COMPENSATED PHOTO DENSITY
COMPENSATED DUAL NEUTRON
LOG

COMPANY	BILL BARRETT CORPORATION
WELL	GGU MILLER 24D-32-691
FIELD	GIBSON GULCH
PROVINCE/COUNTY	GARFIELD
COUNTRY/STATE	U.S.A. / COLORADO
LOCATION	SHL: 1225' FSL & 2288' FWL
	BHL: 1184' FSL & 1990' FWL

SEC	TWP	RGE	Other Services
32	6S	91W	MAI/MFE

API Number 05-045-19427
Permit Number

Permanent Datum G.L., Elevation 6120 feet
Log Measured From K.B. @ 22 FEET above Permanent Datum
Drilling Measured From K.B.

Elevations:	feet
KB	6142.00
DF	6141.00
GL	6120.00

Date	20-NOV-2010			
Run Number	ONE			
Depth Driller	7875.00	feet		
Depth Logger	7878.00	feet		
First Reading	7856.00			
Last Reading	788.00			
Casing Driller	788.00	feet		
Casing Logger	788.00	feet		
Bit Size	7.875	inches		
Hole Fluid Type	LSND			
Density / Viscosity	10.70 lb/USg	50.00 CP		
PH / Fluid Loss	8.80	7.20 ml/30Min		
Sample Source	FLOW LINE			
Rm @ Measured Temp	1.81 @ 90.0	ohm-m		
Rmf @ Measured Temp	1.45 @ 90.0	ohm-m		
Rmc @ Measured Temp	2.17 @ 90.0	ohm-m		
Source Rmf / Rmc	CALC	CALC		
Rm @ BHT	0.824 @202.0	ohm-m		
Time Since Circulation	6 HOURS			
Max Recorded Temp	202.00	deg F		
Equipment Name	COMPACT			
Equipment / Base	13045	GD JCT		
Recorded By	D.KUNTZ		J.GARCIA	
Witnessed By	C.CROW			

BOREHOLE RECORD

Last Edited: 20-NOV-2010 15:35

Bit Size inches	Depth From feet	Depth To feet
8.750	788.00	3697.00
7.880	3697.00	7875.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	9.625	0.00	788.00	36.00

REMARKS

TOOLS: SHA, MCG, MDN, MPD, SKJ, MFE, AND MAI RAN IN COMBINATION

HARDWARE: MPD: (1) 8 INCH PROFILE PLATE
MAI: (1) 0.5 INCH STANDOFF
MDN: (1) DUAL BOWSPRING

2.68 G/CC DENSITY MATRIX USED TO CALCULATE POROSITY.

ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST.

TIGHT PULLS, BOREHOLE SIZE, AND RUGOSITY WILL AFFECT REPEATABILITY AND DATA QUALITY.

UNDERGAUGE CALIPER READINGS FROM 7510-7550 FEET AND FROM 6600-6625 FEET REPEATED AND VERIFIED.

UNDERGAUGE CALIPER READINGS FROM 7380-7400 FEET NOT REPEATED DUE TO WIRELINE HITTING A LEDGE AT THE SAME DEPTH WHILE RUNNING IN HOLE.

TIGHT PULL ENCOUNTERED AT 6790 FEET AND PULLED 2700 POUNDS.

CALIPER CHECK IN CASING PRESENTED, REFERENCE I.D. = 9.10" (9 5/8", 36 LB/FT CASING)

8.75 INCH BIT USED FROM SURFACE CASING TO 3697 FEET.

TOTAL HOLE VOLUME FROM TD TO SURFACE CASING = 2705 CU.FT.

ANNULAR VOLUME WITH 4.5 INCH PRODUCTION CASING = 1925 CU.FT.

ENGINEER: D.KUNTZ / J,GARCIA/ O.GOYZUETA(JFE)

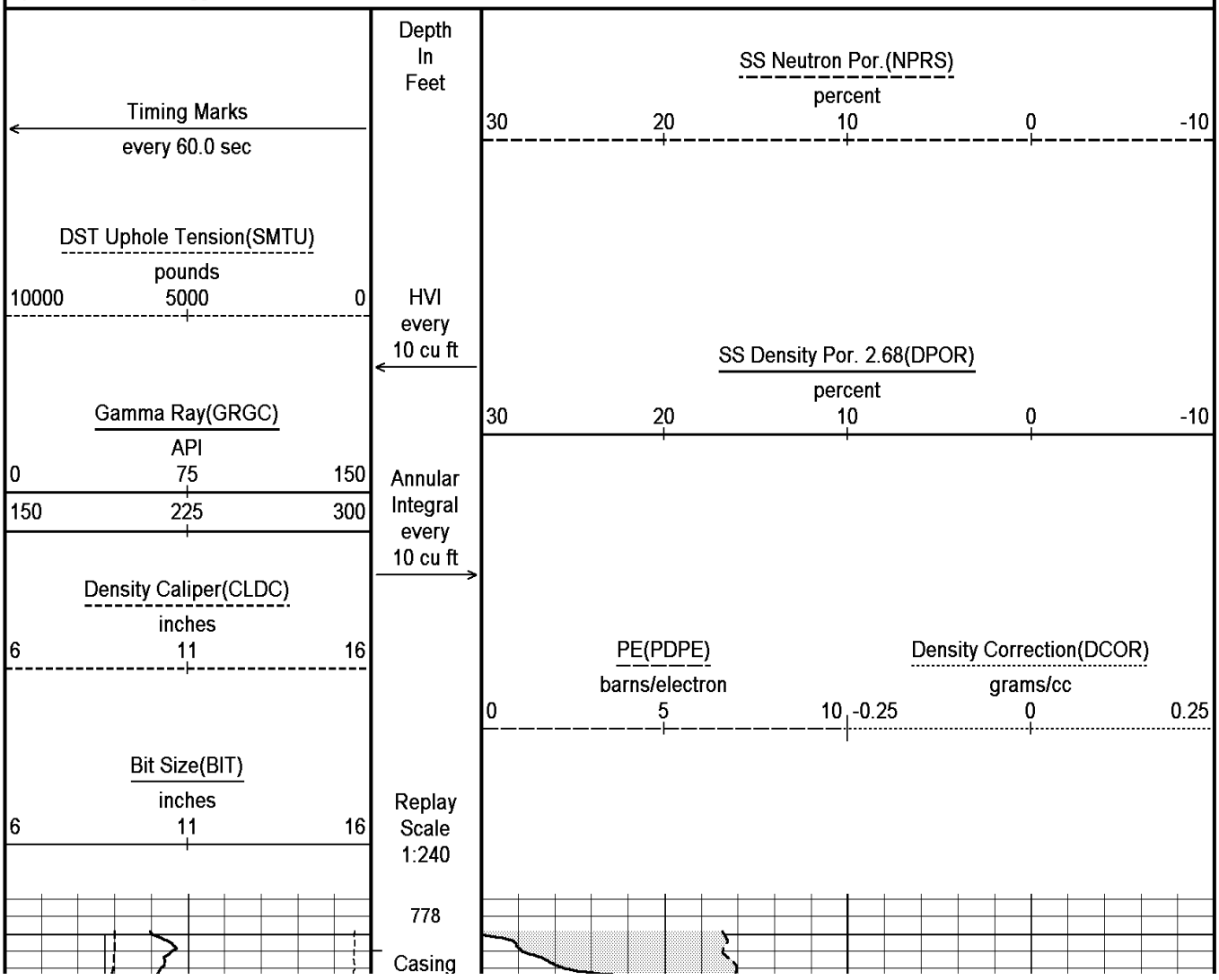
OPERATOR: S.KAISER

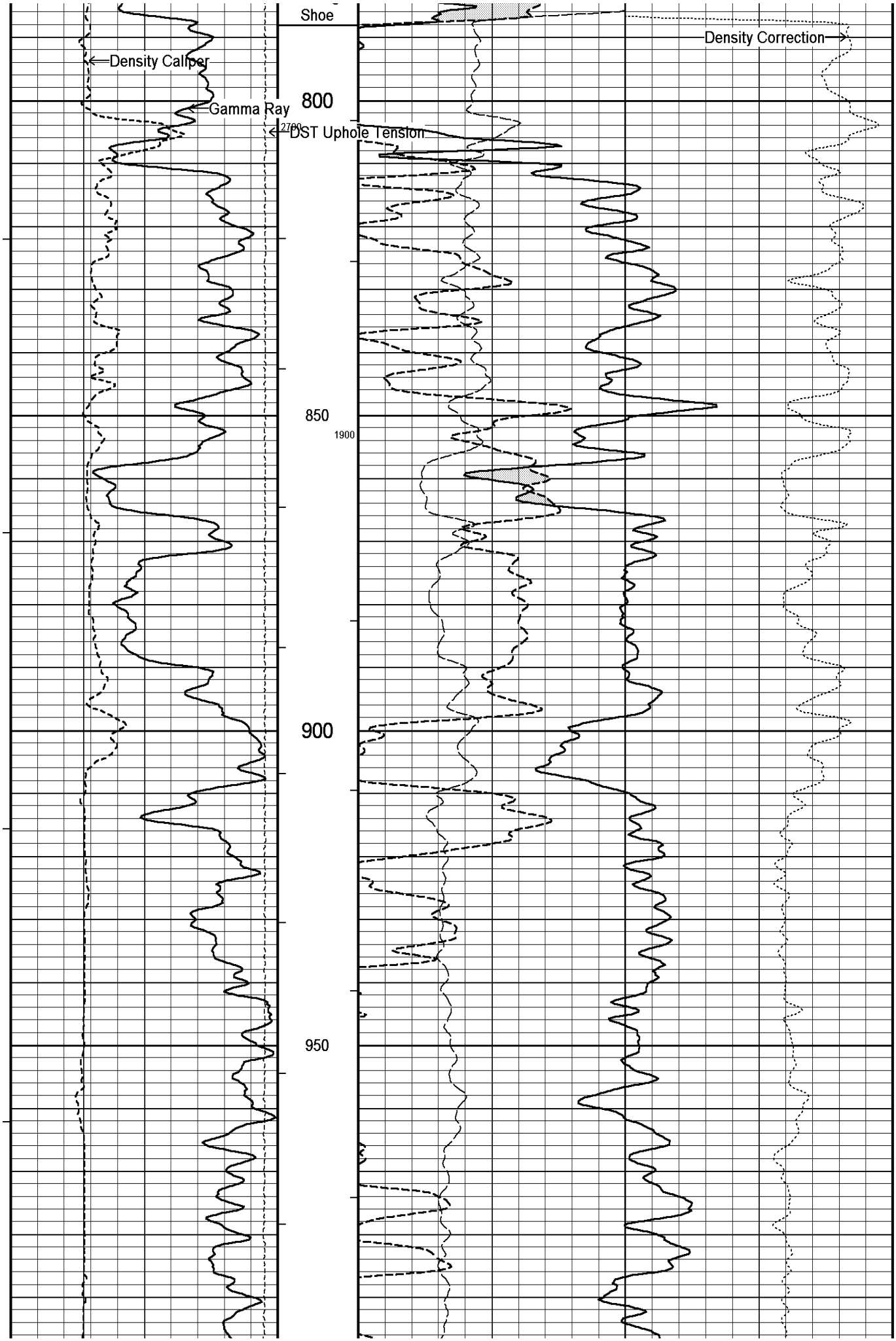
SERVICE ORDER: #3526198

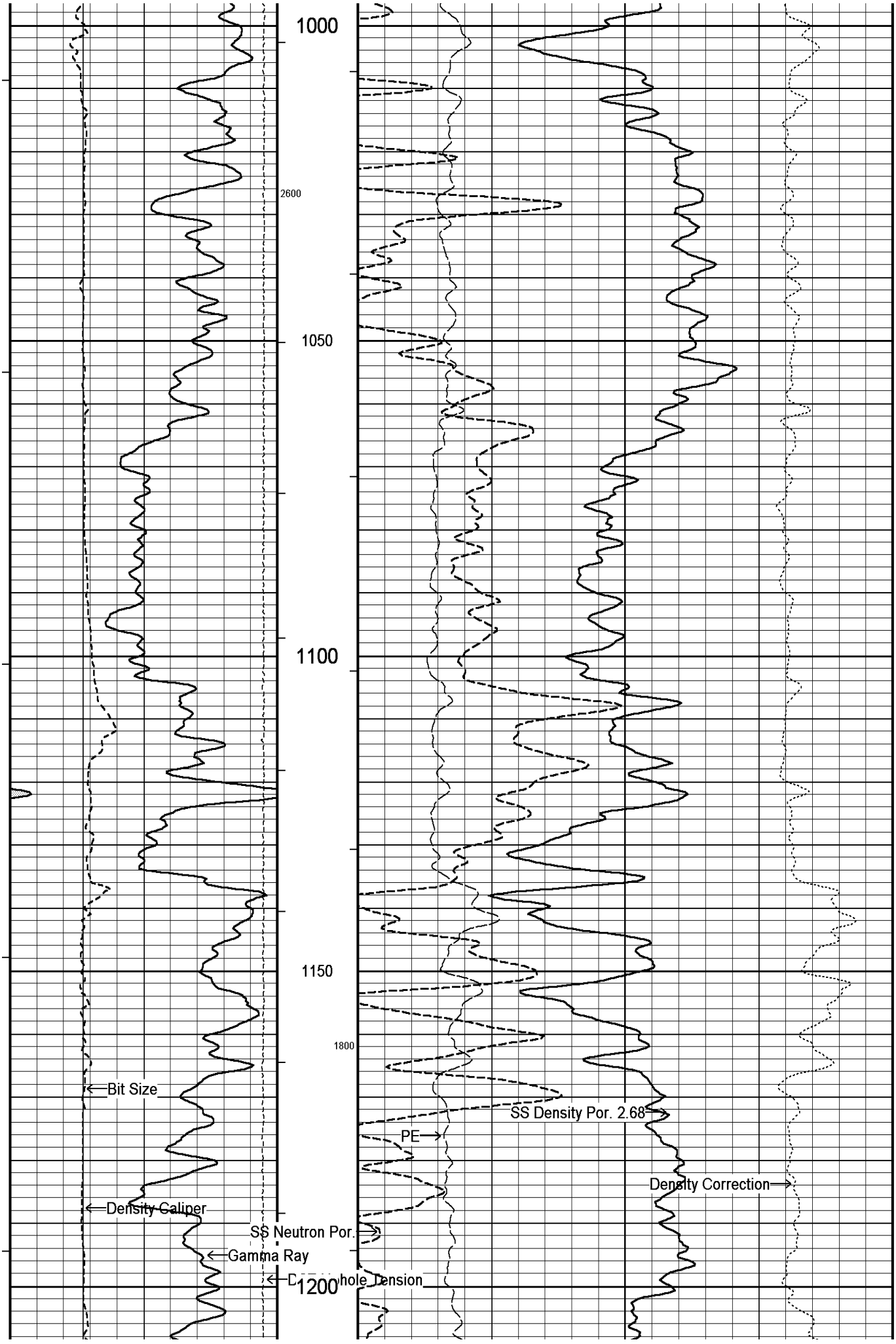
RIG: PATTERSON #307

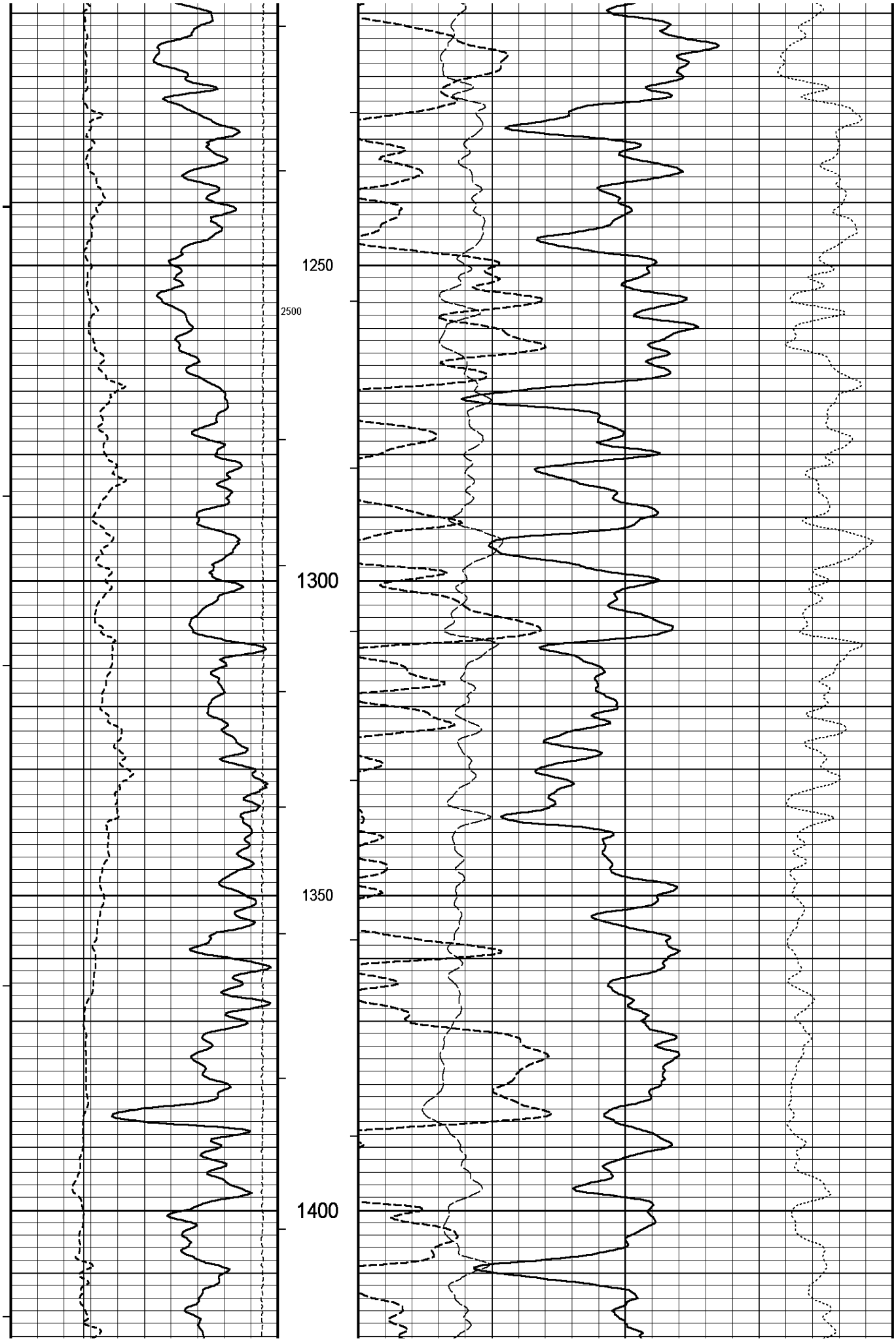
5 INCH MAIN LOG

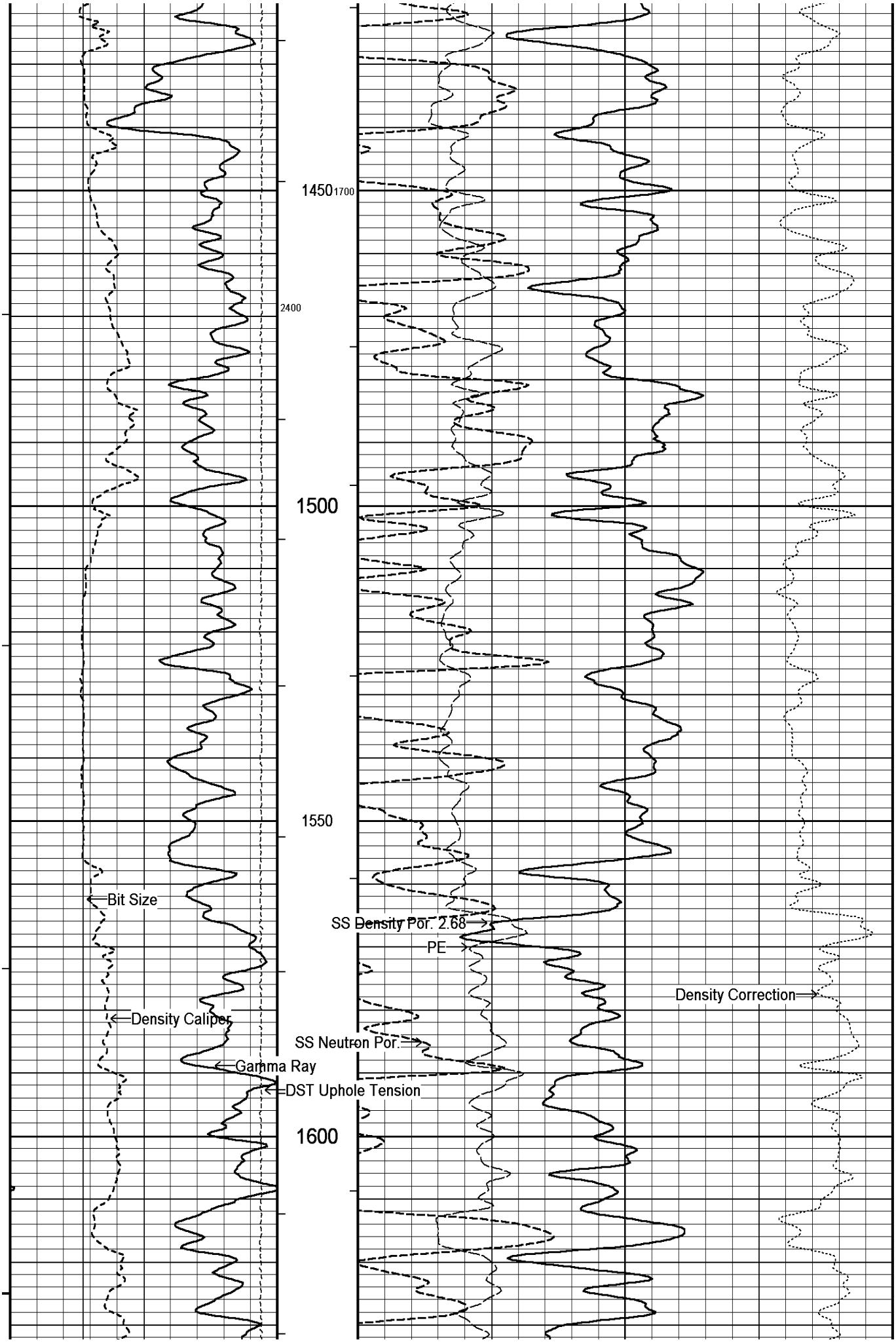
Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 20-NOV-2010 16:35
Filename: C:\Minimus\LOGS\Bill Barrett\GGU Miller 24D-32-691\MAIN.dta — Recorded on 20-NOV-2010 12:48
System Versions: Logged with 10.07.0791 Plotted with 10.07.0791

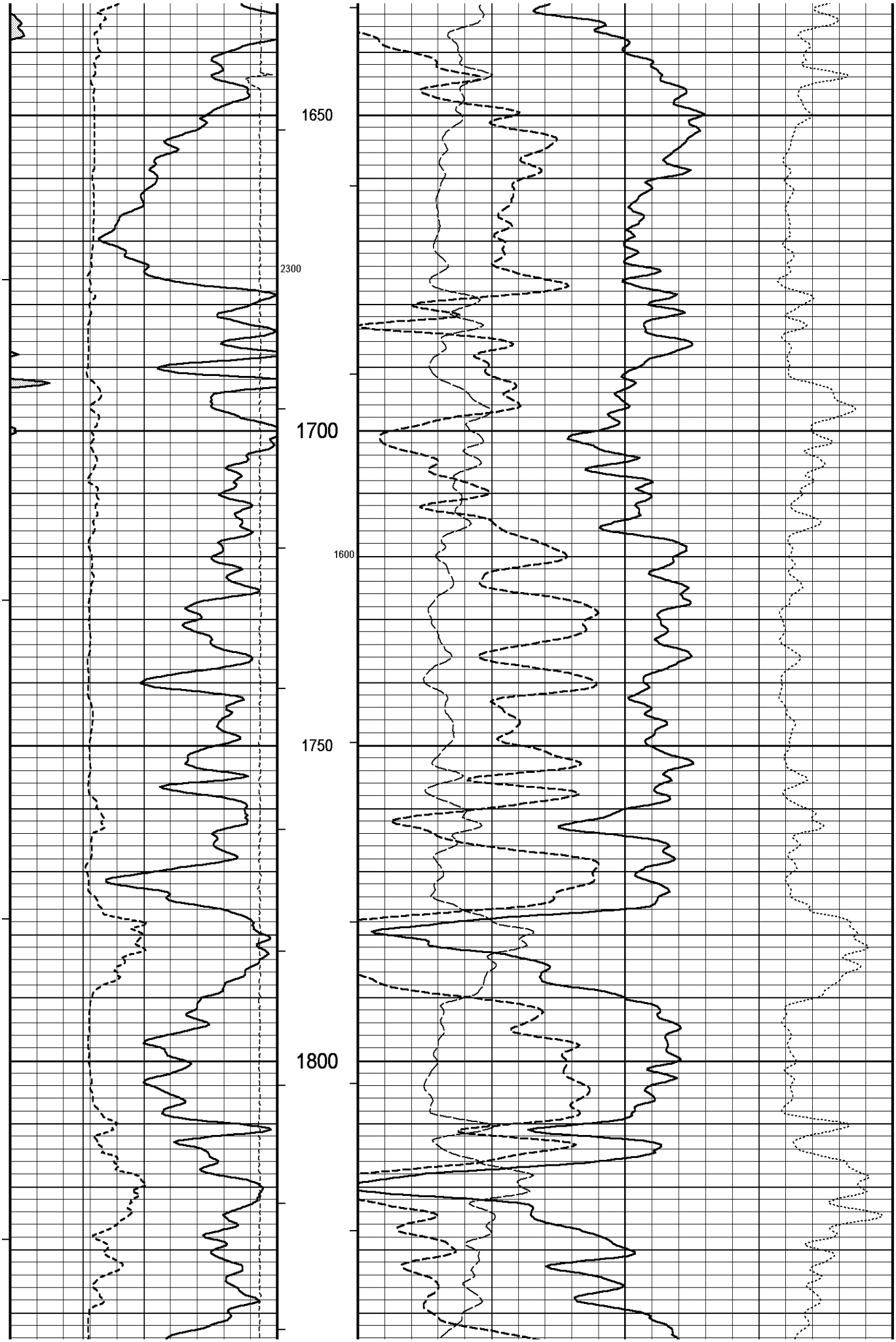


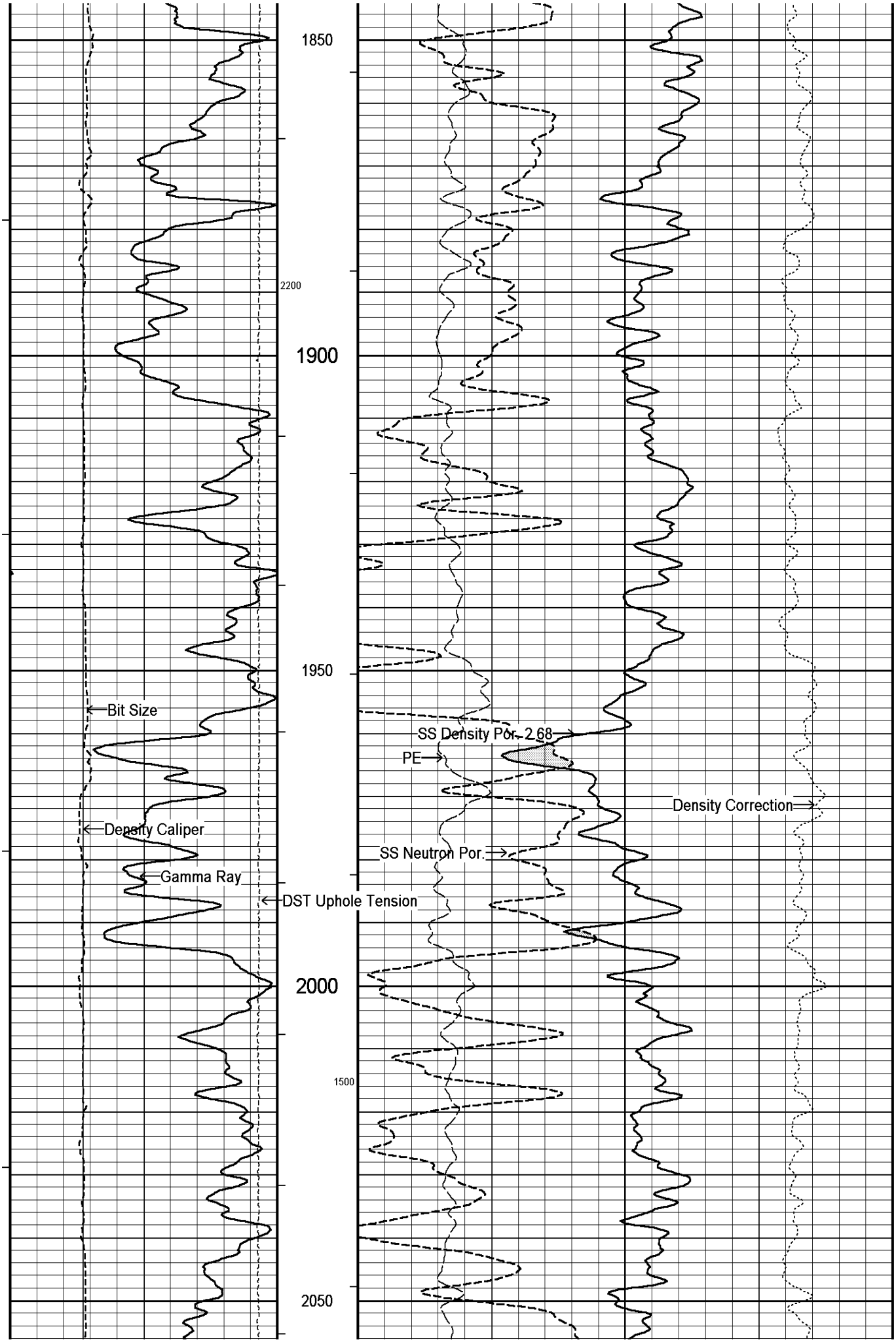

Shoe
Density Correction
Density Caliper
Gamma Ray
2700
DST Uphole Tension
800
850
1900
900
950


1000
2600
1050
1100
1150
1800
1200
Bit Size
Density Caliper
SS Neutron Por.
Gamma Ray
Borehole Tension
SS Density Por. 2.68
PE
Density Correction


1250
2500
1300
1350
1400


1450
1700
2400
1500
1550
1600
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
SS Density Por. 2.68
PE
SS Neutron Por.
Density Correction


1650
2300
1700
1600
1750
1800


1850
2200
1900
1950
2000
1500
2050
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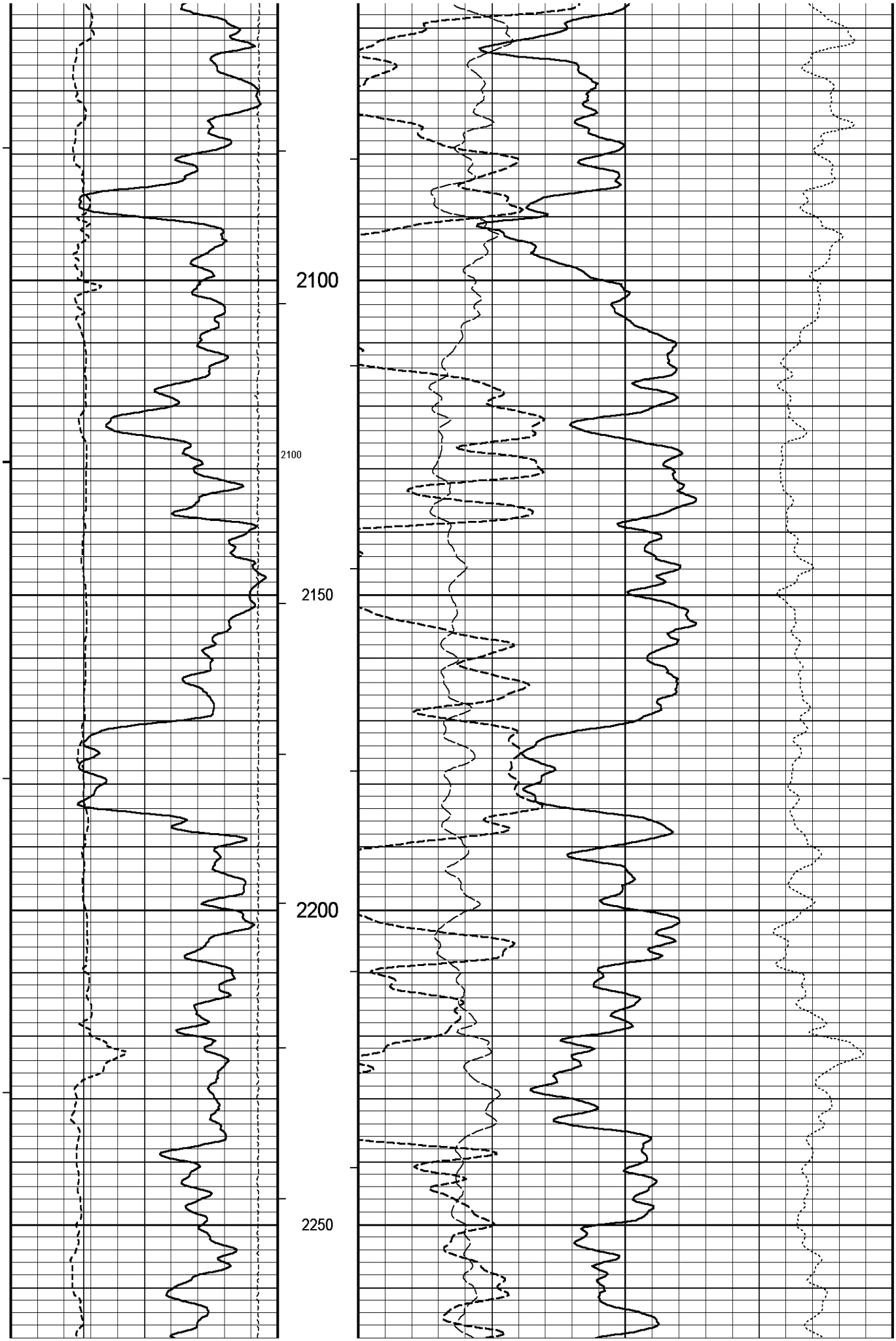
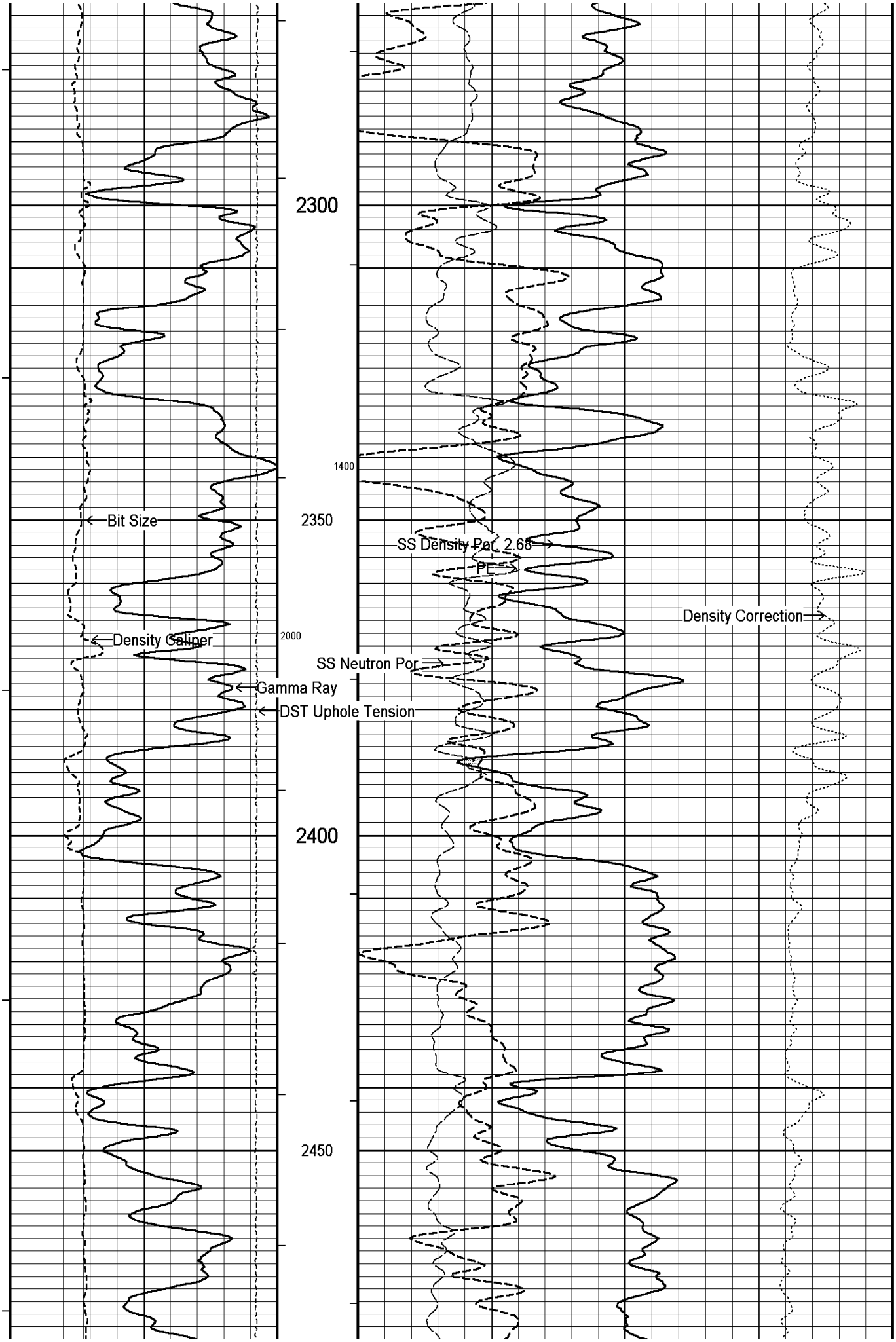
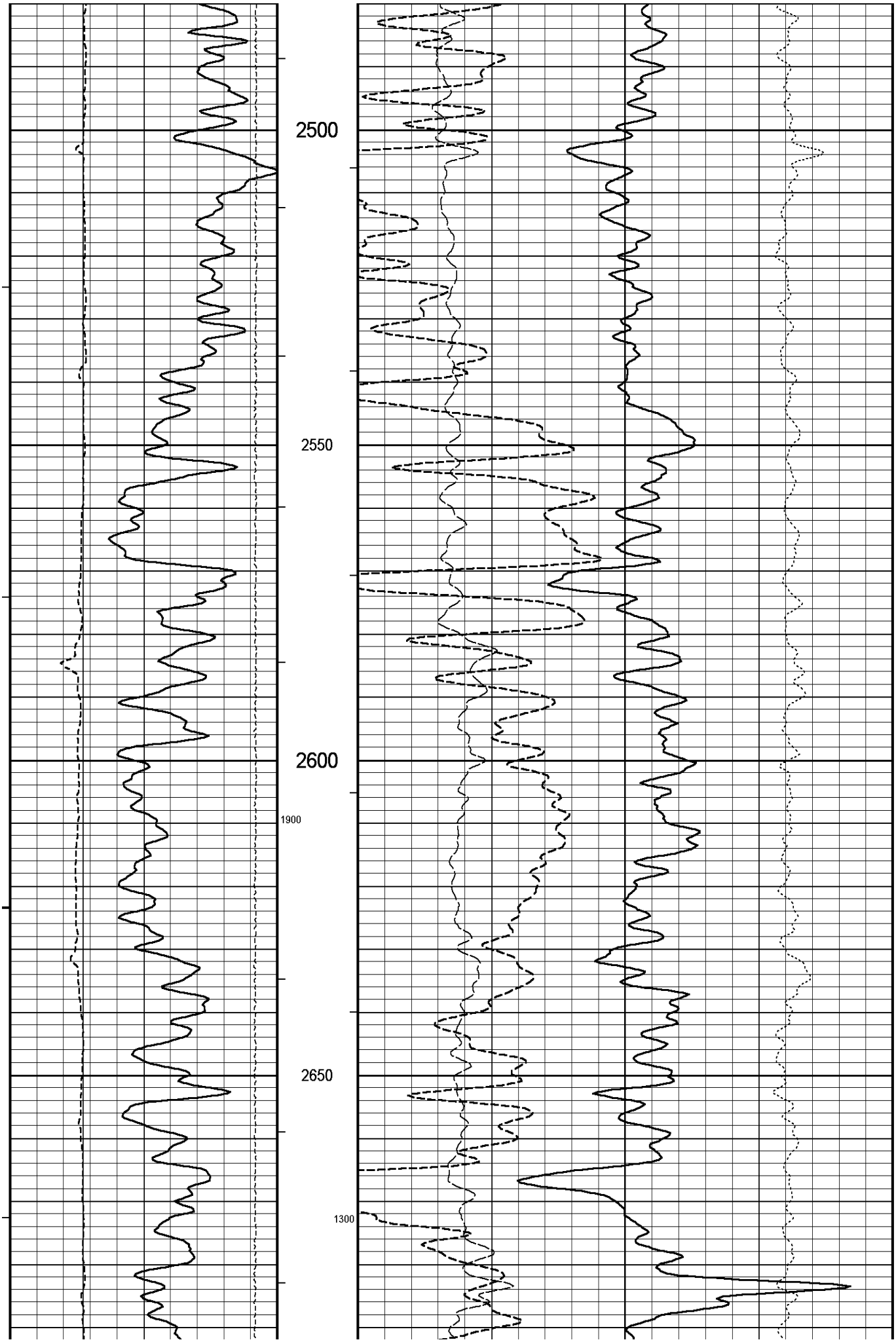
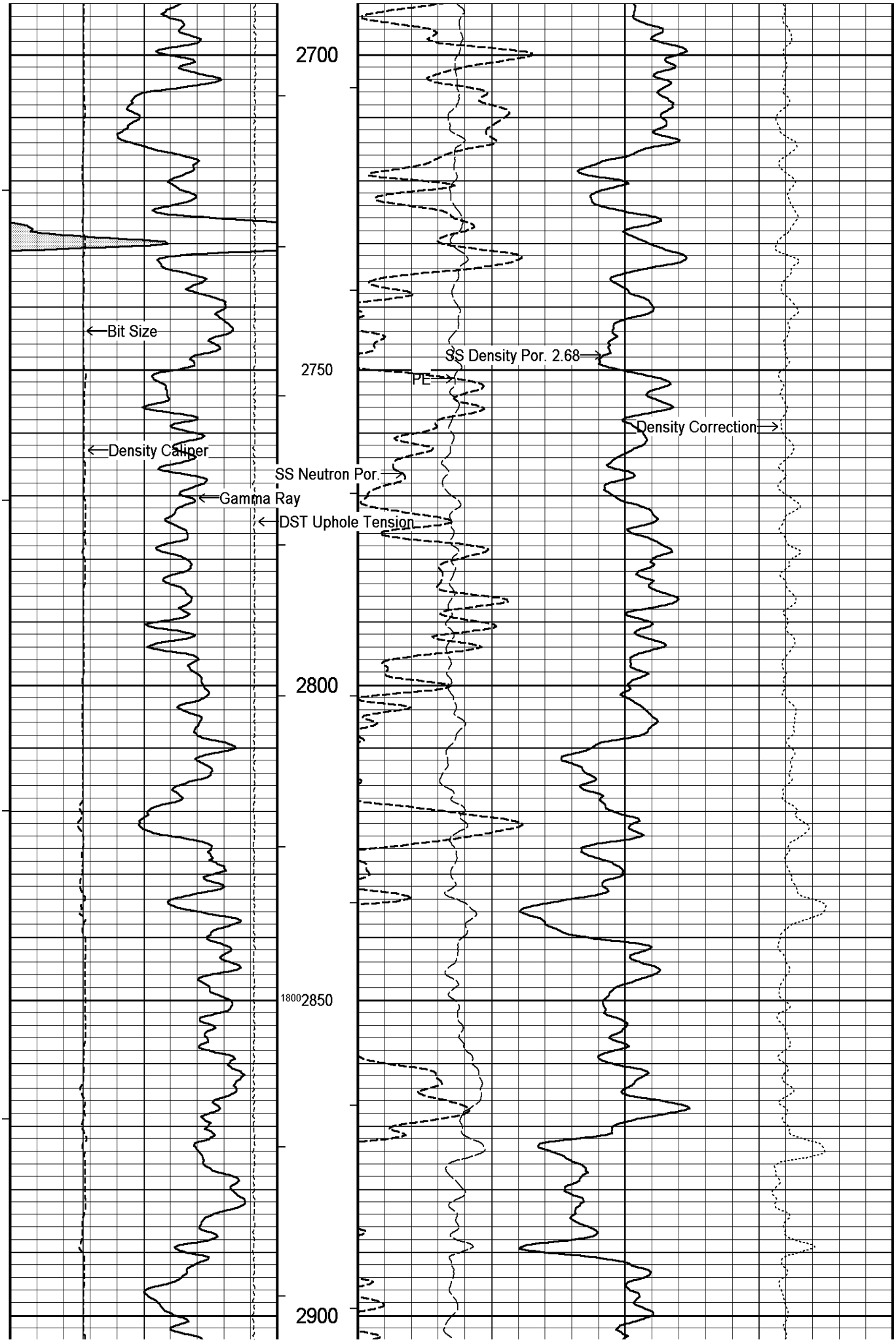
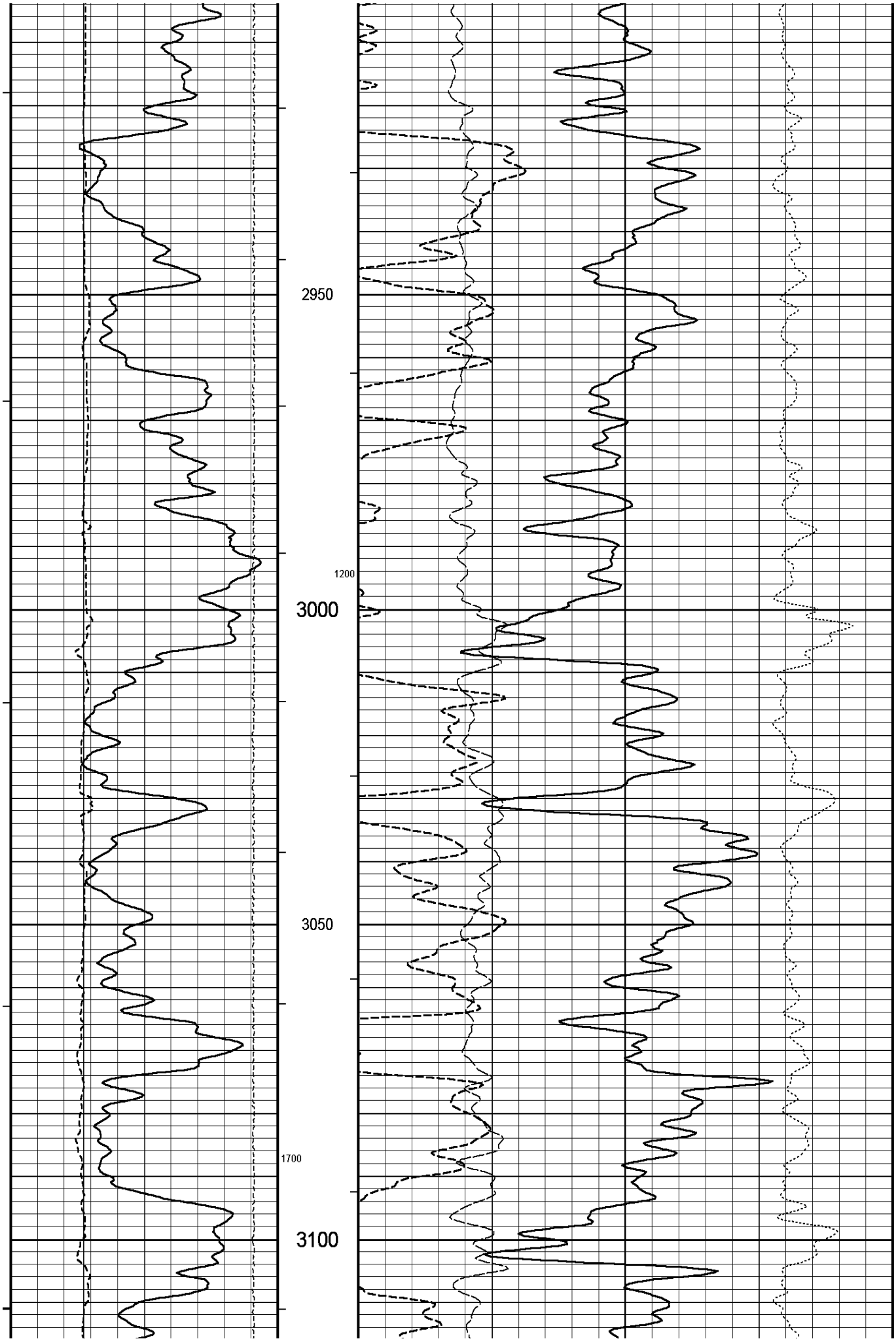
Density Caliper
Gamma Ray
DST Uphole Tension
SS Density Por. 2.68
PE
SS Neutron Por.
Density Correction


2100
2100
2150
2200
2250


2300
2350
2400
2450
1400
2000
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
SS Density Por 2.68
PE
SS Neutron Por
Density Correction


2500
2550
2600
1900
2650
1300


2700
2750
2800
1800 2850
2900
Bit Size
Density Caliper
Gamma Ray
SS Neutron Por.
DST Uphole Tension
SS Density Por. 2.68
PE
Density Correction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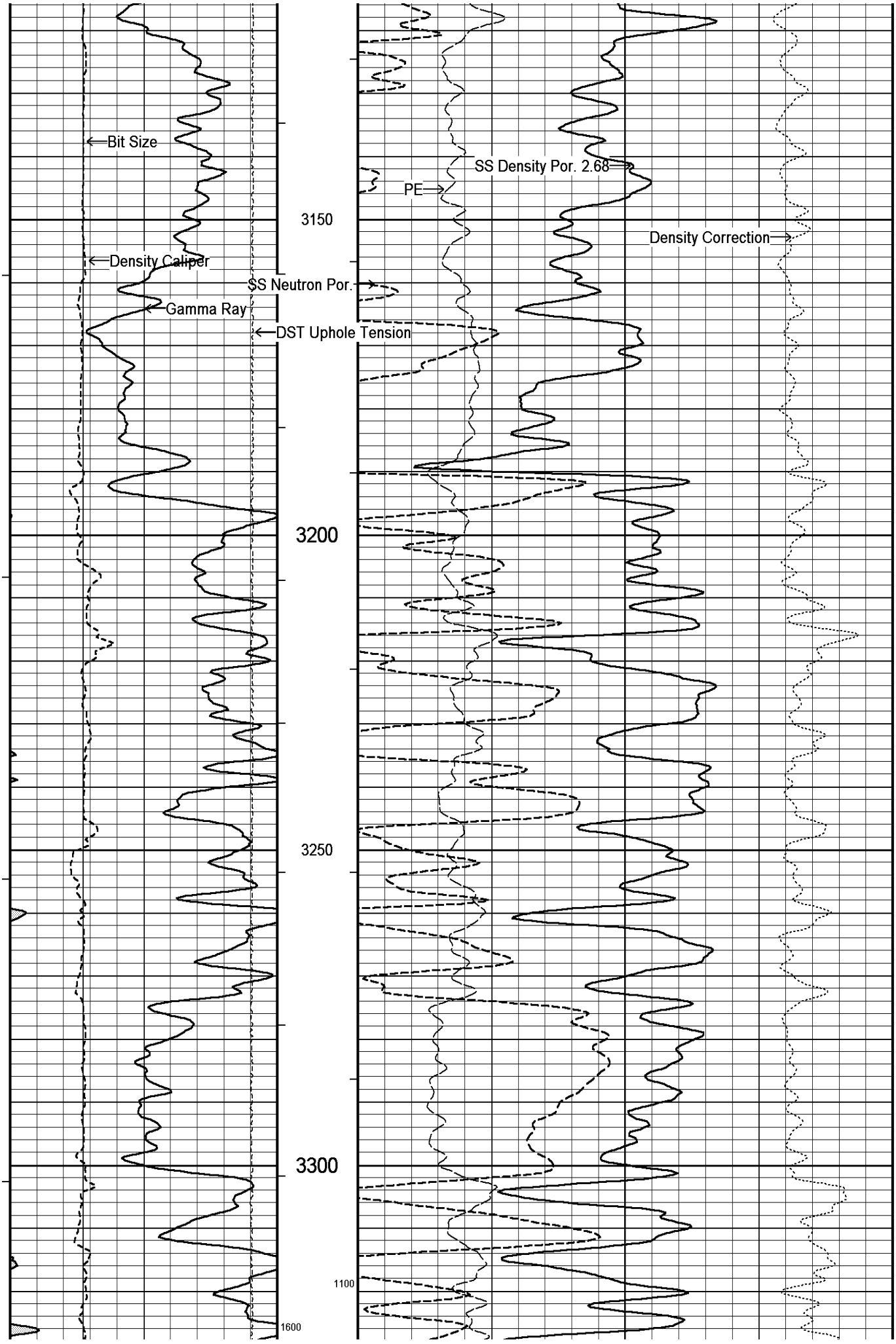
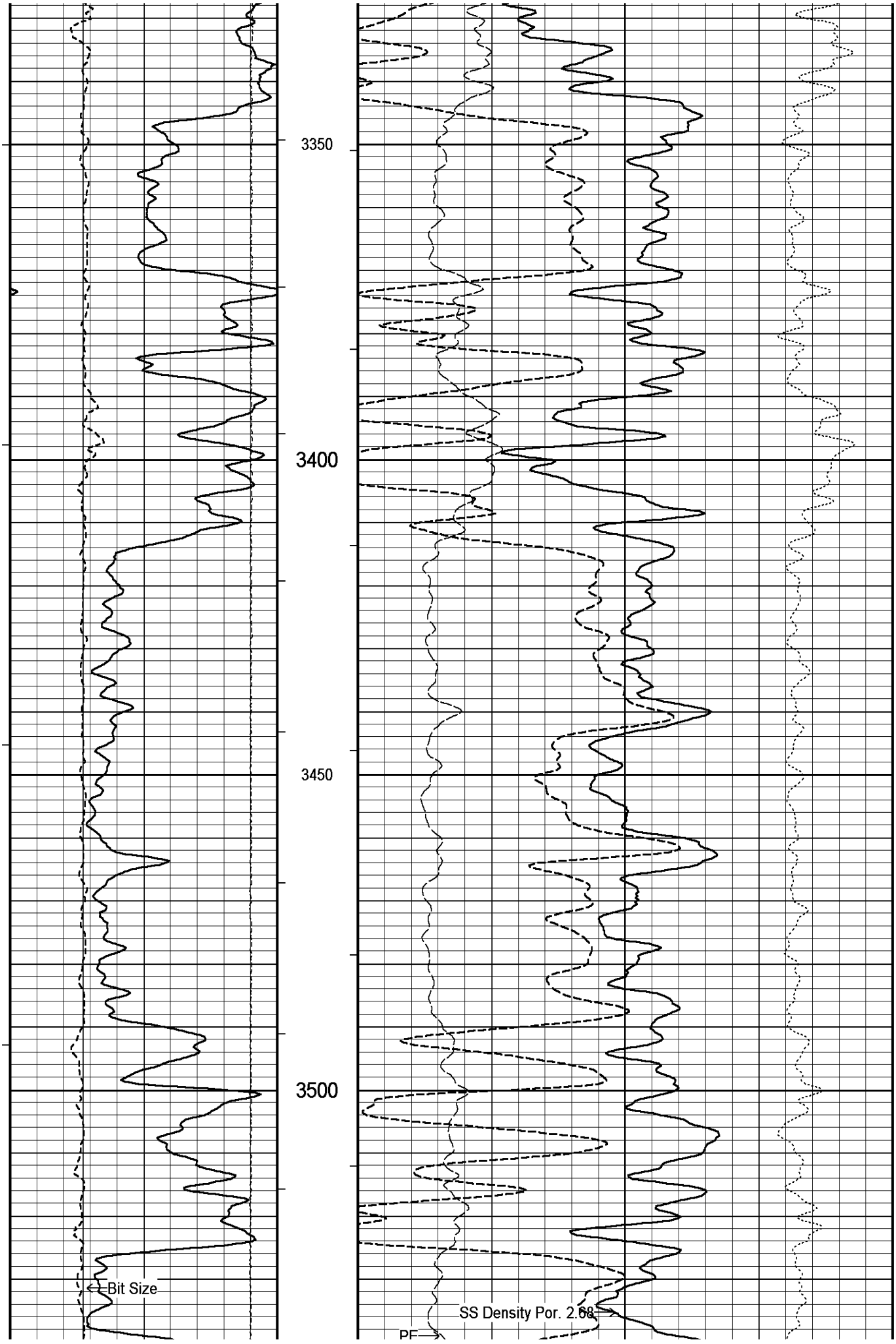
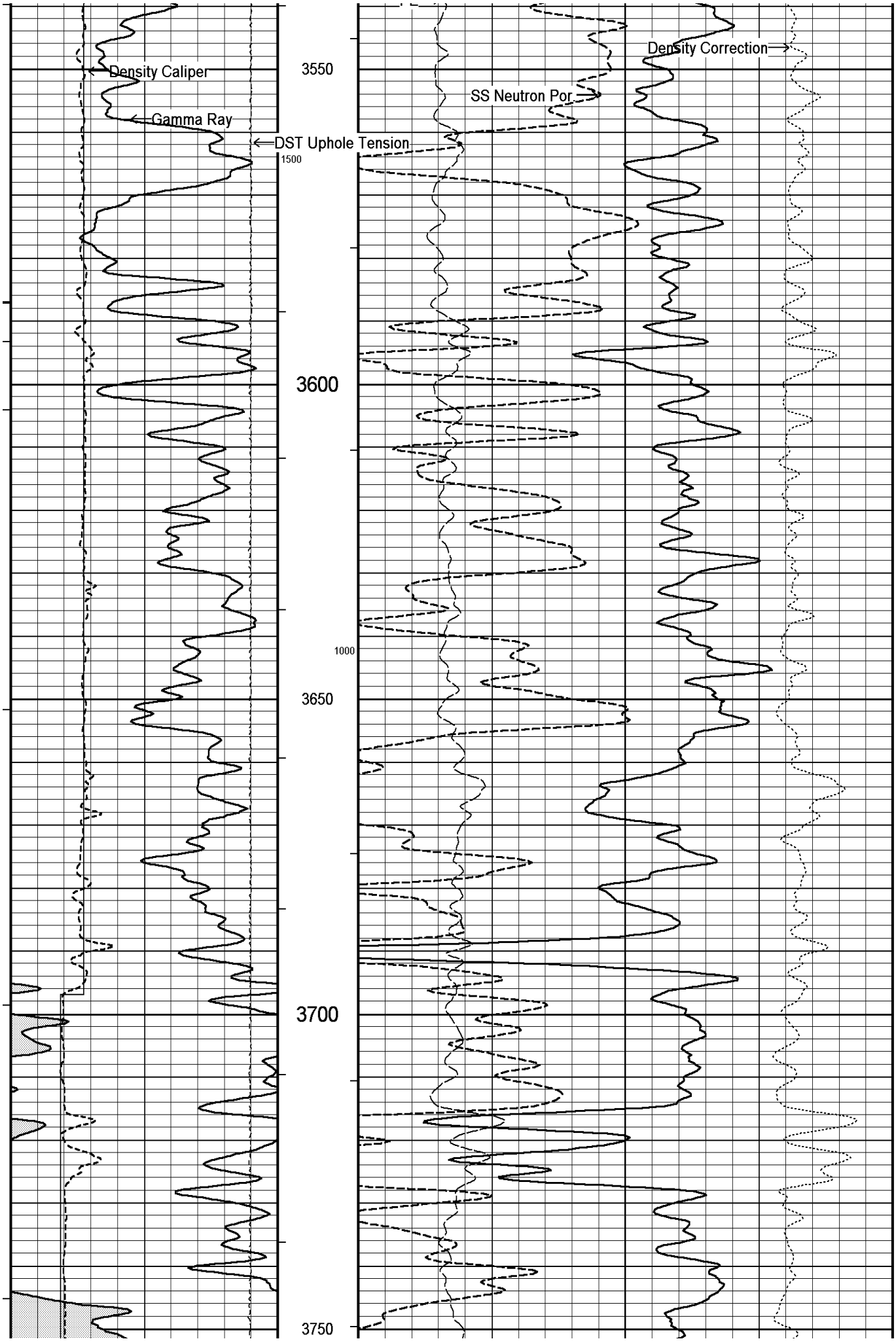
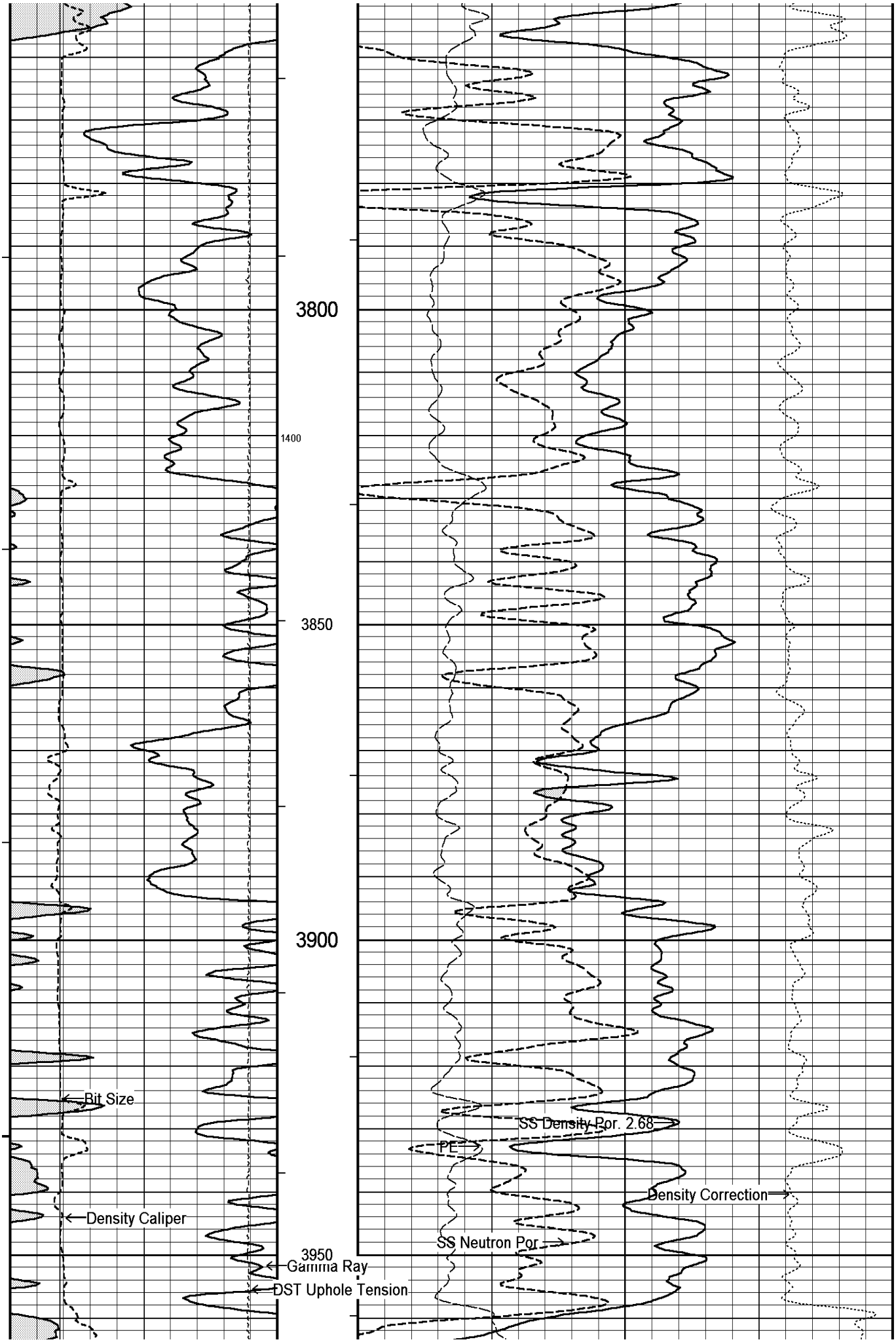
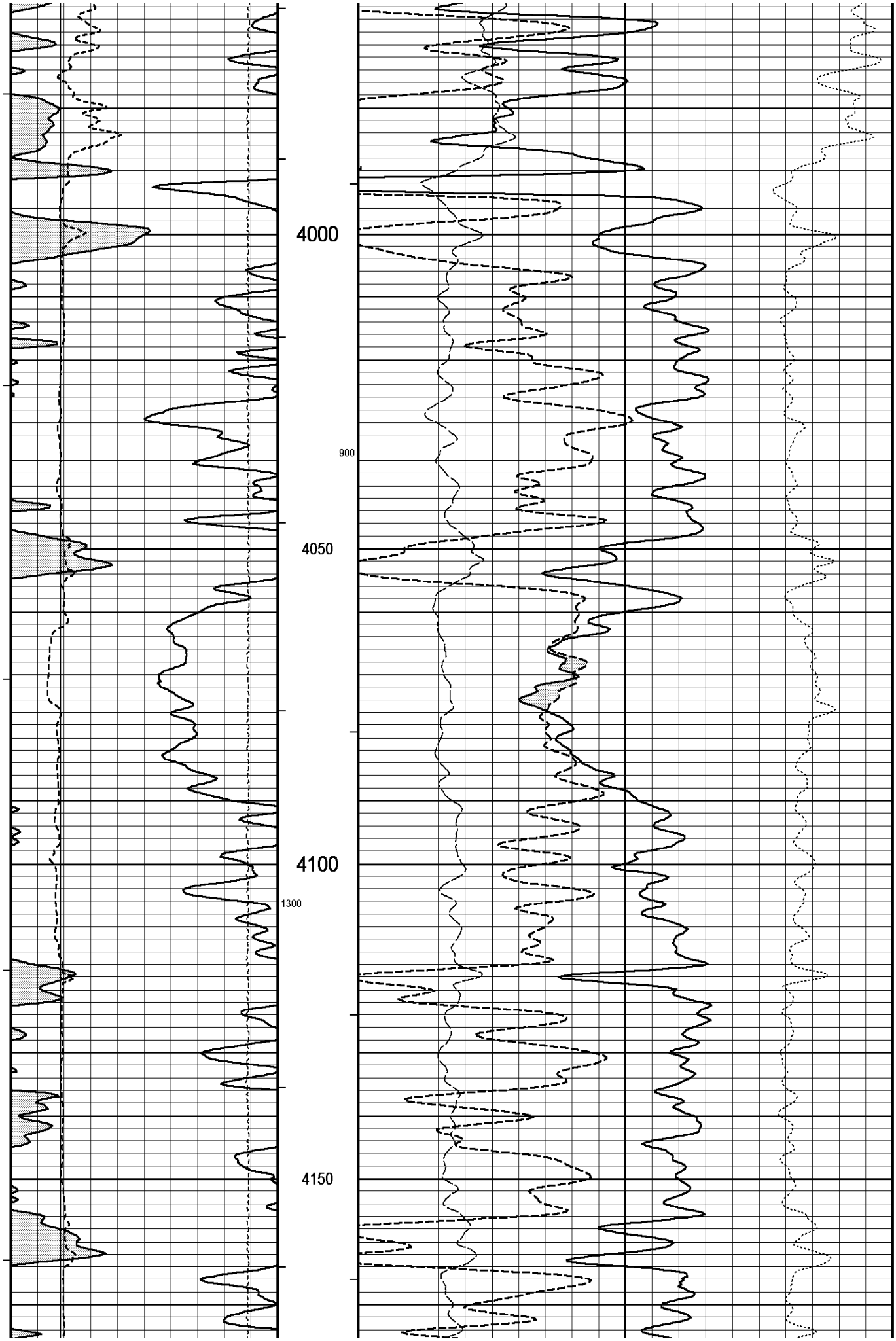
1200
3000
3050
1700
3100

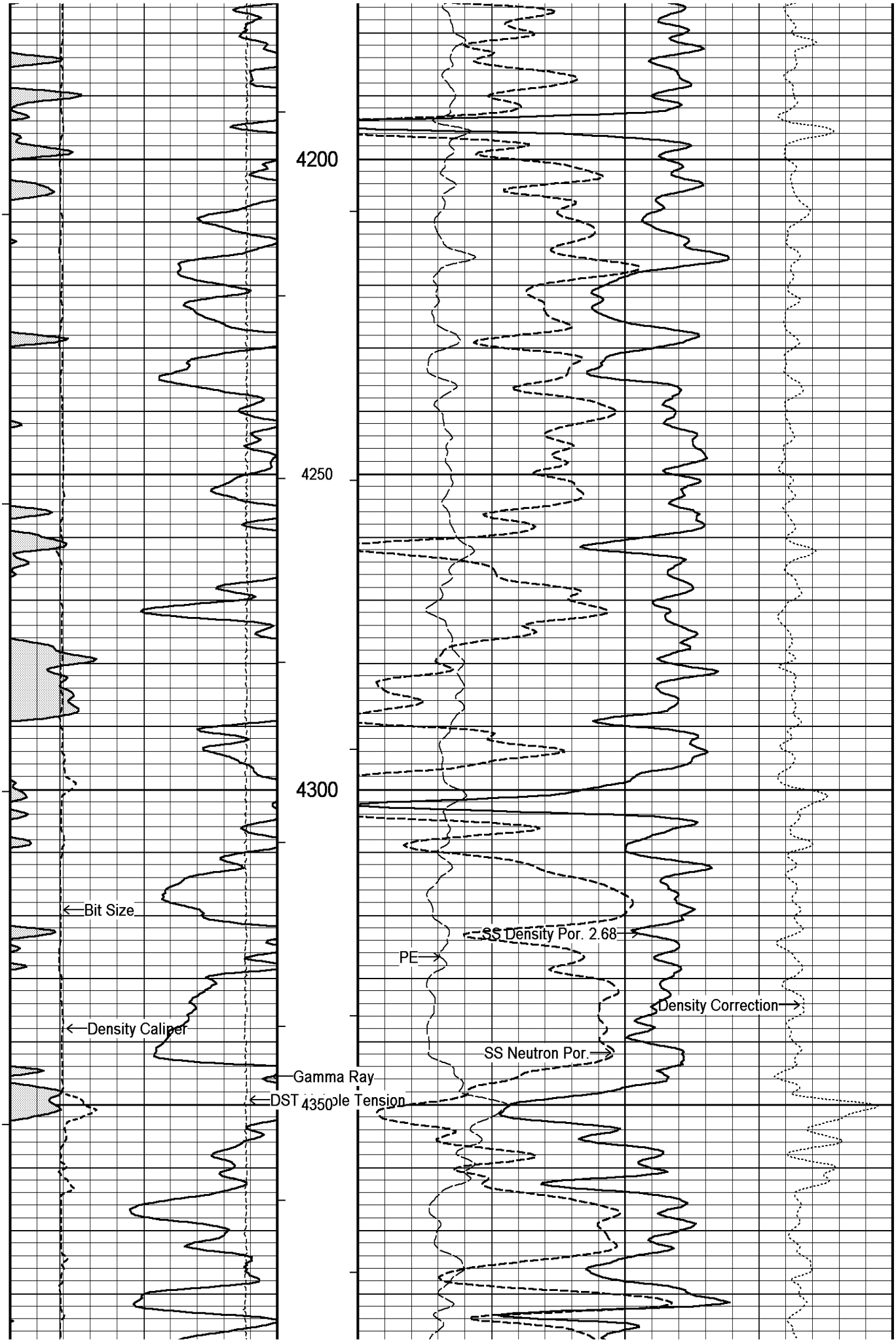

Bit Size
Density Caliper
Gamma Ray
SS Neutron Por.
DST Uphole Tension
SS Density Por. 2.68
PE
Density Correction
3150
3200
3250
3300
1600
1100

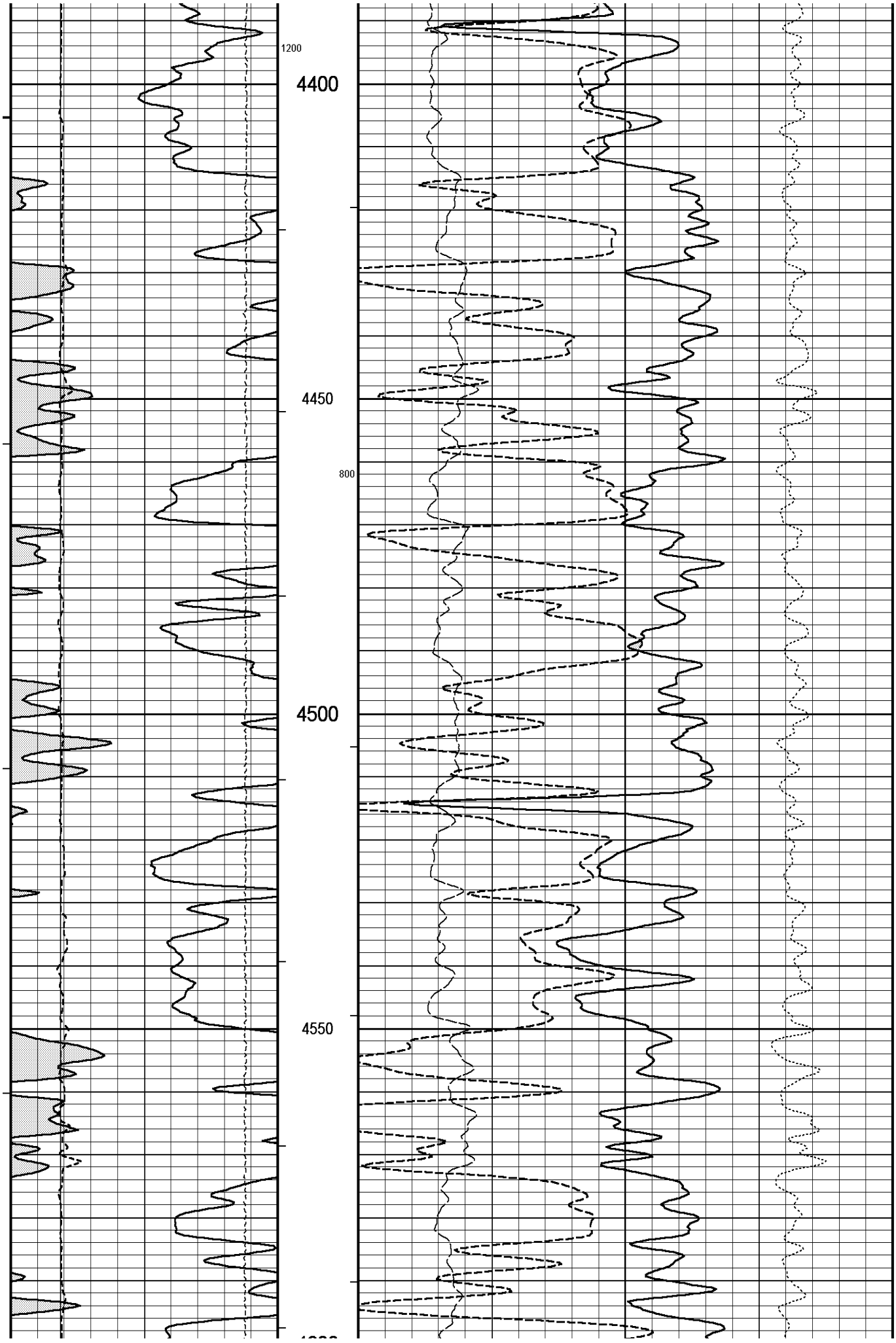

3350
3400
3450
3500
←Bit Size
SS Density Por. 2.68→
PE→

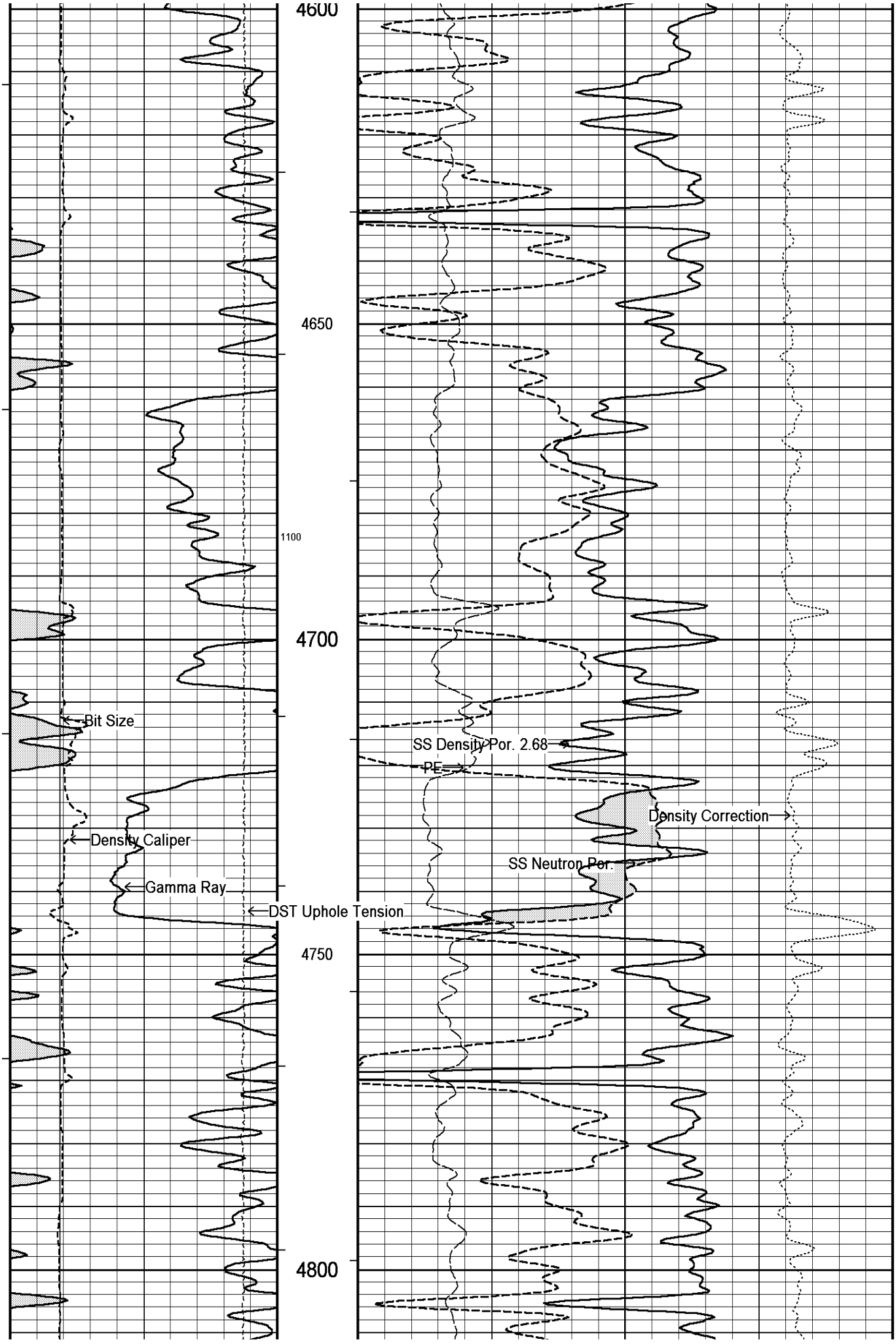

Density Caliper
Gamma Ray
DST Uphole Tension
1500
3550
SS Neutron Por
Density Correction
3600
1000
3650
3700
3750

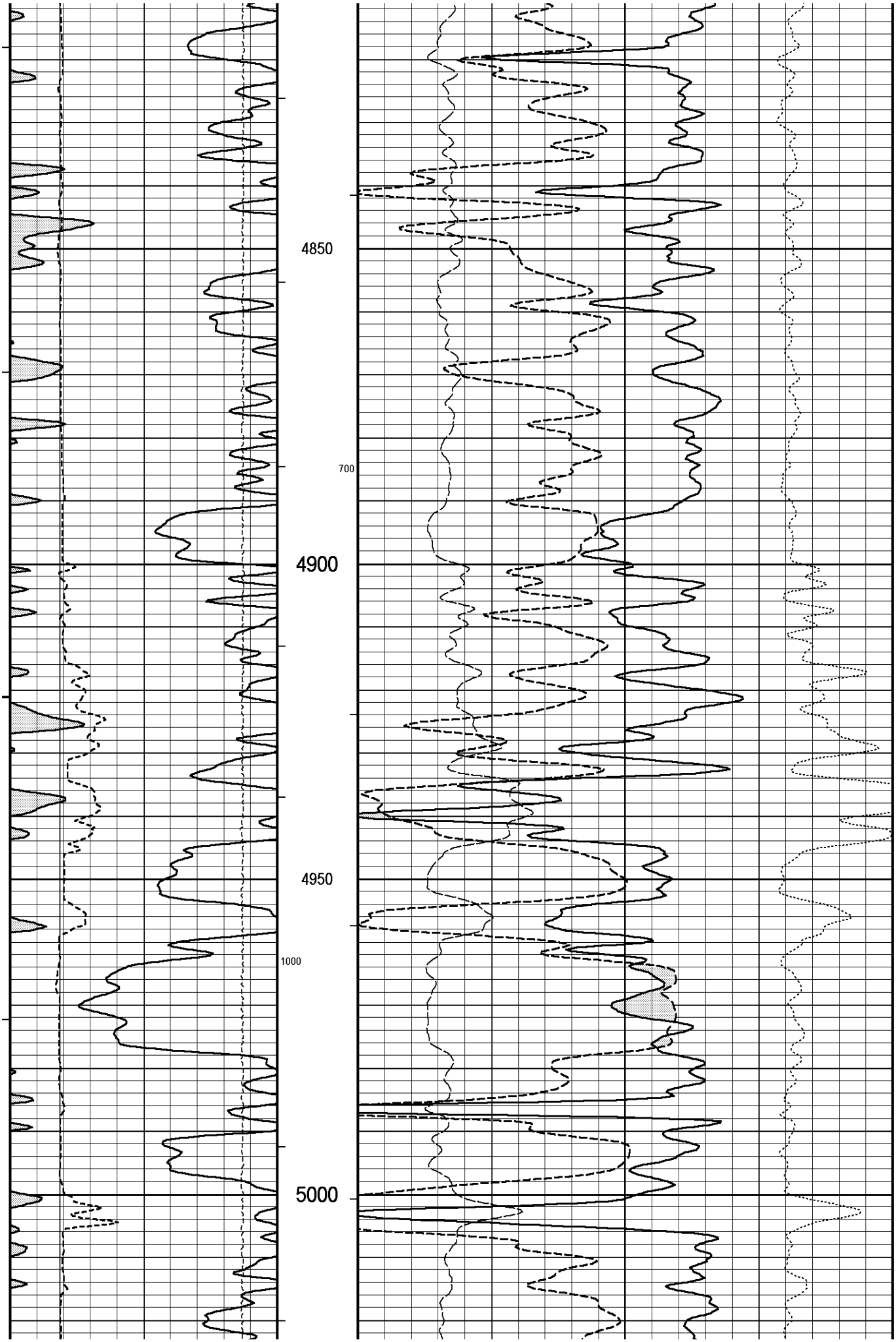

3800
1400
3850
3900
3950
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
SS Density Por. 2.68
PE
Density Correction
SS Neutron Por

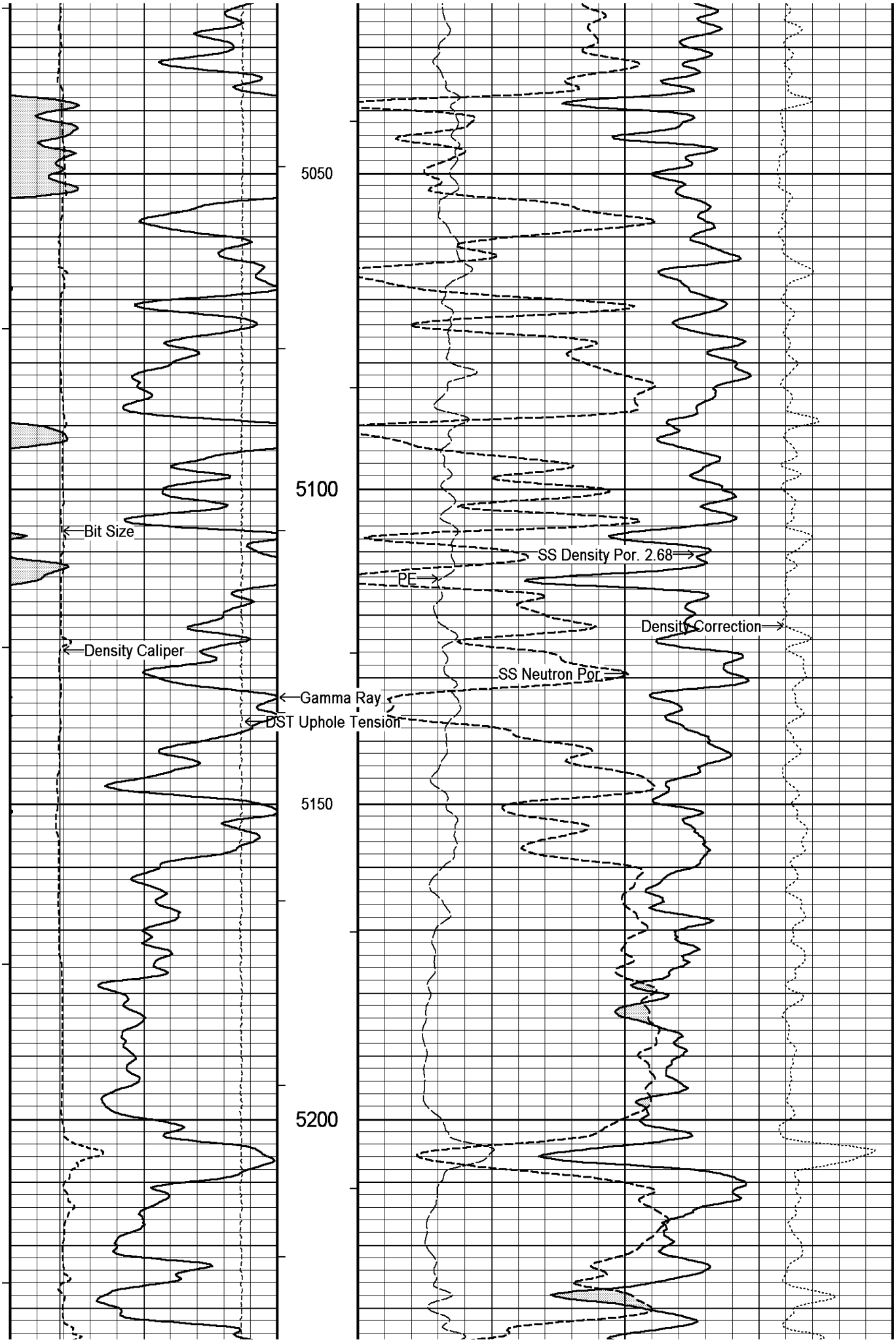

4000
900
4050
4100
1300
4150

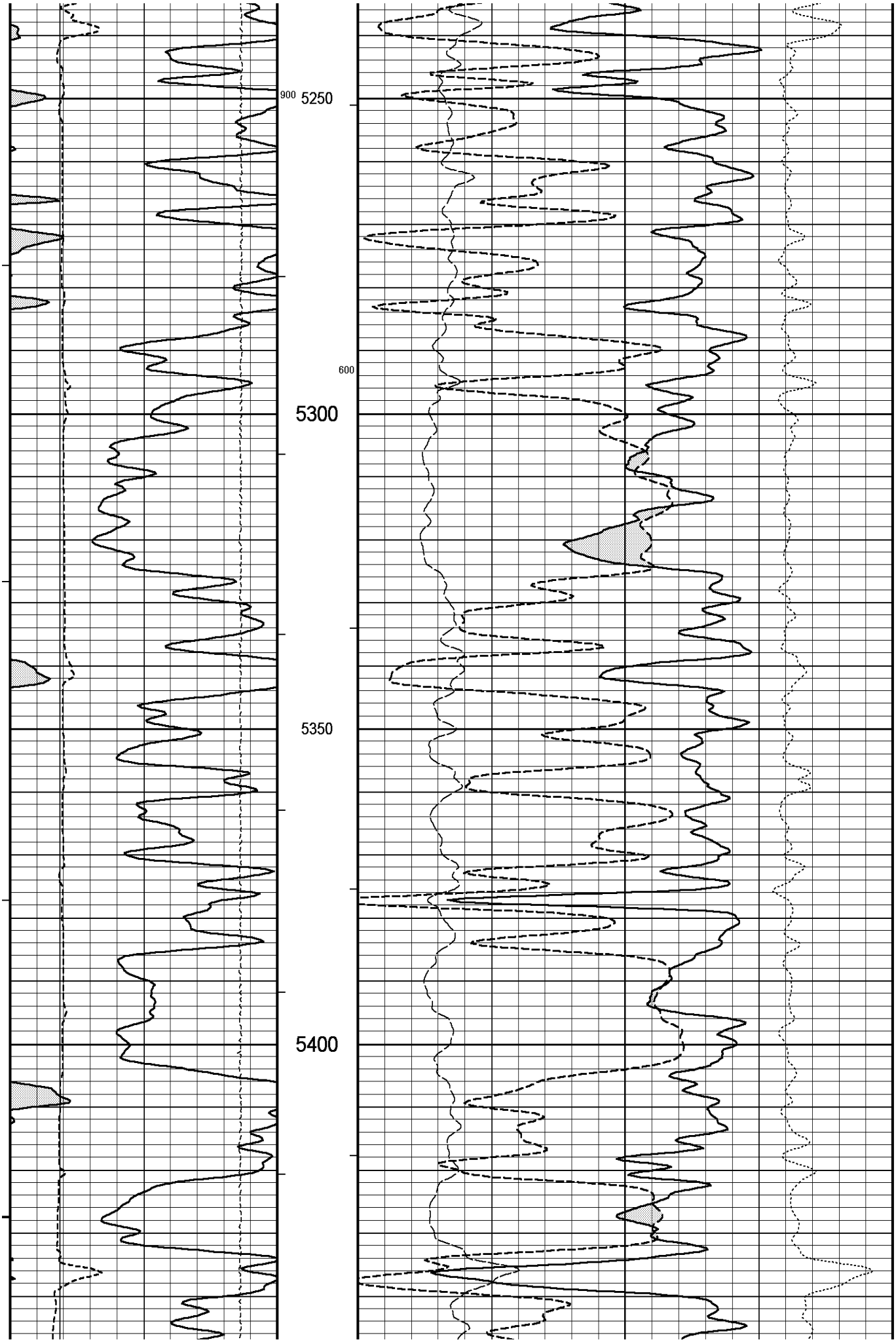

4200
4250
4300
4350
Bit Size
Density Caliper
Gamma Ray
DST
SS Density Por. 2.68
PE
Density Correction
SS Neutron Por.

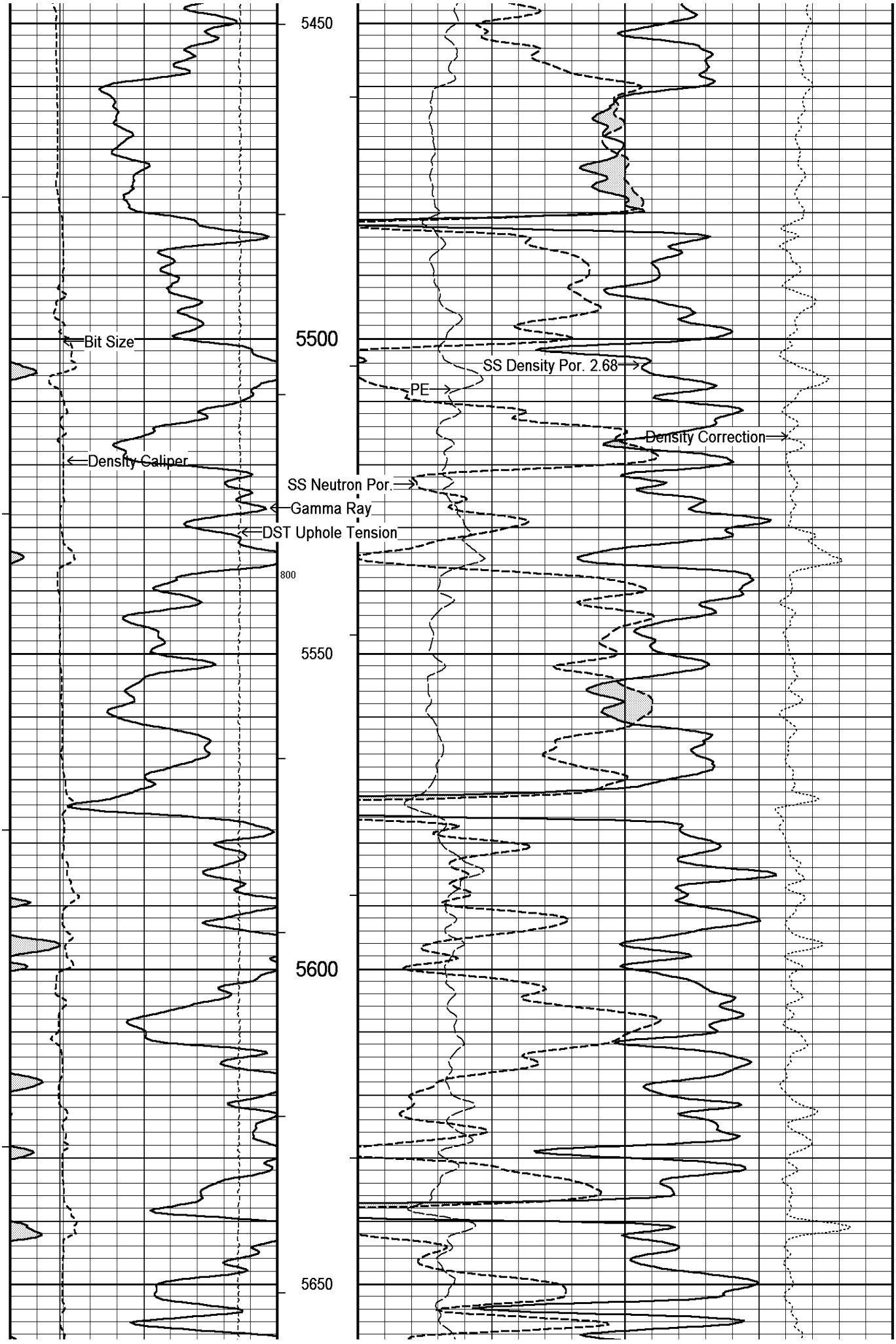

1200
4400
4450
800
4500
4550

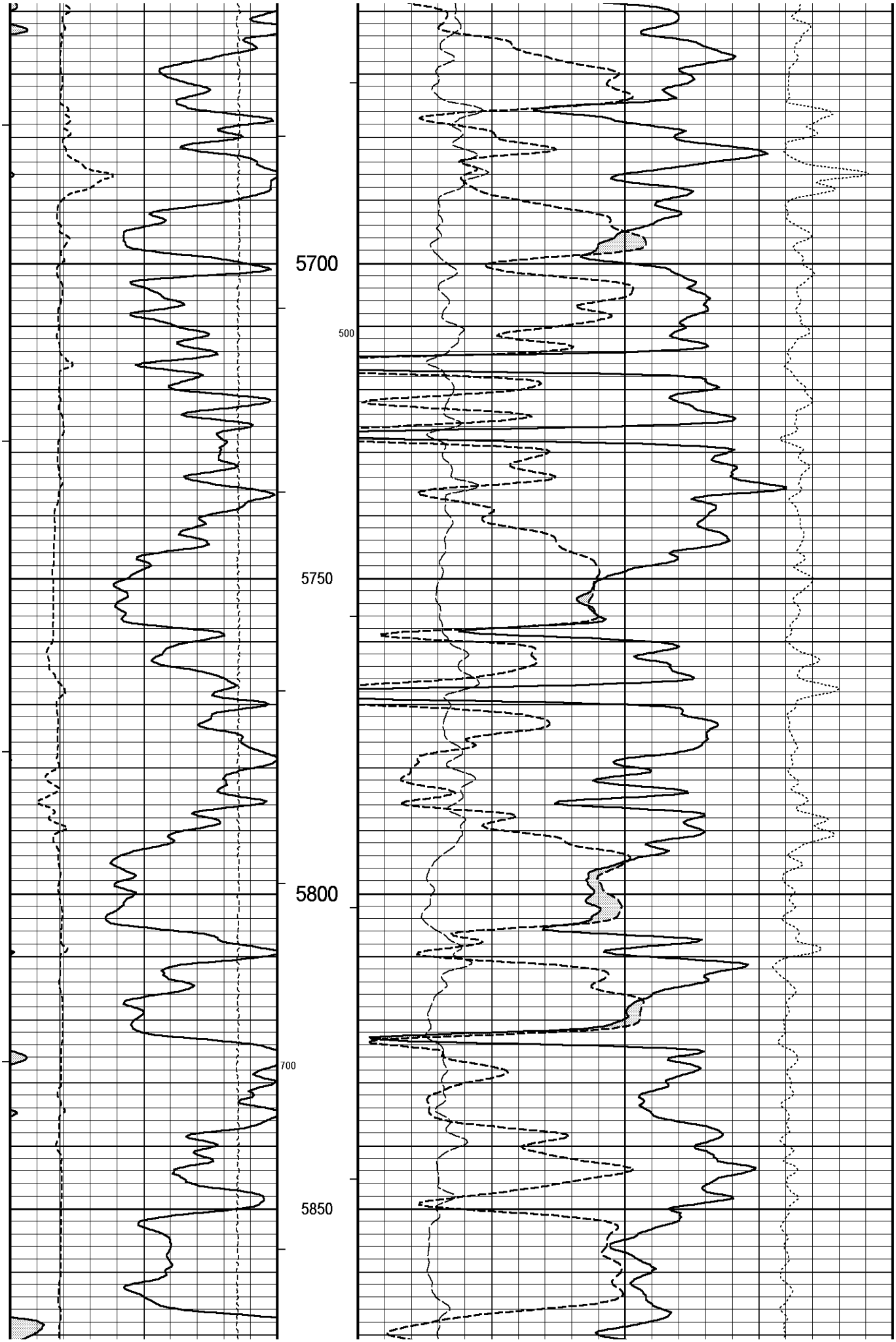

4600
4650
1100
4700
Bit Size
SS Density Por. 2.68
PE
Density Correction
Density Caliper
SS Neutron Por.
Gamma Ray
DST Uphole Tension
4750
4800

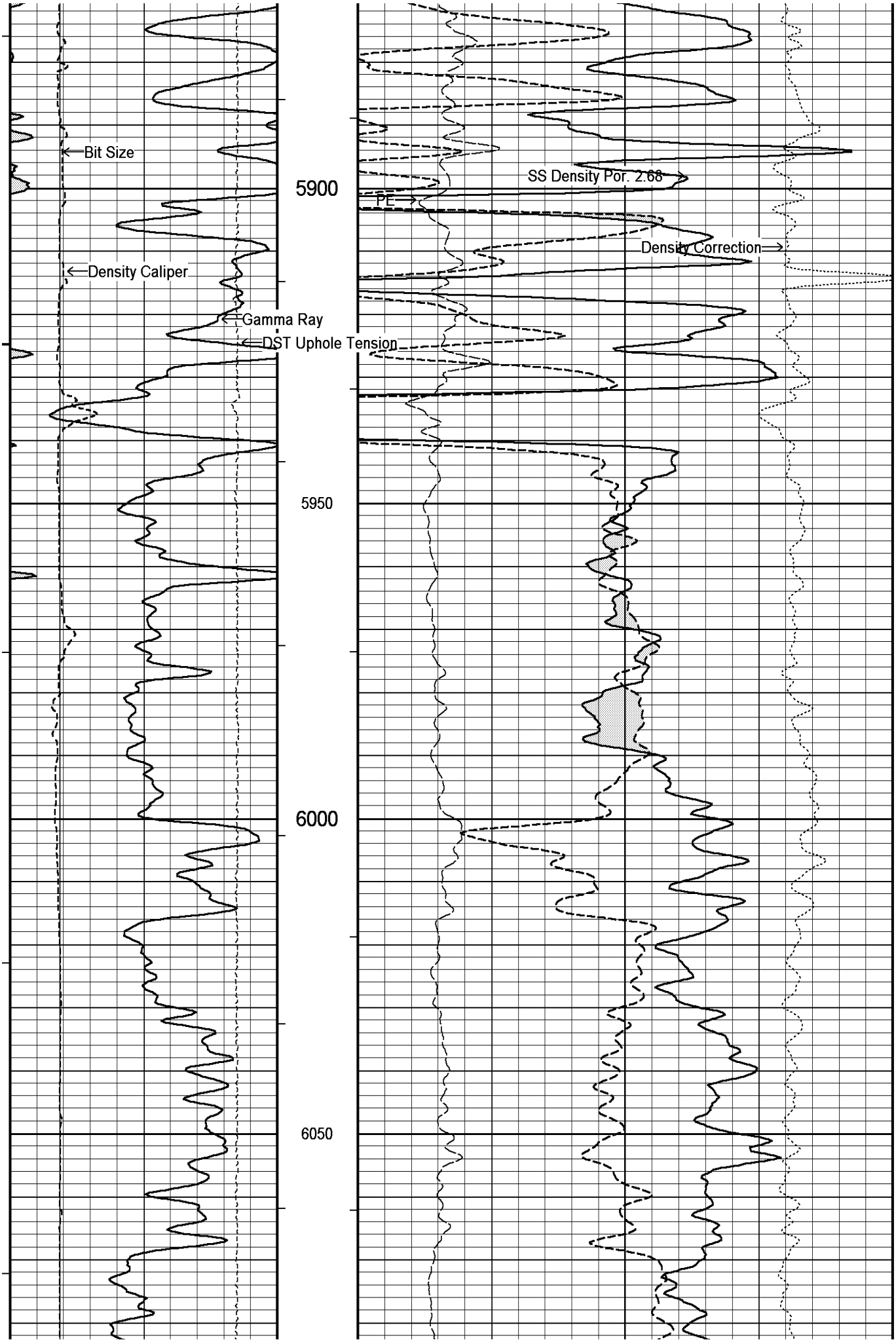

4850
700
4900
4950
1000
5000


5050
5100
5150
5200
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
SS Density Por. 2.68
PE
Density Correction
SS Neutron Por.


900
5250
600
5300
5350
5400


5450
5500
5550
5600
5650
Bit Size
Density Caliper
SS Neutron Por.
Gamma Ray
DST Uphole Tension
800
SS Density Por. 2.68
PE
Density Correction


5700
500
5750
5800
700
5850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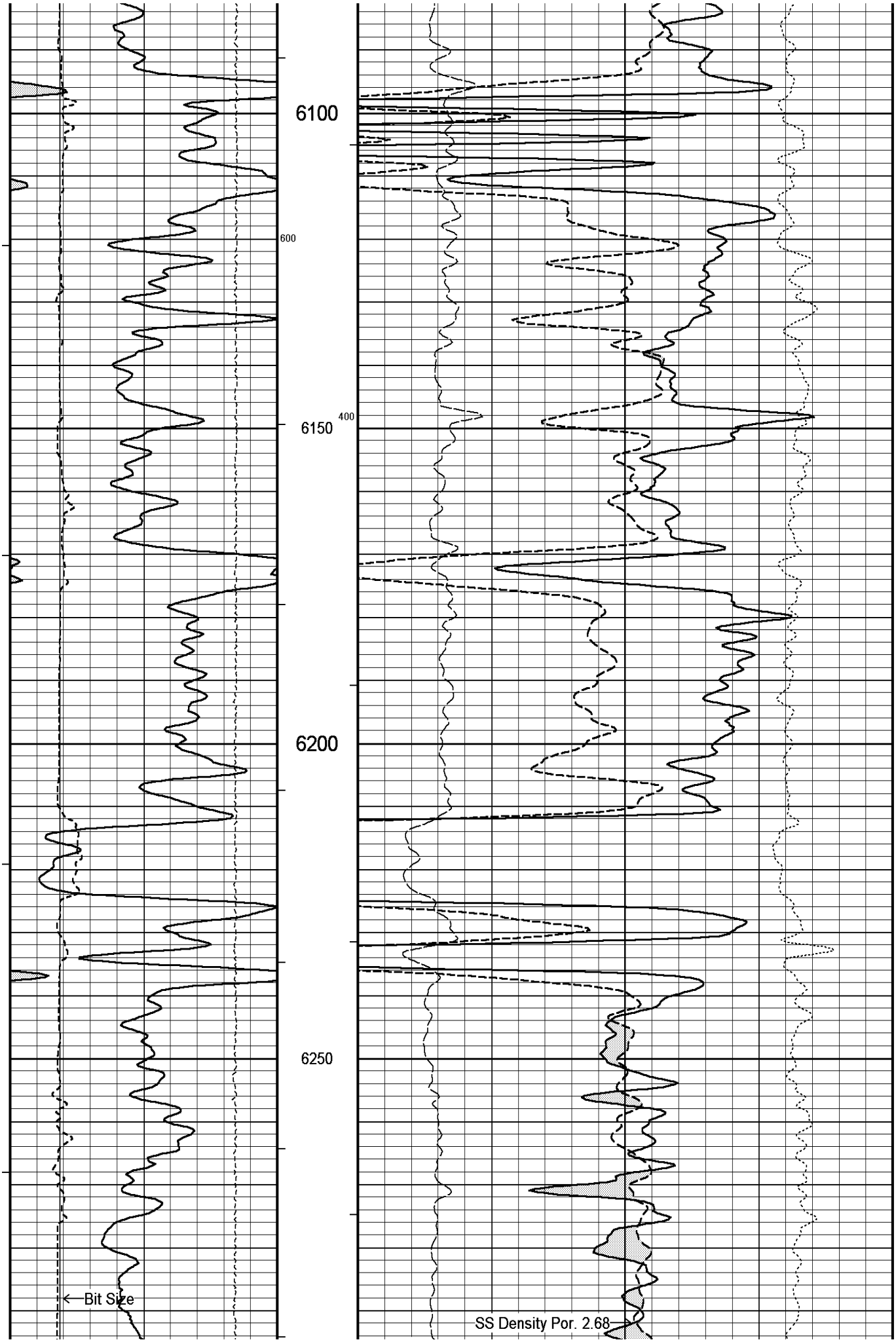
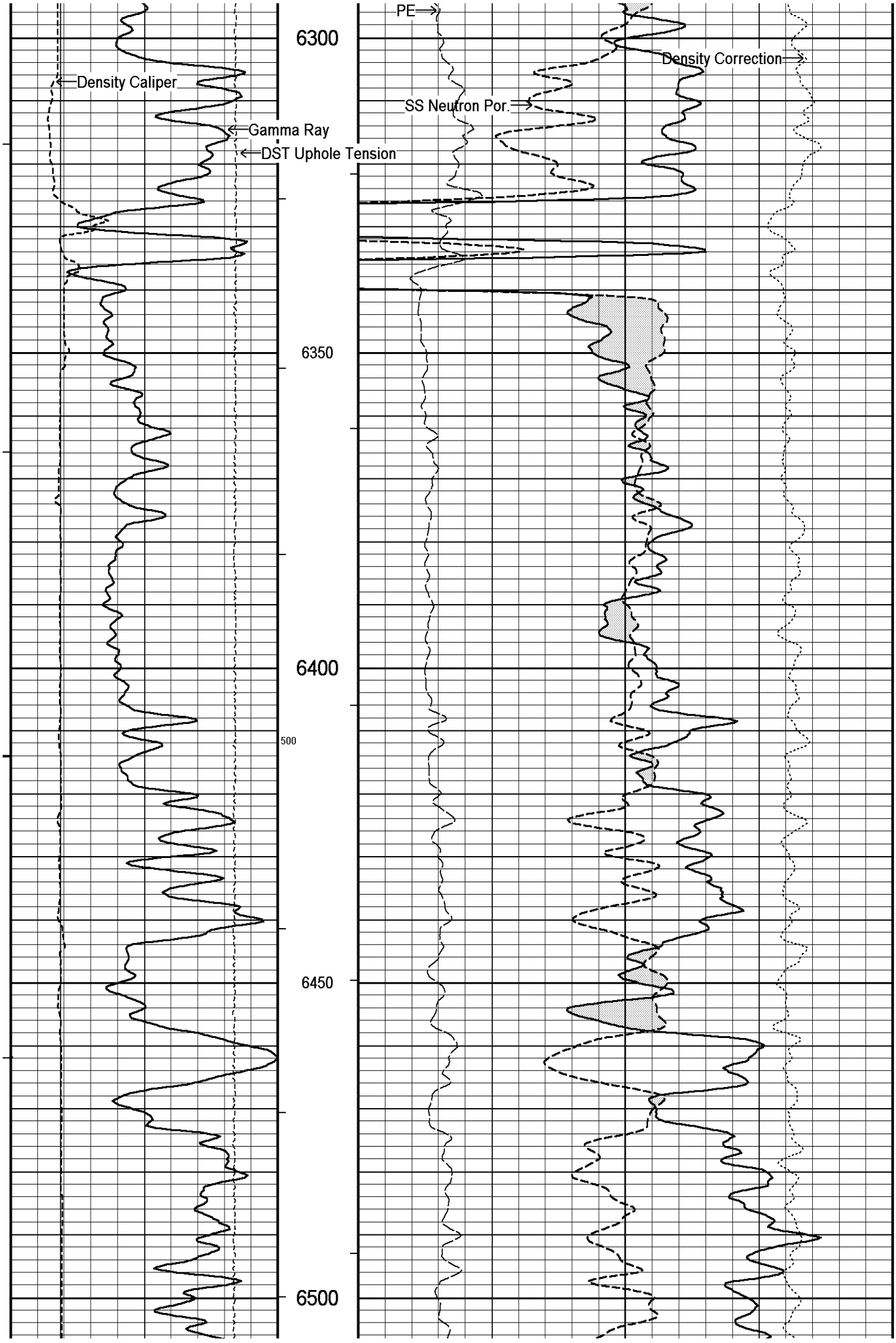
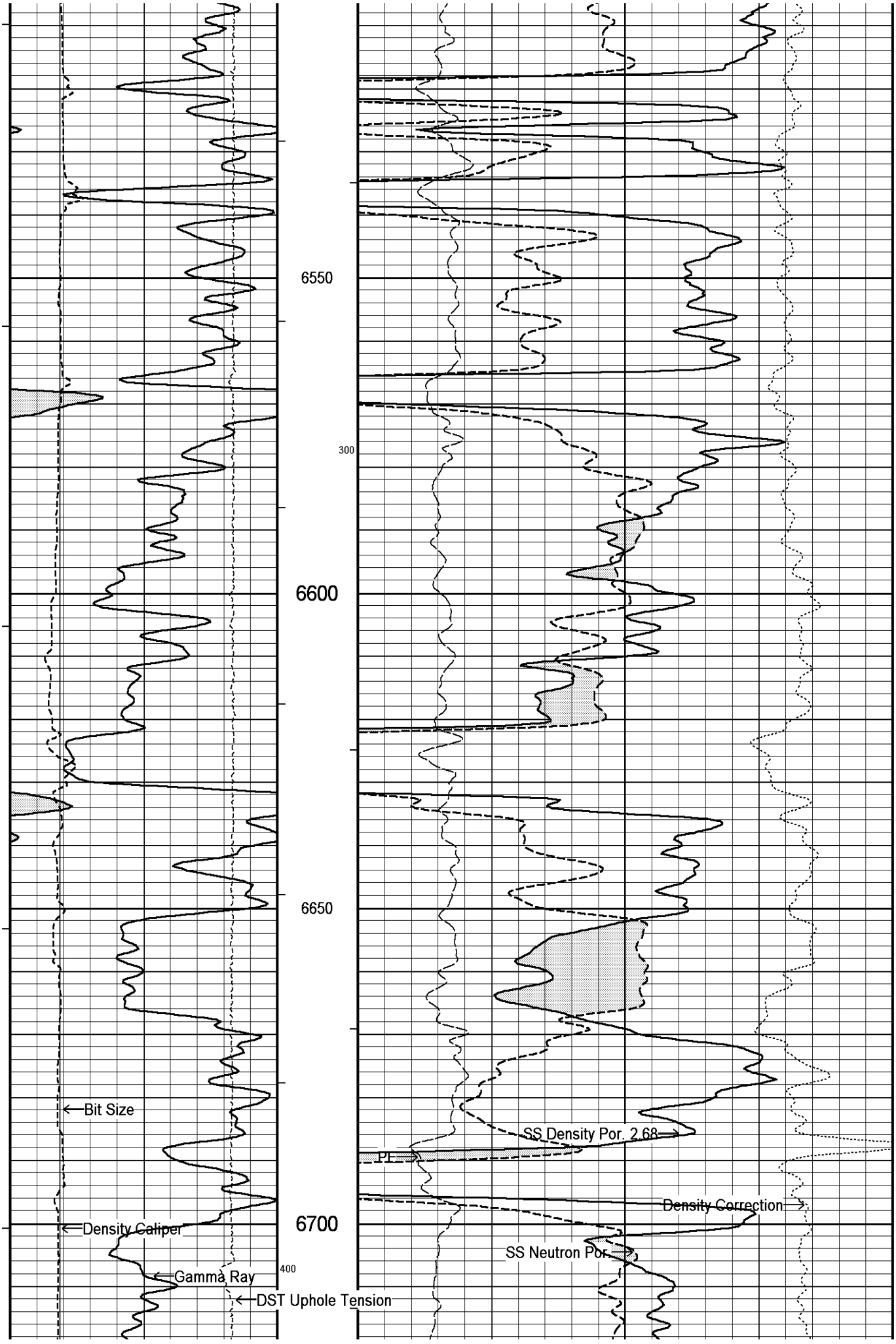
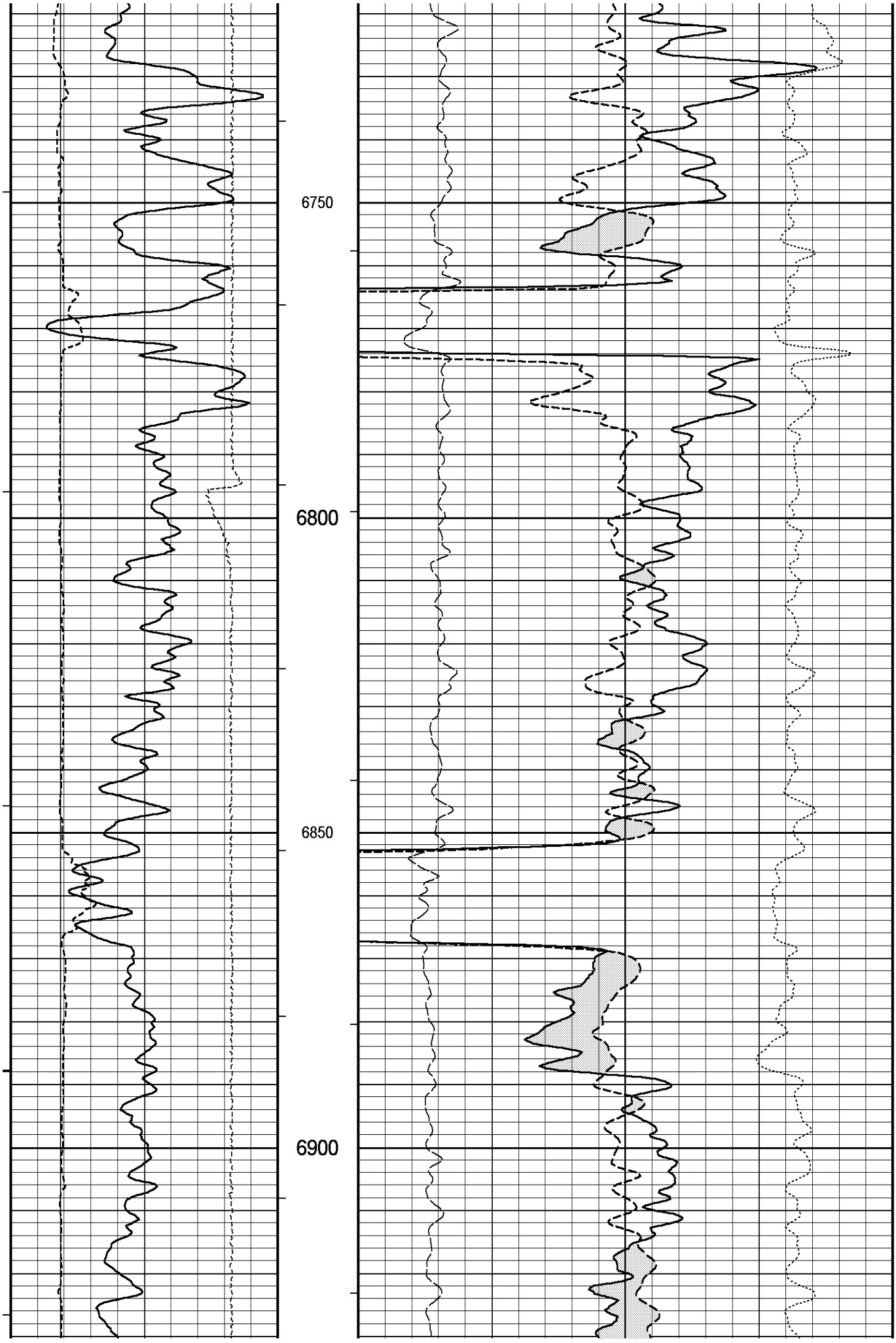
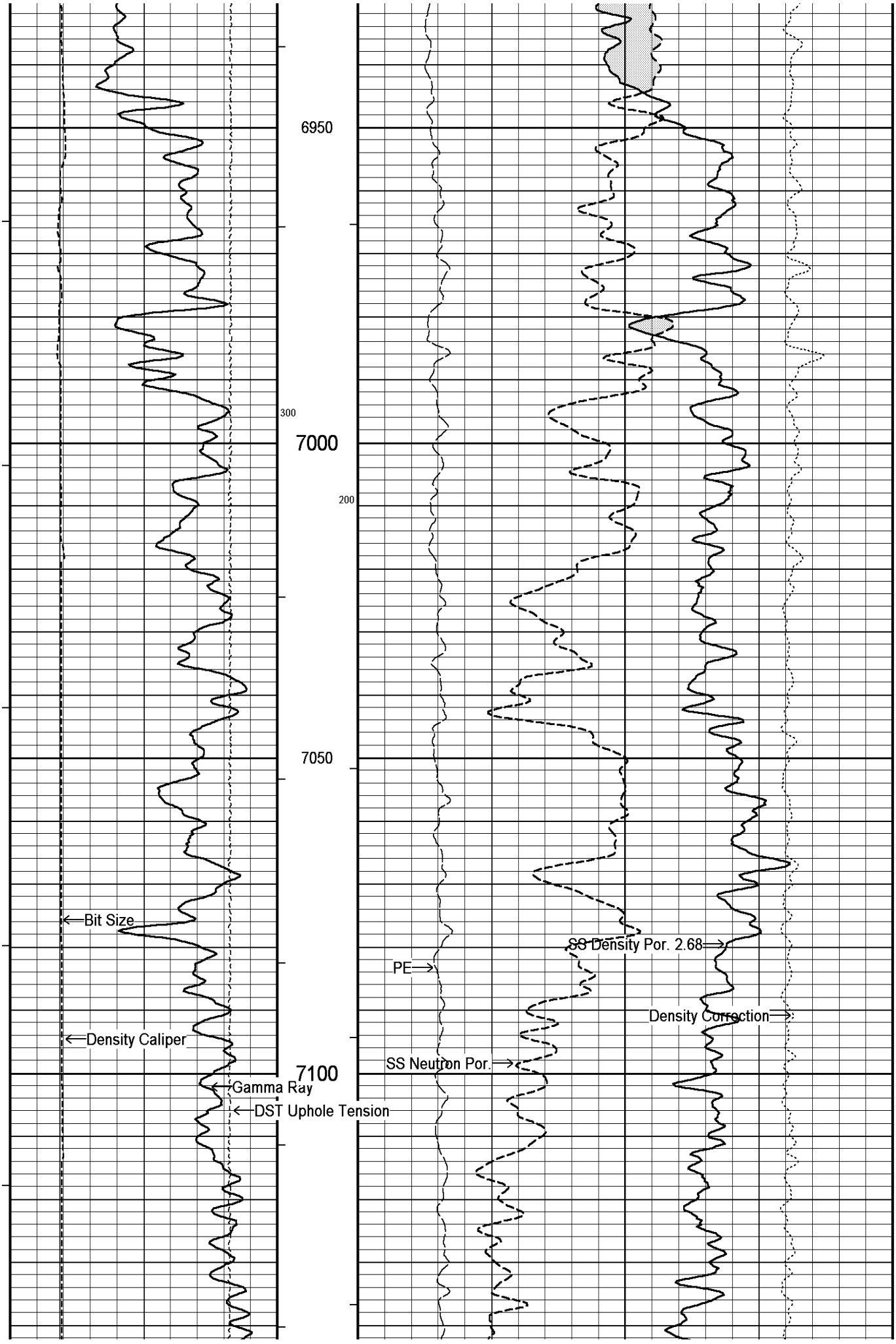
Density Caliper
Gamma Ray
DST Uphole Tension
SS Density Por. 2.68
PE
Density Correction
5900
5950
6000
6050

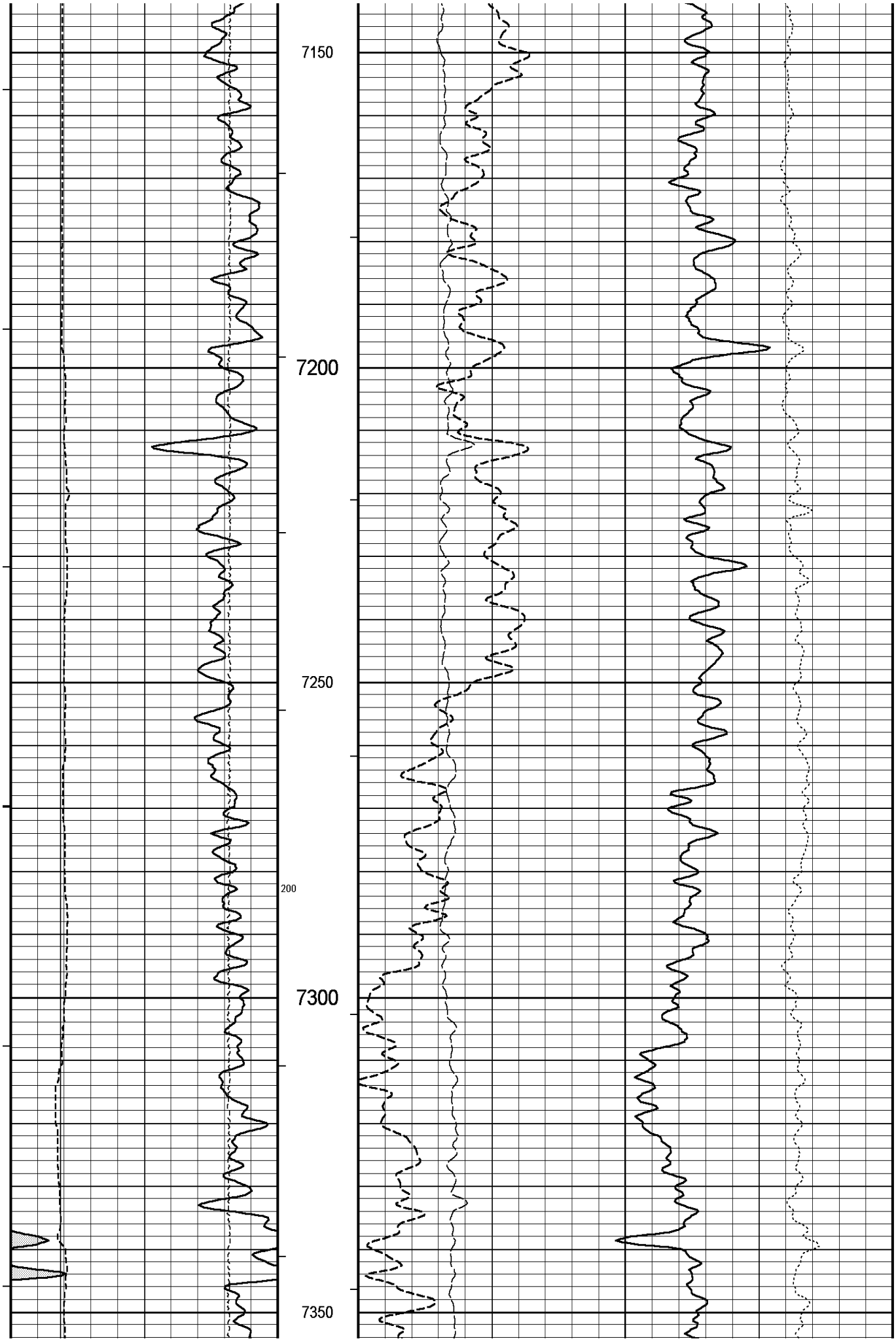

6100
600
6150
400
6200
6250
←Bit Size
SS Density Por. 2.68

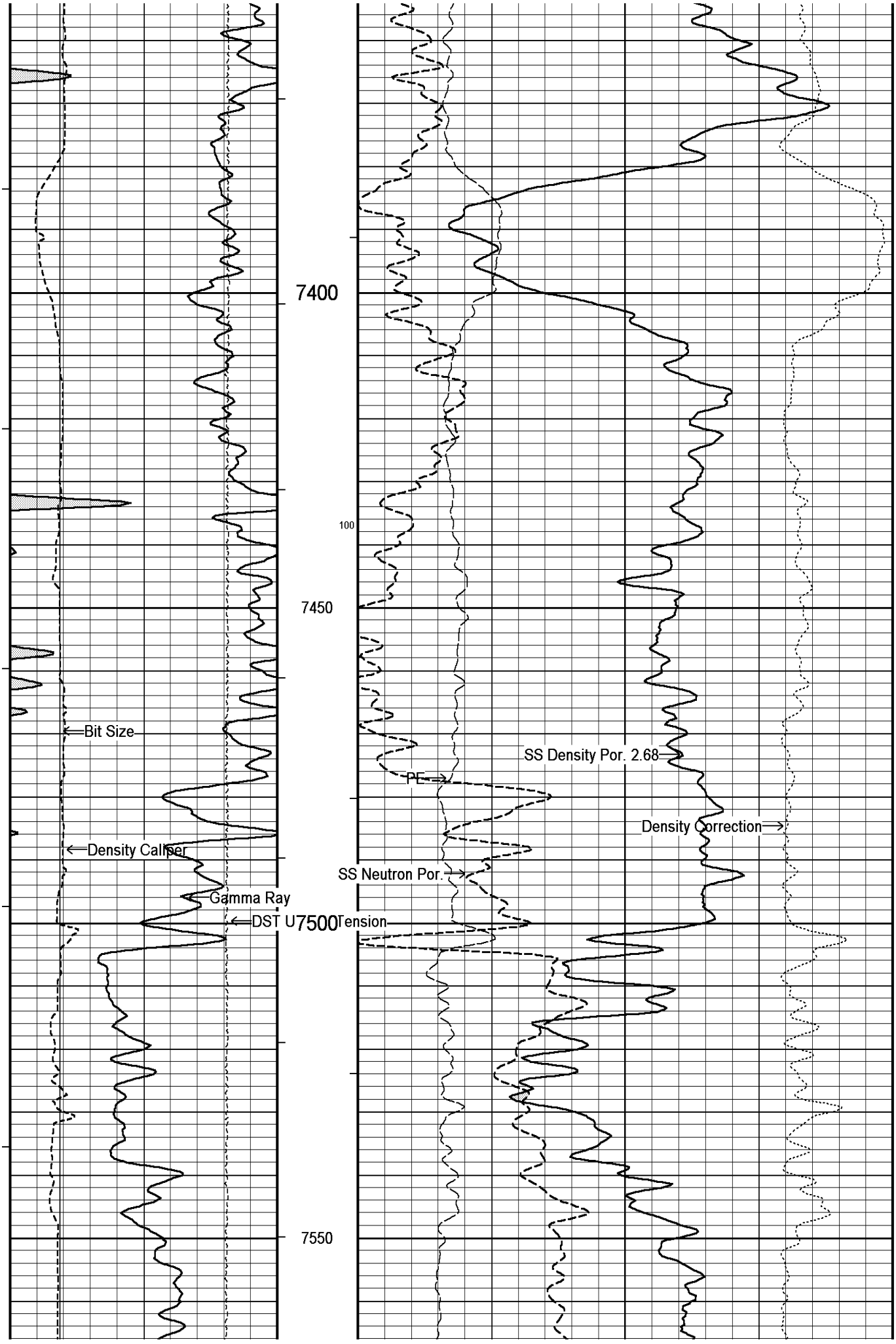

PE
Density Correction
SS Neutron Por.
Density Caliper
Gamma Ray
DST Uphole Tension
6300
6350
6400
500
6450
6500


6550
300
6600
6650
6700
400
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
SS Density Por. 2.68
PE
Density Correction
SS Neutron Por.


6750
6800
6850
6900


6950
300
7000
200
7050
Bit Size
Density Caliper
7100
Gamma Ray
DST Uphole Tension
PE
SS Density Por. 2.68
Density Correction
SS Neutron Por.


7150
7200
7250
200
7300
7350


7400
100
7450
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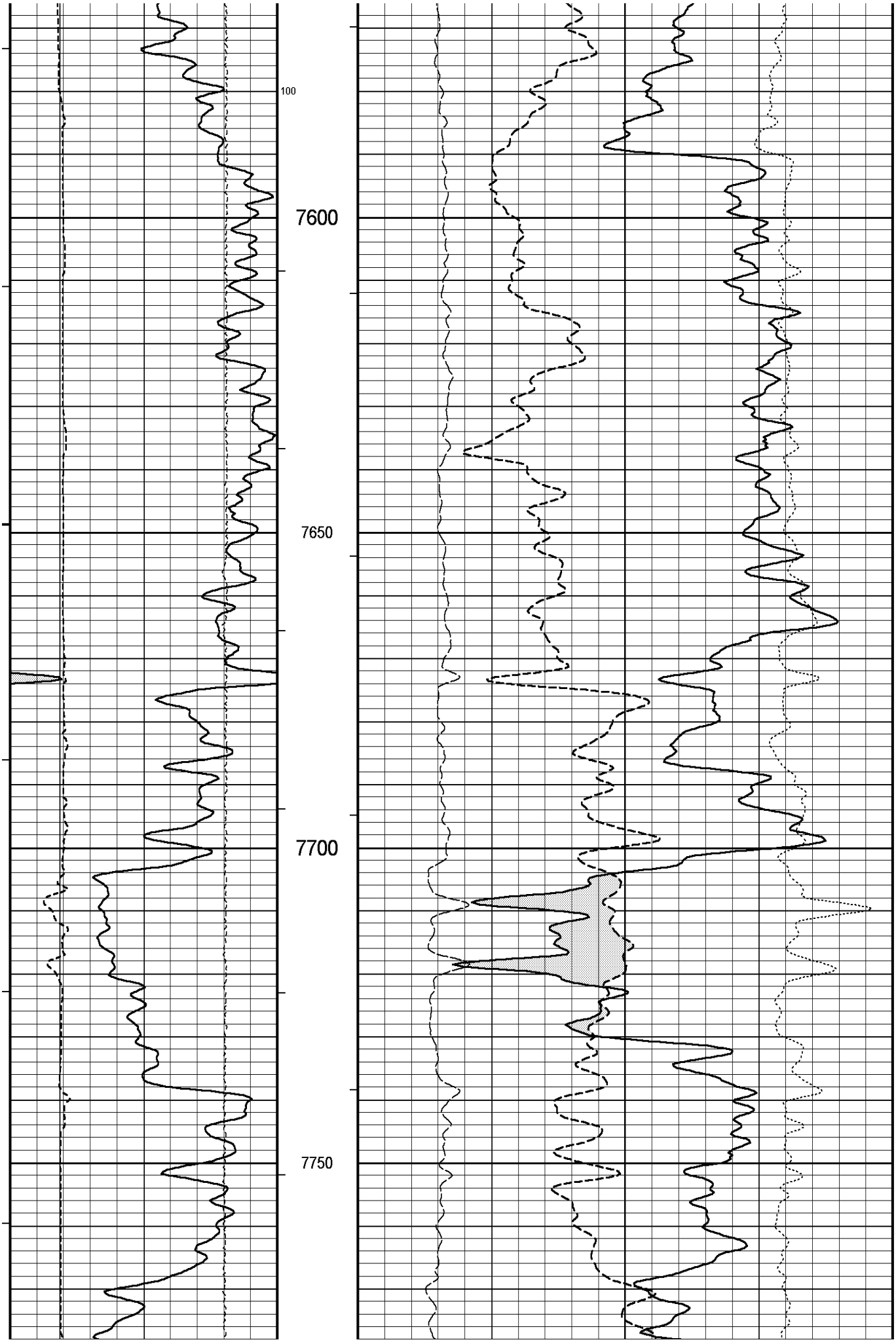
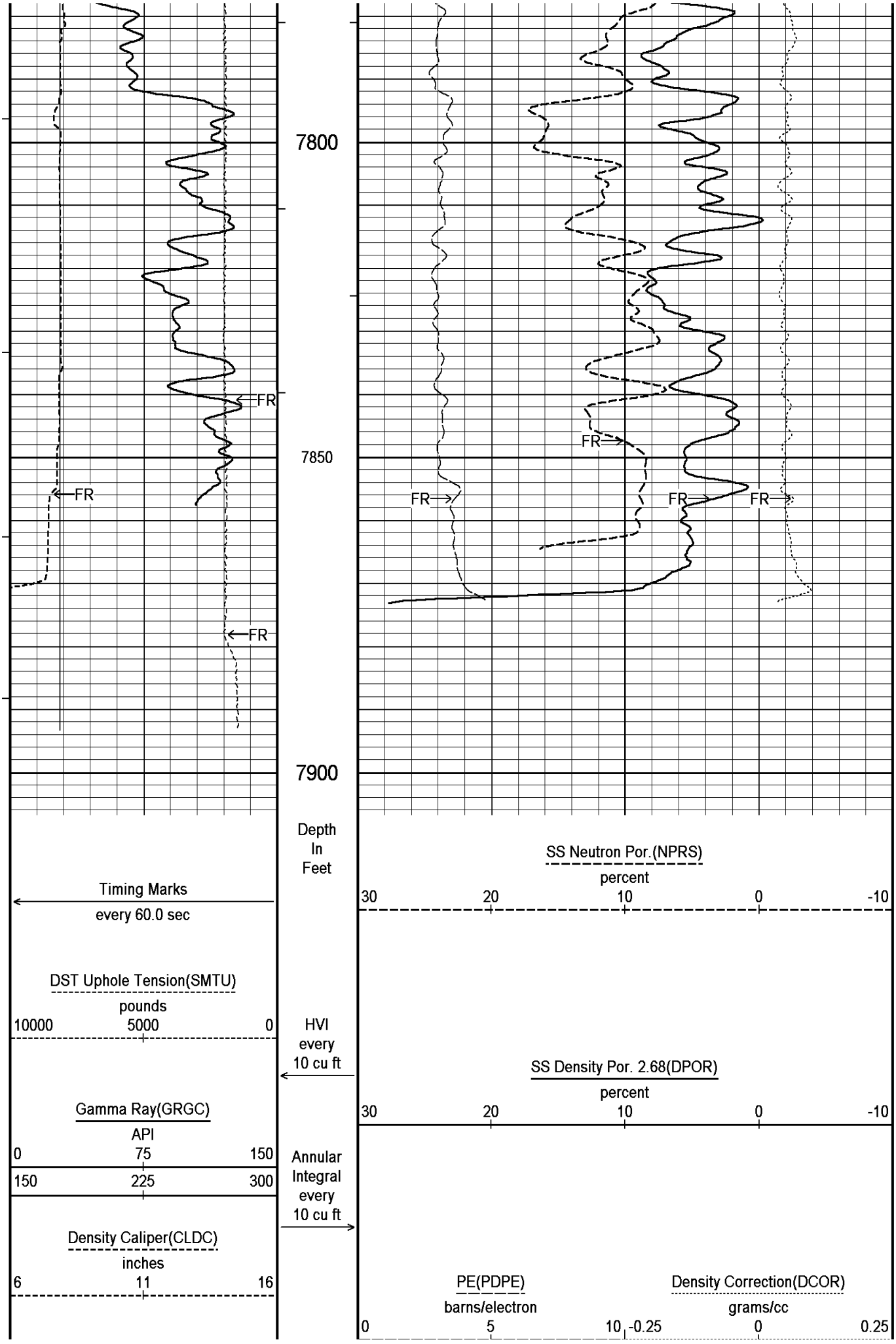
Density Caliper
Gamma Ray
DST U
7500
Tension
SS Density Por. 2.68
PE
Density Correction
SS Neutron Por.
7550


100
7600
7650
7700
7750


7800
7850
7900
FR
FR
FR
FR
FR
FR
FR
Depth
In
Feet
Timing Marks
every 60.0 sec
DST Uphole Tension(SMTU)
pounds
10000
5000
0
HVI
every
10 cu ft
Gamma Ray(GRGC)
API
0
75
150
150
225
300
Annular
Integral
every
10 cu ft
Density Caliper(CLDC)
inches
6
11
16
SS Neutron Por.(NPRS)
percent
30
20
10
0
-10
SS Density Por. 2.68(DPOR)
percent
30
20
10
0
-10
PE(PDPE)
barns/electron
0
5
10
Density Correction(DCOR)
grams/cc
-0.25
0
0.25

Bit Size(BIT)
inches
6 11 16

Replay Scale 1:240

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 20-NOV-2010 16:36
Filename: C:\Minimus\LOGS\Bill Barrett\GGU Miller 24D-32-691\MAIN.dta
Recorded on 20-NOV-2010 12:48
System Versions: Logged with 10.07.0791 Plotted with 10.07.0791

5 INCH MAIN LOG

OVERLAY

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 20-NOV-2010 16:36
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Recorded on 20-NOV-2010 12:28
Filename: C:\Minimus\LOGS\Bill Barrett\GGU Miller 24D-32-691\MAIN.dta
Recorded on 20-NOV-2010 12:48
System Versions: Logged with 10.07.0791 Plotted with 10.07.0791

Depth In Feet

Timing Marks
every 60.0 sec

DST Uphole Tension(SMTU)
pounds
10000 5000 0

HVI every 10 cu ft

Gamma Ray(GRGC)
API
0 75 150
150 225 300

Annular Integral every 10 cu ft

Density Caliper(CLDC)
inches
6 11 16

Bit Size(BIT)
inches
6 11 16

Replay Scale 1:240

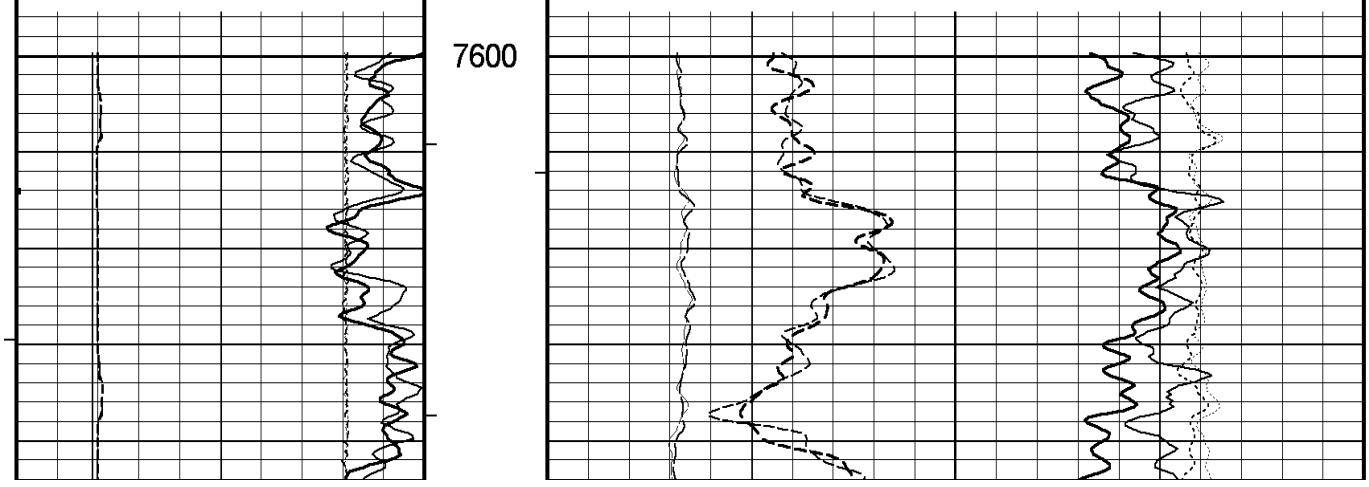
SS Neutron Por.(NPRS)
percent
30 20 10 0 -10

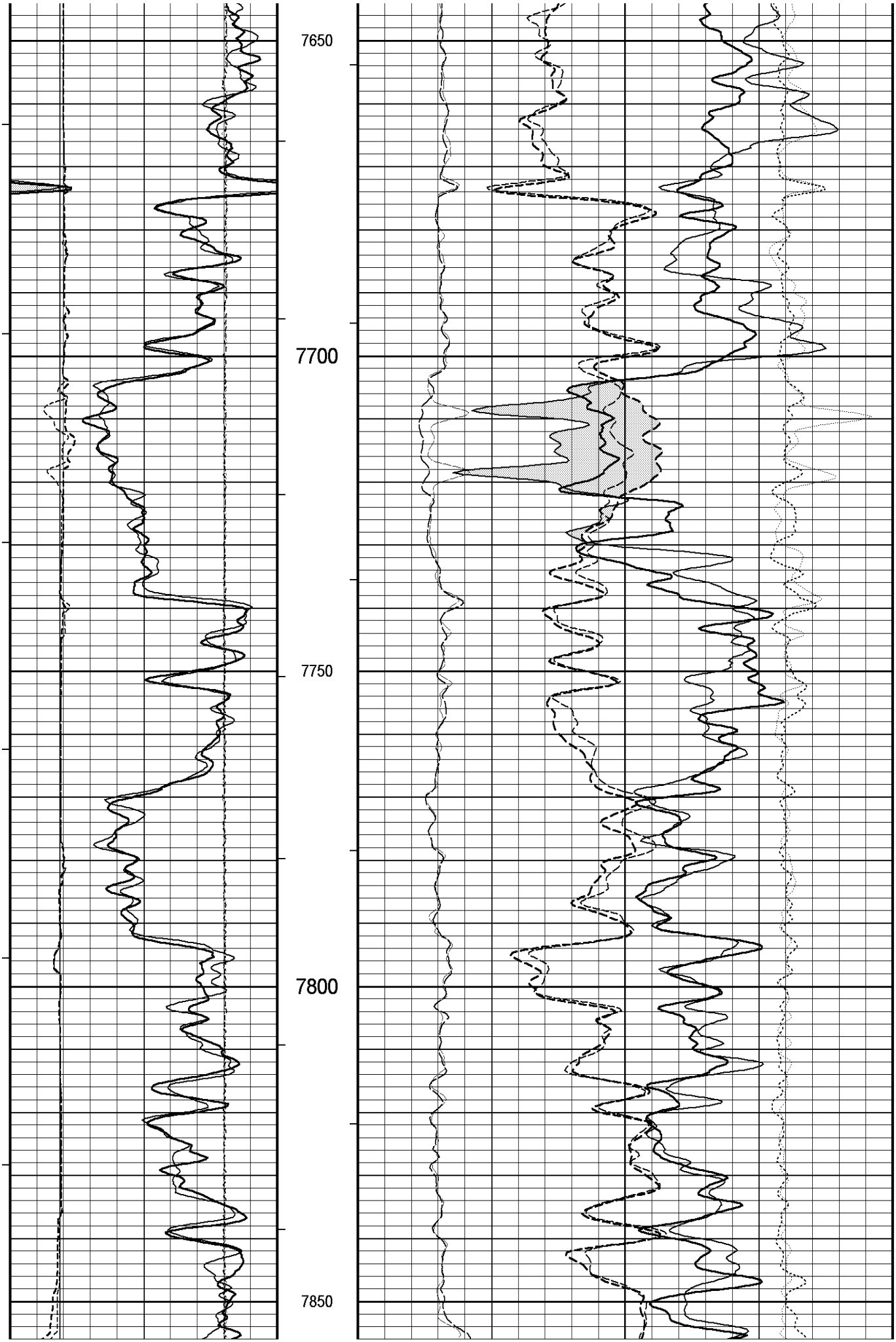
SS Density Por. 2.68(DPOR)
percent
30 20 10 0 -10

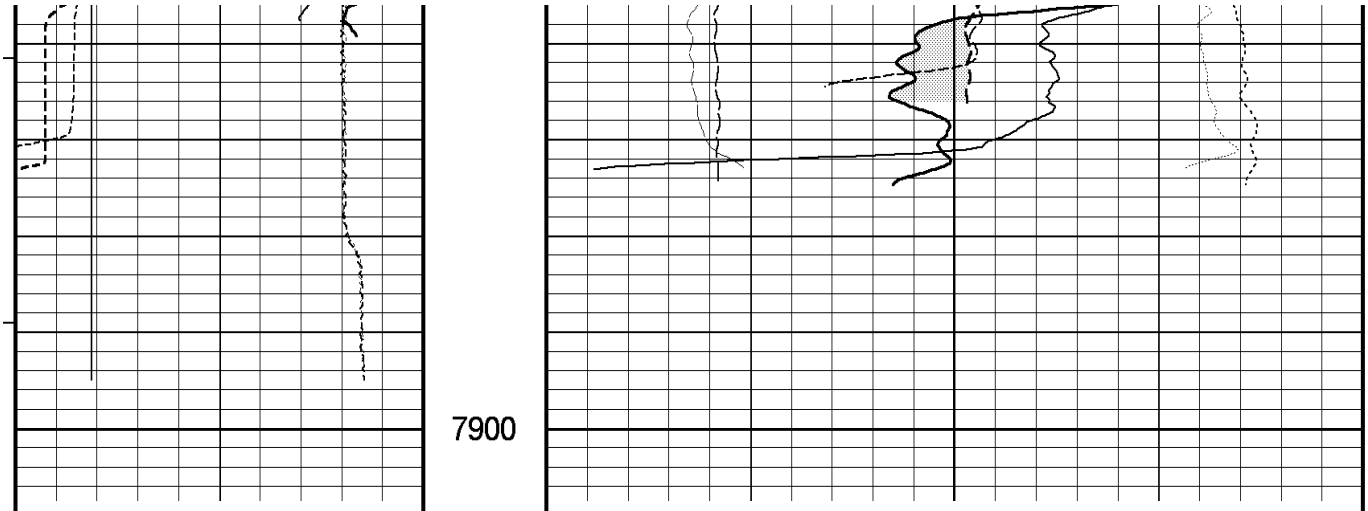
PE(PDPE)
barns/electron
0 5 10

Density Correction(DCOR)
grams/cc
-0.25 0 0.25

7600




7650
7700
7750
7800
7850



7900

Depth In Feet

Timing Marks
every 60.0 sec

DST Uphole Tension(SMTU)
pounds
10000 5000 0

HVI every 10 cu ft

Gamma Ray(GRGC)
API
0 75 150
150 225 300

Annular Integral every 10 cu ft

Density Caliper(CLDC)
inches
6 11 16

Bit Size(BIT)
inches
6 11 16

Replay Scale 1:240

SS Neutron Por.(NPRS)
percent
30 20 10 0 -10

SS Density Por. 2.68(DPOR)
percent
30 20 10 0 -10

PE(PDPE)
barns/electron
0 5 10

Density Correction(DCOR)
grams/cc
-0.25 0 0.25

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 20-NOV-2010 16:36
Filename: C:\Minimus\LOGS\Bill Barrett\GGU Miller 24D-32-691\REPEAT.dta — Recorded on 20-NOV-2010 12:28
Filename: C:\Minimus\LOGS\Bill Barrett\GGU Miller 24D-32-691\MAIN.dta — Recorded on 20-NOV-2010 12:48
System Versions: Logged with 10.07.0791 Plotted with 10.07.0791

OVERLAY

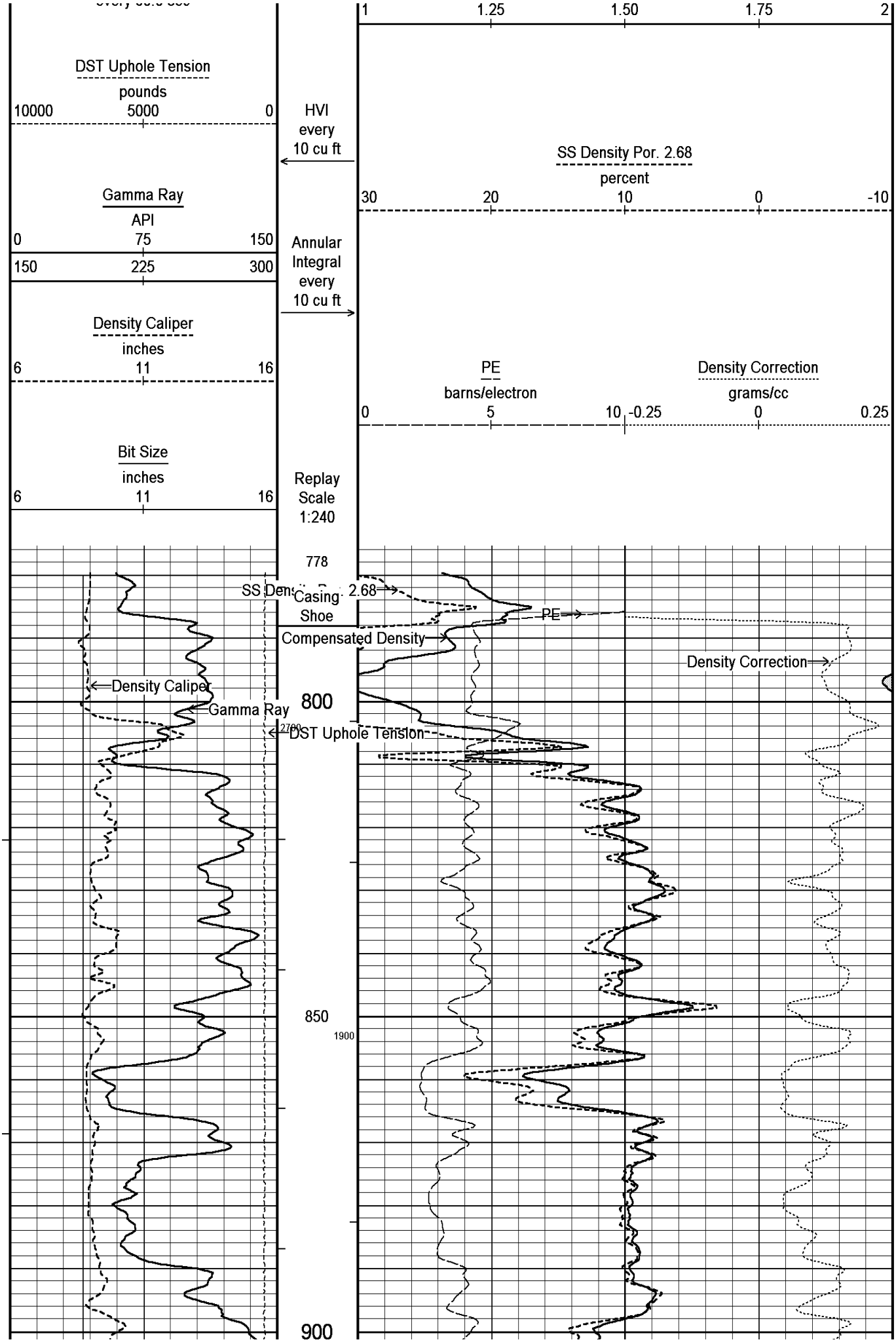
5 INCH MAIN LOG

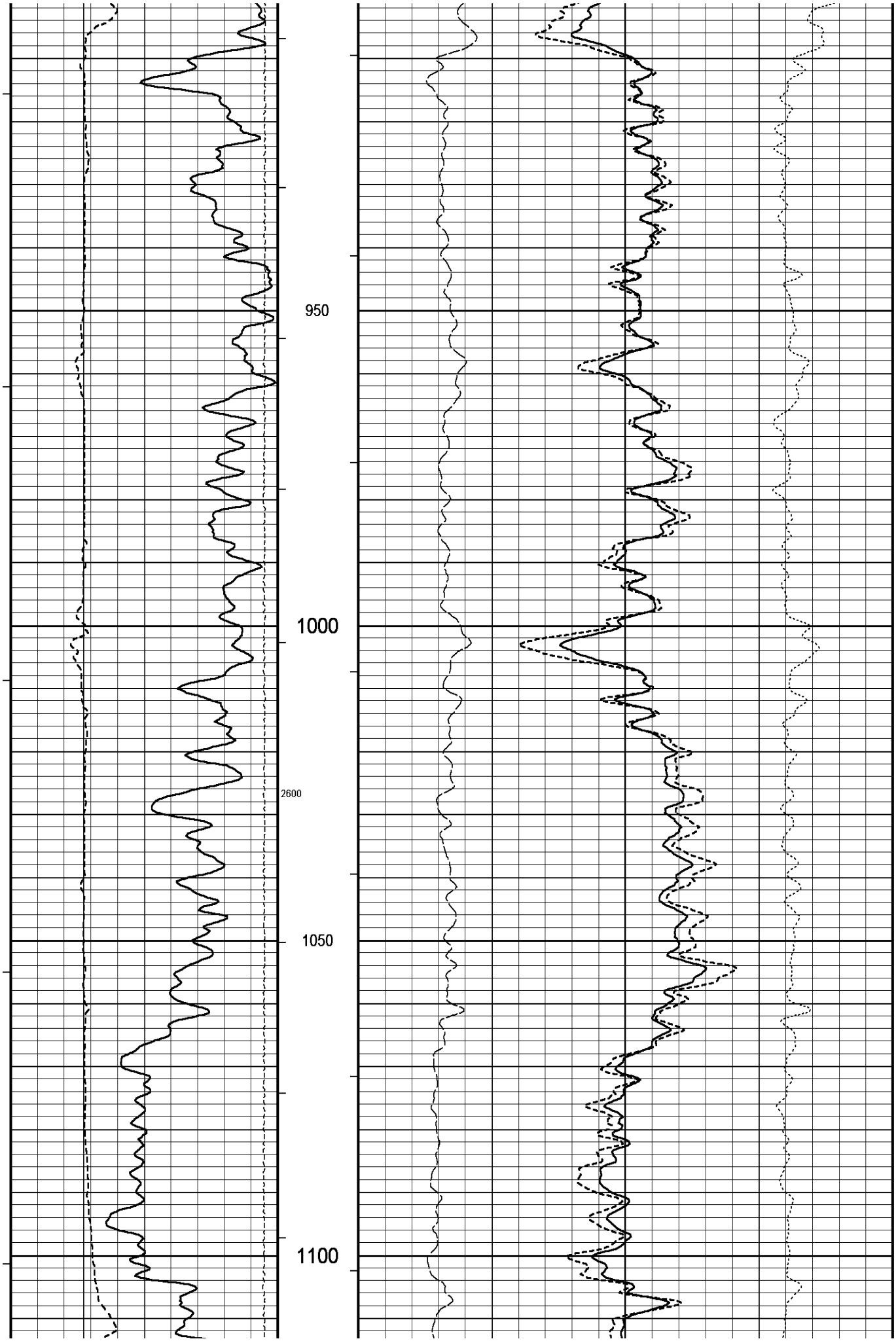
Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 20-NOV-2010 16:36
Filename: C:\Minimus\LOGS\Bill Barrett\GGU Miller 24D-32-691\MAIN.dta — Recorded on 20-NOV-2010 12:48
System Versions: Logged with 10.07.0791 Plotted with 10.07.0791

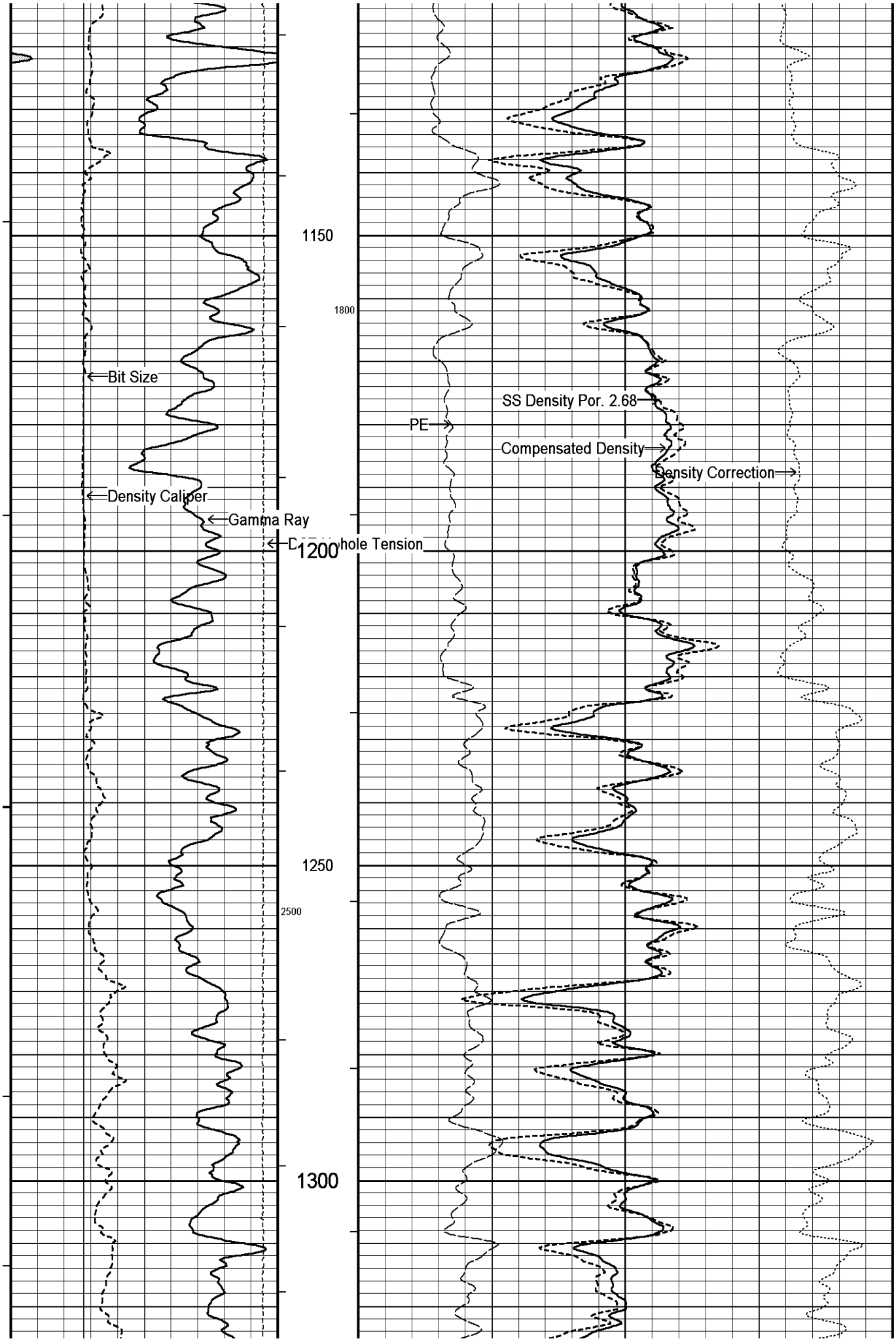
Depth In Feet

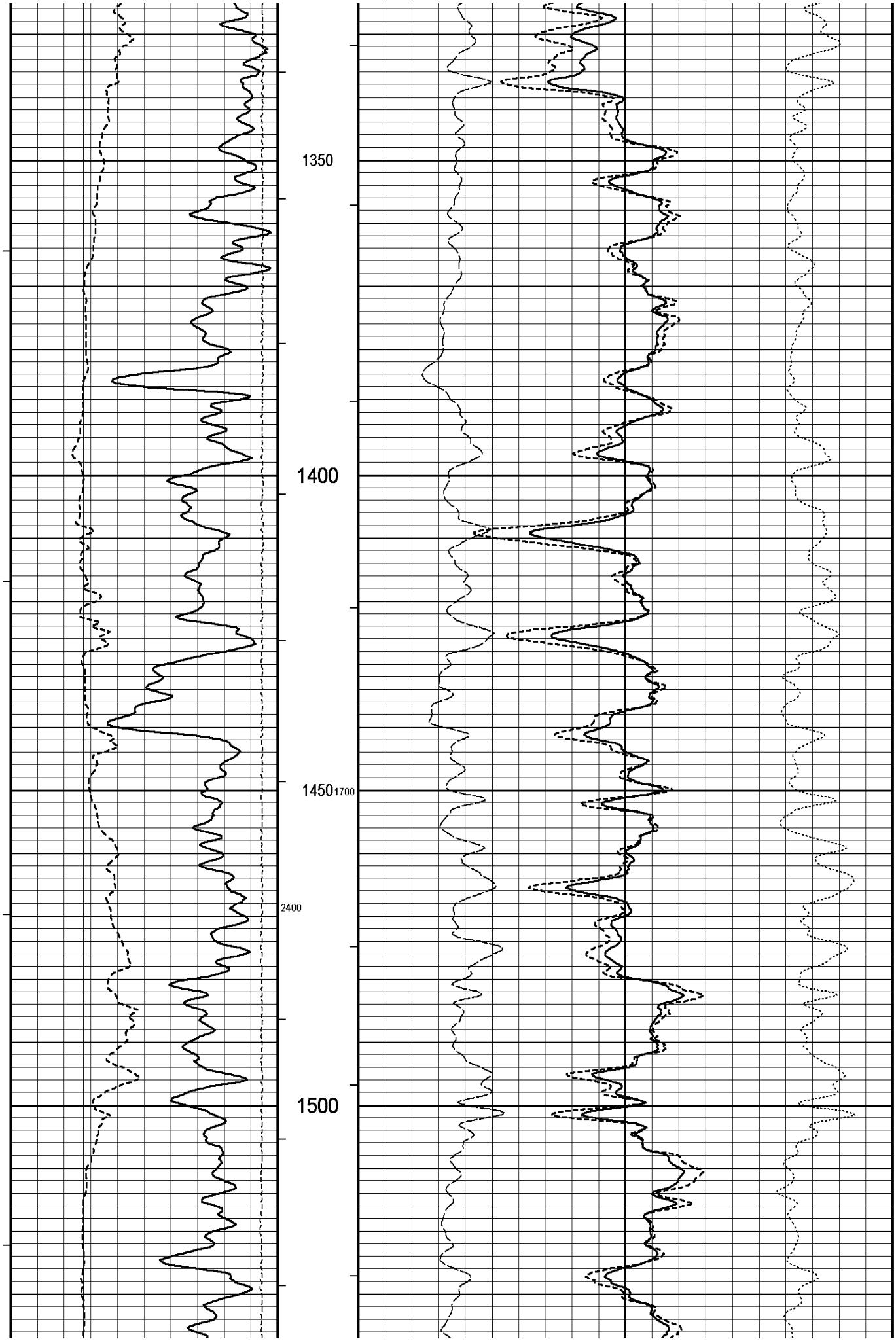
Timing Marks
every 60.0 sec

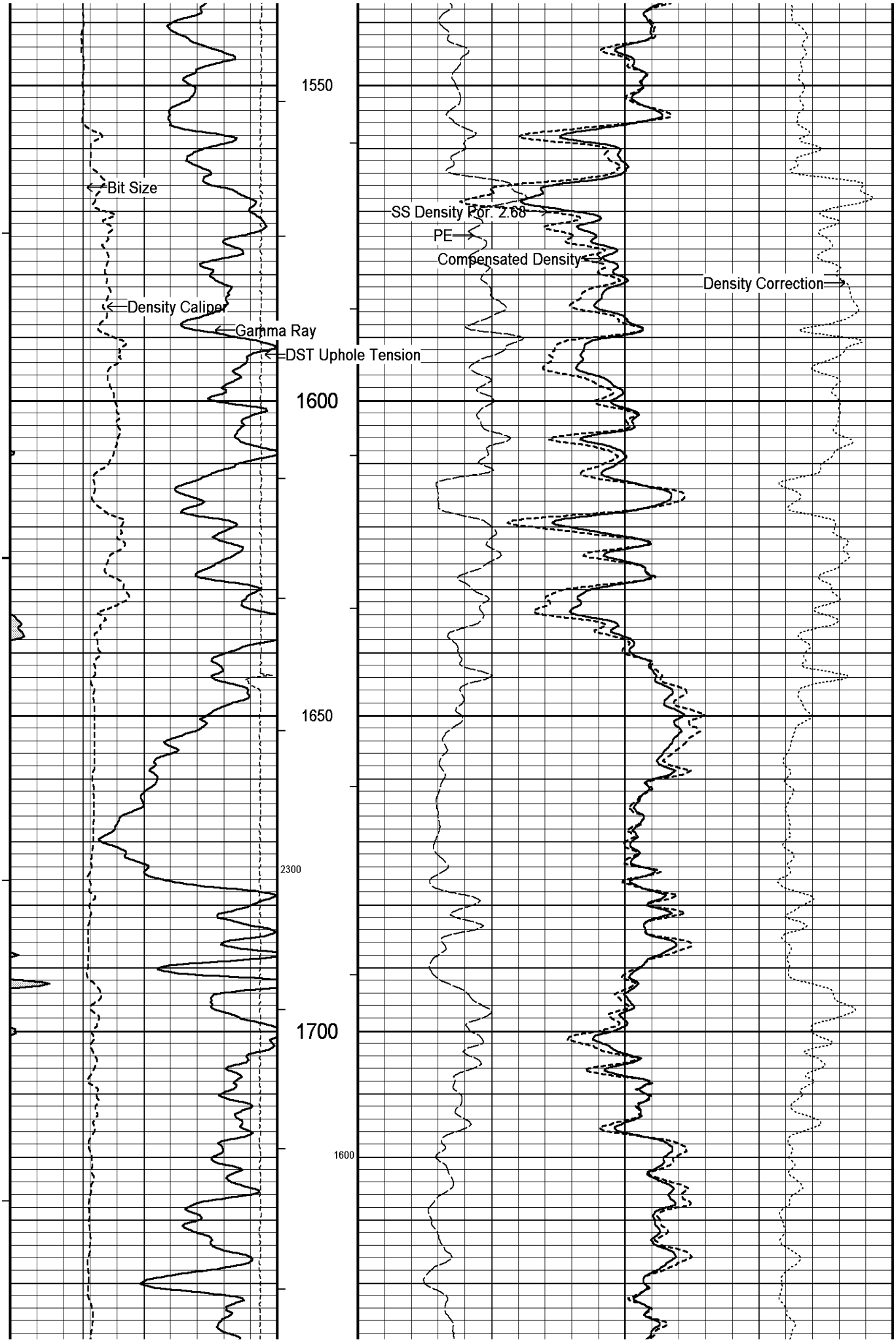
Compensated Density
grams/cc
2 2.25 2.50 2.75 3

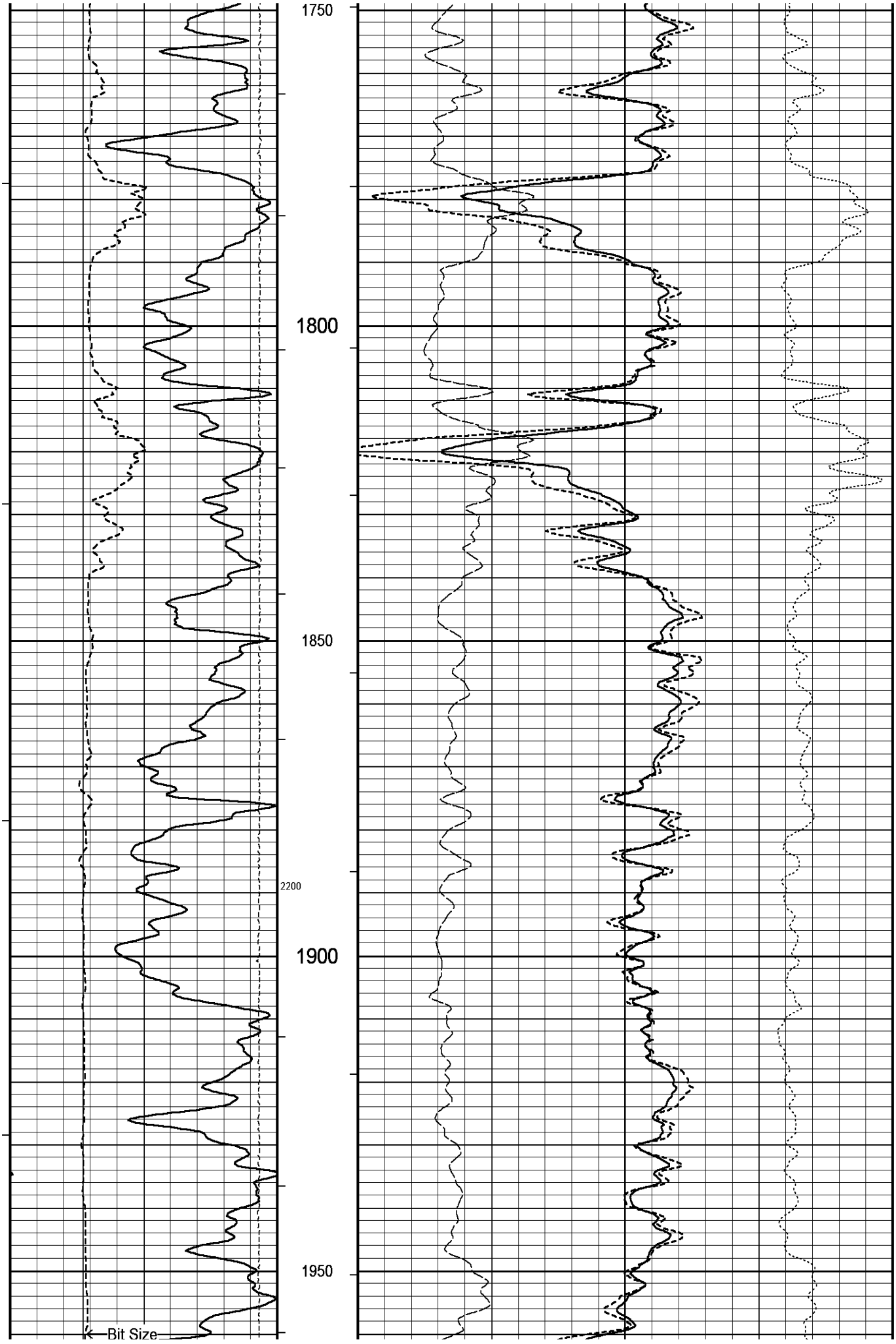

DST Uphole Tension
pounds
10000
5000
0
Gamma Ray
API
0
75
150
150
225
300
Density Caliper
inches
6
11
16
Bit Size
inches
6
11
16
HVI
every
10 cu ft
Annular
Integral
every
10 cu ft
Replay
Scale
1:240
1
1.25
1.50
1.75
2
SS Density Por. 2.68
percent
30
20
10
0
-10
PE
barns/electron
0
5
10
Density Correction
grams/cc
-0.25
0
0.25
778
SS Density Por. 2.68
Casing
Shoe
Compensated Density
PE
Density Correction
Density Caliper
Gamma Ray
2700
DST Uphole Tension
800
850
1900
900

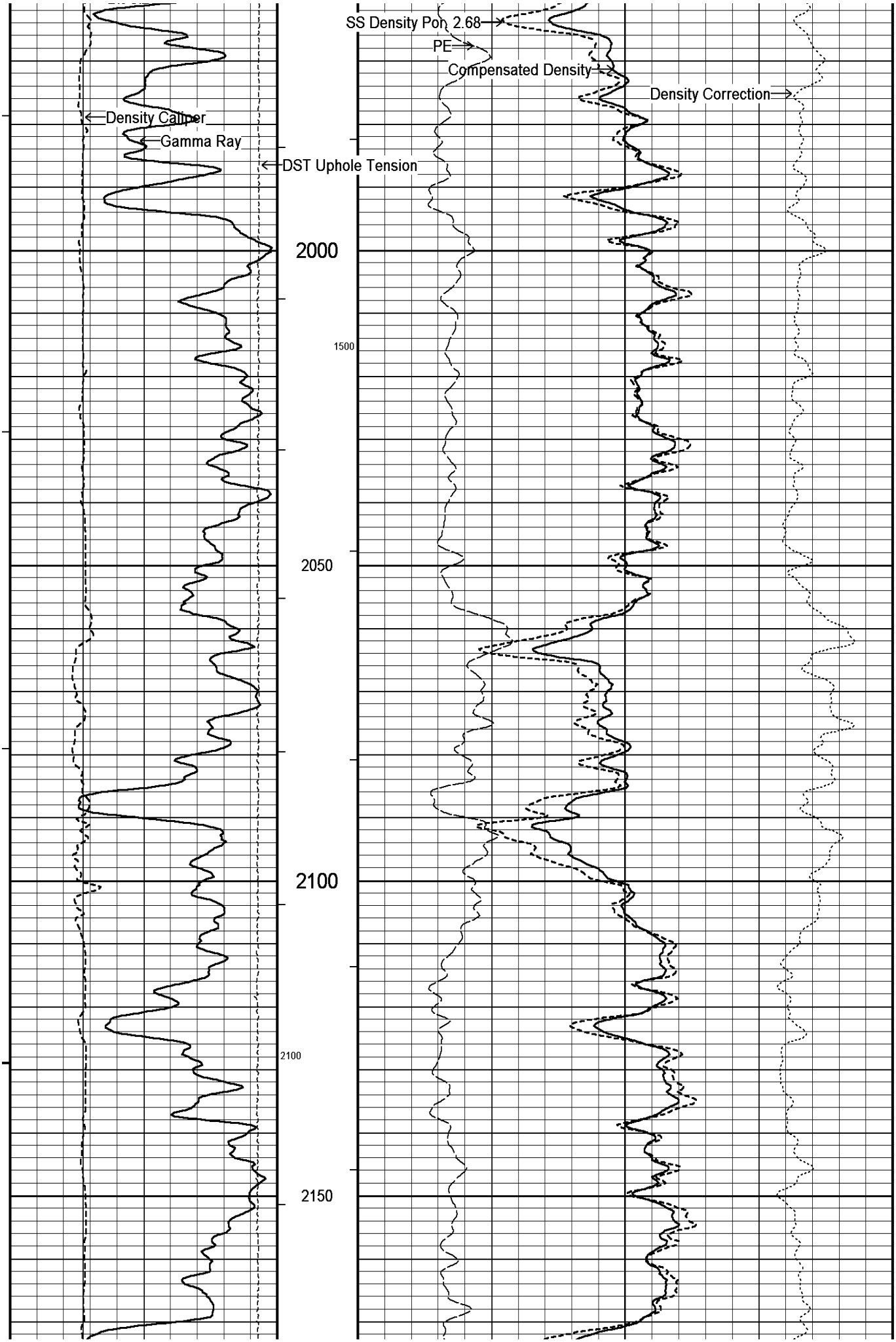

950
1000
2600
1050
1100

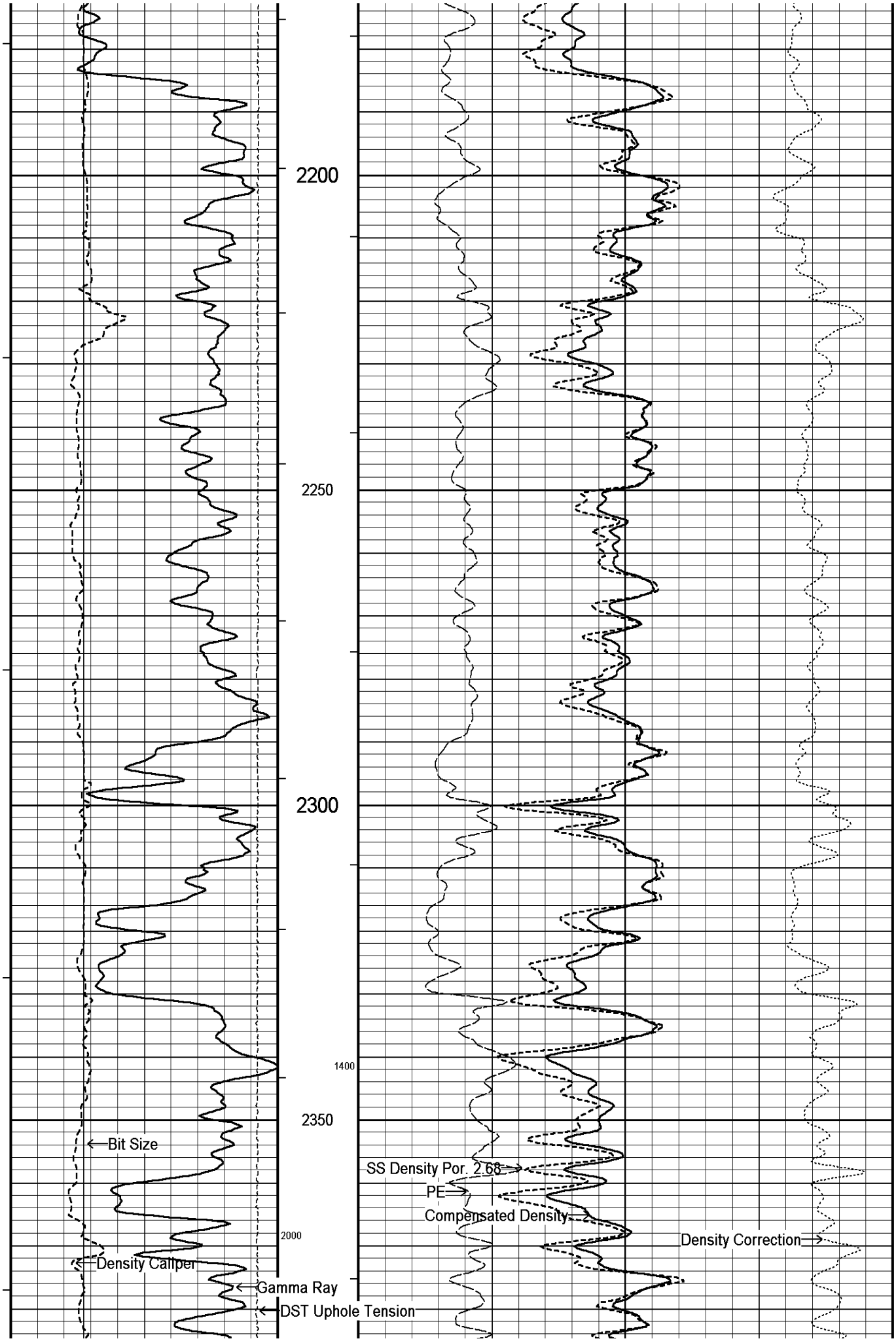

1150
1800
Bit Size
SS Density Por. 2.68
PE
Compensated Density
Density Correction
Density Caliper
Gamma Ray
1200
1250
2500
1300

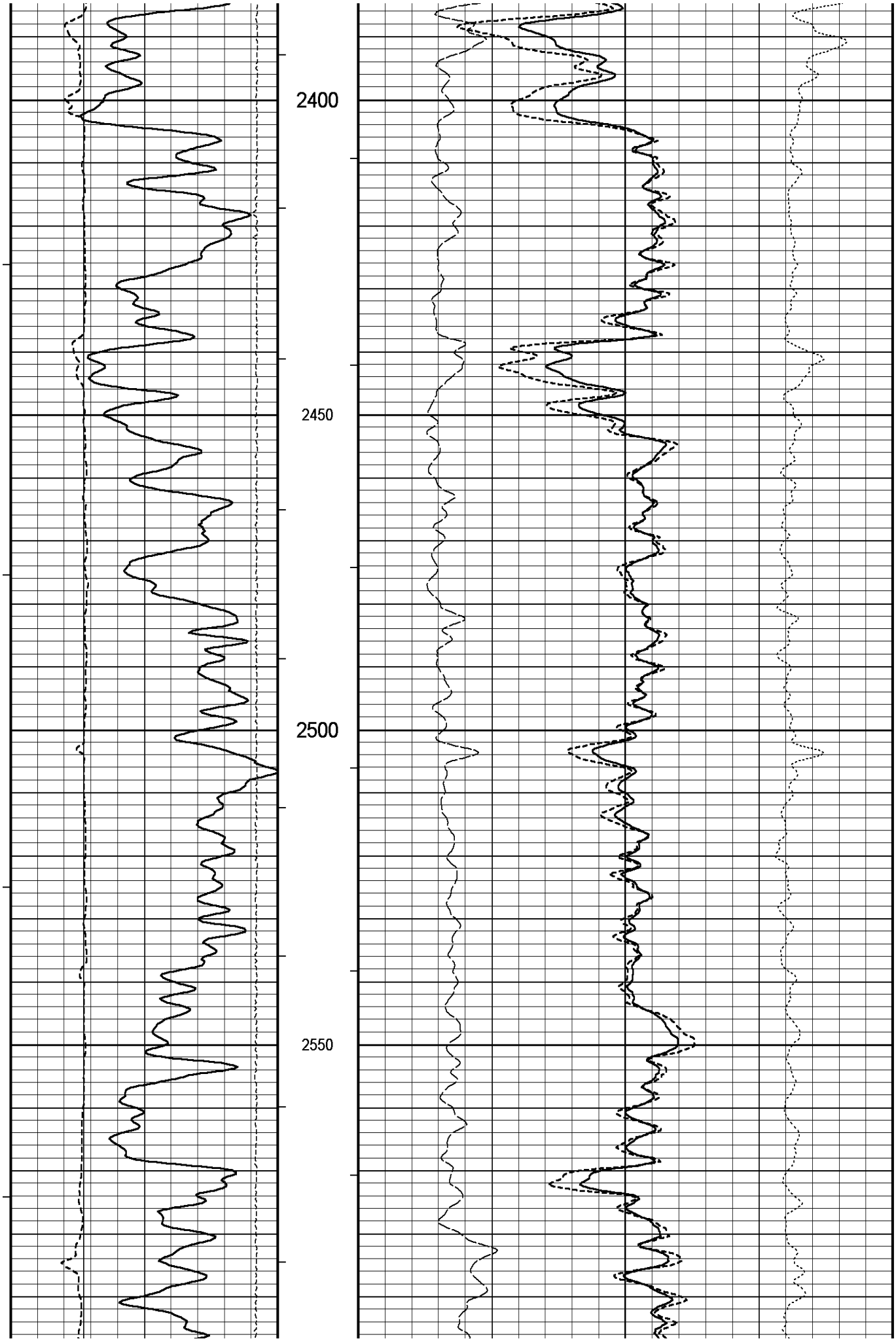

1350
1400
1450
1700
2400
1500

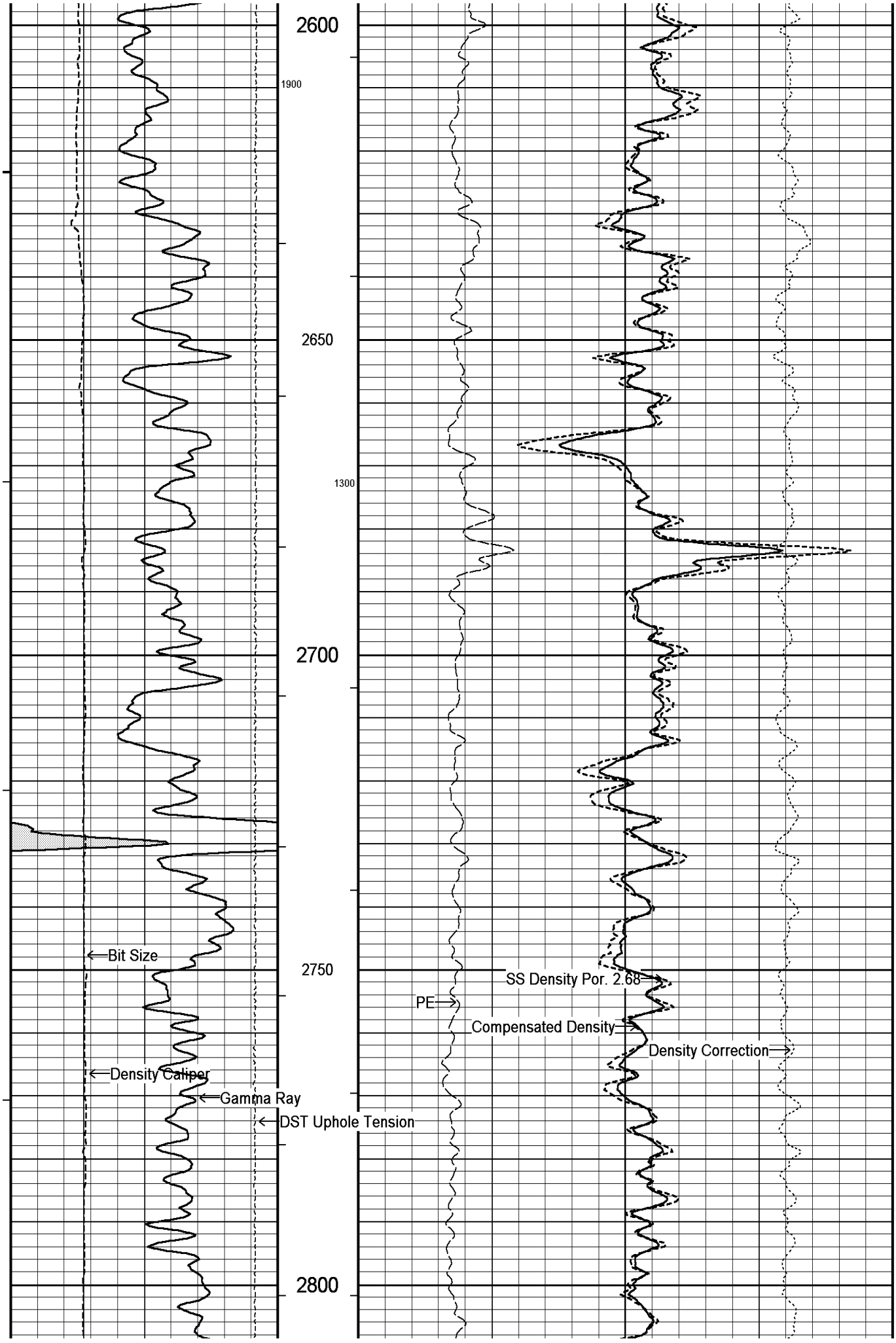

1550
Bit Size
SS Density Por. 2.68
PE
Compensated Density
Density Correction
Density Caliper
Gamma Ray
DST Uphole Tension
1600
1650
2300
1700
1600

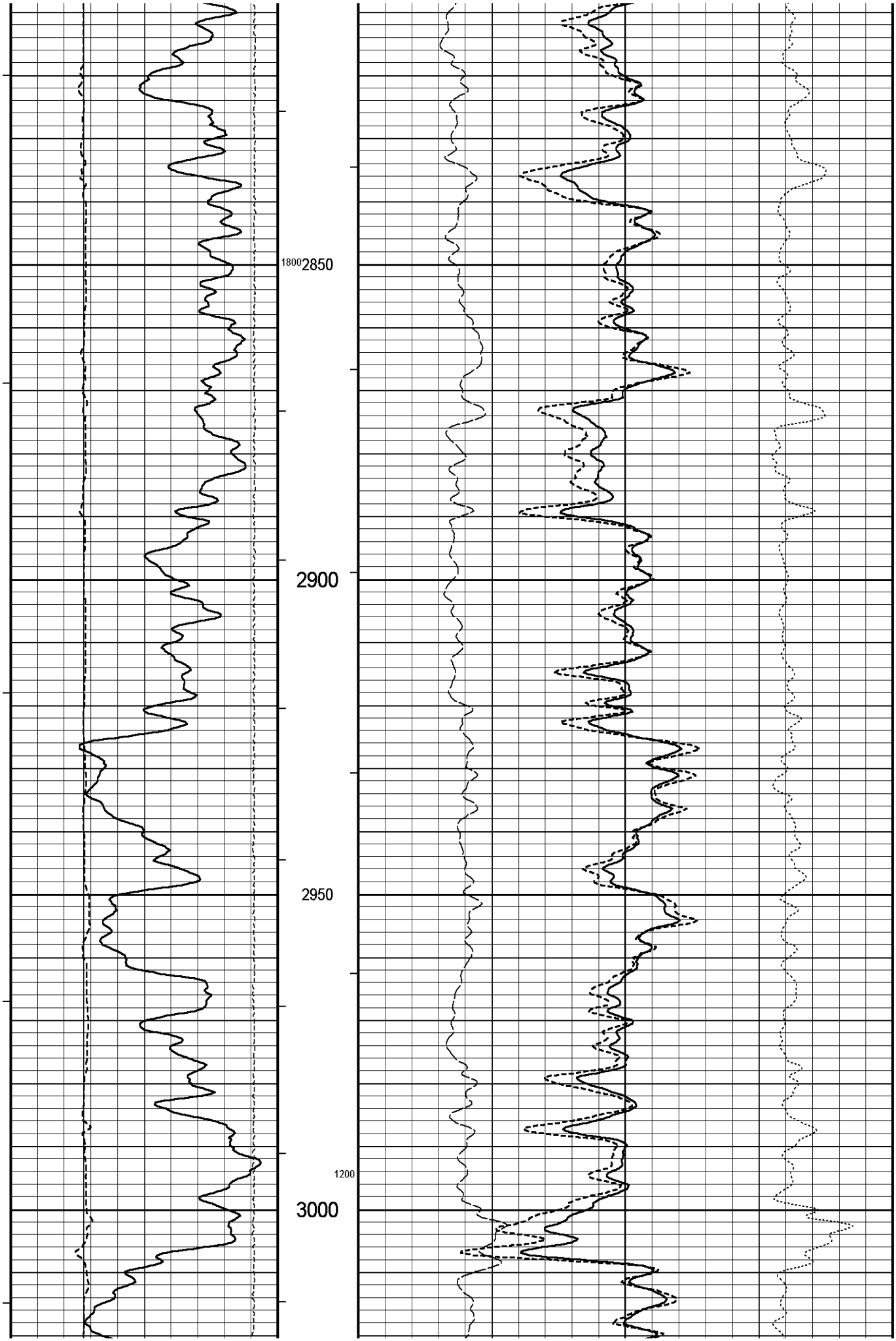

1750
1800
1850
2200
1900
1950
Bit Size

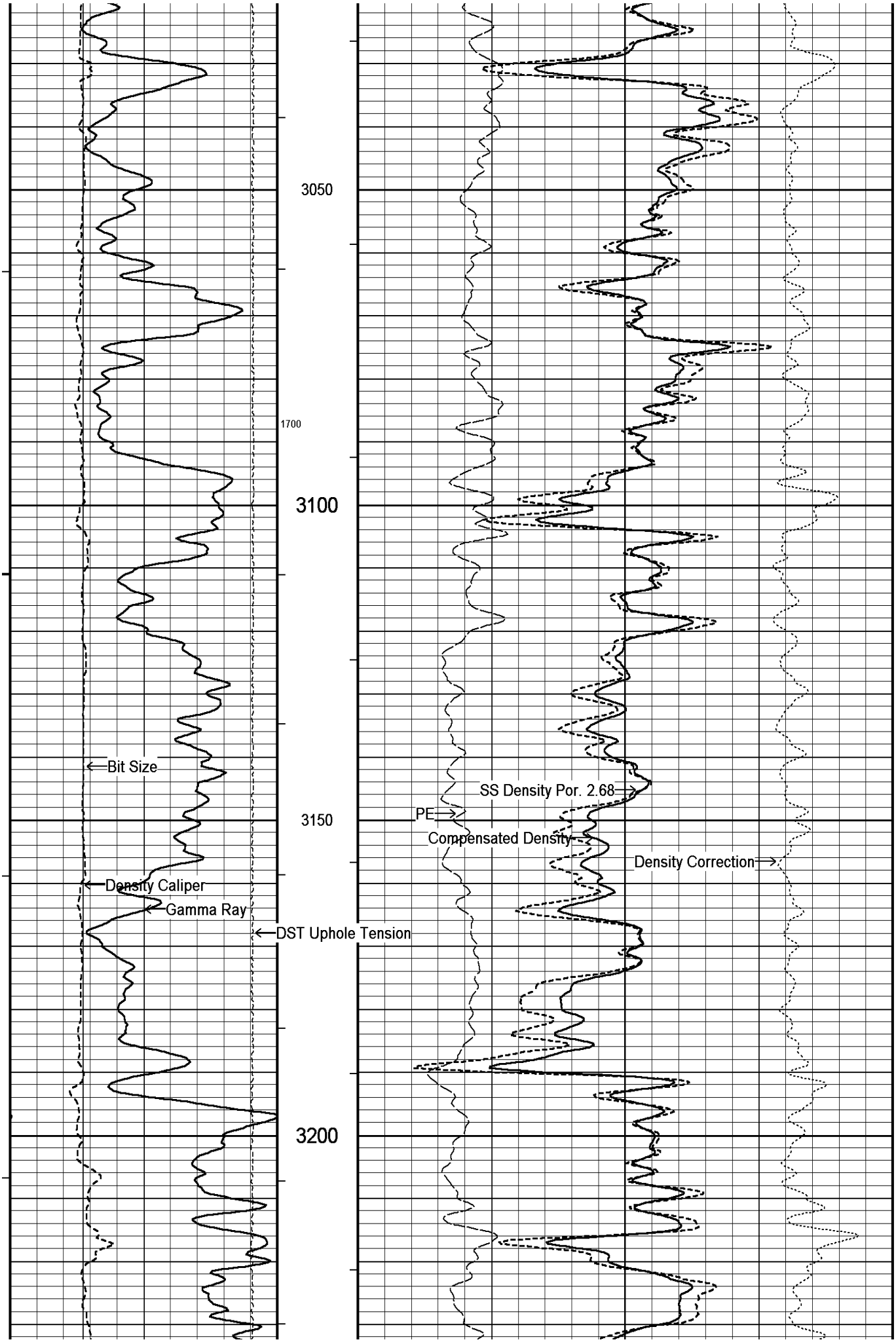

SS Density Por 2.68
PE
Compensated Density
Density Correction
Density Caliper
Gamma Ray
DST Uphole Tension
2000
1500
2050
2100
2100
2150

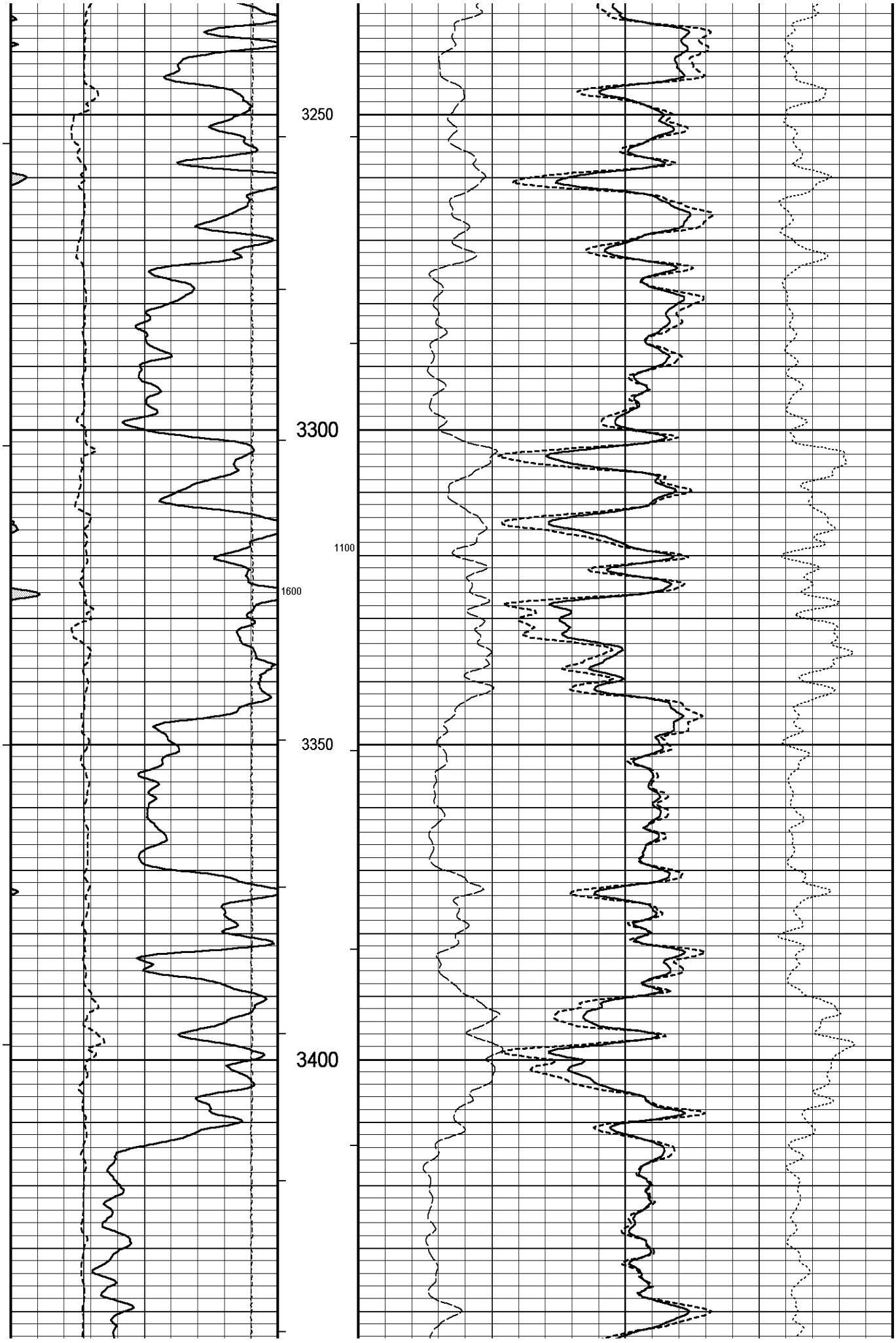

2200
2250
2300
1400
2350
2000
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
SS Density Por. 2.68
PE
Compensated Density
Density Correction

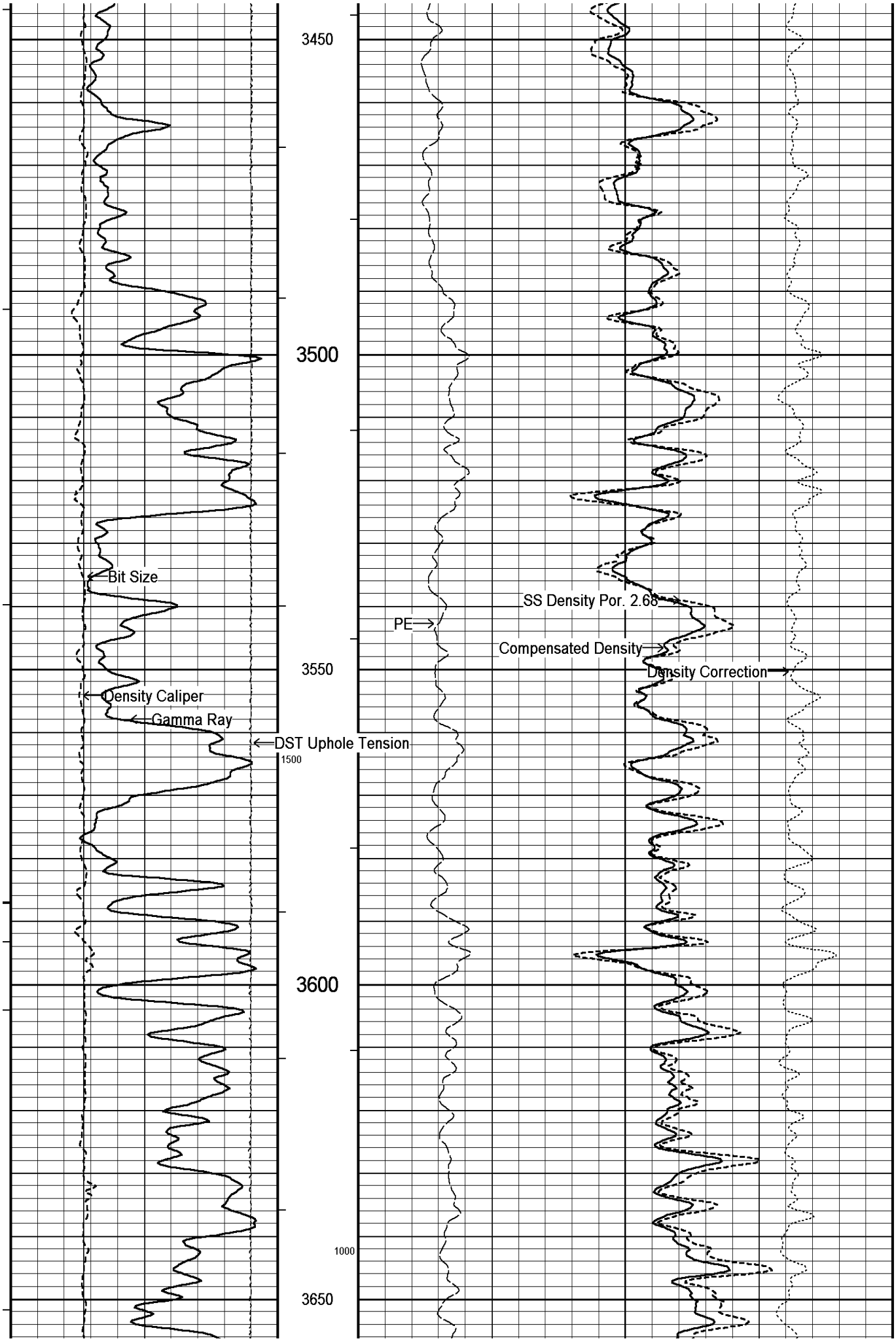

2400
2450
2500
2550

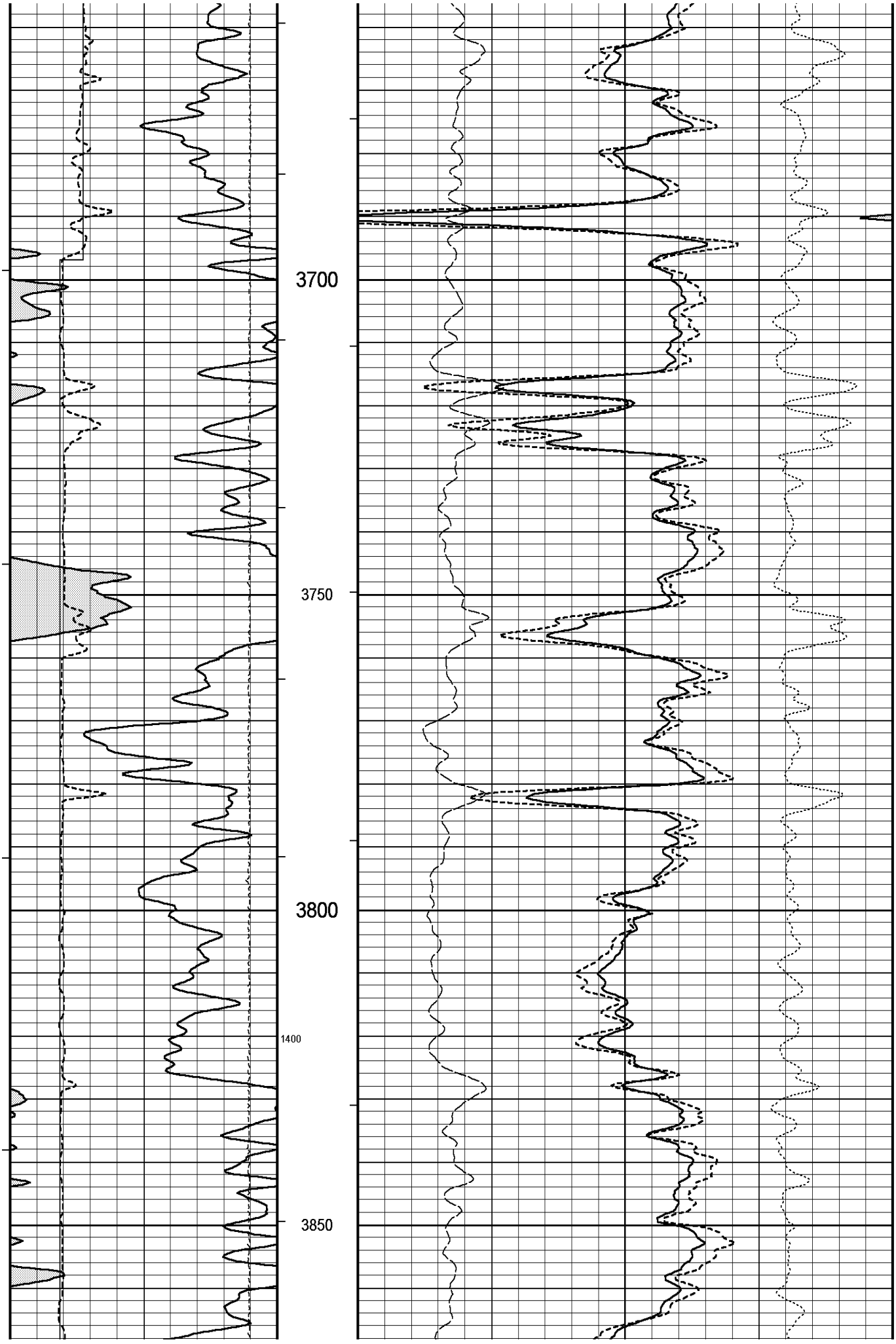

2600
1900
2650
1300
2700
2750
2800
⟸Bit Size
⟸Density Caliper
⟸Gamma Ray
⟸DST Uphole Tension
SS Density Por. 2.68⟹
PE⟹
Compensated Density⟹
Density Correction⟹

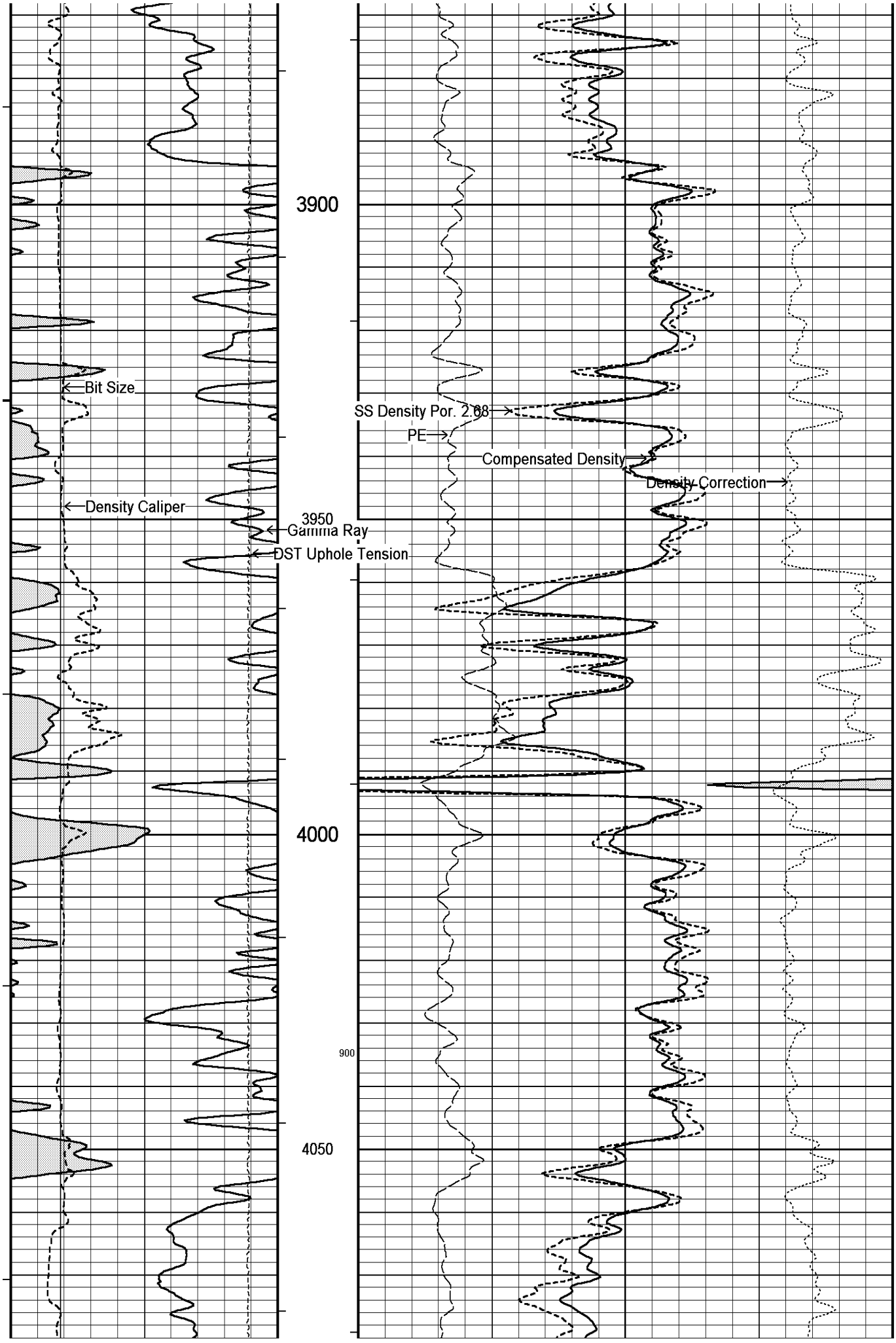

1800
2850
2900
2950
1200
3000

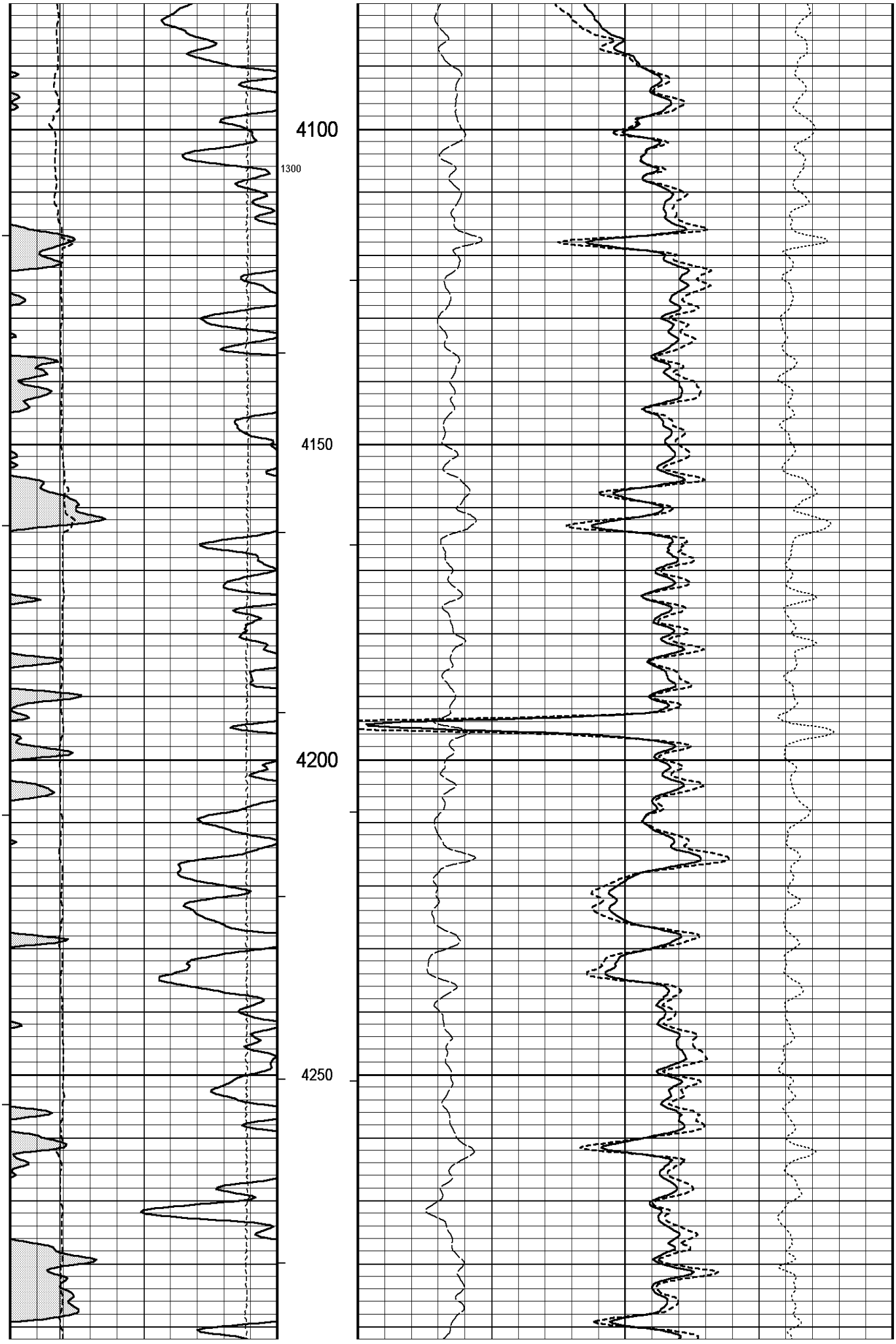

3050
1700
3100
3150
3200
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
SS Density Por. 2.68
PE
Compensated Density
Density Correction


3250
3300
1100
1600
3350
3400


3450
3500
3550
3600
3650
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
1500
1000
PE
SS Density Por. 2.68
Compensated Density
Density Correction


3700
3750
3800
1400
3850


3900
Bit Size
SS Density Por. 2.68
PE
Compensated Density
Density Correction
Density Caliper
3950
Gamma Ray
DST Uphole Tension
4000
900
4050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1300
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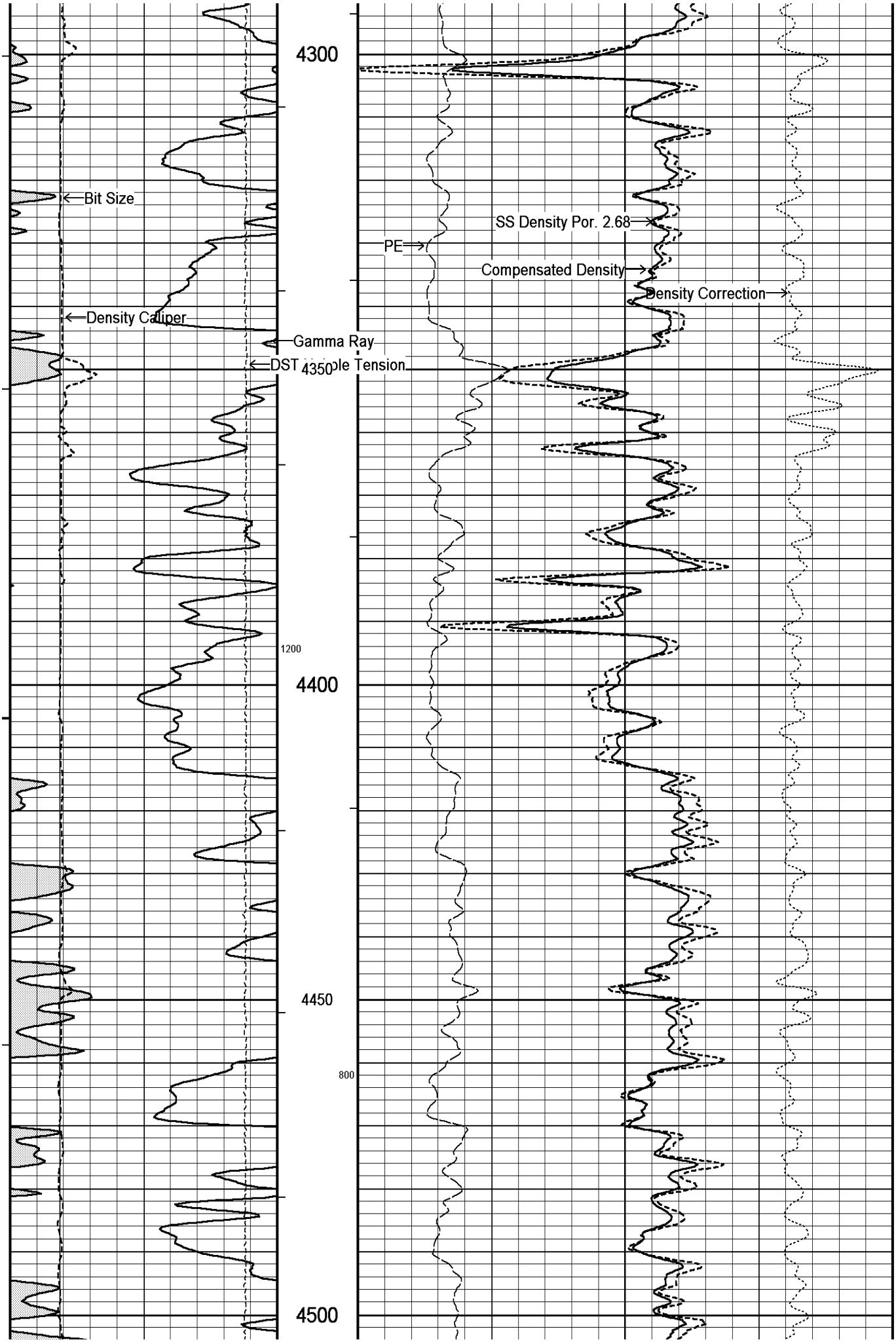
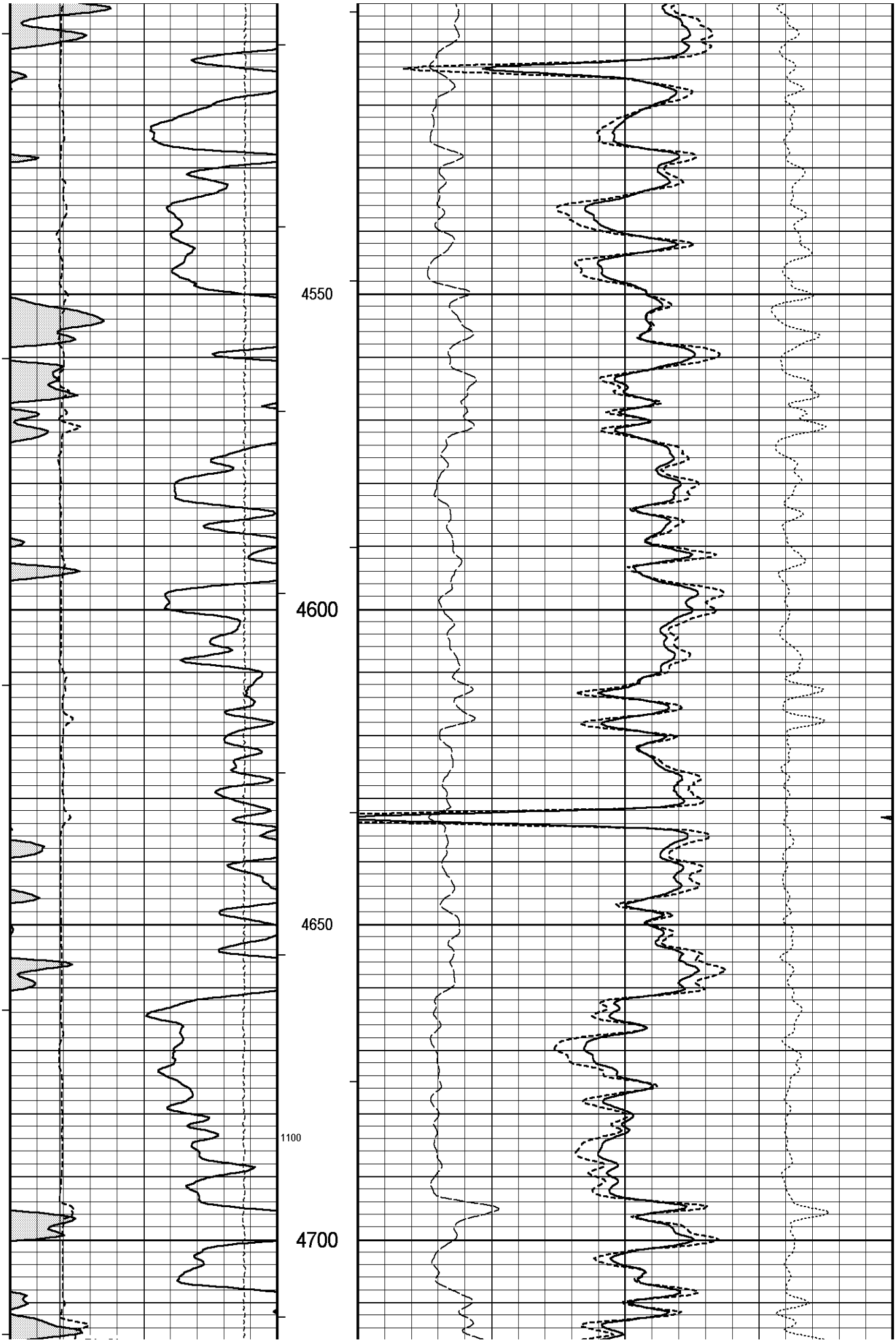
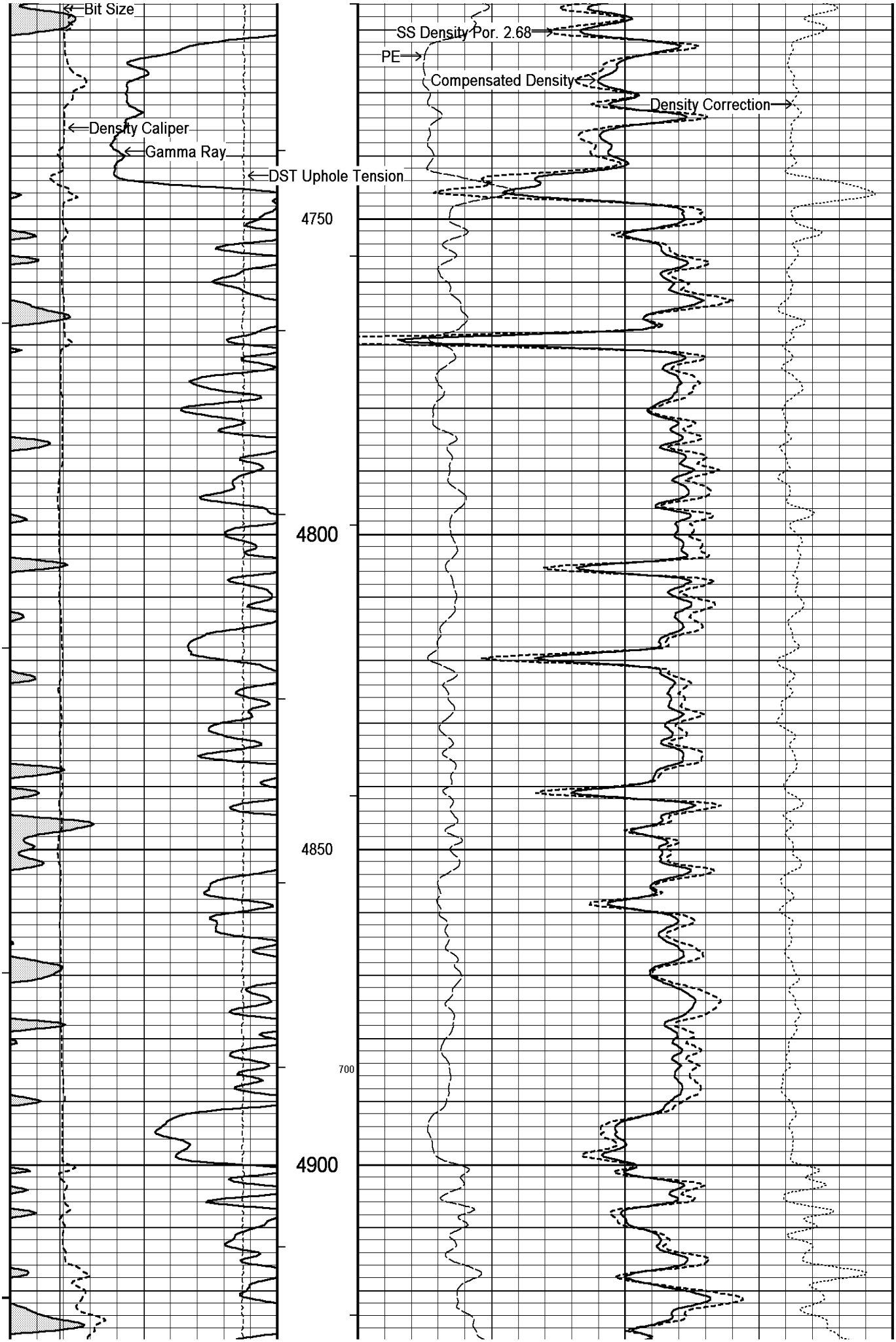
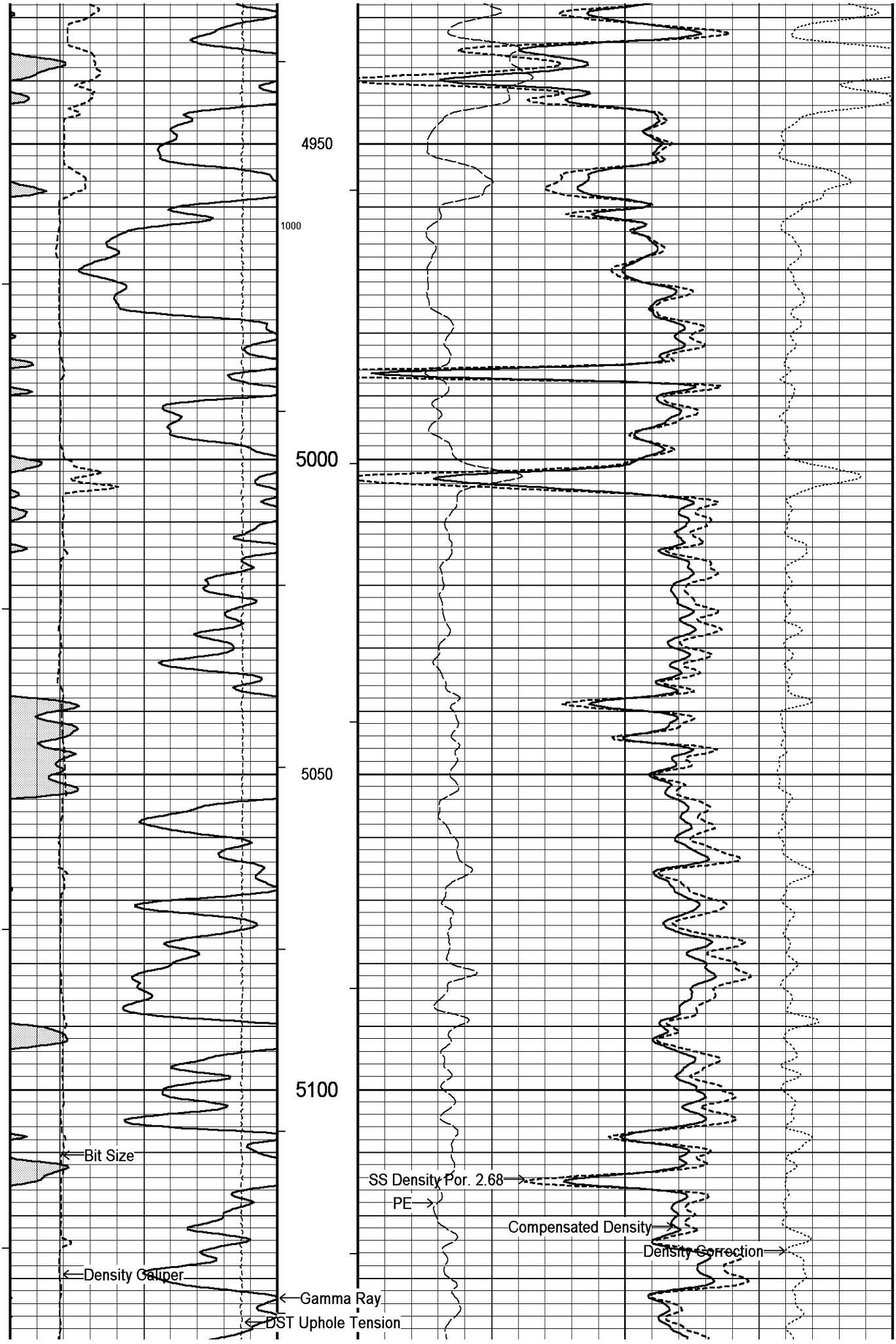
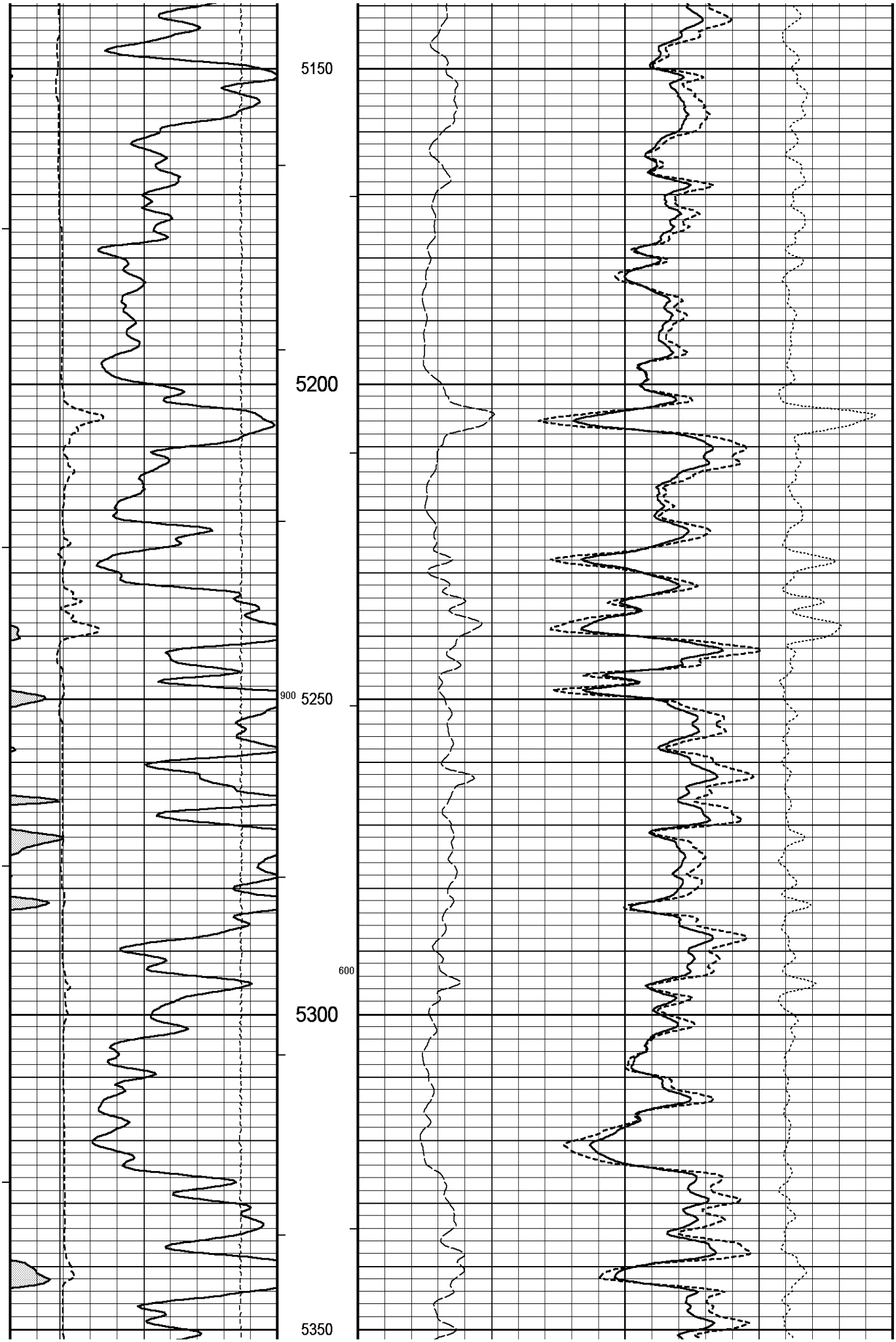
4200
4250

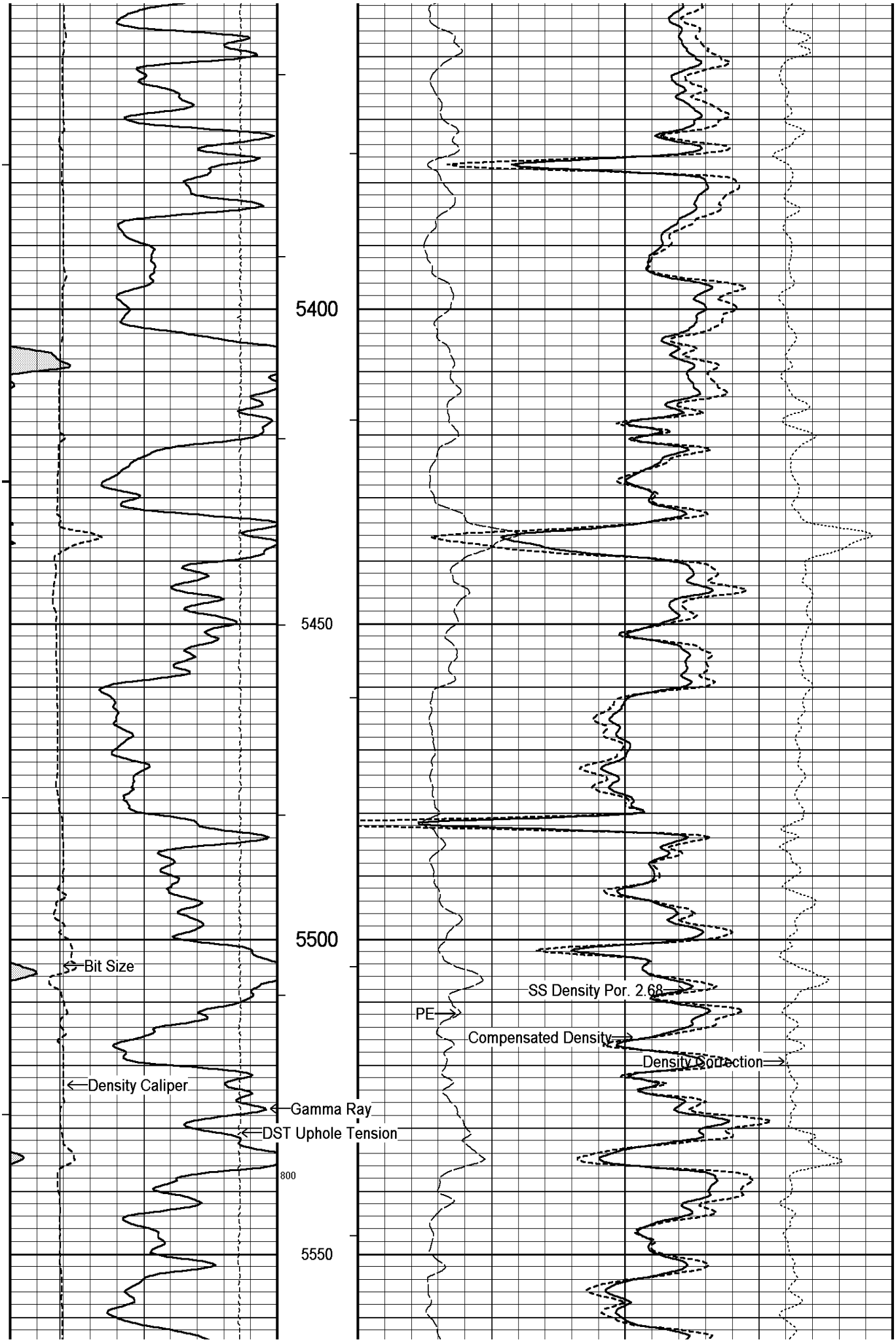

4300
Bit Size
Density Caliper
Gamma Ray
DST
4350
Tension
SS Density Por. 2.68
PE
Compensated Density
Density Correction
1200
4400
4450
800
4500

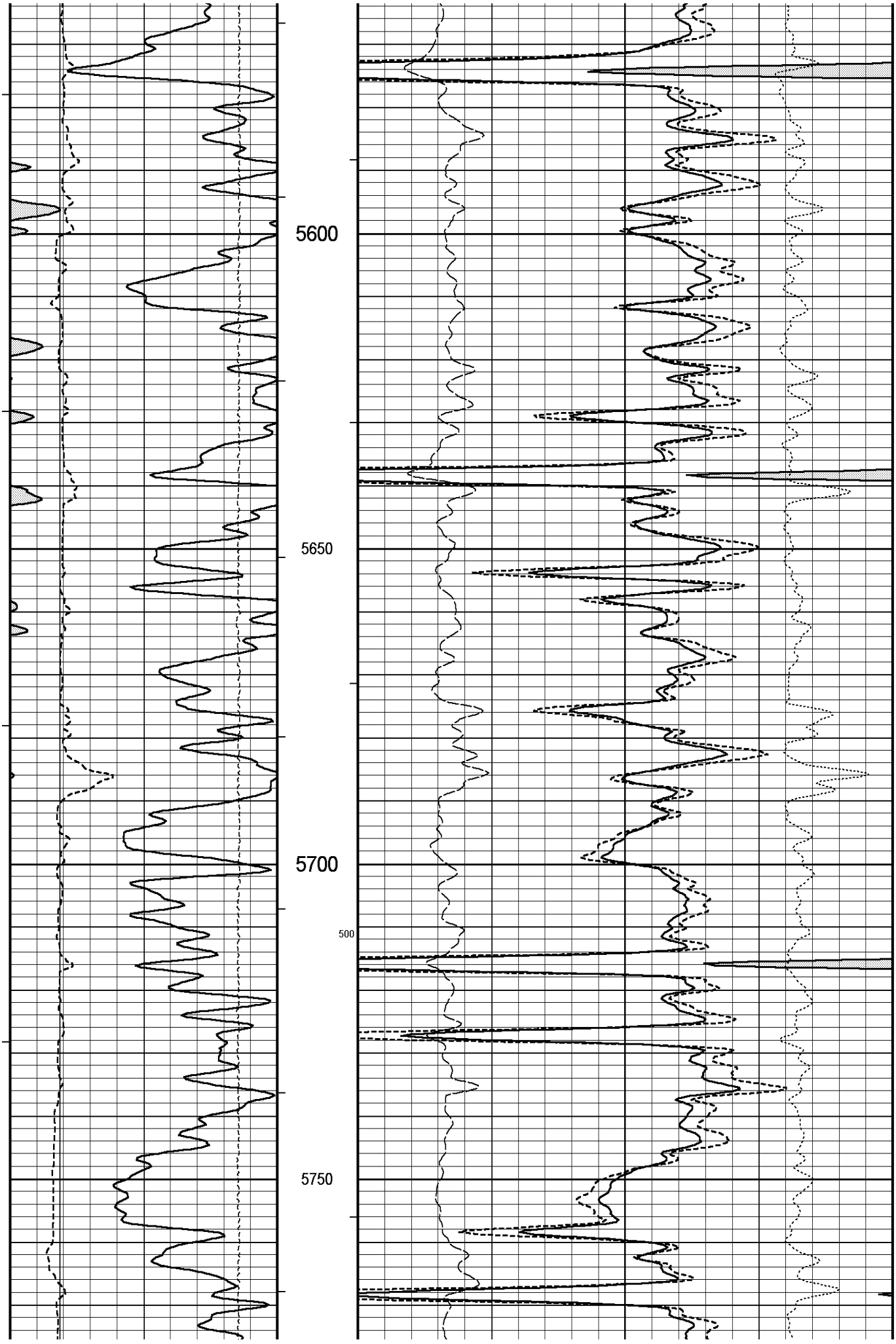

4550
4600
4650
1100
4700

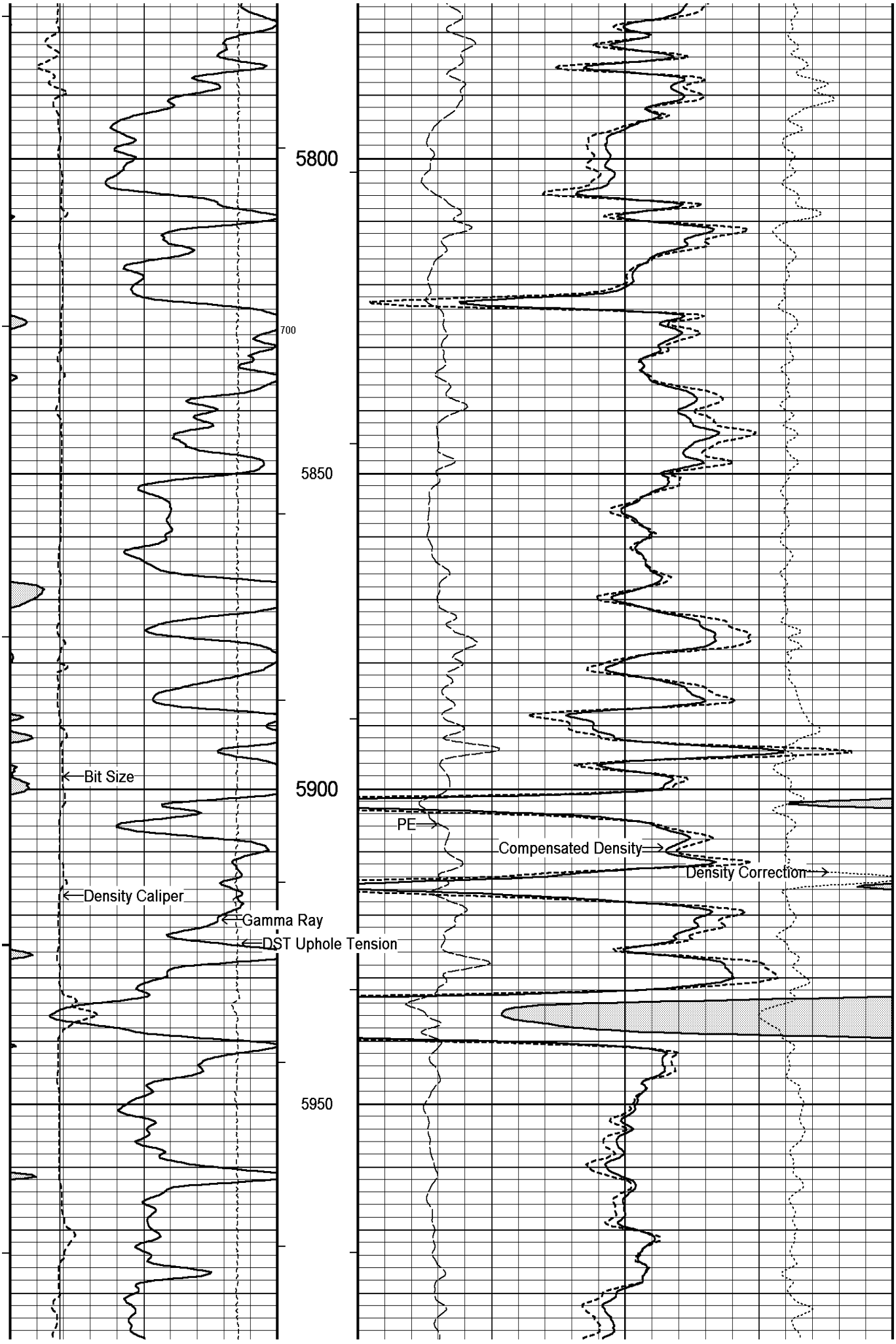

Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
SS Density Por. 2.68
PE
Compensated Density
Density Correction
4750
4800
4850
700
4900

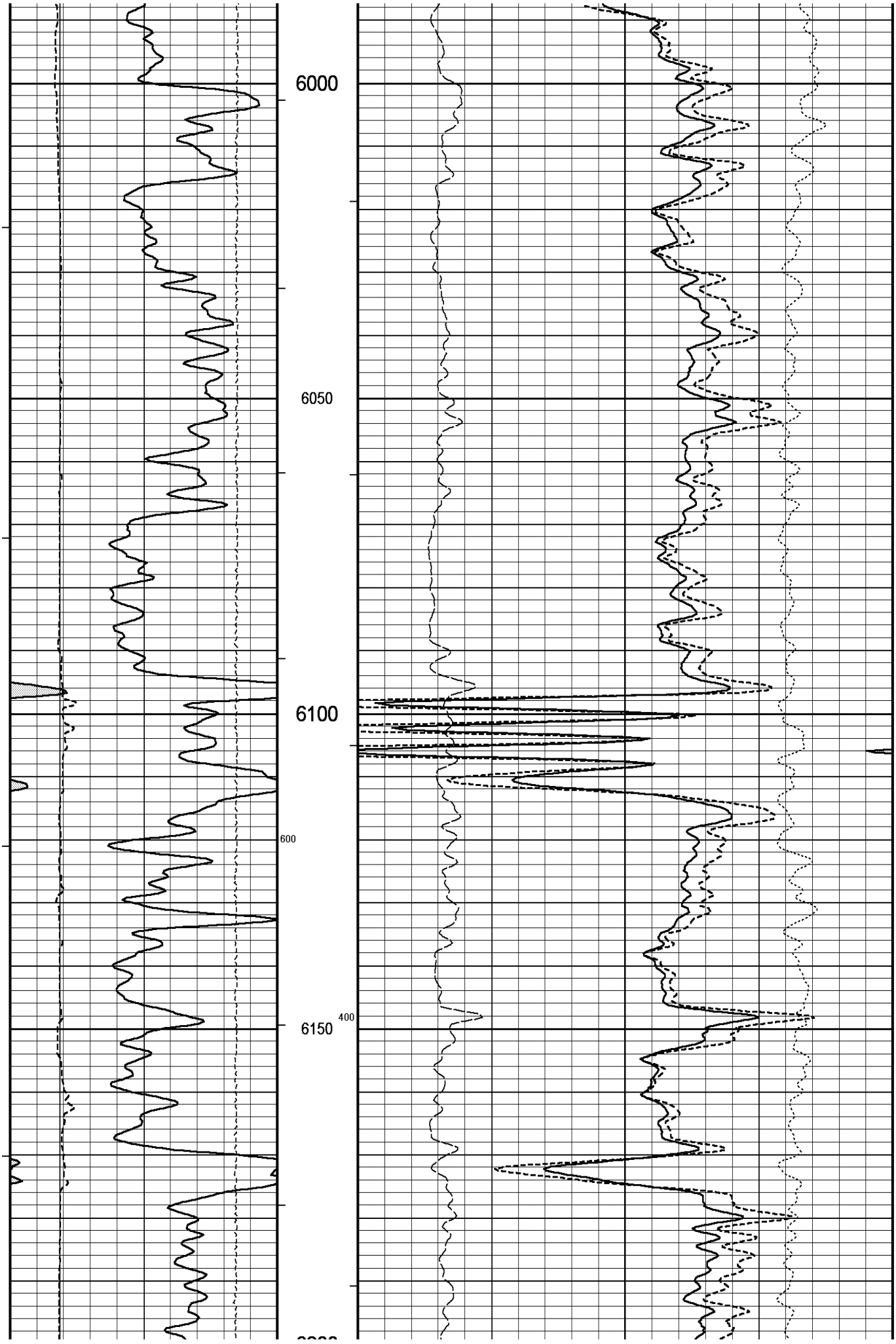

4950
1000
5000
5050
5100
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
SS Density Por. 2.68
PE
Compensated Density
Density Correction

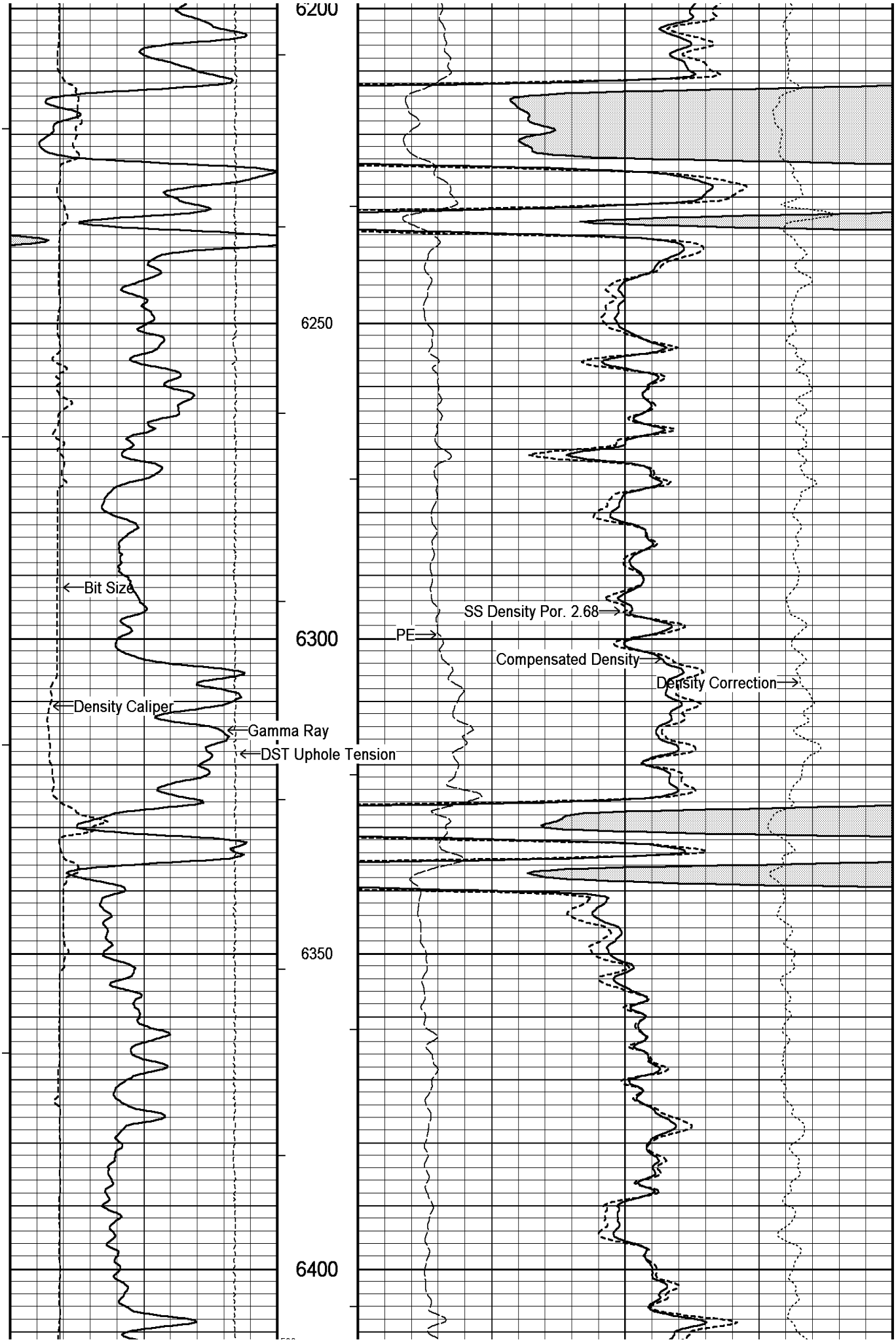

5150
5200
900
5250
600
5300
5350

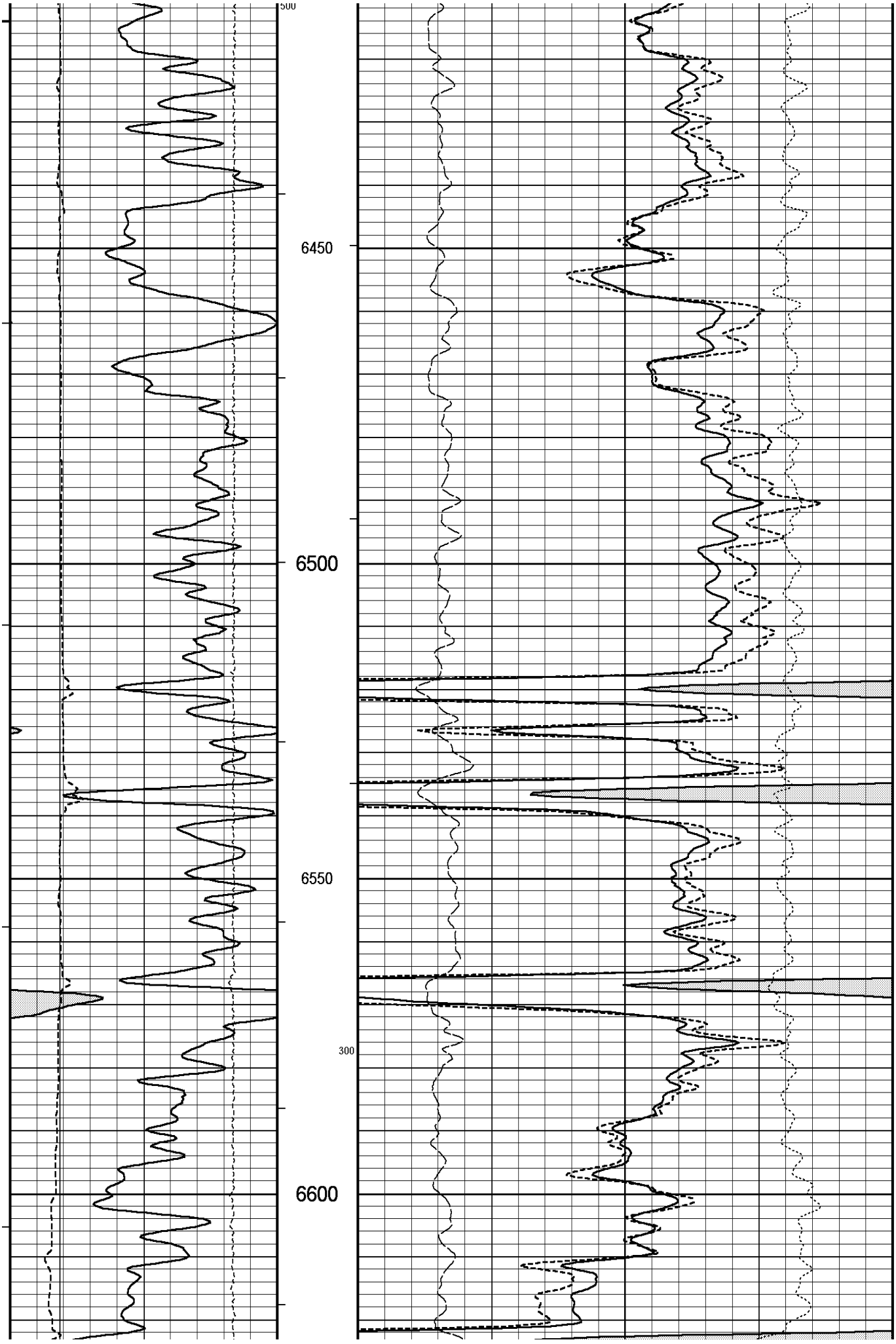

5400
5450
5500
5550
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
800
SS Density Por. 2.68
PE
Compensated Density
Density Correction

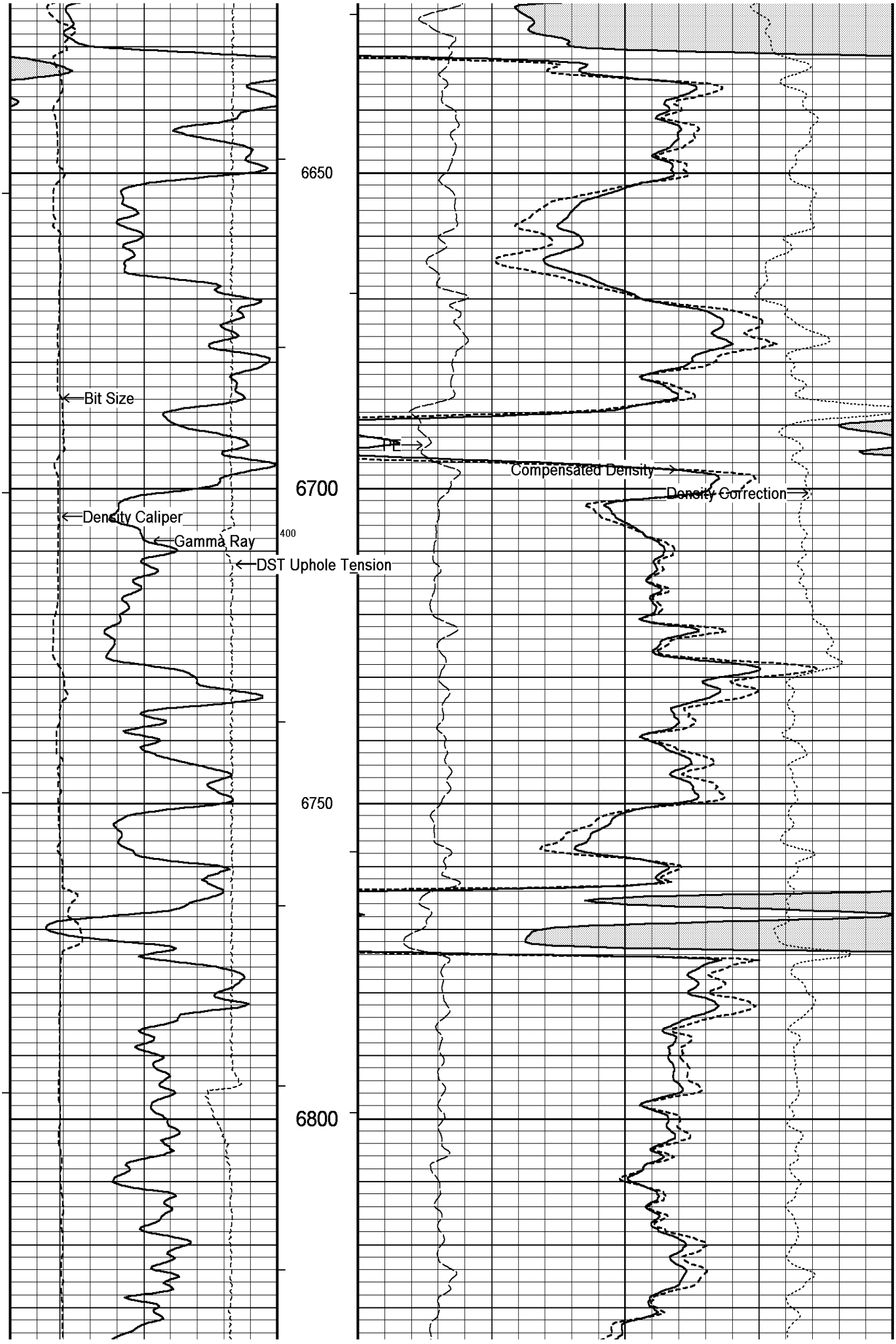

5600
5650
5700
500
5750

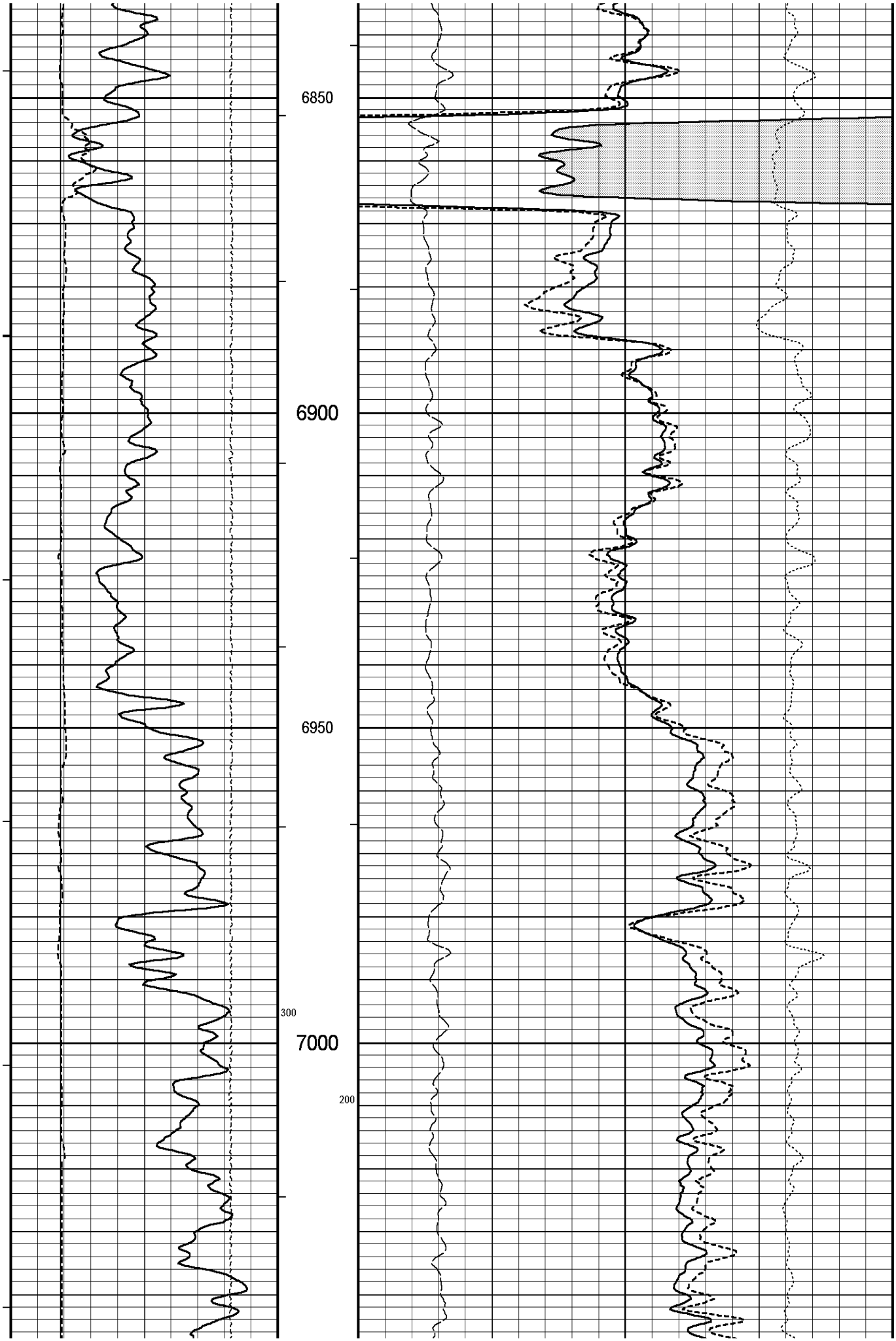

5800
700
5850
5900
5950
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
PE
Compensated Density
Density Correction

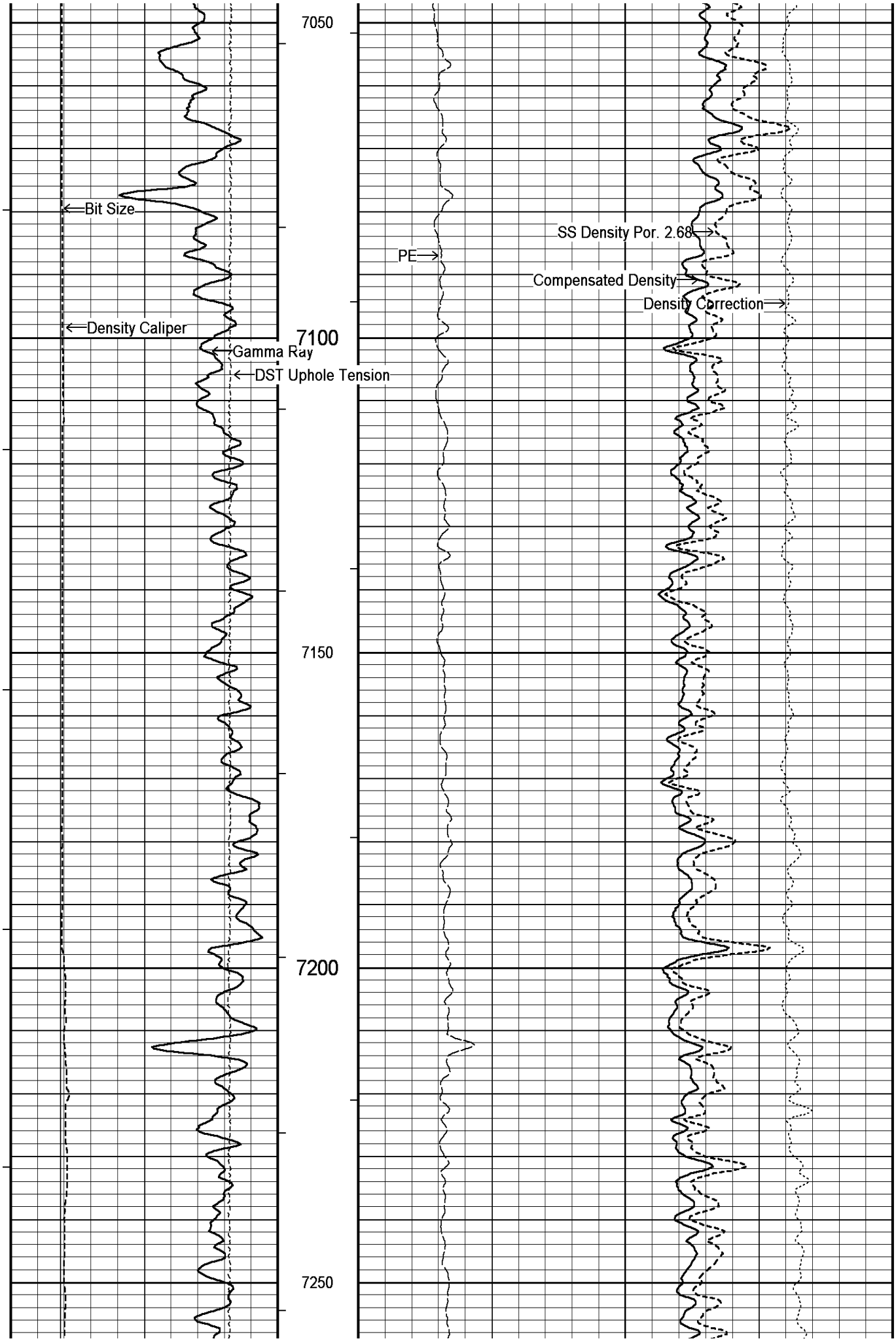

6000
6050
6100
600
6150
400

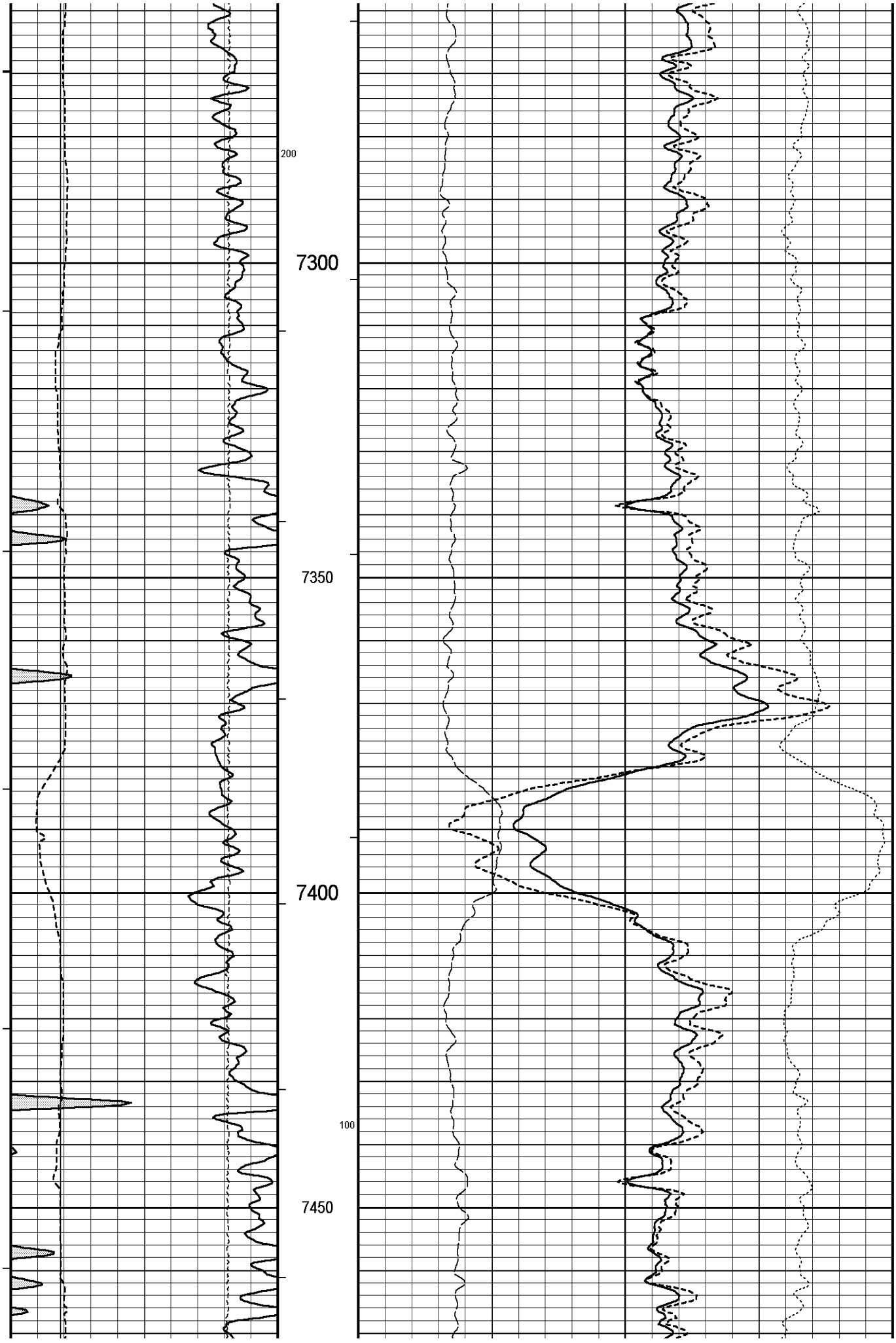

6200
6250
6300
6350
6400
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
SS Density Por. 2.68
PE
Compensated Density
Density Correction

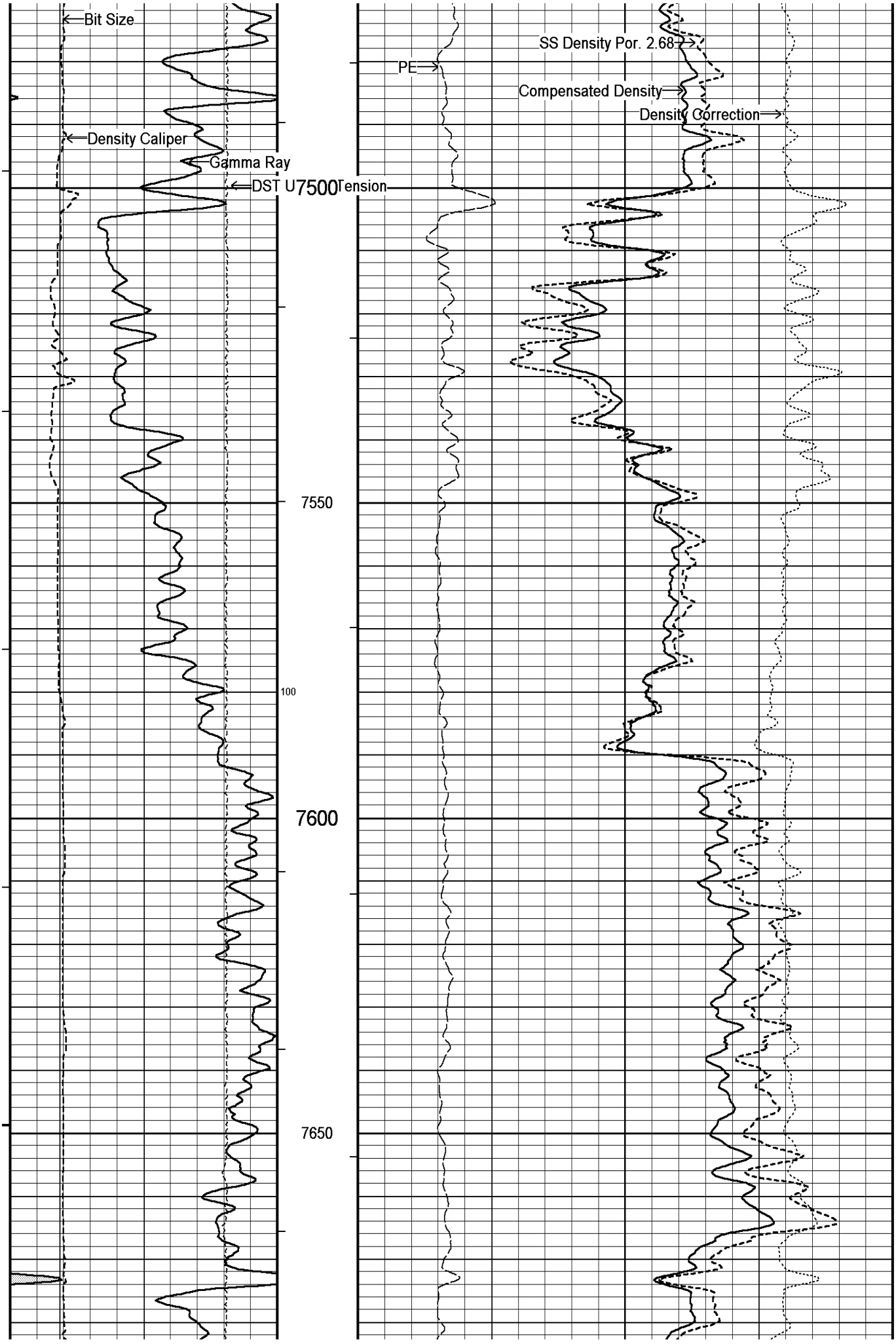

500
6450
6500
6550
300
6600

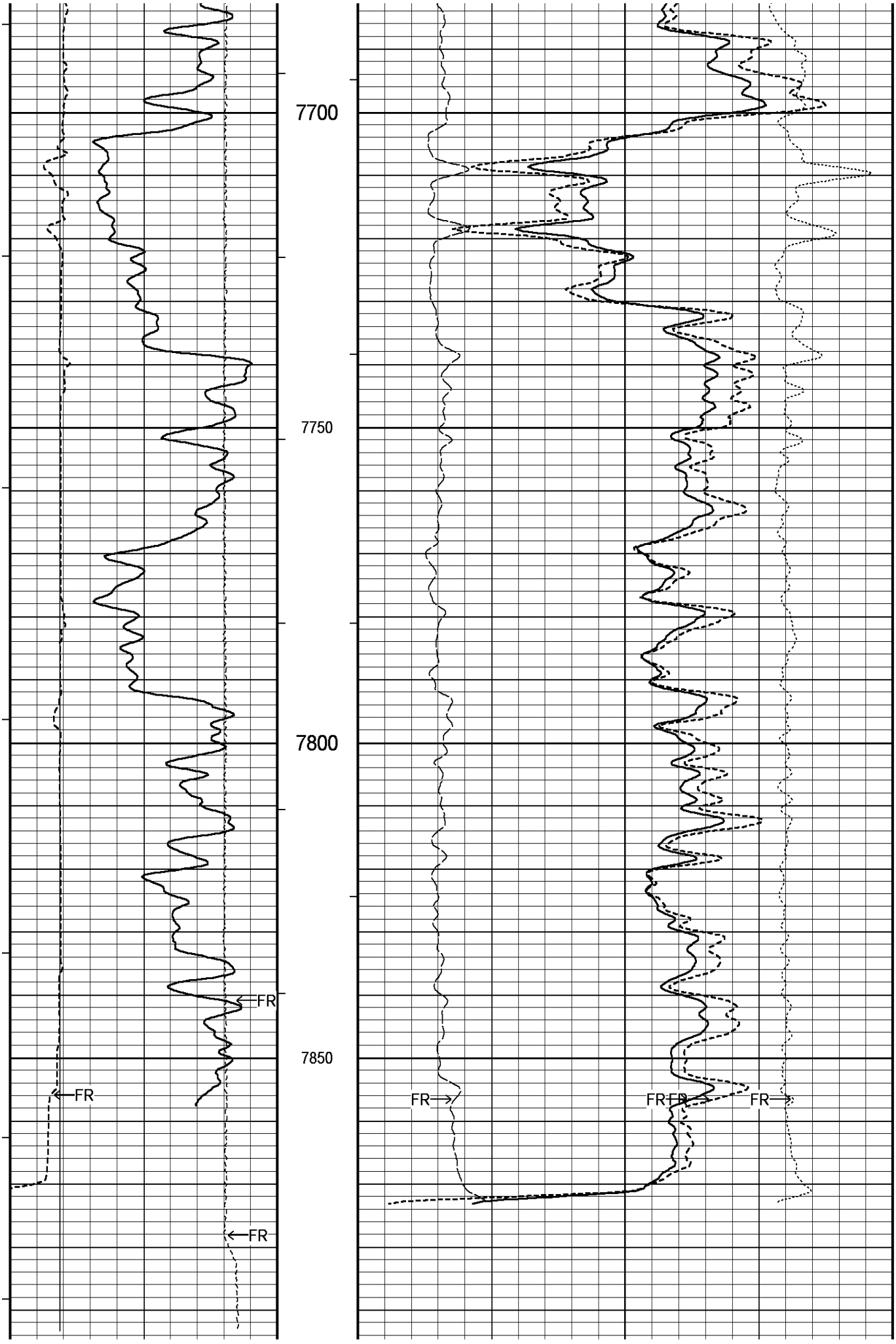

6650
6700
6750
6800
Bit Size
Density Caliper
Gamma Ray
400
DST Uphole Tension
PE
Compensated Density
Density Correction

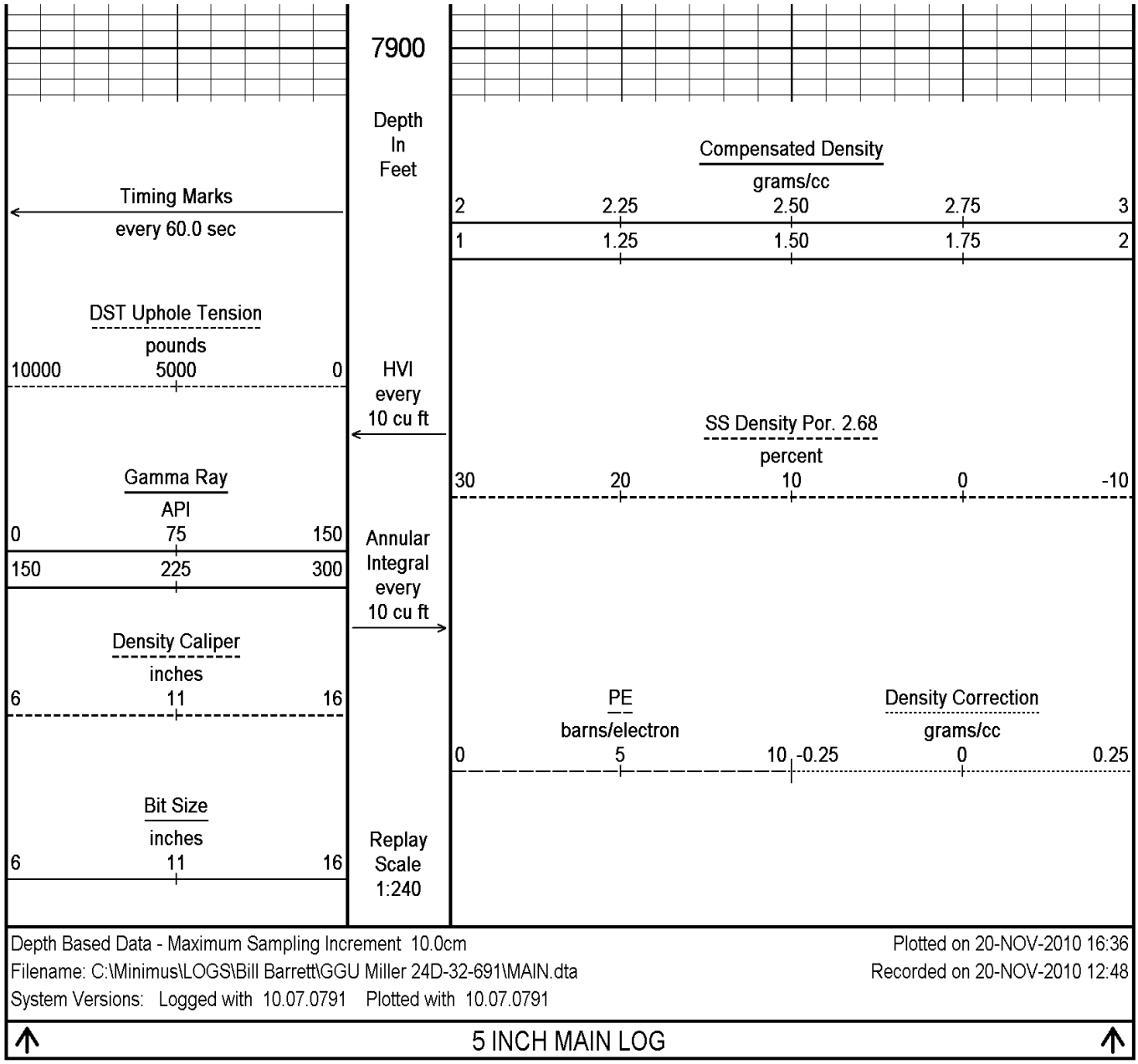

6850
6900
6950
300
7000
200


7050
7100
7150
7200
7250
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
PE
SS Density Por. 2.68
Compensated Density
Density Correction


200
7300
7350
7400
100
7450


Bit Size
Density Caliper
Gamma Ray
DST U
7500
Tension
PE
SS Density Por. 2.68
Compensated Density
Density Correction
7550
100
7600
7650


7700
7750
7800
7850
FR
FR
FR
FR
FR
FR

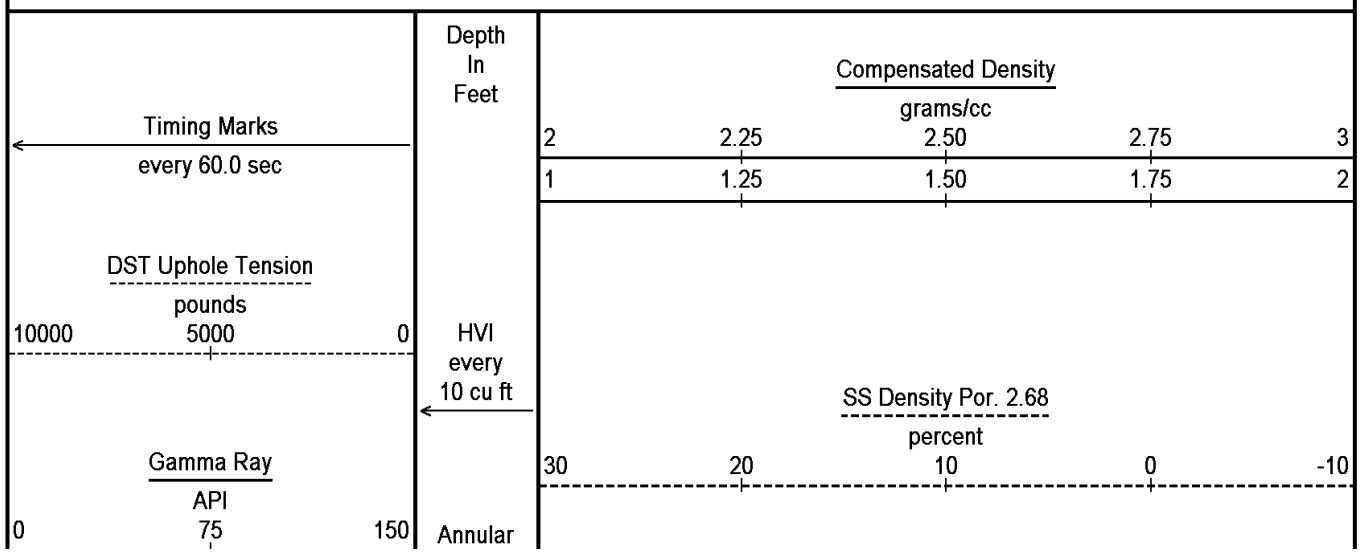


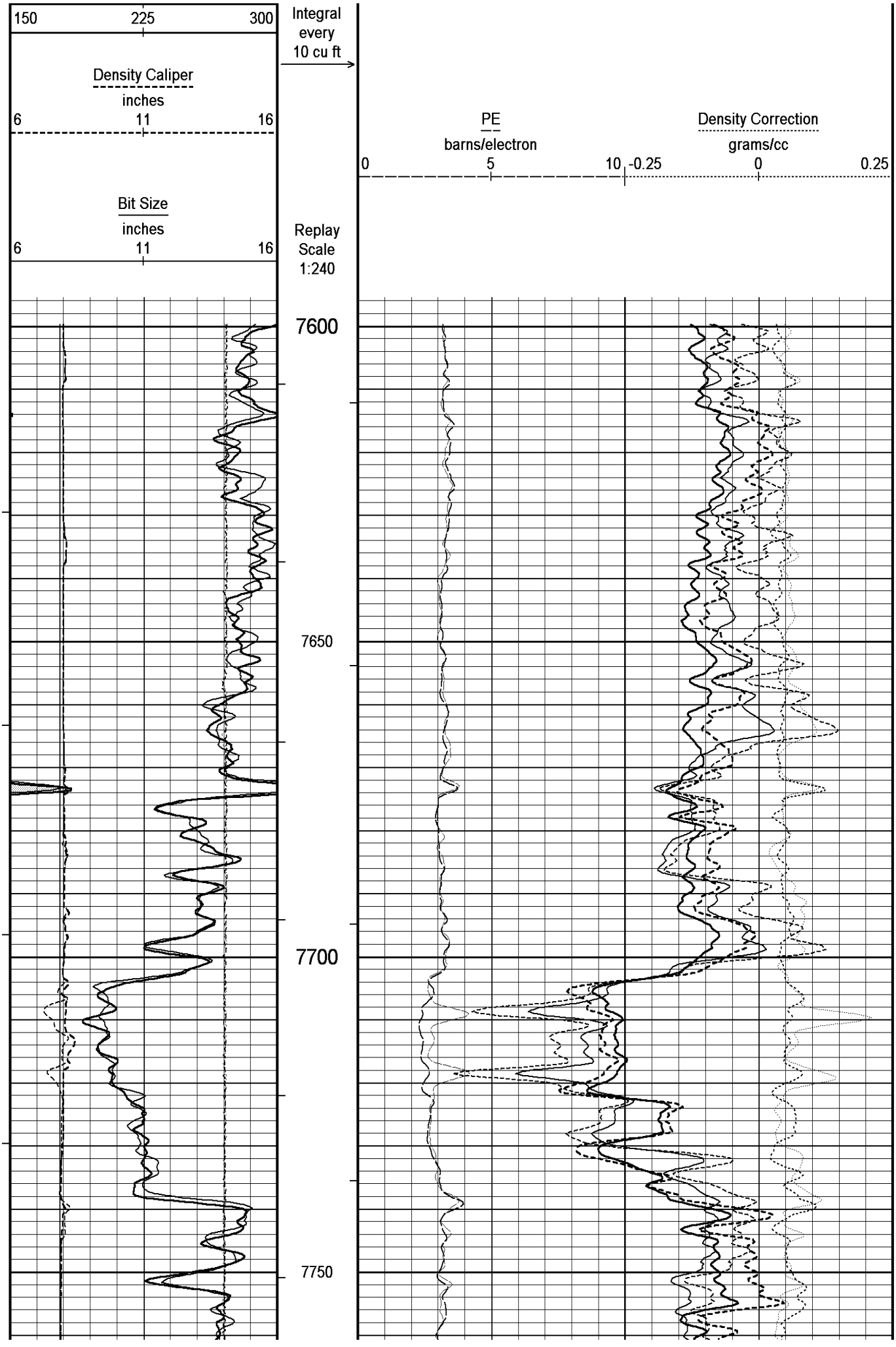
Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 20-NOV-2010 16:36
Filename: C:\Minimus\LOGS\Bill Barrett\GGU Miller 24D-32-691\MAIN.dta — Recorded on 20-NOV-2010 12:48
System Versions: Logged with 10.07.0791 Plotted with 10.07.0791

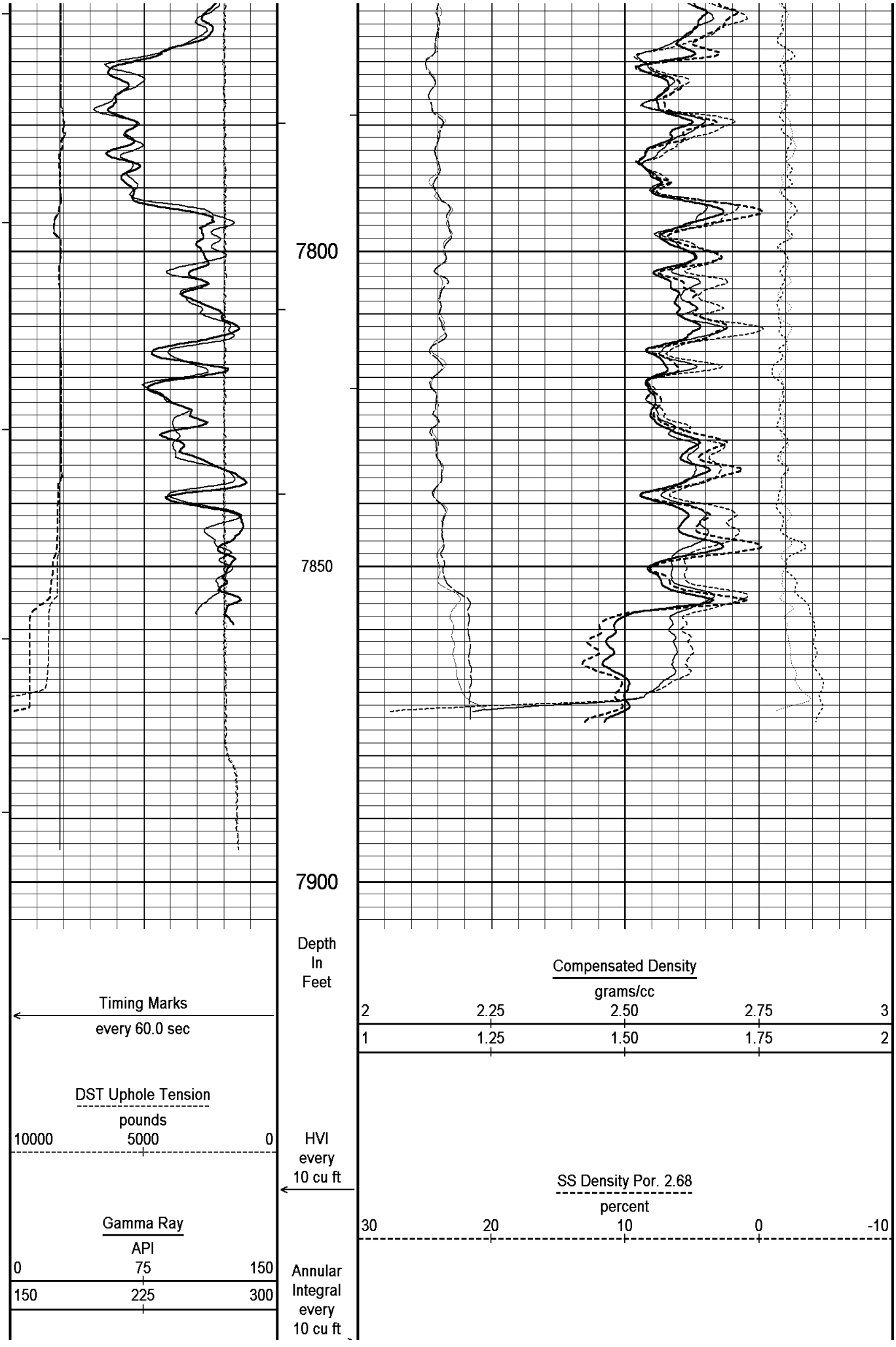
5 INCH MAIN LOG

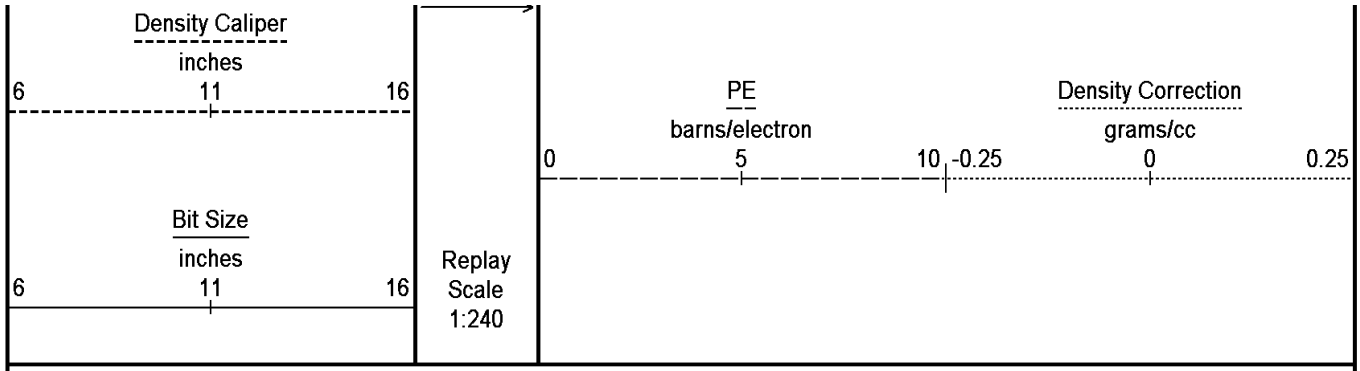
OVERLAY

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 20-NOV-2010 16:36
Filename: C:\Minimus\LOGS\Bill Barrett\GGU Miller 24D-32-691\REPEAT.dta — Recorded on 20-NOV-2010 12:28
Filename: C:\Minimus\LOGS\Bill Barrett\GGU Miller 24D-32-691\MAIN.dta — Recorded on 20-NOV-2010 12:48
System Versions: Logged with 10.07.0791 Plotted with 10.07.0791




150
225
300
Density Caliper
inches
6
11
16
Bit Size
inches
6
11
16
Integral
every
10 cu ft
Replay
Scale
1:240
7600
7650
7700
7750
PE
barns/electron
0
5
10
Density Correction
grams/cc
-0.25
0
0.25


7800
7850
7900
Depth
In
Feet
Timing Marks
every 60.0 sec
DST Uphole Tension
pounds
10000
5000
0
HVI
every
10 cu ft
Gamma Ray
API
0
75
150
150
225
300
Annular
Integral
every
10 cu ft
Compensated Density
grams/cc
2
2.25
2.50
2.75
3
1
1.25
1.50
1.75
2
SS Density Por. 2.68
percent
30
20
10
0
-10



Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 20-NOV-2010 16:36
Filename: C:\Minimus\LOGS\Bill Barrett\GGU Miller 24D-32-691\REPEAT.dta — Recorded on 20-NOV-2010 12:28
Filename: C:\Minimus\LOGS\Bill Barrett\GGU Miller 24D-32-691\MAIN.dta — Recorded on 20-NOV-2010 12:48
System Versions: Logged with 10.07.0791 Plotted with 10.07.0791

OVERLAY

BEFORE SURVEY CALIBRATION

C:\Minimus\LOGS\Bill Barrett\GGU Miller 24D-32-691\REPEAT.dta

General Constants All 000

Last Edited on 20-NOV-2010,11:53

General Parameters		
Mud Resistivity	1.810	ohm-metres
Mud Resistivity Temperature	90.000	degrees F
Water Level	0.000	feet
Density/Neutron Processing	Wet Hole	
Hole/Annular Volume and Differential Caliper Parameters		
HVOL Caliper 1	Density Caliper	
HVOL Caliper 2	None	
Annular Volume Diameter	4.500	inches
Caliper for Differential Caliper	None	
Rwa Parameters		
Porosity used	Base Density Porosity	
Resistivity used	Array Ind. One Res Rt	
RWA Constant A	0.610	
RWA Constant M	2.150	

Down-hole Tension Calibration SMS 000

Field Calibration on 20-NOV-2010 11:09

Reading No	Measured	Calibrated (lbs)
1	15548.93	0.00
2	17625.57	365.00

High Resolution Temperature Calibration MCG 287

Field Calibration on 20-NOV-2010,11:20

	Measured	Calibrated(Deg F)
Lower	10.00	10.00
Upper	100.00	100.00

High Resolution Temperature Constants MCG 287

Last Edited on 27-OCT-2010,11:54

Pre-filter Length	11

SP Calibration MCG 287

Field Calibration on 20-NOV-2010,11:20

	Measured	Calibrated (mV)
Reference 1	95.0	104.2
Reference 2	-87.4	-104.5

Gamma Calibration MCG 287

Field Calibration on 20-NOV-2010,11:20

	Measured	Calibrated (API)
Background	90	62

Calibrator (Gross)	848	589
Calibrator (Net)	759	527

Gamma Constants MCG 287

Last Edited on 20-NOV-2010,11:19

Gamma Calibrator Number	GRC-174	
Mud Density	1.00	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl	0.00	kppm

Neutron Calibration MDN 112

Base Calibration on 25-OCT-2010,16:11
Field Check on 20-NOV-2010,11:18

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	3130	99	3714	110
Ratio	31.503		33.764	

Field Calibrator at Base

	Calibrated (cps)	
	2252	3194
Ratio	0.705	

Field Check

	Calibrated (cps)	
	2249	3167
Ratio	0.710	

Neutron Constants MDN 112

Last Edited on 20-NOV-2010,09:37

Neutron Source Id	P44384	
Neutron Jig Number	NJ6584	
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	7.00	cu
Dolomite Sigma	4.70	cu
Formation Pressure Source	None	
Formation Pressure	N/A	kpsi
Temperature Source	None	
Temperature	N/A	degrees F
Mud Salinity	1.00	kppm
Formation Fluid Salinity Source	None	
Formation Fluid Salinity	N/A	kppm
Barite Mud Correction	Not Applied	

FE Calibration MFE 179

Base Calibration on 15-OCT-2010 11:16
Field Check on 20-NOV-2010 11:13

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	962.4	126.8
Base Check		280.5
Field Check		280.7

FE Constants MFE 179

Last Edited on 20-NOV-2010,09:40

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 106

Field Calibration on 20-NOV-2010,11:12

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

High Resolution Temperature Constants MAI 106

Last Edited on 10-NOV-2010,07:35

Pre-filter Length	11

Induction Calibration MAI 106

Base Calibration on
Field Check on 20-NOV-2010 11:12

Base Calibration

Test Loop Calibration

Channel	Measured Low	Measured High	Calibrated (mmho/m) Low	Calibrated (mmho/m) High
1	16.5	486.3	9.3	966.2
2	5.8	391.9	7.6	821.4
3	3.0	262.9	5.2	566.0
4	1.4	138.3	2.6	279.2

Array Temperature	74.6	Deg F

Channel	Base Check (mmho/m) Low	Base Check (mmho/m) High	Field Check (mmho/m) Low	Field Check (mmho/m) High
1	0.0	0.0	15.5	3750.1
2	0.0	0.0	31.1	3456.0
3	0.0	0.0	29.9	3023.2
4	0.0	0.0	20.2	2003.0
Deep	0.0	0.0	18.7	1962.6
Medium	0.0	0.0	43.2	4027.1
Shallow	0.0	0.0	45.8	5109.9
Array Temperature	0.0		82.0	Deg F

Induction Constants MAI 106

Last Edited on 20-NOV-2010,09:41

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	0.50	inches
Number of Fins on Stand-off	6.0000	
Stand-off Fin Angle	60.00	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 220

Base Calibration on 27-OCT-2010,18:51
Field Calibration on 20-NOV-2010,09:38

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	14272	4.00
2	22416	5.96
3	30368	7.98
4	38432	9.86
5	47536	11.88
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
8.90	8.93

Photo Density Calibration MPD 220

Base Calibration on 27-OCT-2010 19:35
Field Check on 20-NOV-2010 11:18

Density Calibration

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	52933	16878	53237	19445
Reference 2	24114	2409	25135	2545

Field Check at Base

1196.9	1213.9

Field Check

1191.4	1210.9

PE Calibration

Base Calibration	Measured			Calibrated
	WS	WH	Ratio	Ratio
Background	215	1060		
Reference 1	17971	52737	0.344	0.320
Reference 2	6633	23964	0.280	0.274

Field Check at Base

214.5	1059.9

Field Check

214.6	1055.3

Density Constants MPD 220

Last Edited on 20-NOV-2010,09:39

Density Source Id	P44263B	
Nylon Calibrator Number	532	
Aluminium Calibrator Number	532	
Density Shoe Profile	8 inch	
Caliper Source for Processing	Density Caliper	
PE Correction to Density	Not Applied	
Mud Density	1.28	gm/cc
Mud Density Z/A Correction	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)
2.68	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

AFTER SURVEY CALIBRATION

C:\Minimus\LOGS\Bill Barrett\GGU Miller 24D-32-691\MAIN.dta

FE Check MFE 179

Before Survey Check 20-NOV-2010 11:13
After Survey Check on 20-NOV-2010 15:53

	Before (ohm-m)	After (ohm-m)
	280.7	280.7

Induction Check MAI 106

Before Survey Check on
After Survey Check on 20-NOV-2010 15:51

Channel	Before Survey (mmho/m)		After Survey (mmho/m)		
	Low	High	Low	High	
1	0.0	0.0	15.5	3750.2	
2	0.0	0.0	31.1	3456.0	
3	0.0	0.0	29.9	3023.2	
4	0.0	0.0	20.3	2002.9	
Deep	0.0	0.0	18.8	1962.6	
Medium	0.0	0.0	43.2	4027.2	
Shallow	0.0	0.0	45.8	5109.8	
Array Temperature		0.0		81.0	Deg F

Photo Density Check MPD 220

Before Survey Check on 20-NOV-2010 11:18
After Survey Check on 20-NOV-2010 15:57

Density Check

Near		Far	
Before	After	Before	After
1191.4	1189.6	1210.9	1204.9

PE Check

	Before	After
WS	214.6	213.2
WH	1055.3	1053.6

DOWNHOLE EQUIPMENT

C:\Minimus\LOGS\Bill Barrett\GGU Miller 24D-32-691\MAIN.dta

3/8" Triple Cone Cable Head (MCB C A)
MCB 5 Length: 1.58 ft Weight: 15.4 lb

SHA-J.A Compact Swivel Head Adaptor
SHA 213 Length: 2.30 ft Weight: 22.0 lb

Compact Gamma
MCG 287 Length: 8.70 ft Weight: 63.9 lb

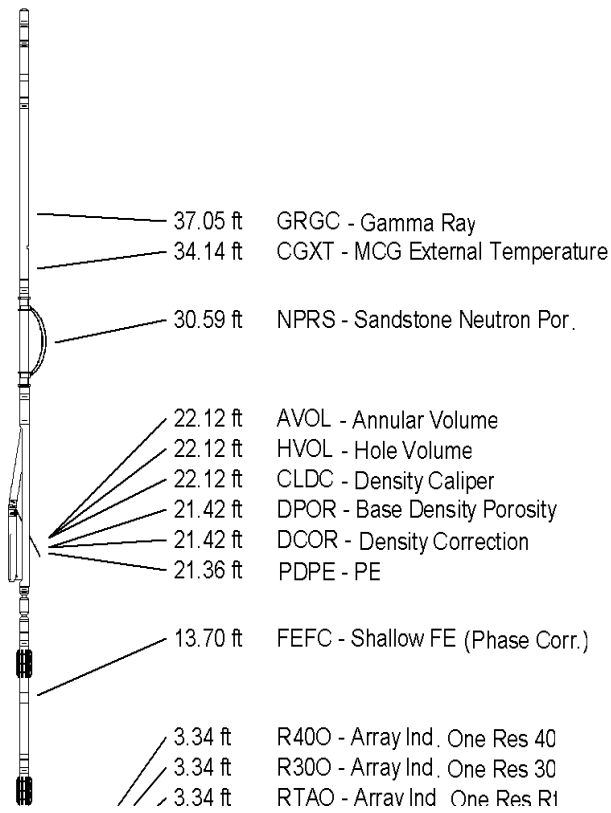
Compact Neutron
MDN 112 Length: 5.04 ft Weight: 50.7 lb

Compact Density/Caliper
MPD 220 Length: 9.59 ft Weight: 90.4 lb

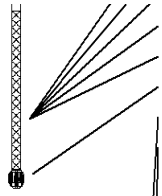
SKJ-D.A Compact Knuckle Joint
SKJ 154 Length: 2.17 ft Weight: 24.3 lb

Compact Focussed Electric
MFE 179 Length: 6.03 ft Weight: 48.5 lb

Compact Induction
MAI 106 Length: 10.81 ft Weight: 48.5 lb



Total Length: 46.21 ft Weight: 363.8 lb



3.34 ft	R85O - Array Ind. One Res 85
3.34 ft	R60O - Array Ind. One Res 60
Tool Zero	(0.13ft from bottom)
0.23 ft	SPCG - Spontaneous Potential
-0.13 ft	SMTU - DST Uphole Tension

All measurements relative to tool zero.

COMPANY	BILL BARRETT CORPORATION
WELL	GGU MILLER 24D-32-691
FIELD	GIBSON GULCH
PROVINCE/COUNTY	GARFIELD
COUNTRY/STATE	U.S.A. / COLORADO

Elevation Kelly Bushing	6142.00	feet	First Reading	7856.00	
Elevation Drill Floor	6141.00	feet	Depth Driller	7875.00	feet
Elevation Ground Level	6120.00	feet	Depth Logger	7878.00	feet

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