Weatherford®

COMPACT PHOTO DENSITY COMPENSATED NEUTRON MICRO-RESISTIVITY LOG

COMPANY	SANDRIDGE ENERGY, INC.
WELL	SHEA 1-17 SWD
FIELD	STRANATHAN
PROVINCE/COUNTY	HARPER
COUNTRY/STATE	U.S.A/ KANSAS
LOCATION	232' FSL & 236' FEL

40 Years of Wireline 1970 2010

SEC	TWP	RGE
17	35S	7W

Other Services
MAI/MFE
CMI
MBN

API Number 15-077-21781
Permit Number

Permanent Datum G.L., Elevation 1284 feet
Log Measured From KB
Drilling Measured From K.B.

Elevations:	feet
KB	1301.50
DF	1299.50
GL	1284.00

Date	27-JAN-2012			
Run Number	ONE			
Depth Driller	5737.00	feet		
Depth Logger	5740.00	feet		
First Reading	5721.00	feet		
Last Reading	3300.00	feet		
Casing Driller	829.00	feet		
Casing Logger	831.00	feet		
Bit Size	9.875	inches		
Hole Fluid Type	WBM			
Density / Viscosity	9.25 lb/USg	55.00 CP		
PH / Fluid Loss	9.50	7.20 ml/30Min		
Sample Source	FLOWLINE			
Rm @ Measured Temp	0.90 @ 83.0	ohm-m		
Rmf @ Measured Temp	0.72 @ 83.0	ohm-m		
Rmc @ Measured Temp	1.08 @ 83.0	ohm-m		
Source Rmf / Rmc	CALC	CALC		
Rm @ BHT	0.53 @140.0	ohm-m		
Time Since Circulation	8 HOURS			
Max Recorded Temp	140.00	deg F		
Equipment Name	COMPACT			
Equipment / Base	13226	OKC		
Recorded By	BROWN ALLEN		JERROD MONROE	
Witnessed By	TAMMY ALCORN			
	3535032			

BOREHOLE RECORD

Last Edited: 27-JAN-2012 09:10

Bit Size inches	Depth From feet	Depth To feet
9.875	829.00	5737.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	10.750	0.00	829.00	32.00

REMARKS

TOOLS RAN: SHA 45, MCG 431, MBN 093, MMR 06, MDN 10, MPD 03, MFE 65, MAI 102 RAN IN COMBINATION

HARDWARE: MAI: TWO 0.5 INCH STANDOFFS USED.
MDN: DUAL NEUTRON BOW SPRINGS USED.
MPD: 8 INCH PROFILE PLATE USED.

2.71 G/CC DENSITY MATRIX USED TO CALCULATE POROSITY
ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST.

TOTAL HOLE VOLUME FROM TD TO SURFACE CASING = 3370CU.FT.
ANNULAR HOLE VOLUME WITH 7.625 INCH PRODUCTION CASING FROM TD TO SURFACE CASING = 2820CU.FT.

SERVICE ORDER: 3535032

OPERATOR: PHILIP BURGER

RIG: LAMUNYON DRILLING #1

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.

5 INCH POROSITY LOG

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 27-JAN-2012 11:42
Filename: C:\Program Files\Weatherford\WLS 12.03\DATA\SANDRIDGE (...\SHEA 1-17 SWD_002.dta
Recorded on 27-JAN-2012 08:20
System Versions: Logged with 12.03.5032 Plotted with 12.03.5032

Timing Marks
every 60.0 sec

Gamma Ray
API
0 75 150
150 225 300

Density Caliper
inches
8 13 18

Bit Size
inches
8 13 18

MMR Caliper
inches
8 13 18

DST Uphole Tension
pounds
5000 0

Depth in Feet

Borehole Temp in deg F

HVI every 10 cu ft

Annular Integral every 10 cu ft

Replay Scale 1:240

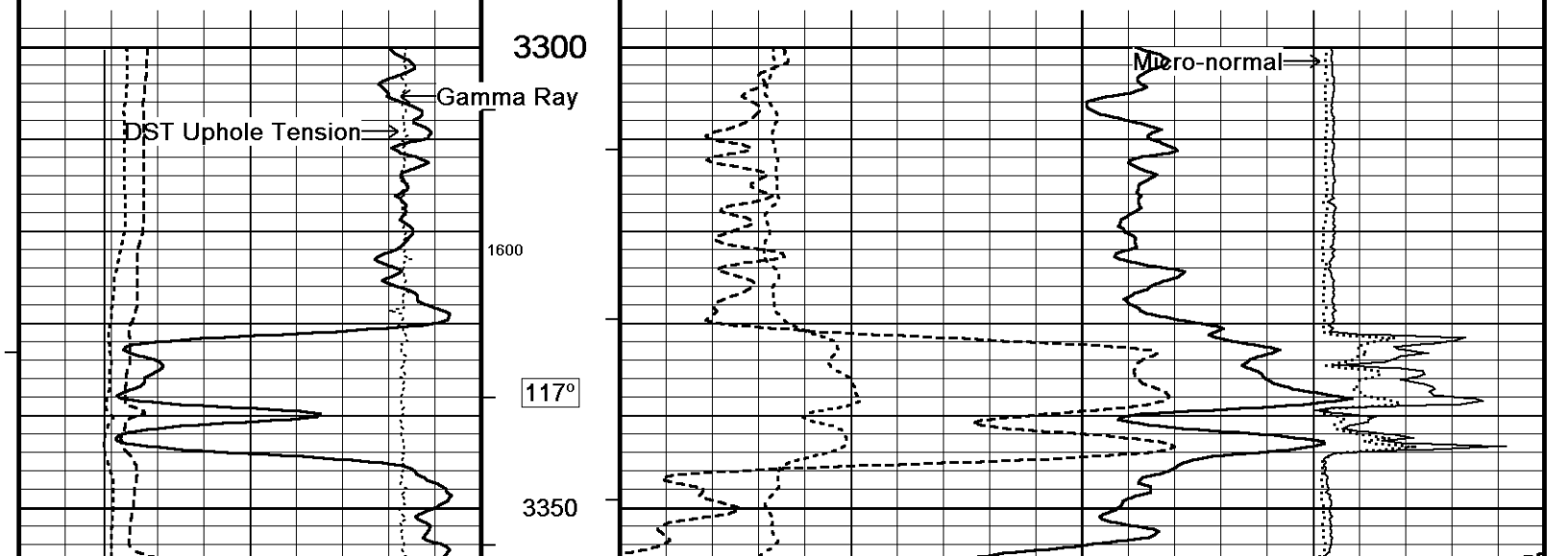
Limestone Neutron Por.
percent
30 20 10 0 -10

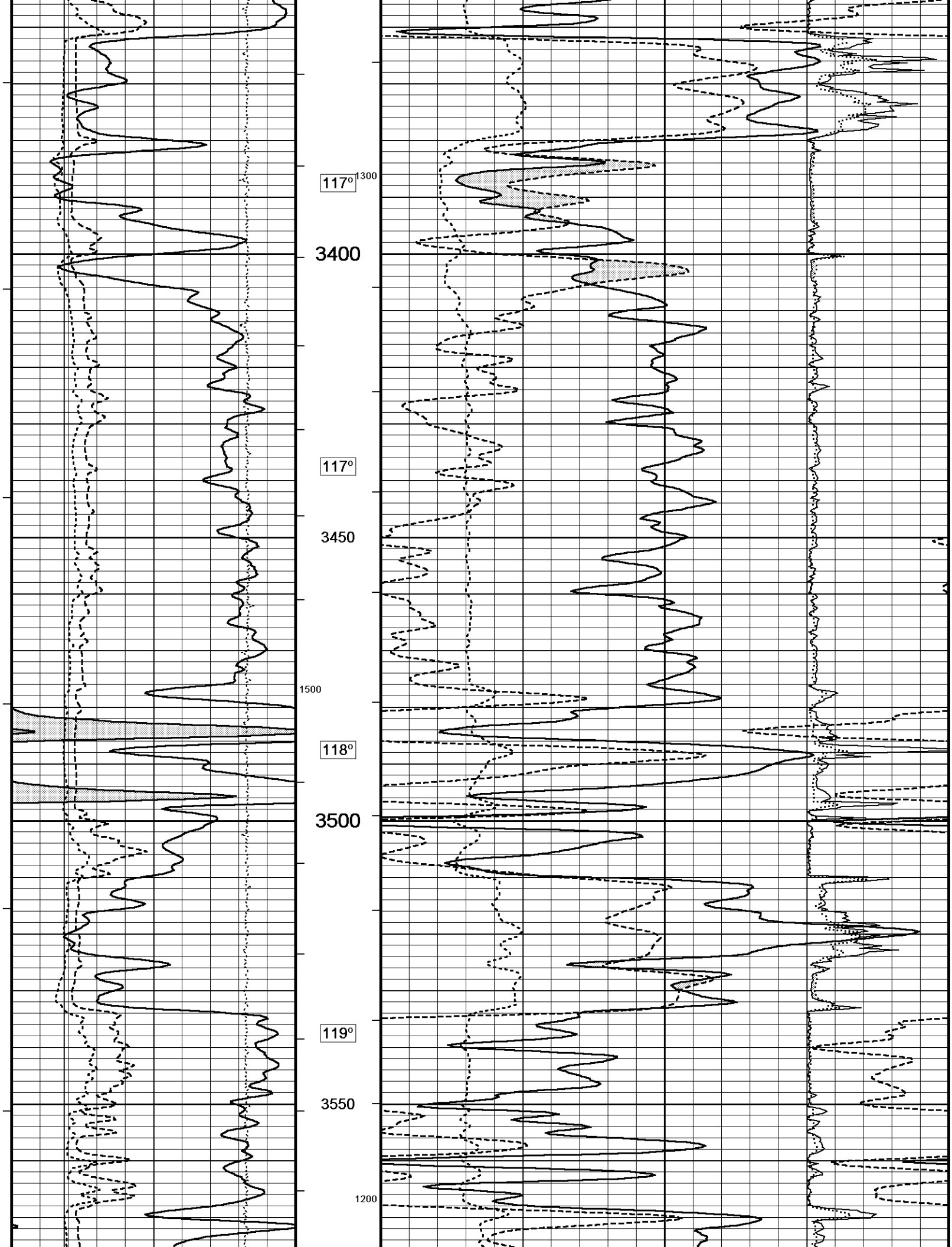
Limestone Density Por.
percent
30 20 10 0 -10

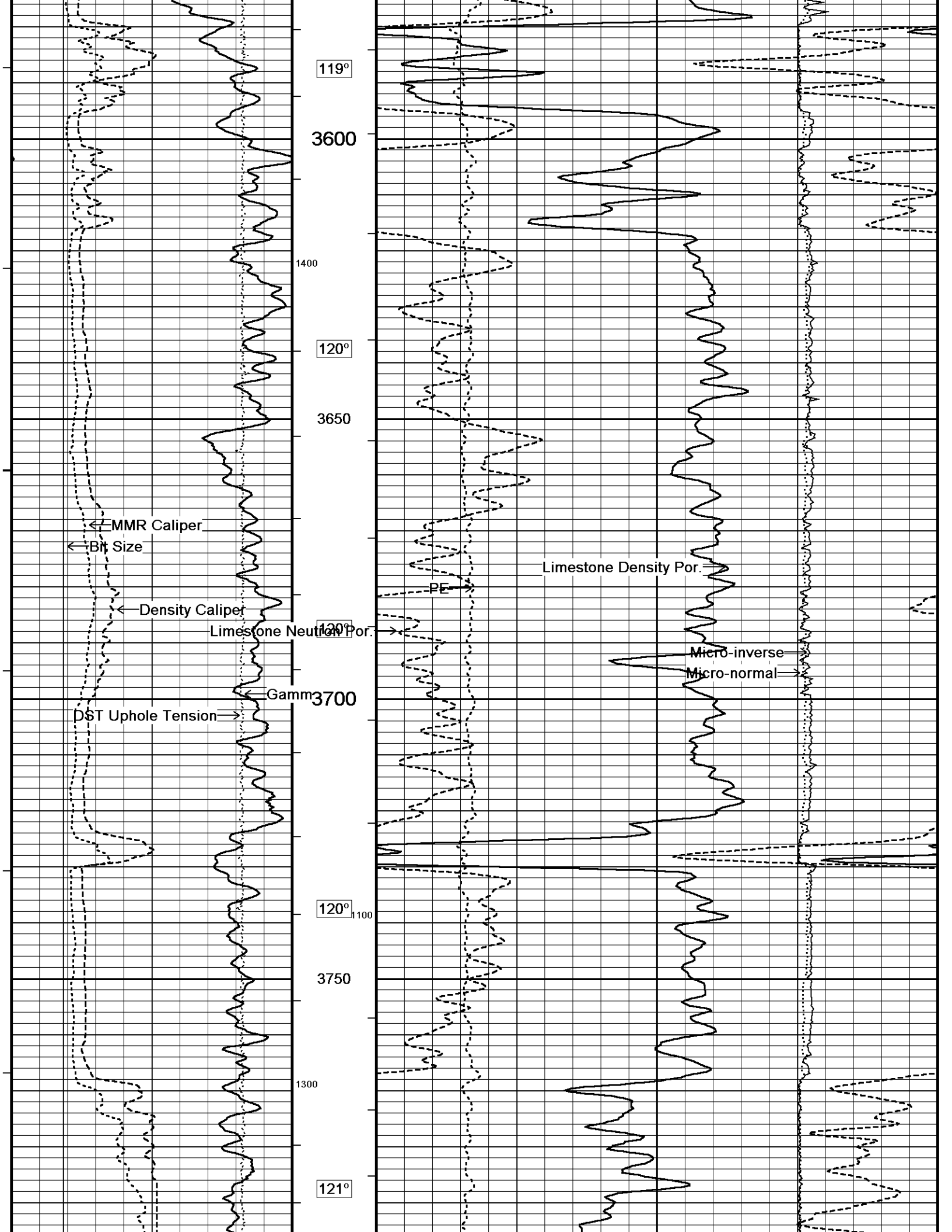
PE
barns/electron
0 5 10

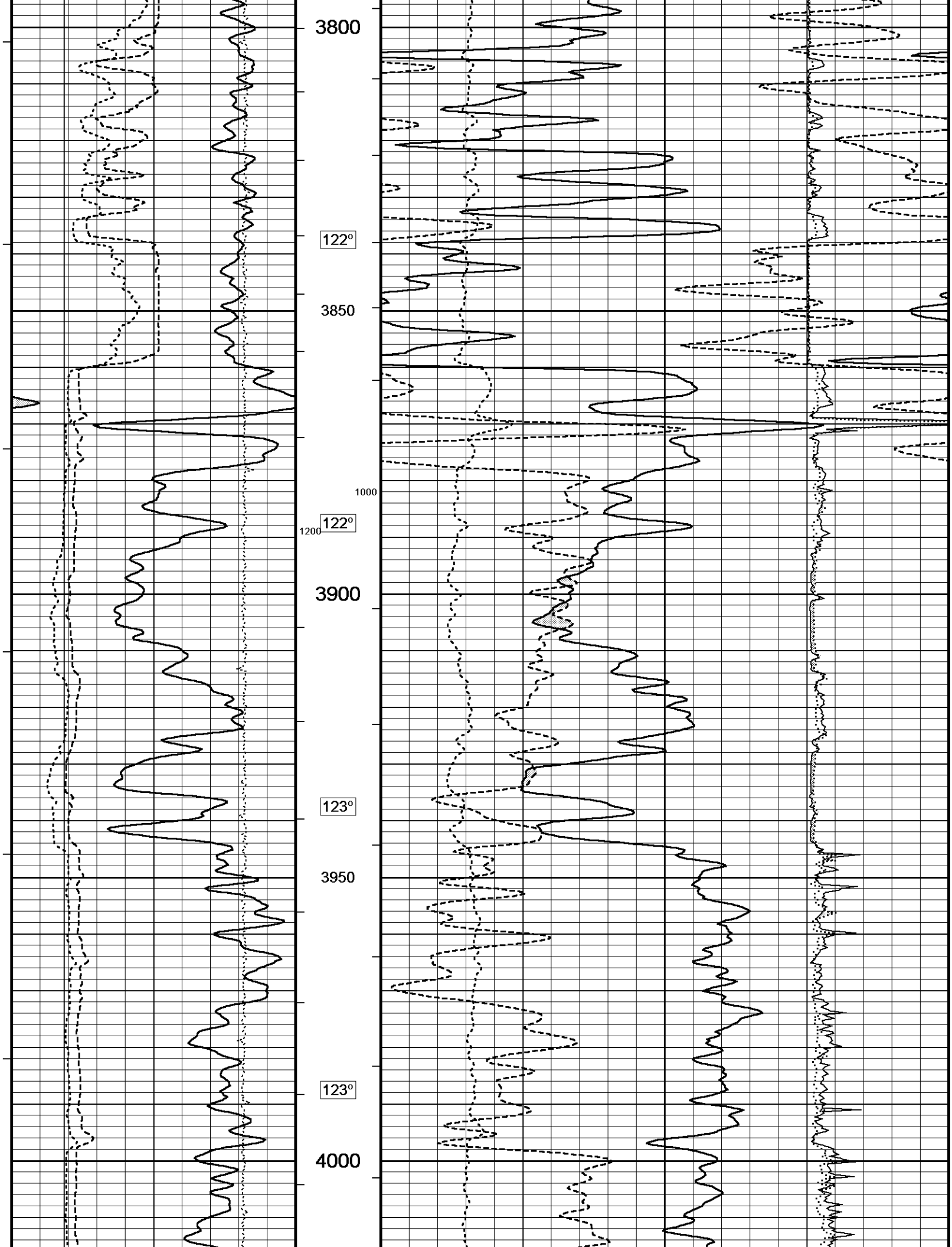
Micro-normal
ohm metres
0 20

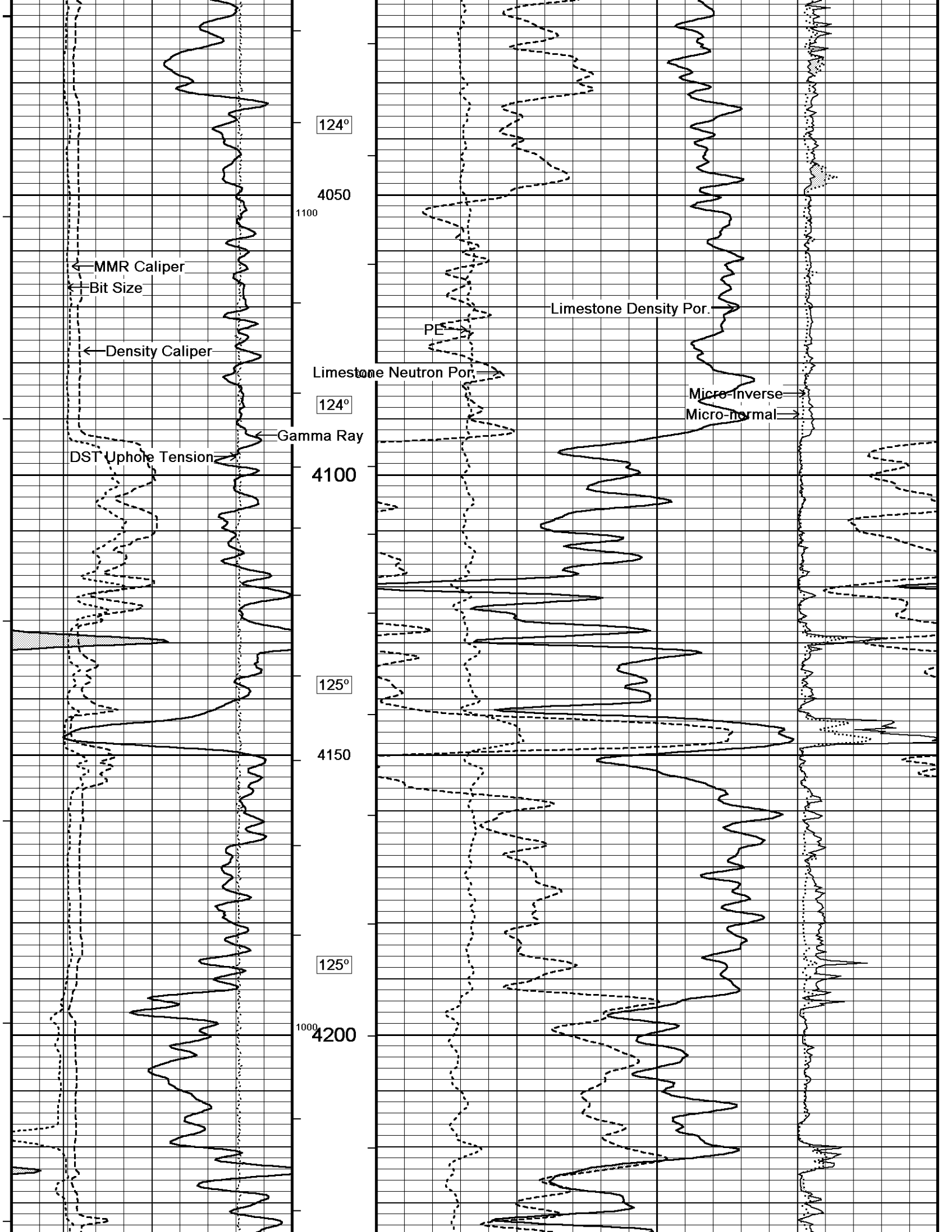
Micro-inverse
ohm metres
0 20

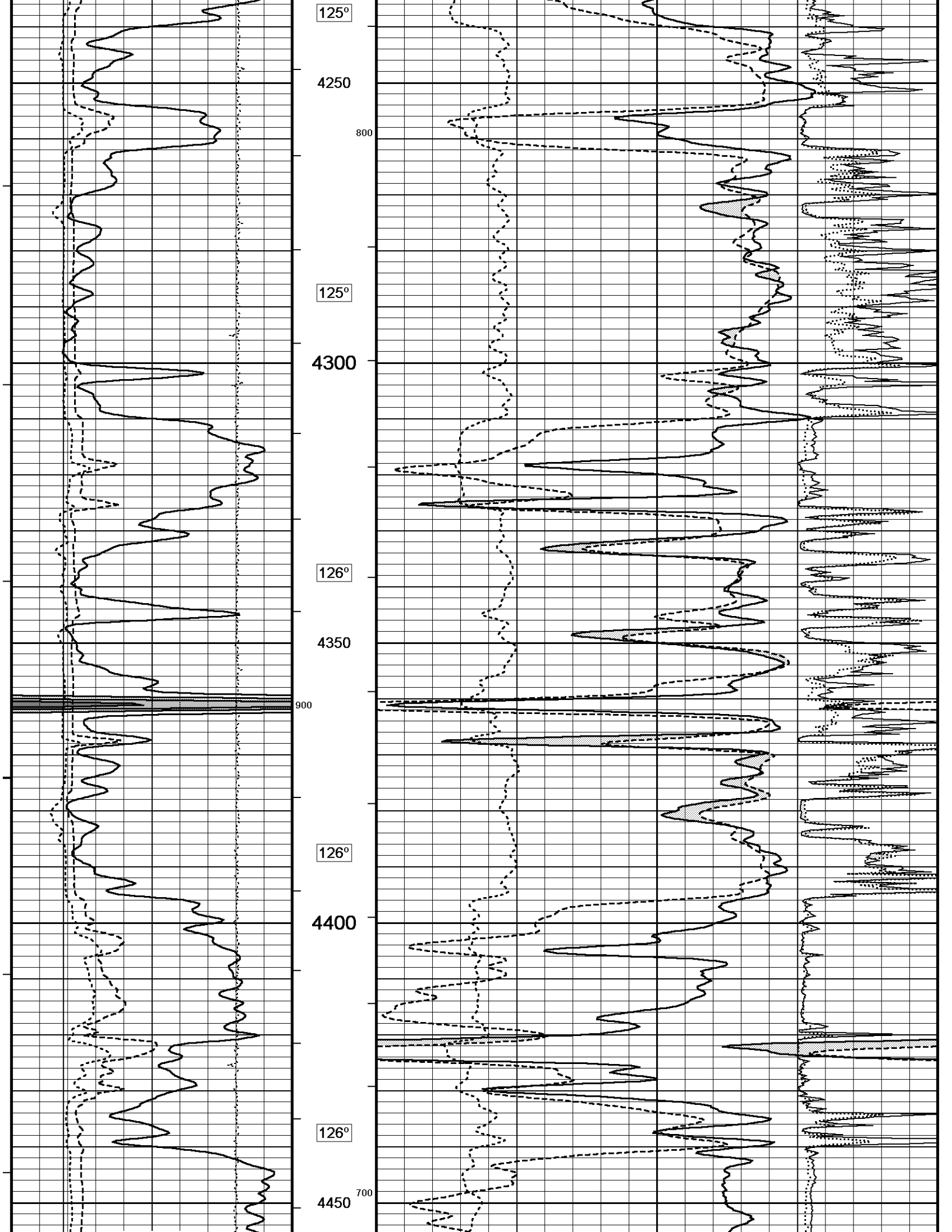


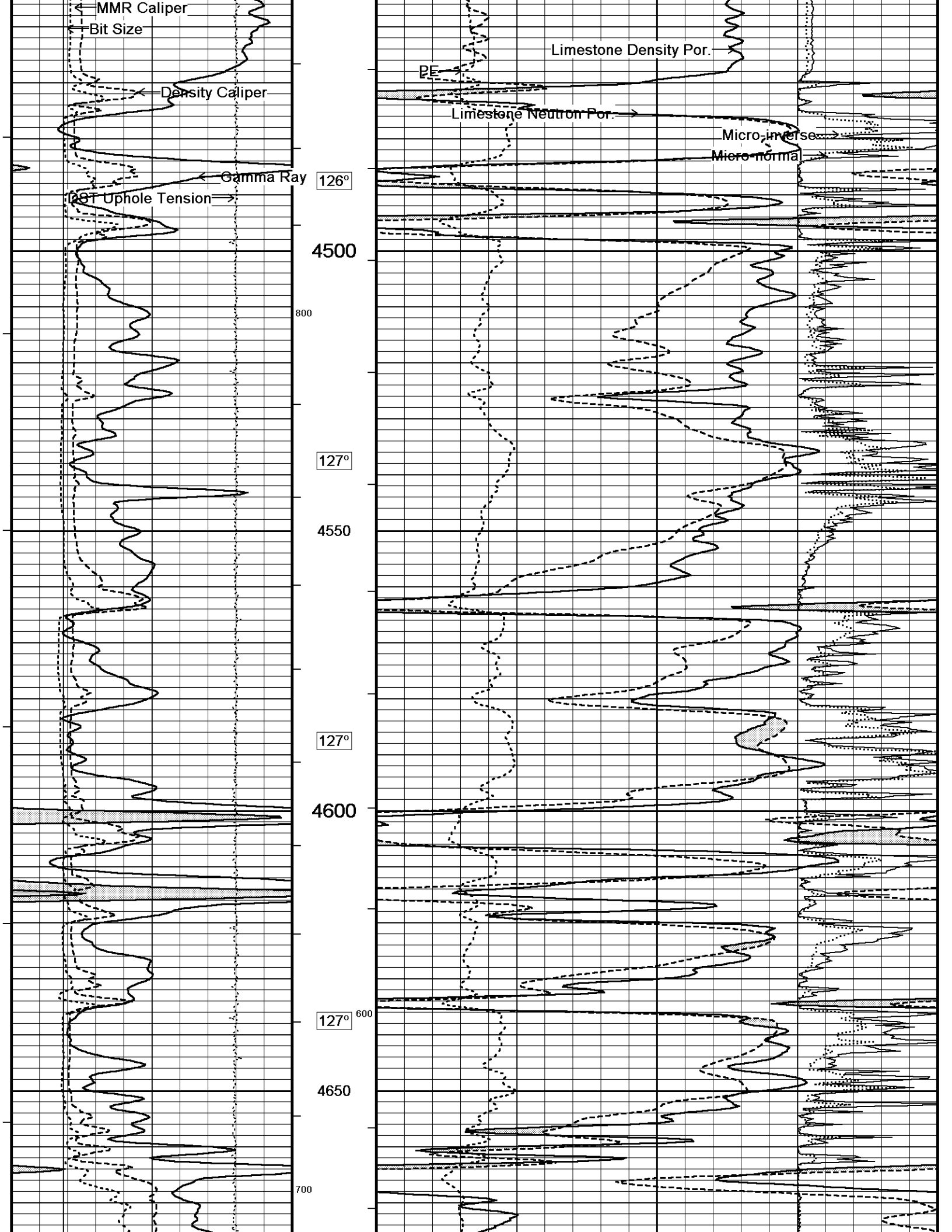

117°
1300
3400
117°
3450
1500
118°
3500
119°
3550
1200

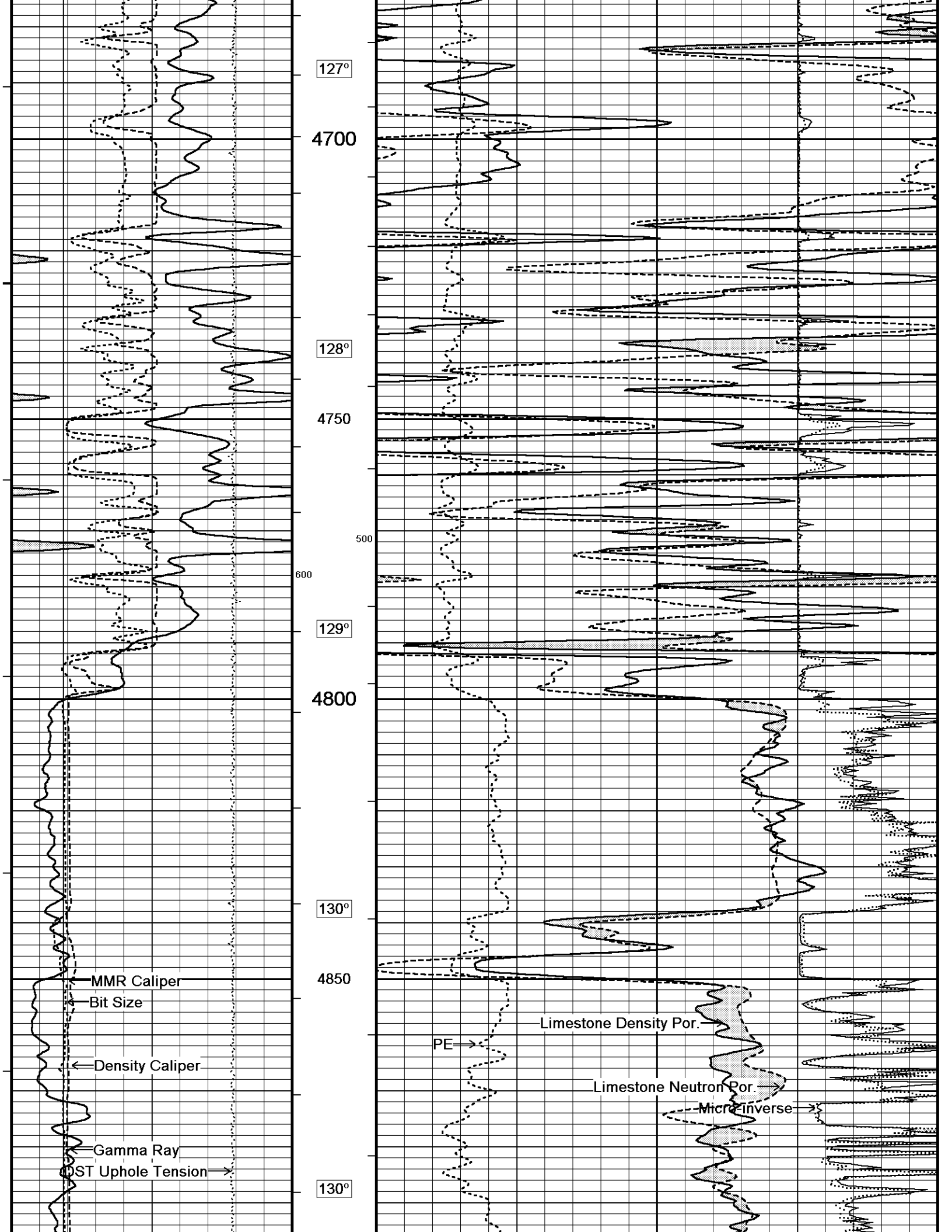

119°
3600
1400
120°
3650
MMR Caliper
Bit Size
Density Caliper
Limestone Neutron Por.
120°
Gamm
3700
DST Uphole Tension
Limestone Density Por.
PE
Micro-inverse
Micro-normal
120°
1100
3750
1300
121°

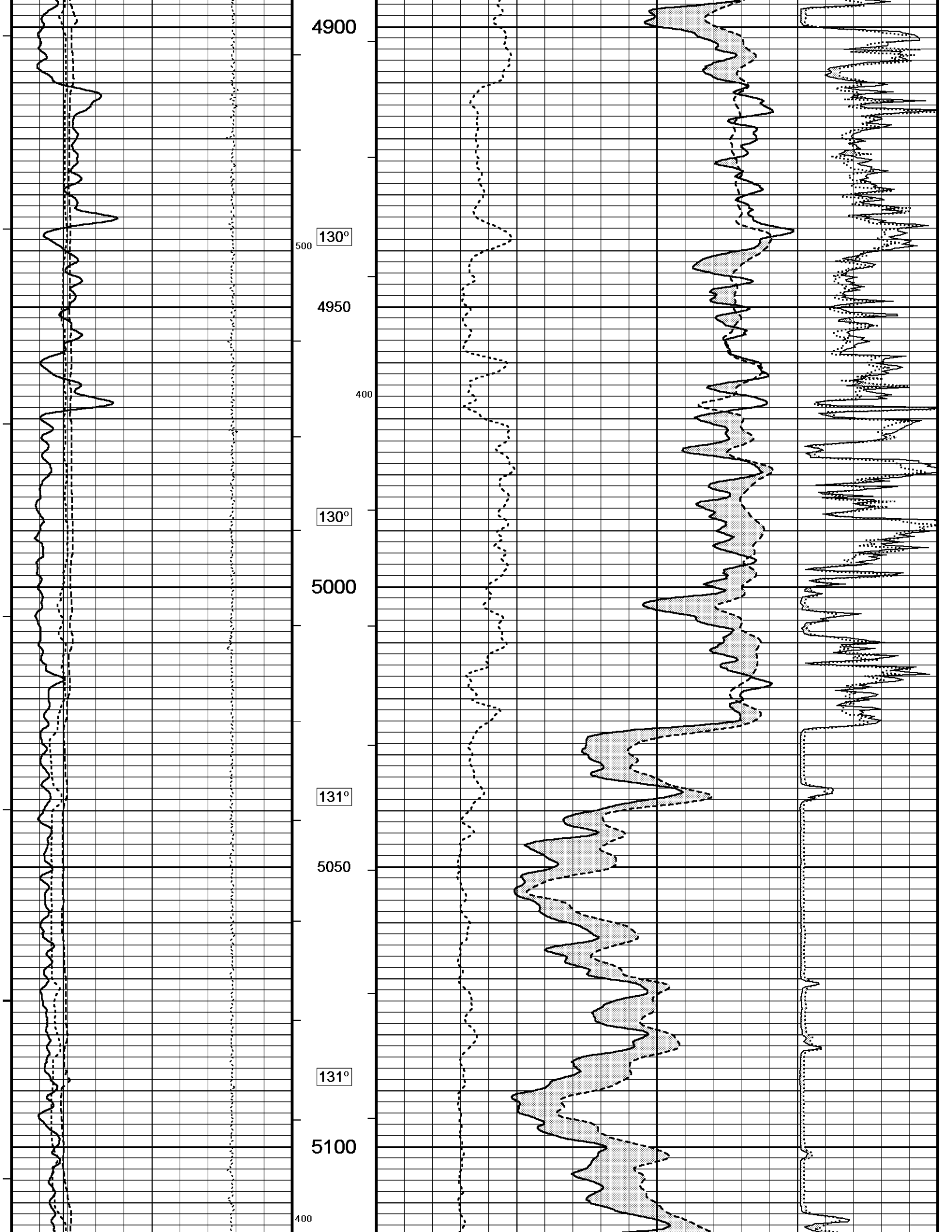

3800
122°
3850
1000
1200
122°
3900
123°
3950
123°
4000

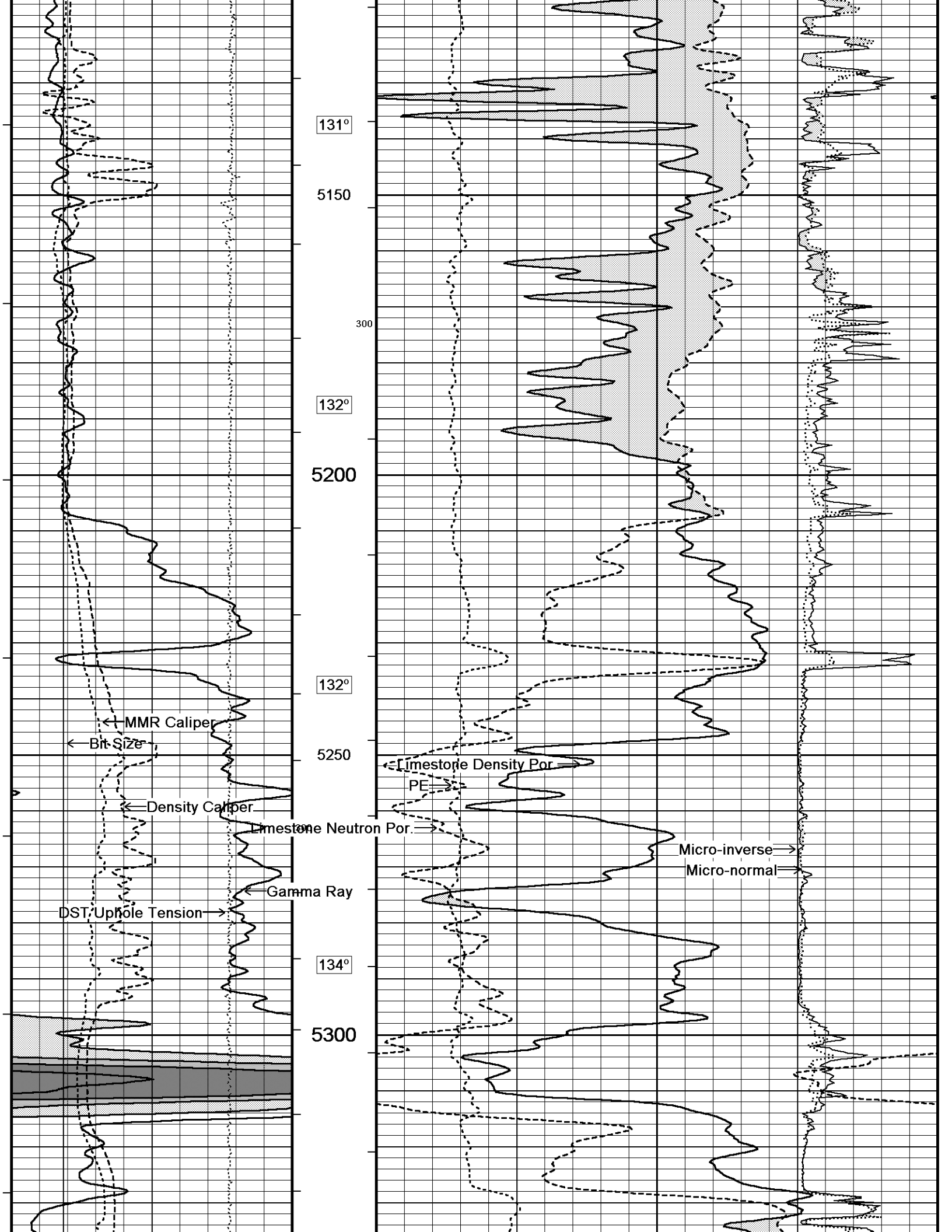

124°
4050
1100
MMR Caliper
Bit Size
Density Caliper
Limestone Density Por.
PE
Limestone Neutron Por.
1000
124°
Micro-inverse
Micro-normal
Gamma Ray
DST Uphole Tension
4100
125°
4150
125°
1000
4200

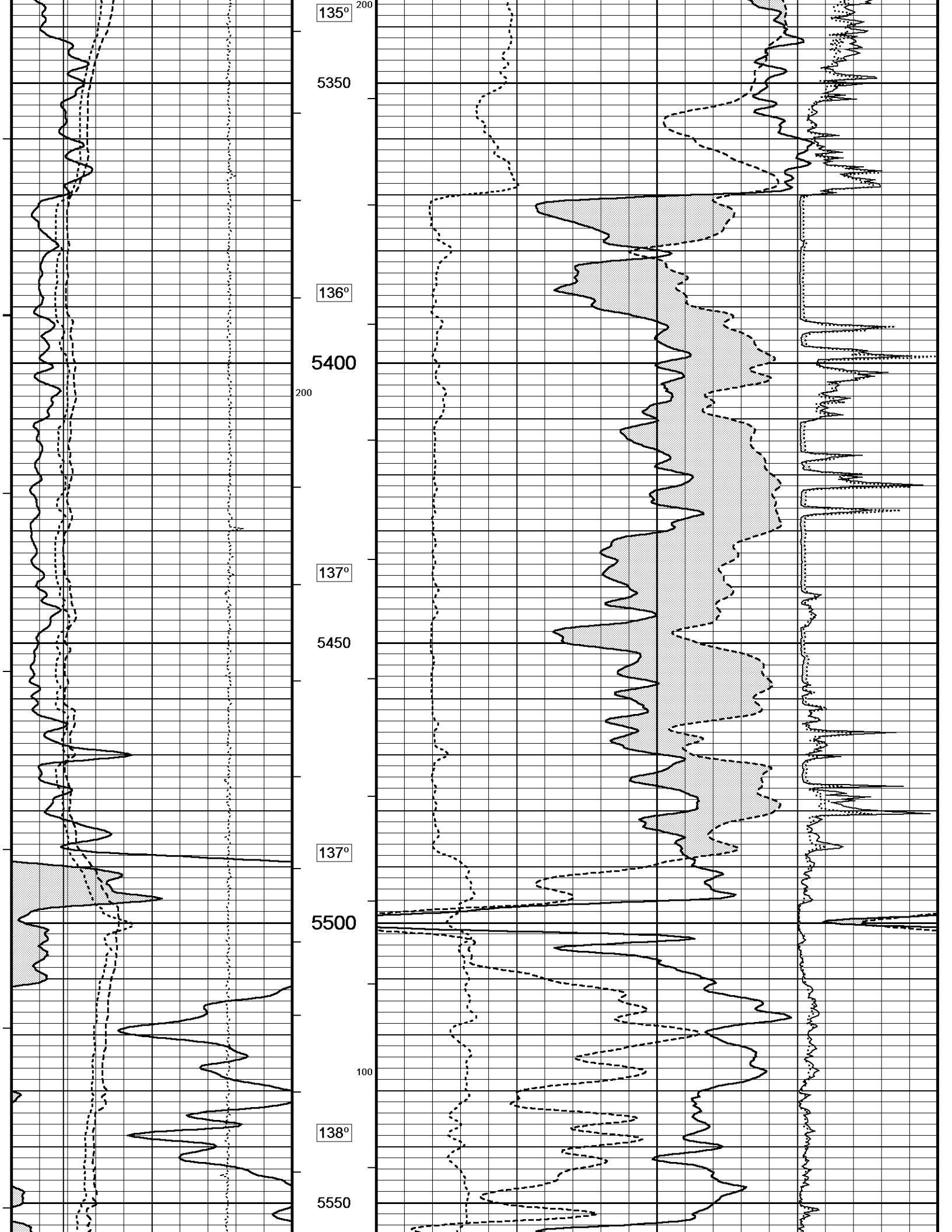

125°
4250
800
125°
4300
126°
4350
900
126°
4400
126°
4450
700

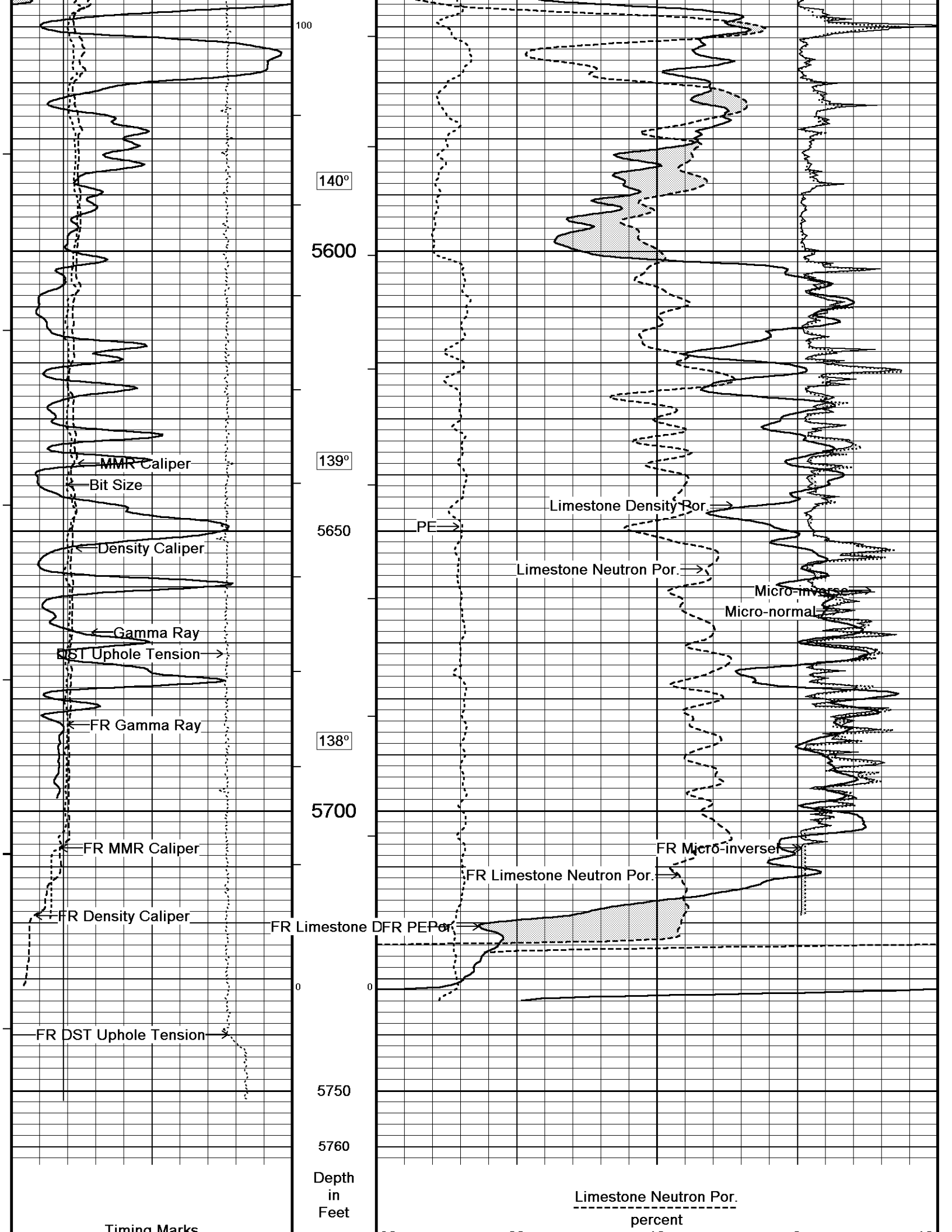

MMR Caliper
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
Limestone Density Por.
PE
Limestone Neutron Por.
Micro-inverse
Micro-normal
126°
4500
800
127°
4550
127°
4600
127°
600
4650
700

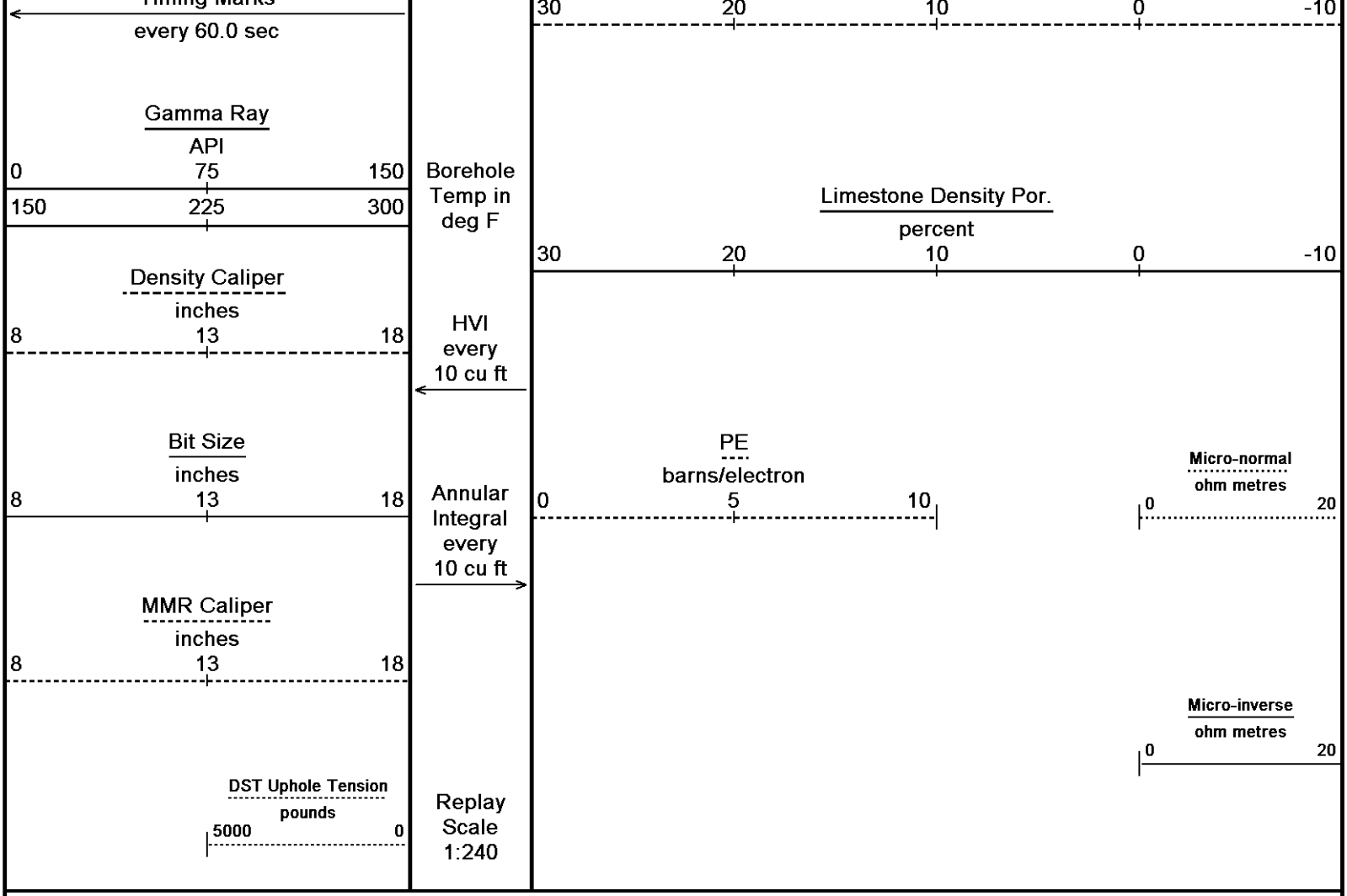

127°
4700
128°
4750
500
600
129°
4800
130°
4850
130°
MMR Caliper
Bit Size
Density Caliper
Gamma Ray
CST Uphole Tension
PE
Limestone Density Por.
Limestone Neutron Por.
Micro Inverse


4900
500
130°
4950
400
130°
5000
131°
5050
131°
5100
400


131°
5150
300
132°
5200
132°
MMR Caliper
Bit Size
5250
Limestone Density Por
PE
Density Caliper
Limestone Neutron Por
Micro-inverse
Micro-normal
Gamma Ray
DST Uphole Tension
134°
5300


135°
200
5350
136°
5400
200
137°
5450
137°
5500
100
138°
5550


100
140°
5600
139°
MMR Caliper
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
FR Gamma Ray
138°
5700
FR MMR Caliper
FR Density Caliper
0
FR DST Uphole Tension
5750
5760
Depth
in
Feet
Timing Marks
PE
Limestone Density Por.
Limestone Neutron Por.
Micro-inverse
Micro-normal
FR Micro-inverse
FR Limestone Neutron Por.
FR Limestone DFR PEPor.
0
Limestone Neutron Por.
percent

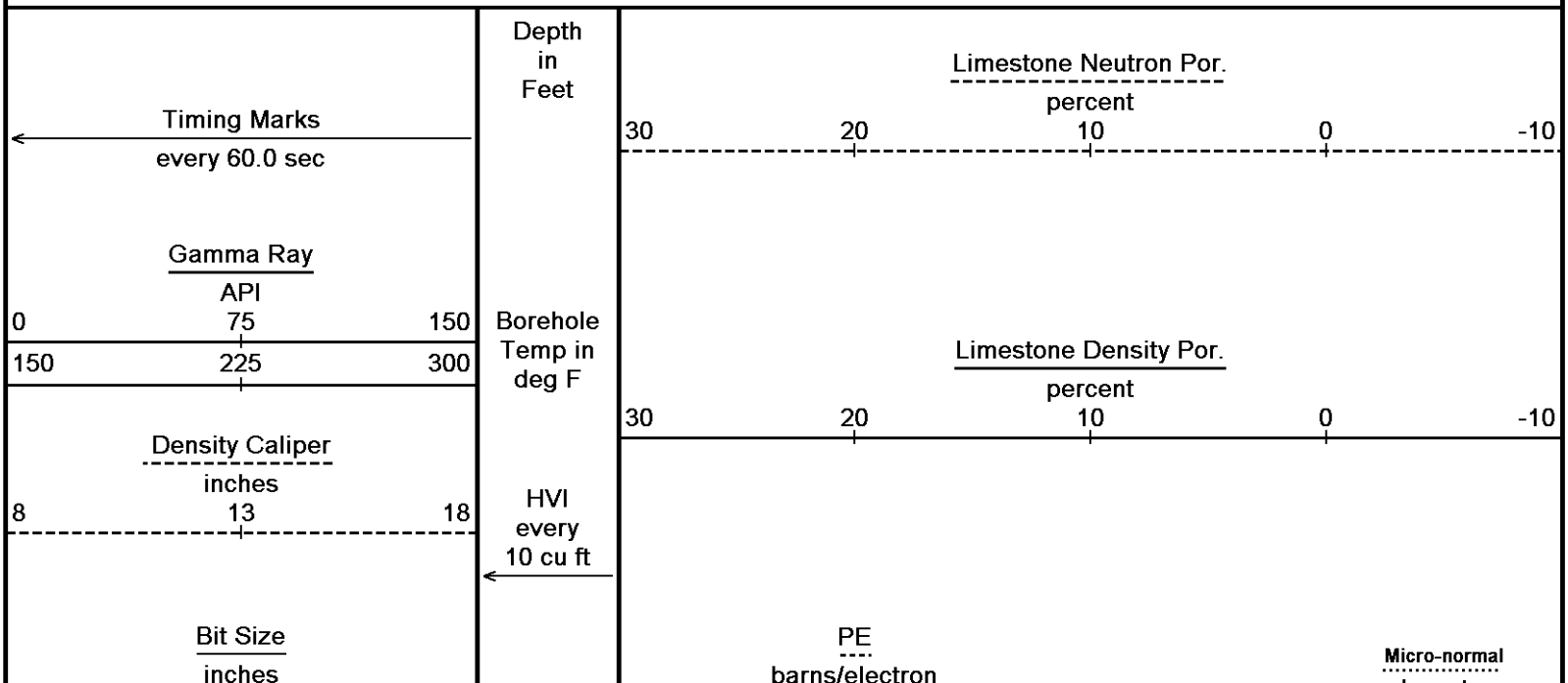


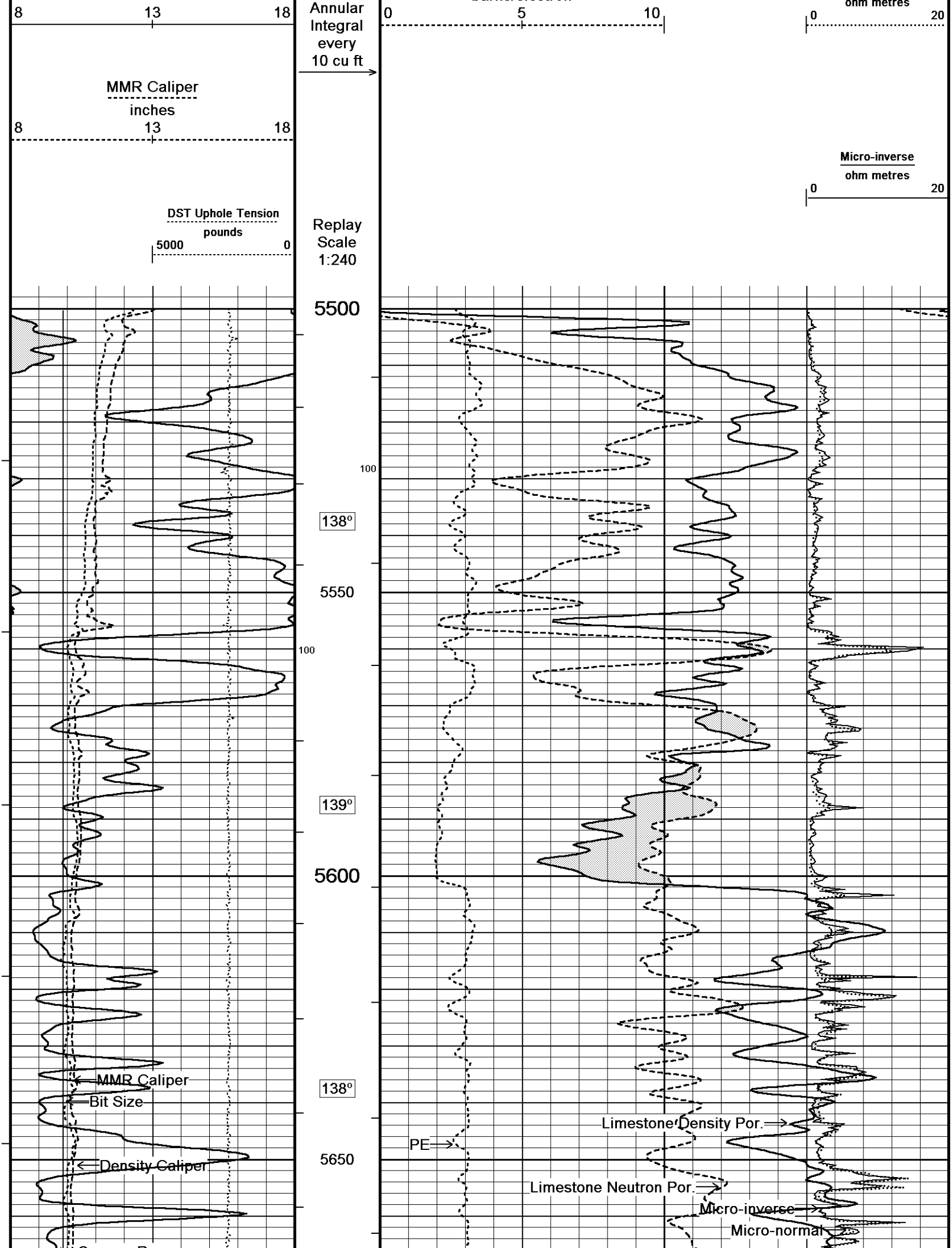
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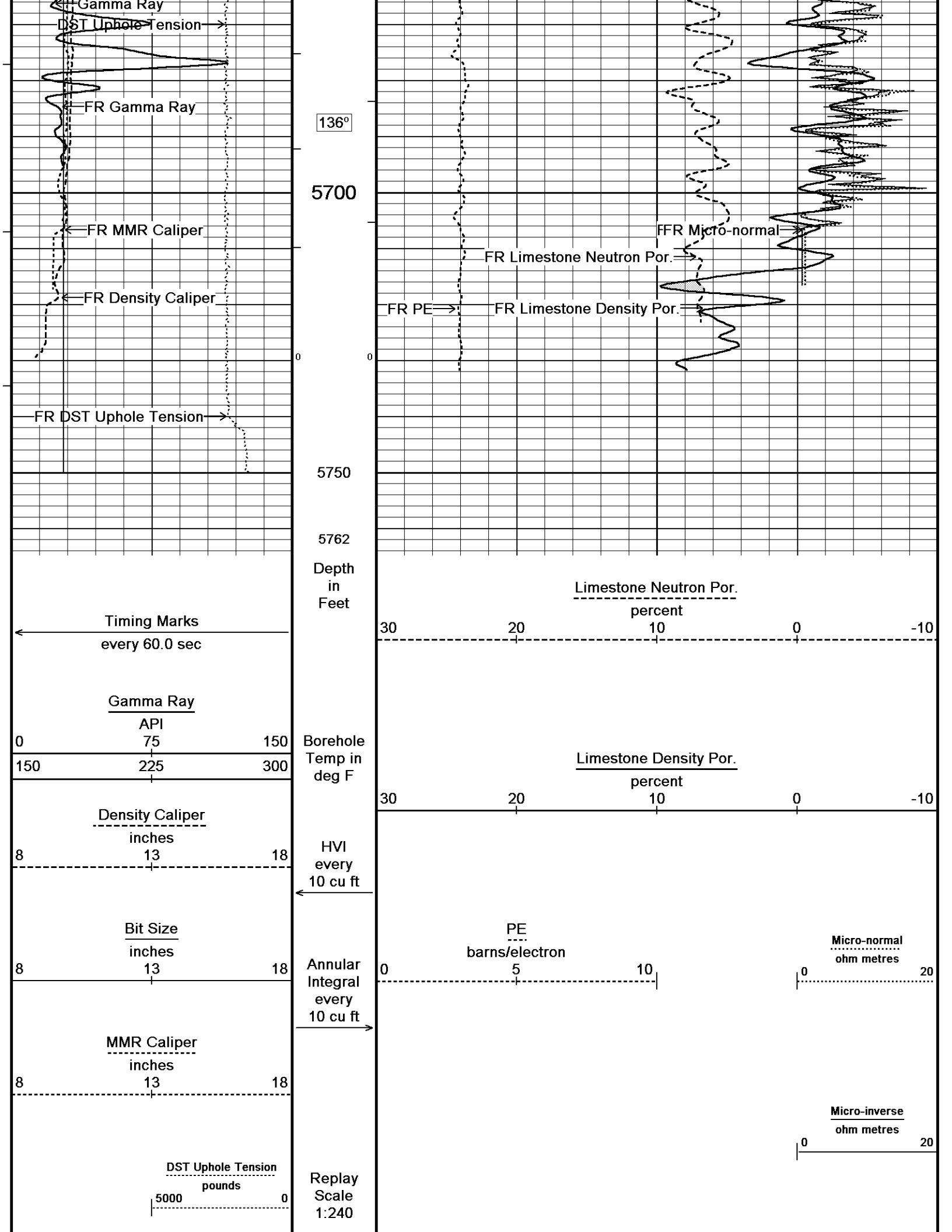
5 INCH POROSITY LOG

REPEAT SECTION

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 27-JAN-2012 11:42
Filename: C:\Program Files\Weatherford\WLS 12.03\DATA\SANDRIDGE (...\SHEA 1-17 SWD_001.dta — Recorded on 27-JAN-2012 08:02
System Versions: Logged with 12.03.5032 Plotted with 12.03.5032




8
13
18
MMR Caliper
inches
8
13
18
DST Uphole Tension
pounds
5000
0
Annular
Integral
every
10 cu ft
Replay
Scale
1:240
0
5
10
ohm metres
0
20
Micro-inverse
ohm metres
0
20
5500
100
138°
5550
100
139°
5600
138°
5650
MMR Caliper
Bit Size
Density Caliper
PE
Limestone Density Por.
Limestone Neutron Por.
Micro-inverse
Micro-normal


Gamma Ray
DST Uphole Tension
FR Gamma Ray
136°
5700
FR MMR Caliper
FR Density Caliper
FFR Micro-normal
FR Limestone Neutron Por.
FR PE
FR Limestone Density Por.
0
0
FR DST Uphole Tension
5750
5762
Depth in Feet
Limestone Neutron Por.
percent
30 20 10 0 -10
Timing Marks
every 60.0 sec
Gamma Ray
API
0 75 150
150 225 300
Borehole Temp in deg F
Limestone Density Por.
percent
30 20 10 0 -10
Density Caliper
inches
8 13 18
HVI every 10 cu ft
Bit Size
inches
8 13 18
PE
barns/electron
0 5 10
Micro-normal
ohm metres
0 20
Annular Integral every 10 cu ft
MMR Caliper
inches
8 13 18
Micro-inverse
ohm metres
0 20
DST Uphole Tension
pounds
5000 0
Replay Scale 1:240

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 27-JAN-2012 11:42
Filename: C:\Program Files\Weatherford\WLS 12.03\DATA\SANDRIDGE (...\SHEA 1-17 SWD_001.dta — Recorded on 27-JAN-2012 08:02
System Versions: Logged with 12.03.5032 Plotted with 12.03.5032

REPEAT SECTION

5 INCH BULK DENSITY

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 27-JAN-2012 11:42
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System Versions: Logged with 12.03.5032 Plotted with 12.03.5032

Timing Marks
every 60.0 sec

Gamma Ray
API
0 75 150
150 225 300

Density Caliper
inches
8 13 18

Bit Size
inches
8 13 18

DST Uphole Tension
pounds
5000 0

Depth in Feet

Borehole Temp in deg F

HVI every 10 cu ft

Annular Integral every 10 cu ft

Replay Scale 1:240

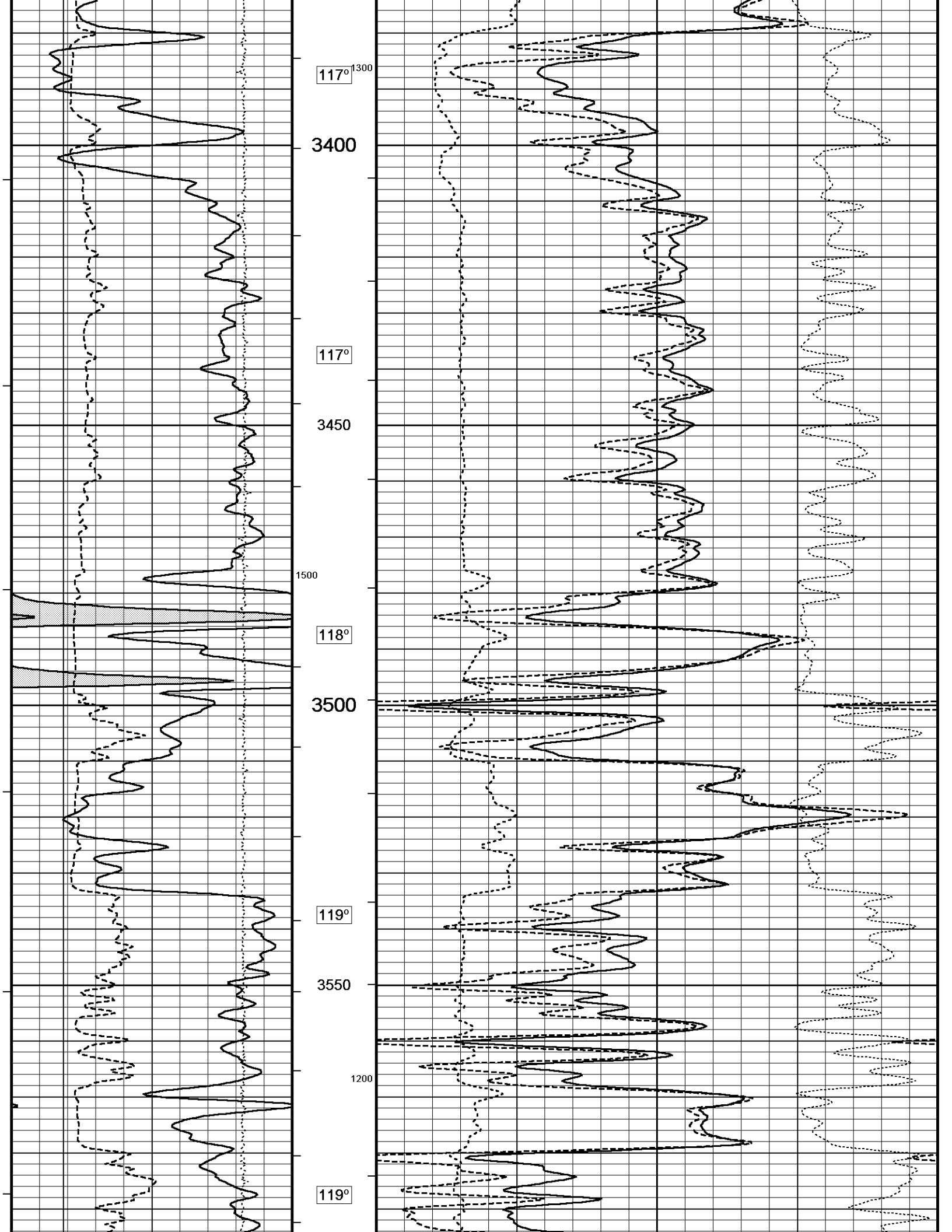
Compensated Density
grams/cc
2 2.25 2.50 2.75 3

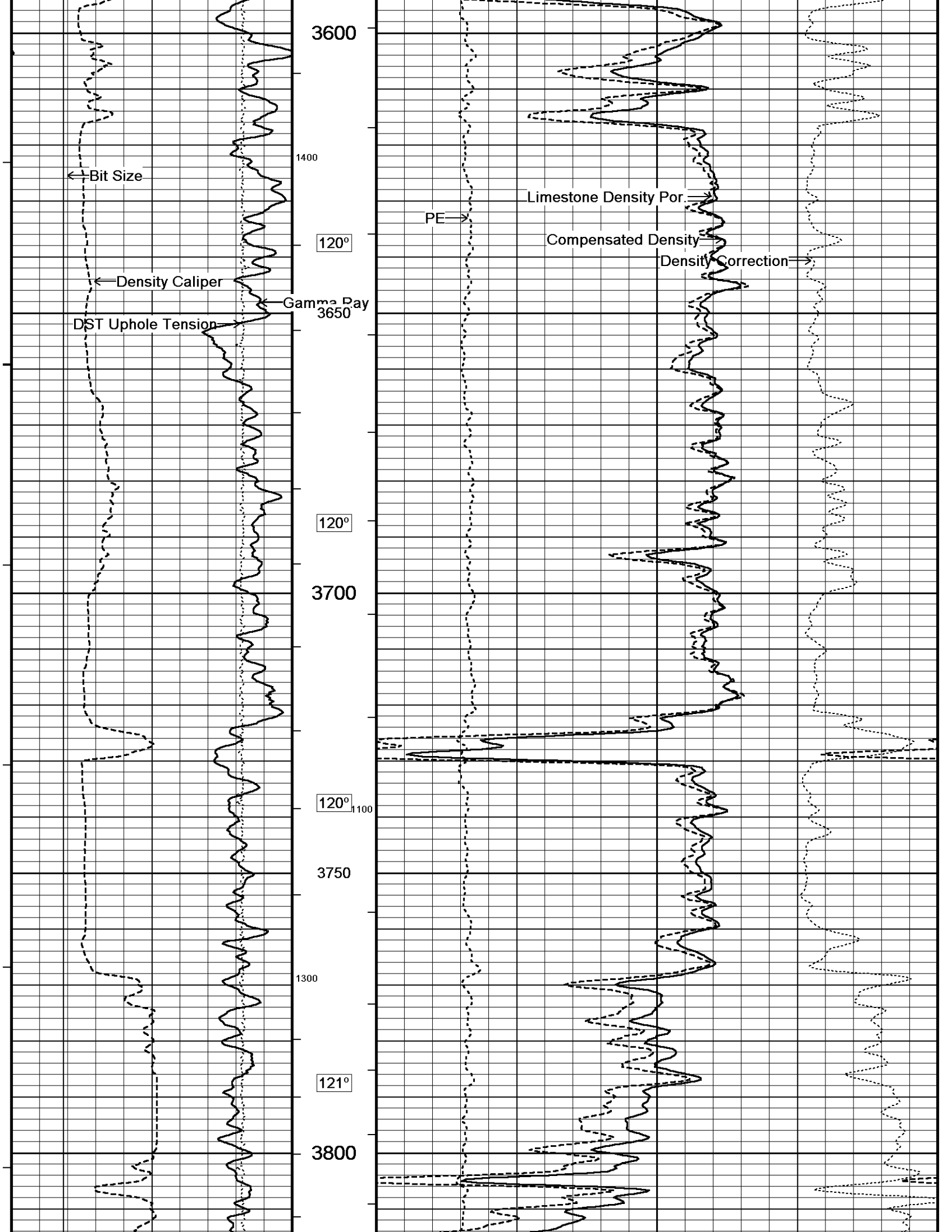
Limestone Density Por.
percent
30 20 10 0 -10

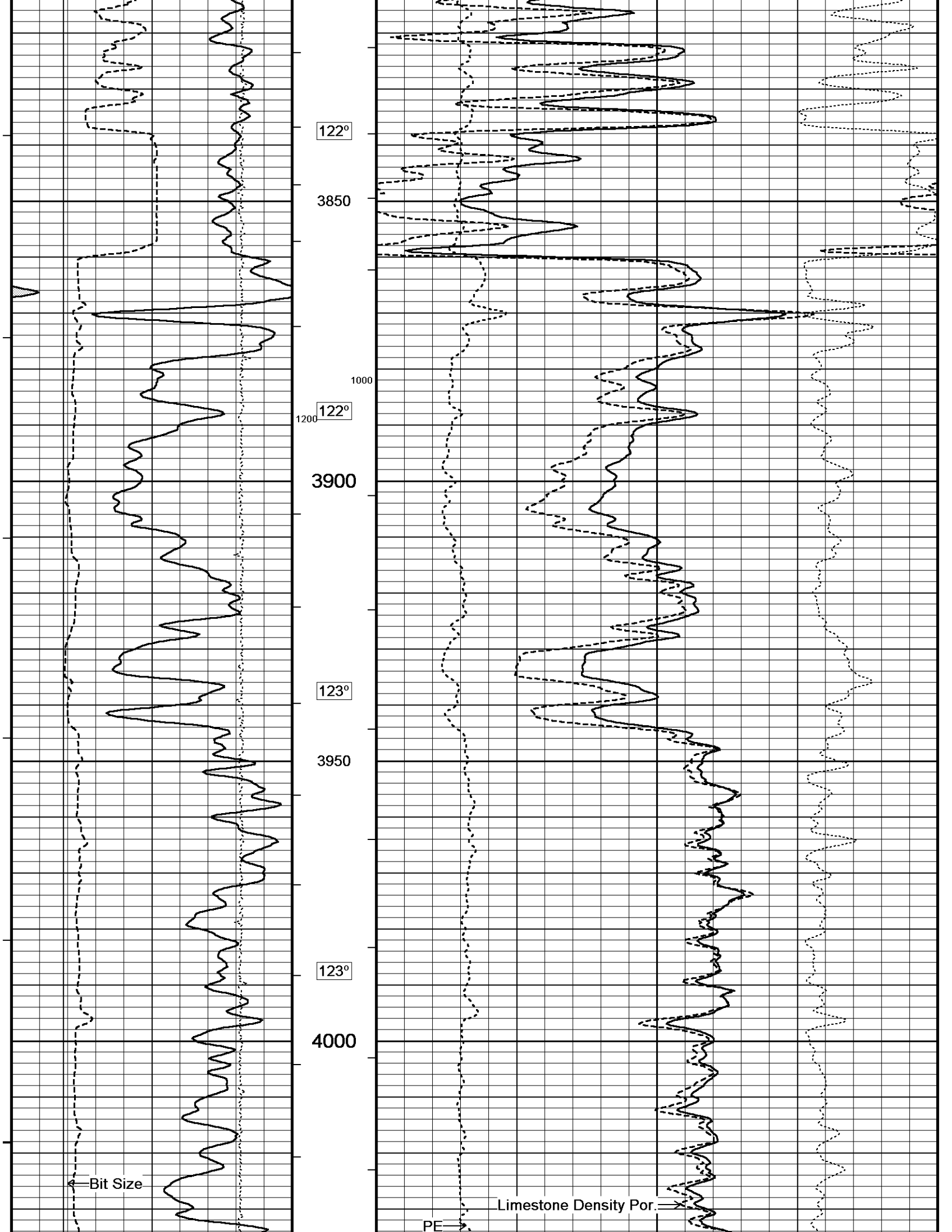
PE
barns/electron
0 5 10

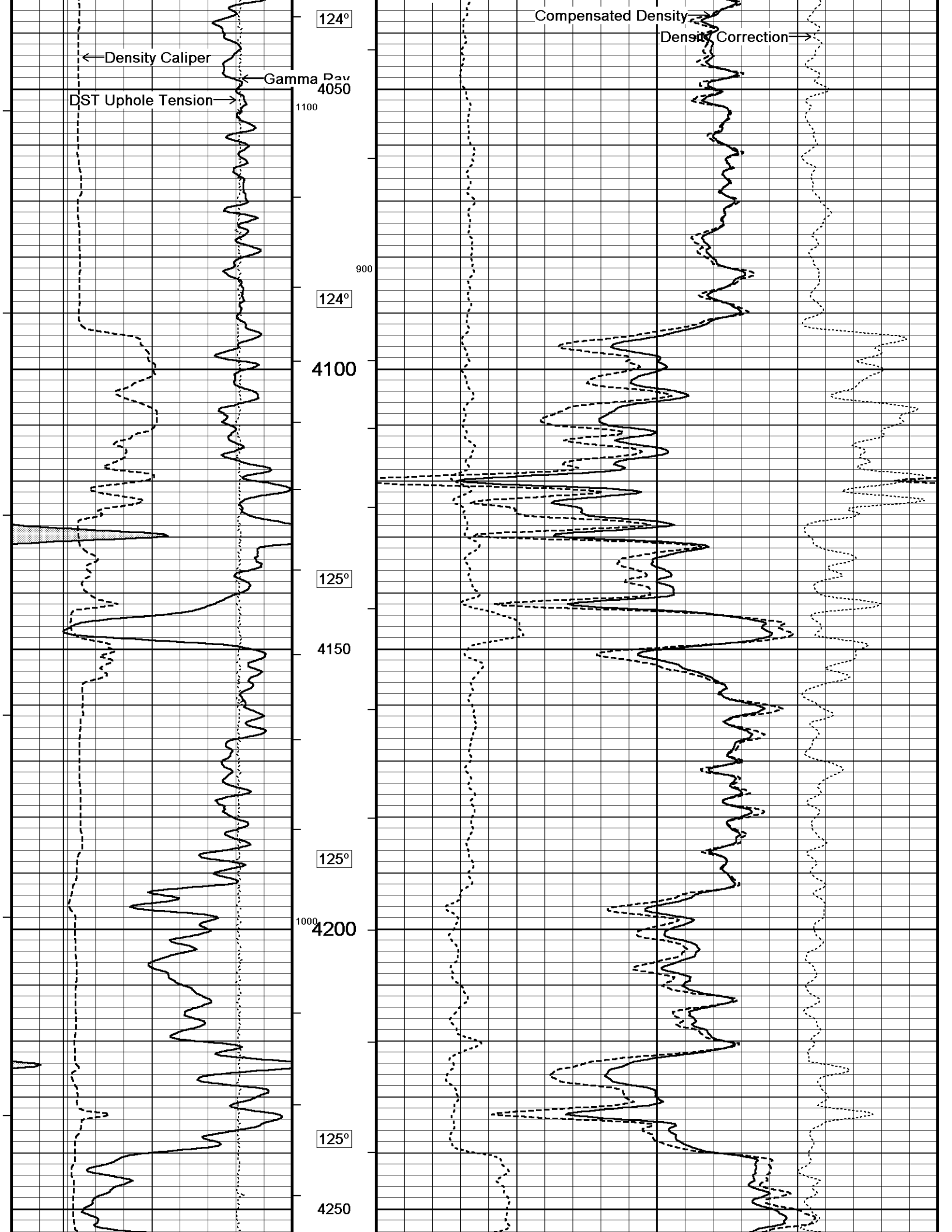
Density Correction
grams/cc
-0.25 0 0.25

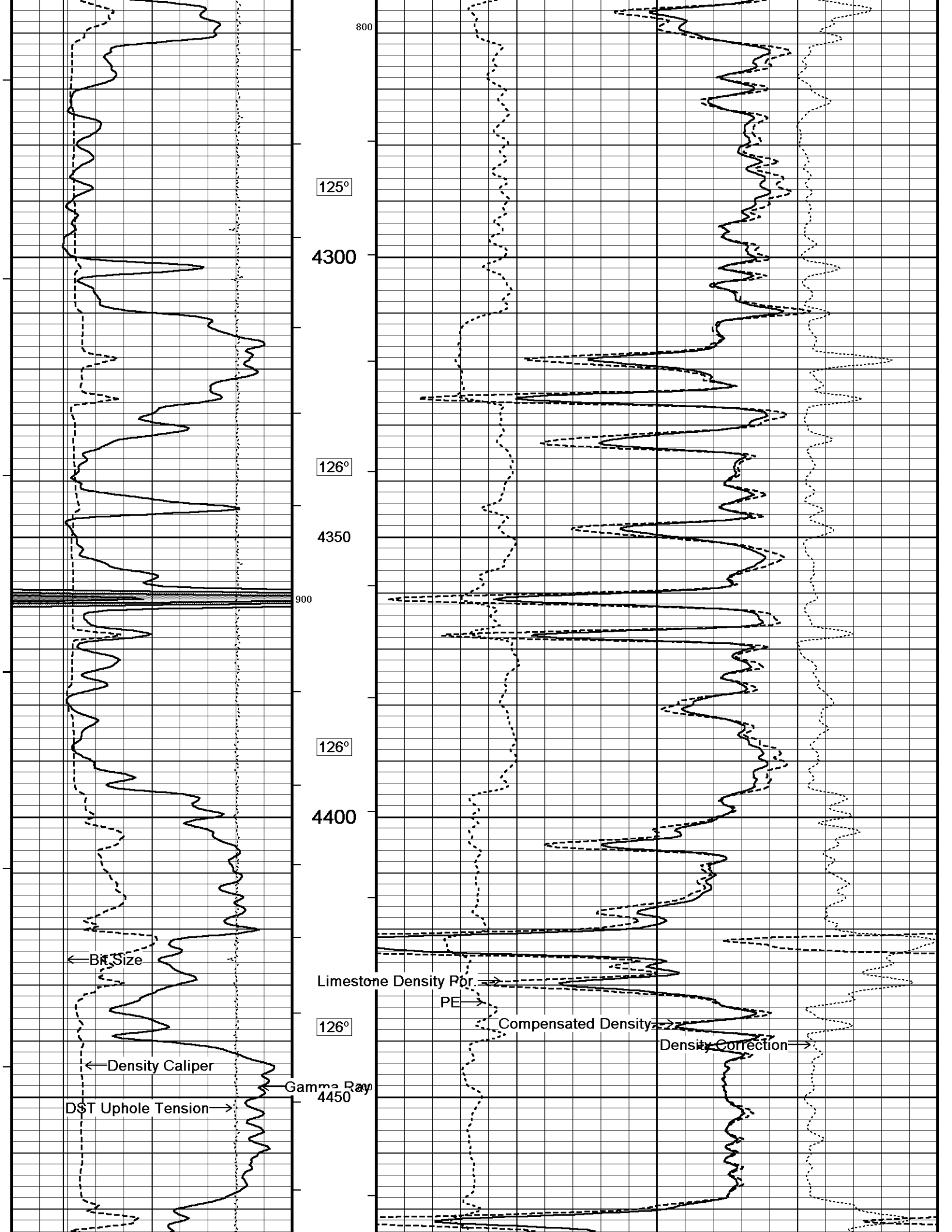
3300
1600
117°
3350

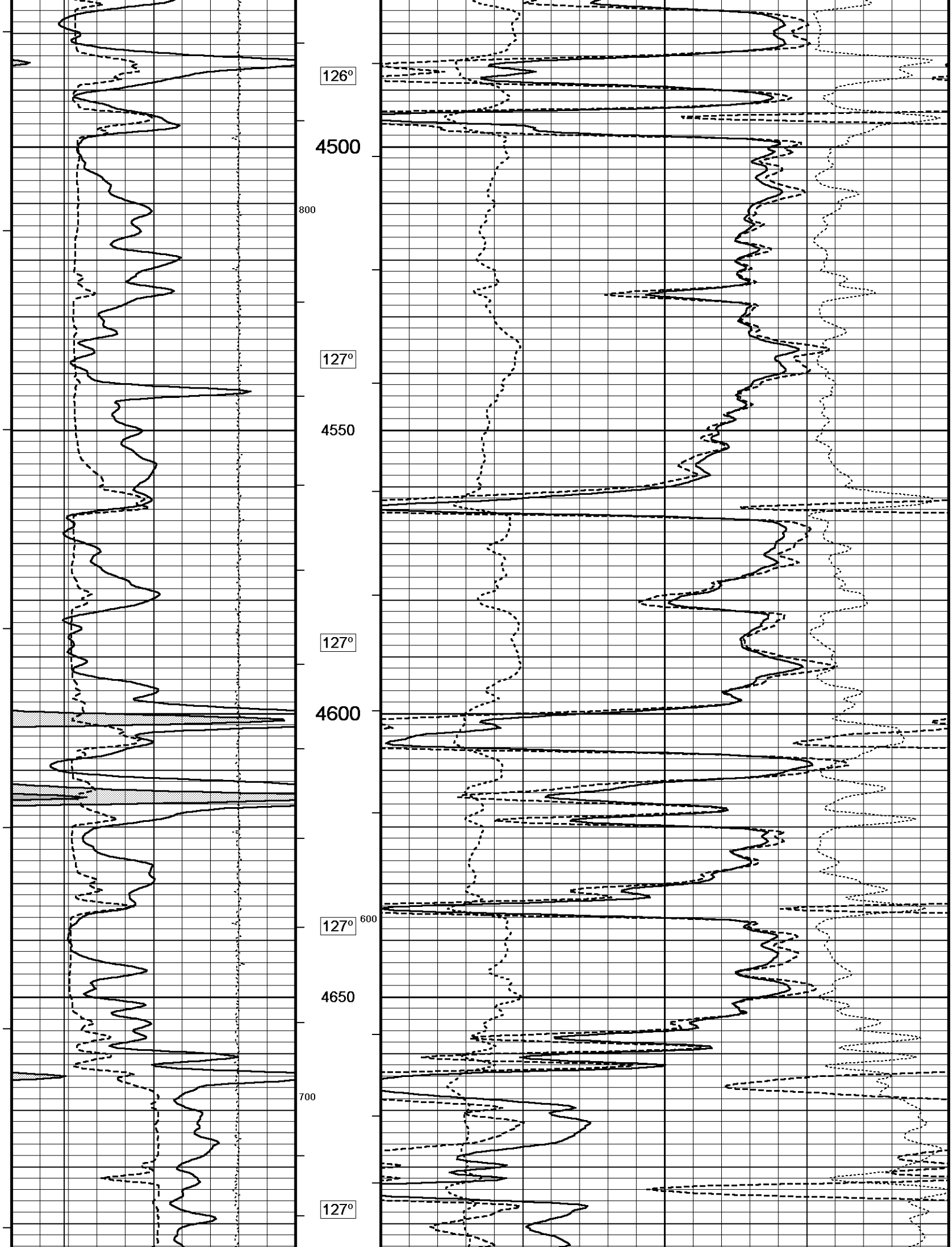

117°
1300
3400
117°
3450
1500
118°
3500
119°
3550
1200
119°

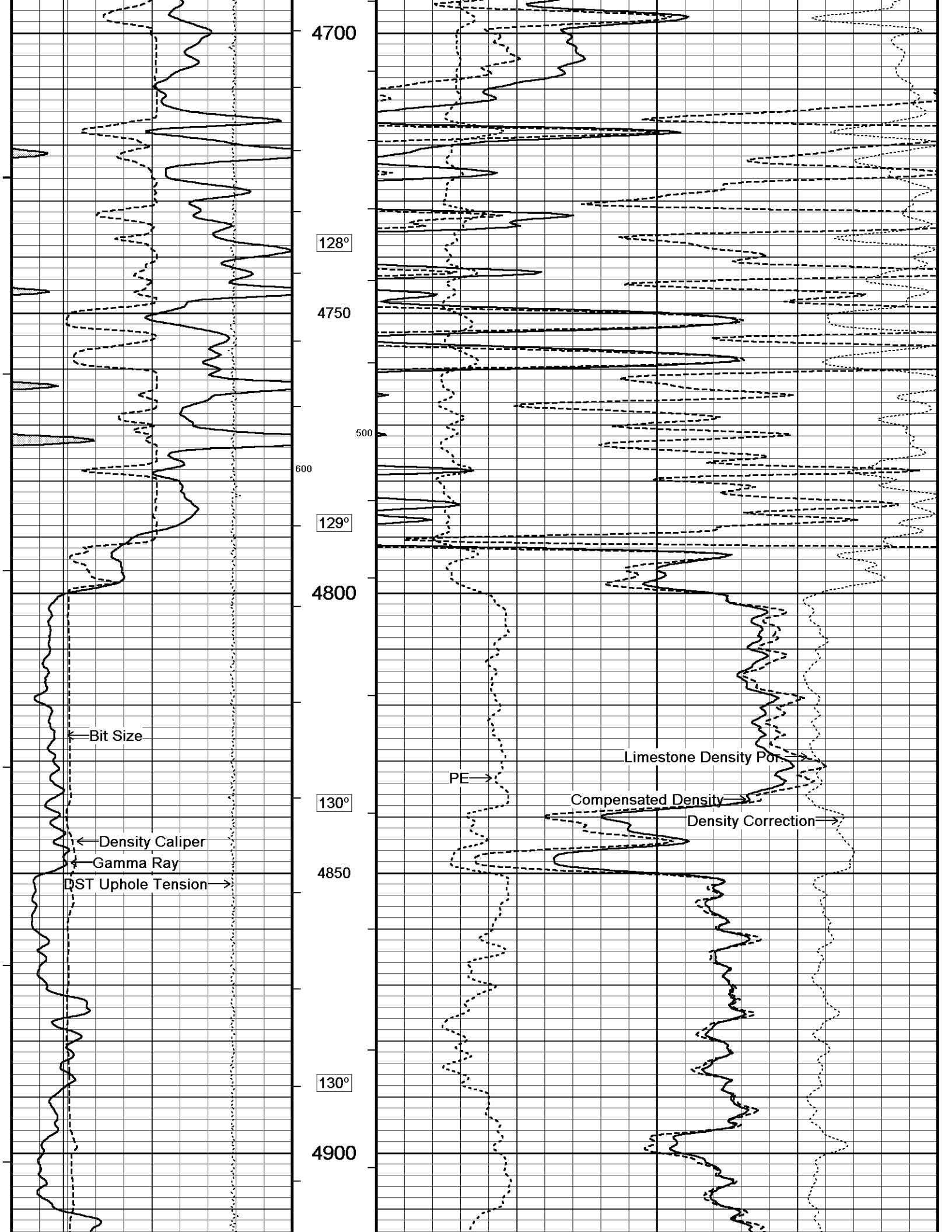

3600
1400
Bit Size
Limestone Density Por
PE
120°
Compensated Density
Density Correction
Density Caliper
Gamma Ray
3650
DST Uphole Tension
120°
3700
120°
1100
3750
1300
121°
3800

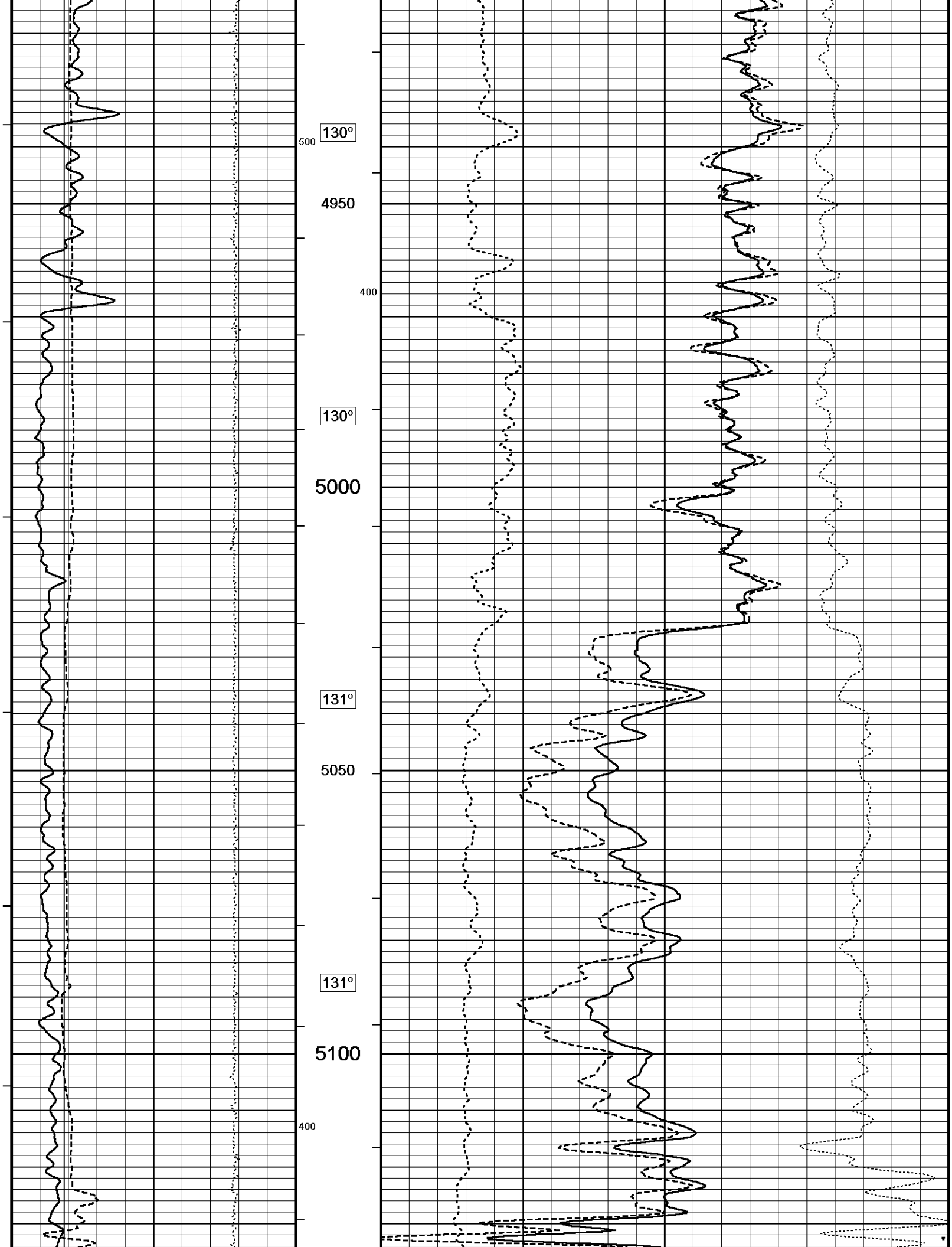

122°
3850
1000
1200
122°
3900
123°
3950
123°
4000
Bit Size
Limestone Density Por.
PE

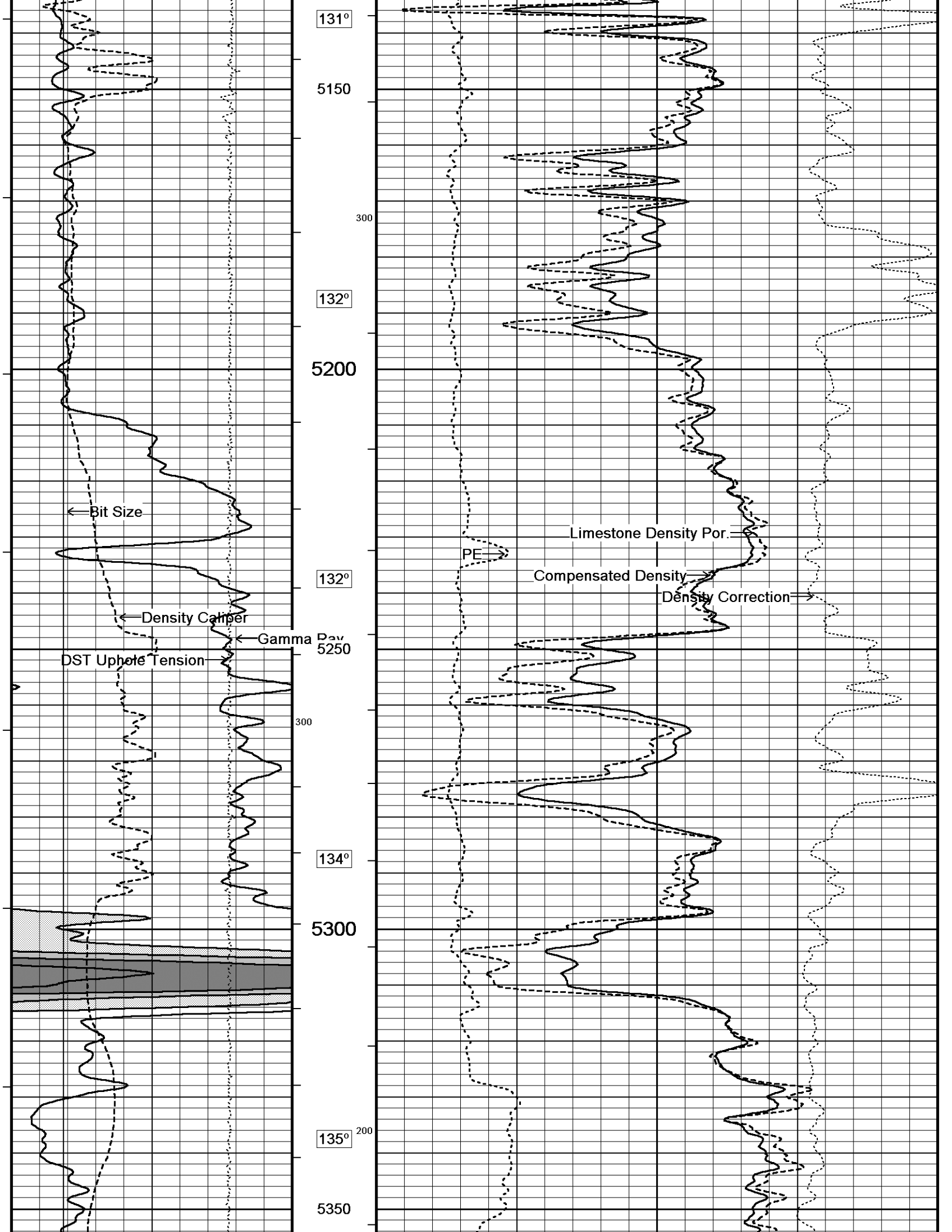

Compensated Density
Density Correction
Density Caliper
Gamma Ray
DST Uphole Tension
124°
124°
125°
125°
125°
4050
4100
4150
4200
4250
1100
900
1000

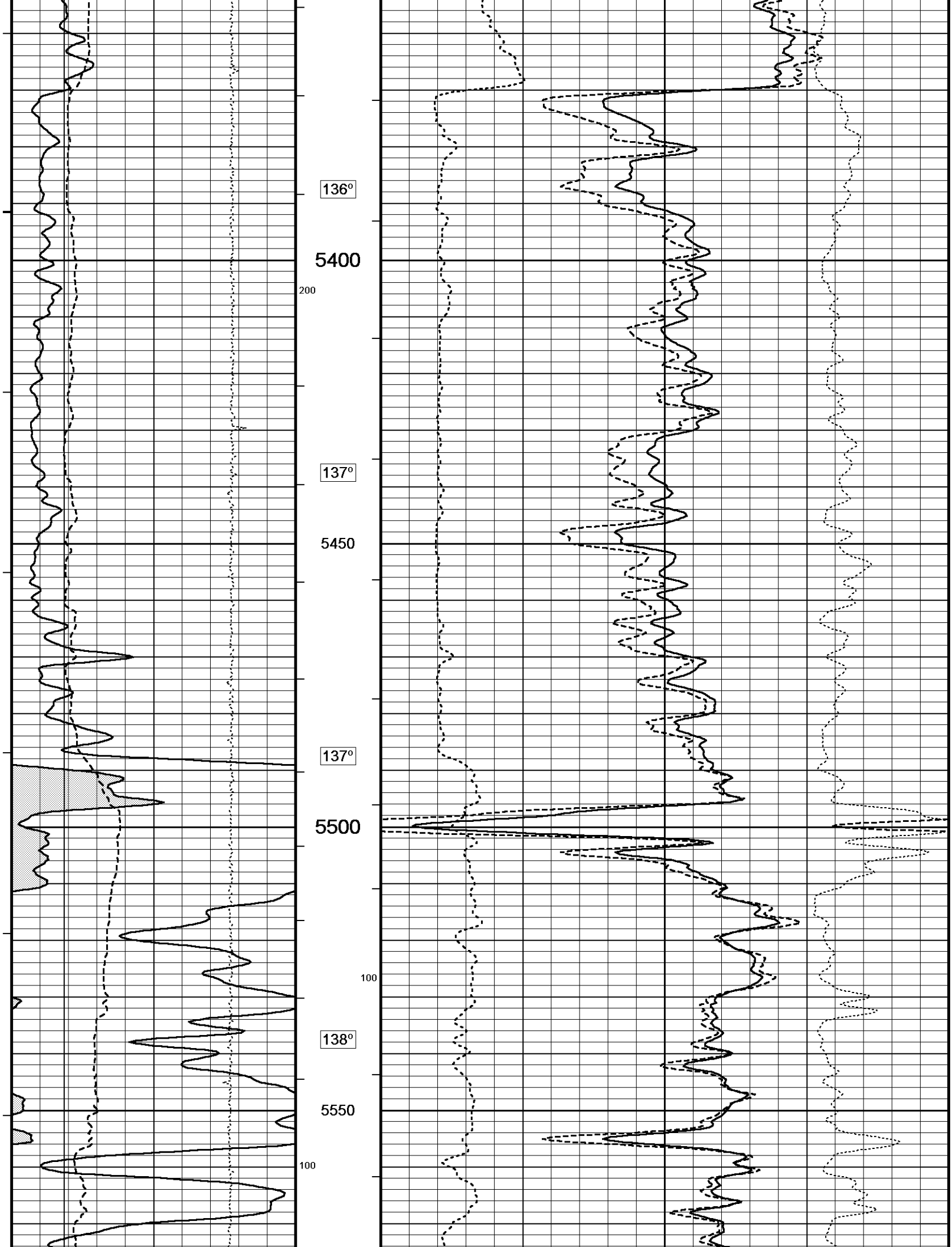

800
125°
4300
126°
4350
900
126°
4400
126°
4450
Bit Size
Density Caliper
DST Uphole Tension
Gamma Ray
Limestone Density Por.
PE
Compensated Density
Density Correction

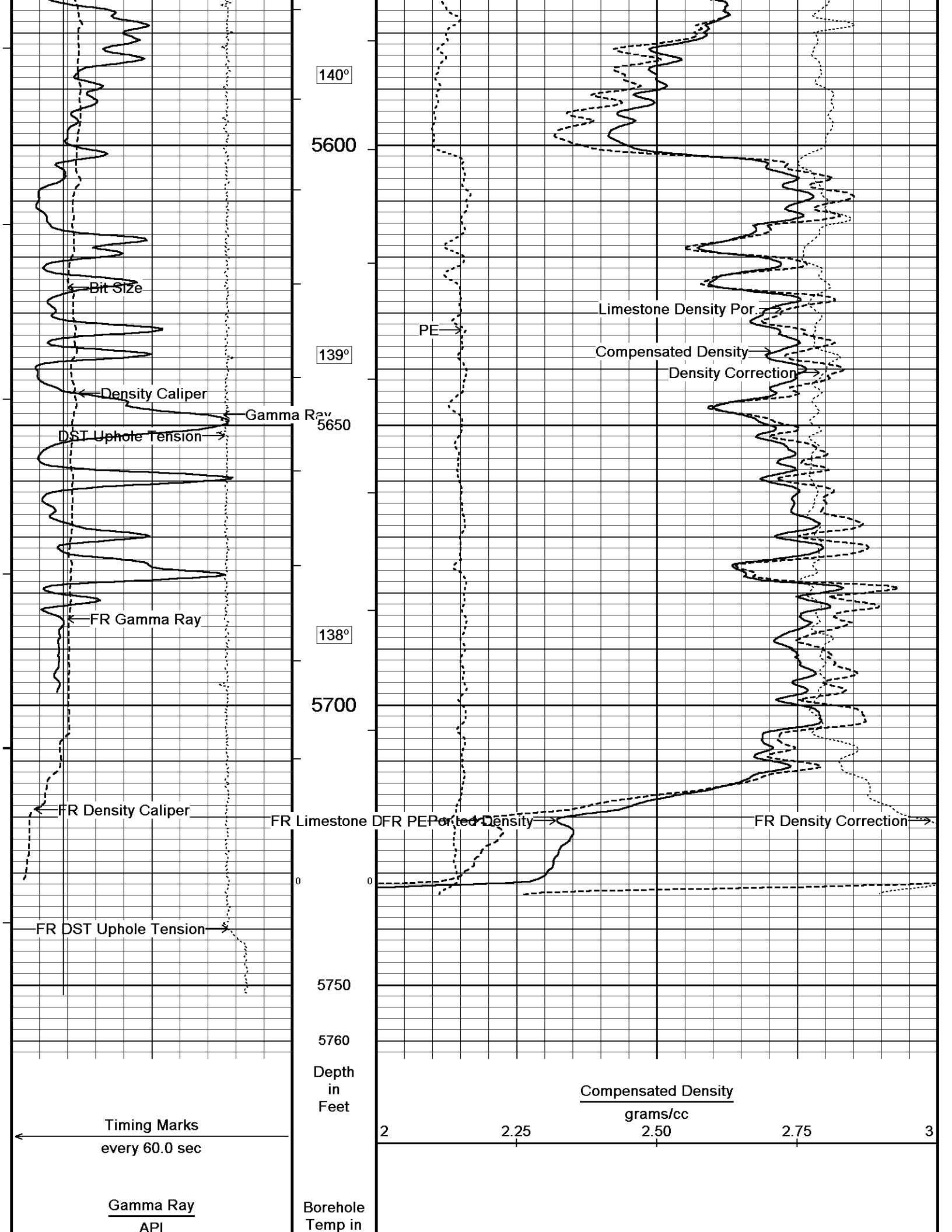

126°
4500
800
127°
4550
127°
4600
127°
600
4650
700
127°

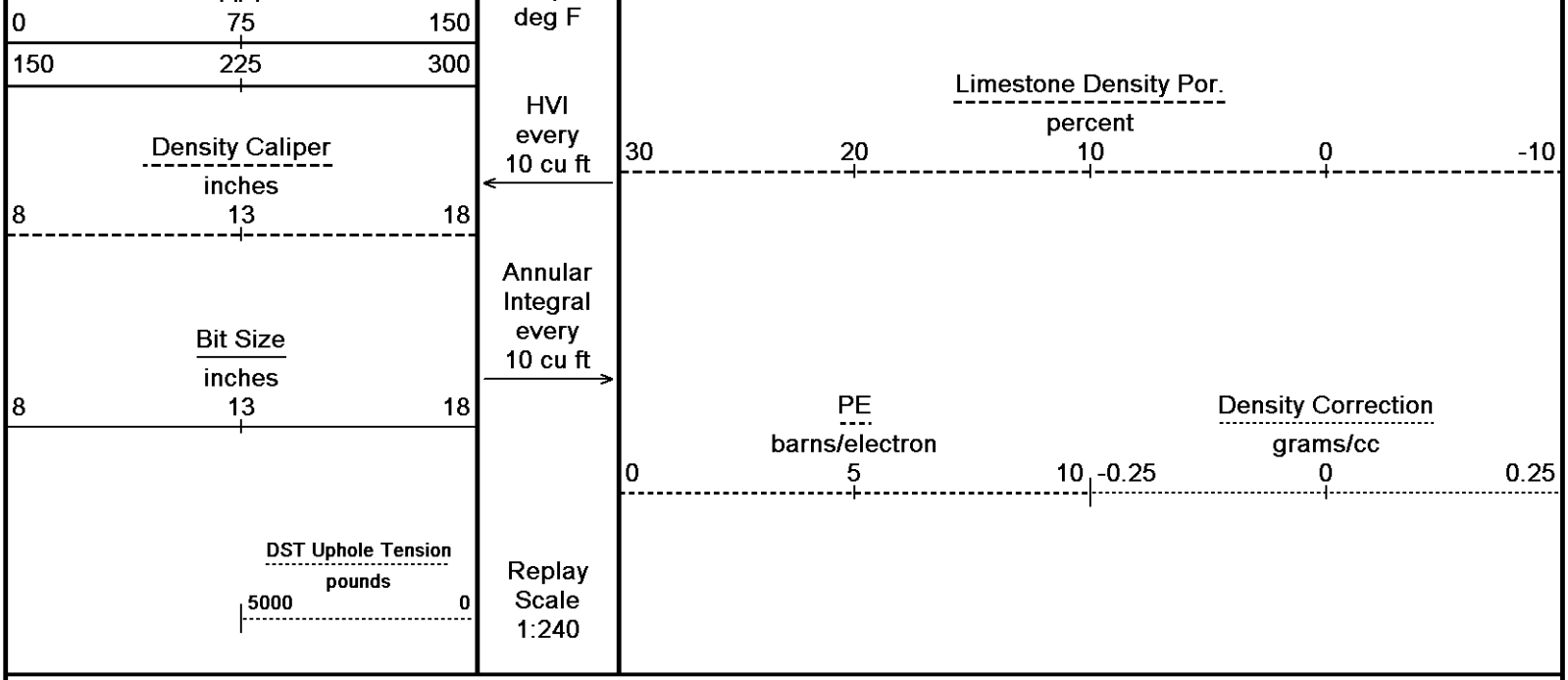

4700
128°
4750
500
600
129°
4800
Bit Size
PE
Limestone Density Por.
130°
Compensated Density
Density Correction
Density Caliper
Gamma Ray
4850
DST Uphole Tension
130°
4900


500
130°
4950
400
130°
5000
131°
5050
131°
5100
400


131°
5150
300
132°
5200
Bit Size
Limestone Density Por.
PE
132°
Compensated Density
Density Correction
Density Caliper
Gamma Ray
5250
DST Uphole Tension
300
134°
5300
135°
200
5350


136°
5400
200
137°
5450
137°
5500
100
138°
5550
100


140°
5600
139°
5650
138°
5700
5750
5760
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
FR Gamma Ray
FR Density Caliper
FR DST Uphole Tension
PE
Limestone Density Por
Compensated Density
Density Correction
FR Limestone DFR PEPorted Density
FR Density Correction
0
0
Depth
in
Feet
Timing Marks
every 60.0 sec
Gamma Ray
API
Borehole
Temp in
Compensated Density
grams/cc
2
2.25
2.50
2.75
3

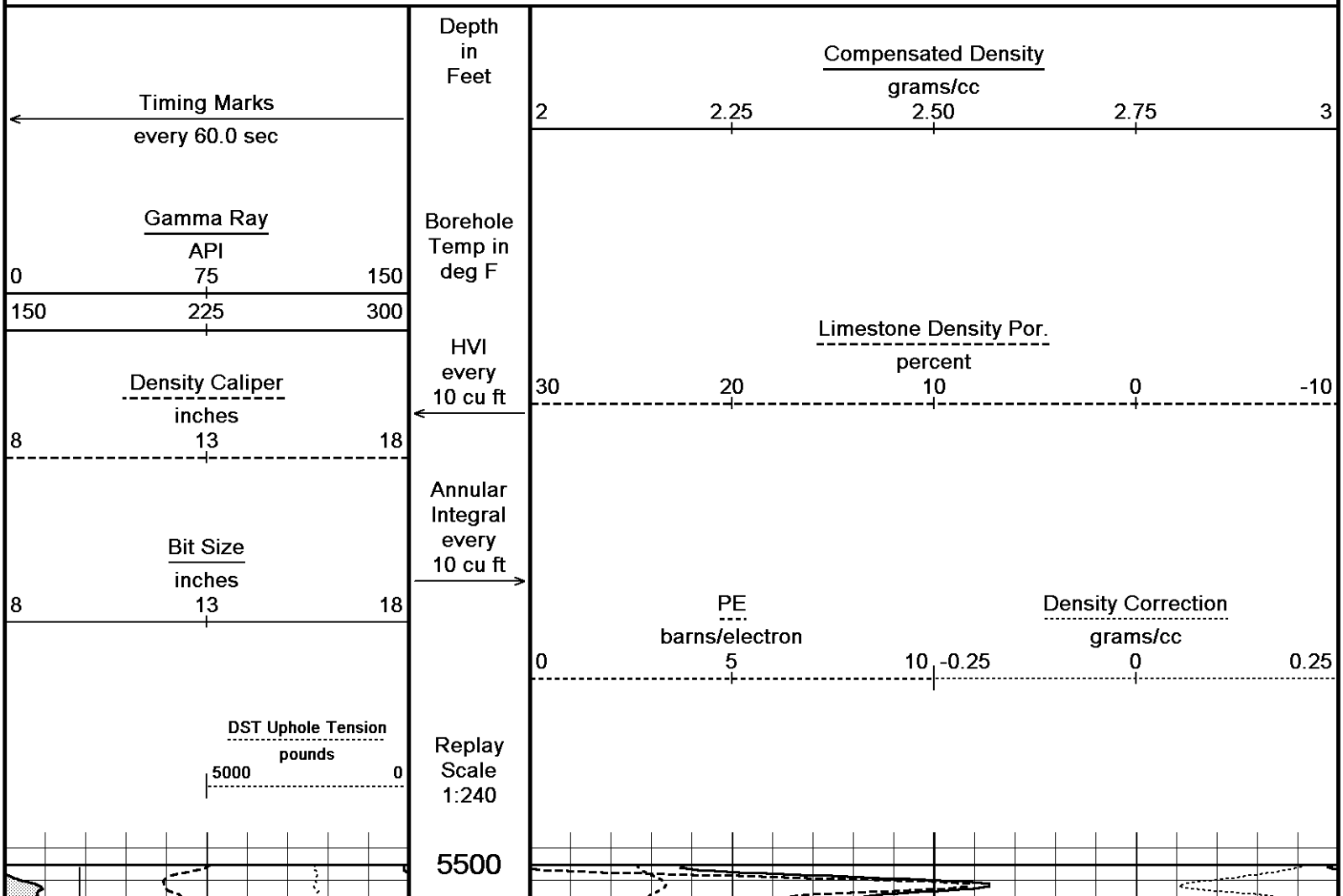


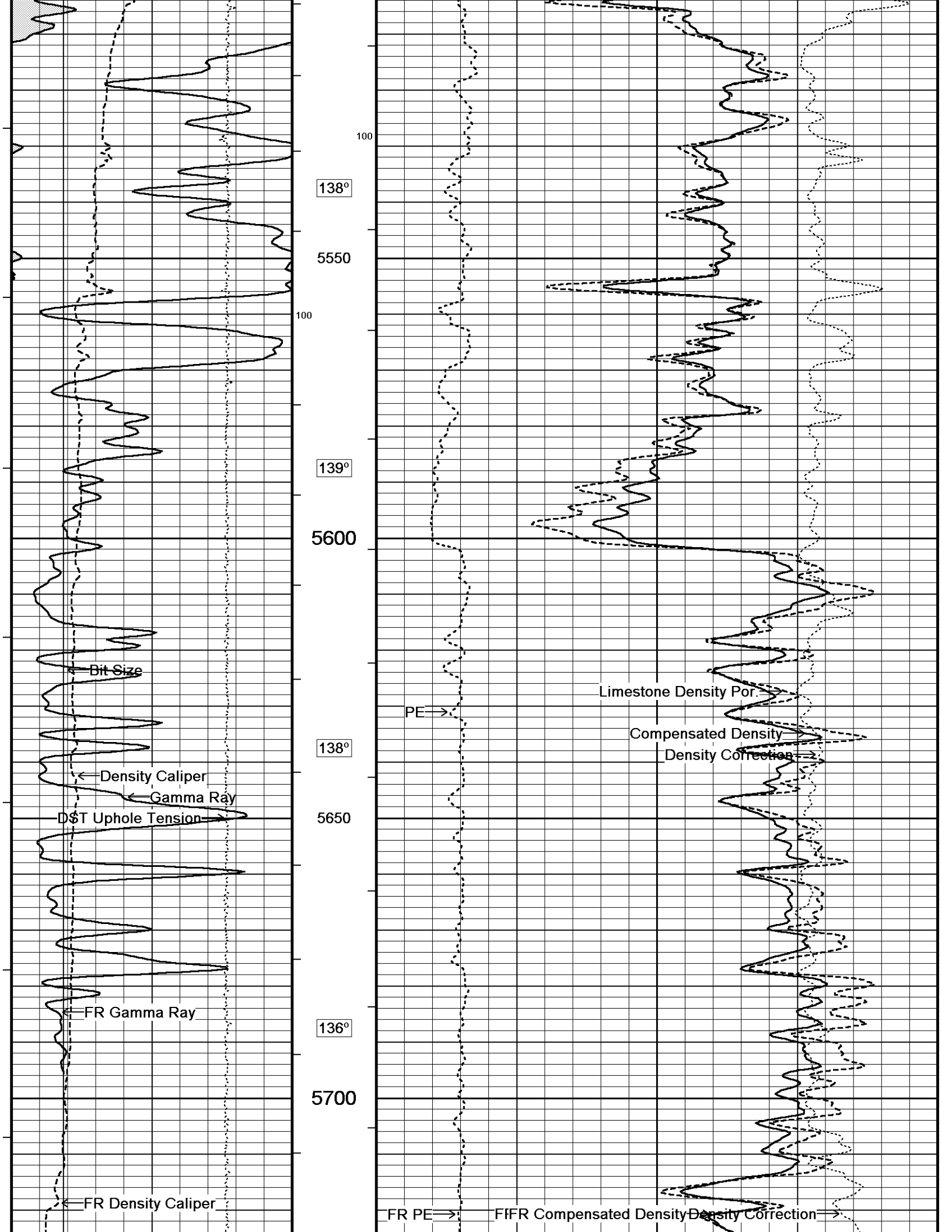
Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 27-JAN-2012 11:43
Filename: C:\Program Files\Weatherford\WLS 12.03\DATA\SANDRIDGE (...\SHEA 1-17 SWD_002.dta — Recorded on 27-JAN-2012 08:20
System Versions: Logged with 12.03.5032 Plotted with 12.03.5032

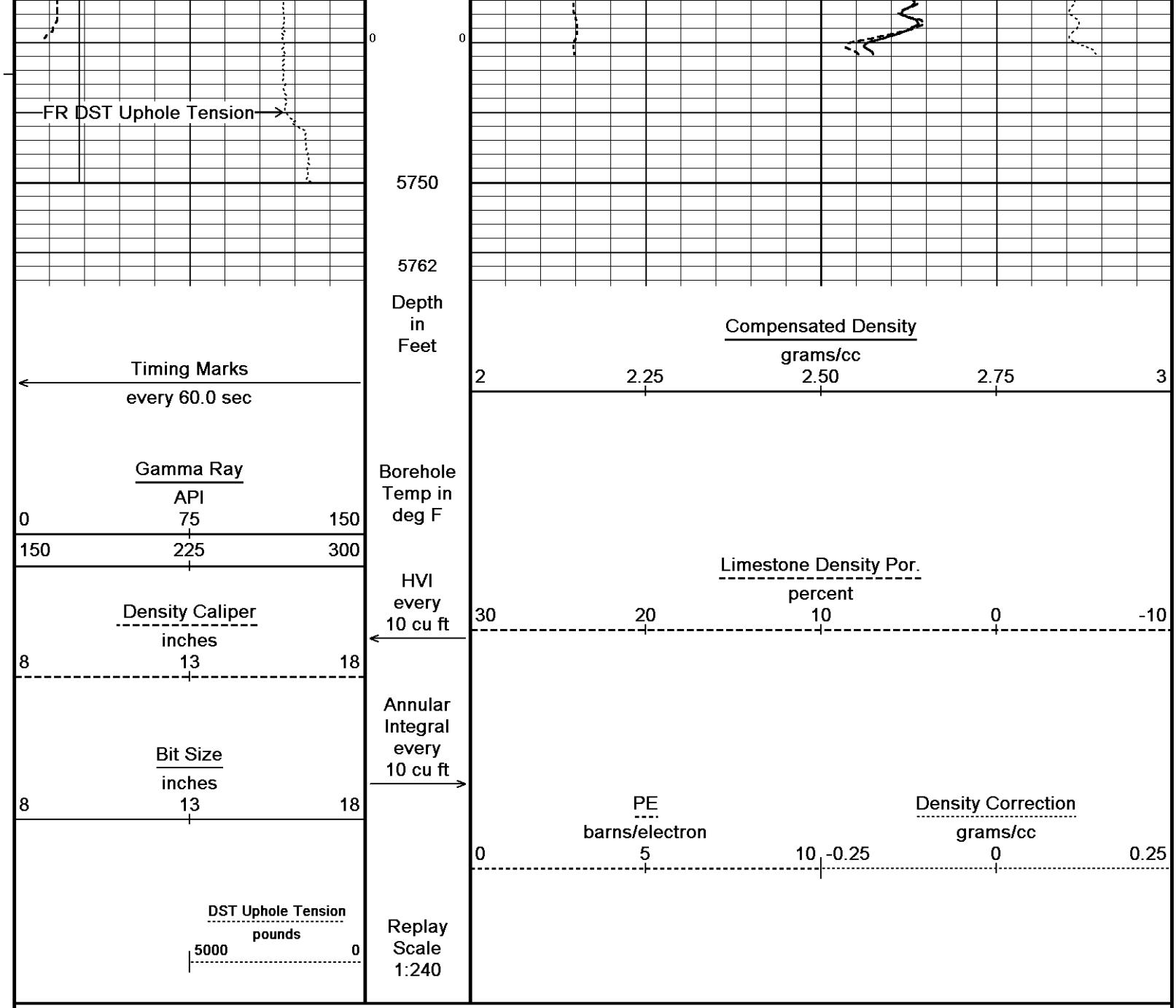
5 INCH BULK DENSITY

REPEAT SECTION

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 27-JAN-2012 11:43
Filename: C:\Program Files\Weatherford\WLS 12.03\DATA\SANDRIDGE (...\SHEA 1-17 SWD_001.dta — Recorded on 27-JAN-2012 08:02
System Versions: Logged with 12.03.5032 Plotted with 12.03.5032




100
138°
5550
100
139°
5600
Bit Size
Limestone Density Por.
PE
Compensated Density
Density Correction
138°
Density Caliper
Gamma Ray
DST Uphole Tension
5650
FR Gamma Ray
136°
5700
FR Density Caliper
FR PE
FIFR Compensated Density
Density Correction



Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 27-JAN-2012 11:43

Filename: C:\Program Files\Weatherford\WLS 12.03\DATA\SANDRIDGE (...\SHEA 1-17 SWD_001.dta — Recorded on 27-JAN-2012 08:02

System Versions: Logged with 12.03.5032 Plotted with 12.03.5032

REPEAT SECTION

BEFORE SURVEY CALIBRATION

C:\Program Files\Weatherford\WLS 12.03\DATA\SANDRIDGE (SHEA 1-17SWD)\SHEA 1-17 SWD.dta

General Constants All 000 — Last Edited on 27-JAN-2012,07:19

General Parameters		
Mud Resistivity	1.800	ohm-metres
Mud Resistivity Temperature	62.000	degrees F
Water Level	0.000	feet
Density/Neutron 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	4.500	inches
Caliper for Differential Caliper	Density Caliper	

Rwa Parameters

Porosity used	Limestone Density Por.
Resistivity used	Array Ind. One Res Rt
RWA Constant A	0.610
RWA Constant M	2.150

Down-hole Tension Calibration SMS 0

Field Calibration on 06-JAN-2012 05:19

Reading No	Measured	Calibrated (lbs)
1	14374.16	0.00
2	14374.76	400.00

High Resolution Temperature Calibration MCG-D.J 431

Field Calibration on 22-JAN-2012,07:58

	Measured	Calibrated(Deg F)
Lower	50.00	50.00
Upper	100.00	100.00

High Resolution Temperature Constants MCG-D.J 431

Last Edited on

Pre-filter Length	11

SP Calibration MCG-D.J 431

Field Calibration on 22-JAN-2012,07:57

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

Gamma Calibration MCG-D.J 431

Field Calibration on 22-JAN-2012,07:57

	Measured	Calibrated (API)
Background	68	48
Calibrator (Gross)	1860	1309
Calibrator (Net)	1792	1261

Gamma Constants MCG-D.J 431

Last Edited on 22-JAN-2012,07:57

Gamma Calibrator Number	46	
Mud Density	1.14	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl	0.00	kppm

Accelerometer Constants MBN-C.A 93

Last Edited on

Accelerometer Calibrator Number 000

Accelerometer Temperature Characterisation

X Accelerometer

Serial Number	0				
Calibration Date	01-Jan-1998				
	B0	B1	B2	B3	
Bias(g)	0.00000e+000	0.00000e+000	0.00000e+000	0.00000e+000	
	SF0	SF1	SF2	SF3	
Scale Factor(mA/g)	0.00000e+000	0.00000e+000	0.00000e+000	0.00000e+000	

Y Accelerometer

Serial Number	0				
Calibration Date	01-Jan-1998				
	B0	B1	B2	B3	
Bias(g)	0.00000e+000	0.00000e+000	0.00000e+000	0.00000e+000	
	SF0	SF1	SF2	SF3	
Scale Factor(mA/g)	0.00000e+000	0.00000e+000	0.00000e+000	0.00000e+000	

Z Accelerometer

Serial Number	0				
Calibration Date	01-Jan-1998				
	B0	B1	B2	B3	
Bias(g)	0.00000e+000	0.00000e+000	0.00000e+000	0.00000e+000	
	SF0	SF1	SF2	SF3	
Scale Factor(mA/g)	0.00000e+000	0.00000e+000	0.00000e+000	0.00000e+000	

Navigation Constants MBN-C.A 93

Last Edited on

Magnetic Declination	0.00	degrees	East

Magnetometer Constants MBN-C.A 93

Last Edited on

Magnetometer Calibrator Number	000

Micro Normal and Micro Inverse Calibration MMR-A.A 6

Base Calibration on 22-JAN-2012,07:58
Field Check on

Base Calibration

Channel	Measured Resistor 1	Measured Resistor 2	Calibrated (ohm-m) Resistor 1	Calibrated (ohm-m) Resistor 2
Micro Normal	12.0	59.8	2.6	12.8
Micro Inverse	15.6	77.2	1.7	8.4

Channel	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	38.9	0.0
Micro Inverse	19.9	0.0

Micro Normal and Micro Inverse Constants MMR-A.A 6

Last Edited on 29-OCT-2011,09:57

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	0.0000	inches

Micro Laterolog Calibration MMR-A.A 6

Base Calibration on 15-SEP-2008,10:36
Field Check on 15-SEP-2008,10:53

Base Calibration

Measured Ref 1	Measured Ref 2	Calibrated (ohm-m) Ref 1	Calibrated (ohm-m) Ref 2
0.0	9889.3	0.0	1.0

Base Check (ohm-m)	Field Check (ohm-m)
4.0	3.2

Micro Laterolog Constants MMR-A.A 6

Last Edited on 15-SEP-2008,14:57

Pad Type	6 in 2.25 in OD Solid Rubber B32069	
Micro Laterolog K Factor	0.0100	
Standoff Offset	0.0000	inches

Mudcake Thickness Correction Constants

Mud Cake Source	Differential Caliper	
Mud Cake Thickness	N/A	inches
Mud Cake Thickness Caliper	MMR 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.	N/A	

Caliper Calibration MMR-A.A 6

Base Calibration on 29-SEP-2011 10:19
Field Calibration on 22-JAN-2012 08:54

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	13293	5.97
2	16511	7.99
3	19695	9.86
4	23612	11.93
5	0	0.00
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
8.49	8.10

Neutron Calibration MDN-A.A 10

Base Calibration on 22-JAN-2012,07:58
Field Check on 22-JAN-2012,07:59

Base Calibration

	Measured Near	Measured Far	Calibrated (cps) Near	Calibrated (cps) Far
	3130	98	3714	110
Ratio	31.818		33.764	

Field Calibrator at Base	Calibrated (cps)	
	1248	1792
Ratio	0.696	

Field Check	Calibrated (cps)	
	1248	1792
Ratio	0.696	

Neutron Constants MDN-A.A 10

Last Edited on 22-JAN-2012,07:59

Neutron Source Id	P14033B	
Neutron Jig Number	13226	
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	Constant Value	
Formation Pressure	0.00	kpsi
Temperature Source	None	
Temperature	N/A	degrees F
Mud Salinity	0.00	kppm
Salinity Correction	Not Applied	
Formation Fluid Salinity Source	Constant Value	
Formation Fluid Salinity	0.00	kppm
Barite Mud Correction	Not Applied	

FE Calibration MFE-A.A 65

Base Calibration on 04-OCT-2011 13:00
Field Check on 22-JAN-2012,07:59

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	959.5	126.8
Base Check		281.4
Field Check		281.0

FE Constants MFE-A.A 65

Last Edited on 22-JAN-2012,08:00

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

High Resolution Temperature Calibration MAI-A.A 102

Field Calibration on 22-JAN-2012,08:00

	Measured	Calibrated(Deg F)
Lower	50.00	50.00
Upper	100.00	100.00

High Resolution Temperature Constants MAI-A.A 102

Last Edited on

Pre-filter Length	11

Induction Calibration MAI-A.A 102

Base Calibration on 24-FEB-2011 20:51
Field Check on 22-JAN-2012,08:00

Base Calibration

Test Loop Calibration

	Measured		Calibrated (mmho/m)	
Channel	Low	High	Low	High
1	17.3	481.3	9.3	966.2
2	5.4	377.6	7.6	821.4
3	2.4	255.3	5.2	566.0
4	1.5	133.4	2.6	279.2

Array Temperature	78.4	Deg F

Channel	Base Check (mmho/m)	Field Check (mmho/m)

	Low	High	Low	High	
1	0.0	0.0	12.9	3810.4	
2	0.0	0.0	32.4	3607.4	
3	0.0	0.0	31.5	3125.7	
4	0.0	0.0	20.6	2087.4	
Deep	0.0	0.0	18.9	2000.5	
Medium	0.0	0.0	47.0	4181.8	
Shallow	0.0	0.0	48.7	5375.7	
Array Temperature		0.0		70.7	Deg F

Induction Constants MAI-A.A 102

Last Edited on 22-JAN-2012,08:00

Induction Model	RtAP-WBM	
Caliper for Borehole Corr.	Density Caliper	
Hole Size for Borehole Correction	N/A	inches
Tool Centred	No	
Stand-off Type	Fins	
Stand-off	0.00	inches
Number of Fins on Stand-off	6.0000	
Stand-off Fin Angle	60.00	degrees
Stand-off Fin Width	0.0000	inches
Borehole Corr. Rm Source	Temperature Corr	
Temp. for Rm Corr.	MCG External Temperature	
Squasher Start	0.0060	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-A 3

Base Calibration on 04-OCT-2011,14:09
Field Calibration on 22-JAN-2012 08:55

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	20208	3.98
2	28784	5.95
3	37424	7.97
4	45392	9.84
5	54503	11.91
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
8.92	8.10

Photo Density Calibration MPD-A 3

Base Calibration on 20-JAN-2012 09:16
Field Check on 22-JAN-2012,07:59

Density Calibration

Base Calibration

	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	47137	24758	59869	31110

Reference 1	47137	24758	59869	31110
Reference 2	19919	2782	24557	2522

Field Check at Base

1293.7 1629.3

Field Check

1293.7 1629.3

PE Calibration

Base Calibration

	WS	Measured WH	Ratio	Calibrated Ratio
Background	236	1156		
Reference 1	18974	46946	0.409	0.369
Reference 2	5522	19773	0.284	0.271

Field Check at Base

235.5 1155.9

Field Check

235.5 1155.9

Density Constants MPD-A 3

Last Edited on 22-JAN-2012,07:59

Density Source Id	260	
Nylon Calibrator Number	633	
Aluminium Calibrator Number	633	
Density Shoe Profile	8 inch	
Caliper Source for Processing	Density Caliper	
PE Correction to Density	Not Applied	
Mud Density	1.14	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)	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

DOWNHOLE EQUIPMENT

C:\Program Files\Weatherford\WLS 12.03\DATA\SANDRIDGE (SHEA 1-17SWD)\SHEA 1-17 SWD.dta

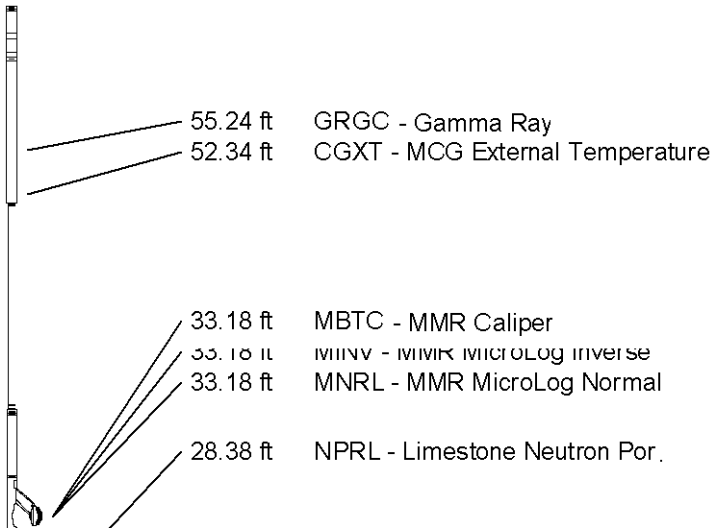
SHA-F Compact Swivel Head Adaptor
SHA-F 45 LG: 2.74 ft WT: 26.5 lb OD: 2.24 in

Compact Comms Gamma
MCG-D.J 431 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Compact Navigation
MBN-C.A 93 LG: 11.81 ft WT: 70.5 lb OD: 2.24 in

Compact Micro-Resistivity
MMR-A.A 6 LG: 8.59 ft WT: 81.6 lb OD: 4.88 in

Compact Neutron
MDN-A.A 10 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

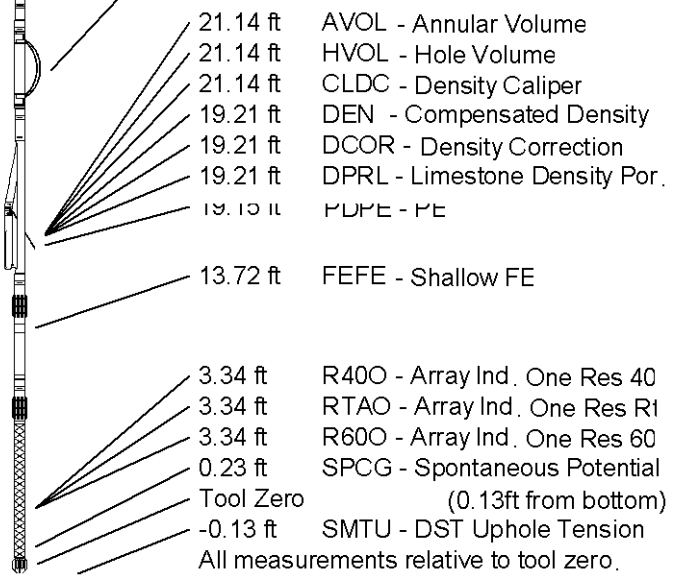


Compact Density/Caliper
MPD-A 3 LG: 9.53 ft WT: 90.4 lb OD: 2.45 in

Compact Focussed Electric
MFE-A.A 65 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

Compact Induction
MAI-A.A 102 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

Total Length: 63.27 ft Weight: 480.6 lb



21.14 ft	AVOL - Annular Volume
21.14 ft	HVOL - Hole Volume
21.14 ft	CLDC - Density Caliper
19.21 ft	DEN - Compensated Density
19.21 ft	DCOR - Density Correction
19.21 ft	DPRL - Limestone Density Por.
19.15 ft	PDPE - PE
13.72 ft	FEFE - Shallow FE
3.34 ft	R40O - Array Ind. One Res 40
3.34 ft	RTAO - Array Ind. One Res Rt
3.34 ft	R60O - Array Ind. One Res 60
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	SANDRIDGE ENERGY, INC.
WELL	SHEA 1-17 SWD
FIELD	STRANATHAN
PROVINCE/COUNTY	HARPER
COUNTRY/STATE	U.S.A/ KANSAS

Elevation Kelly Bushing	1301.50	feet	First Reading	5721.00	feet
Elevation Drill Floor	1299.50	feet	Depth Driller	5737.00	feet
Elevation Ground Level	1284.00	feet	Depth Logger	5740.00	feet

Weatherford®

COMPACT PHOTO DENSITY
COMPENSATED NEUTRON
MICRO-RESISTIVITY LOG

40 Years of Wireline 1970 2010