



**Weatherford**

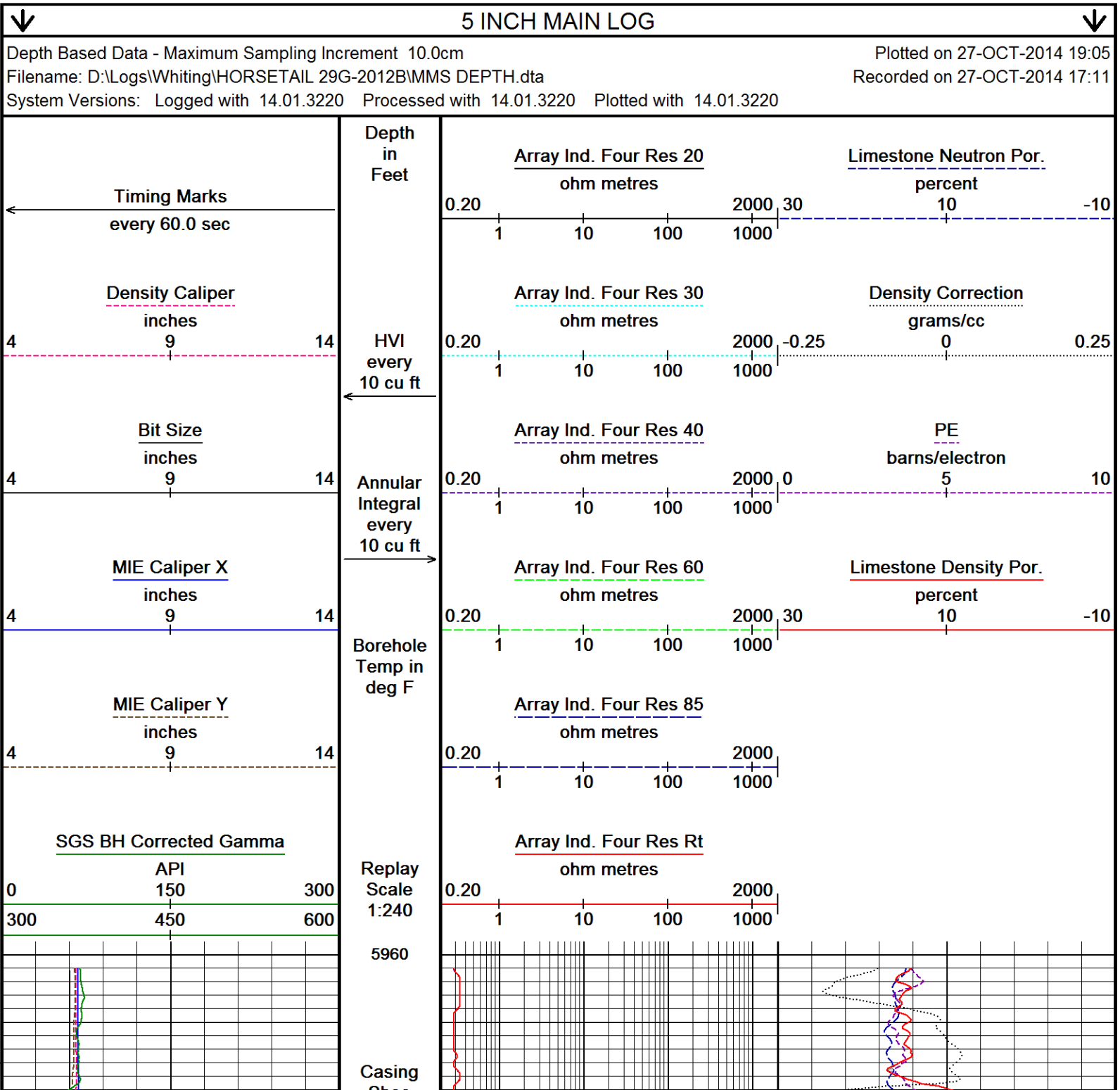
**COMPACT TRIPLE COMBO  
SPECTRAL GAMMA RAY  
QUICKLOOK LOG**

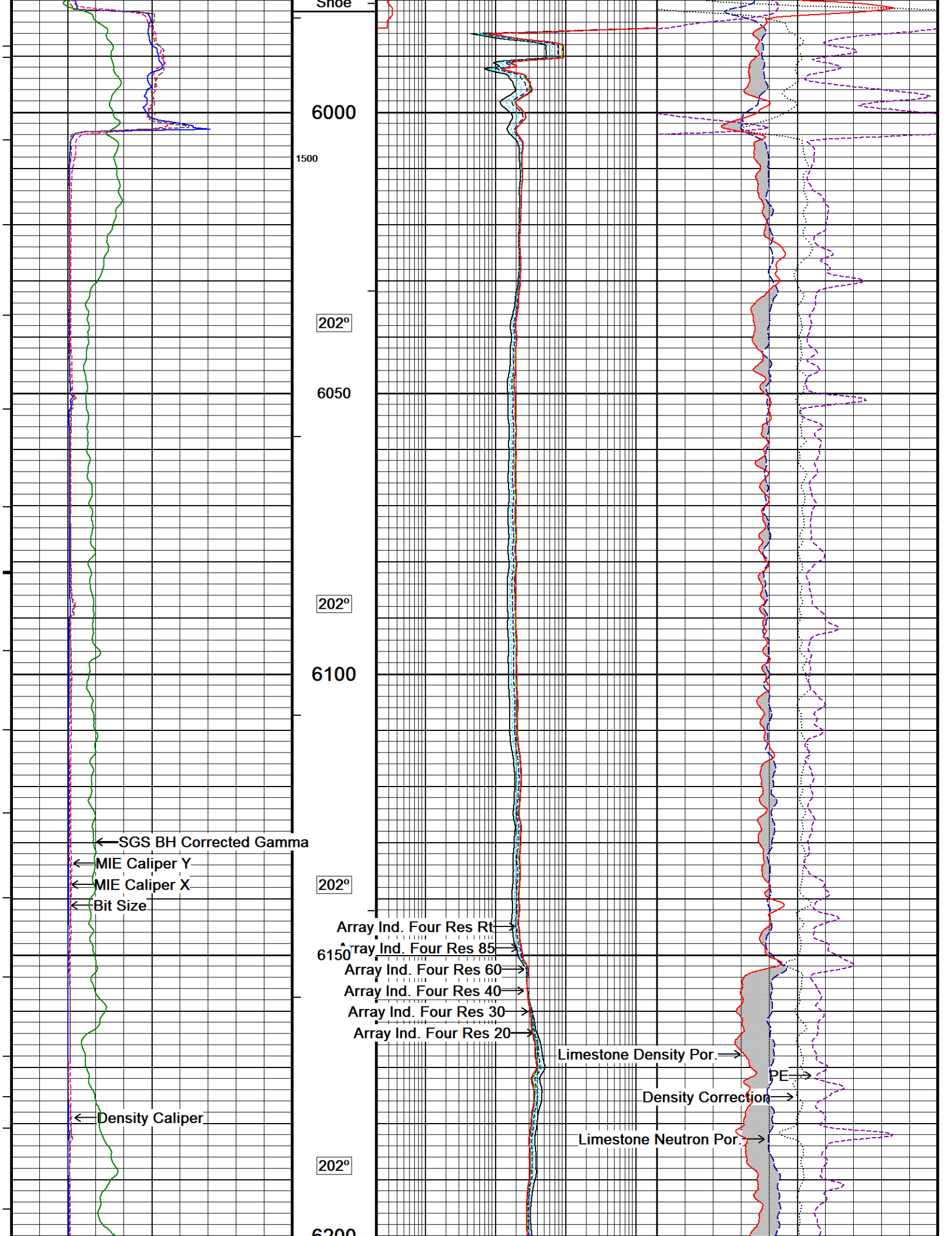
COMPANY	WHITTING OIL AND GAS CORPORATION			
WELL	HORSETAIL 29G-2012B			
FIELD	REDTAIL			
PROVINCE/COUNTY	WELD			
COUNTRY/STATE	U.S.A. / COLORADO			
LOCATION	SHL: 2328 FNL & 1888 FWL			
PERMIT NUMBER	BHL: 100 FNL & 1485 FWL			
SEC 29	TWP 10N	RGE 57W	Other Services MICRO IMAGER	
API Number	05-123-38804			
Permanent Datum G.L., Elevation 4694 feet				Elevations: KB 4712.00 DF 4712.00 GL 4694.00
Log Measured From KB				
Drilling Measured From K.B. @ 18 FEET				
Date	26-OCT-2014			
Run Number	ONE			
Service Order	6551-101540329			
Depth Driller	13700.00			feet
Depth Logger	13700.00			feet
First Reading	13676.00			feet
Last Reading	5962.00			feet
Casing Driller	5981.00			feet
Casing Logger	5982.00			feet
Bit Size	6.000			inches
Hole Fluid Type	WBM			
Density / Viscosity	10.60 lb/USg			44.00 type in
PH / Fluid Loss	8.40			5.60 ml/30Min
Sample Source	FLOWLINE			
Rm @ Measured Temp	1.88 @ 86.6			ohm-m
Rmf @ Measured Temp	1.50 @ 86.6			ohm-m
Rmc @ Measured Temp	2.26 @ 86.6			ohm-m
Source Rmf / Rmc	CALC			CALC
Rm @ BHT	0.79 @210.0			ohm-m
Time Since Circulation	1 HOUR			
Max Recorded Temp	216.00			deg F
Equipment / Base	18086			Casper
Recorded By	C CULLEN			
Witnessed By	M ODEBERG			GEOLOGIST
WSL				WSL

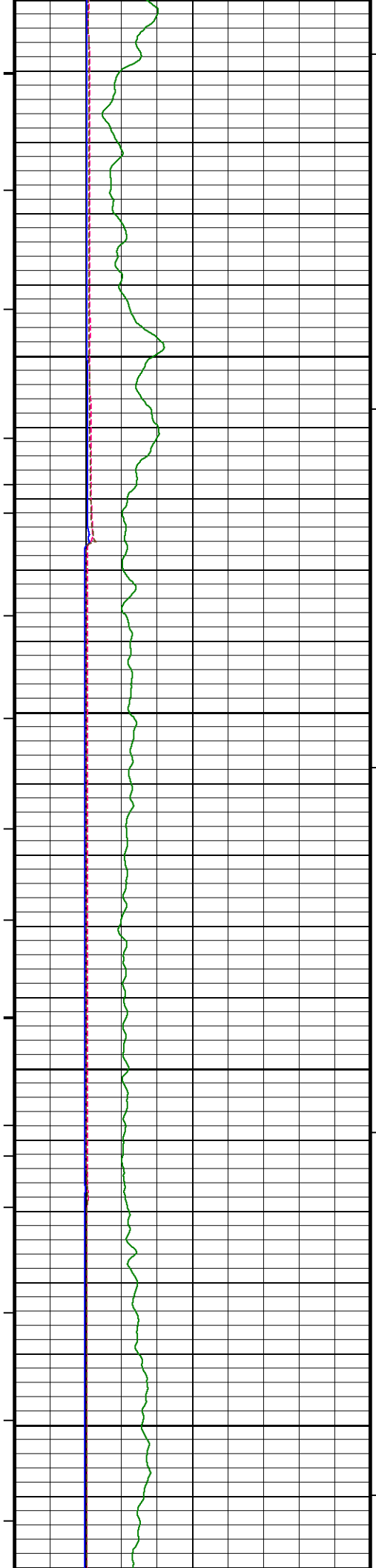
BOREHOLE RECORD					Last Edited: 26-OCT-2014 09:16
Bit Size inches		Depth From feet		Depth To feet	
6.000		5981.00		13700.00	
CASING RECORD					
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft	
SURFACE	7.000	0.00	5981.00	29.00	

REMARKS
LOGGED WITH WLS 14.01.3220
LOGGED USING MESSENGER SHUTTLE METHOD OF DEPLOYMENT
HARDWARE: MDN: MIS-A SINGLE BOWSPRING USED ABOVE MDN MPD: 4INCH PROFILE PLATE USED, MIS-A SINGLE BOWSPRING USED BELOW MPD CMI: OVER BODY BASKET AND MIS-D BASKETS PLACED ABOVE AND BELOW FOR CENTRALIZATION SGS: RAN BELOW CMI. ECCENTRALIZED WITH SKJ.
2.71 G/CC DENSITY MATRIX USED TO CALCULATE POROSITY
ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST
ANNULAR HOLE VOLUME FROM TD TO 7"-29# CASING AT 5982 FEET = 660 CUBIC FEET. TOTAL HOLE VOLUME FROM TD TO 7"-29# CASING AT 5982 FEET = 1510 CUBIC FEET.
OPERATORS: S I ANDON J GERDES

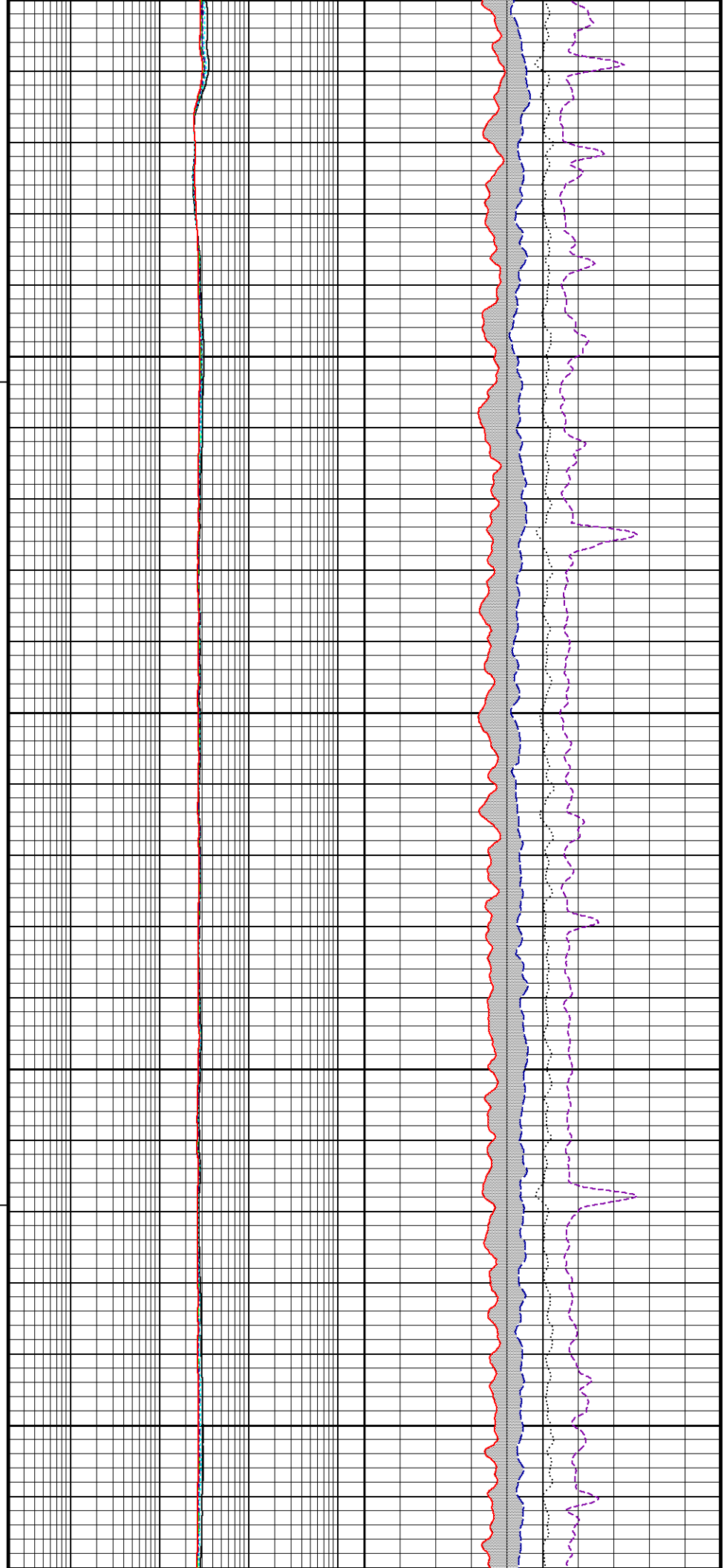
In interpreting, communicating or providing information and/or making recommendations, either written or oral, as to logs or test or other data, type or amount of material, or Work or other service to be furnished, or manner of performance, or in predicting results to be obtained, the Contractor will give the Company the benefit of the Contractor's best judgment based on its experience and will perform all such Work in a good and workmanlike manner. Any interpretation of test or other data, and any recommendation or reservoir description based upon such interpretations, are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and assumptions are not infallible, and with respect to which professional engineers and analysts may differ. ACCORDINGLY ANY INTERPRETATION OR RECOMMENDATION RESULTING FROM THE SERVICES WILL BE AT THE SOLE RISK OF THE COMPANY, AND THE CONTRACTOR CANNOT AND DOES NOT WARRANT THE ACCURACY, CORRECTNESS OR COMPLETENESS OF ANY SUCH INTERPRETATION OR RECOMMENDATION, WHICH INTERPRETATIONS AND RECOMMENDATIONS SHOULD NOT, THEREFORE, UNDER ANY CIRCUMSTANCES BE RELIED UPON AS THE SOLE OR MAIN BASIS FOR ANY DRILLING, COMPLETION, WELL TREATMENT, PRODUCTION OR FINANCIAL DECISION, OR ANY PROCEDURE INVOLVING ANY RISK TO THE SAFETY OF ANY DRILLING ACTIVITY, DRILLING RIG OR ITS CREW OR ANY OTHER INDIVIDUAL. THE COMPANY HAS FULL RESPONSIBILITY FOR ALL DECISIONS CONCERNING THE SERVICES.



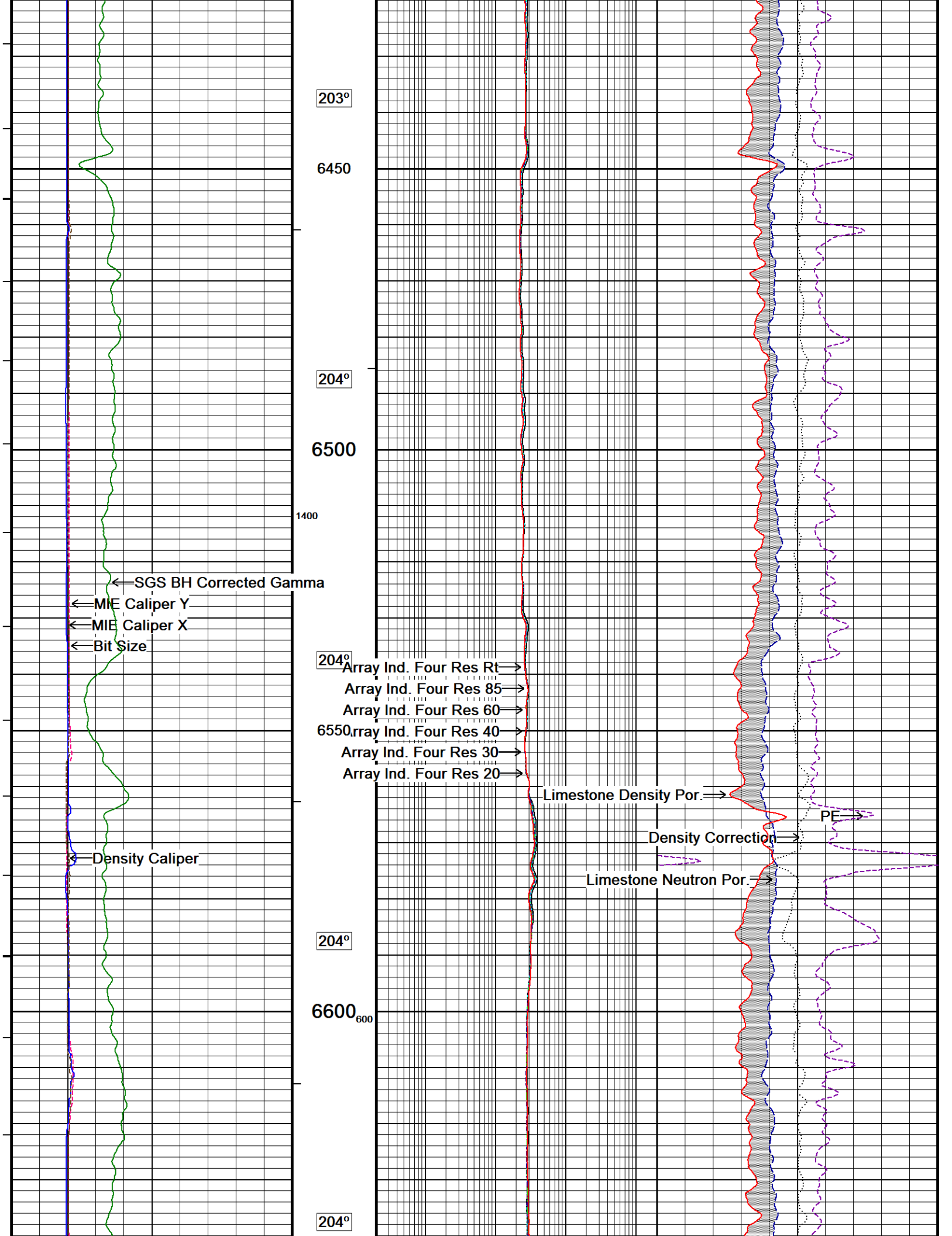


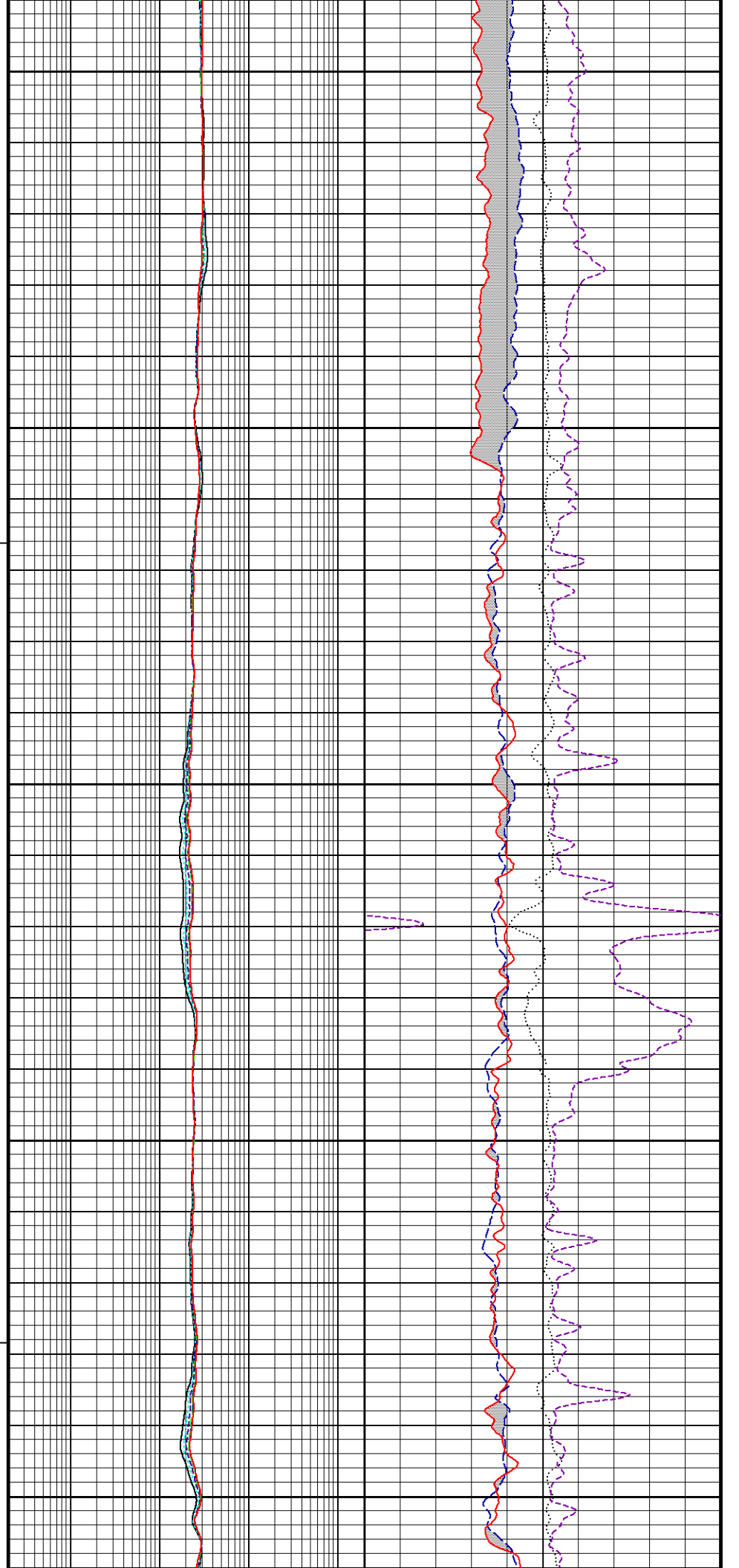
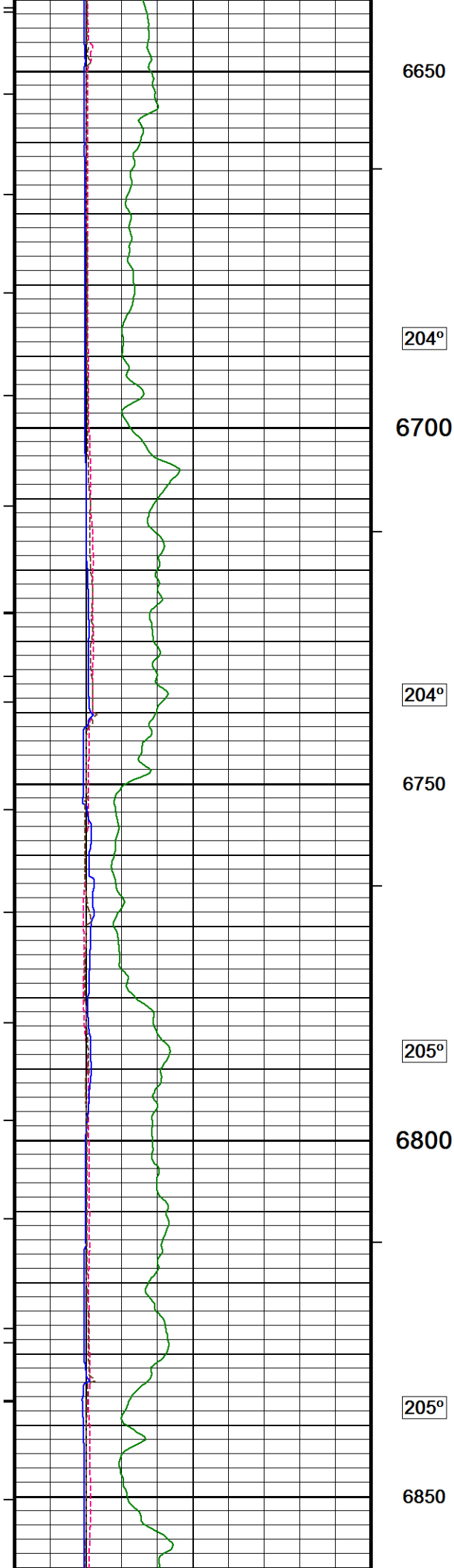


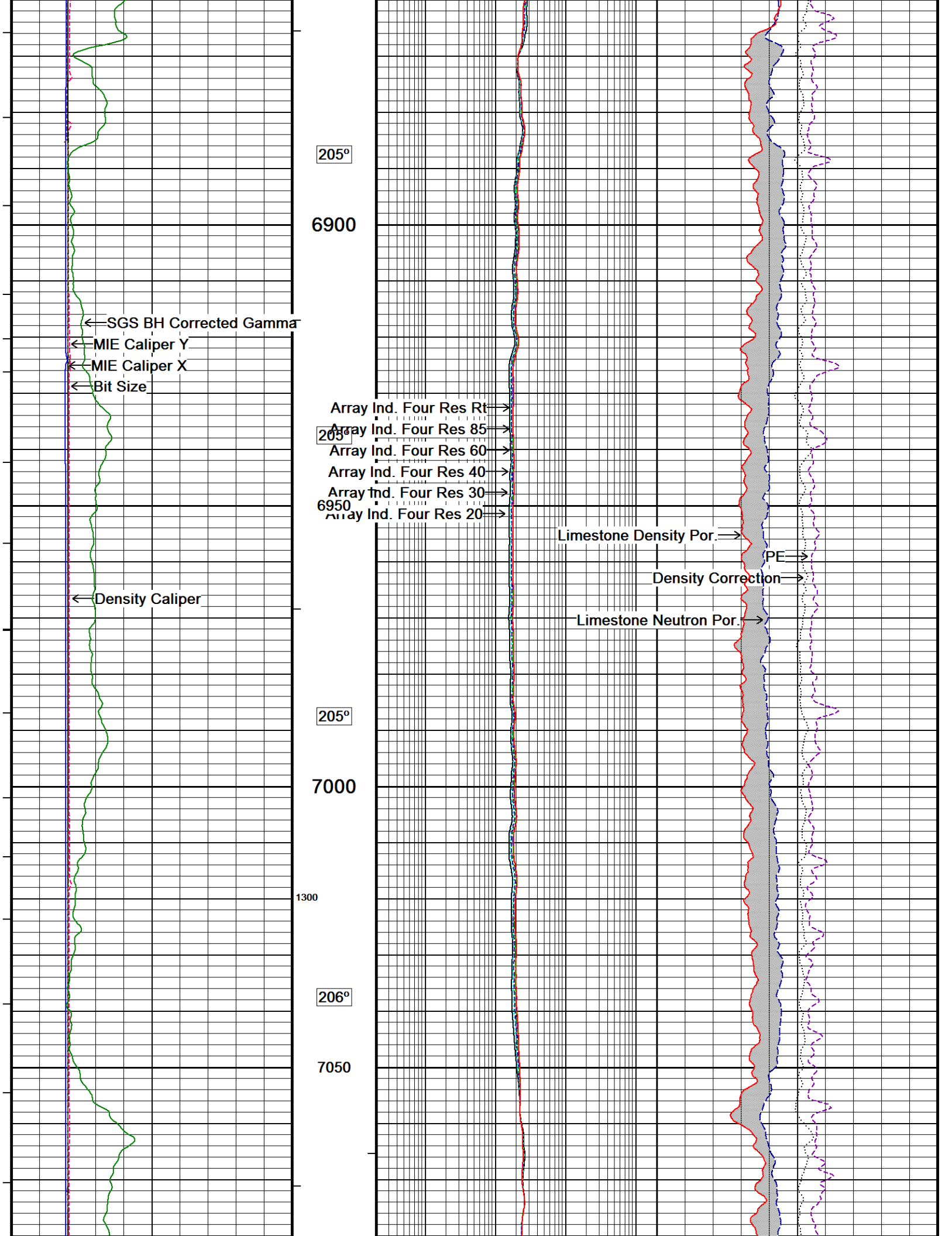
6200  
203°  
6250  
203°  
6300  
203°  
6350  
203°  
6400

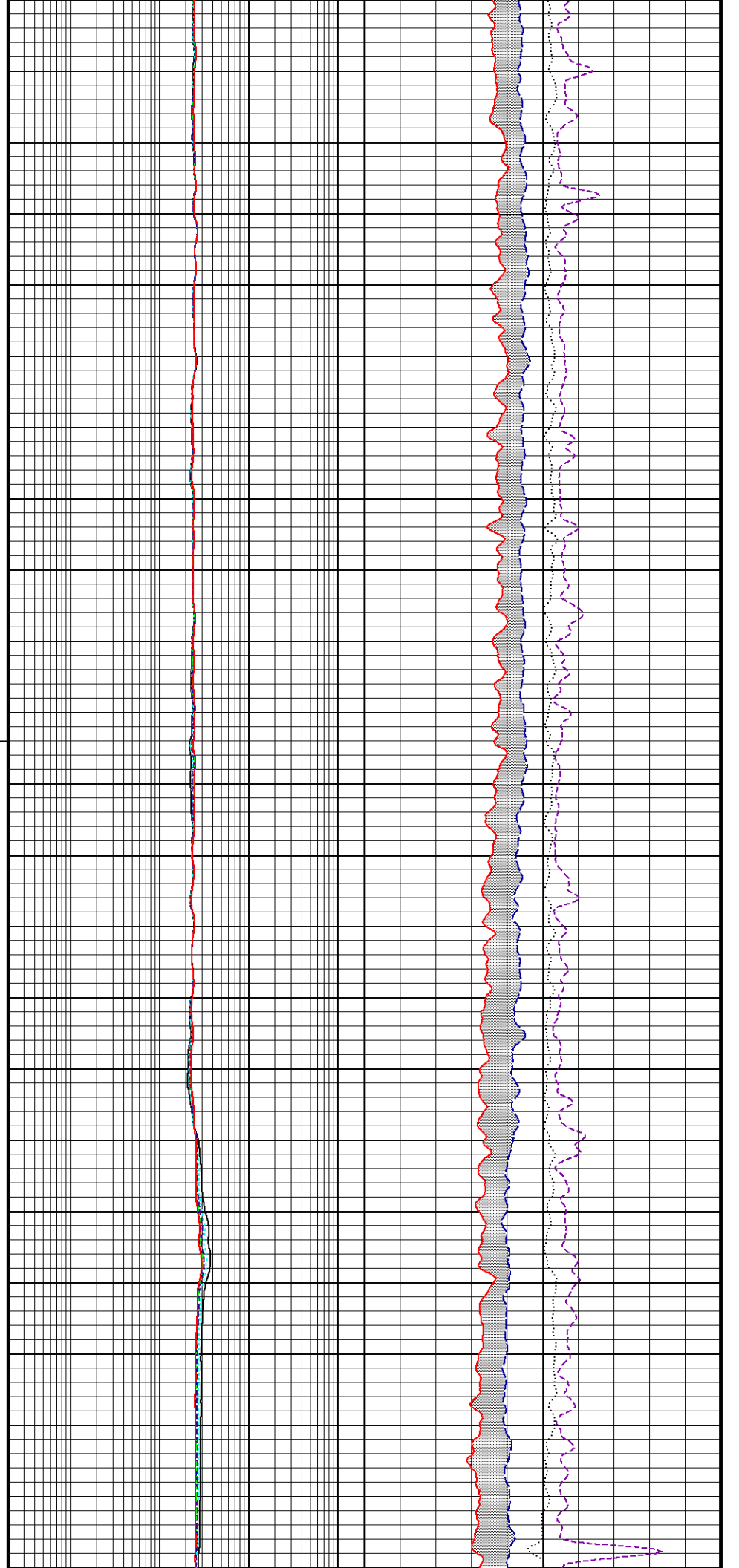
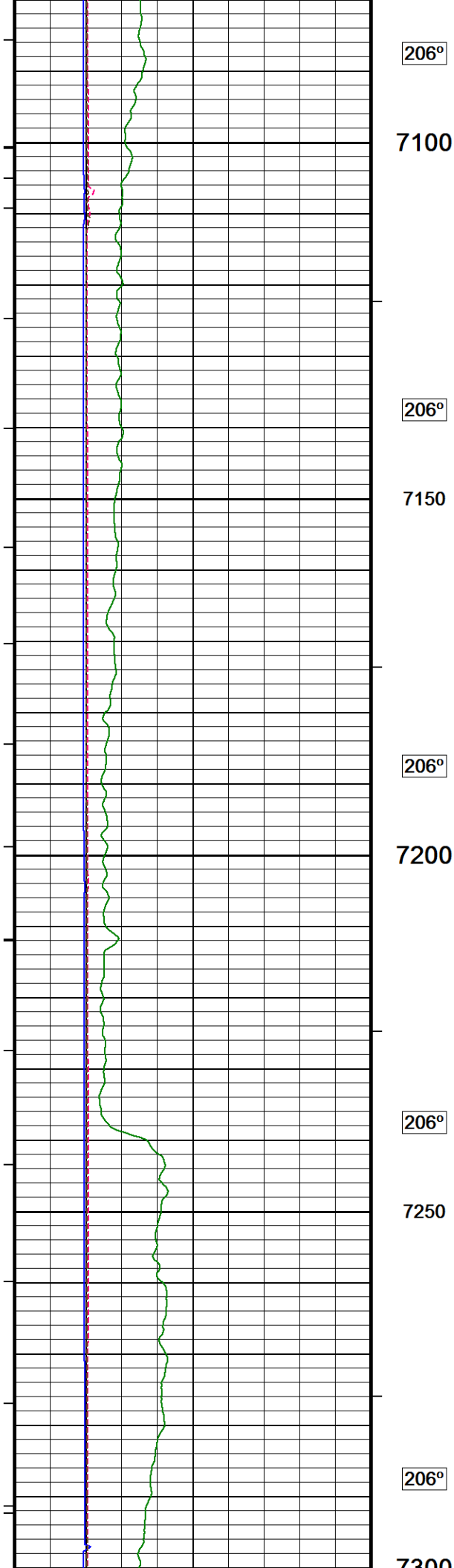


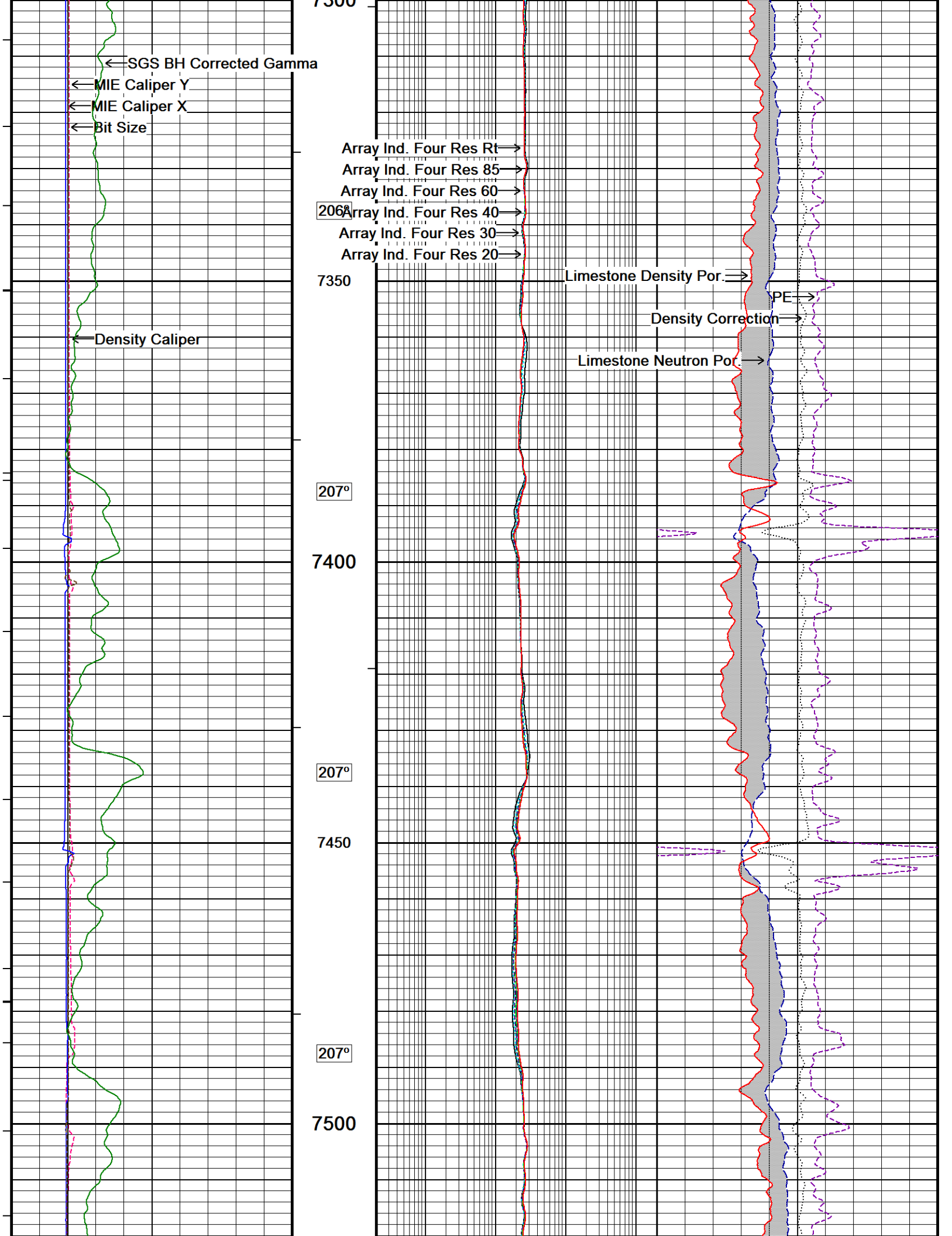




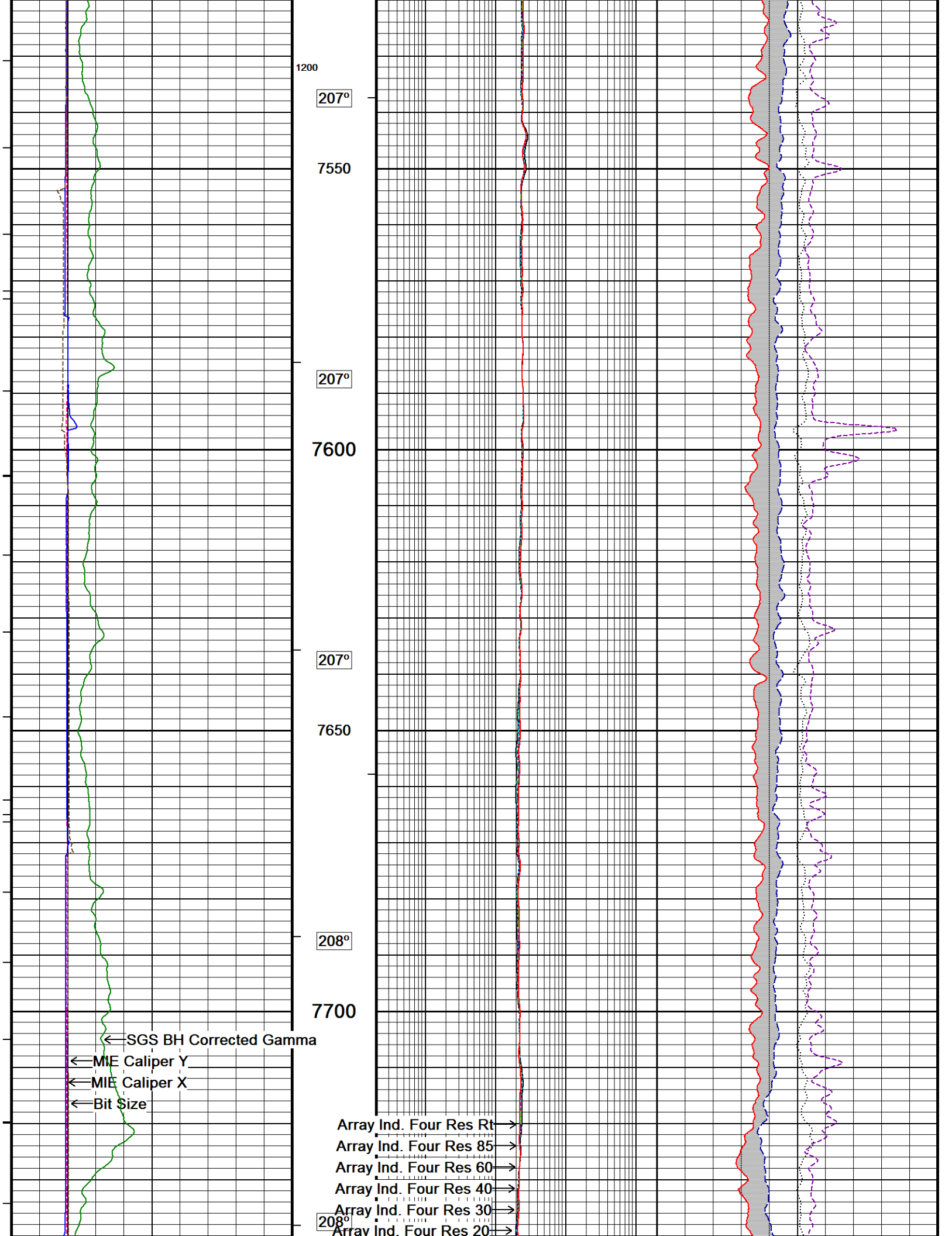


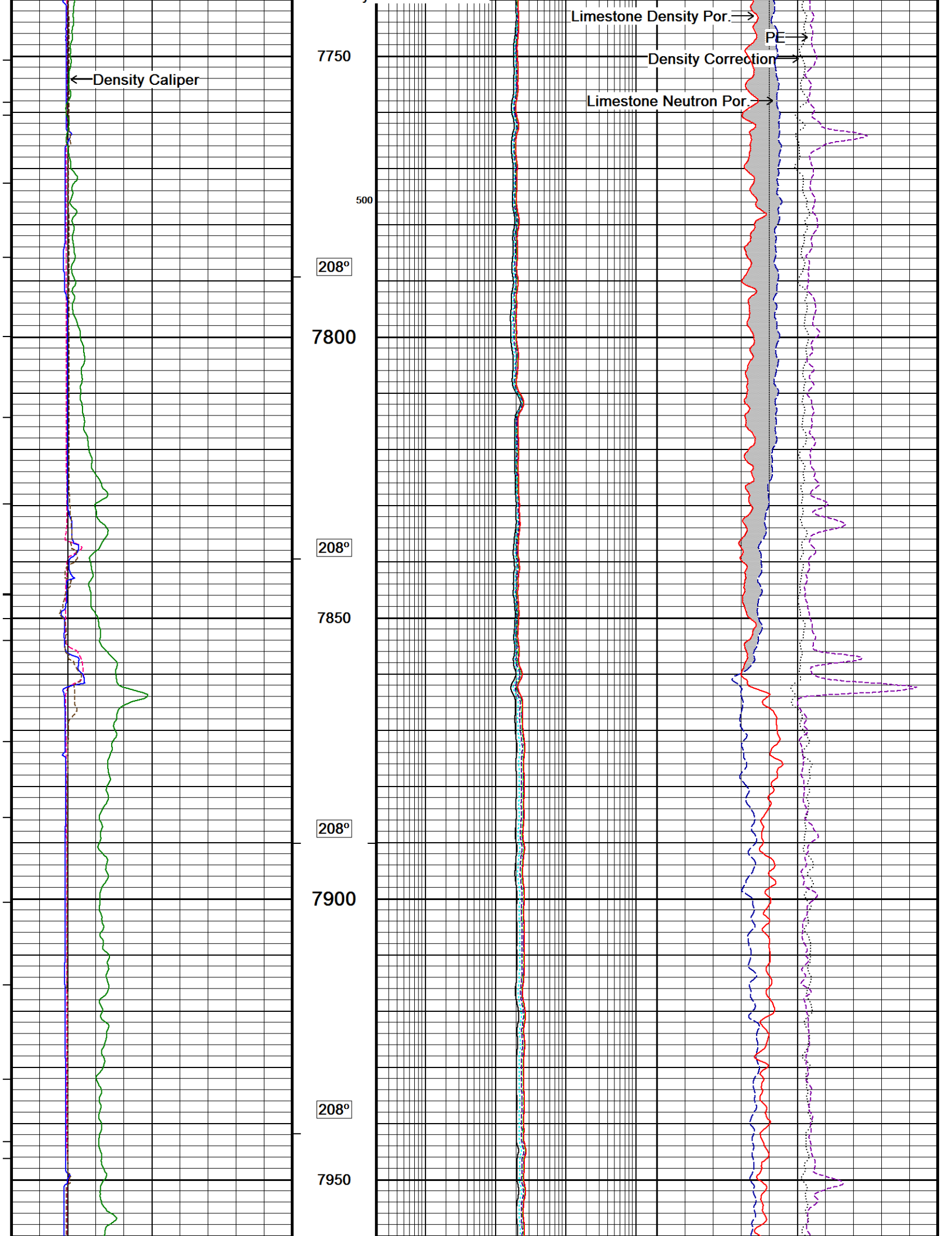


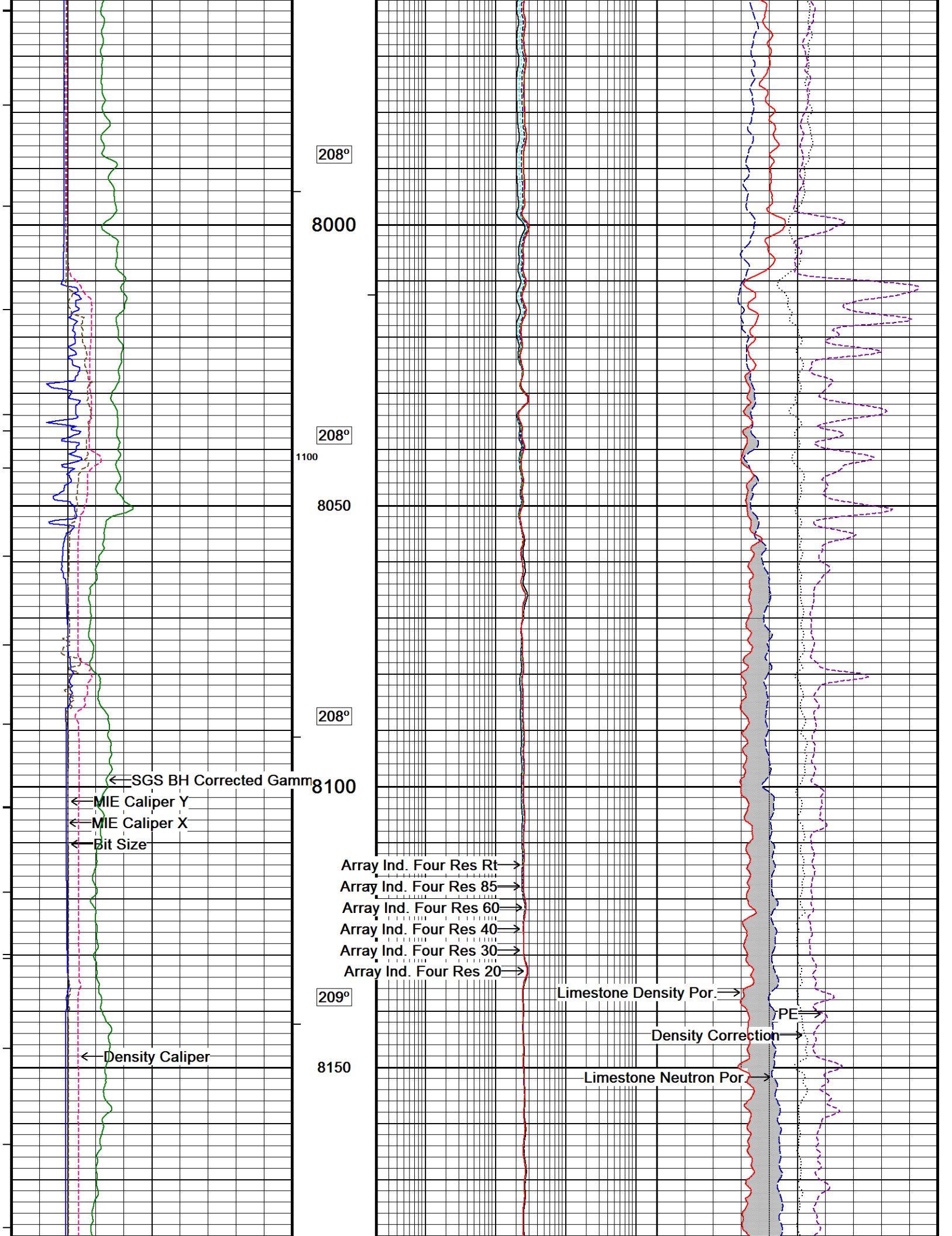


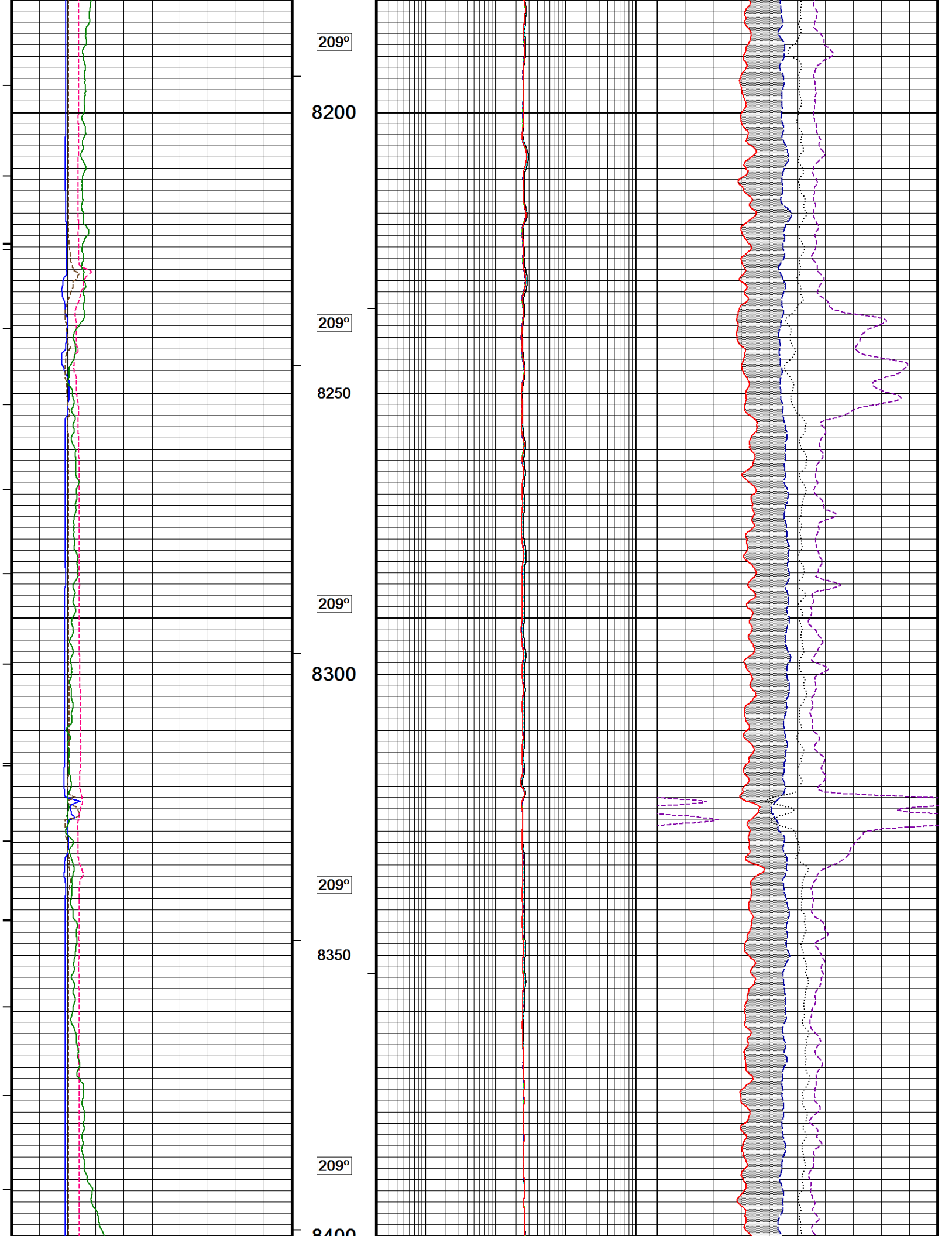


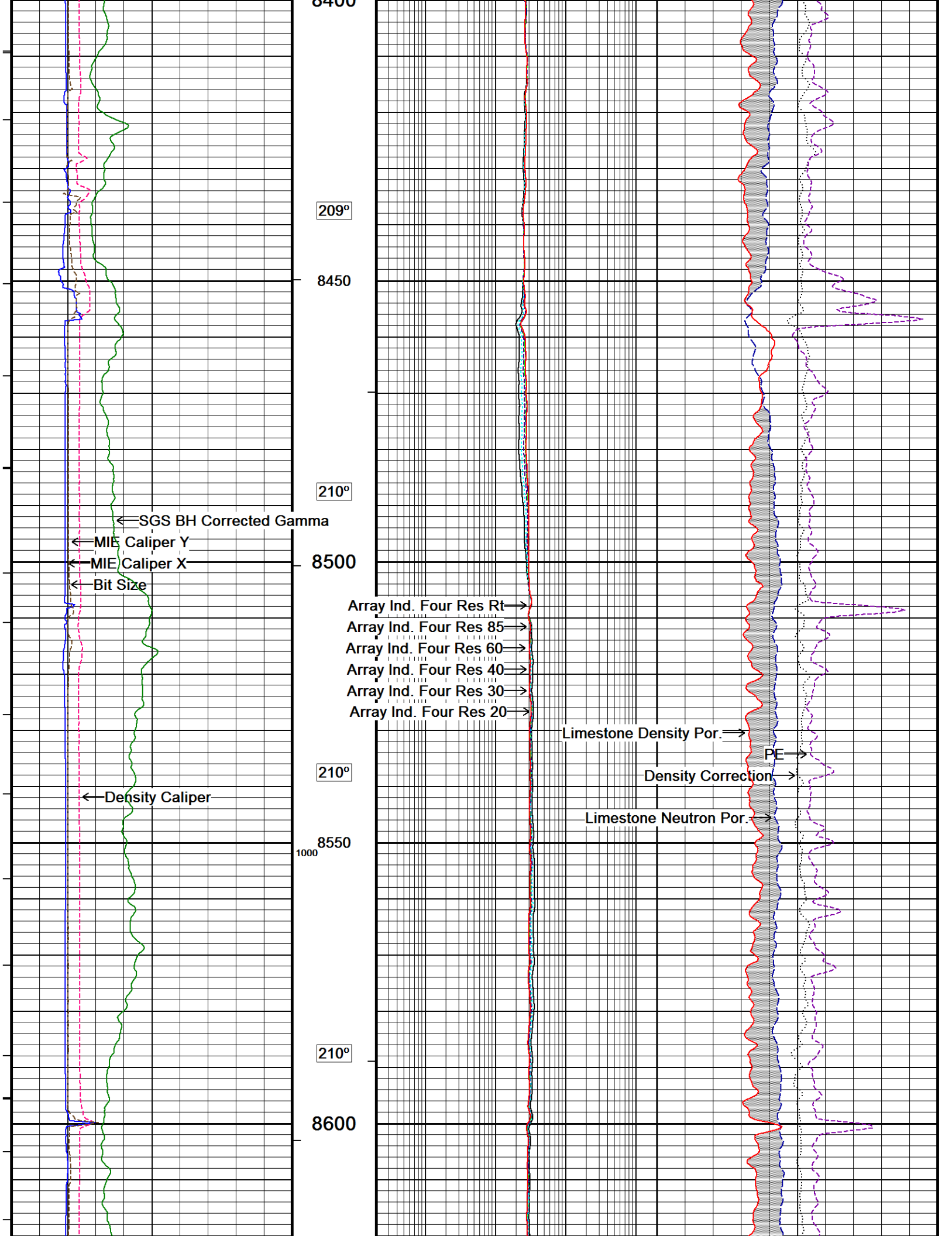




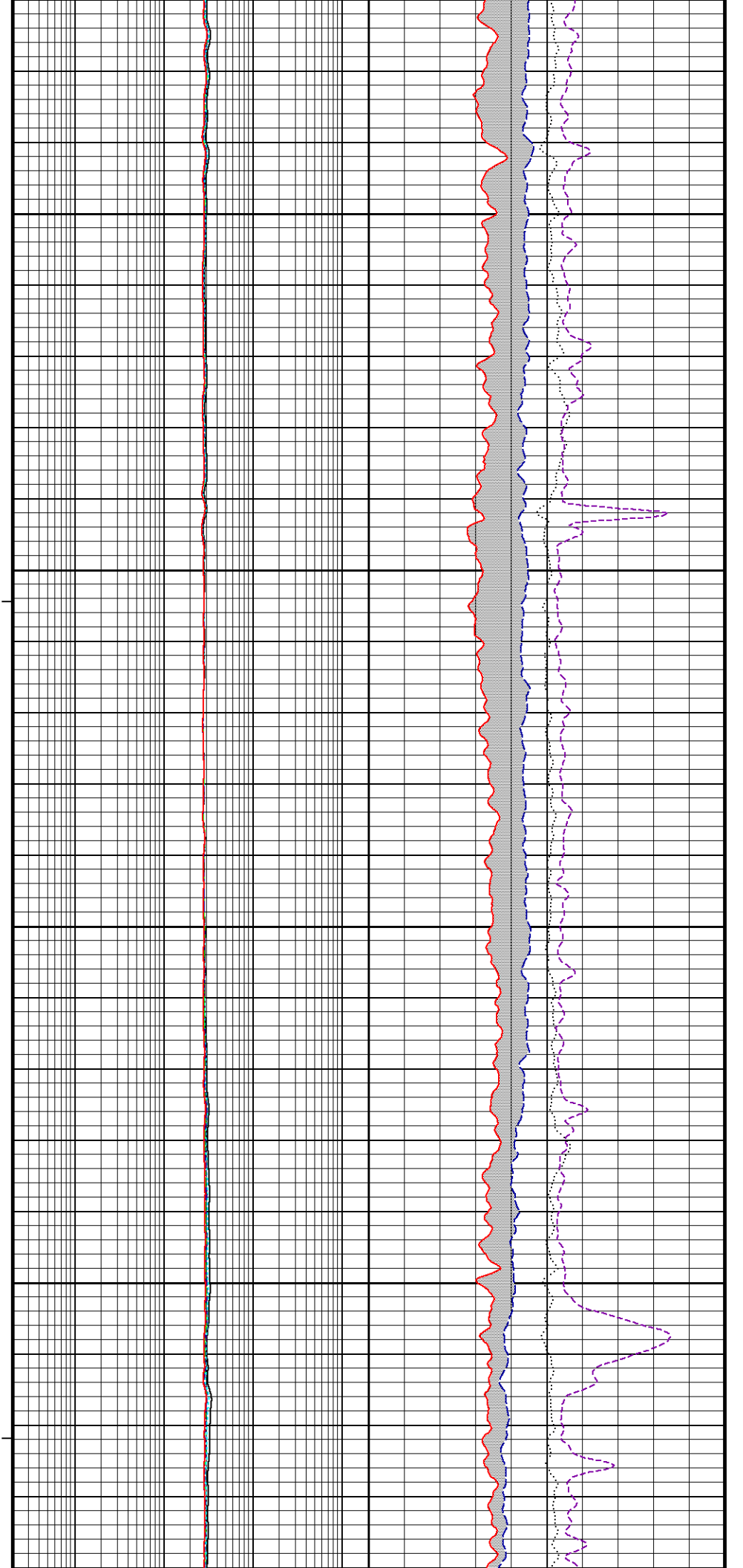
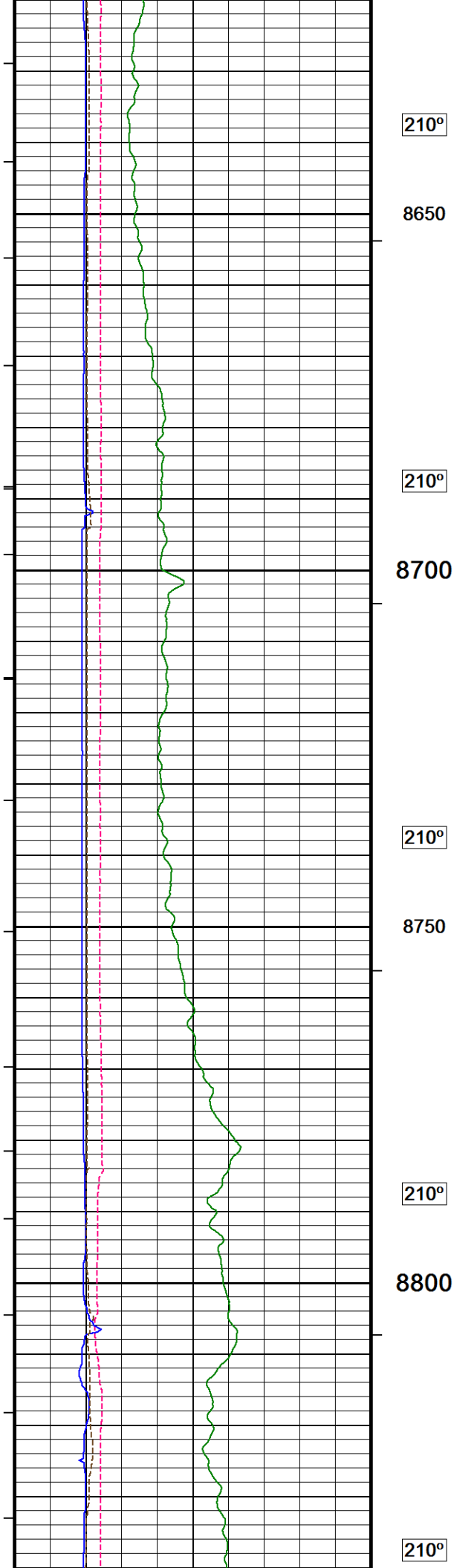


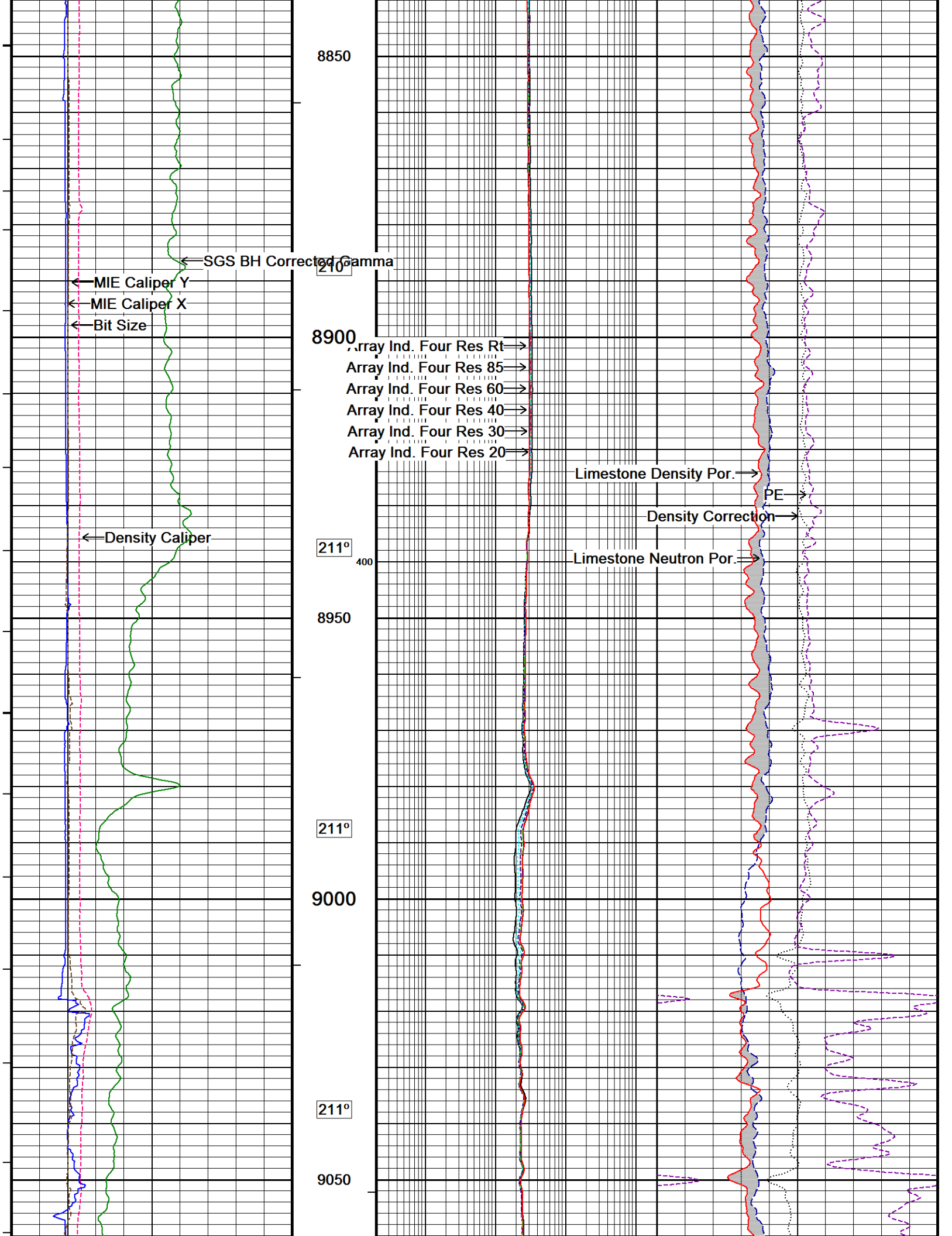


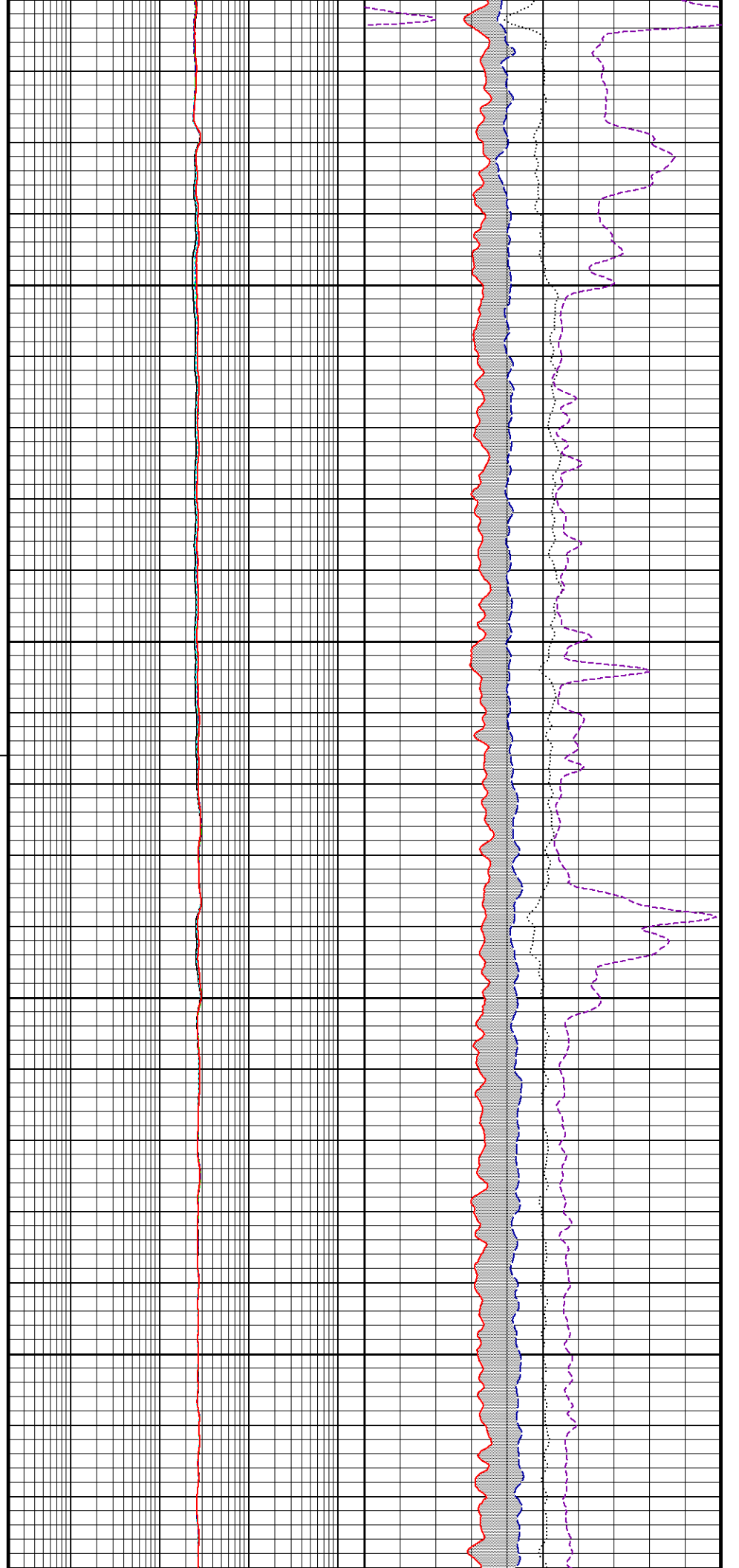
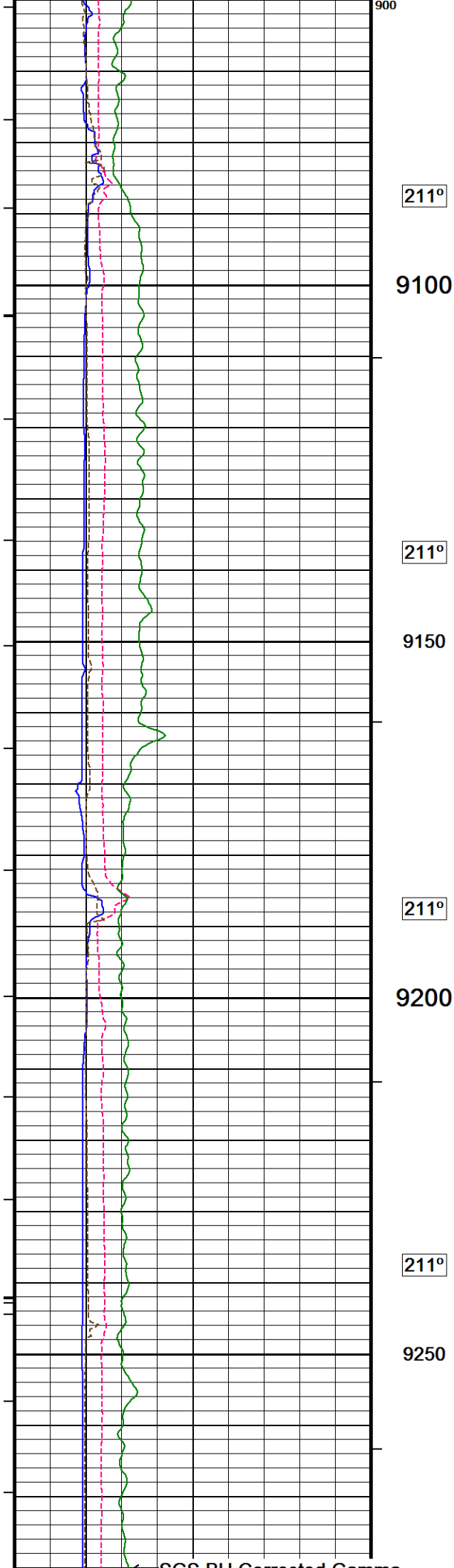


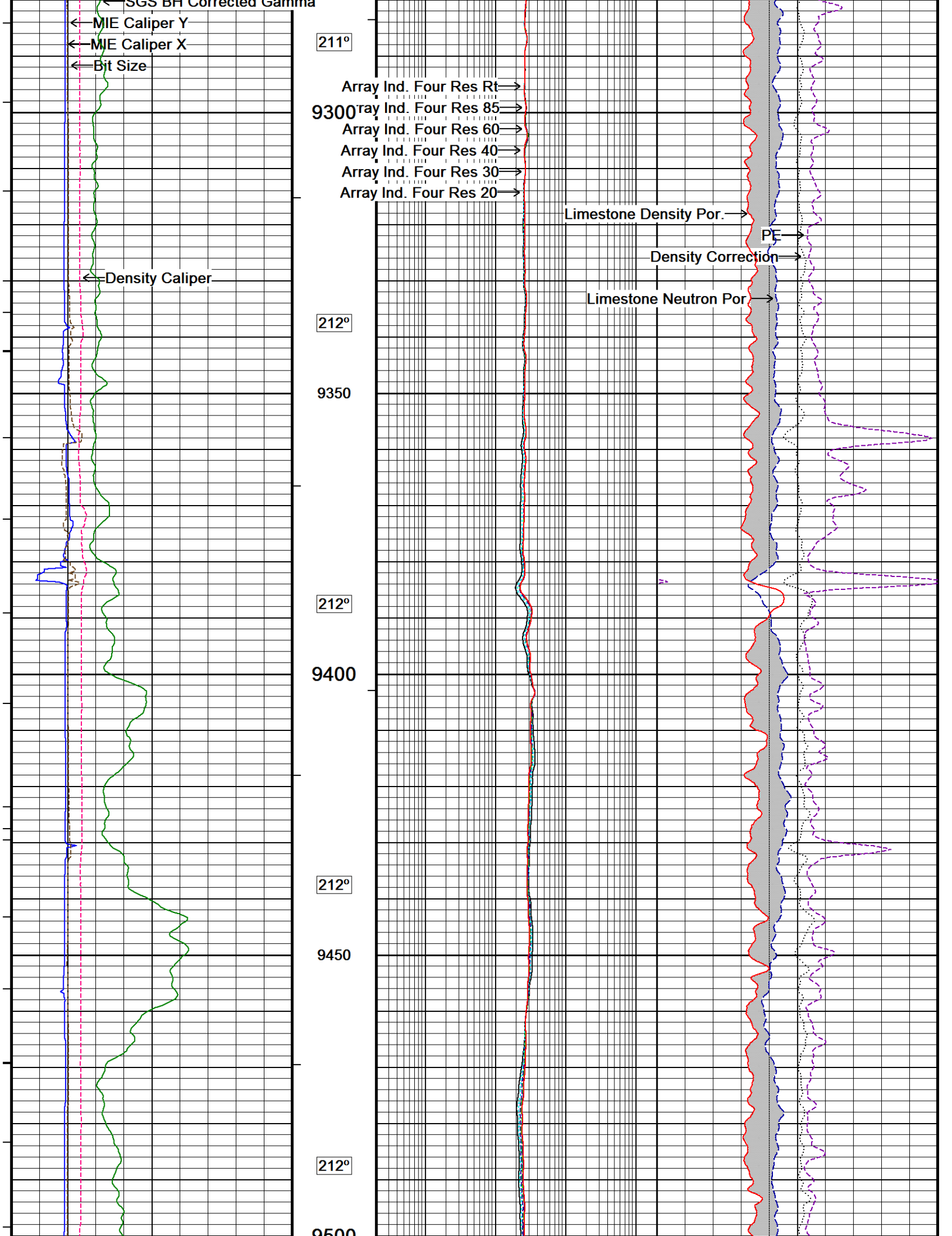


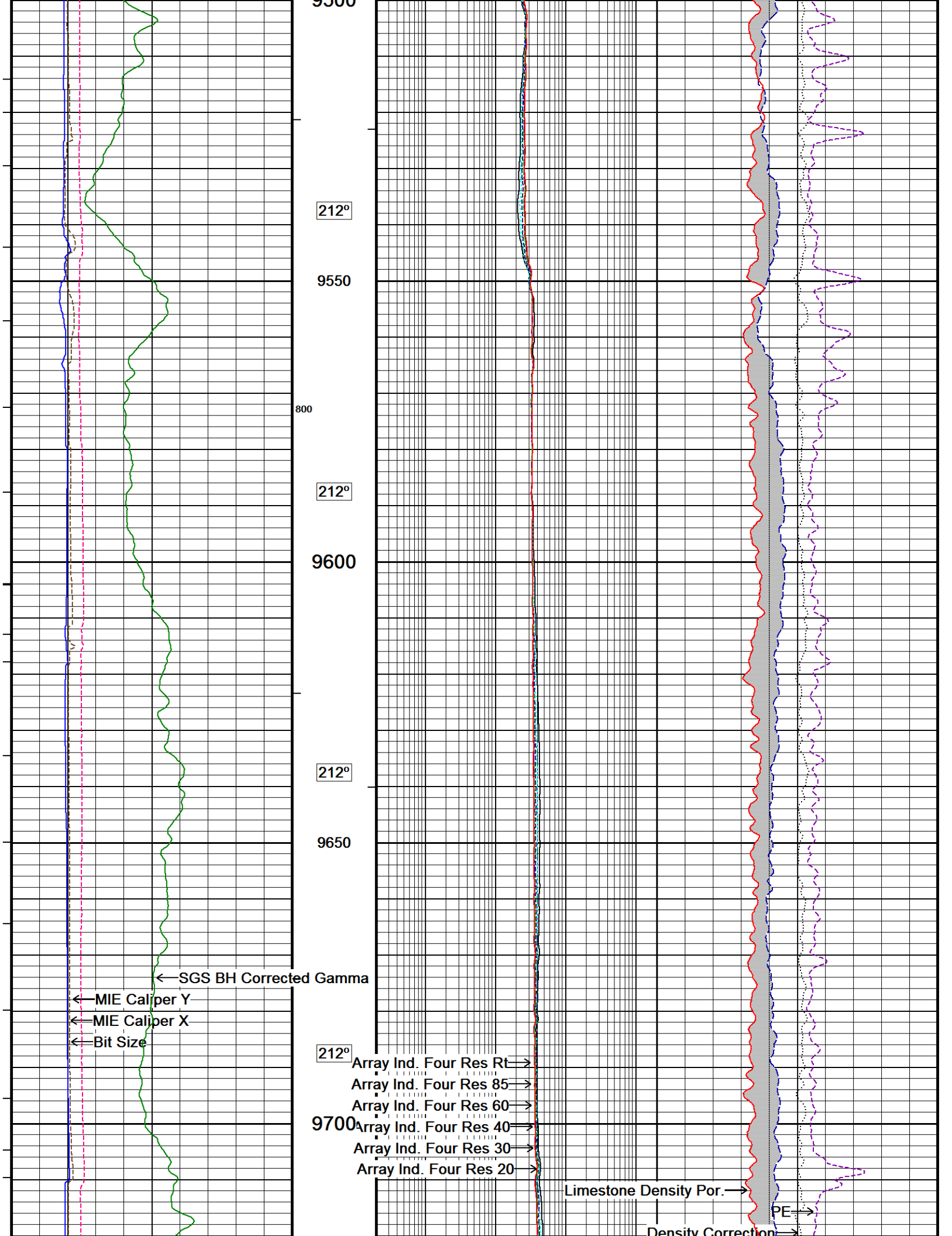




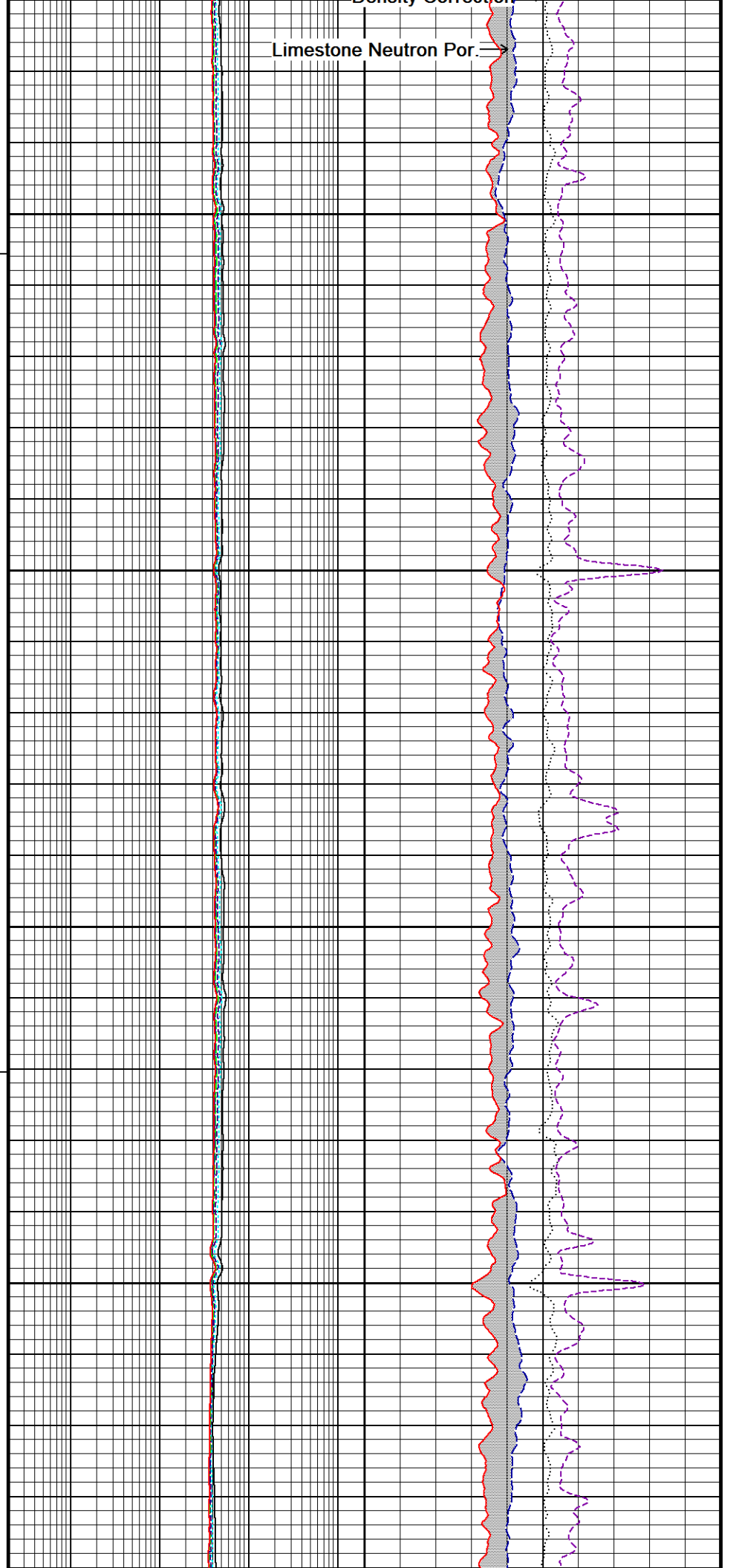
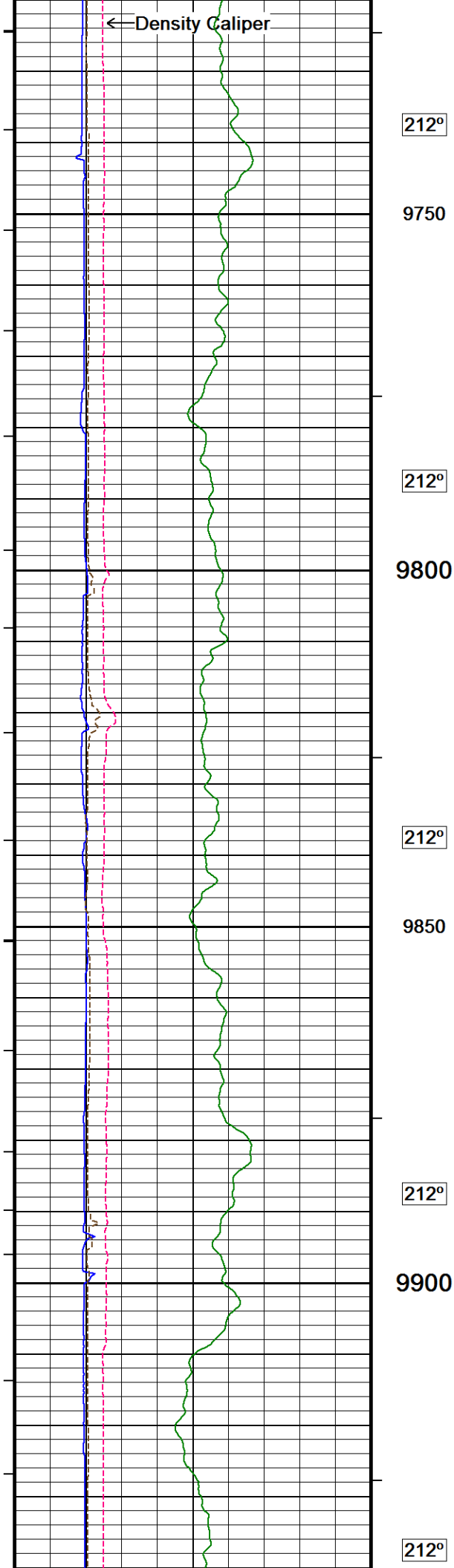


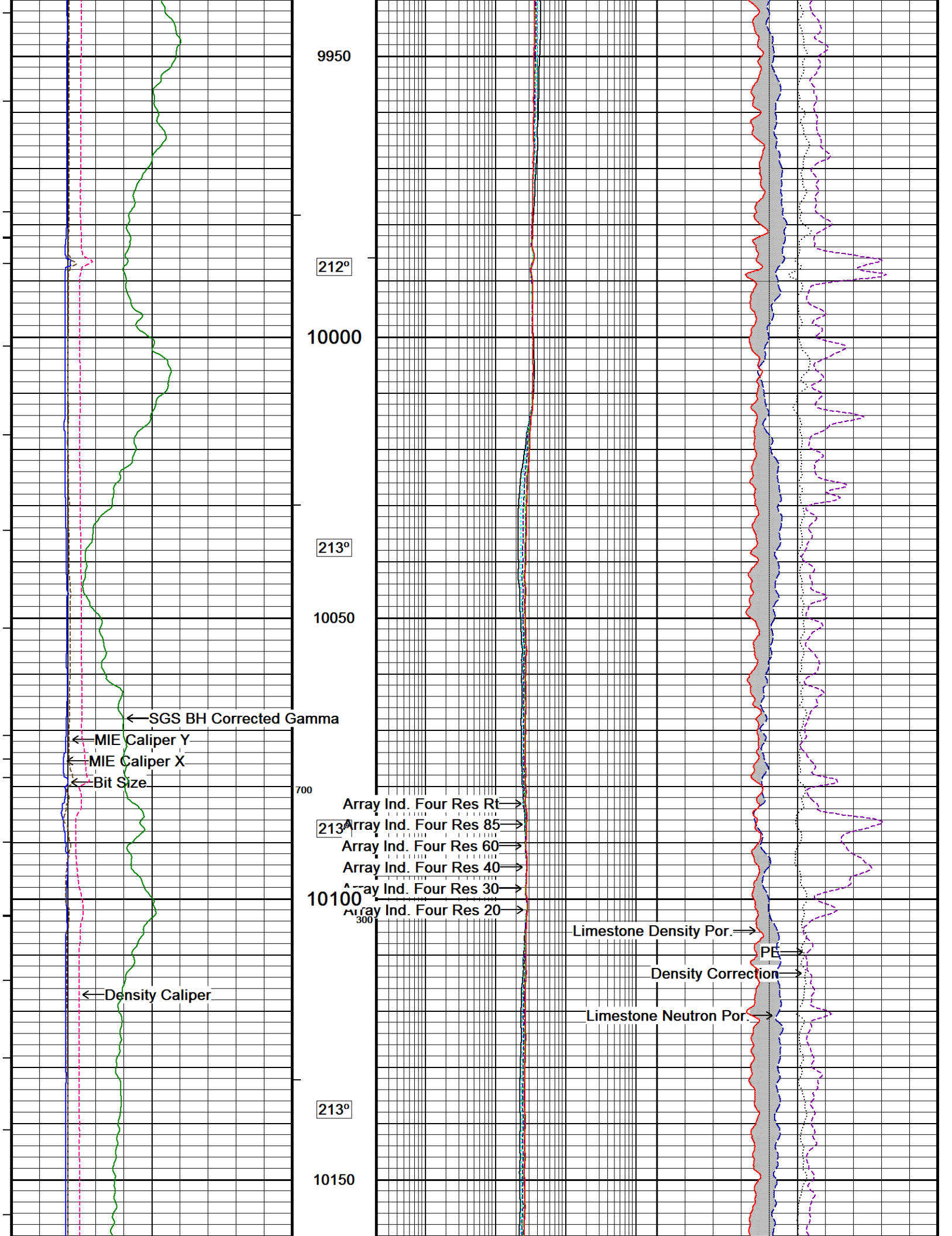


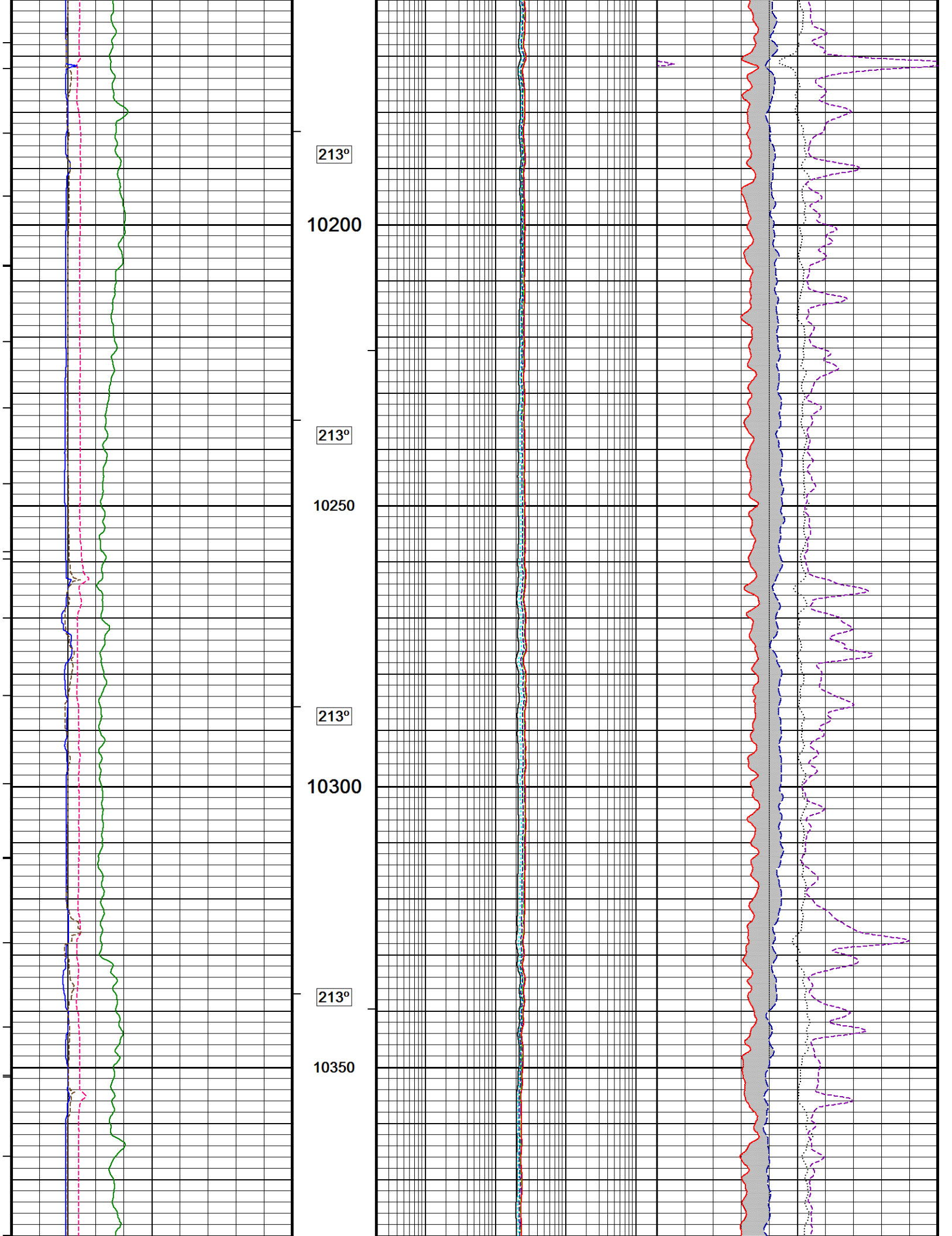


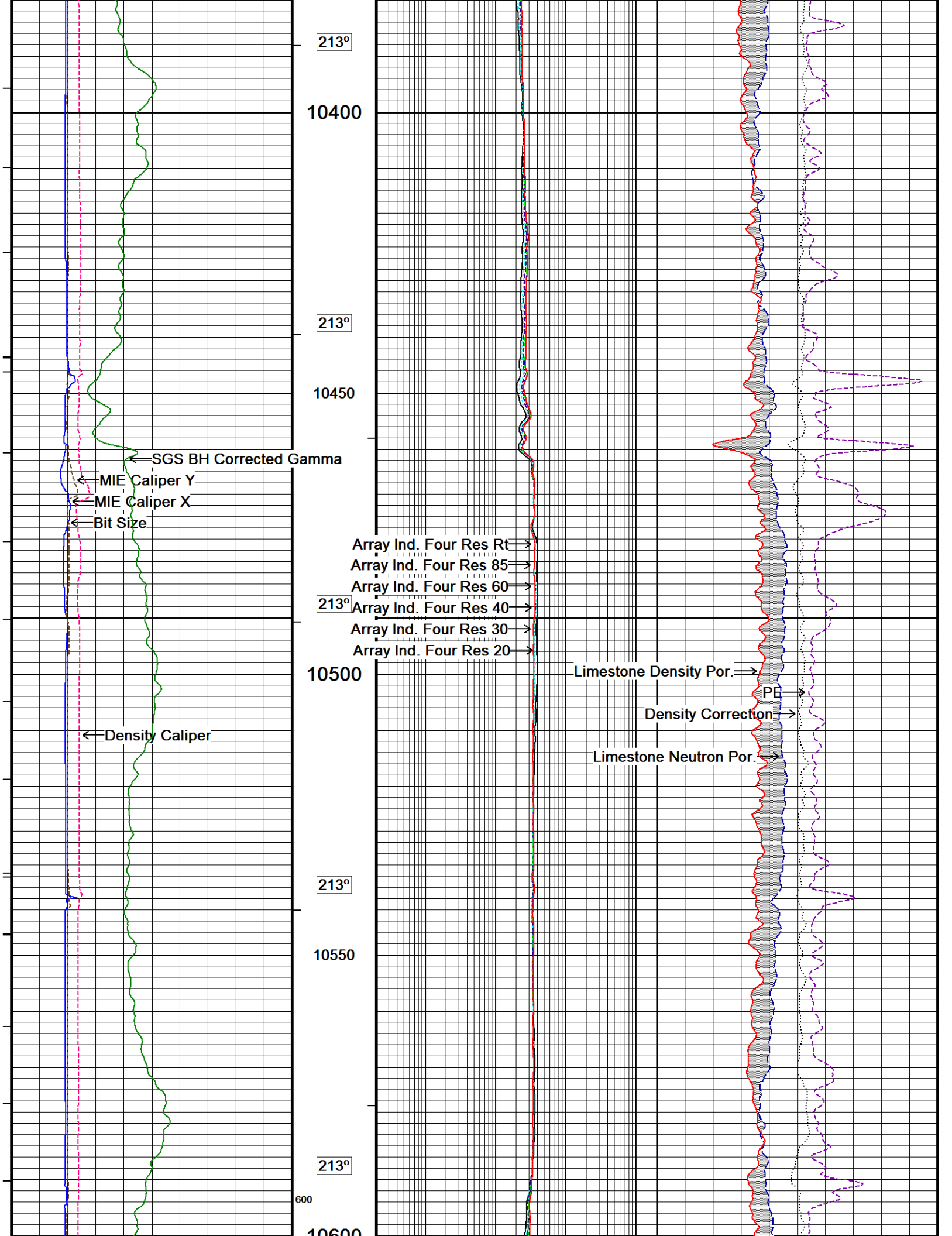


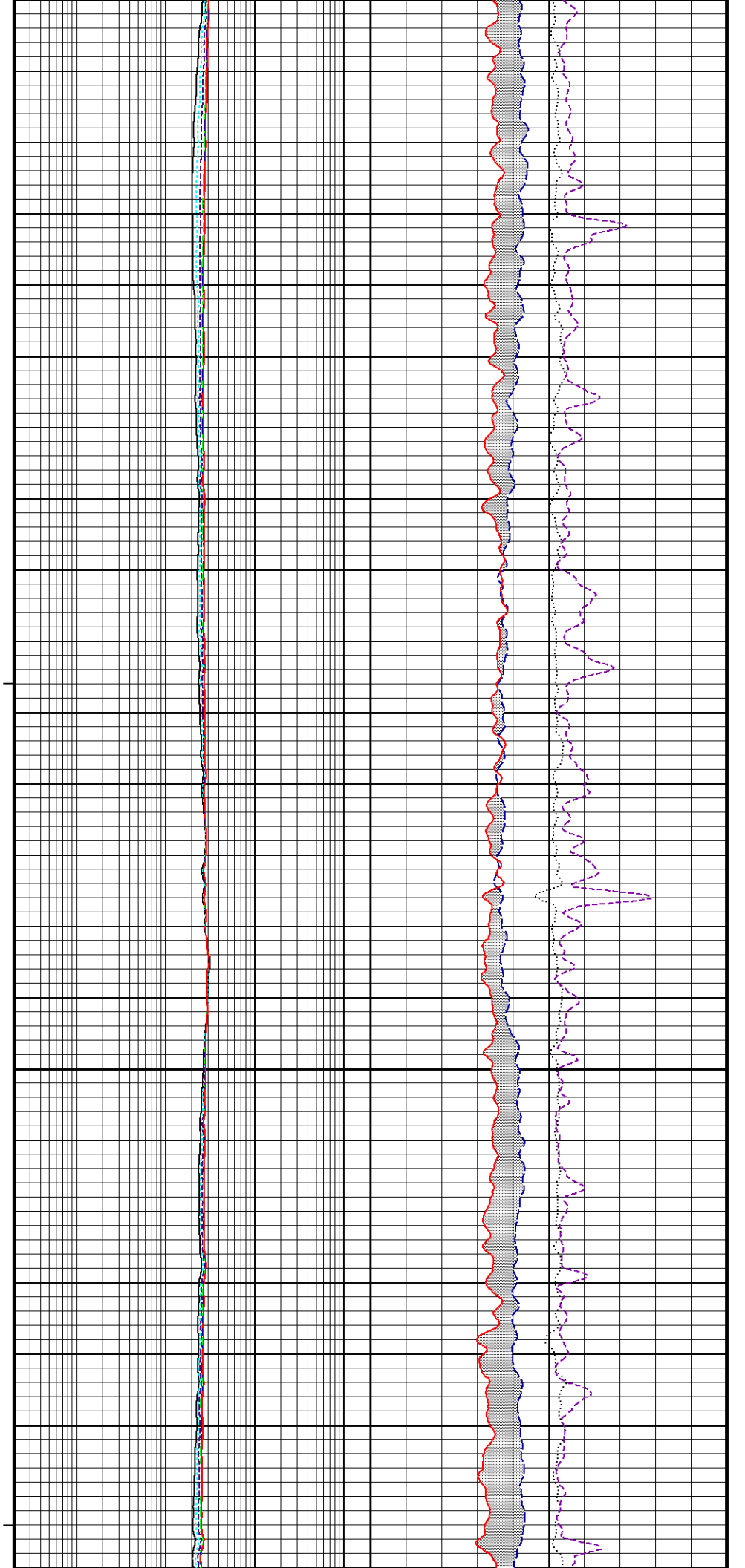
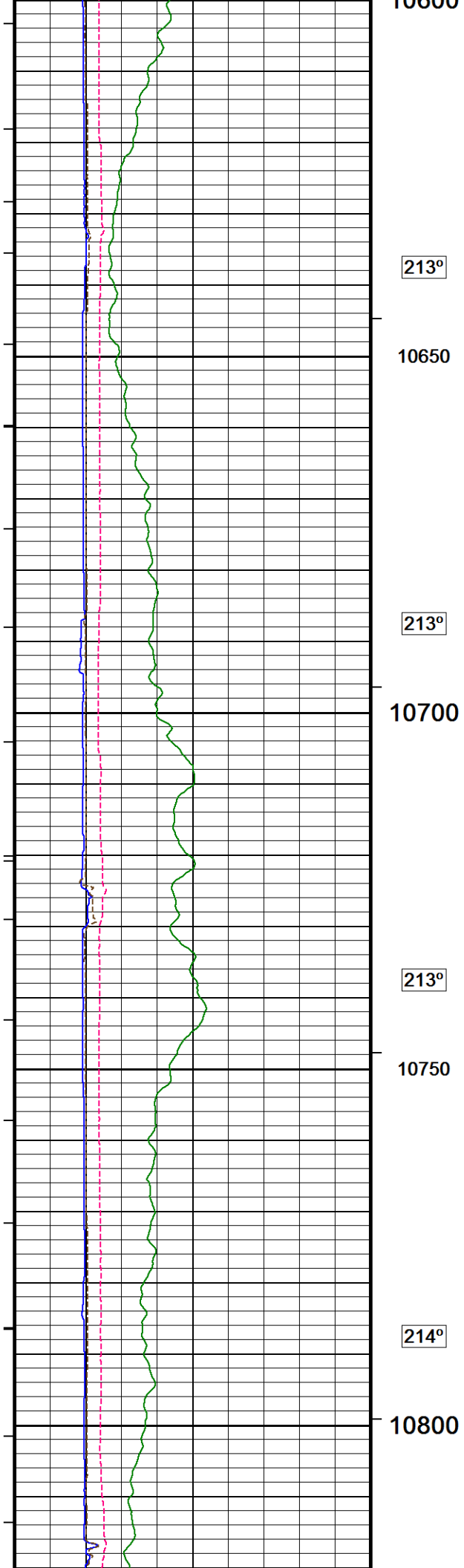




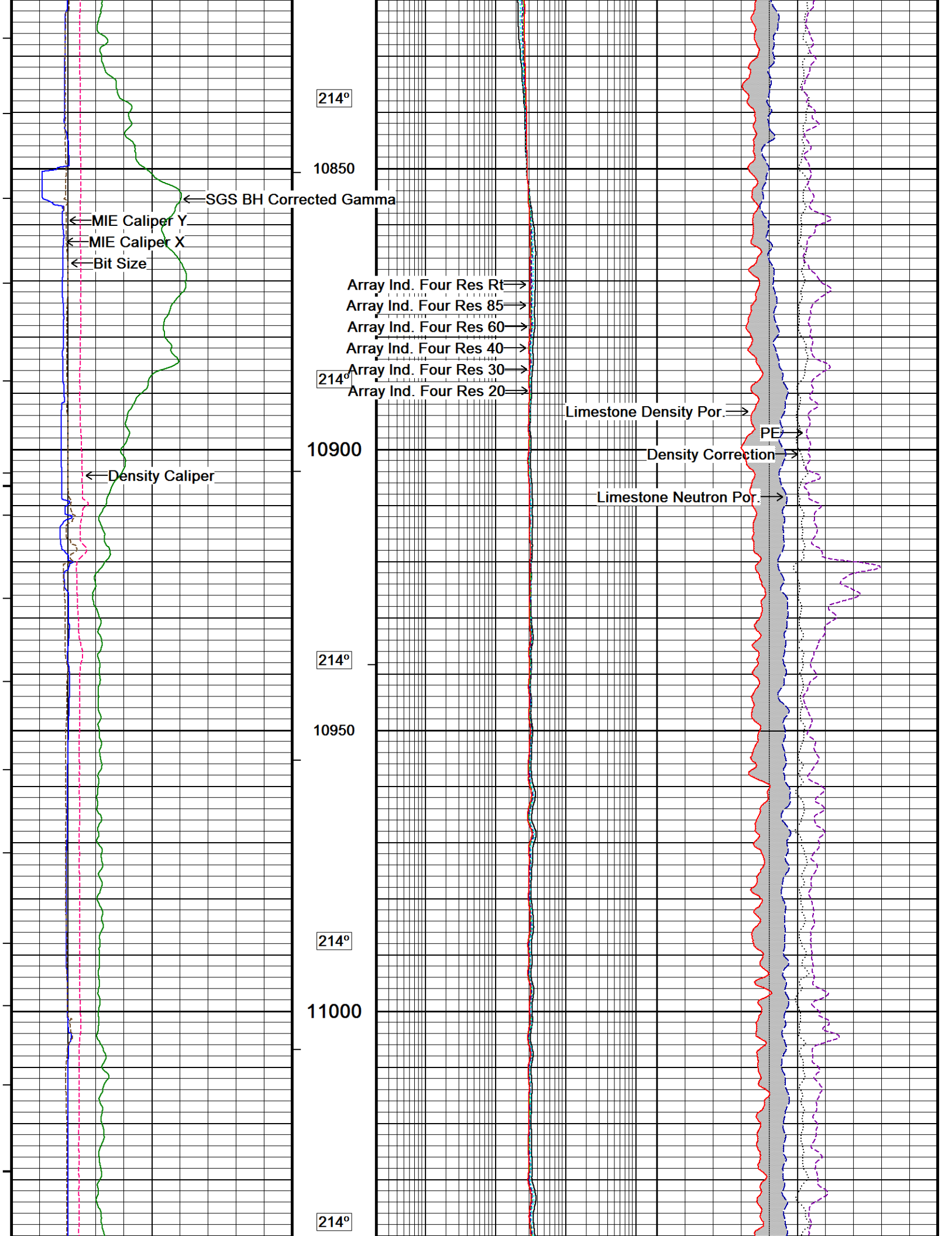


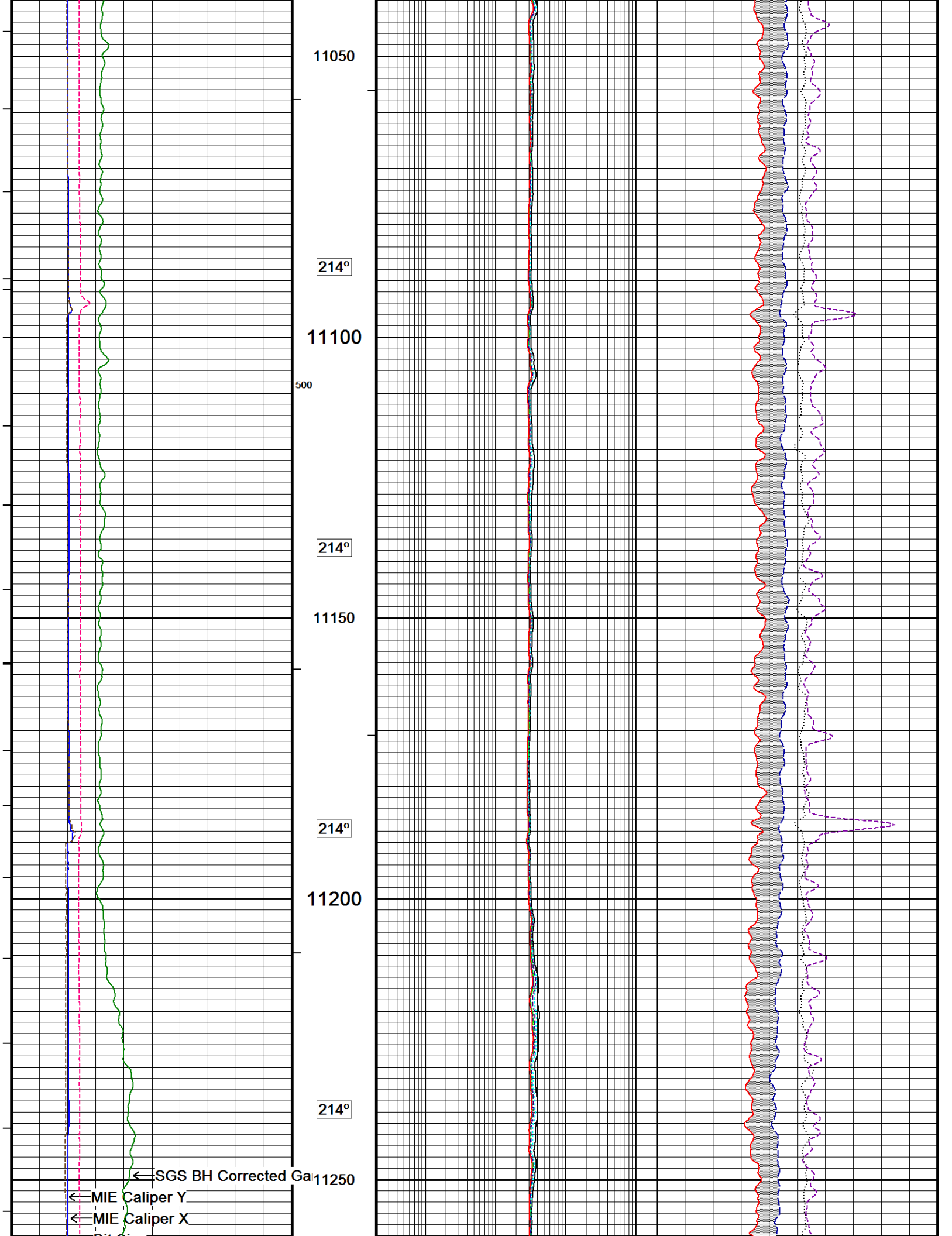


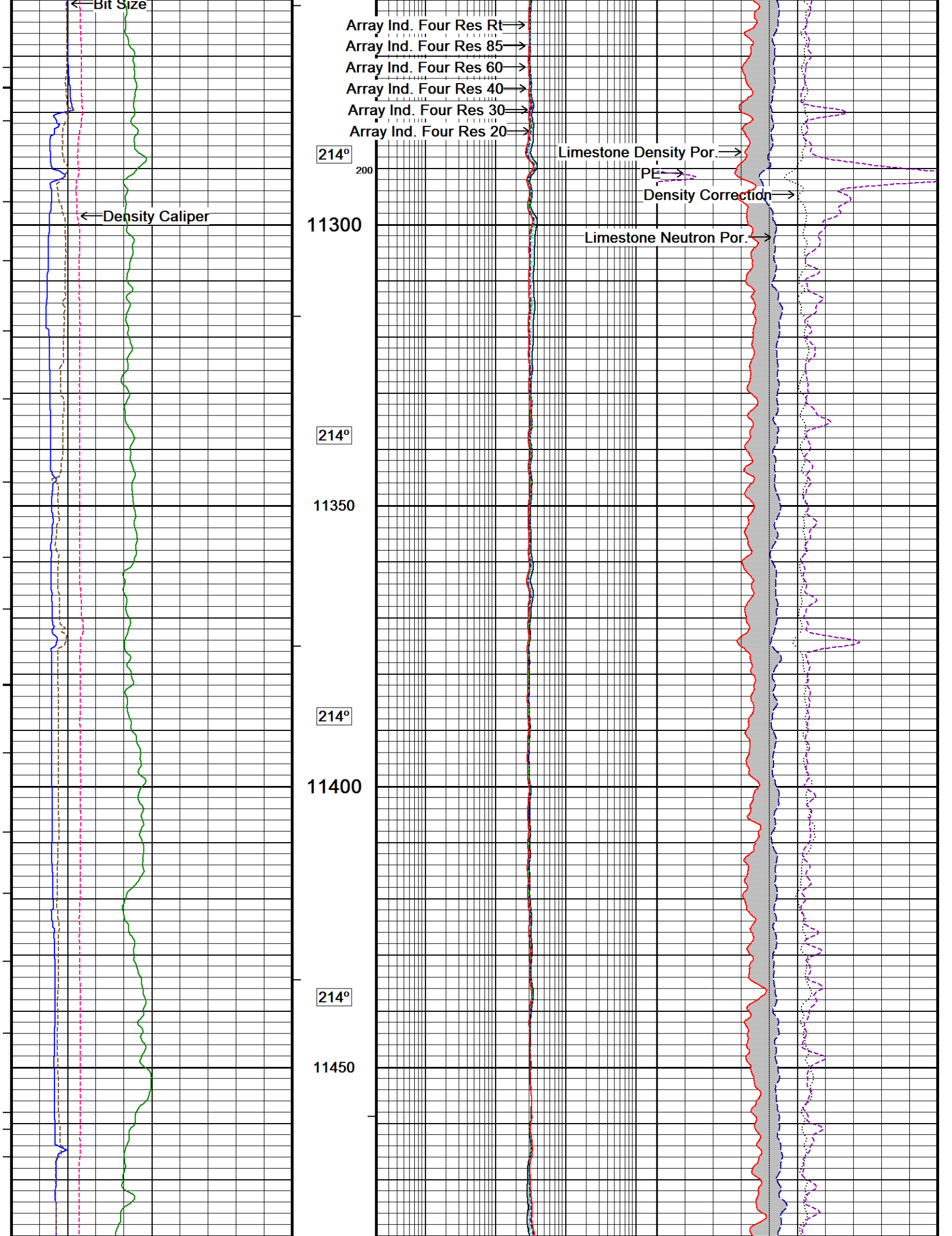


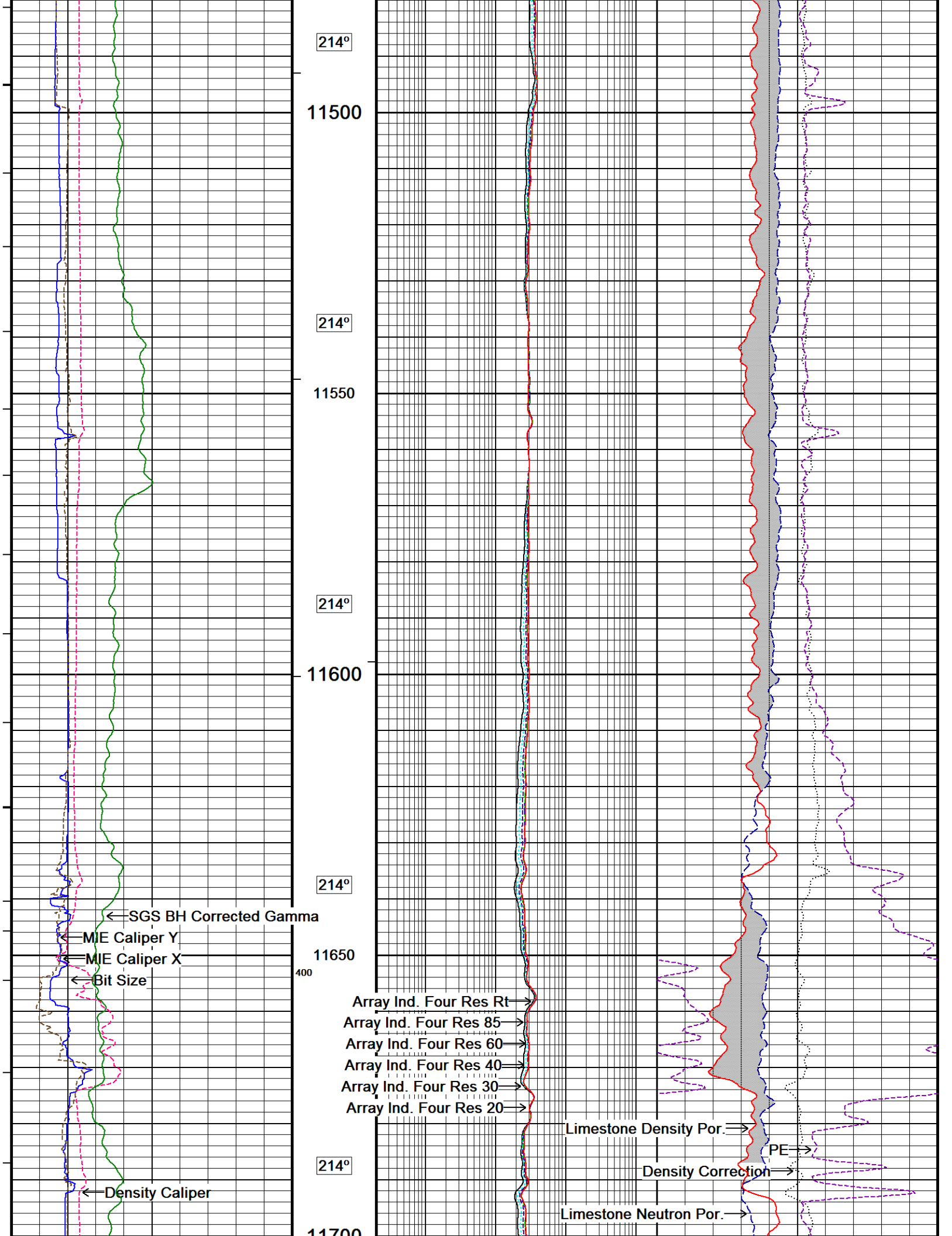


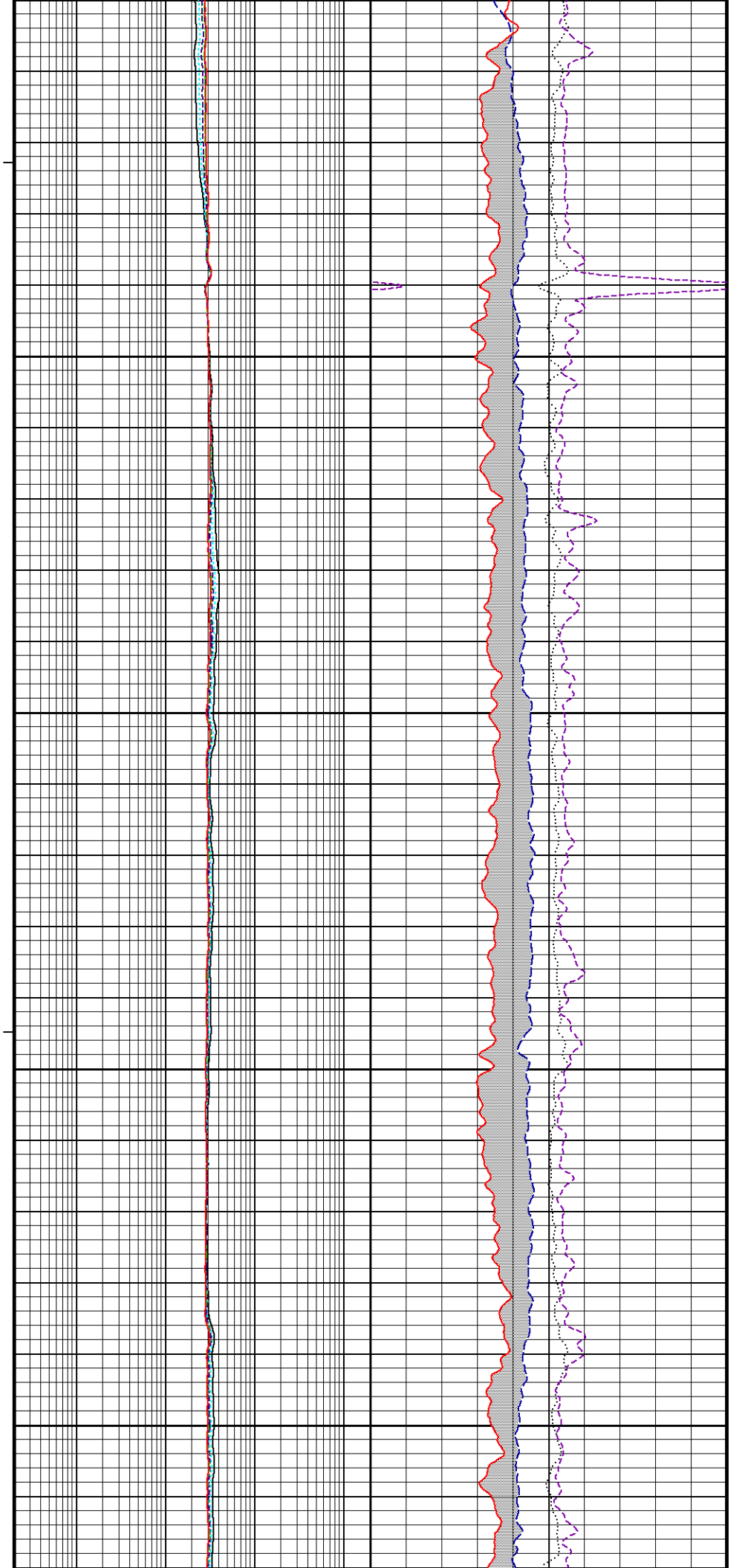
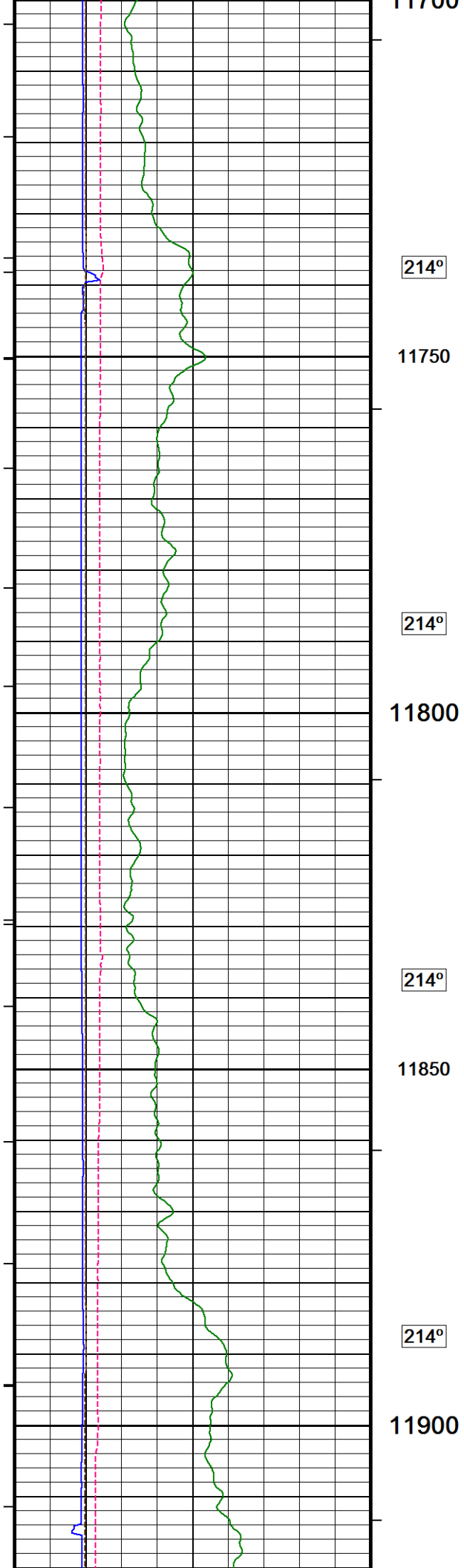


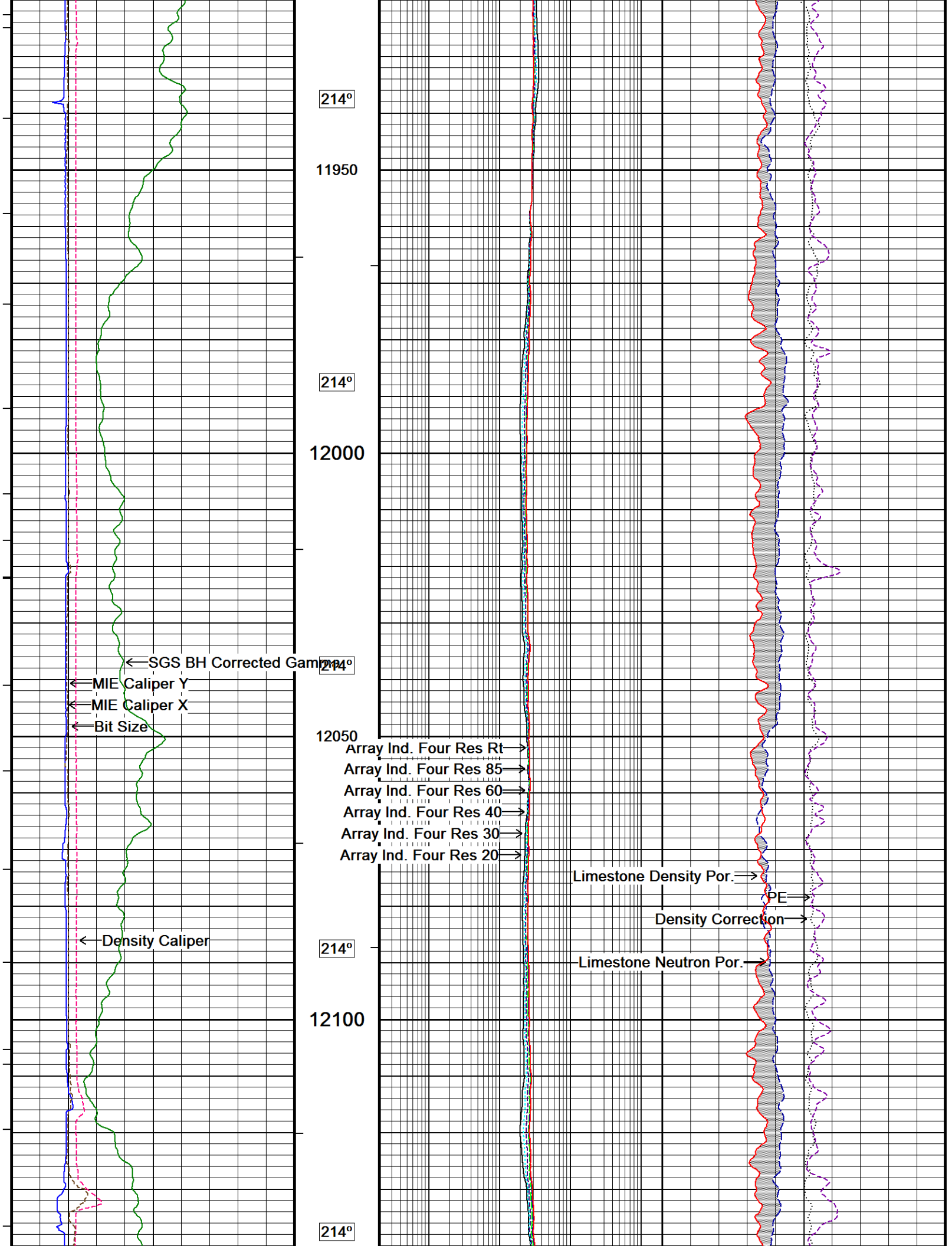




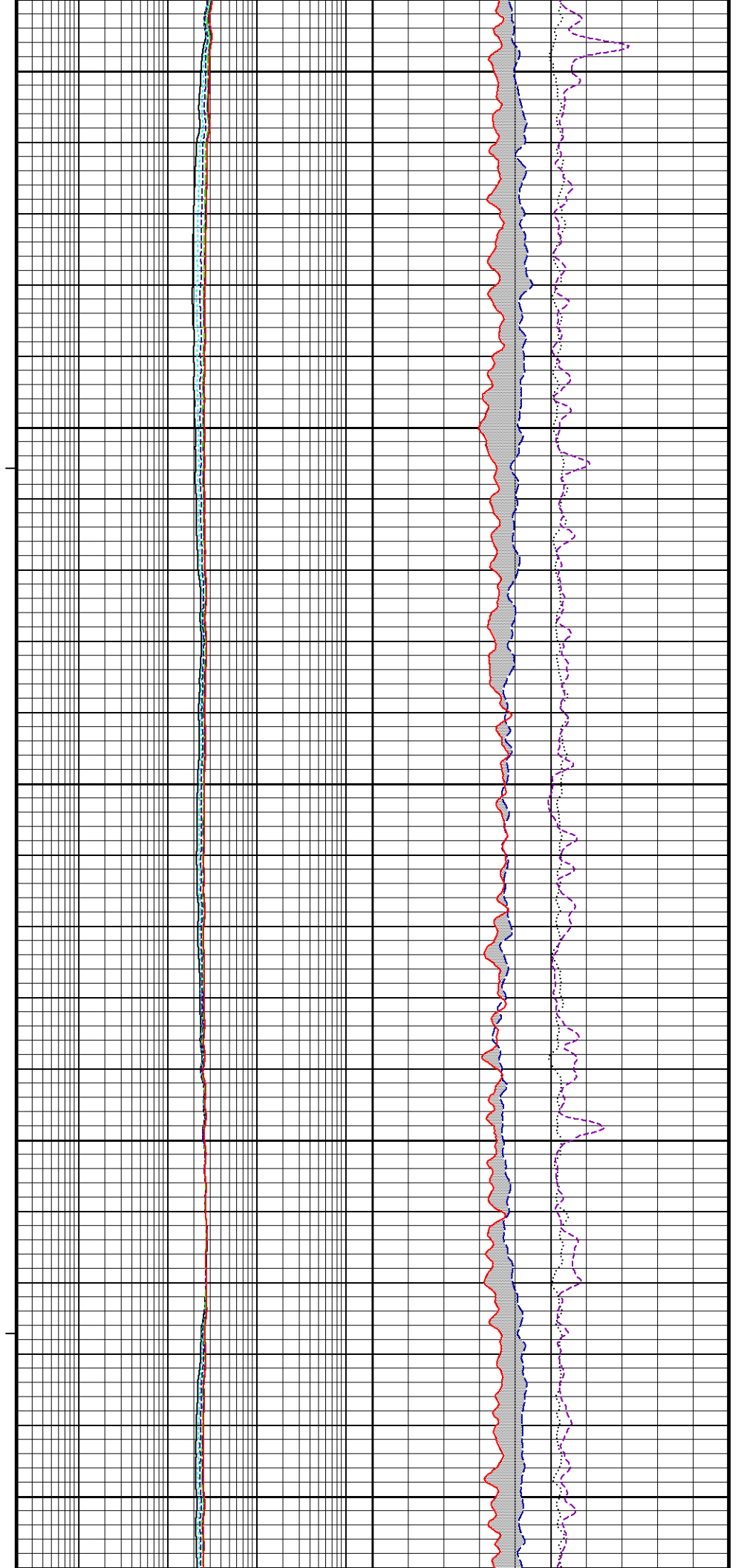
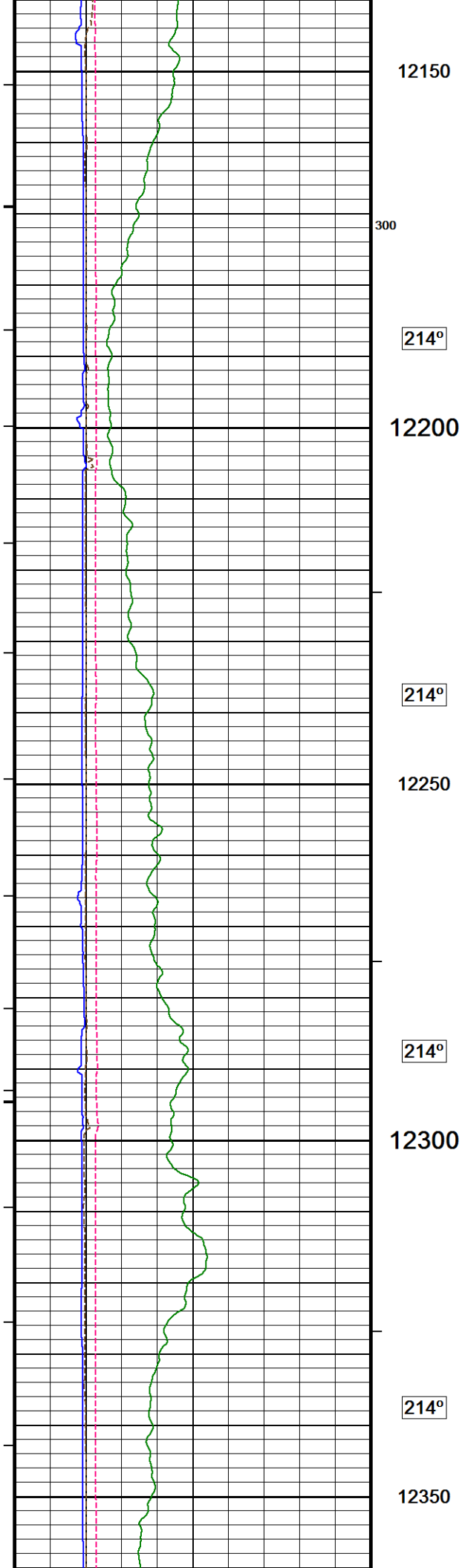


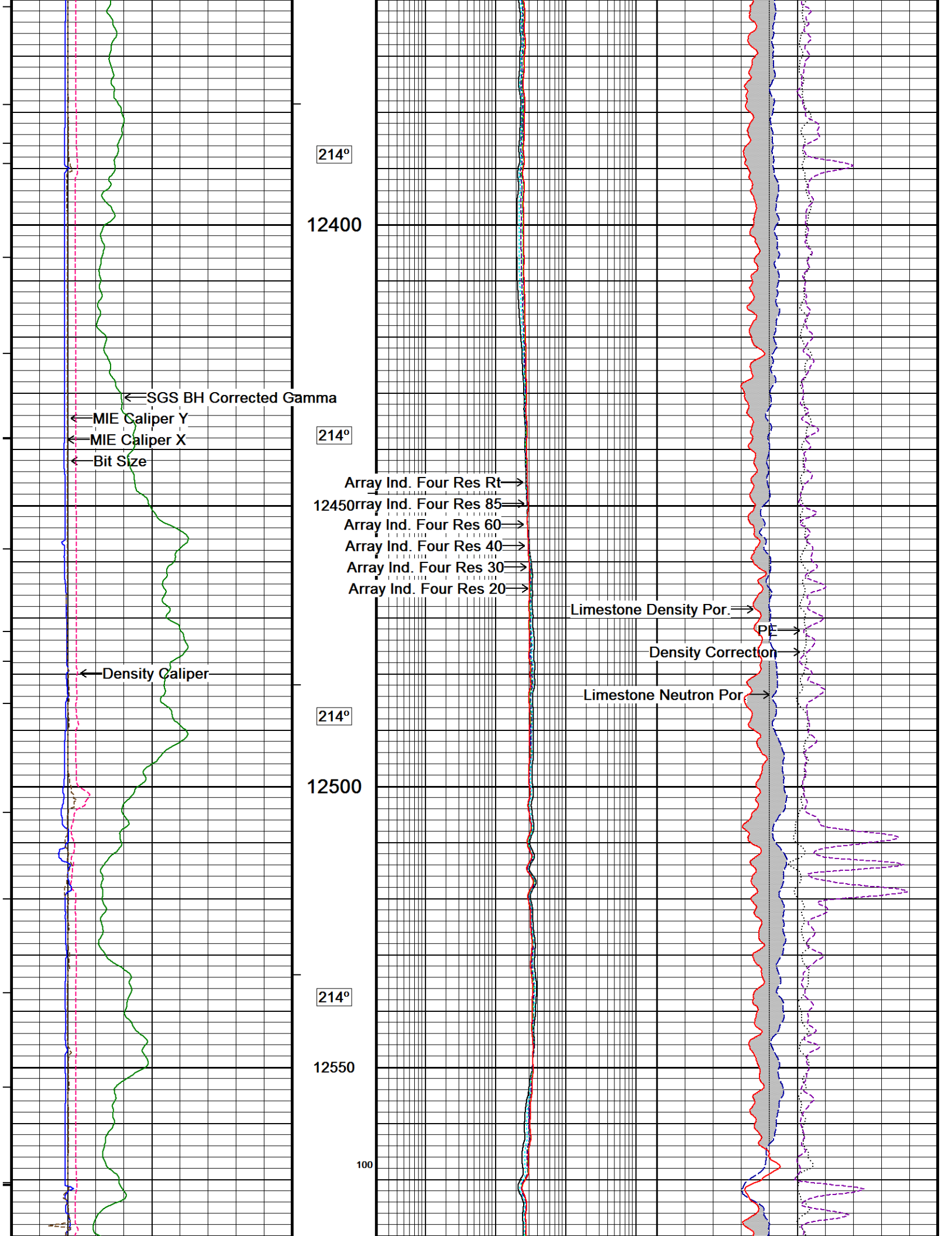


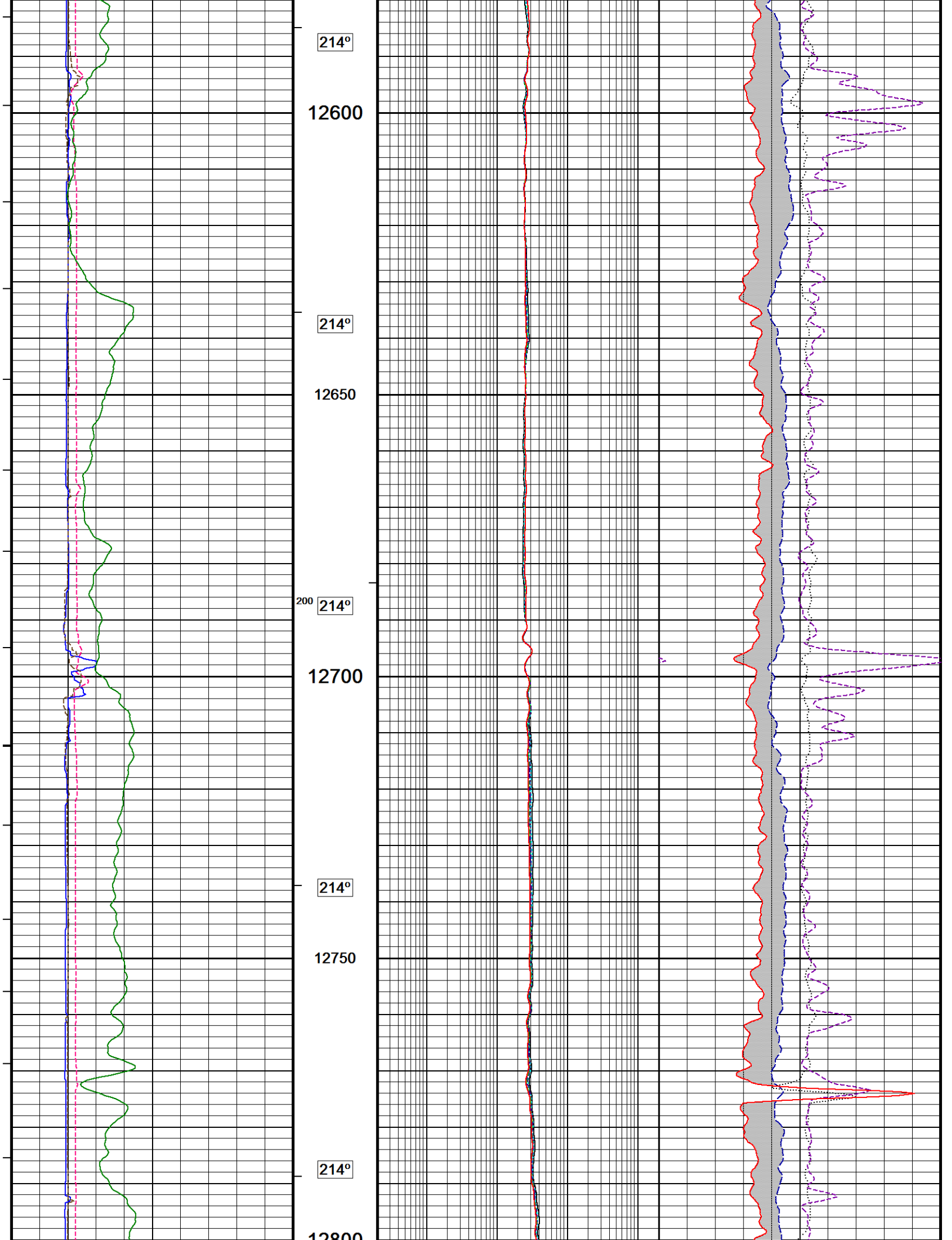


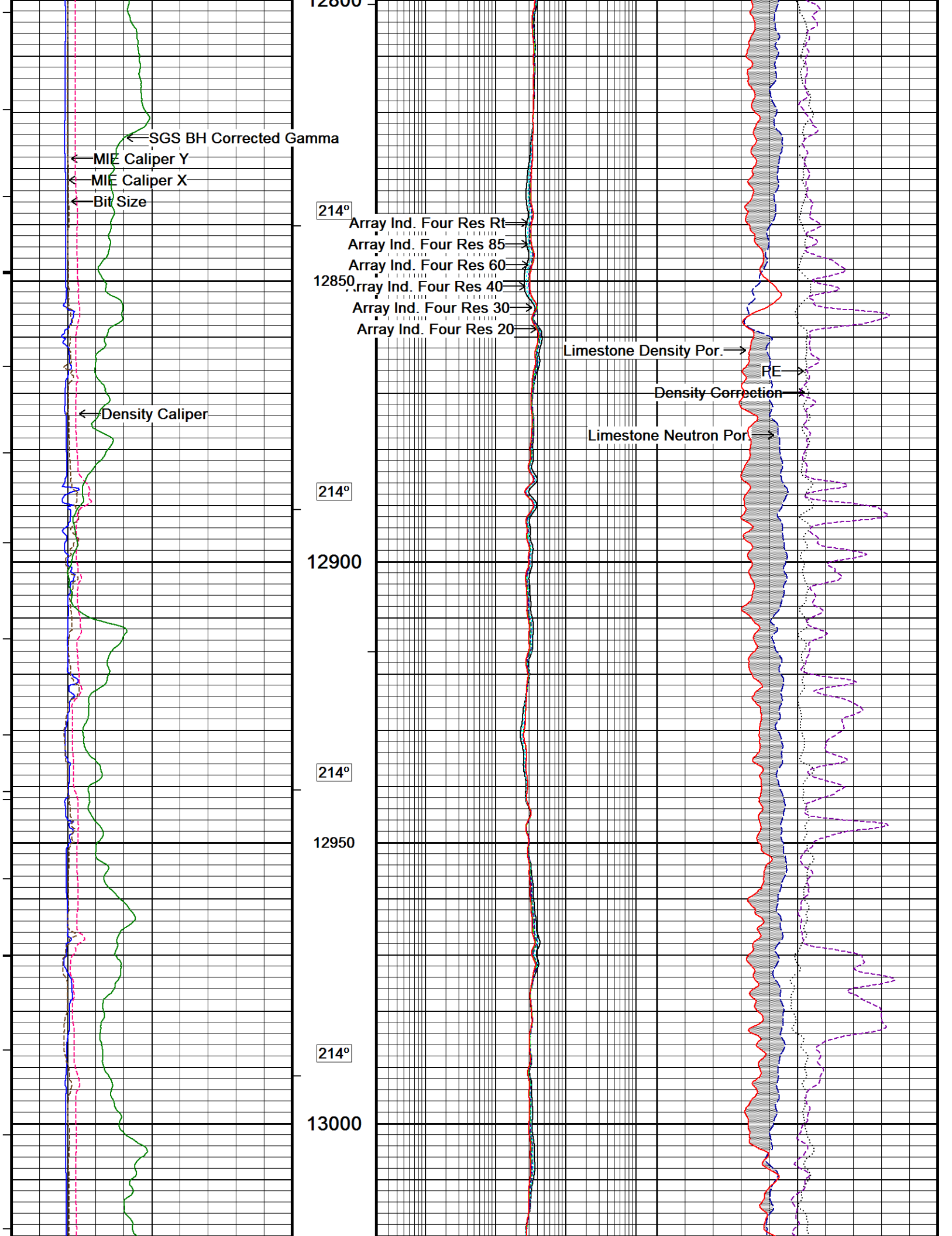


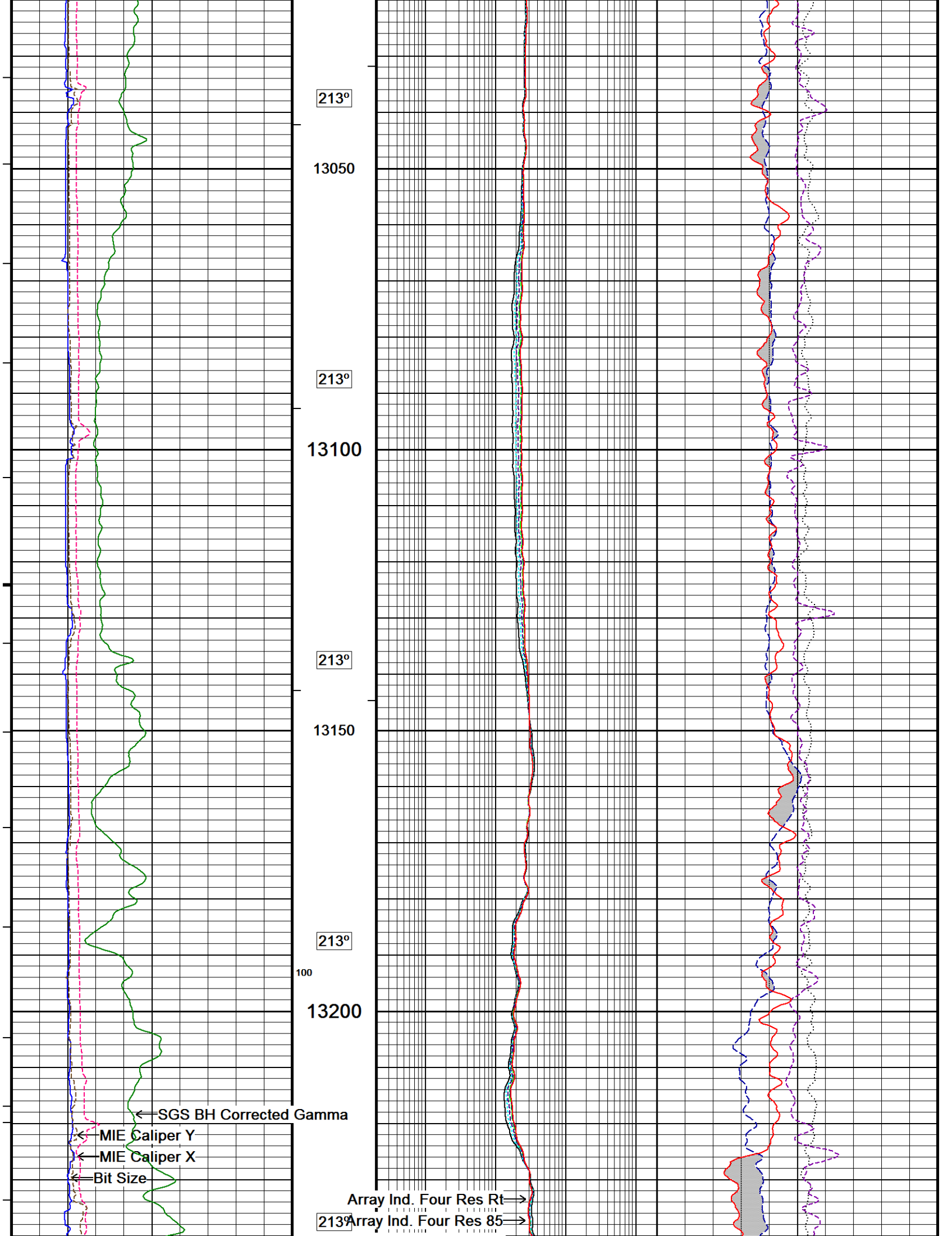


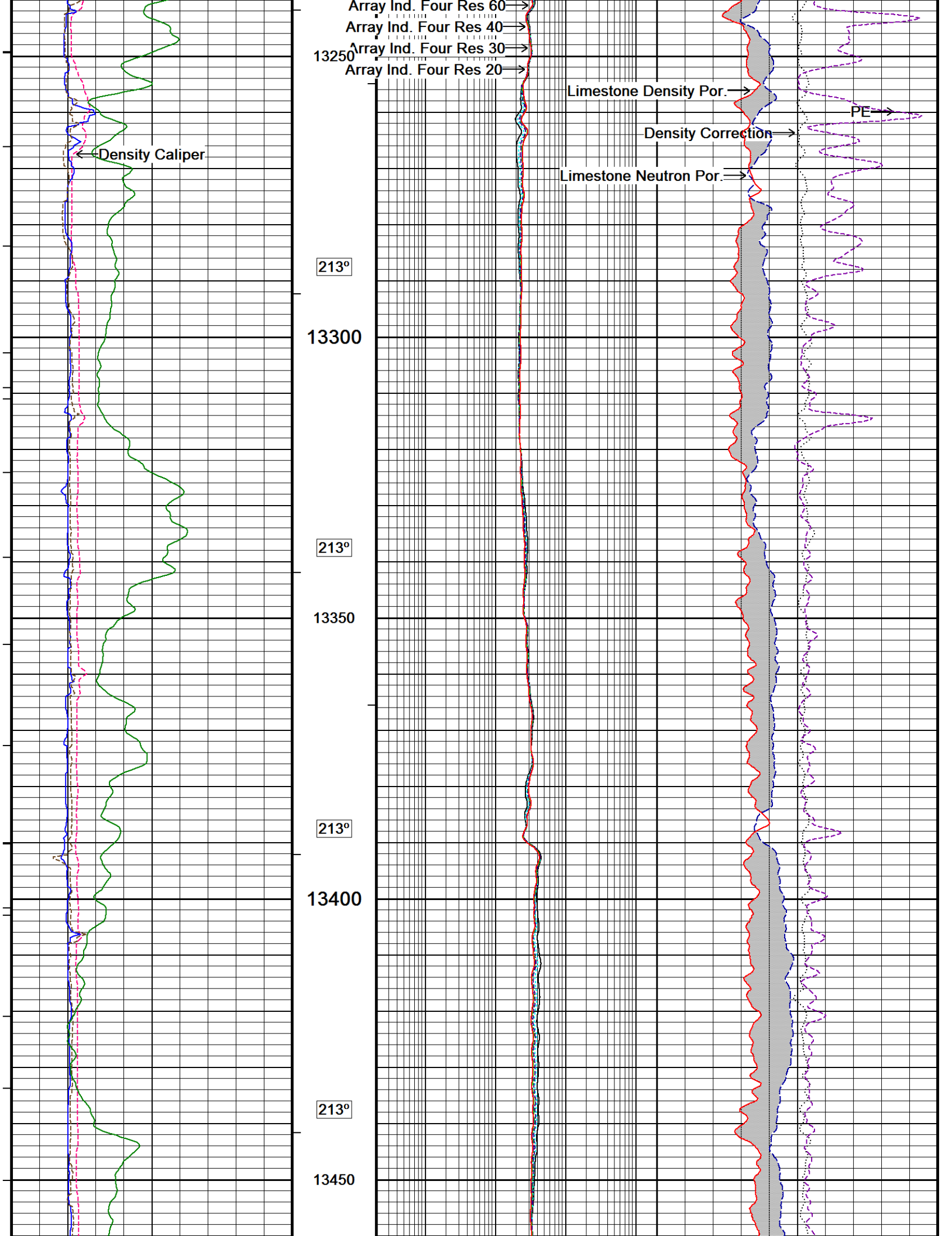




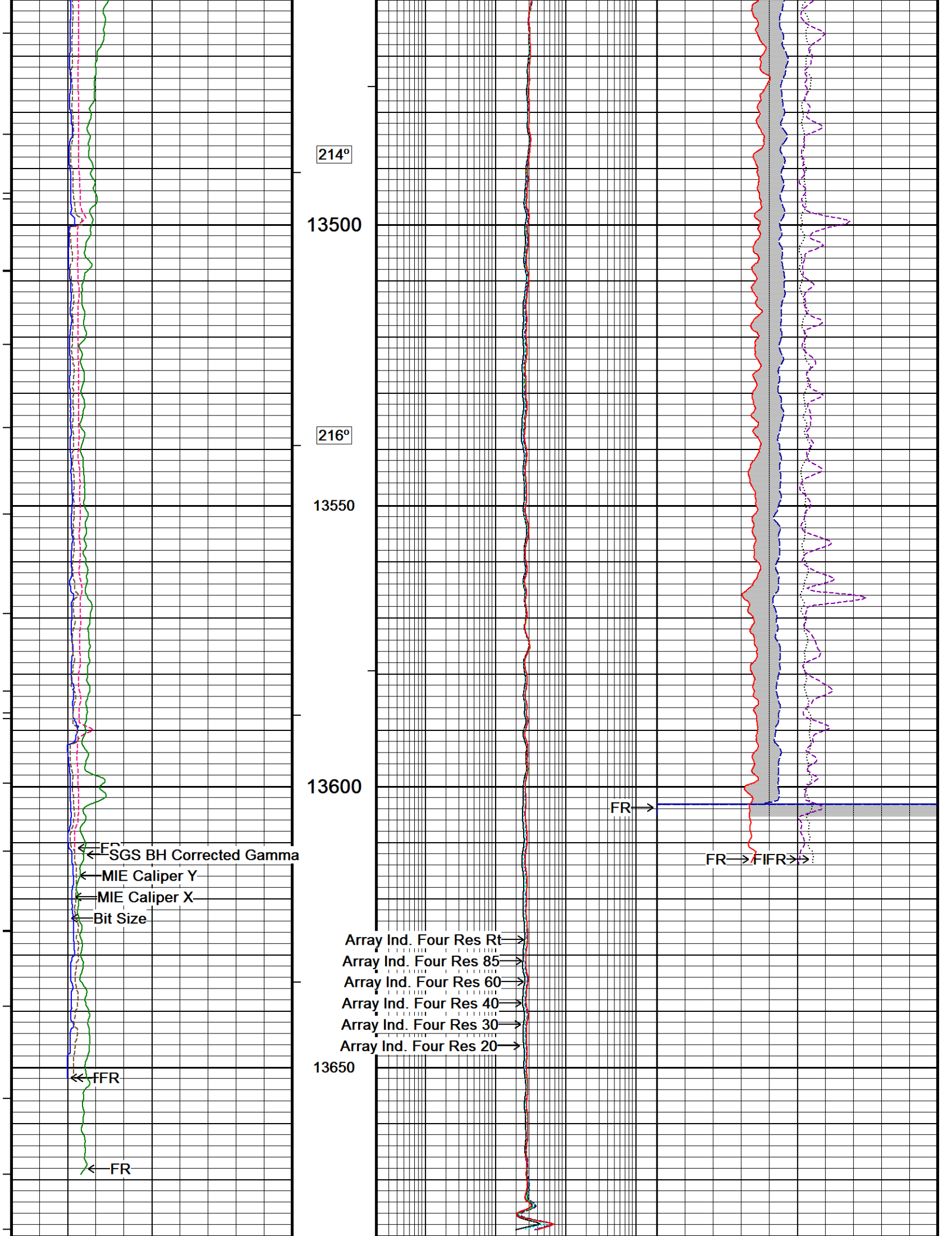


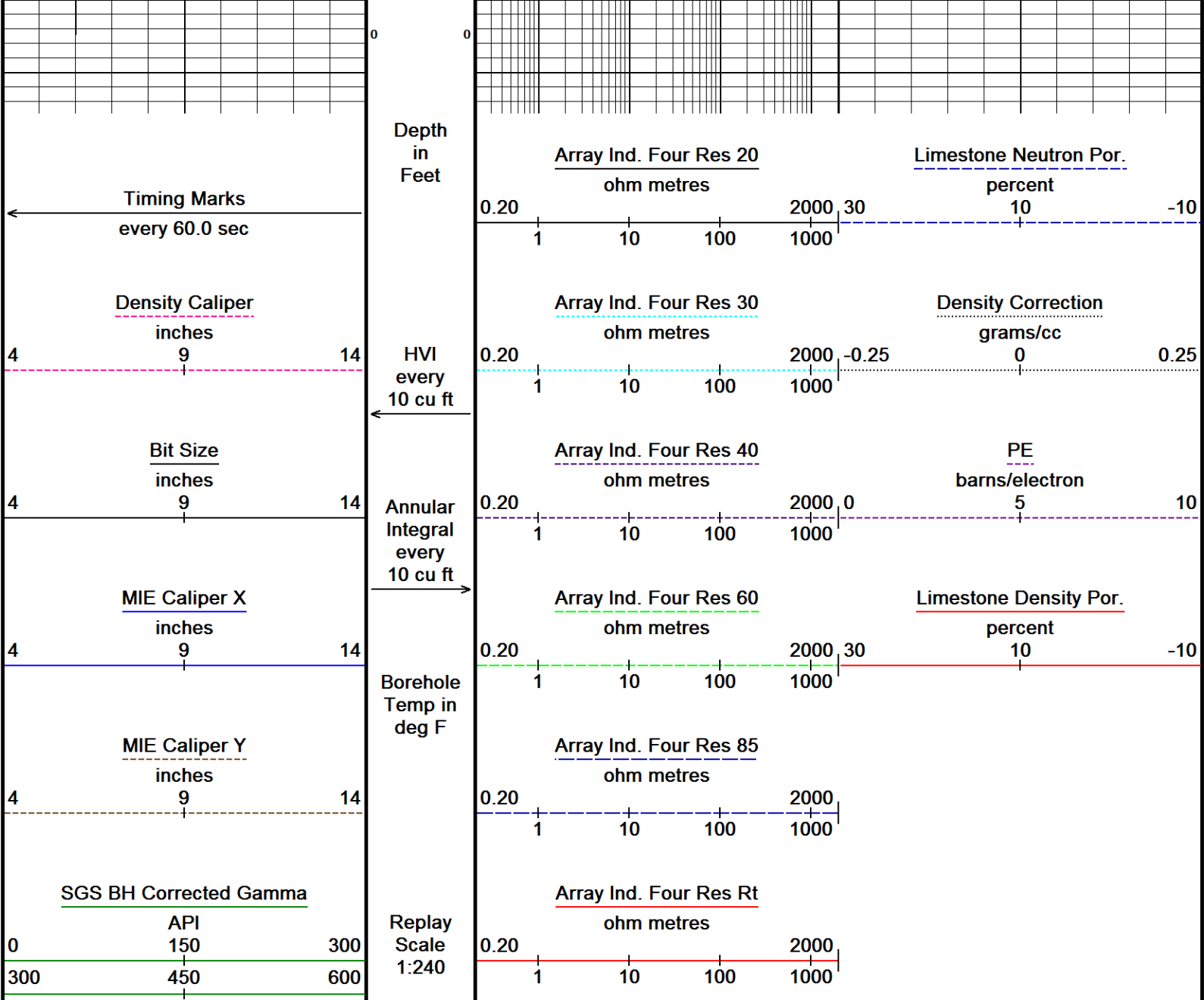












Depth Based Data - Maximum Sampling Increment 10.0cm  
Filename: D:\Logs\Whiting\HORSETAIL 29G-2012B\MMS DEPTH.dta  
System Versions: Logged with 14.01.3220 Processed with 14.01.3220 Plotted with 14.01.3220  
Plotted on 27-OCT-2014 19:05  
Recorded on 27-OCT-2014 17:11

5 INCH MAIN LOG

BEFORE SURVEY CALIBRATION  
D:\Logs\Whiting\HORSETAIL 29G-2012B\MMS DEPTH.dta

Down-hole Tension Calibration All 000			Field Calibration on 24-OCT-2010 03:34
Reading No	Measured		
1	15659.85	0.00	
2	15734.68	370.00	

General Constants All 000  
Last Edited on 27-OCT-2014,16:20

General Parameters		
Mud Resistivity	1.880	ohm-metres
Mud Resistivity Temperature	86.600	degrees F
Water Level	0.000	feet
Borehole Fluid Processing	Wet Hole	

Hole/Annular Volume and Differential Caliper Parameters		
HVOL Method	XY Caliper	
MIE Di		

HVOL Caliper 1	MIE Diam. X Armswing	
HVOL Caliper 2	MIE Diam. Y Armswing	
Annular Volume Diameter	4.500	inches
Caliper for Differential Caliper	MIE Diam. X Armswing	
Rwa Parameters		
Porosity used	Base Density Porosity	
Resistivity used	Array Ind. Four Res Rt	
RWA Constant A	0.610	
RWA Constant M	2.150	
SW/APOR Tool Source	0.000	

Down-hole Tension Calibration SMS 0			Field Calibration on 03-MAR-2014 17:38
Reading No	Measured	Calibrated (lbs)	
1	15344.12	0.00	
2	16163.79	590.00	

Strain Gauge Constants MMS-F.A 189			Last Edited on 18-SEP-2012,14:07	
Atmospheric Pressure	14.70	psi		
Serial Number	0			
Calibration Date	000000000000			
Base Check Date				
Dead Weight Serial Number	0			
Dead Weight Gravitational Correction	1.0			
Temperature	75.0	150.0	250.0	350.0 degrees F
Pressure psia	Inc.	Dec.	Inc.	Dec.
0.0	0.000	0.000	0.000	0.000
2000.0	0.000	0.000	0.000	0.000
4000.0	0.000	0.000	0.000	0.000
6000.0	0.000	0.000	0.000	0.000
8000.0	0.000	0.000	0.000	0.000
10000.0	0.000	0.000	0.000	0.000

High Resolution Temperature Calibration MGS-D.A 185			Field Calibration on 28-FEB-2014,12:06
	Measured	Calibrated(Deg F)	
Lower	20.00	20.00	
Upper	200.00	200.00	

High Resolution Temperature Constants MGS-D.A 185			Last Edited on 10-APR-2014,11:59
Pre-filter Length	11		

SP Calibration MGS-D.A 185			Field Calibration on 28-FEB-2014,12:05
	Measured	Calibrated (mV)	
Reference 1	100.0	100.0	
Reference 2	-100.0	-100.0	

Gamma Calibration MGS-D.A 185			Field Calibration on 26-OCT-2014 09:34
	Measured	Calibrated (API)	
Background	165	116	
Calibrator (Gross)	1022	718	
Calibrator (Net)	857	602	

Gamma Constants MGS-D.A 185			Last Edited on 26-OCT-2014,13:00
Gamma Calibrator Number	GRCC224		
Mud Density	1.27	gm/cc	
Caliper Source for Processing	Density Caliper		
Tool Position	Eccentred		
Concentration of KCl		kppm	
K Mud Type	Chloride		
K Mud Concentration	0.00	%	

Neutron Calibration MDN-B.J 372			Base Calibration on 01-OCT-2014 13:06
Field Check on 26-OCT-2014 09:44			
Base Calibration			
	Measured	Calibrated (cps)	
	Near	Far	Near
	2881	87	3714
			110

Ratio	33.018	33.764
Field Calibrator at Base	Calibrated (cps)	
	2377	3500
Ratio	0.679	
Field Check	Calibrated (cps)	
	2405	3548
Ratio	0.678	

Neutron Constants MDN-B.J 372			Last Edited on 27-OCT-2014,16:21		
Neutron Source Id	P44385B				
Neutron Jig Number	NJ5236				
Air Hole Processing	Modified Ratio				
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			
Salinity Correction	Not Applied				
Formation Fluid Salinity Source	None				
Formation Fluid Salinity	N/A	kppm			
Barite Mud Correction	Not Applied				

Imager Pad Check MIE-A.A 173				Field Check on 09-OCT-2014 14:29	
Pad 1	20/20 Buttons Verified	Pad 5	20/20 Buttons Verified		
Pad 2	24/24 Buttons Verified	Pad 6	24/24 Buttons Verified		
Pad 3	20/20 Buttons Verified	Pad 7	20/20 Buttons Verified		
Pad 4	24/24 Buttons Verified	Pad 8	24/24 Buttons Verified		

Compact Micro Imager Constants MIE-A.A 173			Last Edited on 24-AUG-2014,16:32		
Sonde Configuration		Imager Mode			
Arm-Pad Kit		Normal Pads (12.25 in)			
Arm-Pad Kit Serial Number					
Centre Pad 1 Rotational Offset		0.00	degrees		
Image/Borehole Ovality Reference		Azimuth of Pad 1			
Non Active Buttons		Omit			
Search Angle		0.00	degrees		
Correlation Interval		3.28	feet		
Correlation Step		1.64	feet		
Current Offset		0.0000	mAmp		
Squasher Start		11111111.0000	mAmp		
Image Processing		11111111			

Navigation Constants MIE-A.A 173				Last Edited on 10-SEP-2014,09:35	
Magnetic Declination	0.00	degrees	East		

Magnetometer Parameters MIE-A.A 173				
Date Of Last Magnetometer Calibration	17-JUL-2014,16:28			
	X Magnetometer	Y Magnetometer	Z Magnetometer	
Slope	-1.000000	-1.011067	-0.996373	
Offset	0.009674	-0.014518	0.002543	

Magnetometer Constants MIE-A.A 173		Last Edited on
Magnetometer Calibrator Number	000	

Accelerometer Parameters MIE-A.A 173				
Date Of Last Accelerometer Calibration	15-JUL-2014,13:24			

Slope	X Accelerometer	-1.113967	Y Accelerometer	-1.108777	Z Accelerometer	-1.100961
Offset		0.007433		0.003599		0.006425

Accelerometer Constants MIE-A.A 173			Last Edited on 26-OCT-2014,10:01			
Accelerometer Calibrator Number		000				
Accelerometer Temperature Characterisation						
X Accelerometer						
Serial Number		648				
Calibration Date		19-Aug-2008				
		B0	B1	B2	B3	
Bias(g)	0.00000e+000	-9.57706e-006	9.83611e-009	1.13245e-011		
		SF0	SF1	SF2	SF3	
Scale Factor(mA/g)	3.00000e+000	2.83616e-004	1.98700e-007	1.44742e-009		
Y Accelerometer						
Serial Number		652				
Calibration Date		19-Aug-2008				
		B0	B1	B2	B3	
Bias(g)	0.00000e+000	3.42793e-006	-1.11656e-008	-4.36730e-011		
		SF0	SF1	SF2	SF3	
Scale Factor(mA/g)	3.00000e+000	2.75161e-004	2.12516e-007	8.53262e-010		
Z Accelerometer						
Serial Number		588				
Calibration Date		06-May-2008				
		B0	B1	B2	B3	
Bias(g)	0.00000e+000	2.55228e-005	-4.28668e-009	8.28710e-011		
		SF0	SF1	SF2	SF3	
Scale Factor(mA/g)	3.00000e+000	2.82774e-004	2.50728e-007	1.25354e-009		

Caliper Calibration MIE-A.A 173				Base Calibration on 26-OCT-2014 10:05	
				Field Calibration on 26-OCT-2014 10:07	
Base Calibration					
Reading No	Pads 1-5 Meas.	Pads 3-7 Meas.	Calibrator Size (in)		
1	26645	27489	5.96		
2	36054	37578	7.98		
3	45717	47596	9.86		
4	56451	58410	11.88		
5	0	0	0.00		
Reading No	Pad 2 Meas.	Pad 4 Meas.	Pad 6 Meas.	Pad 8 Meas.	Calibrator Size (in)
1	25036	26114	25590	25375	5.96
2	33290	34908	34476	33887	7.98
3	41361	43260	42764	42134	9.86
4	50340	52903	53157	51547	11.88
5	0	0	0	0	0.00
Field Calibration					
	Measured	Measured	Actual		
	Pads 1-5 Caliper(in)	Pads 3-7 Caliper(in)	Caliper(in)		
	5.89	5.97	5.96		
	Measured	Measured	Measured	Measured	Actual
	Pad 2 Caliper(in)	Pad 4 Caliper(in)	Pad 6 Caliper(in)	Pad 8 Caliper(in)	Caliper(in)
	3.01	2.99	2.98	2.98	5.96

Caliper Constants MIE-A.A 173			Last Edited on		
Caliper Difference for BRKT		0.120	inches		

High Resolution Temperature Calibration MAI-B.J 375			Field Calibration on 24-SEP-2014,03:39
	Measured	Calibrated(Deg F)	
Lower	50.00	50.00	
Upper	75.00	75.00	

High Resolution Temperature Constants MAI-B.J 375		Last Edited on 24-SEP-2014,03:39	
Pre-filter Length	11		

Induction Calibration MAI-B.J 375			Base Calibration on 06-MAR-2014,09:29		
			Field Check on 26-OCT-2014 09:40		

## Base Calibration

## Test Loop Calibration

Channel	Measured		Calibrated (mmho/m)	
	Low	High	Low	High
1	17.2	476.3	9.3	966.2
2	6.0	379.5	7.6	821.4
3	3.1	258.6	5.2	566.0
4	1.5	131.2	2.6	279.2

Array Temperature 74.3 Deg F

Channel	Base Check (mmho/m)		Field Check (mmho/m)	
	Low	High	Low	High
1			12.8	3802.1
2			30.5	3542.4
3			29.3	3049.5
4			20.5	2097.0
Deep			18.5	1993.6
Medium			42.4	4012.6
Shallow			44.7	5231.5

Array Temperature 69.5 Deg F

## Induction Constants MAI-B.J 375

Last Edited on 27-OCT-2014,16:22

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.	MGS 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-C.J 378

Base Calibration on 26-OCT-2014 09:57

Field Calibration on 26-OCT-2014 09:58

## Base Calibration

Reading No	Measured	Calibrator Size (in)
1	13871	4.00
2	21735	5.96
3	30021	7.98
4	37927	9.86
5	46879	11.88



## Field Calibration

Measured Caliper (in)  
5.97

Actual Caliper (in)  
5.96

## Photo Density Calibration MPD-C.J 378

Base Calibration on 01-OCT-2014 11:53  
Field Check on 26-OCT-2014 09:50

## Density Calibration

## Base Calibration

## Measured

## Calibrated (sdu)

Near

Far

Near

Far

Background

1145

1223

Reference 1

56123

24901

59443

30683

Reference 2

22147

2322

25113

2508

## Field Check at Base

1145.2

1222.9

## Field Check

1146.1

1229.7

## PE Calibration

## Base Calibration

## Measured

## Calibrated

WS

WH

Ratio

Ratio

Background

209

1030

Reference 1

24056

55936

0.434

0.372

Reference 2

6396

22017

0.295

0.268

## Field Check at Base

209.3

1029.7

## Field Check

209.5

1029.6

## Density Constants MPD-C.J 378

Last Edited on 26-OCT-2014,13:00

Density Source Id

P44264B

Nylon Calibrator Number

652

Aluminium Calibrator Number

659

Density Shoe Profile

4 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)

2.71

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

## Spectral Gamma Calibration SGS-E.J 128

Base Calibration on 25-SEP-2014 17:21  
Field Calibration on 13-OCT-2014,17:33

## Base Calibration

## Potassium Calibrator

Gate 1

Gate 2

Gate 3

Gate 4

Gate 5

Background

106.5

36.9

3.8

1.4

2.3

Calibrator (Gross)

234.7

121.4

29.0

1.5

2.4

Calibrator (Net)

128.2

84.5

25.2

0.1

0.1

Concentrations

K %

5.9

U ppm

0.0

Th ppm

0.0

### Uranium Calibrator

	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
Background	106.5	36.9	3.8	1.4	2.3
Calibrator (Gross)	561.8	196.8	17.3	11.1	5.9
Calibrator (Net)	455.4	159.9	13.5	9.7	3.6

	K %	U ppm	Th ppm
Concentrations	0.0	16.6	0.0

### Thorium Calibrator

	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
Background	106.5	36.9	3.8	1.4	2.3
Calibrator (Gross)	424.1	156.4	12.6	6.6	17.3
Calibrator (Net)	317.6	119.5	8.8	5.2	14.9

	K %	U ppm	Th ppm
Concentrations	0.0	0.0	44.7

### Mixture Calibrator

	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
Background	106.5	36.9	3.8	1.4	2.3
Calibrator (Gross)	906.0	369.5	48.4	14.6	19.8
Calibrator (Net)	799.6	332.5	44.6	13.2	17.5

### Field Calibration

#### Gamma Ray

	Measured	Calibrated (API)
Background	157	31
Calibrator (Gross)	1356	271
Calibrator (Net)	1199	240

### Mixture Calibrator

	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
Background	105.4	35.9	3.8	1.4	2.2
Calibrator (Gross)	900.9	365.2	48.3	14.3	19.5
Calibrator (Net)	795.4	329.3	44.5	12.9	17.3

Spectral Gamma Constants SGS-E.J 128

Last Edited on 26-OCT-2014,13:00

Background Calibrator Number	440
Mixture Calibrator Number	450
Potassium Calibrator Number	500
Uranium Calibrator Number	506
Thorium Calibrator Number	503
Mud Density	1.27 gm/cc
Caliper Source for Processing	Density Caliper
Tool Position	Eccentred
Concentration of KCl	kppm
K Mud Type	Chloride
K Mud Concentration	0.00 %

## DOWNHOLE EQUIPMENT

D:\Logs\Whiting\HORSETAIL 29G-2012B\MMS DEPTH.dta

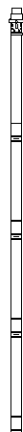
Shuttle Running Tool 3.5" (SRT A)  
 SRT-A 6 LG: 6.47 ft WT: 37.5 lb OD: 2.520 in

400V EXT  
 MLK-A 1 LG: 14.23 ft WT: 30.9 lb OD: 2.240 in

200V ST  
 MLK-A 2 LG: 8.52 ft WT: 30.9 lb OD: 2.240 in

MMR LINKER  
 MLK-A 3 LG: 4.48 ft WT: 30.9 lb OD: 2.240 in

SKJ-E.B Compact Knuckle Joint



SKJ-E.B 614 LG: 2.17 ft WT: 24.3 lb OD: 2.244 in

MBS-G.A 200v Compact Battery Sub

MBS-G.A 126 LG: 17.06 ft WT: 123.5 lb OD: 2.240 in

Compact Memory Sub F.A

MMS-F.A 189 LG: 5.20 ft WT: 37.5 lb OD: 2.244 in

Compact Tool Isolator sub.

MTI-C.A 136 LG: 1.54 ft WT: 13.2 lb OD: 2.244 in

Compact Short Gamma

MGS-D.A 185 LG: 3.41 ft WT: 24.3 lb OD: 2.244 in

Compact Collar Locator

MCL-C.A 96 LG: 3.17 ft WT: 26.5 lb OD: 2.244 in

SKJ-E.A Compact Knuckle Joint

SKJ-E.A 244 LG: 2.17 ft WT: 24.3 lb OD: 2.244 in

SHA-H Compact Swivel Head Adaptor

SHA-H 142 LG: 2.30 ft WT: 22.0 lb OD: 2.244 in

MIS-D.B Compact Inline Bowspring sub

MIS-D.B 723 LG: 5.70 ft WT: 33.1 lb OD: 2.240 in

Compact Neutron

MDN-B.J 372 LG: 5.04 ft WT: 50.7 lb OD: 2.244 in

Compact Density/Caliper

MPD-C.J 378 LG: 9.59 ft WT: 90.4 lb OD: 2.244 in

MIS-D.B Compact Inline Bowspring sub

MIS-D.B 731 LG: 5.70 ft WT: 33.1 lb OD: 2.240 in

SHA-J.B Compact Swivel Head Adaptor

SHA-J.B 512 LG: 2.30 ft WT: 22.0 lb OD: 2.244 in

SKJ-E.A Compact Knuckle Joint

SKJ-E.A 245 LG: 2.17 ft WT: 24.3 lb OD: 2.244 in

MIS-E.B Compact Inline Standoff sub

MIS-E.B 695 LG: 2.14 ft WT: 15.4 lb OD: 2.244 in

SKJ-E.B Compact Knuckle Joint

SKJ-E.B 603 LG: 2.17 ft WT: 24.3 lb OD: 2.244 in

MIS-D.A Compact Inline Bowspring sub

MIS-D.A 437 LG: 5.70 ft WT: 33.1 lb OD: 2.240 in

Compact MMI Memory Section

MIM-A.A 173 LG: 4.65 ft WT: 26.5 lb OD: 2.240 in

Compact MMI Electrode Section

MIE-A.A 173 LG: 13.96 ft WT: 99.2 lb OD: 4.094 in

MIS-D.A Compact Inline Bowspring sub

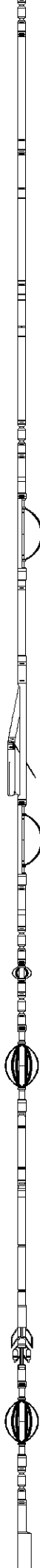
MIS-D.A 293 LG: 5.70 ft WT: 33.1 lb OD: 2.240 in

SKJ-E.B Compact Knuckle Joint

SKJ-E.B 612 LG: 2.17 ft WT: 24.3 lb OD: 2.244 in

Spectral Gamma Ray Sub

SGS-F.A 123 LG: 7.70 ft WT: 125.0 lb OD: 2.510 in



SGS-E.J 128 LG: 7.78 ft WT: 105.8 lb OD: 3.543 in

SKJ-E.A Compact Knuckle Joint

SKJ-E.A 246 LG: 2.17 ft WT: 24.3 lb OD: 2.244 in

MIS-E.B Compact Inline Standoff sub

MIS-E.B 694 LG: 2.14 ft WT: 15.4 lb OD: 2.244 in

Compact Induction

MAI-B.J 375 LG: 10.81 ft WT: 48.5 lb OD: 2.240 in

Total Length: 160.56 ft Weight: 1128.8 lb



Tool Zero

(0.13ft from bottom)

COMPANY	WHITING OIL AND GAS CORPORATION
WELL	HORSETAIL 29G-2012B
FIELD	REDTAIL
PROVINCE/COUNTY	WELD
COUNTRY/STATE	U.S.A. / COLORADO

Elevation Kelly Bushing	4712.00	feet	First Reading	13676.00	feet
Elevation Drill Floor	4712.00	feet	Depth Driller	13700.00	feet
Elevation Ground Level	4694.00	feet	Depth Logger	13700.00	feet



COMPACT TRIPLE COMBO  
SPECTRAL GAMMA RAY  
QUICKLOOK LOG

**Weatherford**<sup>®</sup>