



Weatherford

**COMPACT PHOTO DENSITY
COMPENSATED NEUTRON
MICRORESISTIVITY LOG**

COMPANY WESTERN OPERATING COMPANY

WELL FOX #2-8

FIELD HELFRICH

PROVINCE/COUNTY HAMILTON

COUNTRY/STATE U.S.A. / KANSAS

LOCATION 1150' FNL & 1320' FWL

PERMIT NUMBER S2 S2 N2 NW

SEC 8 TWP 25S RGE 42W

API Number 15-075-20869

Permanent Datum GL, Elevation 3647 feet

Log Measured From KB

Drilling Measured From KB @ 11 FEET

Date 7-JUL-2013

Run Number ONE

Service Order 3539897

Depth Driller 5467.00

Depth Logger 5460.00

First Reading 5428.00

Last Reading 924.00

Casing Driller 924.00

Casing Logger 924.00

Bit Size 7.875

Hole Fluid Type CHEMICAL

Density / Viscosity 9.40 lb/USg

PH / Fluid Loss 9.00

Sample Source FLOWLINE

Rm @ Measured Temp 0.91 @ 85.0

Rmf @ Measured Temp 0.73 @ 85.0

Rmc @ Measured Temp 0.67 @ 85.0

Source Rmf / Rmc CALC

Rm @ BHT 0.61 @127.0

Time Since Circulation 4 HOURS

Max Recorded Temp 127.00

Equipment / Base 13057

Elevations:
KB 3658.00 feet
DF 3657.00
GL 3647.00

Other Services MAUMFE MSS

BOREHOLE RECORD

Last Edited: 08-JUL-2013 21:16

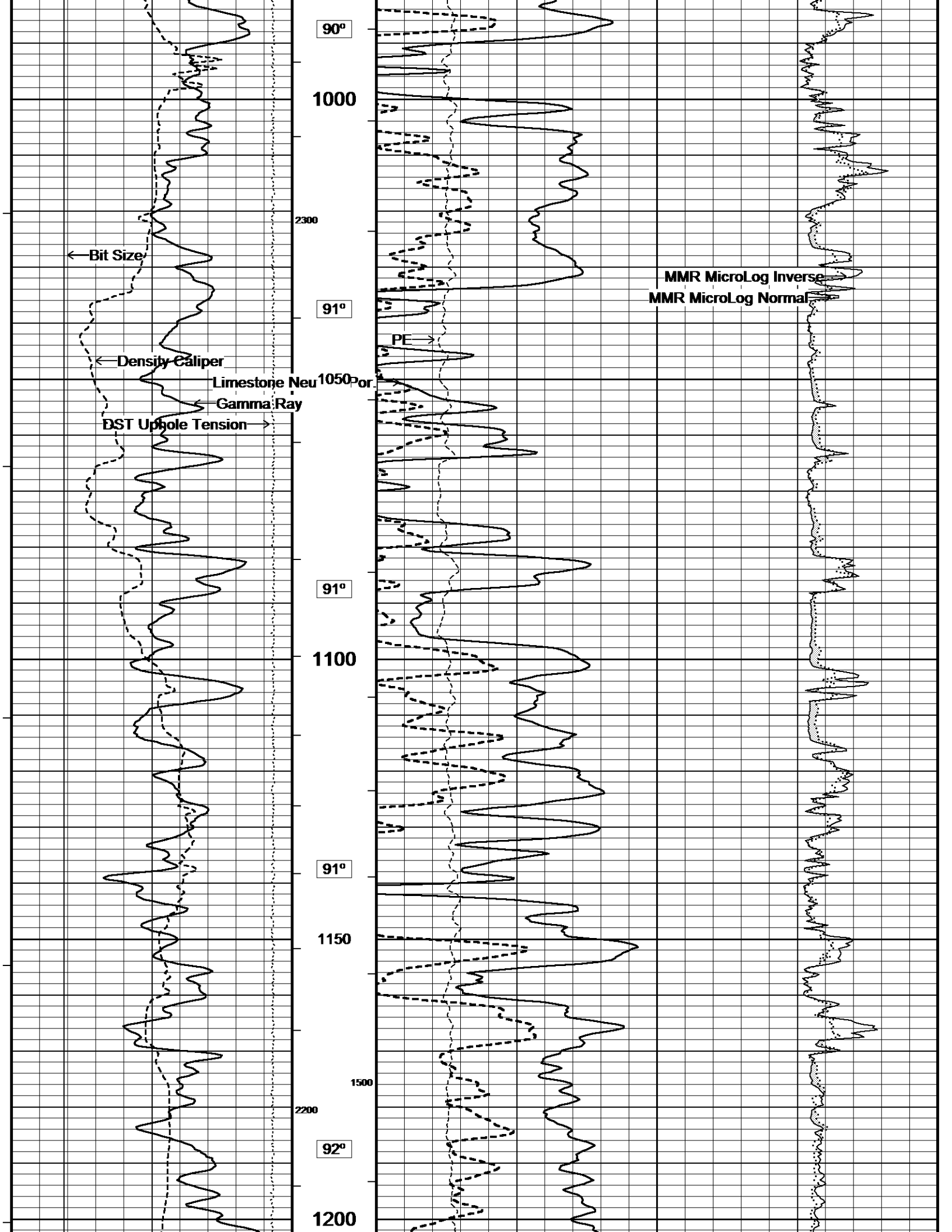
Bit Size inches	Depth From feet	Depth To feet
7.875	924.00	5460.00

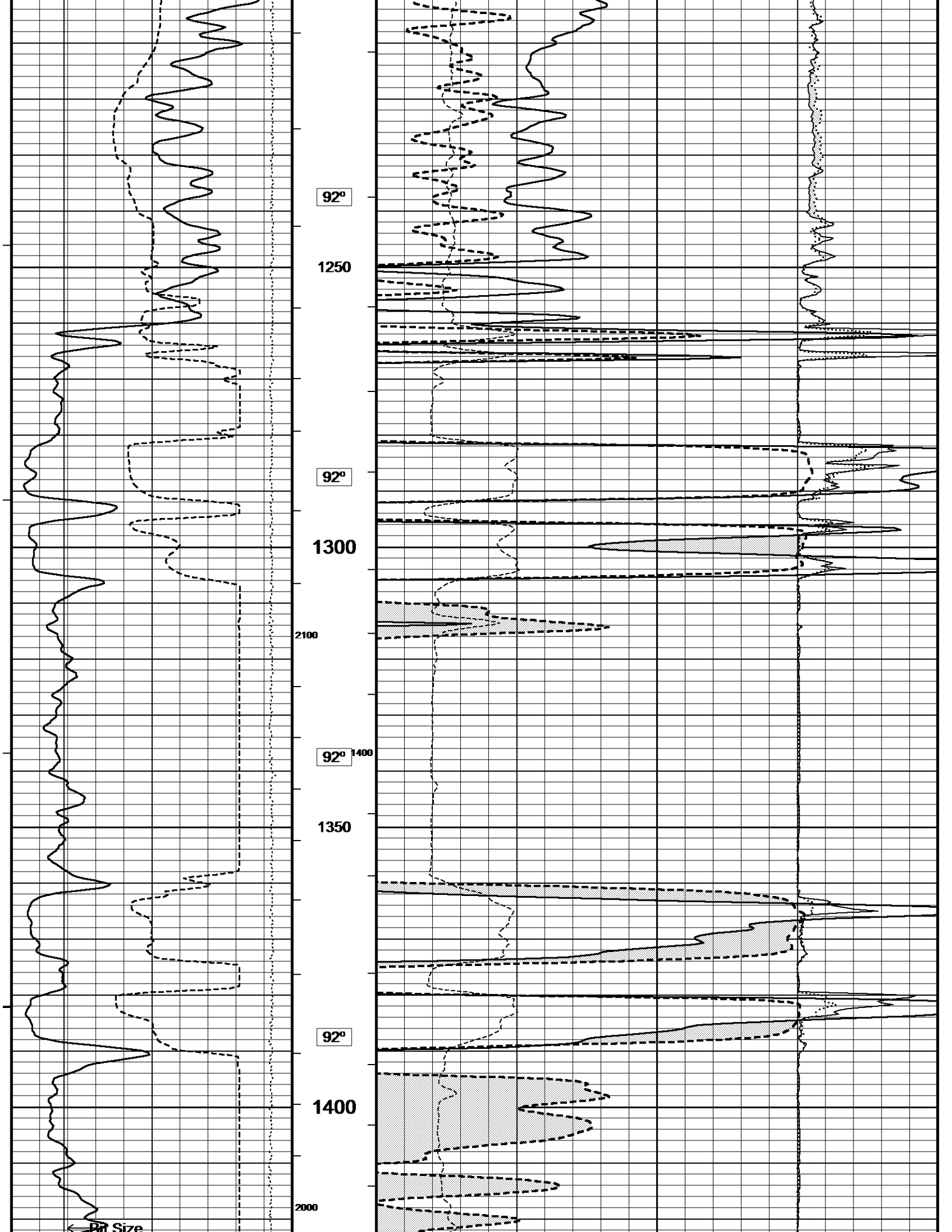
CASING RECORD

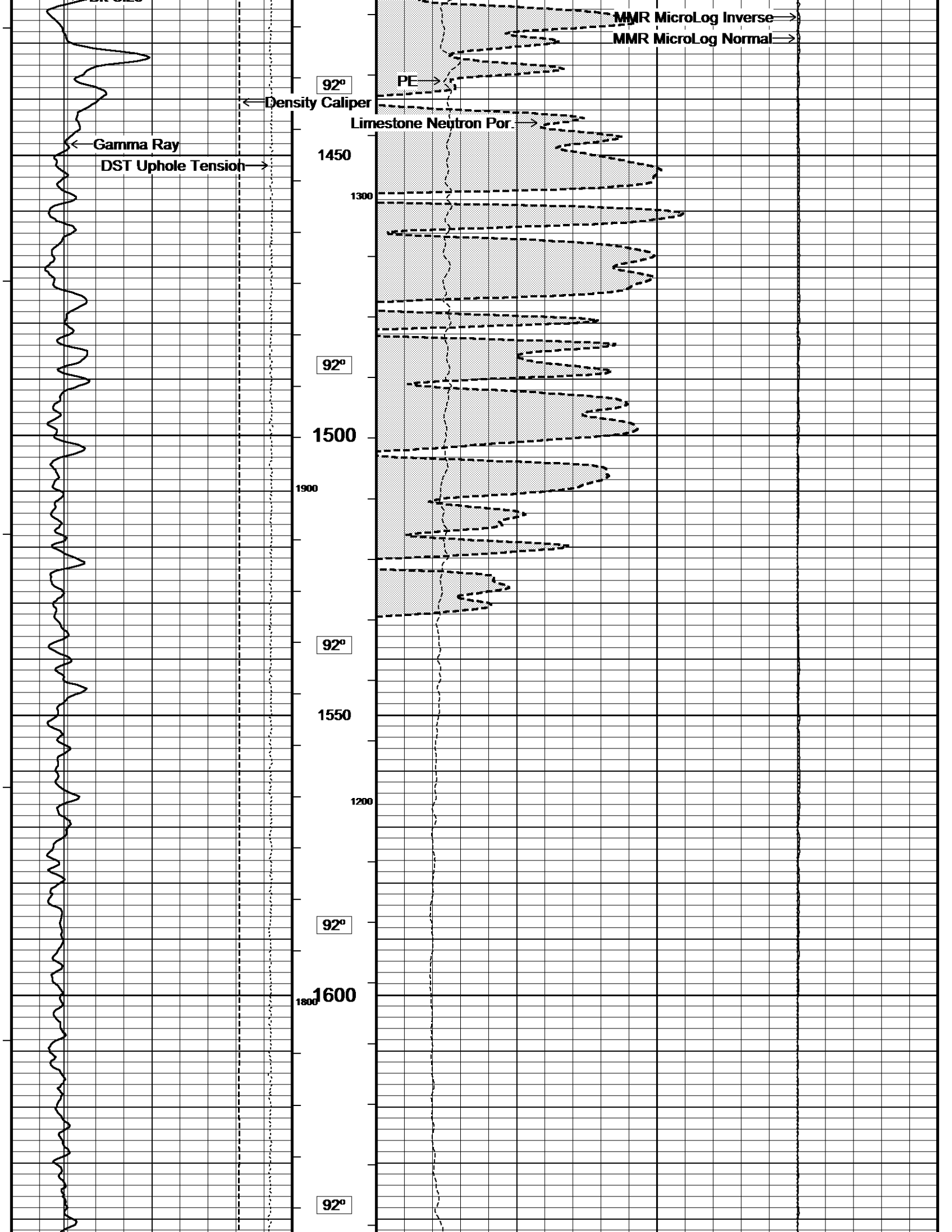
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	924.00	24.00

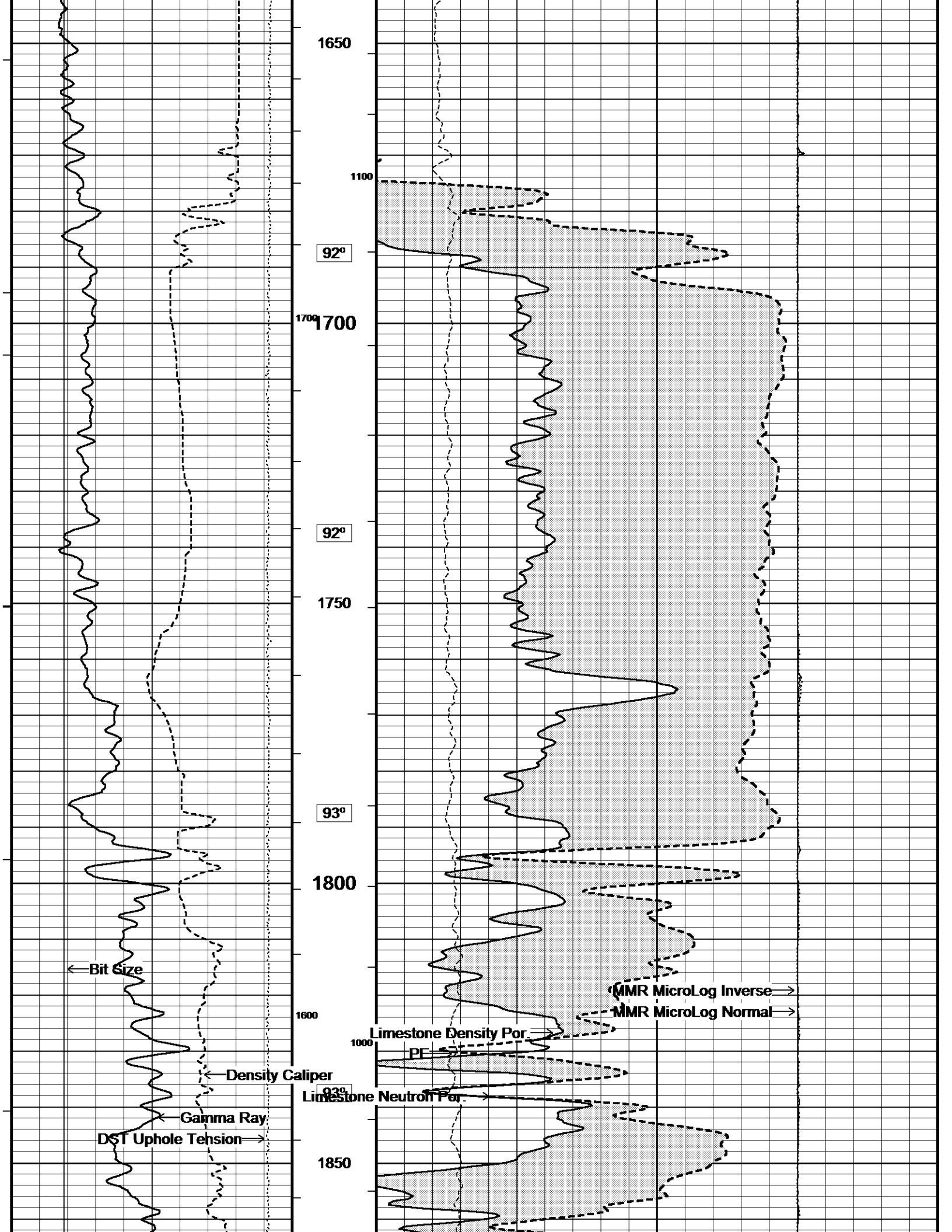
REMARKS

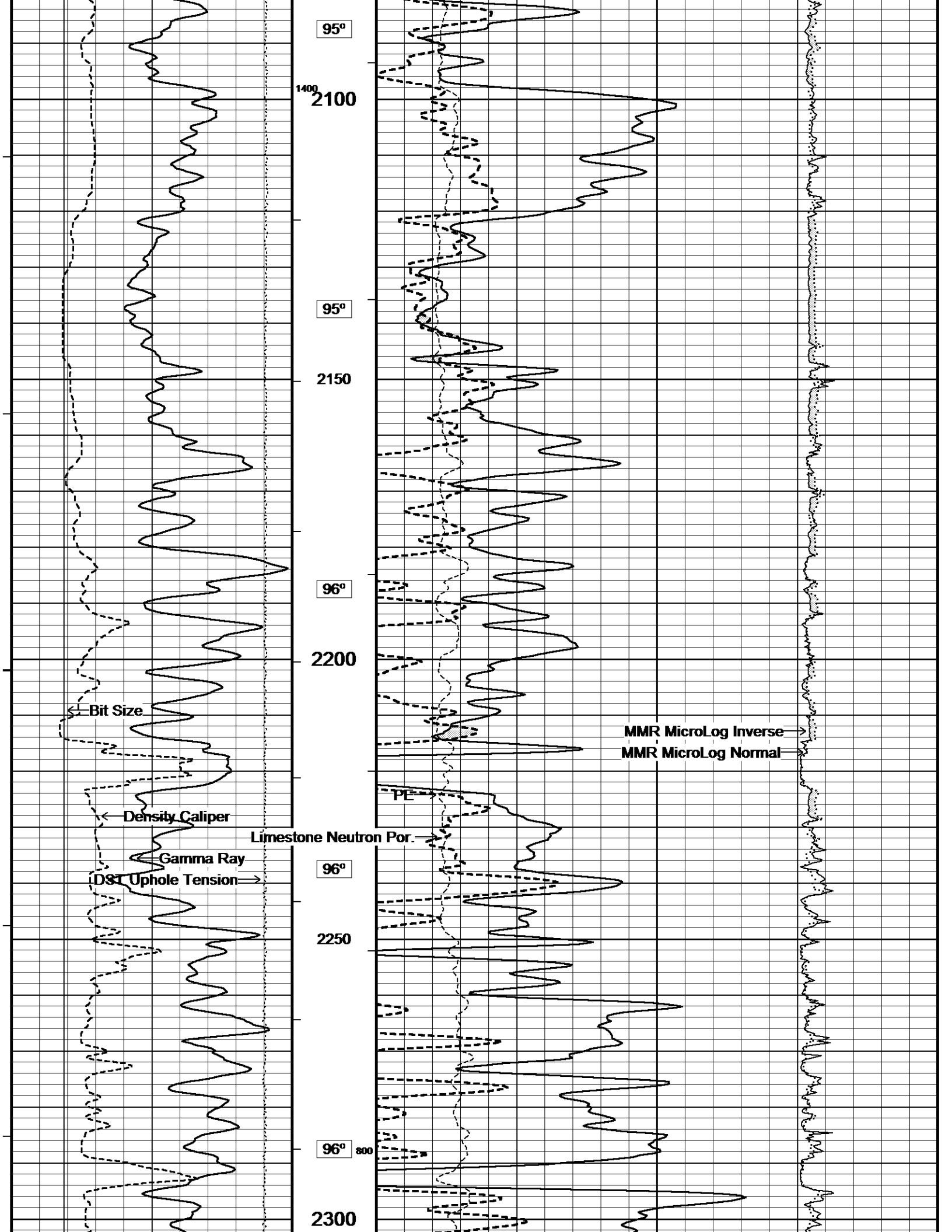
- SOFTWARE ISSUE: WLS 13.04.8492.
- MCG, MML, MDN, MPD, MFE, MSS, MAI RAN IN COMBINATION.
- HARDWARE: DUAL BOWSPRING USED ON MDN.
0.5 INCH STANDOFF USED ON MFE.
TWO 0.5 INCH STANDOFFS USED ON MSS.
0.5 INCH STANDOFF USED ON MAI.
- 2.71 G/CC LIMESTONE DENSITY MATRIX USED TO CALCULATE POROSITY.
- BOREHOLE 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: 2350 CU. FT.
- ANNULAR HOLE VOLUME WITH 5.5 INCH PRODUCTION CASING FROM TD TO SURFACE CASING: 1620 CU. FT.

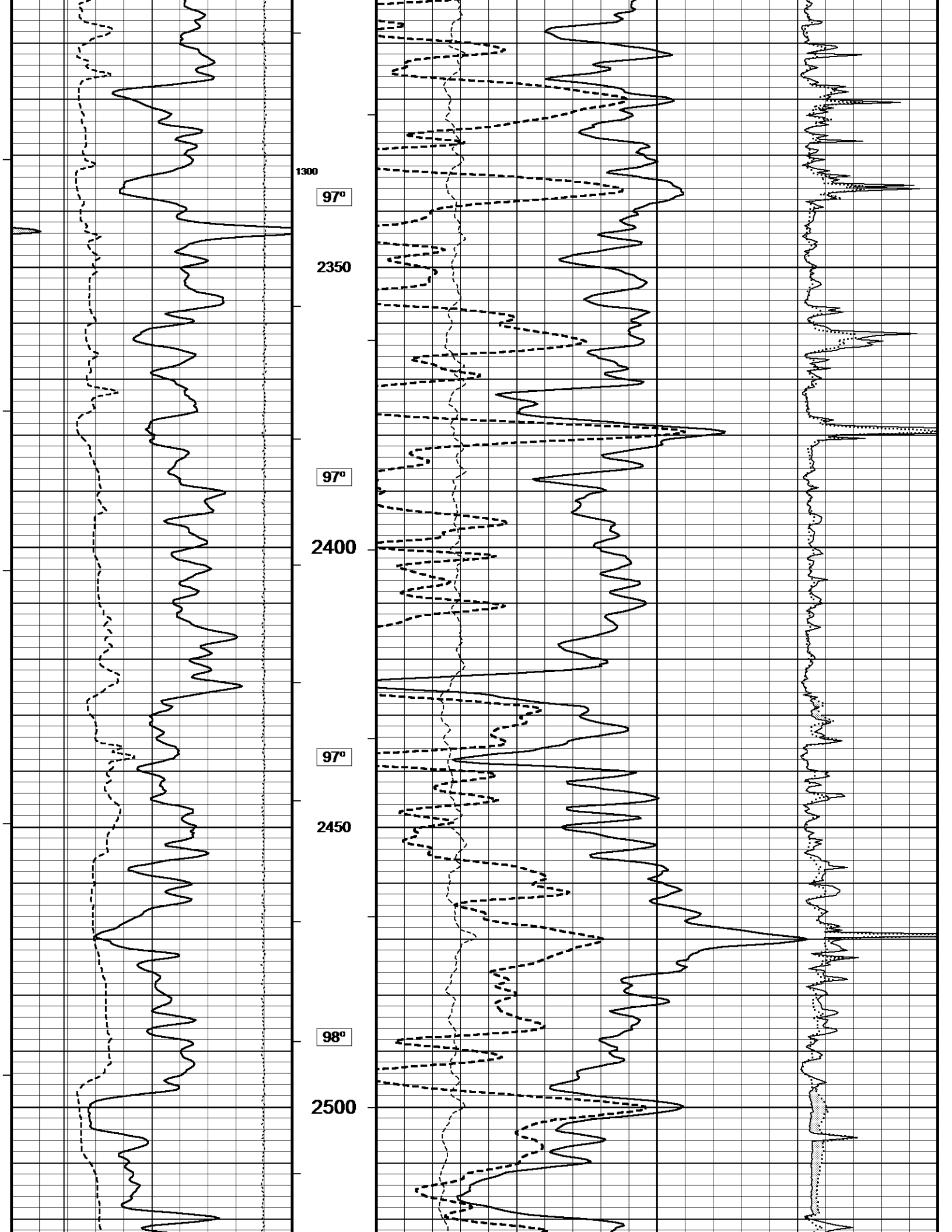


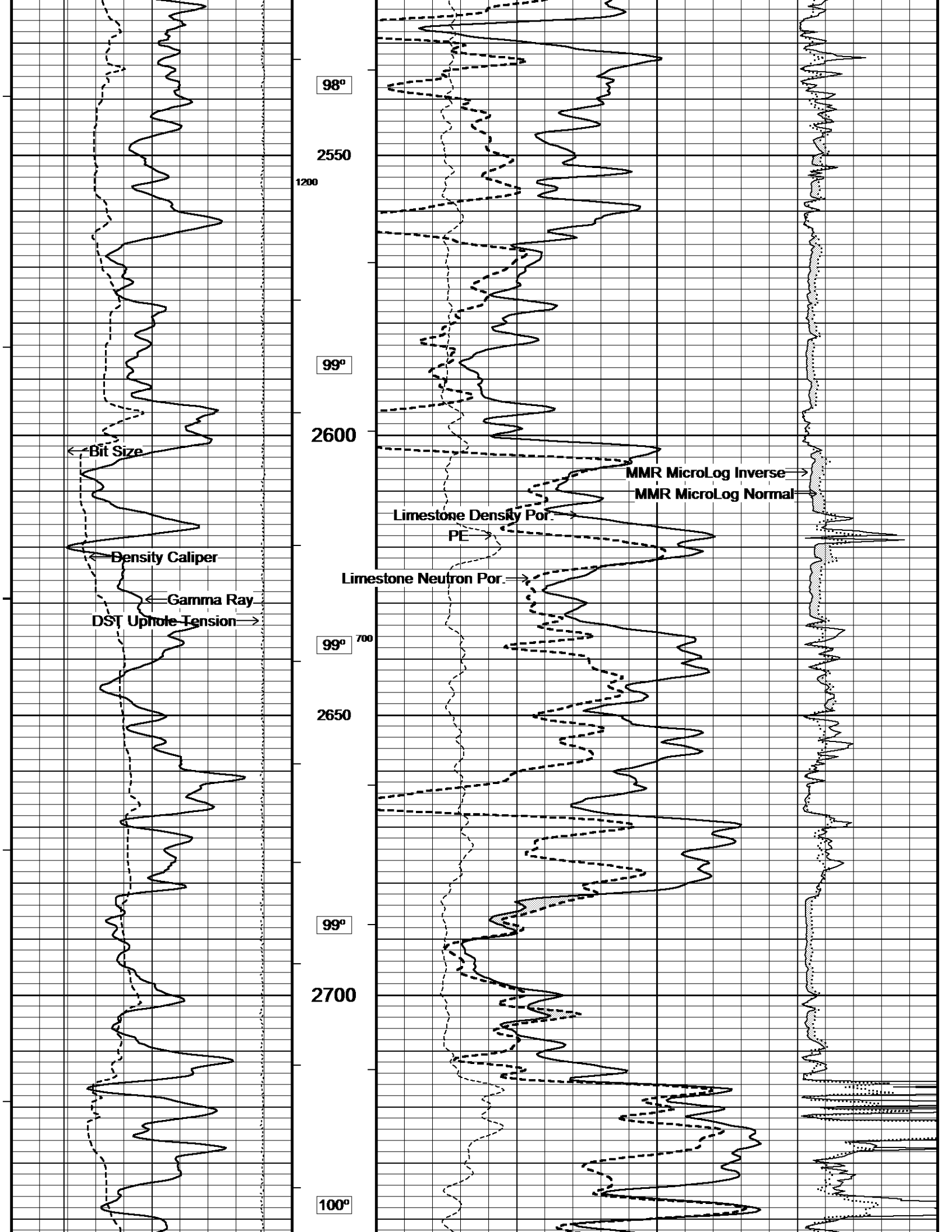


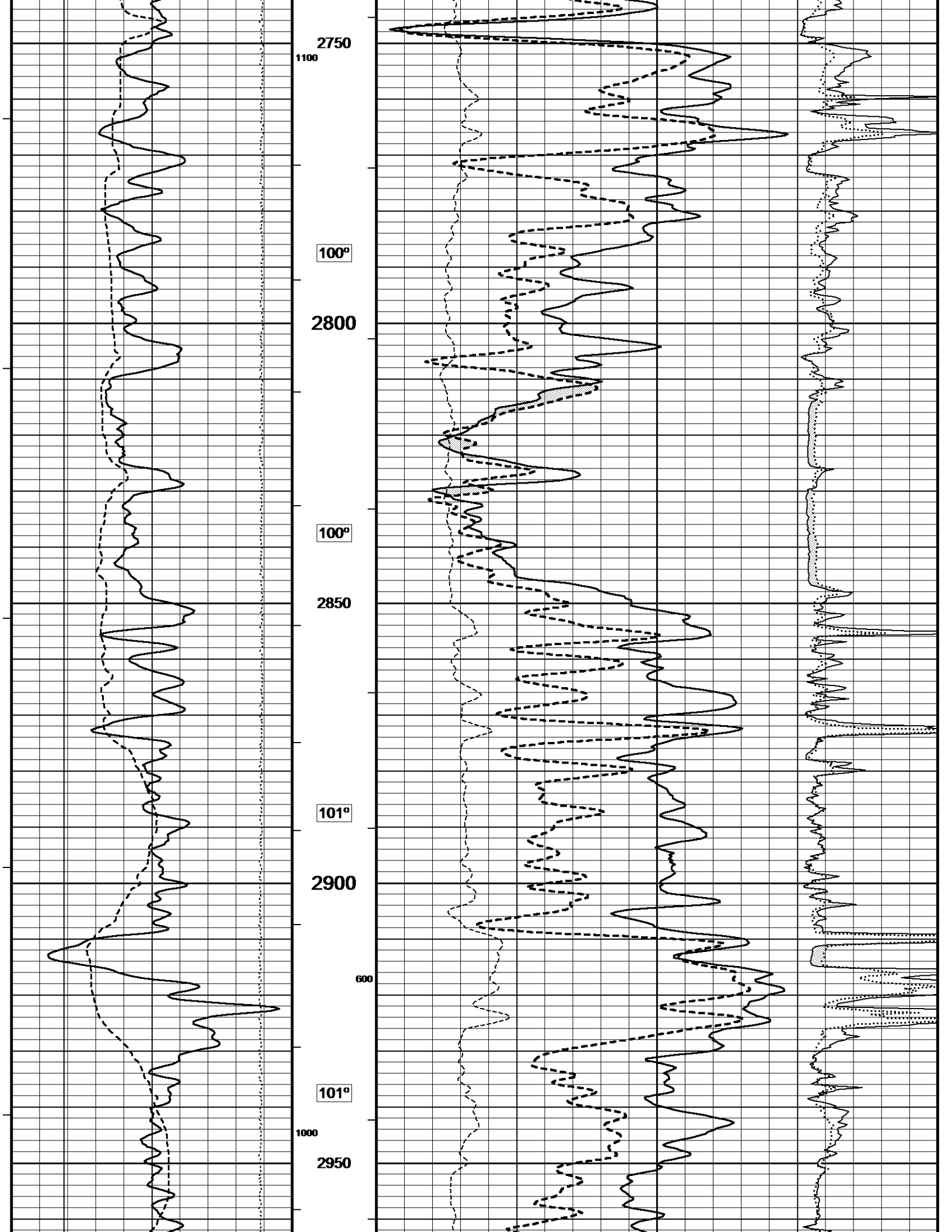


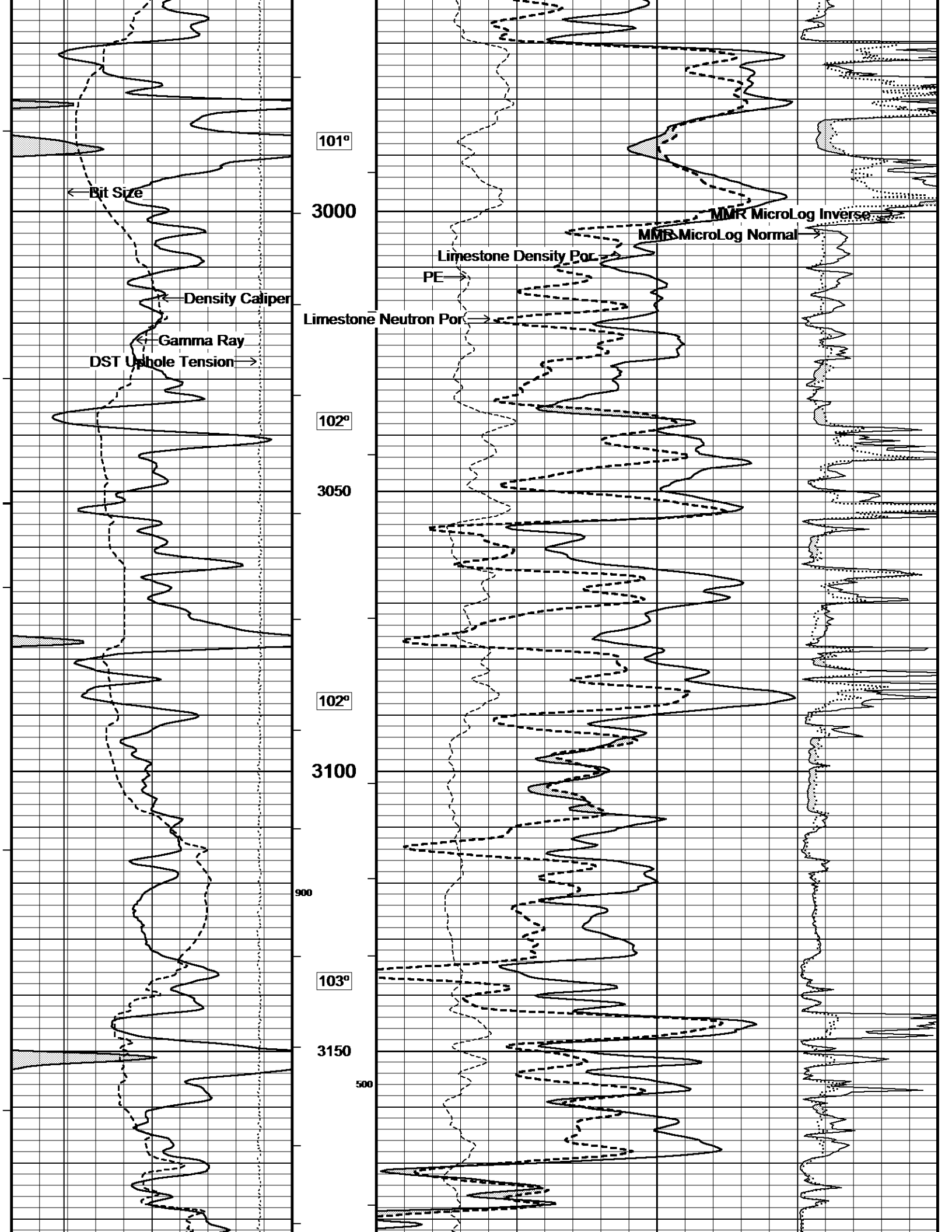


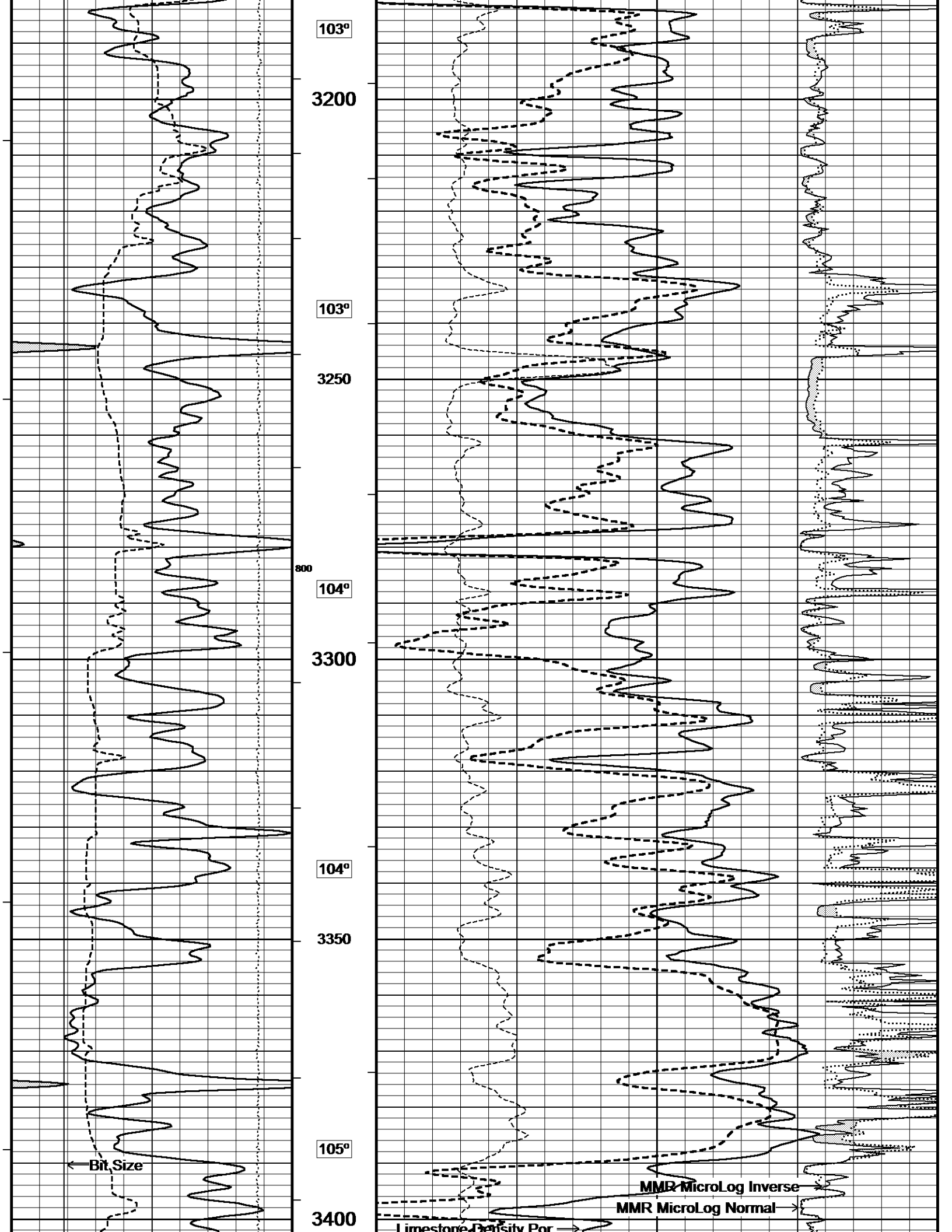


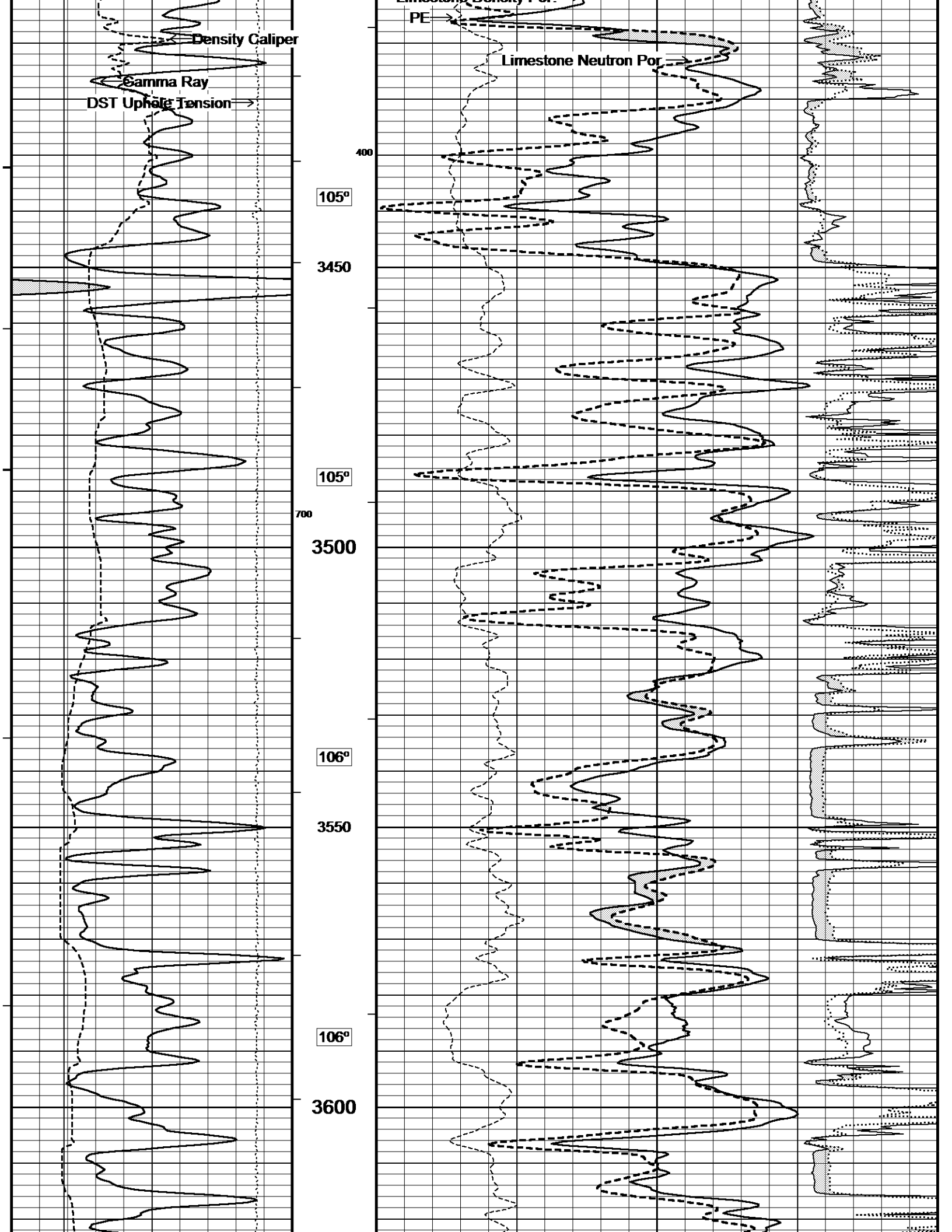


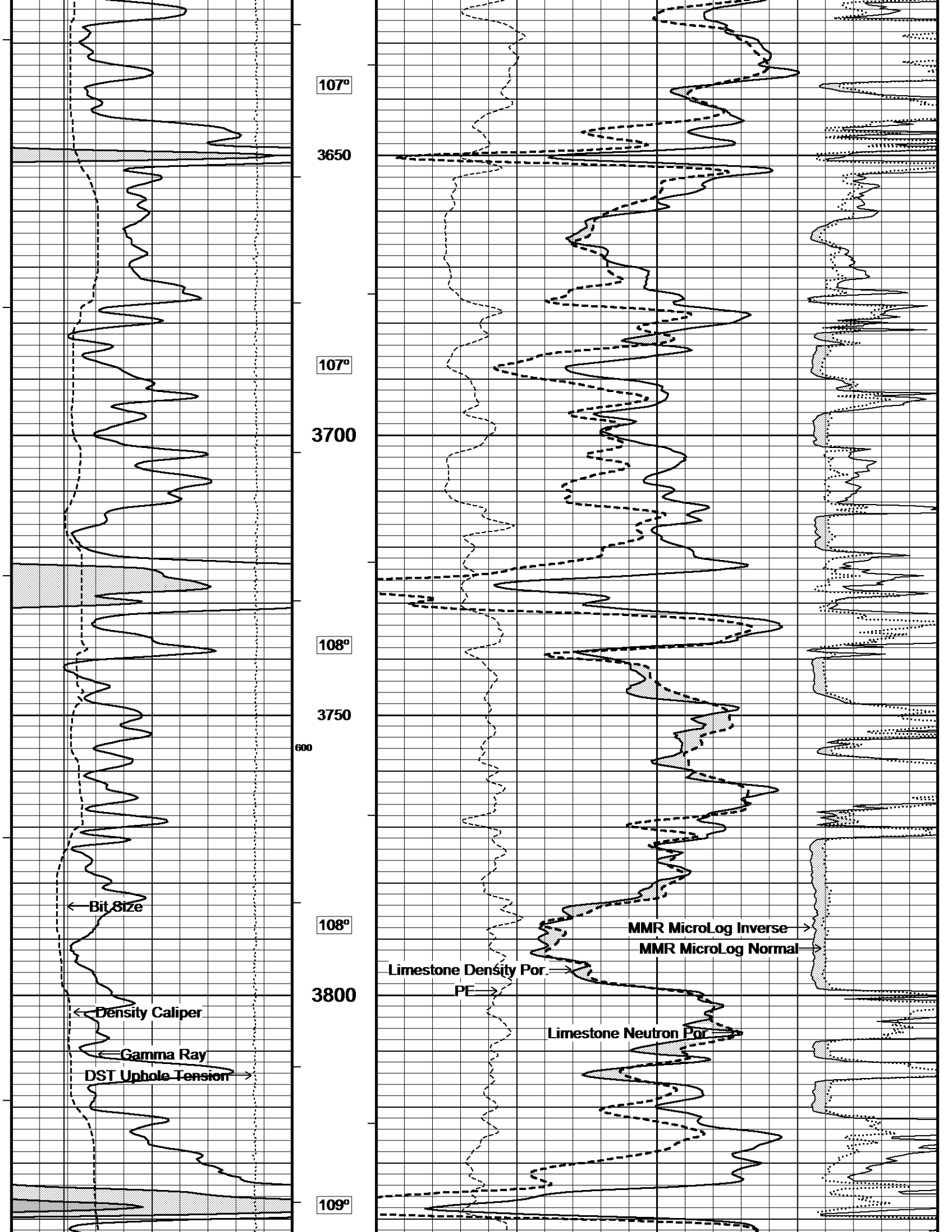


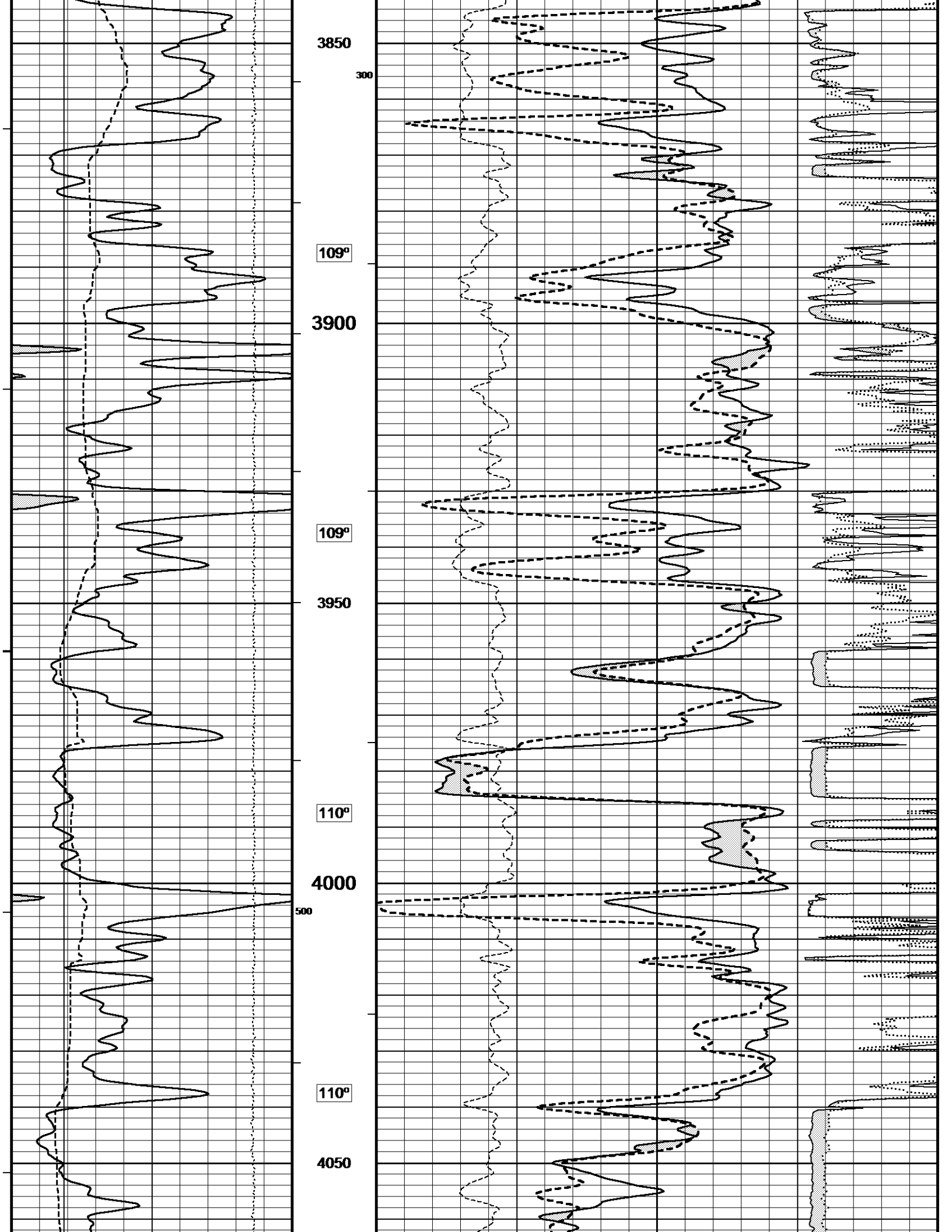


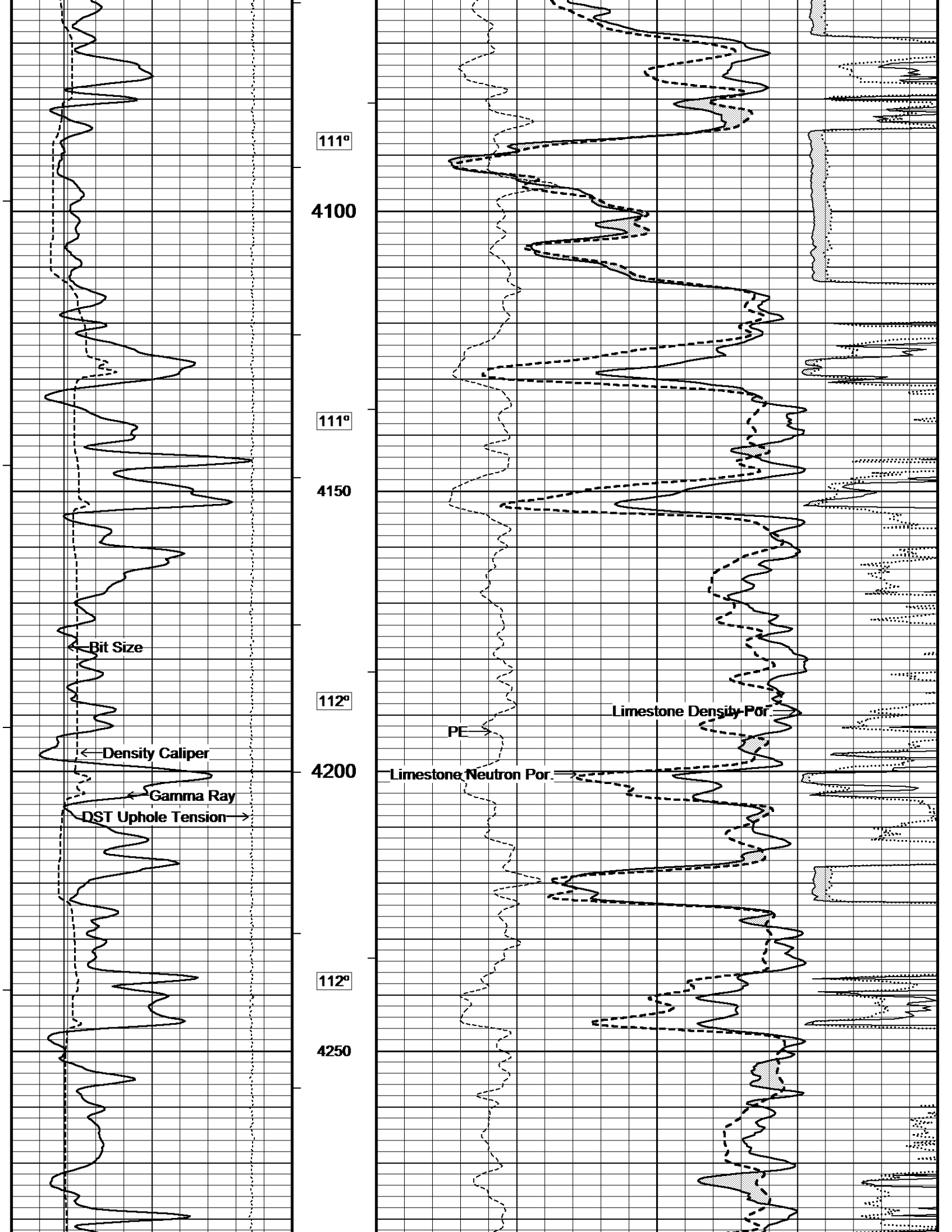


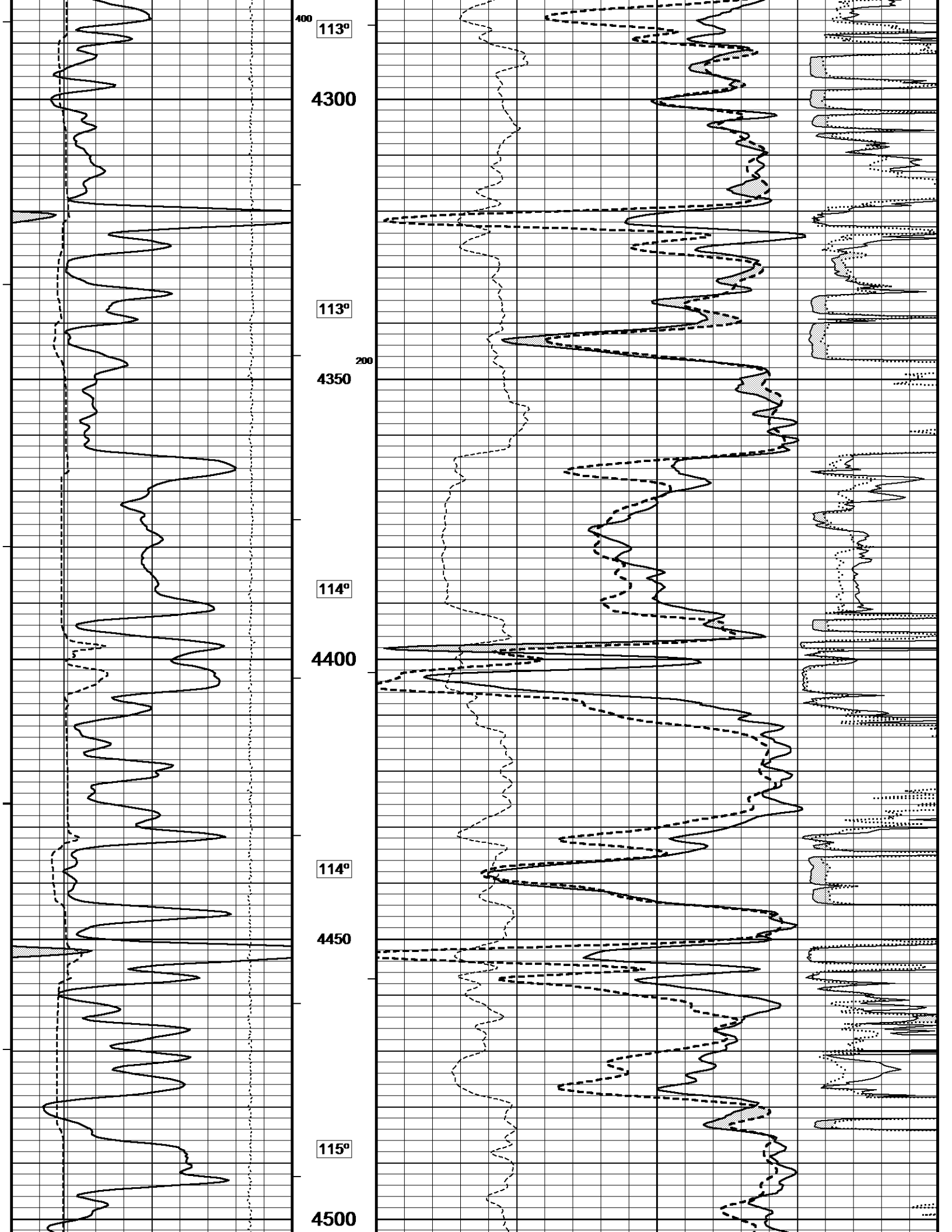


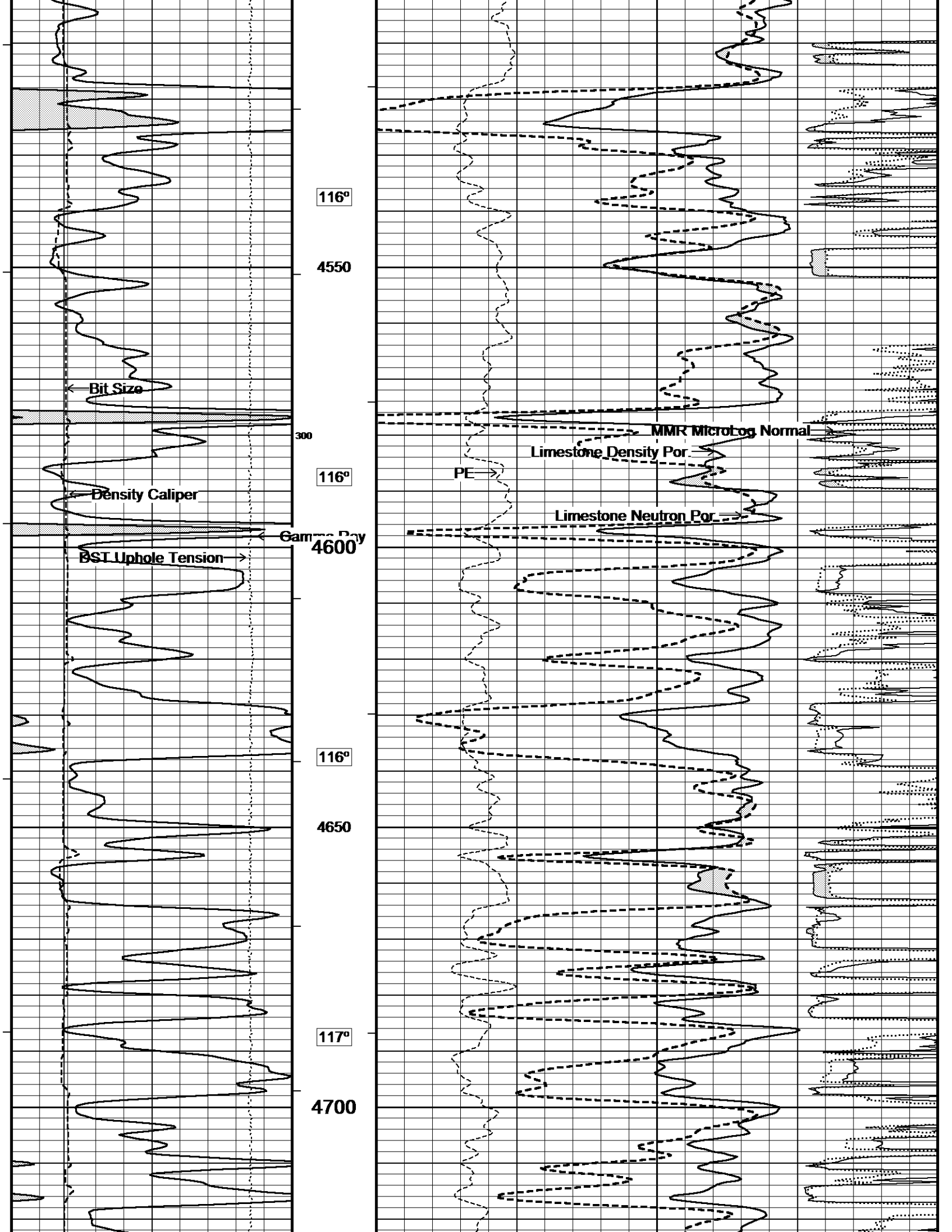


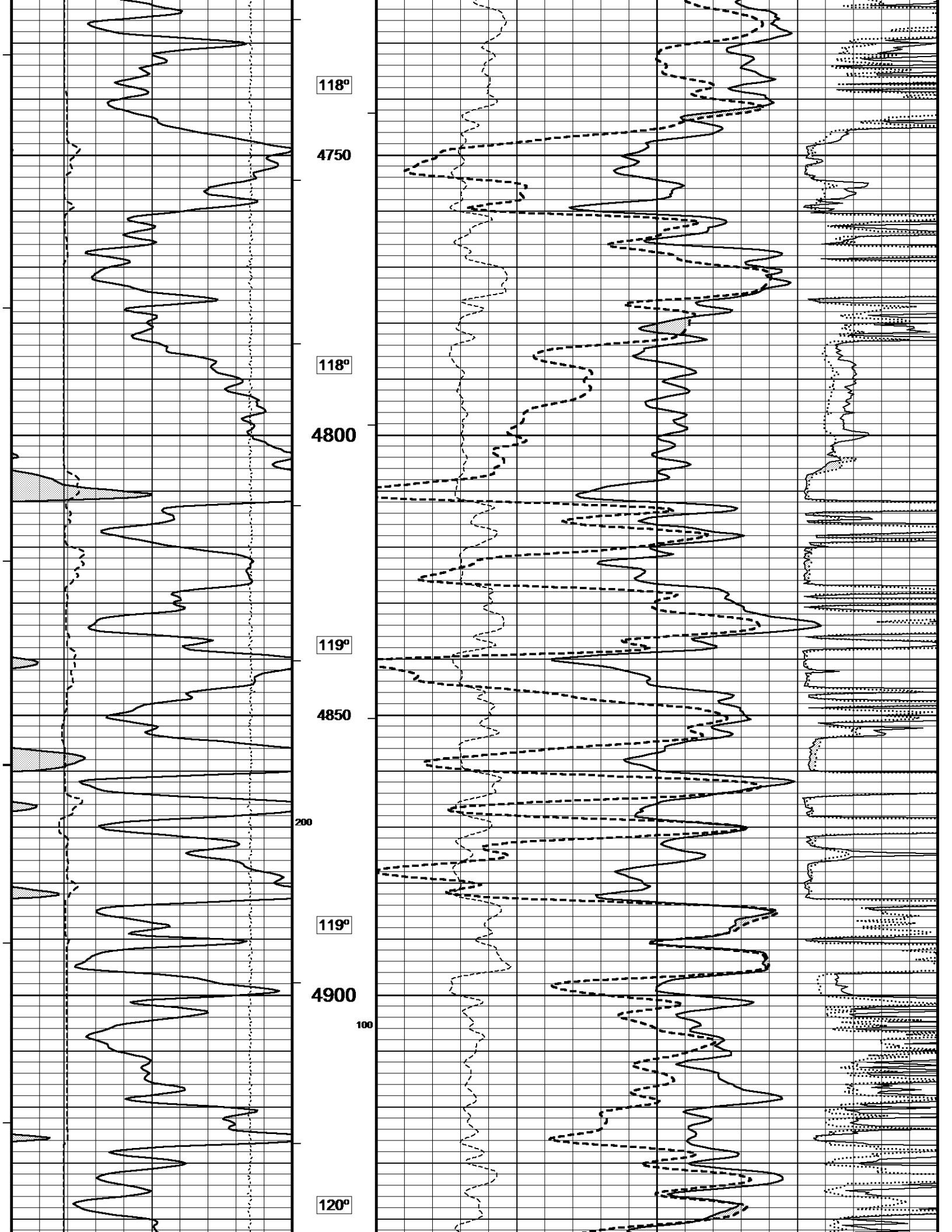


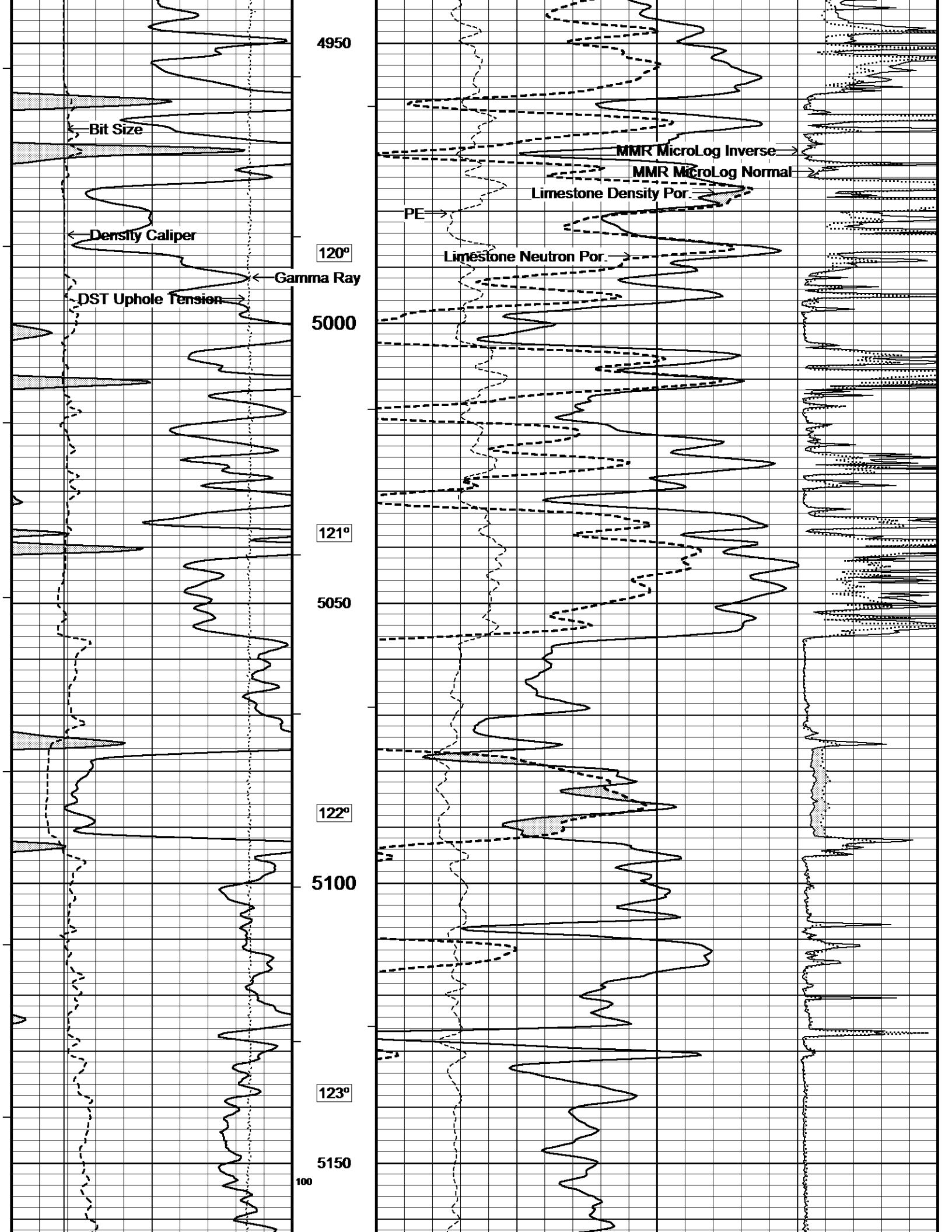


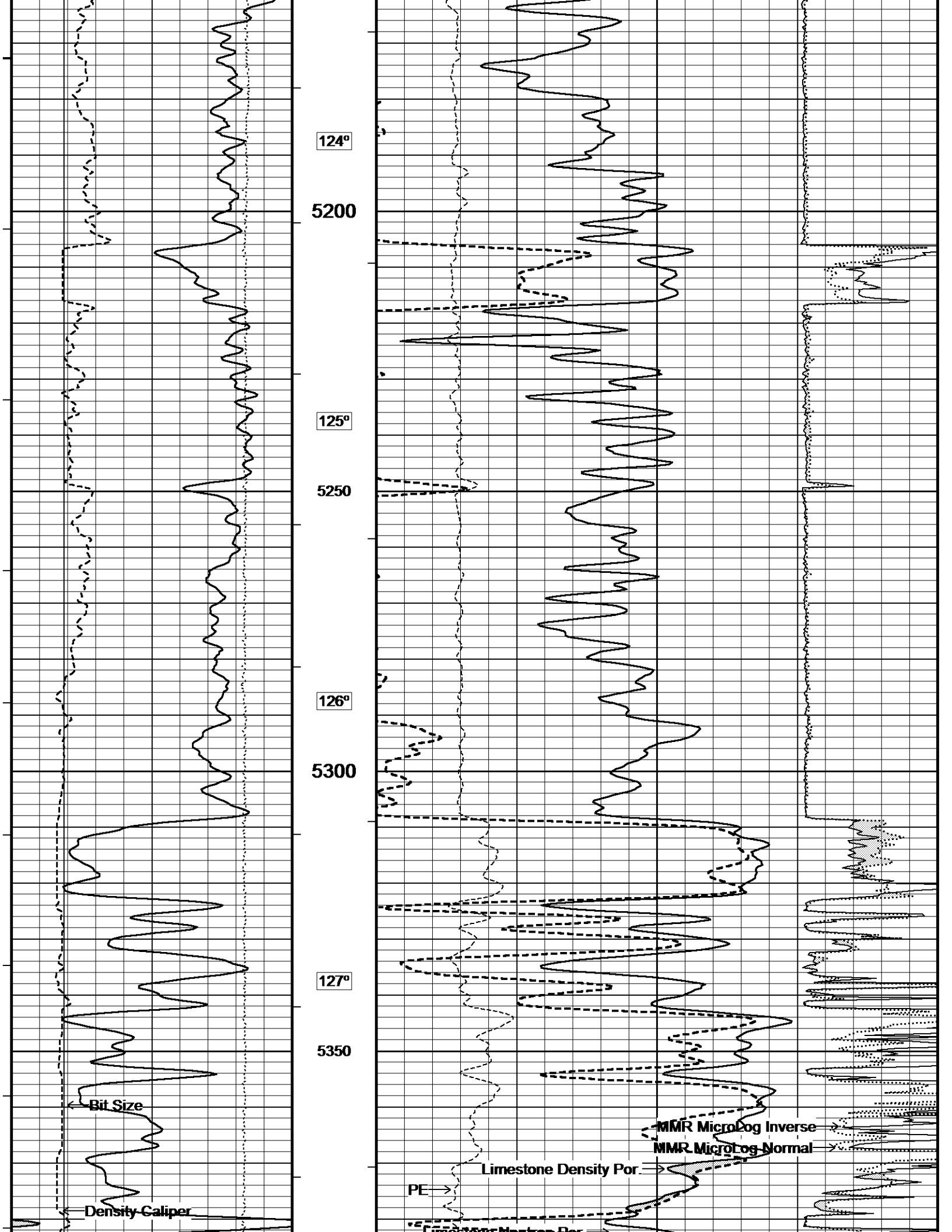


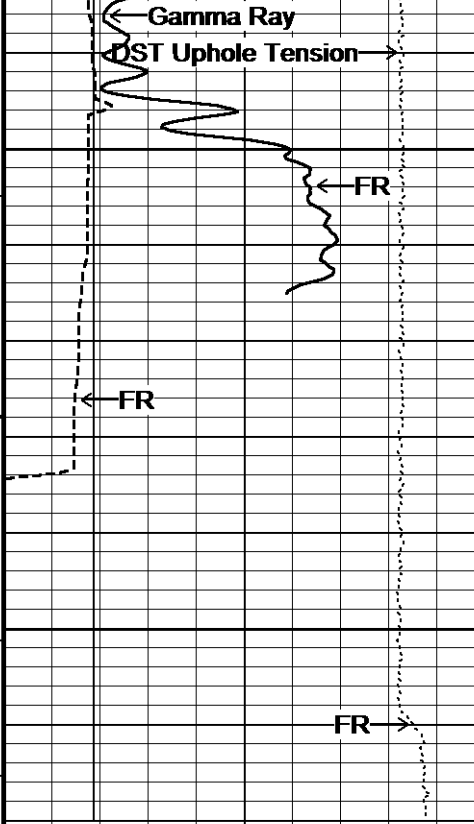




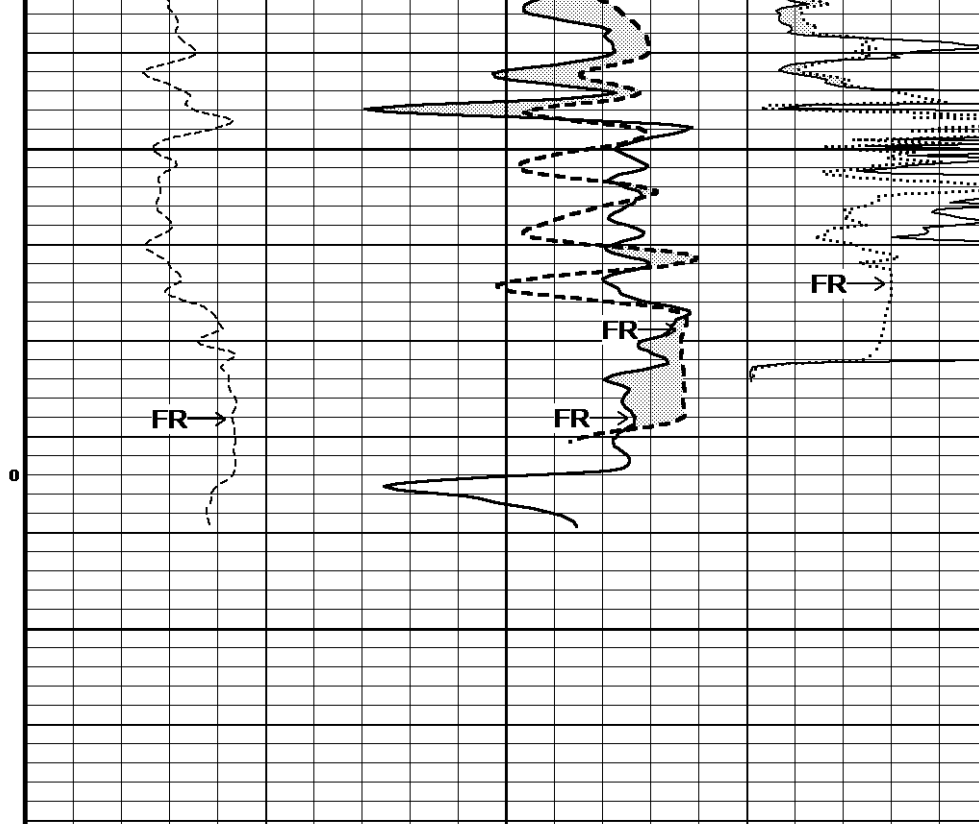








5400
5450
5480
Depth In Feet



Timing Marks
every 60.0 sec

Gamma Ray
API
0 75 150
150 225 300

Density Caliper
inches
6 11 16

Bit Size
inches
6 11 16

DST Uphole Tension
pounds
5000 0

Borehole Temp in deg F
HVI every 10 cu ft
Annular Integral every 10 cu ft
Replay Scale 1:240

Limestone Neutron Por.
percent
30 20 10 0 -10

Limestone Density Por.
percent
30 20 10 0 -10

PE
barns/electron
0 5 10

MMR MicroLog Normal
ohm metres
0 20

MMR MicroLog Inverse
ohm metres
0 20



5 INCH MAIN - SANDSTONE MATRIX



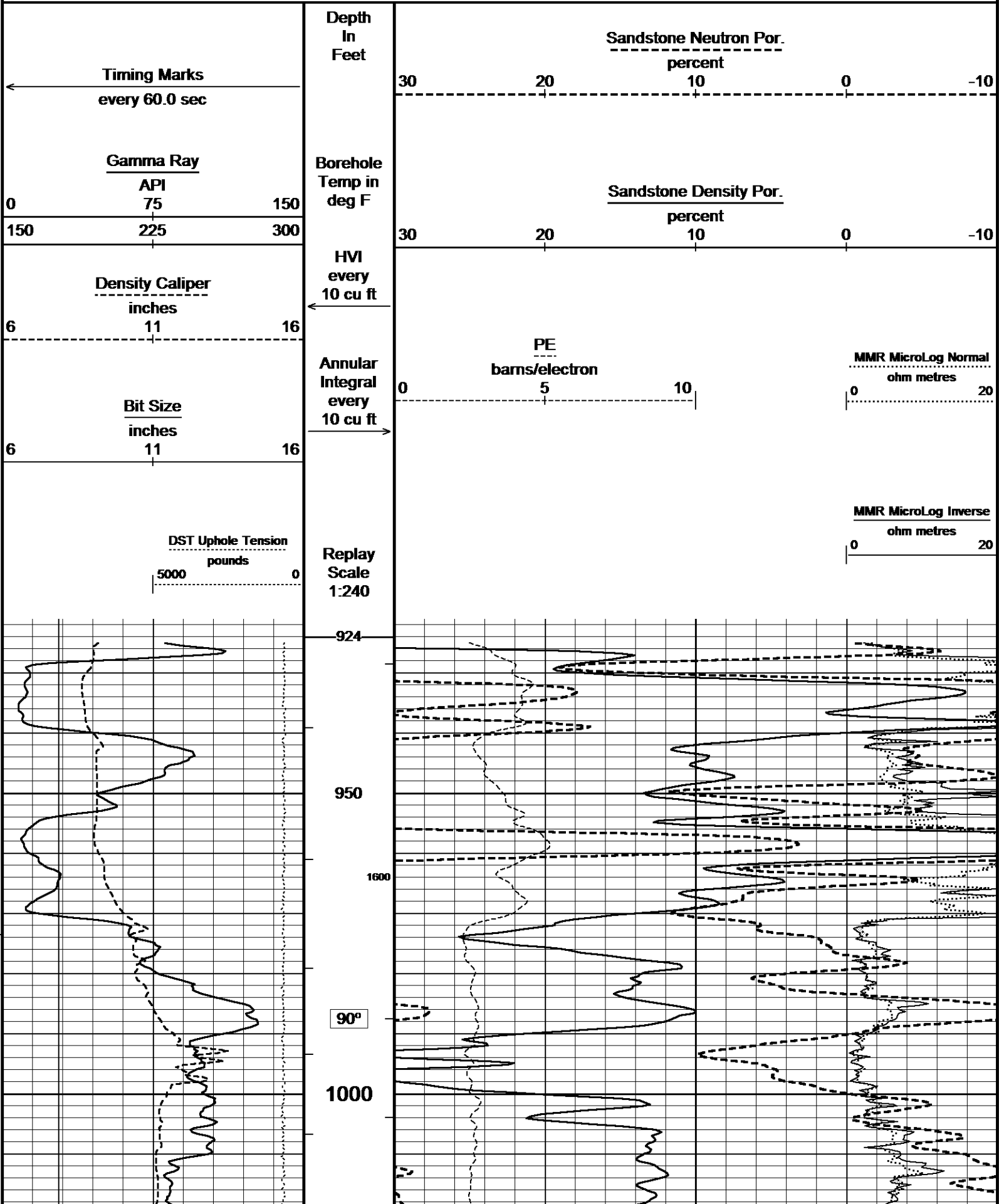
Depth Based Data - Maximum Sampling Increment 10.0cm

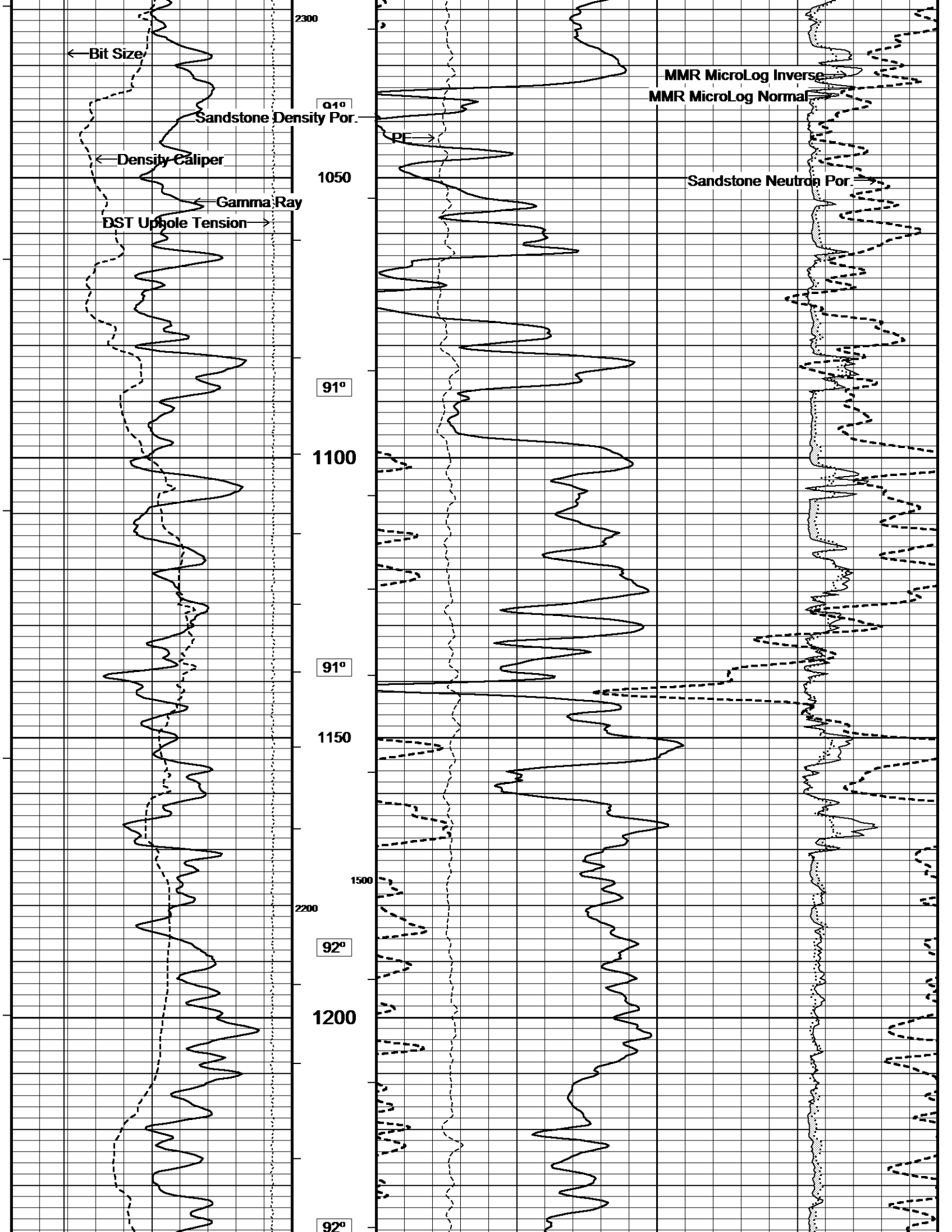
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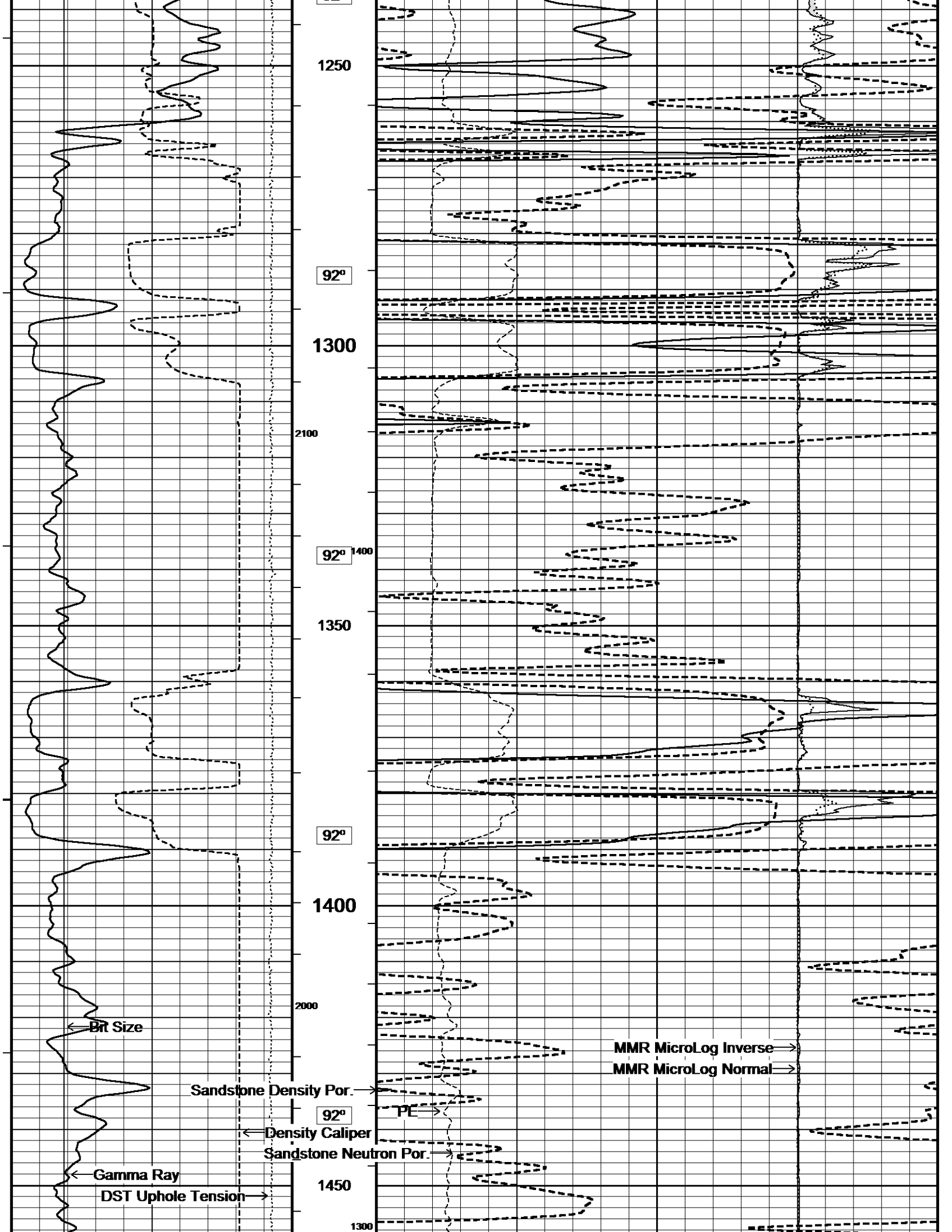
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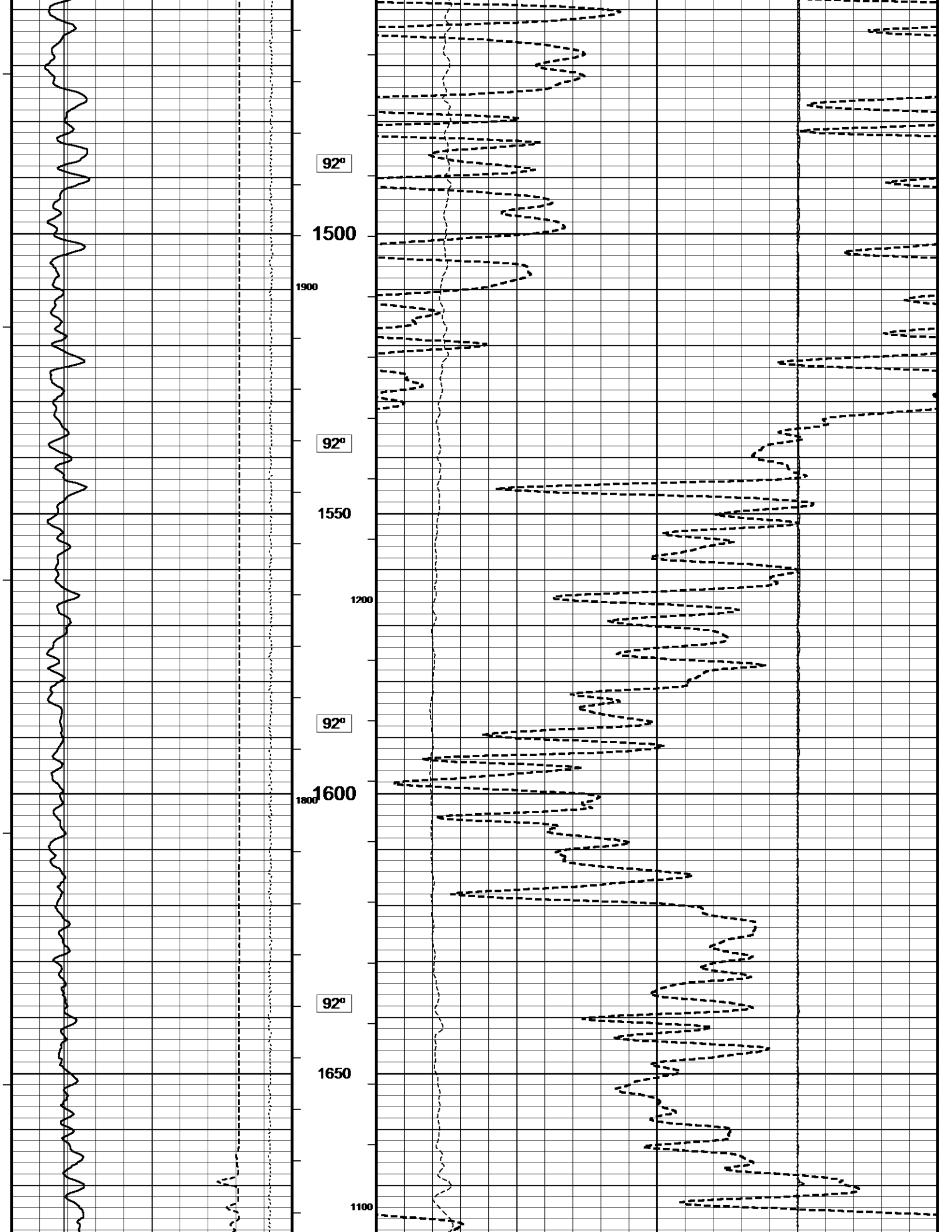
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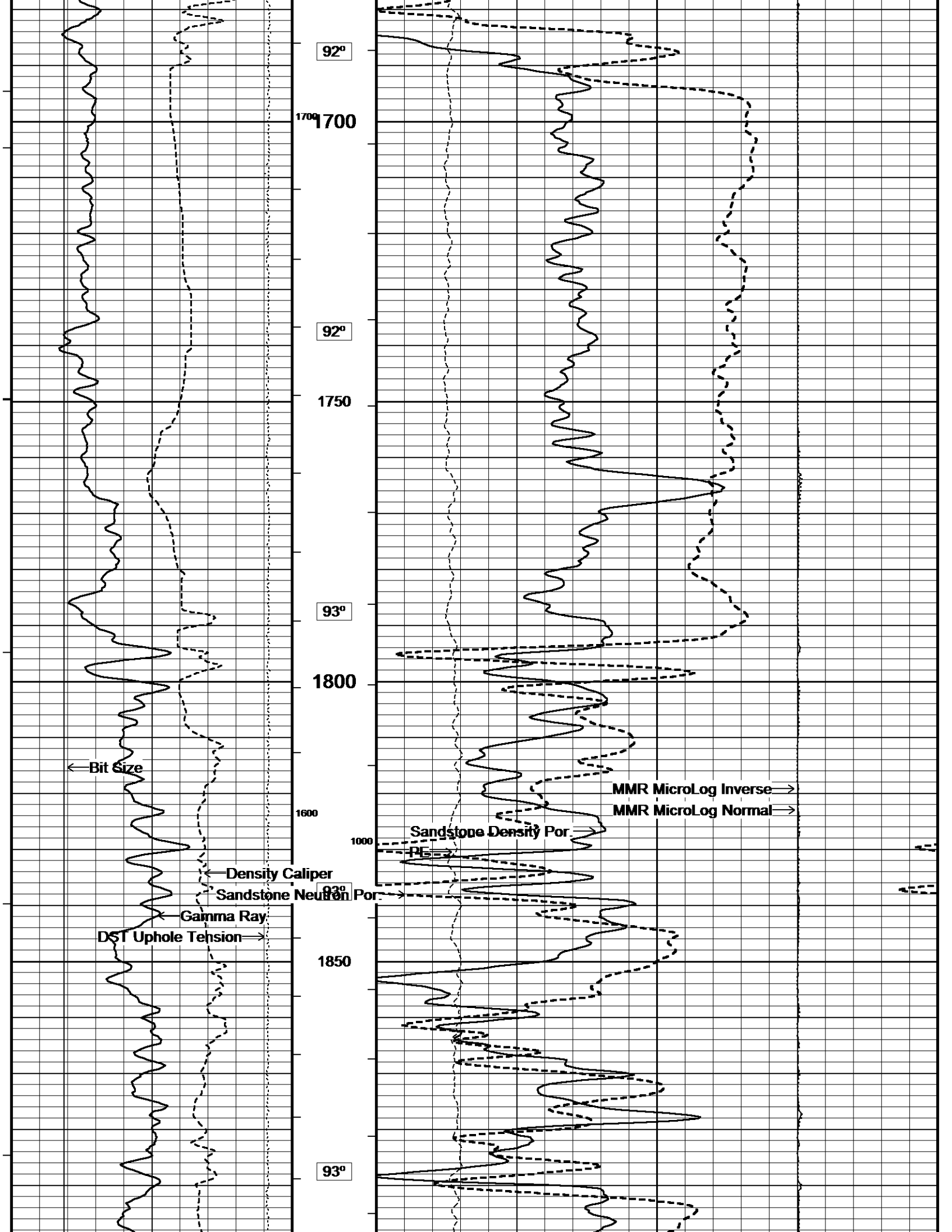
System Versions: Logged with 13.05.9583 Processed with 13.05.9583 Plotted with 13.06.9804

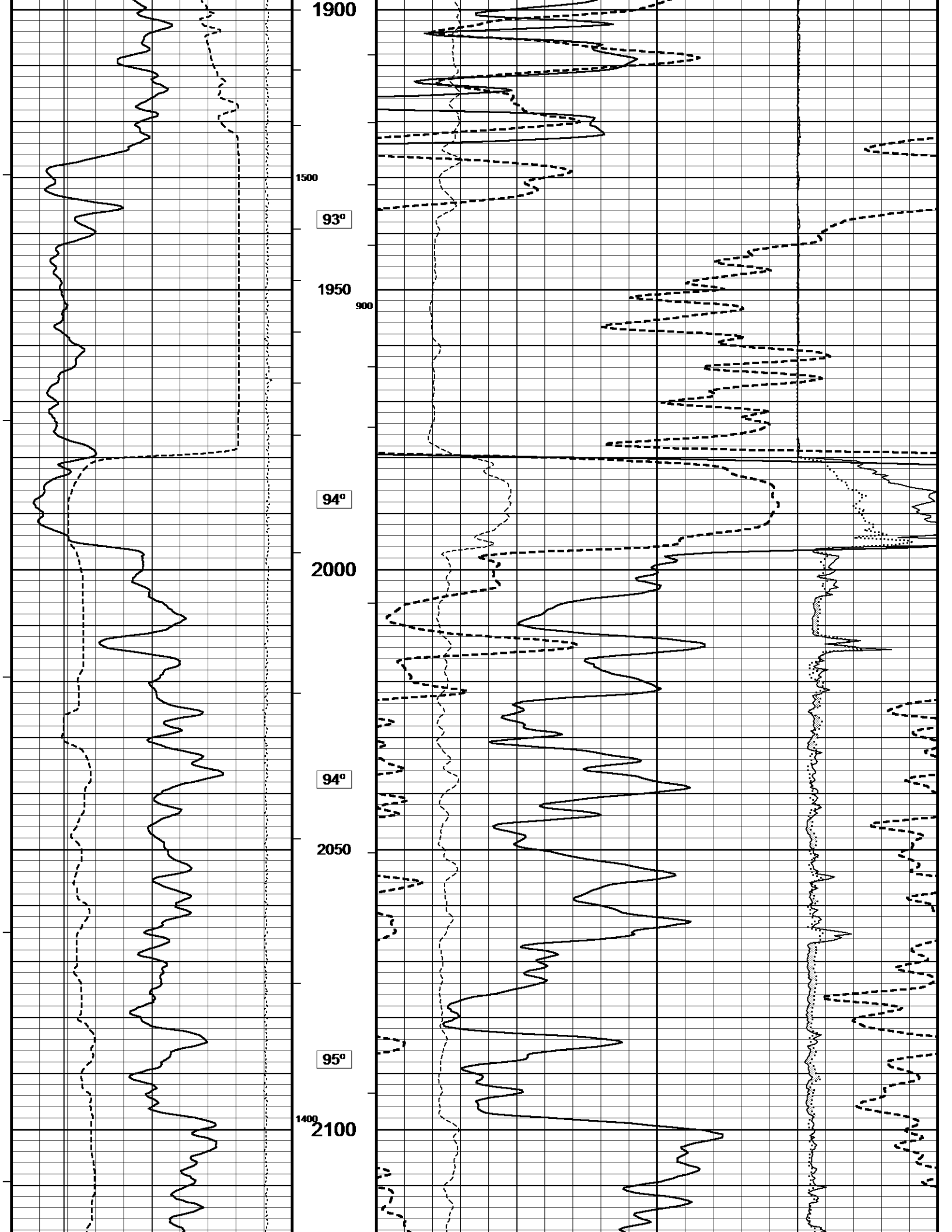


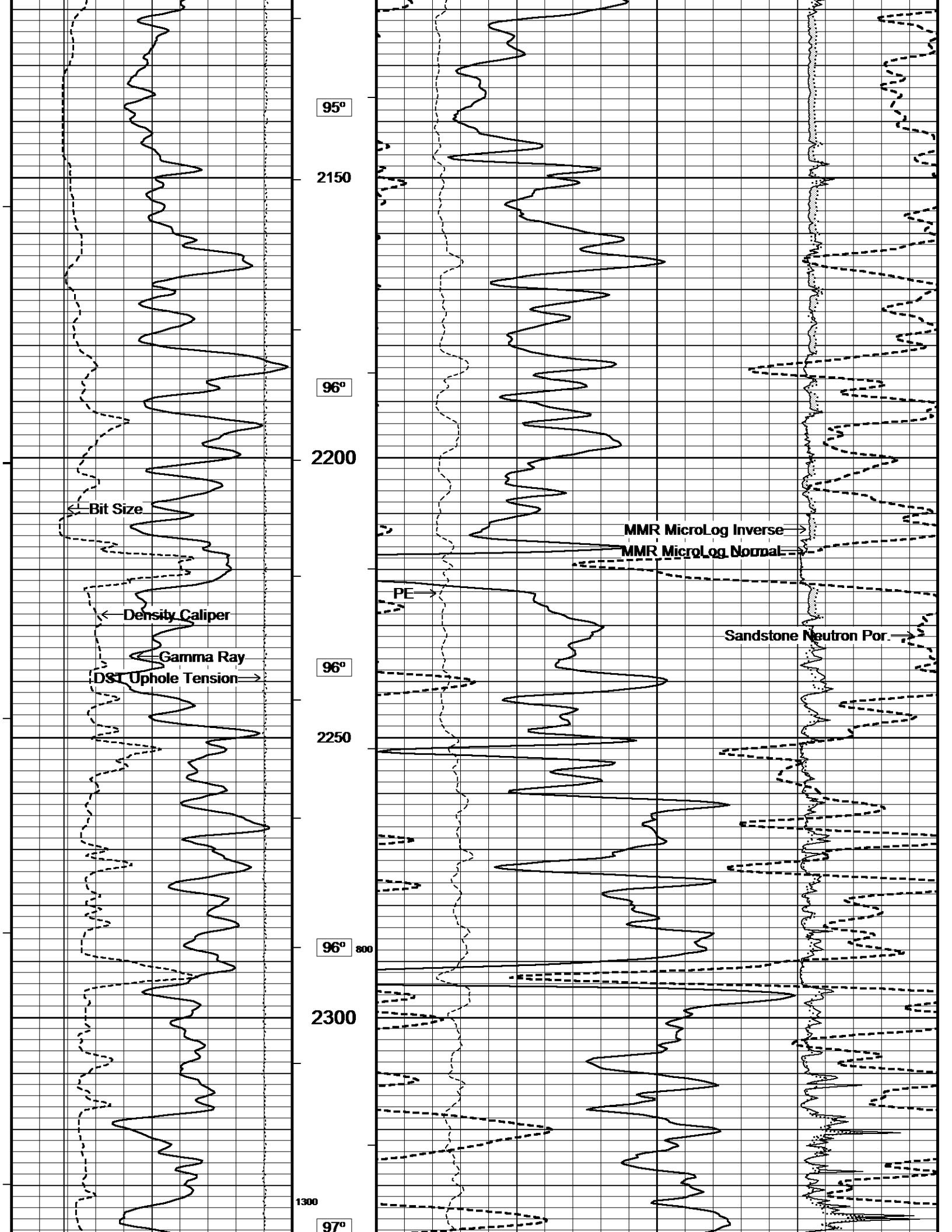


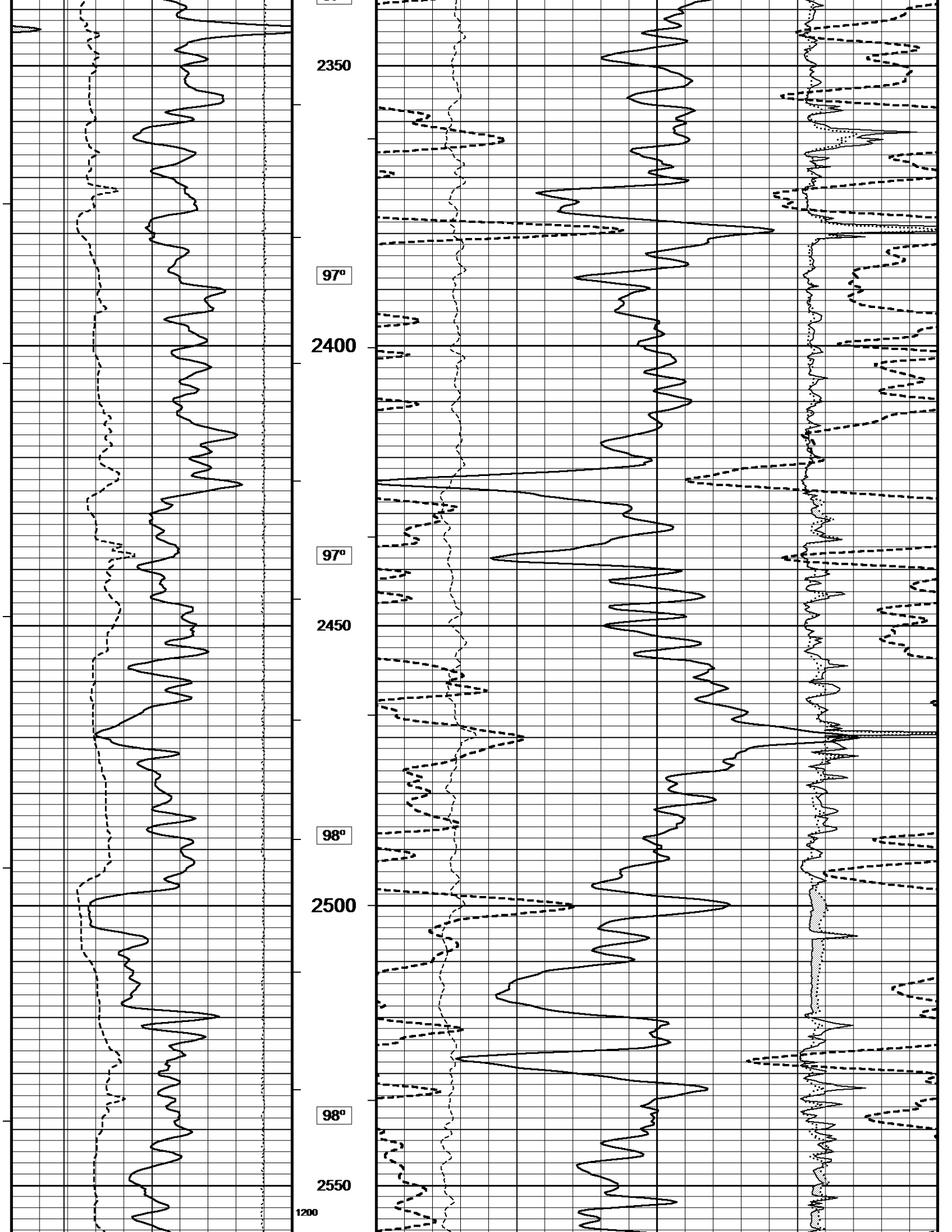


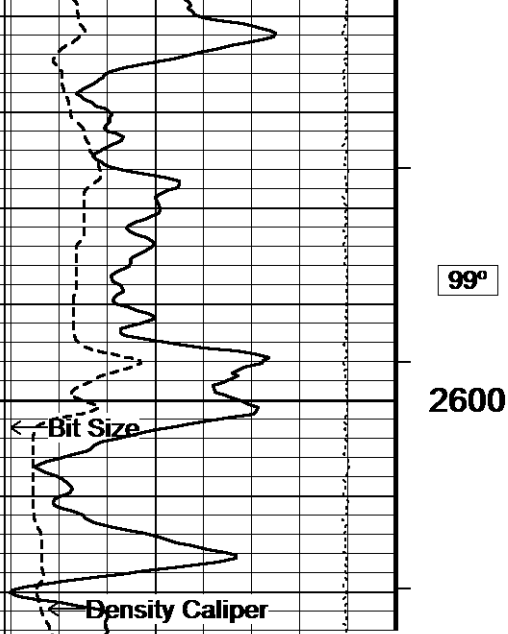












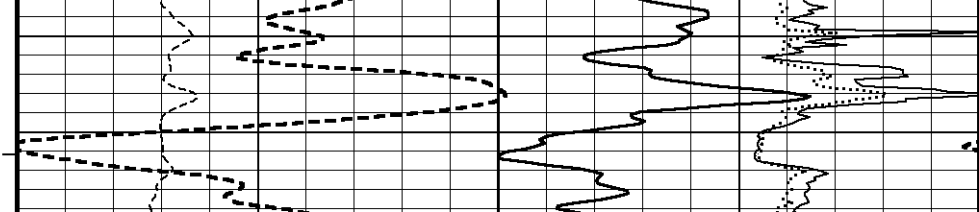
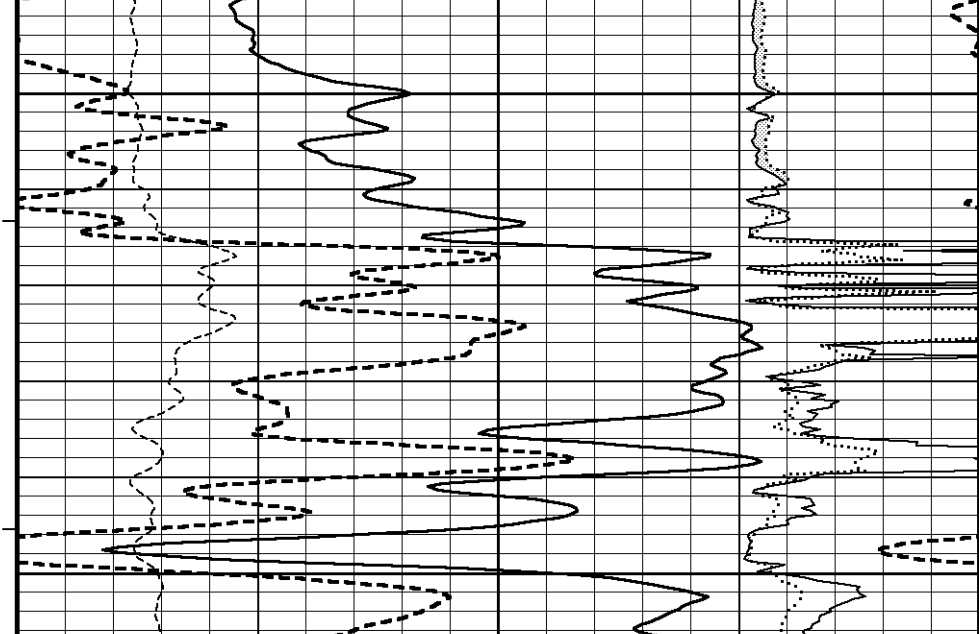
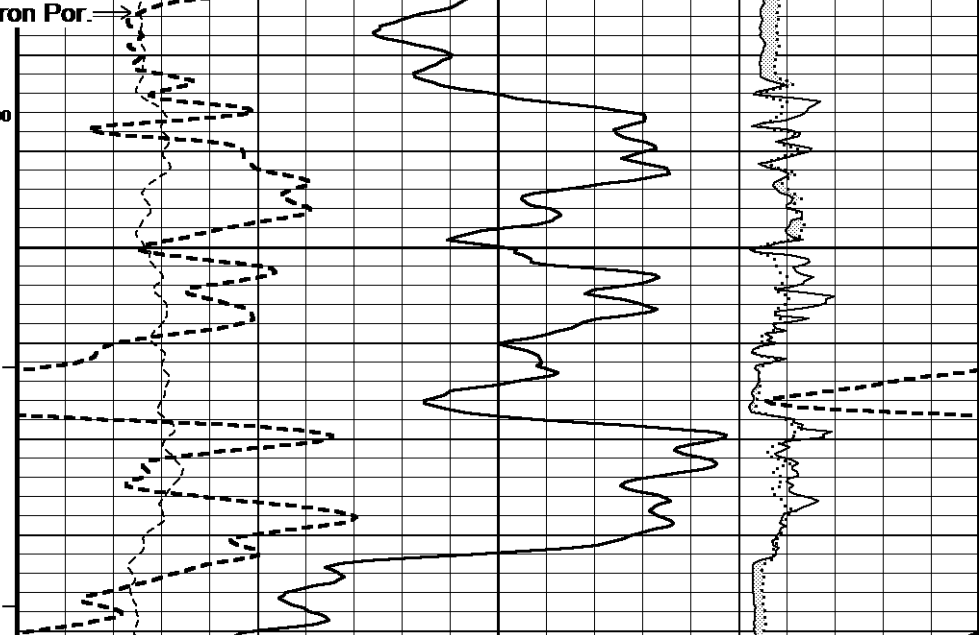
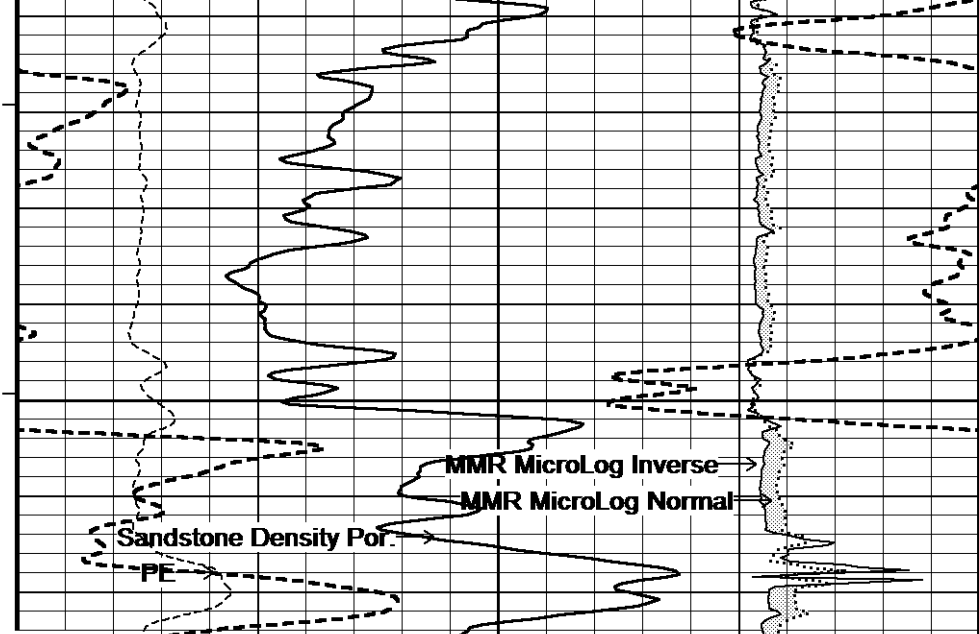
99°
2600

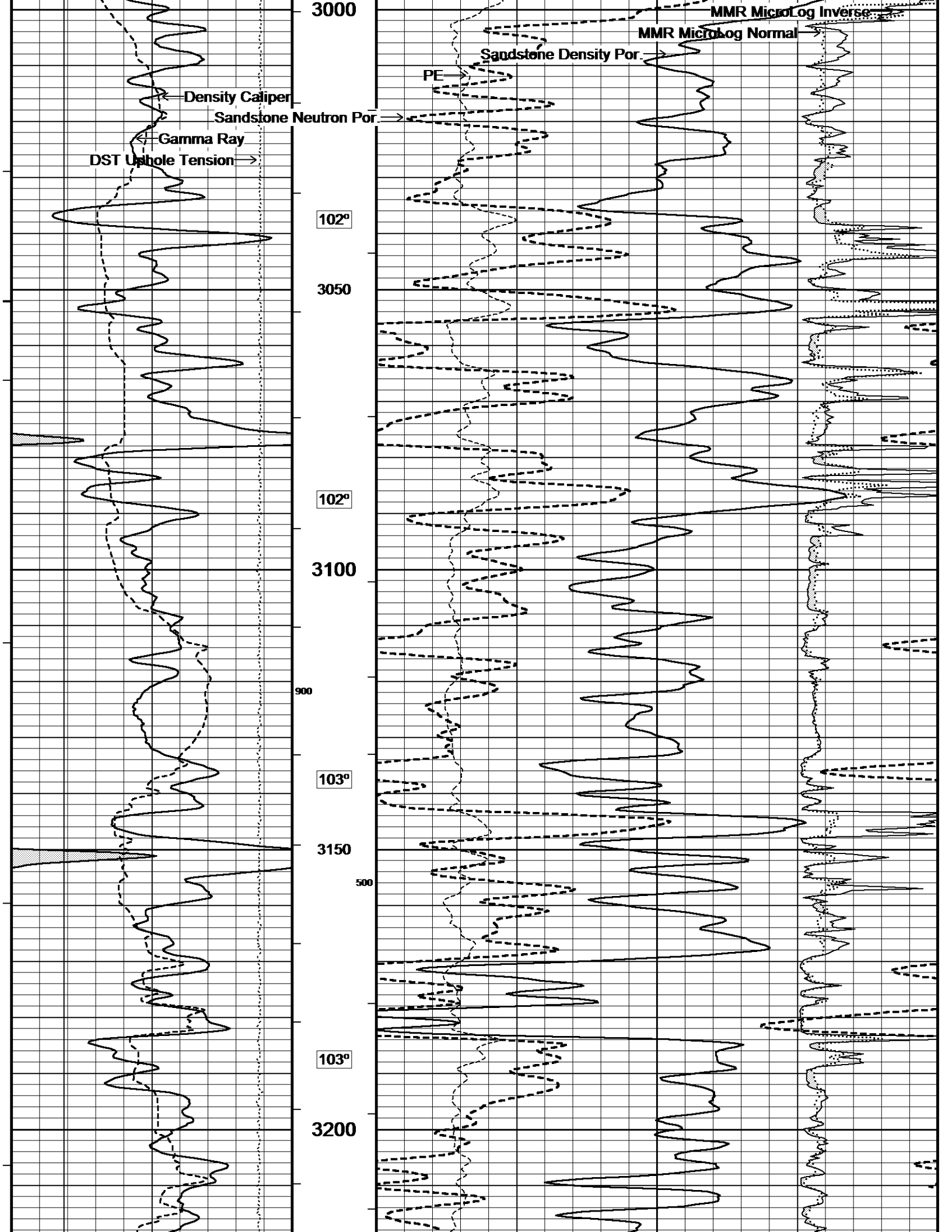
Sandstone Neutron Por.

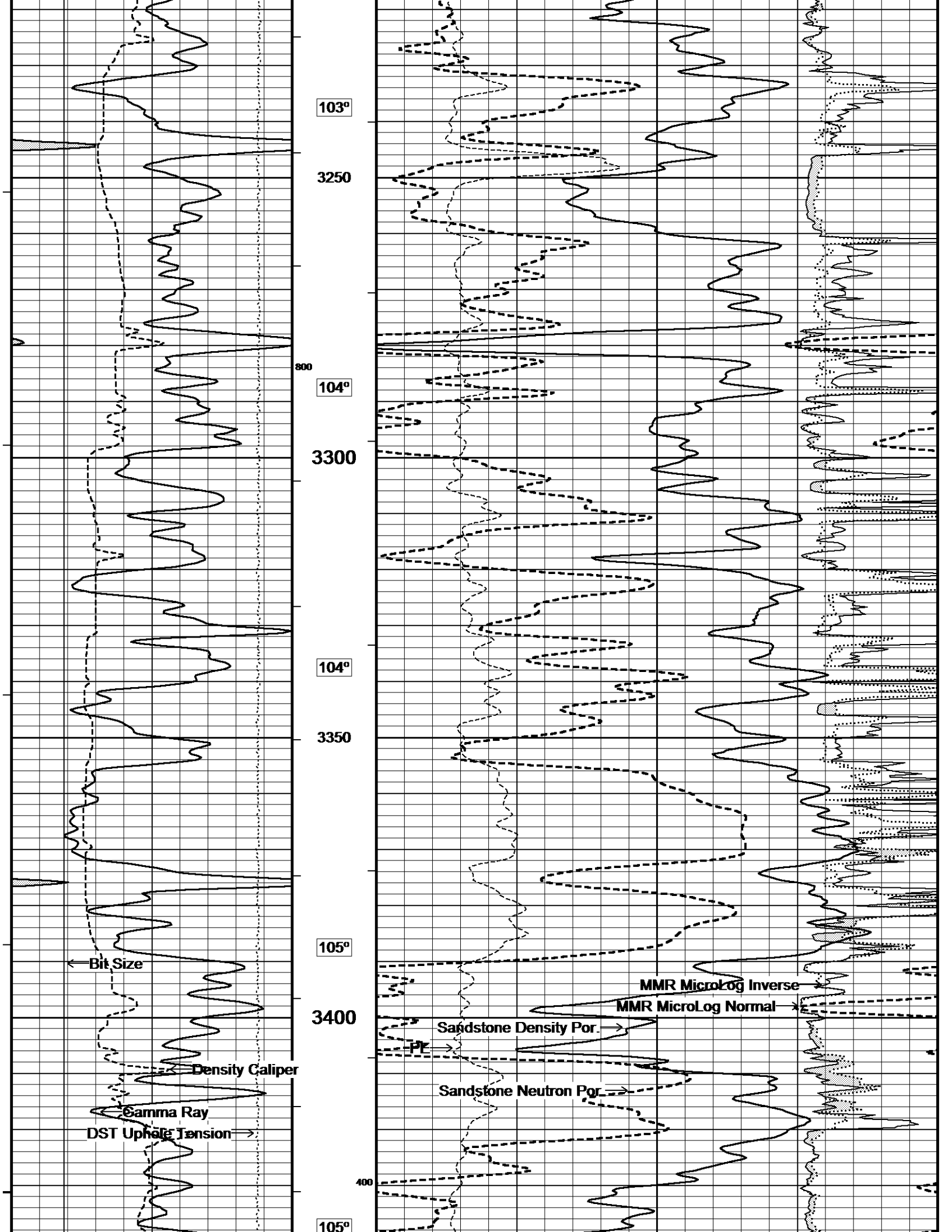
99°⁷⁰⁰
2650

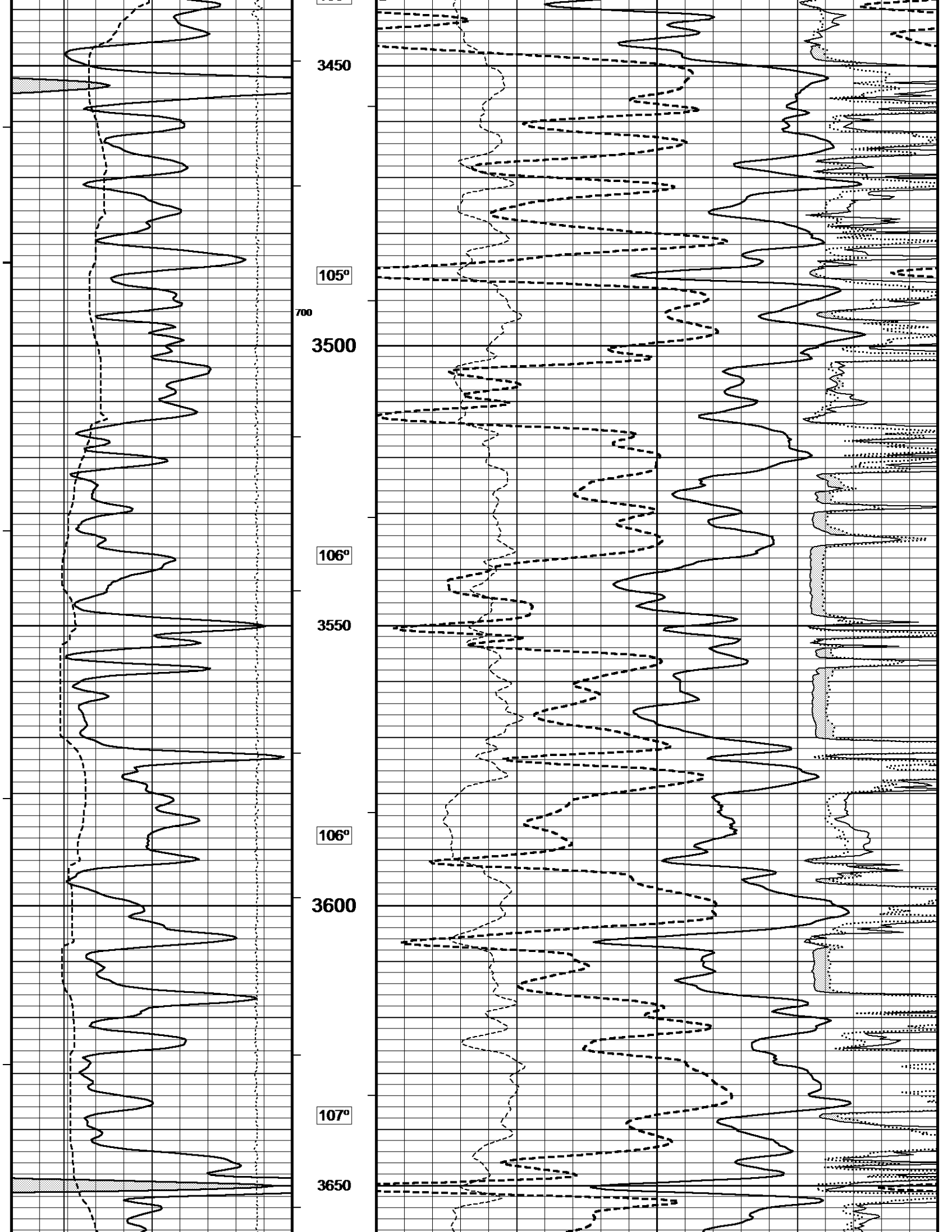
99°
2700

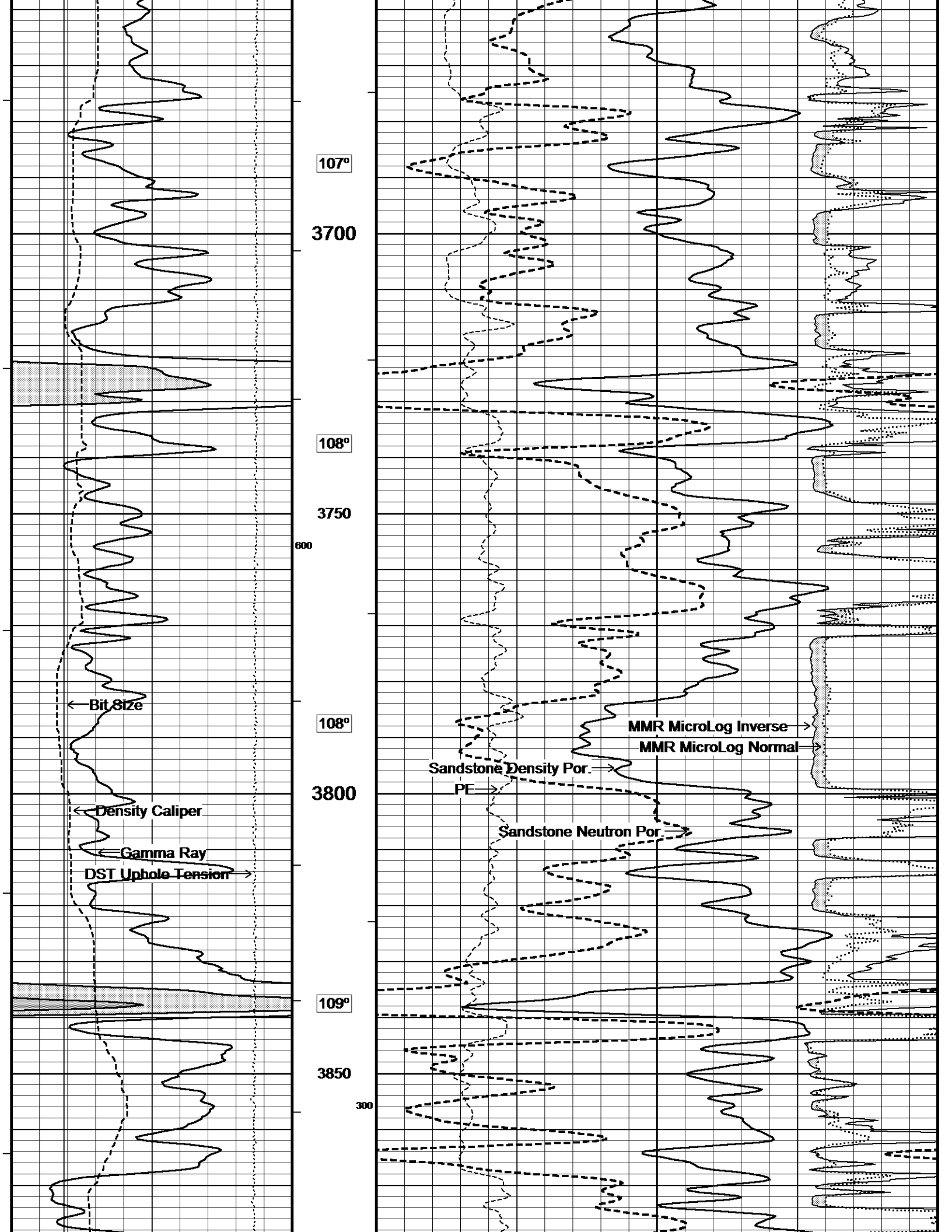
100°
2750
1100

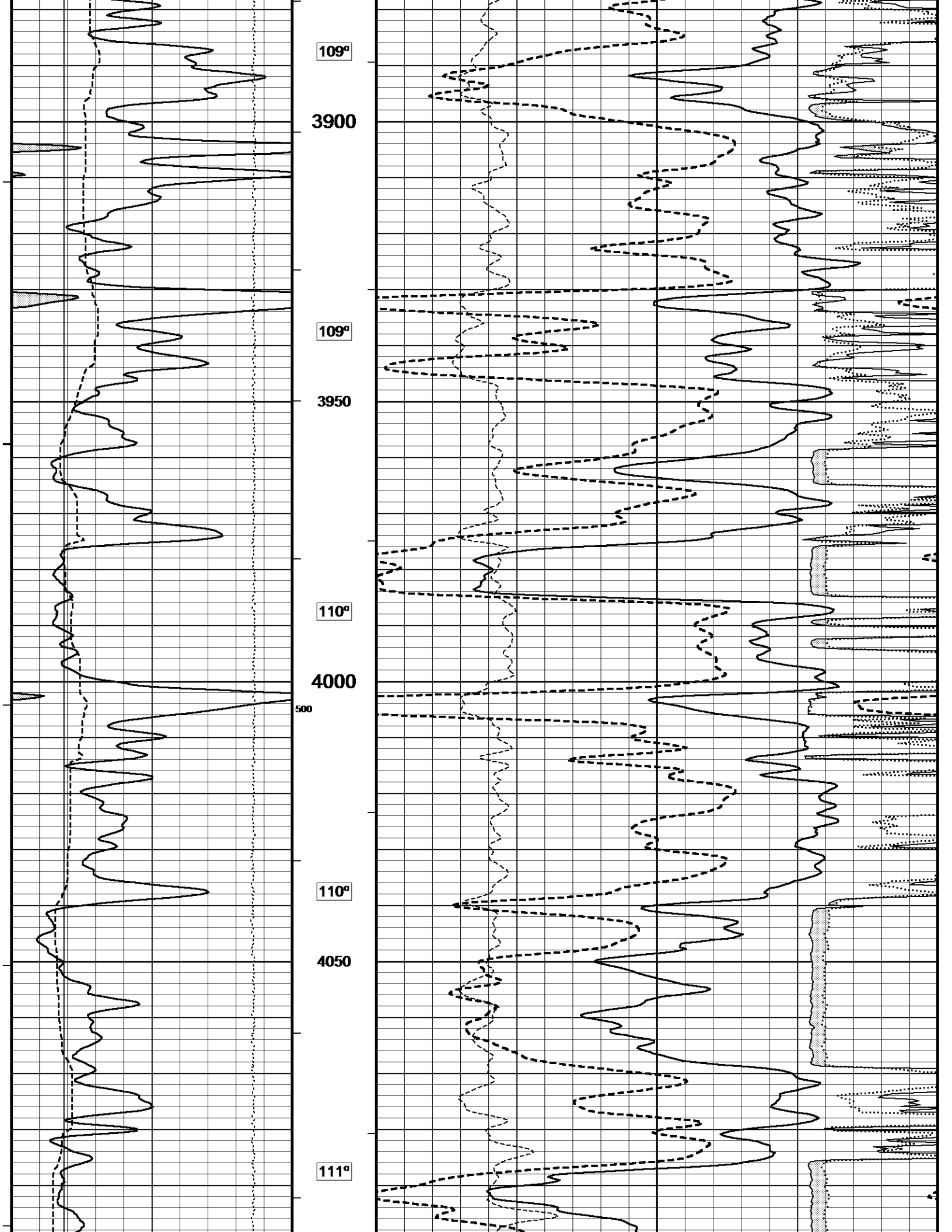












4100

111°

4150

112°

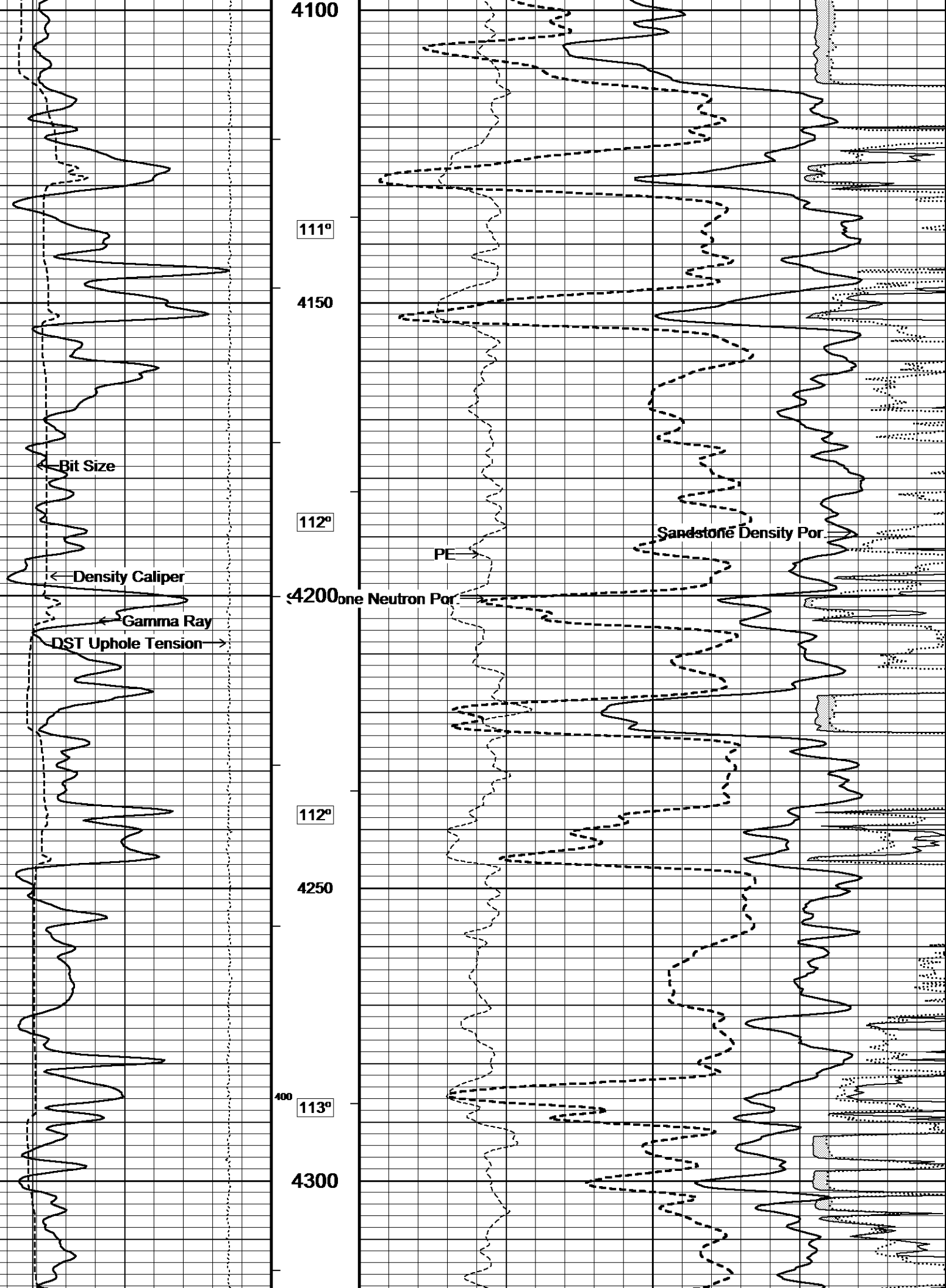
4200

112°

4250

400 113°

4300



Bit Size

Density Caliper

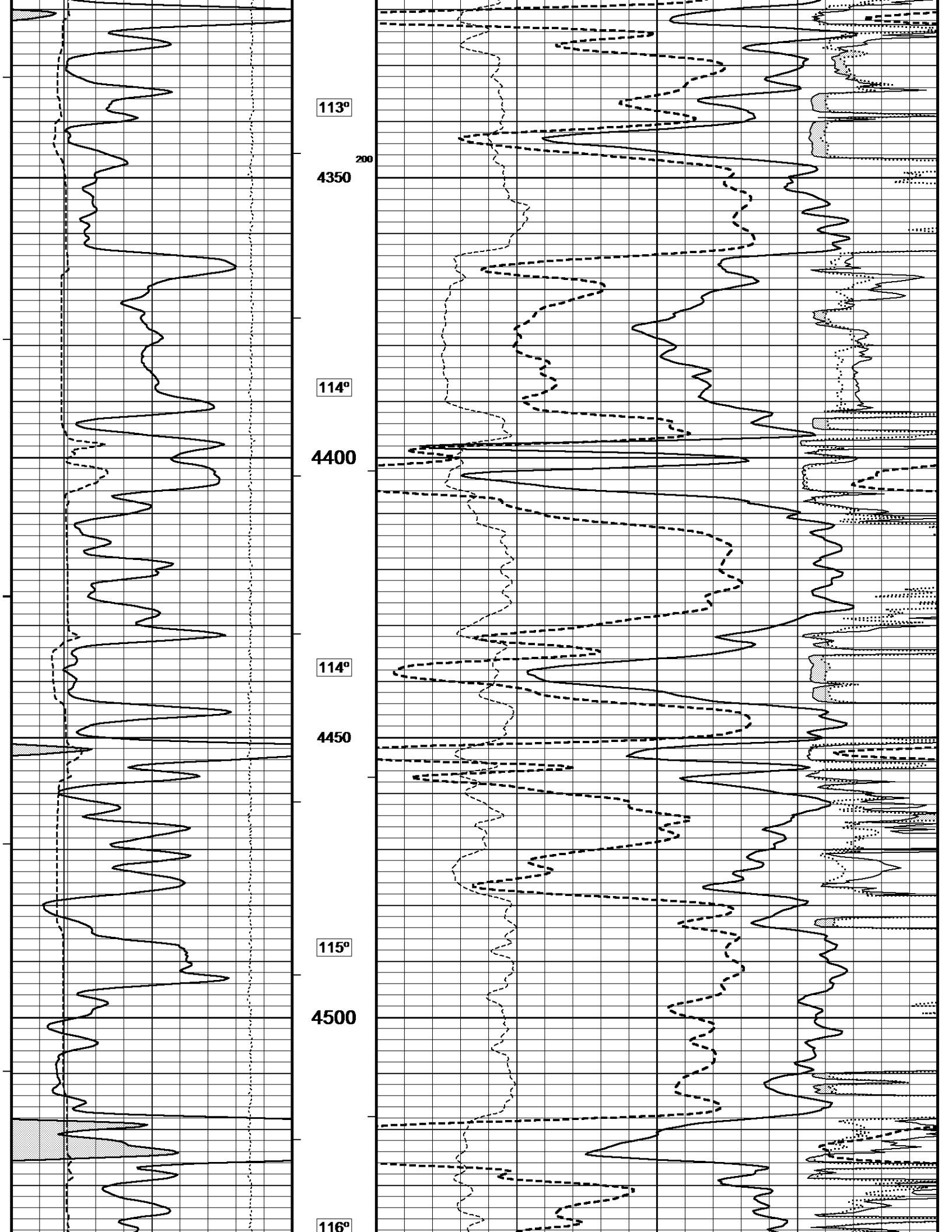
Gamma Ray

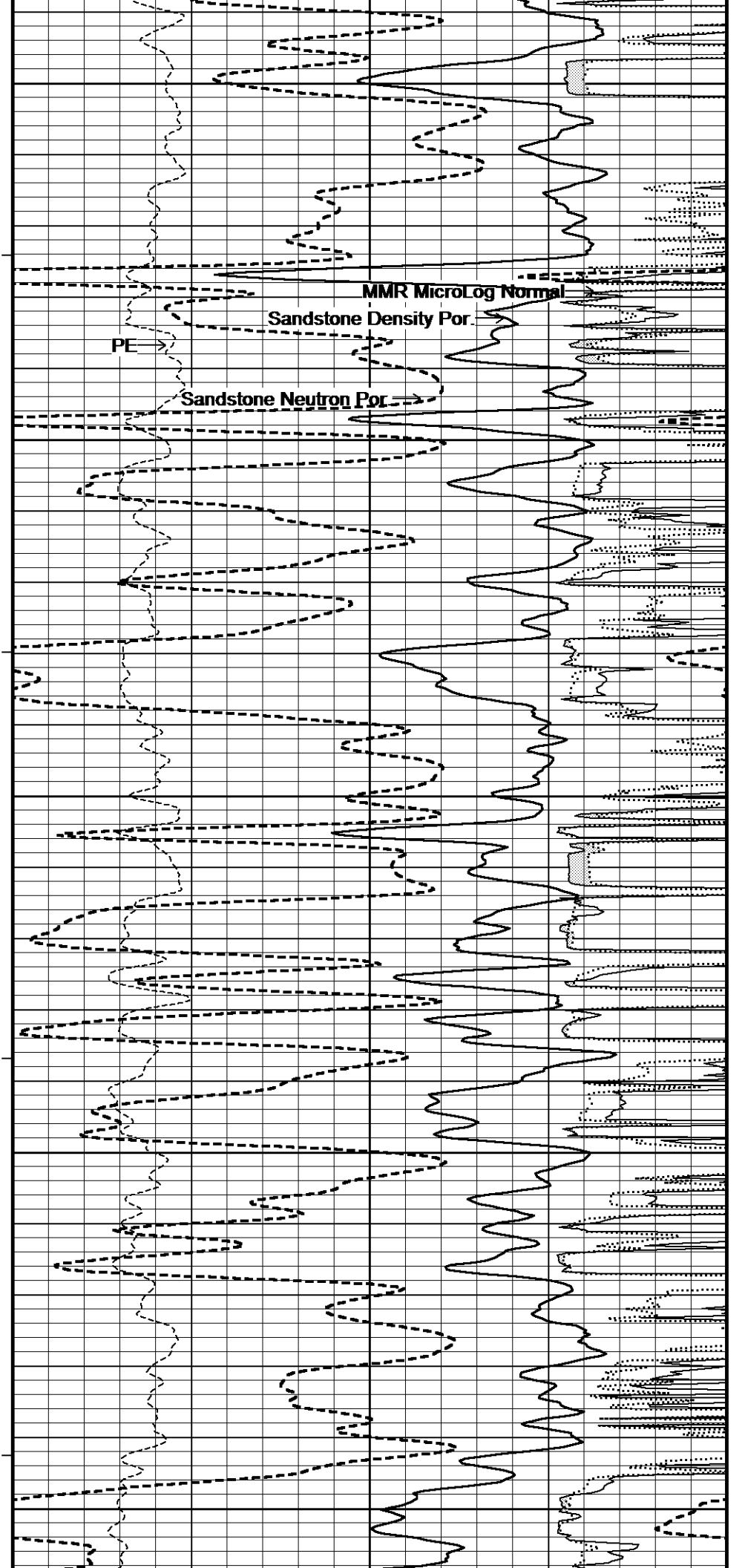
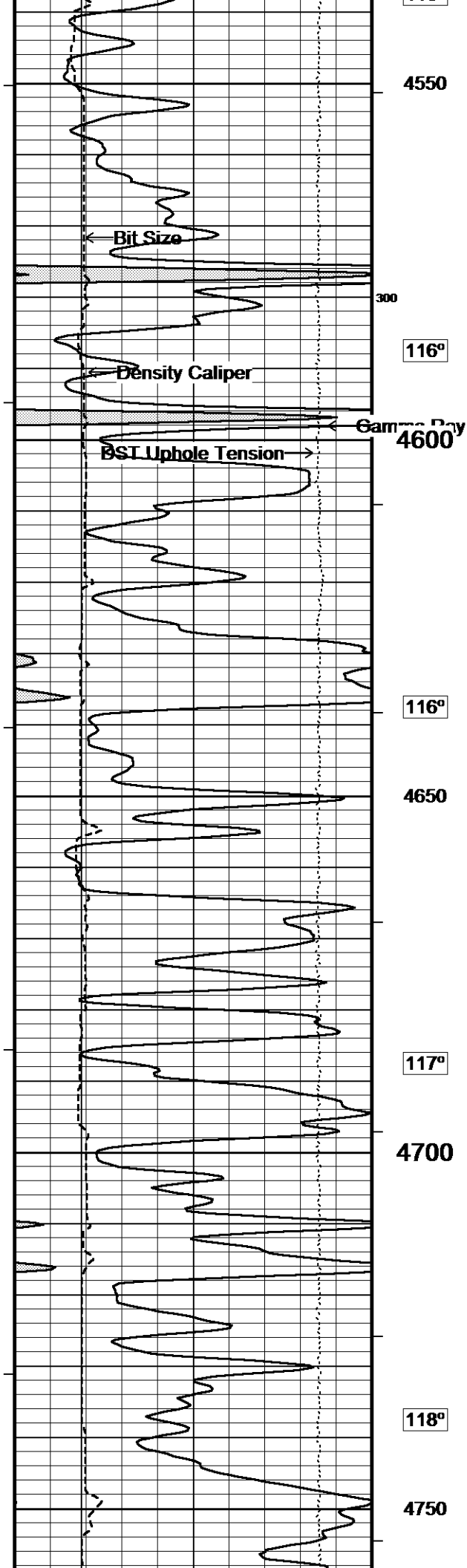
DST Uphole Tension

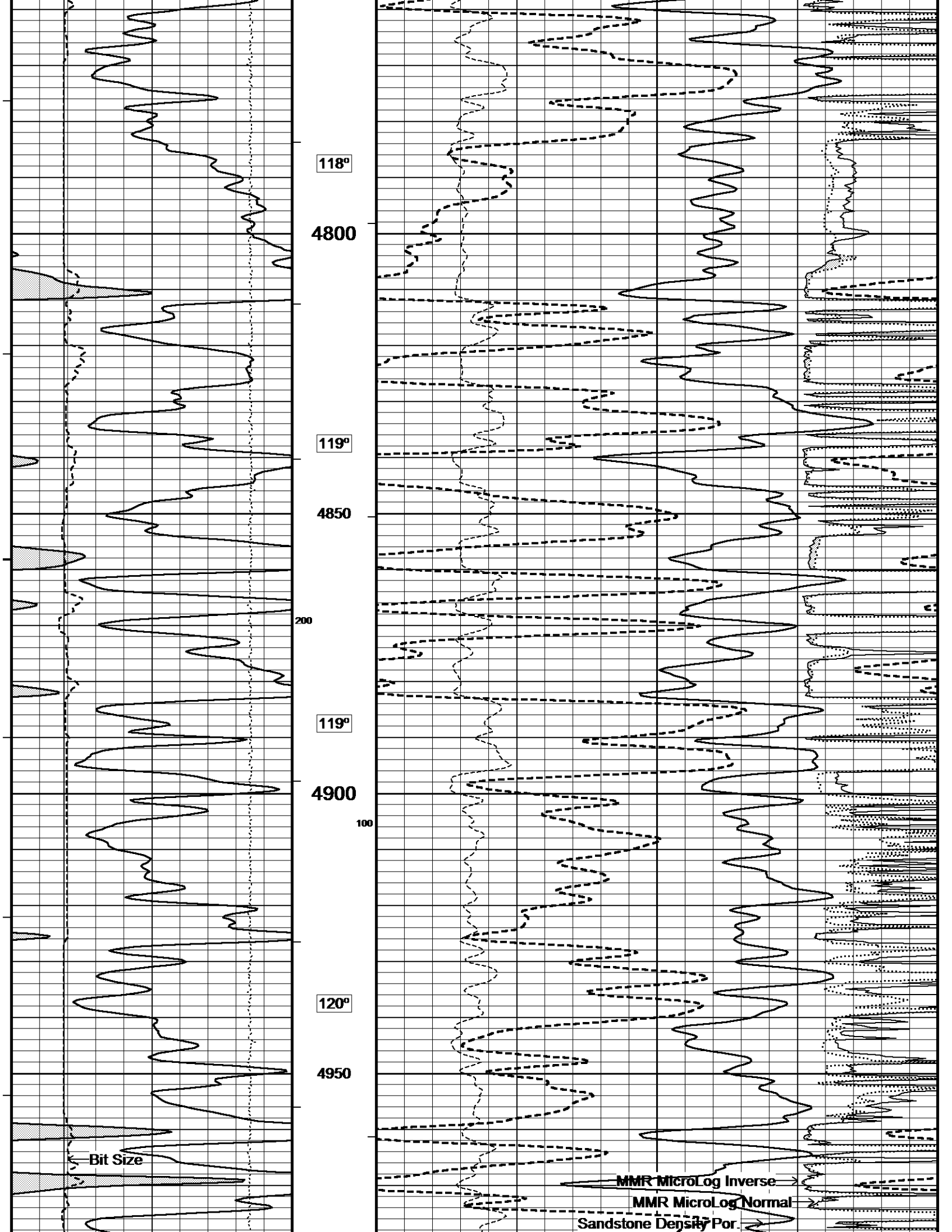
PE

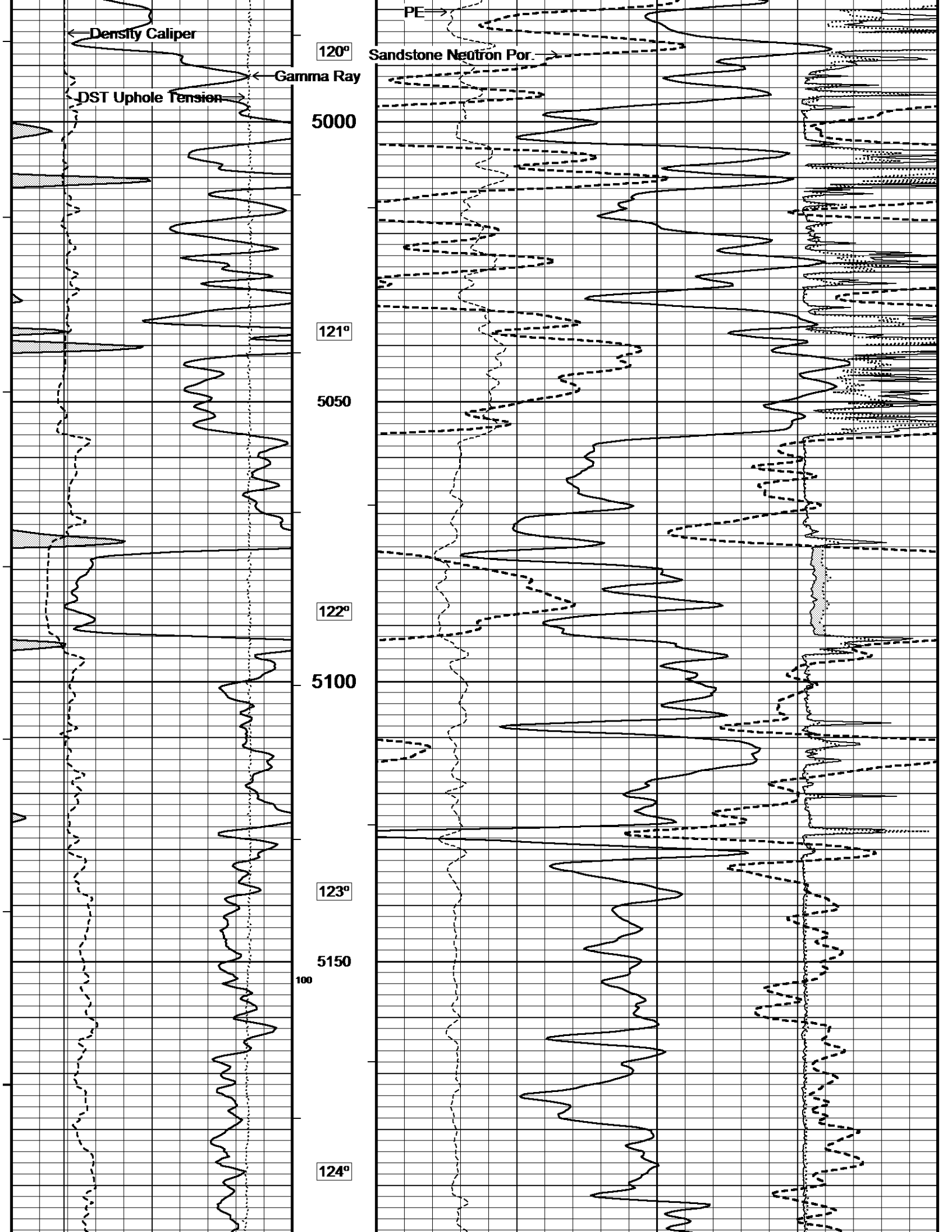
Sandstone Density Por

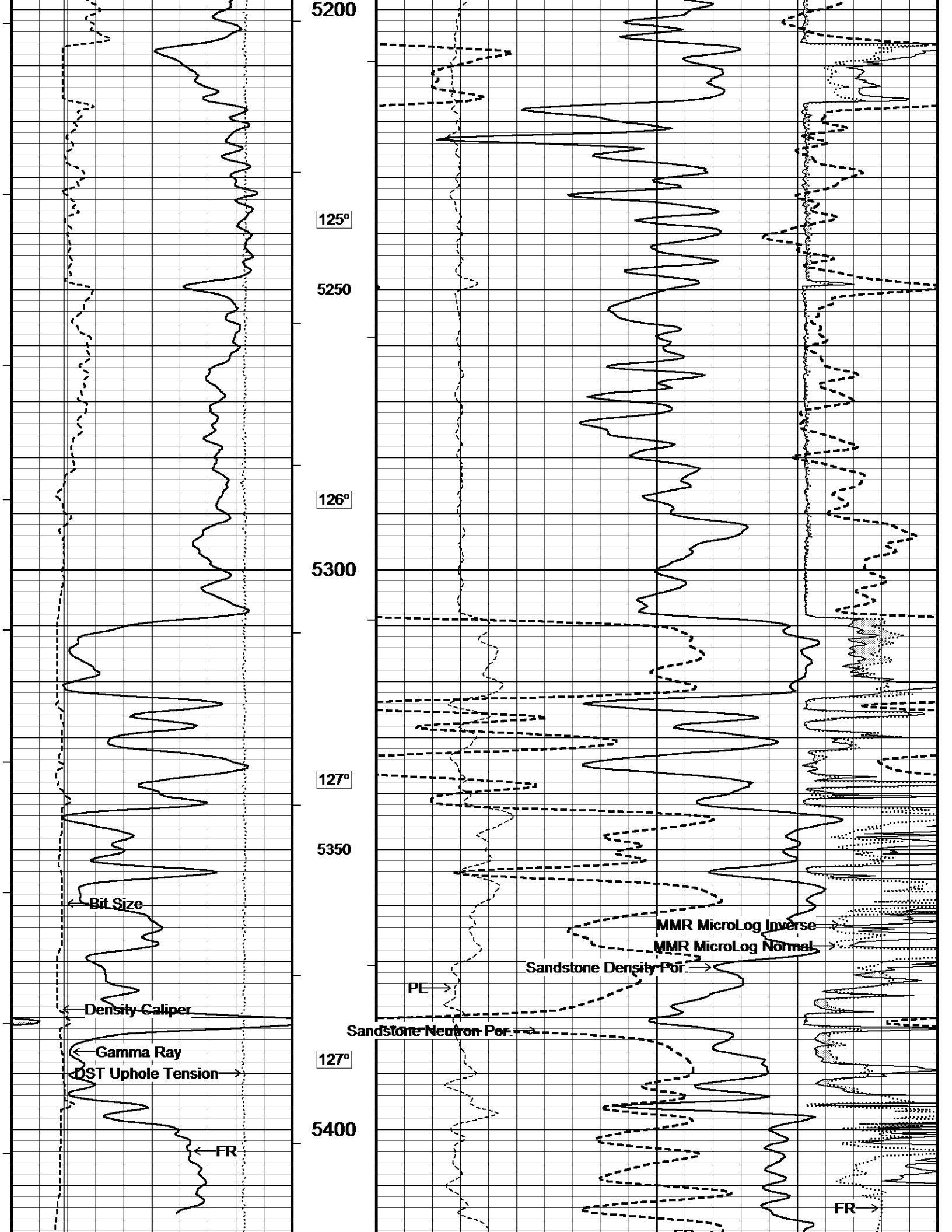
one Neutron Por

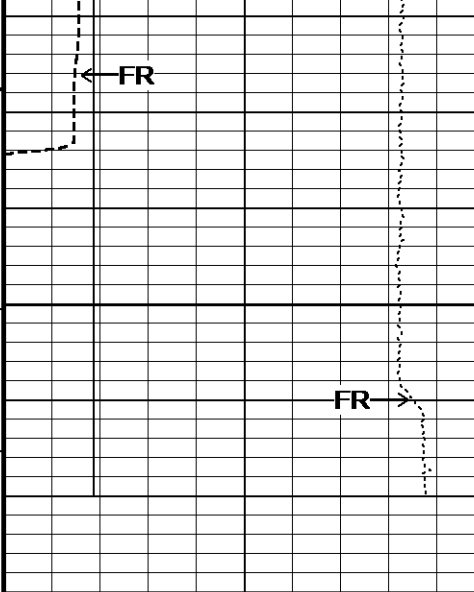




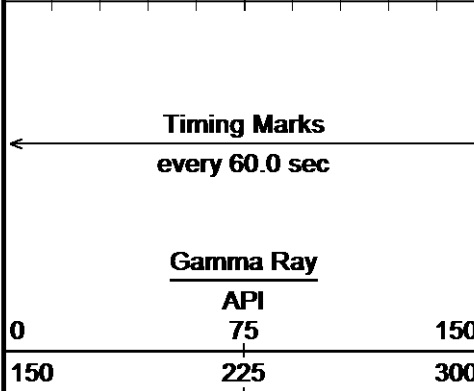
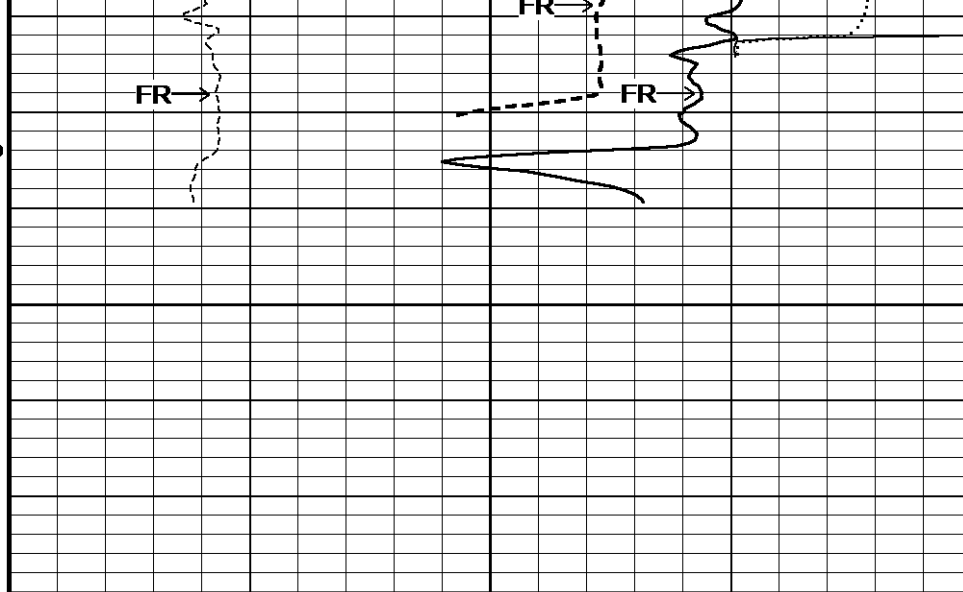




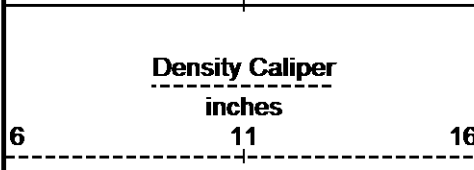
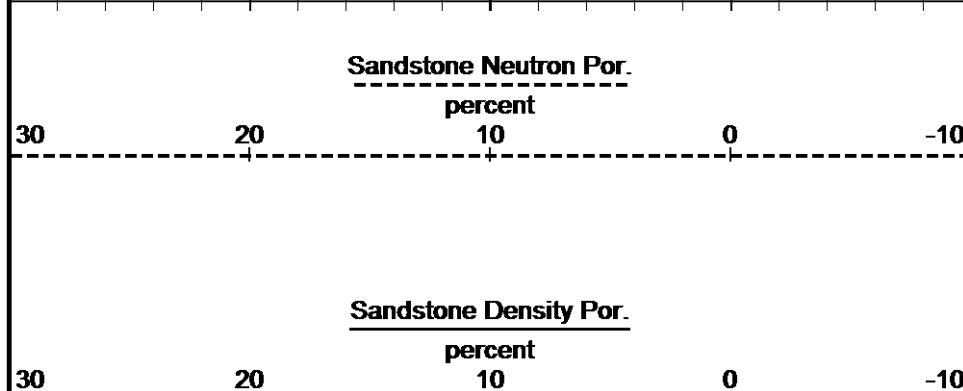




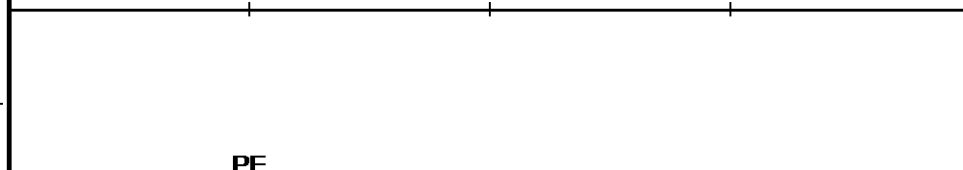
0
5450
5478
Depth In Feet



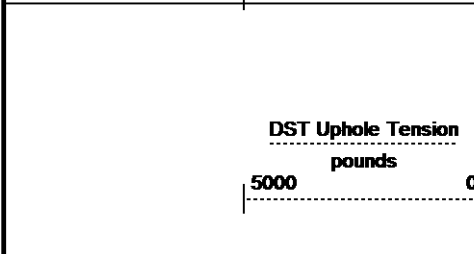
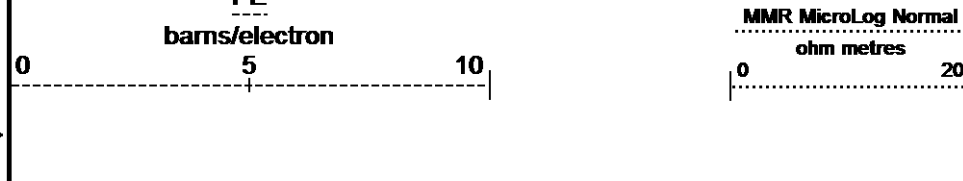
Borehole Temp in deg F



HVI every 10 cu ft



Annular Integral every 10 cu ft



Replay Scale 1:240



Depth Based Data - Maximum Sampling Increment 10.0cm
 Filename: C:\Job Data\Western\Fox #2-8\Western Operating Company FOX #2-8_003.dta
 System Versions: Logged with 13.05.9583 Processed with 13.05.9583 Plotted with 13.06.9804
 Plotted on 09-JUL-2013 11:23
 Recorded on 08-JUL-2013 17:58

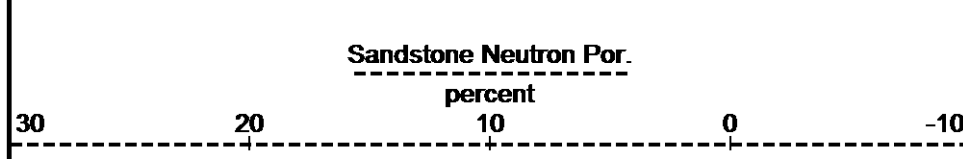
↑ 5 INCH MAIN - SANDSTONE MATRIX ↑

↓ REPEAT SECTION - SANDSTONE MATRIX ↓

Depth Based Data - Maximum Sampling Increment 10.0cm
 Filename: C:\Job Data\Western\Fox #2-8\Western Operating Company FOX #2-8_002.dta
 System Versions: Logged with 13.05.9583 Processed with 13.05.9583 Plotted with 13.06.9804
 Plotted on 09-JUL-2013 11:23
 Recorded on 08-JUL-2013 17:25



Depth in Feet



Gamma Ray
 API
 0 75 150
 150 225 300

Borehole Temp in deg F

Sandstone Density Por.
 percent
 30 20 10 0 -10

Density Caliper
 inches
 6 11 16

HVI every 10 cu ft

Bit Size
 inches
 6 11 16

Annular Integral every 10 cu ft

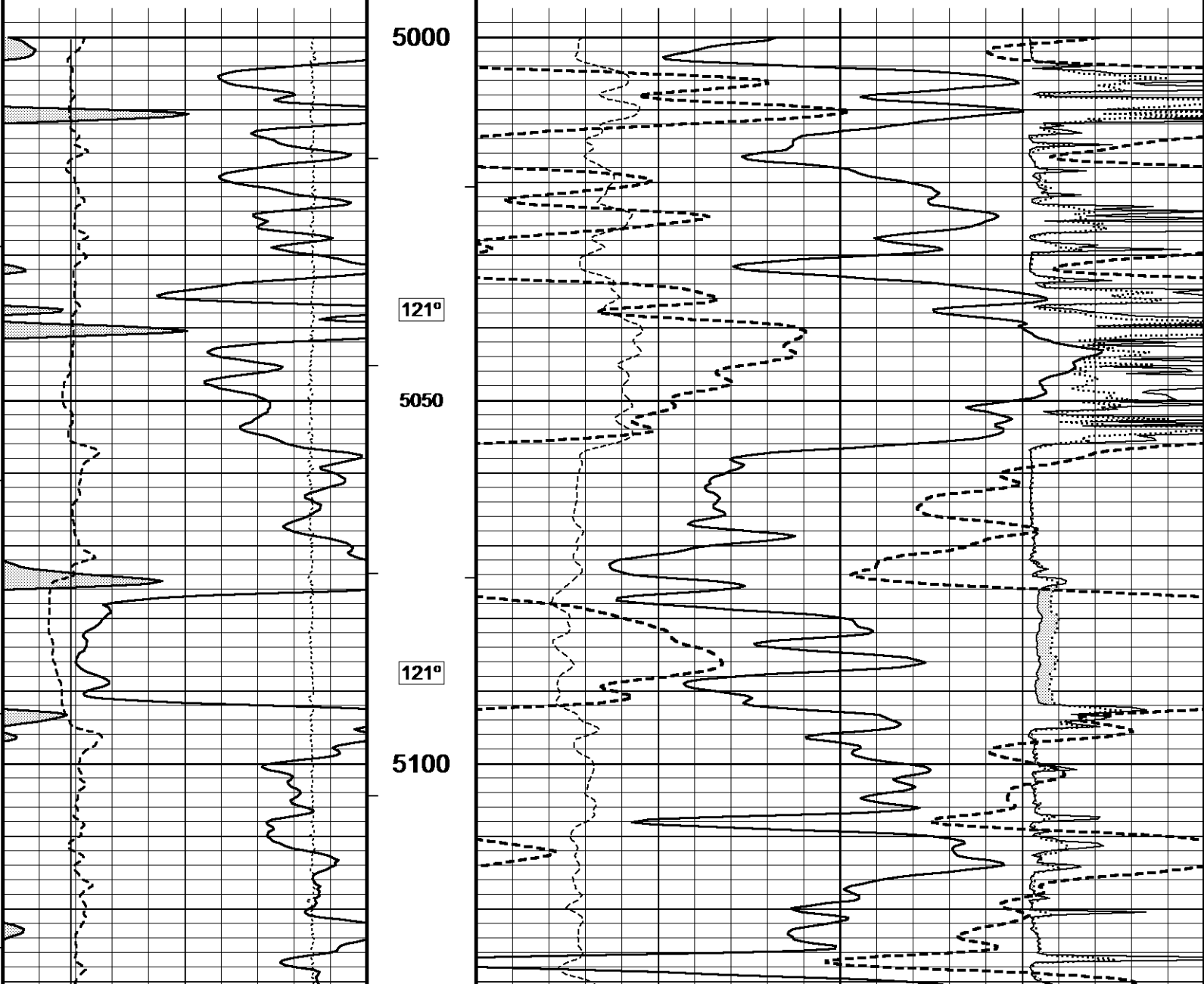
PE
 barns/electron
 0 5 10

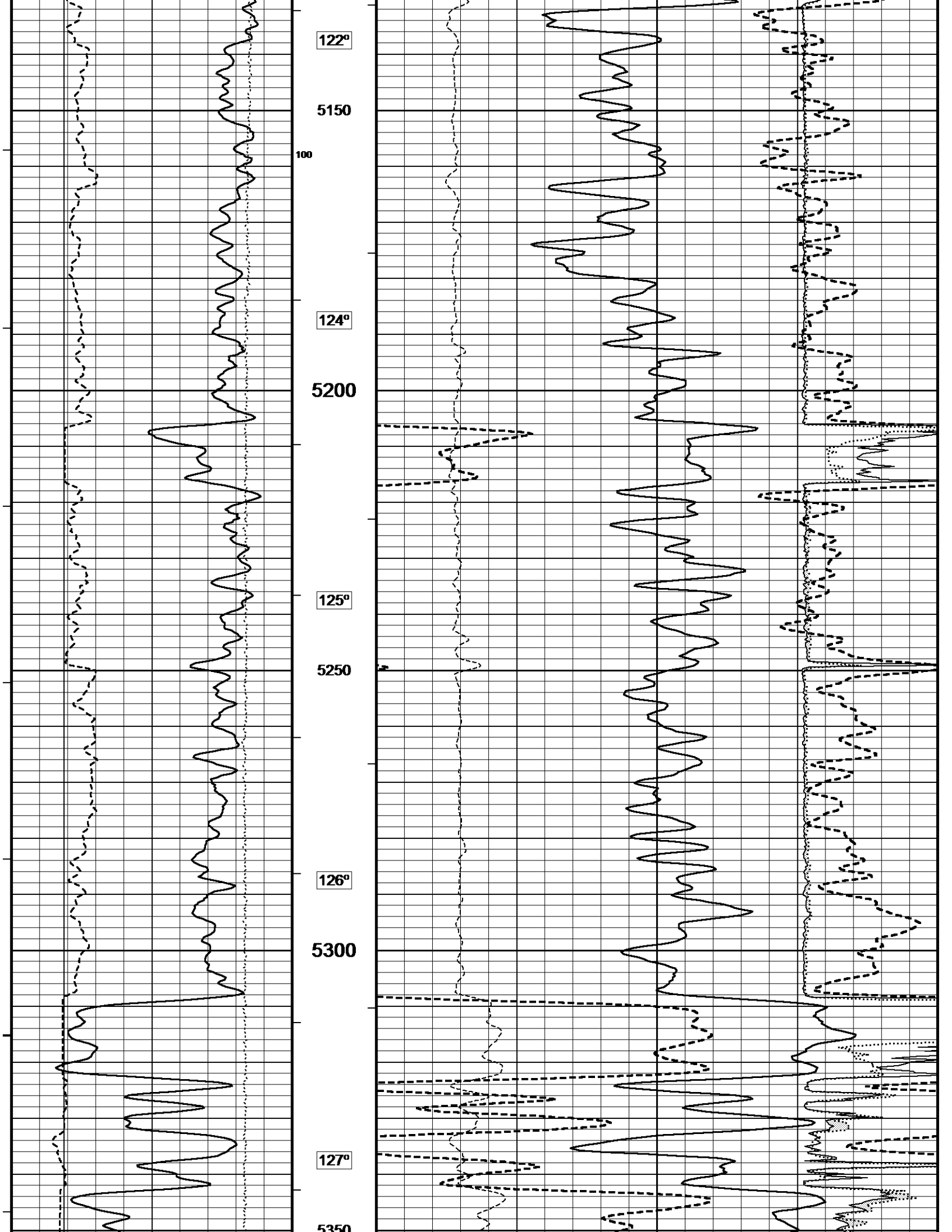
MMR MicroLog Normal
 ohm metres
 0 20

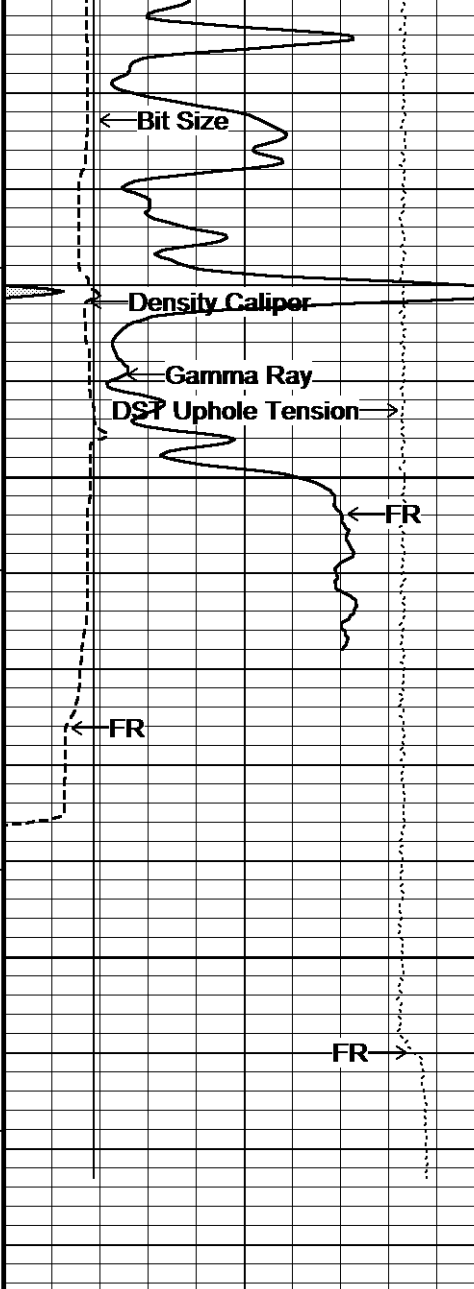
DST Uphole Tension
 pounds
 5000 0

Replay Scale 1:240

MMR MicroLog Inverse
 ohm metres
 0 20







5400

127°

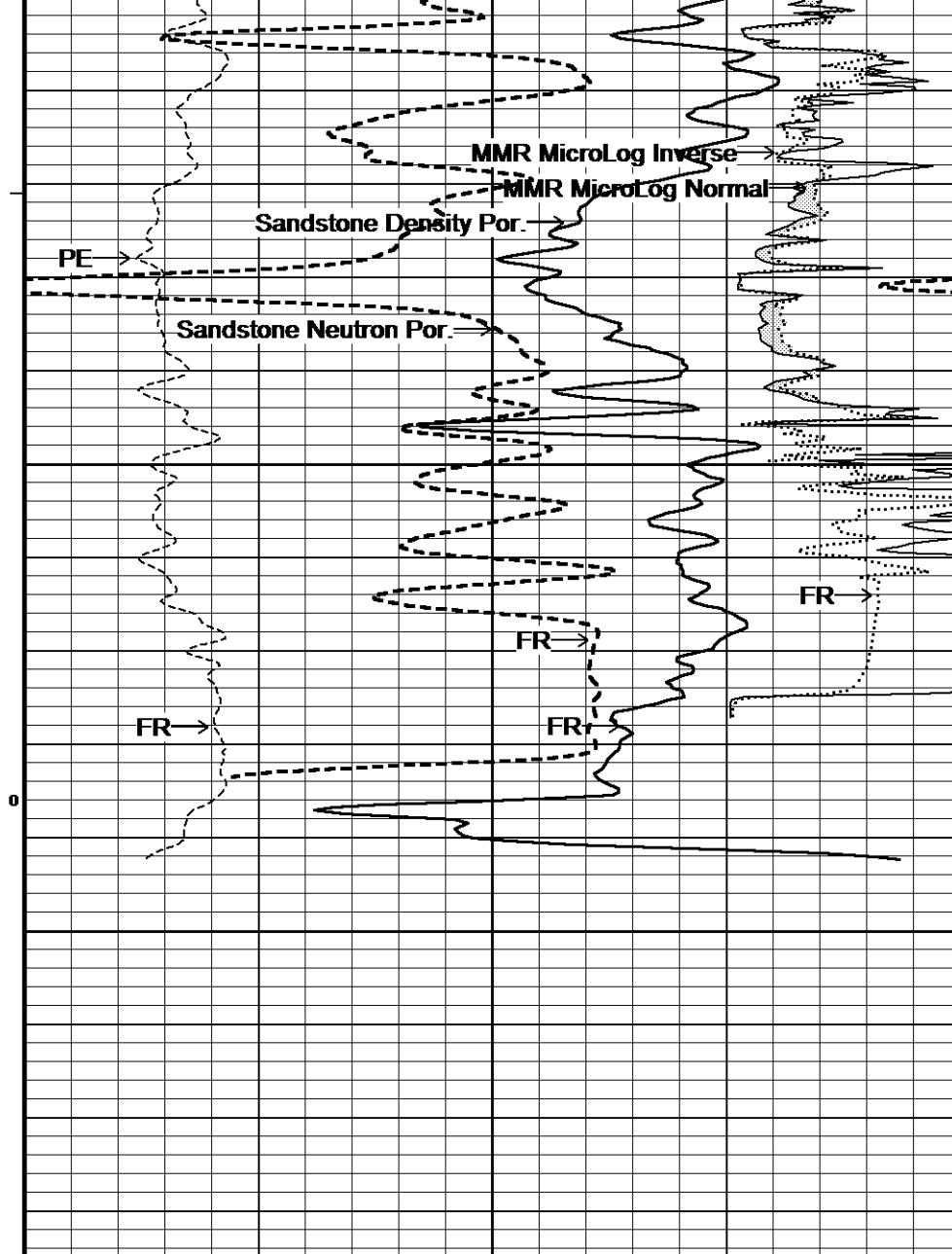
5400

0

5450

5484

Depth in Feet



Timing Marks every 60.0 sec

Gamma Ray		
API		
0	75	150
150	225	300

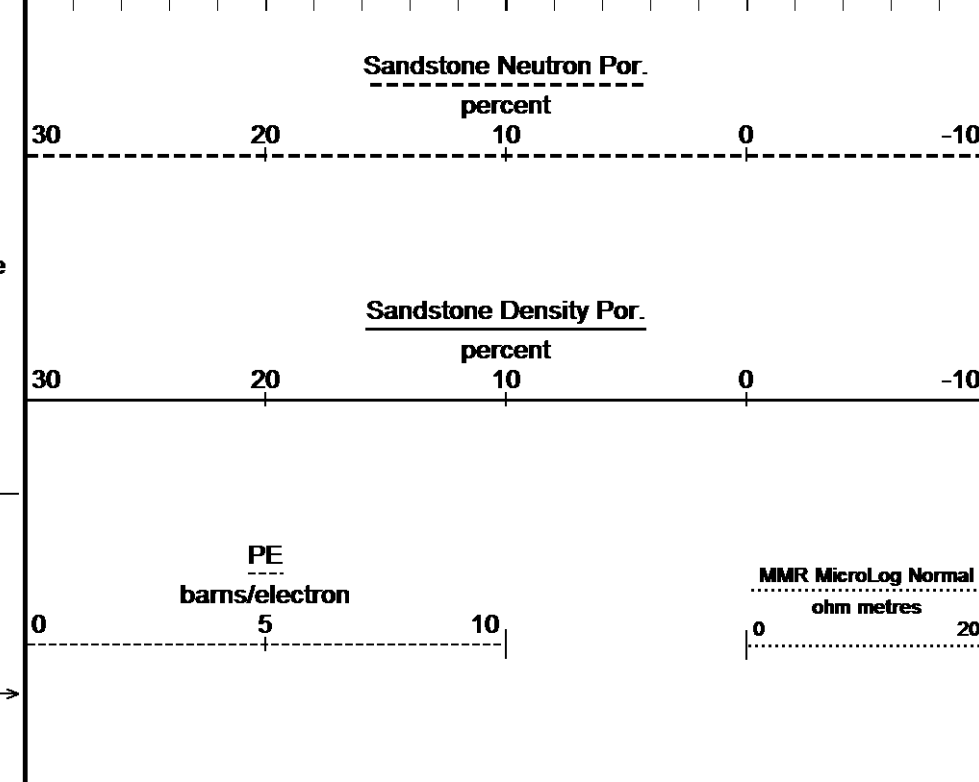
Density Caliper		
inches		
6	11	16

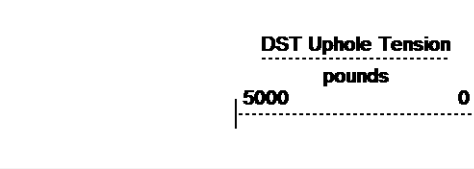
Bit Size		
inches		
6	11	16

Borehole Temp in deg F

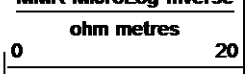
HVI every 10 cu ft

Annular Integral every 10 cu ft





Replay
Scale
1:240

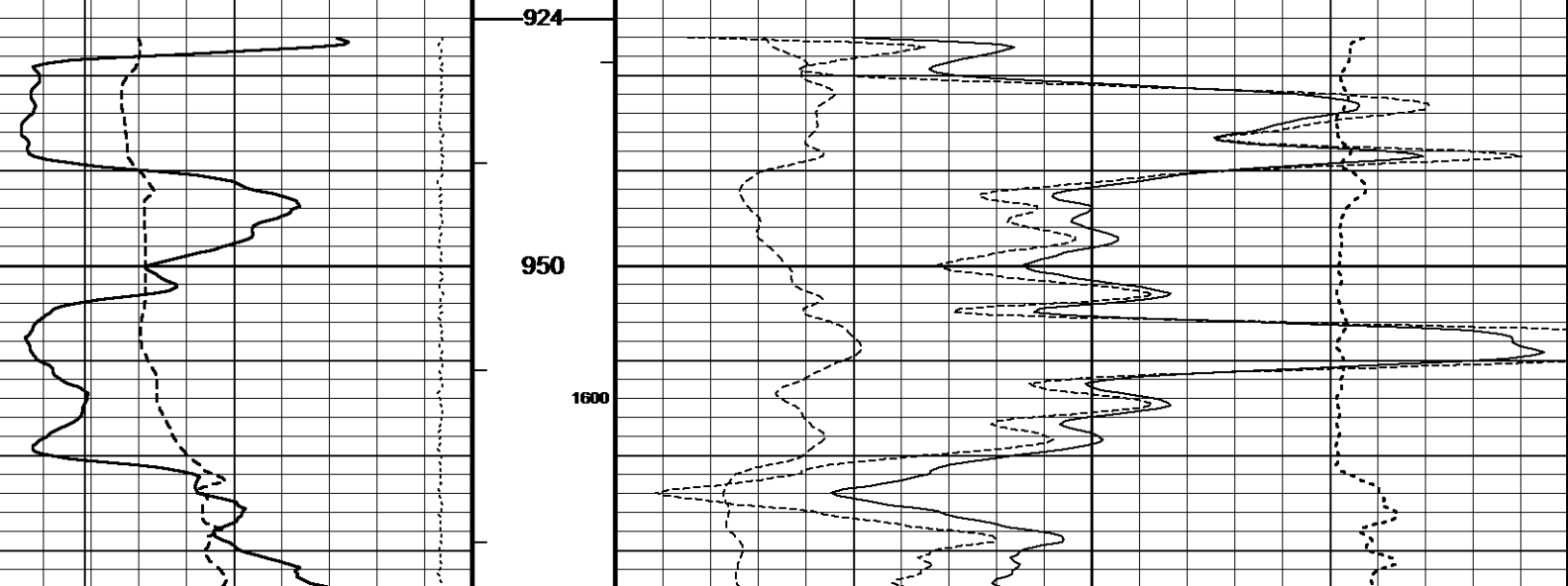
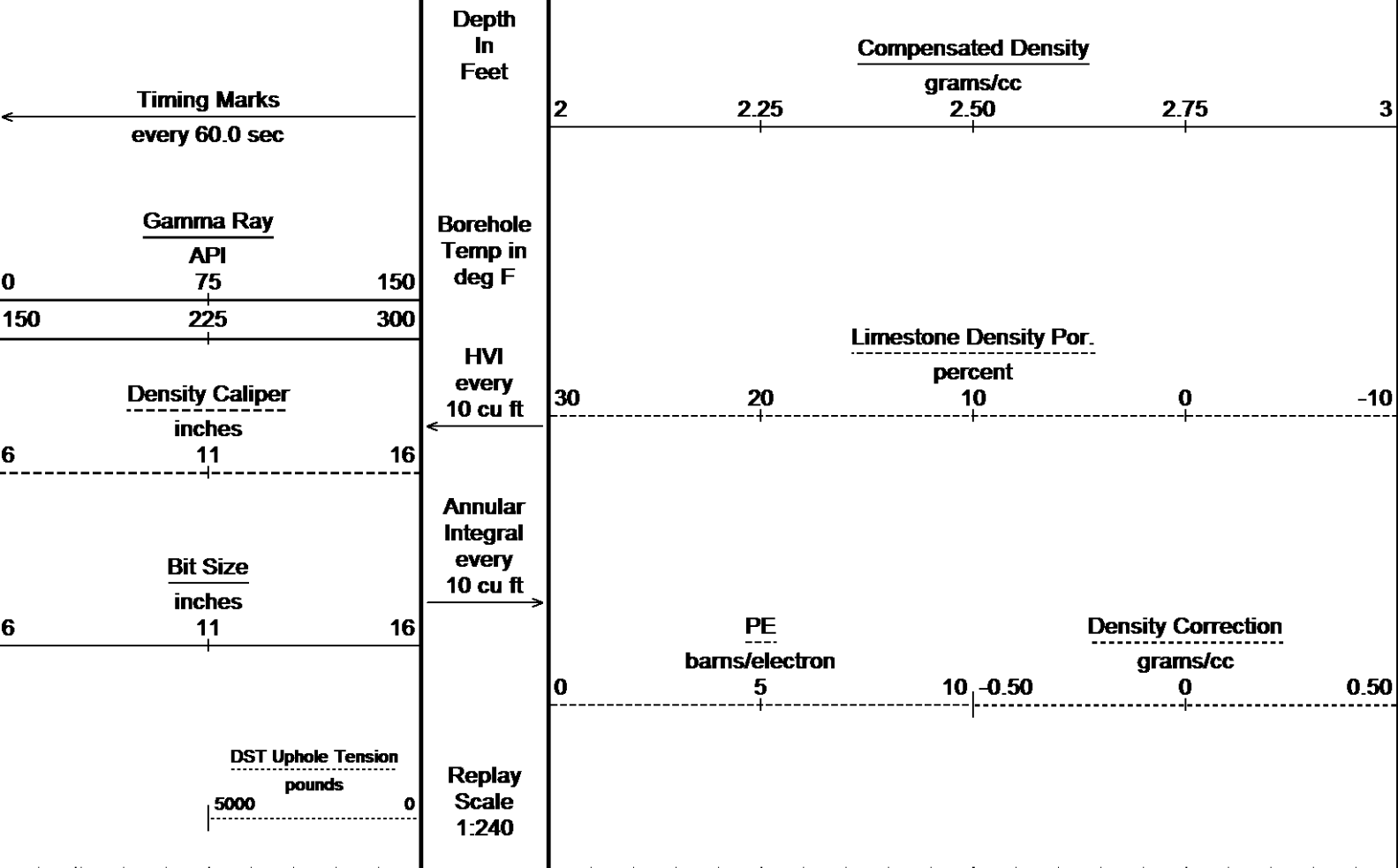


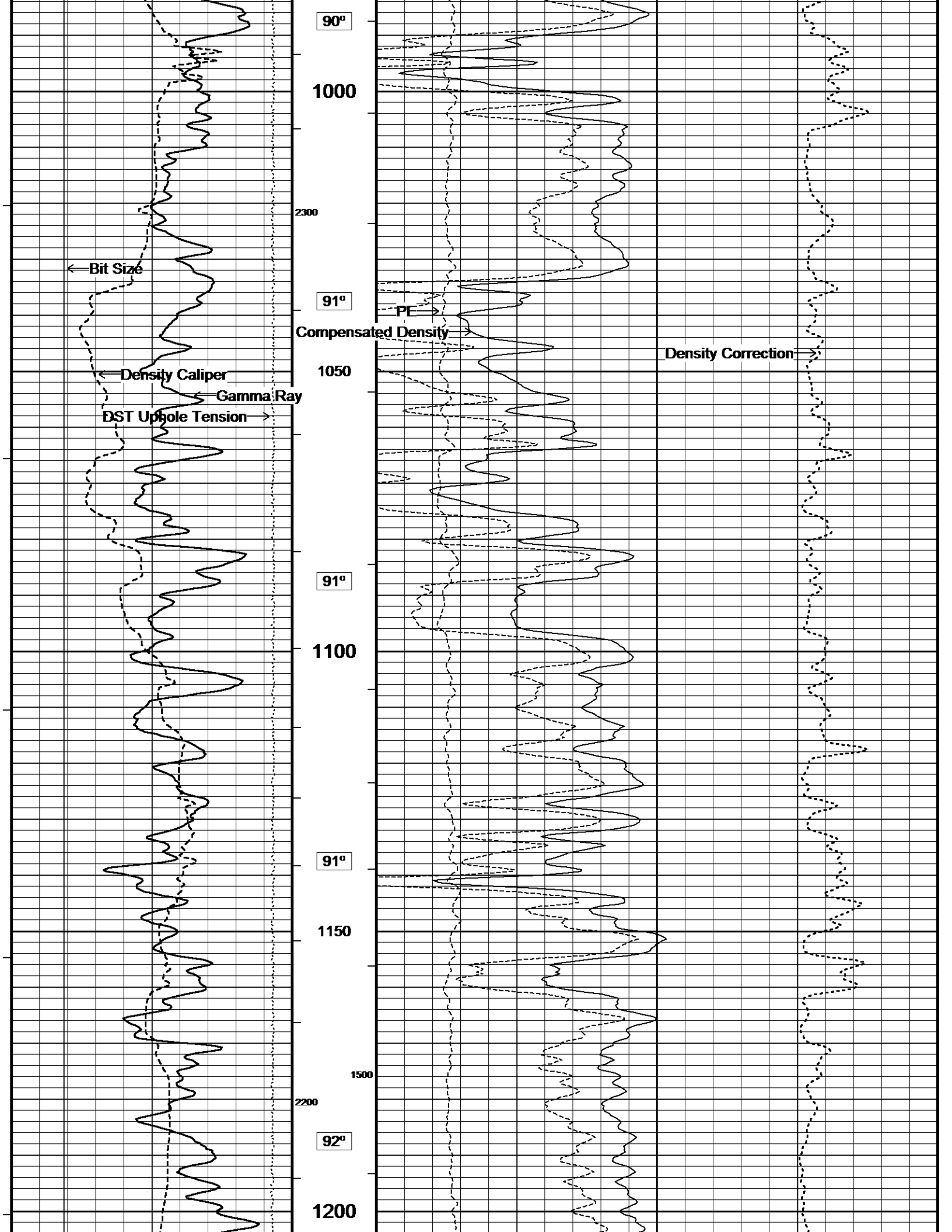
Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 09-JUL-2013 11:23
 Filename: C:\Job Data\Western\Fox #2-8\Western Operating Company FOX #2-8_002.dta
 Recorded on 08-JUL-2013 17:25
 System Versions: Logged with 13.05.9583 Processed with 13.05.9583 Plotted with 13.06.9804

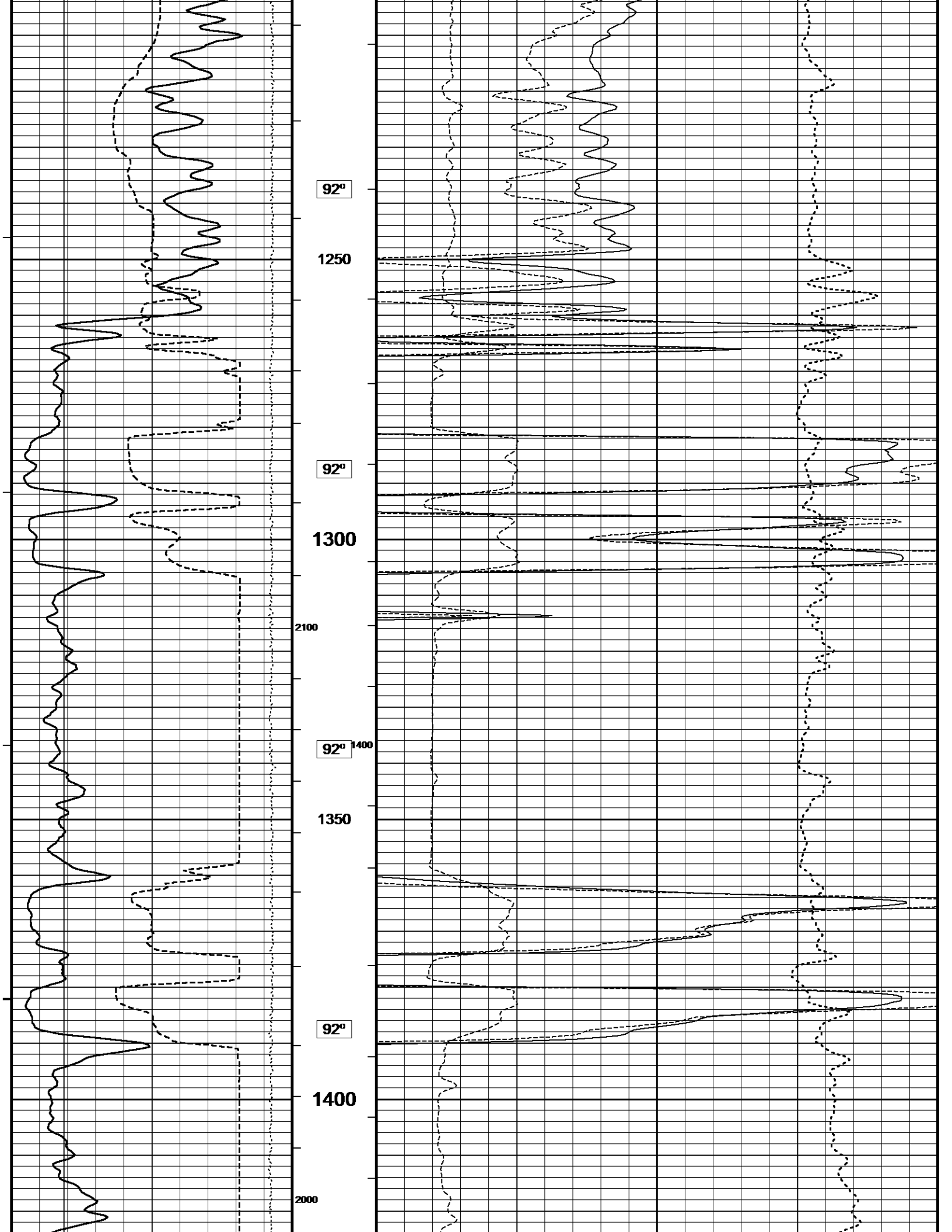
↑ REPEAT SECTION - SANDSTONE MATRIX ↑

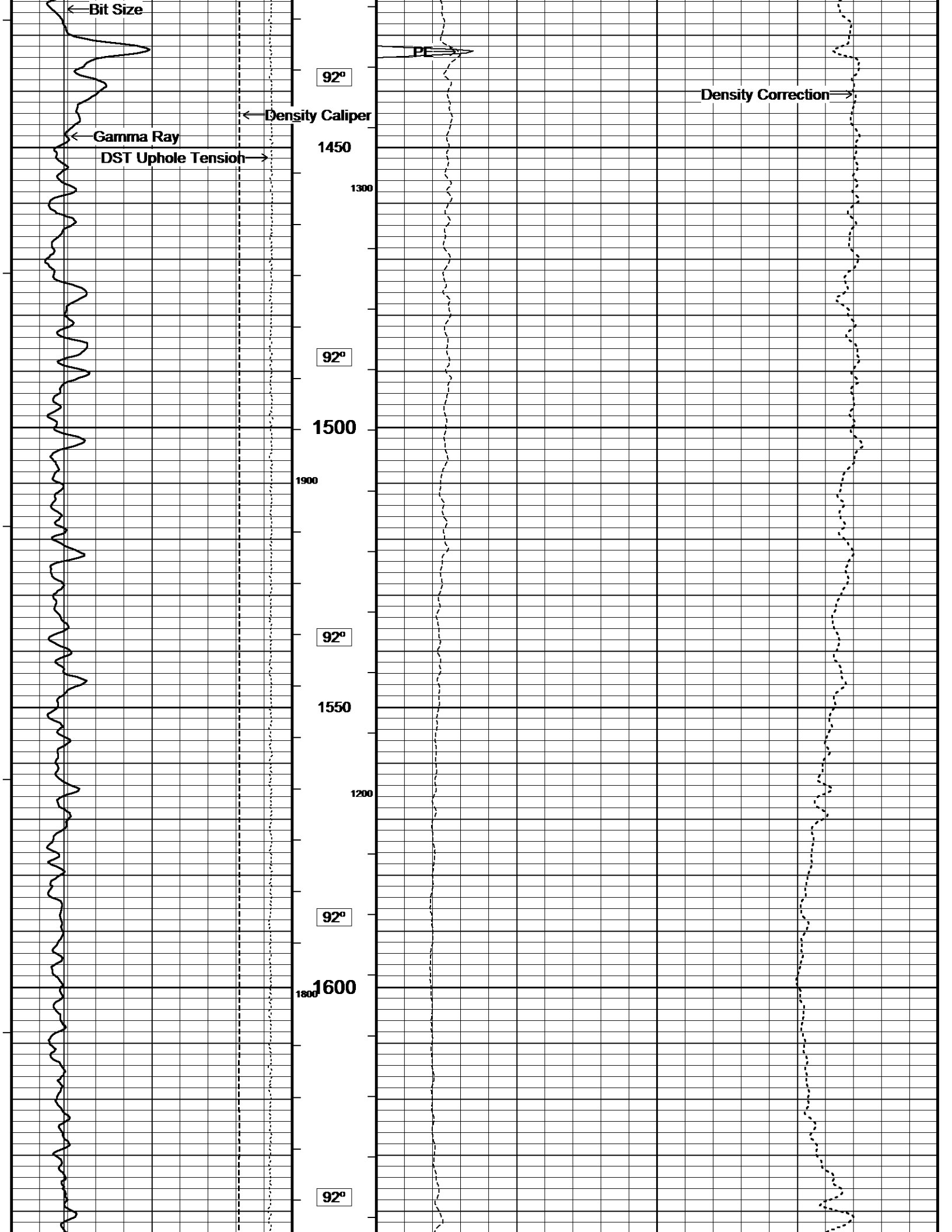
↓ 5 INCH MAIN - LIMESTONE MATRIX ↓

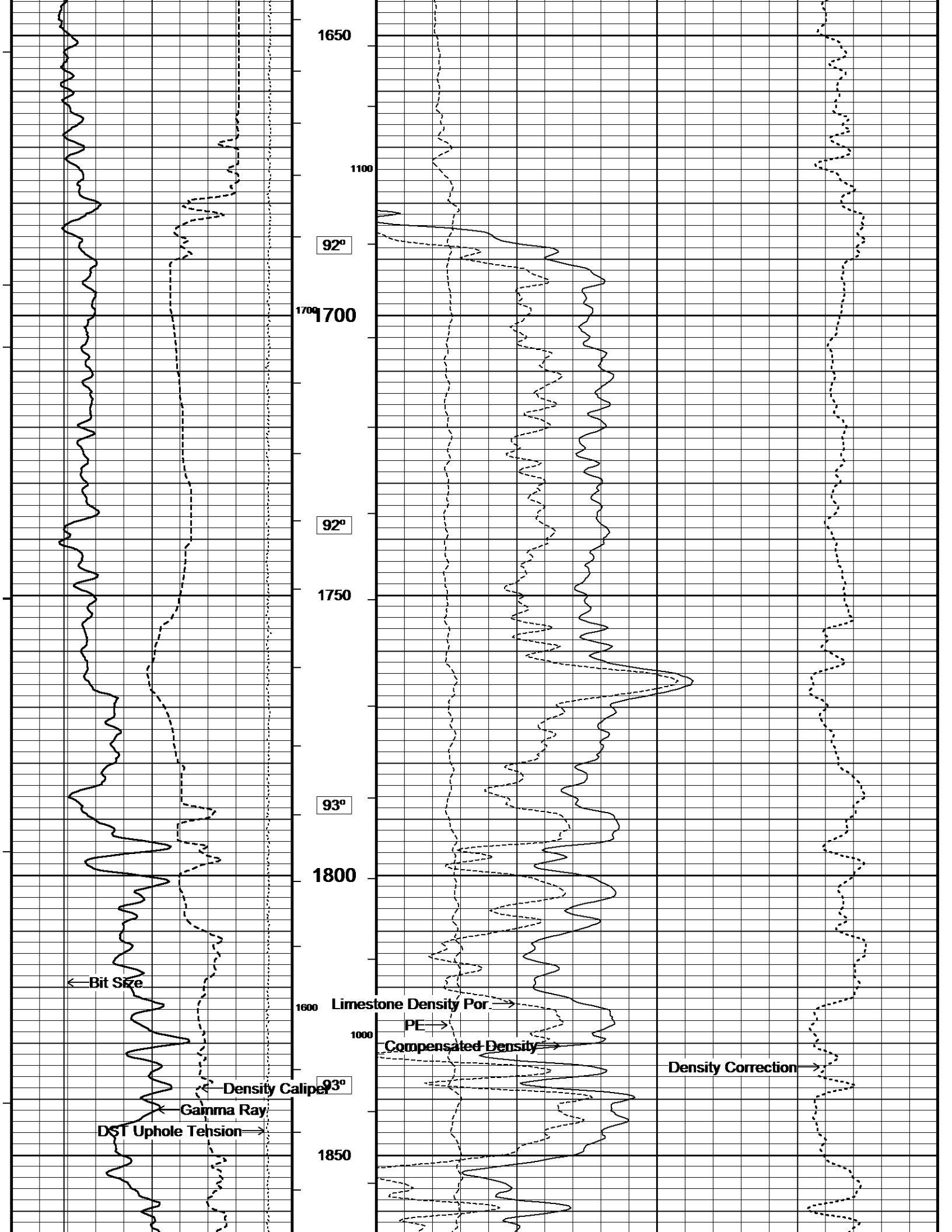
Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 09-JUL-2013 11:23
 Filename: C:\Job Data\Western\Fox #2-8\Western Operating Company FOX #2-8_003.dta
 Recorded on 08-JUL-2013 17:58
 System Versions: Logged with 13.05.9583 Processed with 13.05.9583 Plotted with 13.06.9804











1650

1100

92°

1700

92°

1750

93°

1800

1600

Limestone Density Por

PE

1000

Compensated Density

93°

Density Correction

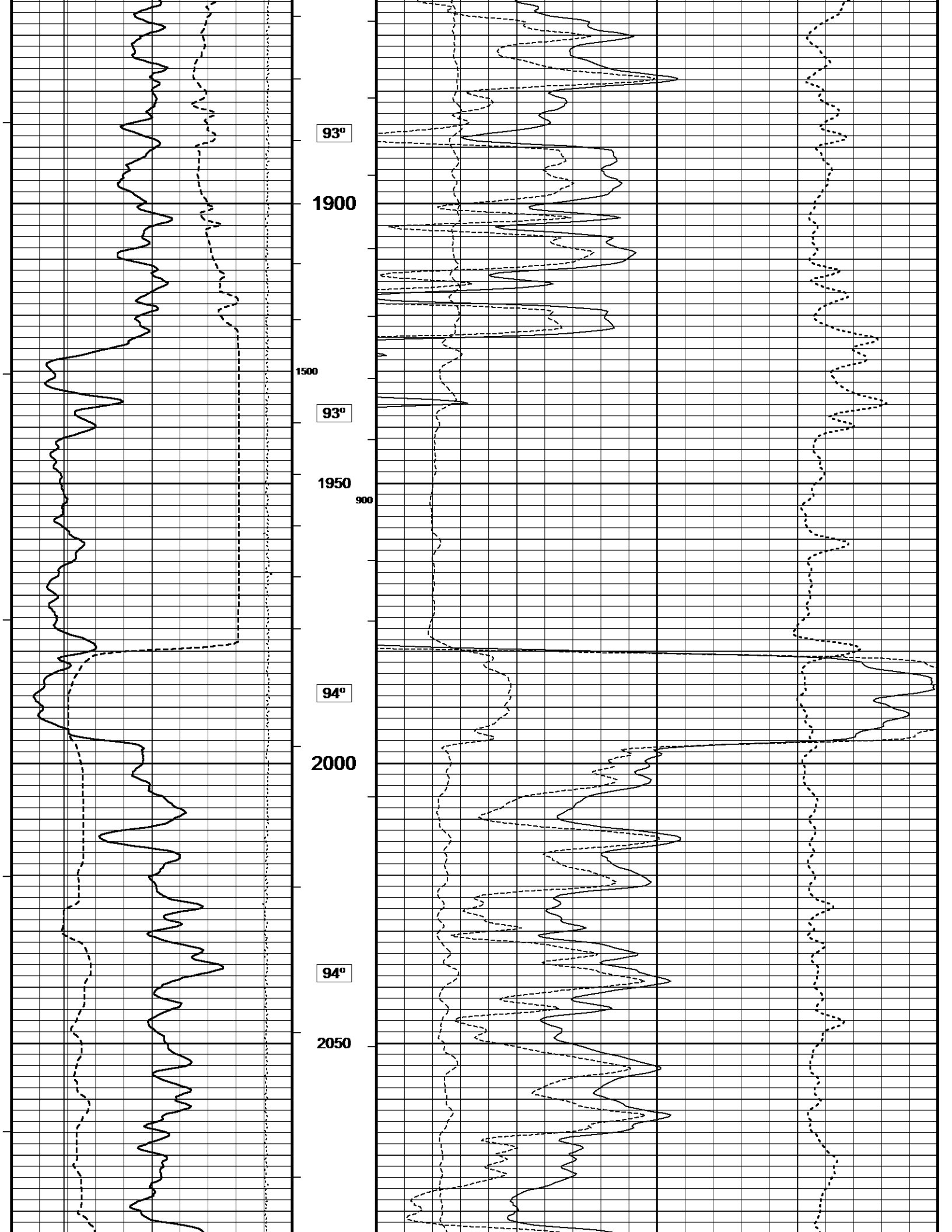
1850

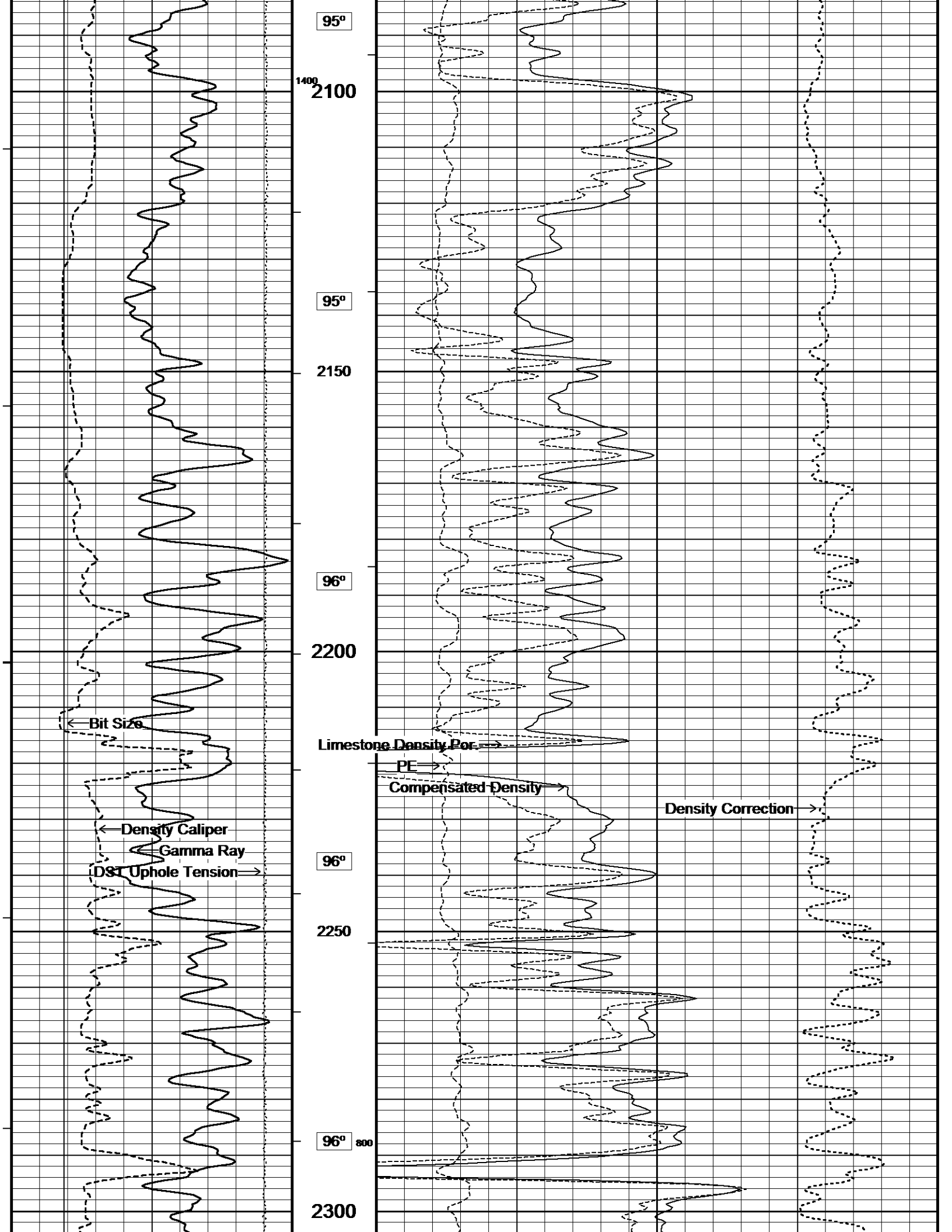
Bit Size

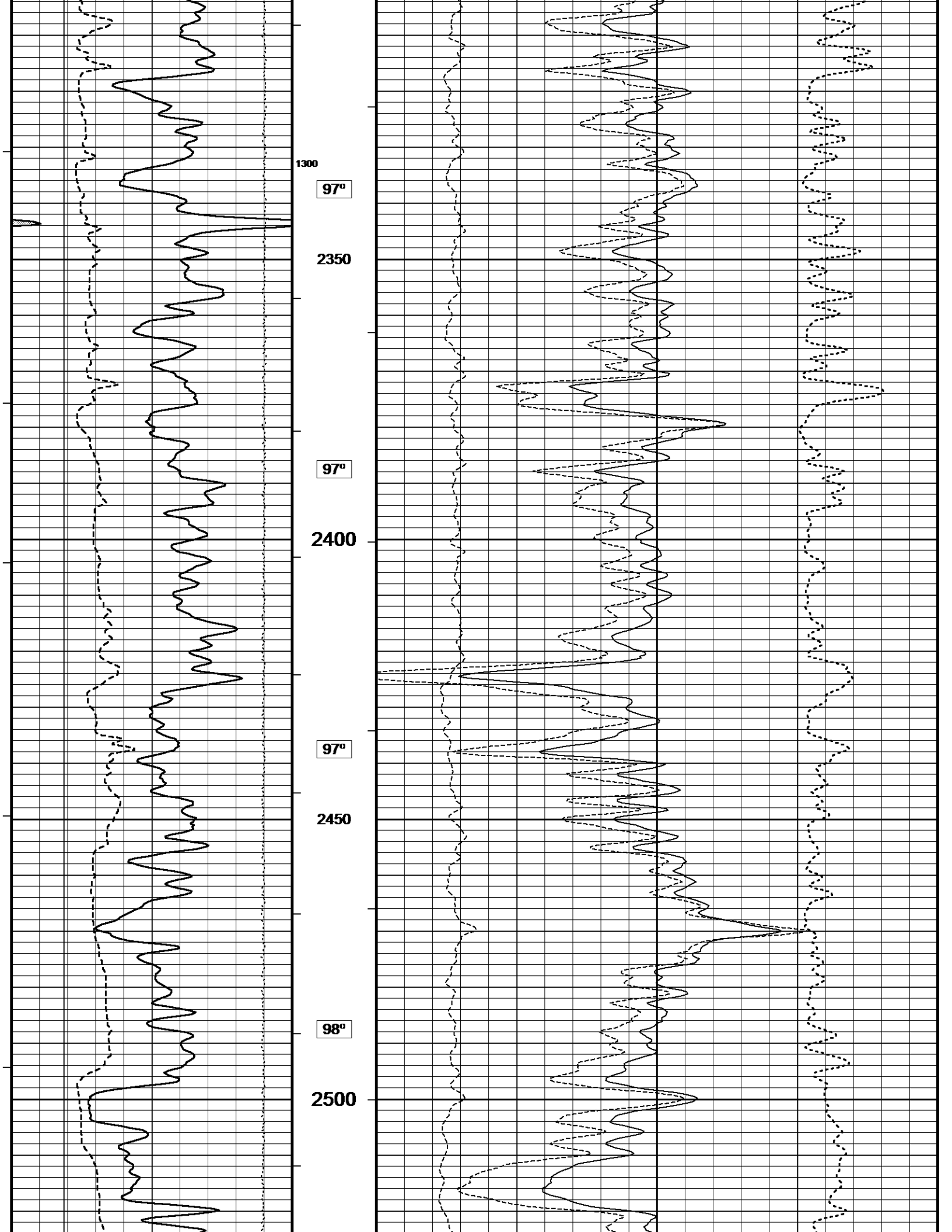
Density Caliper

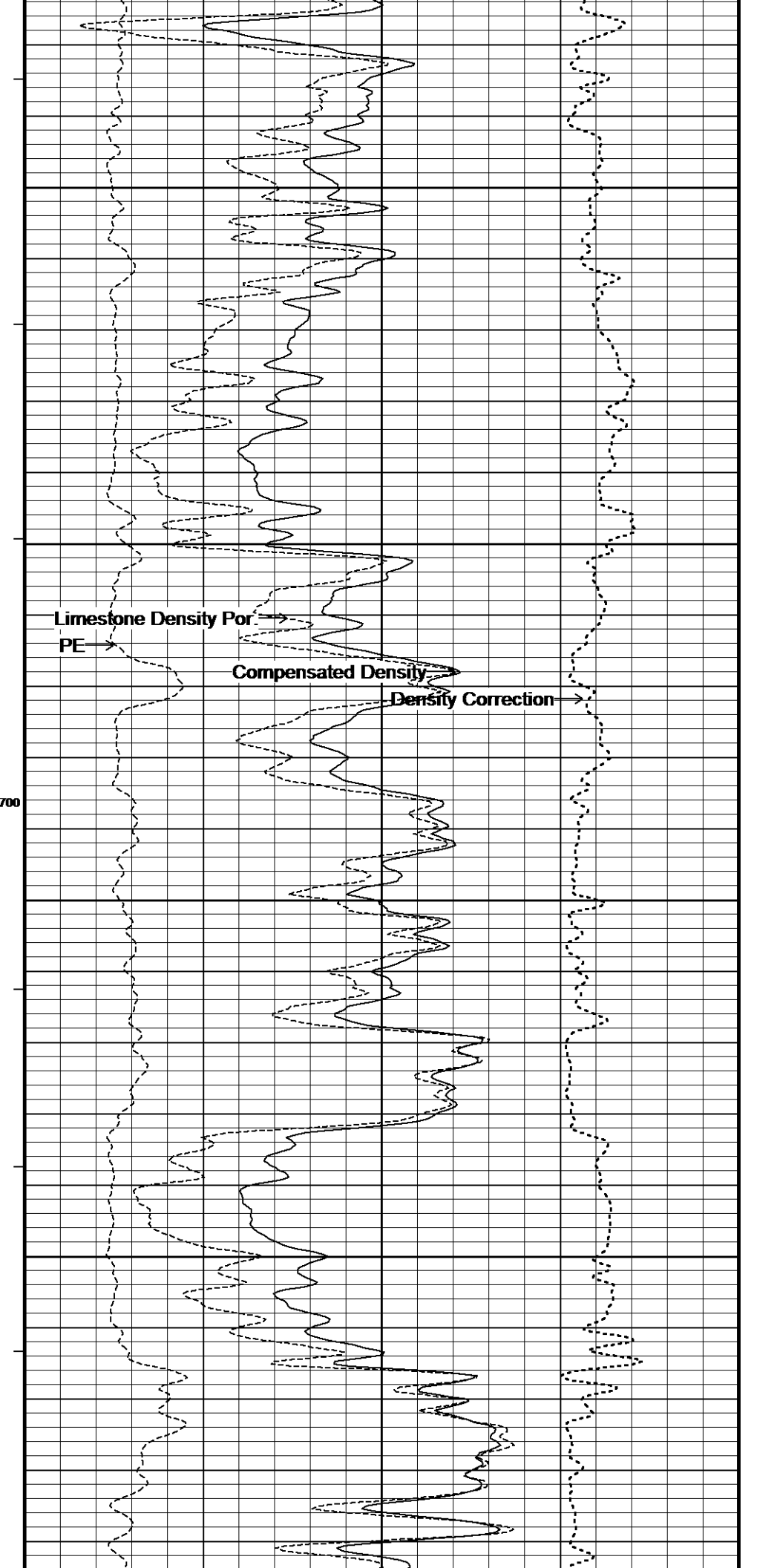
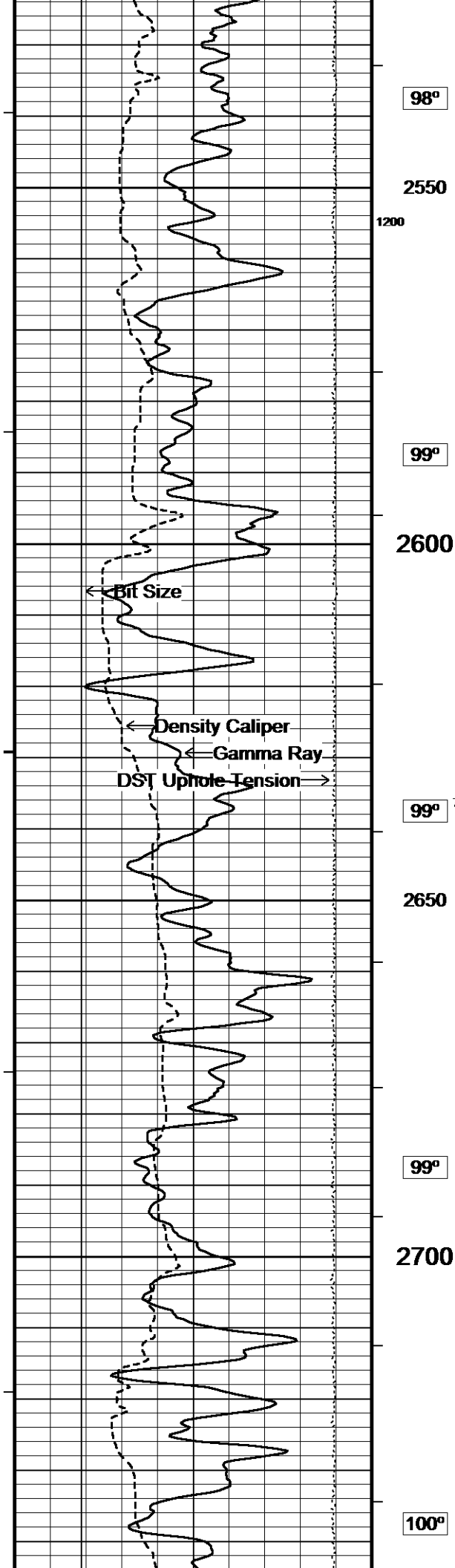
Gamma Ray

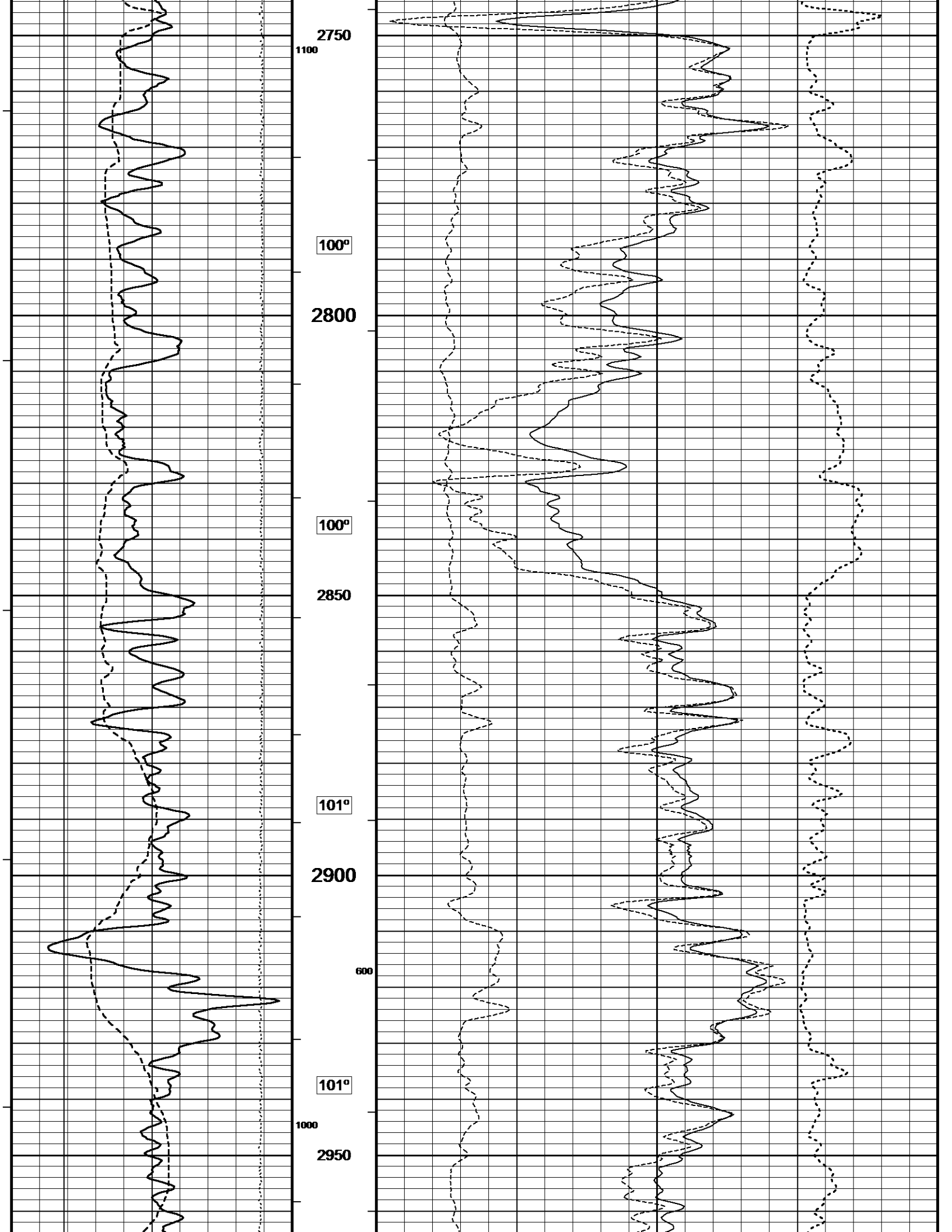
DST Uphole Tension

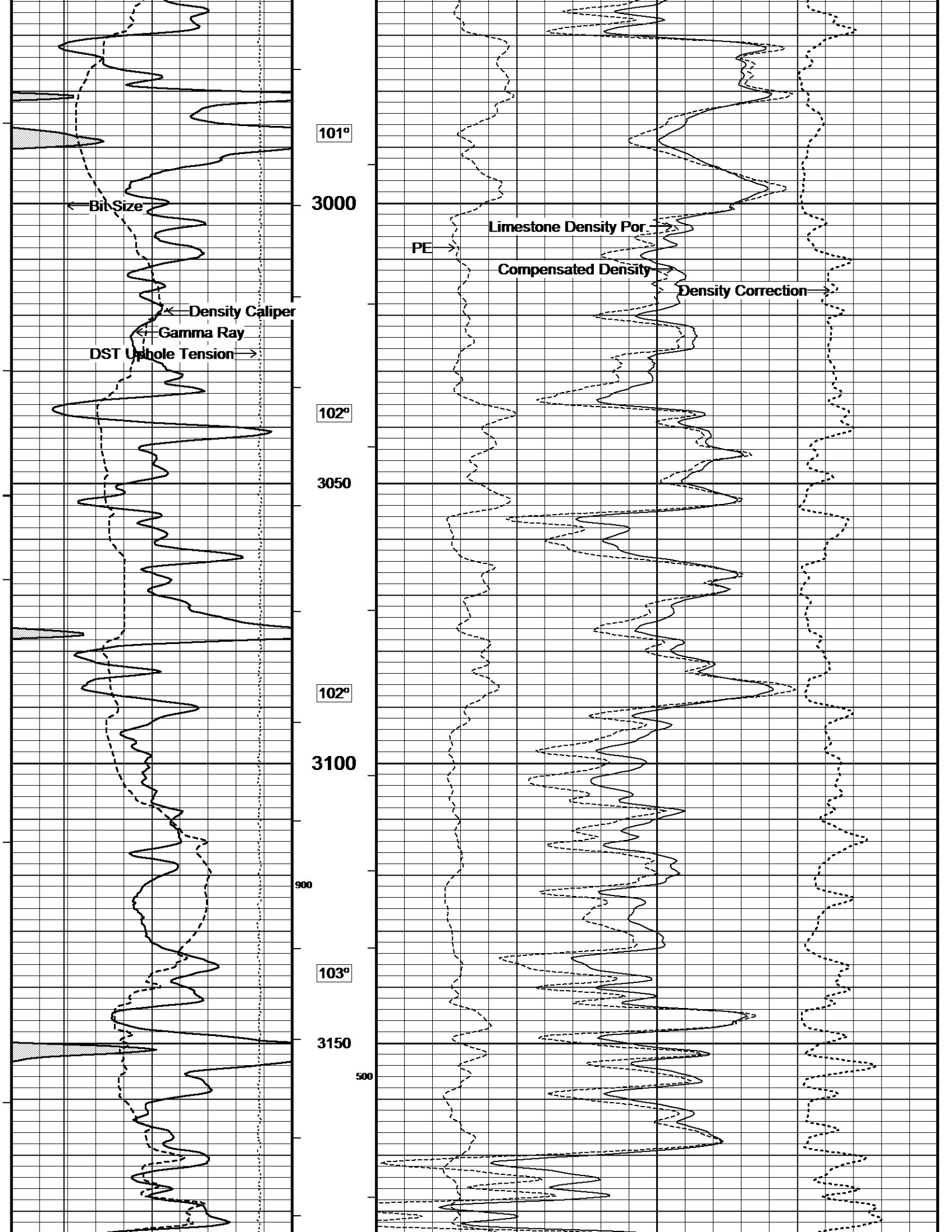


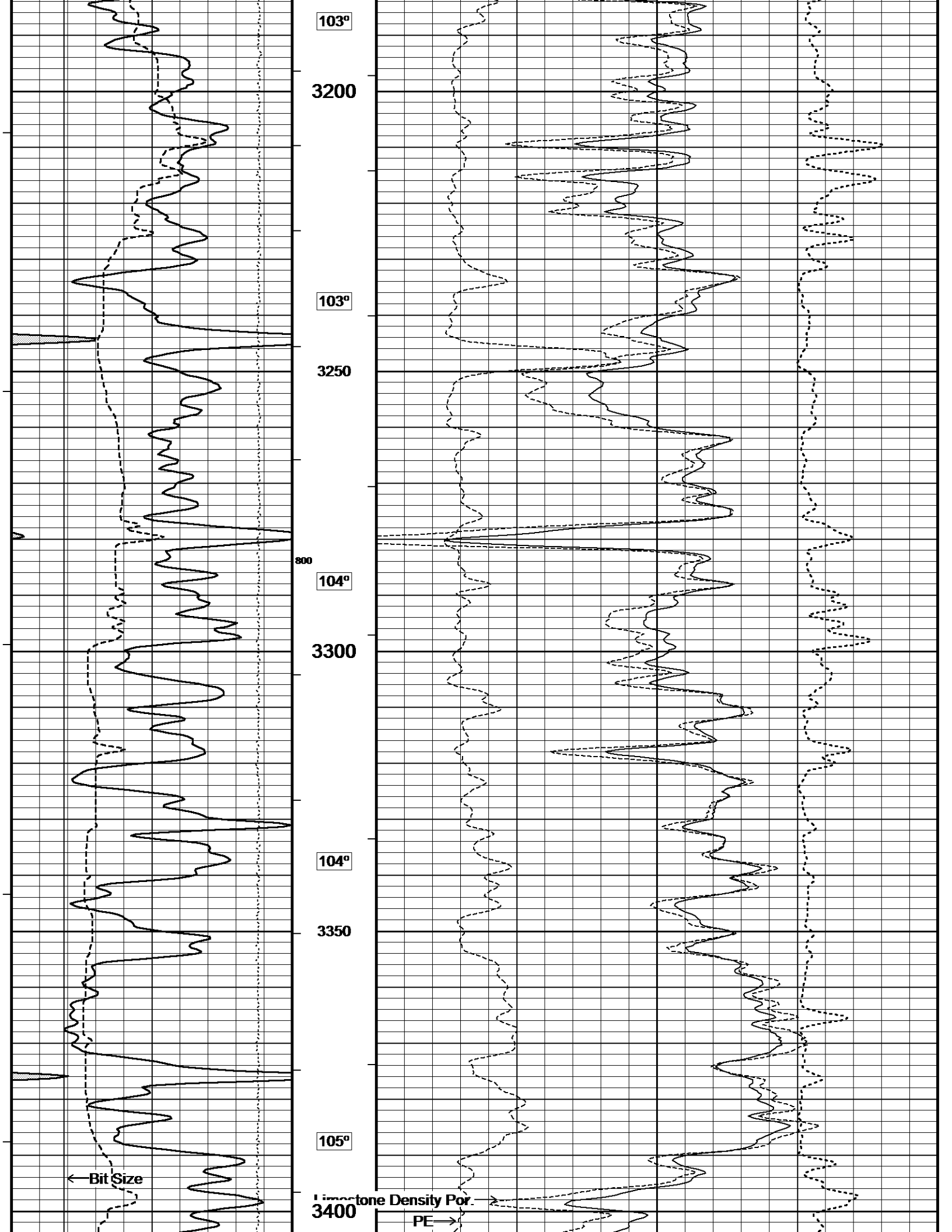


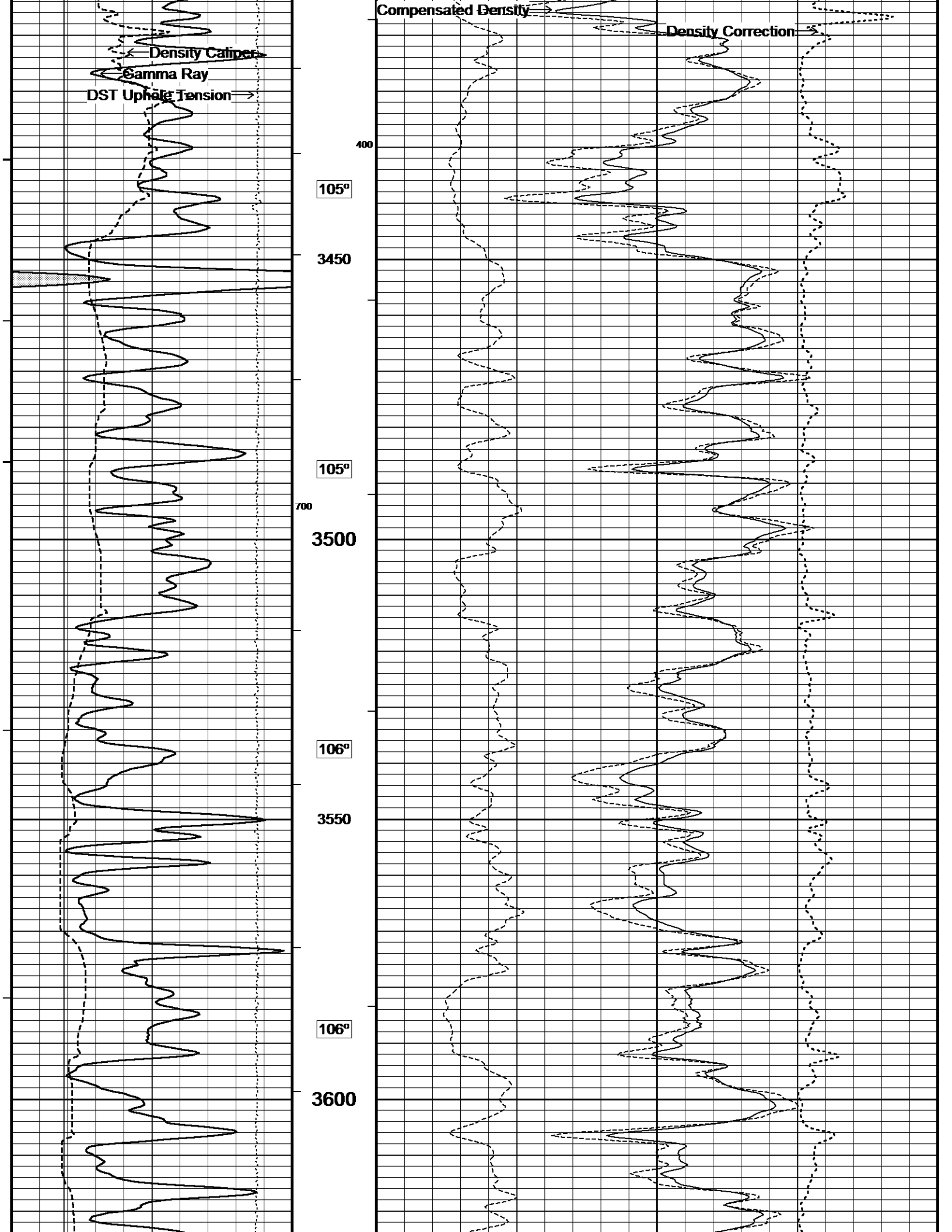


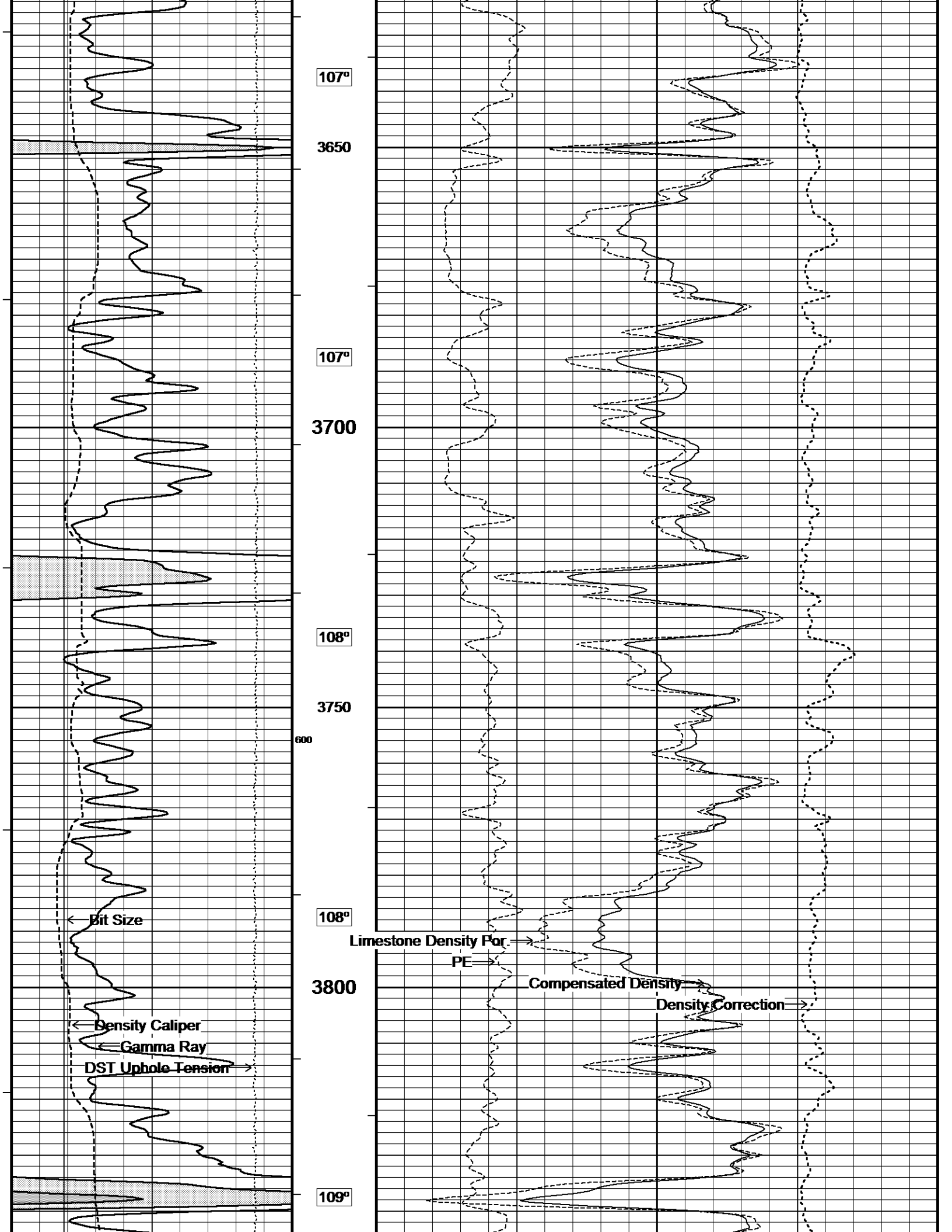


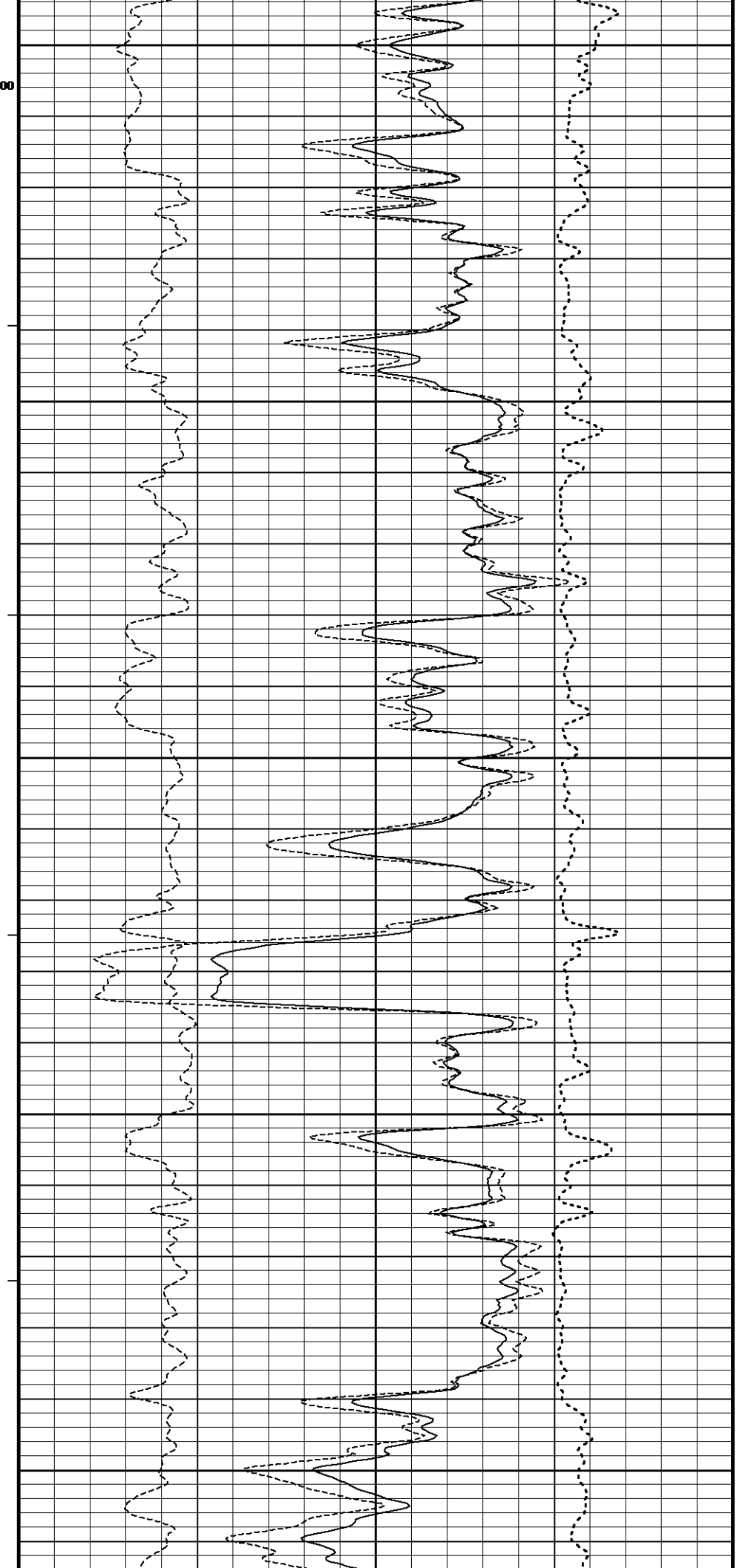
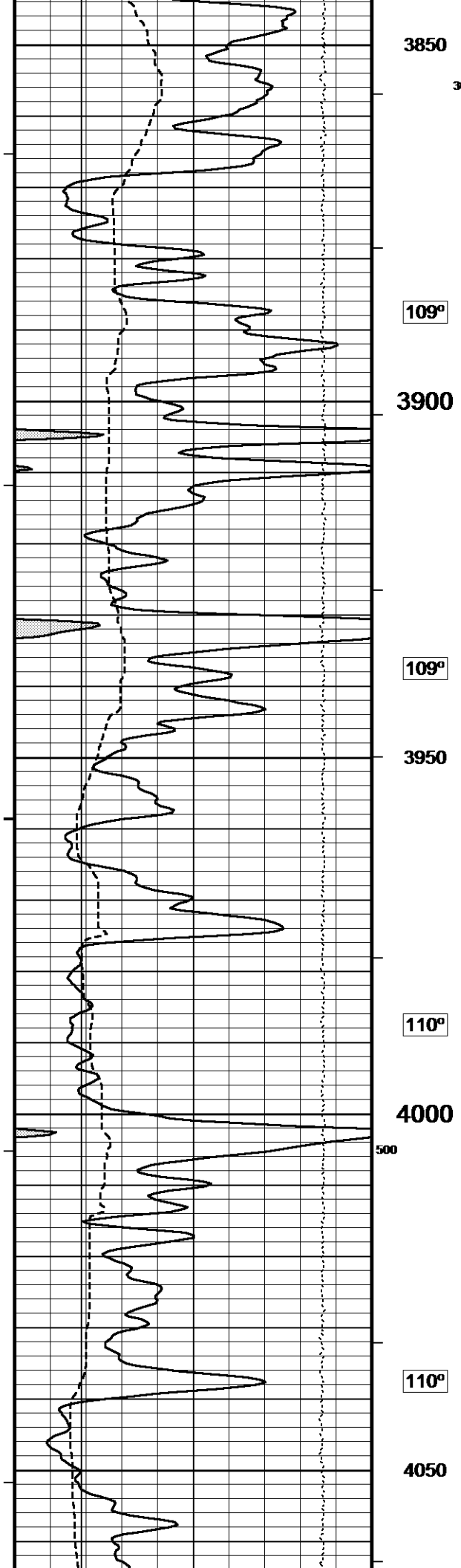


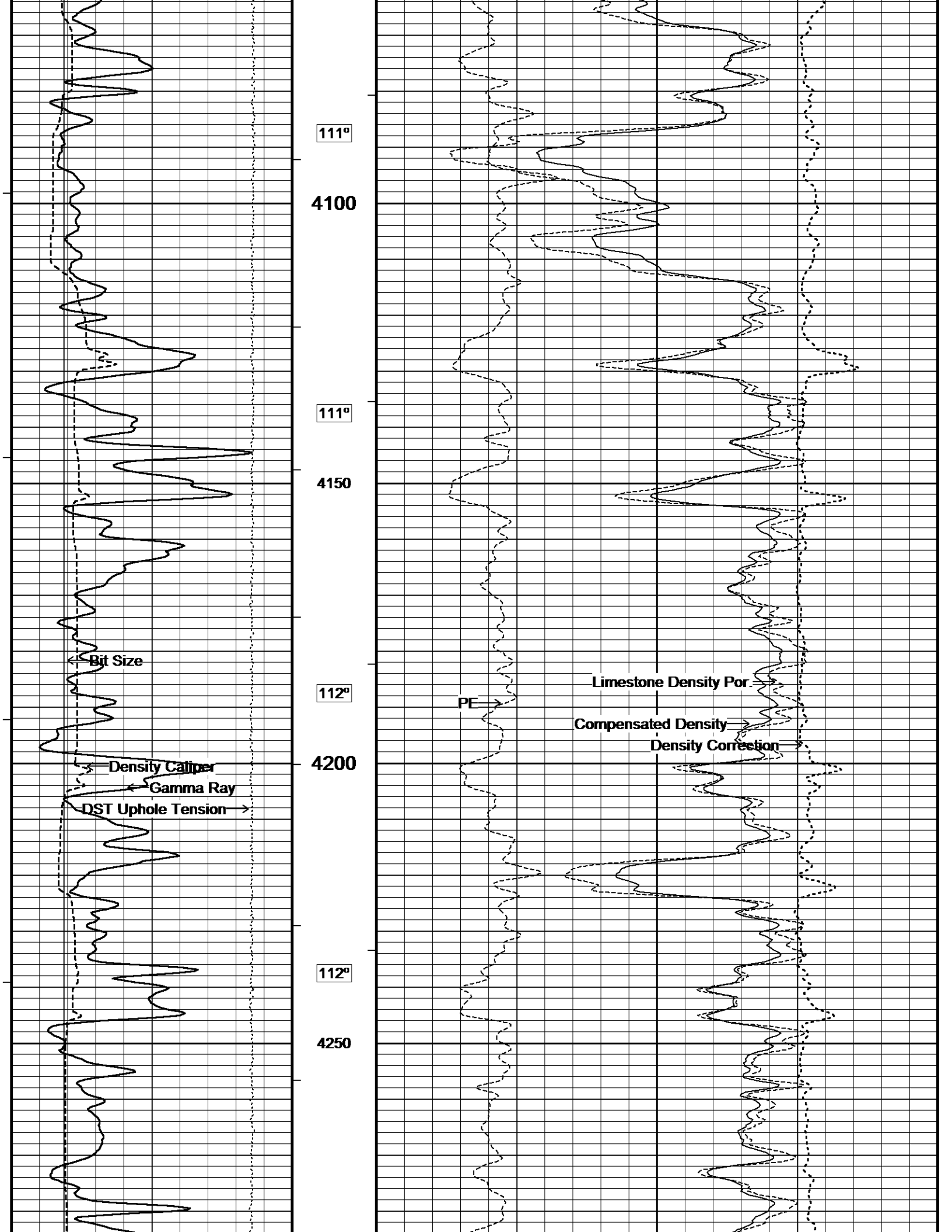


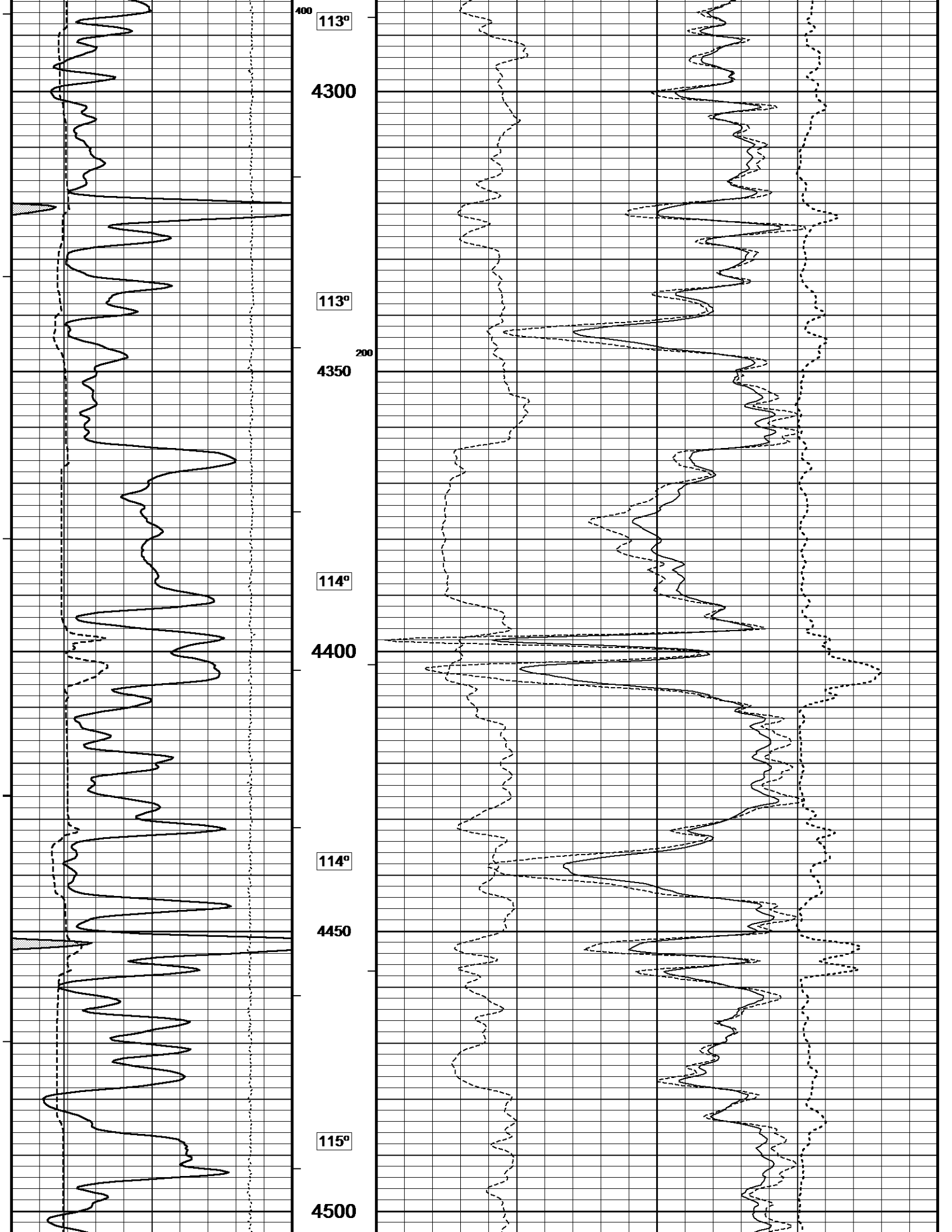


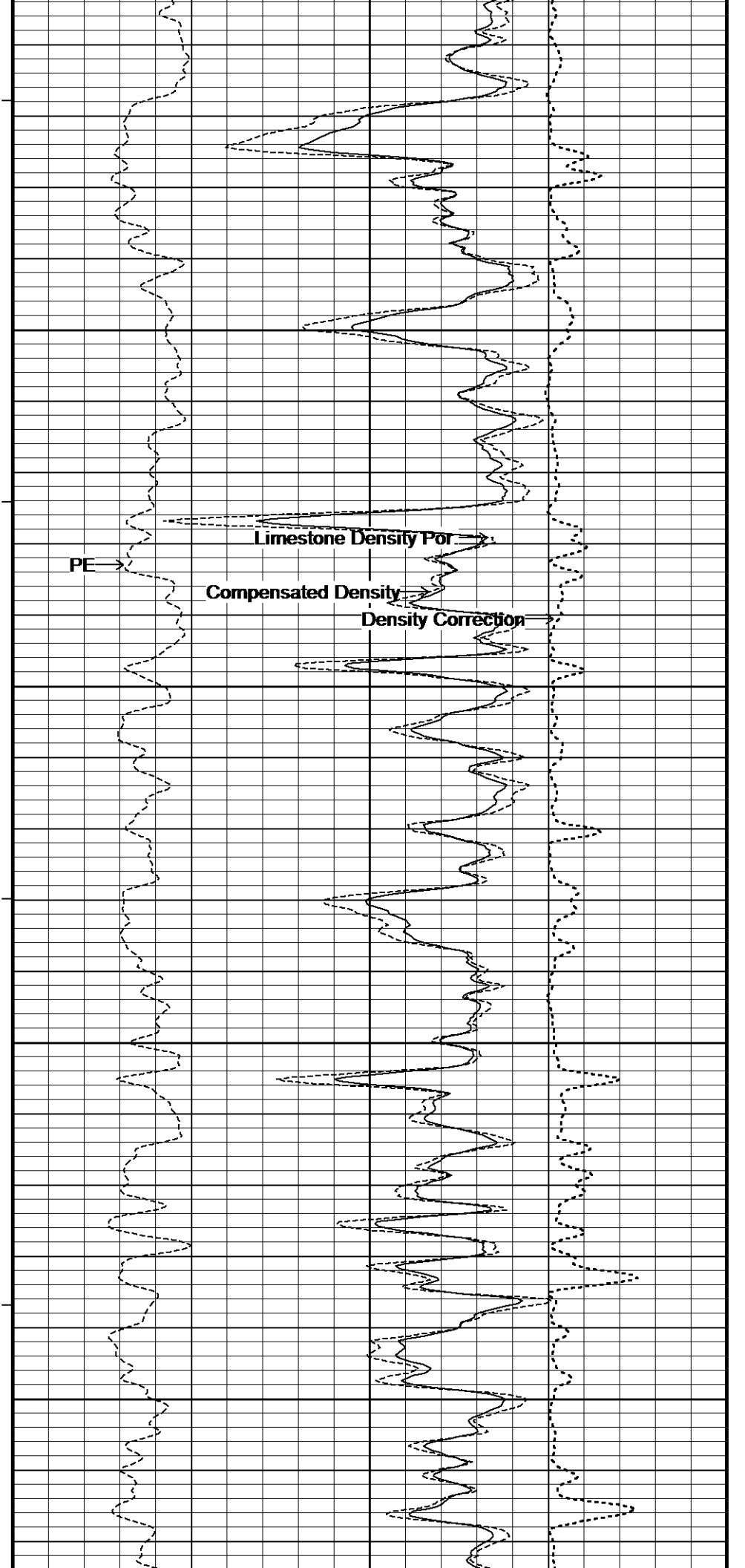
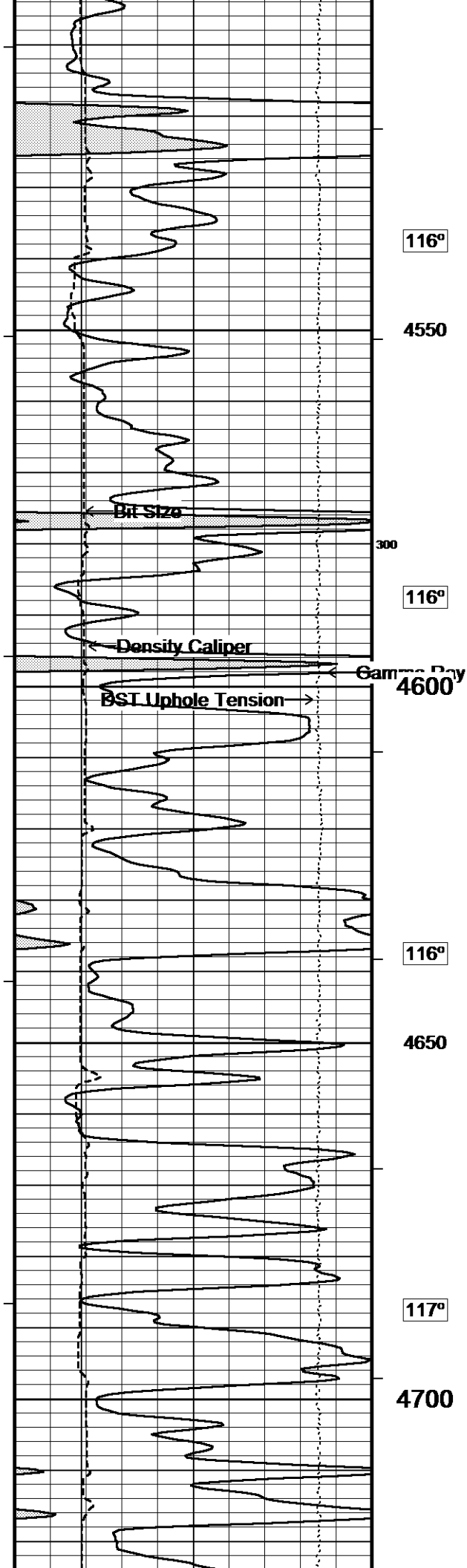


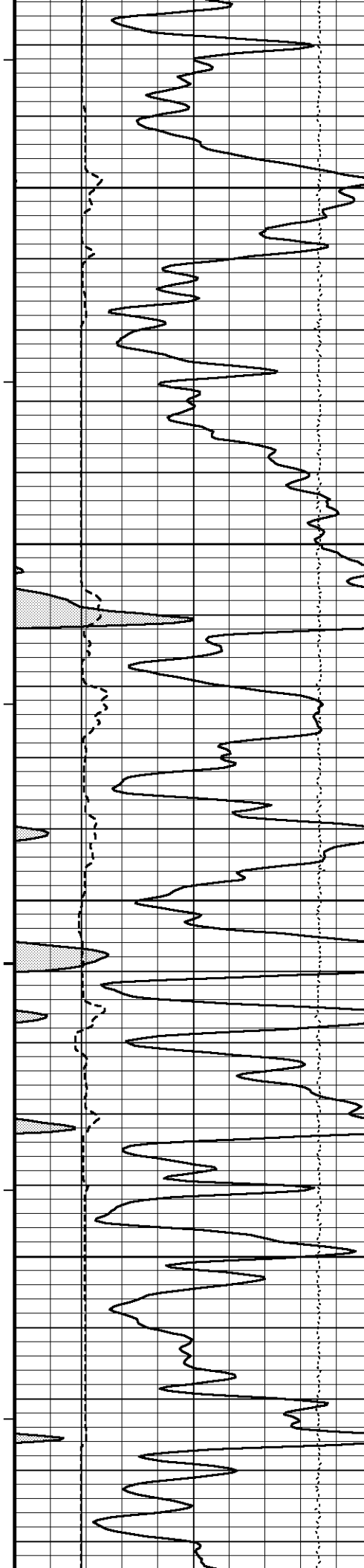




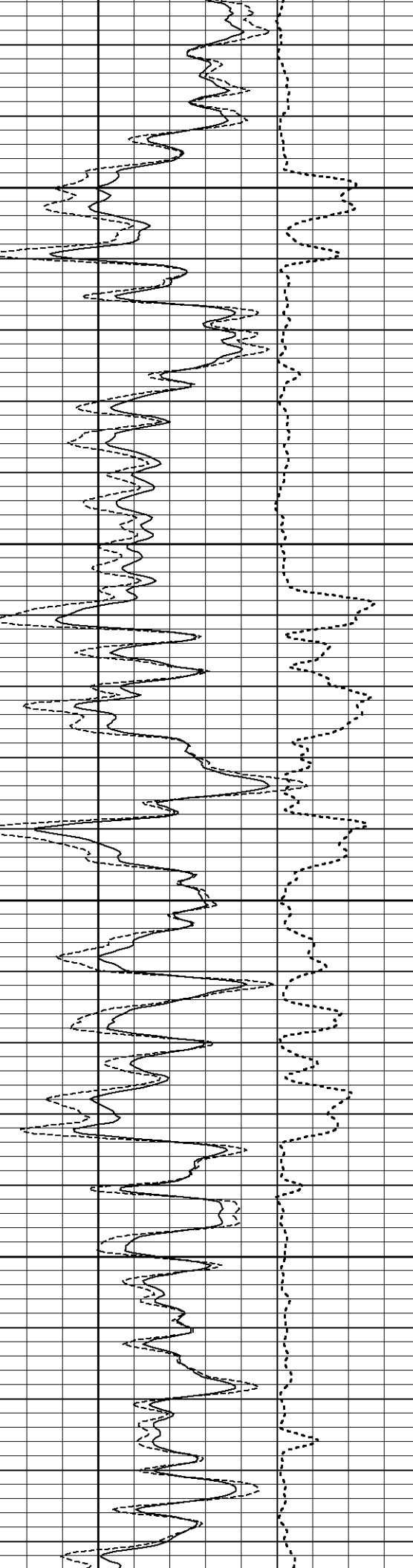
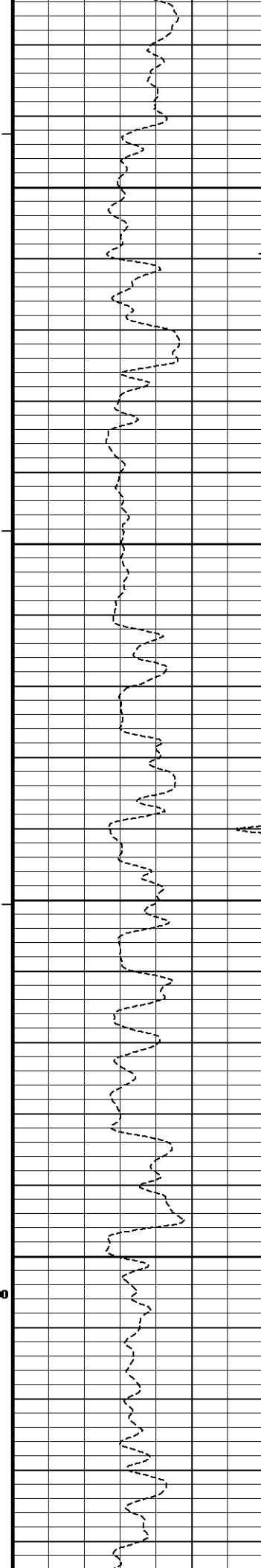


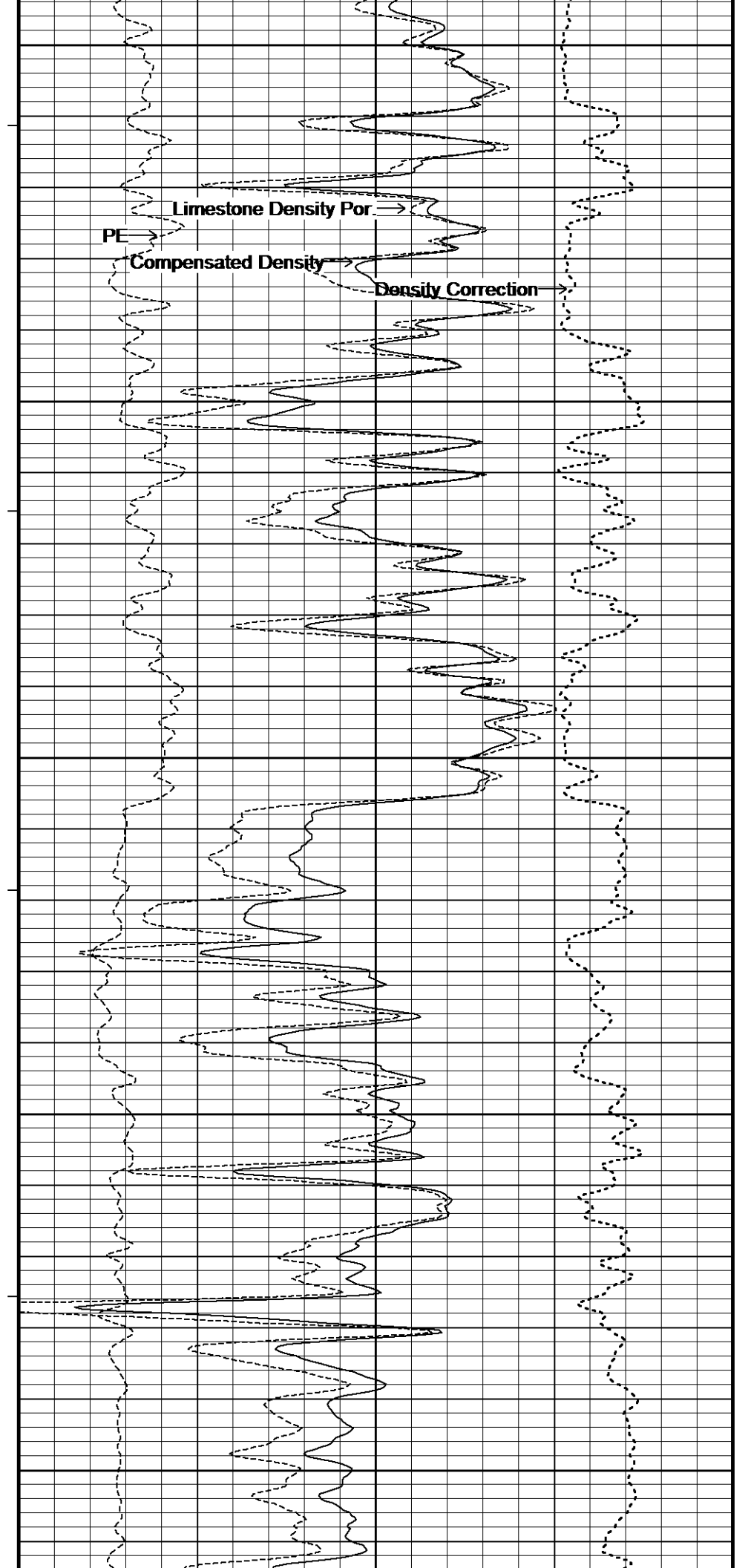
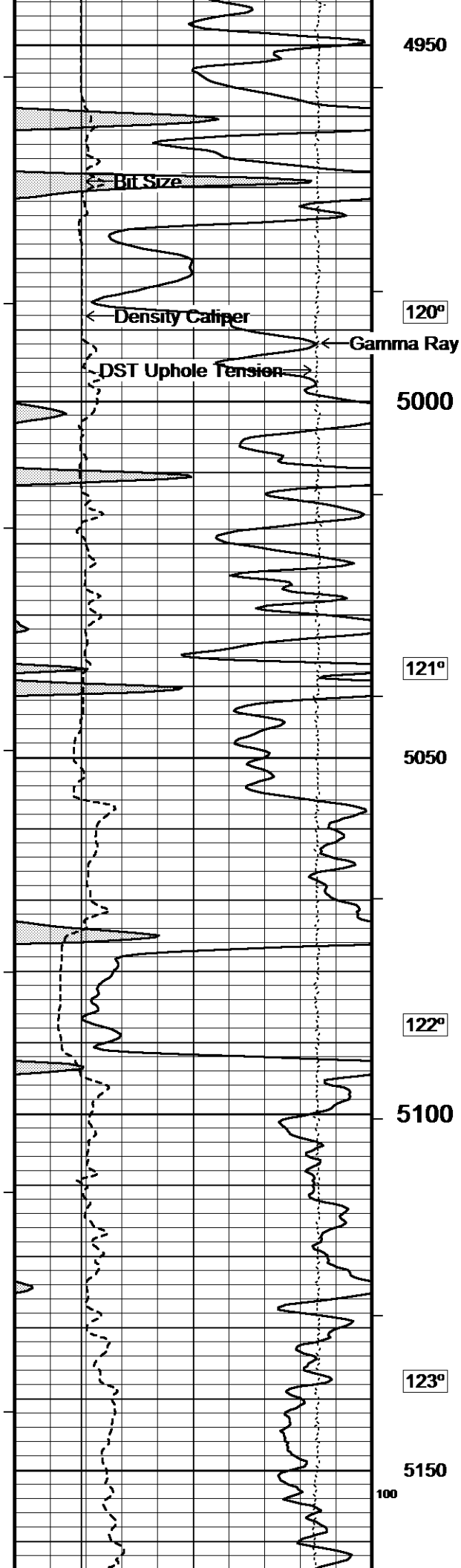


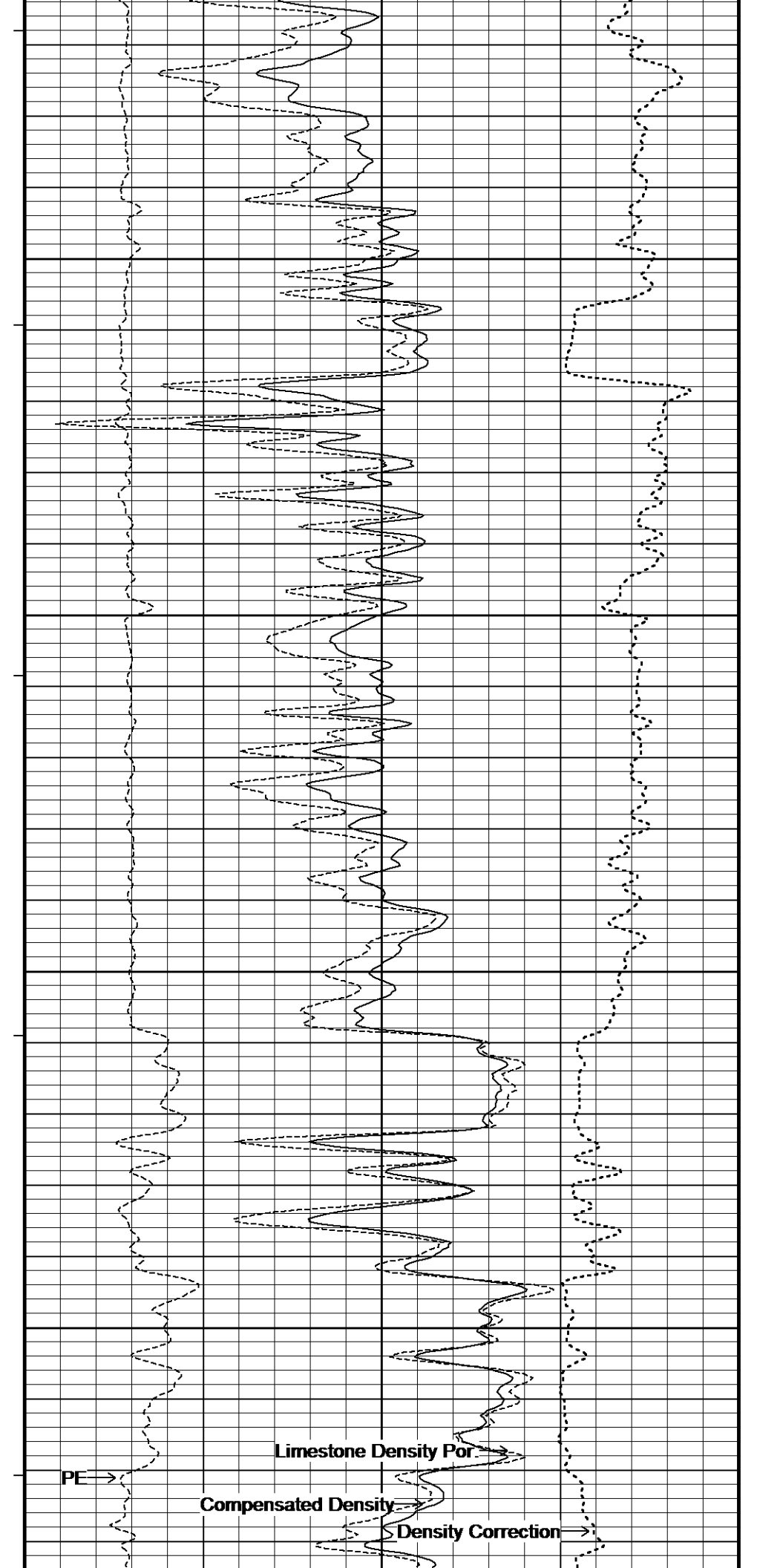
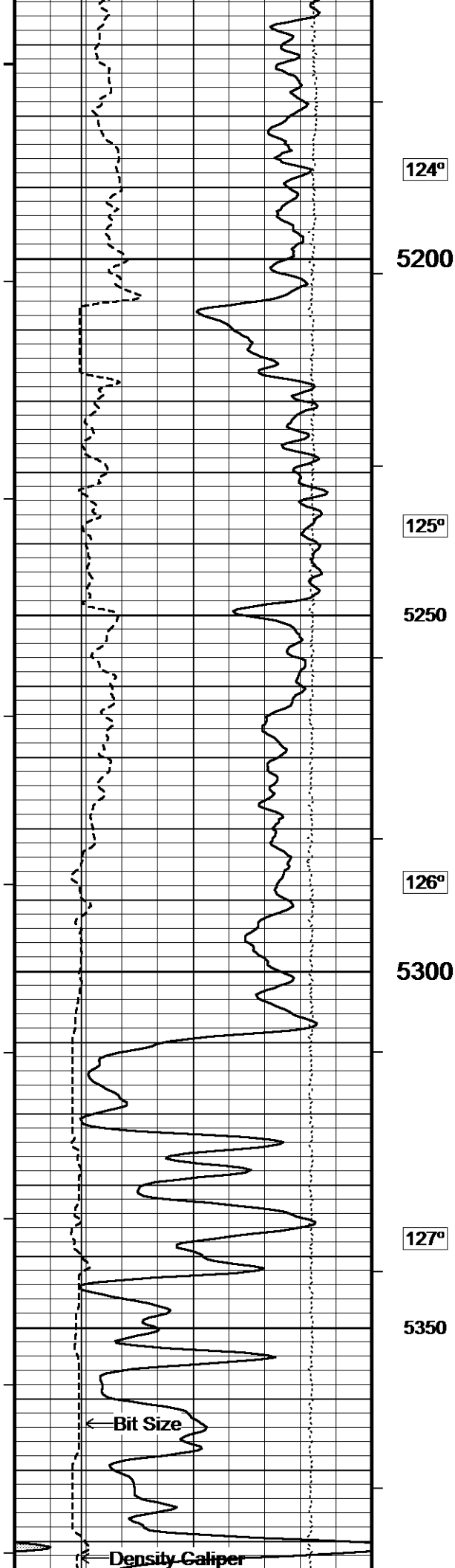


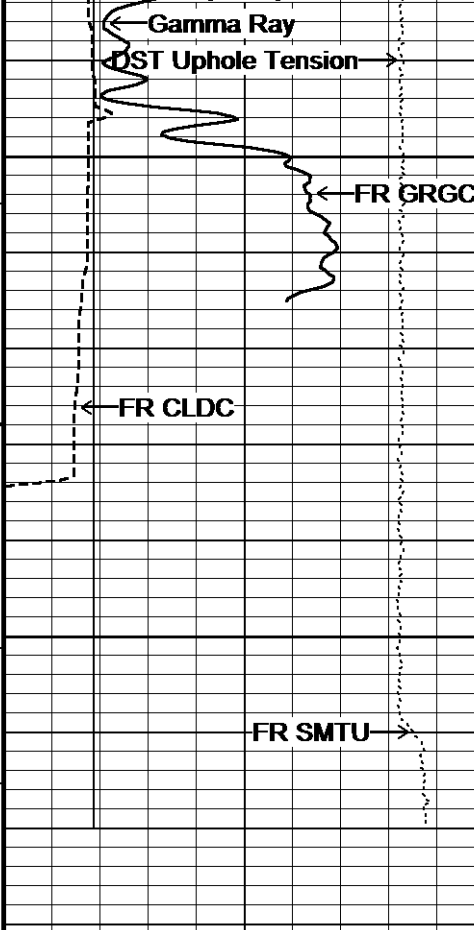


118°
4750
118°
4800
119°
4850
200
119°
4900
100
120°









127°

5400

5450

5480

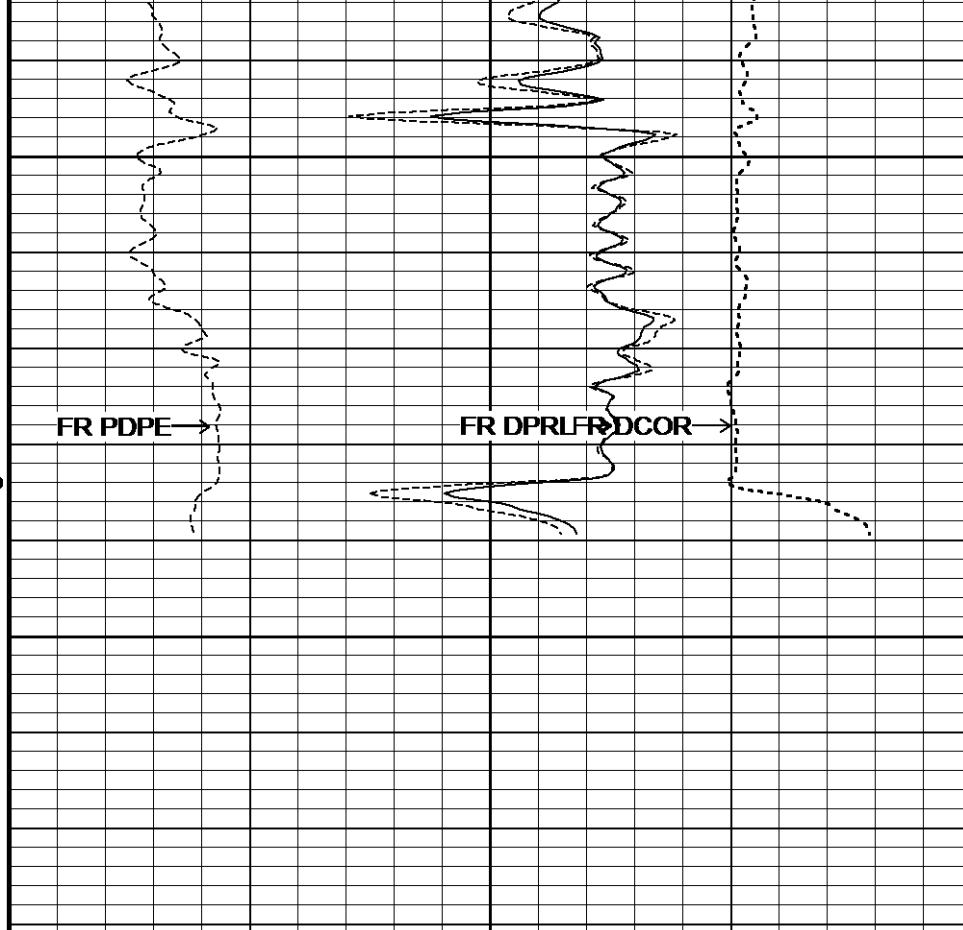
Depth
In
Feet

Borehole
Temp in
deg F

HVI
every
10 cu ft

Annular
Integral
every
10 cu ft

Replay
Scale
1:240



Timing Marks
every 60.0 sec

Gamma Ray	
API	
0	150
75	
150	225
225	300

Density Caliper	
inches	
6	16
11	

Bit Size	
inches	
6	16
11	

DST Uphole Tension	
pounds	
5000	0

Compensated Density
grams/cc

2 2.25 2.50 2.75 3

Limestone Density Por.
percent

30 20 10 0 -10

PE Density Correction
barns/electron grams/cc

0 5 10 -0.50 0 0.50



REPEAT SECTION



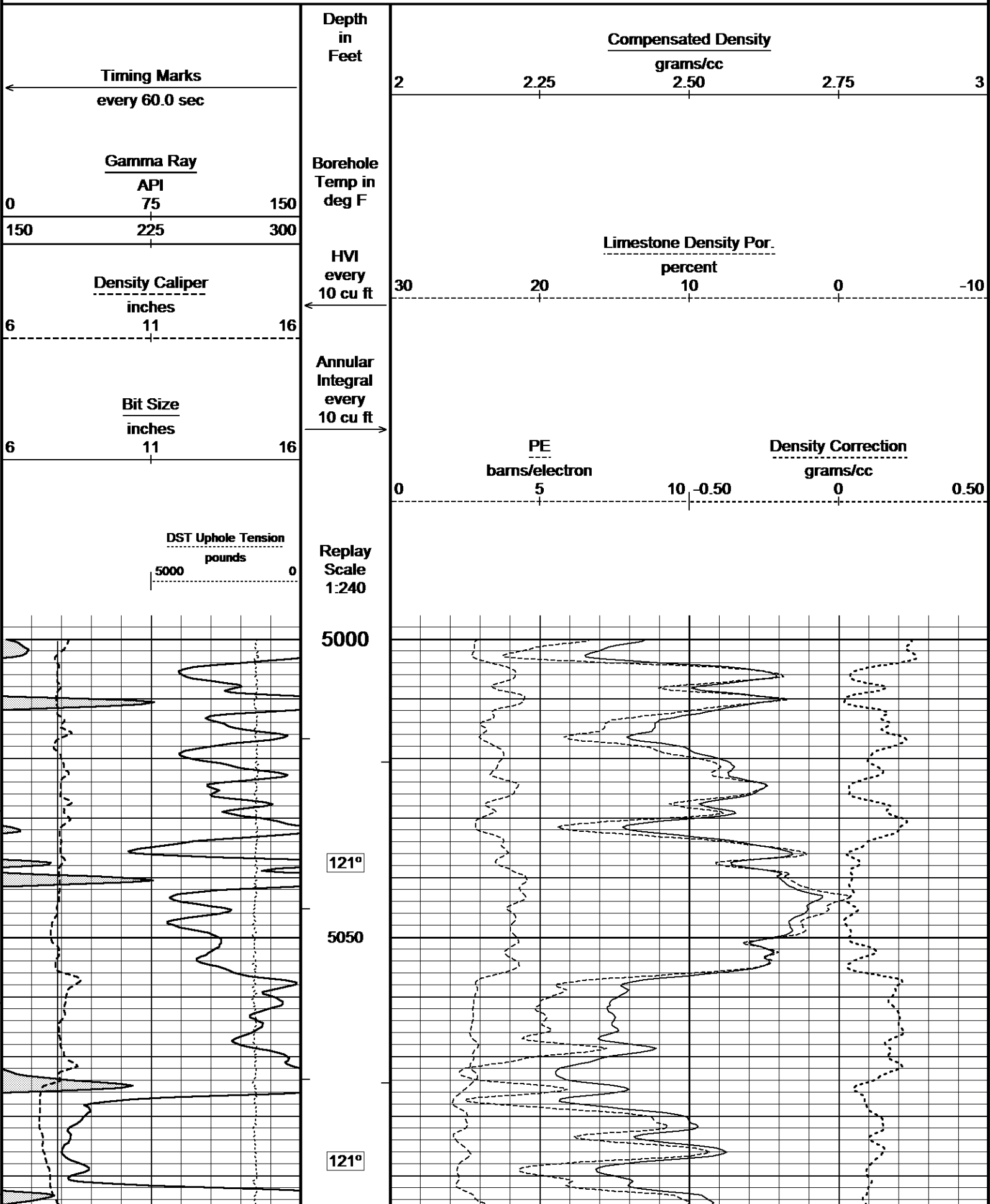
Depth Based Data - Maximum Sampling Increment 10.0cm

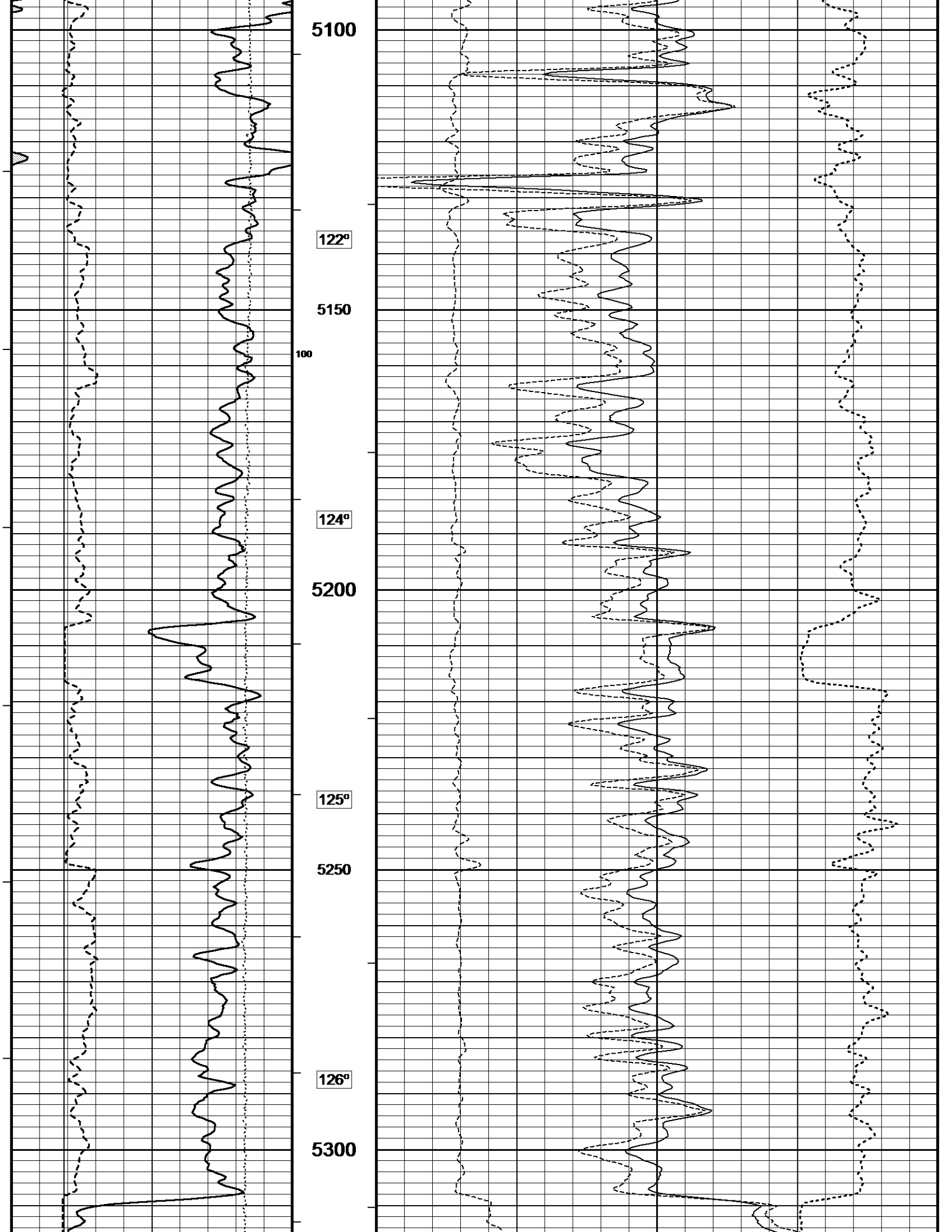
Plotted on 09-JUL-2013 11:23

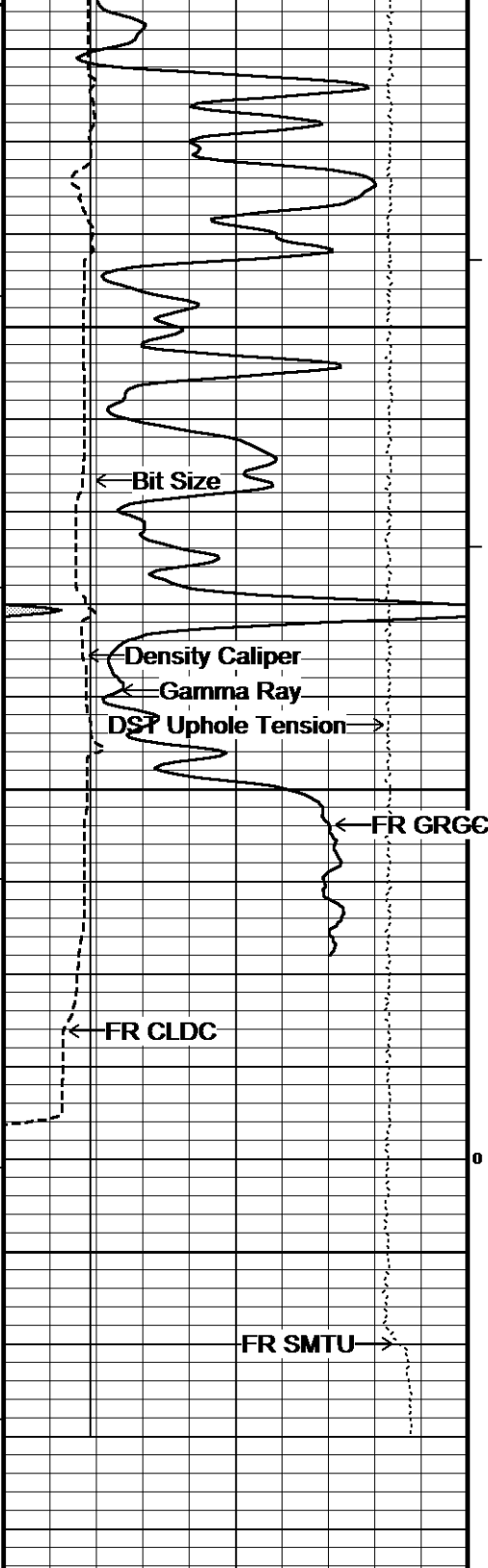
Filename: C:\Job Data\Western\Fox #2-8\Western Operating Company FOX #2-8_002.dta

Recorded on 08-JUL-2013 17:25

System Versions: Logged with 13.05.9583 Processed with 13.05.9583 Plotted with 13.06.9804







127°

5350

127°

5400

0

5450

5484
Depth
in
Feet

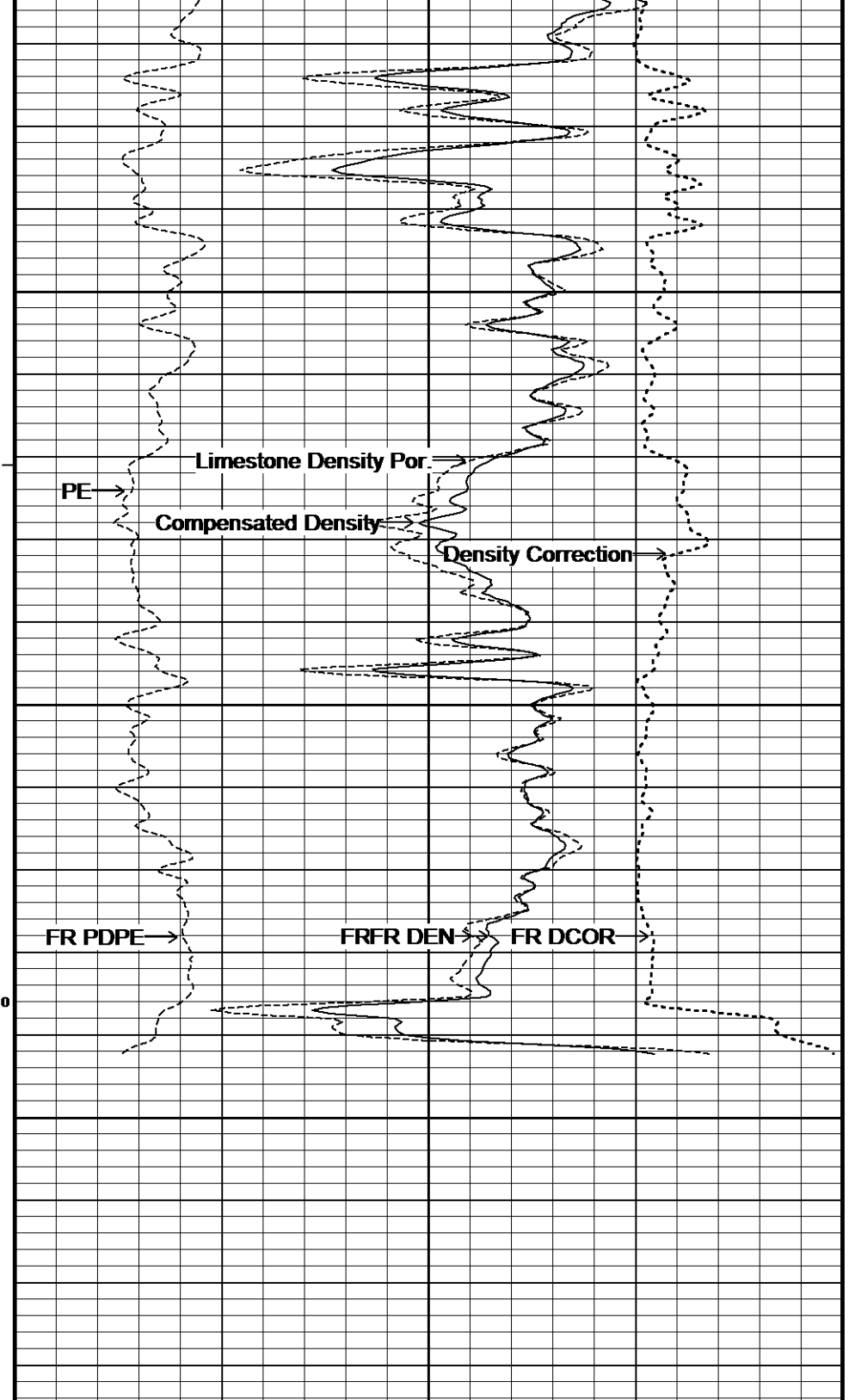
← Timing Marks
every 60.0 sec

Gamma Ray			
API			
0	75	150	
150	225	300	

Density Caliper

Borehole
Temp in
deg F

HVI
every
10 cu ft

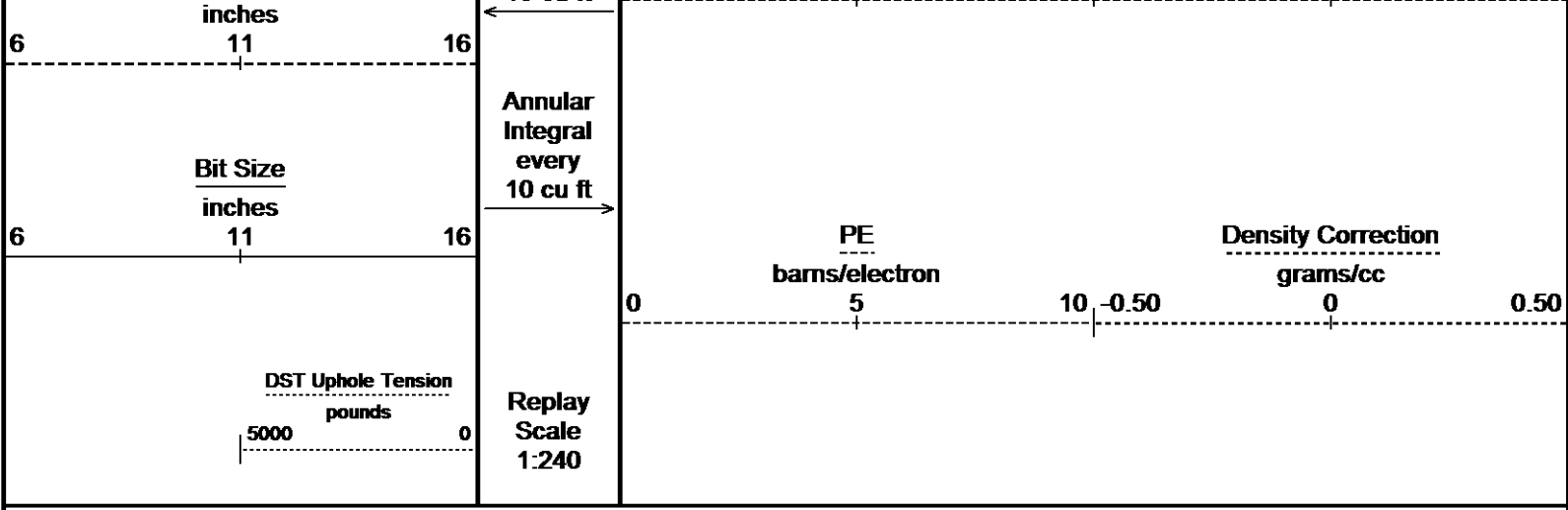


Compensated Density
grams/cc

2 2.25 2.50 2.75 3

Limestone Density Por.
percent

30 20 10 0 -10



Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 09-JUL-2013 11:23
 Filename: C:\Job Data\Western\Fox #2-8\Western Operating Company FOX #2-8_002.dta Recorded on 08-JUL-2013 17:25
 System Versions: Logged with 13.05.9583 Processed with 13.05.9583 Plotted with 13.06.9804

↑ REPEAT SECTION ↑

BEFORE SURVEY CALIBRATION
 C:\Job Data\Western\Fox #2-8\Western Operating Company FOX #2-8_003.dta

General Constants All 000 Last Edited on 08-JUL-2013,21:11

General Parameters		
Mud Resistivity	0.910	ohm-metres
Mud Resistivity Temperature	85.000	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. Six Res Rt	
RWA Constant A	0.610	
RWA Constant M	2.150	
SW/APOR Tool Source	0.000	

Down-hole Tension Calibration SMS 0 Field Calibration on 08-JUL-2013 11:04

Reading No	Measured	Calibrated (lbs)
1	15944.27	0.00
2	16762.46	471.80

SP Calibration MCG-D.K 442 Field Calibration on 30-APR-2013 09:21

	Measured	Calibrated (mV)
Reference 1	100.9	100.0
Reference 2	-100.5	-100.0

High Resolution Temperature Calibration MCG-D.K 442 Field Calibration on 24-APR-2013,09:31

	Measured	Calibrated(Deg F)
Lower	50.00	50.00
Upper	75.00	75.00

High Resolution Temperature Constants MCG-D.K 442 Last Edited on 07-JUL-2013,12:48

Pre-filter Length 11

Gamma Calibration MCG-D.K 442

	Measured	Calibrated (API)
Background	107	75
Calibrator (Gross)	1144	800
Calibrator (Net)	1037	725

Gamma Constants MCG-D.K 442

Last Edited on 07-JUL-2013,23:52

Gamma Calibrator Number	GRC38	
Mud Density	1.10	gm/cc
Caliper Source for Processing	Bit Size	
Tool Position	Centred	
Concentration of KCl		kppm
K Mud Type	Chloride	
K Mud Concentration	0.00	%

Micro Laterolog Calibration MMR-A 11

Base Calibration on 31-DEC-1999 00:00

Field Check on 31-DEC-1999 00:00

Base Calibration

	Measured		Calibrated (ohm-m)	
	Ref 1	Ref 2	Ref 1	Ref 2
	0.0	0.0	0.0	0.0
	Base Check (ohm-m)		Field Check (ohm-m)	
	0.0		0.0	

Micro Laterolog Constants MMR-A 11

Last Edited on

Pad Type	6 in Solid Nylon B23059	
Micro Laterolog K Factor	0.0128	
Standoff Offset	0.0000	inches
Mudcake Thickness Correction Constants		
Mud Cake Source	Constant Value	
Mud Cake Thickness	0.4000	inches
Mud Cake Thickness Caliper		
Mud Cake Resistivity	0.1500	ohm-m
Mud Cake Resistivity Temp.	68.00	Deg F
Mud Cake Resistivity Source	Constant Value	
Temp. Source Rmc Correc.	MCG External Temperature	

Caliper Calibration MMR-A 11

Base Calibration on 07-JUL-2013 11:39

Field Calibration on 07-JUL-2013 11:40

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	13951	5.98
2	17042	7.97
3	20153	9.86
4	24125	11.92
5	0	0.00
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
5.99	5.98

Micro Normal and Micro Inverse Calibration MMR-A 11

Base Calibration on 07-JUL-2013 11:25

Field Check on 07-JUL-2013 11:27

Base Calibration

Channel	Measured		Calibrated (ohm-m)	
	Resistor 1	Resistor 2	Resistor 1	Resistor 2
Micro Normal	12.0	58.0	5.0	25.0
Micro Inverse	15.3	75.4	5.0	25.0

Channel	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	79.0	79.0
Micro Inverse	60.5	60.5

Micro Normal and Micro Inverse Constants MMR-A 11

Last Edited on 18-APR-2013,13:52

Pad Type	8-12 in Soft Rubber Inflatable 006-9011-159
Micro Normal K Factor	1.0000
Micro Inverse K Factor	1.0000

Standoff Offset

0.0000

inches

Neutron Calibration MDN-A.B 65

Base Calibration on 07-JUL-2013,11:46

Field Check on 07-JUL-2013 11:50

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	3104	96	3714	110
Ratio	32.242		33.764	

Field Calibrator at Base

	Calibrated (cps)
	1657 2415
Ratio	0.686

Field Check

	Calibrated (cps)
	1673 2406
Ratio	0.695

Neutron Constants MDN-A.B 65

Last Edited on 07-JUL-2013,11:51

Neutron Source Id	PN-521	
Neutron Jig Number	5824NE	
Epithermal Neutron	No	
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 07-JUL-2013 11:12

Field Check on 07-JUL-2013 11:17

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	962.8	126.8
Base Check		281.6
Field Check		281.5

FE Constants MFE-B.J 352

Last Edited on 07-JUL-2013,11:07

Running Mode	No Sleeve	
MFE K Factor	0.1268	
Caliper Source for FE correction	Density Caliper	
Caliper Value for FE correction	N/A	inches
Rm Source for FE correction	Temperature Corr	
Temp. for Rm Corr.	MCG External Temperature	
Stand-off	0.5	inches

Sonic Constants MSS-C.K 368

Last Edited on

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	
Correction for Sonde Skew	Applied	
Cycle Stretch Algorithm	Applied	
MN3FT	0.00	micro-sec
MX3FT	1500.00	micro-sec

Hunt-Raymer Constant 83.13 micro-sec/ft

Sonde Mode Compensated
Hole Type Open Hole

Sonde Parameters

Offset Measured 0.0000 Calibrated 0.0000
Free Pipe 0.0000

Peak Amplitude Source

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

Processed Fixed Gate Parameters

Waveform Used For Processing N/A
Start Time (micro-sec) End Time (micro-sec) Discriminator (mV) Depth (m)
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
0.00 0.00 0.00 0.00

Full Waveform Parameters

Use 3' Waveform to derive TR No
Use 4' Waveform to derive TR No
Use 5' Waveform to derive TR No
Use 6' Waveform to derive TR No
3' Waveform Discriminator Level 0.30 mV
4' Waveform Discriminator Level 0.30 mV
5' Waveform Discriminator Level 0.15 mV
6' Waveform Discriminator Level 0.15 mV
3' Waveform Filter
4' Waveform Filter
5' Waveform Filter
6' Waveform Filter

Semblance Level 0.50
Semblance Window Width 120.00 micro-sec
Sonic 1 Despiker 100.00 micro-sec/ft
Sonic 2 Despiker 100.00 micro-sec/ft

High Resolution Temperature Calibration MAI-A.A 45

Field Calibration on 03-JUN-2013,06:17

Measured Calibrated(Deg F)
Lower 50.00 50.00
Upper 75.00 75.00

High Resolution Temperature Constants MAI-A.A 45

Last Edited on 06-JUL-2013,09:59

Pre-filter Length 11

Induction Calibration MAI-A.A 45

Base Calibration on 07-JUL-2013,13:00
Field Check on 07-JUL-2013 13:10

Base Calibration

Test Loop Calibration Measured Calibrated (mmho/m)
Channel Low High Low High
1 14.4 472.6 9.3 966.2
2 5.7 374.0 7.6 821.4
3 3.4 261.2 5.2 566.0
4 2.5 133.9 2.6 279.2

Array Temperature 0.0 Deg F

Channel Base Check (mmho/m) Field Check (mmho/m)
Low High Low High
1 17.8 3850.7 17.8 3850.7
2 22.2 2227.4 22.2 2227.4

2	30.0	3627.4	30.0	3627.5
3	27.0	3047.7	27.0	3047.7
4	17.2	2077.8	17.2	2077.9
Deep	15.1	1910.1	15.1	1910.0
Medium	40.2	4058.2	40.2	4058.2
Shallow	47.0	5480.1	47.0	5480.5
Array Temperature		89.3		89.6 Deg F

Induction Constants MAI-A.A 45

Last Edited on 07-JUL-2013,13:03

Induction Model		RtAP-WBM	
Caliper for Borehole Corr.		Bit Size	
Hole Size for Borehole Correction		N/A	inches
Tool Centred		No	
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
Borehole Corr. Rm Source		Temperature Corr	
Temp. for Rm Corr.	MCG External Temperature		
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

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	

Caliper Calibration MPD-B 64

Base Calibration on 07-JUL-2013 12:44
Field Calibration on 07-JUL-2013 12:48

Base Calibration			
Reading No		Measured	Calibrator Size (in)
1		15196	3.99
2		23984	5.98
3		32640	7.97
4		41136	9.86
5		50467	11.92
6		N/A	N/A
Field Calibration			
		Measured Caliper (in)	Actual Caliper (in)
		5.96	5.98

Photo Density Calibration MPD-B 64

Base Calibration on 07-JUL-2013,12:26
Field Check on 07-JUL-2013 12:35

Density Calibration				
Base Calibration		Measured	Calibrated (sdu)	
		Near	Near	Far
Reference 1	48588	26152	59556	30836
Reference 2	19414	2488	24941	2541

Field Check at Base

1163.3 1351.8

Field Check

1163.2 1355.4

PE Calibration

Base Calibration

	WS	Measured WH	Ratio	Calibrated Ratio
Background	209	1036		
Reference 1	18274	48405	0.381	0.371
Reference 2	5262	19278	0.277	0.272

Field Check at Base

209.5 1036.3

Field Check

210.0 1032.5

Density Constants MPD-B 64

Last Edited on 07-JUL-2013,12:05

Density Source Id	254	
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	1.00	gm/cc
Mud Density Z/A Multiplier	1.11	
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	
Matrix Density (gm/cc)		
2.71	Depth (ft)	
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	

DOWNHOLE EQUIPMENT

C:\Job Data\Western\Fox #2-8\Western Operating Company FOX #2-8_003.dta

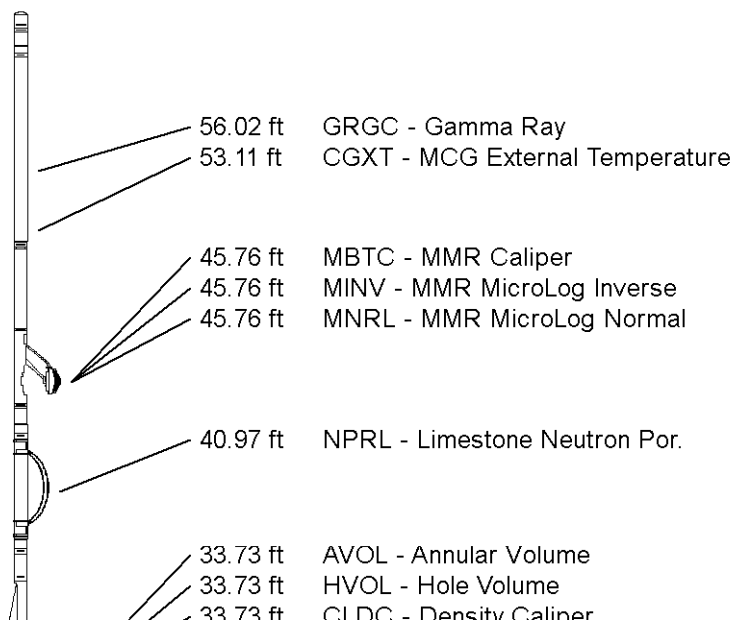
3/8" Triple Cone Cable Head (MCB C A)
MCB-C.A 5 LG: 1.58 ft WT: 15.4 lb OD: 2.24 in

Compact Comms Gamma
MCG-D.K 442 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Compact Micro-Resistivity
MMR-A 11 LG: 8.59 ft WT: 81.6 lb OD: 4.88 in

Compact Neutron
MDN-A.B 65 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

Compact Density/Caliper
MPD-B 64 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

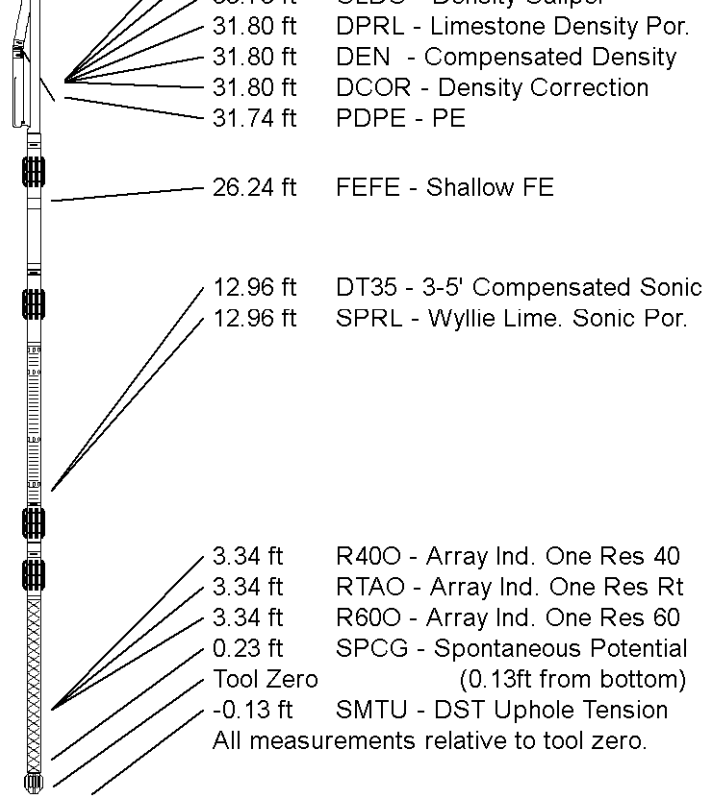


Compact Focussed Electric
 MFE-B.J 352 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

Compact Sonic
 MSS-C.K 368 LG: 12.52 ft WT: 72.8 lb OD: 2.24 in

Compact Induction
 MAI-A.A 45 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

Total Length: 62.88 ft Weight: 471.8 lb



COMPANY	WESTERN OPERATING COMPANY
WELL	FOX #2-8
FIELD	HELFRICH
PROVINCE/COUNTY	HAMILTON
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	3658.00	feet	First Reading	5428.00	feet
Elevation Drill Floor	3657.00	feet	Depth Driller	5467.00	feet
Elevation Ground Level	3647.00	feet	Depth Logger	5460.00	feet



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**COMPACT PHOTO DENSITY
 COMPENSATED NEUTRON
 MICRORESISTIVITY LOG**