



Weatherford

COMPACT DROP OFF
COMPACT TRIPLE COMBO
QUICKLOOK LOG

COMPANY ENCANA
WELL SGWD08A-19 C19 495
FIELD STORY GULCH
PROVINCE/COUNTY GARFIELD
COUNTRY/STATE U.S.A. / COLORADO
LOCATION SHL: 754 FNL & 2548 FWL
BHL: 1384 FNL & 16 FEL



LSD SEC TWP RGE Other Services

19 4S 95W

API Number 05-045-21131-00
Permit Number 05-045-21131-00

Permanent Datum G.L., Elevation 8122 feet

Log Measured From KB

Drilling Measured From K.B. @ 30.5 FEET

Elevations:
KB 8152.50
DF 8152.50
GL 8122.00

Date 27-DEC-2012

Run Number ONE

Depth Driller 9135.00

Depth Logger 9135.00

First Reading 9111.00

Last Reading 3036.00

Casing Driller 3036.00

Casing Logger 3036.00

Bit Size 8.750

Hole Fluid Type LSND

Density / Viscosity 9.00 lb/USg

PH / Fluid Loss 9.40

Sample Source FLOWLINE

Rm @ Measured Temp 1.59 @ 77.8

Rmf @ Measured Temp 1.27 @ 77.8

Rmc @ Measured Temp 1.90 @ 77.8

Source Rmf / Rmc CALC

Rm @ BHT 0.877 @ 144.0

Time Since Circulation 2 HOURS

Max Recorded Temp 144.00

Equipment Name COMPACT

Equipment / Base 13038

Recorded By M.RICHINS

Witnessed By M.QUINTANA

BOREHOLE RECORD

Last Edited: 27-FEB-2012 22:03

Bit Size inches	Depth From feet	Depth To feet
8.750	3036.00	9135.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	9.625	0.00	3036.00	36.00

REMARKS

COMPACT DROP OFF CONVEYANCE METHOD USED TO LOG THE WELL.

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

SOFTWARE VERSION 12.02.4401 USED TO LOG WELL.

HARDWARE RAN: MPD: 4 INCH PROFILE PLATE USED.

MFE: 0.5 INCH INLINE STANDOFF

MAI: 0.5 INCH INLINE STANDOFF

MIS-D: DUAL BOWSPRINGS USED TO SIDEWALL POROSITY TOOLS.

TOTAL HOLE VOLUME MEASURED TO SURFACE CASING SHOE (3036 FEET) = 3180 SQUARE FEET

ANNULAR HOLE VOLUME WITH 5.5 INCH PRODUCTION CASING = 2180

2.68 G/CC DENSITY MATRIX USED TO CALCULATE POROSITY.

TIGHT PULLS, TRIP SPEED, AND BOREHOLE RUGOSITY WILL AFFECT DATA QUALITY.

****DRILL PIPE WAS STUCK AT A NUMBER OF LOCATIONS THROUGHOUT THE BOTTOM 1000 FEET OF WELL. DATA WILL BE AFFECTED BY THE ROTATION, OVERPULLS, AND AND FREQUENT STOP POINTS.****

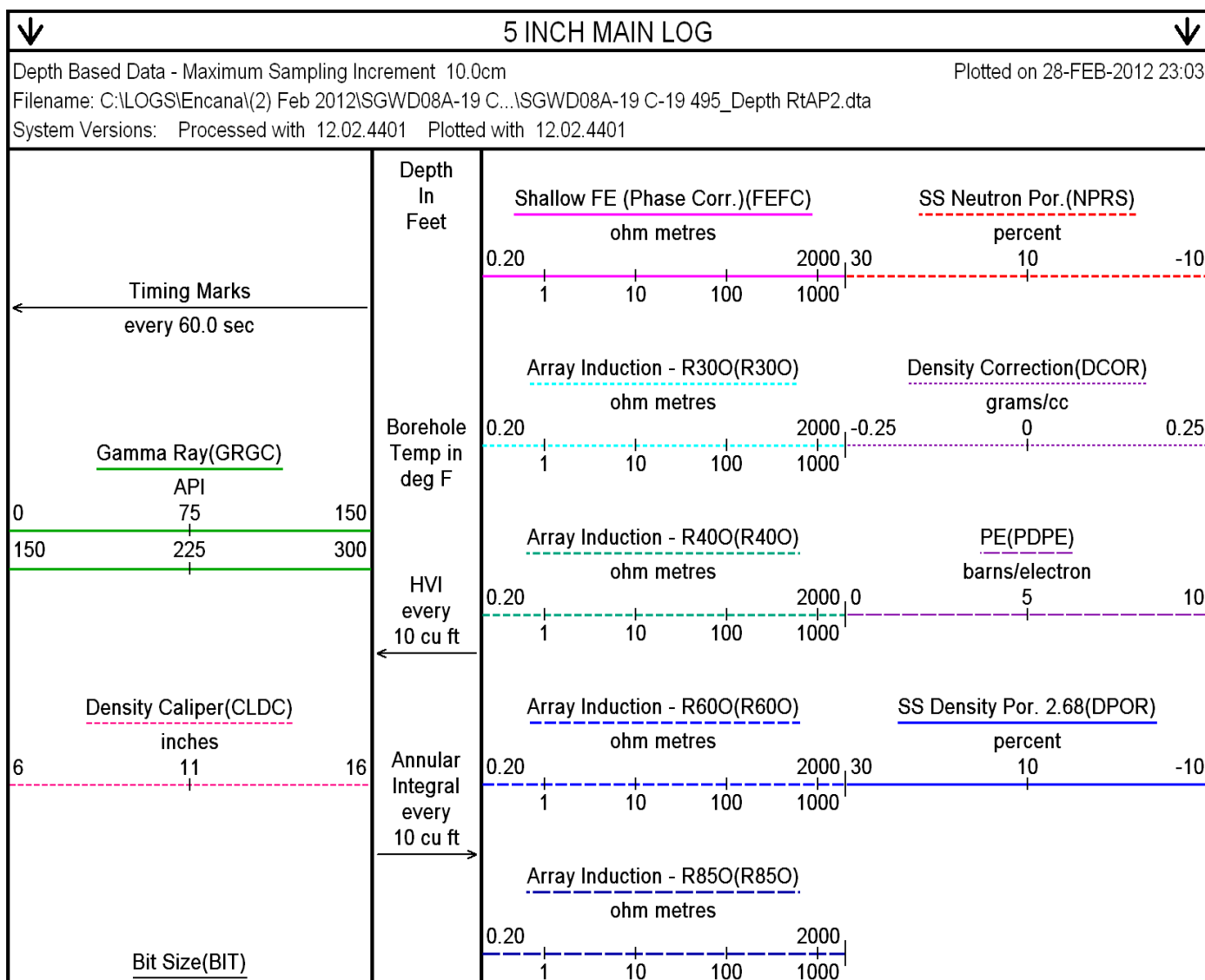
ENGINEER(S): M.RICHINS

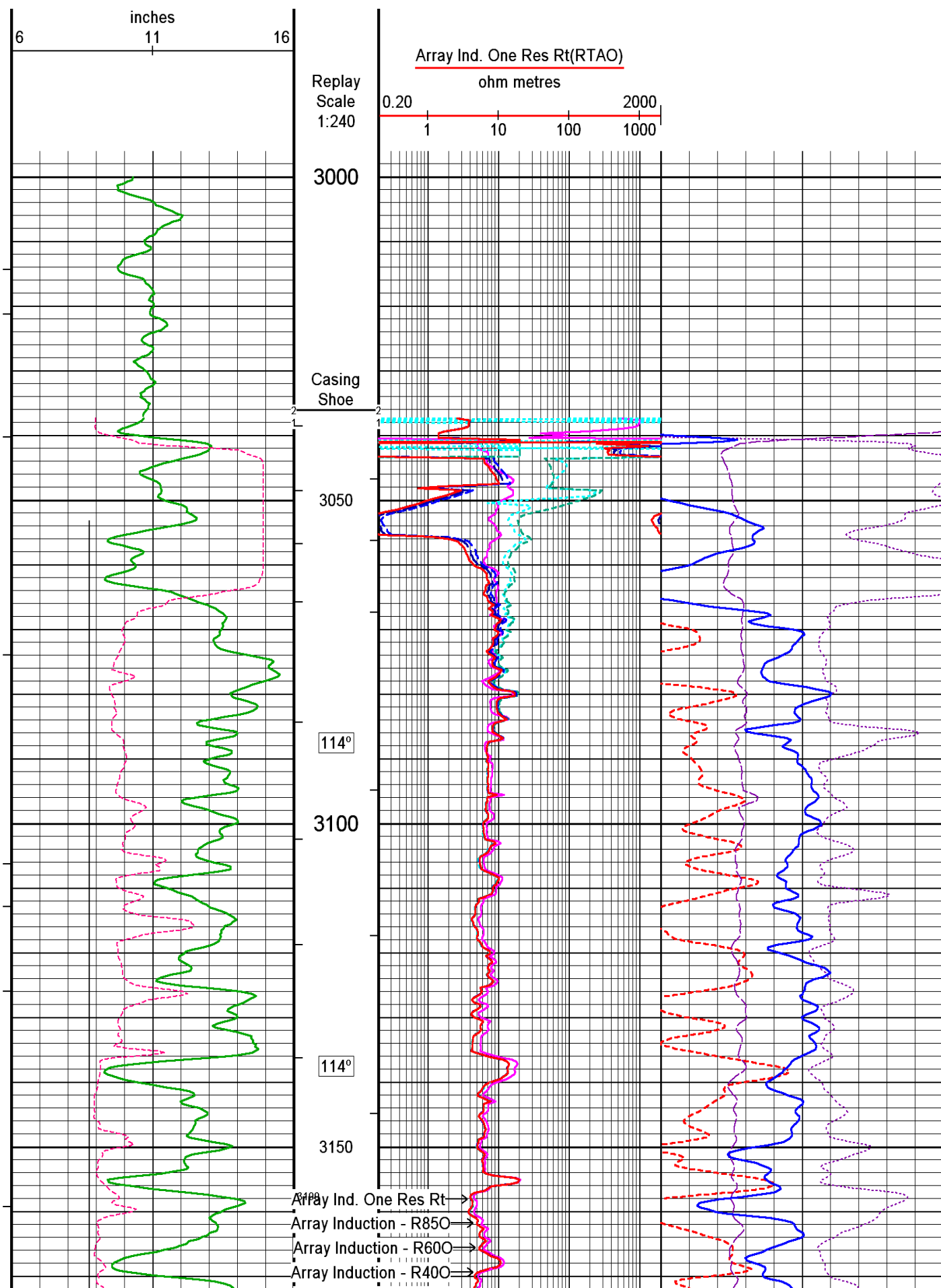
OPERATOR(S): C.STAAKE, S.FRASER

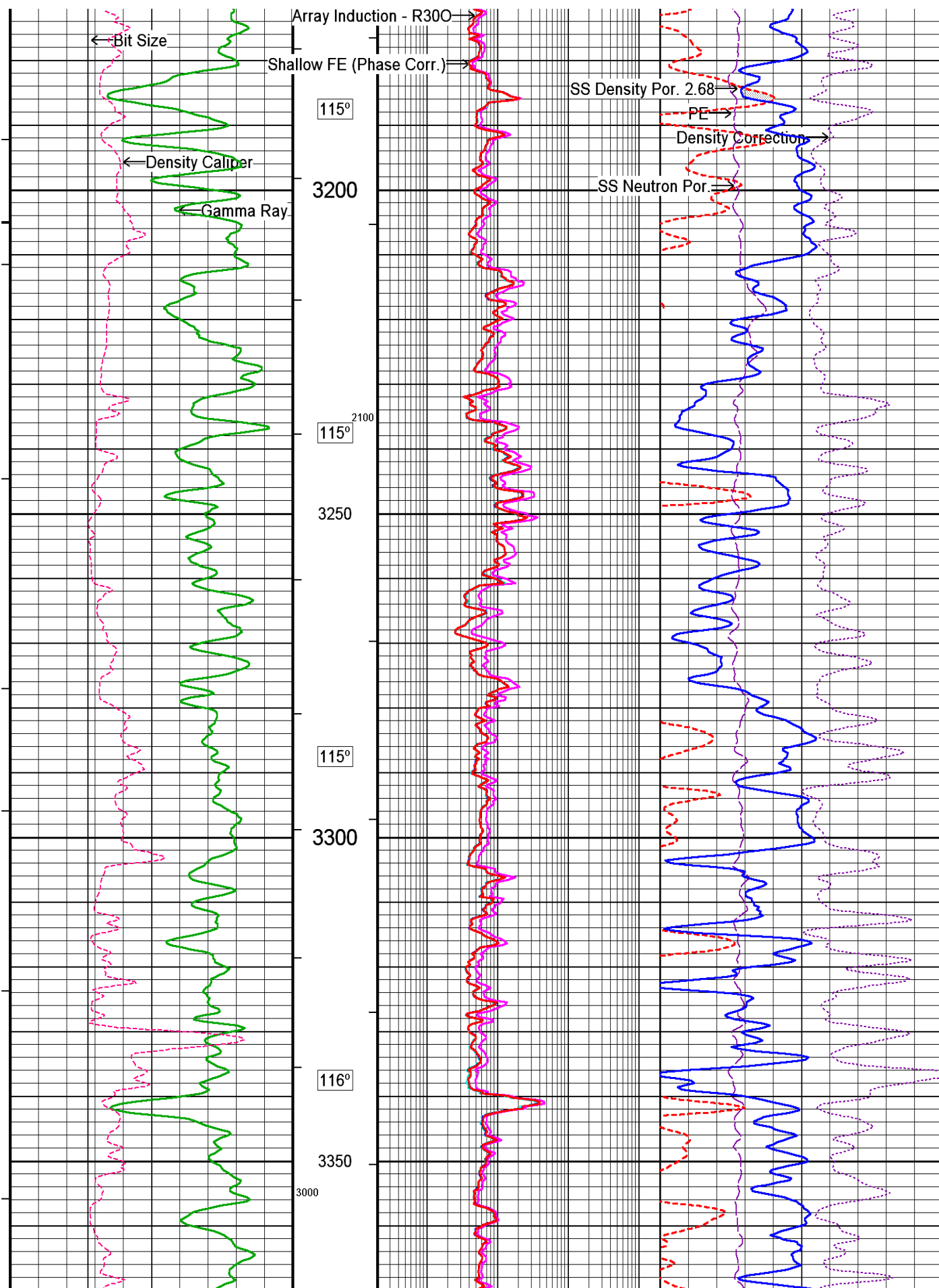
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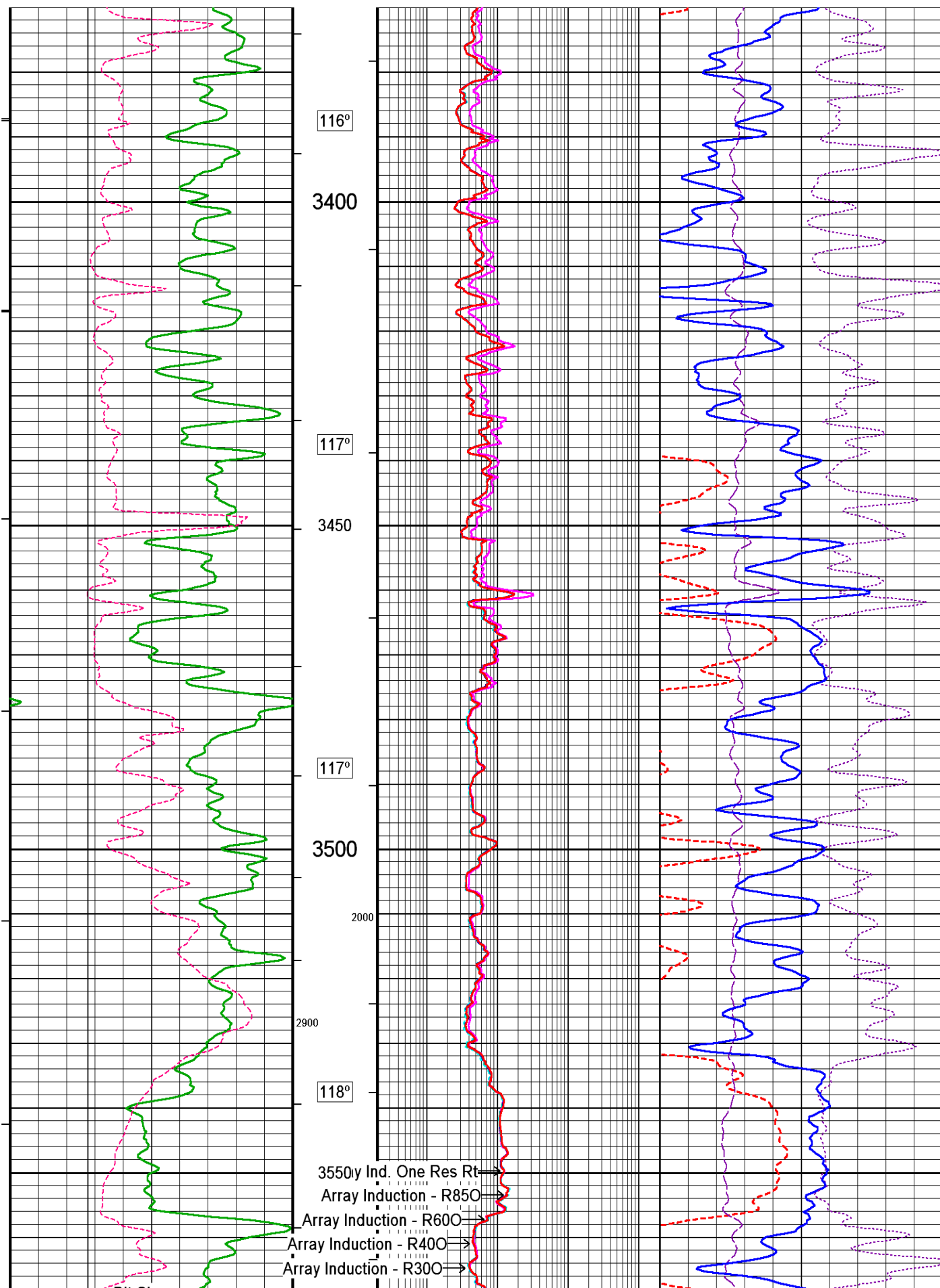
RIG: PATTERSON # 330

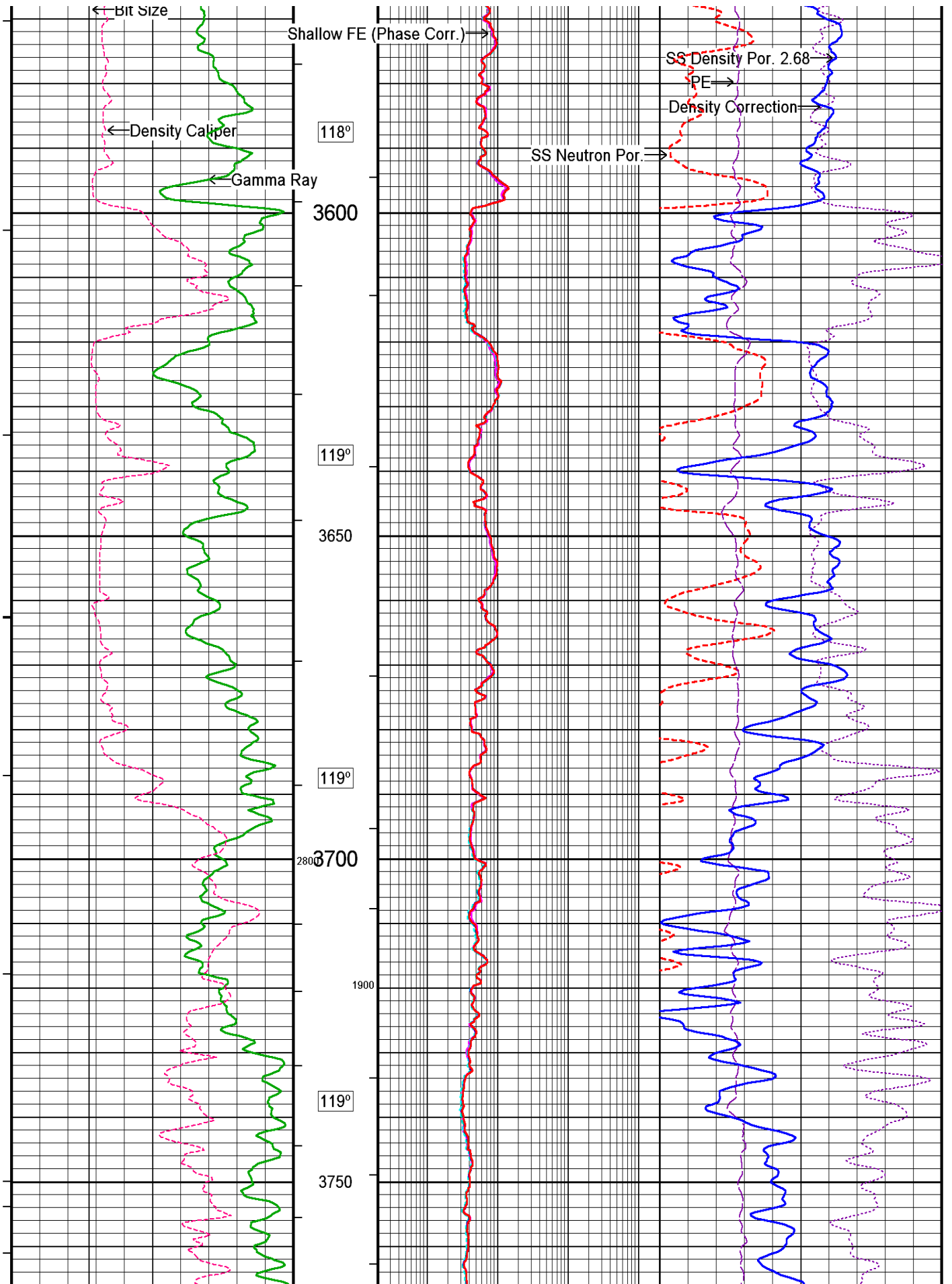
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs,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

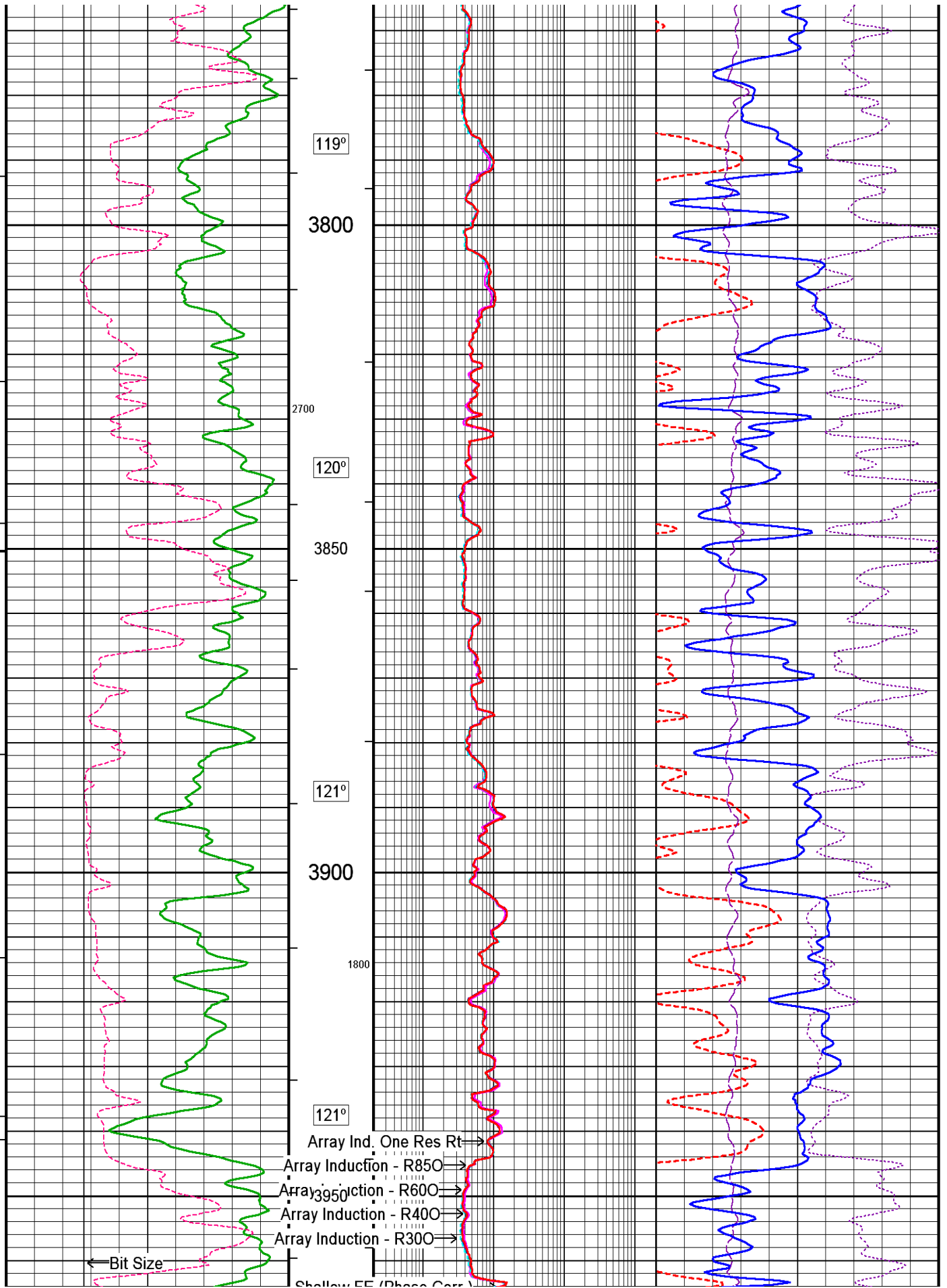


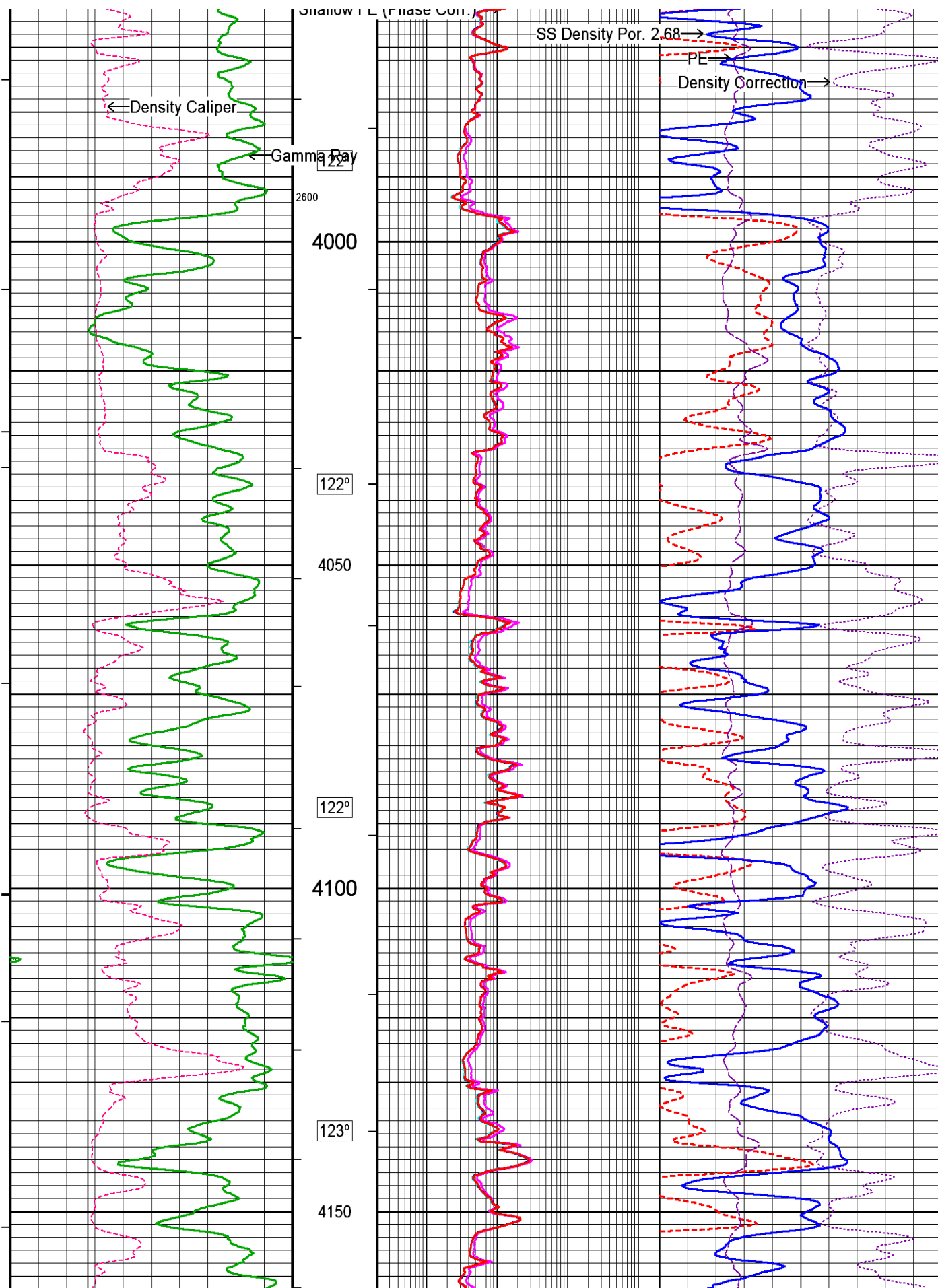


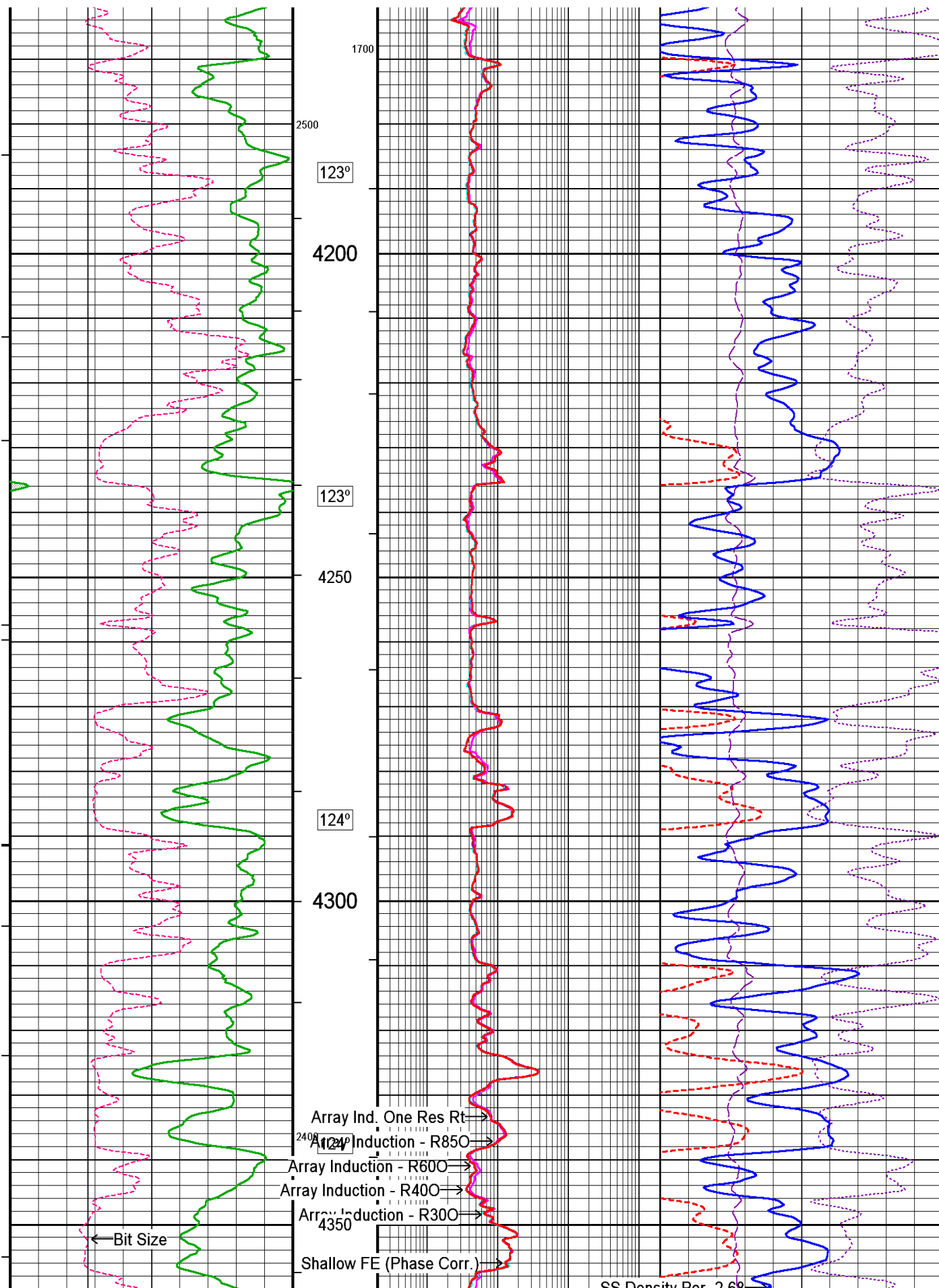


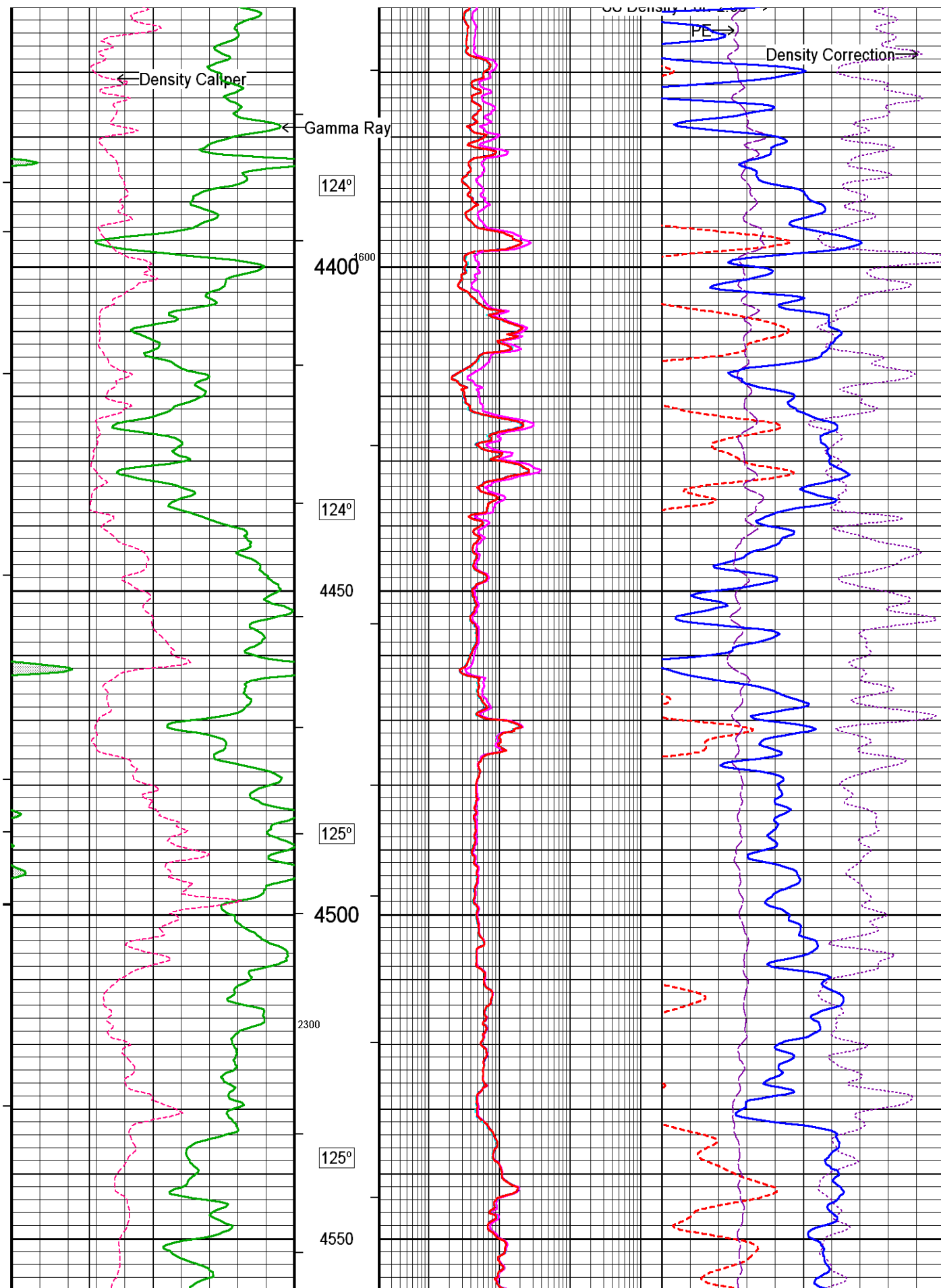


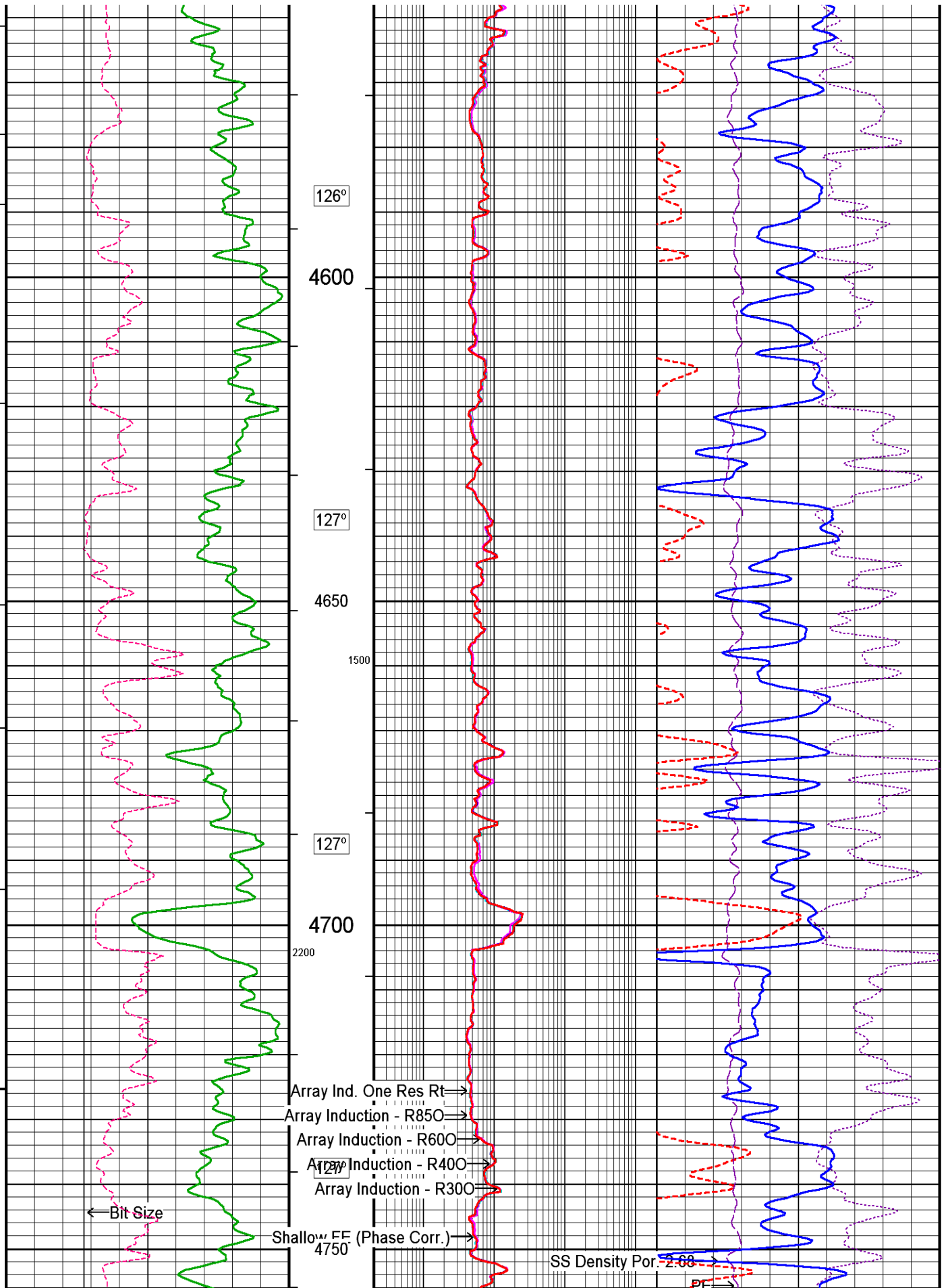


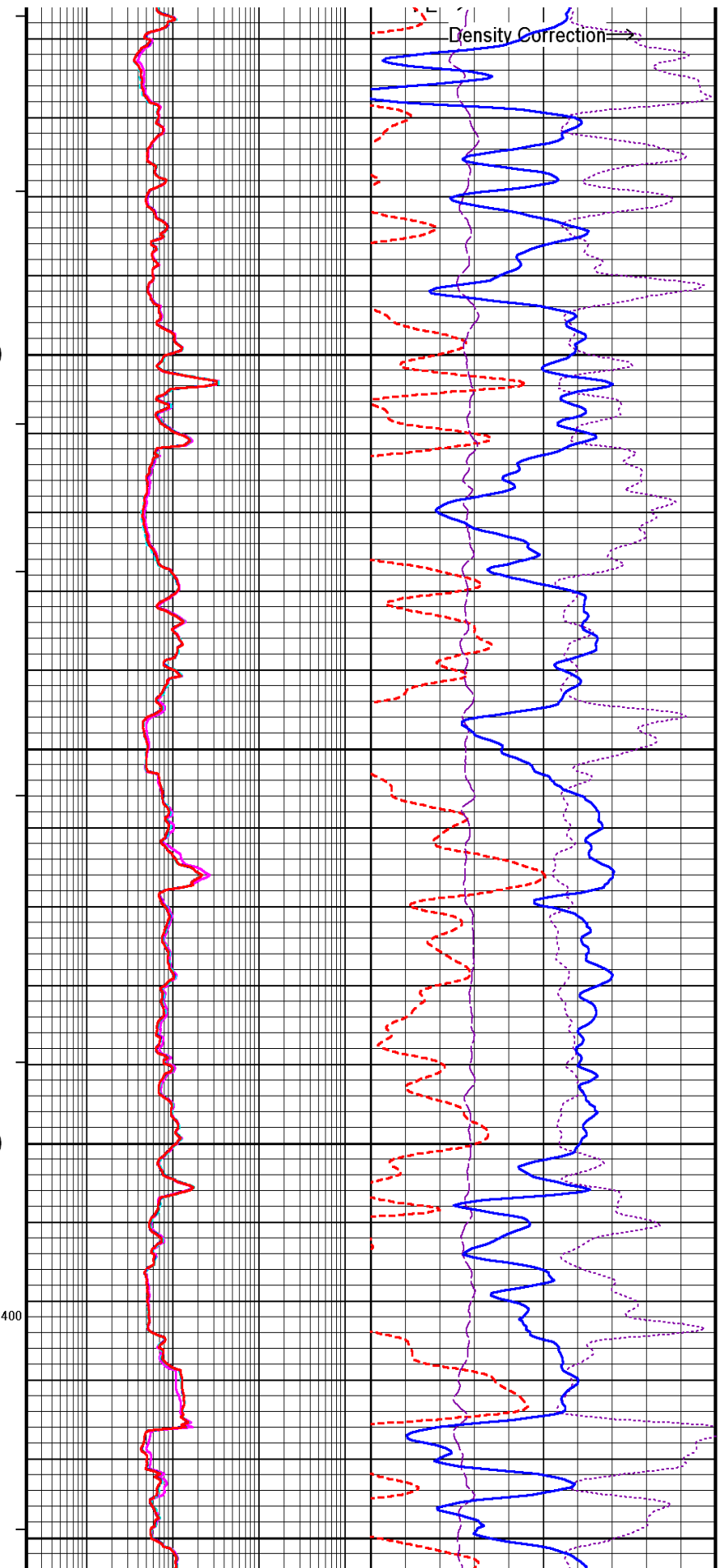
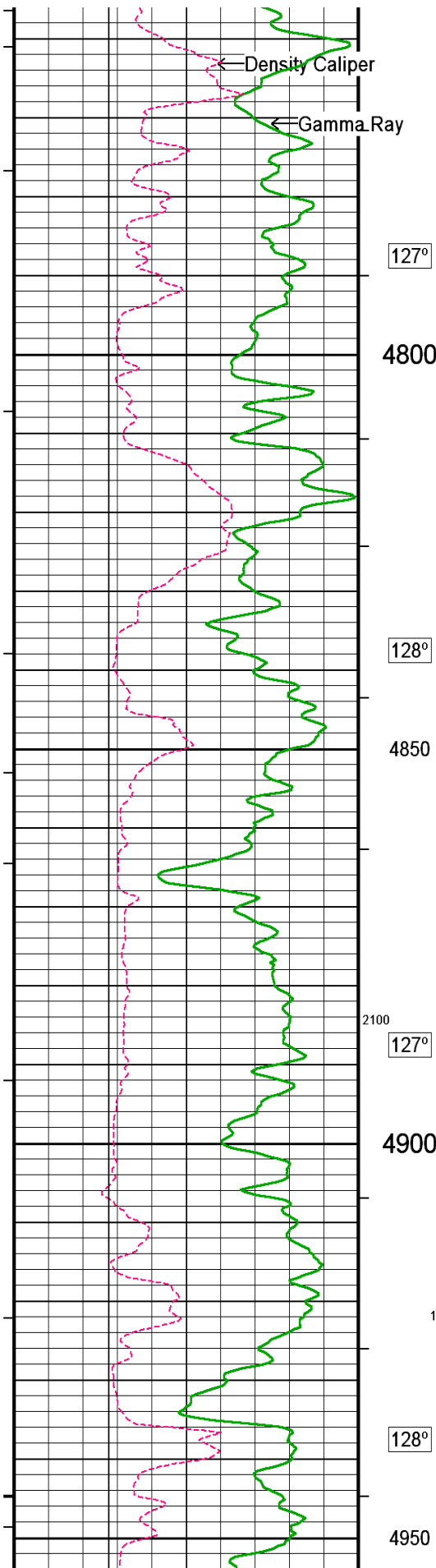


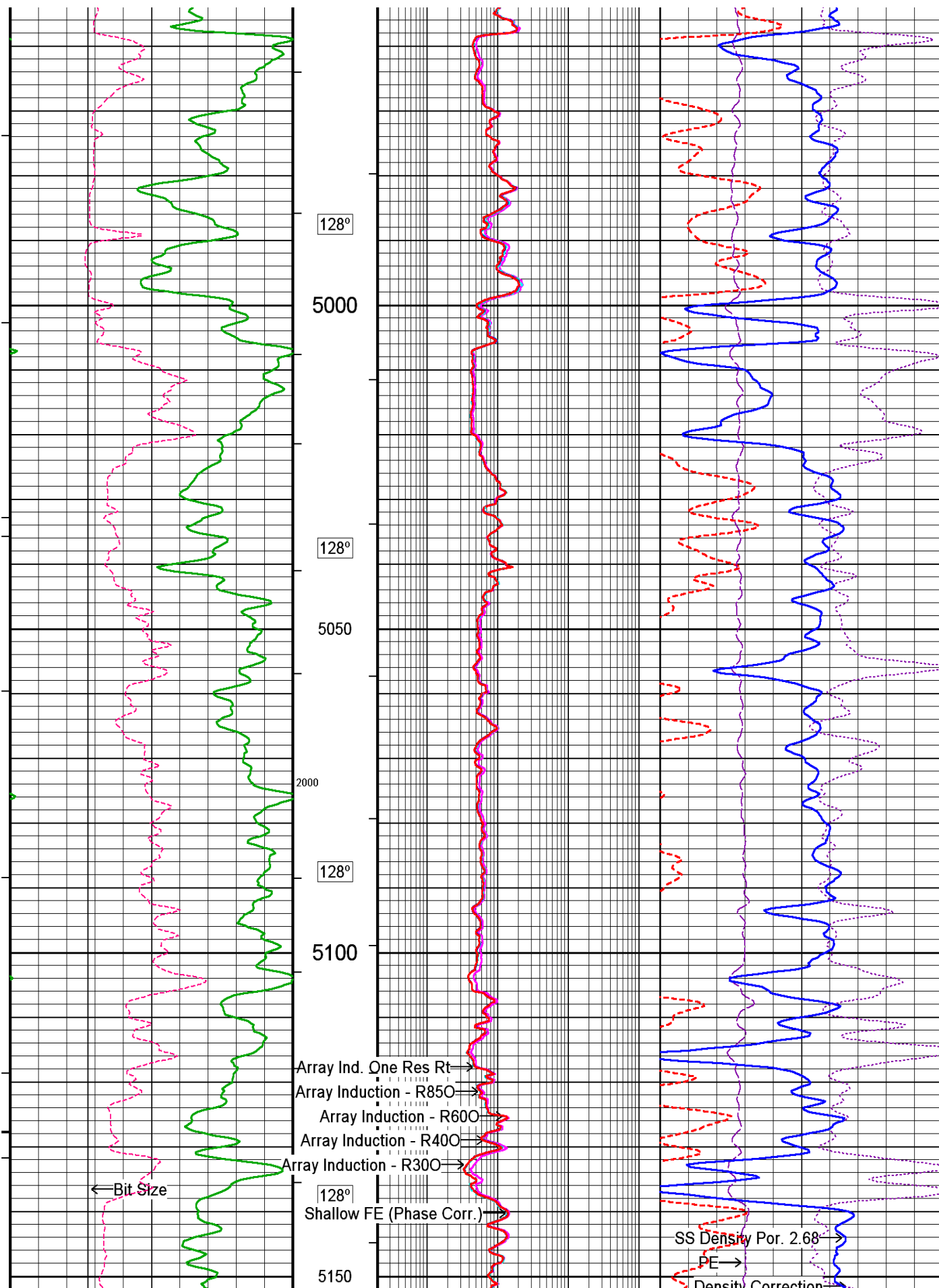


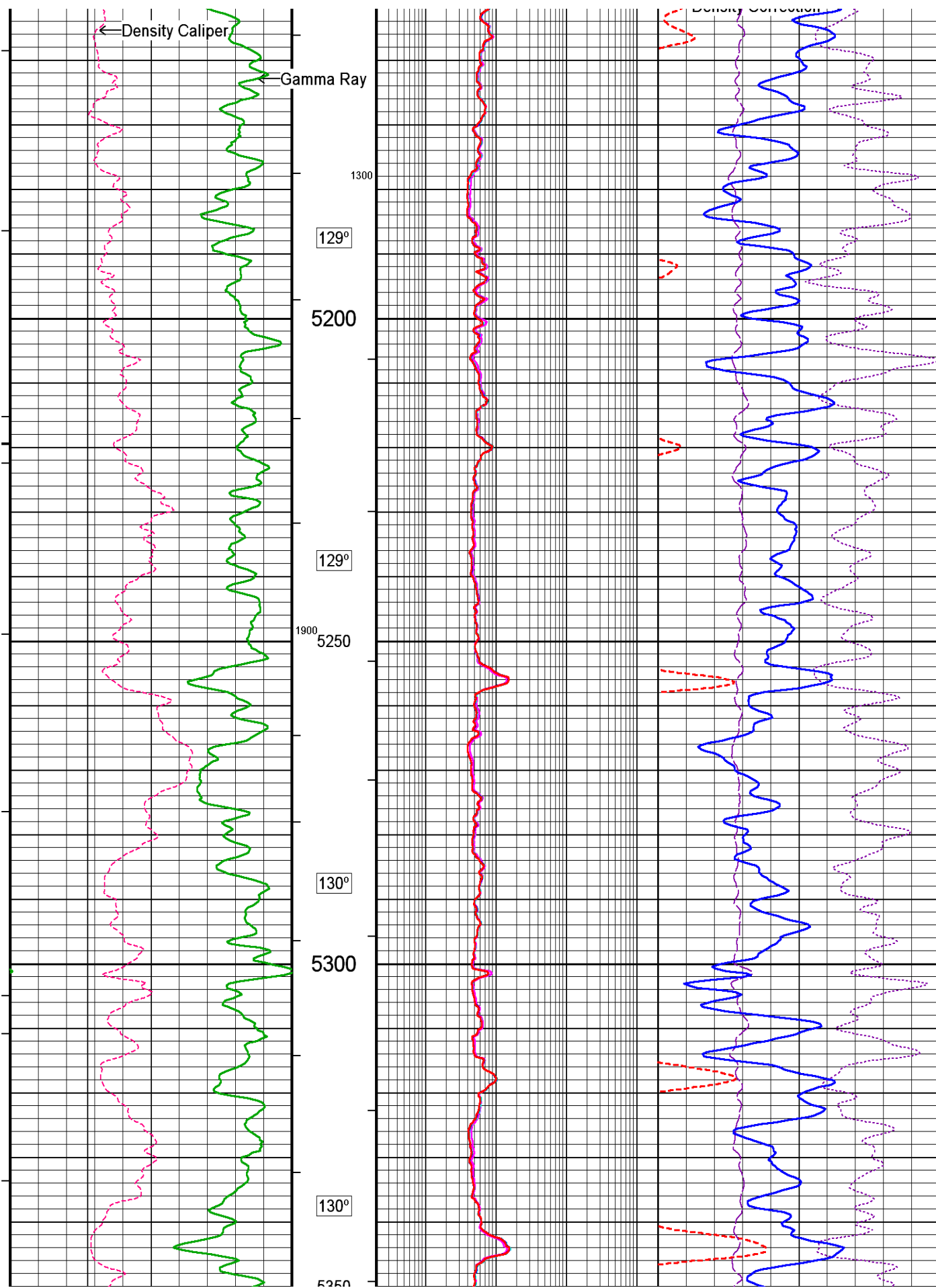


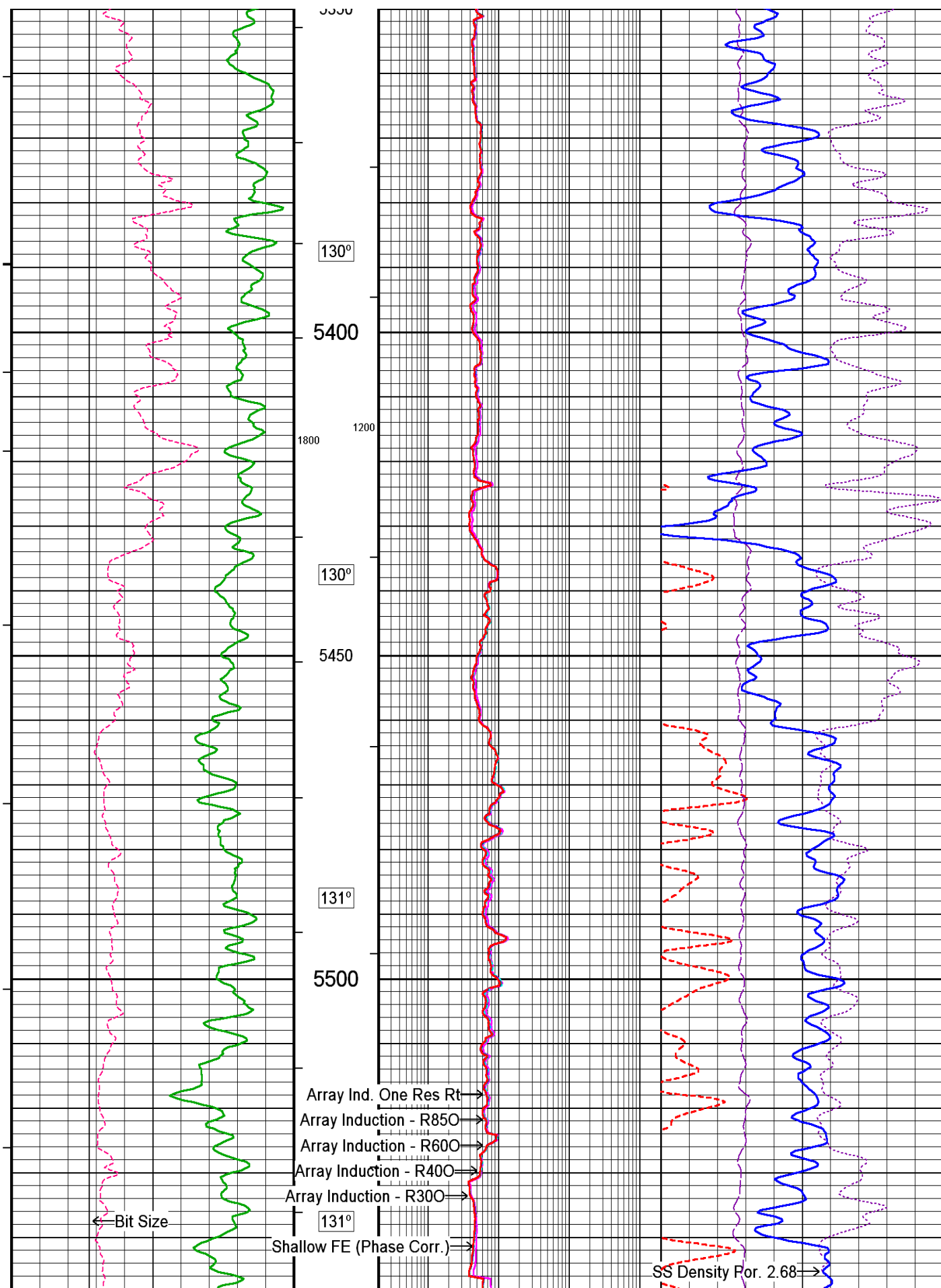


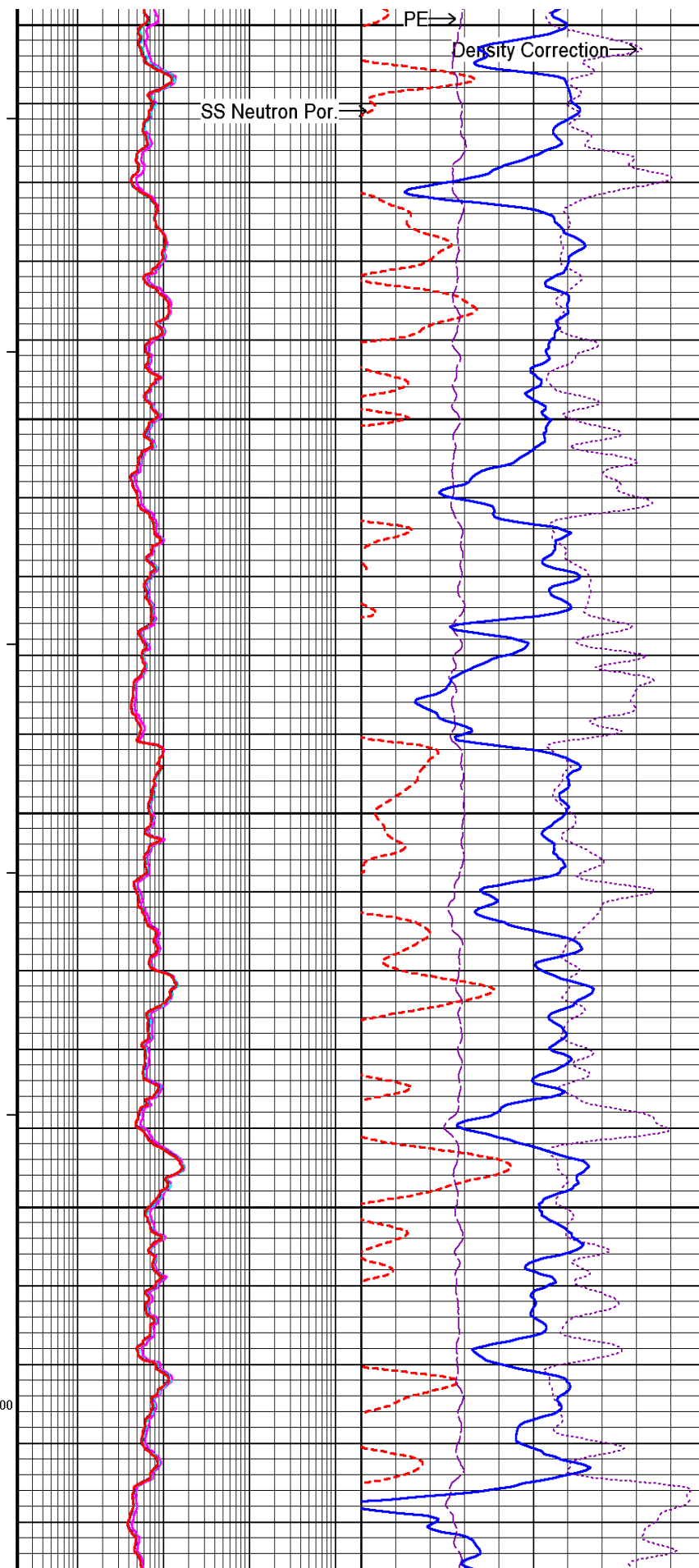
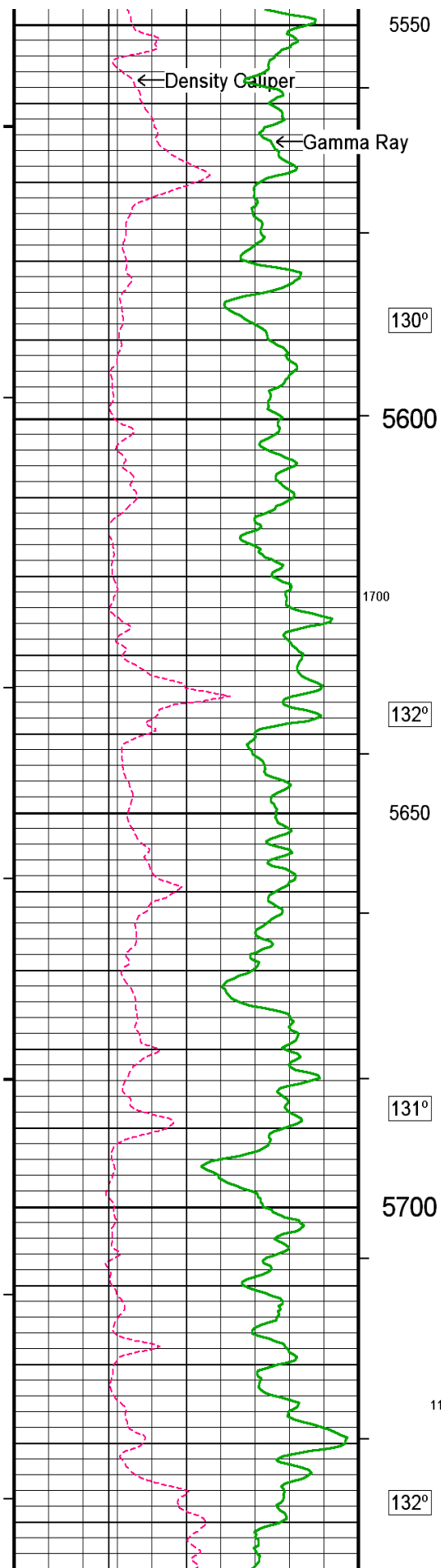


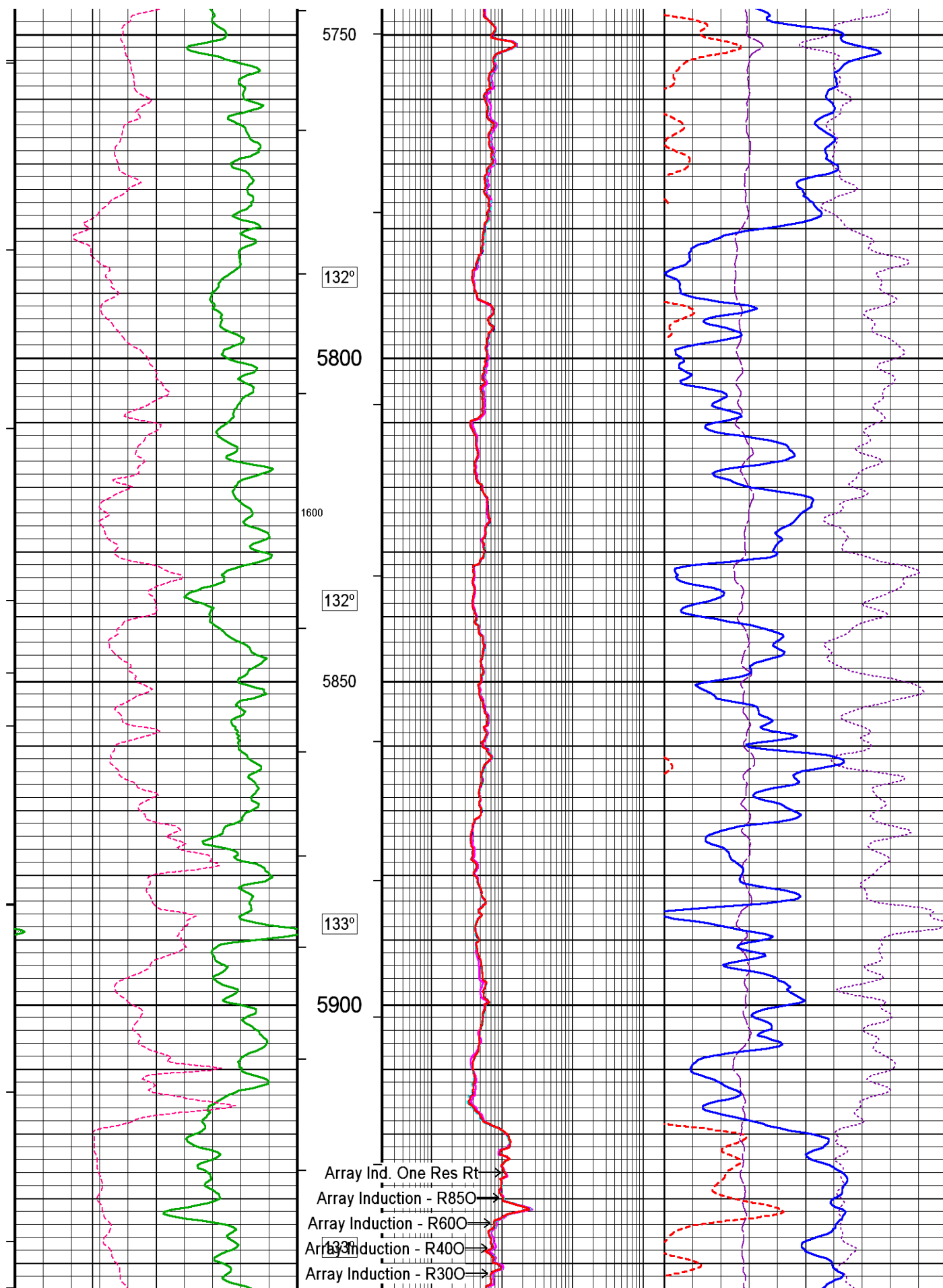


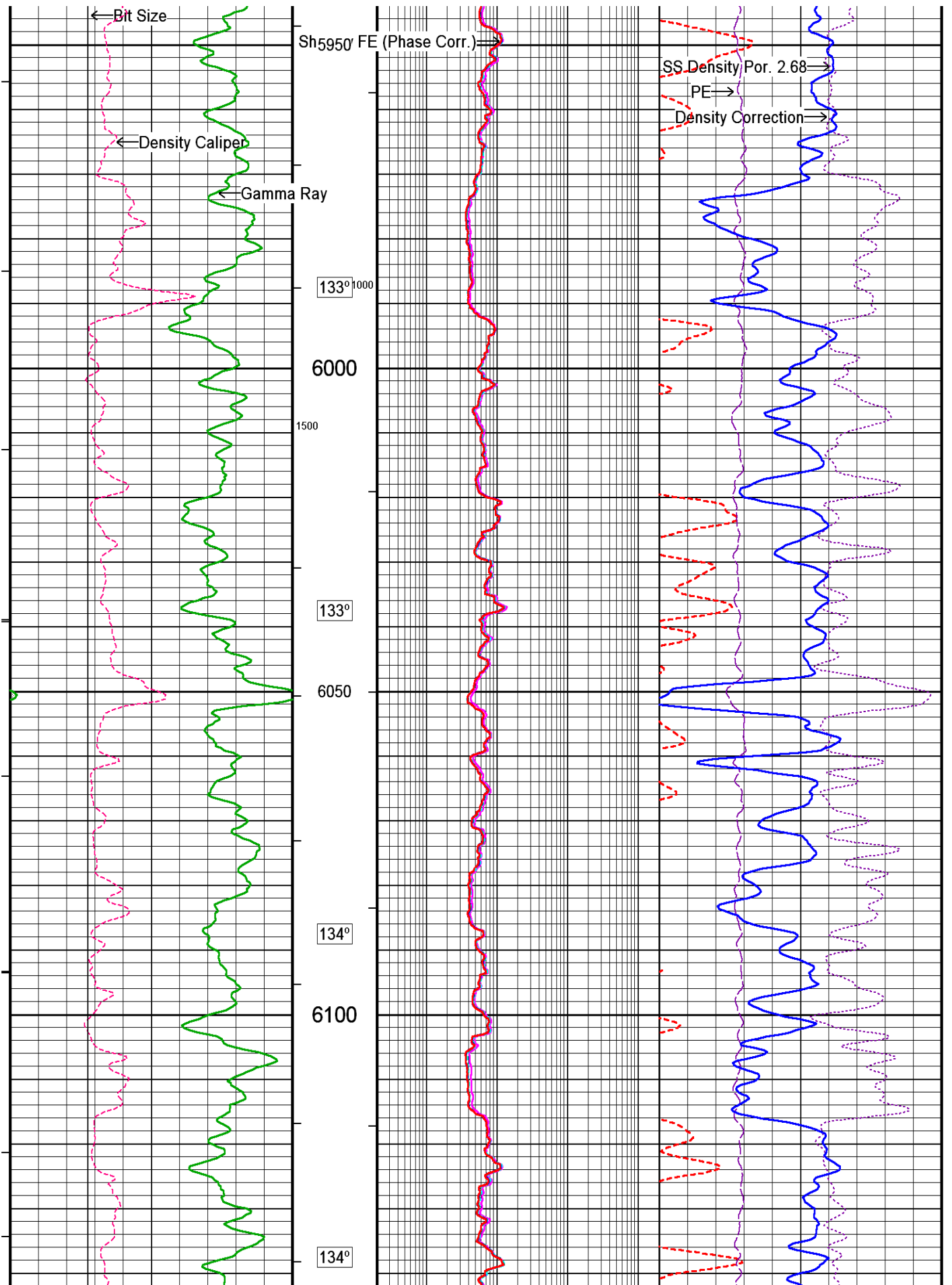


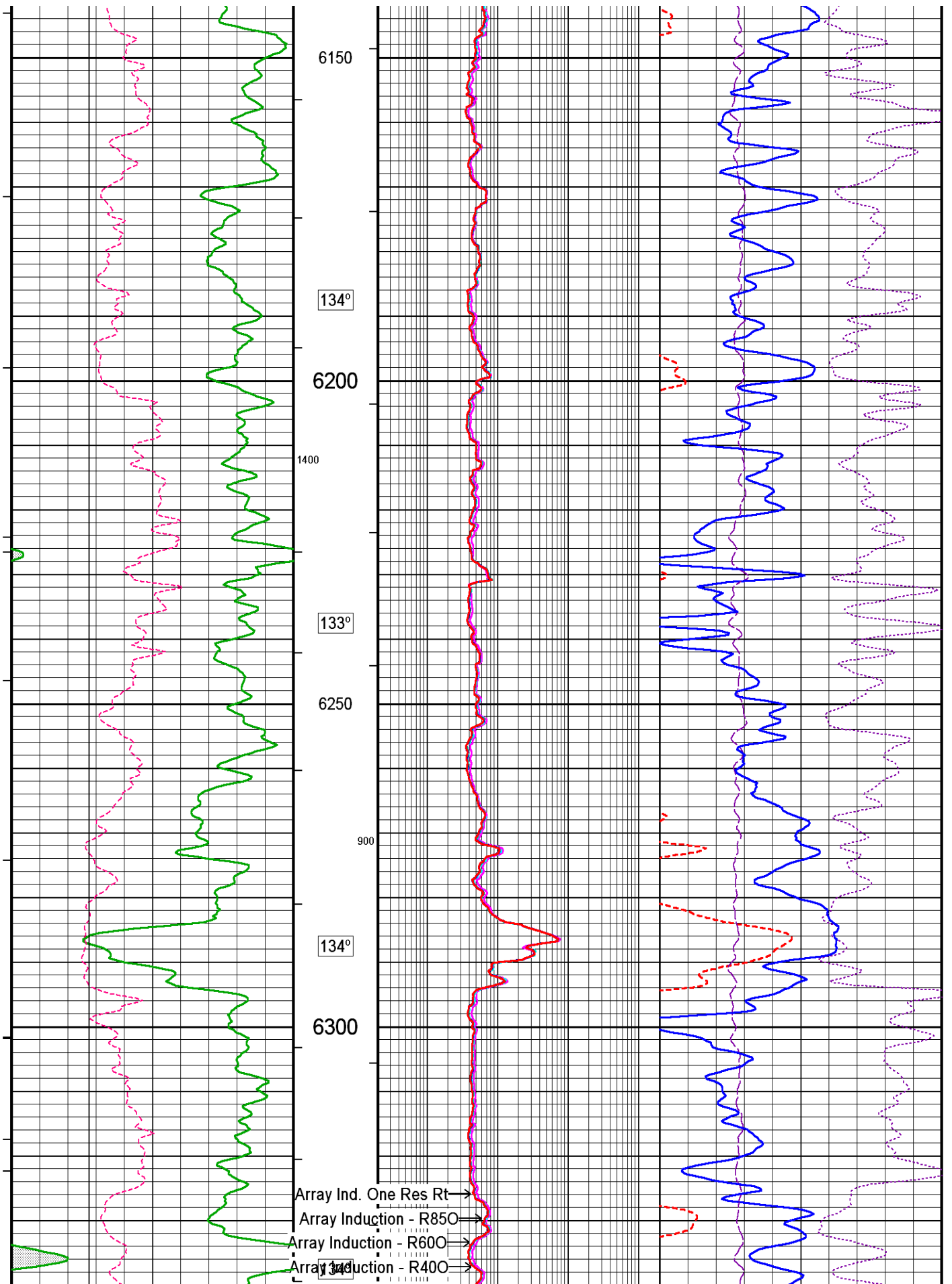


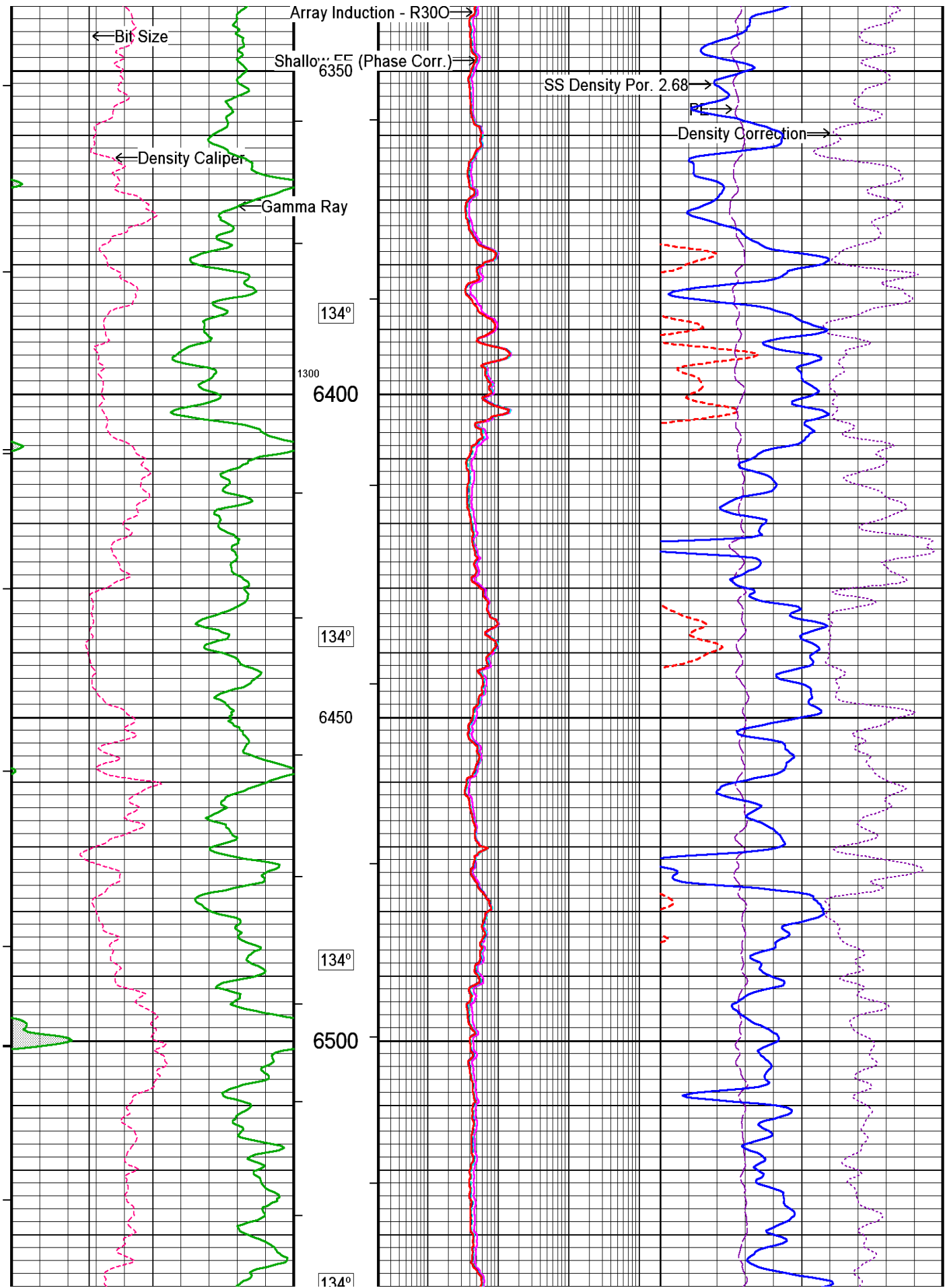


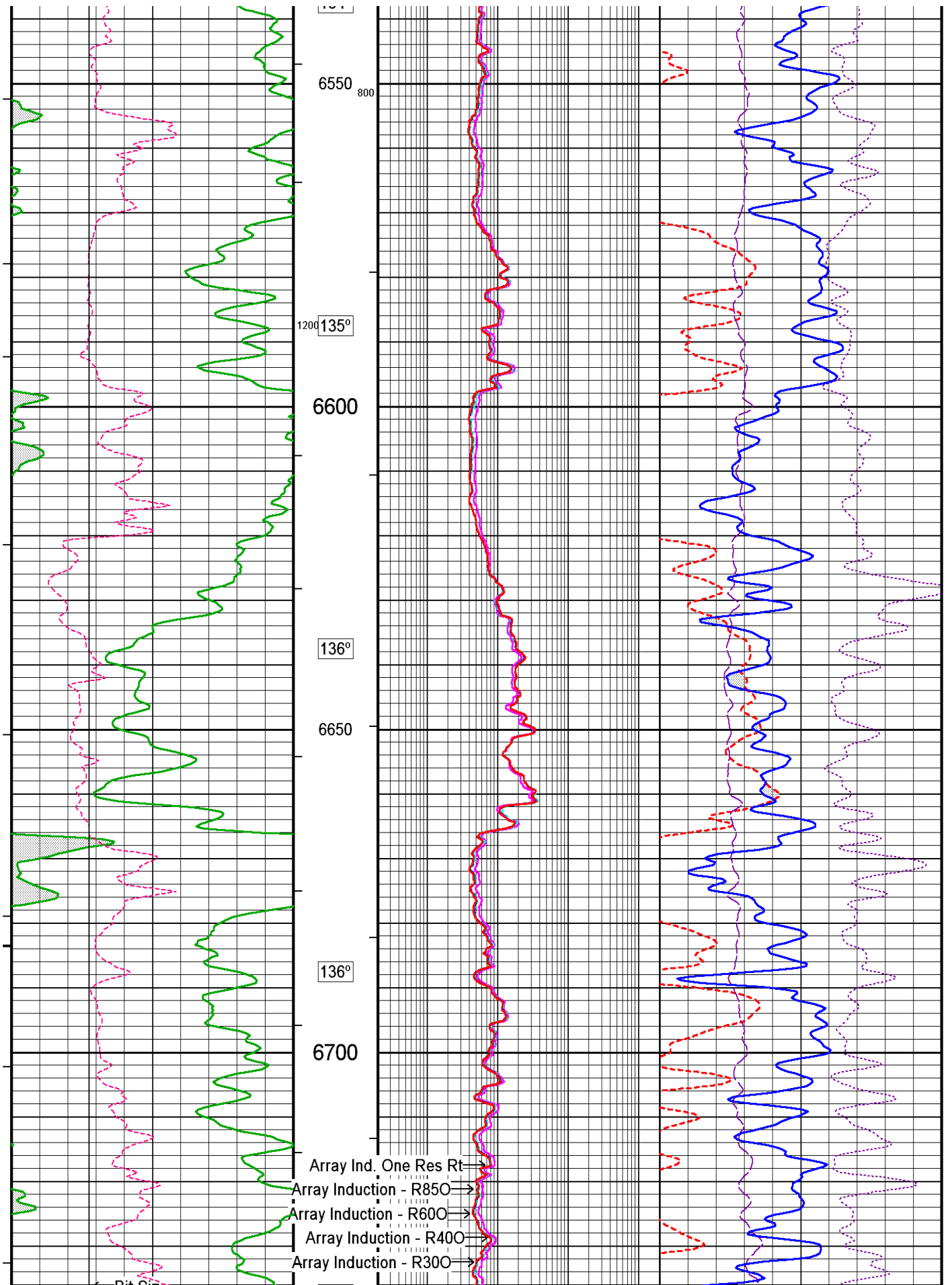


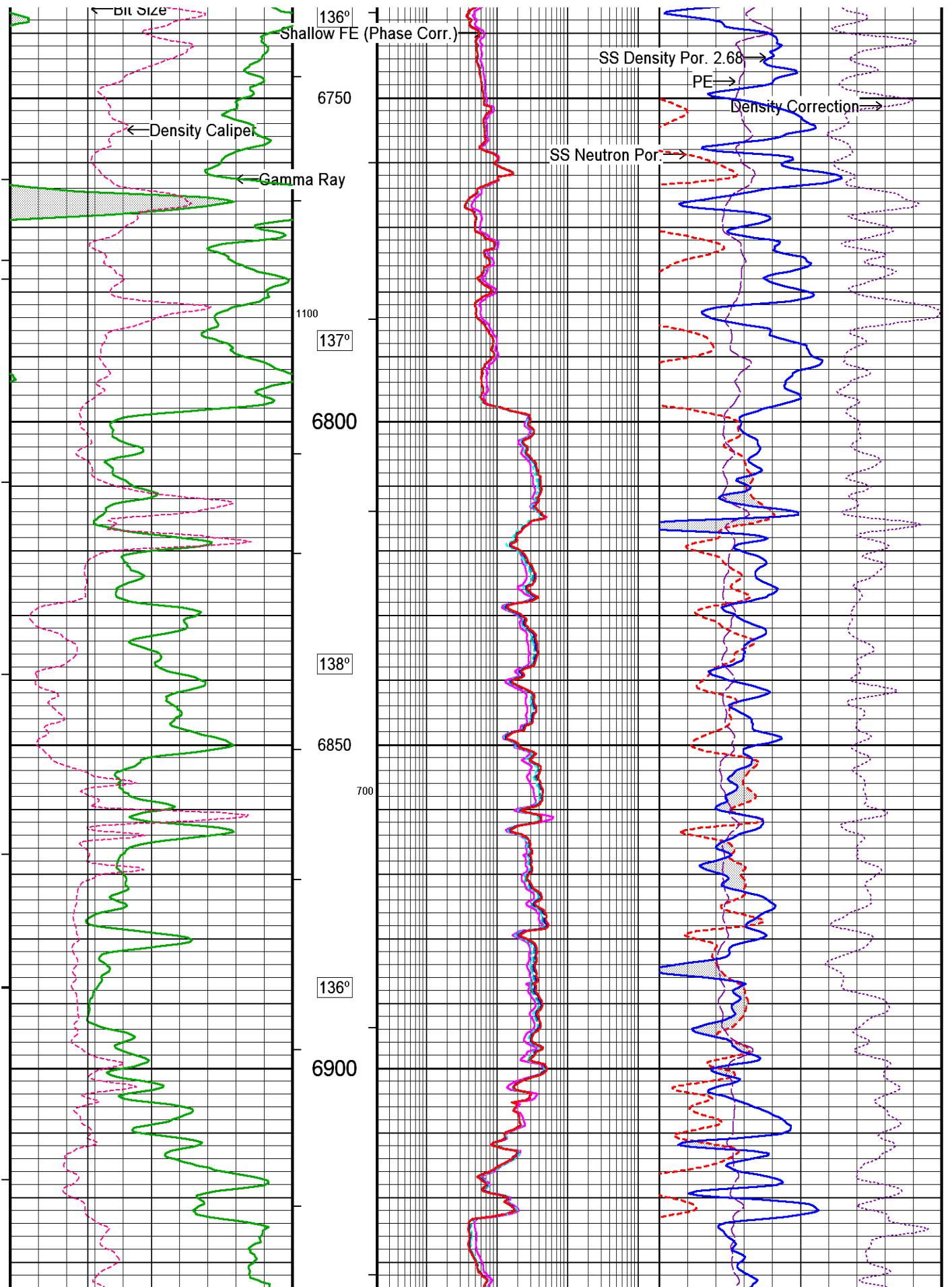


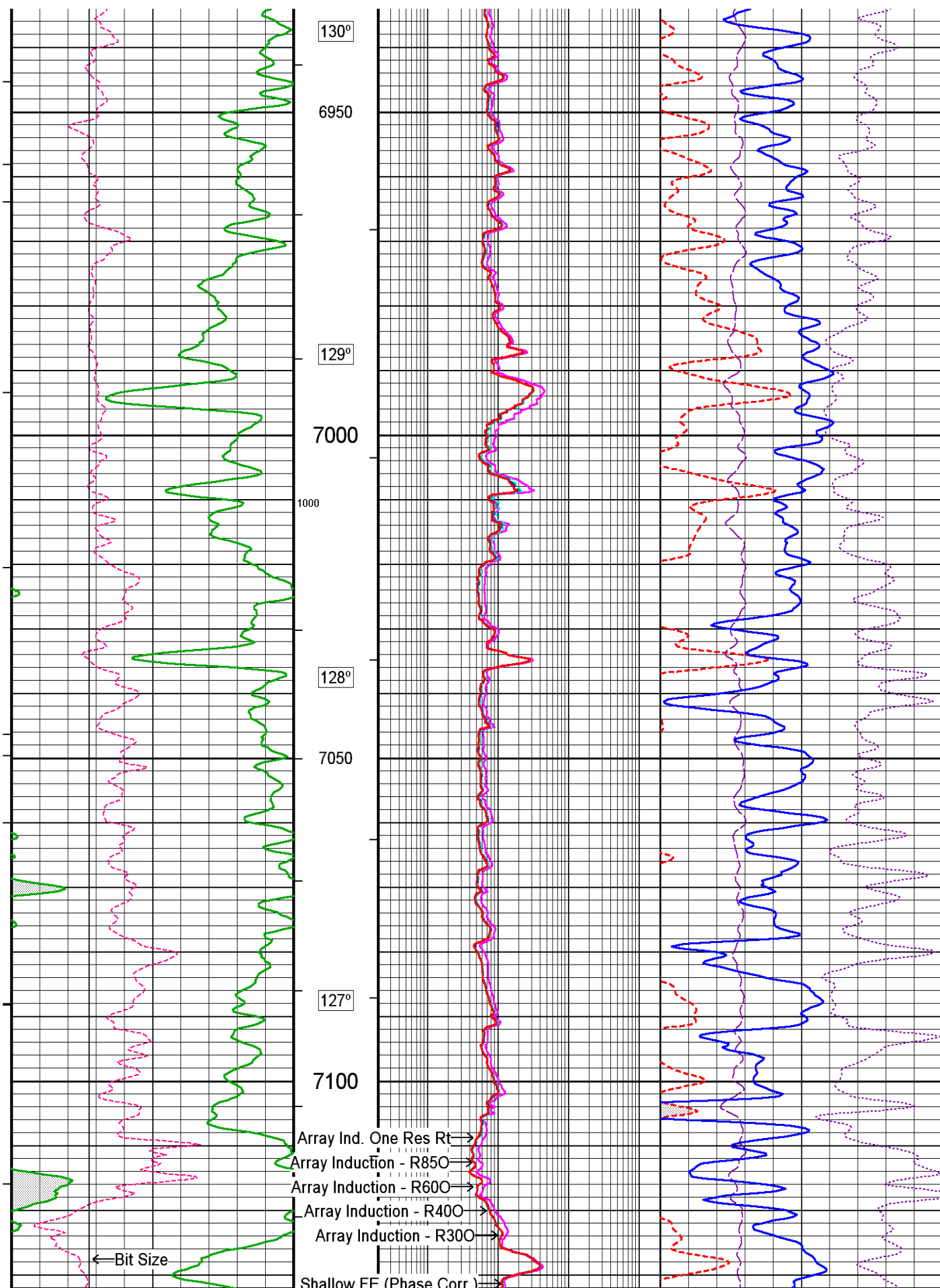


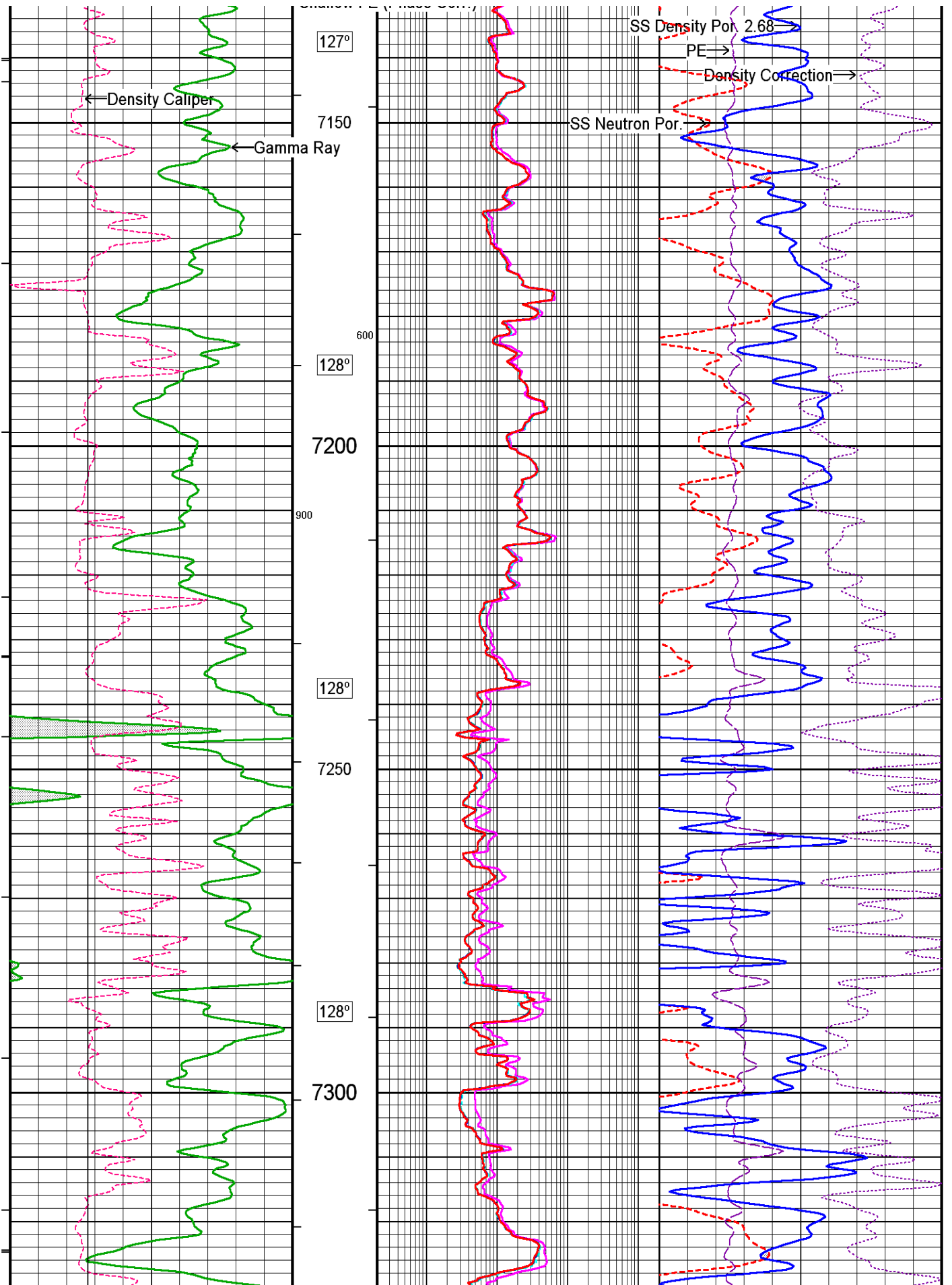


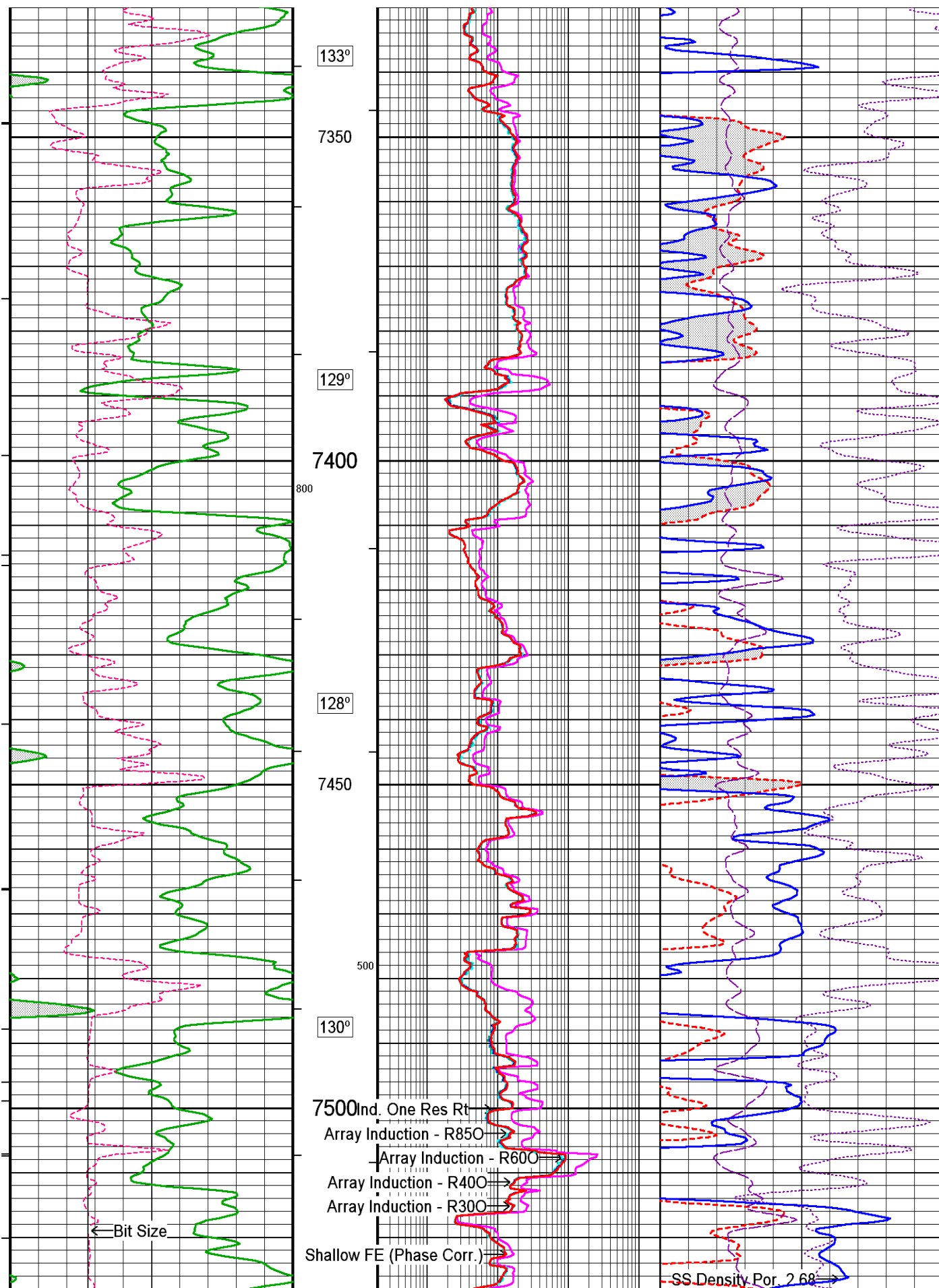


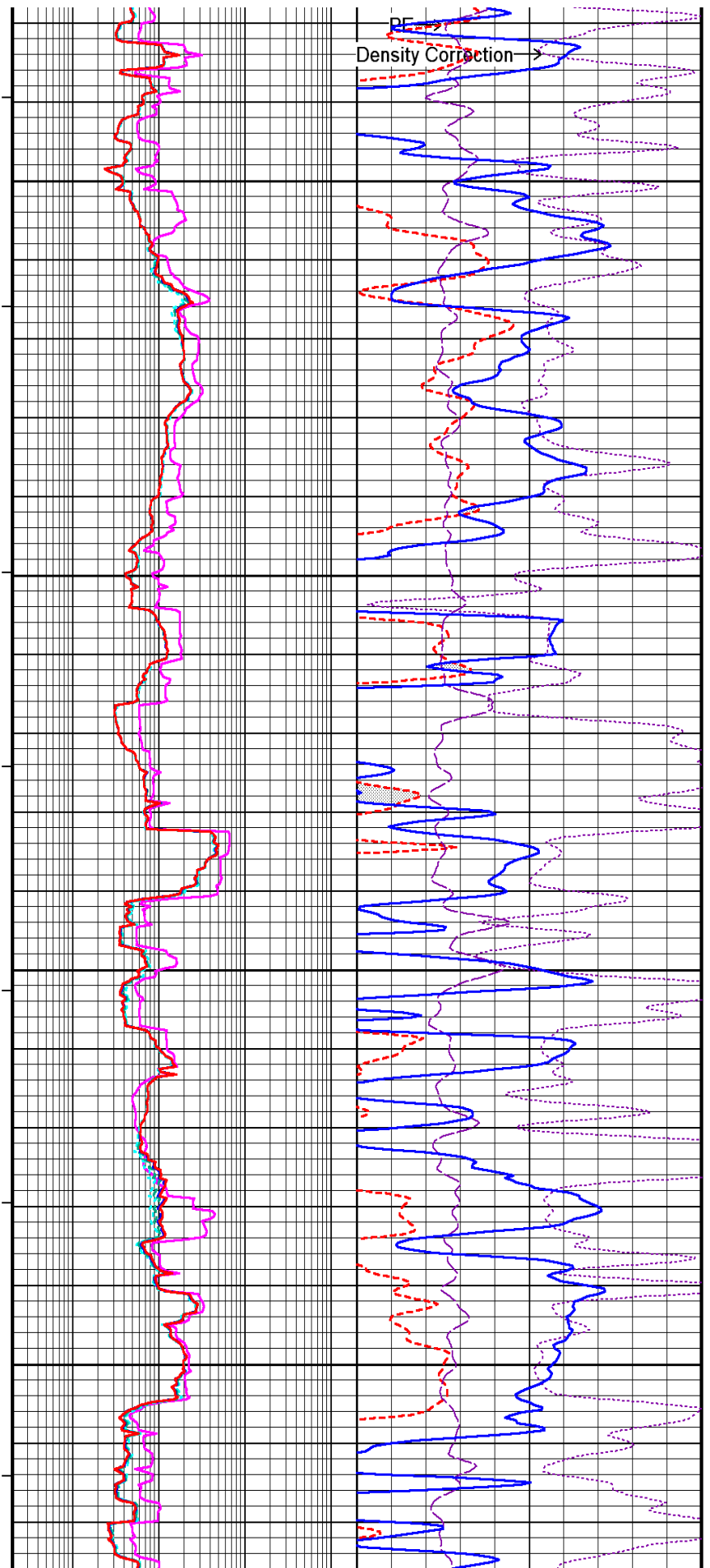
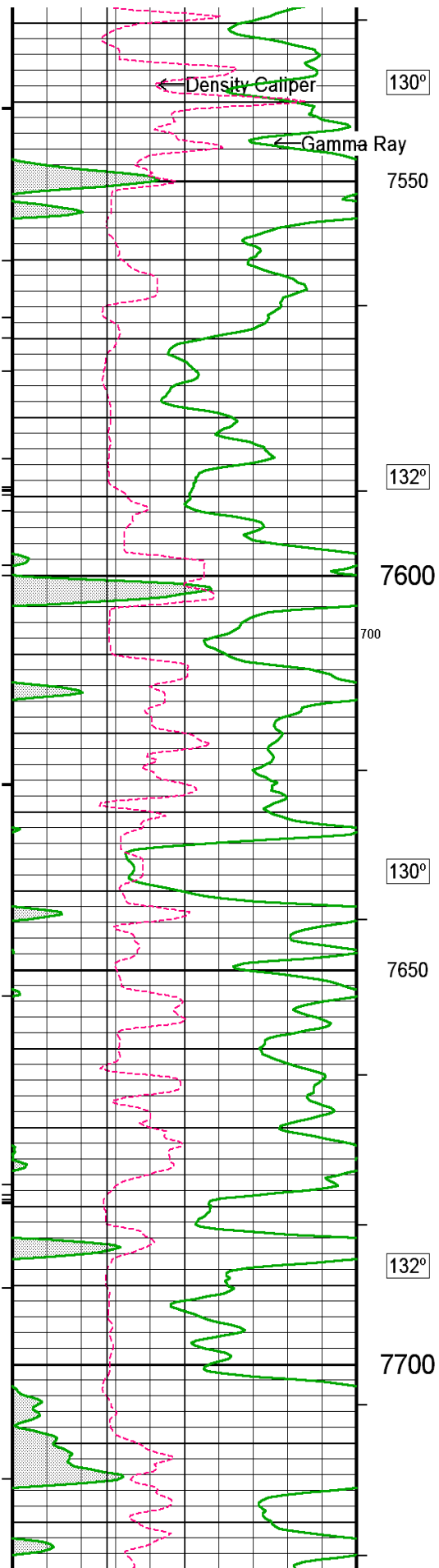


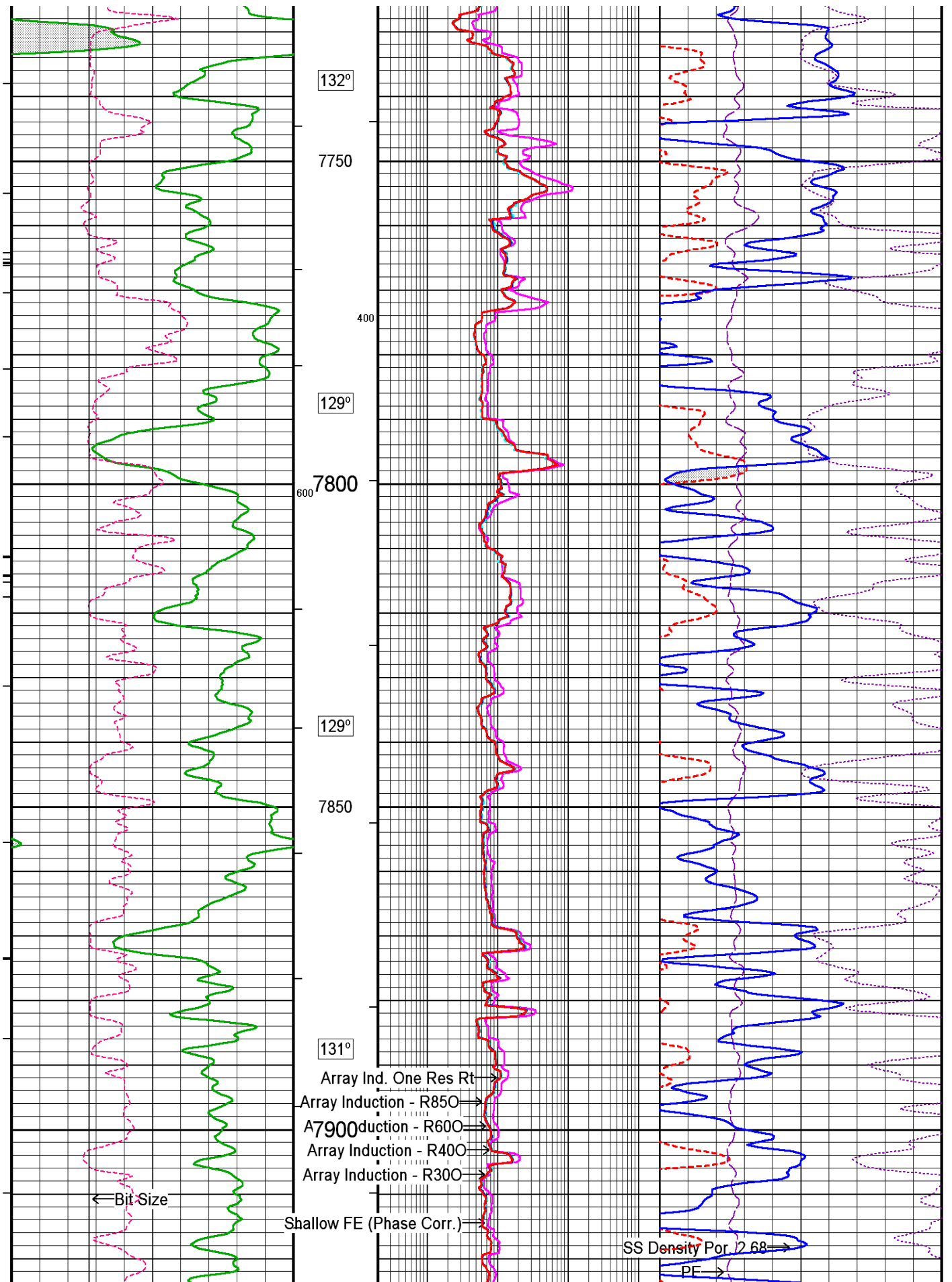


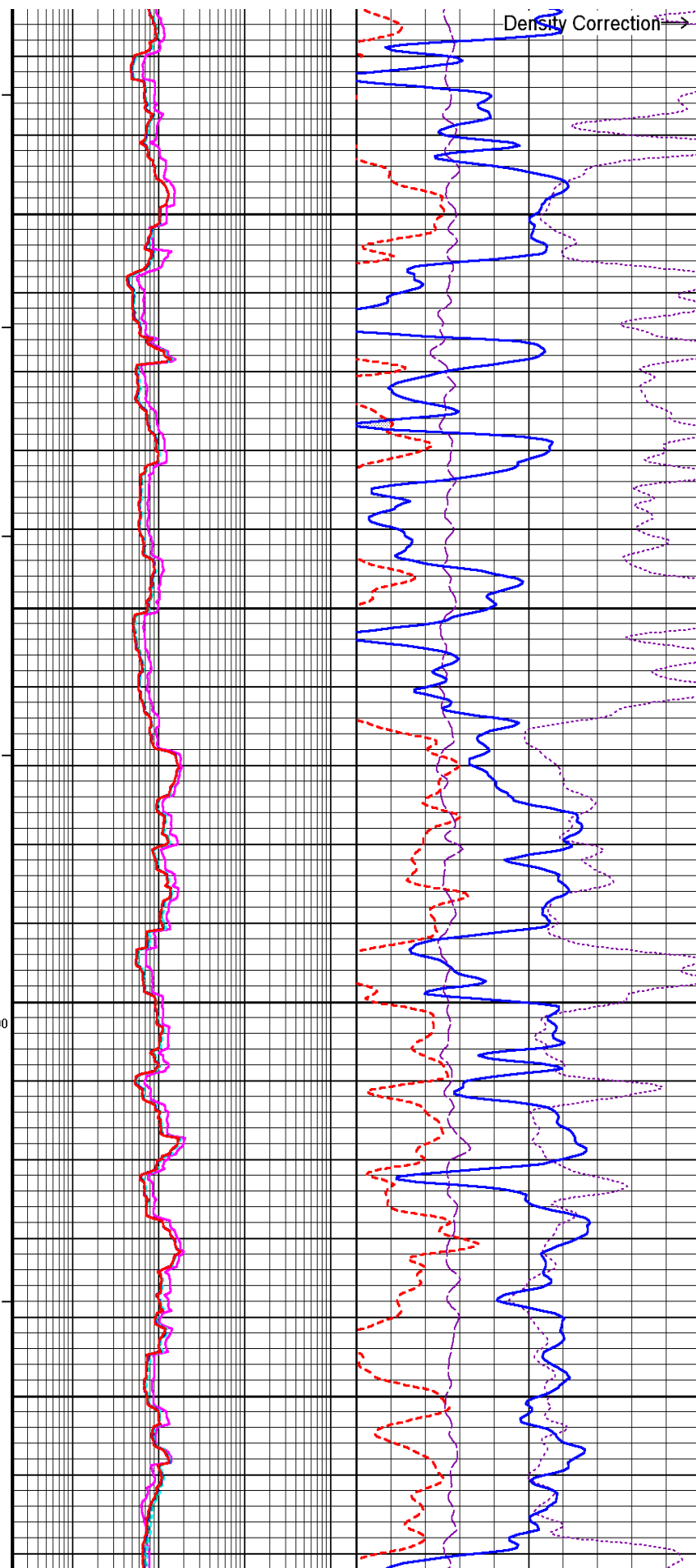
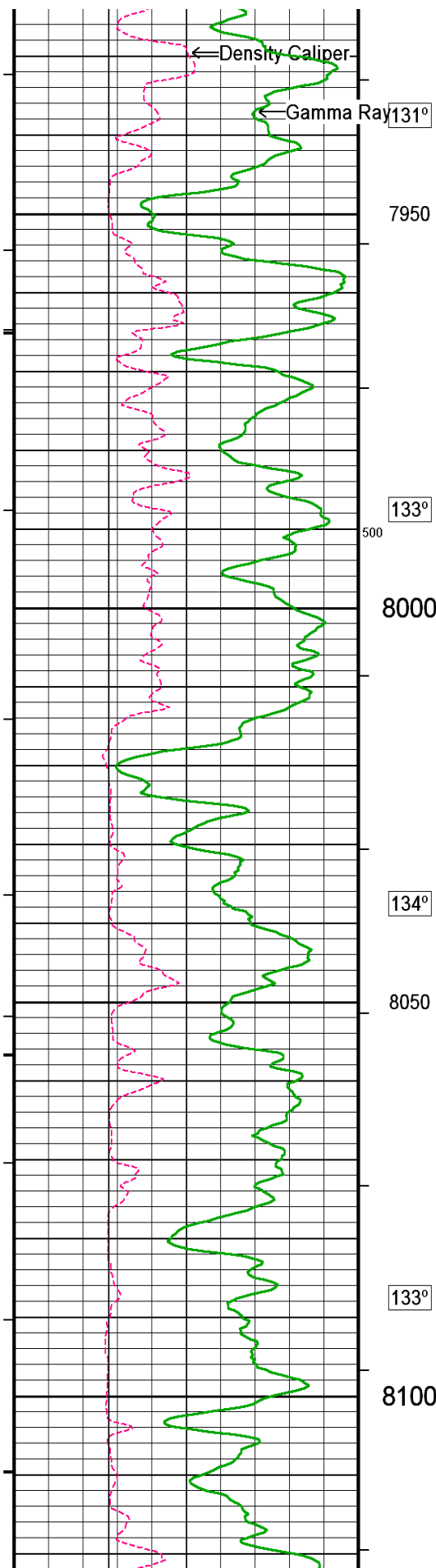


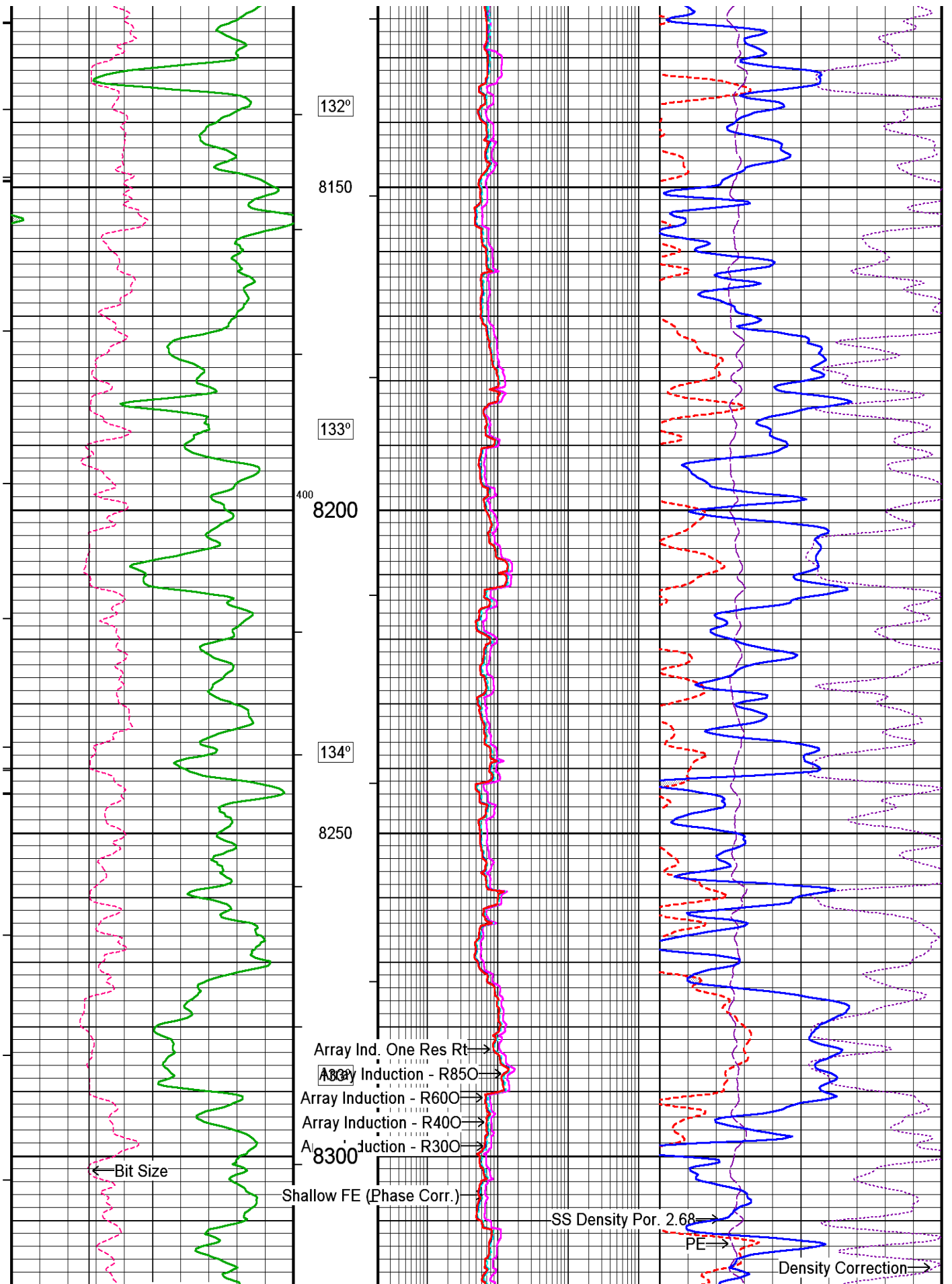


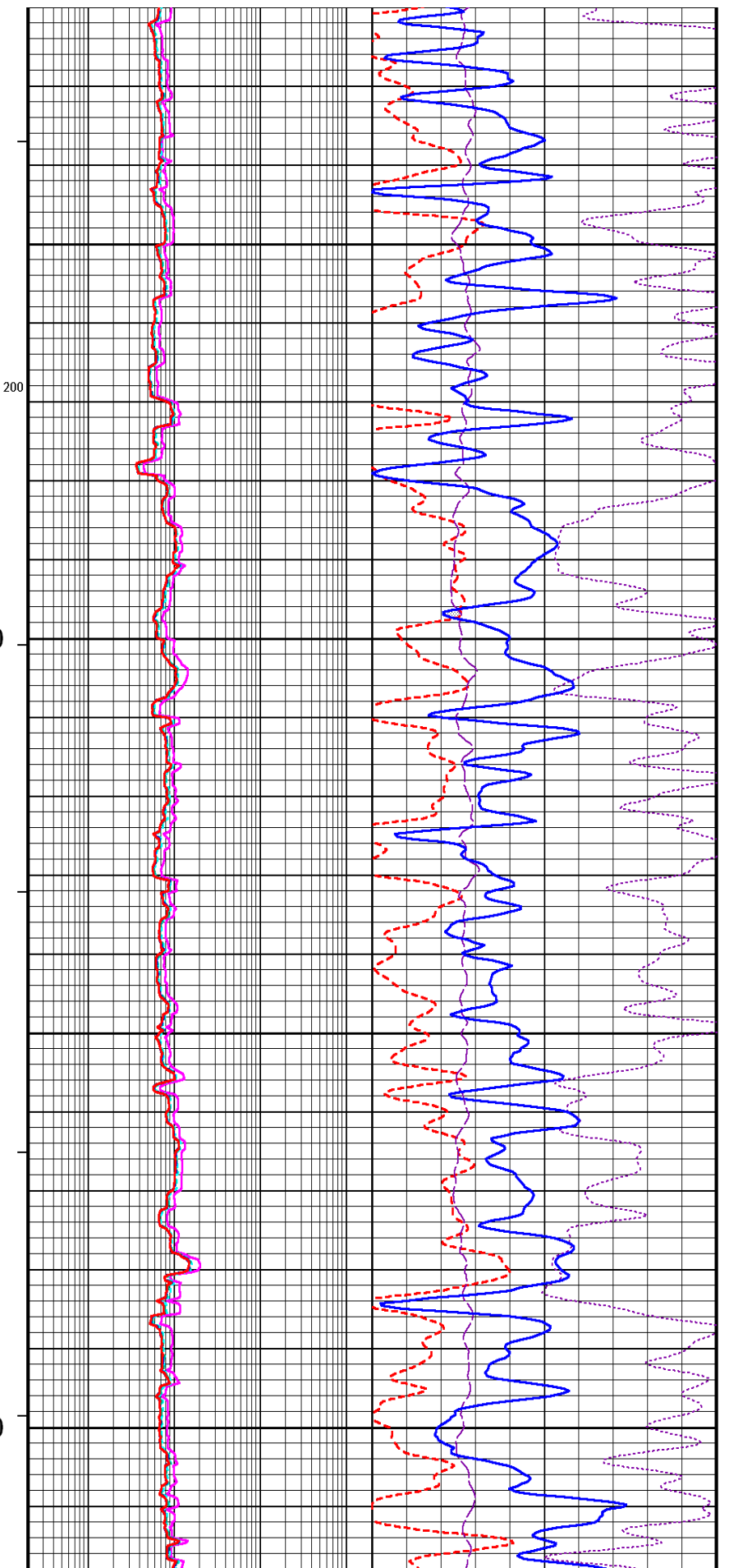
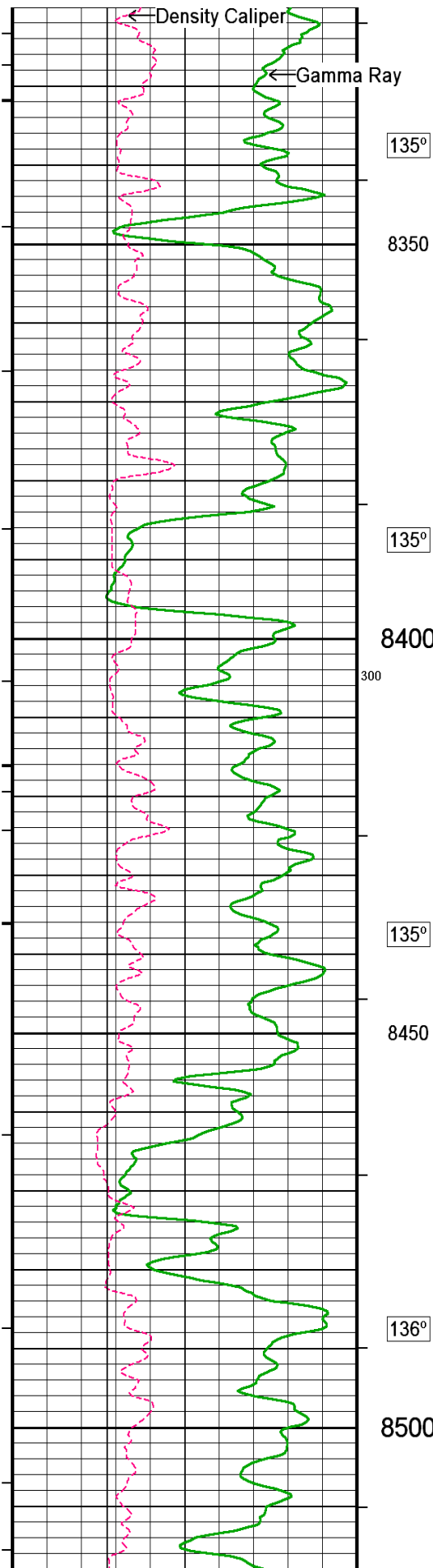


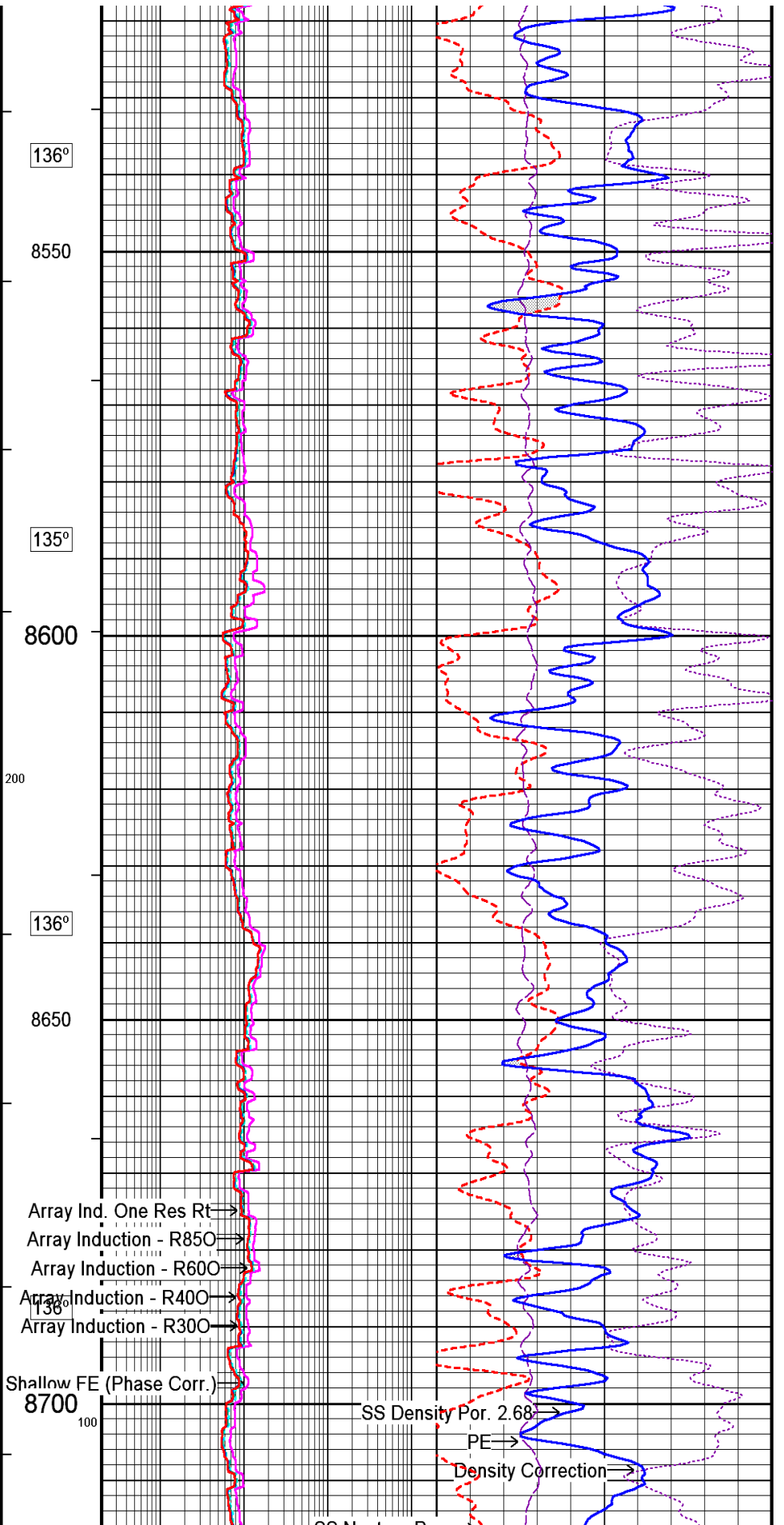
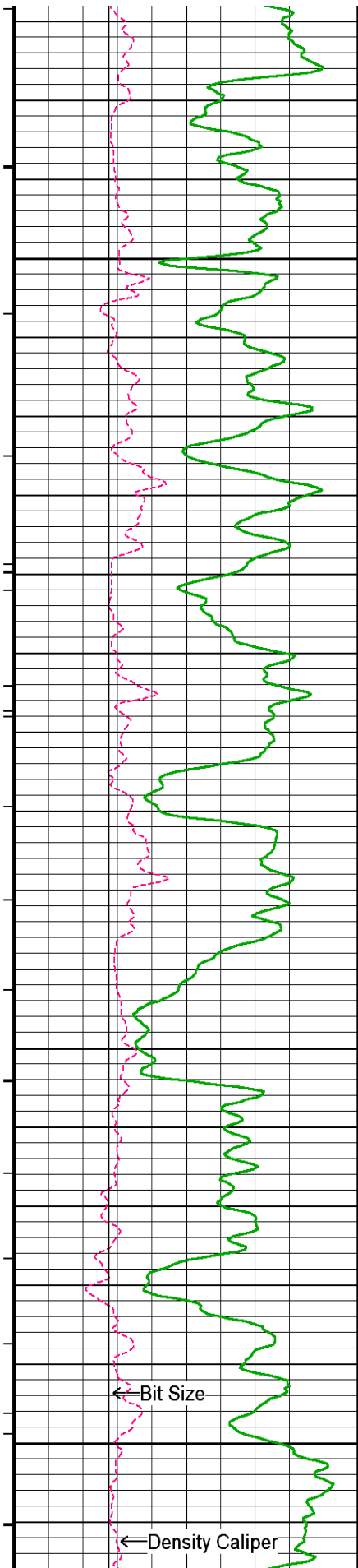


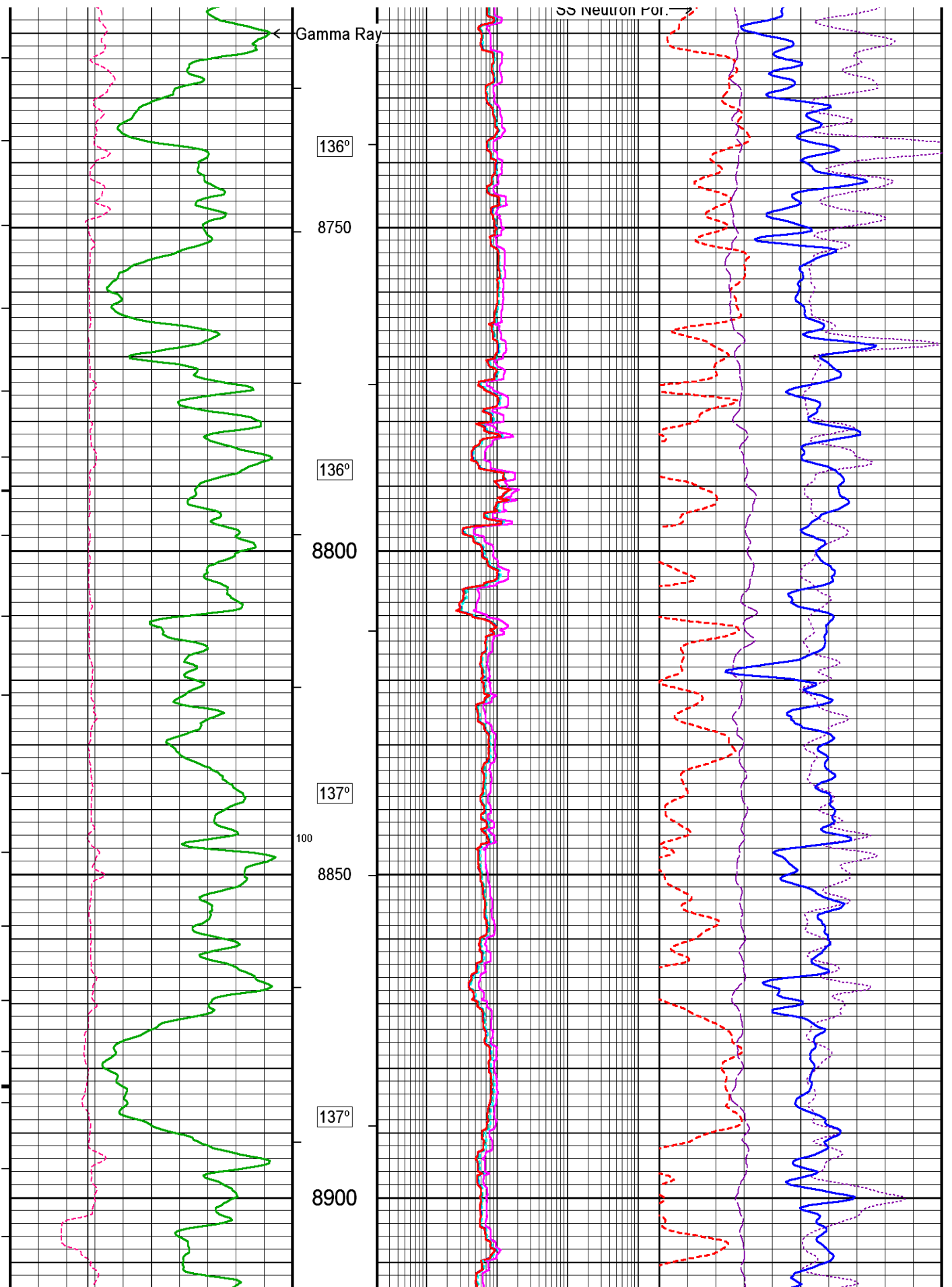


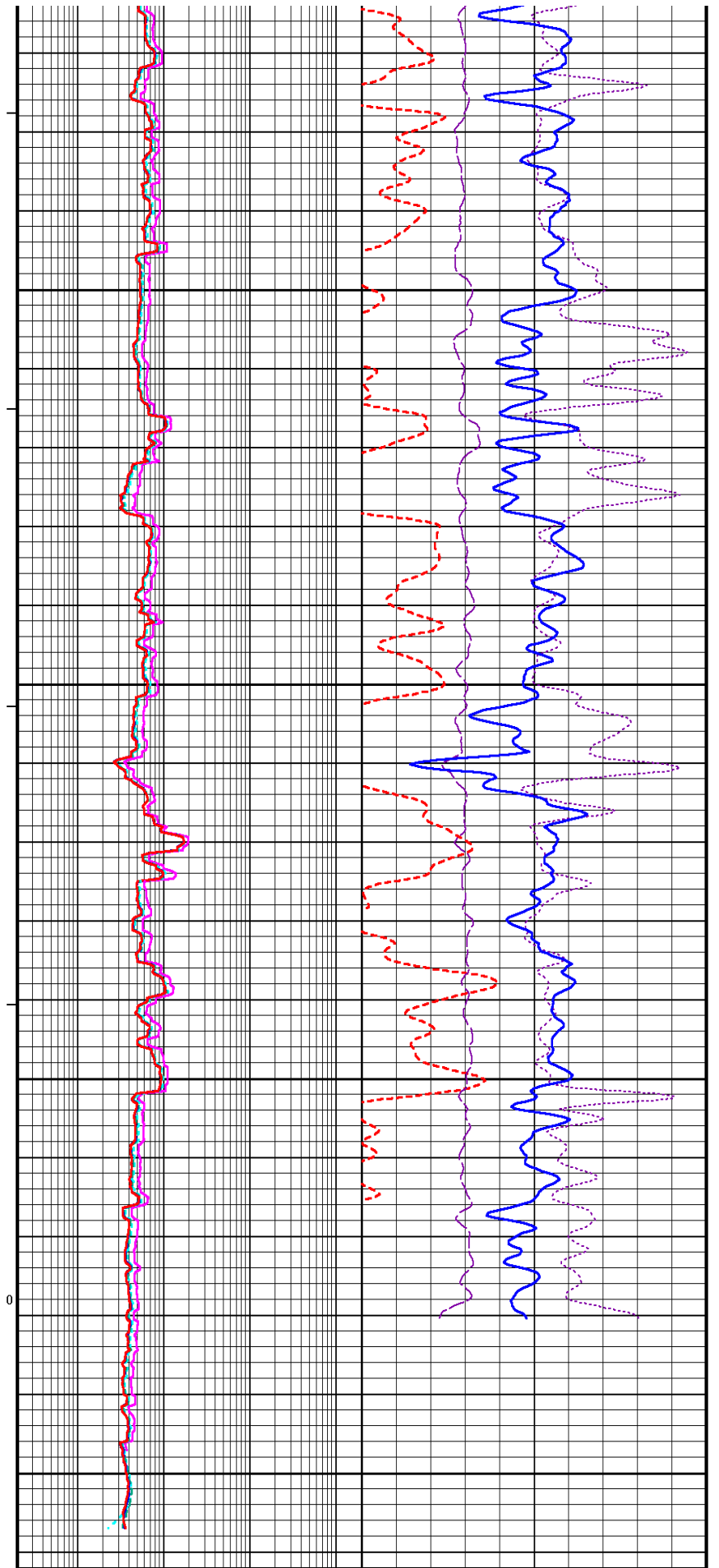
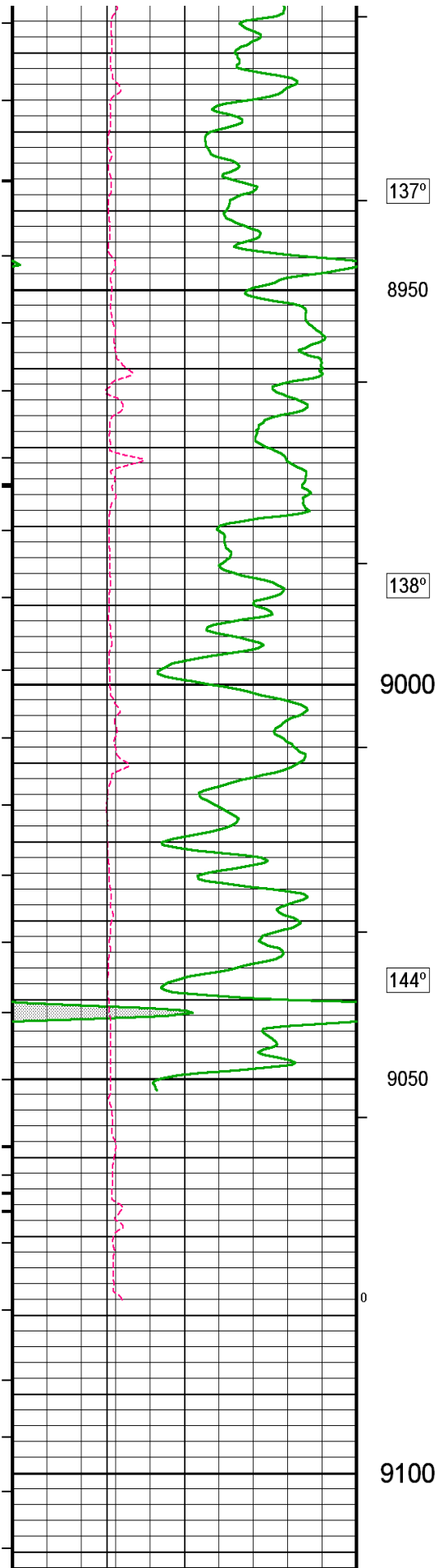


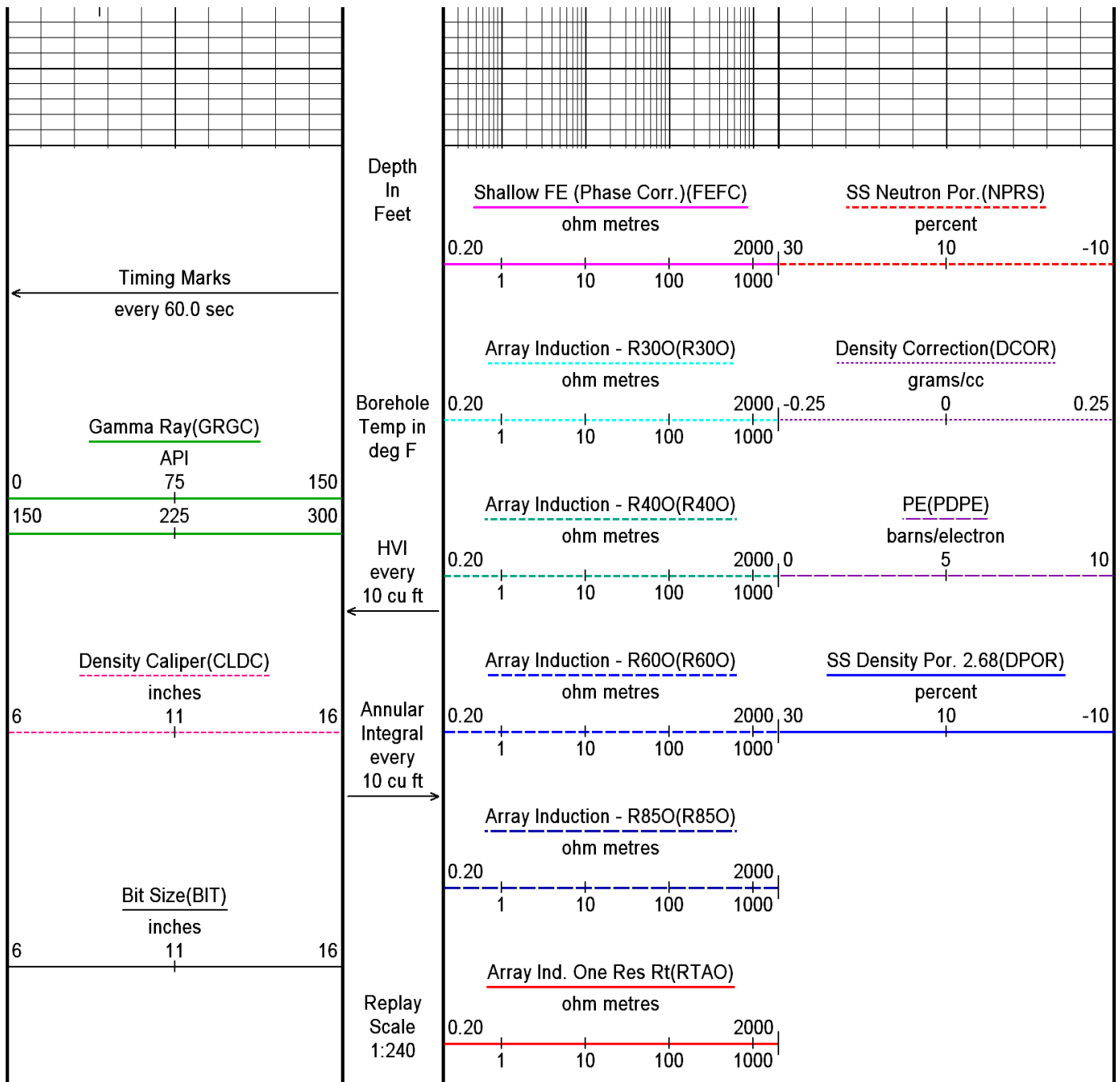












Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 28-FEB-2012 23:03

Filename: C:\LOGS\Encana\2) Feb 2012\SGWD08A-19 C-19 495_Depth RtAP2.dta

System Versions: Processed with 12.02.4401 Plotted with 12.02.4401

↑ 5 INCH MAIN LOG ↑

BEFORE SURVEY CALIBRATION

C:\LOGS\Encana\2) Feb 2012\SGWD08A-19 C-19 495\setup.dta

General Constants All 000

Last Edited on 27-FEB-2012 22:04

General Parameters

Mud Resistivity	1.770	ohm-metres
Mud Resistivity Temperature	99.400	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	5.500	inches	
Caliper for Differential Caliper	Density Caliper		
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 0			
			Field Calibration on 15-FEB-2012 11:46
Reading No	Measured	Calibrated (lbs)	
1	31151.22	0.00	
2	31266.91	370.00	
Gamma Calibration MCG-D.A 287			
			Field Calibration on 27-FEB-2012 21:50
	Measured	Calibrated (API)	
Background	171	114	
Calibrator (Gross)	1106	740	
Calibrator (Net)	936	626	
Gamma Constants MCG-D.A 287			
			Last Edited on 27-FEB-2012 21:44
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	
SP Calibration MCG-D.A 287			
			Field Calibration on 16-FEB-2012 10:24
	Measured	Calibrated (mV)	
Reference 1	104.2	100.0	
Reference 2	-96.9	-100.0	
High Resolution Temperature Calibration MCG-D.A 287			
			Field Calibration on 27-FEB-2012 21:44
	Measured	Calibrated(Deg F)	
Lower	10.00	10.00	
Upper	200.00	200.00	
High Resolution Temperature Constants MCG-D.A 287			
			Last Edited on 27-FEB-2012 21:44
Pre-filter Length	11		
Neutron Calibration MDN-B.A 297			
			Base Calibration on 19-FEB-2012 20:43
			Field Check on 27-FEB-2012 21:43
Base Calibration			
	Measured		Calibrated (cps)
	Near	Far	Near Far
	2940	91	3714 110
Ratio	32.296		33.764
Field Calibrator at Base			
			Calibrated (cps)
			2298 3343
Ratio			0.687
Field Check			
			Calibrated (cps)
			1625 2329
Ratio			0.698
Neutron Constants MDN-B.A 297			
			Last Edited on 27-FEB-2012 21:39

Neutron Source Id	P44384B	
Neutron Jig Number	6584	
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	
Salinity Correction	Not Applied	

FE Calibration MFE-B.J 313

 Base Calibration on 16-FEB-2012 10:47
 Field Check on 27-FEB-2012 21:31

	Measured	Calibrated (ohm-m)
Reference 1	10.0	1.3
Reference 2	967.2	126.8
Base Check		281.1
Field Check		281.3

FE Constants MFE-B.J 313

Last Edited on 27-FEB-2012 21:30

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-A.A 106

Field Calibration on 27-FEB-2012 21:27

	Measured	Calibrated(Deg F)
Lower	10.00	10.00
Upper	200.00	200.00

High Resolution Temperature Constants MAI-A.A 106

Last Edited on 27-FEB-2012 21:27

Pre-filter Length	11
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Induction Calibration MAI-A.A 106

 Base Calibration on 16-FEB-2012 10:25
 Field Check on 27-FEB-2012 21:30

Base Calibration		Measured		Calibrated (mmho/m)	
Test Loop Calibration					
Channel	Low	High	Low	High	
1	16.5	486.3	9.3	966.2	
2	5.8	391.9	7.6	821.4	
3	3.0	262.9	5.2	566.0	
4	1.4	138.3	2.6	279.2	
Array Temperature		74.6		Deg F	
Channel	Base Check (mmho/m)		Field Check (mmho/m)		
	Low	High	Low	High	
4	0.0	0.0	11.0	2744.7	

1	0.0	0.0	11.9	3744.1
2	0.0	0.0	29.9	3453.1
3	0.0	0.0	29.1	3020.8
4	0.0	0.0	19.9	2001.8
Deep	0.0	0.0	18.2	1961.1
Medium	0.0	0.0	42.5	4024.1
Shallow	0.0	0.0	44.0	5105.5
Array Temperature		0.0	30.7	Deg F

Induction Constants MAI-A.A 106

Last Edited on 27-FEB-2012 22:04

Induction Model		VECTAR	
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		0.0000	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-C.A 281

Base Calibration on 16-FEB-2012 13:51

Field Calibration on 27-FEB-2012 21:38

Base Calibration		
Reading No	Measured	Calibrator Size (in)
1	17022	4.00
2	25282	5.96
3	33743	7.98
4	41872	9.86
5	50736	11.88
6	N/A	N/A
Field Calibration		
	Measured Caliper (in)	Actual Caliper (in)
	7.90	7.98

Photo Density Calibration MPD-C.A 281

Base Calibration on 16-FEB-2012 13:40

Field Check on 27-FEB-2012 21:36

Density Calibration

Base Calibration

	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	47091	16676	53237	19445
Reference 2	21978	2537	25135	2545

Field Check at Base

1115.0 1334.3

Field Check

1119.5 1350.6

PE Calibration

Base Calibration

		Measured		Calibrated
	WS	WH	Ratio	Ratio
Background	200	985		
Reference 1	16112	46910	0.346	0.320
Reference 2	6098	21834	0.283	0.274

Field Check at Base

200.3 984.7

Field Check

201.3 987.0

Density Constants MPD-C.A 281

Last Edited on 27-FEB-2012 21:31

Density Source Id 271
 Nylon Calibrator Number 532
 Aluminium Calibrator Number 532
 Density Shoe Profile 4 inch
 Caliper Source for Processing Density Caliper
 PE Correction to Density Not Applied
 Mud Density 1.25 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	0.00

DOWNHOLE EQUIPMENT

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Drop-off Running Tool

DRT-B.A 104 LG: 9.42 ft WT: 66.1 lb OD: 2.60 in

MBS-D.A 400v Compact Battery Sub

MBS-D.A 143 LG: 14.24 ft WT: 105.8 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 Memory Sub D.A

MMS-D.A 106 LG: 3.12 ft WT: 30.9 lb OD: 2.24 in

SKJ-D.A Compact Knuckle Joint

SKJ-D.A 143 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

SHA-J.A Compact Swivel Head Adaptor

SHA-J.A 214 LG: 2.30 ft WT: 22.0 lb OD: 2.24 in

MIS-D.A Compact Inline Bowspring sub

MIS-D.A 292 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

Compact Neutron

MDN-B.A 297 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

Compact Density/Caliper

MPD-C.A 281 LG: 9.59 ft WT: 90.4 lb OD: 2.24 in

MIS-D.A Compact Inline Bowspring sub

MIS-D.A 657 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

SHA-J.A Compact Swivel Head Adaptor

SHA-J.A 209 LG: 2.30 ft WT: 22.0 lb OD: 2.24 in

SKJ-E.A Compact Knuckle Joint

SKJ-E.A 203 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

MIS-E.A Compact Inline Standoff sub

MIS-E.A 364 LG: 2.14 ft WT: 15.4 lb OD: 2.24 in

Compact Focussed Electric

MFE-B.J 313 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

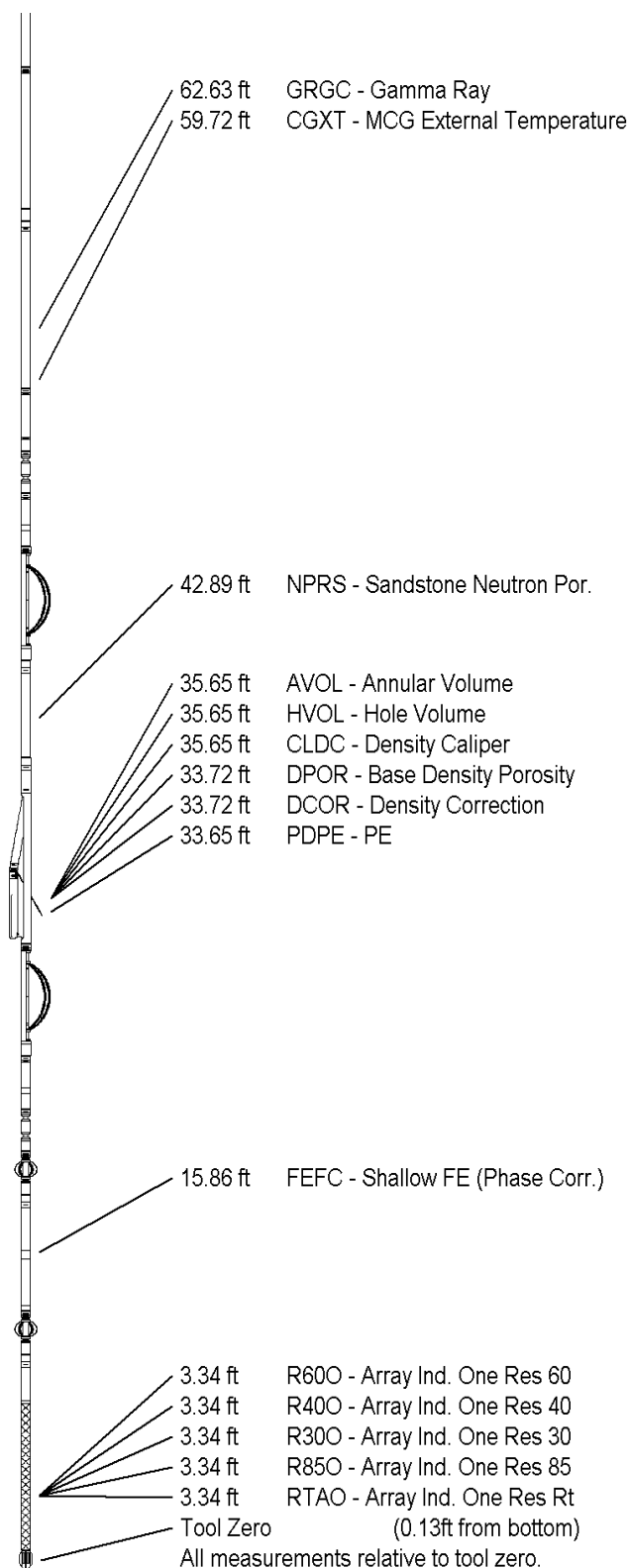
MIS-E.A Compact Inline Standoff sub

MIS-E.A 363 LG: 2.14 ft WT: 15.4 lb OD: 2.24 in

Compact Induction

MAI-A.A 106 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

Total Length: 91.57 ft Weight: 694.5 lb



COMPANY

ENCANA

WELL

SGWD08A-19 C19 495

FIELD

STORY GULCH

PROVINCE/COUNTY

GARFIELD

COUNTRY/STATE

USA / COLORADO

COUNTRY/STATE U.S.A. / COLORADO

Elevation Kelly Bushing	8152.50	feet	First Reading	9111.00	feet
Elevation Drill Floor	8152.50	feet	Depth Driller	9135.00	feet
Elevation Ground Level	8122.00	feet	Depth Logger	9135.00	feet



Weatherford®

COMPACT DROP OFF
COMPACT TRIPLE COMBO
QUICKLOOK LOG

