Weatherford

CALIPER LOG

COMPANY	K3 OIL & GAS OPERATING COMPANY
WELL	SORENSON #4-3
FIELD	WILDCAT
PROVINCE/COUNTY	LINCOLN
COUNTRY/STATE	U.S.A. / COLORADO
LOCATION	650' FNL & 650' FWL

SEC	TWP	RGE	Other Services
3	16S	55W	

Latitude
Longitude
API Number 05-073-06727

Permanent Datum GL, Elevation 5030 feet
Log Measured From KB, 18.00 feet above Permanent Datum
Drilling Measured From KB

Elevations:	feet
KB	5048.00
DF	5046.00
GL	5030.00

Date	08-NOV-2017			
Run Number	ONE			
Service Order	4558-197333139			
Depth Driller	7550.00	feet		
Depth Logger	7550.00	feet		
First Reading	7518.00	feet		
Last Reading	496.00	feet		
Casing Driller	496.00	feet		
Casing Logger	496.00	feet		
Bit Size	7.875	inches		
Hole Fluid Type	CHEMICAL			
Density / Viscosity	9.40 lb/USg	83.00 CP		
PH / Fluid Loss	10.00	7.20 ml/30Min		
Sample Source	FLOWLINE			
Rm @ Measured Temp	1.76 @ 75.0	ohm-m		
Rmf @ Measured Temp	1.41 @ 75.0	ohm-m		
Rmc @ Measured Temp	2.11 @ 75.0	ohm-m		
Source Rmf / Rmc	CALC	CALC		
Rm @ BHT	0.74 @178.0	ohm-m		
Time Since Circulation	5 HOURS			
Max Recorded Temp	178.00	deg F		
Equipment / Base	13096	LIB		
Recorded By	ADAM SILL			
Witnessed By	RANDY SAY		JOHN MARVIN	
Witnessed By	SUSAN RAINBOLT			

BOREHOLE RECORD

Last Edited: 08-NOV-2017 09:44

Bit Size inches	Depth From feet	Depth To feet
7.875	496.00	7550.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	13.375	0.00	496.00	48.00

REMARKS

- SOFTWARE ISSUE: WLS 17.03.9700.

- RUN ONE: MCG, MML, MDN, MPD, MFE, MSS, MAI RUN IN COMBINATION.
  - HARDWARE: DUAL BOWSPRING USED ON MDN.
  0.5 INCH STANDOFF USED ON MFE.
  TWO 0.5 INCH STANDOFFS USED ON MSS.
  0.5 INCH STANDOFF USED ON MAI.

- 2.71 G/CC LIMESTONE DENSITY MATRIX USED TO CALCULATE POROSITY.

- BOREHOLE RUGOSITY, TIGHT PULLS, AND WASHOUTS WILL AFFECT DATA QUALITY.

- ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST.

- TOTAL HOLE VOLUME FROM TD TO SURFACE CASING: 2712 CU.FT.

- ANNULAR HOLE VOLUME WITH 5.5 INCH PRODUCTION CASING FROM TD TO 2500 FEET: 914 CU.FT.

- RIG: WW DRILLING #20.

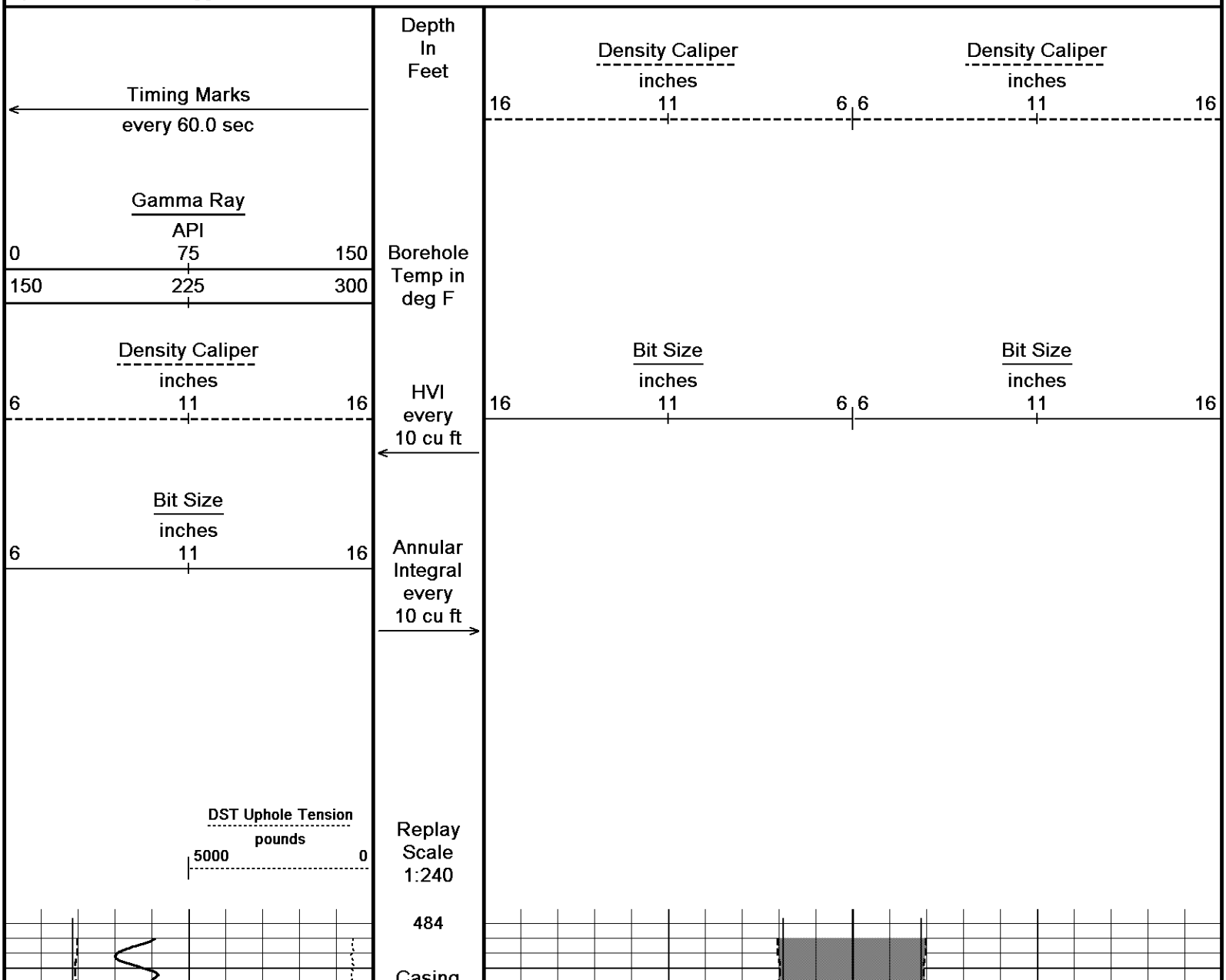
- ENGINEER: A. SILL.

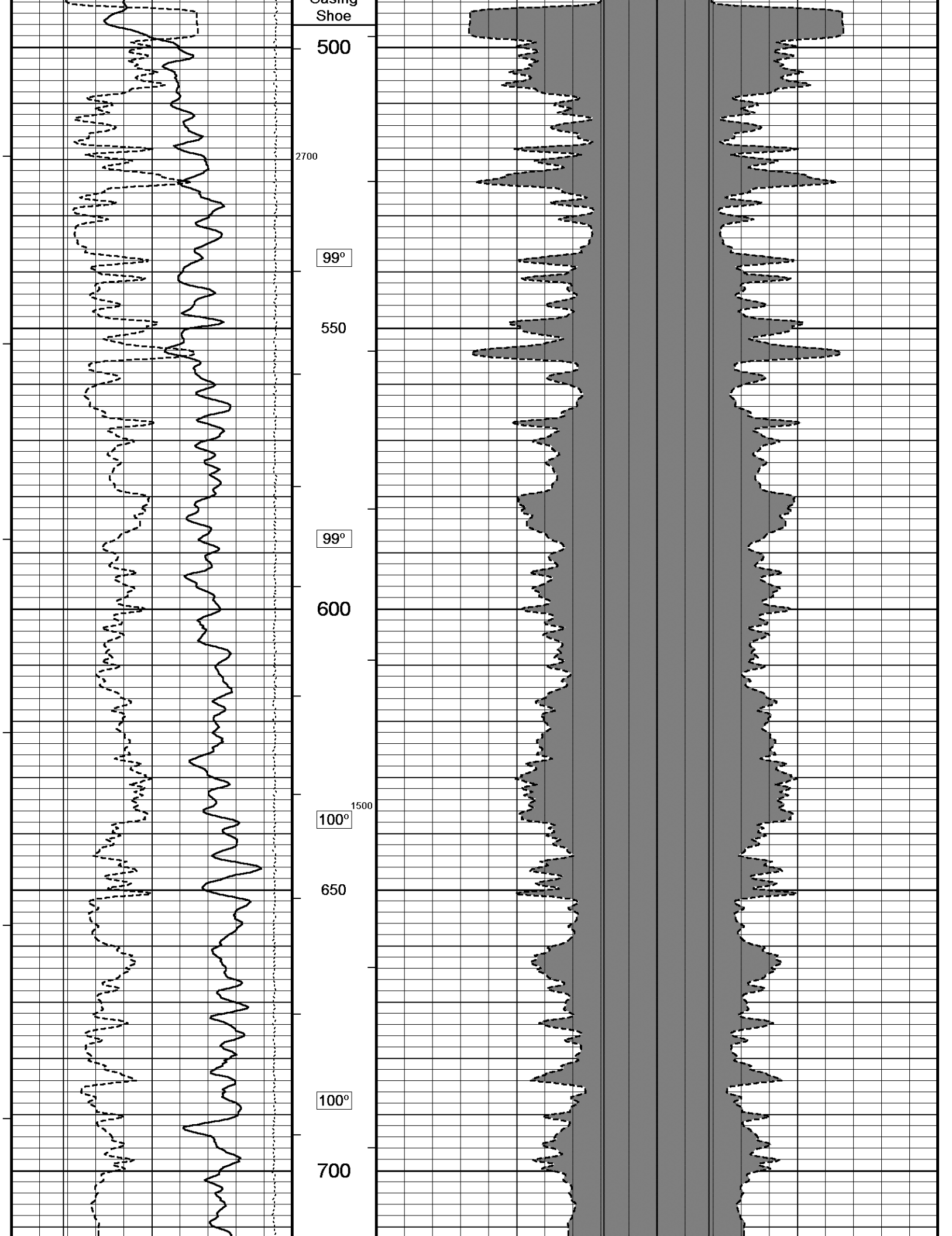
- OPERATOR: B. TOVAR, J. HOLCOMB.

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.

5 INCH MAIN

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 09-NOV-2017 05:13
Filename: C:\Minimus 17.03.9700\Data\K3 Sorenson #4-3\K3 Sorenson #4-3_003.dta
Recorded on 09-NOV-2017 00:16
System Versions: Logged with 17.03.9700 Plotted with 17.03.9700




Casing Shoe
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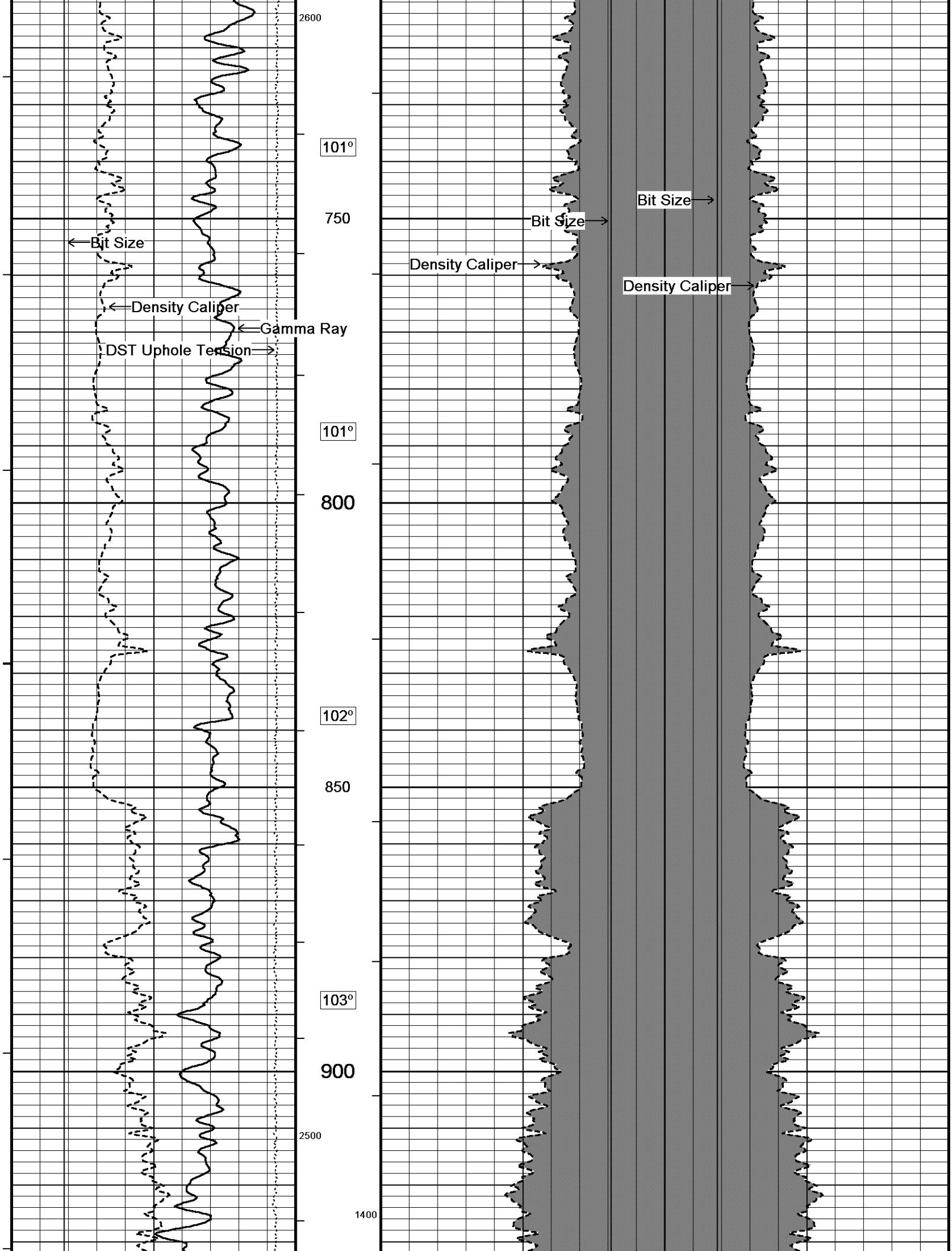
550
99°
600
1500
100°
650
100°
700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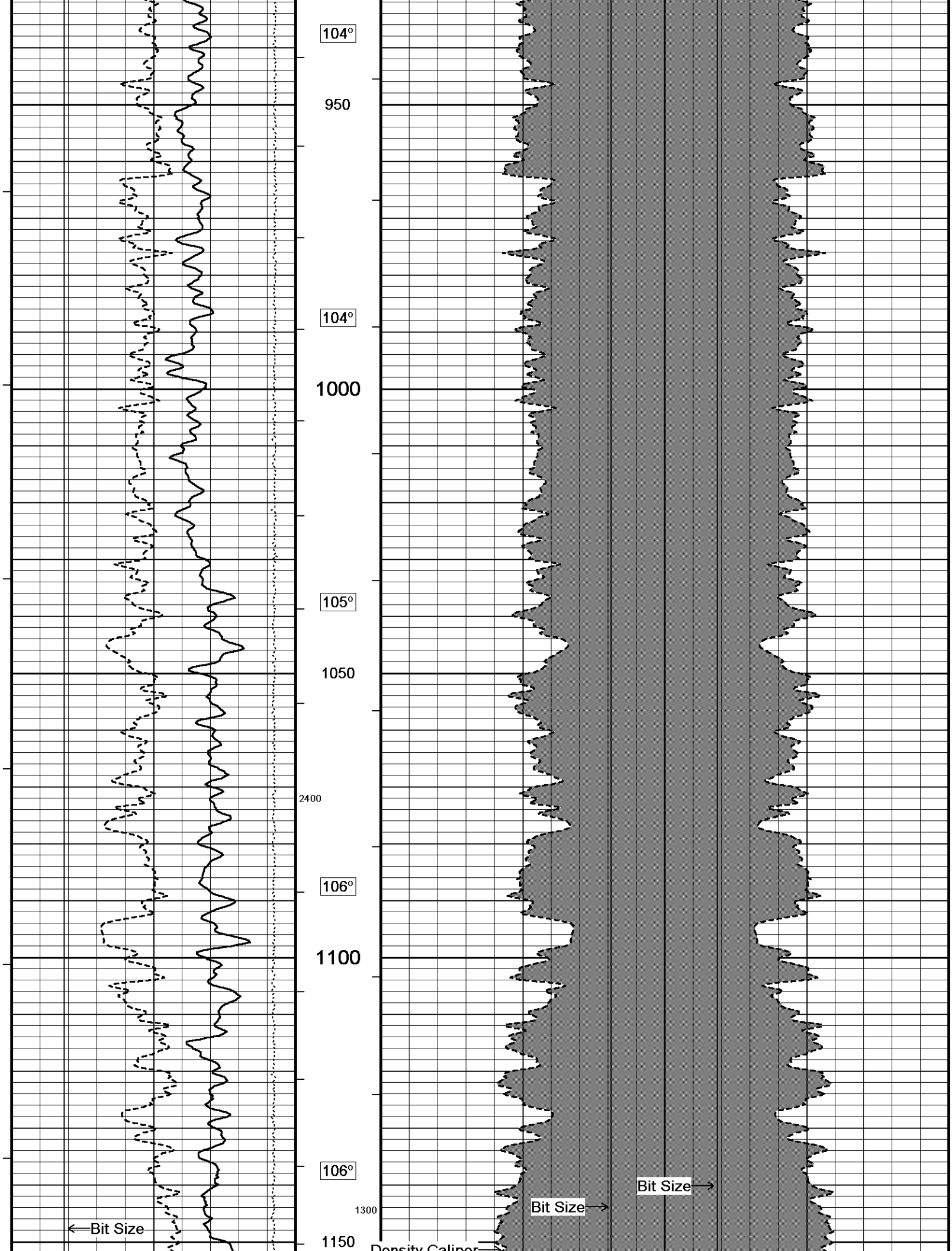
101°
750
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
101°
800
102°
850
103°
900
2500
1400
Bit Size
Bit Size
Density Caliper
Density Caliper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1100
106°
1300
1150
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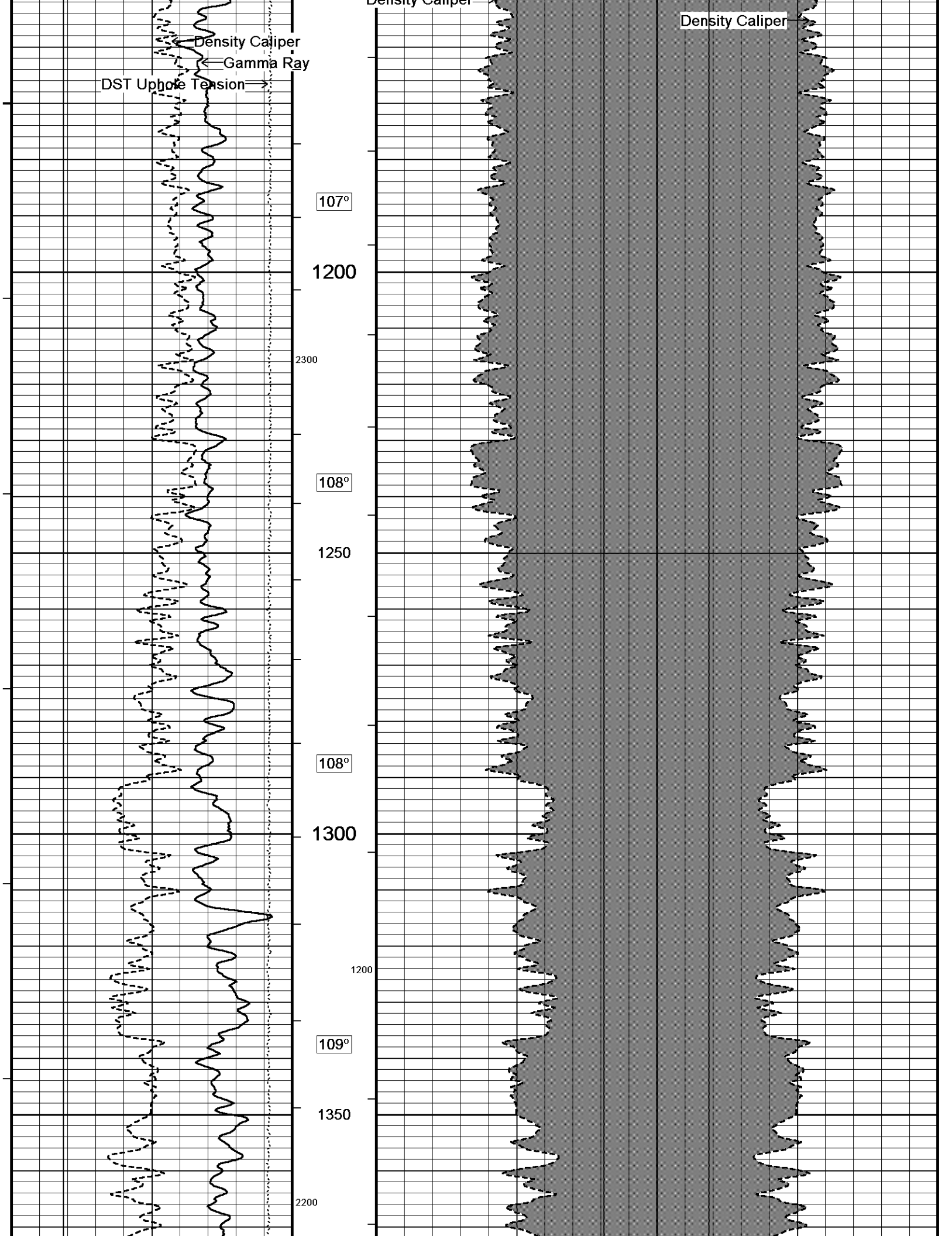
Bit Size
Bit Size
Density Caliper


Density Caliper
Gamma Ray
DST Uphole Tension
Density Caliper
Density Caliper
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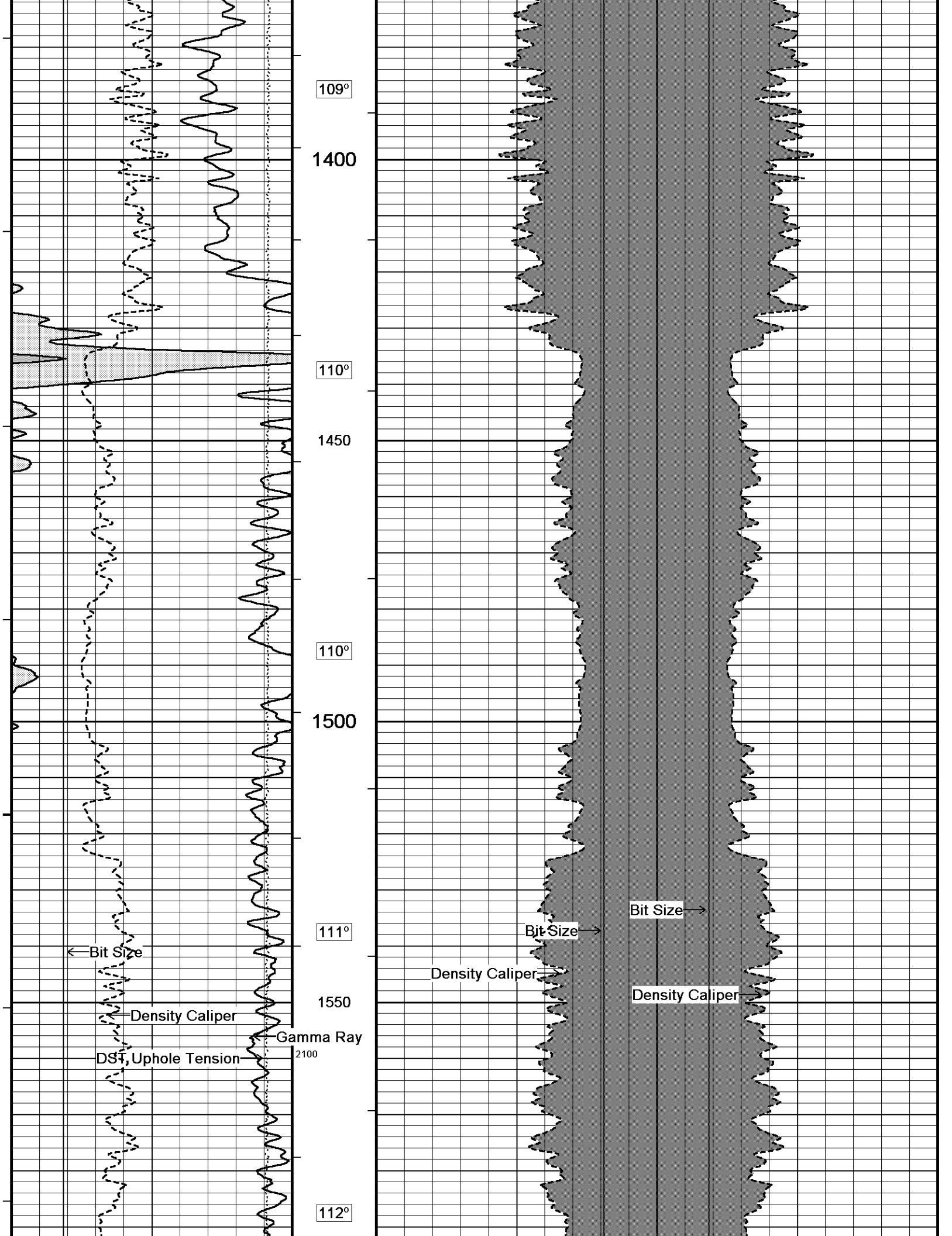
1200
2300
108°
1250
108°
1300
1200
109°
1350
2200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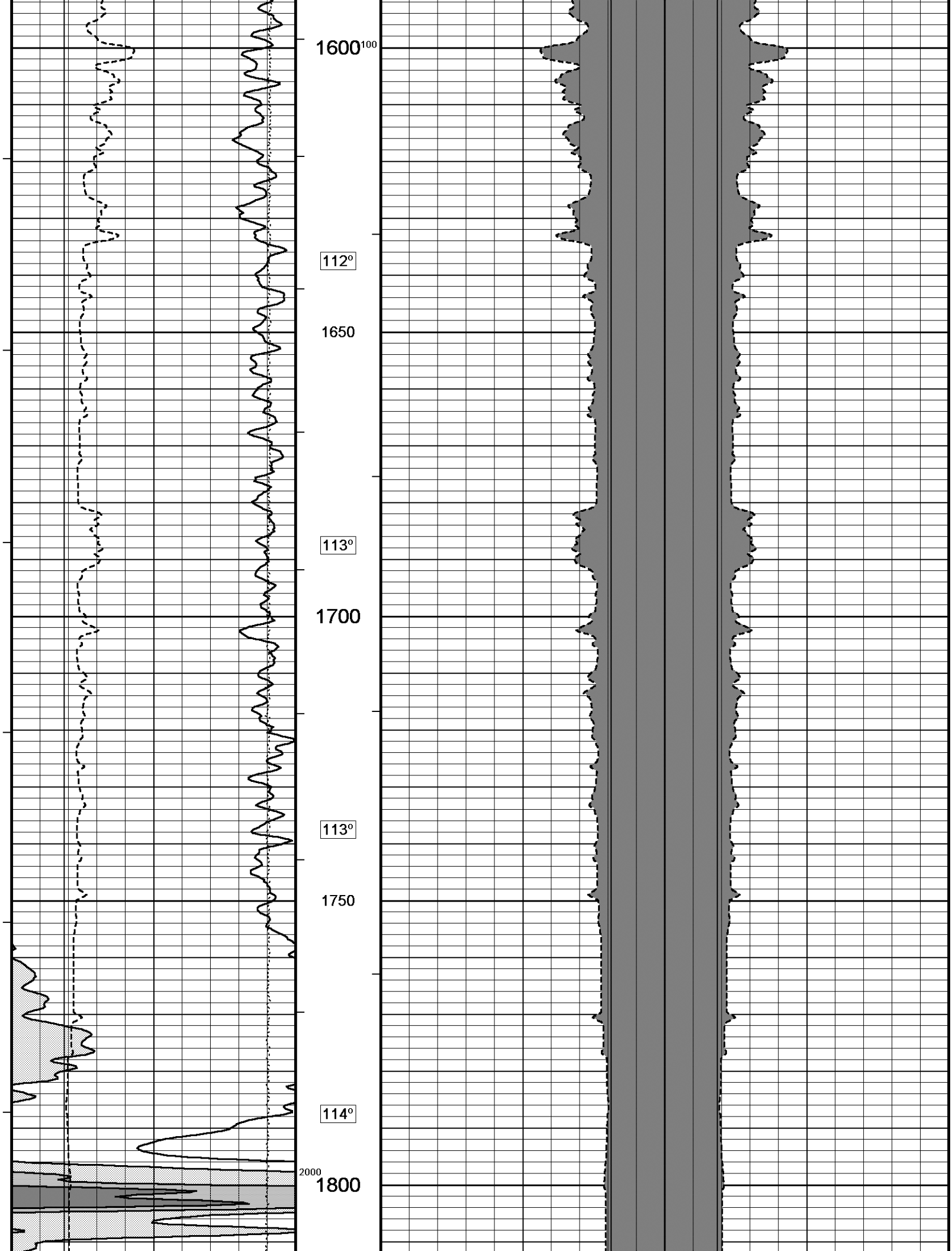
Gamma Ray
DST, Uphole Tension
2100
Bit Size
Bit Size
Density Caliper
Density Caliper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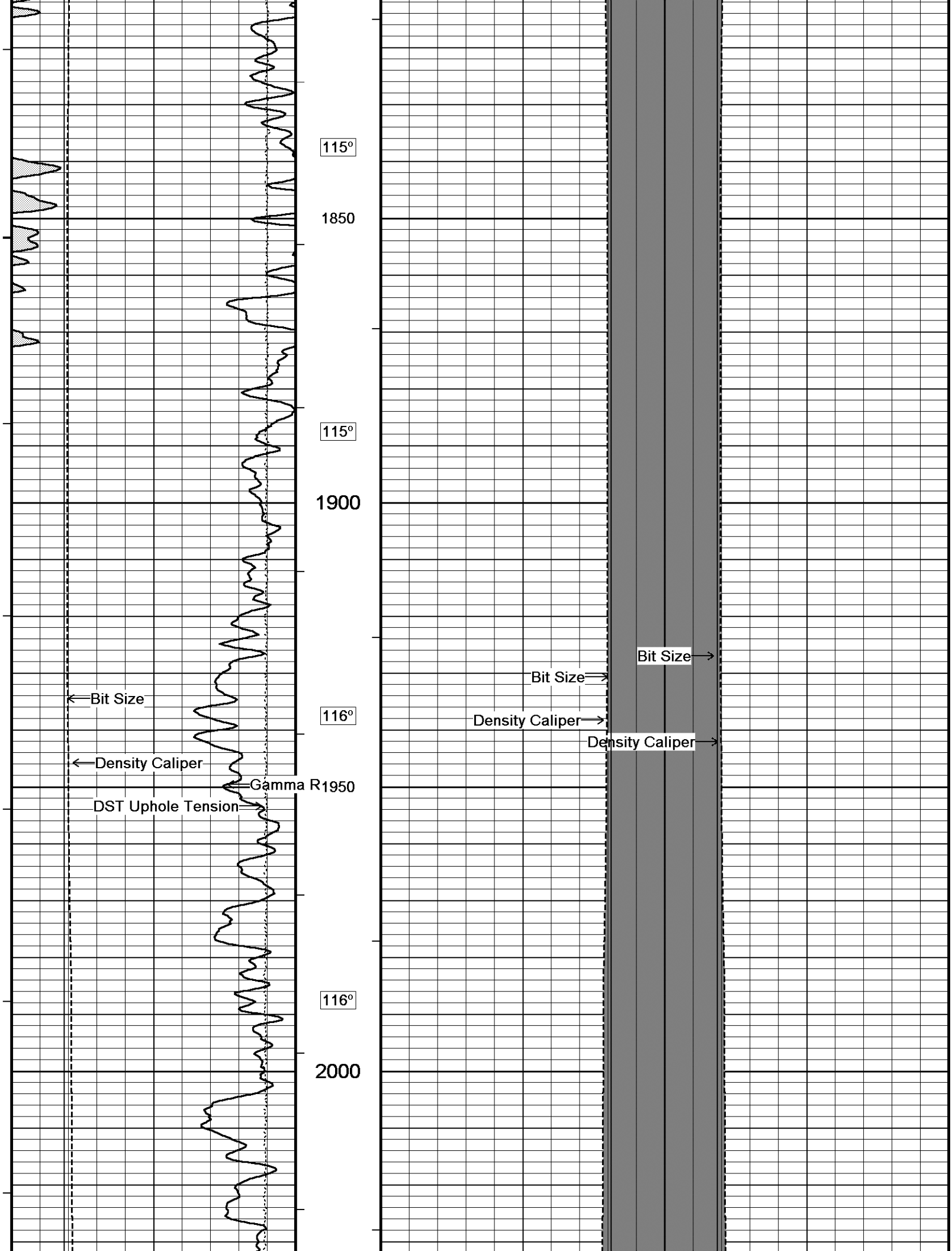
113°
1700
113°
1750
114°
2000
1800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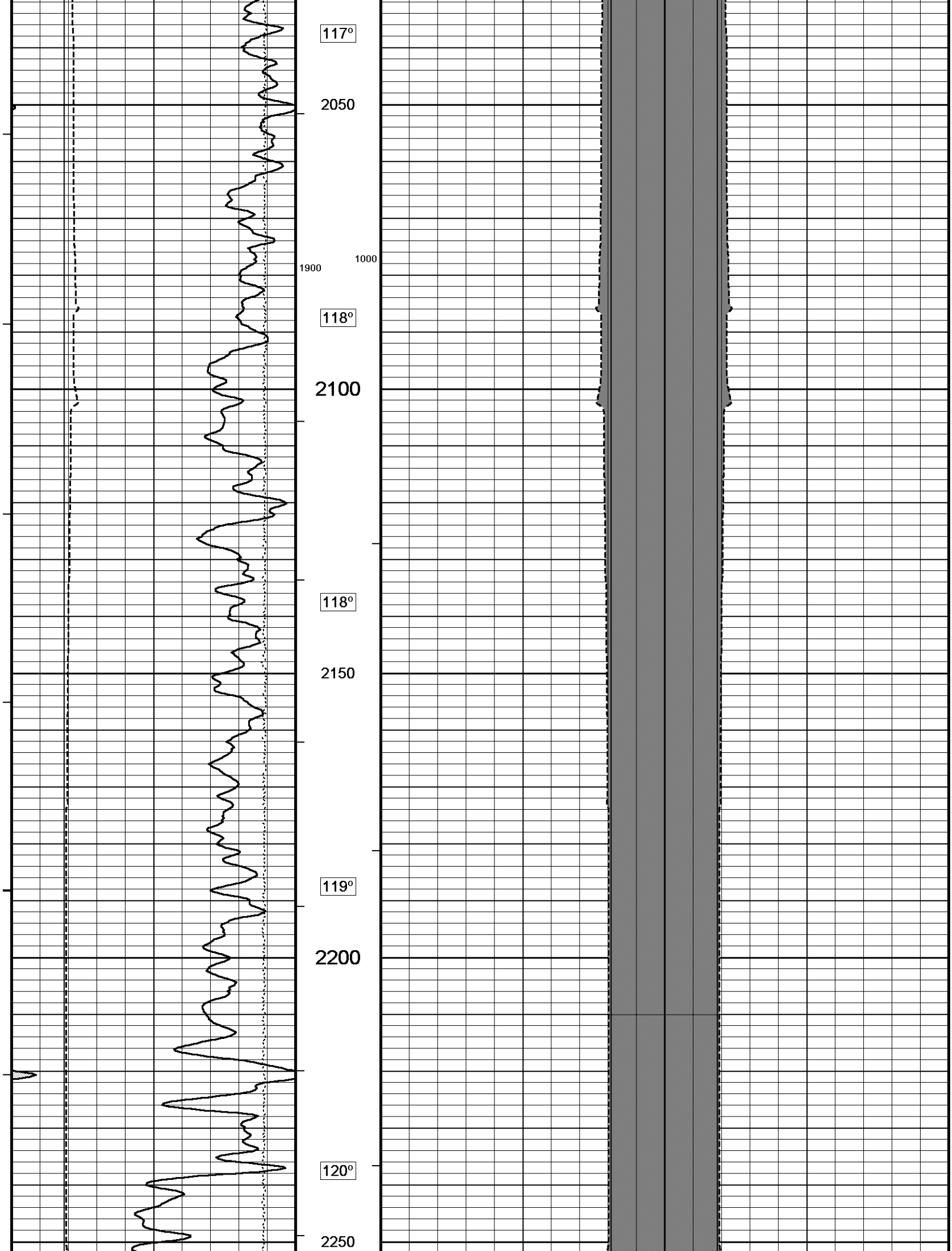
1850
115°
1900
116°
1950
116°
2000
Bit Size
Density Caliper
Gamma R
DST Uphole Tension
Bit Size
Bit Size
Density Caliper
Density Caliper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2100
118°
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119°
2200
120°
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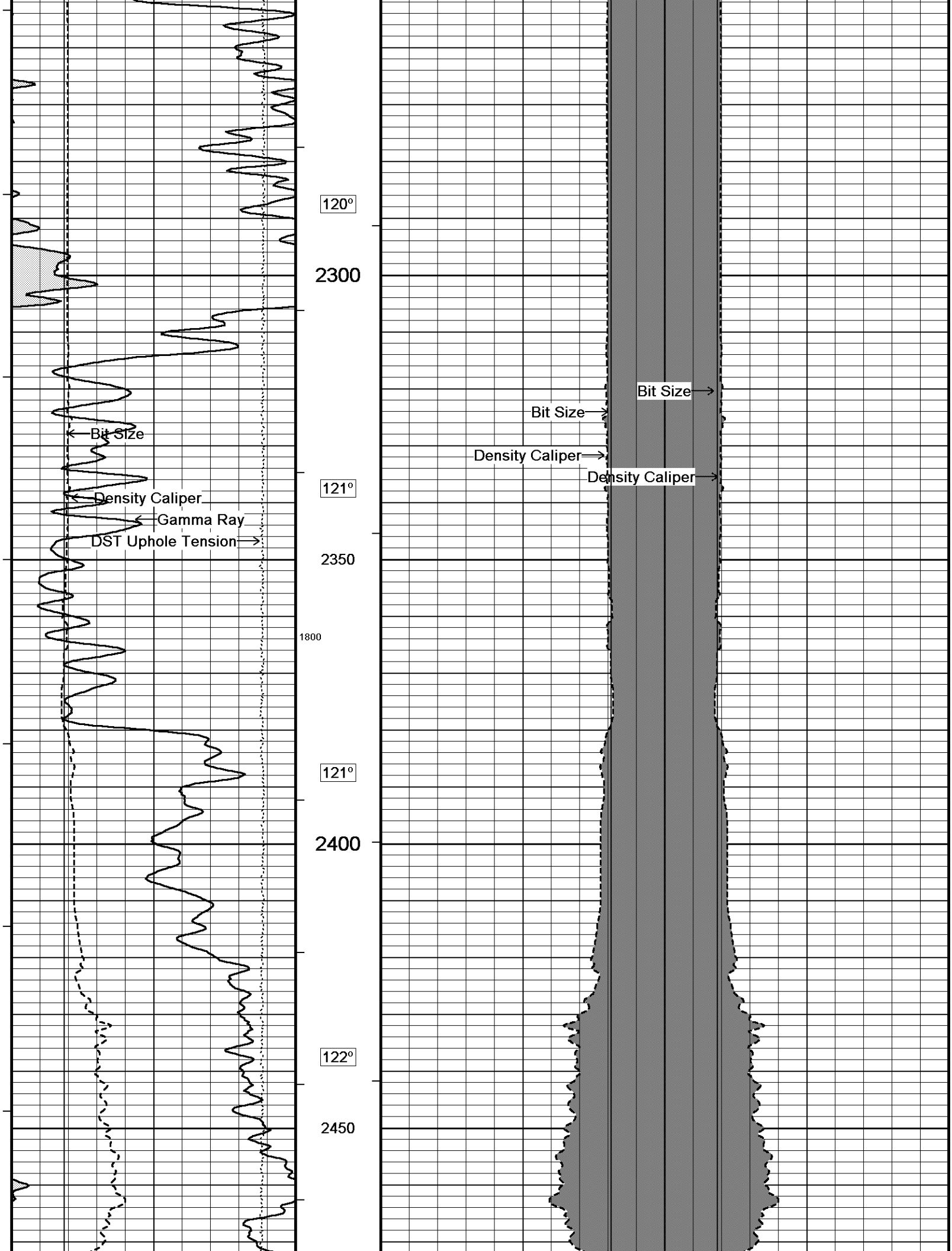
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2300
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
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2350
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121°
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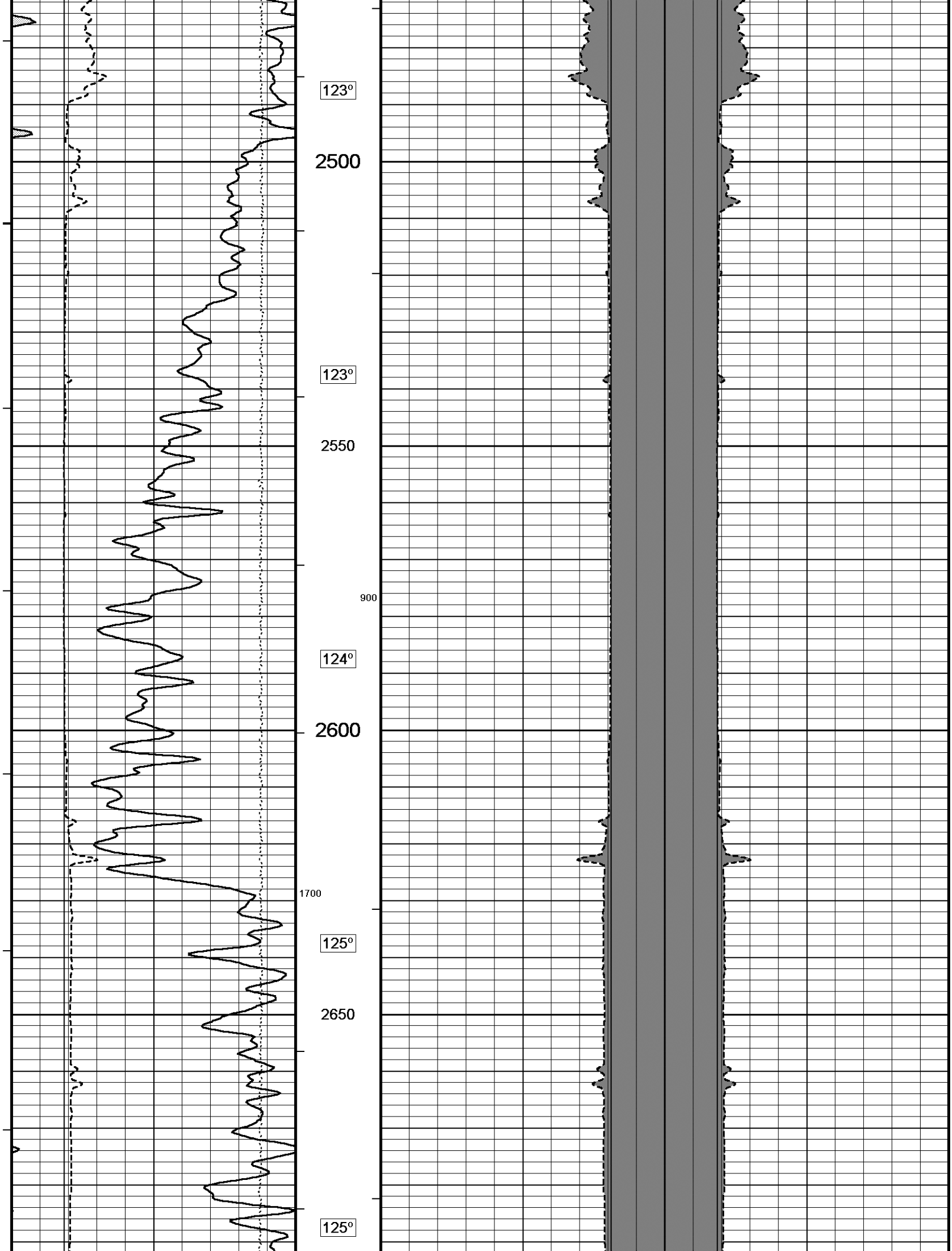
Bit Size
Density Caliper
Density Caliper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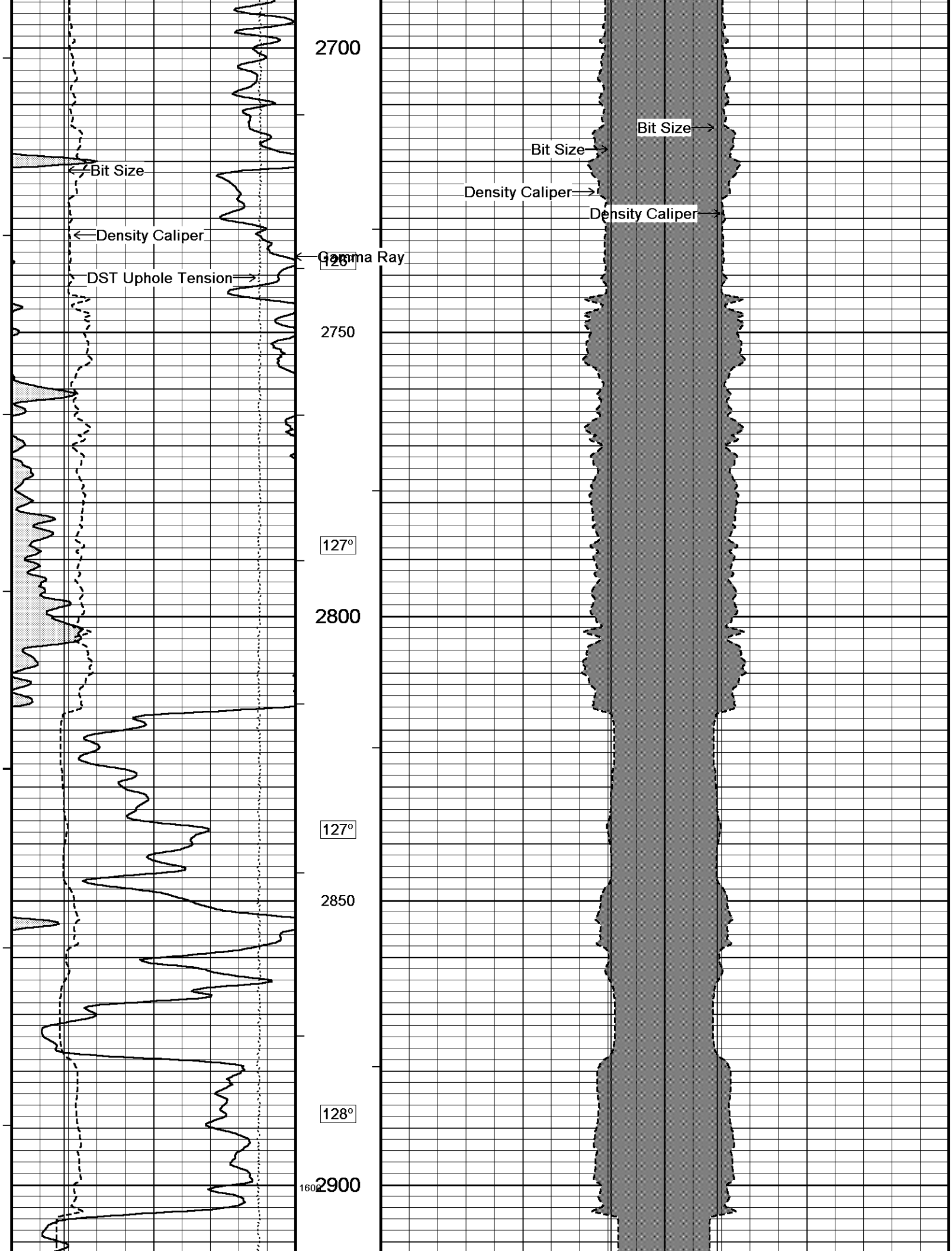
124°
2600
1700
125°
2650
125°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Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
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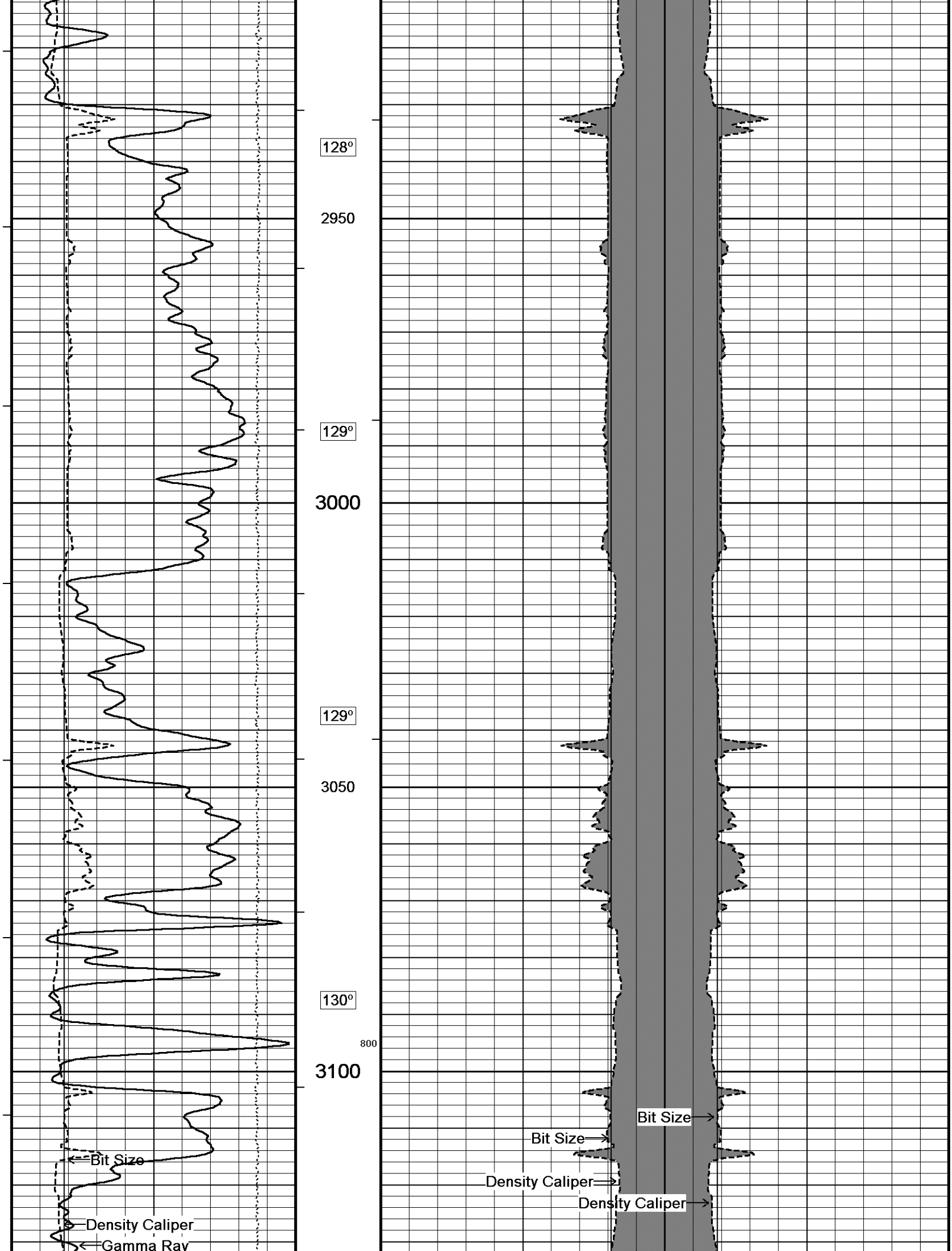
2800
127°
2850
128°
2900
1600
Bit Size
Bit Size
Density Caliper
Density Caliper


128°
2950
129°
3000
129°
3050
130°
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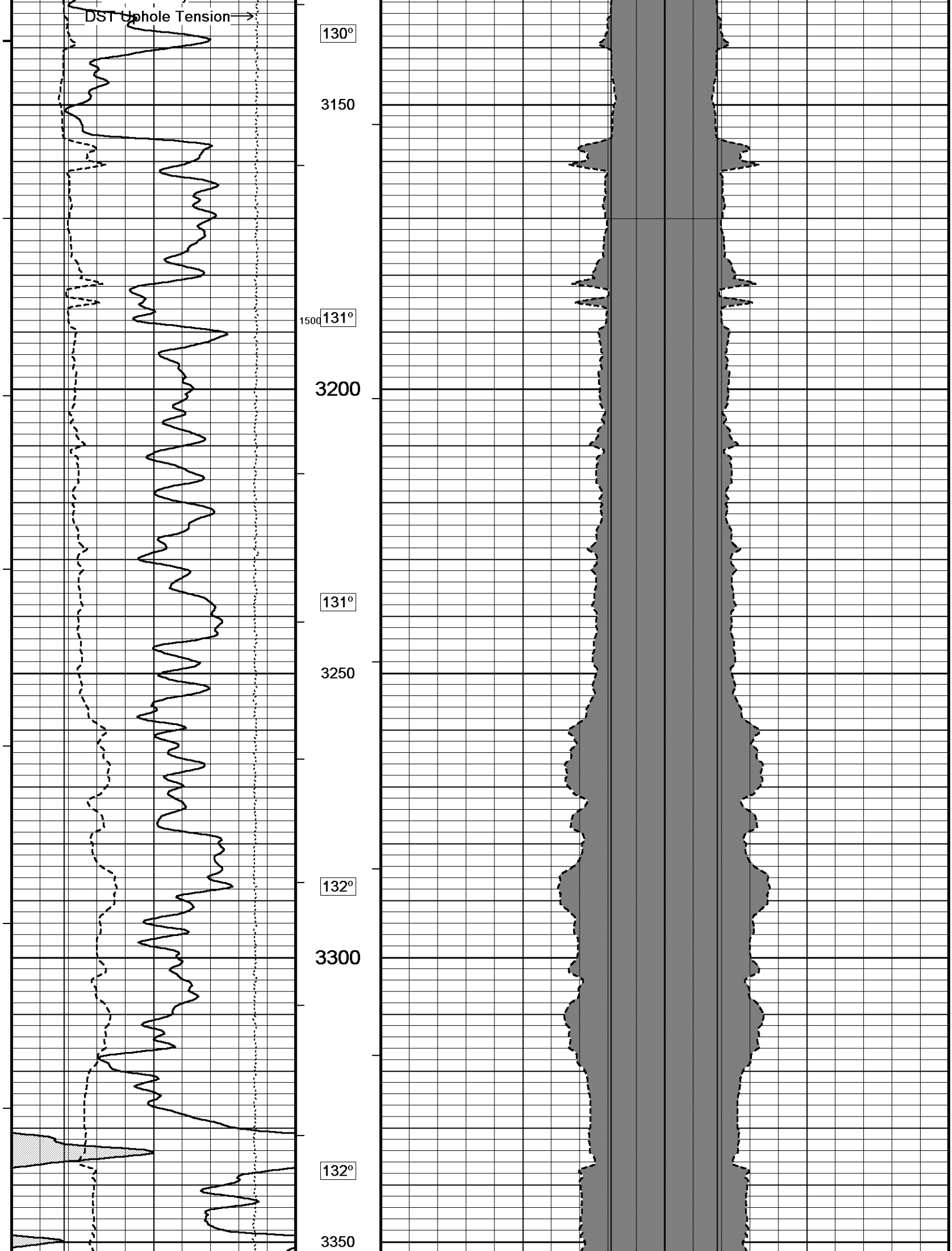
Bit Size
Density Caliper
Gamma Ray
Bit Size
Bit Size
Density Caliper
Density Caliper


DST Uphole Tension
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1500
131°
3200
131°
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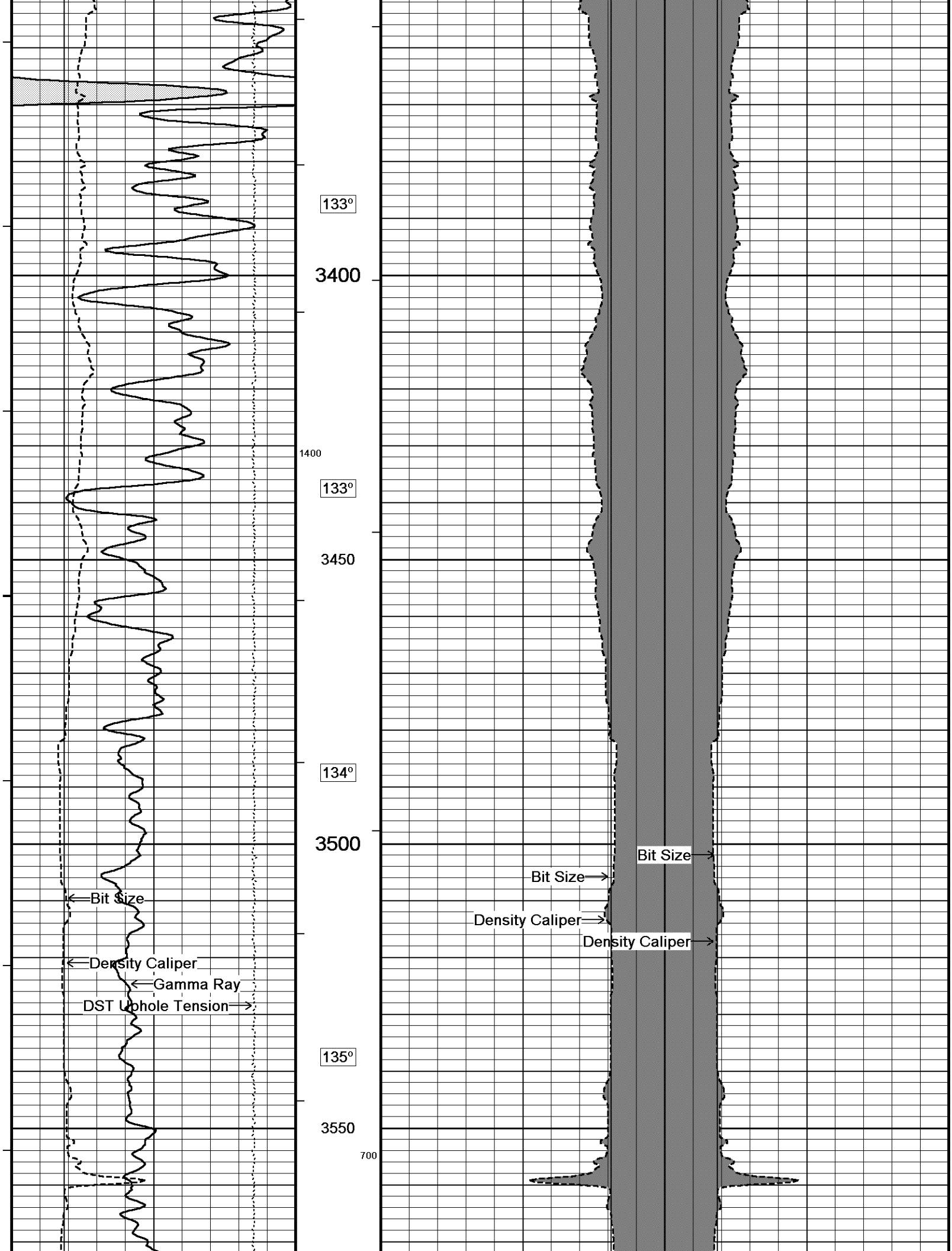
132°
3300
132°
3350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3400
1400
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134°
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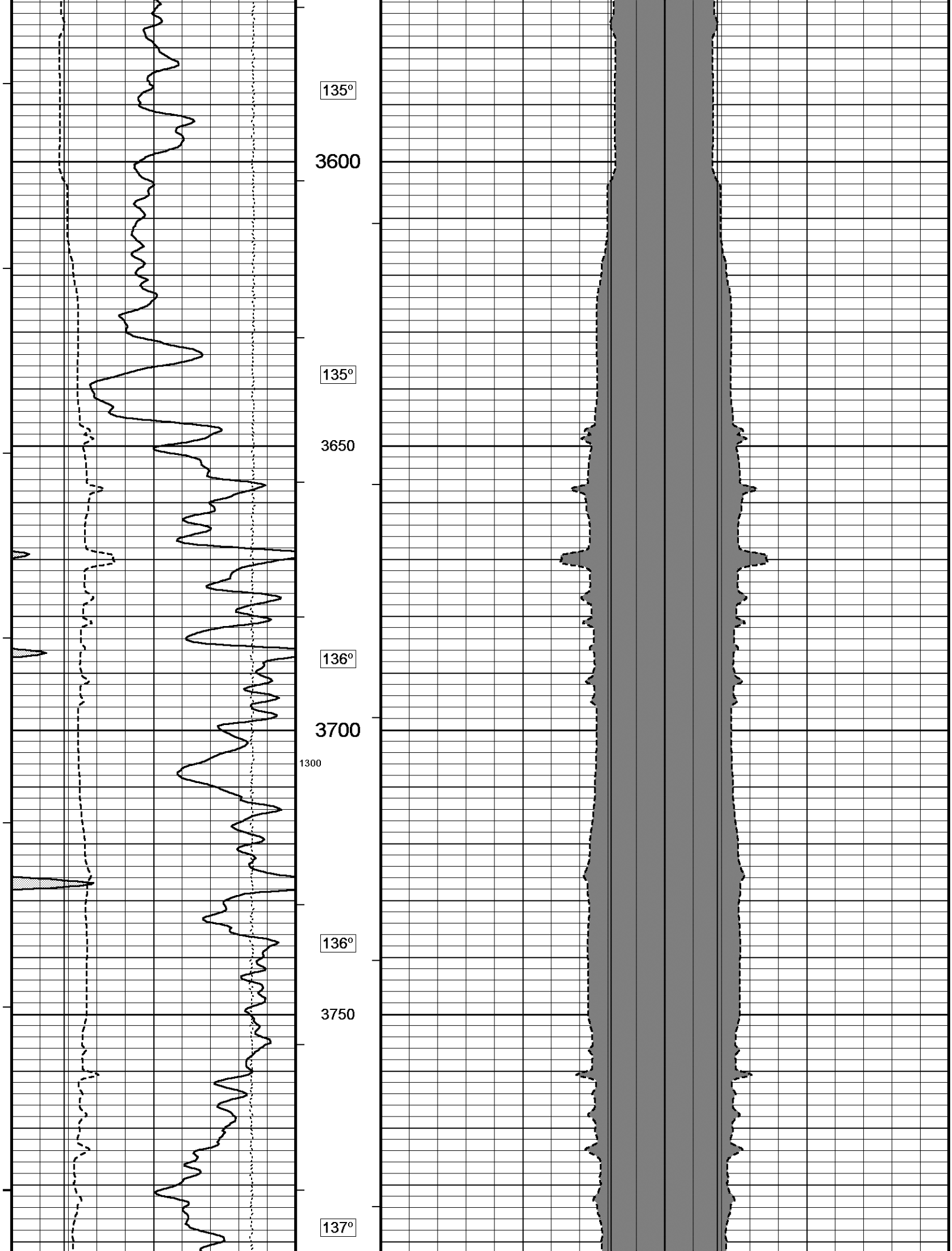
Bit Size
Bit Size
Density Caliper
Density Caliper
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
135°
3550
700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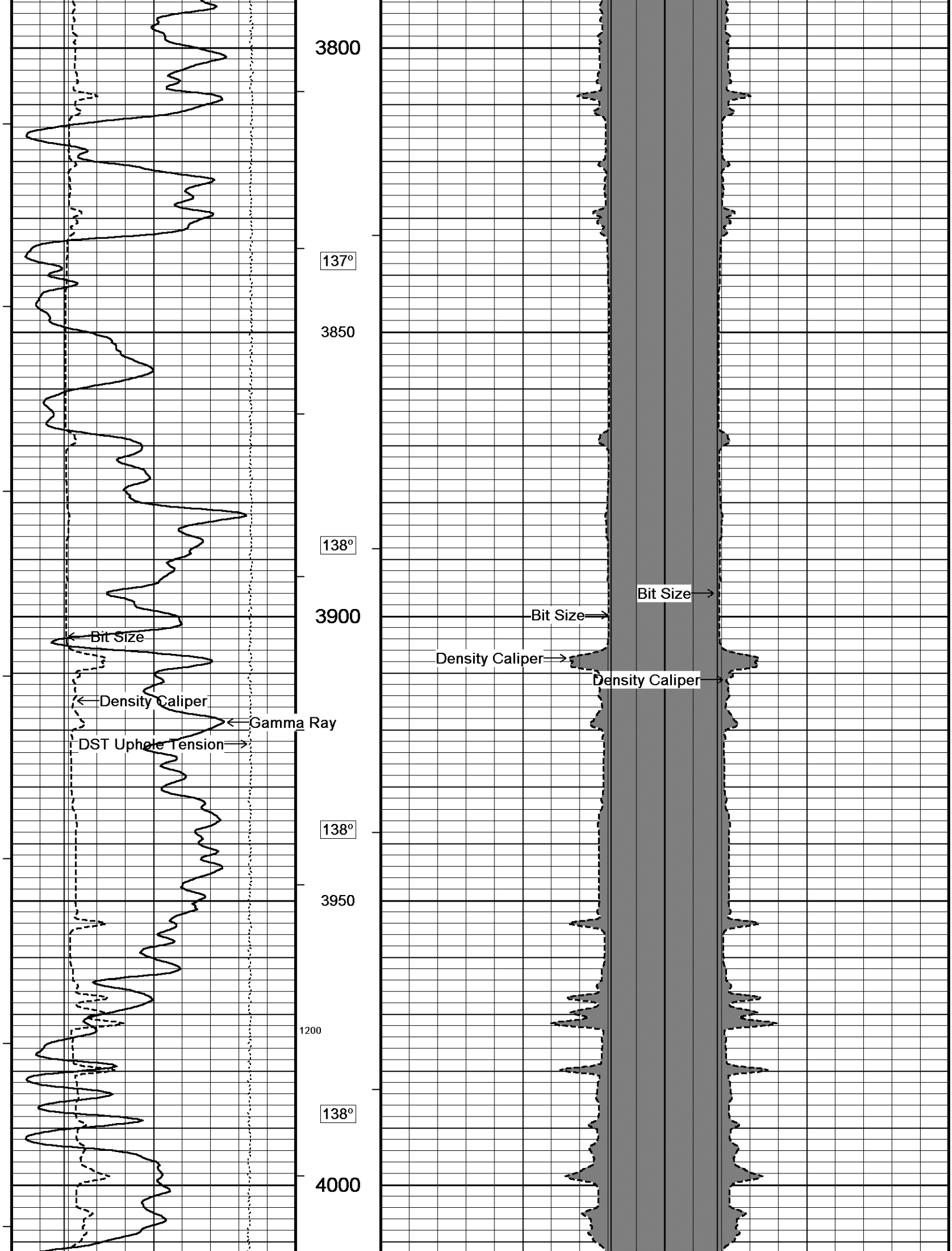
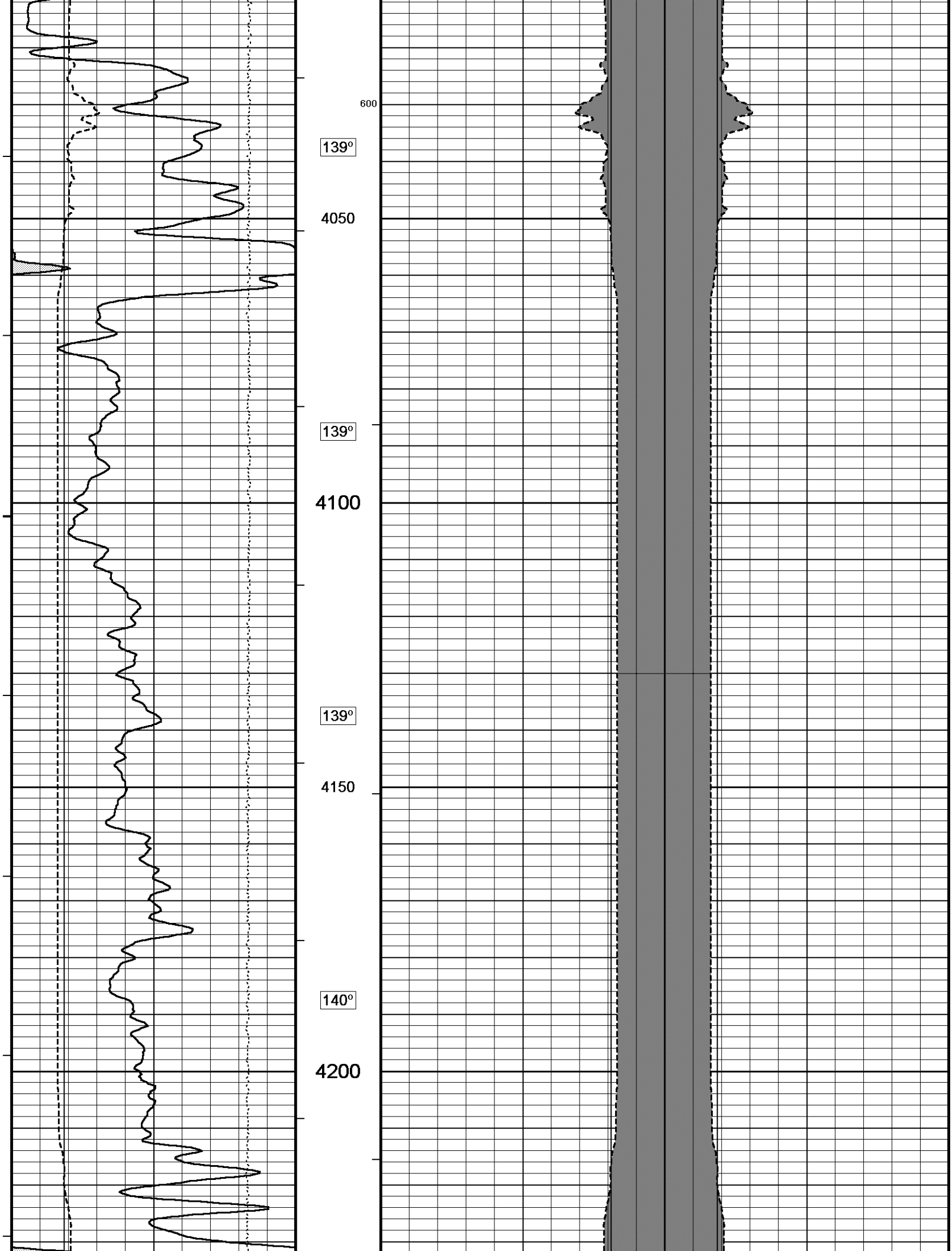

3800
137°
3850
138°
3900
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
138°
3950
1200
138°
4000
Bit Size
Bit Size
Density Caliper
Density Caliper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140°
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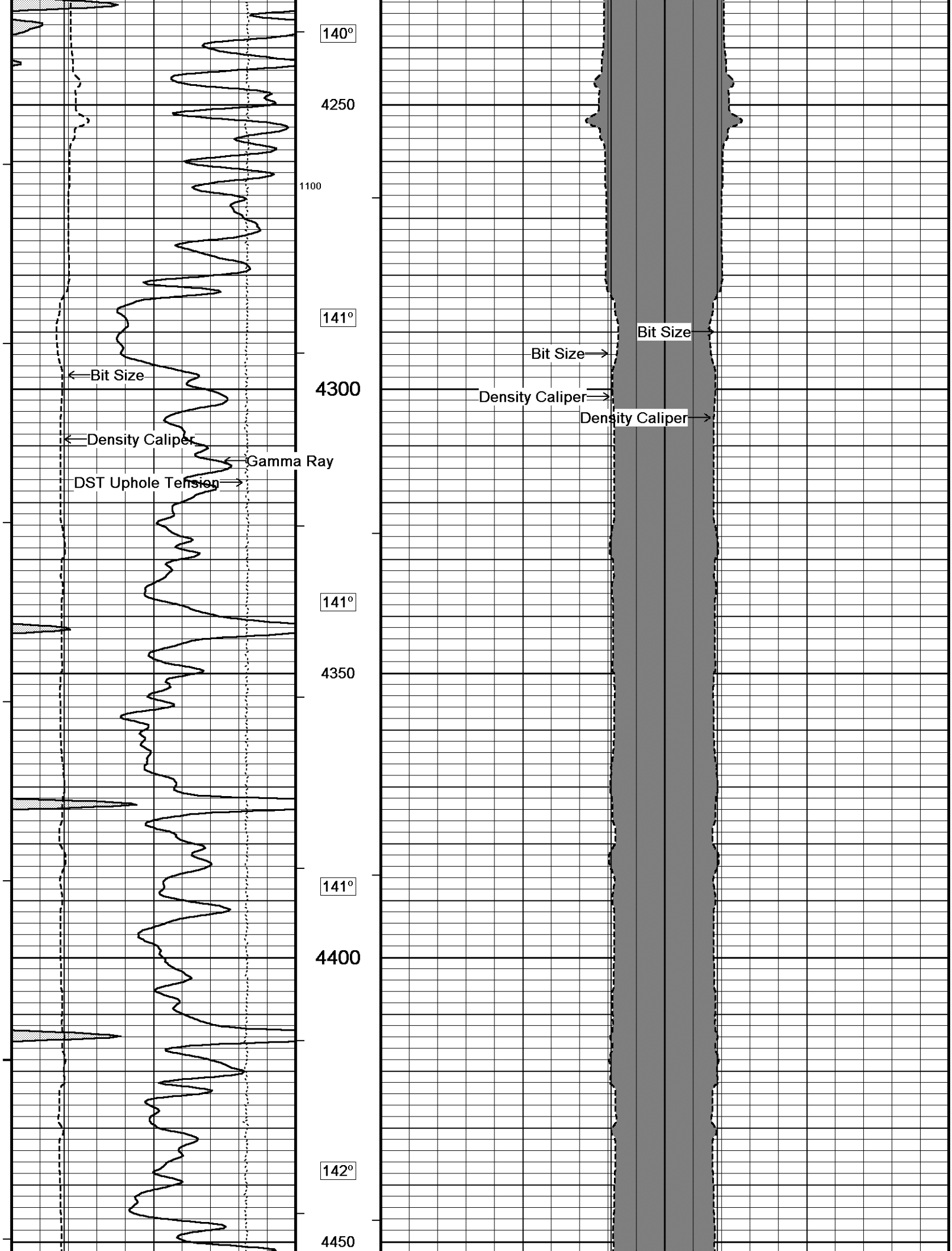
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Density Caliper
Gamma Ray
DST Uphole Tension
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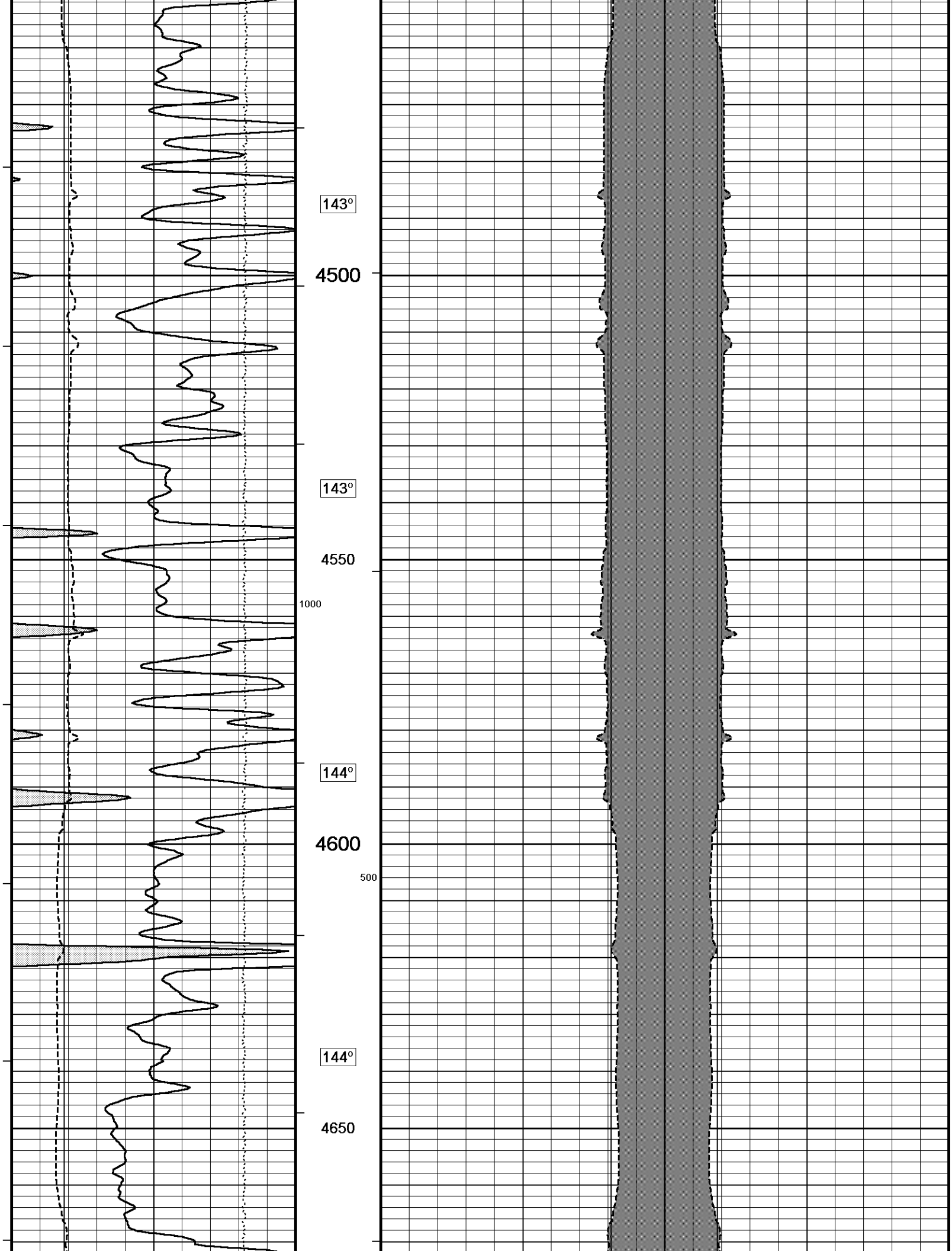
Bit Size
Bit Size
Density Caliper
Density Caliper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143°
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1000
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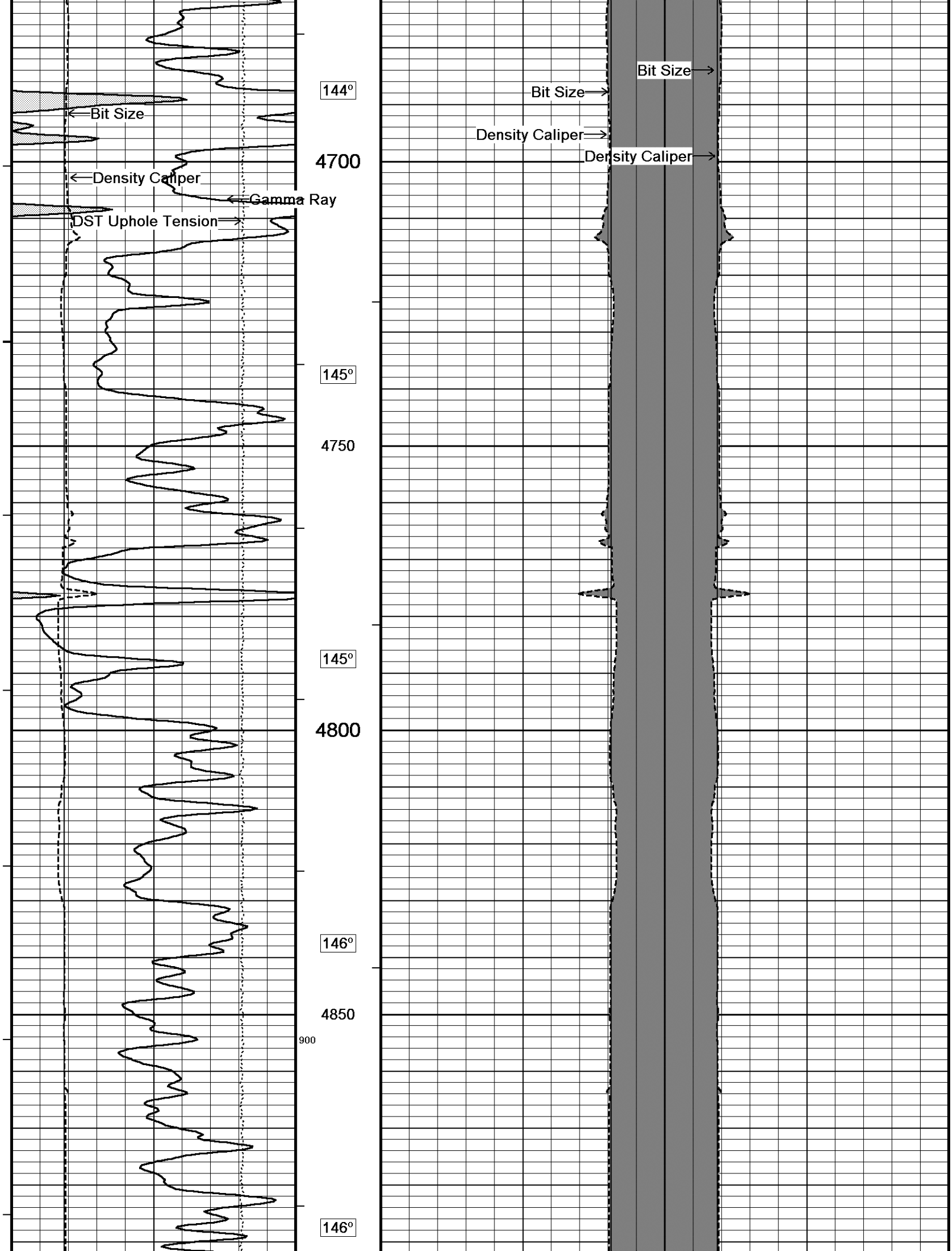
500
144°
4650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Bit Size
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Density Caliper
Gamma Ray
DST Uphole Tension
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4750
145°
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146°
4850
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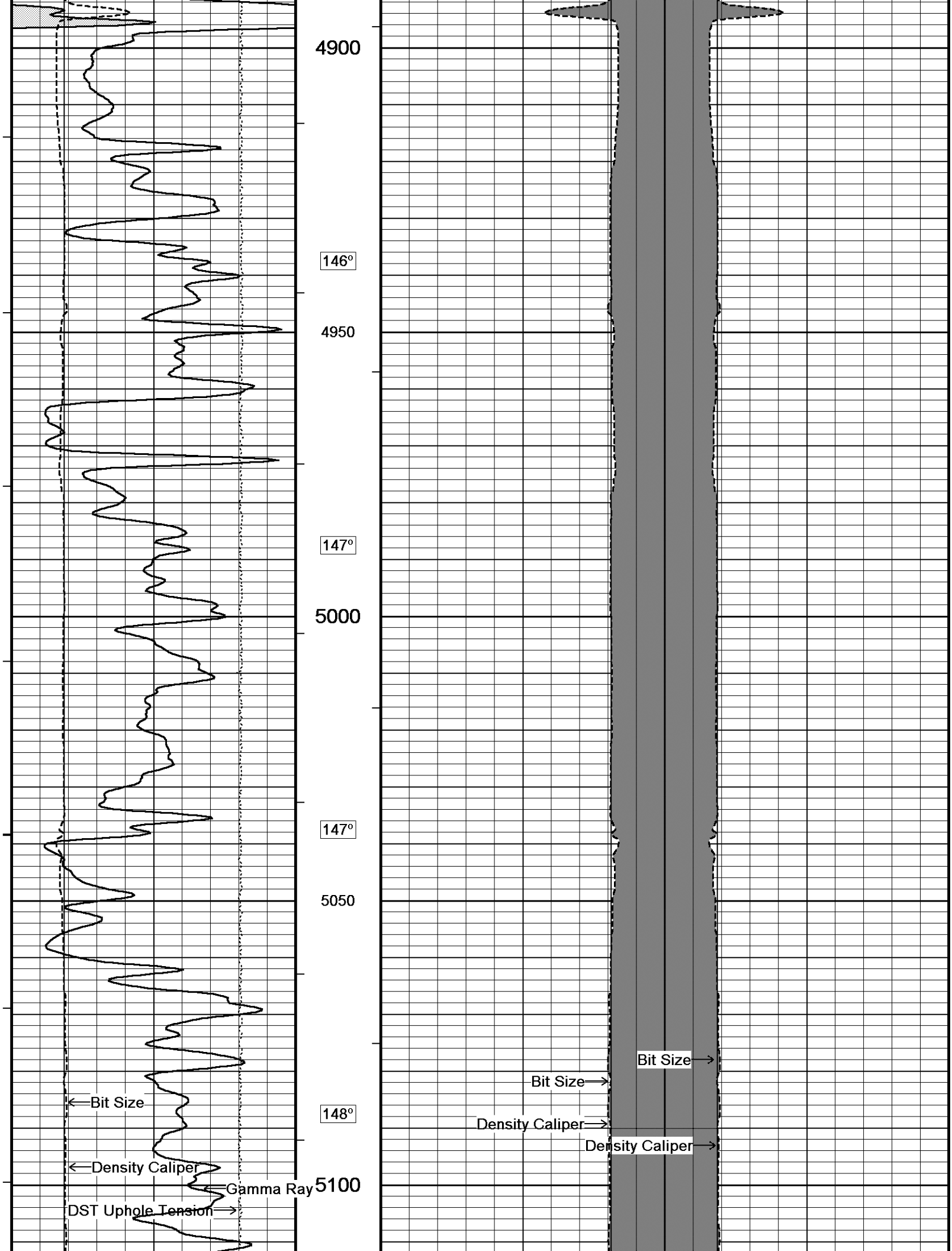
146°
Bit Size
Bit Size
Density Caliper
Density Caliper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146°
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147°
5000
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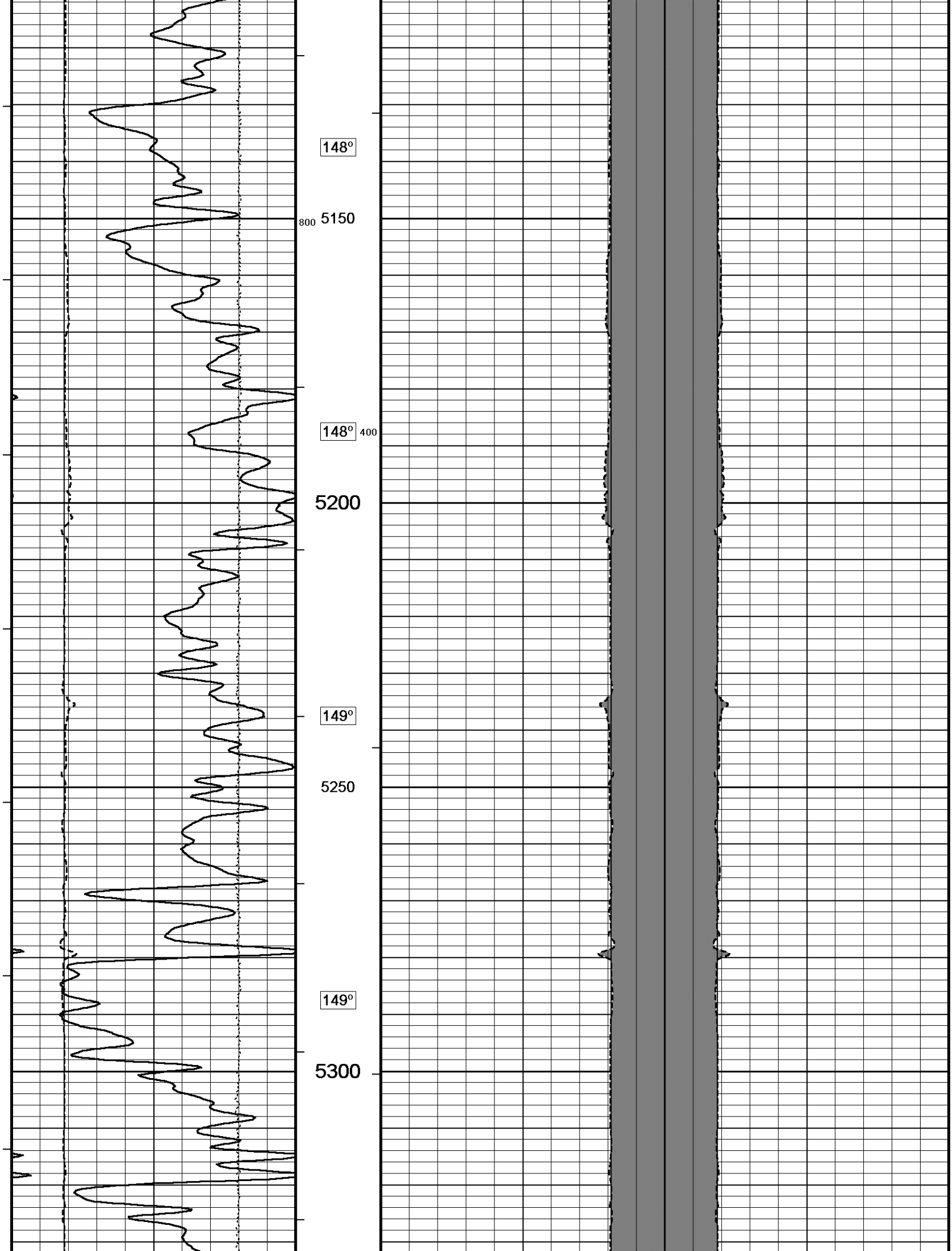
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
Bit Size
Bit Size
Density Caliper
Density Caliper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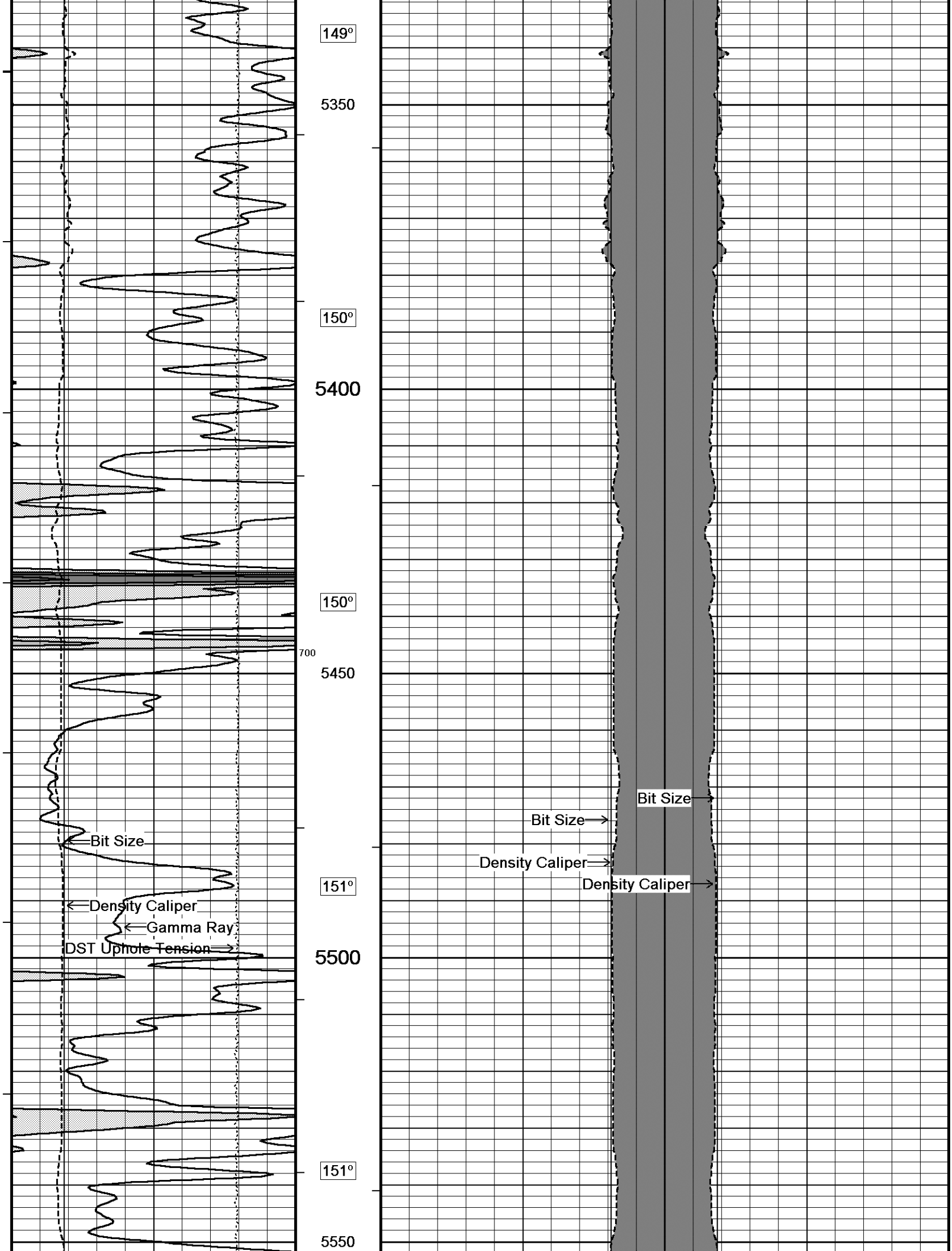
149°
5350
150°
5400
150°
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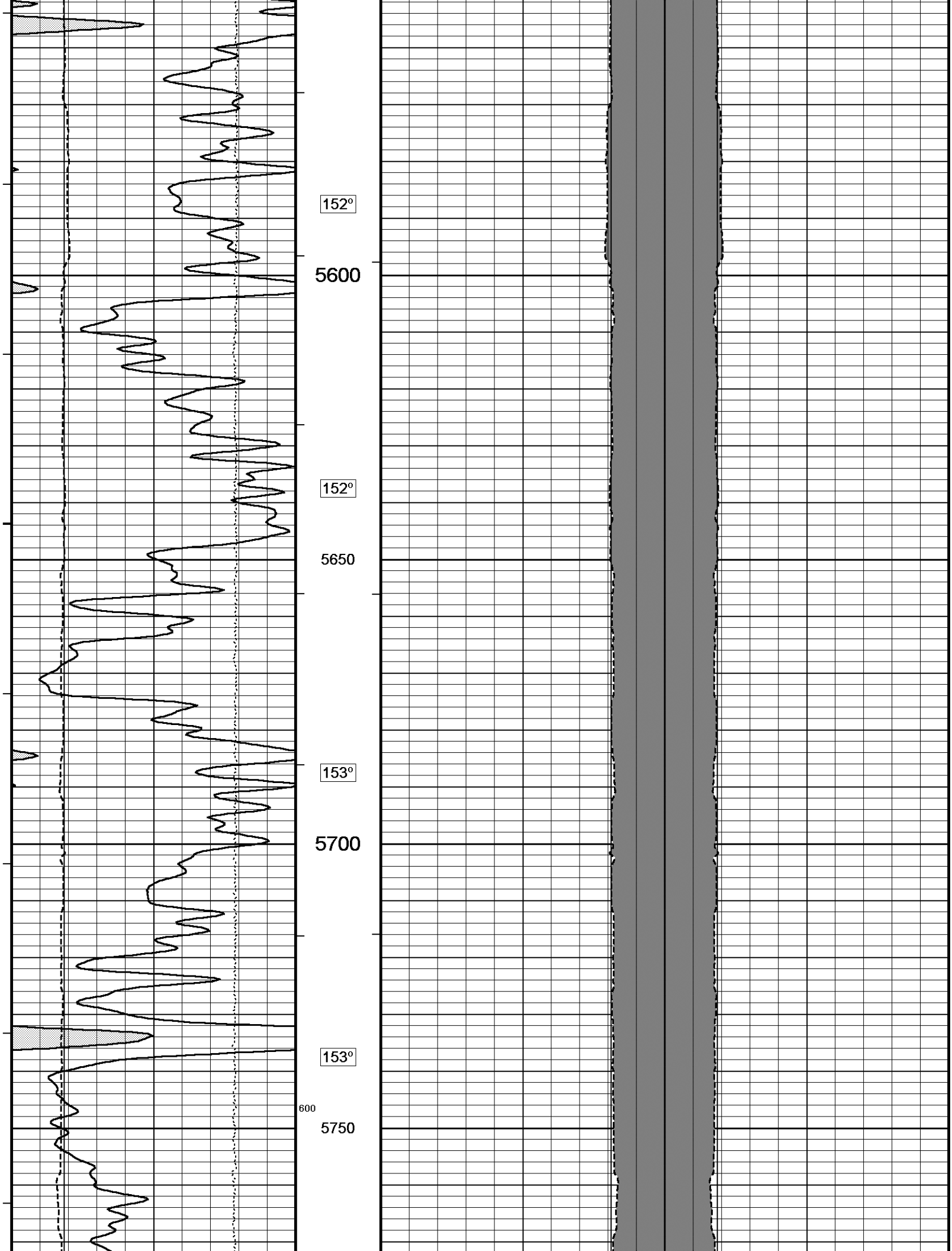
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
Bit Size
Bit Size
Density Caliper
Density Caliper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5650
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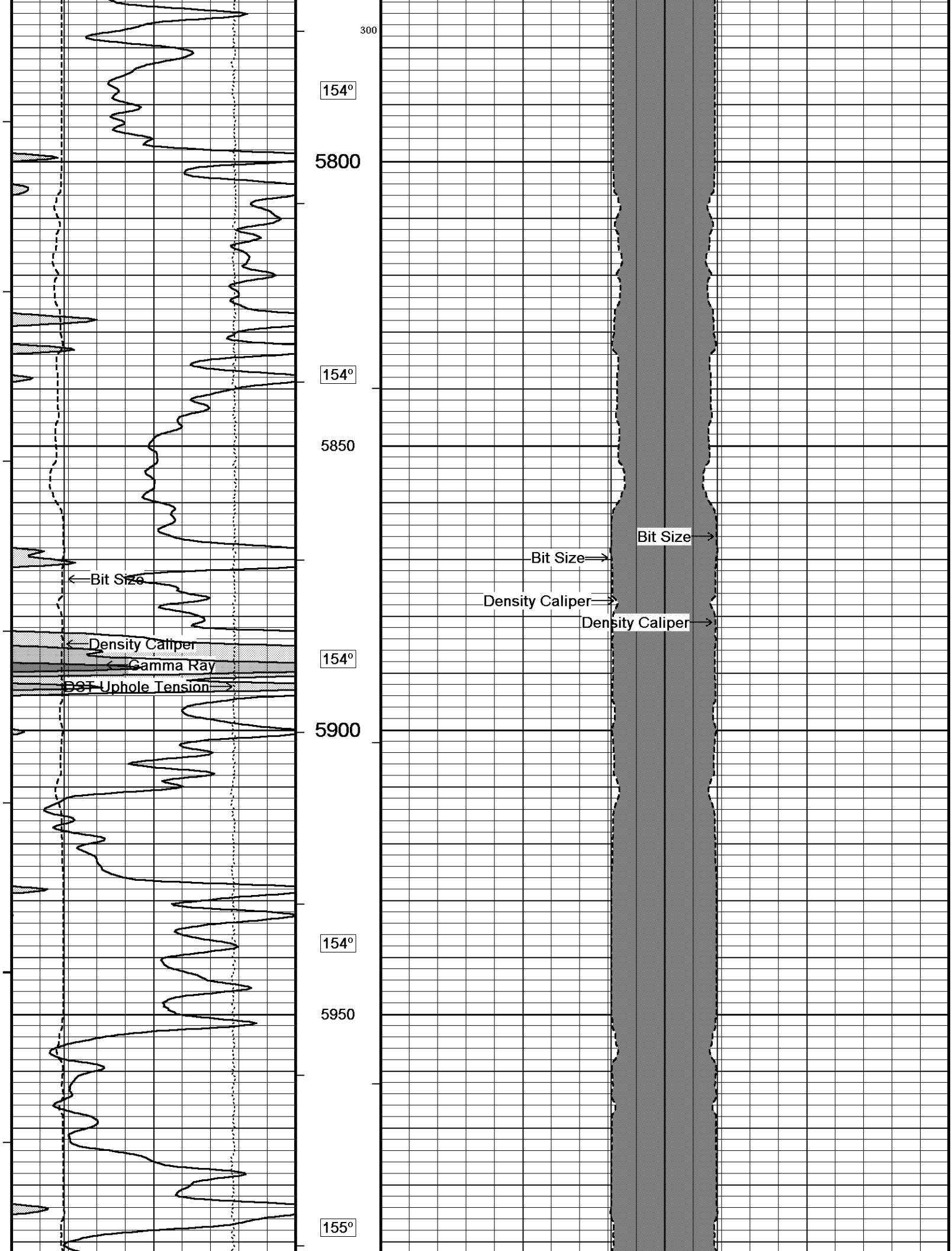
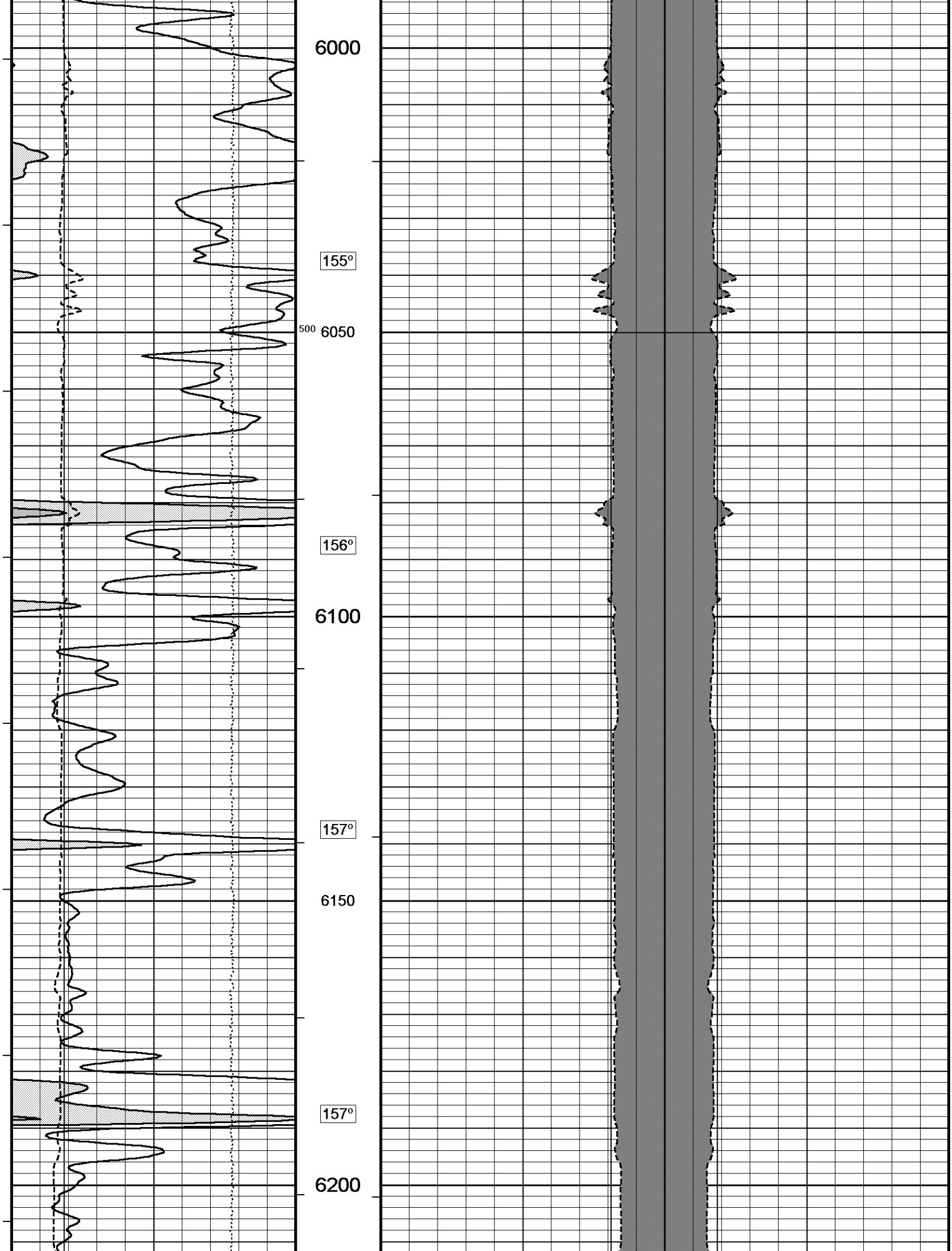

300
154°
5800
154°
5850
Bit Size
Bit Size
Bit Size
Density Caliper
Density Caliper
Density Caliper
154°
Gamma Ray
DST Uphole Tension
5900
154°
5950
155°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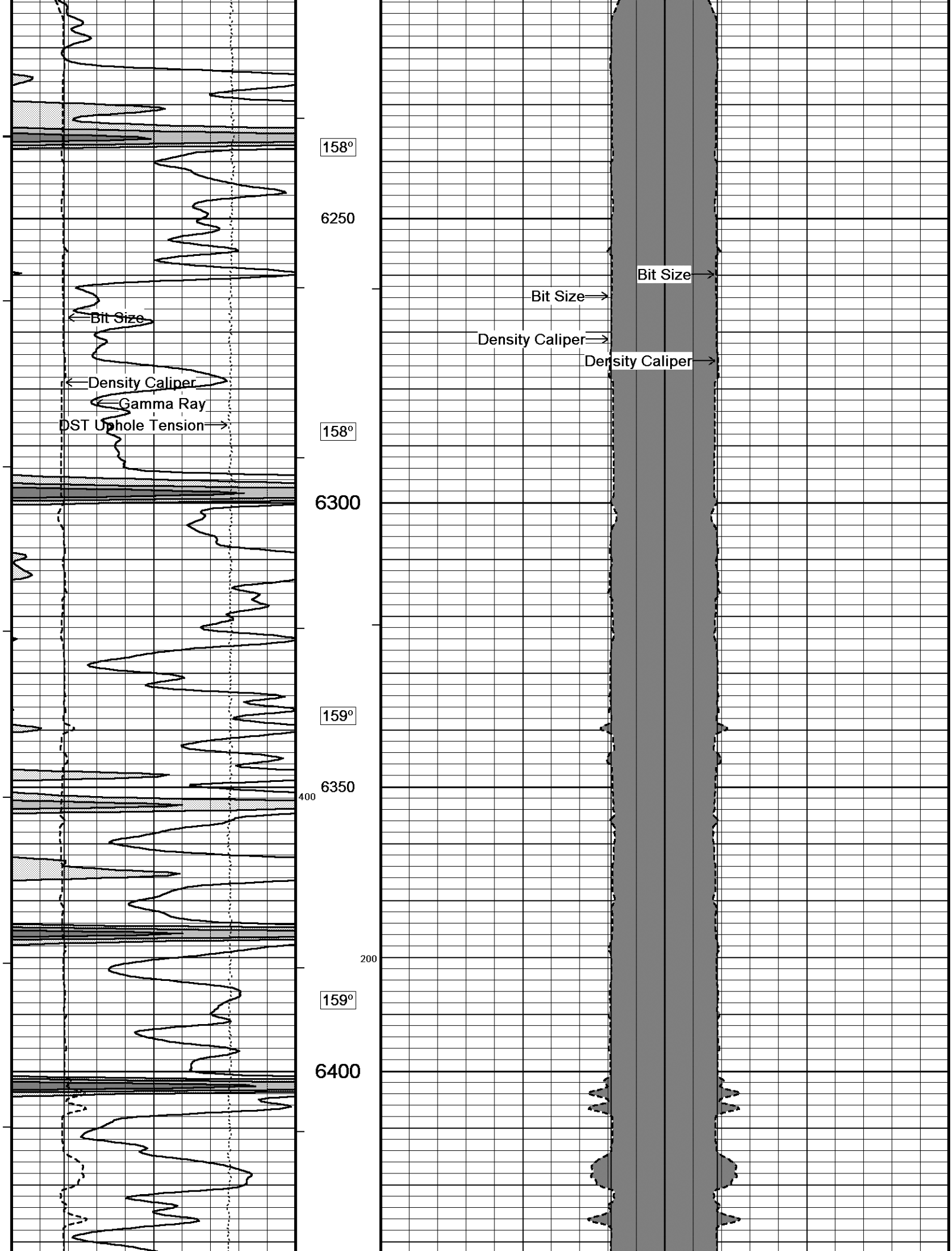
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Gamma Ray
DST Uphole Tension
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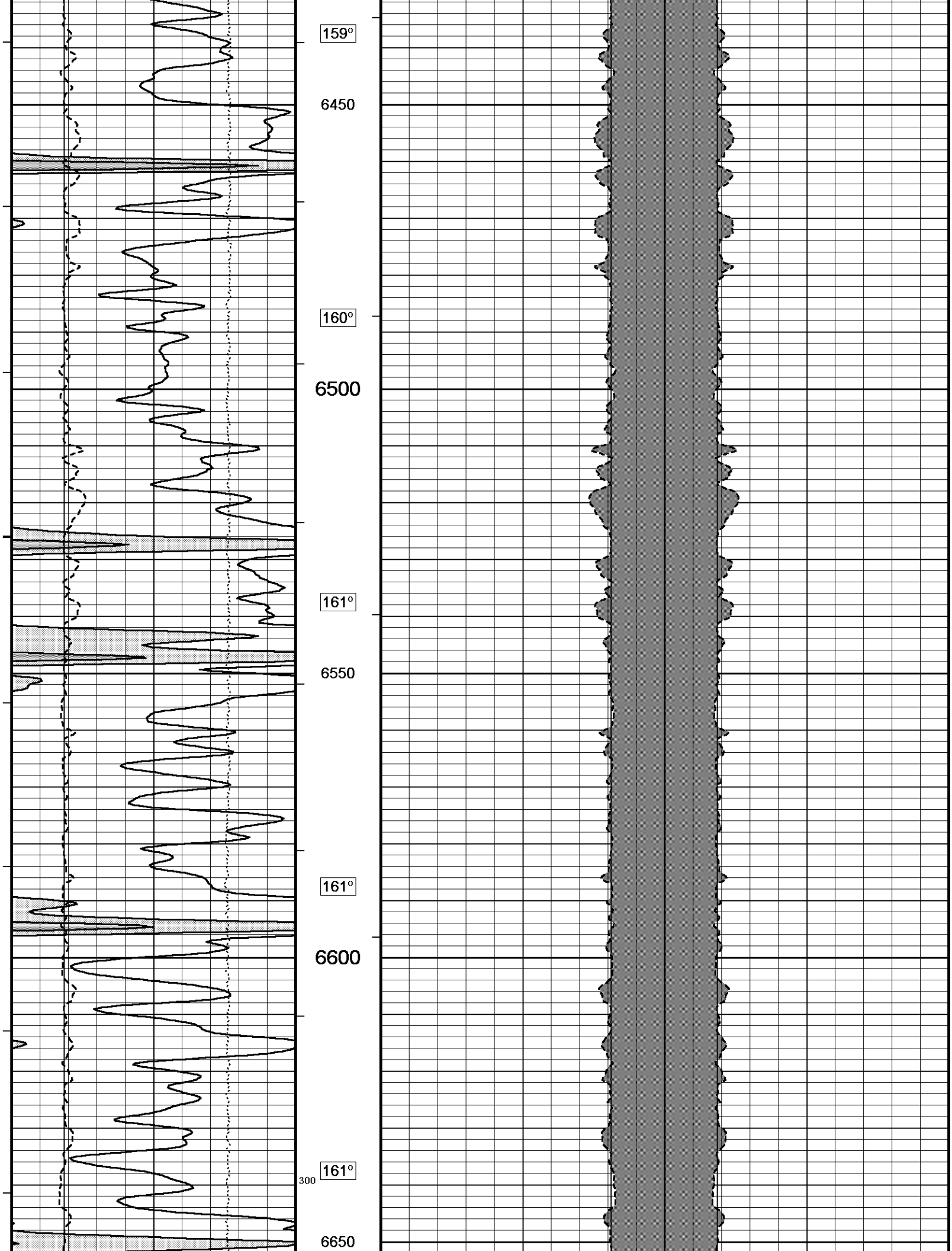
159°
6350
400
200
159°
6400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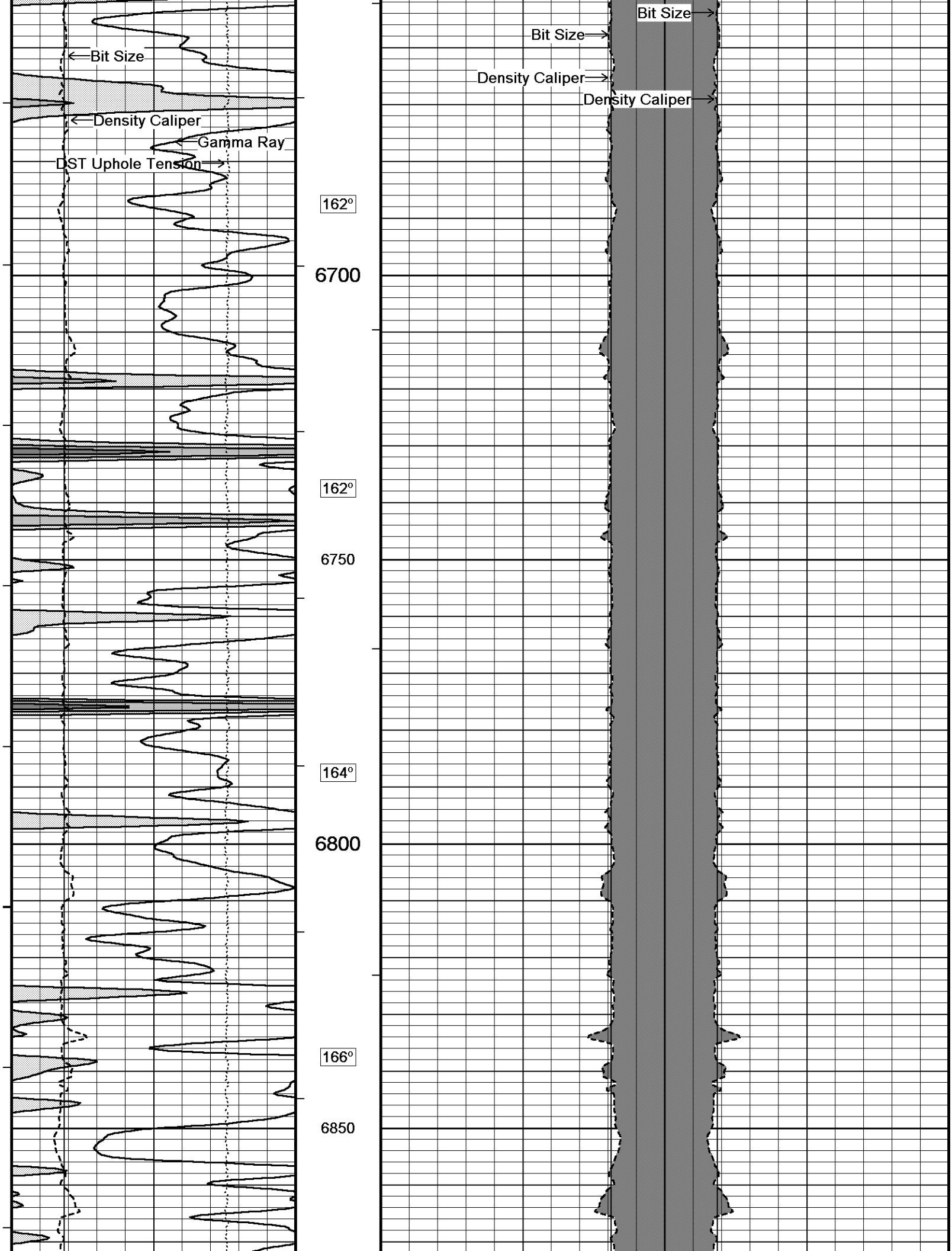
6550
161°
6600
300
161°
6650


Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
Bit Size
Density Caliper
Bit Size
Density Caliper
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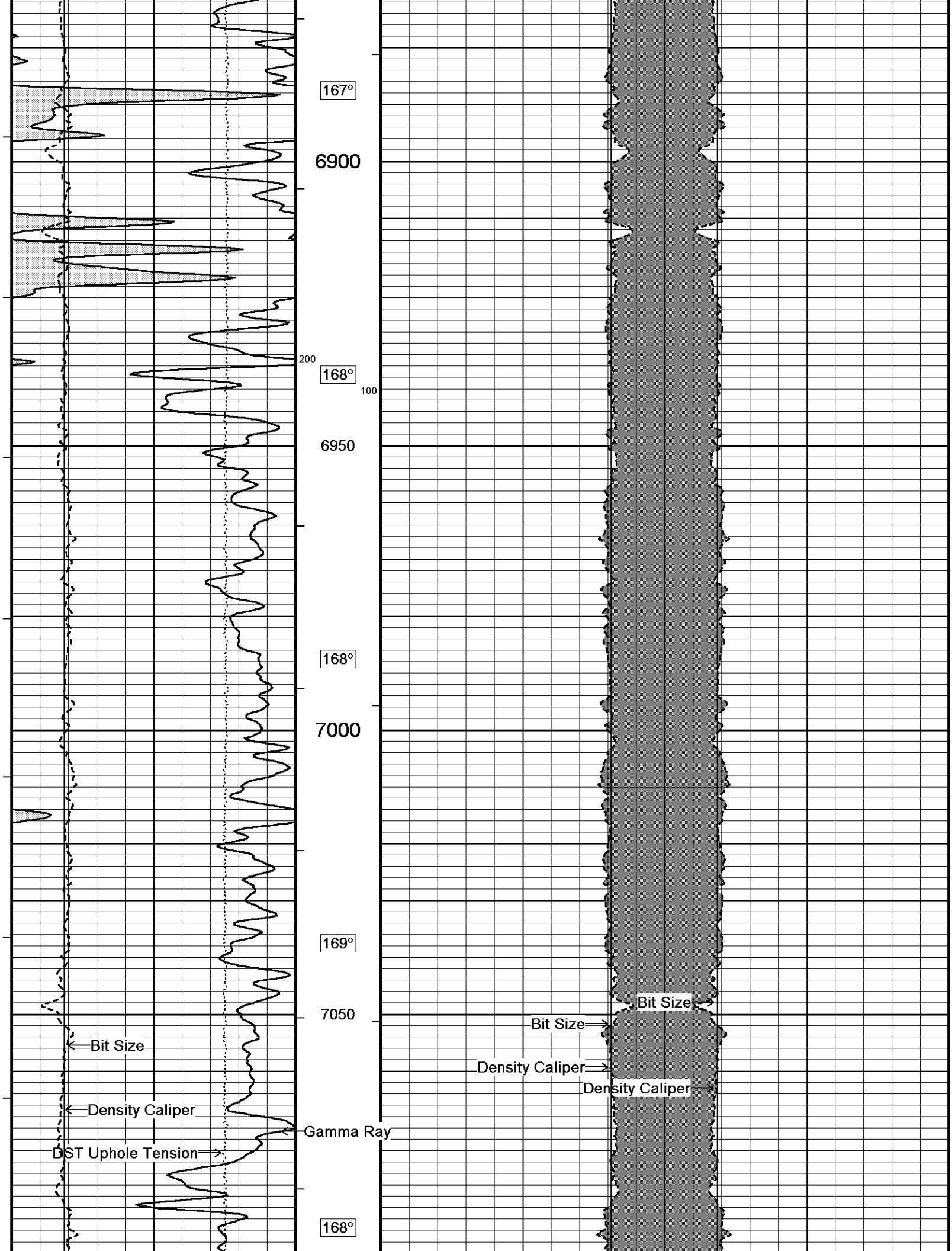
6700
162°
6750
164°
6800
166°
6850


167°
6900
200
168°
100
6950
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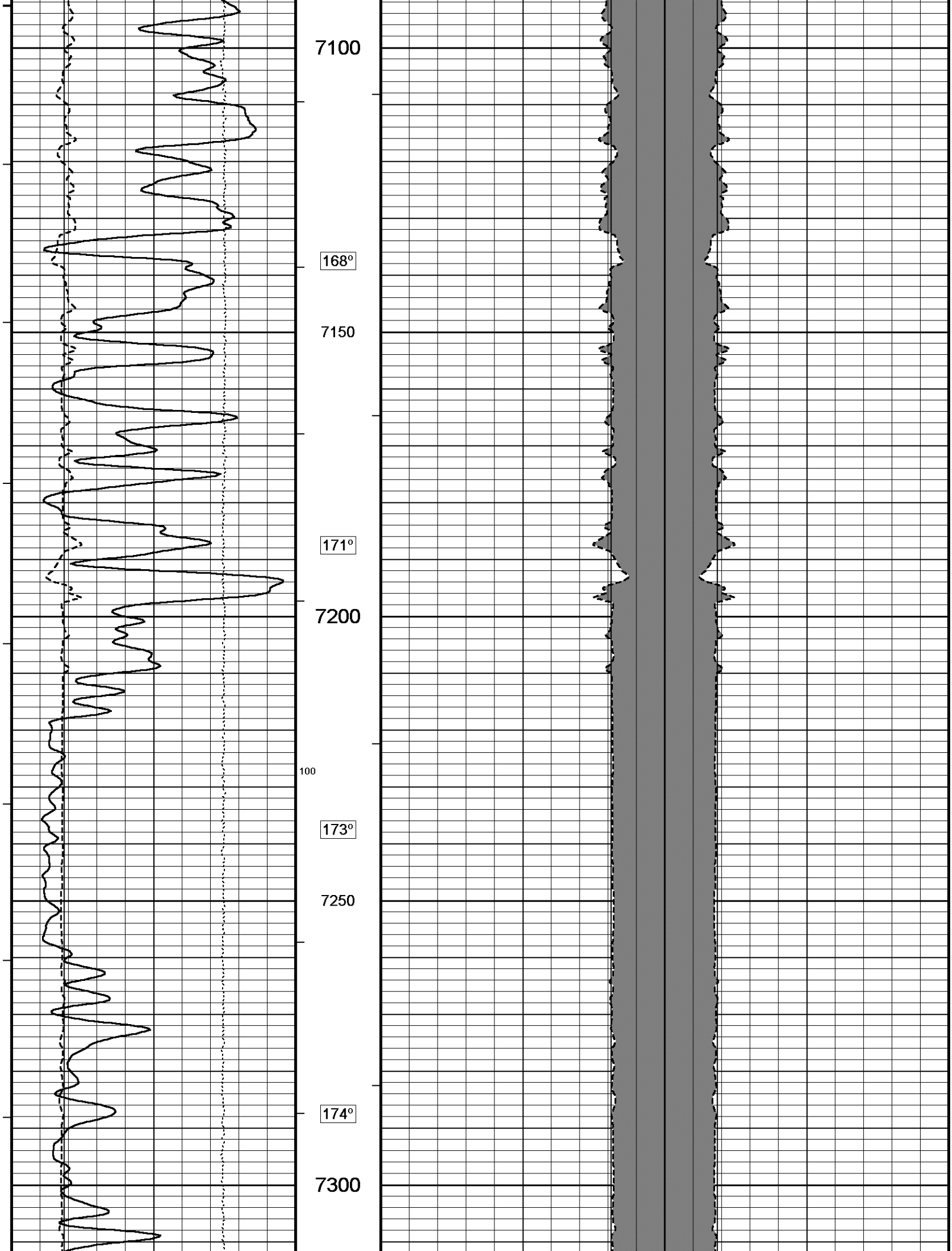
169°
7050
168°
Bit Size
Density Caliper
DST Uphole Tension
Gamma Ray
Bit Size
Bit Size
Density Caliper
Density Caliper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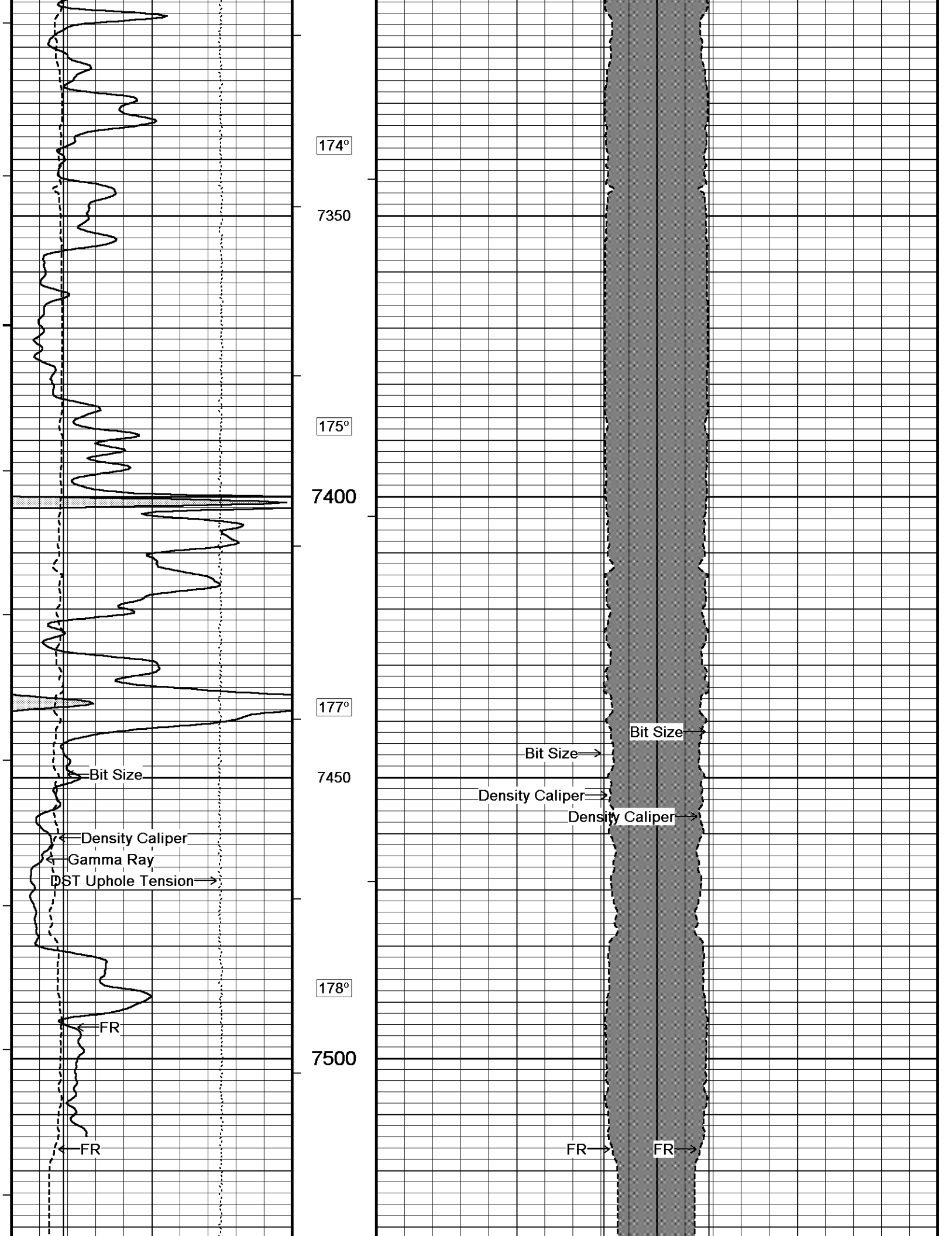
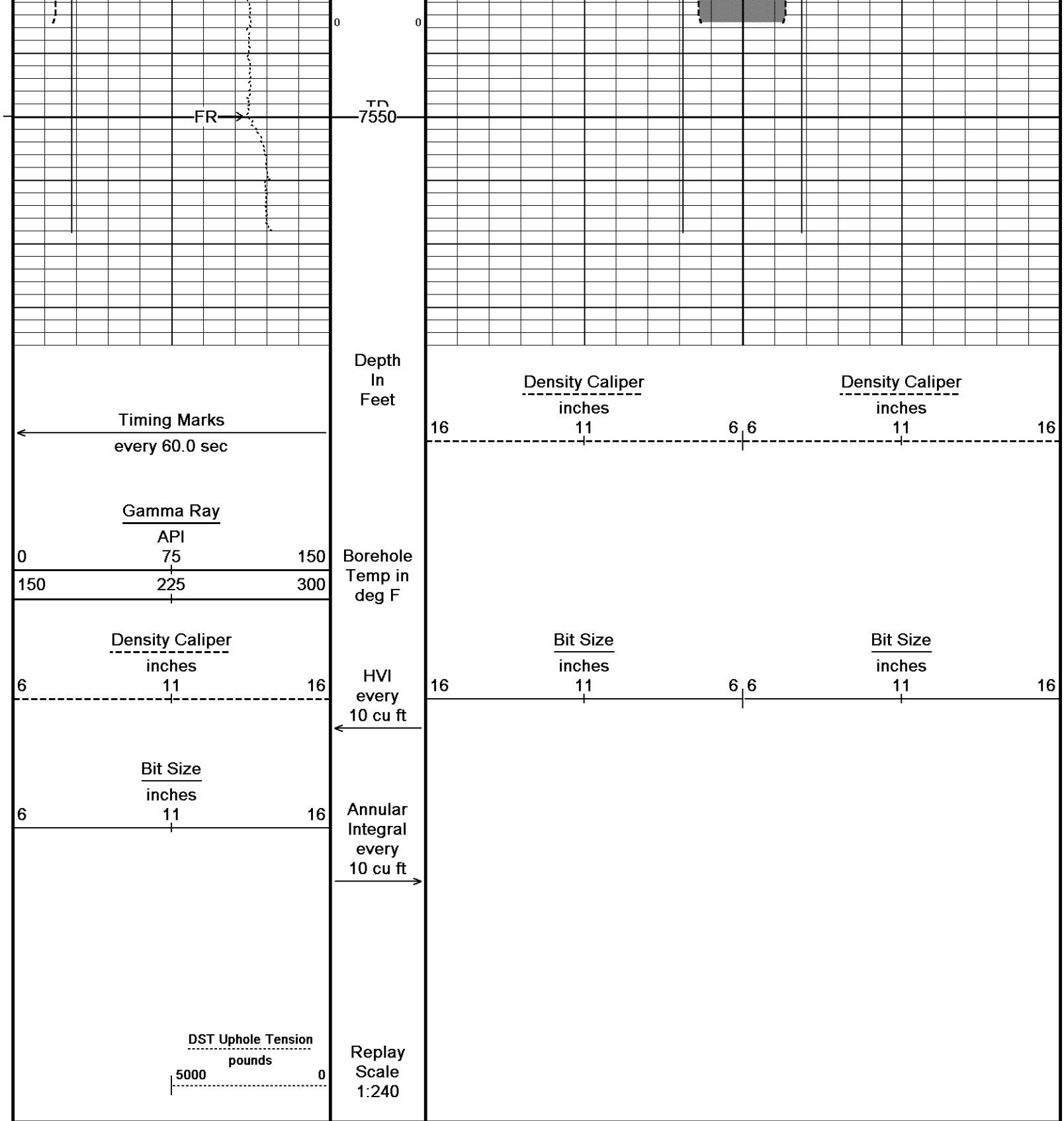
7200
100
173°
7250
174°
7300


174°
7350
175°
7400
177°
7450
178°
7500
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
FR
FR
Bit Size
Bit Size
Density Caliper
Density Caliper
FR
FR



Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 09-NOV-2017 05:13
Filename: C:\Minimus 17.03.9700\Data\K3 Sorenson #4-3\K3 Sorenson #4-3_003.dta
Recorded on 09-NOV-2017 00:16
System Versions: Logged with 17.03.9700 Plotted with 17.03.9700

5 INCH MAIN

BEFORE SURVEY CALIBRATION

C:\Minimus 17.03.9700\Data\K3 Sorenson #4-3\K3 Sorenson #4-3_002.dta

General Constants All 000
Last Edited on 08-NOV-2017,09:45

General Parameters

Mud Resistivity	1.760	ohm-metres

Mud Resistivity	1.700	ohm-metres
Mud Resistivity Temperature	75.000	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	None	

Rwa Parameters	
Porosity used	Crossplot Porosity
Resistivity used	Array Ind. One Res Rt
RWA Constant A	0.620
RWA Constant M	2.150
SW/APOR Tool Source	0.000

Down-hole Tension Calibration SMS 0

Field Calibration on 03-NOV-2017 15:03

Reading No	Measured	Calibrated (lbs)
1	-64.04	0.00
2	-2337.74	481.00

Gamma Calibration MCG-C 84

Field Calibration on 05-NOV-2017 09:45

	Measured	Calibrated (API)
Background	97	67
Calibrator (Gross)	758	523
Calibrator (Net)	661	456

Gamma Calibration Tolerances MCG-C 84

Ratio	1.449	1.40	1.475 1.55	Counts/API

Gamma Constants MCG-C 84

Last Edited on 08-NOV-2017,07:35

Gamma Calibrator Number	MCGGRCC141	
GRC-M Calibrator Jig in Use?	NO	
Inactive Background Jig in Use?	NO	
Mud Density	1.13	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Potassium Equivalence	Chloride	
K Mud Concentration	0.00	%

SP Calibration MCG-C 84

Field Calibration on 27-OCT-2017,07:20

	Measured	Calibrated (mV)
Reference 1	104.4	100.1
Reference 2	-95.8	-100.1

High Resolution Temperature Calibration MCG-C 84

Field Calibration on 27-OCT-2017,07:21

	Measured	Calibrated(Deg F)
Lower	50.00	50.00
Upper	212.00	212.00

High Resolution Temperature Constants MCG-C 84

Last Edited on 30-AUG-2017,13:52

Pre-filter Length	11

Micro Normal and Micro Inverse Calibration MML-A 7

Base Calibration on 23-OCT-2017 14:05
Field Check on 03-NOV-2017 15:31

	Resistor 1 (ohm)		Resistor 2 (ohm)	
	10.0		50.0	
Base Calibration				
	Measured		Calibrated (ohm-m)	
Micro Normal	10.1	50.4	5.1	25.6
Micro Inverse	10.0	50.1	3.4	16.9

Channel	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	76.7	76.7

Micro Inverse	51.0

Micro Normal & Micro Inverse Calibration Tolerance MML-A 7

Micro Normal Res. 1	10.1	-5% 10.0 +5%	ohm	Micro Normal Res. 2	50.4	-5% 50.0 +5%	ohm
Micro Inverse Res. 1	10.0	-5% 10.0 +5%	ohm	Micro Inverse Res. 2	50.1	-5% 50.0 +5%	ohm
Micro Normal Base Check	76.7	-2% 76.57 +2%	ohm-m				
Micro Inverse Base Check	51.0	-2% 50.96 +2%	ohm-m				
Micro Normal Field Check	76.7	-2% 76.7 +2%	ohm-m				
Micro Inverse Field Check	51.0	-2% 51.0 +2%	ohm-m				

Micro Normal and Micro Inverse Constants MML-A 7

Last Edited on 08-NOV-2017,07:35

Pad Type	8-12 in Soft Rubber Inflatable 006-9011-159	
Micro Normal K Factor	0.5110	
Micro Inverse K Factor	0.3380	
Standoff Offset	N/A	inches

Caliper Calibration MML-A 7

Base Calibration on 23-OCT-2017 13:59
Field Calibration on 03-NOV-2017 15:29

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	14085	5.98
2	17580	7.97
3	20846	9.86
4	24750	11.92
5	0	0.00
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
8.11	8.10

Caliper Calibration Tolerances MML-A 7

Short Arm Field Cal.	8.11	7.90 8.10 8.30	in

Neutron Calibration MDN-A.B 114

Base Calibration on 25-OCT-2017 16:20
Field Check on 05-NOV-2017 09:48

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	3039	94	3714	110
Ratio	32.458		33.764	

Field Calibrator at Base

	Calibrated (cps)	
	2150	3142
Ratio	0.684	

Field Check

	Calibrated (cps)	
	2141	3120
Ratio	0.686	

Neutron Calibration Tolerances MDN-A.B 114

Ratio	32.458	-5% 33 +5%
Base Check	0.684	0.65 0.7 0.75
Field Check	0.686	0.664 0.684 0.704

Neutron Constants MDN-A.B 114

Last Edited on 08-NOV-2017,07:35

Neutron Source Id	P0204NN
Neutron Jig Number	NJ5736
Air Hole Processing	Modified Ratio

Caliper Source for Processing	Density Caliper	
Stand-off	0.00	inches
Mud Density	1.00	gm/cc
Limestone Sigma	7.10	cu
Sandstone Sigma	4.26	cu
Dolomite Sigma	4.70	cu
Formation Pressure Source	None	
Formation Pressure	N/A	kpsi
Temperature Source	Constant Value	
Temperature	68.00	degrees F
Mud Salinity	0.00	kppm
Salinity Correction	Not Applied	
Formation Fluid Salinity Source	None	
Formation Fluid Salinity	N/A	kppm
Barite Mud Correction	Not Applied	

FE Calibration MFE-B.J 352

Base Calibration on 23-OCT-2017 13:20
Field Check on 06-NOV-2017 11:50

	Resistor 1 (ohm)	Resistor 2 (ohm)
	0.0	1000.0

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	963.8	126.8
Base Check		281.3
Field Check		281.2

FE Calibration Tolerances MFE-B.J 352

Reference 2	963.8	-3% 980.0 +3%	ohm
Base Check	281.3	-2% 277.0 +2%	ohm-m
Field Check	281.2	-2% 281.3 +2%	ohm-m

FE Constants MFE-B.J 352

Last Edited on 08-NOV-2017,07:34

Running Mode	No Sleeve	
MFE K Factor	0.1268	
Borehole Correction Constants		
Sonde Position	0.5	inches
Hole Size Source	Density Caliper	
Hole Size Constant Value	N/A	inches
Rm Source	Global Value: Temperature Corrected	
Temp. for Rm Corr.	MCG External Temperature	

Sonic Constants MSS-A.A 55

Last Edited on 08-NOV-2017,07:34

Maximum Boundary Contrast	100.00	micro-sec/ft
Fluid Transit Time	189.00	micro-sec/ft
Limestone Transit Time	47.50	micro-sec/ft
Sandstone Transit Time	55.50	micro-sec/ft
Dolomite Transit Time	43.50	micro-sec/ft
Sonic used for Porosities	3-5' Compensated Sonic	
Correction for Sonde Skew	Applied	
Cycle Stretch Algorithm	Applied	
MN3FT	N/A	micro-sec
MX3FT	N/A	micro-sec
Hunt-Raymer Constant	83.13	micro-sec/ft
Sonde Mode	Compensated	
Hole Type	Open Hole	

Sonde Parameters

	Measured	Calibrated
Offset	N/A	0.0000
Free Pipe	N/A	N/A

Peak Amplitude Source N/A

Waveform	Start Time (micro-sec)	Width (micro-sec)	Pre Gain	Start Gain	Discriminator (mV)
3'	N/A	N/A	N/A	N/A	N/A
4'	N/A	N/A	N/A	N/A	N/A
5'	N/A	N/A	N/A	N/A	N/A
6'	N/A	N/A	N/A	N/A	N/A

Processed Fixed Gate Parameters

Waveform Used For Processing N/A

Start Time (micro-sec)	End Time (micro-sec)	Discriminator (mV)	N/A
N/A	N/A	N/A	
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	

Full Waveform Parameters

Use 3' Waveform to derive TR	N/A	
Use 4' Waveform to derive TR	N/A	
Use 5' Waveform to derive TR	N/A	
Use 6' Waveform to derive TR	N/A	
3' Waveform Discriminator Level	N/A	mV
4' Waveform Discriminator Level	N/A	mV
5' Waveform Discriminator Level	N/A	mV
6' Waveform Discriminator Level	N/A	mV
Waveform Discriminator Filter	N/A	
Semblance Window Width	N/A	micro-sec
Sonic Despiker	N/A	N/A

High Resolution Temperature Calibration MAI-A.A 111

Field Calibration on 01-OCT-2017,14:58

	Measured	Calibrated(Deg F)
Lower	50.00	50.00
Upper	212.00	212.00

High Resolution Temperature Constants MAI-A.A 111

Last Edited on 26-JUN-2014,15:06

Pre-filter Length 11

Induction Calibration MAI-A.A 111

Factory Loop Calibration 03-NOV-2017 04:57
Field Check on 05-NOV-2017 09:34

Factory Loop Calibration

Low Conductivity Reference Resistor 3.3 ohm
High Conductivity Reference Resistor 333.3 ohm

	Measured Signal (unitless)		Reference Conductivity (mmho/m)		Calibration	
Array	Low	High	Low	High	Gain	Offset
1 (near)	17.6	473.6	9.3	966.2	0.0	0.0
2	6.4	385.9	7.6	821.4	0.0	0.0
3	3.2	264.0	5.2	566.0	0.0	0.0
4 (far)	2.1	135.5	2.6	279.2	0.0	0.0

Array Temperature 23.0 Deg F

Tool Checks

	Factory Reference (mmho/m)		Before Survey (mmho/m)		
Array	Low	High	Low	High	
1 (near)	10.7	3840.6	10.6	3840.6	
2	28.8	3498.9	28.7	3499.1	
3	28.2	2996.4	28.1	2996.7	
4 (far)	18.5	2041.3	18.5	2041.9	
Array Temperature	65.6		63.9		Deg F

Induction Check Tolerances MAI-A.A 111

Low Array 1	10.6	9.2 10.7 12.2	mmho/m	High Array 1	3840.6	3839.1 3840.6 3842.1	mmho/m
Low Array 2	28.7	27.3 28.8 30.3	mmho/m	High Array 2	3499.1	3497.4 3498.9 3500.4	mmho/m

Low Array 3	28.1	26.7	28.2	29.7	mmho/m	High Array 3	2996.7	2994.9	2996.4	2997.9	mmho/m
Low Array 4	18.5	17.0	18.5	20.0	mmho/m	High Array 4	2041.9	2039.8	2041.3	2042.8	mmho/m

Induction Constants MAI-A.A 111

Last Edited on 08-NOV-2017,07:34

Induction Model	RtAP-WBM	
Borehole Correction Constants		
Tool Centred	No	
Hole Size Source	Density Caliper	
Hole Size Constant Value	N/A	inches
Stand-off Type	Fins	
Stand-off	0.50	inches
Number of Fins on Stand-off	8.0000	
Stand-off Fin Angle	45.00	degrees
Stand-off Fin Width	0.5000	inches
Rm Source	Global Value: Temperature Corrected	
Temp. for Rm Corr.	MCG External Temperature	
Borehole Correction Method	Default	
Squasher Start	0.0020	mhos/metre
Squasher Offset	N/A	mhos/metre

Borehole Normalisation

DRM1	0.0000	DRC1	0.0000
DRM2	0.0000	DRC2	0.0000
MRM1	0.0000	MRC1	0.0000
MRM2	0.0000	MRC2	0.0000
SRM1	0.0000	SRC1	0.0000
SRM2	0.0000	SRC2	0.0000

Calibration Site Corrections		
Channel 1	0.00	mmhos/metre
Channel 2	0.00	mmhos/metre
Channel 3	0.00	mmhos/metre
Channel 4	0.00	mmhos/metre
Symmetrised Receiver Gains		
Receiver 1	1.00	
Receiver 2	1.00	
Receiver 3	1.00	
Receiver 4	1.00	
Apparent Porosity and Water Saturation Constants		
Archie Constant (A)	1.00	
Cementation Exponent (M)	2.00	
Saturation Exponent (N)	2.00	
Saturation of Water for Apor	100.00	percent
Resistivity of Water for Apor and Sw	0.05	ohm-m
Resistivity of Mud Filtrate for Sw	0.00	ohm-m
Source for Rt	0.00	
Source for Rxo	0.00	

Photo Density Calibration MPD-C.A 216

Base Calibration on 23-OCT-2017 14:37
Field Check on 06-NOV-2017 11:49

Density Calibration

Base Calibration	Measured Near	Measured Far	Calibrated (sdu) Near	Calibrated (sdu) Far
Background	1025	1218		
Reference 1	51146	24580	59556	30836
Reference 2	20383	2310	24941	2541

Field Check at Base		
	1024.7	1217.9

Field Check		
	1021.0	1211.5

PE Calibration

Base Calibration	Measured	Calibrated

	WS	WH	Ratio	Ratio
Background	187	916		
Reference 1	21227	50978	0.420	0.371
Reference 2	5863	20269	0.293	0.272

Field Check at Base	187.1	916.4
Field Check	185.7	907.5

Photo Density Calibration Tolerances MPD-C.A 216

Near Density Ratio	2.59	-5% 2.52 +5%	Far Density Ratio	21.38	-5% 21.00 +5%
PE Calibration	0.118	0.089 0.110 0.131			
Near Den. Field Check	1021.0	-3% 1024.7 +3%	Far Den. Field Check	1211.5	-3% 1217.9 +3%
PE WS Field Check	185.7	-6% 187.1 +6%	PE WH Field Check	907.5	-6% 916.4 +6%

Density Constants MPD-C.A 216

Last Edited on 08-NOV-2017,07:35

Density Source Id	P50557B	
Nylon Calibrator Number	DNCE695	
Aluminium Calibrator Number	DACD698	
Density Shoe Profile	8 inch	
Caliper Source for Processing	Density Caliper	
PE Correction to Density	Not Applied	
Mud Density	1.13	gm/cc
Mud Density Type		
Mud Filtrate Density	1.00	gm/cc
Dry Hole Mud Filtrate Density	1.00	gm/cc
DNCT	0.00	gm/cc
CRCT	0.00	gm/cc
Density Z/A Correction	Hybrid	
Precision Enhanced Density Processing	Not Applied	

Matrix Density (gm/cc)	Depth (ft)
2.71	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	

Caliper Calibration MPD-C.A 216

Base Calibration on 23-OCT-2017 14:16
Field Calibration on 06-NOV-2017 12:00

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	16832	3.99
2	27040	5.98
3	37135	7.97
4	46864	9.86
5	58032	11.92
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
8.92	8.92

Caliper Calibration Tolerances MPD-C.A 216

Short Arm Field Cal.	8.92	8.72 8.92 9.12	in

DOWNHOLE EQUIPMENT

C:\Minimus 17.03.9700\Data\K3 Sorenson #4-3\K3 Sorenson #4-3_002.dta

Cablehead, 11 pin
CBH-C 0 LG: 2.40 ft WT: 24.3 lb OD: 2.244 in

Compact Comms Gamma
MCG-C 84 LG: 8.70 ft WT: 63.9 lb OD: 2.244 in

Compact Micro-log
MML-A 7 LG: 7.97 ft WT: 81.6 lb OD: 2.244 in

Compact Neutron
MDN-A.B 114 LG: 5.04 ft WT: 50.7 lb OD: 2.244 in

Compact Density/Caliper
MPD-C.A 216 LG: 9.59 ft WT: 90.4 lb OD: 2.449 in

Compact Focussed Electric
MFE-B.J 352 LG: 6.05 ft WT: 48.5 lb OD: 2.244 in

Compact Sonic
MSS-A.A 55 LG: 12.52 ft WT: 72.8 lb OD: 2.244 in

Compact Induction
MAI-A.A 111 LG: 10.81 ft WT: 48.5 lb OD: 2.244 in

Total Length: 63.07 ft Weight: 480.6 lb

55.39 ft	GRGC - MCG Gamma Ray
52.48 ft	CGXT - MCG External Temperature
46.76 ft	MLTC - MML Caliper
45.76 ft	MINV - Micro-inverse
45.76 ft	MNRL - Micro-normal
40.97 ft	NPRL - Limestone Neutron Por.
33.73 ft	AVOL - Annular Volume
33.73 ft	HVOL - Hole Volume
33.73 ft	CLDC - Density Caliper
31.80 ft	DPRL - Limestone Density Por.
31.80 ft	DEN - Compensated Density
31.80 ft	DCOR - Density Correction
31.74 ft	PDPE - PE
26.24 ft	FEFE - Shallow FE
16.96 ft	TR11 - 4' Transit Time
16.46 ft	TR21 - 3' Transit Time
15.95 ft	TR12 - 6' Transit Time
15.46 ft	TR22 - 5' Transit Time
12.96 ft	SPRL - Wyllie Lime. Sonic Por.
12.96 ft	DT35 - 3-5' Compensated Sonic
3.34 ft	R40O - Array Ind. One Res 40
3.34 ft	R60O - Array Ind. One Res 60
3.34 ft	CTAO - Array Ind. One Cond Ct
3.34 ft	RTAO - Array Ind. One Res Rt
0.23 ft	SPCG - Spontaneous Potential
Tool Zero	(0.13ft from bottom)
-0.13 ft	SMTU - DST Uphole Tension

All measurements relative to tool zero.

COMPANY	K3 OIL & GAS OPERATING COMPANY
WELL	SORENSON #4-3
FIELD	WILDCAT
PROVINCE/COUNTY	LINCOLN
COUNTRY/STATE	U.S.A. / COLORADO

Elevation Kelly Bushing	5048	feet	First Reading	7518.00	feet

Elevation Drill Floor	5046	feet	Depth Driller	7550.00	feet
Elevation Ground Level	5030	feet	Depth Logger	7550.00	feet

Weatherford®

CALIPER LOG