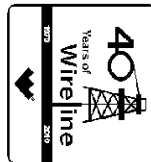




**Weatherford**

**HOLE VOLUME  
CALIPER  
LOG**

COMPANY **FRAM OPERATING LLC**  
WELL **MANSUR 33-1-G**  
FIELD **WILDCAT**  
PROVINCE/COUNTY **MESA**  
COUNTRY/STATE **U.S.A. / COLORADO**  
LOCATION **SHL: 2165' FNL & 2087' FWL**  
**BHL: 1732' FNL & 588' FWL**



SEC **33** TWP **12S** RGE **97W** Other Services  
API Number **05-077-09473** MPD/MDN  
Permit Number **MSS** MAI/MFE

Permanent Datum G.L., Elevation 6087 feet  
Log Measured From K.B. @ 14 FEET above Permanent Datum  
Drilling Measured From K.B.

Elevations:  
KB 6097.00  
DF 6096.00  
GL 6083.00

Date	13-JUN-2011	
Run Number	ONE	
Depth Driller	4227.00	feet
Depth Logger	4196.00	feet
First Reading	4118.00	
Last Reading	506.00	
Casing Driller	503.00	feet
Casing Logger	506.00	feet
Bit Size	8.750	inches
Hole Fluid Type	DAP	
Density / Viscosity	9.20 lb/USg	38.00 CP
PH / Fluid Loss	7.90	8.00 ml/30Min
Sample Source	FLOW LINE	
Rm @ Measured Temp	1.05 @ 86.9	ohm-m
Rmf @ Measured Temp	0.84 @ 86.9	ohm-m
Rmc @ Measured Temp	1.26 @ 86.9	ohm-m
Source Rmf / Rmc	CALC	CALC
Rm @ BHT	0.729 @127.0	ohm-m
Time Since Circulation	1 HOUR	
Max Recorded Temp	127.00	deg F
Equipment Name	COMPACT	
Equipment / Base	18063	RK SPG
Recorded By	J. BOON	
Witnessed By	J. GRIGGS	

**BOREHOLE RECORD**

Last Edited: 13-JUN-2011 20:21

Bit Size inches	Depth From feet	Depth To feet
8.750	503.00	4227.00

**CASING RECORD**

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
	9.625	0.00	503.00	36.00

**REMARKS**

TOOLS: MCG, MDN, MPD, MAI RAN IN COMBINATION.

WLS VERSION 11.02.3186

LOGGED USING COMPACT WELL SHUTTLE - CWS MESSENGER 475

HARDWARE: SEE TOOL DIAGRAM

2.68 G/CC DENSITY MATRIX USED TO CALCULATE POROSITY.

ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST

ALL INTERVALS LOGGED AND CORRECTED PER CUSTOMER'S REQUEST.

TIGHT PULLS, BOREHOLE SIZE, AND RUGOSITY WILL AFFECT REPEATABILITY AND DATA QUALITY.

5.5 INCH PRODUCTION CASING USED TO CALCULATE ANNULAR HOLE VOLUME.

TOTAL HOLE VOLUME FROM TD TO CASING = 2090 CU.FT.

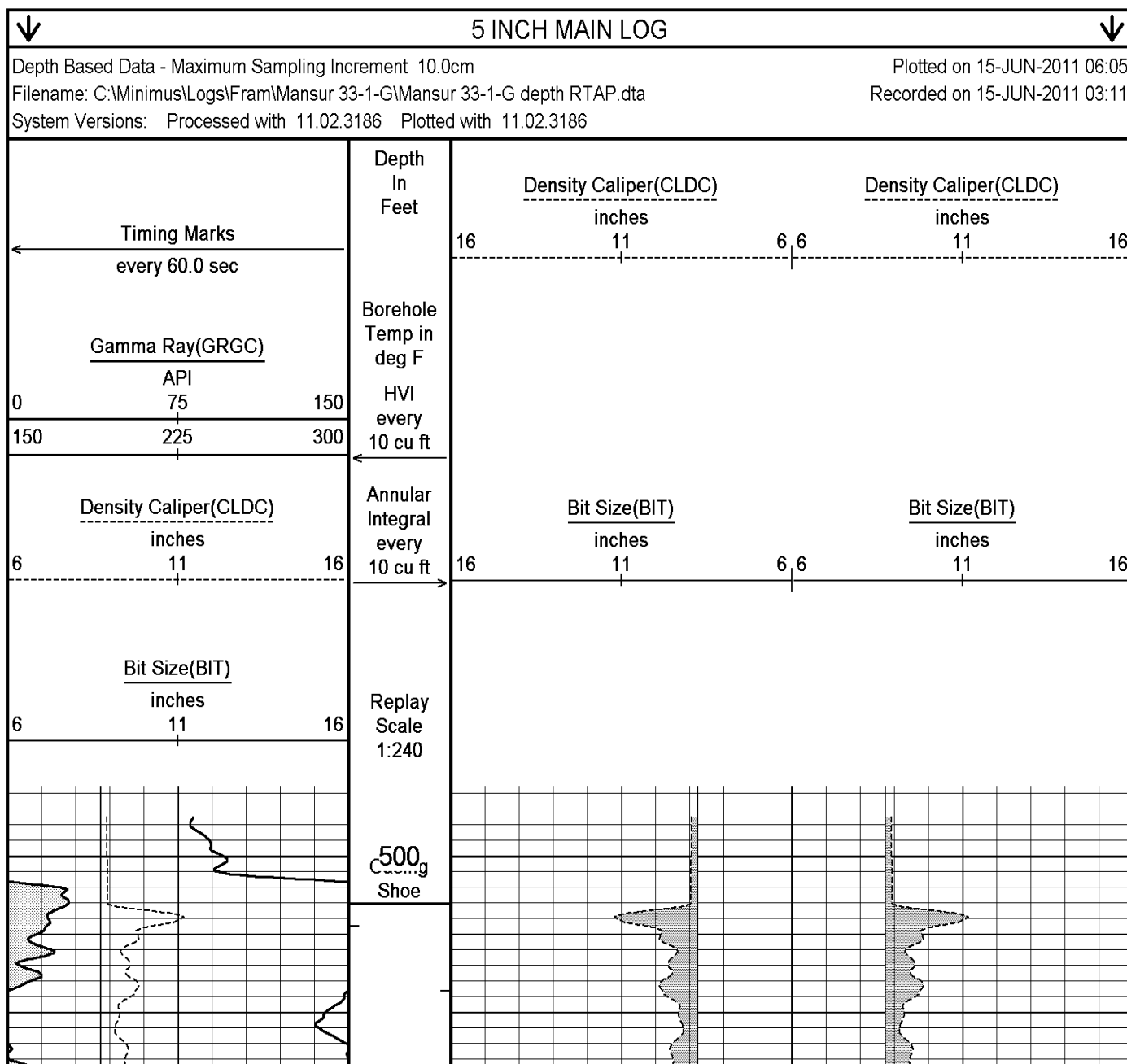
ANNULAR VOLUME WITH 5.5 INCH PRODUCTION CASING = 1485 CU.FT.

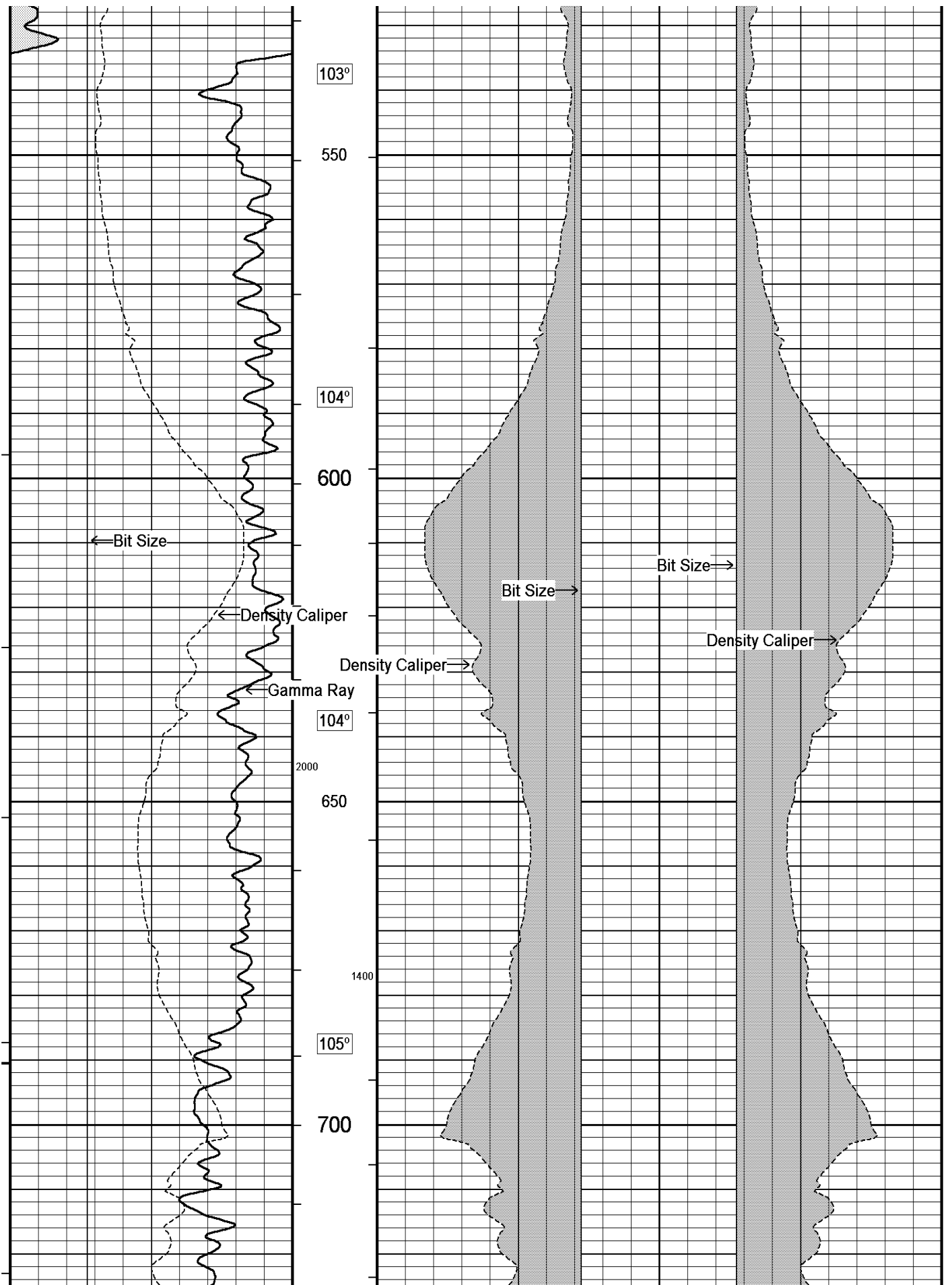
OPERATOR: B. SUMMERALL, M. LAMOREAX

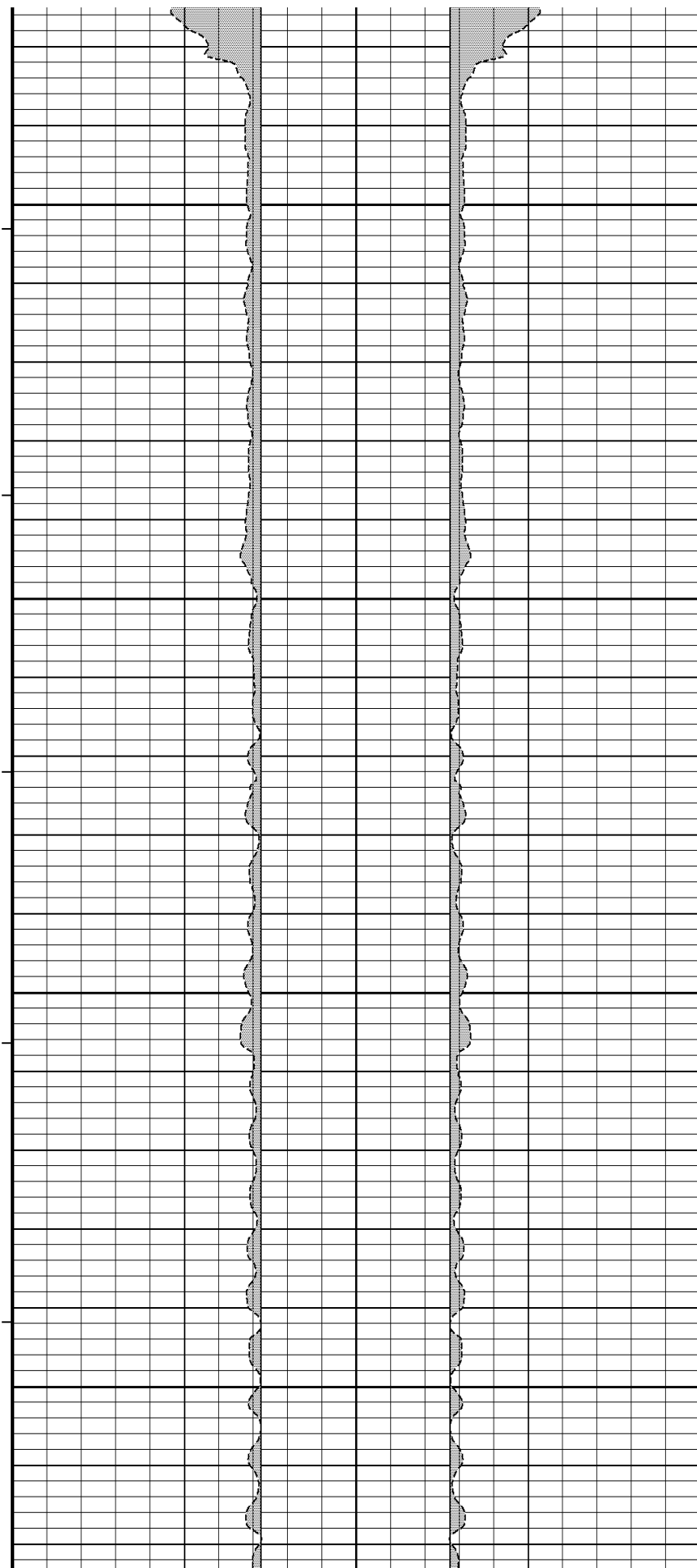
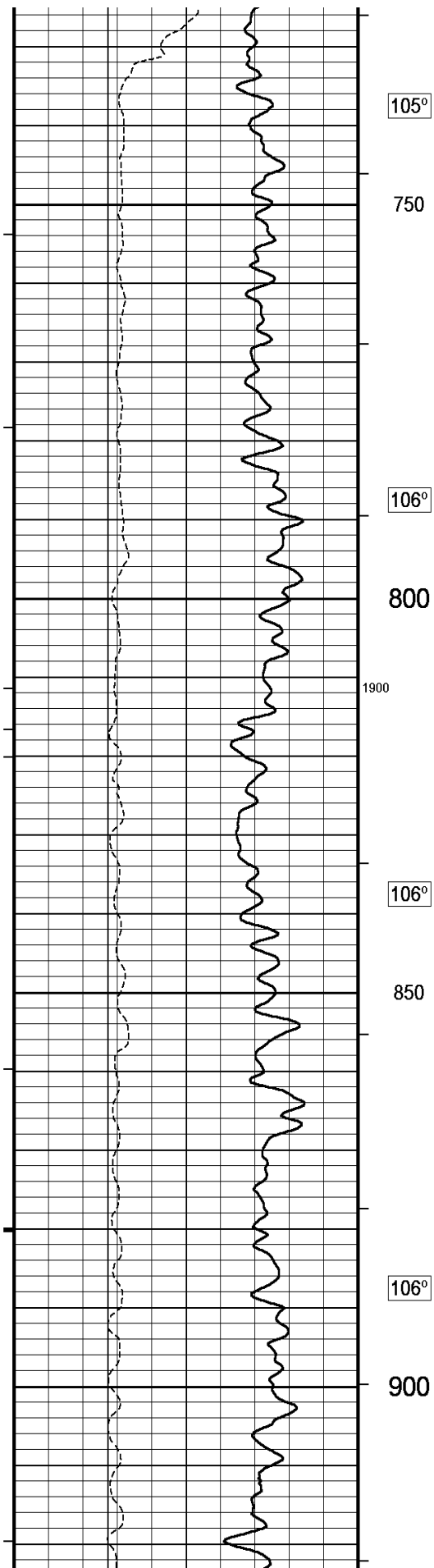
SERVICE ORDER 3529599

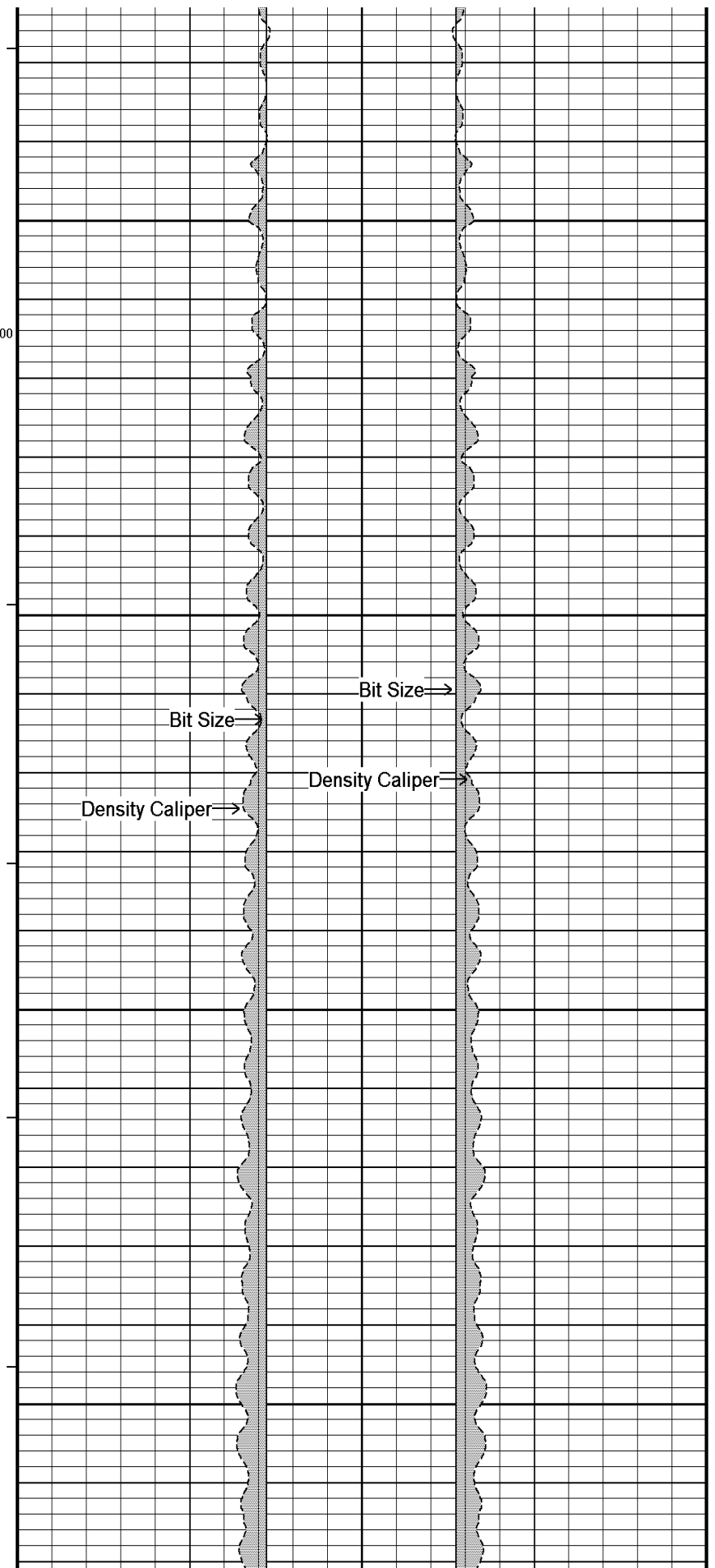
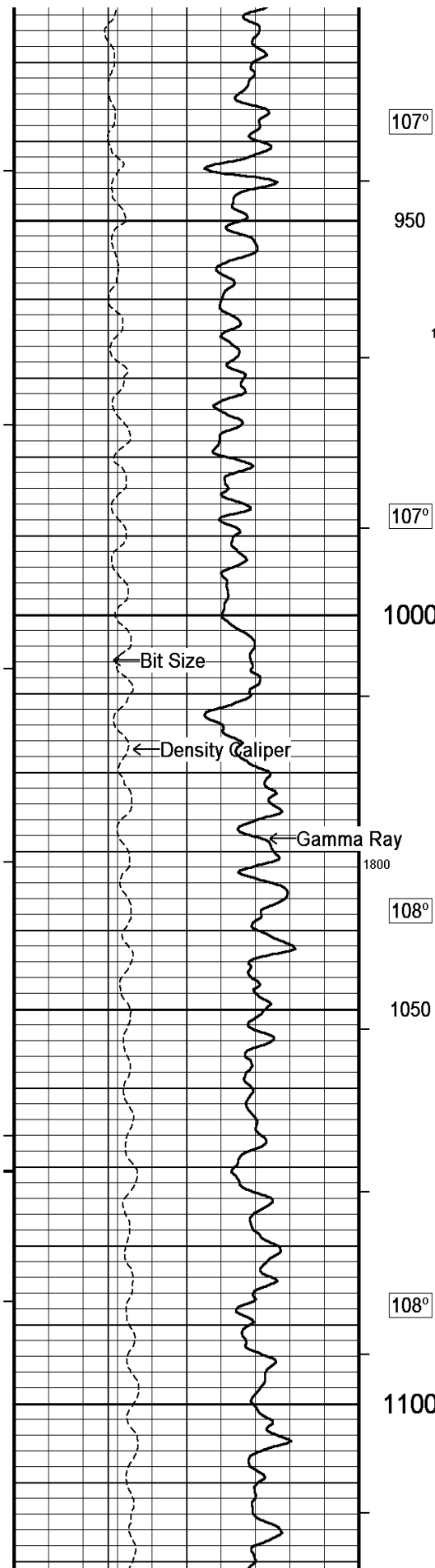
RIG: FRONTIER 4

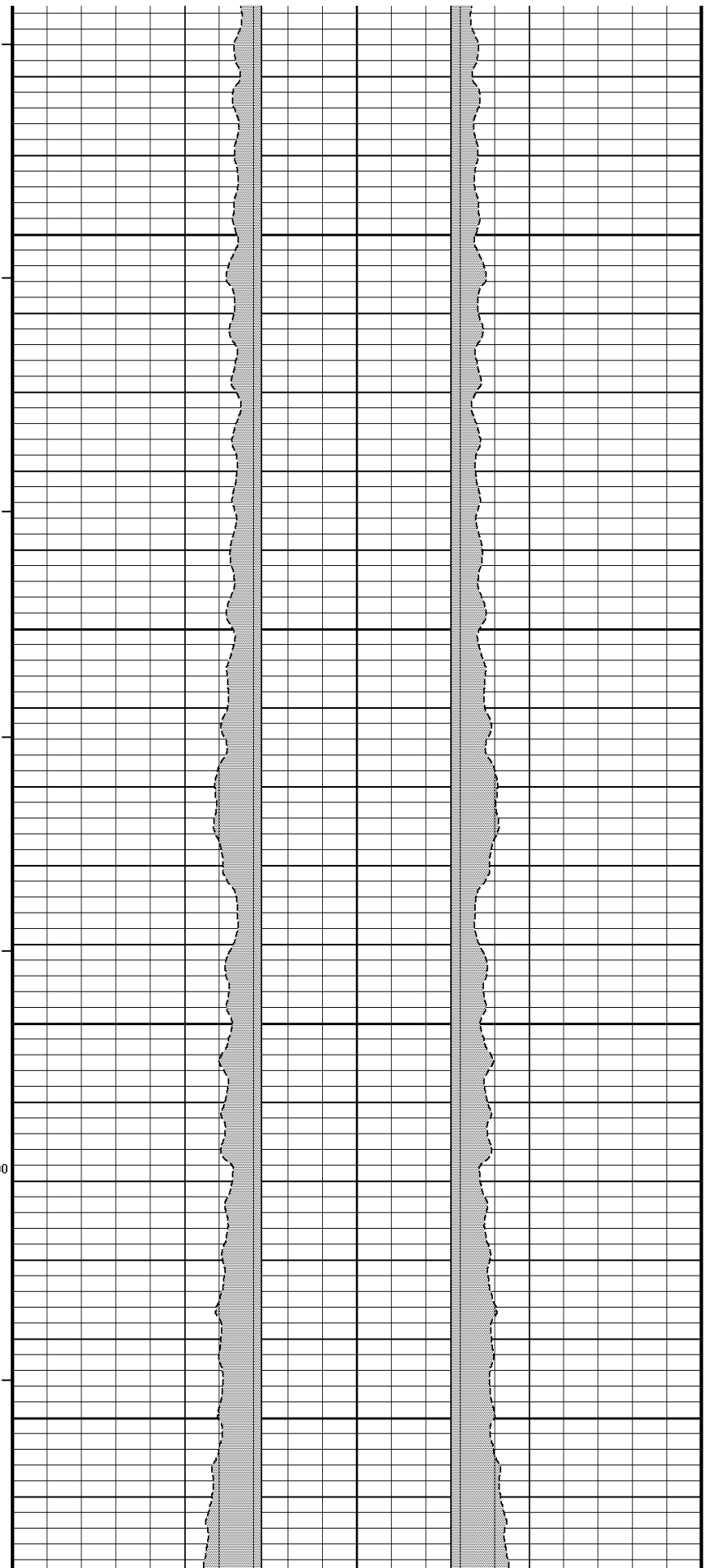
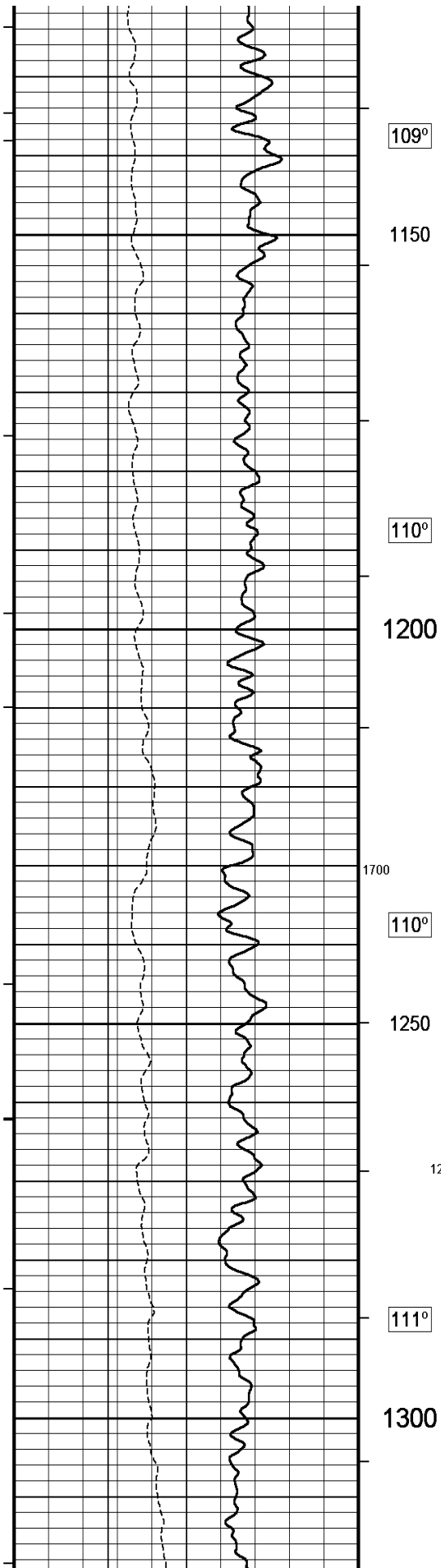
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions in our price schedule.

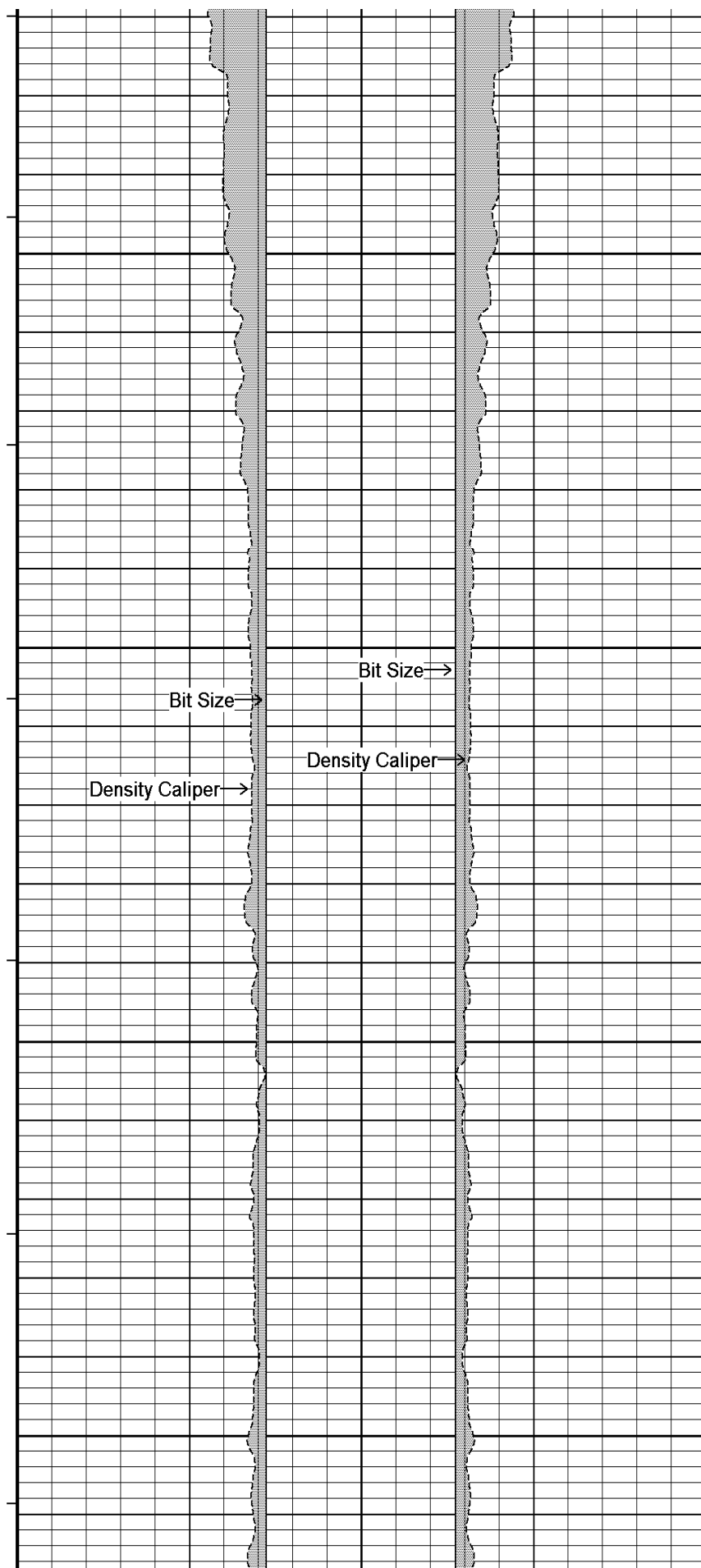
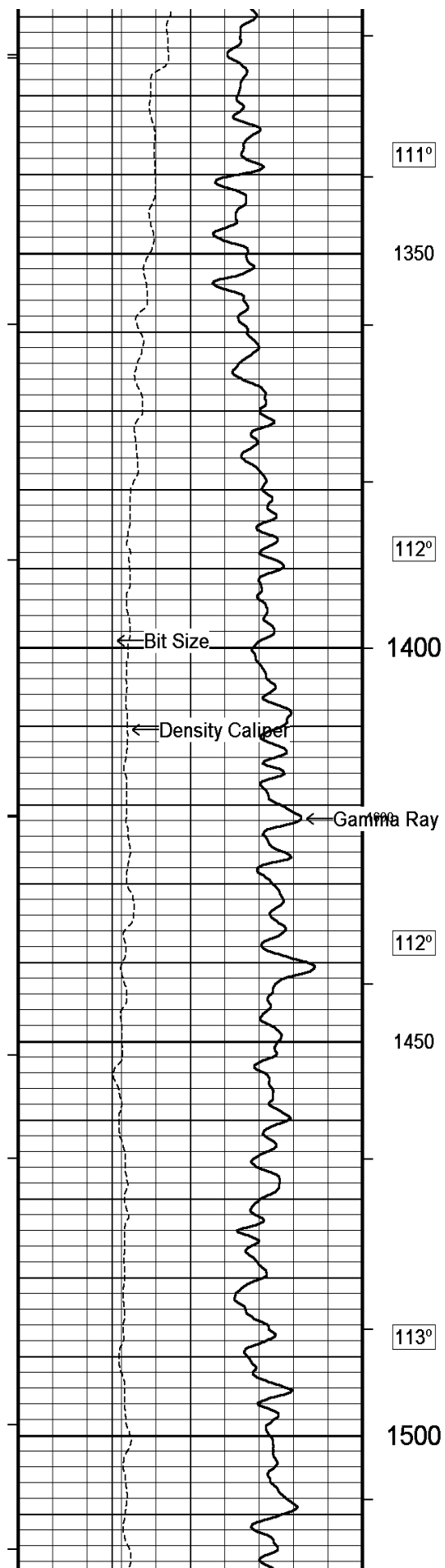


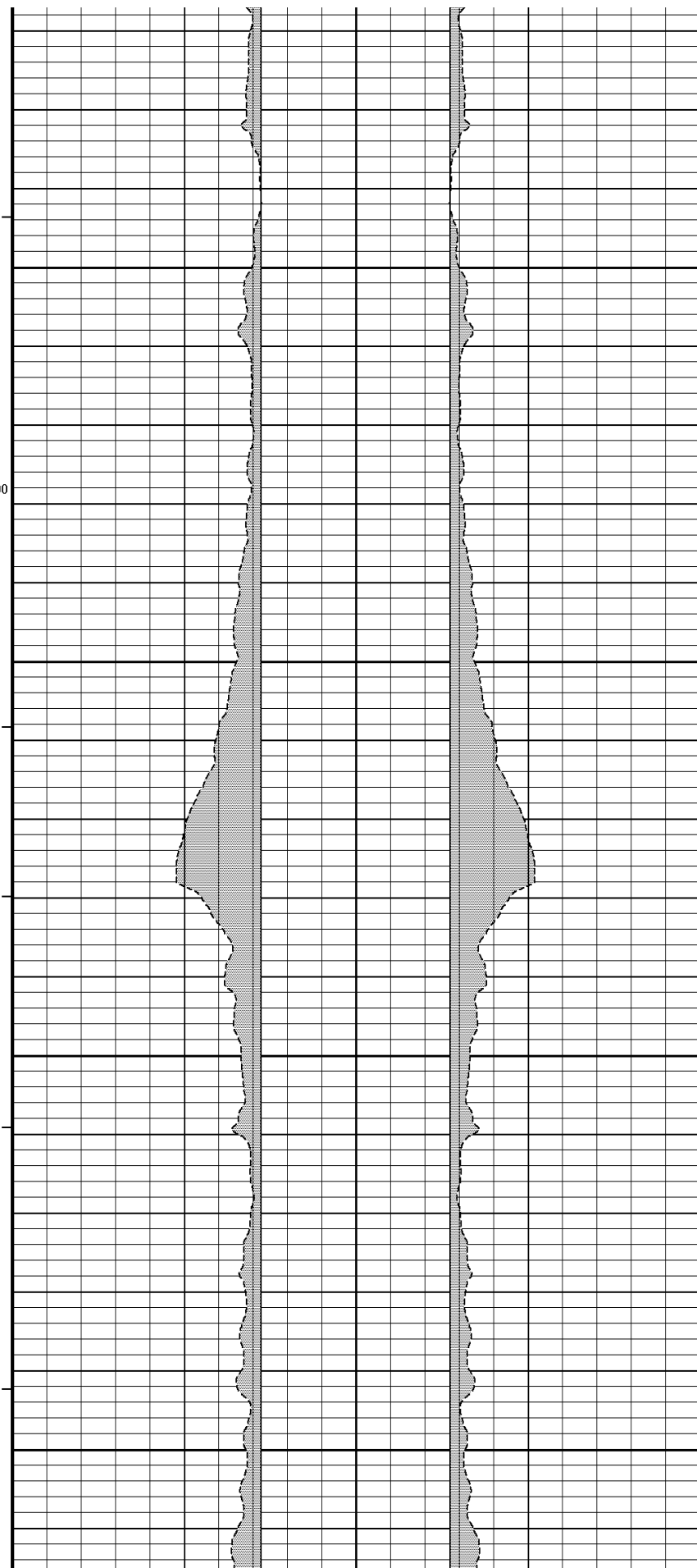
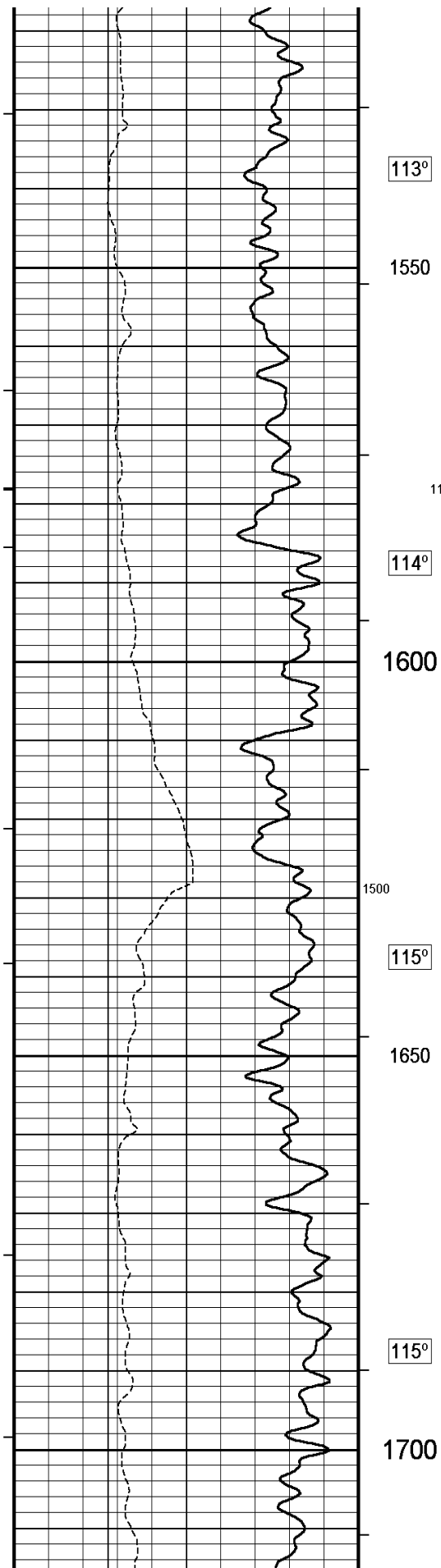




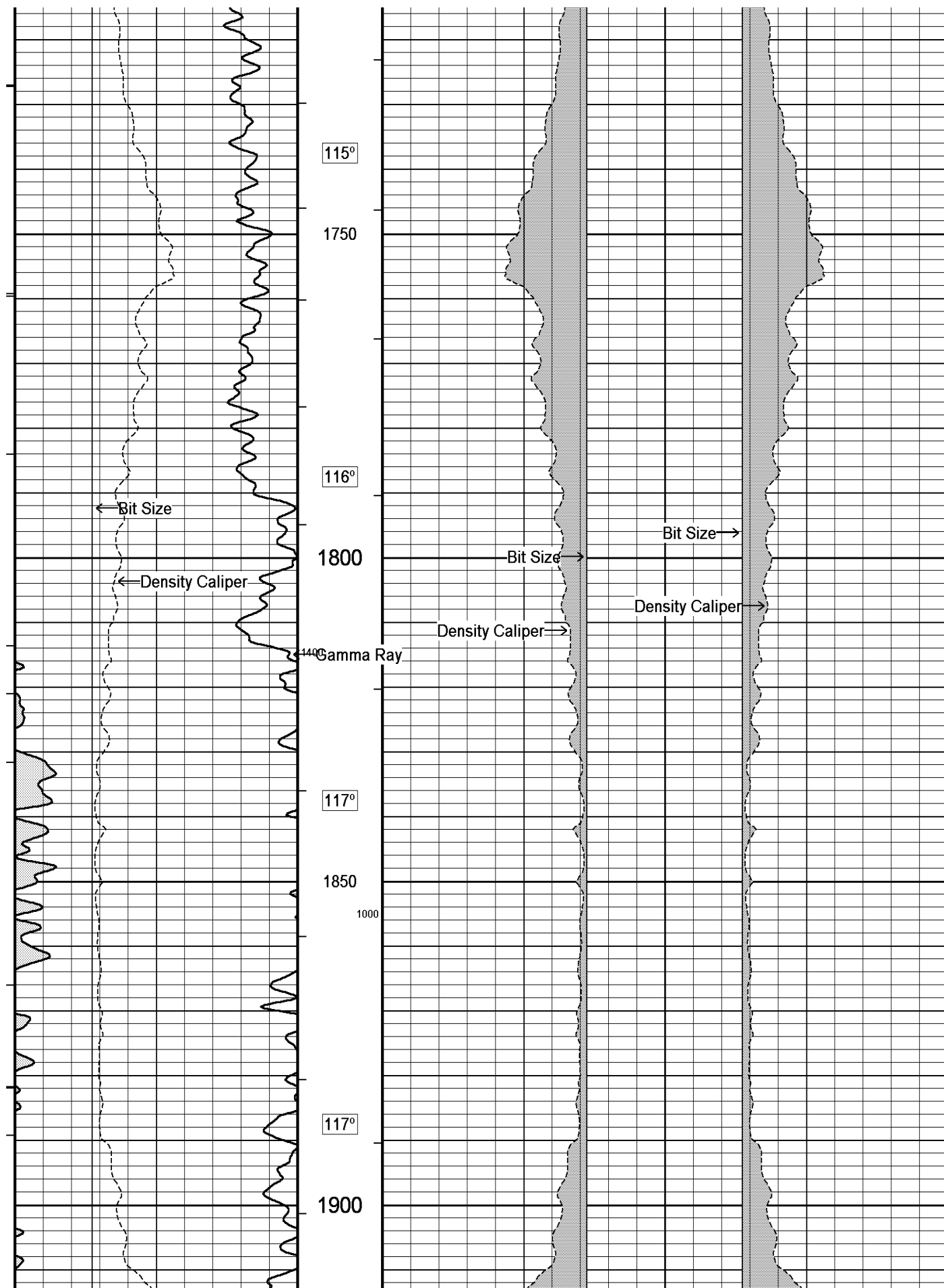


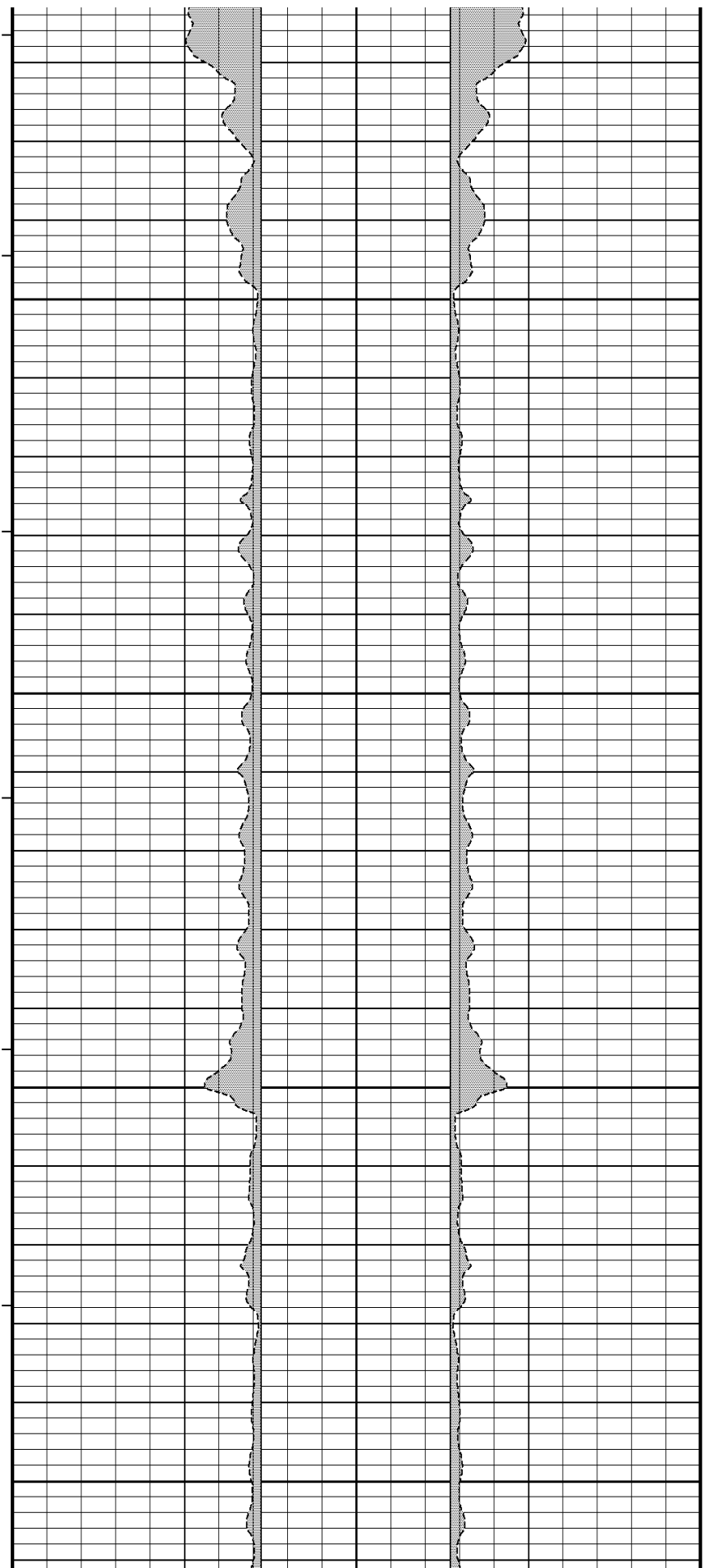
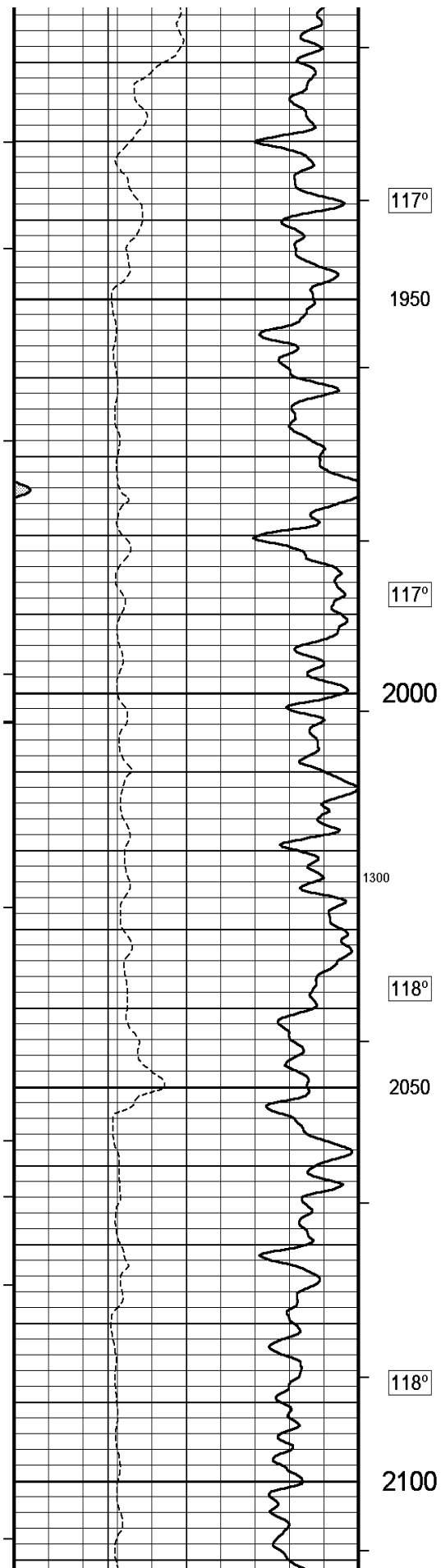


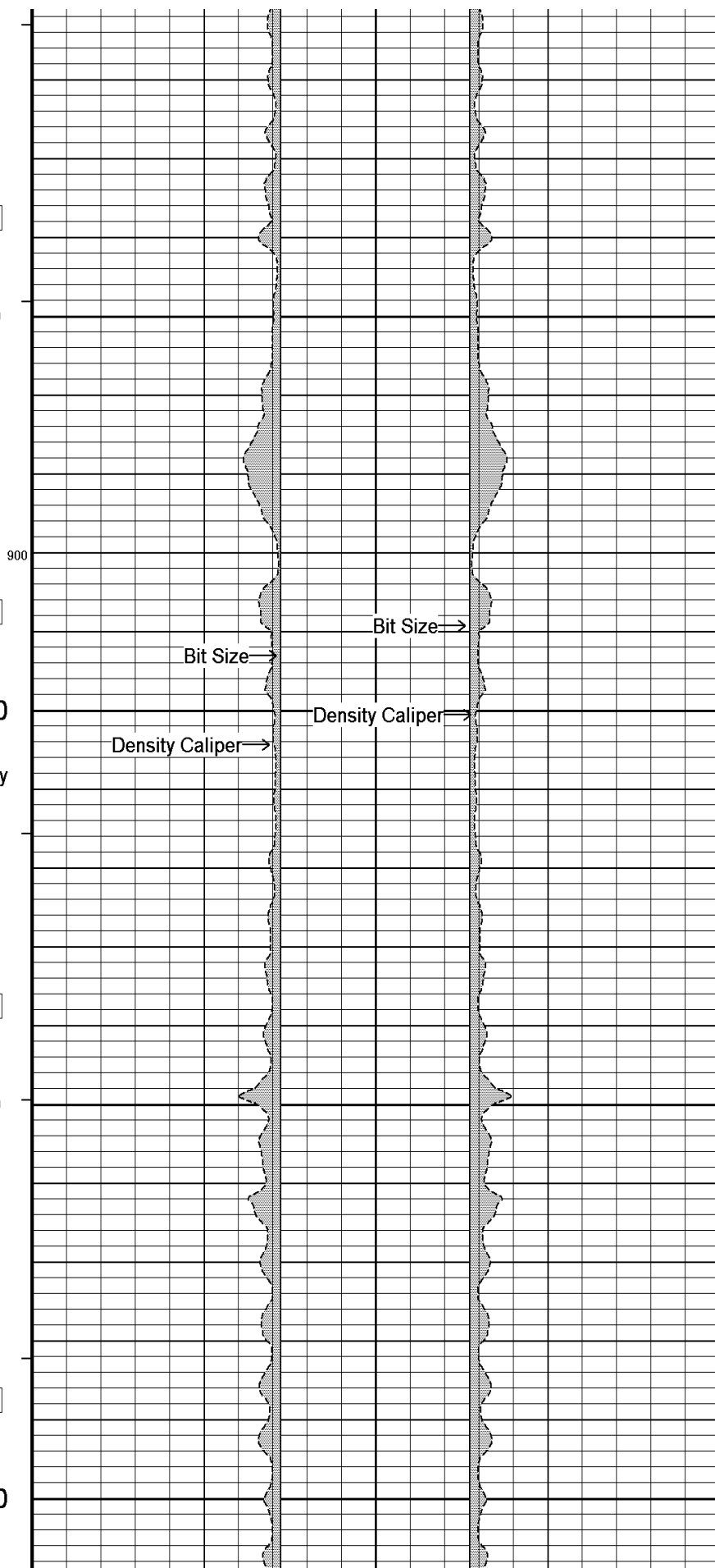
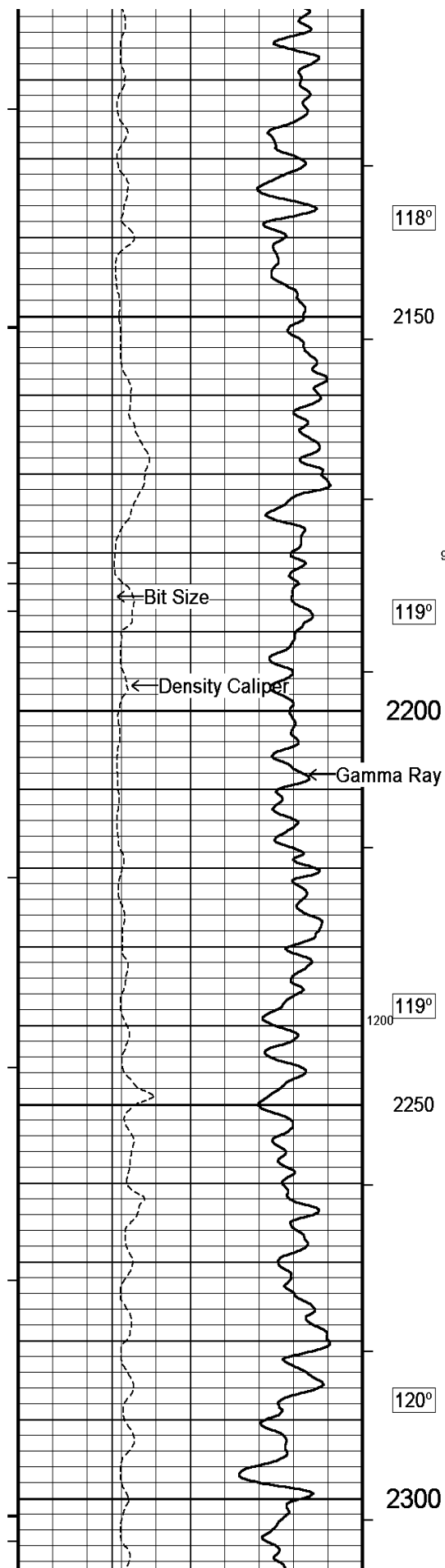


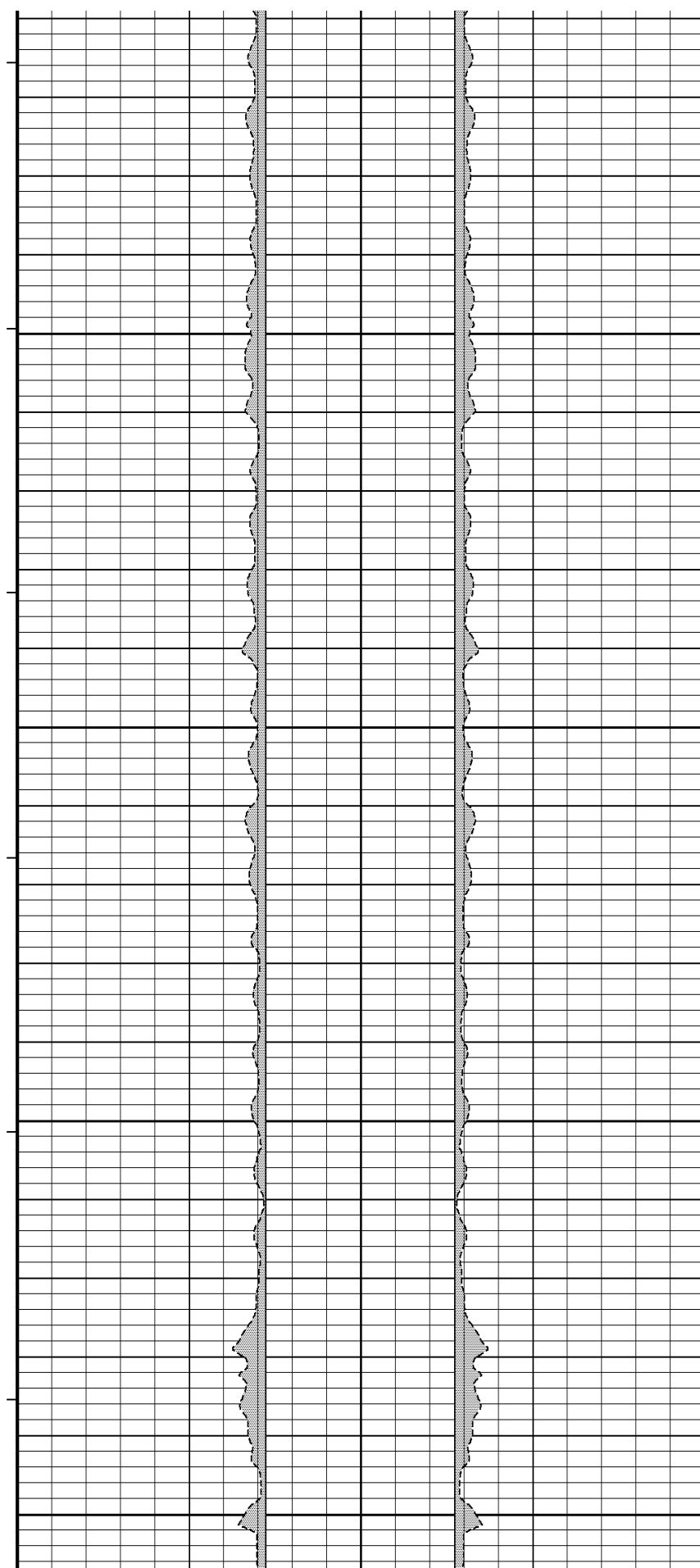
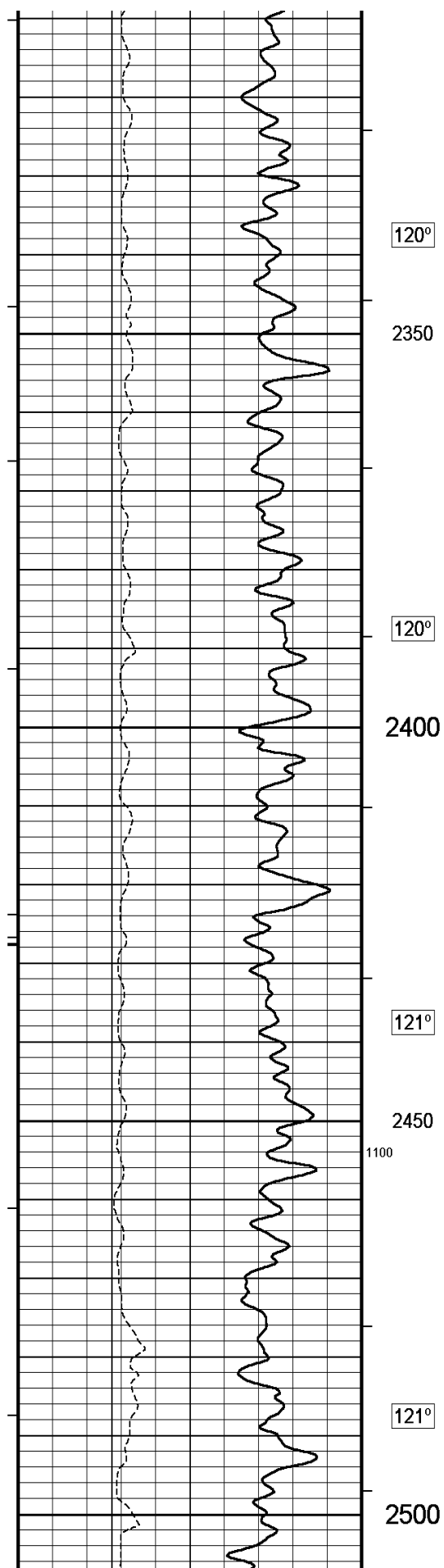


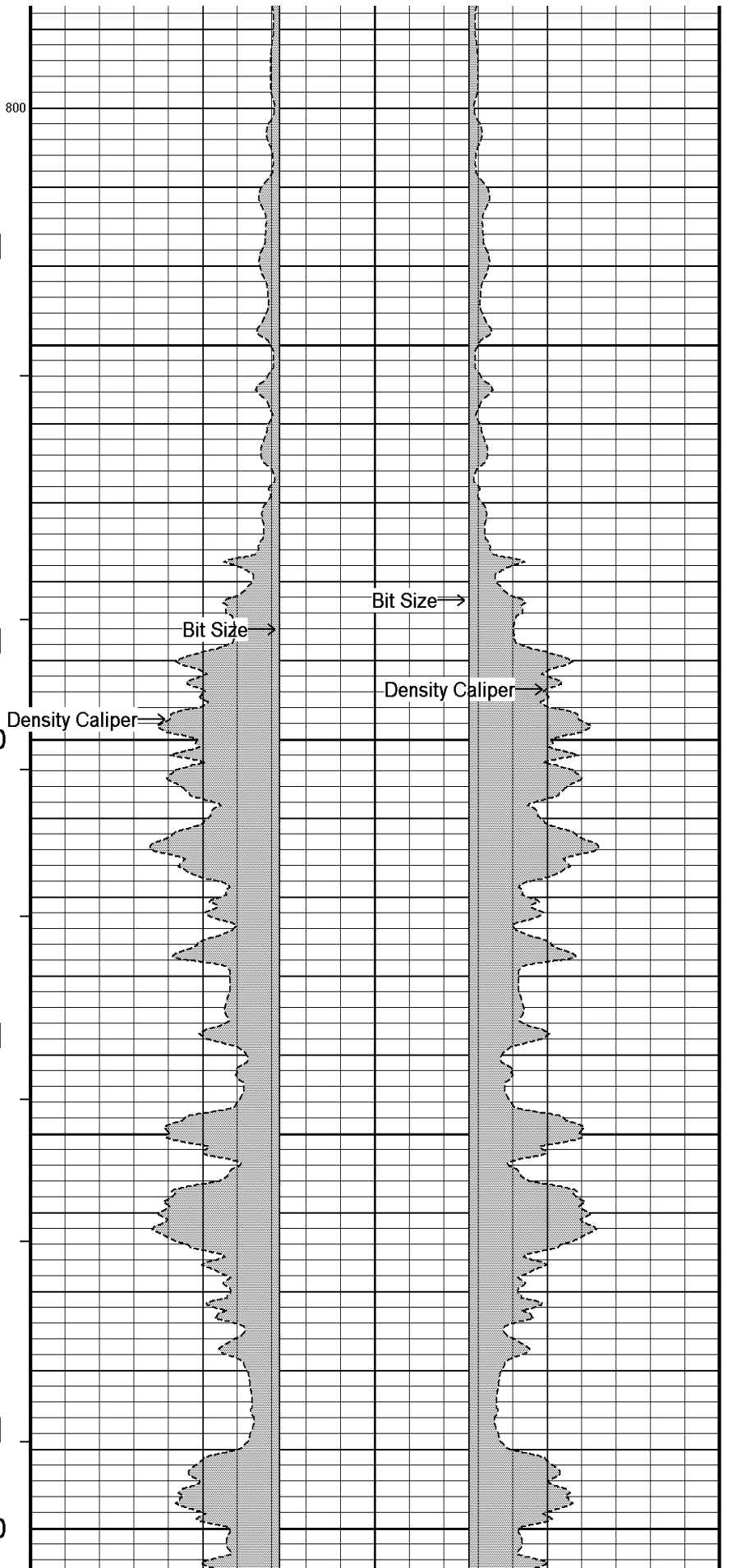
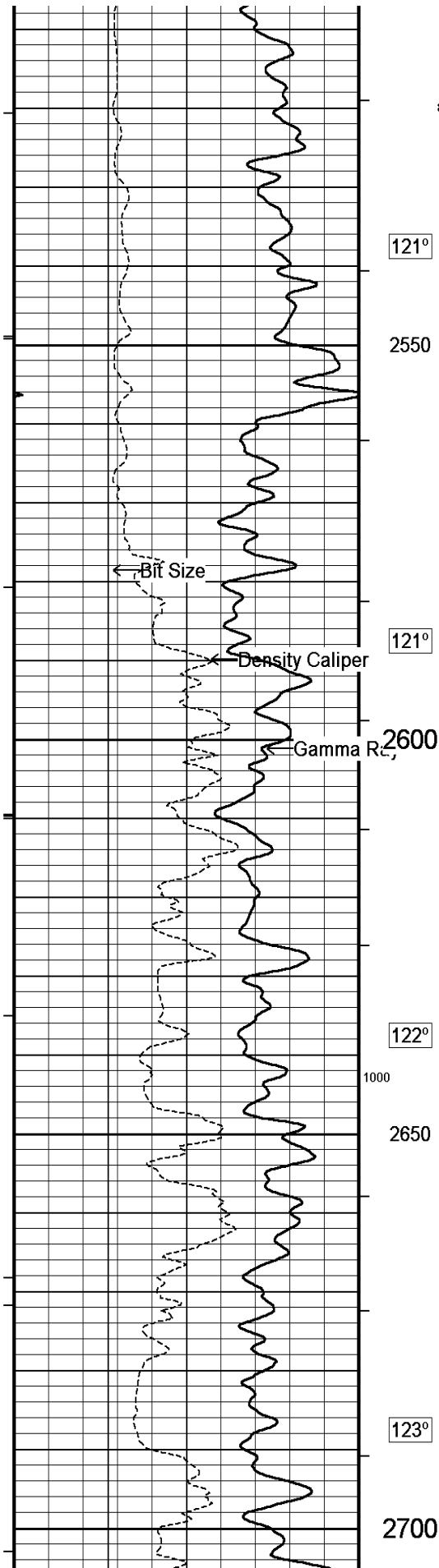


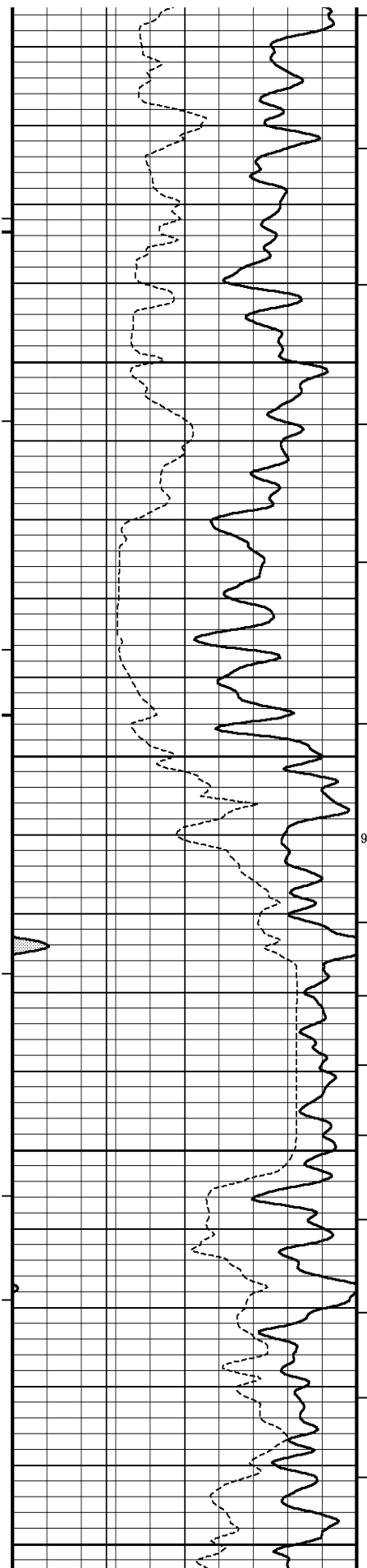












122°

2750

122°

2800

122°

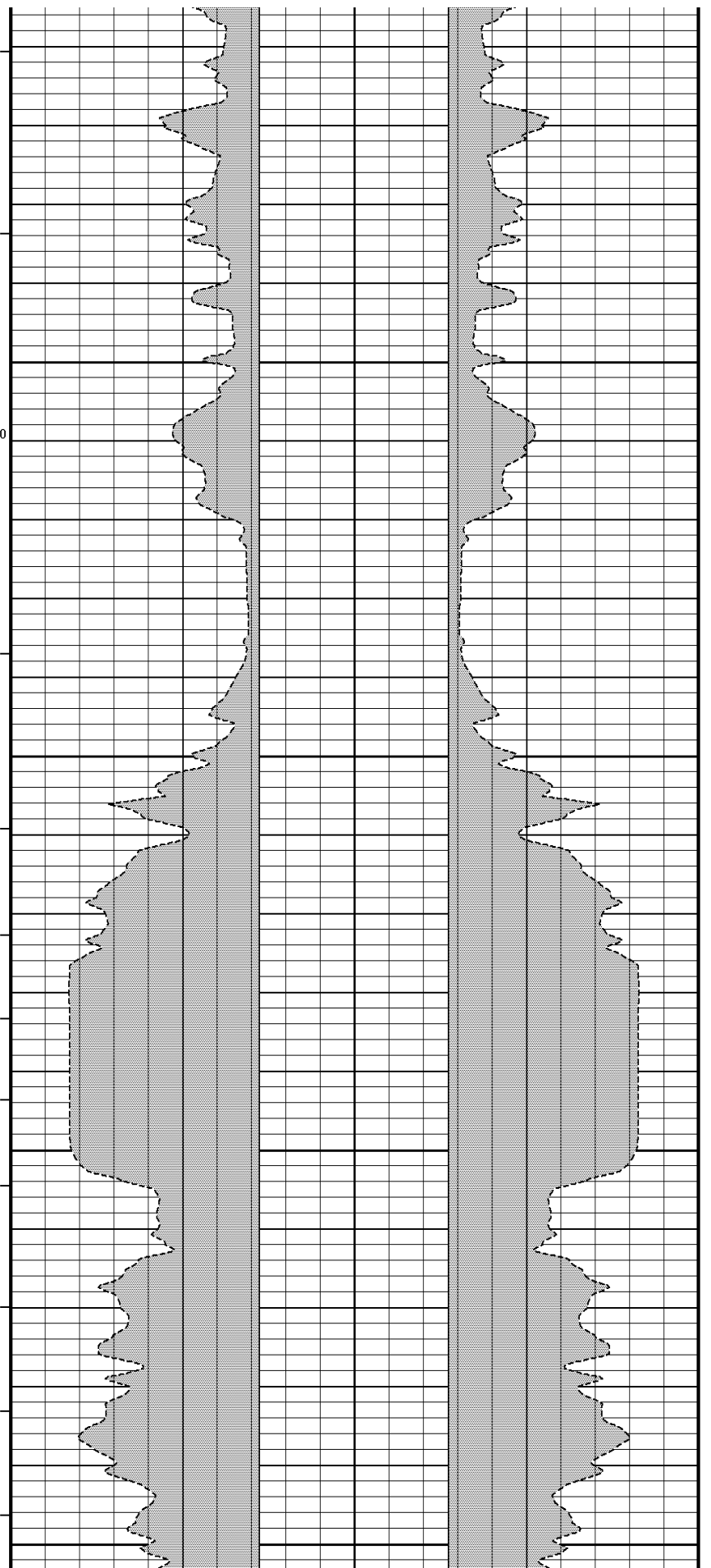
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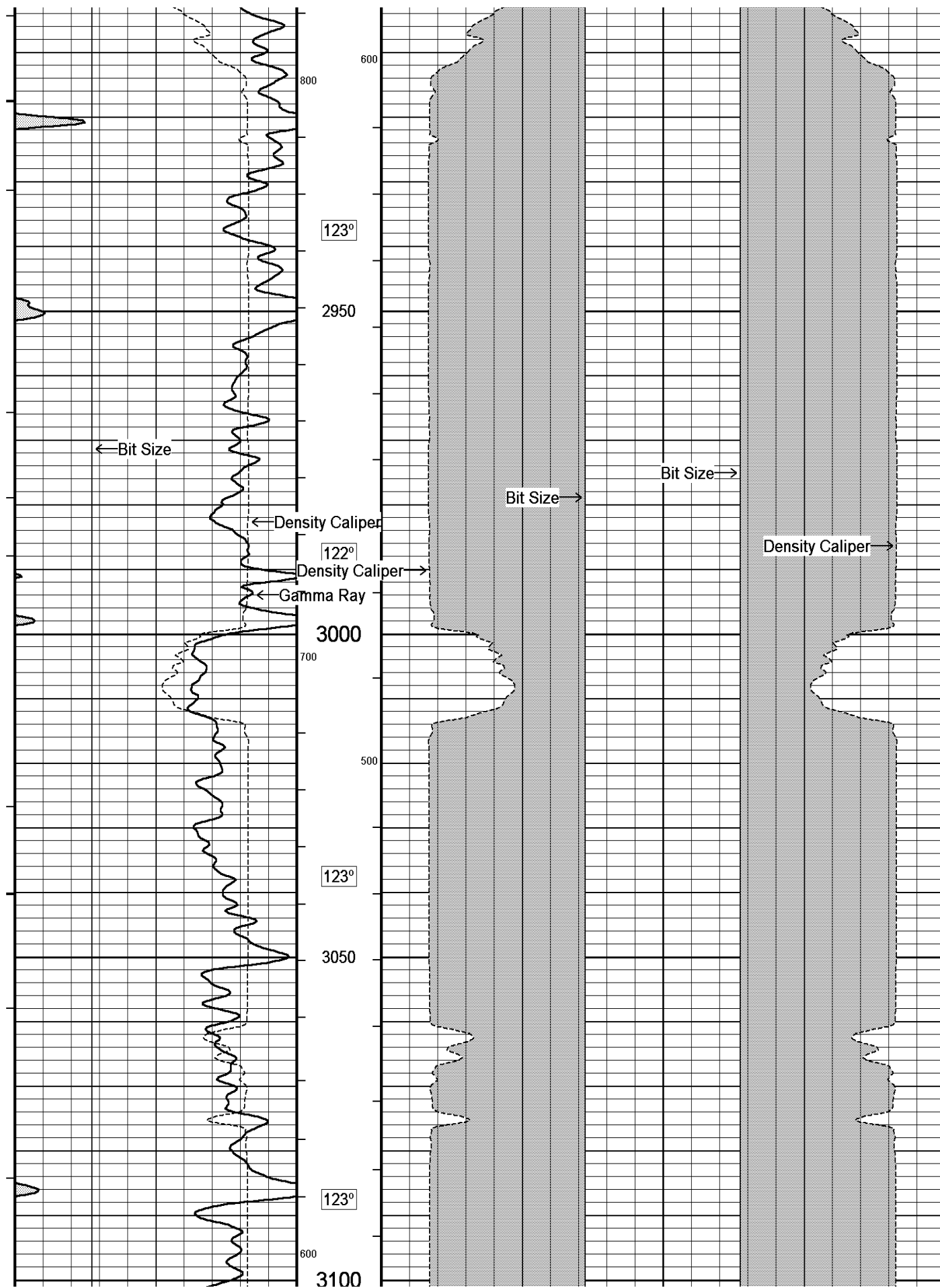
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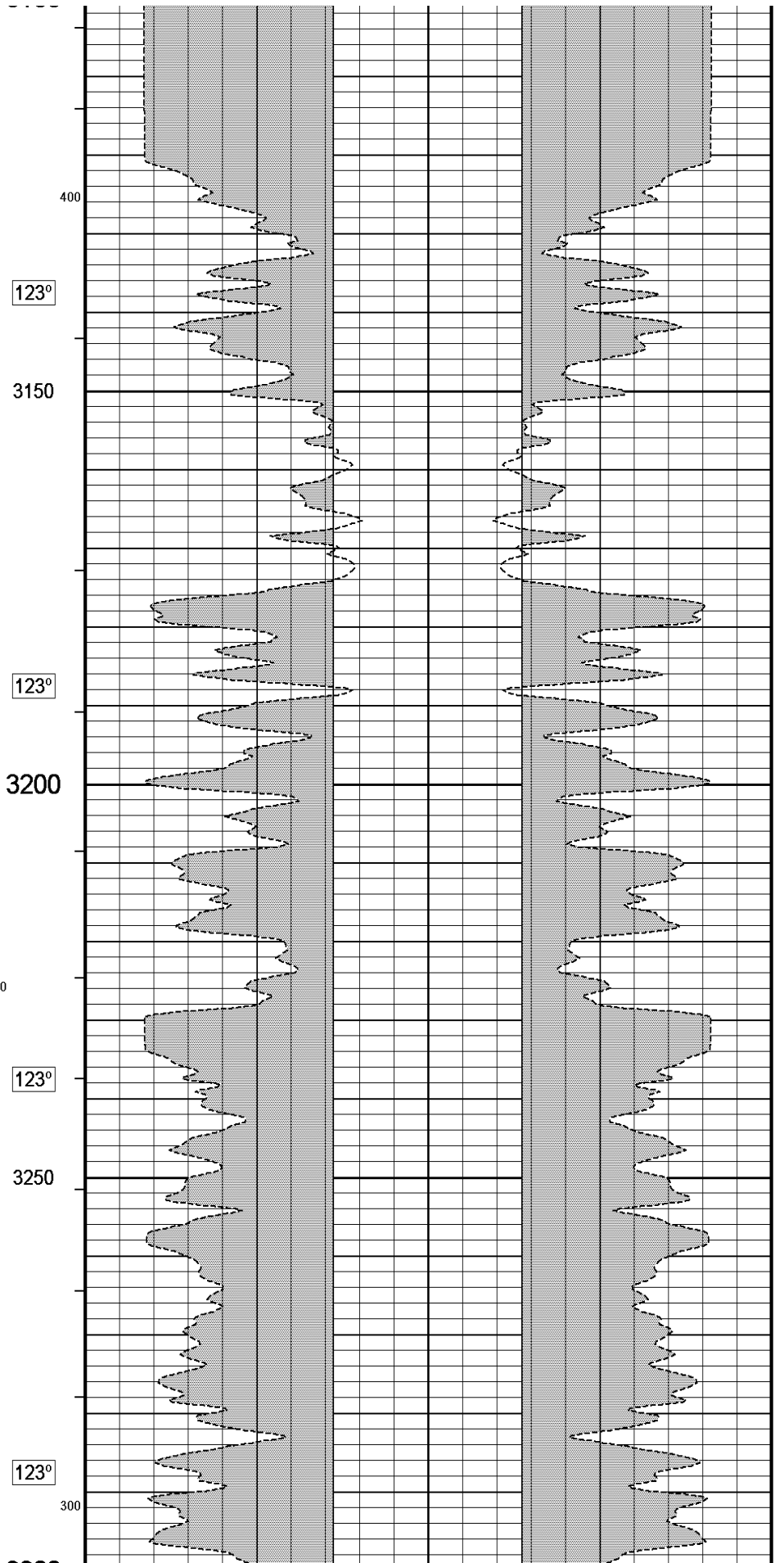
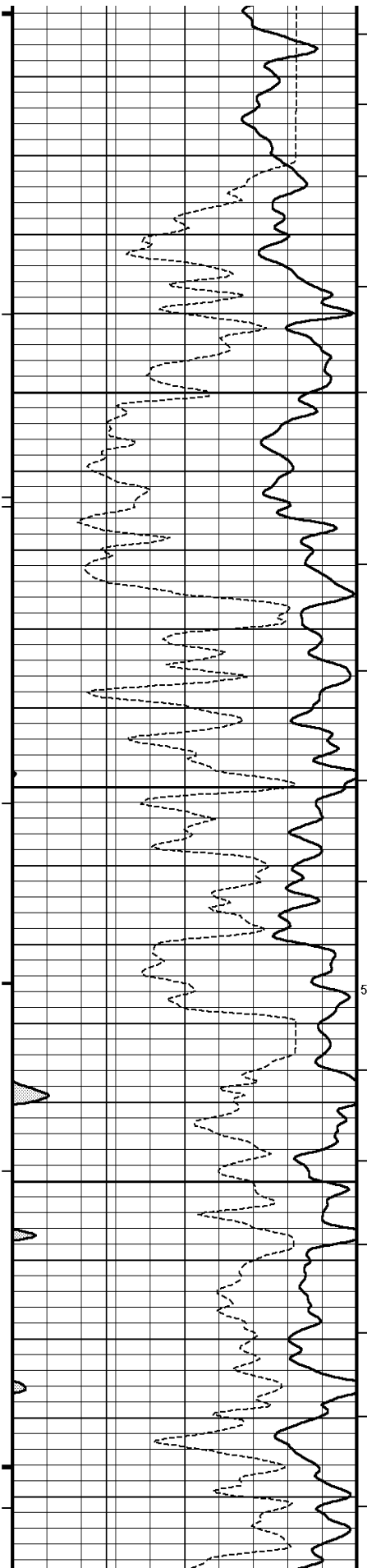
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700

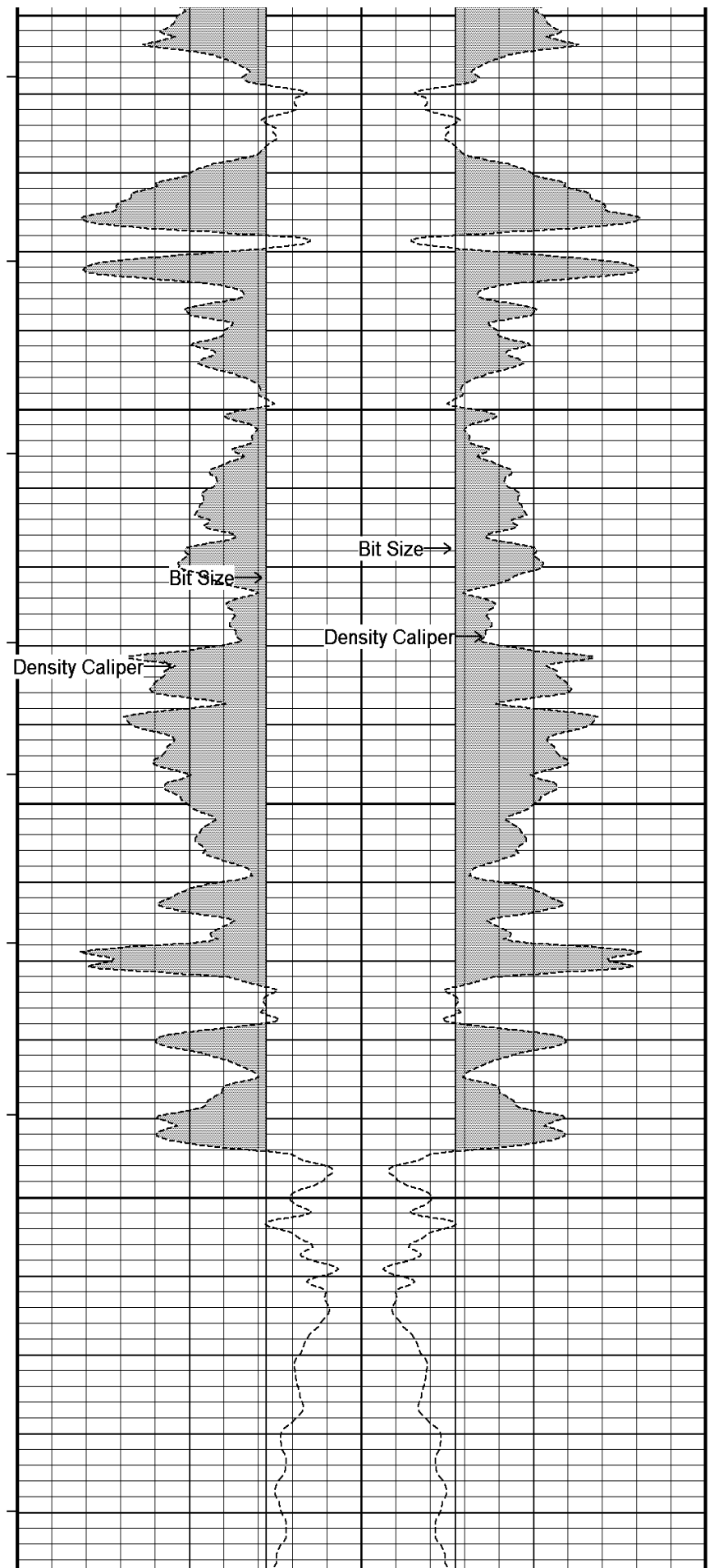
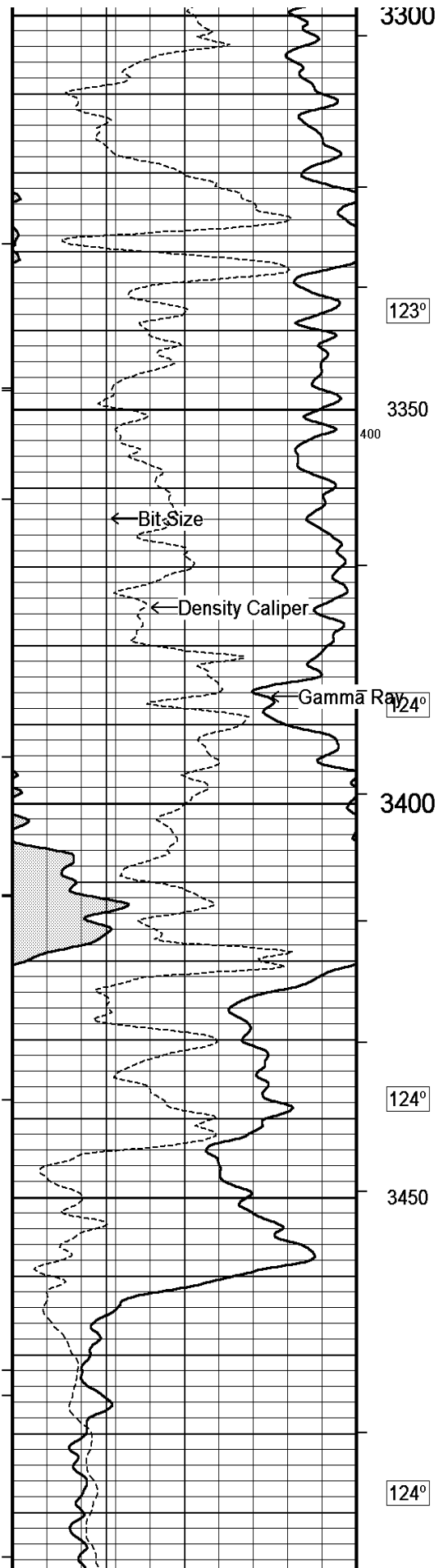
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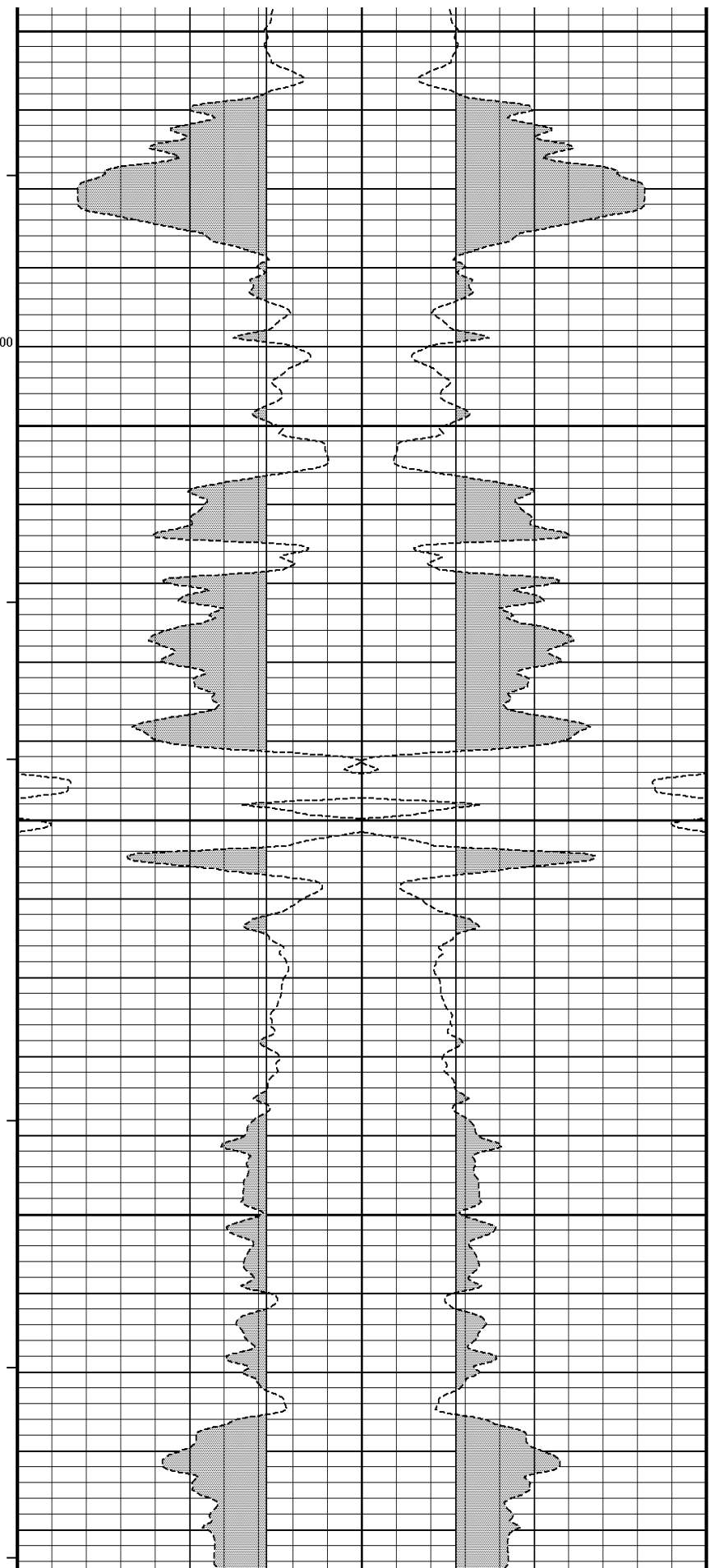
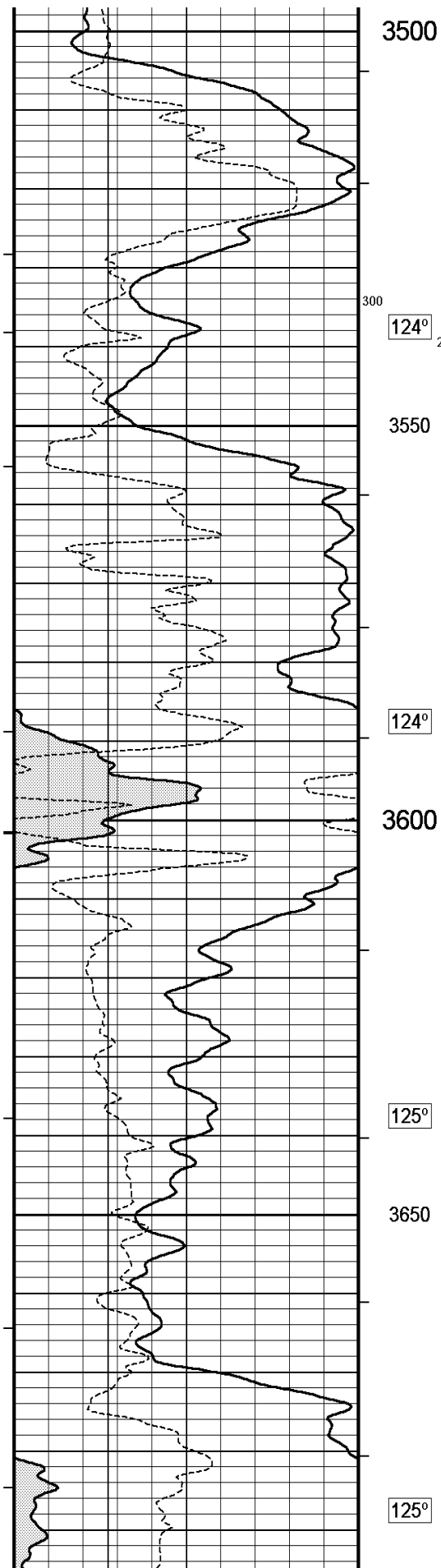


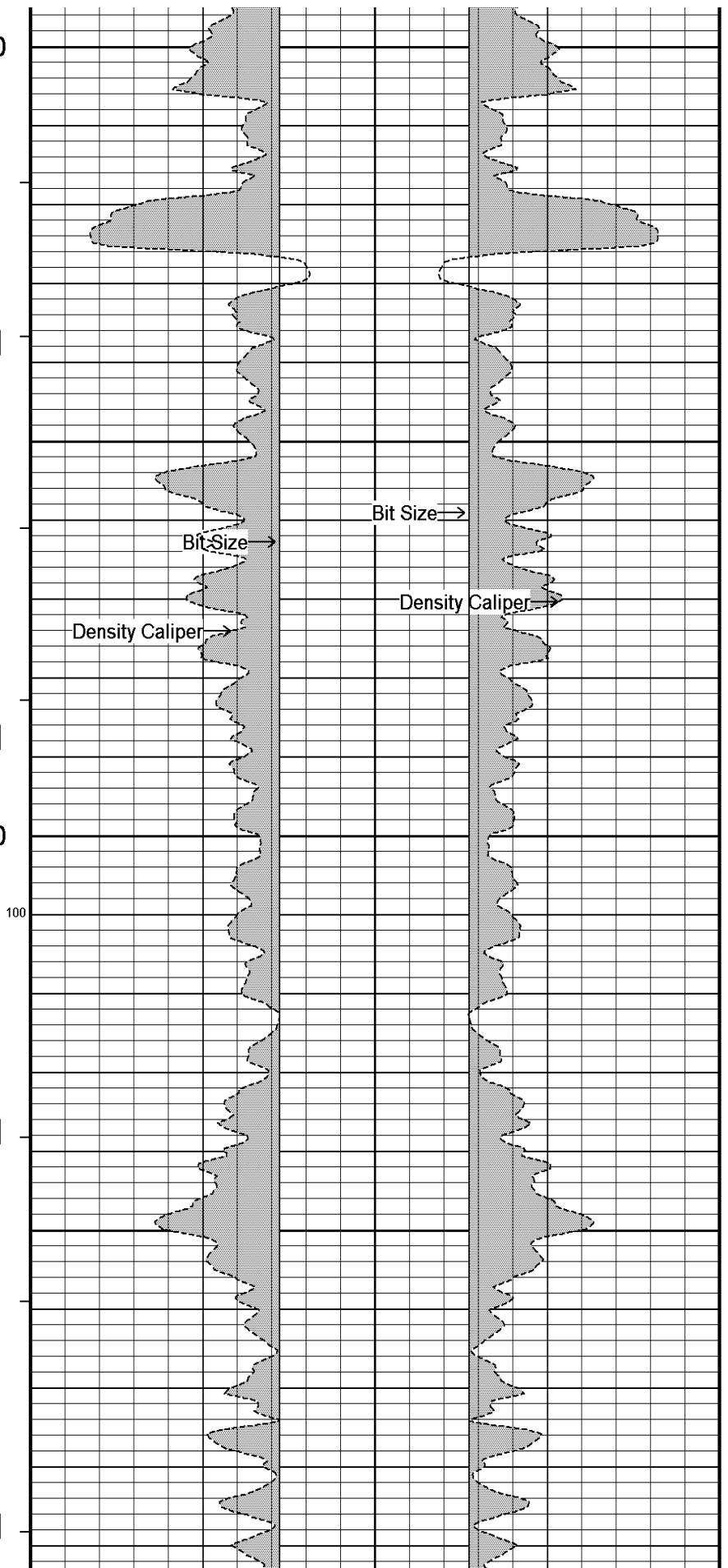
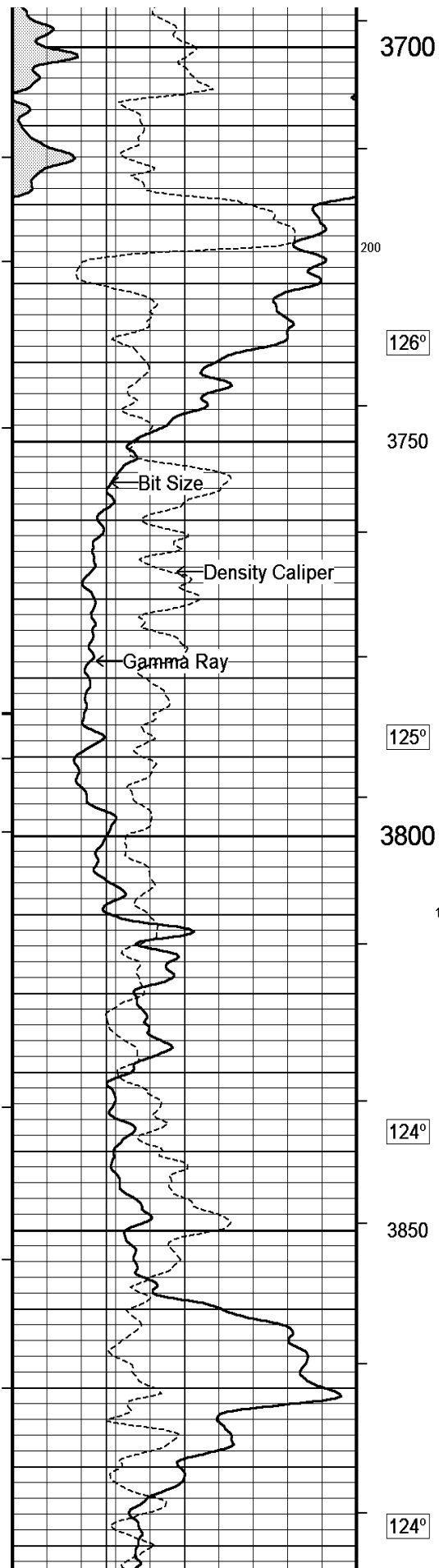


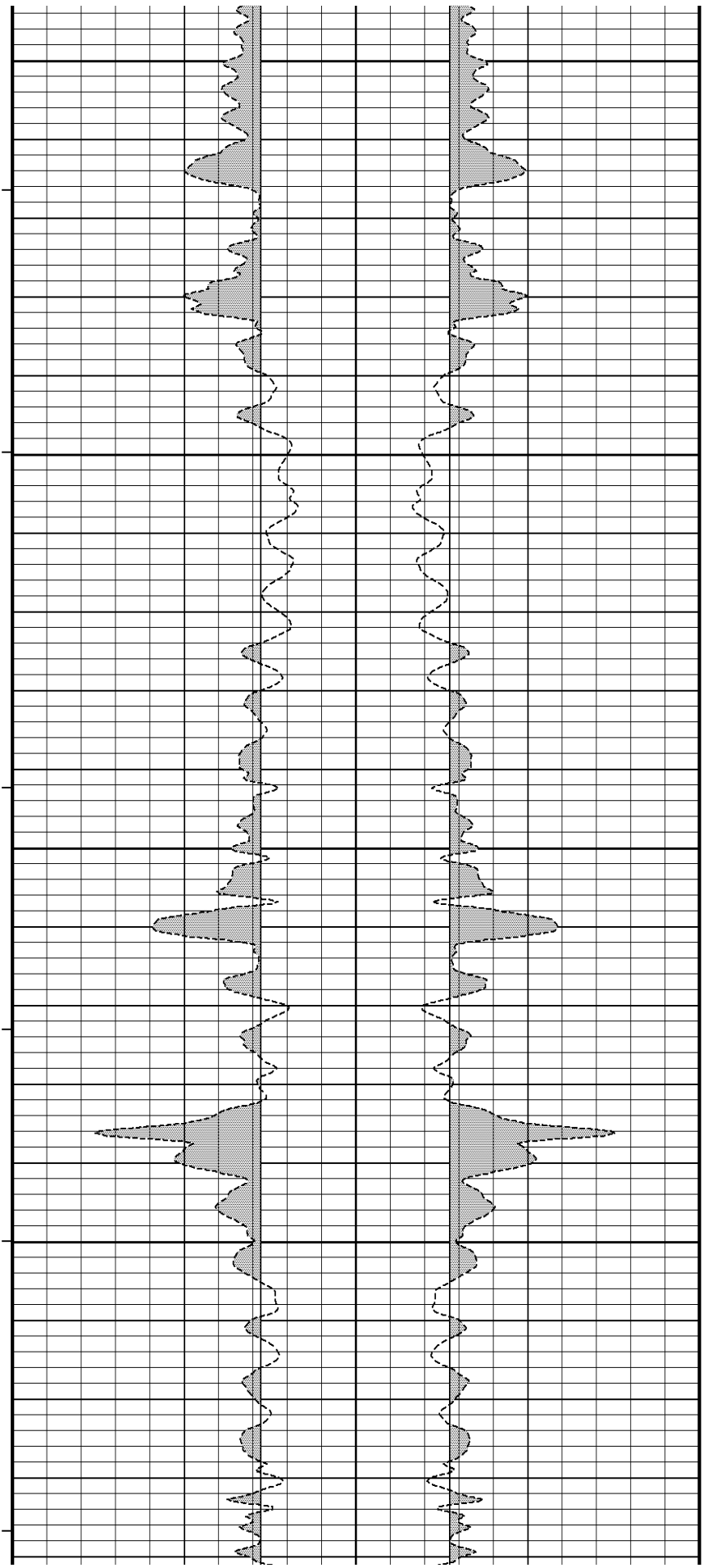
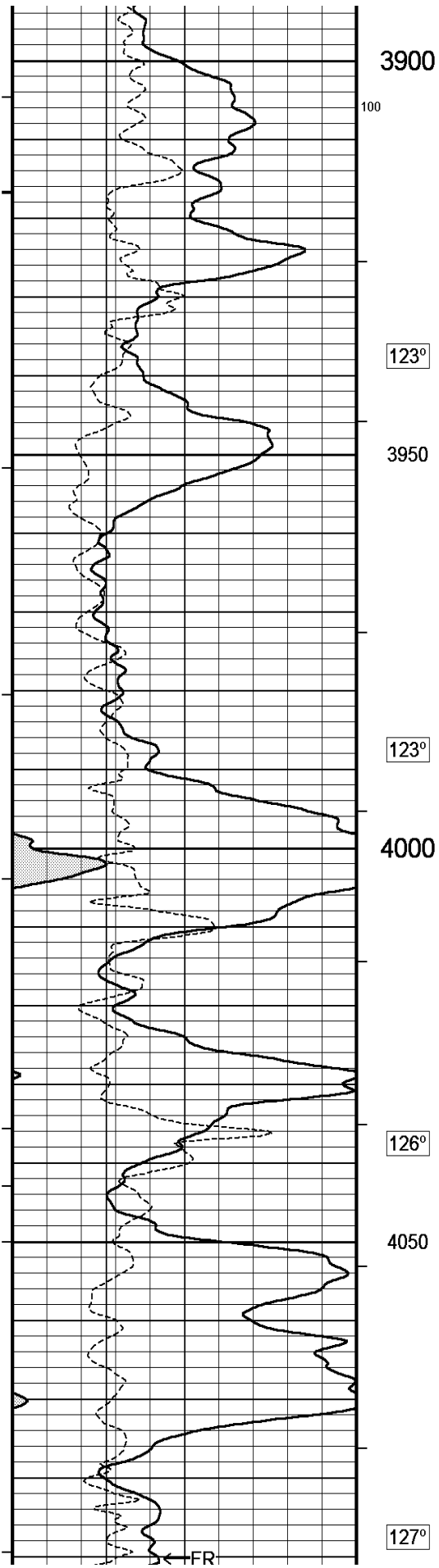


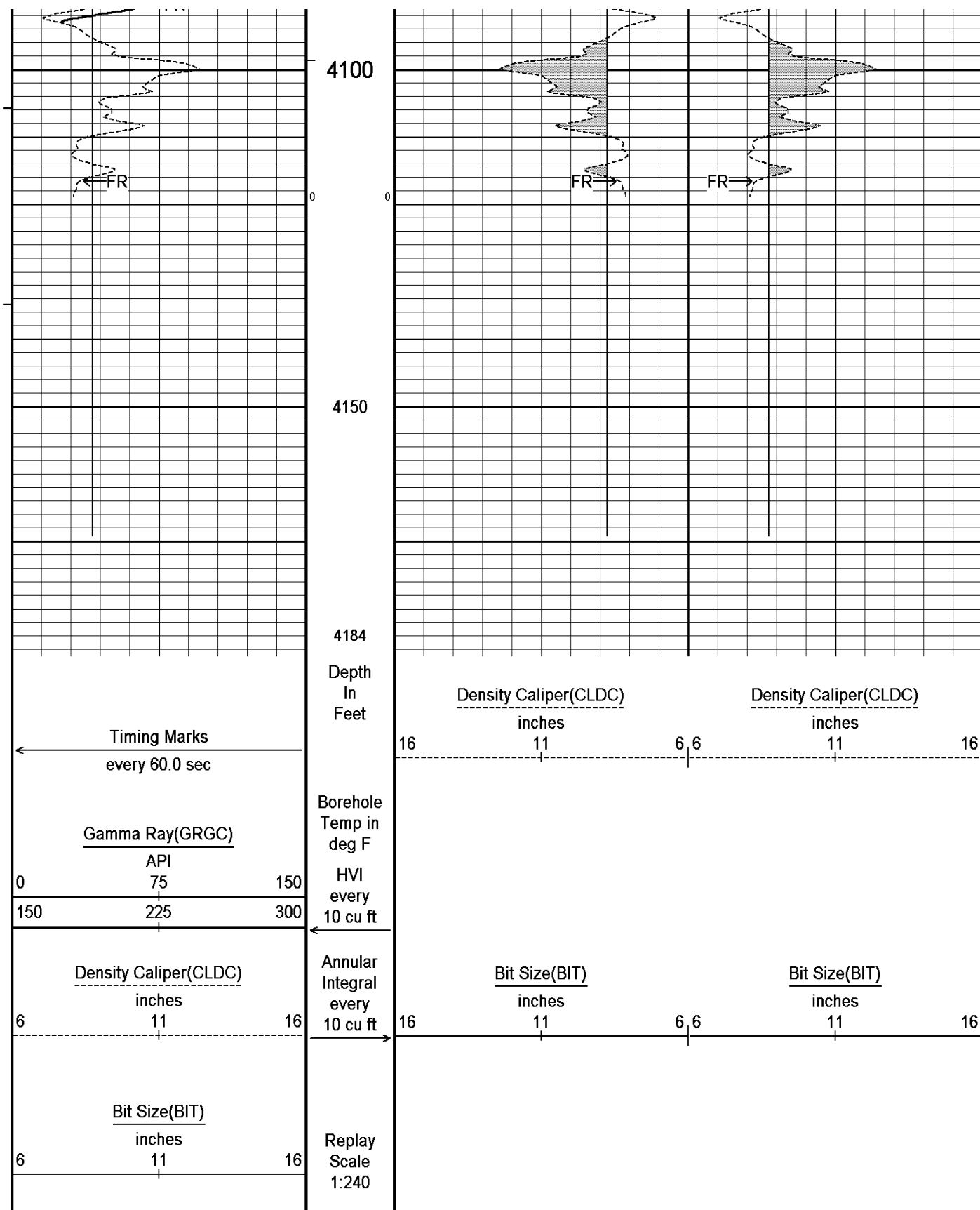












Depth Based Data - Maximum Sampling Increment 10.0cm

Filename: C:\Minimus\Logs\Fram\Mansur 33-1-G\Mansur 33-1-G depth RTAP.dta

System Versions: Processed with 11.02.3186 Plotted with 11.02.3186

Plotted on 15-JUN-2011 06:05

Recorded on 15-JUN-2011 03:11

# DOWNHOLE EQUIPMENT

C:\Minimus\Logs\Fram\Mansur 33-1-G\Mansur 33-1-G depth RTAP.dta

Shuttle Running Tool 3.5" (SRT A)

SRT-A 34 LG: 5.42 ft WT: 37.5 lb OD: 2.52 in

MBS-A 400v Compact Battery Sub

MBS-A 26 LG: 14.24 ft WT: 105.8 lb OD: 2.24 in

Compact Comms Gamma

MCG-D.J 423 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Compact Memory Sub A.C

MMS-A.C 21 LG: 3.12 ft WT: 30.9 lb OD: 2.24 in

SKJ-D.A Compact Knuckle Joint

SKJ-D.A 89 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

SHA-J.A Compact Swivel Head Adaptor

SHA-J.A 397 LG: 2.30 ft WT: 22.0 lb OD: 2.24 in

MIS-A.A Compact Inline Bowspring sub

MIS-A.A 23 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

Compact Neutron

MDN-A.B 180 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

Compact Density/Caliper

MPD-C.J 376 LG: 9.59 ft WT: 90.4 lb OD: 2.24 in

MIS-A.A Compact Inline Bowspring sub

MIS-A.A 274 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

SHA-J.A Compact Swivel Head Adaptor

SHA-J.A 225 LG: 2.30 ft WT: 22.0 lb OD: 2.24 in

SKJ-D.A Compact Knuckle Joint

SKJ-D.A 143 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

MIS-E.A Compact Inline Standoff sub

MIS-E.A 333 LG: 2.14 ft WT: 15.4 lb OD: 2.24 in

Compact Focussed Electric

MFE-B.J 314 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

MIS-E.A Compact Inline Standoff sub

MIS-E.A 334 LG: 2.14 ft WT: 15.4 lb OD: 2.24 in

Compact Sonic

MSS-C.K 322 LG: 12.52 ft WT: 72.8 lb OD: 2.24 in

MIS-E.A Compact Inline Standoff sub

MIS-E.A 108 LG: 2.14 ft WT: 15.4 lb OD: 2.24 in

Compact Induction

MAL-B.L 376 LG: 12.52 ft WT: 72.8 lb OD: 2.24 in



Tool Zero

(1.84ft from bottom)

All measurements relative to tool zero

MAH-BJ 5/6 LG: 12.92 ft WT: 48.5 lb OD: 2.24 in

All measurements relative to tool zero.

Total Length: 103.94 ft Weight: 754.0 lb



COMPANY	FRAM OPERATING LLC
WELL	MANSUR 33-1-G
FIELD	WILDCAT
PROVINCE/COUNTY	MESA
COUNTRY/STATE	U.S.A. / COLORADO

Elevation Kelly Bushing	6097.00	feet	First Reading	4118.00	
Elevation Drill Floor	6096.00	feet	Depth Driller	4227.00	feet
Elevation Ground Level	6083.00	feet	Depth Logger	4196.00	feet



**Weatherford®**

HOLE VOLUME  
CALIPER  
LOG

