Weatherford®

COMPACT PHOTO DENSITY COMPENSATED NEUTRON MICRORESISTIVITY LOG

COMPANY	MCCOY PETROLEUM CORPORATION
WELL	MTPRC 'A' #1-27
FIELD	ALFORD SOUTH
PROVINCE/COUNTY	KIOWA
COUNTRY/STATE	U.S.A. / KANSAS
LOCATION	330' FNL & 330' FEL NE NE NE

SEC	TWP	RGE	Other Services
27	30S	19W	MAI/MFE

API Number 15-097-21773
Permit Number

Permanent Datum GL, Elevation 2213 feet
Log Measured From KB
Drilling Measured From KB @ 11 FEET

Elevations:	feet
KB	2224.00
DF	2222.00
GL	2213.00

Date	18-NOV-2013			
Run Number	ONE			
Service Order	3547647			
Depth Driller	5200.00	feet		
Depth Logger	5198.00	feet		
First Reading	5179.00	feet		
Last Reading	3900.00	feet		
Casing Driller	601.00	feet		
Casing Logger	604.00	feet		
Bit Size	7.875	inches		
Hole Fluid Type	CHEMICAL			
Density / Viscosity	9.30 lb/USg	61.00 CP		
PH / Fluid Loss	10.50	9.20 ml/30Min		
Sample Source	FLOWLINE			
Rm @ Measured Temp	0.74 @ 73.0	ohm-m		
Rmf @ Measured Temp	0.59 @ 73.0	ohm-m		
Rmc @ Measured Temp	0.89 @ 73.0	ohm-m		
Source Rmf / Rmc	CALC	CALC		
Rm @ BHT	0.50 @108.0	ohm-m		
Time Since Circulation	4 HOURS			
Max Recorded Temp	108.00	deg F		
Equipment / Base	13096	LIB		
Recorded By	J. LAPOINT		R. HOFFMAN	
Witnessed By	E. STONE			
JOB#	LB13-327			

BOREHOLE RECORD

Last Edited: 18-NOV-2013 12:05

Bit Size inches	Depth From feet	Depth To feet
7.875	604.00	5198.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	604.00	24.00

REMARKS

- SOFTWARE ISSUE: WLS 13.05.9583.
- MCG, MML, MDN, MPD, MFE, MAI RUN IN COMBINATION.
  - HARDWARE: DUAL BOWSPRING USED ON MDN.
  0.5 INCH STANDOFF USED ON MFE.
  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 3900 FEET: 442 CU. FT.
- ANNULAR HOLE VOLUME WITH 5.5 INCH CASING FROM TD TO 3900 FEET: 229 CU. FT.
- SERVICE ORDER # 3547647

- SERVICE ORDER #: 00-1 3-11.

- RIG: STERLING RIG 2.

- ENGINEER: J. LAPOINT AND R. HOFFMAN

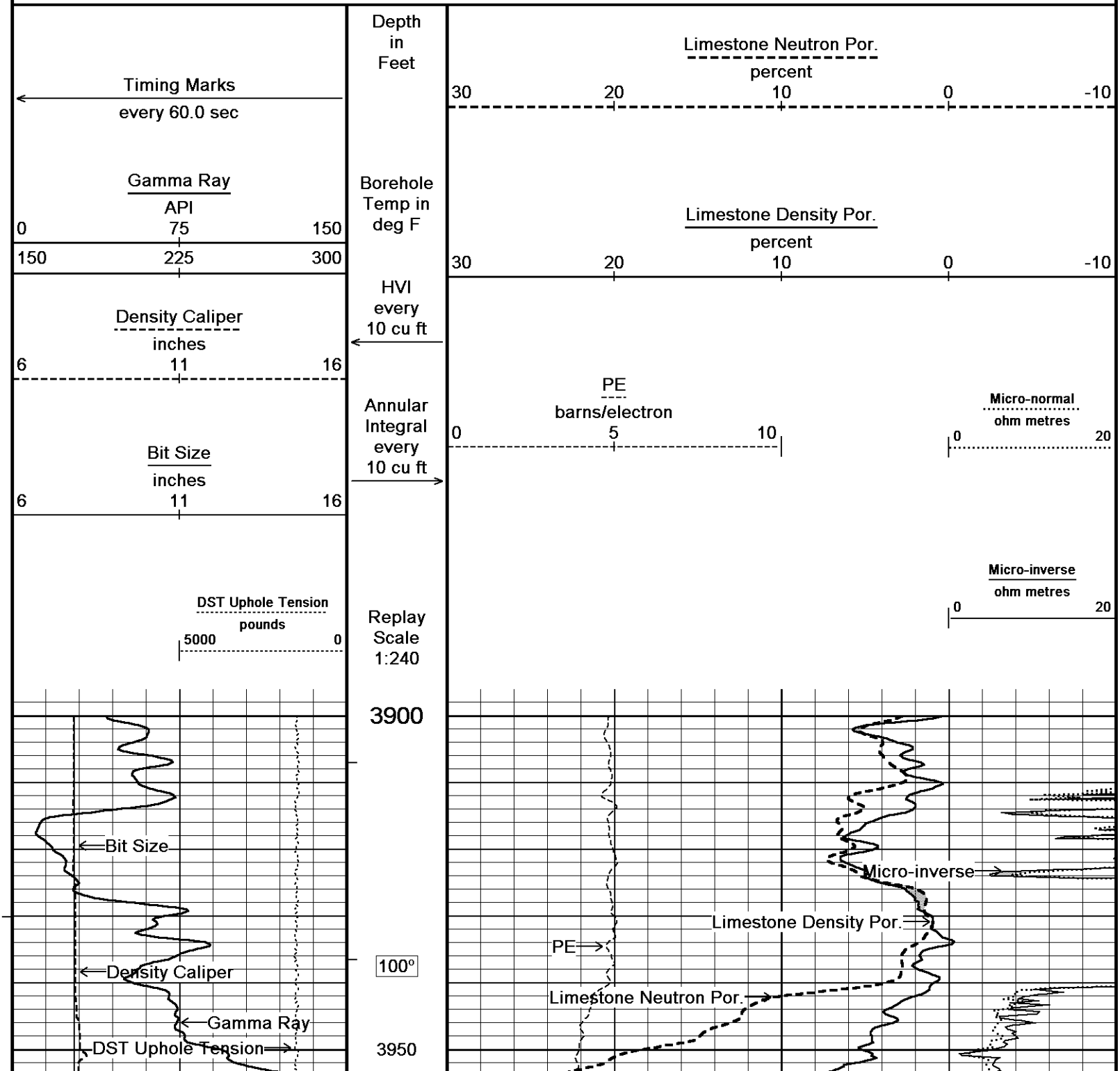
- OPERATOR(S): K. RINEHART AND D. CANADAY.

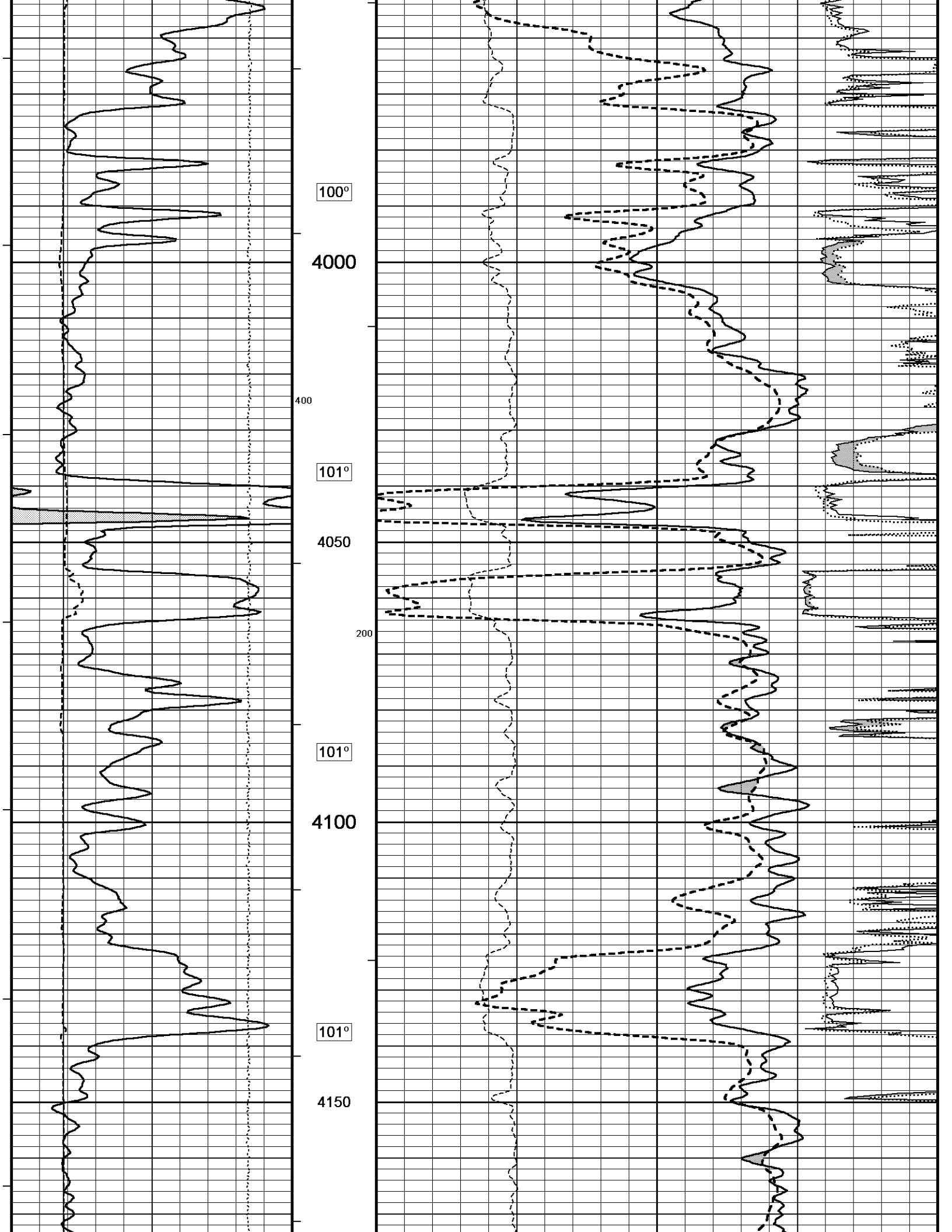
5 INCH MAIN

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 18-NOV-2013 13:47

Filename: C:\Minimus 13.05.9583\Log\McCoy Petroleum ...\McCoy Petroleum MTPRC 'A' 1-27 Main.dta — Recorded on 18-NOV-2013 11:06

System Versions: Logged with 13.05.9583 Plotted with 13.05.9583

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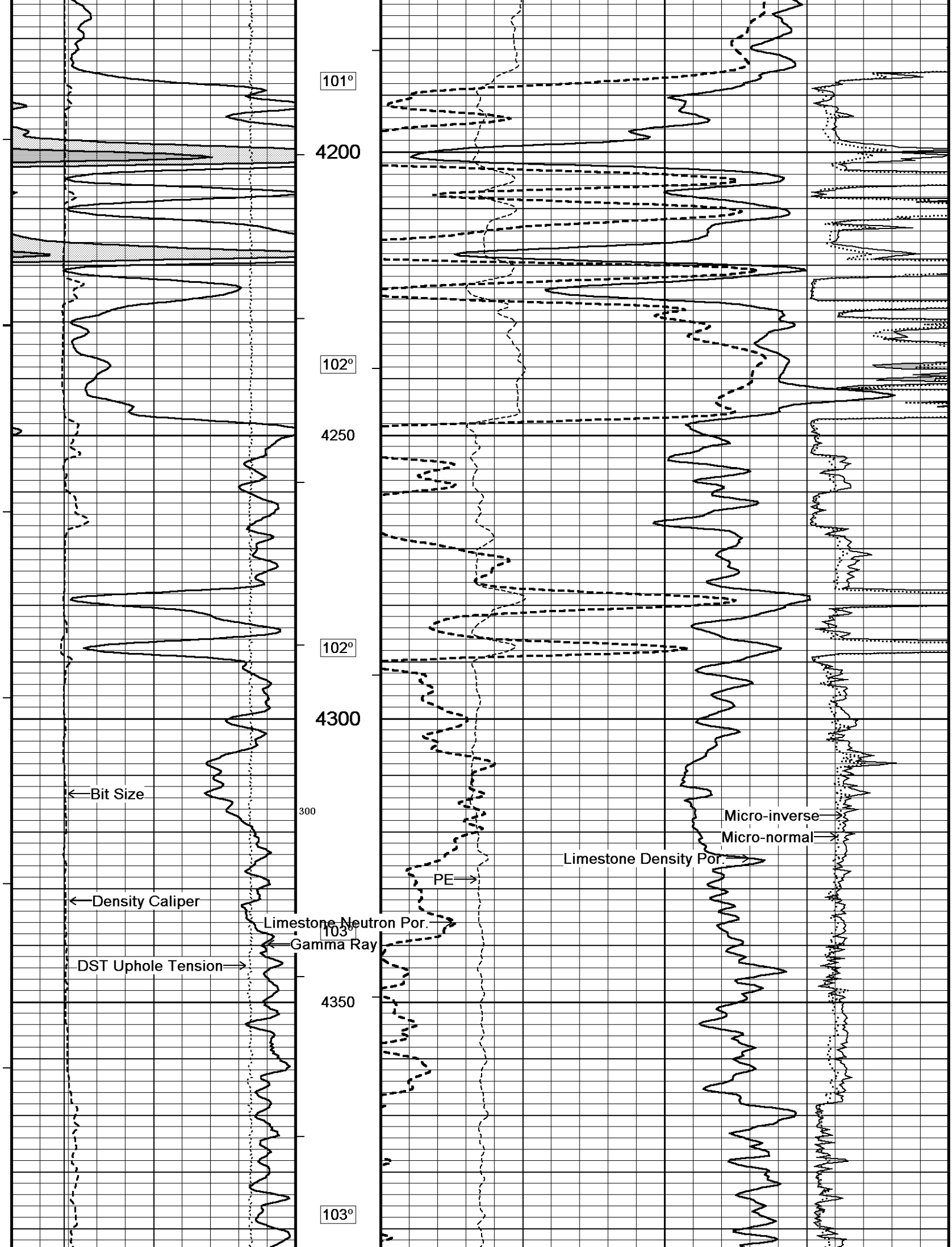
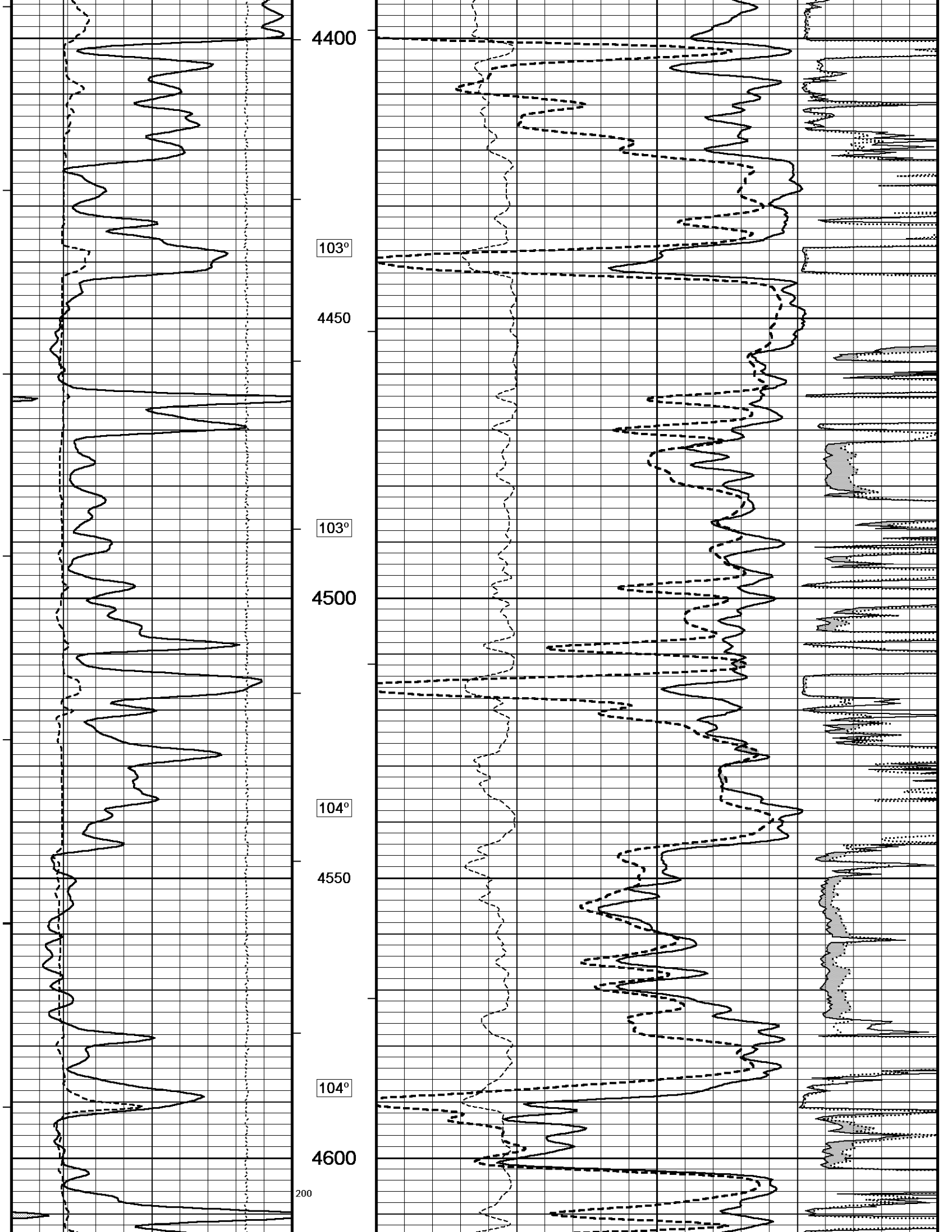
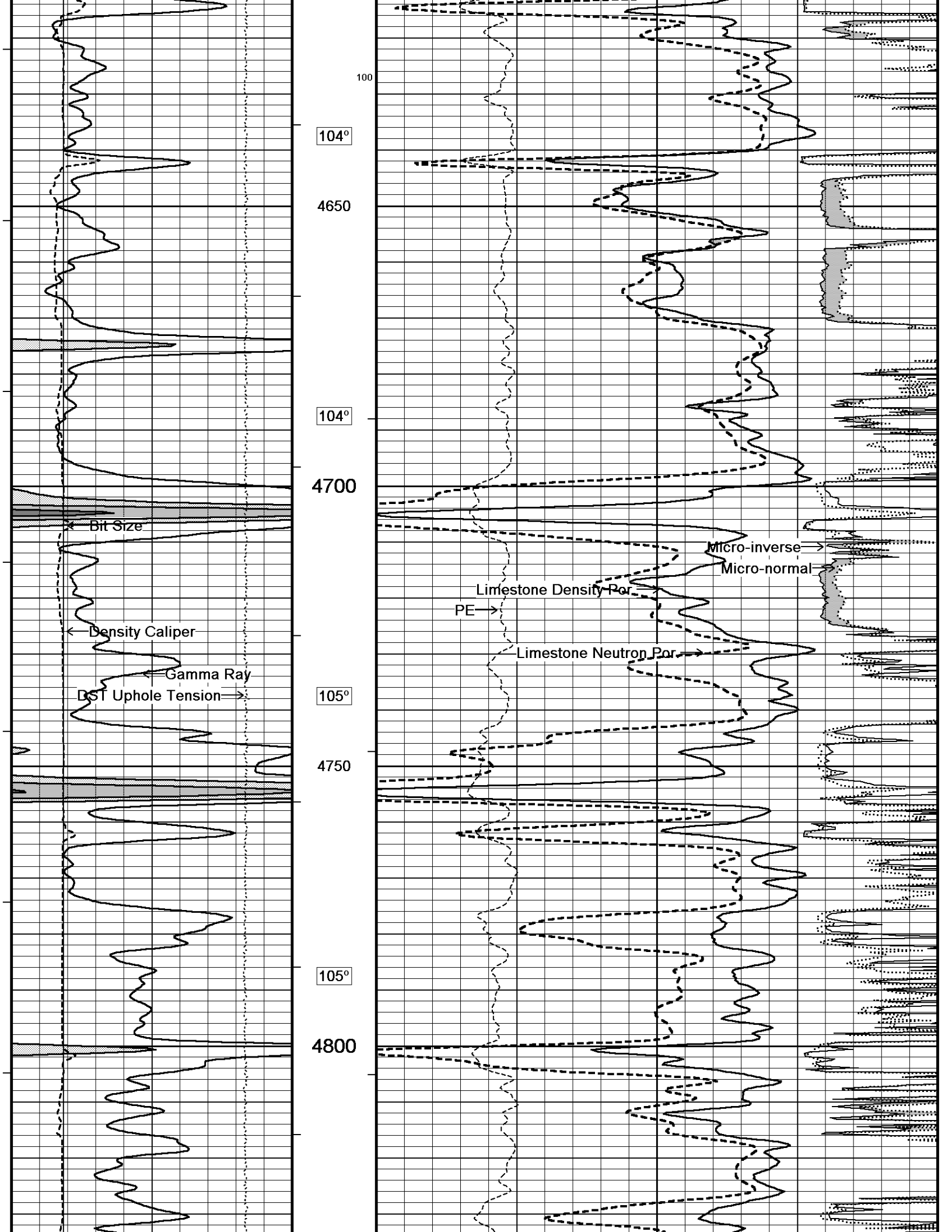
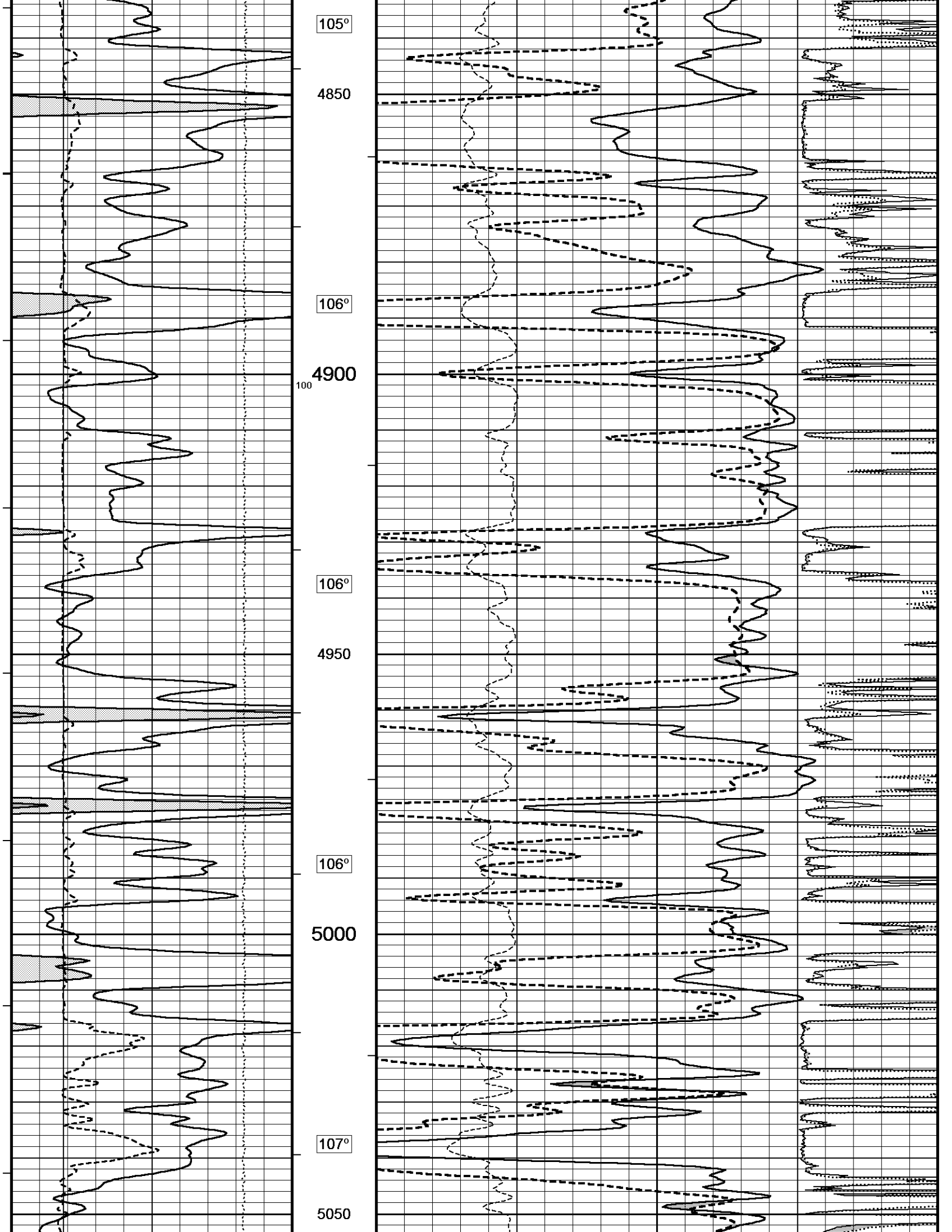
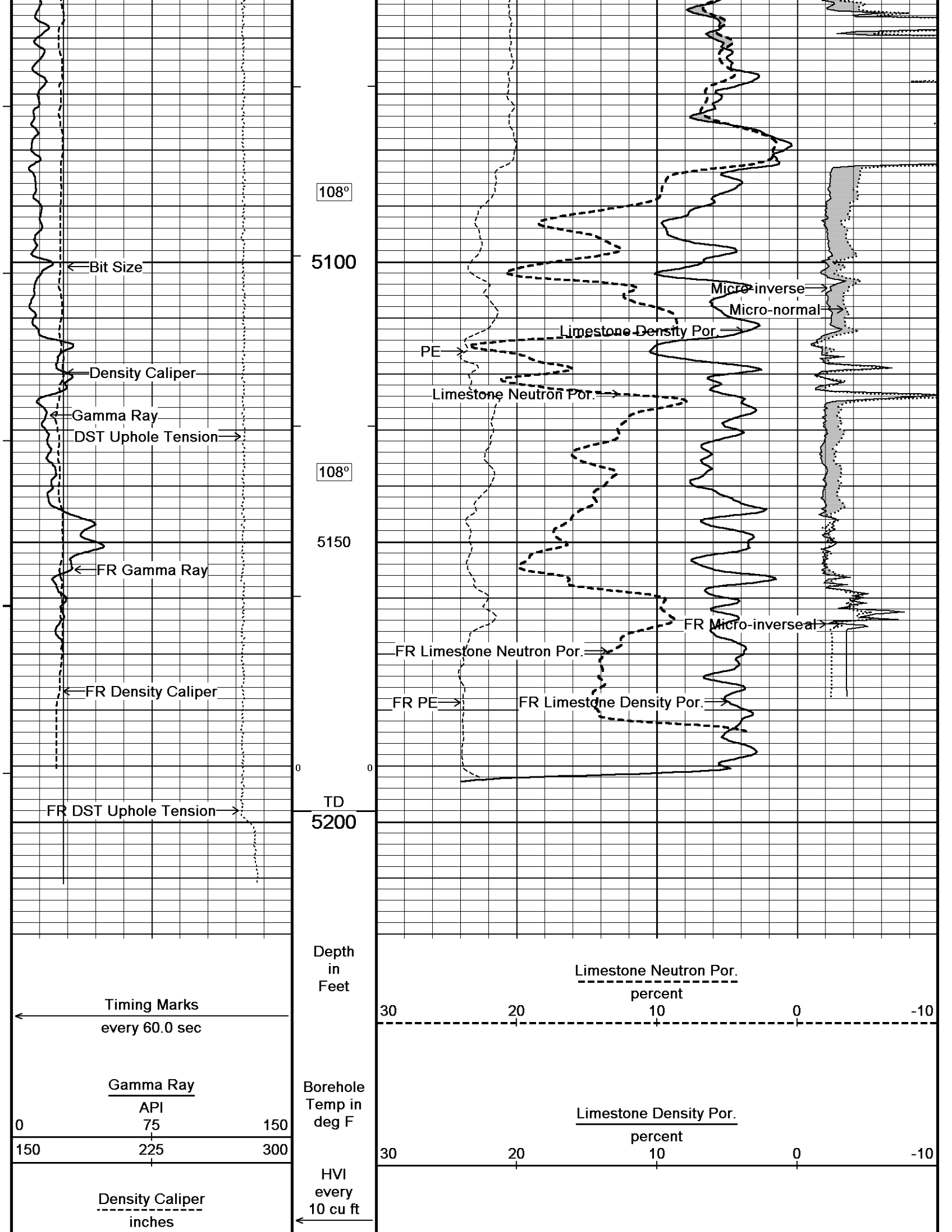
4000
400
101°
4050
200
101°
4100
101°
4150

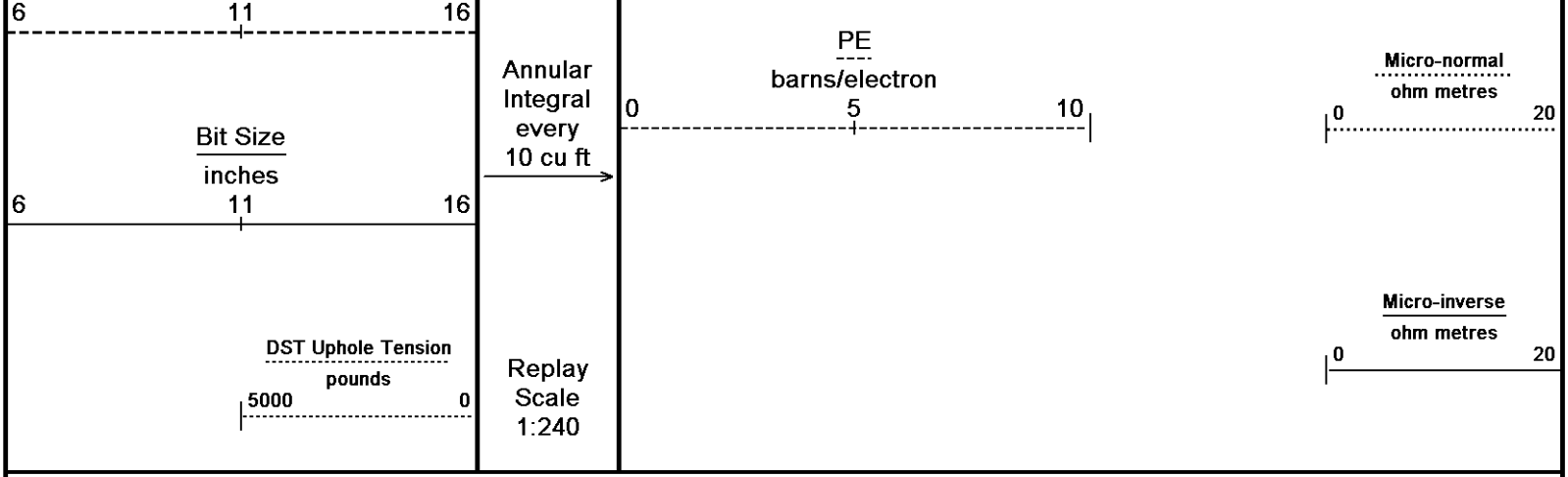

101°
4200
102°
4250
102°
4300
Bit Size
300
Micro-inverse
Micro-normal
Limestone Density Por.
PE
Density Caliper
Limestone Neutron Por.
103°
Gamma Ray
DST Uphole Tension
4350
103°


4400
103°
4450
103°
4500
104°
4550
104°
4600
200


100
104°
4650
104°
4700
Bit Size
Micro-inverse
Micro-normal
Limestone Density Por
PE
Density Caliper
Limestone Neutron Por
Gamma Ray
DST Uphole Tension
105°
4750
105°
4800


105°
4850
106°
4900
100
106°
4950
106°
5000
107°
5050


108°
5100
Bit Size
Micro-inverse
Micro-normal
Limestone Density Por.
PE
Density Caliper
Limestone Neutron Por.
Gamma Ray
DST Uphole Tension
108°
5150
FR Gamma Ray
FR Micro-inverseal
FR Limestone Neutron Por.
FR Density Caliper
FR PE
FR Limestone Density Por.
0
0
TD
5200
FR DST Uphole Tension
Depth in Feet
Timing Marks
every 60.0 sec
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
HVI every 10 cu ft
Density Caliper
inches

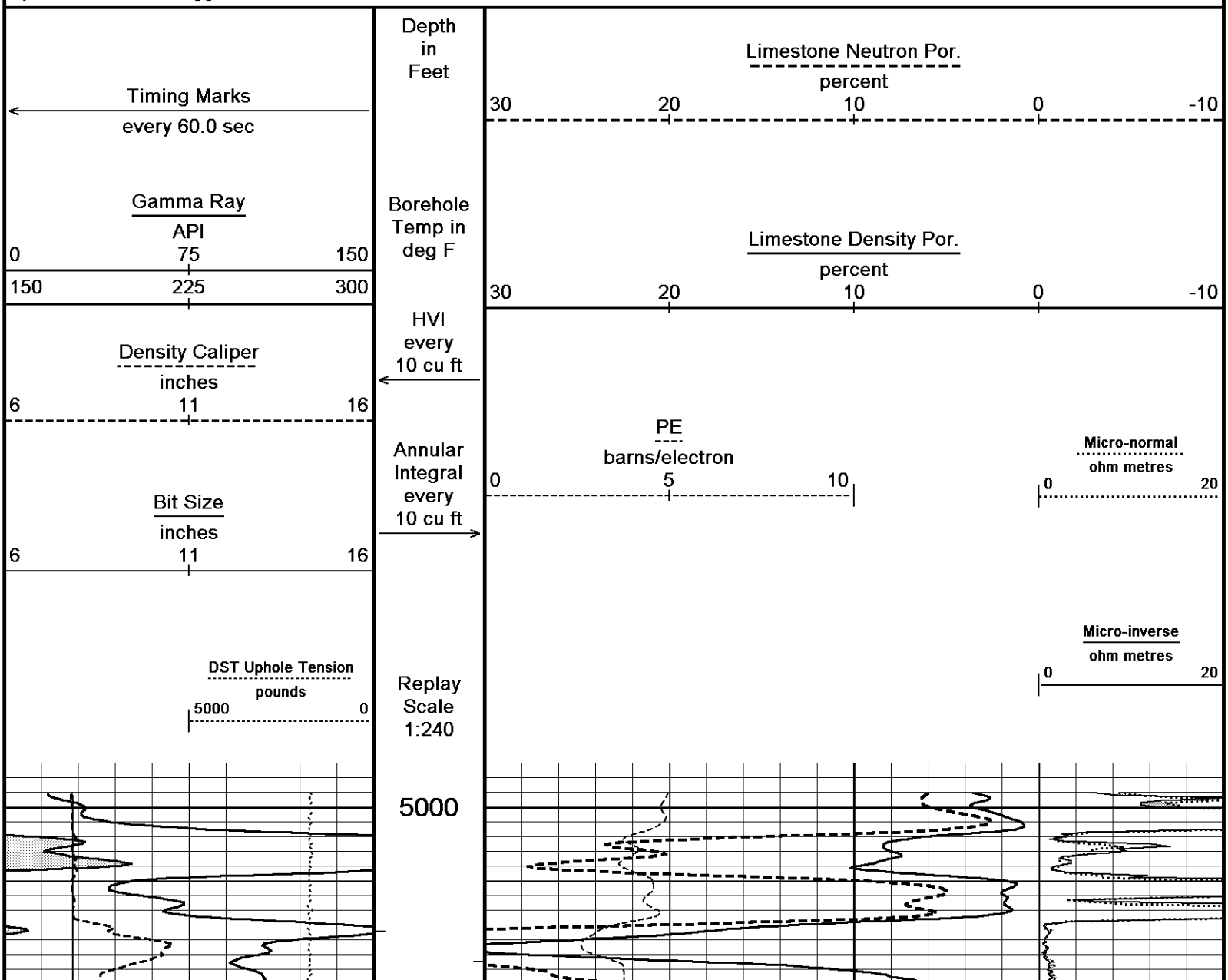


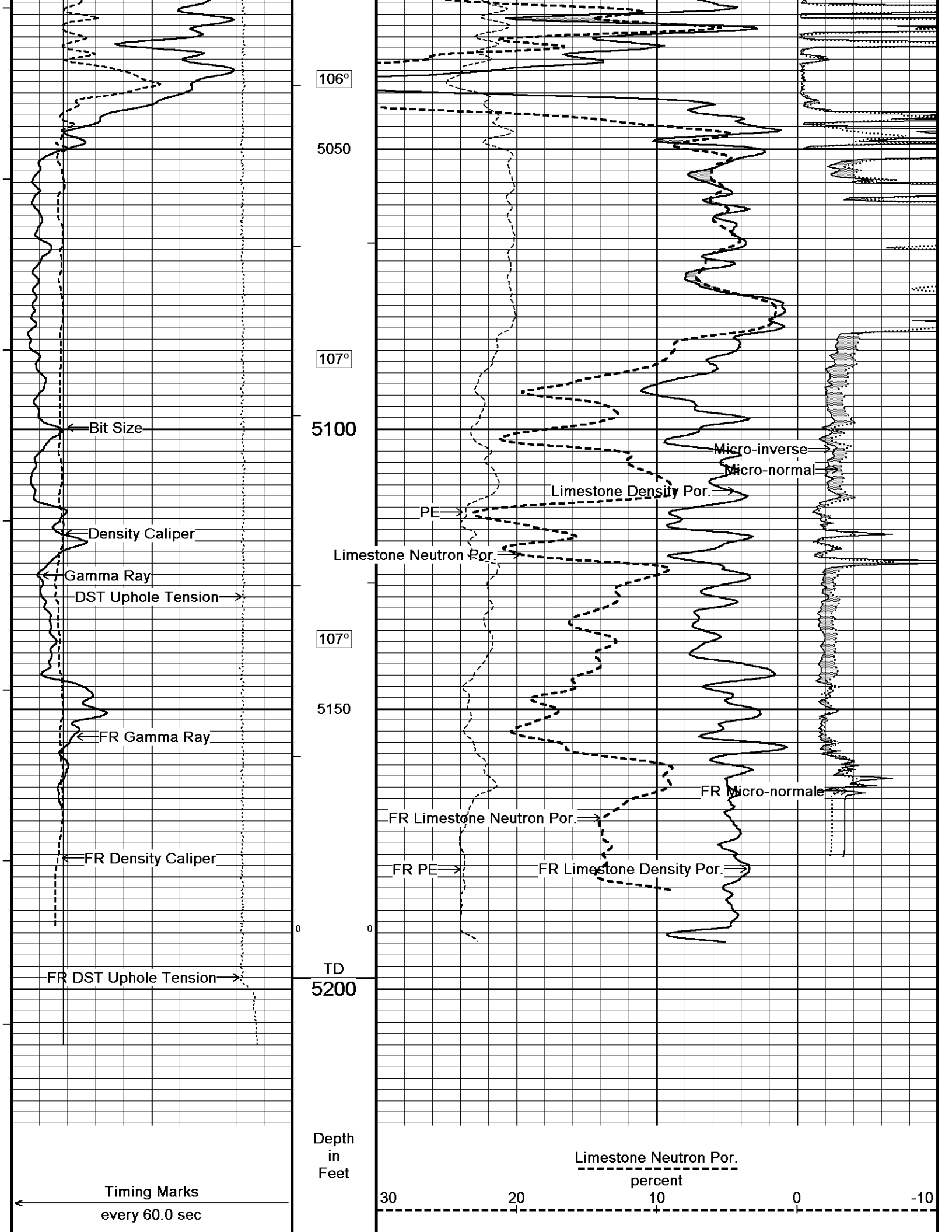
Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 18-NOV-2013 13:47
Filename: C:\Minimus 13.05.9583\Log\McCoy Petroleum ...\McCoy Petroleum MTPRC 'A' 1-27 Main.dta — Recorded on 18-NOV-2013 11:06
System Versions: Logged with 13.05.9583 Plotted with 13.05.9583

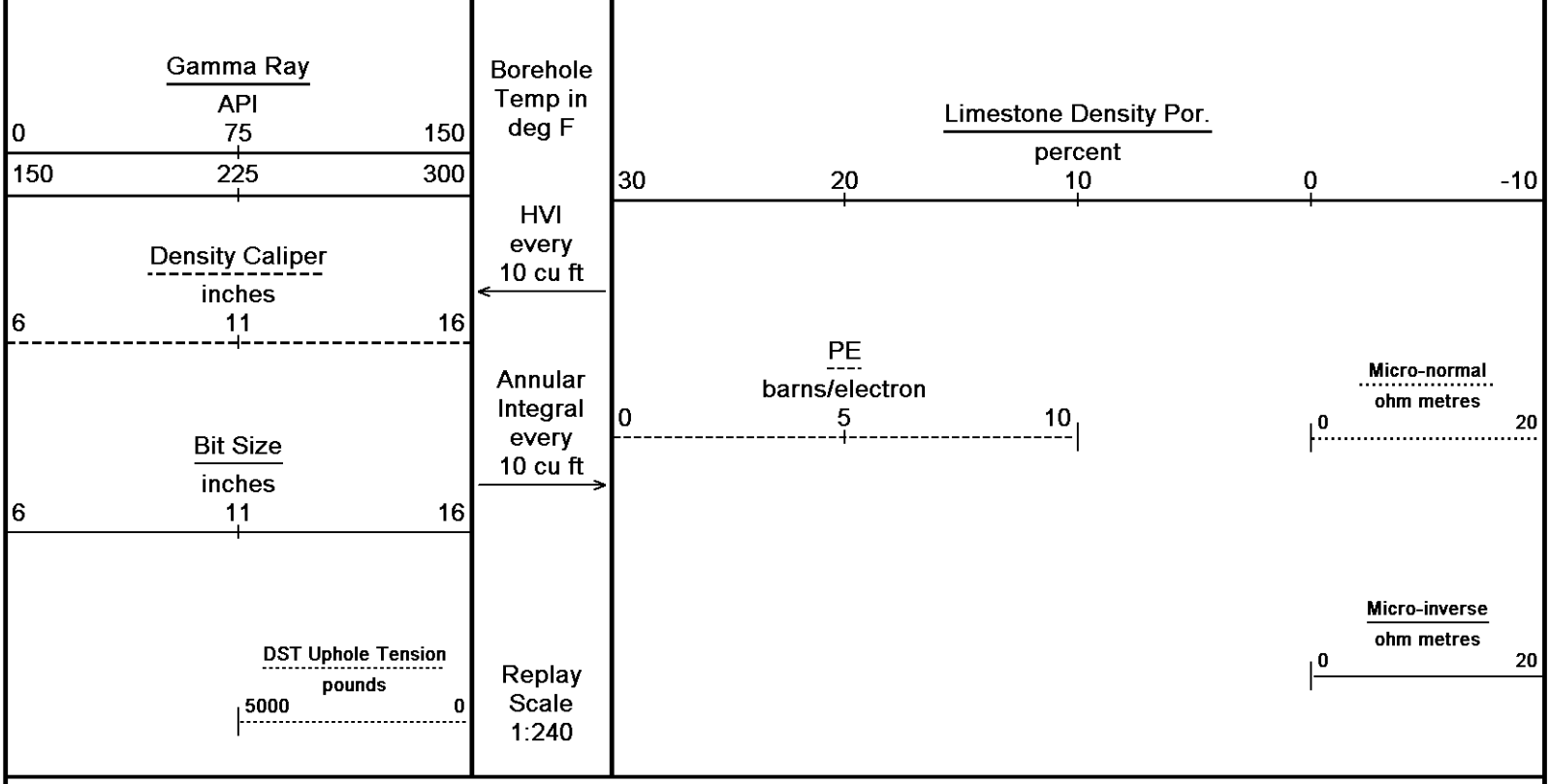
5 INCH MAIN

REPEAT SECTION

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 18-NOV-2013 13:47
Filename: C:\Minimus 13.05.9583\Log\McCoy Petroleu...\McCoy Petroleum MTPRC 'A' 1-27 Repeat.dta — Recorded on 18-NOV-2013 10:42
System Versions: Logged with 13.05.9583 Plotted with 13.05.9583




106°
5050
107°
5100
107°
5150
TD
5200
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
FR Gamma Ray
FR Density Caliper
FR DST Uphole Tension
Micro-inverse
Micro-normal
Limestone Density Por.
PE
Limestone Neutron Por.
FR Micro-normale
FR Limestone Neutron Por.
FR PE
FR Limestone Density Por.
0
0
Depth
in
Feet
Timing Marks
every 60.0 sec
Limestone Neutron Por.
percent
30
20
10
0
-10



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REPEAT SECTION

5 INCH MAIN

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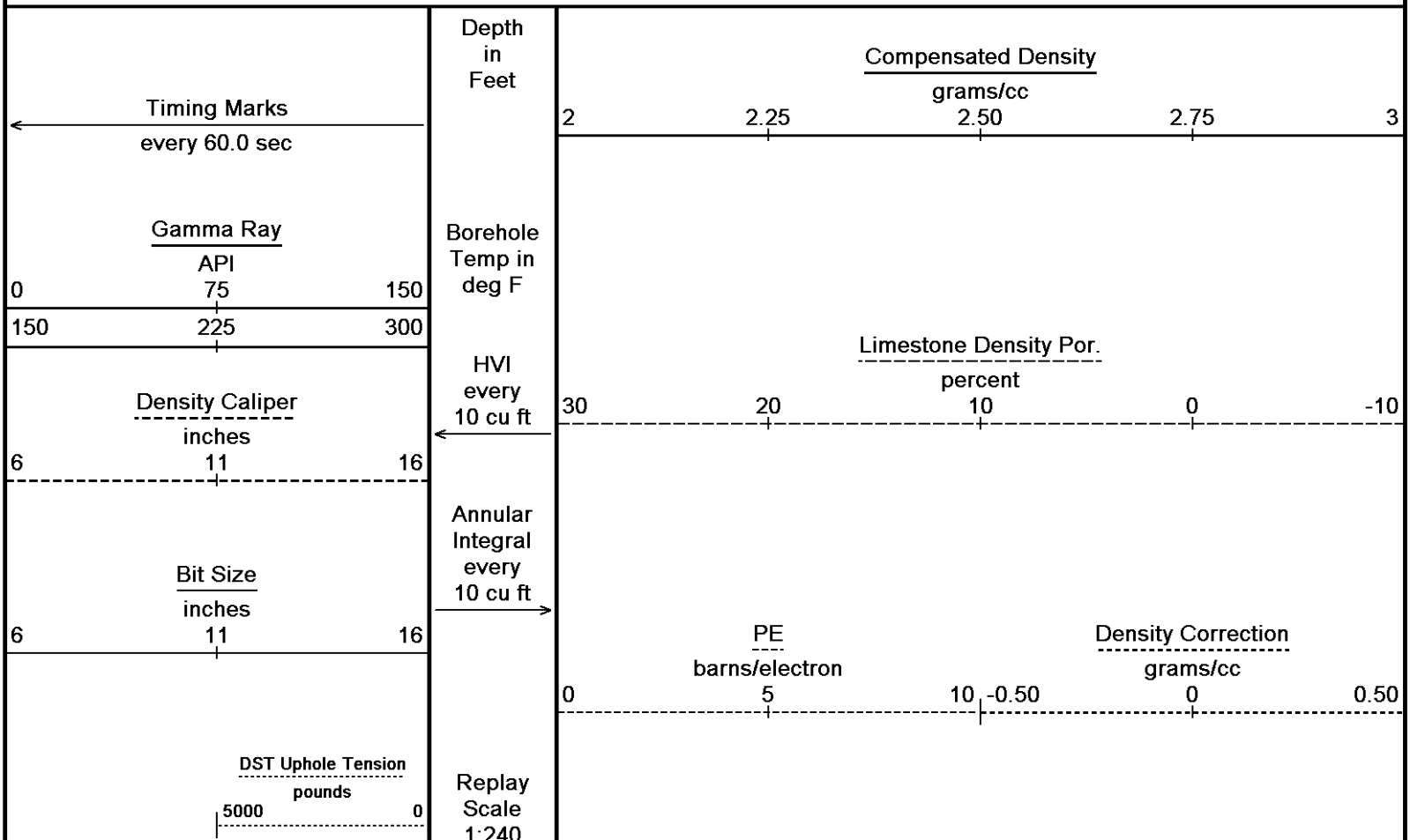
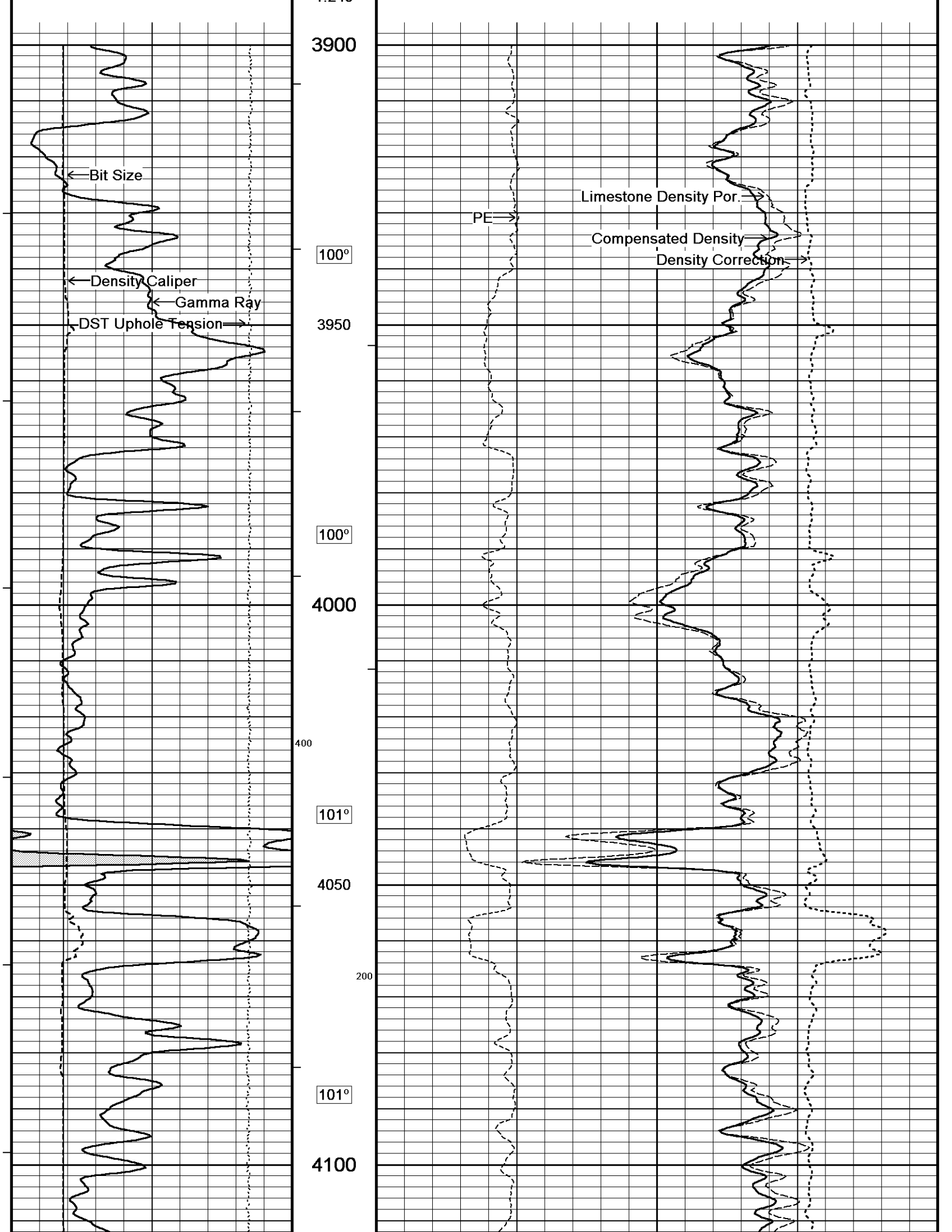
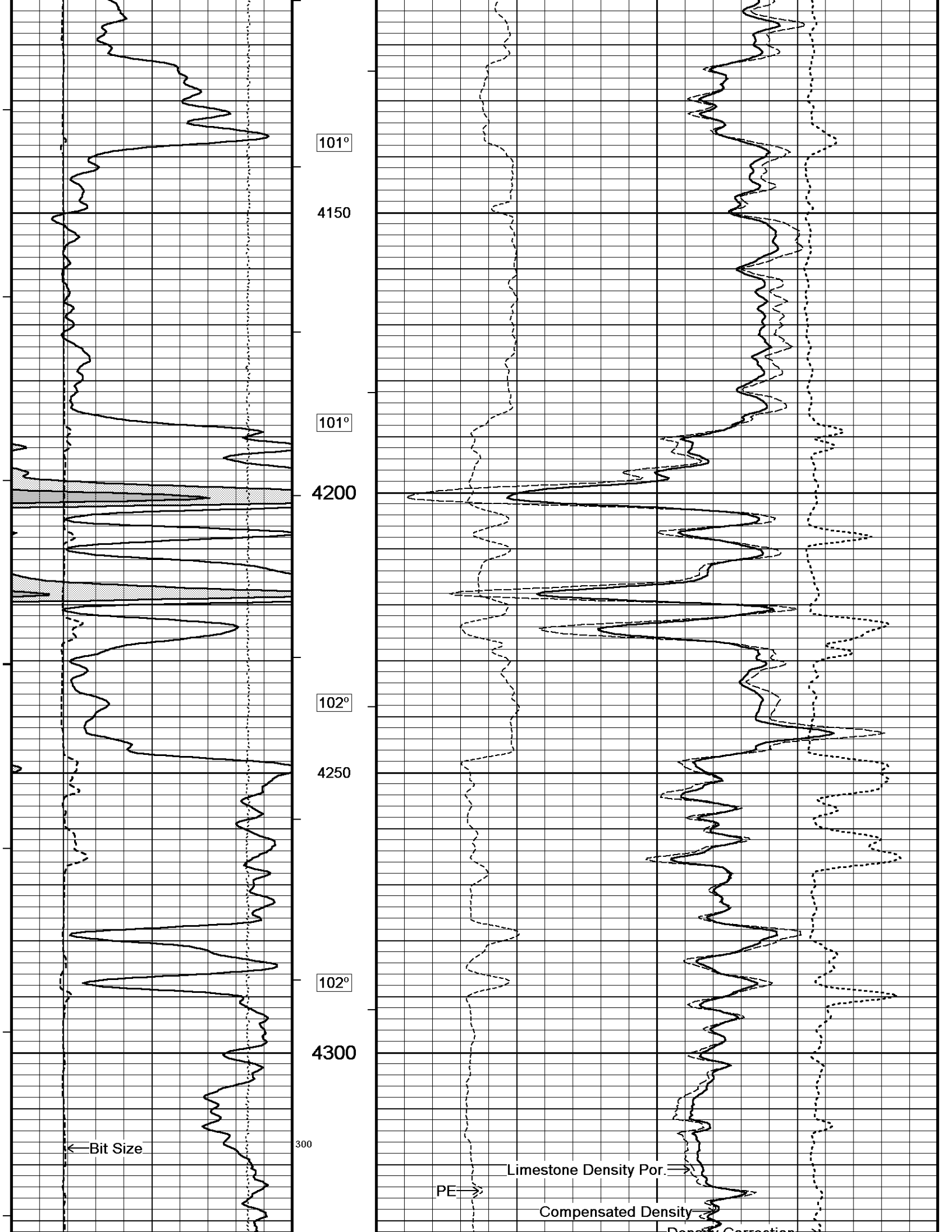
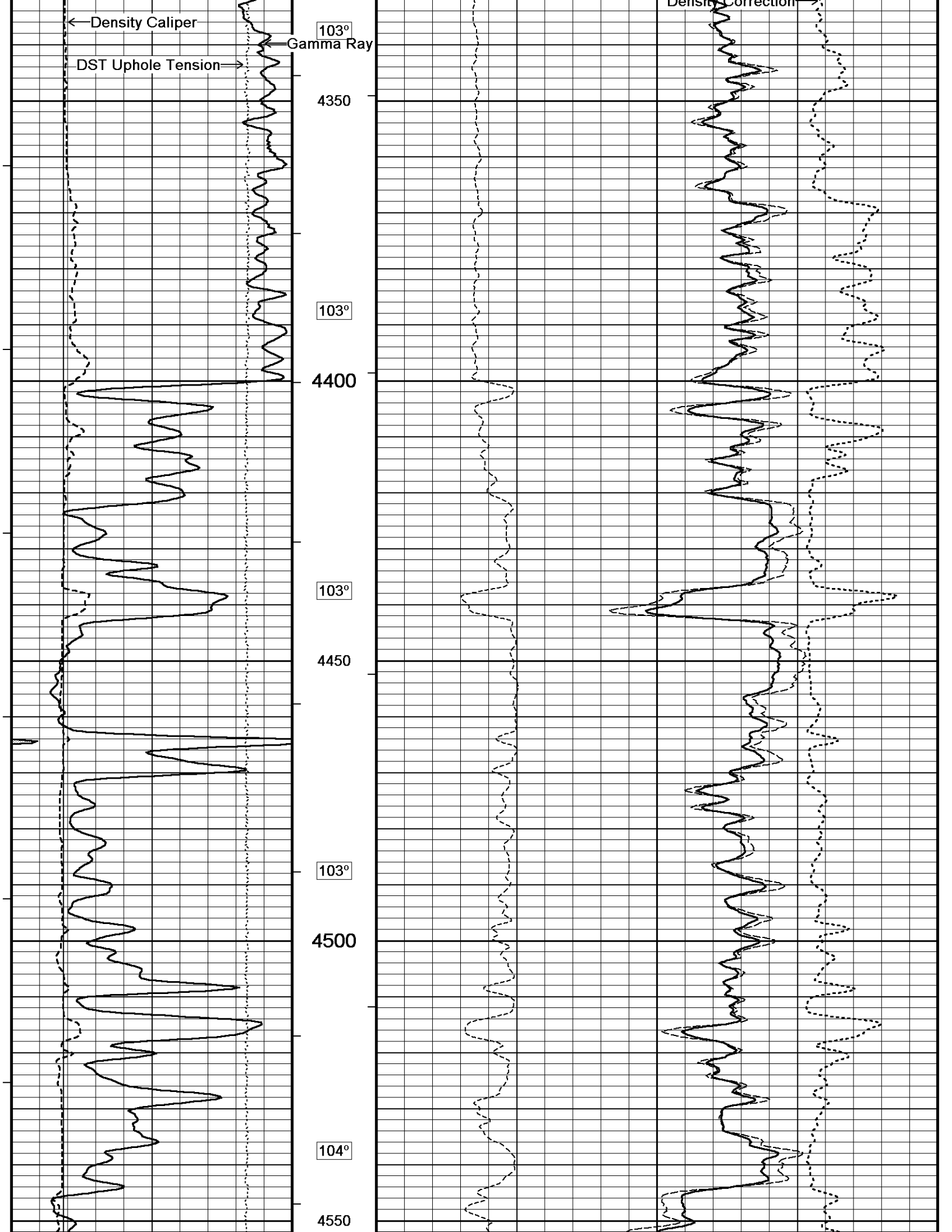
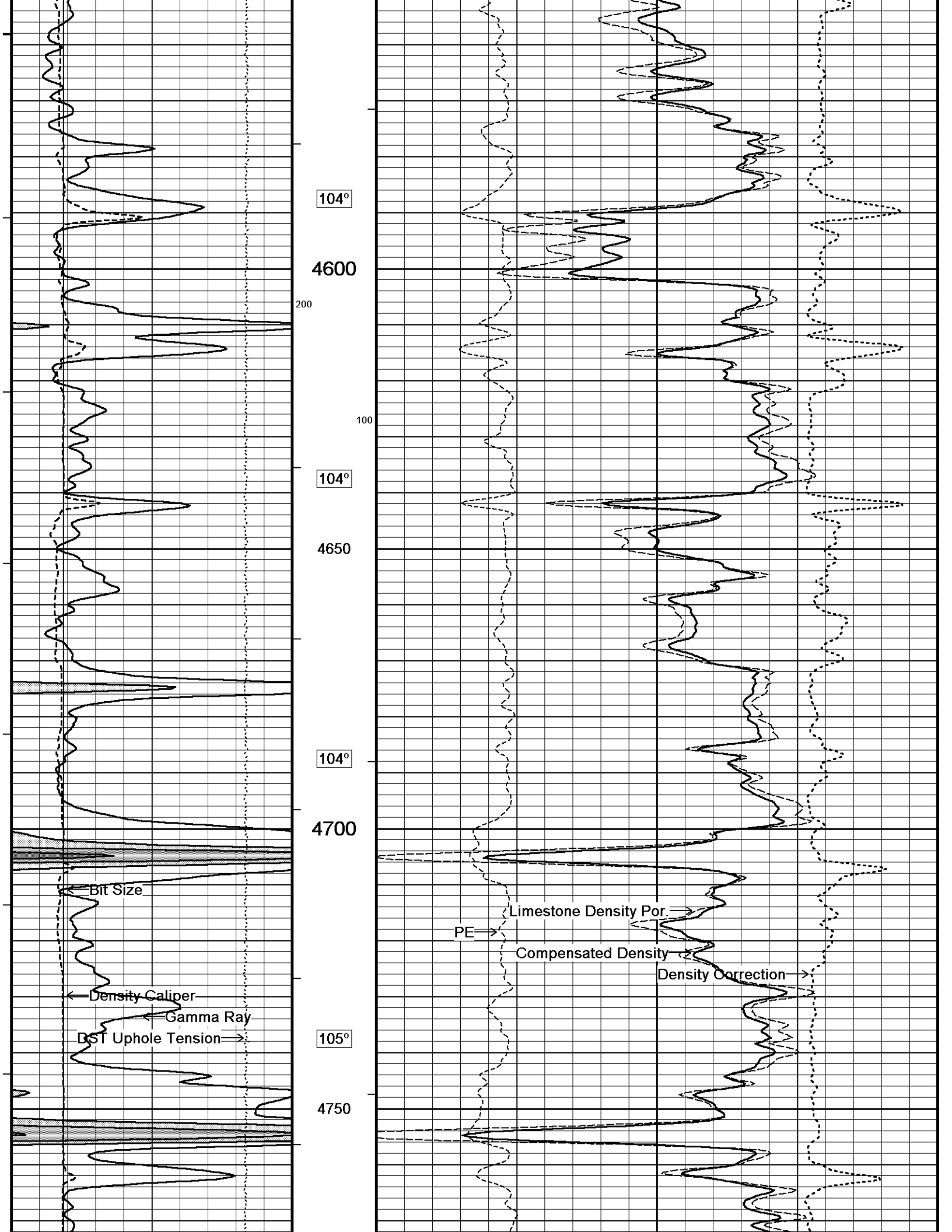
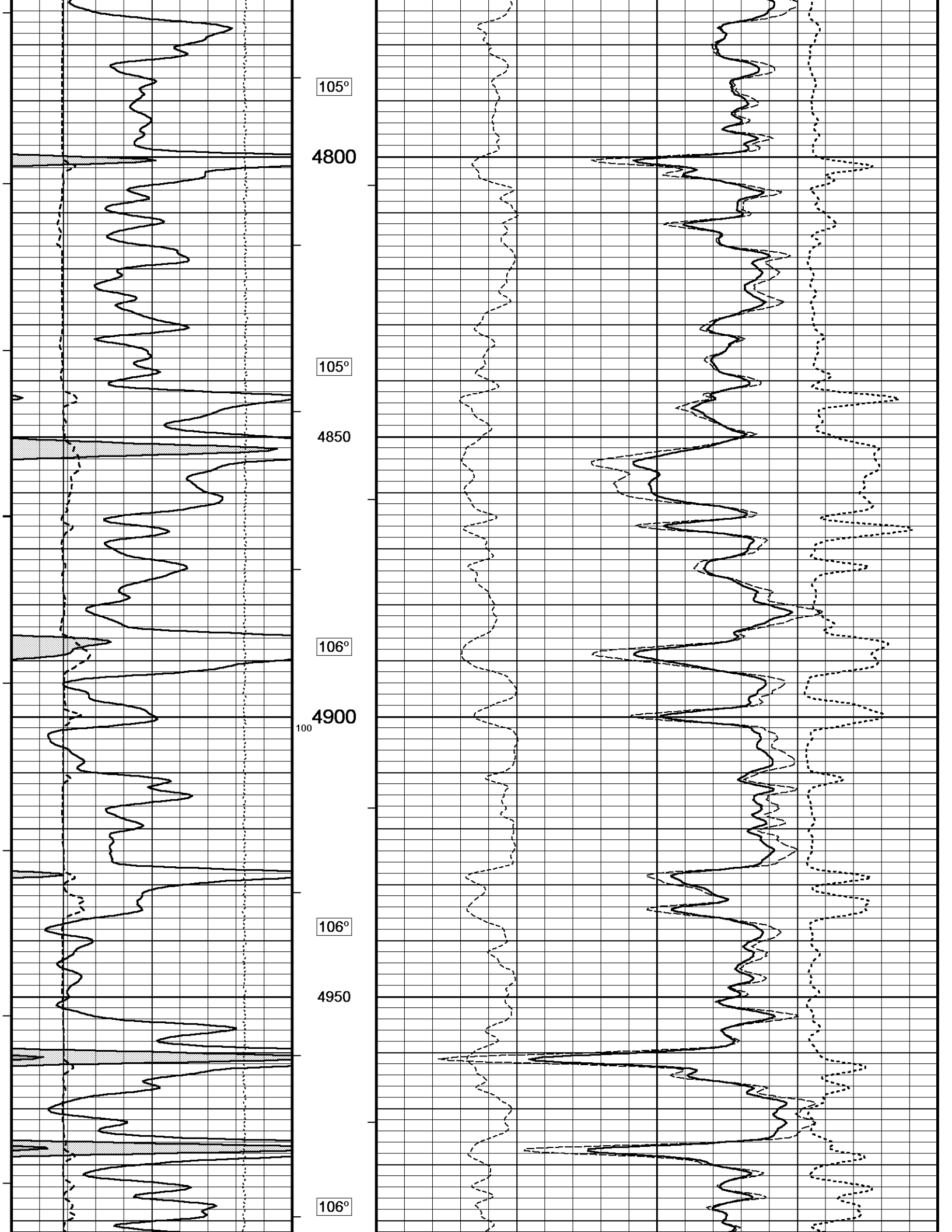


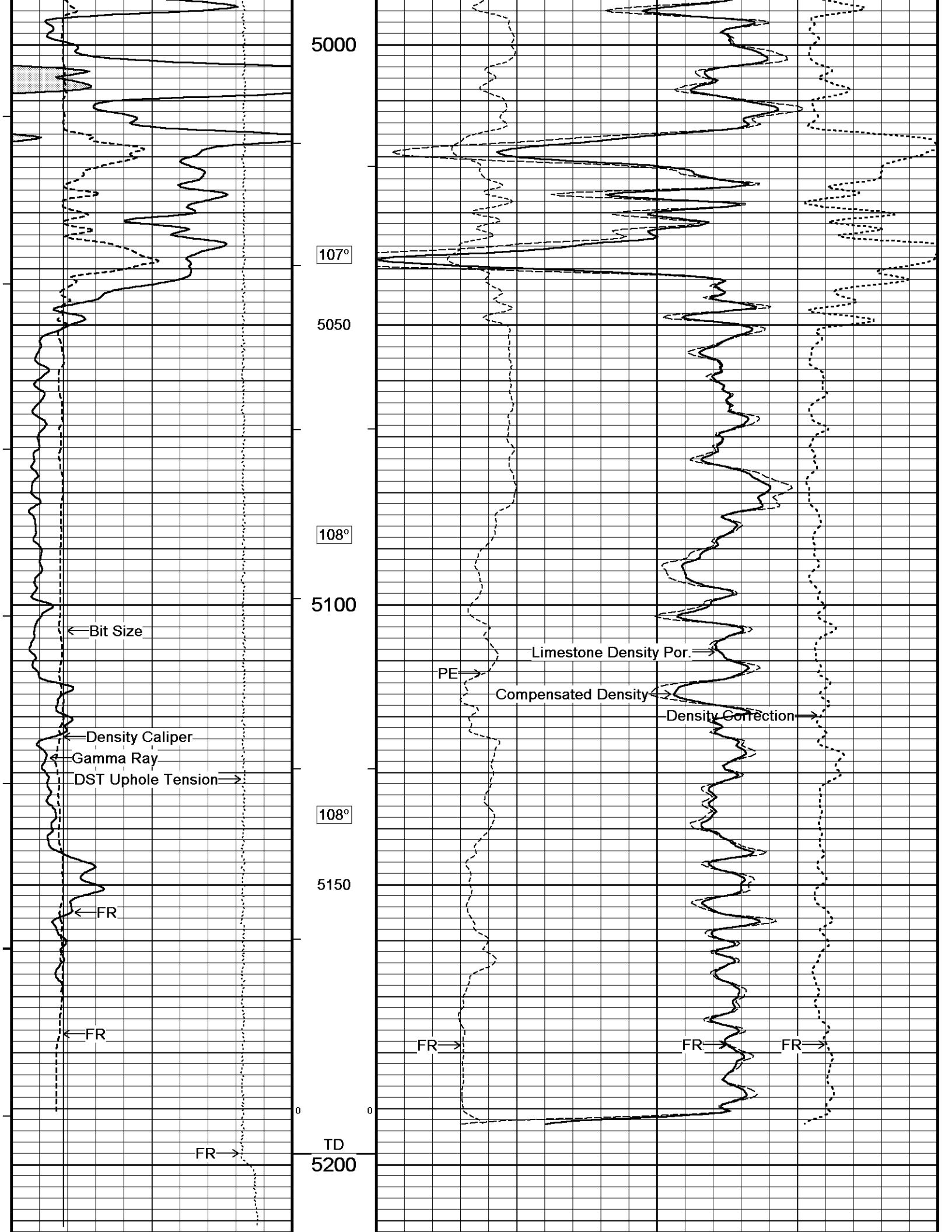

3900
Bit Size
100°
Density Caliper
Gamma Ray
DST Uphole Tension
3950
100°
4000
400
101°
4050
200
101°
4100
PE
Limestone Density Por.
Compensated Density
Density Correction

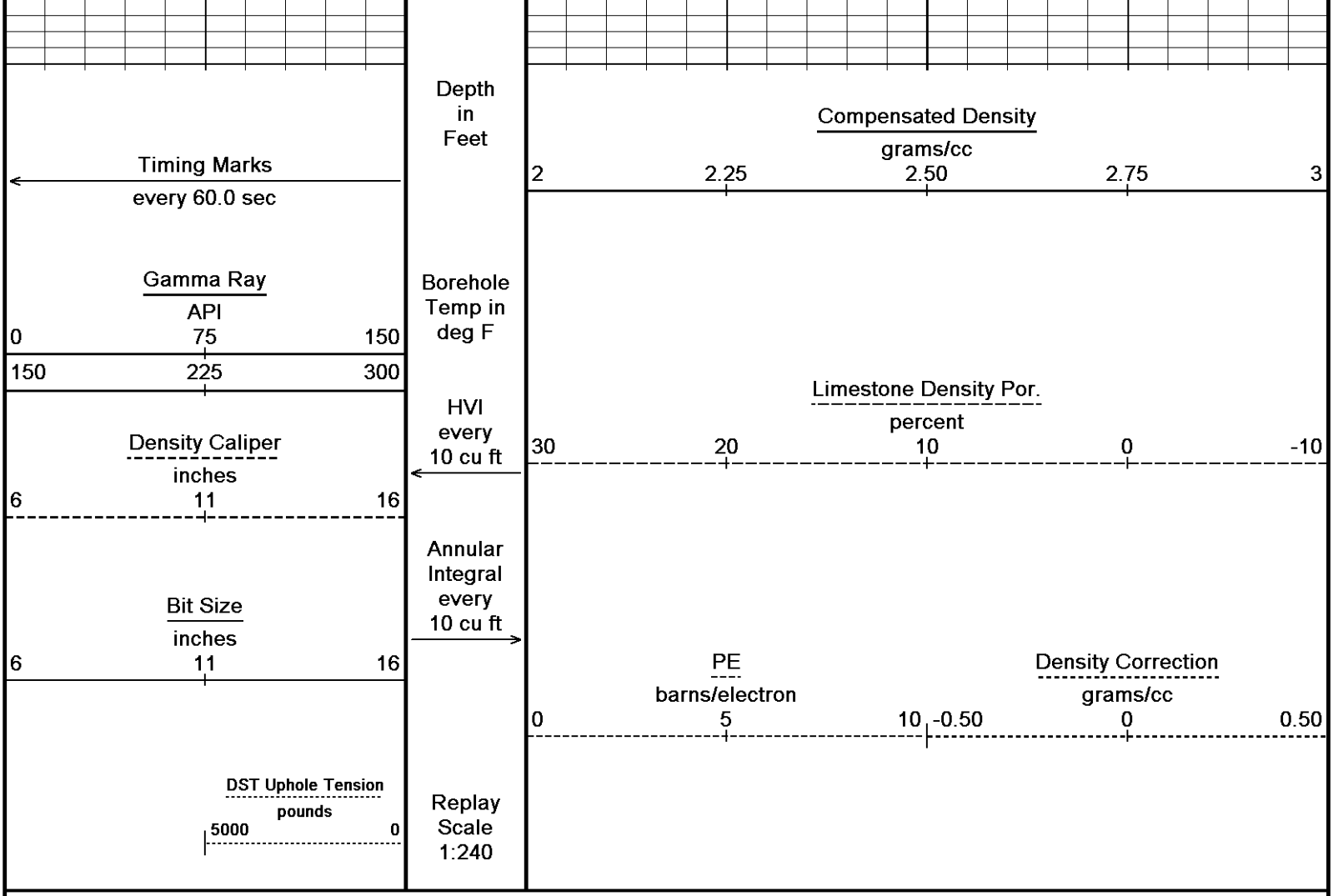

101°
4150
101°
4200
102°
4250
102°
4300
Bit Size
300
PE
Limestone Density Por.
Compensated Density


Density Caliper
DST Uphole Tension
Gamma Ray
Density Correction
103°
4350
103°
4400
103°
4450
103°
4500
104°
4550


104°
4600
200
100
104°
4650
104°
4700
Bit Size
Limestone Density Por.
PE
Compensated Density
Density Correction
Density Caliper
Gamma Ray
DST Uphole Tension
105°
4750


105°
4800
105°
4850
106°
4900
100
106°
4950
106°


5000
107°
5050
108°
5100
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
108°
5150
FR
FR
0
FR
TD
5200
Limestone Density Por.
PE
Compensated Density
Density Correction
FR
FR
FR
0



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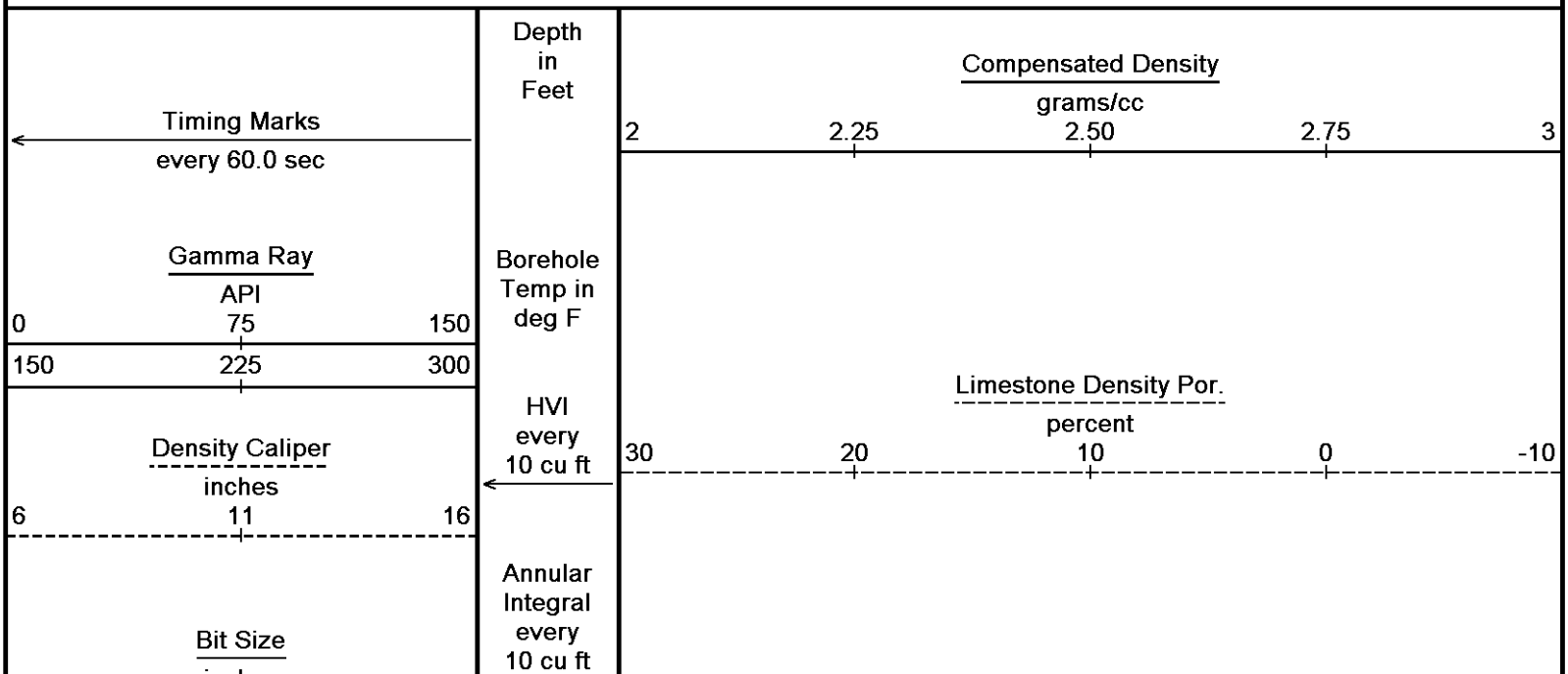
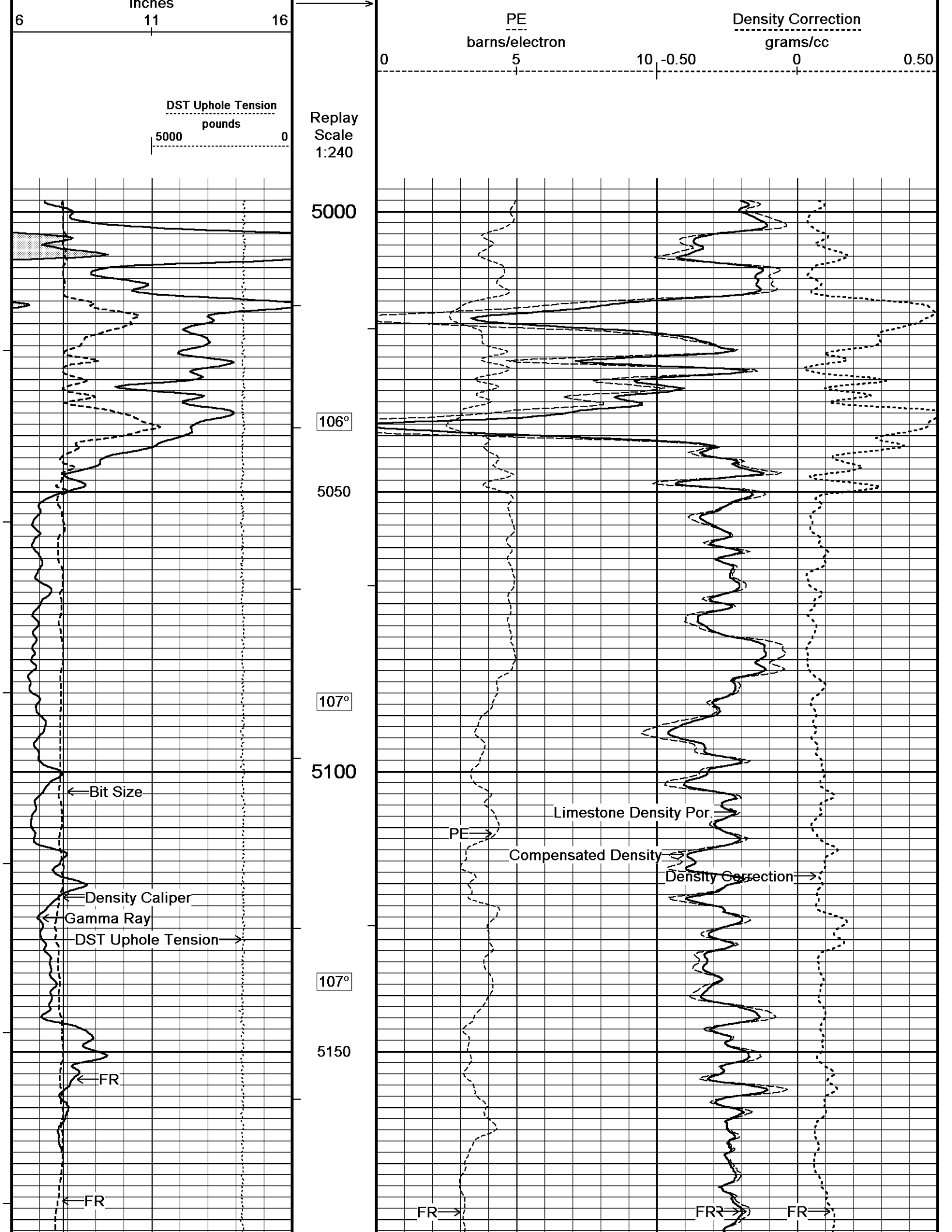
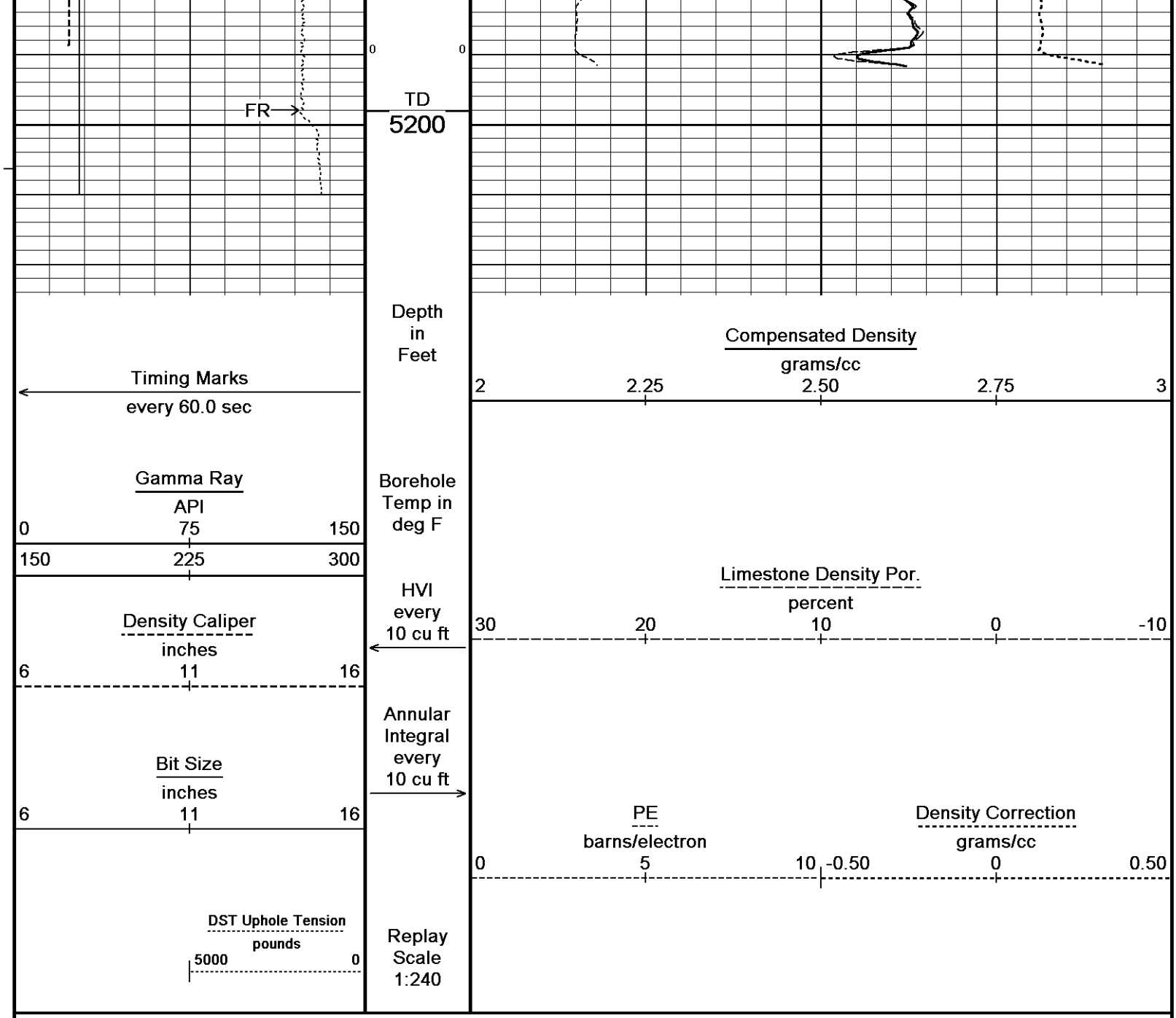



Inches
6
11
16
DST Uphole Tension
pounds
5000
0
Replay
Scale
1:240
PE
barns/electron
0
5
10
Density Correction
grams/cc
-0.50
0
0.50
5000
106°
5050
107°
5100
107°
5150
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
FR
FR
Limestone Density Por
PE
Compensated Density
Density Correction
FR
FR
FR



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REPEAT SECTION

BEFORE SURVEY CALIBRATION

C:\Minimus 13.05.9583\Log\McCoy Petroleum MTPRC 'A' 1-27\McCoy Petroleum MTPRC 'A' 1-27 Repeat.dta

General Constants All 000 — Last Edited on 18-NOV-2013,08:56

General Parameters		
Mud Resistivity	0.740	ohm-metres
Mud Resistivity Temperature	73.000	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	MML Caliper	

Caliper for Differential Caliper: MMZ Caliper

Rwa Parameters

Porosity used	Base Density Porosity
Resistivity used	Array Ind. Six Res Rt
RWA Constant A	1.000
RWA Constant M	2.000
SW/APOR Tool Source	0.000

Gamma Calibration MCG-D.K 469

Field Calibration on 17-NOV-2013 01:27

	Measured	Calibrated (API)
Background	67	46
Calibrator (Gross)	1139	771
Calibrator (Net)	1072	725

Gamma Constants MCG-D.K 469

Last Edited on 17-NOV-2013,05:35

Gamma Calibrator Number	GRC38	
Mud Density	1.12	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl		kppm
K Mud Type	Chloride	
K Mud Concentration	0.00	%

High Resolution Temperature Calibration MCG-D.K 469

Field Calibration on 18-AUG-2013,02:35

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

High Resolution Temperature Constants MCG-D.K 469

Last Edited on 18-AUG-2013,02:35

Pre-filter Length	11

Photo Density Calibration MPD-C.A 216

Base Calibration on 04-NOV-2013,14:26
Field Check on 17-NOV-2013 01:19

Density Calibration

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	53102	19935	52888	19096
Reference 2	25779	2814	25270	2567

Field Check at Base

1121.7	1316.5

Field Check

1117.6	1313.8

PE Calibration

Base Calibration	Measured			Calibrated
	WS	WH	Ratio	Ratio
Background	205	1001		
Reference 1	18282	52929	0.348	0.309
Reference 2	7413	25647	0.292	0.273

Field Check at Base

204.5	1000.7

Field Check

203.9	997.5

Density Constants MPD-C.A 216

Last Edited on 17-NOV-2013,05:27

Density Source Id	18235B	
Nylon Calibrator Number	DNCE528	
Aluminium Calibrator Number	DACD528	
Density Shoe Profile	8 inch	
Caliper Source for Processing	Density Caliper	
PE Correction to Density	Not Applied	
Mud Density	1.12	gm/cc
Mud Density Z/A Multiplier	1.11	
Mud Filtrate Density	1.00	gm/cc

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 (m)
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 03-NOV-2013 23:03
Field Calibration on 17-NOV-2013 01:14

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	16494	4.01
2	26560	5.96
3	36690	7.98
4	46752	9.95
5	57360	11.91
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
7.95	7.97

DOWNHOLE EQUIPMENT

C:\Minimus 13.05.9583\Log\McCoy Petroleum MTPRC 'A' 1-27\McCoy Petroleum MTPRC 'A' 1-27 Repeat.dta

Compact Comms Gamma
MCG-D.K 469 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Compact Micro-log
MML-A 3 LG: 7.97 ft WT: 81.6 lb OD: 2.24 in

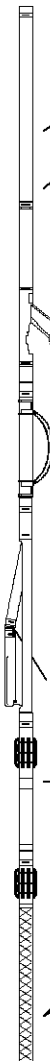
Compact Neutron
MDN-A.B 66 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

Compact Density/Caliper
MPD-C.A 216 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

Compact Focussed Electric
MFE-B.J 353 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

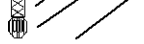
Compact Induction
MAI-A.A 167 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

Total Length: 48.16 ft Weight: 383.6 lb



42.87 ft	GRGC - Gamma Ray
39.96 ft	CGXT - MCG External Temperature
33.24 ft	MINV - Micro-inverse
33.24 ft	MNRL - Micro-normal
34.24 ft	MLTC - MML Caliper
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	DEN - Compensated Density
19.28 ft	DCOR - Density Correction
19.28 ft	DPRL - Limestone Density Por.
19.22 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	MCCOY PETROLEUM CORPORATION
WELL	MTPRC 'A' #1-27
FIELD	ALFORD SOUTH
PROVINCE/COUNTY	KIOWA
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	2224.00	feet	First Reading	5179.00	feet
Elevation Drill Floor	2222.00	feet	Depth Driller	5200.00	feet
Elevation Ground Level	2213.00	feet	Depth Logger	5198.00	feet

Weatherford®

COMPACT PHOTO DENSITY
COMPENSATED NEUTRON
MICRORESISTIVITY LOG