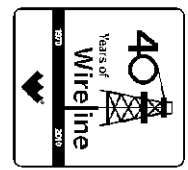




Weatherford[®]

**COMPENSATED PHOTO DENSITY
COMPENSATED DUAL NEUTRON
LOG**

COMPANY **BILL BARRETT CORPORATION**
WELL **GGU FEDERAL 34A-20-691**
FIELD **GIBSON GULCH**
PROVINCE/COUNTY **GARFIELD**
COUNTRY/STATE **U.S.A. / COLORADO**
LOCATION **SHL: 1212' FNL & 1338' FEL**
BHL: 165' FSL & 1990' FEL



SEC 20 TWP 6S RGE 91W Other Services
MA/MI/FE
API Number 05-045-19805
Permit Number
Permanent Datum G.L., Elevation 6104 feet
Log Measured From K.B. @ 23 FEET above Permanent Datum
Drilling Measured From K.B.

Elevations:
KB 6127.00
DF 6126.00
GL 6104.00

Date	28-FEB-2011	
Run Number	ONE	
Depth Driller	7640.00	feet
Depth Logger	7642.00	feet
First Reading	7619.00	
Last Reading	764.00	
Casing Driller	764.00	feet
Casing Logger	764.00	feet
Bit Size	7.880	inches
Hole Fluid Type	LSND	
Density / Viscosity	10.80 lb/USg	55.00 CP
PH / Fluid Loss	10.00	5.60 ml/30Min
Sample Source	FLOW LINE	
Rm @ Measured Temp	3.50 @ 80.0	ohm-m
Rmf @ Measured Temp	2.80 @ 80.0	ohm-m
Rmc @ Measured Temp	4.20 @ 80.0	ohm-m
Source Rmf / Rmc	CALC	CALC
Rm @ BHT	1.63 @175.0	ohm-m
Time Since Circulation	6 HOURS	
Max Recorded Temp	175.00	deg F
Equipment Name	COMPACT	
Equipment / Base	13173	GD JCT
Recorded By	J.GARCIA	
Witnessed By	C.CROW	

BOREHOLE RECORD

Last Edited: 28-FEB-2011 23:20

Bit Size inches	Depth From feet	Depth To feet
8.750	764.00	4258.00
7.880	4258.00	7640.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	9.625	0.00	764.00	36.00

REMARKS

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

HARDWARE: MPD: 8 INCH PROFILE PLATE USED.
ONE 0.5 INCH STANDOFFS USED ON INDUCTION.
ONE 0.5 INCH STANDOFFS USED ON MFE.
DUAL BOWSPRING USED ON NEUTRON.

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.

CALIPER CHECK IN CASING PRESENTED, REFERENCE I.D. = 8.99" (9 5/8", 36 LB/FT CASING)

8.75 INCH BIT USED FROM SURFACE CASING TO 4258 FT.

TOTAL HOLE VOLUME FROM TD TO SURFACE CASING = 2840 CU.FT.

ANNULAR VOLUME WITH 4.5 INCH PRODUCTION CASING = 2080 CU.FT.

LOG SPLICED AT 4050

ENGINEER(S): J.GARCIA

OPERATOR: D.DALEY, S.KAISER

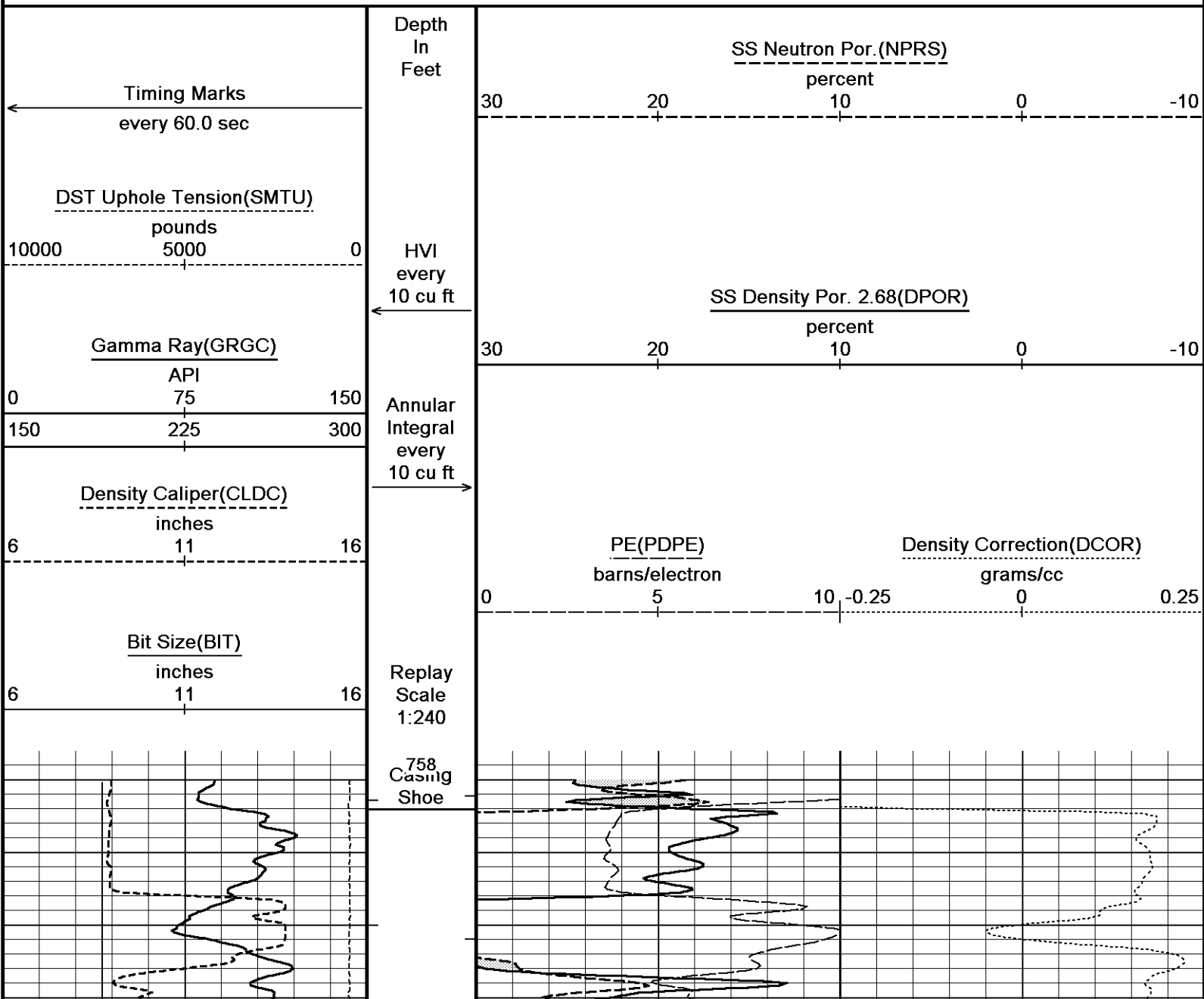
SERVICE ORDER: # 3524853

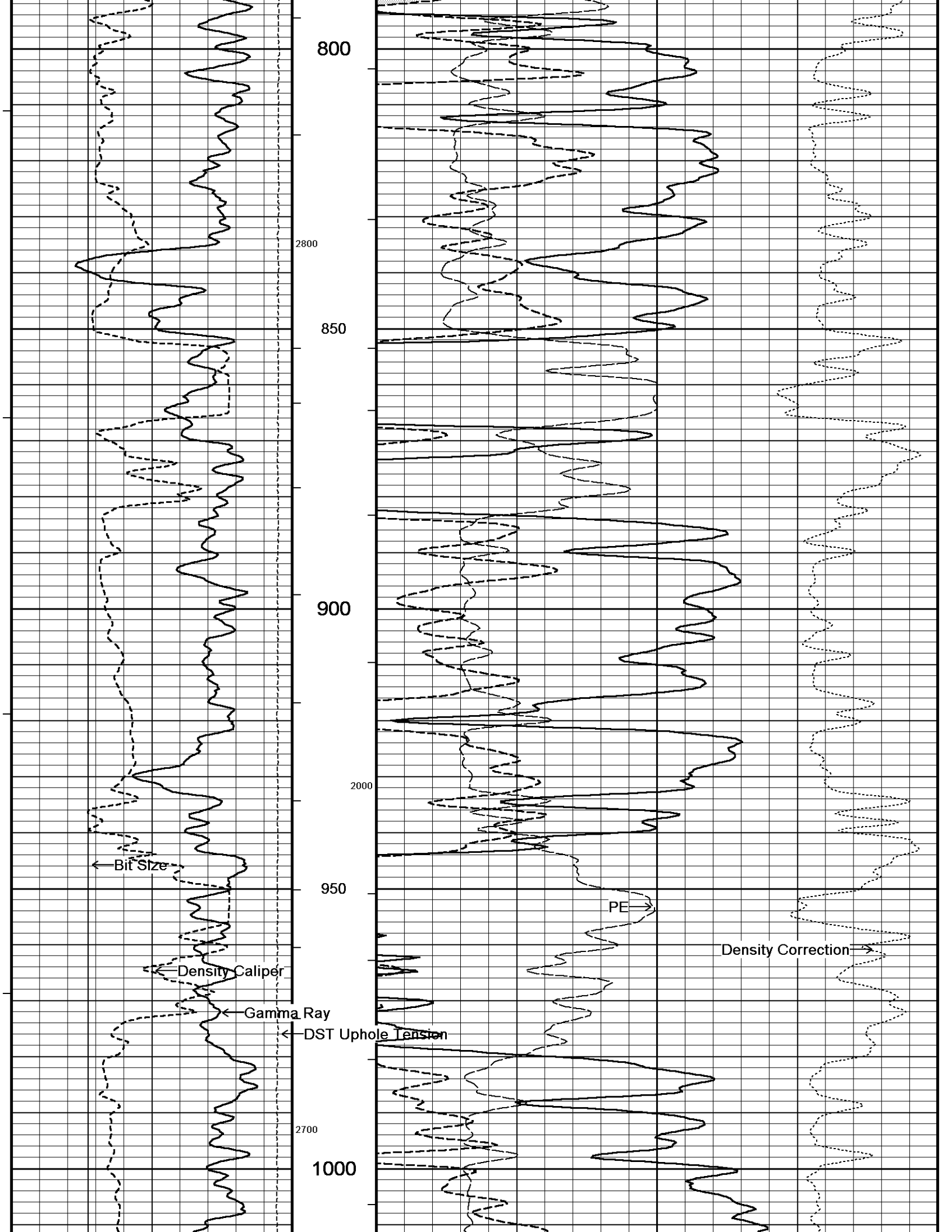
RIG: PATTERSON #307

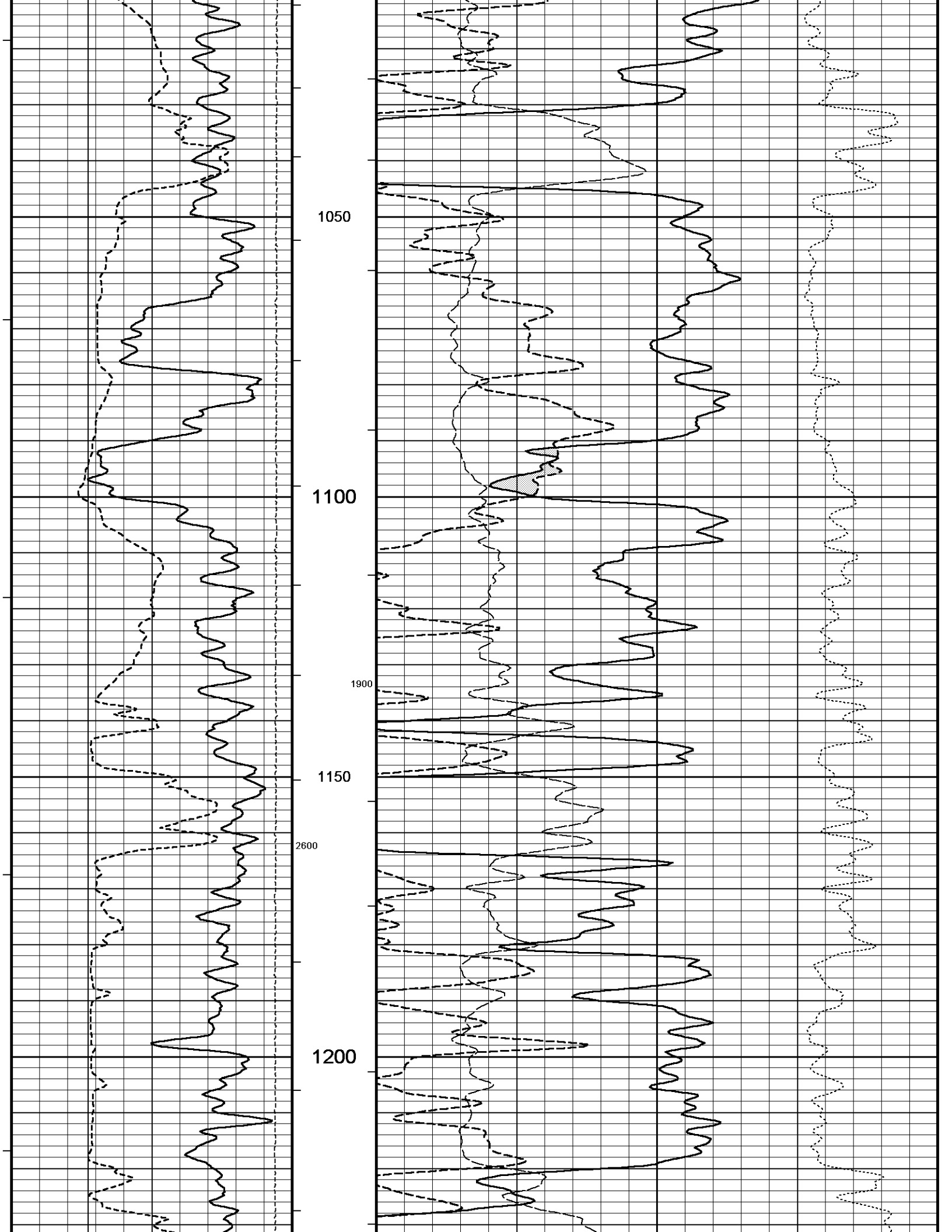
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs, 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.

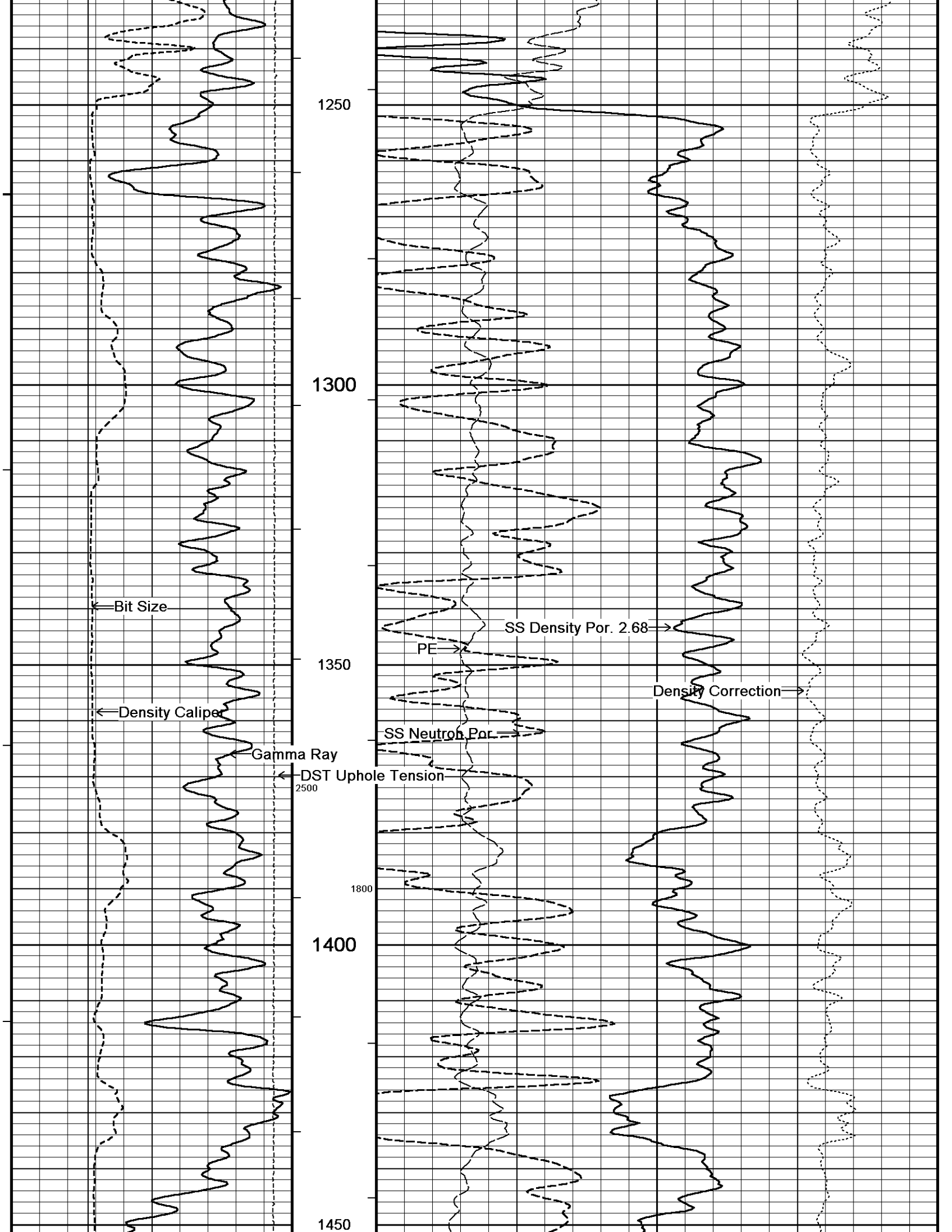
5 INCH MAIN LOG

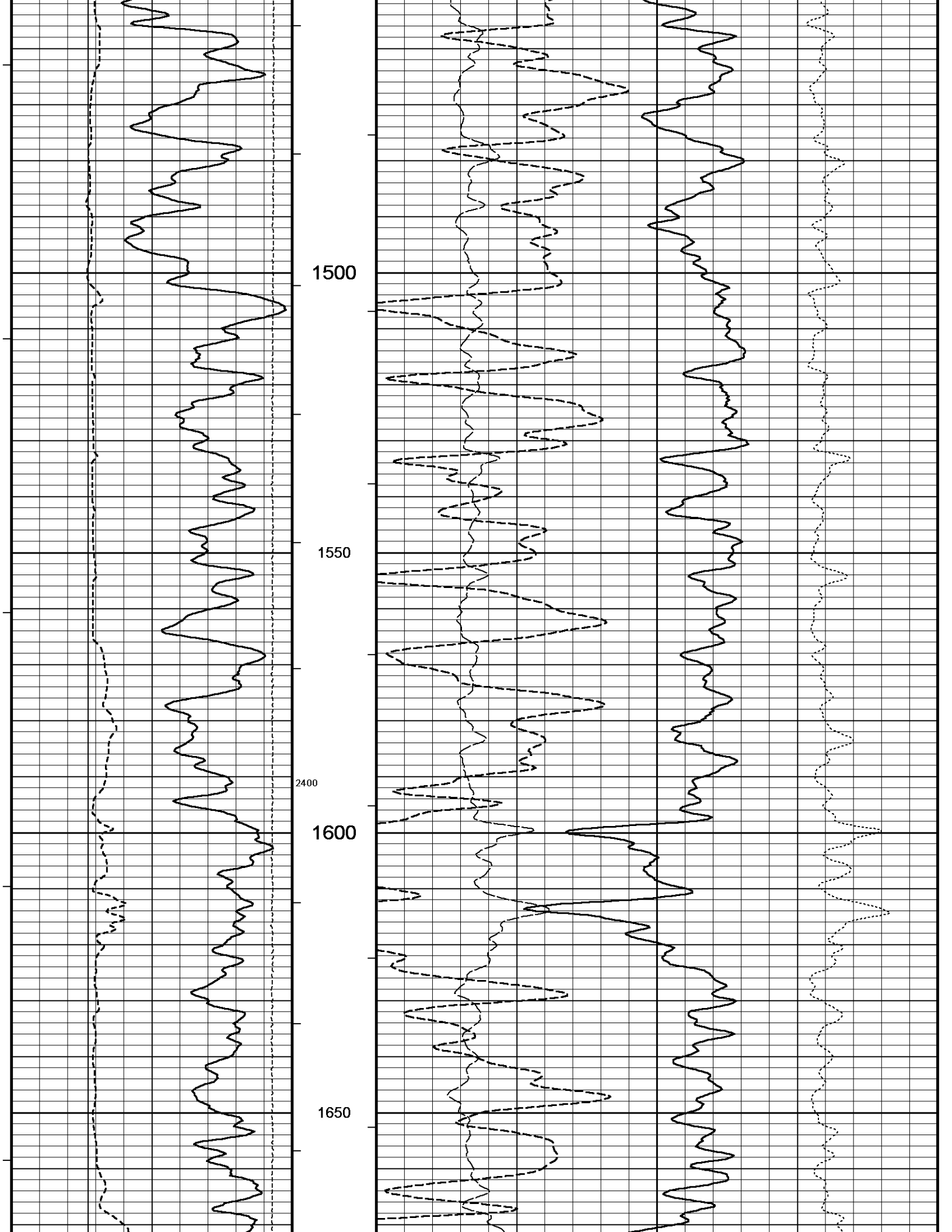
Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 01-MAR-2011 17:51
Filename: C:\Documents and Settings\le145895\Desktop\GGU FEDERAL 34A-20-691\SPLICE.dta
Recorded on 01-MAR-2011 11:46
System Versions: Processed with 11.01.2198 Plotted with 11.01.2198

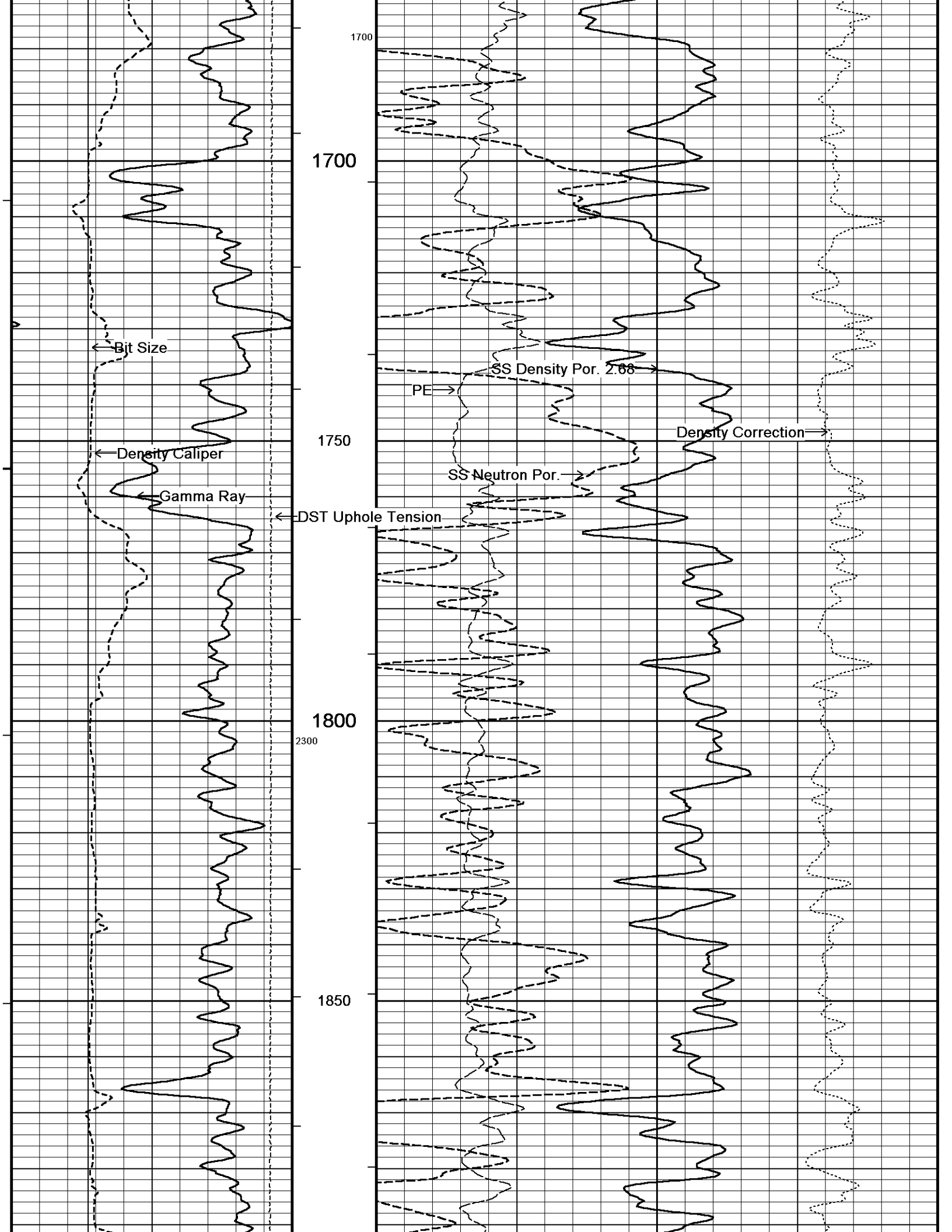


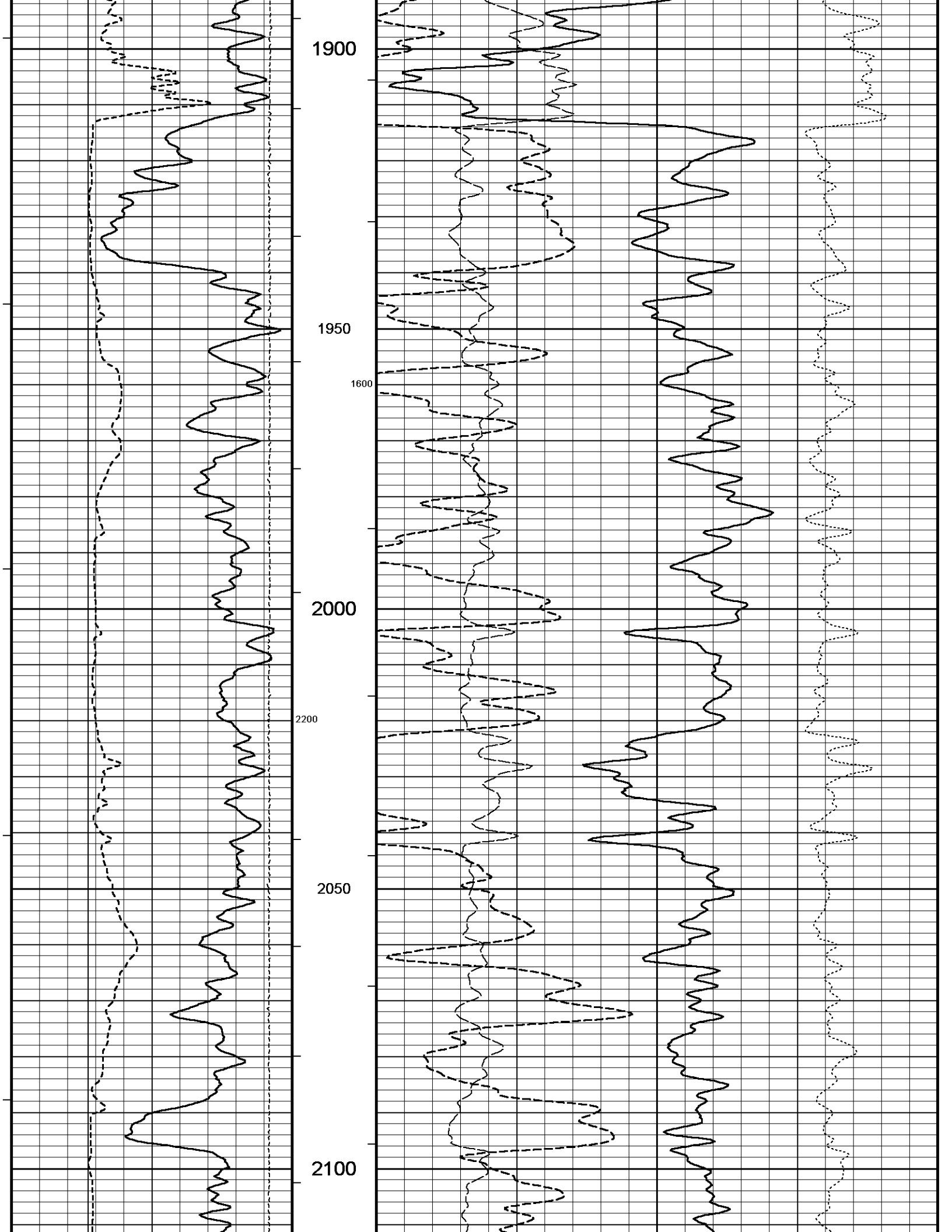


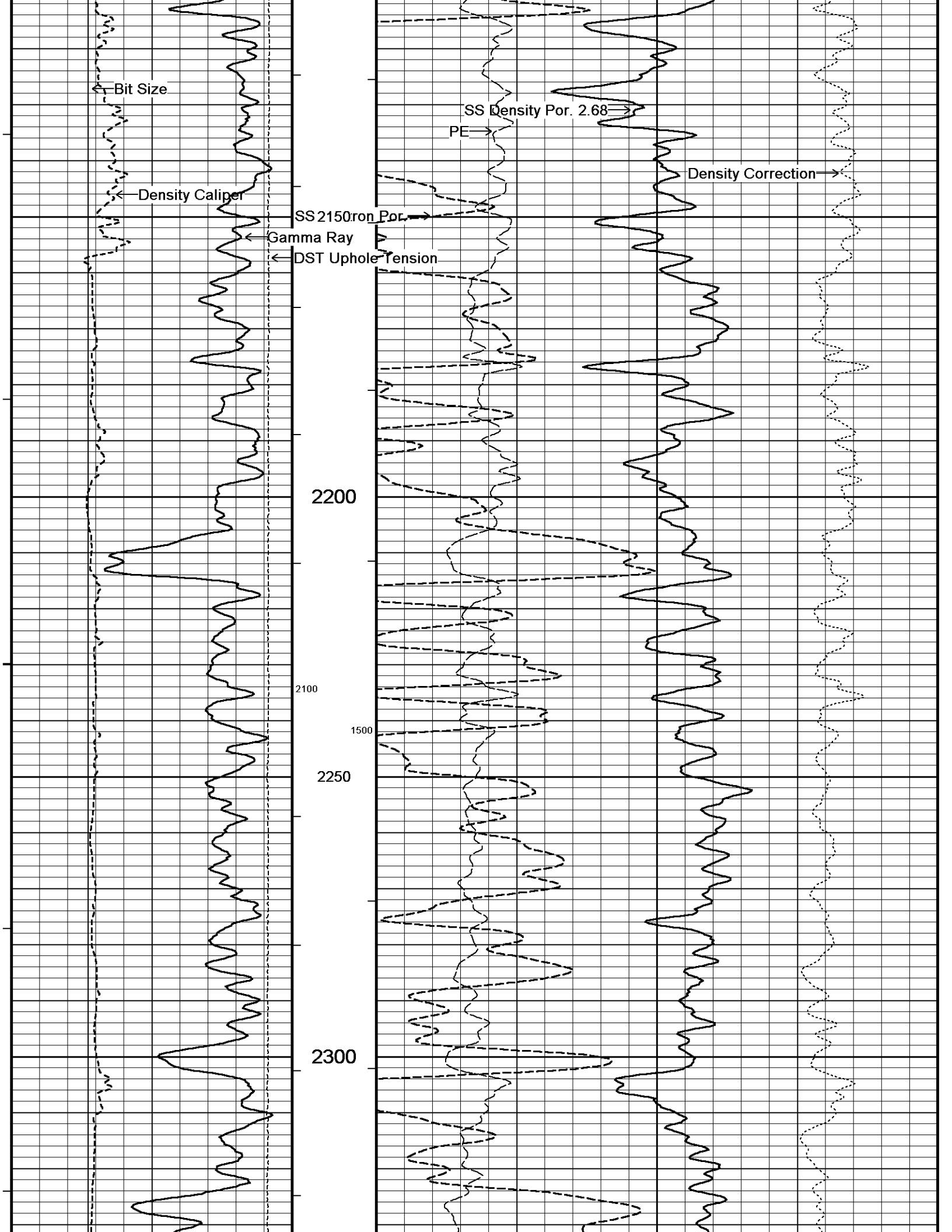


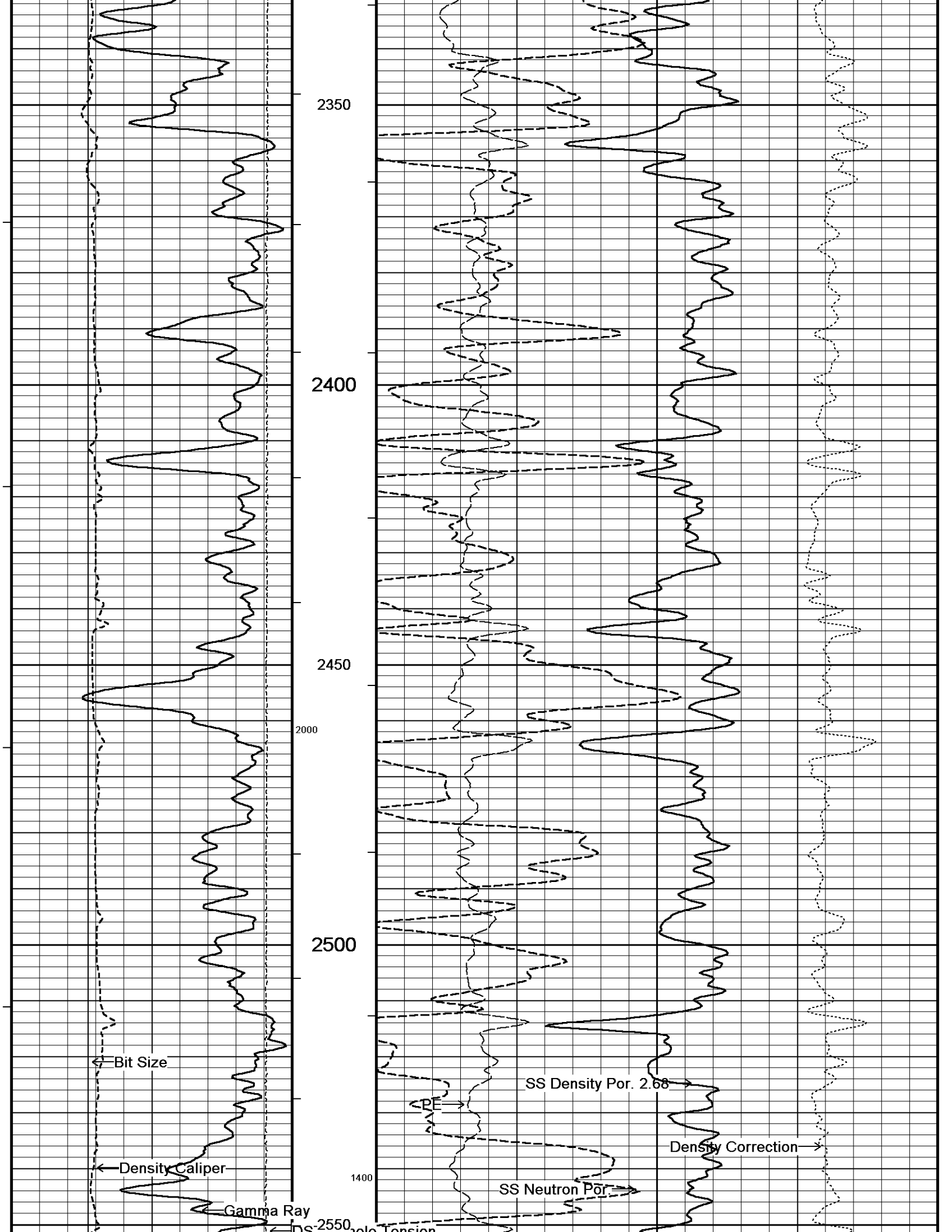


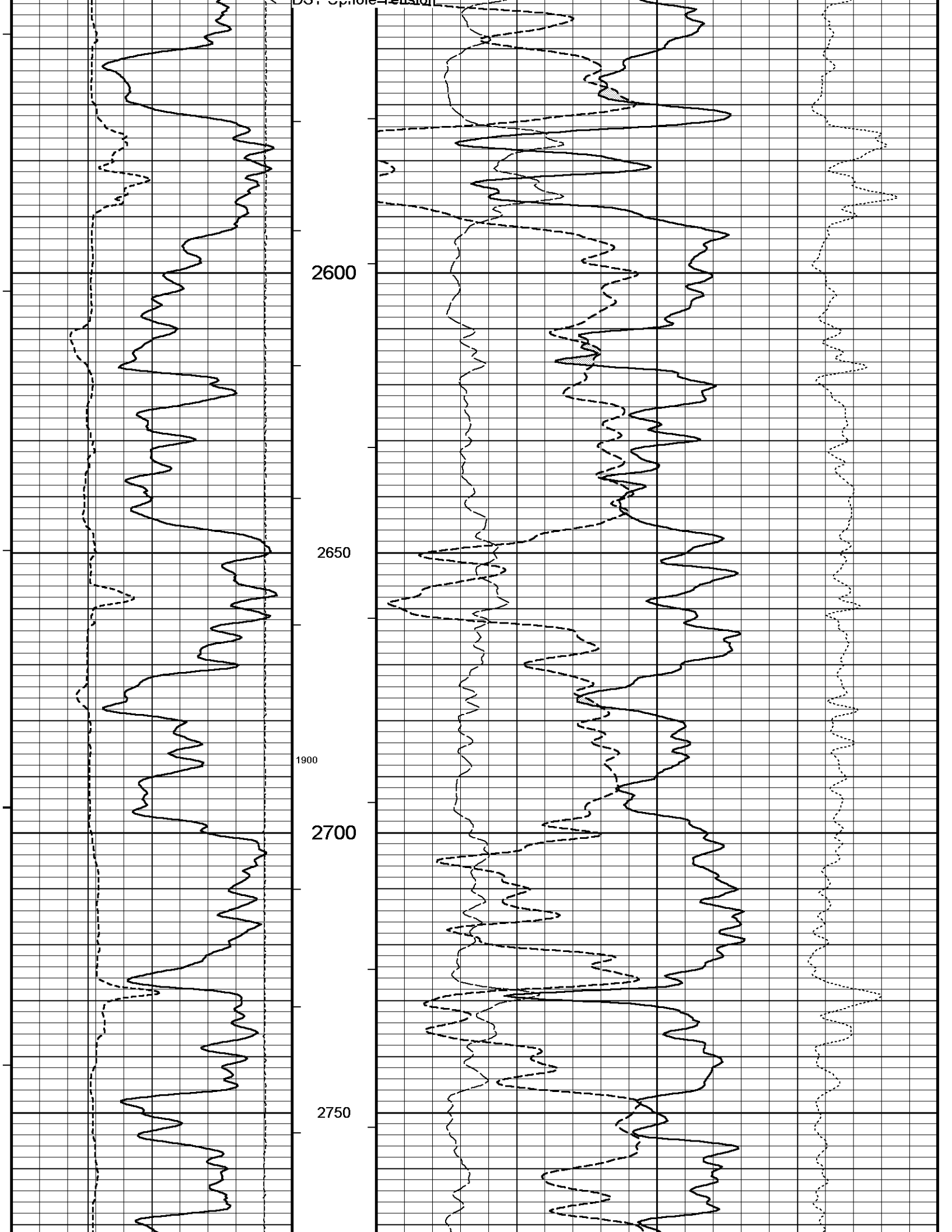


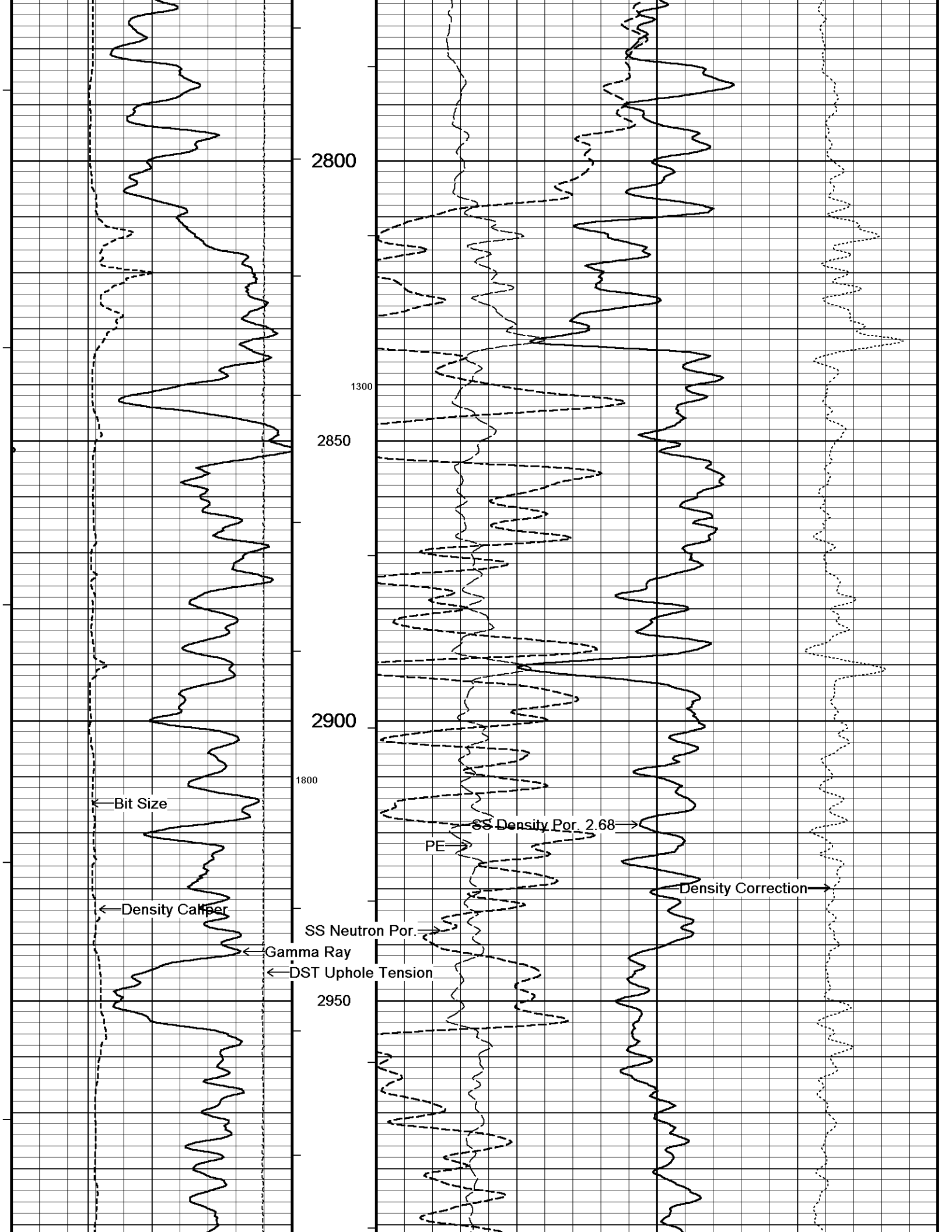


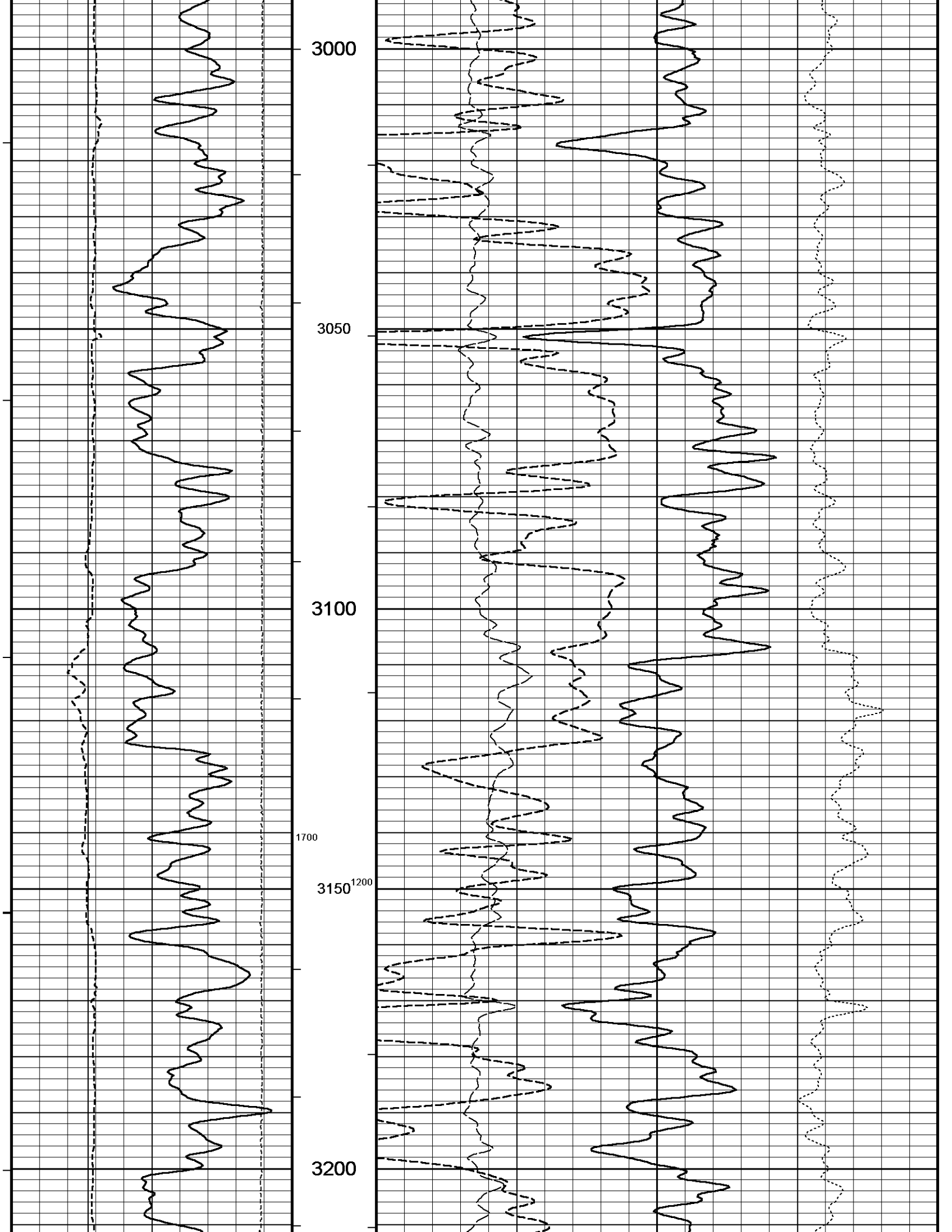


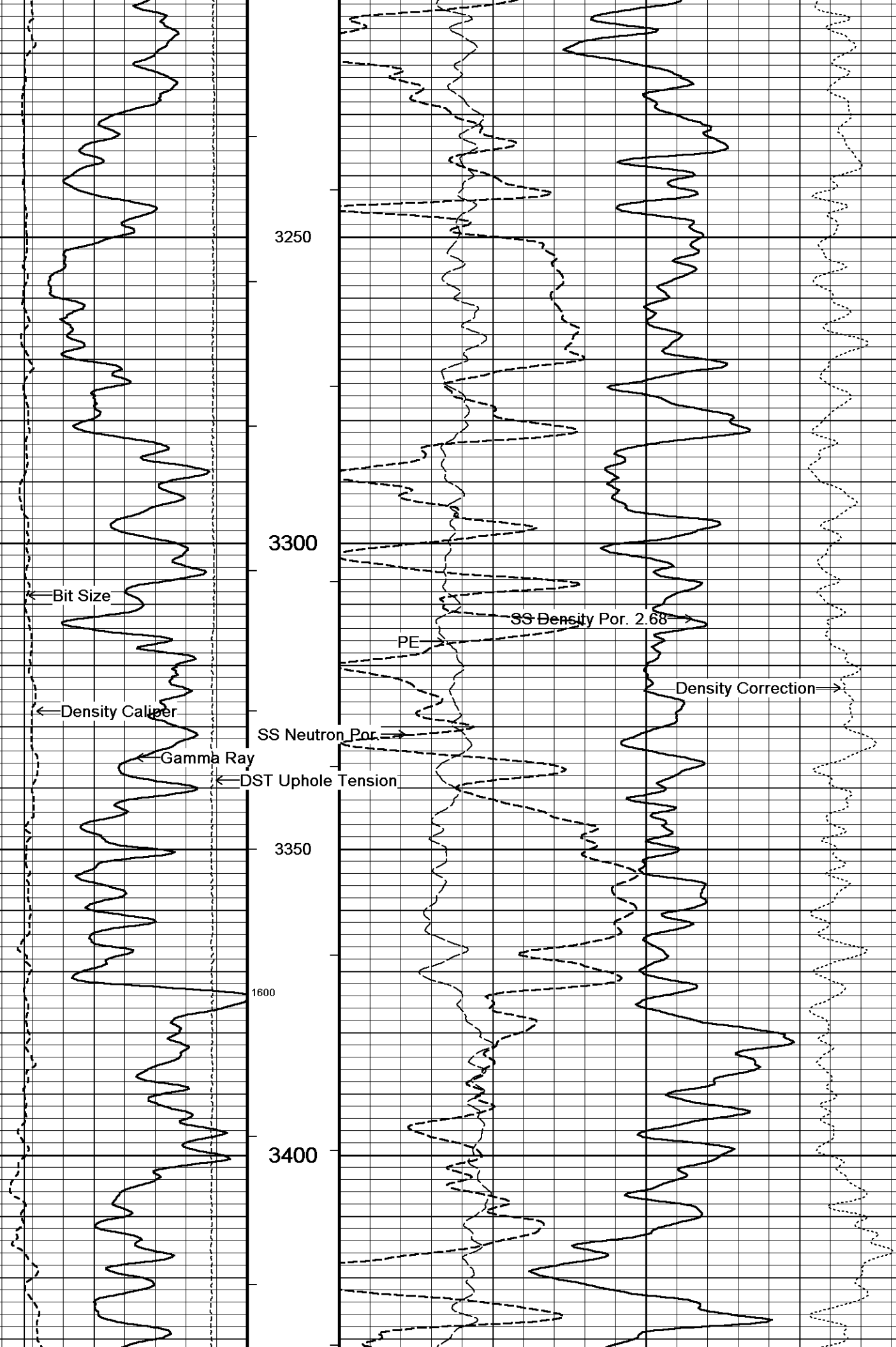


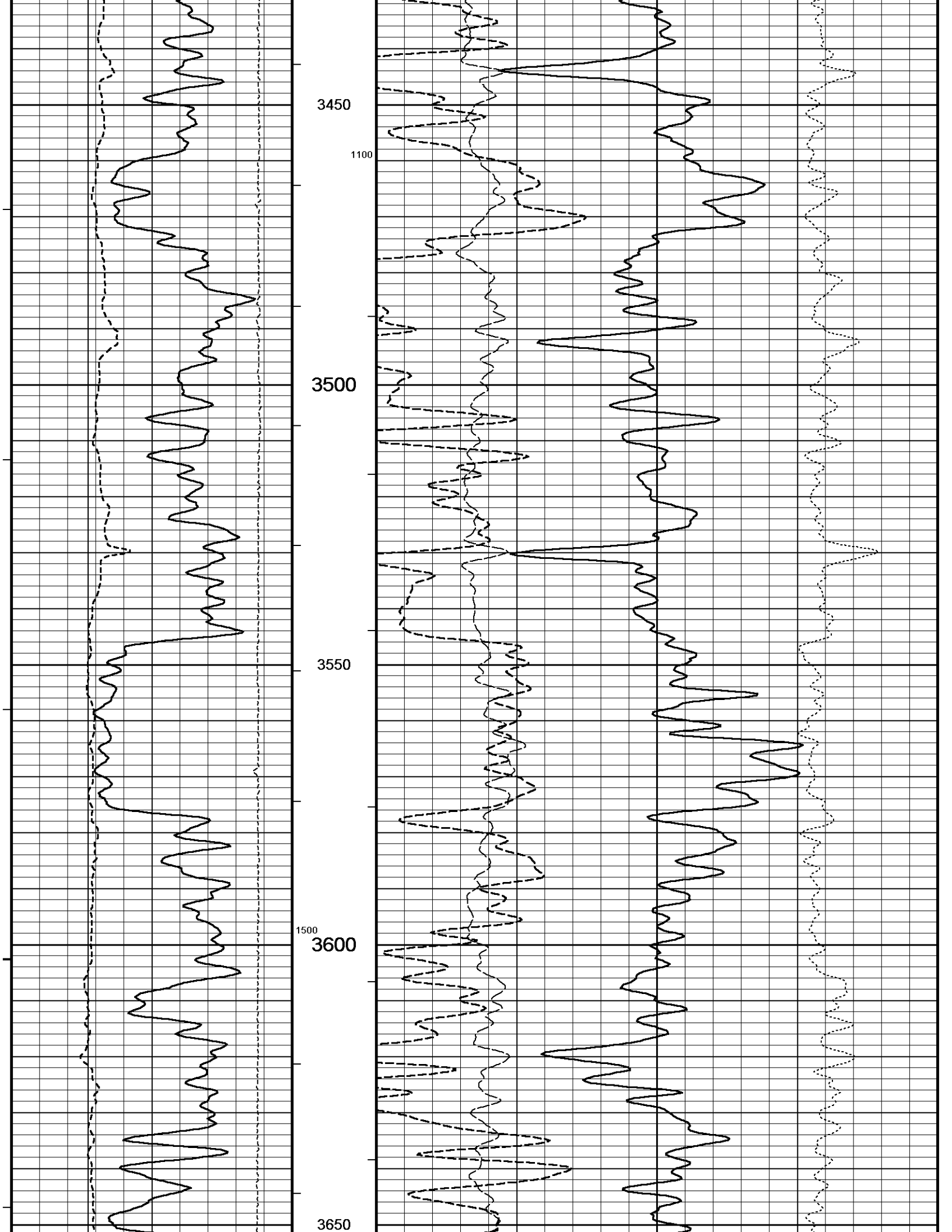


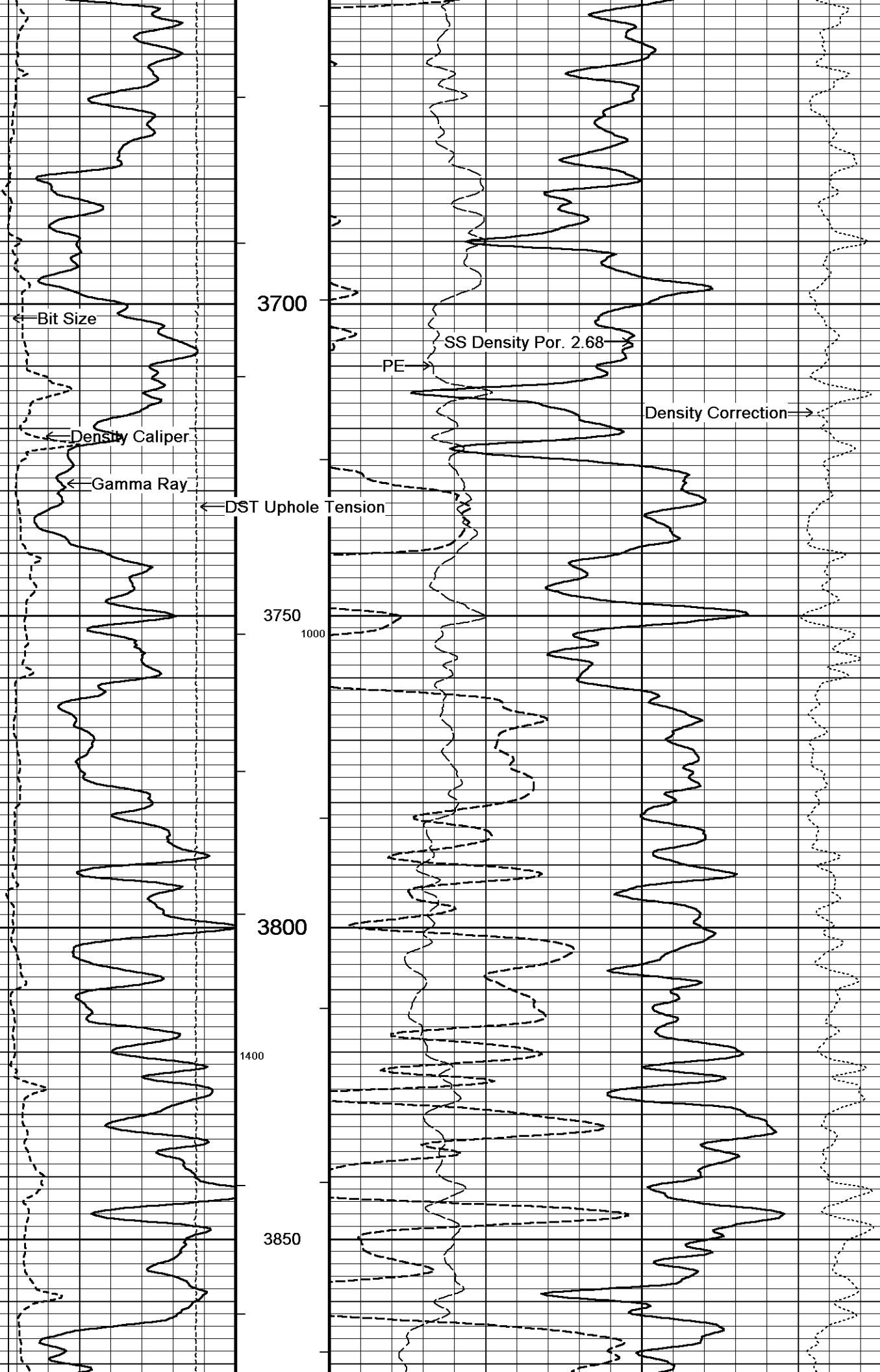


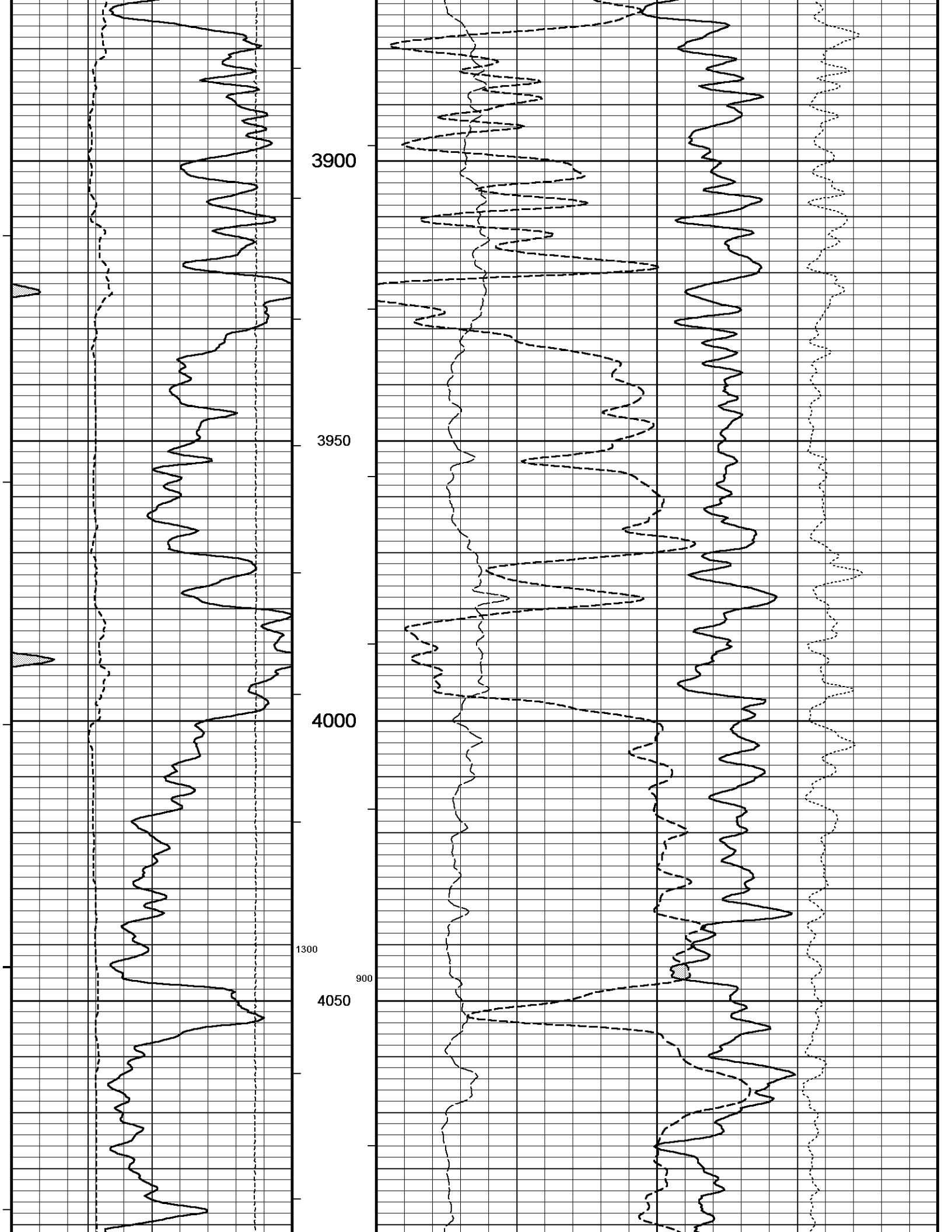


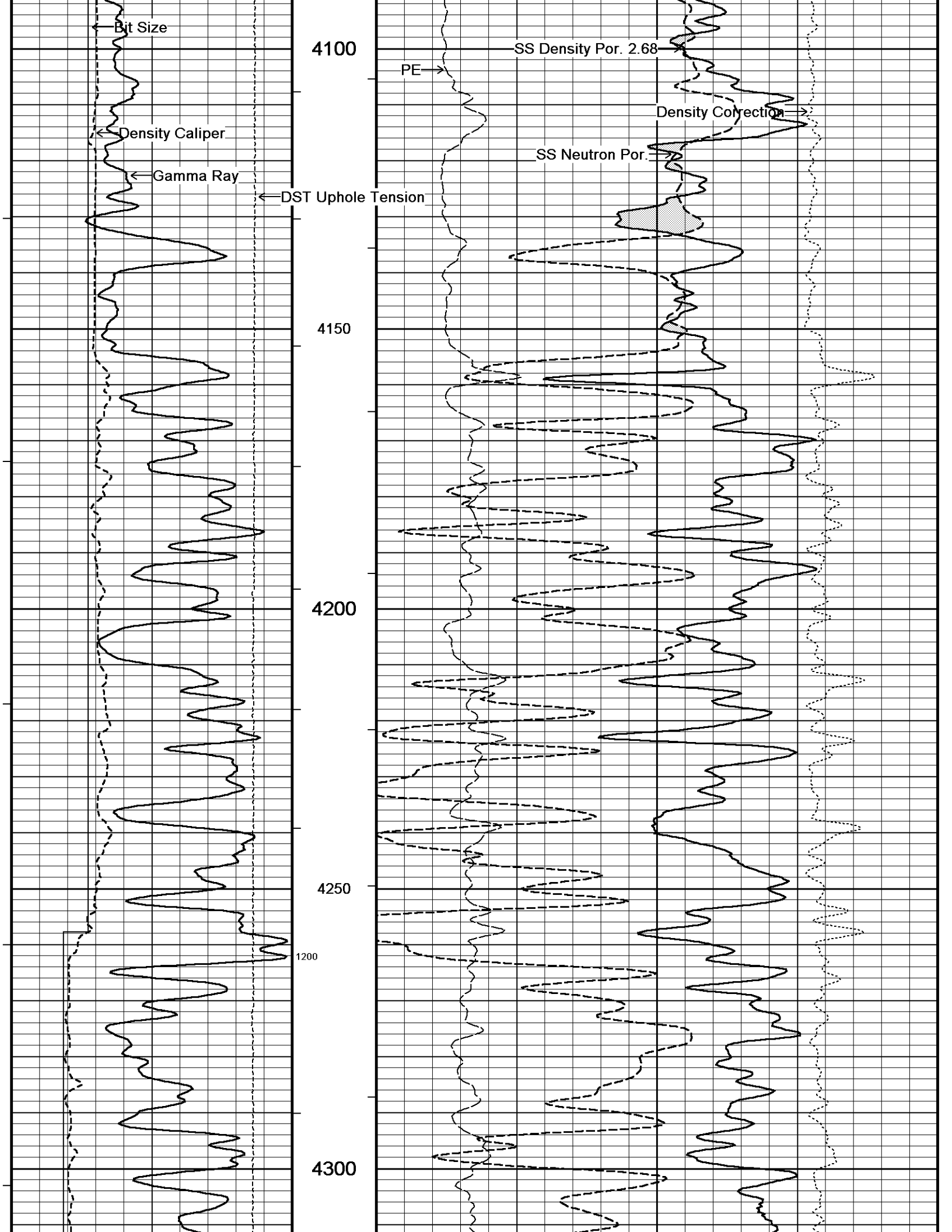


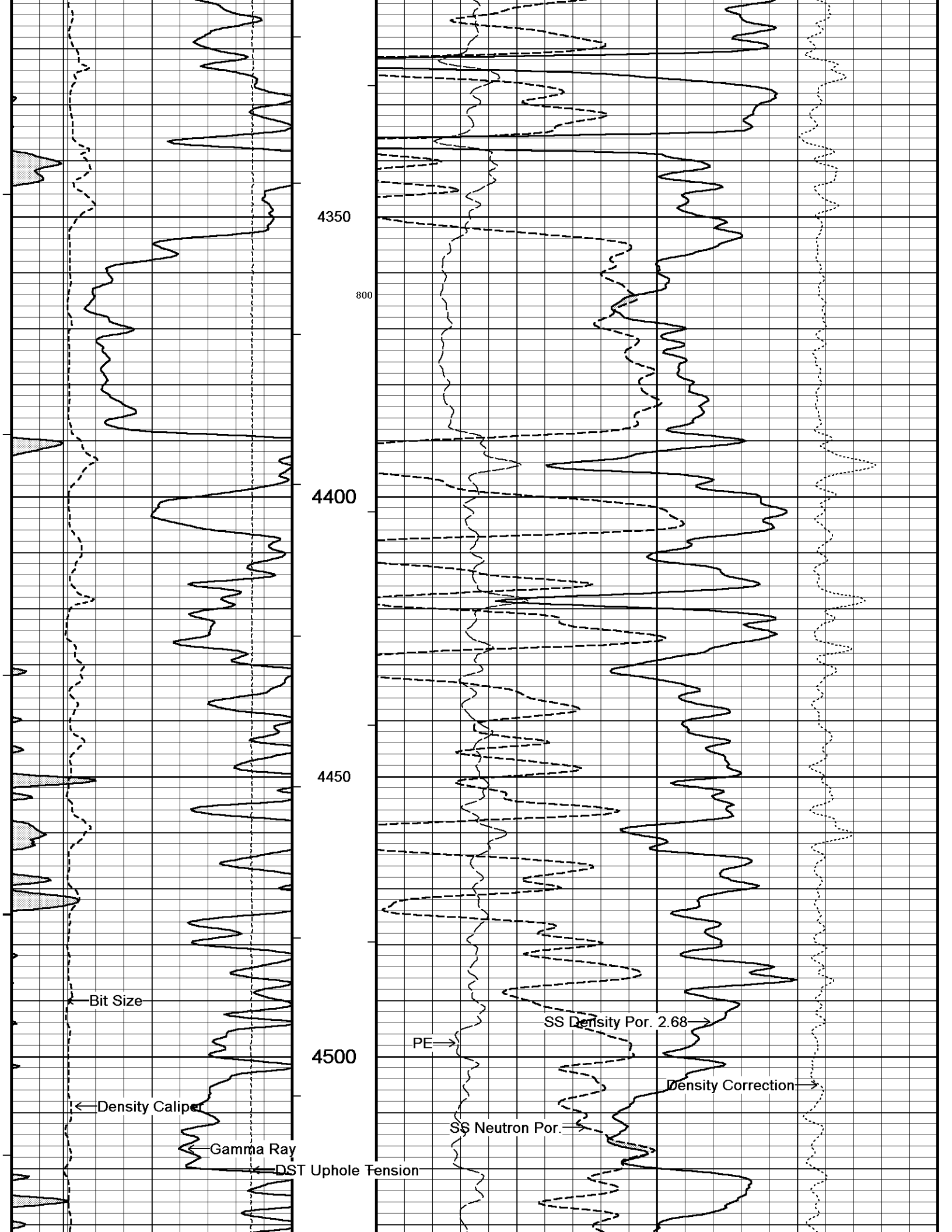












4350

800

4400

4450

4500

Bit Size

Density Caliper

Gamma Ray

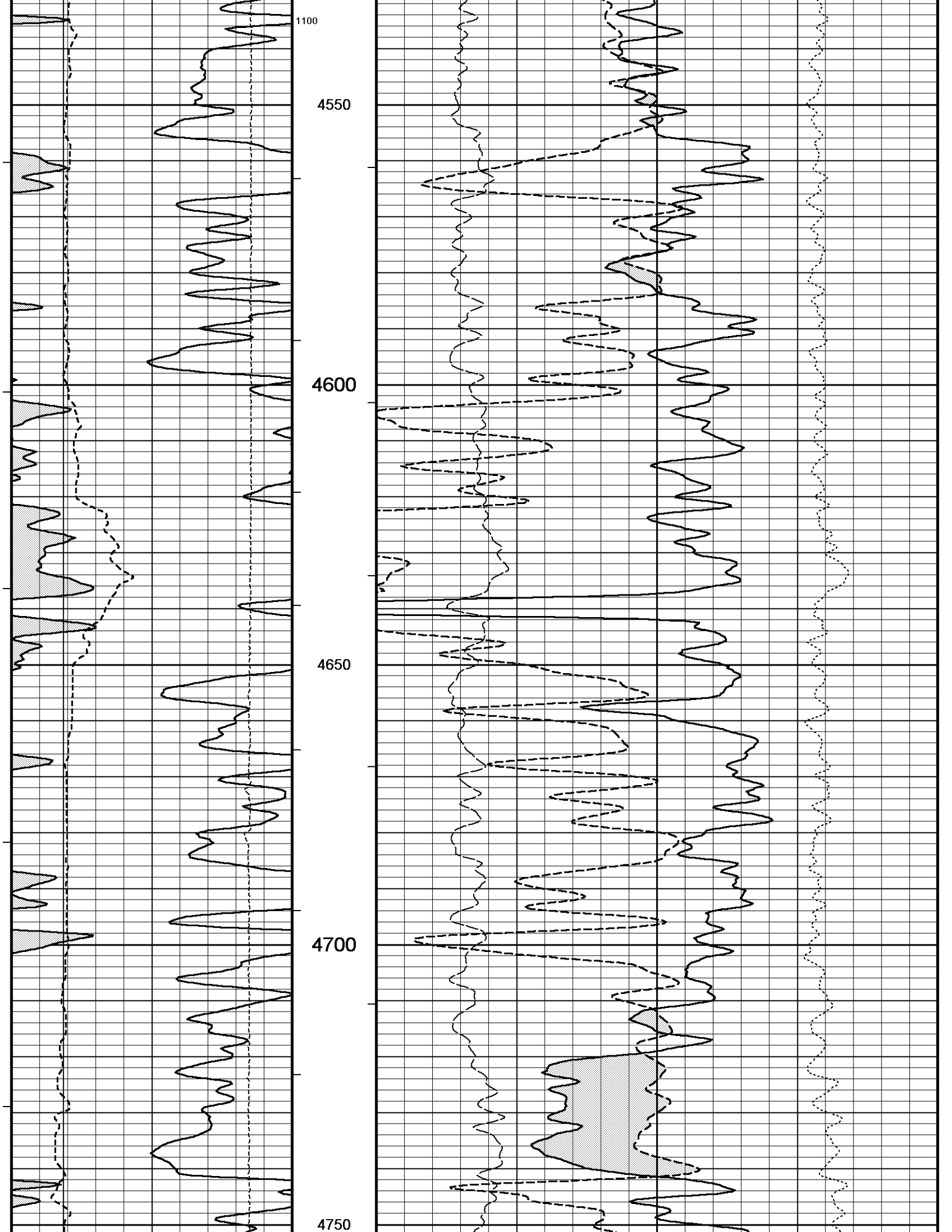
DST Uphole Tension

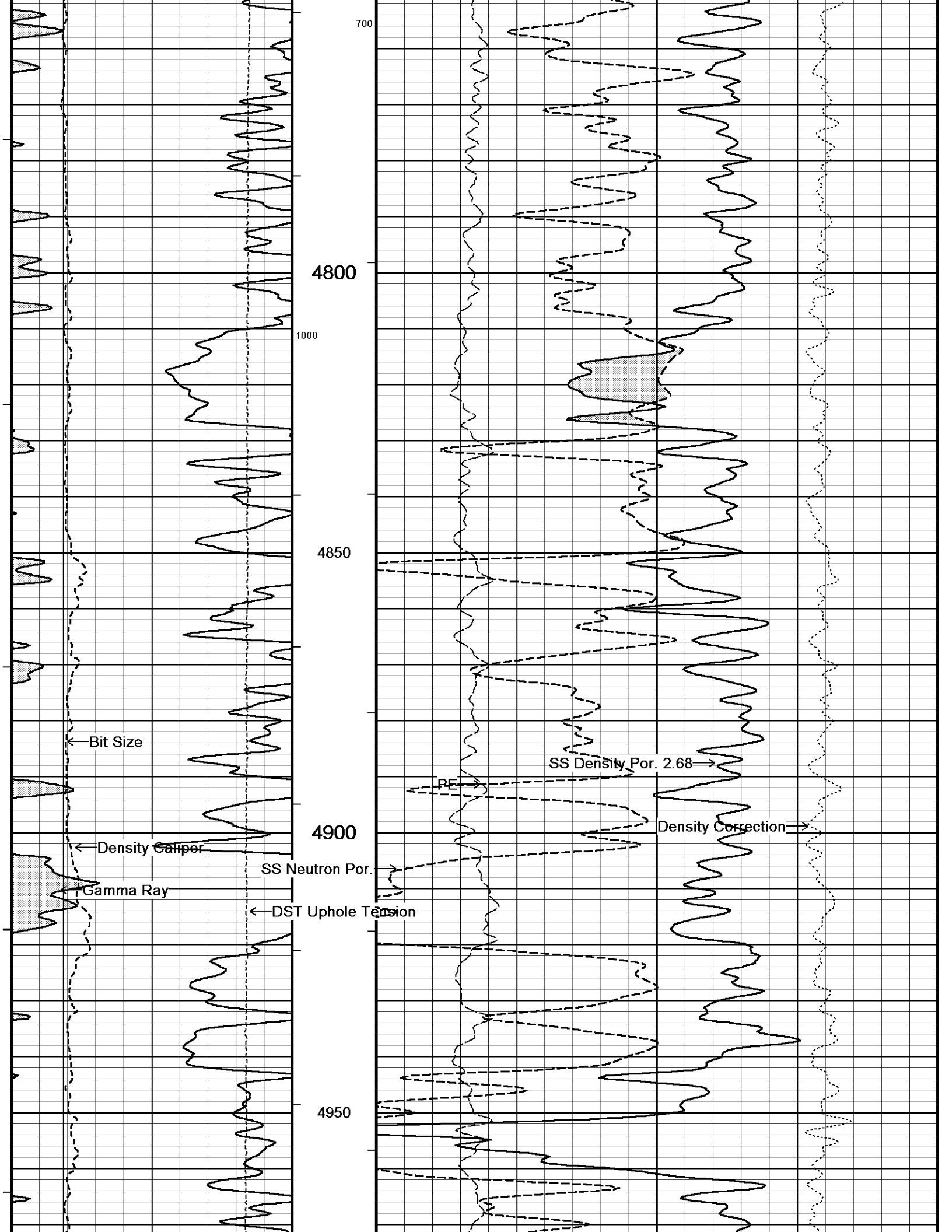
PE

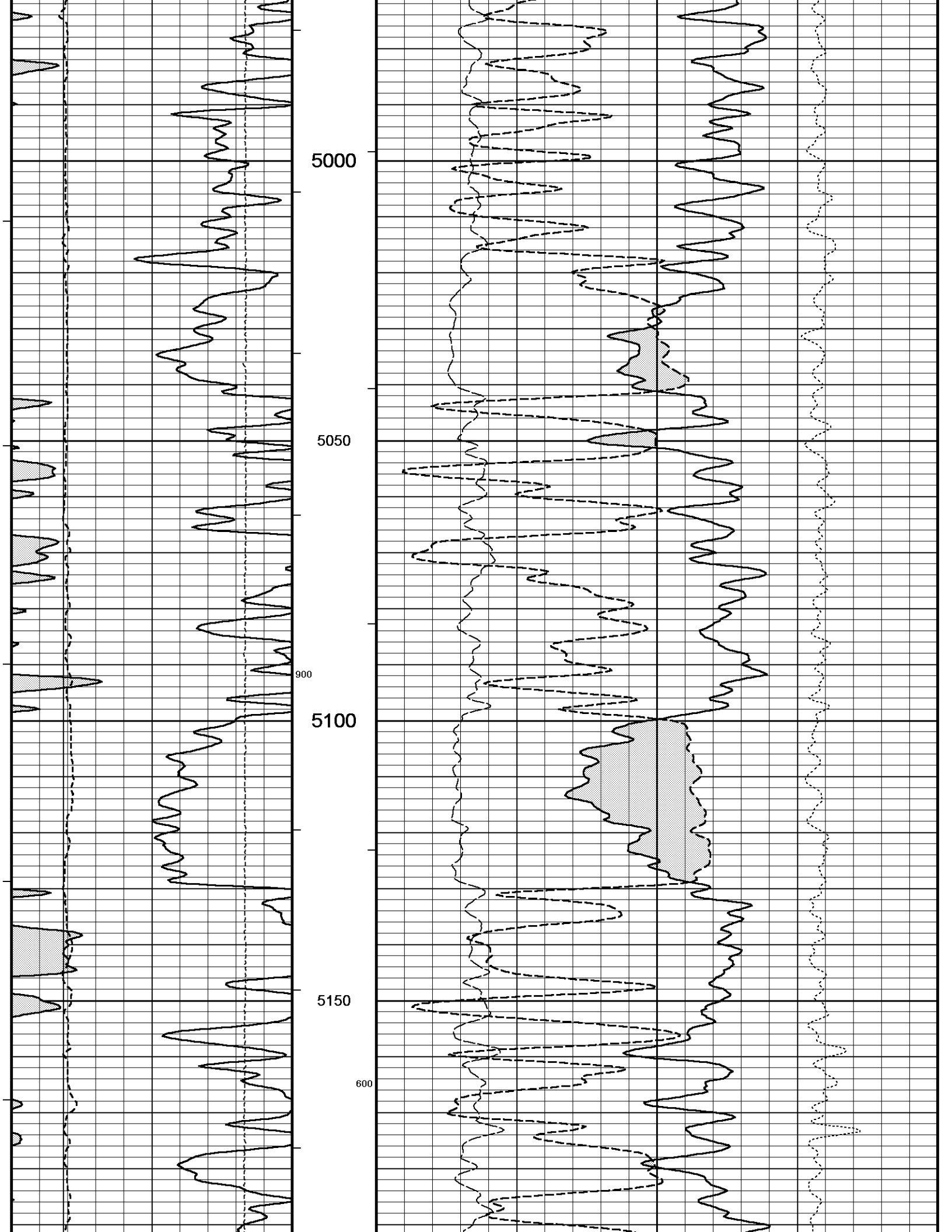
SS Neutron Por.

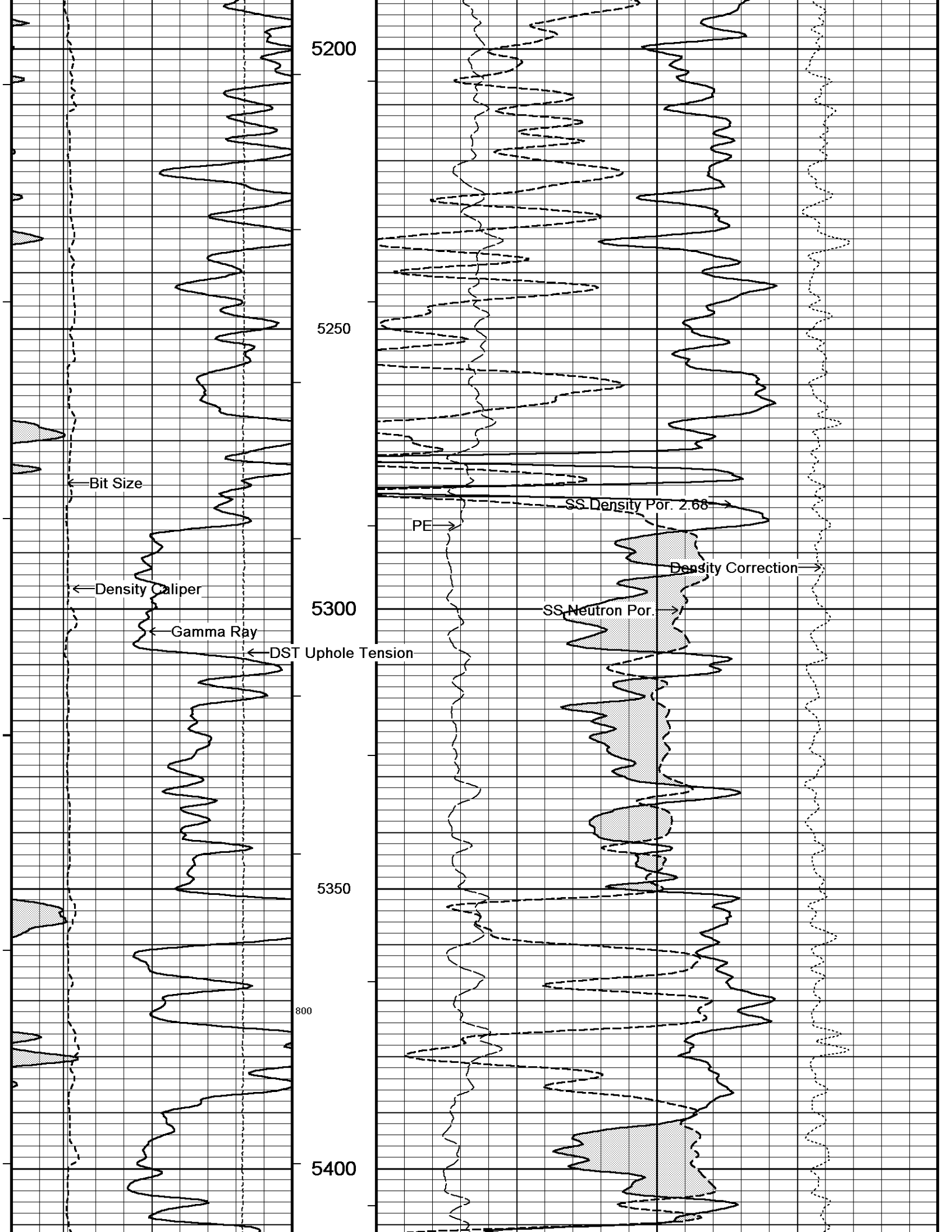
SS Density Por. 2.68

Density Correction









5200

5250

5300

5350

5400

← Bit Size

← Density Caliper

← Gamma Ray

← DST Uphole Tension

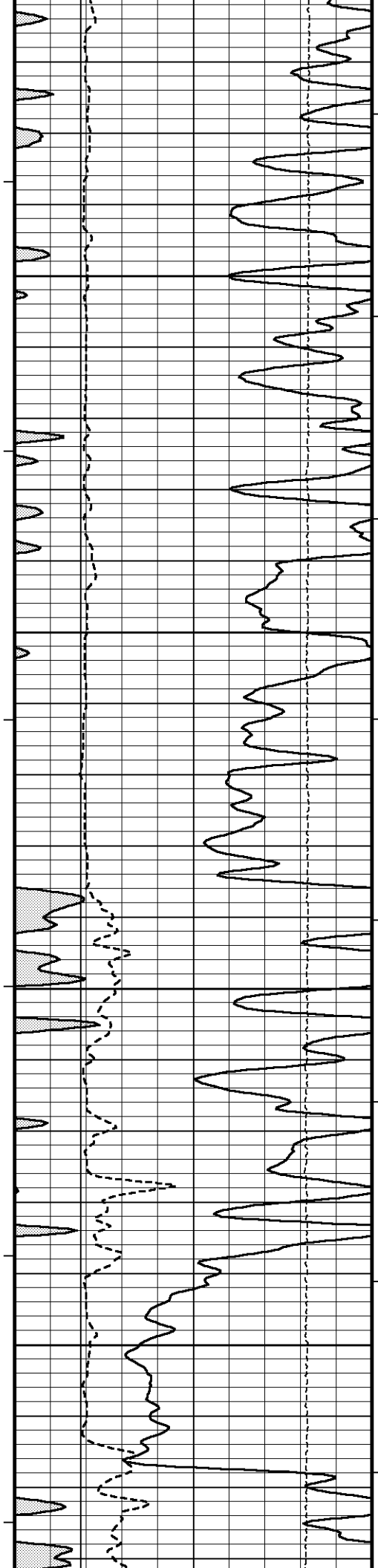
PE →

SS Density Por. 2.68 →

Density Correction →

SS Neutron Por. →

800



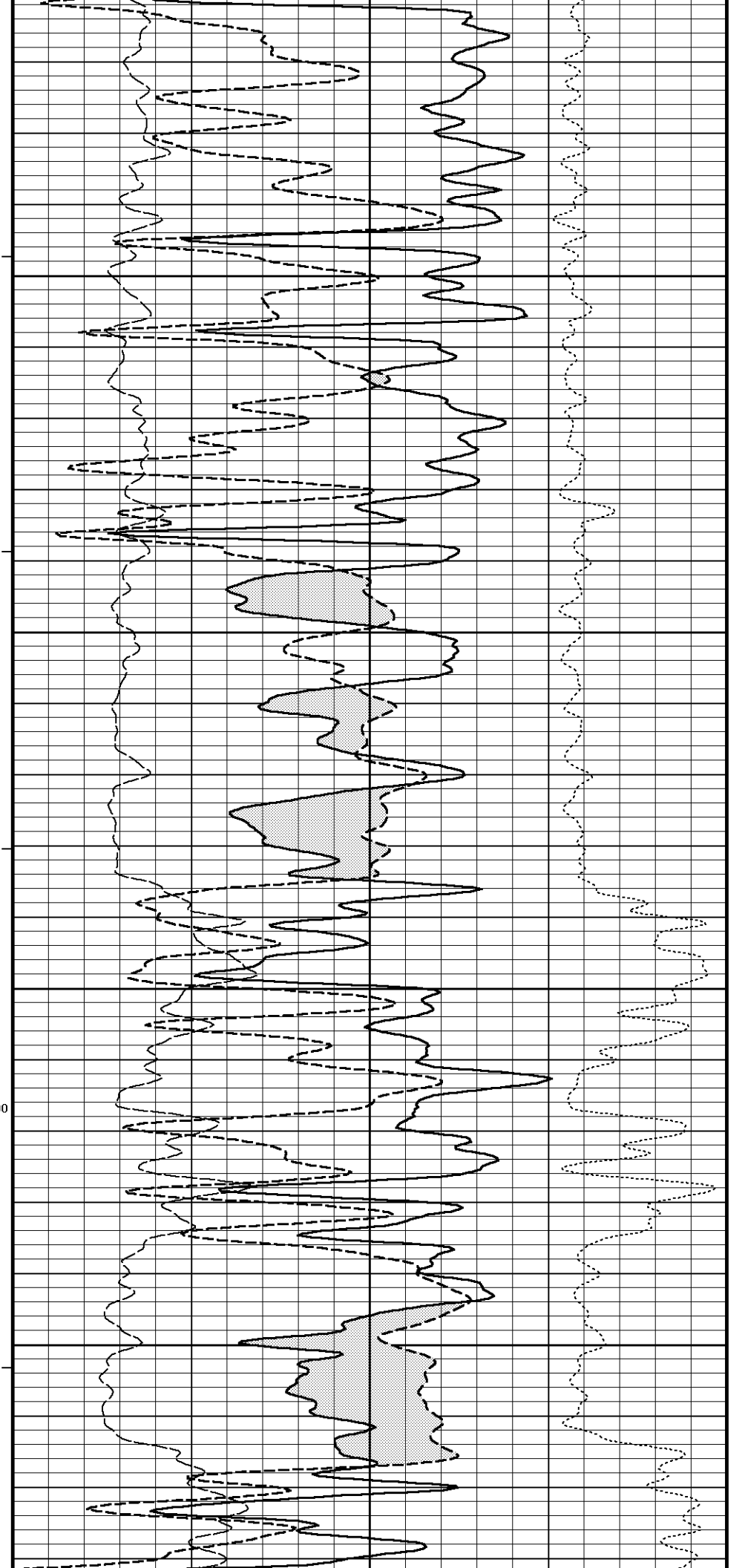
5450

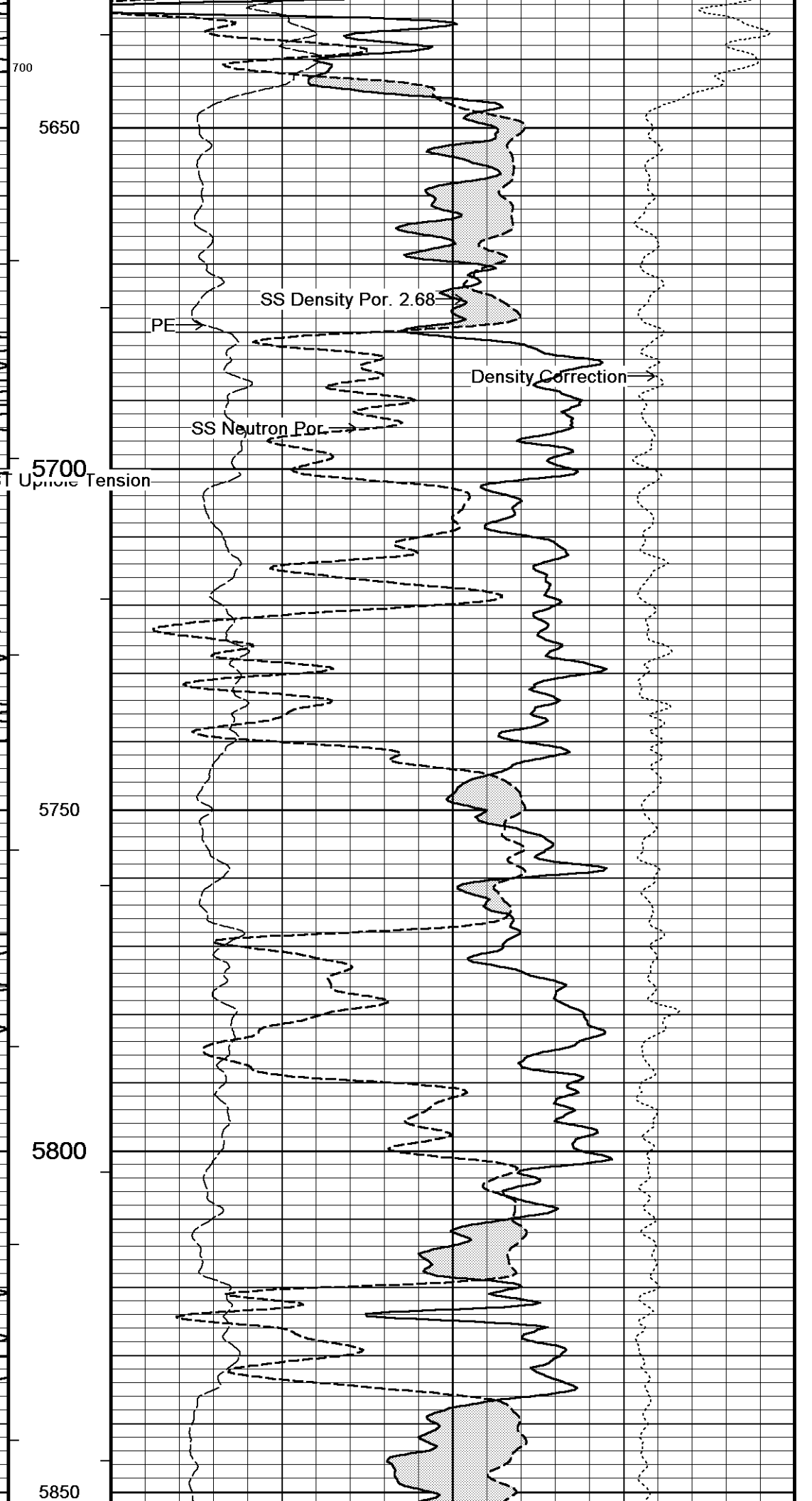
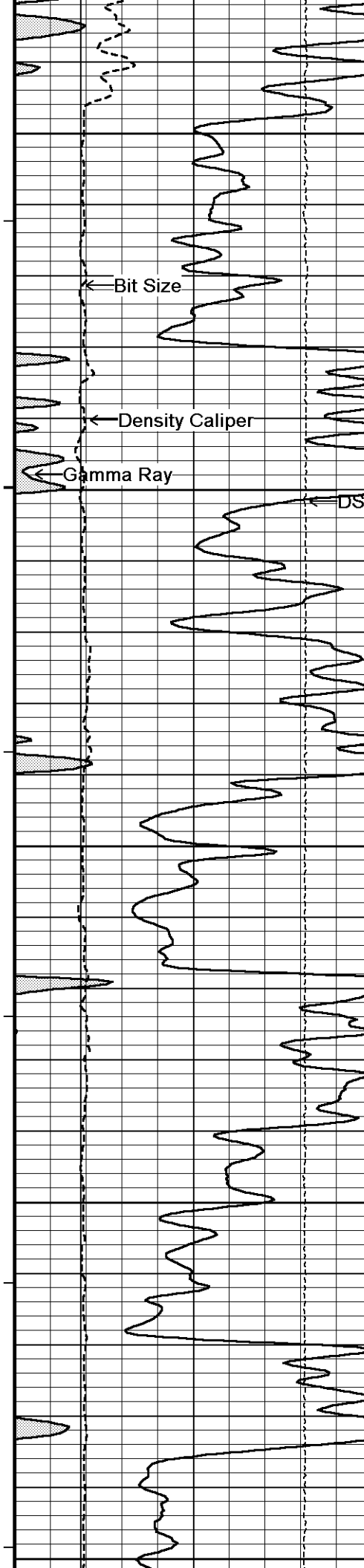
5500

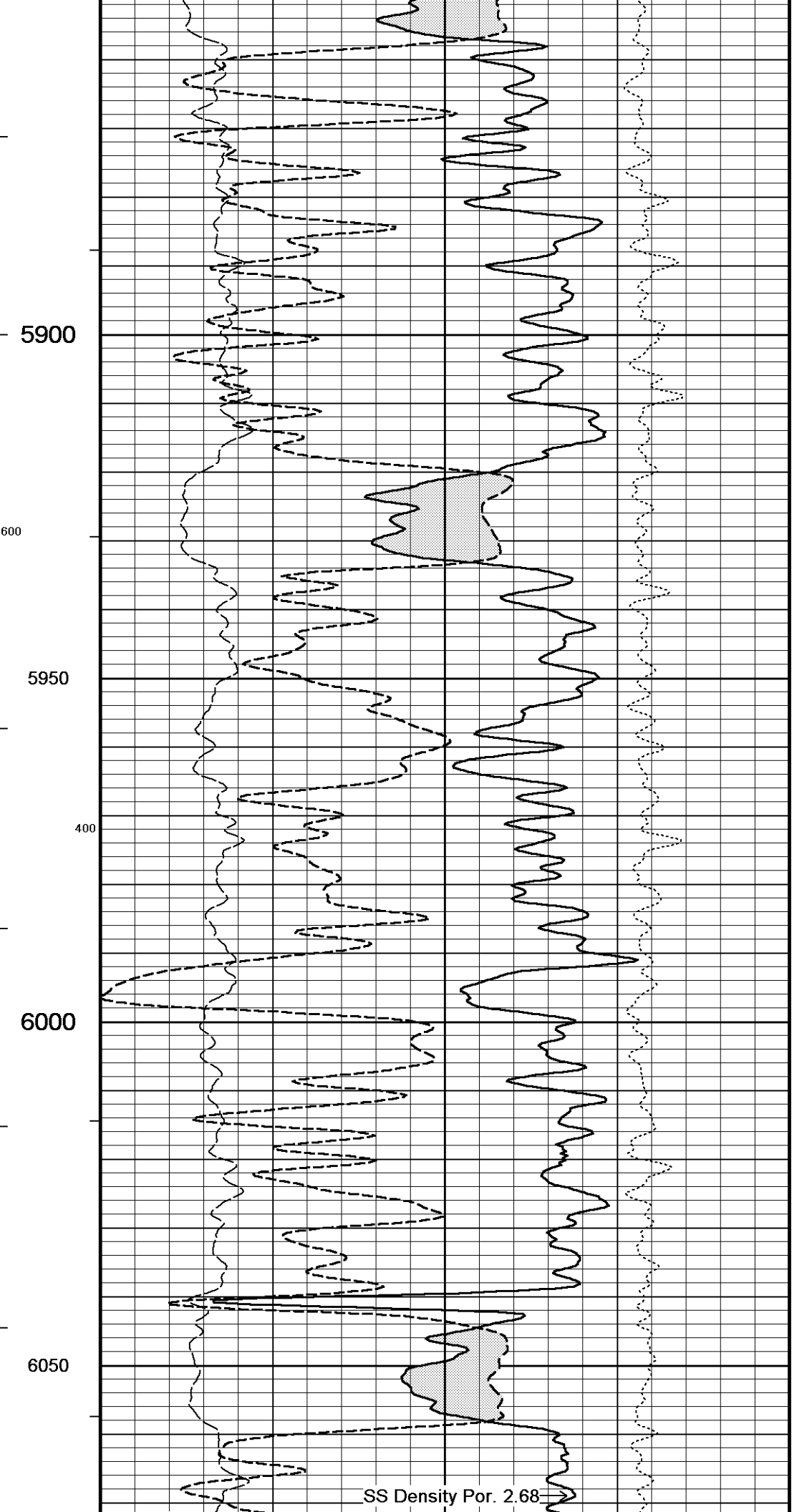
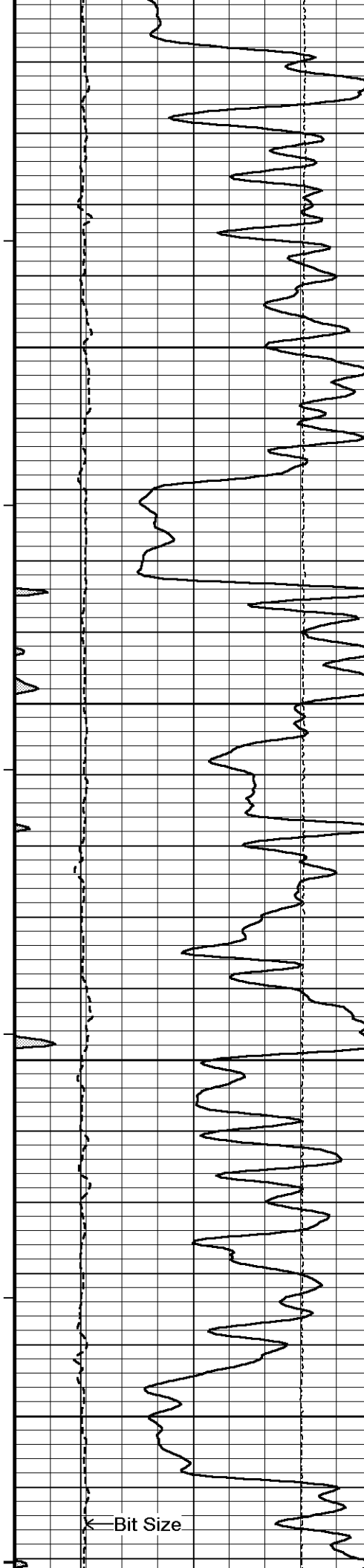
5550

500

5600







5900

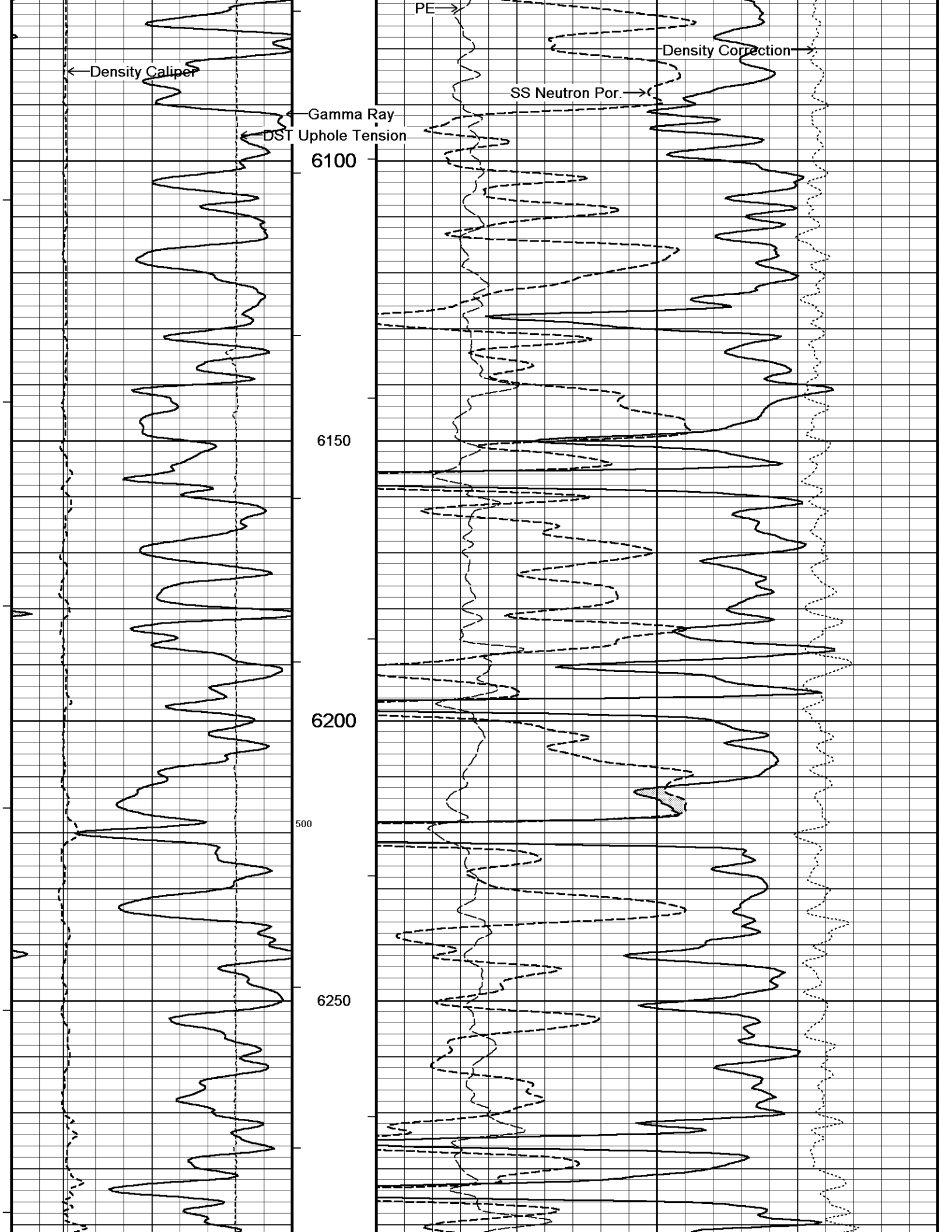
600

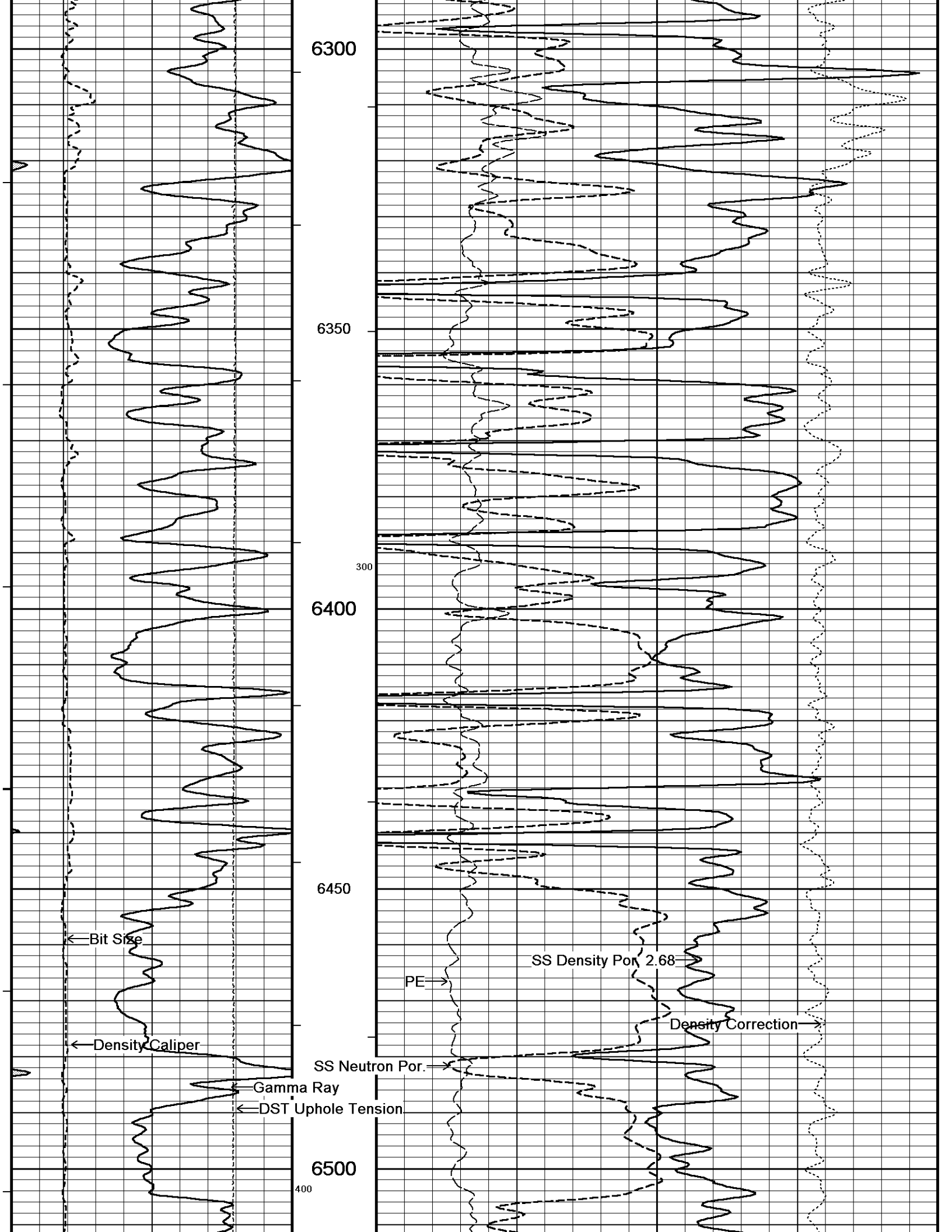
5950

400

6000

6050





6300

6350

6400

6450

6500

300

400

← Bit Size

← Density Caliper

← Gamma Ray

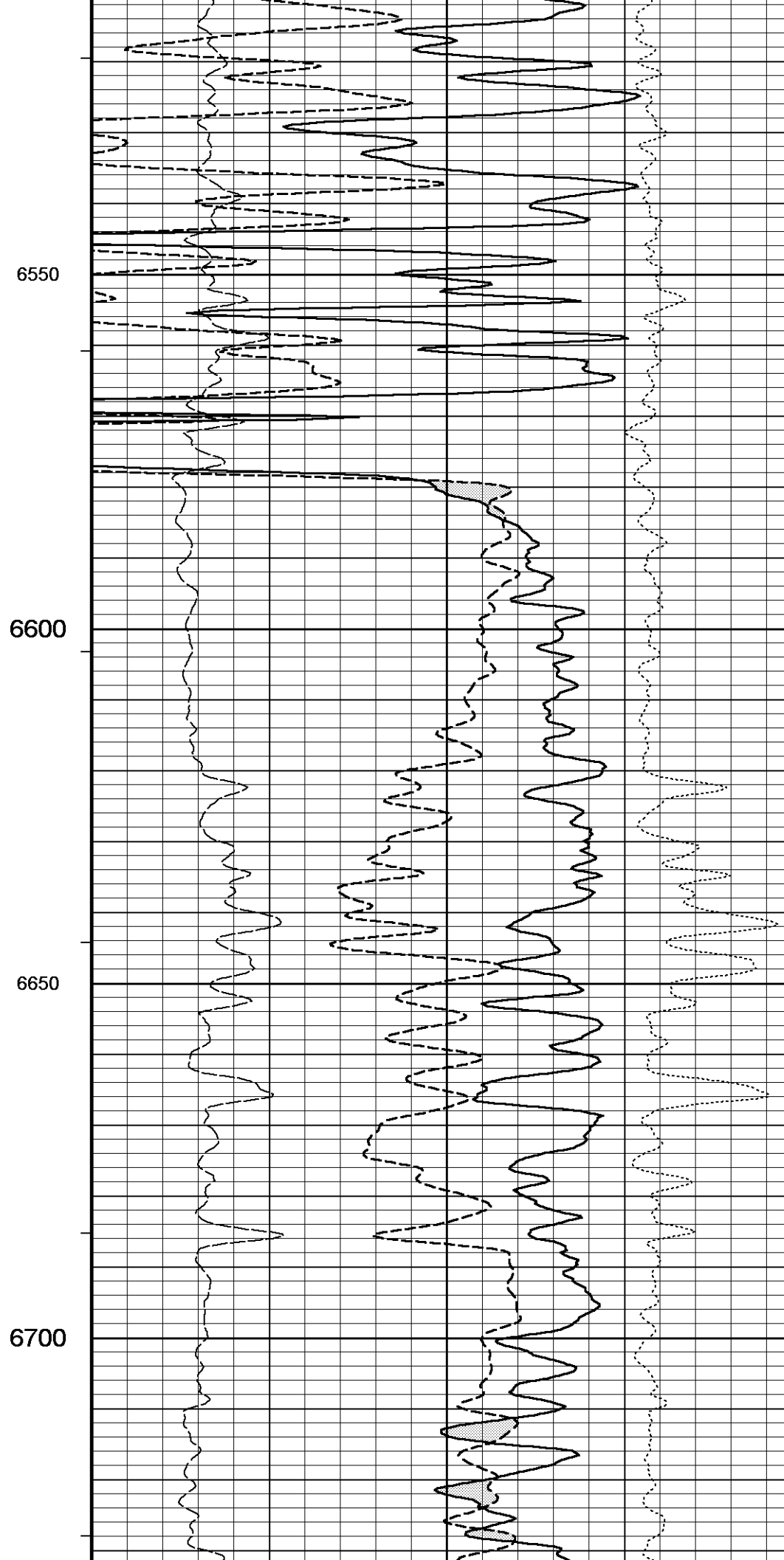
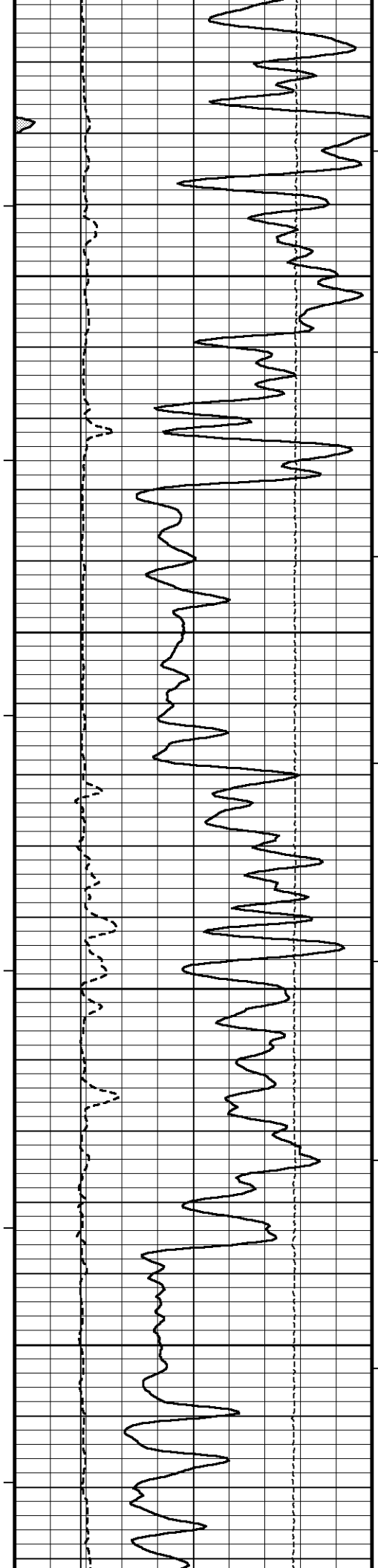
← DST Uphole Tension

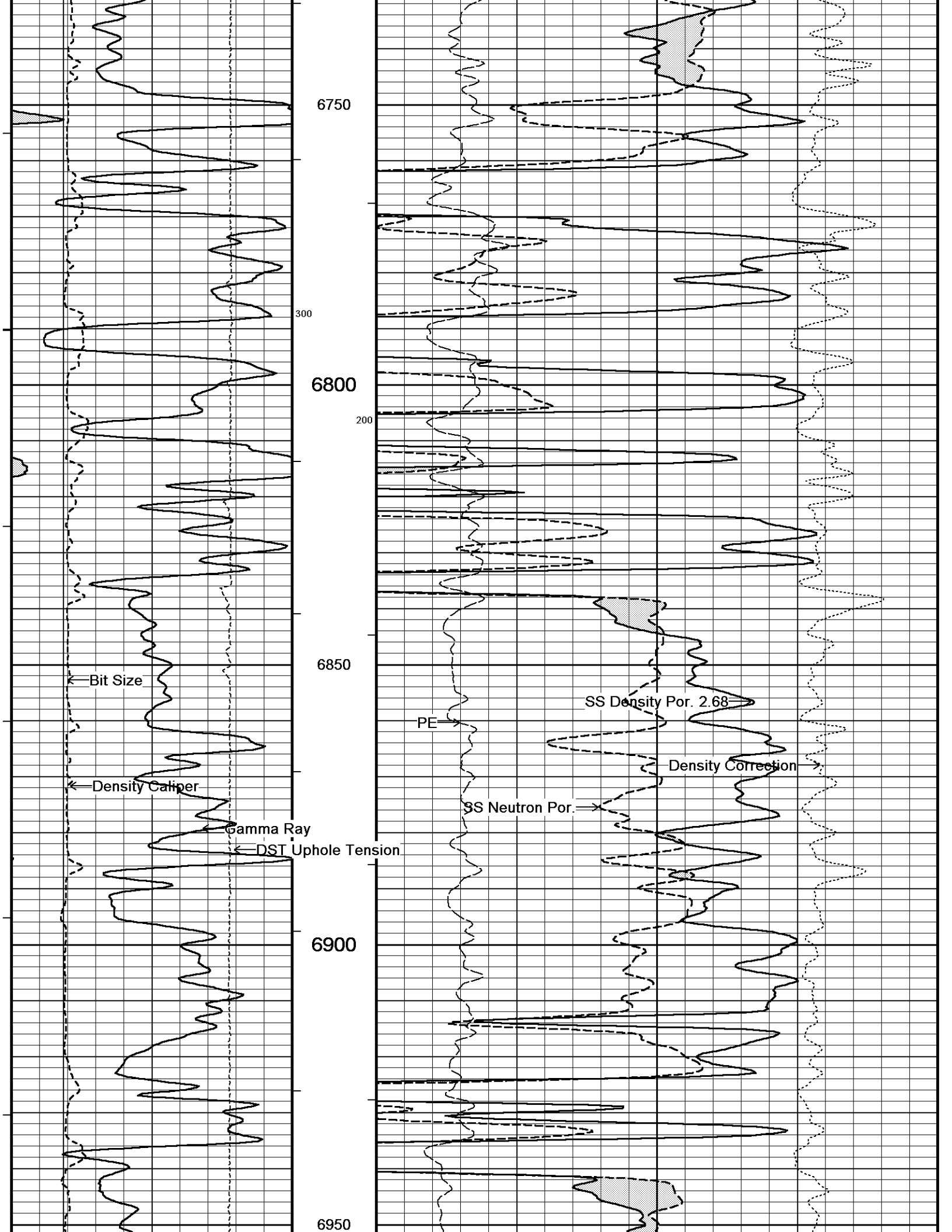
PE →

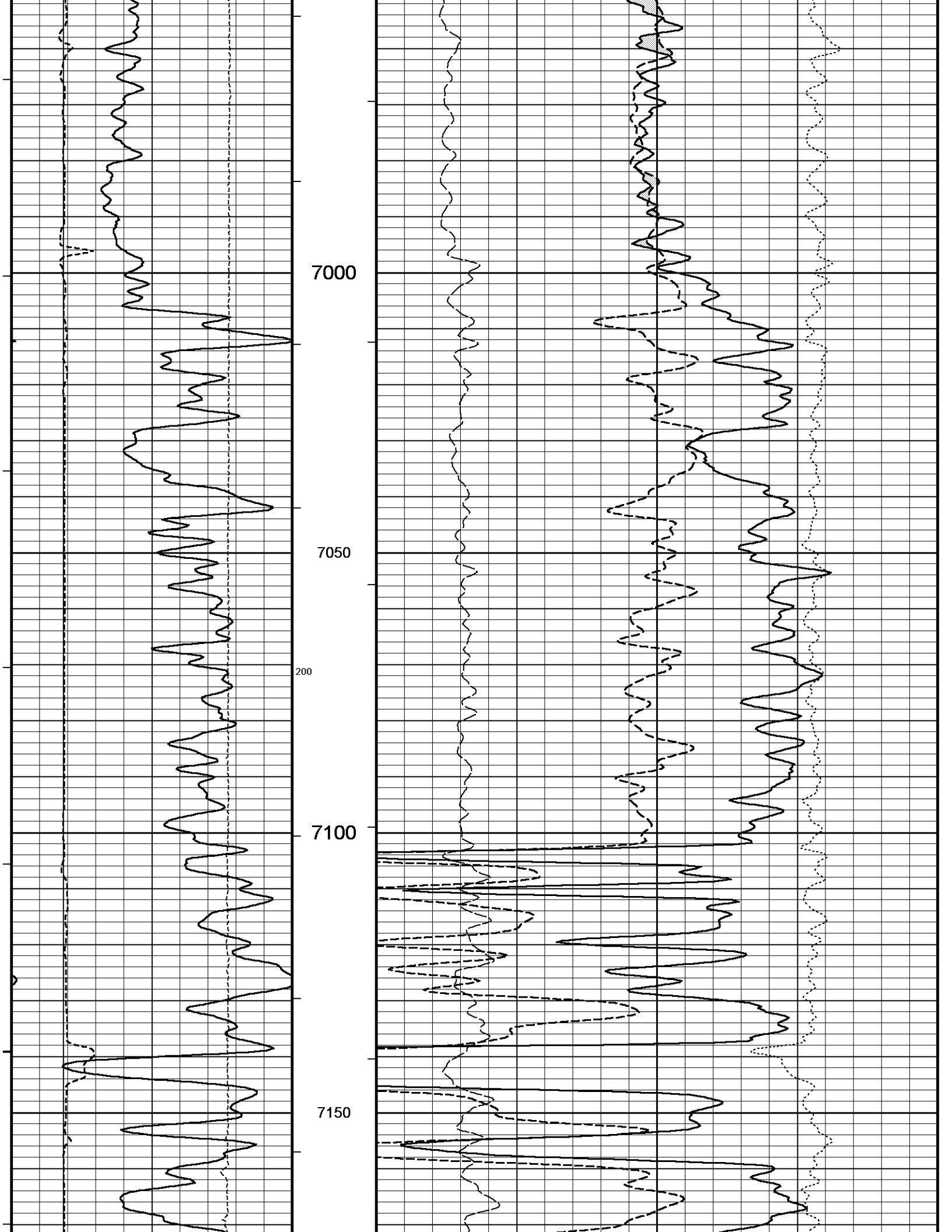
SS Density Por. 2.68

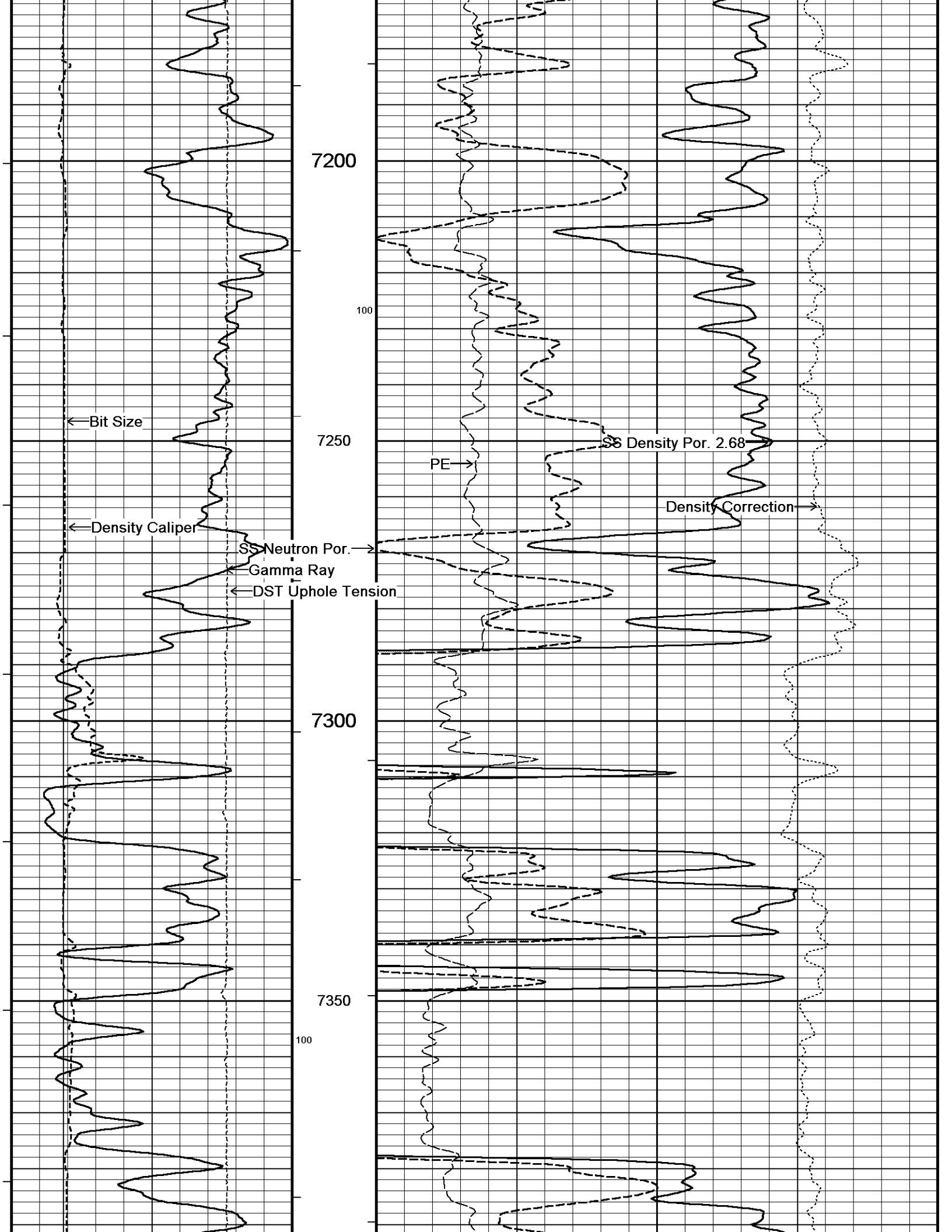
Density Correction →

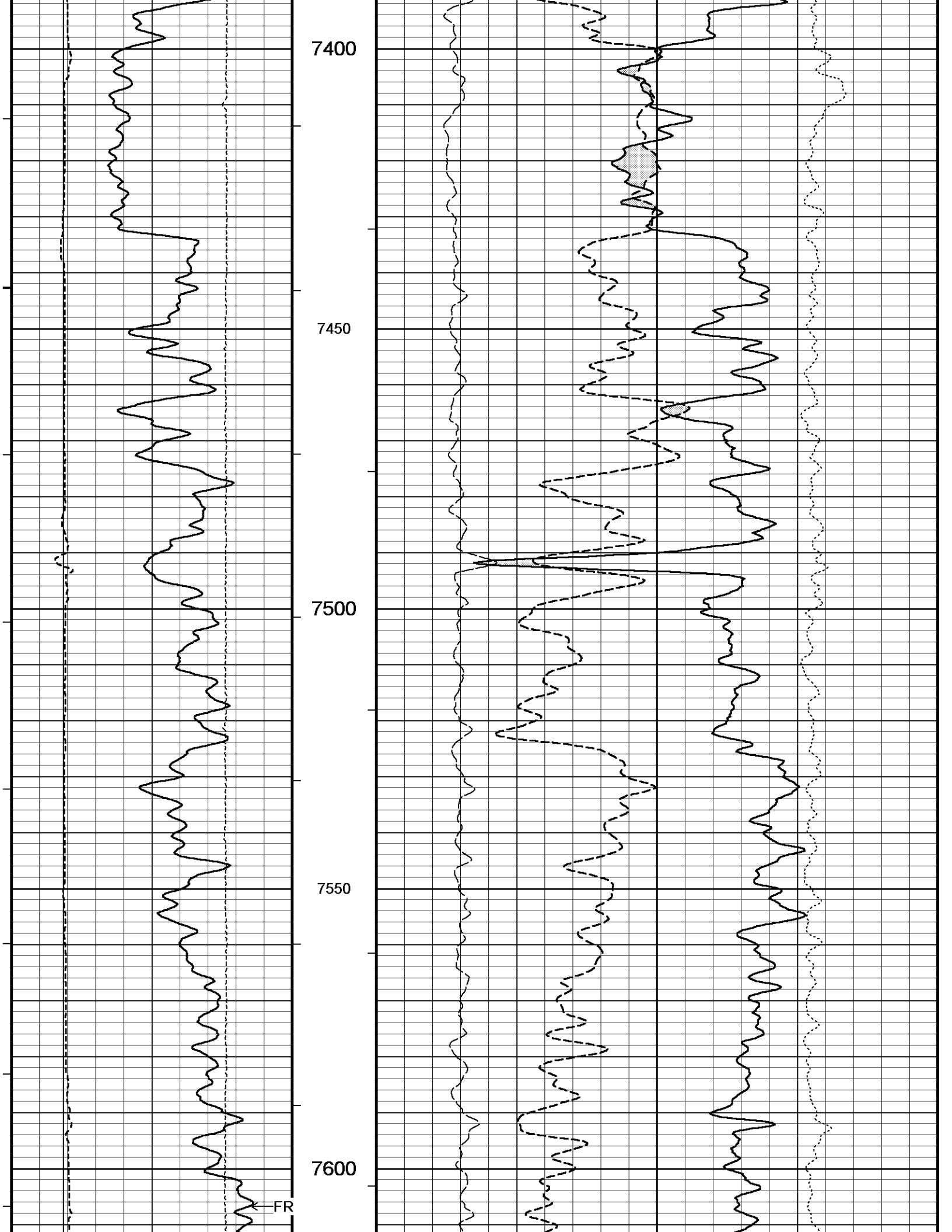
SS Neutron Por. →

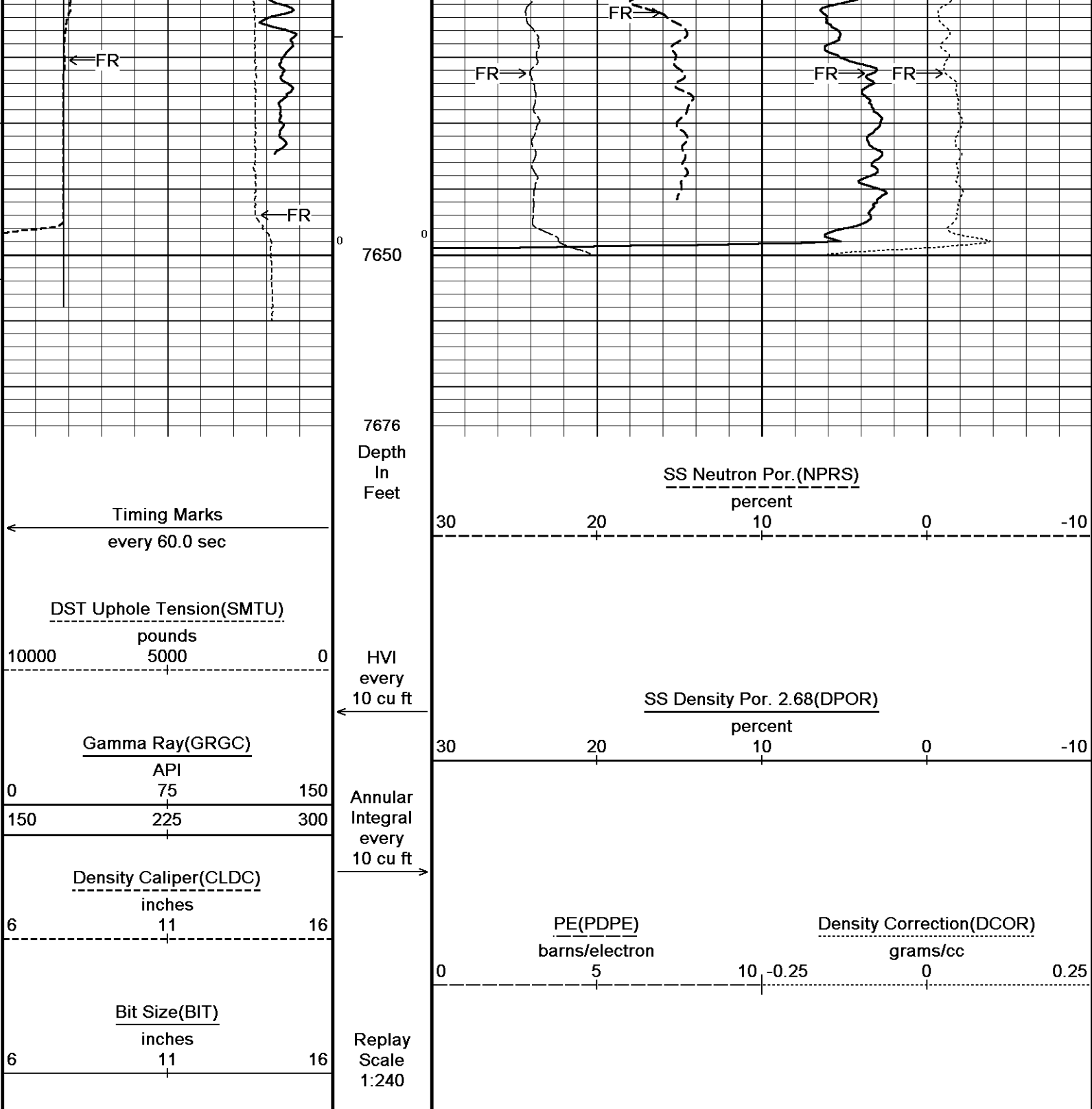










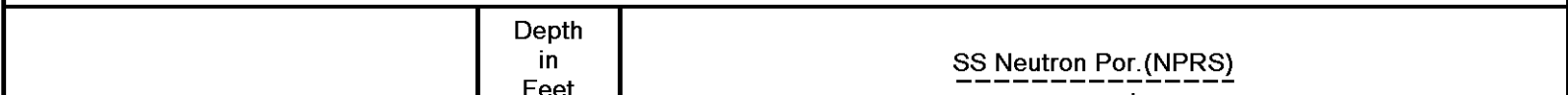


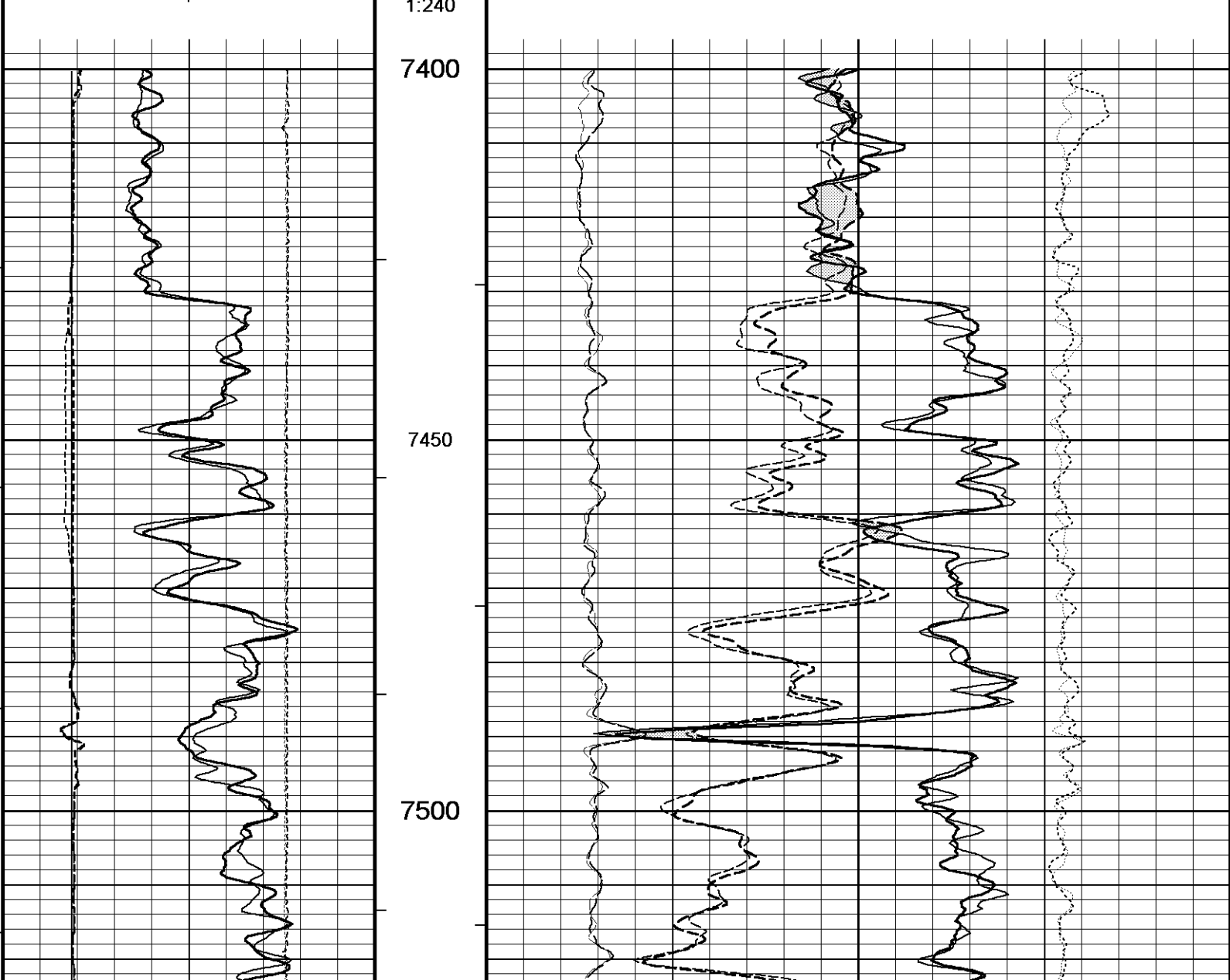
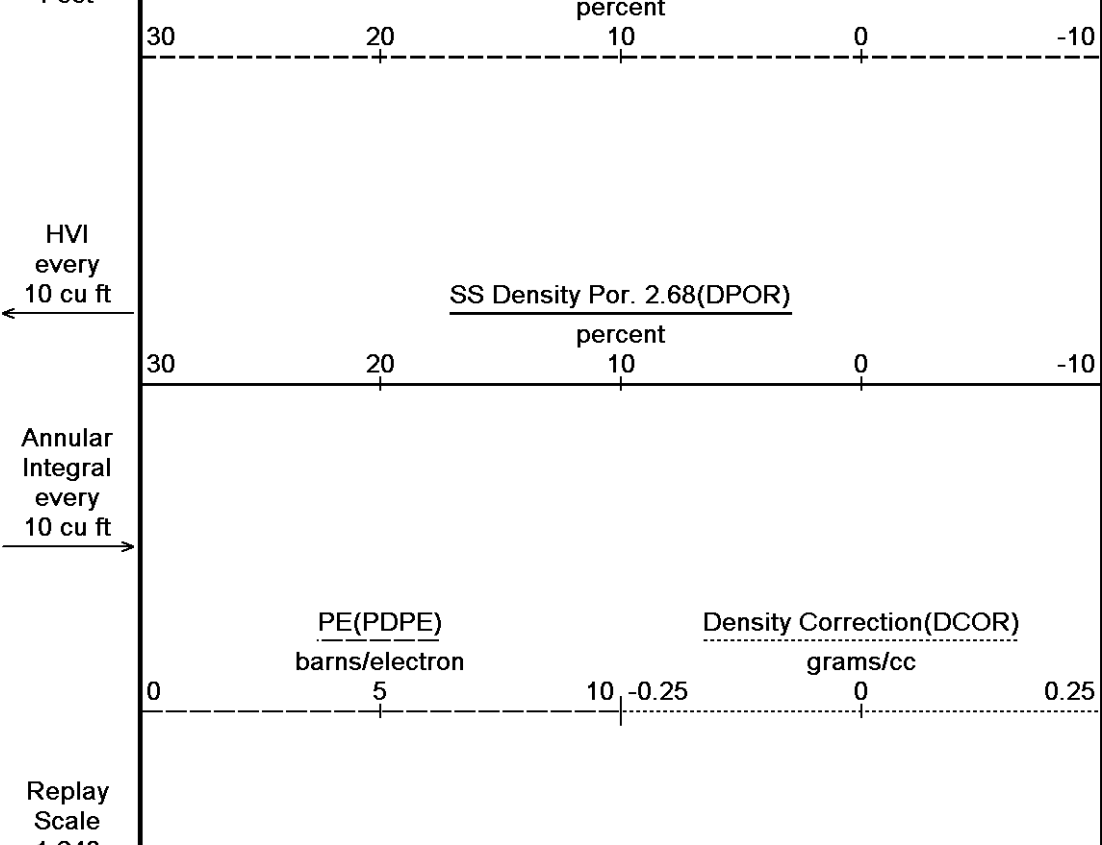
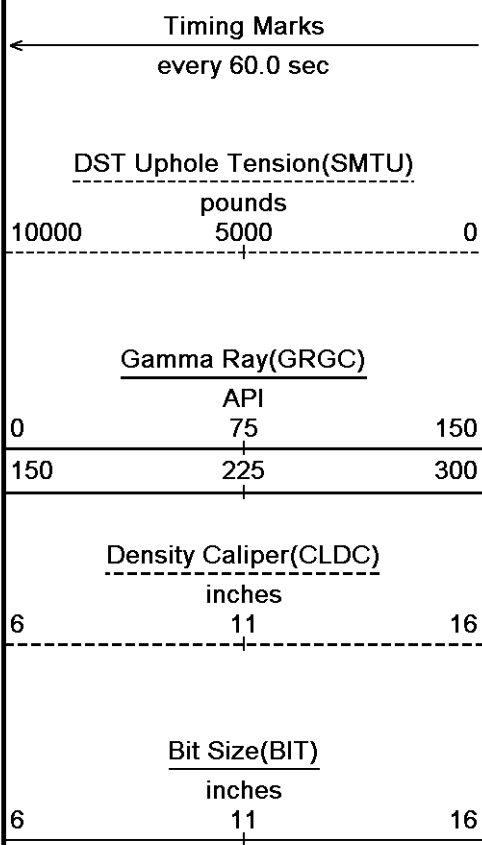
Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 01-MAR-2011 17:52
 Filename: C:\Documents and Settings\le145895\Desktop\GGU FEDERAL 34A-20-691\SPLICE.dta Recorded on 01-MAR-2011 11:46
 System Versions: Processed with 11.01.2198 Plotted with 11.01.2198

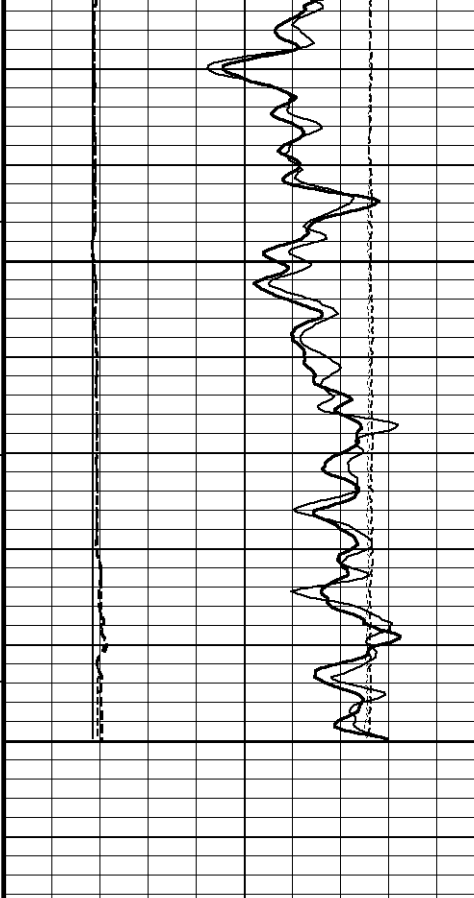
↑ 5 INCH MAIN LOG ↑

↓ OVERLAY ↓

Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 01-MAR-2011 17:52
 Filename: C:\Documents and Settings\le145895\Desktop\GGU FEDERAL 34A-20-691\SPLICE.dta Recorded on 01-MAR-2011 11:46
 Filename: C:\Documents and Settings\le145895\Desktop\GGU FEDERAL 34A-20-691\REPEAT-RUN2.dta Recorded on 01-MAR-2011 11:24
 System Versions: Processed with 11.01.2198 Plotted with 11.01.2198





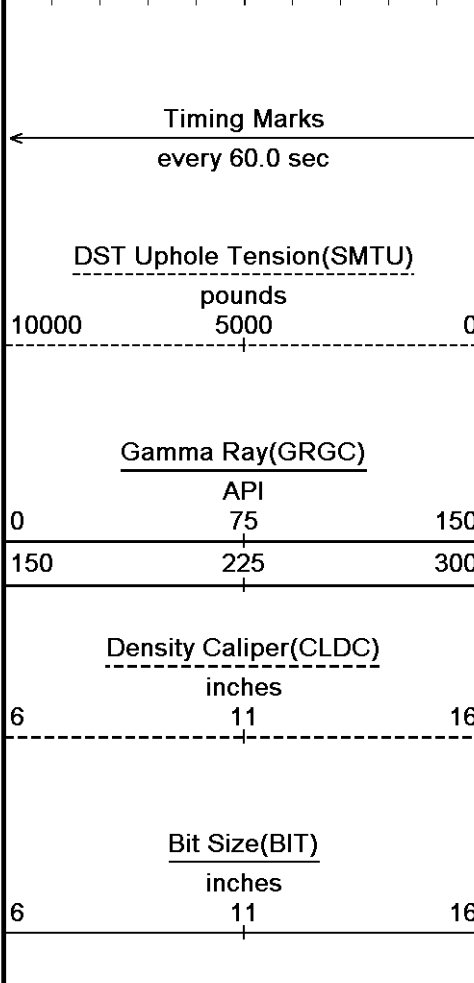
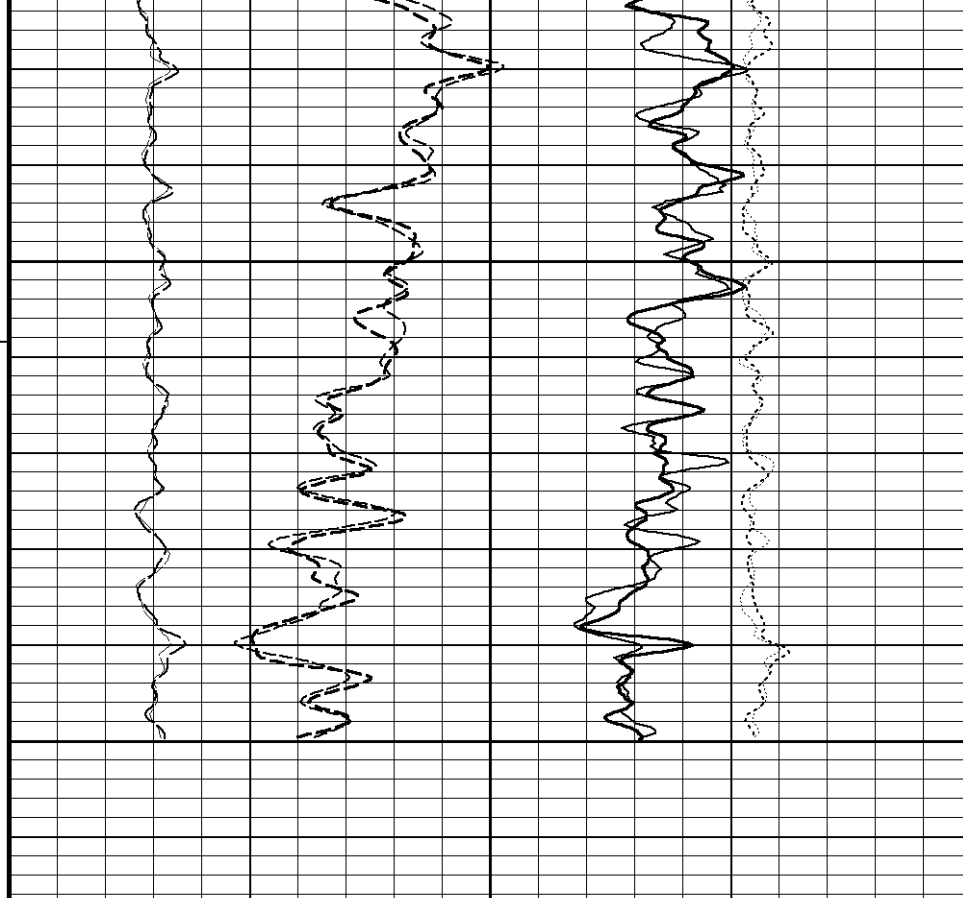


7550

7600

7614

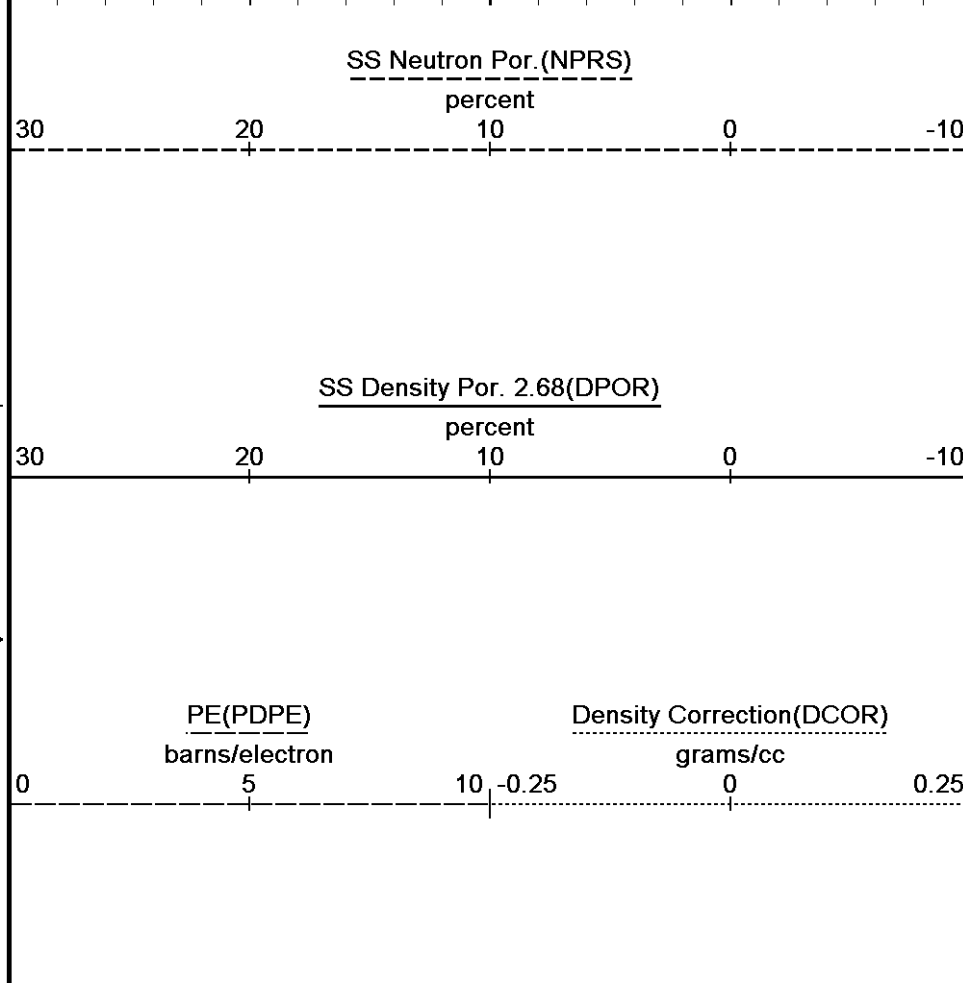
Depth
in
Feet



HVI
every
10 cu ft

Annular
Integral
every
10 cu ft

Replay
Scale
1:240



Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 01-MAR-2011 17:52
 Filename: C:\Documents and Settings\145895\Desktop\GGU FEDERAL 34A-20-691\SPLICE.dta
 Recorded on 01-MAR-2011 11:46
 Filename: C:\Documents and Settings\145895\Desktop\GGU FEDERAL 34A-20...\REPEAT-RUN2.dta
 Recorded on 01-MAR-2011 11:24
 System Versions: Processed with 11.01.2198 Plotted with 11.01.2198

5 INCH MAIN LOG

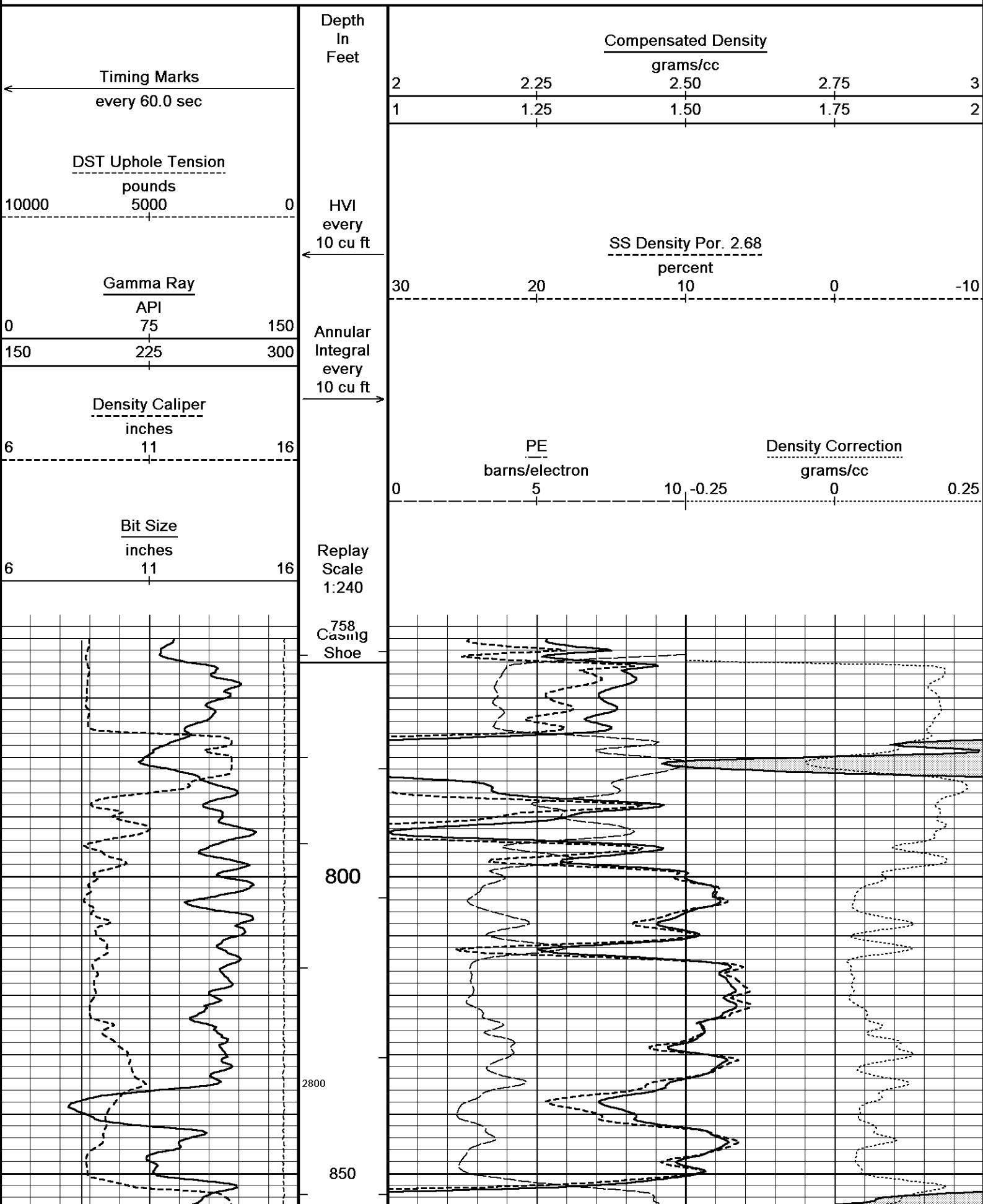
Depth Based Data - Maximum Sampling Increment 10.0cm

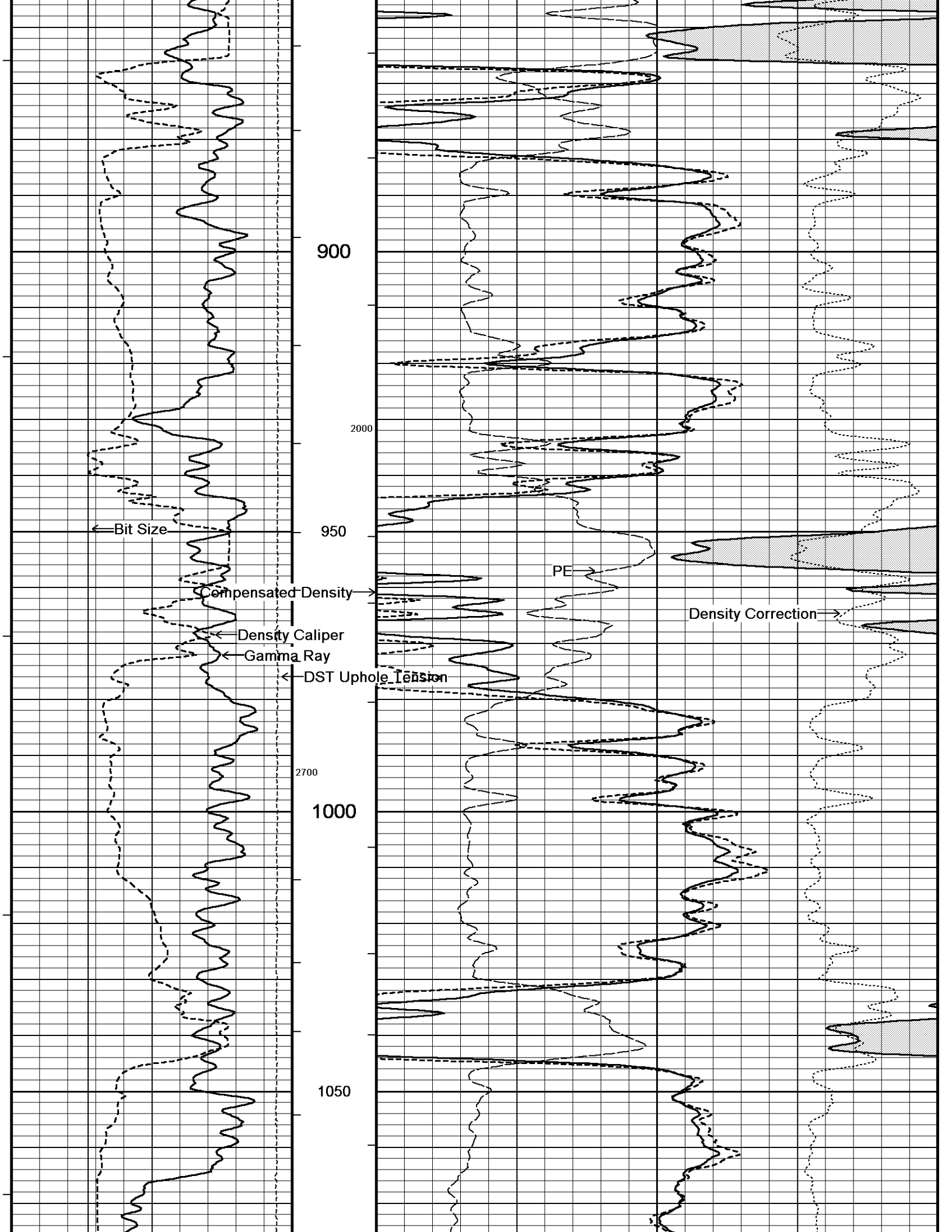
Plotted on 01-MAR-2011 17:52

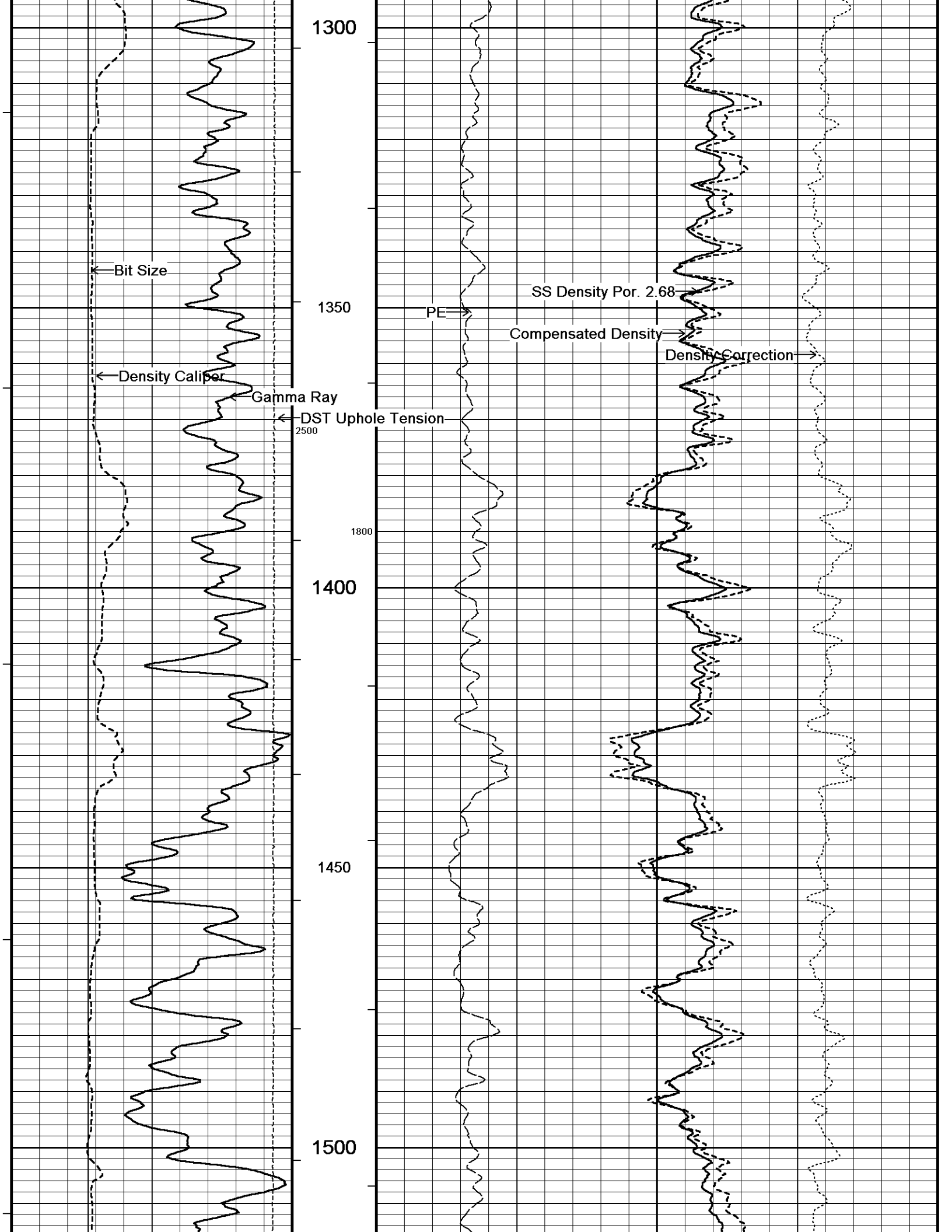
Filename: C:\Documents and Settings\le145895\Desktop\GGU FEDERAL 34A-20-691\SPLICE.dta

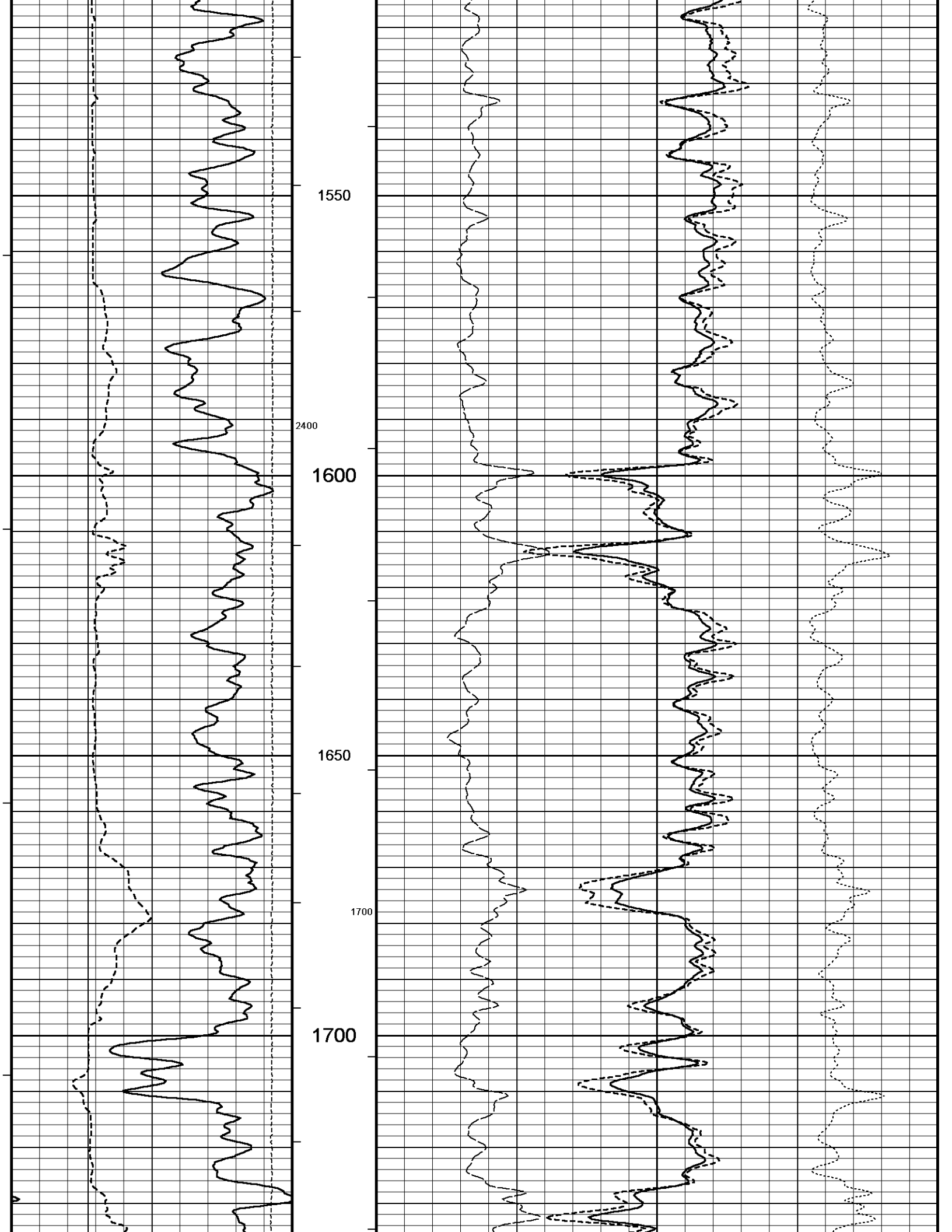
Recorded on 01-MAR-2011 11:46

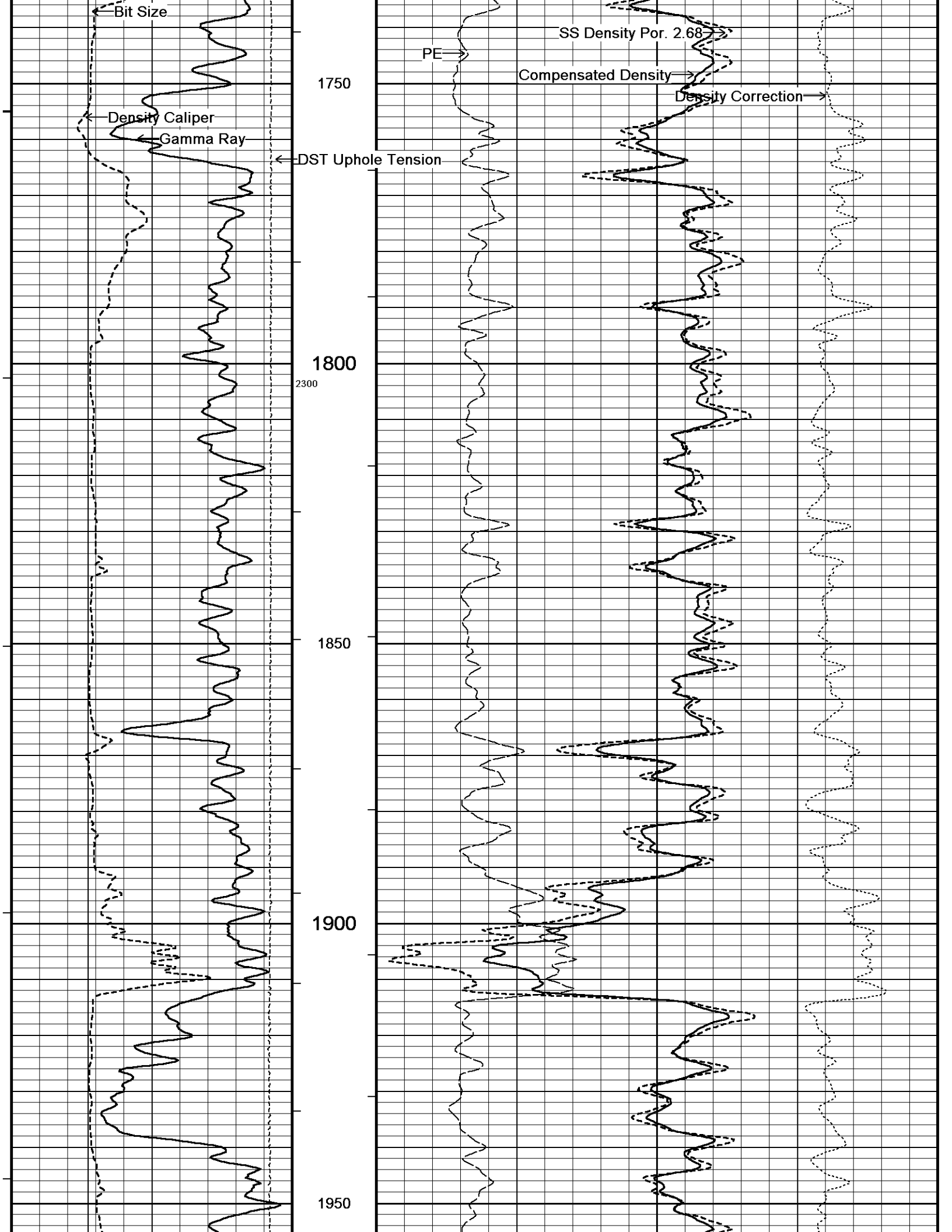
System Versions: Processed with 11.01.2198 Plotted with 11.01.2198

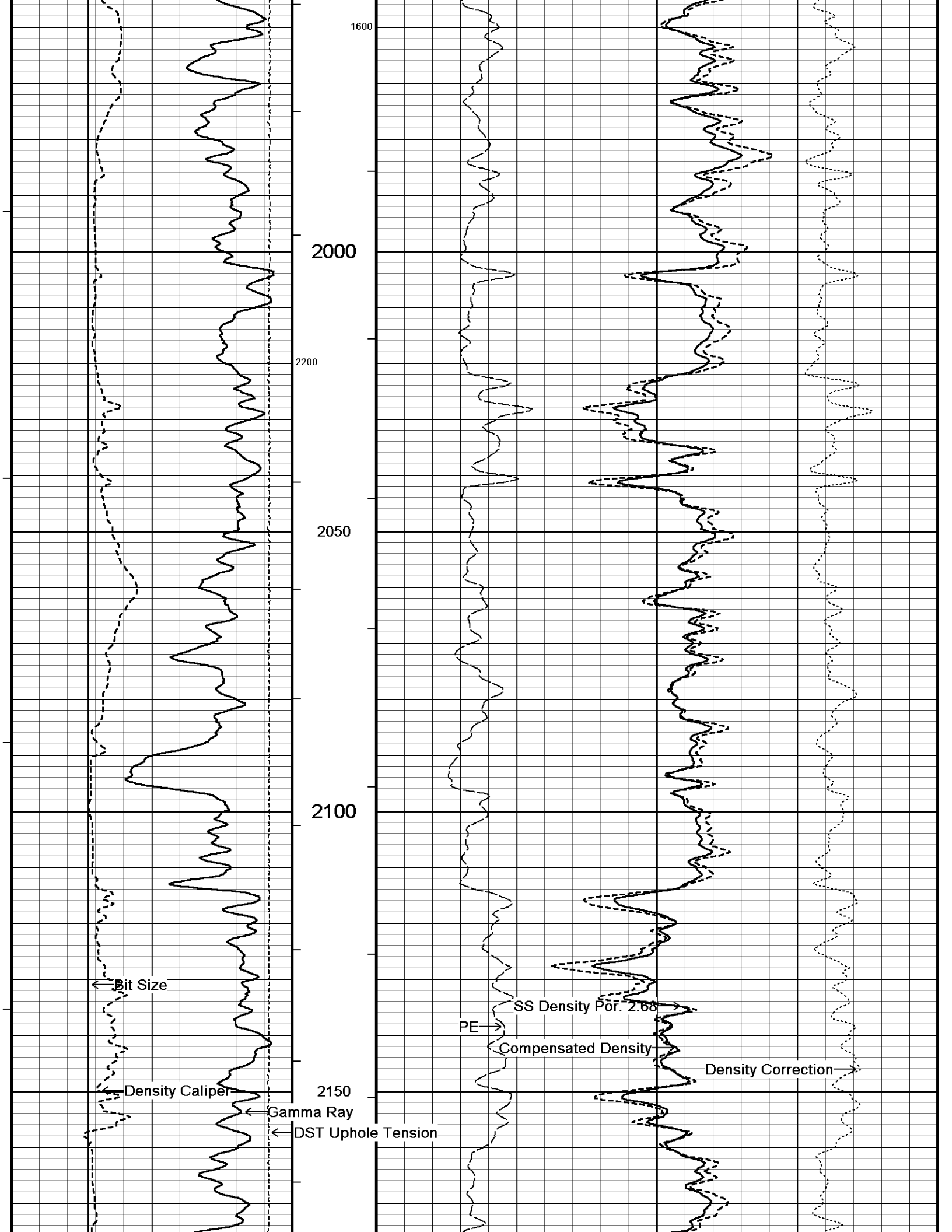


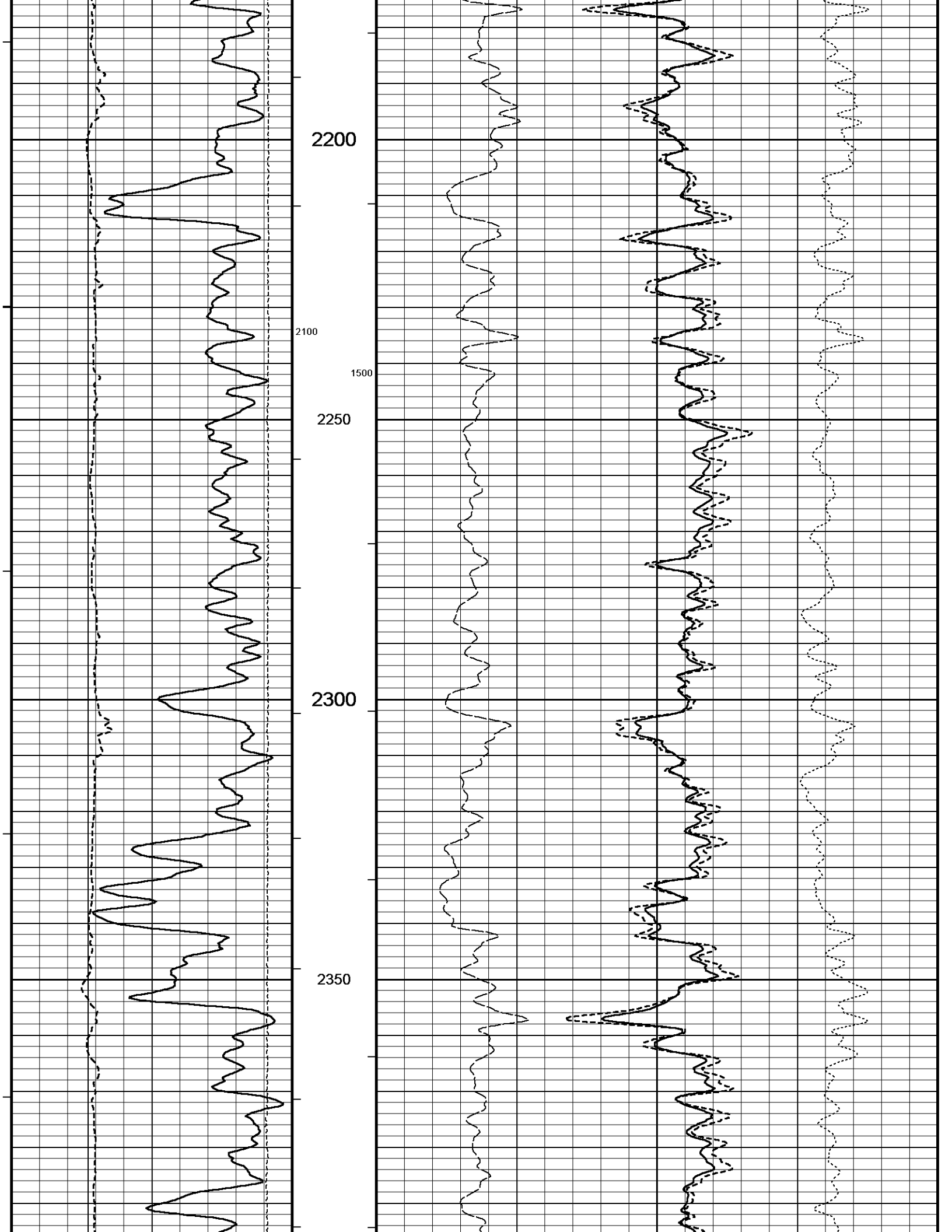


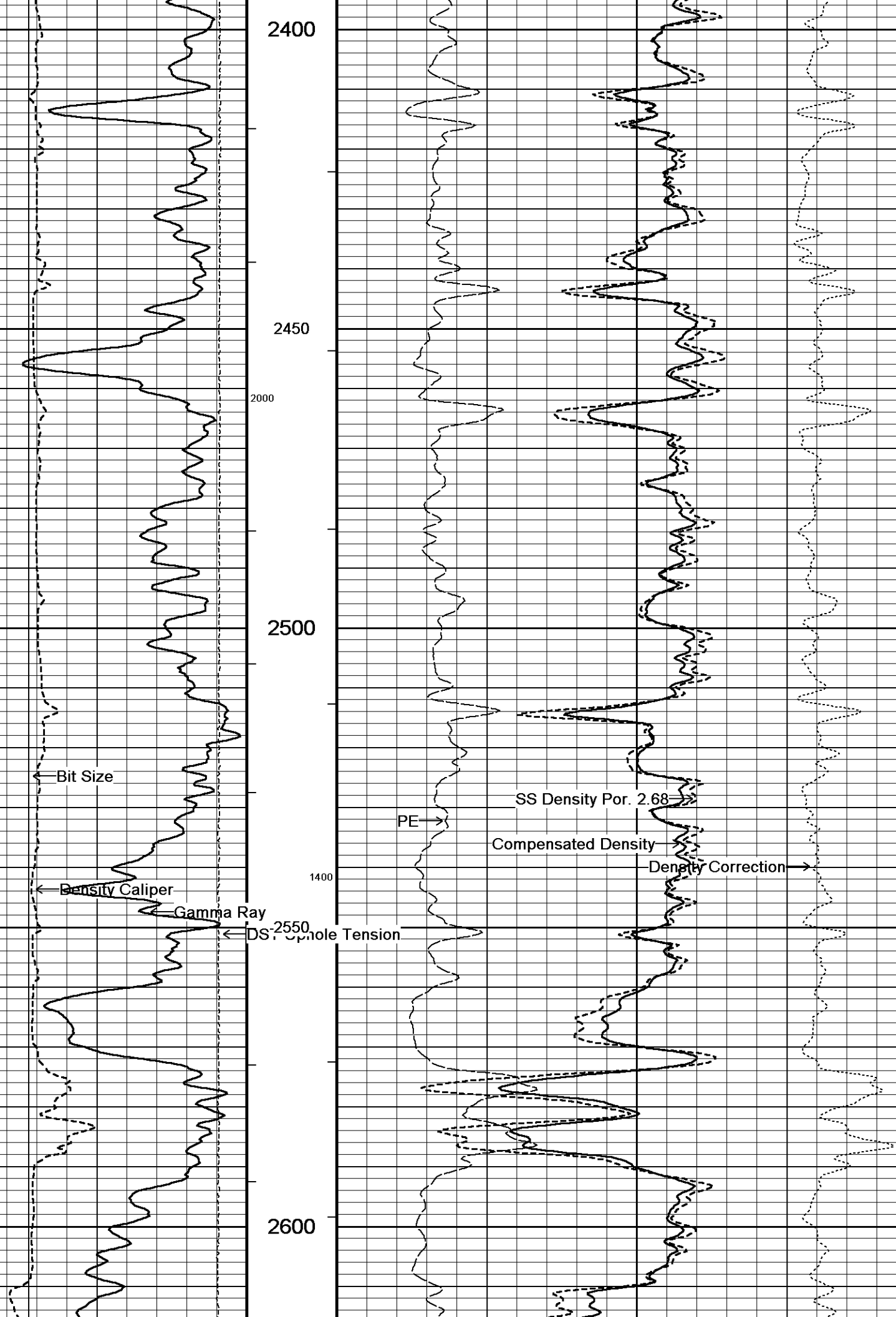


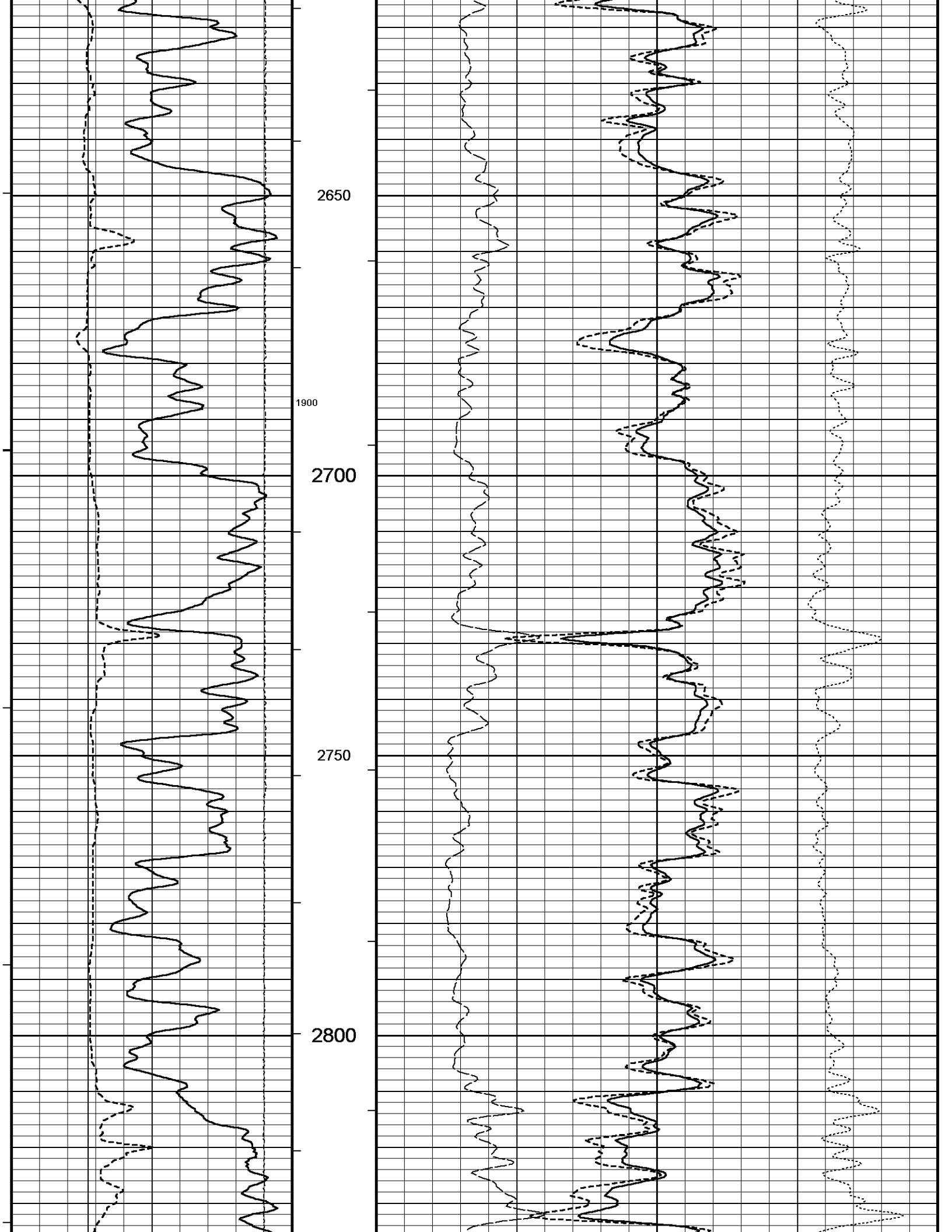


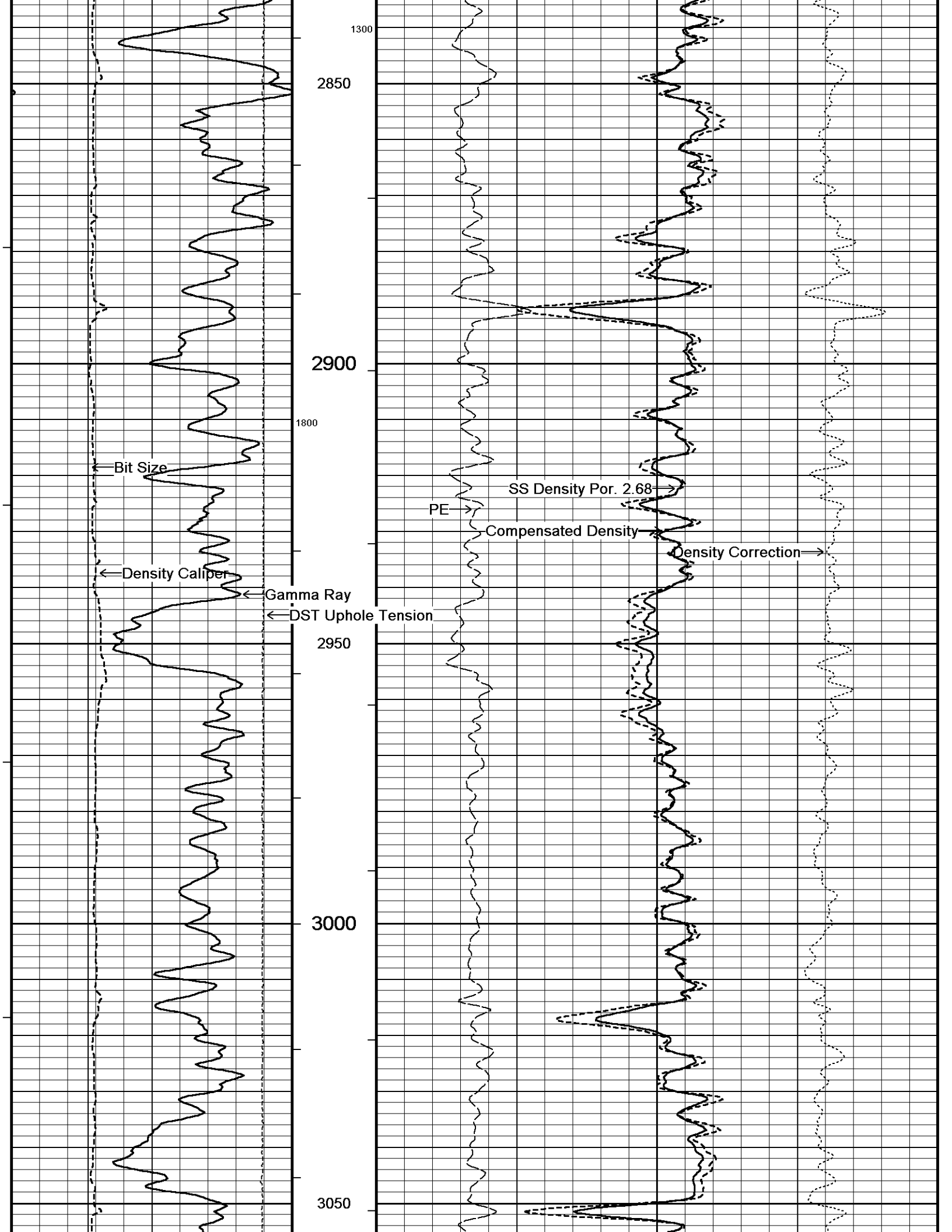


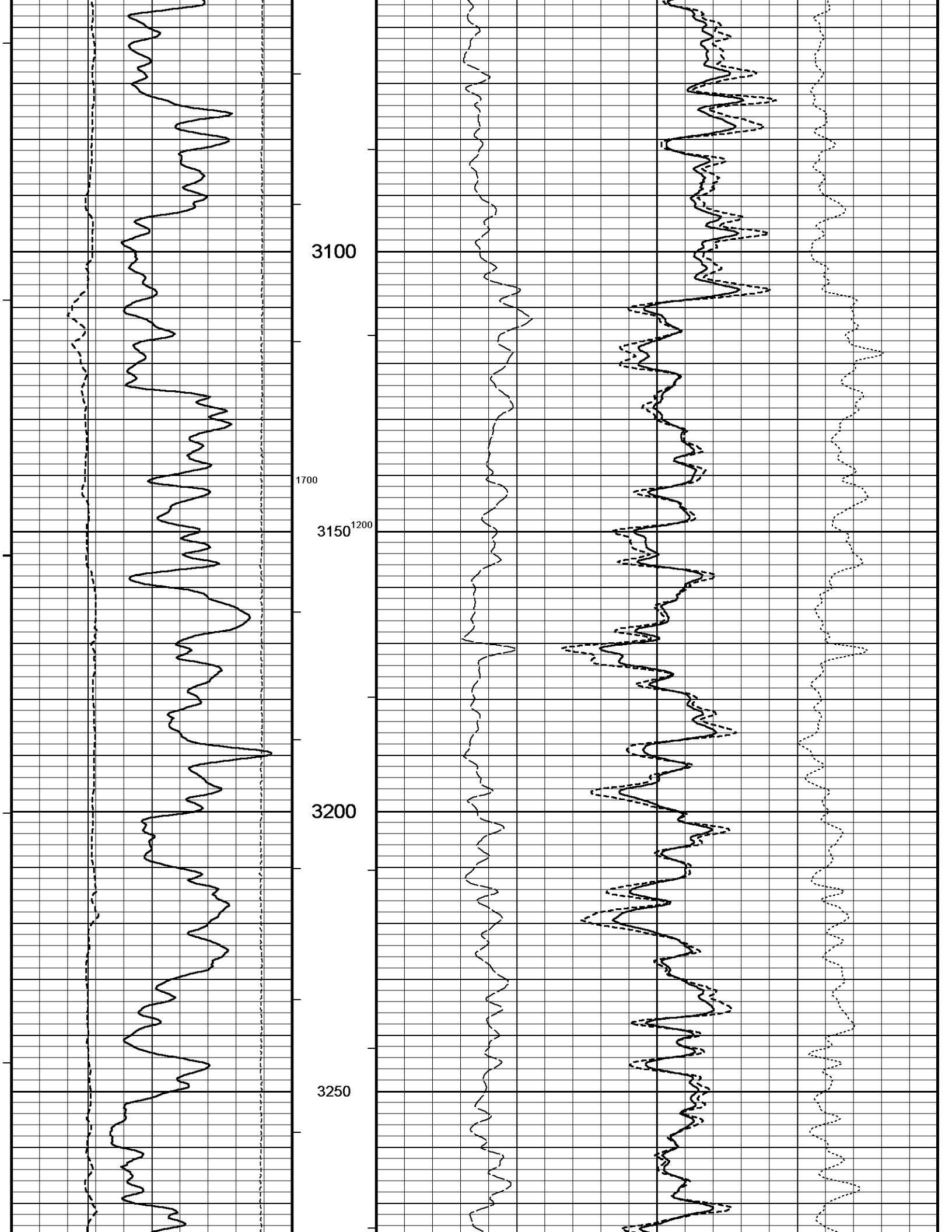


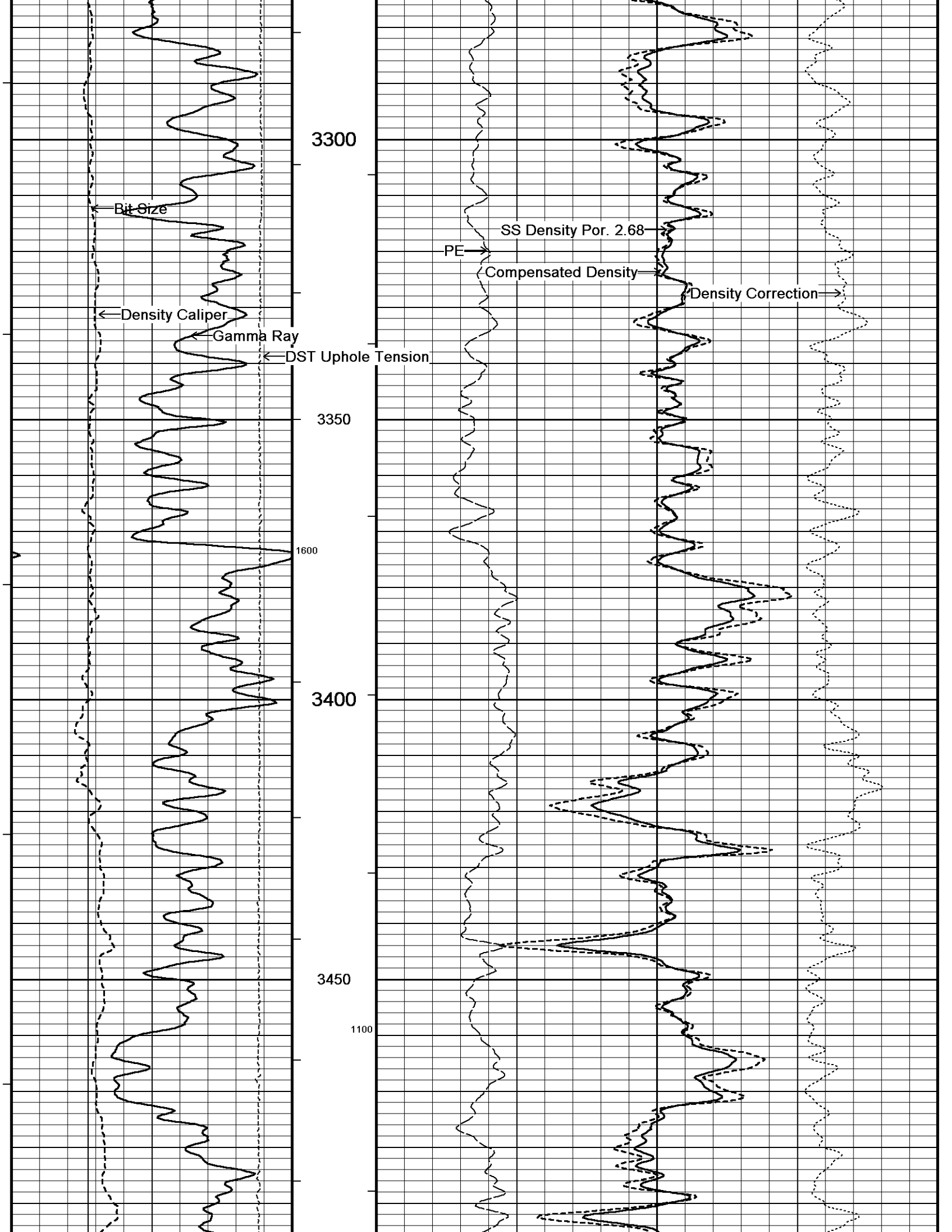


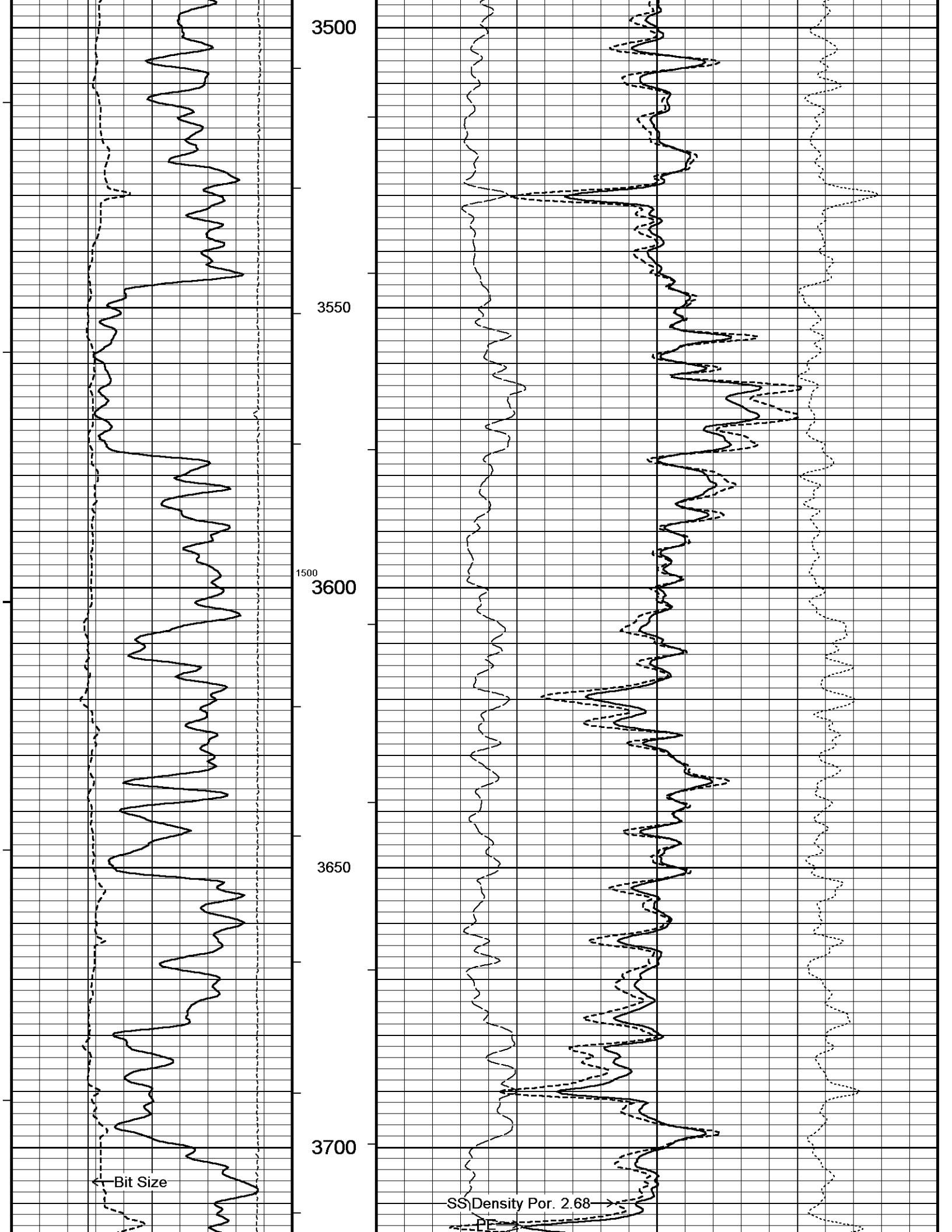


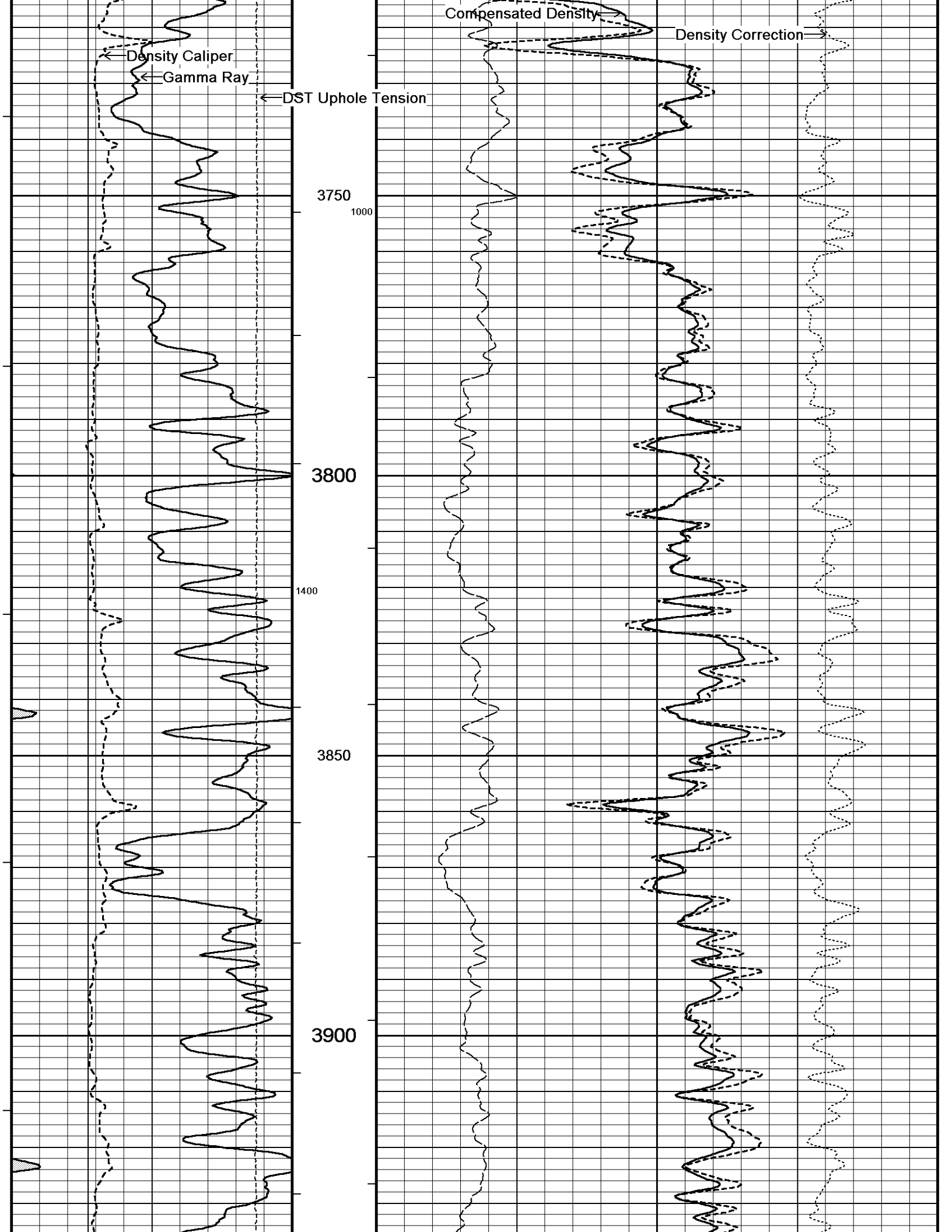


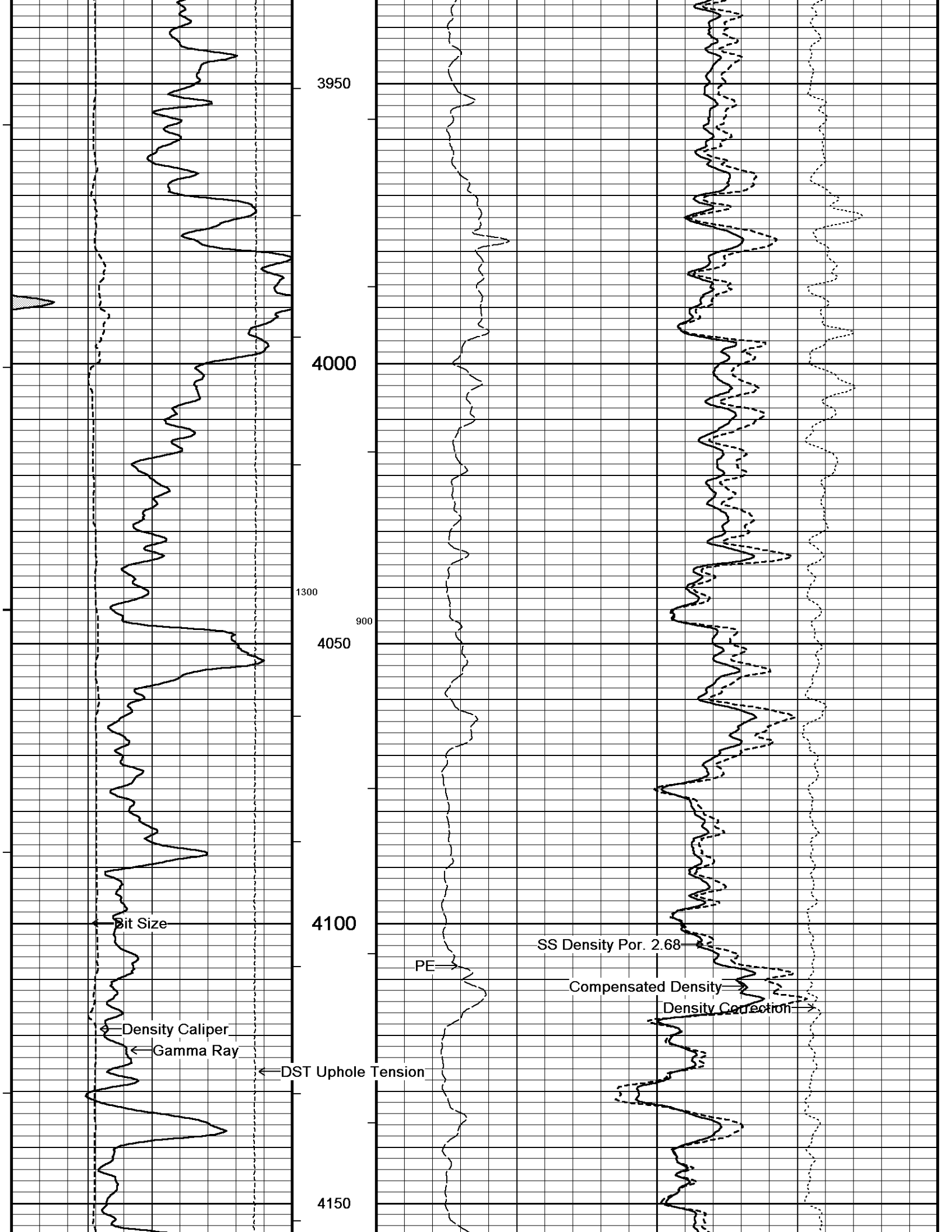


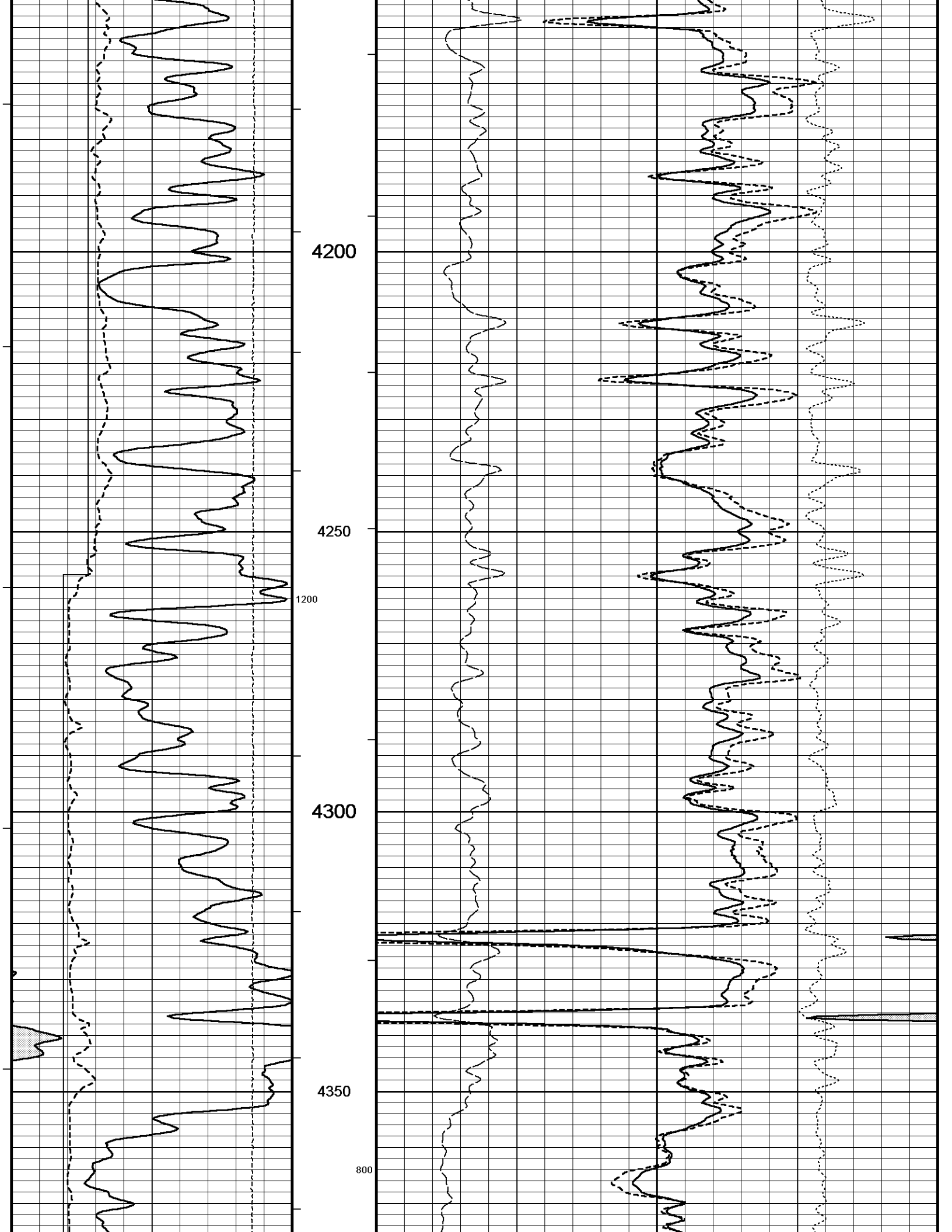


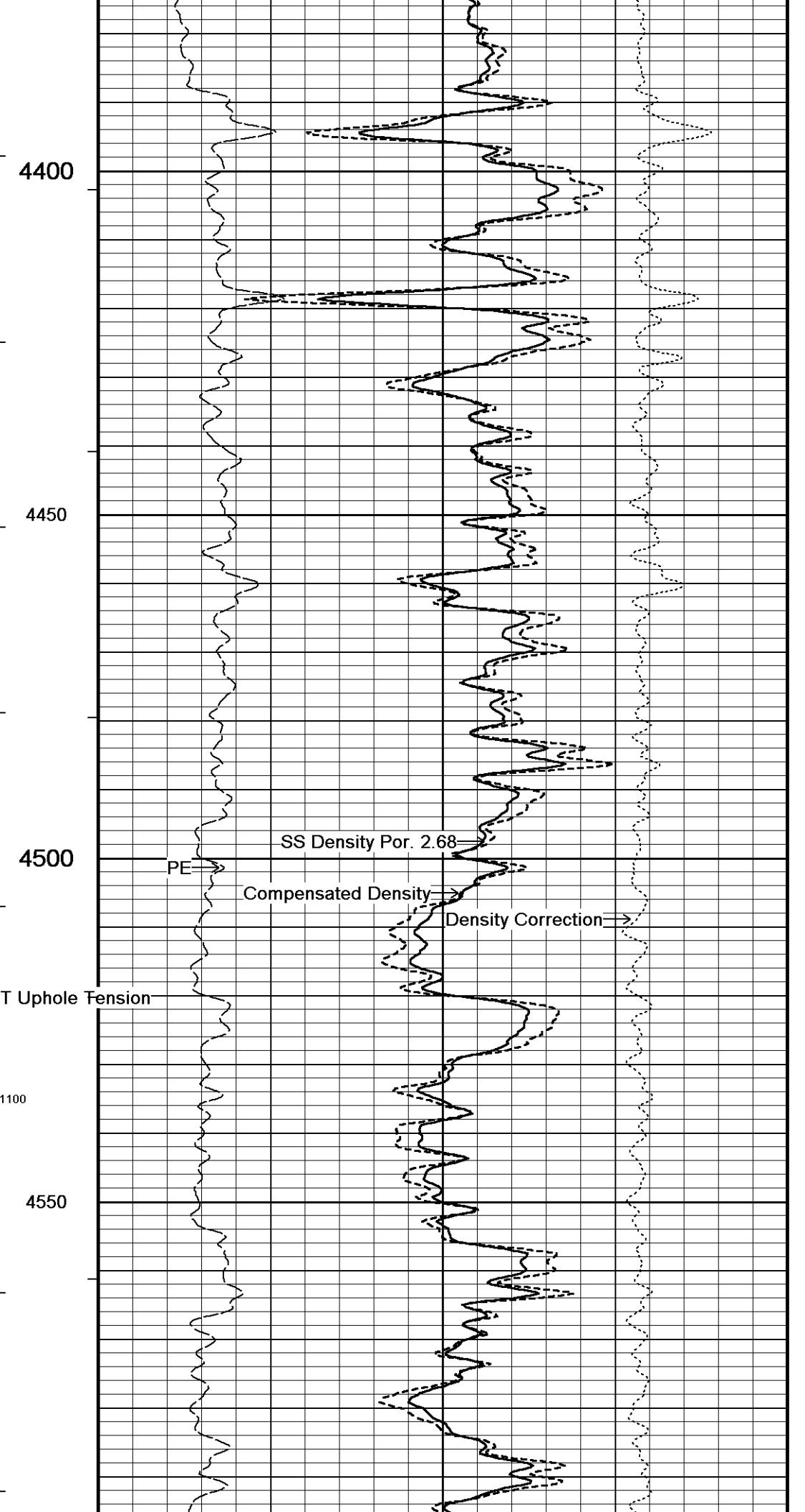
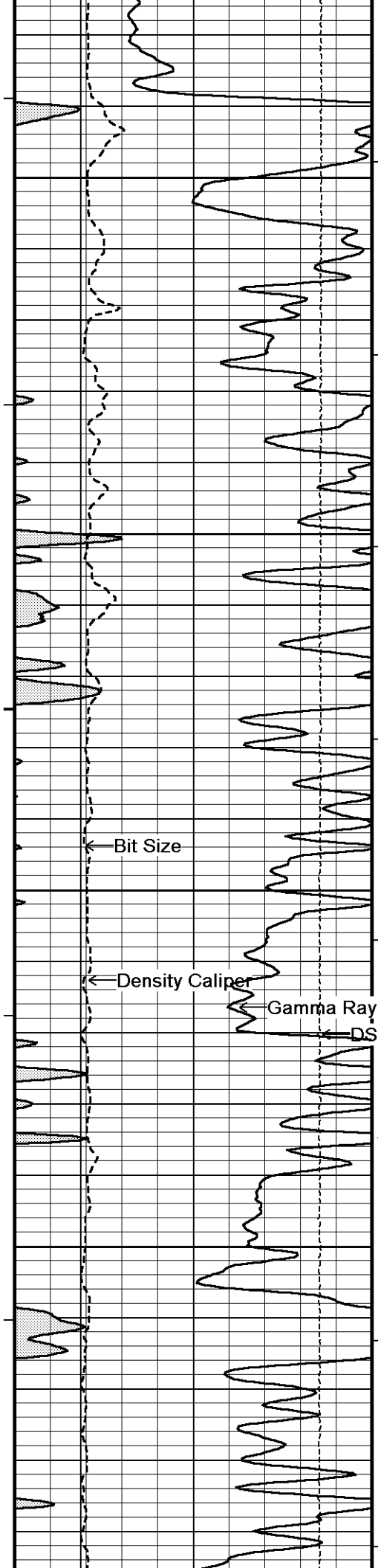












Bit Size

Density Caliper

Gamma Ray

DST Uphole Tension

4400

4450

4500

4550

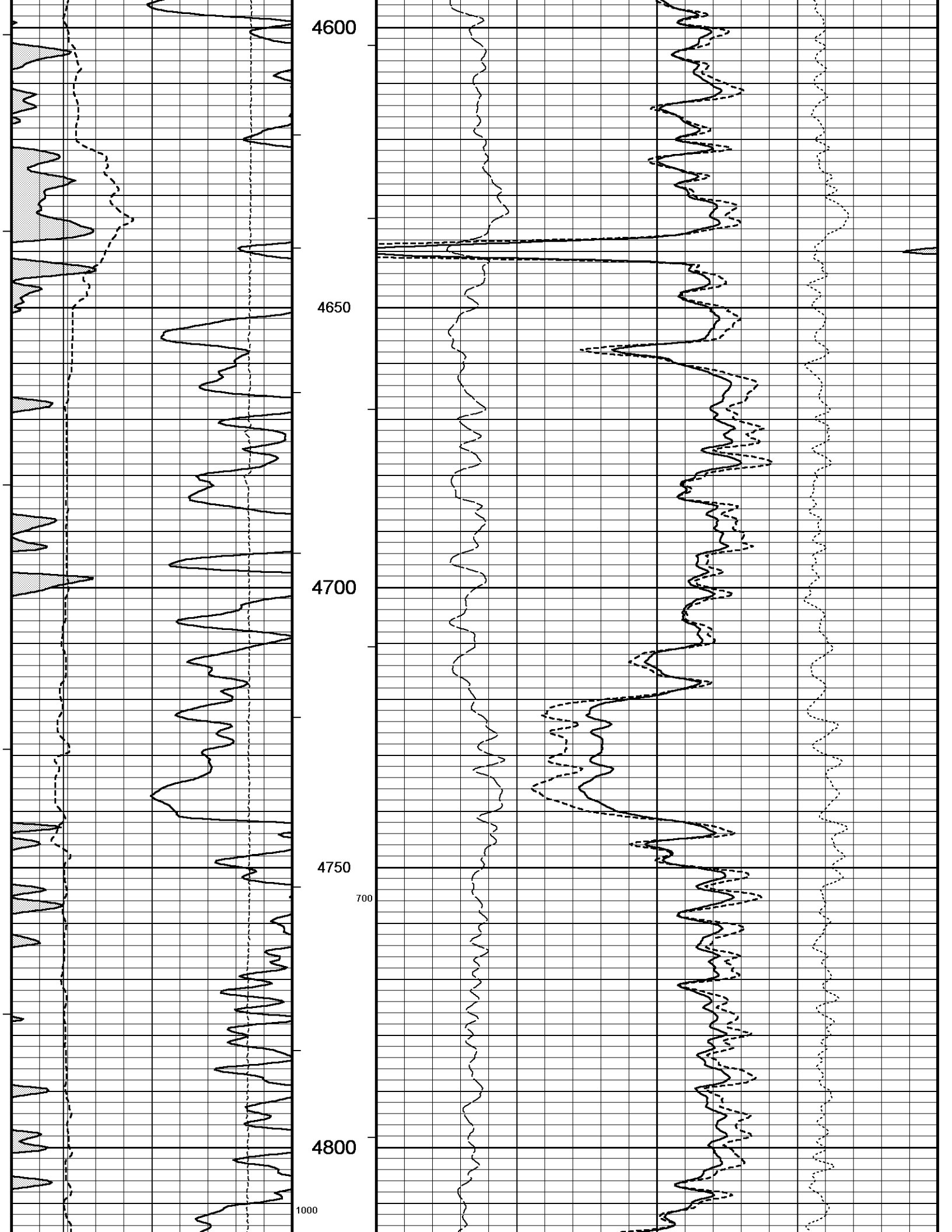
1100

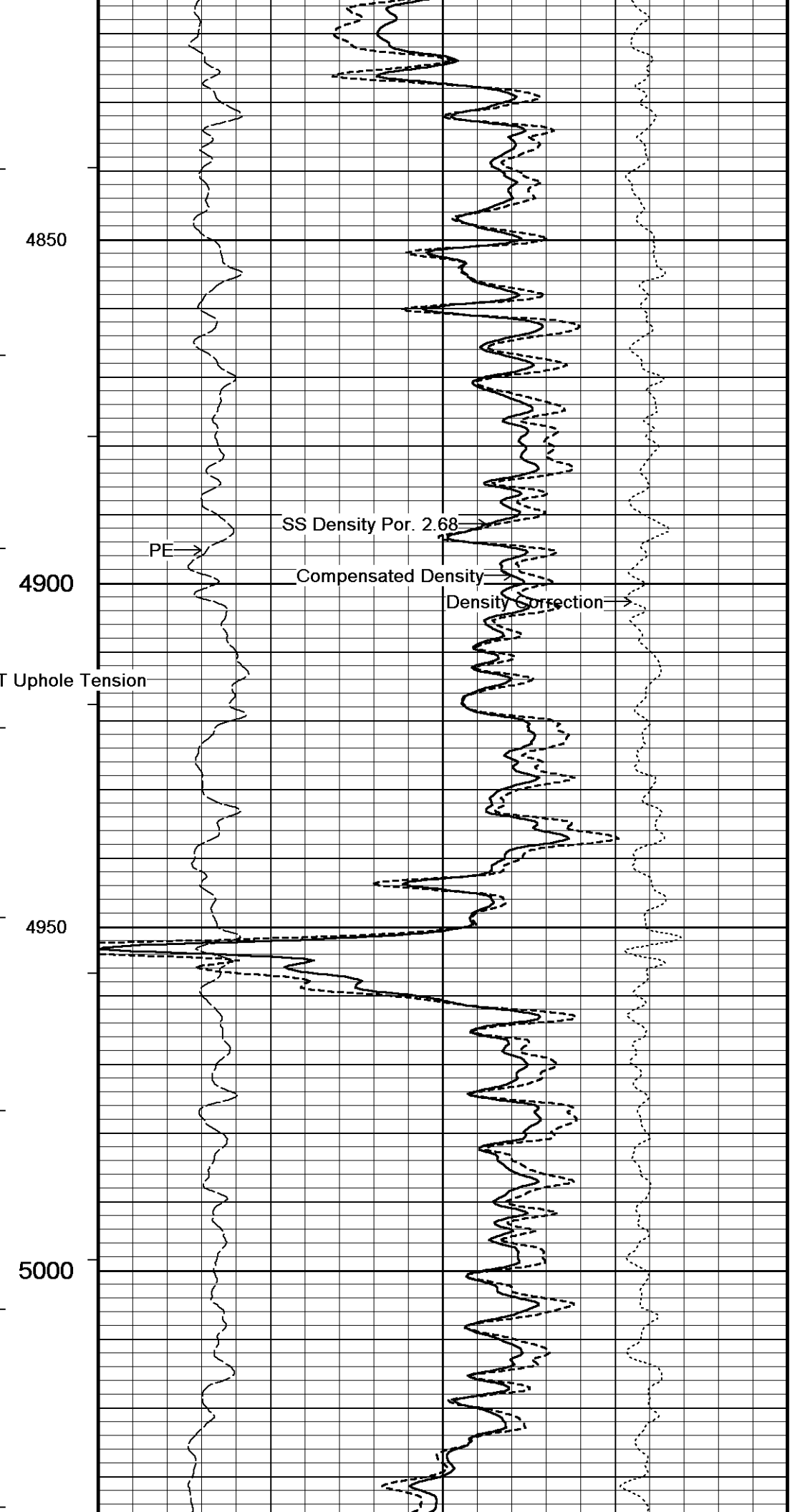
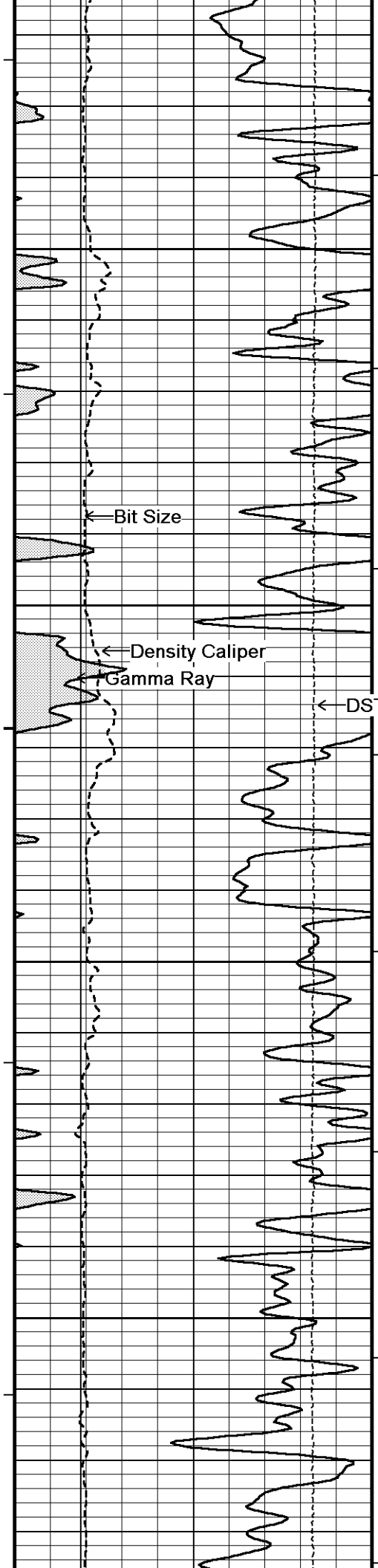
PE

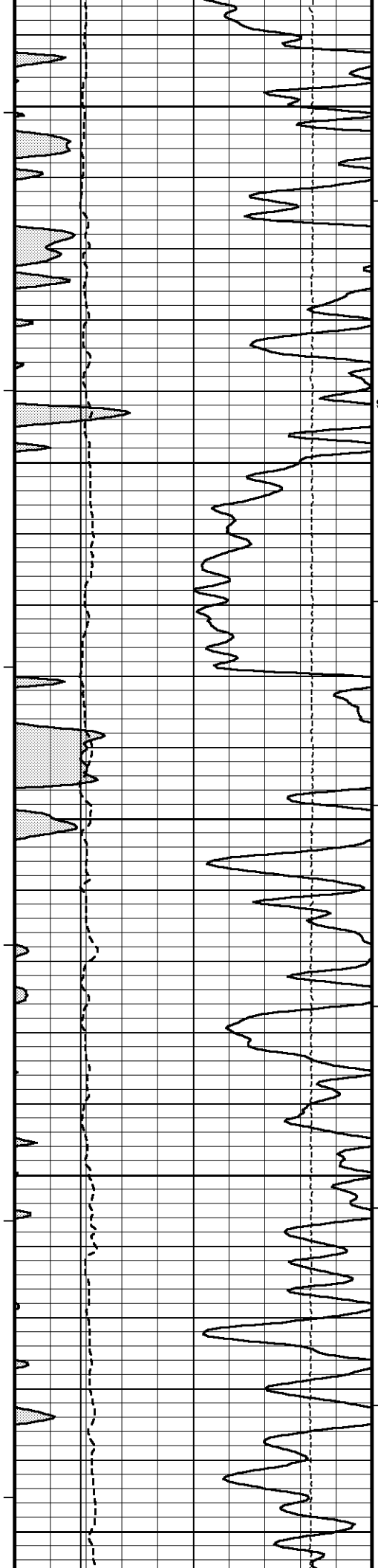
SS Density Por. 2.68

Compensated Density

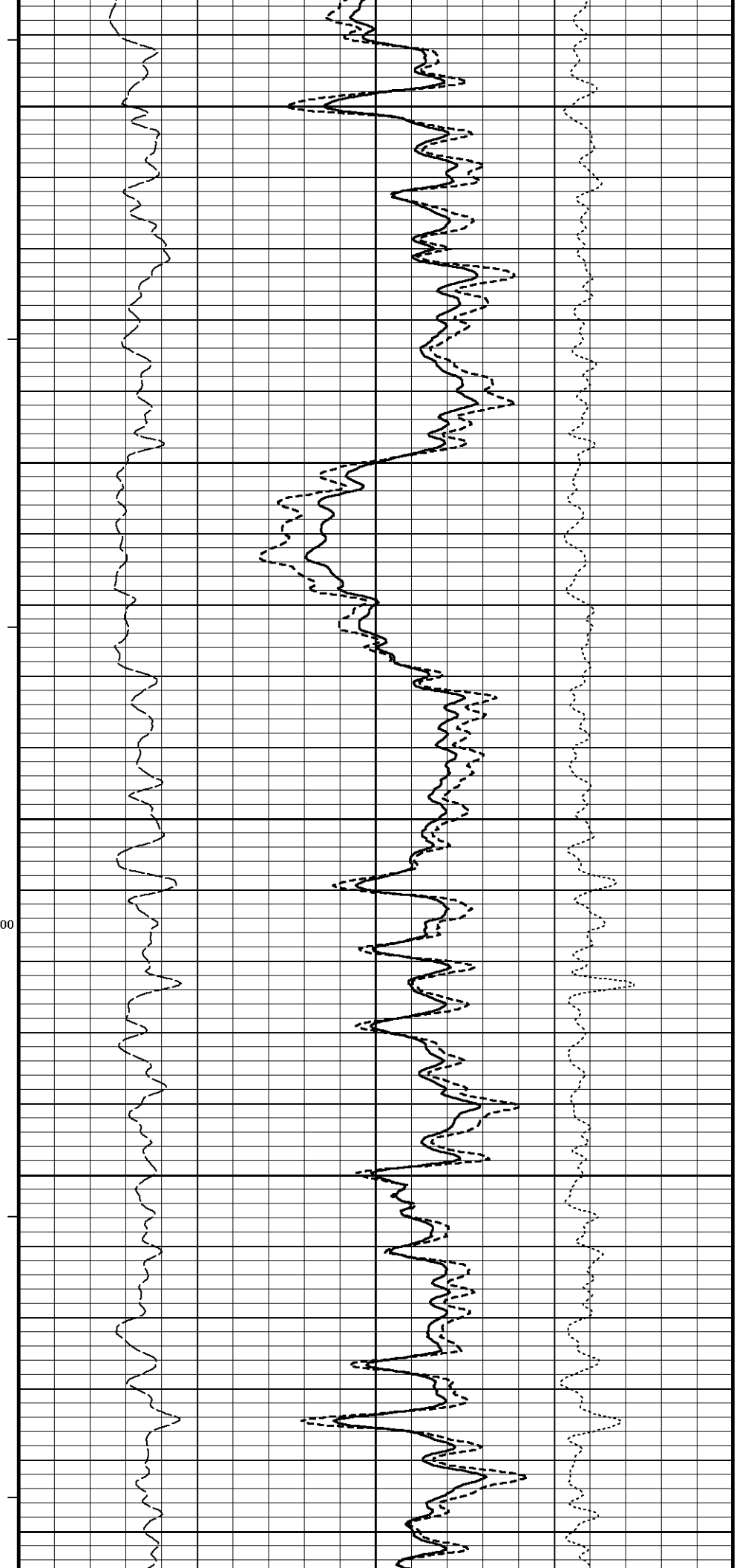
Density Correction

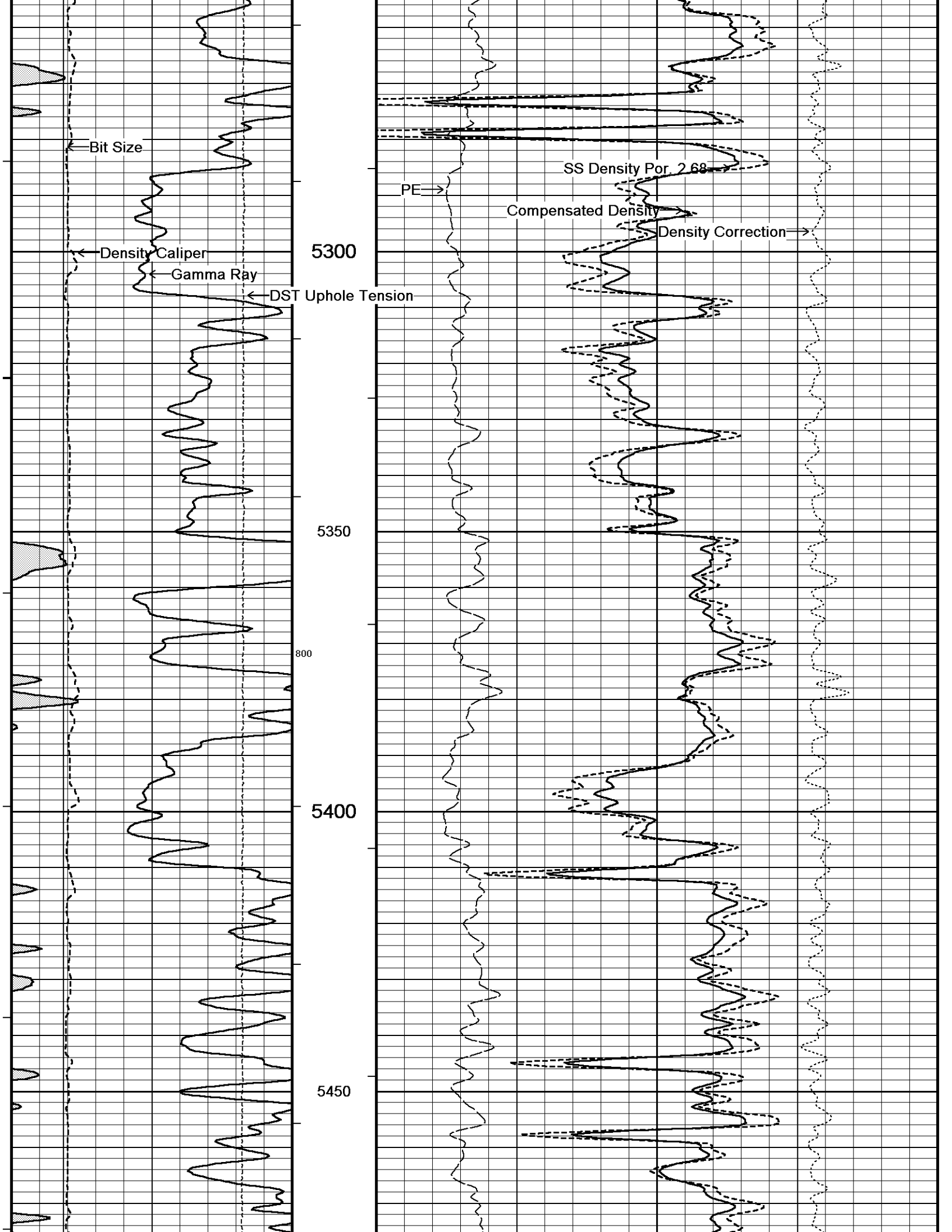


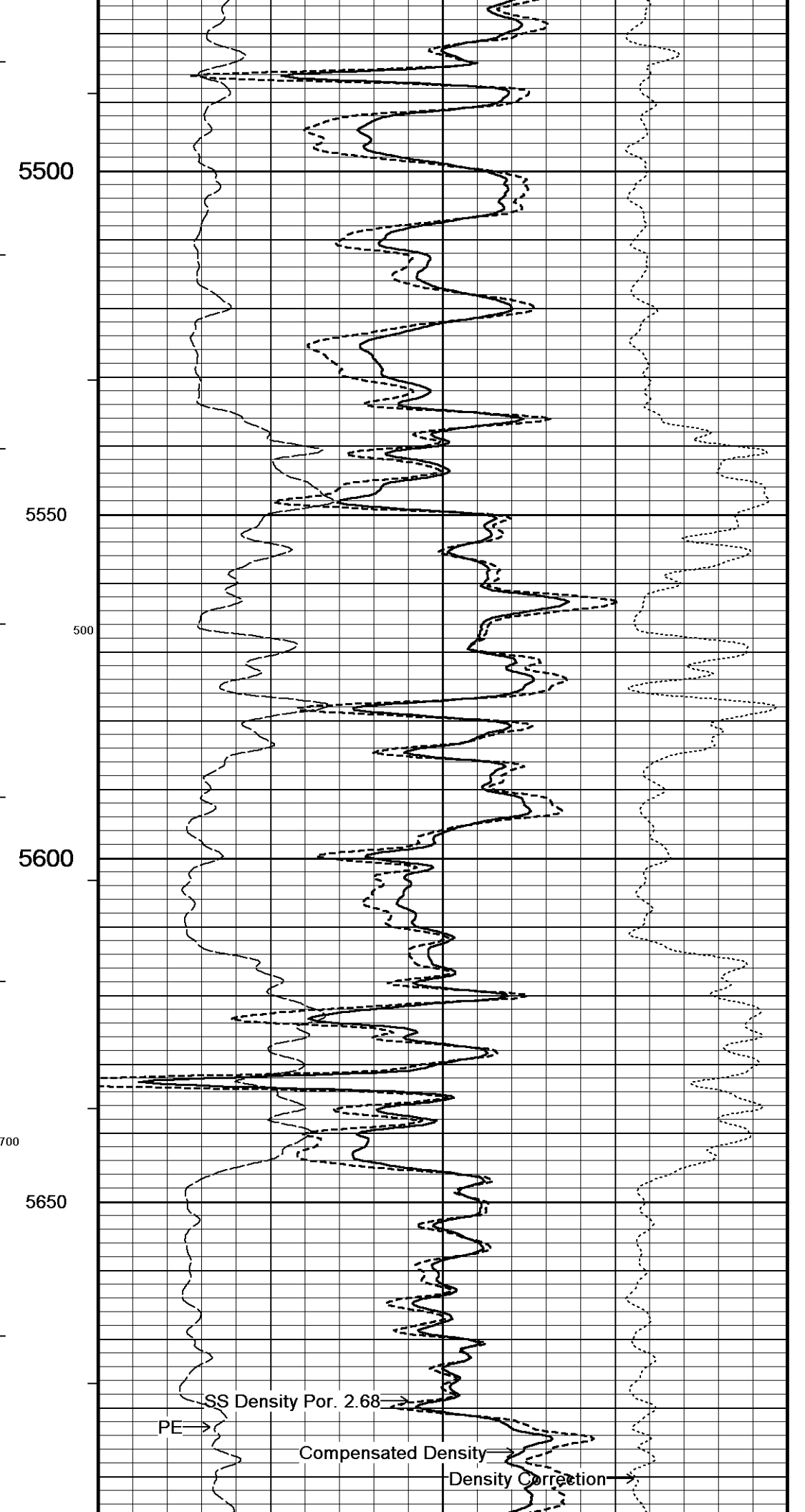
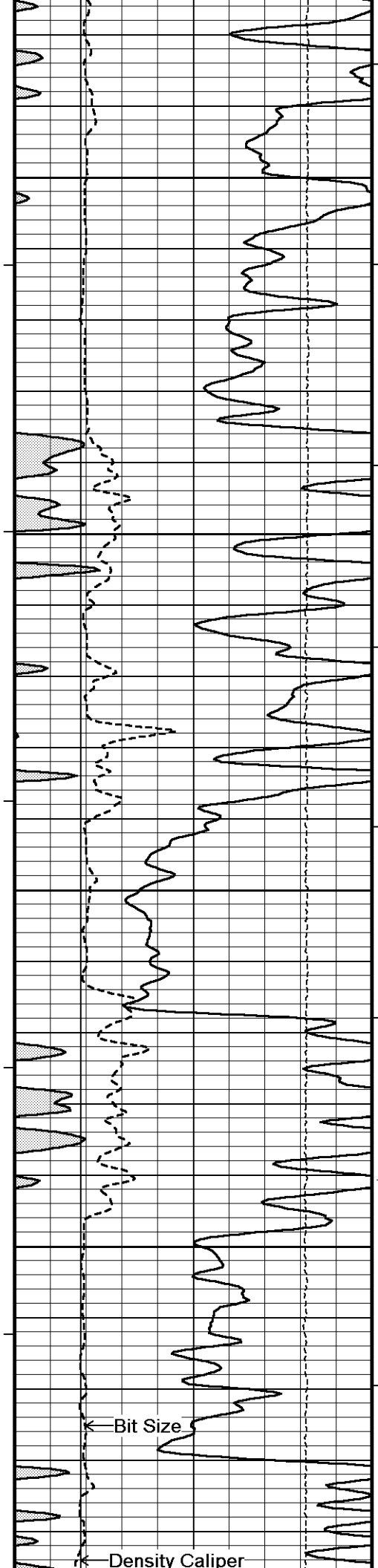


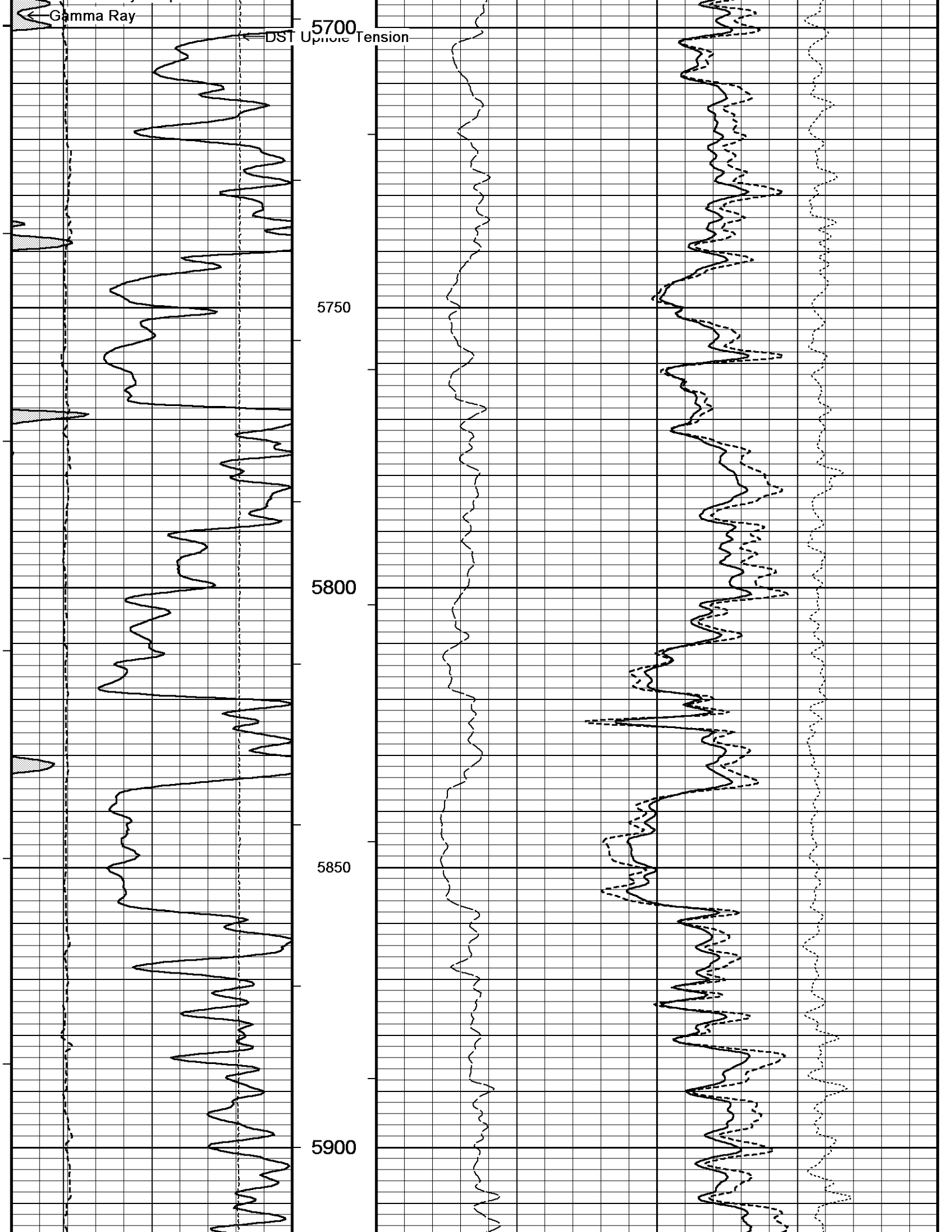


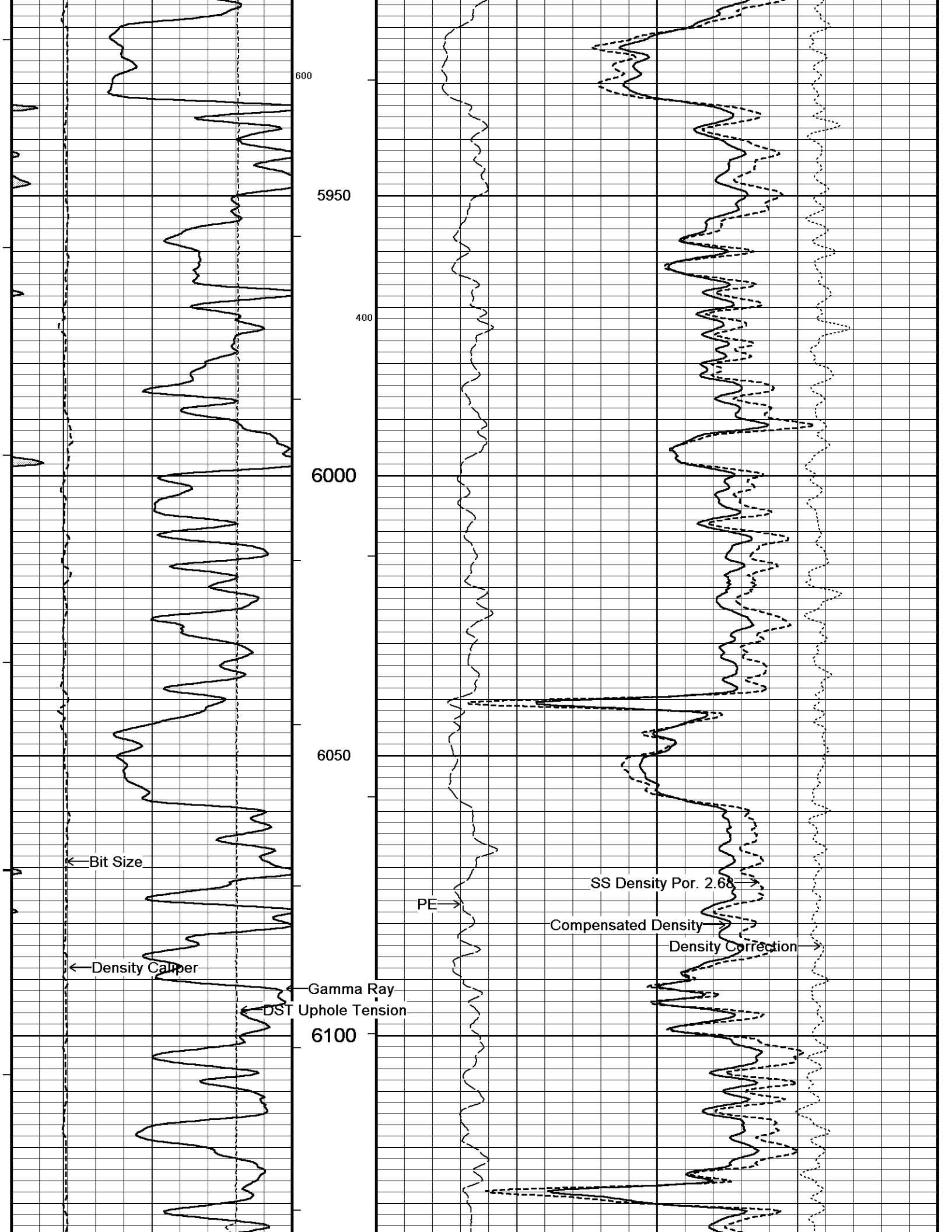
5050
900
5100
5150
600
5200
5250

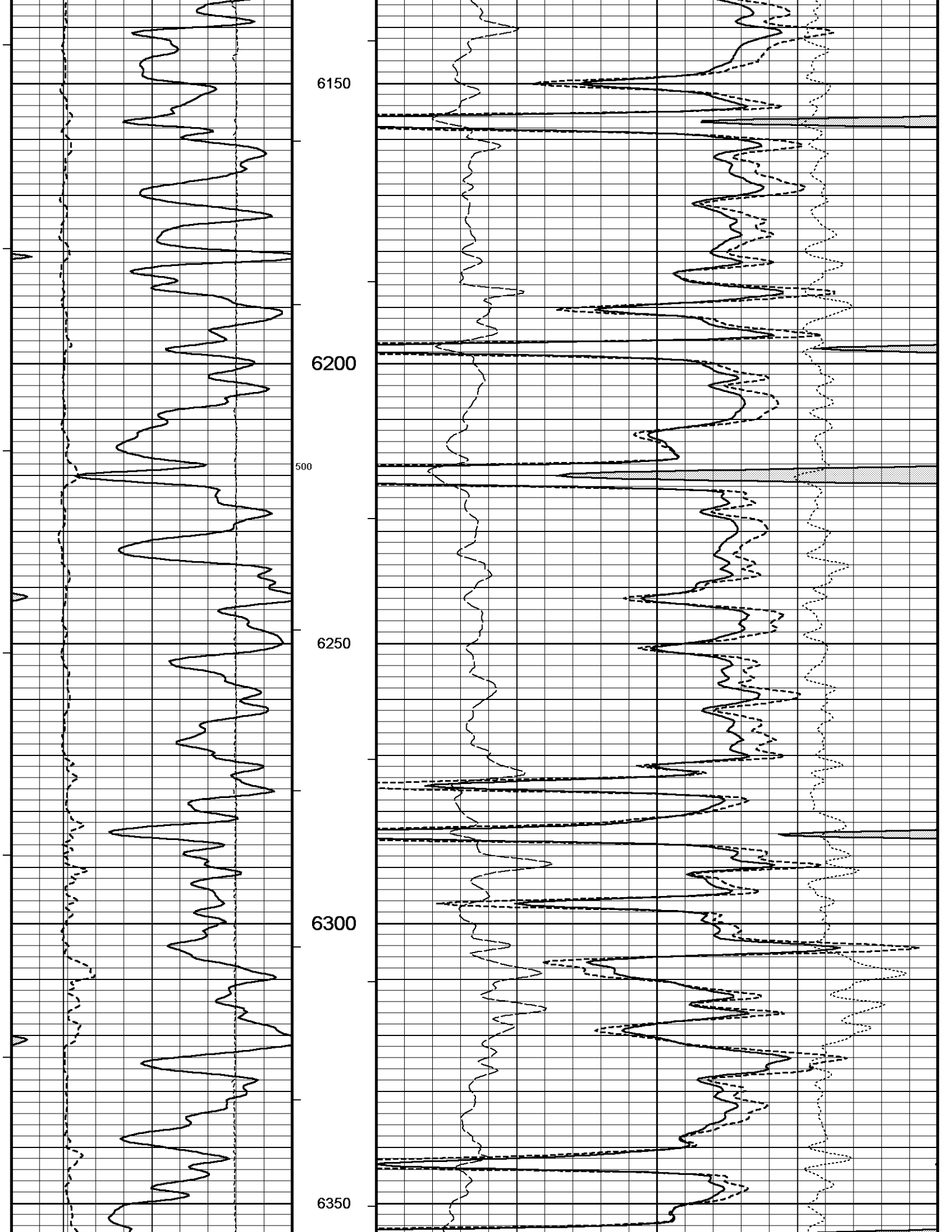


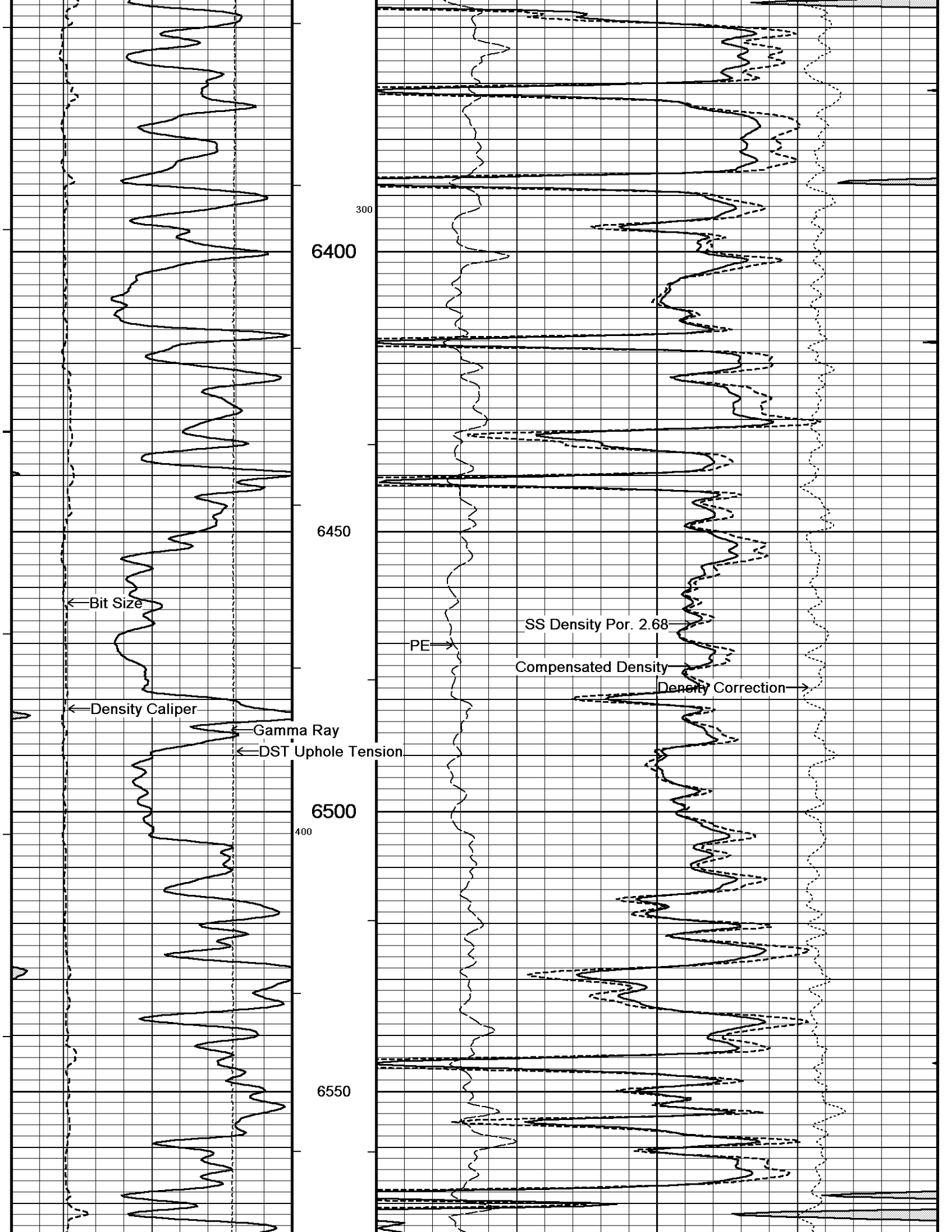


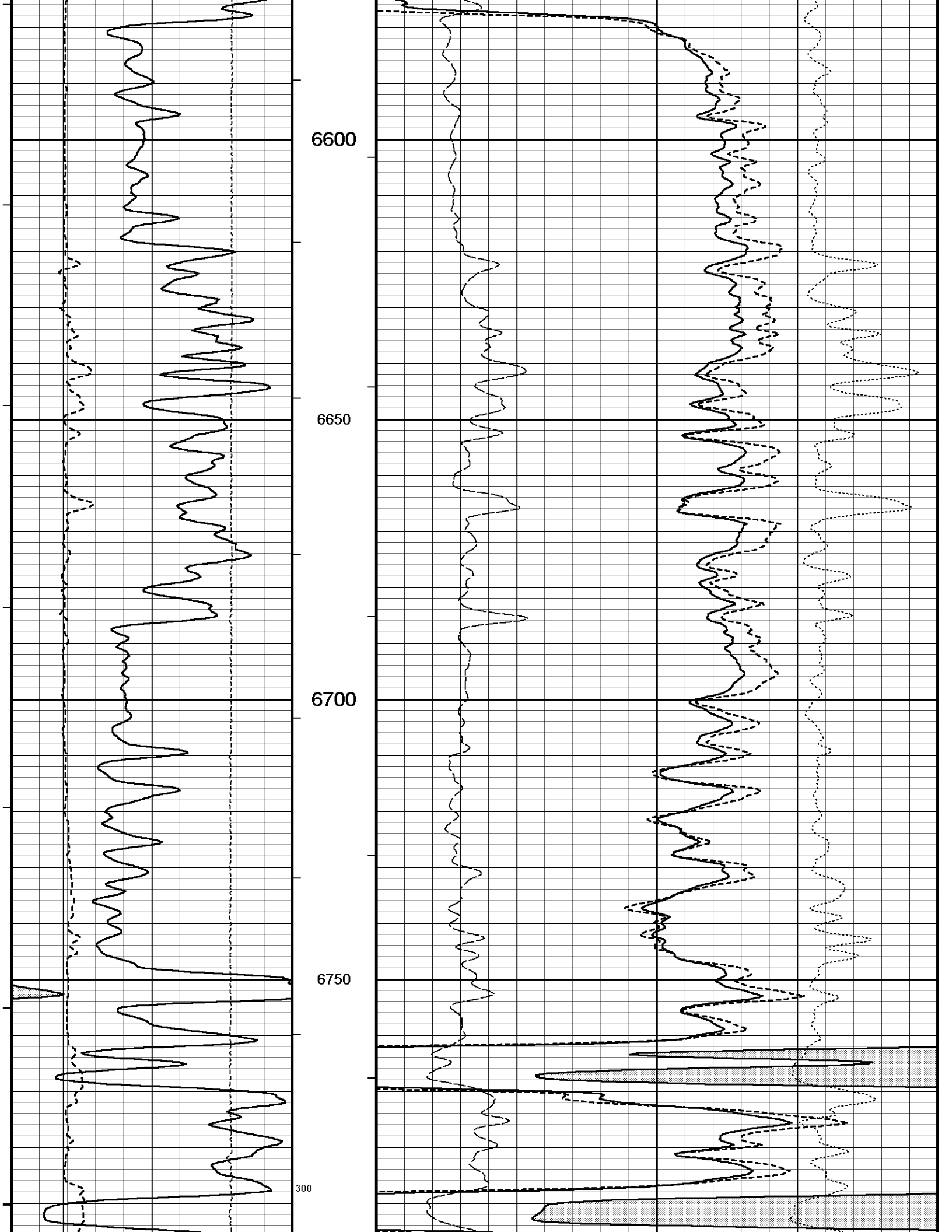


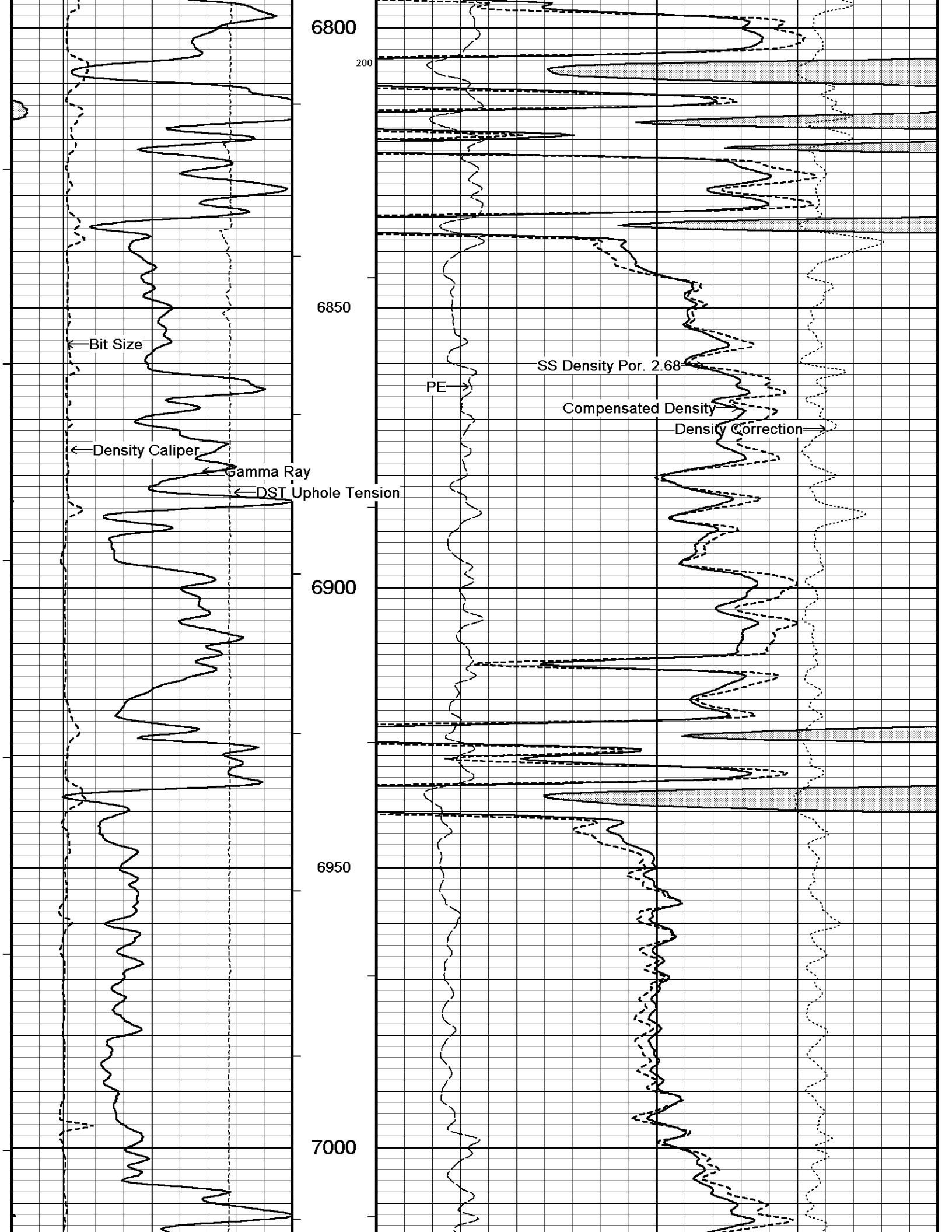


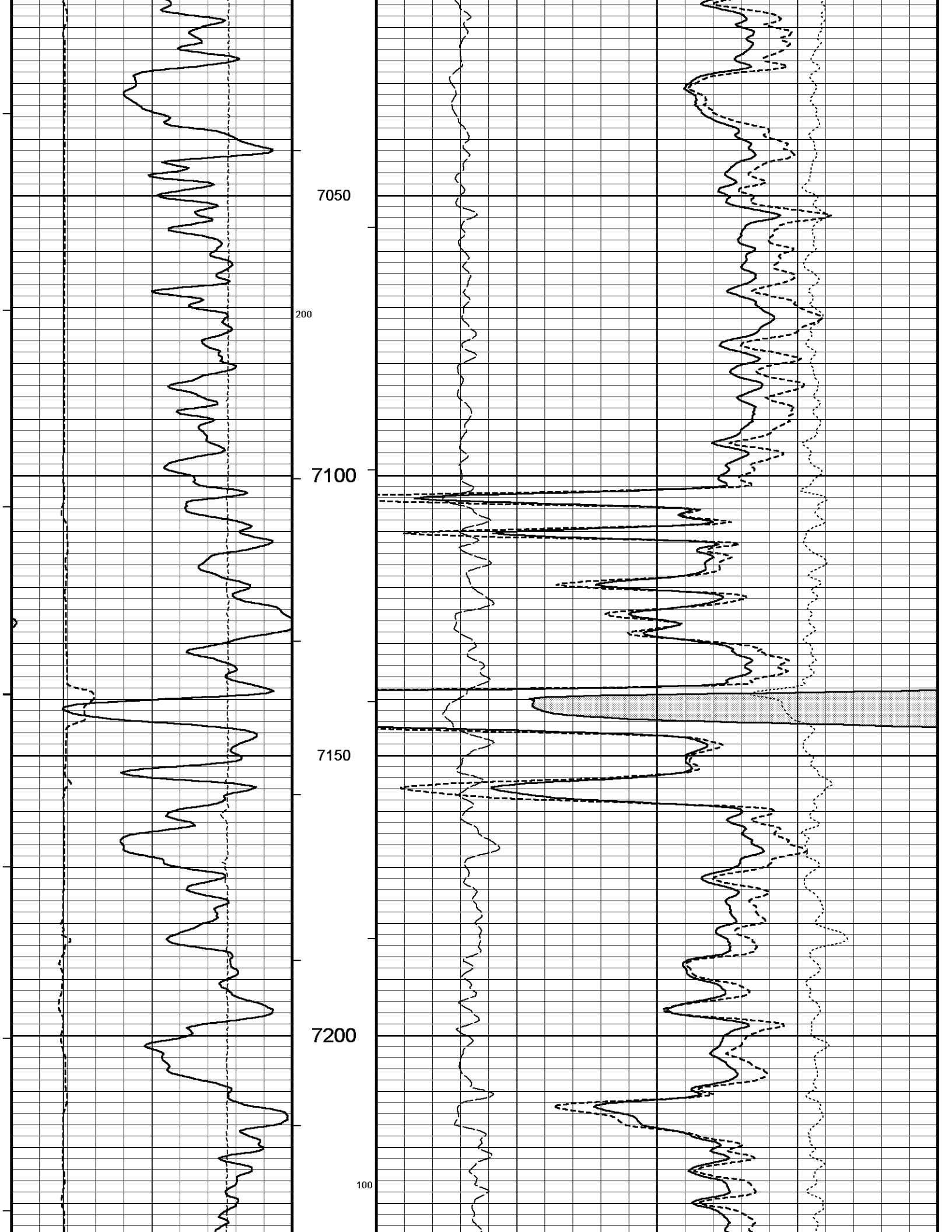


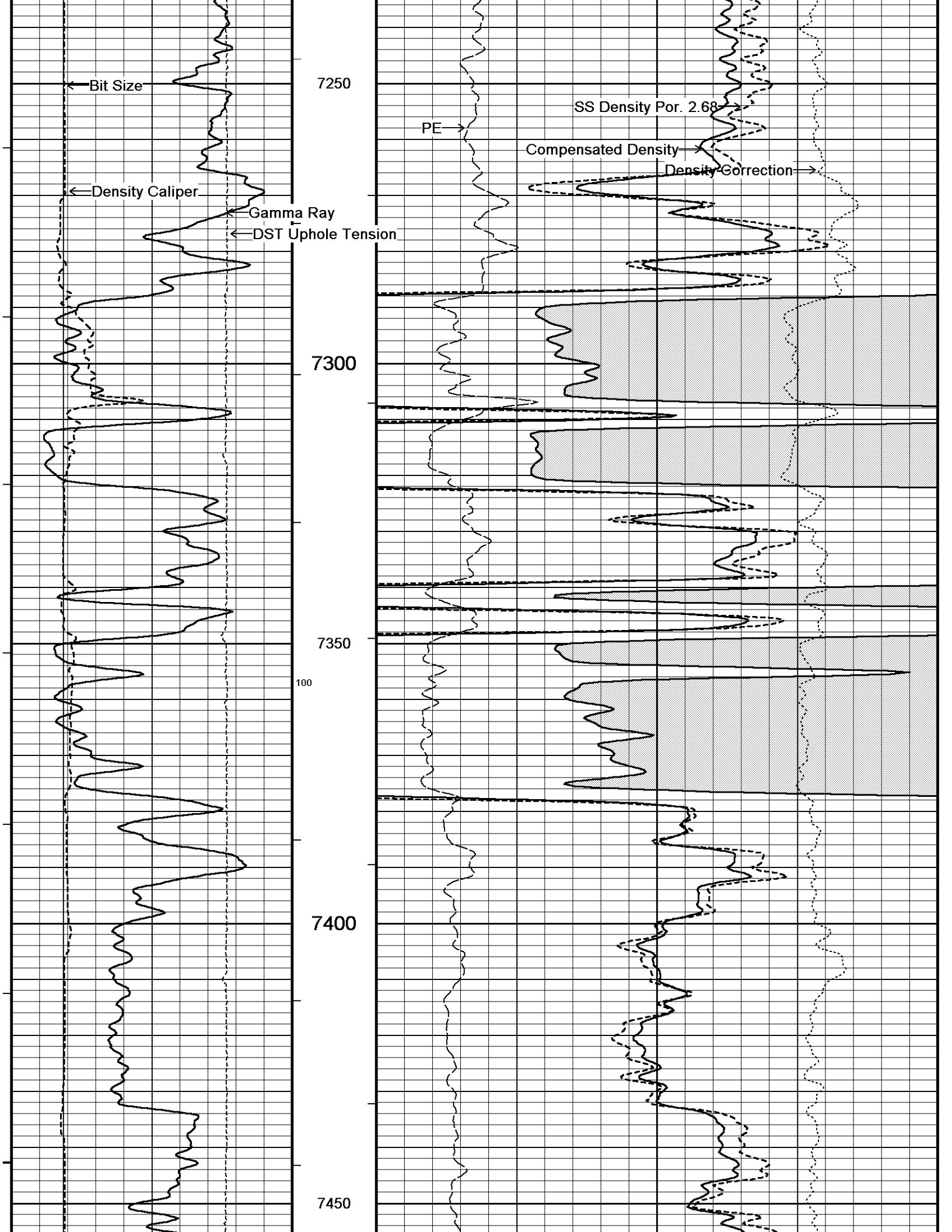


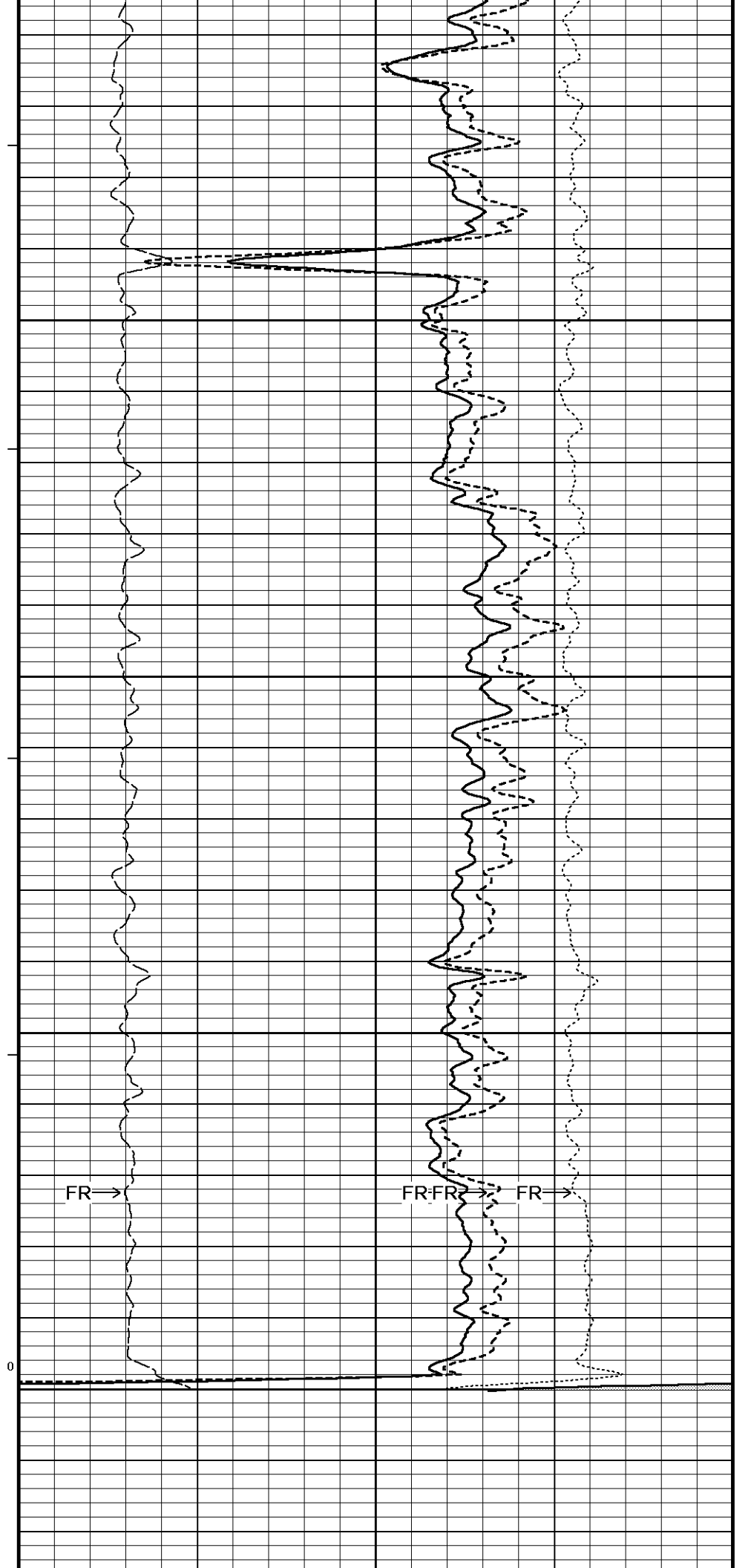
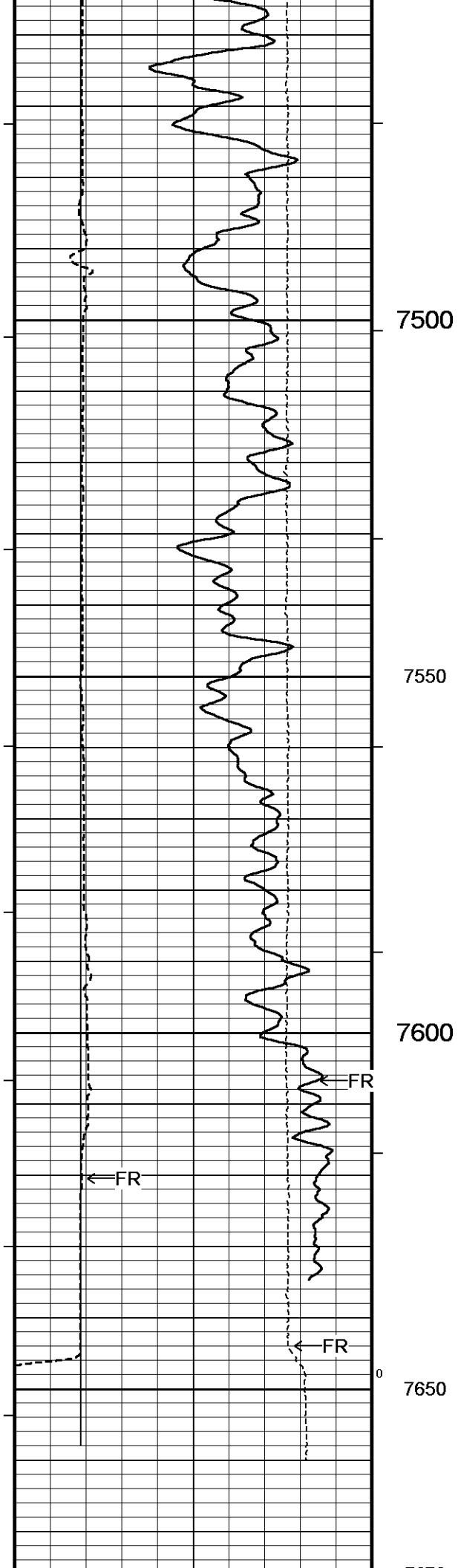


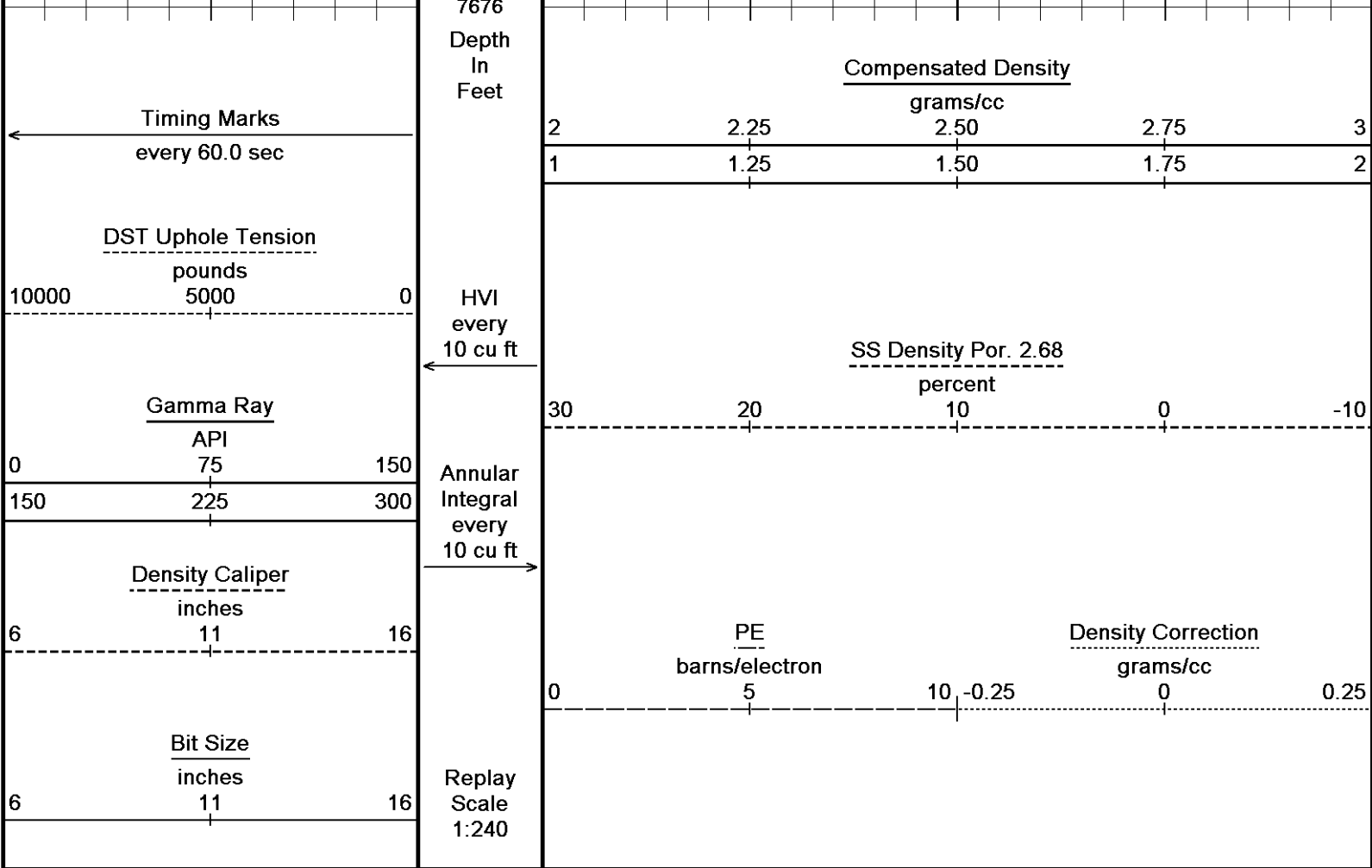










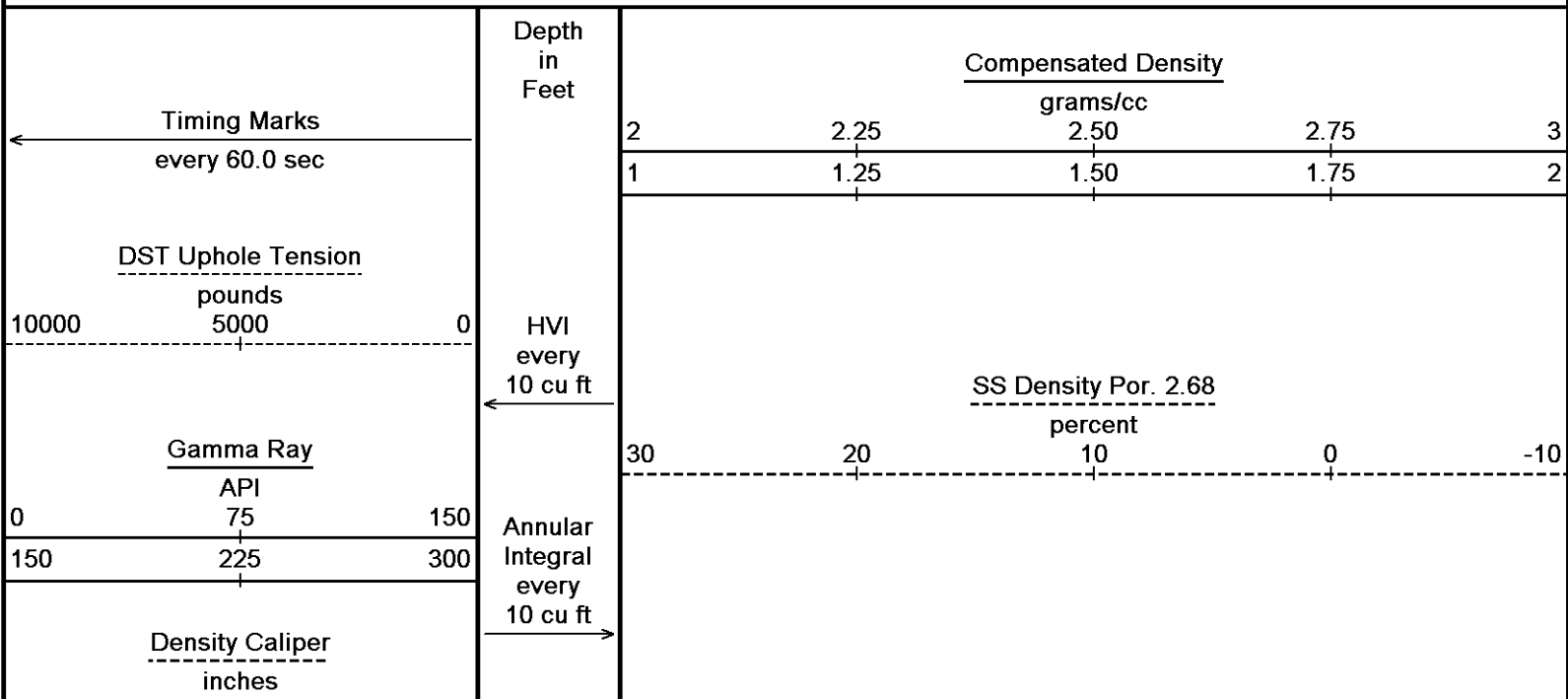


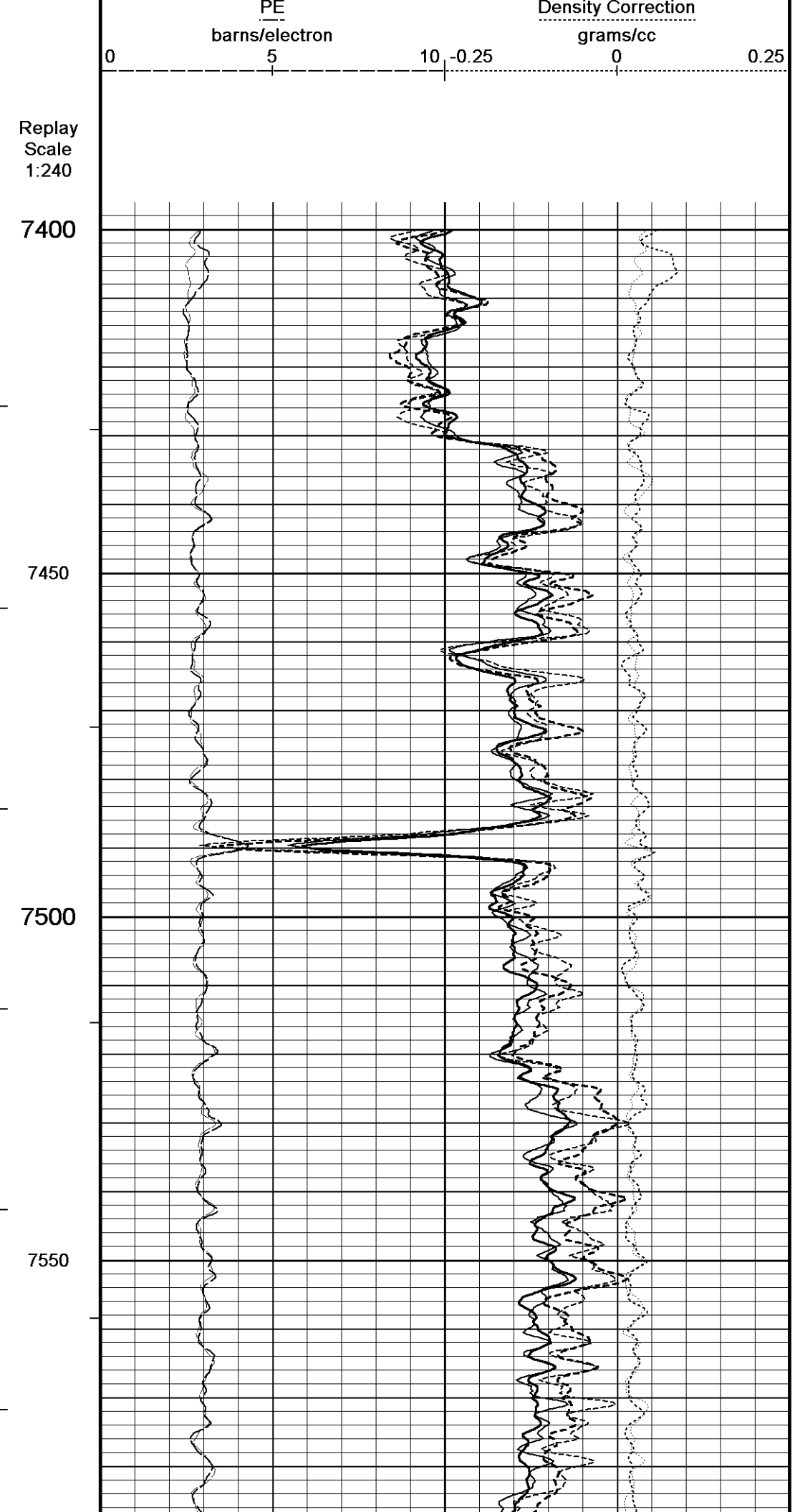
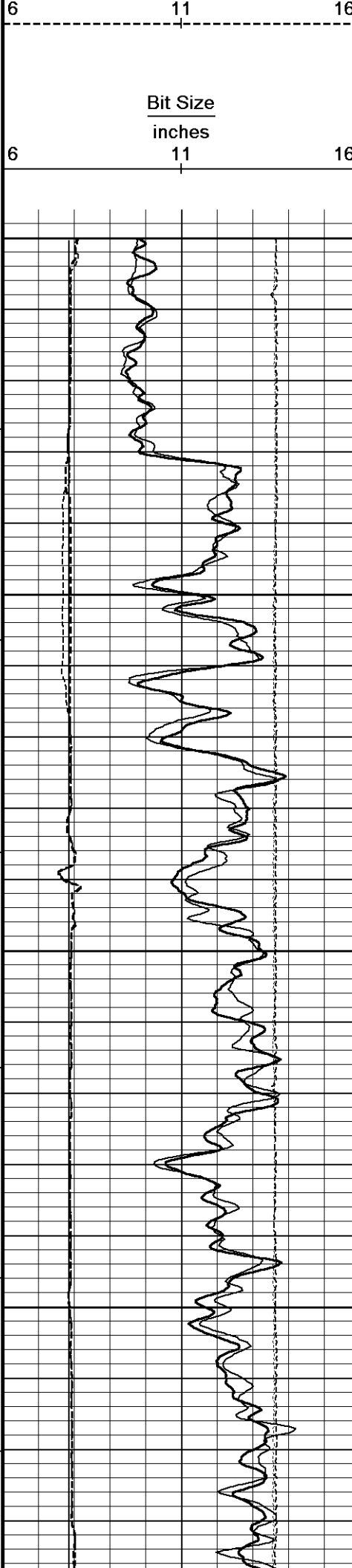
Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 01-MAR-2011 17:52
 Filename: C:\Documents and Settings\le145895\Desktop\GGU FEDERAL 34A-20-691\SPLICE.dta Recorded on 01-MAR-2011 11:46
 System Versions: Processed with 11.01.2198 Plotted with 11.01.2198

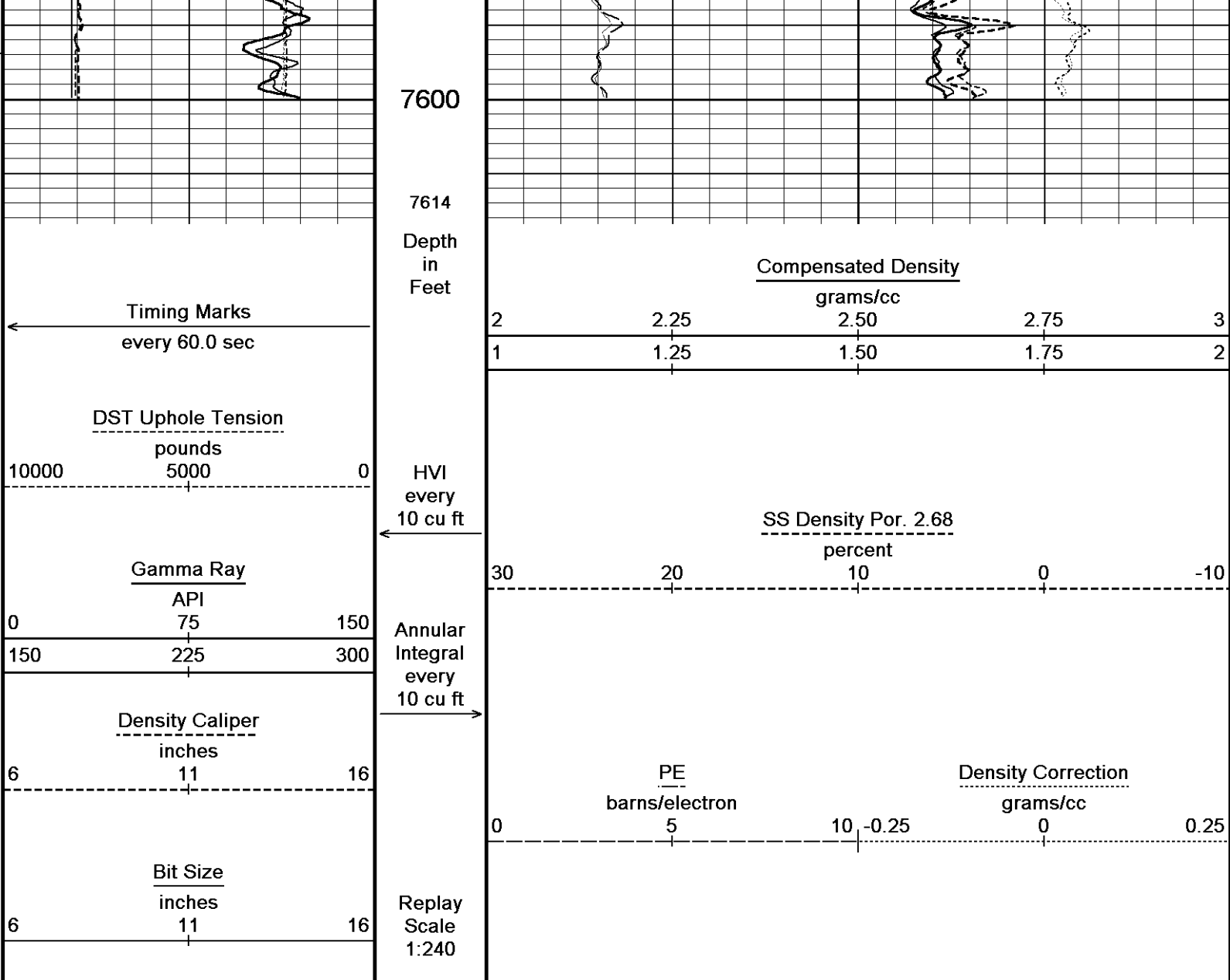
↑ **5 INCH MAIN LOG** ↑

↓ **OVERLAY** ↓

Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 01-MAR-2011 17:52
 Filename: C:\Documents and Settings\le145895\Desktop\GGU FEDERAL 34A-20-691\SPLICE.dta Recorded on 01-MAR-2011 11:46
 Filename: C:\Documents and Settings\le145895\Desktop\GGU FEDERAL 34A-20-...REPEAT-RUN2.dta Recorded on 01-MAR-2011 11:24
 System Versions: Processed with 11.01.2198 Plotted with 11.01.2198







Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 01-MAR-2011 17:52
 Filename: C:\Documents and Settings\145895\Desktop\GGU FEDERAL 34A-20-691\SPLICE.dta Recorded on 01-MAR-2011 11:46
 Filename: C:\Documents and Settings\145895\Desktop\GGU FEDERAL 34A-20-691\REPEAT-RUN2.dta Recorded on 01-MAR-2011 11:24
 System Versions: Processed with 11.01.2198 Plotted with 11.01.2198

↑ OVERLAY ↑

BEFORE SURVEY CALIBRATION
 C:\Documents and Settings\145895\Desktop\GGU FEDERAL 34A-20-691\SPLICE.dta

General Constants All 000 Last Edited on 01-MAR-2011,08:52

General Parameters		
Mud Resistivity	3.500	ohm-metres
Mud Resistivity Temperature	80.000	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	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 0

Field Calibration on 01-MAR-2011 10:30

Reading No	Measured	Calibrated (lbs)
1	15885.47	0.00
2	16851.46	368.00

High Resolution Temperature Calibration MCG-C 192

Field Calibration on 01-MAR-2011,08:56

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

High Resolution Temperature Constants MCG-C 192

Last Edited on 13-DEC-2010,09:50

Pre-filter Length 11

SP Calibration MCG-C 192

Field Calibration on 01-MAR-2011,08:20

	Measured	Calibrated (mV)
Reference 1	100.9	100.0
Reference 2	-100.2	-100.0

Gamma Calibration MCG-C 192

Field Calibration on 01-MAR-2011 08:20

	Measured	Calibrated (API)
Background	96	66
Calibrator (Gross)	1416	978
Calibrator (Net)	1320	912

Gamma Constants MCG-C 192

Last Edited on 28-FEB-2011,20:00

Gamma Calibrator Number	912	
Mud Density	1.00	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl	0.00	kppm

Neutron Calibration MDN-A.B 160

Base Calibration on 22-FEB-2011,05:29

Field Check on 01-MAR-2011 08:25

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
Ratio	3208	98	3714	110
	32.812		33.764	

Field Calibrator at Base

	Calibrated (cps)
Ratio	1323 1983
	0.667

Field Check

	Calibrated (cps)
Ratio	1310 1960
	0.668

Neutron Constants MDN-A.B 160

Last Edited on 01-MAR-2011,14:52

Neutron Source Id	1056	
Neutron Jig Number	5922	
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	0.00	kppm

Formation Fluid Salinity Source	None	
Formation Fluid Salinity	N/A	kppm
Barite Mud Correction	Not Applied	

FE Calibration MFE-A.A 85		Base Calibration on 04-FEB-2011 09:44 Field Check on 01-MAR-2011 08:51	
Base Calibration			
	Measured	Calibrated (ohm-m)	
Reference 1	10.7	1.3	
Reference 2	965.5	126.8	
Base Check		281.9	
Field Check		282.3	

FE Constants MFE-A.A 85		Last Edited on 01-MAR-2011,14:08	
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-B.A 213		Field Calibration on 01-MAR-2011,08:56	
	Measured	Calibrated(Deg F)	
Lower	10.00	10.00	
Upper	100.00	100.00	

High Resolution Temperature Constants MAI-B.A 213		Last Edited on 13-DEC-2010,09:54	
Pre-filter Length	11		

Induction Calibration MAI-B.A 213		Base Calibration on 22-FEB-2011,05:28 Field Check on			
Base Calibration					
Test Loop Calibration		Measured		Calibrated (mmho/m)	
Channel	Low	High	Low	High	
1	16.8	462.4	9.3	966.2	
2	6.2	381.7	7.6	821.4	
3	3.6	254.8	5.2	566.0	
4	2.3	132.3	2.6	279.2	
Array Temperature	73.6		Deg F		
Channel	Base Check (mmho/m)		Field Check (mmho/m)		
	Low	High	Low	High	
1	12.1	3932.4	0.0	0.0	
2	29.6	3538.5	0.0	0.0	
3	28.5	3113.0	0.0	0.0	
4	18.9	2095.5	0.0	0.0	
Deep	17.1	2076.8	0.0	0.0	
Medium	42.3	4087.5	0.0	0.0	
Shallow	44.6	5158.2	0.0	0.0	
Array Temperature	42.3		0.0		Deg F

Induction Constants MAI-B.A 213		Last Edited on 01-MAR-2011,14:06			
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-B 167

Base Calibration on 10-FEB-2011 10:23
Field Calibration on 28-FEB-2011,19:42

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	18496	4.00
2	27008	5.96
3	34874	7.98
4	43063	9.86
5	52192	11.88
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
7.98	7.98

Photo Density Calibration MPD-B 167

Base Calibration on 13-FEB-2011 15:22
Field Check on 01-MAR-2011 08:47

Density Calibration

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	48677	18603	53115	19186
Reference 2	22687	3043	25020	2536

Field Check at Base

1173.5 1744.9

Field Check

1169.8 1741.6

PE Calibration

Base Calibration	WS	Measured		Calibrated Ratio
		WH	Ratio	
Background	214	1052		
Reference 1	15293	48508	0.318	0.320
Reference 2	5942	22551	0.266	0.272

Field Check at Base

214.1 1052.3

Field Check

215.7 1048.5

Density Constants MPD-B 167

Last Edited on 28-FEB-2011,19:42

Density Source Id

P50561B

Nylon Calibrator Number

507

Nylon Calibrator Number	507	
Aluminium Calibrator Number	507	
Density Shoe Profile	8 inch	
Caliper Source for Processing	Density Caliper	
PE Correction to Density	Not Applied	
Mud Density	1.29	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)
2.68	
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:\Documents and Settings\145895\Desktop\GGU FEDERAL 34A-20-691\SPLICE.dta

Gamma Check MCG-C 192

Field Calibration on 01-MAR-2011 08:20
After Survey Check on 01-MAR-2011 14:51

	Before (API)	After (API)
Background	66	68
Calibrator (Gross)	978	980
Calibrator (Net)	912	912

Neutron Check MDN-A.B 160

Before Survey Check on 01-MAR-2011 08:25
After Survey Check on 01-MAR-2011 14:57

	Near (cps)		Far (cps)	
	Before	After	Before	After
	1310	1287	1960	1943
		Ratio		
		Before	After	
		0.668	0.663	

FE Check MFE-A.A 85

Before Survey Check 01-MAR-2011 08:51
After Survey Check on 01-MAR-2011 14:10

	Before (ohm-m)	After (ohm-m)
	282.3	281.5

Induction Check MAI-B.A 213

Before Survey Check on
After Survey Check on 01-MAR-2011 14:08

Channel	Before Survey (mmho/m)		After Survey (mmho/m)		
	Low	High	Low	High	
1	0.0	0.0	15.2	3936.8	
2	0.0	0.0	30.7	3540.1	
3	0.0	0.0	29.2	3113.7	
4	0.0	0.0	19.3	2096.1	
Deep	0.0	0.0	17.7	2077.3	
Medium	0.0	0.0	42.9	4087.8	
Shallow	0.0	0.0	46.1	5160.6	
Array Temperature		0.0		83.6	Deg F

Photo Density Check MPD-B 167

Before Survey Check on 01-MAR-2011 08:47
After Survey Check on 01-MAR-2011 14:14

Density Check

		Near		Far	
	Before	After	Before	After	
	1169.8	1169.2	1741.6	1744.1	

PE Check

	Before	After
WS	215.7	215.1

DOWNHOLE EQUIPMENT

C:\Documents and Settings\le145895\Desktop\GGU FEDERAL 34A-20-691\SPLICE.dta

3/8" Triple Cone Cable Head (MCB F B)
 MCB-F.B 9 LG: 1.58 ft WT: 15.4 lb OD: 2.24 in

SHA-F Compact Swivel Head Adaptor
 SHA-F 82 LG: 2.74 ft WT: 26.5 lb OD: 2.24 in

Compact Comms Gamma
 MCG-C 192 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Compact Neutron
 MDN-A.B 160 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

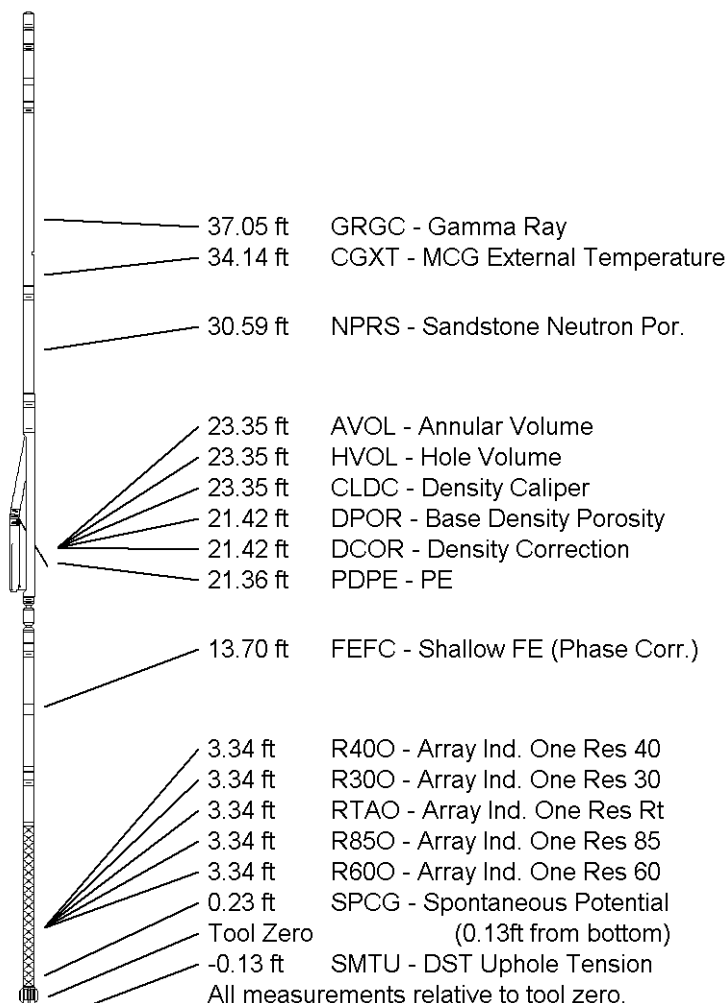
Compact Density/Caliper
 MPD-B 167 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

SKJ-E.A Compact Knuckle Joint
 SKJ-E.A 114 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

Compact Focused Electric
 MFE-A.A 85 LG: 6.03 ft WT: 48.5 lb OD: 2.24 in

Compact Induction
 MAI-B.A 213 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

Total Length: 46.65 ft Weight: 368.2 lb



COMPANY	BILL BARRETT CORPORATION
WELL	GGU FEDERAL 34A-20-691
FIELD	GIBSON GULCH
PROVINCE/COUNTY	GARFIELD
COUNTRY/STATE	U.S.A. / COLORADO

Elevation Kelly Bushing	6127.00	feet	First Reading	7619.00	
Elevation Drill Floor	6126.00	feet	Depth Driller	7640.00	feet
Elevation Ground Level	6104.00	feet	Depth Logger	7642.00	feet



**COMPENSATED PHOTO DENSITY
 COMPENSATED DUAL NEUTRON
 LOG**

