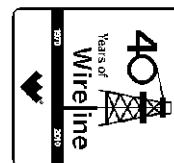




Weatherford

COMPACT TRIPLE COMBO QUICKLOOK LOG

COMPANY **BILL BARRETT CORPORATION**
WELL **KAUFMAN 23B-24-692**
FIELD **MAMM CREEK**
PROVINCE/COUNTY **GARFIELD**
COUNTRY/STATE **U.S.A. / COLORADO**
LOCATION **SHL: 1771' FSL & 2410' FEL**
BHL: 1795' FSL & 1970' FWL



SEC	TWP	RGE	Other Services	
24	6S	92W		
API Number		05-045-19646		
Permit Number				
Permanent Datum G.L., Elevation 5843 feet				
Log Measured From KB				
Drilling Measured From K.B. @ 23 FT.				
Date	10-AUG-2011		Elevations: KB 5866.00 DF 5866.00 GL 5843.00	
Run Number	ONE			
Depth Driller	7633.00		feet	
Depth Logger	7632.00		feet	
First Reading	7629.00			
Last Reading	852.00			
Casing Driller	853.00		feet	
Casing Logger	852.00		feet	
Bit Size	7.875		inches	
Hole Fluid Type	LSND			
Density / Viscosity	10.50 lb/USg		50.00 CP	
PH / Fluid Loss	9.80		4.00 ml/30Min	
Sample Source	FLOW LINE			
Rm @ Measured Temp	2.72 @ 75.0		ohm-m	
Rmf @ Measured Temp	2.17 @ 75.0		ohm-m	
Rmc @ Measured Temp	3.26 @ 75.0		ohm-m	
Source Rmf / Rmc	CALC		CALC	
Rm @ BHT	1.11 @188.0		ohm-m	
Time Since Circulation	5 HOURS			
Max Recorded Temp	188.00		deg F	
Equipment Name	COMPACT			
Equipment / Base	13173		GD JCT	
Recorded By	M.RICHINS			
Witnessed By	C.CROW			

BOREHOLE RECORD

Last Edited: 11-AUG-2011 05:32

Bit Size inches	Depth From feet	Depth To feet
8.750	853.00	5692.00
7.880	5692.00	7633.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	9.625	0.00	853.00	36.00

REMARKS

LOGGING SOFTWARE USED: 11.03.4644

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

HARDWARE: MPD: 8 INCH PROFILE PLATE USED.
TWO 0.5 INCH STANDOFFS USED ON INDUCTION.
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. = 8.92" (9 5/8", 36 LB/FT CASING).

8.75 INCH BIT CHANGE AT 5692 FT

0.75 INCH BIT CHANCE AT 3032 FT.

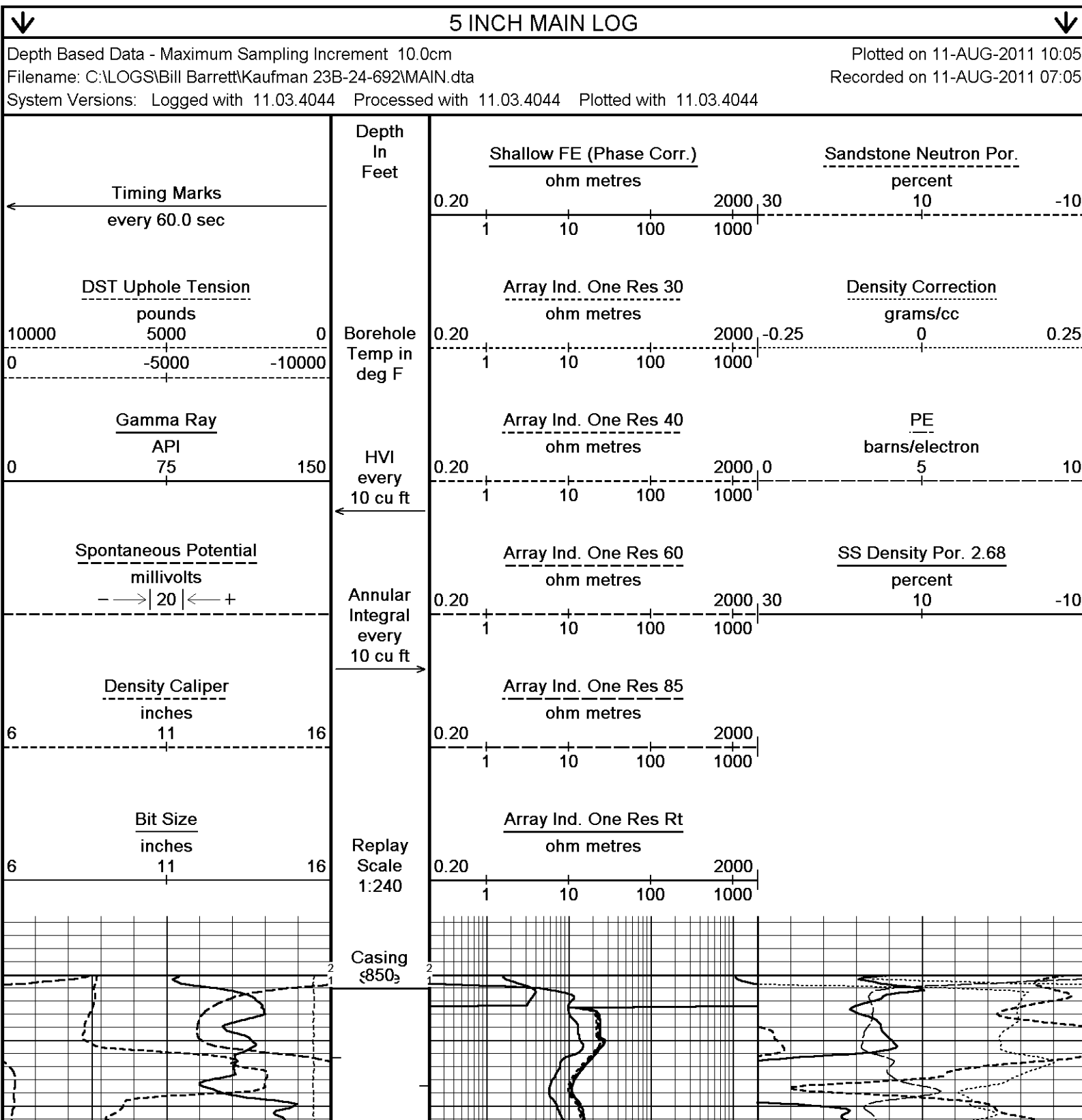
TOTAL HOLE VOLUME FROM TD TO SURFACE CASING = 2740 CU.FT.

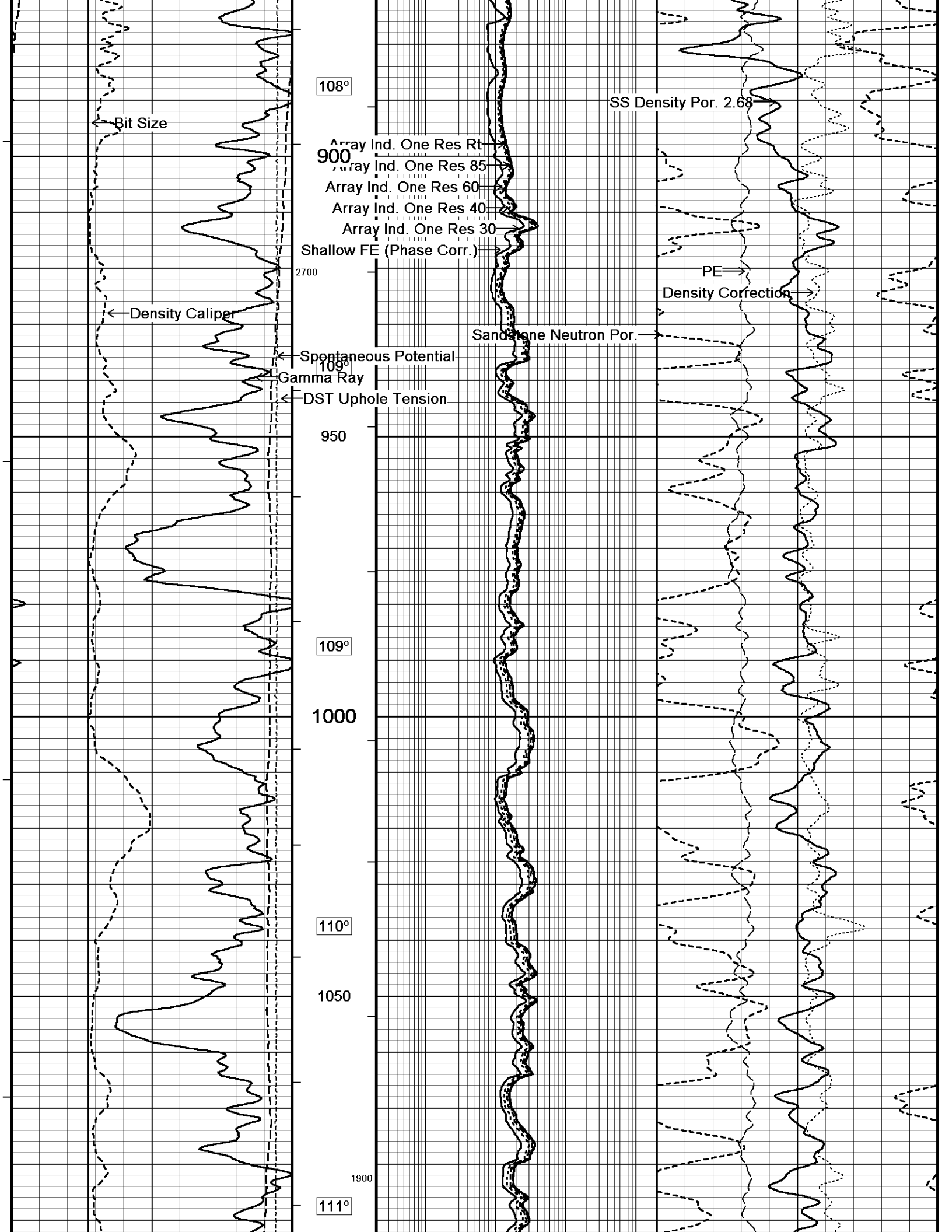
ANNULAR VOLUME WITH 4.5 INCH PRODUCTION CASING = 1990 CU.FT.

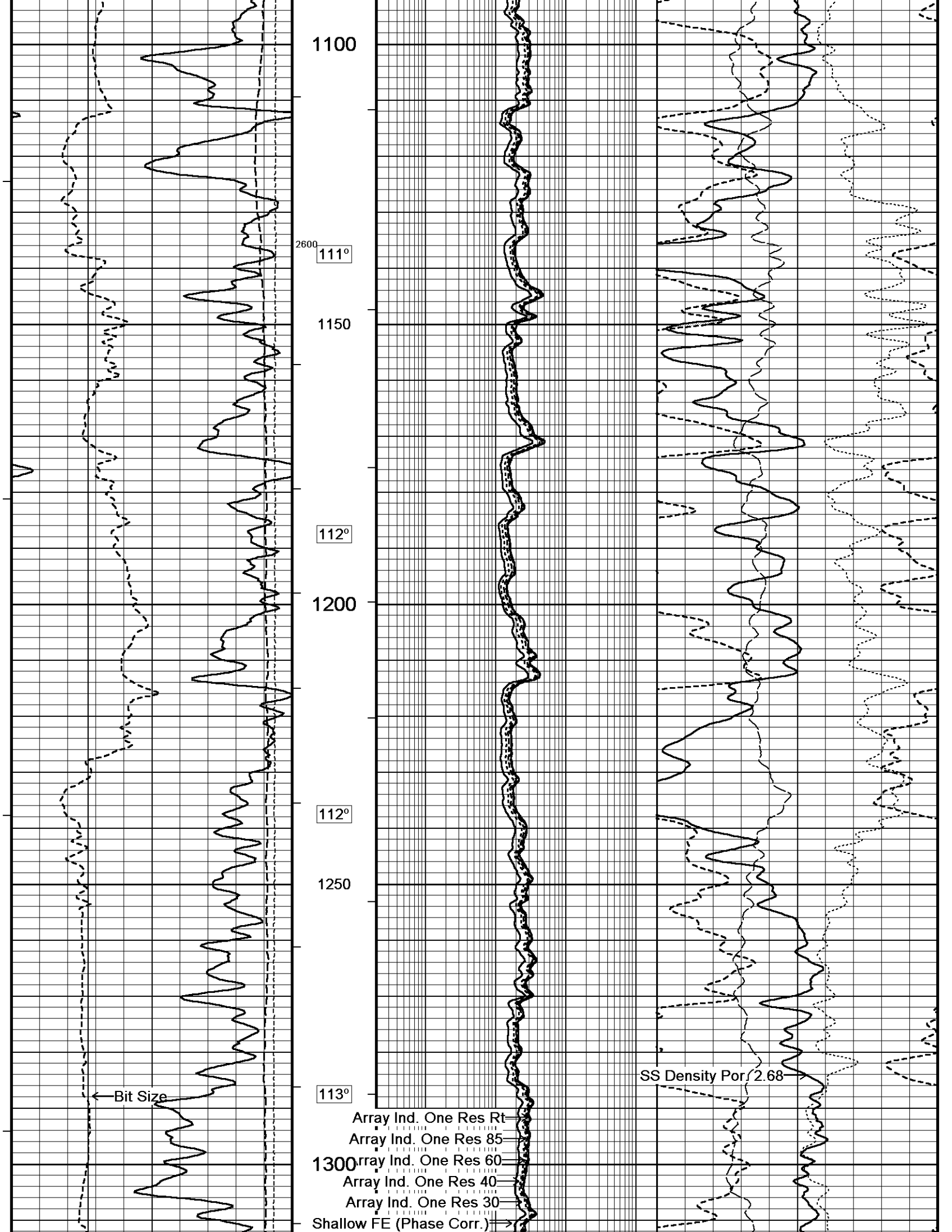
SERVICE ORDER: # 3532395

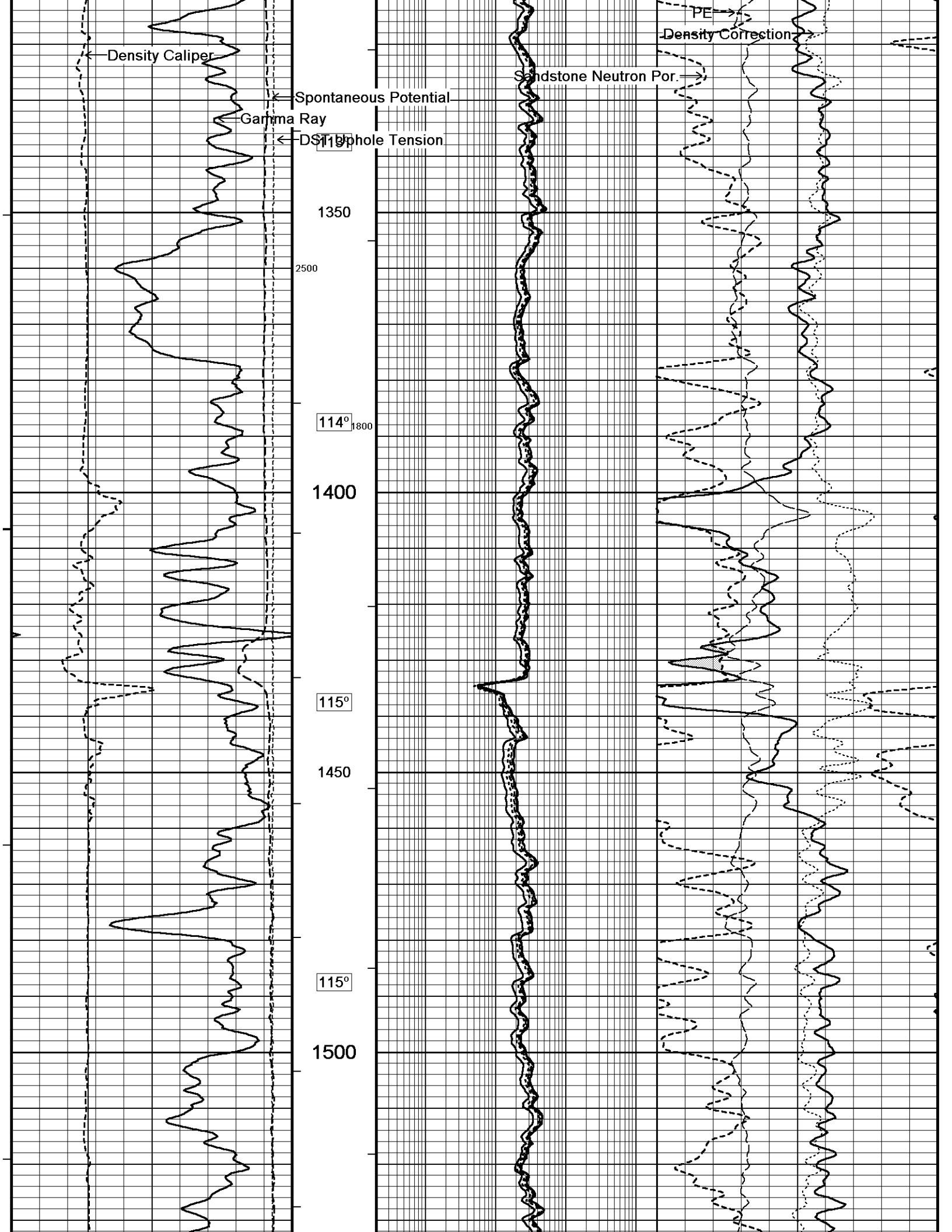
RIG: PATTERSON #307

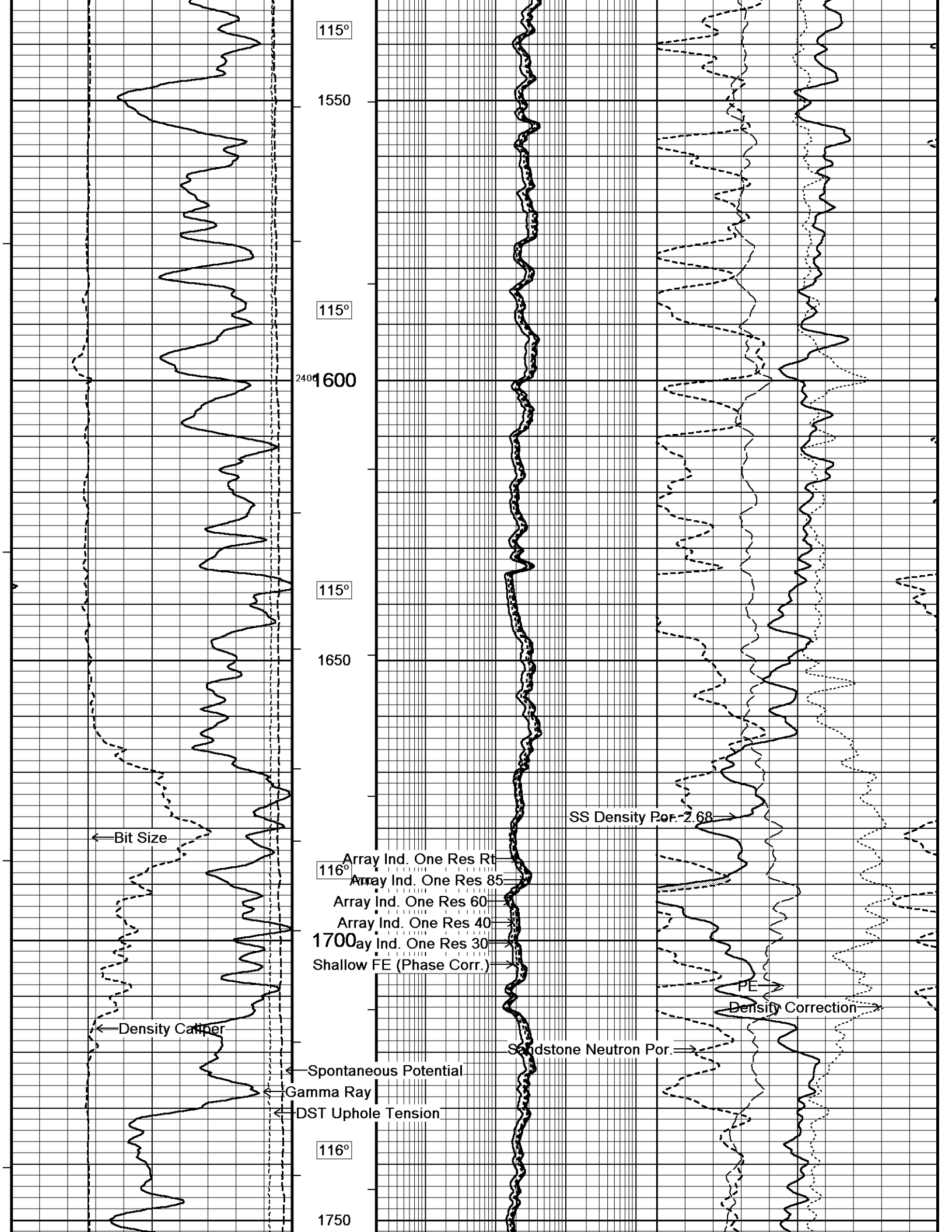
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs,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

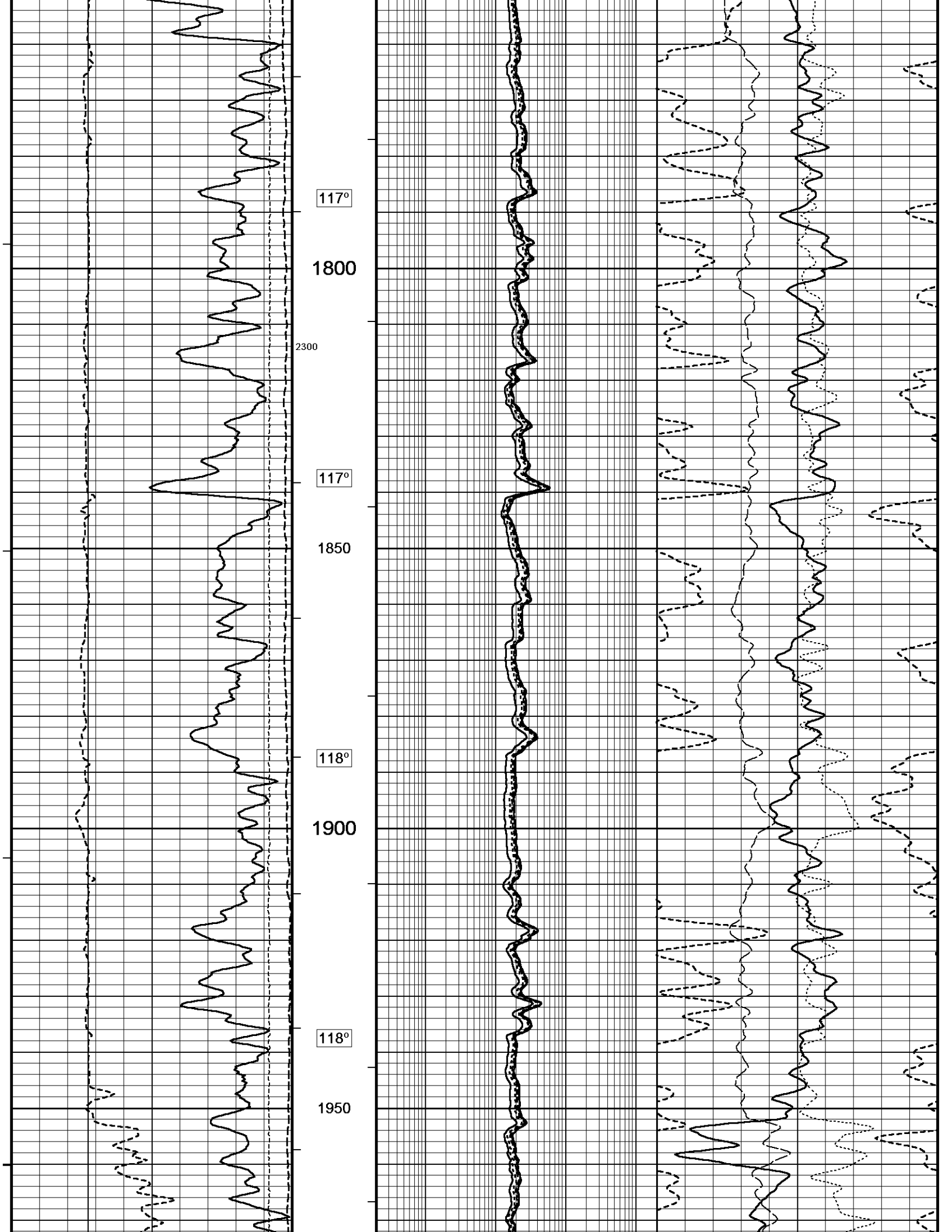


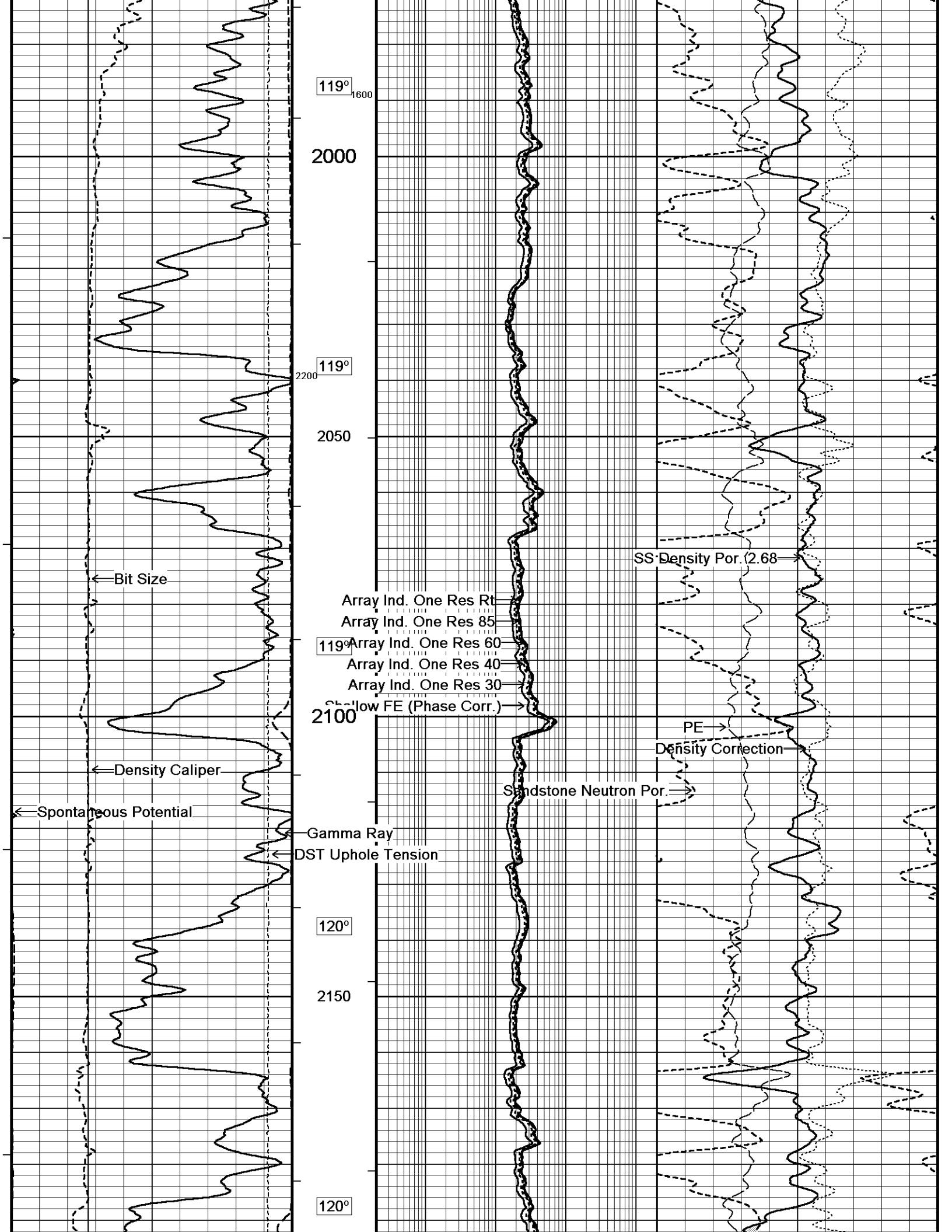


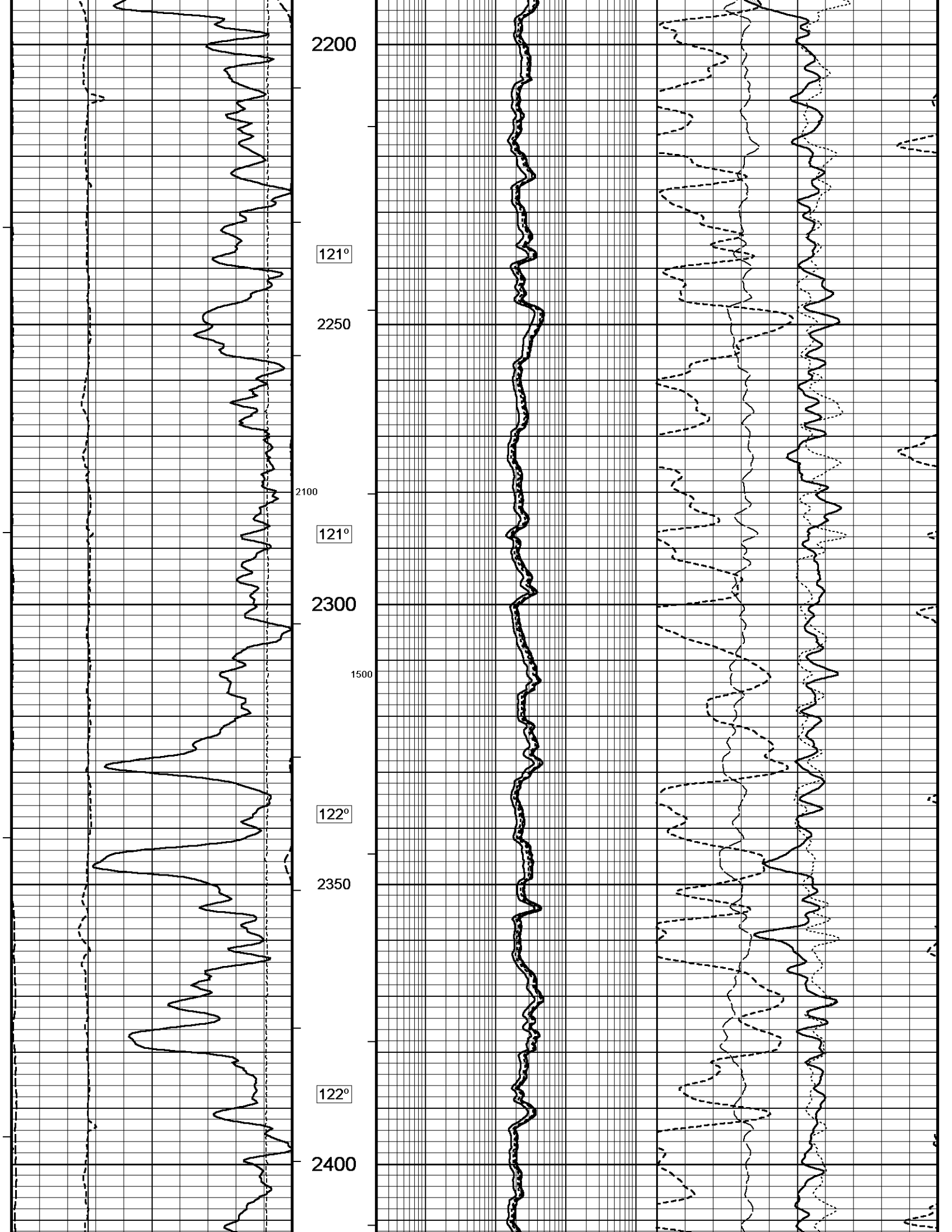


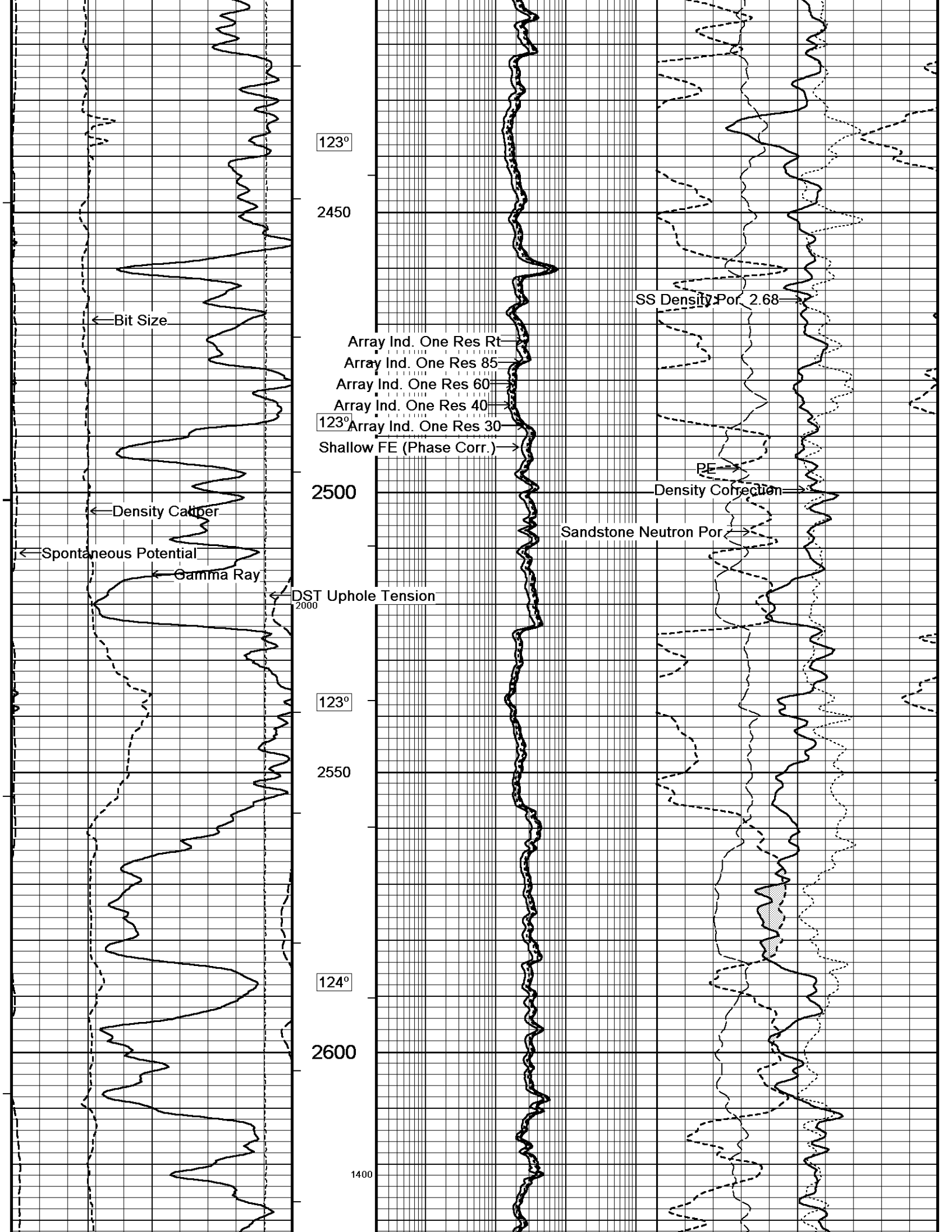


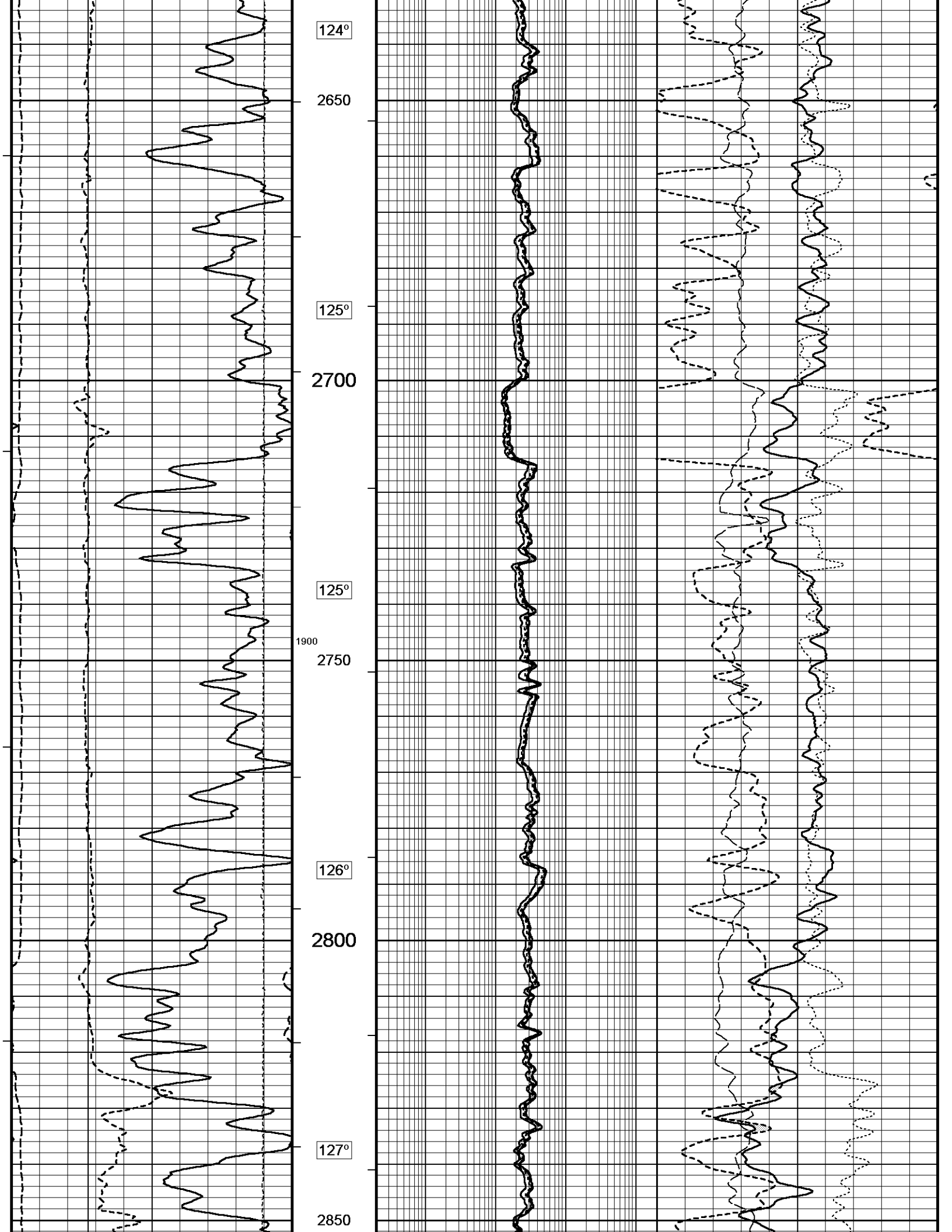


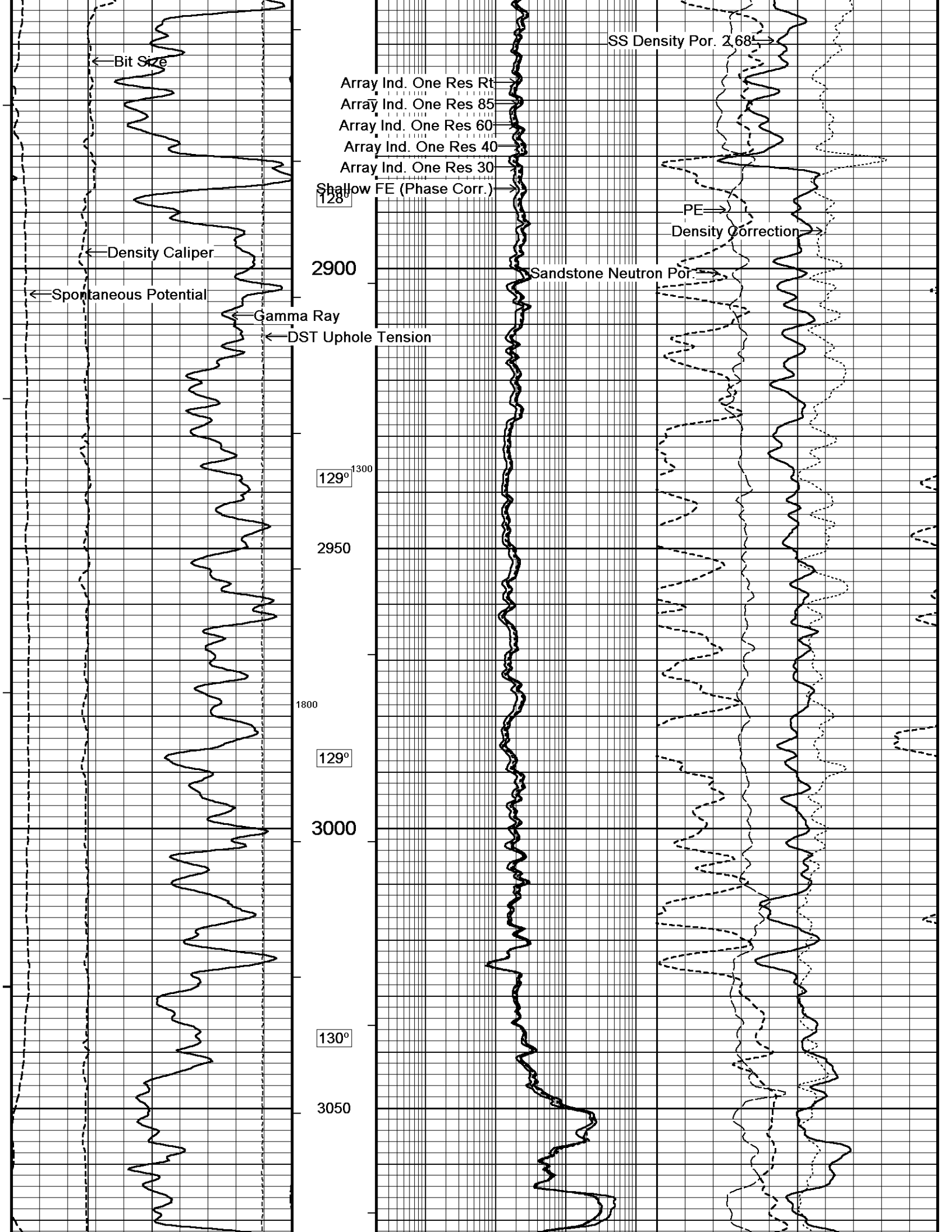


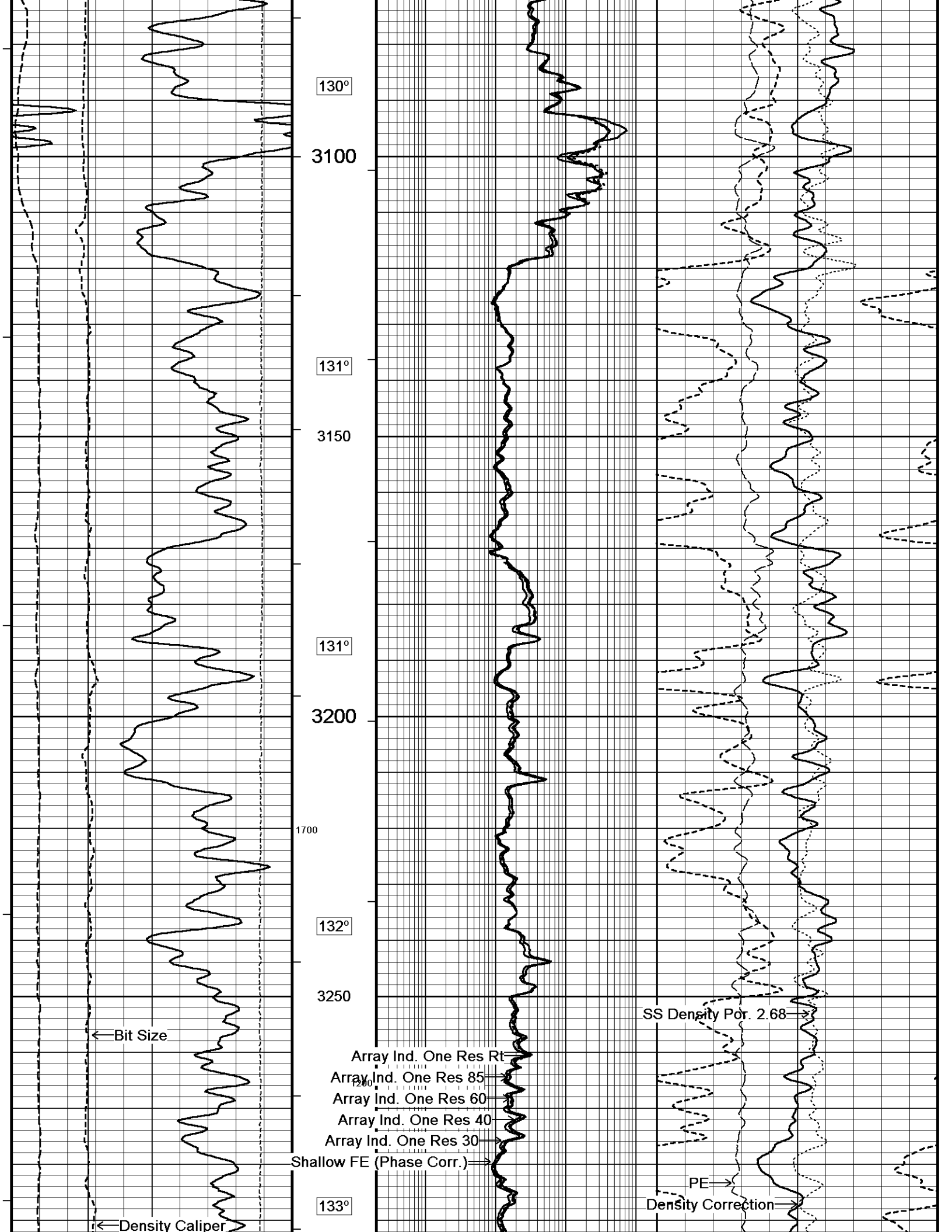


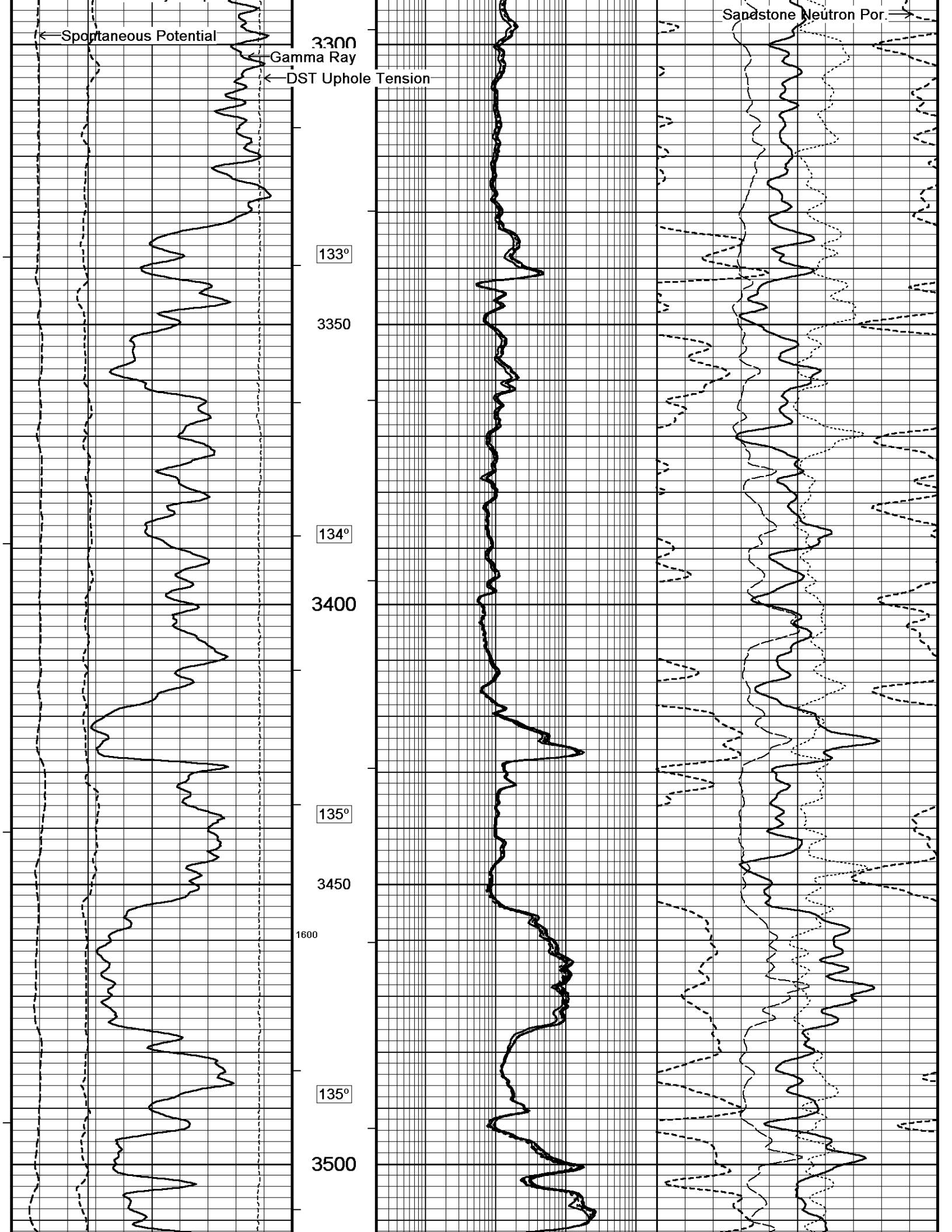


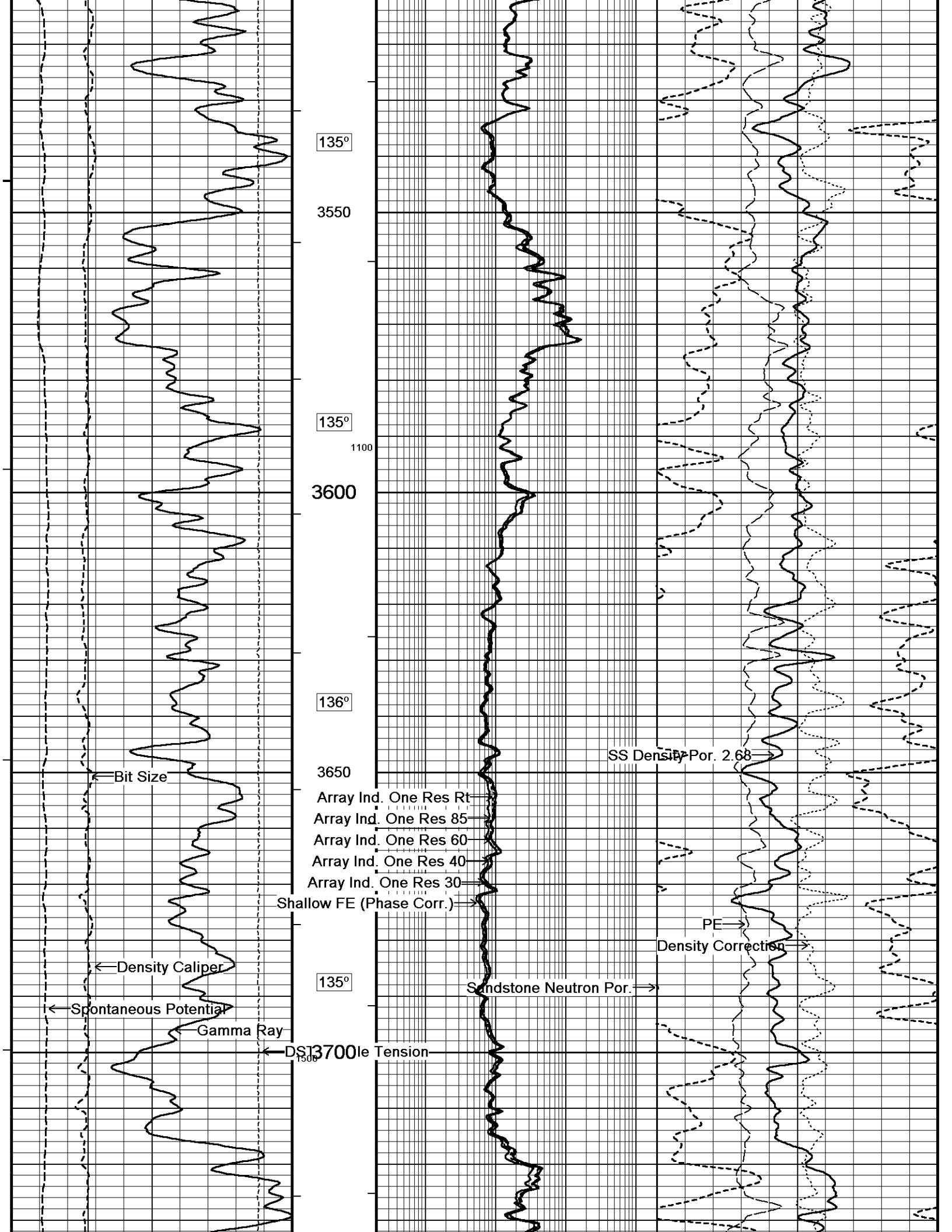


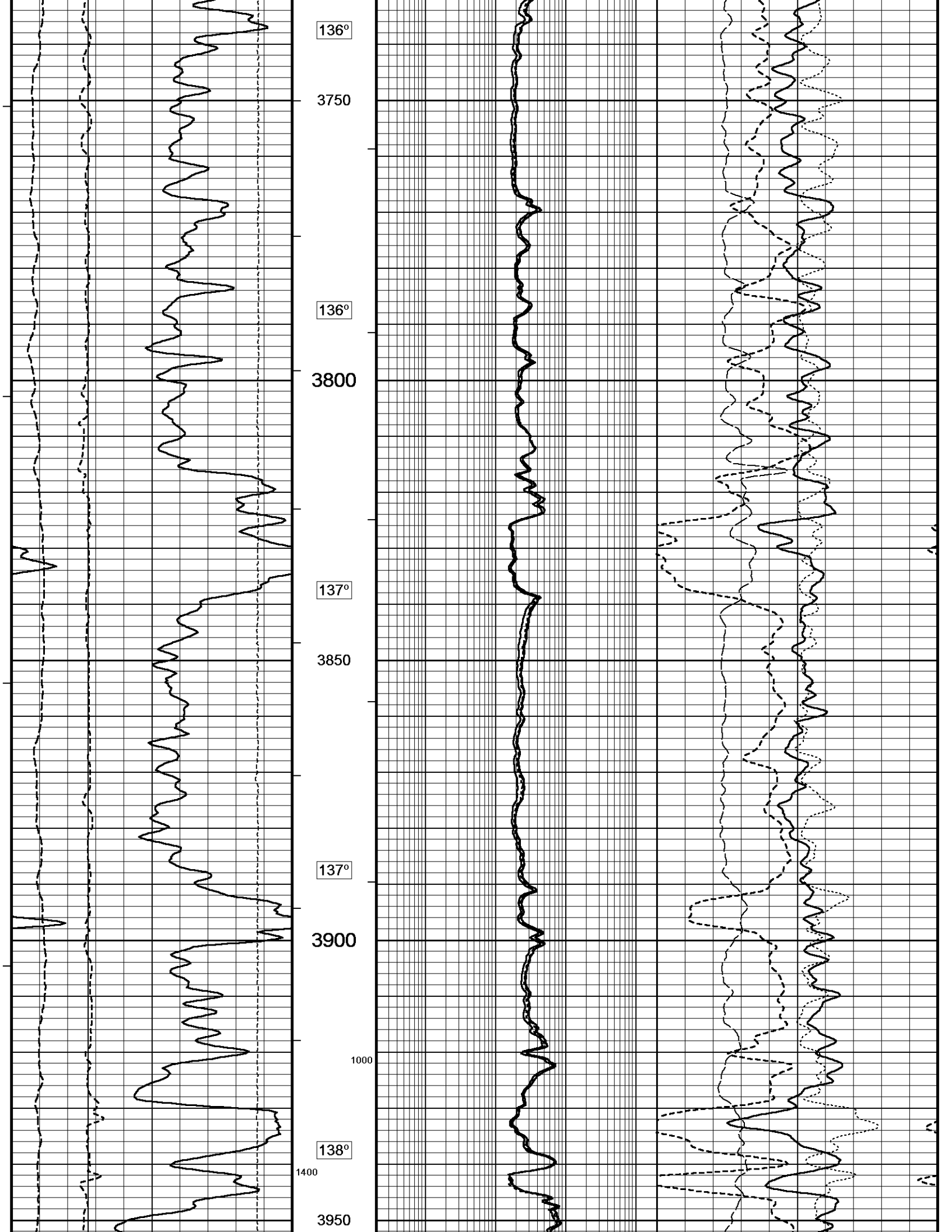


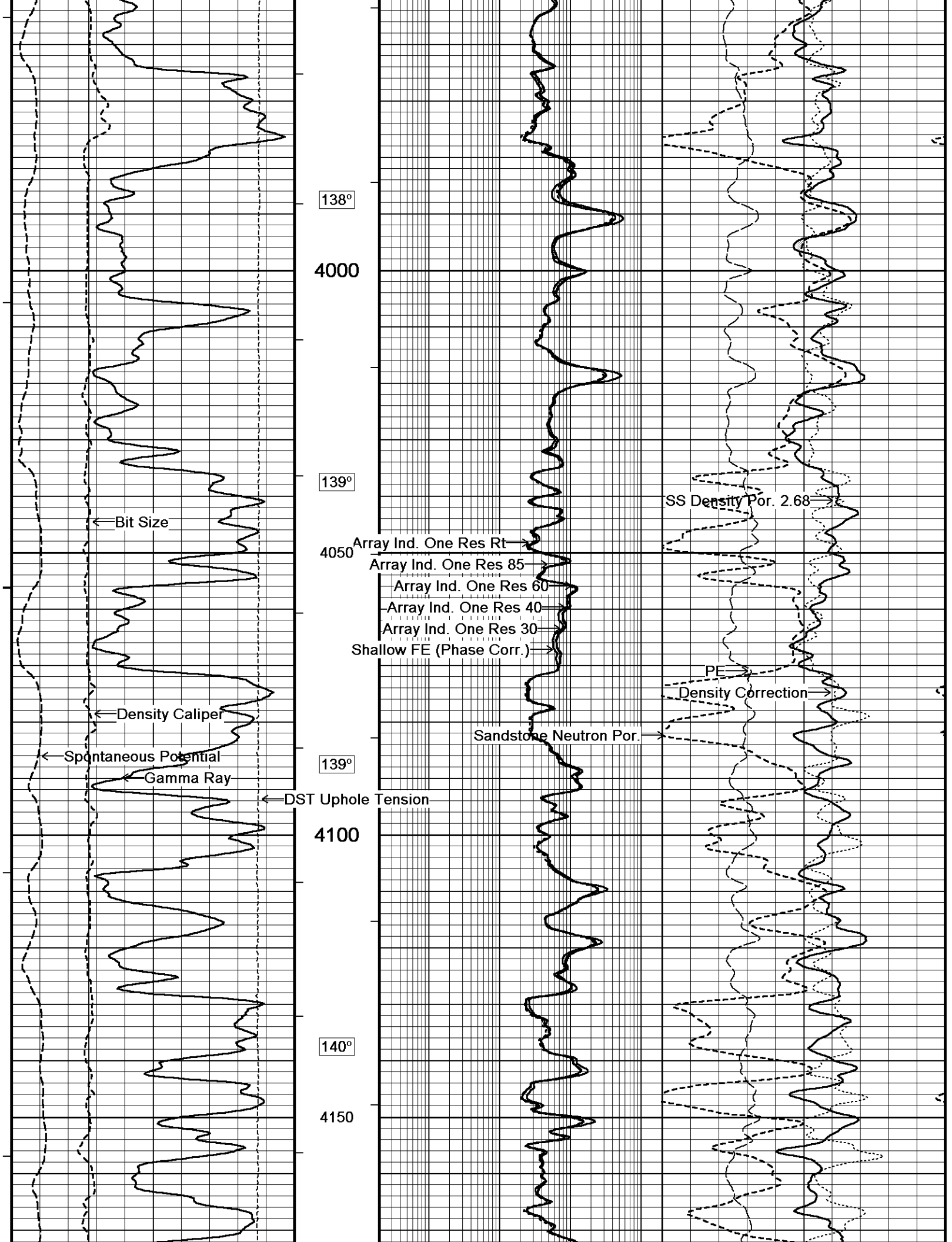


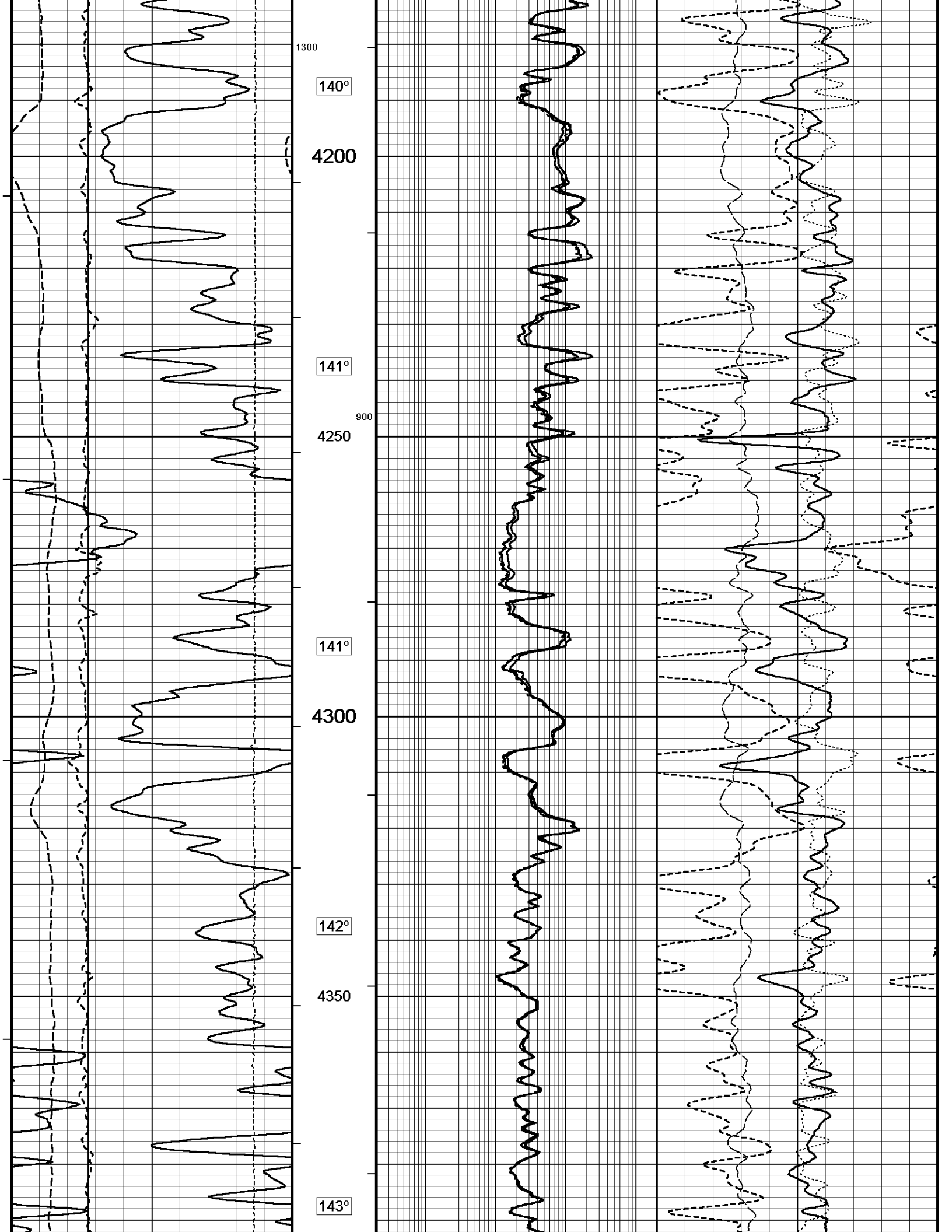


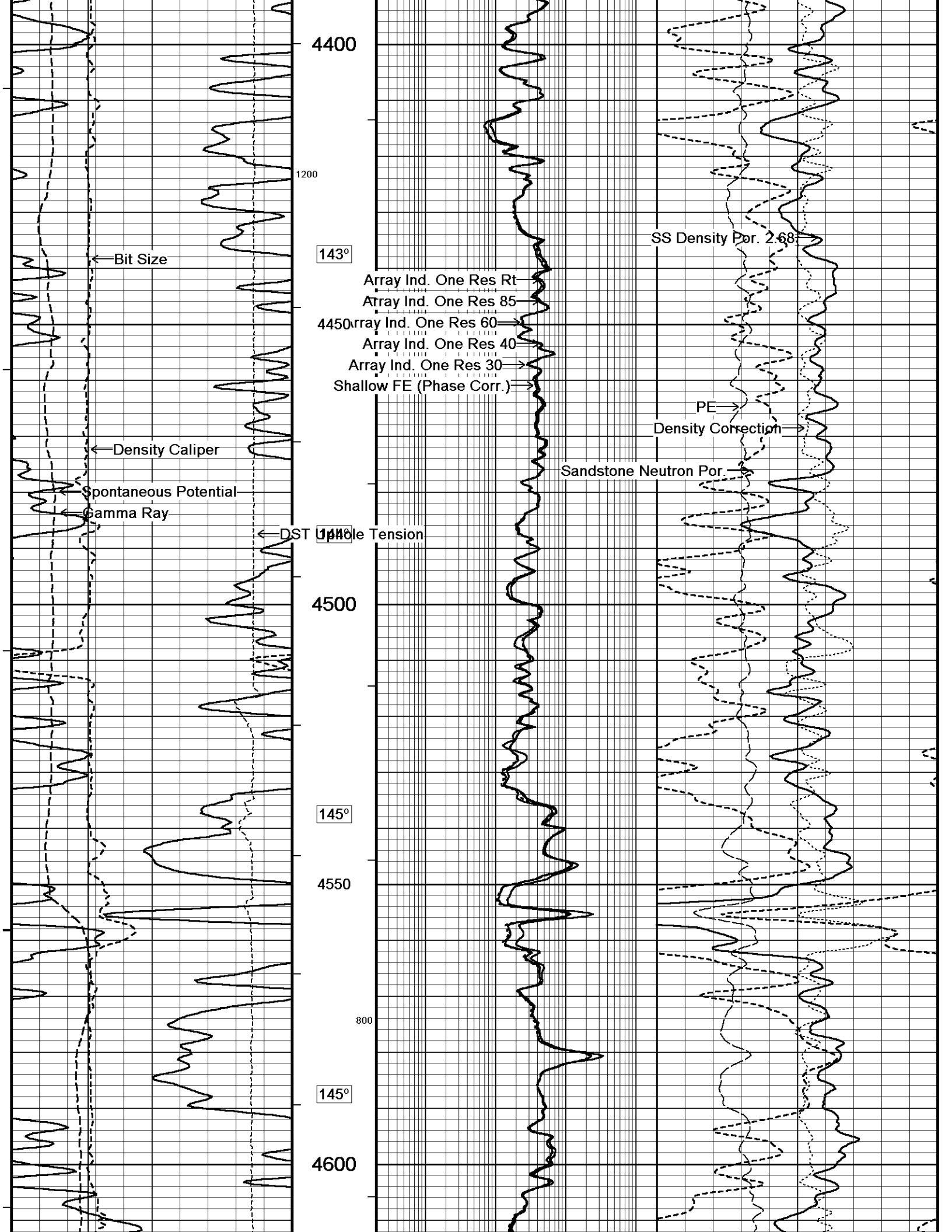


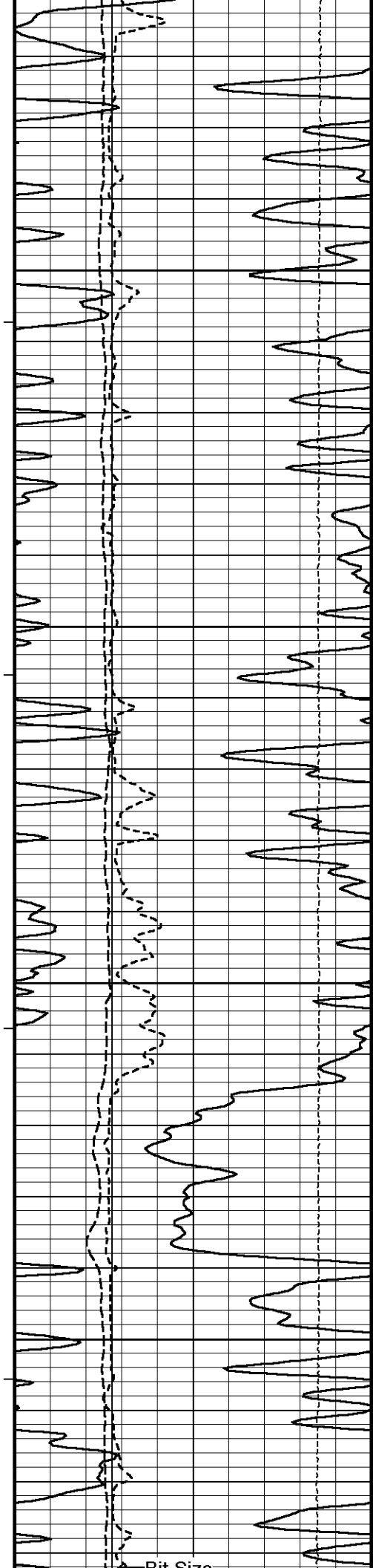












145°

4650

1100

146°

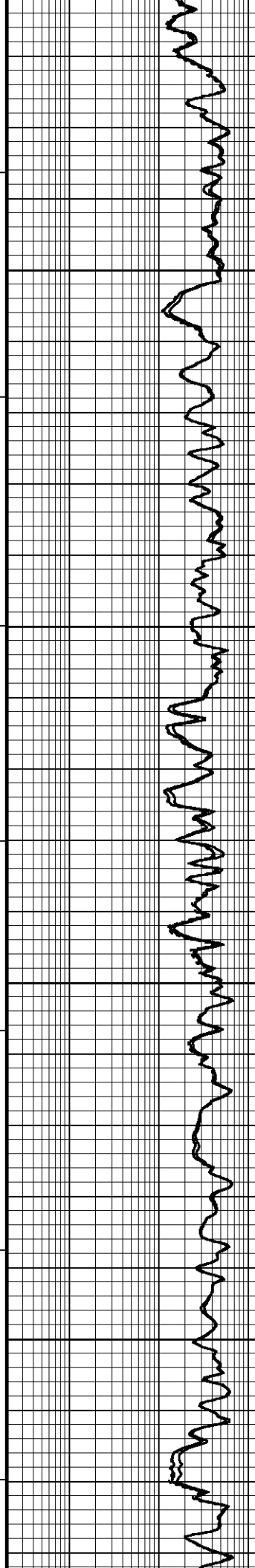
4700

146°

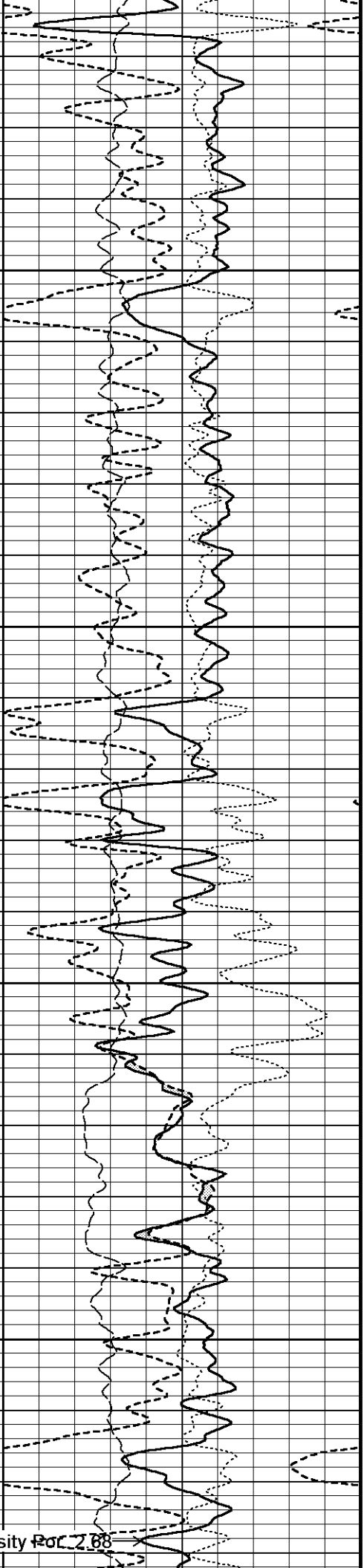
4750

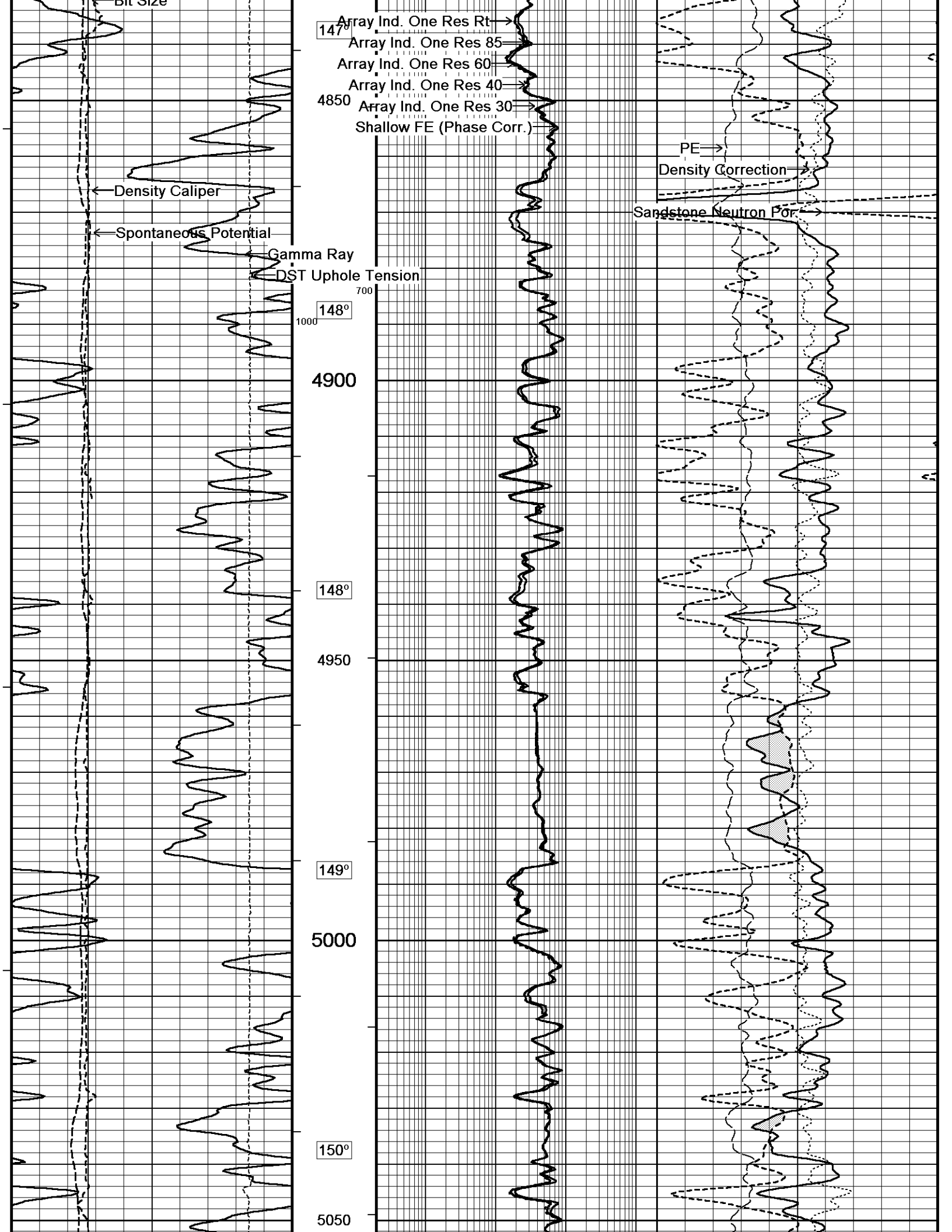
147°

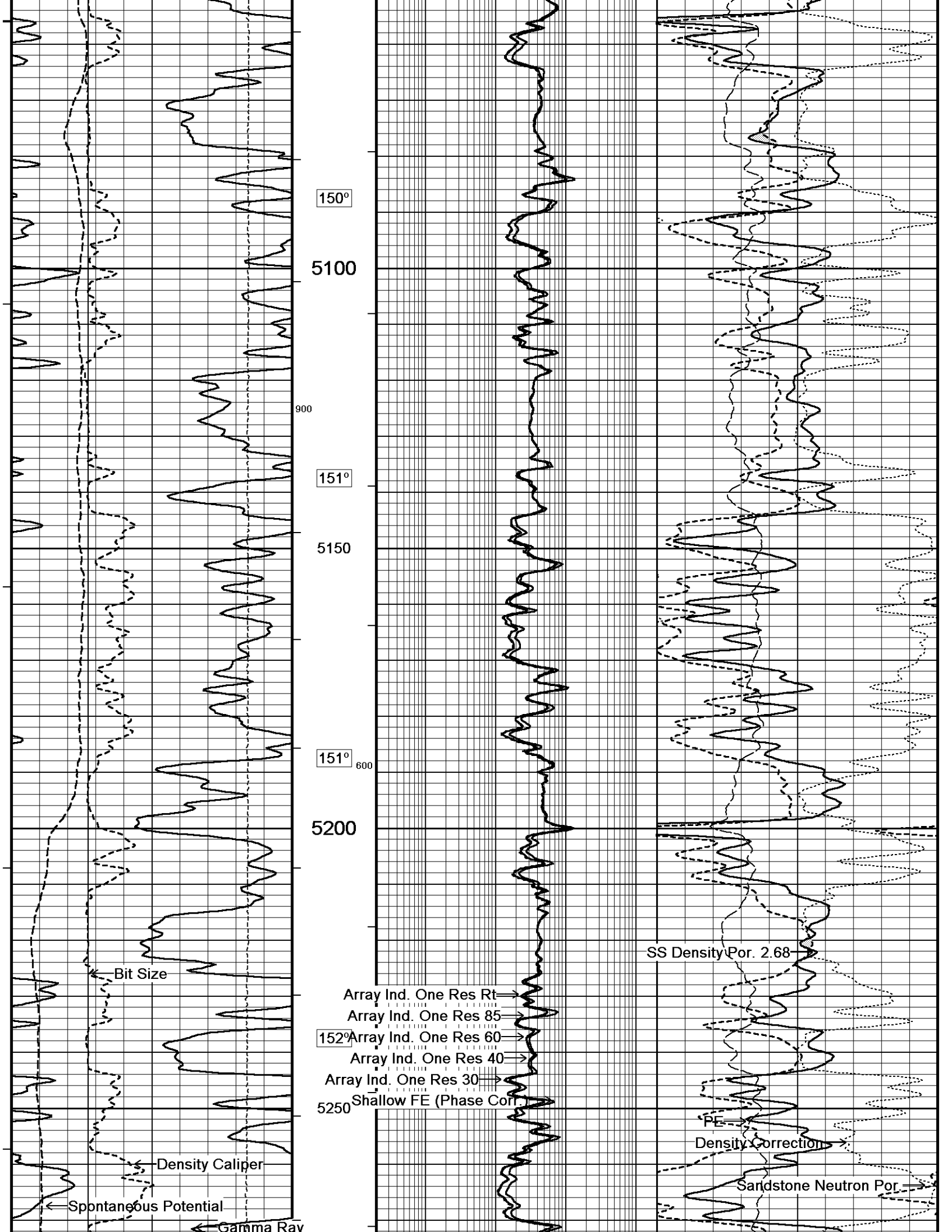
4800

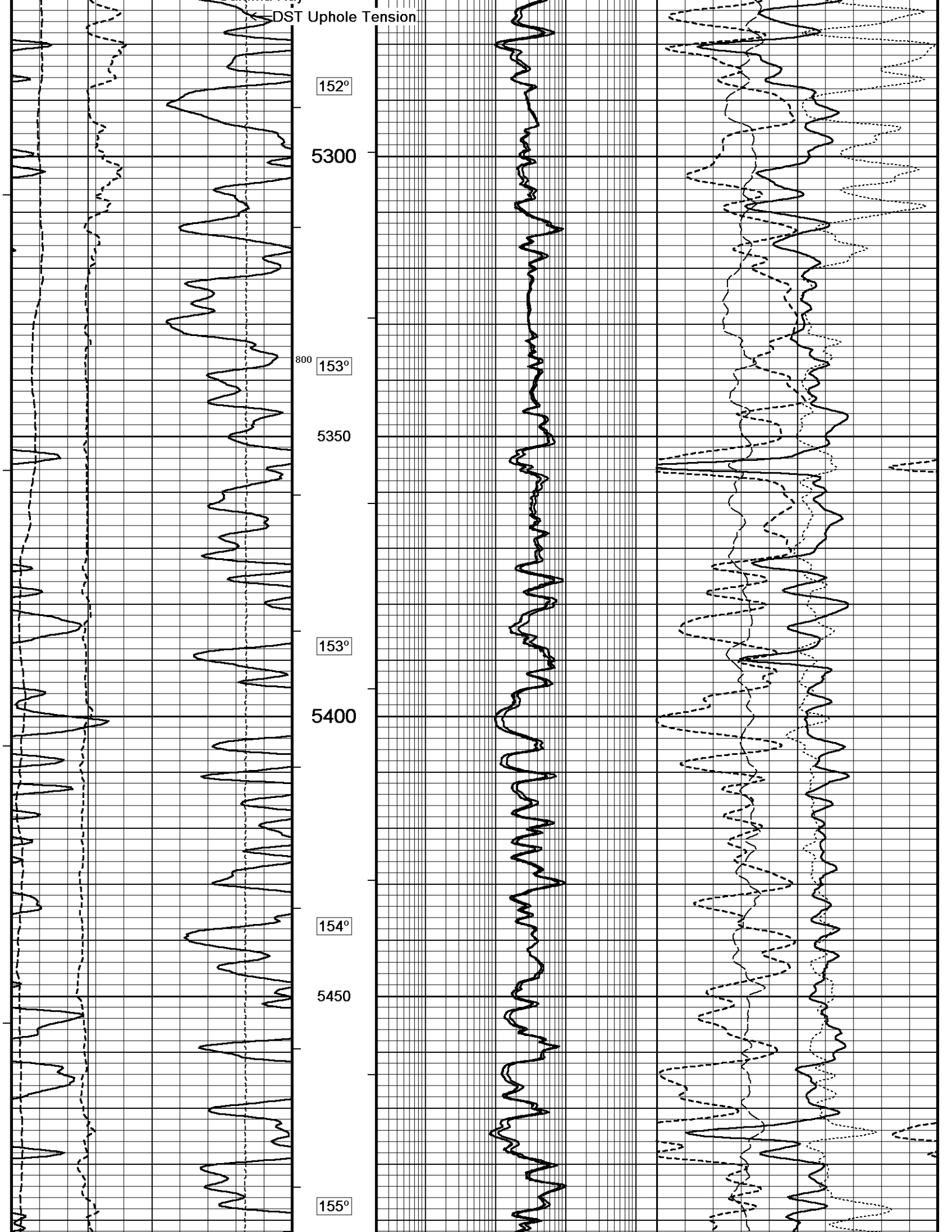


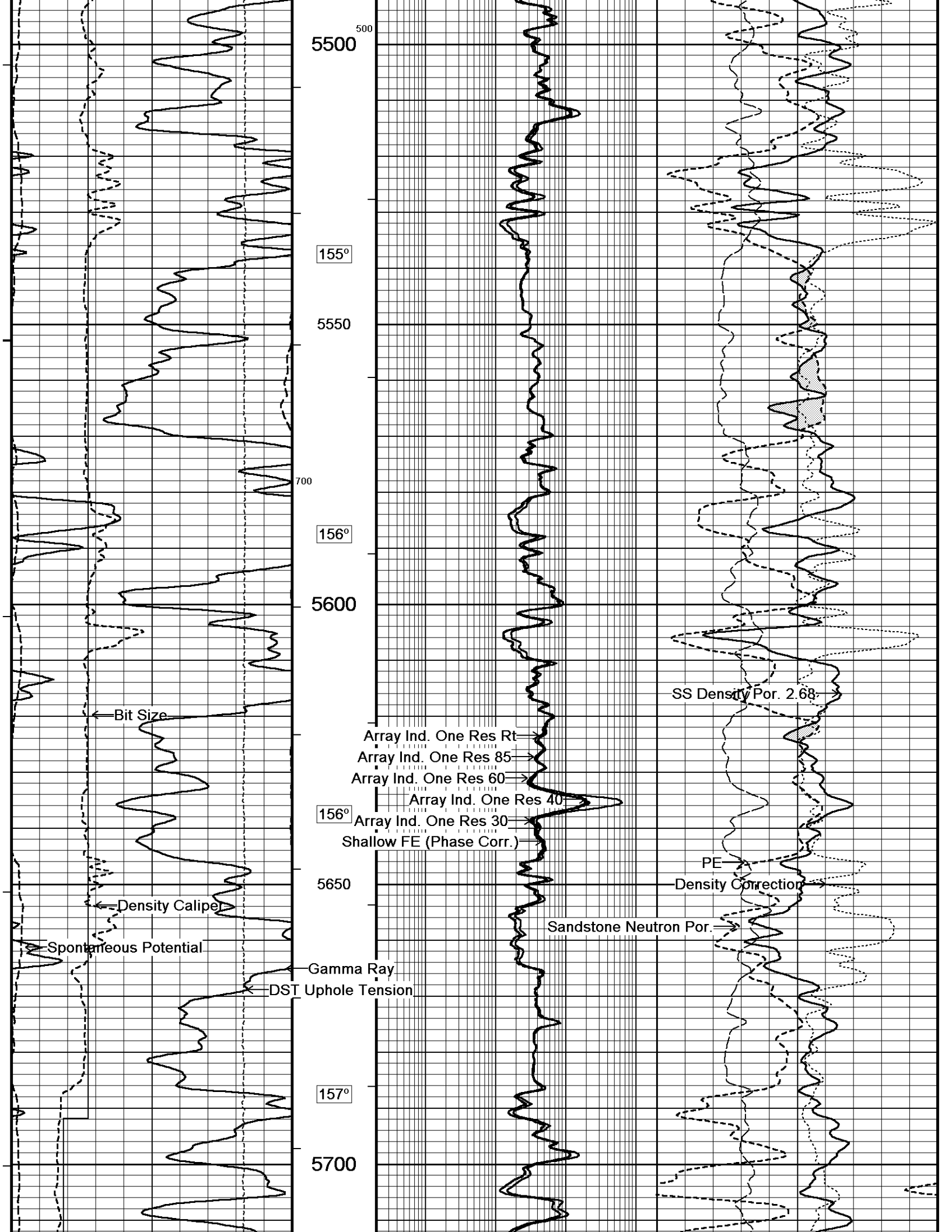
SS Density Por 2.88

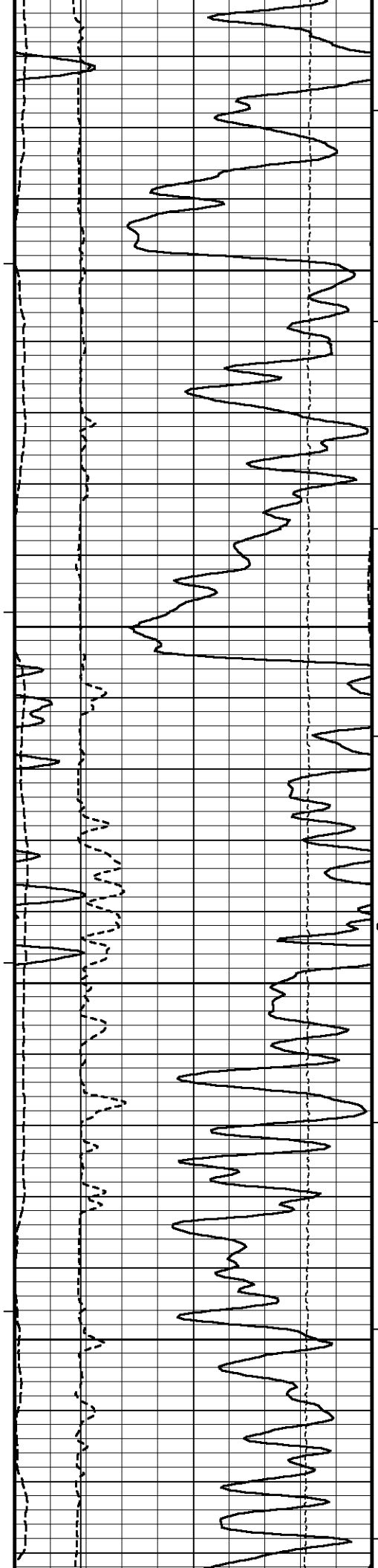












158°

5750

158°

5800

159°

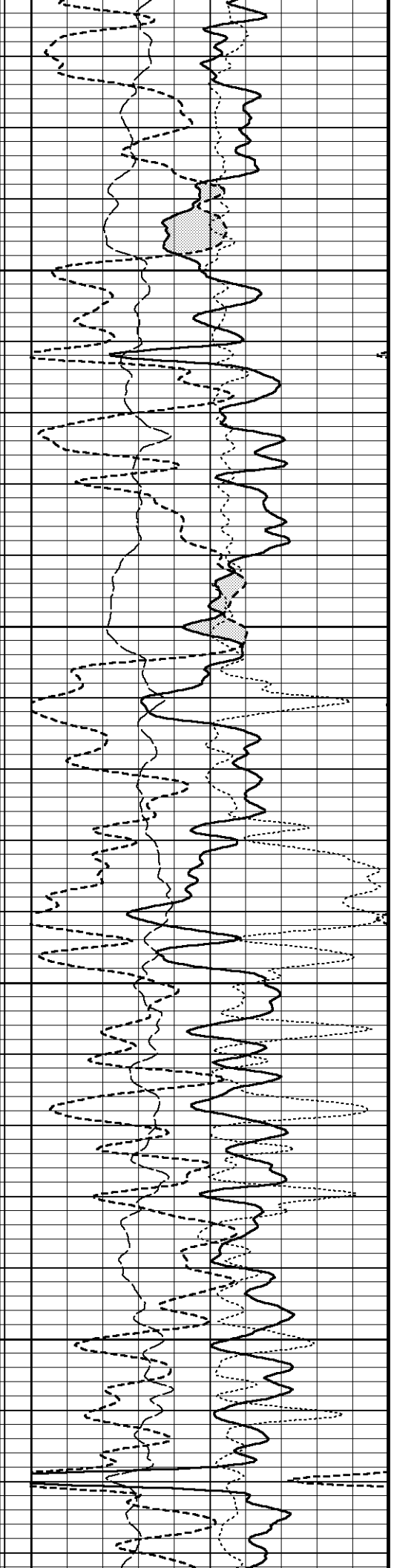
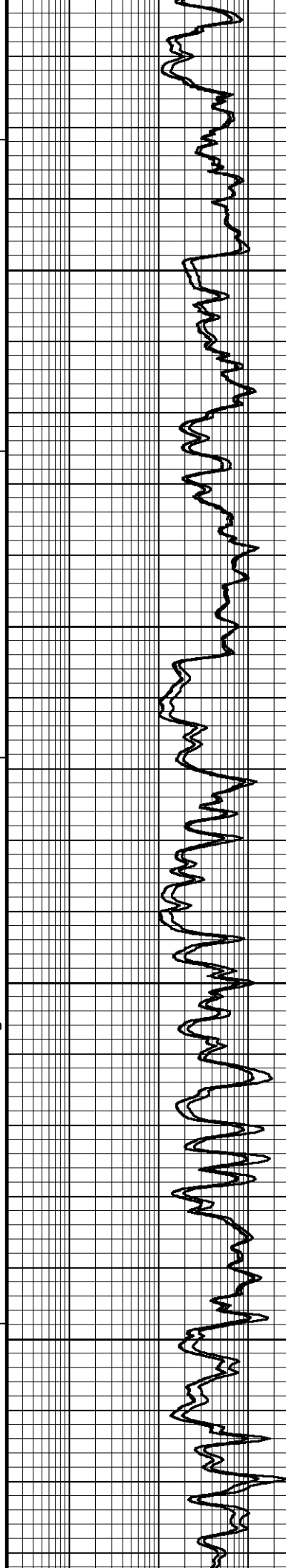
600

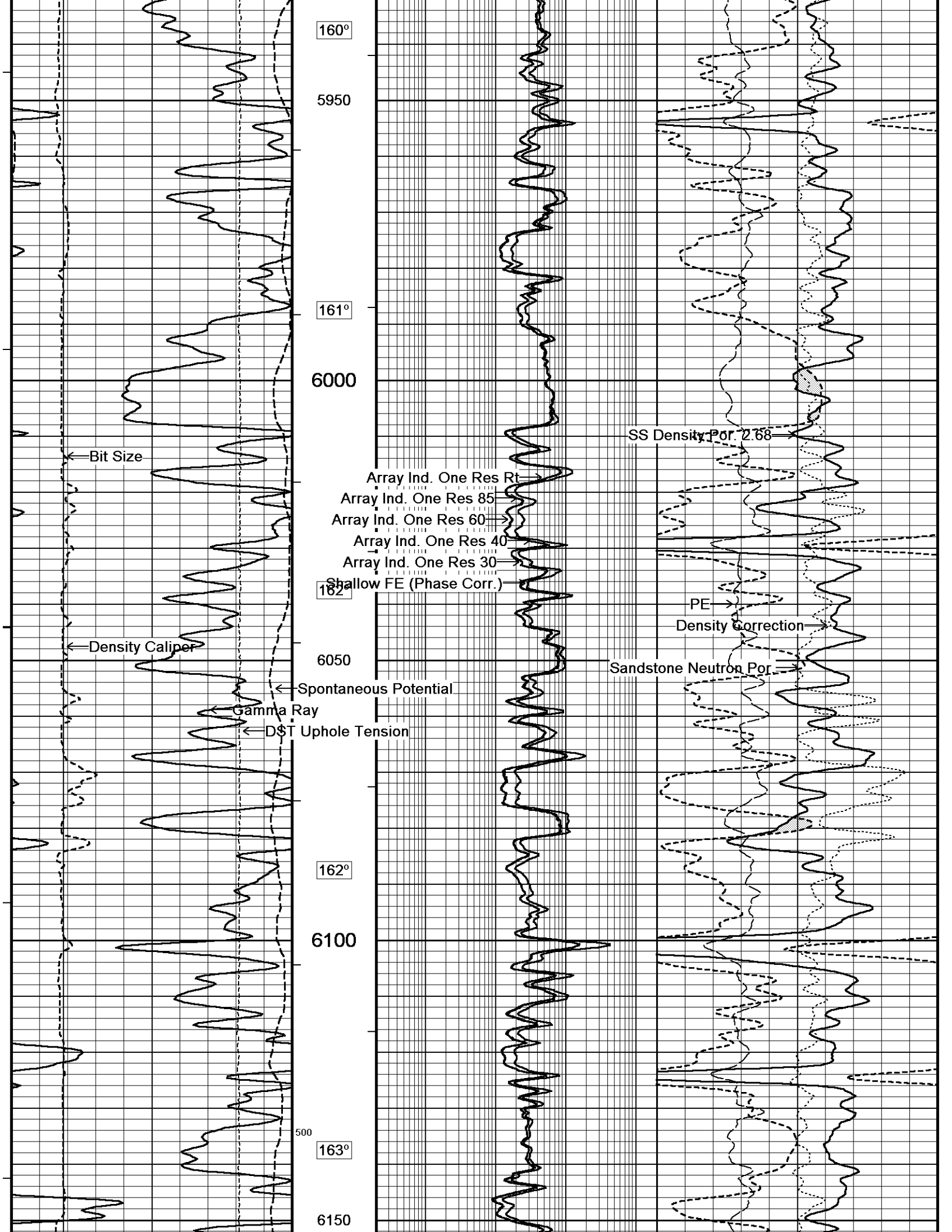
5850

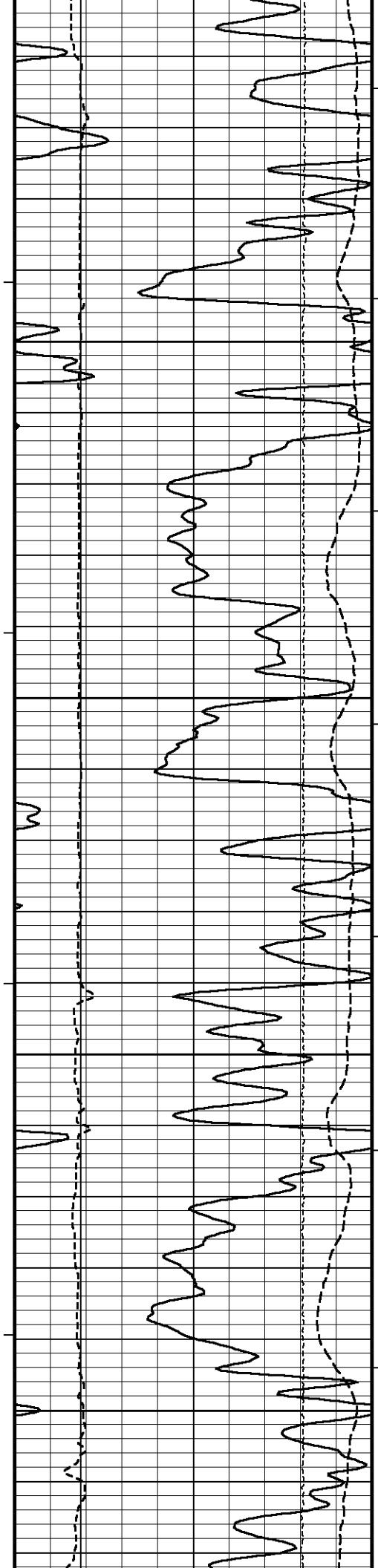
400

159°

5900







164°

6200

164°

6250

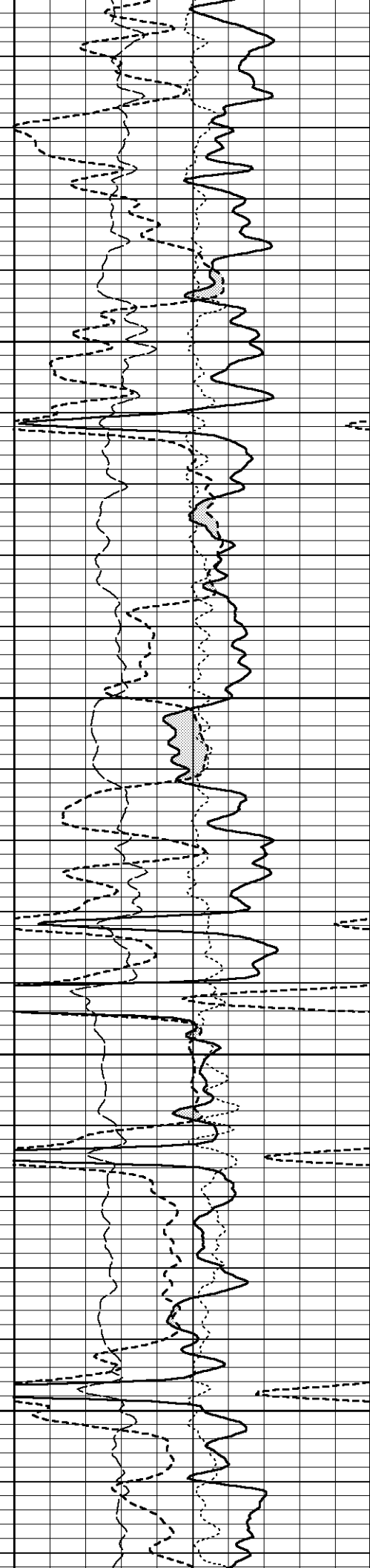
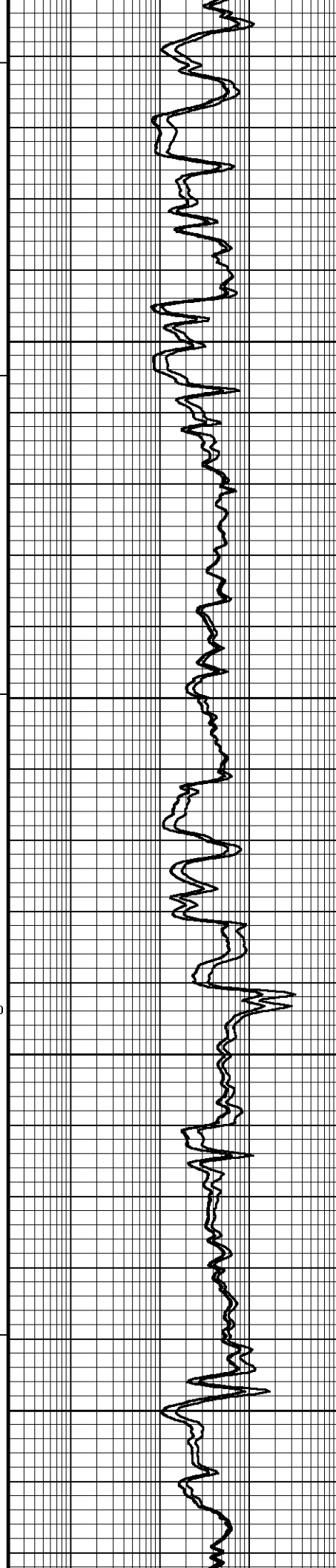
165°

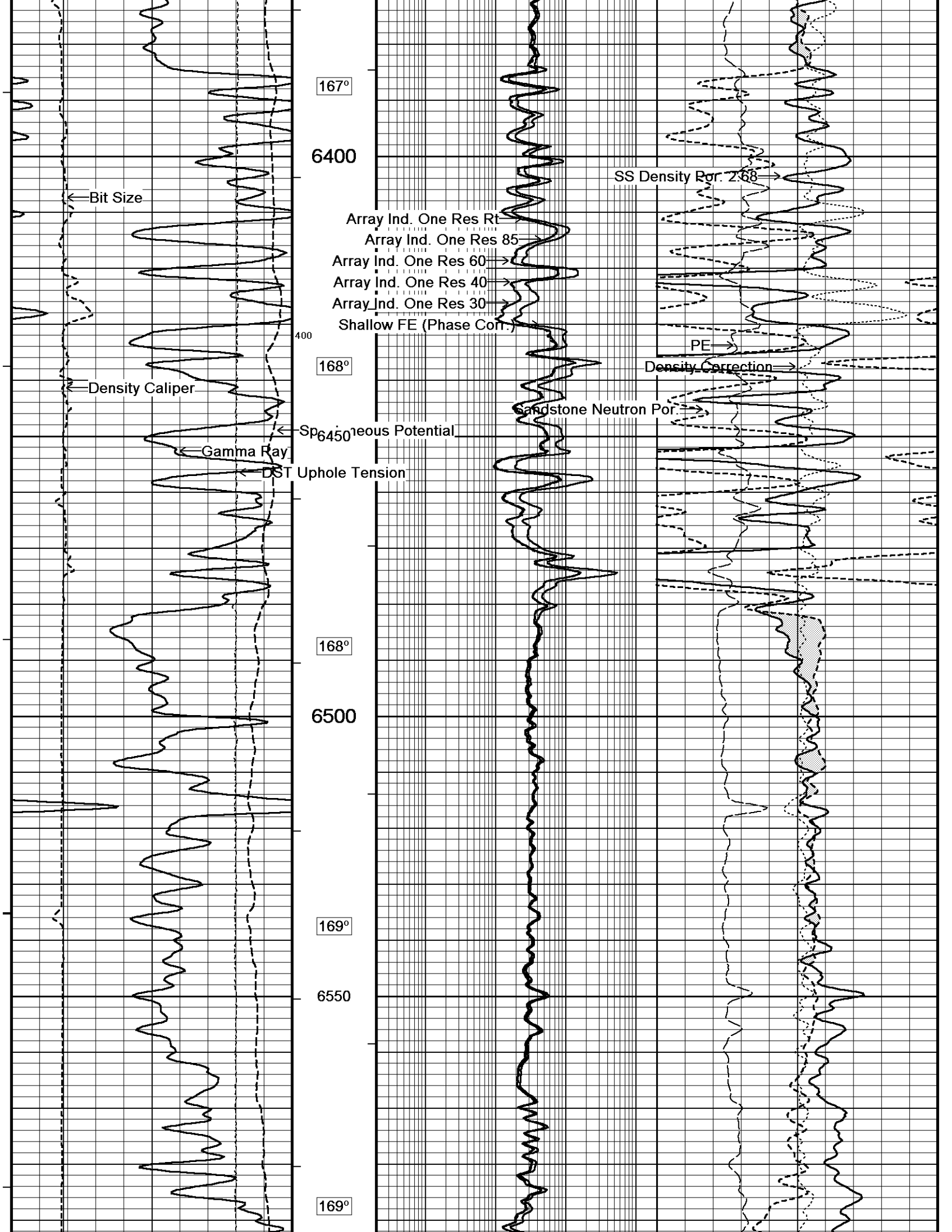
300

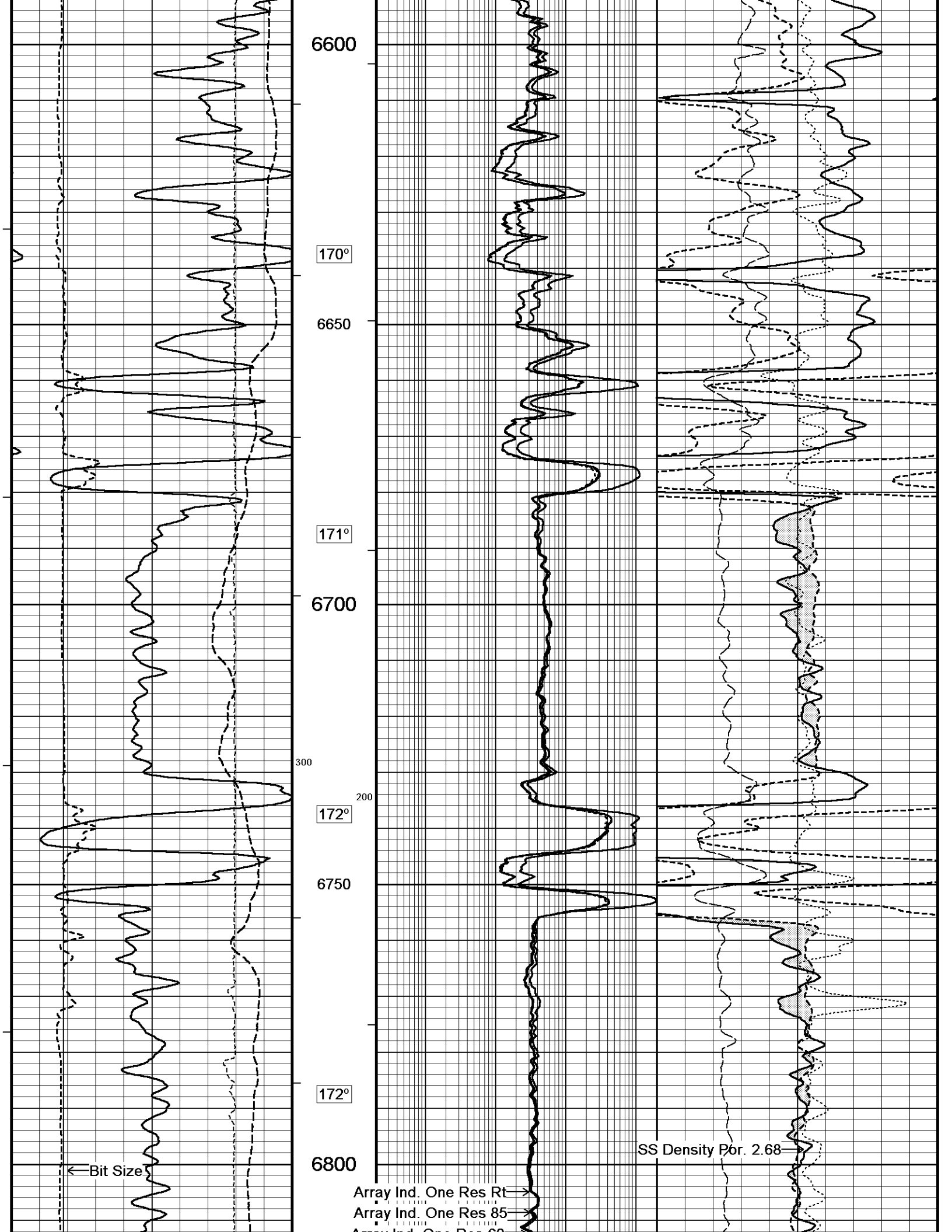
6300

166°

6350







Array Ind. One Res 60
Array Ind. One Res 40
Array Ind. One Res 30
Shallow FE (Phase Corr.)

PE
Density Correction

Sandstone Neutron Por.

Density Caliper

Spontaneous Potential

Gamma Ray

DST Up/6850 Tension

173°

174°

174°

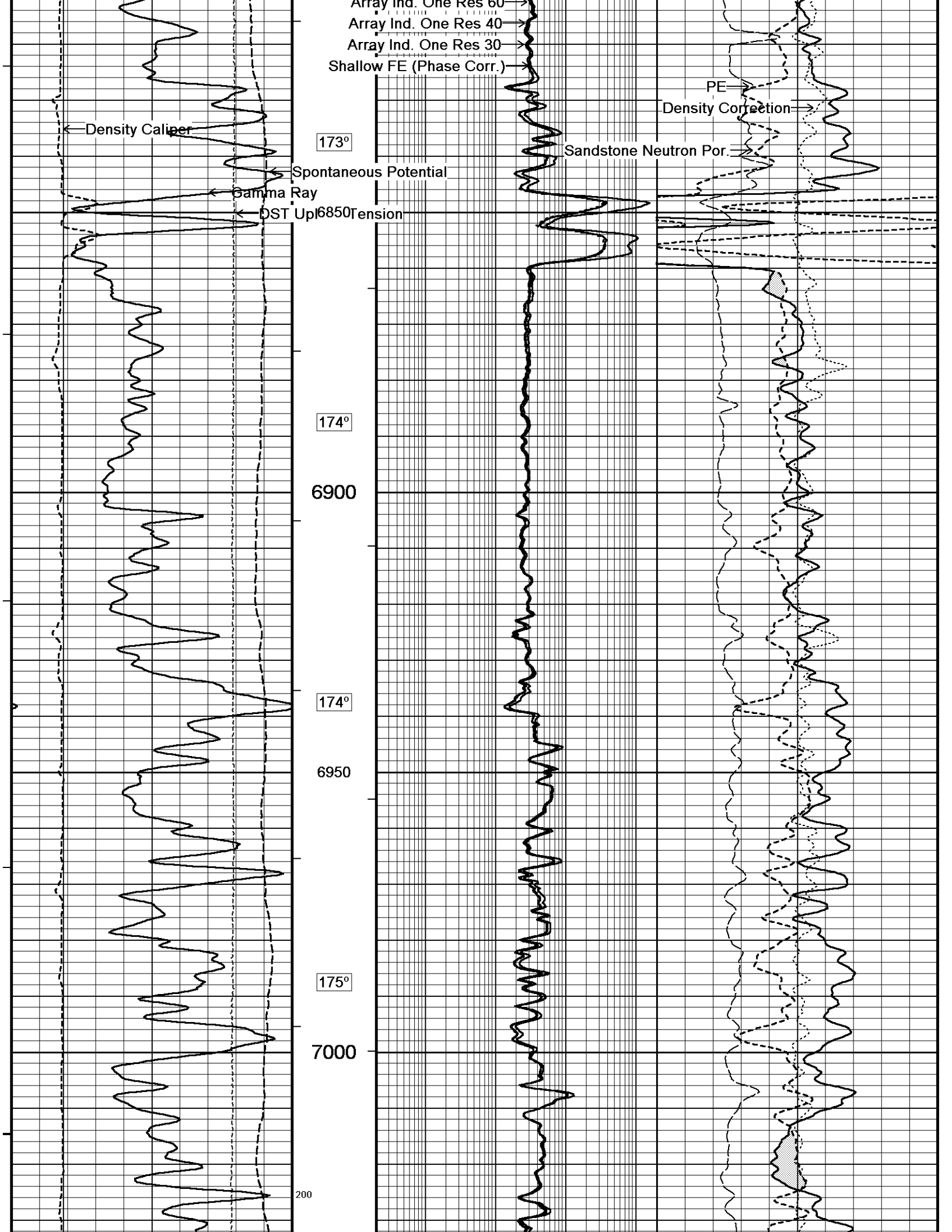
175°

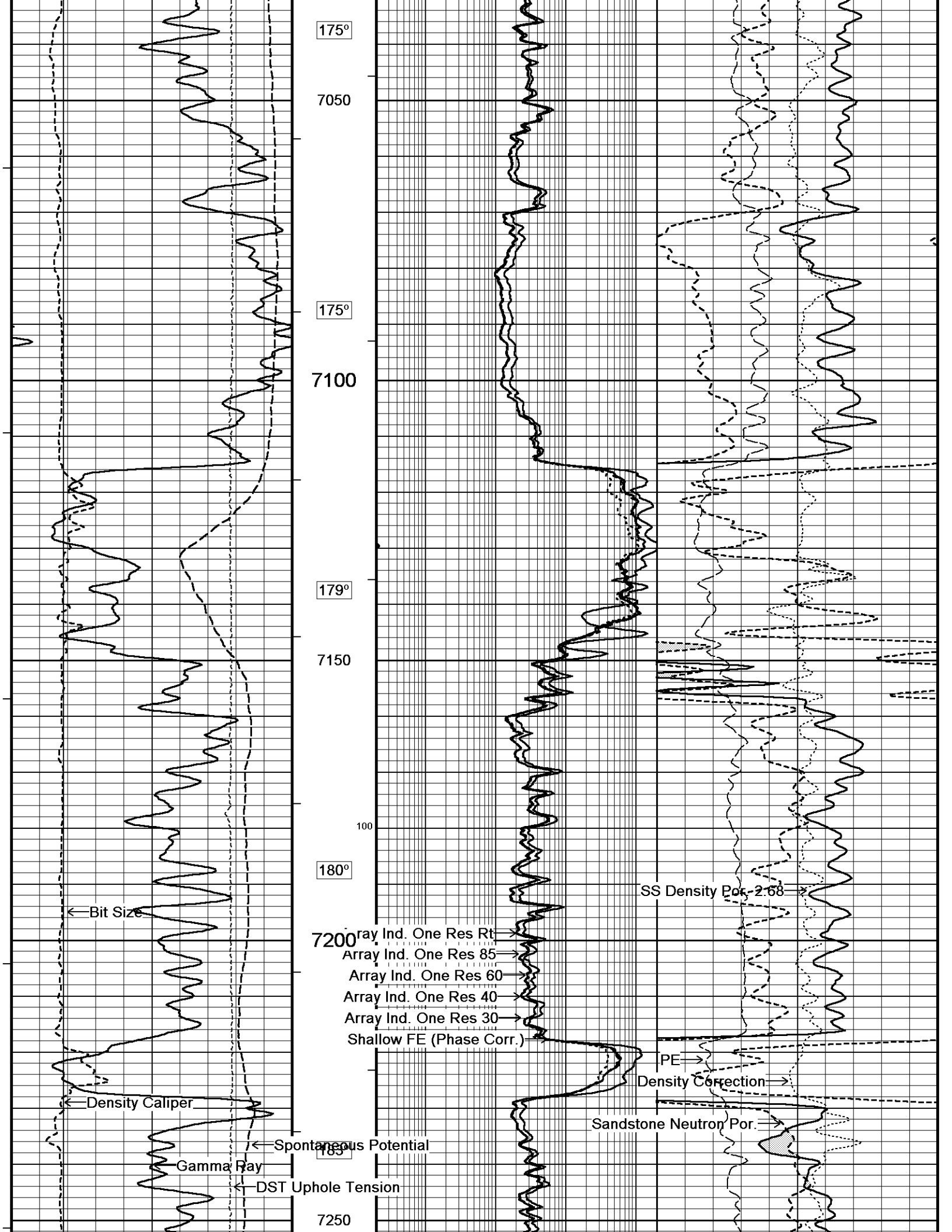
6900

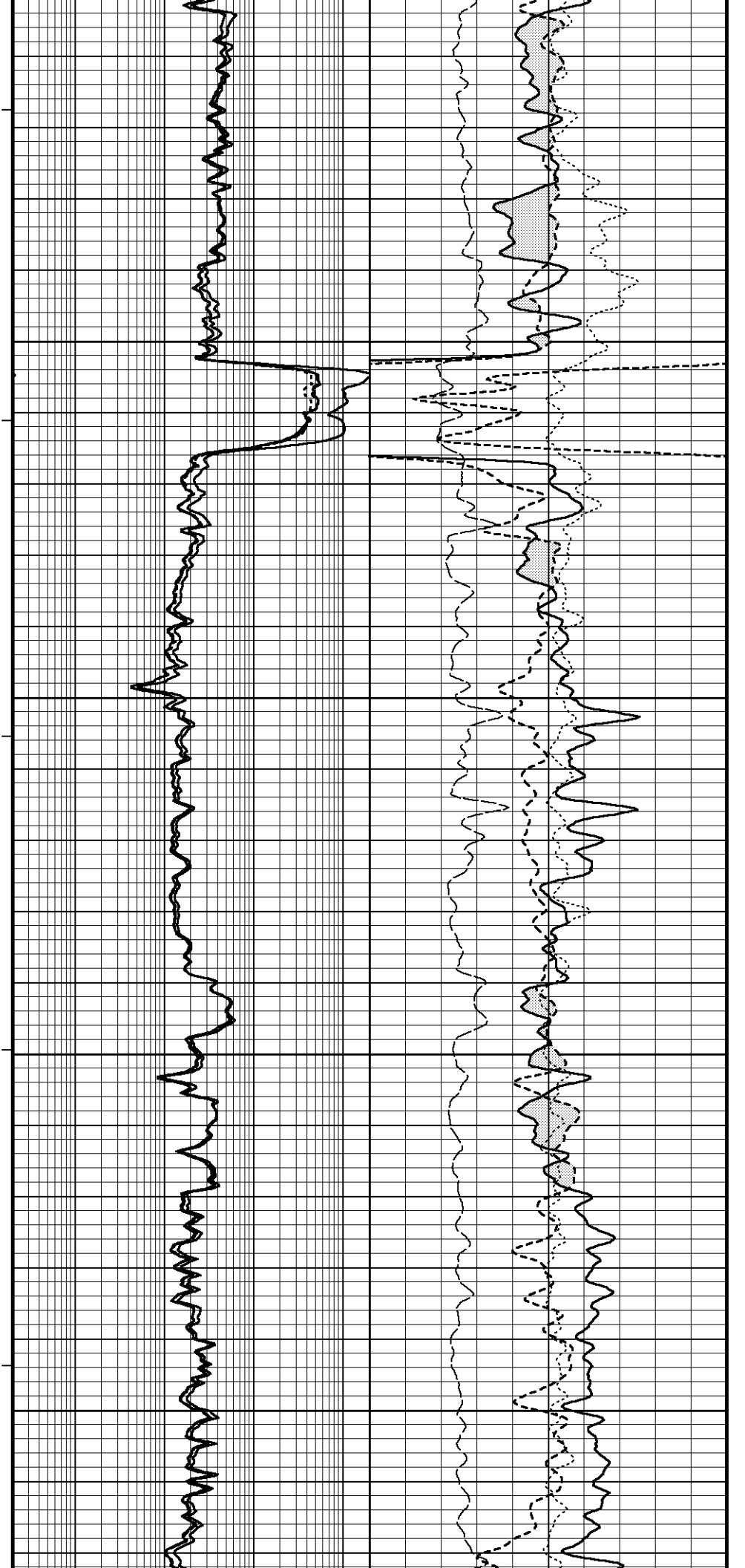
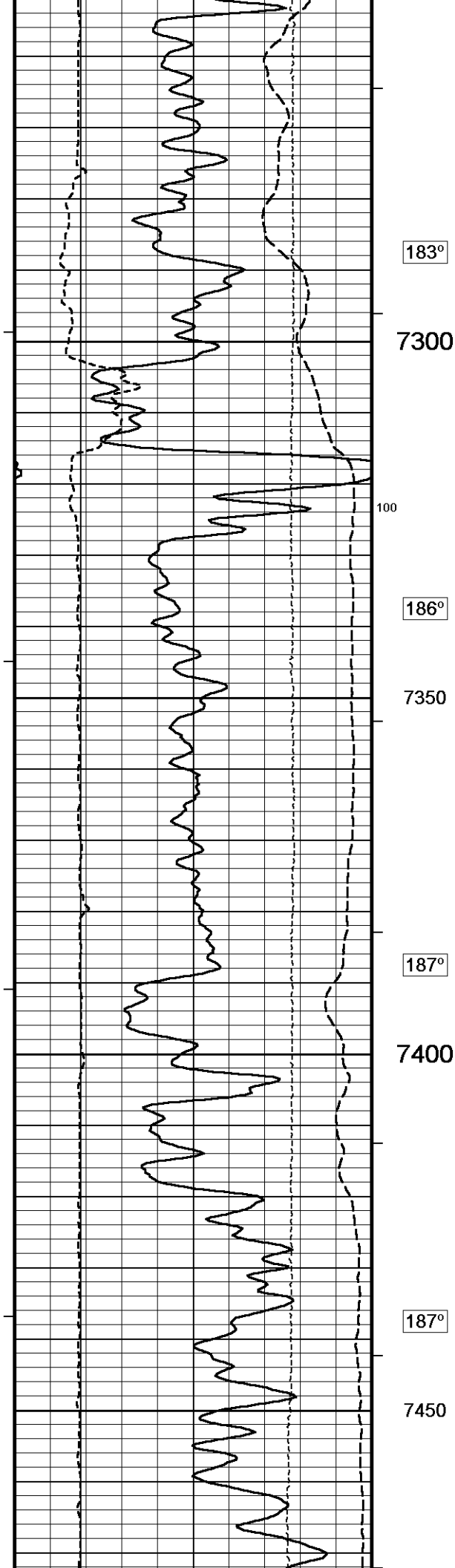
6950

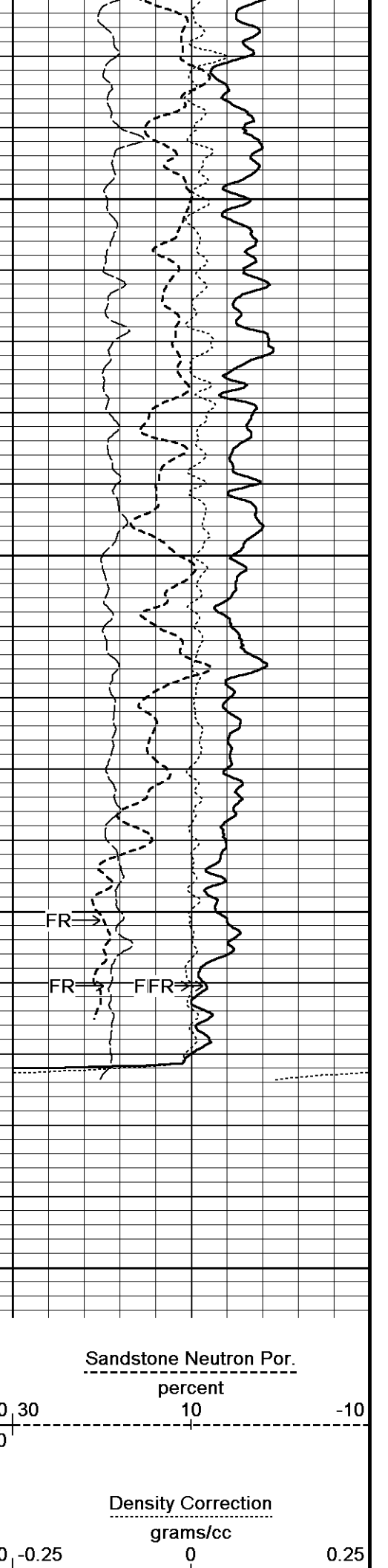
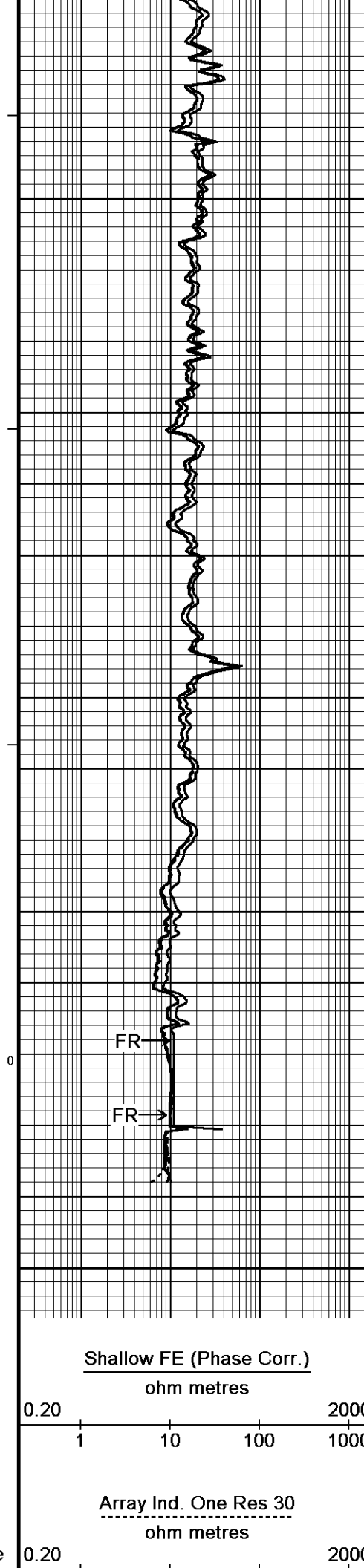
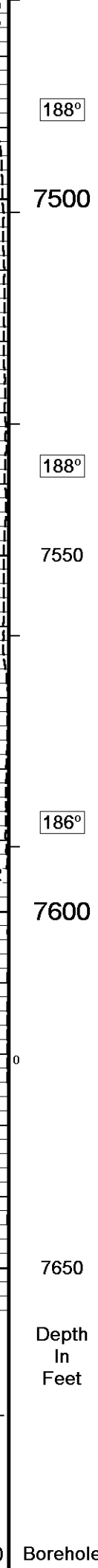
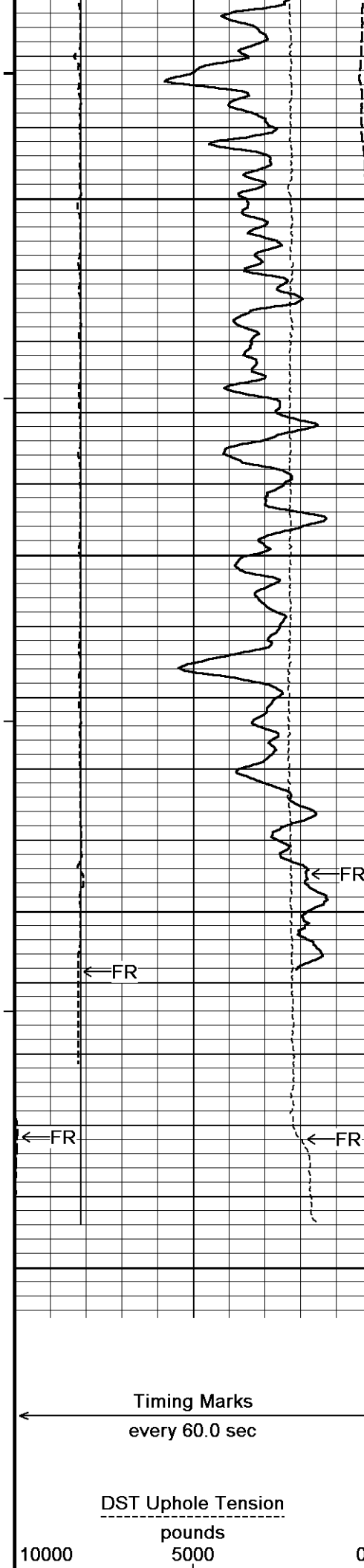
7000

200









188°

188°

186°

← FR

← FR

← FR

← FR

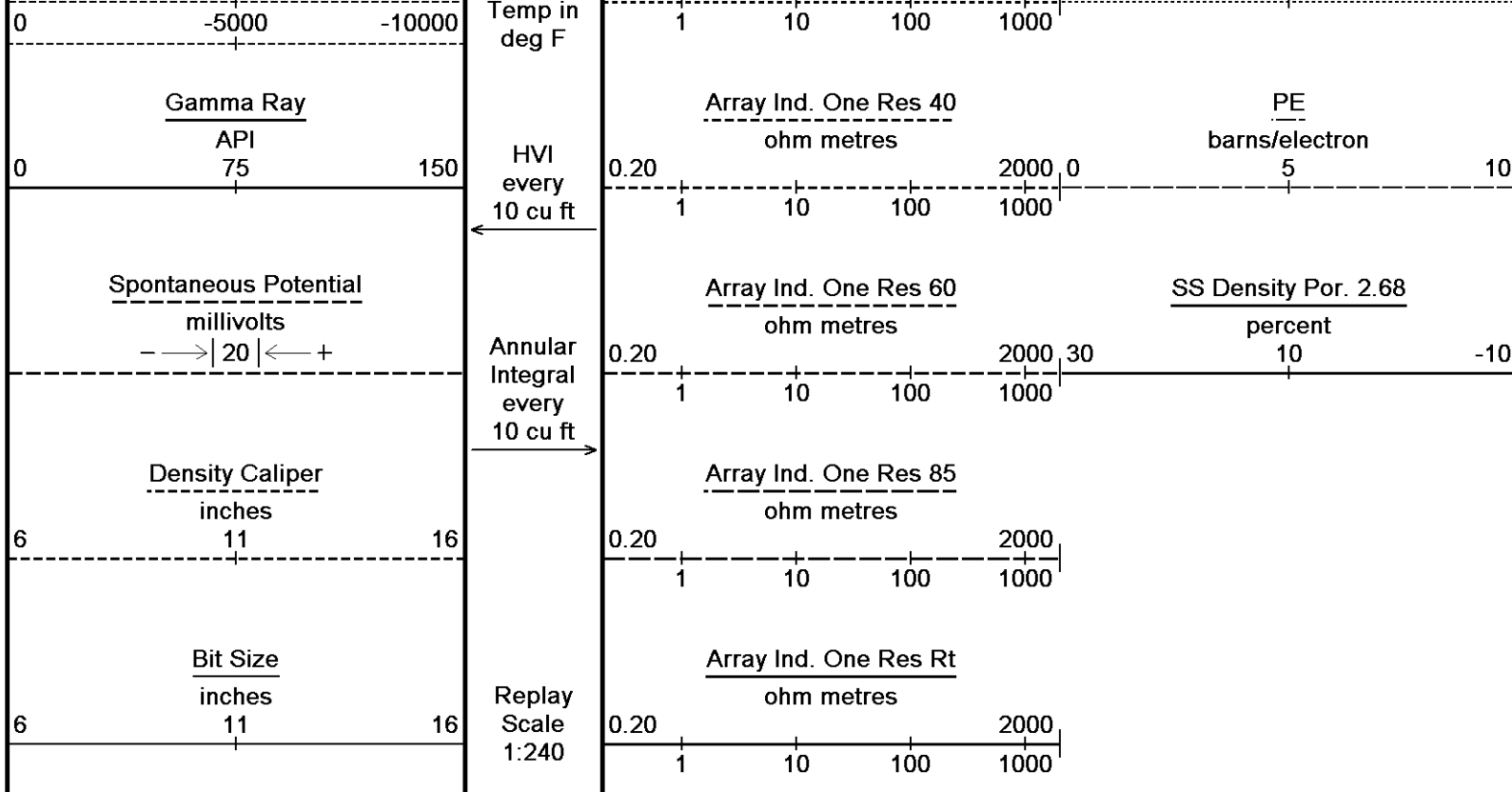
FR

FR

FR

FR

FFR



Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 11-AUG-2011 10:06

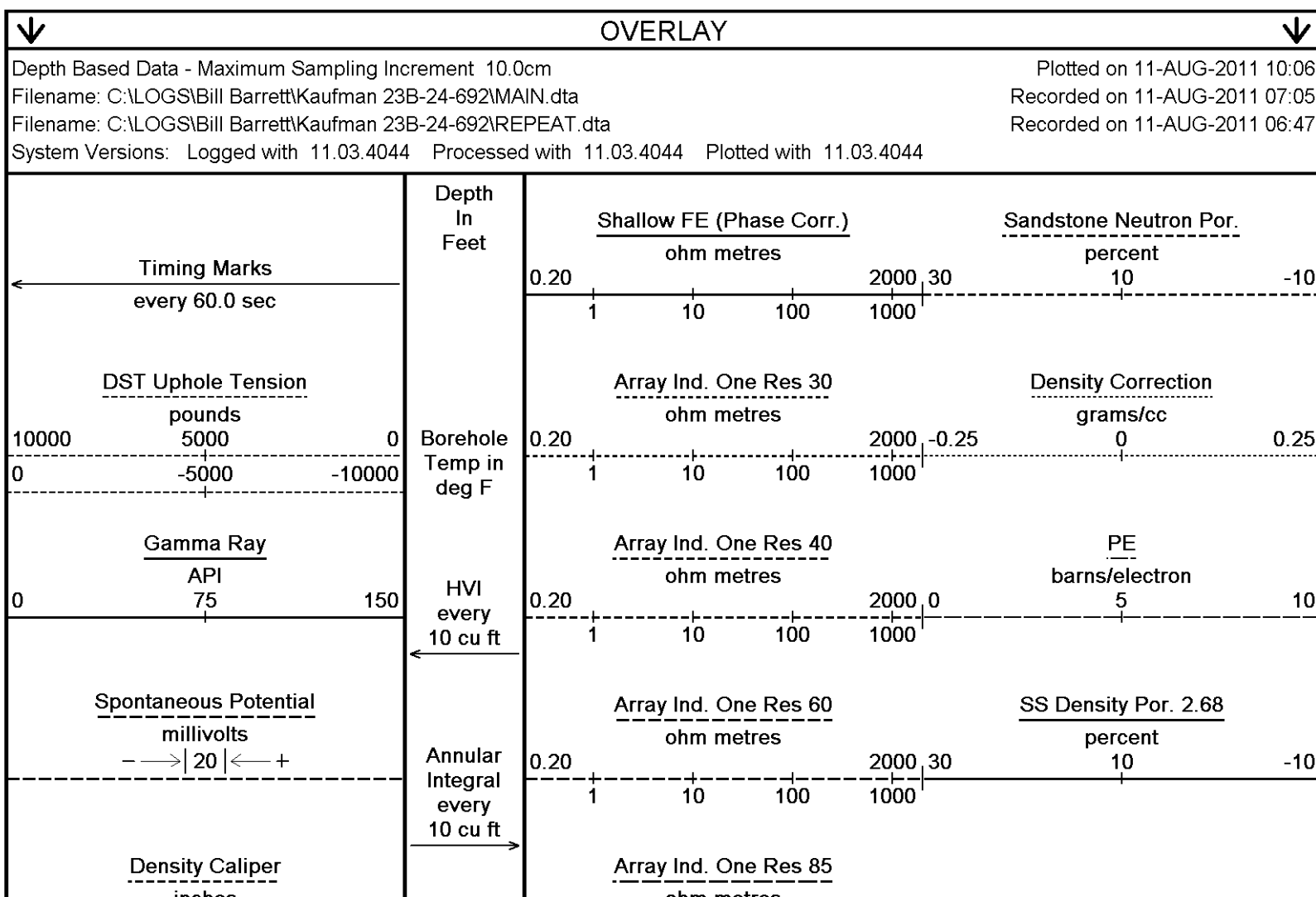
Filename: C:\LOGS\Bill Barrett\Kaufman 23B-24-692\MAIN.dta

Recorded on 11-AUG-2011 07:05

System Versions: Logged with 11.03.4044 Processed with 11.03.4044 Plotted with 11.03.4044



5 INCH MAIN LOG



6 11 16
inches

Bit Size
inches

6 11 16

Replay
Scale
1:240

0.20 1 10 100 2000
ohm metres

Array Ind. One Res Rt
ohm metres

0.20 1 10 100 2000

7450

188°

7500

188°

7550

186°

7600

0

FR

FR

FR

FR

FR

FR

FR

FR

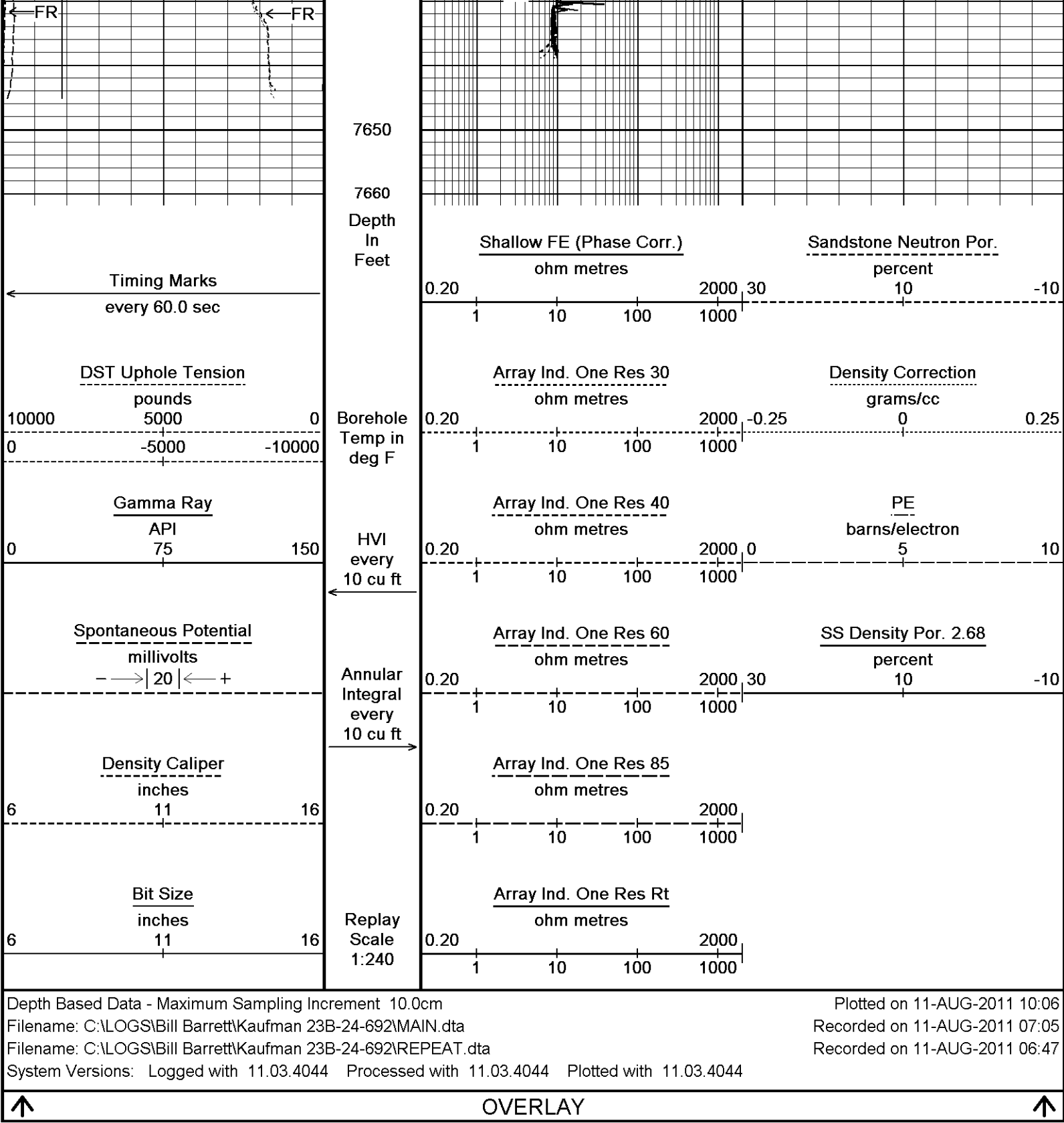
FR

FR

FR

FR

FR FFR



BEFORE SURVEY CALIBRATION		
C:\LOGS\Bill Barrett\Kaufman 23B-24-692\MAIN.dta		
General Constants All 000		Last Edited on 11-AUG-2011,06:07
General Parameters		
Mud Resistivity	2.720	ohm-metres
Mud Resistivity Temperature	75.000	degrees F
Water Level	0.000	feet
Density/Neutron Processing	Wet Hole	
Hole/Annular Volume and Differential Caliper Parameters		
LVOL Method Single Caliper		

HVOL Method	Single Caliper		
HVOL Caliper 1	Density Caliper		
HVOL Caliper 2	N/A		
Annular Volume Diameter	4.500	inches	
Caliper for Differential Caliper	None		
Rwa Parameters			
Porosity used	Base Density Porosity		
Resistivity used	Array Ind. Four Res Rt		
RWA Constant A	0.610		
RWA Constant M	2.150		
Down-hole Tension Calibration SMS 0			
Reading No	Measured	Calibrated (lbs)	Field Calibration on 11-AUG-2011 05:52
1	14622.07	0.00	
2	15264.80	320.00	
Gamma Calibration MCG-D.A 287			
	Measured	Calibrated (API)	Field Calibration on 11-AUG-2011 00:28
Background	109	73	
Calibrator (Gross)	1462	985	
Calibrator (Net)	1353	912	
Gamma Constants MCG-D.A 287			
			Last Edited on 11-AUG-2011,05:50
Gamma Calibrator Number	GRC-072		
Mud Density	1.24	gm/cc	
Caliper Source for Processing	Density Caliper		
Tool Position	Centred		
Concentration of KCl	0.00	kppm	
SP Calibration MCG-D.A 287			
	Measured	Calibrated (mV)	Field Calibration on 11-AUG-2011,00:28
Reference 1	100.9	100.0	
Reference 2	-100.2	-100.0	
High Resolution Temperature Calibration MCG-D.A 287			
	Measured	Calibrated(Deg F)	Field Calibration on 11-AUG-2011,00:29
Lower	10.00	10.00	
Upper	50.00	50.00	
High Resolution Temperature Constants MCG-D.A 287			
			Last Edited on 11-AUG-2011,00:29
Pre-filter Length	11		
Neutron Calibration MDN-A.B 160			
			Base Calibration on 08-AUG-2011 11:05
			Field Check on 11-AUG-2011 00:33
Base Calibration			
	Measured	Calibrated (cps)	
	Near Far	Near Far	
	3338 103	3714 110	
Ratio	32.272	33.764	
Field Calibrator at Base		Calibrated (cps)	
		1274 1900	
Ratio		0.671	
Field Check		Calibrated (cps)	
		1292 1856	
Ratio		0.696	
Neutron Constants MDN-A.B 160			
			Last Edited on 11-AUG-2011,00:29
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 08-AUG-2011 15:44
Field Check on 11-AUG-2011 05:54

Base Calibration		
	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	968.0	126.8
Base Check		280.7
Field Check		280.7

FE Constants MFE-A.A 85

Last Edited on 10-AUG-2011,01:42

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

Induction Calibration MAI-B.A 213

Base Calibration on 08-AUG-2011,13:34
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	0.0	0.0	0.0	0.0	
2	0.0	0.0	0.0	0.0	
3	0.0	0.0	0.0	0.0	
4	0.0	0.0	0.0	0.0	
Deep	0.0	0.0	0.0	0.0	
Medium	0.0	0.0	0.0	0.0	
Shallow	0.0	0.0	0.0	0.0	
Array Temperature		0.0		0.0	Deg F

Induction Constants MAI-B.A 213

Last Edited on 11-AUG-2011,00:34

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	

High Resolution Temperature Calibration MAI-B.A 213

Field Calibration on 10-AUG-2011,01:07

	Measured	Calibrated(Deg F)
Lower	10.00	10.00
Upper	50.00	50.00

High Resolution Temperature Constants MAI-B.A 213

Last Edited on

Pre-filter Length	11
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Caliper Calibration MPD-B 167

Base Calibration on 08-AUG-2011 15:36

Field Calibration on 10-AUG-2011 02:14

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	17456	4.00
2	26039	5.96
3	33797	7.98
4	41984	9.86
5	50976	11.88
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
8.91	8.92

Photo Density Calibration MPD-B 167

Base Calibration on 08-AUG-2011 15:24

Field Check on 11-AUG-2011 05:58

Density Calibration

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	50352	17857	53237	19445
Reference 2	23760	3000	25135	2545

Field Check at Base

1236.1	1728.2
--------	--------

Field Check

1241.2	1725.2
--------	--------

PE Calibration

Base Calibration	Measured		Calibrated
	WS	WH	Ratio
Background	226	1112	
Reference 1	16945	50175	0.341
Reference 2	6638	23623	0.285

Field Check at Base

225.6	1111.9
-------	--------

Field Check

225.3

1115.2

Density Constants MPD-B 167

Last Edited on 11-AUG-2011,05:50

Density Source Id	P50561B	
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	1.24	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

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FE Check MFE-A.A 85

Before Survey Check 11-AUG-2011 05:54
 After Survey Check on 11-AUG-2011 09:42

Before (ohm-m)	After (ohm-m)
280.7	280.6

Induction Check MAI-B.A 213

Before Survey Check on
 After Survey Check on 11-AUG-2011 09:41

Channel	Before Survey (mmho/m)		After Survey (mmho/m)	
	Low	High	Low	High
1	0.0	0.0	15.7	3937.1
2	0.0	0.0	30.6	3539.9
3	0.0	0.0	29.0	3113.9
4	0.0	0.0	19.1	2096.3
Deep	0.0	0.0	17.6	2077.9
Medium	0.0	0.0	42.6	4087.8
Shallow	0.0	0.0	46.0	5159.7
Array Temperature		0.0		94.5

Photo Density Check MPD-B 167

Before Survey Check on 11-AUG-2011 05:58
 After Survey Check on 11-AUG-2011 09:46

Density Check

	Near		Far	
	Before	After	Before	After
	1241.2	1239.2	1725.2	1727.3

PE Check

	Before	After
WS	225.3	225.0
WH	1115.2	1111.6

DOWNHOLE EQUIPMENT

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3.5 Triple Cone Cable Head (MCG 07)
MCB-C.A 5 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-D.A 287 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

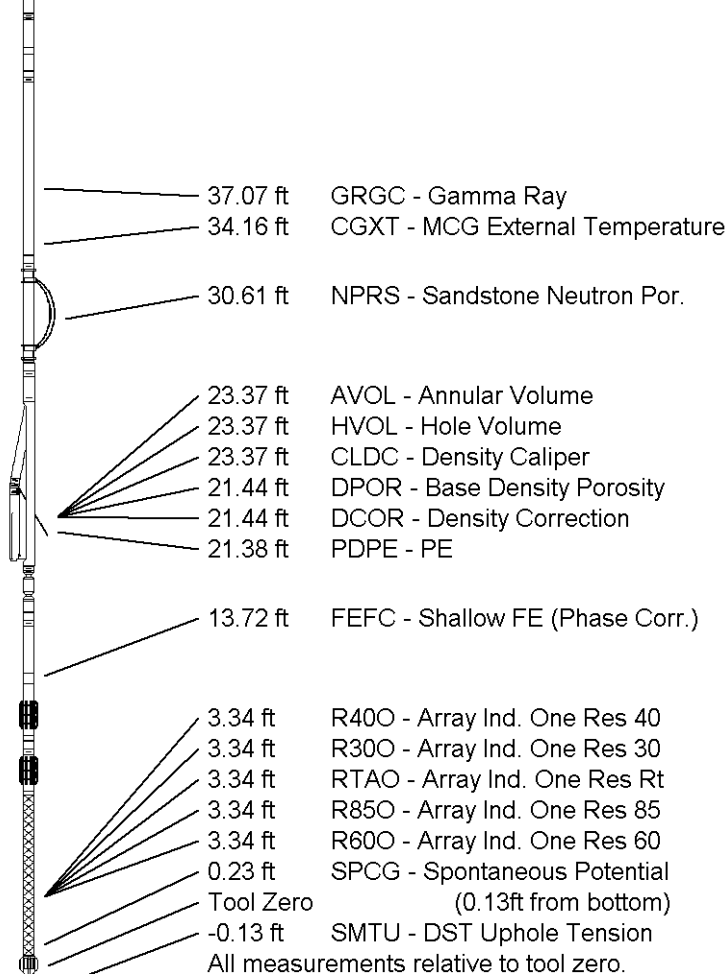
Compact Density/Caliper
MPD-B 167 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

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

Compact Focussed Electric
MFE-A.A 85 LG: 6.05 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: 46.67 ft Weight: 368.2 lb



COMPANY	BILL BARRETT CORPORATION
WELL	KAUFMAN 23B-24-692
FIELD	MAMM CREEK
PROVINCE/COUNTY	GARFIELD
COUNTRY/STATE	U.S.A. / COLORADO

Elevation Kelly Bushing	5866.00	feet	First Reading	7629.00	
Elevation Drill Floor	5866.00	feet	Depth Driller	7633.00	feet
Elevation Ground Level	5843.00	feet	Depth Logger	7632.00	feet



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