



COMPACT DROP OFF COMPACT QUAD COMBO QUICKLOOK LOG

COMPANY				MARATHON OIL COMPANY			
WELL				596-32C-25			
FIELD				GRAND VALLEY			
PROVINCE/COUNTY				GARFIELD			
COUNTRY/STATE				U.S.A. / COLORADO			
LOCATION				SHL: 2323' FSL & 1188' FWL			
LSD	SEC	TWP	RGE	Other Services			Elevations: KB 8364.00 DF 8363.00 GL 8340.00
	34	5S	96W				
API Number 05-045-16321-00							
Permit Number 05-045-16321-00							
Permanent Datum G.L., Elevation 8340 feet							
Log Measured From K.B. @ 24 FEET above Permanent Datum							
Drilling Measured From K.B.							
Date	13-AUG-2009						
Run Number	ONE						
Depth Driller	10564.00			feet			
Depth Logger	10541.00			feet			
First Reading	10538.00			feet			
Last Reading	2365.00			feet			
Casing Driller	2365.00			feet			
Casing Logger	2365.00			feet			
Bit Size	8.500			inches			
Hole Fluid Type	GEL CHEM						
Density / Viscosity	9.00 lb/USg		52.00 CP				
PPH / Fluid Loss	9.20		6.00 ml/30Min				
Sample Source	FLOWLINE						
Rm @ Measured Temp	2.20 @ 95.0			ohm-m			
Rmf @ Measured Temp	1.76 @ 95.0			ohm-m			
Rmc @ Measured Temp	2.64 @ 95.0			ohm-m			
Source Rmf / Rmc	CALC		CALC				
Rm @ BHT	1.18 @ 179.0		ohm-m				
Time Since Circulation	0.5 HOURS						
Max Recorded Temp	179.00			deg F			
Equipment Name	COMPACT						
Equipment / Base	13038		GDJCT				
Recorded By	L. PLAGGE						
Witnessed By	B. WHITE						
Last Title	Last Line			Last Line			

BOREHOLE RECORD					Last Edited: 14-AUG-2009 21:23
Bit Size inches		Depth From feet		Depth To feet	
8.750		2365.00		8774.00	
8.500		8774.00		10564.00	
CASING RECORD					
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft	
INTERMED	9.625	0.00	2365.00	36.00	

REMARKS
TOOLS: COMPACT DROP OFF USED. (475) MCG, MDN, MSS, MPD, MFE, AND MAI RAN IN COMBINATION.
HARDWARE: MPD: 4 INCH PROFILE PLATE USED. MSS: INLINE CENTRALIZERS USED. MAI: INLINE CENTRALIZERS USED.
2.68 G/CC DENSITY MATRIX USED TO CALCULATE POROSITY.
DENSITY CALIPER BENT AT 6850 FEET. ANNULAR AND HOLE VOLUMES ARE NOT ACCURATE FROM THIS POINT UP. IT COULD ALSO AFFECT DENSITY MEASUREMENTS.
TIGHT SPOTS WERE ENCOUNTERED NEARLY THE WHOLE OPEN HOLE CAUSING THE PIPE TO JUMP AND CAUSED GAPS IN LOG DATA.
ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST.
TIGHT PULLS, BOREHOLE SIZE, AND RUGOSITY WILL AFFECT REPEATABILITY AND DATA QUALITY.

8.75 IN HOLE FROM 8774 FEET TO SURFACE CASING.

TOTAL HOLE VOLUME FROM TD TO 6850 FEET = 1600 CU.FT.

ANNULAR VOLUME WITH 4.5 INCH PRODUCTION CASING FROM TD TO 6850 FEET = 1200 CU.FT.

ANNULAR VOLUME CALCULATED WITH 4.5" CASING.

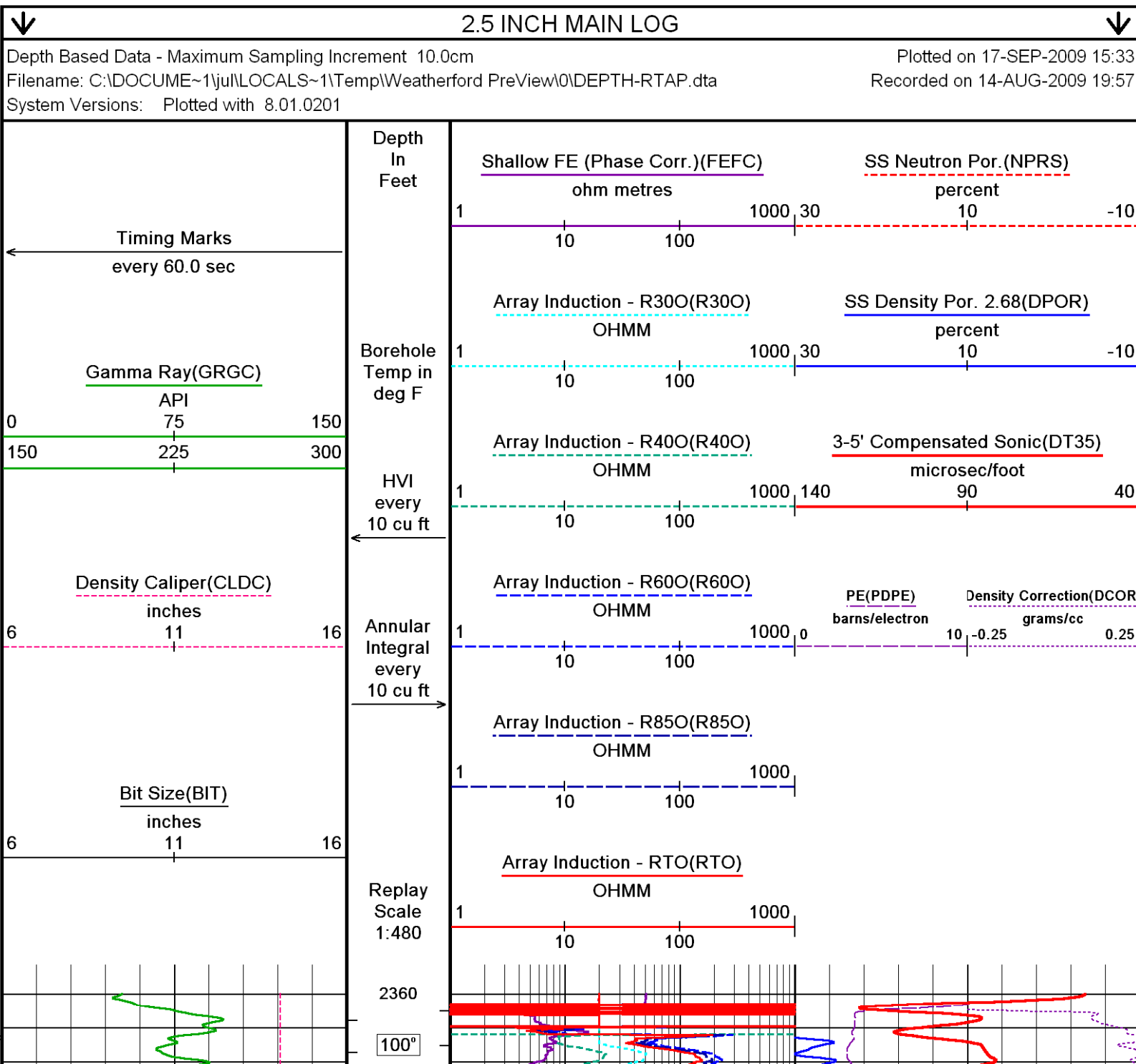
ENGINEER(S): L. PLAGGE

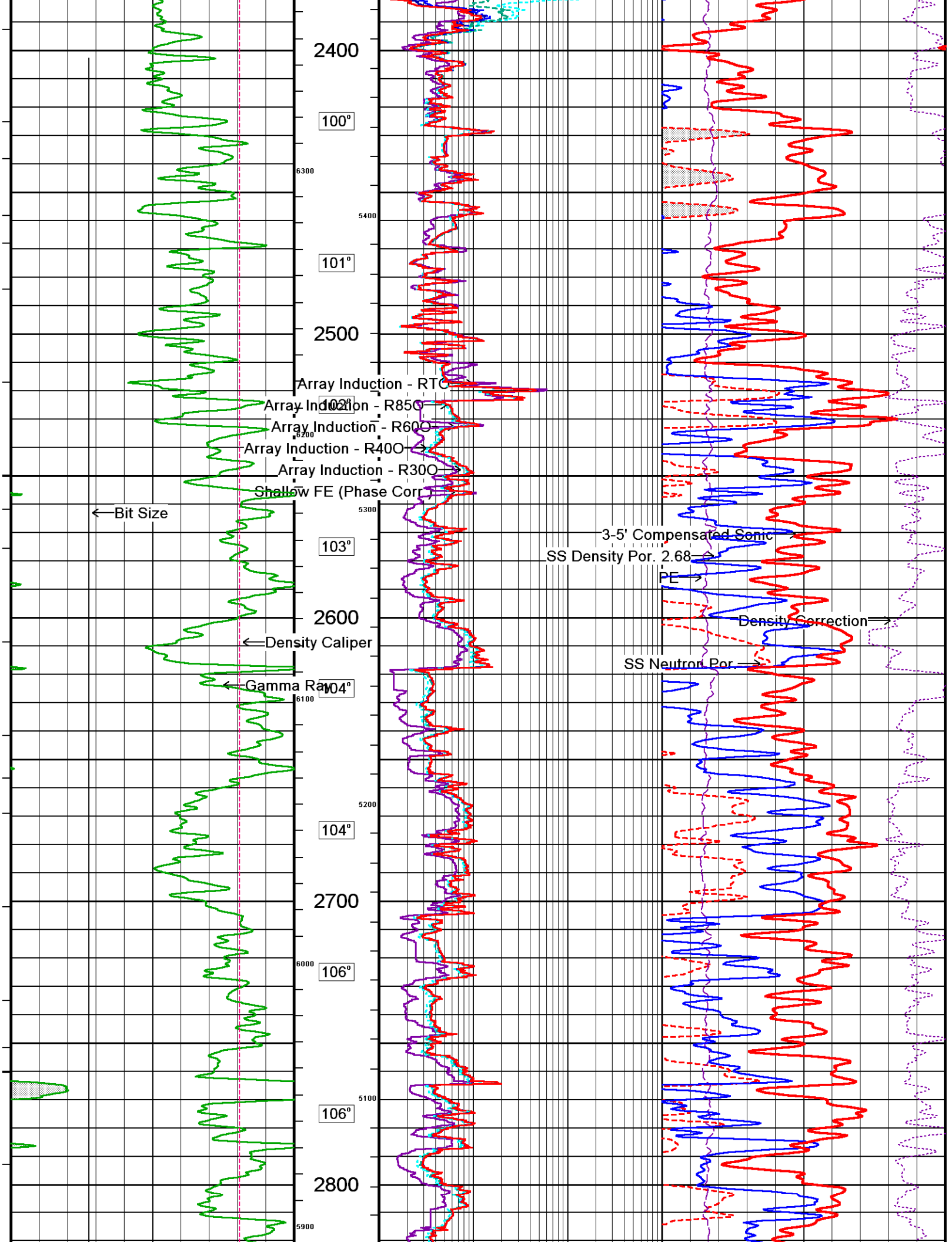
OPERATOR(S): K. GOSS, J. YOAKUM

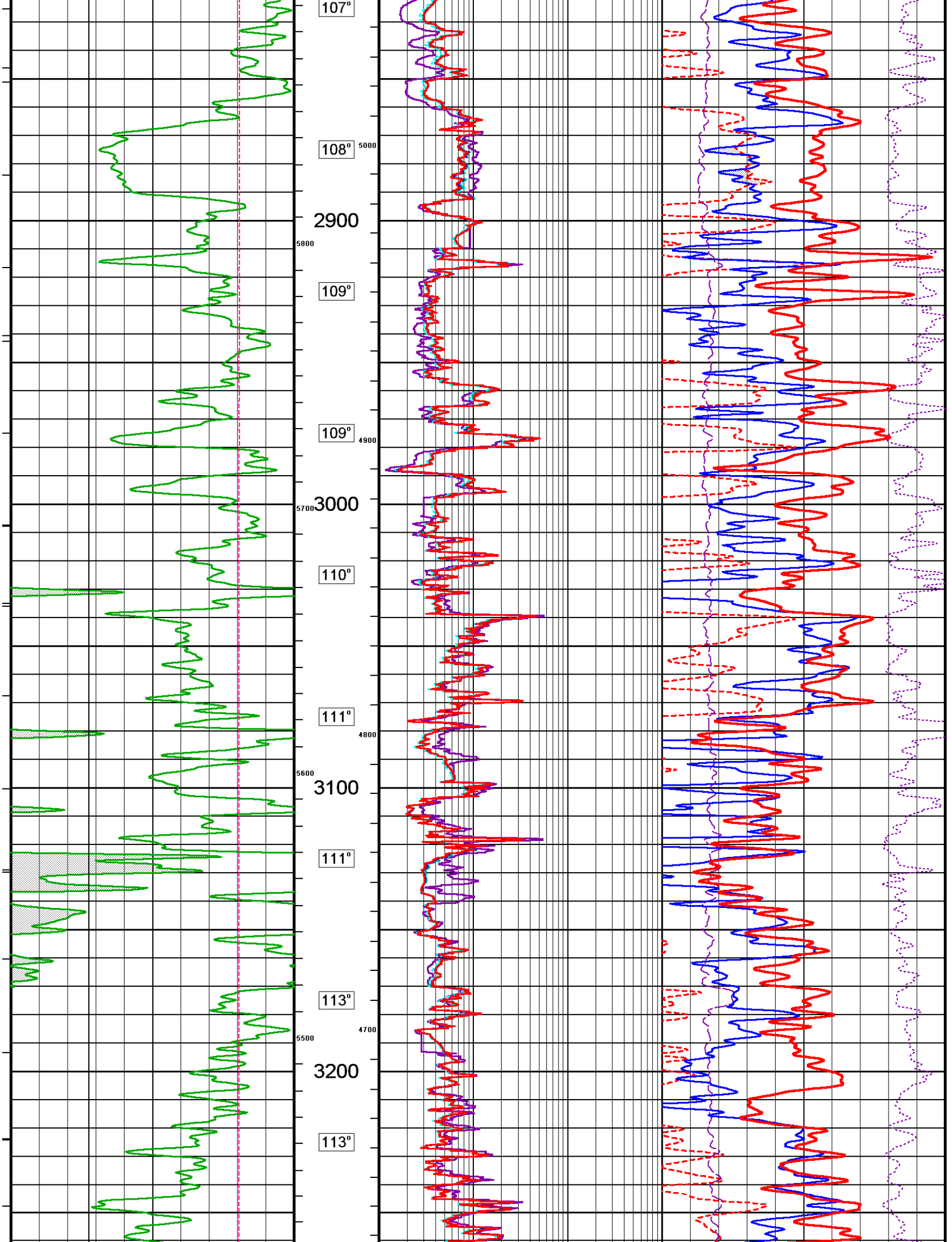
SERVICE ORDER: #3516276

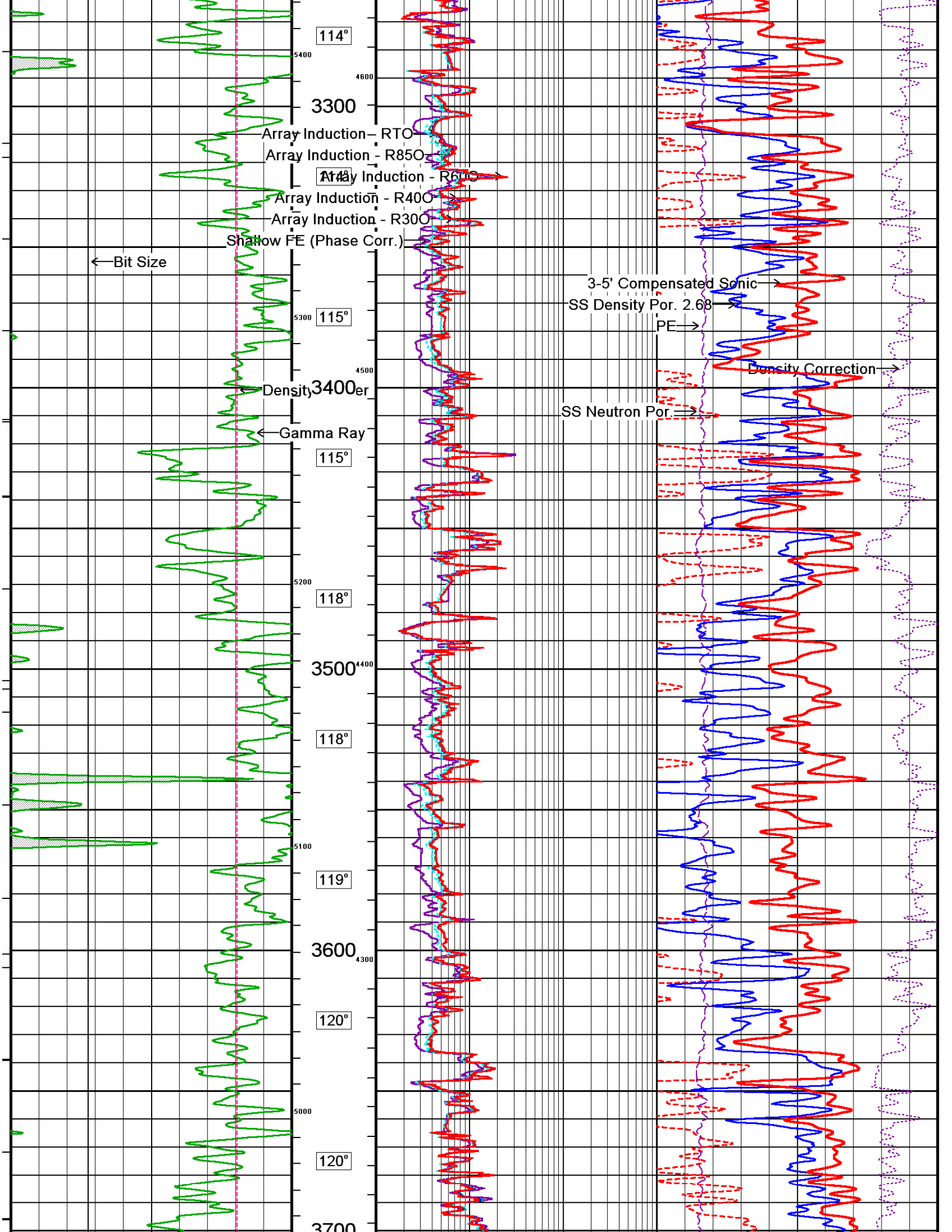
RIG: H_P # 324

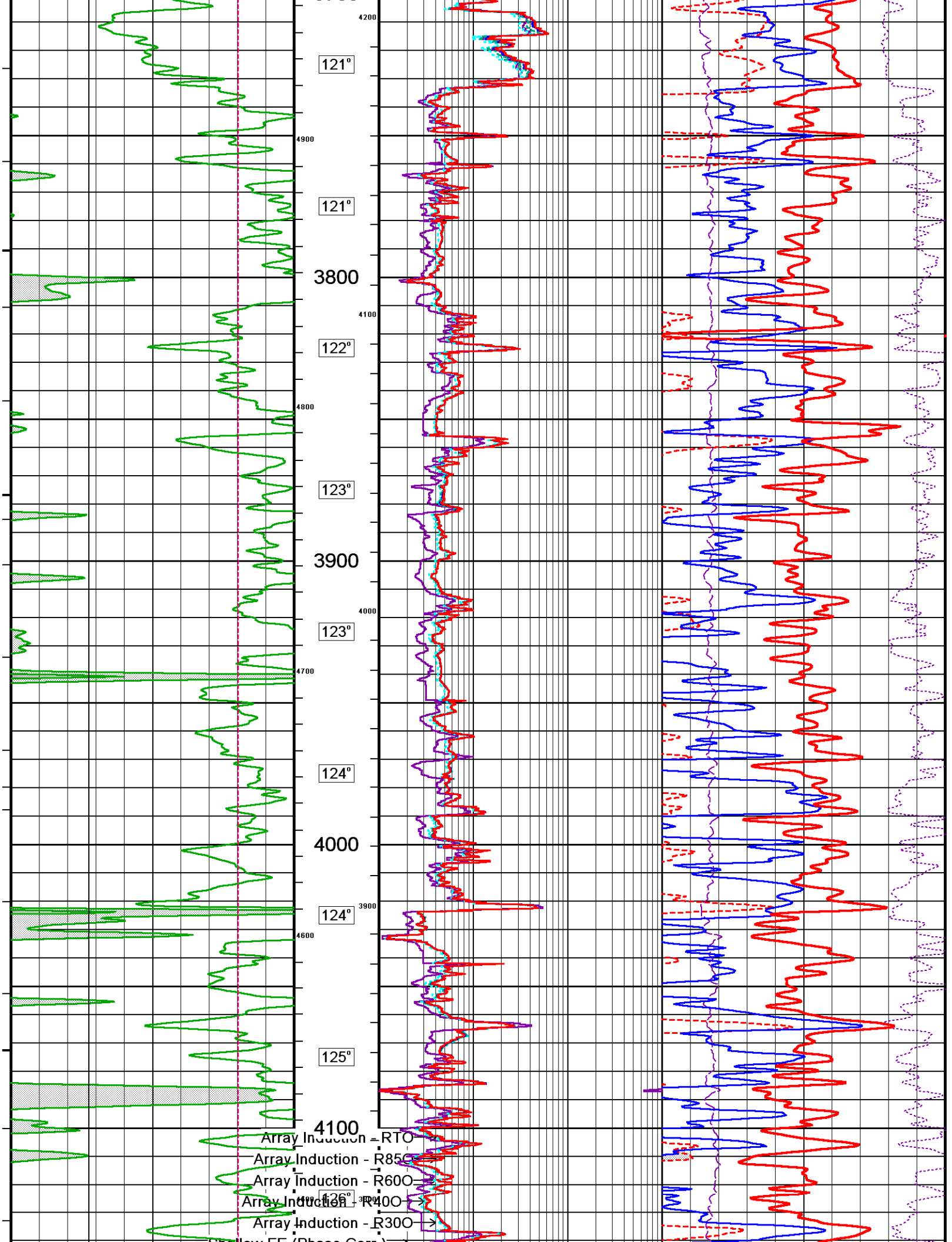
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs,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

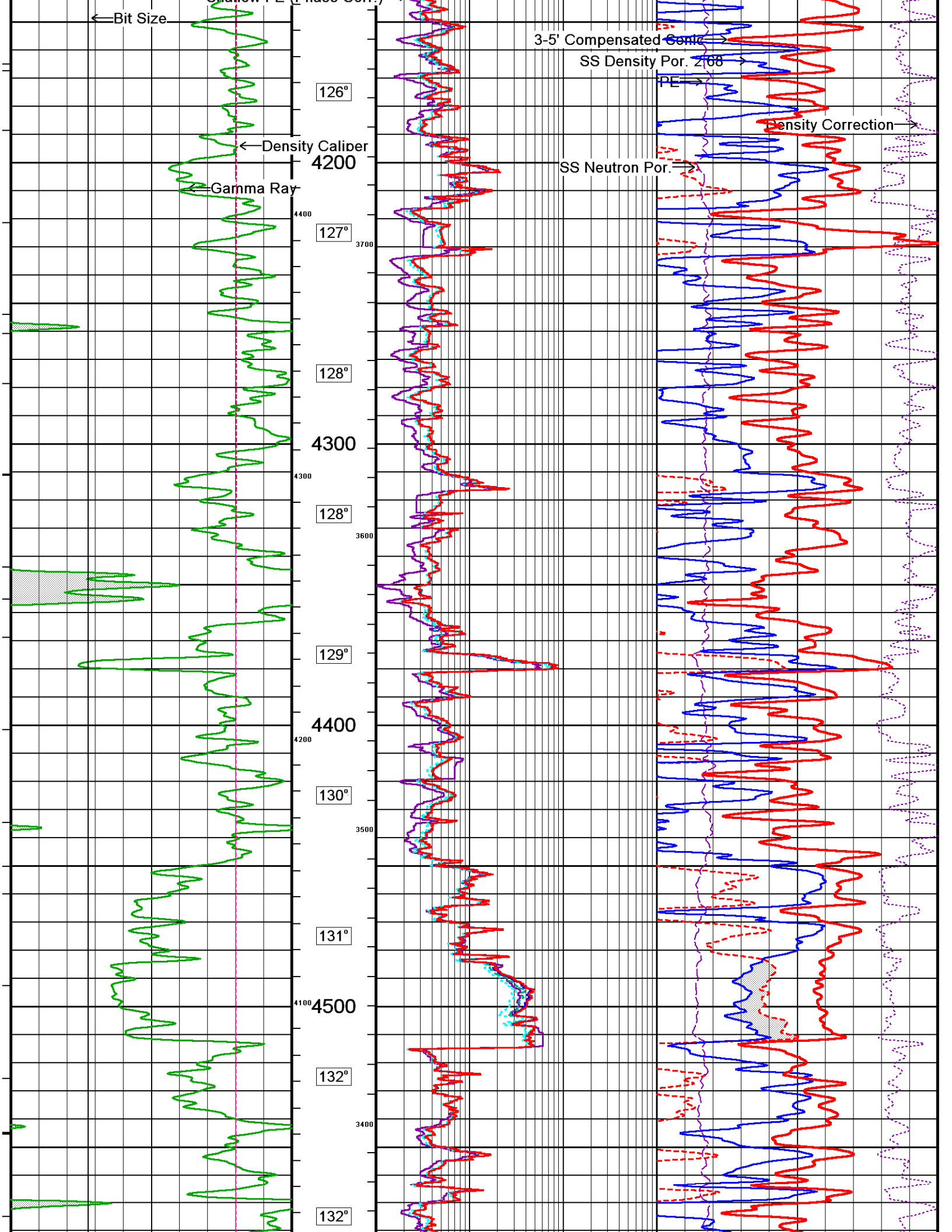


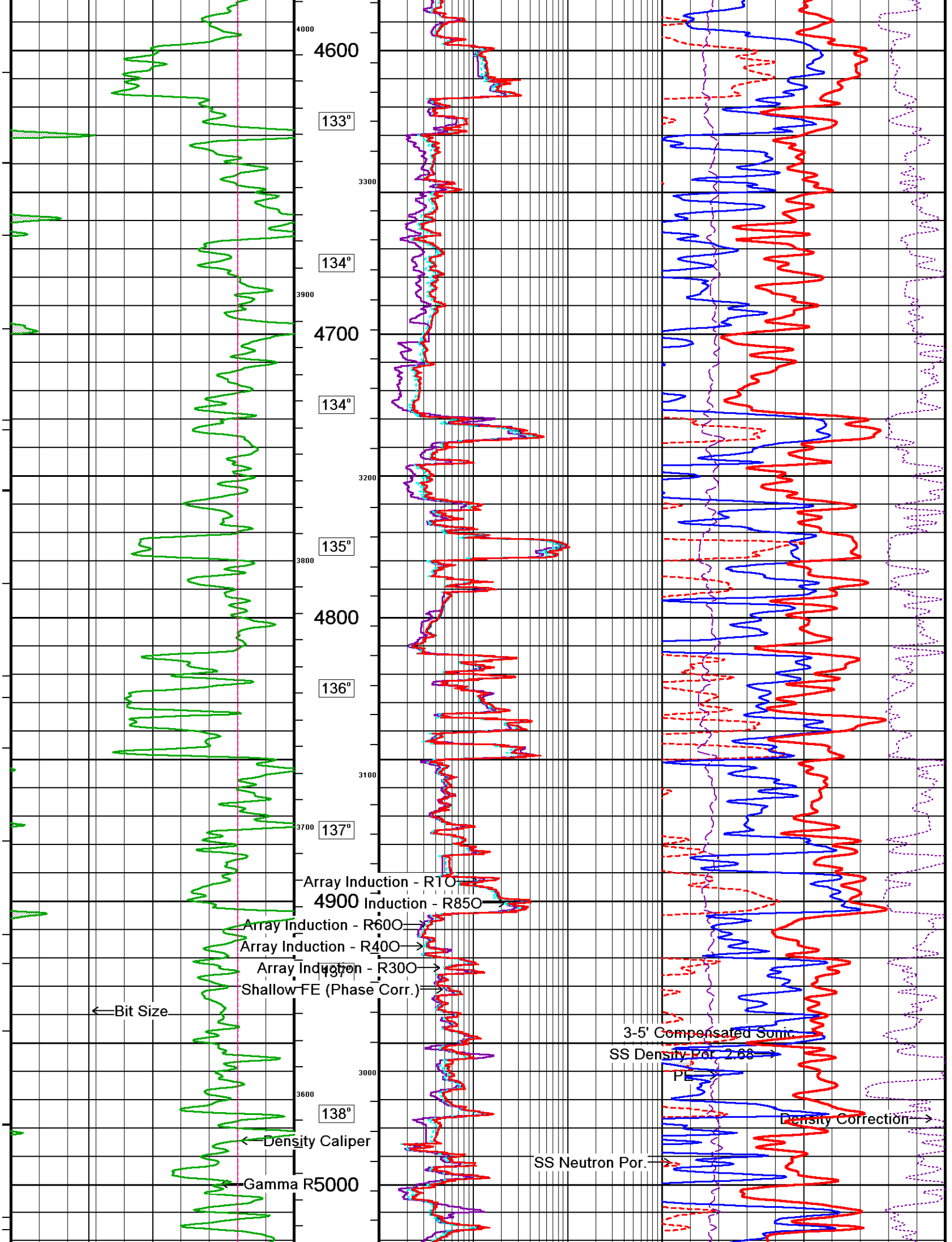


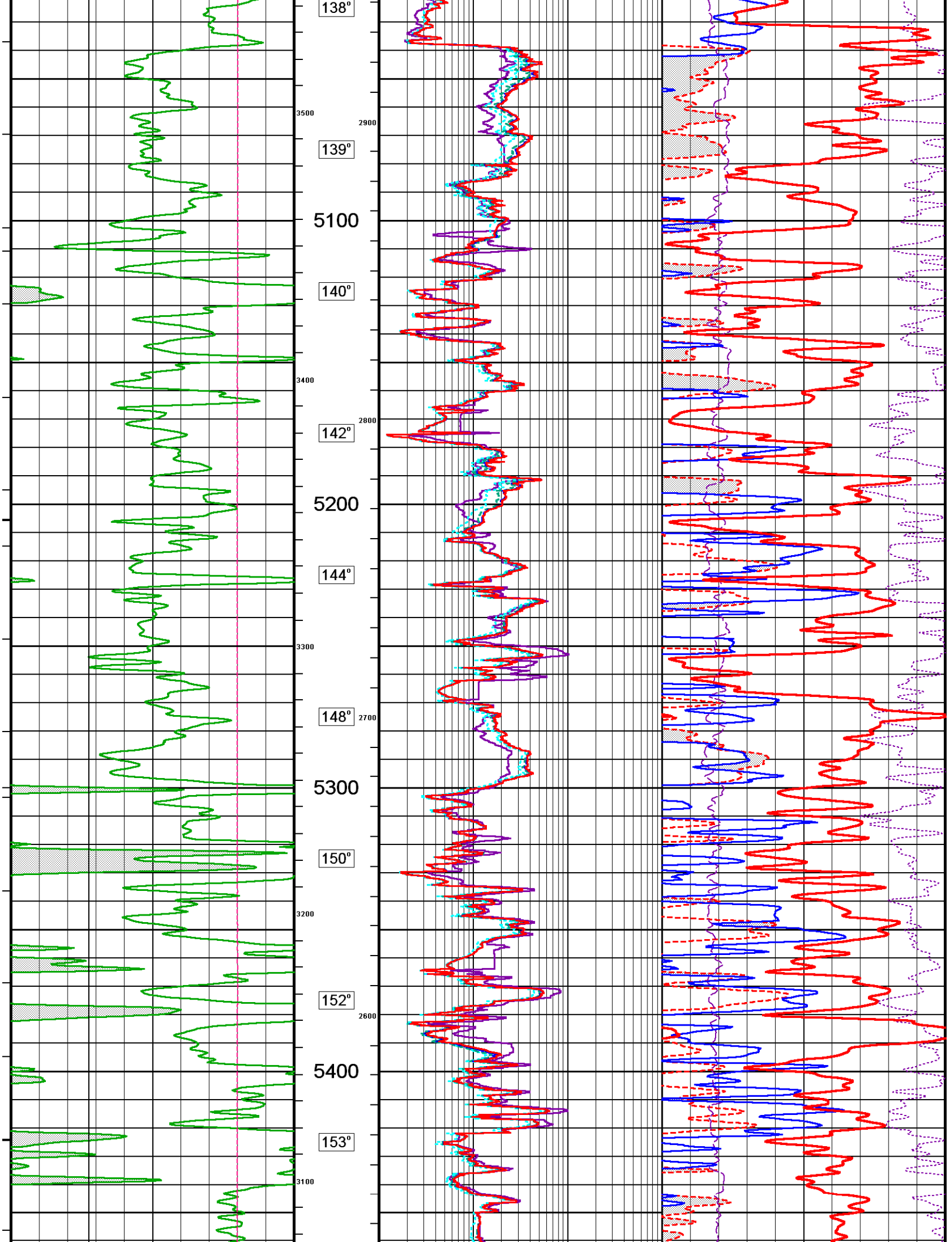


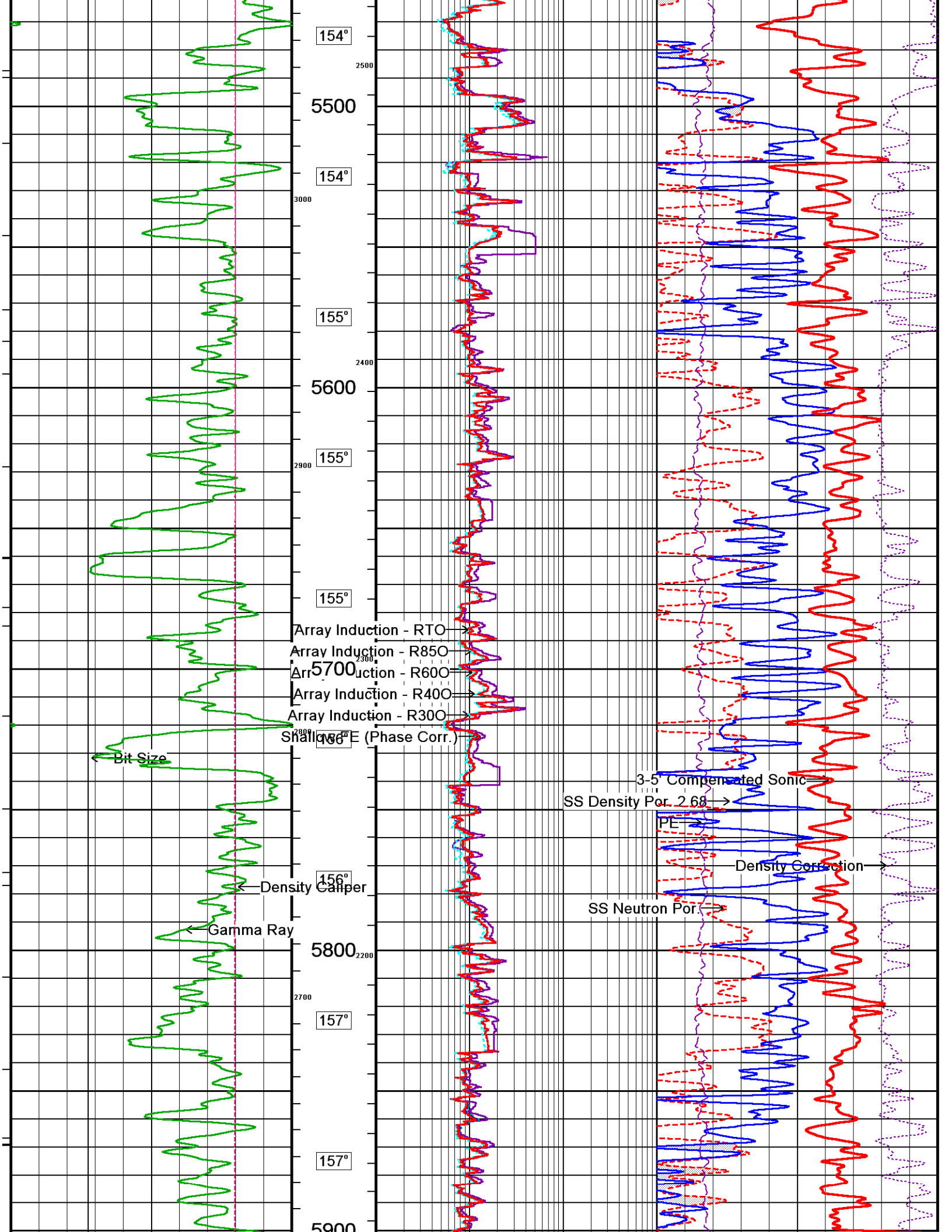


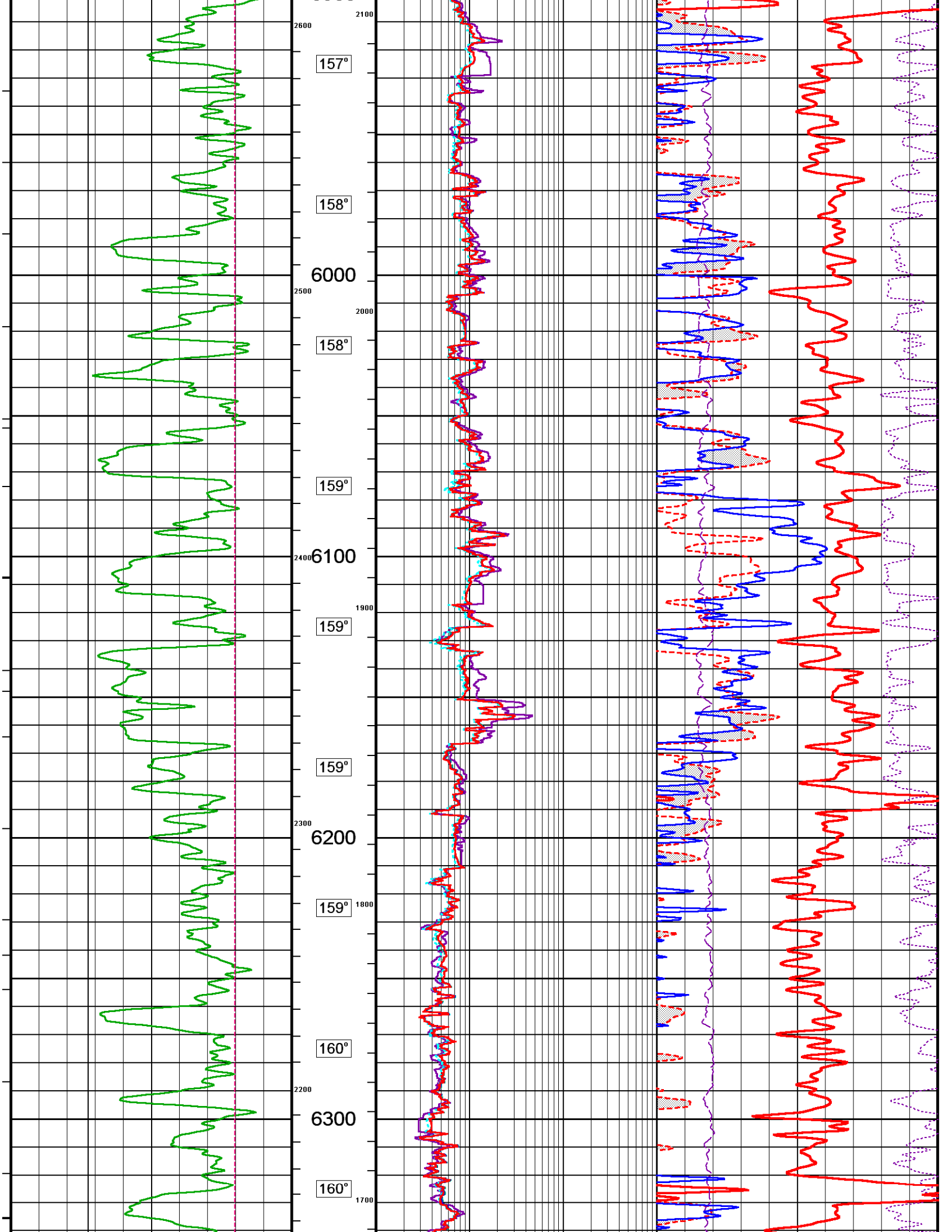


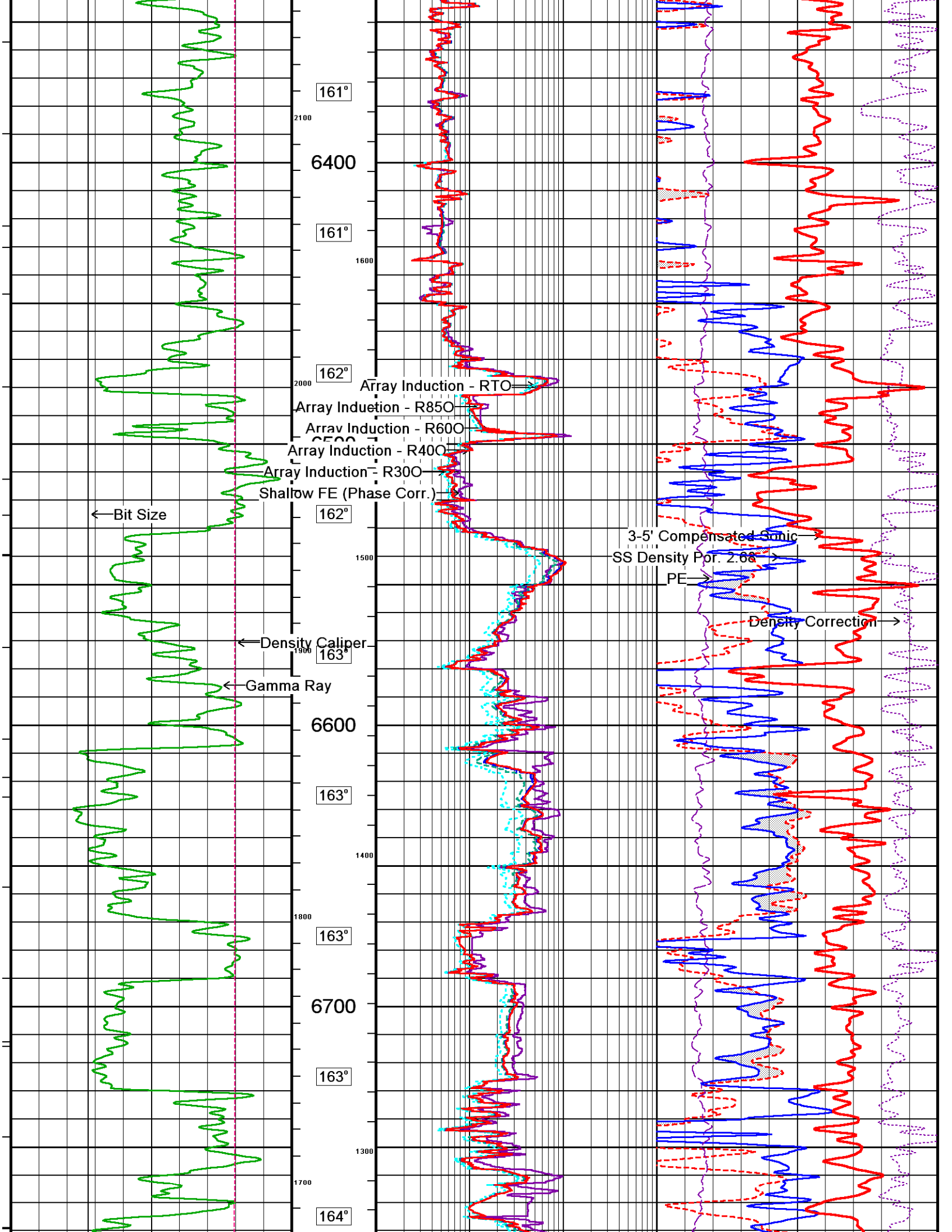


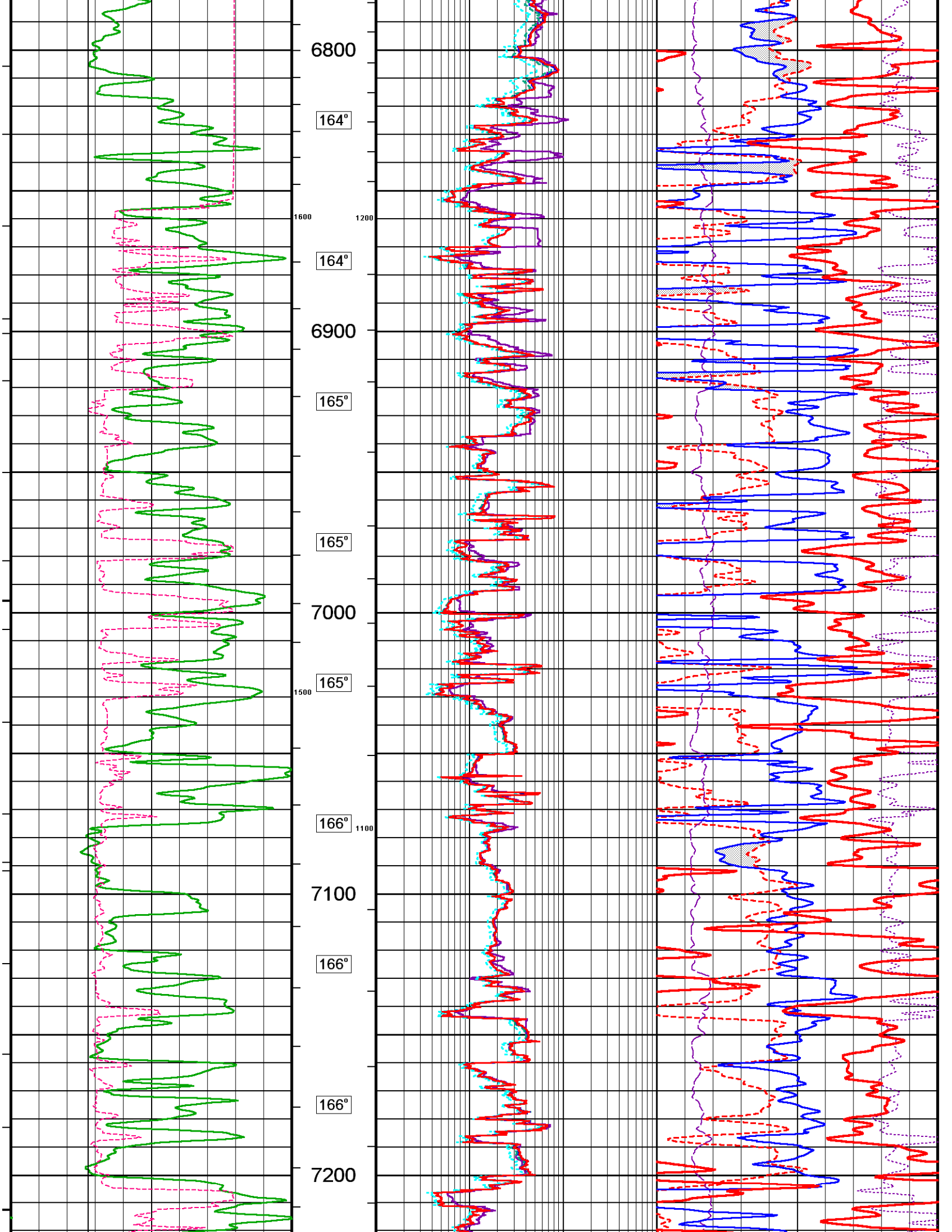


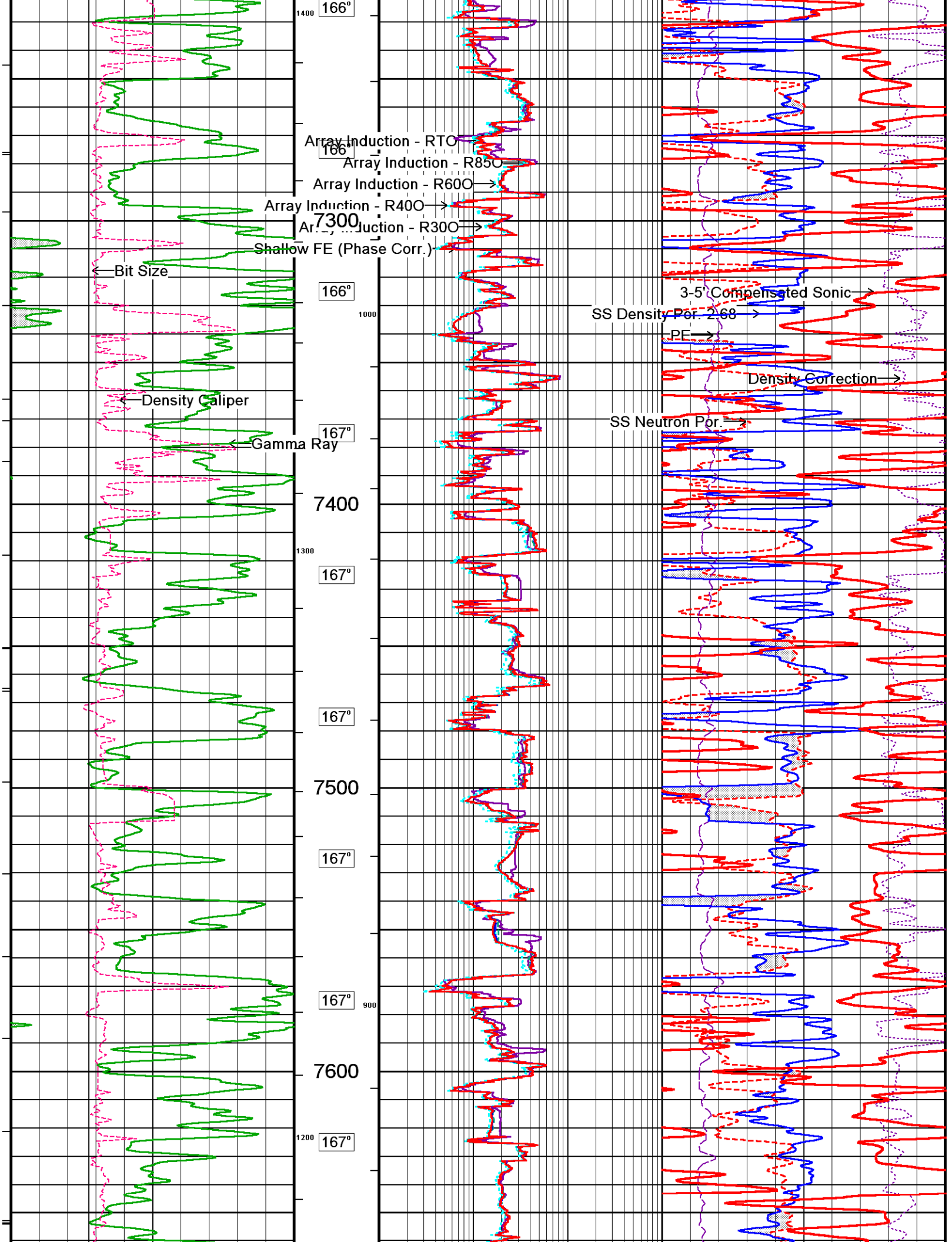


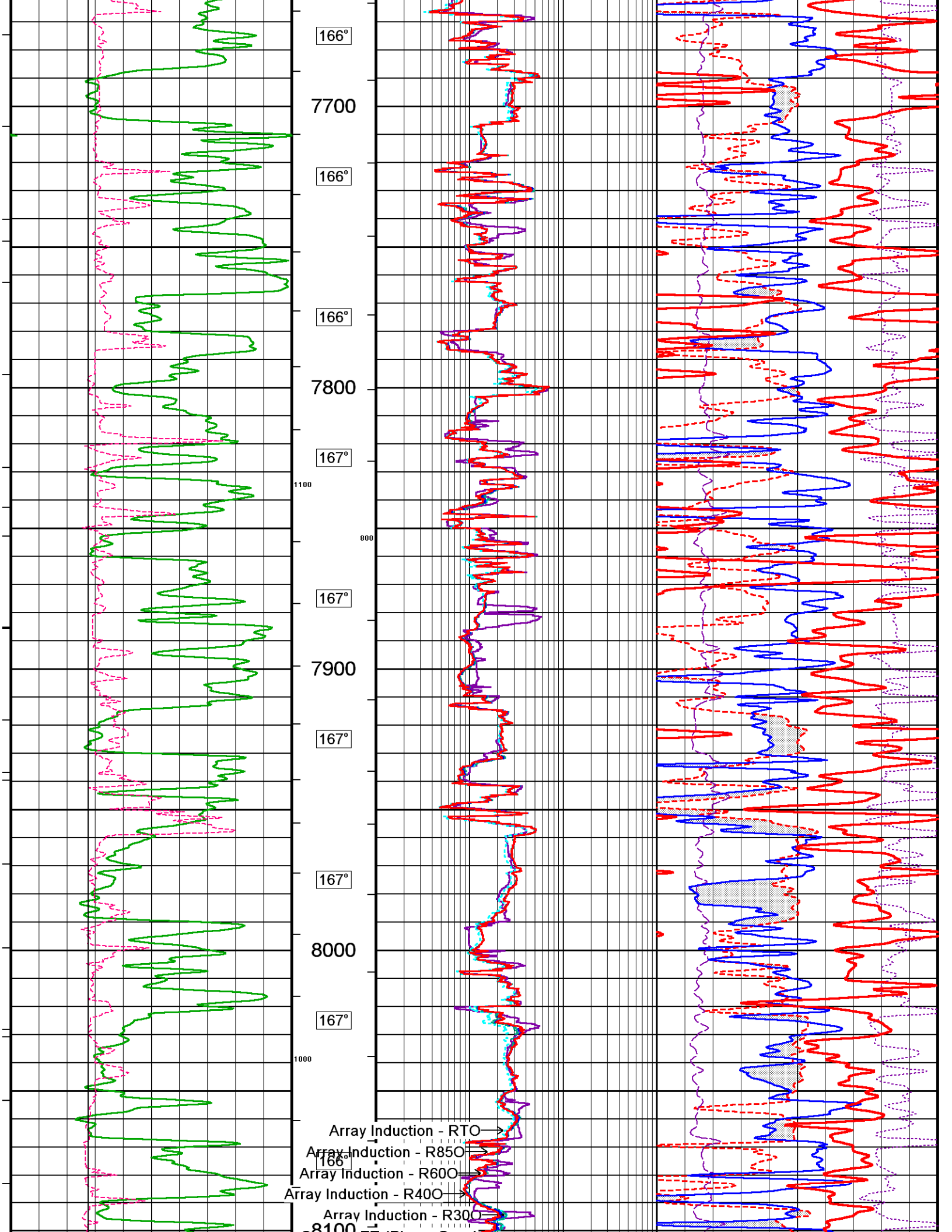


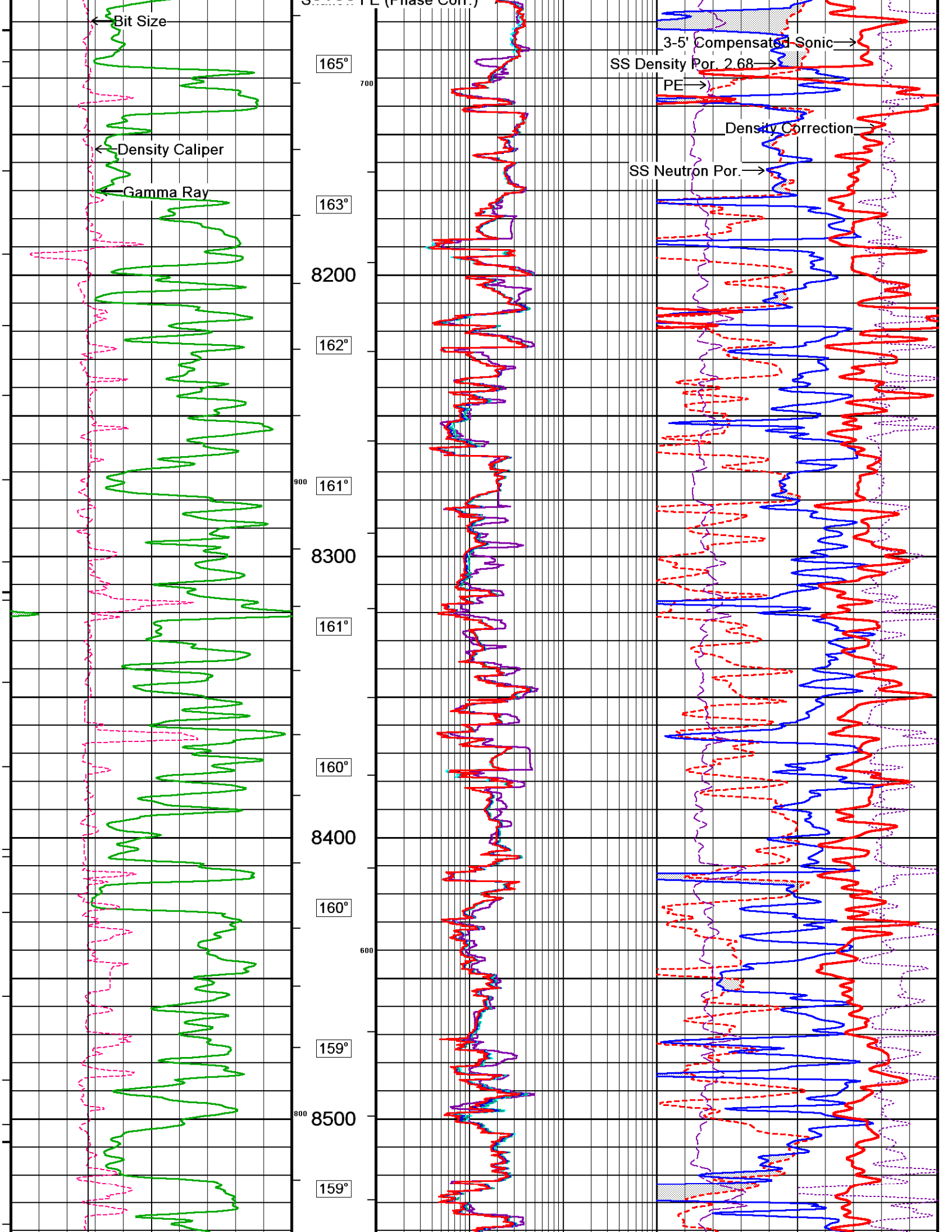


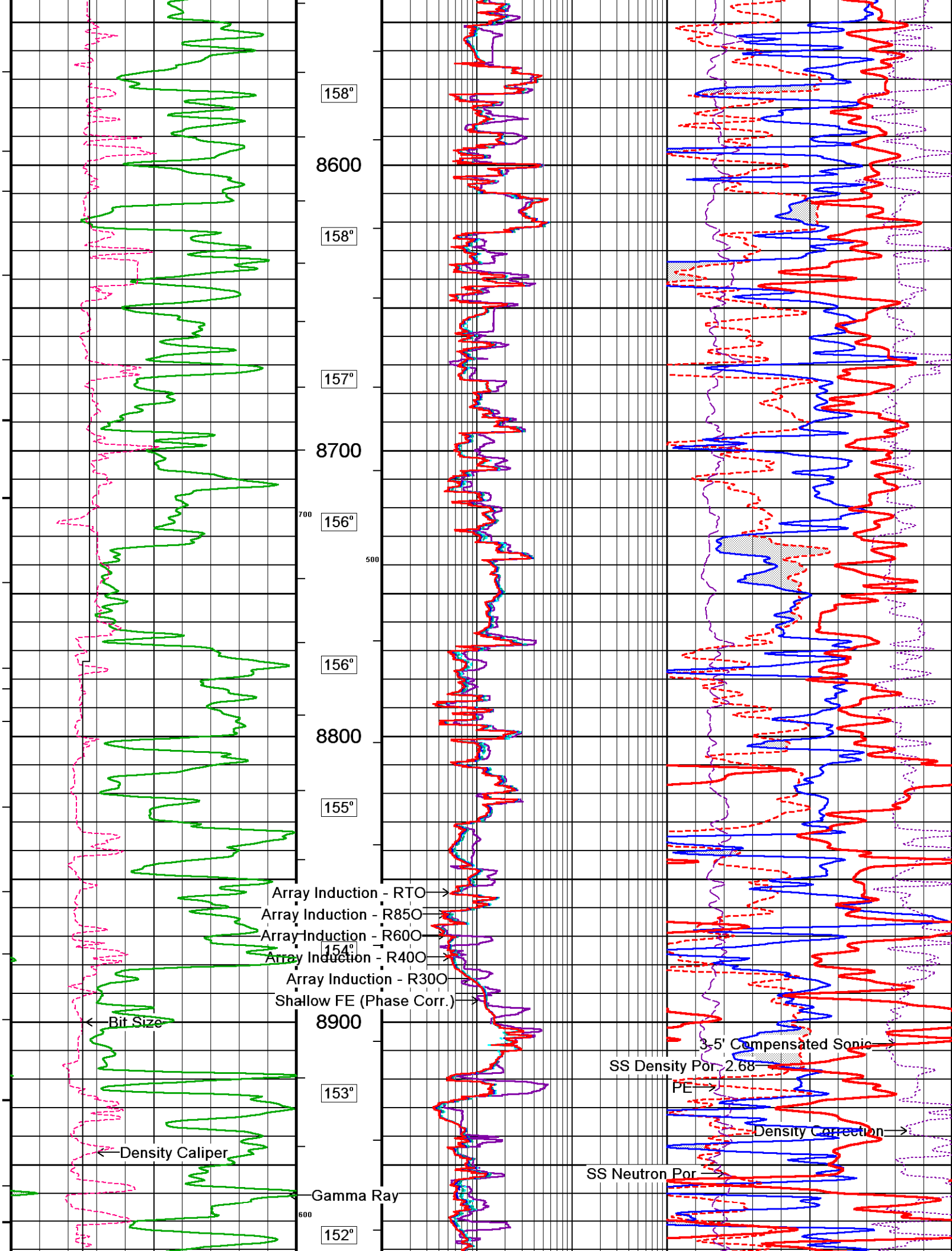


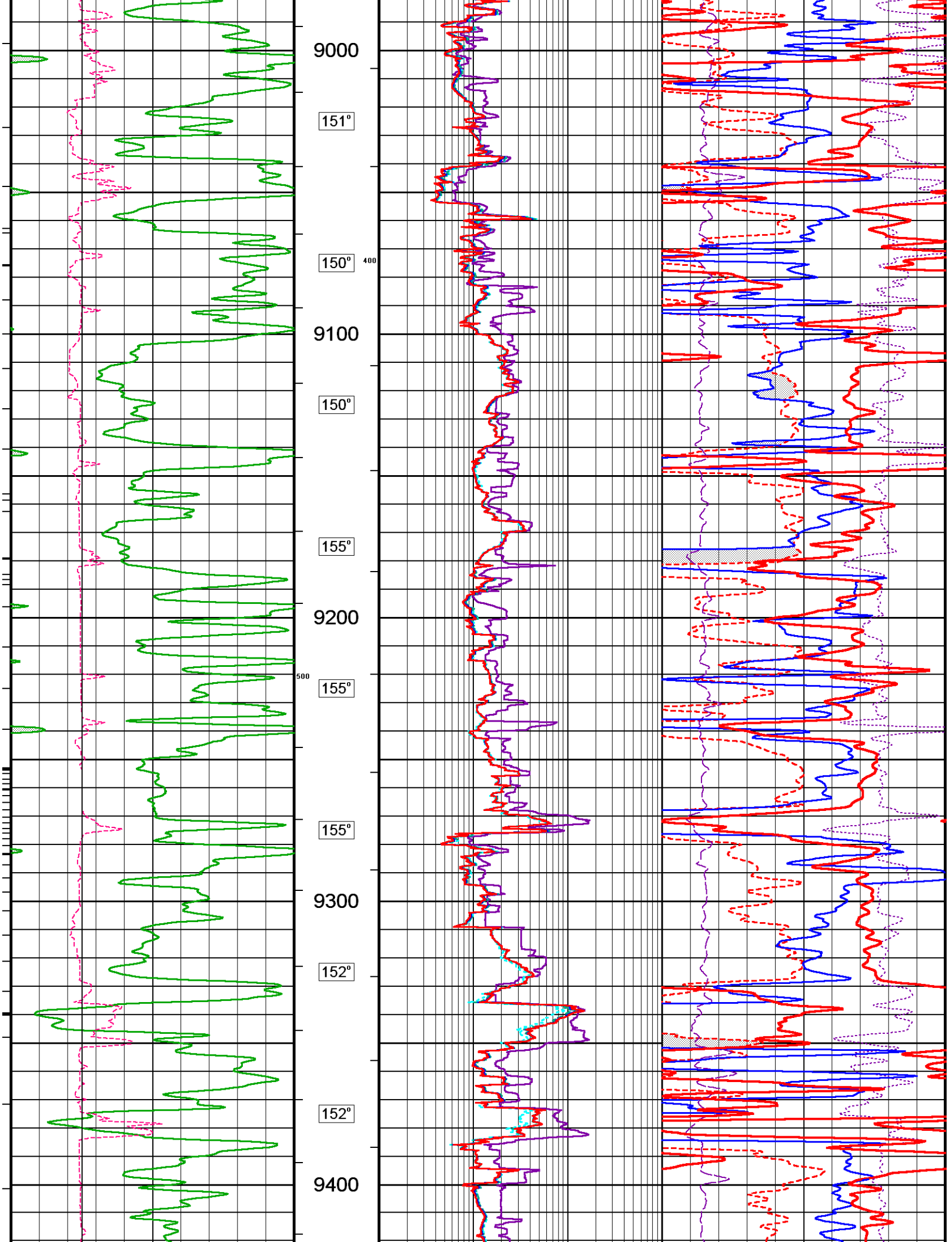


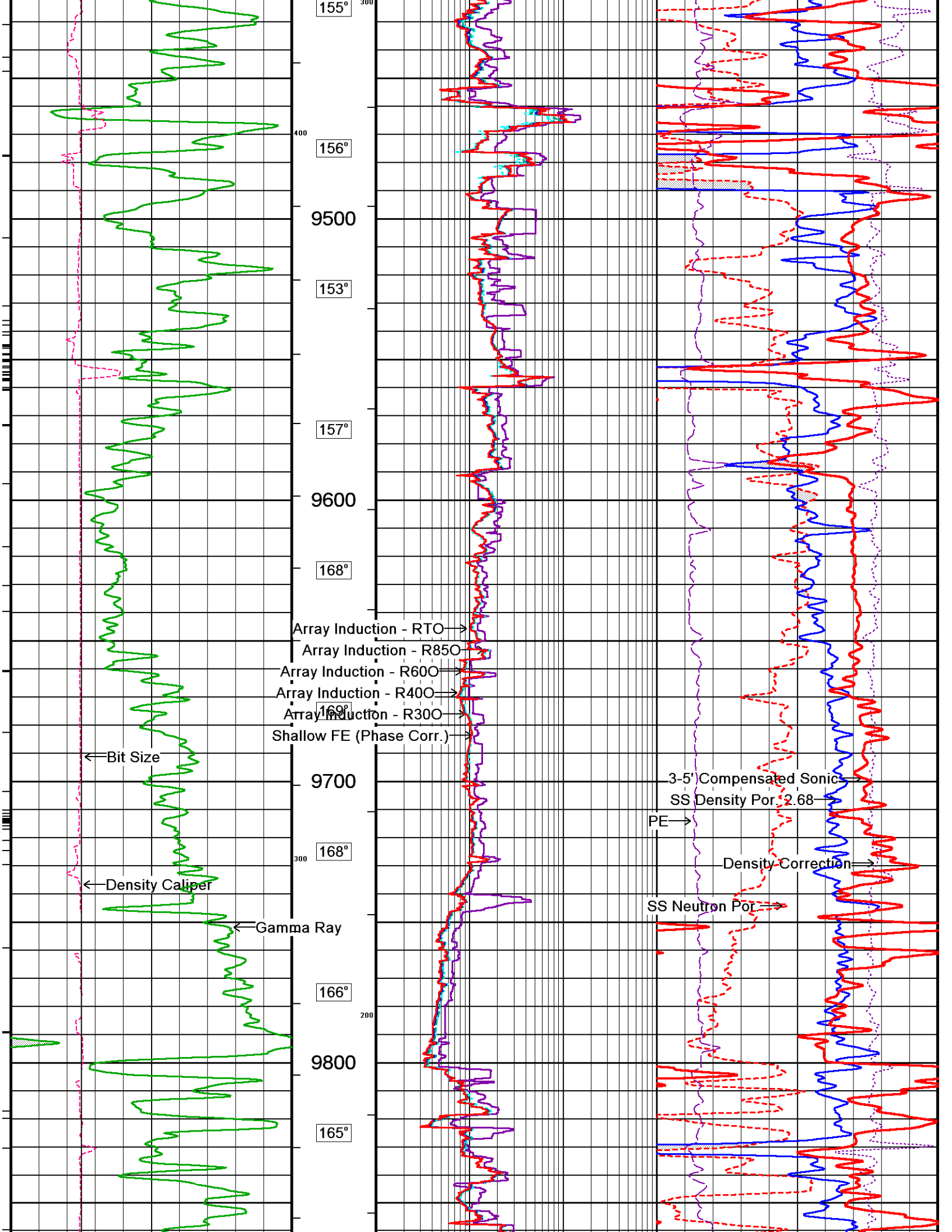


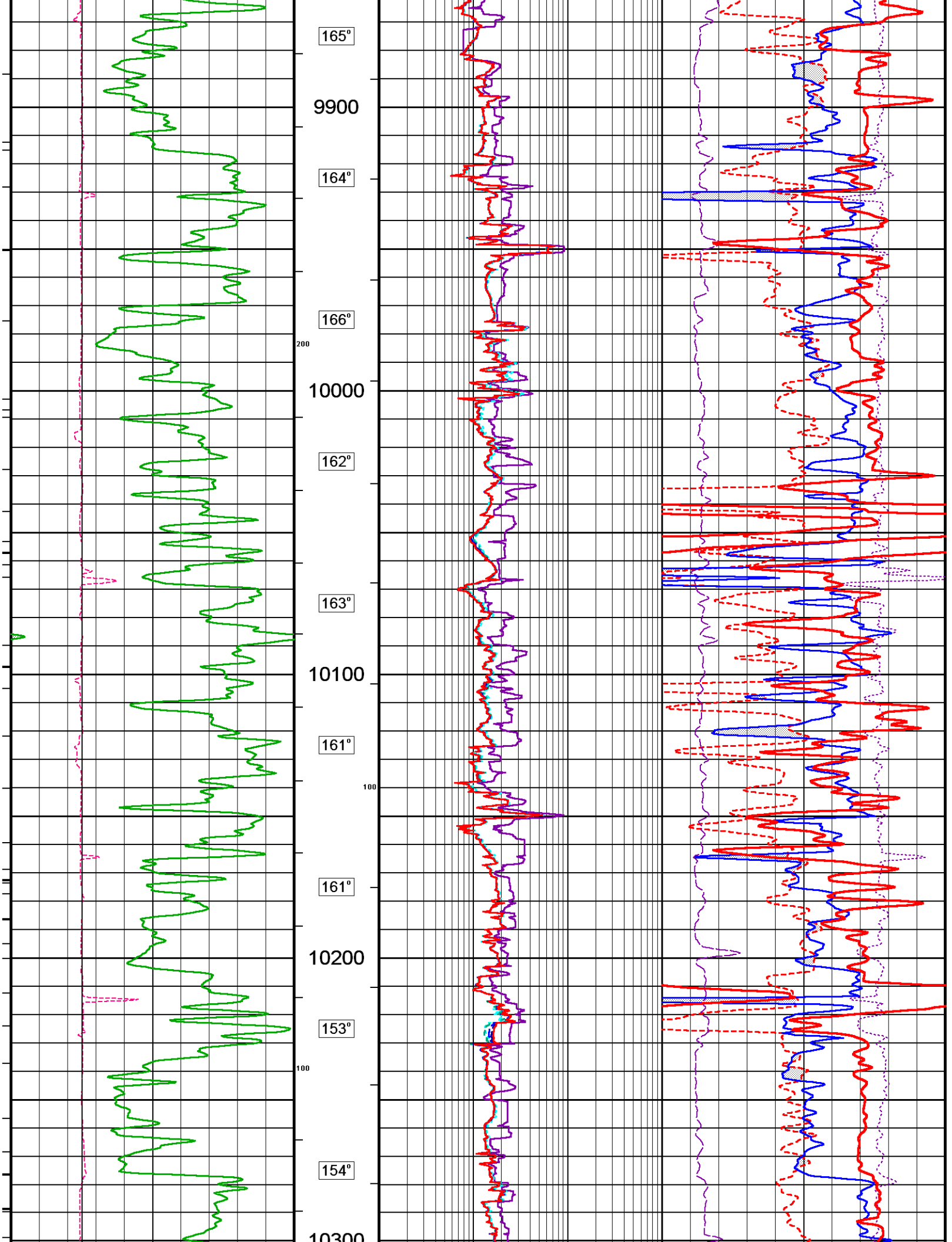


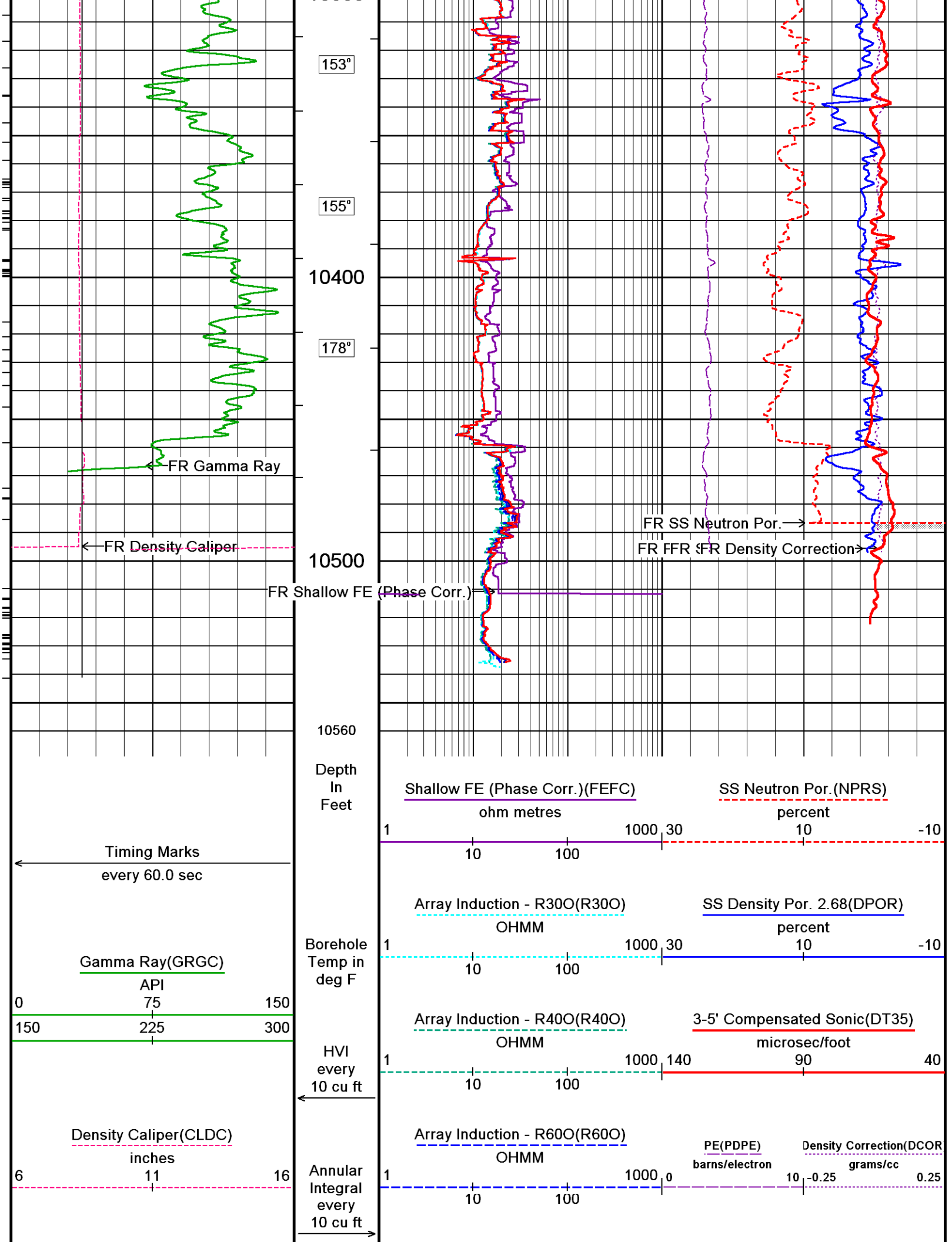


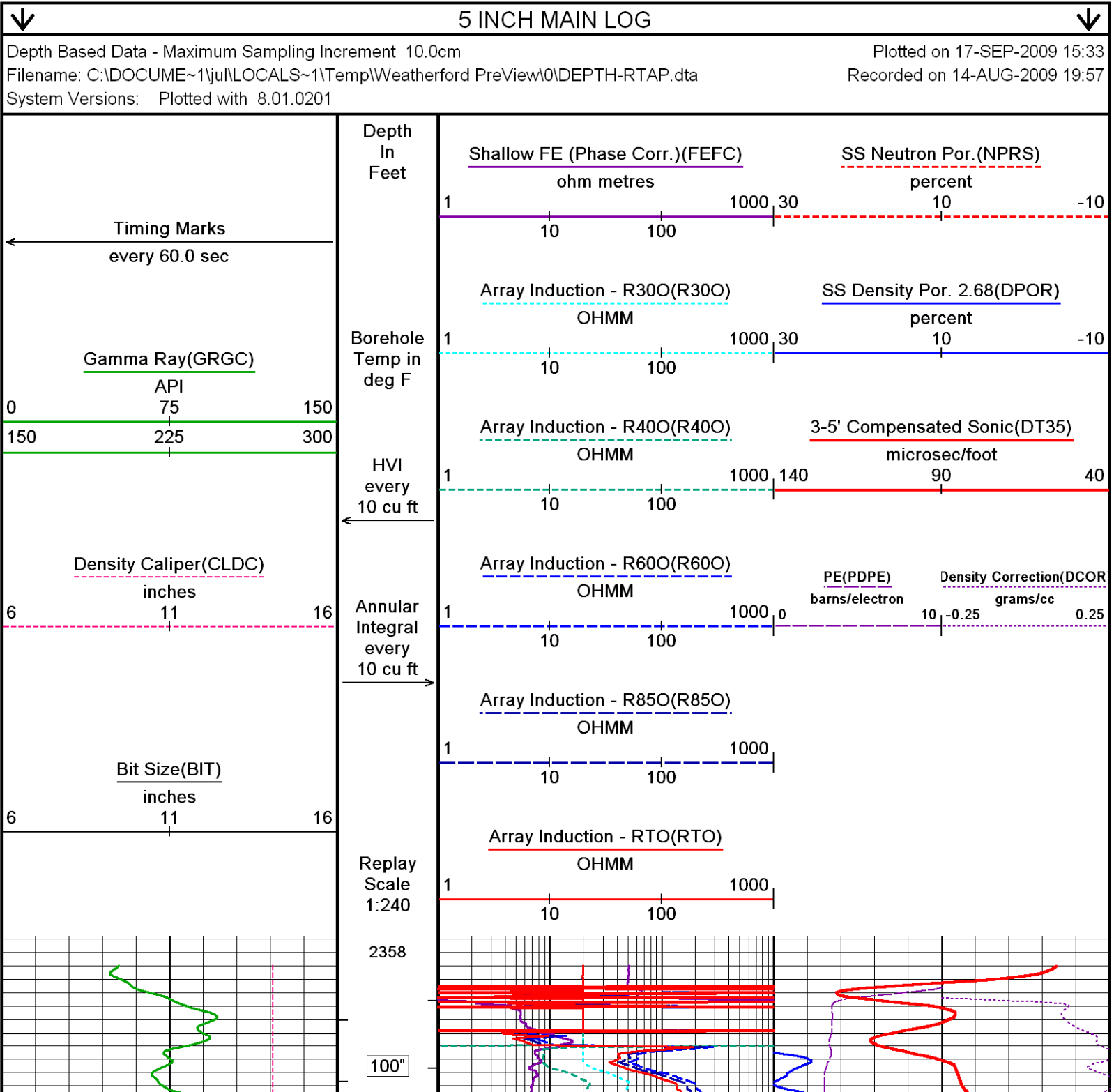
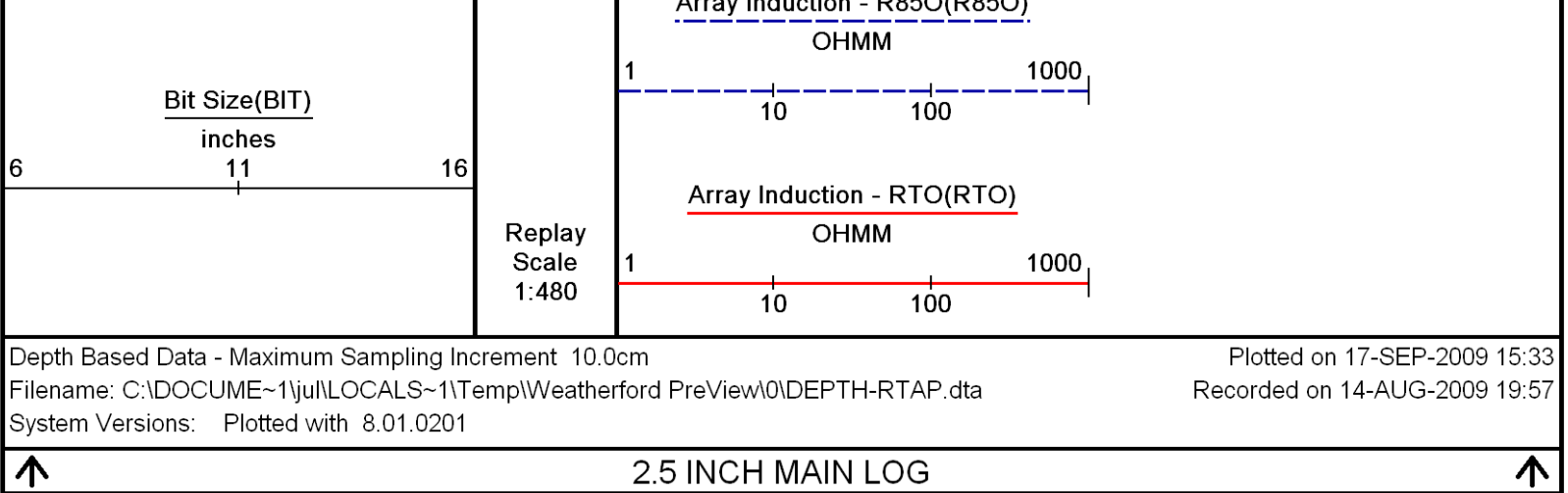


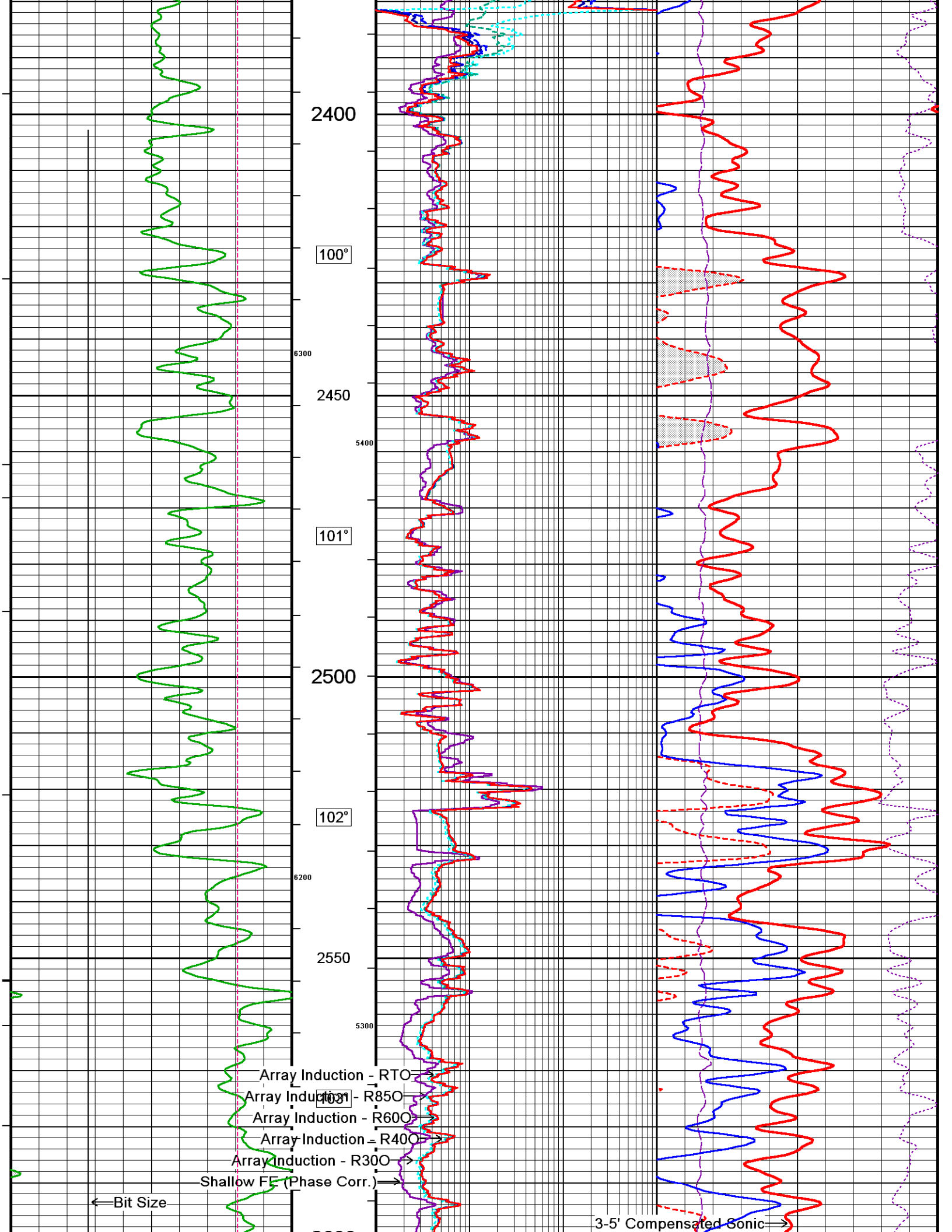


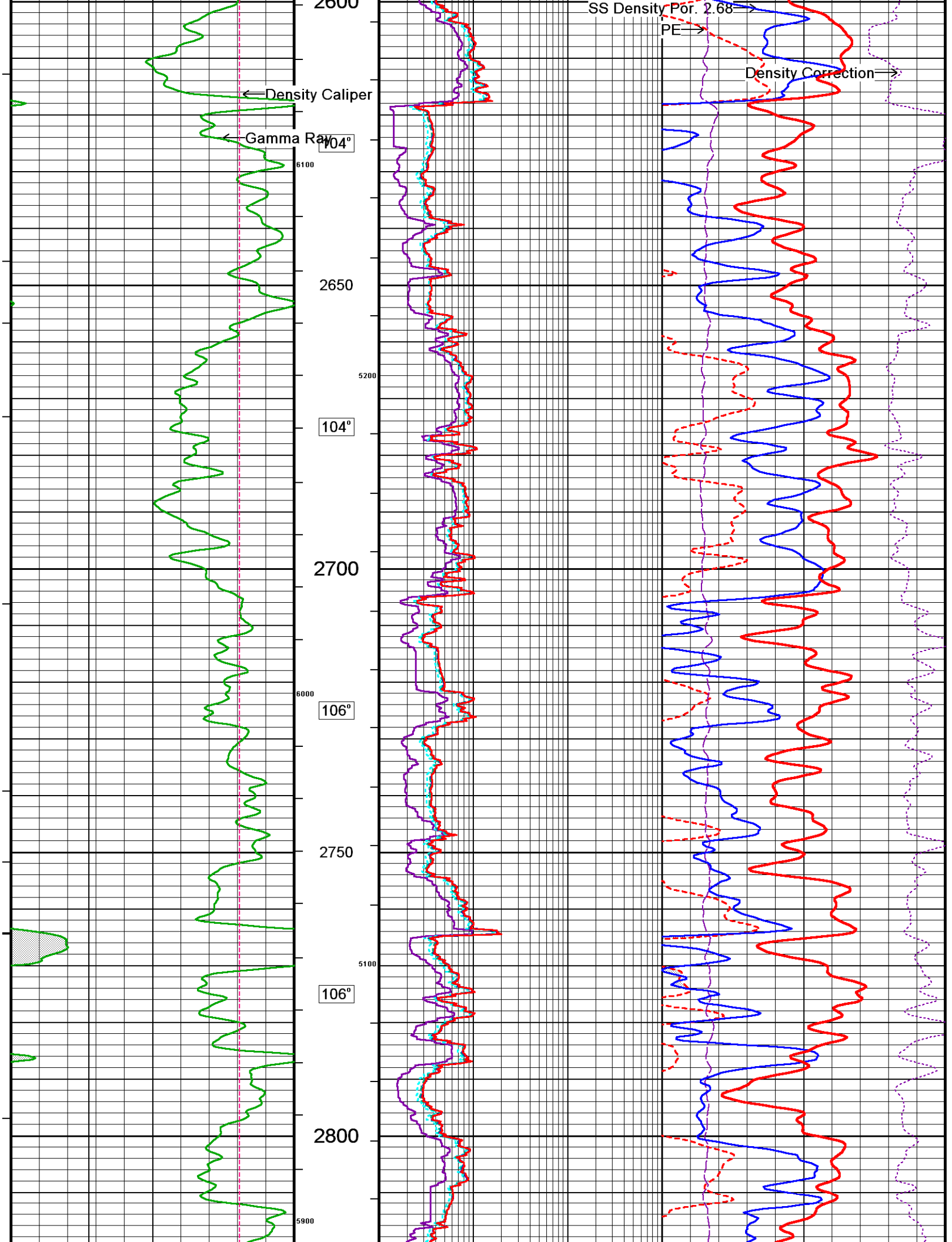


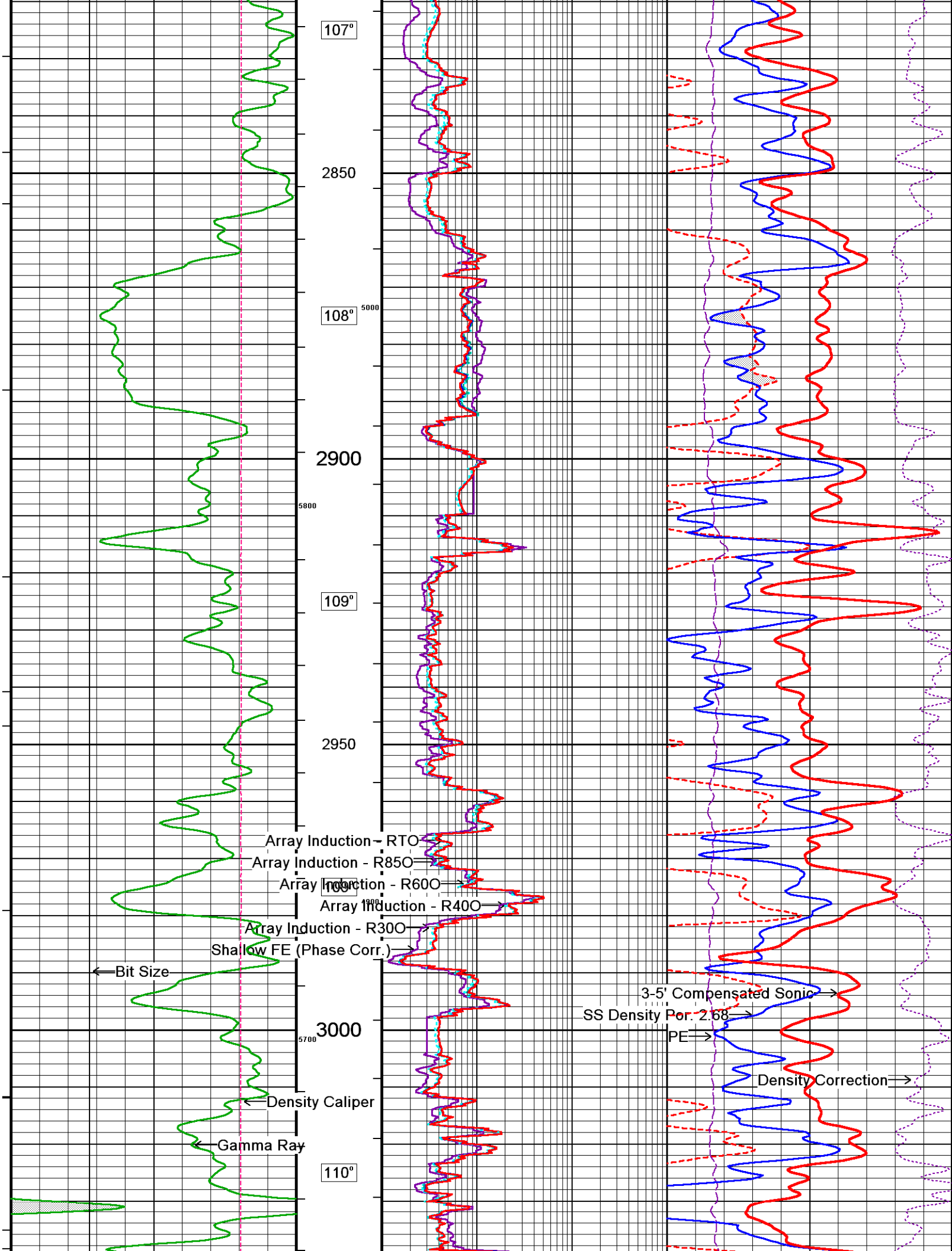


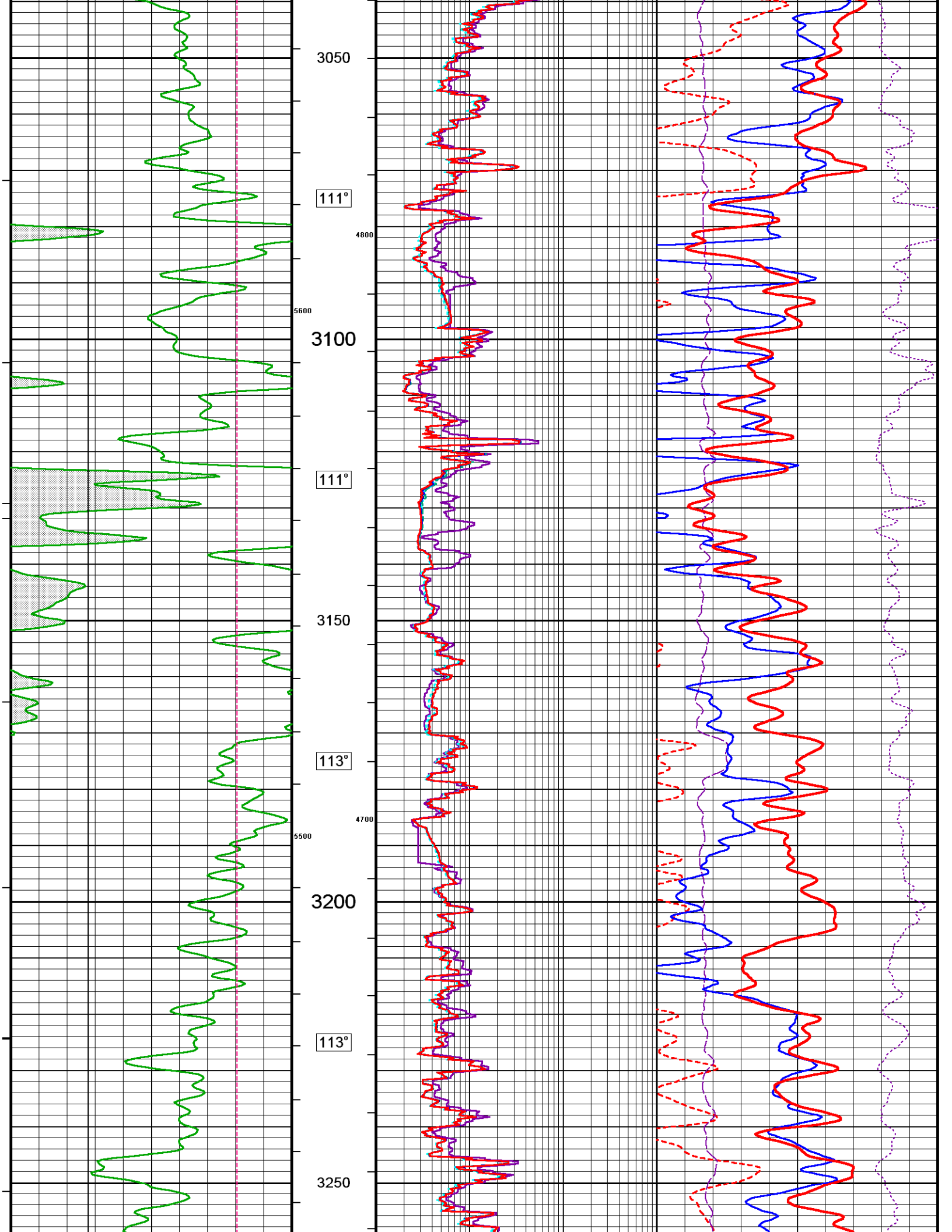


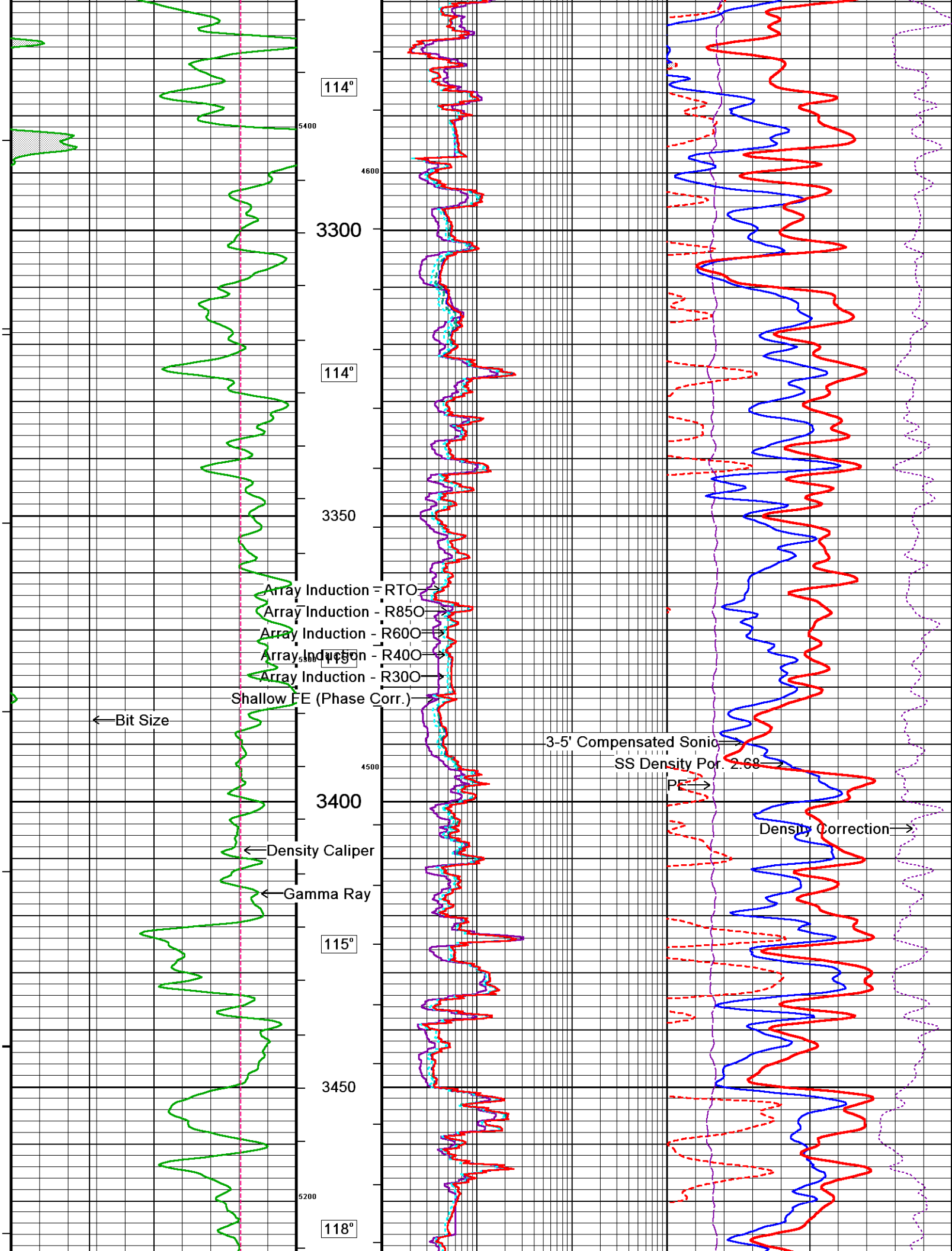


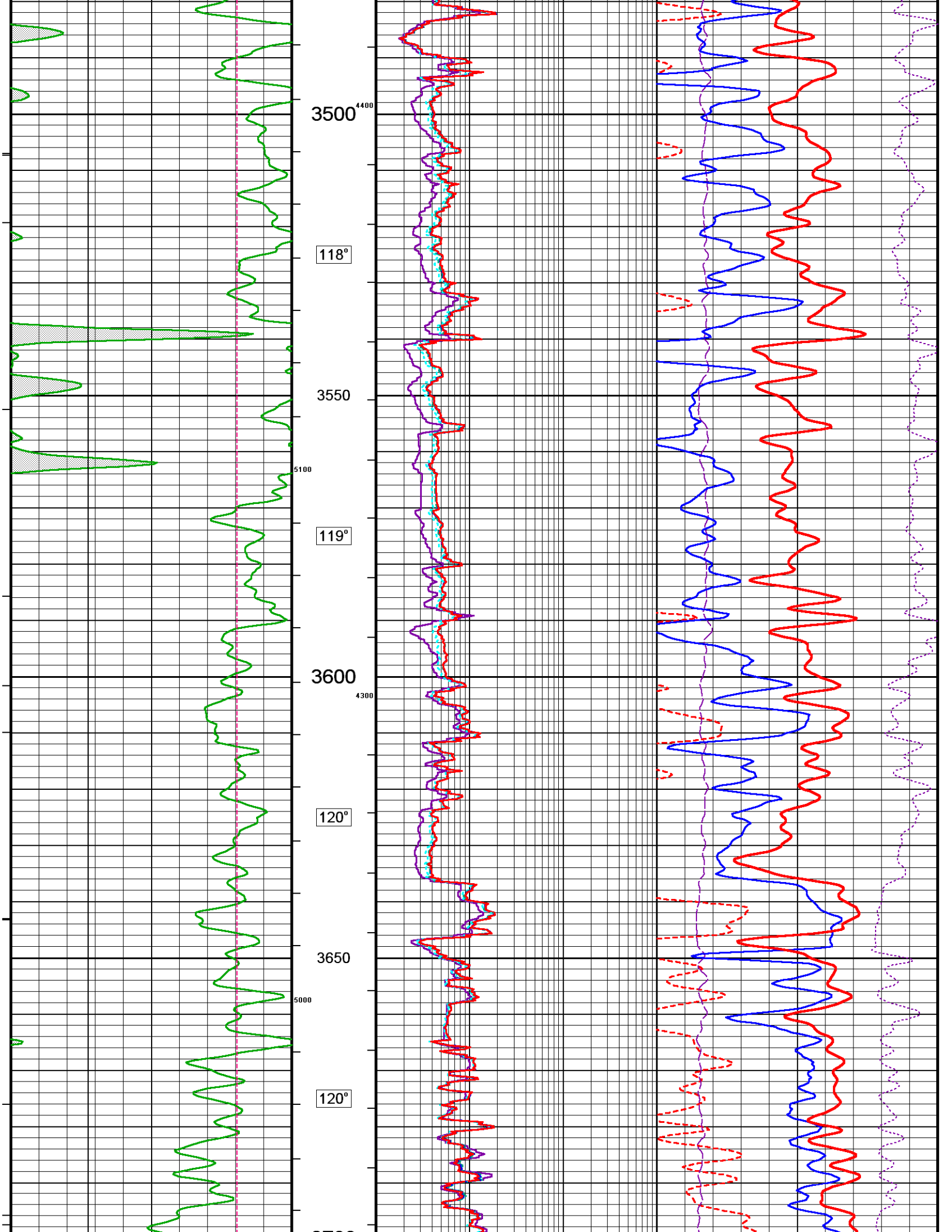


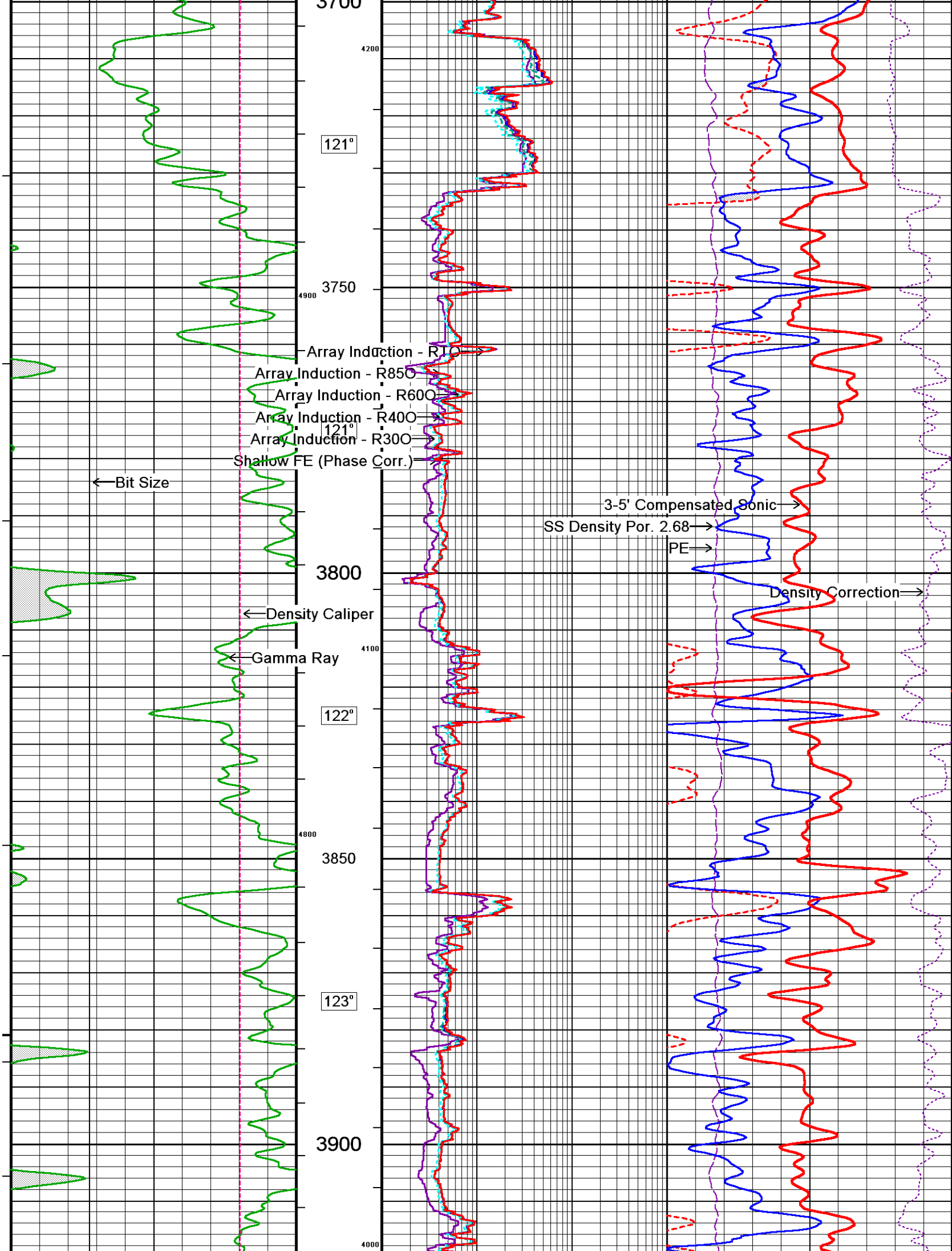


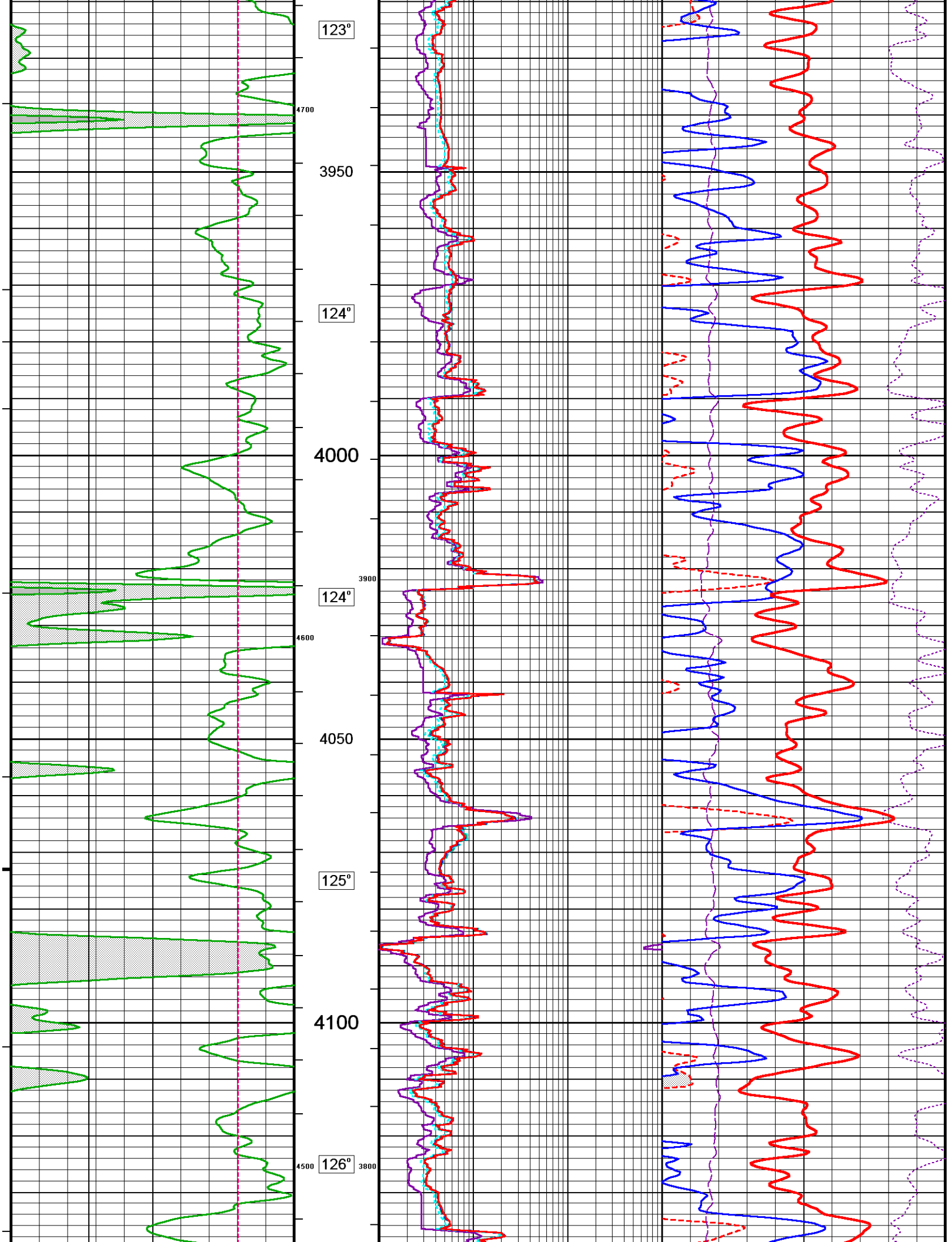


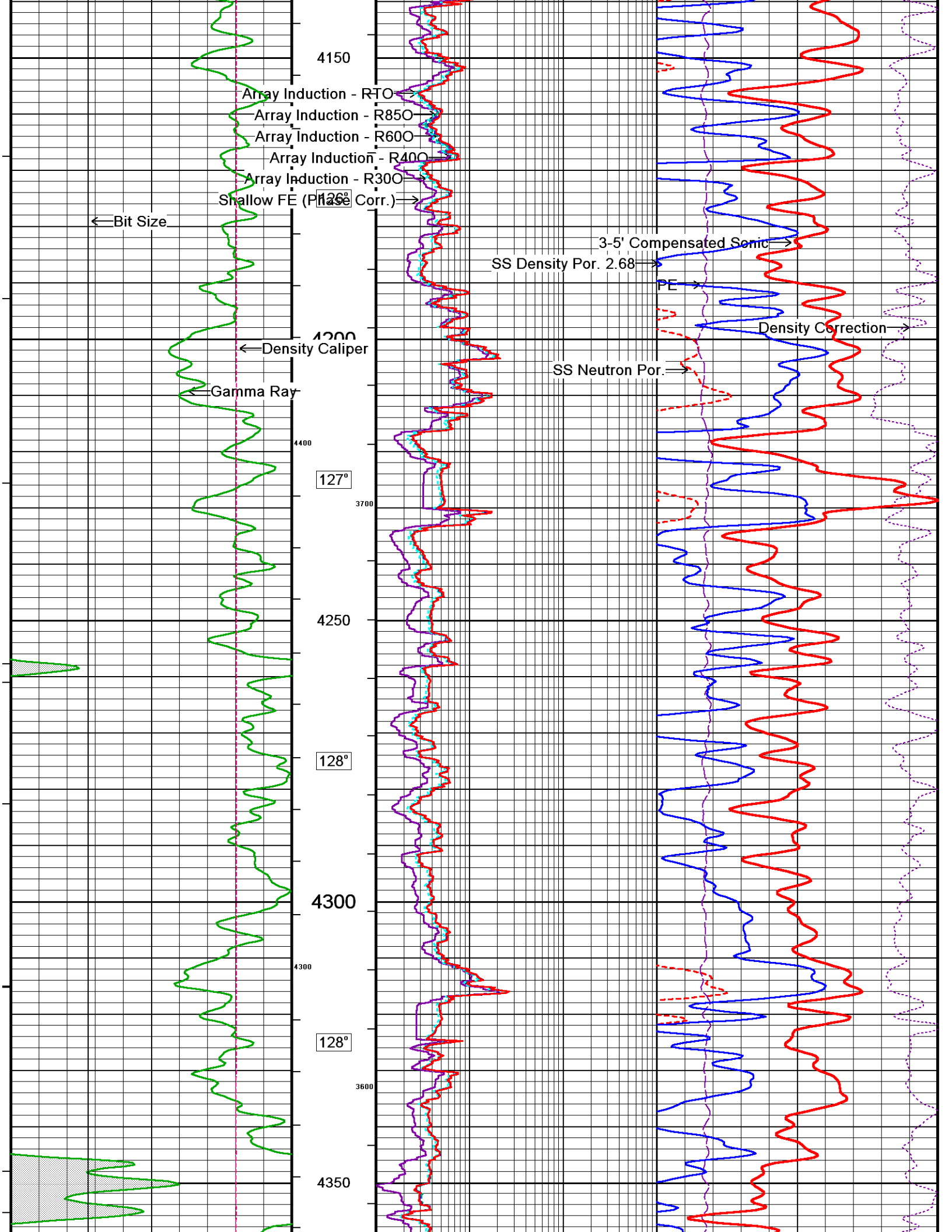


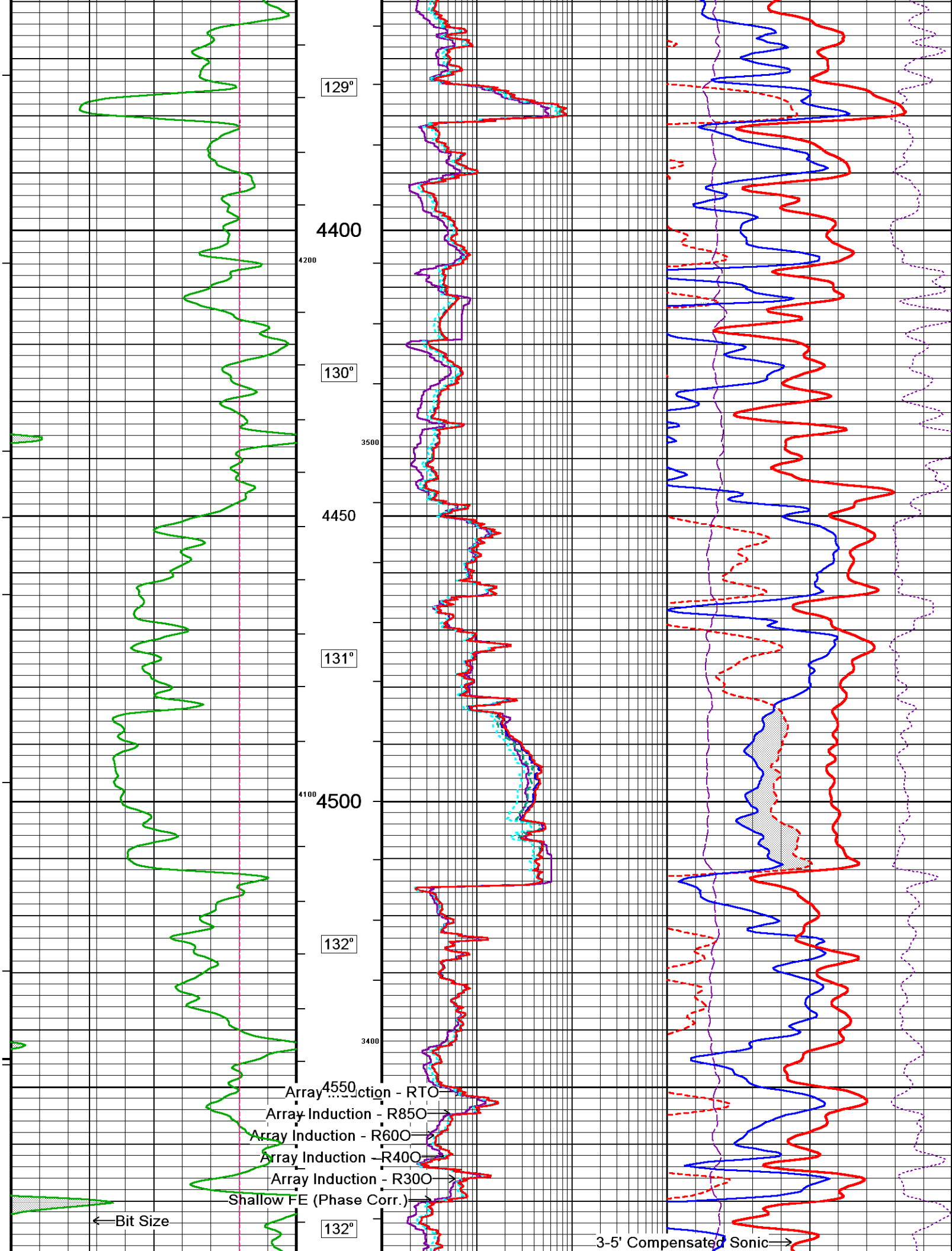


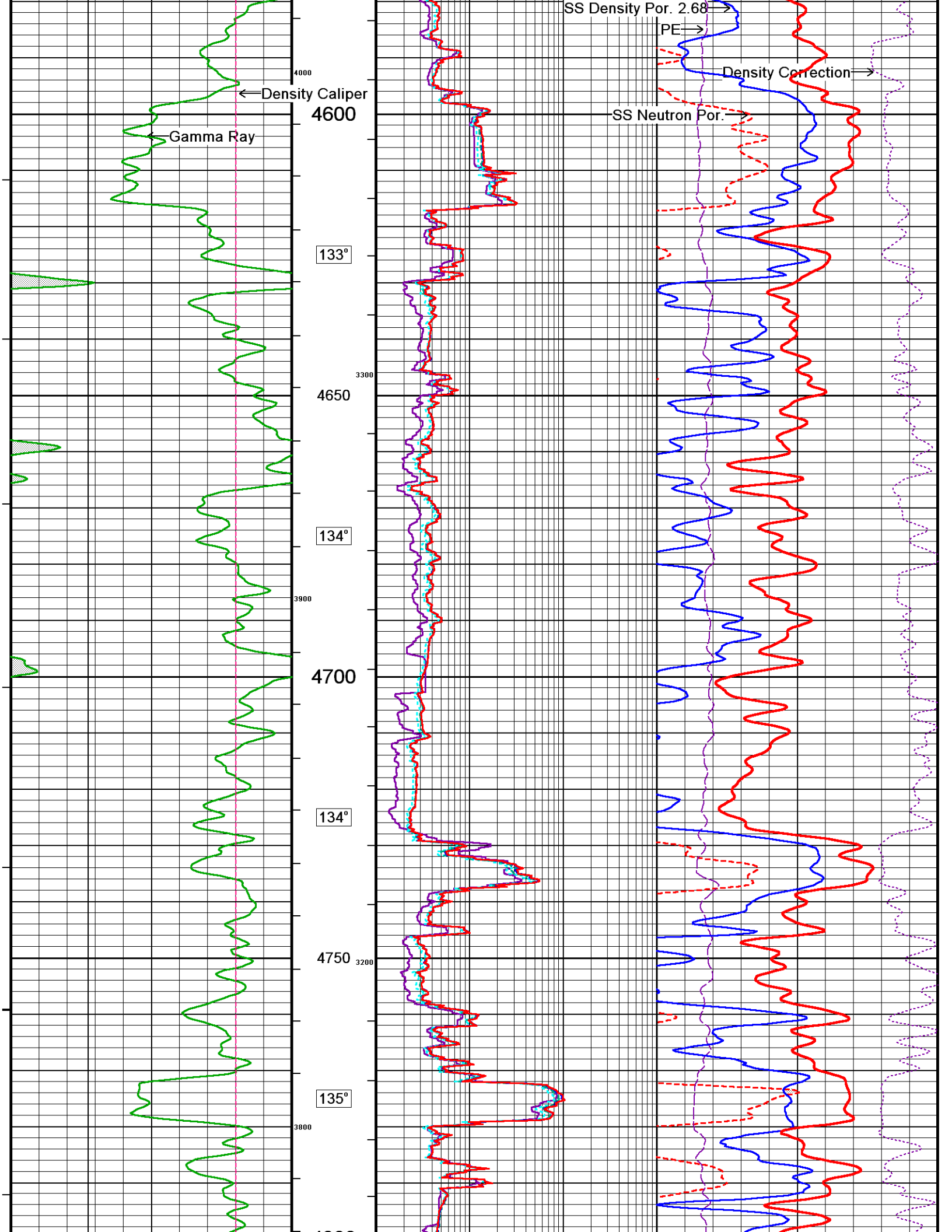


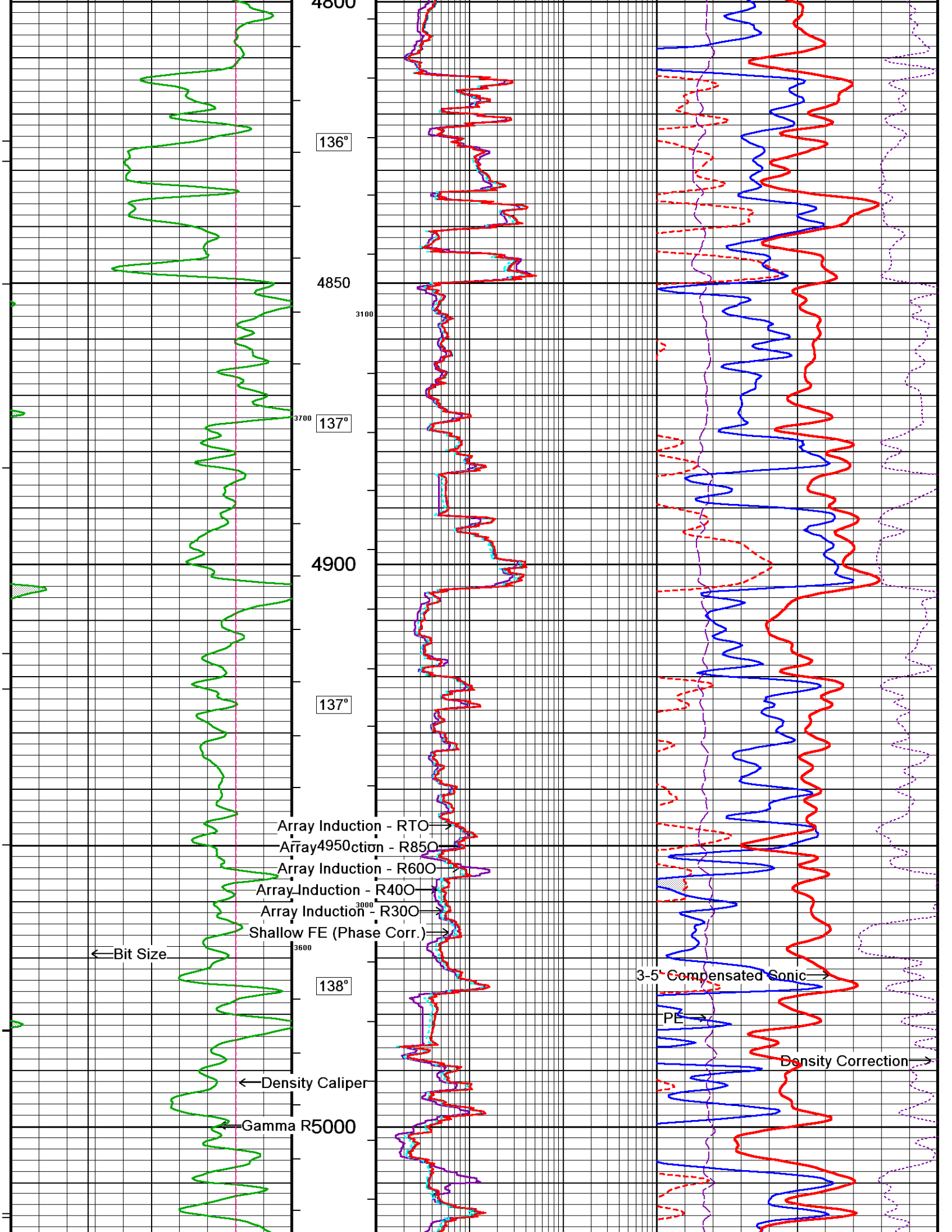


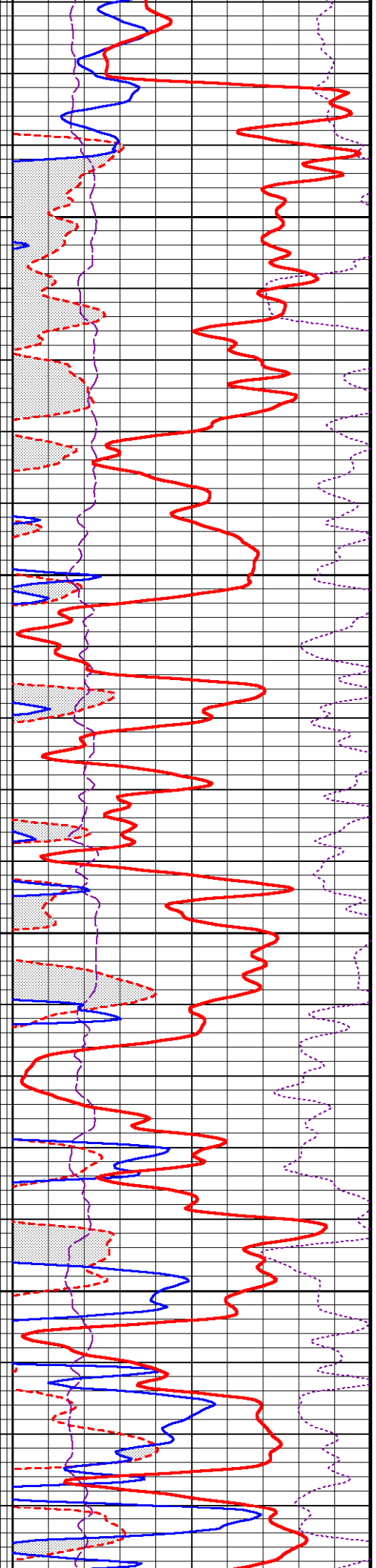
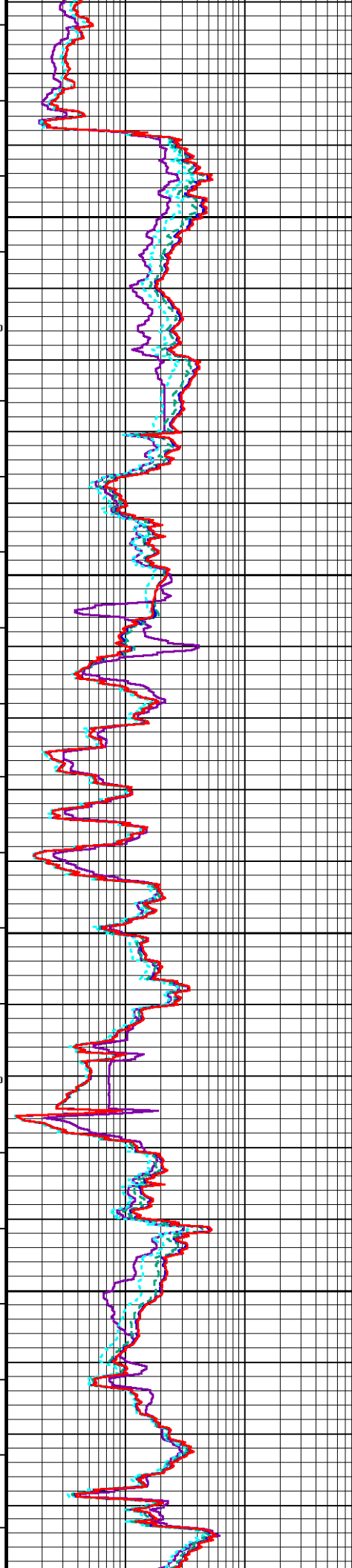
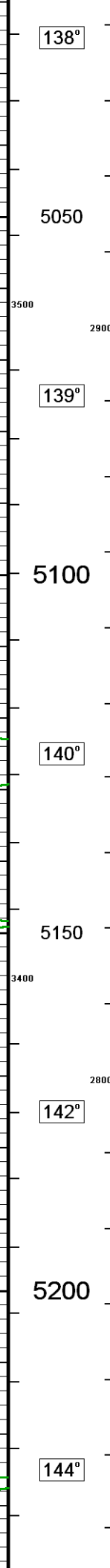
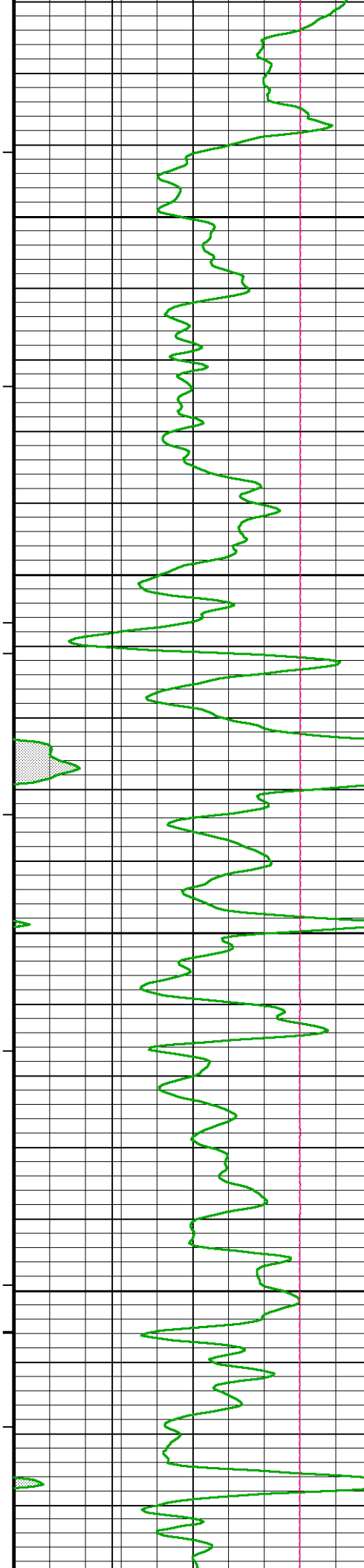


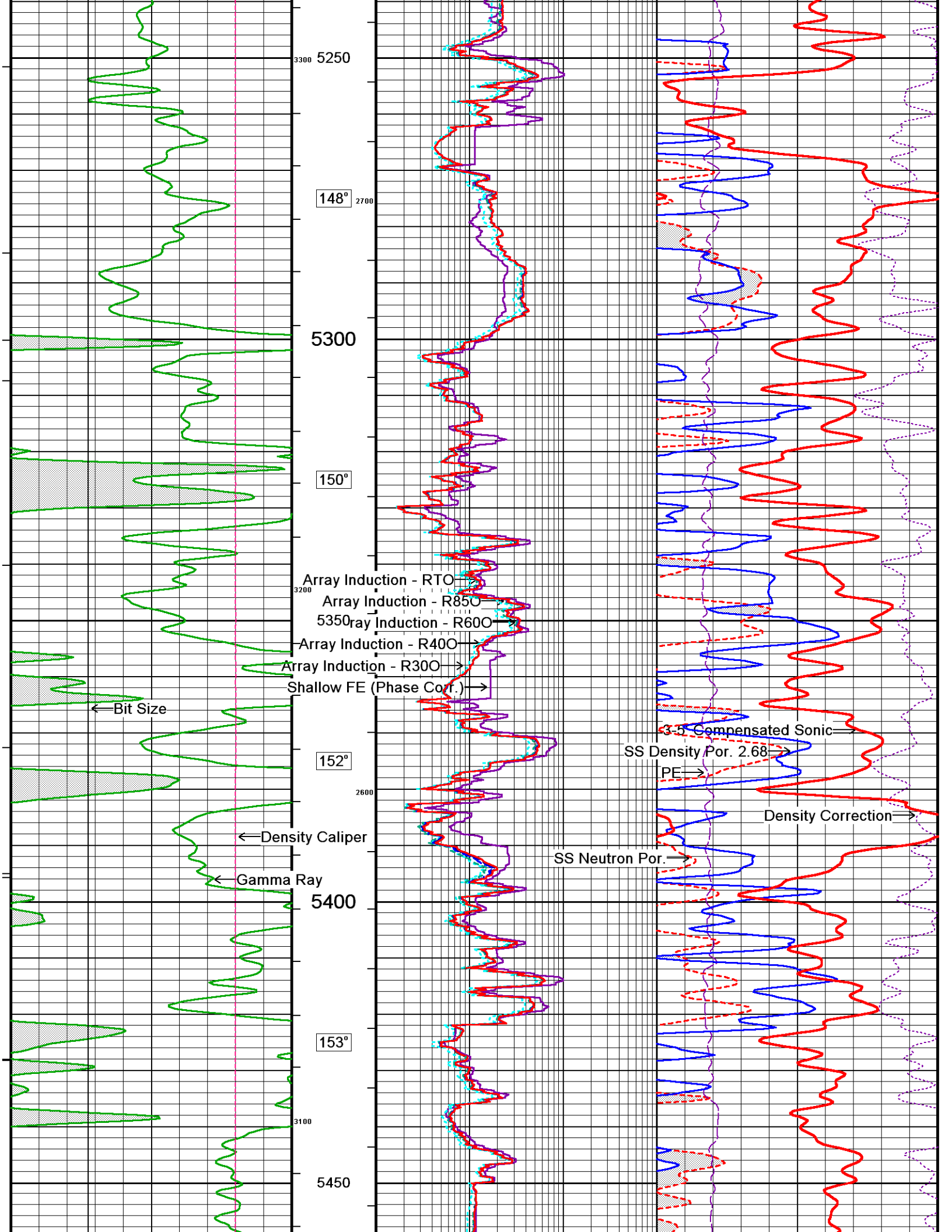


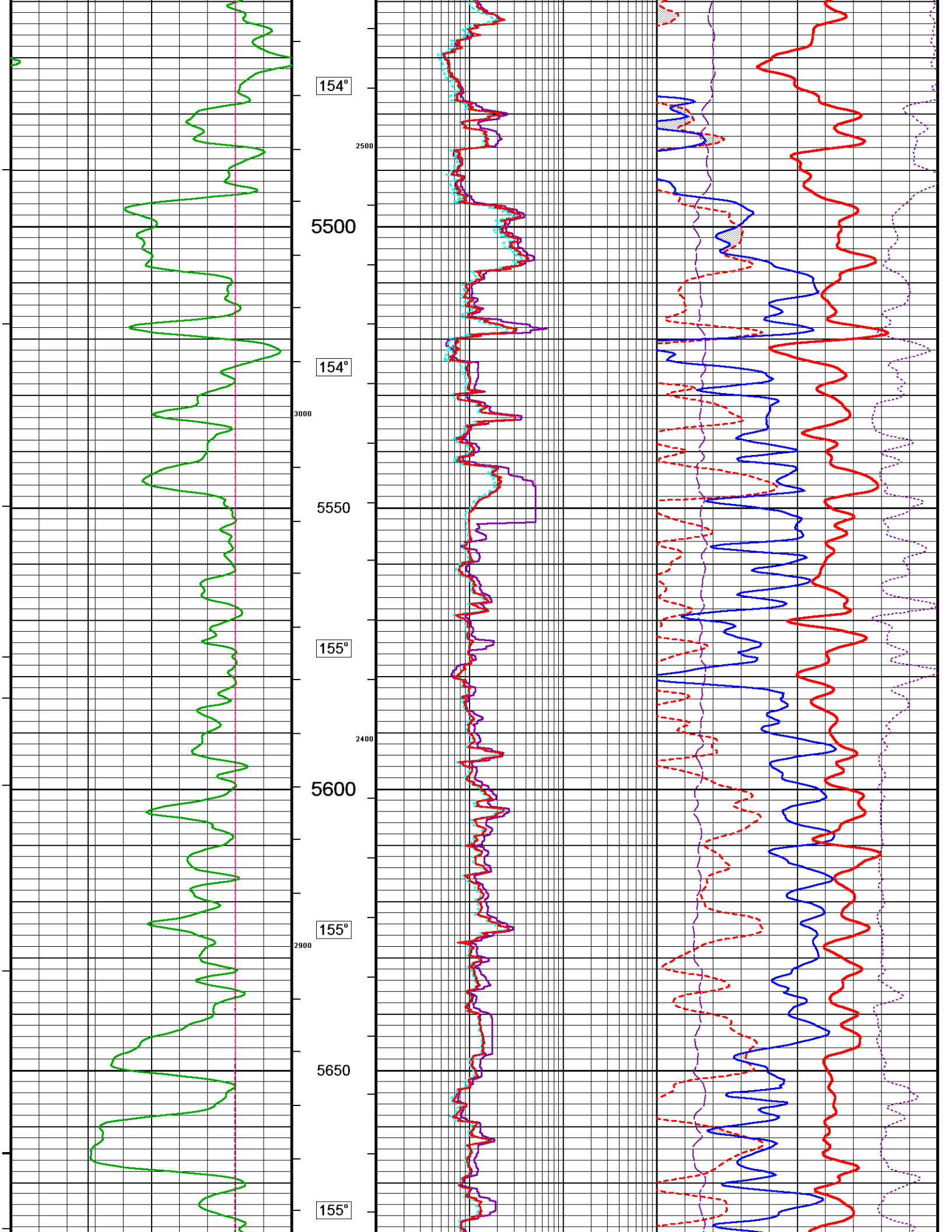


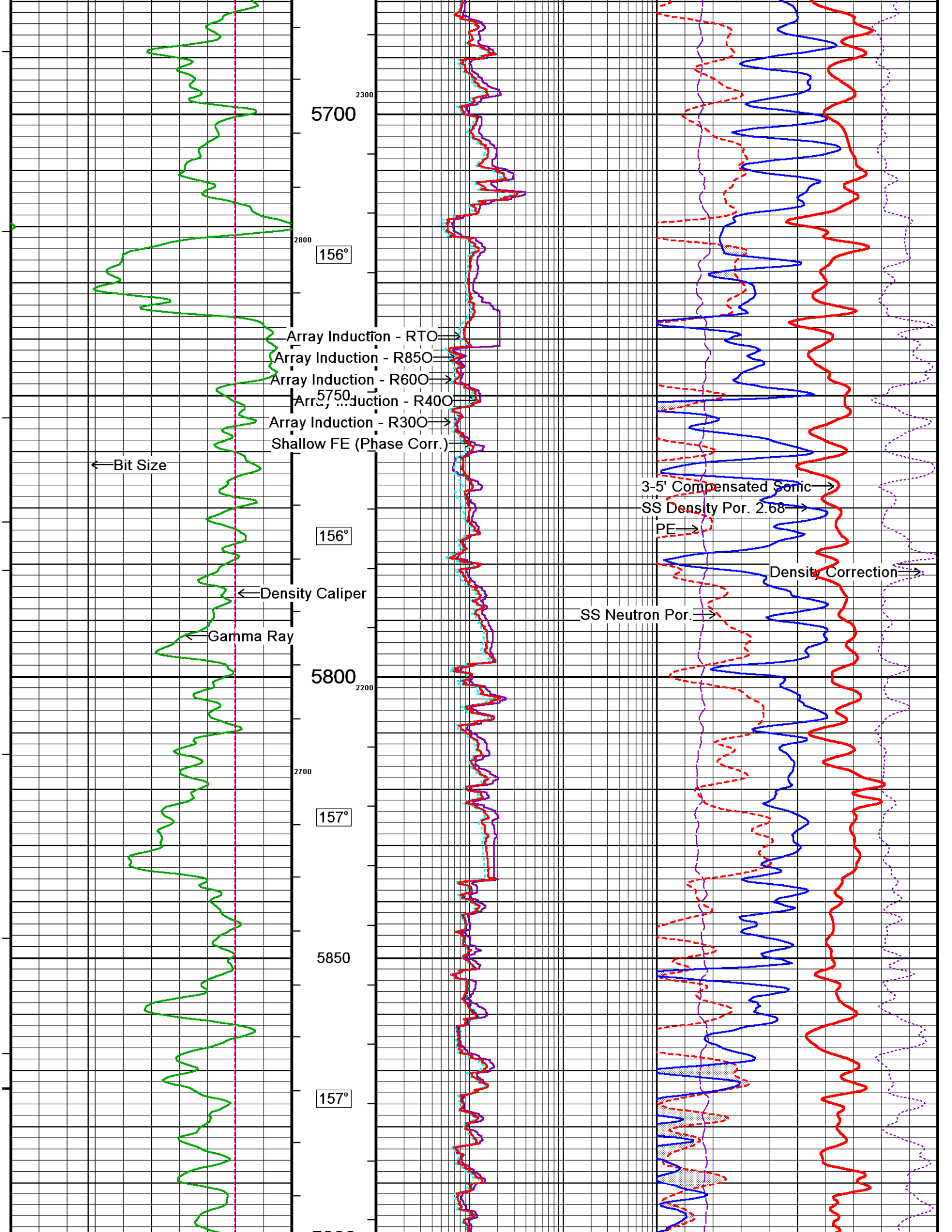


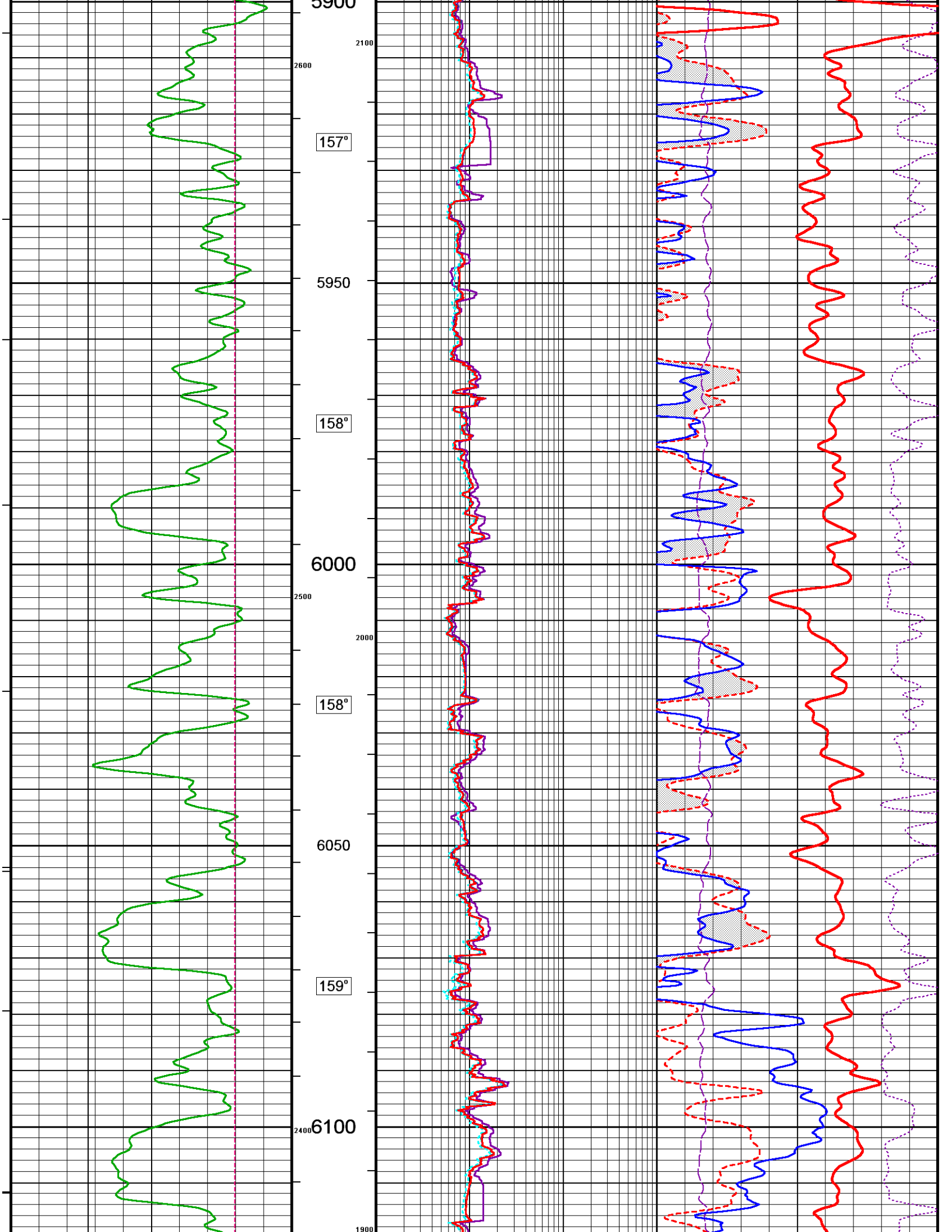


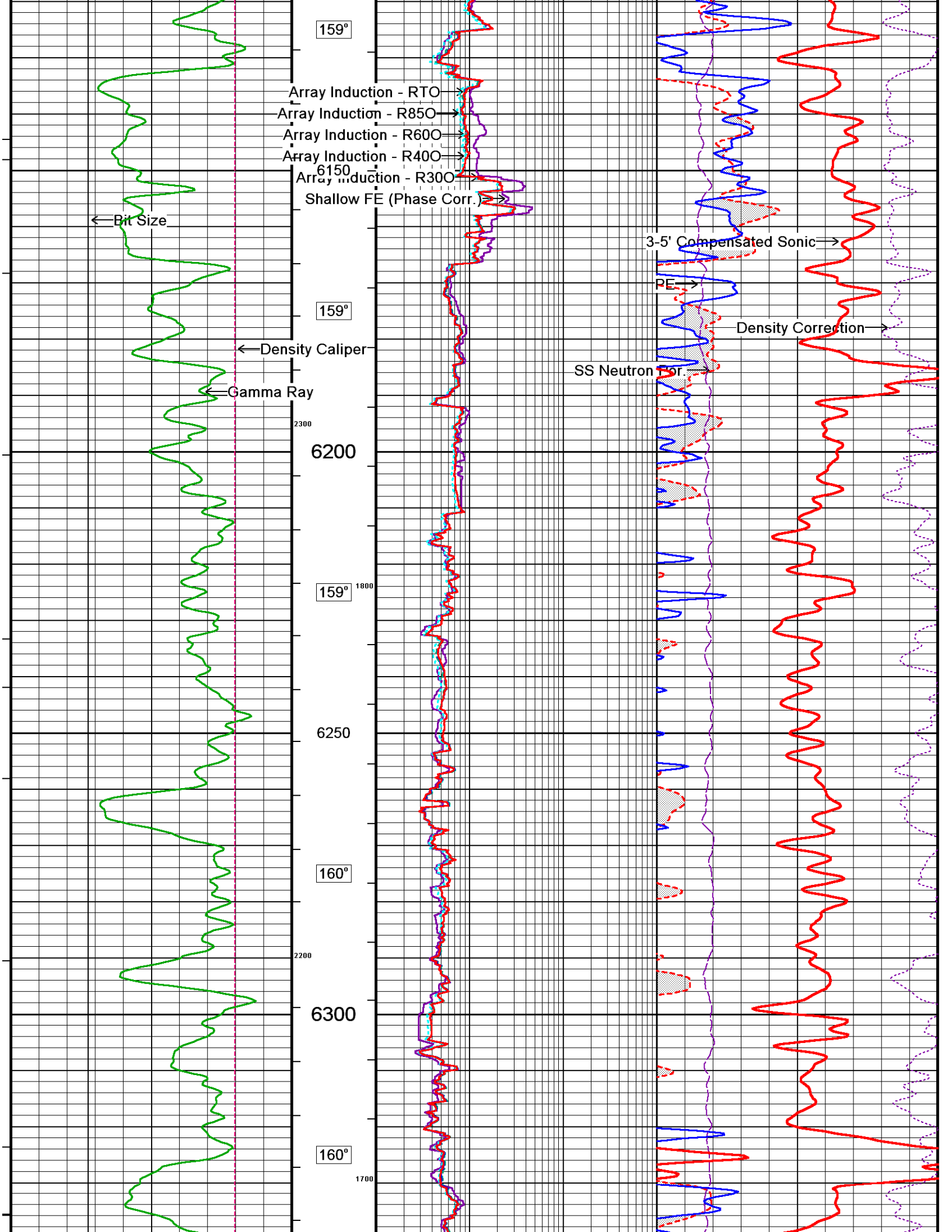


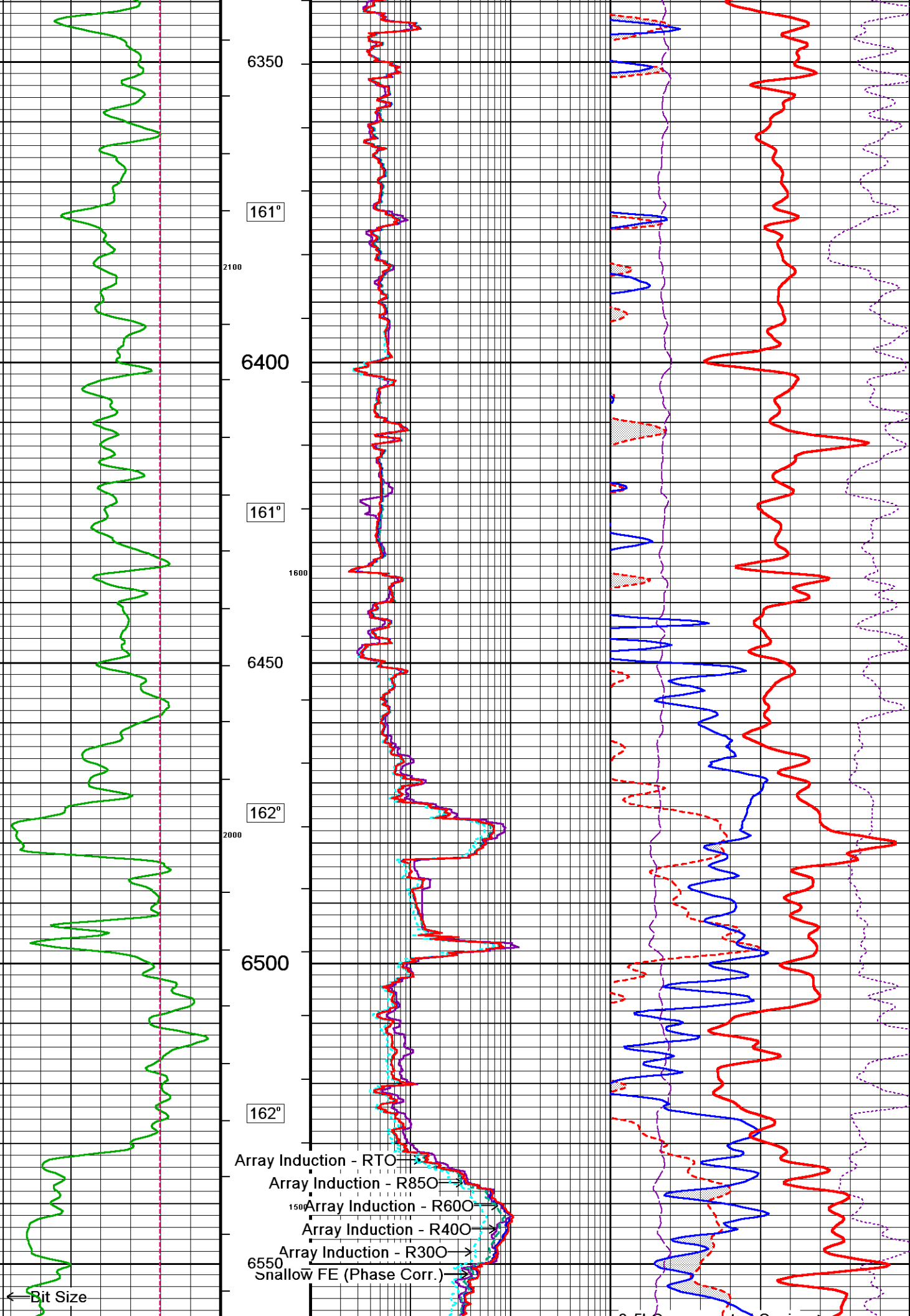


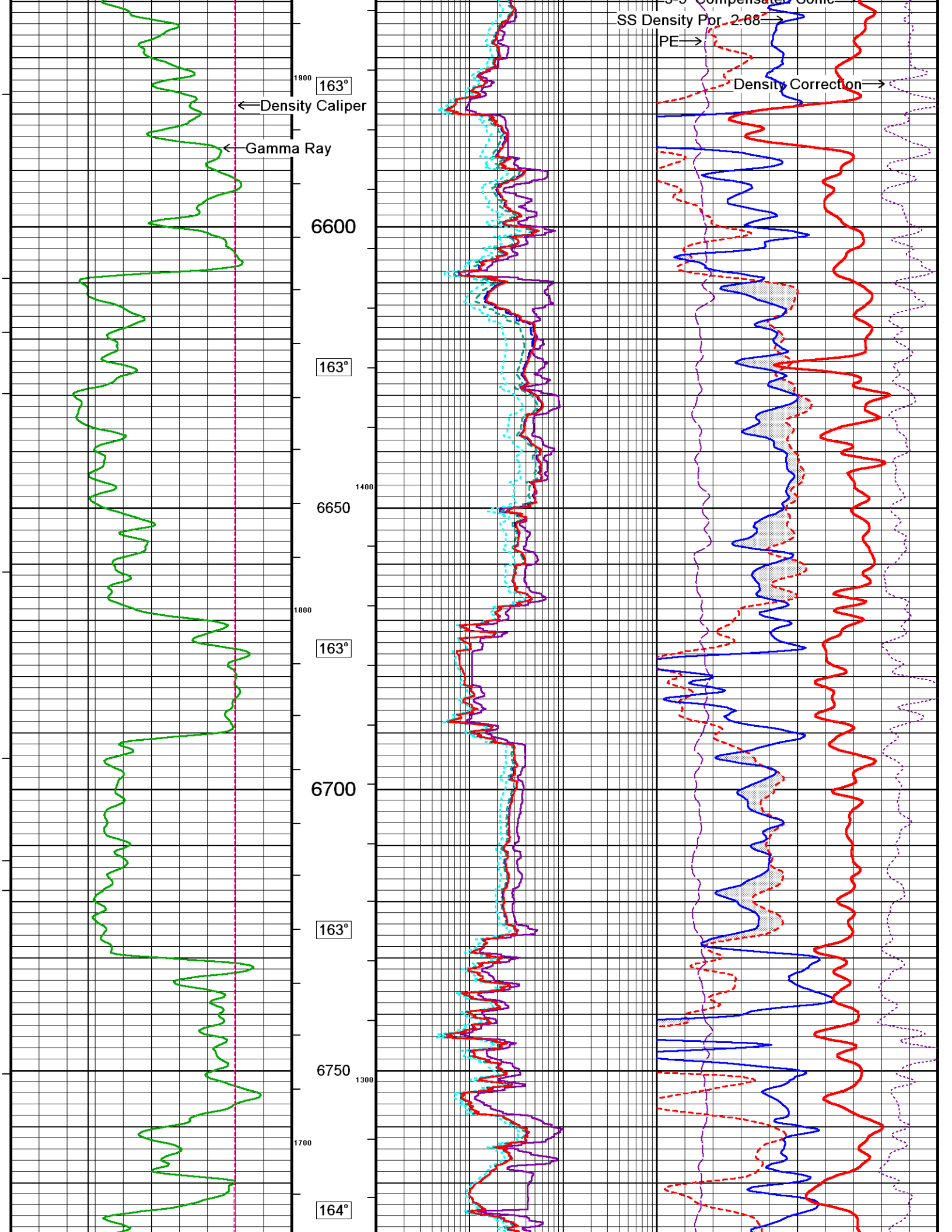


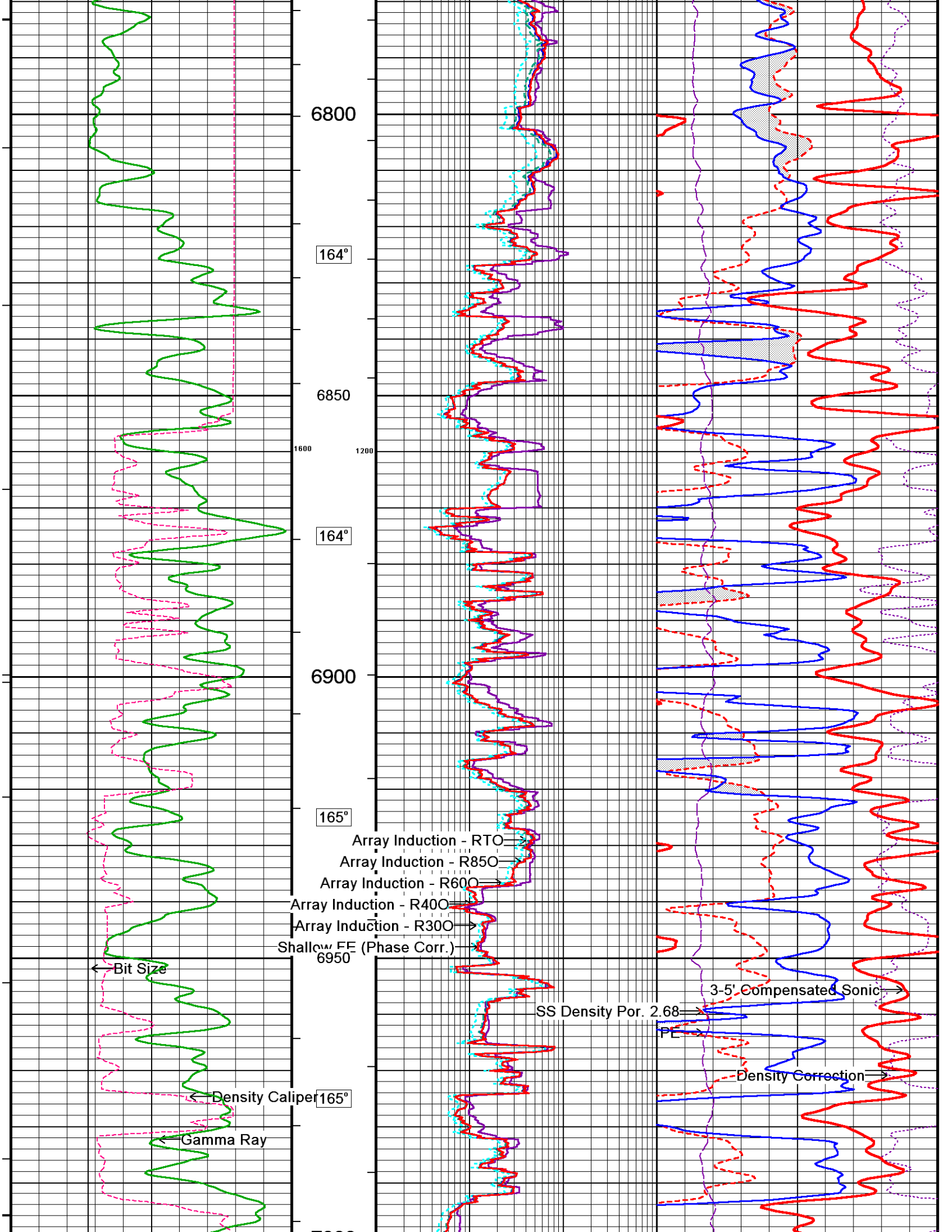


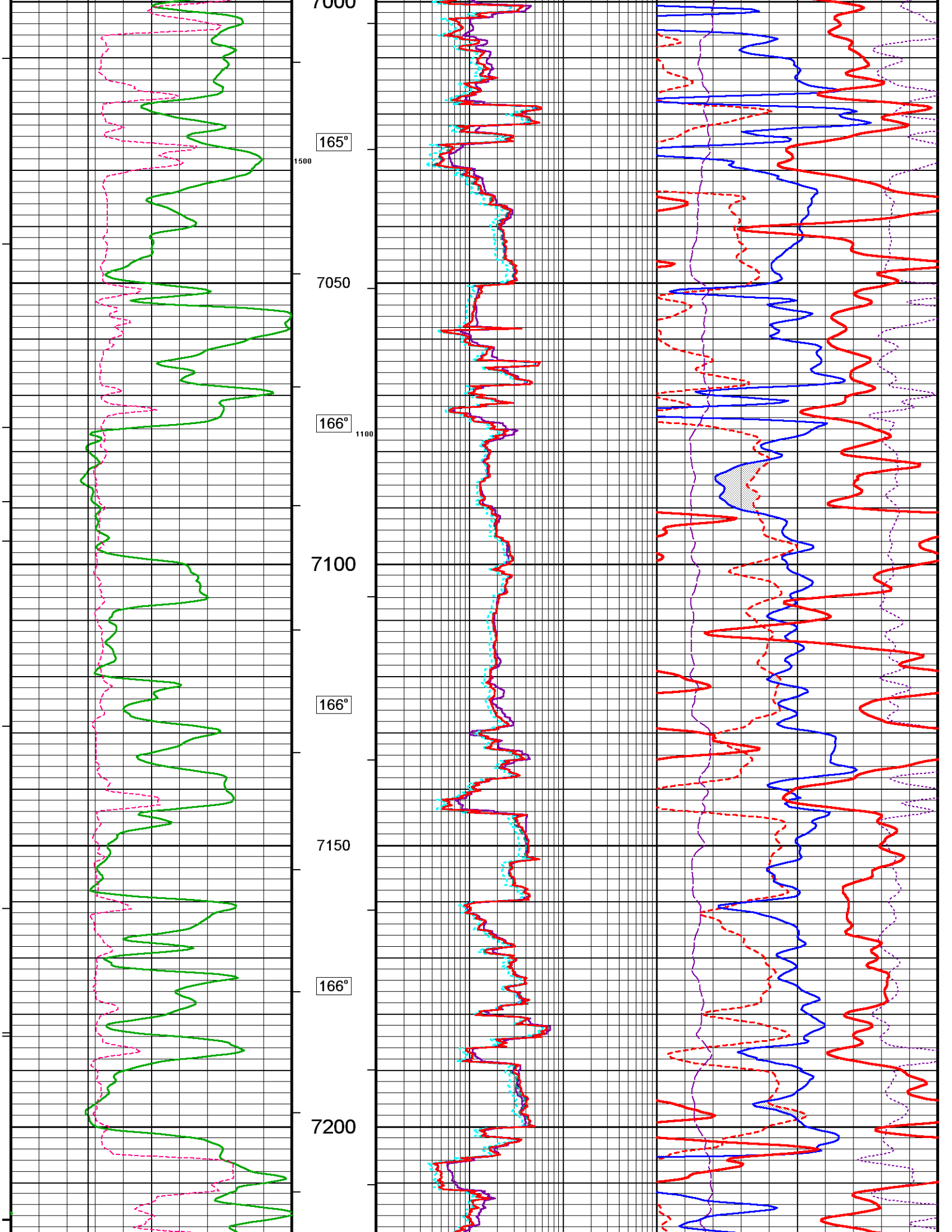


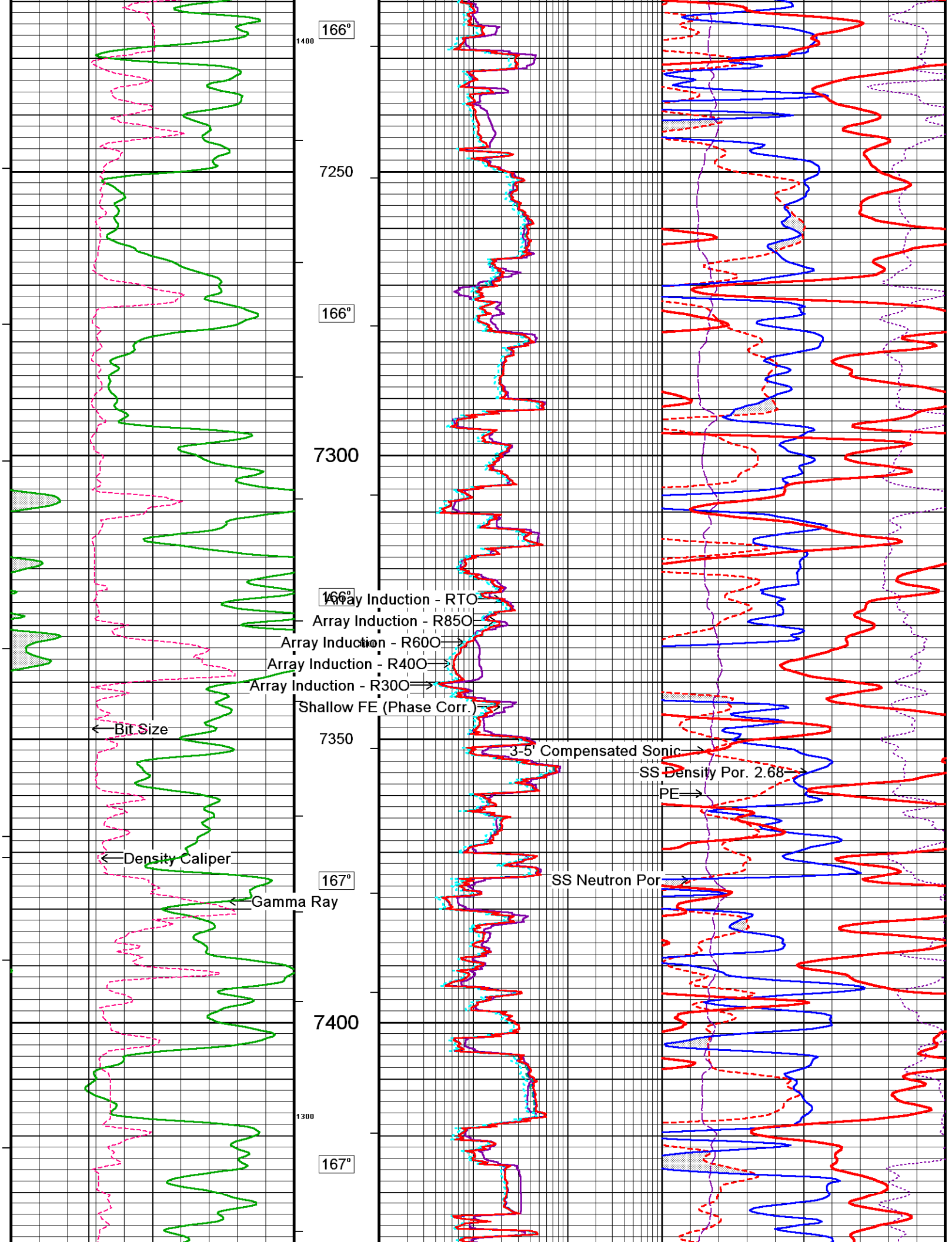


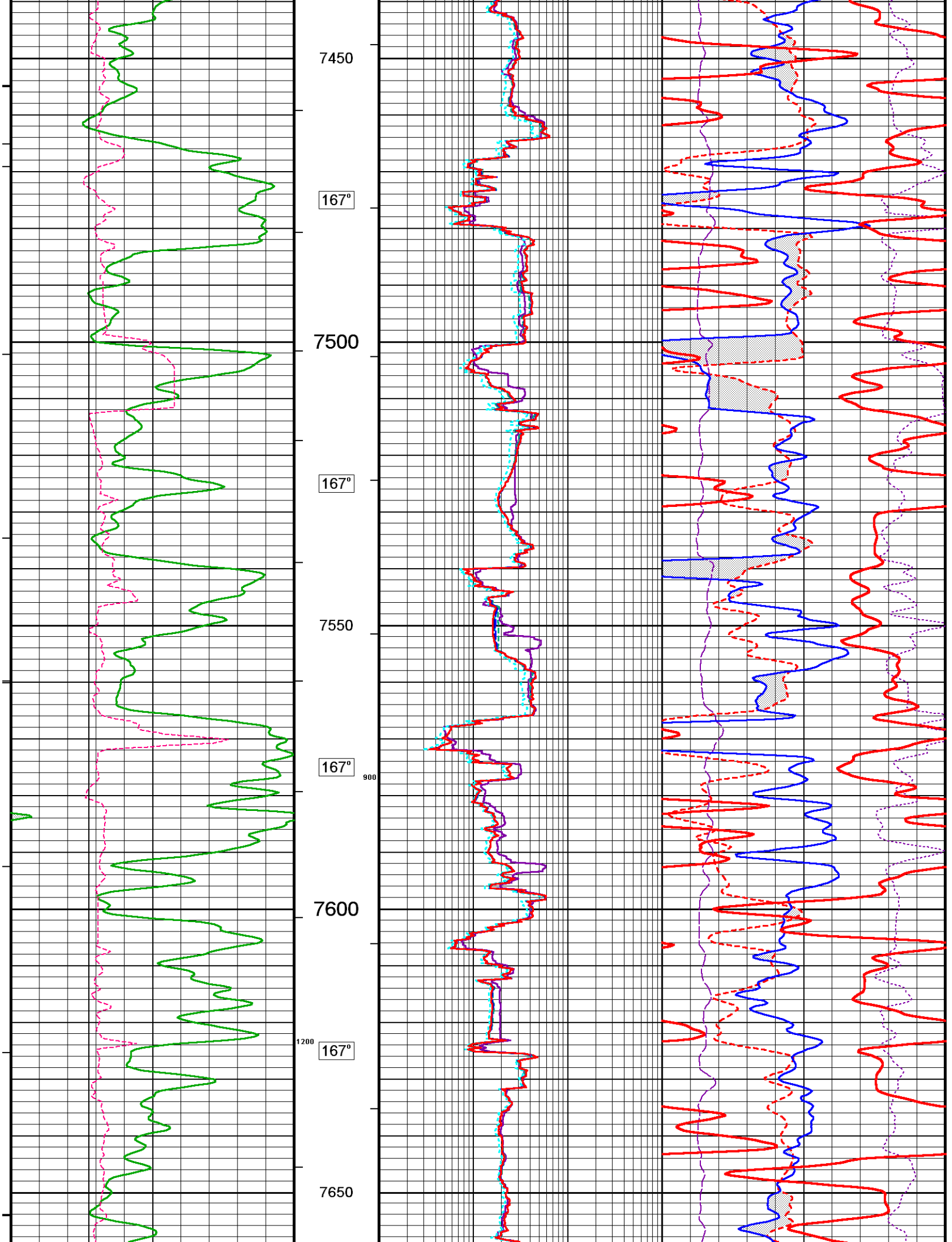


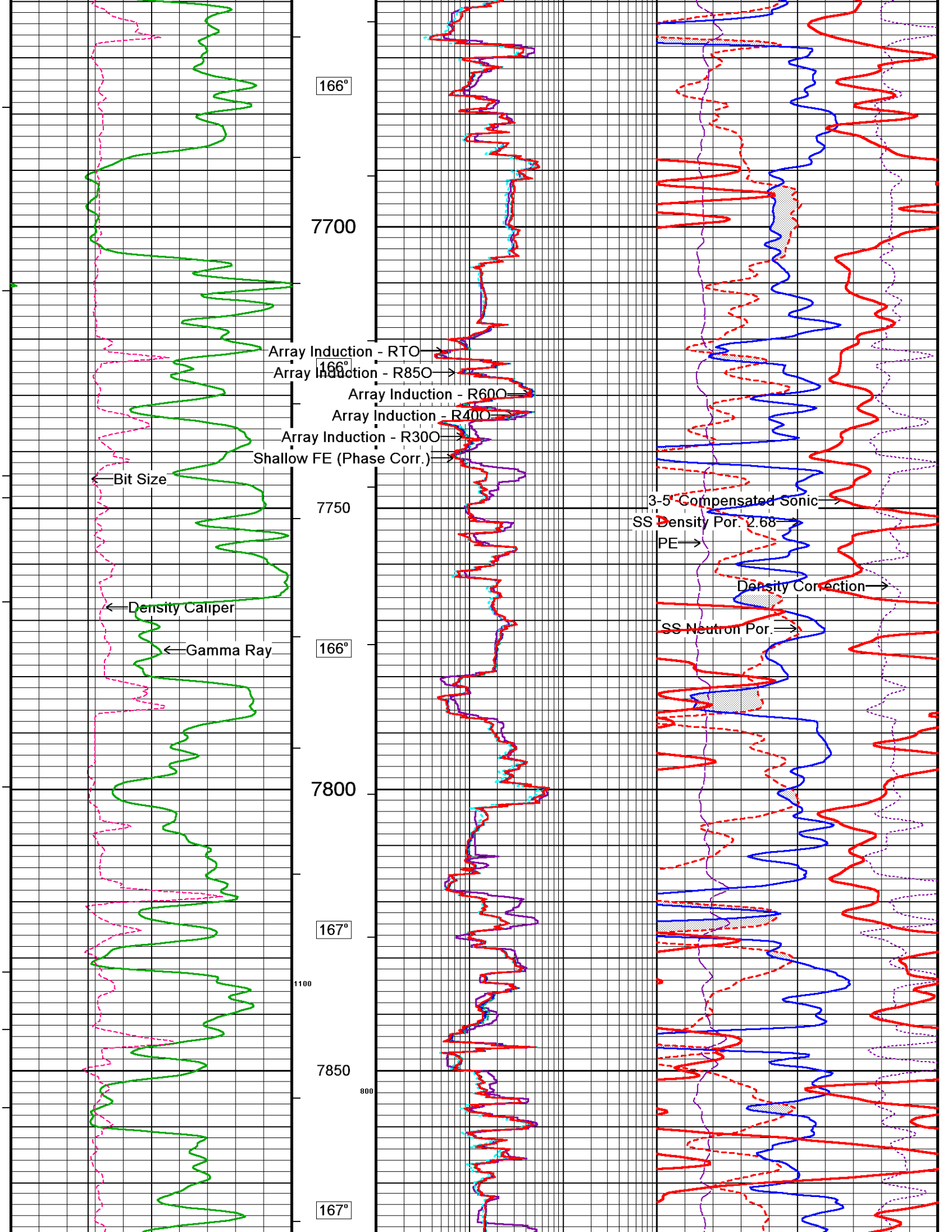


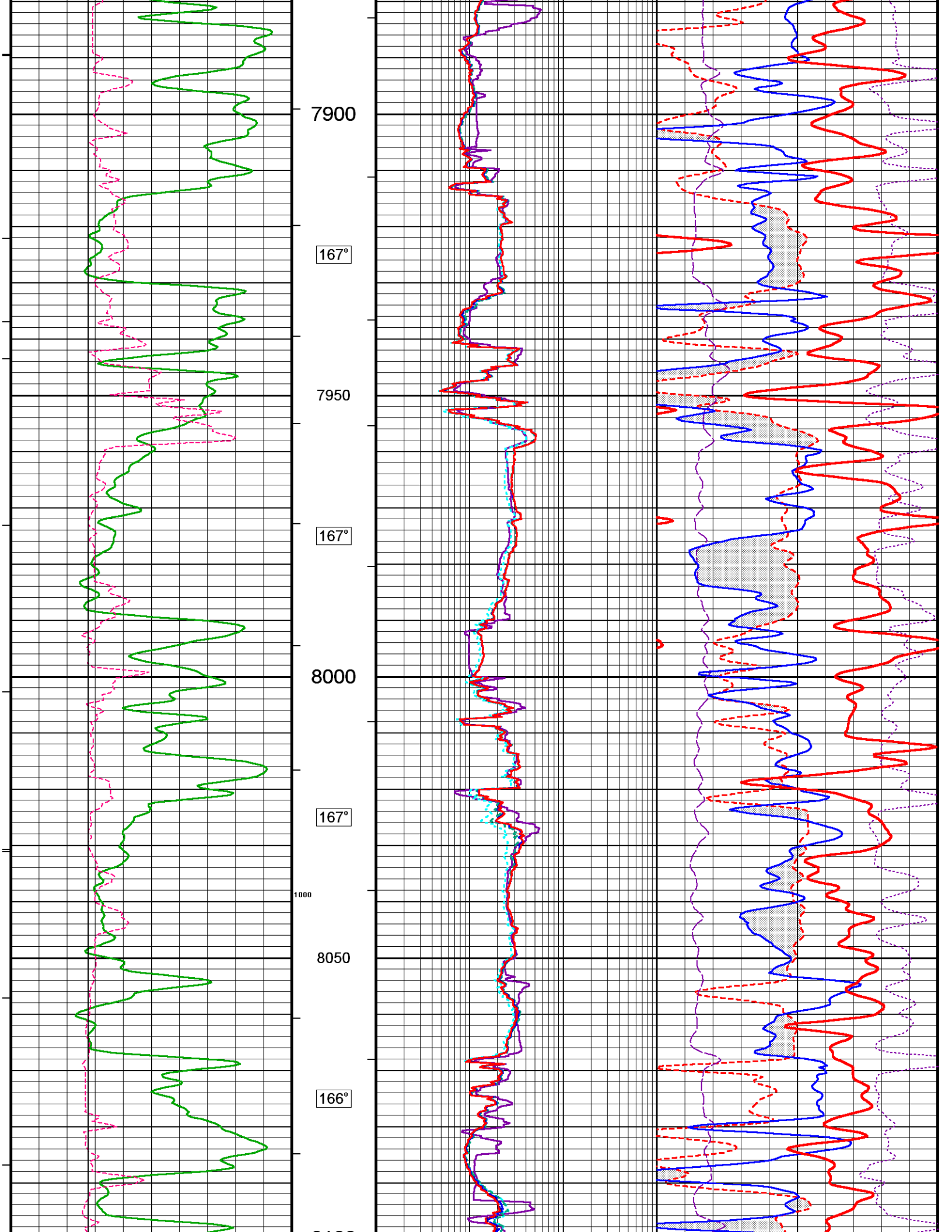


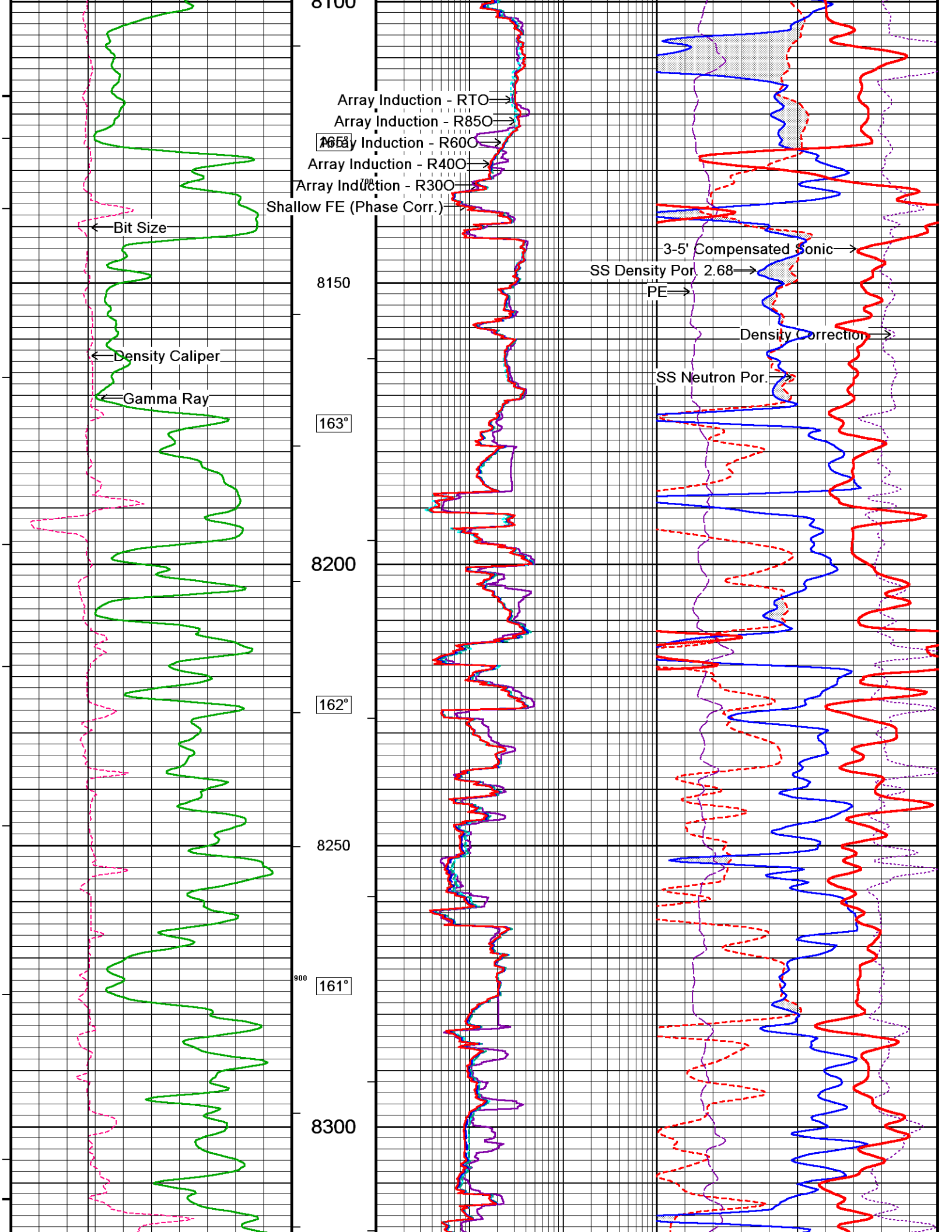


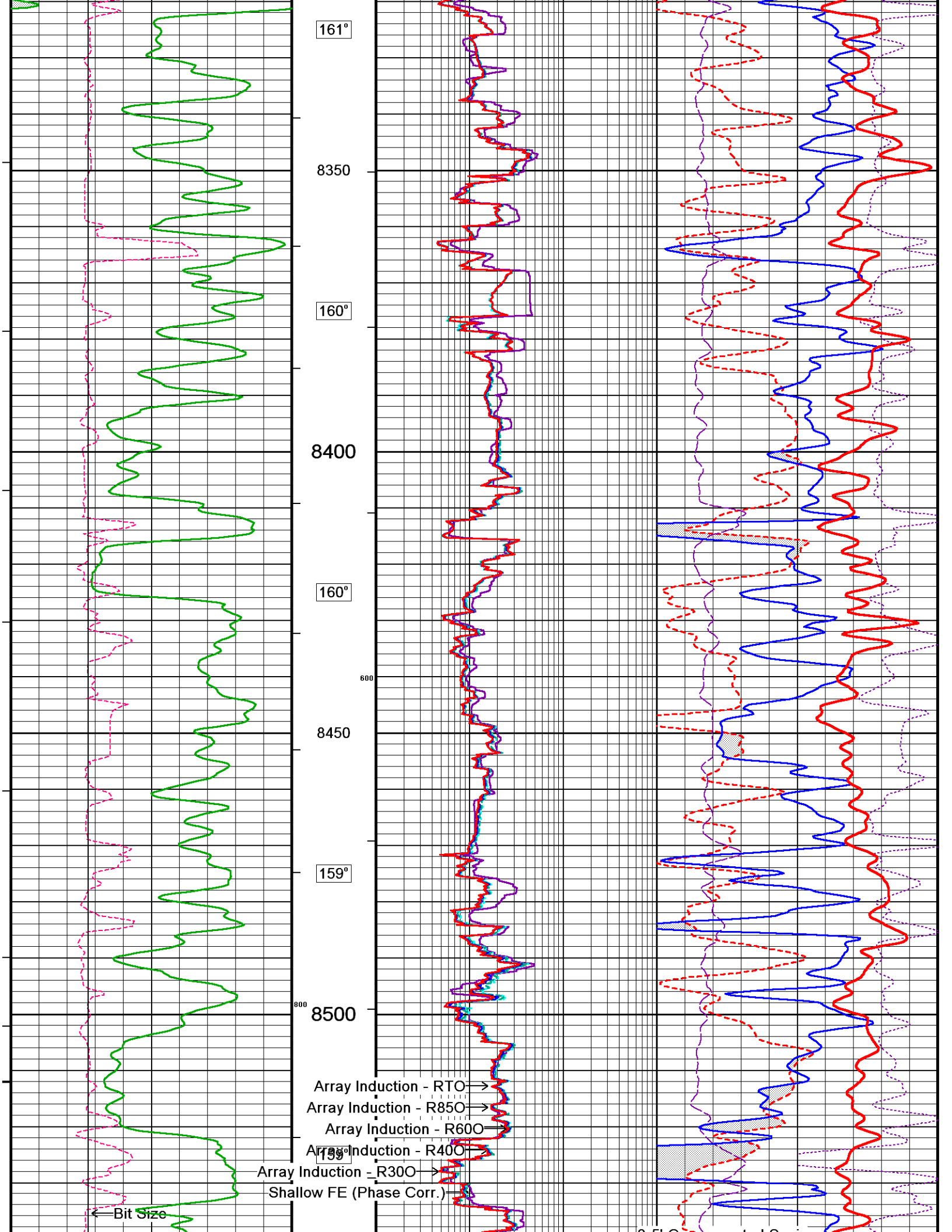


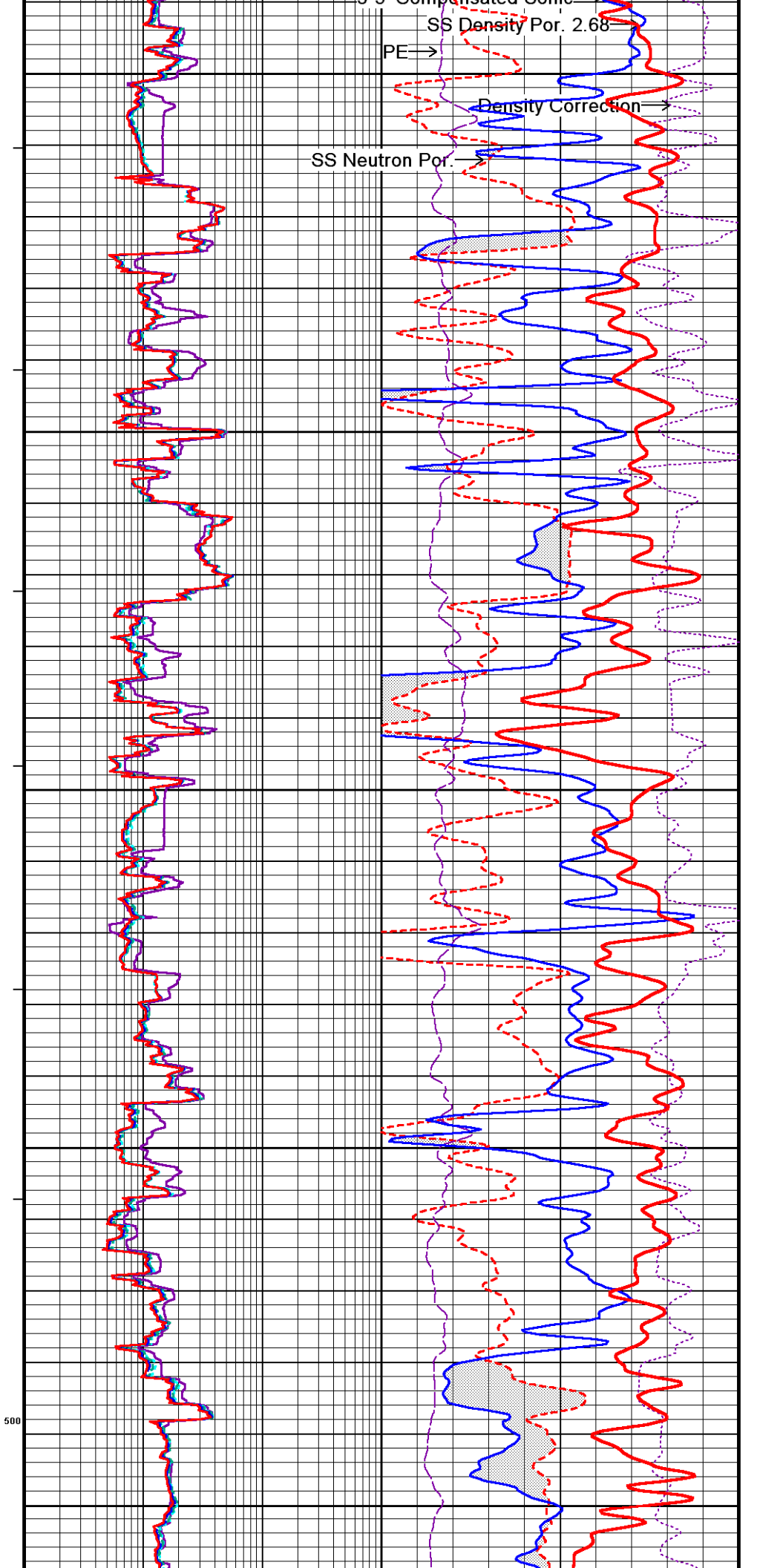
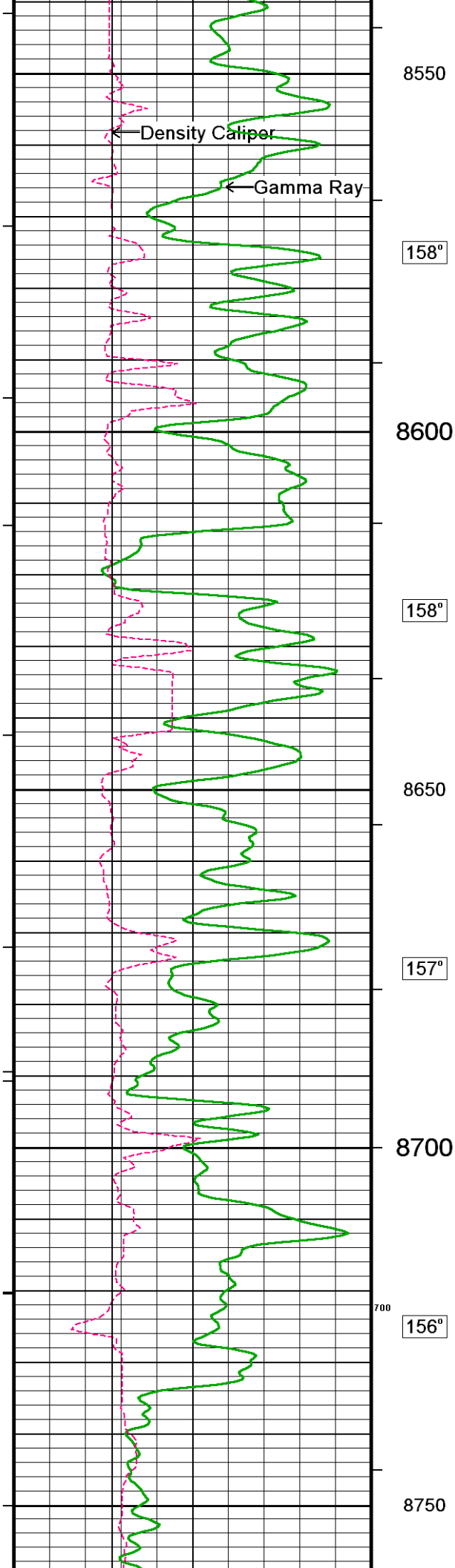


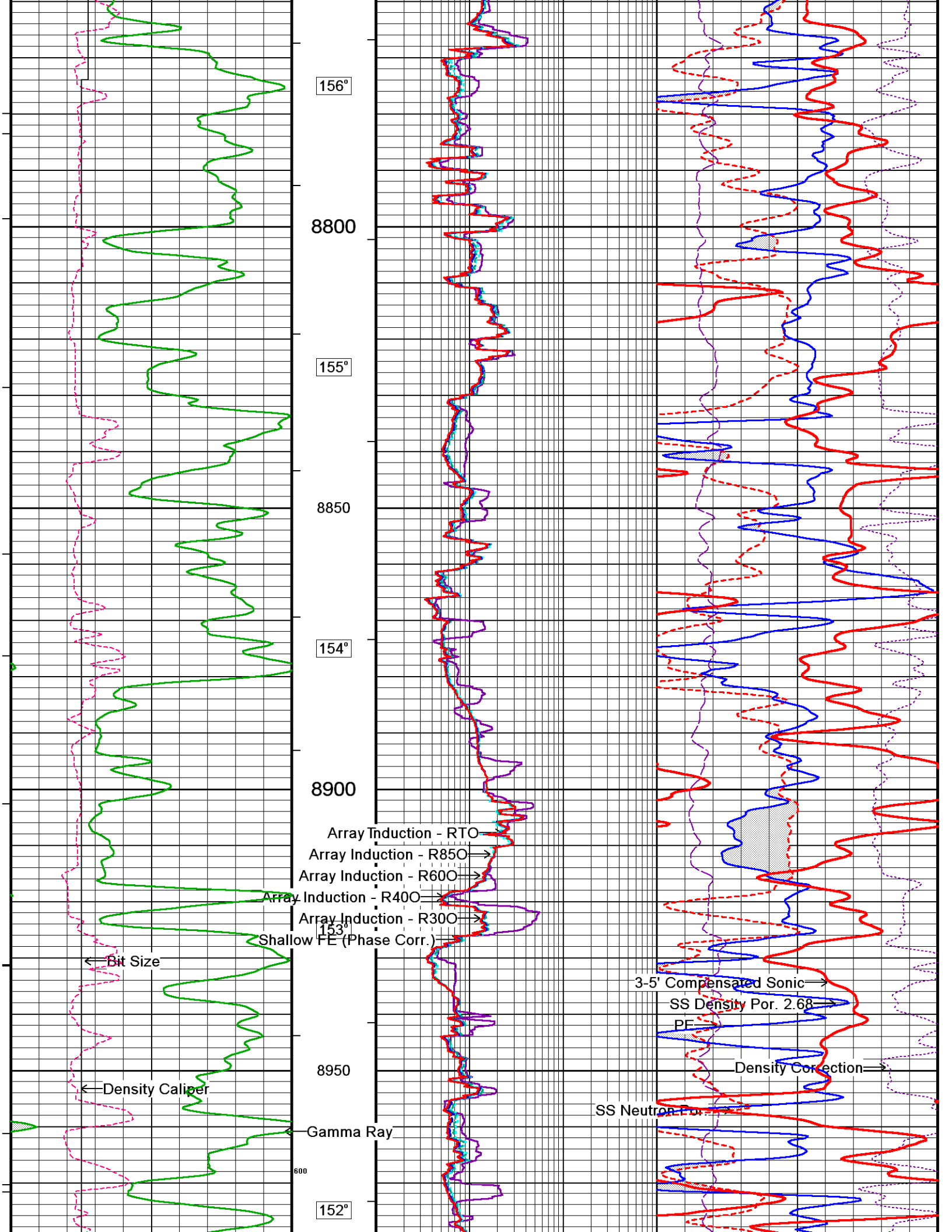


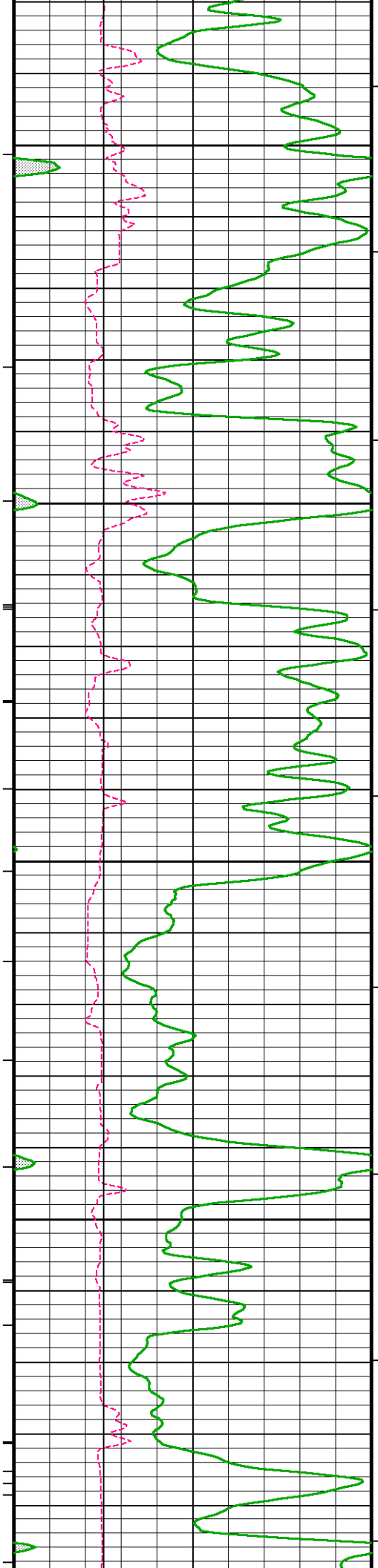












9000

151°

9050

9100

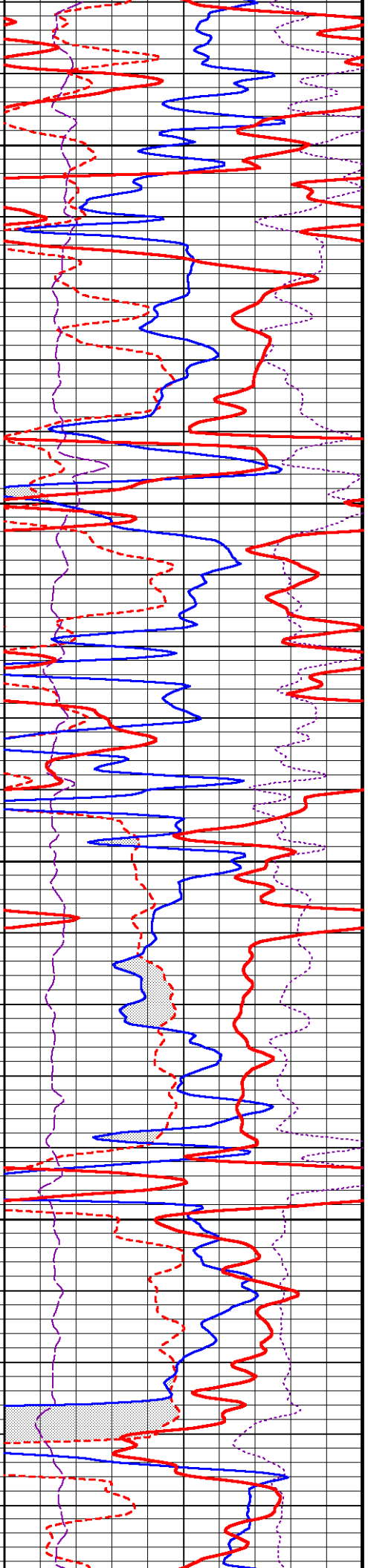
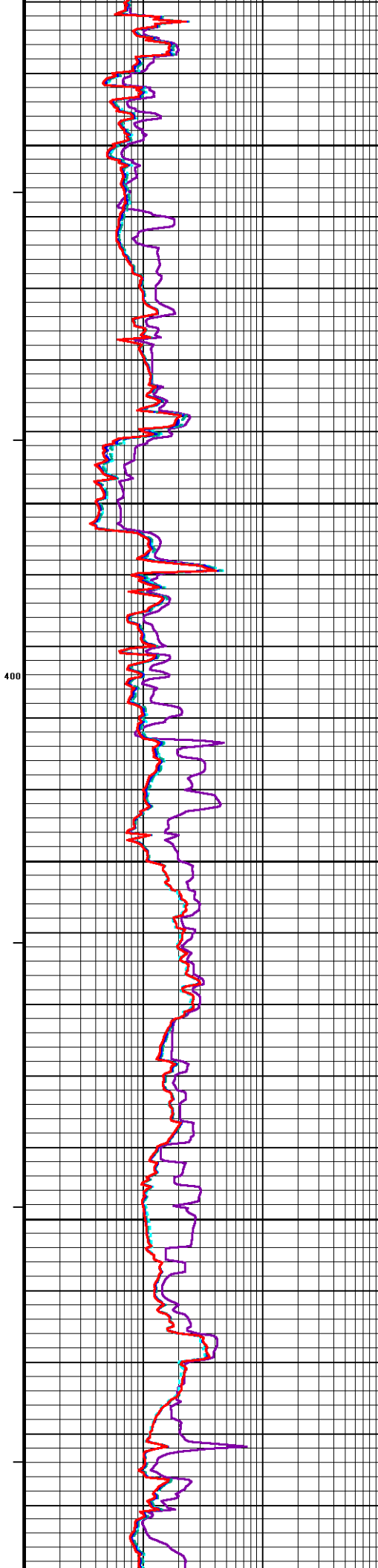
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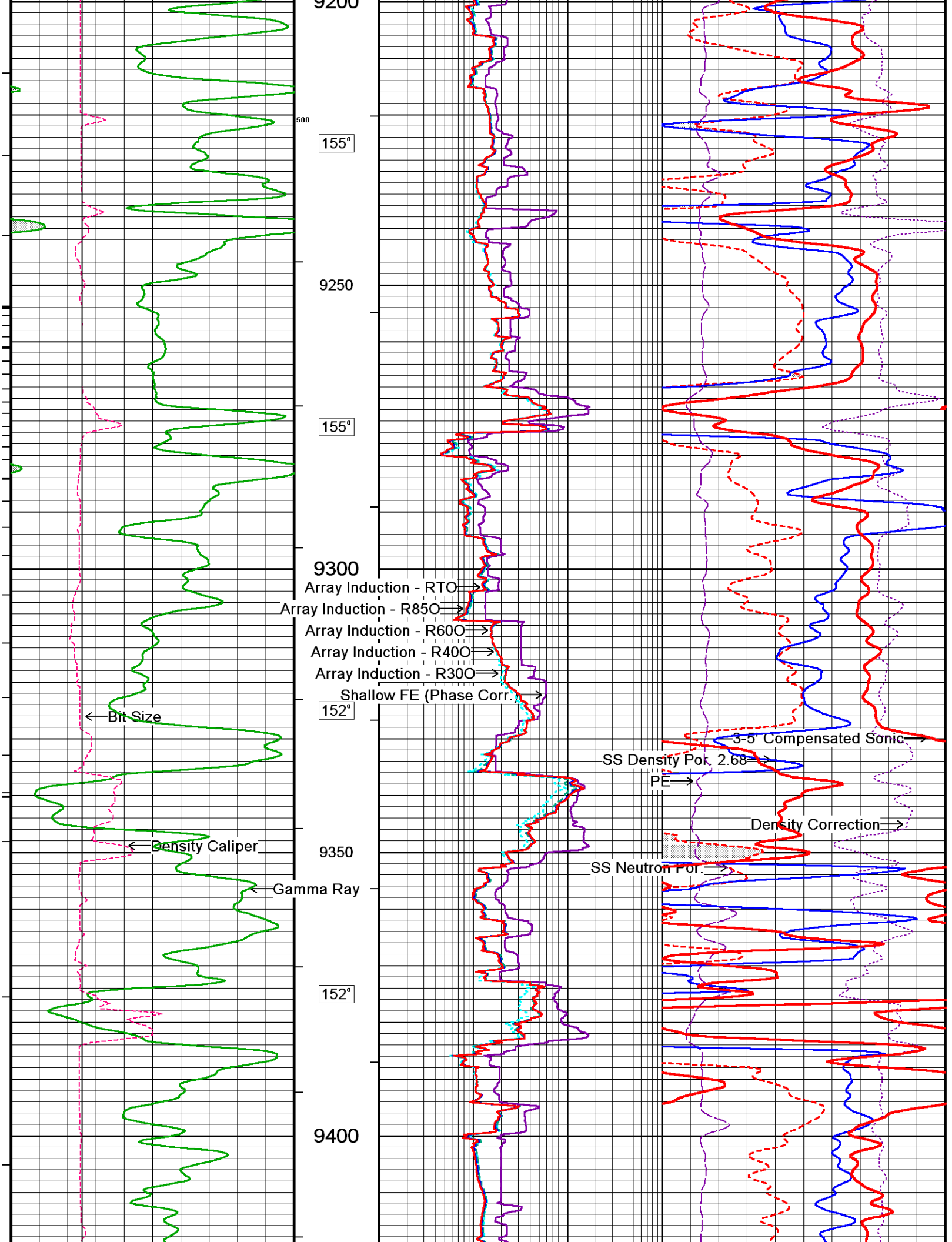
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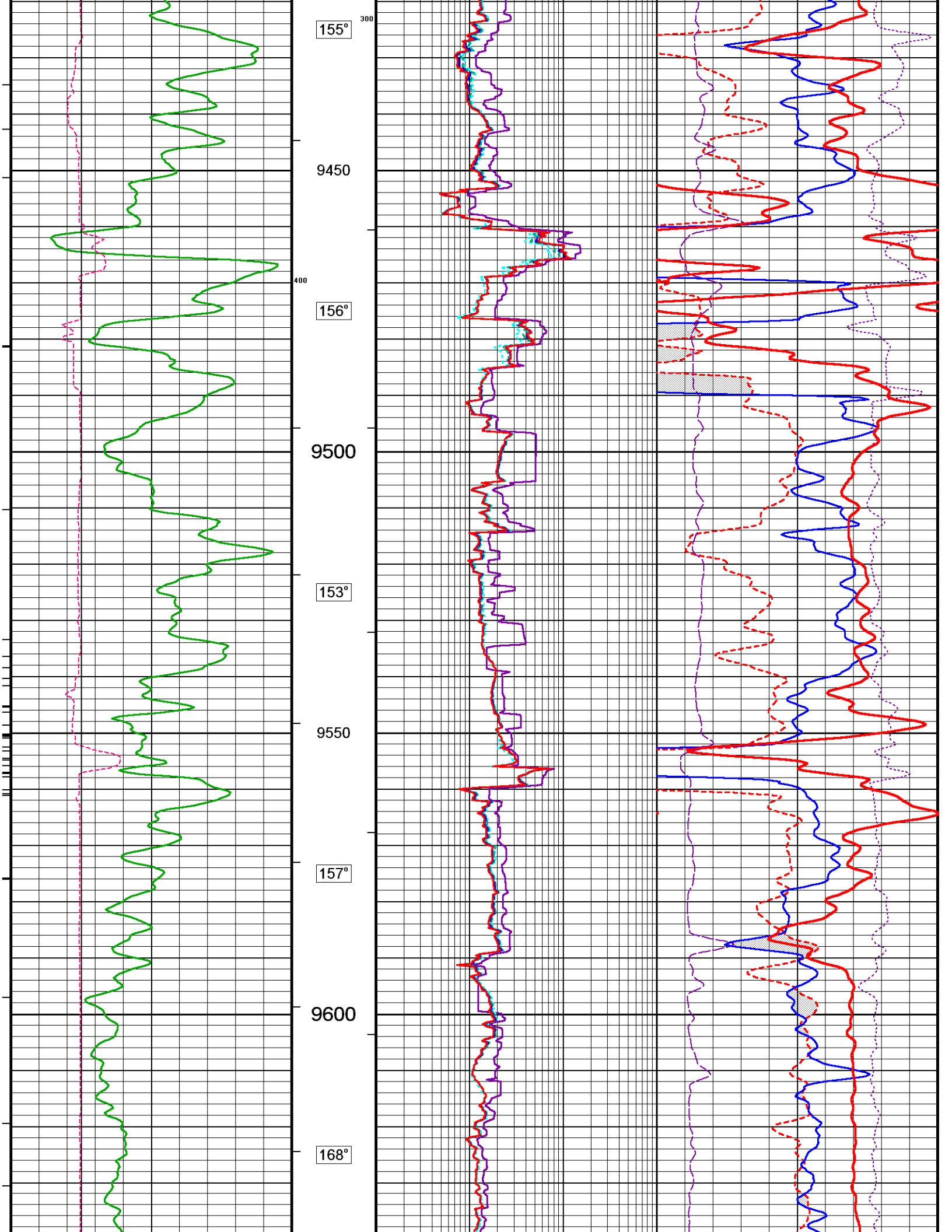
155°

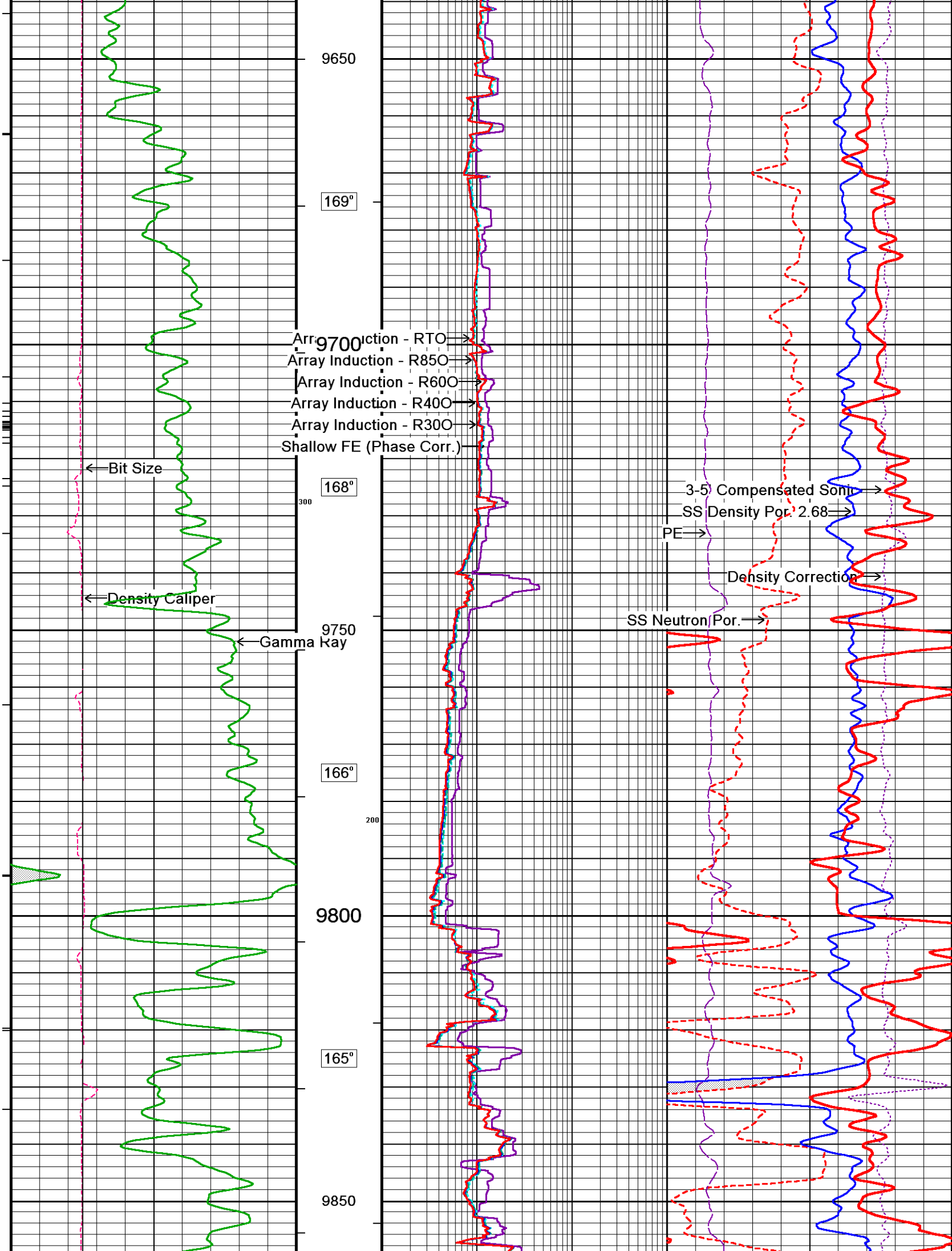
150°

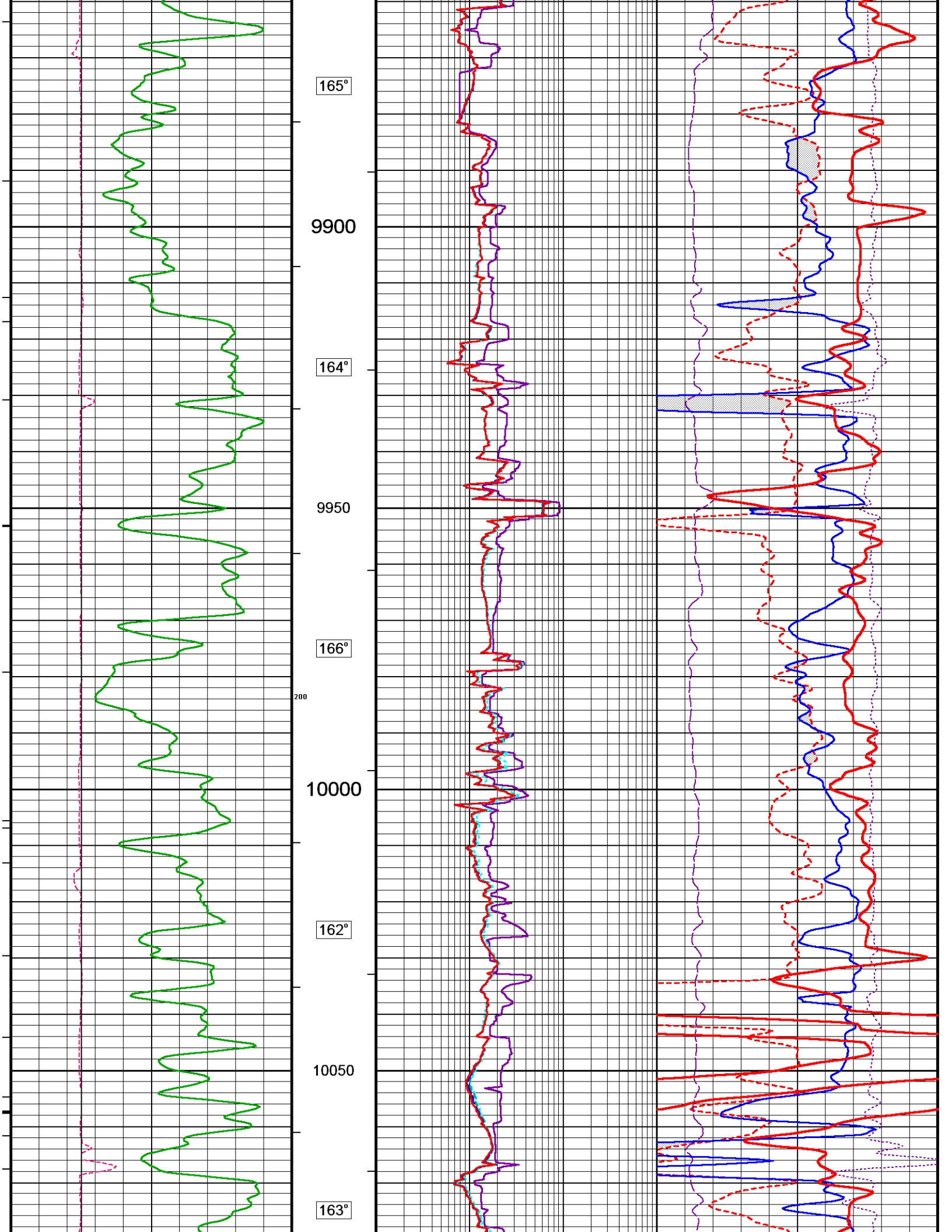
150°

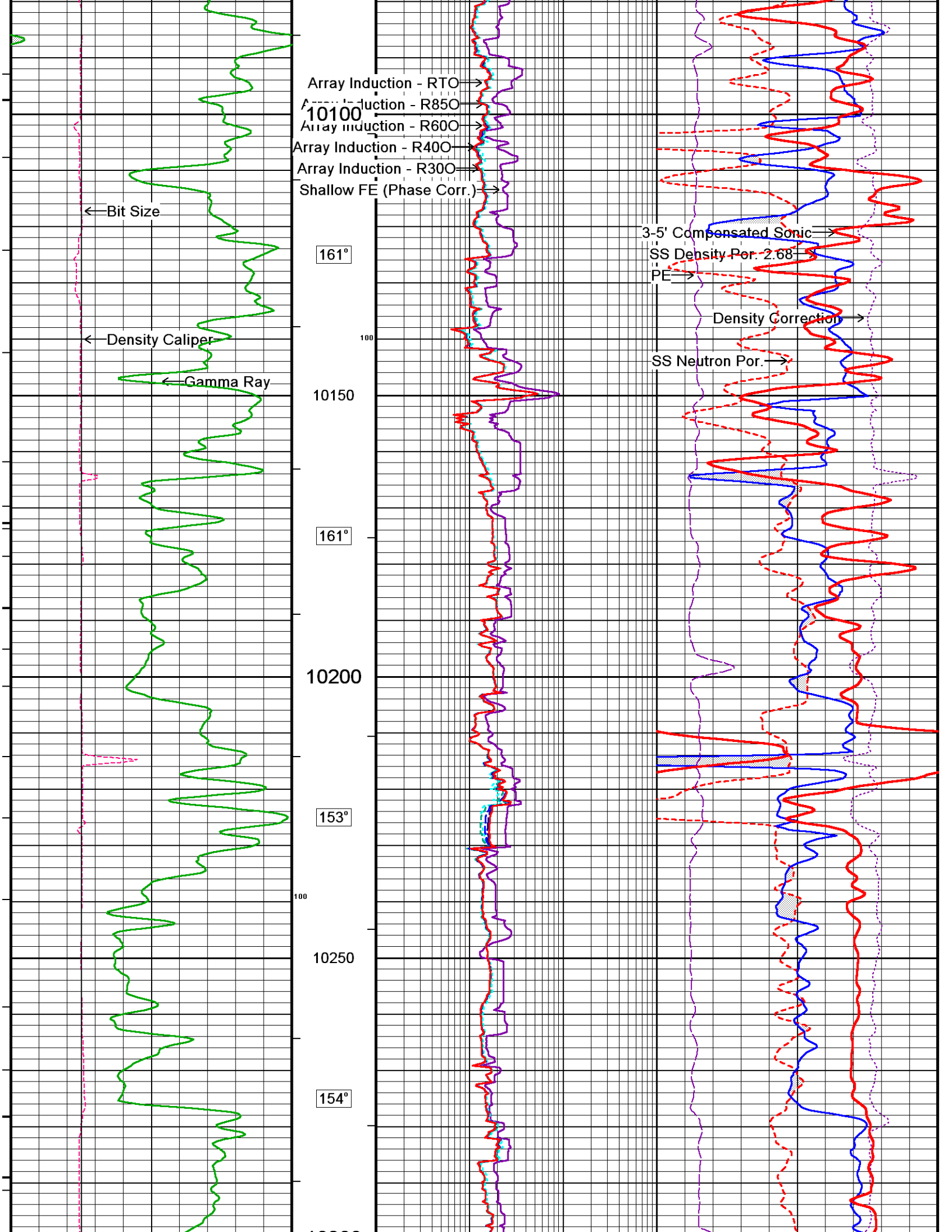


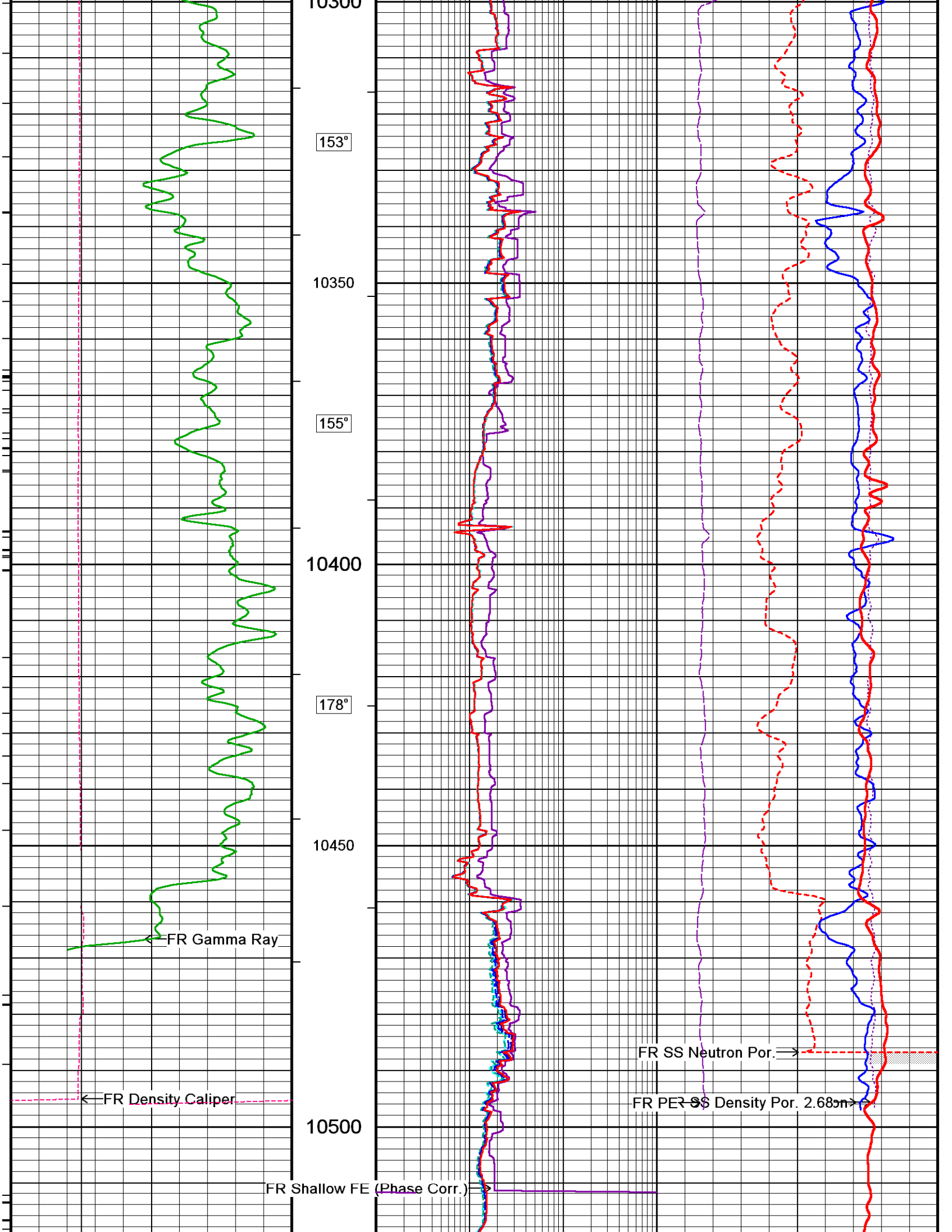


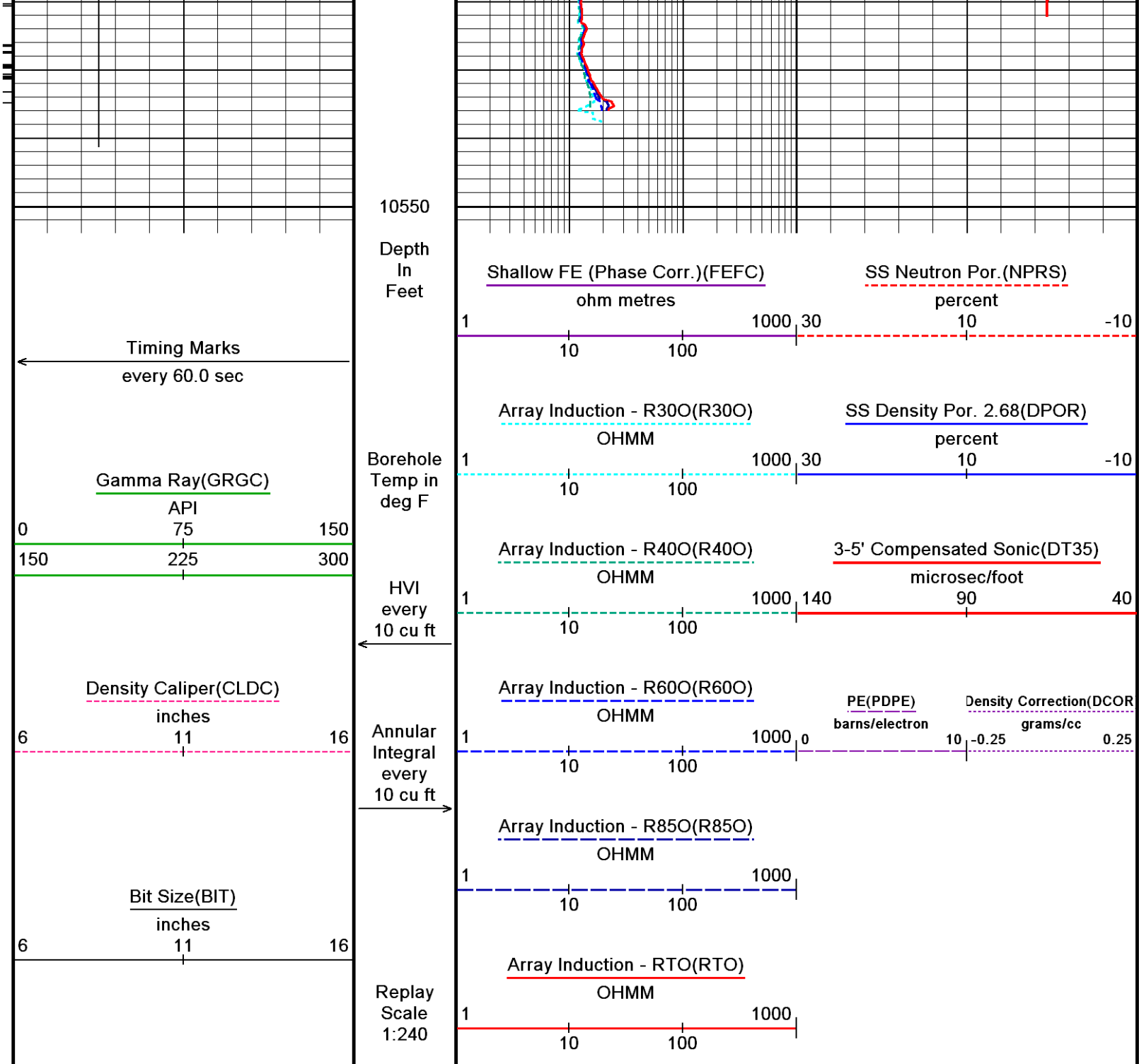












Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\DOCUME~1\ju\LOCALS~1\Temp\Weatherford PreView\0\DEPTH-RTAP.dta
System Versions: Plotted with 8.01.0201

Plotted on 17-SEP-2009 15:33
Recorded on 14-AUG-2009 19:57

5 INCH MAIN LOG

BEFORE SURVEY CALIBRATION
C:\DOCUME~1\ju\LOCALS~1\Temp\Weatherford PreView\0\DEPTH.dta

General Constants All 000
Last Edited on 13-AUG-2009,08:20

General Parameters		
Mud Resistivity	2.200	ohm-metres
Mud Resistivity Temperature	95.000	degrees F
Water Level	0.000	feet
Density/Neutron Processing	Wet Hole	

Hole/Annular Volume and Differential Caliper Parameters

HVOL Caliper 1	Density Caliper		
HVOL Caliper 2	None		
Annular Volume Diameter	4.500	inches	
Caliper for Differential Caliper	None		
Rwa Parameters			
Porosity used	Base Density Porosity		
Resistivity used	Deep Induction		
RWA Constant A	0.610		
RWA Constant M	2.150		
Down-hole Tension Calibration SMS 000			
Reading No	Measured	Calibrated (lbs)	Field Calibration on 09-AUG-2009 11:38
1	15809.56	0.00	
2	16528.38	400.00	
High Resolution Temperature Calibration MCG 287			
	Measured	Calibrated(Deg F)	Field Calibration on 13-AUG-2009,07:55
Lower	10.00	10.00	
Upper	100.00	100.00	
High Resolution Temperature Constants MCG 287			
Pre-filter Length	11		
SP Calibration MCG 287			
	Measured	Calibrated (mV)	Field Calibration on 13-AUG-2009,07:54
Reference 1	95.0	104.3	
Reference 2	-87.4	-104.5	
Gamma Calibration MCG 287			
	Measured	Calibrated (API)	Field Calibration on 13-AUG-2009,07:54
Background	93	65	
Calibrator (Gross)	988	691	
Calibrator (Net)	895	626	
Gamma Constants MCG 287			
			Last Edited on 13-AUG-2009,08:00
Gamma Calibrator Number	GRC-005		
Mud Density	1.00	gm/cc	
Caliper Source for Processing	Density Caliper		
Tool Position	Eccentred		
Concentration of KCl	0.00	kppm	
Neutron Calibration MDN 250			
			Base Calibration on 18-JUN-2009 11:34
			Field Check on 13-AUG-2009 07:59
Base Calibration			
	Measured	Calibrated (cps)	
	Near Far	Near Far	
	2965 91	3714 110	
Ratio	32.697	33.764	
Field Calibrator at Base		Calibrated (cps)	
		1604 2352	
Ratio		0.682	
Field Check		Calibrated (cps)	
		1649 2403	
Ratio		0.686	
Neutron Constants MDN 250			
			Last Edited on 13-AUG-2009,08:00
Neutron Source Id	755		
Neutron Jig Number	6532		
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 236		Base Calibration on 20-JUL-2009 16:06 Field Check on 13-AUG-2009 08:12	
Base Calibration			
	Measured	Calibrated (ohm-m)	
Reference 1	0.0	0.0	
Reference 2	962.7	126.8	
Base Check		281.3	
Field Check		281.5	

FE Constants MFE 236		Last Edited on 13-AUG-2009,08:10	
Caliper Source for FE correction	Density Caliper		
Rm Source for FE correction	Temperature Corr		
Temp. for Rm Corr.	MCG External Temperature		
Stand-off	0.5	inches	

Sonic Constants MSS 078		Last Edited on 13-AUG-2009,12:40	
Maximum Boundary Contrast	100.00	micro-sec/ft	
Fluid Transit Time	189.00	micro-sec/ft	
Limestone Transit Time	47.50	micro-sec/ft	
Sandstone Transit Time	55.50	micro-sec/ft	
Dolomite Transit Time	43.50	micro-sec/ft	
Sonic used for Porosities	3-5' Compensated Sonic		
Correction for Sonde Skew	Applied		
Cycle Stretch Algorithm	Applied		
MN3FT	N/A	micro-sec	
MX3FT	N/A	micro-sec	
Hunt-Raymer Constant	83.13	micro-sec/ft	
Fixed Gate Parameters			
Start Time (micro-sec)	End Time (micro-sec)	Discriminator (mV)	Depth (ft)
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
0.00	0.00	0.00	0.00
Down Hole Fixed Gate Parameters			
Gate Start	0.00	micro-sec	
Gate Width	0.00	micro-sec	
Initial Discriminator Level	0.0000	mVolts	
Full Waveform Parameters			
Use 3' Waveform to derive TR	Yes		
Use 4' Waveform to derive TR	Yes		
Use 5' Waveform to derive TR	Yes		
Use 6' Waveform to derive TR	Yes		
3' Waveform Discriminator Level	0.30	mV	
4' Waveform Discriminator Level	0.30	mV	
5' Waveform Discriminator Level	0.15	mV	
6' Waveform Discriminator Level	0.15	mV	
3' Waveform Filter	None		
4' Waveform Filter	None		
5' Waveform Filter	None		
6' Waveform Filter	None		
Semblance Level	0.50		
Semblance Window Width	120.00	micro-sec	
Sonic 1 Despiker	30.48	micro-sec/ft	

High Resolution Temperature Calibration MAI 300

Field Calibration on 8-AUG-2009,10:28

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

High Resolution Temperature Constants MAI 300

Pre-filter Length 11

Induction Calibration MAI 300

Base Calibration on 20-JUL-2009,14:26

Field Check on 13-AUG-2009 08:14

Base Calibration

Test Loop Calibration

Measured

Calibrated (mmho/m)

Channel	Low	High	Low	High
1	17.5	483.3	9.3	966.2
2	6.3	392.3	7.6	821.4
3	3.9	268.6	5.2	566.0
4	2.4	133.7	2.6	279.2

Array Temperature 71.4 Deg F

Channel	Base Check (mmho/m)		Field Check (mmho/m)	
	Low	High	Low	High
1	13.2	3743.1	12.3	3743.1
2	29.2	3422.2	28.8	3422.8
3	26.9	2934.6	26.6	2935.1
4	18.6	2063.7	18.4	2064.0
Deep	15.9	1957.3	15.8	1957.5
Medium	39.4	3803.7	39.1	3804.5
Shallow	44.5	5009.2	43.9	5010.1

Array Temperature 88.7 77.3 Deg F

Induction Constants MAI 300

Last Edited on 13-AUG-2009,12:41

Induction Model

VECTAR

Caliper for Borehole Corr.

Density Caliper

Hole Size for Borehole Correction

N/A

inches

Stand-off

0.00

inches

Number of Fins on Stand-off

6.0000

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

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

Photo Density Calibration MPD 310

Base Calibration on 22-JUL-2009 20:23

Field Check on 13-AUG-2009 08:06

Density Calibration

Base Calibration		Measured		Calibrated (sdu)	
		Near	Far	Near	Far
	Reference 1	51933	18212	53115	19186
	Reference 2	24765	2709	25020	2536
Field Check at Base					
		1177.7	1371.1		
Field Check					
		1183.5	1375.7		
PE Calibration					
Base Calibration		Measured		Calibrated	
	WS	WH	Ratio	Ratio	
	Background	216	1052		
	Reference 1	18809	51752	0.367	0.320
	Reference 2	7181	24625	0.295	0.272
Field Check at Base					
		215.5	1052.1		
Field Check					
		217.7	1059.7		

Density Constants MPD 310			Last Edited on 13-AUG-2009,08:20		
Density Source Id	271				
Nylon Calibrator Number	507				
Aluminium/Fe Calibrator Number	507				
Density Shoe Profile	4 inch				
Caliper Source for Processing	Density Caliper				
PE Correction to Density	Not Applied				
Mud Density	1.08	gm/cc			
Mud Density Z/A Correction	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	Standard				
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				

Caliper Calibration MPD 310			Base Calibration on 20-JUL-2009 12:03 Field Calibration on 13-AUG-2009,08:02		
Base Calibration					
Reading No		Measured	Calibrator Size (in)		
1		18714	4.00		
2		26192	5.96		
3		34592	7.98		
4		42704	9.86		
5		51601	11.88		
6		N/A	N/A		
Field Calibration					
		Measured Caliper (in)	Actual Caliper (in)		
		5.99	5.96		

DRT 1 Length: 2.25 ft Weight: 66.1 lb

MBS-A.A 400v Compact Battery Sub
MBS 52 Length: 14.24 ft Weight: 105.8 lb

Compact Gamma
MCG 287 Length: 8.70 ft Weight: 63.9 lb

Compact Memory Sub A.C
MMS 27 Length: 3.12 ft Weight: 30.9 lb

SKJ-D.A Compact Knuckle Joint
SKJ 143 Length: 2.17 ft Weight: 24.3 lb

SHA-F Compact Swivel Head Adaptor
SHA 314 Length: 2.74 ft Weight: 26.5 lb

MIS-D.A Compact Inline Bowspring sub
MIS 439 Length: 5.70 ft Weight: 33.1 lb

Compact Neutron
MDN 250 Length: 5.04 ft Weight: 50.7 lb

Compact Density/Caliper
MPD 310 Length: 9.59 ft Weight: 90.4 lb

MIS-D.A Compact Inline Bowspring sub
MIS 441 Length: 5.70 ft Weight: 33.1 lb

SHA-J.A Compact Swivel Head Adaptor
SHA 286 Length: 2.30 ft Weight: 22.0 lb

SKJ-D.A Compact Knuckle Joint
SKJ 90 Length: 2.17 ft Weight: 24.3 lb

Compact Focussed Electric
MFE 236 Length: 6.03 ft Weight: 48.5 lb

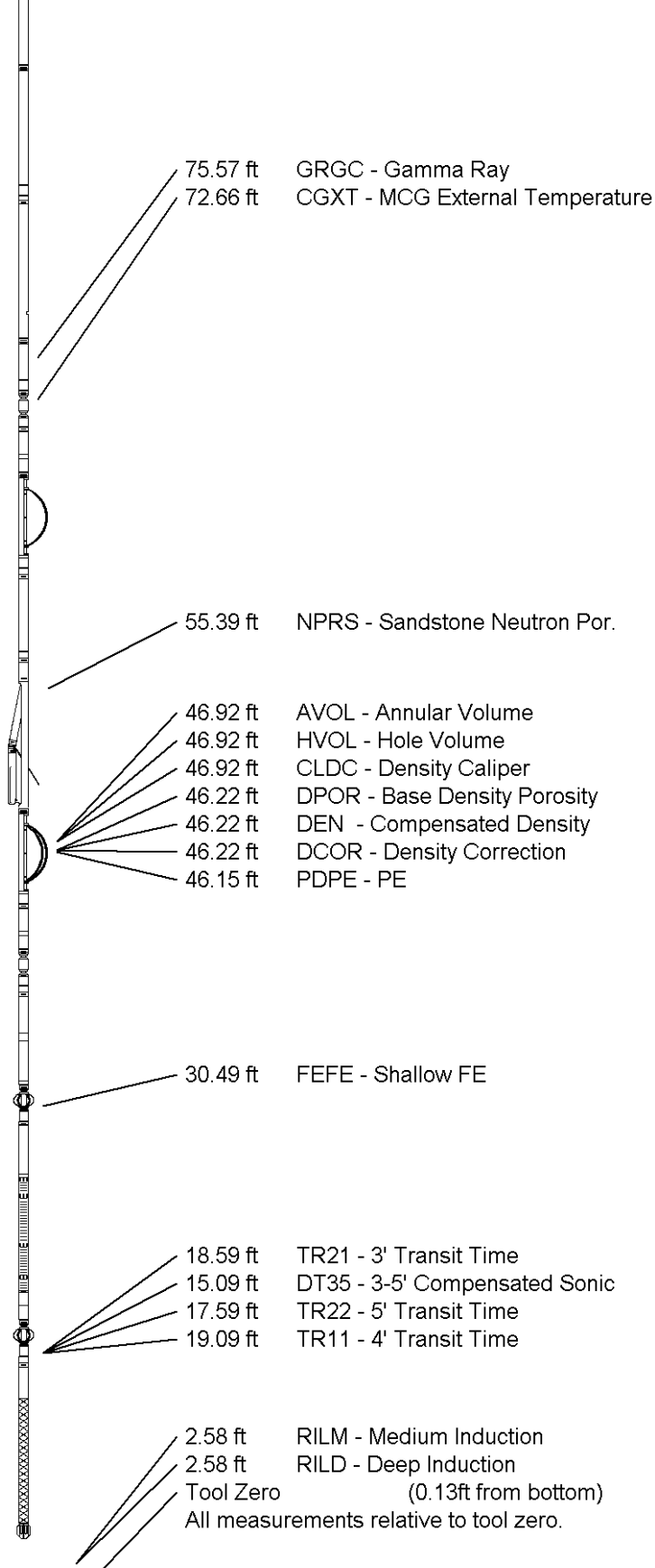
MIS-E.A Compact Inline Standoff sub
MIS 182 Length: 2.14 ft Weight: 15.4 lb

Compact Sonic
MSS 78 Length: 12.52 ft Weight: 72.8 lb

MIS-B Compact Inline Standoff sub
MIS 365 Length: 2.14 ft Weight: 15.4 lb

Compact Induction
MAI 300 Length: 10.81 ft Weight: 48.5 lb

Total Length: 97.34 ft Weight: 771.6 lb



COMPANY	MARATHON OIL COMPANY
WELL	596-32C-25
FIELD	GRAND VALLEY
PROVINCE/COUNTY	GARFIELD
COUNTRY/STATE	U.S.A. / COLORADO

Elevation Kelly Bushing	8364.00	feet	First Reading	10538.00	feet
Elevation Drill Floor	8363.00	feet	Depth Driller	10564.00	feet



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