Weatherford®

COMPACT PHOTO DENSITY COMPENSATED NEUTRON MICRORESISTIVITY LOG

COMPANY	MCCOY PETROLEUM CORPORATION
WELL	UMCC A 1-17
FIELD	WILDCAT
PROVINCE/COUNTY	MEADE
COUNTRY/STATE	U.S.A. / KANSAS
LOCATION	2310' FSL & 990' FWL OF THE _ NE NW SW

SEC	TWP	RGE	Other Services
17	30S	30W	MPD/MDN
API Number 15-119-21363			MAI/MFE
Permit Number			MML

Permanent Datum GL, Elevation 2816 feet
Log Measured From KB
Drilling Measured From KB AT 11 FEET

Elevations:	feet
KB	2827.00
DF	2825.00
GL	2816.00

Date	04-MAR-2014			
Run Number	ONE			
Service Order	5872-81112334			
Depth Driller	5700.00	feet		
Depth Logger	5702.00	feet		
First Reading	5683.00	feet		
Last Reading	4000.00	feet		
Casing Driller	1828.00	feet		
Casing Logger	1829.00	feet		
Bit Size	7.875	inches		
Hole Fluid Type	CHEM			
Density / Viscosity	9.30 lb/USg	62.00 CP		
PH / Fluid Loss	10.00	8.00 ml/30Min		
Sample Source	FLOW LINE			
Rm @ Measured Temp	1.40 @ 70.0	ohm-m		
Rmf @ Measured Temp	1.12 @ 70.0	ohm-m		
Rmc @ Measured Temp	1.68 @ 70.0	ohm-m		
Source Rmf / Rmc	CALC	CALC		
Rm @ BHT	0.83 @118.0	ohm-m		
Time Since Circulation	4 HRS			
Max Recorded Temp	118.00	deg F		
Equipment / Base	13057	LIB		
Recorded By	D. COLE			
Witnessed By	D. WILLIAMS			
JOB #	LB 14-063			

BOREHOLE RECORD

Last Edited: 04-MAR-2014 07:55

Bit Size inches	Depth From feet	Depth To feet
7.875	1828.00	5700.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
CASING	8.625	0.00	1828.00	24.00

REMARKS

- SOFTWARE ISSUE: WLS 13.05.9583.
- MCG, MML, MDN, MPD, MFE, AND 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 4000 FEET: 600 CU. FT.
- ANNULAR HOLE VOLUME WITH 5.5 INCH PRODUCTION CASING FROM TD TO 4000 FEET: 320 CU. FT.

- RIG: STIRLING

- ENGINEER: D. COLE

- OPERATOR(S): K. PHILLIPS AND C. RAMIREZ

- LCM: 6 LBS/PBL

- CHLORIDES: 1800 PPM

5 INCH MAIN

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 04-MAR-2014 13:47
Filename: C:\Minimus 13.05.9583\Logs\MCCOY UMCC A 1-17\MCCOY UMCC A 1-17 MAIN.dta
Recorded on 04-MAR-2014 10:53
System Versions: Logged with 13.05.9583 Processed with 13.05.9583 Plotted with 13.05.9583

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

Depth in Feet

Borehole Temp in deg F

HVI every 10 cu ft

Annular Integral every 10 cu ft

Replay Scale 1:240

4000

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 30

Micro-inverse
ohm metres
0 30

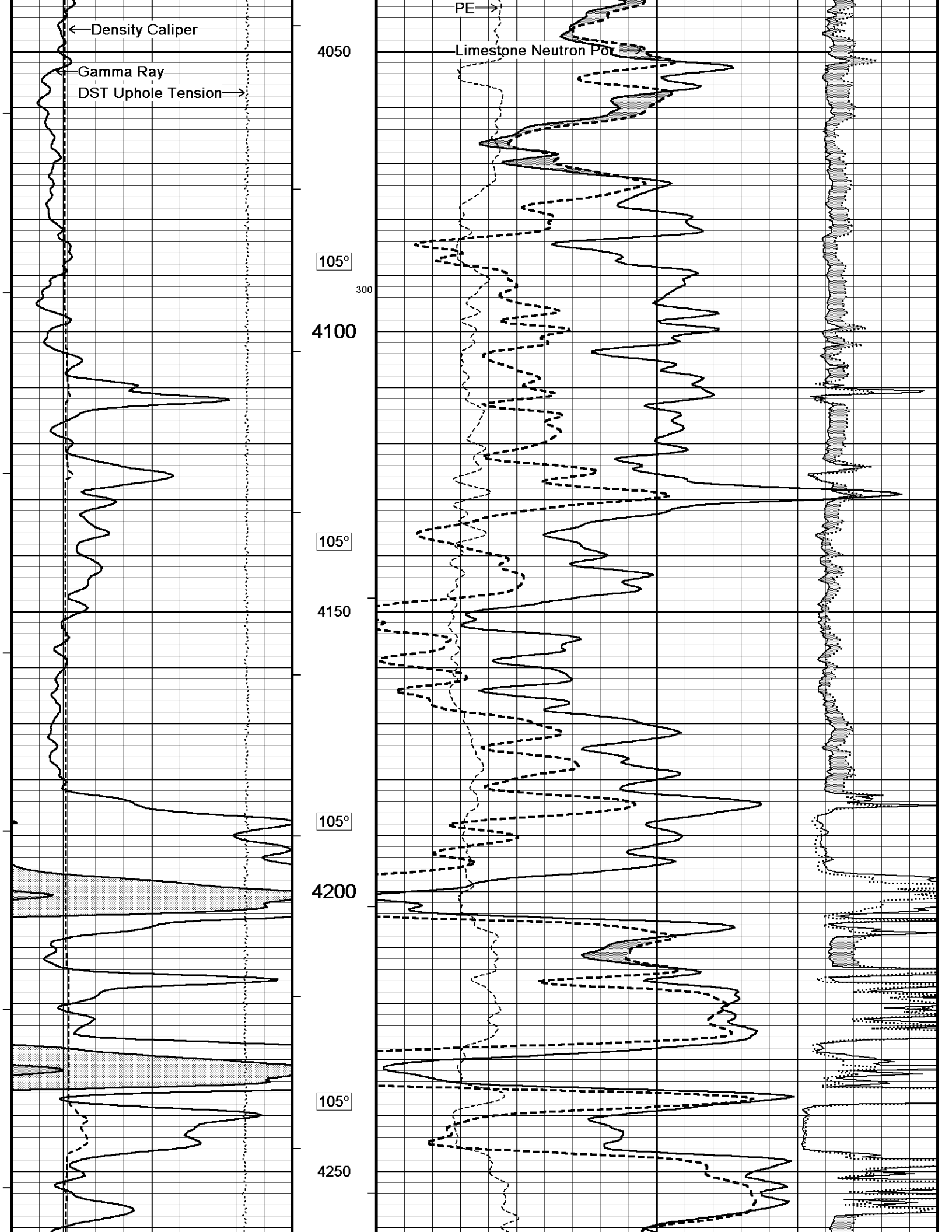
Bit Size

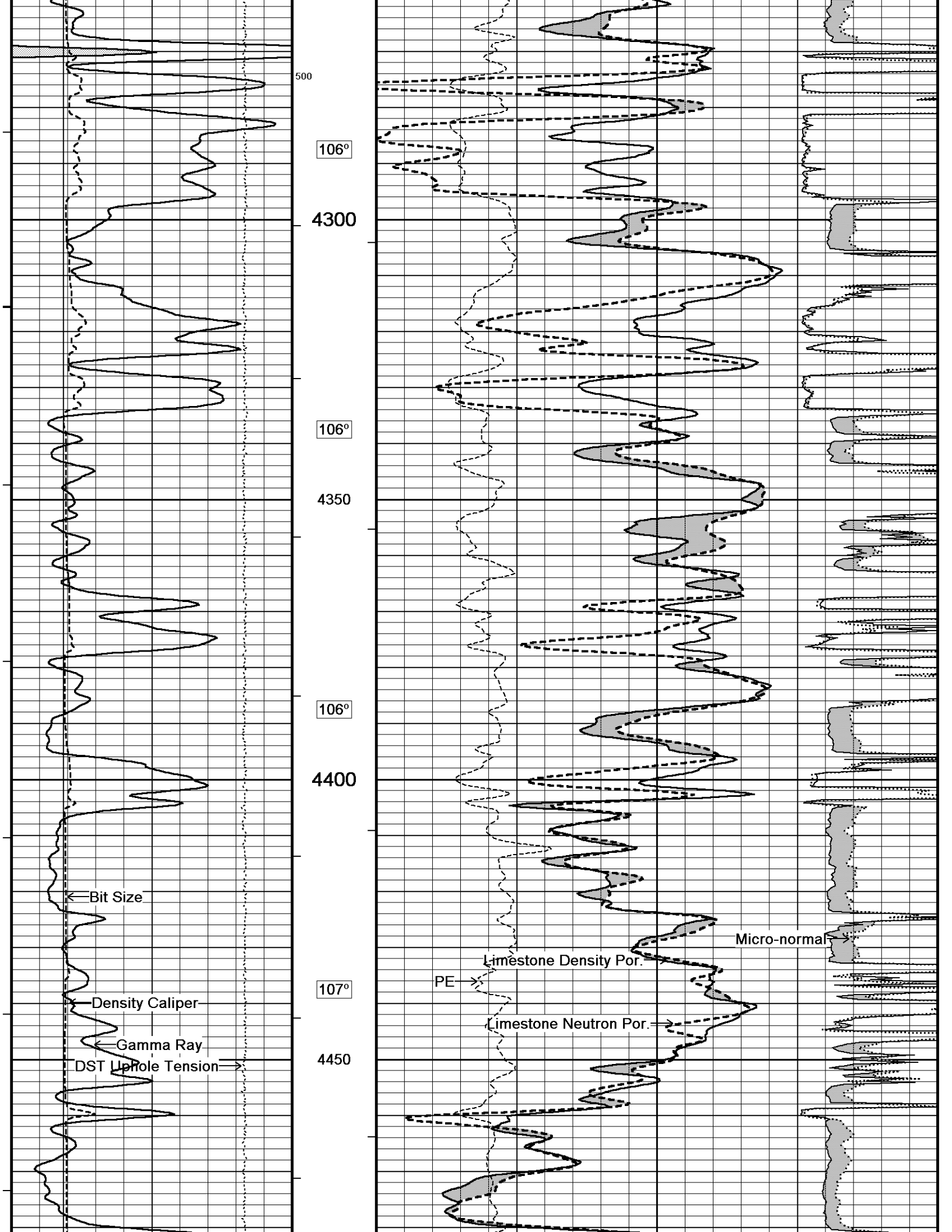
104°

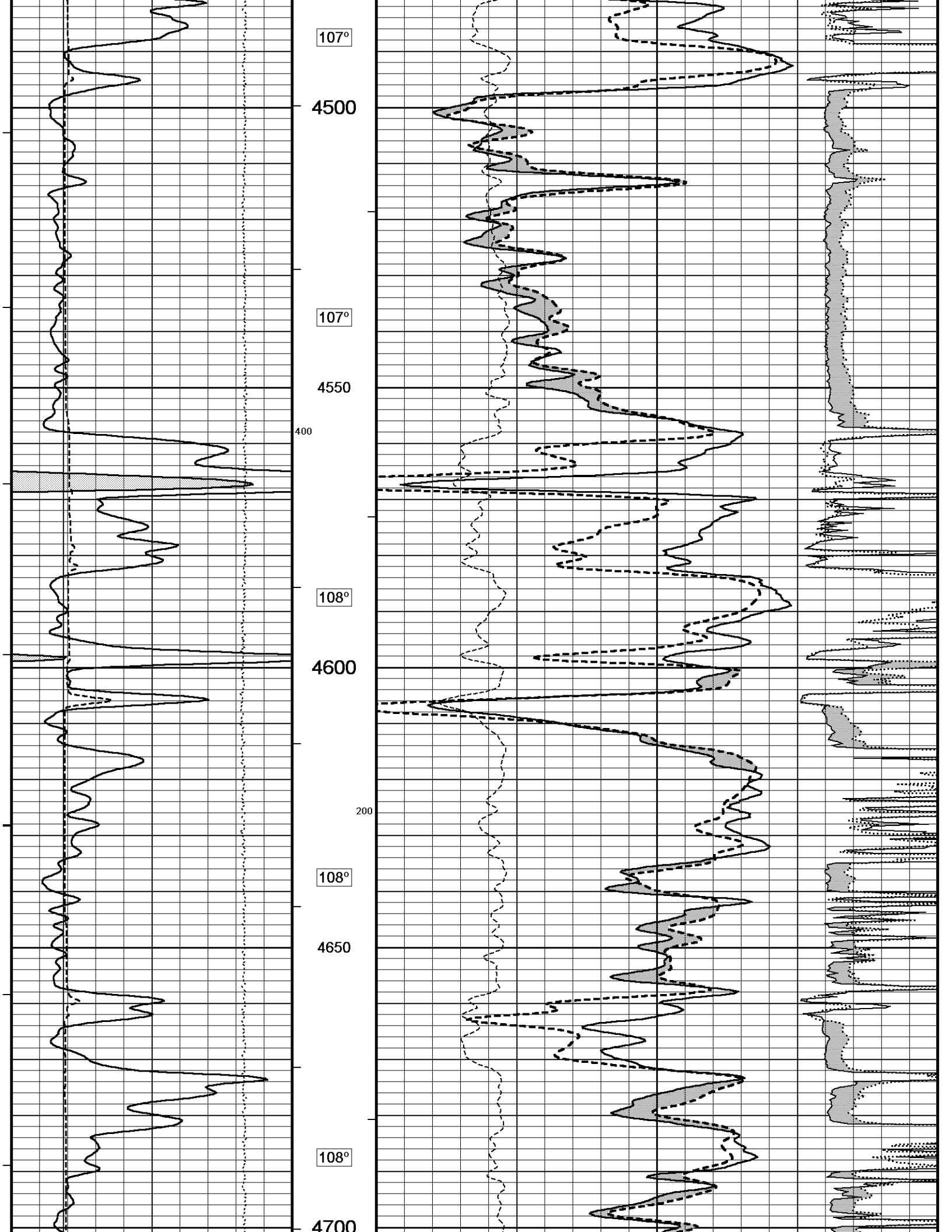
Limestone Density Por.

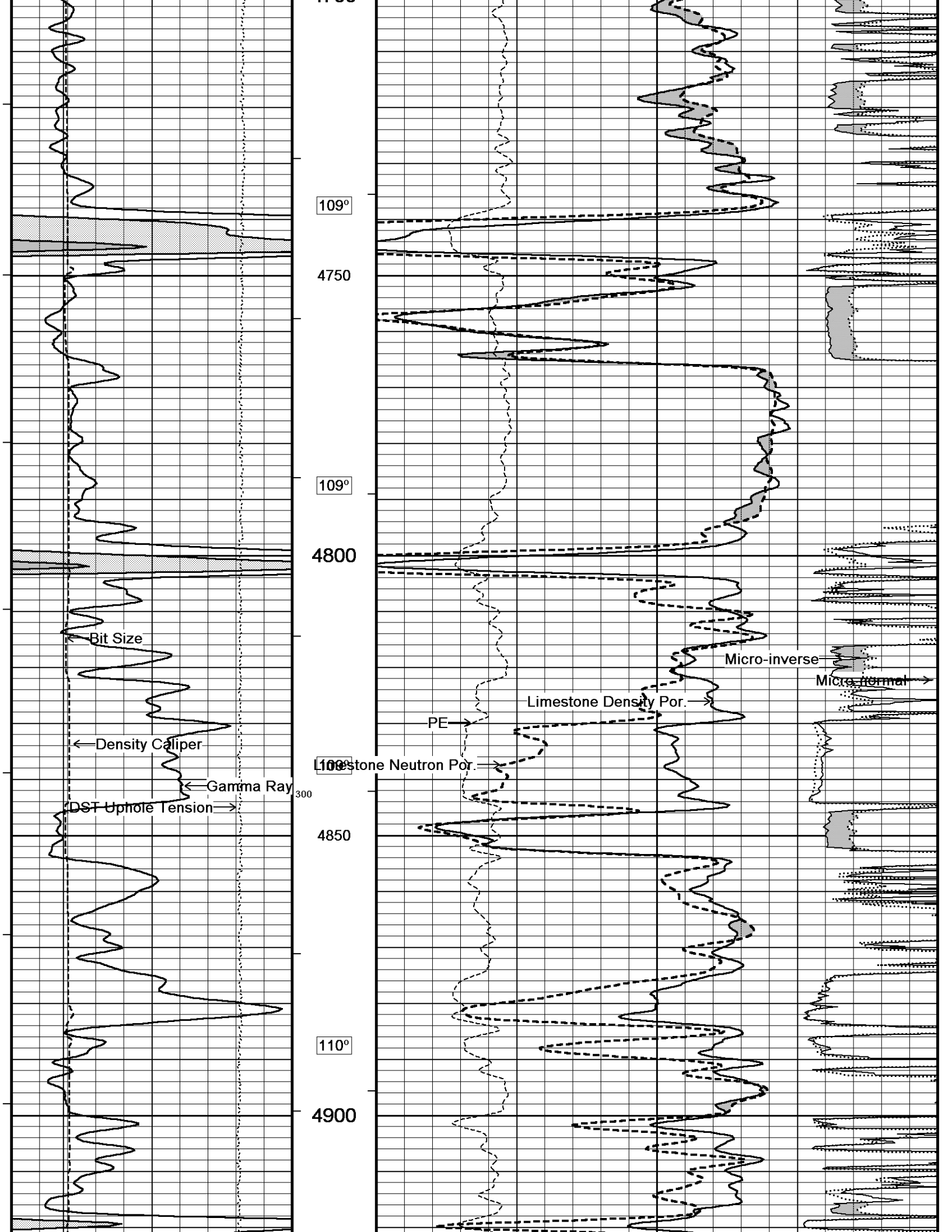
Micro-inverse

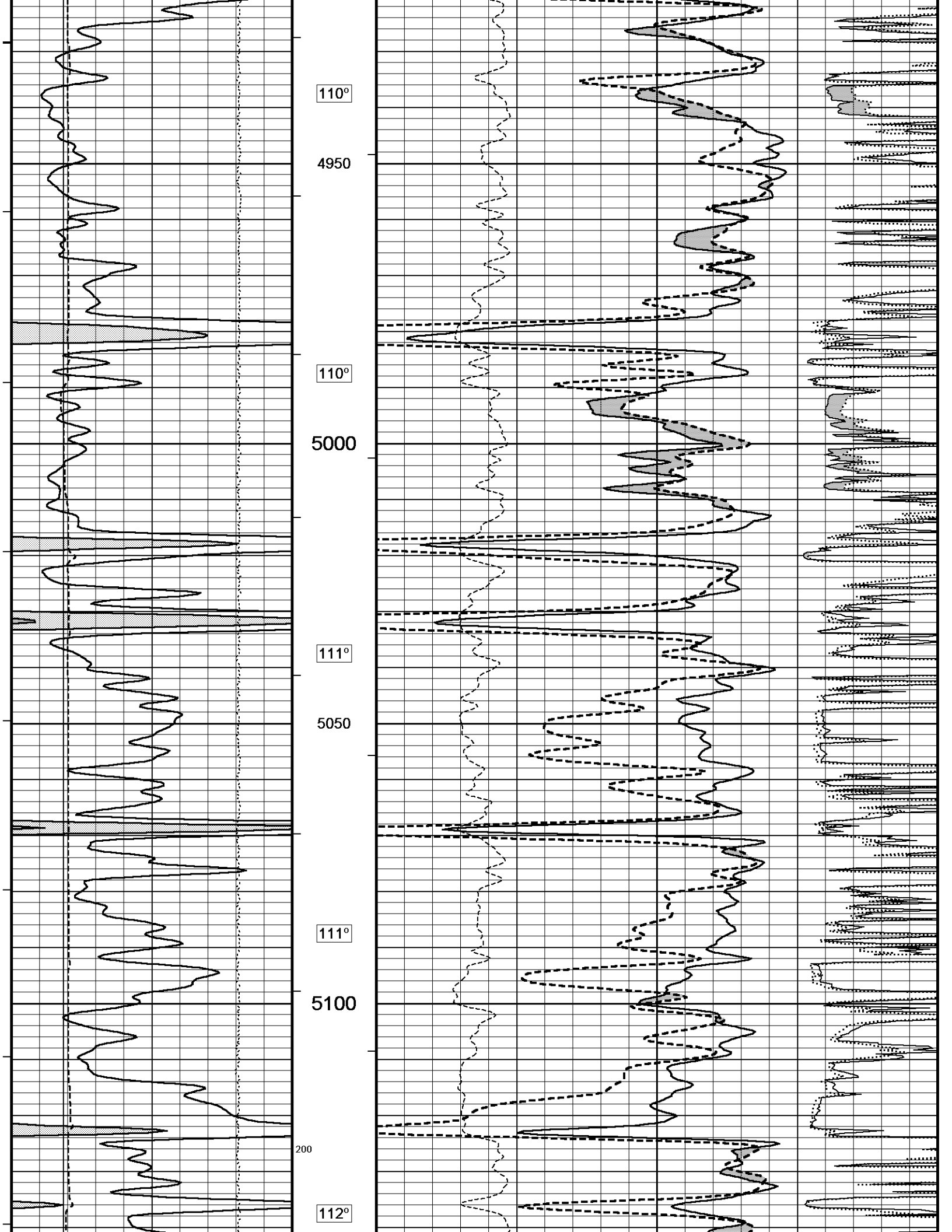
Micro-normal

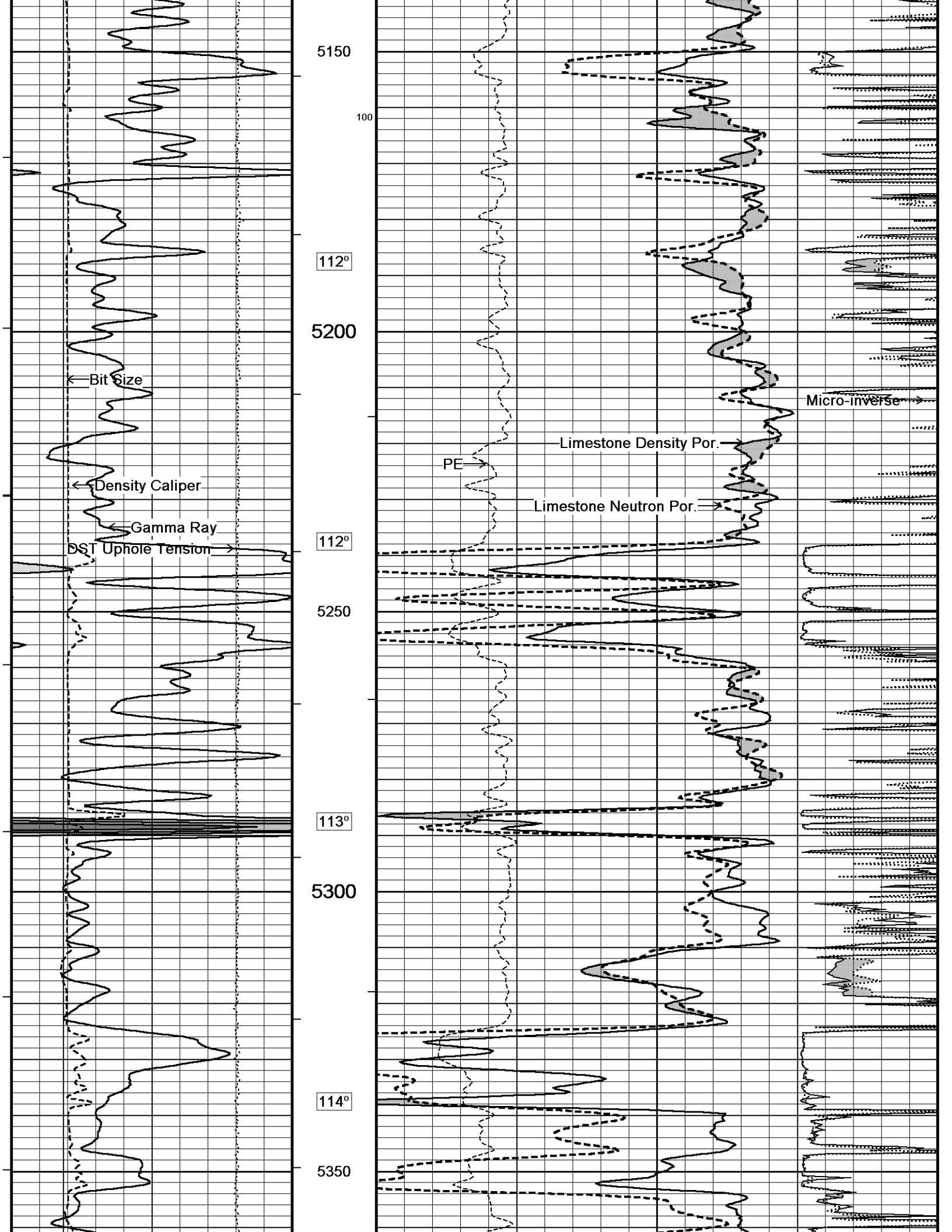

Density Caliper
Gamma Ray
DST Uphole Tension
PE
Limestone Neutron Por
4050
105°
300
4100
105°
4150
105°
4200
105°
4250

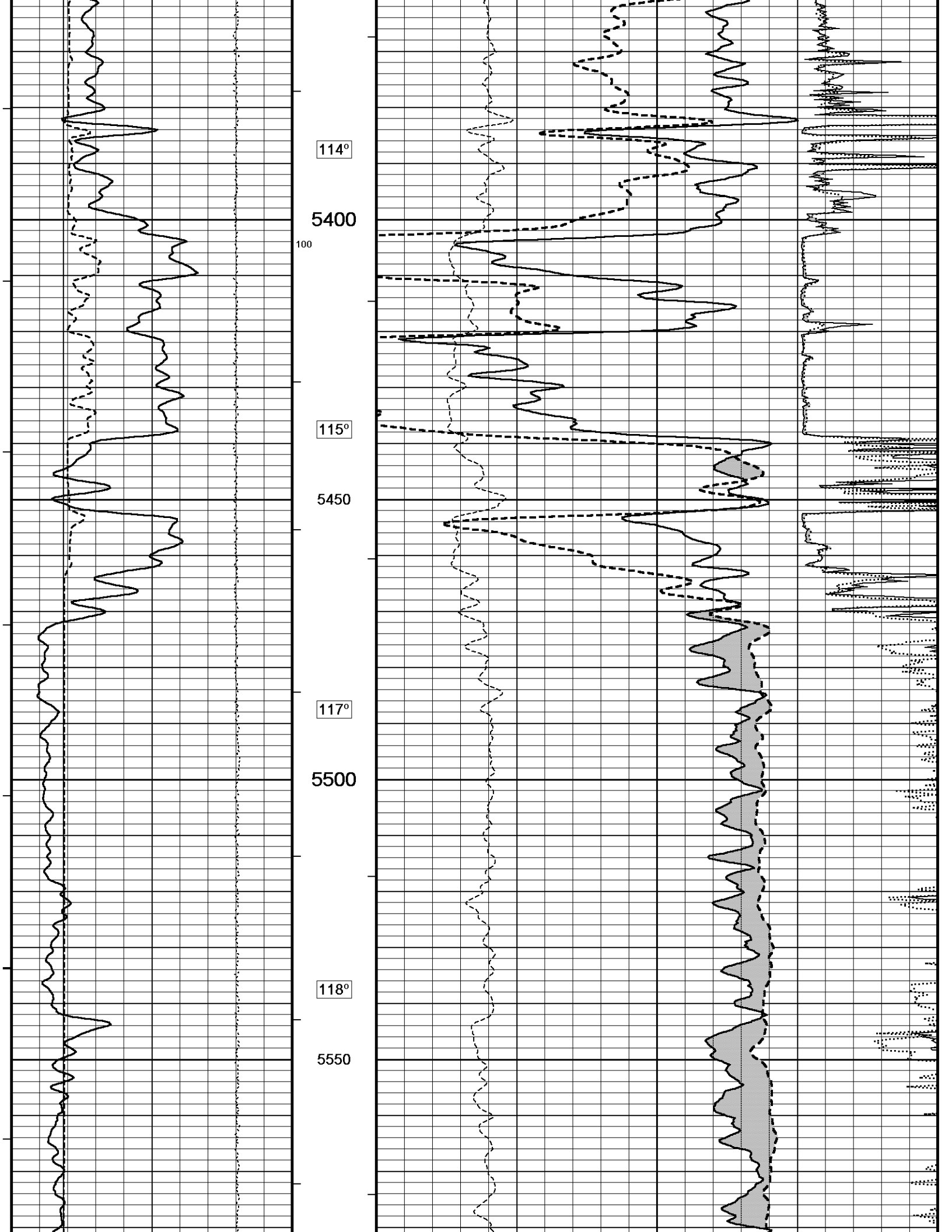

500
106°
4300
106°
4350
106°
4400
107°
4450
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
Micro-normal
Limestone Density Por.
PE
Limestone Neutron Por.

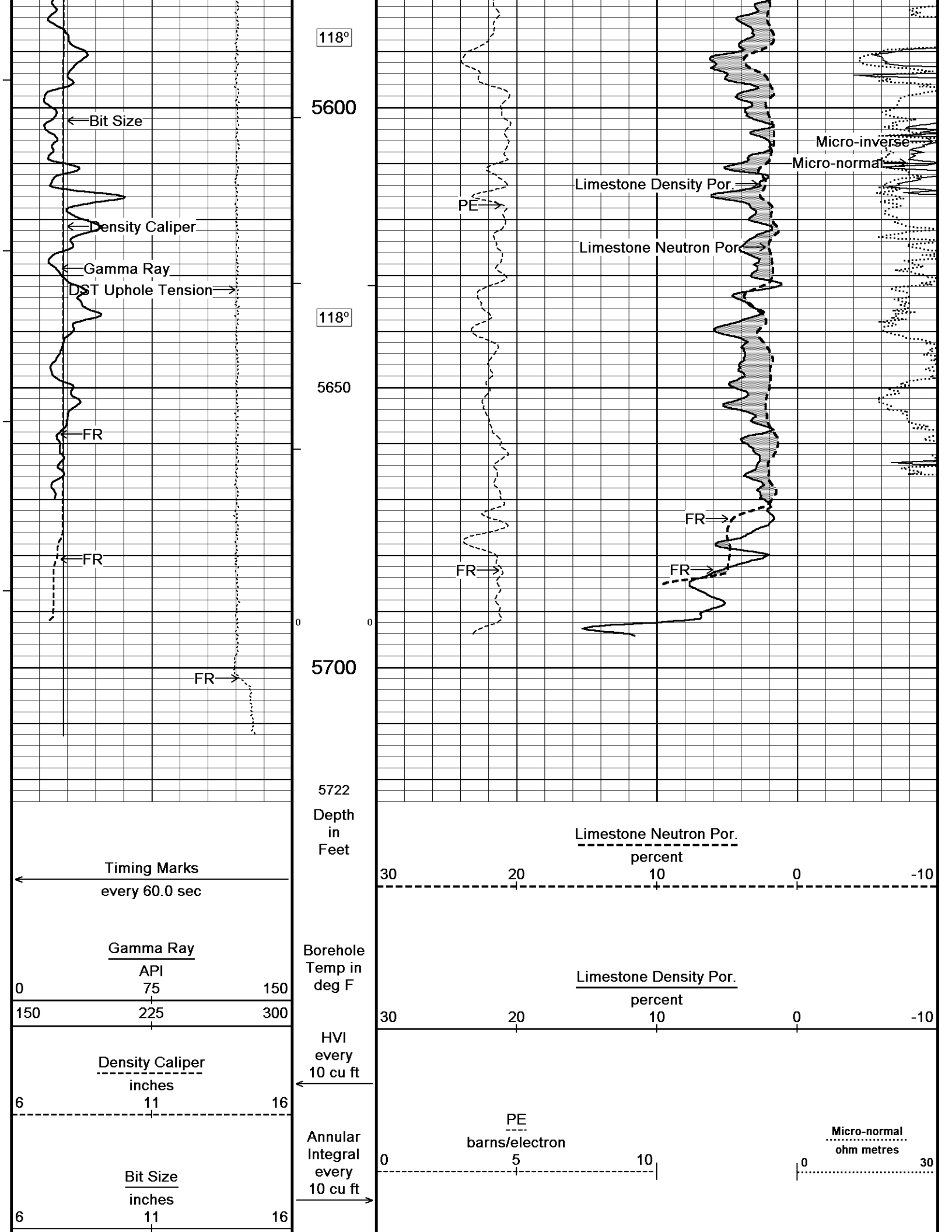

107°
4500
107°
4550
400
108°
4600
200
108°
4650
108°
4700


109°
4750
109°
4800
Bit Size
Micro-inverse
Micro-normal
Limestone Density Por.
PE
Density Caliper
Limestone Neutron Por.
Gamma Ray
300
DST Uphole Tension
4850
110°
4900


110°
4950
110°
5000
111°
5050
111°
5100
200
112°


5150
100
112°
5200
Bit Size
Micro-Inverse
Limestone Density Por.
PE
Density Caliper
Limestone Neutron Por.
Gamma Ray
DST Uphole Tension
112°
5250
113°
5300
114°
5350


114°
5400
100
115°
5450
117°
5500
118°
5550


118°
5600
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
118°
5650
FR
FR
FR
0
0
5700
FR
PE
FR
Limestone Density Por.
Limestone Neutron Por.
FR
FR
Micro-inverse
Micro-normal
5722
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
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
30

DST Uphole Tension
pounds
5000 0

Replay
Scale
1:240

Micro-inverse
ohm metres
0 30

Depth Based Data - Maximum Sampling Increment 10.0cm
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System Versions: Logged with 13.05.9583 Processed with 13.05.9583 Plotted with 13.05.9583

Plotted on 04-MAR-2014 13:47
Recorded on 04-MAR-2014 10:53

5 INCH MAIN

REPEAT SECTION

Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\Minimus 13.05.9583\Logs\MCCOY UMCC A 1-17\MCCOY UMCC A 1-17 REPEAT3.dta
System Versions: Processed with 13.05.9583 Plotted with 13.05.9583

Plotted on 04-MAR-2014 13:47
Recorded on 04-MAR-2014 10:05

Timing Marks
every 60.0 sec

Depth
in
Feet

Limestone Neutron Por.
percent
30 20 10 0 -10

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
6 11 16

HVI
every
10 cu ft

PE
barns/electron
0 5 10

Micro-normal
ohm metres
0 30

Annular
Integral
every
10 cu ft

Bit Size
inches
6 11 16

Micro-inverse
ohm metres
0 30

DST Uphole Tension
pounds
5000 0

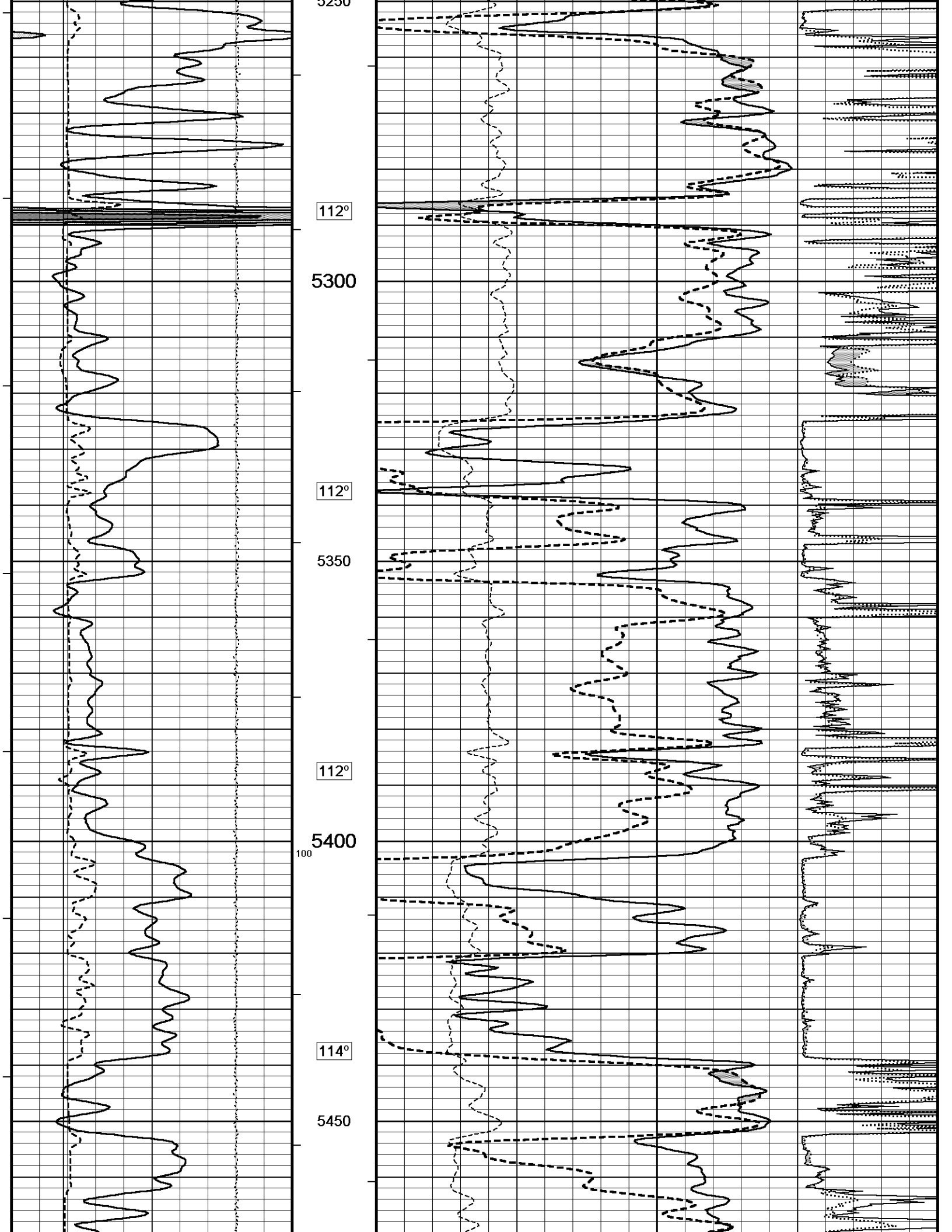
Replay
Scale
1:240

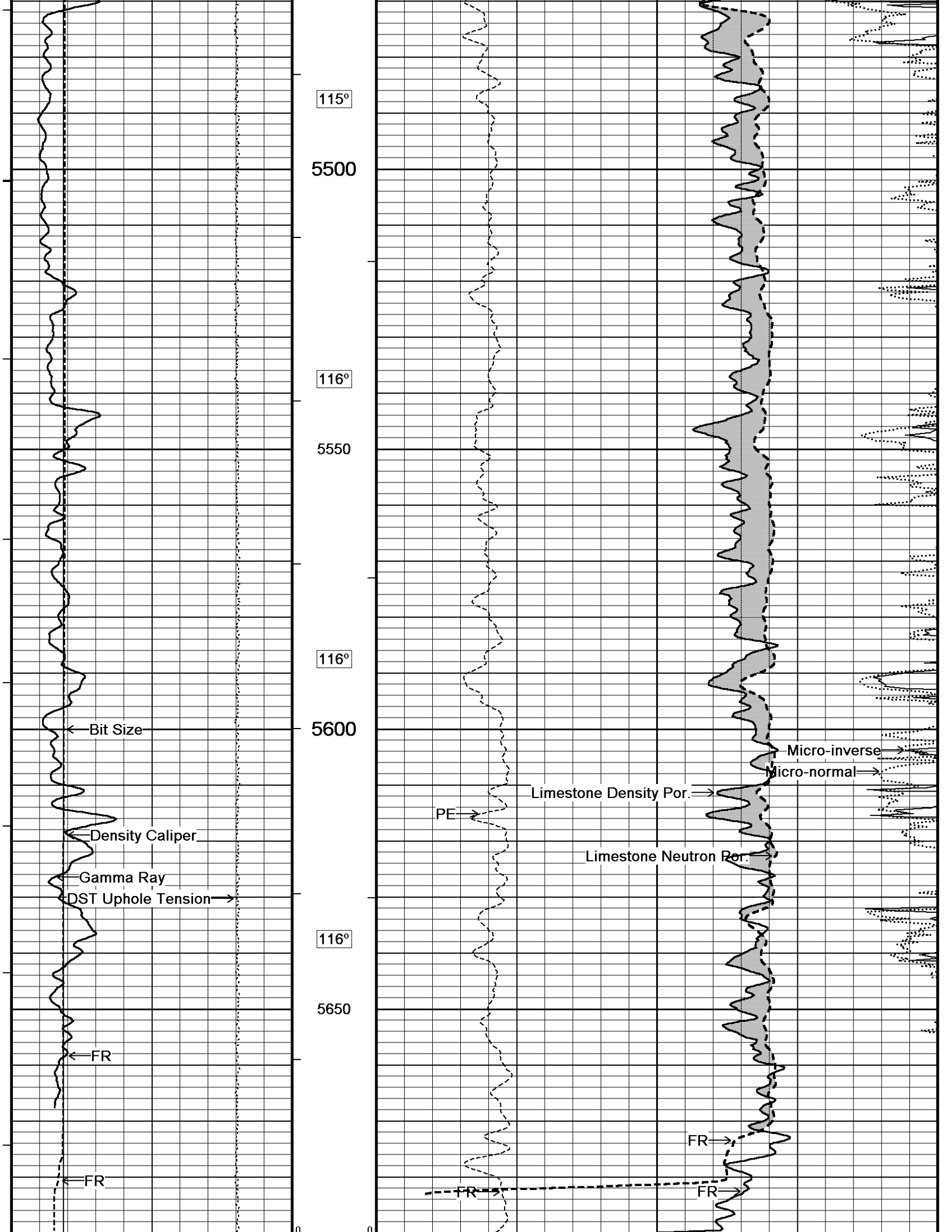
5200

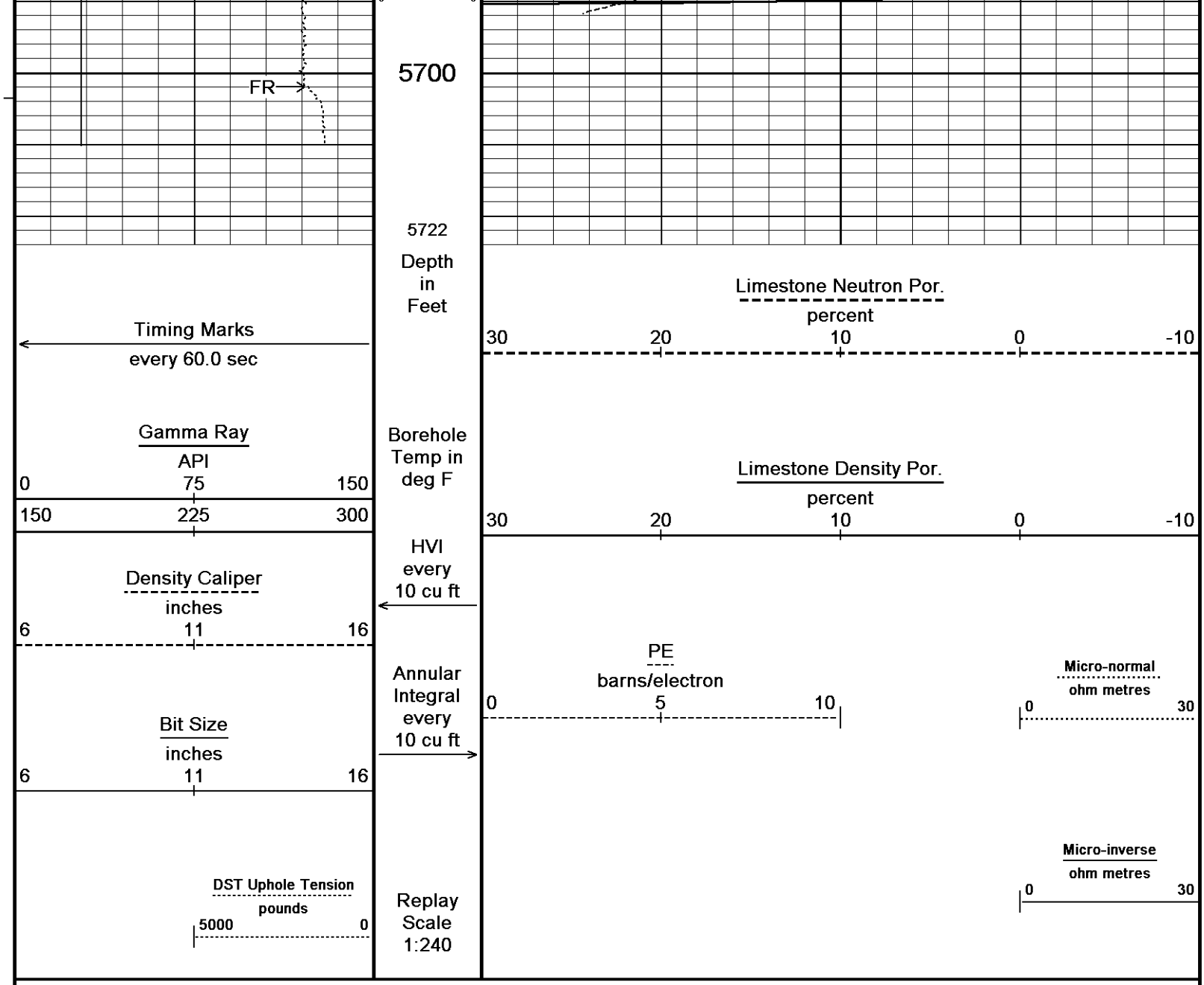
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
111°

PE
Limestone Density Por.
Limestone Neutron Por.

5250


5250
112°
5300
112°
5350
112°
5400
100
114°
5450


115°
5500
116°
5550
116°
5600
116°
5650
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
FR
FR
PE
FR
Micro-inverse
Micro-normal
Limestone Density Por.
Limestone Neutron Por.
FR
FR

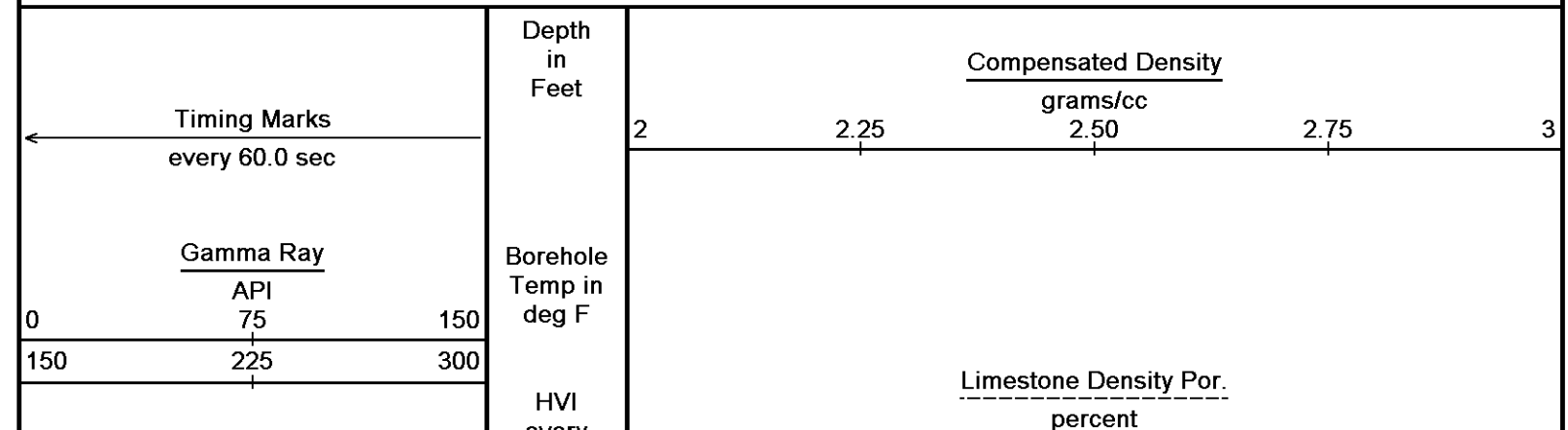


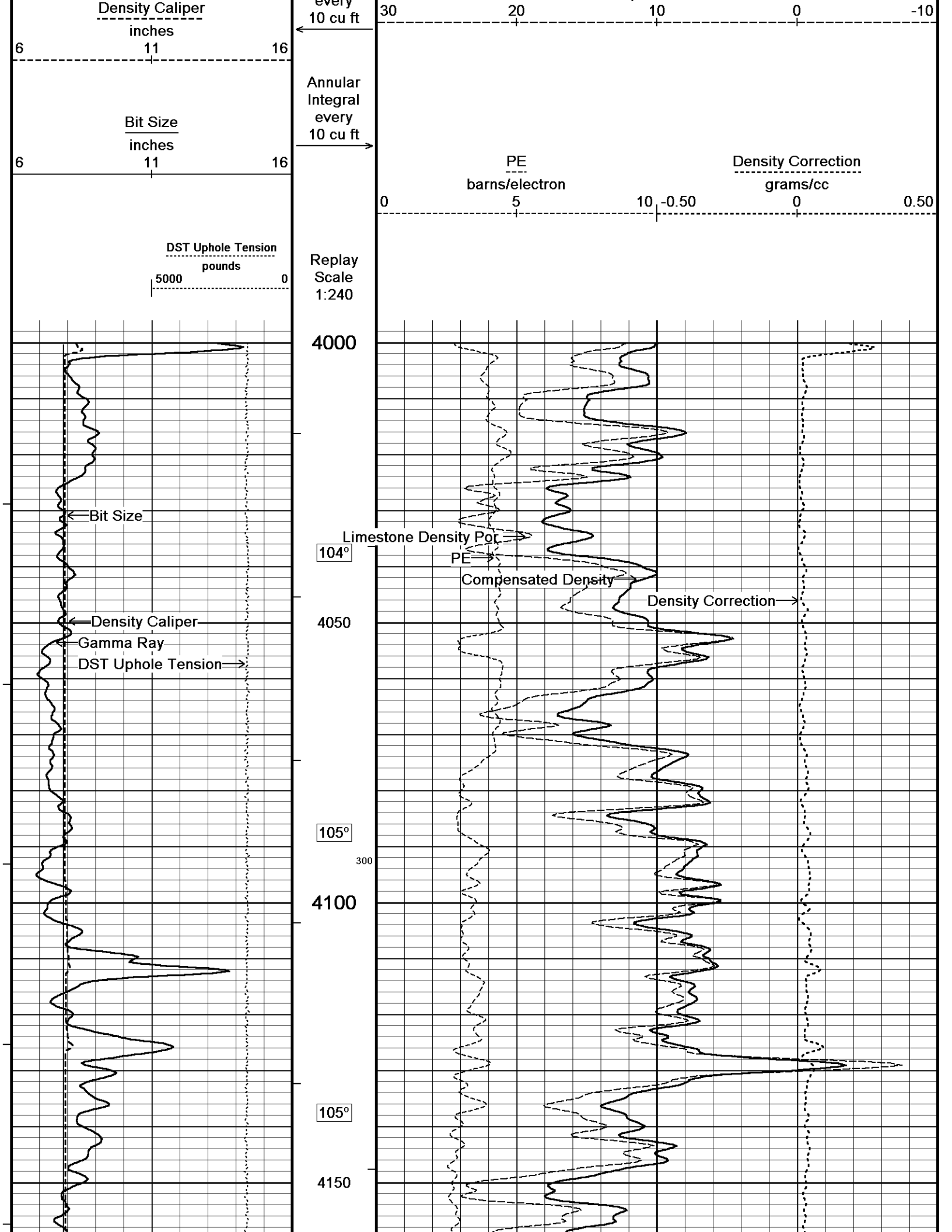
Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 04-MAR-2014 13:47
Filename: C:\Minimus 13.05.9583\Logs\MCCOY UMCC A 1-17\MCCOY UMCC A 1-17 REPEAT3.dta — Recorded on 04-MAR-2014 10:05
System Versions: Processed with 13.05.9583 Plotted with 13.05.9583

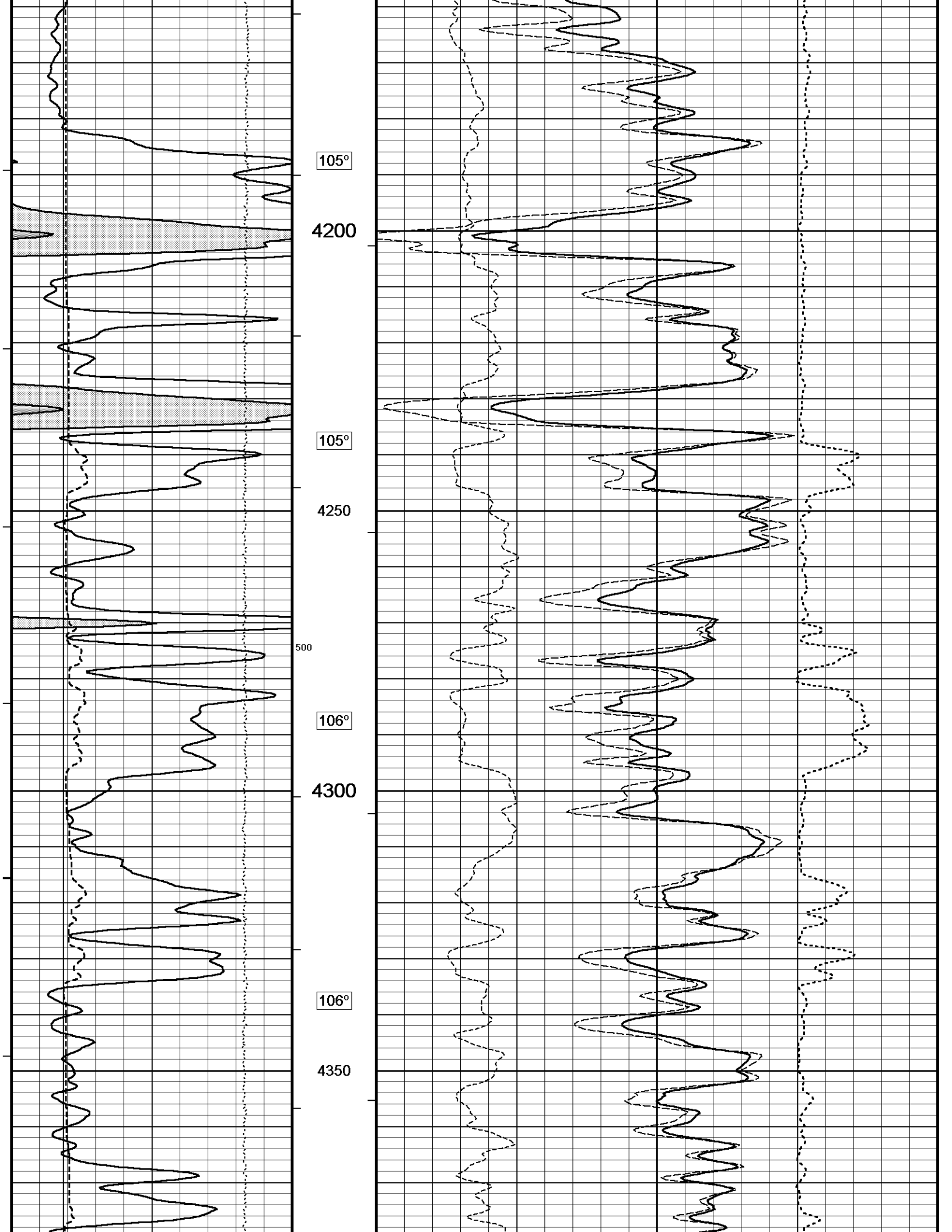
REPEAT SECTION

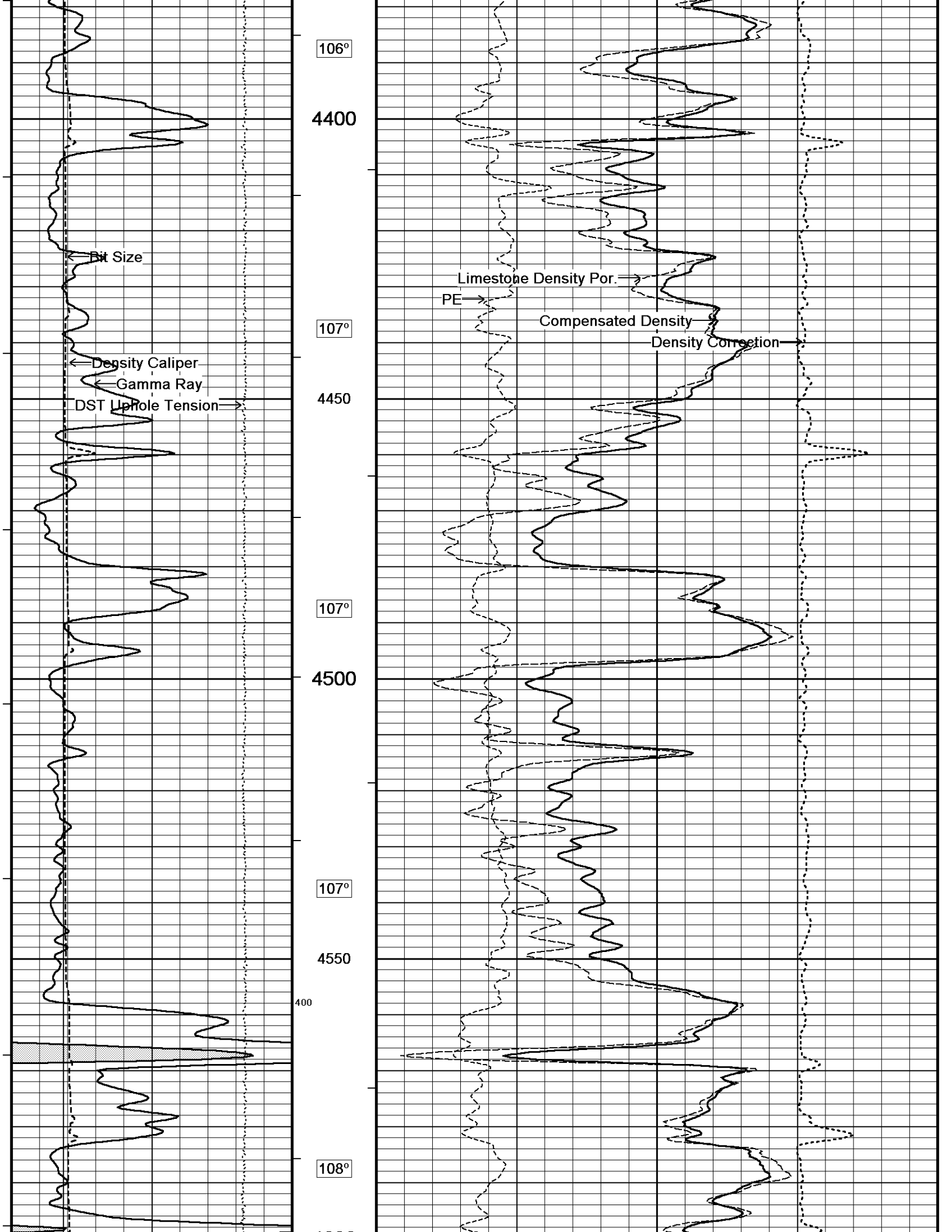
5 INCH MAIN

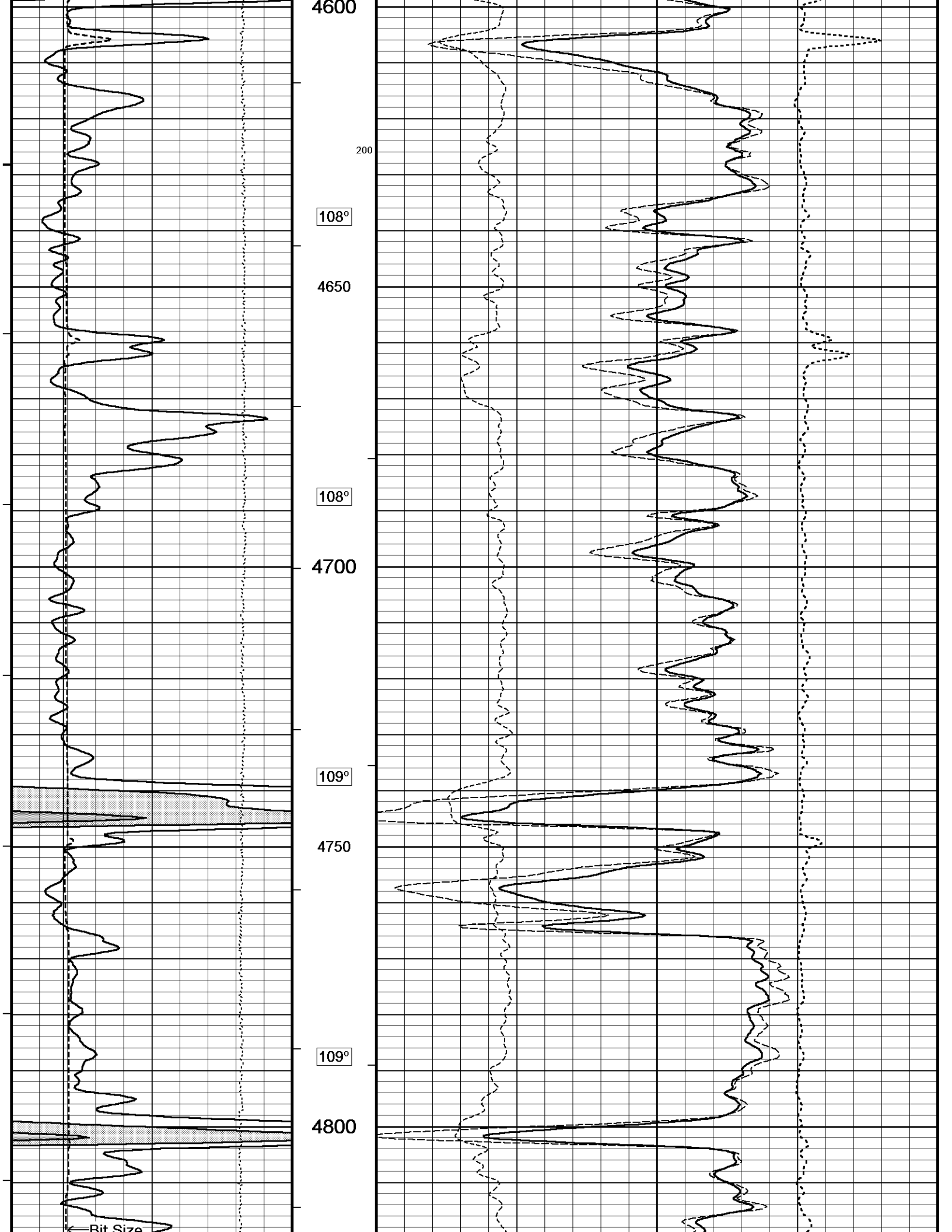
Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 04-MAR-2014 13:47
Filename: C:\Minimus 13.05.9583\Logs\MCCOY UMCC A 1-17\MCCOY UMCC A 1-17 MAIN.dta — Recorded on 04-MAR-2014 10:53
System Versions: Logged with 13.05.9583 Processed with 13.05.9583 Plotted with 13.05.9583

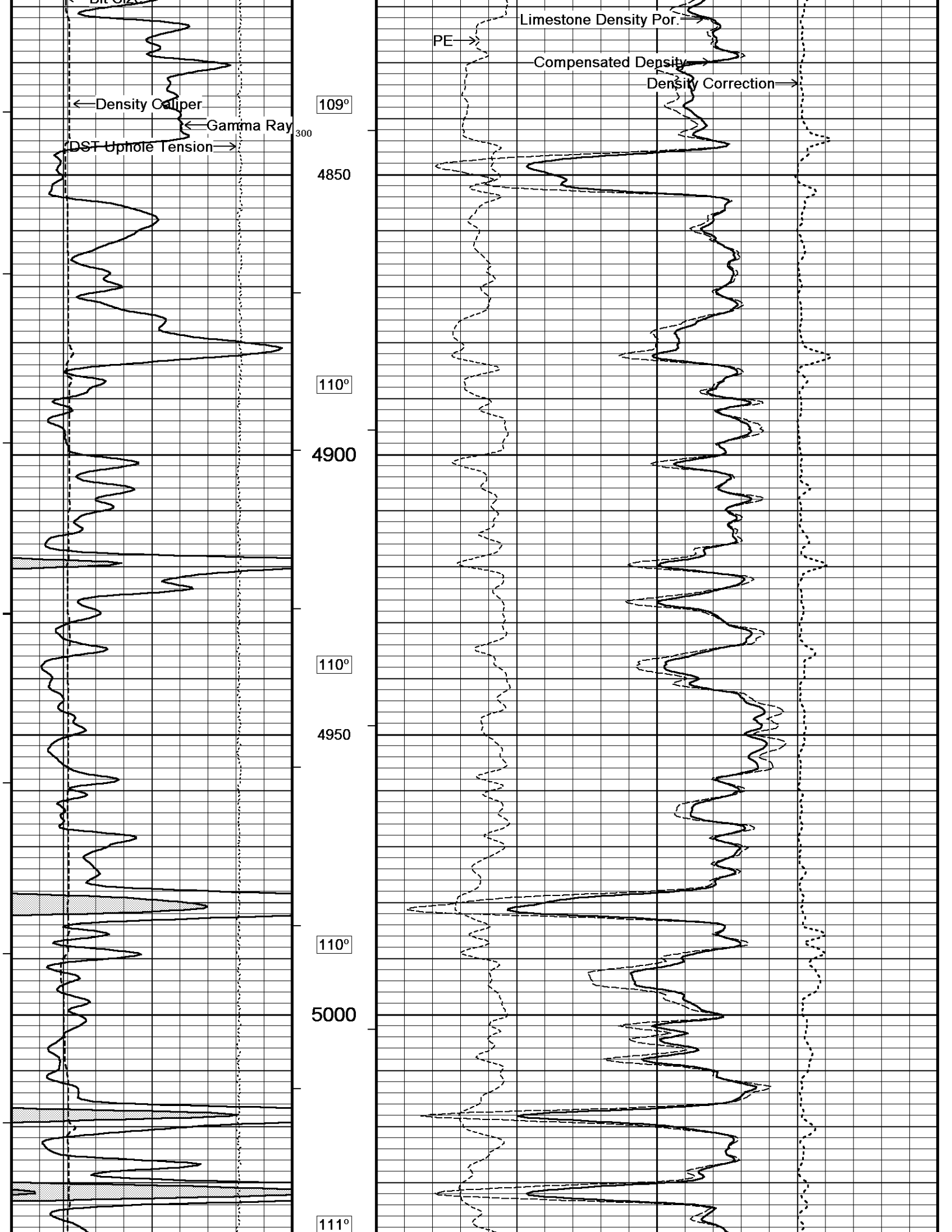


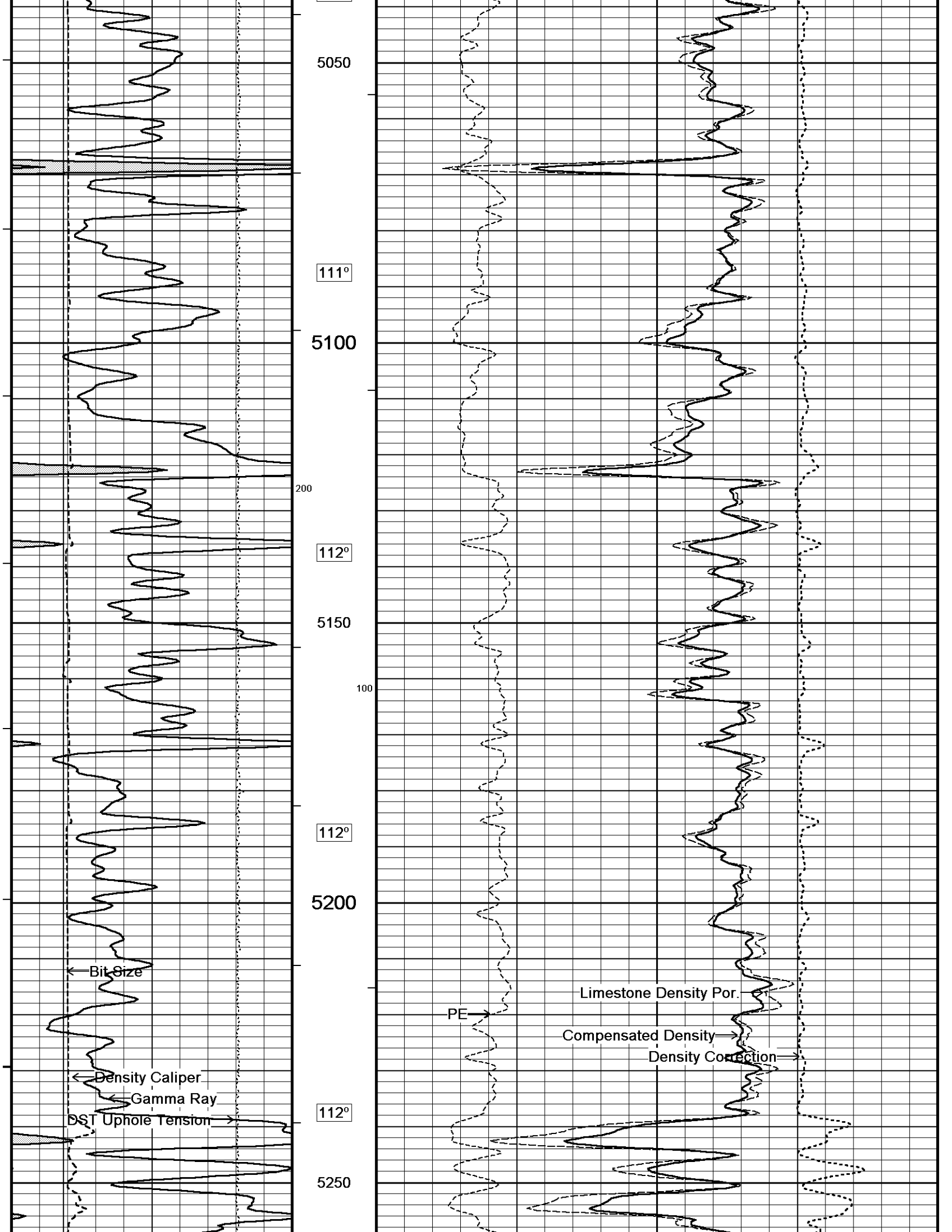

Density Caliper
inches
6
11
16
every
10 cu ft
30
20
10
0
-10
Annular
Integral
every
10 cu ft
Bit Size
inches
6
11
16
PE
barns/electron
0
5
10
Density Correction
grams/cc
-0.50
0
0.50
DST Uphole Tension
pounds
5000
0
Replay
Scale
1:240
4000
Bit Size
Limestone Density Por
104°
PE
Compensated Density
Density Correction
4050
Density Caliper
Gamma Ray
DST Uphole Tension
105°
300
4100
105°
4150

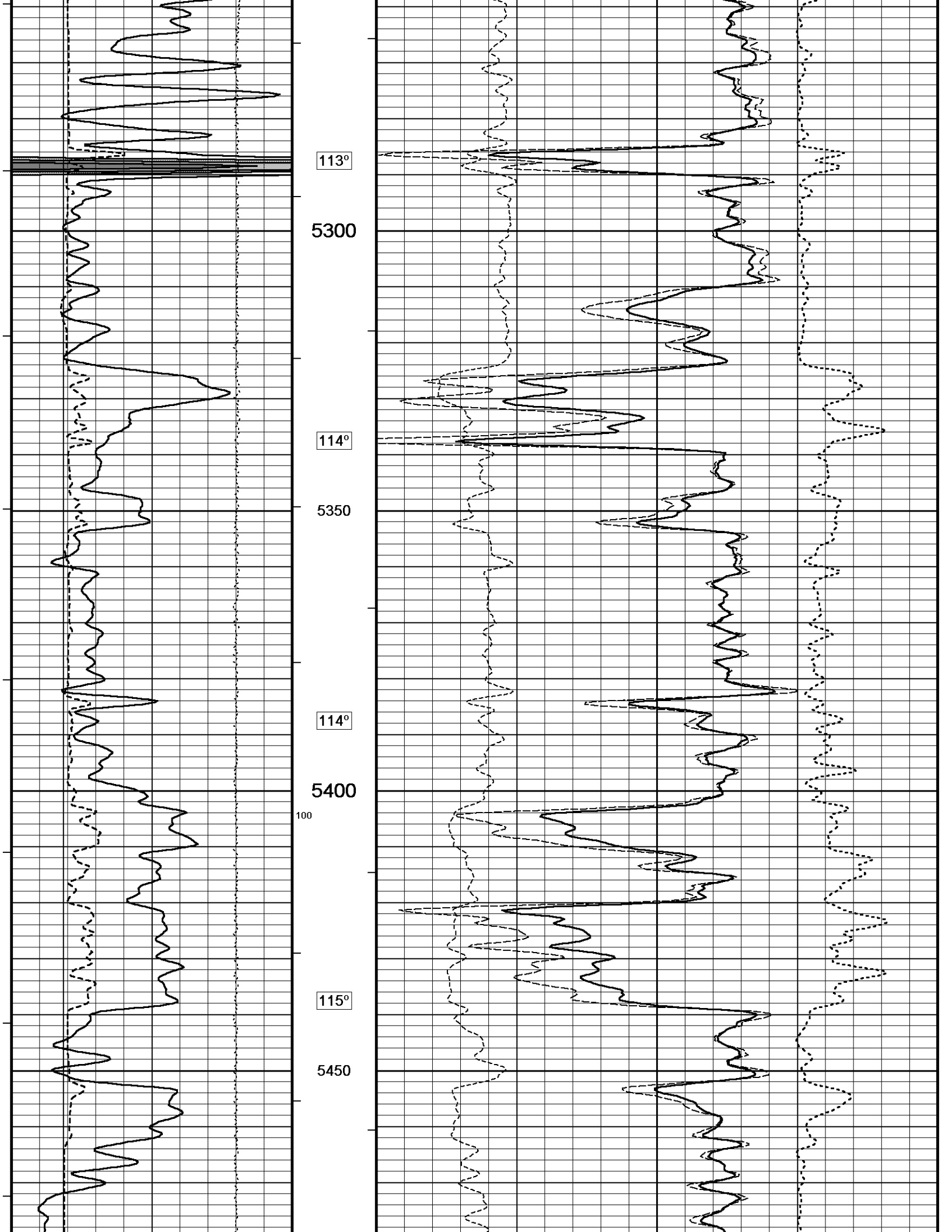

105°
4200
105°
4250
500
106°
4300
106°
4350

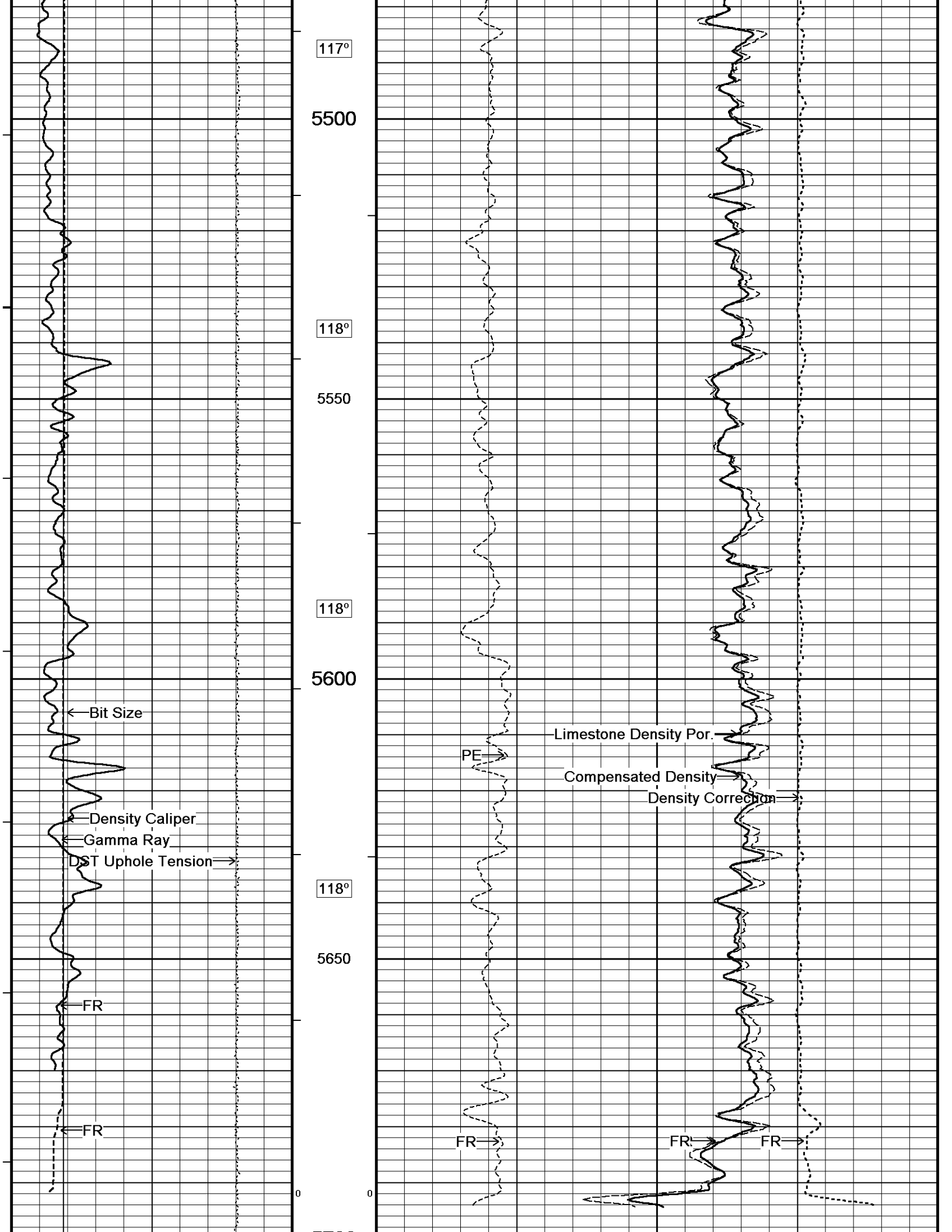

106°
4400
Bit Size
Limestone Density Por.
PE
Compensated Density
107°
Density Correction
Density Caliper
Gamma Ray
DST Uphole Tension
4450
107°
4500
107°
4550
400
108°

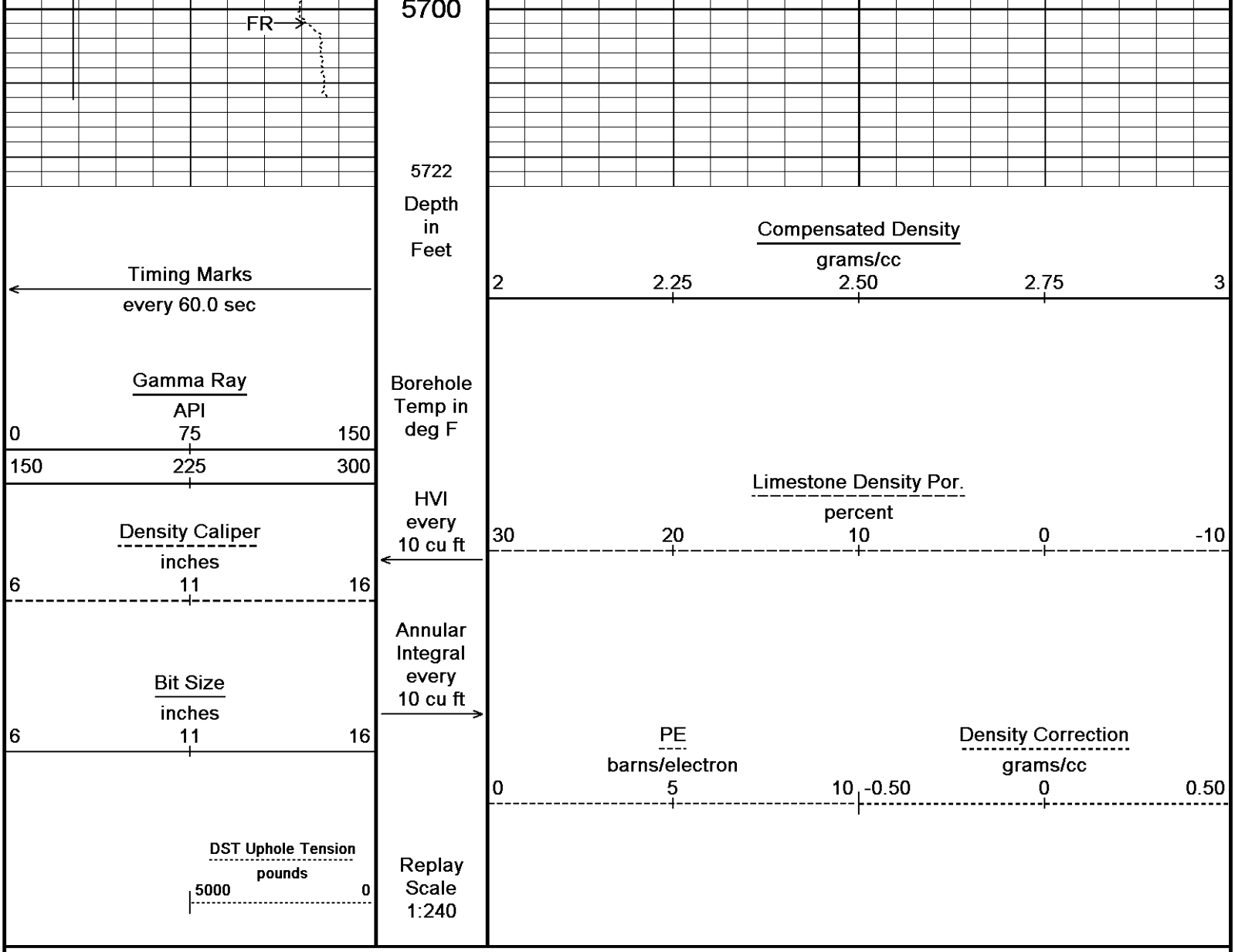

4600
200
108°
4650
108°
4700
109°
4750
109°
4800
Bit Size


Limestone Density Por.
PE
Compensated Density
Density Correction
Density Caliper
Gamma Ray
300
DST Uphole Tension
109°
4850
110°
4900
110°
4950
110°
5000
111°


5050
111°
5100
200
112°
5150
100
112°
5200
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
112°
5250
PE
Limestone Density Por.
Compensated Density
Density Correction


113°
5300
114°
5350
114°
5400
100
115°
5450


117°
5500
118°
5550
118°
5600
118°
5650
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
FR
FR
PE
FR
Limestone Density Por.
Compensated Density
Density Correction
FR
FR
0
0



Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 04-MAR-2014 13:47
Filename: C:\Minimus 13.05.9583\Logs\MCCOY UMCC A 1-17\MCCOY UMCC A 1-17 MAIN.dta
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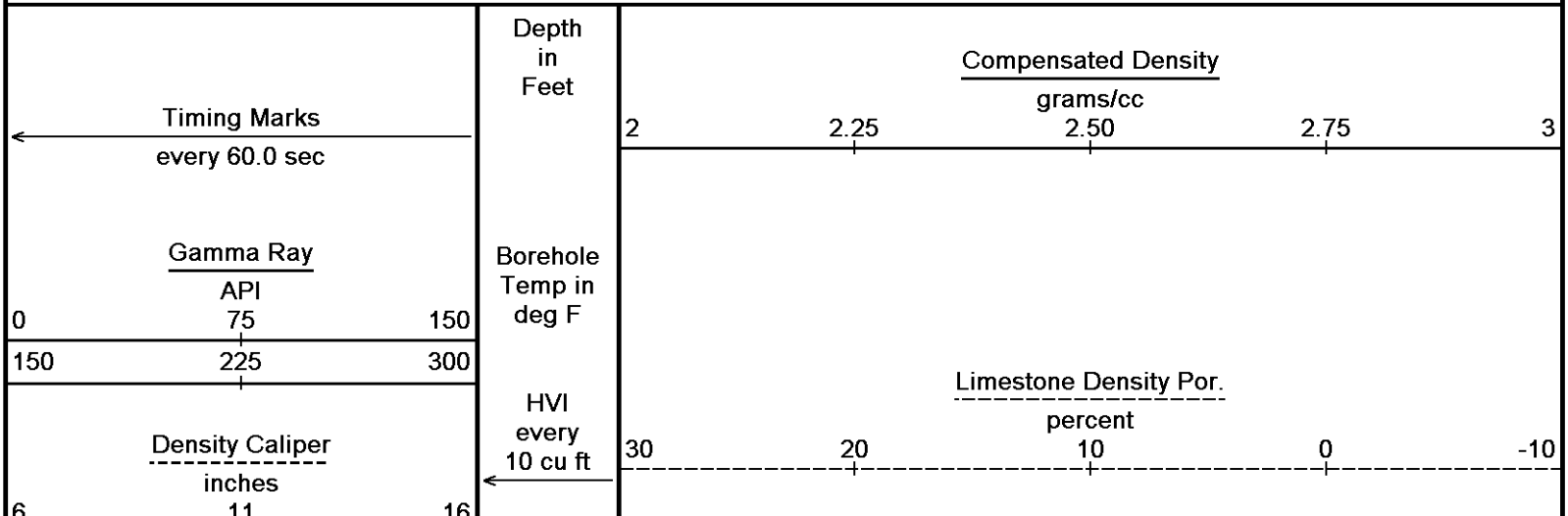
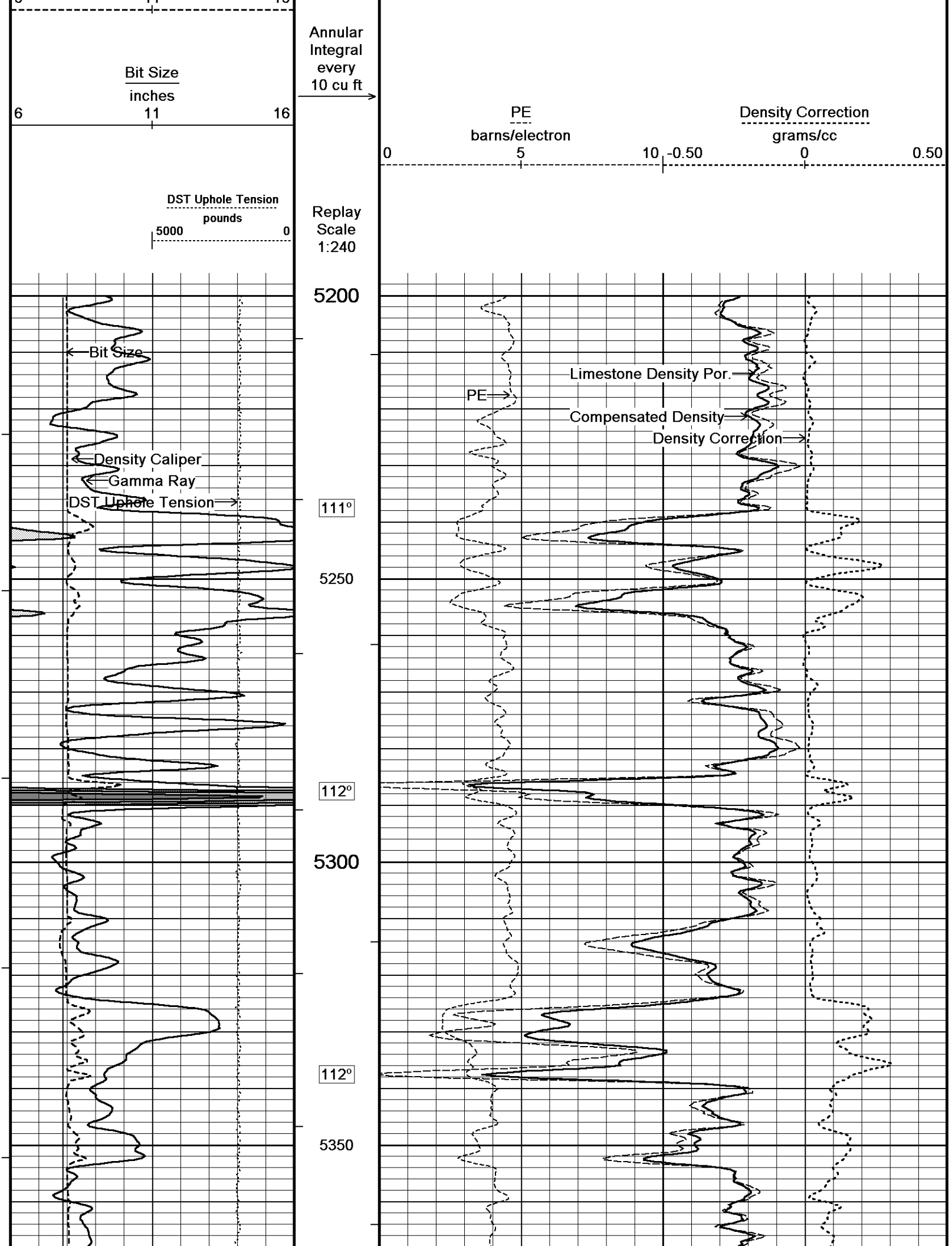
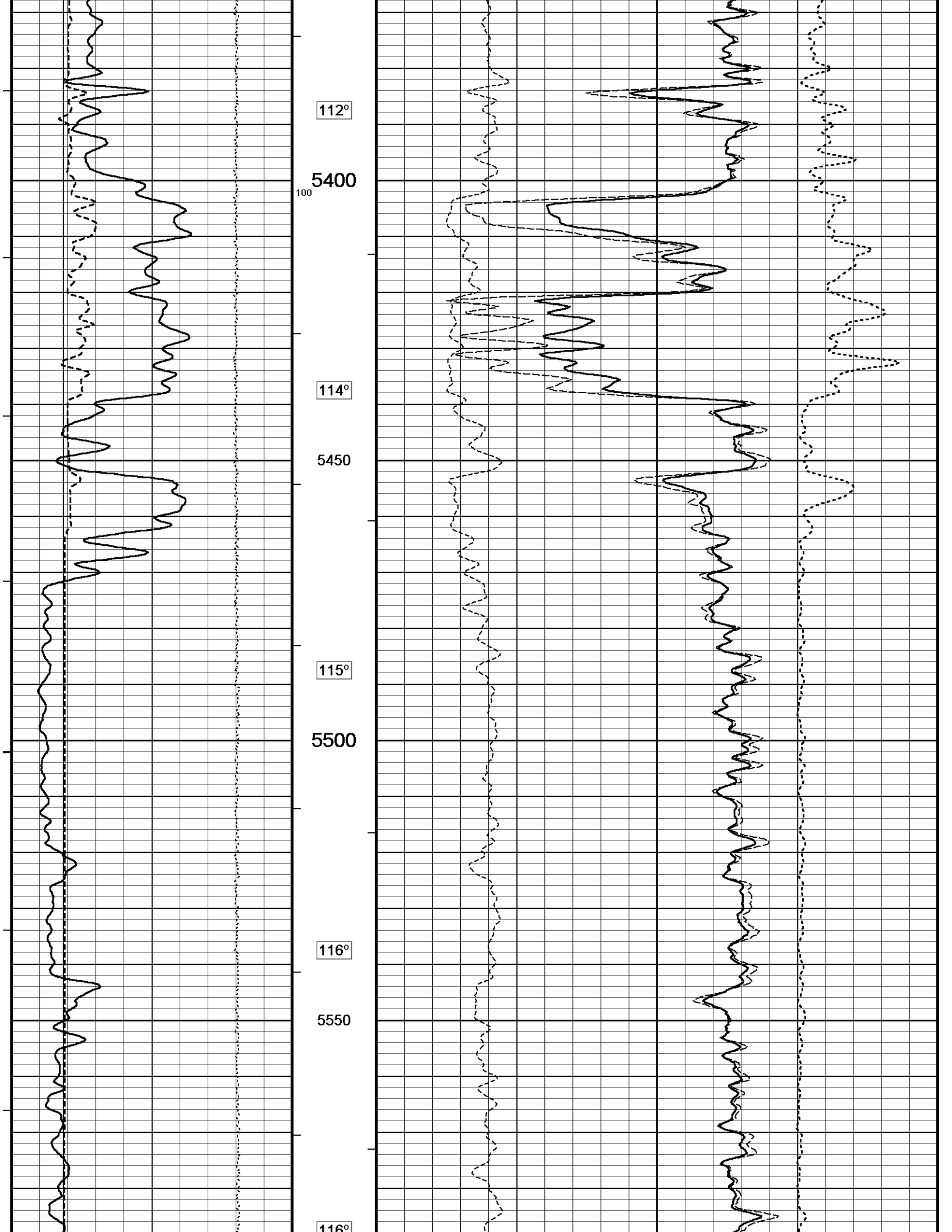
5 INCH MAIN

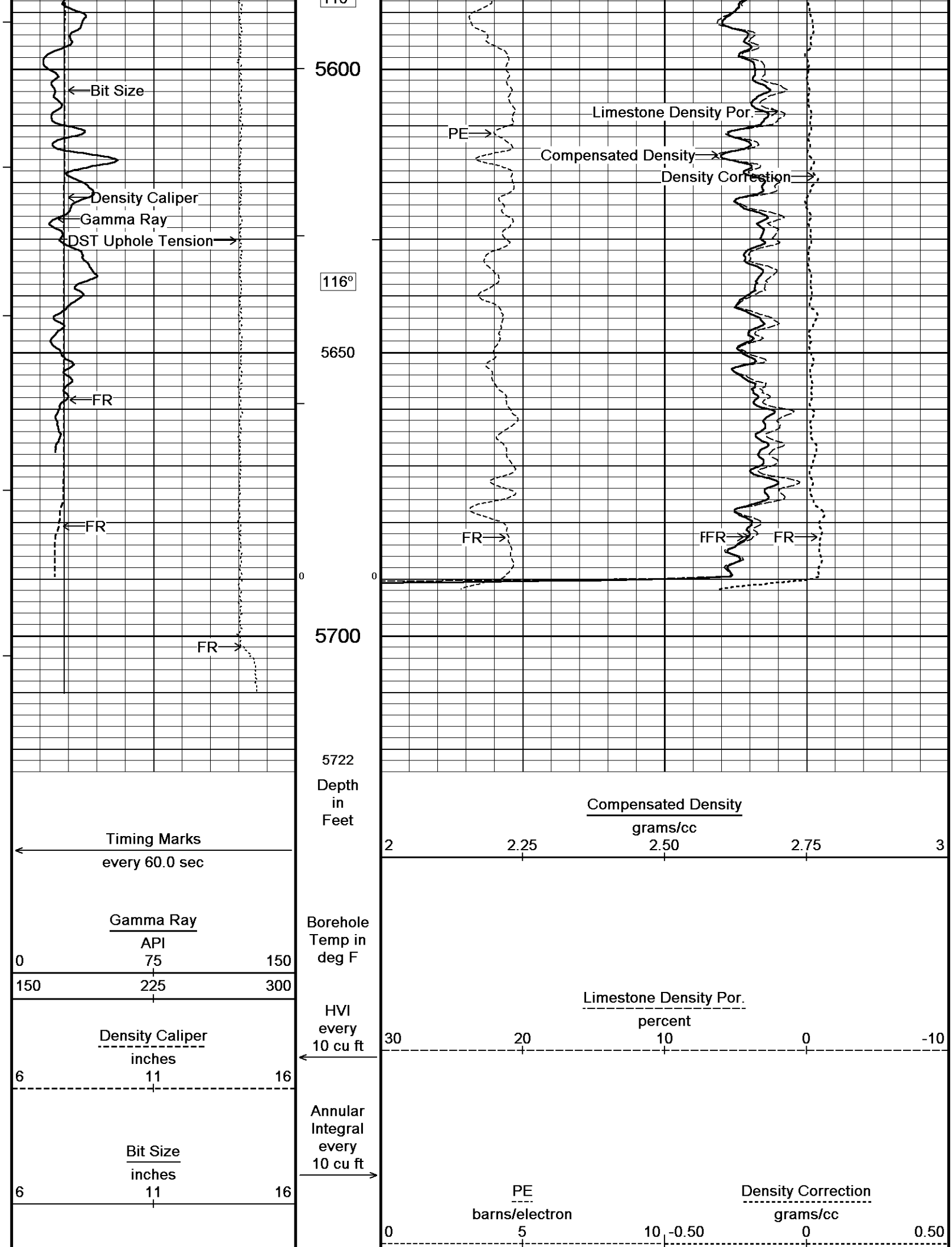
REPEAT SECTION

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 04-MAR-2014 13:47
Filename: C:\Minimus 13.05.9583\Logs\MCCOY UMCC A 1-17\MCCOY UMCC A 1-17 REPEAT3.dta
Recorded on 04-MAR-2014 10:05
System Versions: Processed with 13.05.9583 Plotted with 13.05.9583




Bit Size
inches
6
11
16
Annular Integral every 10 cu ft
PE
barns/electron
0
5
10
Density Correction
grams/cc
-0.50
0
0.50
DST Uphole Tension
pounds
5000
0
Replay Scale 1:240
5200
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
111°
5250
112°
5300
112°
5350
PE
Limestone Density Por.
Compensated Density
Density Correction


112°
5400
100
114°
5450
115°
5500
116°
5550
116°


Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
FR
FR
FR
5600
116°
5650
5700
5722
Depth in Feet
PE
FR
Limestone Density Por.
Compensated Density
Density Correction
FFR
FR
0
0
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
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
-0.50
0
0.50

DST Uphole Tension
pounds
5000 0

Replay Scale 1:240

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 04-MAR-2014 13:47
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Recorded on 04-MAR-2014 10:05
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REPEAT SECTION

BEFORE SURVEY CALIBRATION

C:\Minimus 13.05.9583\Logs\MCCOY UMCC A 1-17\MCCOY UMCC A 1-17 REPEAT3.dta

General Constants All 000

Last Edited on 04-MAR-2014,08:13

General Parameters		
Mud Resistivity	1.400	ohm-metres
Mud Resistivity Temperature	70.000	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	MMR Caliper	
Rwa Parameters		
Porosity used	Base Density Porosity	
Resistivity used	Array Ind. One Res Rt	
RWA Constant A	0.610	
RWA Constant M	2.150	
SW/APOR Tool Source	0.000	

Gamma Calibration MCG-D.K 443

Field Calibration on 04-MAR-2014 03:57

	Measured	Calibrated (API)
Background	75	48
Calibrator (Gross)	1215	773
Calibrator (Net)	1140	725

Gamma Constants MCG-D.K 443

Last Edited on 04-MAR-2014,07:49

Gamma Calibrator Number	GRC38	
Mud Density	1.11	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Centred	
Concentration of KCl		kppm
K Mud Type	Chloride	
K Mud Concentration	0.00	%

High Resolution Temperature Calibration MCG-D.K 443

Field Calibration on 04-MAR-2014,09:07

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

High Resolution Temperature Constants MCG-D.K 443

Last Edited on 04-MAR-2014,09:07

Pre-filter Length	11

Photo Density Calibration MPD-B 31

Base Calibration on 20-JAN-2014 16:43
Field Check on 04-MAR-2014 03:47

Density Calibration

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	43628	22294	59556	30836
Reference 2	17956	1856	24941	2541

Field Check at Base

665.1	818.8

Field Check

661.4	823.7

PE Calibration

Base Calibration

	Measured WS	Measured WH	Measured Ratio	Calibrated Ratio
Background	124	593		
Reference 1	17926	43516	0.415	0.371
Reference 2	5248	17873	0.297	0.272

Field Check at Base

123.9	593.3

Field Check

122.4	586.2

Density Constants MPD-B 31

Last Edited on 04-MAR-2014,07:49

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	1.11	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	

Caliper Calibration MPD-B 31

Base Calibration on 24-FEB-2014 03:42
Field Calibration on 04-MAR-2014,10:20

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	18272	3.99
2	26496	5.98
3	35155	7.97
4	43472	9.86
5	52816	11.92
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
7.76	7.81

DOWNHOLE EQUIPMENT

C:\Minimus 13.05.9583\Logs\MCCOY UMCC A 1-17\MCCOY UMCC A 1-17 REPEAT3.dta

CBH-C, Cablehead, 11 pin
CBH-CA 170 LG: 2.40 ft WT: 24.3 lb OD: 2.24 in

Compact Comms Gamma
MCG-D K 443 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

43.50 ft GRGC - Gamma Ray
40.59 ft CGXT - MCG External Temperature

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

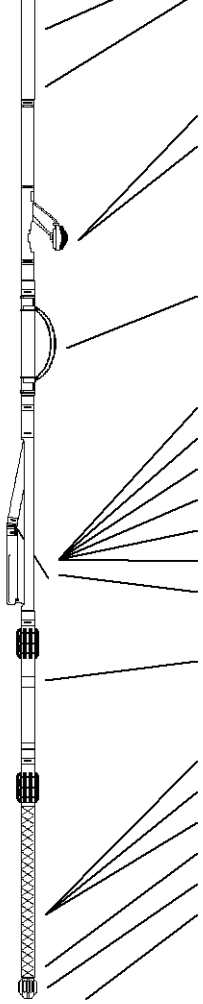
Compact Neutron
MDN-A.B 65 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

Compact Density/Caliper
MPD-B 31 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 Induction
MAI-A.A 45 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

Total Length: 51.18 ft Weight: 407.9 lb



33.24 ft	MINV - MMR MicroLog Inverse
33.24 ft	MNRL - MMR MicroLog Normal
28.45 ft	NPRL - Limestone Neutron Por.
21.21 ft	AVOL - Annular Volume
21.21 ft	HVOL - Hole Volume
21.21 ft	CLDC - Density Caliper
19.28 ft	DPRL - Limestone Density Por.
19.28 ft	DEN - Compensated Density
19.28 ft	DCOR - Density Correction
19.22 ft	PDPE - PE
13.72 ft	FEFE - Shallow FE
3.34 ft	R40O - Array Ind. One Res 40
3.34 ft	R60O - Array Ind. One Res 60
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	MCCOY PETROLEUM CORPORATION
WELL	UMCC A 1-17
FIELD	WILDCAT
PROVINCE/COUNTY	MEADE
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	2827.00	feet	First Reading	5683.00	feet
Elevation Drill Floor	2825.00	feet	Depth Driller	5700.00	feet
Elevation Ground Level	2816.00	feet	Depth Logger	5702.00	feet

Weatherford®

COMPACT PHOTO DENSITY COMPENSATED NEUTRON MICRORESISTIVITY LOG