



Weatherford

**COMPACT TRIPLE COMBO
QUICKLOOK
LOG**

COMPANY

BILL BARRETT CORPORATION

WELL

GGU DALEY 21D-30-691

FIELD

GIBSON GULCH

PROVINCE/COUNTY

GARFIELD

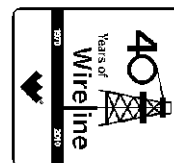
COUNTRY/STATE

U.S.A. / COLORADO

LOCATION

SHL: 236' FSL & 2009' FWL

BHL: 185' FNL & 1960' FWL



SEC TWP RGE Other Services

30 6S 91W

API Number 05-045-19578

Permit Number

Permanent Datum G.L., Elevation 7290 feet

Log Measured From K.B. @ 22 FEET above Permanent Datum

Drilling Measured From K.B.

Elevations:

feet

KB 7312.00
DF 7311.00
GL 7290.00

Date 07-APR-2011

Run Number ONE

Depth Driller 7310.00 feet

Depth Logger 7313.00 feet

First Reading 7310.00

Last Reading 811.00

Casing Driller 814.00 feet

Casing Logger 811.00 feet

Bit Size 7.880 inches

Hole Fluid Type LSND

Density / Viscosity 10.60 lb/USg 54.00 CP

PH / Fluid Loss 9.00 6.60 ml/30Min

Sample Source FLOW LINE

Rm @ Measured Temp 2.90 @ 97.0 ohm-m

Rmf @ Measured Temp 2.32 @ 97.0 ohm-m

Rmc @ Measured Temp 3.48 @ 97.0 ohm-m

Source Rmf / Rmc CALC CALC

Rm @ BHT 1.62 @ 176.0 ohm-m

Time Since Circulation 5 HOURS

Max Recorded Temp 176.00 deg F

Equipment Name COMPACT

Equipment / Base 13173 GD JCT

Recorded By D. KUNTZ

Witnessed By J. BOYD

BOREHOLE RECORD

Last Edited: 07-APR-2011 08:25

Bit Size
inches

Depth From
feet

Depth To
feet

8.750

811.00

5390.00

7.880

5390.00

7310.00

CASING RECORD

Type

Size
inches

Depth From
feet

Shoe Depth
feet

Weight
pounds/ft

SURFACE

9.625

0.00

811.00

36.00

REMARKS

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.
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.

MAIN LOG SPLICED AT 3120 FEET DUE TO INDUCTION AND SP RESPONSE WITH NO CHANGE IN DATA RESPONSE.

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

8.75 INCH BIT CHANGE AT 5390 FT.

TOTAL HOLE VOLUME FROM TD TO SURFACE CASING = 2865 CU.FT.

ANNULAR VOLUME WITH 4.5 INCH PRODUCTION CASING = 2150 CU.FT.

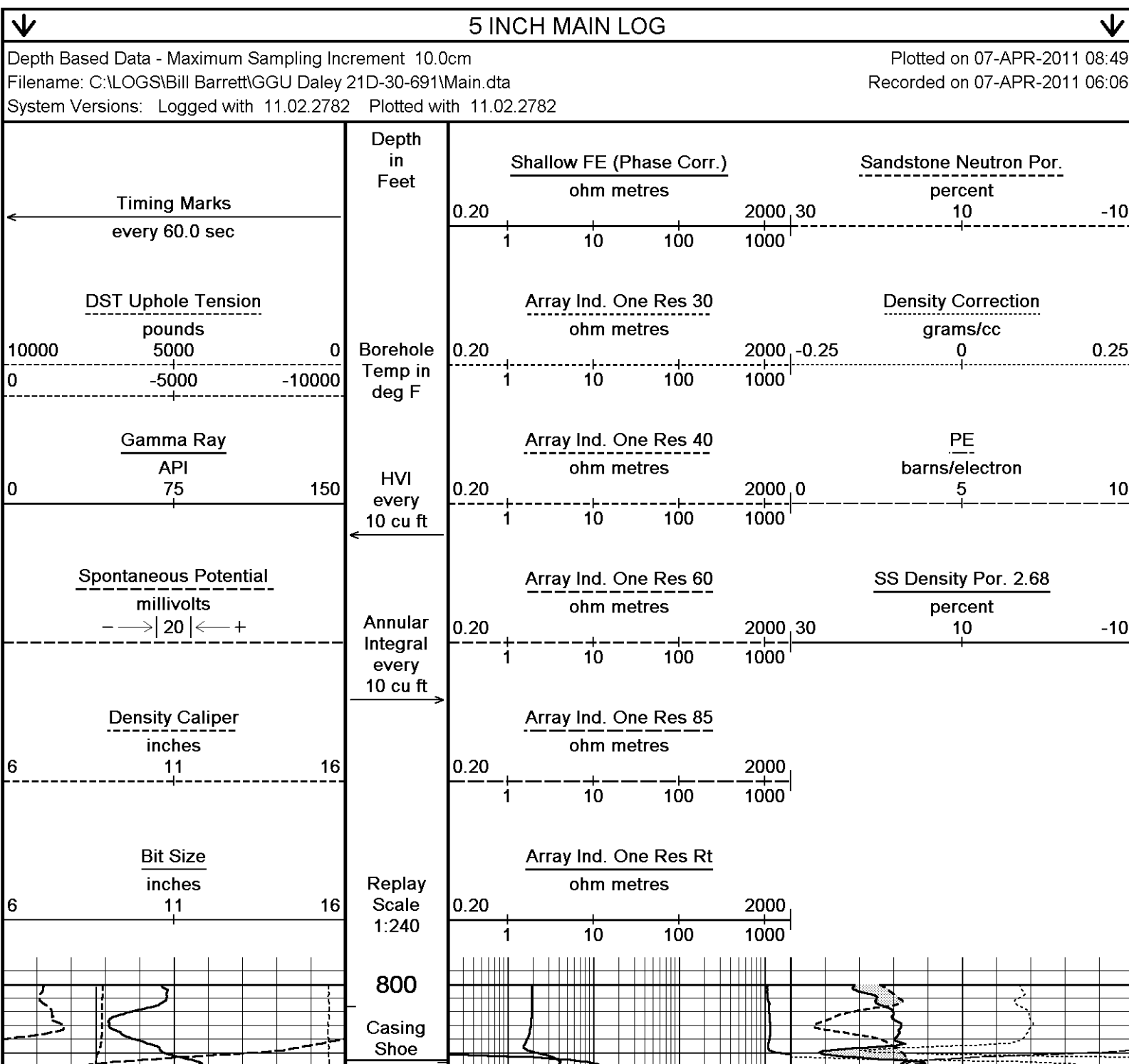
ENGINEER(S): D. KUNTZ, O. GOYZUETA(JFE)

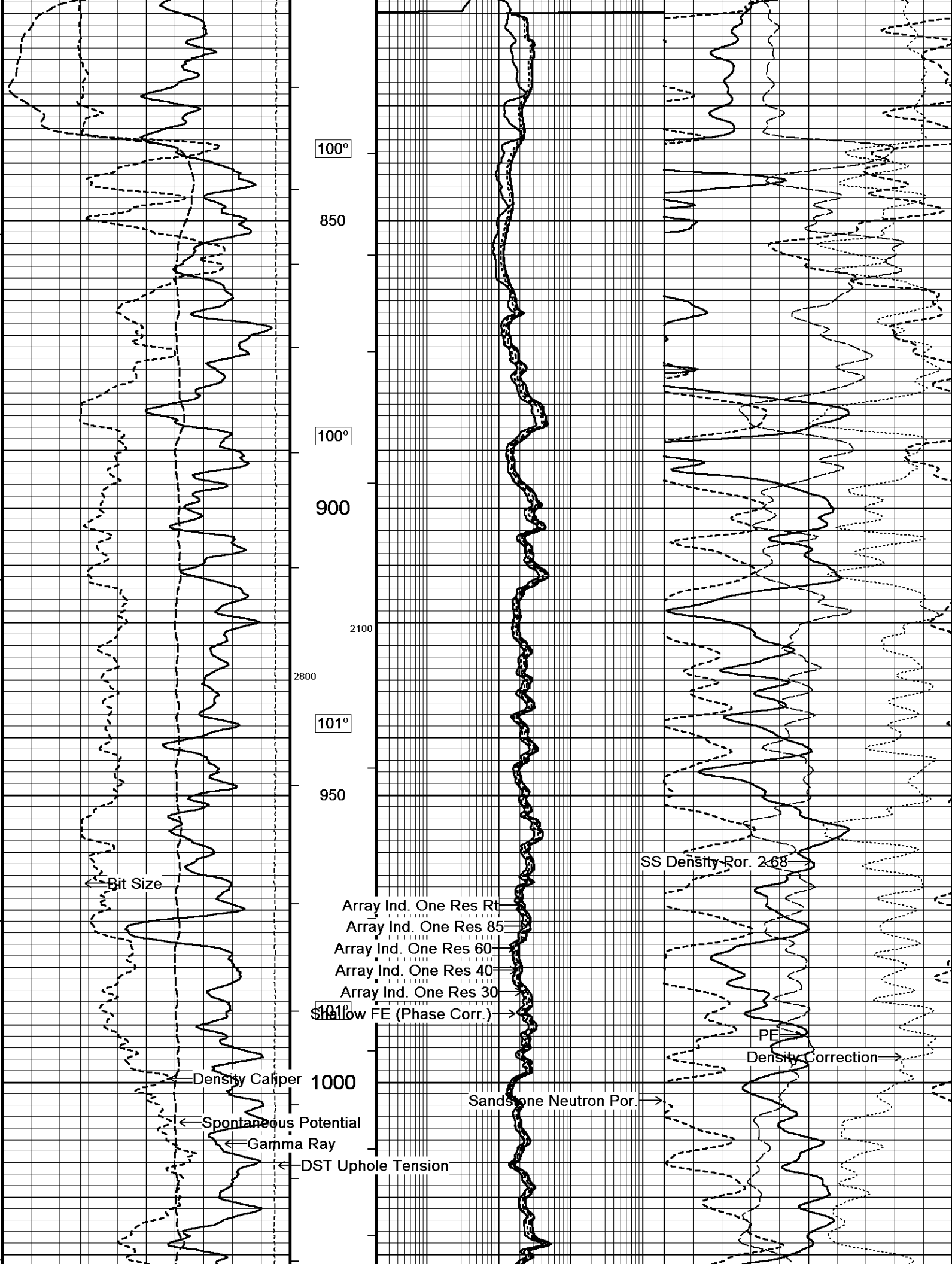
OPERATOR(S): J. YOAKUM, D. DALEY

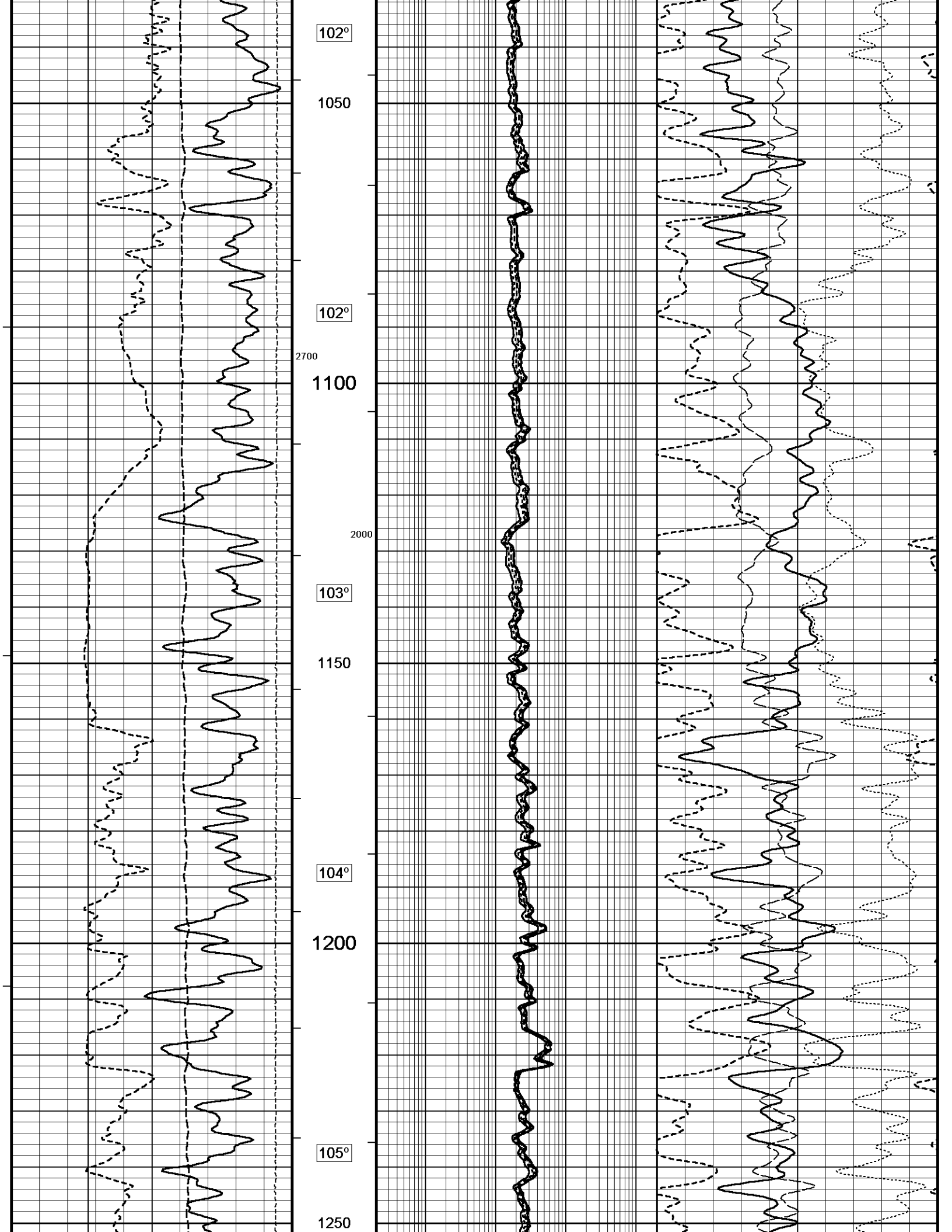
SERVICE ORDER: # 3524859

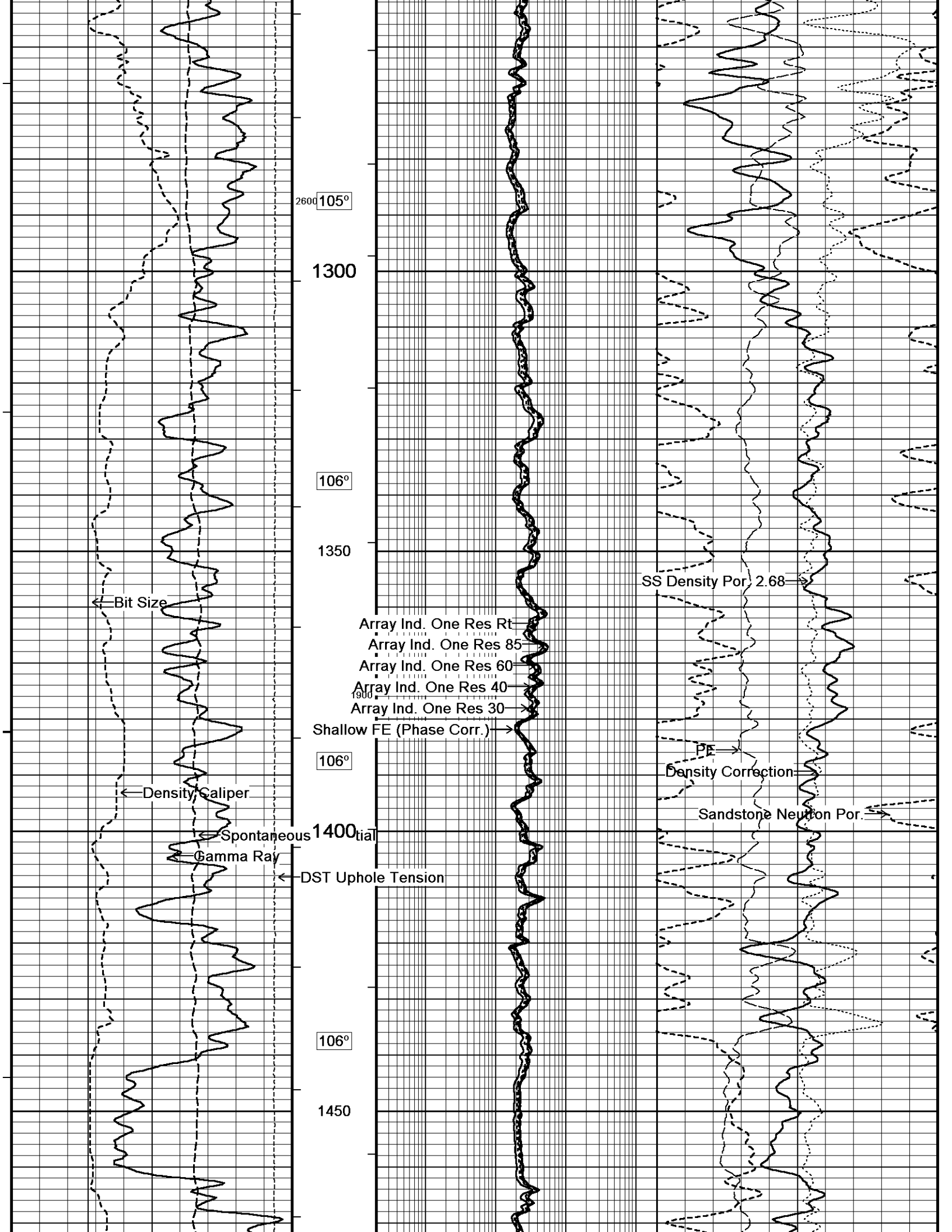
RIG: PATTERSON #307

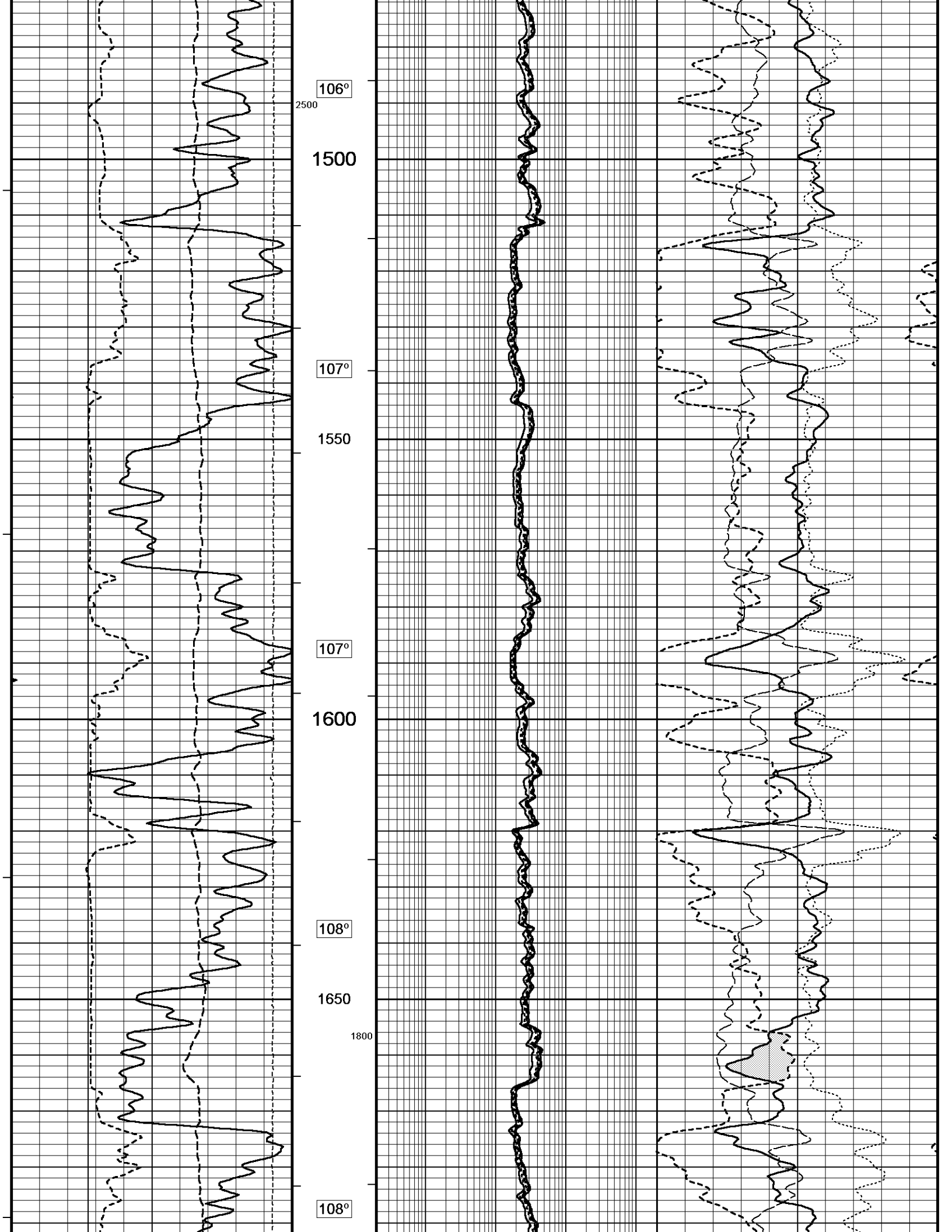
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs,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

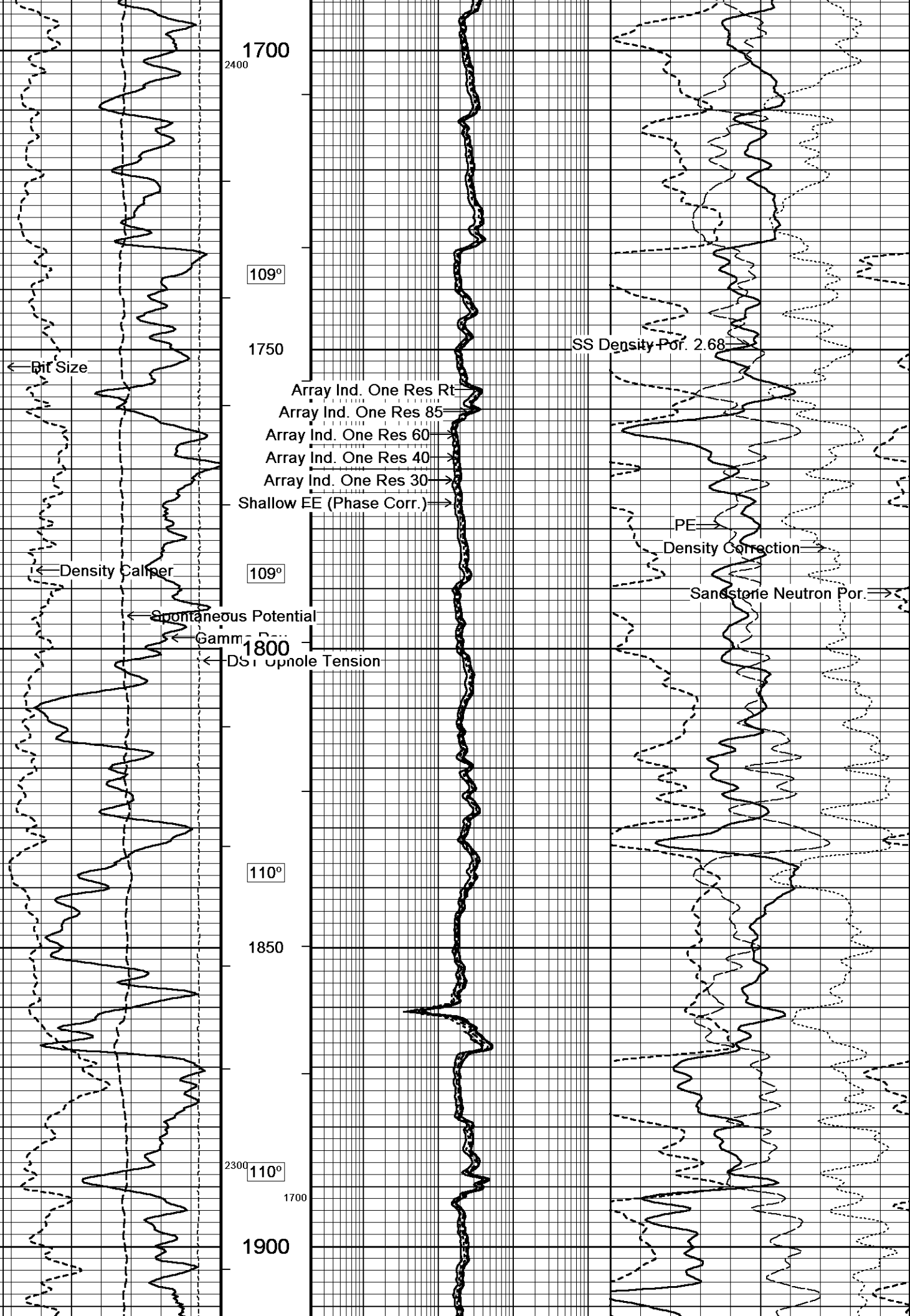


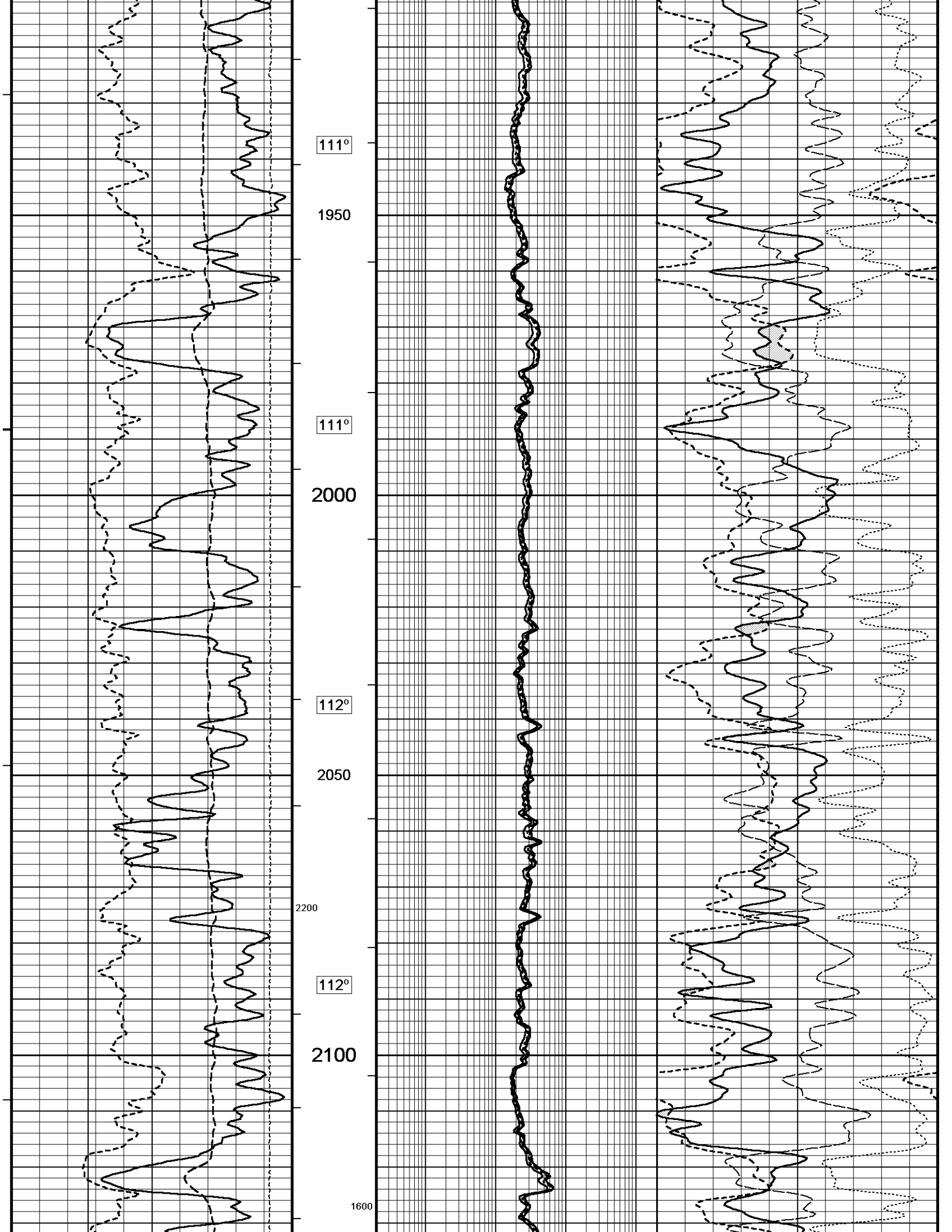


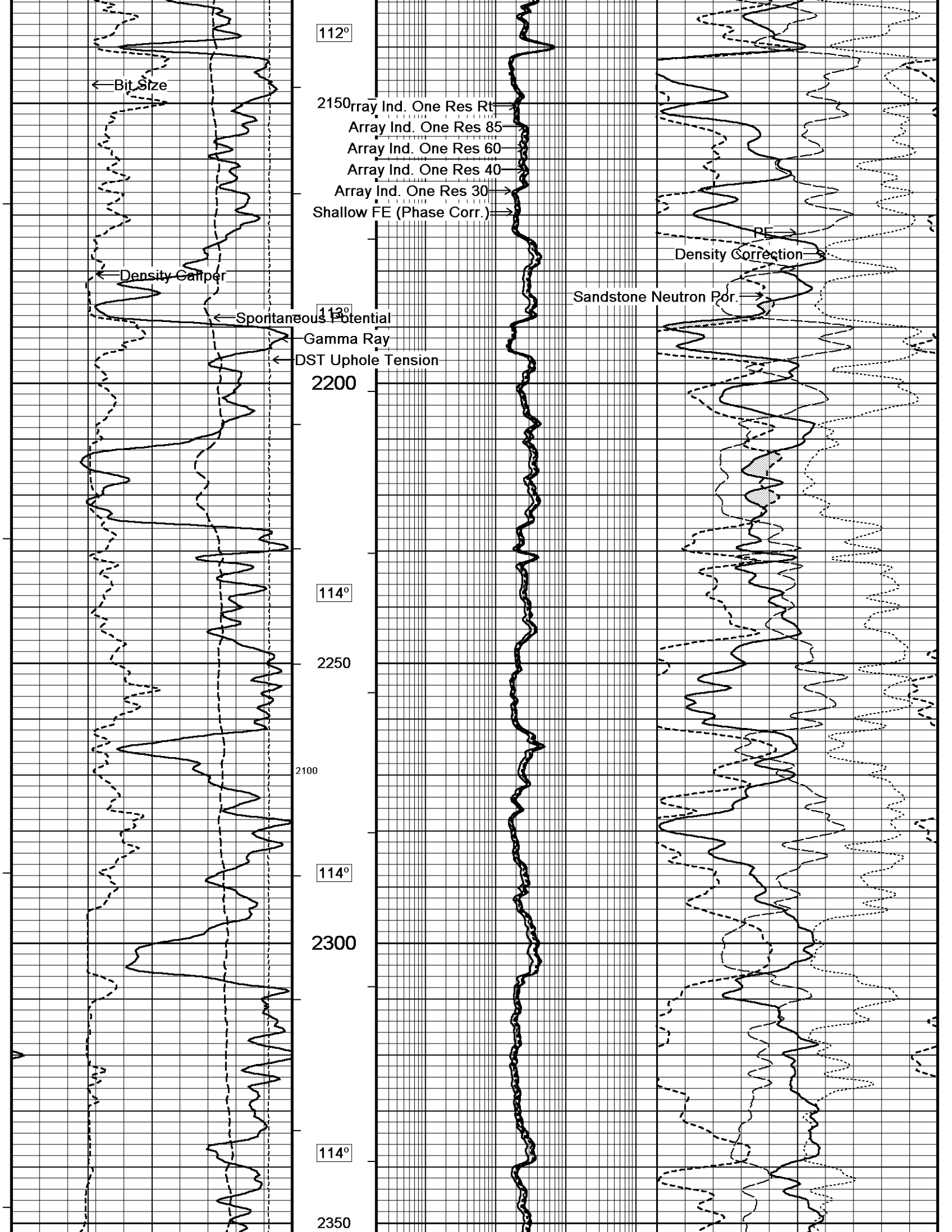


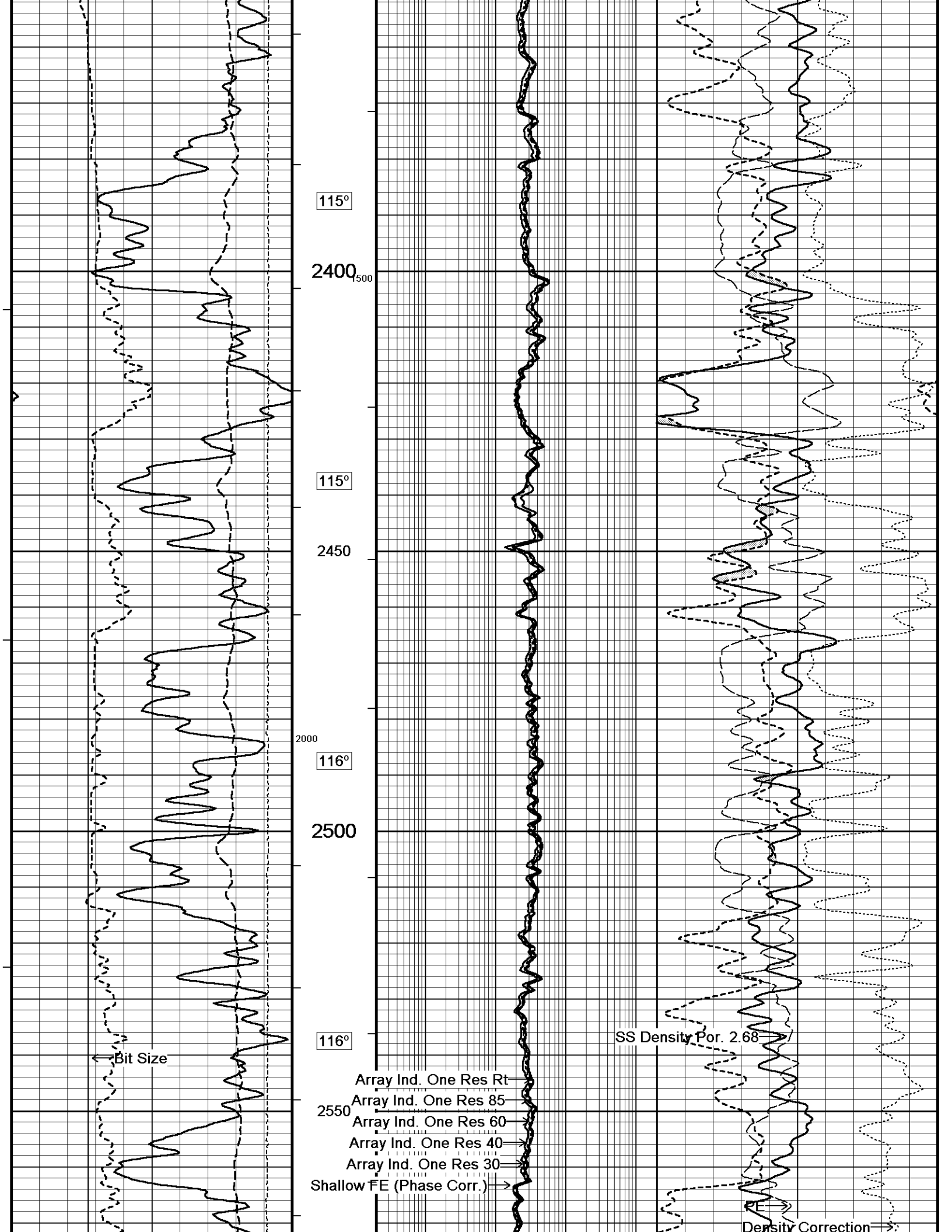


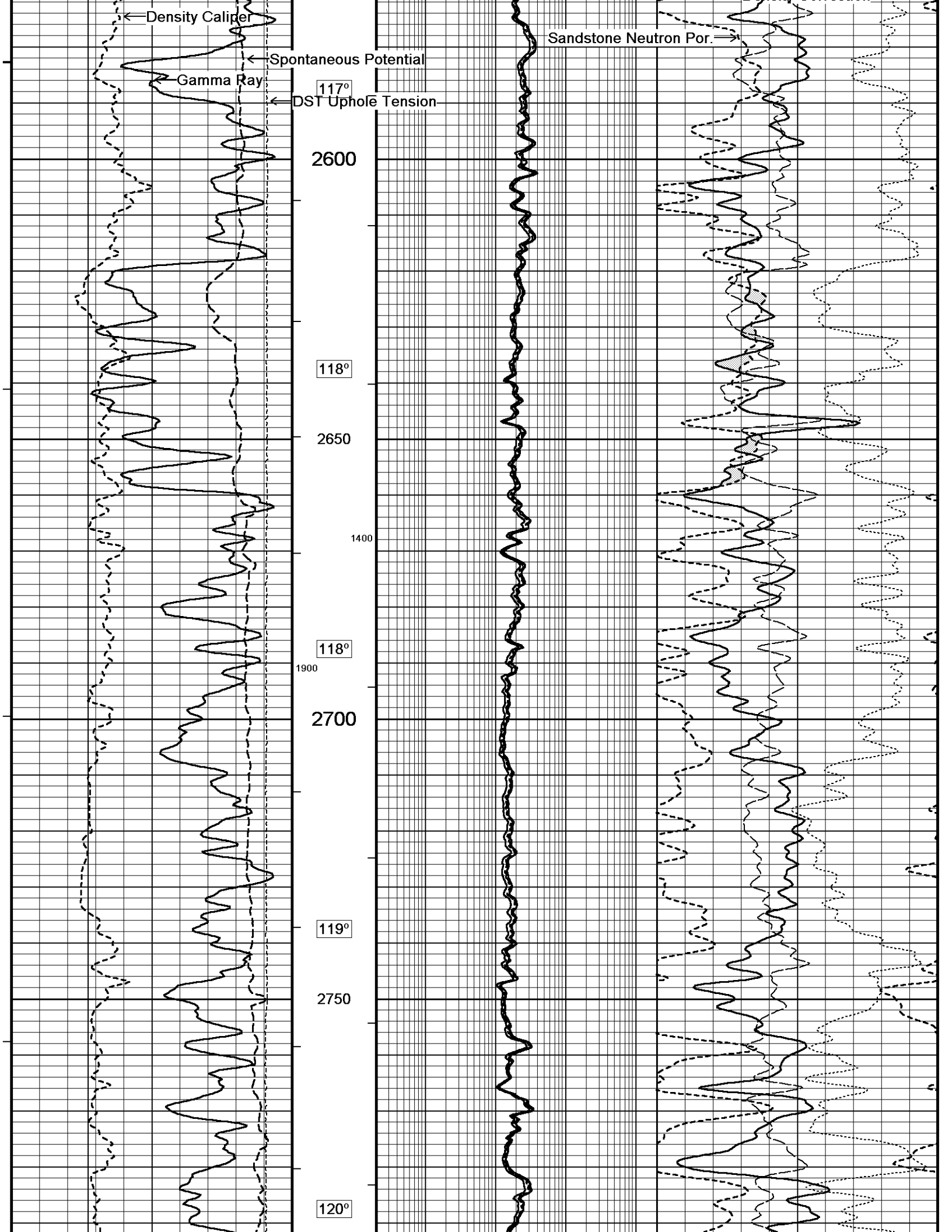


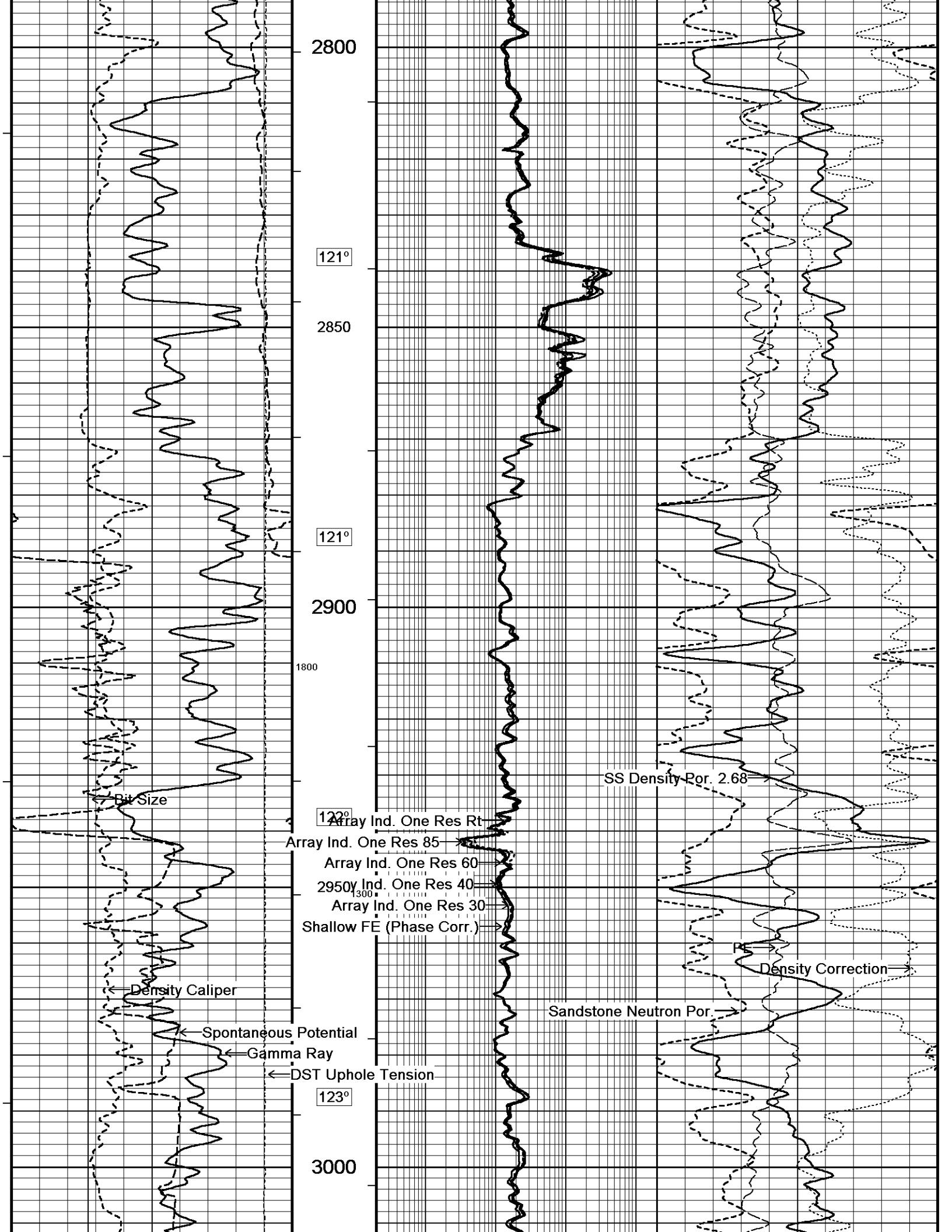


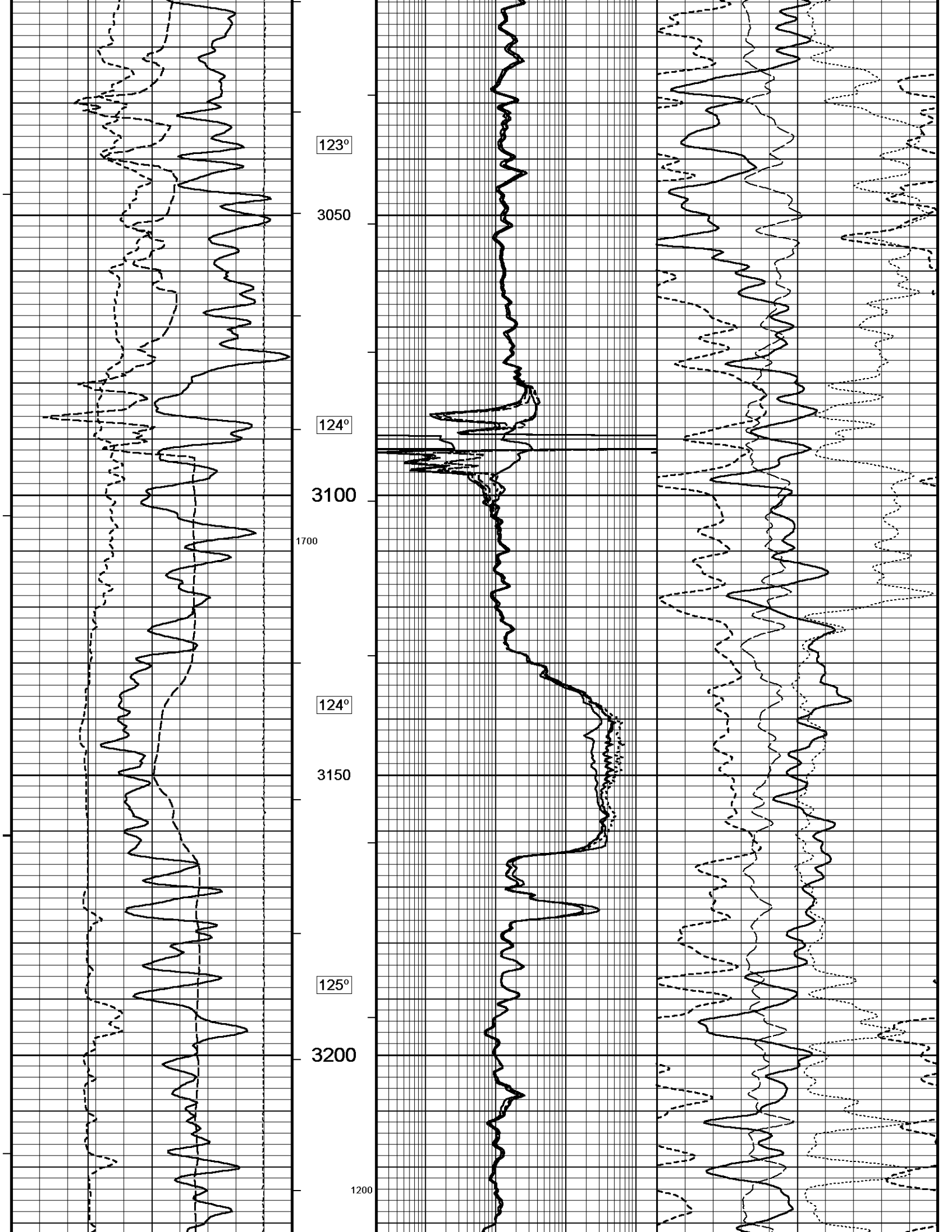


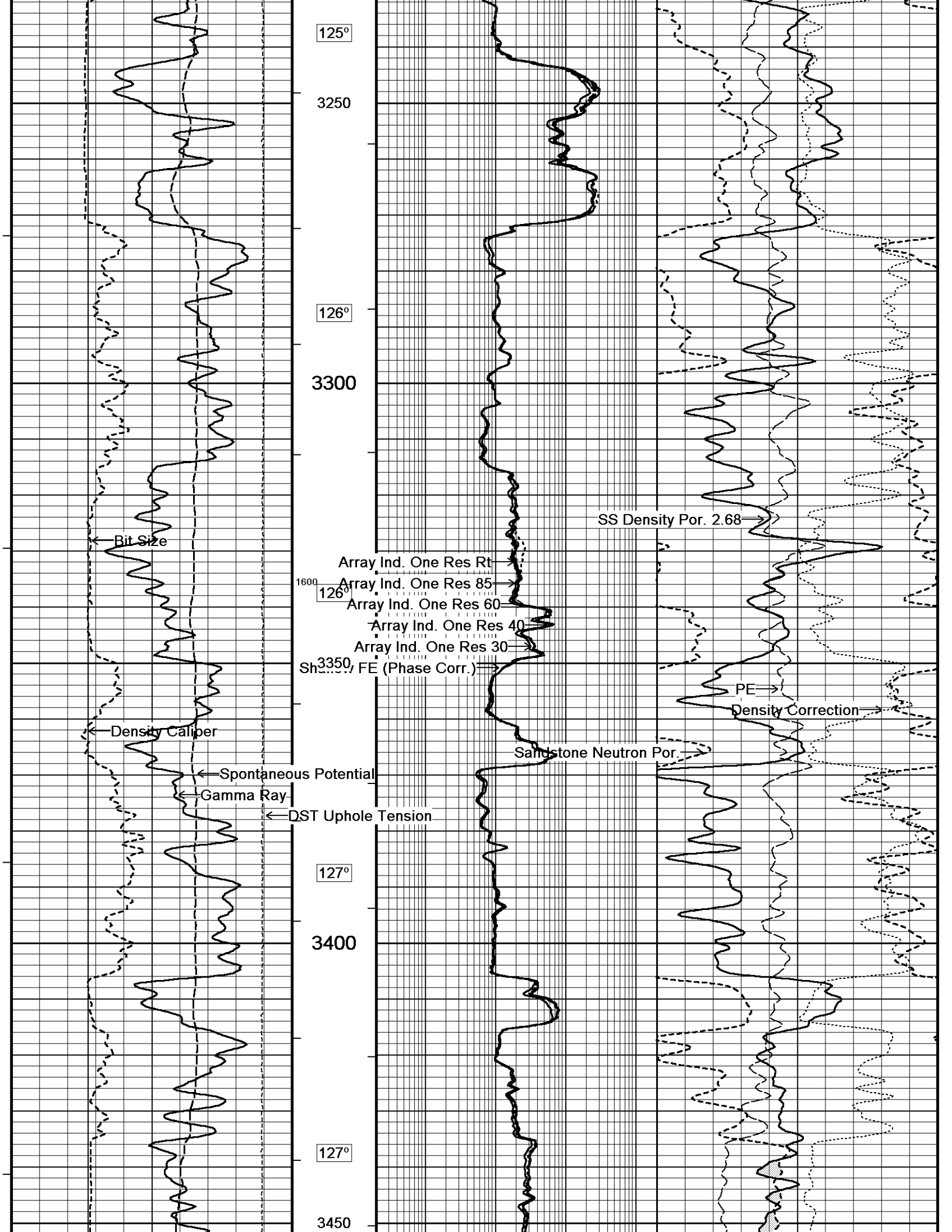


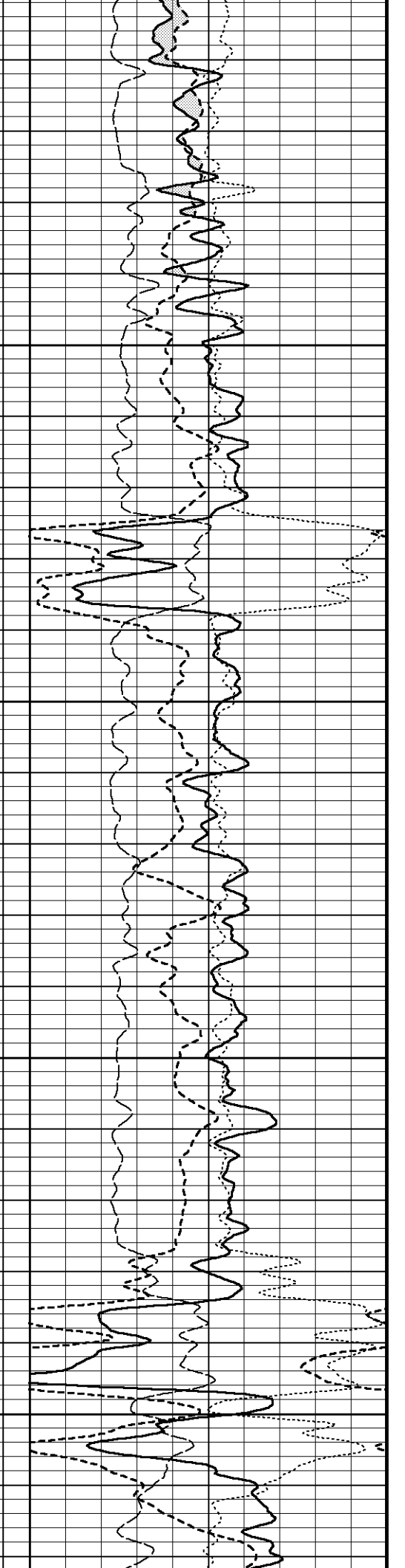
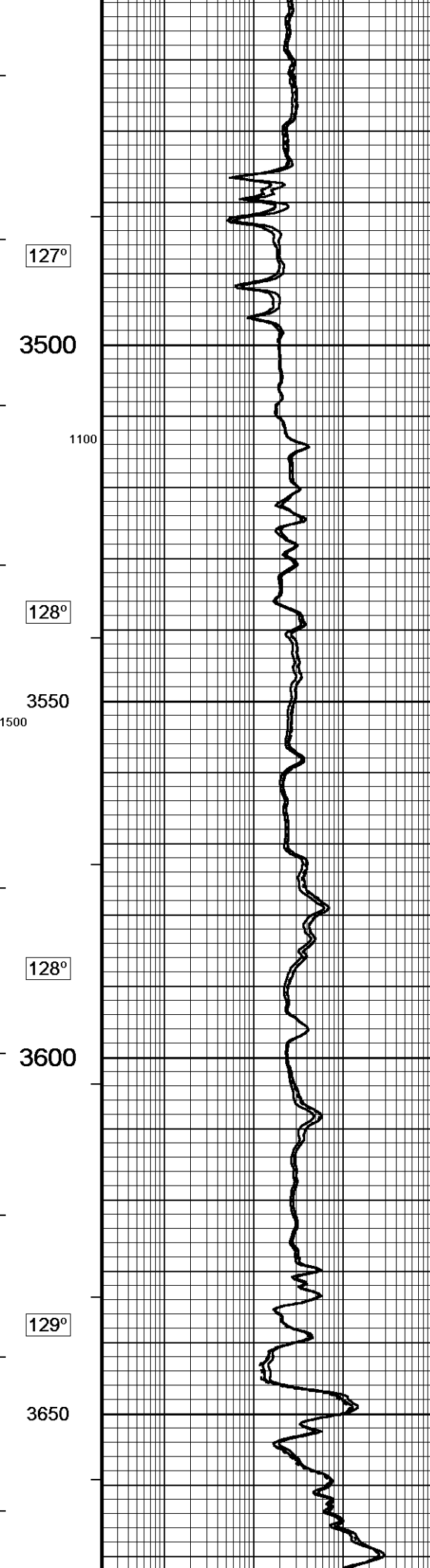
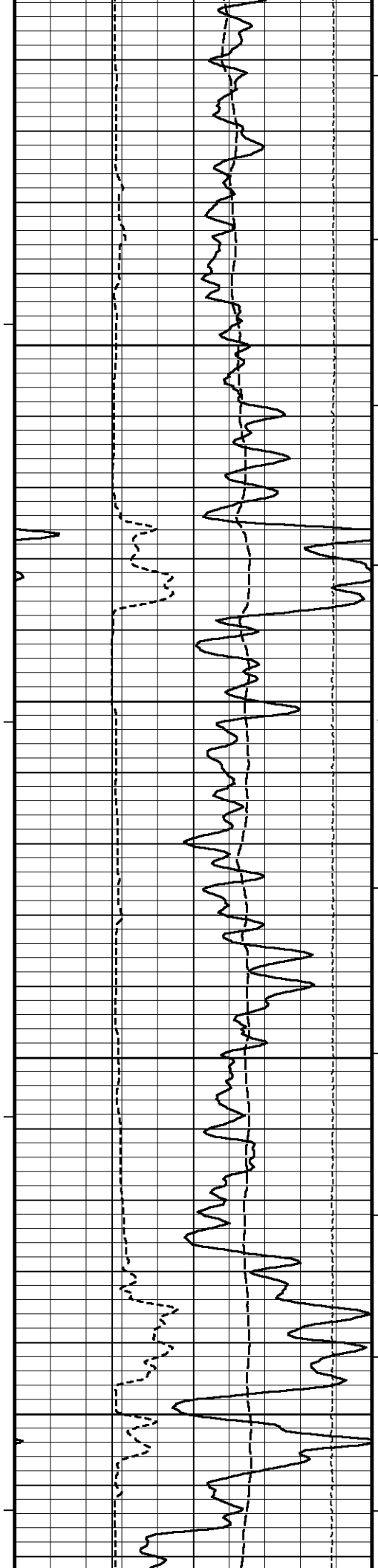


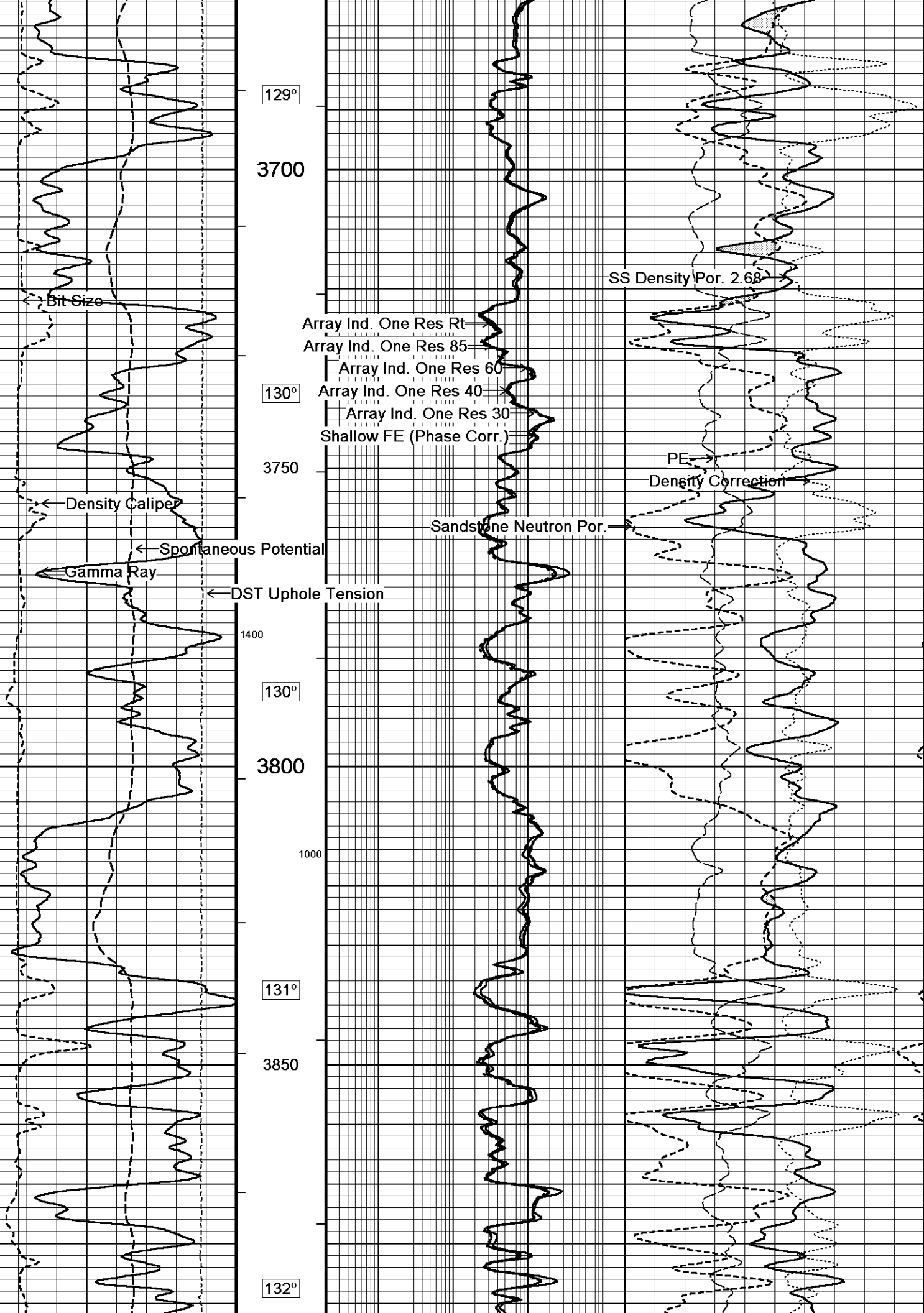


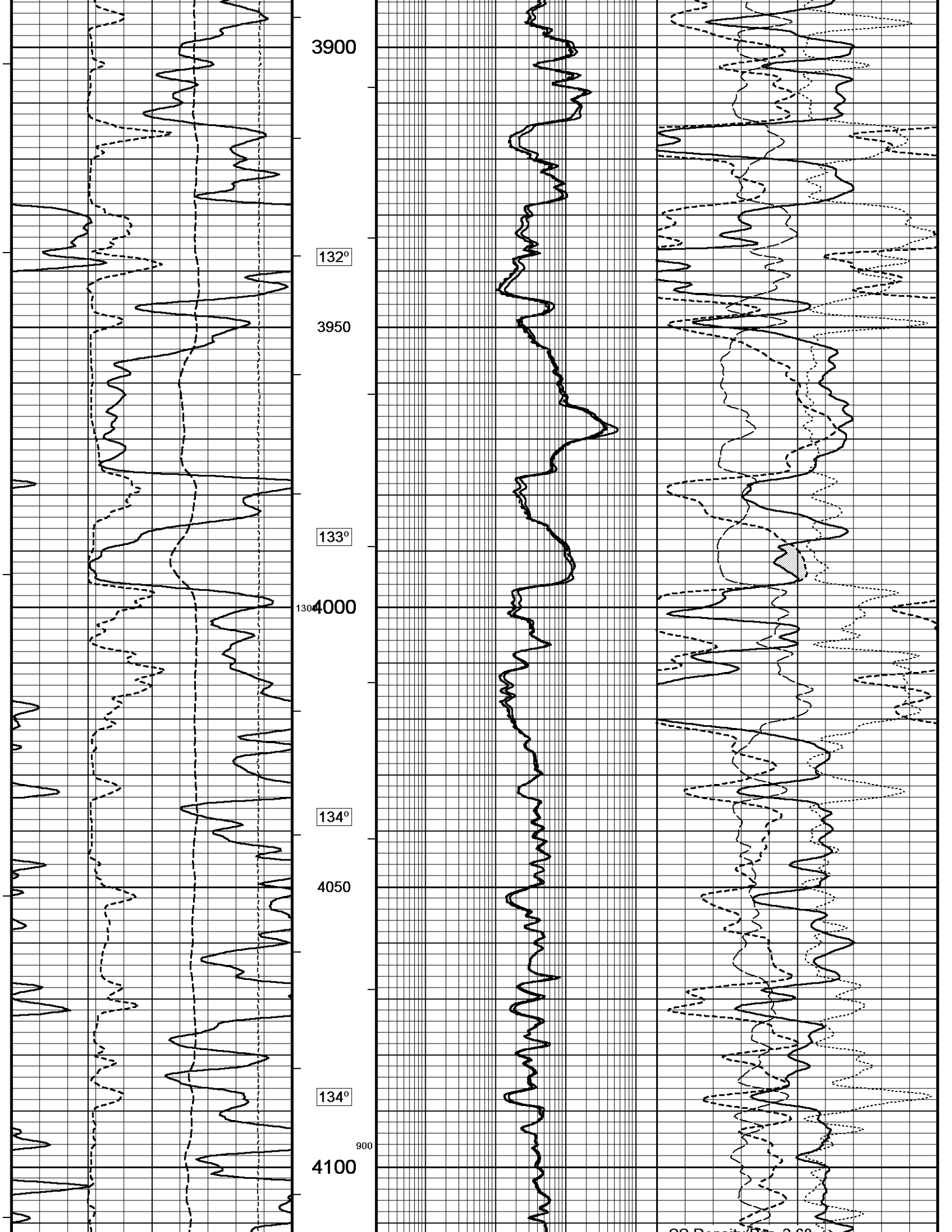


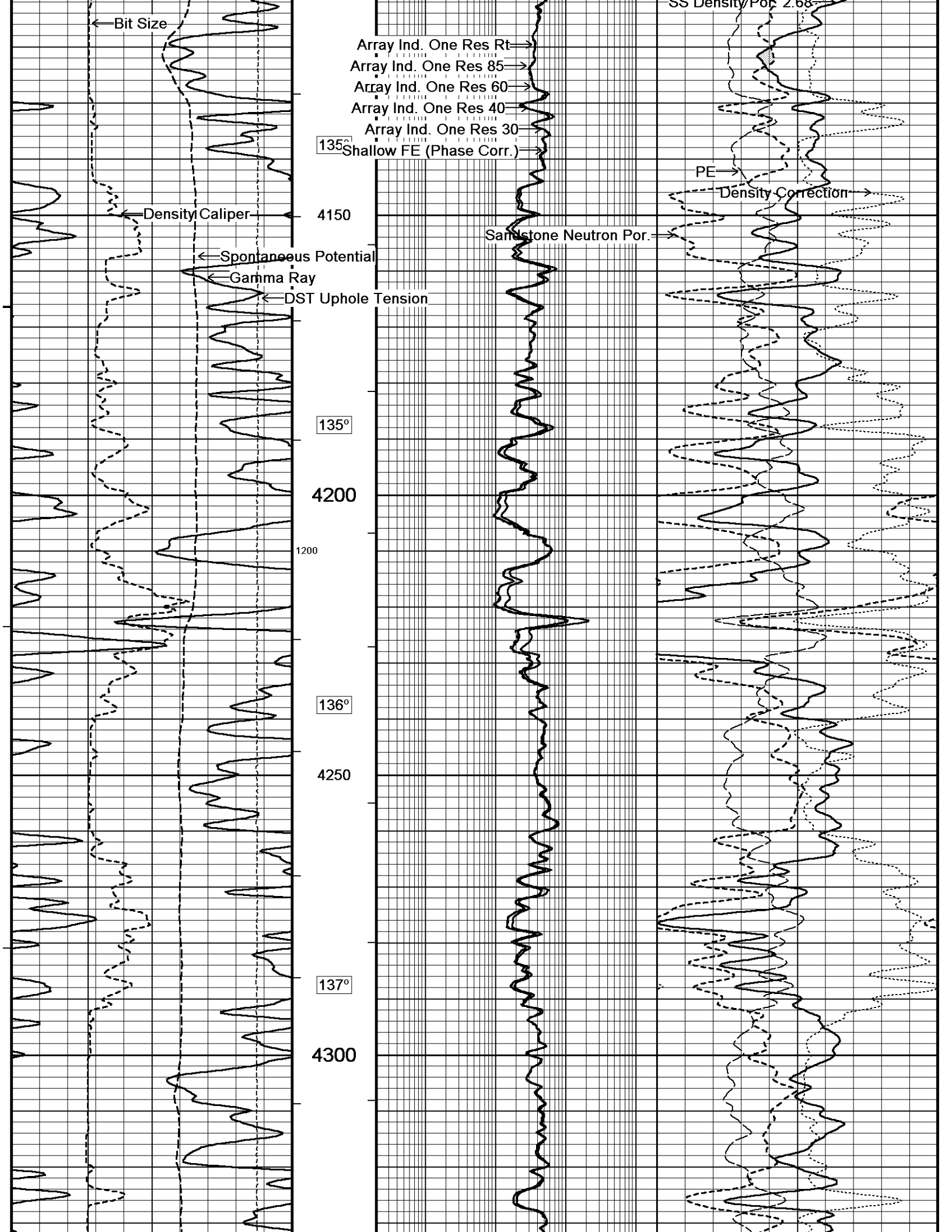


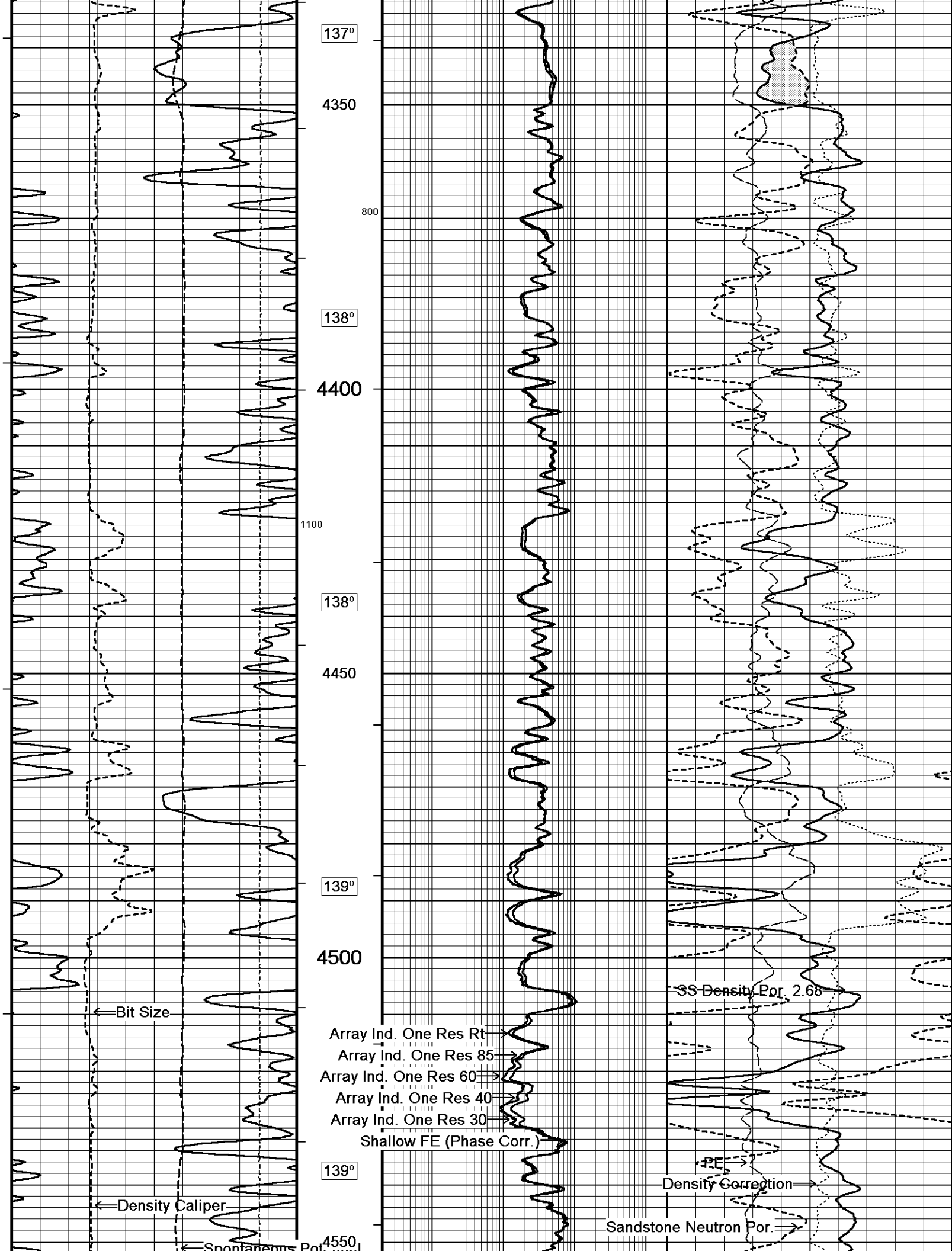


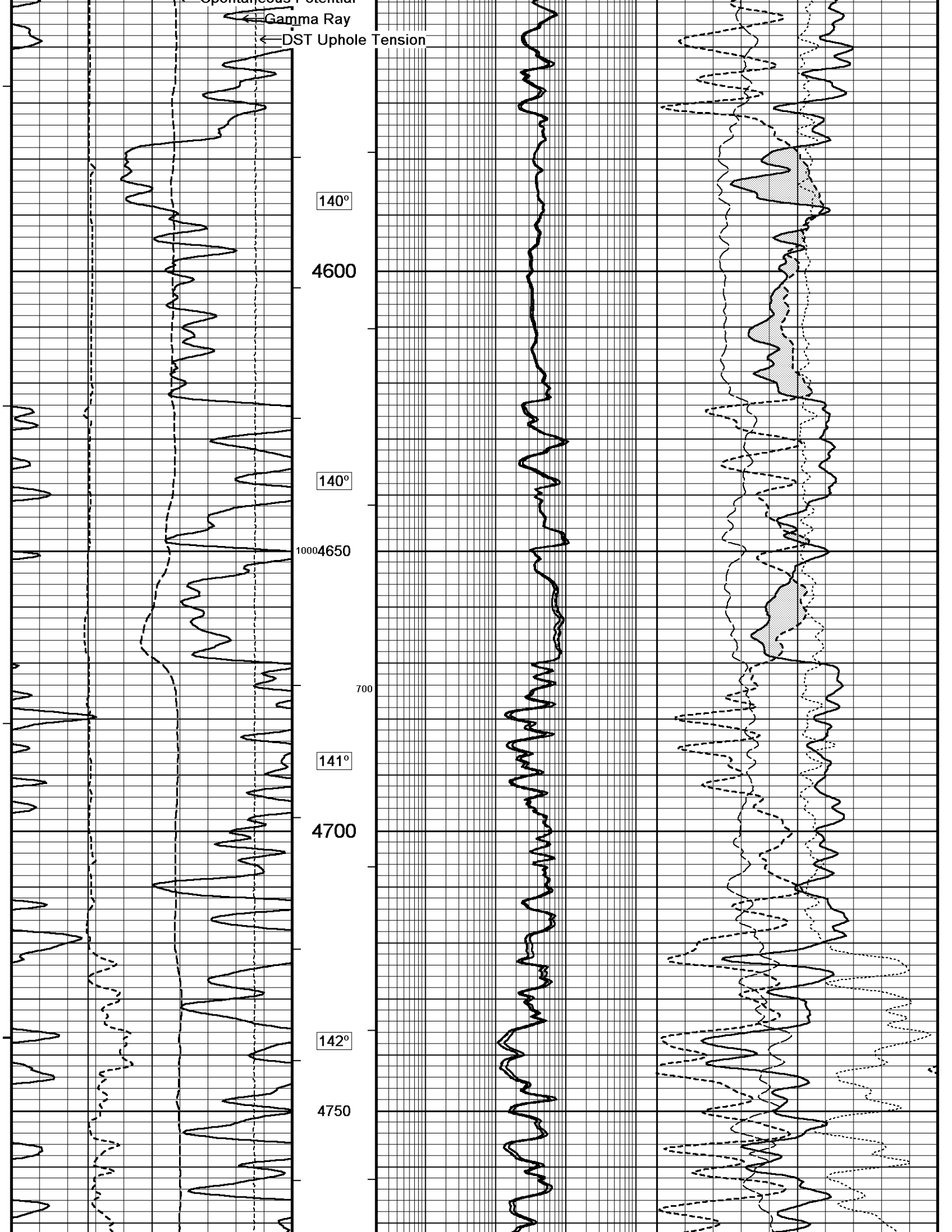


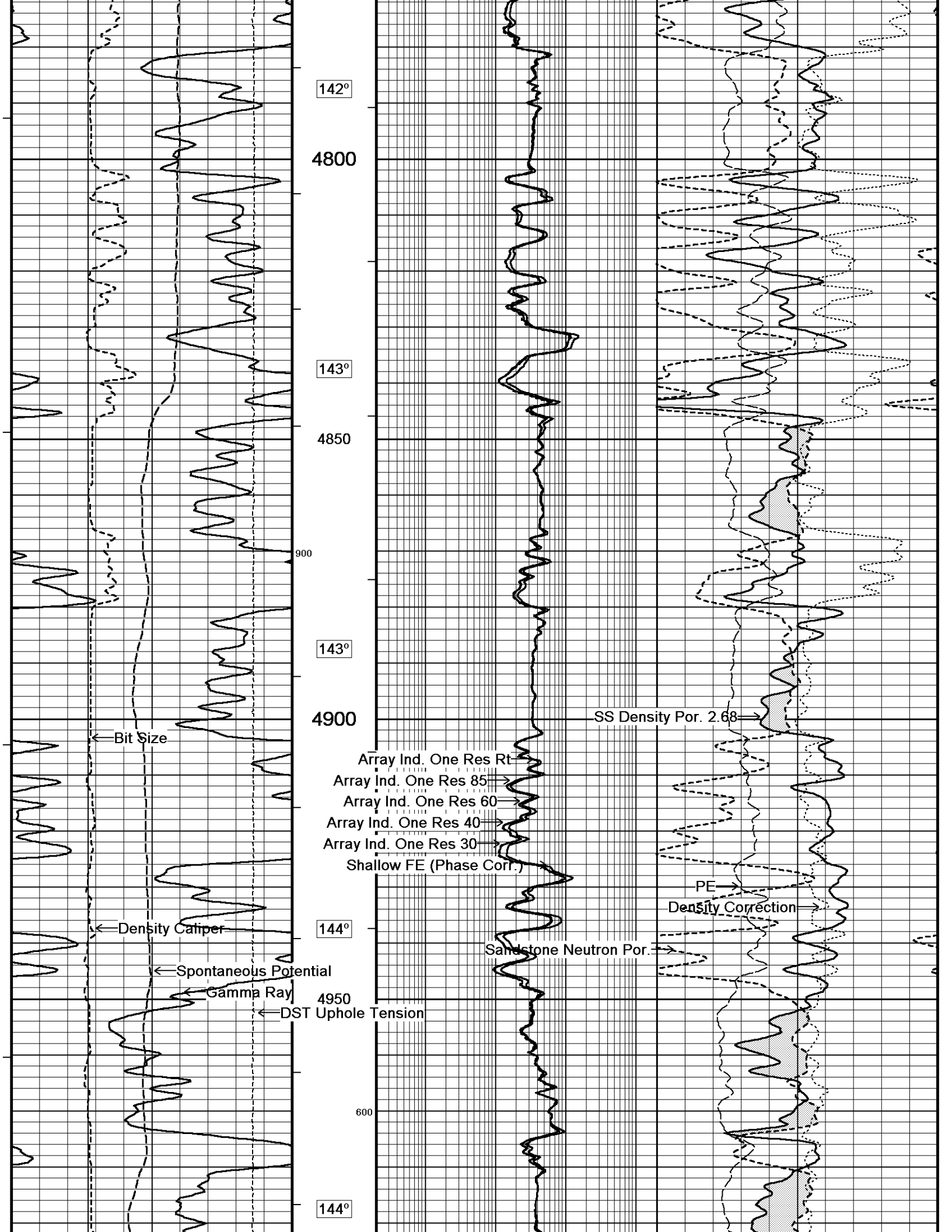


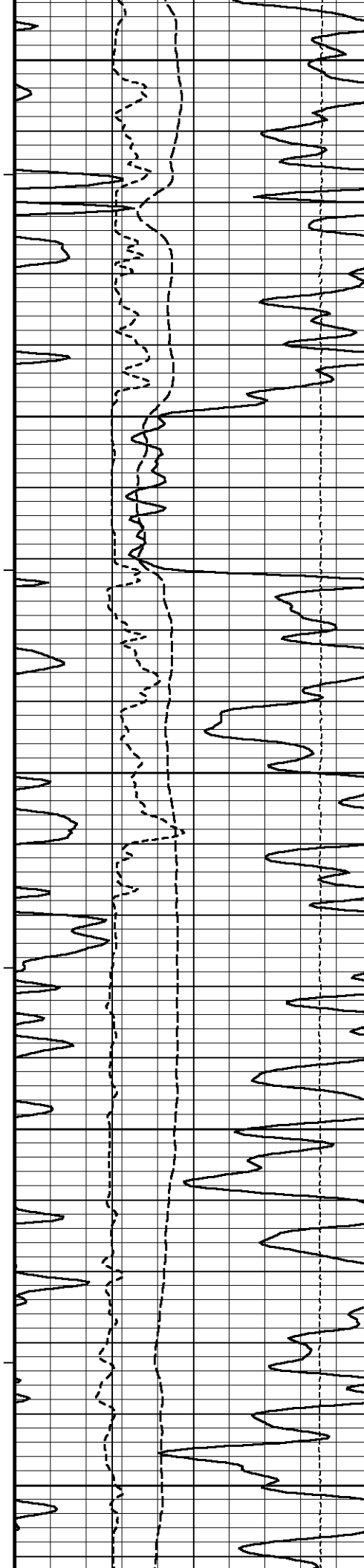




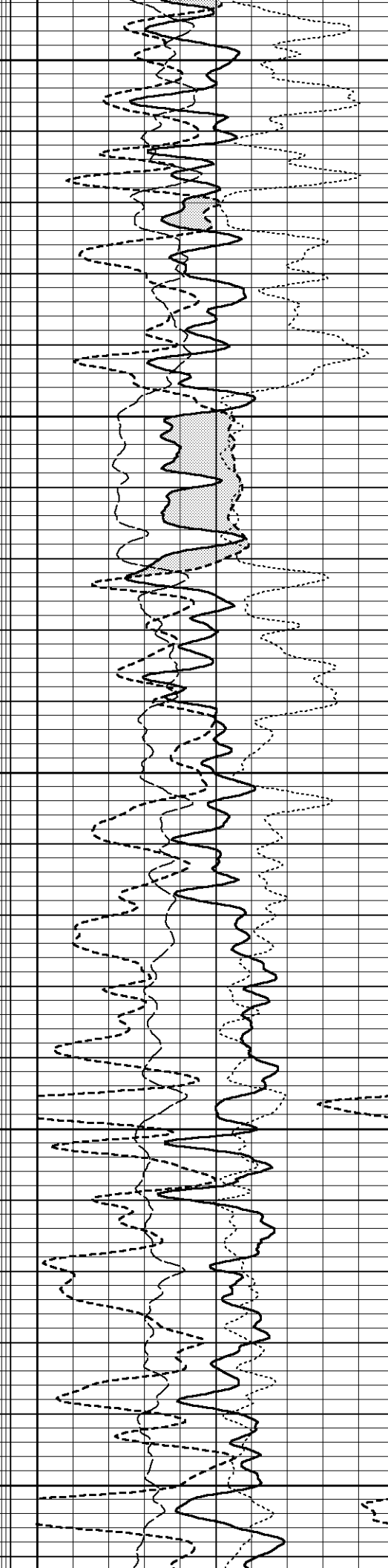
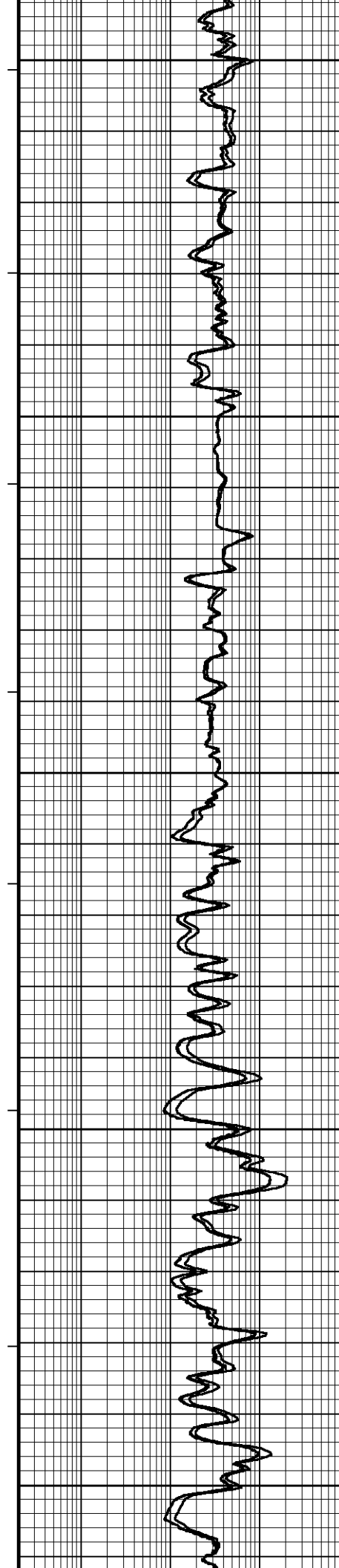


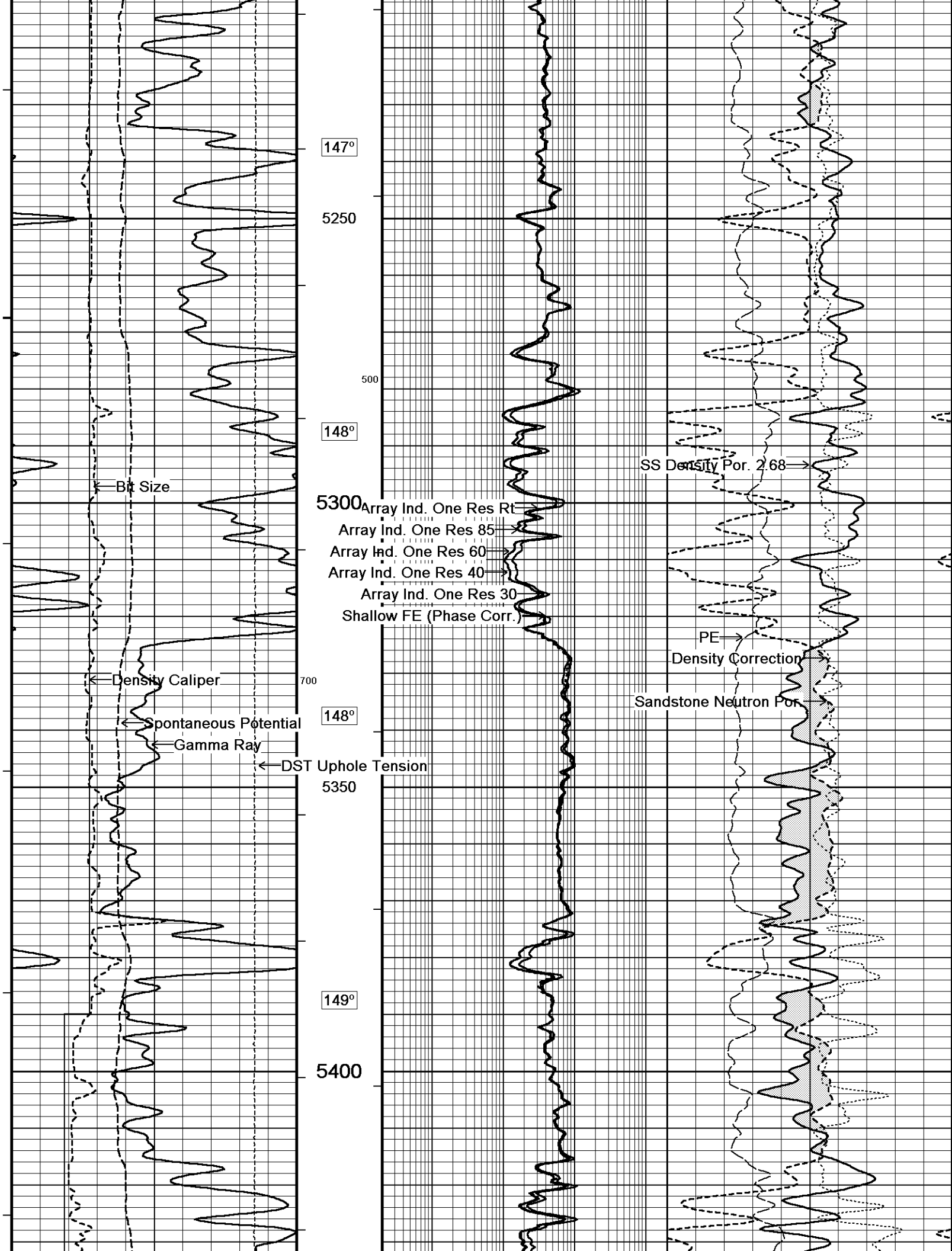


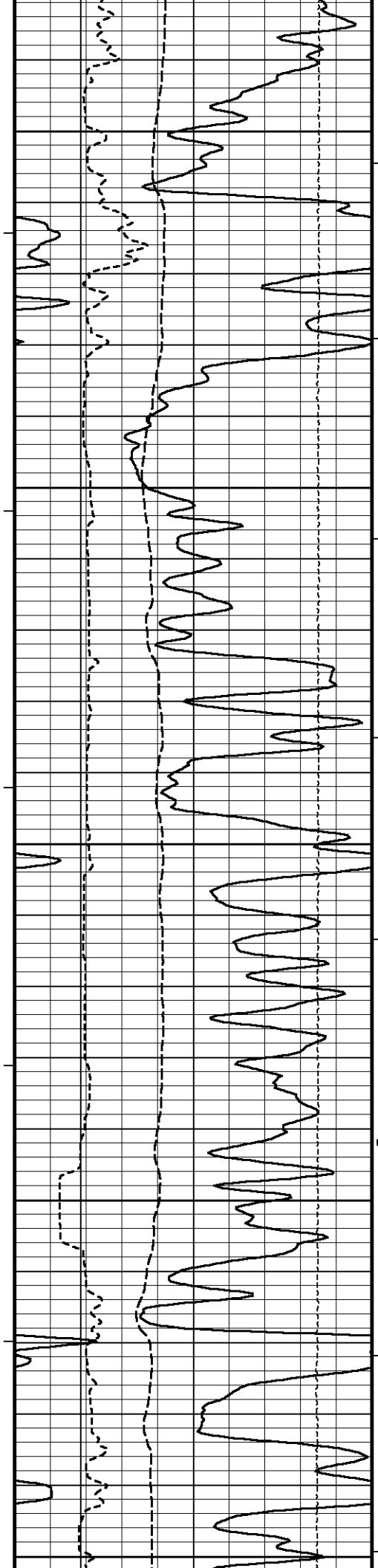




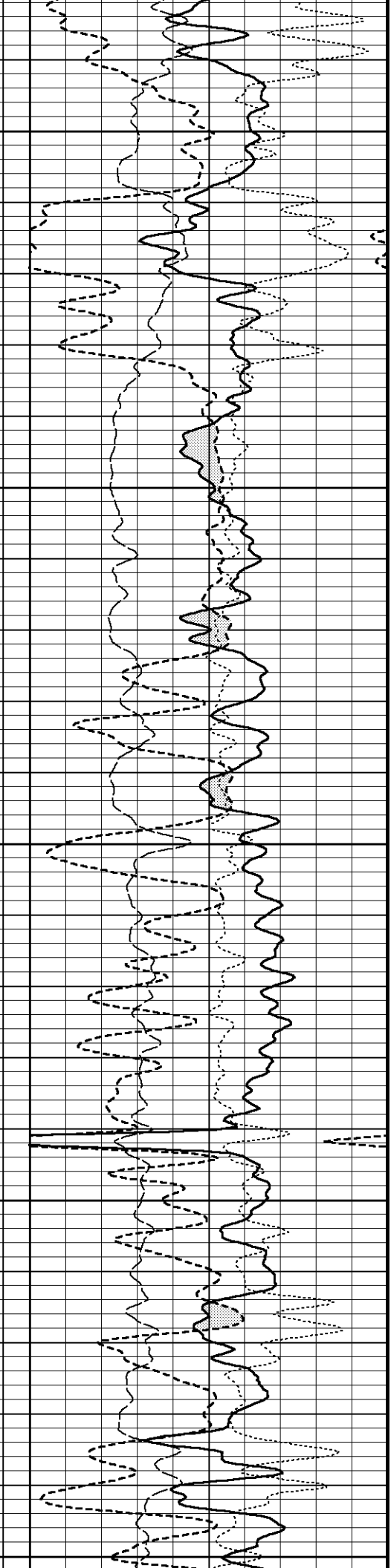
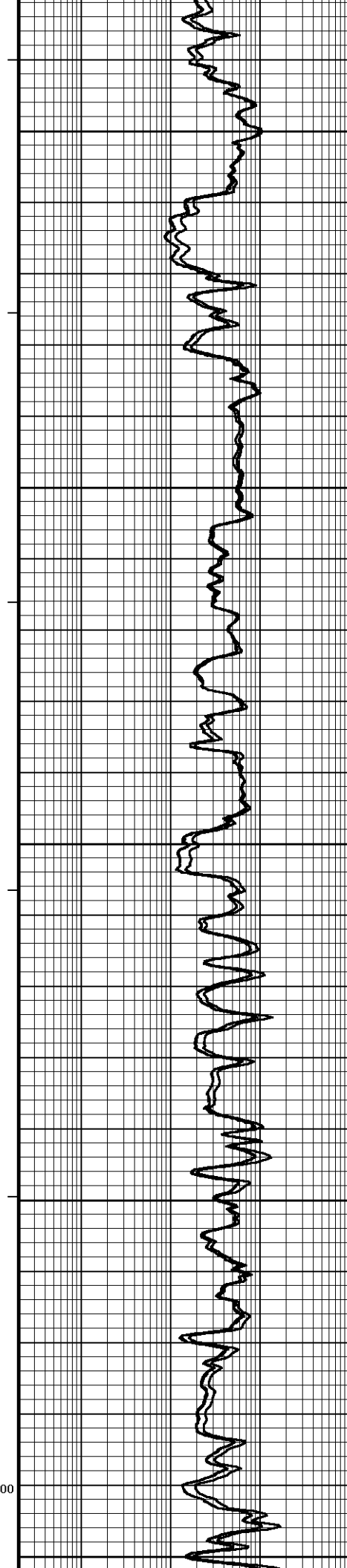
5000
145°
5050
145°
800 5100
145°
5150
146°
5200

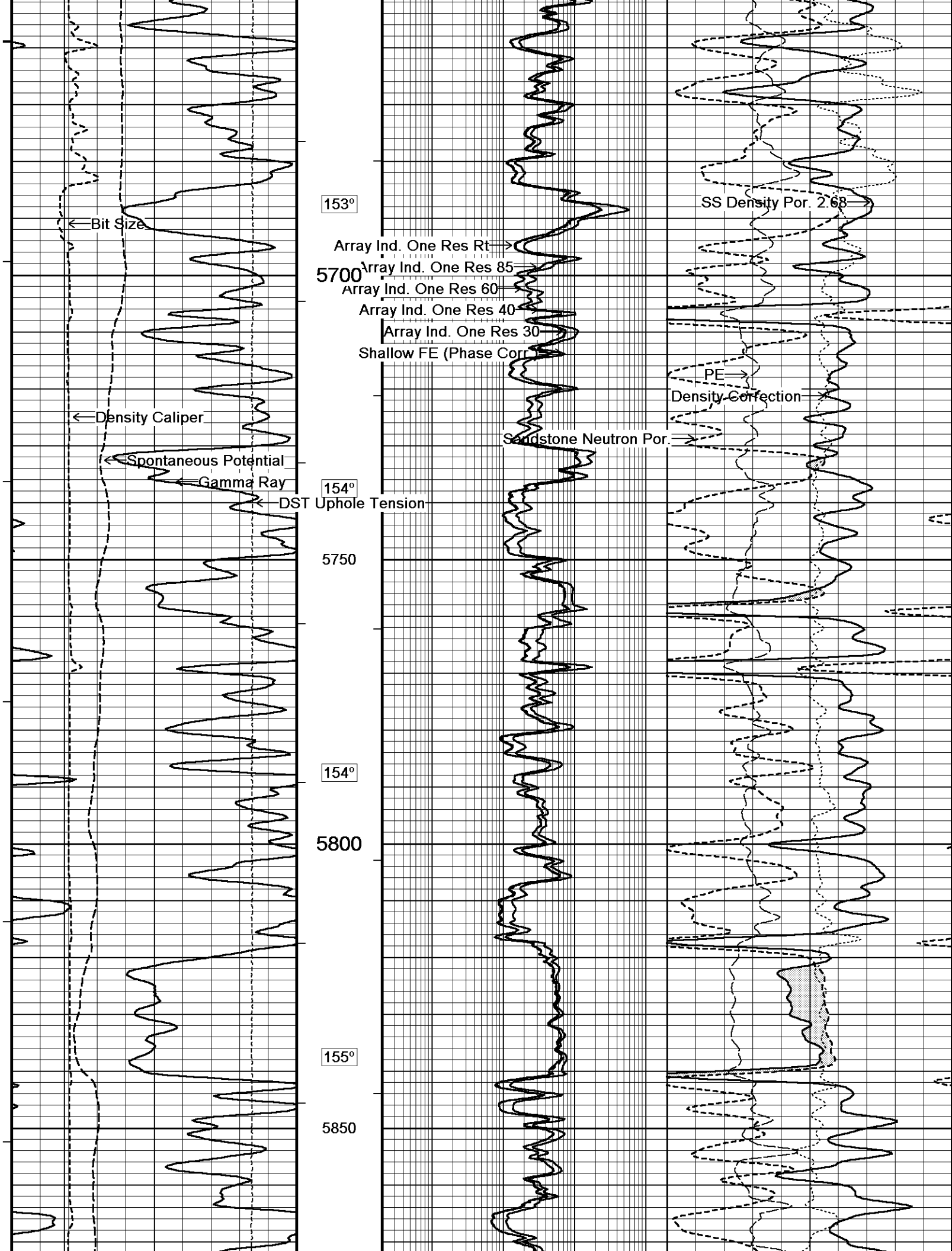


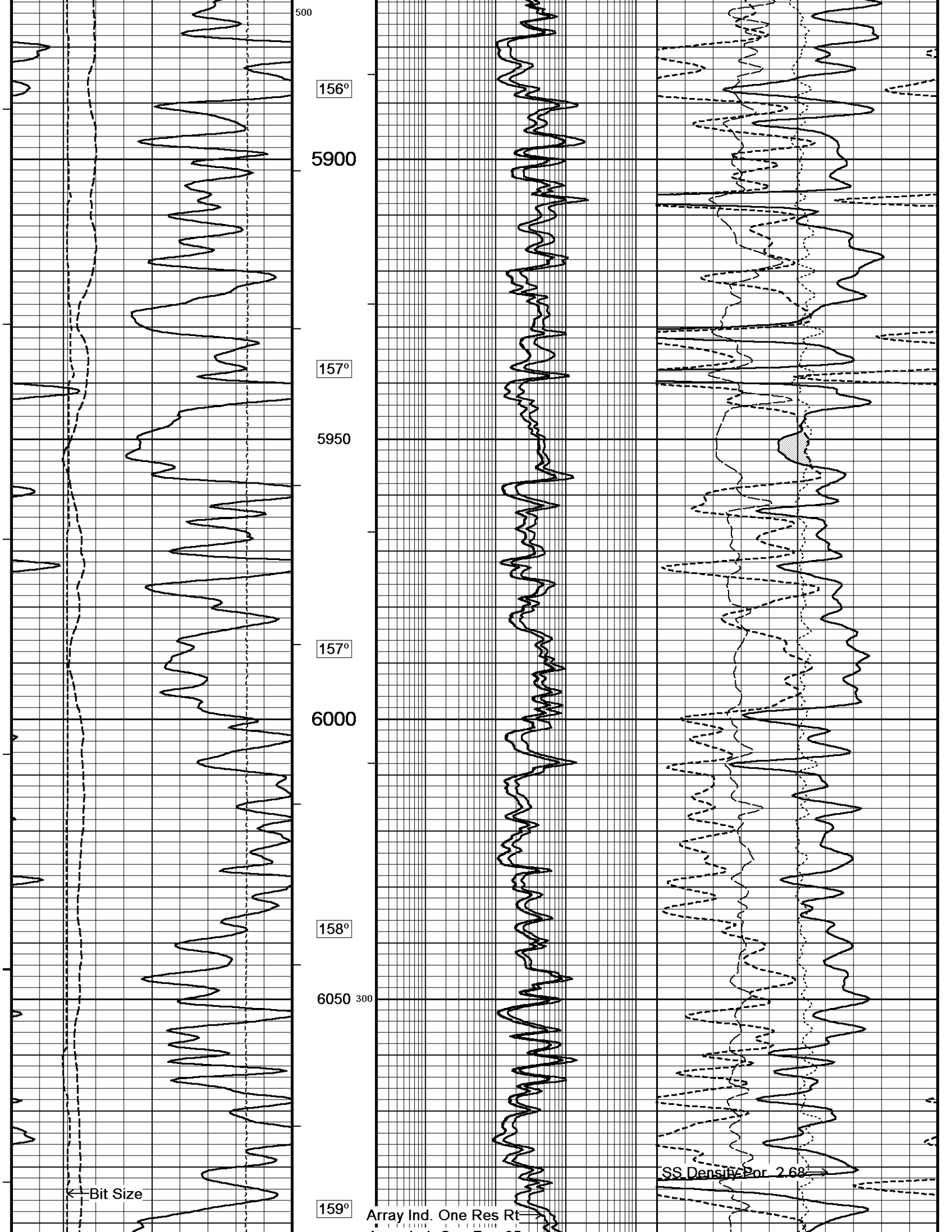


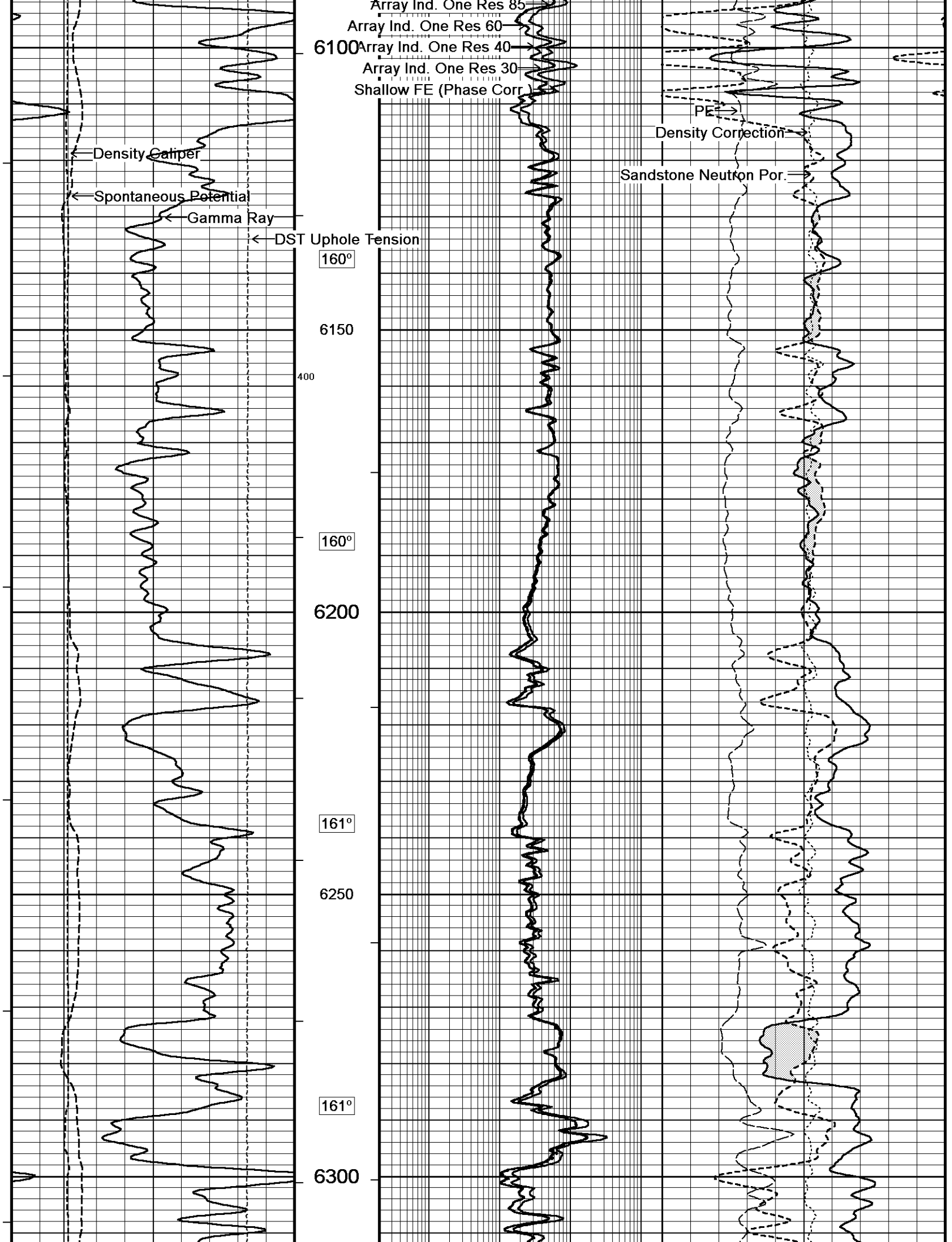


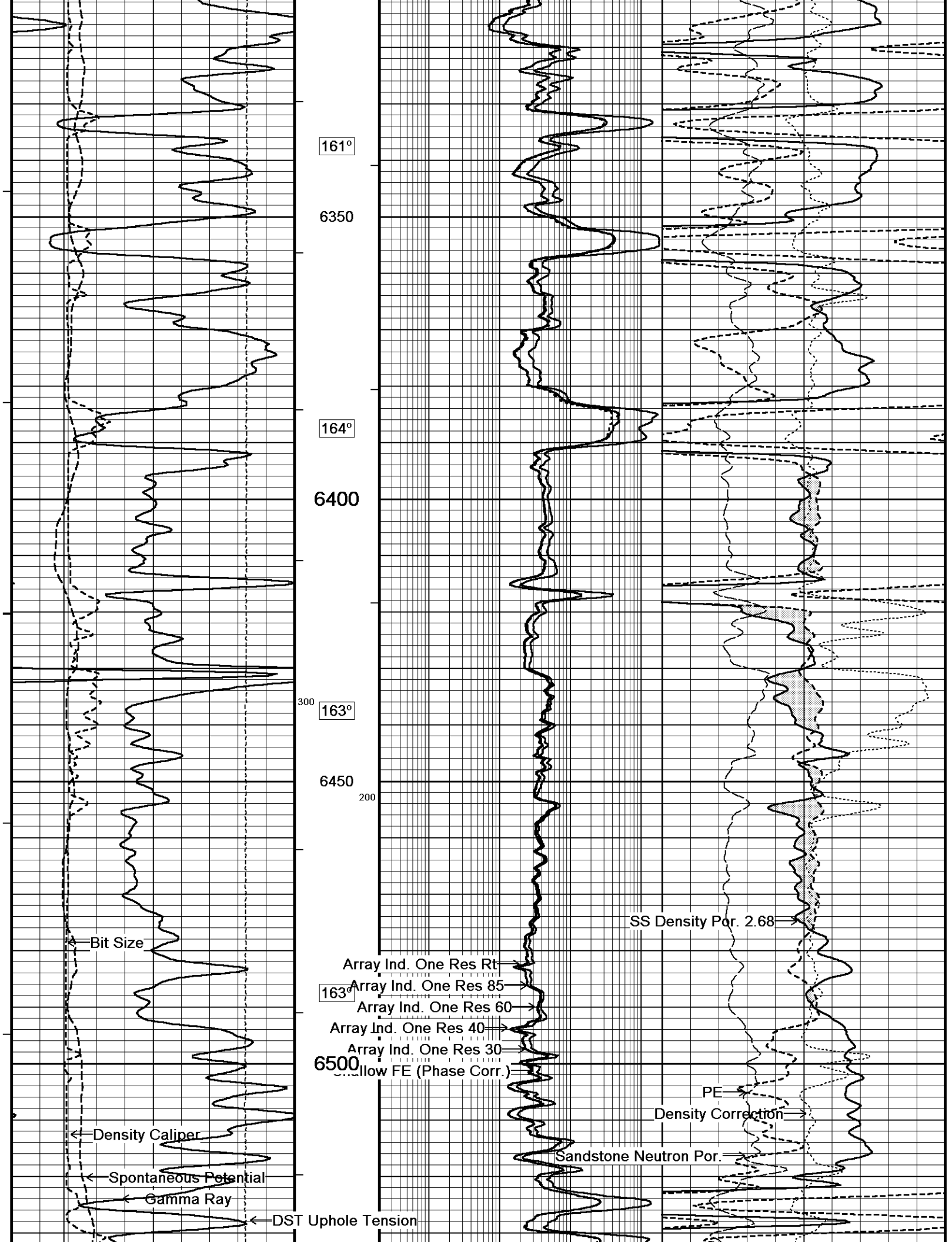
150°
5450
151°
5500
151°
5550
152°
600
5600
152°
400
5650

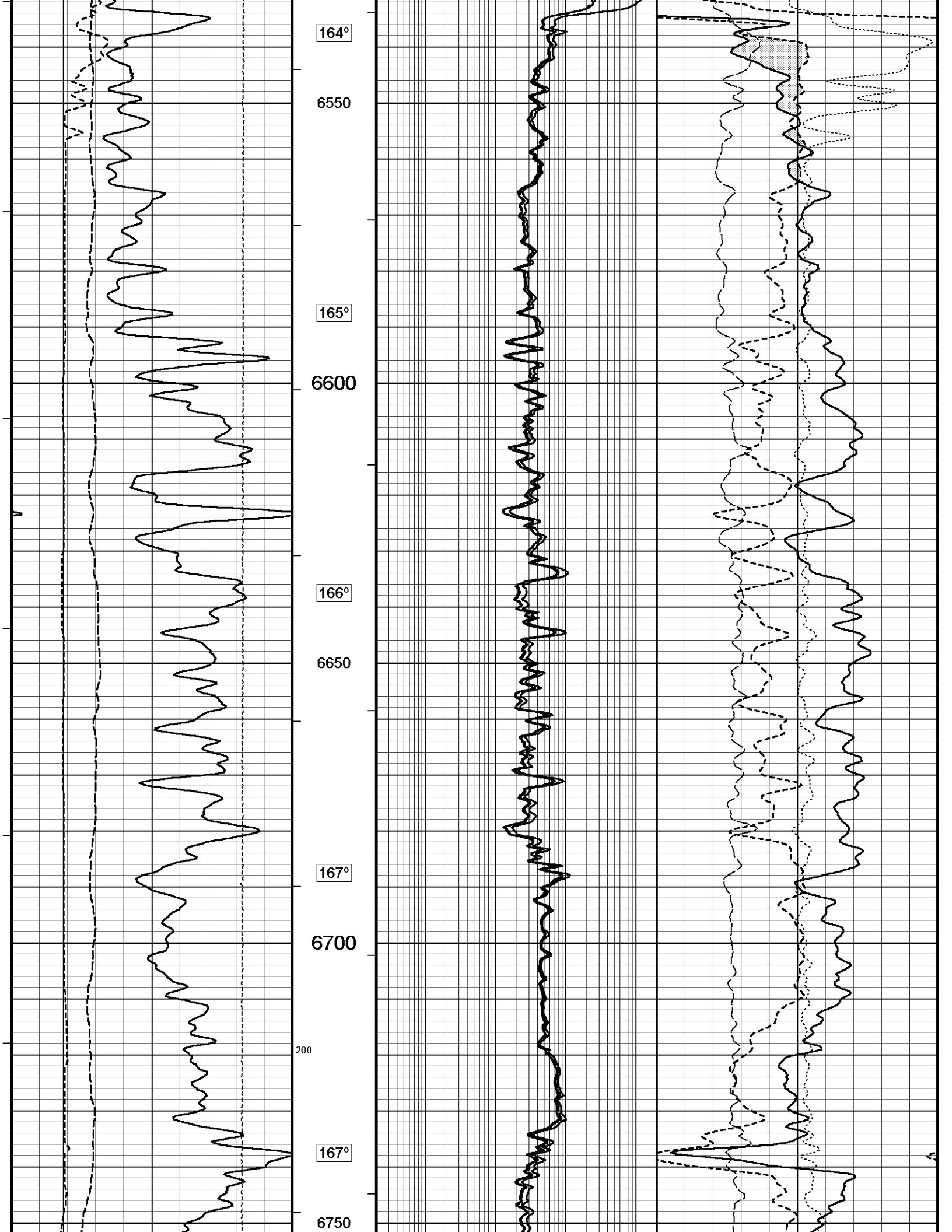


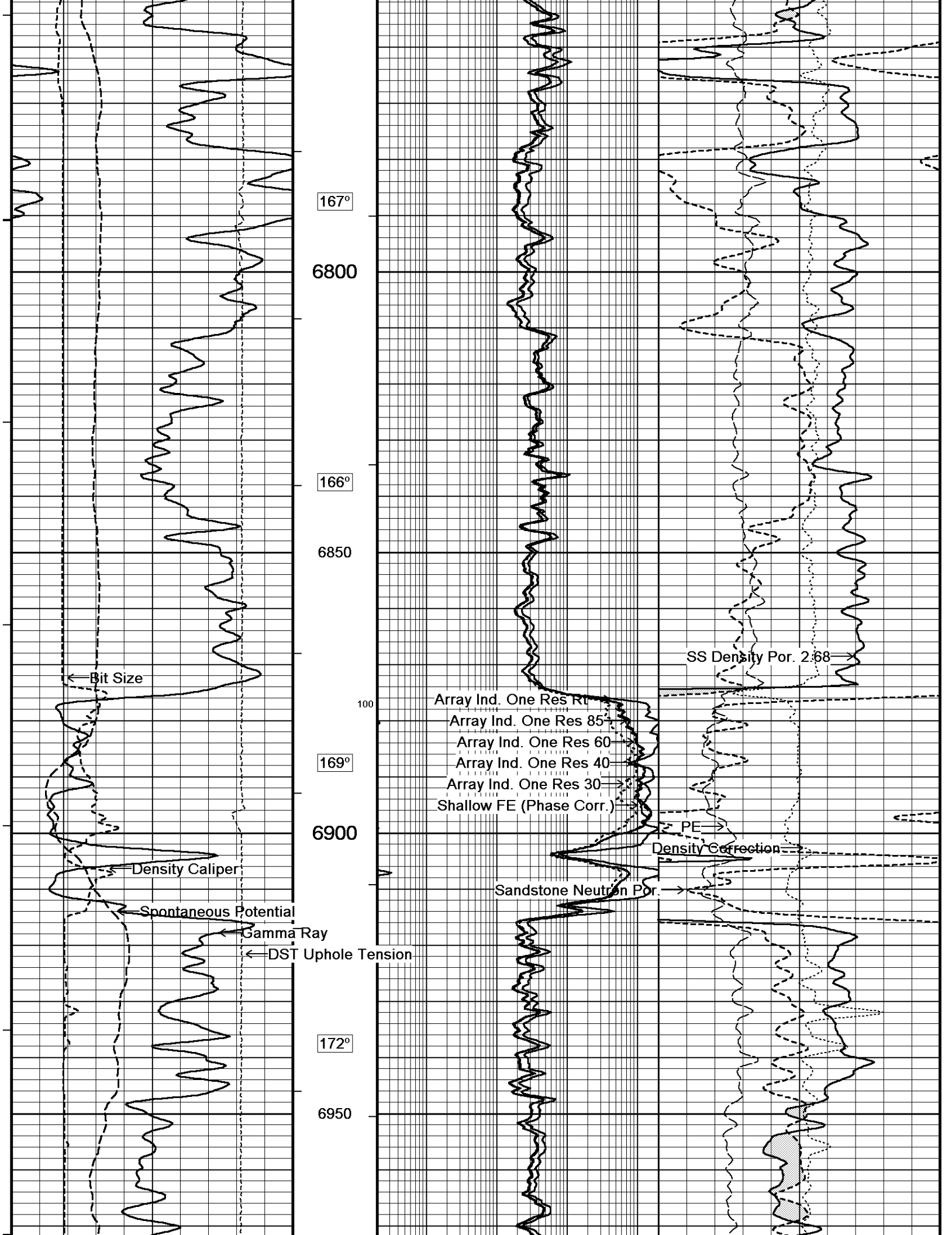


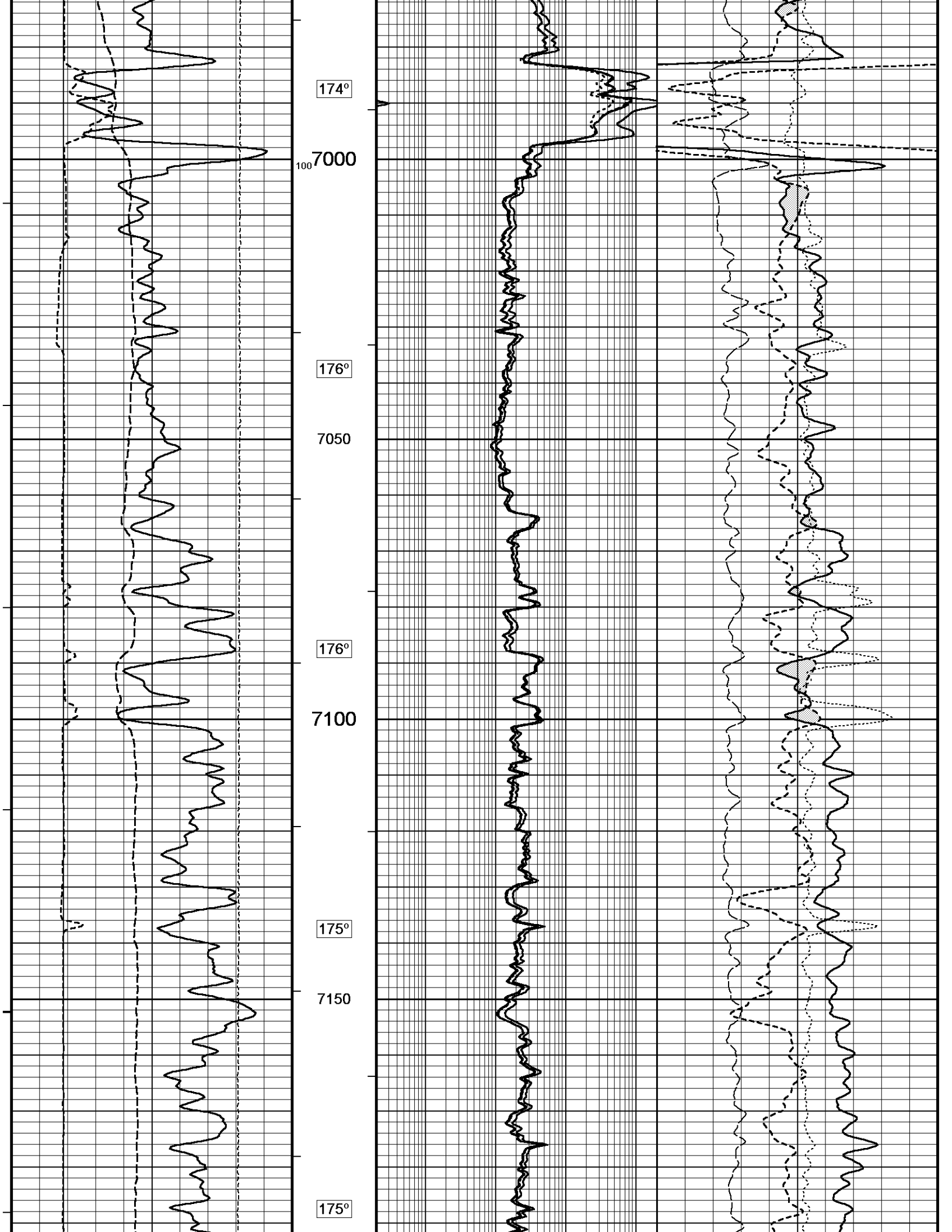


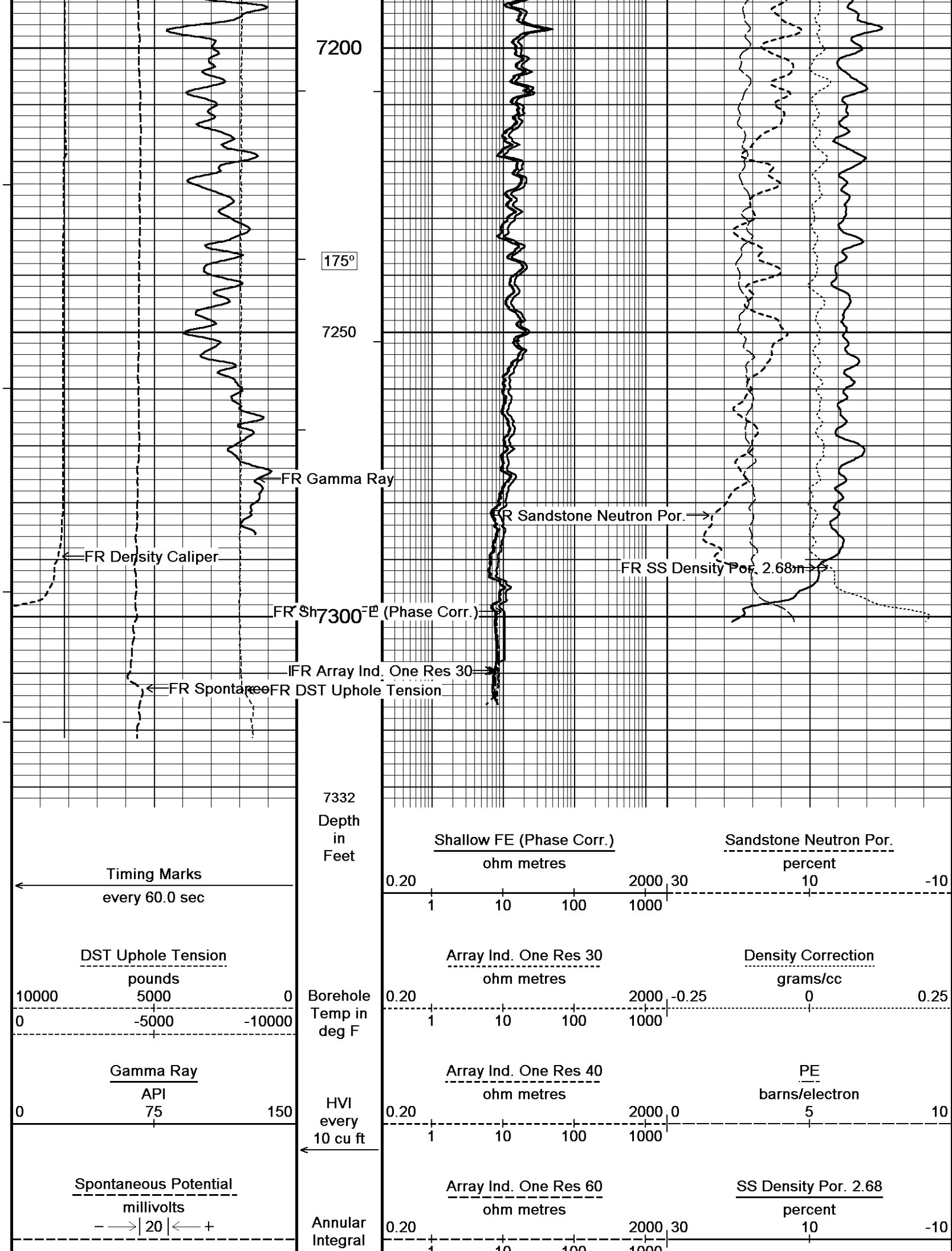


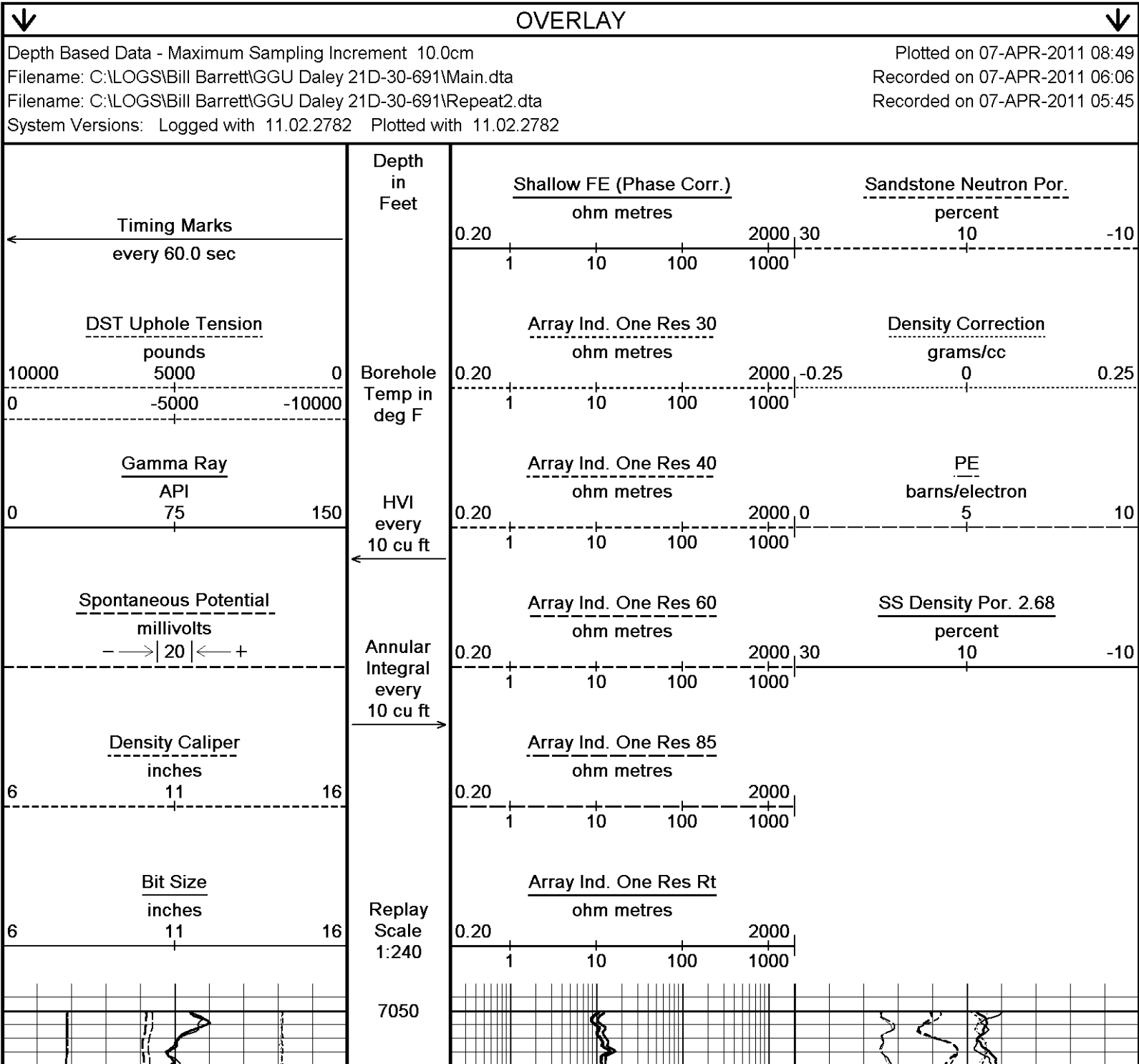
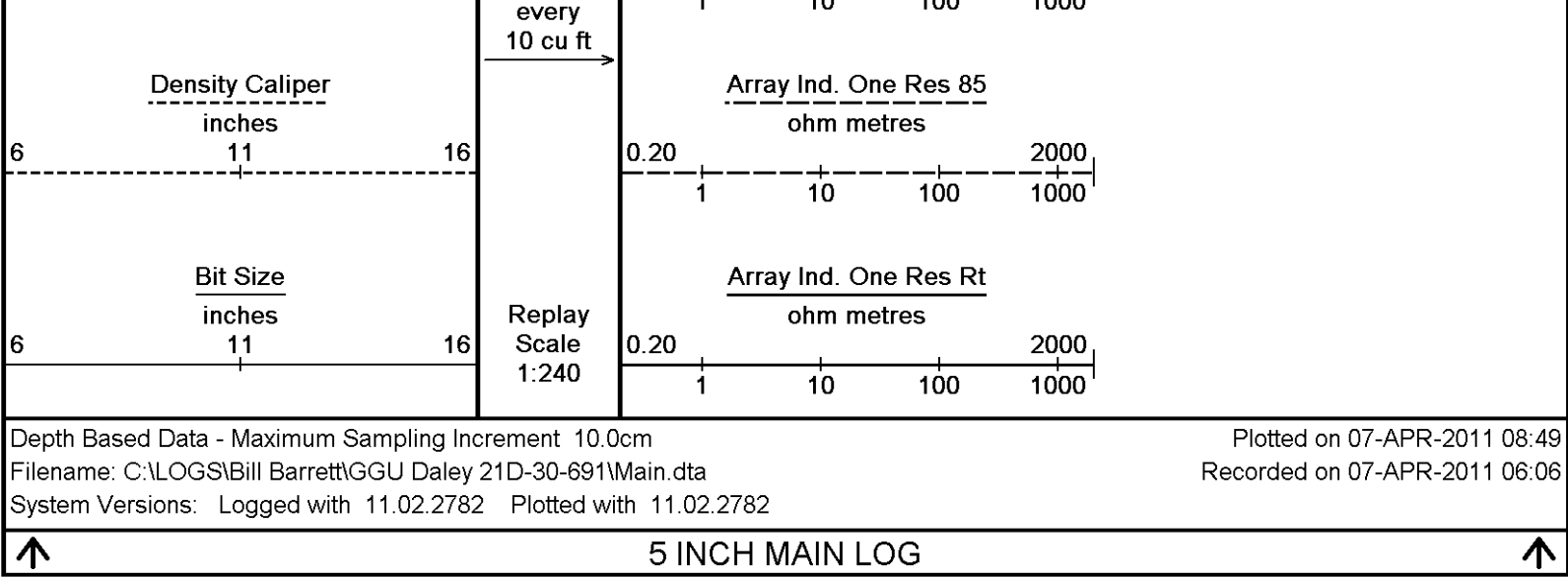


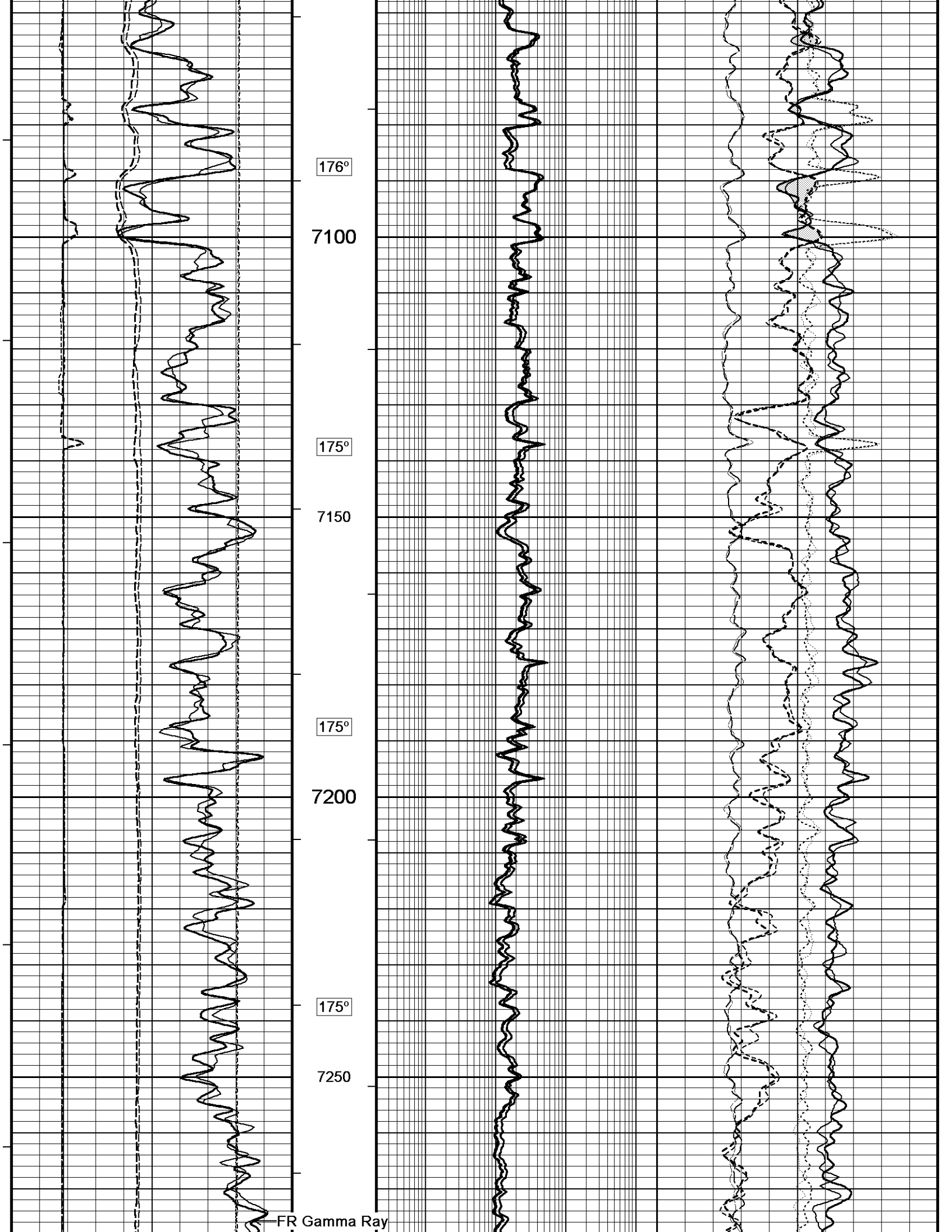


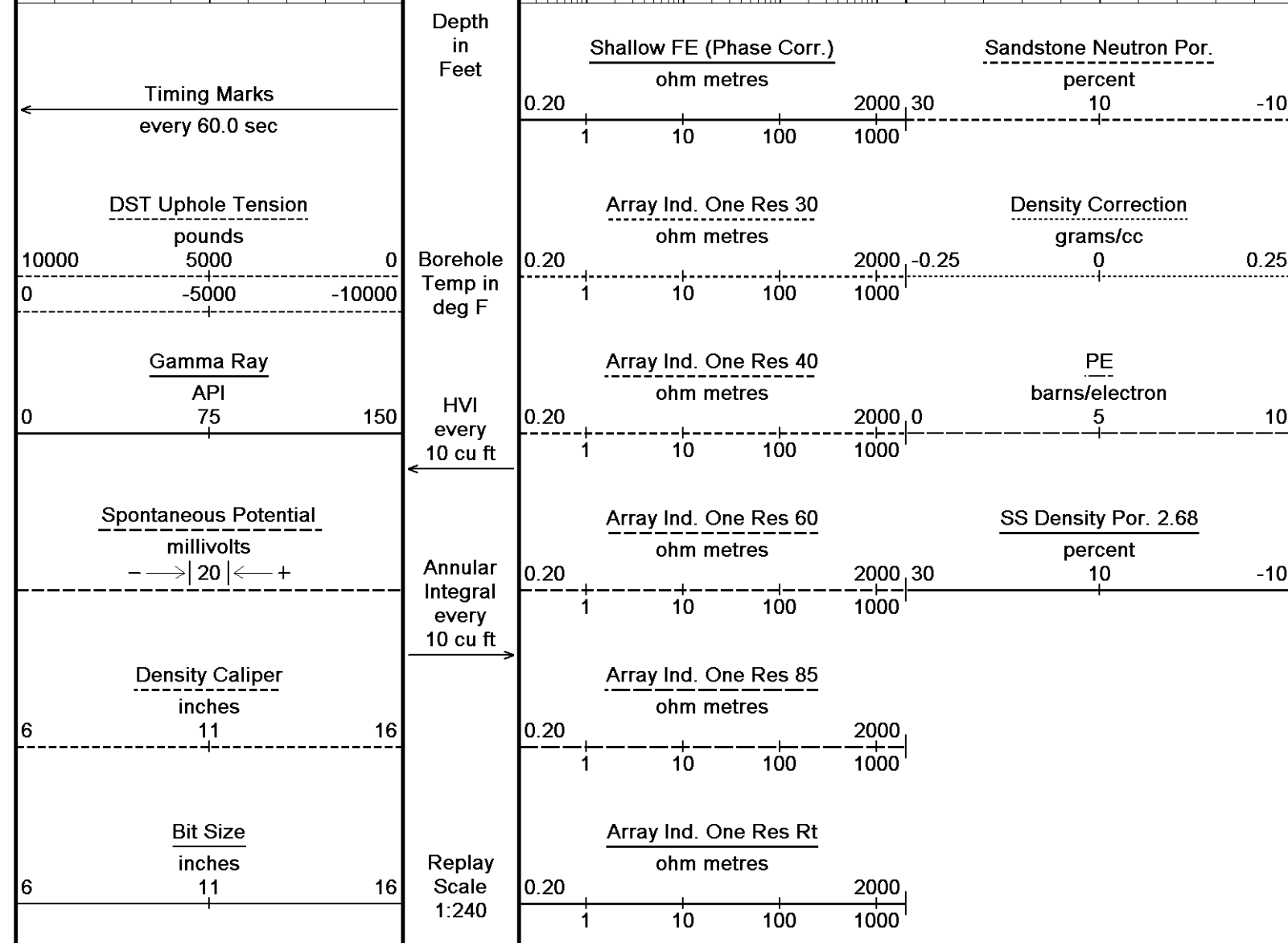
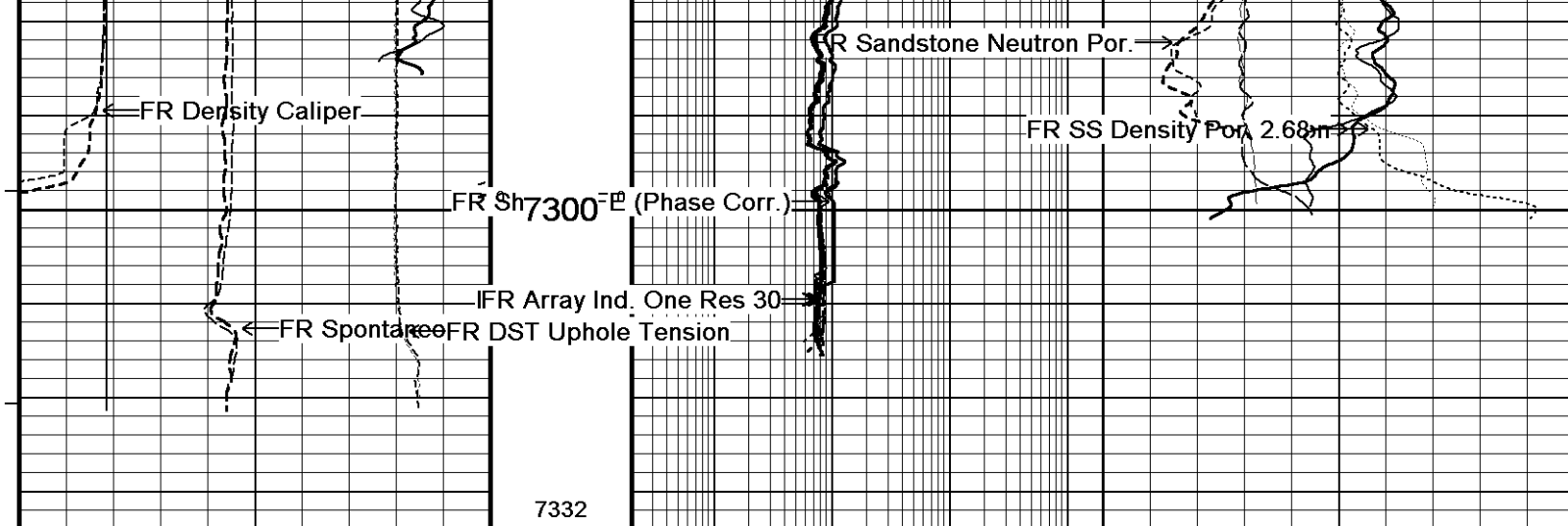












Depth Based Data - Maximum Sampling Increment 10.0cm

Filename: C:\LOGS\Bill Barrett\GGU Daley 21D-30-691\Main.dta

Filename: C:\LOGS\Bill Barrett\GGU Daley 21D-30-691\Repeat2.dta

System Versions: Logged with 11.02.2782 Plotted with 11.02.2782

Plotted on 07-APR-2011 08:50

Recorded on 07-APR-2011 06:06

Recorded on 07-APR-2011 05:45

↑ OVERLAY ↑

BEFORE SURVEY CALIBRATION

C:\LOGS\Bill Barrett\GGU Daley 21D-30-691\Main.dta

General Constants All 000

Last Edited on 07-APR-2011,01:47

General Parameters		
Mud Resistivity	2.900	ohm-metres
Mud Resistivity Temperature	97.000	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 07-APR-2011 04:35
Reading No	Measured	Calibrated (lbs)	
1	15689.12	0.00	
2	16797.48	350.00	

High Resolution Temperature Calibration MCG-C 192			Field Calibration on 07-APR-2011,01:22
	Measured	Calibrated(Deg F)	
Lower	50.00	50.00	
Upper	75.00	75.00	

High Resolution Temperature Constants MCG-C 192			Last Edited on 11-MAR-2011,06:06
Pre-filter Length	11		

SP Calibration MCG-C 192			Field Calibration on 07-APR-2011,01:22
	Measured	Calibrated (mV)	
Reference 1	100.9	100.0	
Reference 2	-100.2	-100.0	

Gamma Calibration MCG-C 192			Field Calibration on 06-APR-2011 08:04
	Measured	Calibrated (API)	
Background	130	90	
Calibrator (Gross)	1447	1002	
Calibrator (Net)	1317	912	

Gamma Constants MCG-C 192			Last Edited on 07-APR-2011,01:21
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 30-MAR-2011 10:45 Field Check on 06-APR-2011 08:13
Base Calibration			
	Measured	Calibrated (cps)	
	Near Far	Near Far	
Ratio	3133 97	3714 110	
	32.392	33.764	
Field Calibrator at Base			
		Calibrated (cps)	
Ratio		1341 2027	
		0.661	
Field Check			
		Calibrated (cps)	
Ratio		1356 2014	
		0.673	

Neutron Constants MDN-A.B 160			Last Edited on 07-APR-2011,01:23
-------------------------------	--	--	----------------------------------

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	MCG External Temperature	
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 29-MAR-2011 15:03

Field Check on 06-APR-2011 10:19

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	9.7	1.3
Reference 2	965.2	126.8
Base Check		281.8
Field Check		281.5

FE Constants MFE-A.A 85

Last Edited on 07-APR-2011,01:26

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 07-APR-2011,01:27

	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 06-APR-2011 10:21

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	13.4	3933.5	14.7	3935.3
2	30.0	3538.3	30.4	3538.4
3	28.7	3113.3	29.0	3112.8
4	19.0	2095.8	19.1	2096.2
Deep	17.3	2077.8	17.5	2077.8
Medium	42.4	4087.3	42.6	4085.9
Shallow	45.1	5156.8	45.7	5156.7

Array Temperature	61.7	80.3	Deg F
-------------------	------	------	-------

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 24-MAR-2011 14:48

Field Calibration on 07-APR-2011,01:24

Base Calibration		
Reading No	Measured	Calibrator Size (in)
1	18272	4.00
2	26728	5.96
3	35183	7.98
4	43312	9.86
5	52336	11.88
6	N/A	N/A
Field Calibration		
	Measured Caliper (in)	Actual Caliper (in)
	7.99	7.98

Photo Density Calibration MPD-B 167

Base Calibration on 24-MAR-2011 14:37

Field Check on 07-APR-2011 04:39

Density Calibration				
Base Calibration				
	Measured	Calibrated (sdu)		
	Near	Far	Near	Far
Reference 1	50013	18682	53115	19186
Reference 2	23150	3037	25020	2536
Field Check at Base				
	1169.0	1734.7		
Field Check				
	1172.7	1739.7		

PE Calibration

Base Calibration Measured Calibrated

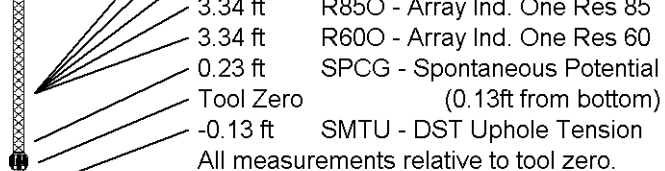
Base Calibration	Measured	Calibrated		
	WS	WH	Ratio	Ratio
Background	210	1040		
Reference 1	15507	49836	0.313	0.320
Reference 2	6038	23013	0.265	0.272

[illegible]

The diagram shows a vertical toolstring with various sensors and their depths in feet:

- 37.07 ft: GRGC - Gamma Ray
- 34.16 ft: CGXT - MCG External Temperature
- 30.61 ft: NPRS - Sandstone Neutron Por.
- 23.37 ft: AVOL - Annular Volume
- 23.37 ft: HVOL - Hole Volume
- 23.37 ft: CLDC - Density Caliper
- 21.44 ft: DPOR - Base Density Porosity
- 21.44 ft: DCOR - Density Correction
- 21.38 ft: PDPE - PE
- 13.72 ft: FEFC - Shallow FE (Phase Corr.)
- 3.34 ft: R400 - Array Ind. One Res 40
- 3.34 ft: R300 - Array Ind. One Res 30
- 3.34 ft: RTAO - Array Ind. One Res Rt

Total Length: 46.23 ft Weight: 363.8 lb



COMPANY BILL BARRETT CORPORATION
WELL GGU DALEY 21D-30-691
FIELD GIBSON GULCH
PROVINCE/COUNTY GARFIELD
COUNTRY/STATE U.S.A. / COLORADO

Elevation Kelly Bushing	7312.00	feet	First Reading	7310.00	
Elevation Drill Floor	7311.00	feet	Depth Driller	7310.00	feet
Elevation Ground Level	7290.00	feet	Depth Logger	7313.00	feet



Weatherford®

COMPACT TRIPLE COMBO
QUICKLOOK
LOG

