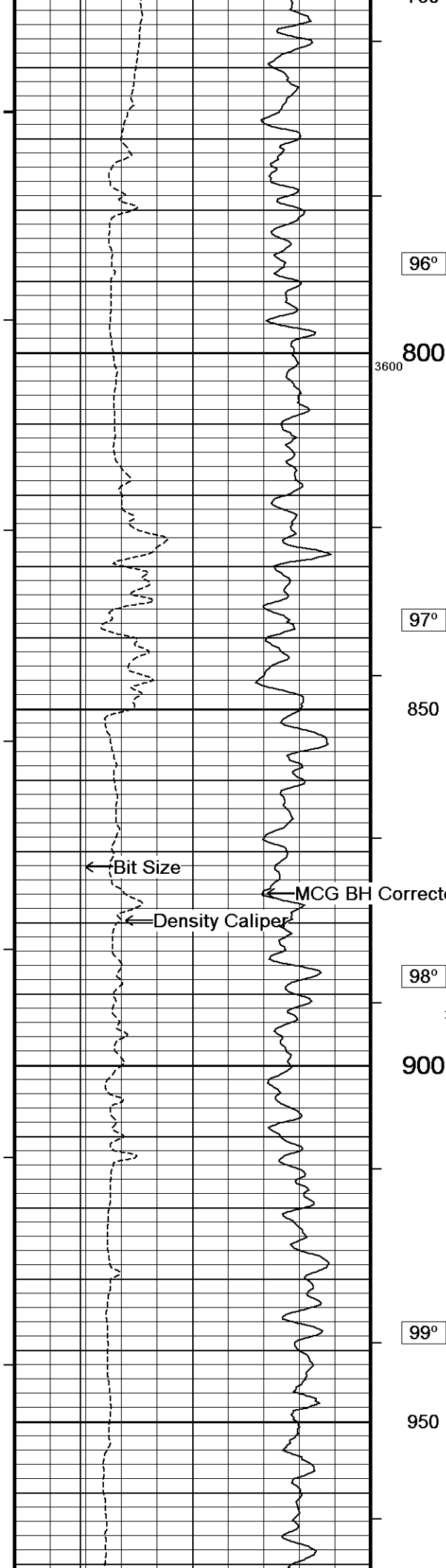
ANNULAR HOLE VOLUME CALCULATED FOR FUTURE CASING SIZE OF 5.5 inches.

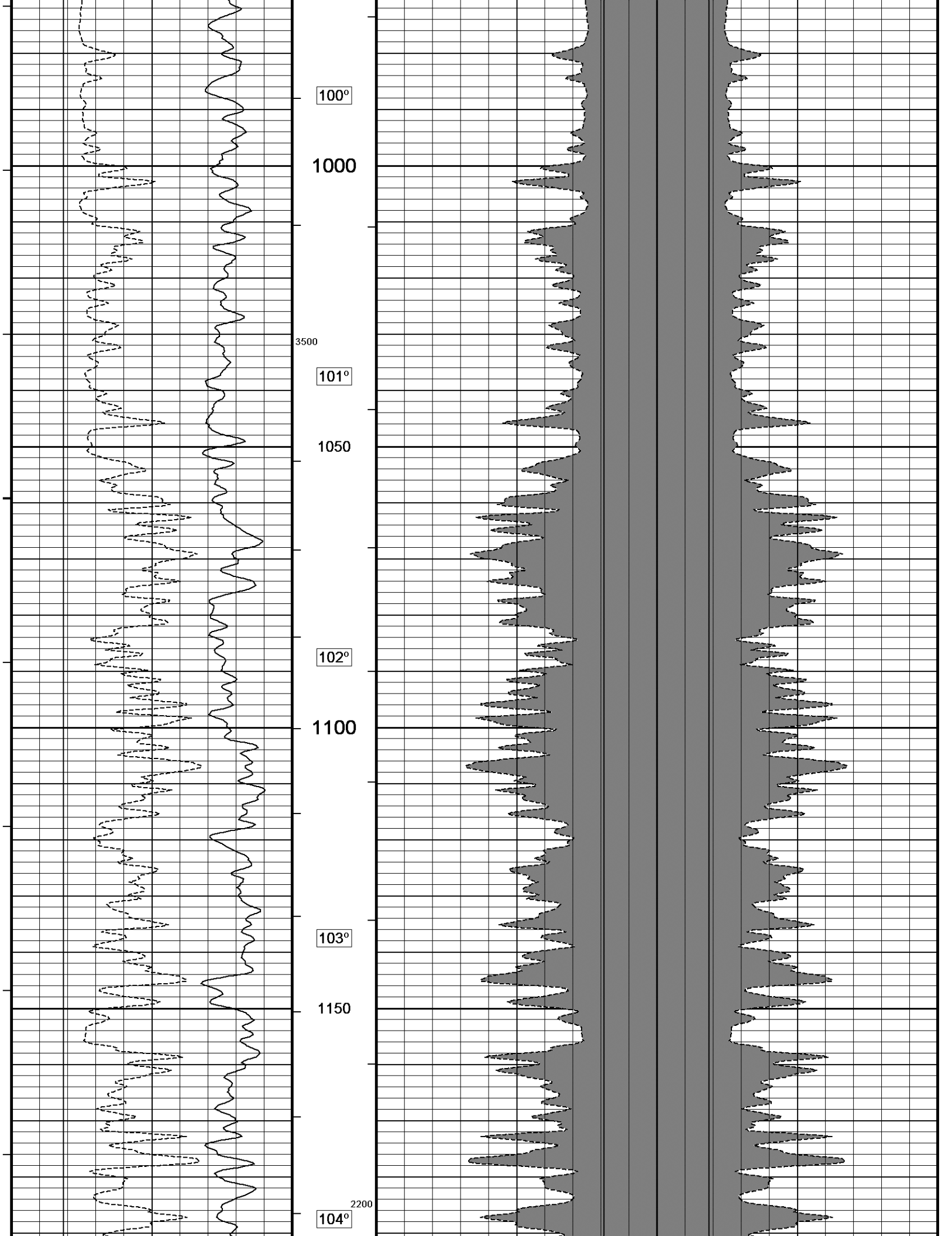
ANNULAR AND HOLE VOLUMES CALCULATED FROM DENSITY CALIPER MEASUREMENTS.

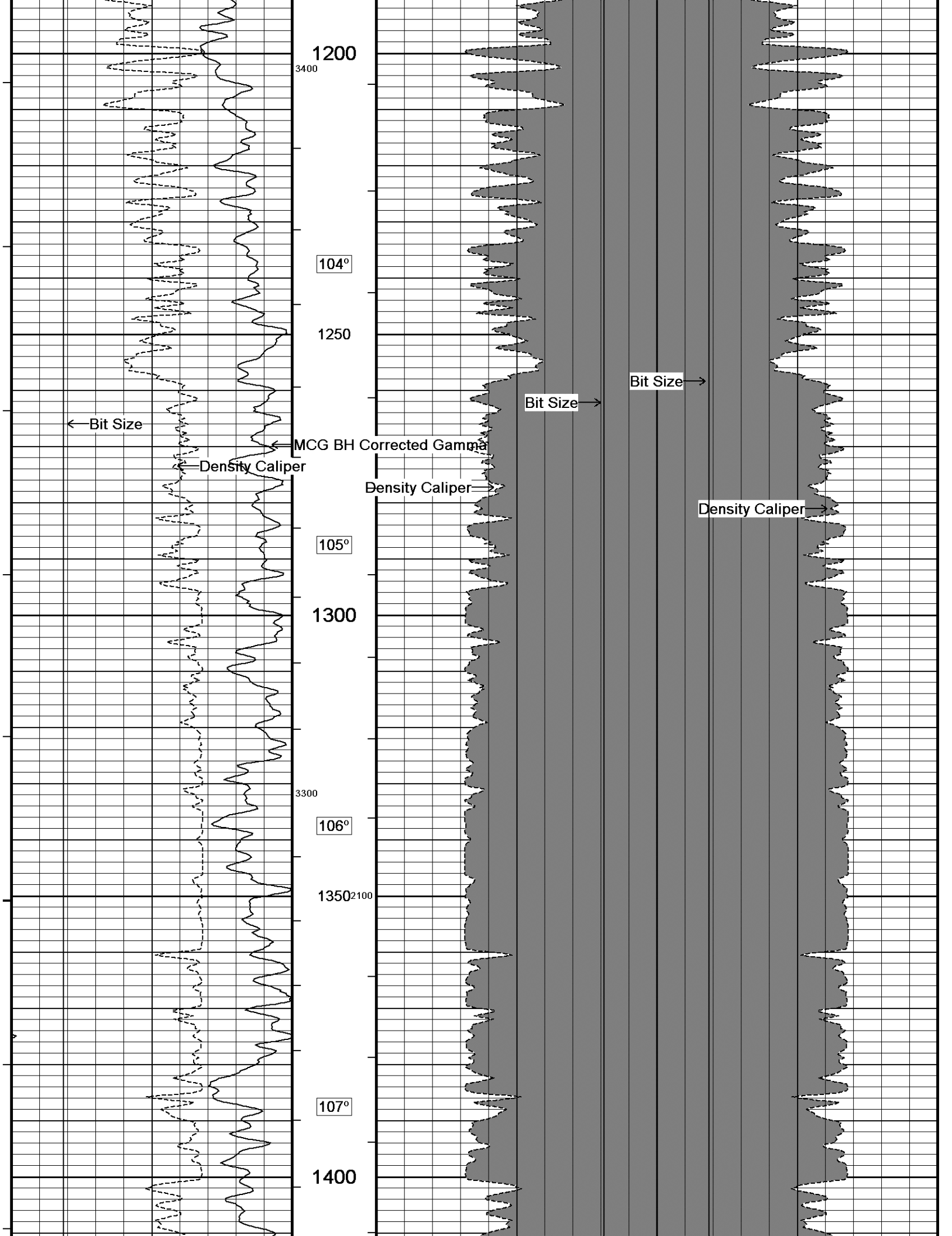
In interpreting, communicating or providing information and/or making recommendations, either written or oral, as to logs or test or other data, type or amount of material, or Work or other service to be furnished, or manner of performance, or in predicting results to be obtained, the Contractor will give the Company the benefit of the Contractor's best judgment based on its experience and will perform all such Work in a good and workmanlike manner. Any interpretation of test or other data, and any recommendation or reservoir description based upon such interpretations, are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and assumptions are not infallible, and with respect to which professional engineers and analysts may differ. ACCORDINGLY ANY INTERPRETATION OR RECOMMENDATION RESULTING FROM THE SERVICES WILL BE AT THE SOLE RISK OF THE COMPANY, AND THE CONTRACTOR CANNOT AND DOES NOT WARRANT THE ACCURACY, CORRECTNESS OR COMPLETENESS OF ANY SUCH INTERPRETATION OR RECOMMENDATION, WHICH INTERPRETATIONS AND RECOMMENDATIONS SHOULD NOT, THEREFORE, UNDER ANY CIRCUMSTANCES BE RELIED UPON AS THE SOLE OR MAIN BASIS FOR ANY DRILLING, COMPLETION, WELL TREATMENT, PRODUCTION OR FINANCIAL DECISION, OR ANY PROCEDURE INVOLVING ANY RISK TO THE SAFETY OF ANY DRILLING ACTIVITY, DRILLING RIG OR ITS CREW OR ANY OTHER INDIVIDUAL. THE COMPANY HAS FULL RESPONSIBILITY FOR ALL DECISIONS CONCERNING THE SERVICES.

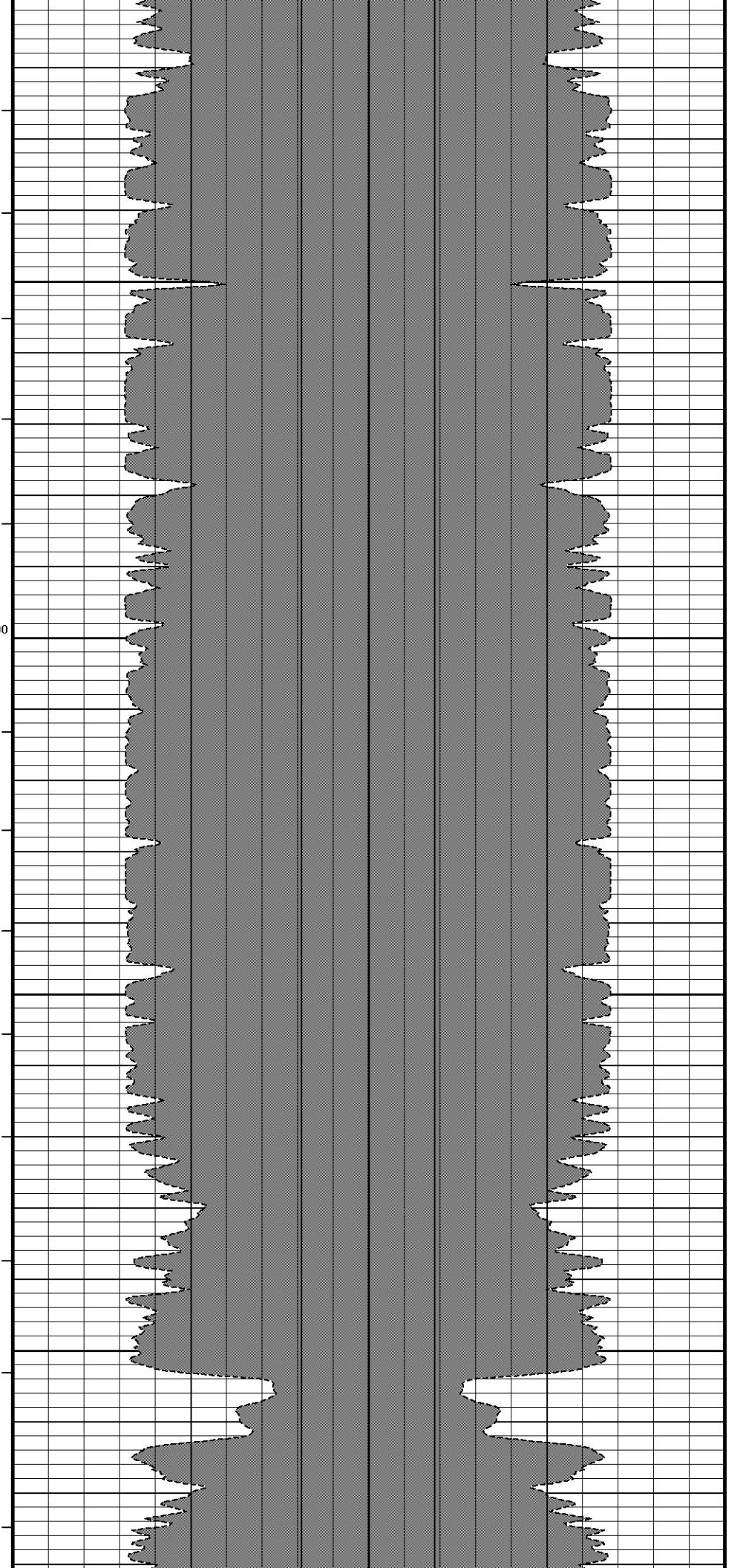
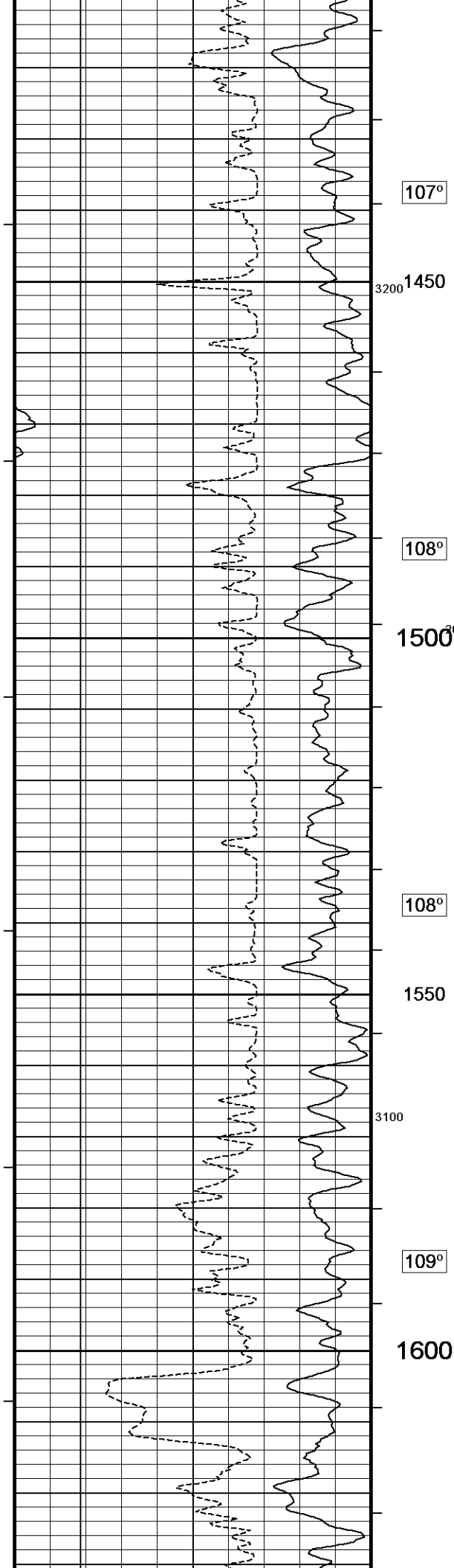


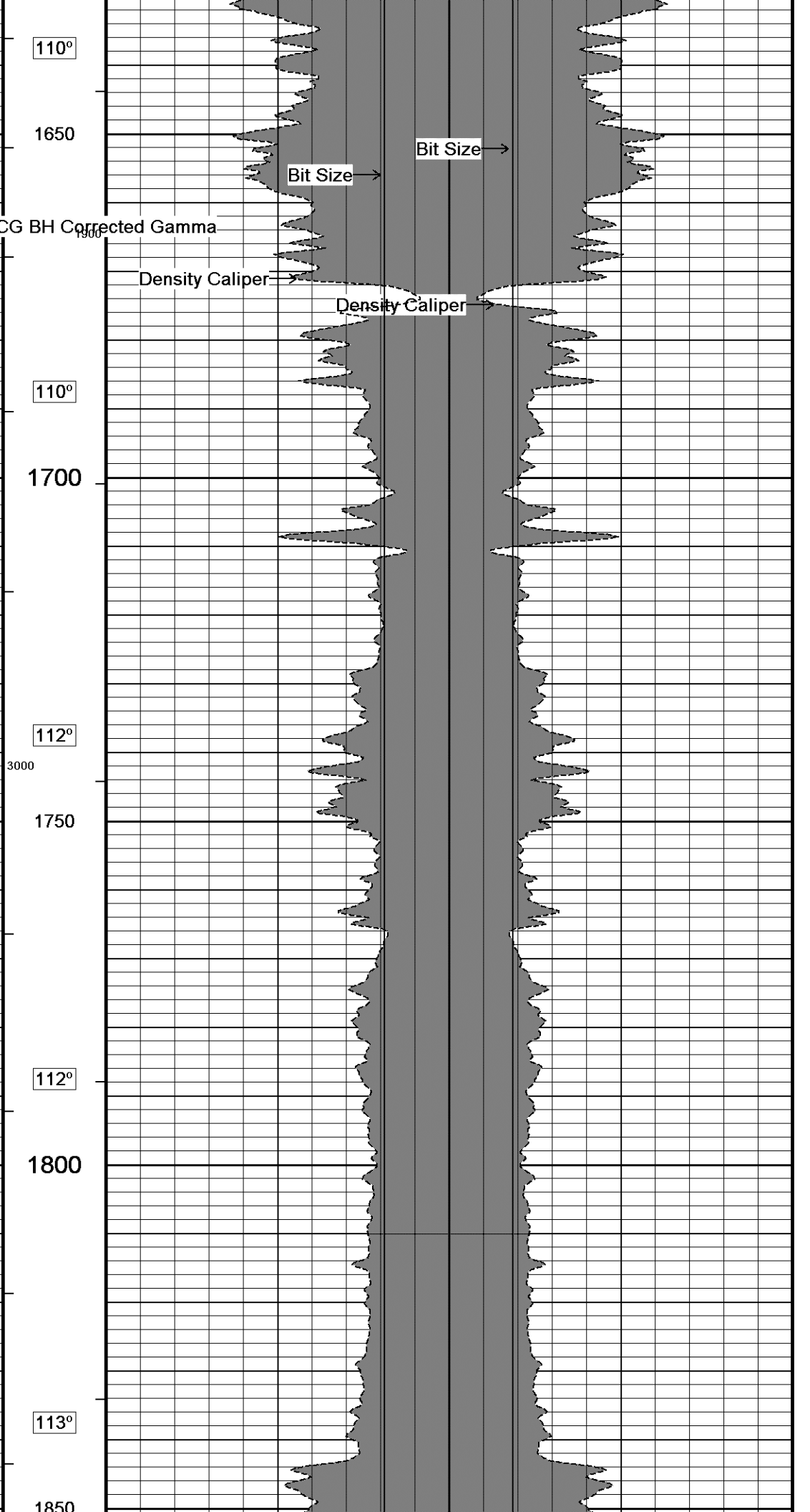
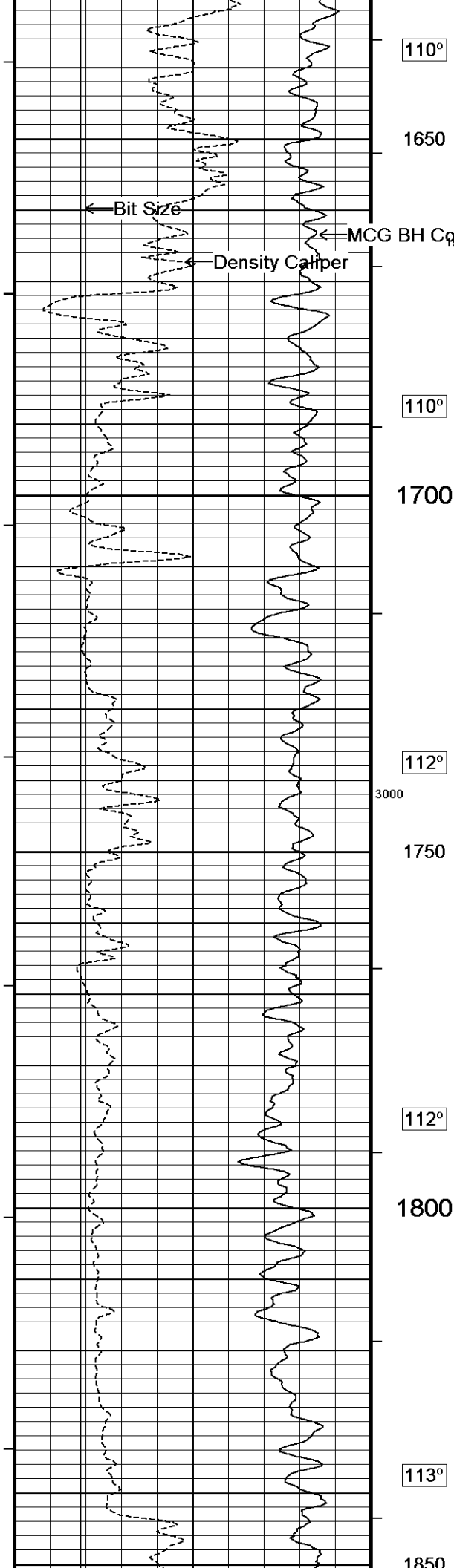


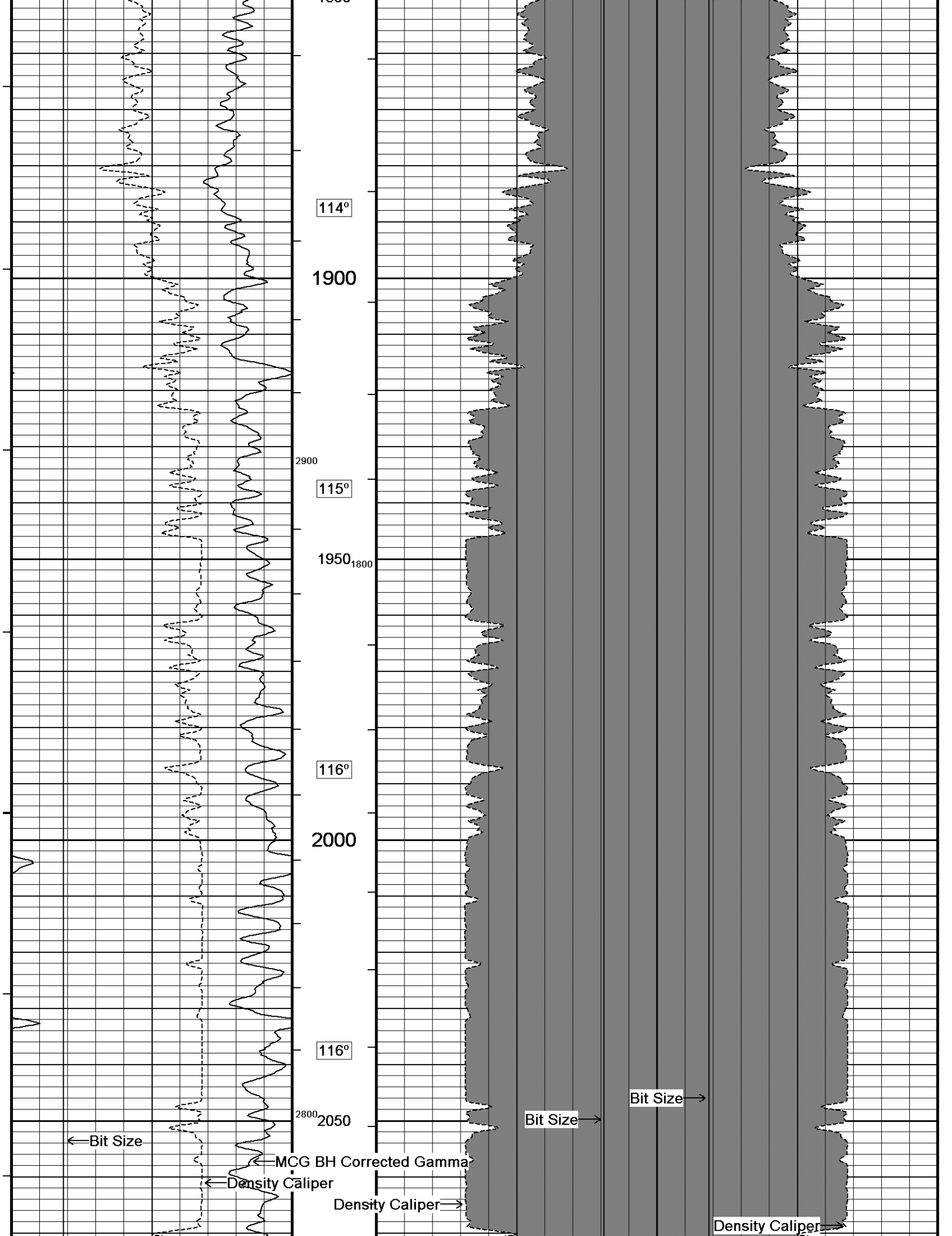


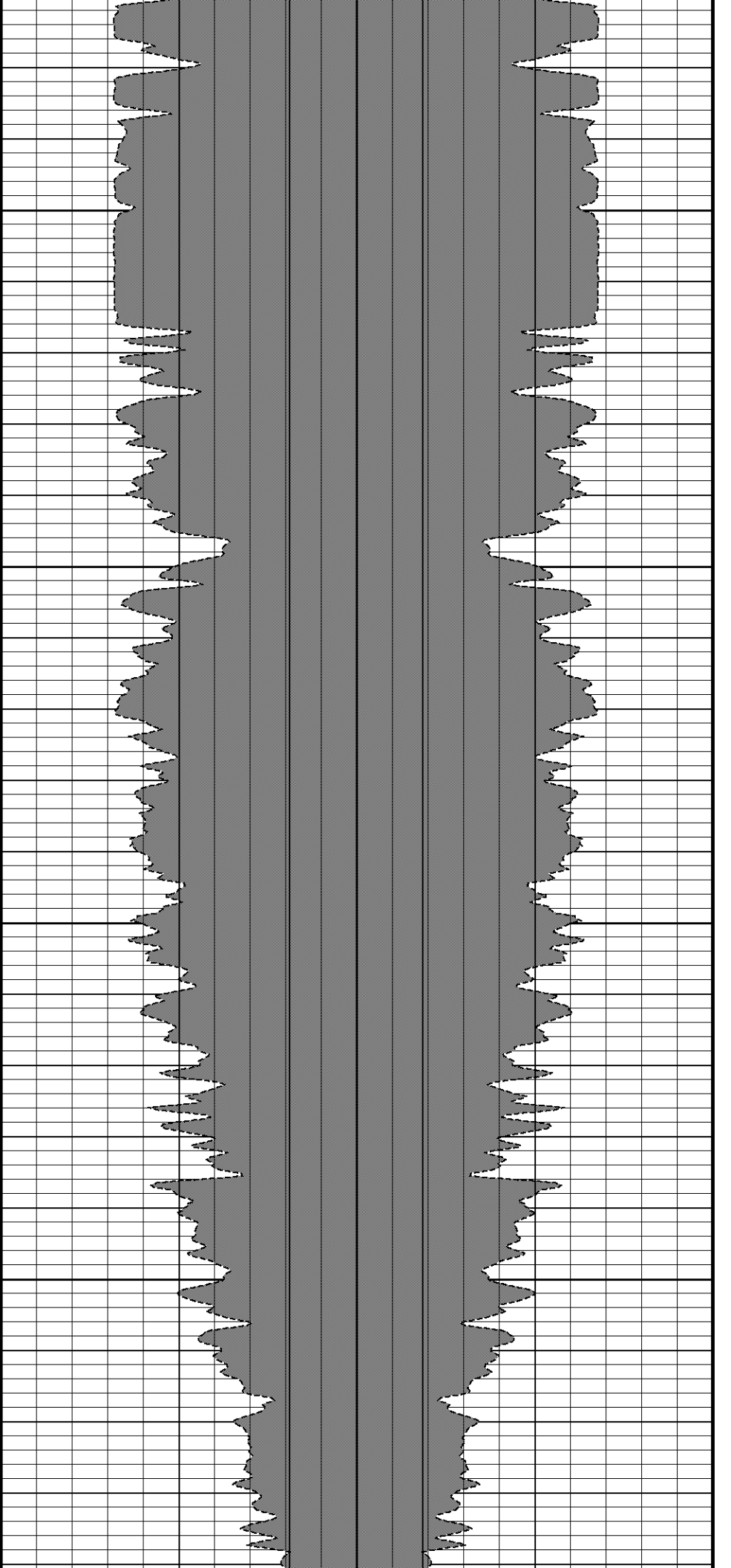
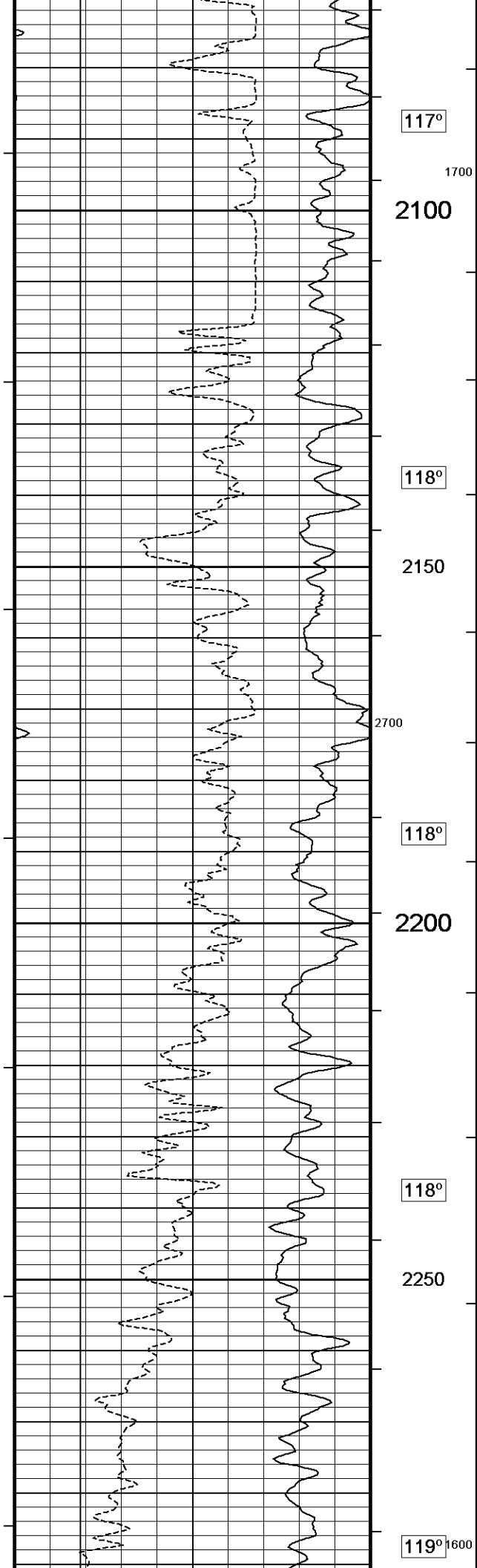


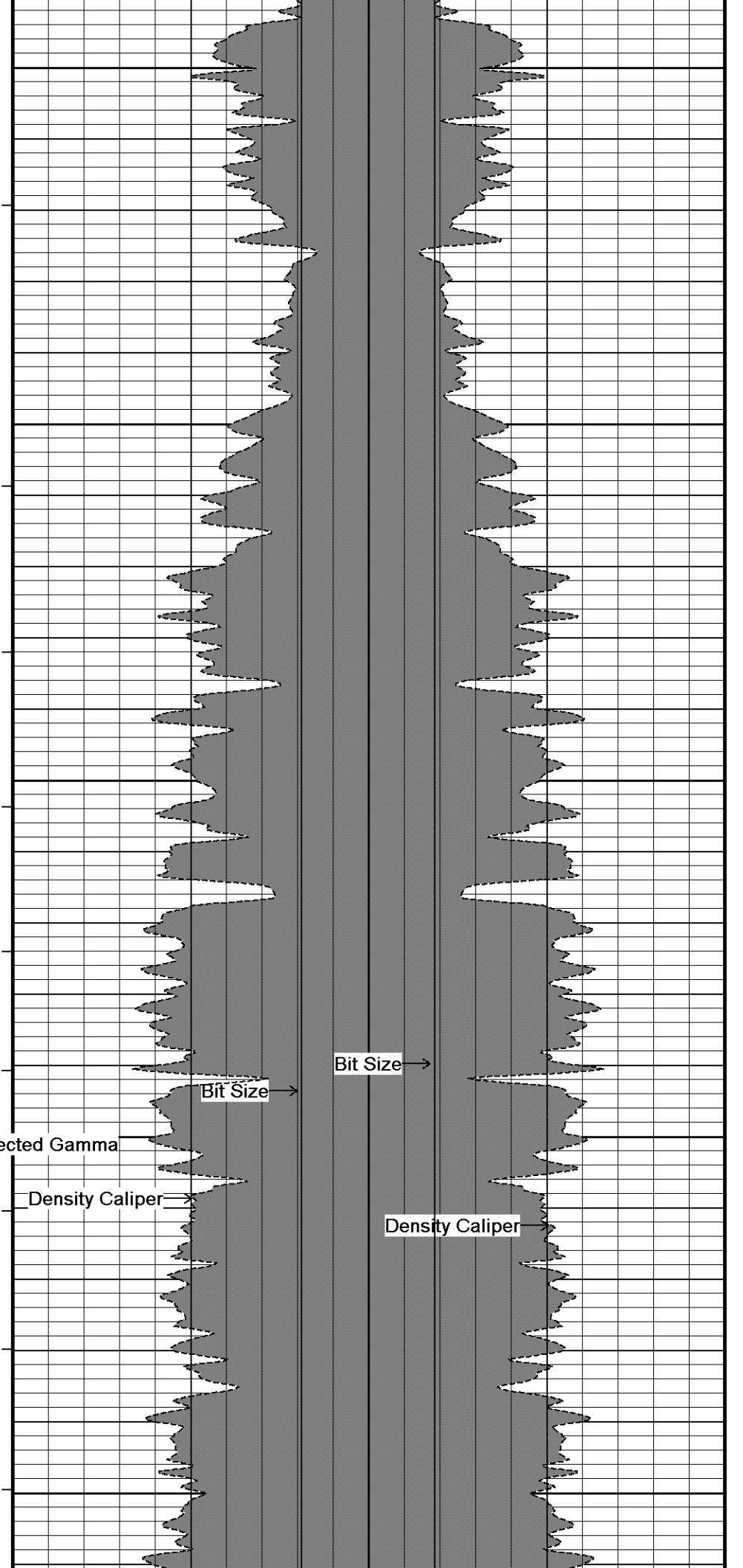
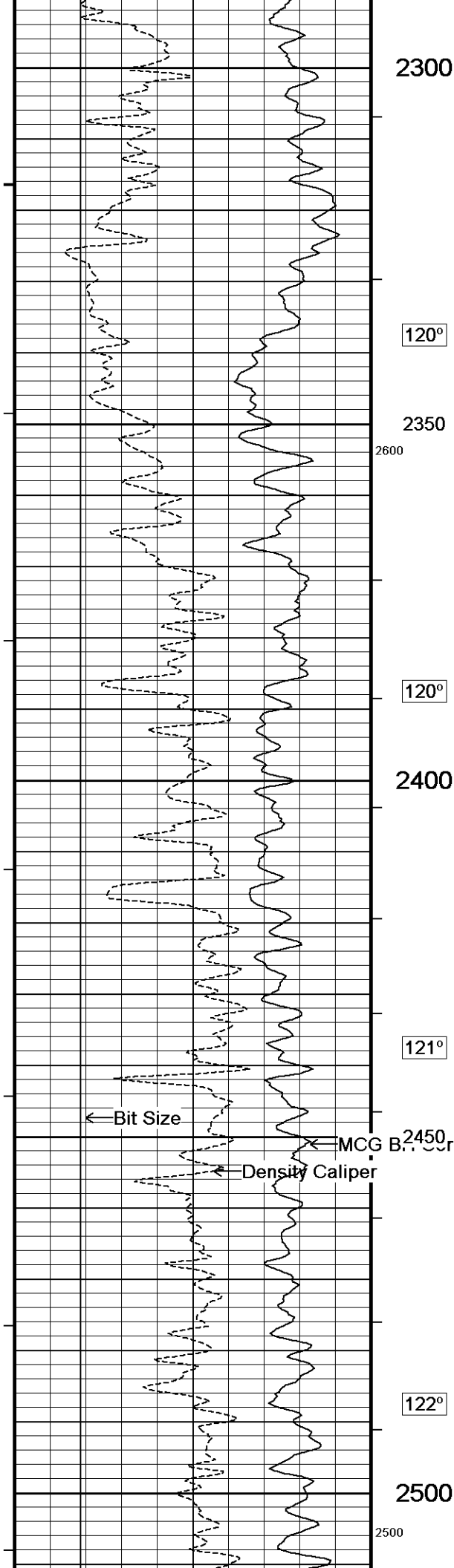


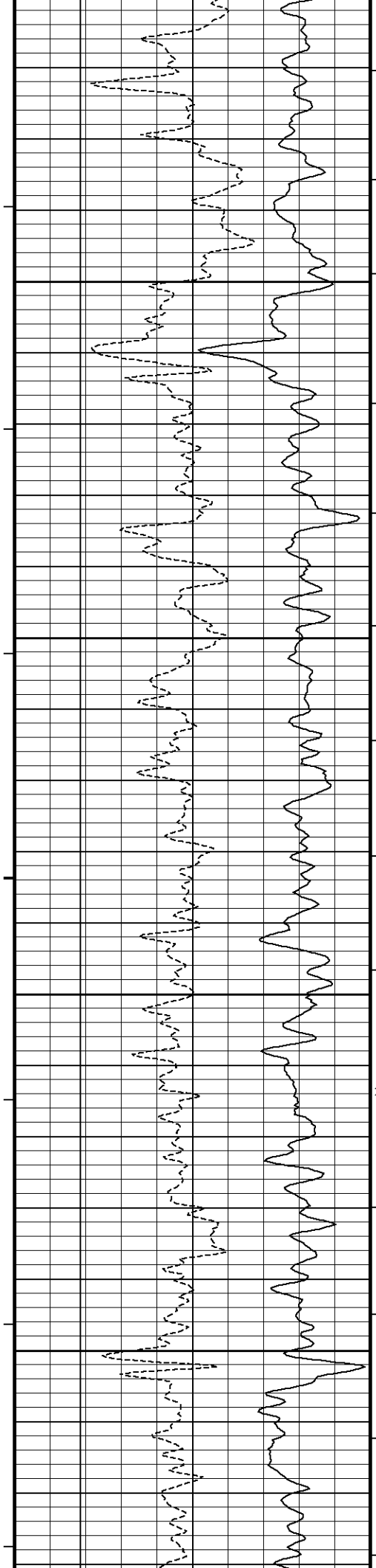




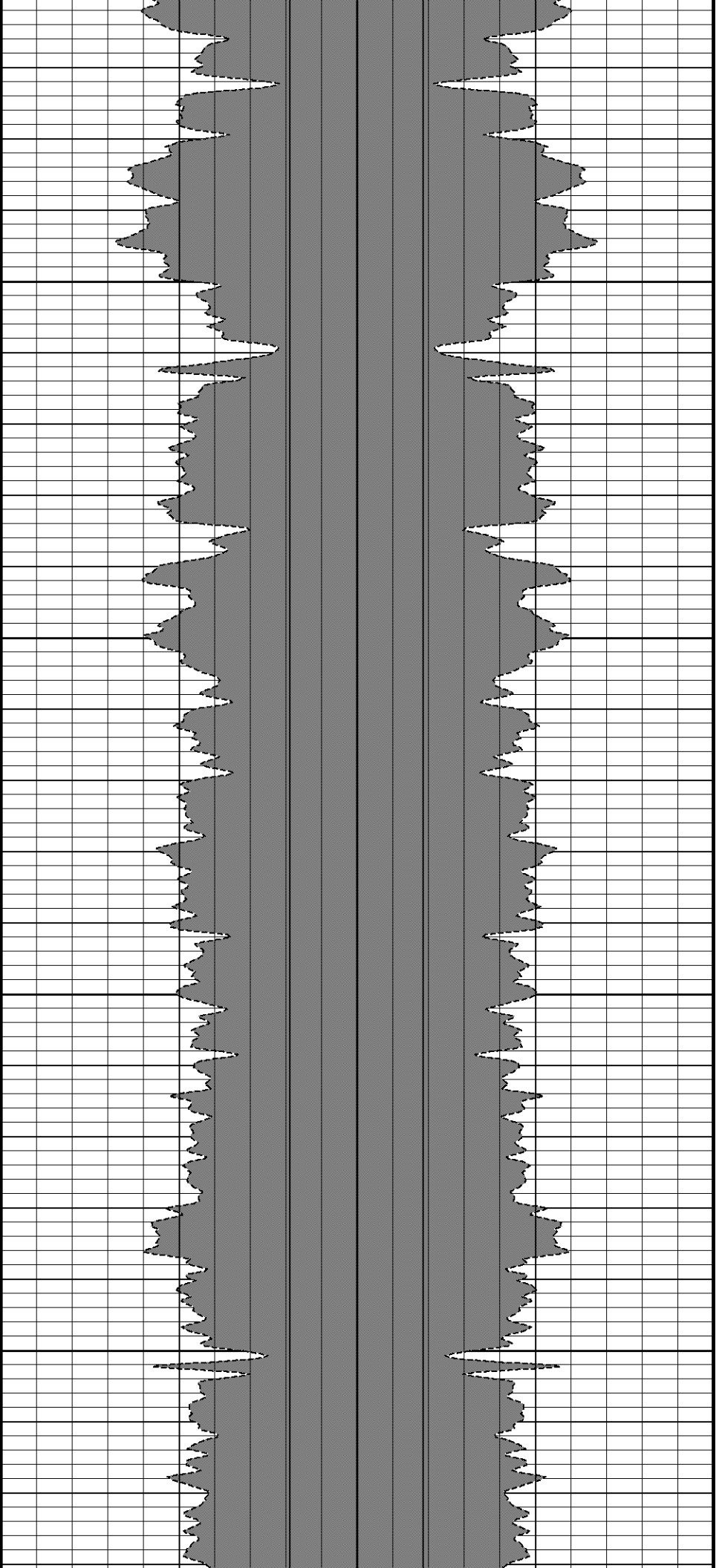


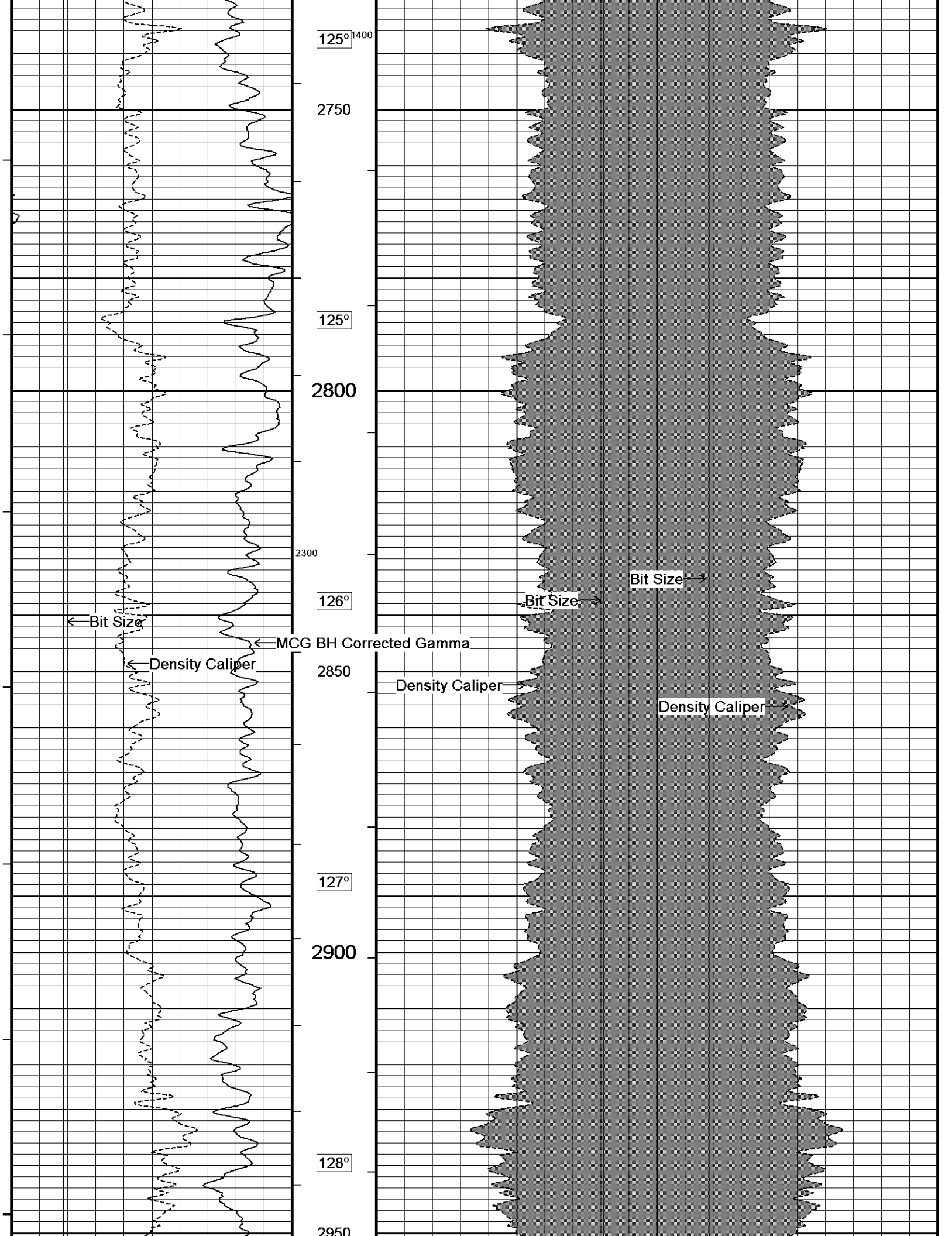


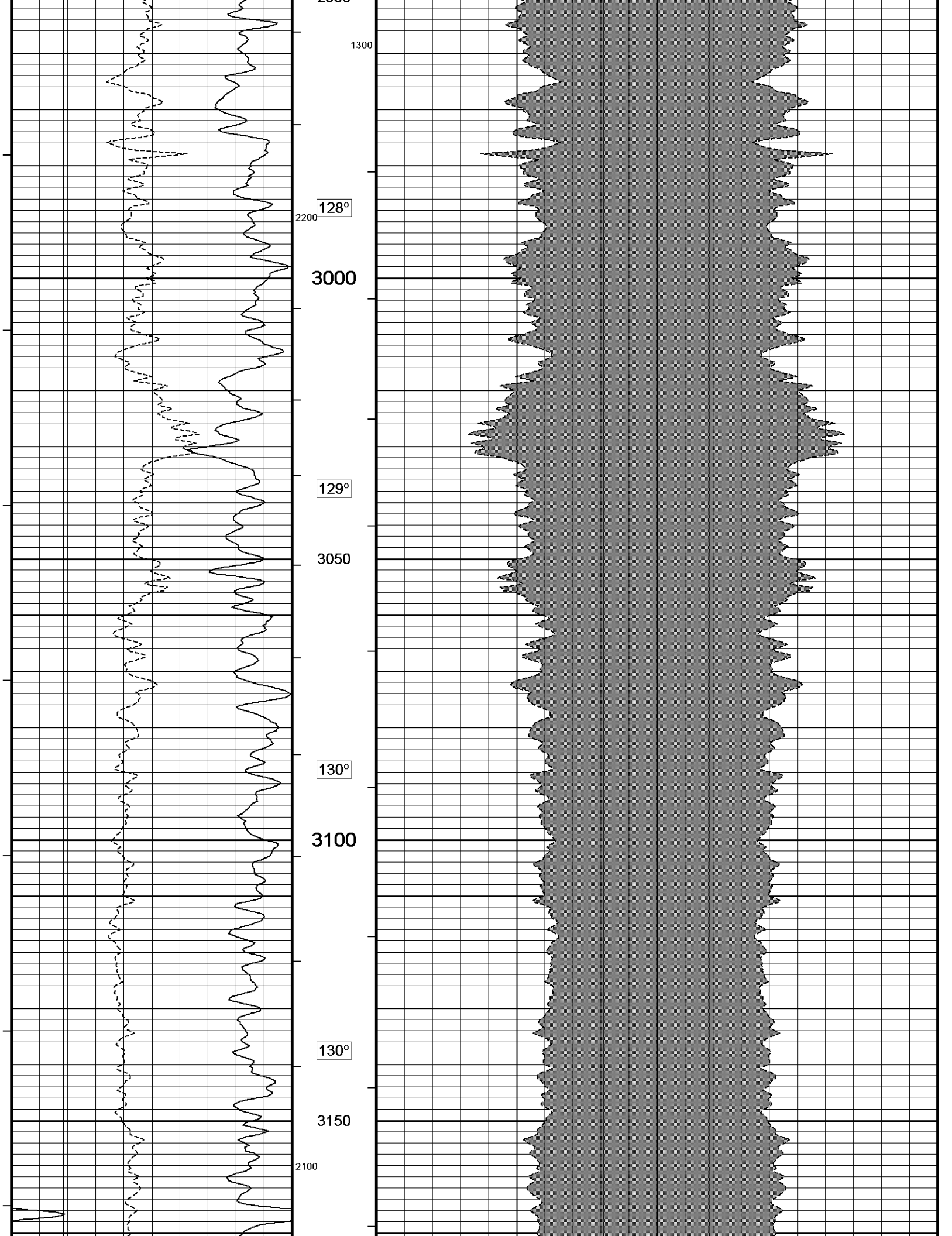


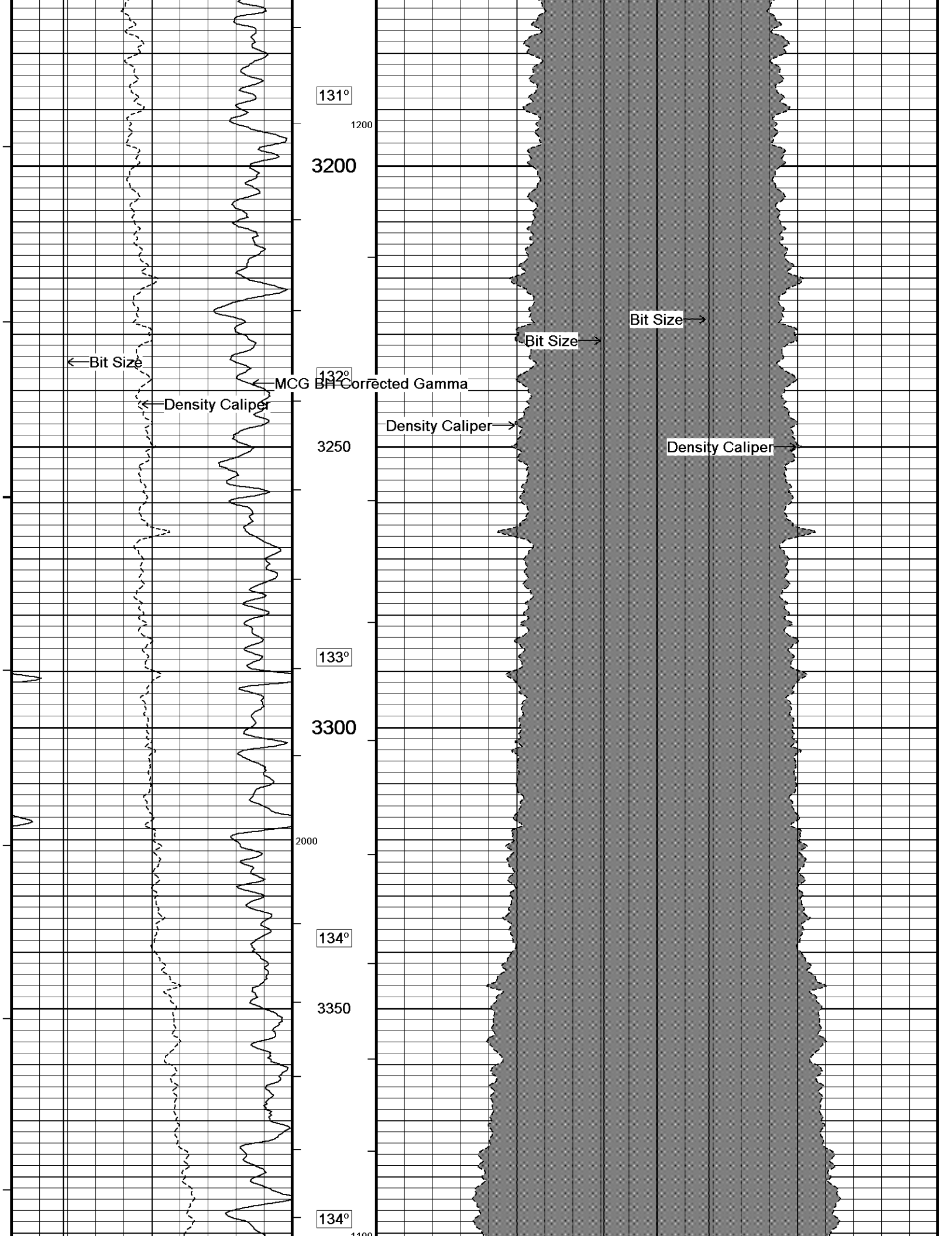


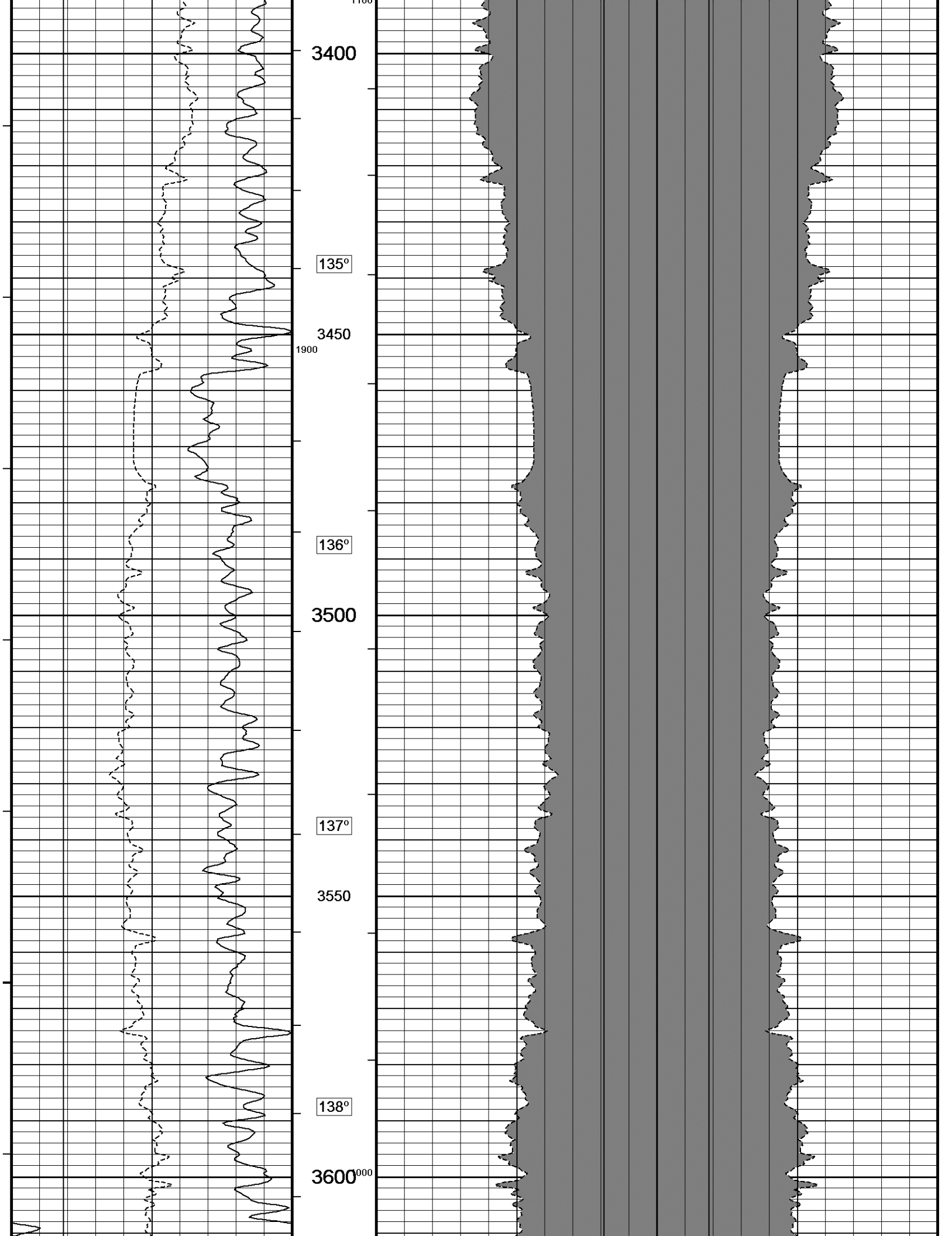
1500
122°
2550
123°
2600
123°
2650
2400
124°
2700

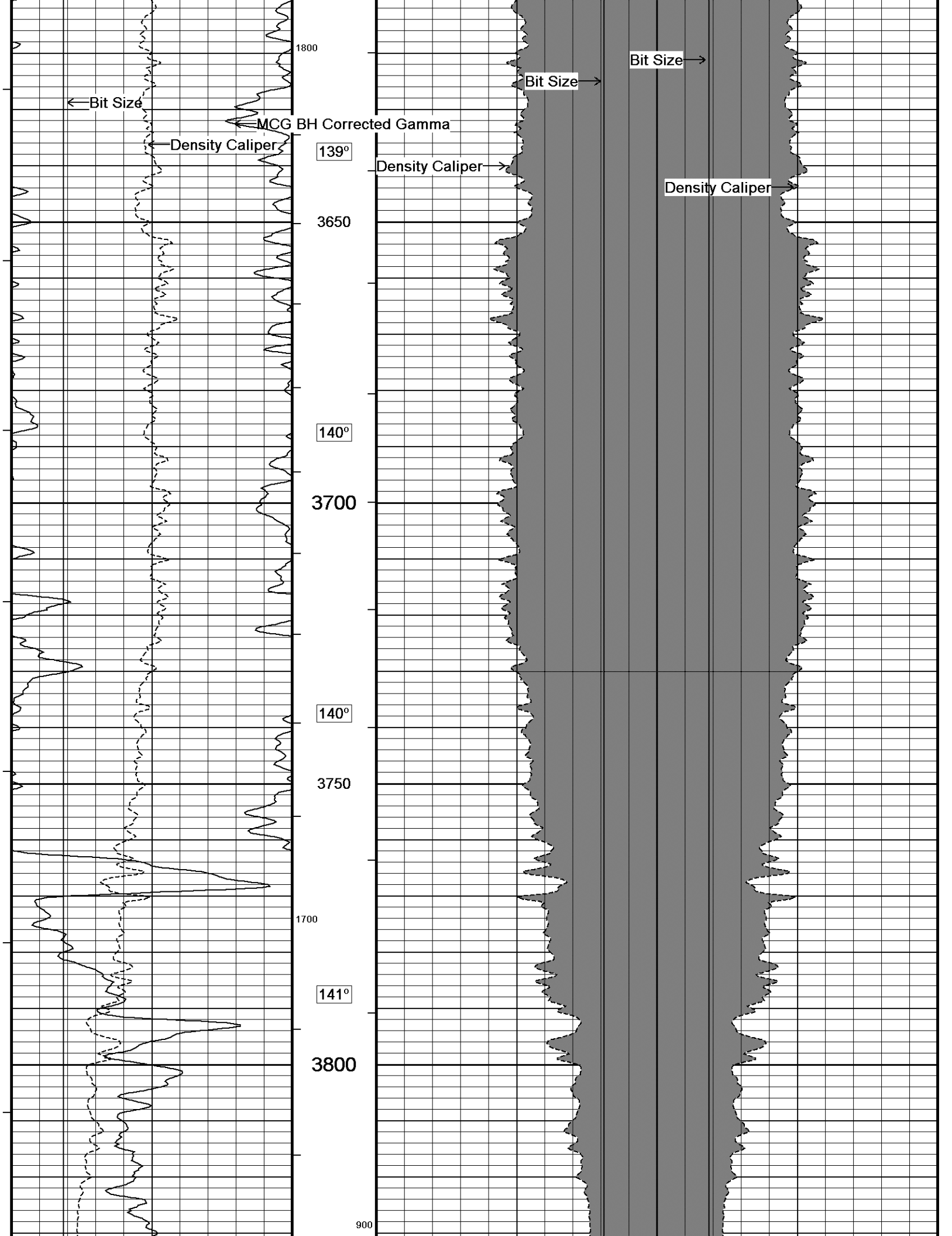


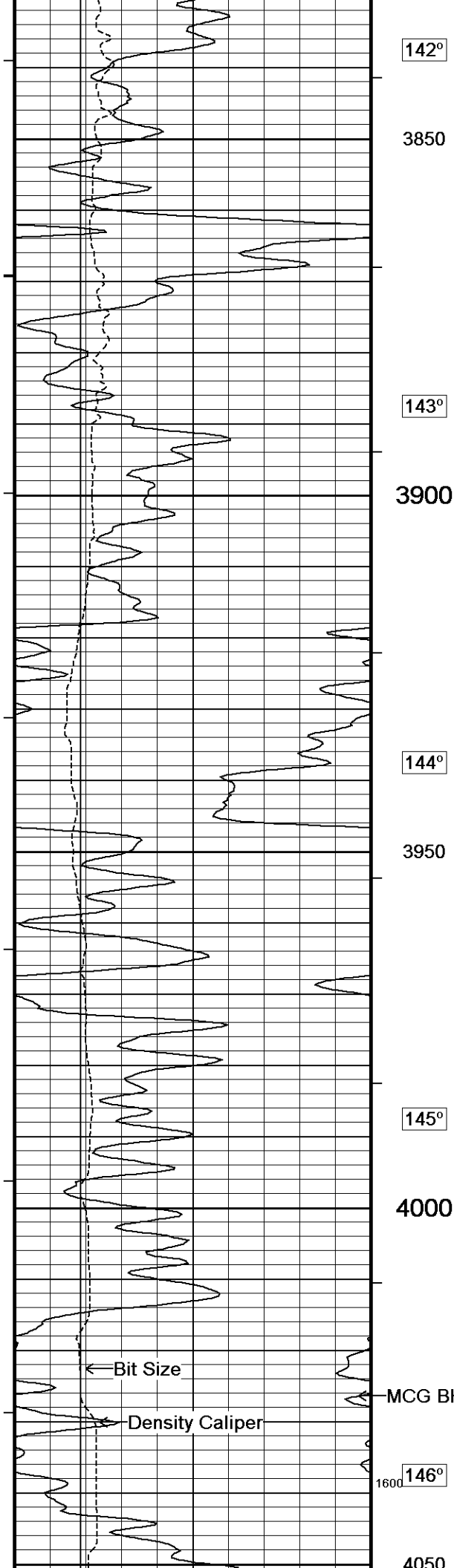












142°

3850

143°

3900

144°

3950

145°

4000

146°

4050

1600

MCG BH Corrected Gamma

← Bit Size

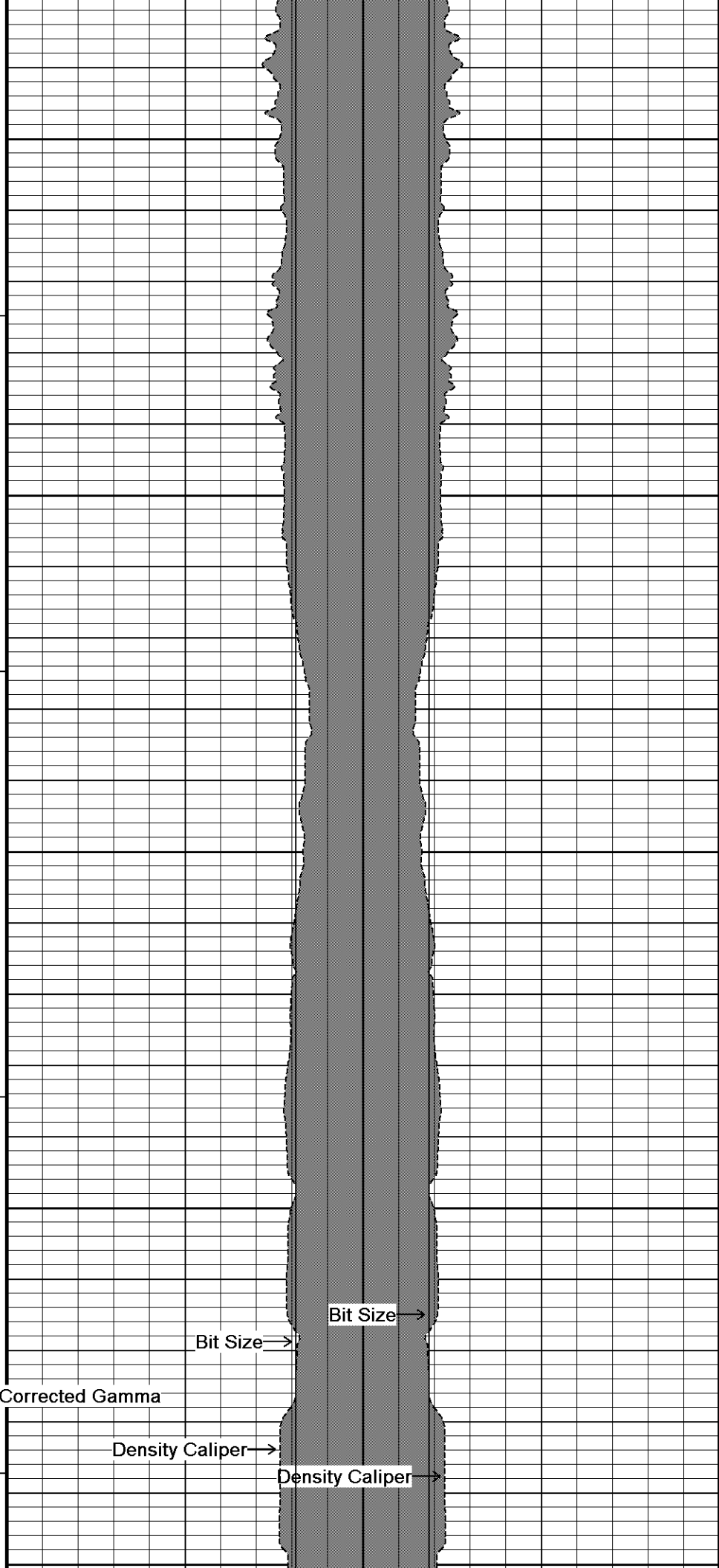
Density Caliper

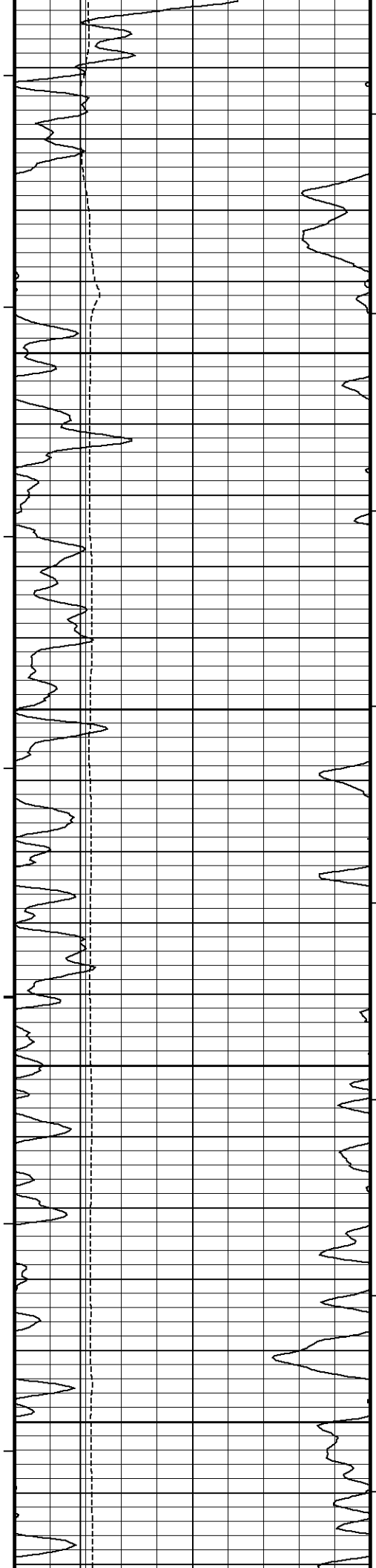
Bit Size →

Bit Size →

Density Caliper →

Density Caliper →





146°

4100

147°

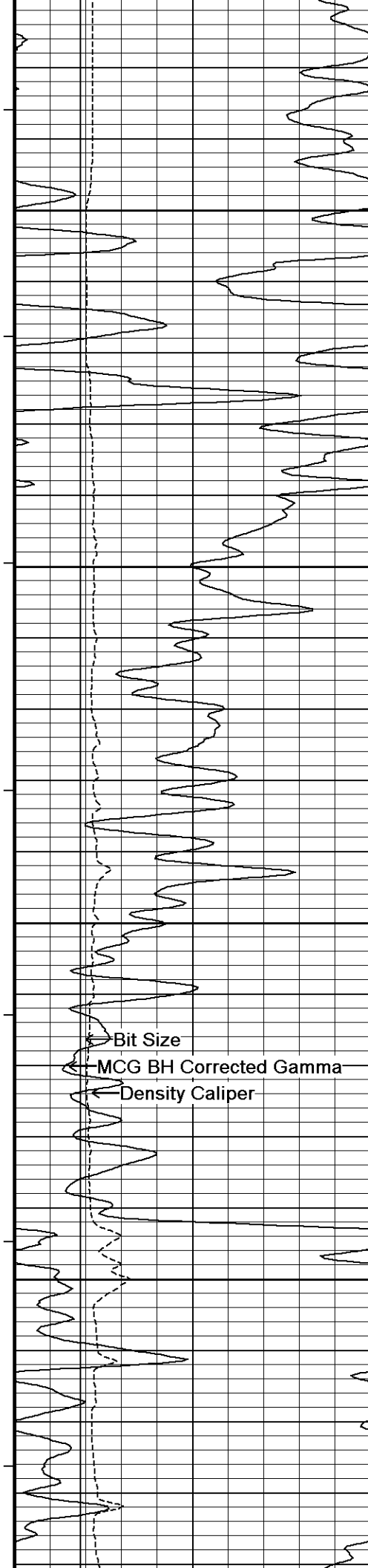
4150

148°

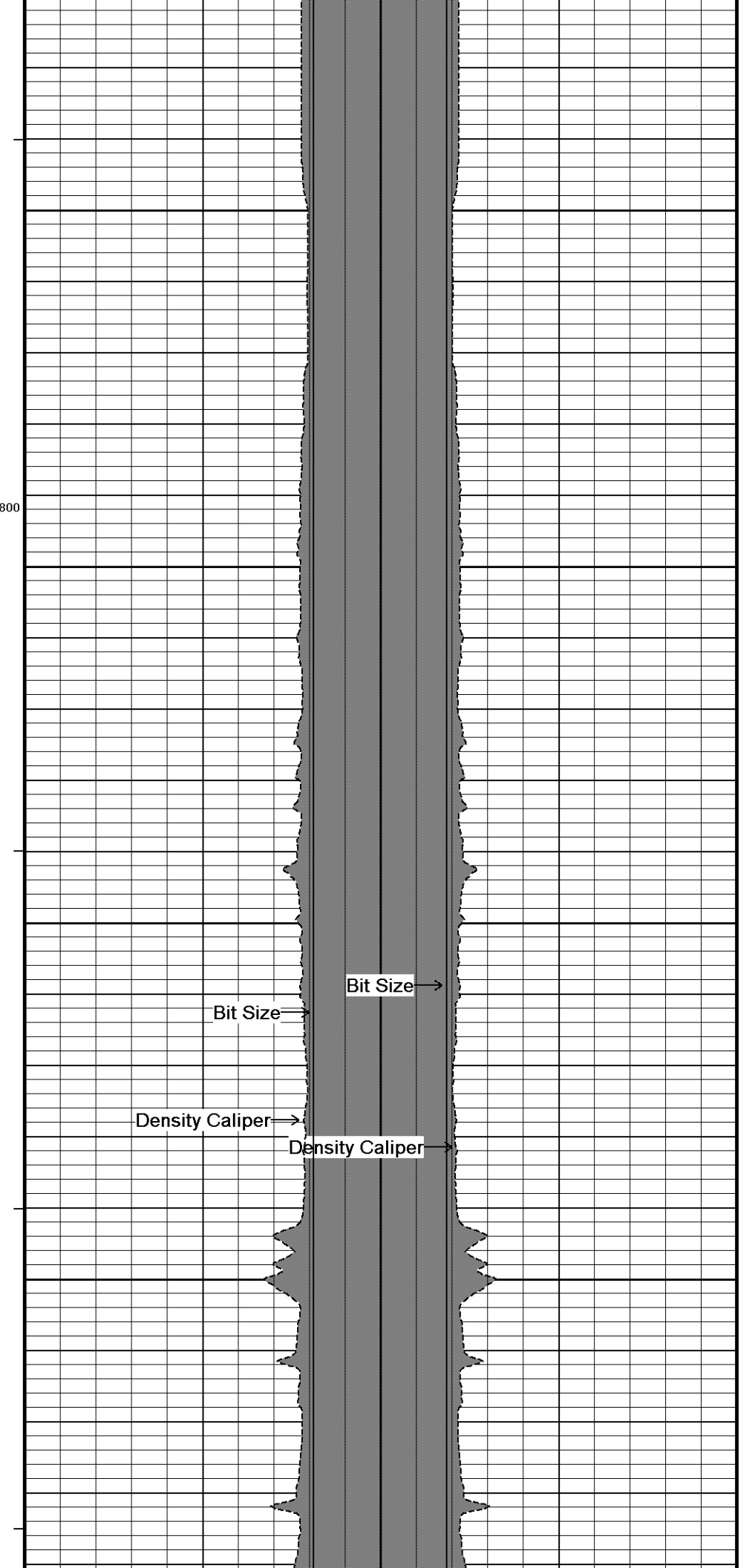
4200

149°

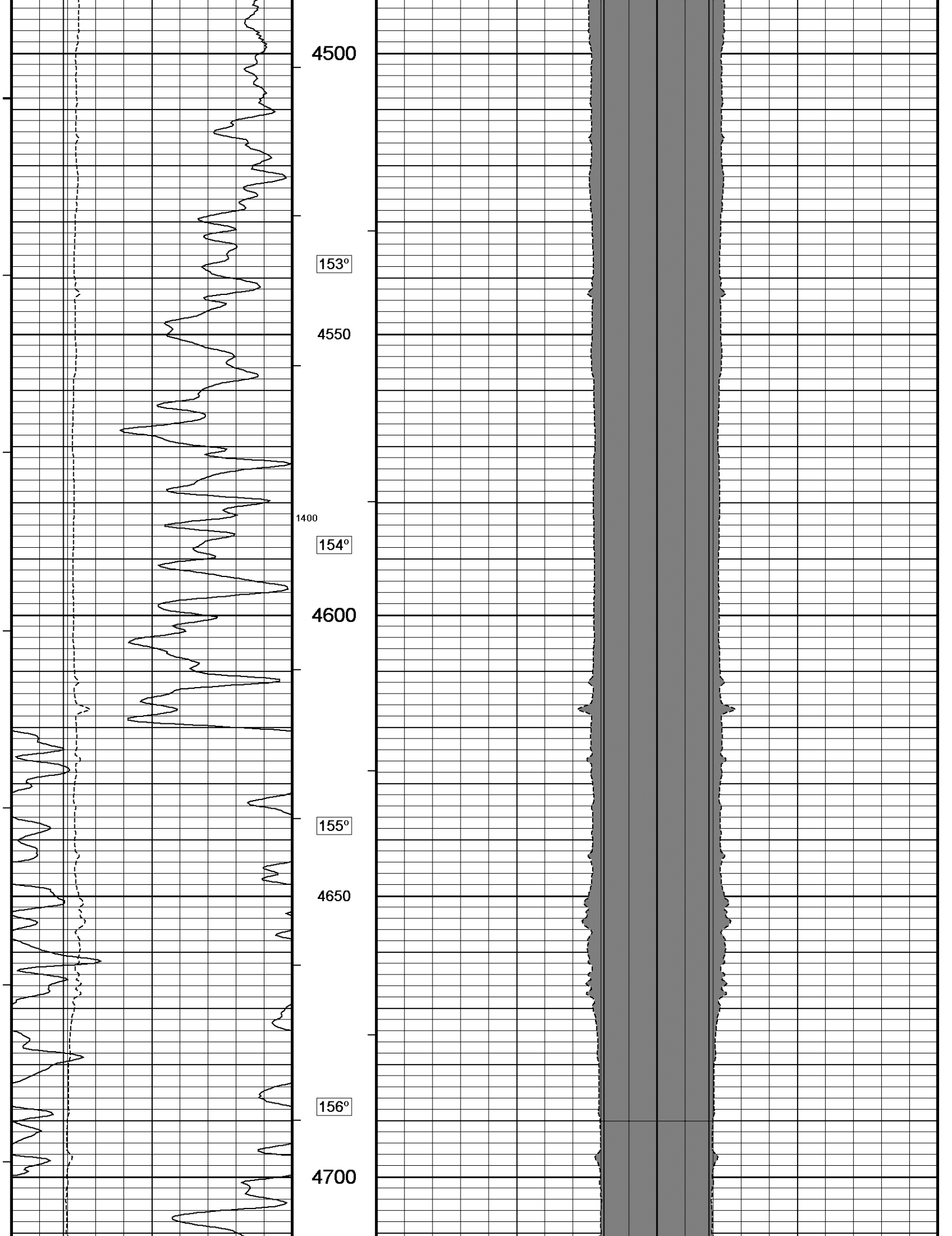
4250

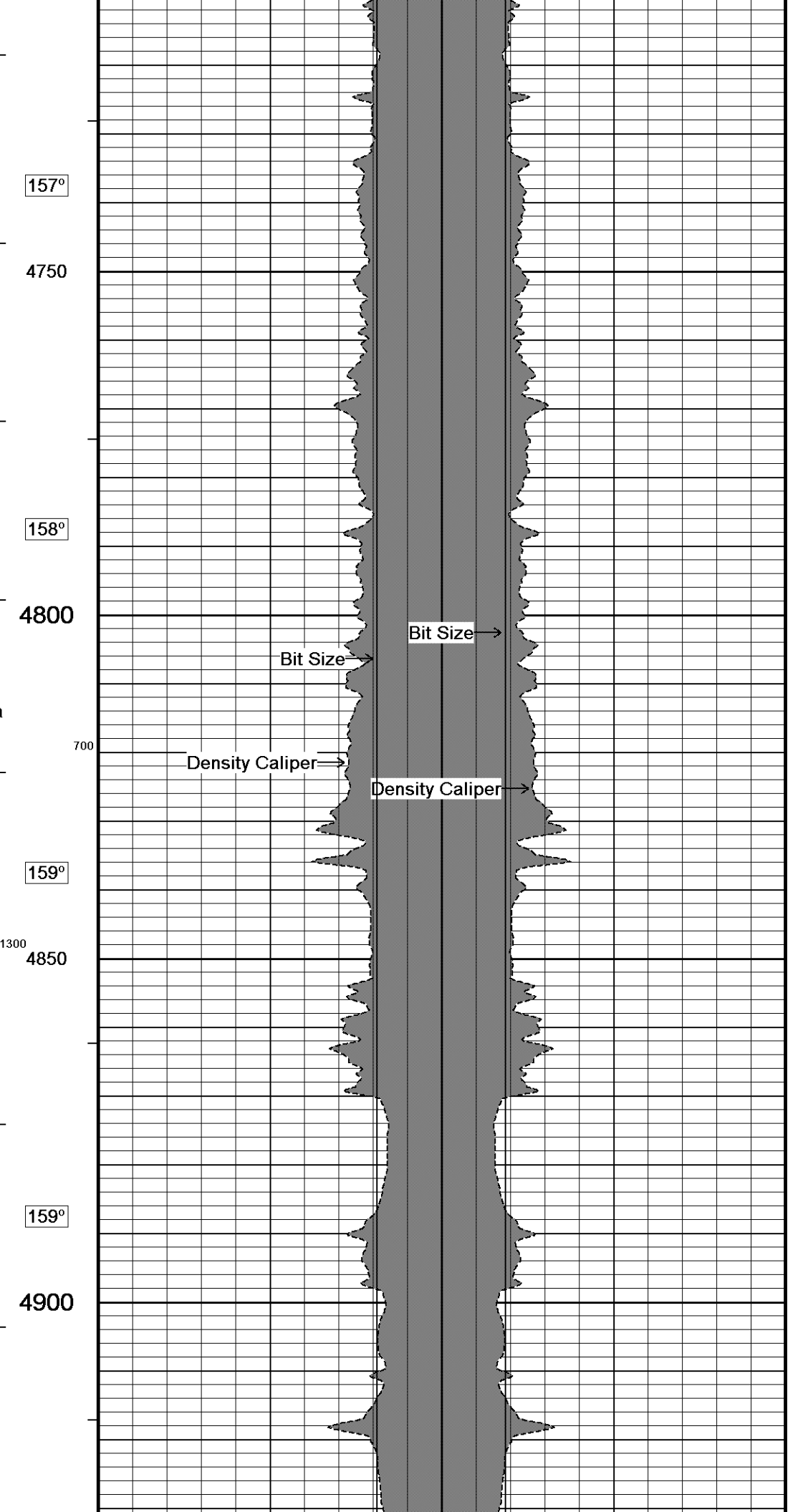
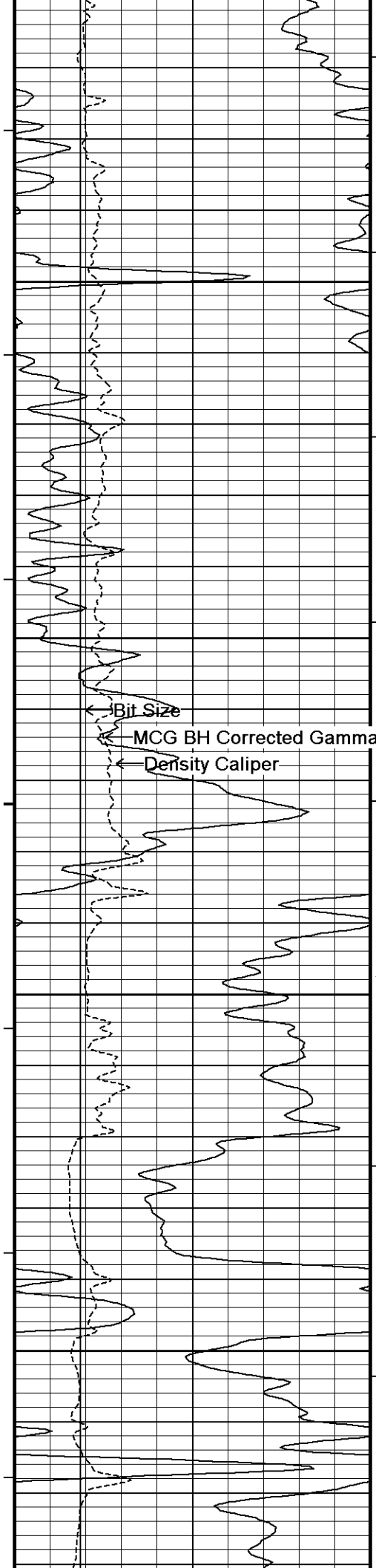


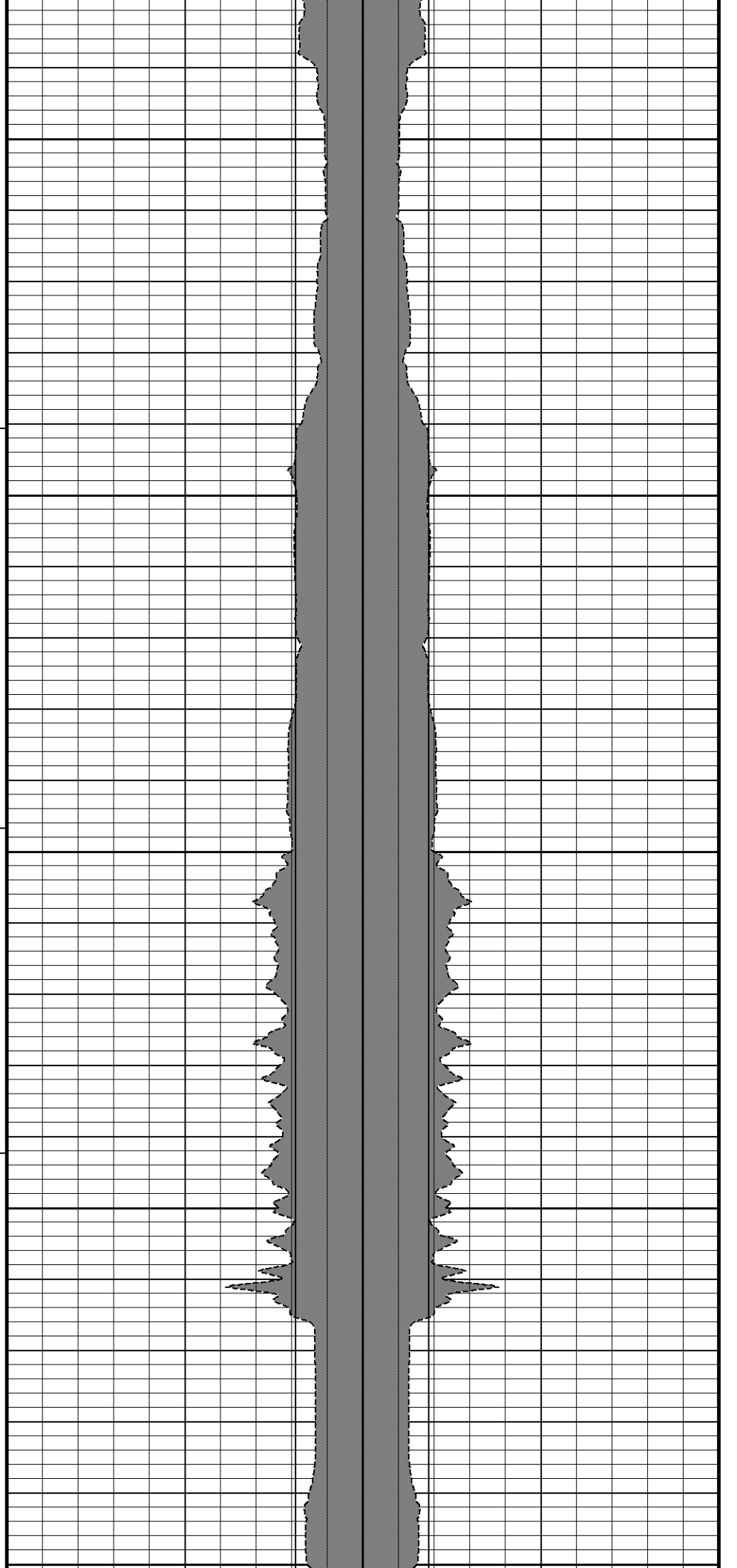
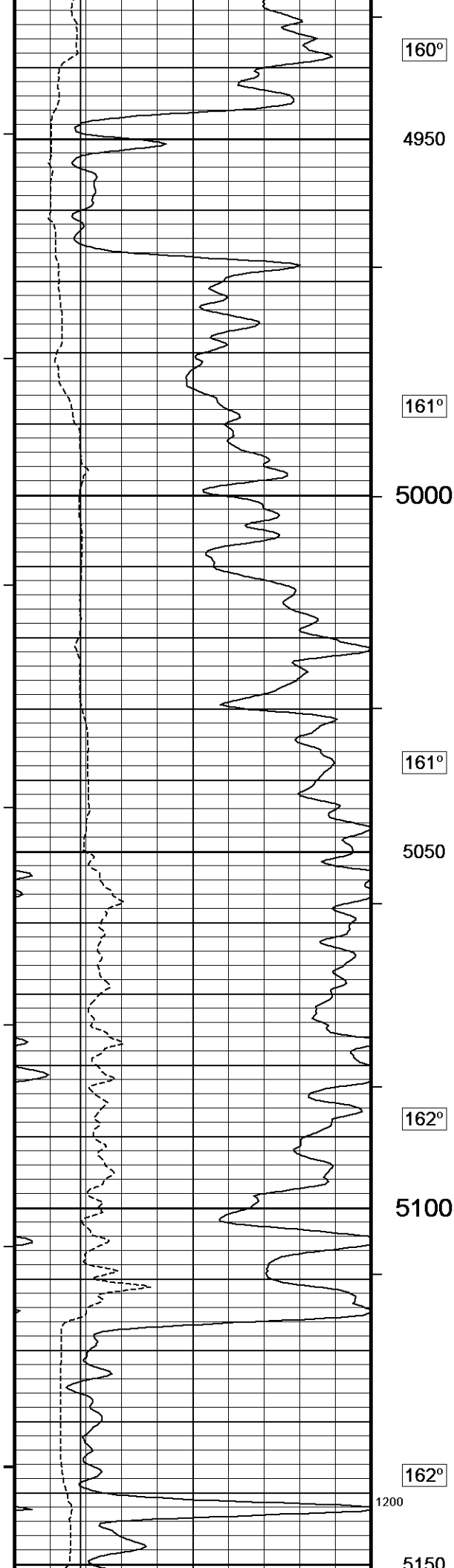
150°
4300
1500
150°
4350
800
151°
4400
152°
4450
153°

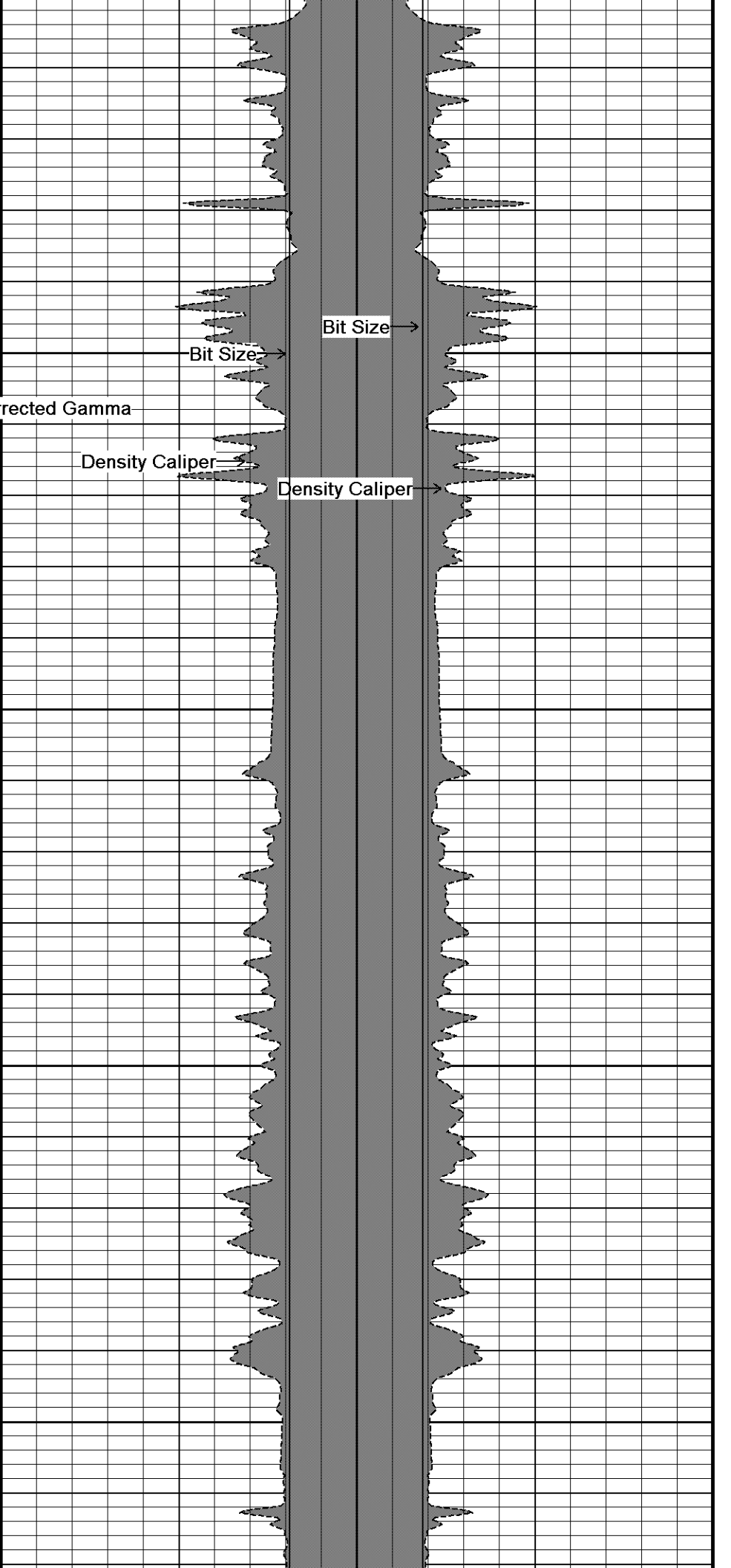
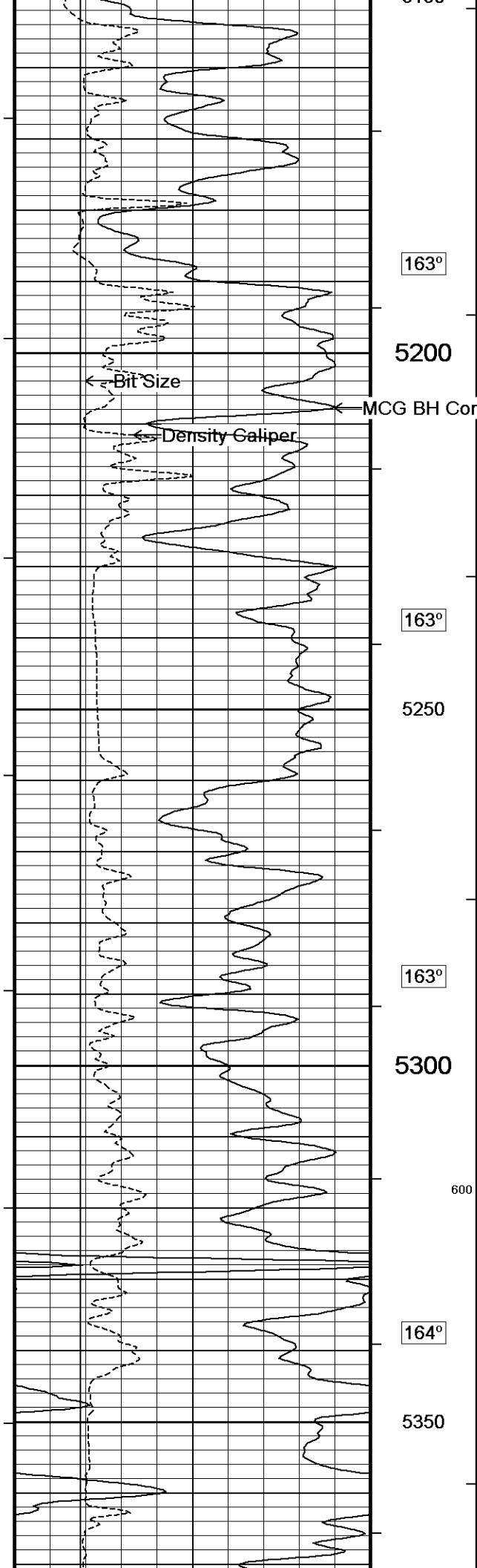


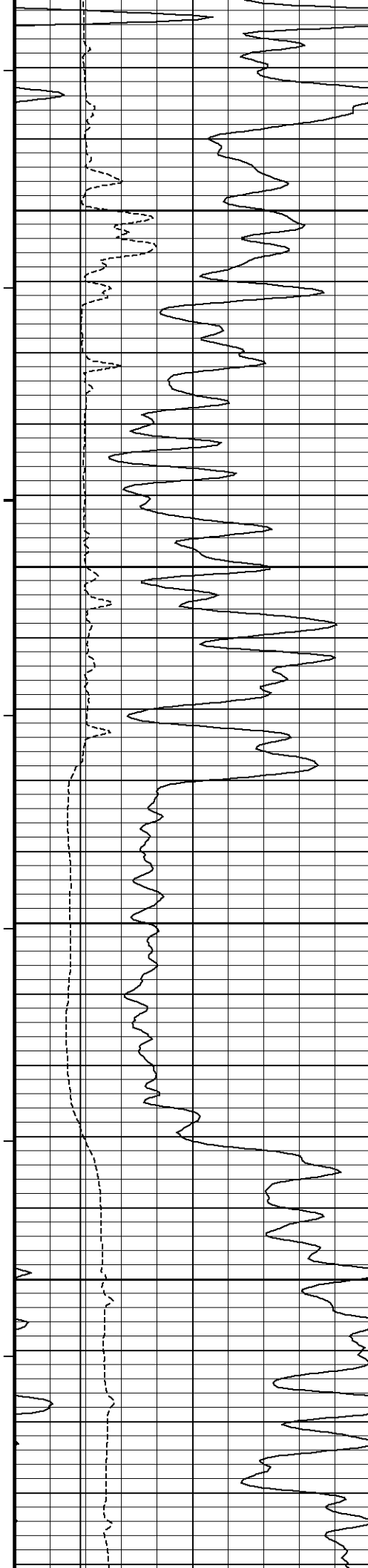
Bit Size
Bit Size
Density Caliper
Density Caliper











166°

1100

5400

166°

5450

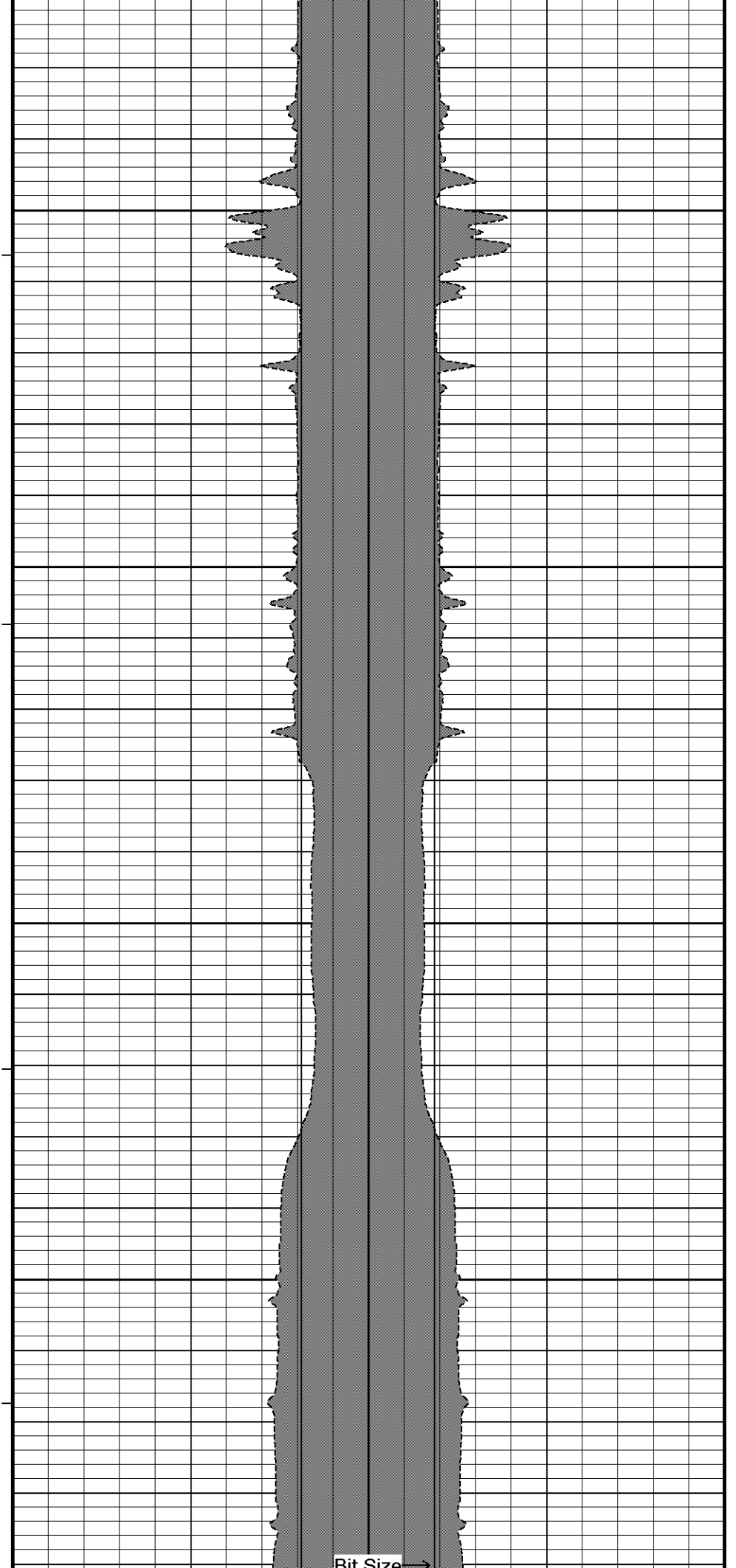
167°

5500

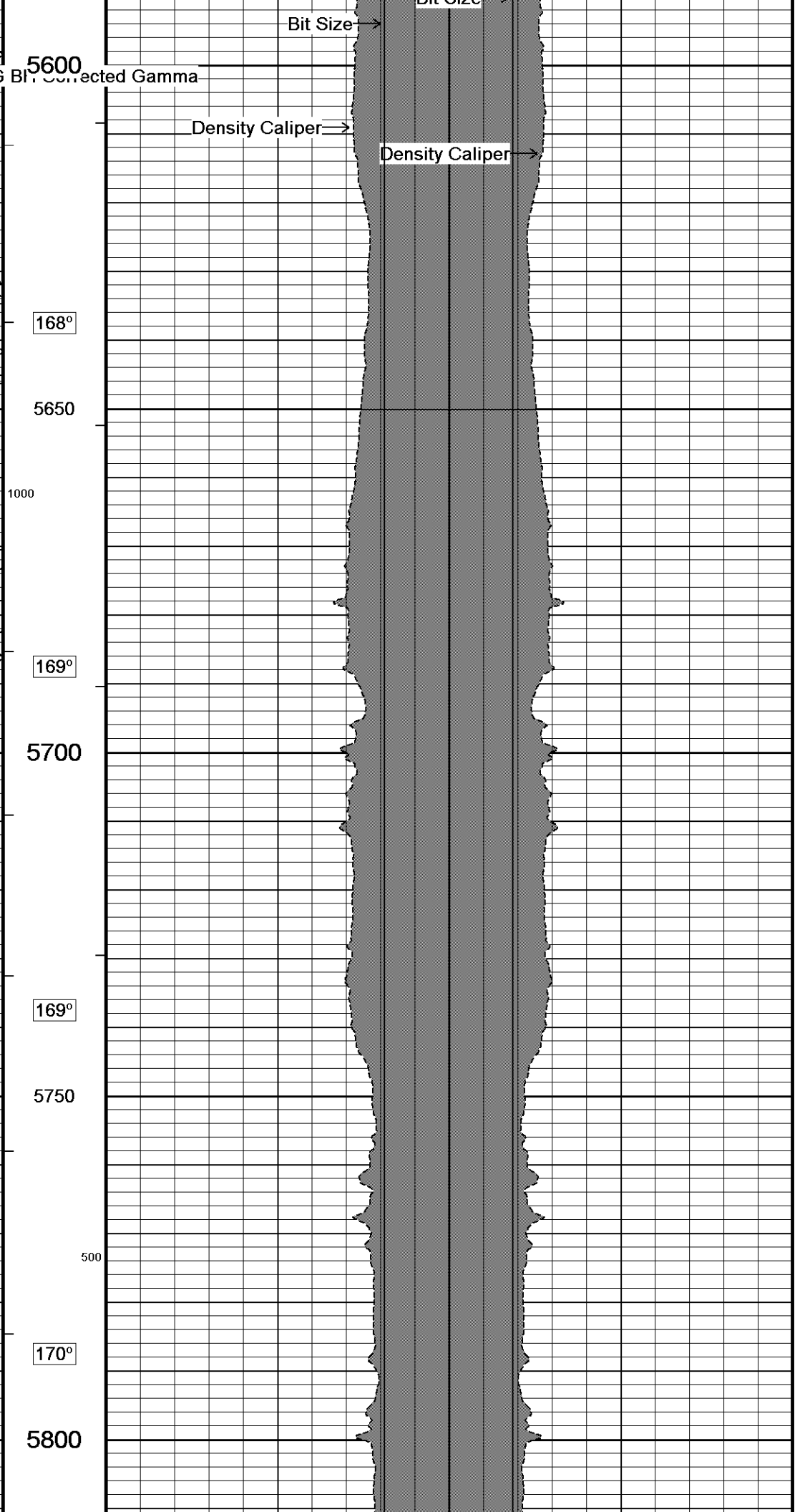
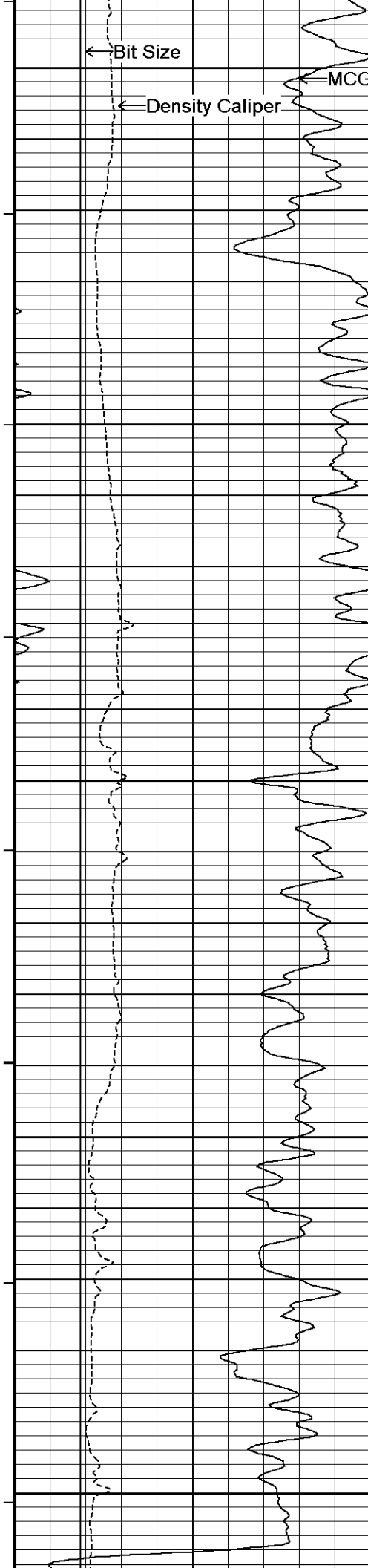
167°

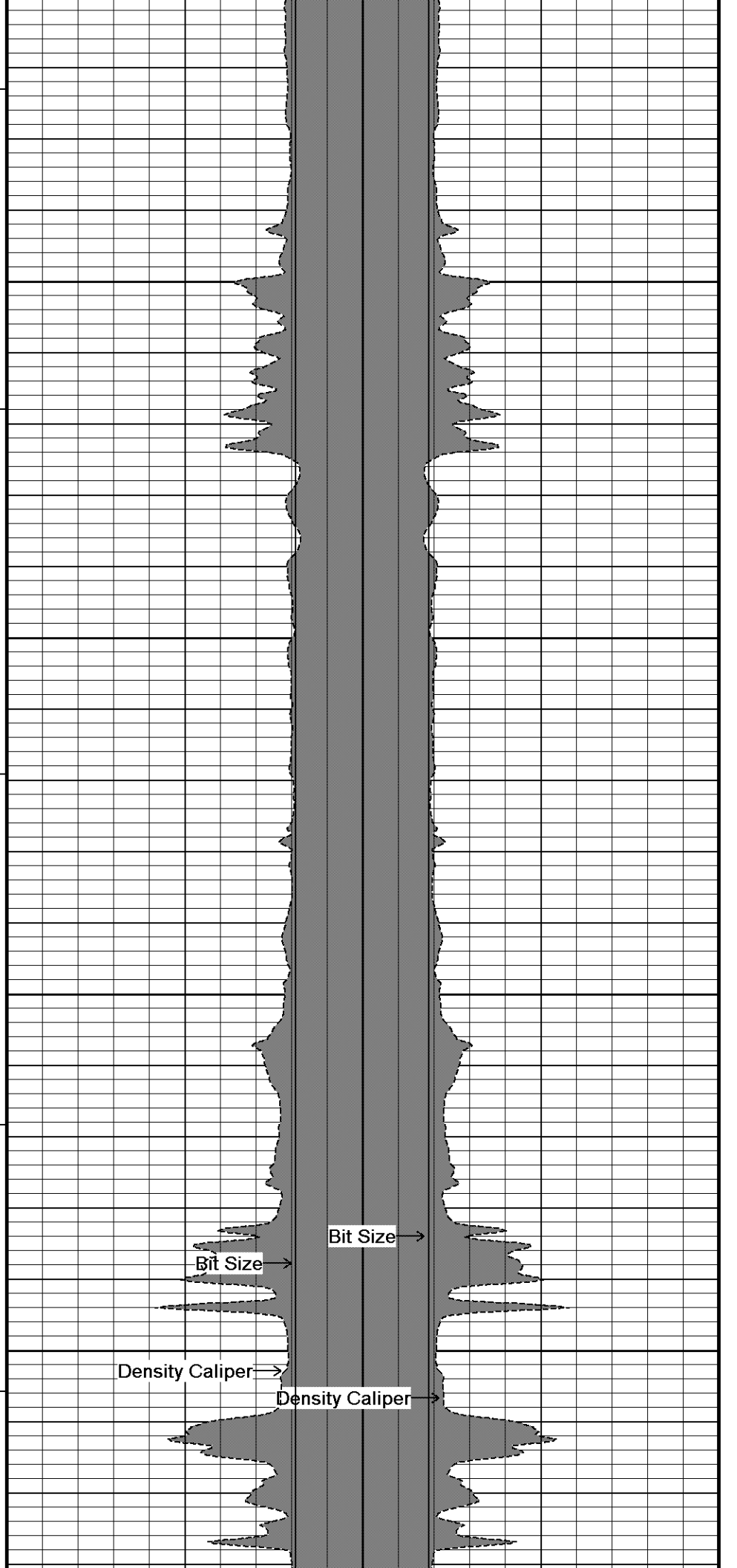
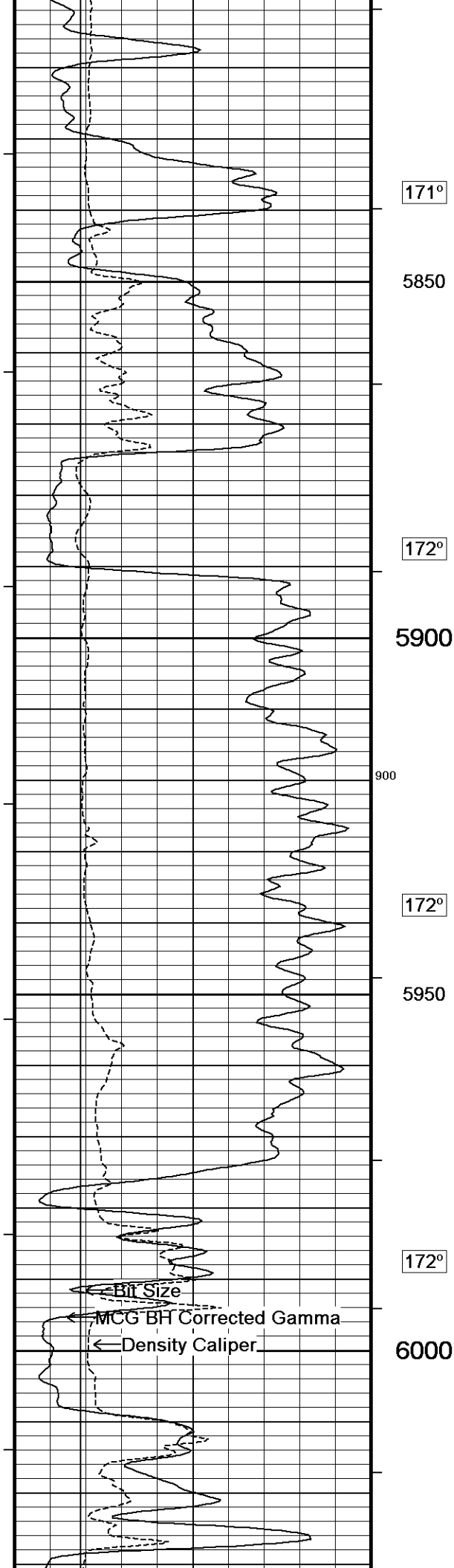
5550

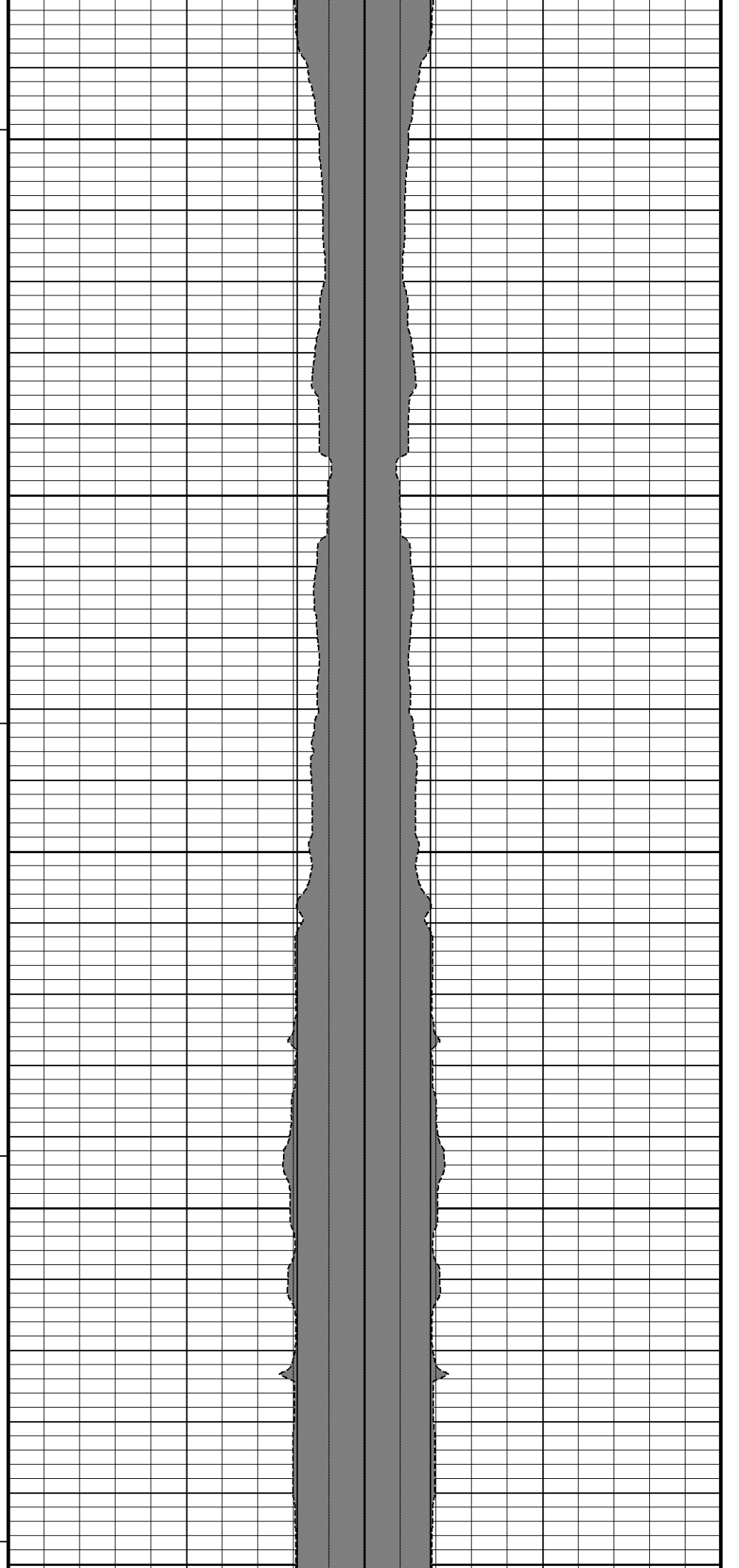
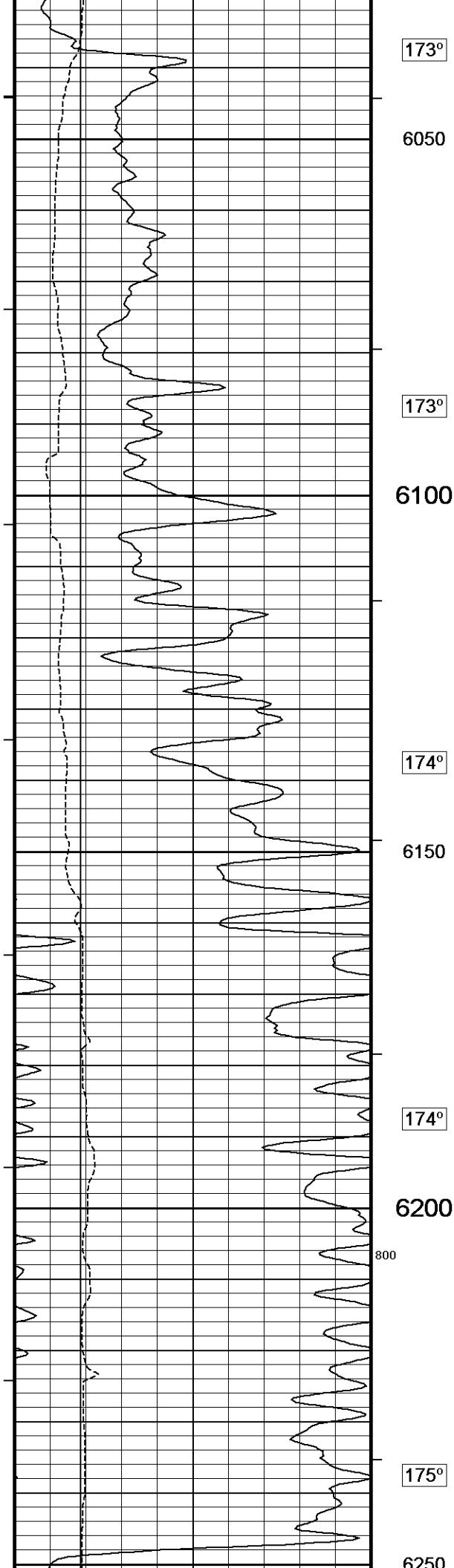
168°

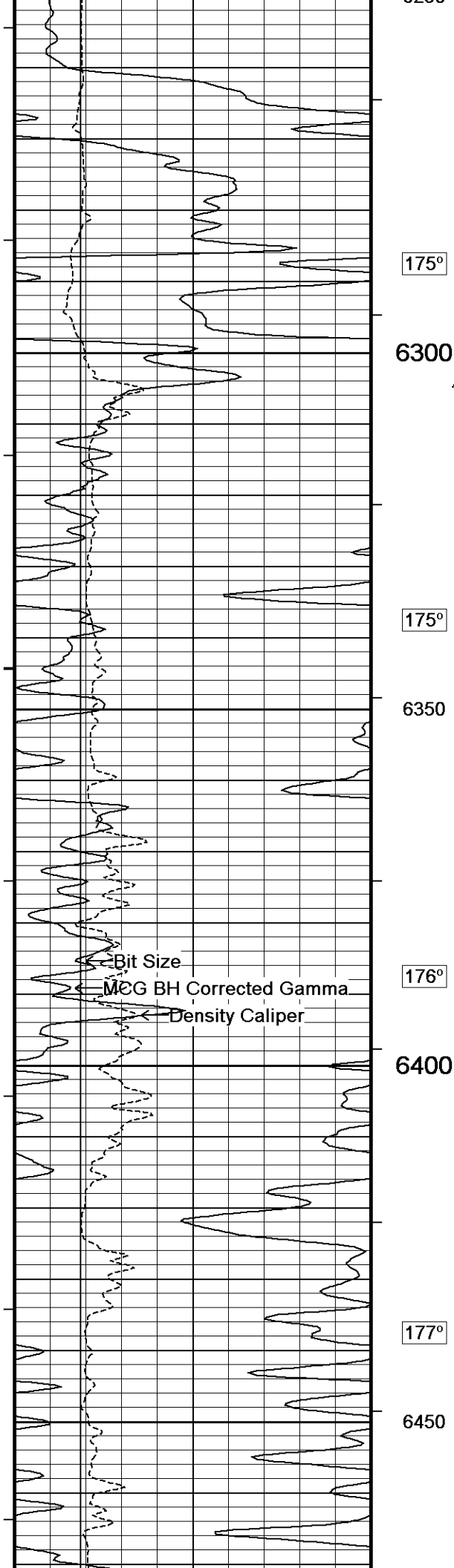


Bit Size →









175°

6300

175°

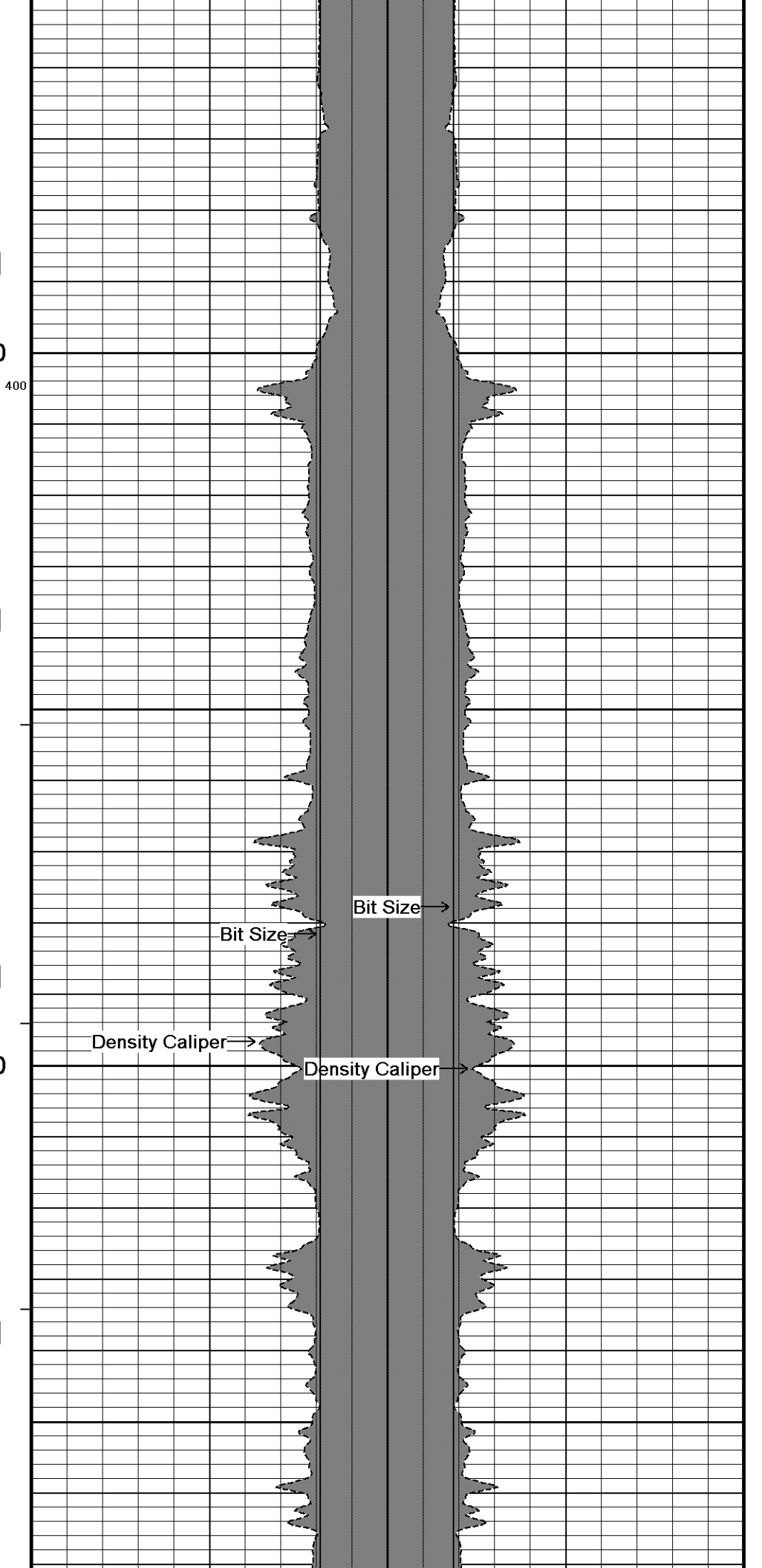
6350

176°

6400

177°

6450



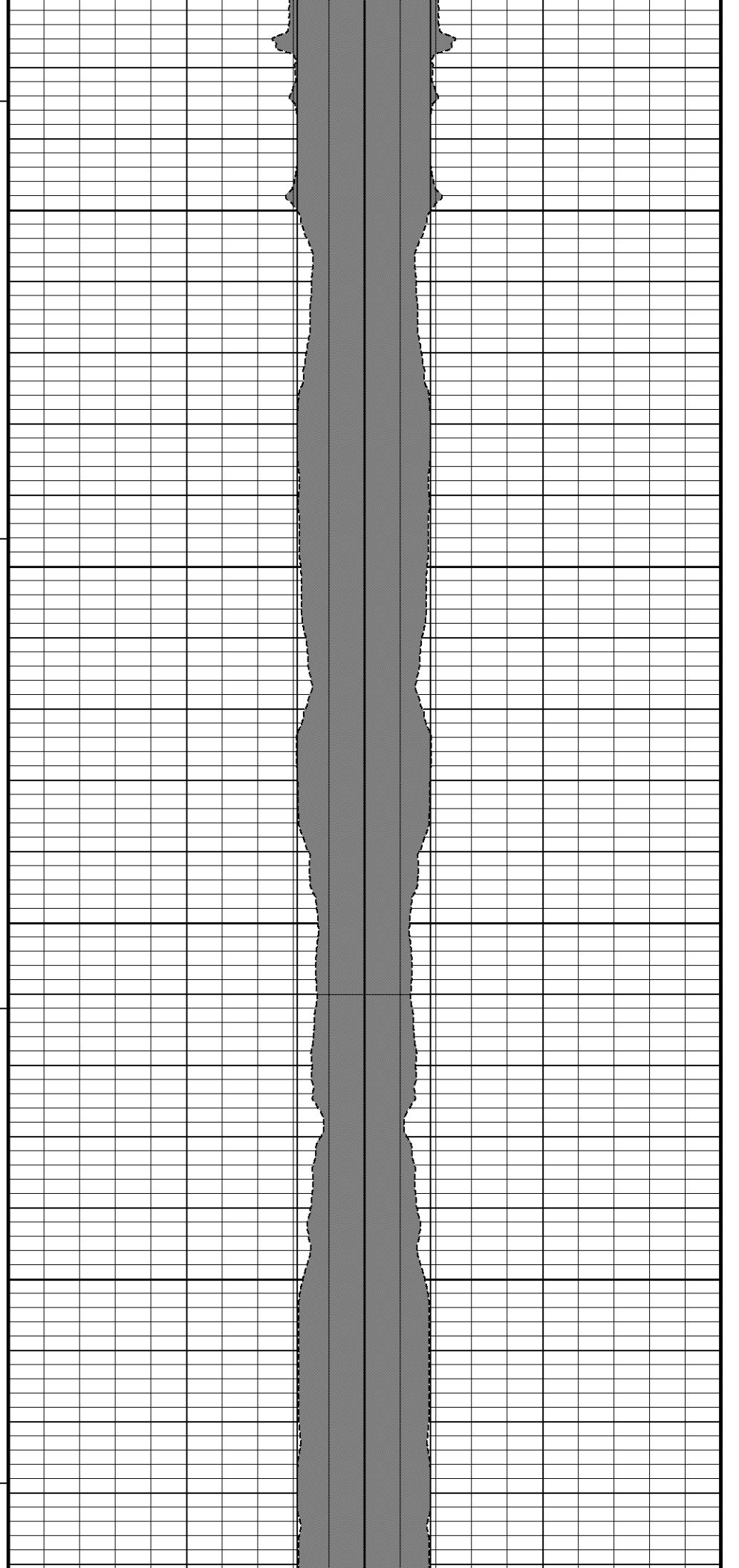
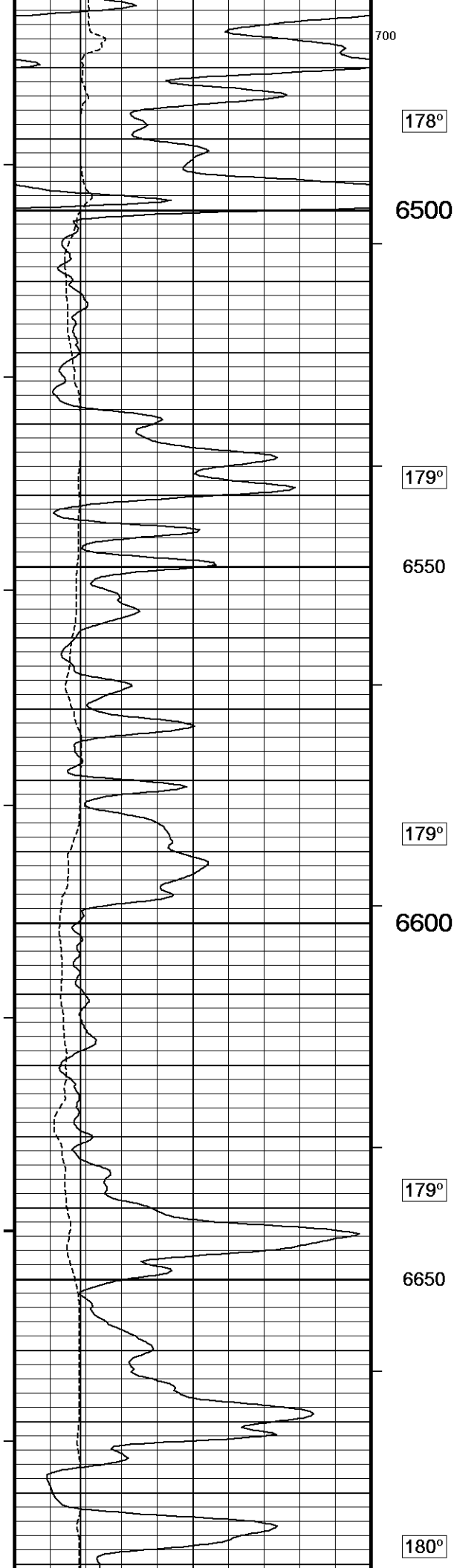
400

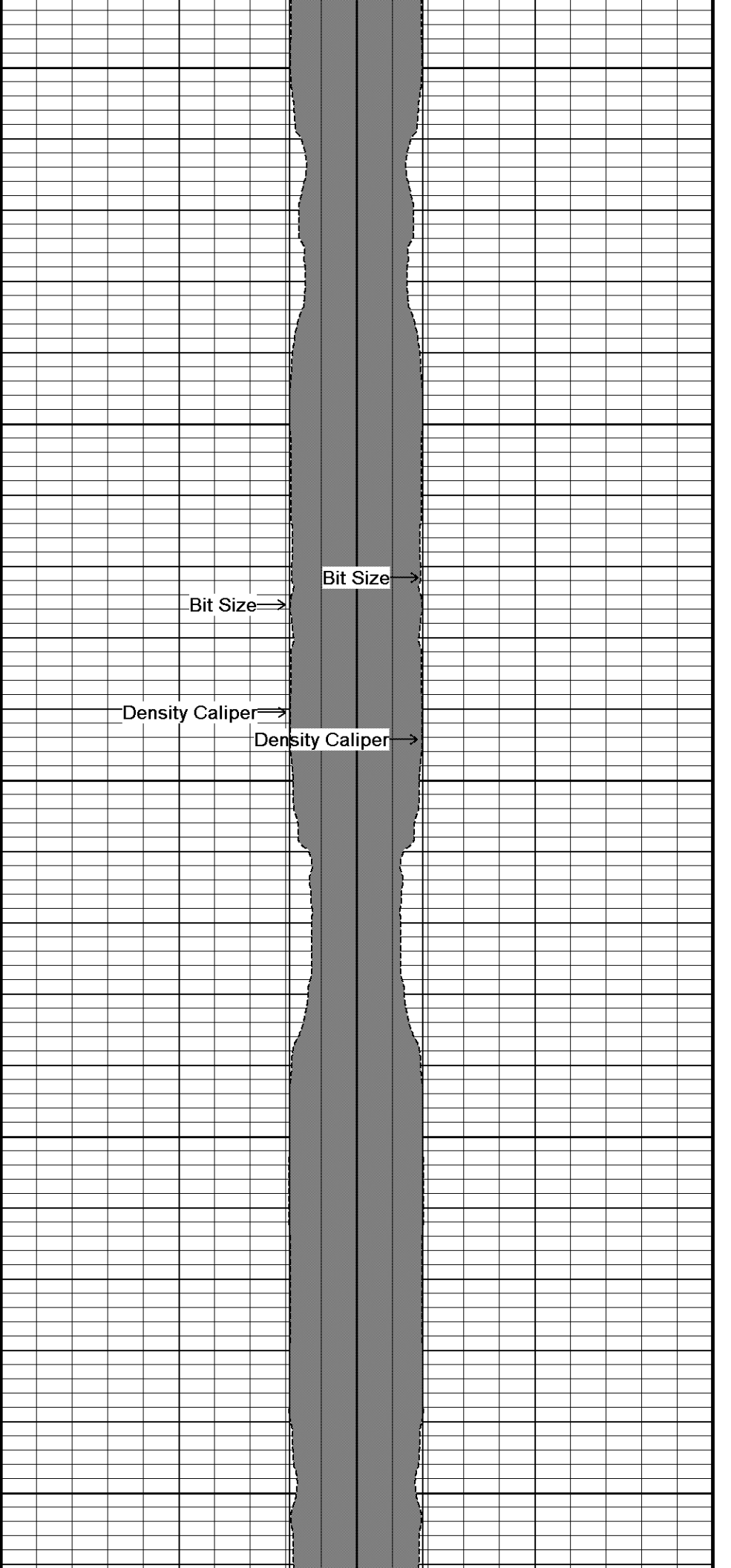
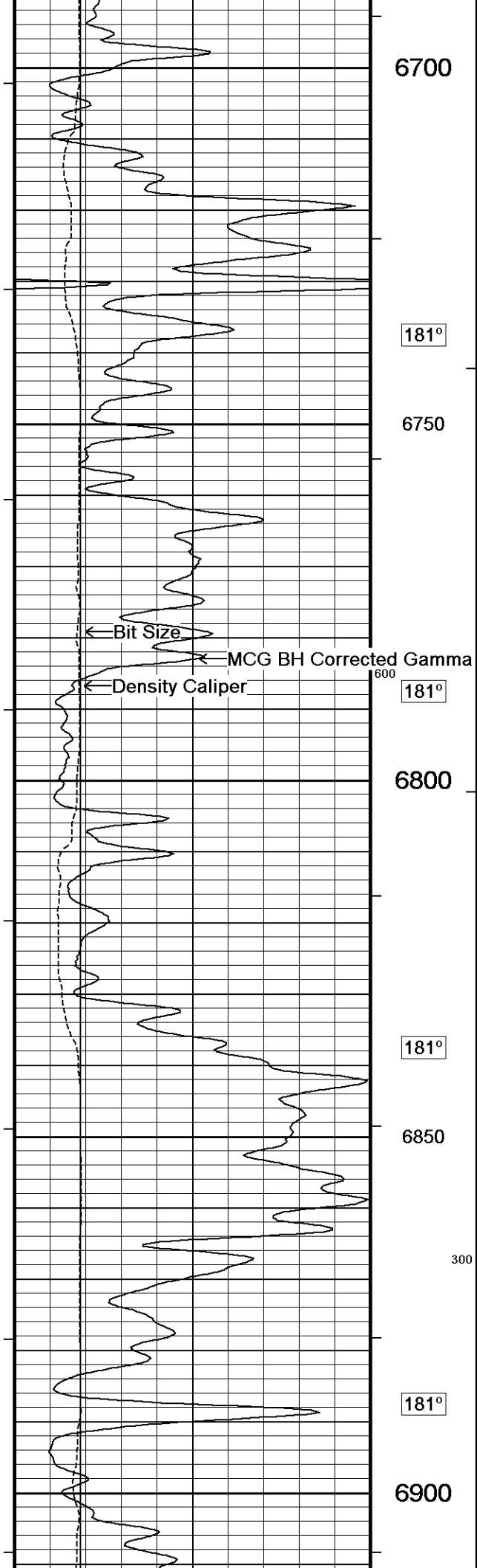
Bit Size →

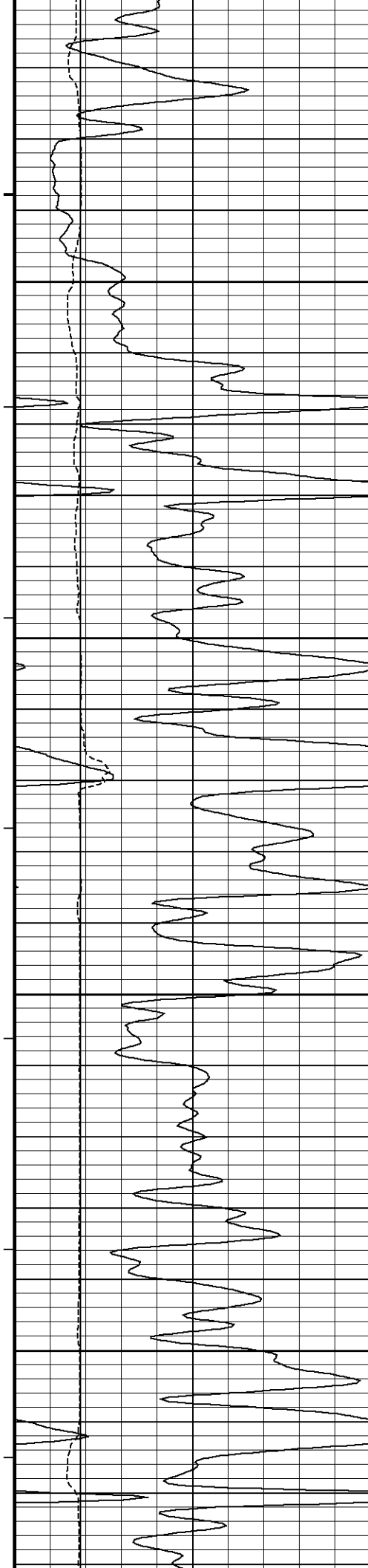
Bit Size ←

Density Caliper →

Density Caliper ←







182°

6950

182°

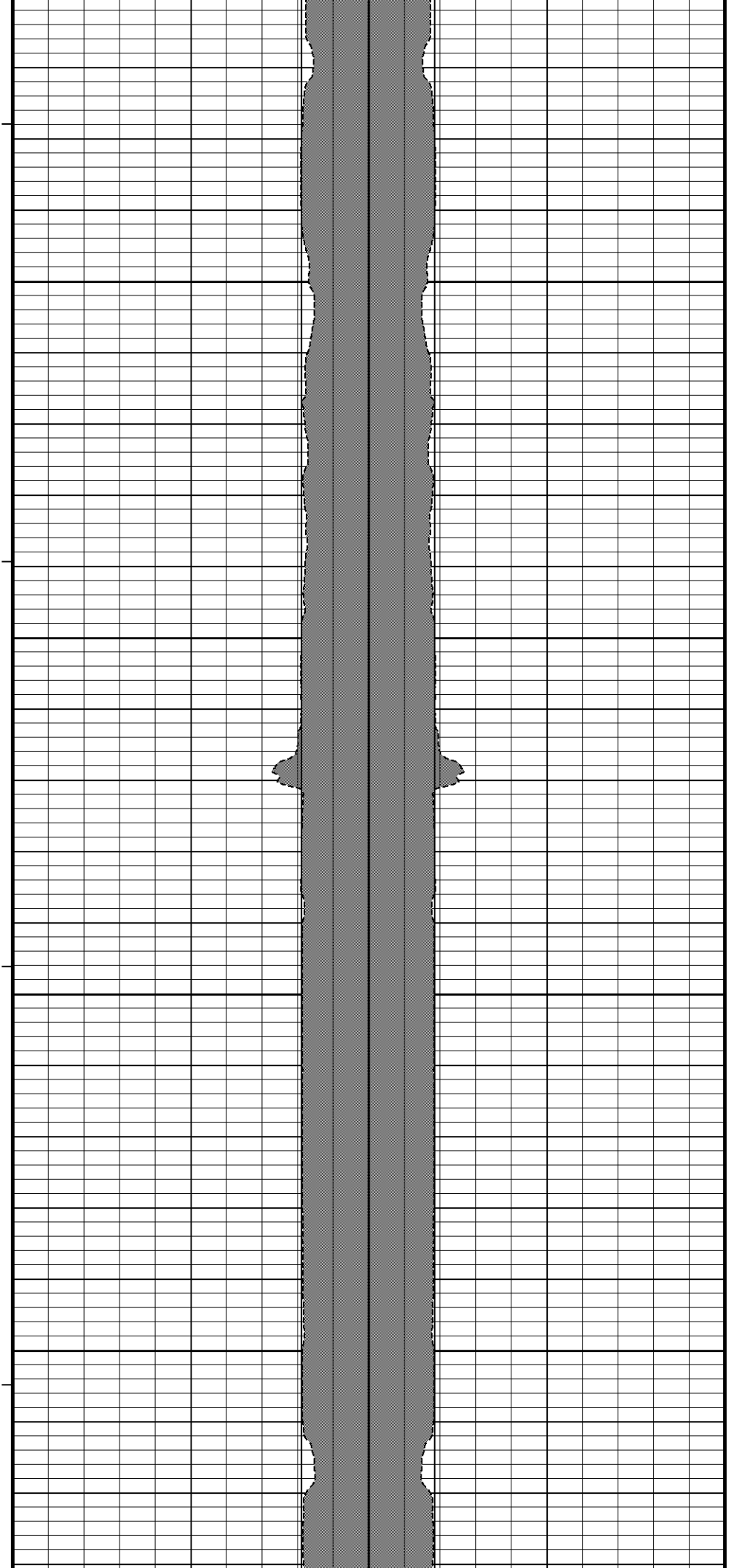
7000

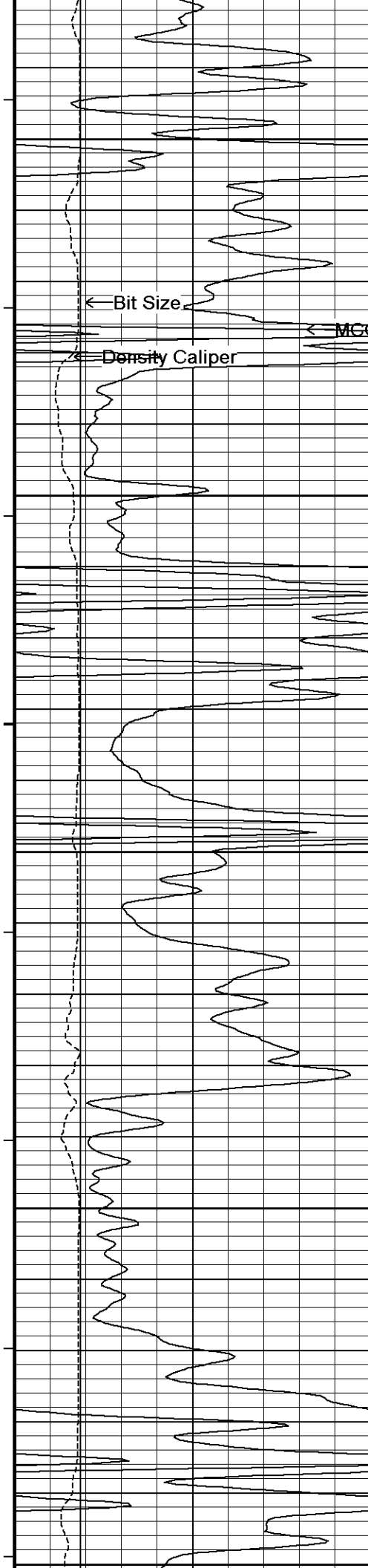
182°

7050

500 182°

7100





183°

7150

183°

7200

184°

7250

184°

7300

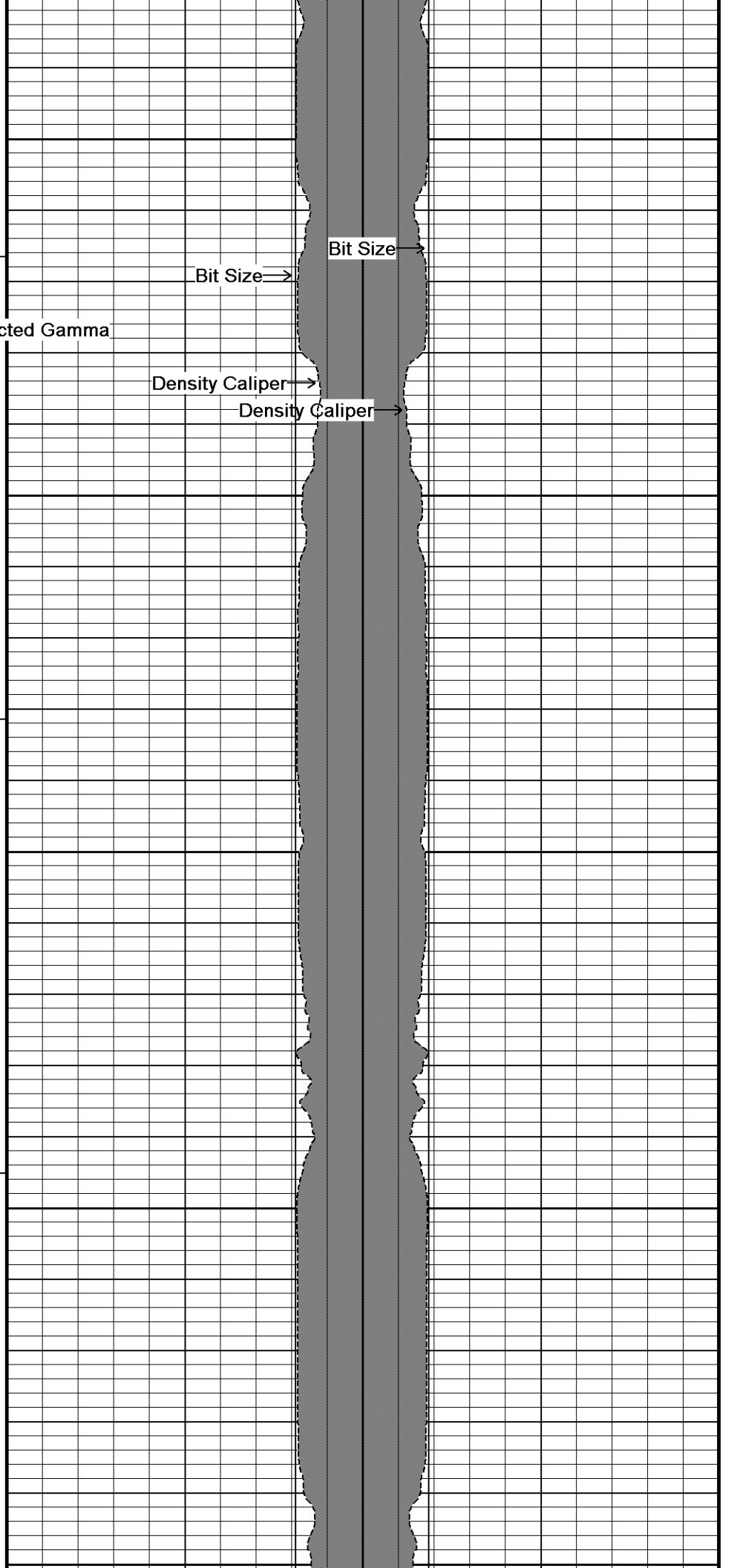
185°

7350

MCG BH Corrected Gamma

Density Caliper

Bit Size

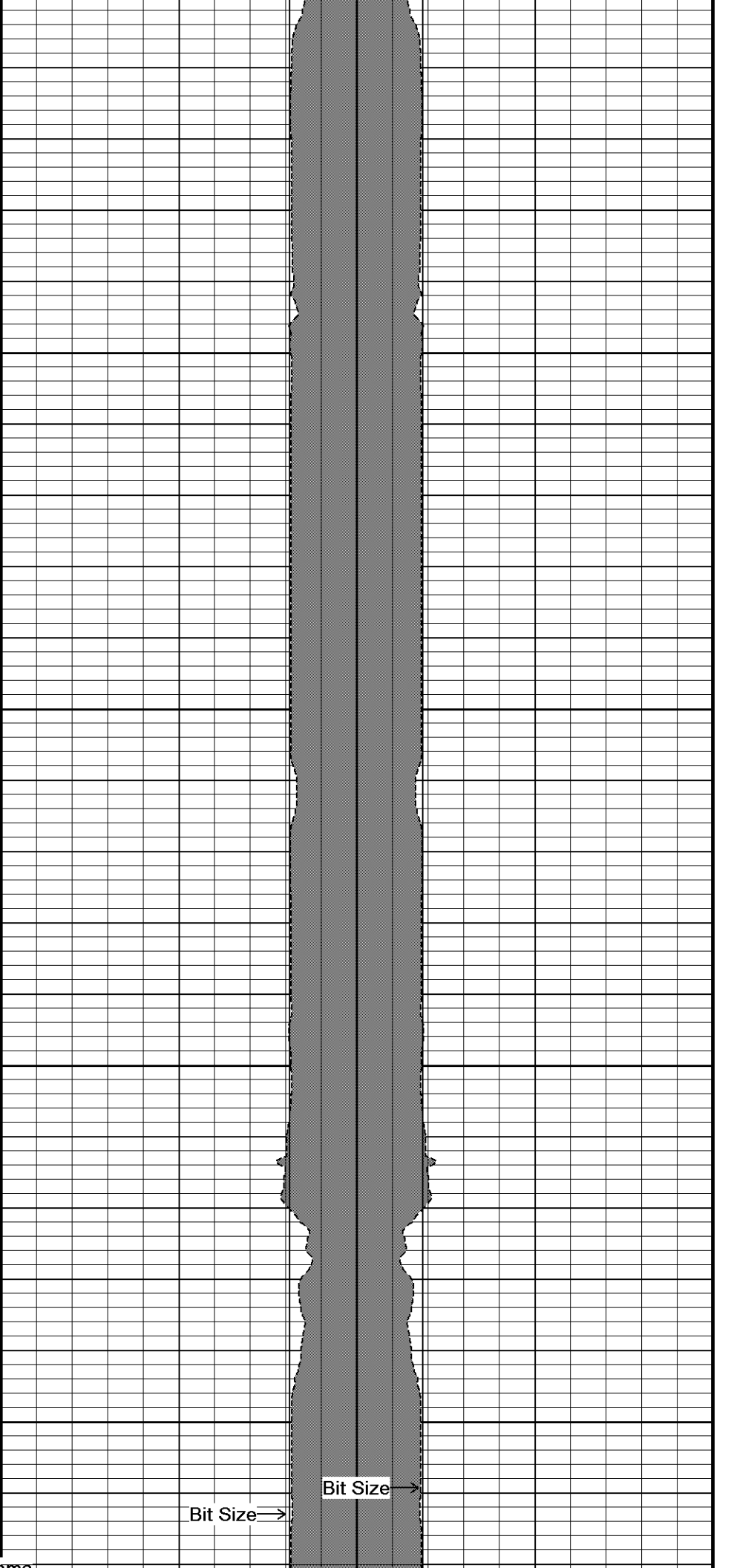
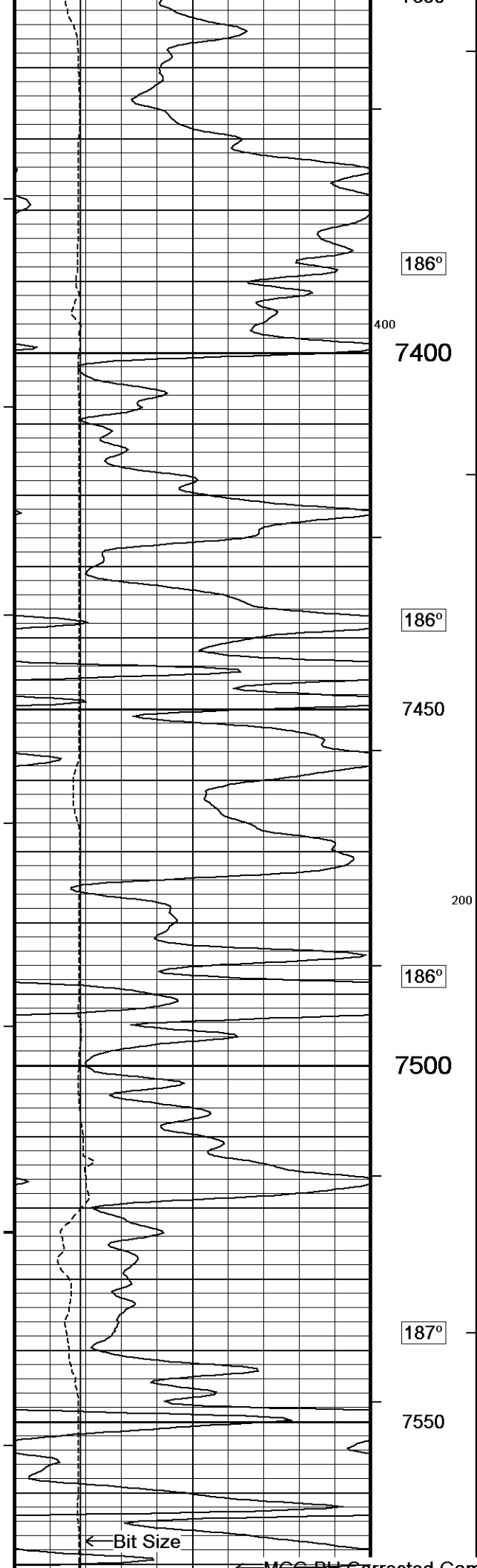


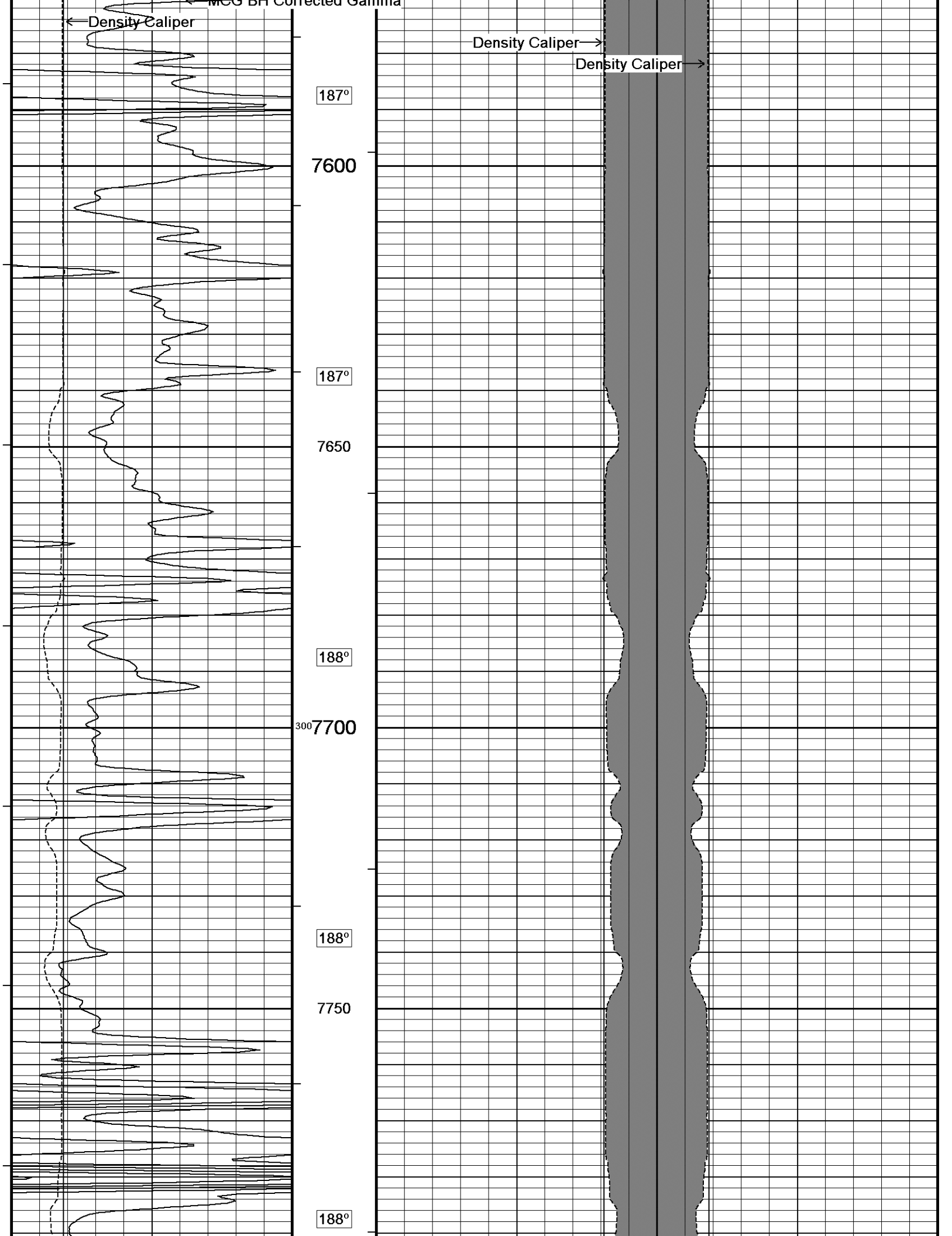
Bit Size

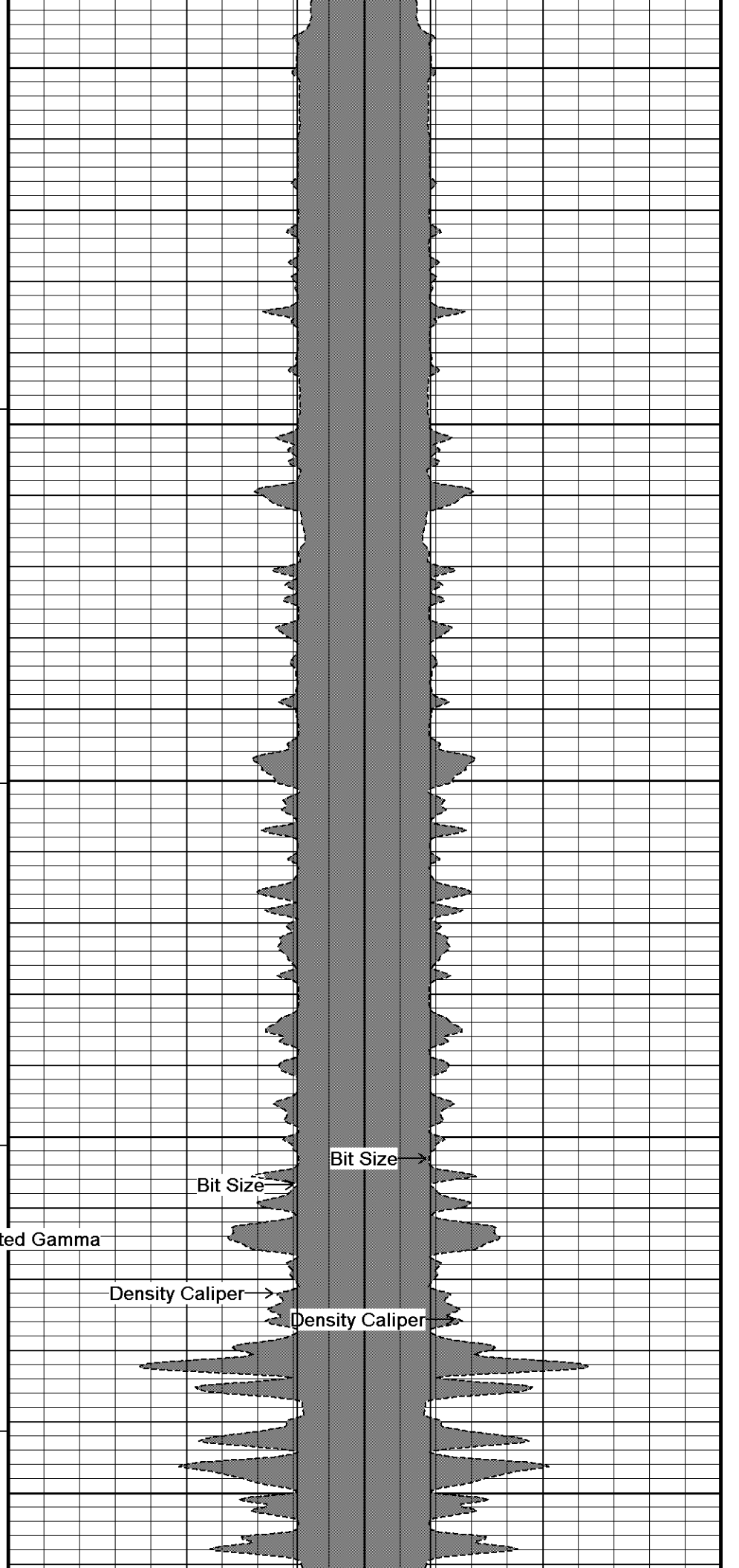
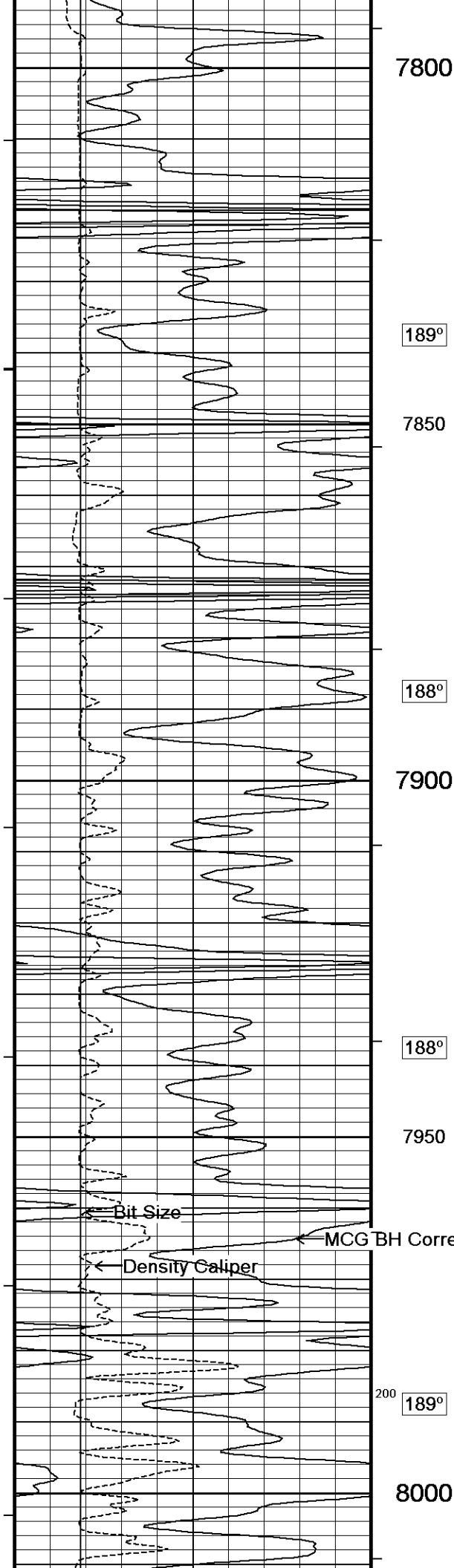
Bit Size

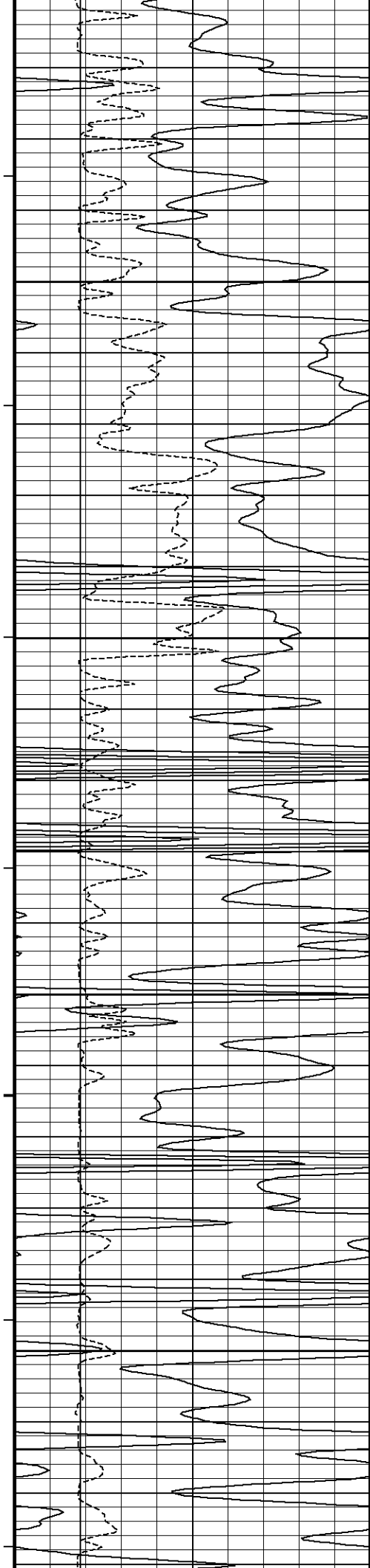
Density Caliper

Density Caliper









100

191°

8050

195°

8100

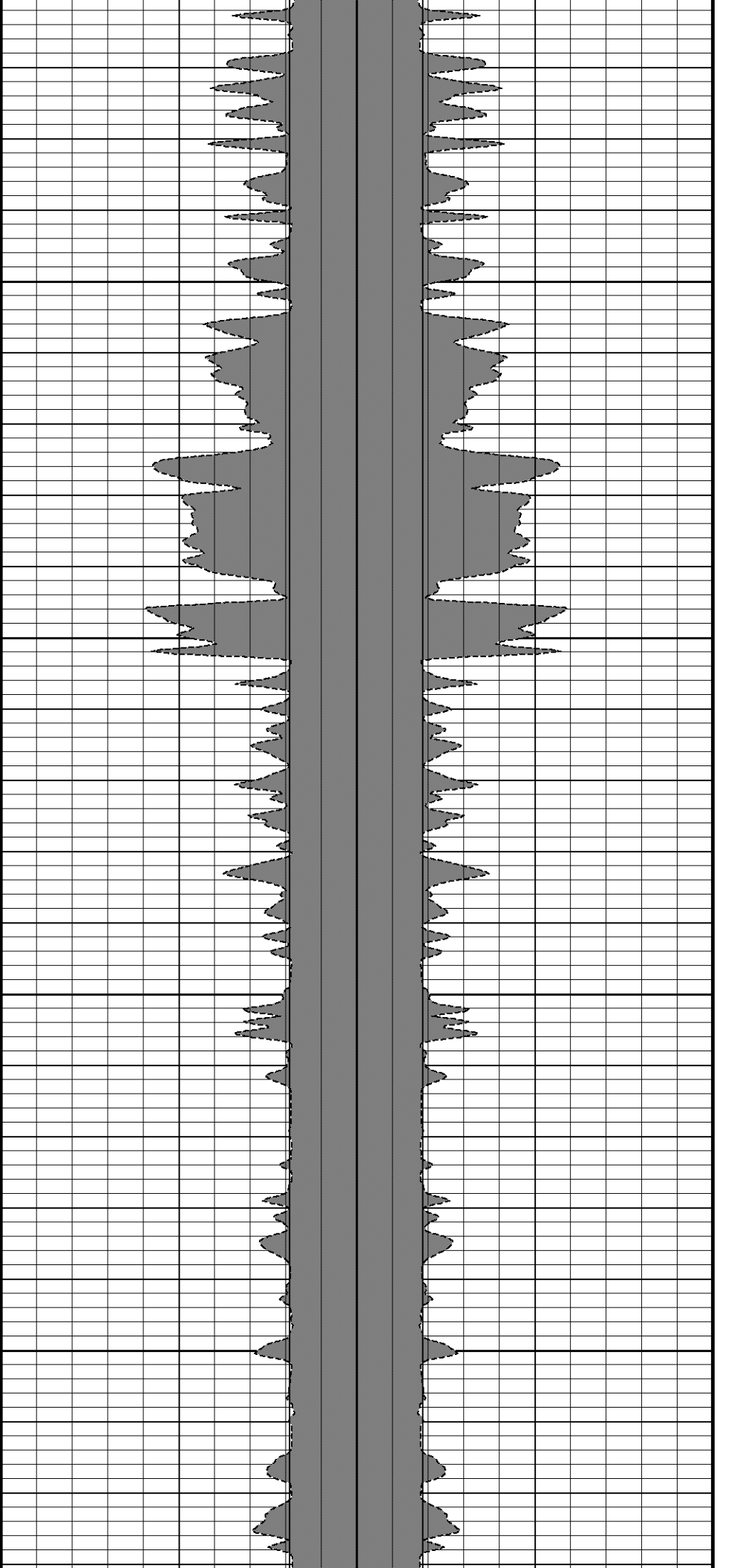
200°

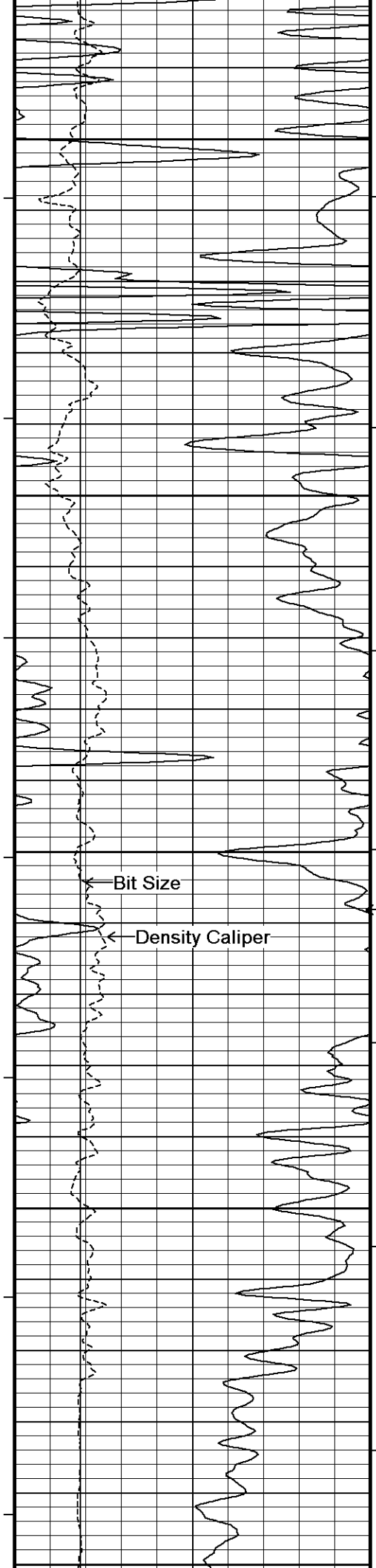
8150

202°

8200

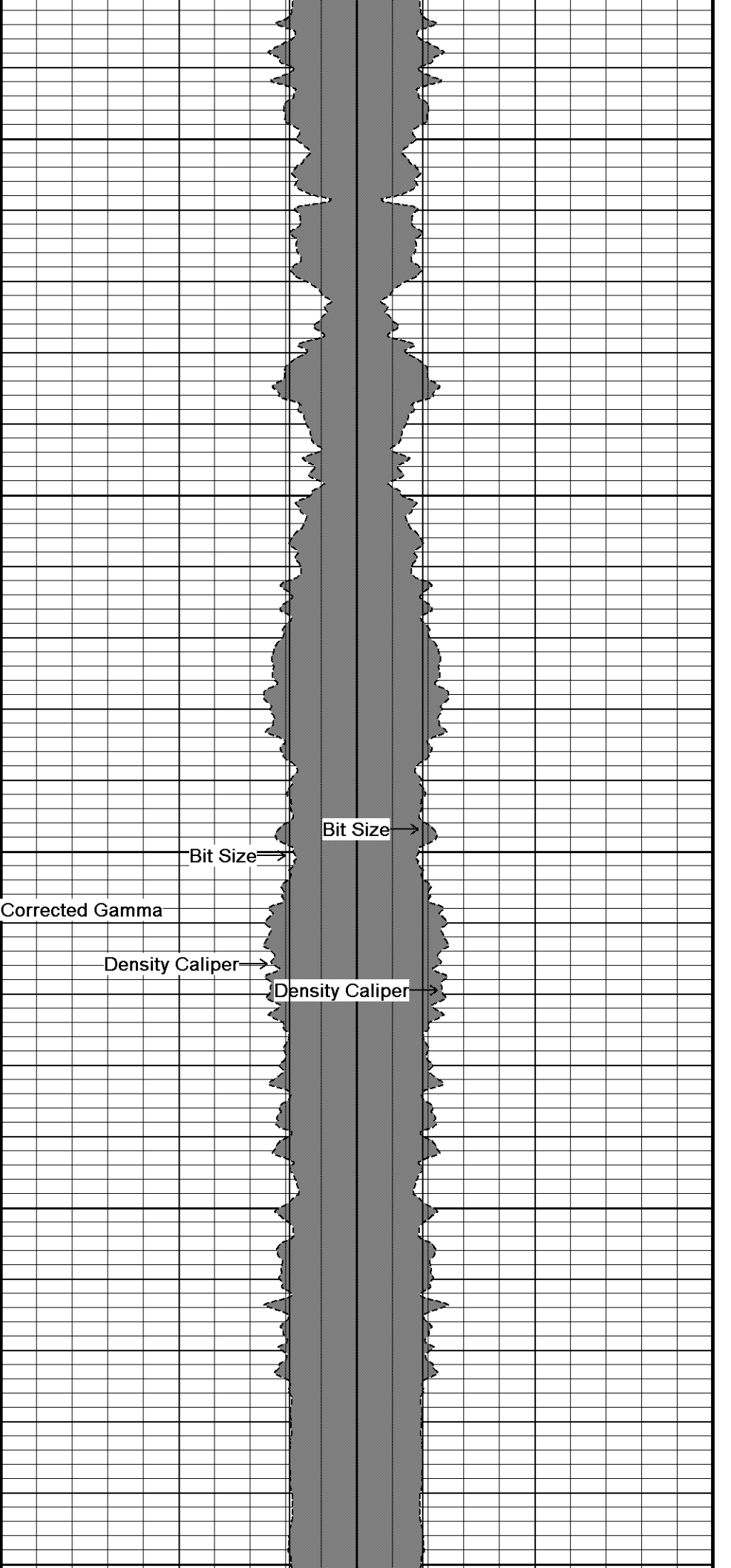
100





204°
8250
205°
8300
206°
8350
207°
8400
209°
8450

MCG BH Corrected Gamma

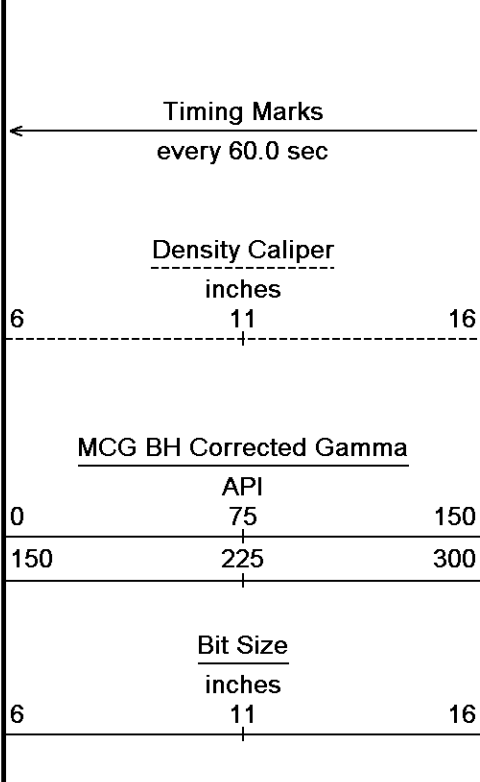
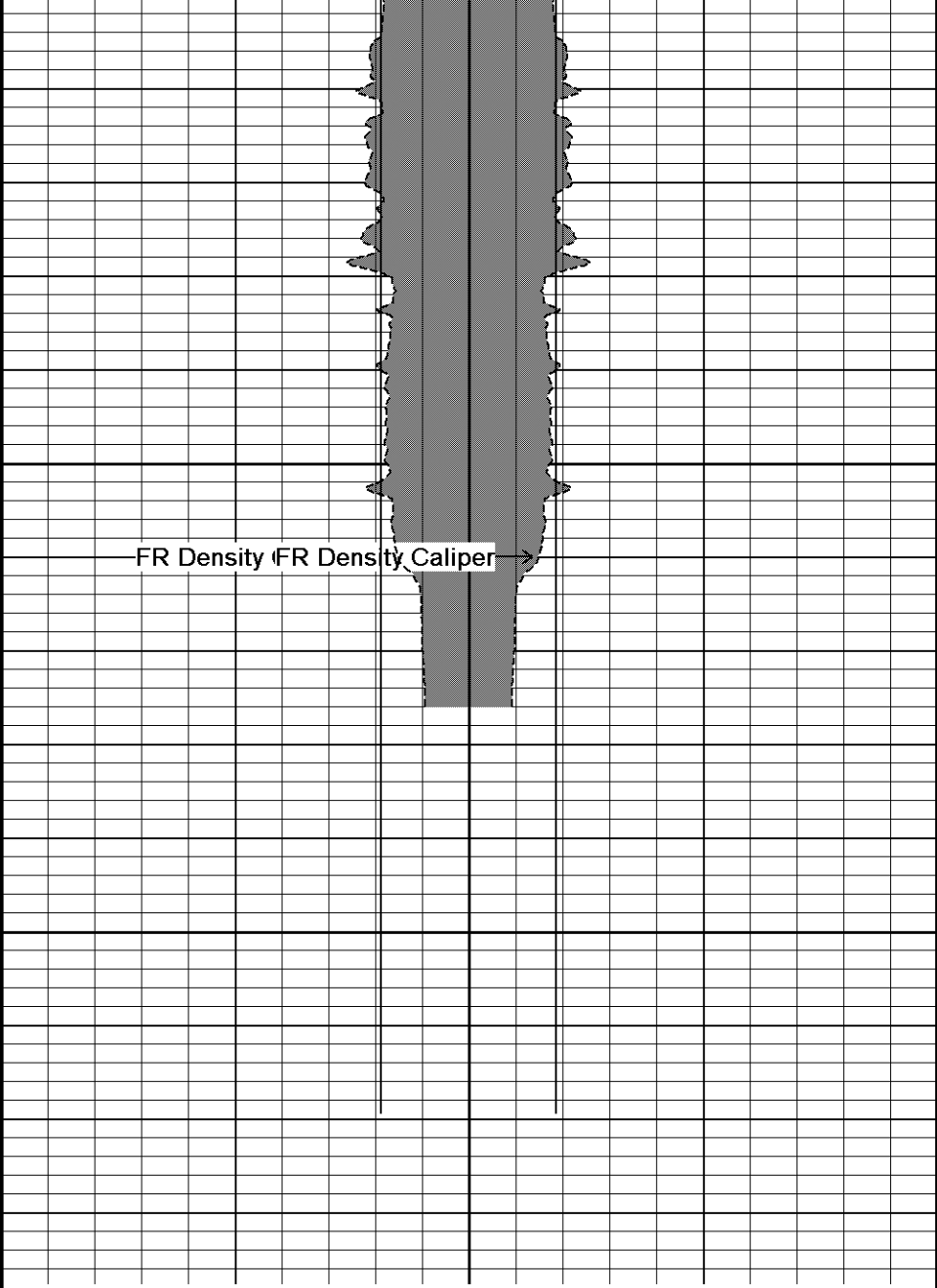
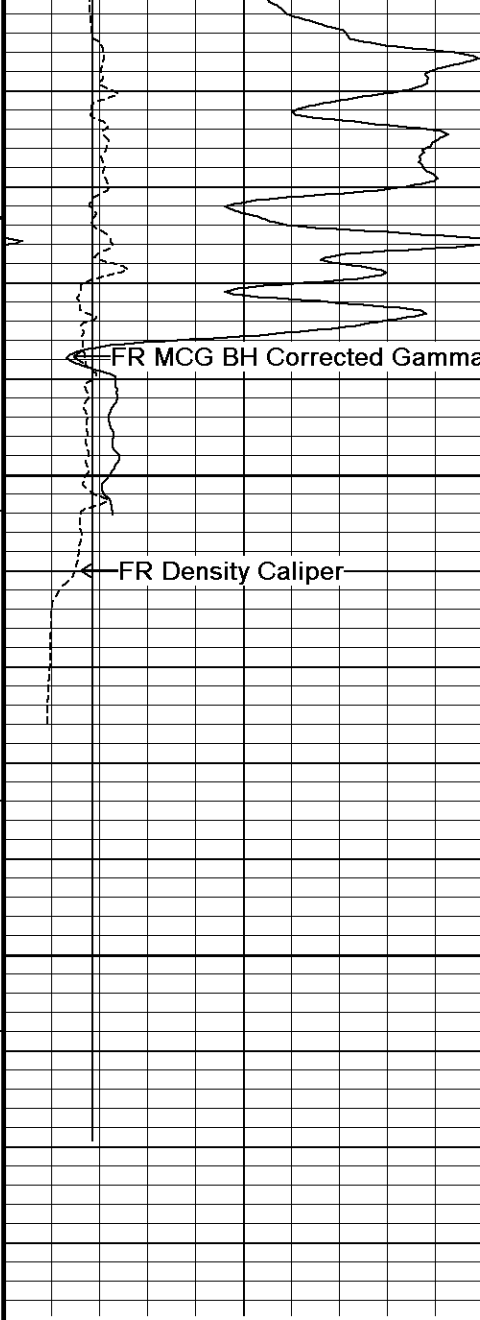


Bit Size

Density Caliper

Bit Size

Density Caliper



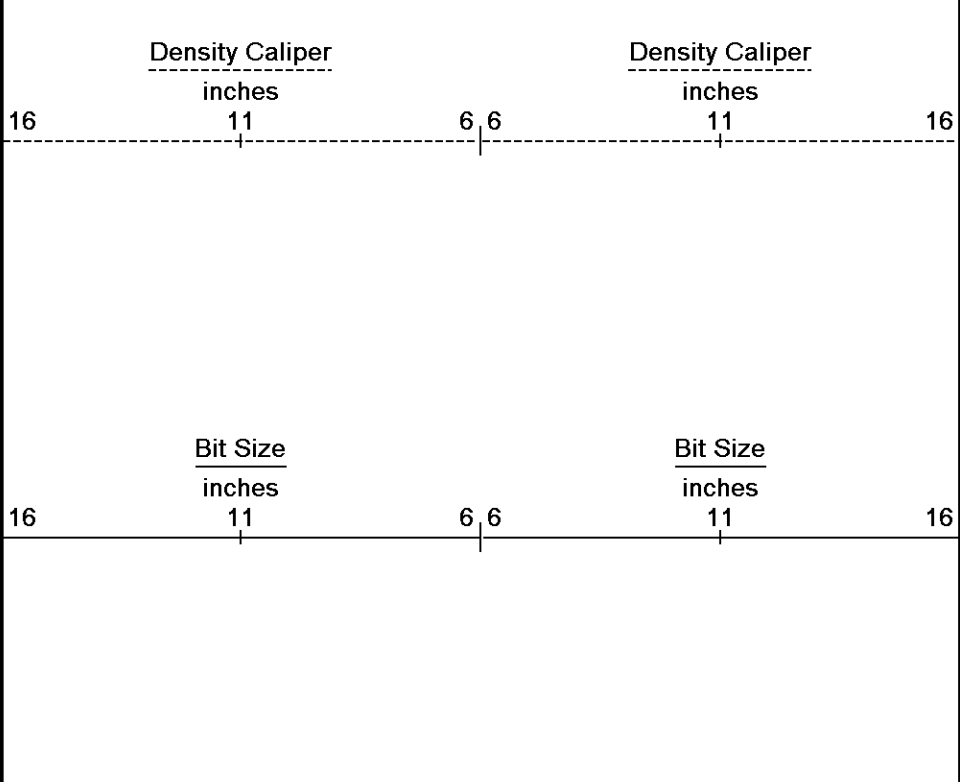
Depth in Feet

Borehole Temp in deg F

HVI every 10 cu ft

Annular Integral every 10 cu ft

Replay Scale 1:240



↑

5 INCH MAIN PASS

↑

BEFORE SURVEY CALIBRATION

C:_LOGS\GRAND MESA\DADO #2-21\Main Pass second toolstring.dta

General Constants All 000			Last Edited on 16-MAR-2020,10:04		
General Parameters					
Mud Resistivity	0.670		ohm-metres		
Mud Resistivity Temperature	101.000		degrees F		
Water Level	0.000		feet		
Borehole Fluid Processing	Wet Hole				
Hole/Annular Volume and Differential Caliper Parameters					
HVOL Method	Single Caliper				
HVOL Caliper 1	Density Caliper				
HVOL Caliper 2	N/A				
Annular Volume Diameter	5.500		inches		
Caliper for Differential Caliper	Density Caliper				
Rwa Parameters					
Porosity used	Base Density Porosity				
Resistivity used	Array Ind. One Res Rt				
RWA Constant A	0.620				
RWA Constant M	2.150				
SW/APOR Tool Source	0.000				

Gamma Calibration MCG-E.A 533			Field Calibration on 16-JAN-2020 11:29		
	Measured	Calibrated (API)			
Background	43	28			
Calibrator (Gross)	864	561			
Calibrator (Net)	821	533			

Gamma Calibration Tolerances MCG-E.A 533					
Ratio	1.541	<div> <div>1.40</div> <div>1.475</div> <div>1.55</div> </div>	Counts/API		

Gamma Constants MCG-E.A 533			Last Edited on 16-MAR-2020,10:05		
Gamma Calibrator Number	MCGGRCC118				
GRC-M Calibrator Jig in Use?	NO				
Inactive Background Jig in Use?	NO				
Mud Density	1.10	gm/cc			
Caliper Source for Processing	Density Caliper				
Tool Position	Eccentred				
Potassium Equivalence	Chloride				
K Mud Concentration	0.00	%			

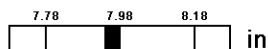
High Resolution Temperature Constants MCG-E.A 533					
Pre-filter Length	11				

Caliper Calibration MPD-D.A 476			Base Calibration on 25-FEB-2020 09:20 Field Calibration on 25-FEB-2020 09:21		
Base Calibration					
Reading No	Measured	Calibrator Size (in)			
1	18271	4.01			
2	28013	5.96			
3	38362	7.98			
4	48530	9.94			
5	58944	11.88			
6	N/A	N/A			
Field Calibration					
	Measured Caliper (in)	Actual Caliper (in)			
	7.94	7.98			

Caliper Calibration Tolerances MPD-D.A 476

Short Arm Field Cal.

7.94



DOWNHOLE EQUIPMENT

C:\LOGS\GRAND MESA\DADO #2-21\Main Pass second toolstring.dta

Cablehead, 11 pin

CBH-CA 172 LG: 2.40 ft WT: 24.3 lb OD: 2.244 in

11C-11B Compact Tool Adaptor

MTA-K.A 341 LG: 1.53 ft WT: 13.2 lb OD: 2.240 in

Compact Swivel Head Adaptor

SHA-J.B 656 LG: 2.30 ft WT: 22.0 lb OD: 2.244 in

Compact Comms Gamma

MCG-E.A 533 LG: 8.70 ft WT: 63.9 lb OD: 2.244 in

Compact Micro-Resistivity

MMR-B.J 193 LG: 8.59 ft WT: 81.6 lb OD: 4.882 in

Compact Neutron

MDN-C.A 480 LG: 5.04 ft WT: 50.7 lb OD: 2.244 in

Compact Density/Caliper

MPD-D.A 476 LG: 9.59 ft WT: 90.4 lb OD: 2.449 in

Compact Vee Arm Caliper

MVC-A.A 146 LG: 8.06 ft WT: 61.7 lb OD: 2.244 in

Compact Knuckle Joint

SKJ-E.B 659 LG: 2.17 ft WT: 24.3 lb OD: 2.244 in

Compact Focussed Electric

MFE-C.A 399 LG: 6.05 ft WT: 48.5 lb OD: 2.244 in

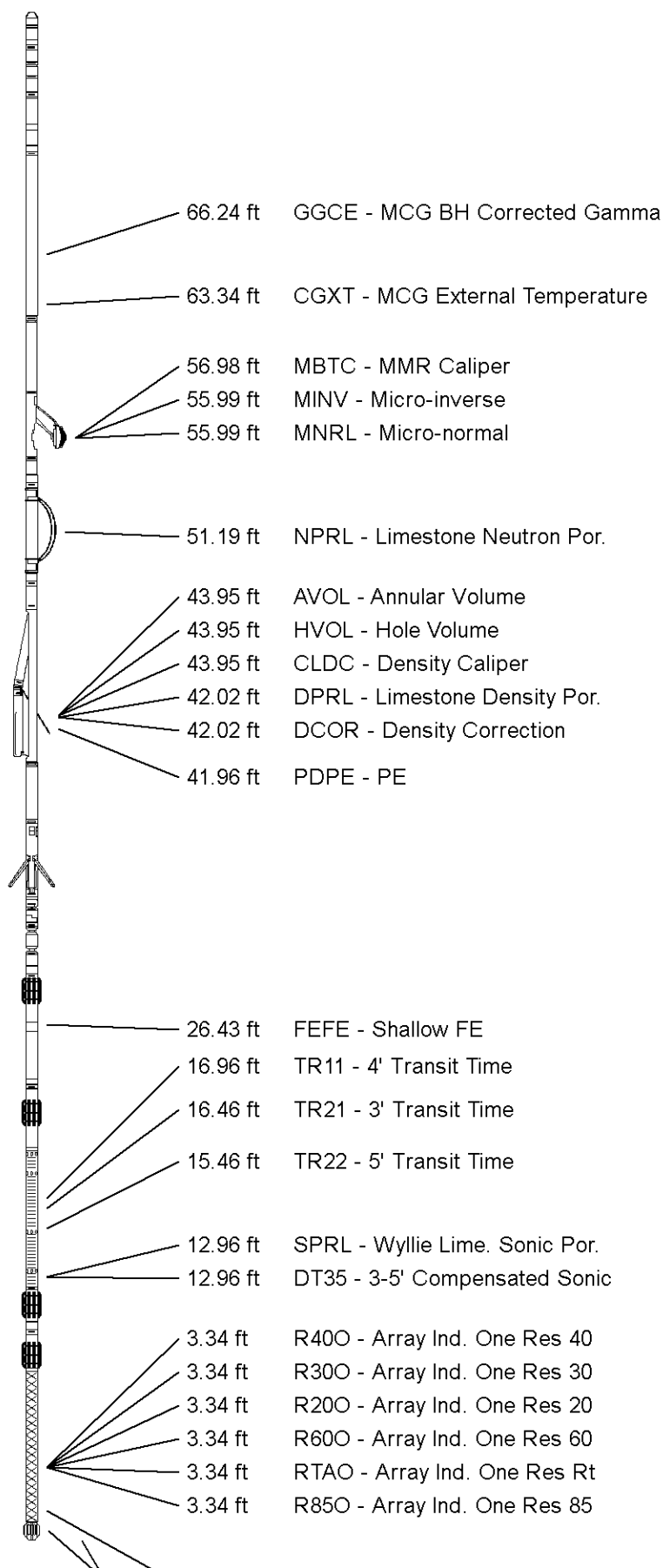
Compact Sonic

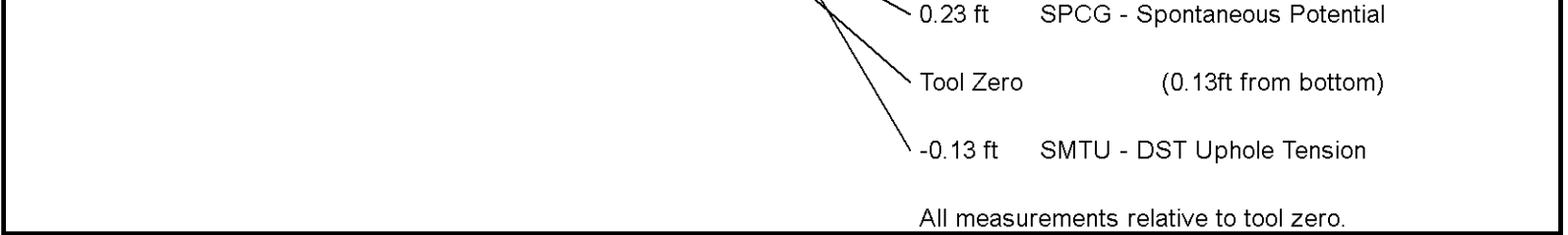
MSS-D.A 398 LG: 12.52 ft WT: 72.8 lb OD: 2.244 in

Compact Induction

MAI-B.J 432 LG: 10.81 ft WT: 48.5 lb OD: 2.244 in

Total Length: 77.75 ft Weight: 601.9 lb





COMPANY	GRAND MESA OPERATING COMPANY		
WELL	DADO 2-21		
FIELD	GUTRU		
PROVINCE/COUNTY	LINCOLN		
COUNTRY/STATE	COLORADO		

Elevation Kelly Bushing	5481	feet	First Reading	8511.00	feet
Elevation Drill Floor	5480	feet	Depth Driller	8559.00	feet
Elevation Ground Level	5462	feet	Depth Logger	8554.00	feet

BOREHOLE PROFILE LOG