



Weatherford

**COMPACT TRIPLE COMBO
QUICKLOOK
LOG**

COMPANY

BILL BARRETT CORPORATION

WELL

GGU FEDERAL 42C-29-691

FIELD

GIBSON GULCH

PROVINCE/COUNTY

GARFIELD

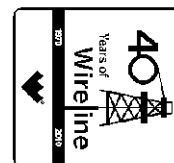
COUNTRY/STATE

U.S.A. / COLORADO

LOCATION

SHL: 1234' FNL & 1312' FEL

BHL: 1800' FNL & 664' FEL



SEC

TWP

RGE

Other Services

29

6S

91W

API Number

05-045-19800

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:

feet

KB

DF

GL

6127.00
6126.00
6104.00

Date 31-JAN-2011

Run Number ONE

Depth Driller 7435.00 feet

Depth Logger 7433.00 feet

First Reading 7429.00

Last Reading 844.00

Casing Driller 844.00 feet

Casing Logger 848.00 feet

Bit Size 7.880 inches

Hole Fluid Type LSND

Density / Viscosity 10.60 lb/USg 60.00 CP

PH / Fluid Loss 9.30 6.80 ml/30Min

Sample Source FLOW LINE

Rm @ Measured Temp 4.60 @ 71.0 ohm-m

Rmf @ Measured Temp 3.68 @ 71.0 ohm-m

Rmc @ Measured Temp 5.52 @ 71.0 ohm-m

Source Rmf / Rmc CALC CALC

Rm @ BHT 1.81 @184.0 ohm-m

Time Since Circulation 5 HOURS

Max Recorded Temp 184.00 deg F

Equipment Name COMPACT

Equipment / Base 13173 GD JCT

Recorded By SLACKEY

Witnessed By C. CROW

BOREHOLE RECORD

Last Edited: 31-JAN-2011 20:43

Bit Size
inches

Depth From
feet

Depth To
feet

8.750

844.00

3900.00

7.880

3900.00

7435.00

CASING RECORD

Type

Size
inches

Depth From
feet

Shoe Depth
feet

Weight
pounds/ft

SURFACE

9.625

0.00

844.00

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.

DENSITY POROSITY IS READING HIGH, NEUTRON POROSITY AND DCOR ARE READING LOW DUE TO 5 TO 8% LCM USED IN THE MUD SYSTEM.

UNDERGALIGED SECTION FROM 2800 FT TO 3220 FT REPEATED TO VERIFY LOG QUALITY

SEVERAL ATEMPTS TO REDUCE NOISE ON SP WERE UNSUCCESSFUL

CALIPER CHECK IN CASING PRESENTED, REFERENCE I.D. = 8.94" (9 5/8", 36 LB/FT CASING)

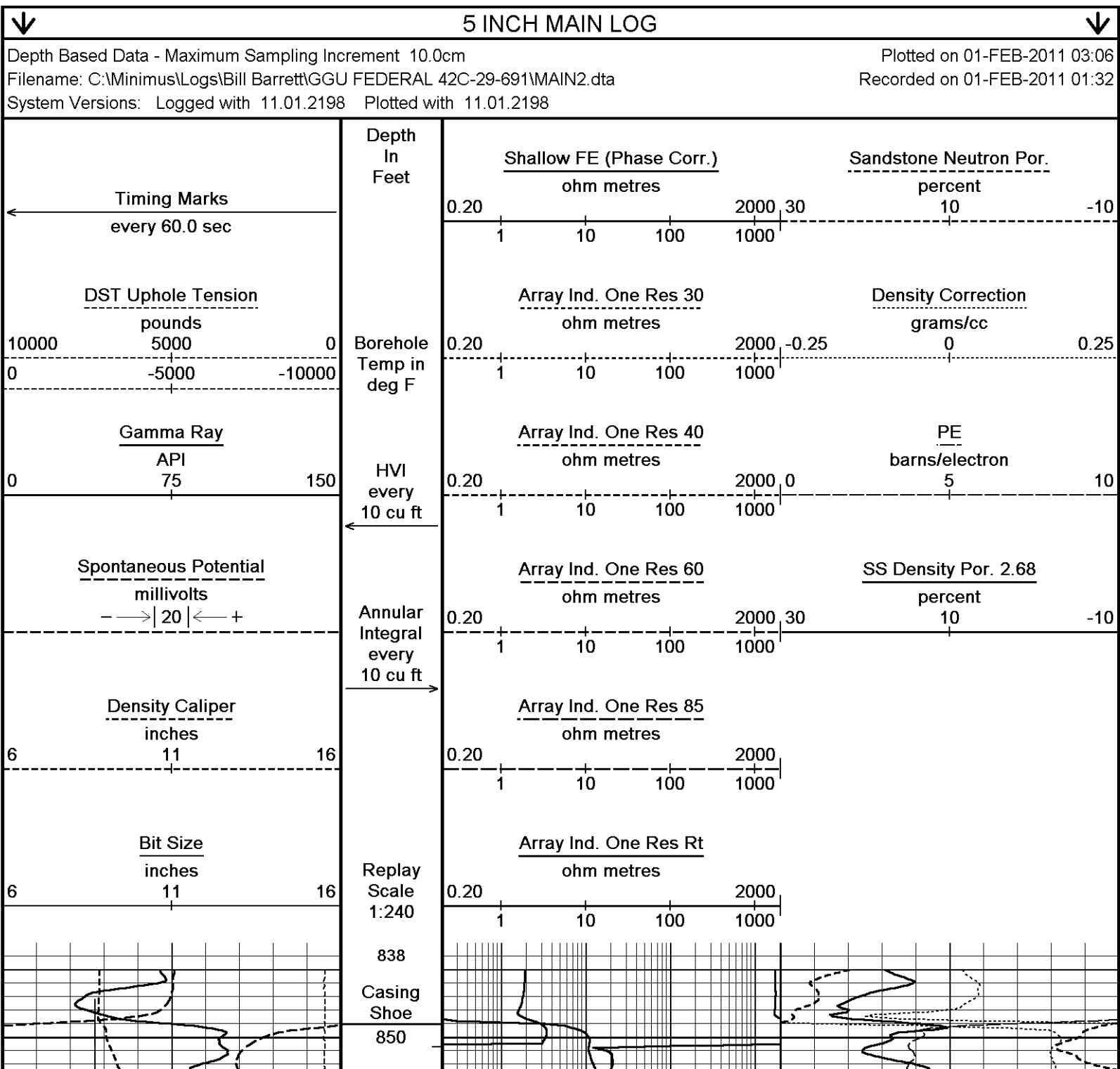
TOTAL HOLE VOLUME FROM TD TO SURFACE CASING = 2540 CU.FT.

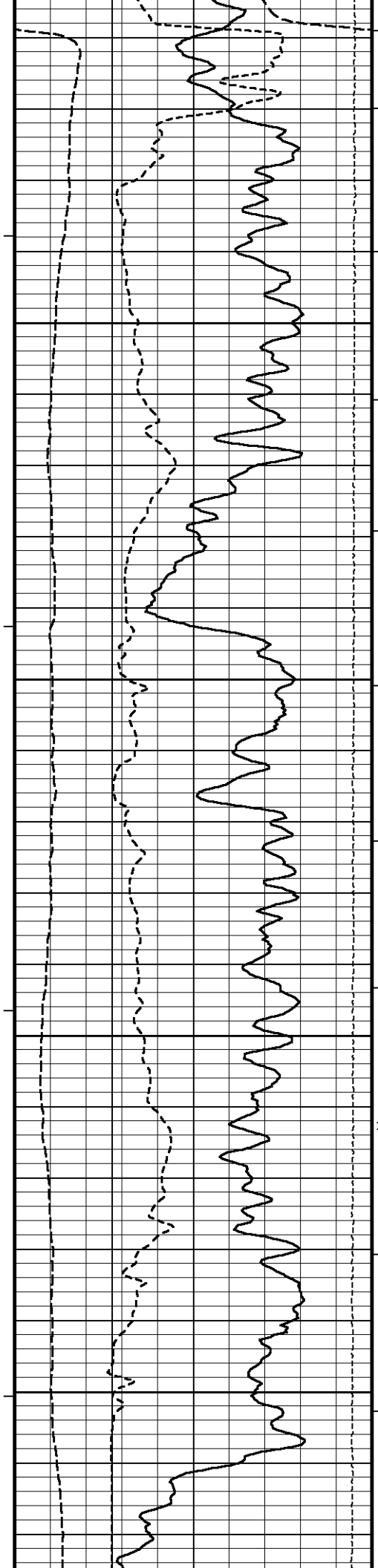
ANNULAR VOLUME WITH 4.5 INCH PRODUCTION CASING = 1760 CU.FT.

SERVICE ORDER: # 3524978

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.





96°

900

97°

950

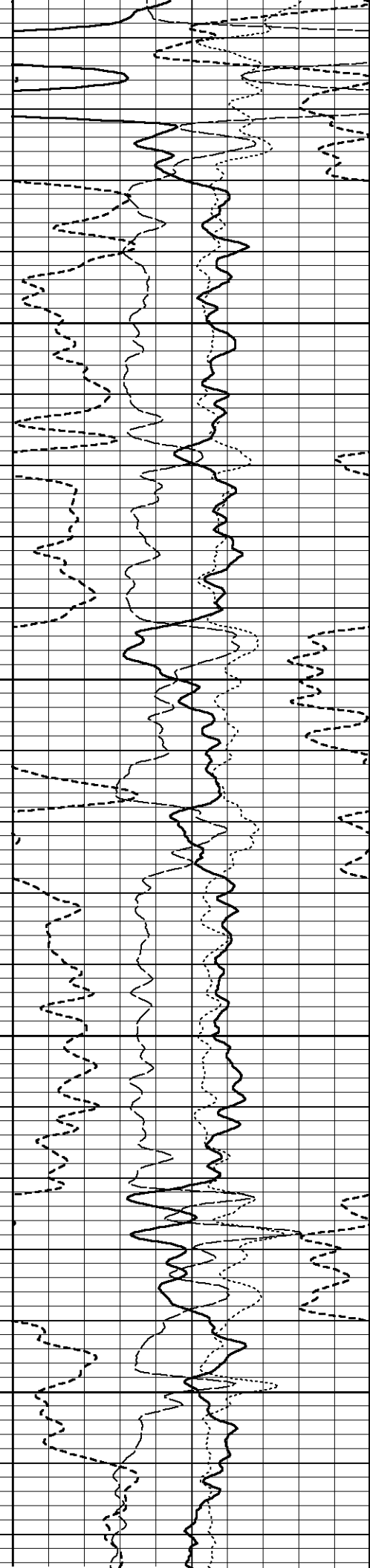
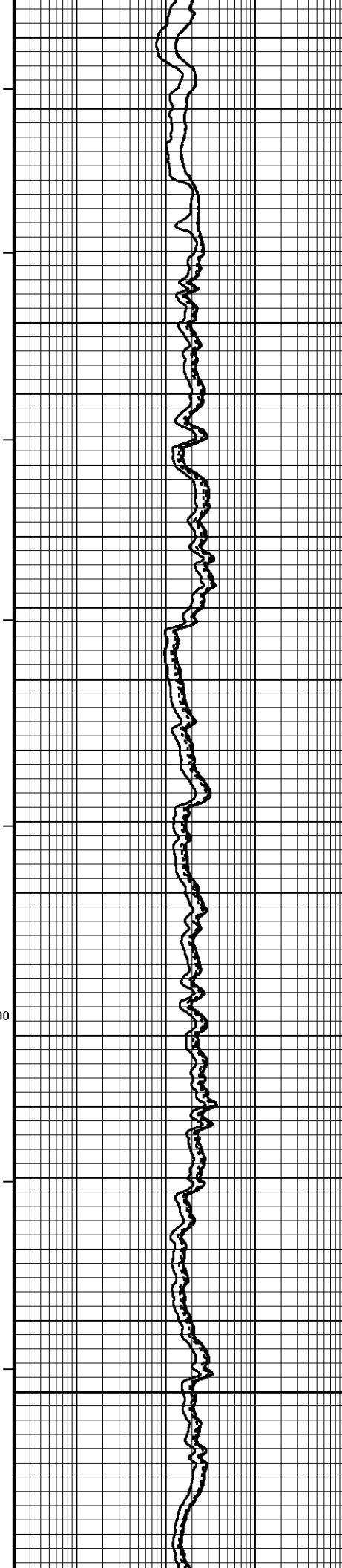
98°

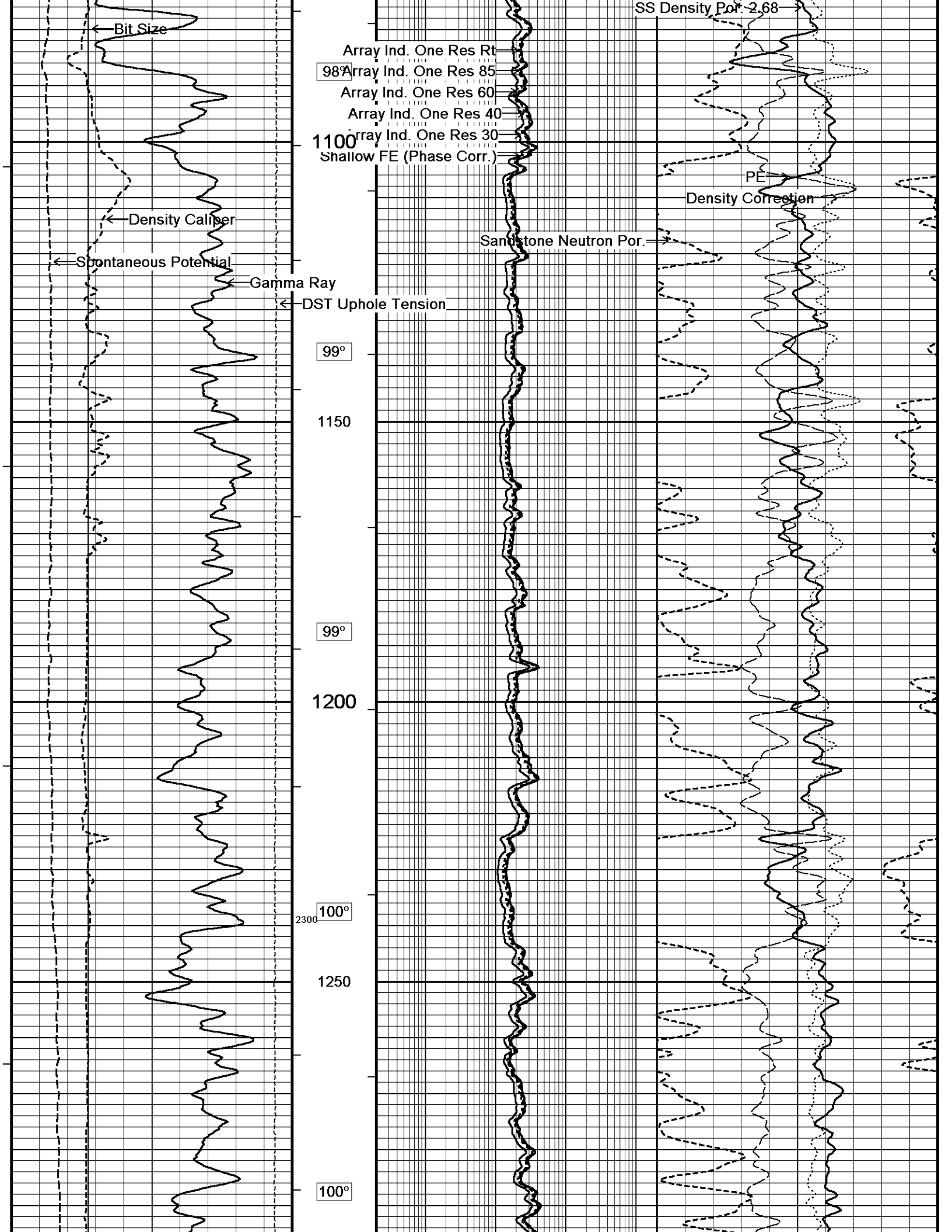
1000¹⁷⁰⁰

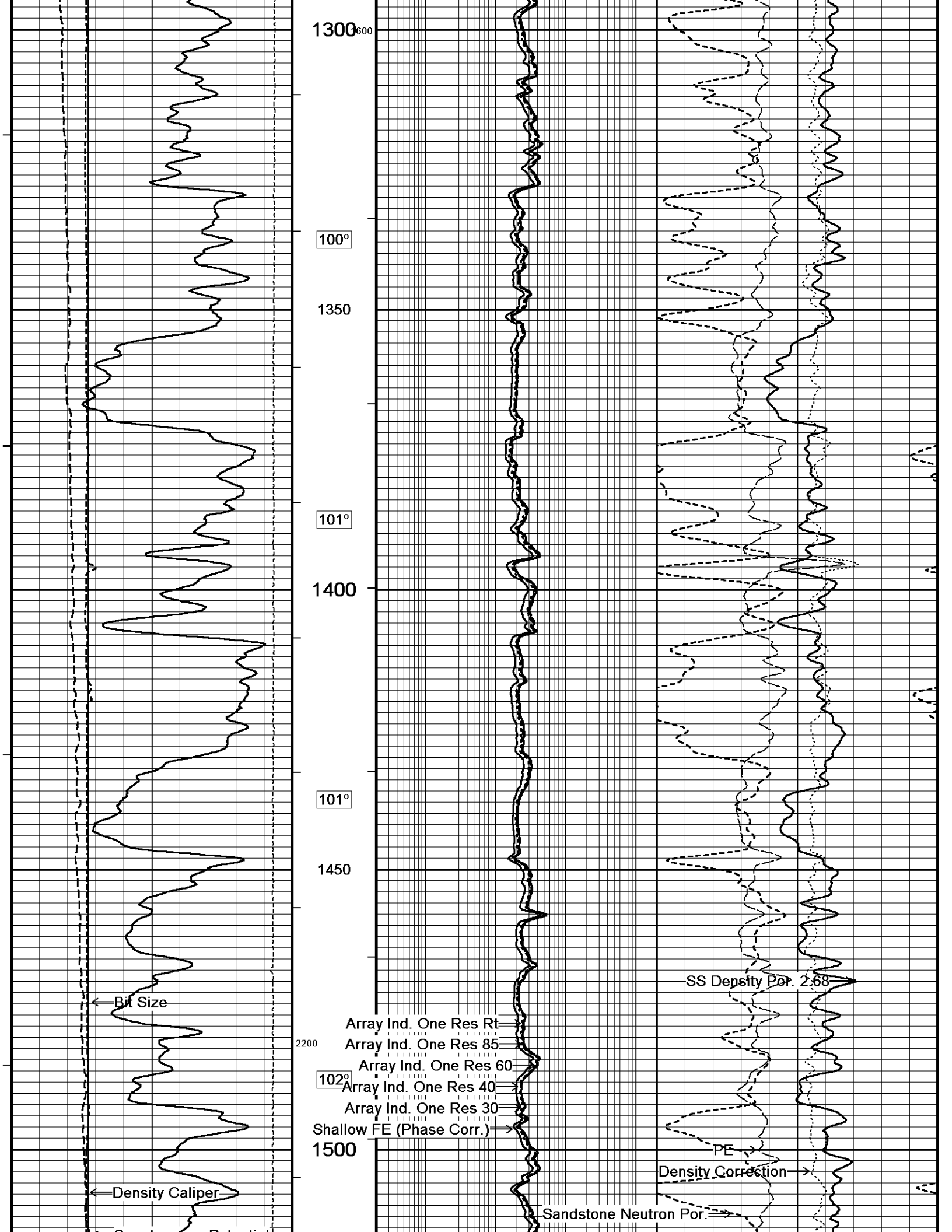
2400

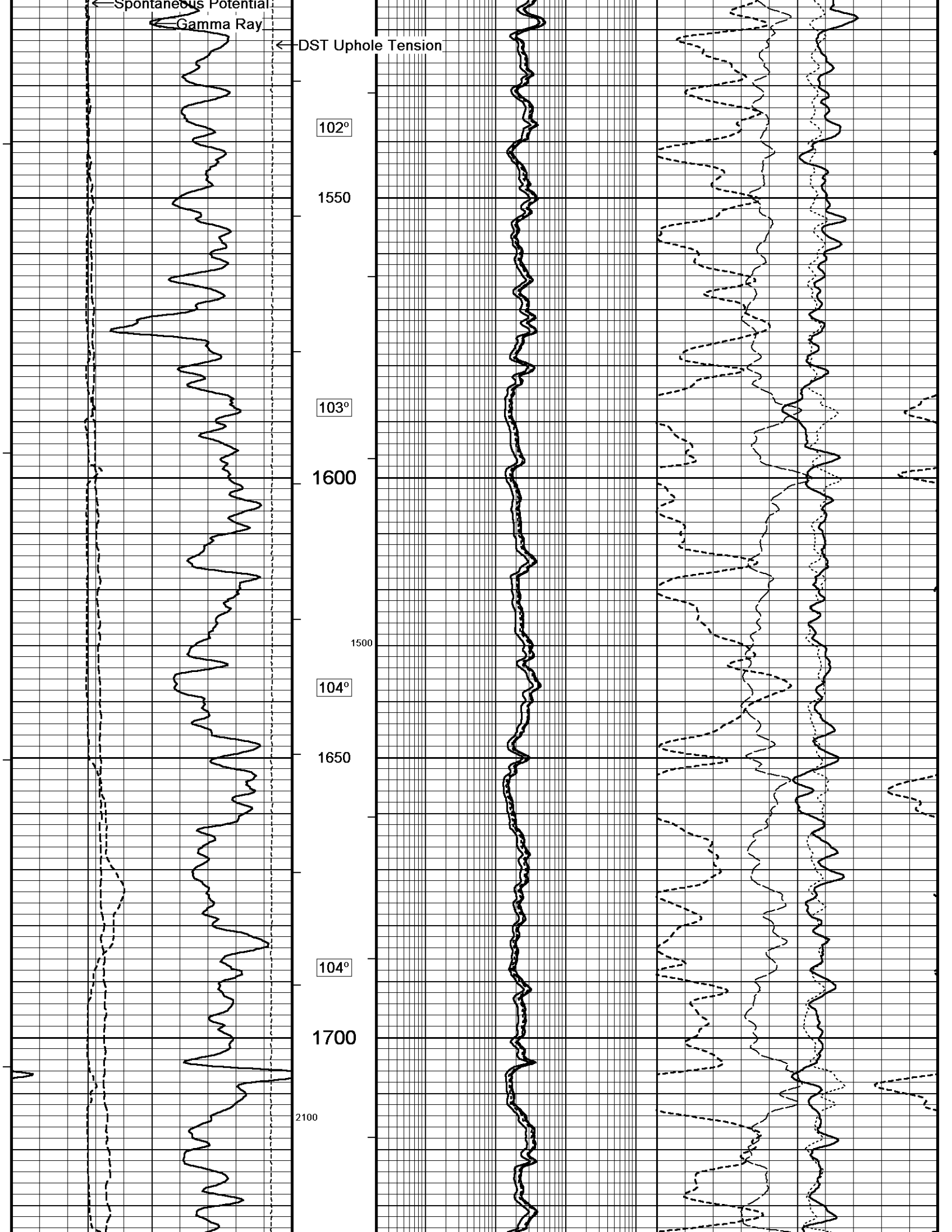
98°

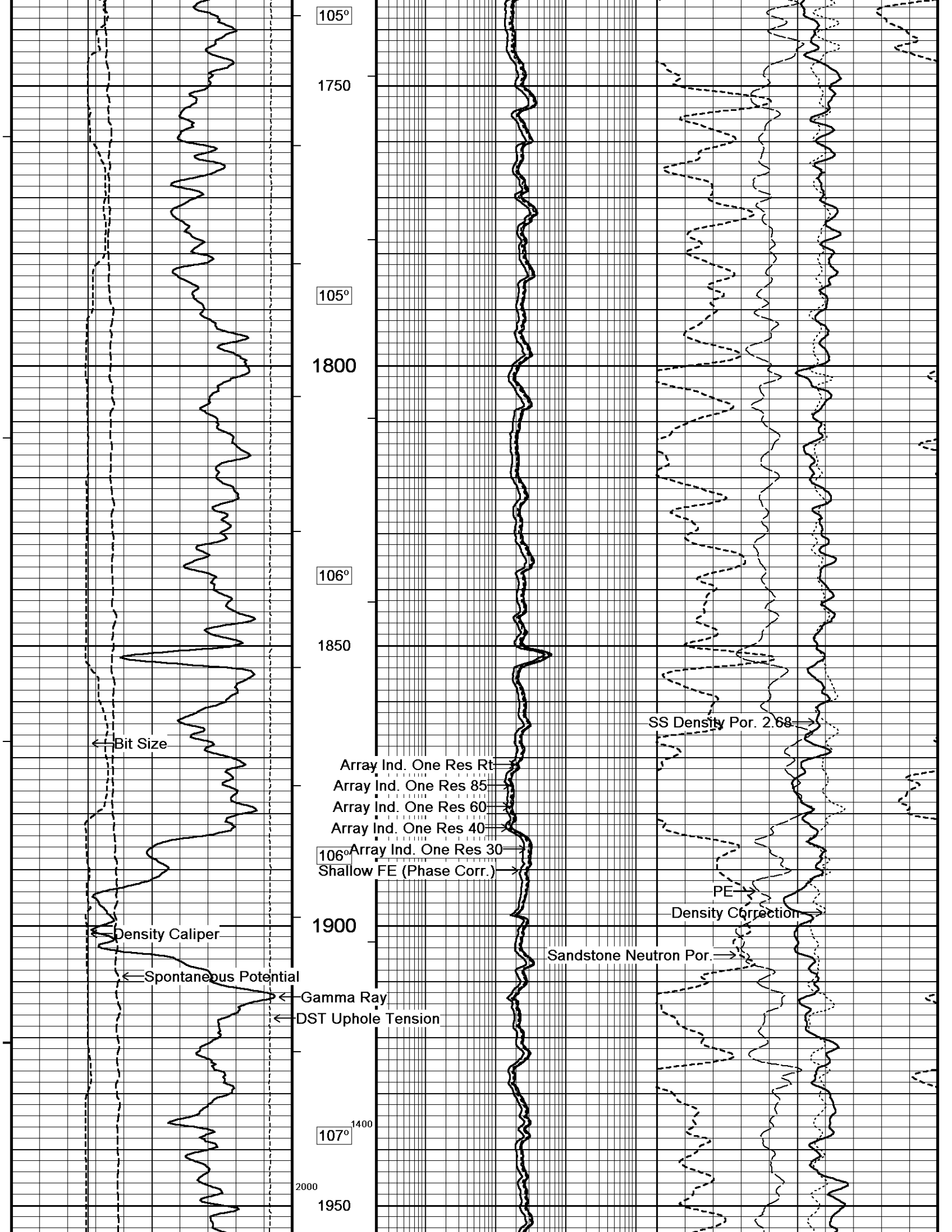
1050

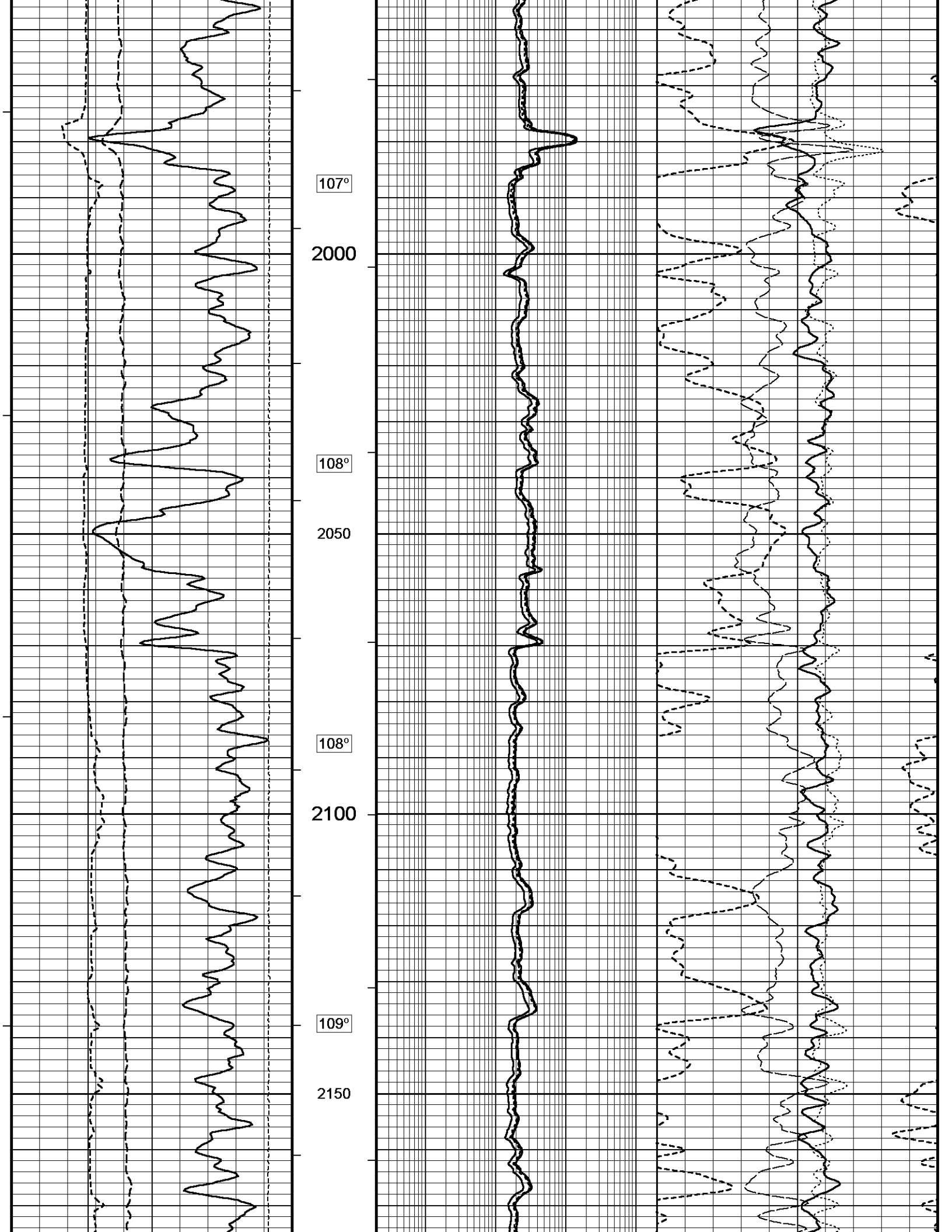


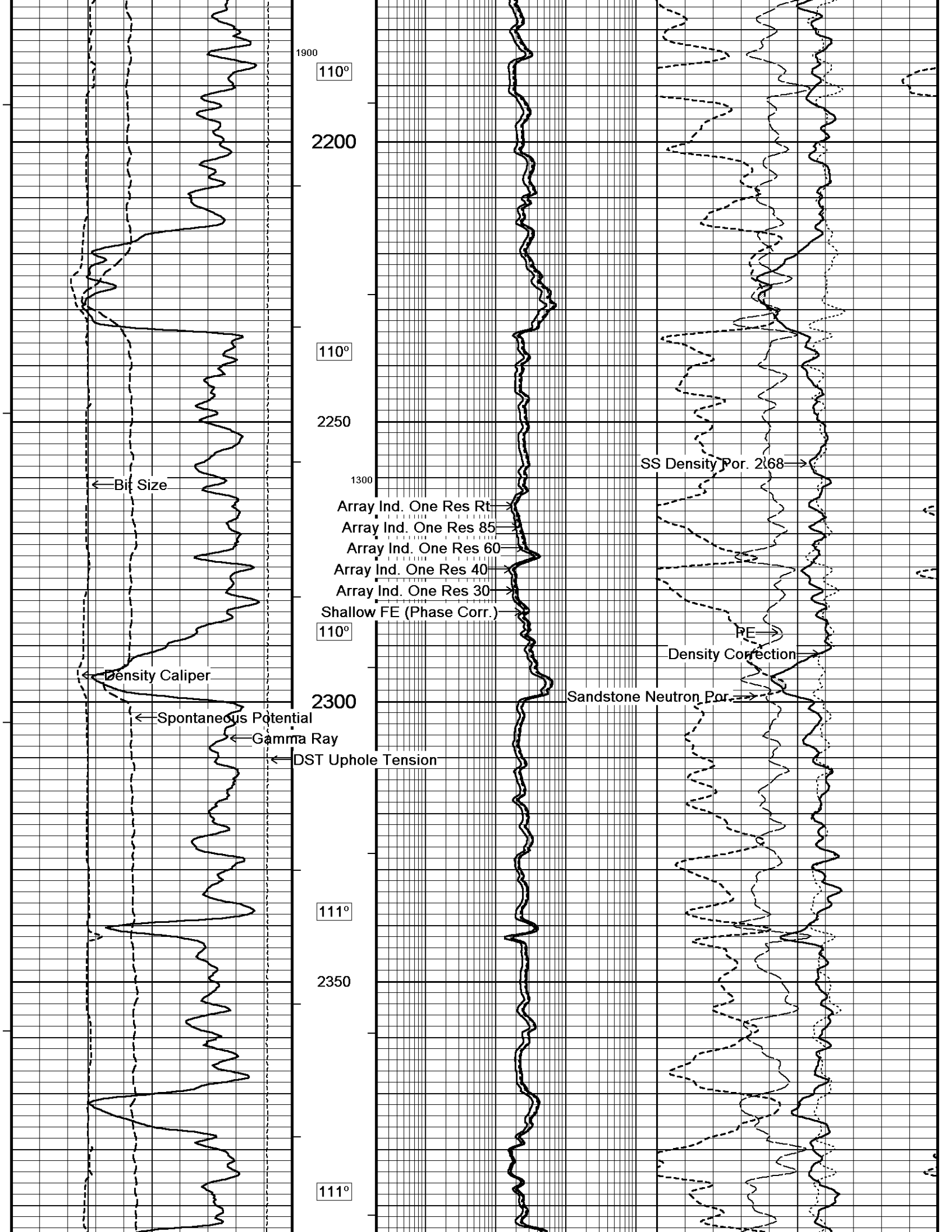


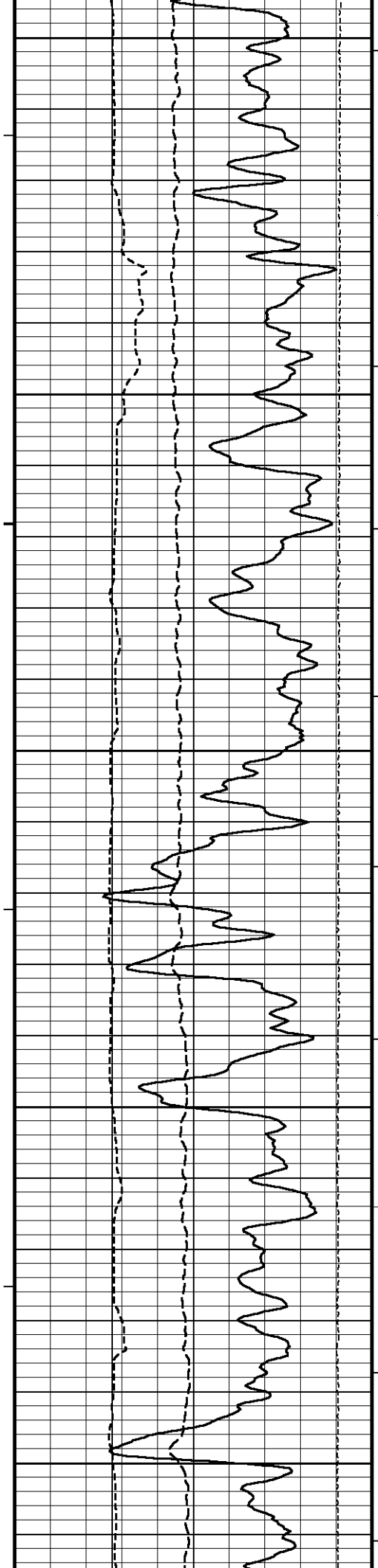












2400

1800

112°

2450

112°

2500

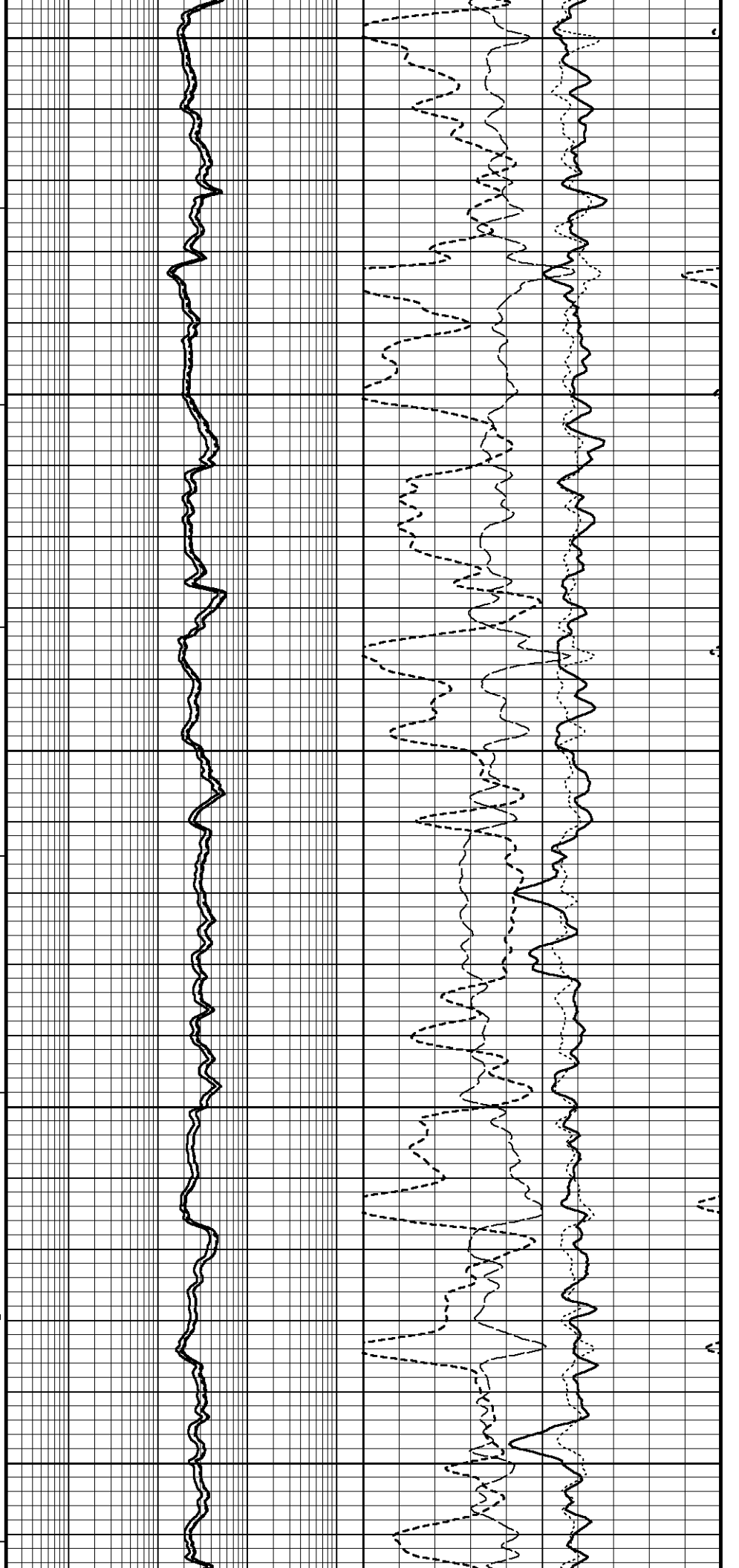
113°

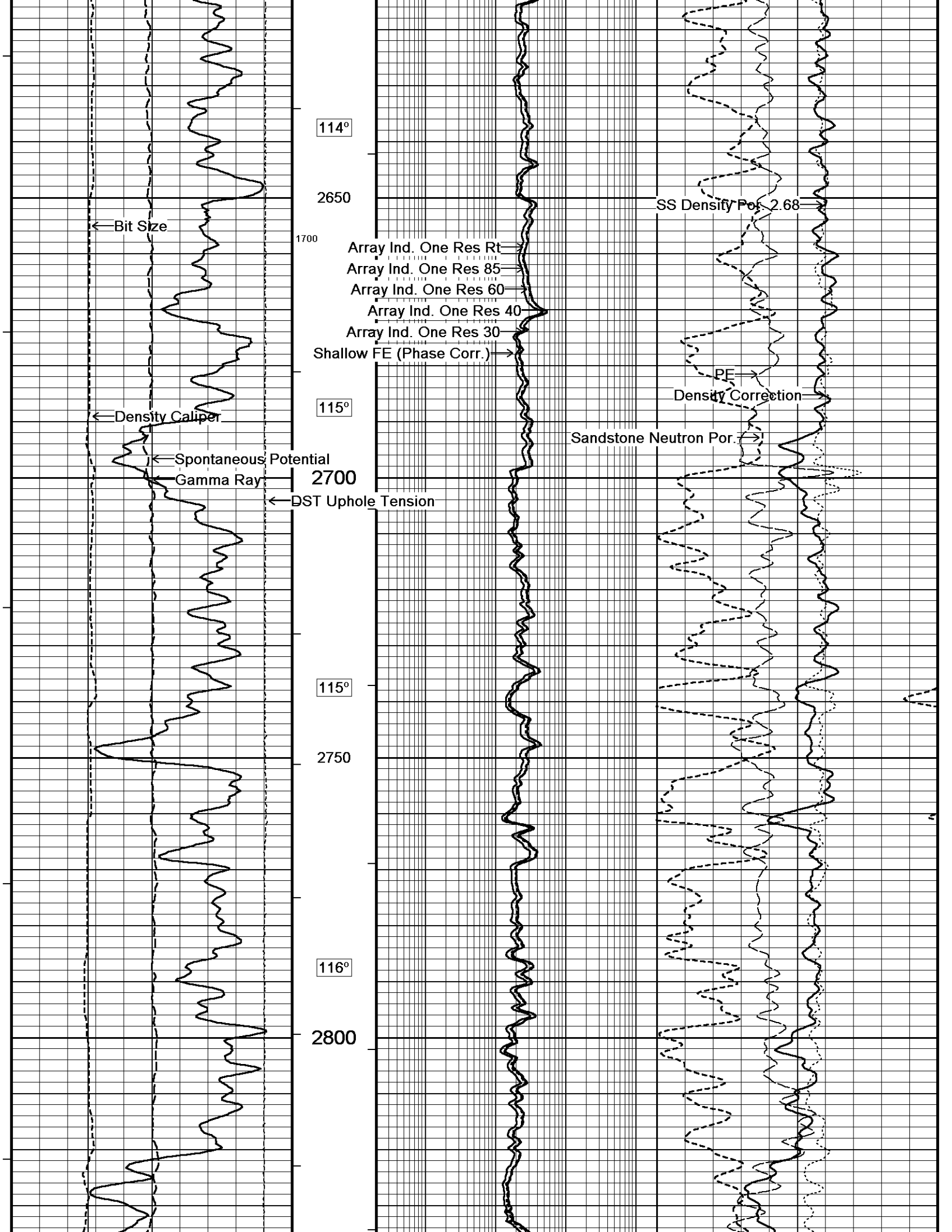
2550

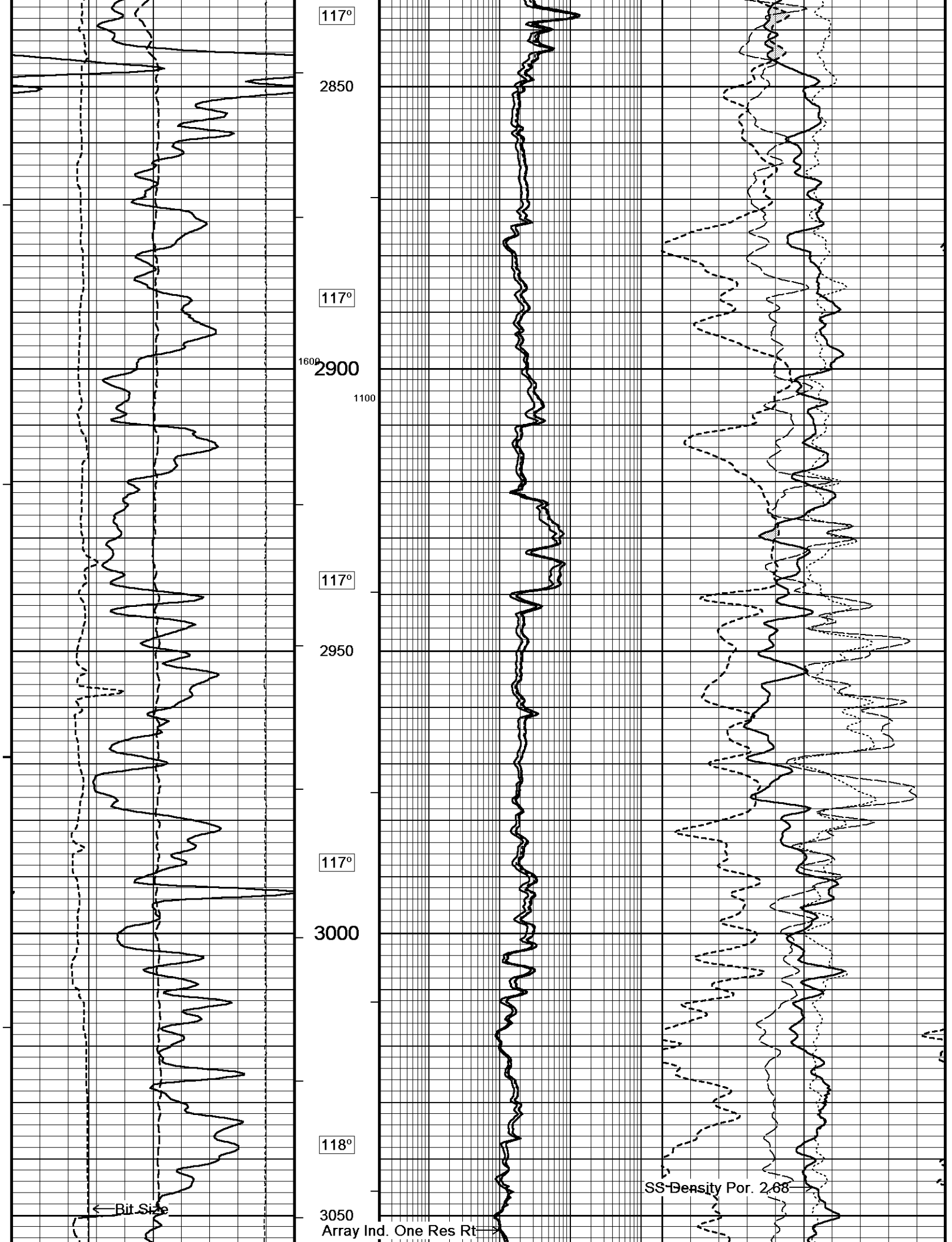
1200

113°

2600







Array Ind. One Res 85
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 Hole Tension

119°

120°

121°

122°

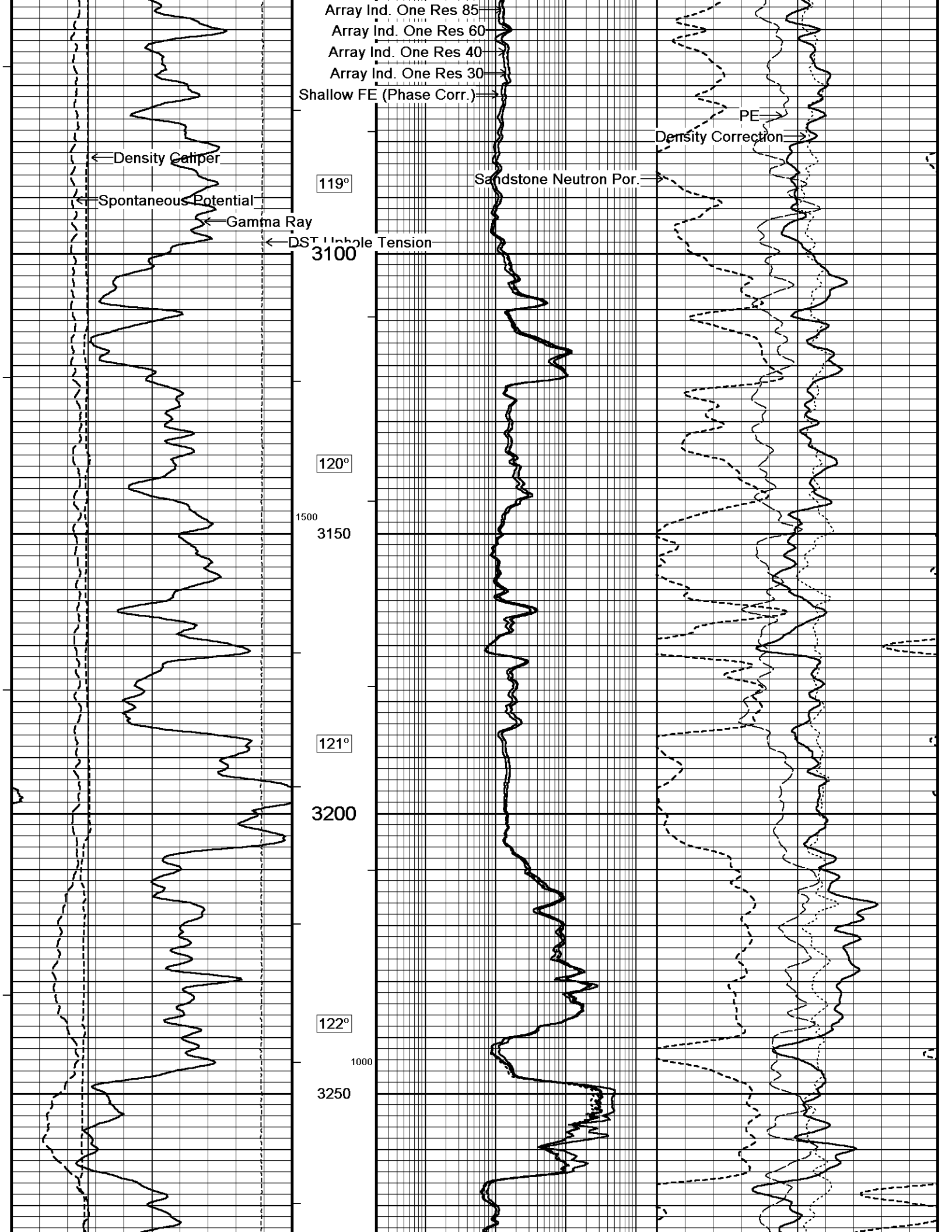
1500

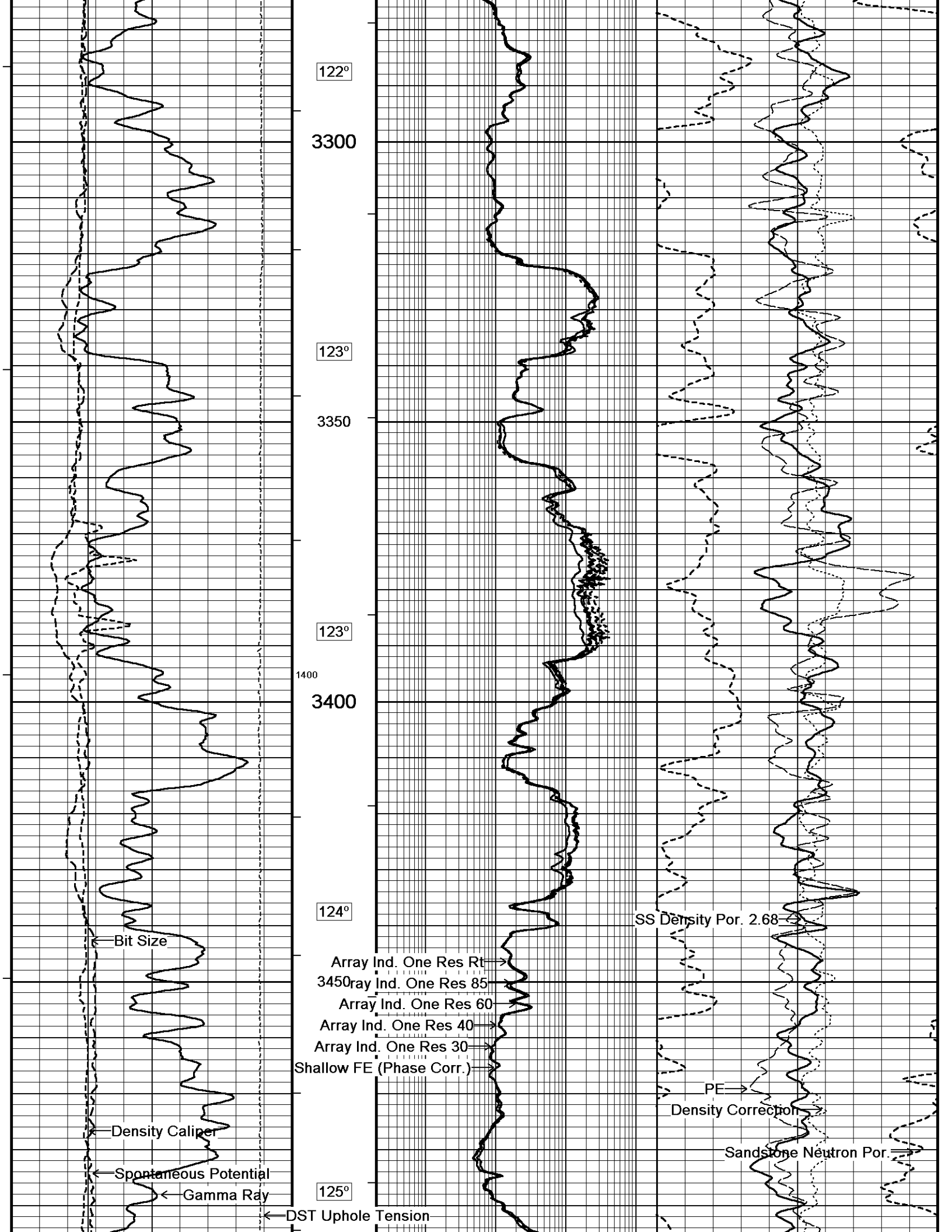
3150

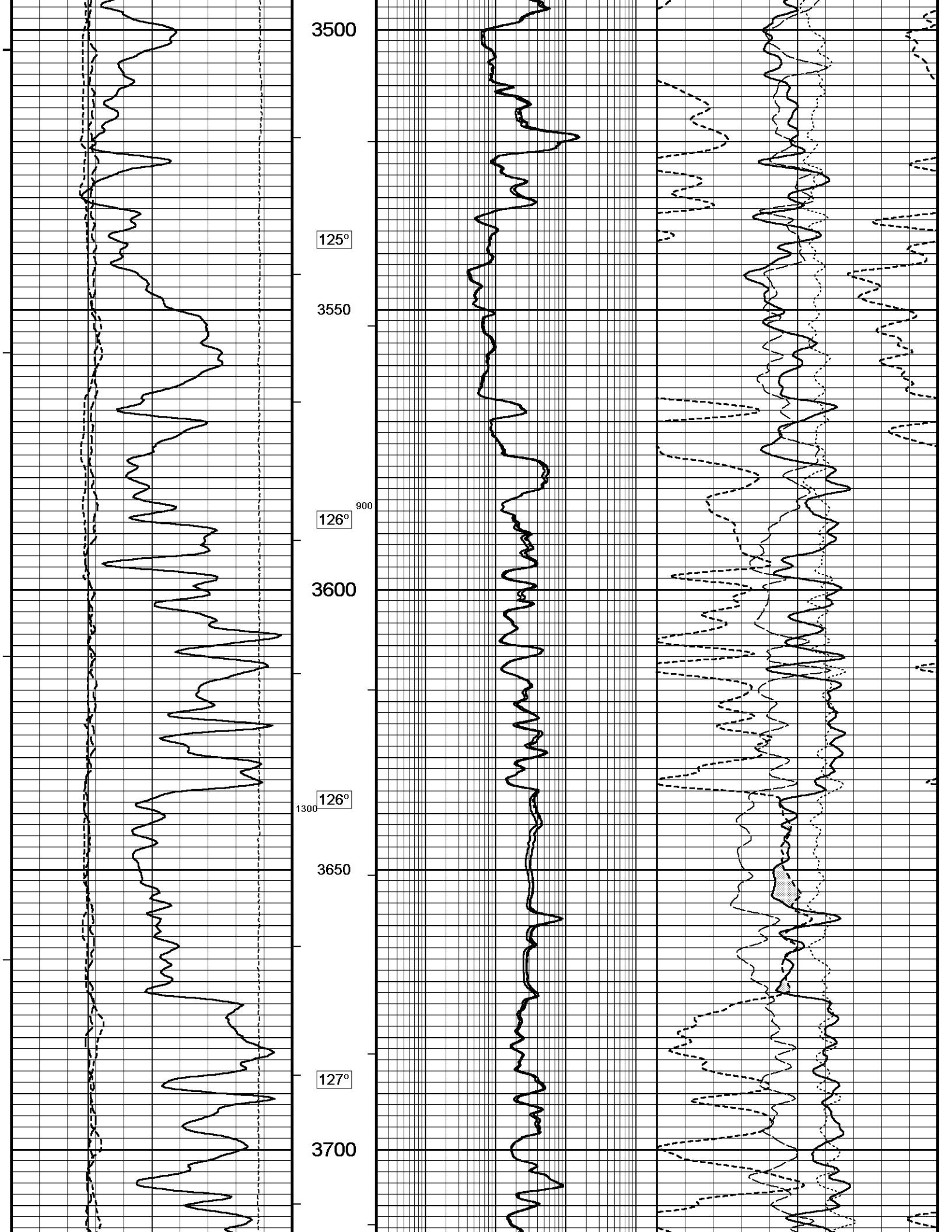
3200

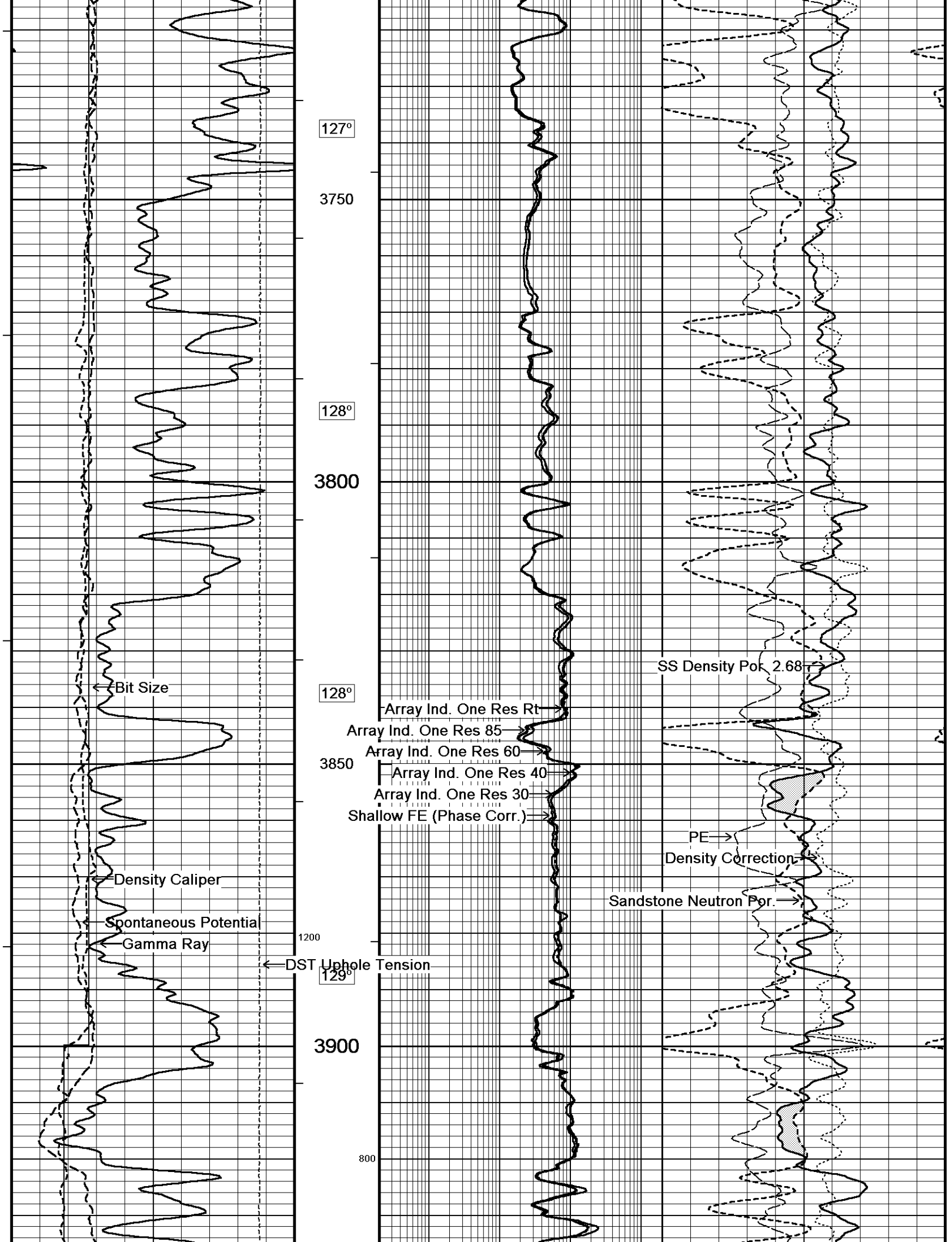
1000

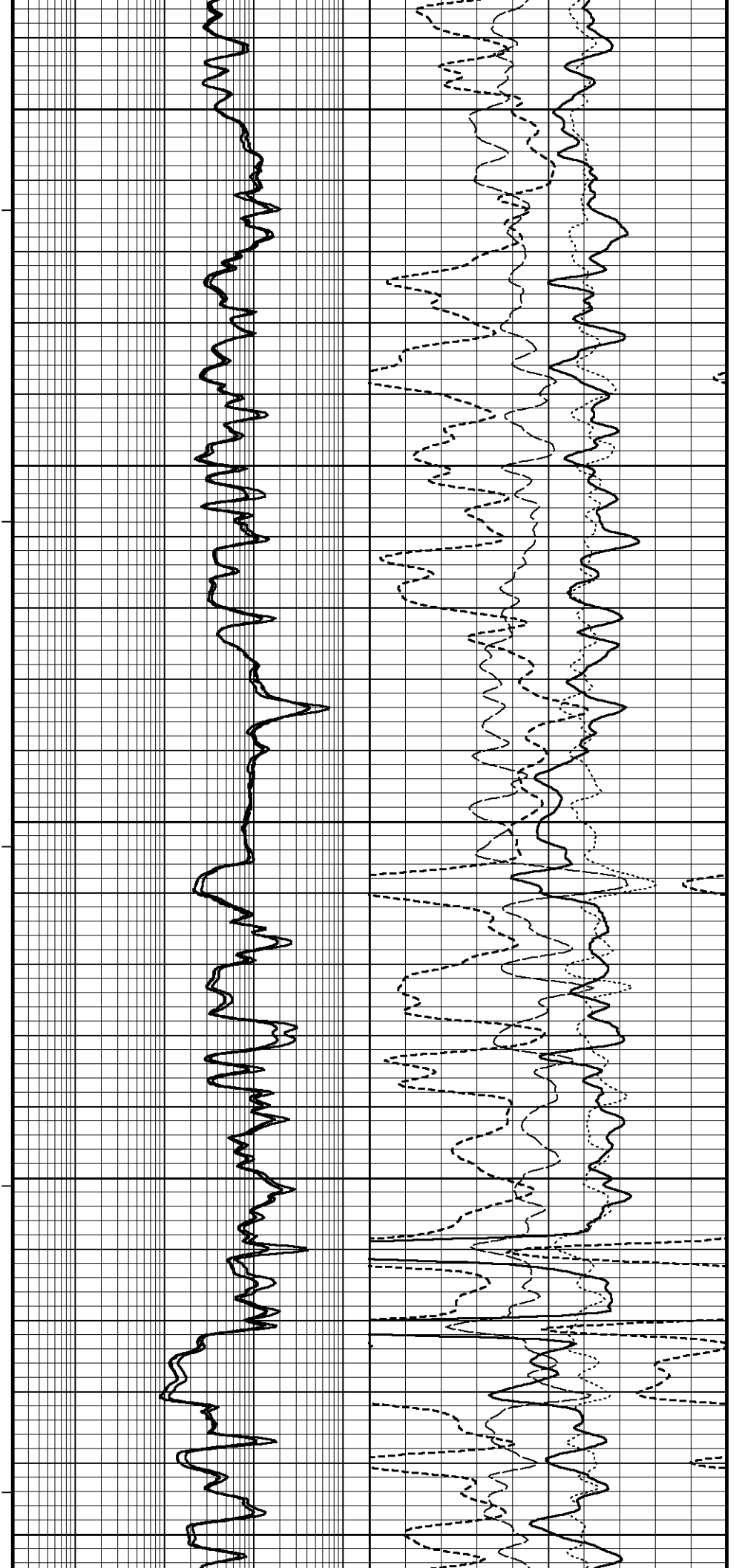
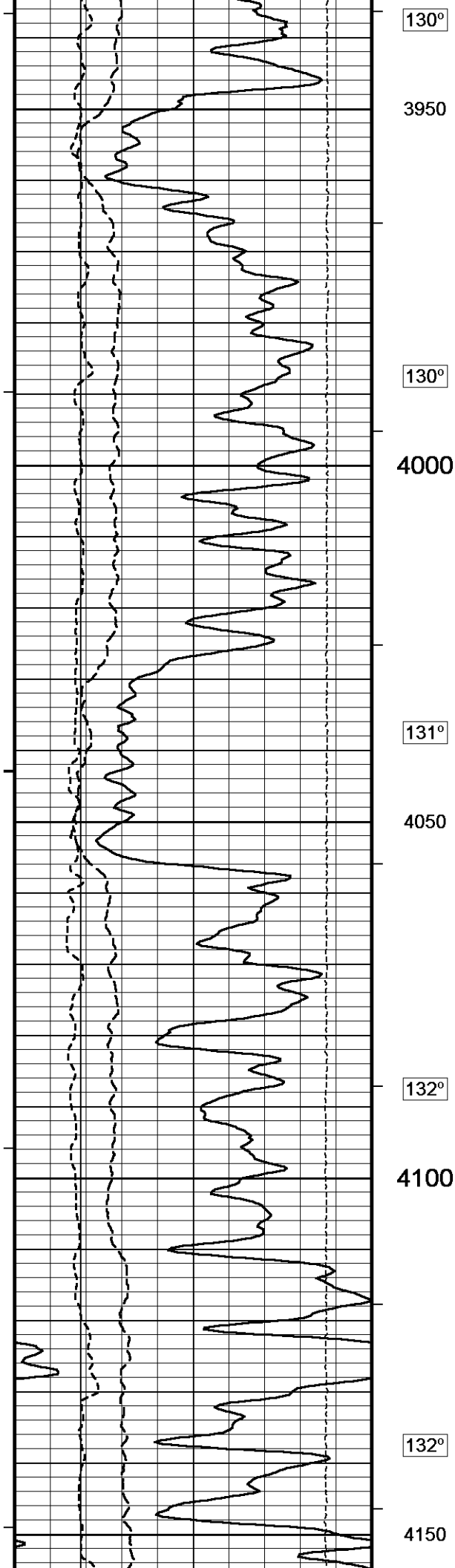
3250

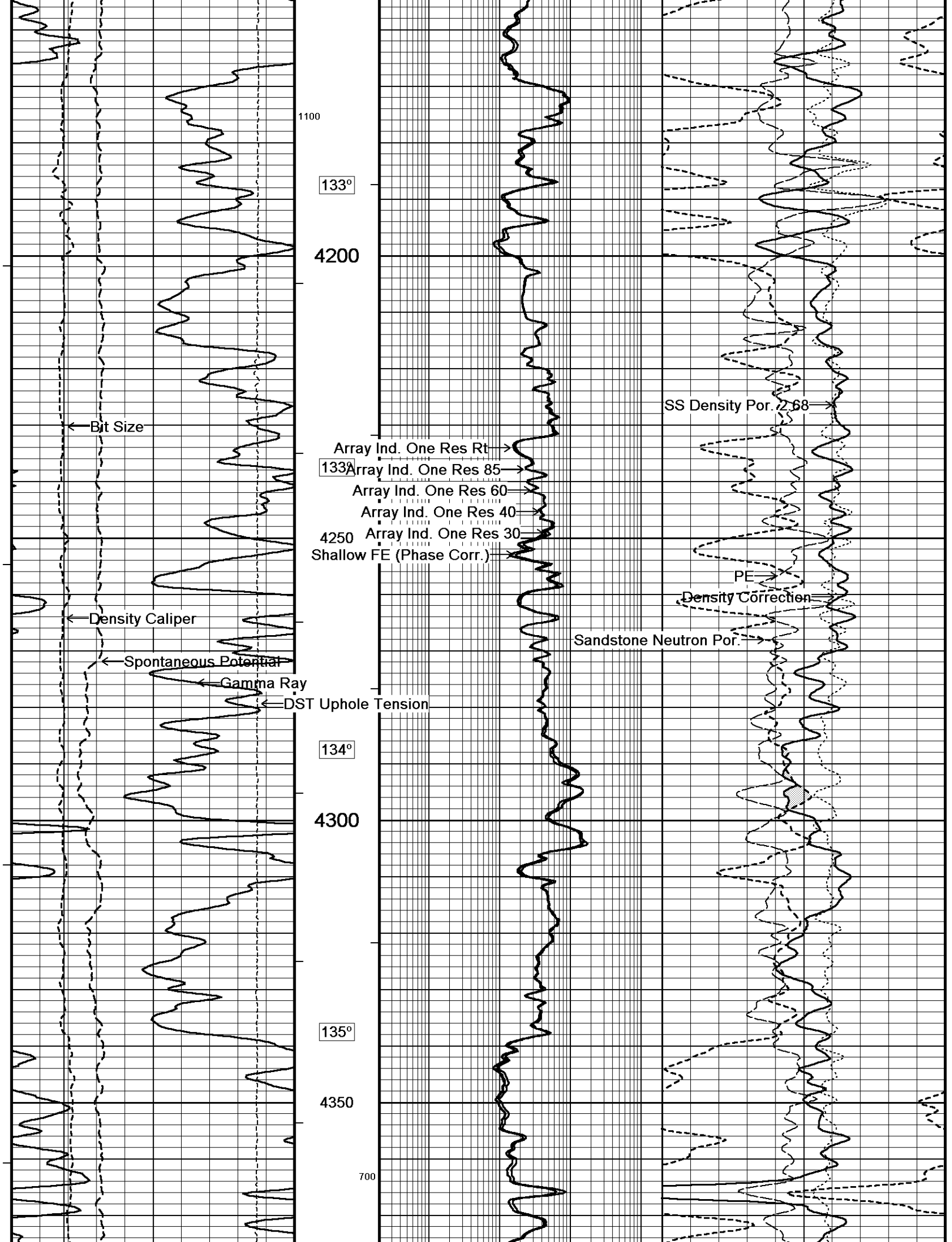


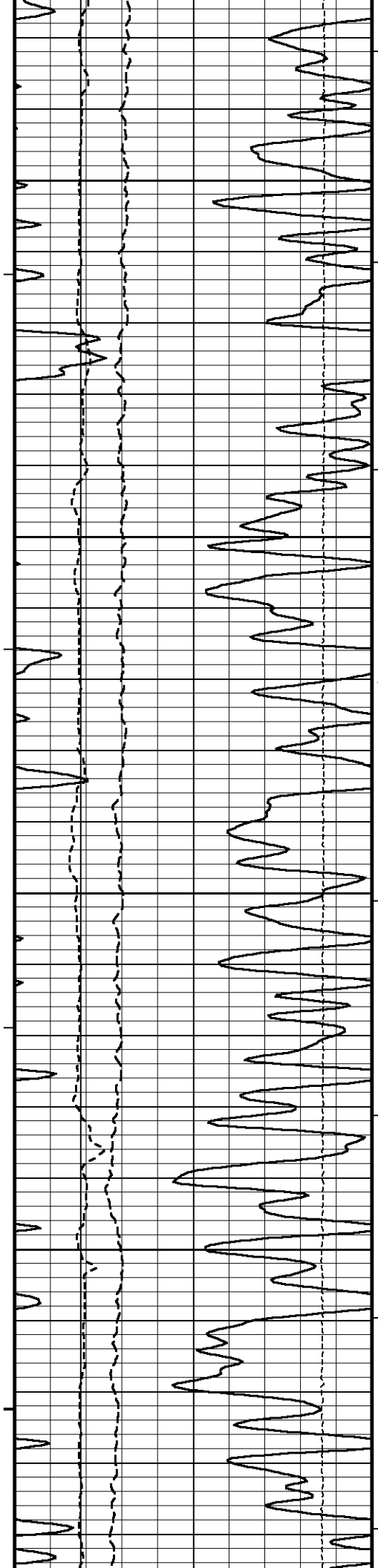




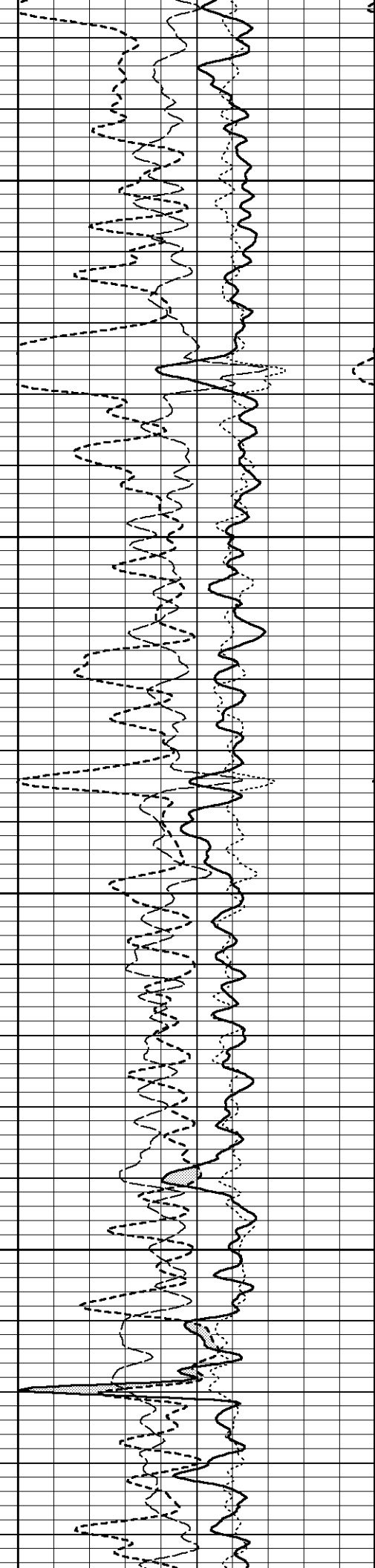
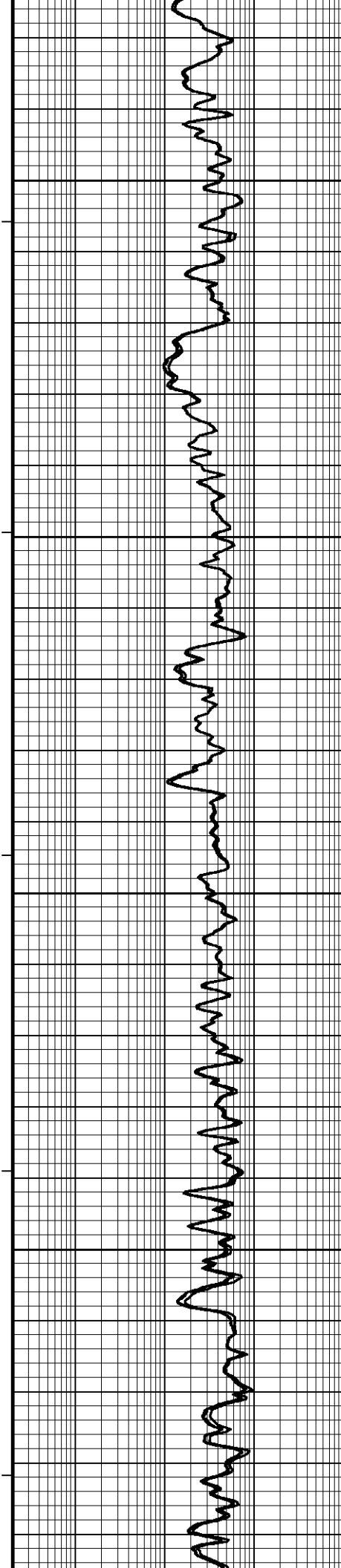


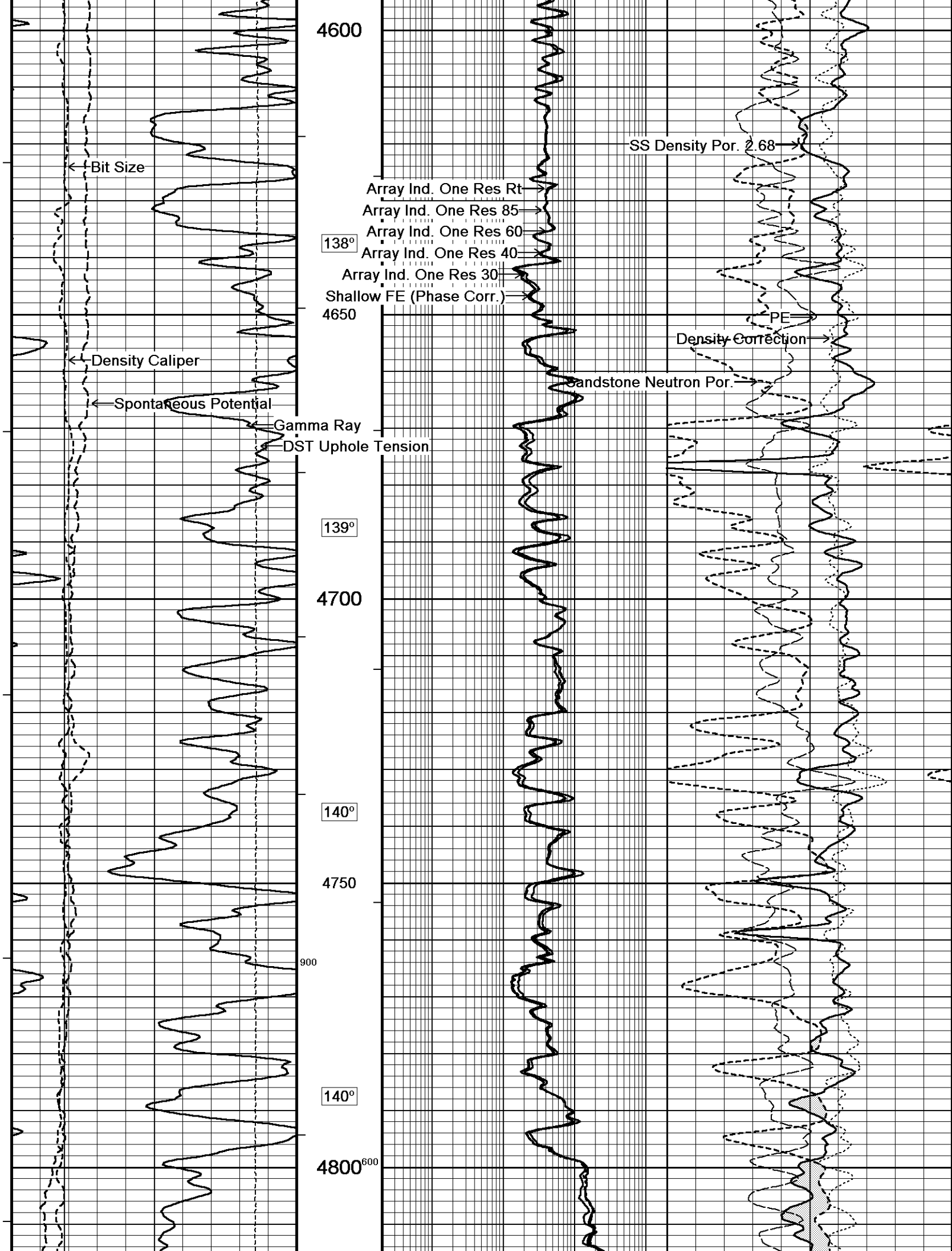


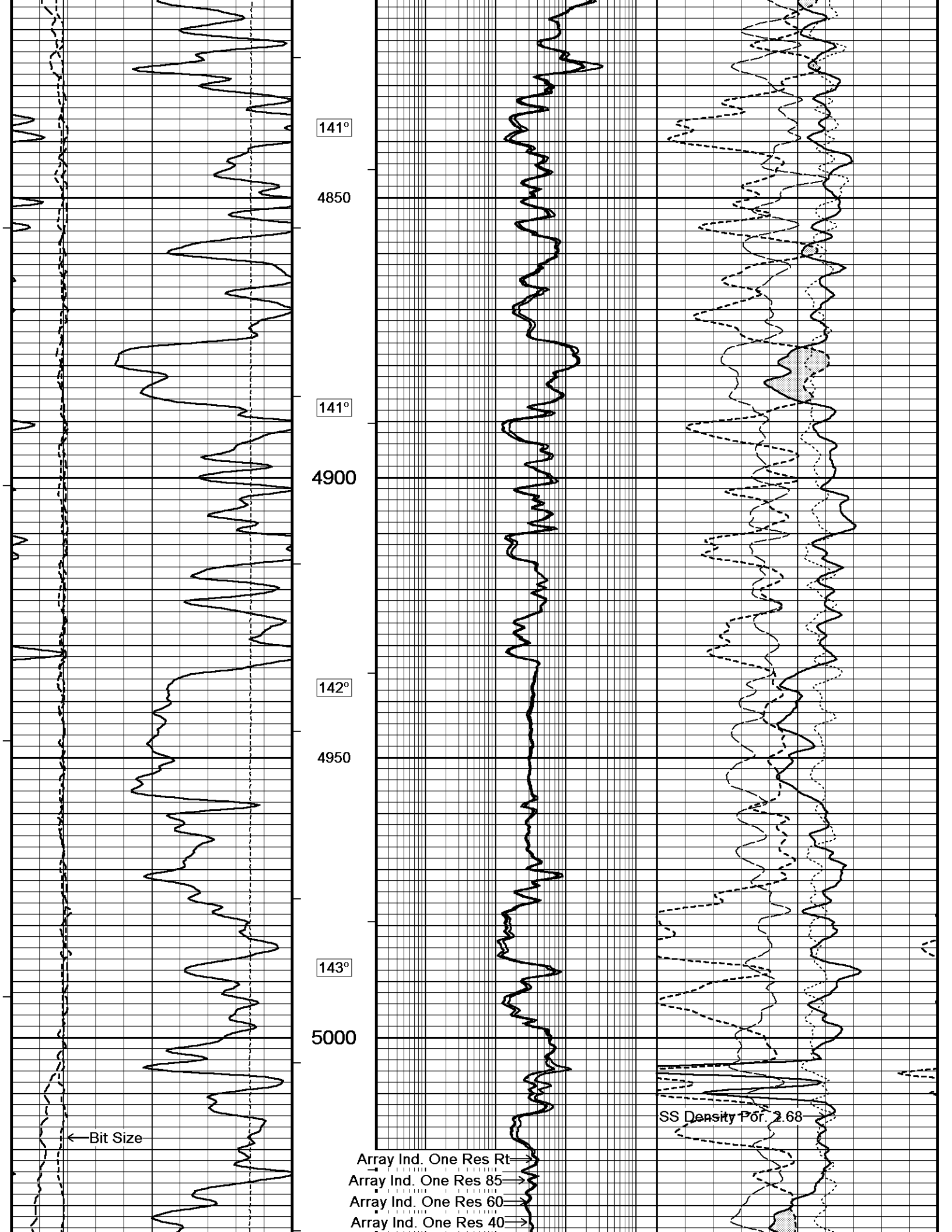


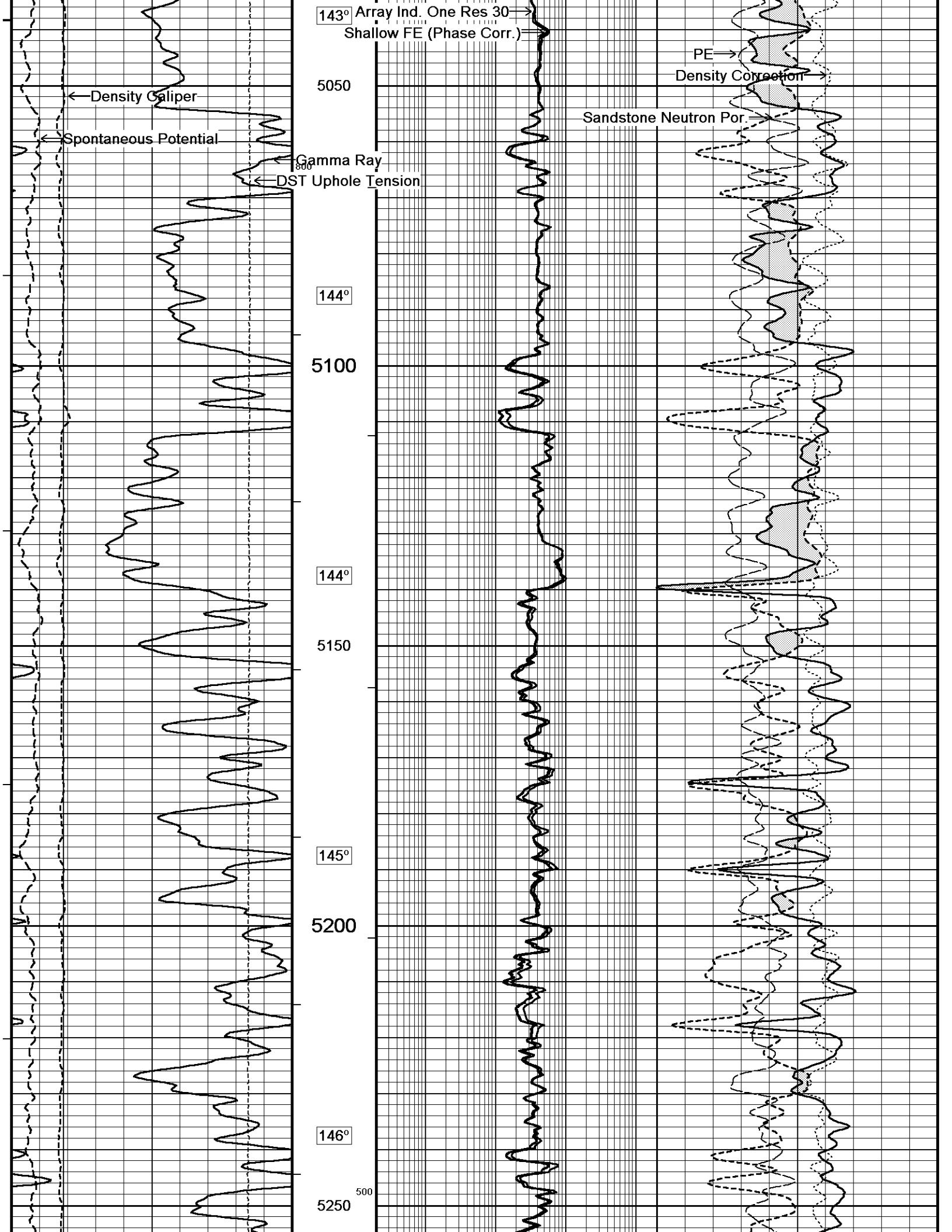


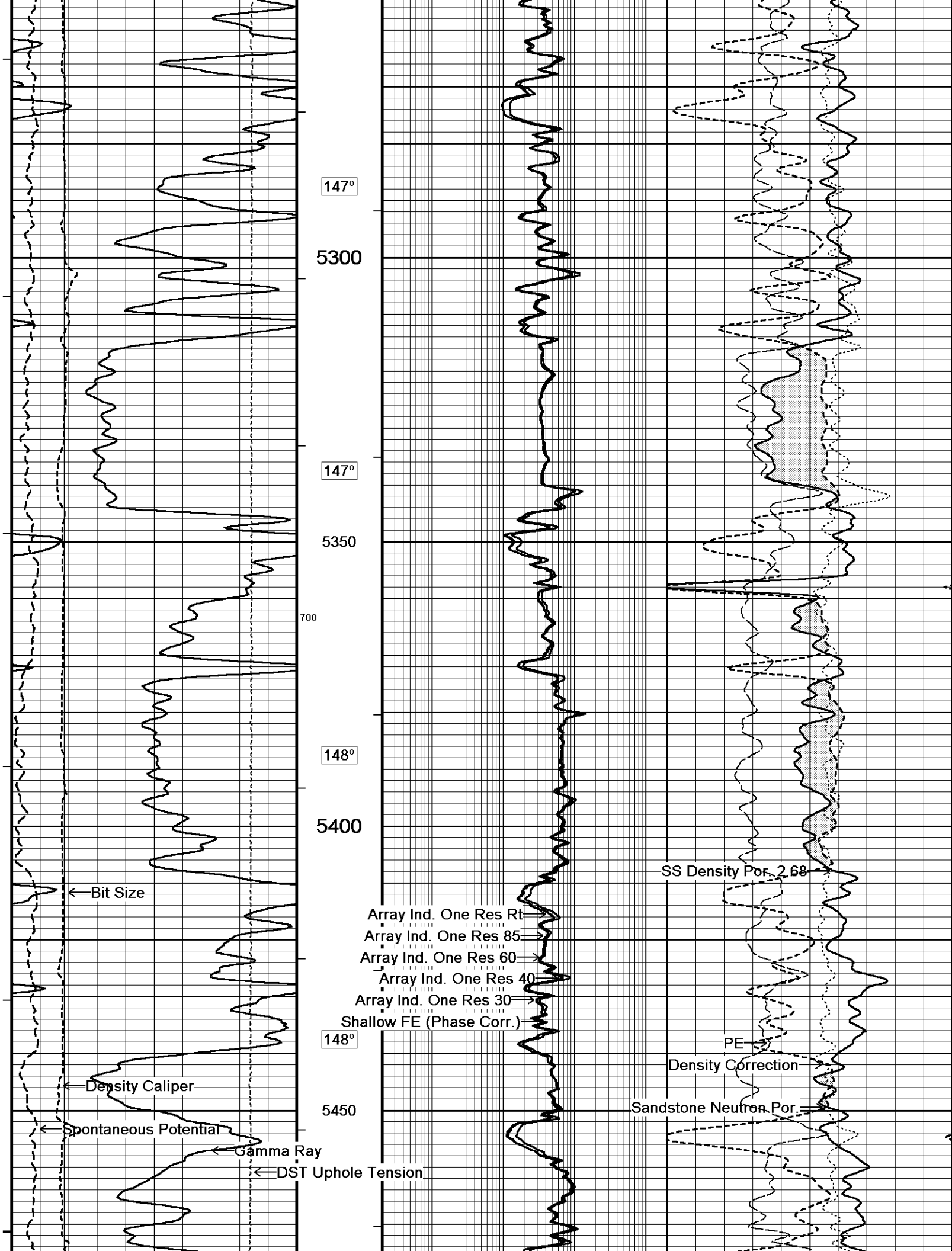
135°
4400
136°
4450
1000
137°
4500
137°
4550
138°

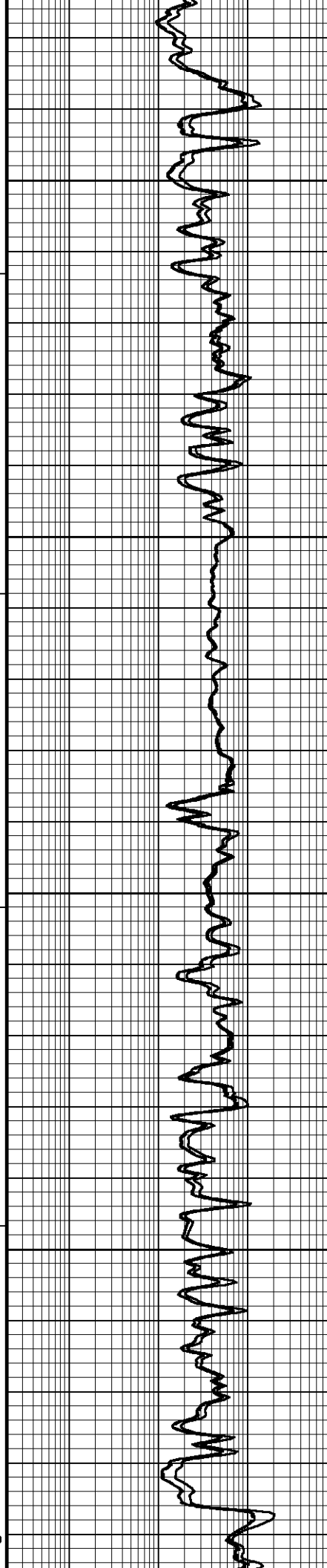
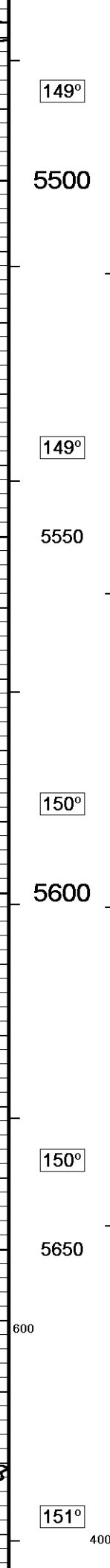
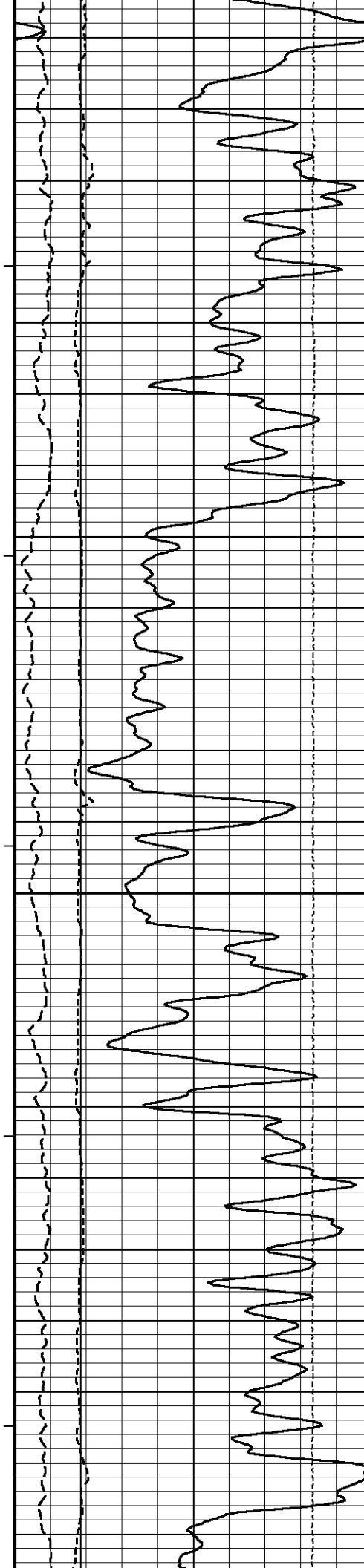


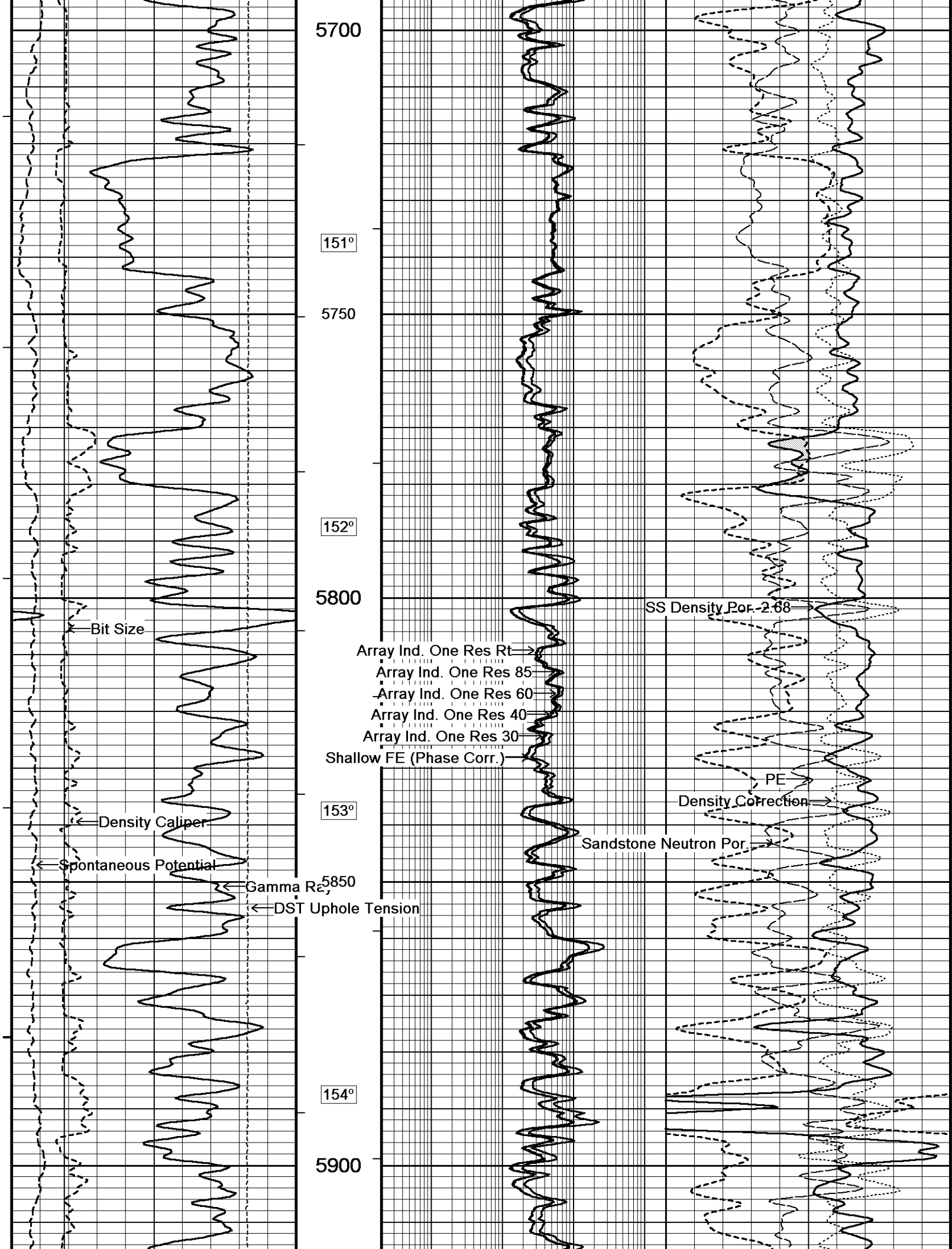


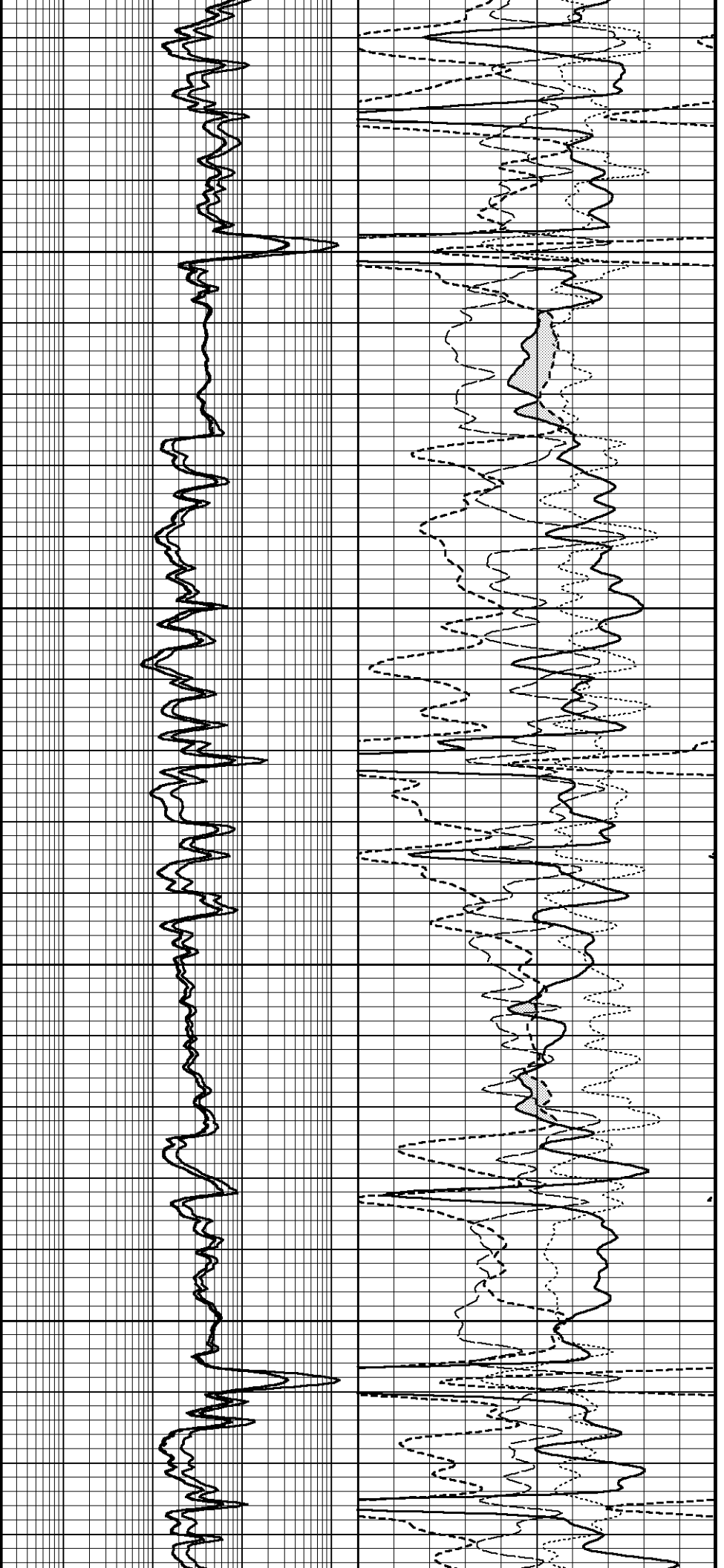
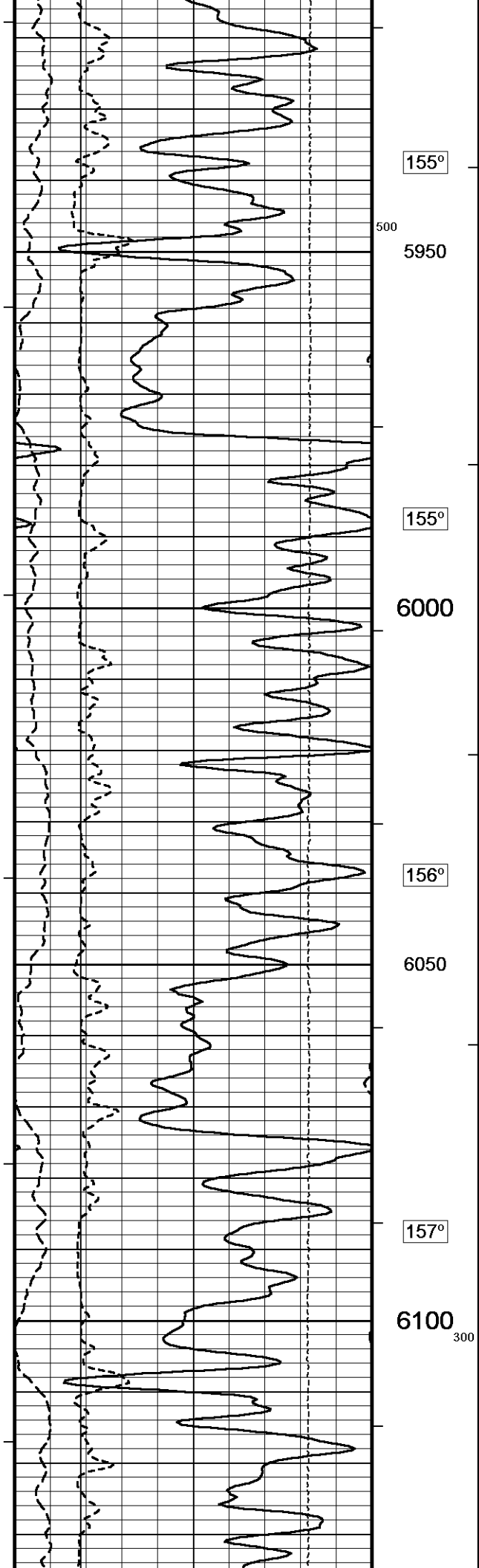


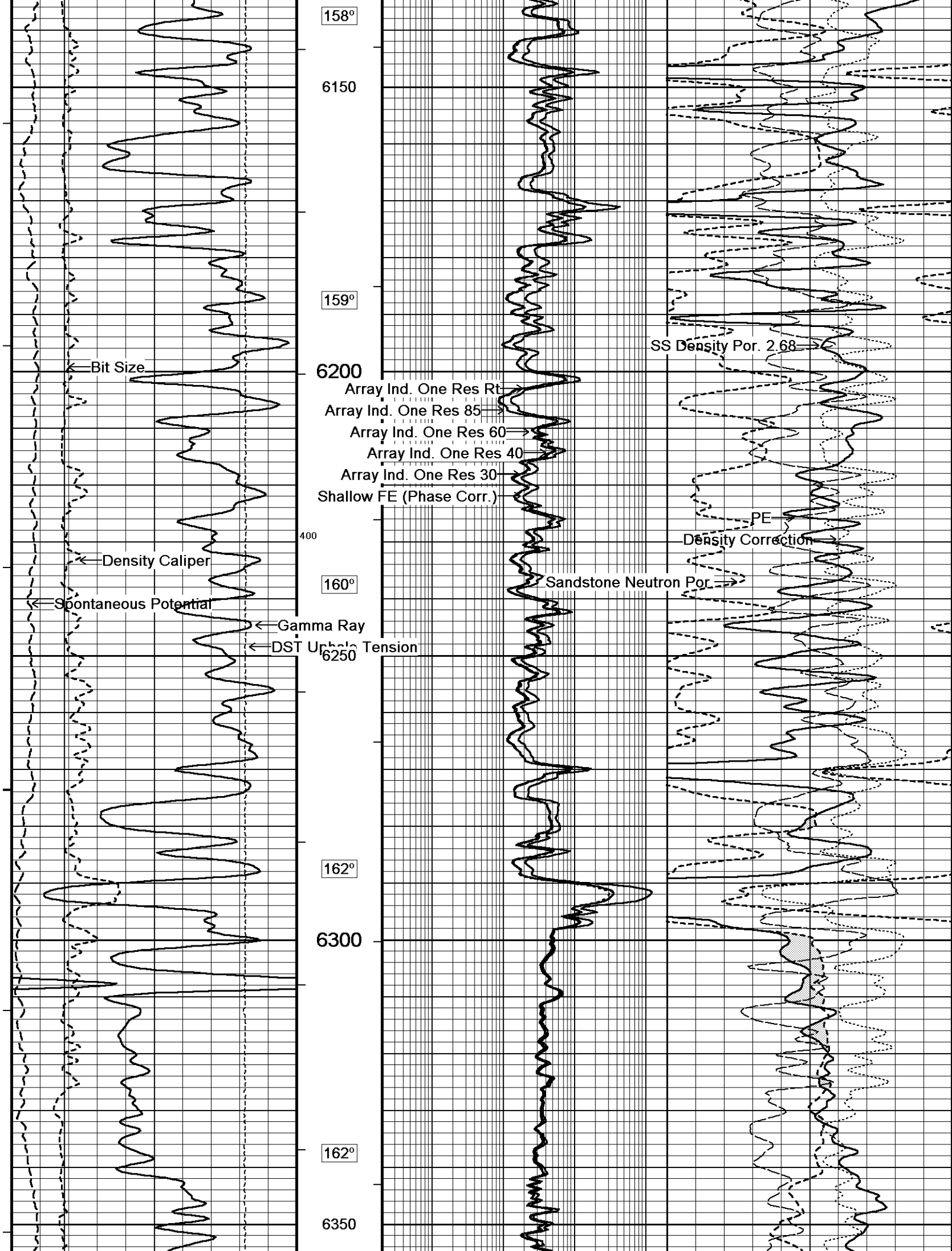


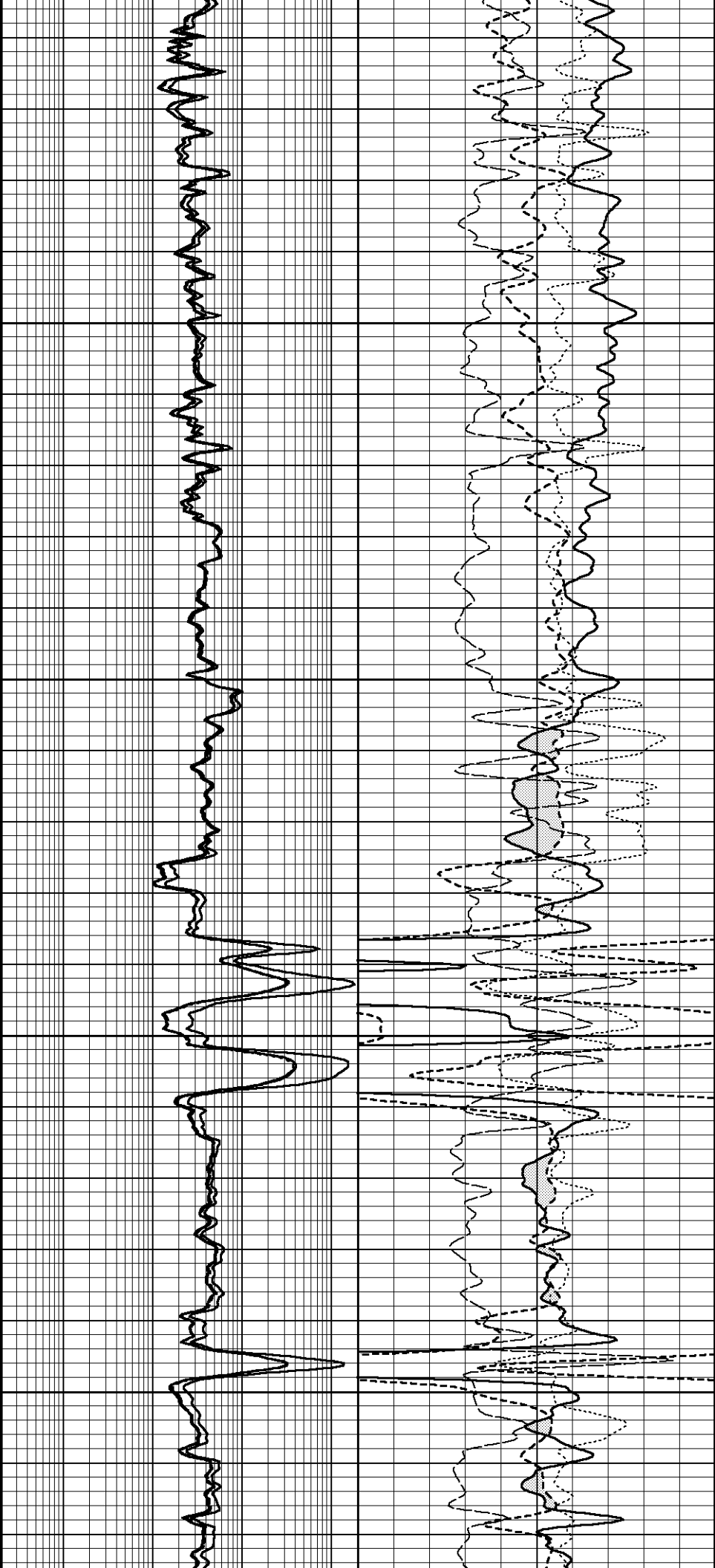
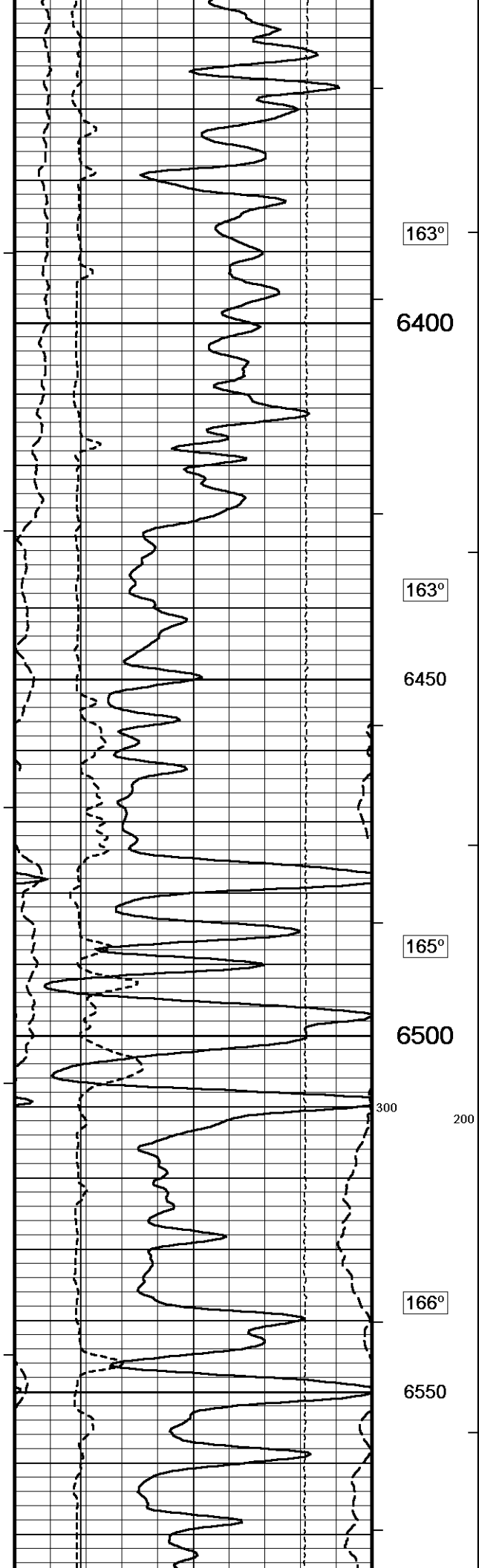


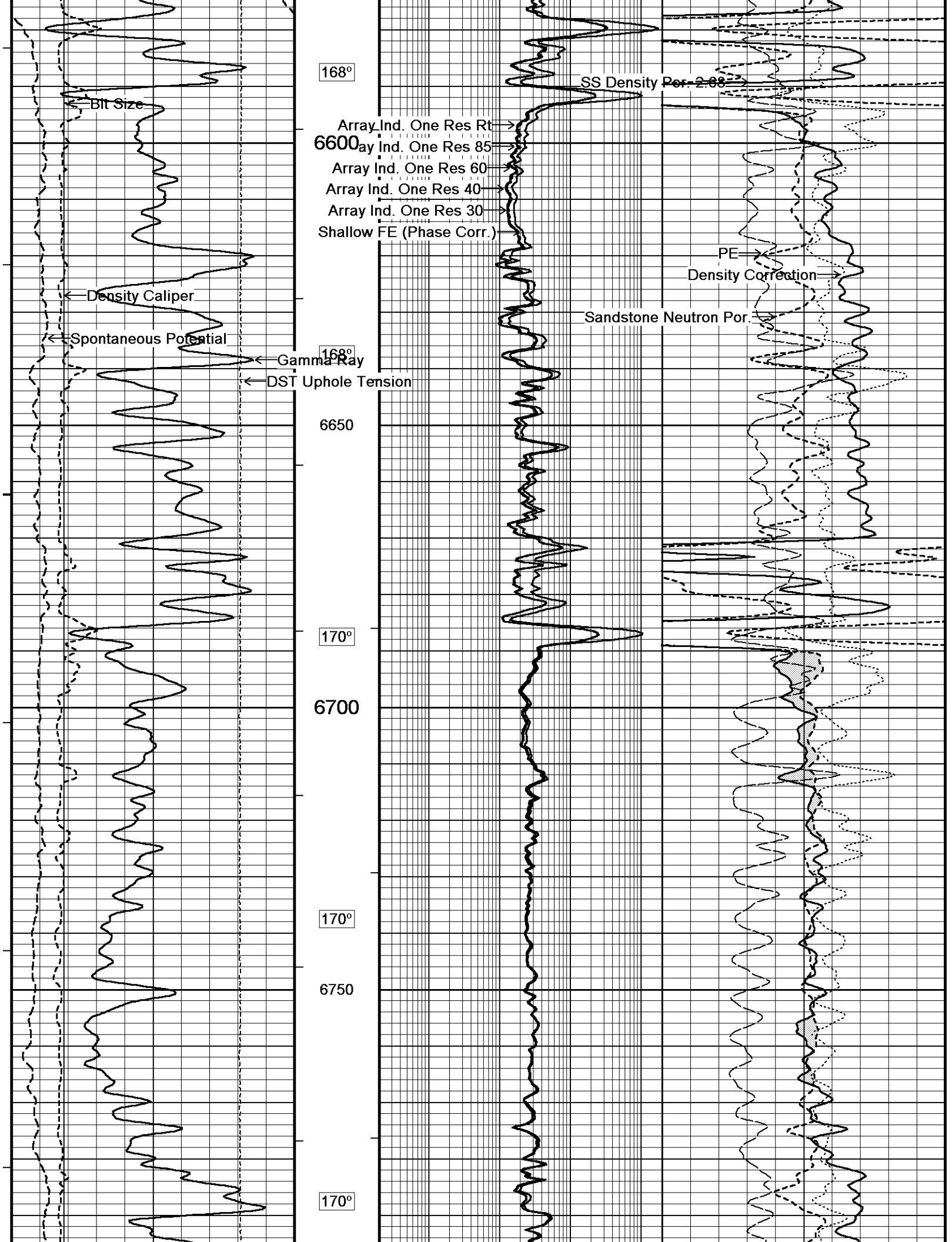


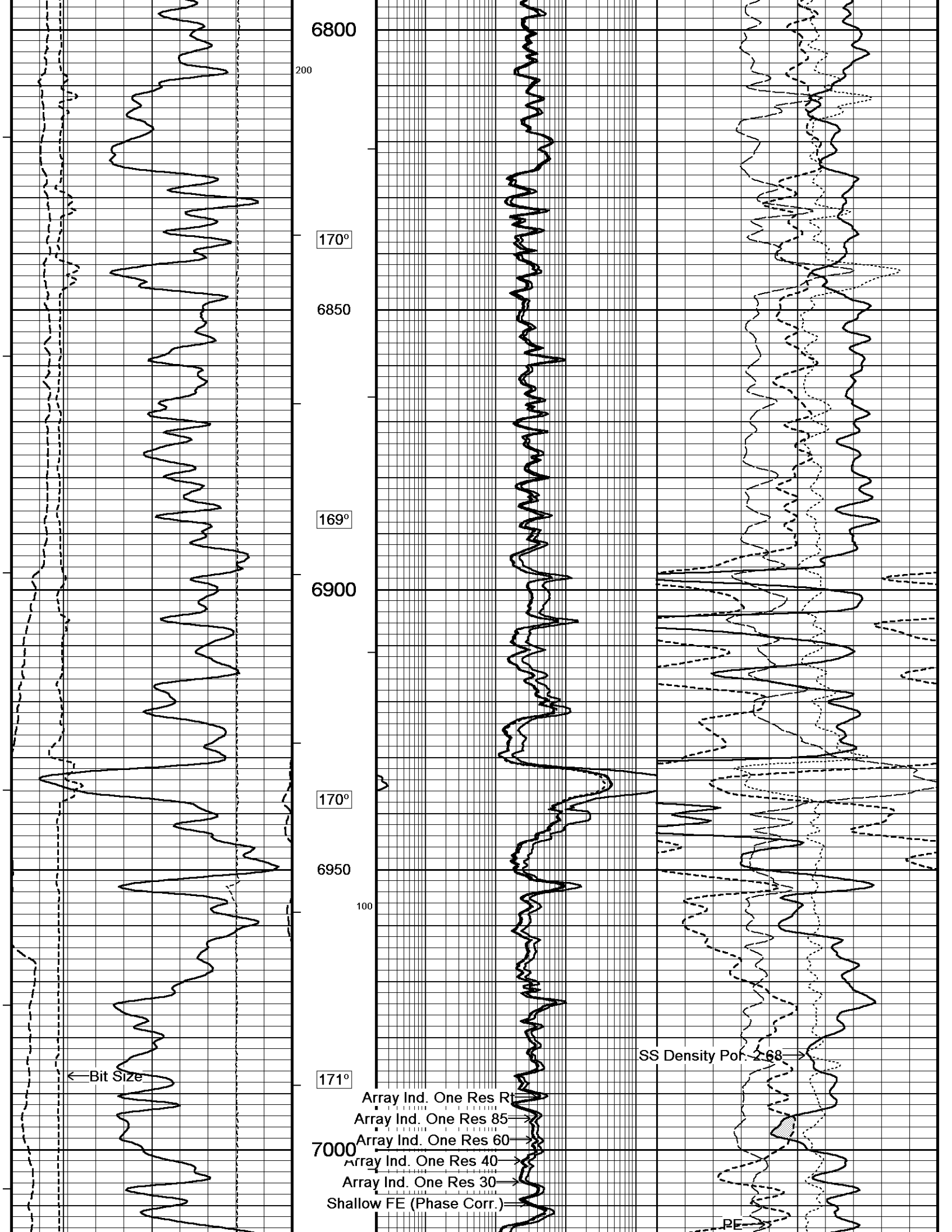


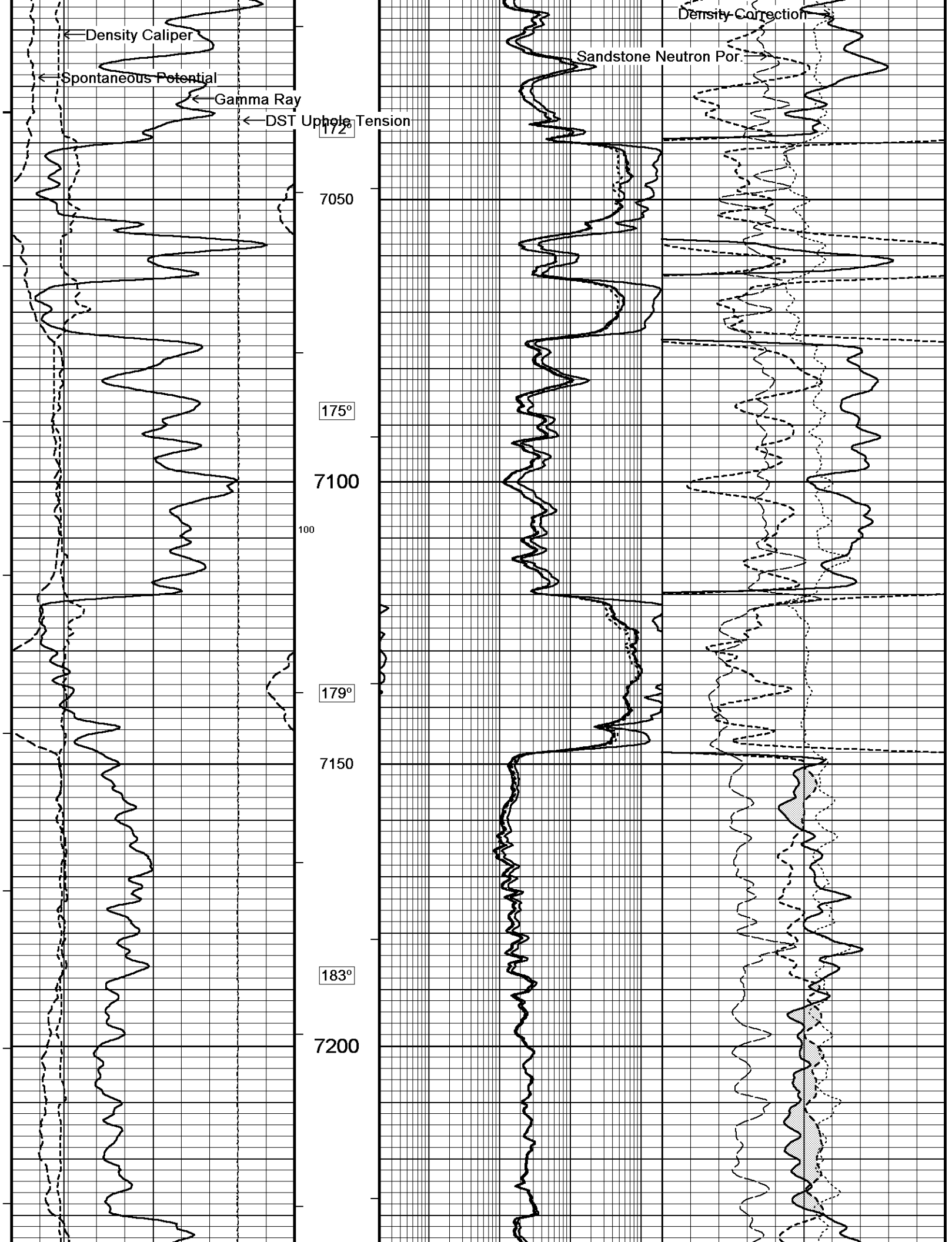


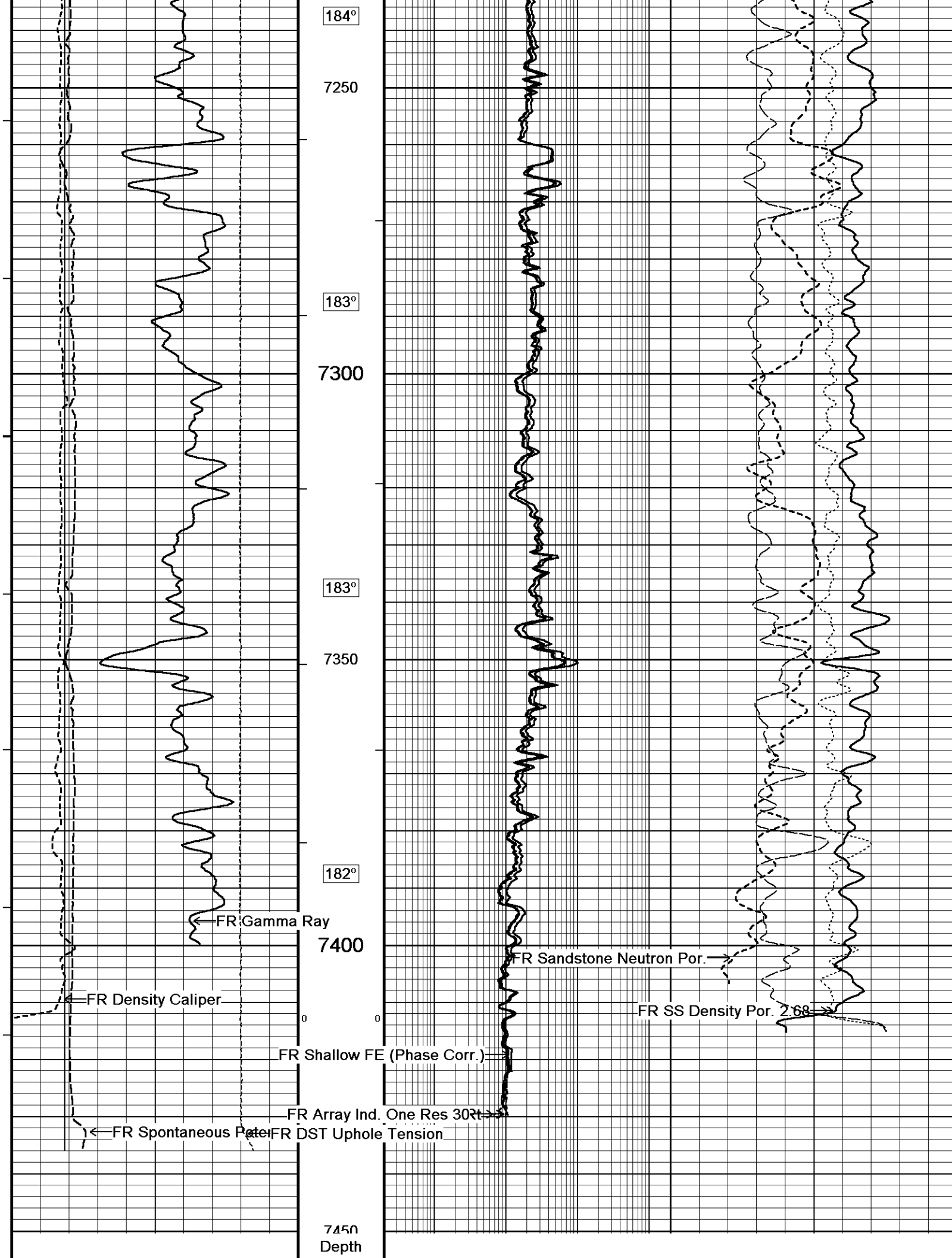


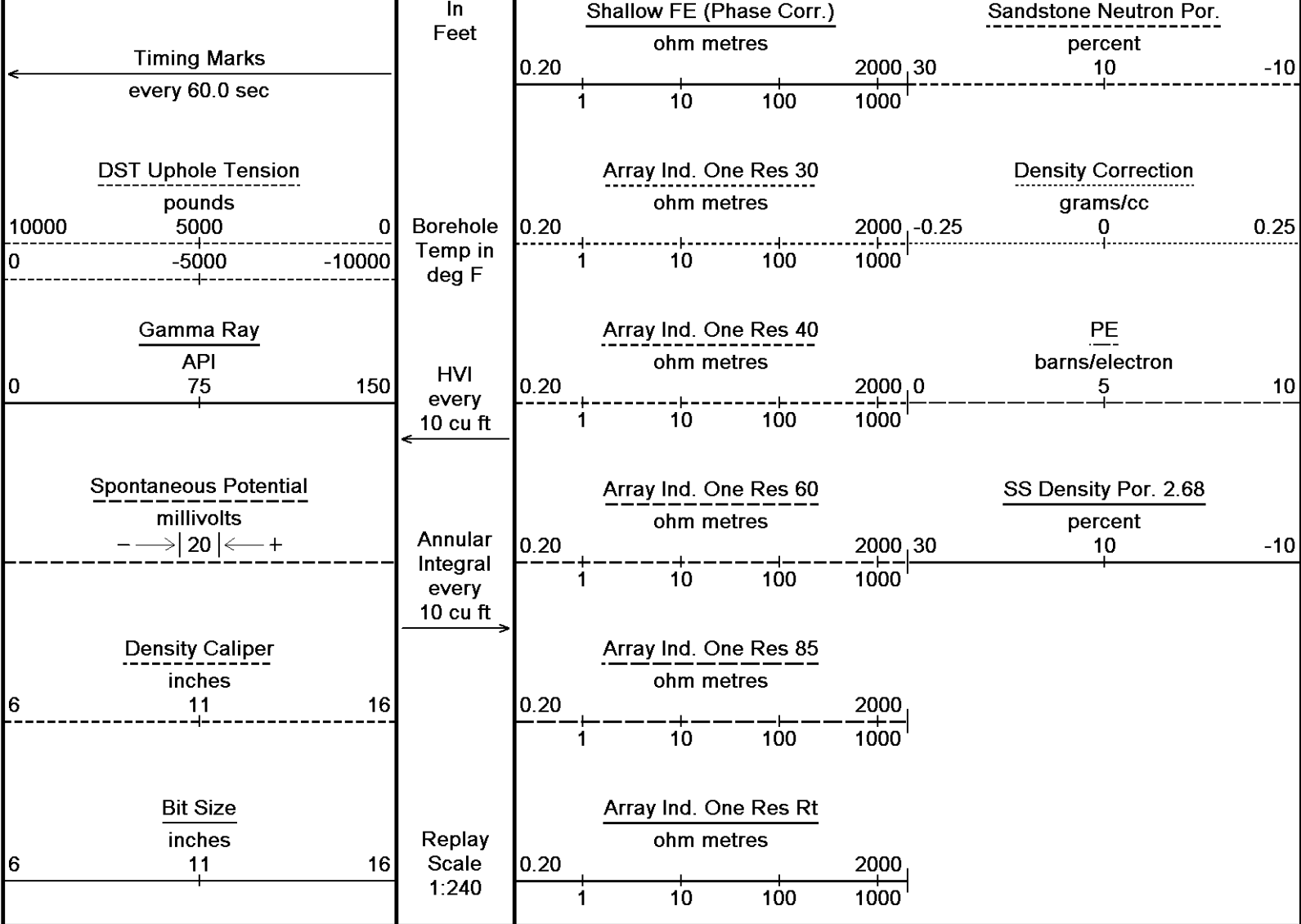












Depth Based Data - Maximum Sampling Increment 10.0cm

Filename: C:\Minimus\Logs\Bill Barrett\GGU FEDERAL 42C-29-691\MAIN2.dta

System Versions: Logged with 11.01.2198 Plotted with 11.01.2198

Plotted on 01-FEB-2011 03:06

Recorded on 01-FEB-2011 01:32

5 INCH MAIN LOG

OVERLAY

Depth Based Data - Maximum Sampling Increment 10.0cm

Filename: C:\Minimus\Logs\Bill Barrett\GGU FEDERAL 42C-29-691\MAIN2.dta

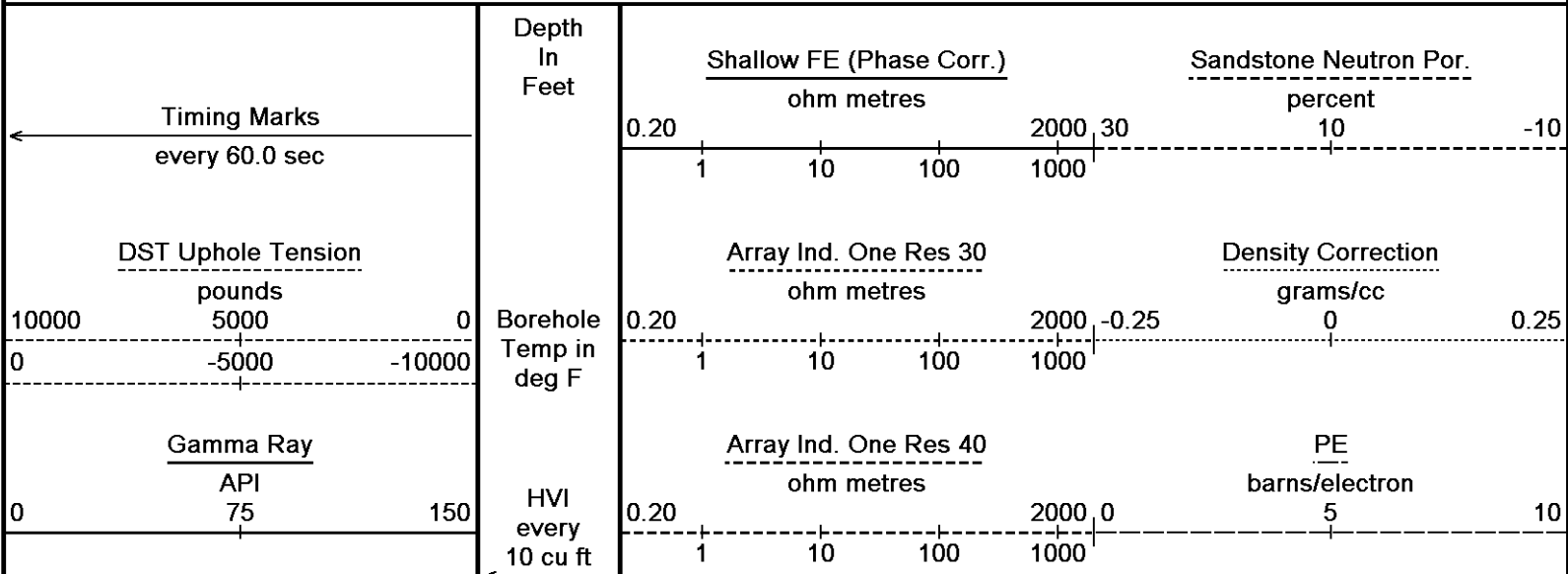
Filename: C:\Minimus\Logs\Bill Barrett\GGU FEDERAL 42C-29-691\repeat.dta

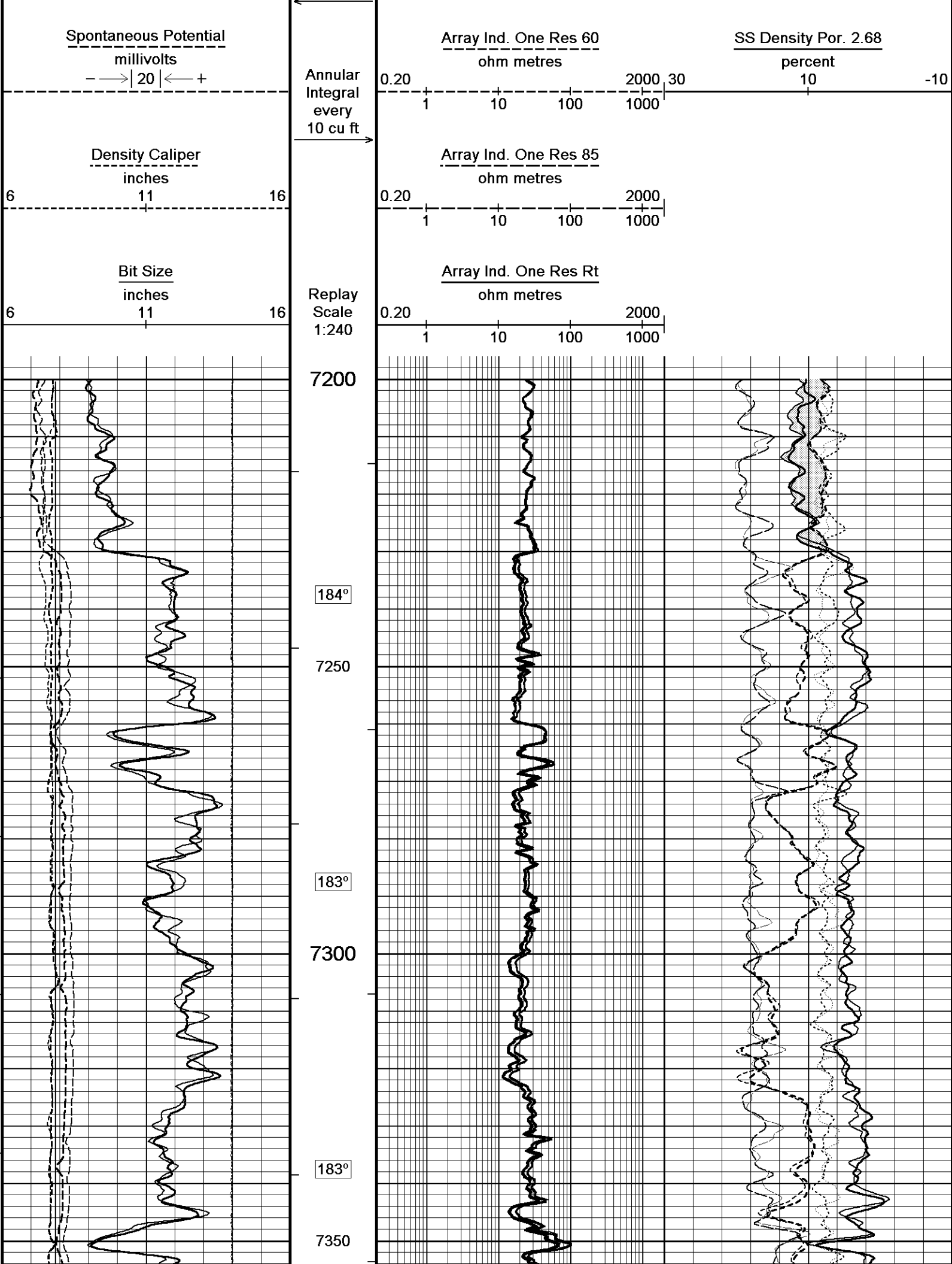
System Versions: Logged with 11.01.2198 Plotted with 11.01.2198

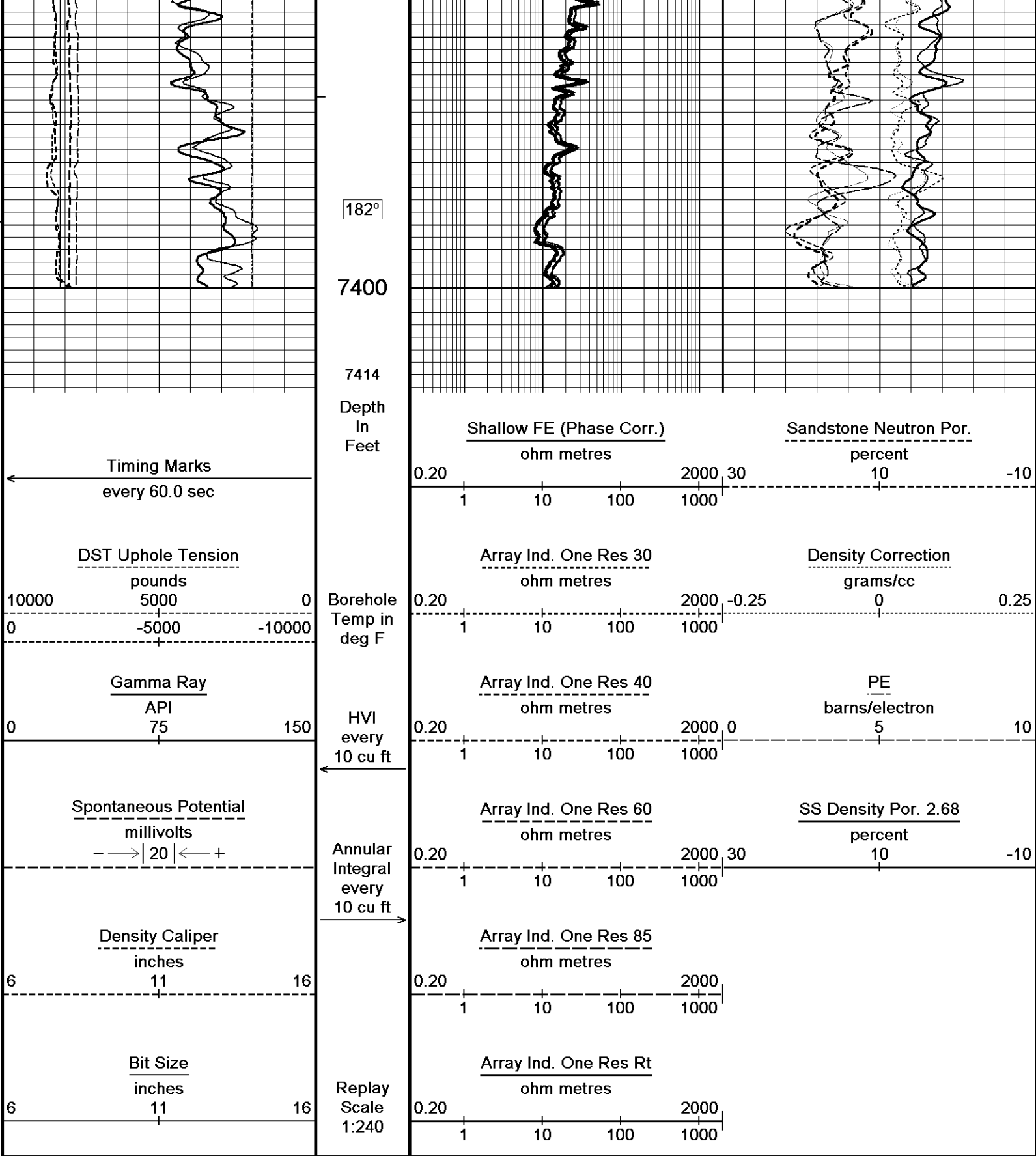
Plotted on 01-FEB-2011 03:06

Recorded on 01-FEB-2011 01:32

Recorded on 31-JAN-2011 23:19







Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\Minimus\Logs\Bill Barrett\GGU FEDERAL 42C-29-691\MAIN2.dta
Filename: C:\Minimus\Logs\Bill Barrett\GGU FEDERAL 42C-29-691\repeat.dta
System Versions: Logged with 11.01.2198 Plotted with 11.01.2198

Plotted on 01-FEB-2011 03:06
Recorded on 01-FEB-2011 01:32
Recorded on 31-JAN-2011 23:19

↑ OVERLAY ↑

BEFORE SURVEY CALIBRATION
C:\Minimus\Logs\Bill Barrett\GGU FEDERAL 42C-29-691\MAIN2.dta

General Constants All 000			Last Edited on 31-JAN-2011,22:51					
General Parameters								
Mud Resistivity	4.600	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	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 0			Field Calibration on 31-JAN-2011		
Reading No	Measured	Calibrated (lbs)			
1	16500.00	250.00			
2	17700.00	350.00			

High Resolution Temperature Calibration MCG-C 192			Field Calibration on 31-JAN-2011,20:29		
	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 31-JAN-2011,19:52		
	Measured	Calibrated (mV)			
Reference 1	102.5	101.0			
Reference 2	-98.8	-101.0			

Gamma Calibration MCG-C 192			Field Calibration on 31-JAN-2011 19:52		
	Measured	Calibrated (API)			
Background	89	61			
Calibrator (Gross)	1425	973			
Calibrator (Net)	1336	912			

Gamma Constants MCG-C 192			Last Edited on 31-JAN-2011,20:29		
Gamma Calibrator Number	GRC-072				
Mud Density	1.00	gm/cc			
Caliper Source for Processing	Bit Size				
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 31-JAN-2011 20:01	
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)		
				1290	1990	
Ratio				0.648		

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-JAN-2011 14:22

Field Check on 31-JAN-2011 22:14

Base Calibration		
	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	968.2	126.8
Base Check		280.9
Field Check		281.2

FE Constants MFE-A.A 85

Last Edited on 31-JAN-2011,20:28

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 212

Field Calibration on 25-JAN-2011,16:12

	Measured	Calibrated(Deg F)
Lower	10.00	50.00
Upper	100.00	212.00

High Resolution Temperature Constants MAI-B.A 212

Last Edited on 03-JAN-2011,01:08

Pre-filter Length	11
-------------------	----

Induction Calibration MAI-B.A 212

Base Calibration on 12-NOV-2010,10:48

Field Check on

Base Calibration				
Test Loop Calibration		Measured		Calibrated (mmho/m)
Channel	Low	High	Low	High
1	16.6	473.9	9.3	966.2
2	6.2	387.5	7.6	821.4
3	3.9	263.1	5.2	566.0
4	2.0	132.9	2.6	279.2
Array Temperature		71.2		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 212

Last Edited on 01-FEB-2011,02:42

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		0.0000	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 21-JAN-2011 16:11

Field Calibration on 25-JAN-2011,16:15

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	18525	4.00
2	27040	5.96
3	34832	7.98
4	43072	9.86
5	52544	11.88
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
6.05	5.96

Photo Density Calibration MPD-B 167

Base Calibration on 21-JAN-2011 15:55

Field Check on 31-JAN-2011 22:12

Density Calibration

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	48339	18513	53115	19186
Reference 2	22777	3049	25020	2536

Field Check at Base

1168.2 1745.6

Field Check

1174.5 1744.2

PE Calibration

Base Calibration

	WS	Measured WH	Ratio	Calibrated Ratio
Background	216	1046		
Reference 1	14699	48168	0.307	0.320
Reference 2	5890	22643	0.263	0.272

Field Check at Base

216.3	1045.7
-------	--------

Field Check

212.6	1046.1
-------	--------

Density Constants MPD-B 167

Last Edited on 31-JAN-2011,20:25

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	1.27 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 FEDERAL 42C-29-691\MAIN2.dta

FE Check MFE-A.A 85

Before Survey Check 31-JAN-2011 22:14
After Survey Check on 01-FEB-2011 02:40

Before (ohm-m)	After (ohm-m)
281.2	280.8

Induction Check MAI-B.A 212

Before Survey Check on
After Survey Check on 01-FEB-2011 02:45

Channel	Before Survey (mmho/m)		After Survey (mmho/m)	
	Low	High	Low	High
1	0.0	0.0	13.4	3844.4
2	0.0	0.0	29.6	3491.4
3	0.0	0.0	27.5	3023.8
4	0.0	0.0	19.6	2088.0
Deep	0.0	0.0	17.0	2015.1
Medium	0.0	0.0	39.6	3941.5
Shallow	0.0	0.0	44.1	5104.7
Array Temperature		0.0		55.5

Photo Density Check MPD-B 167

Before Survey Check on 31-JAN-2011 22:12
After Survey Check on 01-FEB-2011 02:38

Density Check

	Near		Far	
	Before	After	Before	After
	1174.5	1172.5	1744.2	1747.9

PE Check

WS
WH

Before
212.6
1046.1

After
213.1
1045.3

DOWNHOLE EQUIPMENT

C:\Minimus\Logs\Bill Barrett\GGU FEDERAL 42C-29-691\MAIN2.dta

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

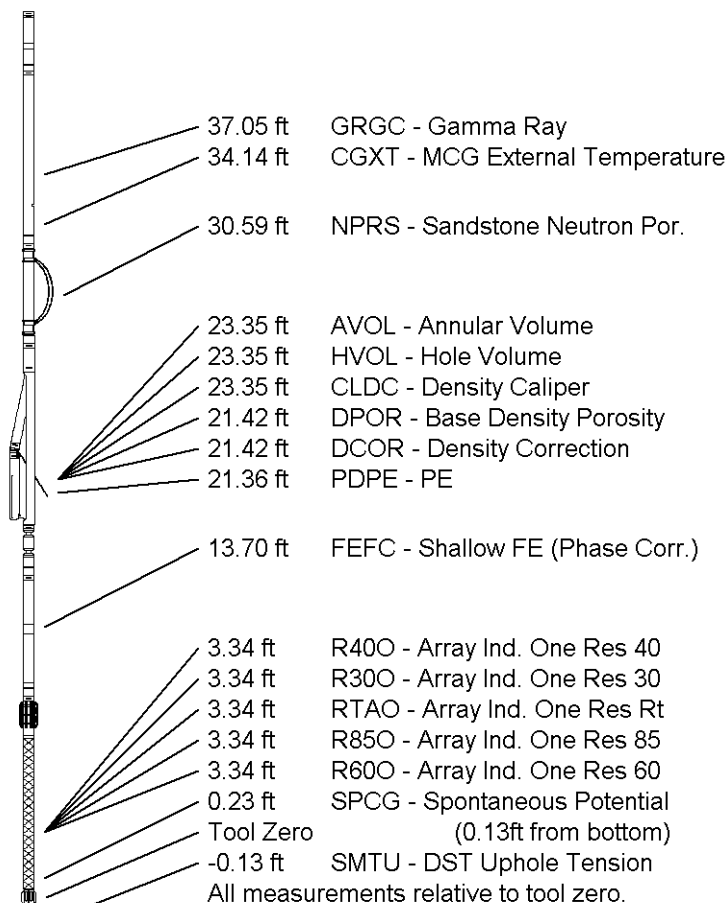
Compact Focussed Electric

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

Compact Induction

MAI-B.A 212 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

Total Length: 45.08 ft Weight: 352.7 lb



COMPANY

BILL BARRETT CORPORATION

WELL

GGU FEDERAL 42C-29-691

FIELD

GIBSON GULCH

PROVINCE/COUNTY

GARFIELD

COUNTRY/STATE

U.S.A. / COLORADO

Elevation Kelly Bushing 6127.00 feet

Elevation Drill Floor 6126.00 feet

Elevation Ground Level 6104.00 feet

First Reading 7429.00

Depth Driller 7435.00 feet

Depth Logger 7433.00 feet



Weatherford®

COMPACT TRIPLE COMBO
QUICKLOOK
LOG

