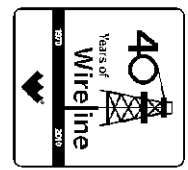




Weatherford[®]

**COMPENSATED PHOTO DENSITY
COMPENSATED DUAL NEUTRON
LOG**

COMPANY BILL BARRETT CORPORATION
WELL GGU SWANSON 32C-29-691
FIELD GIBSON GULCH
PROVINCE/COUNTY GARFIELD
COUNTRY/STATE U.S.A. / COLORADO
LOCATION SHL: 1227' FNL & 1327' FEL
BHL: 1800' FNL & 1990' FEL



SEC	TWP	RGE	Other Services
29	6S	91W	MA/IMFE
API Number	05-045-19797		
Permit Number			
Permanent Datum G.L., Elevation 6104 feet			
Log Measured From KB @ 23 FT above Permanent Datum			
Drilling Measured From K.B.			
Date	18-FEB-2011		

Run Number	ONE	Elevations:	feet
Depth Driller	7458.00	KB	6127.00
Depth Logger	7458.00	DF	6126.00
First Reading	7435.00	GL	6104.00

Hole Fluid Type	LSND	Density / Viscosity	11.00 lb/USg	46.00 CP
PH / Fluid Loss	10.90		7.20 ml/30Min	
Sample Source	FLOW LINE			
Rm @ Measured Temp	3.10 @ 70.0		ohm-m	
Rmf @ Measured Temp	2.48 @ 70.0		ohm-m	
Rmc @ Measured Temp	3.72 @ 70.0		ohm-m	
Source Rmf / Rmc	CALC		CALC	
Rm @ BHT	1.26 @ 176.0		ohm-m	
Time Since Circulation	6 HOURS			
Max Recorded Temp	176.00		deg F	
Equipment Name	COMPACT			
Equipment / Base	13173		GD JCT	
Recorded By	J.GARCIA			
Witnessed By	C.CROW			

BOREHOLE RECORD

Last Edited: 18-FEB-2011 10:34

Bit Size inches	Depth From feet	Depth To feet
8.750	766.00	5495.00
7.880	5495.00	7458.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	9.625	0.00	766.00	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 5495 FT.

TOTAL HOLE VOLUME FROM TD TO SURFACE CASING = 2970 CU.FT.

ANNULAR VOLUME WITH 4.5 INCH PRODUCTION CASING = 2230 CU.FT.

ENGINEER(S): J.GARCIA

OPERATOR: R.SYERS, D.DALEY

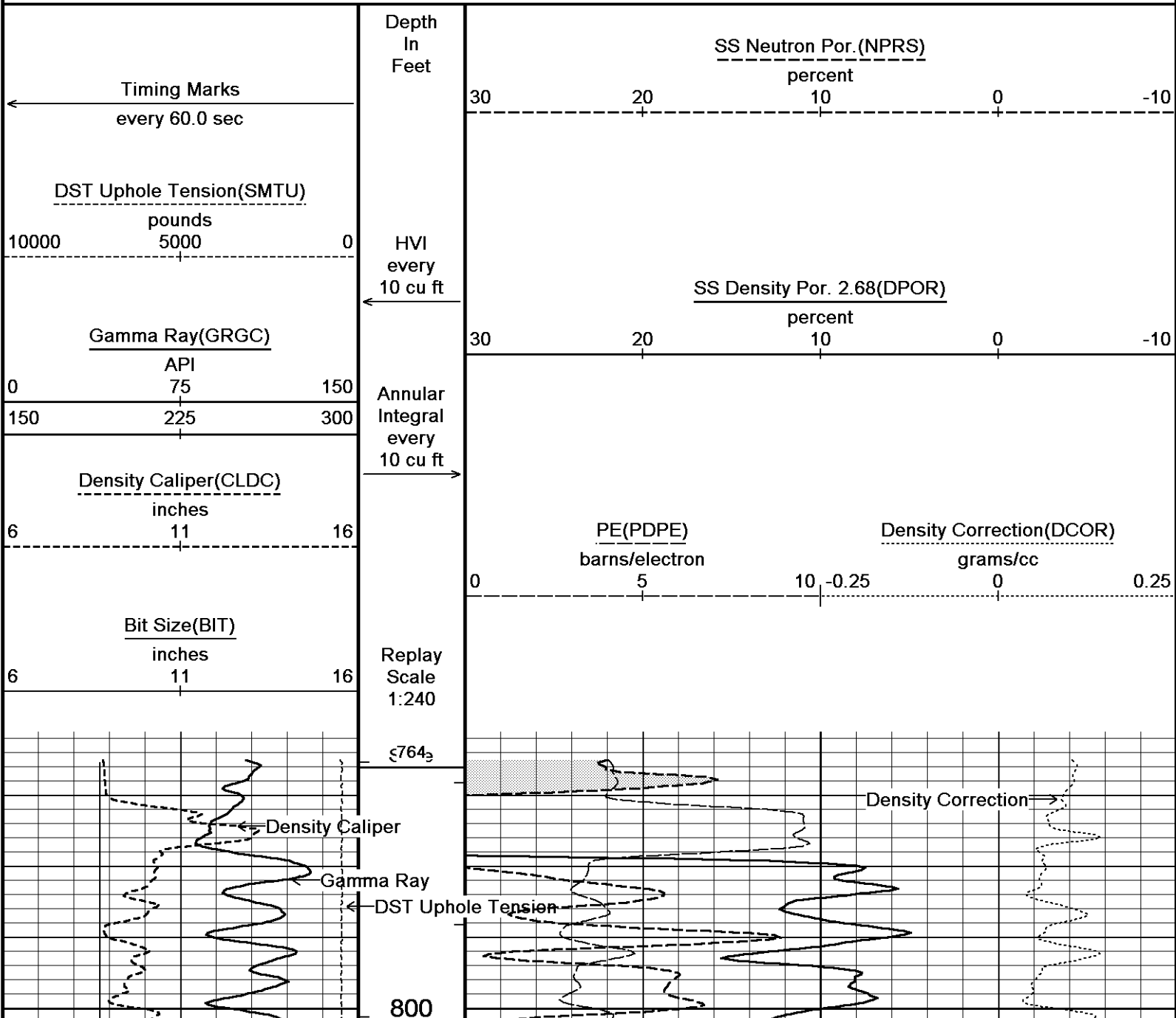
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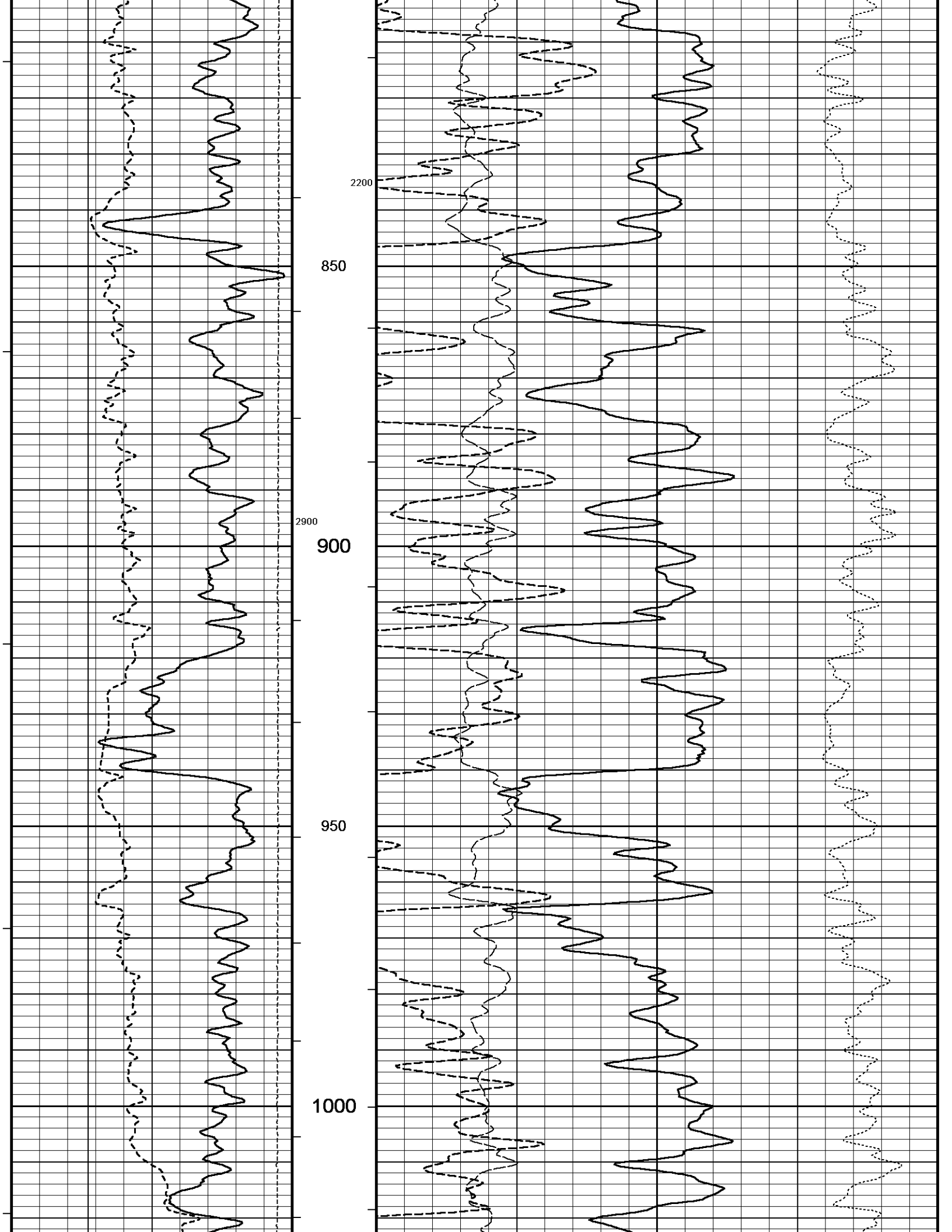
RIG: PATTERSON #307

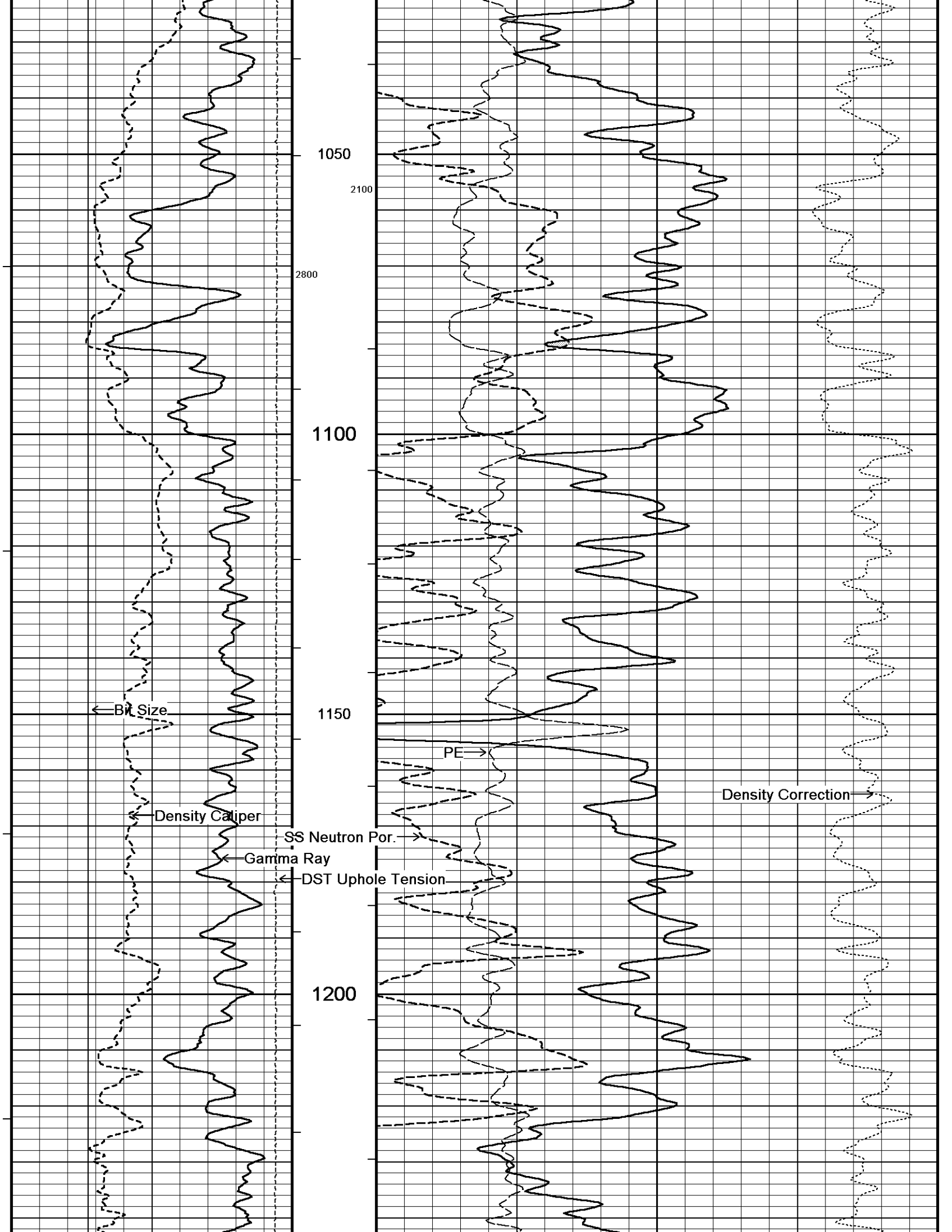
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs,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

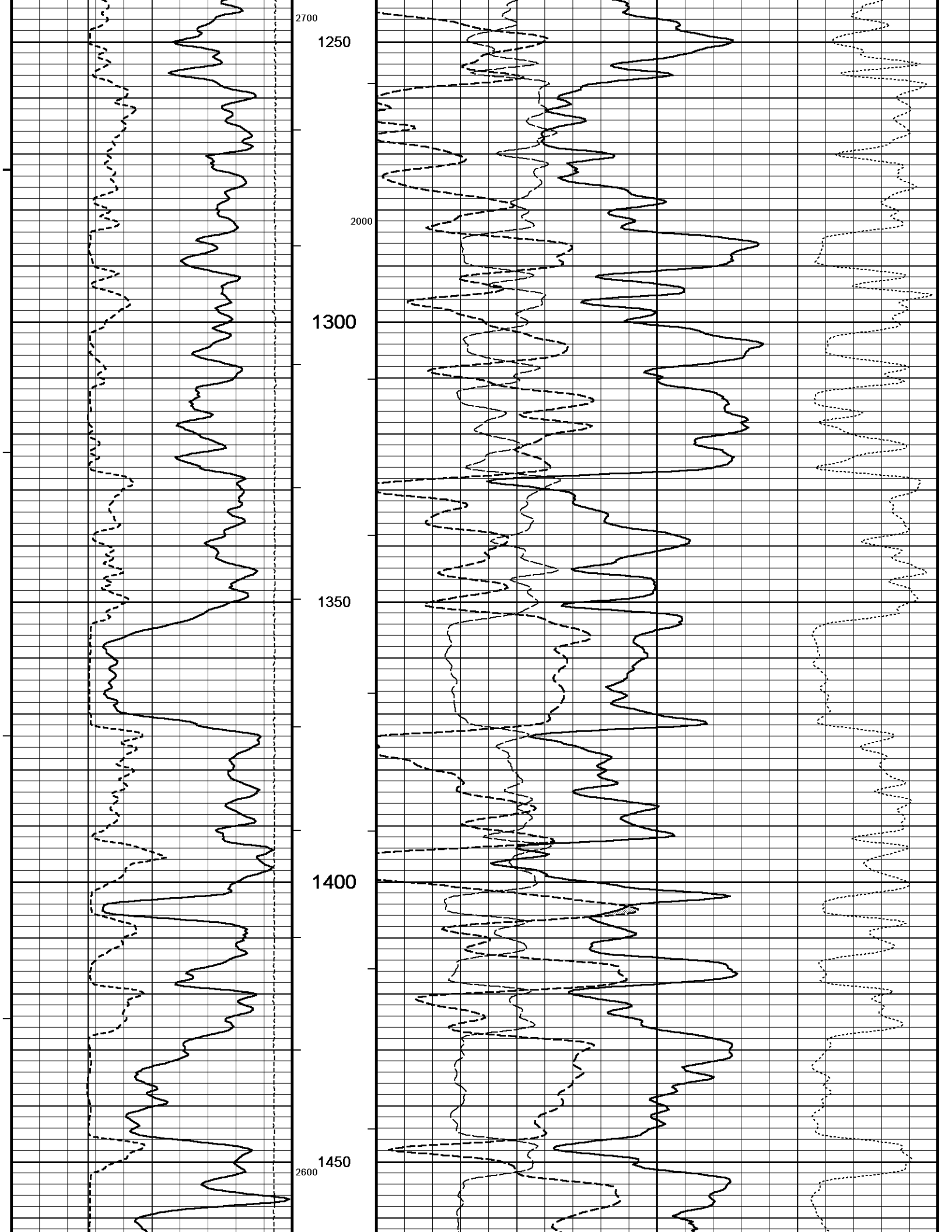
5 INCH MAIN LOG

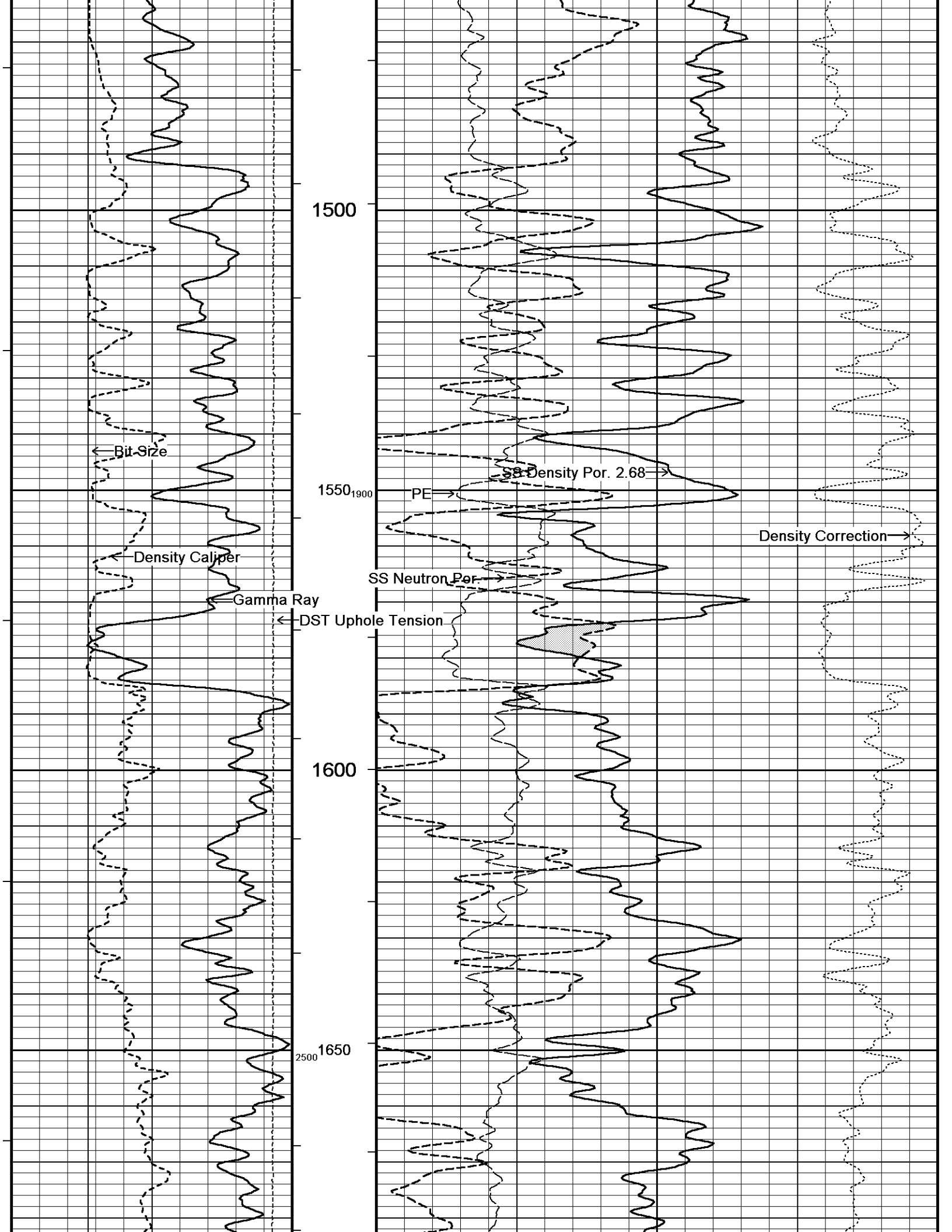
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System Versions: Logged with 11.01.2198 Plotted with 11.01.2198
Plotted on 18-FEB-2011 18:53
Recorded on 18-FEB-2011 14:53

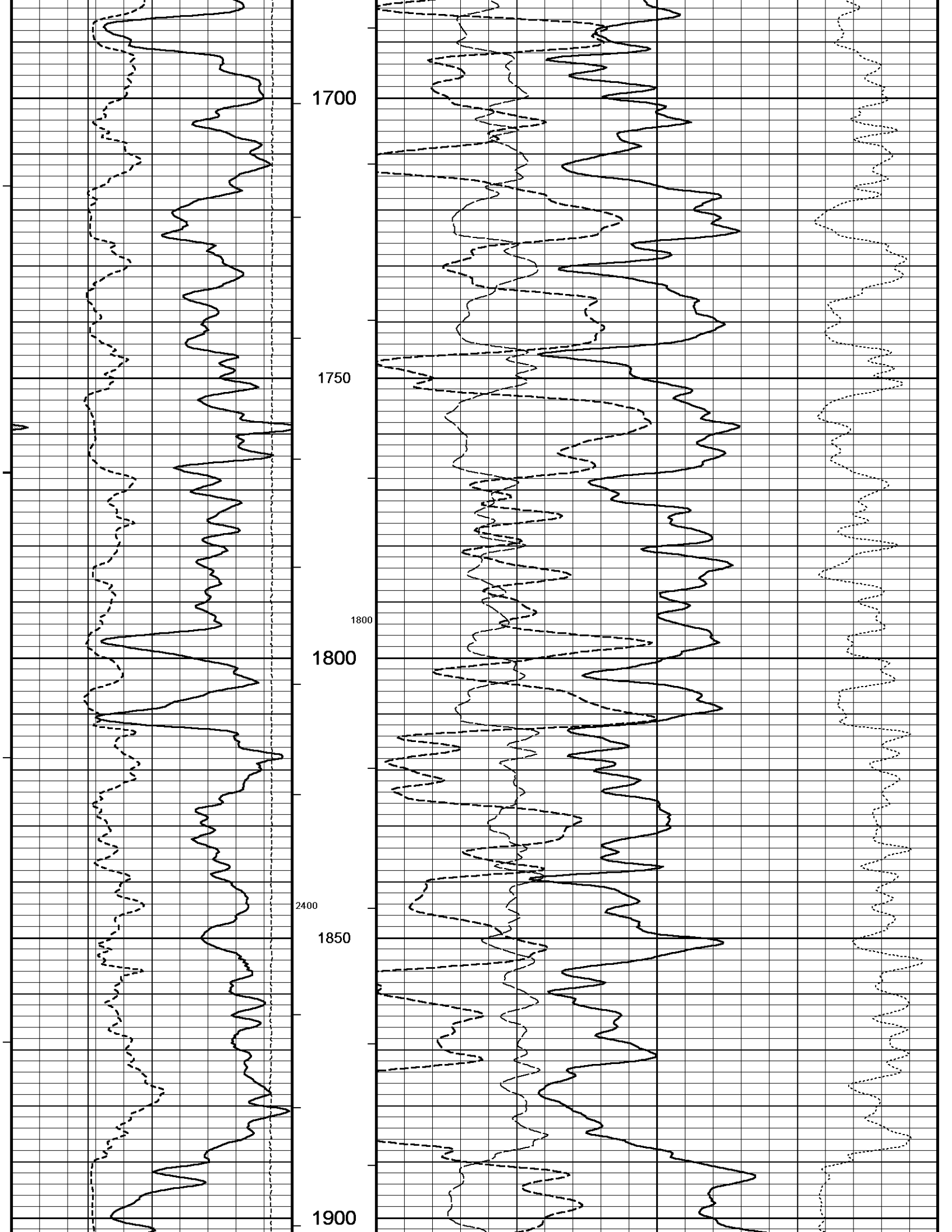


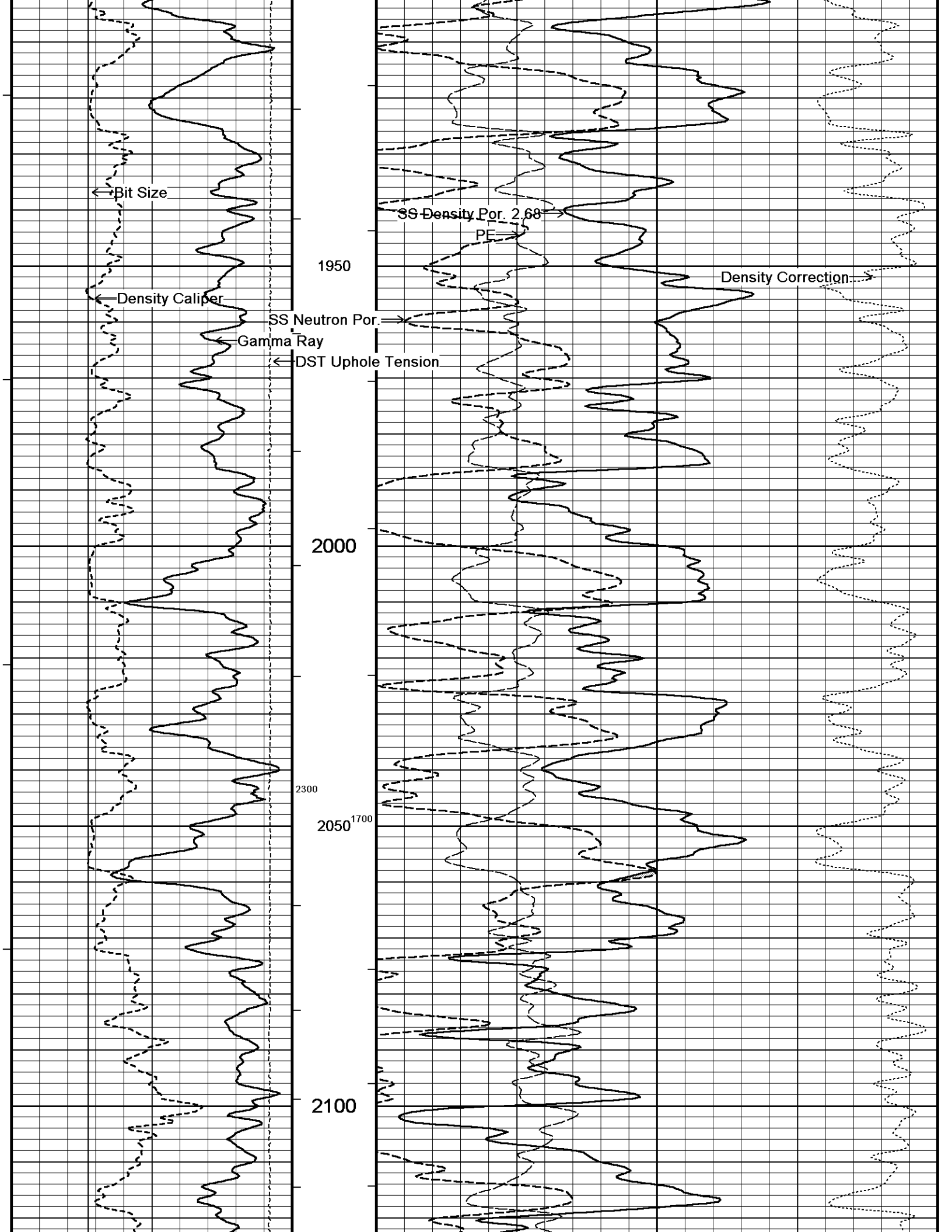


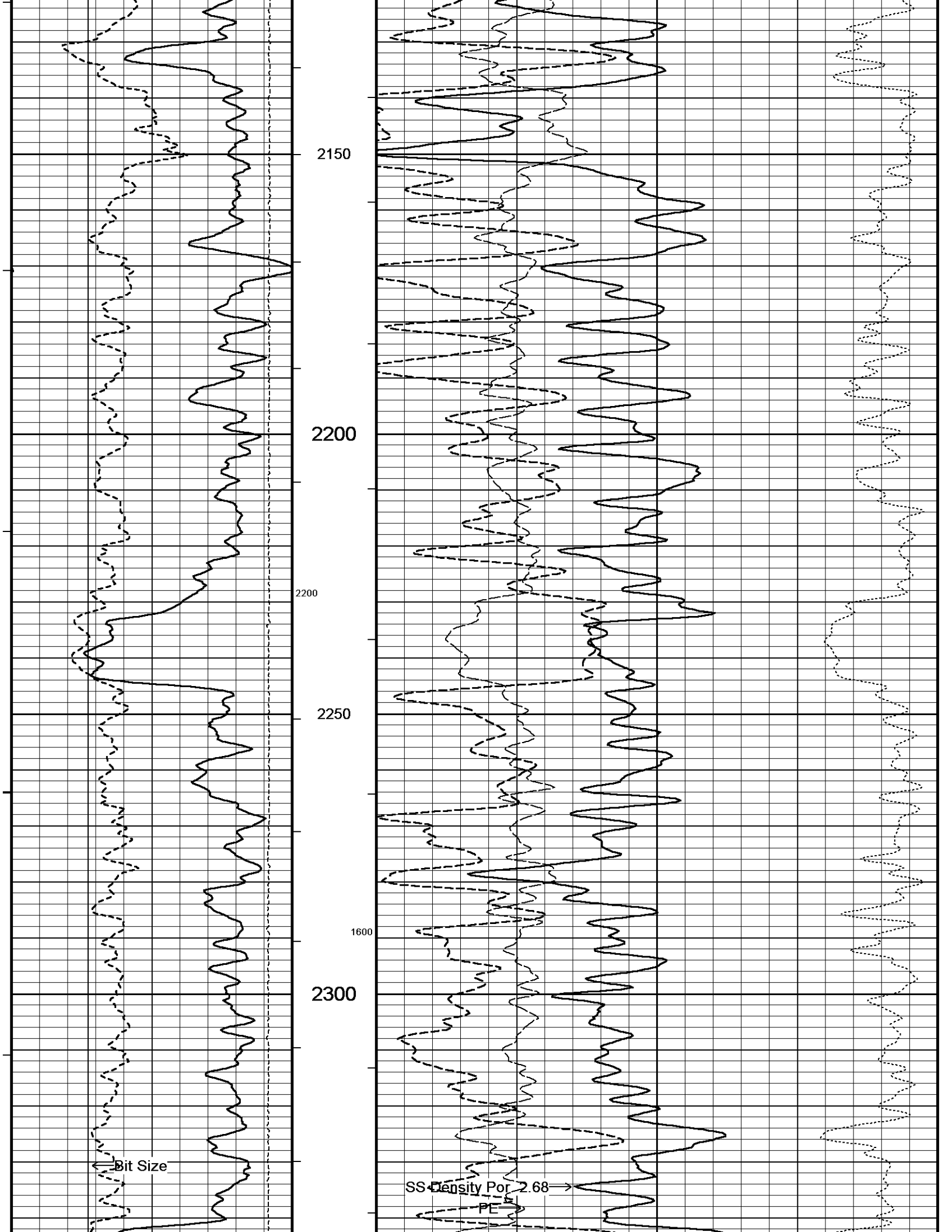


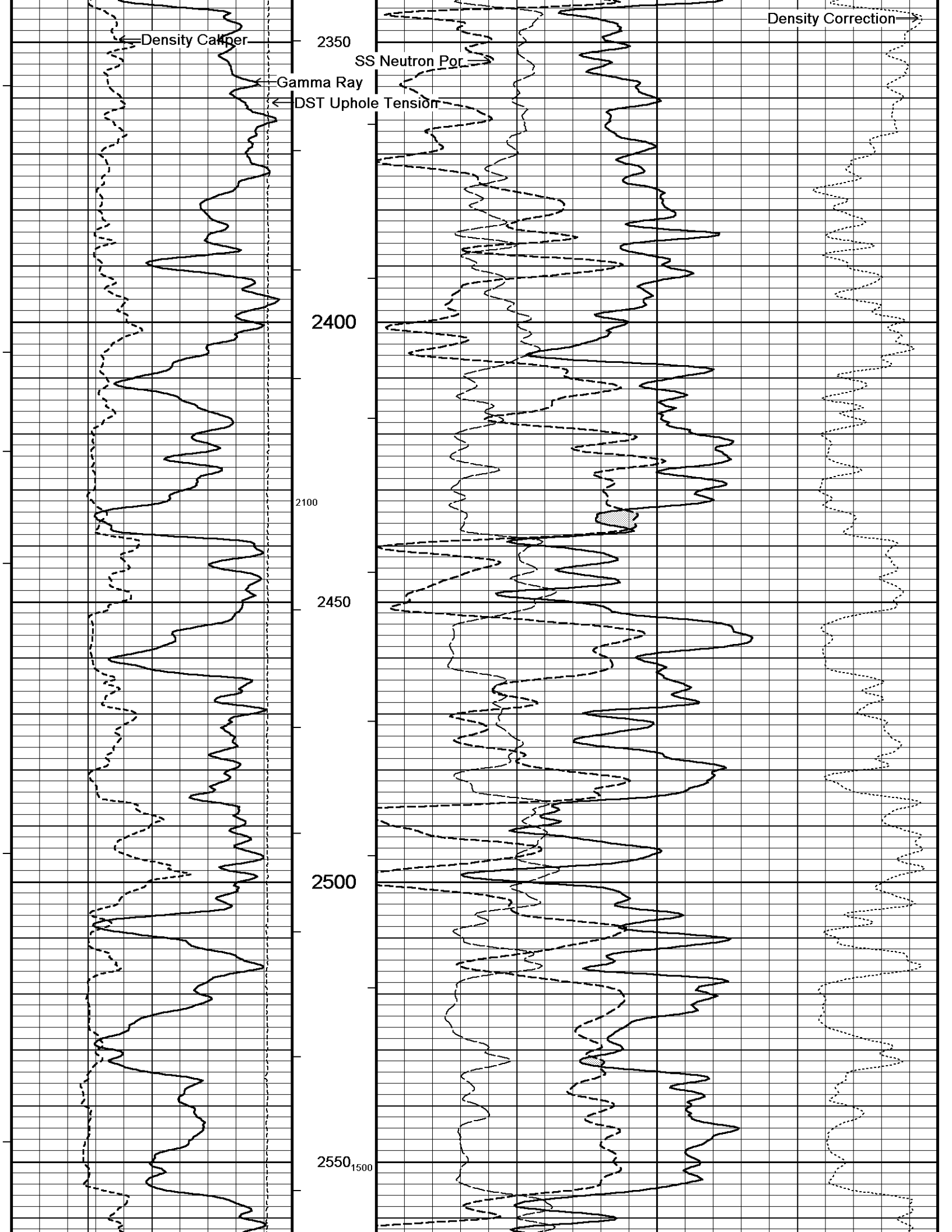


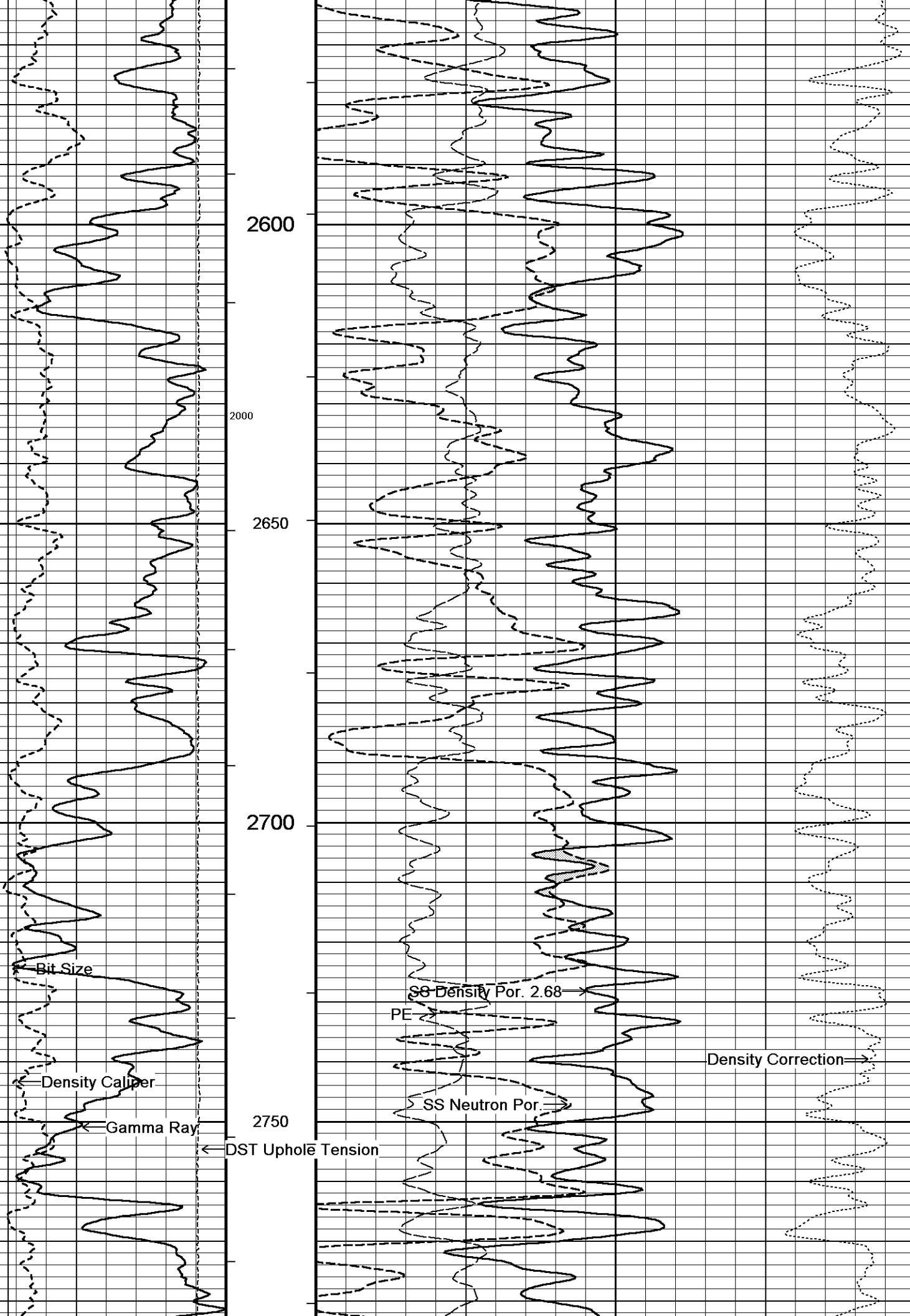


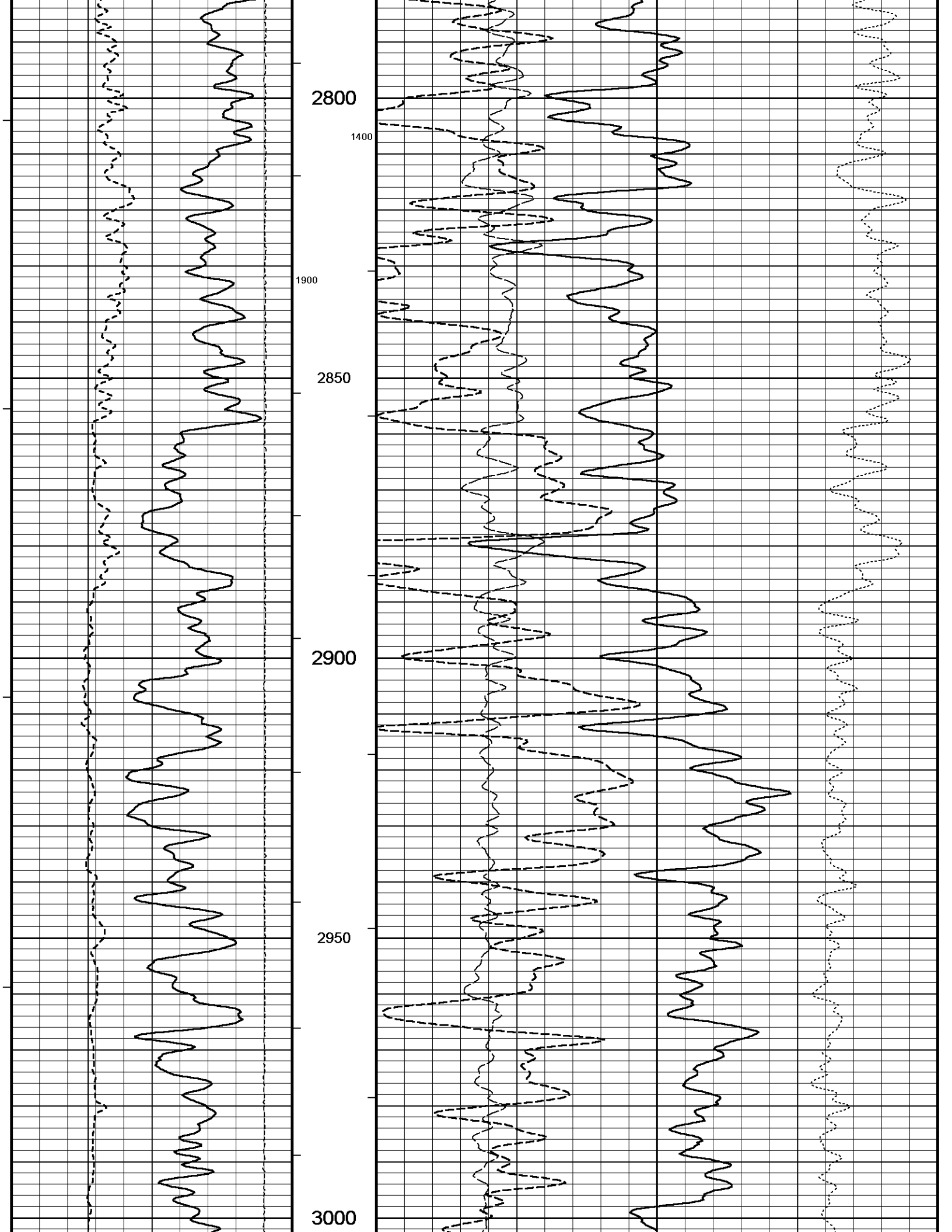


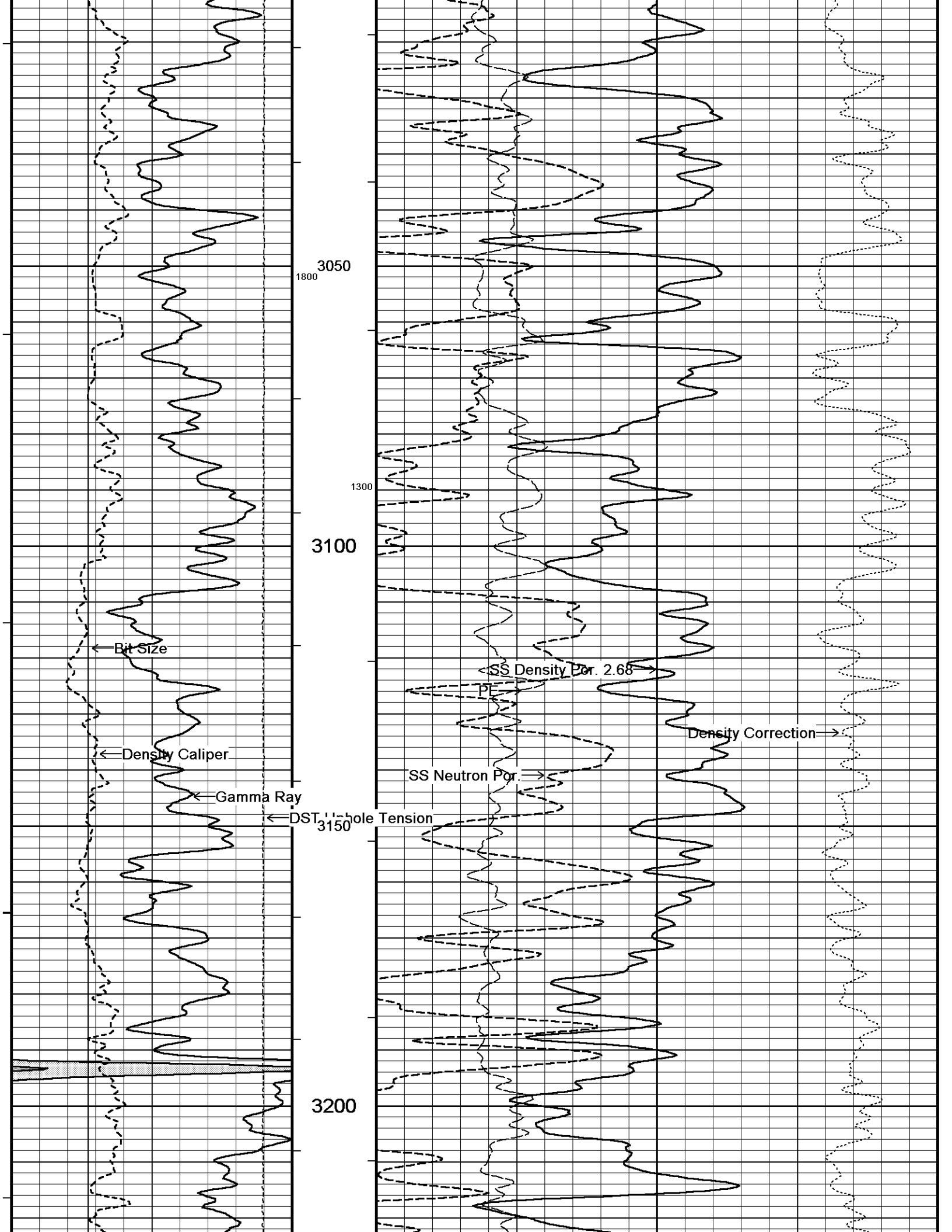


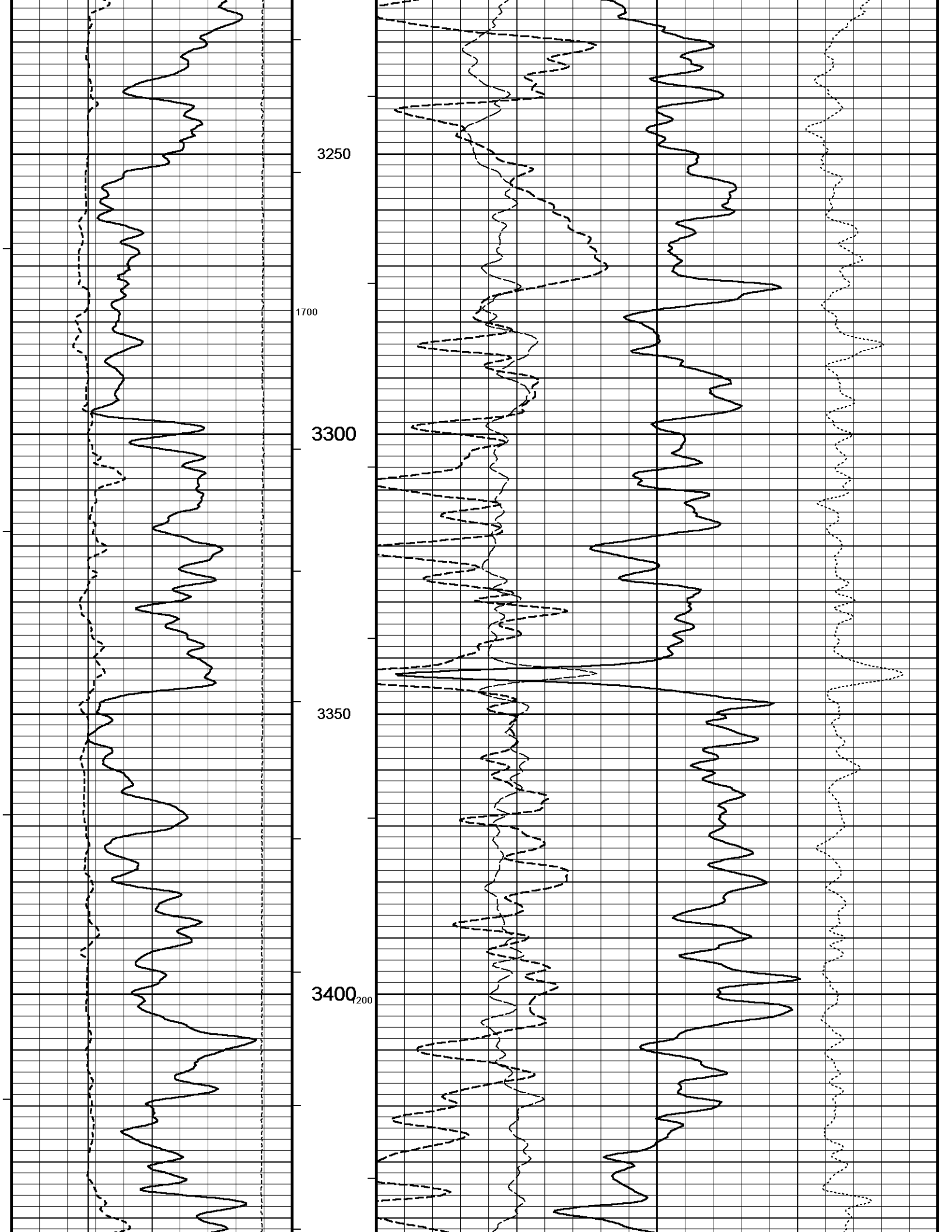


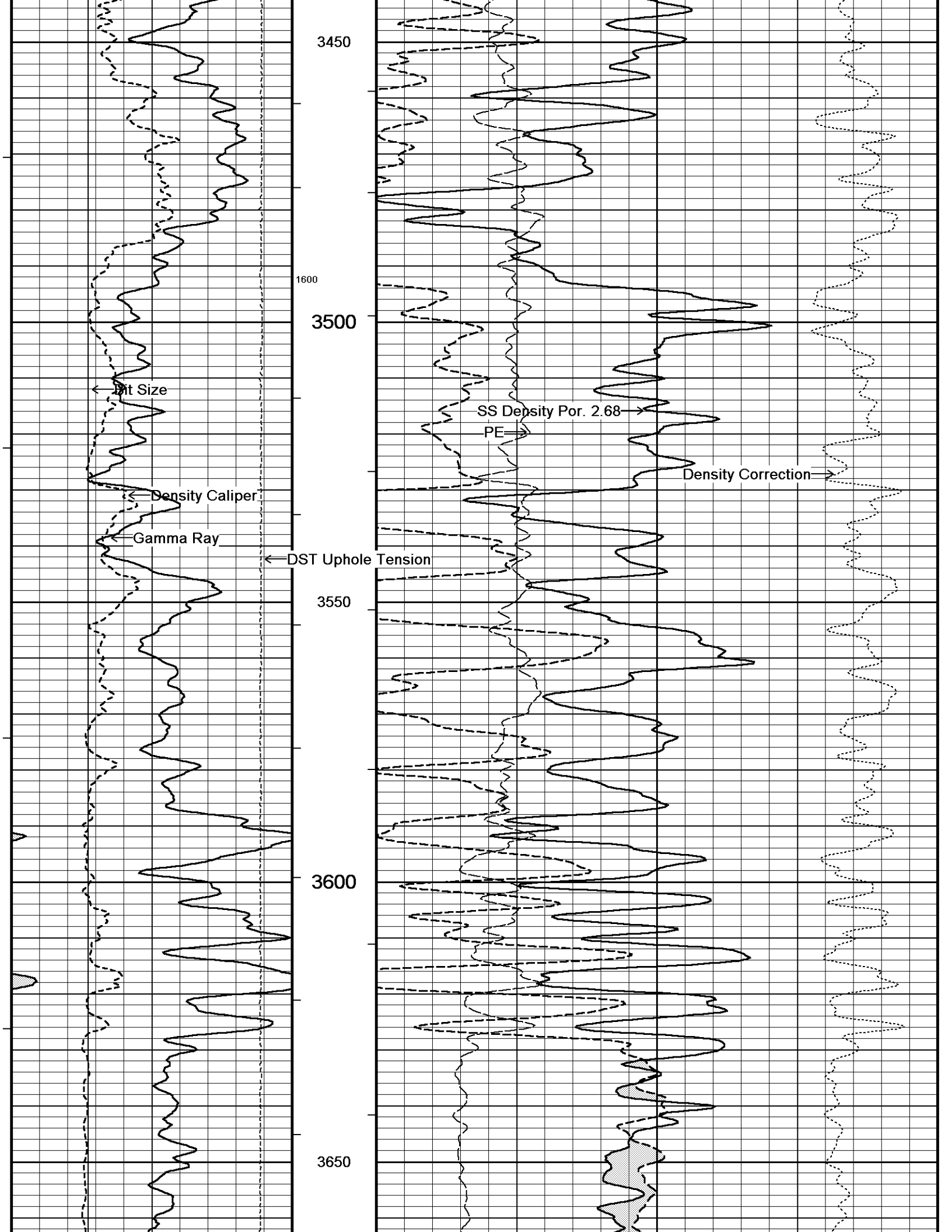


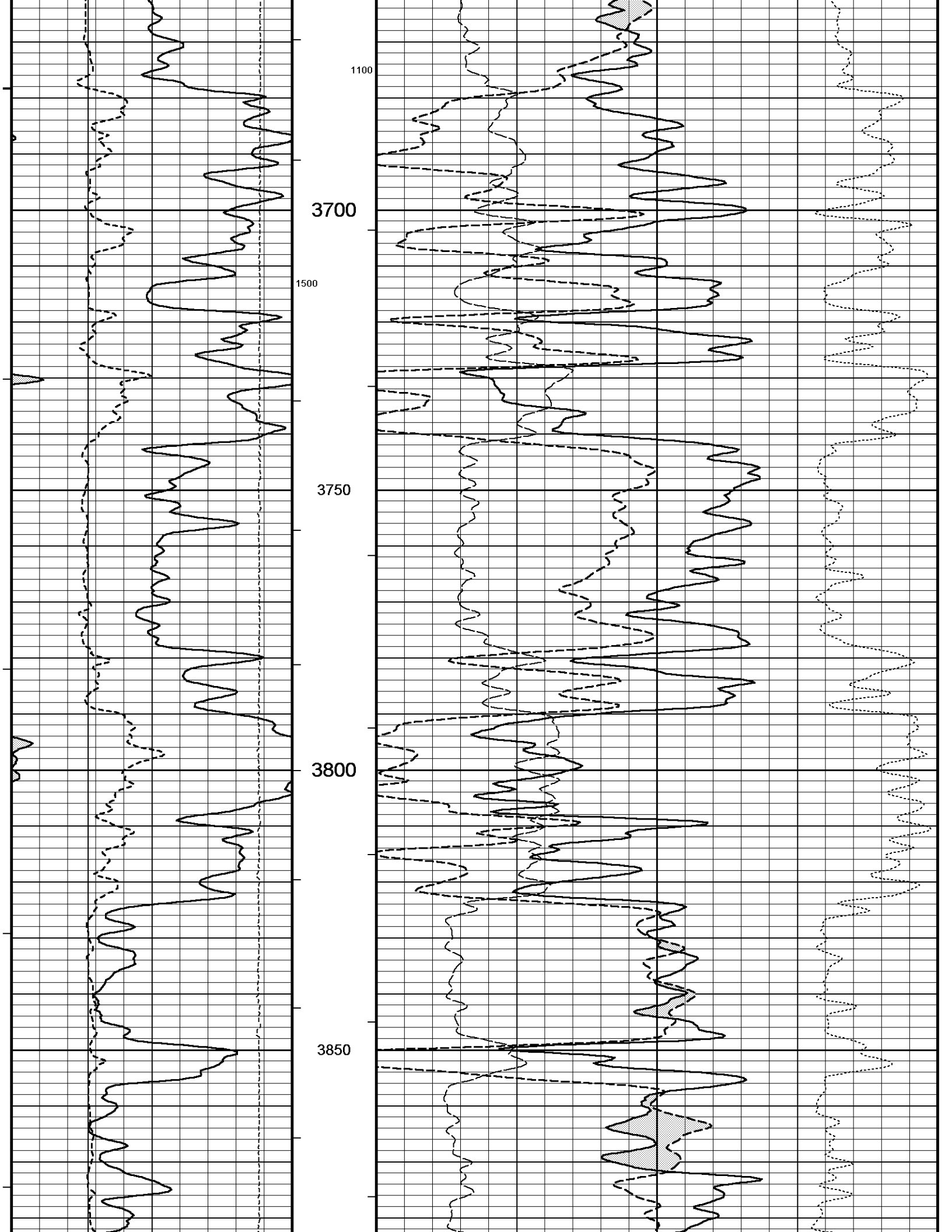


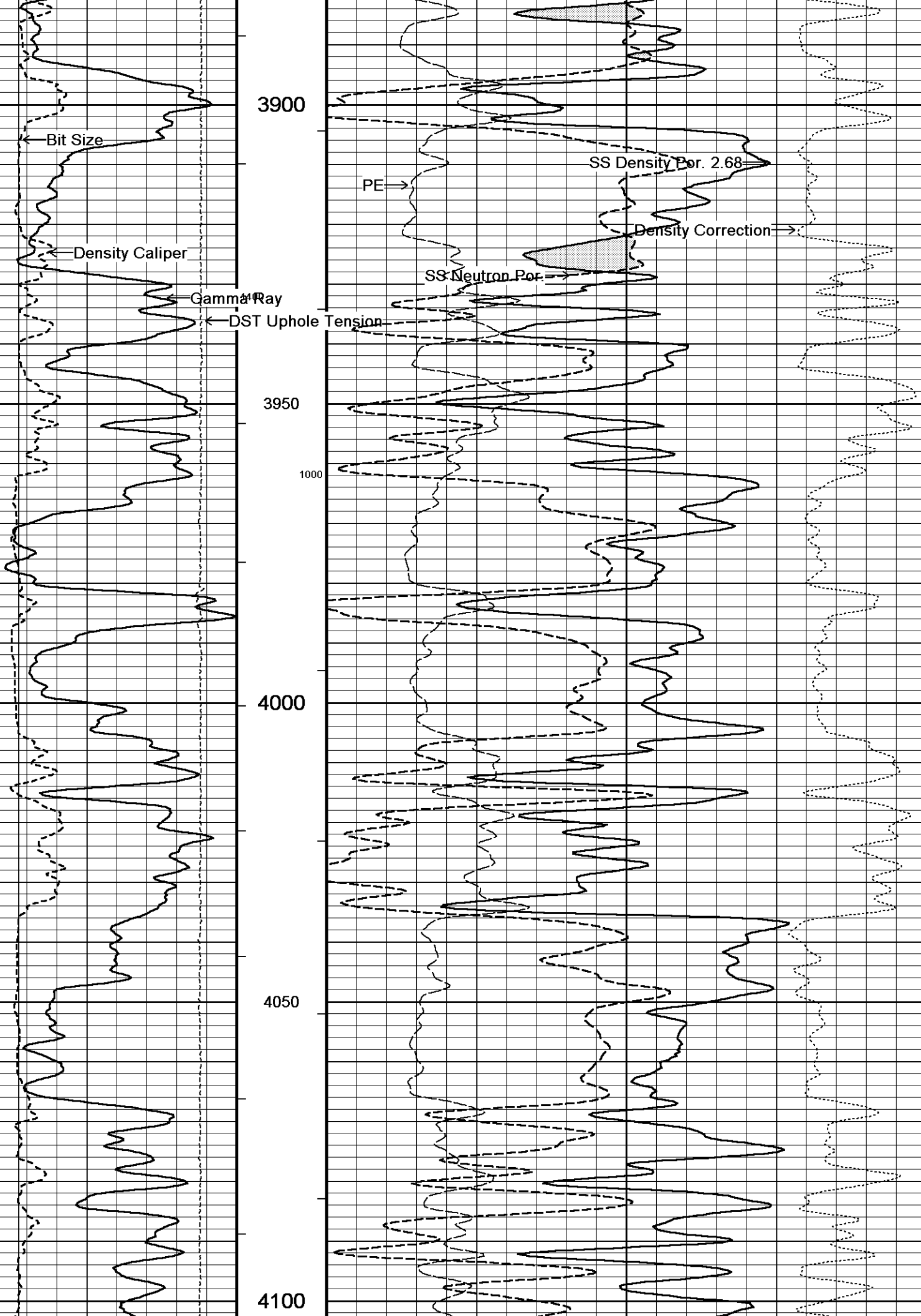


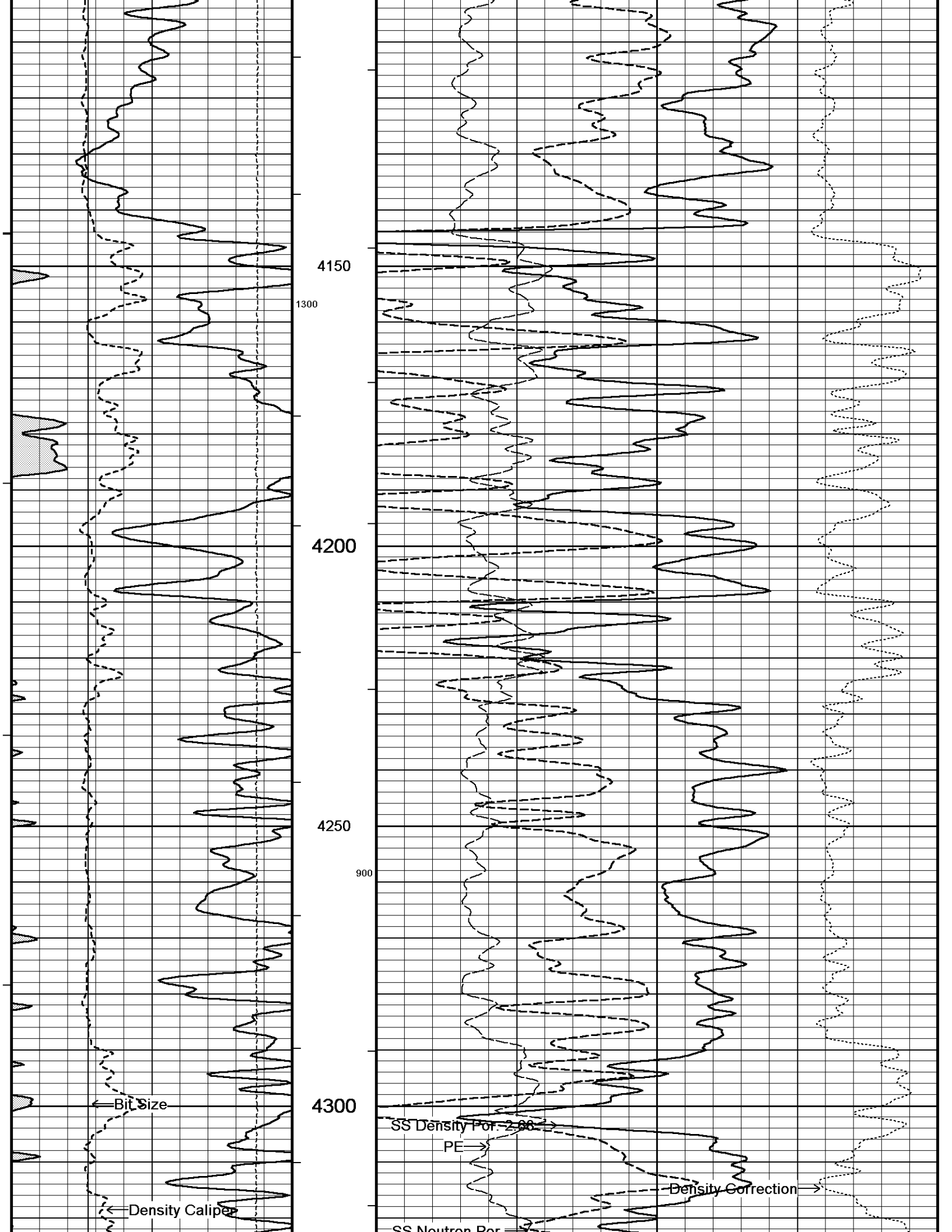


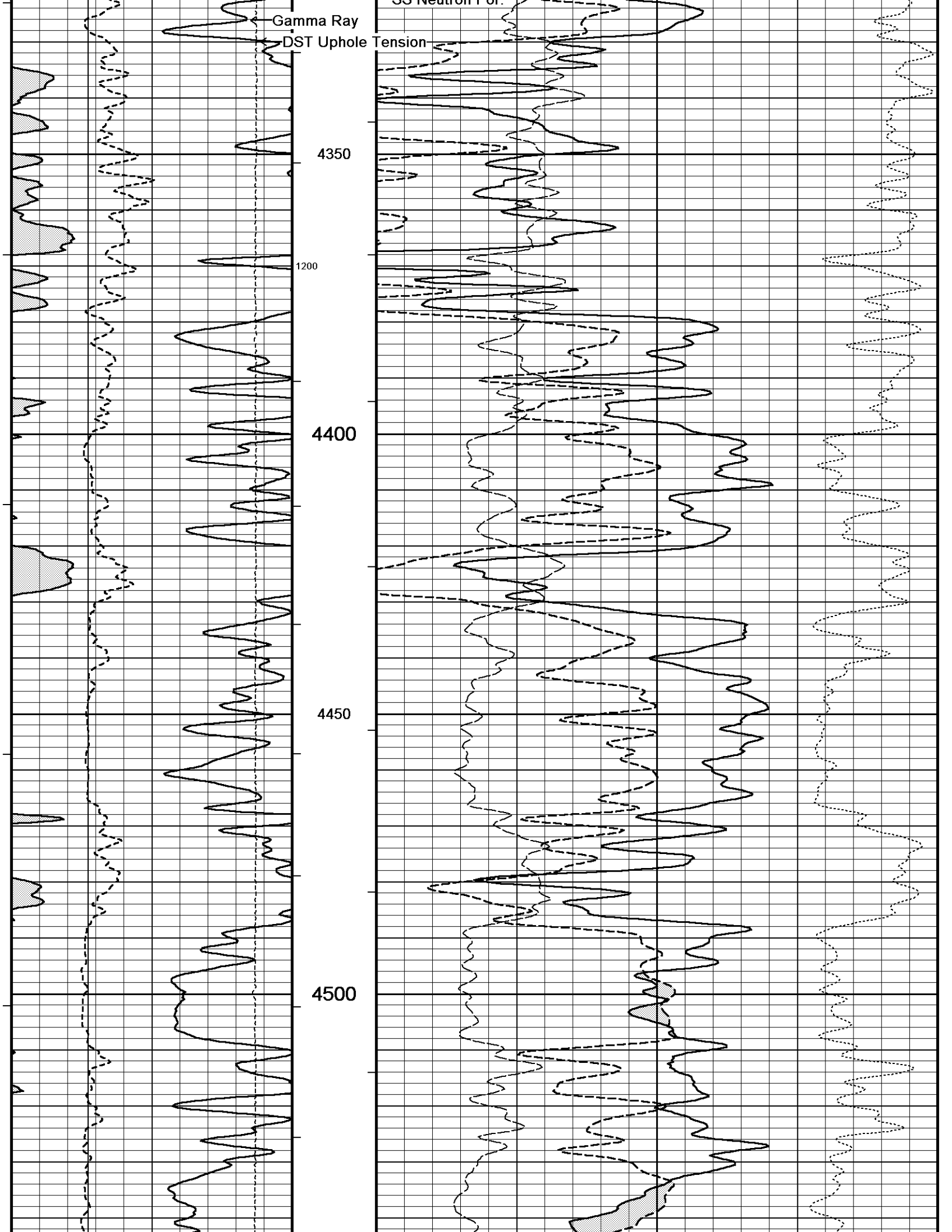












Gamma Ray
DST Uphole Tension

35 Neutron Flux

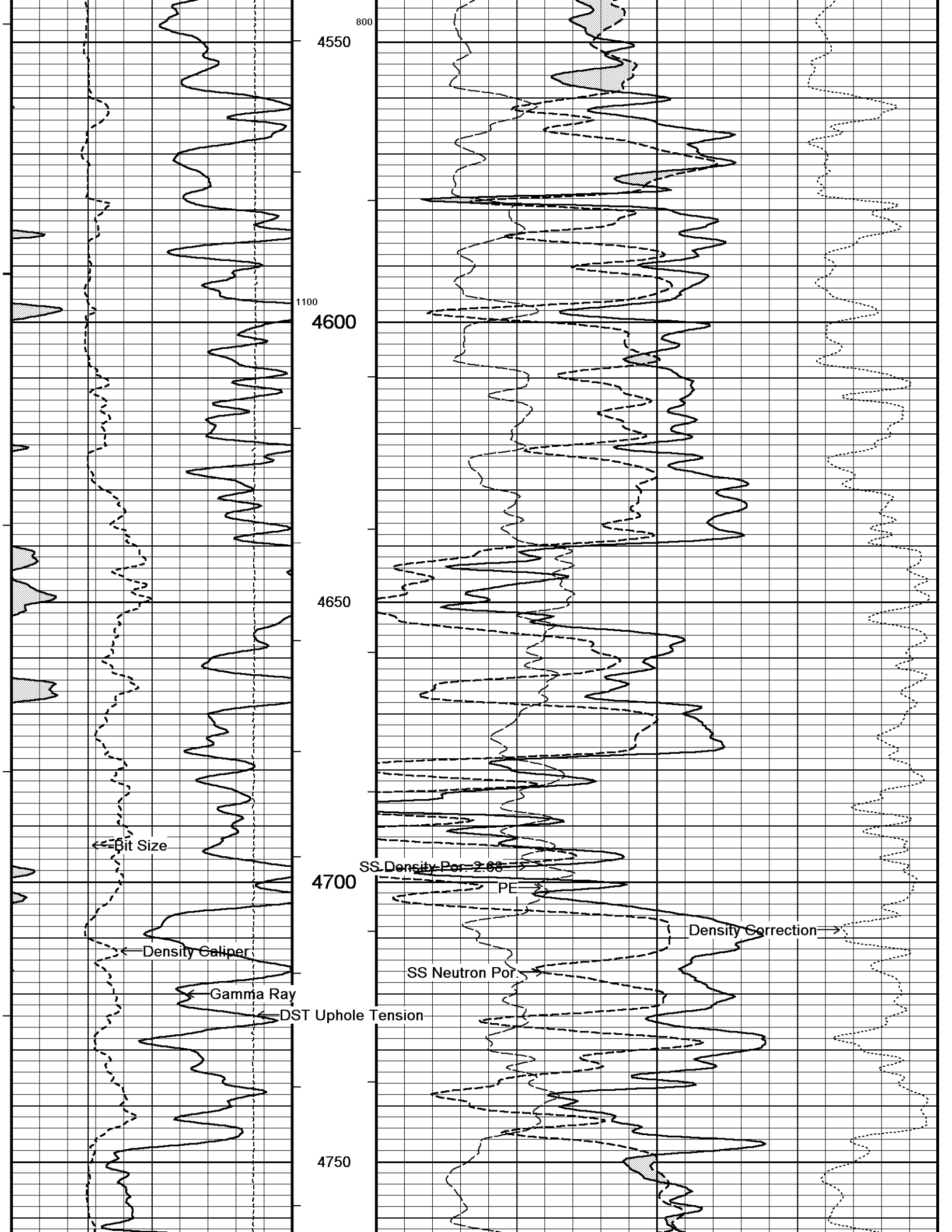
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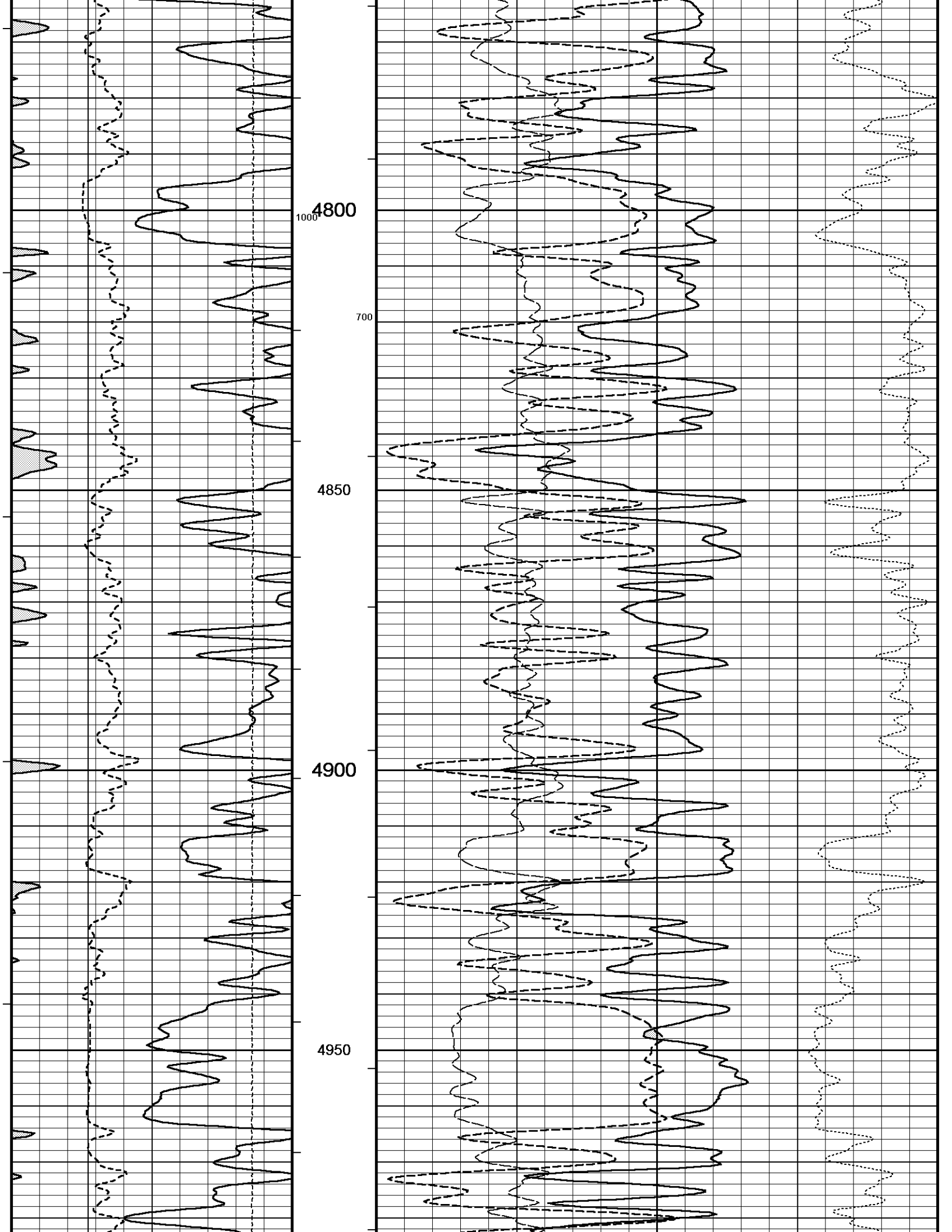
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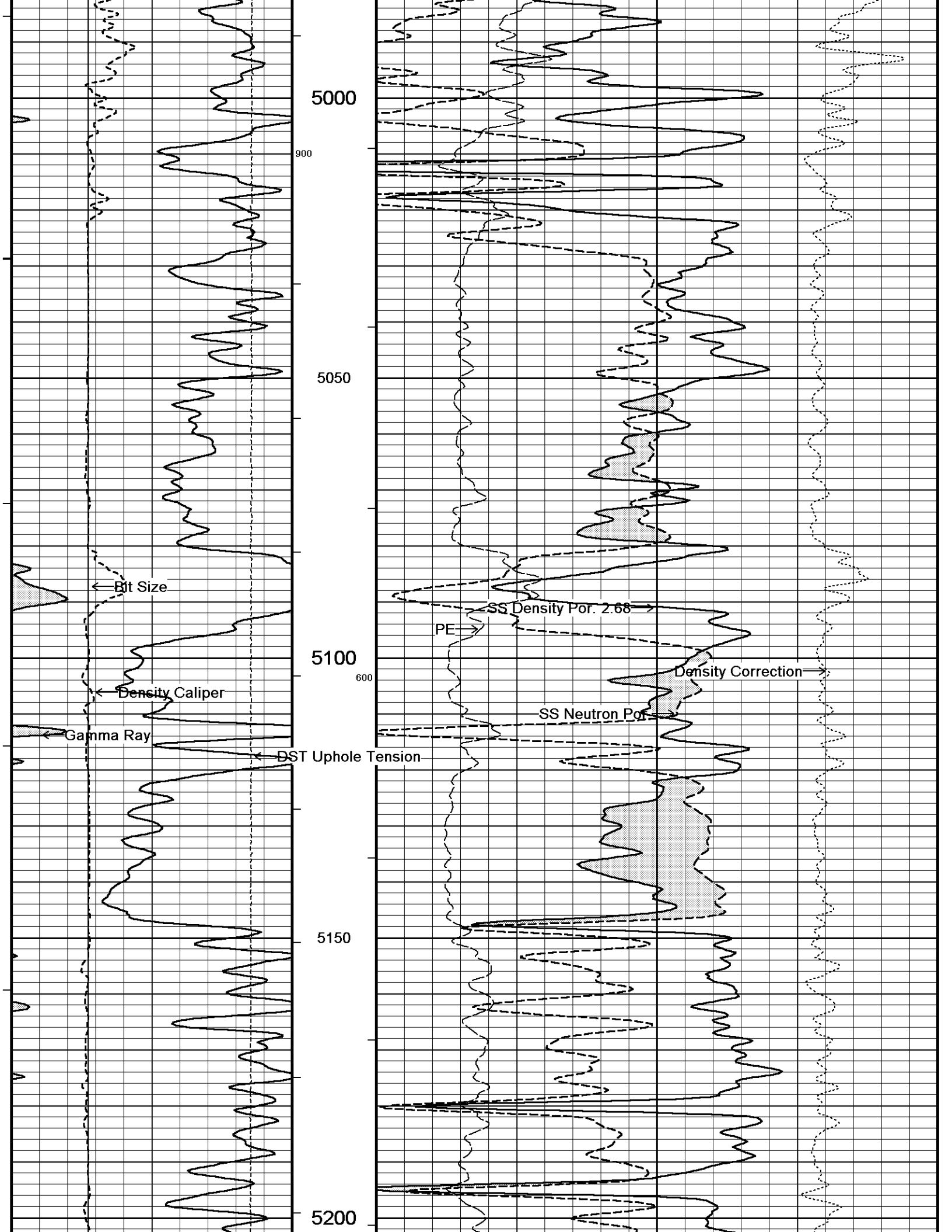
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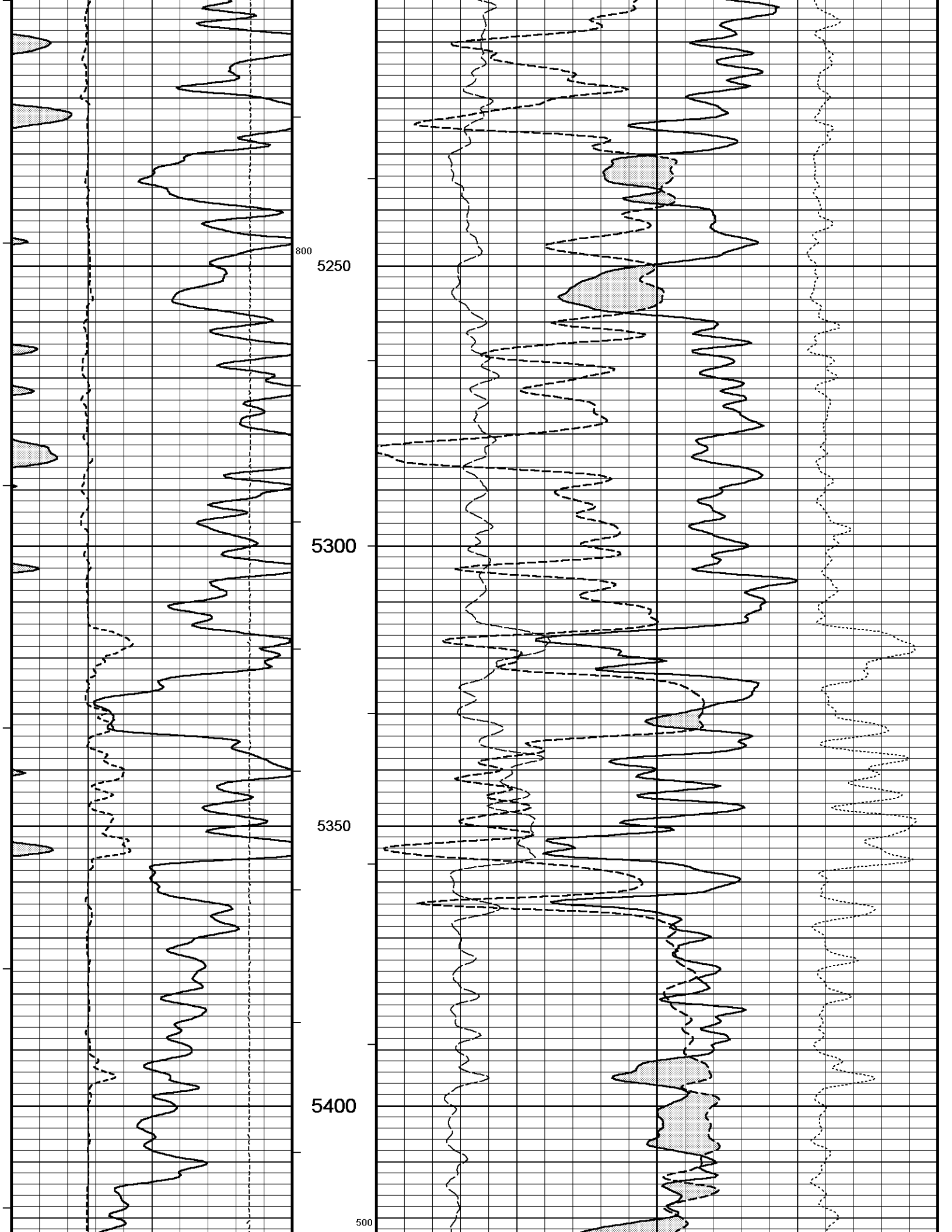
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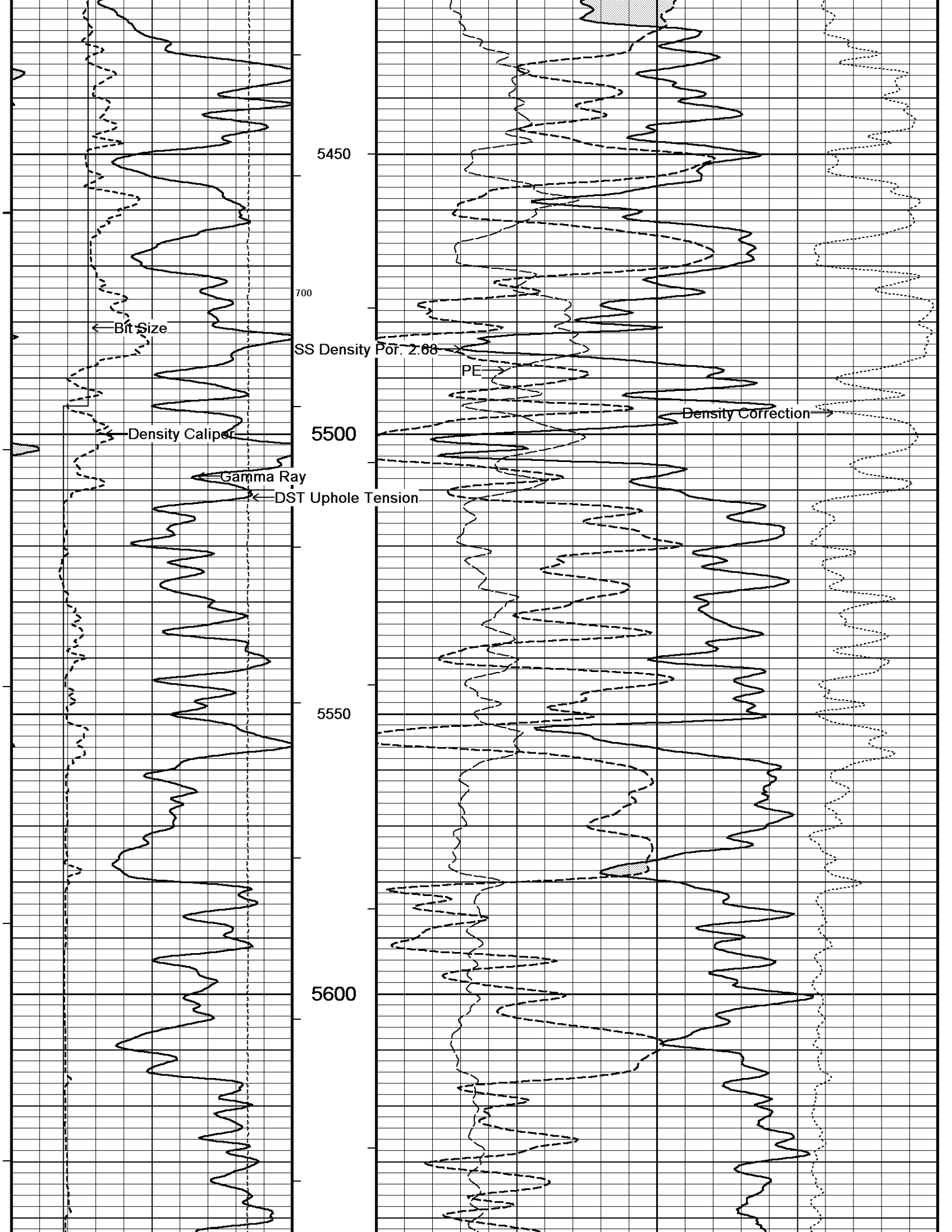
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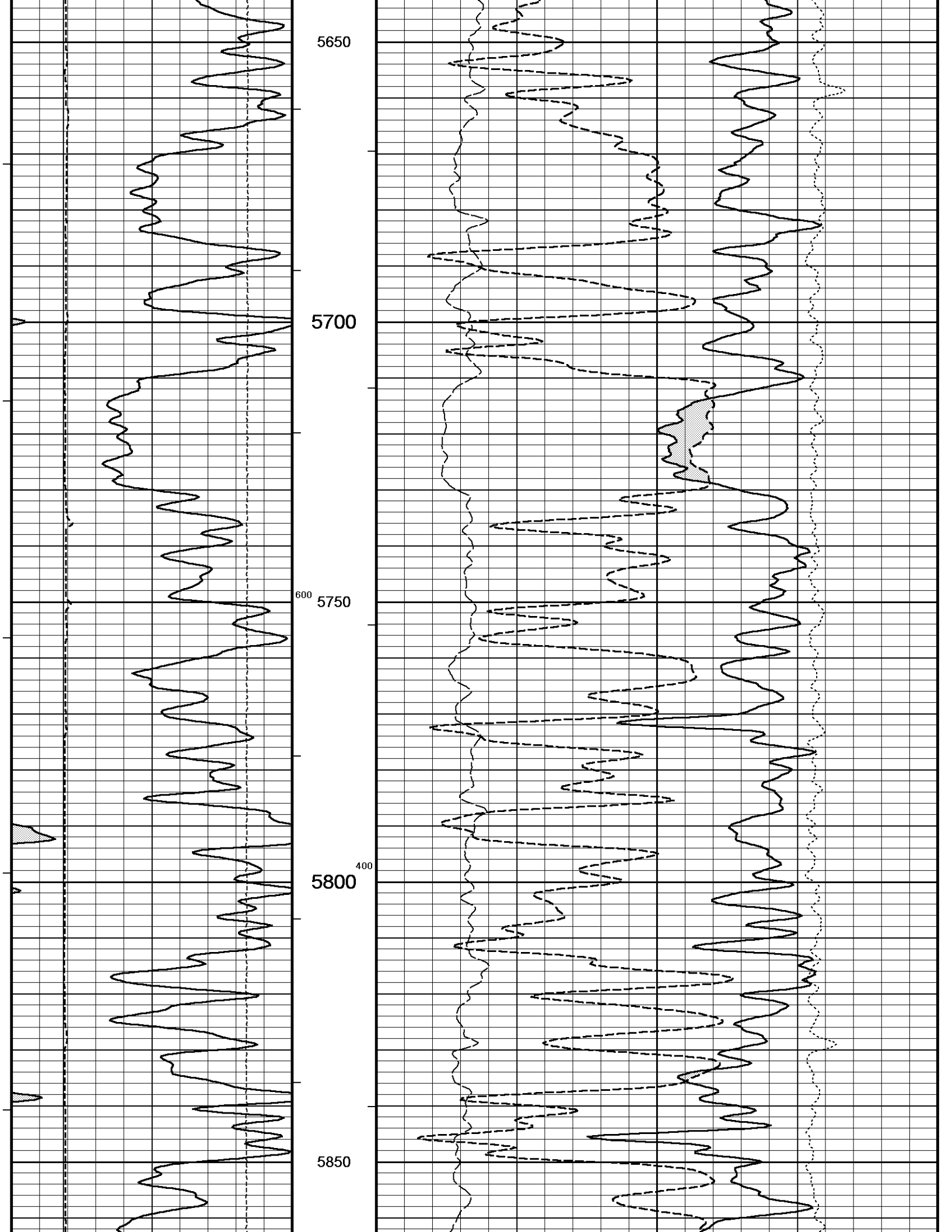


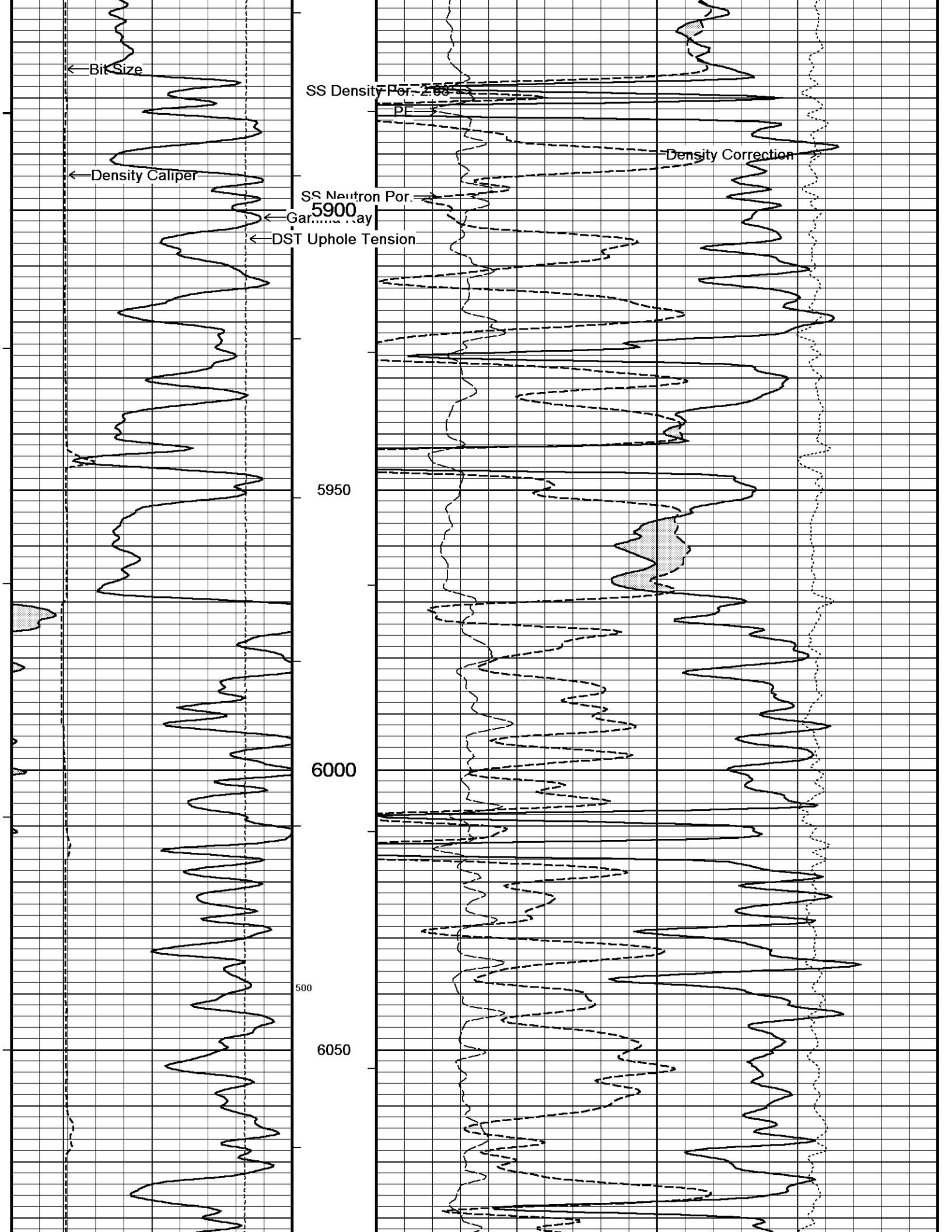


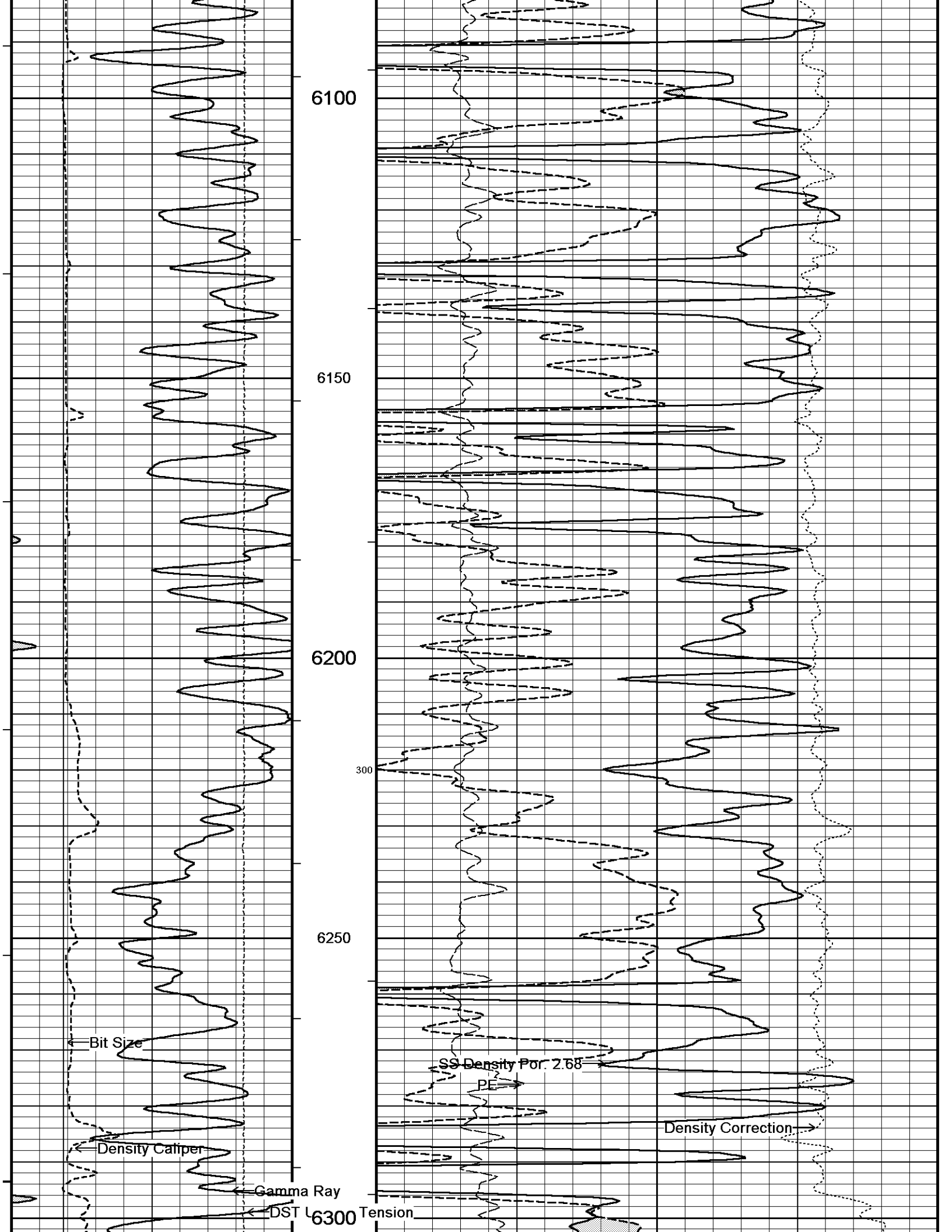


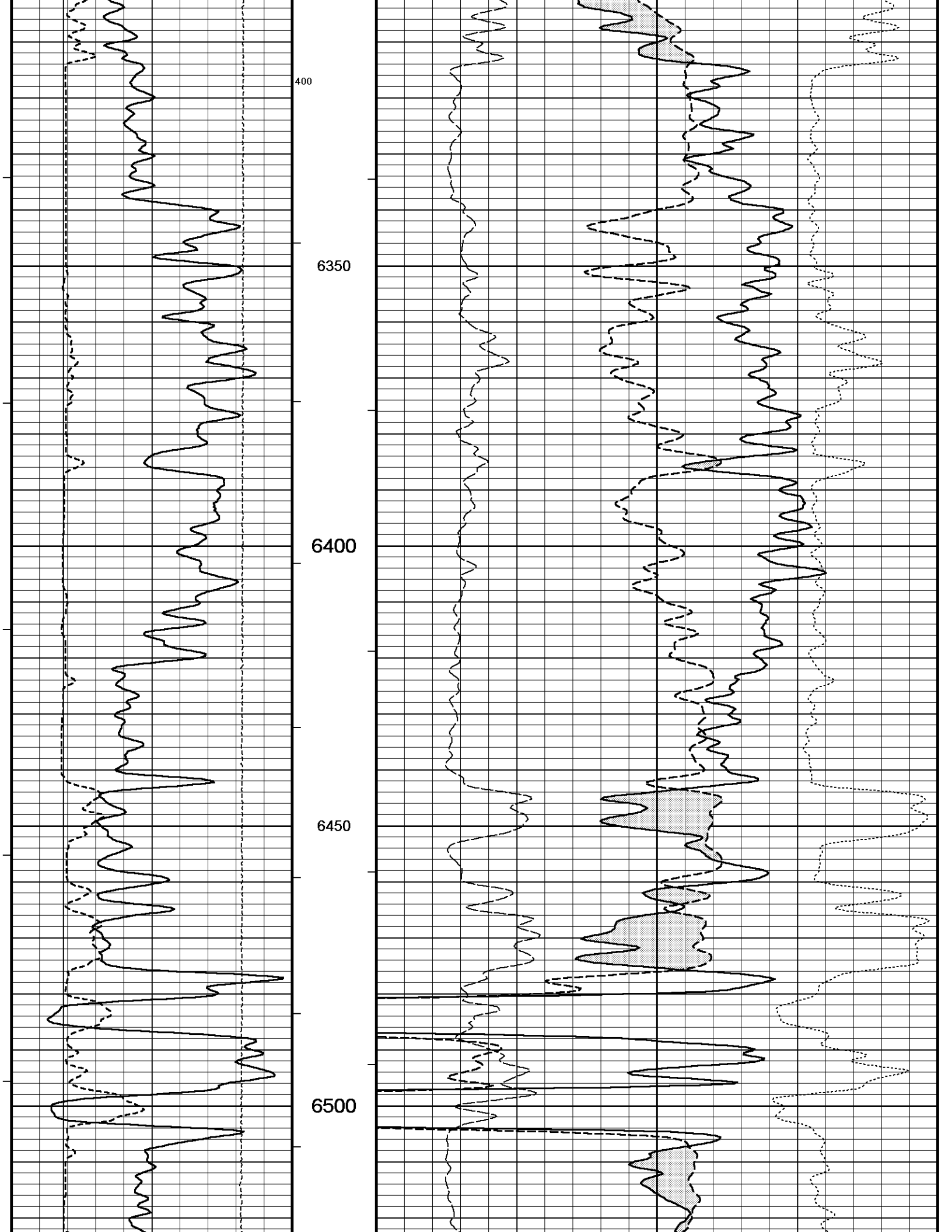


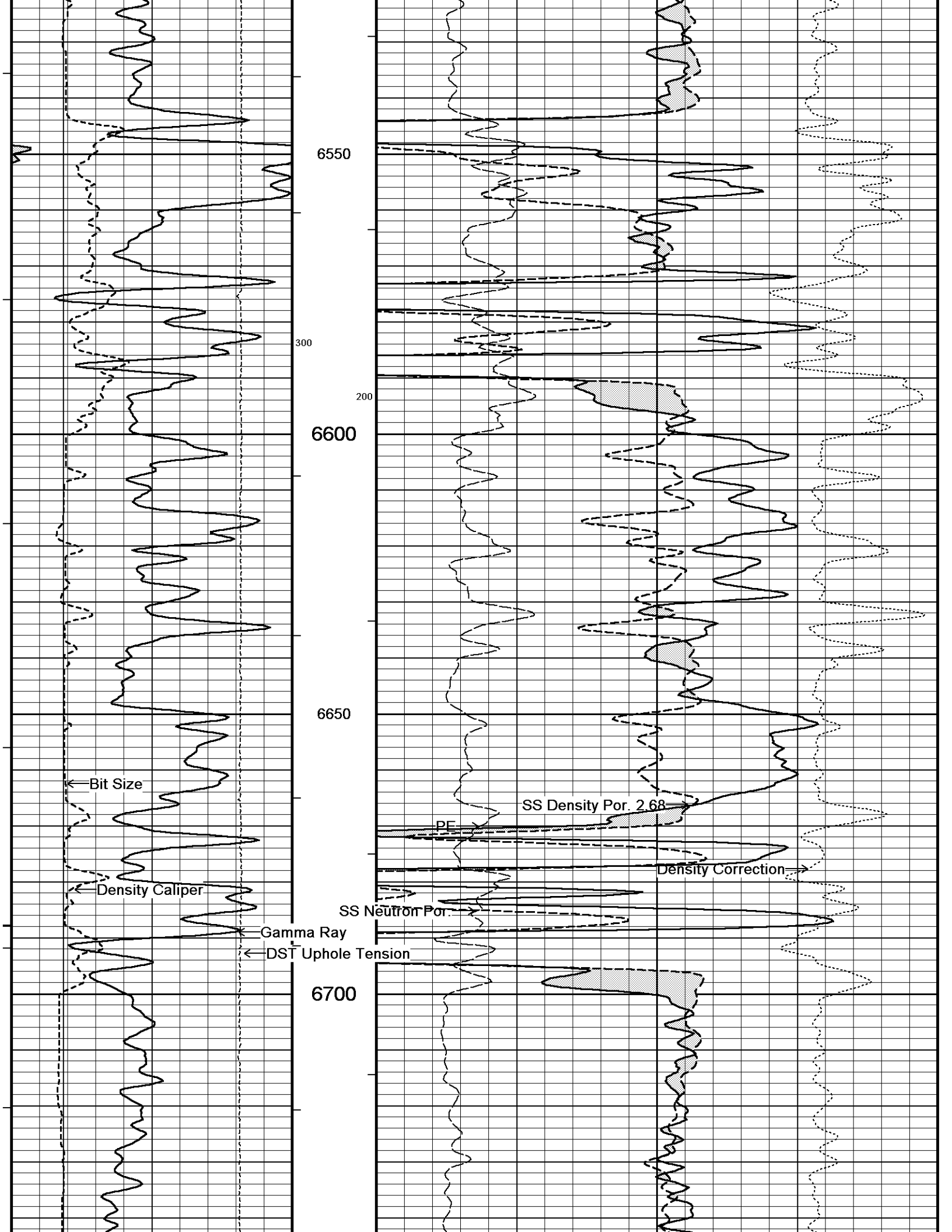


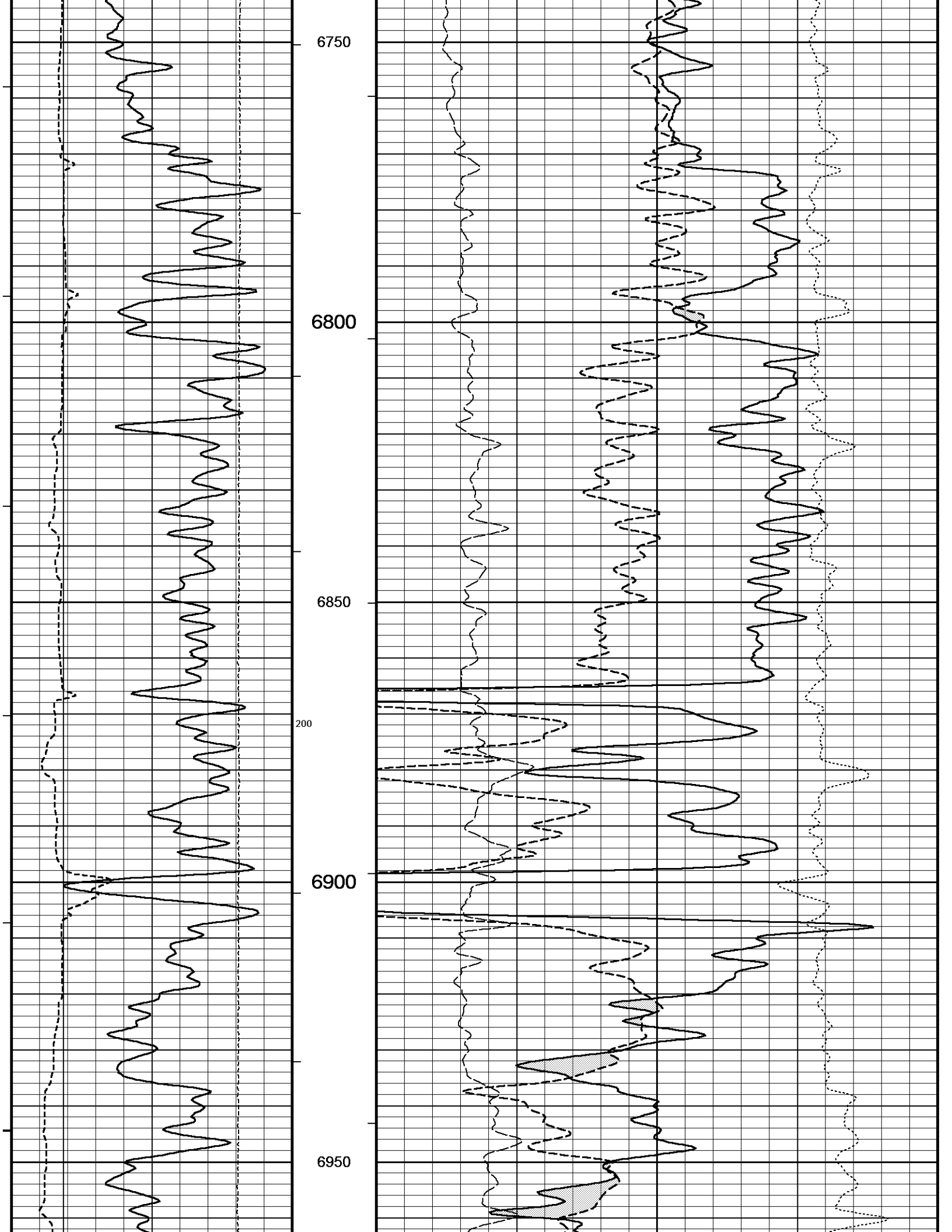


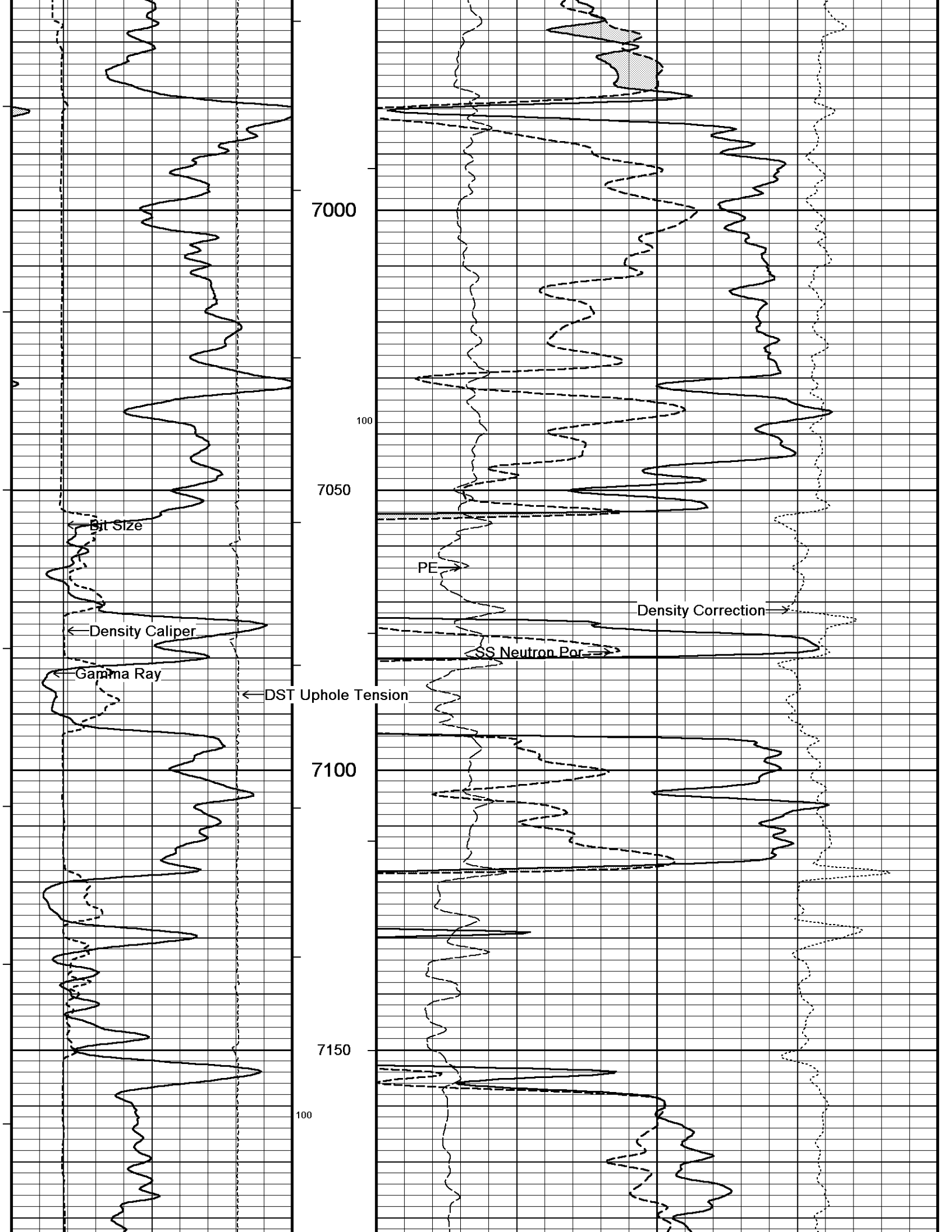


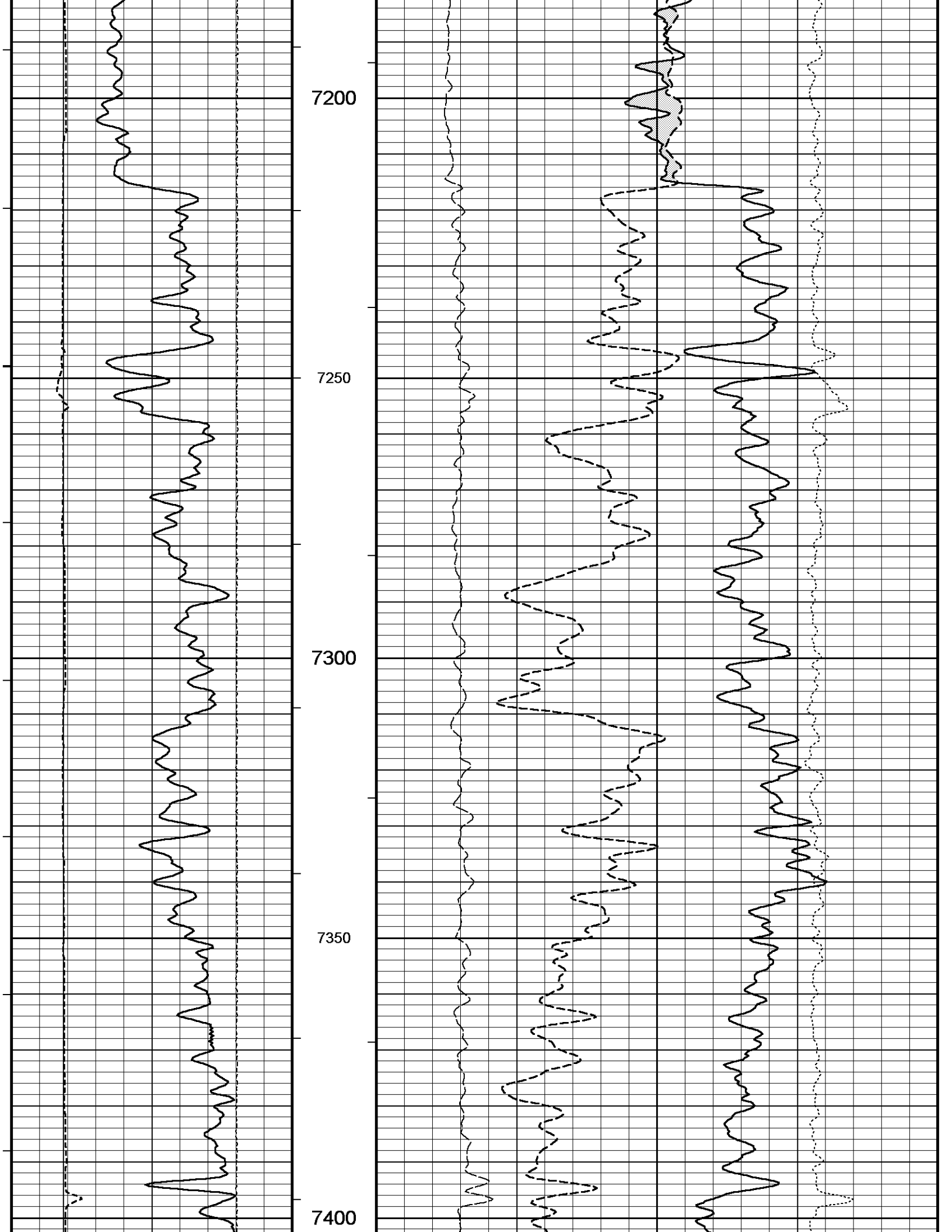


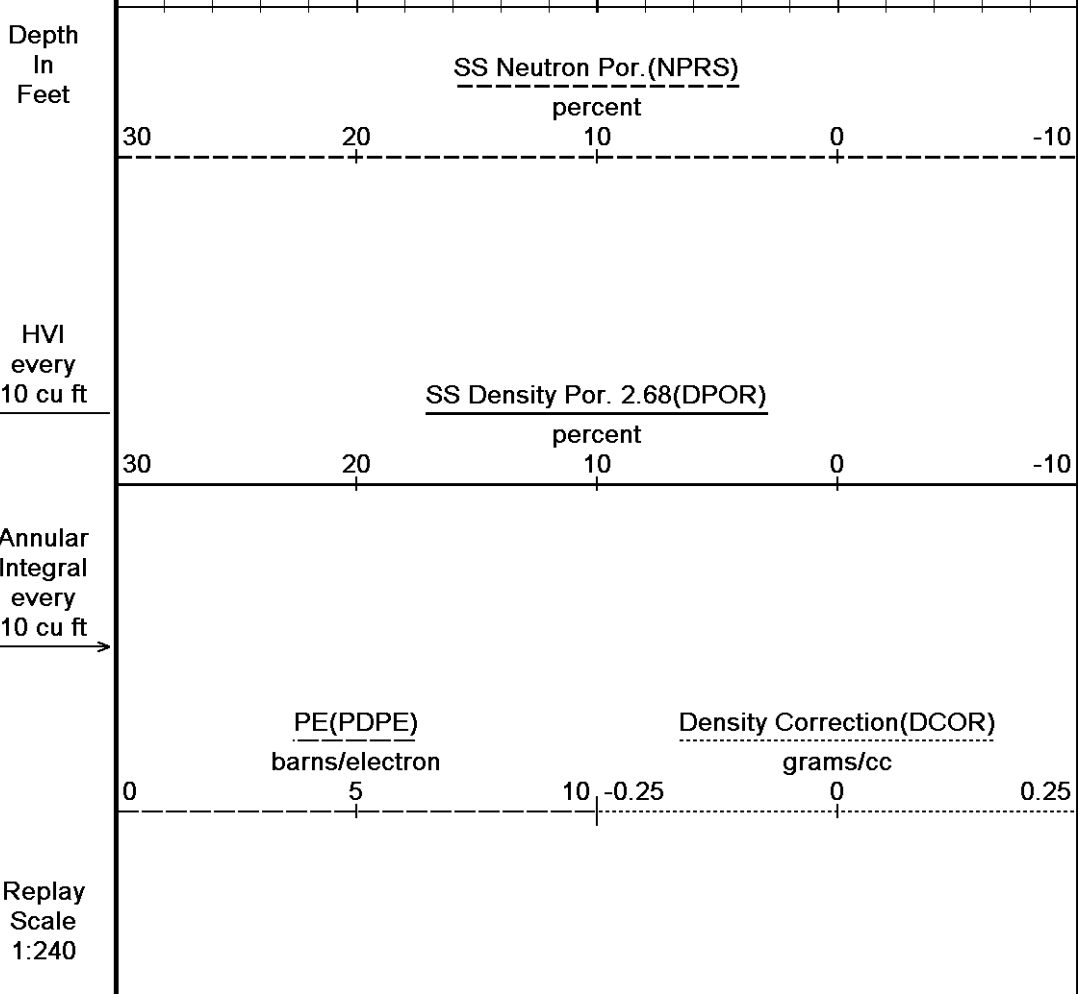
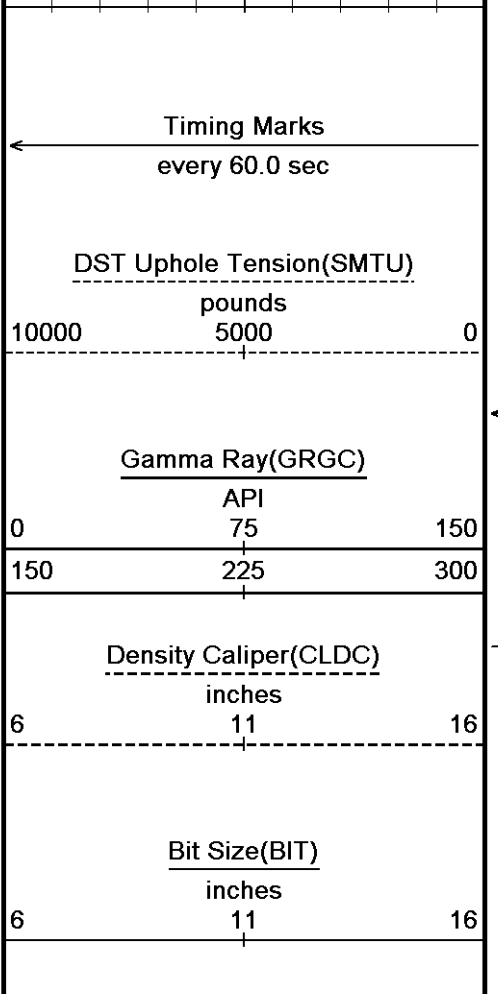
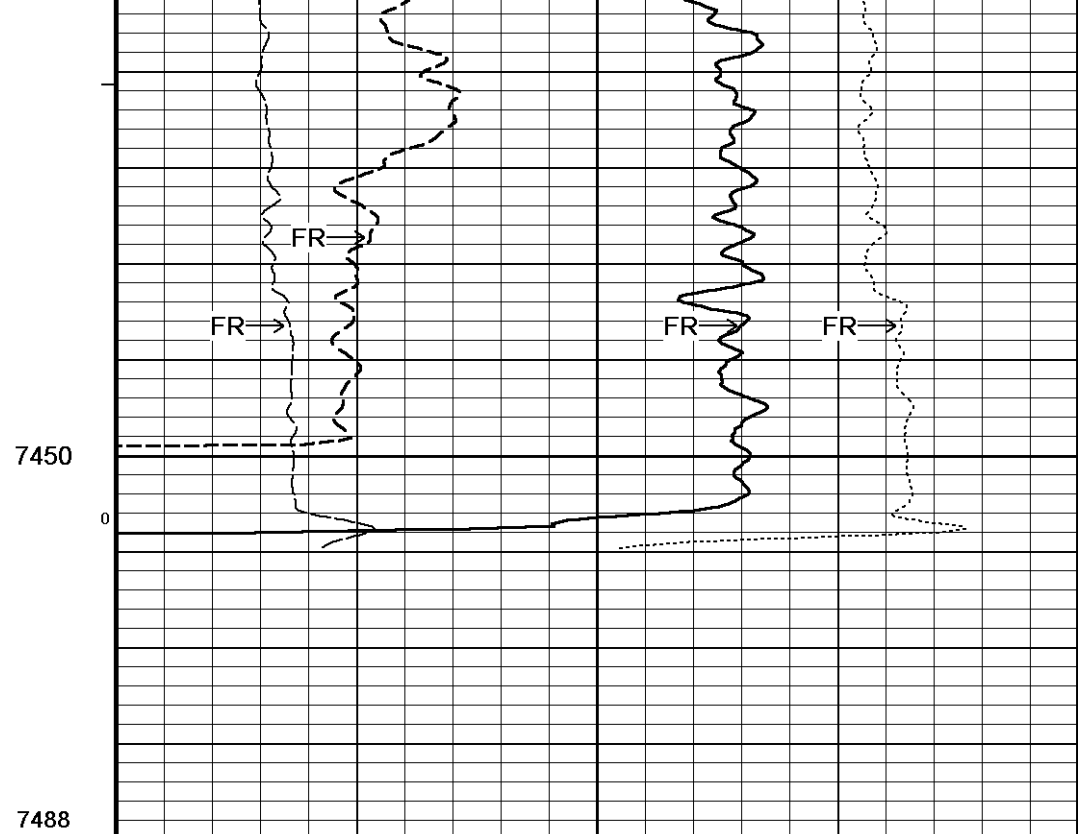
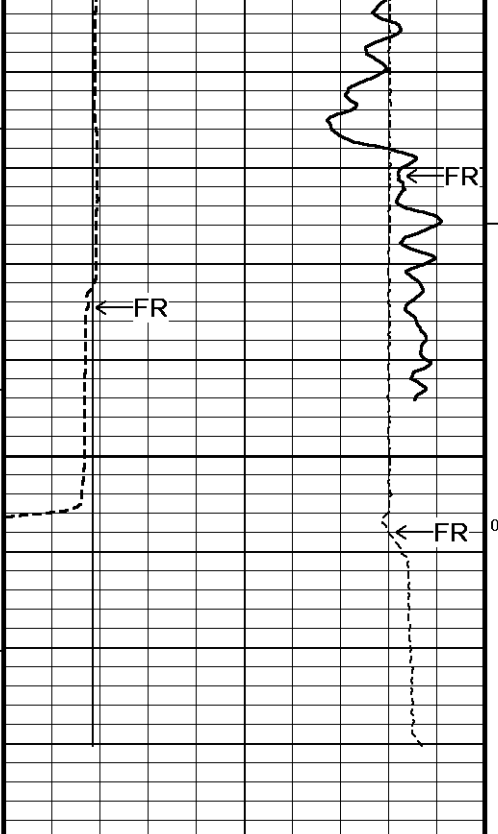










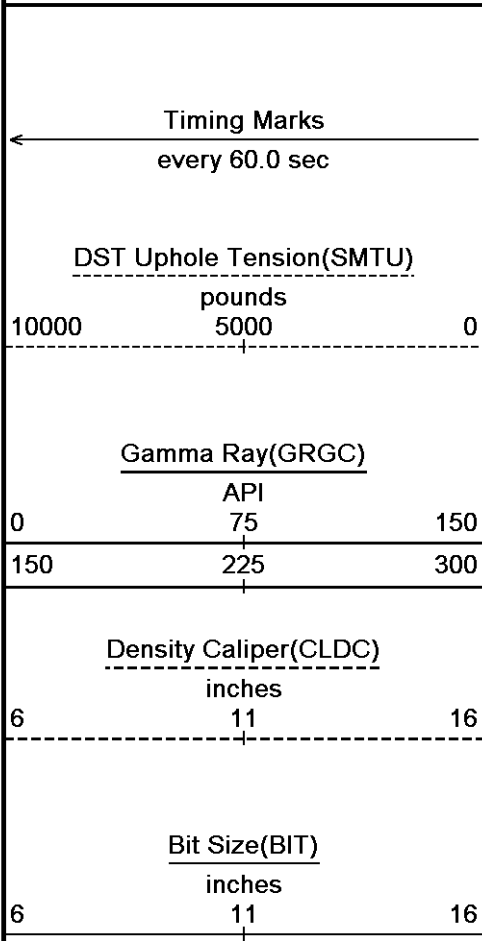


Depth Based Data - Maximum Sampling Increment 10.0cm
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 Filename: C:\Minimus\Logs\Bill Barrett\GGU Swanson 32C-29-691\MAIN2.dta
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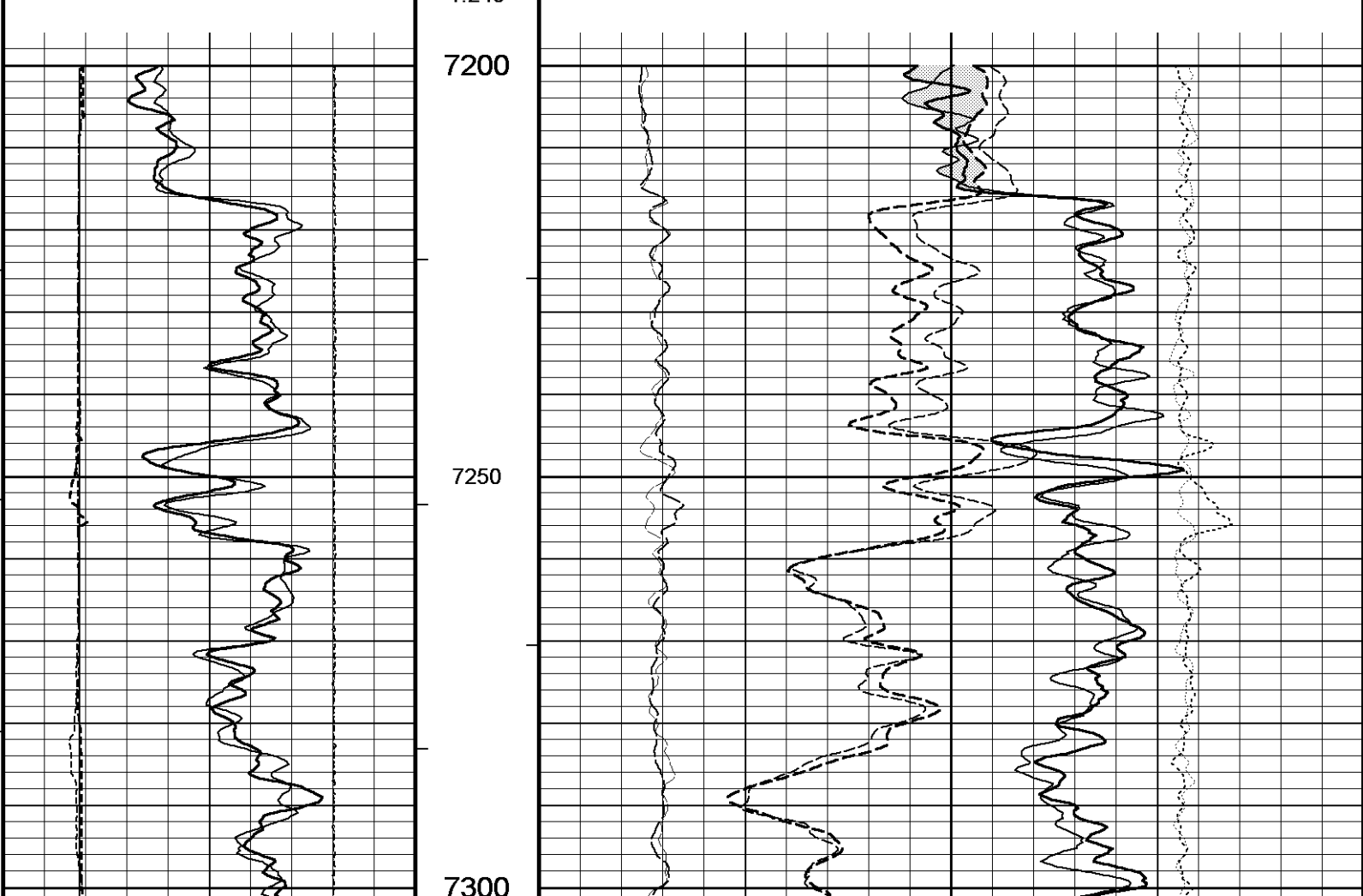
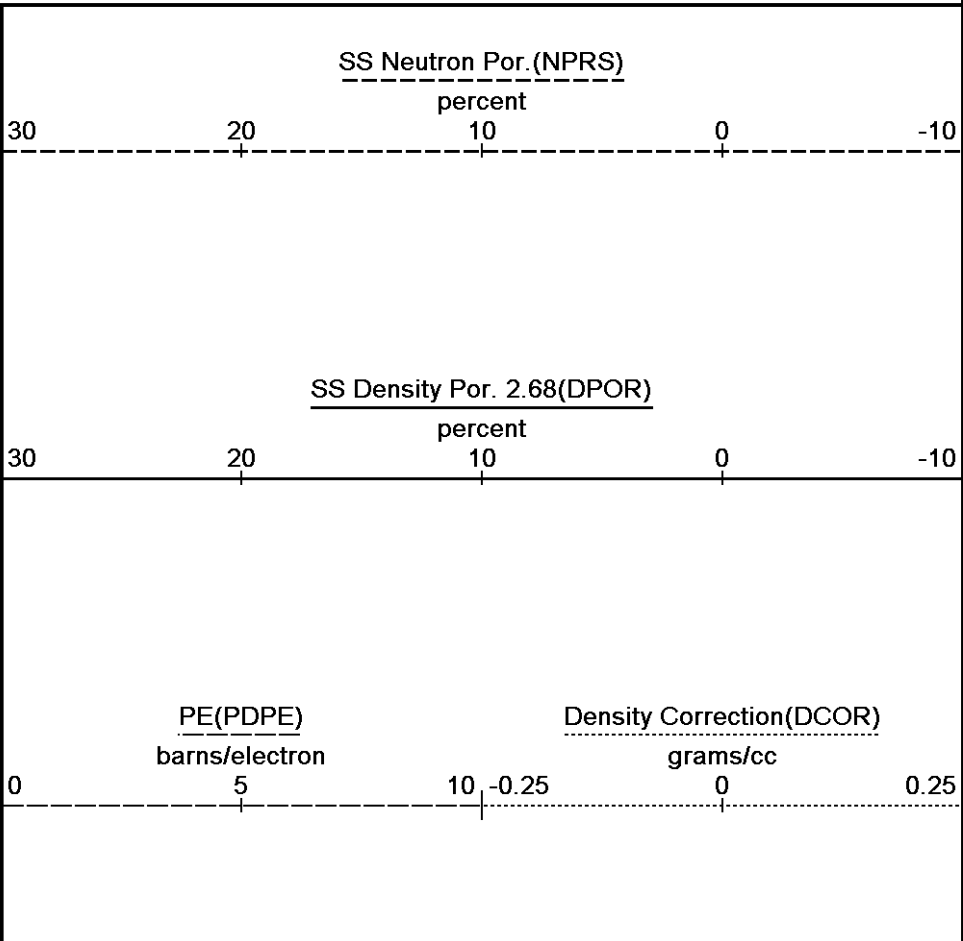
↑ 5 INCH MAIN LOG ↑

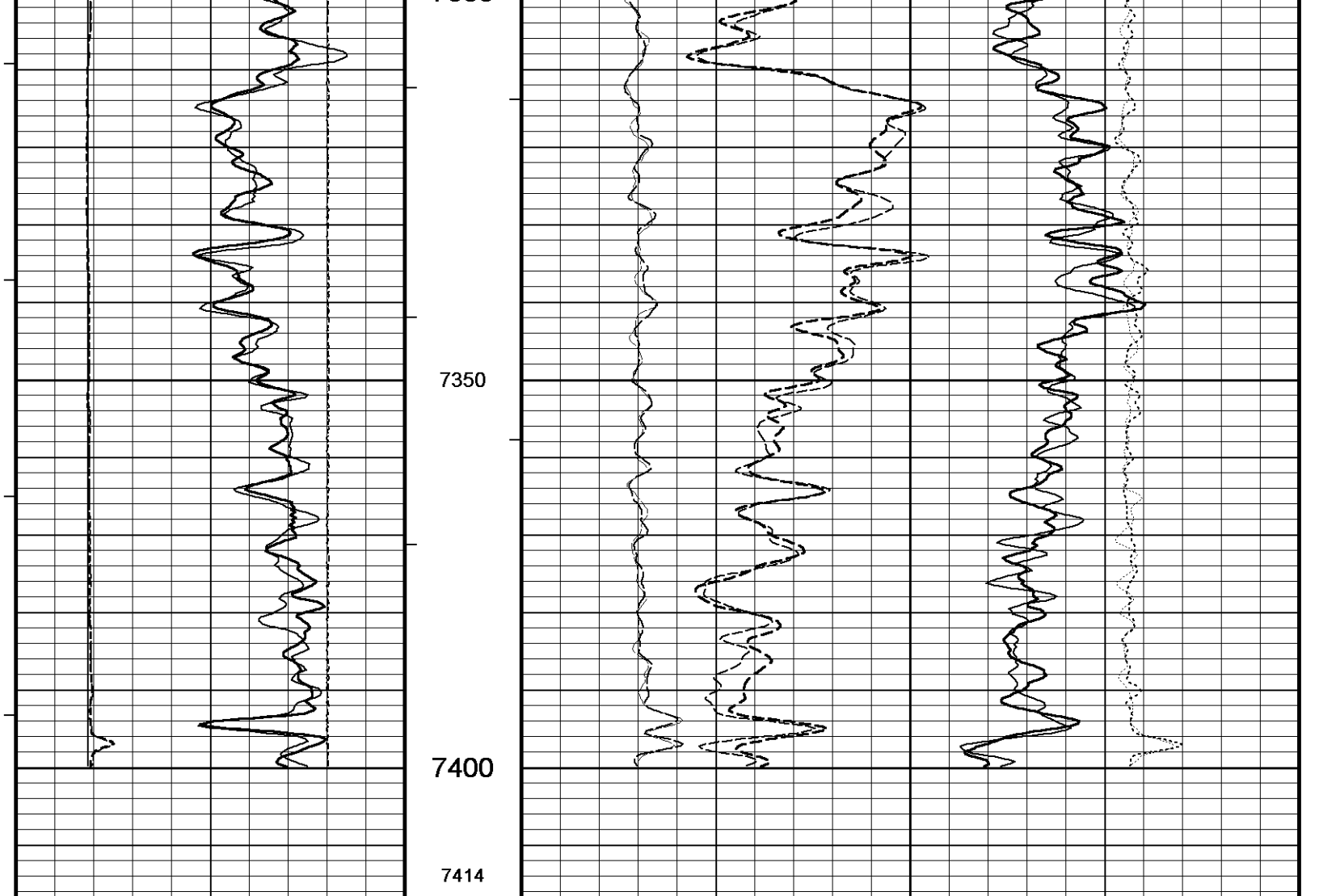
↓ OVERLAY ↓

Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 18-FEB-2011 18:53



Depth in Feet
 HVI every 10 cu ft
 Annular Integral every 10 cu ft
 Replay Scale 1:240





7414
Depth
in
Feet

← Timing Marks
every 60.0 sec

DST Uphole Tension(SMTU)
pounds
10000 5000 0

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

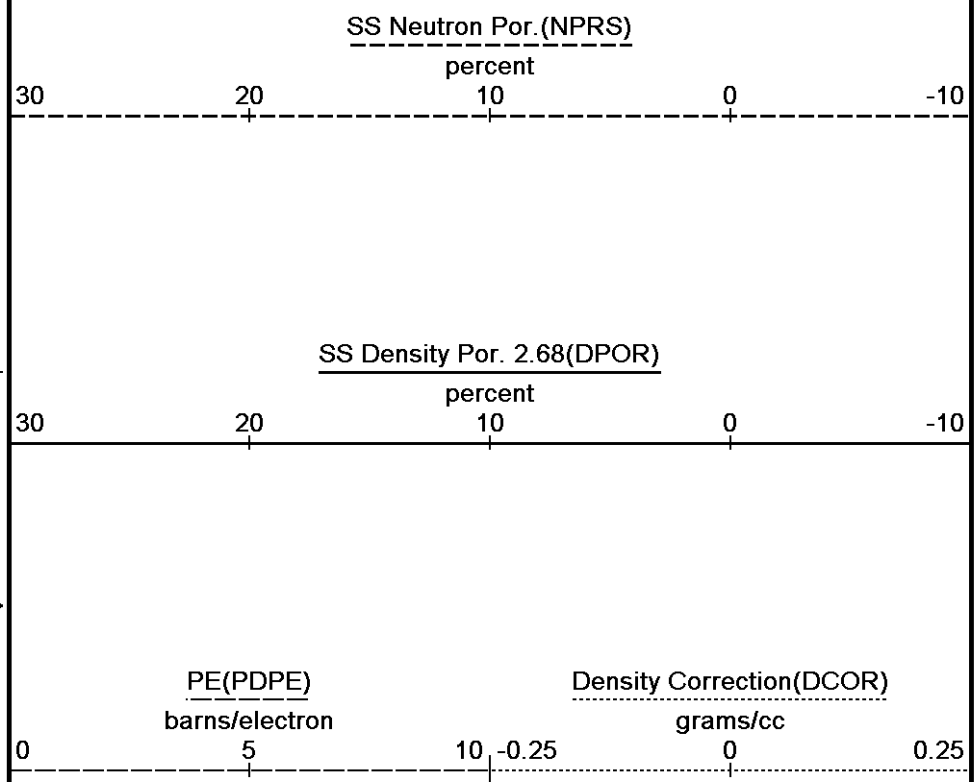
Density Caliper(CLDC)
inches
6 11 16

Bit Size(BIT)
inches
6 11 16

HVI
every
10 cu ft

← Annular
Integral
every
10 cu ft

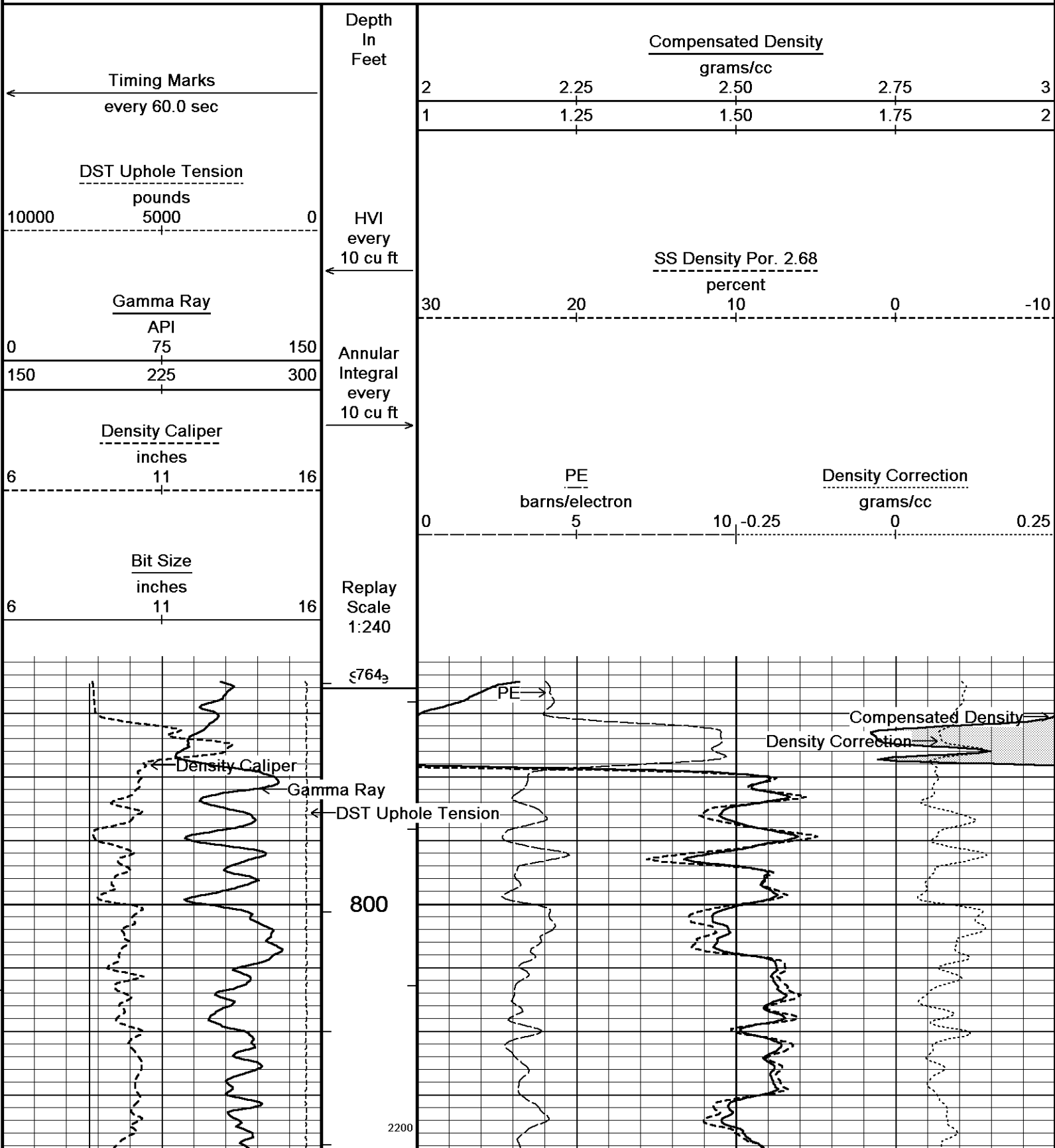
Replay
Scale
1:240

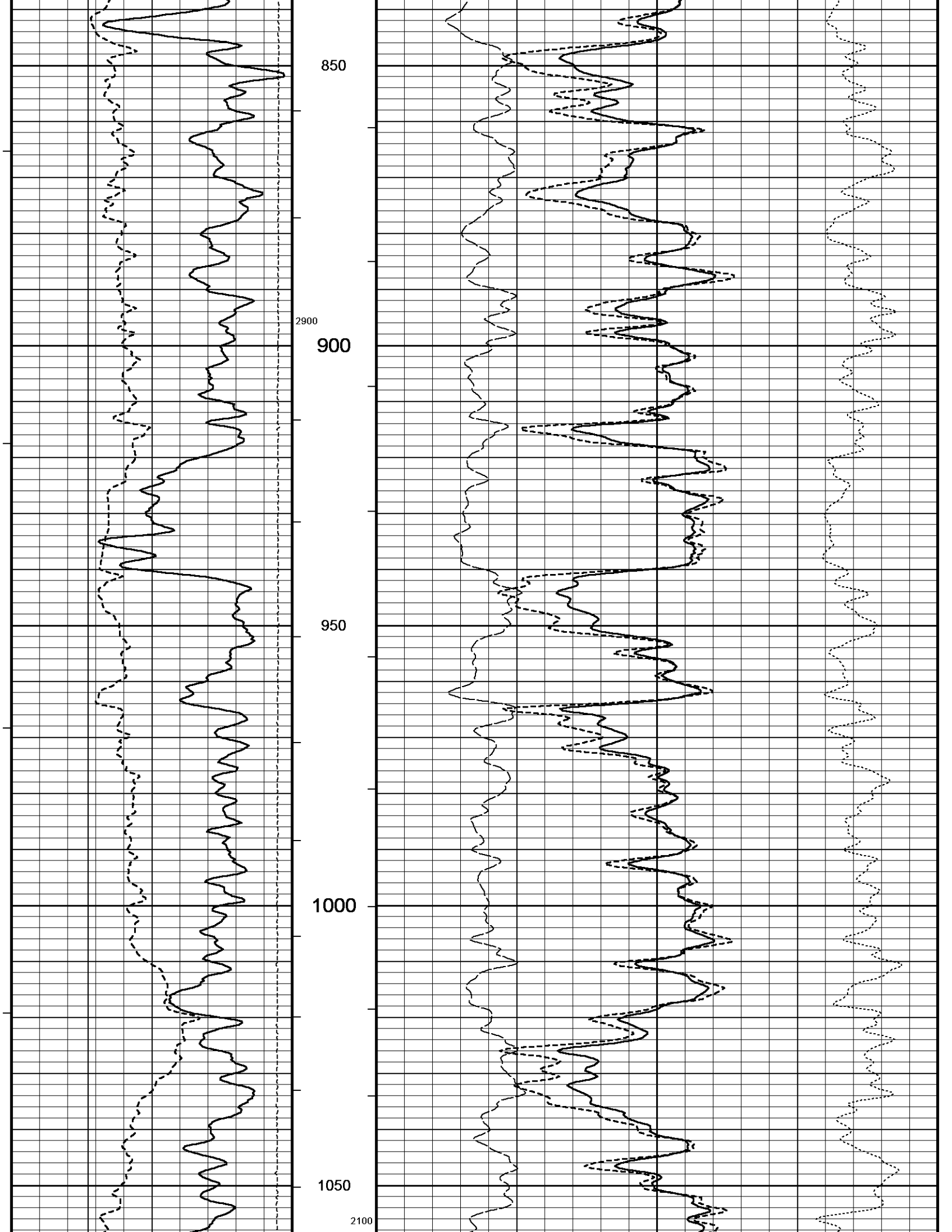


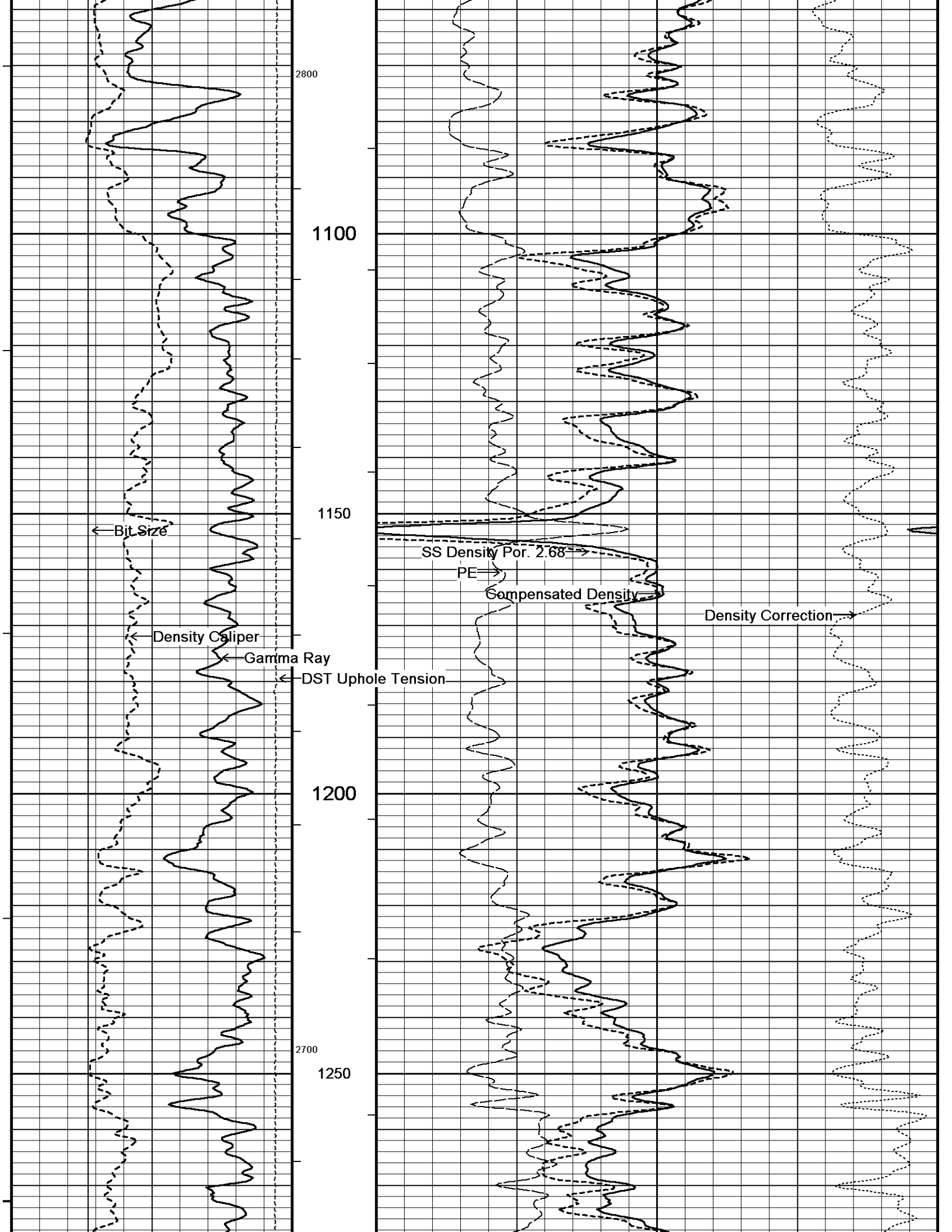
OVERLAY

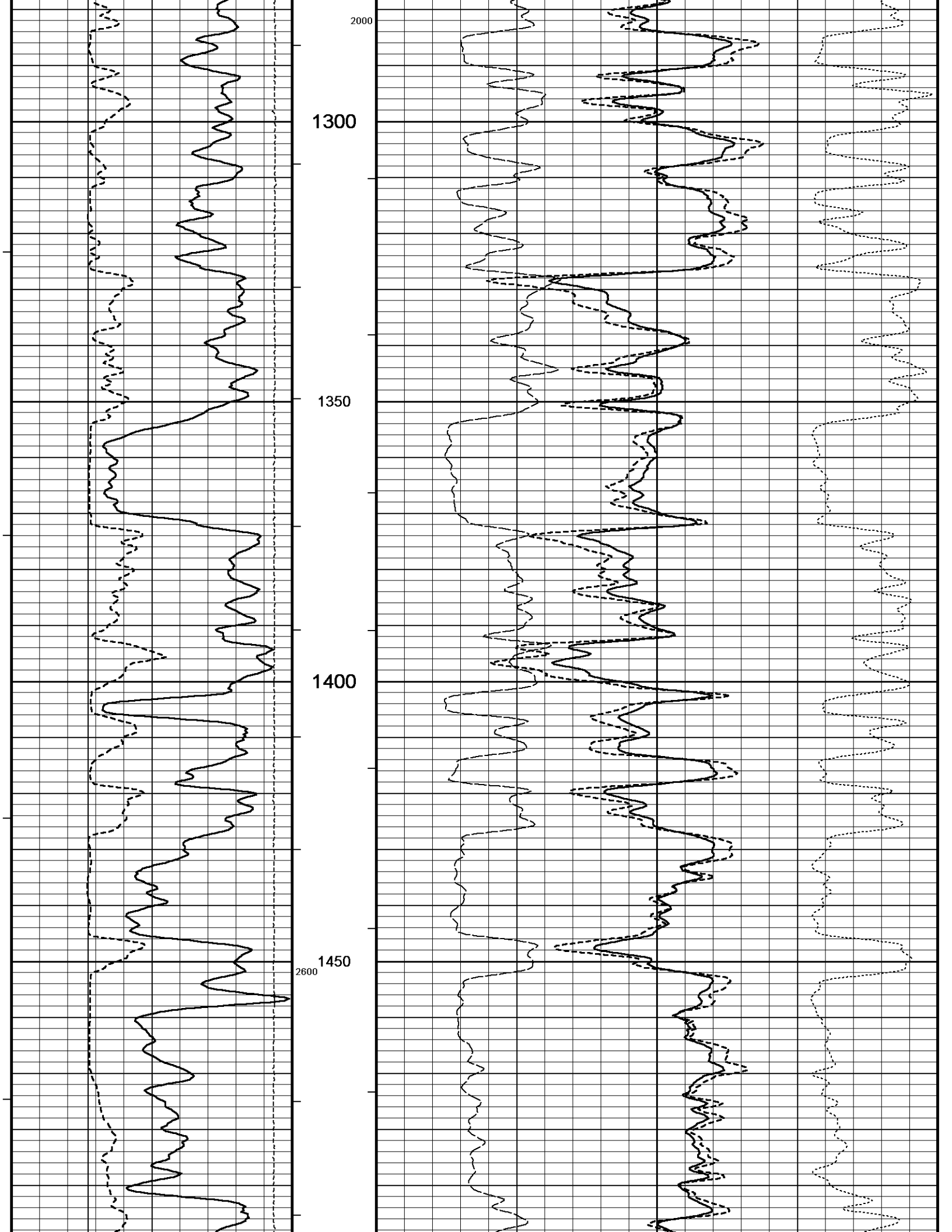
5 INCH MAIN LOG

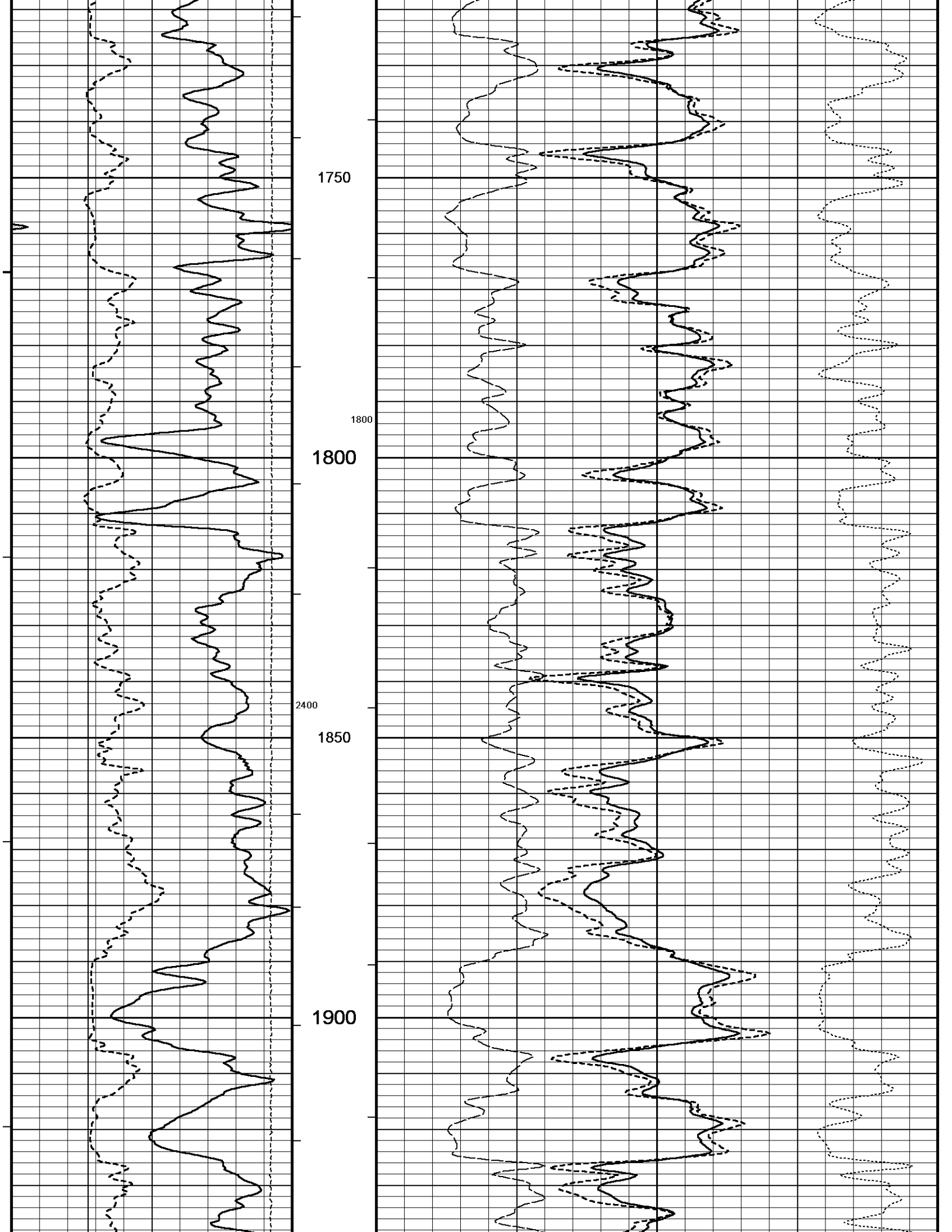
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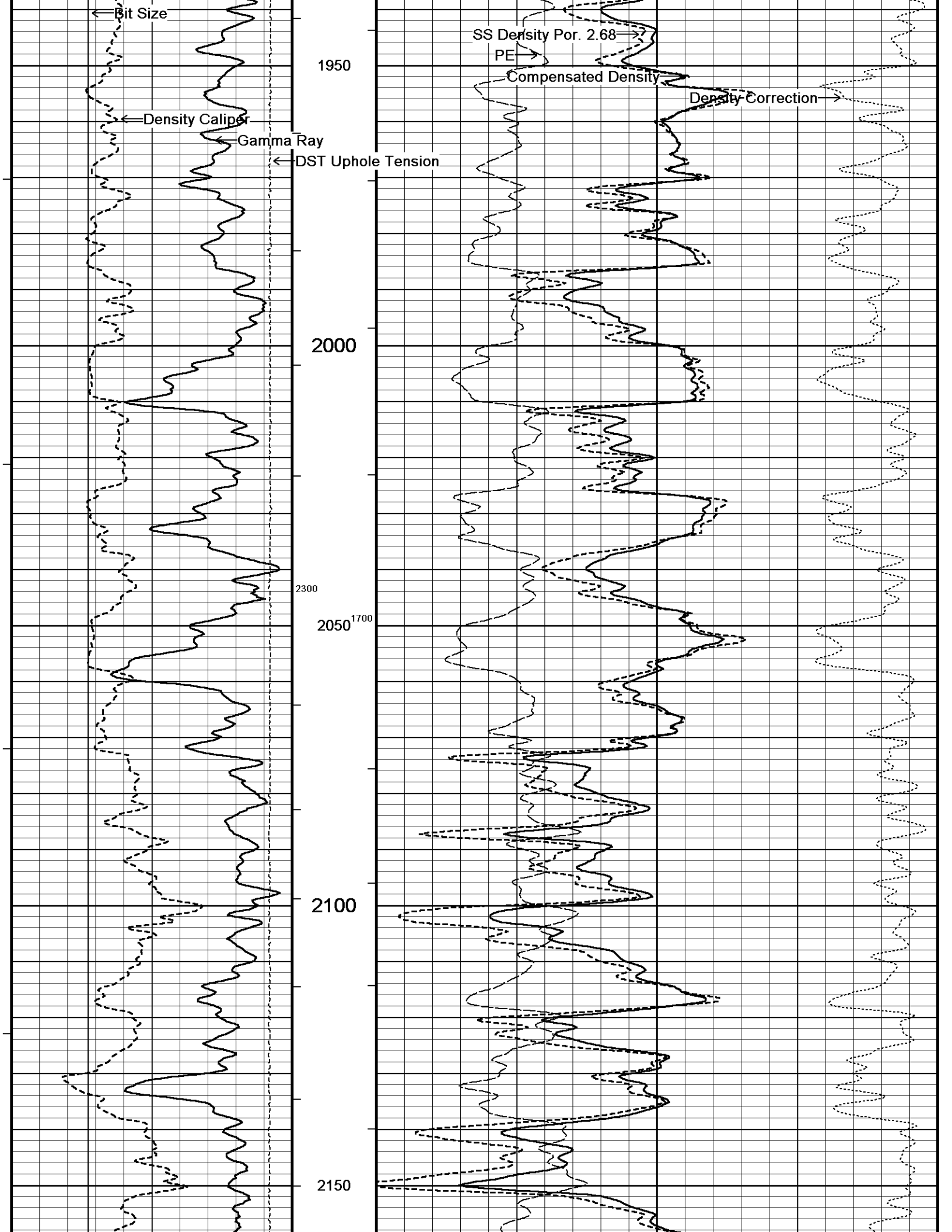


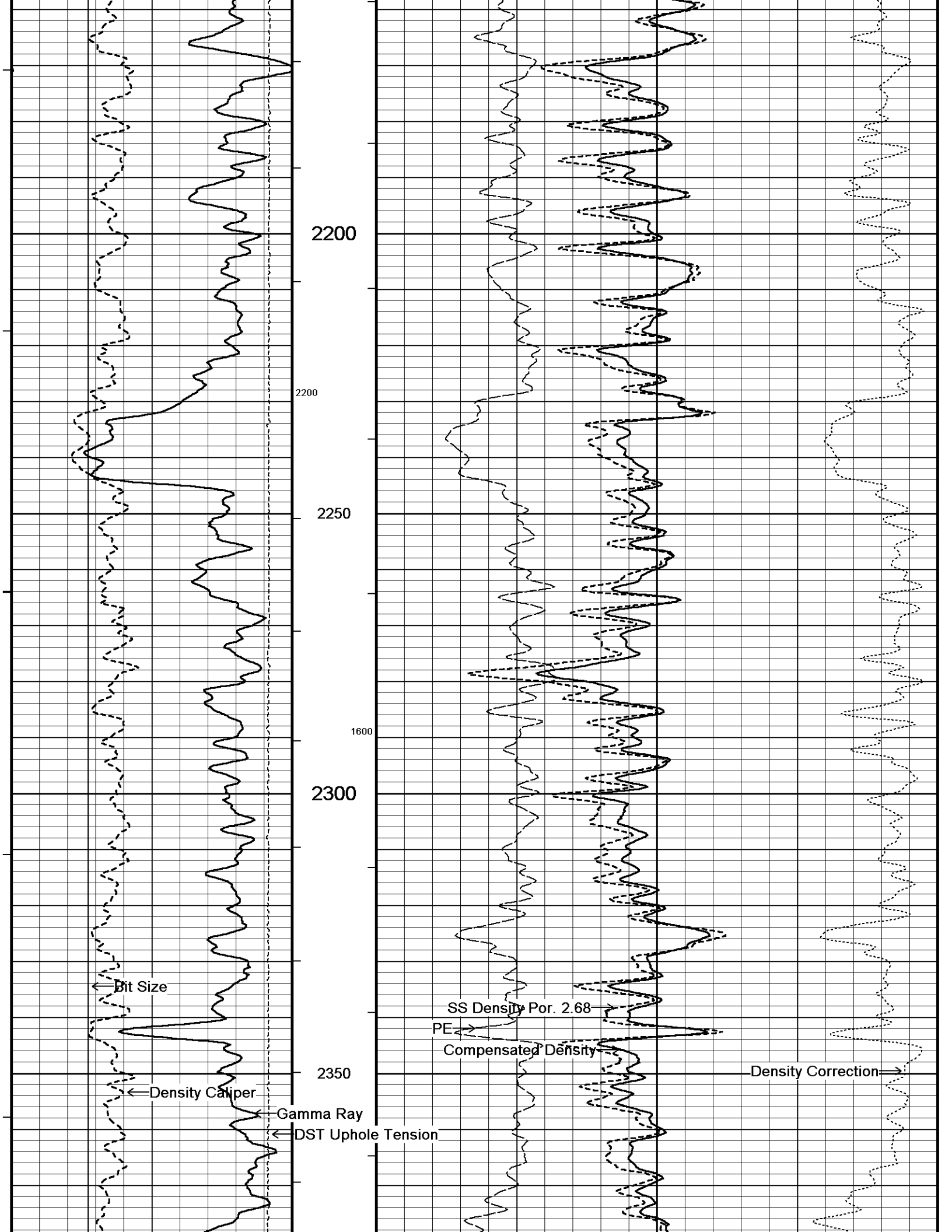


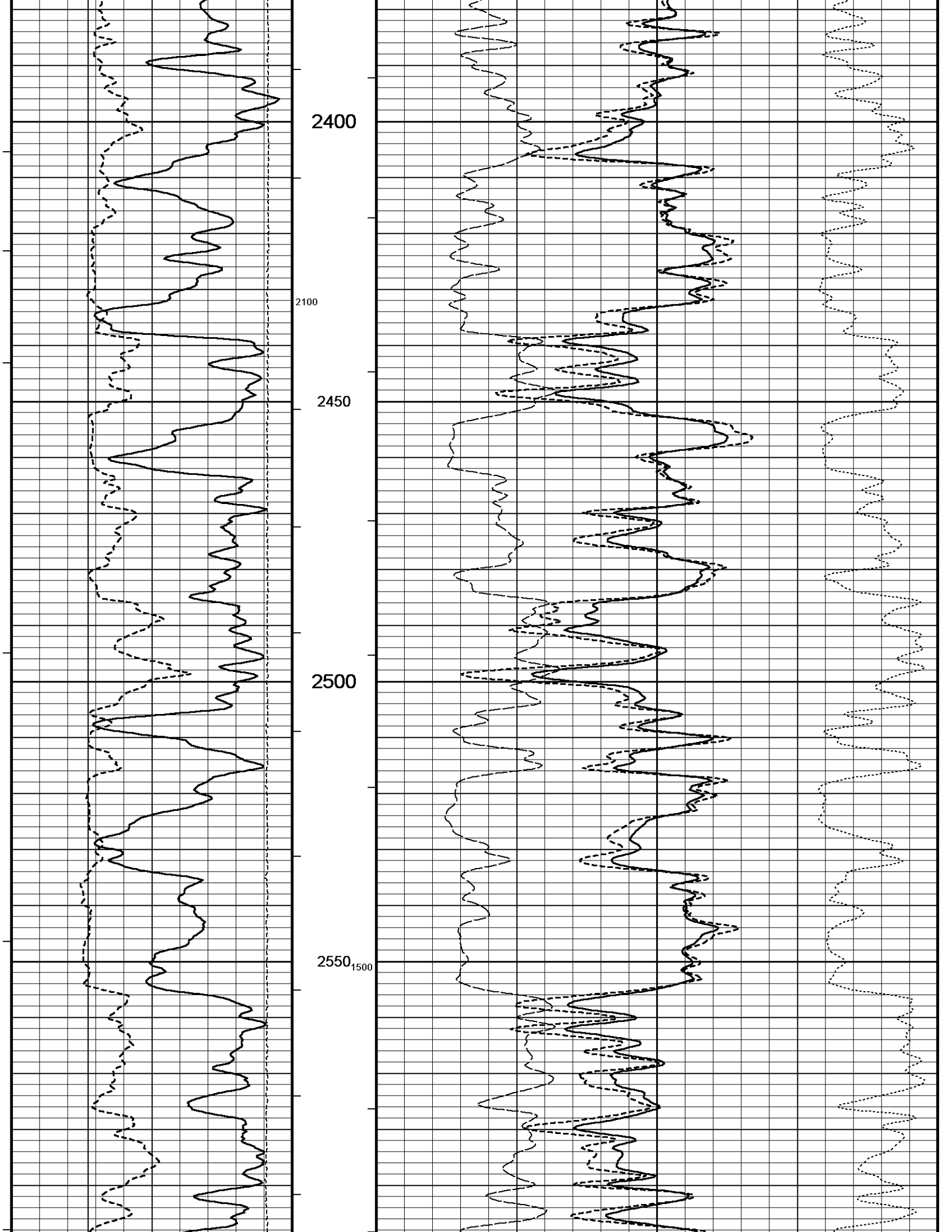


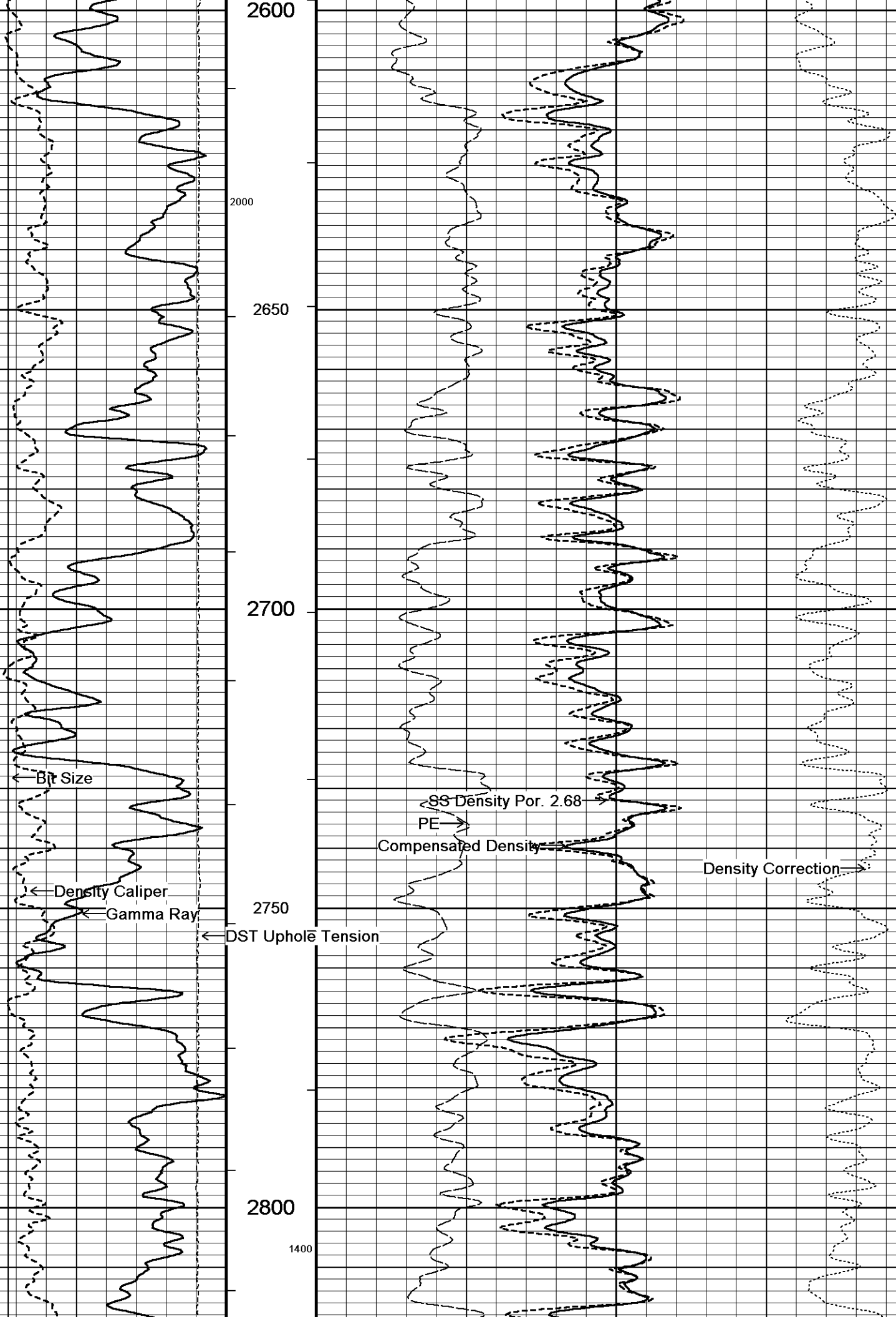


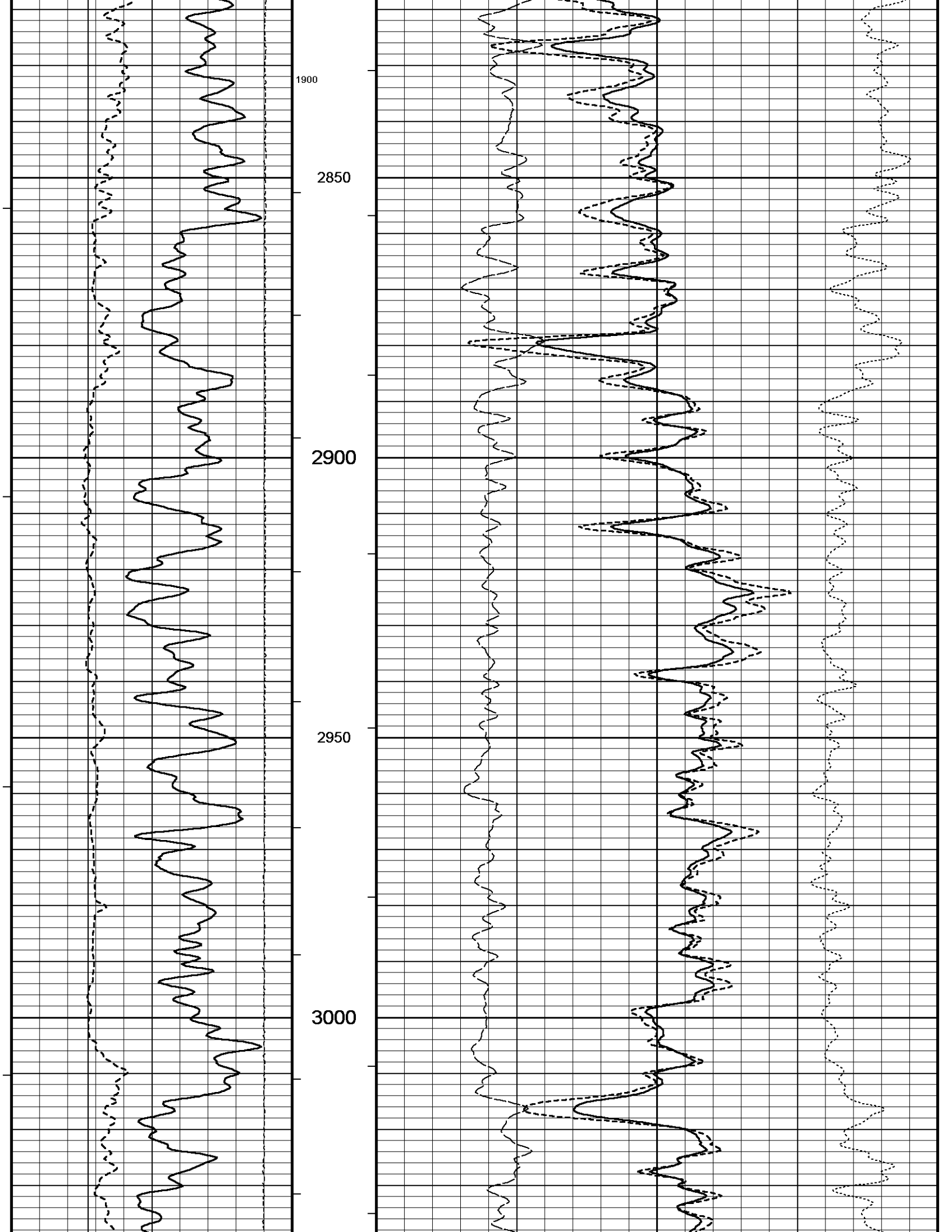


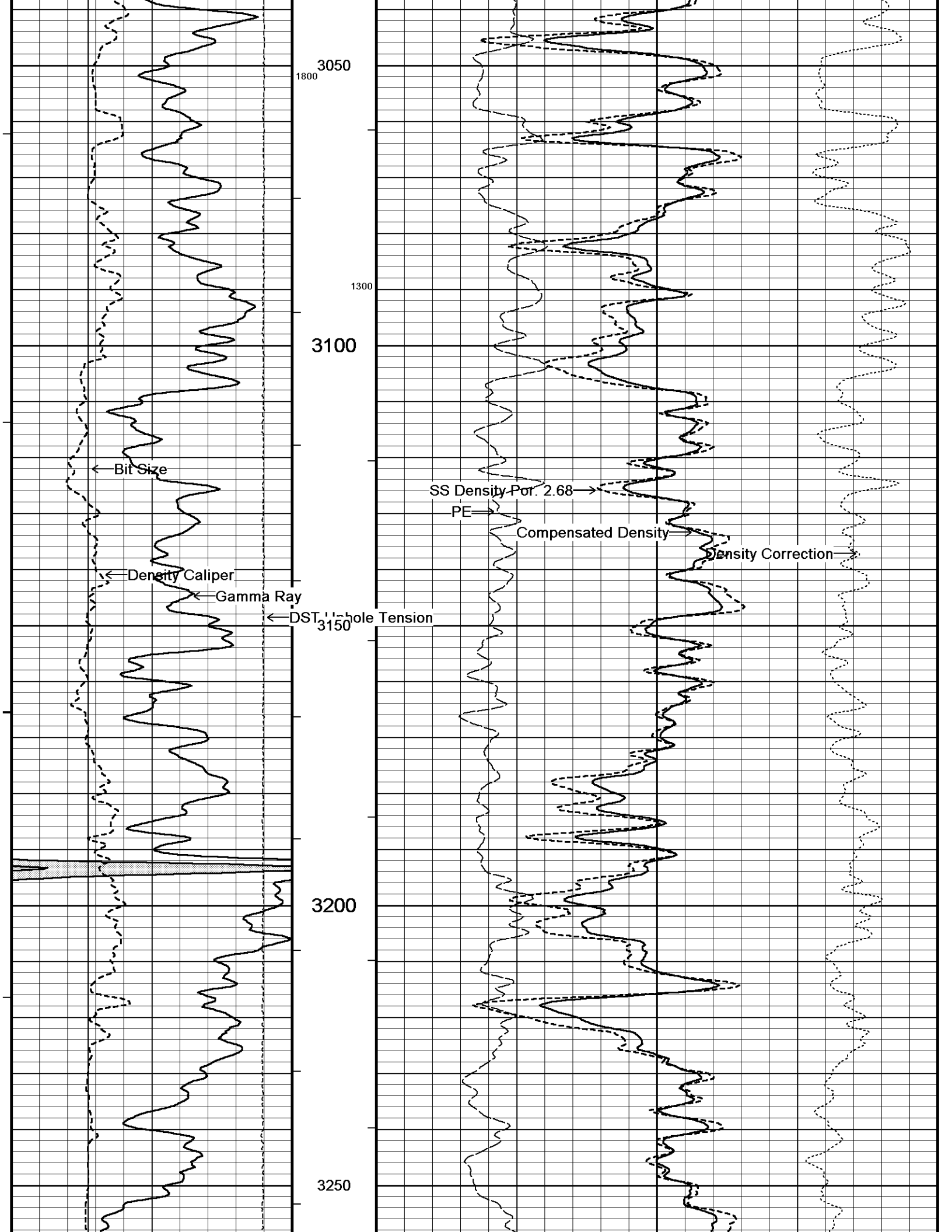


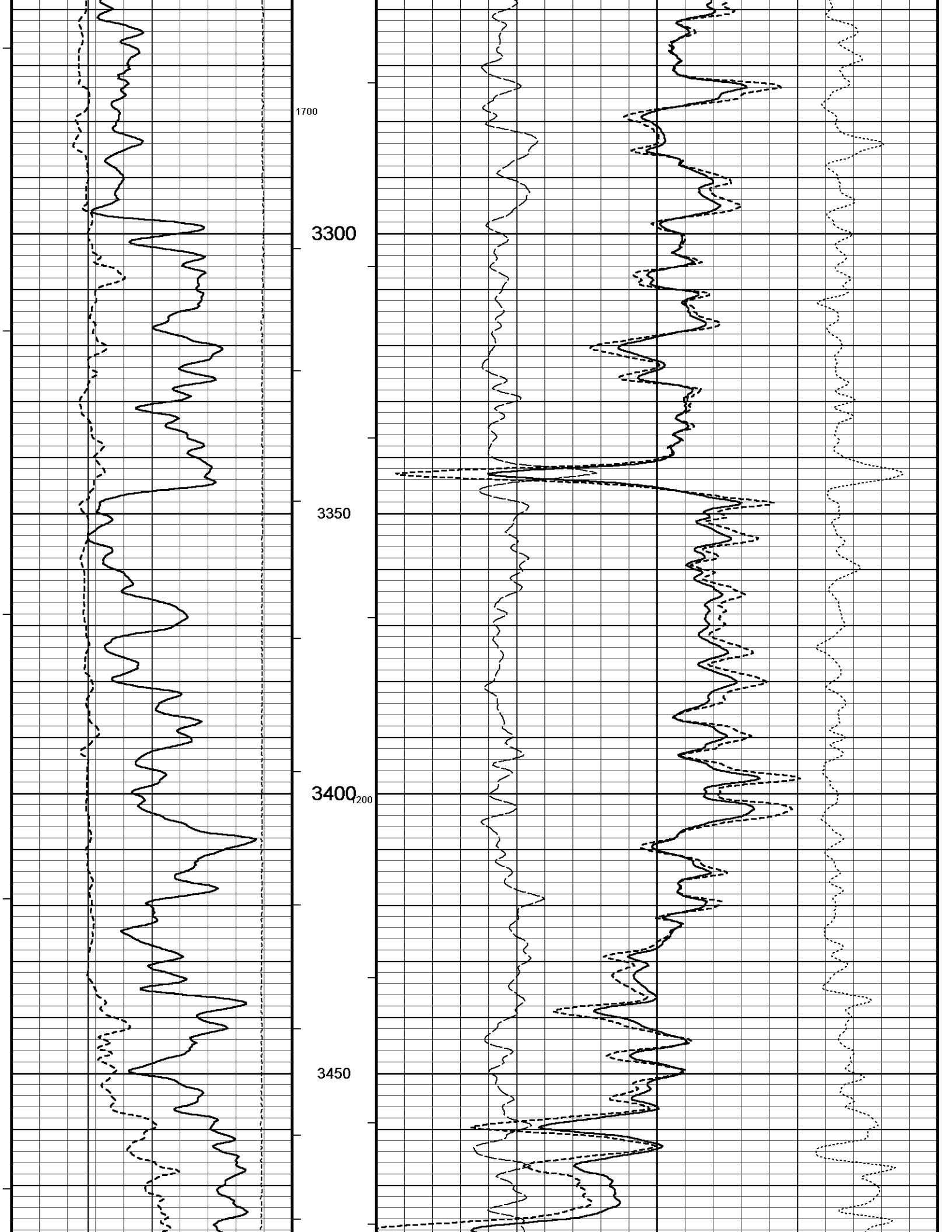


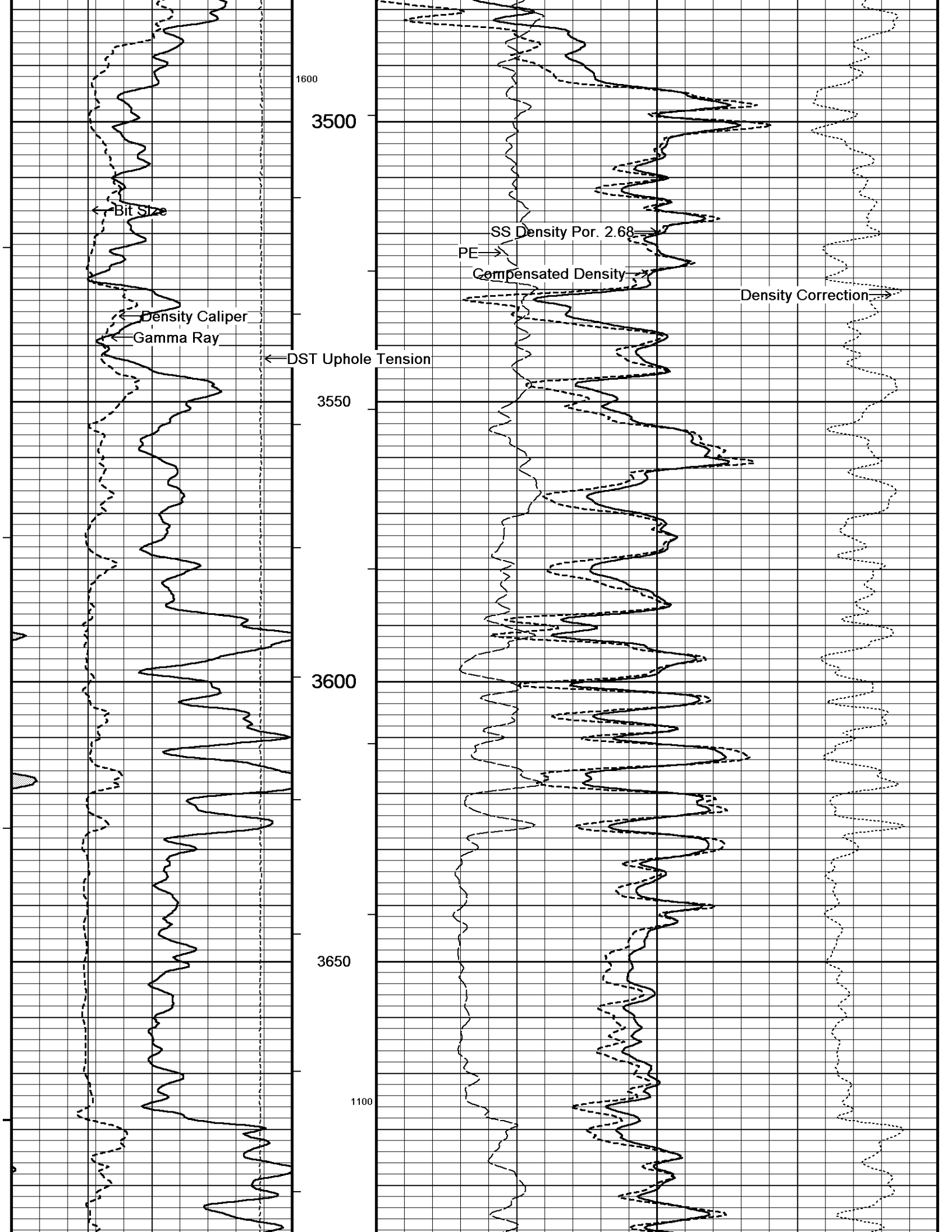


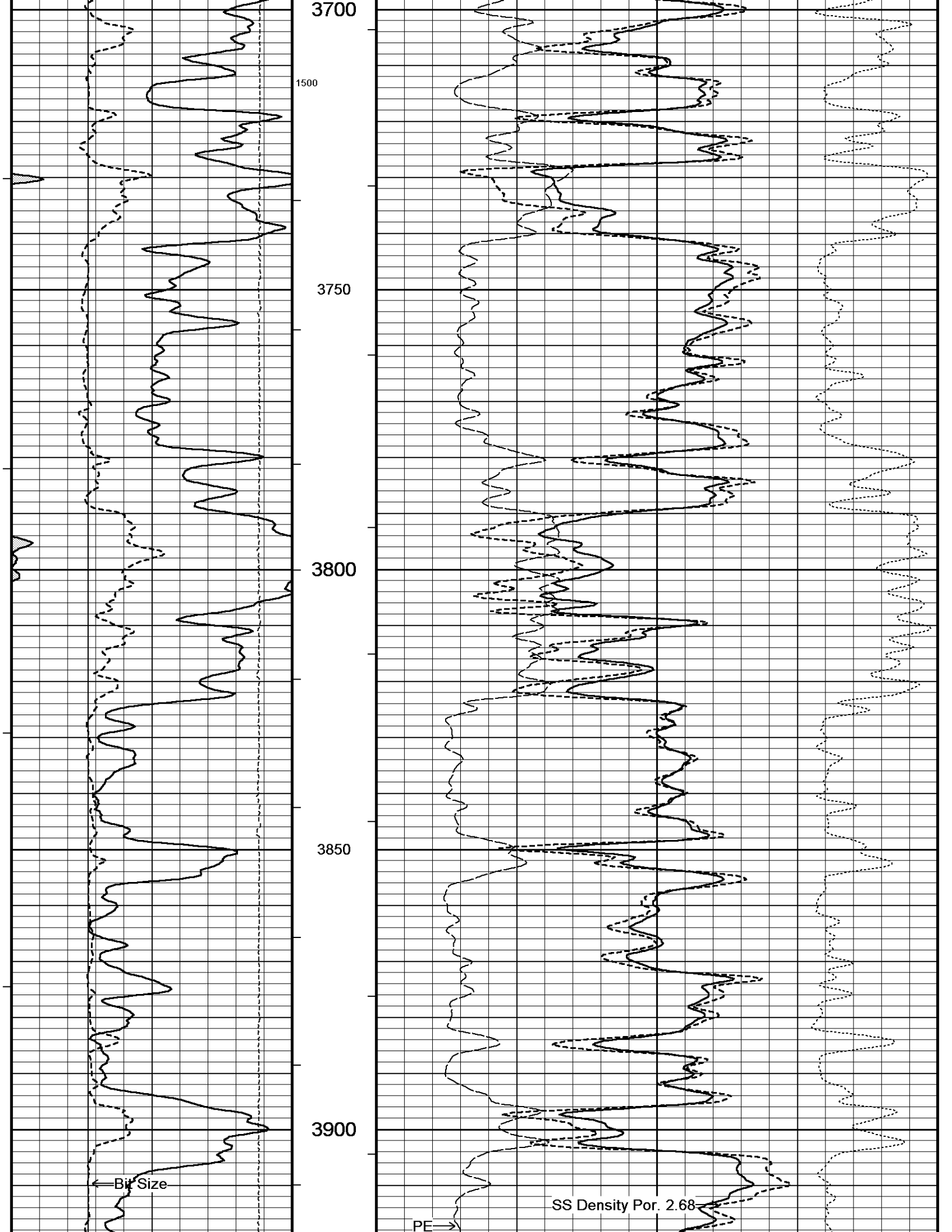


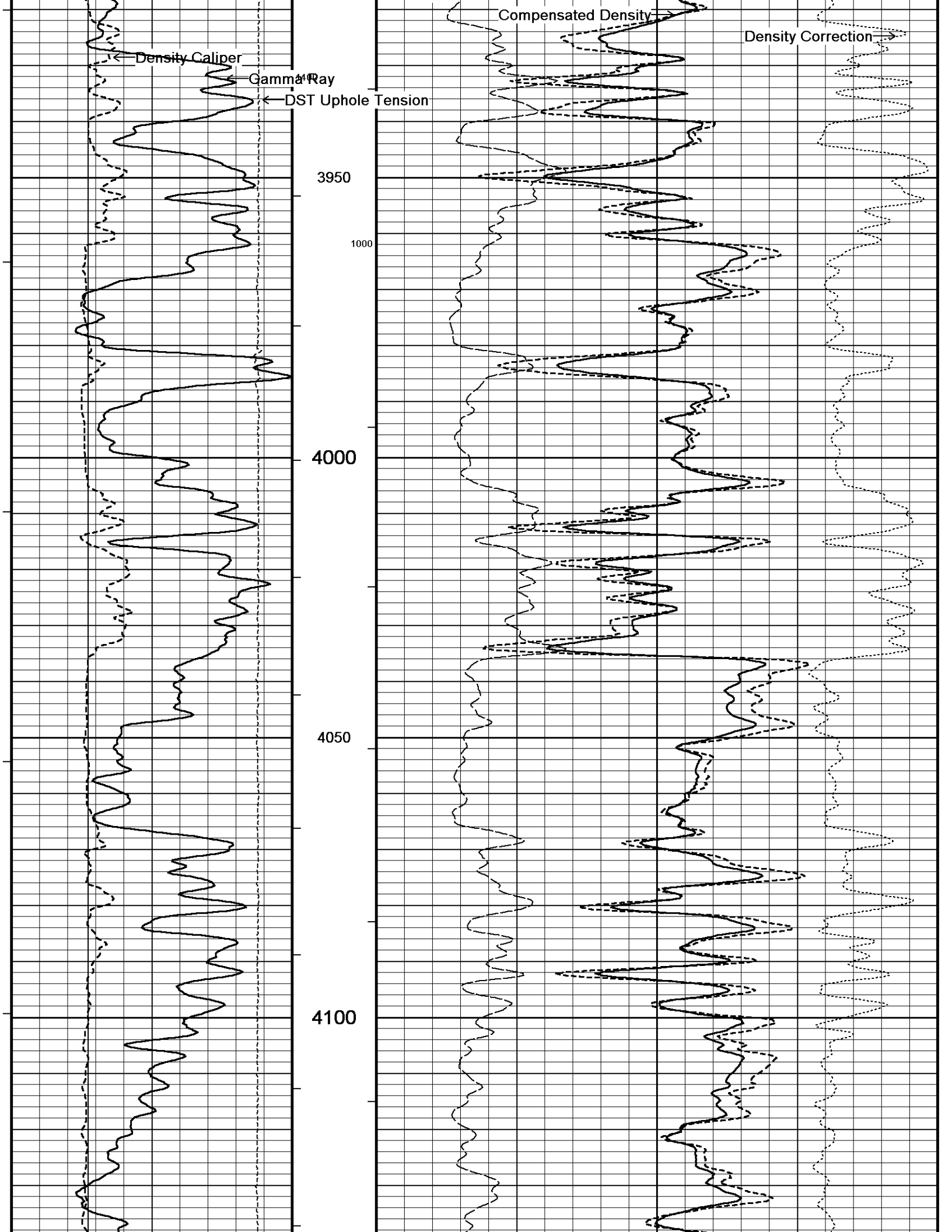


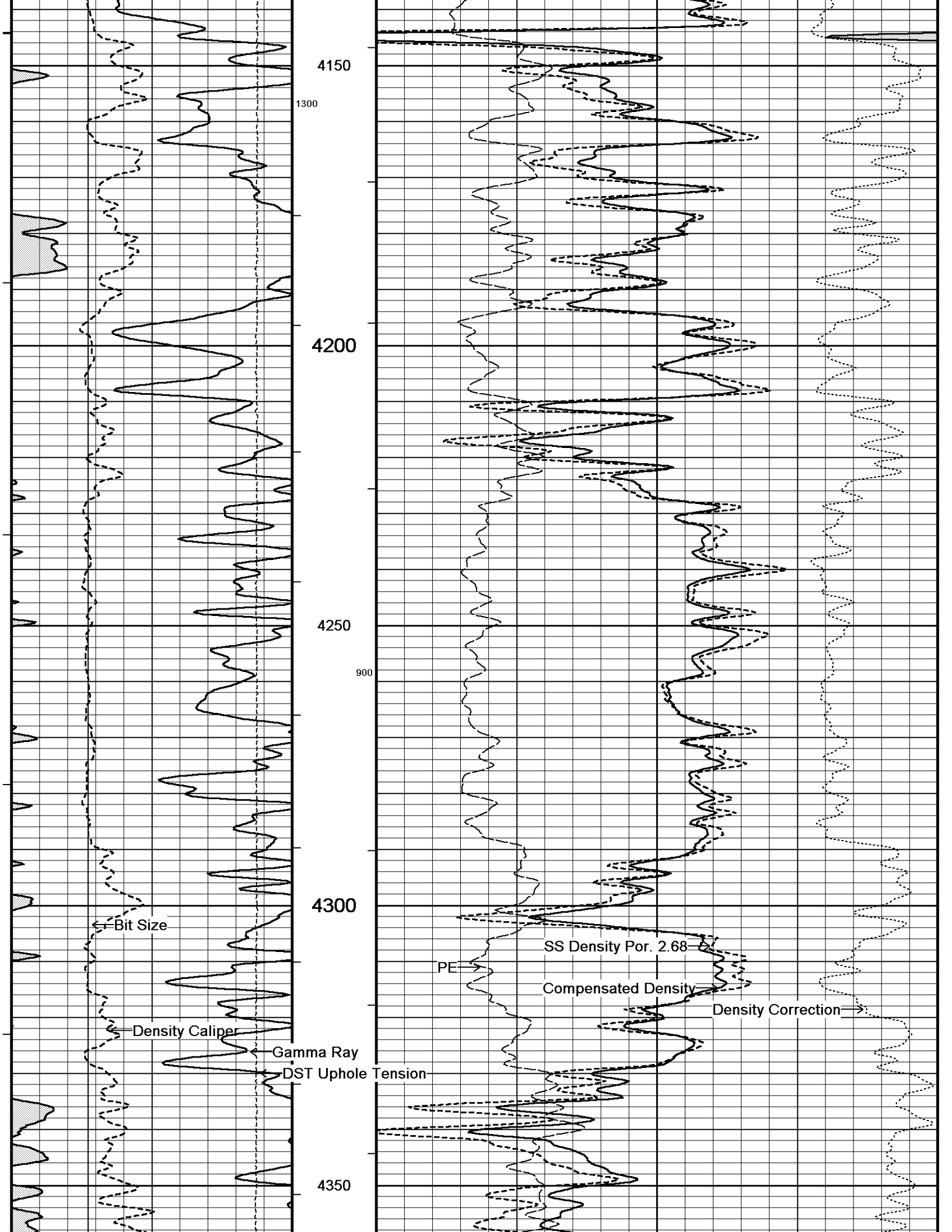


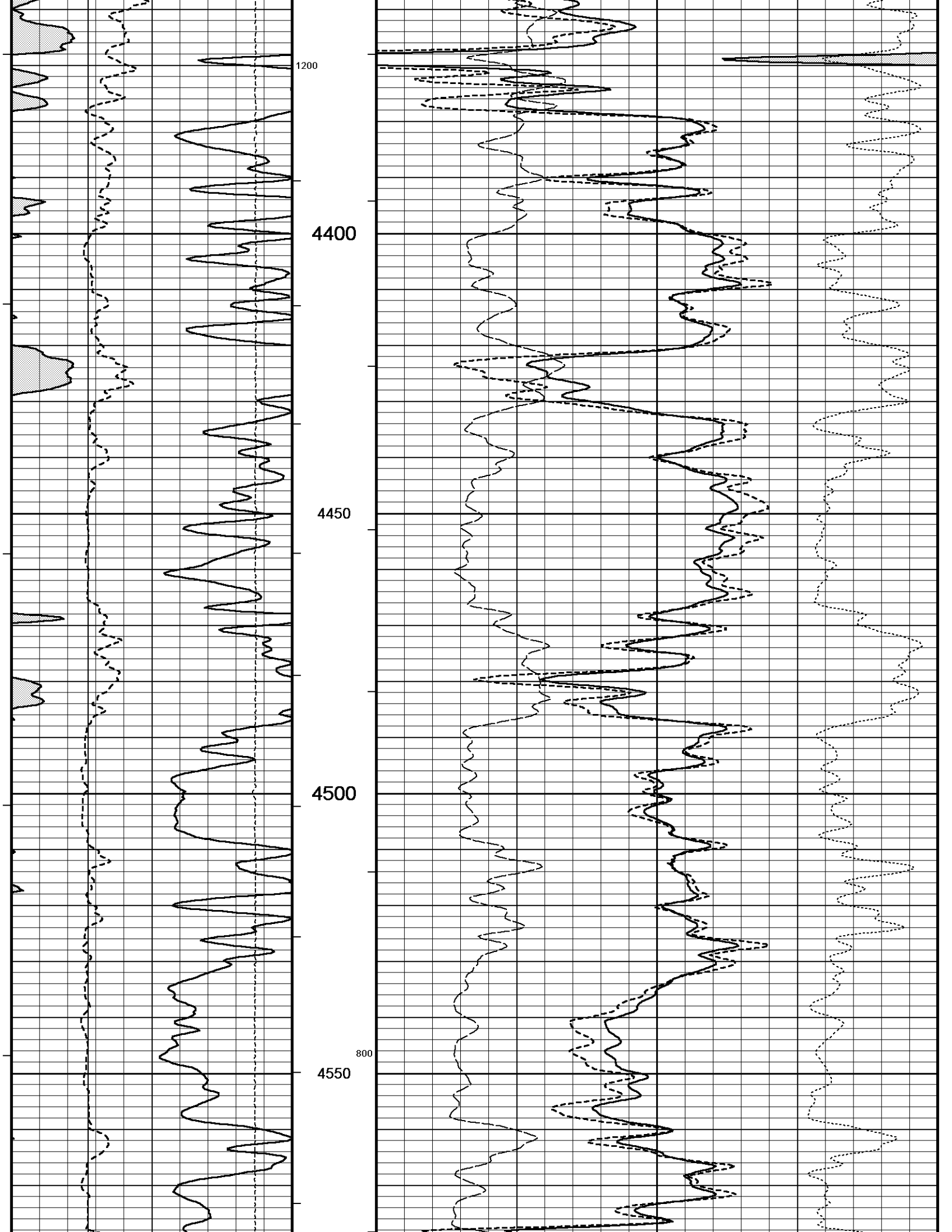


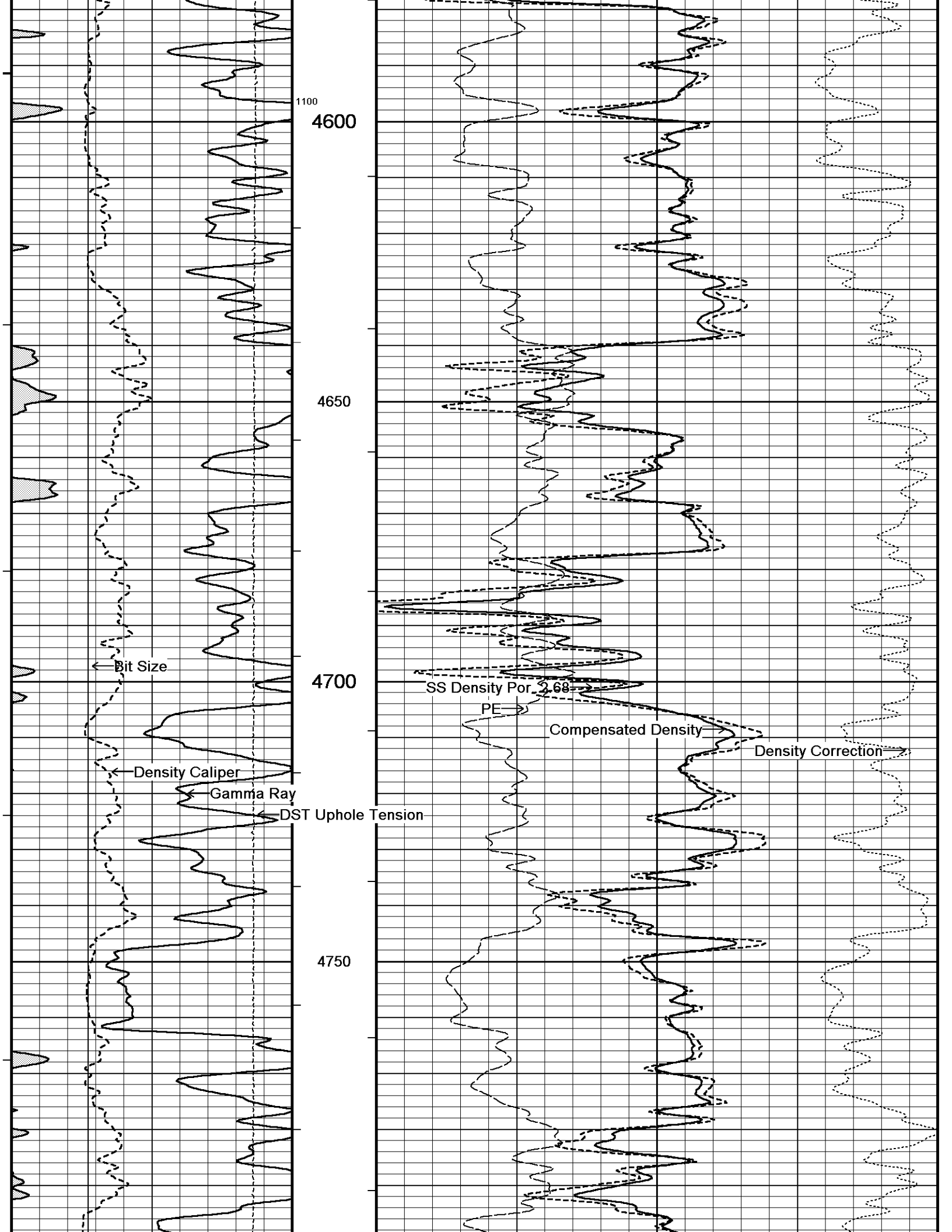


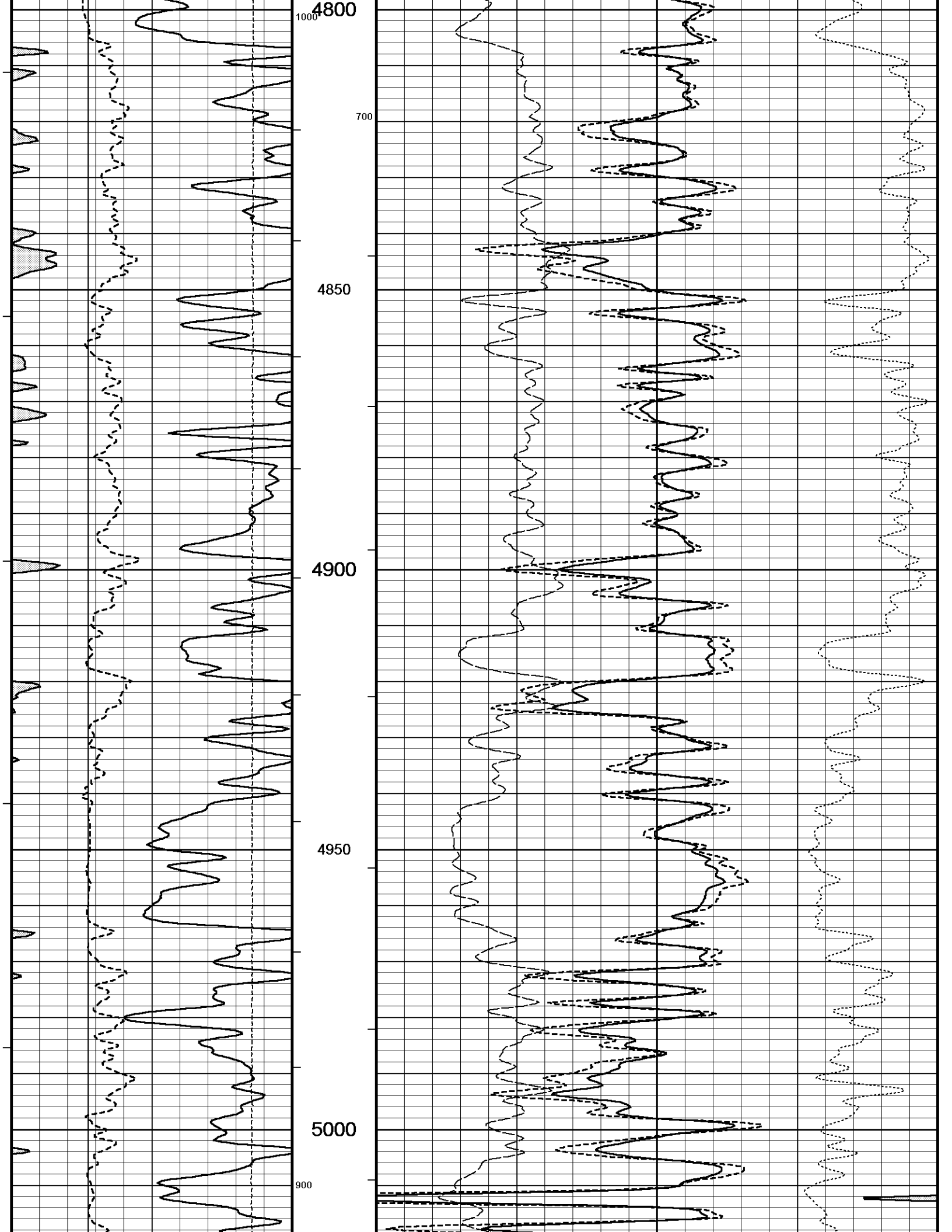


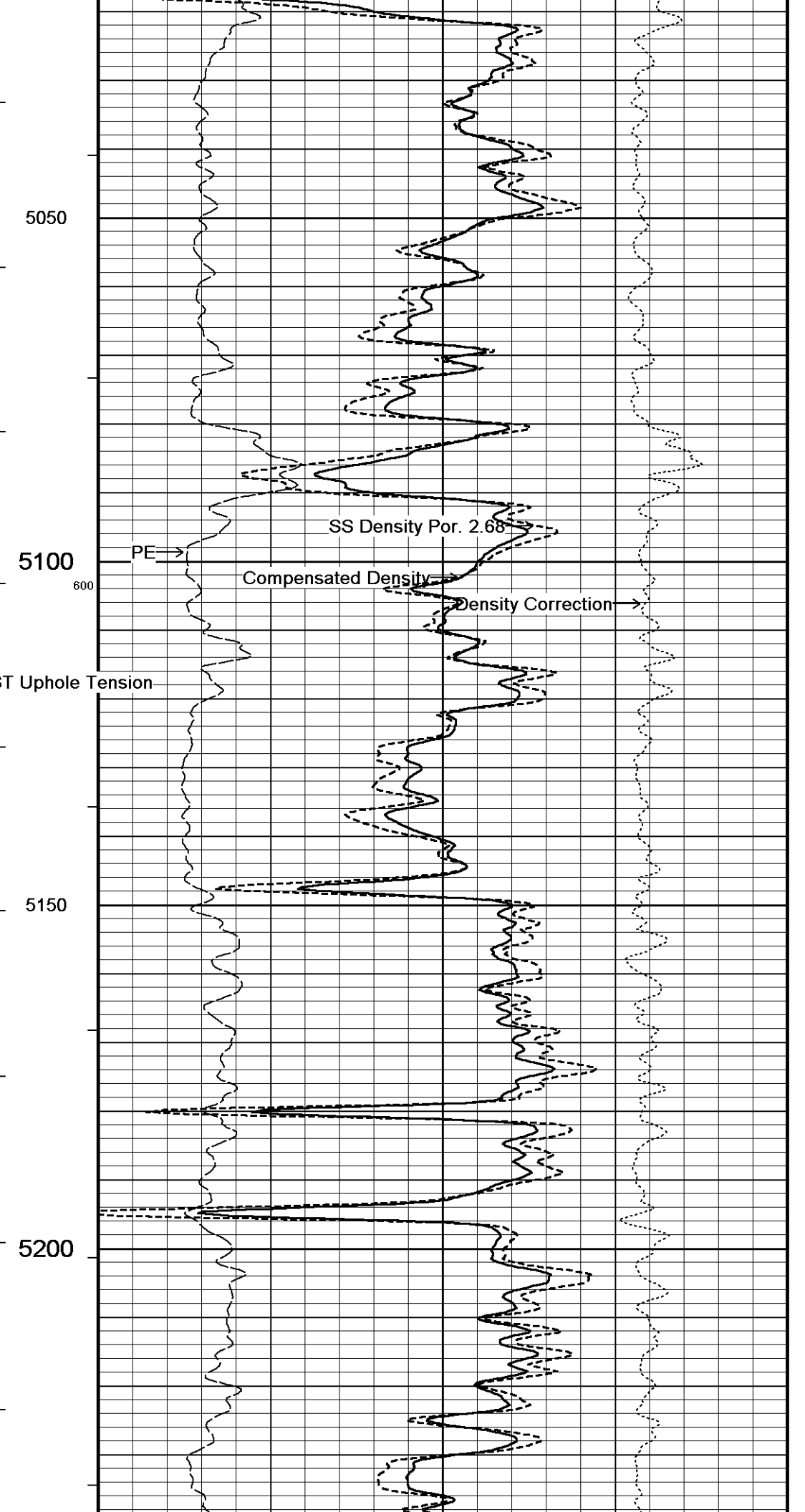
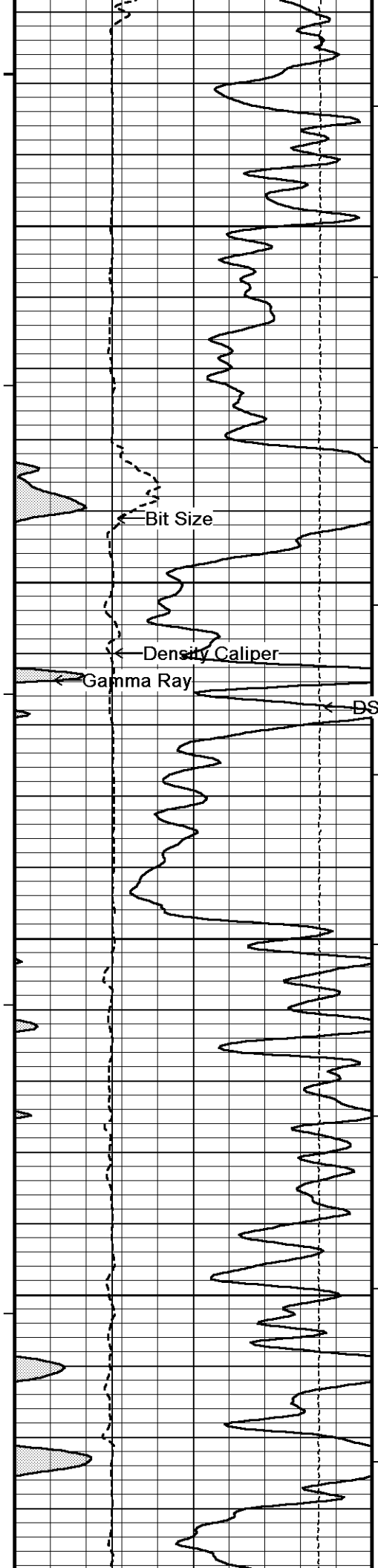


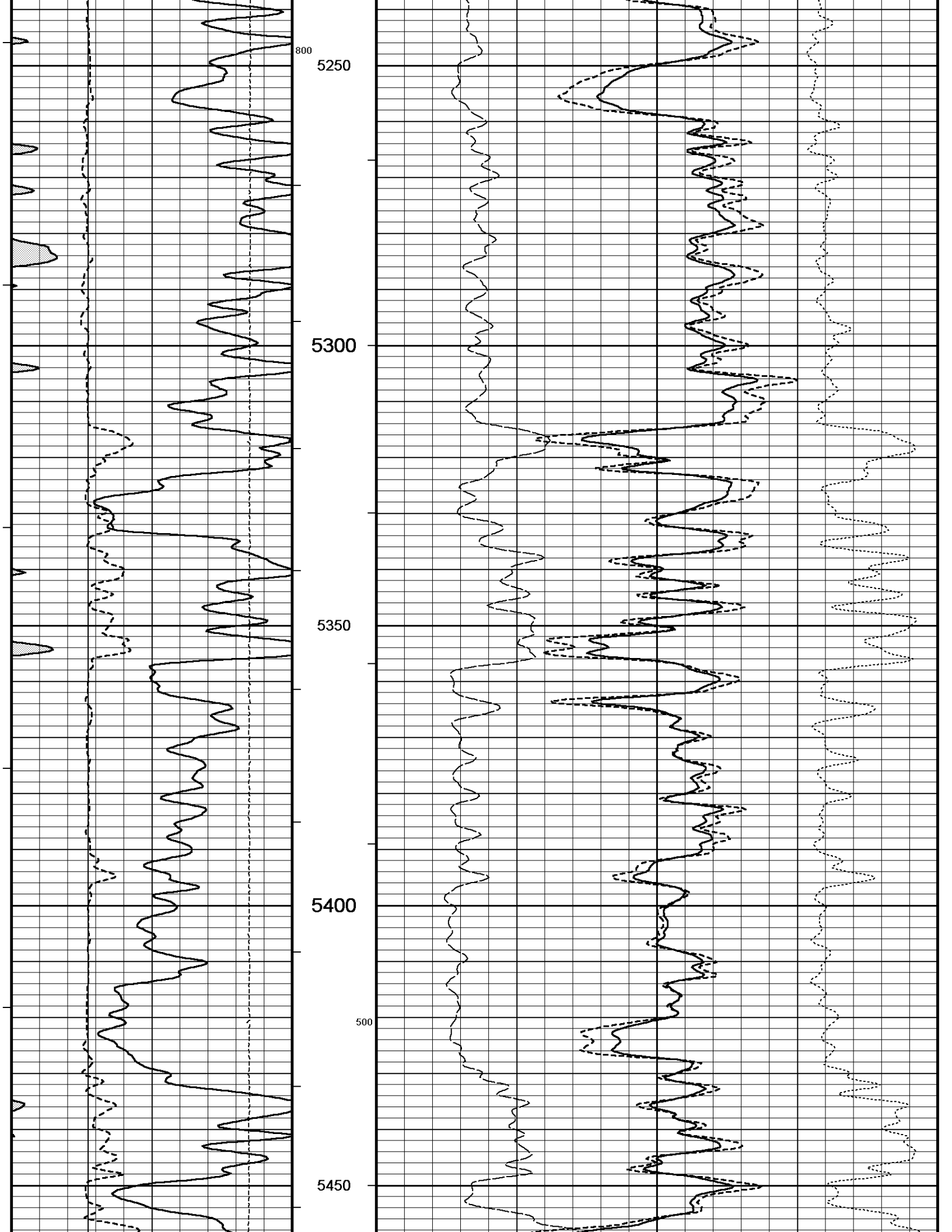


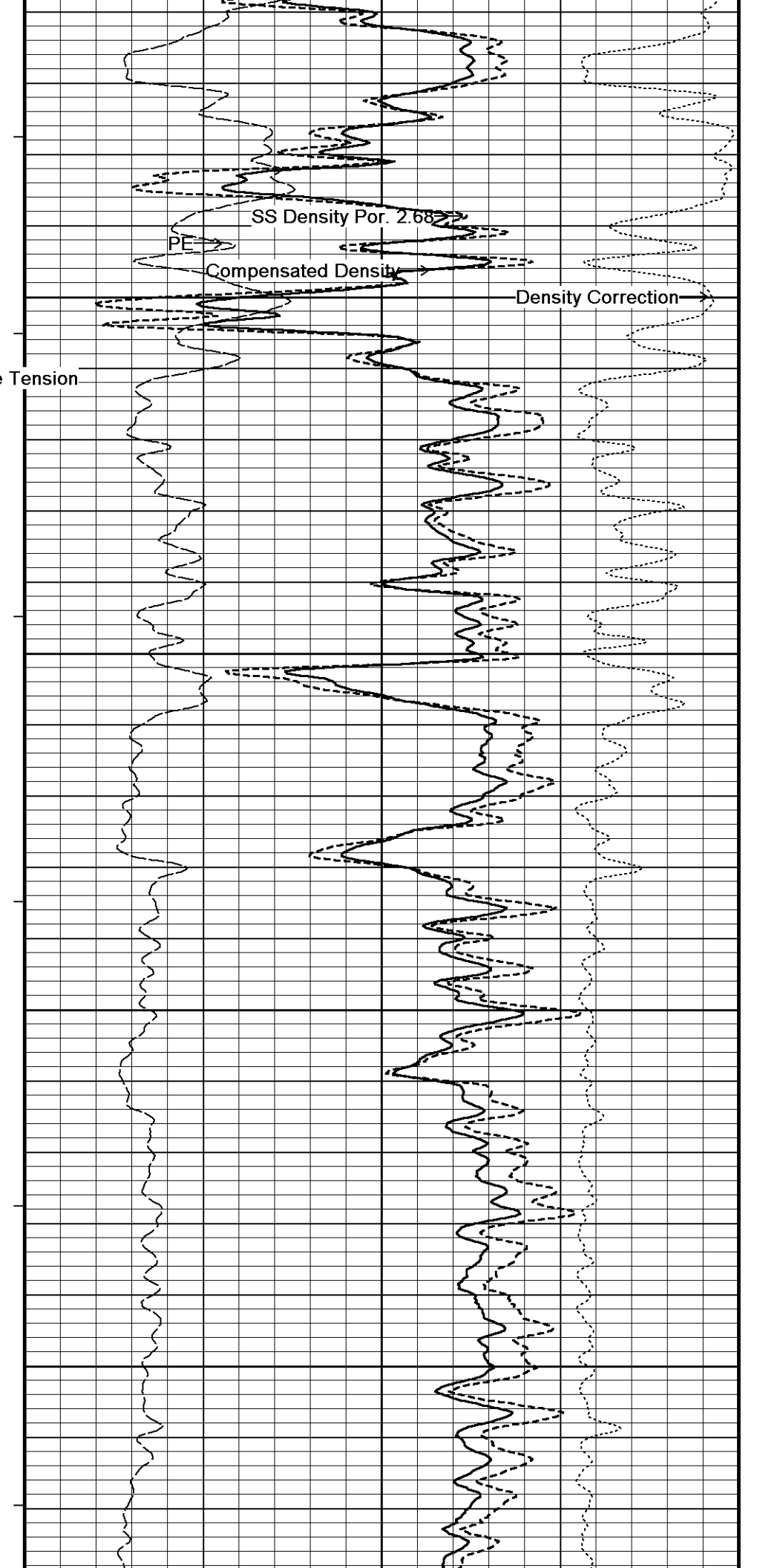
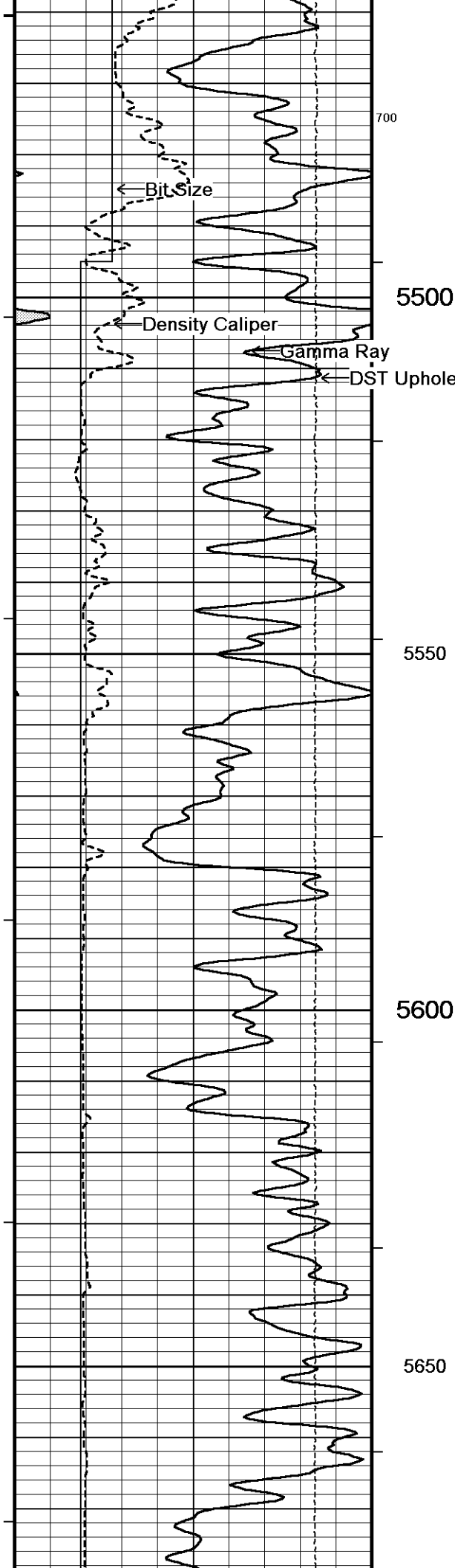


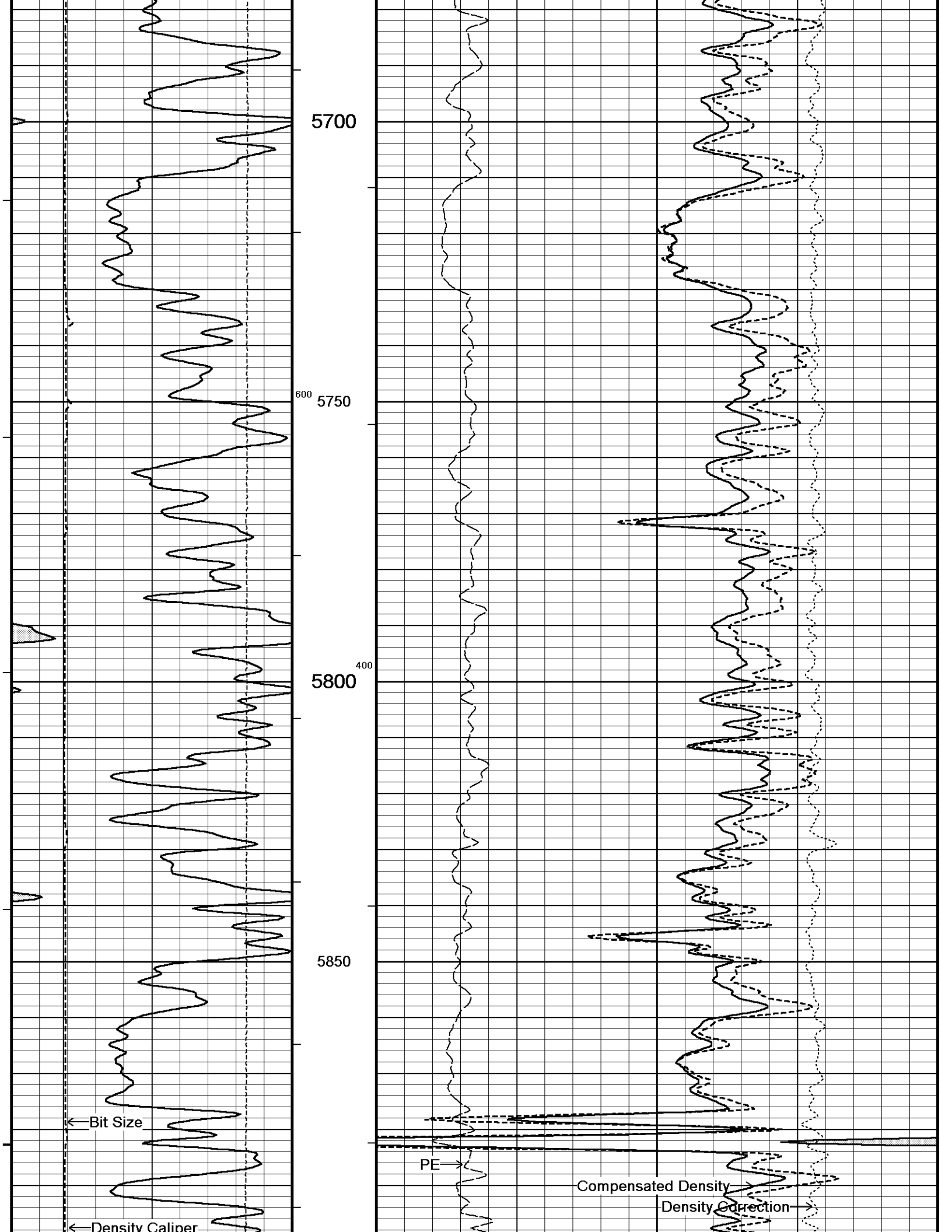


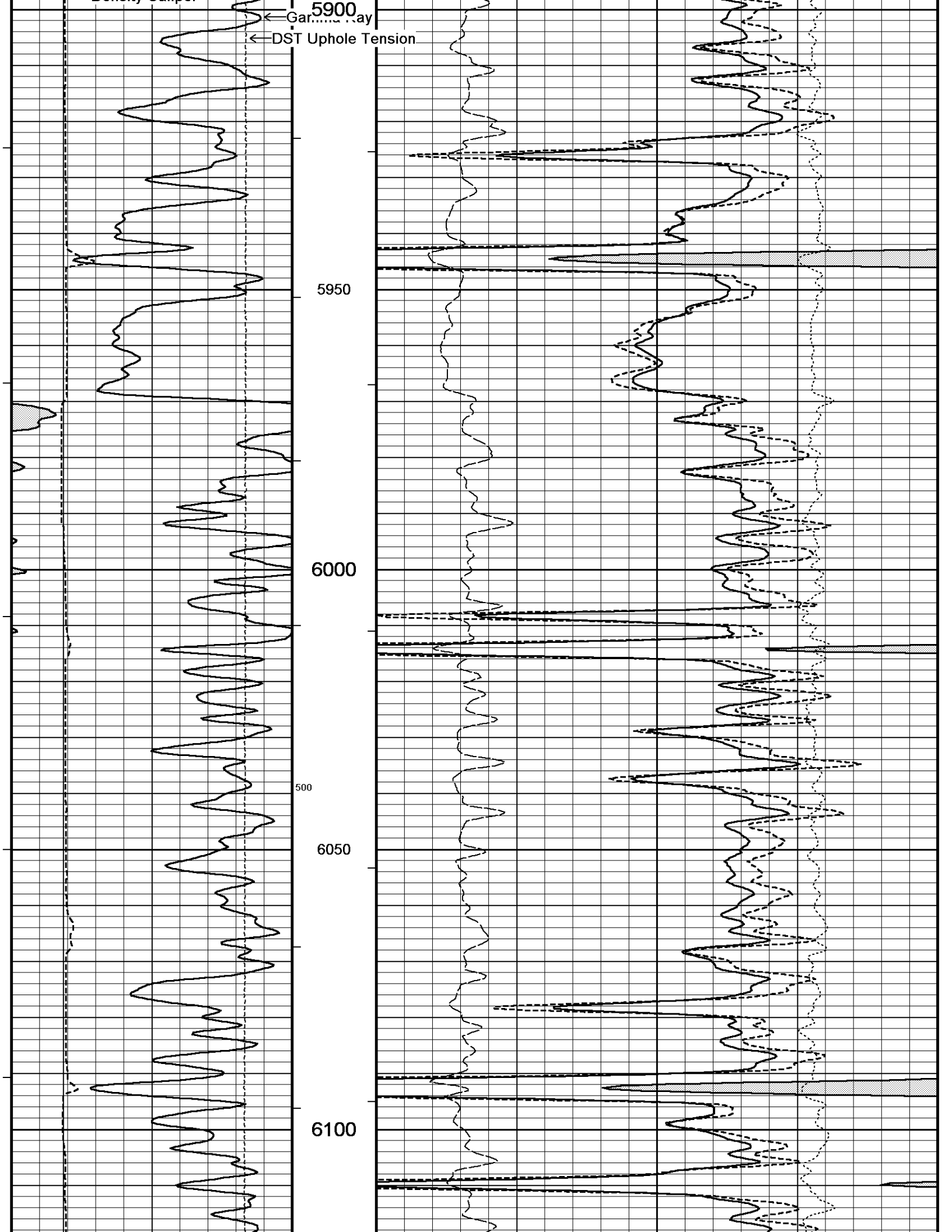


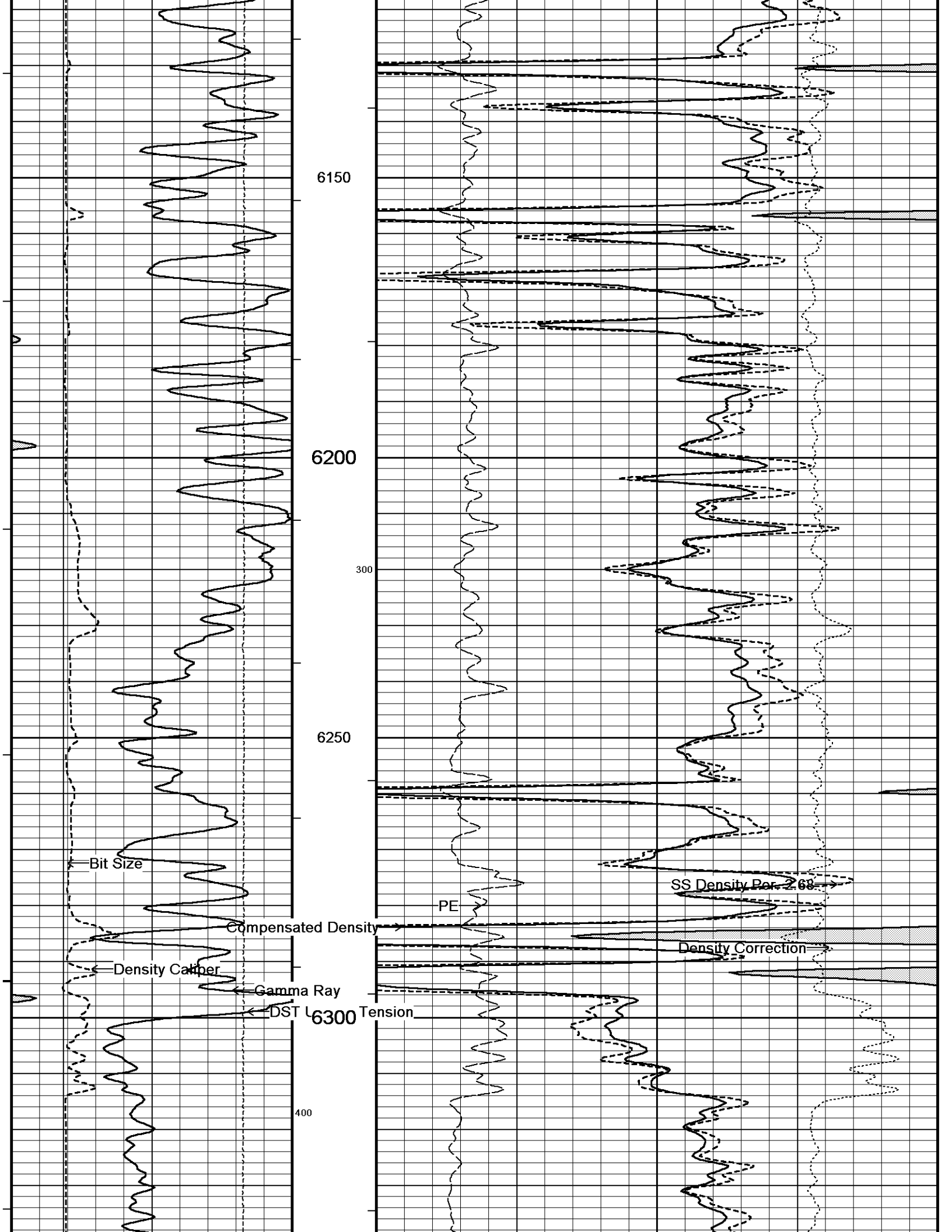


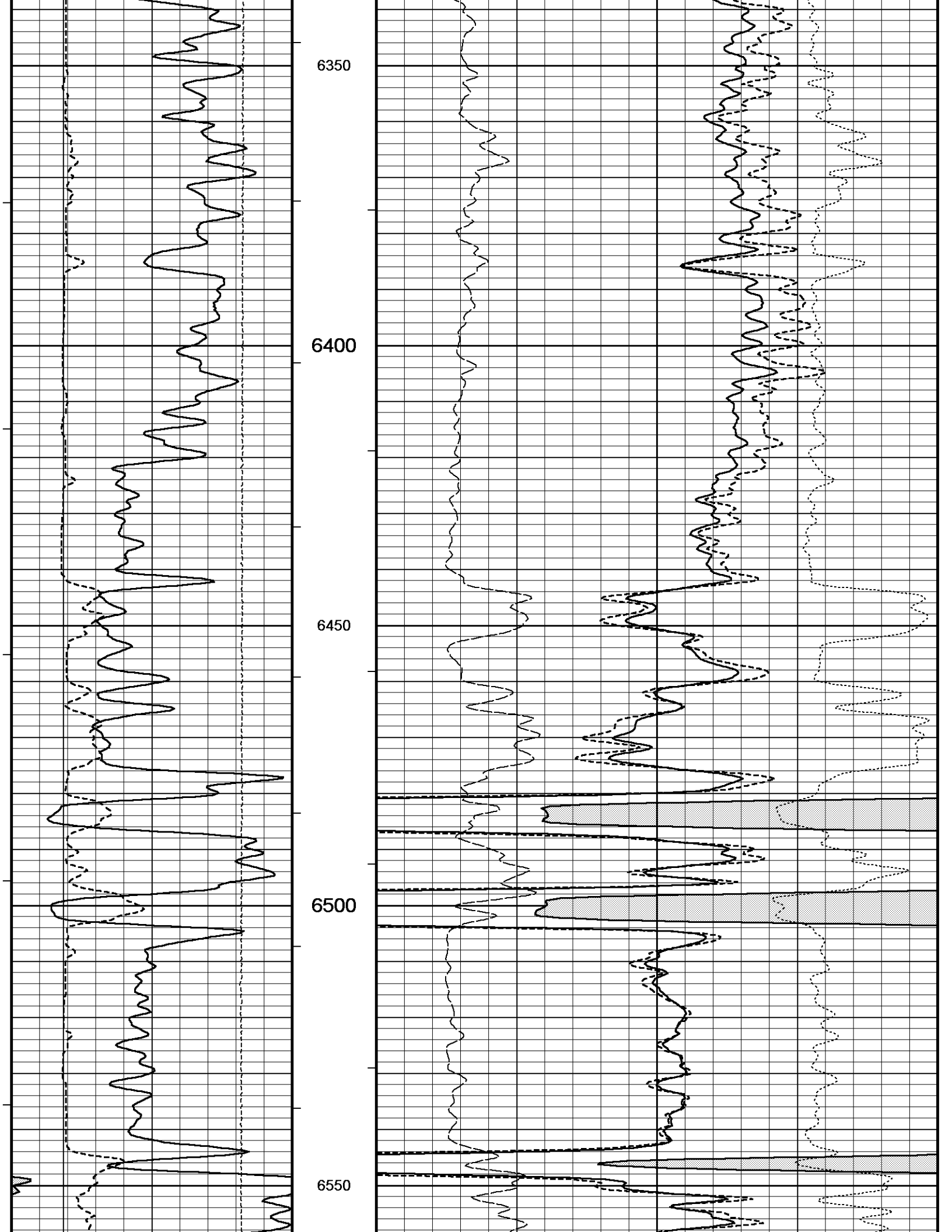


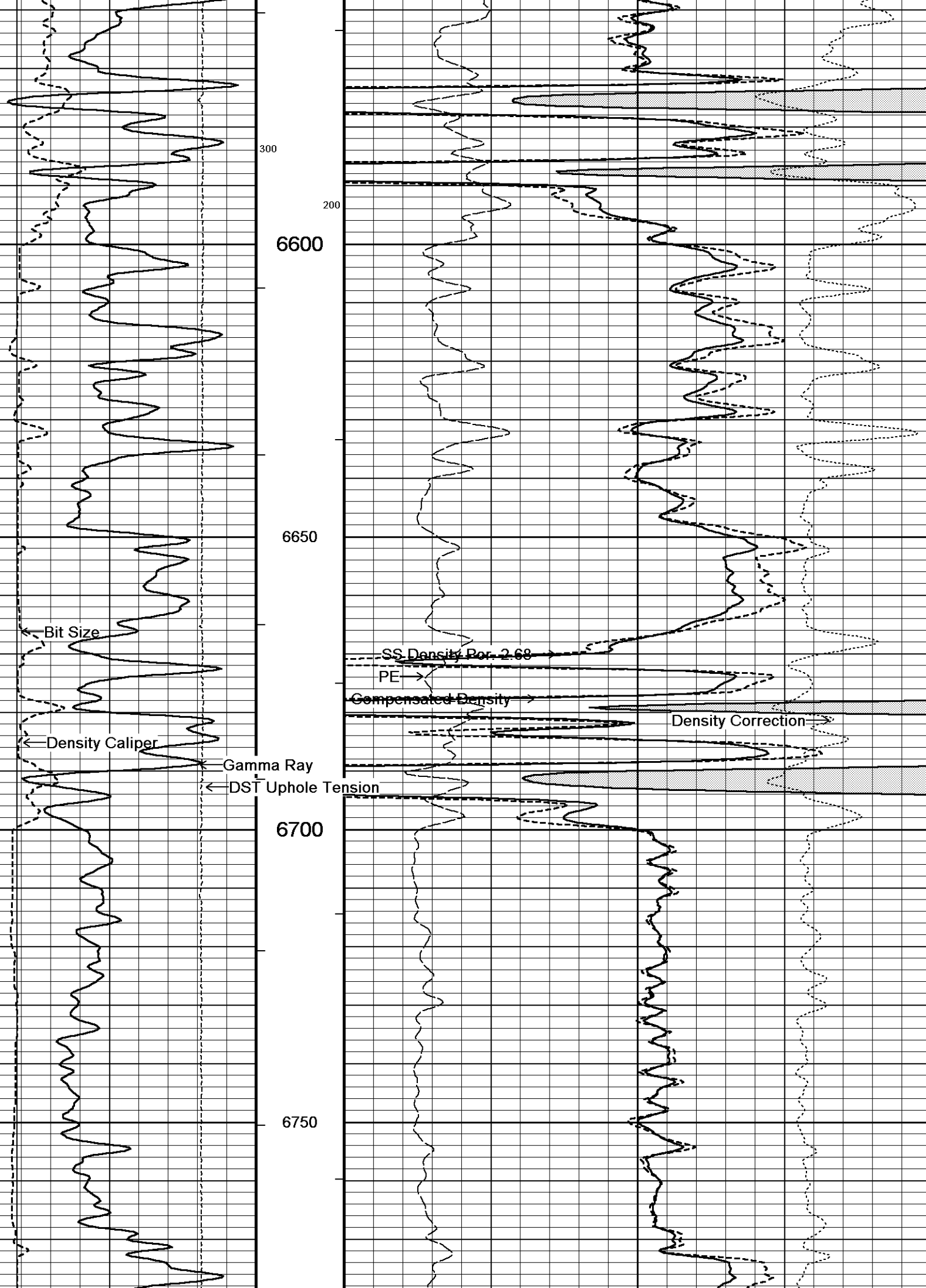


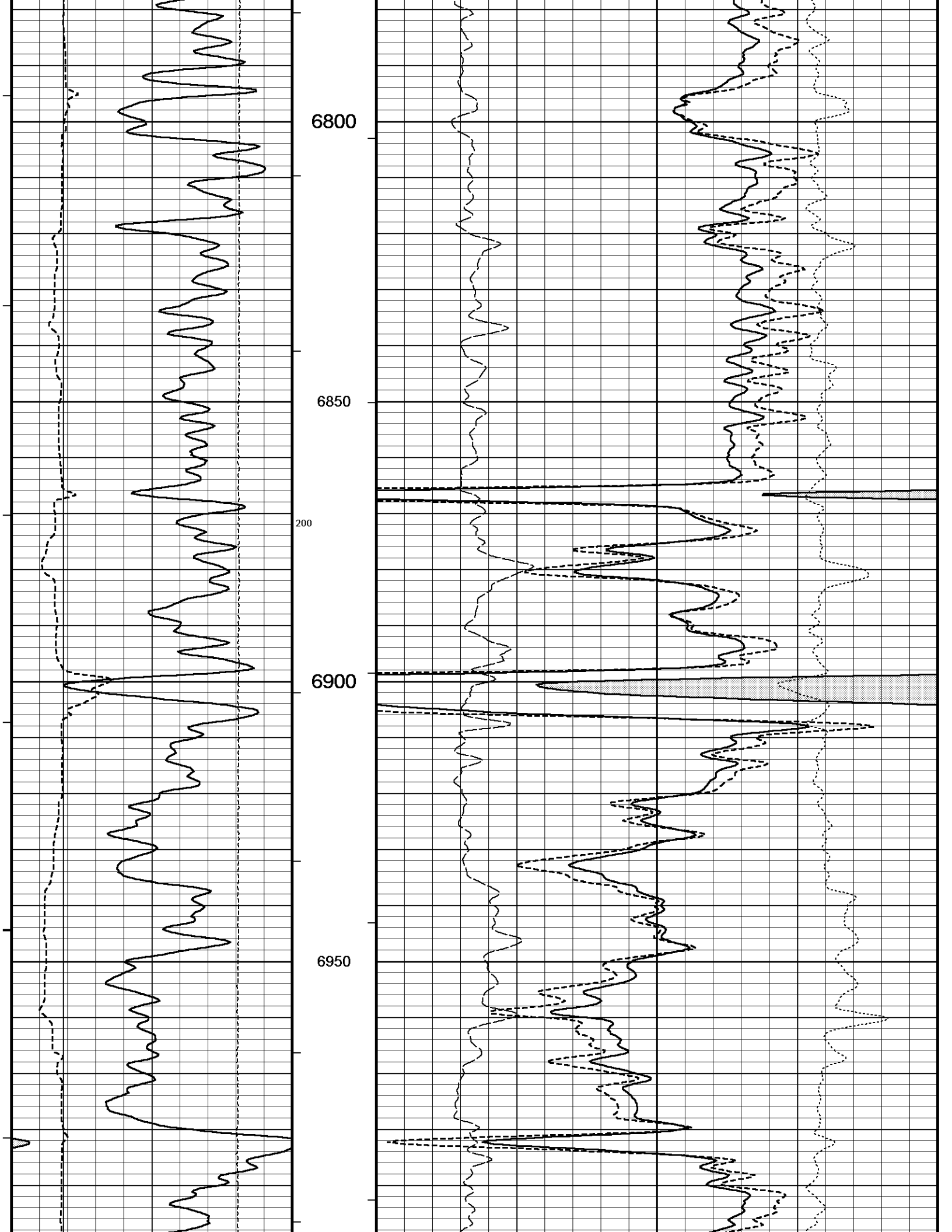


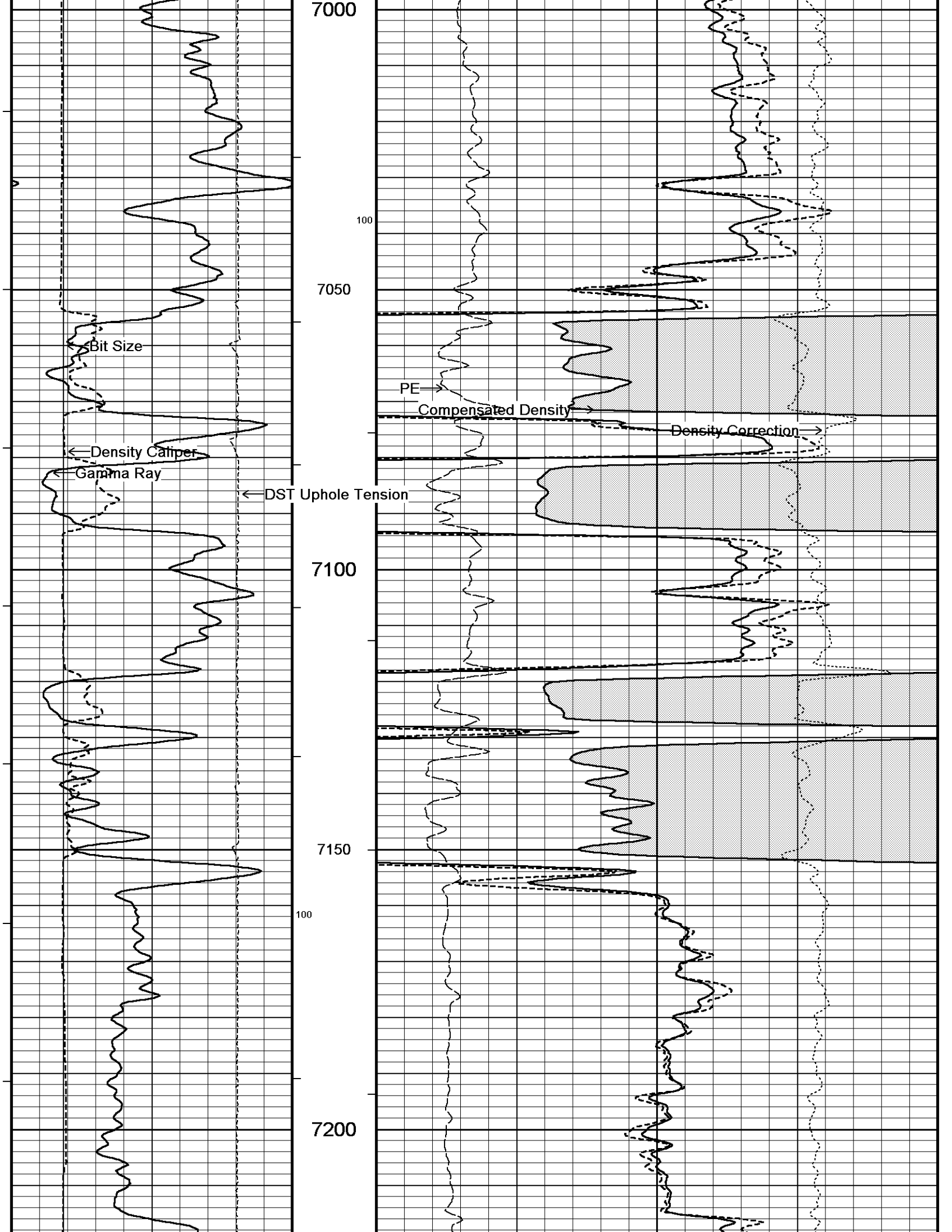


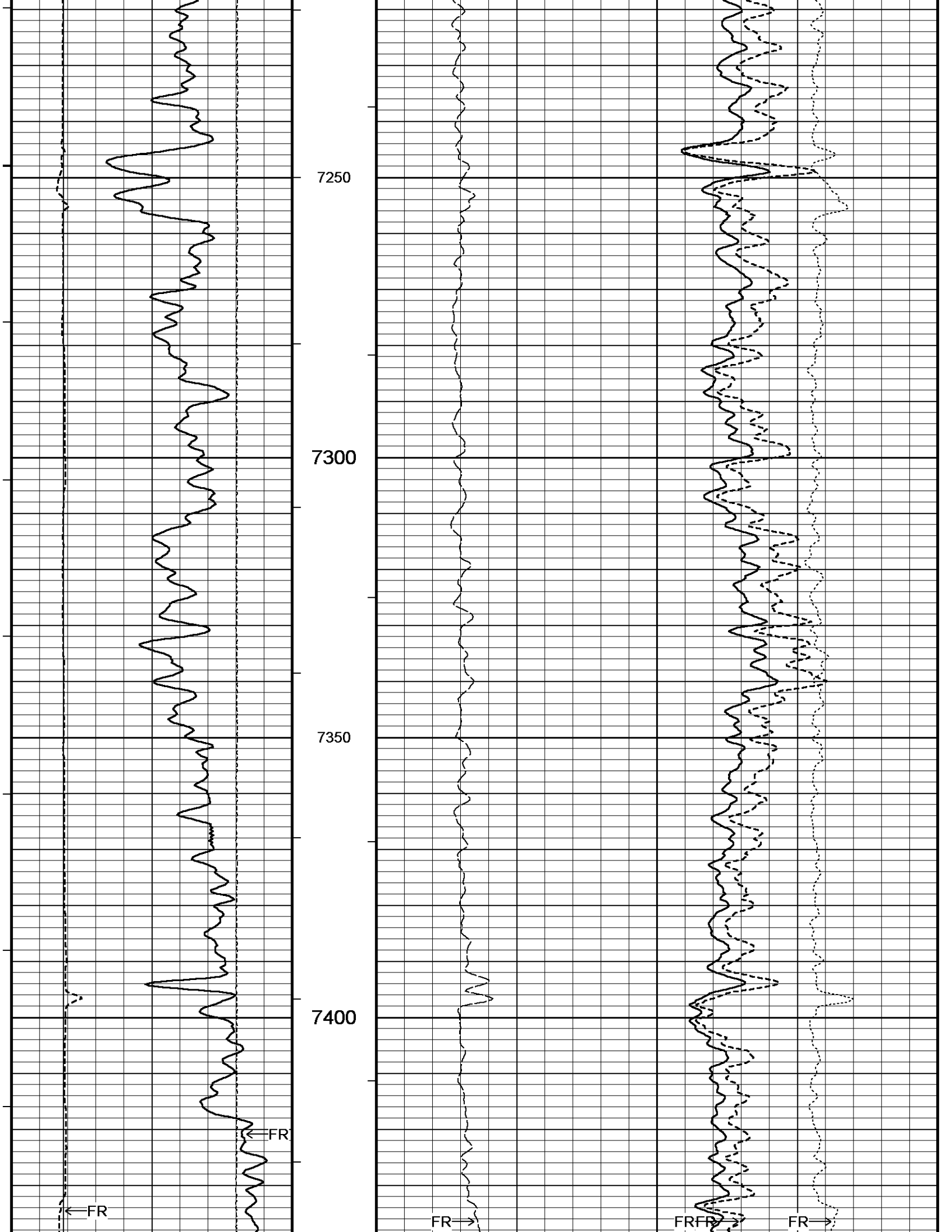


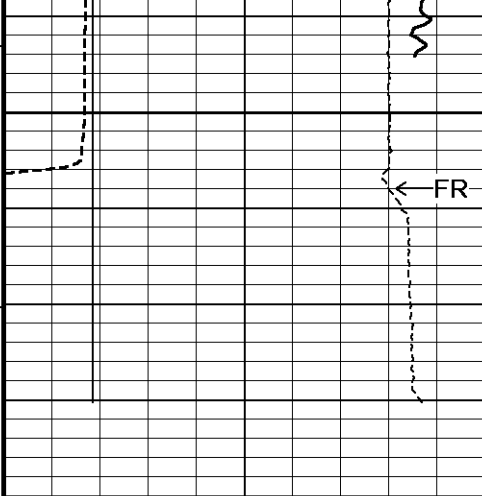












7450

← FR

7488

Depth
In
Feet

← Timing Marks
every 60.0 sec

DST Uphole Tension
pounds
10000 5000 0

Gamma Ray
API
0 75 150
150 225 300

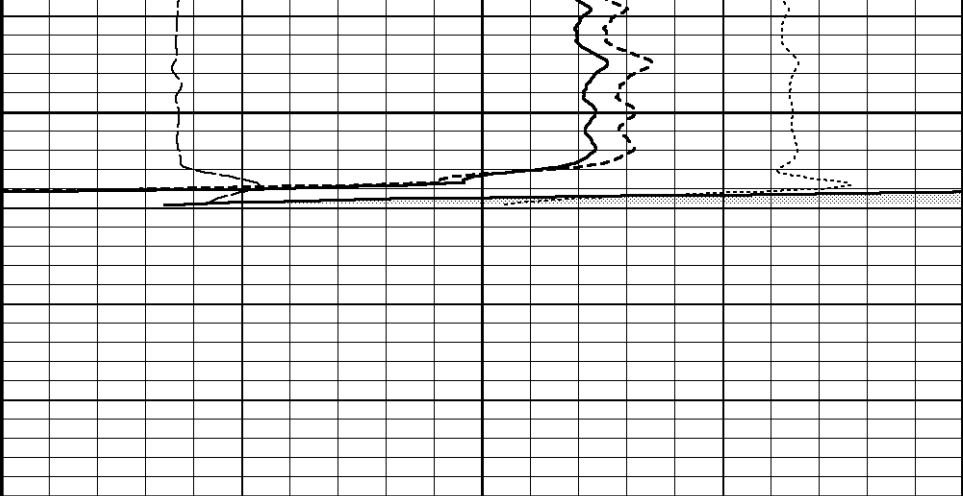
Density Caliper
inches
6 11 16

Bit Size
inches
6 11 16

HVI
every
10 cu ft

← Annular
Integral
every
10 cu ft

Replay
Scale
1:240



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
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PE
barns/electron

Density Correction
grams/cc

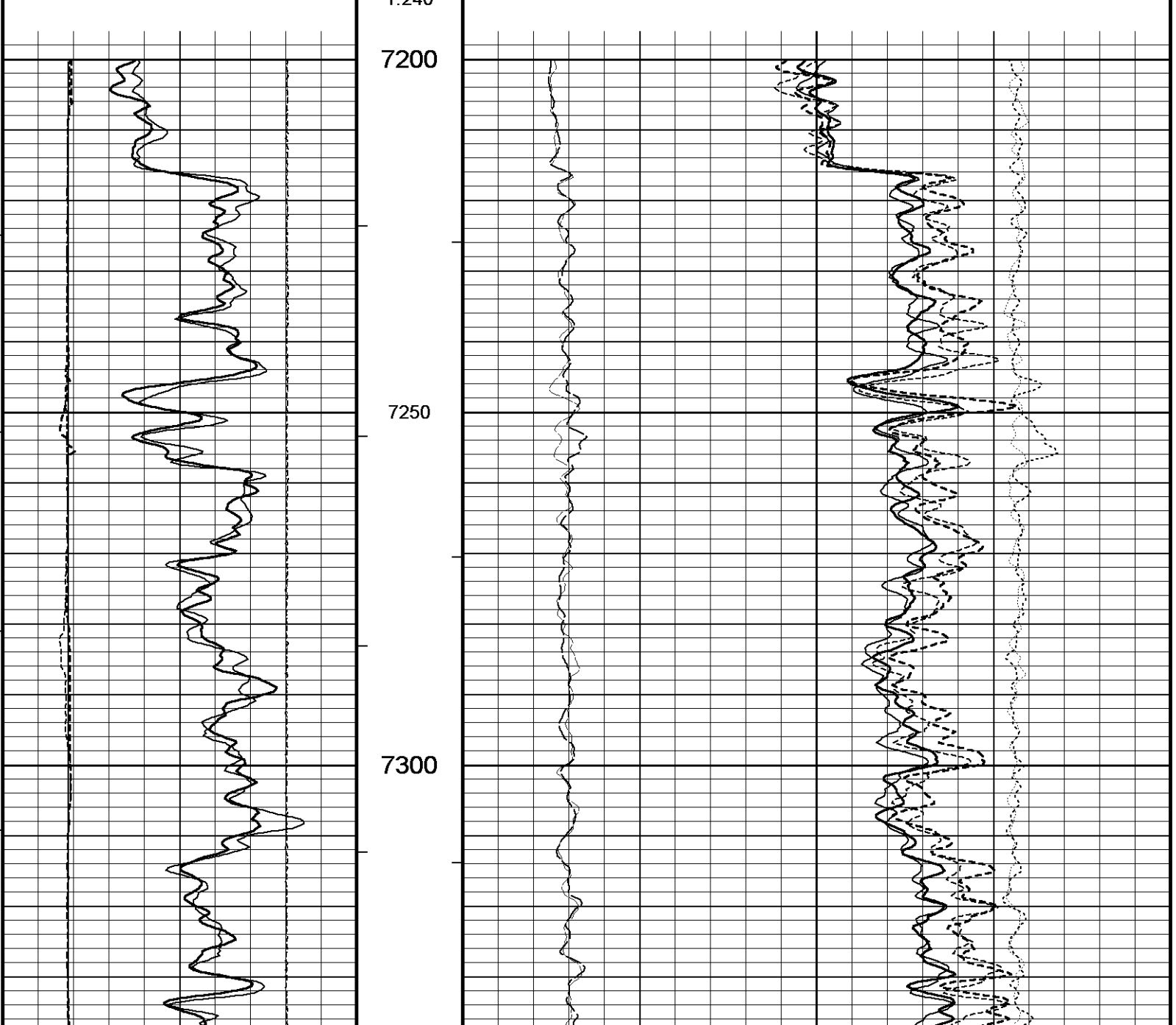
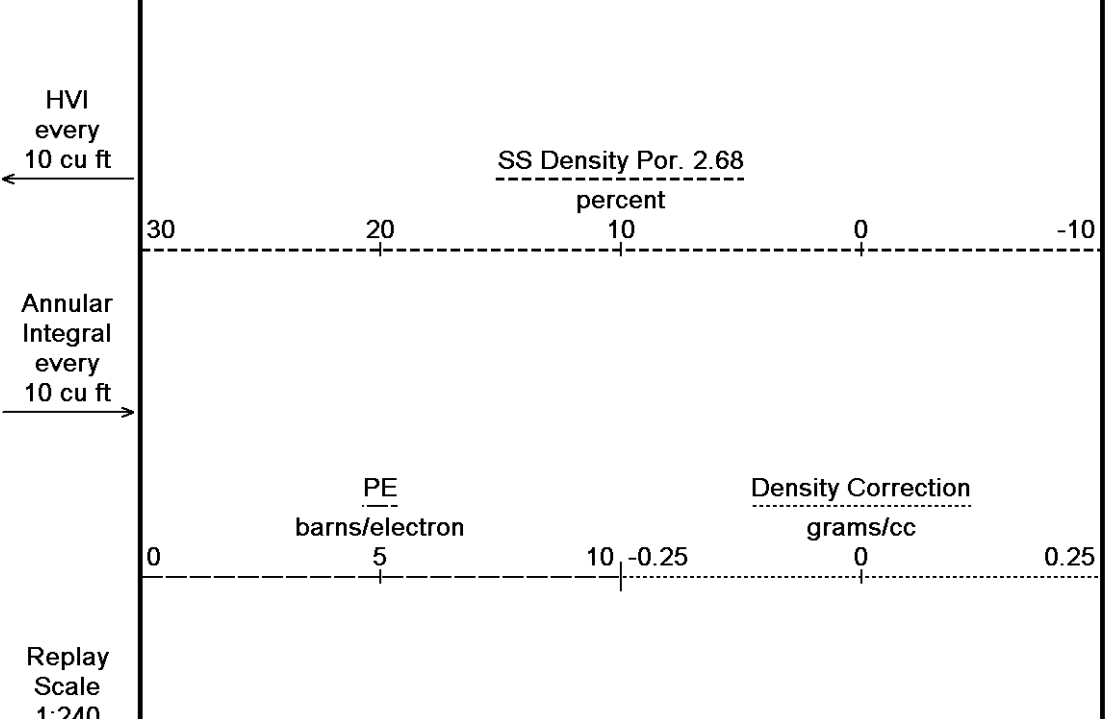
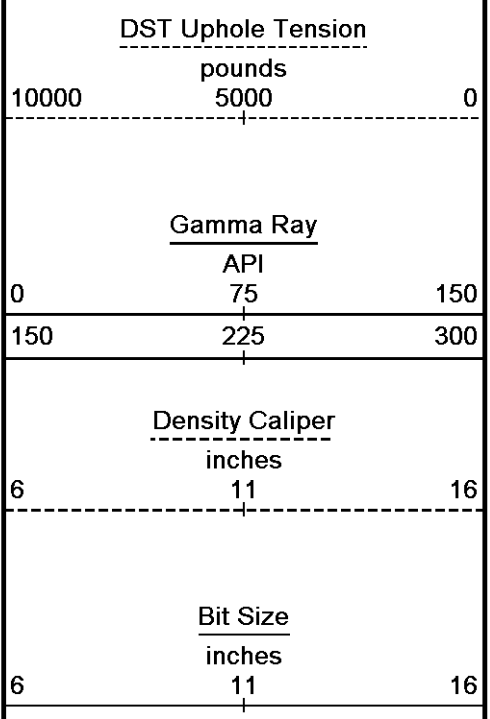
0	5	10	-0.25	0	0.25
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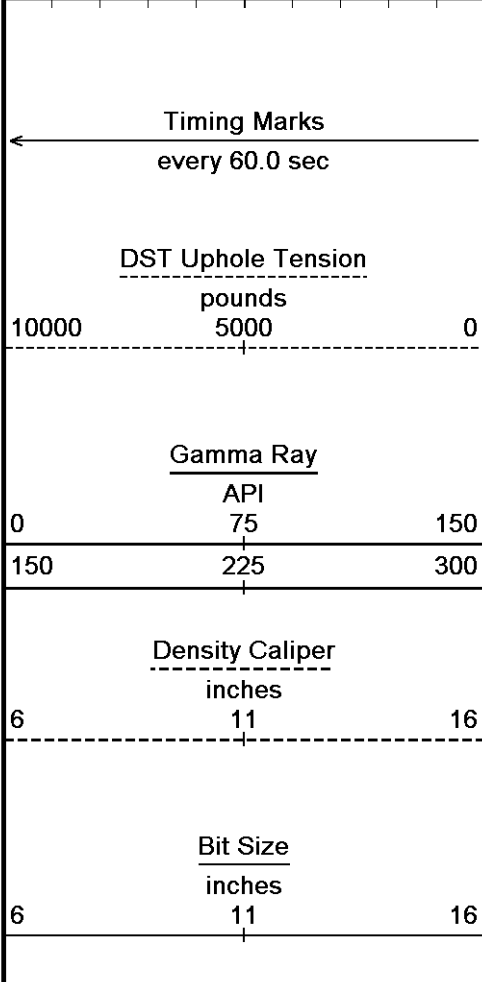
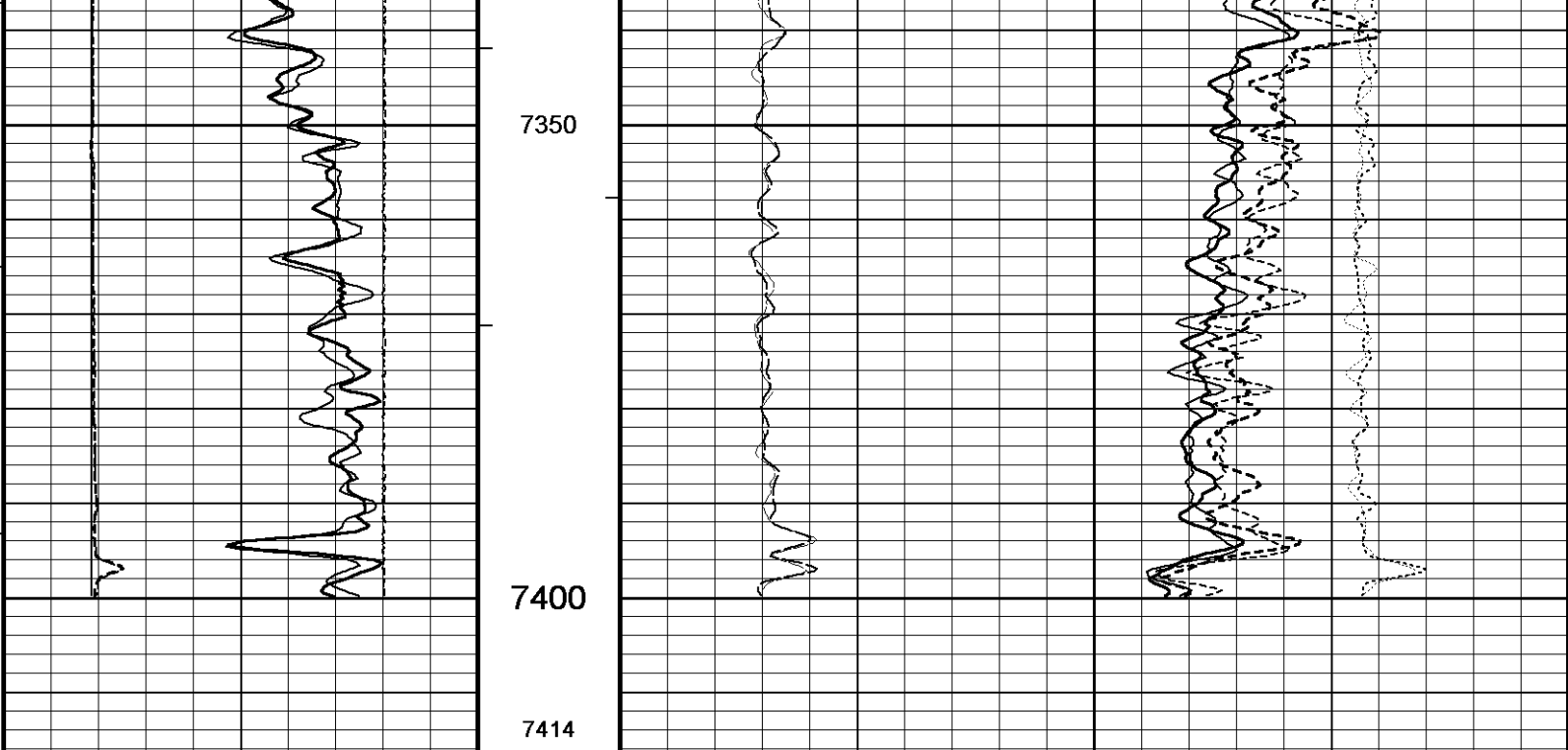
Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 18-FEB-2011 18:53
 Filename: C:\Minimus\Logs\Bill Barrett\GGU Swanson 32C-29-691\MAIN2.dta Recorded on 18-FEB-2011 14:55
 System Versions: Logged with 11.01.2198 Plotted with 11.01.2198

↑ 5 INCH MAIN LOG ↑

↓ OVERLAY ↓
 Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 18-FEB-2011 18:53
 Filename: C:\Minimus\Logs\Bill Barrett\GGU Swanson 32C-29-691\MAIN2.dta Recorded on 18-FEB-2011 14:55
 Filename: C:\Minimus\Logs\Bill Barrett\GGU Swanson 32C-29-691\MAIN.dta Recorded on 18-FEB-2011 14:36
 System Versions: Logged with 11.01.2198 Plotted with 11.01.2198

← Timing Marks every 60.0 sec	Depth in Feet	Compensated Density grams/cc				
		2	2.25	2.50	2.75	3
		1	1.25	1.50	1.75	2



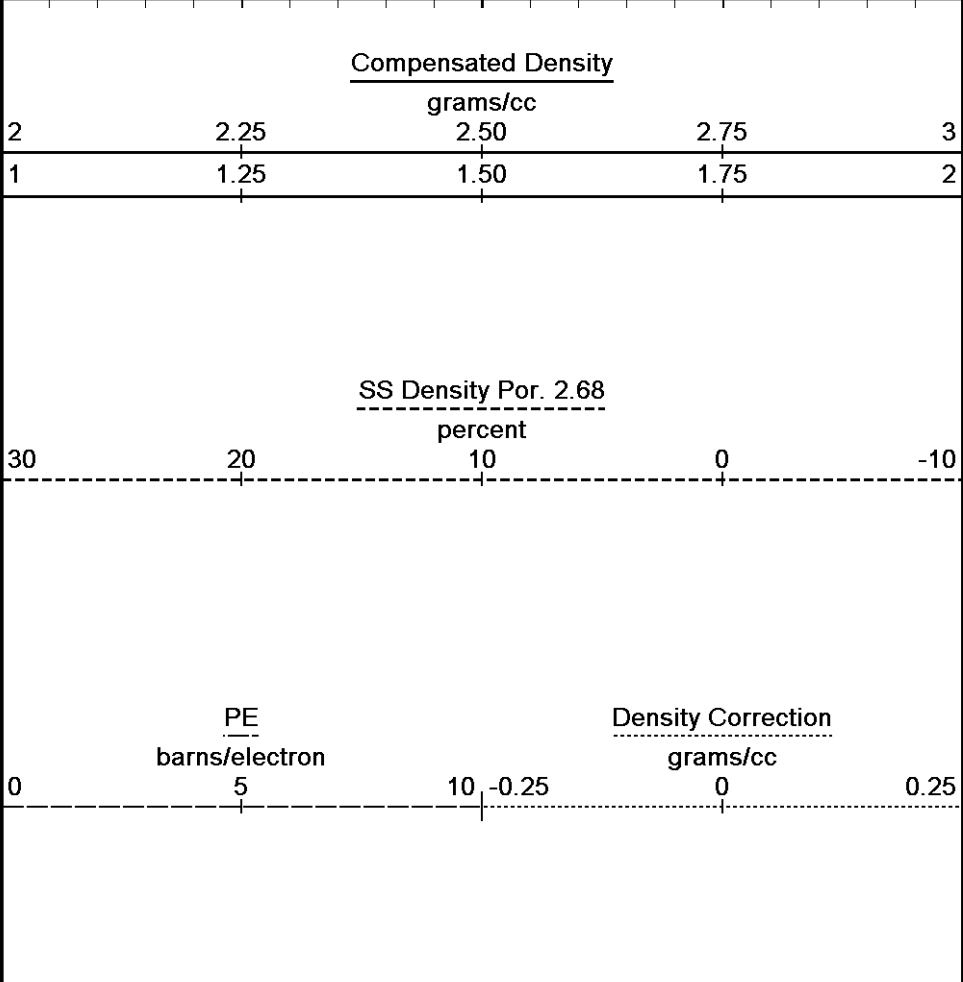


Depth
in
Feet

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 18-FEB-2011 18:53
 Filename: C:\Minimus\Logs\Bill Barrett\GGU Swanson 32C-29-691\MAIN2.dta
 Recorded on 18-FEB-2011 14:55
 Filename: C:\Minimus\Logs\Bill Barrett\GGU Swanson 32C-29-691\MAIN.dta
 Recorded on 18-FEB-2011 14:36
 System Versions: Logged with 11.01.2198 Plotted with 11.01.2198

↑ OVERLAY ↑

BEFORE SURVEY CALIBRATION
 C:\Minimus\Logs\Bill Barrett\GGU Swanson 32C-29-691\MAIN2.dta

General Constants All 000

General Parameters		
Mud Resistivity	3.000	ohm-metres
Mud Resistivity Temperature	70.000	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 18-FEB-2011 12:57

Reading No	Measured	Calibrated (lbs)
1	16198.74	0.00
2	17175.81	360.00

High Resolution Temperature Calibration MCG-C 192

Field Calibration on 18-FEB-2011,09:26

	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
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SP Calibration MCG-C 192

Field Calibration on 18-FEB-2011,09:12

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

Gamma Calibration MCG-C 192

Field Calibration on 18-FEB-2011 09:12

	Measured	Calibrated (API)
Background	98	67
Calibrator (Gross)	1434	979
Calibrator (Net)	1336	912

Gamma Constants MCG-C 192

Last Edited on 12-FEB-2011,12:54

Gamma Calibrator Number	GRC-072	
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 25-DEC-2010,03:47

Field Check on 18-FEB-2011 09:17

Base Calibration					
	Measured		Calibrated (cps)		
	Near	Far	Near	Far	
	3208	98	3714	110	
Ratio	32.812		33.764		
Field Calibrator at Base					
			Calibrated (cps)		
			1323	1983	
Ratio			0.667		
Field Check					
			Calibrated (cps)		
			1295	1967	
Ratio			0.658		

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 18-FEB-2011 09:22

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 18-FEB-2011,17:56

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 22-DEC-2010,21:10

	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
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Induction Calibration MAI-B.A 213

Base Calibration on 20-NOV-2010,09:51

Field Check on 18-FEB-2011 09:25

Base Calibration

Test Loop Calibration	Measured		Calibrated (mmho/m)	
	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
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Channel	Base Check (mmho/m)		Field Check (mmho/m)	
	Low	High	Low	High
1	0.0	0.0	12.1	3929.9
2	0.0	0.0	29.6	3535.8
3	0.0	0.0	28.5	3110.6
4	0.0	0.0	18.8	2094.3
Deep	0.0	0.0	17.1	2075.6
Medium	0.0	0.0	42.3	4083.8
Shallow	0.0	0.0	44.5	5153.6

Induction Constants MAI-B.A 213

Last Edited on 18-FEB-2011,17:54

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 18-FEB-2011,09:27

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 18-FEB-2011 09:34

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
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Field Check

1168.0	1738.2
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PE Calibration

Base Calibration	Measured		Ratio	Calibrated
	WS	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				
	215.2	1048.5		

Density Constants MPD-B 167

Last Edited on 18-FEB-2011,10:35

Density Source Id	P50561B	
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	1.31	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	

AFTER SURVEY CALIBRATION

C:\Minimus\Logs\Bill Barrett\GGU Swanson 32C-29-691\MAIN2.dta

Gamma Check MCG-C 192

Field Calibration on 18-FEB-2011 09:12
After Survey Check on 18-FEB-2011 18:44

	Before (API)	After (API)
Background	67	62
Calibrator (Gross)	979	974
Calibrator (Net)	912	912

Neutron Check MDN-A.B 160

Before Survey Check on 18-FEB-2011 09:17
After Survey Check on 18-FEB-2011 18:49

Near (cps)		Far (cps)	
Before	After	Before	After
1295	1322	1967	1963
Ratio		Before	After
		0.658	0.674

FE Check MFE-A.A 85

Before Survey Check 18-FEB-2011 09:22
After Survey Check on 18-FEB-2011 17:57

Before (ohm-m)	After (ohm-m)
282.3	281.7

Induction Check MAI-B.A 213

Before Survey Check on 18-FEB-2011 09:25
After Survey Check on 18-FEB-2011 17:56

Channel	Before Survey (mmho/m)		After Survey (mmho/m)	
	Low	High	Low	High
1	12.1	3929.9	14.3	3935.6
2	29.6	3535.8	30.3	3539.1
3	28.5	3110.6	28.9	3113.5
4	18.8	2094.2	19.1	2096.2

4	16.8	2094.3	19.1	2090.3
Deep	17.1	2075.6	17.5	2078.0
Medium	42.3	4083.8	42.6	4087.1
Shallow	44.5	5153.6	45.6	5158.0
Array Temperature	42.2		73.3 Deg F	

Photo Density Check MPD-B 167

Before Survey Check on 18-FEB-2011 09:34
After Survey Check on 18-FEB-2011 18:01

Density Check

	Near		Far	
	Before	After	Before	After
	1168.0	1169.1	1738.2	1746.2

PE Check

	Before	After
WS	215.2	212.3
WH	1048.5	1042.1

DOWNHOLE EQUIPMENT

C:\Minimus\Logs\Bill Barrett\GGU Swanson 32C-29-691\MAIN2.tta

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

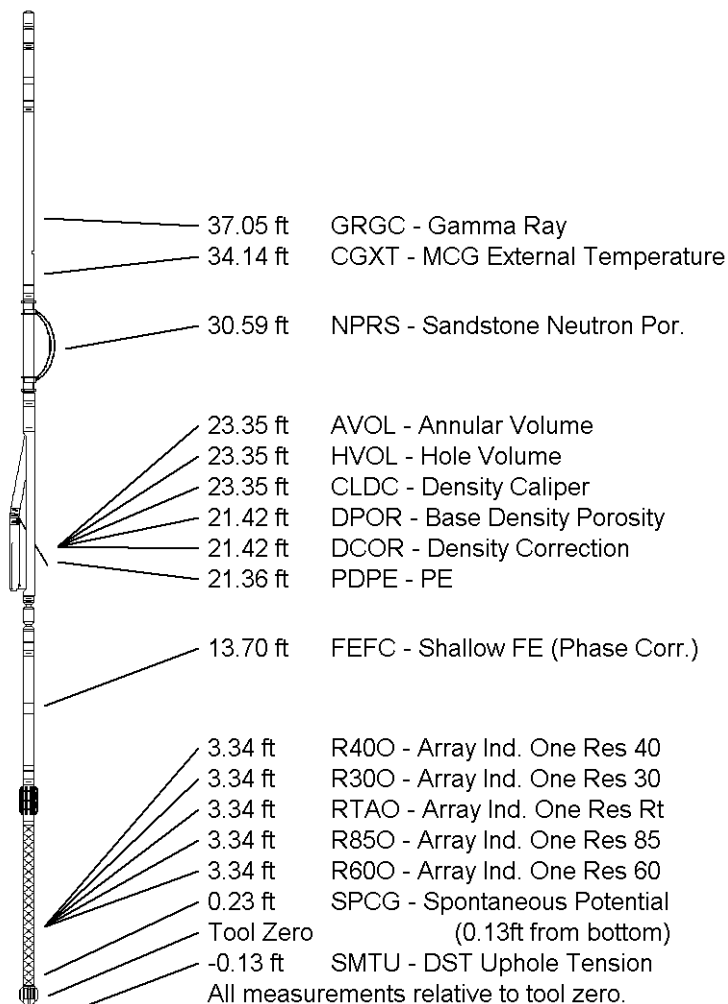
Compact Density/Caliper
MPD-B 167 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

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

Compact Focussed 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 SWANSON 32C-29-691
FIELD	GIBSON GULCH
PROVINCE/COUNTY	GARFIELD
COUNTRY/STATE	U.S.A. / COLORADO

Elevation Kelly Bushing	6127.00	feet	First Reading	7435.00	
Elevation Drill Floor	6126.00	feet	Depth Driller	7458.00	feet

Elevation Drill Hole: 6129.00 feet
Elevation Ground Level: 6104.00 feet

Depth Drill: 7458.00 feet
Depth Logger: 7458.00 feet



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COMPENSATED DUAL NEUTRON
LOG

