



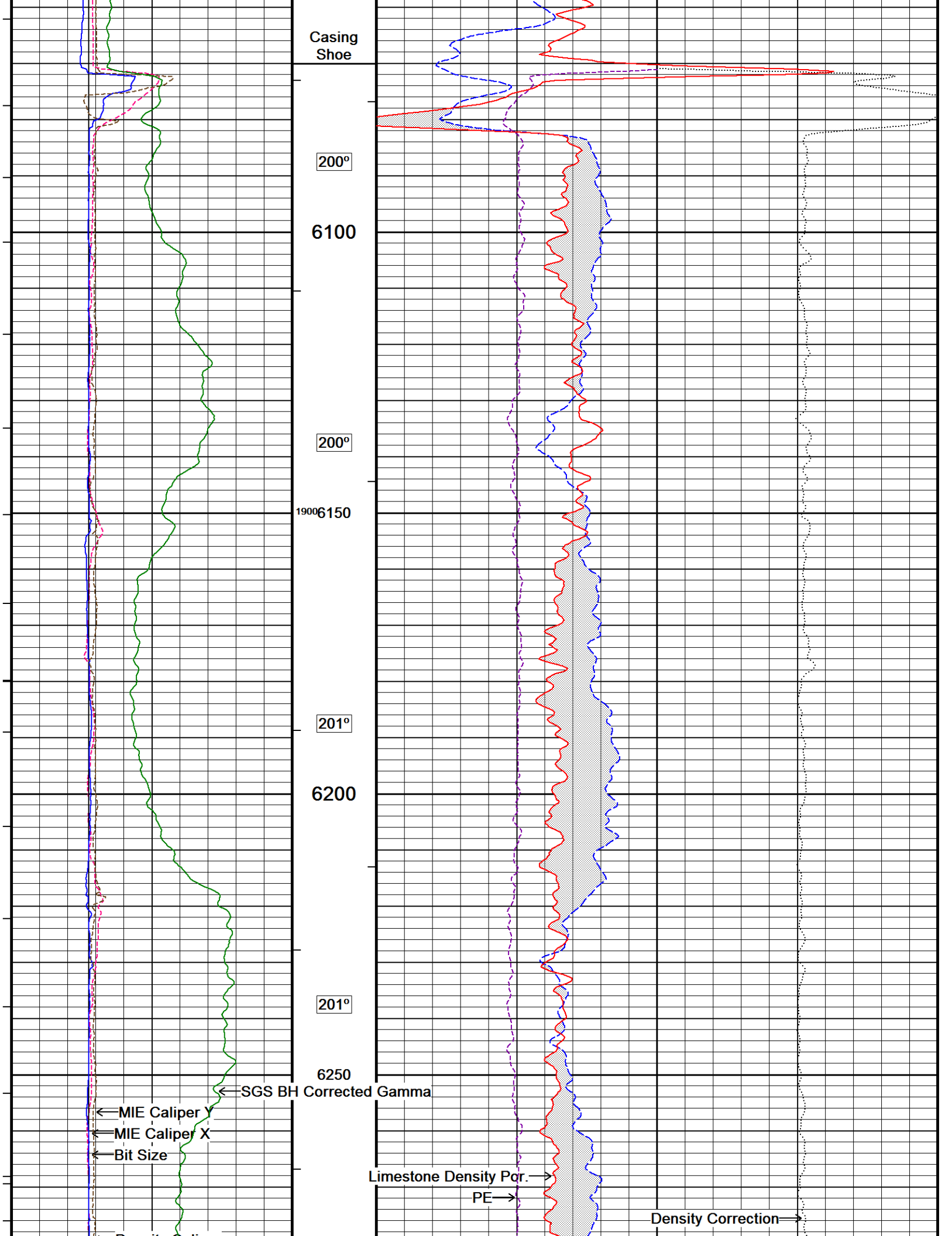
Weatherford®

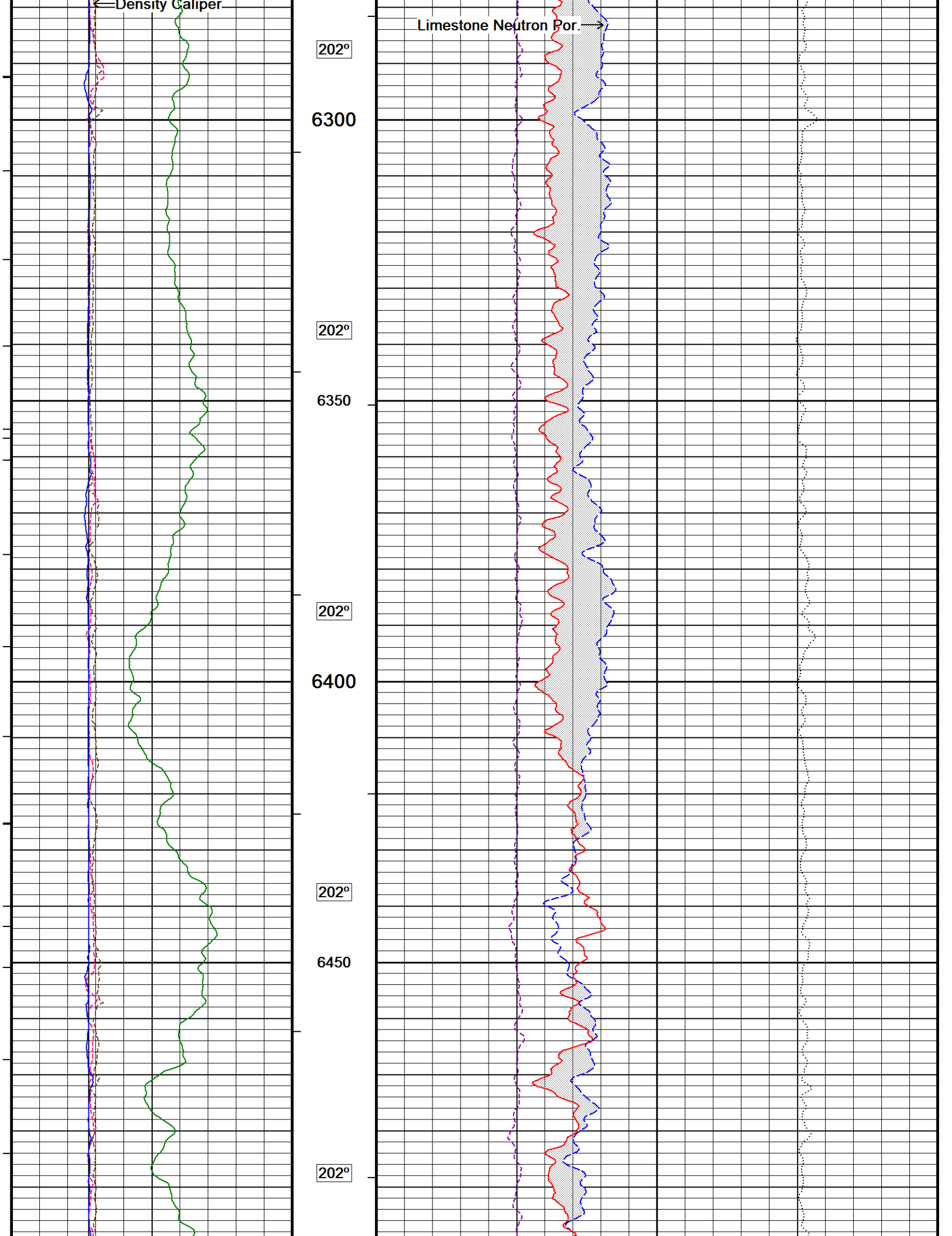
**MEASURED DEPTH
PHOTO DENSITY
DUAL SPACED NEUTRON**

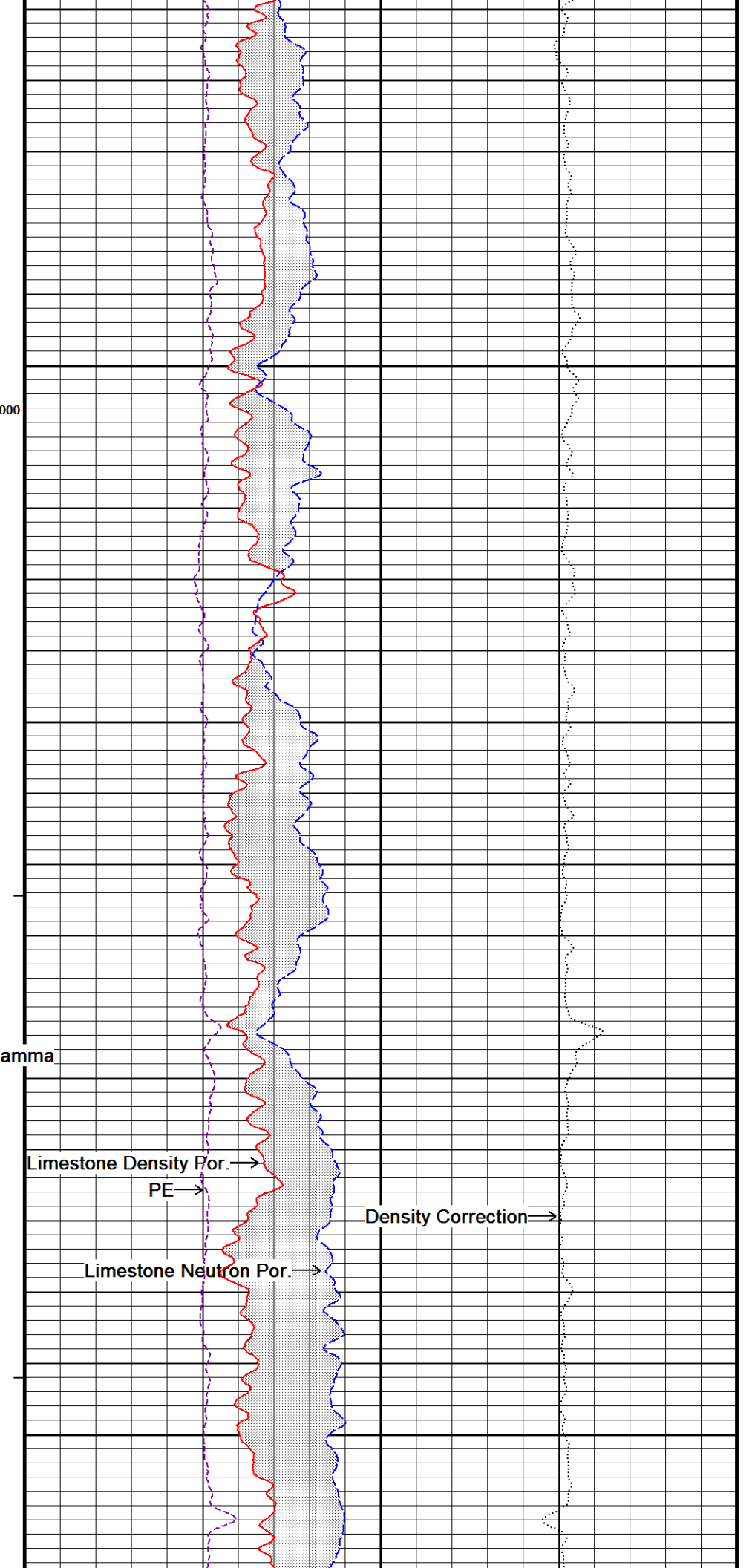
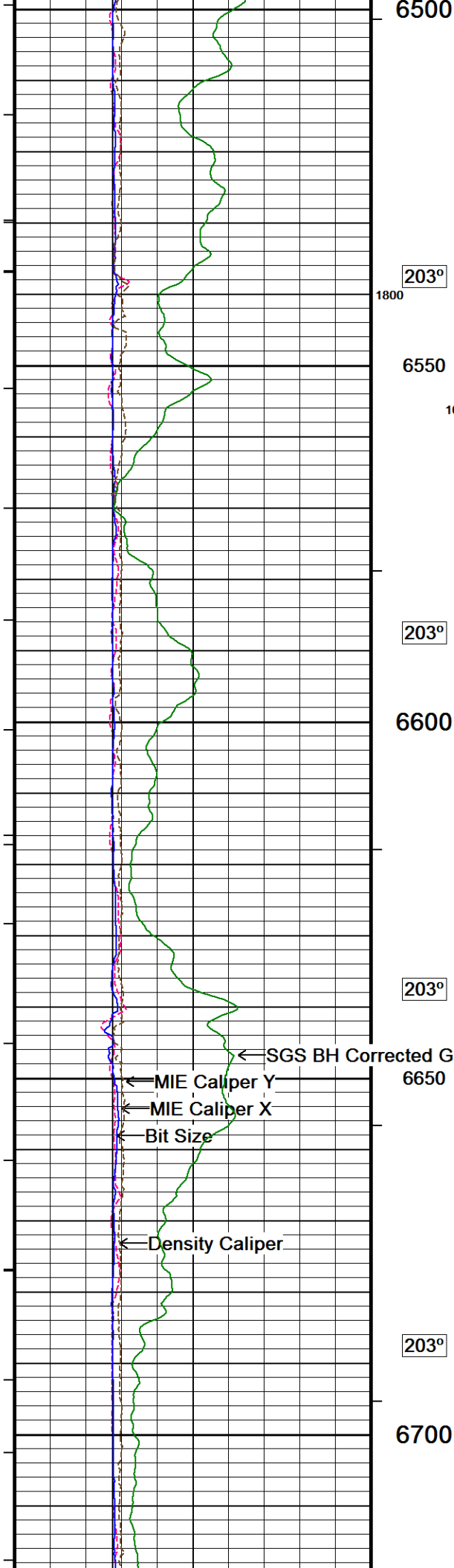
COMPANY			WHITTING OIL AND GAS CORPORATION			
WELL			HORSETAIL 30F-1942			
FIELD			REDTAIL			
PROVINCE/COUNTY			WELD			
COUNTRY/STATE			U.S.A. / COLORADO			
LOCATION			SHL: 2323 FNL & 1890 FWL			
PERMIT NUMBER			BHL: 100 FNL & 1485 FWL			
SEC 30	TWP 10N	RGE 57W	Other Services		ARRAY INDUCTION	
		MICRO IMAGER				
		SPECTRAL GAMMA				
API Number		05-123-38740		CROSS DIPOLE SONIC		
Permanent Datum G.L., Elevation 4780 feet						
Log Measured From KB				Elevations:		
Drilling Measured From K.B. @ 17 FEET				KB 4797.00		
				DF 4797.00		
				GL 4780.00		
Date	22-OCT-2014					
Run Number	ONE					
Service Order	6551-101136206					
Depth Driller	13777.00			feet		
Depth Logger	13777.00			feet		
First Reading	13660.00			feet		
Last Reading	6050.00			feet		
Casing Driller	6064.00			feet		
Casing Logger	6070.00			feet		
Bit Size	6.750			inches		
Hole Fluid Type	WBM					
Density / Viscosity	9.50 lb/USg		44.00		type in	
PH / Fluid Loss	8.90		4.80		ml/30Min	
Sample Source	FLOWLINE					
Rm @ Measured Temp	1.05 @ 69.2			ohm-m		
Rmf @ Measured Temp	0.84 @ 69.2			ohm-m		
Rmc @ Measured Temp	1.26 @ 69.2			ohm-m		
Source Rmf / Rmc	CALC		CALC			
Rm @ BHT	0.36 @211.0		ohm-m			
Time Since Circulation	1 HOUR					
Max Recorded Temp	212.00		deg F			
Equipment / Base	18086		Casper			
Recorded By	C CULLEN					
Witnessed By	M ODEBERG			GEOLOGIST		
WSL				WSL		

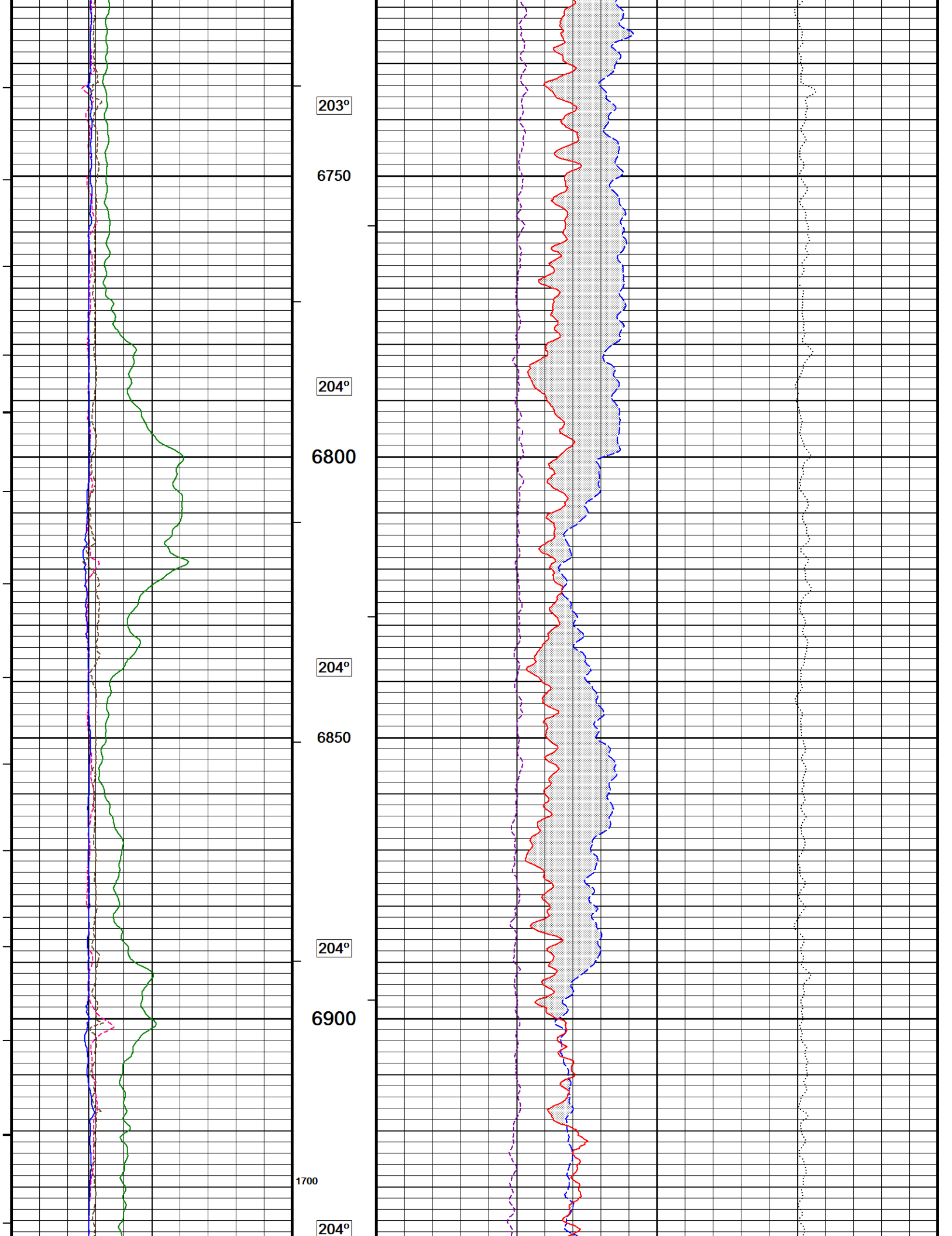
BOREHOLE RECORD					Last Edited: 22-OCT-2014 15:42
Bit Size inches		Depth From feet		Depth To feet	
6.750		6064.00		13777.00	
CASING RECORD					
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft	
SURFACE	7.000	0.00	6064.00	29.00	

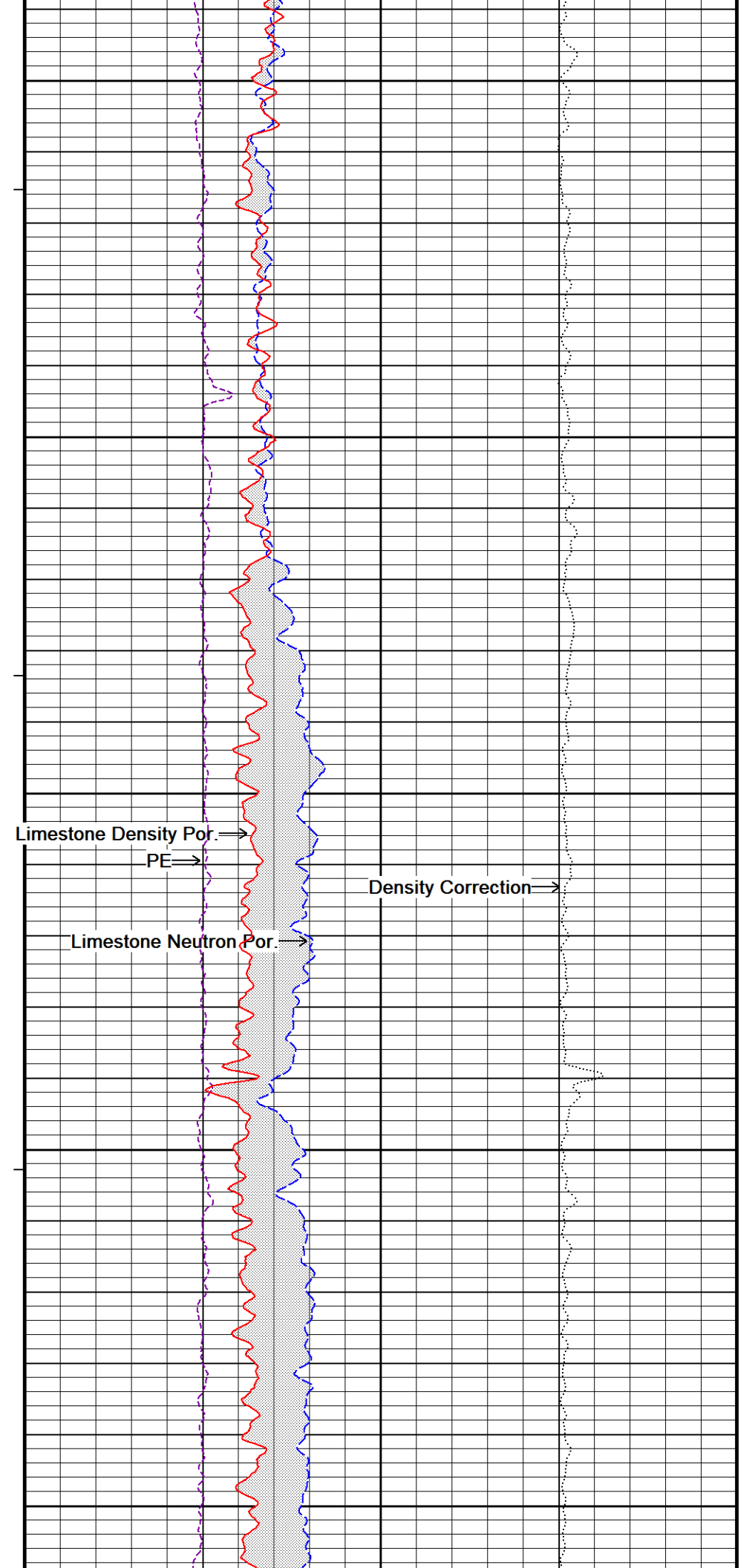
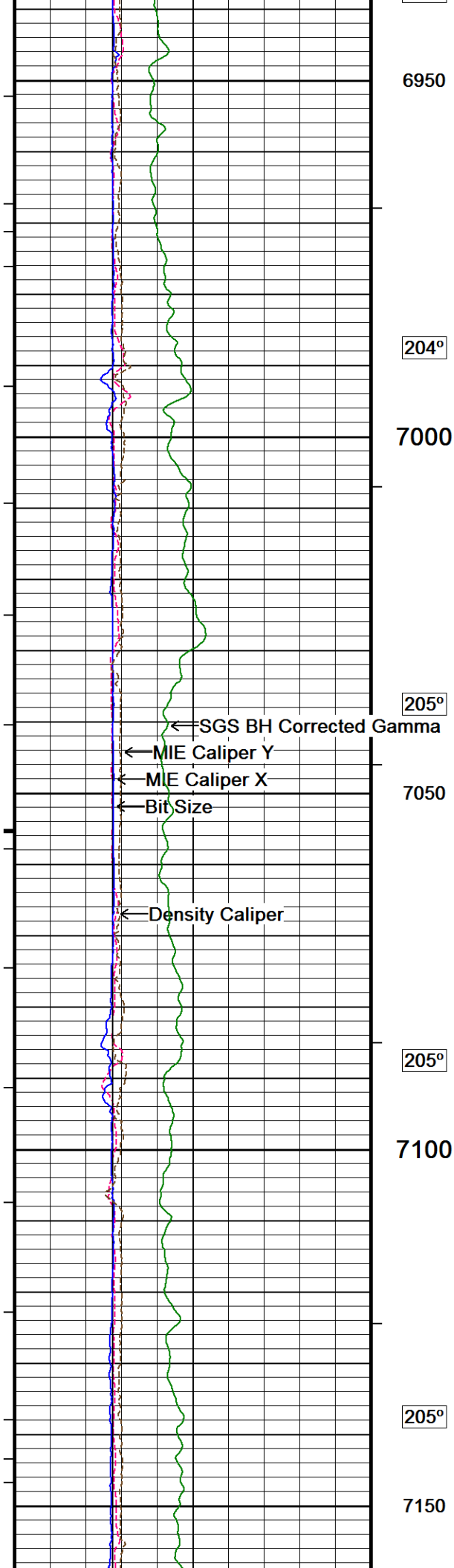
REMARKS
LOGGED WITH WLS 14.01.3220
LOGGED USING MESSENGER SHUTTLE METHOD OF DEPLOYMENT
HARDWARE:
MDN: MIS-A SINGLE BOWSPRING USED ABOVE MDN
MPD: 4INCH PROFILE PLATE USED, MIS-A SINGLE BOWSPRING USED BELOW MPD
MSD: STANDOFFS ON THE RECEIVER AND TRANSMITTER
CMI: OVER BODY BASKET AND MIS-D BASKETS PLACED ABOVE AND BELOW FOR CENTRALIZATION
SGS: RAN BELOW CMI. ECCENTRALIZED WITH SKJ.
2.71 G/CC DENSITY MATRIX USED TO CALCULATE POROSITY
LAST 3 STANDS WERE PUMPED ON AT 4BBL/MIN AND ROTATED AT 25 RPM TO REACH TD.
ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST
ANNULAR HOLE VOLUME FROM TD TO 7"-29# CASING AT 6070 FEET = 1070 CUBIC FEET

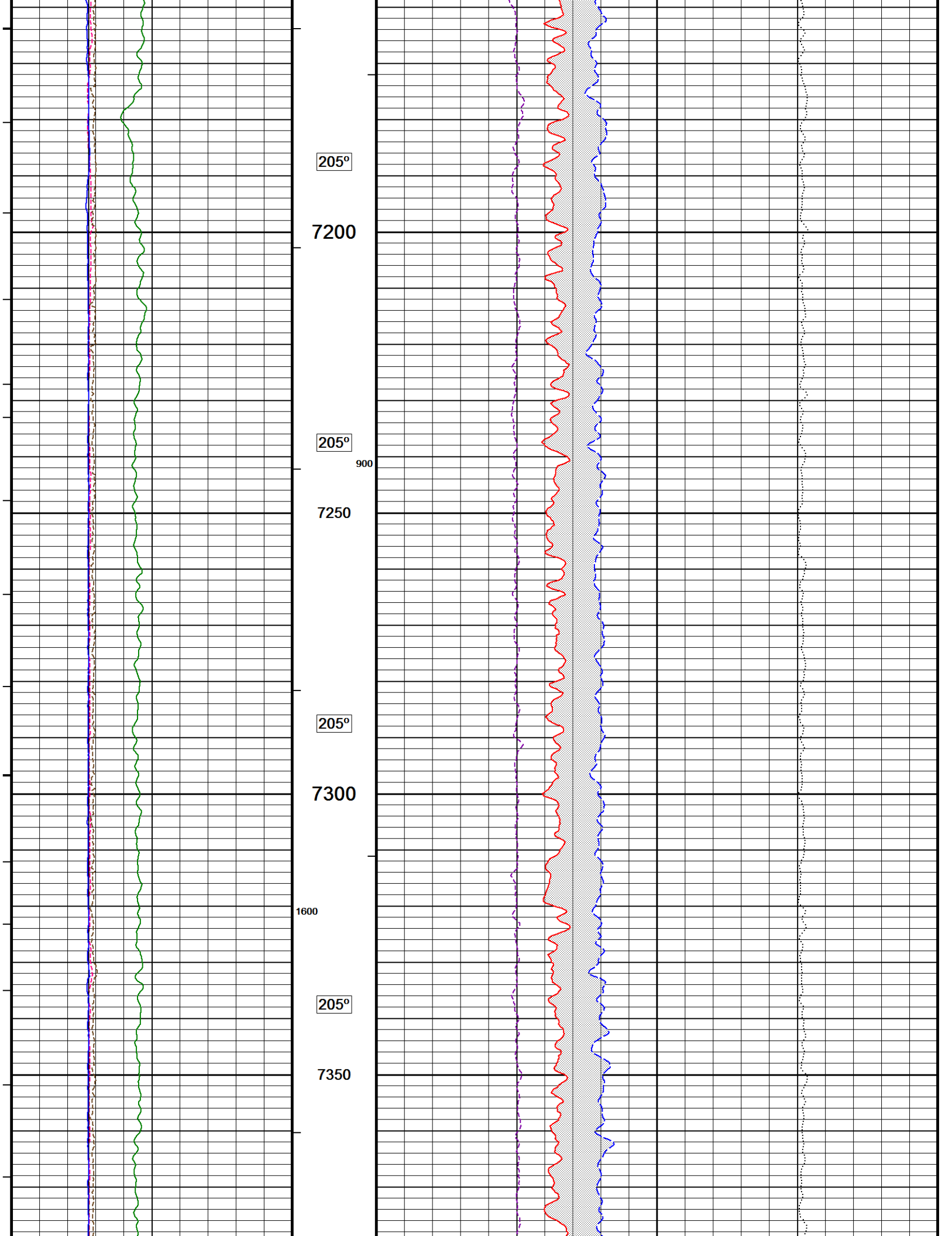


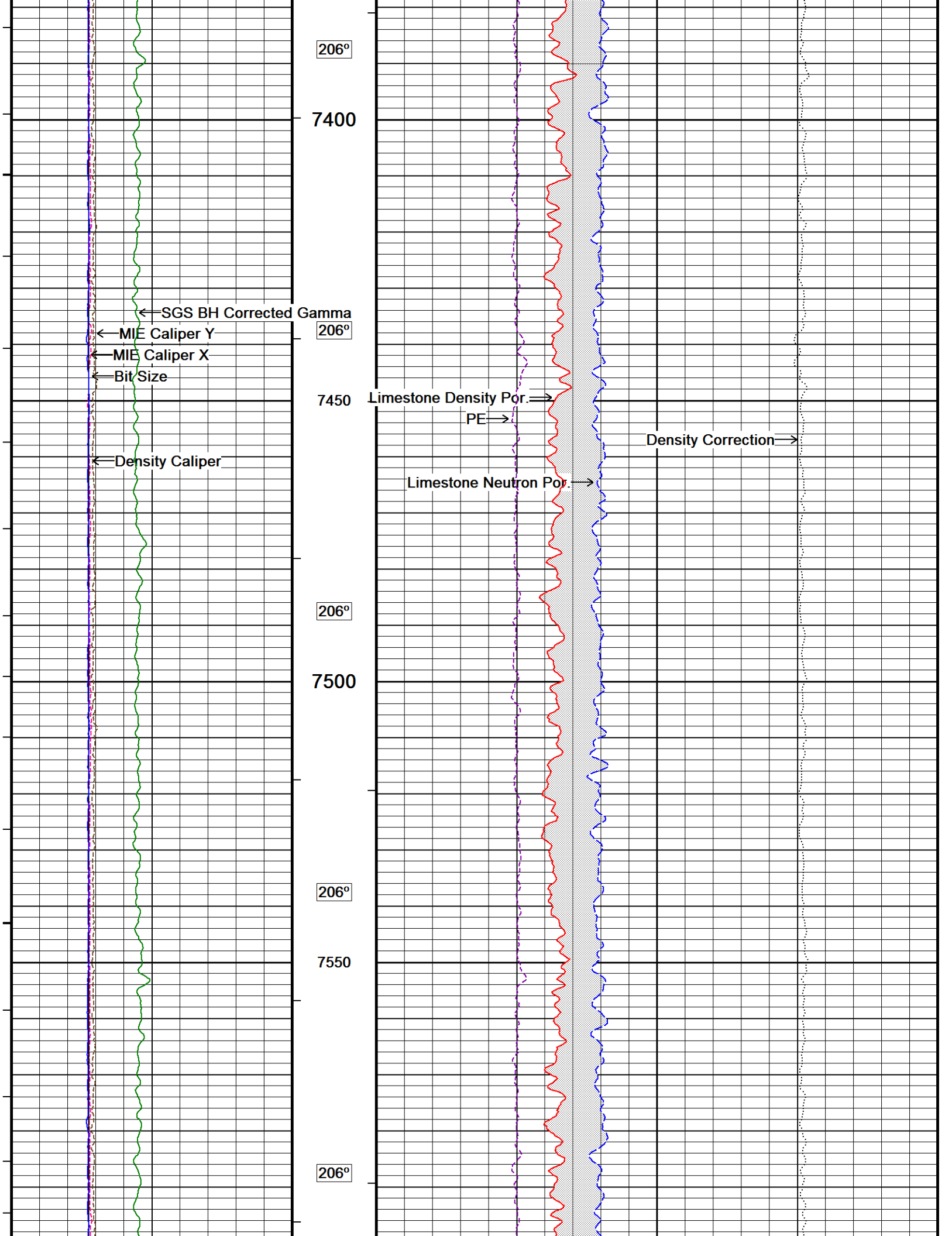


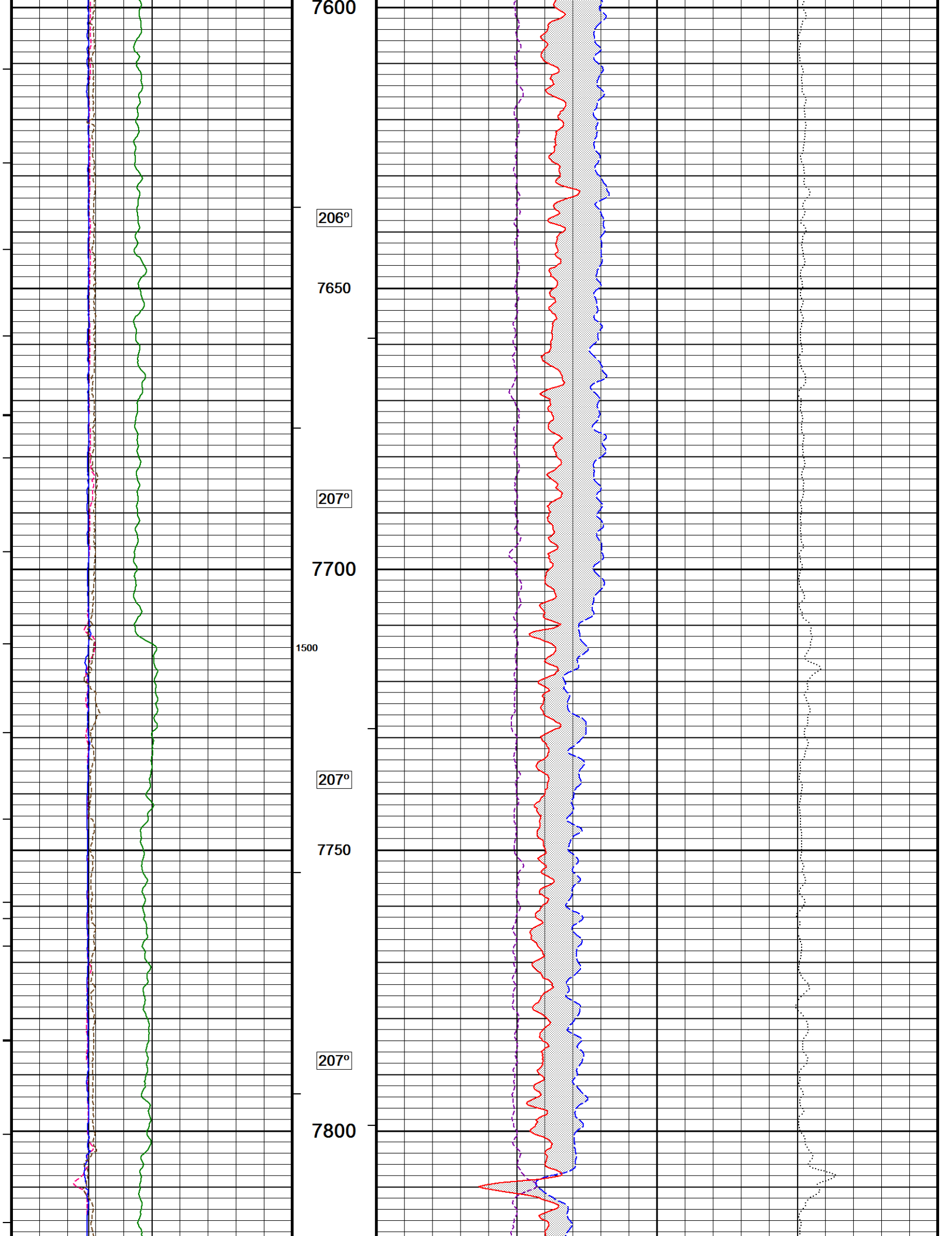


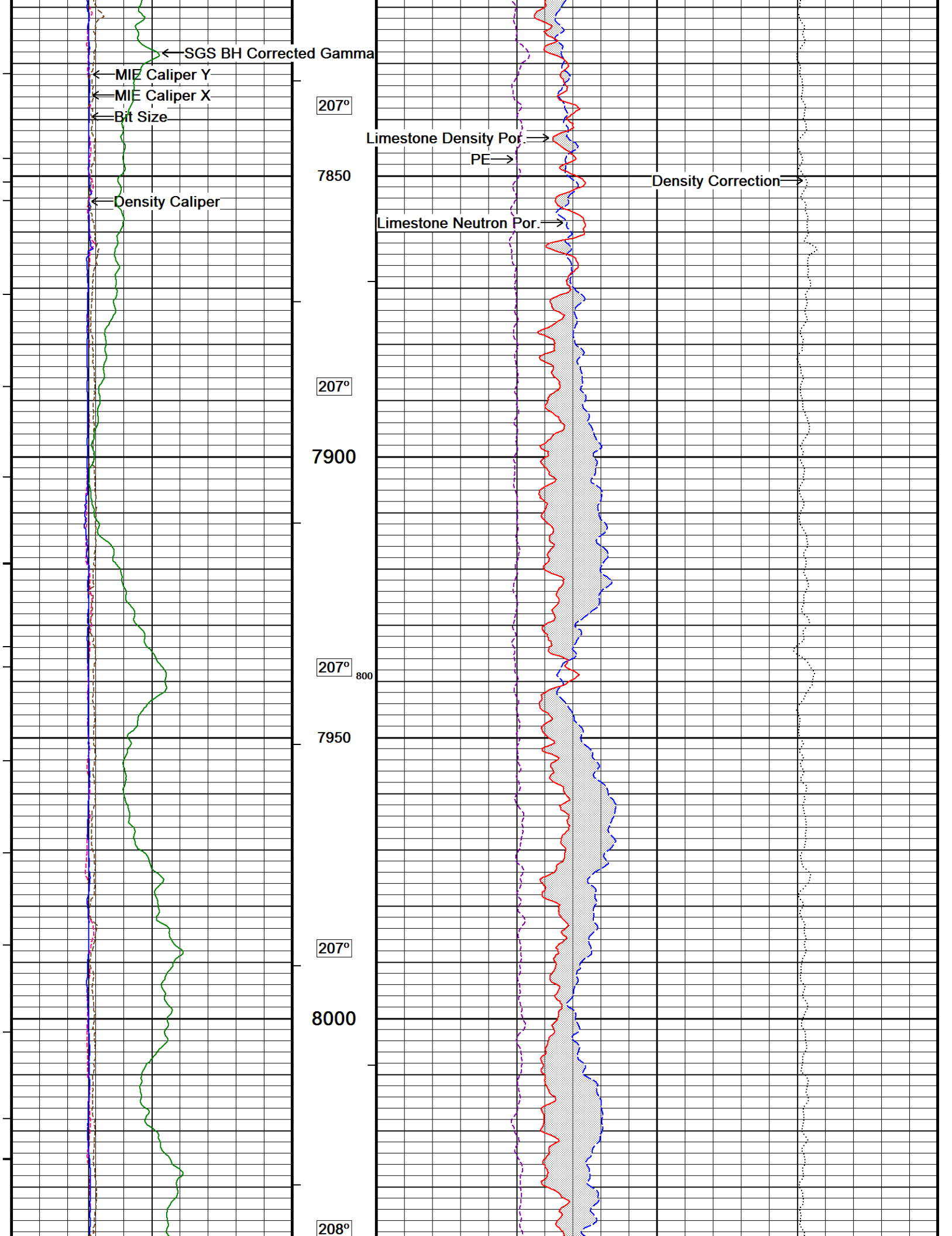


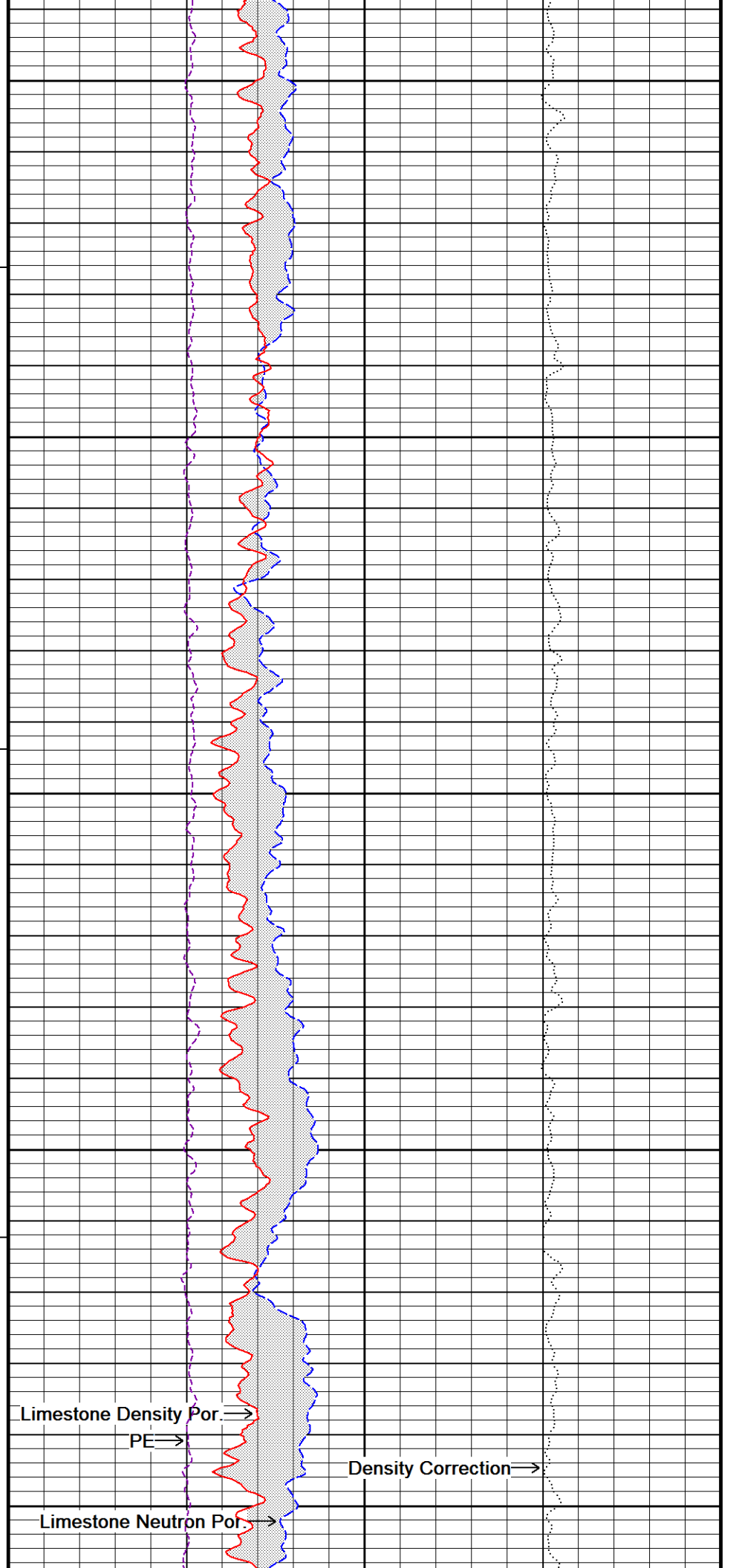
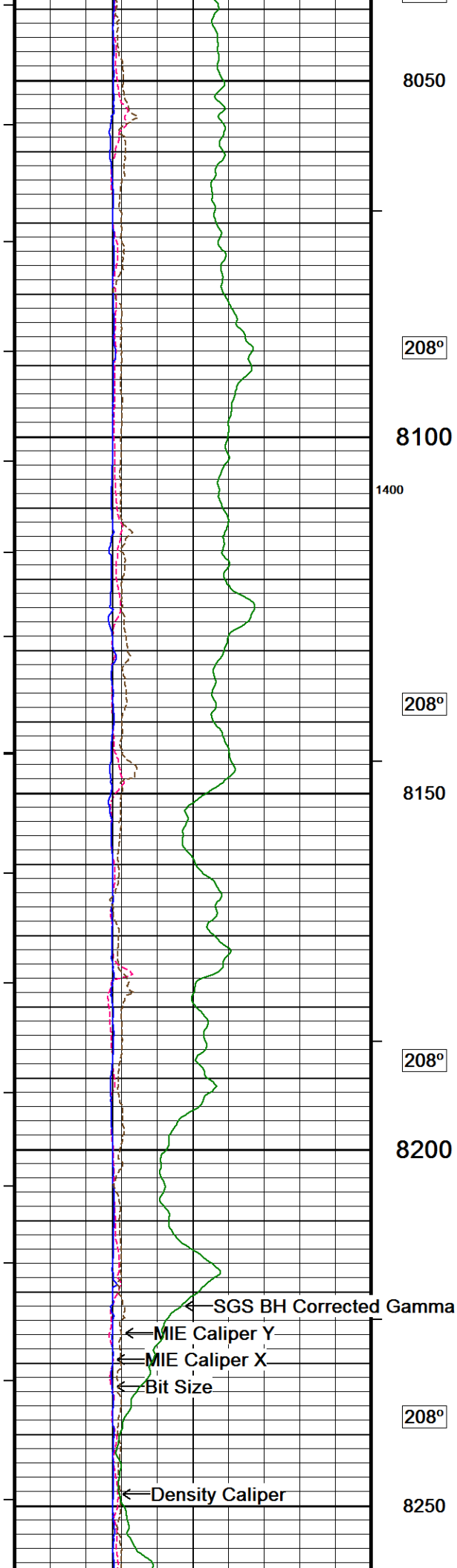


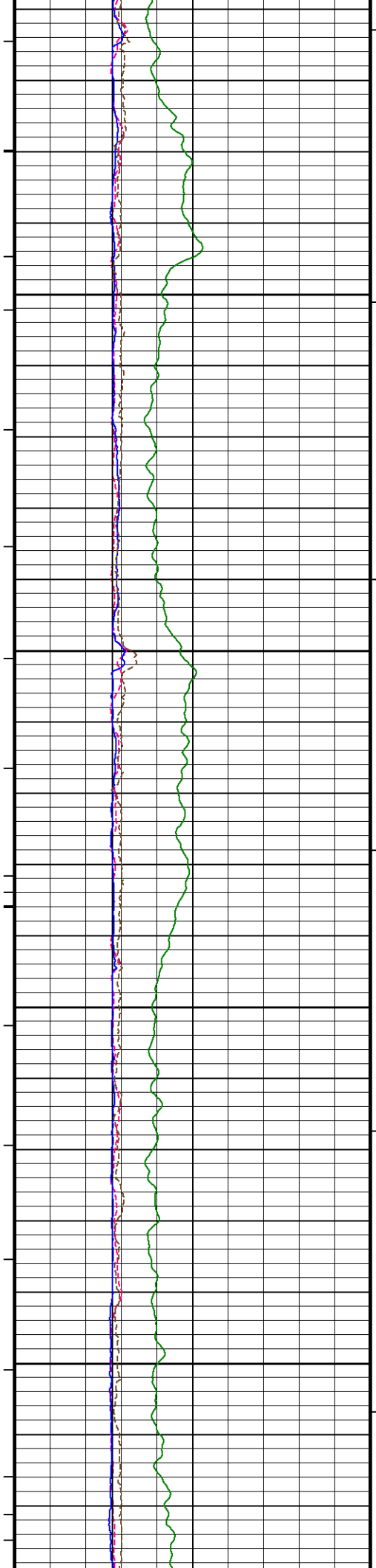




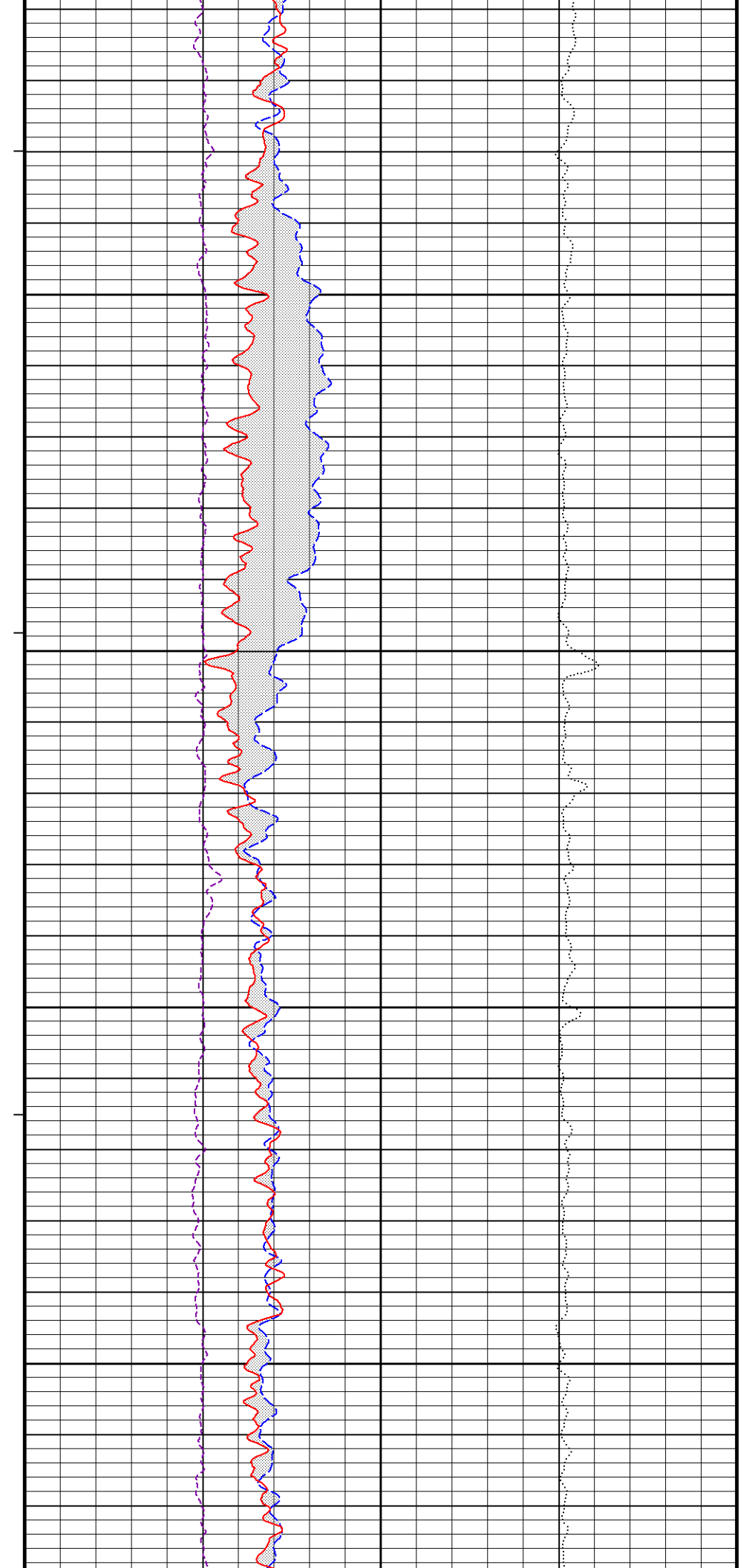


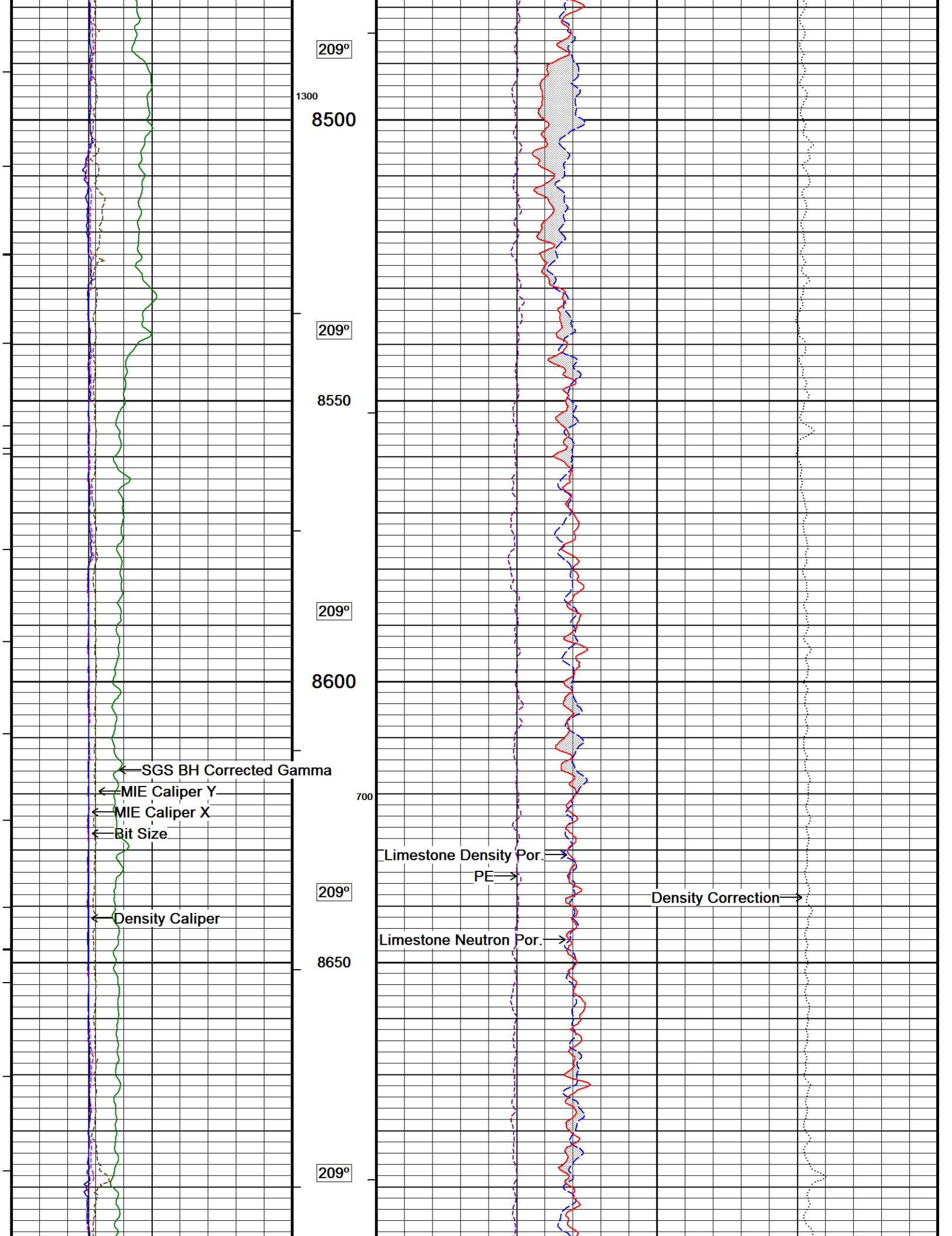


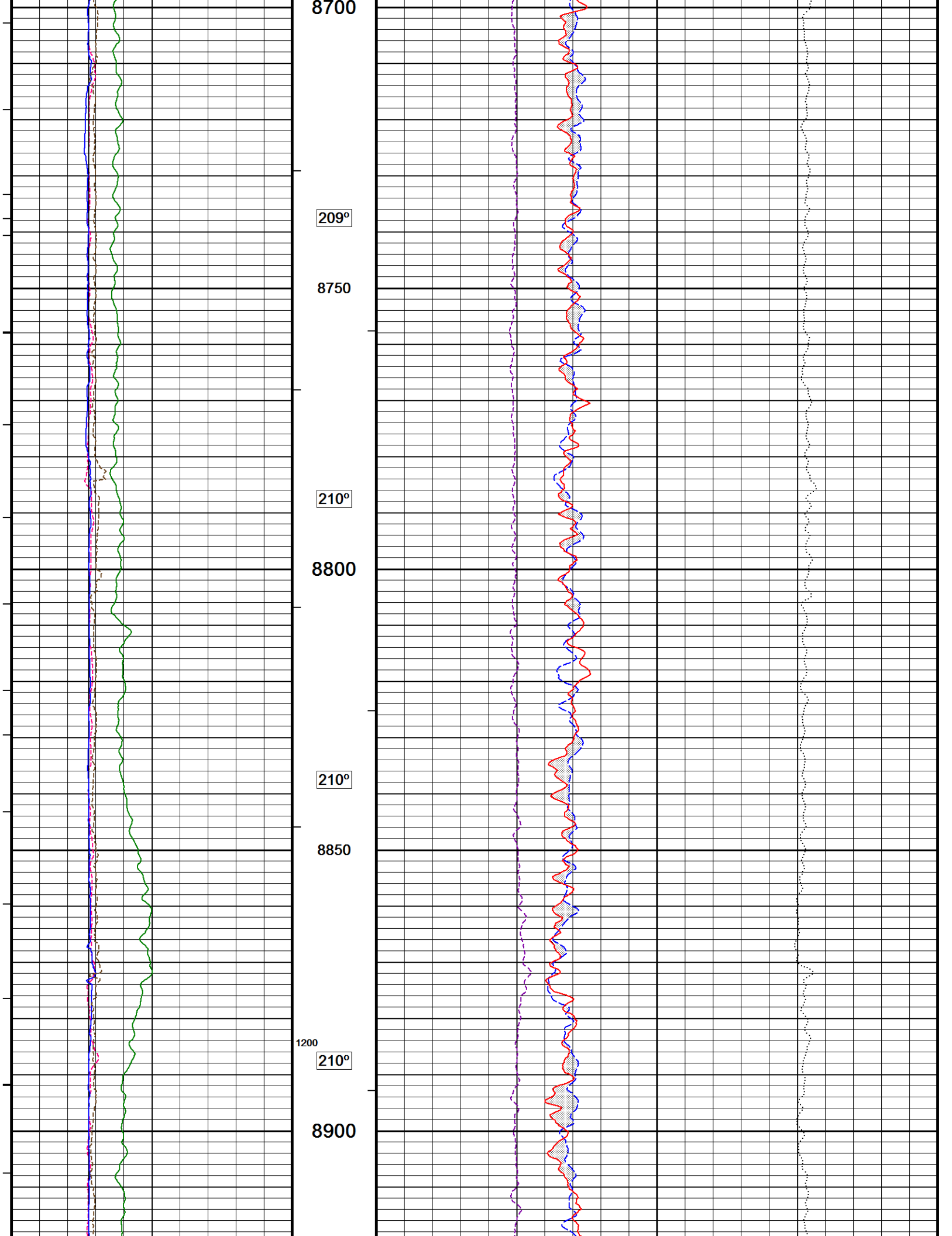


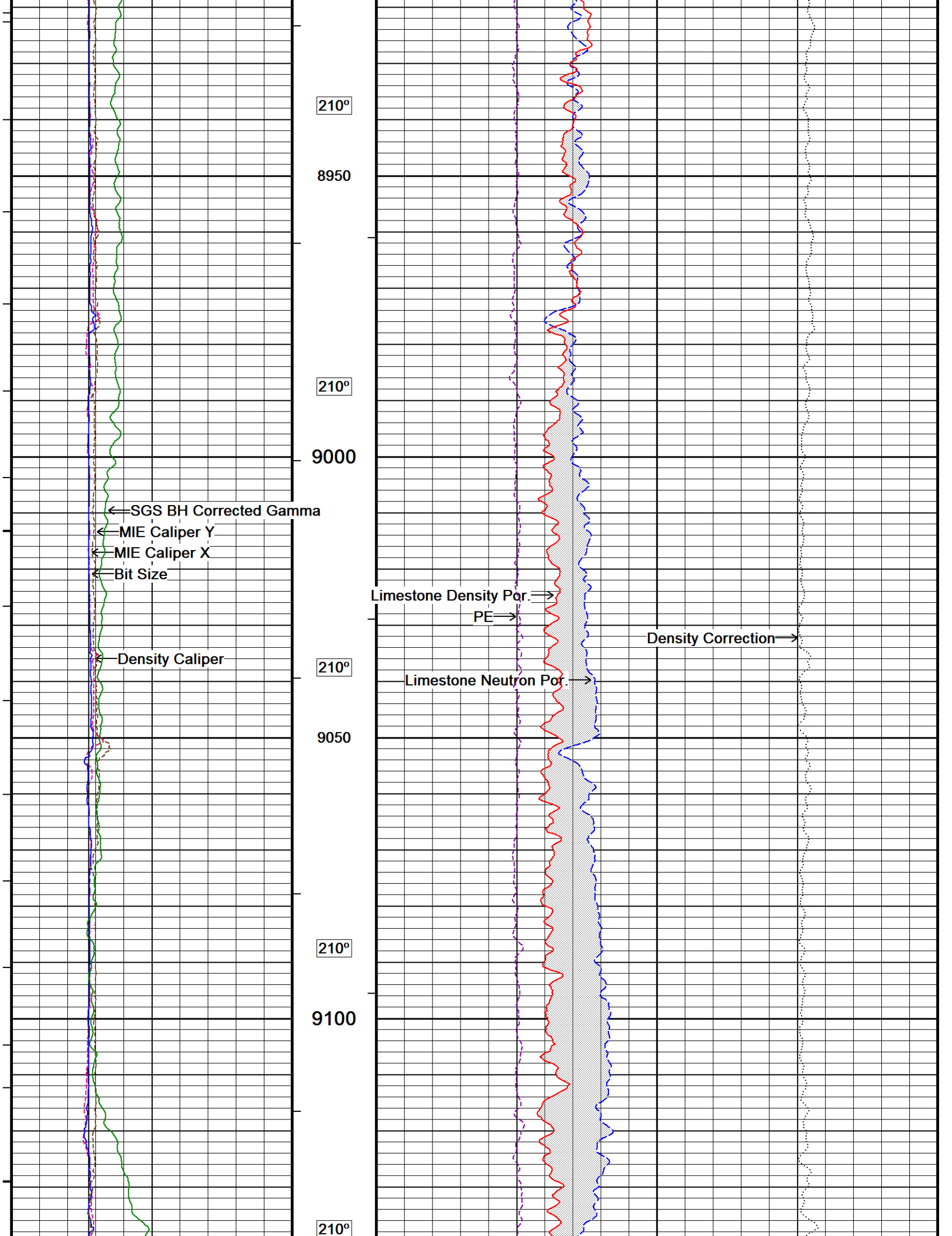


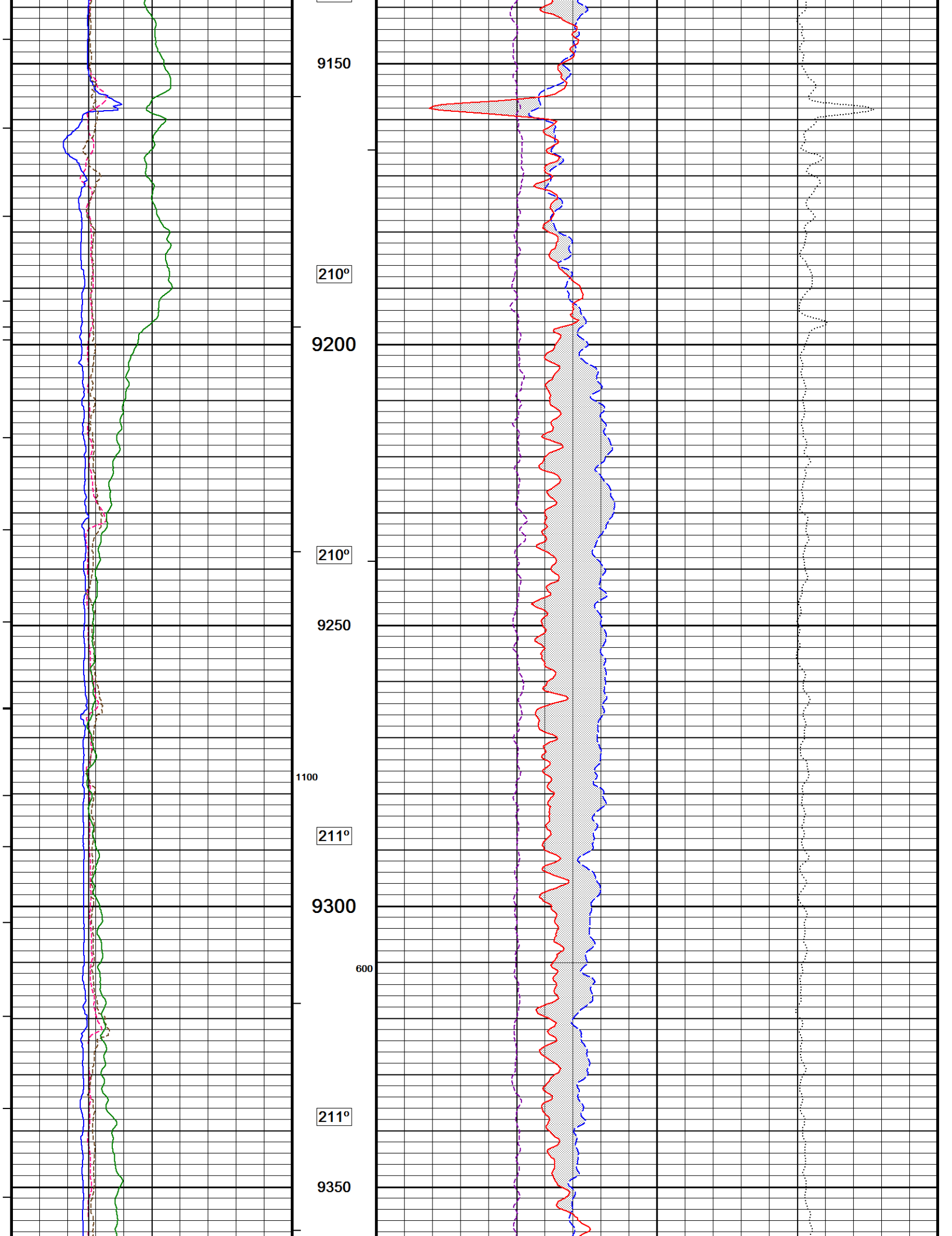
208°
8300
208°
8350
209°
8400
209°
8450

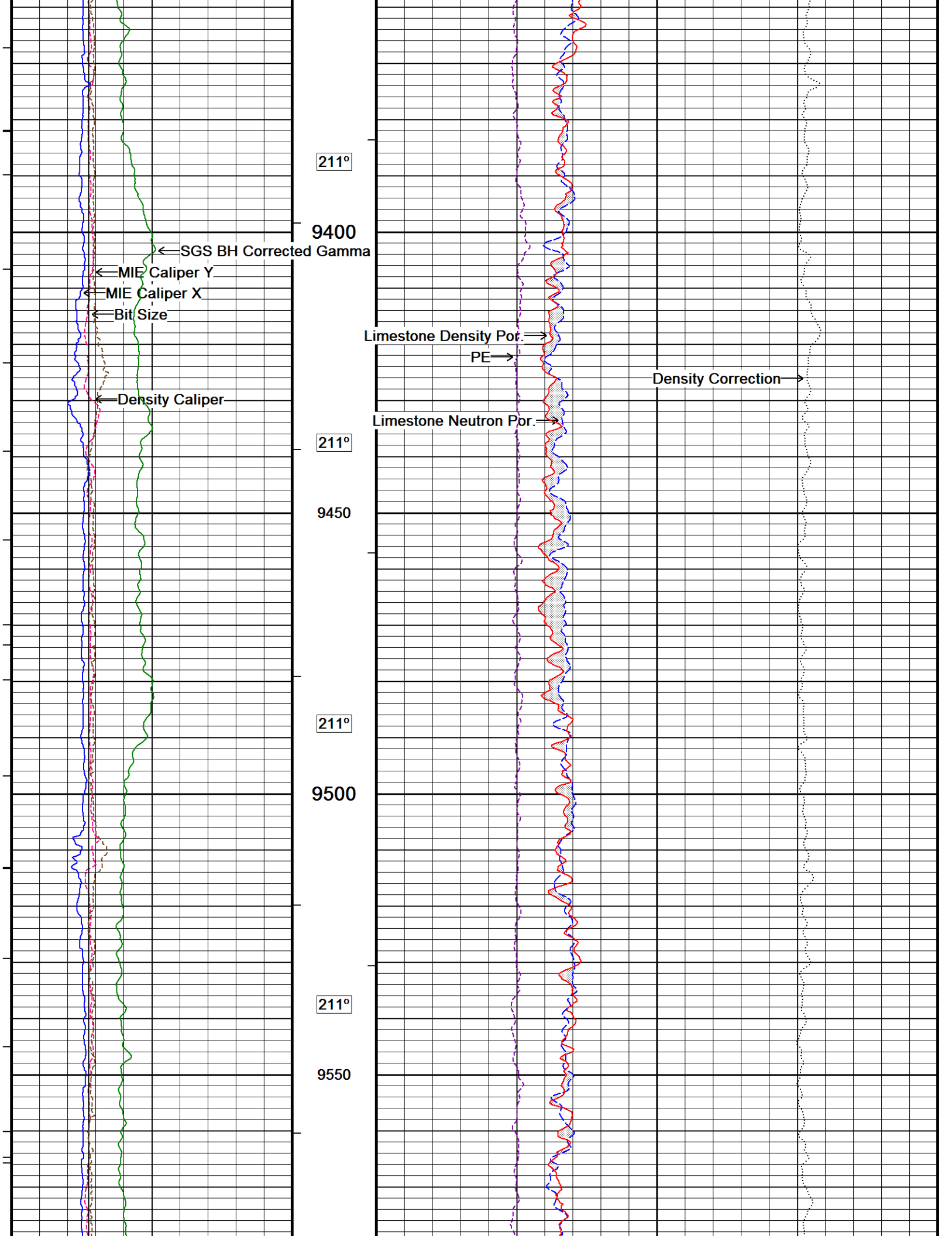


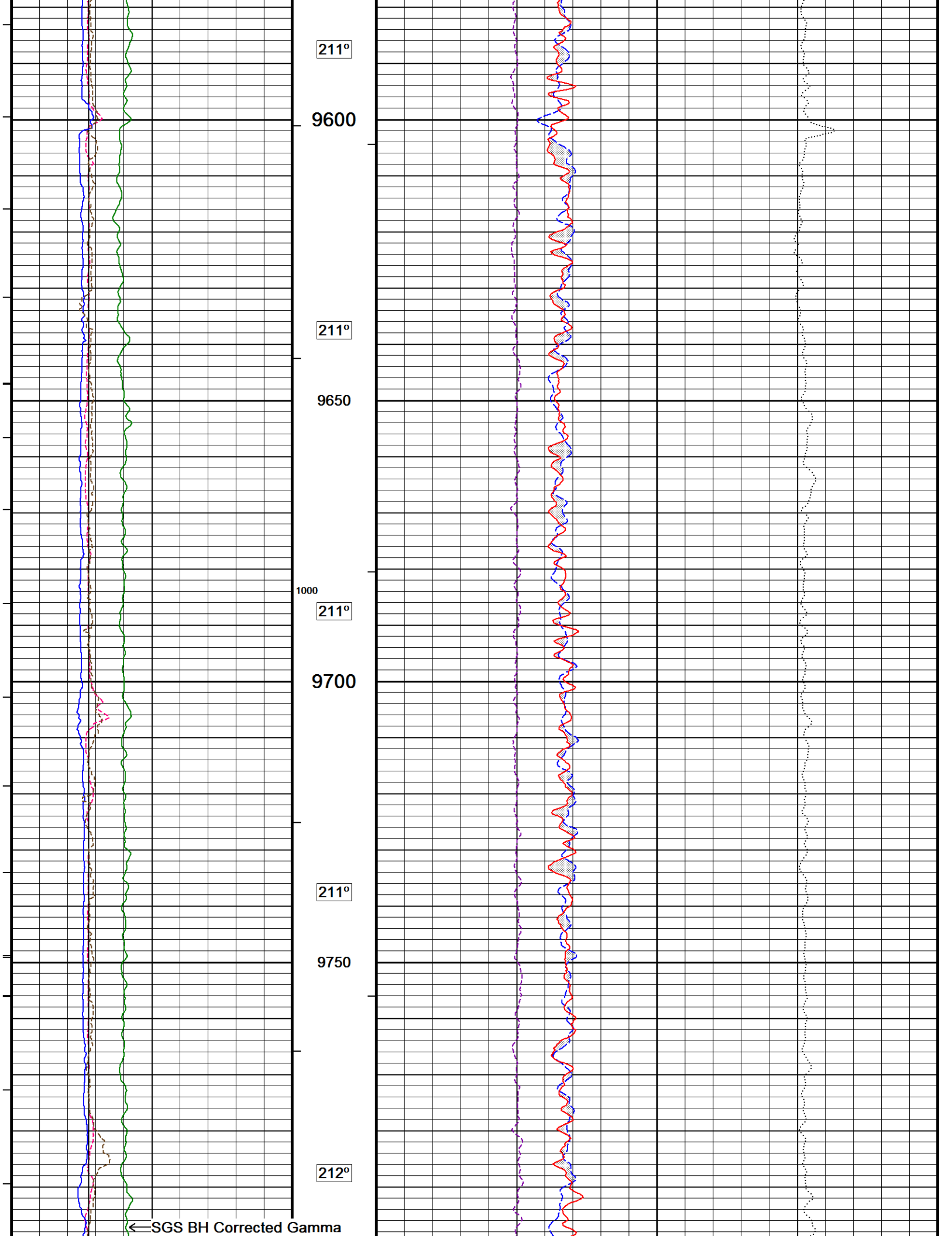


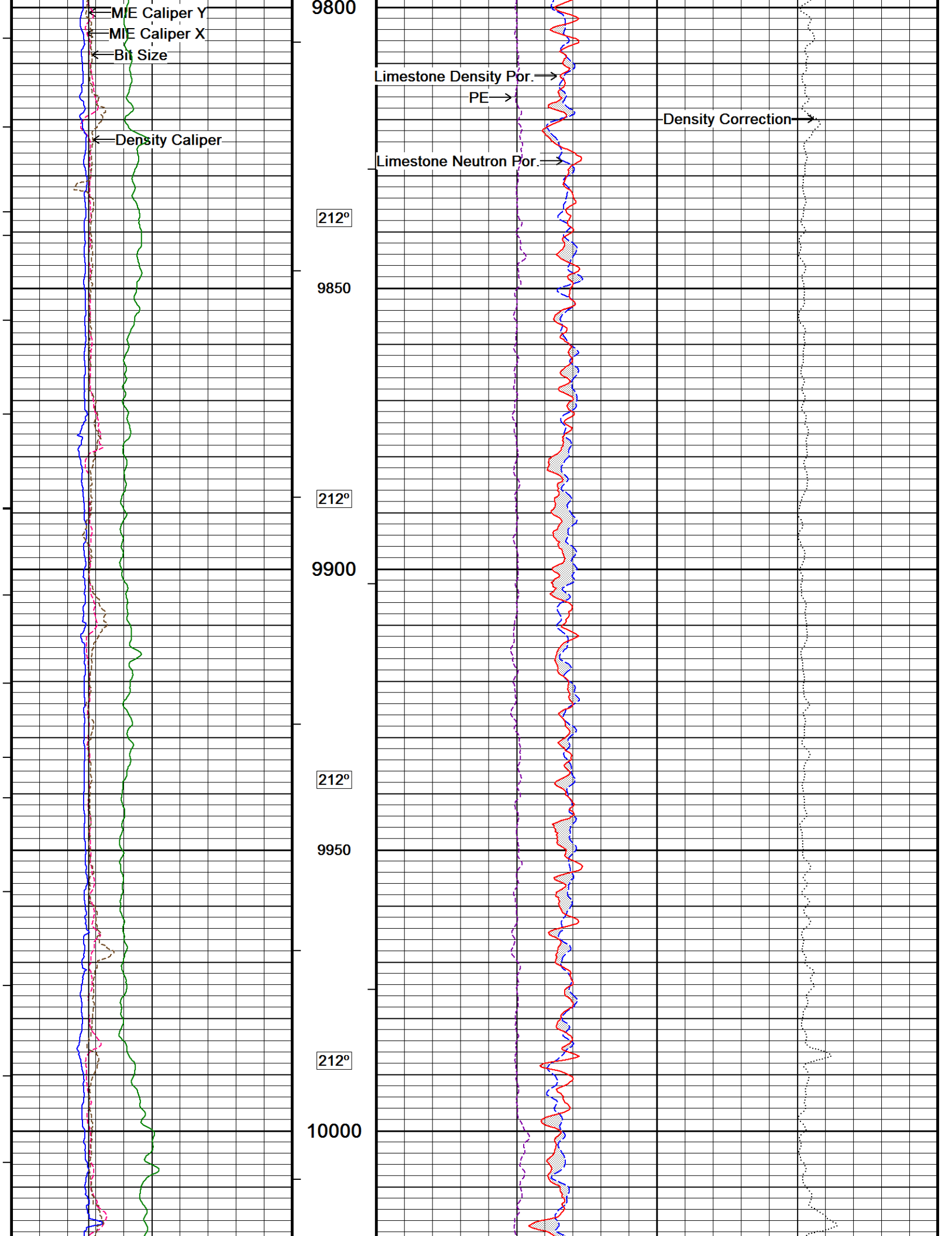


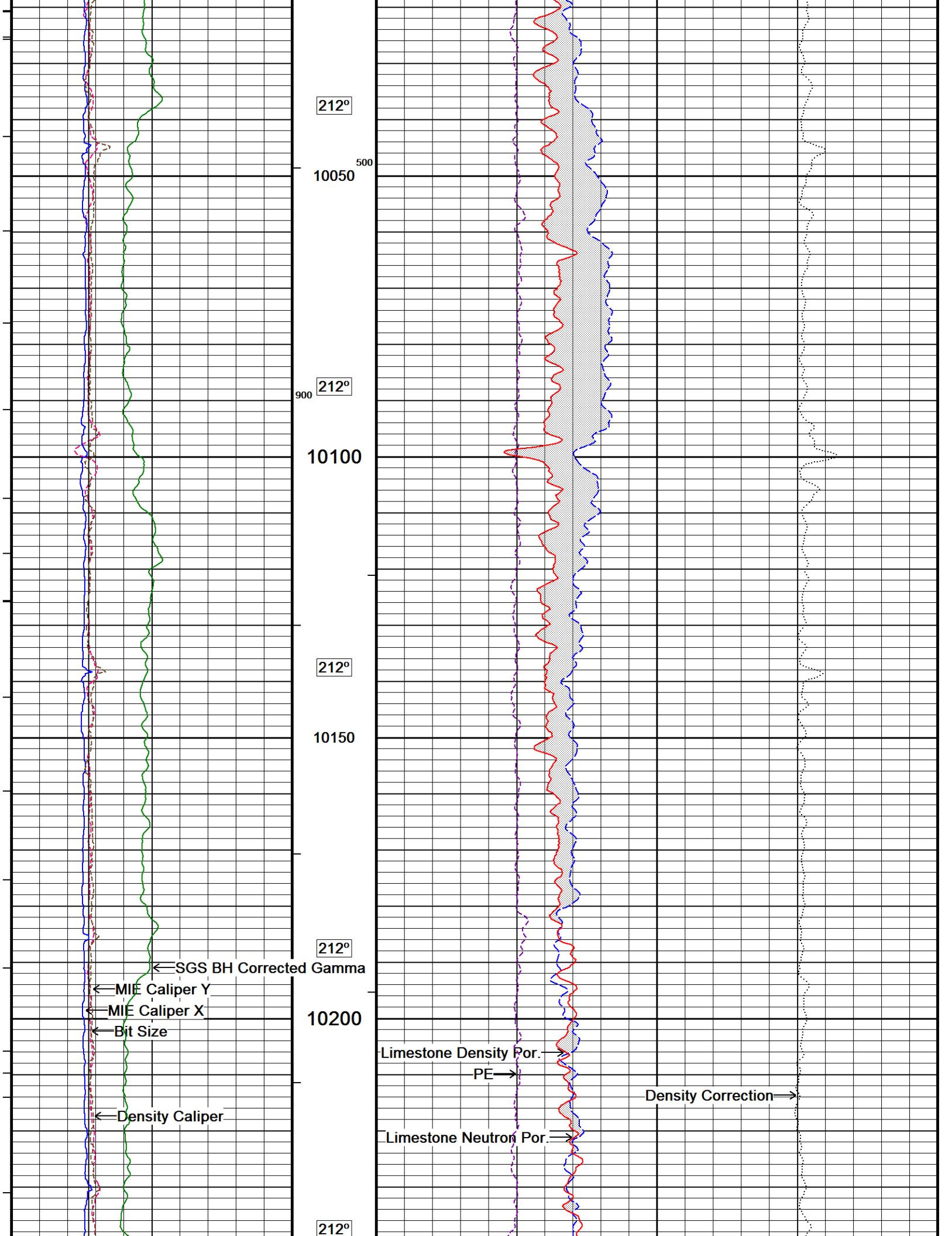


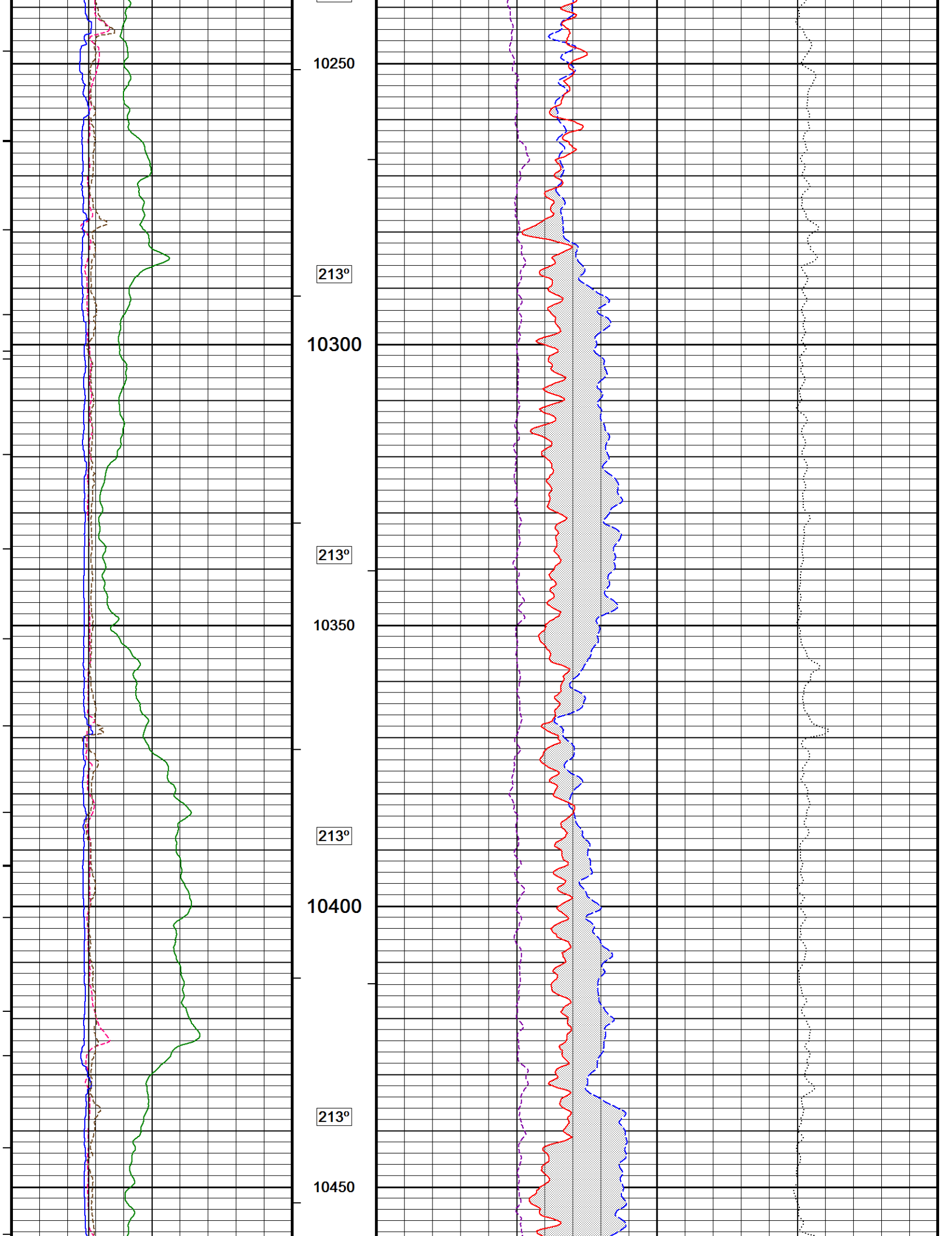


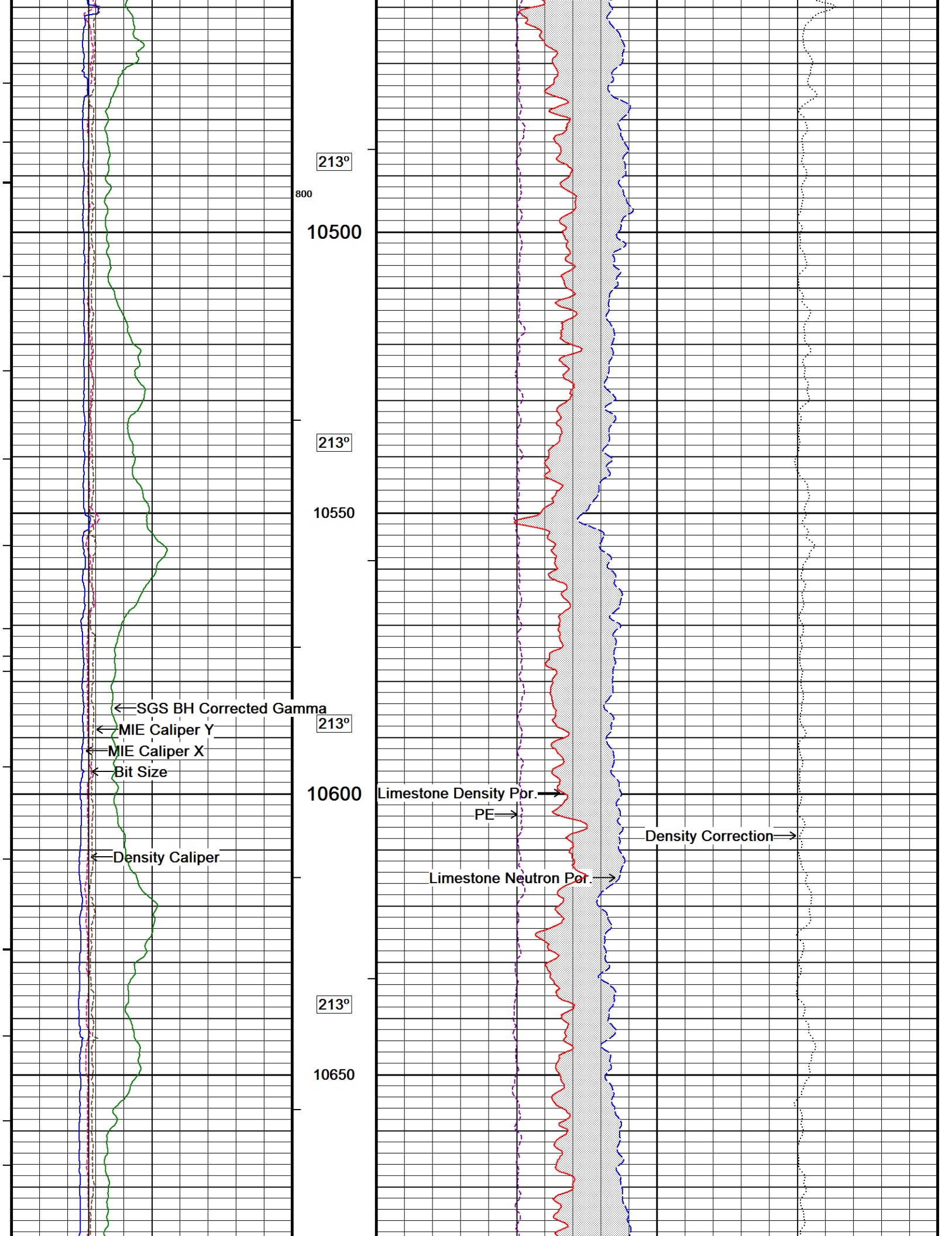


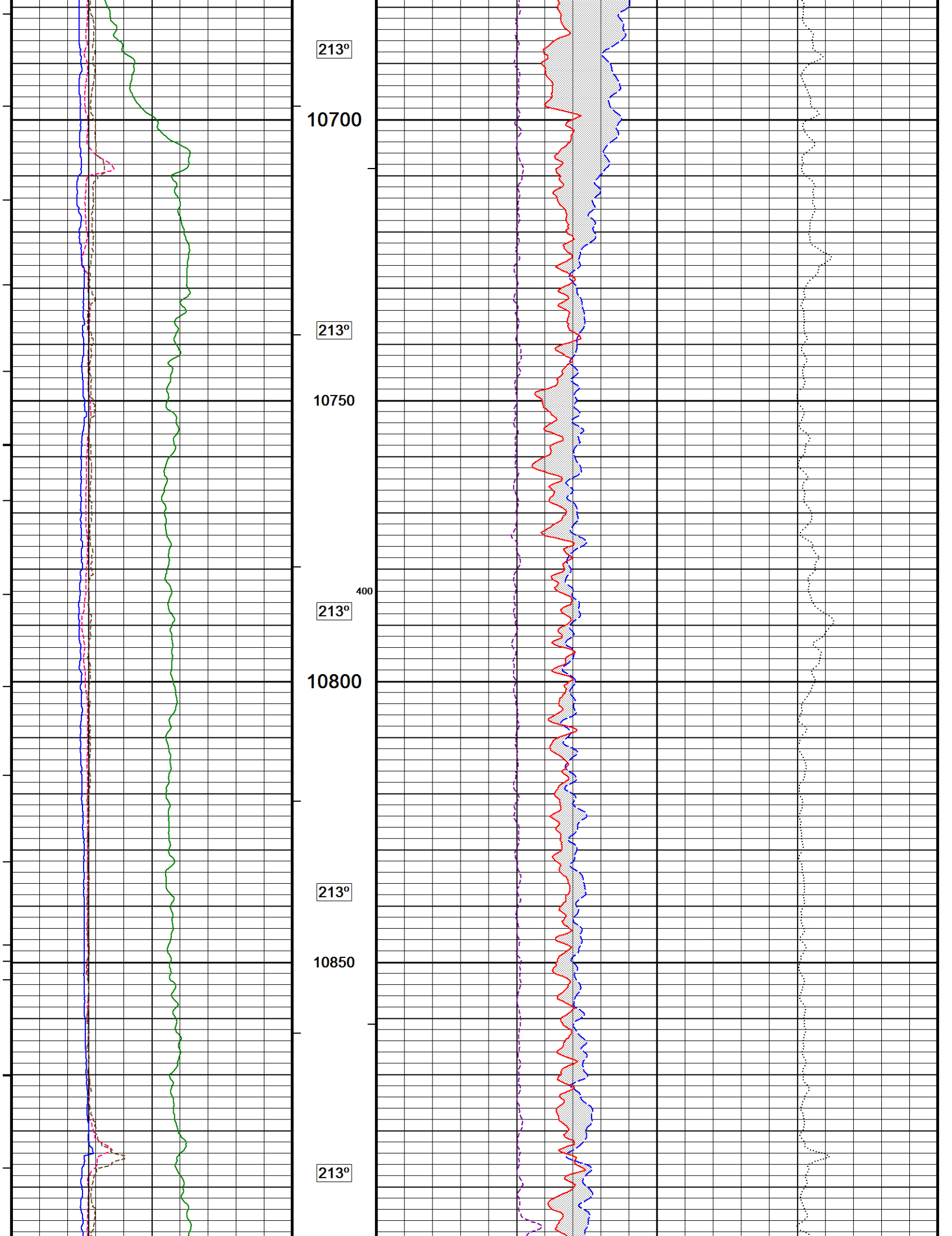


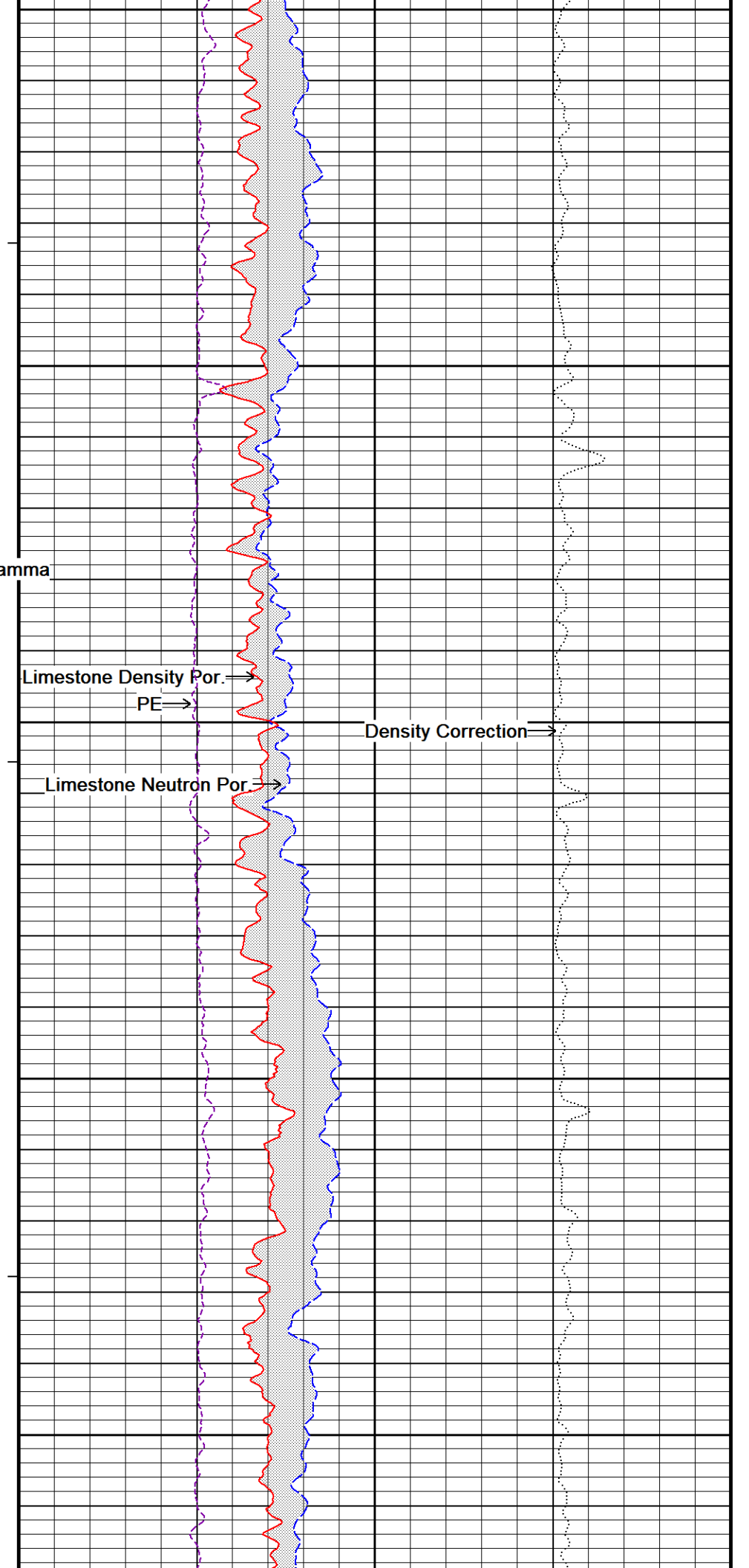
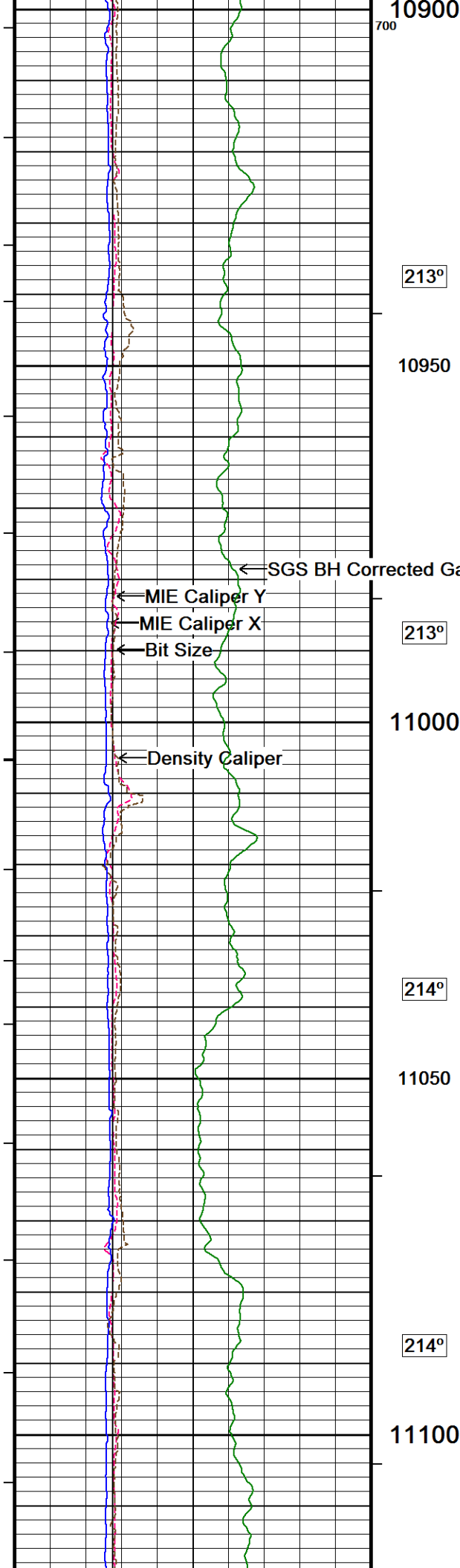


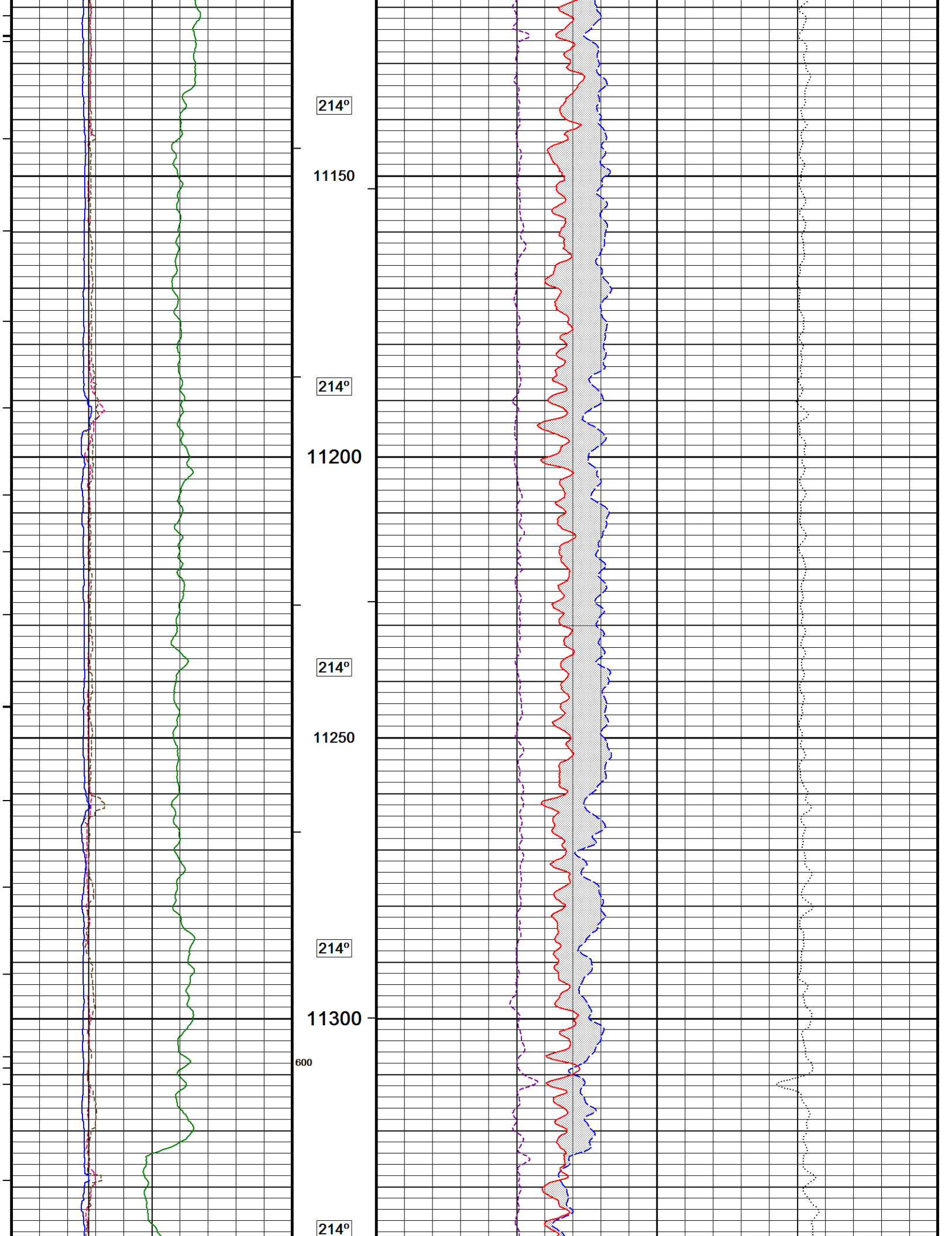


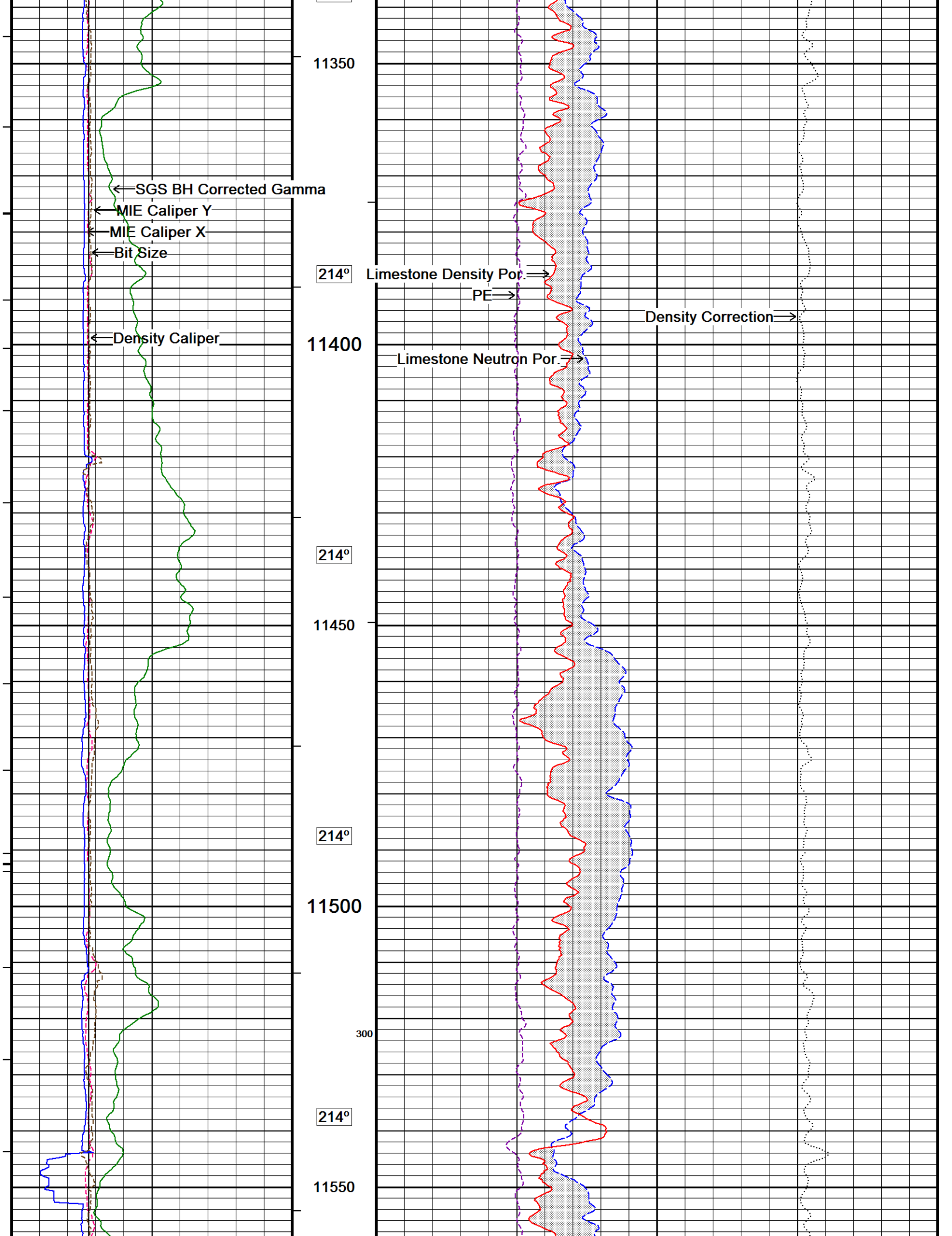


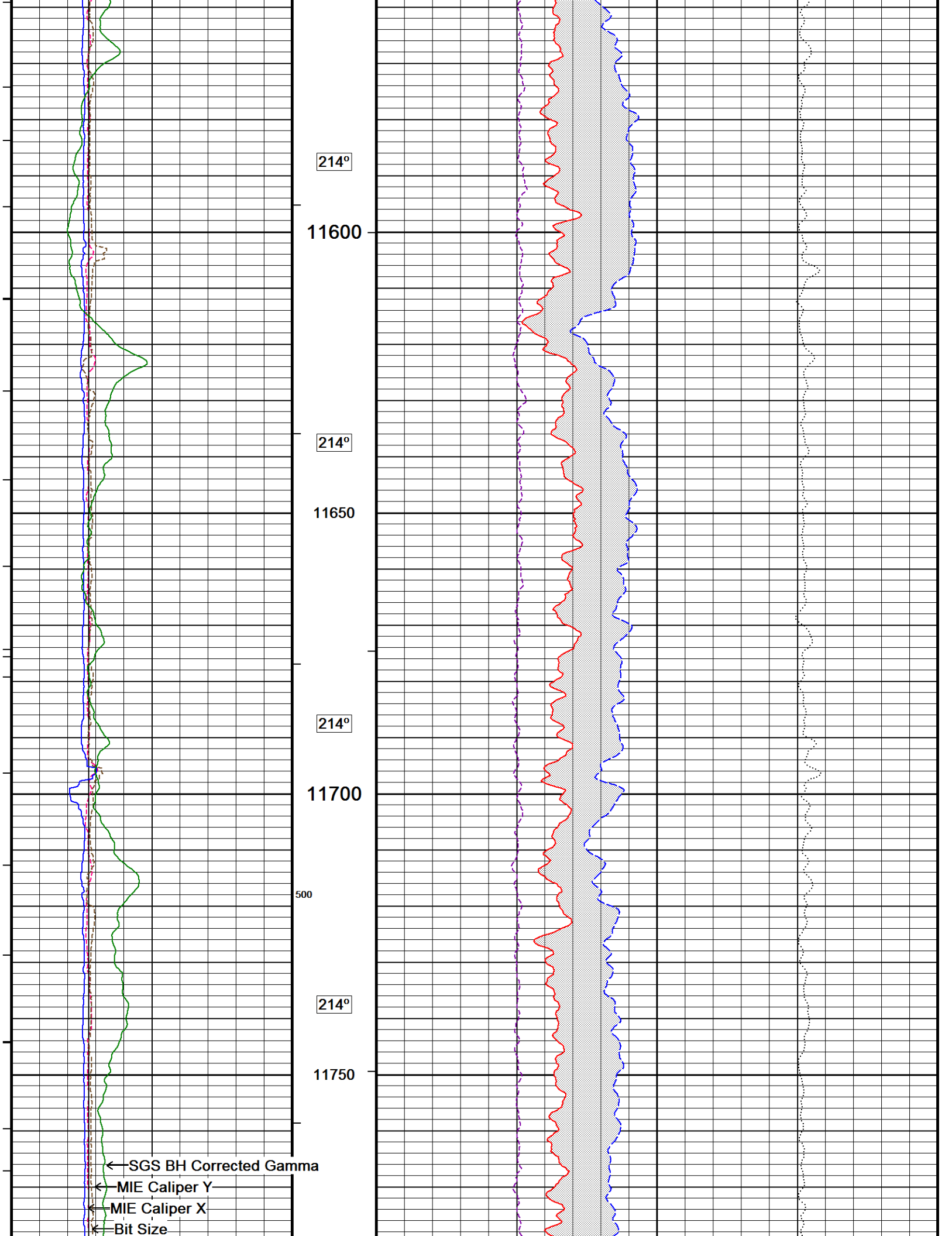


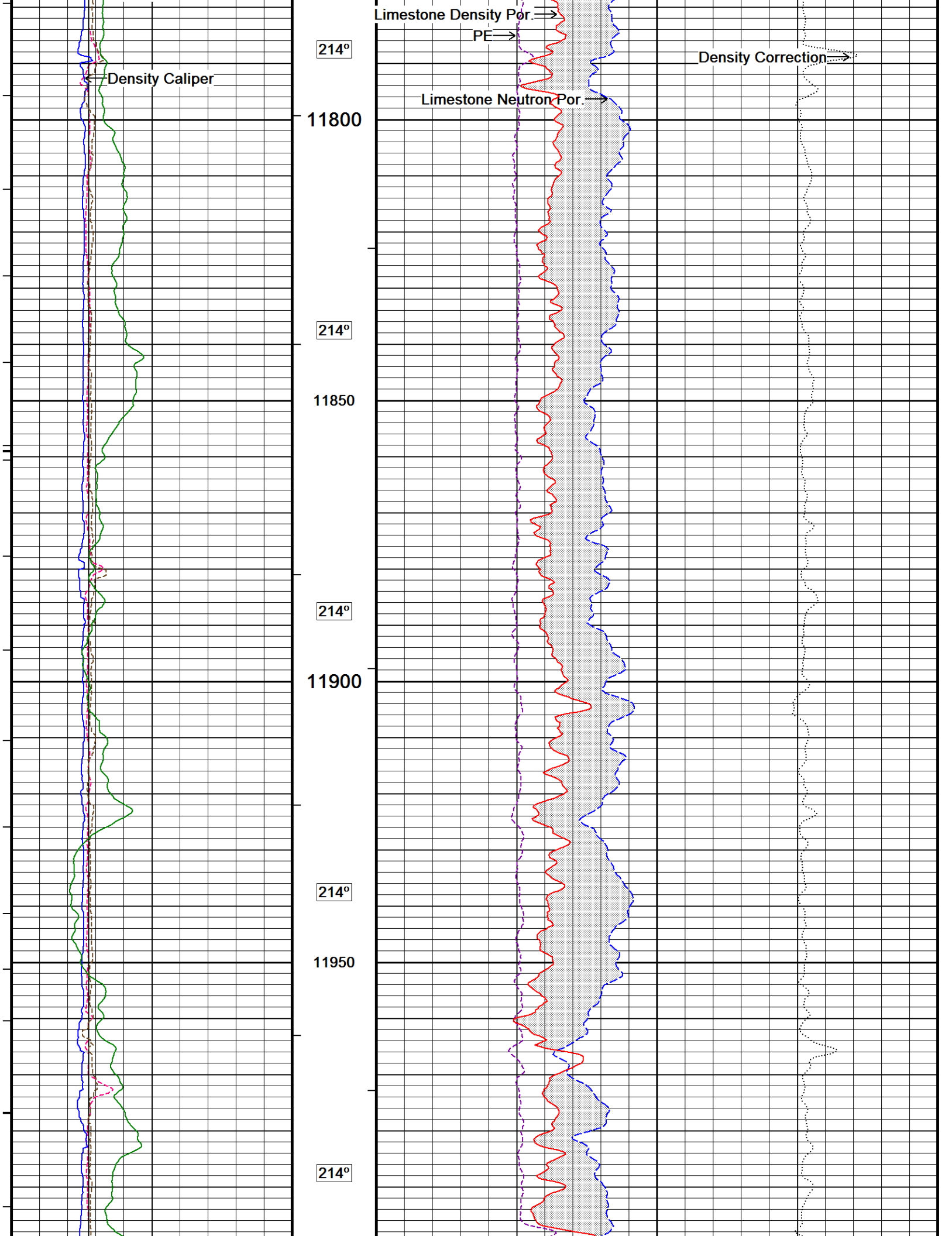


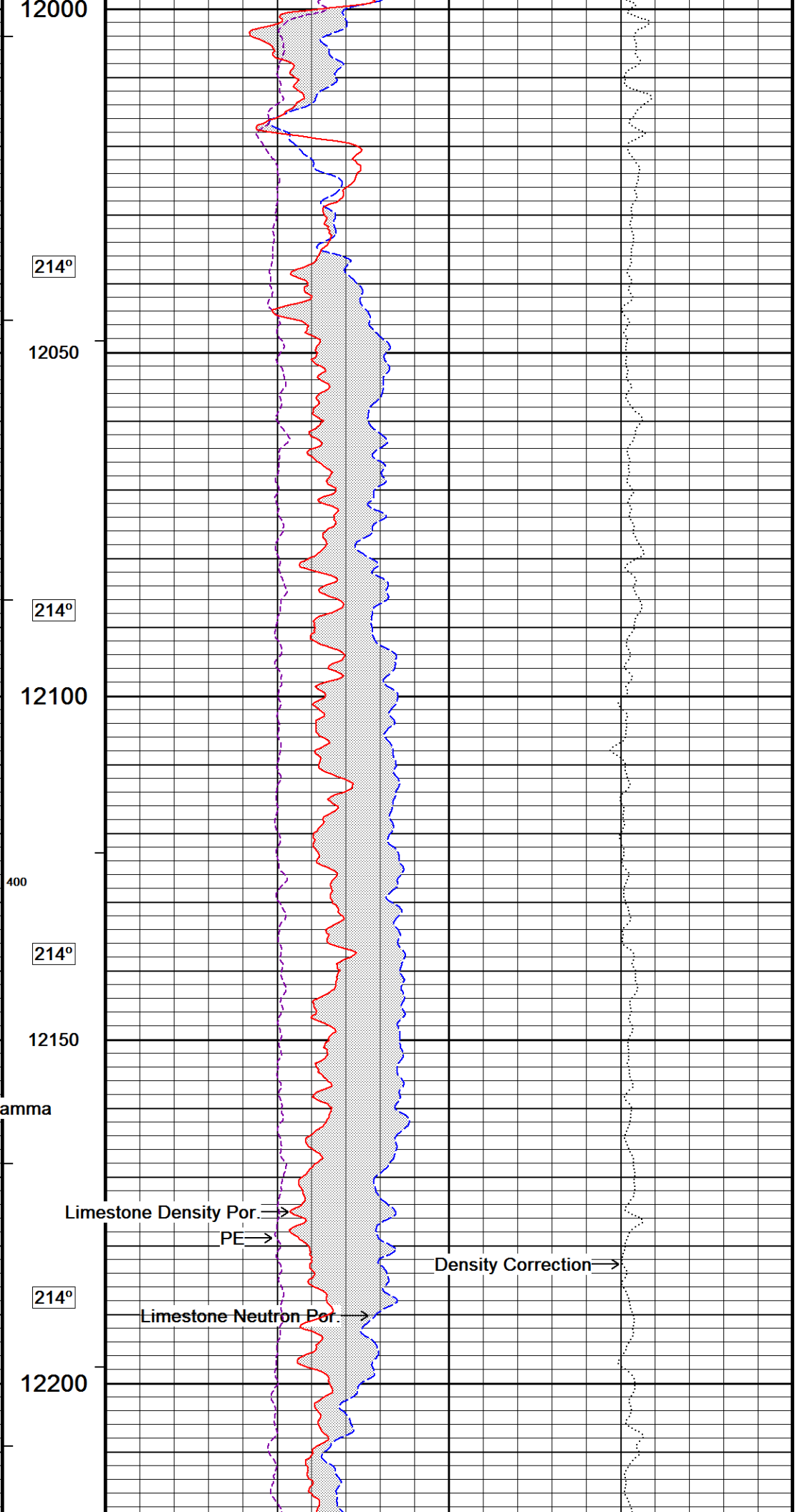
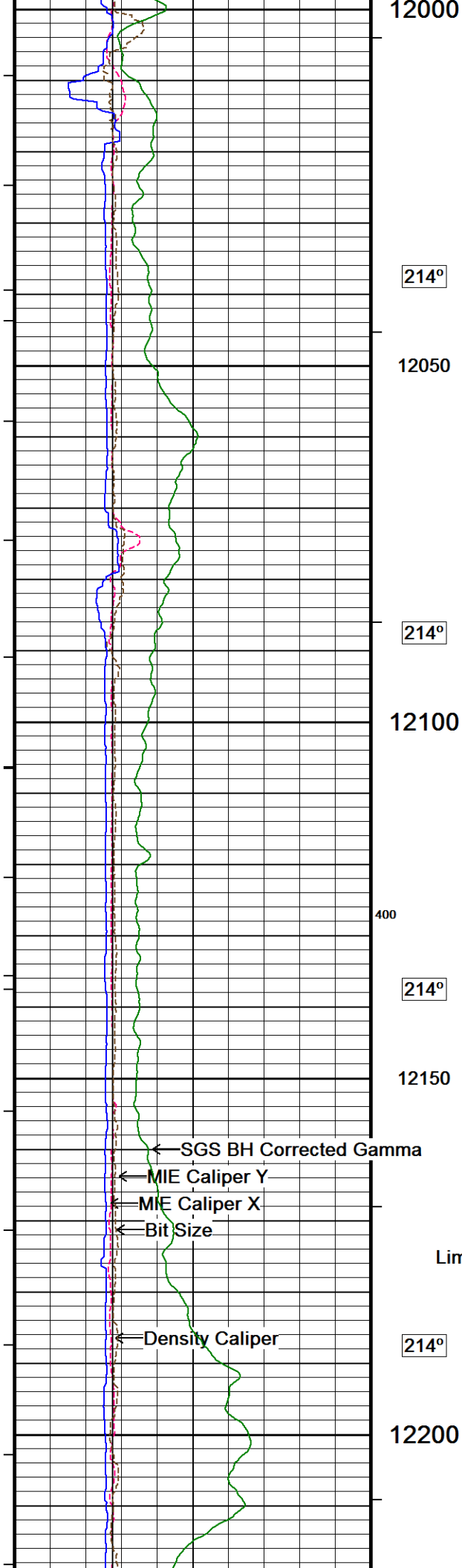


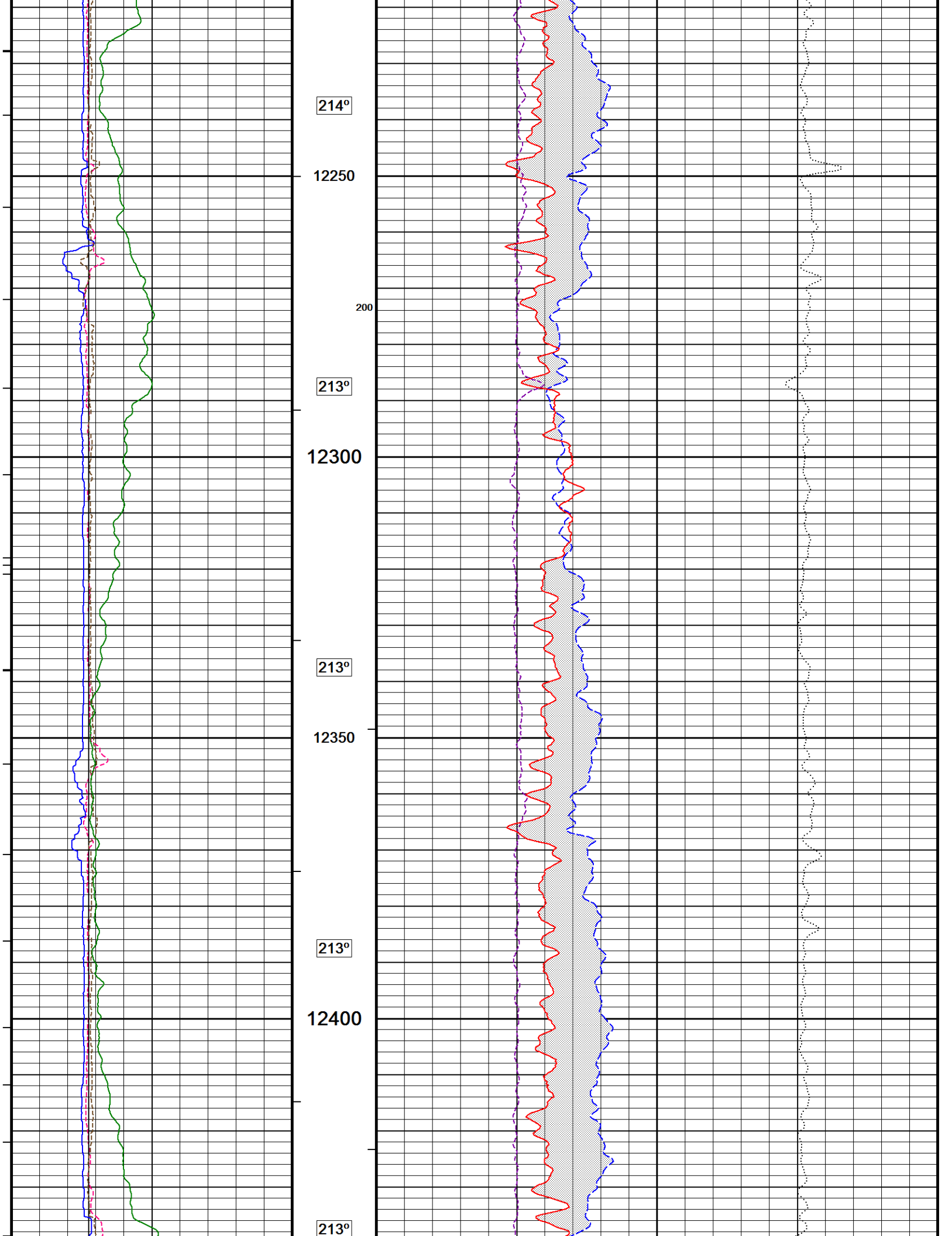


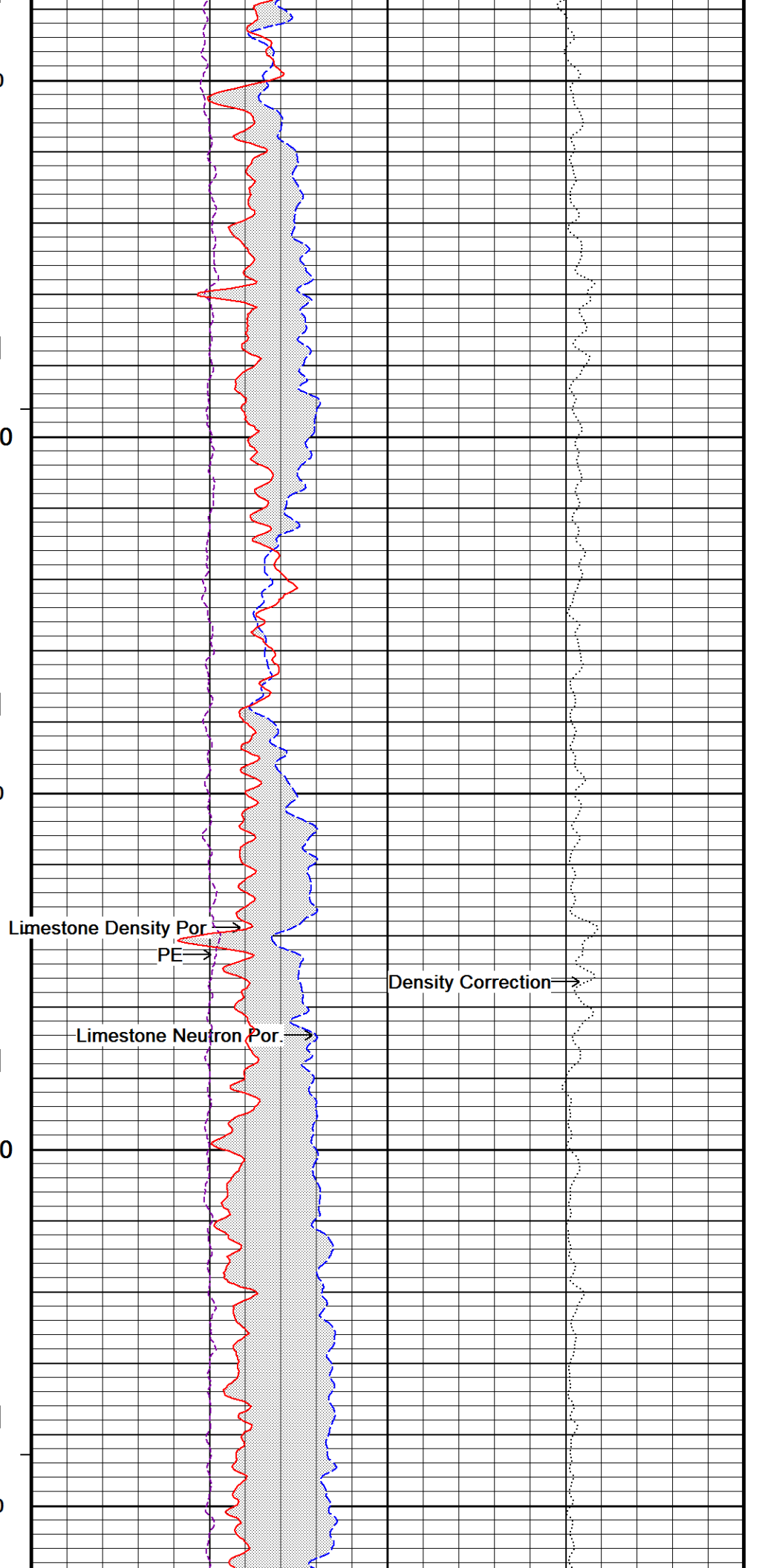
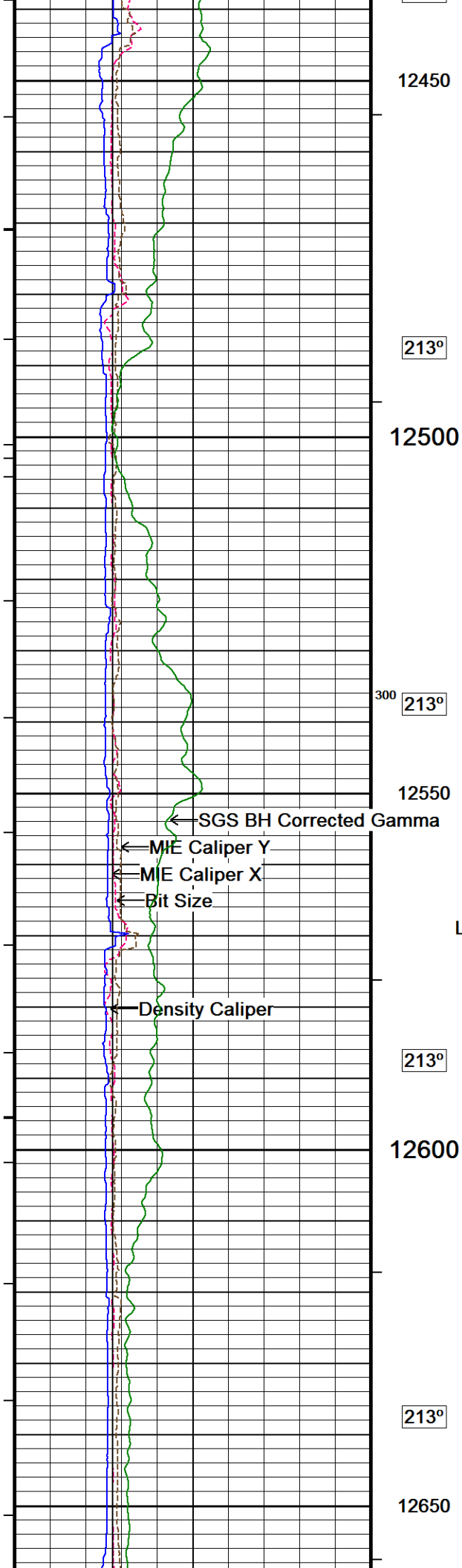


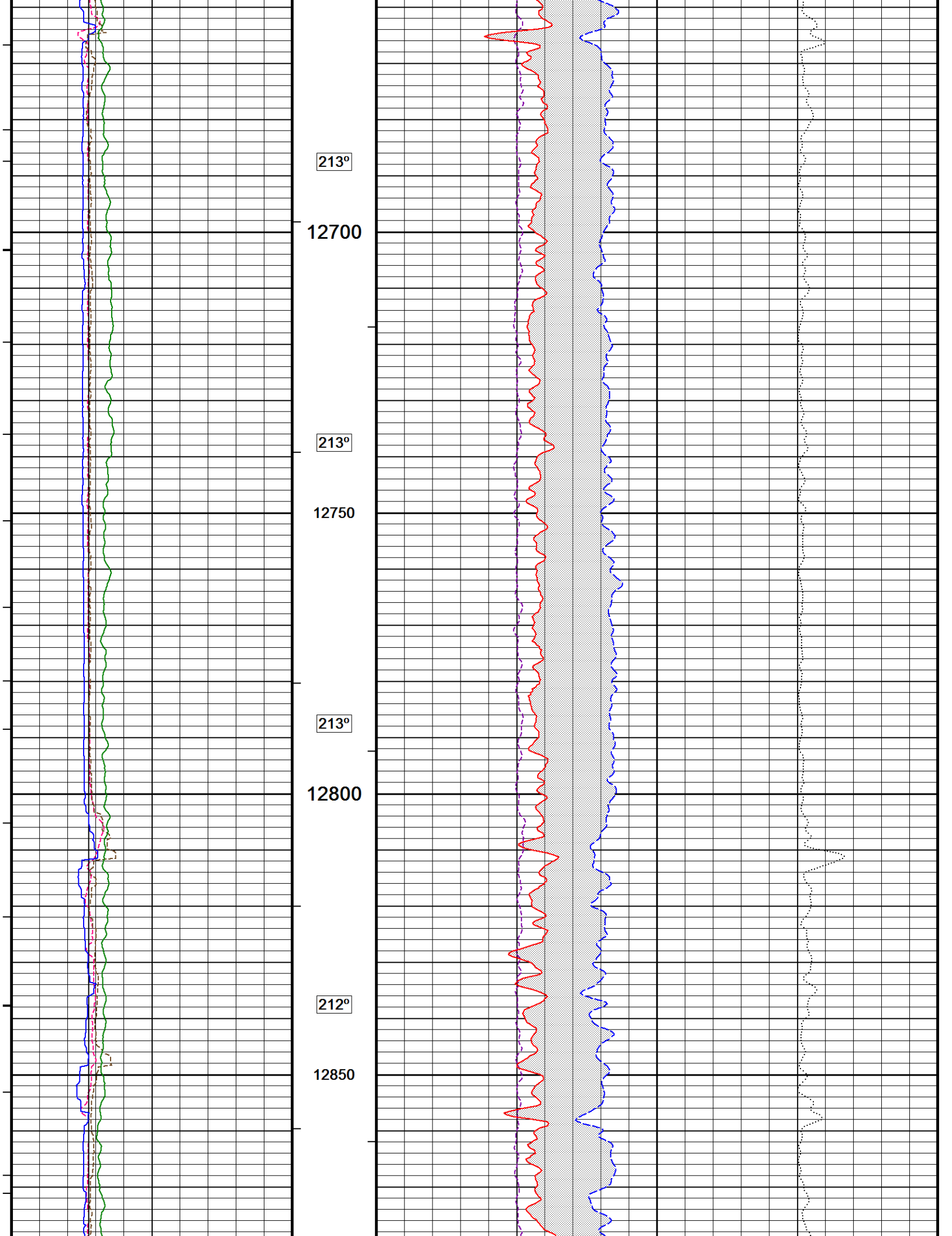


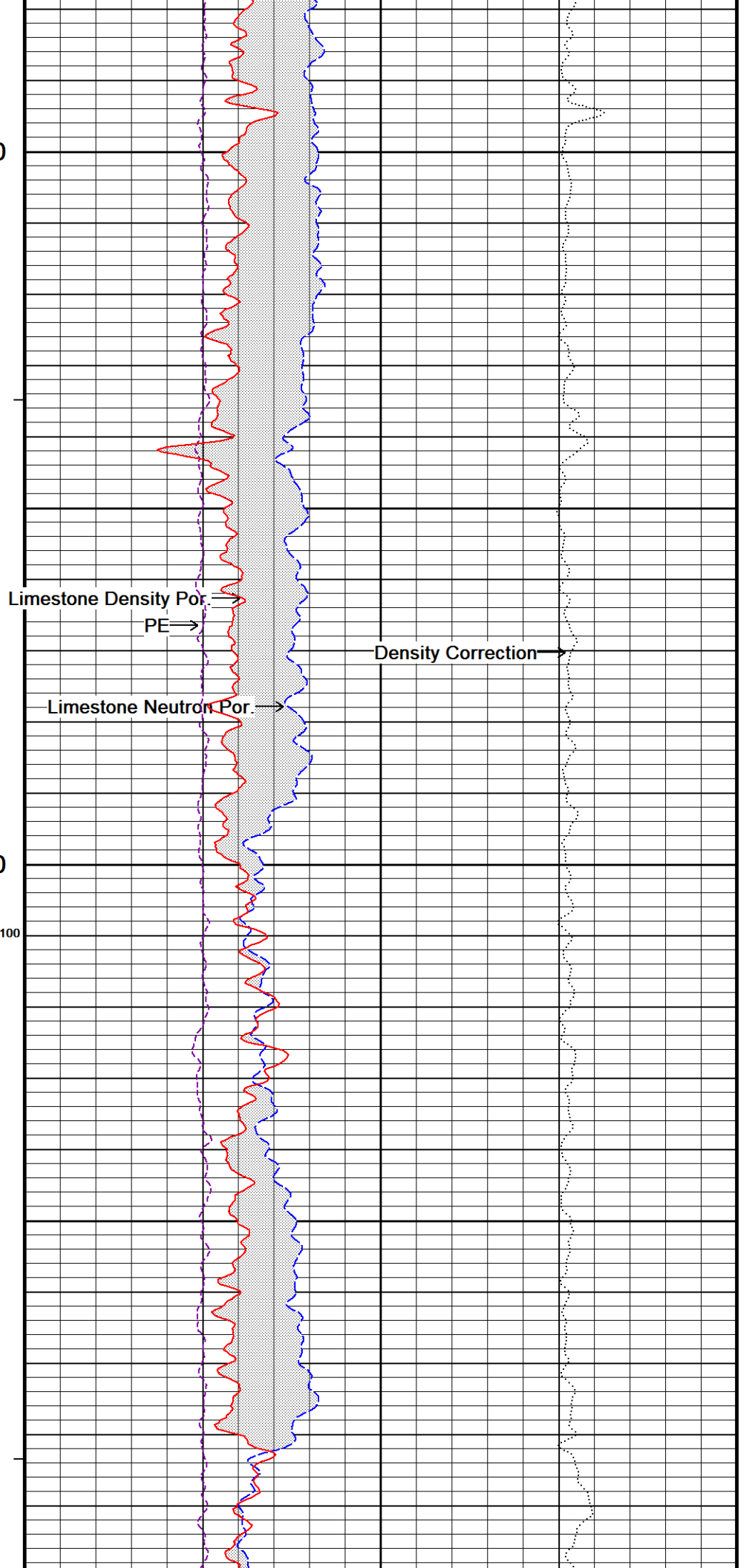
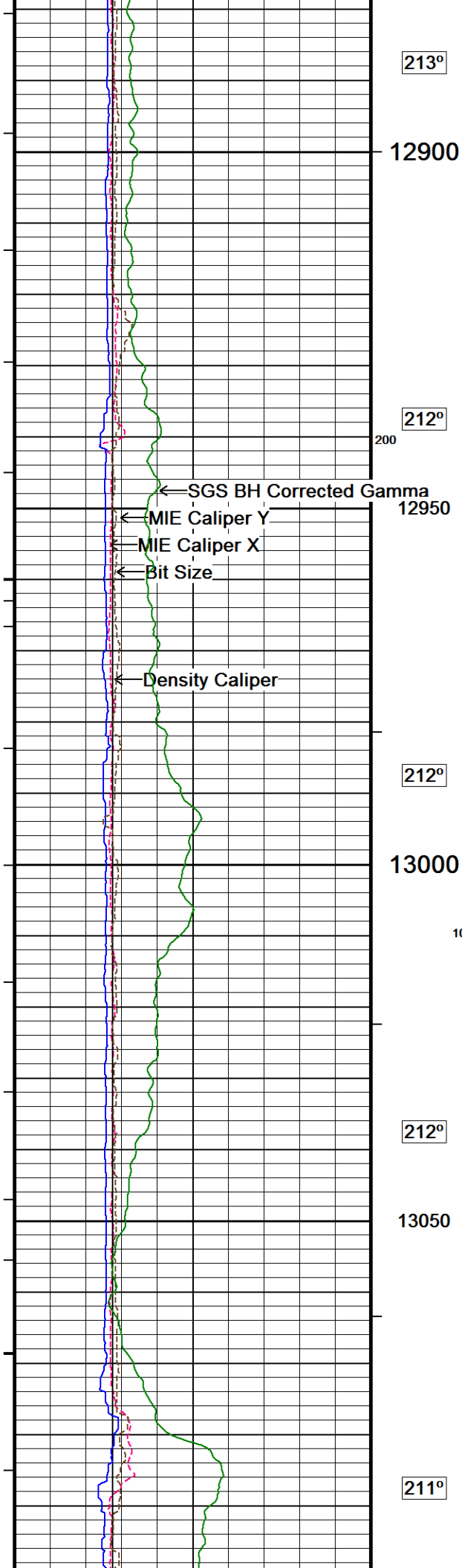


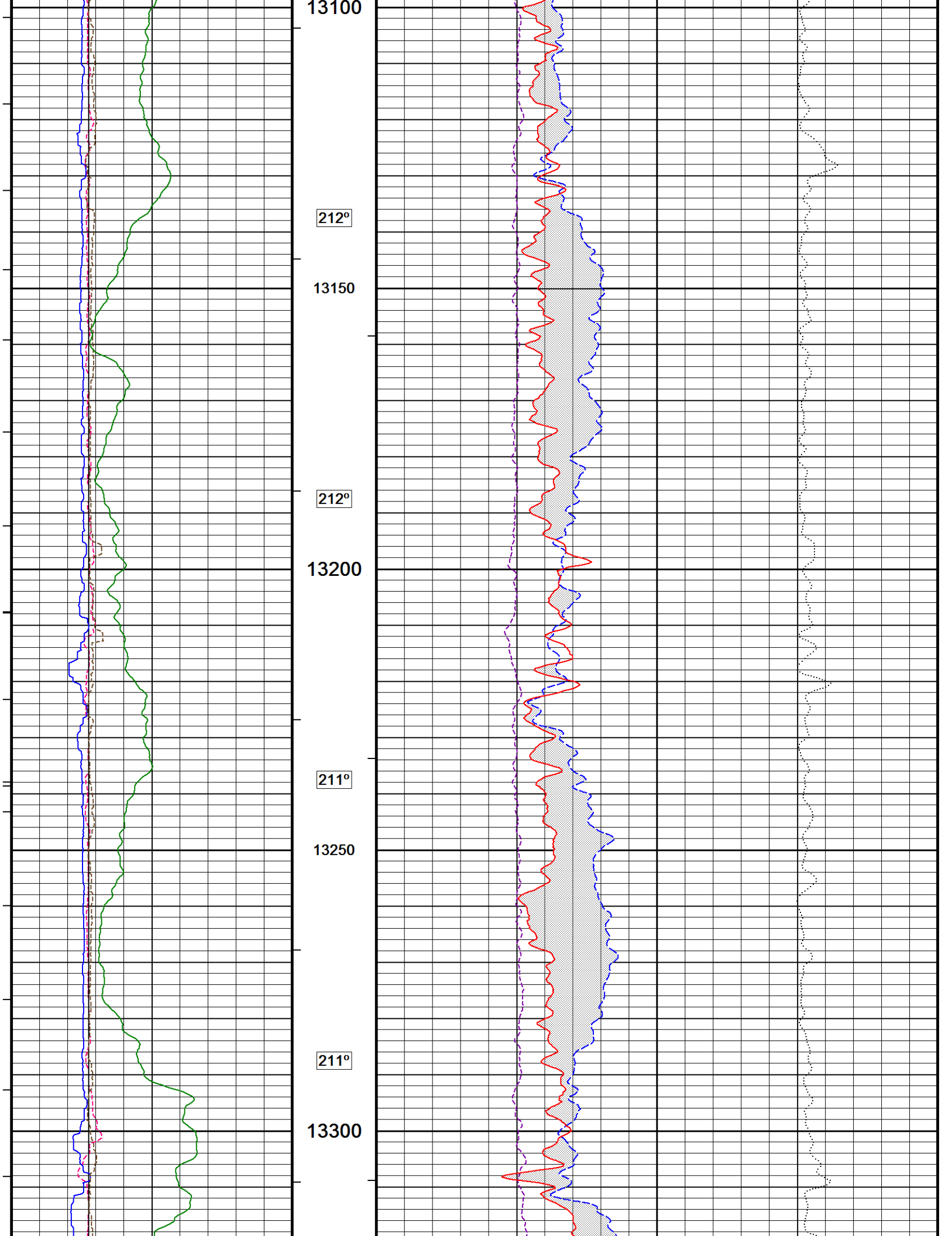


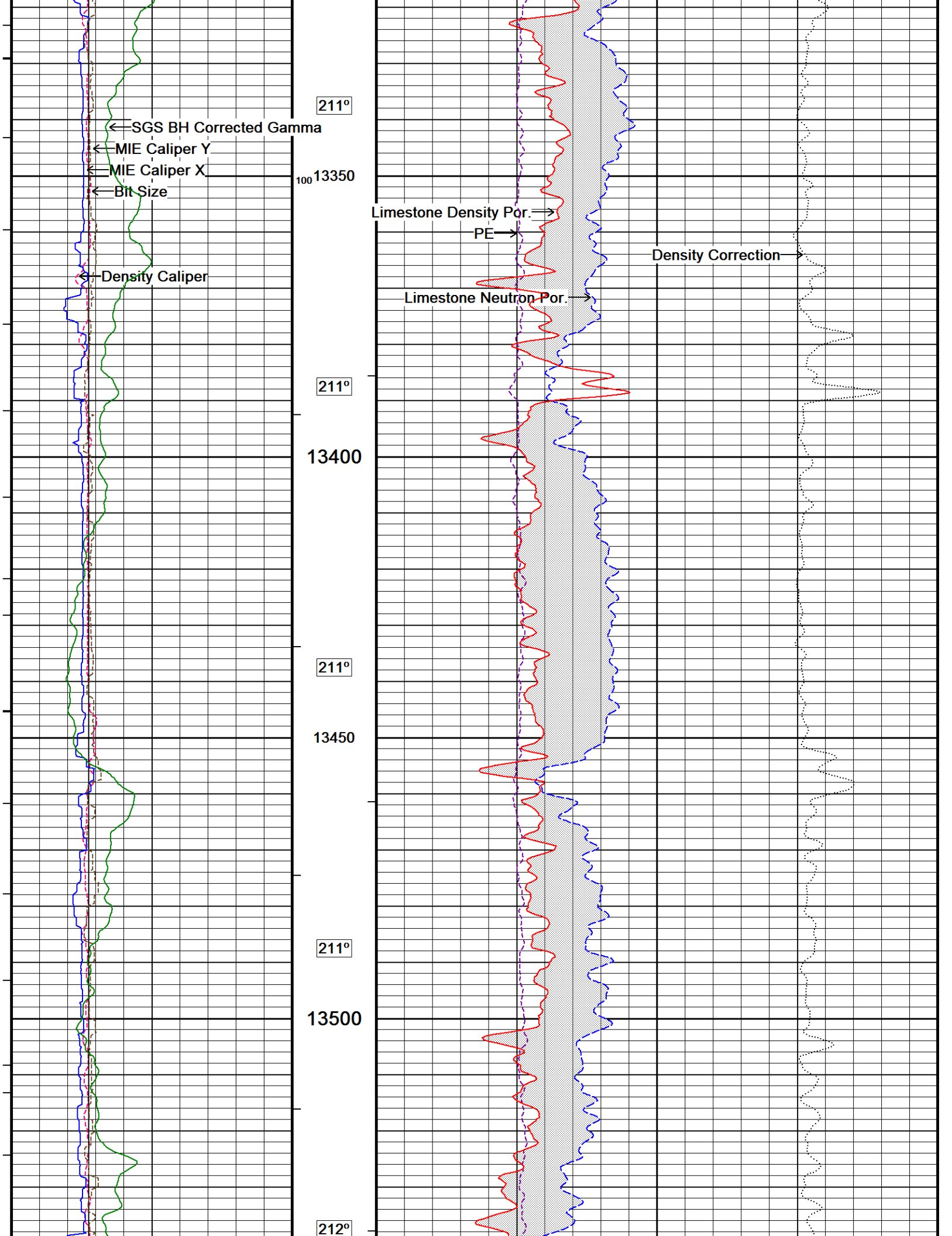


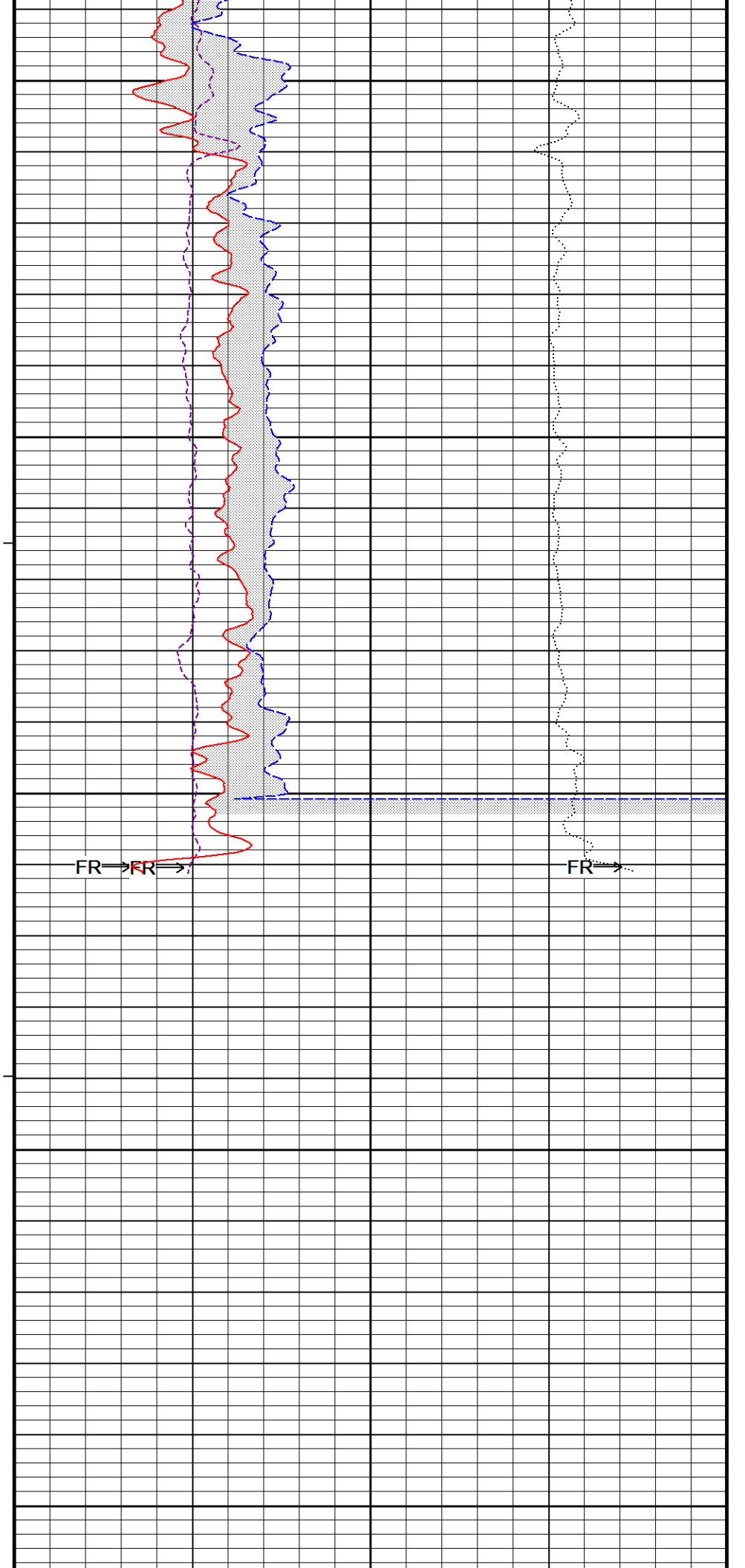
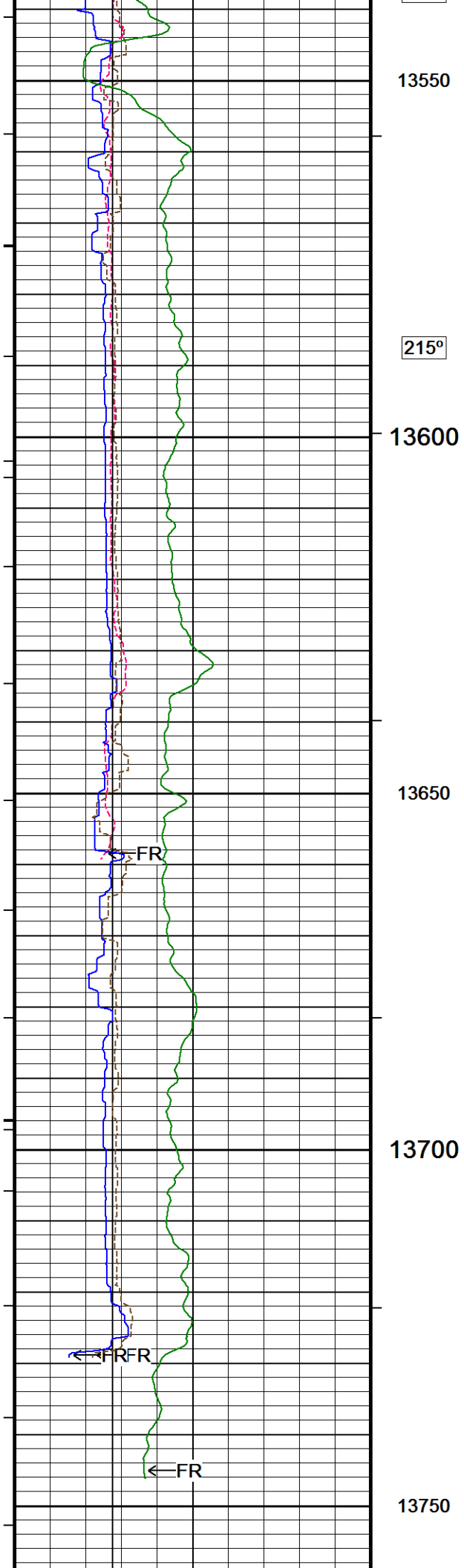


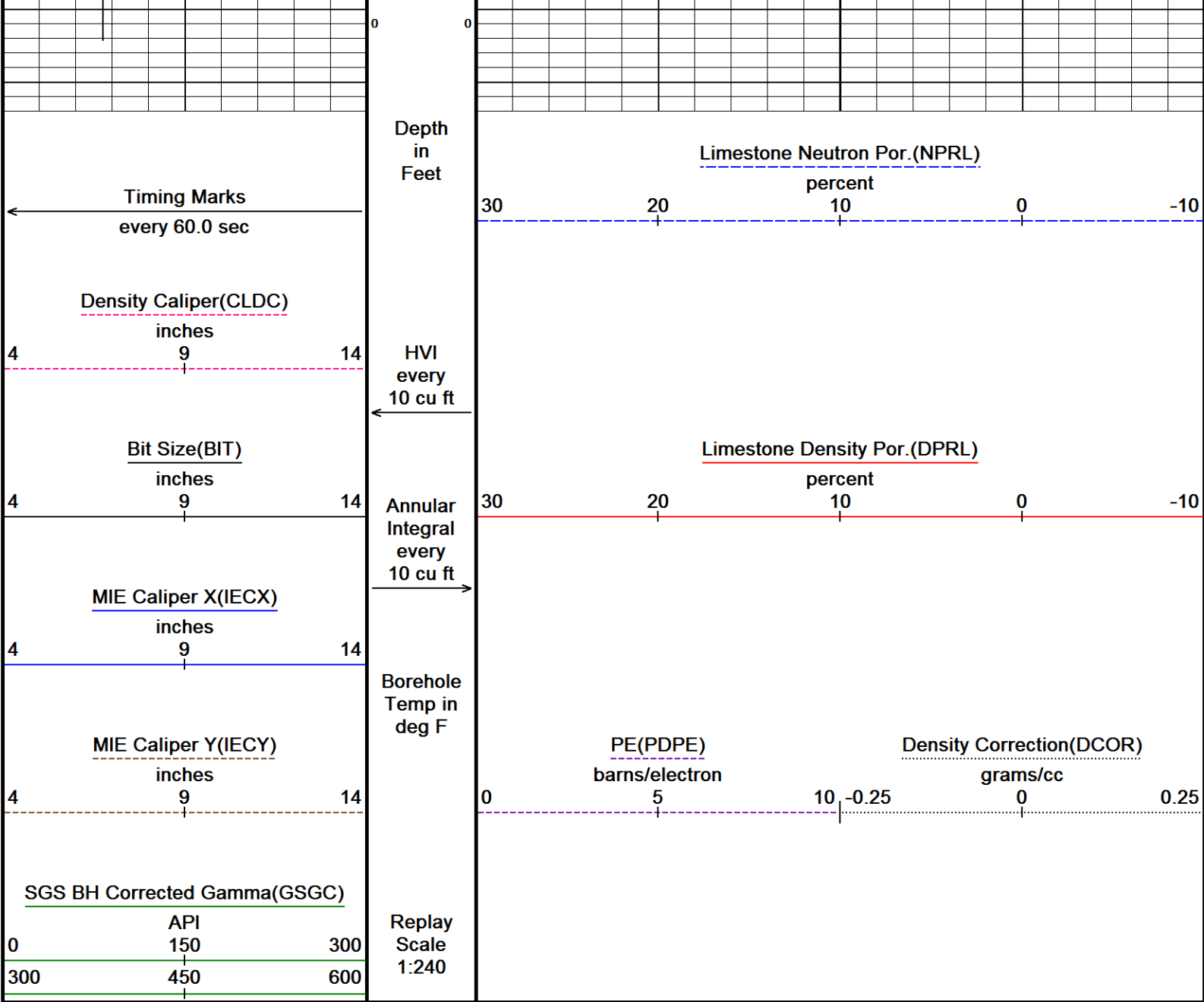












Depth Based Data - Maximum Sampling Increment 10.0cm

Filename: D:\Logs\Whiting\HORSETAIL 30F-1942\MMS DEPTH.dta

System Versions: Logged with 14.01.3220 Processed with 14.01.3220 Plotted with 14.01.3220

Plotted on 24-OCT-2014 06:32

Recorded on 24-OCT-2014 04:18

5 INCH MAIN LOG

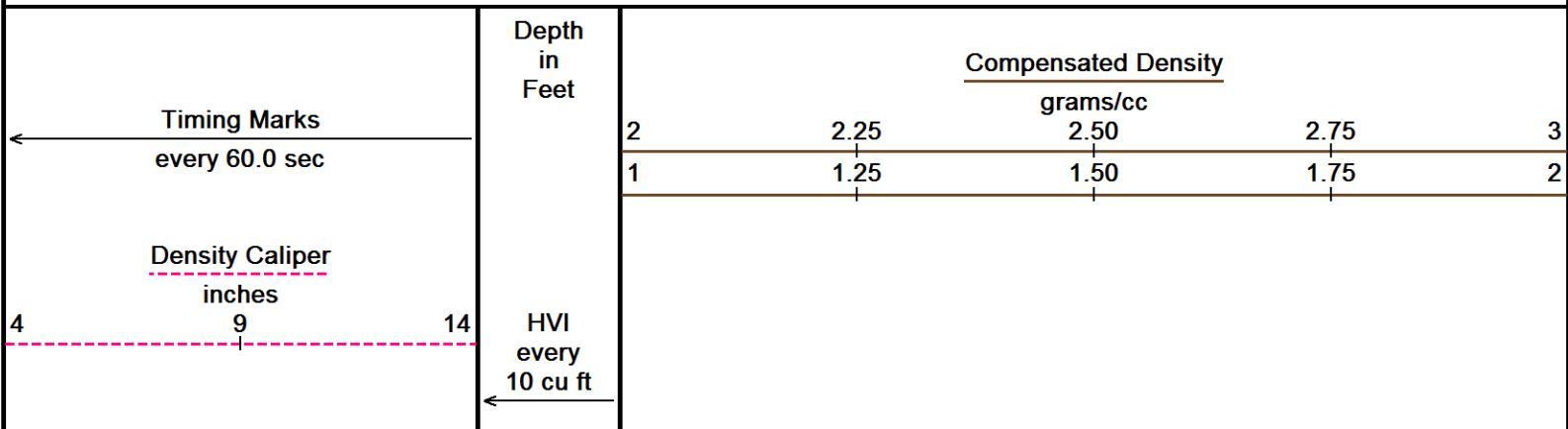
Depth Based Data - Maximum Sampling Increment 10.0cm

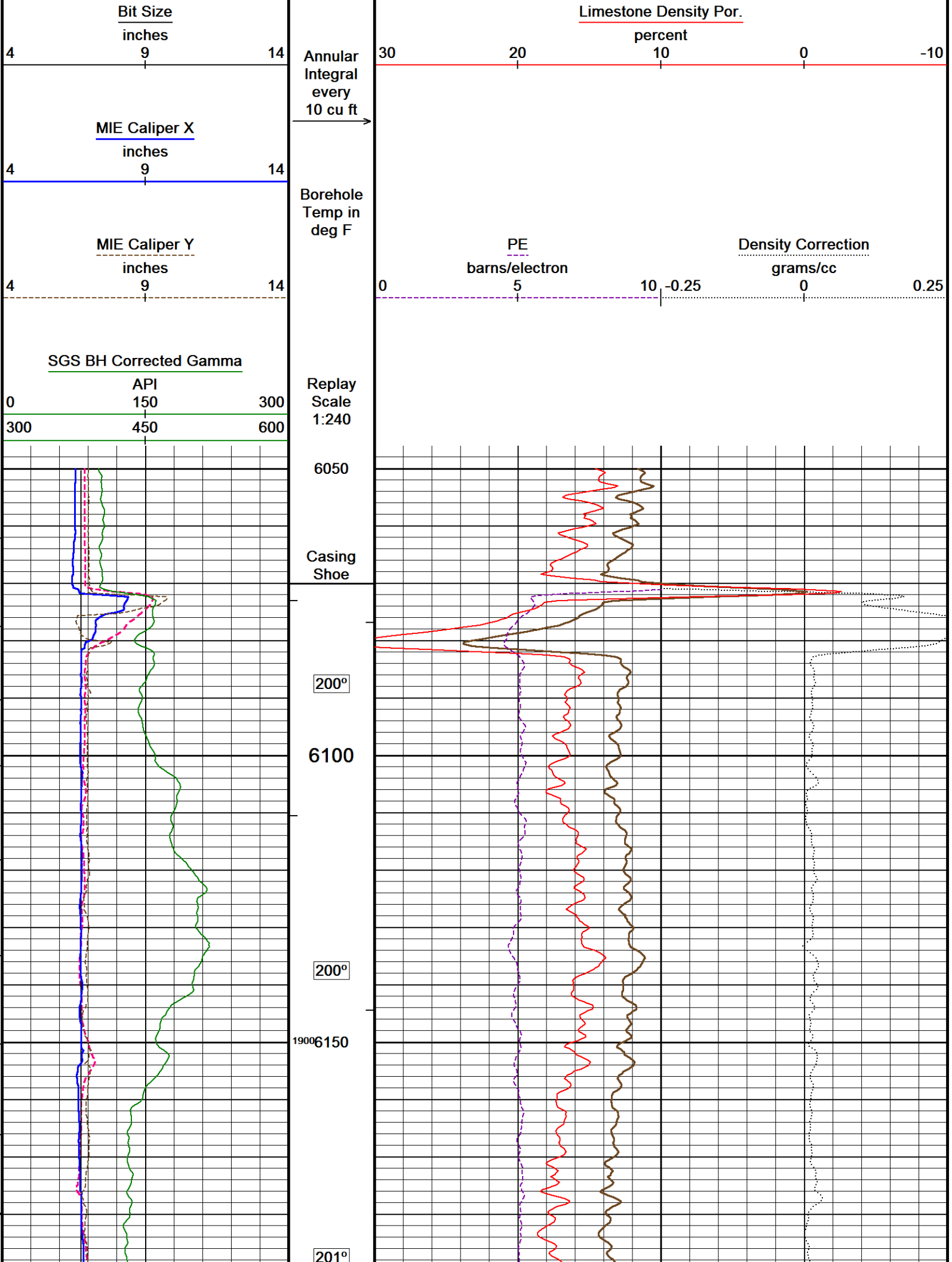
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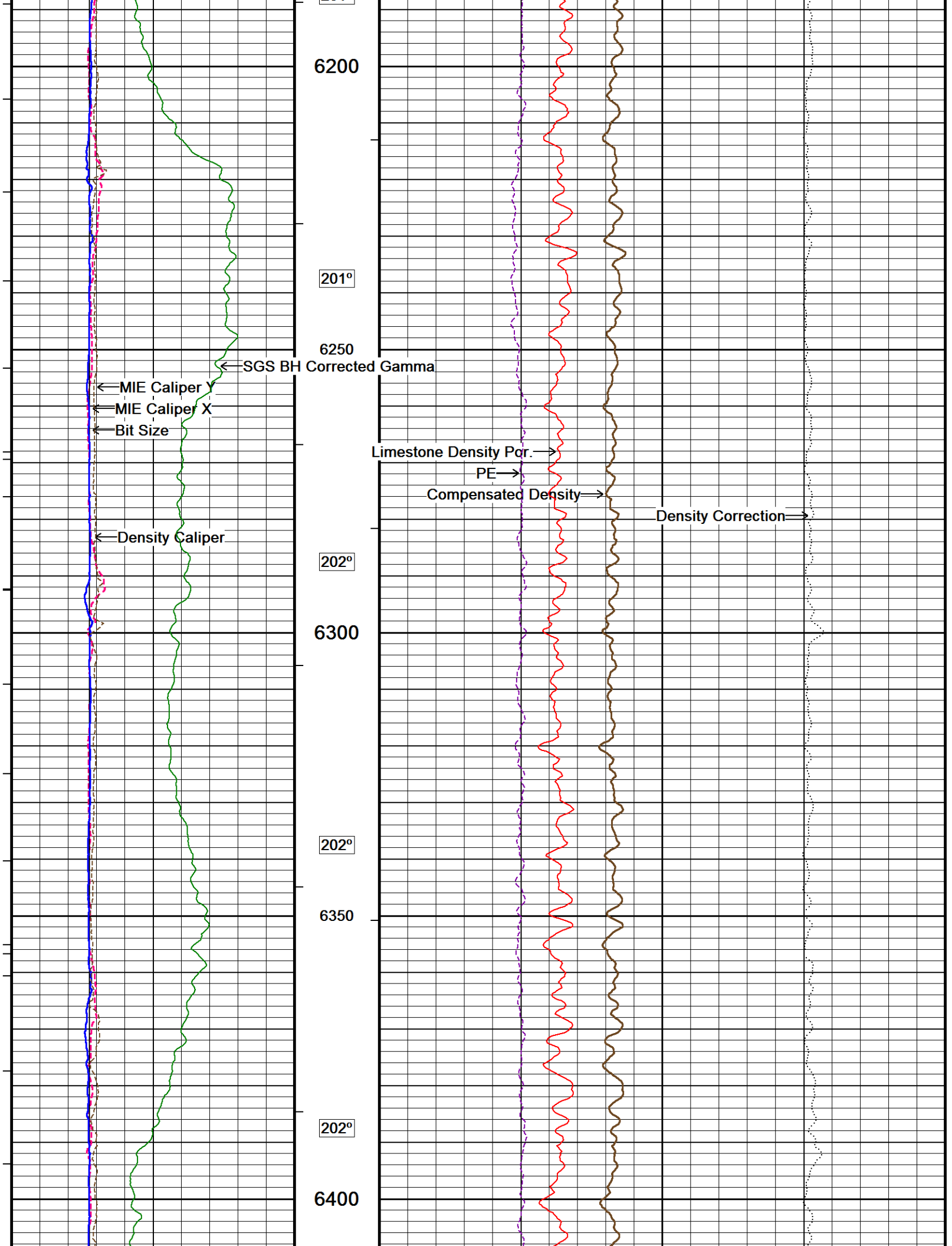
System Versions: Logged with 14.01.3220 Processed with 14.01.3220 Plotted with 14.01.3220

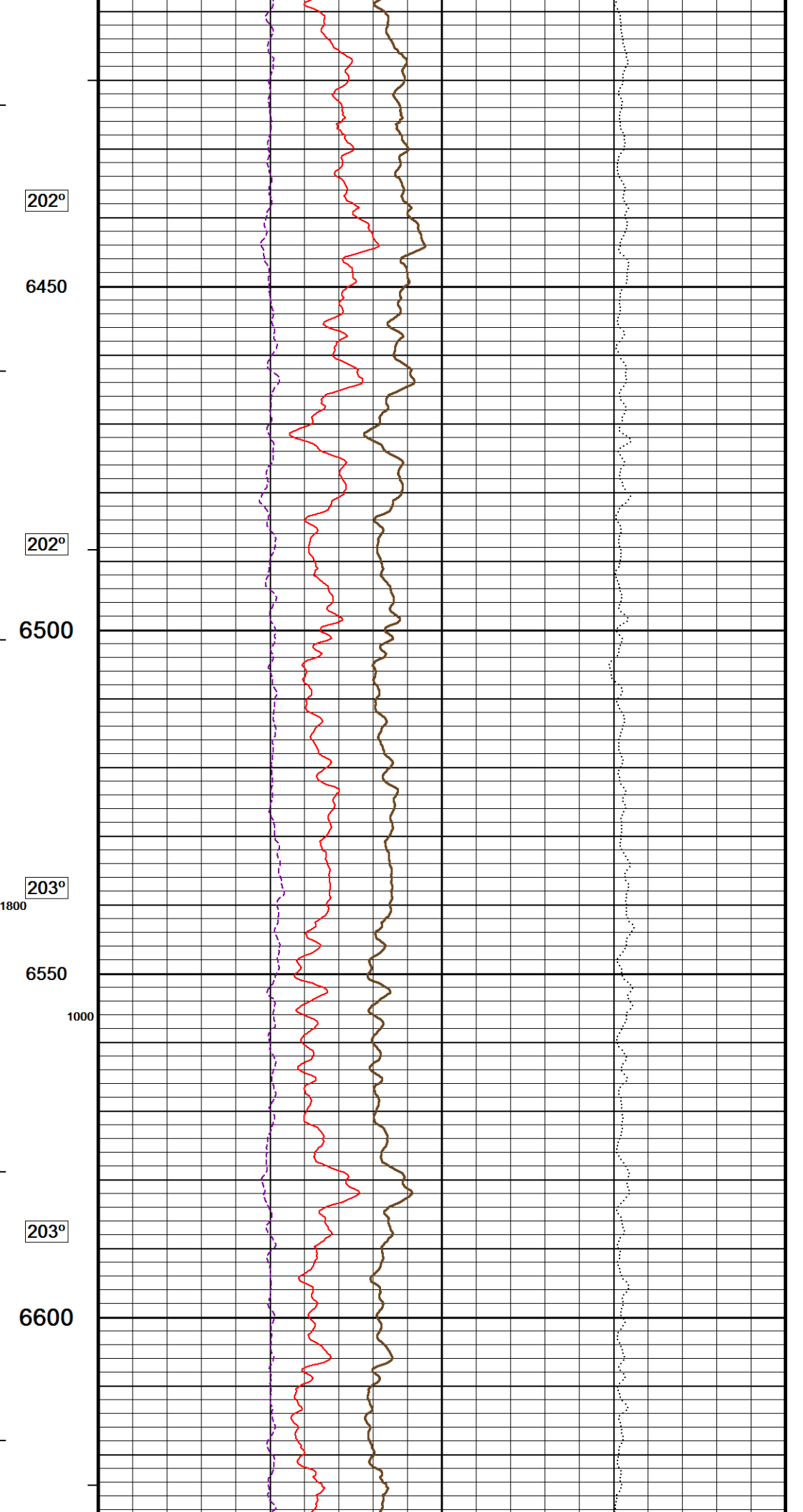
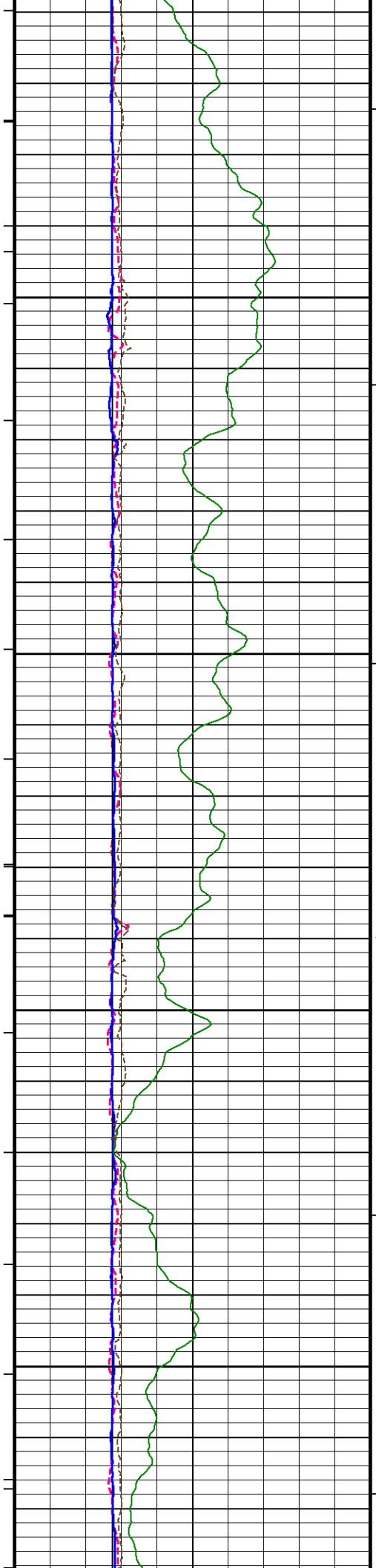
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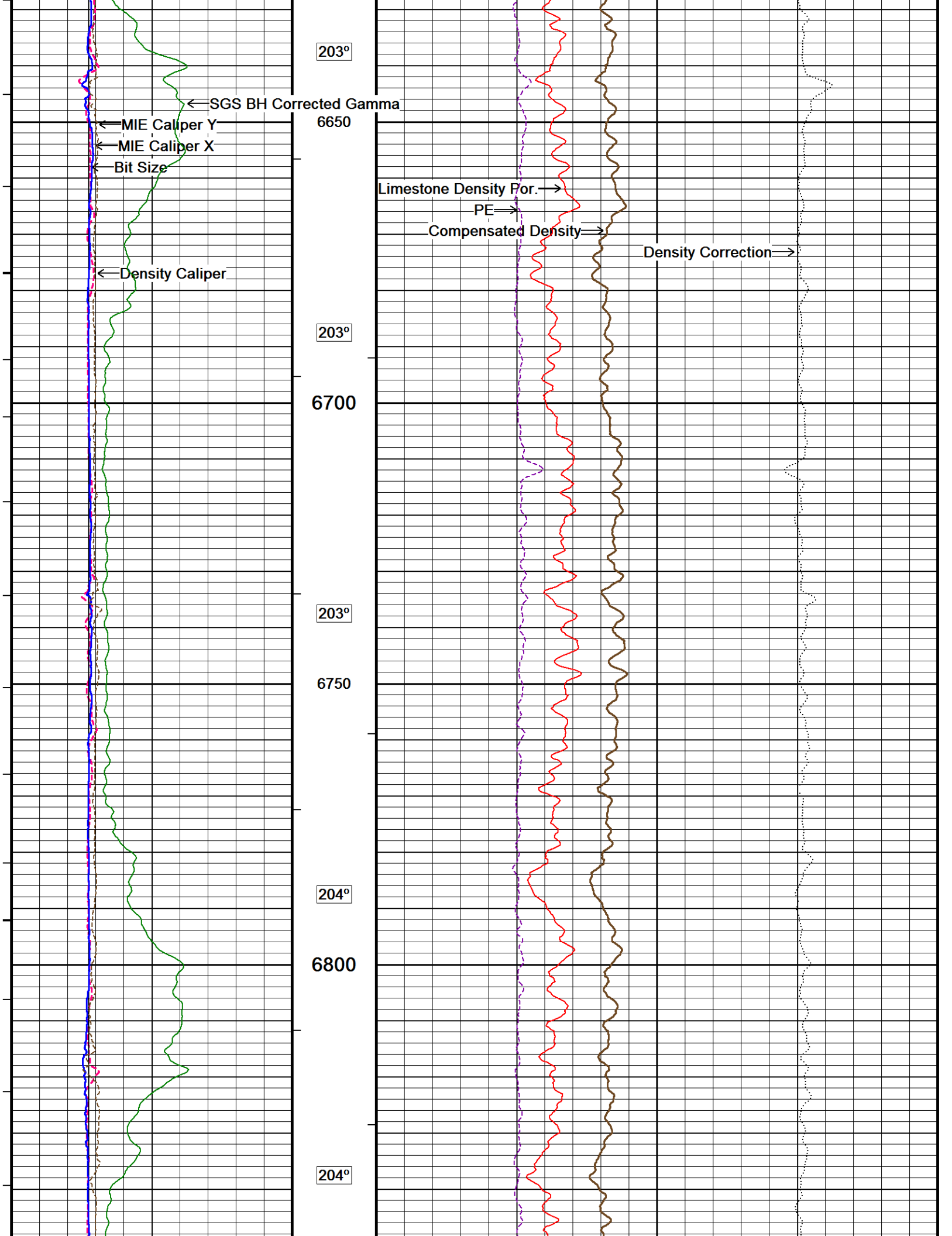
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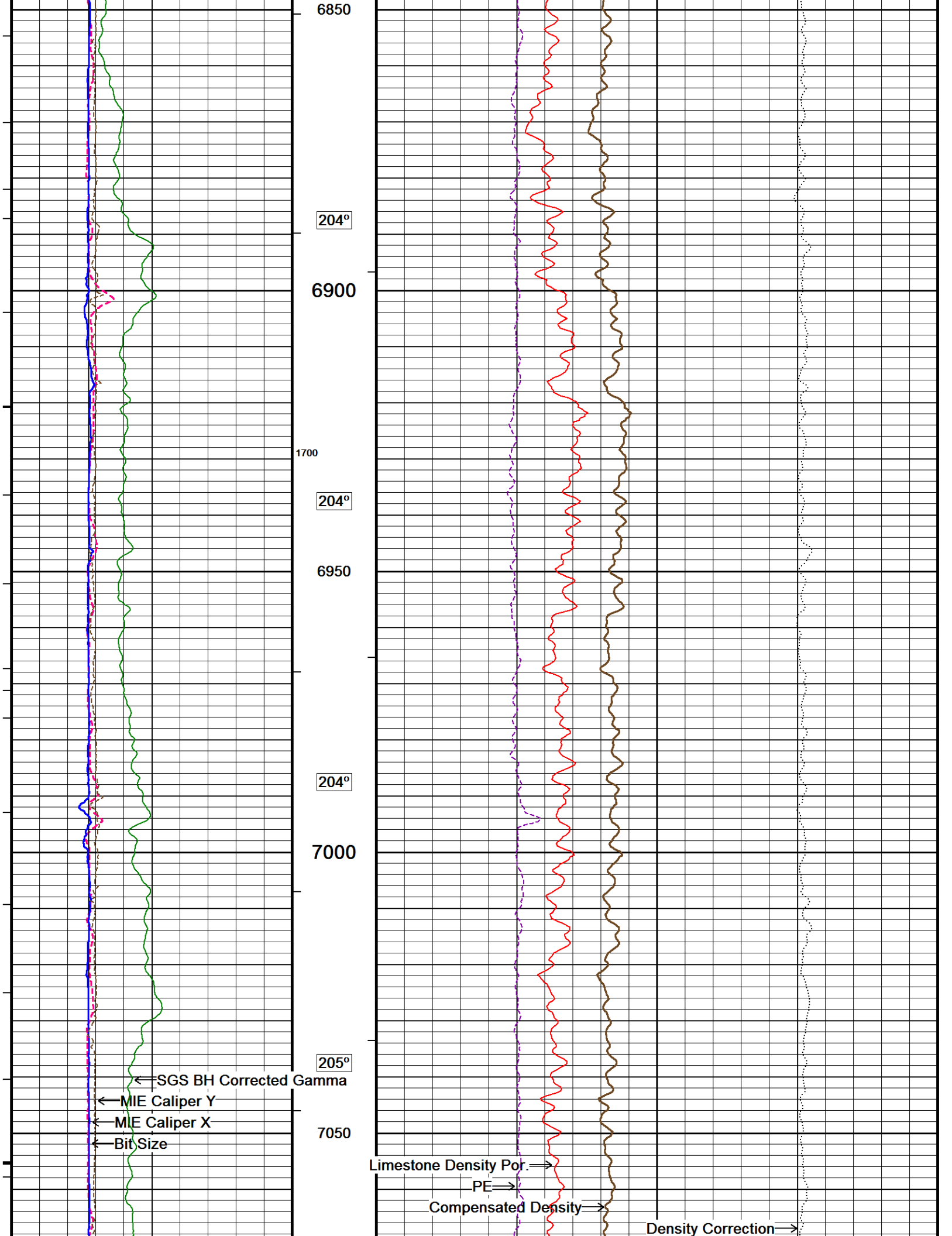


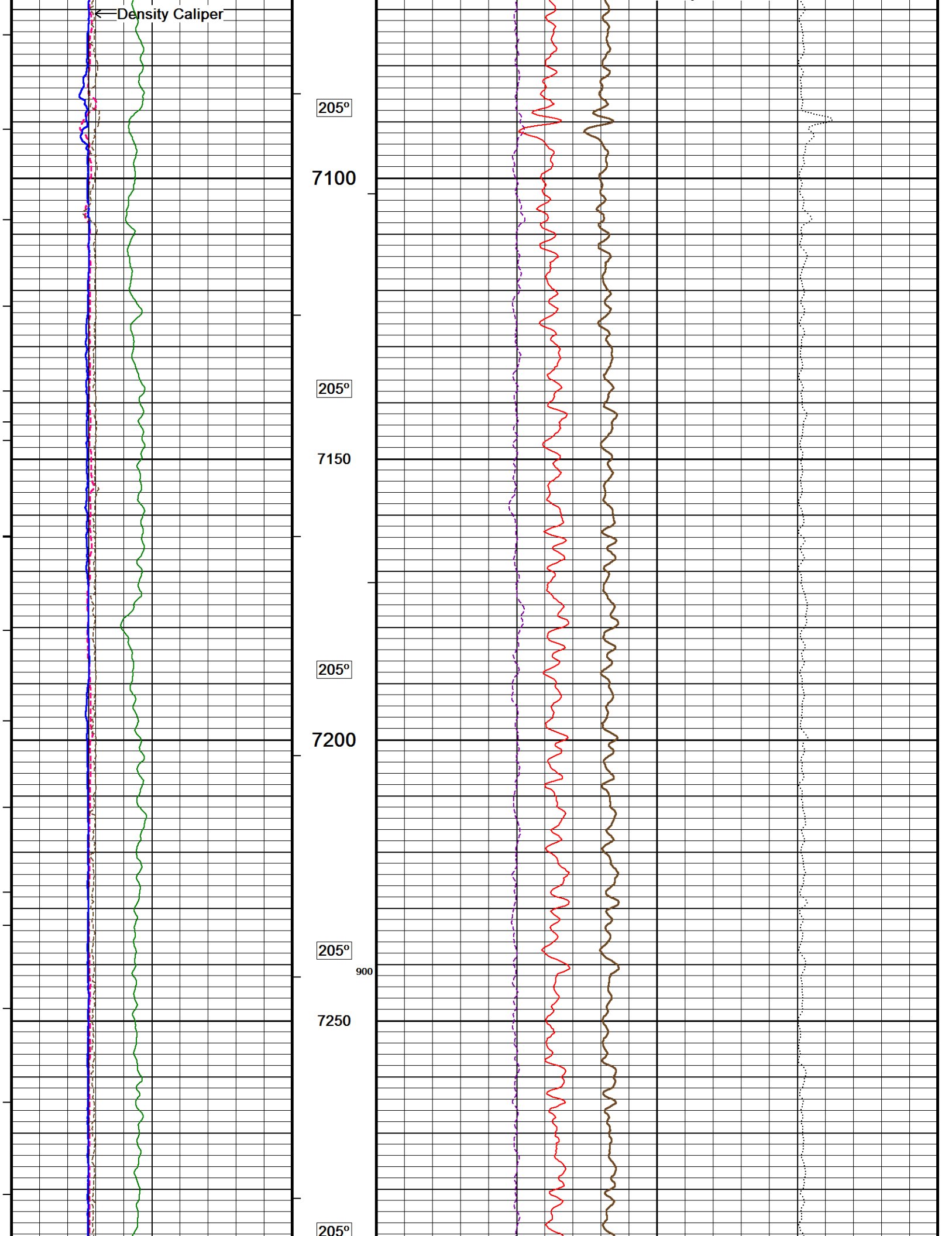


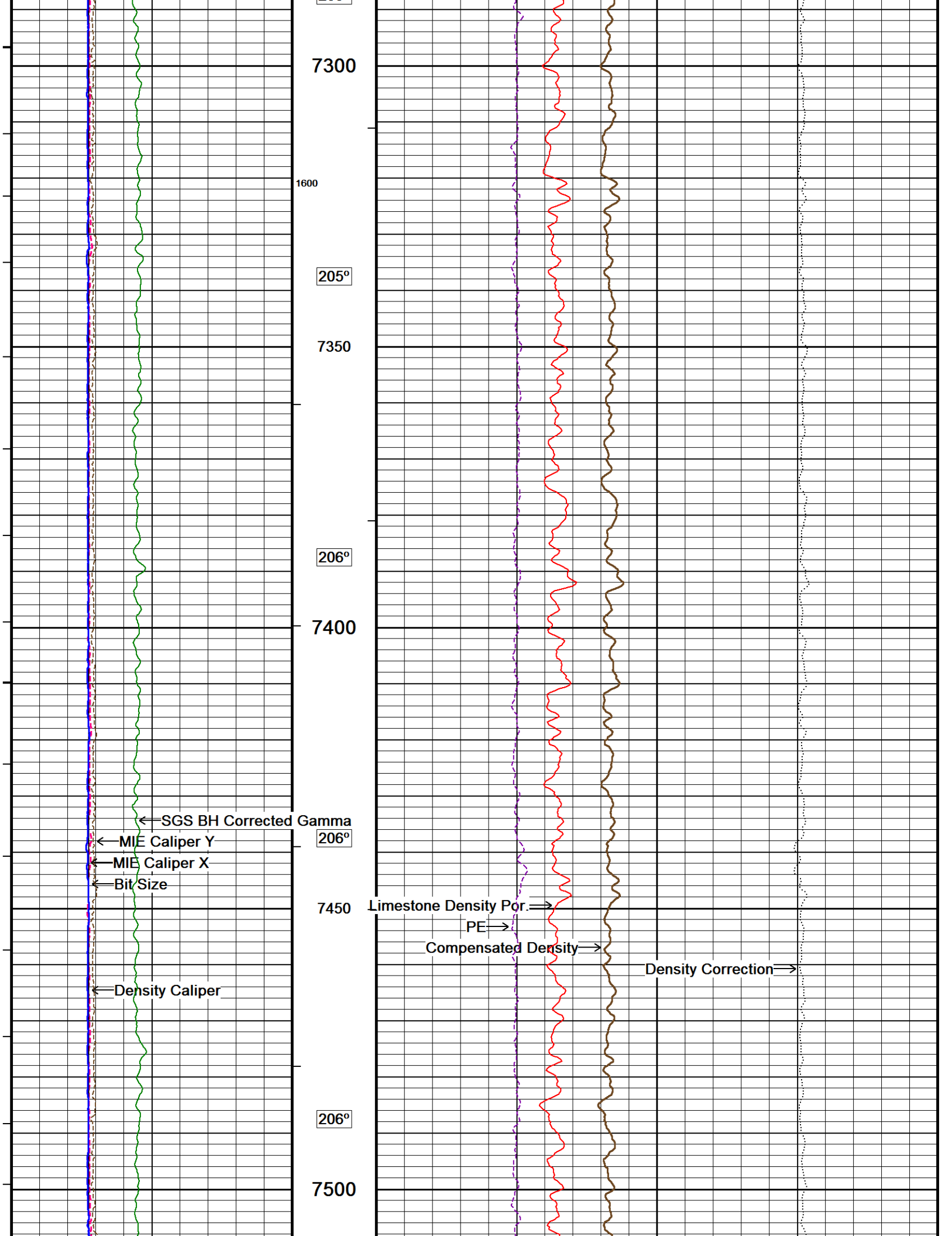


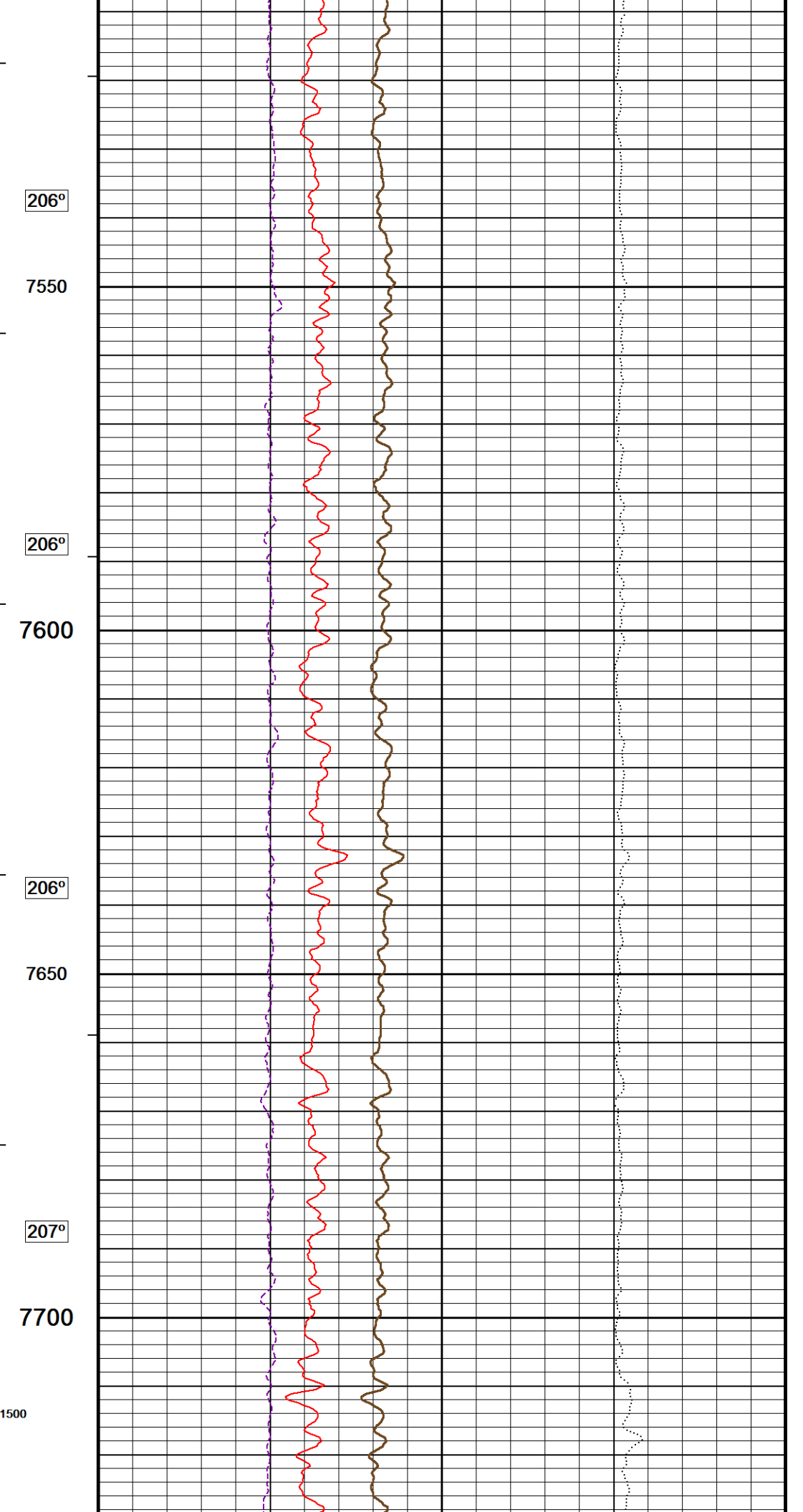
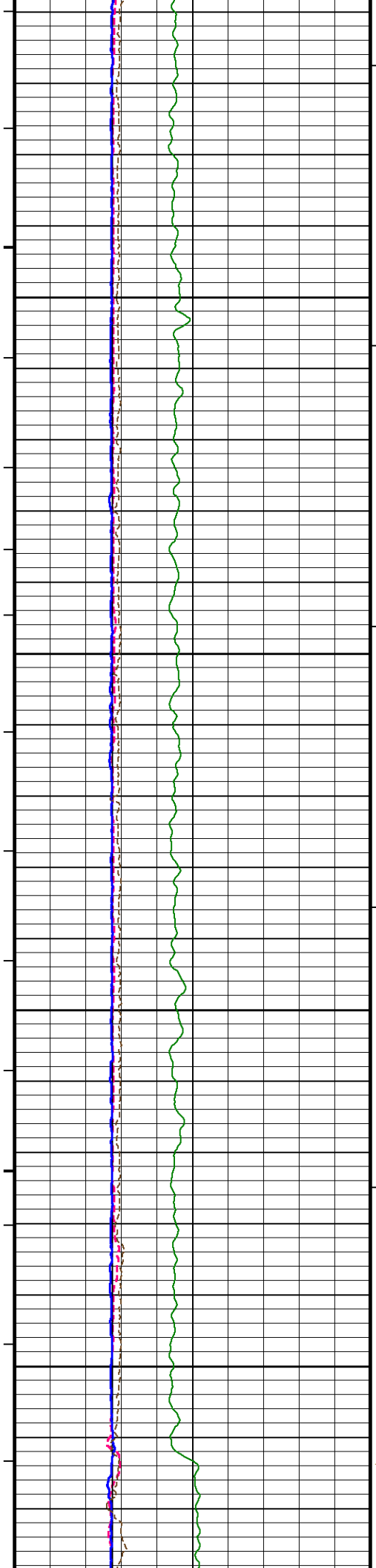


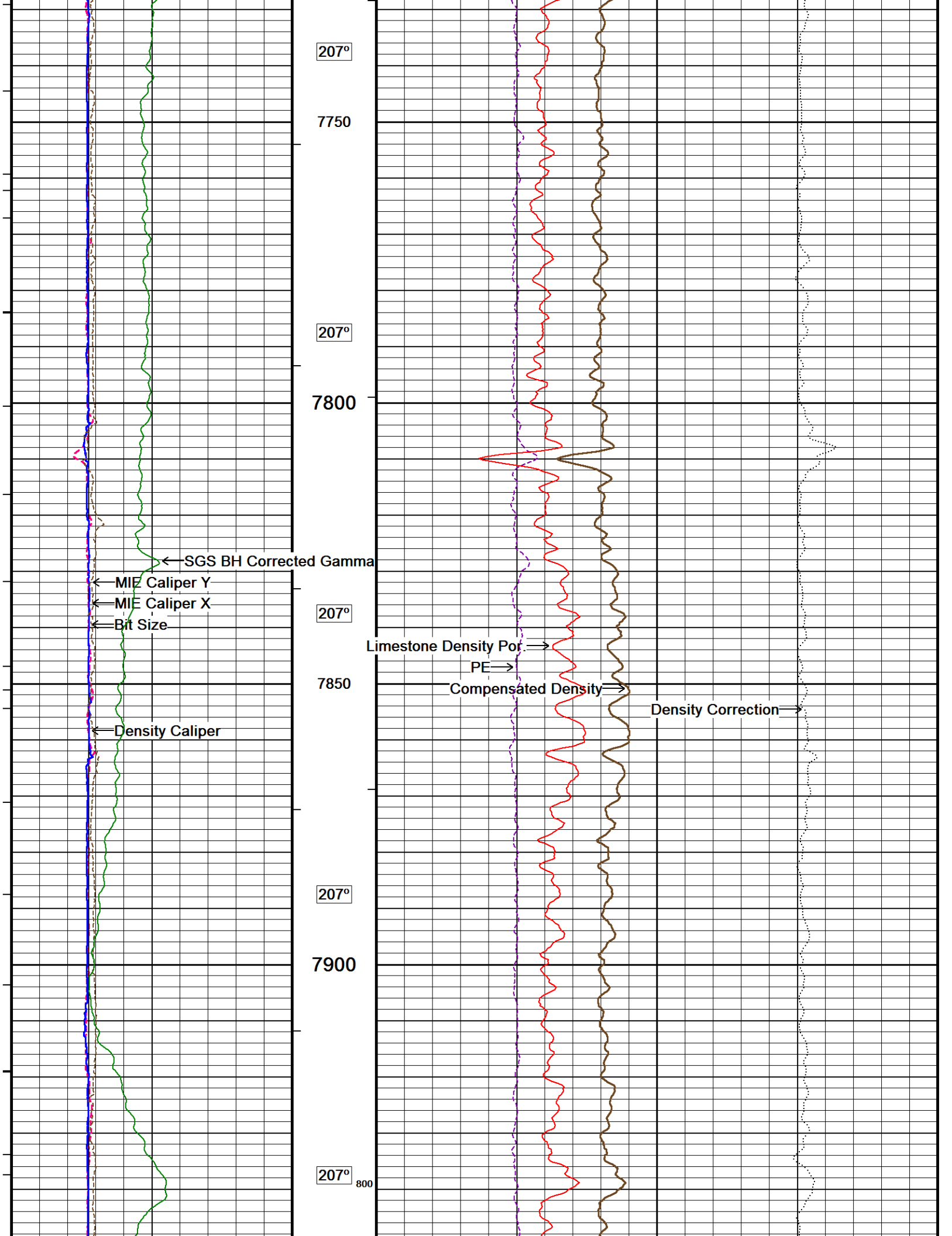


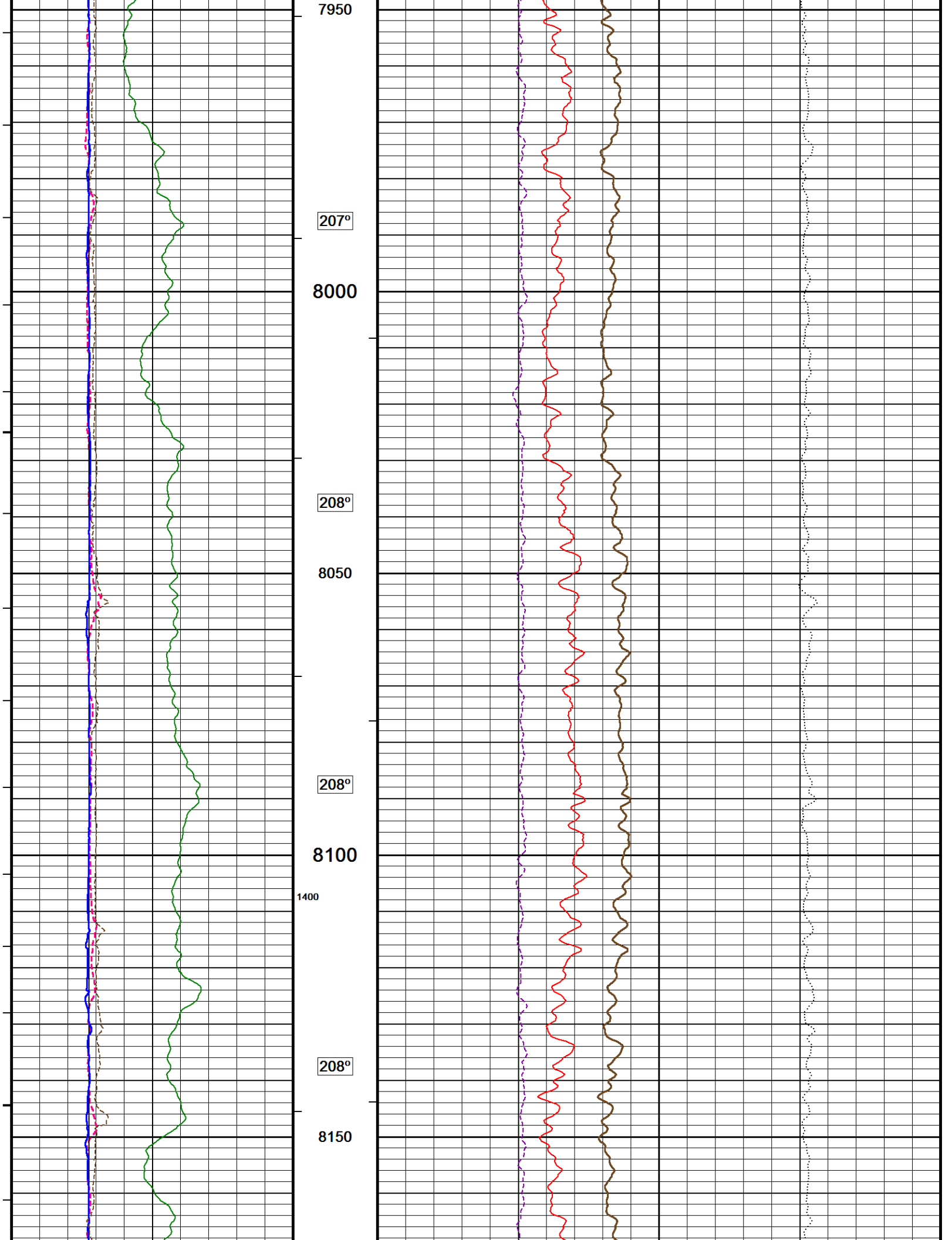


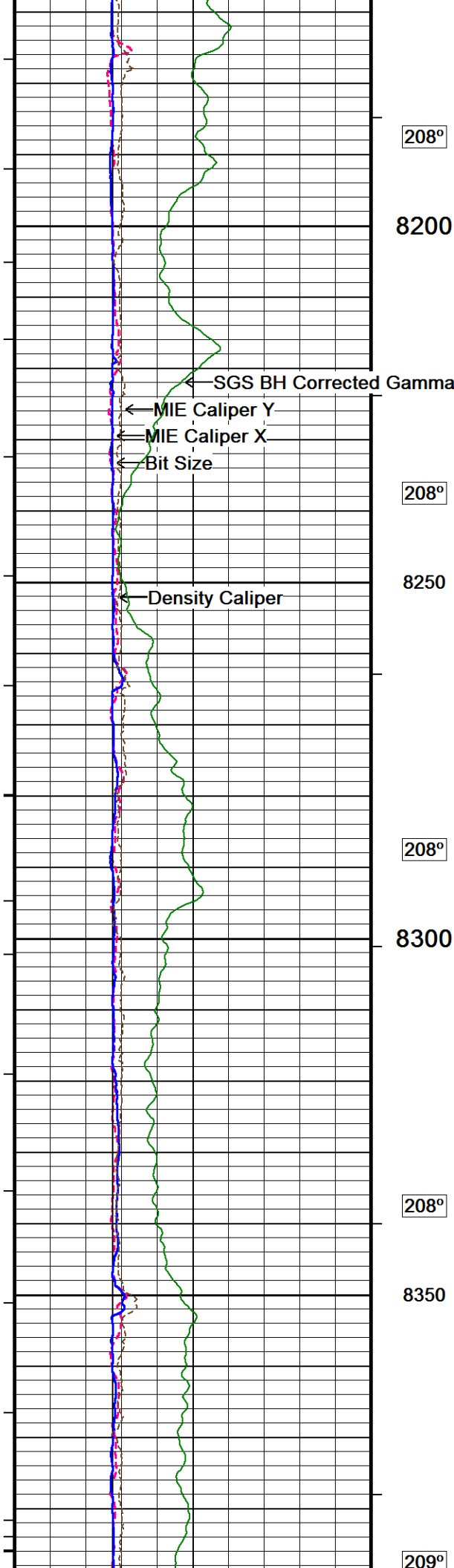












208°

8200

← SGS BH Corrected Gamma
← MIE Caliper Y
← MIE Caliper X
← Bit Size

208°

8250

← Density Caliper

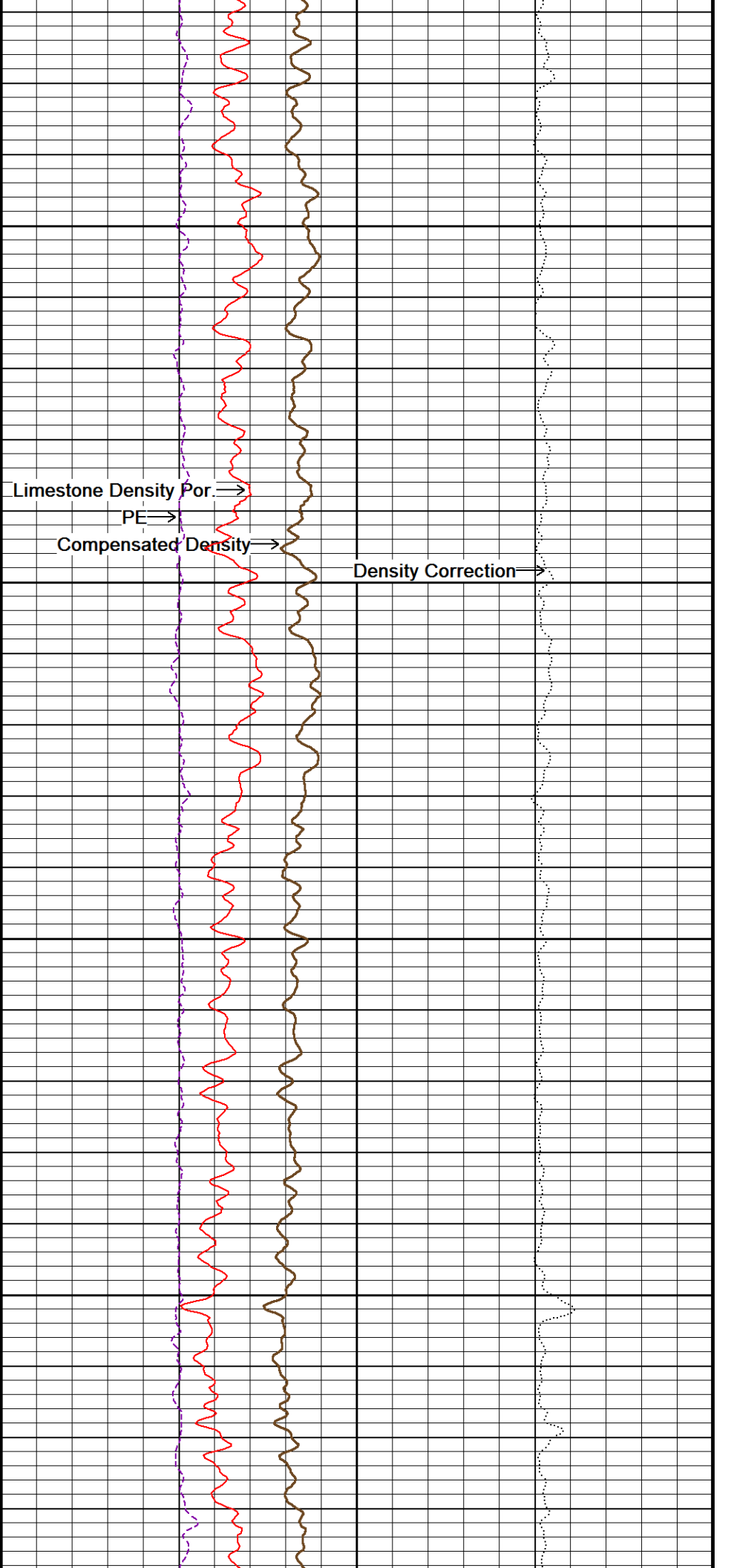
208°

8300

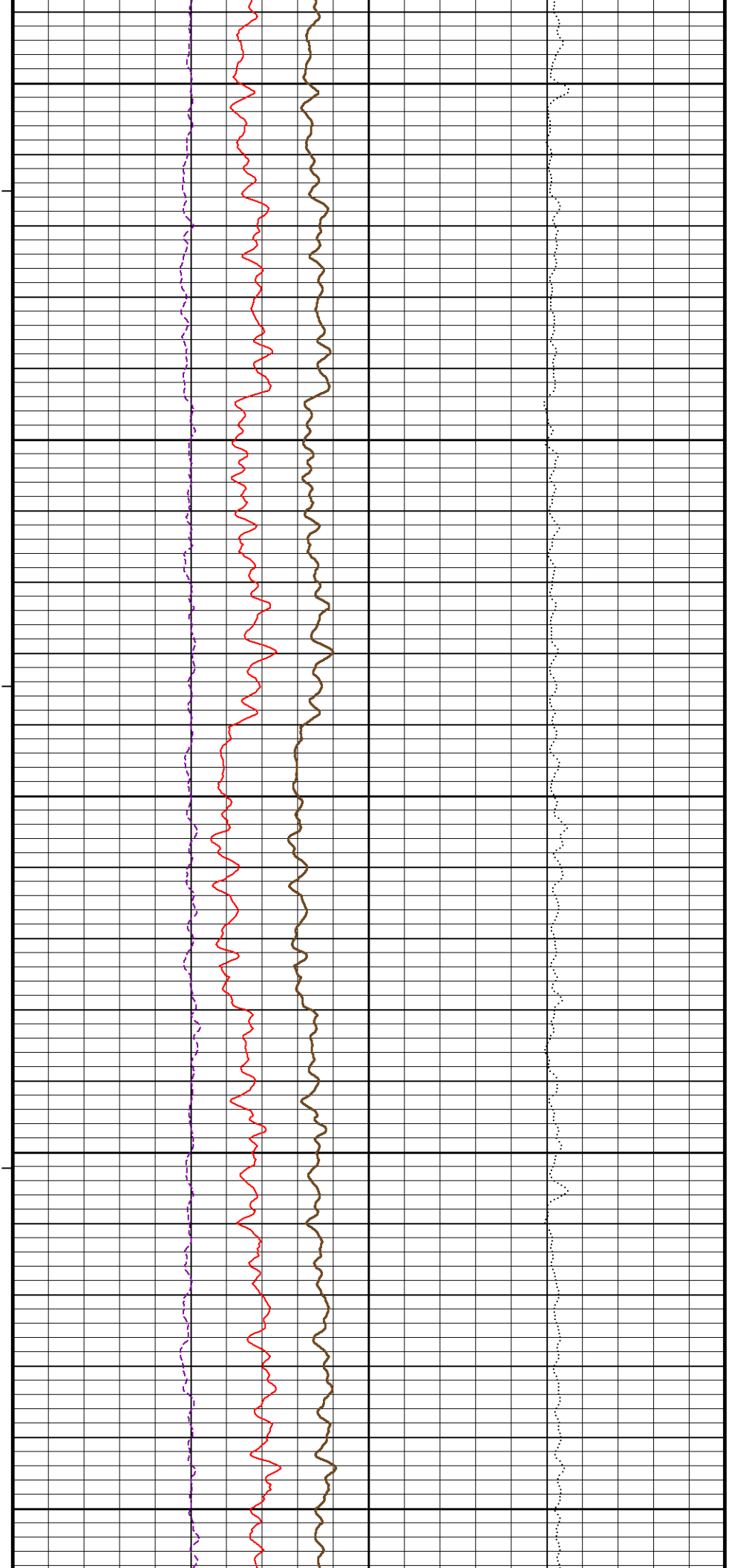
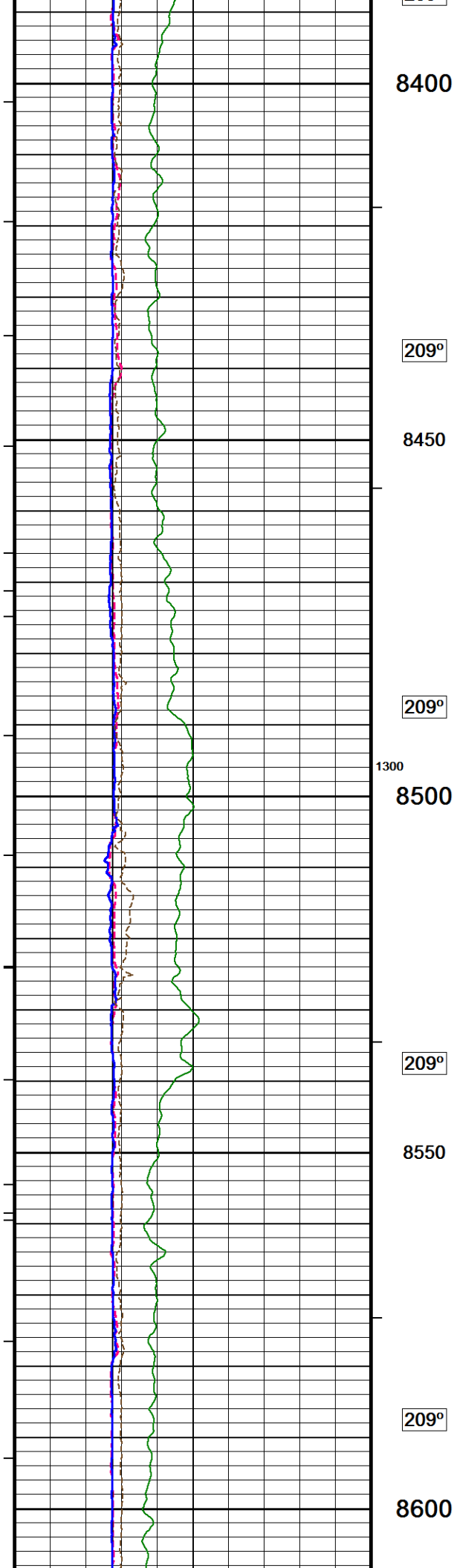
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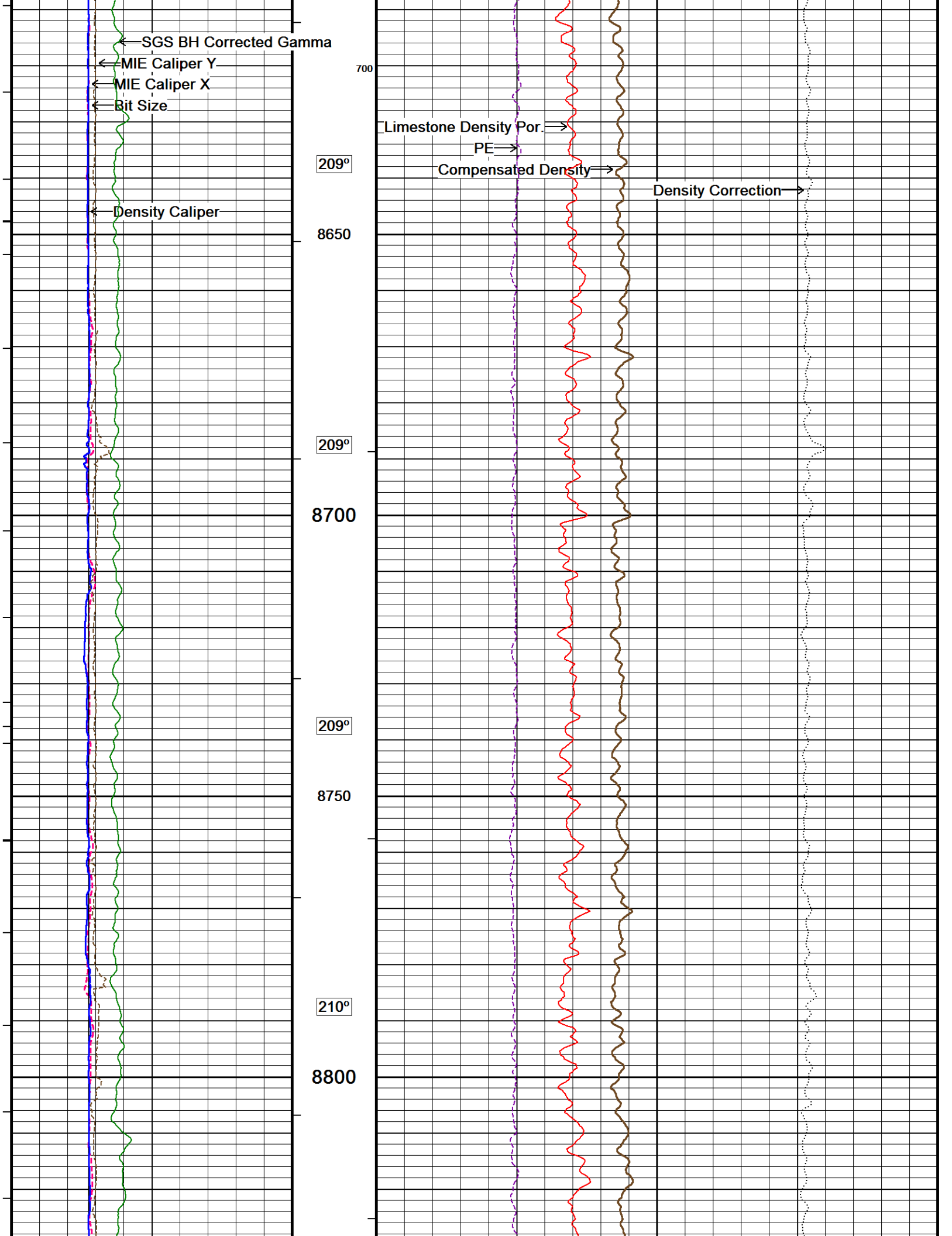
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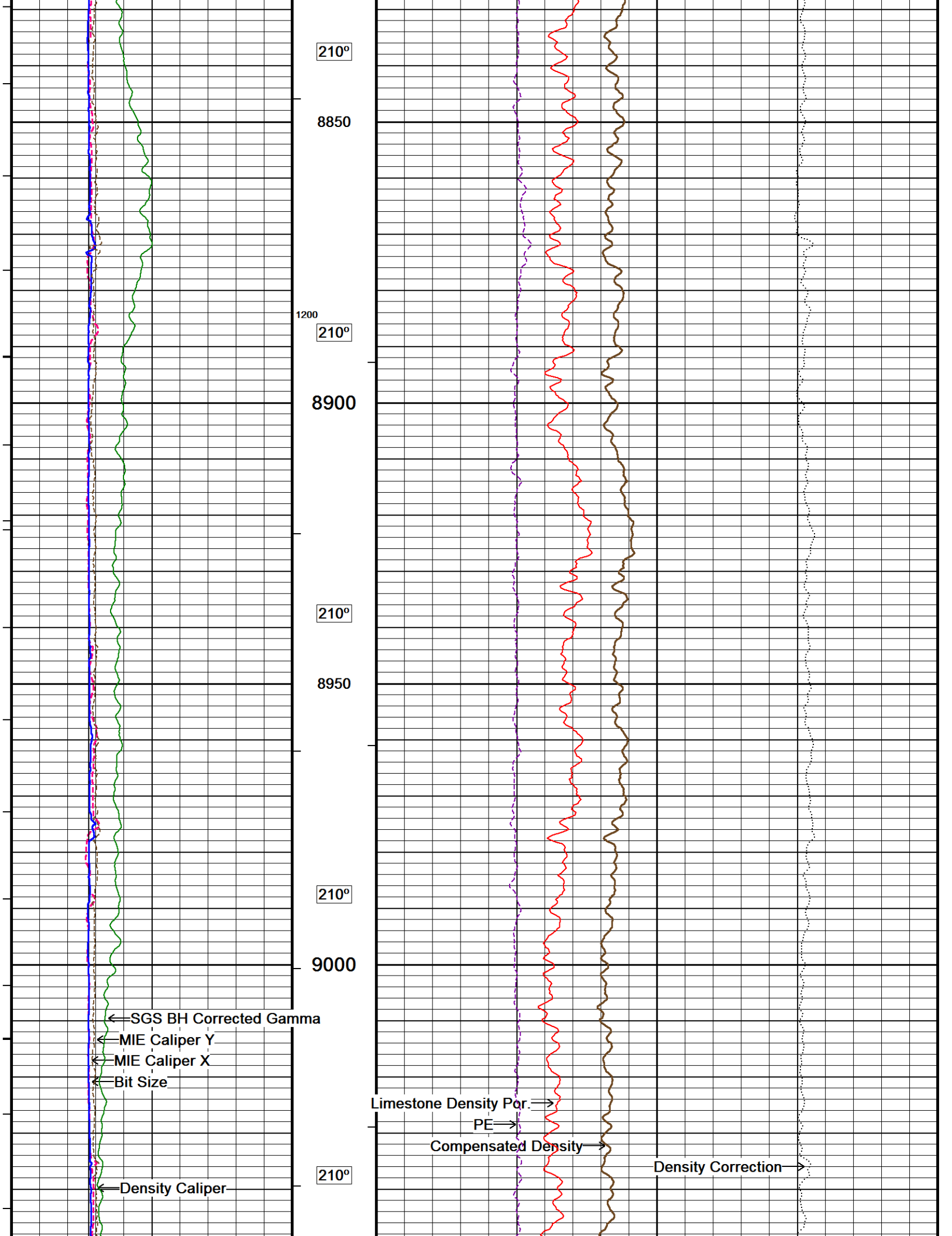
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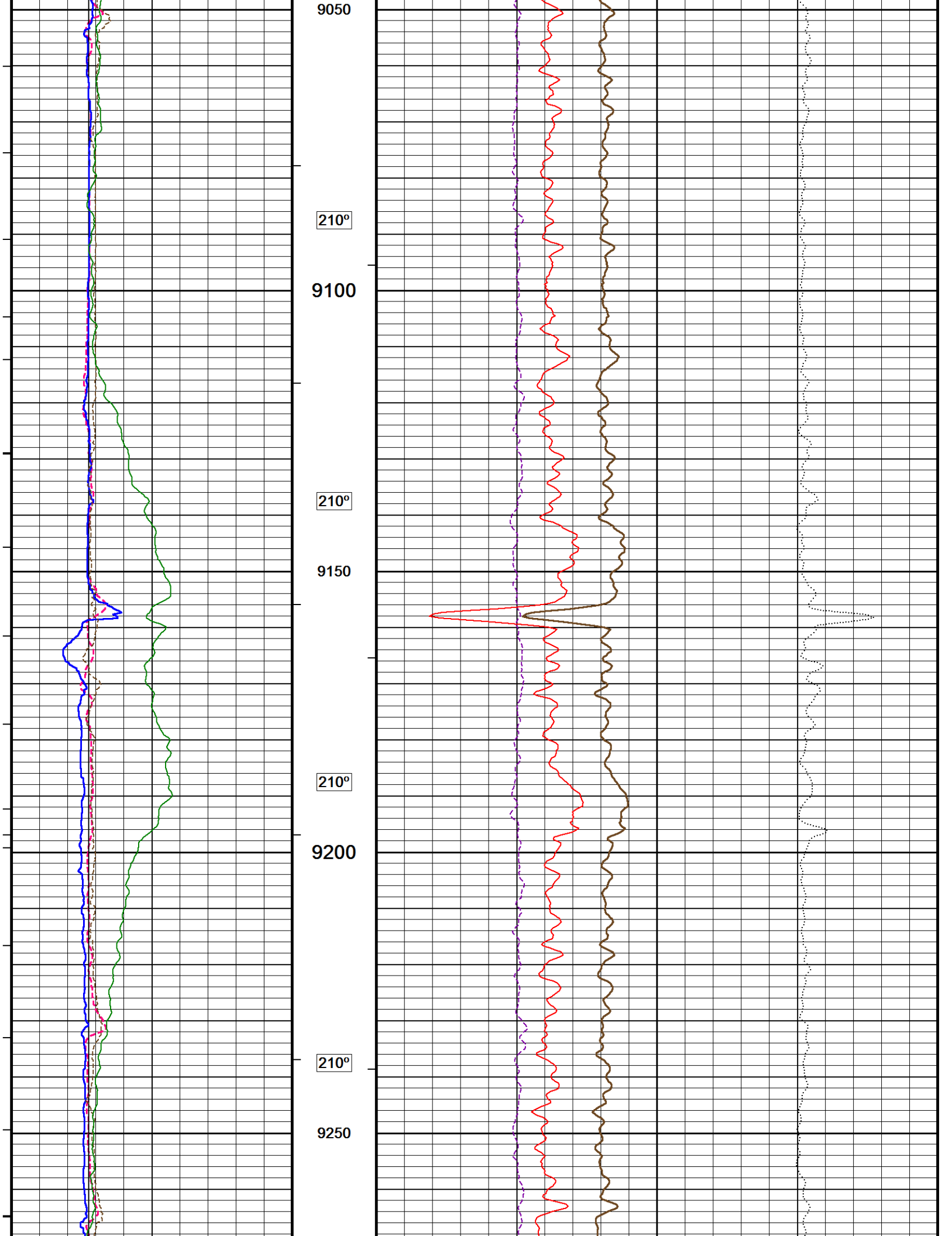


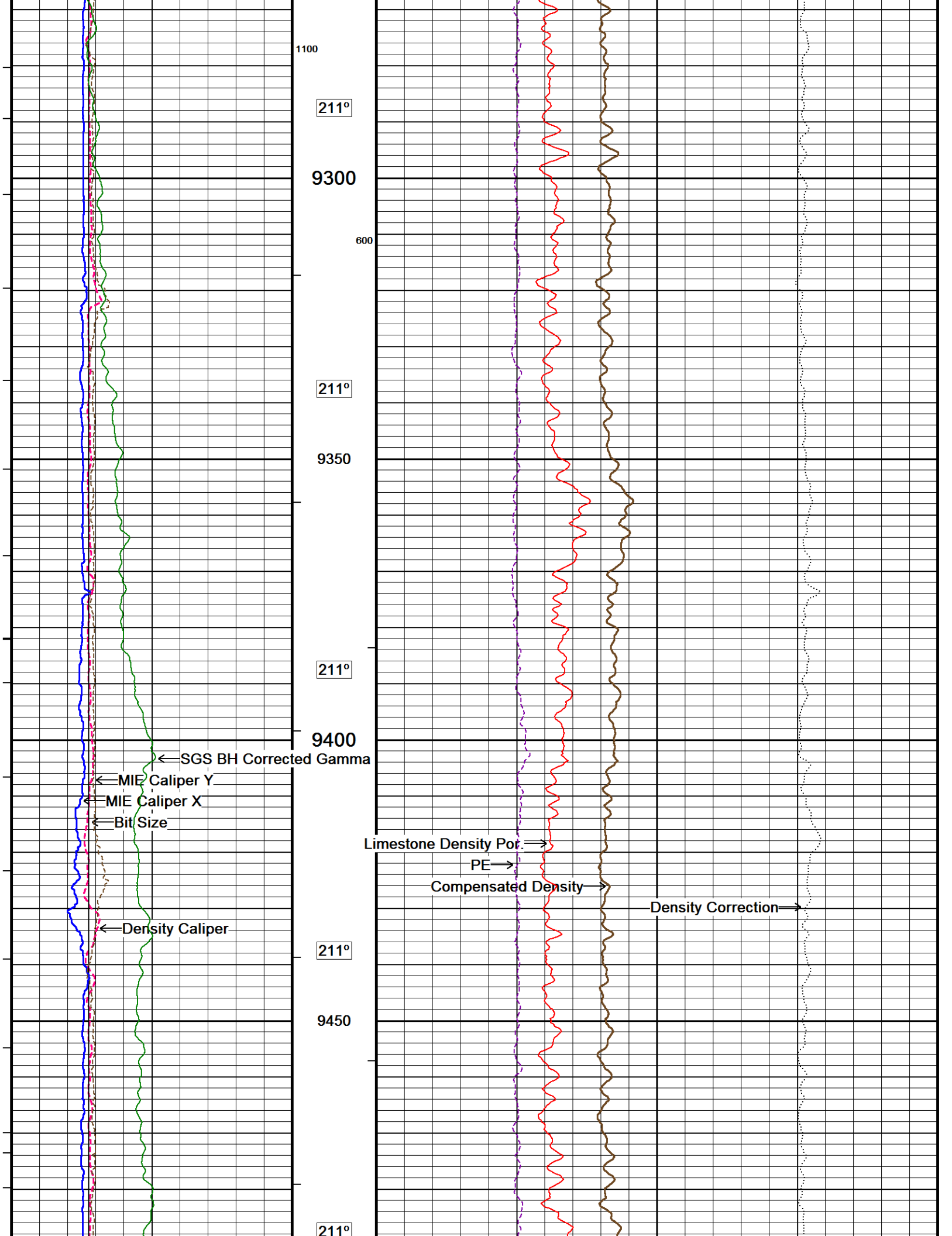
Limestone Density Por. →
PE →
Compensated Density →
Density Correction →

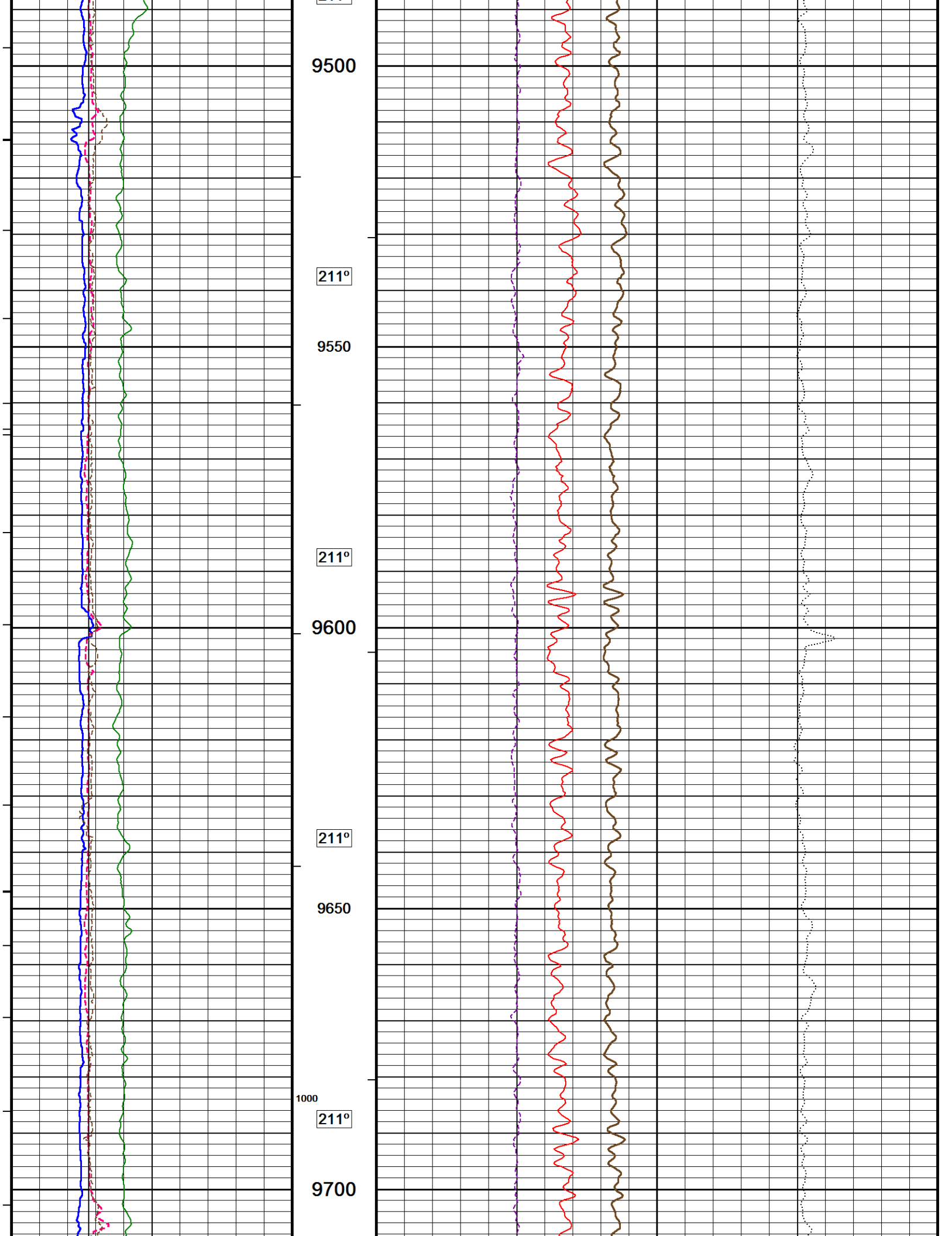


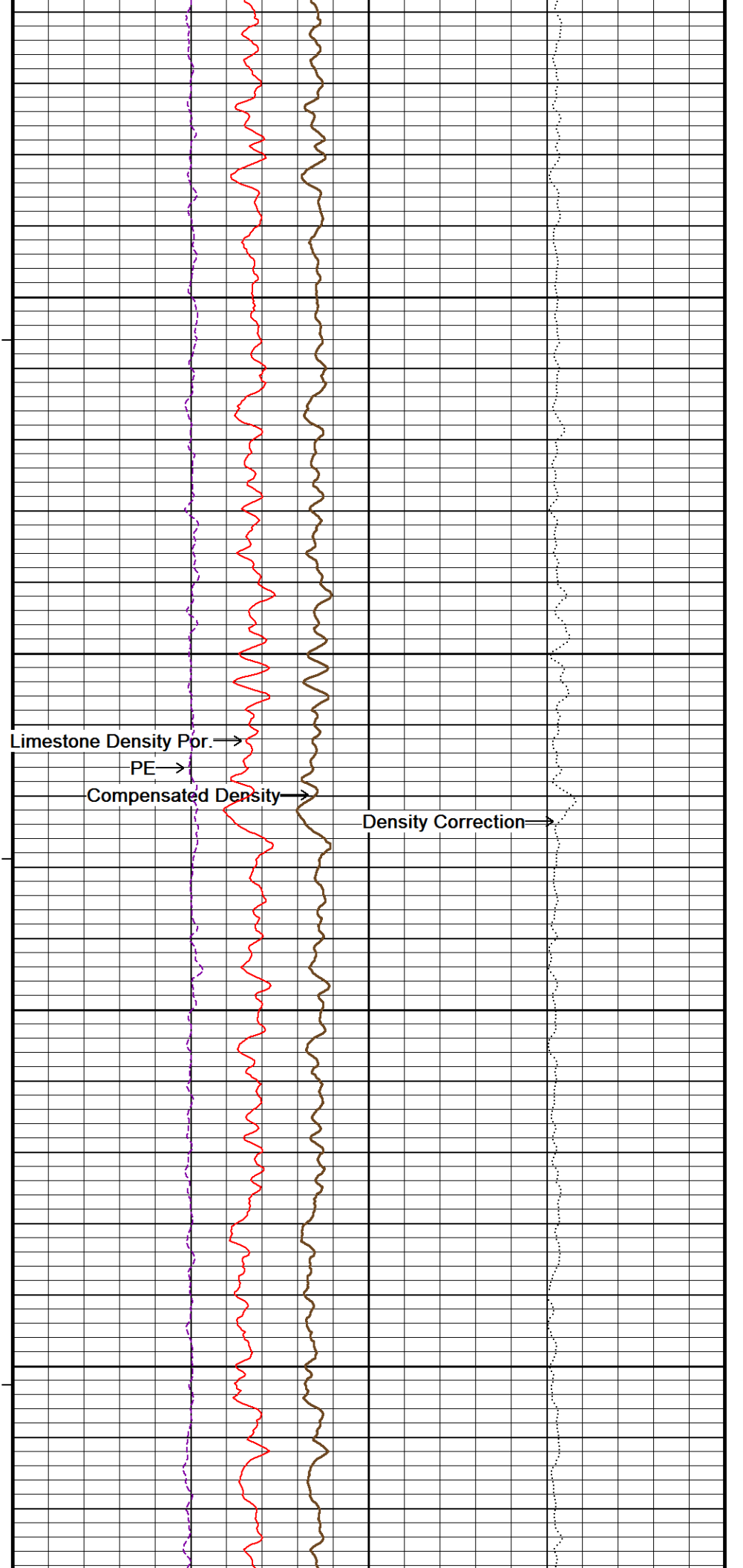
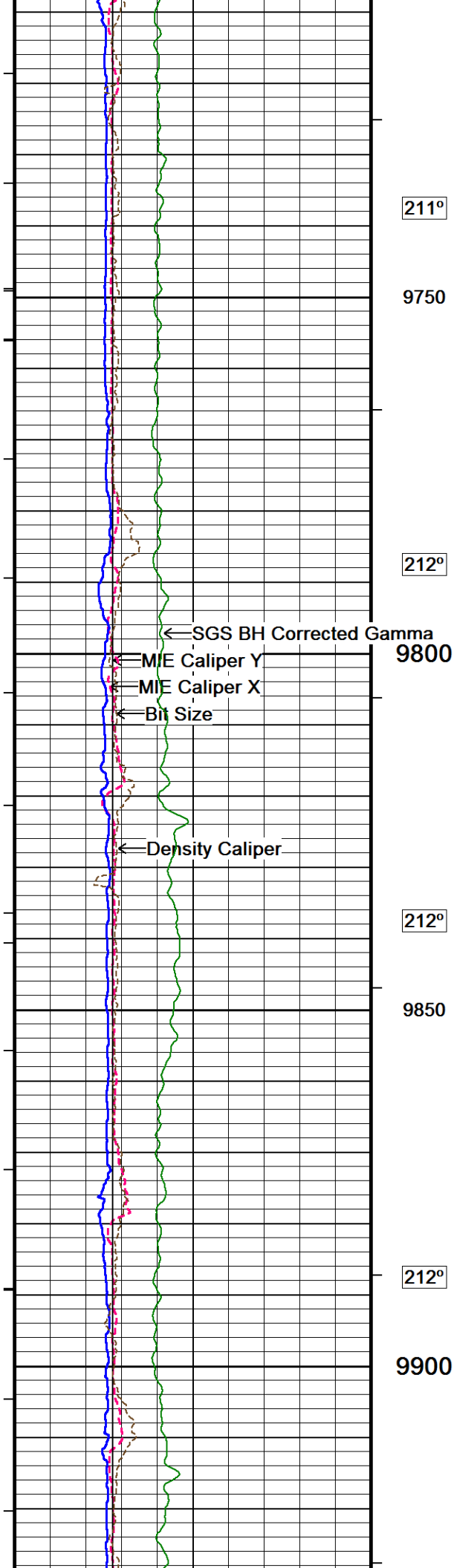


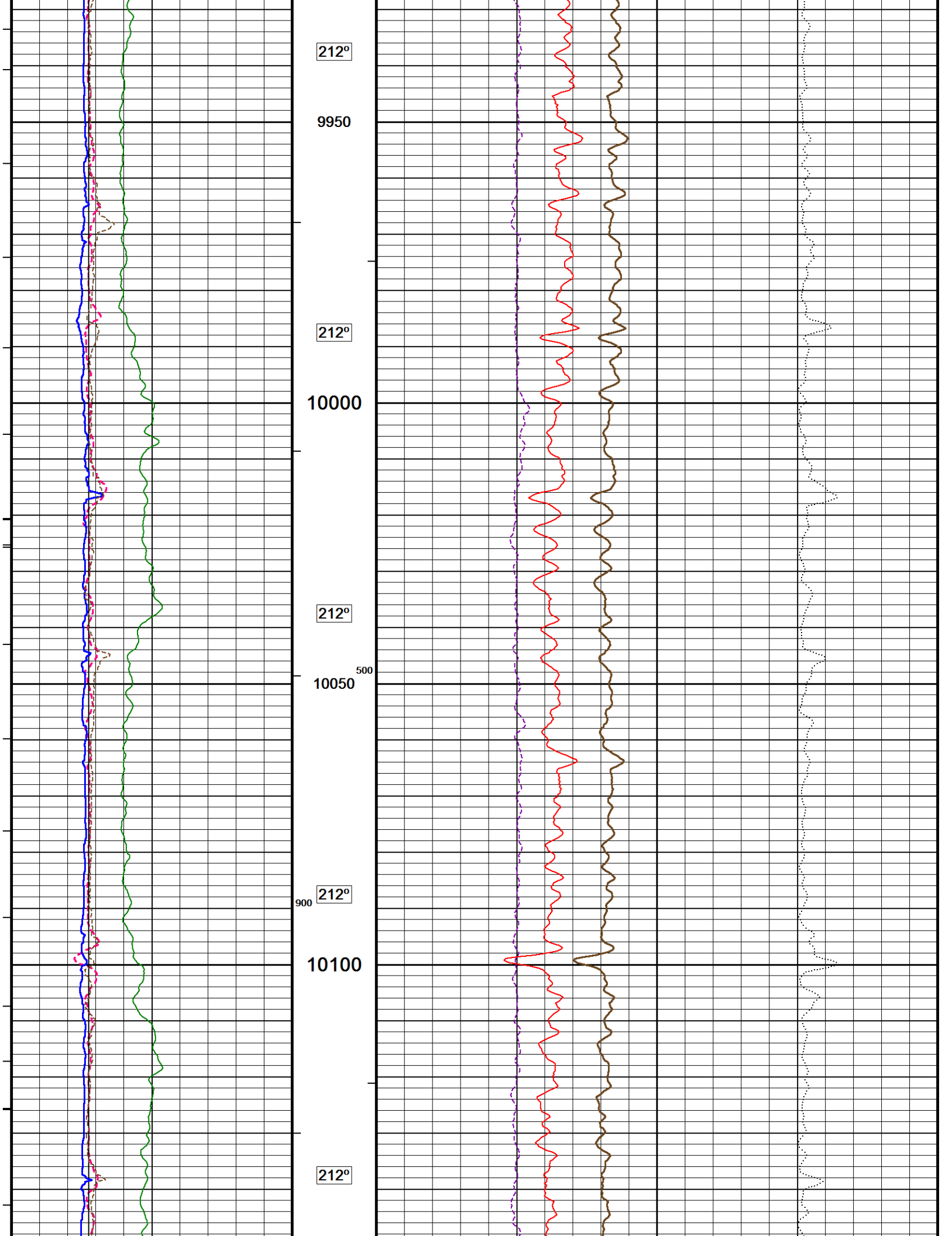


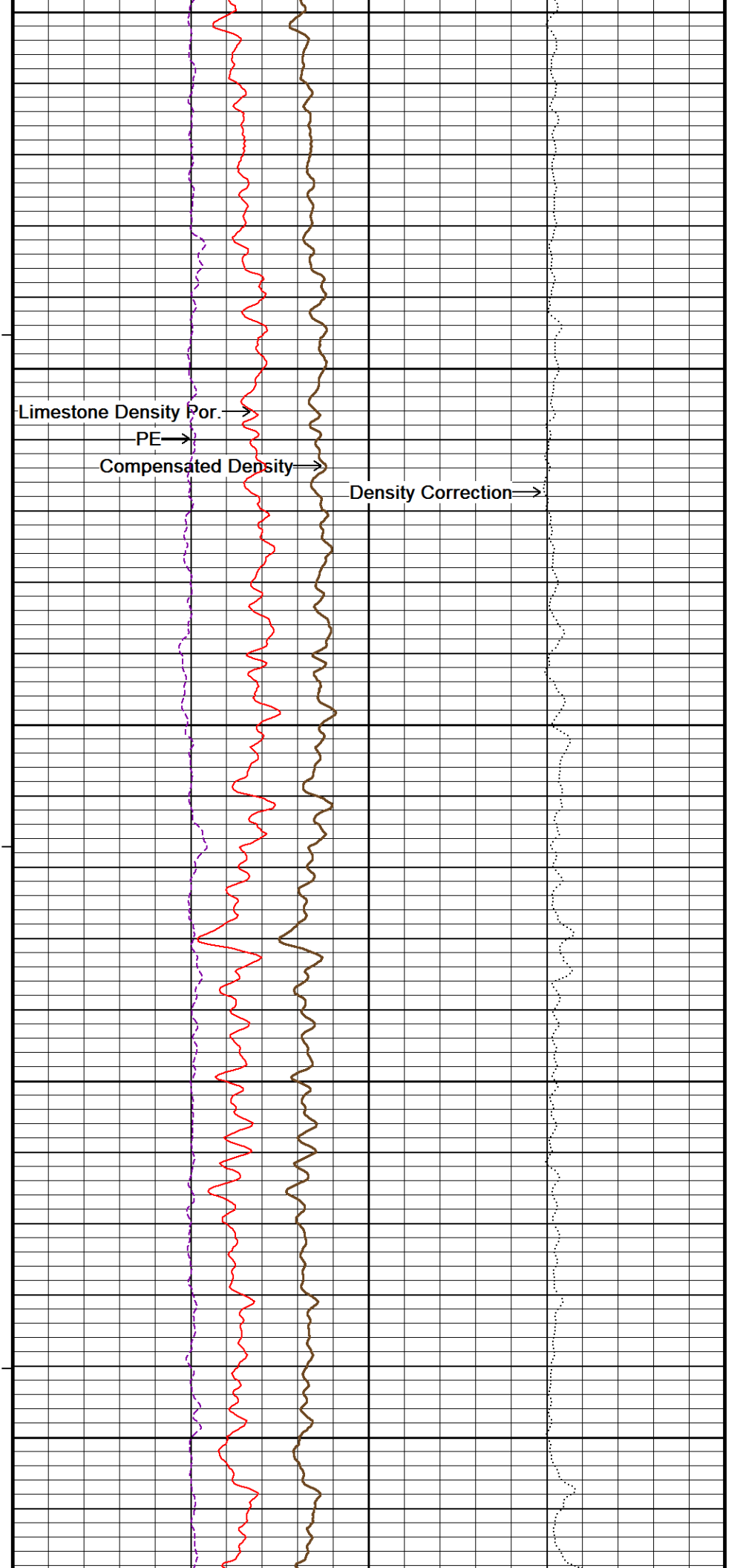
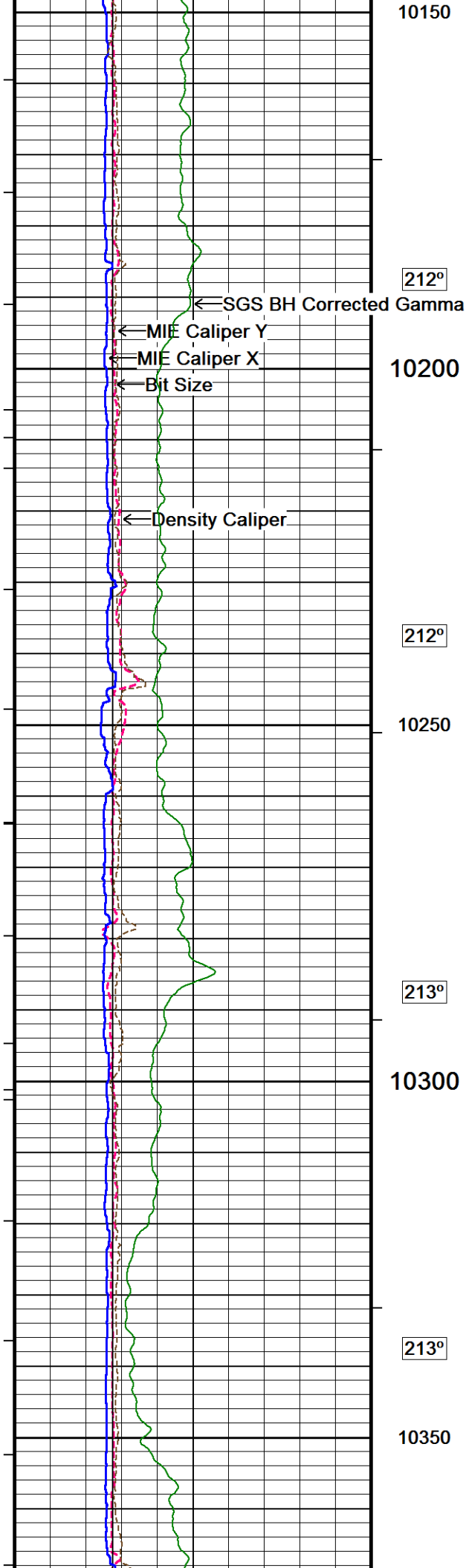


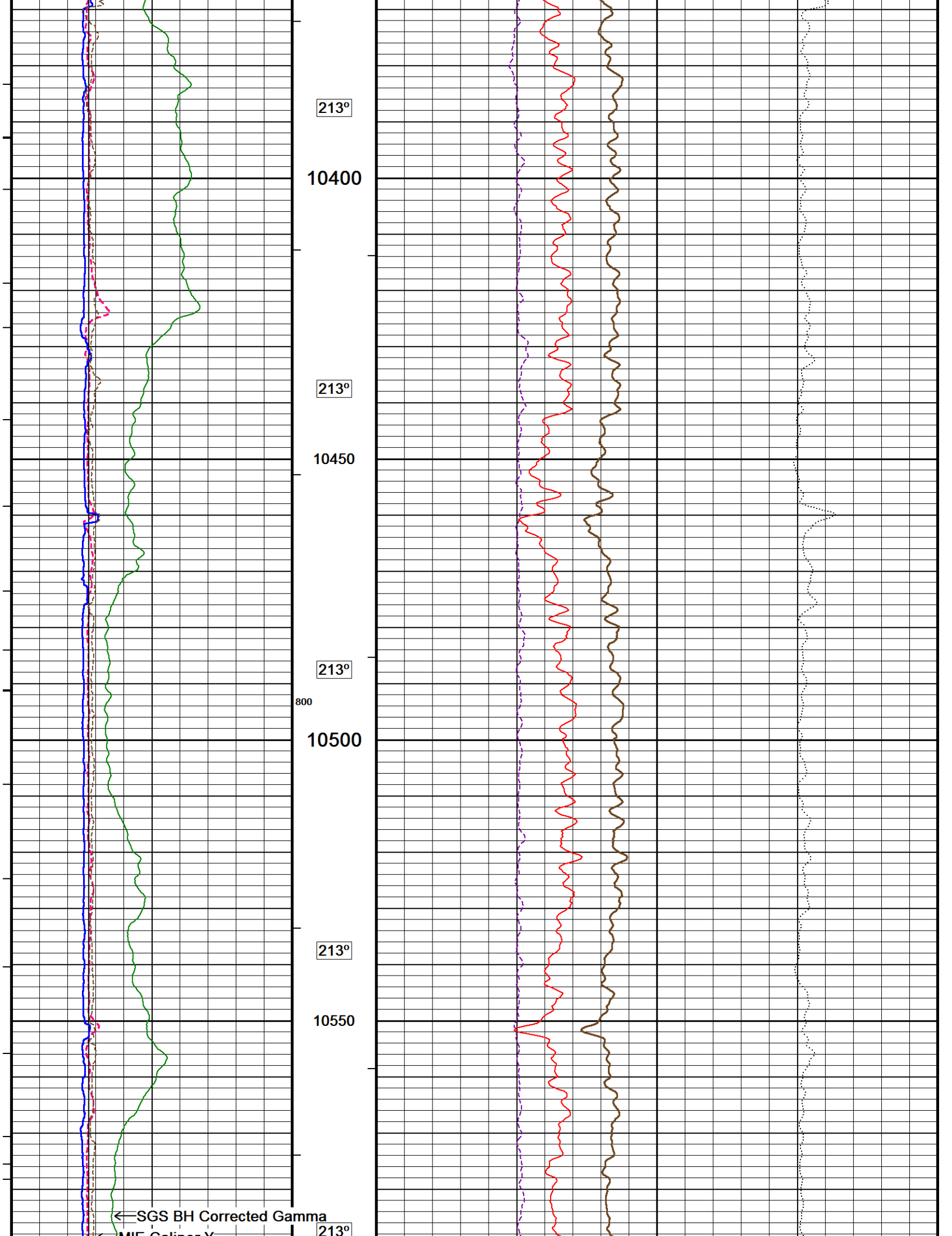


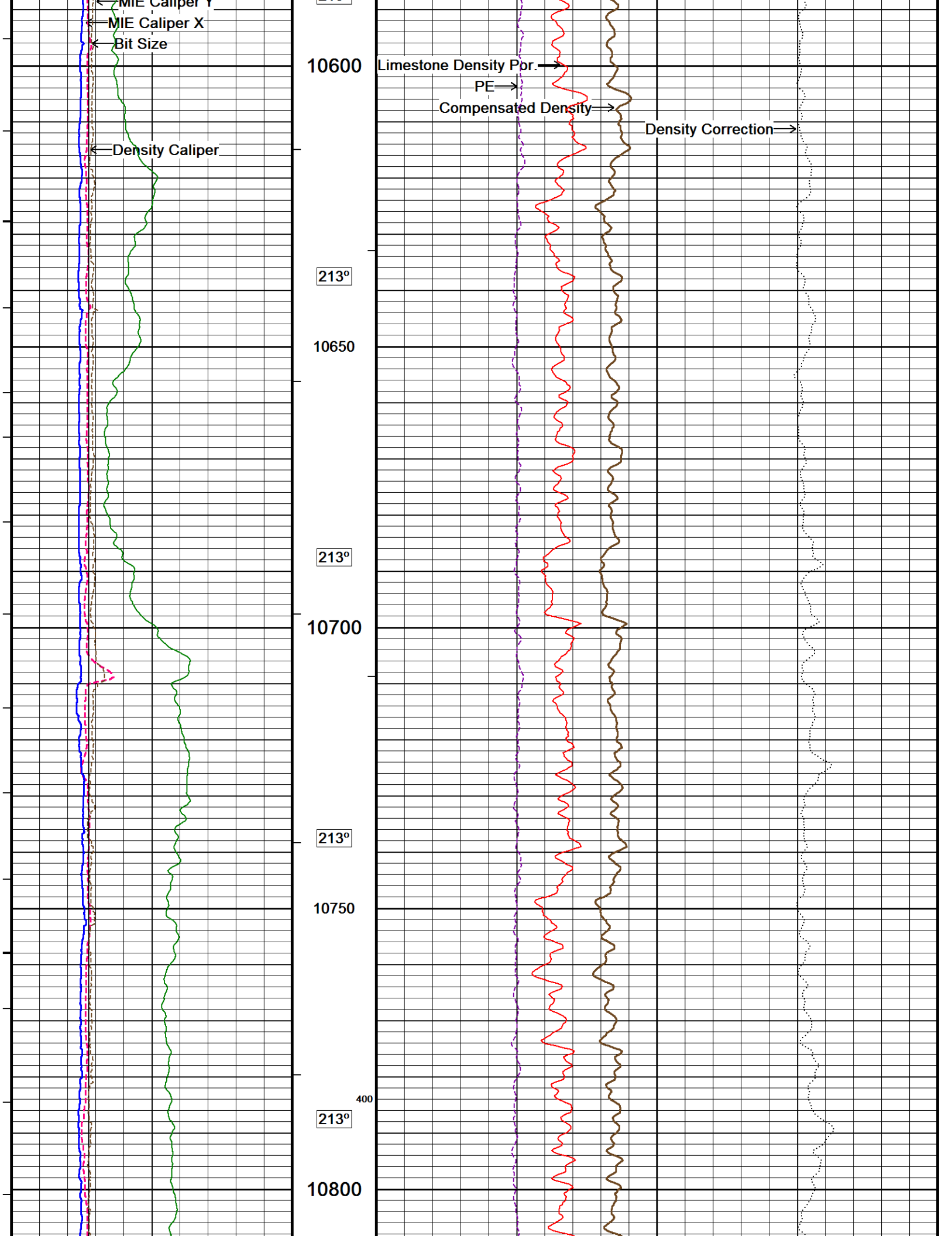


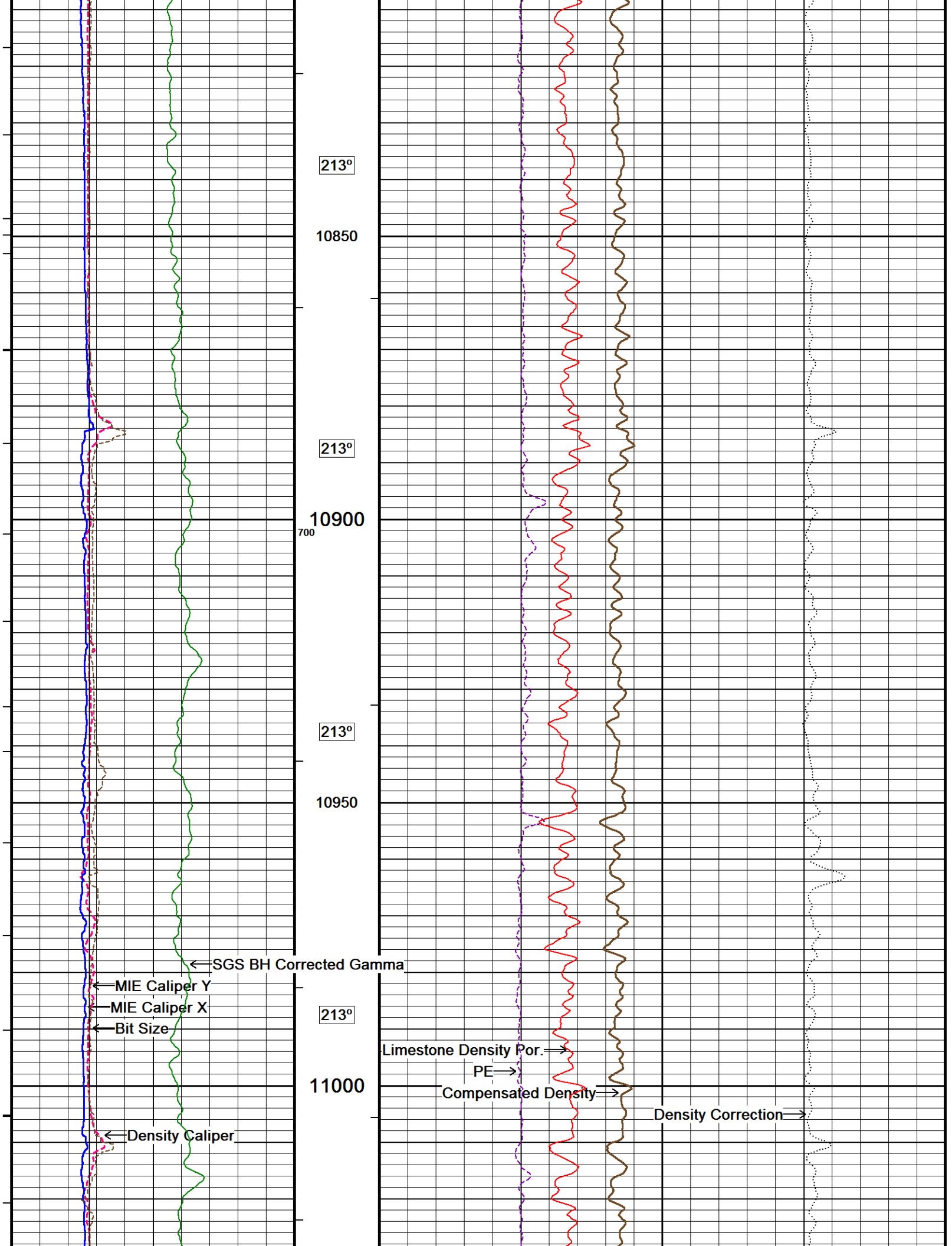


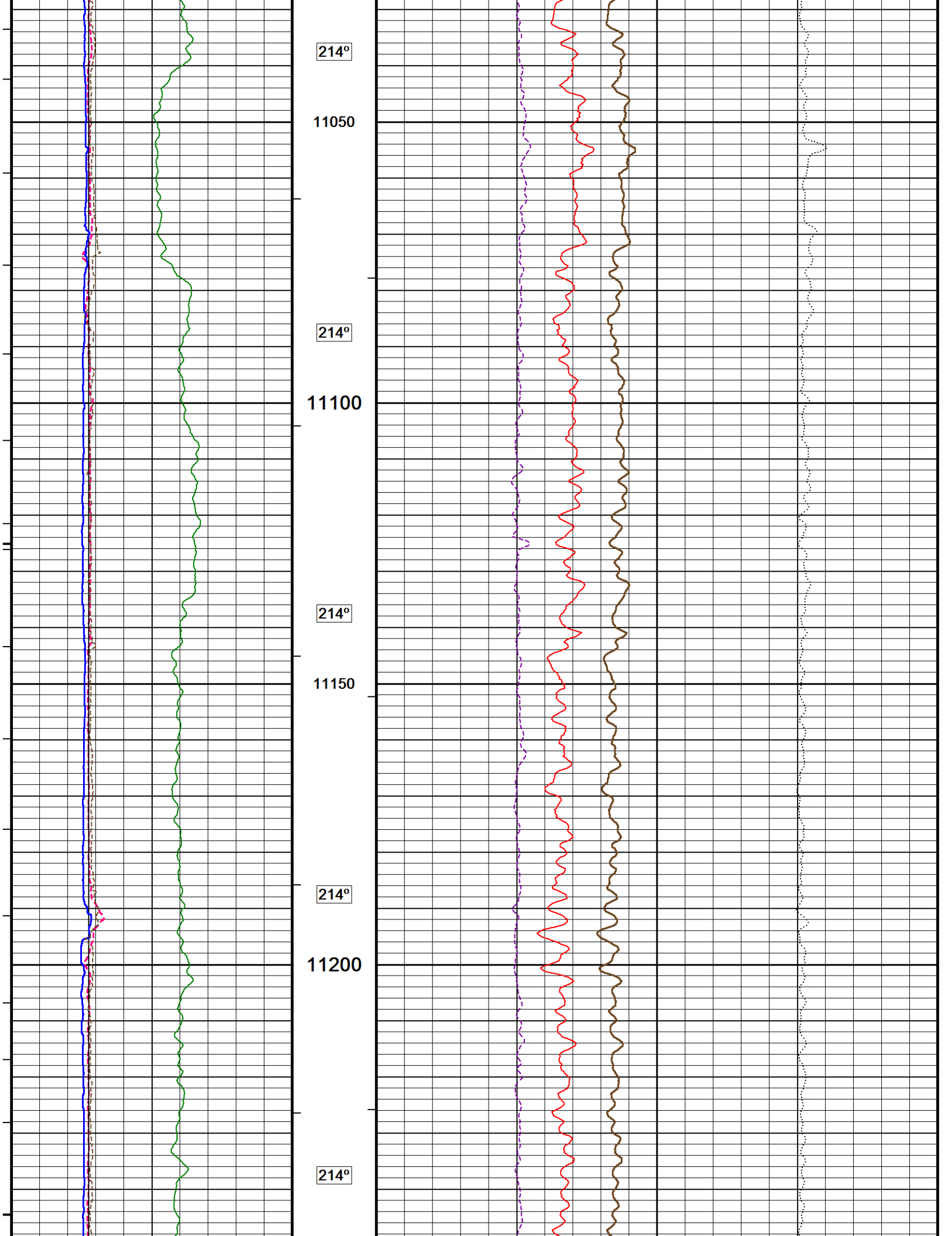


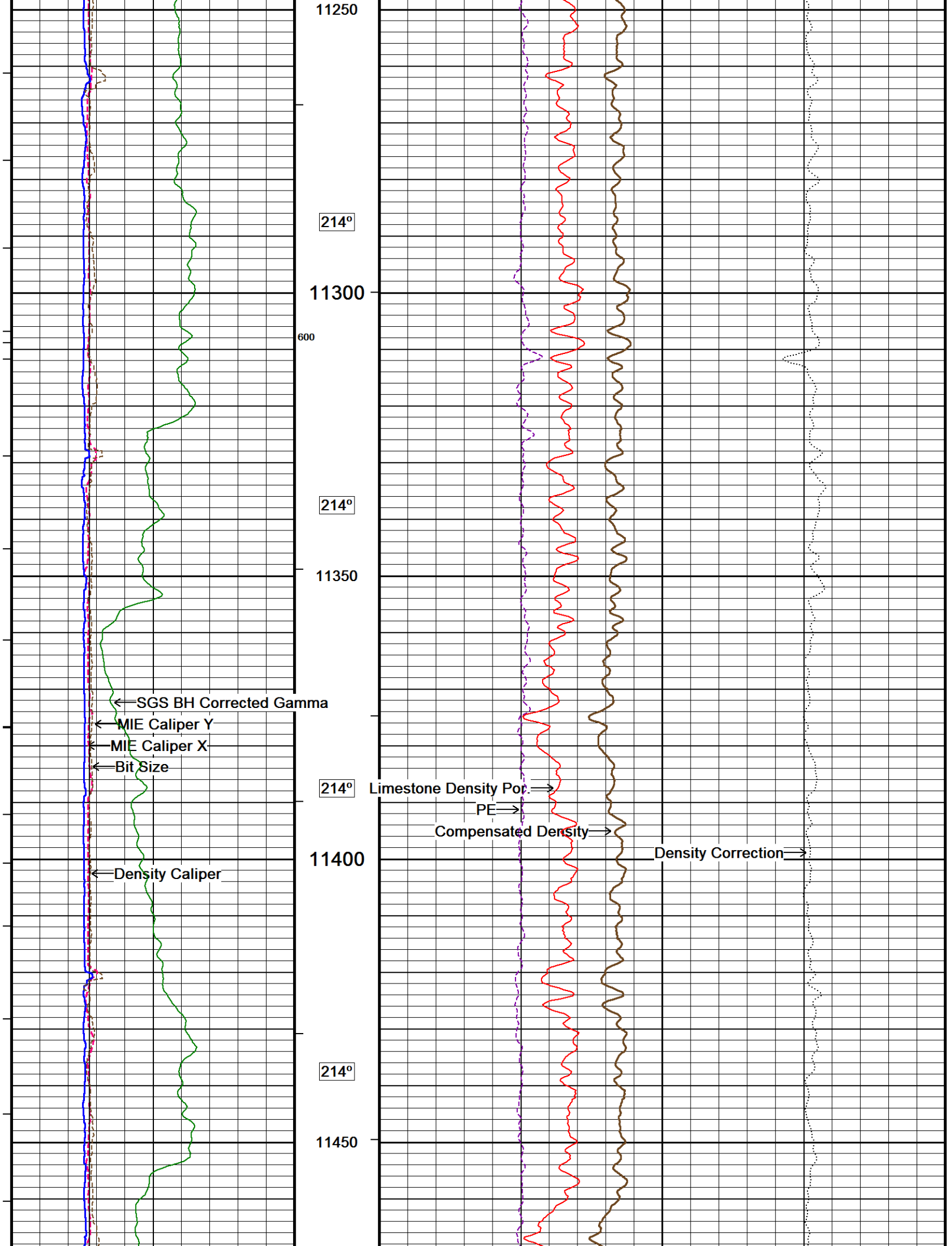


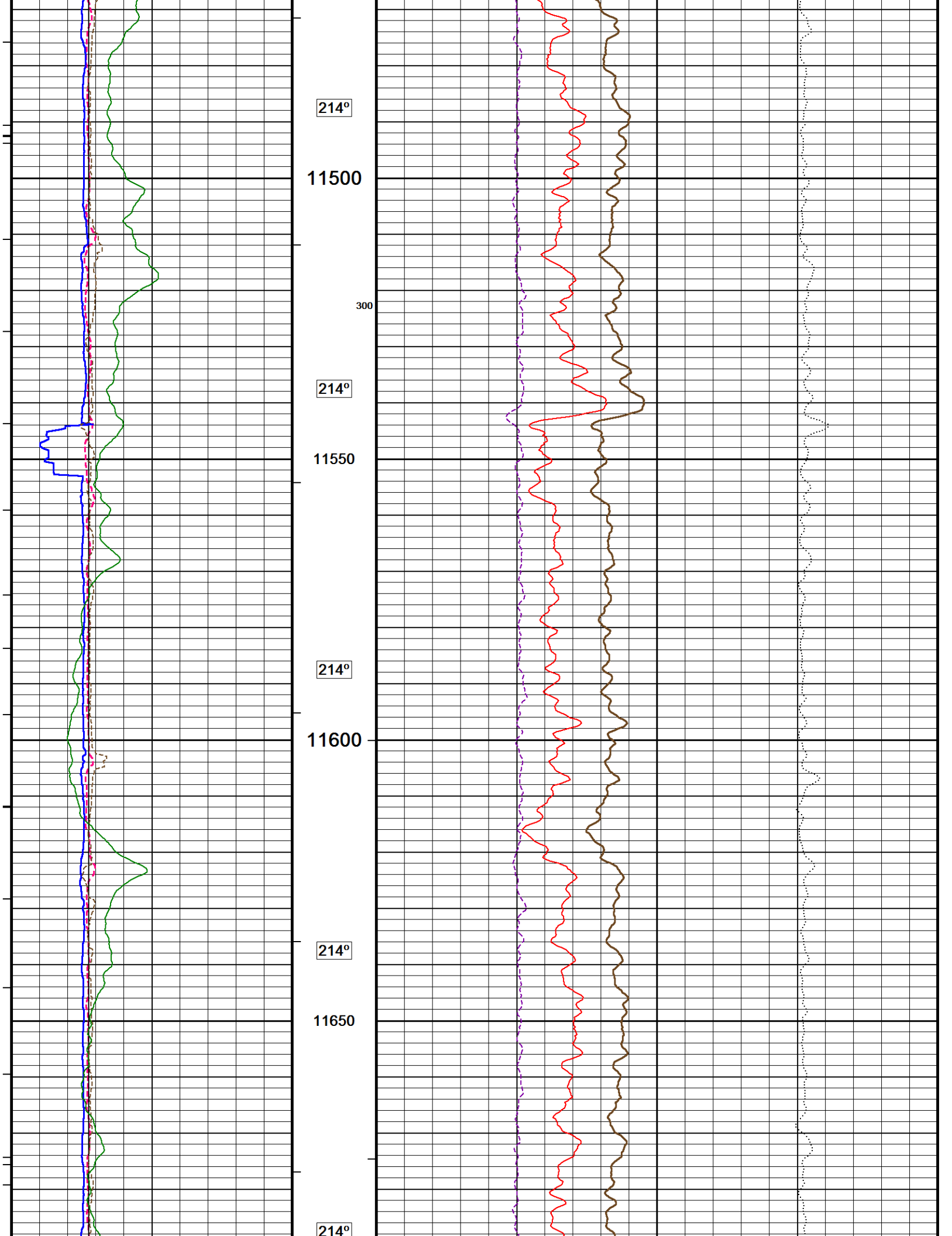


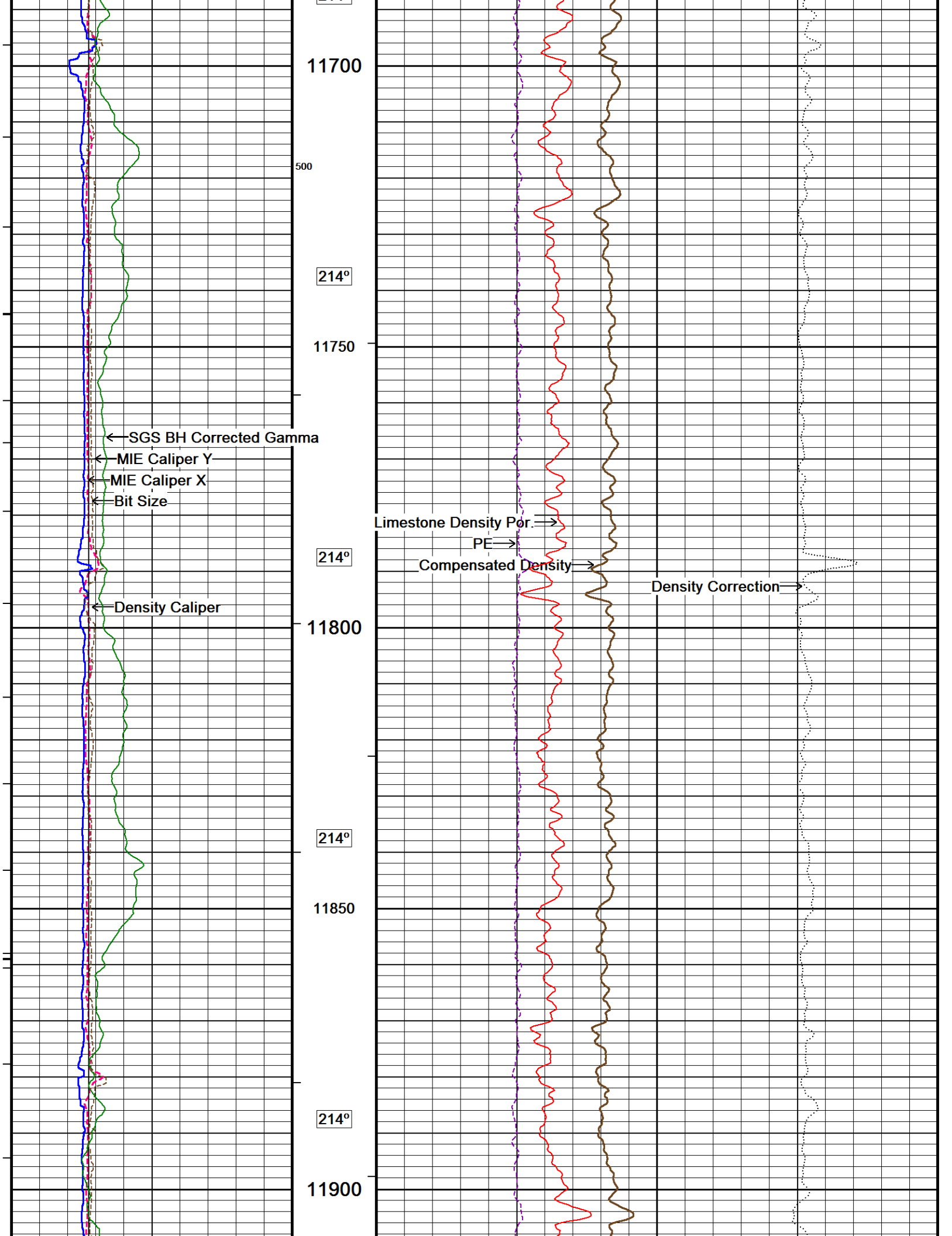


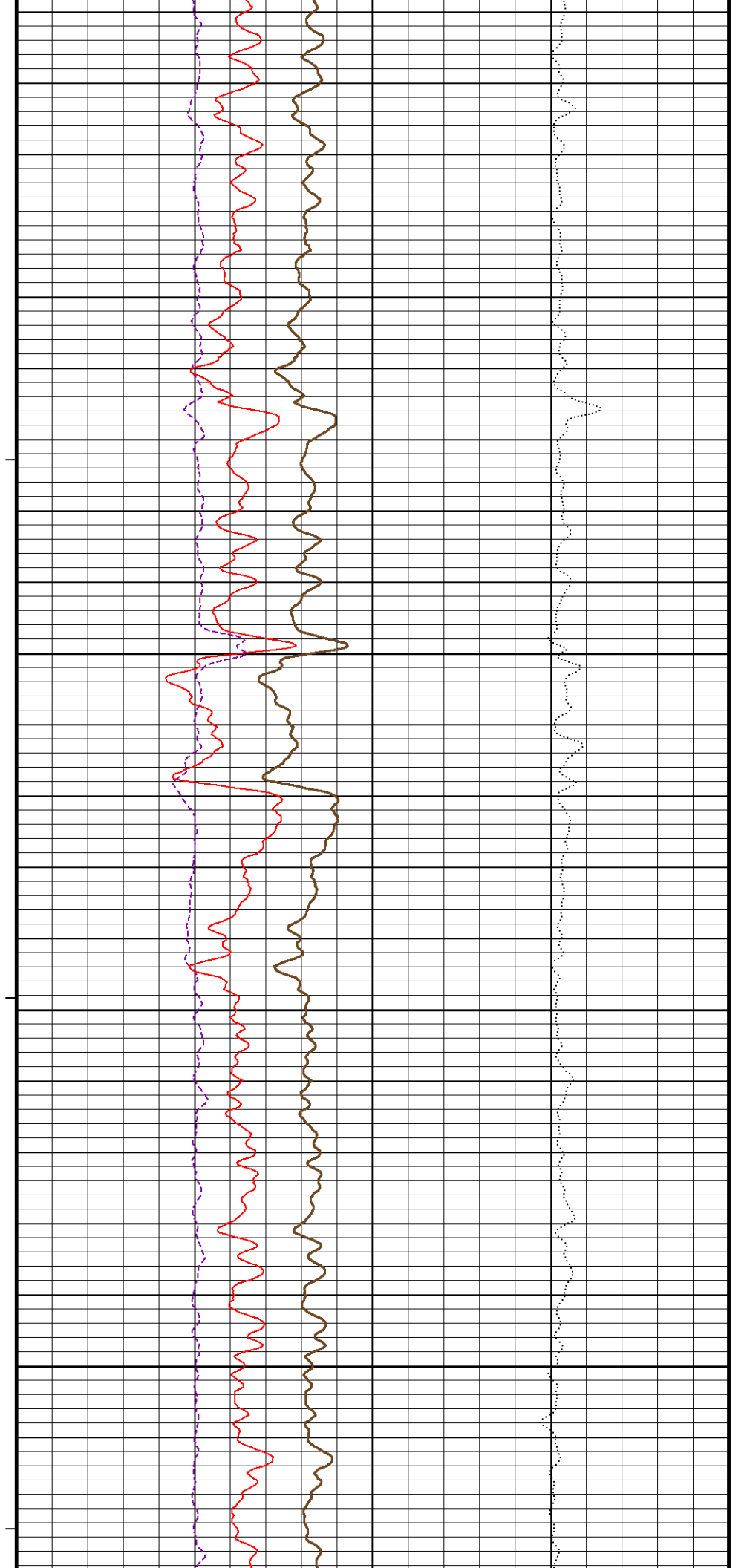
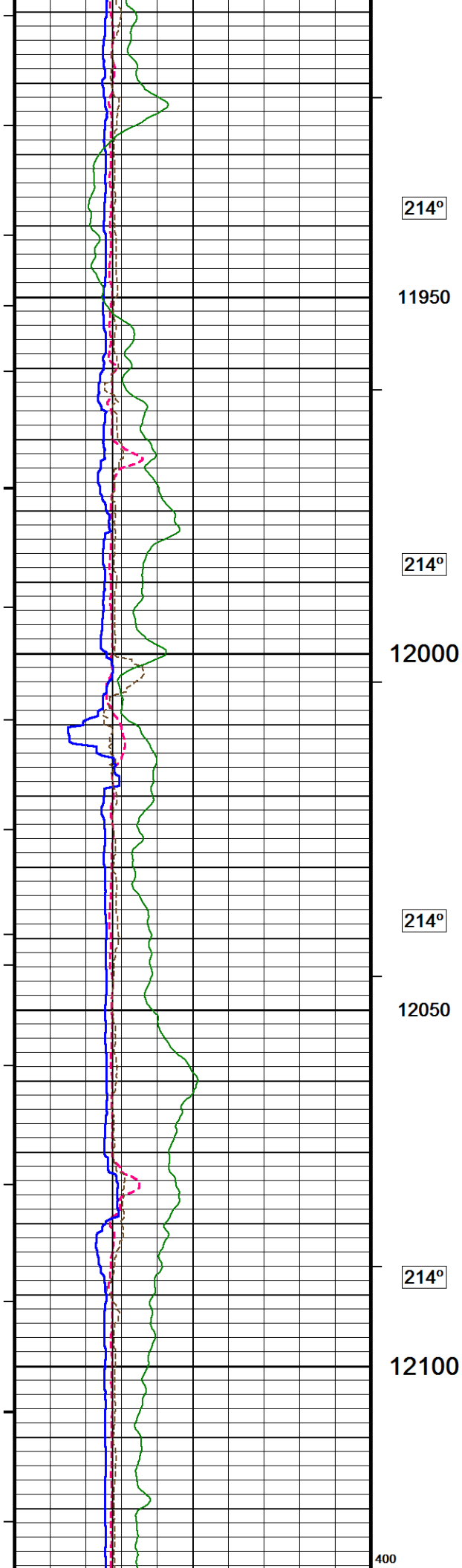


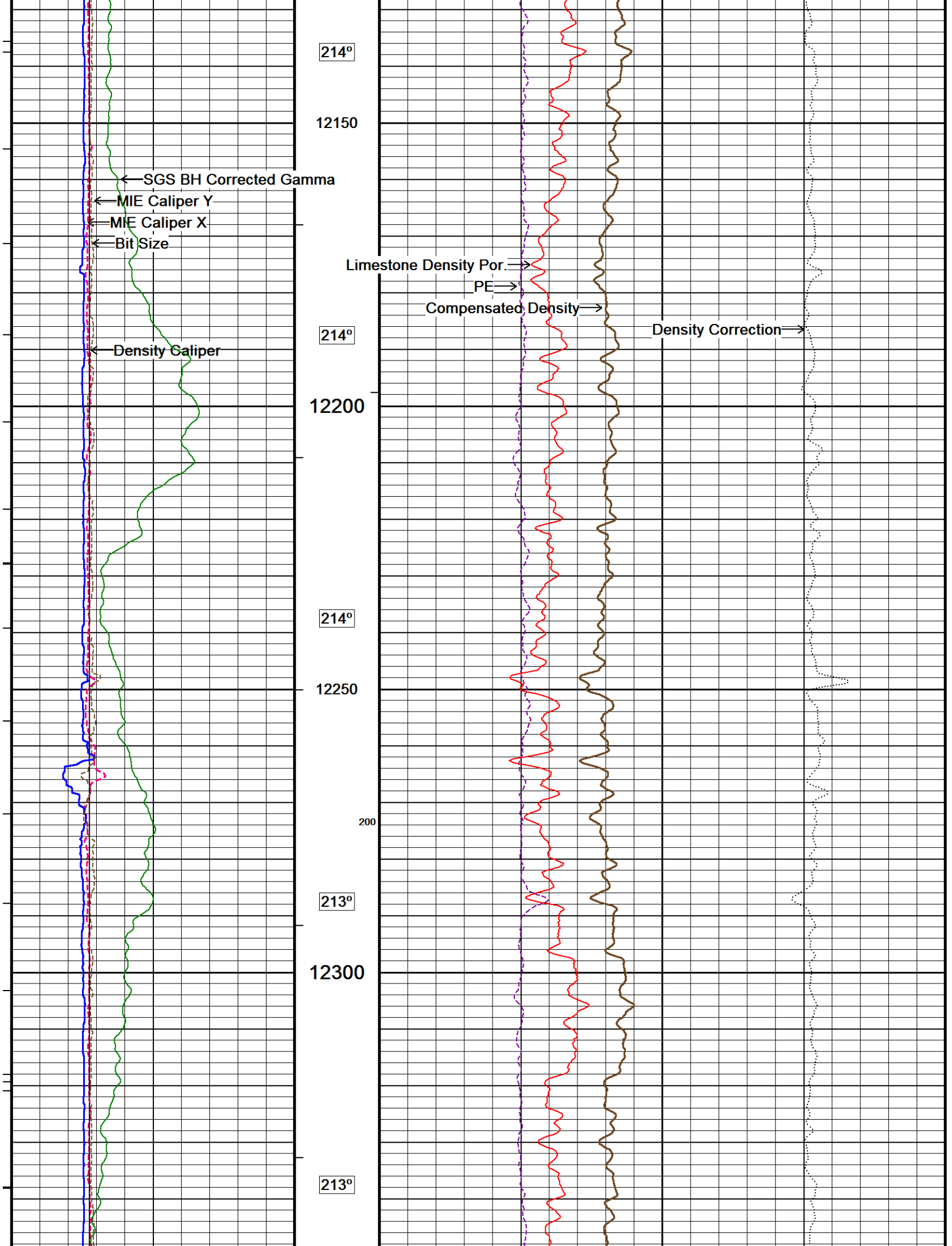


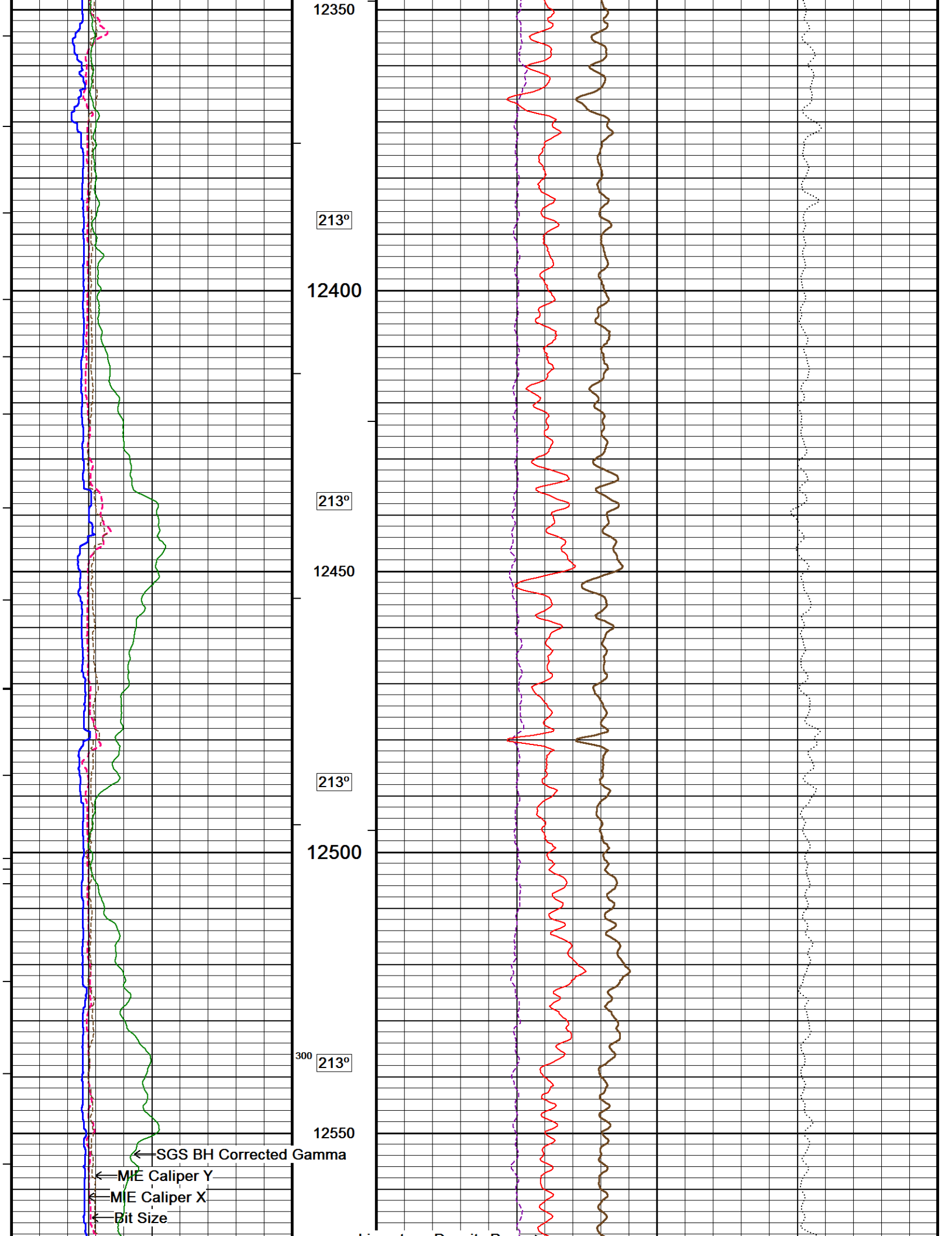


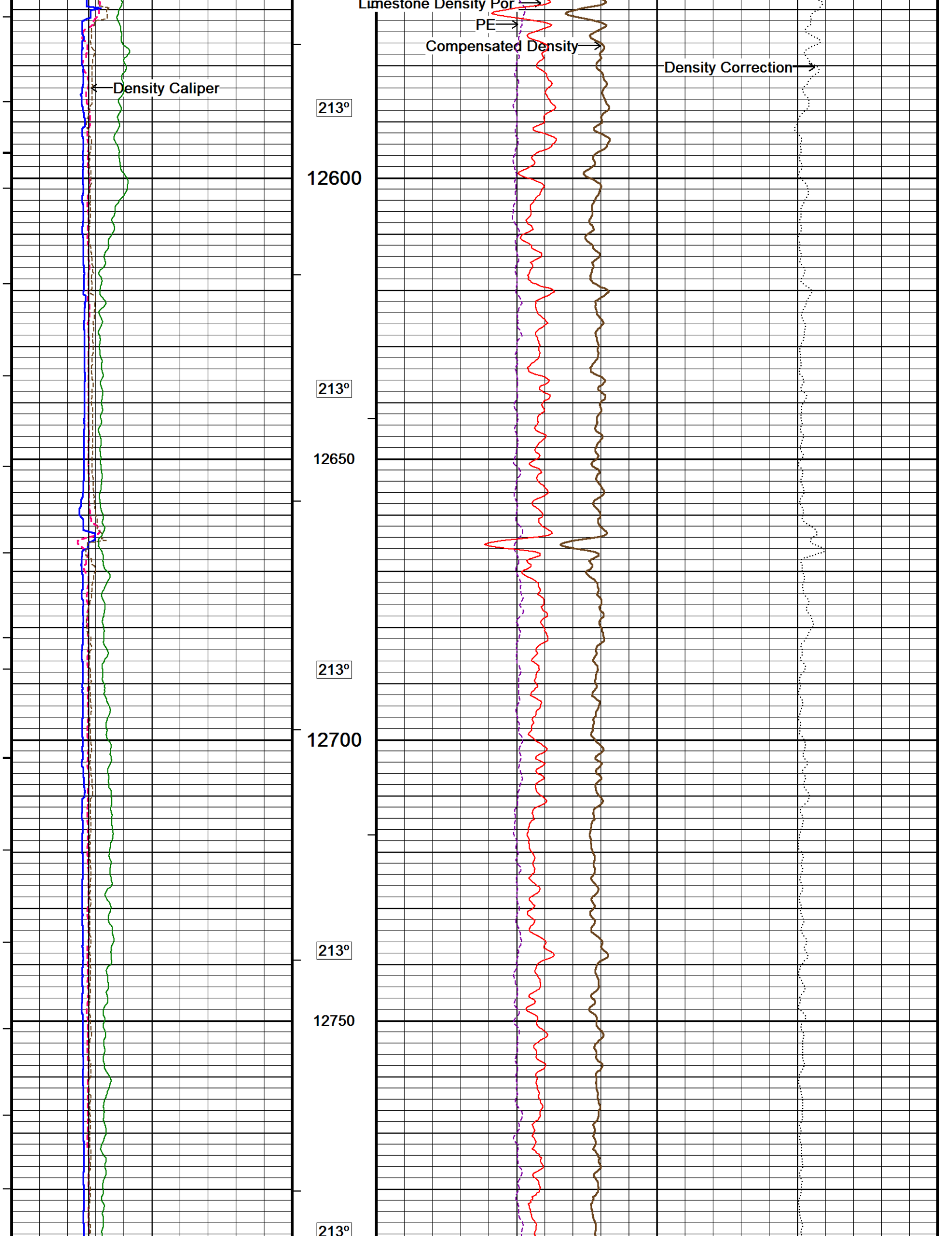


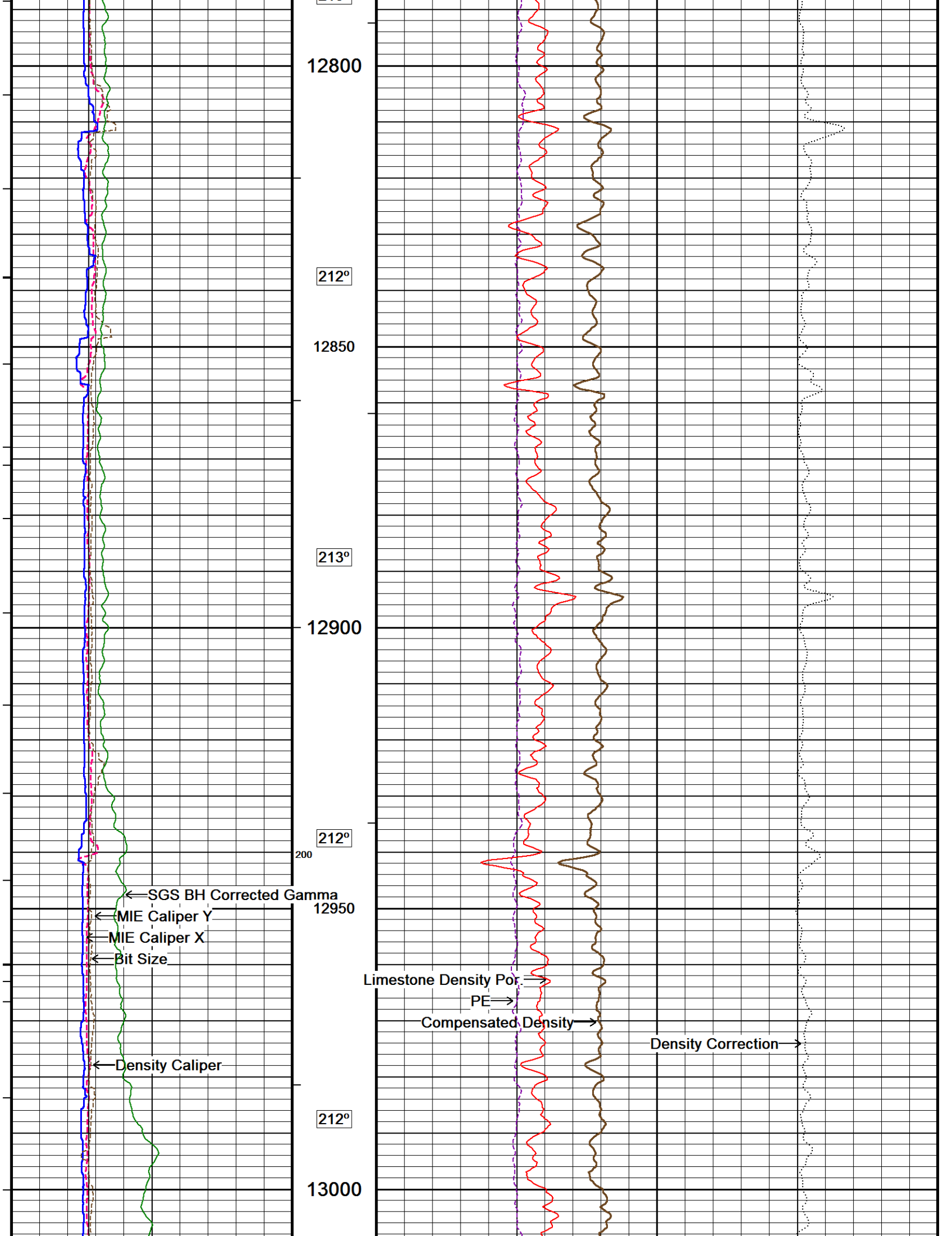


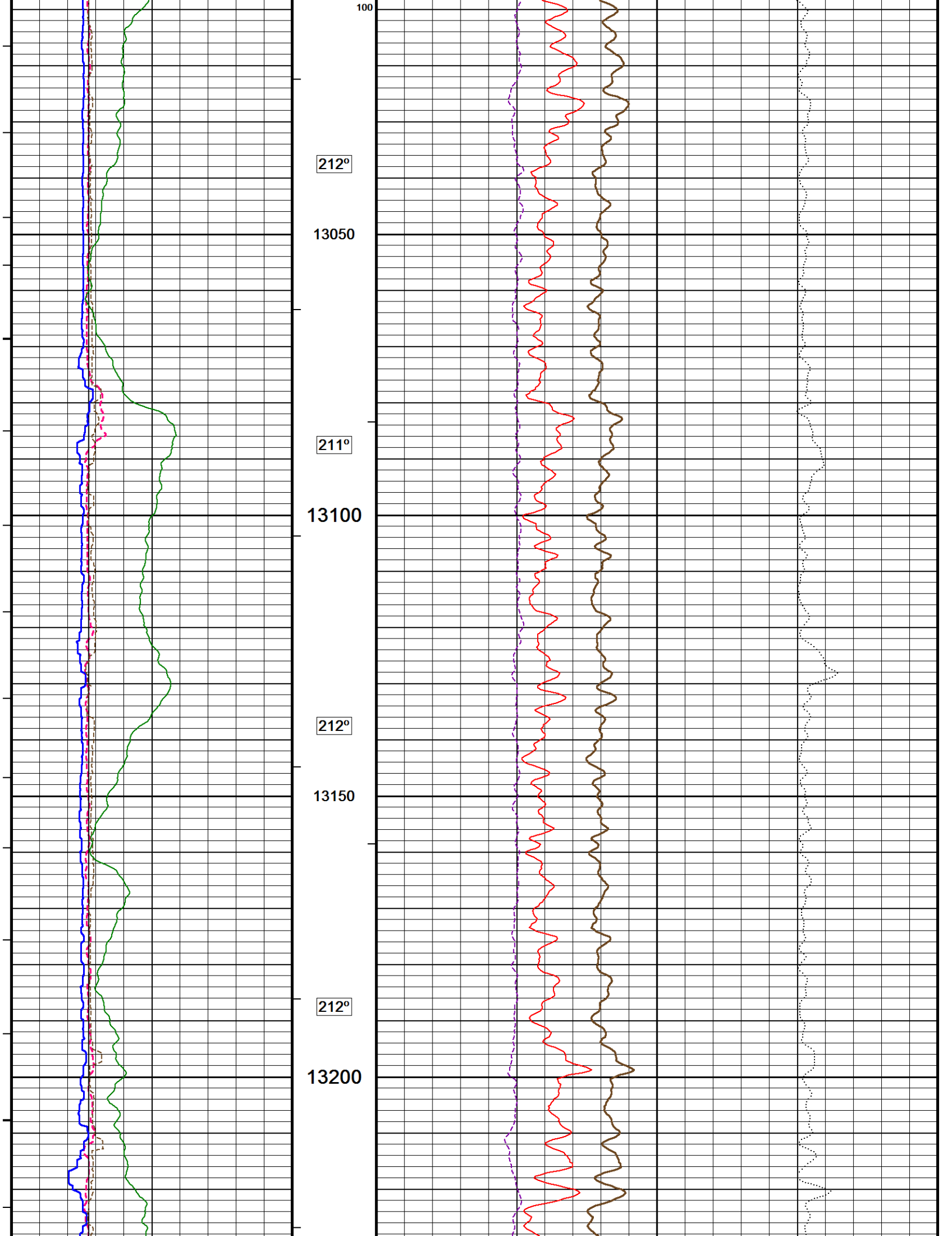


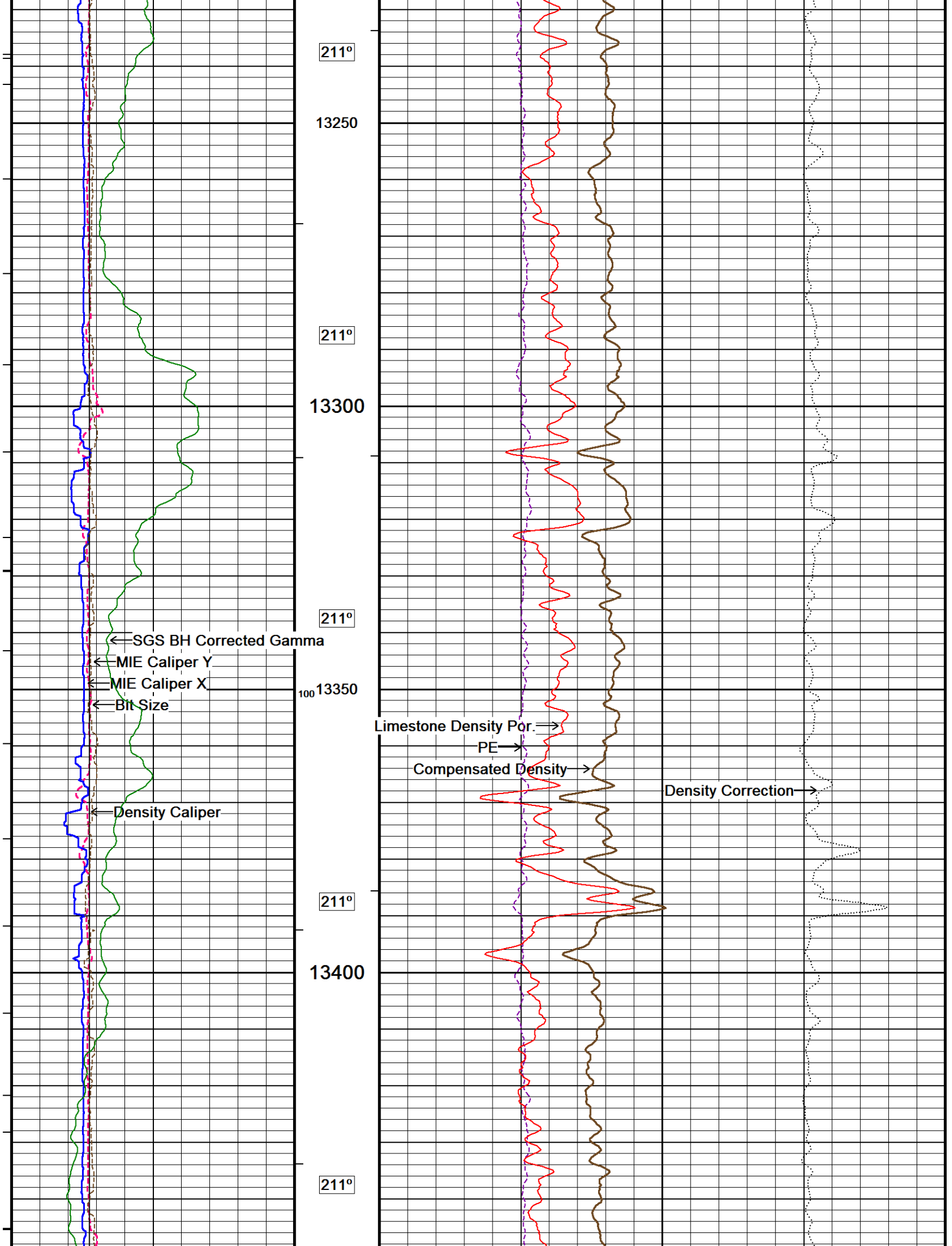


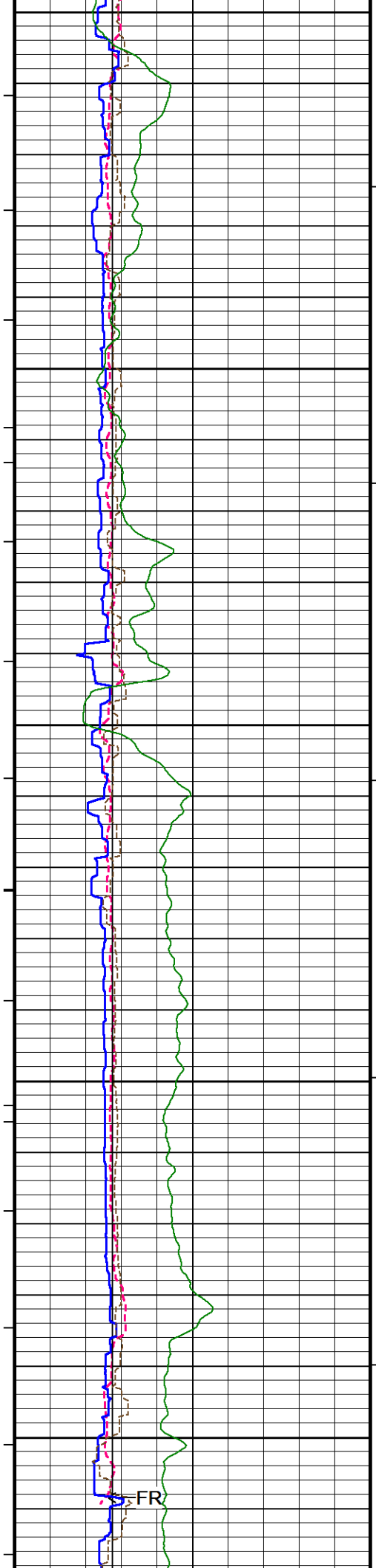




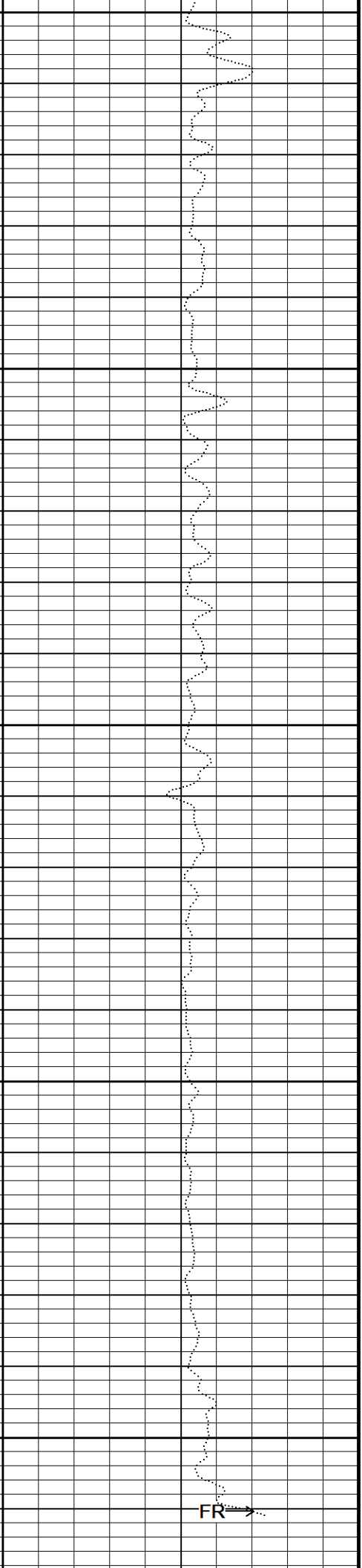
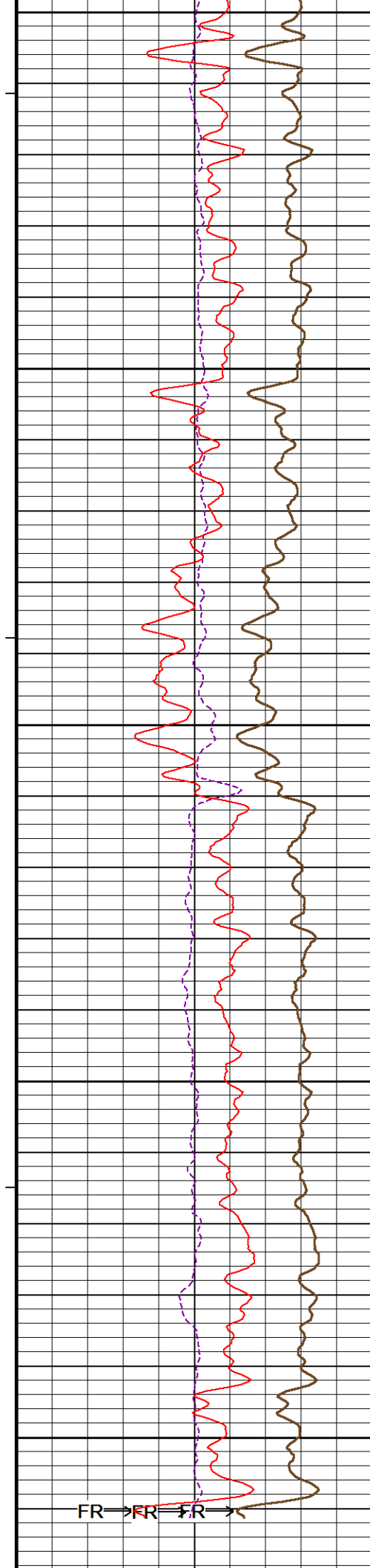


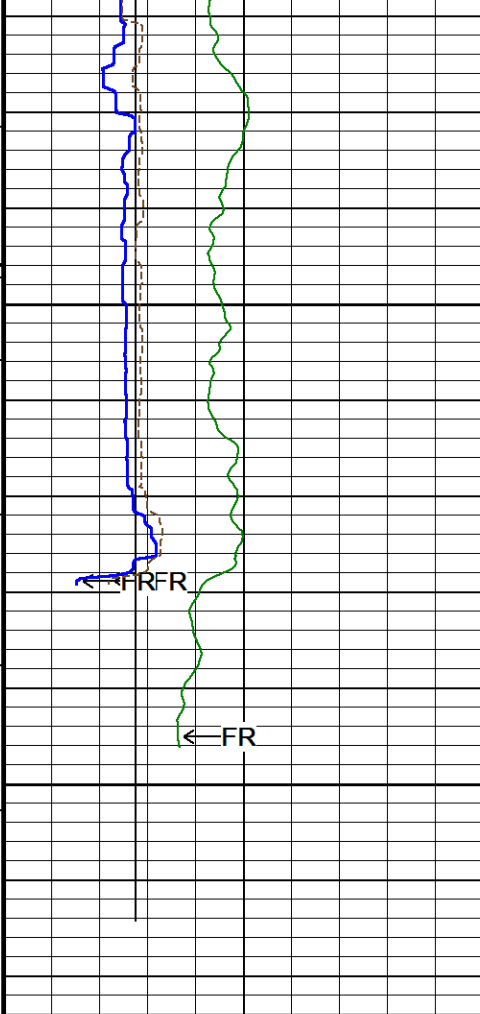






13450
211°
13500
212°
13550
215°
13600
13650





13700

13750

13772

Depth
in
Feet

← Timing Marks
every 60.0 sec

Density Caliper
inches
4 9 14

HVI
every
10 cu ft
←

Bit Size
inches
4 9 14

Annular
Integral
every
10 cu ft
→

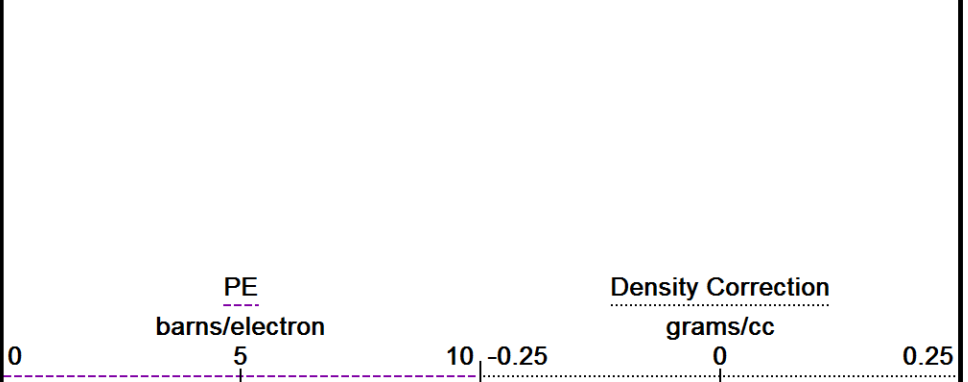
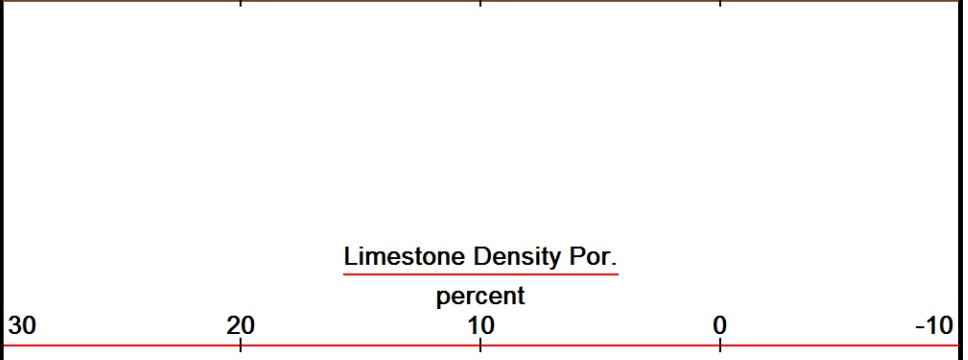
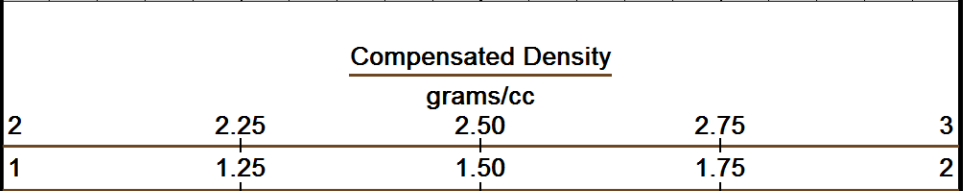
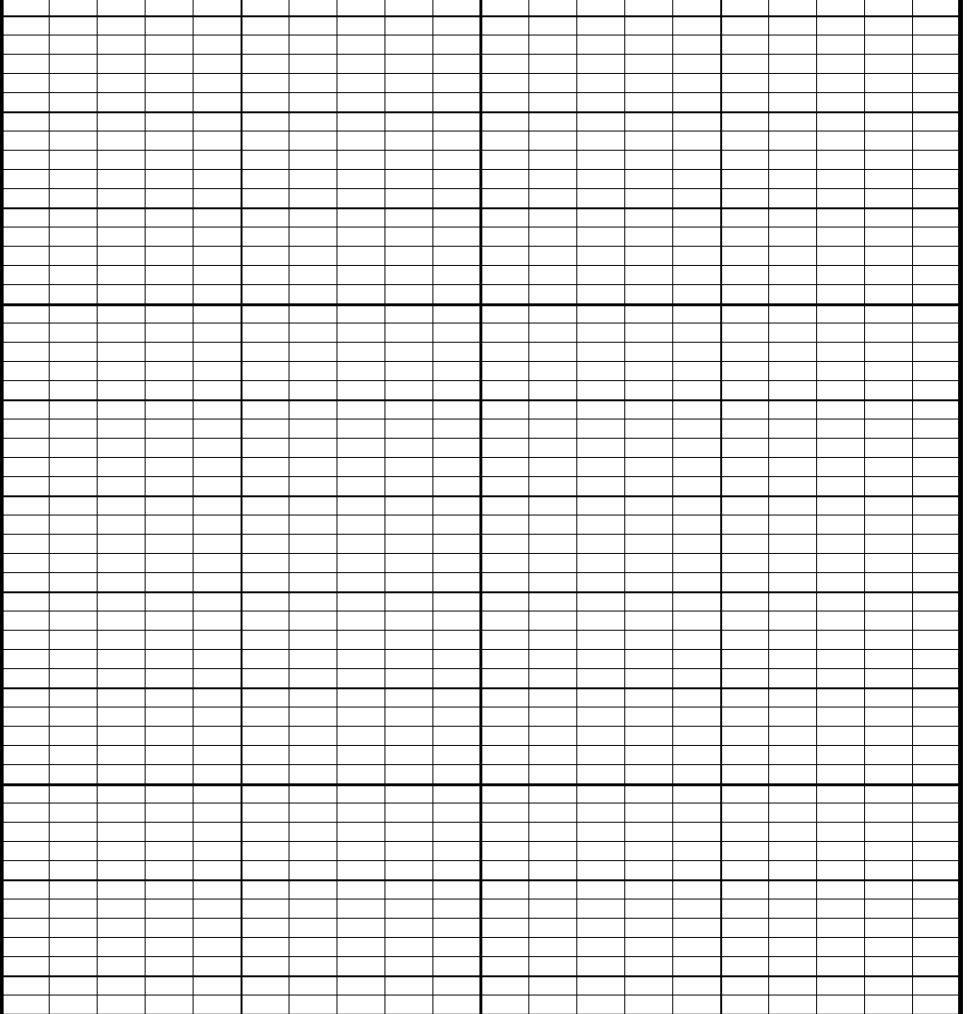
MIE Caliper X
inches
4 9 14

Borehole
Temp in
deg F

MIE Caliper Y
inches
4 9 14

SGS BH Corrected Gamma
API
0 150 200

Replay
Scale



BEFORE SURVEY CALIBRATION									
D:\Logs\Whiting\HORSETAIL 30F-1942\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 24-OCT-2014,01:03				
General Parameters									
Mud Resistivity		1.050			ohm-metres				
Mud Resistivity Temperature		69.200			degrees F				
Water Level		0.000			feet				
Borehole Fluid Processing		Wet Hole							
Hole/Annular Volume and Differential Caliper Parameters									
HVOL Method		XY Caliper							
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 261					Last Edited on				
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.		Inc. Dec.		Inc. Dec.	
0.0		0.000 0.000		0.000 0.000		0.000 0.000		0.000 0.000	
2000.0		0.000 0.000		0.000 0.000		0.000 0.000		0.000 0.000	
4000.0		0.000 0.000		0.000 0.000		0.000 0.000		0.000 0.000	
6000.0		0.000 0.000		0.000 0.000		0.000 0.000		0.000 0.000	
8000.0		0.000 0.000		0.000 0.000		0.000 0.000		0.000 0.000	
10000.0		0.000		0.000		0.000		0.000	
High Resolution Temperature Calibration MGS-C.J 140					Field Calibration on 28-JUN-2014,09:06				
		Measured			Calibrated(Deg F)				
Lower		35.00			35.00				
Upper		200.00			200.00				
High Resolution Temperature Constants MGS-C.J 140					Last Edited on 28-JUN-2014,09:06				

SP Calibration MGS-C.J 140

Field Calibration on 28-JUN-2014,09:06

	Measured	Calibrated (mV)
Reference 1	-102.0	-100.0
Reference 2	101.0	100.0

Gamma Calibration MGS-C.J 140

Field Calibration on 22-OCT-2014,13:16

	Measured	Calibrated (API)
Background	150	105
Calibrator (Gross)	1009	707
Calibrator (Net)	859	602

Gamma Constants MGS-C.J 140

Last Edited on 22-OCT-2014,23:47

Gamma Calibrator Number	GRC-224	
Mud Density	1.14	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-C.A 464

Base Calibration on 01-OCT-2014 13:45

Field Check on 22-OCT-2014 13:31

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	2883	89	3714	110
Ratio	32.553		33.764	

Field Calibrator at Base

	Calibrated (cps)
	2385 3521
Ratio	0.677

Field Check

	Calibrated (cps)
	2366 3532
Ratio	0.670

Neutron Constants MDN-C.A 464

Last Edited on 24-OCT-2014,01:04

Neutron Source Id	p44385b	
Neutron Jig Number	nj5236	
Air Hole Processing	Modified Ratio	
Caliper Source for Processing	MIE Diam. X Armswing	
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.J 241

Field Check on 02-SEP-2014 15:40

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.J 241

Last Edited on 02-SEP-2014,15:32

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	0.0500	mAmp	
Image Processing	Enabled		

Navigation Constants MIE-A.J 241 Last Edited on 14-OCT-2014,17:29

Magnetic Declination	7.88	degrees	East
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Magnetometer Parameters MIE-A.J 241

Date Of Last Magnetometer Calibration	9-AUG-2014,14:48		
	X Magnetometer	Y Magnetometer	Z Magnetometer
Slope	-1.000000	-1.010059	-0.993063
Offset	0.000064	-0.018611	0.005101

Magnetometer Constants MIE-A.J 241 Last Edited on

Magnetometer Calibrator Number	000
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Accelerometer Parameters MIE-A.J 241

Date Of Last Accelerometer Calibration	8-APR-2012,12:35		
	X Accelerometer	Y Accelerometer	Z Accelerometer
Slope	-1.108980	-1.107773	-1.091611
Offset	-0.003545	0.008582	-0.004936

Accelerometer Constants MIE-A.J 241 Last Edited on 22-OCT-2014,13:50

Accelerometer Calibrator Number		000			
Accelerometer Temperature Characterisation					
X Accelerometer					
Serial Number		922			
Calibration Date		14-Nov-2010			
	B0	B1	B2	B3	
Bias(g)	0.00000e+000	1.98626e-005	-2.34772e-009	1.61466e-010	
	SF0	SF1	SF2	SF3	
Scale Factor(mA/g)	3.00000e+000	2.59314e-004	4.64734e-007	5.67183e-010	
Y Accelerometer					
Serial Number		970			
Calibration Date		19-Jan-2011			
	B0	B1	B2	B3	
Bias(g)	0.00000e+000	-4.23329e-006	-2.08894e-008	1.84400e-010	
	SF0	SF1	SF2	SF3	
Scale Factor(mA/g)	3.00000e+000	2.61643e-004	3.45088e-007	8.15526e-010	
Z Accelerometer					
Serial Number		1076			
Calibration Date		05-May-2011			
	B0	B1	B2	B3	
Bias(g)	0.00000e+000	-5.18602e-006	1.72429e-008	7.30746e-011	
	SF0	SF1	SF2	SF3	
Scale Factor(mA/g)	3.00000e+000	2.93462e-004	2.41183e-007	1.26400e-009	

Caliper Calibration MIE-A.J 241 Base Calibration on 22-OCT-2014 13:55
Field Calibration on 22-OCT-2014 13:57

Base Calibration					
Reading No	Pads 1-5 Meas.	Pads 3-7 Meas.	Calibrator Size (in)		
1	25523	29599	5.96		
2	36062	39139	7.98		
3	45921	48894	9.86		
4	57037	59465	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	25007	25103	24823	25651	5.96
2	33585	33227	33711	34459	7.98
3	41846	41100	42023	42949	9.86
4	51489	49717	51759	53653	11.88
5	0	0	0	0	0.00
Field Calibration					
	Measured Pads 1-5 Caliper(in) 6.02	Measured Pads 3-7 Caliper(in) 5.85	Actual Caliper(in) 5.96		
	Measured Pad 2 Caliper(in) 2.99	Measured Pad 4 Caliper(in) 2.96	Measured Pad 6 Caliper(in) 3.00	Measured Pad 8 Caliper(in) 3.01	Actual Caliper(in) 5.96
Caliper Constants MIE-A.J 241				Last Edited on 24-SEP-2014,15:26	
Caliper Difference for BRKT		0.120	inches		
Induction Calibration MAI-B.J 434				Base Calibration on 24-JAN-2012,20:11 Field Check on 22-OCT-2014 13:23	
Base Calibration					
Test Loop Calibration		Measured	Calibrated (mmho/m)		
Channel	Low	High	Low	High	
1	14.7	442.4	9.3	966.2	
2	5.0	355.7	7.6	821.4	
3	3.2	250.0	5.2	566.0	
4	1.6	129.2	2.6	279.2	
Array Temperature		23.6	Deg F		
Channel	Base Check (mmho/m)		Field Check (mmho/m)		
	Low	High	Low	High	
1	0.0	0.0	19.5	4104.2	
2	0.0	0.0	34.7	3791.4	
3	0.0	0.0	30.2	3169.6	
4	0.0	0.0	20.7	2139.0	
Deep			16.9	1969.7	
Medium			44.1	4226.0	
Shallow			54.4	5754.3	
Array Temperature		0.0	81.7	Deg F	
Induction Constants MAI-B.J 434				Last Edited on 24-OCT-2014,01:06	
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	

High Resolution Temperature Calibration MAI-B.J 434

Field Calibration on 24-JAN-2012,20:11

	Measured	Calibrated(Deg C)
Lower	10.00	10.00
Upper	100.00	100.00

High Resolution Temperature Constants MAI-B.J 434

Last Edited on

Pre-filter Length	11
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Caliper Calibration MPD-C.A 218

Base Calibration on 22-OCT-2014 13:45

Field Calibration on 22-OCT-2014 13:47

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	14657	4.00
2	22831	5.96
3	31351	7.98
4	39468	9.86
5	48772	11.88
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
5.94	5.96

Photo Density Calibration MPD-C.A 218

Base Calibration on 01-OCT-2014 11:18

Field Check on 22-OCT-2014 13:36

Density Calibration

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Background	734	786		
Reference 1	54446	24915	59443	30683
Reference 2	21359	1881	25113	2508

Field Check at Base

734.5	785.7
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Field Check

736.9	790.1
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PE Calibration

Base Calibration		Measured		Calibrated
	WS	WH	Ratio	Ratio
Background	133	655		
Reference 1	22242	54310	0.412	0.372
Reference 2	5996	21274	0.284	0.268

Field Check at Base

133.1	655.2
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Field Check

133.7	659.7
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Density Constants MPD-C.A 218

Last Edited on 22-OCT-2014,23:41

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	1.14 gm/cc

Mud Density	1.14	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

Dipole Constants and Gains MRD-A.A 142

Logging Mode	Standard
Semblance Parameters	
Window Start	1.00 milliseconds
Window Width	15 milliseconds

Discriminator Levels

M1C Discriminator	0.1	mV
M2C Discriminator	0.1	mV
M3C Discriminator	0.1	mV
M4C Discriminator	0.1	mV

Monopole Receiver Gains

MR1A	1.00	MR1B	1.00	MR1C	1.00	MR1D	1.00
MR2A	1.00	MR2B	1.00	MR2C	1.00	MR2D	1.00
MR3A	1.00	MR3B	1.00	MR3C	1.00	MR3D	1.00
MR4A	1.00	MR4B	1.00	MR4C	1.00	MR4D	1.00
MR5A	1.00	MR5B	1.00	MR5C	1.00	MR5D	1.00
MR6A	1.00	MR6B	1.00	MR6C	1.00	MR6D	1.00
MR7A	1.00	MR7B	1.00	MR7C	1.00	MR7D	1.00
MR8A	1.00	MR8B	1.00	MR8C	1.00	MR8D	1.00

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 %	U ppm	Th ppm
	5.9	0.0	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

Concentrations	K %	U ppm	Th ppm
	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

Concentrations	K %	U ppm	Th ppm
	0.0	0.0	44.7

	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

Gamma Ray

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

	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

Last Edited on 22-OCT-2014,23:47

Background Calibrator Number	440	
Mixture Calibrator Number	450	
Potassium Calibrator Number	500	
Uranium Calibrator Number	506	
Thorium Calibrator Number	503	
Mud Density	1.14	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl		kppm
K Mud Type	Chloride	
K Mud Concentration	0.00	%

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Compact Battery Power Supply



MBP-A.A 103 LG: 4.85 ft WT: 39.7 lb OD: 2.244 in

Compact Memory Sub F.A

MMS-F.A 261 LG: 5.20 ft WT: 37.5 lb OD: 2.244 in

Compact Tool Isolator sub.

MTI-B.A 66 LG: 1.54 ft WT: 13.2 lb OD: 2.244 in

Compact Short Gamma

MGS-C.J 140 LG: 3.41 ft WT: 24.3 lb OD: 2.244 in

Compact Collar Locator

MCL-B.J 67 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-C.A 464 LG: 5.04 ft WT: 50.7 lb OD: 2.244 in

Compact Density/Caliper

MPD-C.A 218 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

MIS-D.B Compact Inline Bowspring sub

MIS-D.B 702 LG: 5.70 ft WT: 33.1 lb OD: 2.240 in

SKJ-E.B Compact Knuckle Joint

SKJ-E.B 697 LG: 2.17 ft WT: 24.3 lb OD: 2.244 in

Compact Dipole Memory

MDM-A.A 142 LG: 4.48 ft WT: 39.7 lb OD: 2.240 in

Compact Dipole Receiver

MRD-A.A 142 LG: 8.89 ft WT: 88.2 lb OD: 2.244 in

Compact Dipole Transmitter

MTD-A.A 142 LG: 12.63 ft WT: 110.2 lb OD: 2.240 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.J 241 LG: 4.65 ft WT: 26.5 lb OD: 2.244 in

Compact MMI Electrode Section

MIE-A.J 241 LG: 13.96 ft WT: 99.2 lb OD: 4.094 in

MIS-D.B Compact Inline Bowspring sub

MIS-D.B 654 LG: 5.70 ft WT: 33.1 lb OD: 2.240 in



MIS-D.B 634 LG: 3.76 ft WT: 33.1 lb OD: 2.240 in
SKJ-E.A Compact Knuckle Joint
SKJ-E.A 246 LG: 2.17 ft WT: 24.3 lb OD: 2.244 in

Spectral Gamma Ray Sub
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 245 LG: 2.17 ft WT: 24.3 lb OD: 2.244 in

MIS-E.B Compact Inline Standoff sub
MIS-E.B 693 LG: 2.14 ft WT: 15.4 lb OD: 2.244 in

Compact Induction
MAI-B.J 434 LG: 10.81 ft WT: 48.5 lb OD: 2.240 in

Total Length: 229.23 ft Weight: 1492.5 lb



Tool Zero

(0.13ft from bottom)

COMPANY	WHITING OIL AND GAS CORPORATION
WELL	HORSETAIL 30F-1942
FIELD	REDTAIL
PROVINCE/COUNTY	WELD
COUNTRY/STATE	U.S.A. / COLORADO

Elevation Kelly Bushing	4797.00	feet	First Reading	13660.00	feet
Elevation Drill Floor	4797.00	feet	Depth Driller	13777.00	feet
Elevation Ground Level	4780.00	feet	Depth Logger	13777.00	feet



MEASURED DEPTH
PHOTO DENSITY
DUAL SPACED NEUTRON

Weatherford®