



**Weatherford®**

**COMPACT TRIPLE COMBO  
QUICKLOOK LOG**

COMPANY				WHITTING OIL AND GAS CORPORATION			
WELL				HORSETAIL 30F-1943			
FIELD				REDTAIL			
PROVINCE/COUNTY				WELD			
COUNTRY/STATE				U.S.A. / COLORADO			
LOCATION				SHL: 2324' FNL & 1920' FWL			
PERMIT NUMBER				AFE: 13-1914			
SEC 30	TWP 10N	RGE 57W	Other Services				
			COMPACT IMAGER				
			SPECTRAL GR				
API Number				05-123-38739			
Permanent Datum G.L., Elevation 4780 feet							
Log Measured From KB							
Drilling Measured From K.B. @ 17 FEET							
Date	9-OCT-2014						
Run Number	ONE						
Service Order	2577-100067384						
Depth Driller	13702.00			feet			
Depth Logger	13702.00			feet			
First Reading	13685.00			feet			
Last Reading	5995.00			feet			
Casing Driller	5993.00			feet			
Casing Logger	5995.00			feet			
Bit Size	6.000			inches			
Hole Fluid Type	WBM						
Density / Viscosity	10.20 lb/USg		42.00	type in			
PH / Fluid Loss	9.00		3.80	ml/30Min			
Sample Source	FLOWLINE						
Rm @ Measured Temp	1.65 @ 63.7			ohm-m			
Rmf @ Measured Temp	1.32 @ 63.7			ohm-m			
Rmc @ Measured Temp	1.98 @ 63.7			ohm-m			
Source Rmf / Rmc	CALC		CALC				
Rm @ BHT	0.51 @215.0		ohm-m				
Time Since Circulation	NO DELAY						
Max Recorded Temp	215.00		deg F				
Equipment / Base	18063		Casper				
Recorded By	M.RICHINS						
Witnessed By	M. ODEGARD			GEOLOGIST			
WSL	K.RENTON			WSL			

BOREHOLE RECORD					Last Edited: 09-OCT-2014 19:59
Bit Size inches		Depth From feet		Depth To feet	
6.000		5993.00		13702.00	
CASING RECORD					
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft	
SURFACE	7.000	0.00	5993.00	29.00	

REMARKS
LOGGED WITH WLS 14.01.3220
LOGGED USING MESSENGER SHUTTLE METHOD OF DEPLOYMENT
HARDWARE: MDN: MIS-A DOUBLE 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
LONGITUDE: -103.796464 LATITUDE: 40.810683
ANNULAR HOLE VOLUME FROM TD TO CASING AT 5995 FEET = 770 CUBIC FEET

ANNULAR HOLE VOLUME FROM TD TO CASING AT 5995 FEET = 170 CUBIC FEET.  
TOTAL HOLE VOLUME FROM TD TO CASING AT 5995 FEET = 1620 CUBIC FEET.

DRILL PIPE DEPTH DURING DEPLOYMENT: 13586.17 FEET  
LOGGING TOOL DEPTH AFTER DEPLOYMENT: 13688.35 FEET

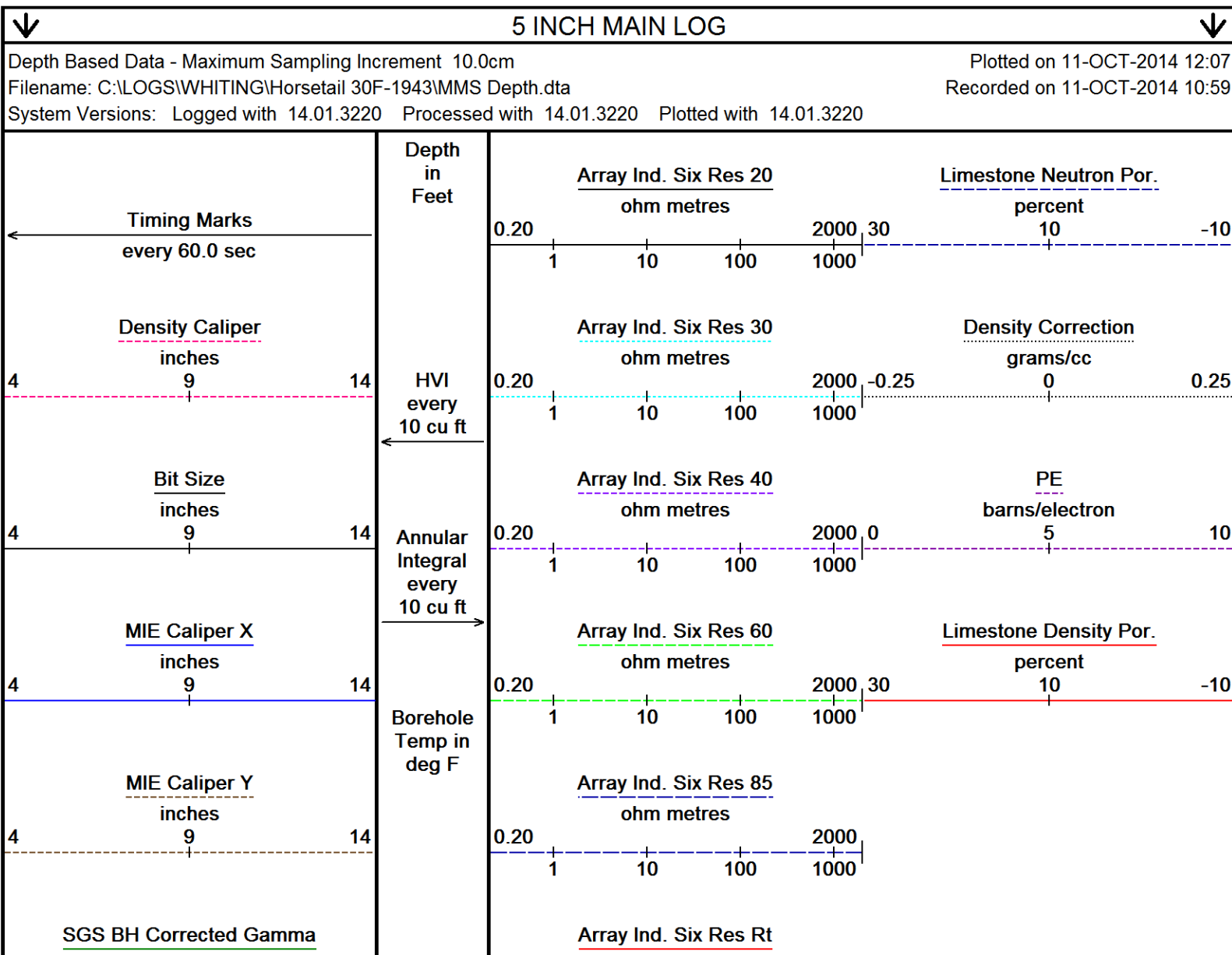
SLOWLY ROTATED LAST 26 STANDS DOWN AT 20-30 RPM TO REACH TD - EXCESSIVE STICK/SLIP LOW HOOKLOAD WHEN NOT ROTATING.

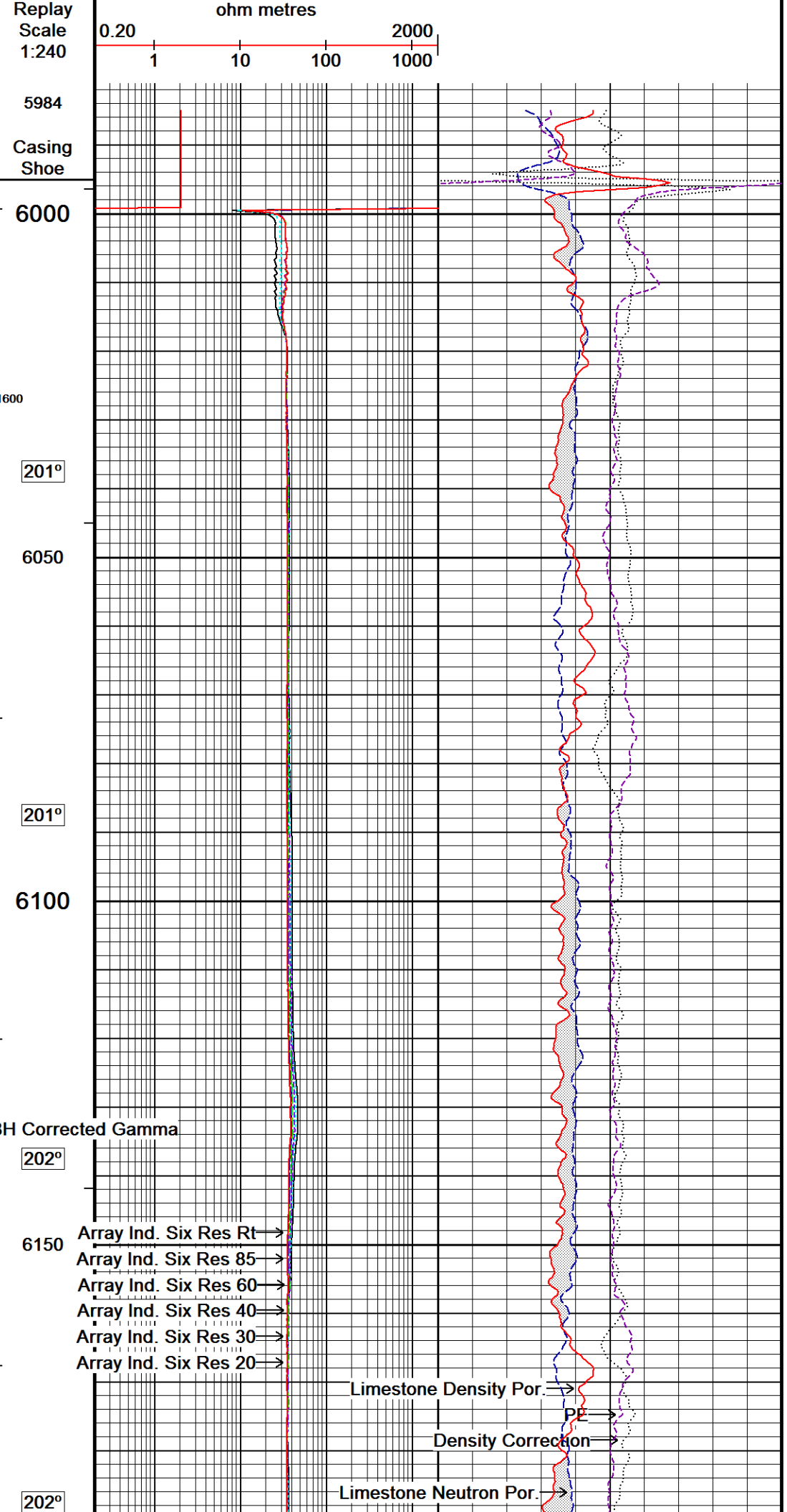
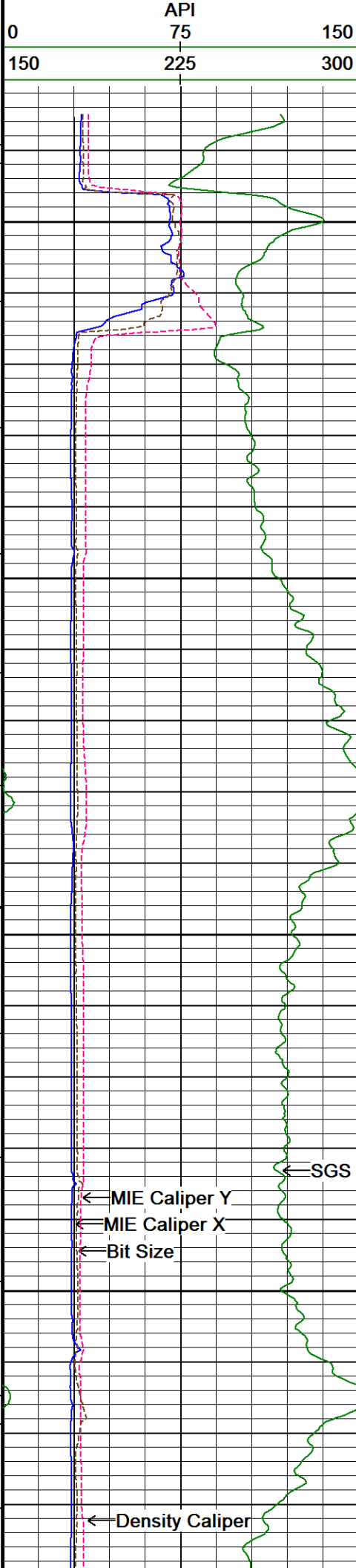
PIPE ROTATED AT 20 RPM FOR FIRST 10 STANDS DURING LOGGING RUN

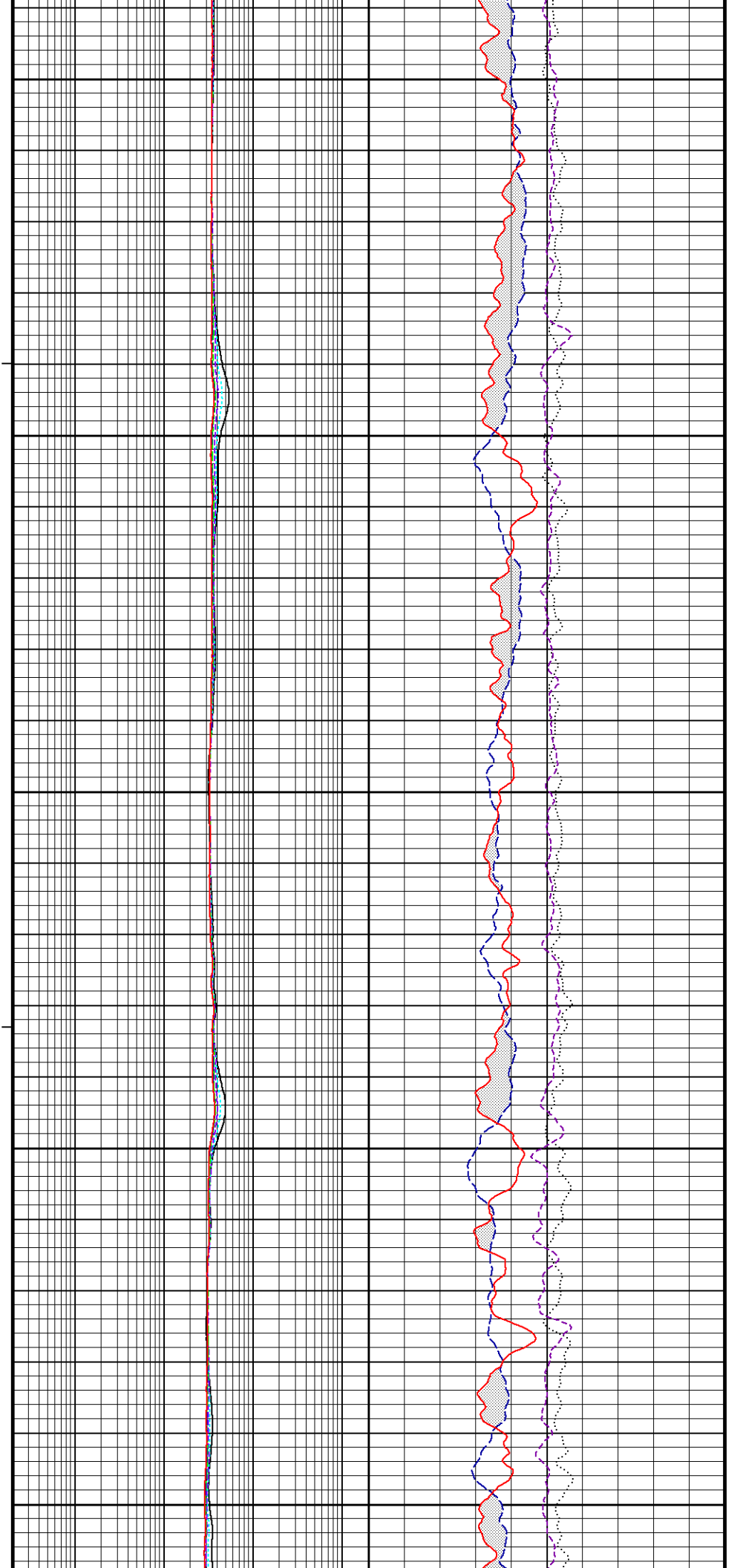
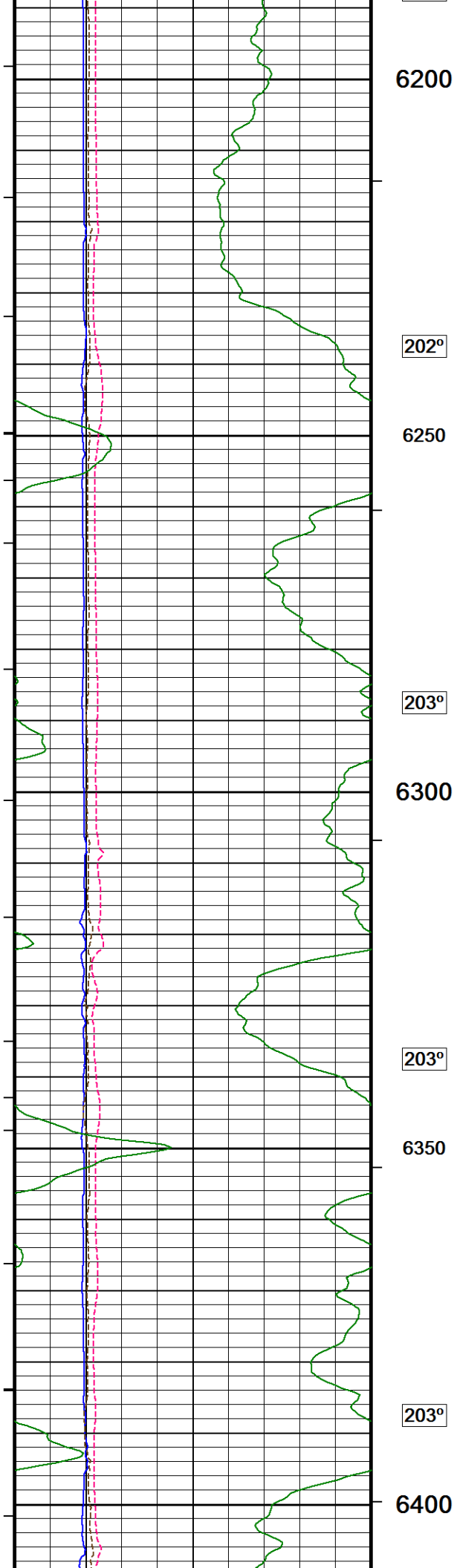
OPERATORS: D.SMITH, C.WADLINGTON

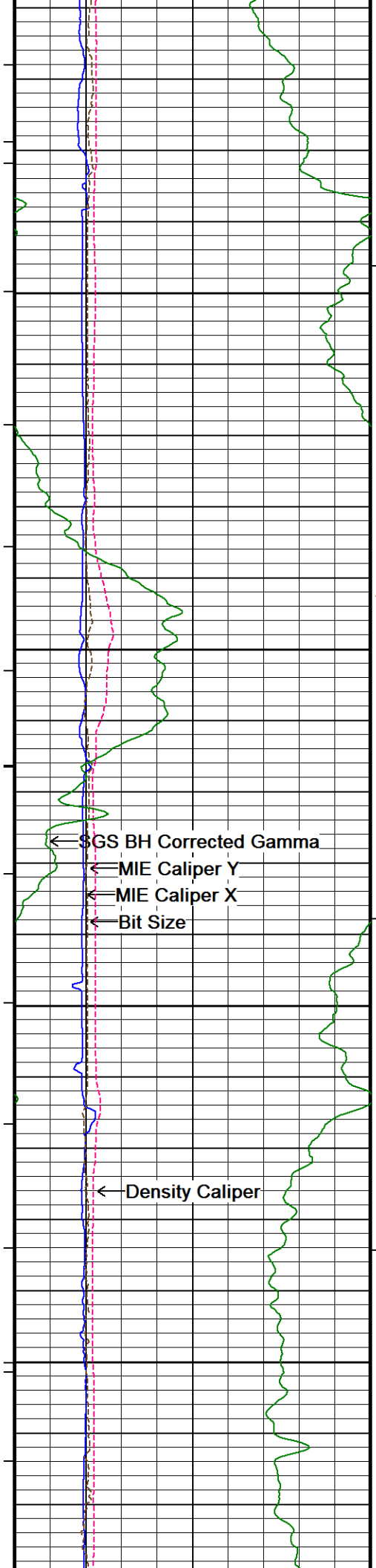
RIG: XTREME 18

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.









203°

6450

204°

1500

6500

204°

Array Ind. Six Res Rt →

Array Ind. Six Res 85 →

6550 Array Ind. Six Res 60 →

Array Ind. Six Res 40 →

Array Ind. Six Res 30 →

Array Ind. Six Res 20 →

Limestone Density Por. →

PE →

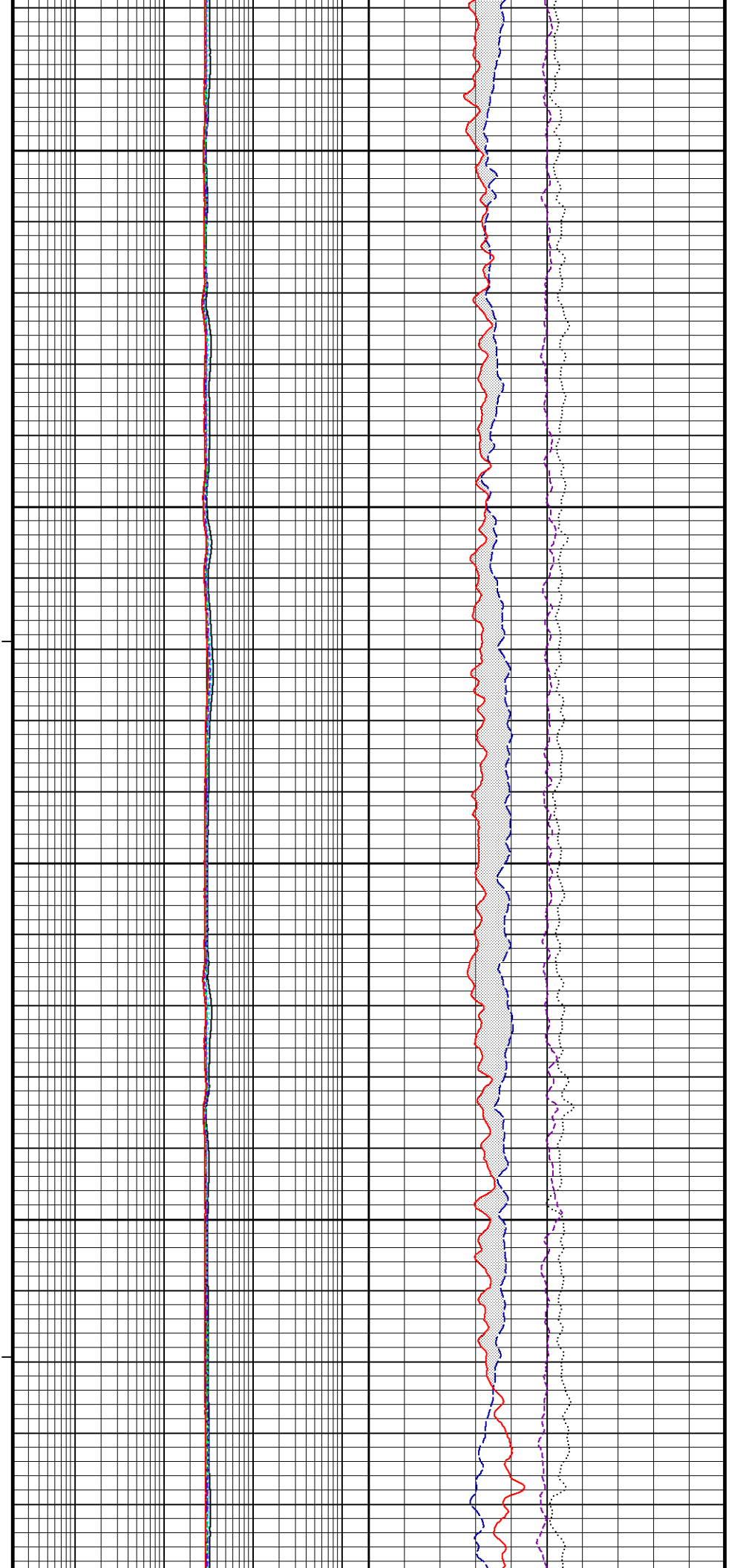
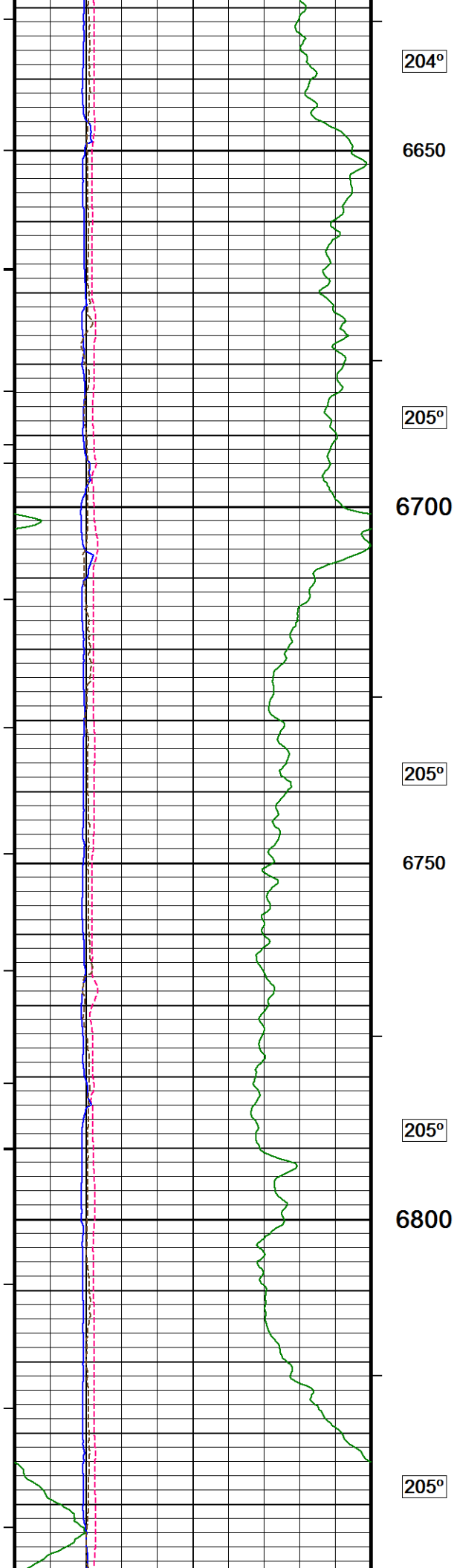
Density Correction →

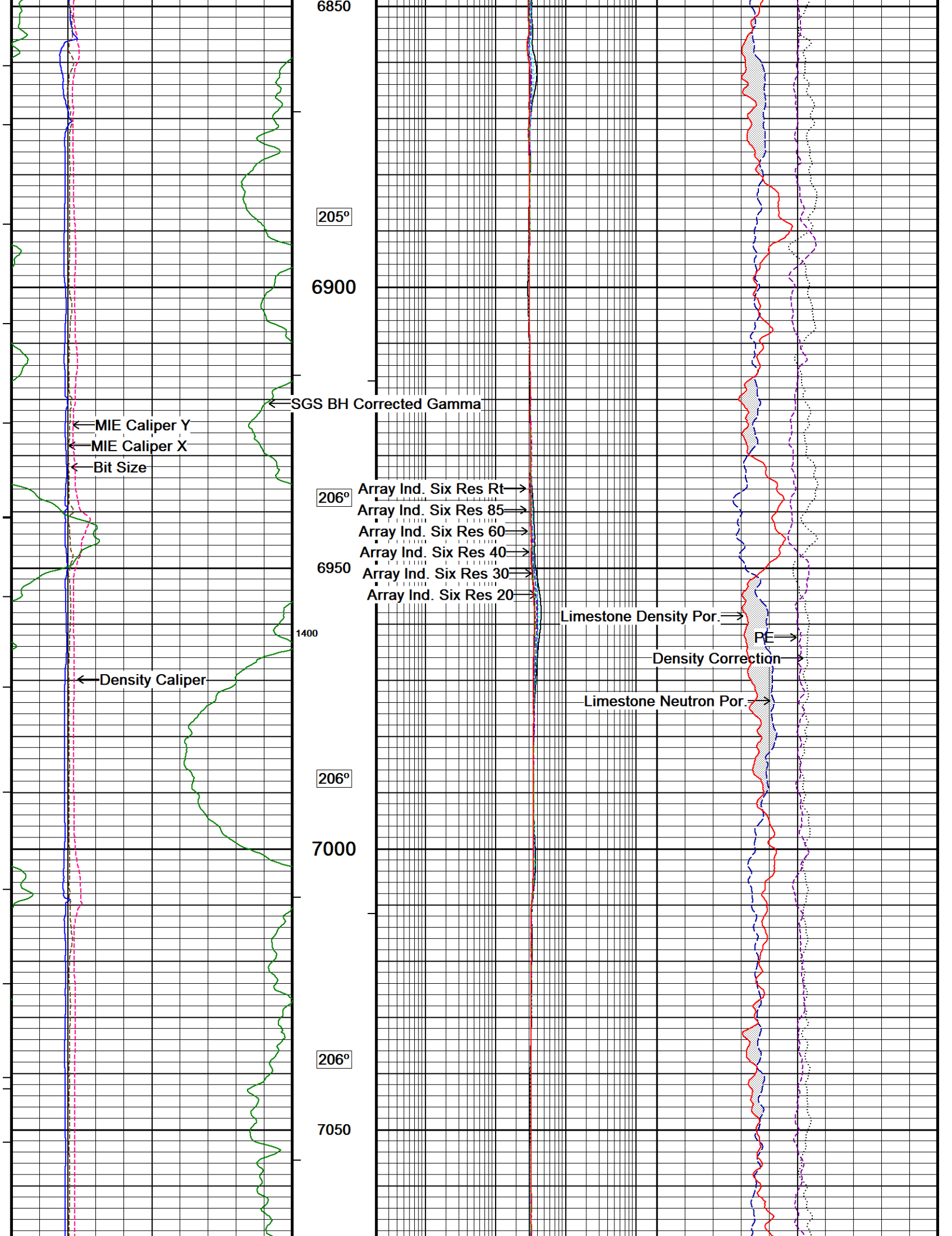
Limestone Neutron Por. →

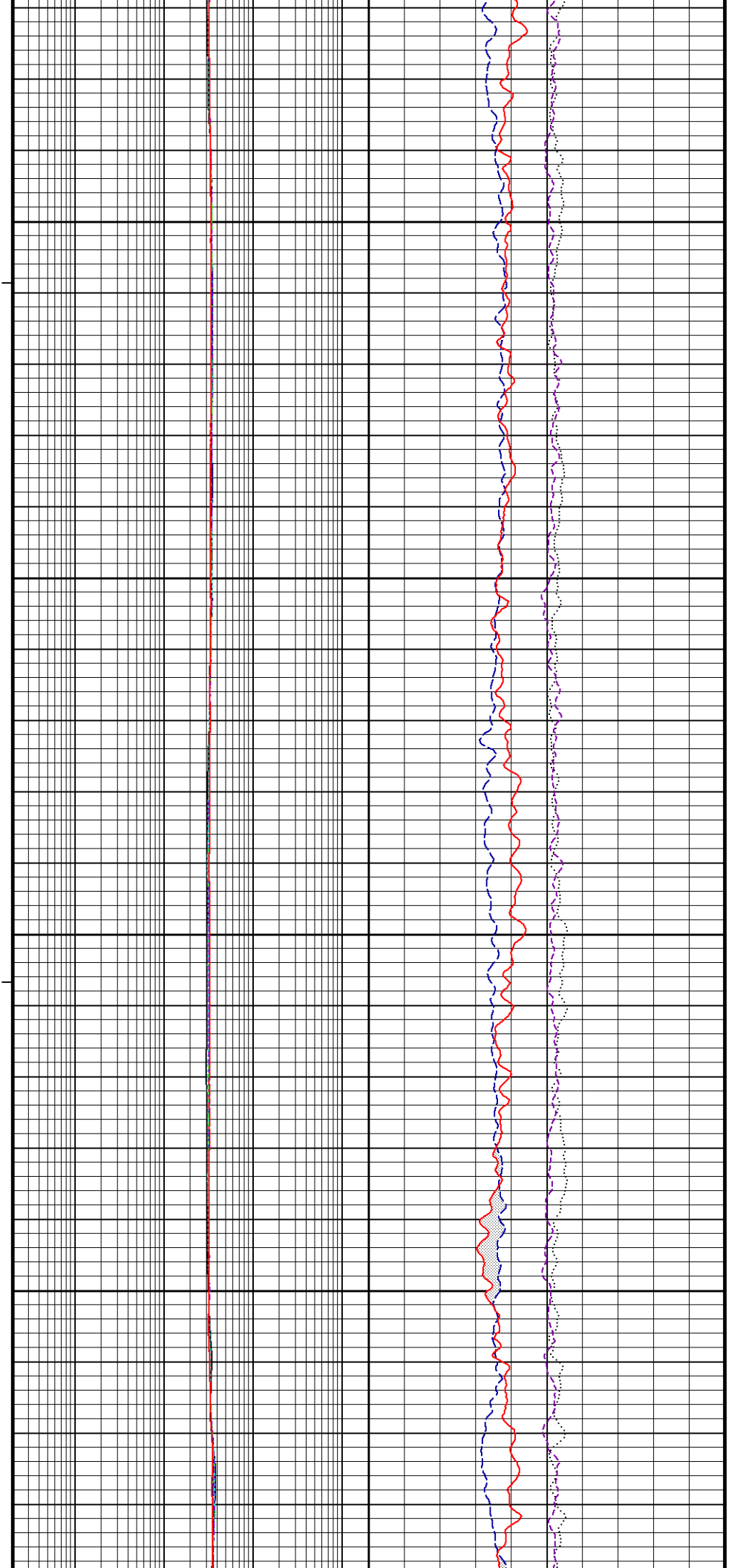
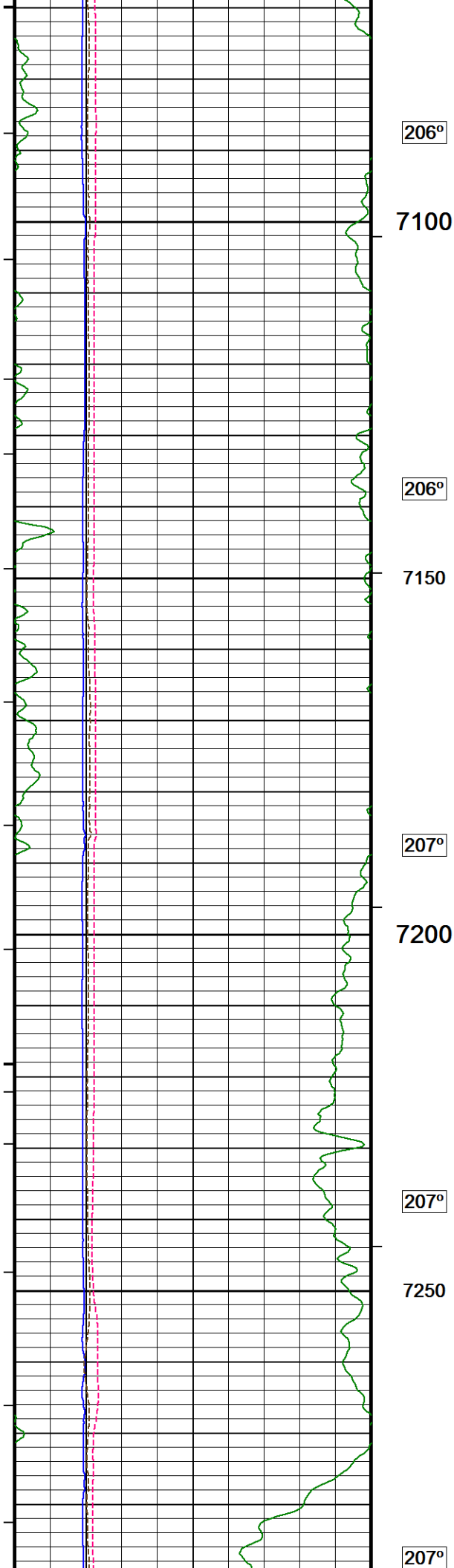
204°

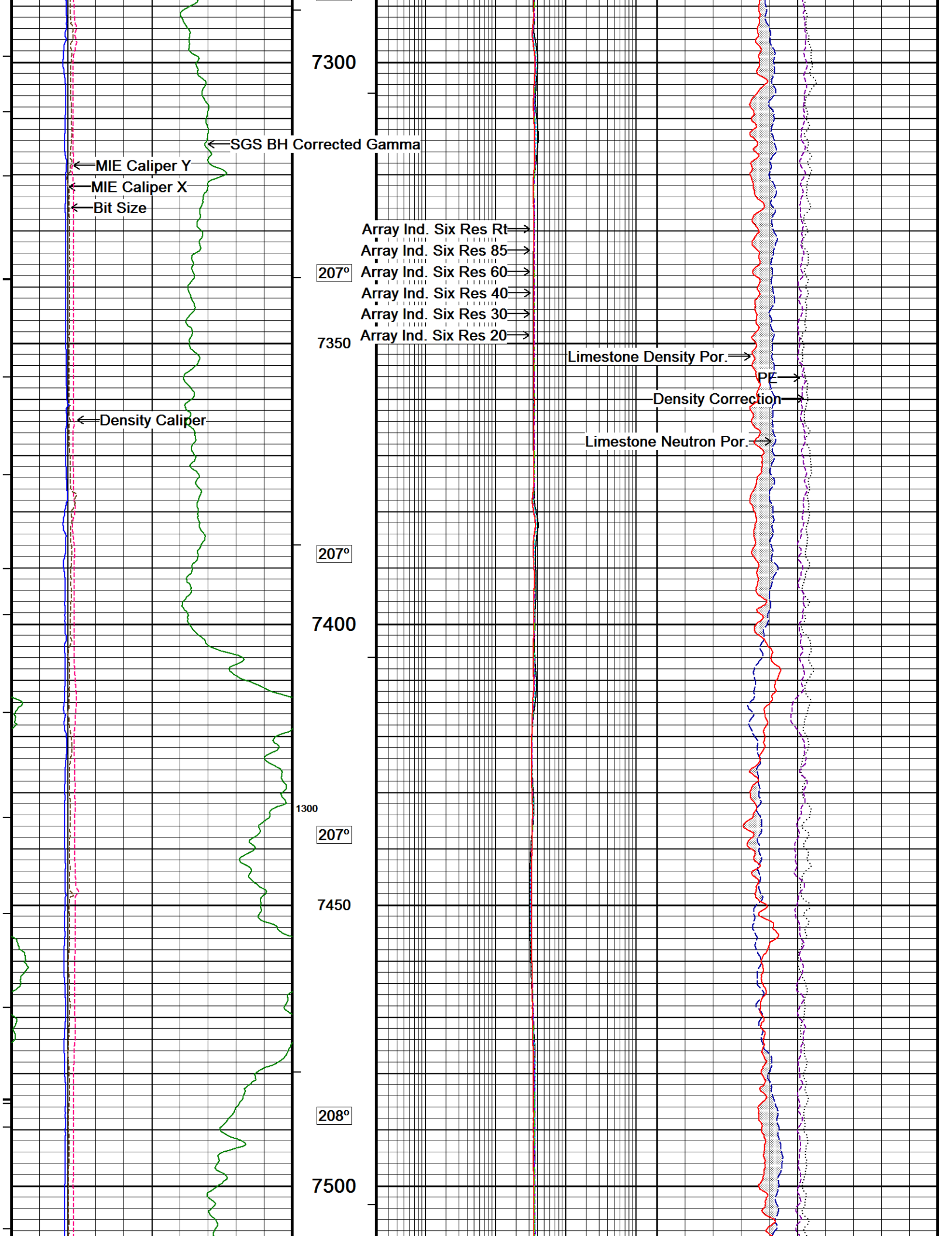
6600

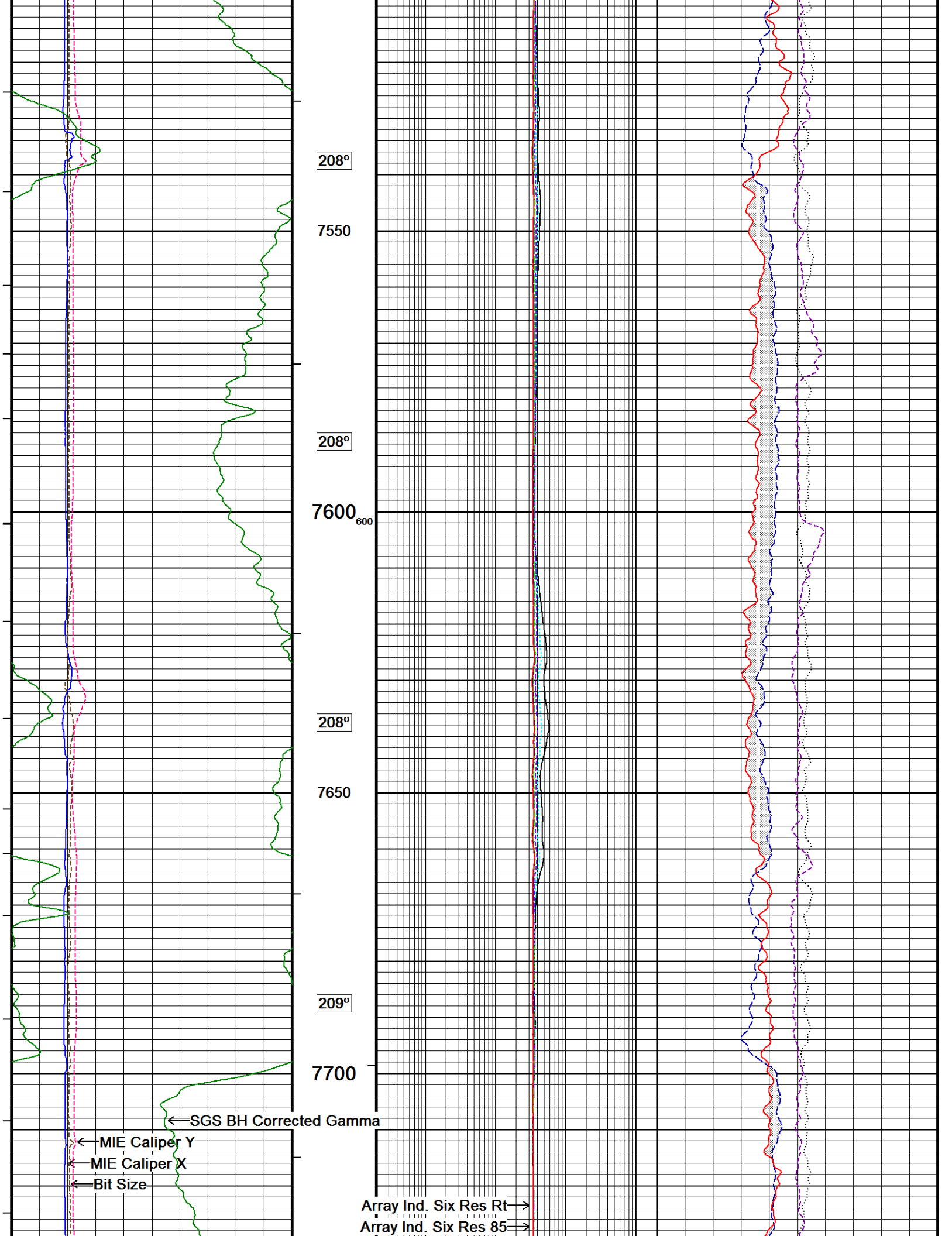
700

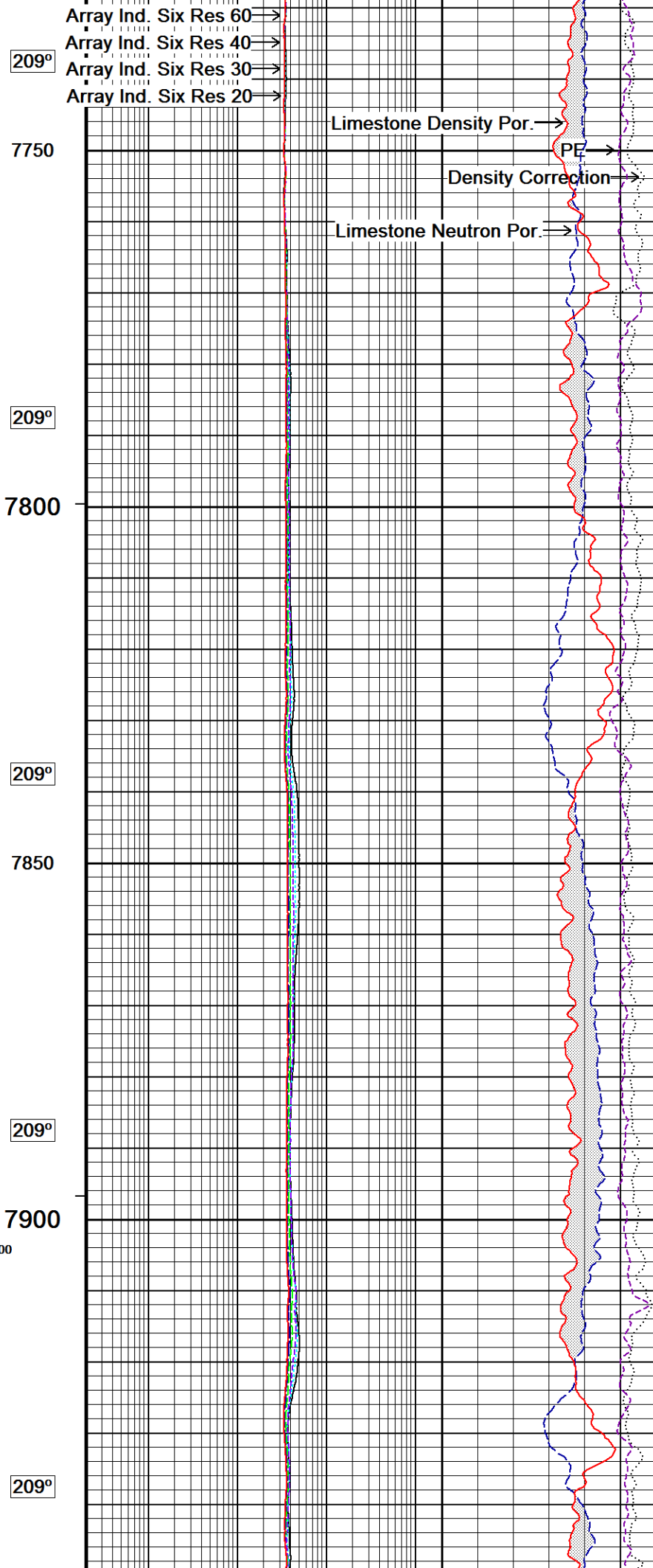
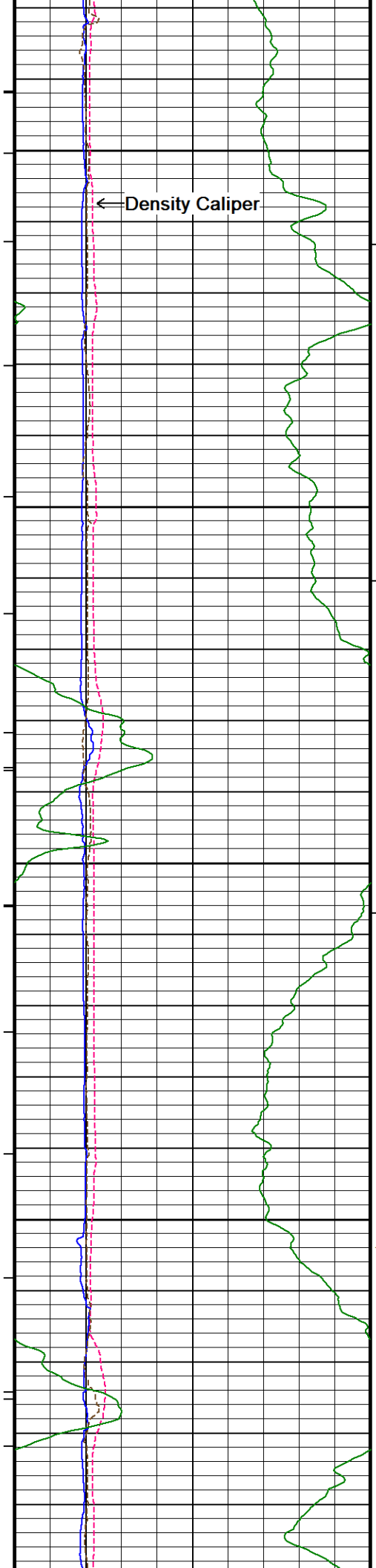


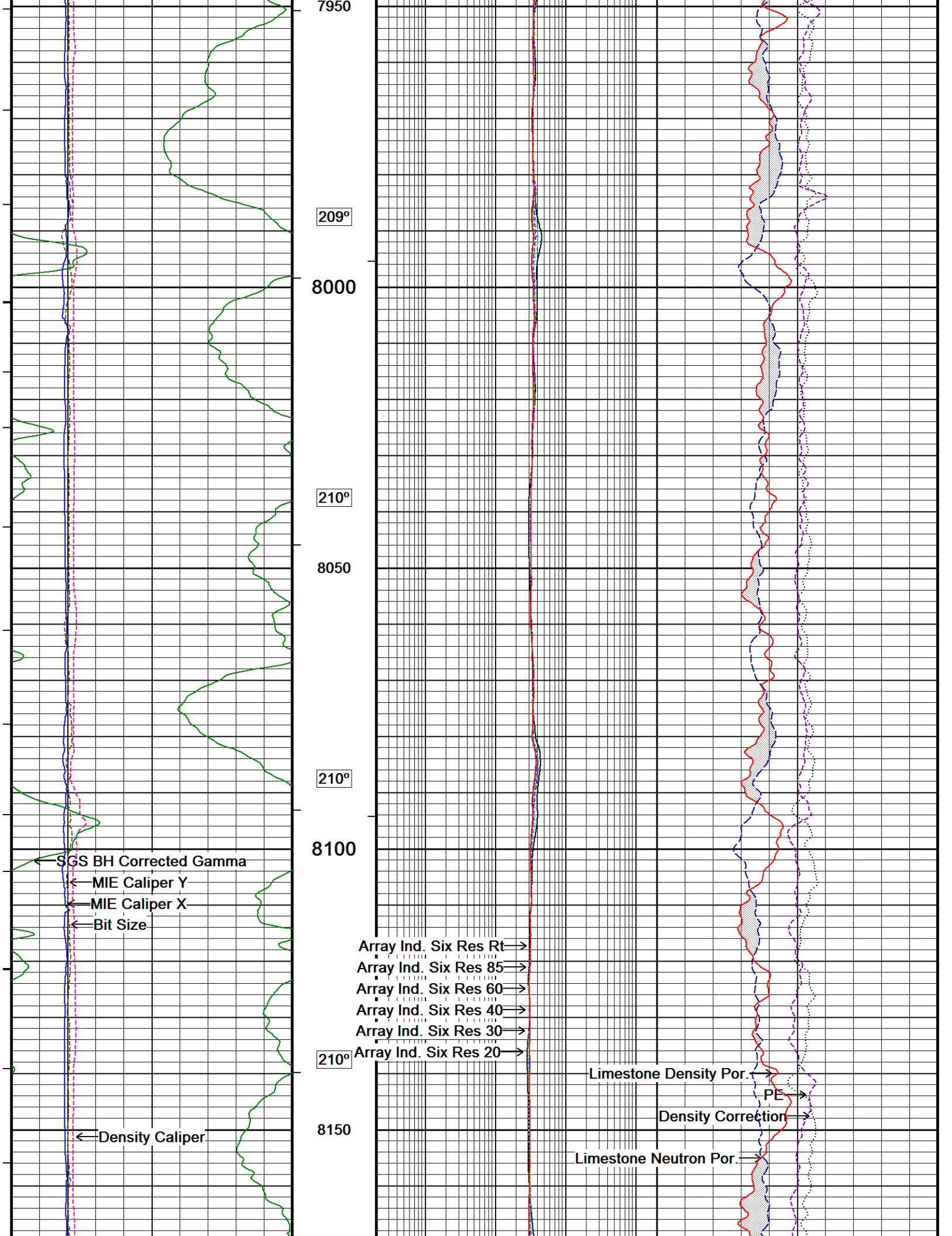


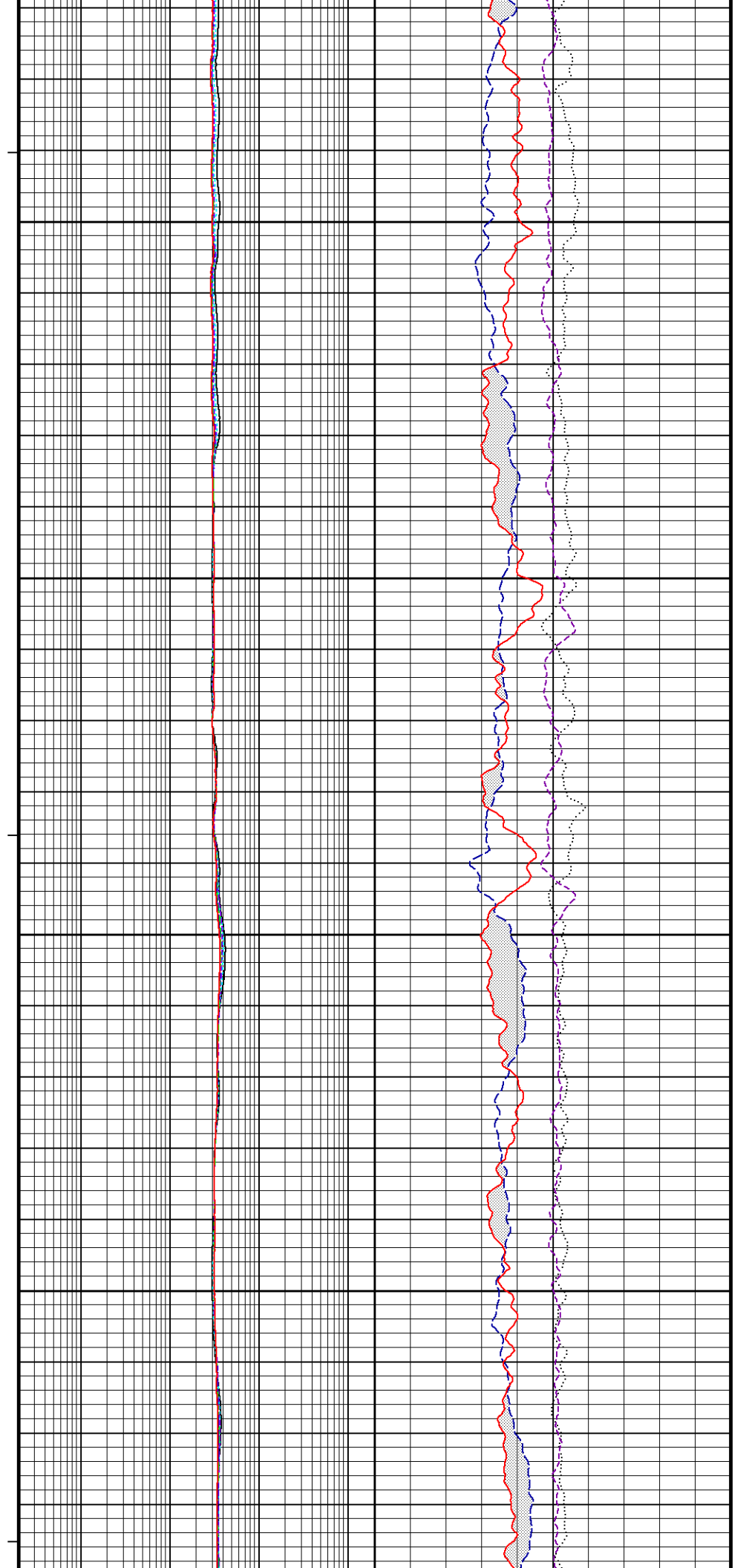
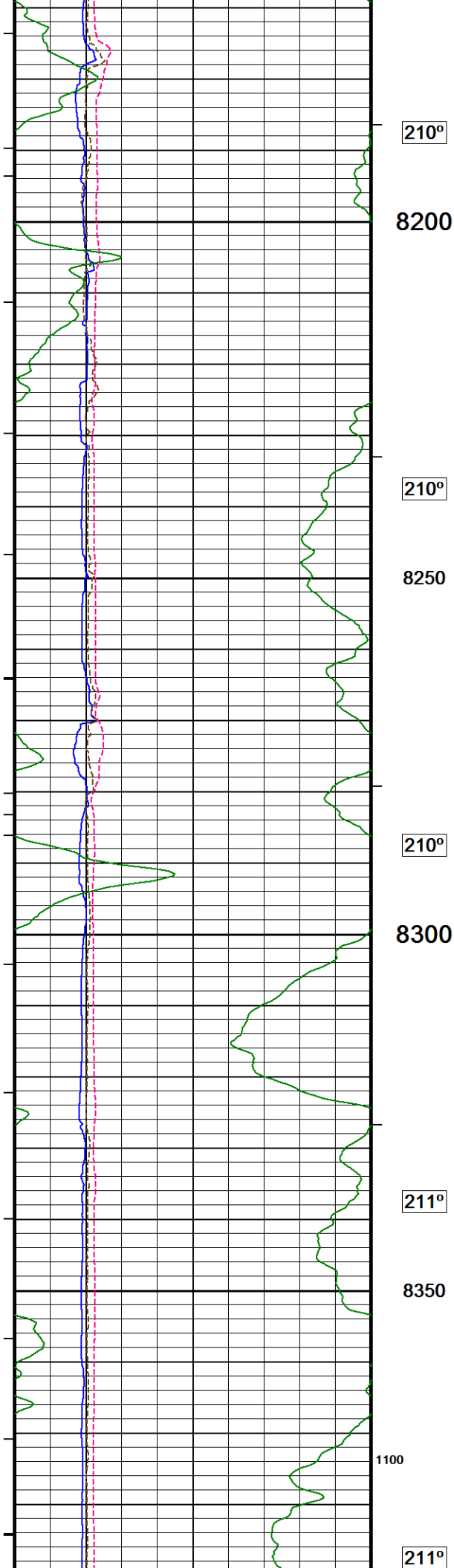


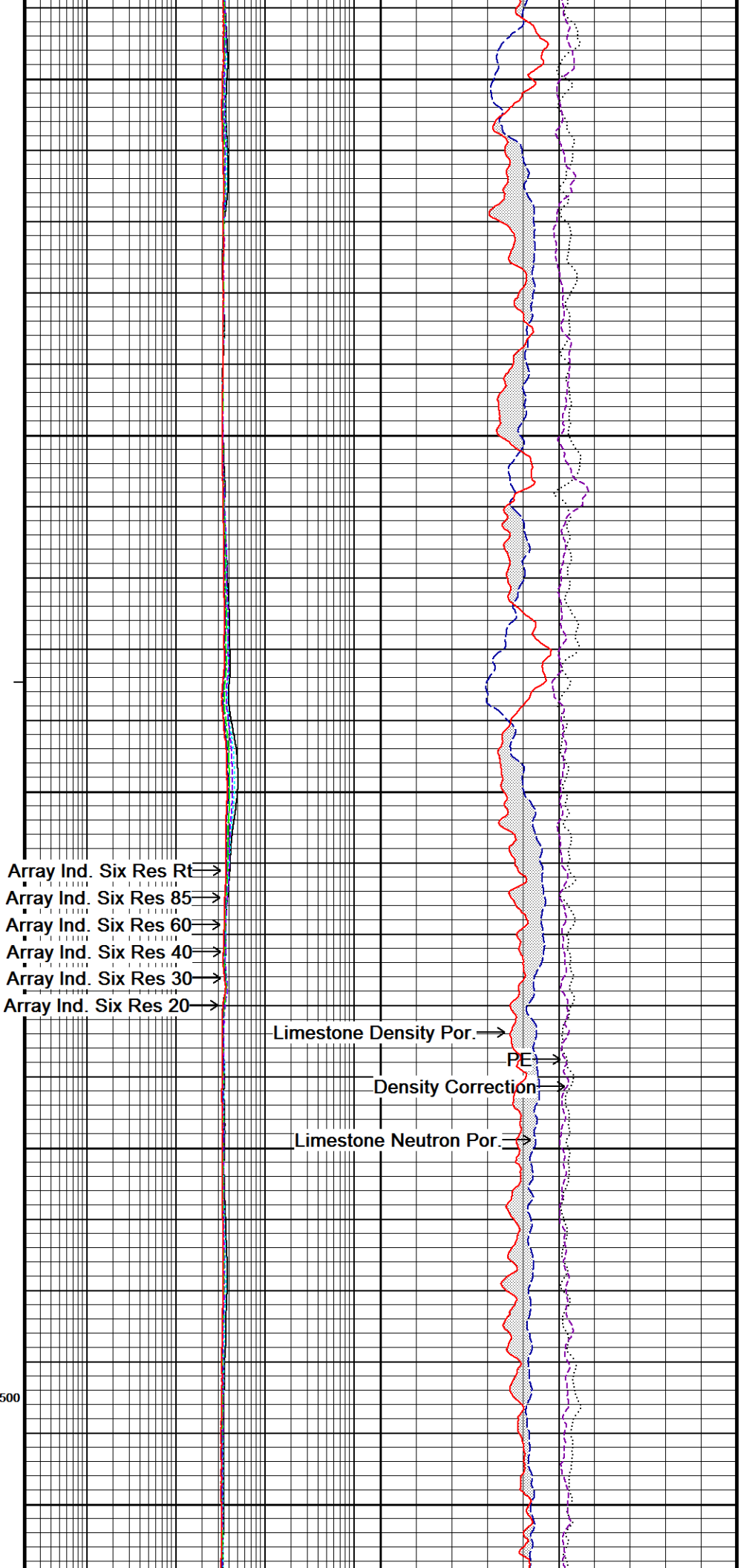
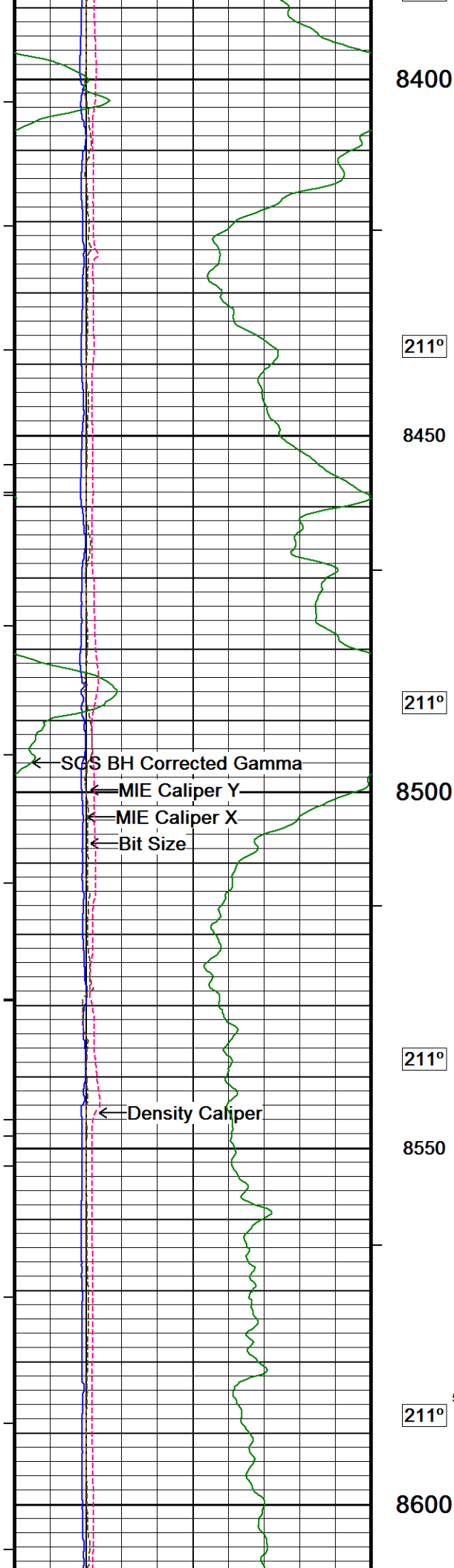


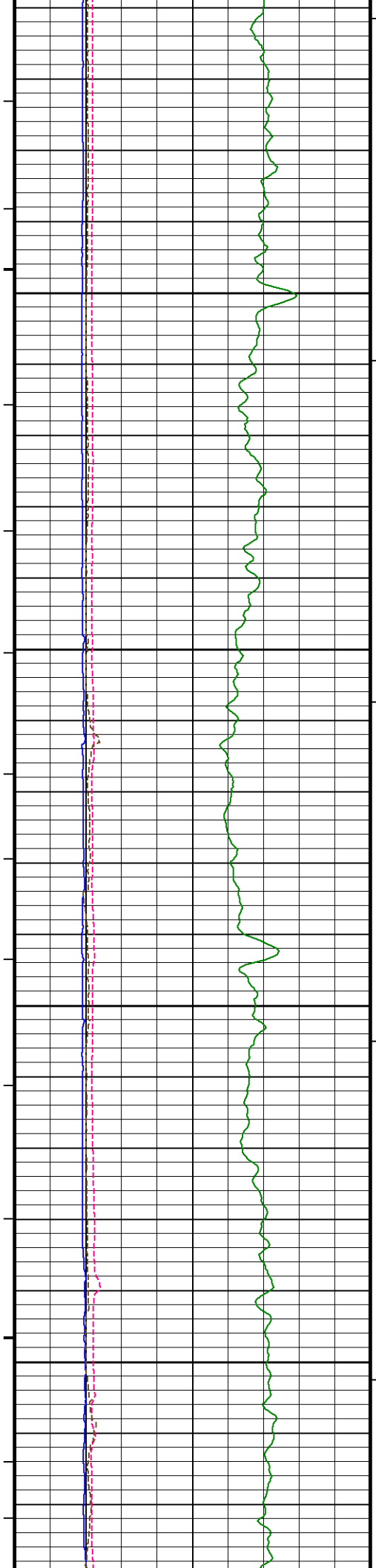












211°

8650

212°

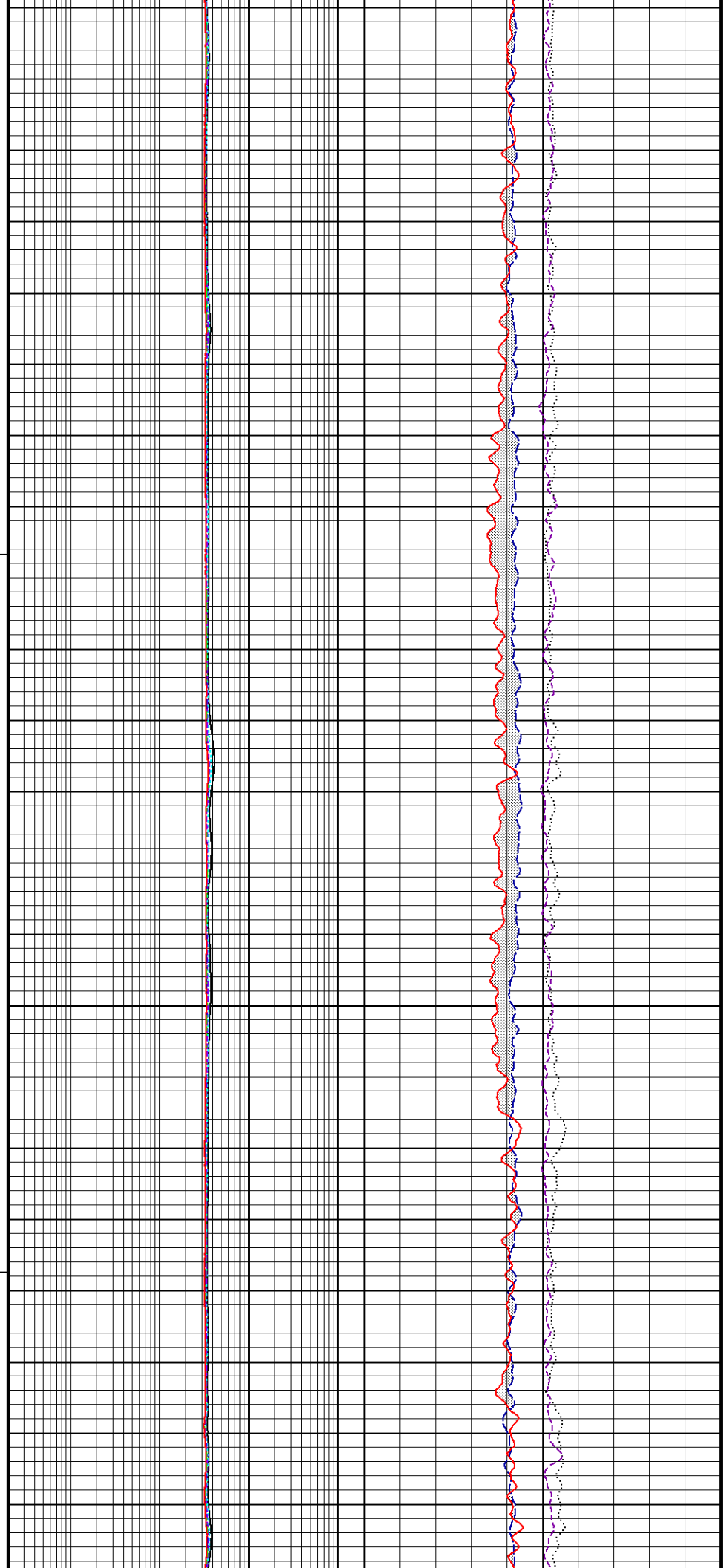
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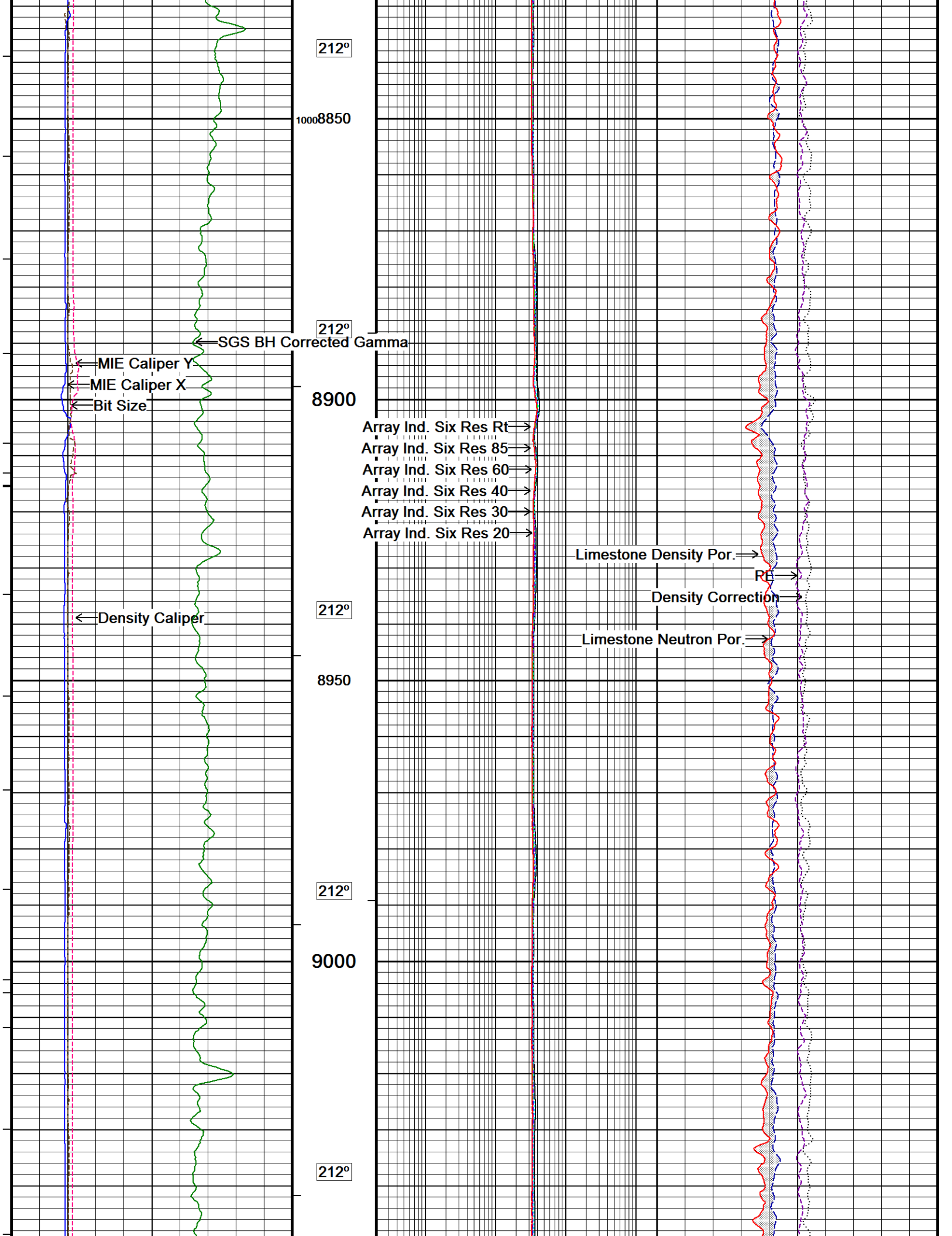
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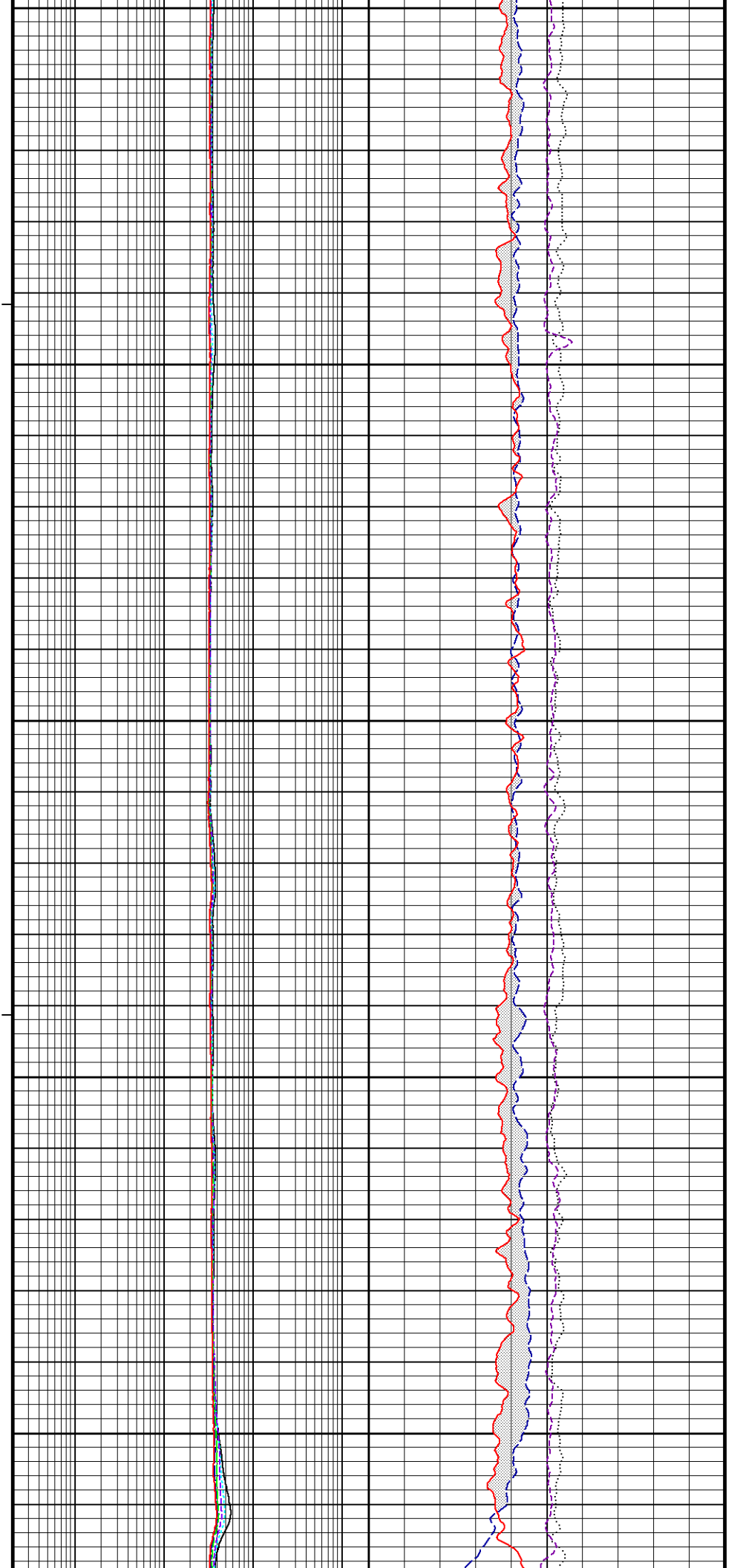
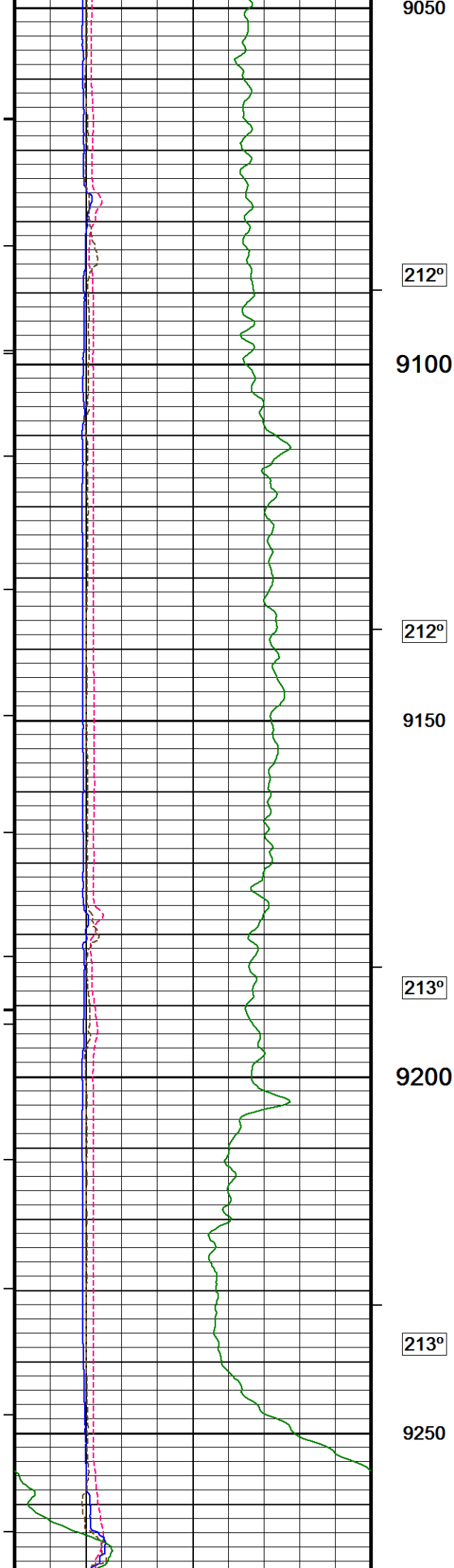
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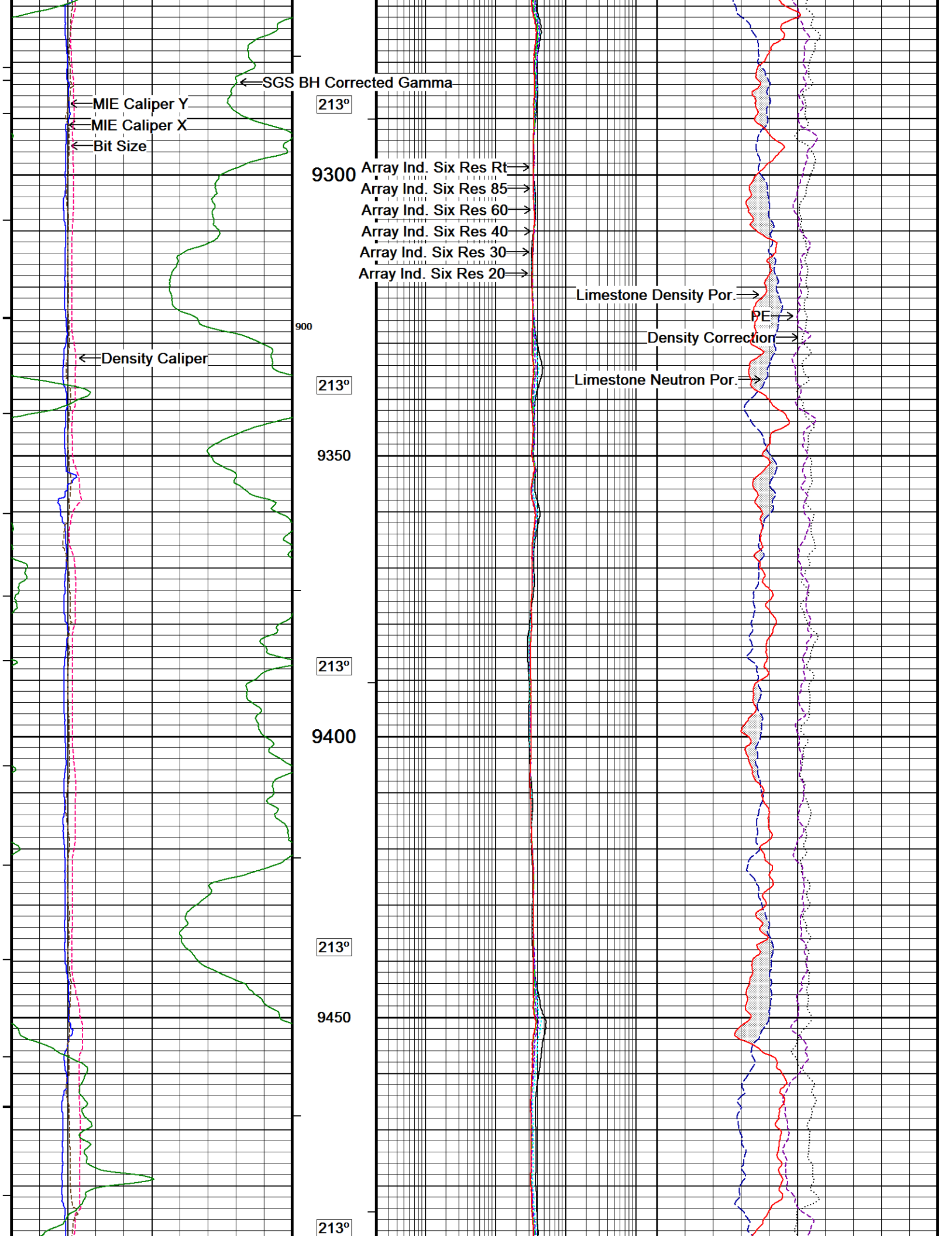
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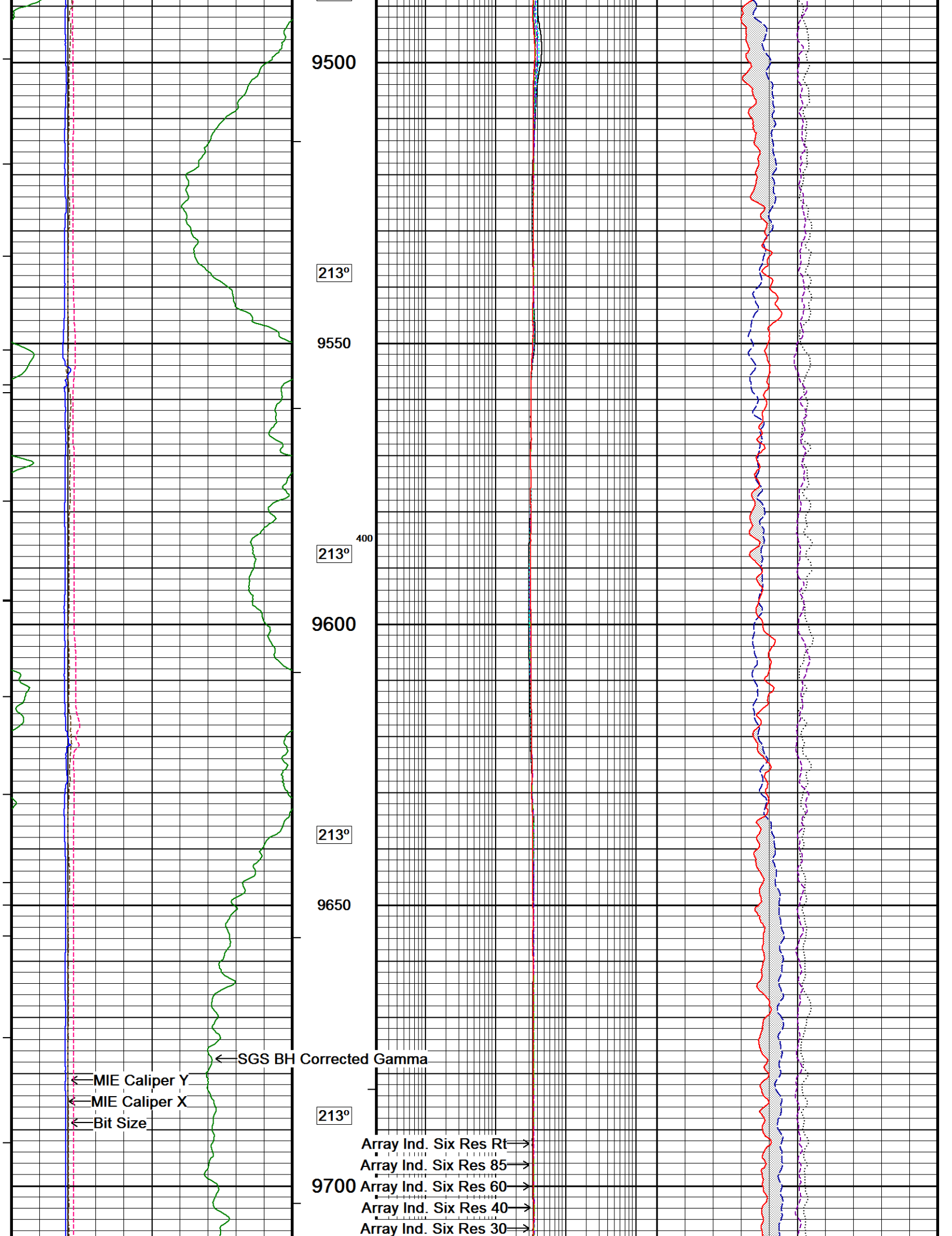
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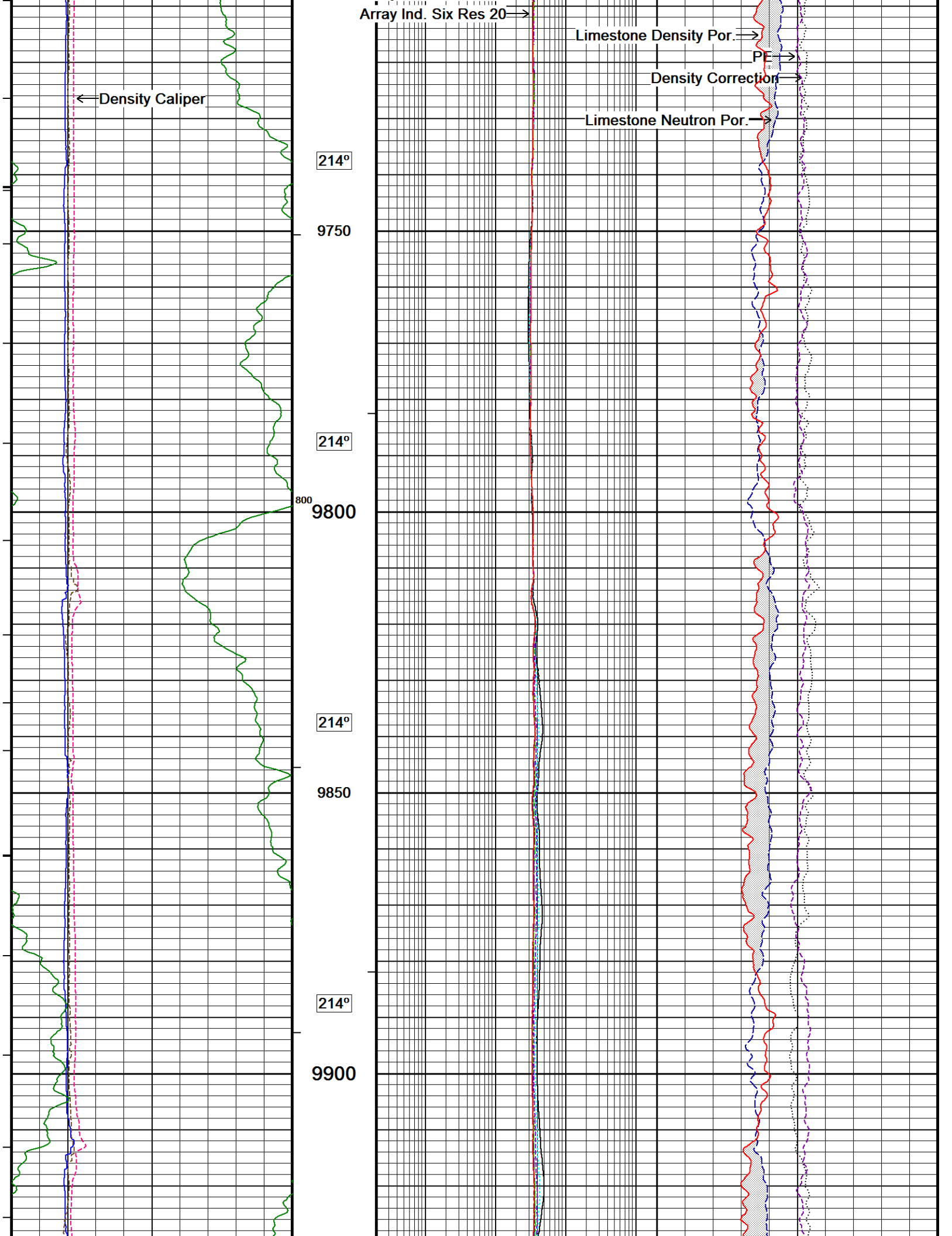


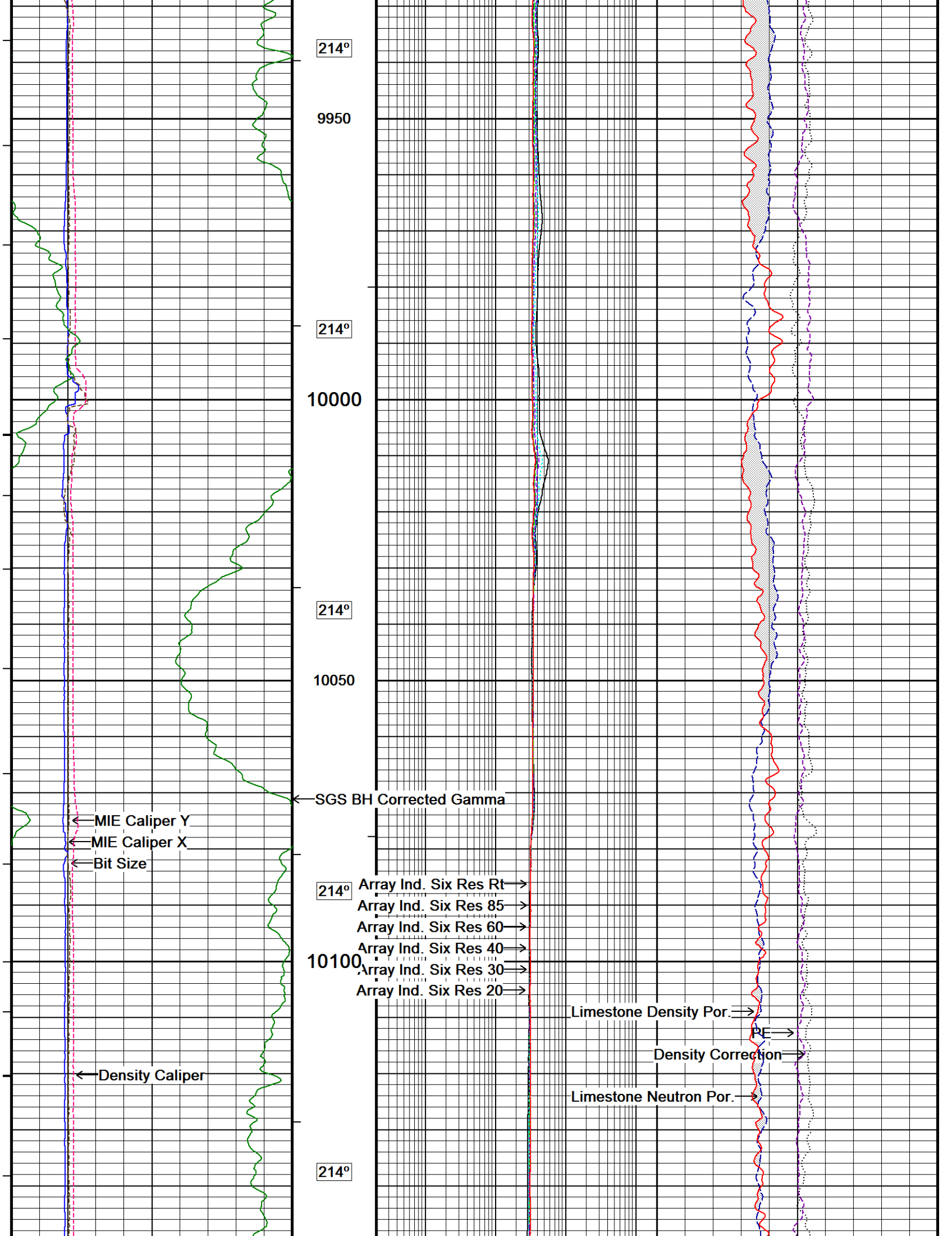


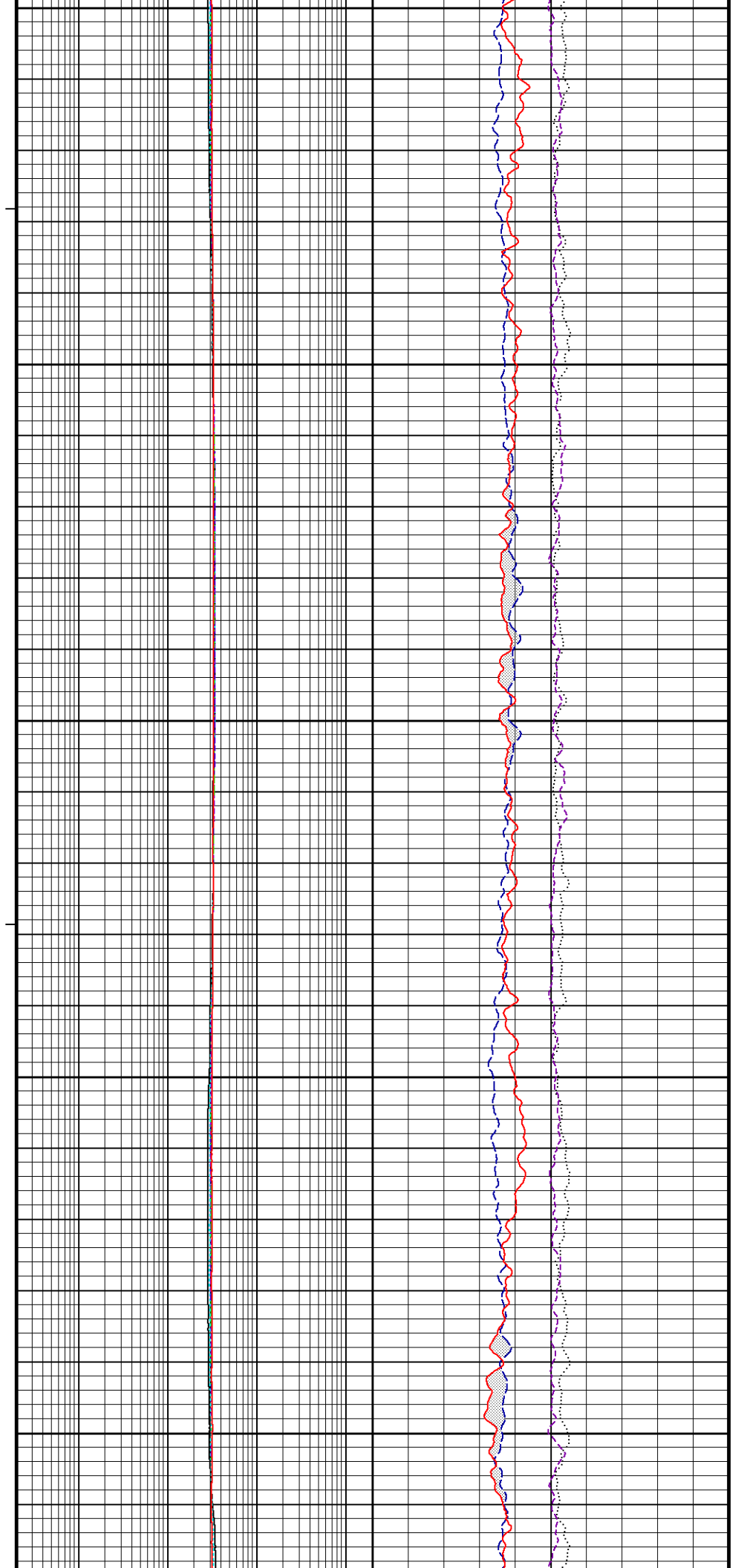
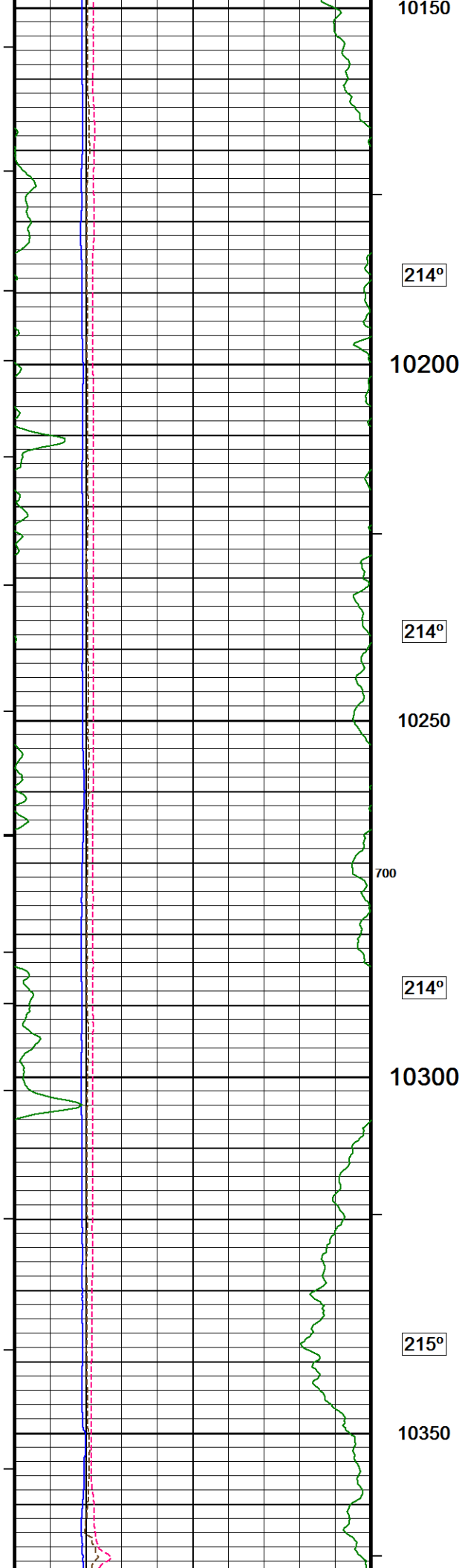


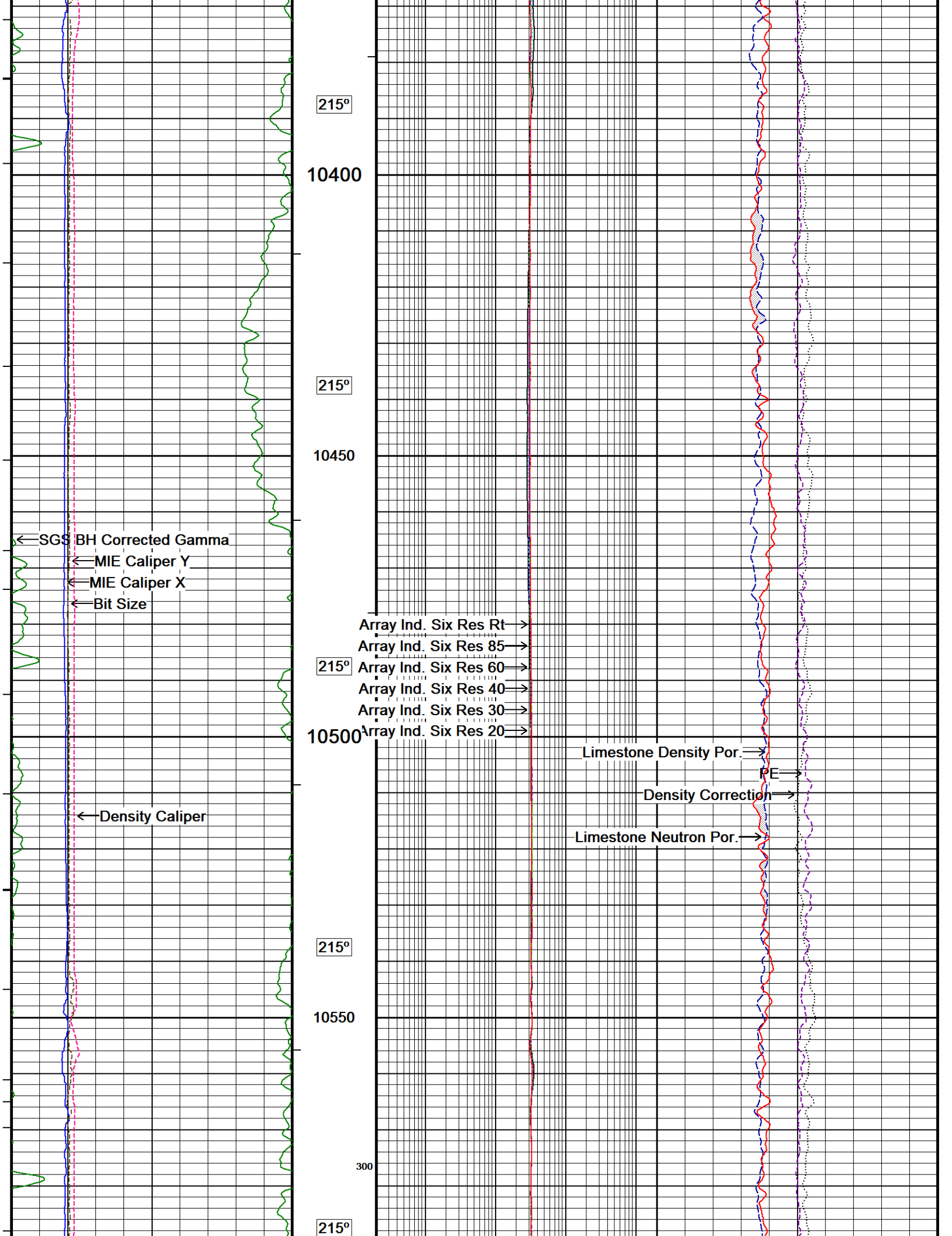


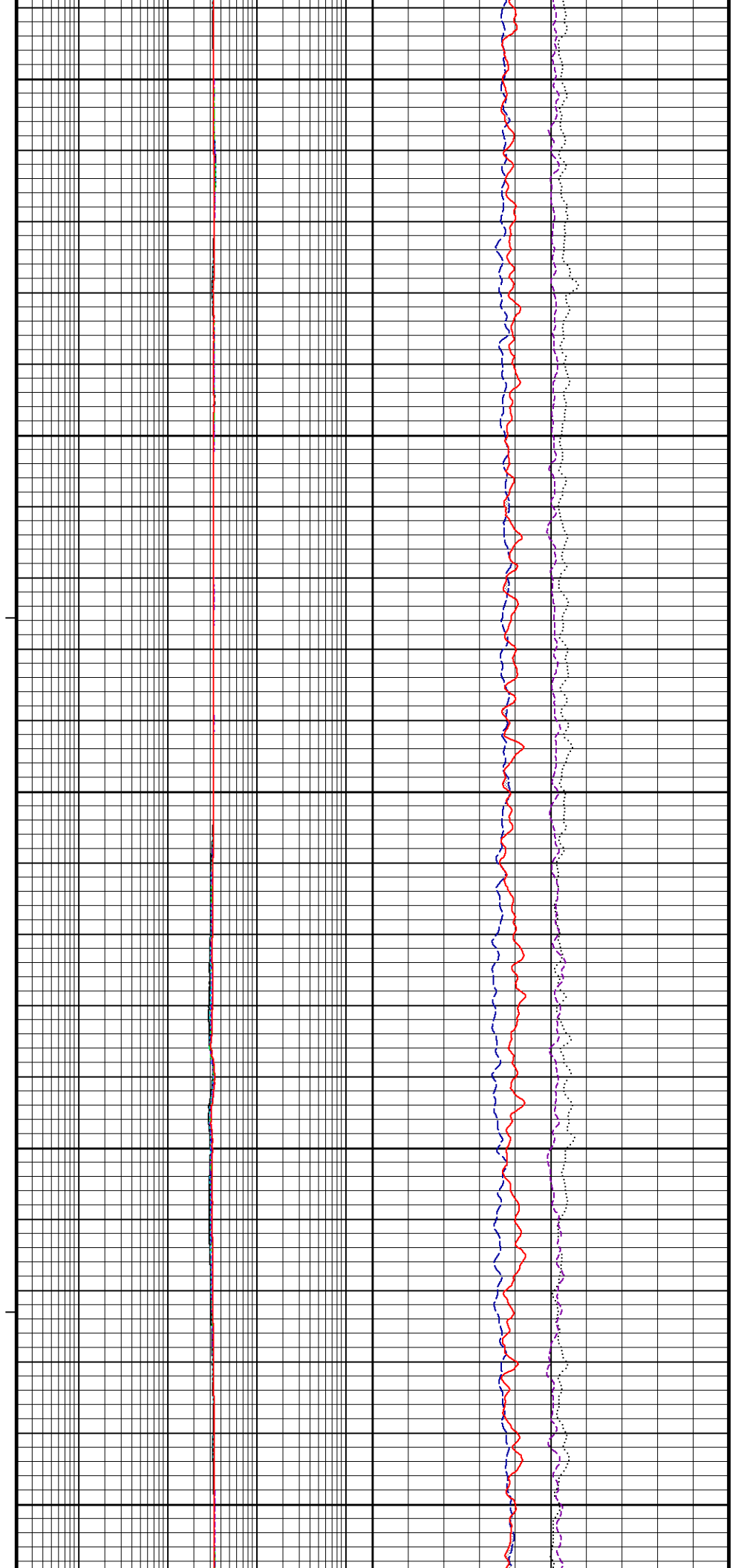
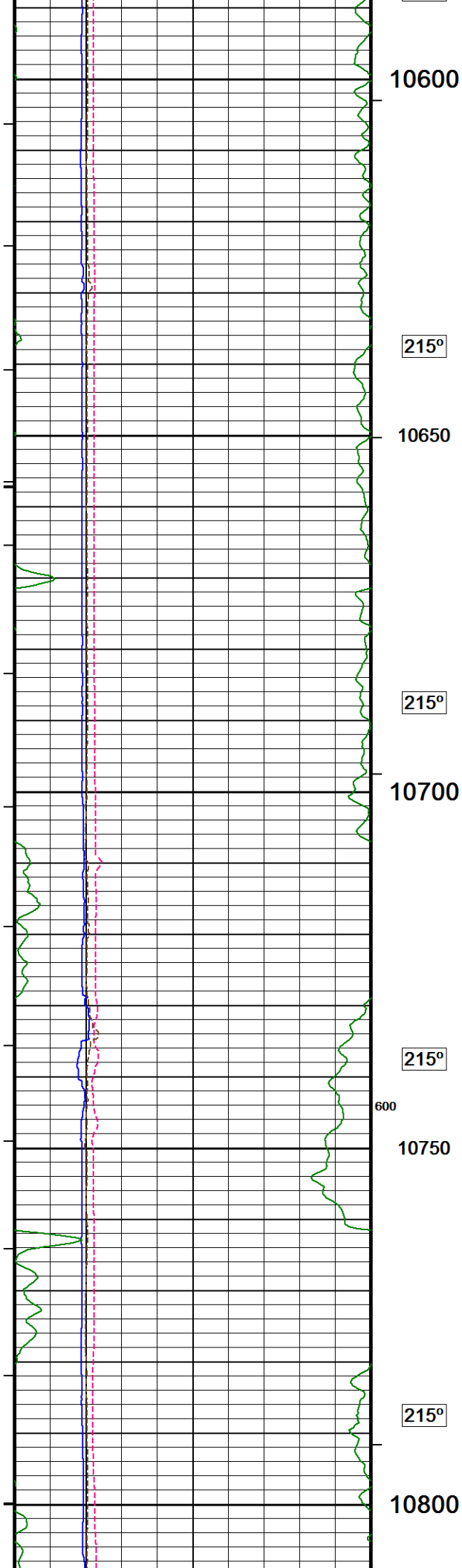


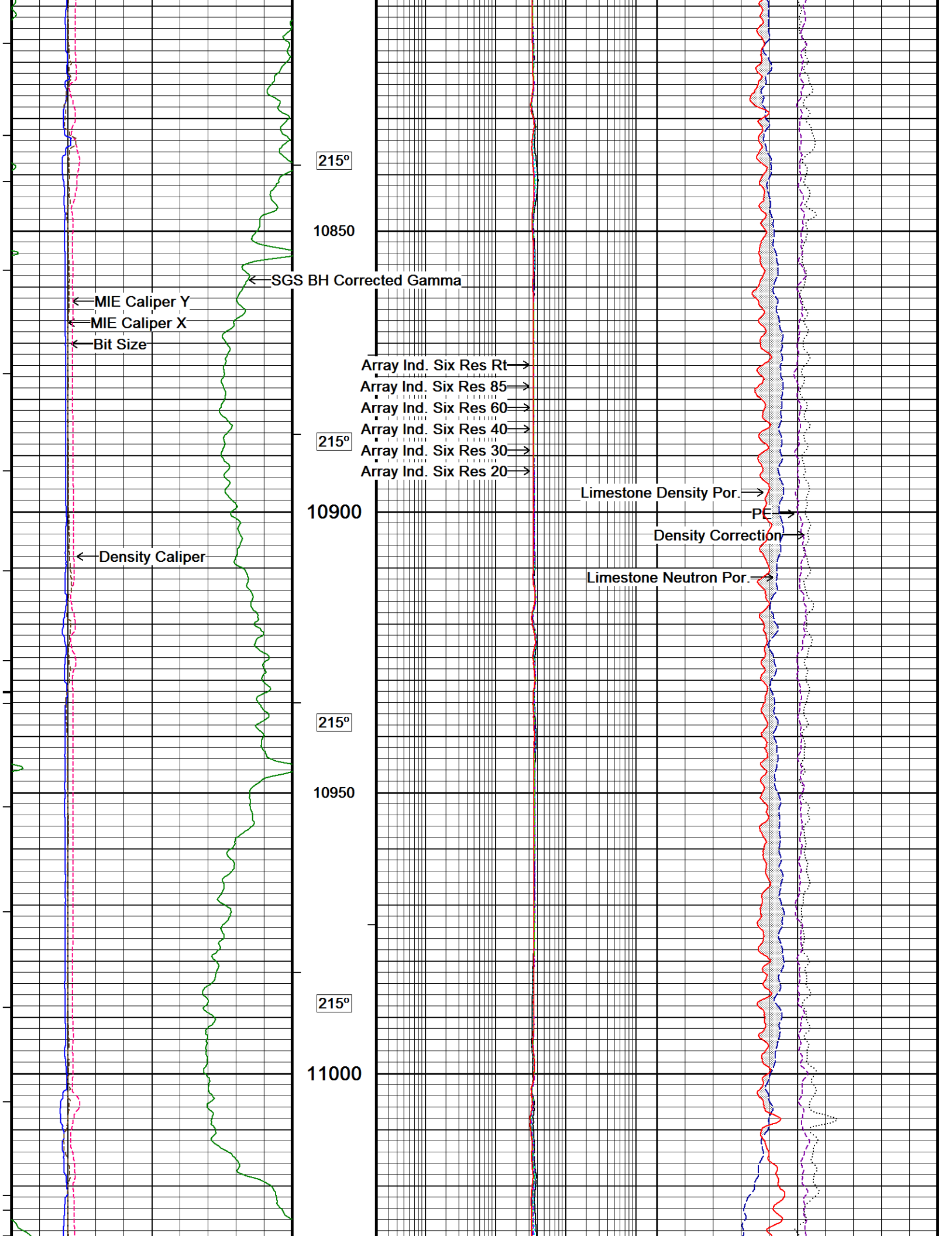


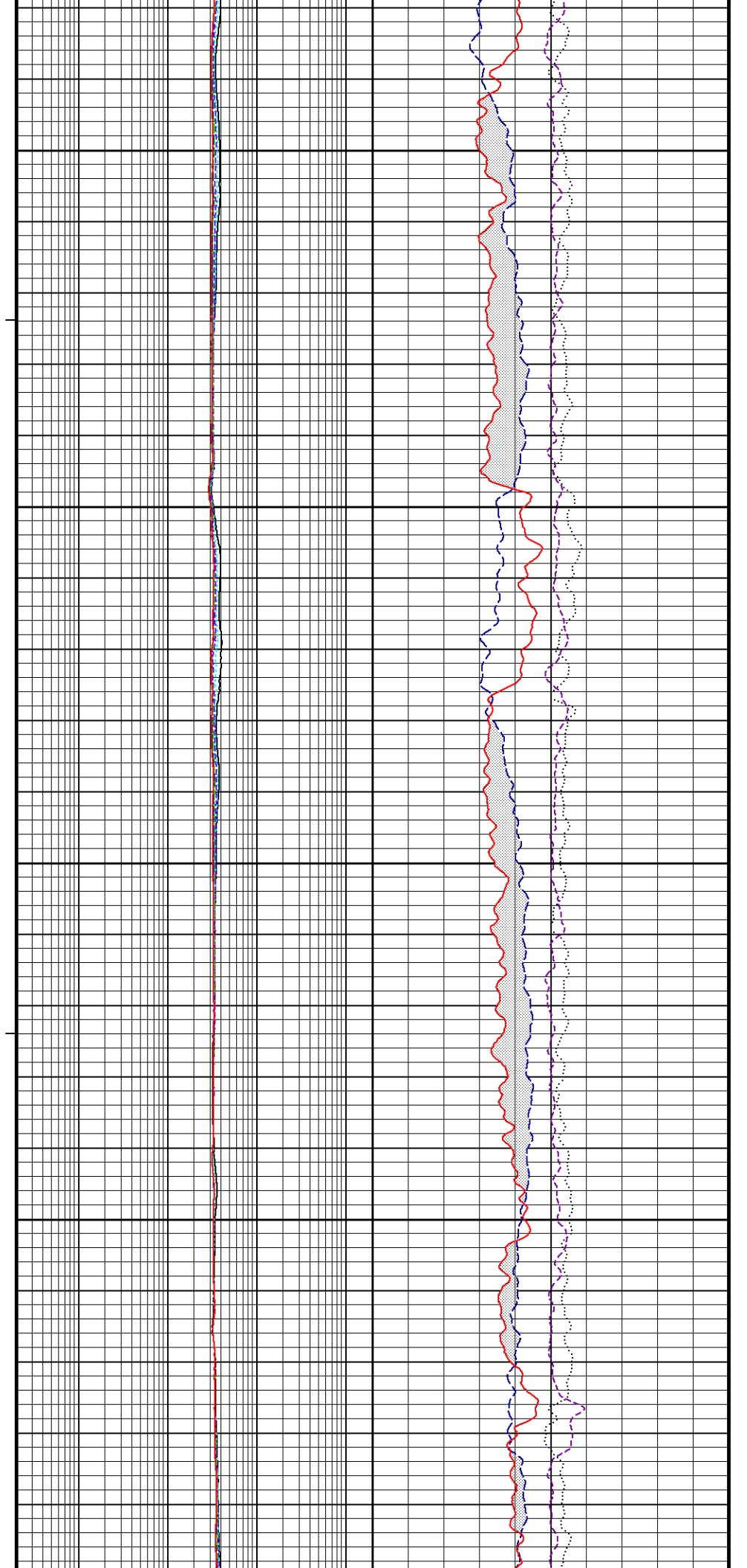
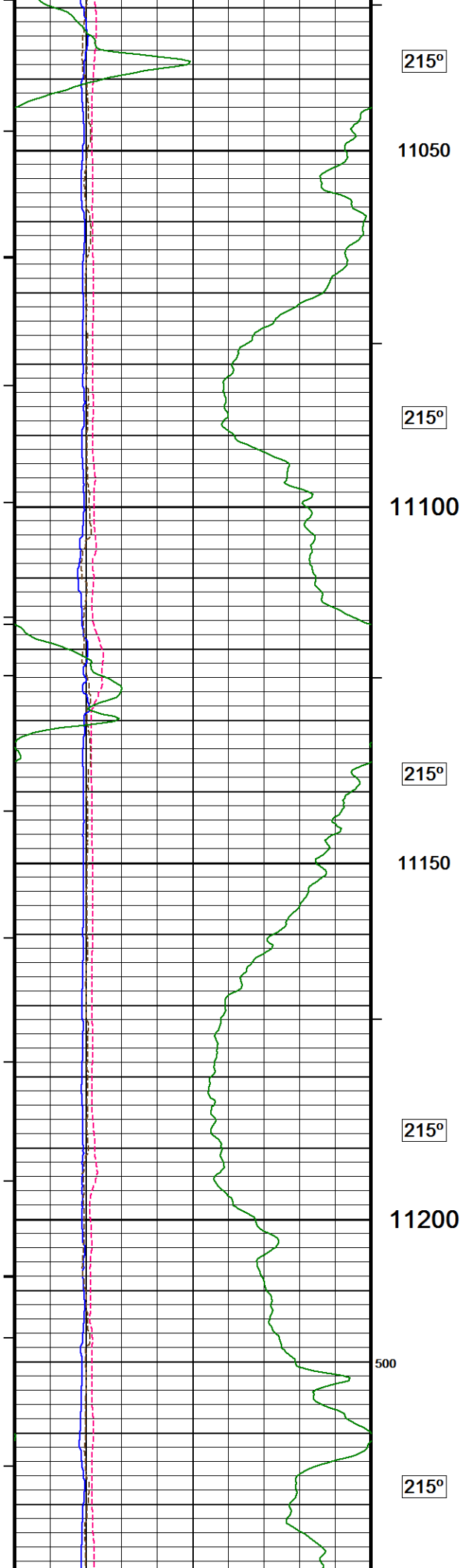


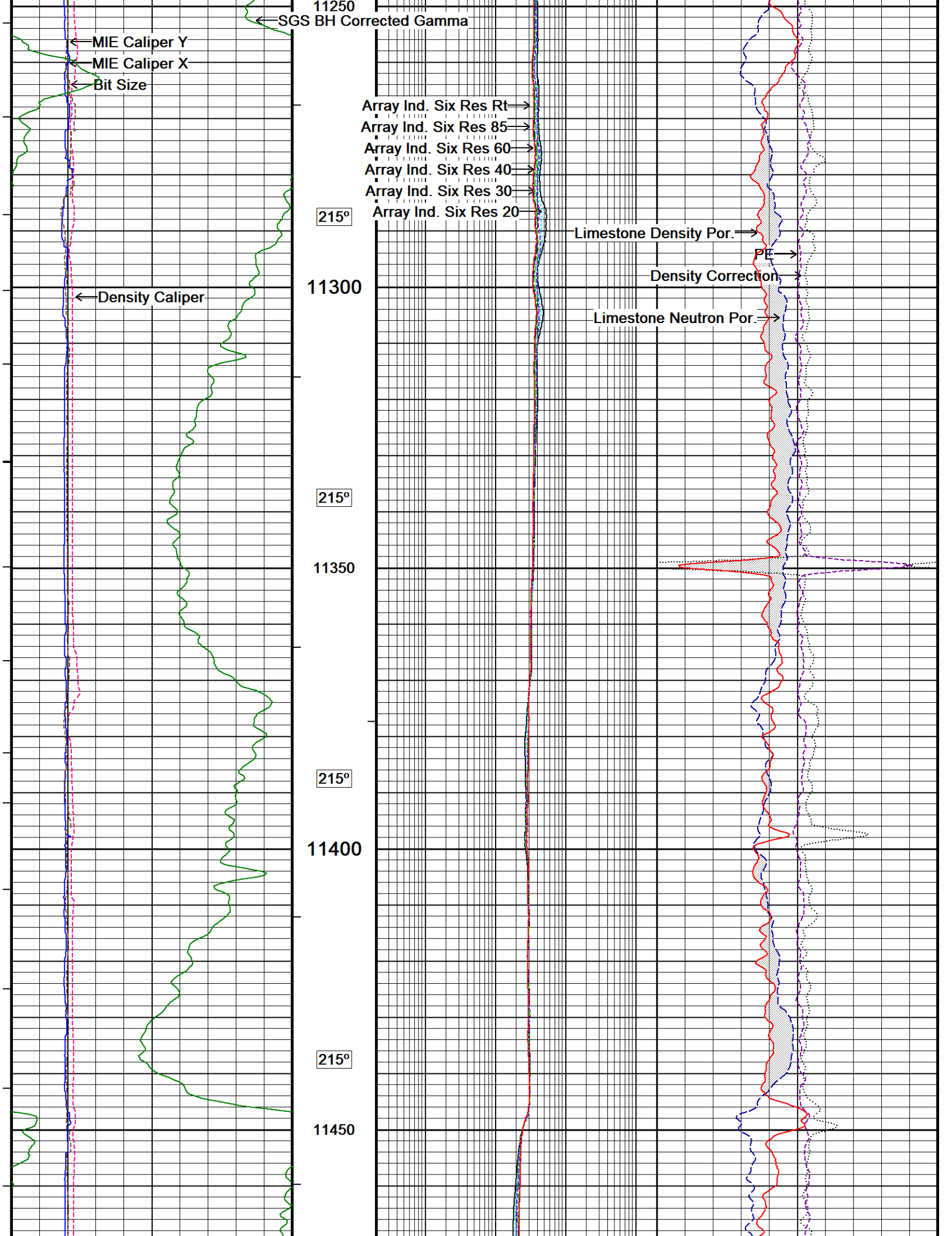


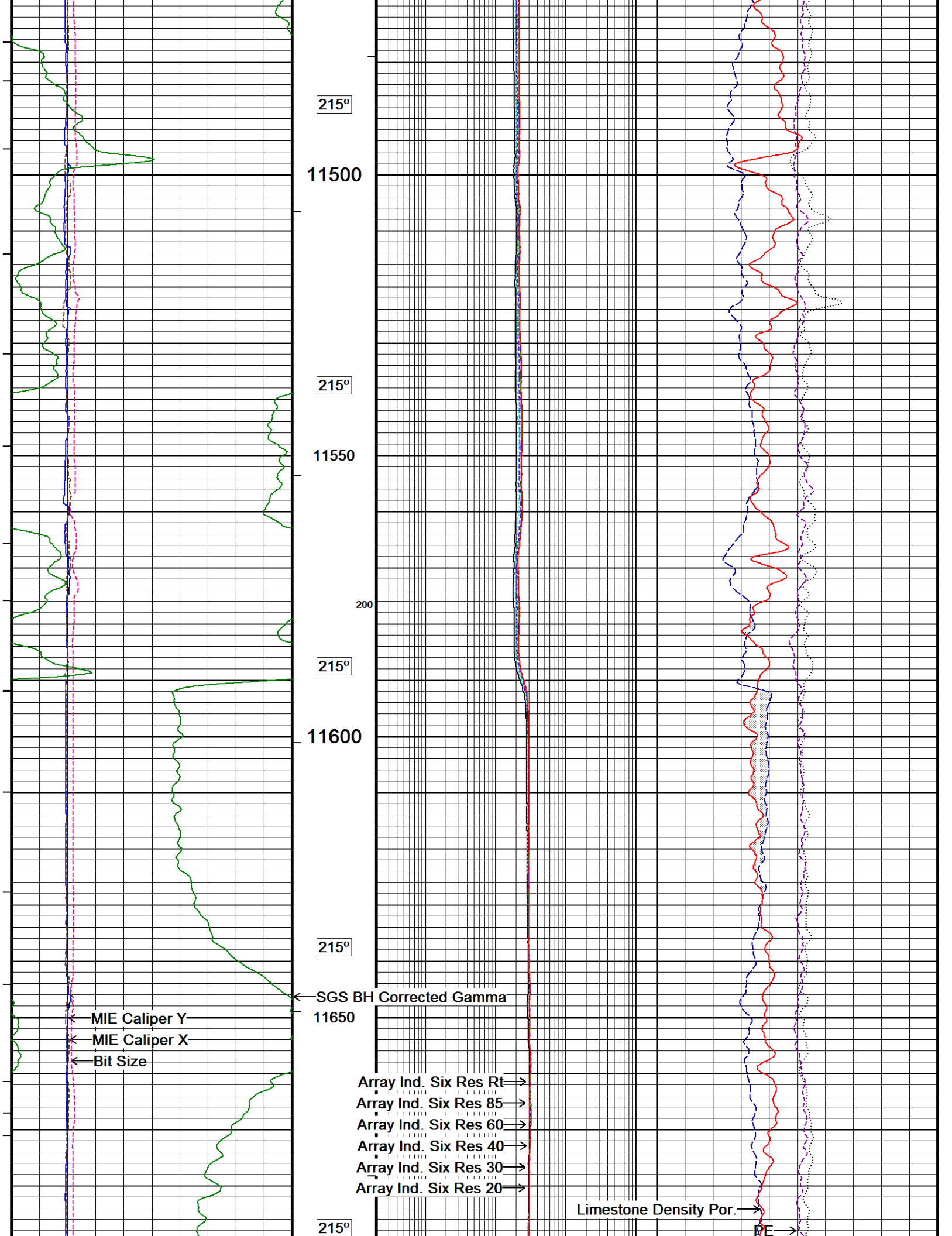


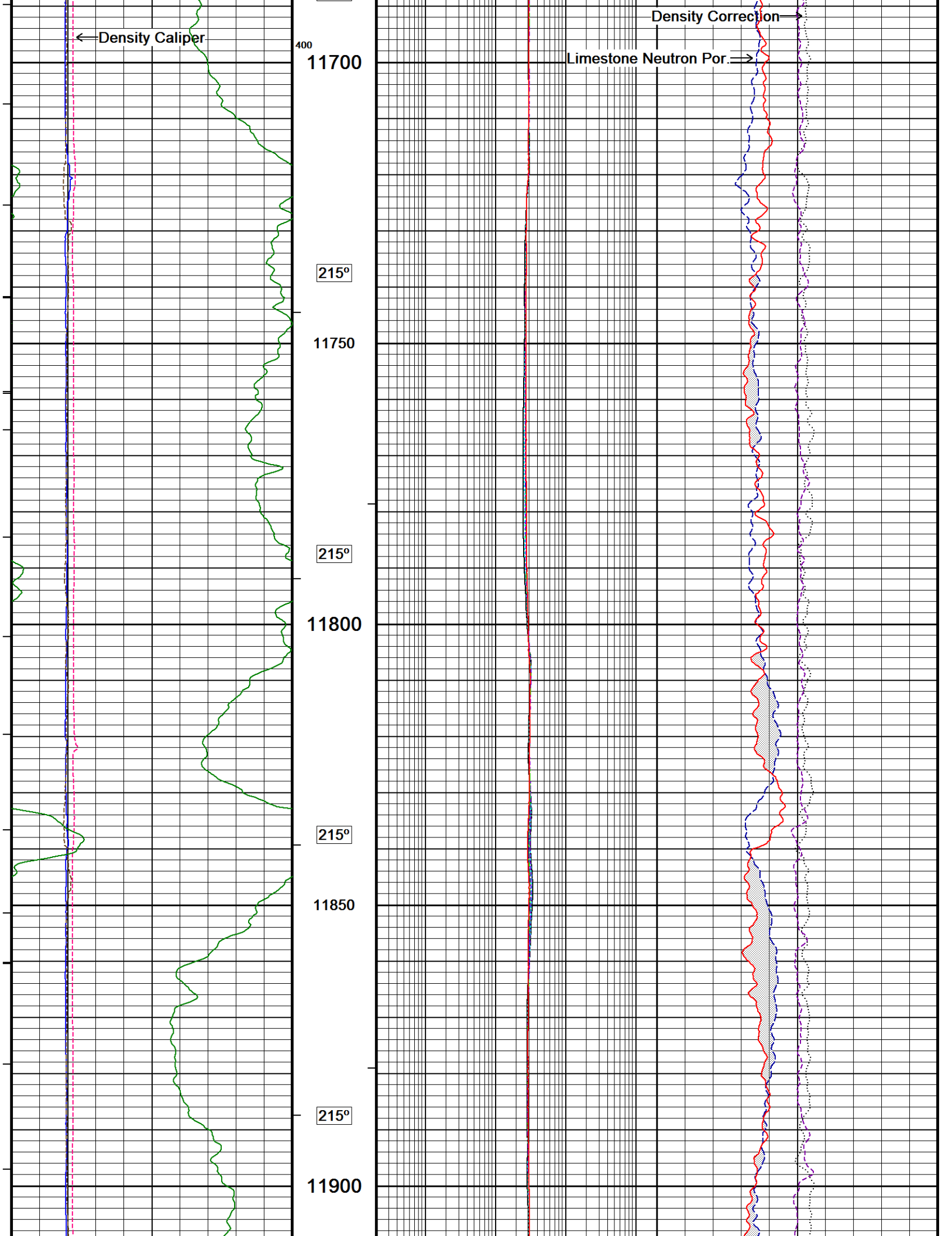


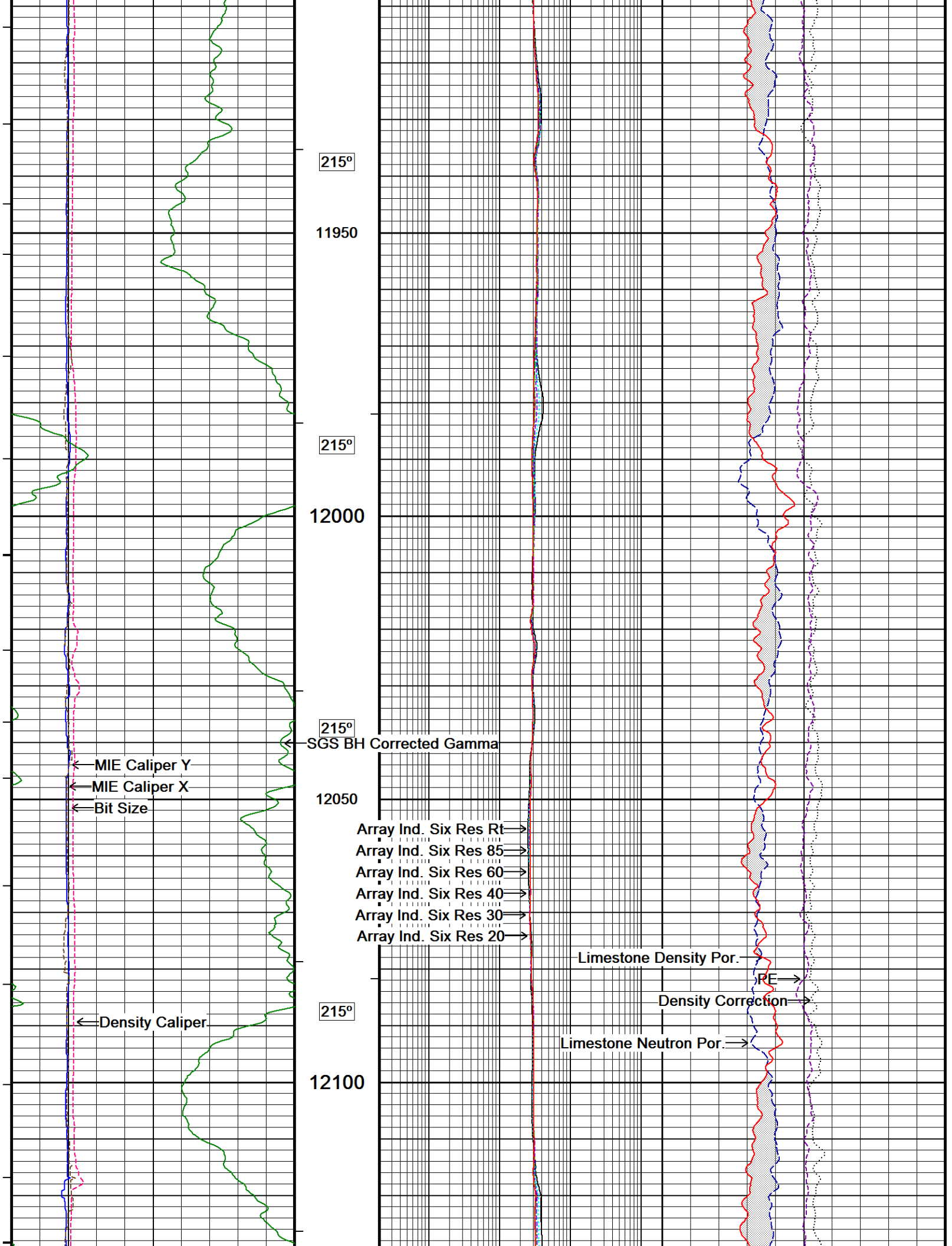


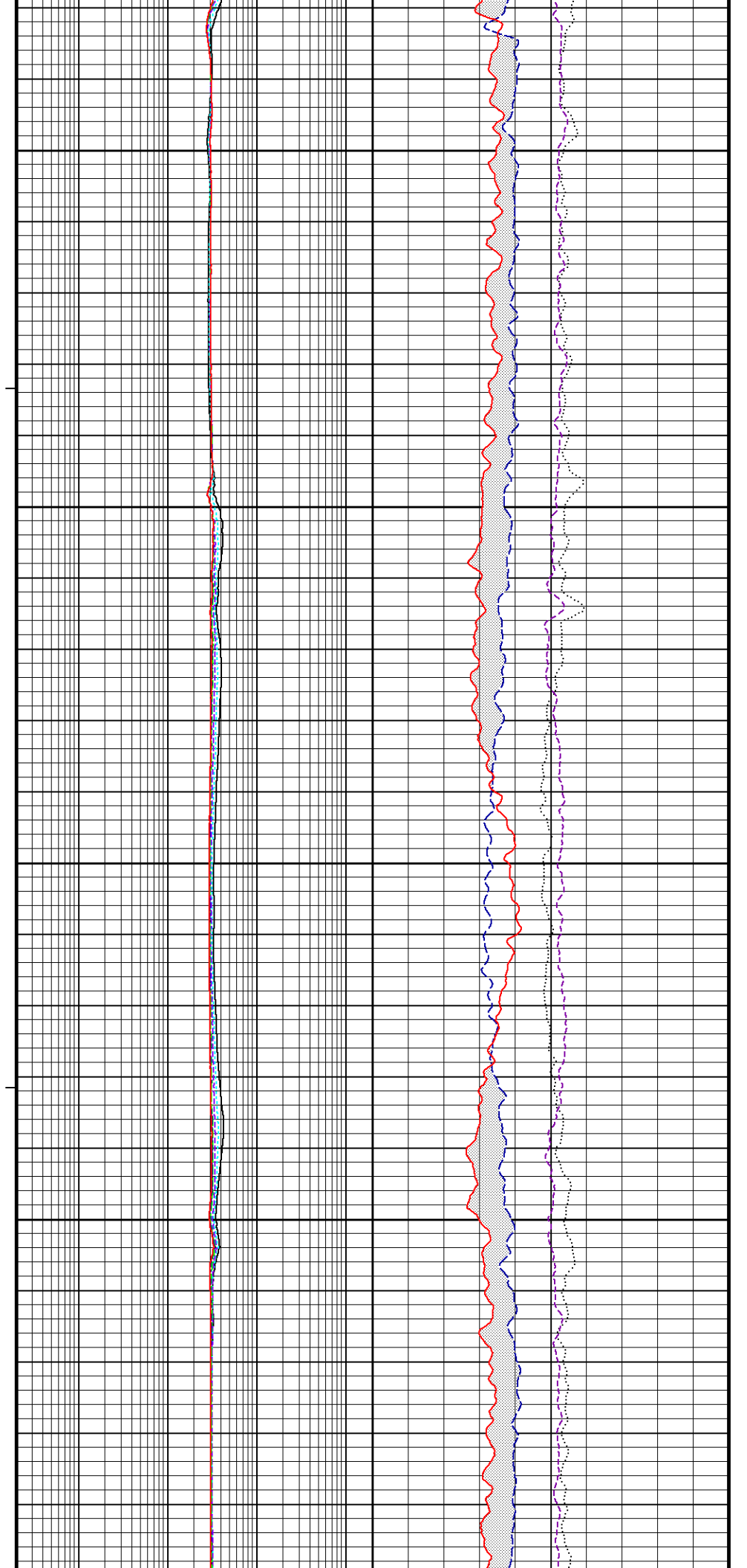
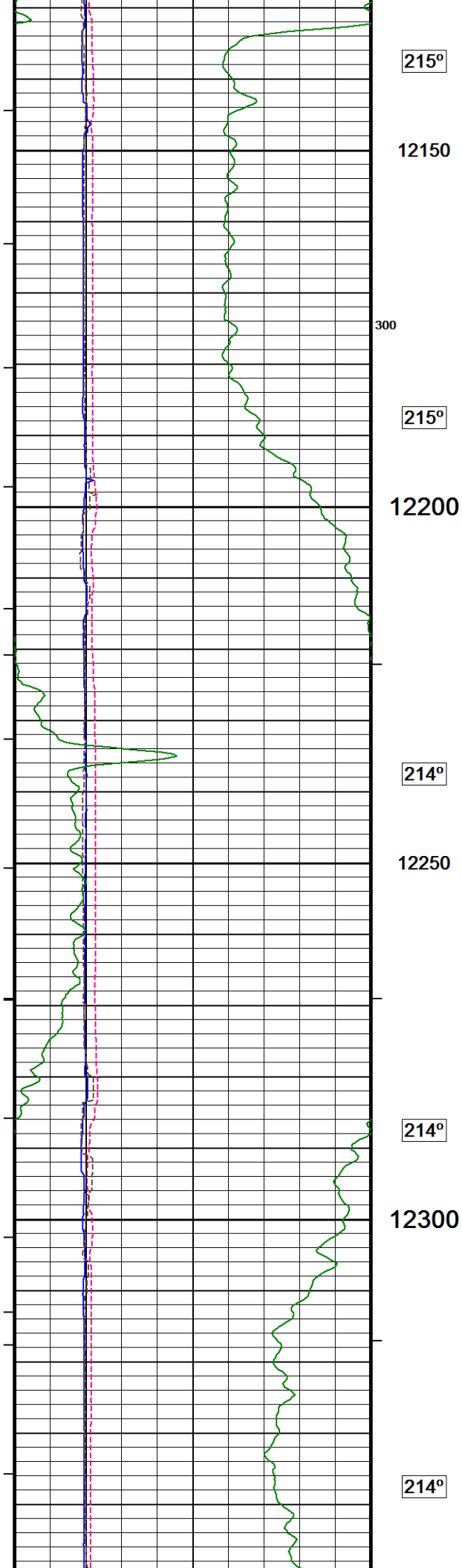


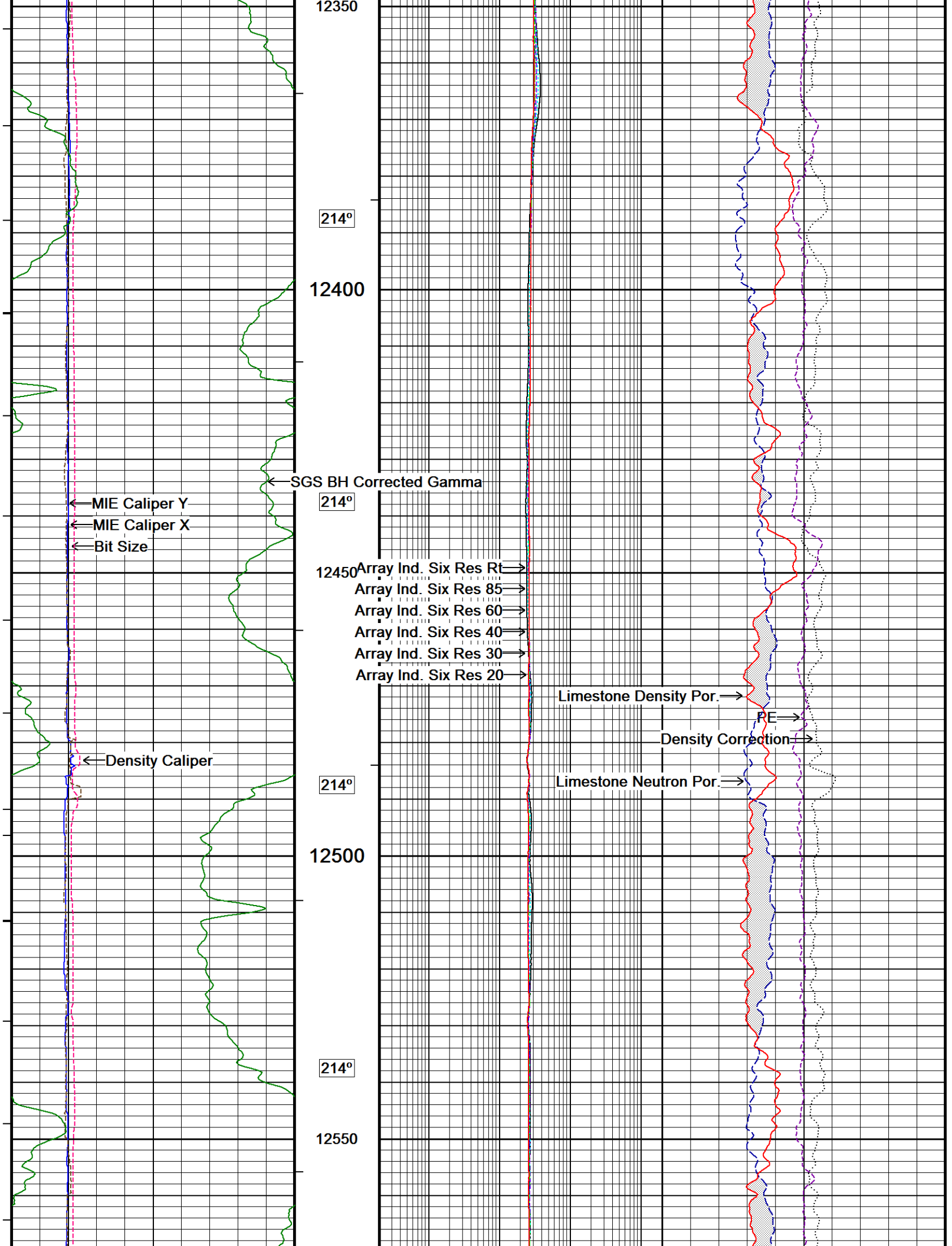


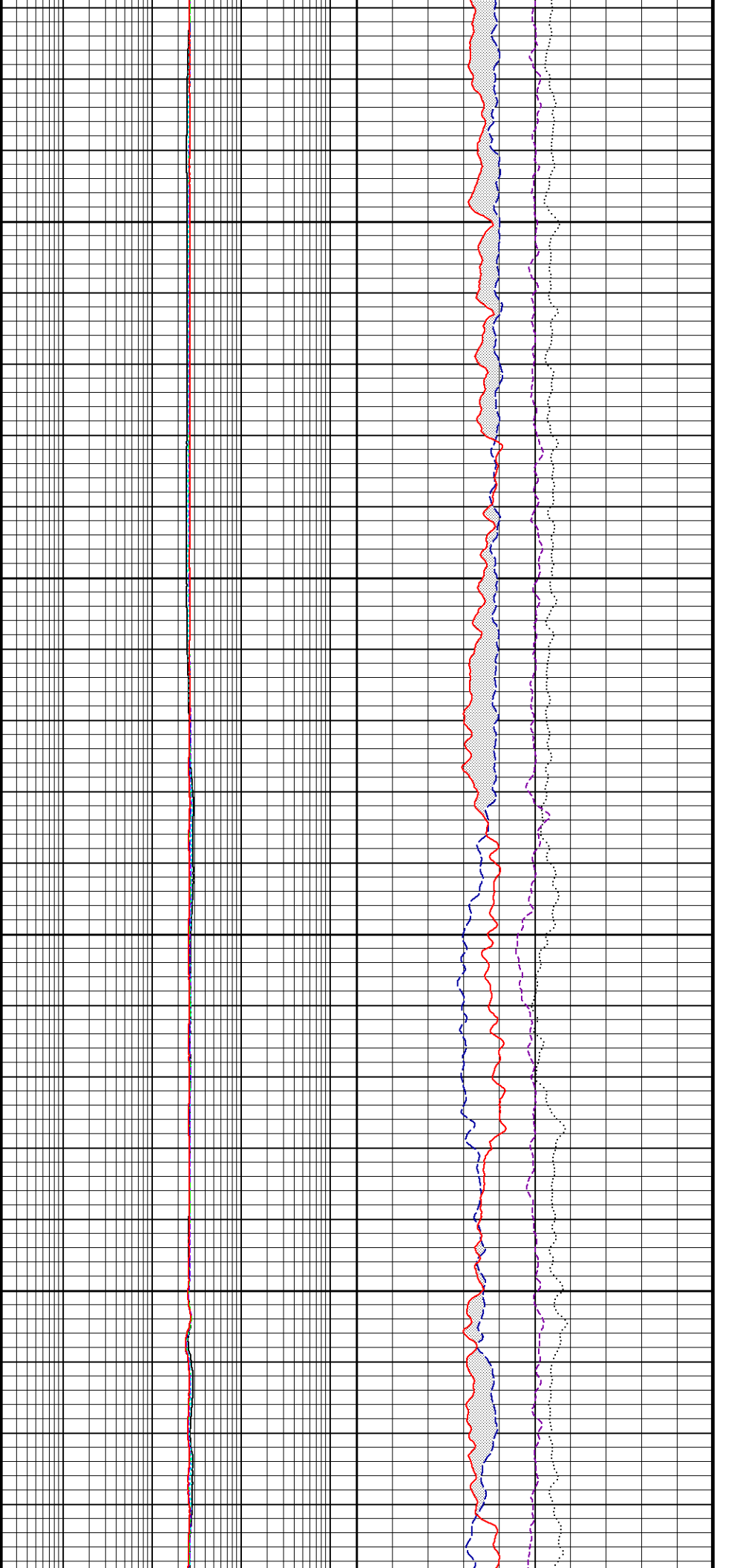
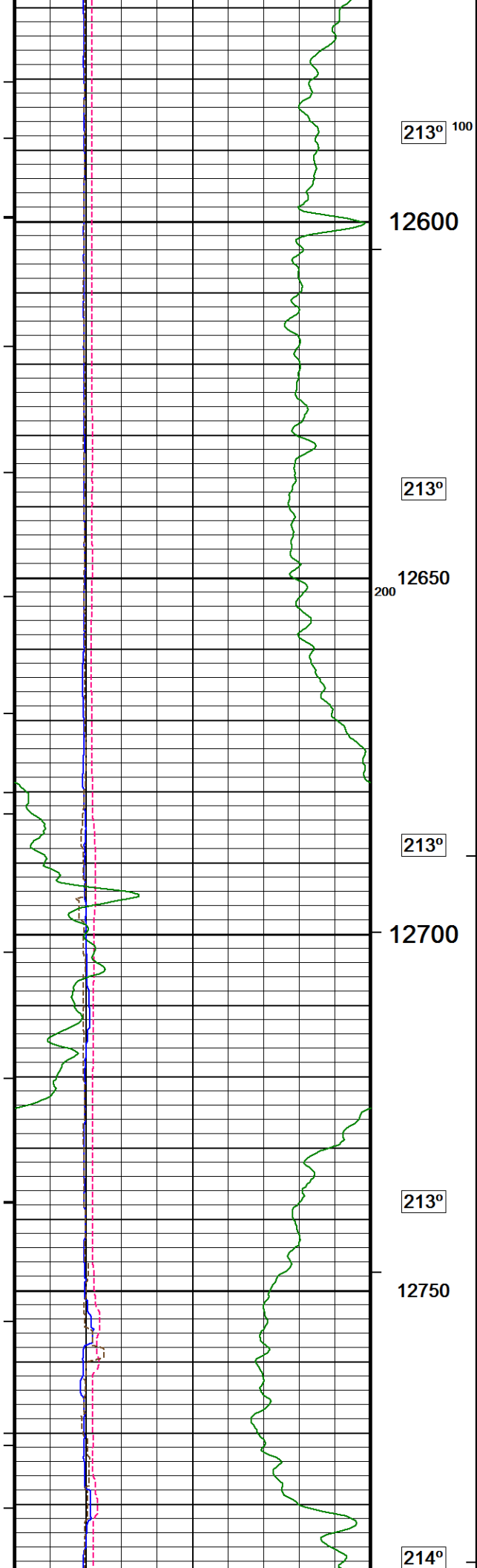


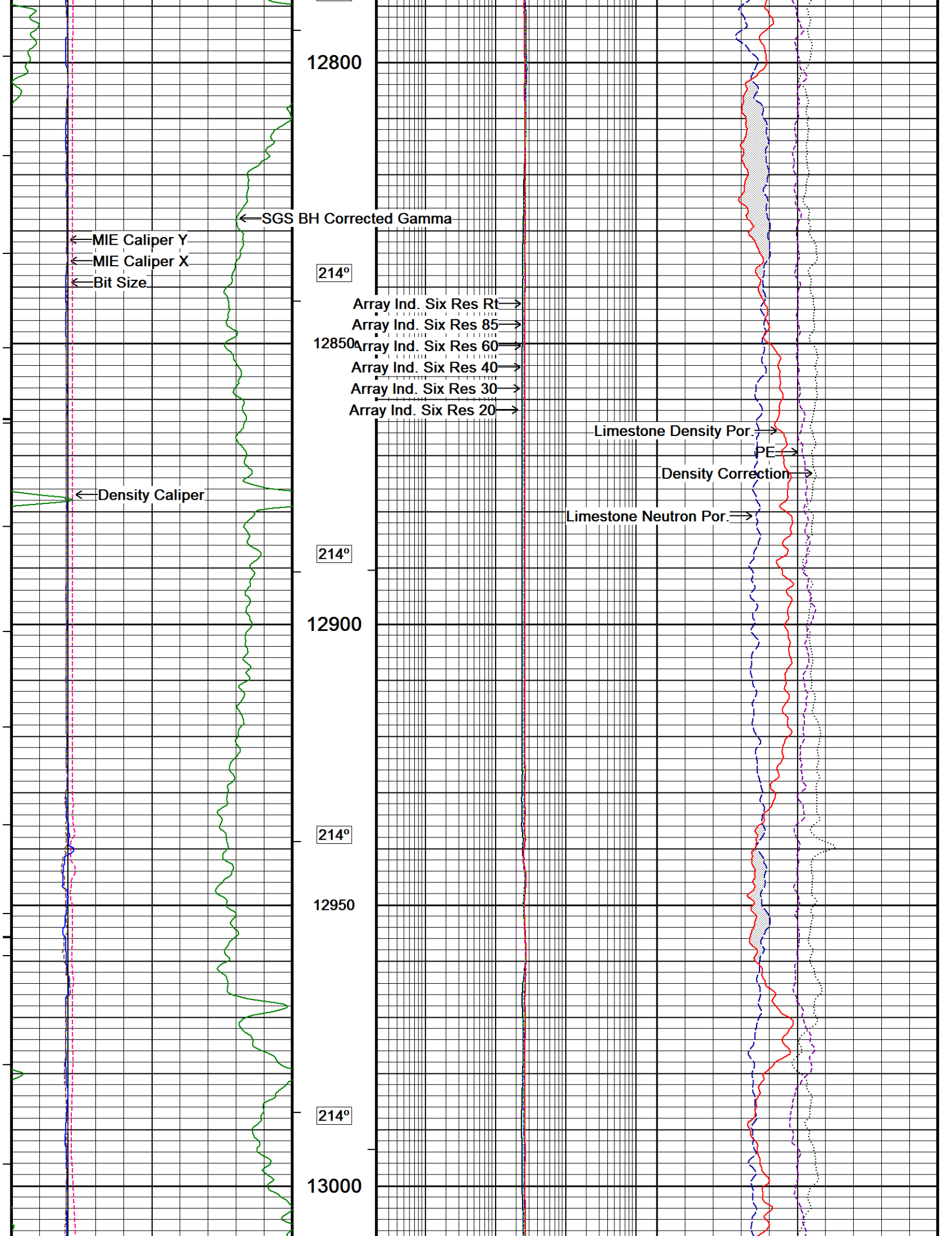


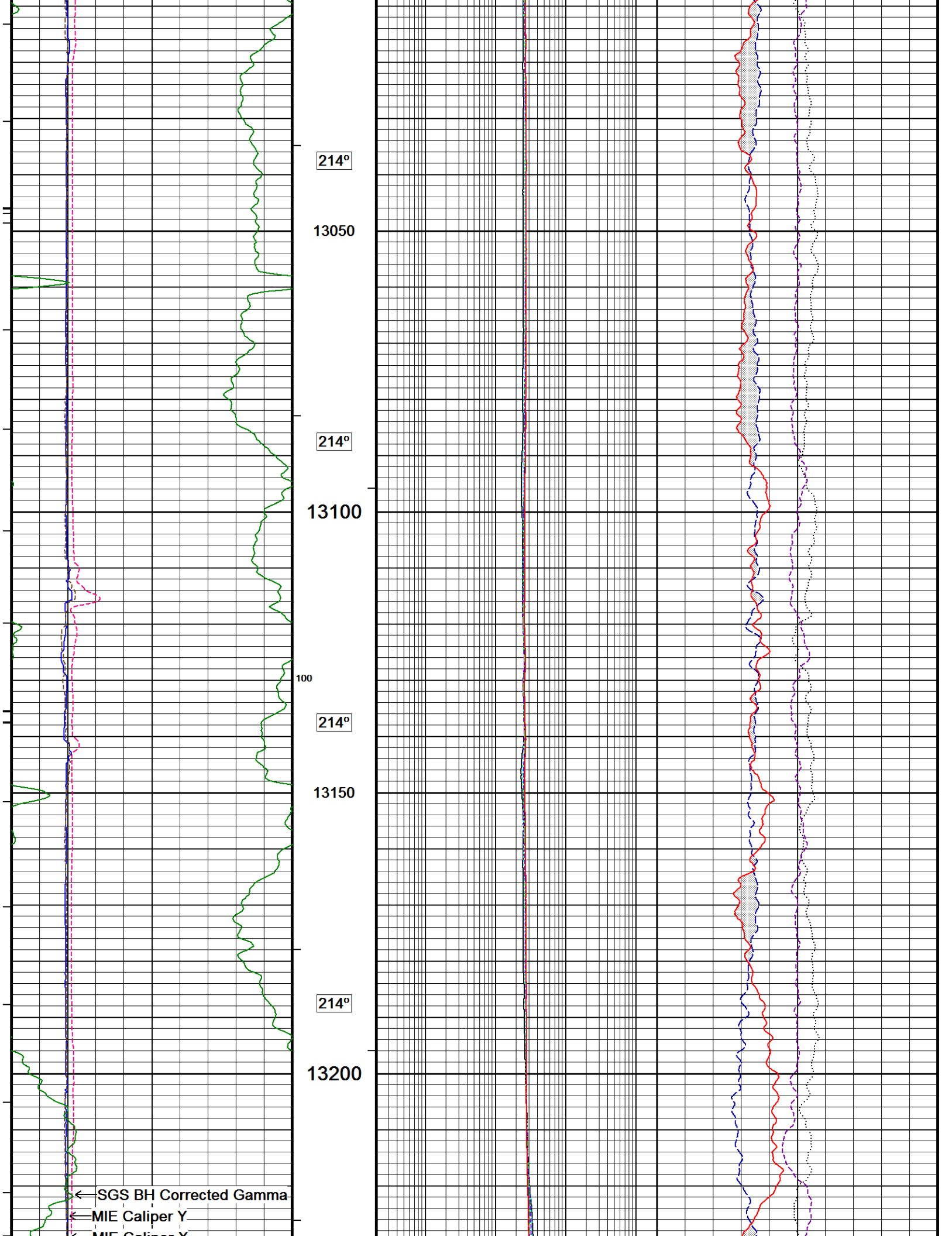


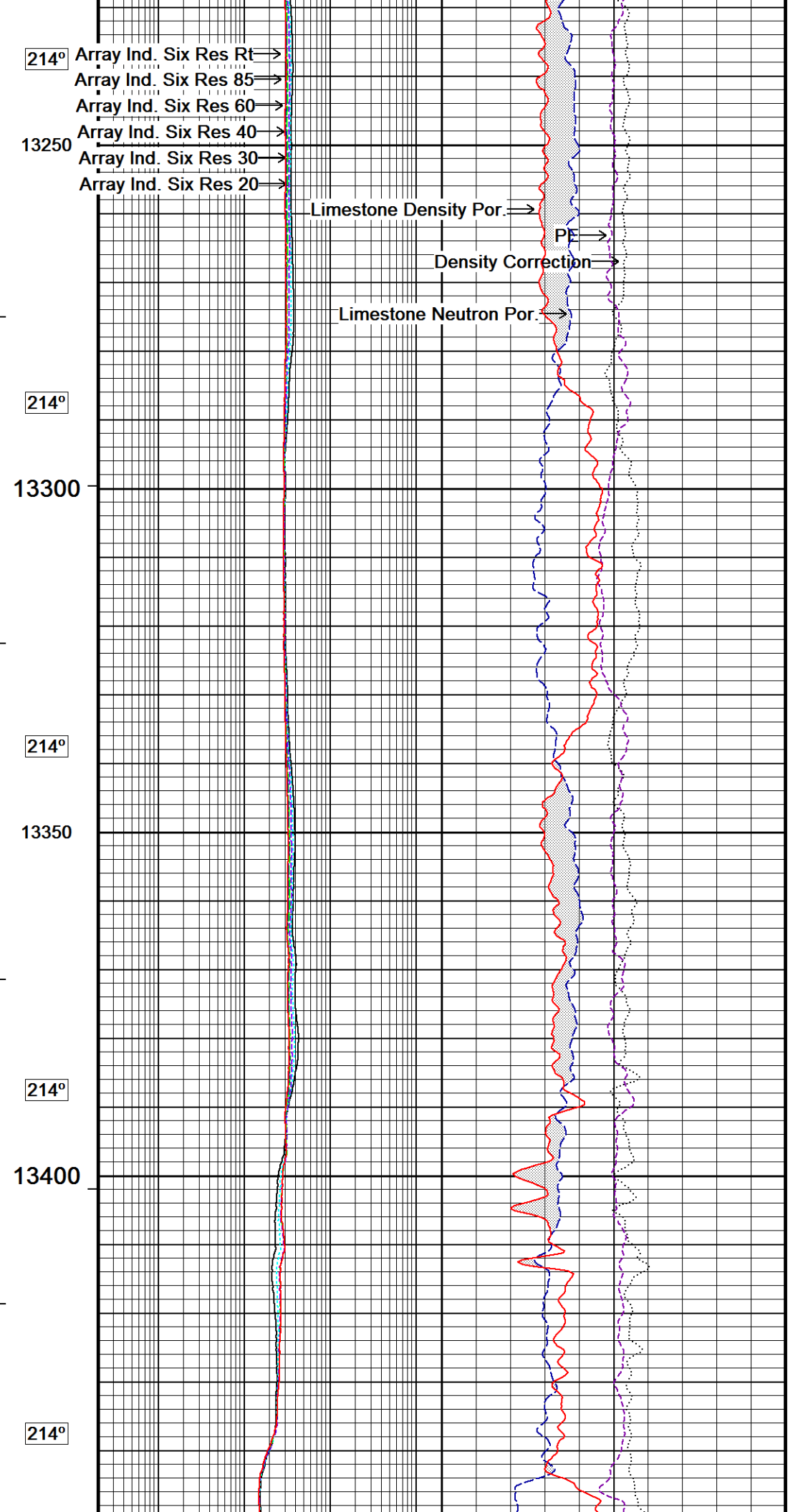
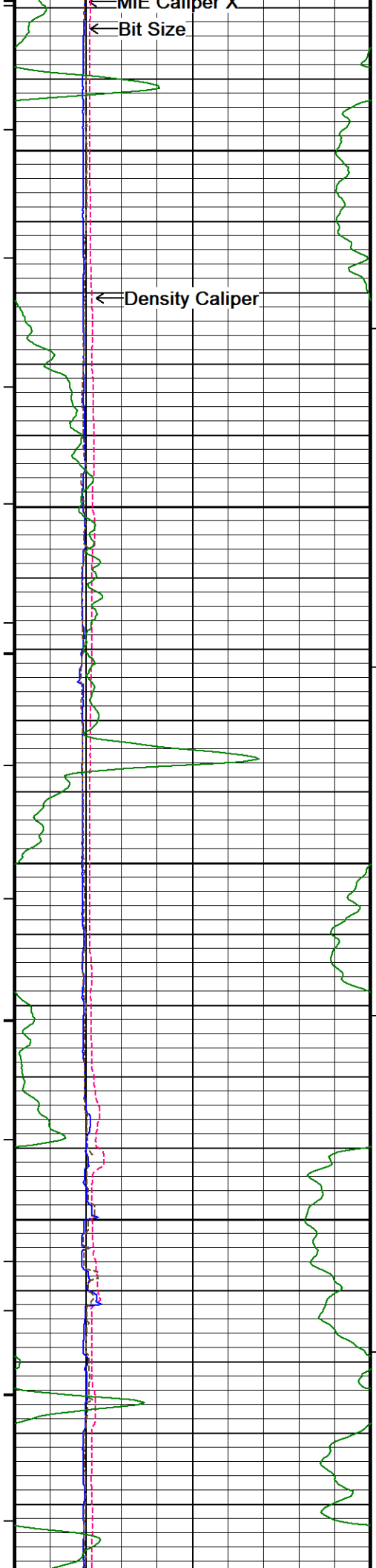


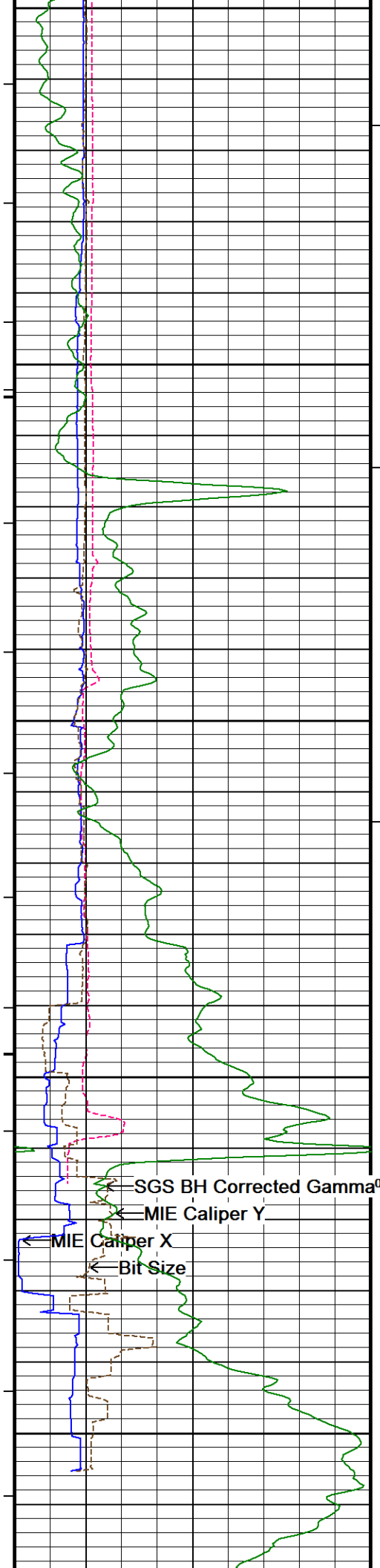




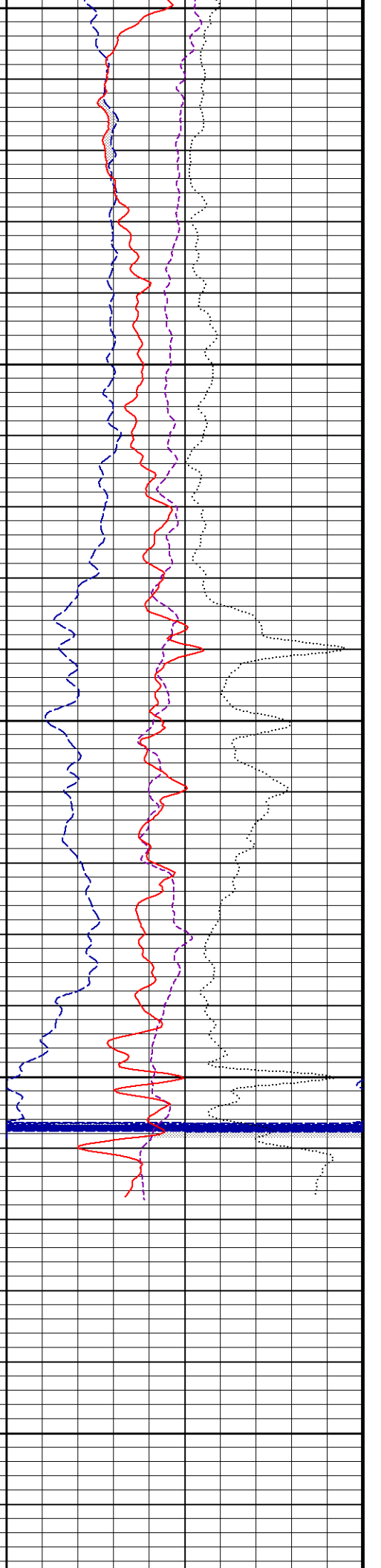
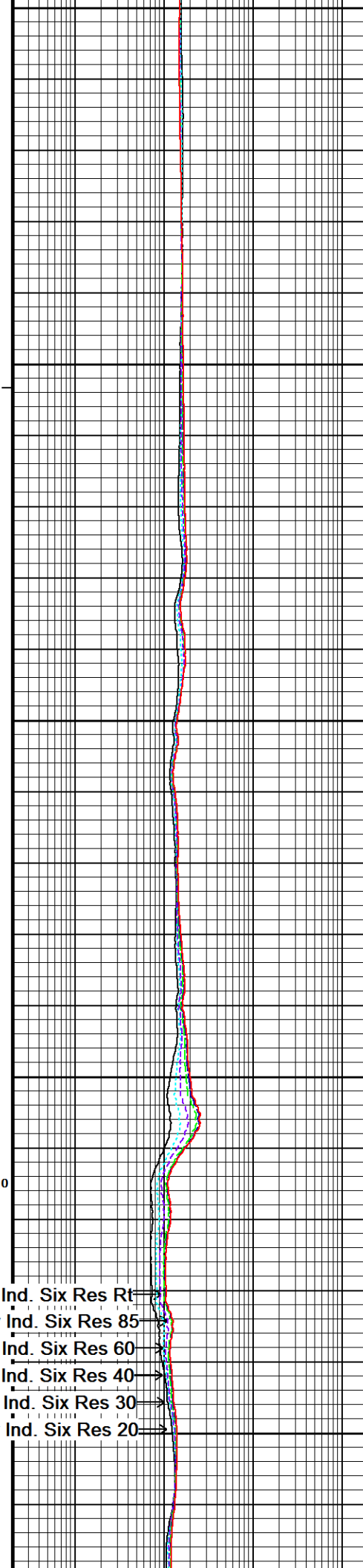




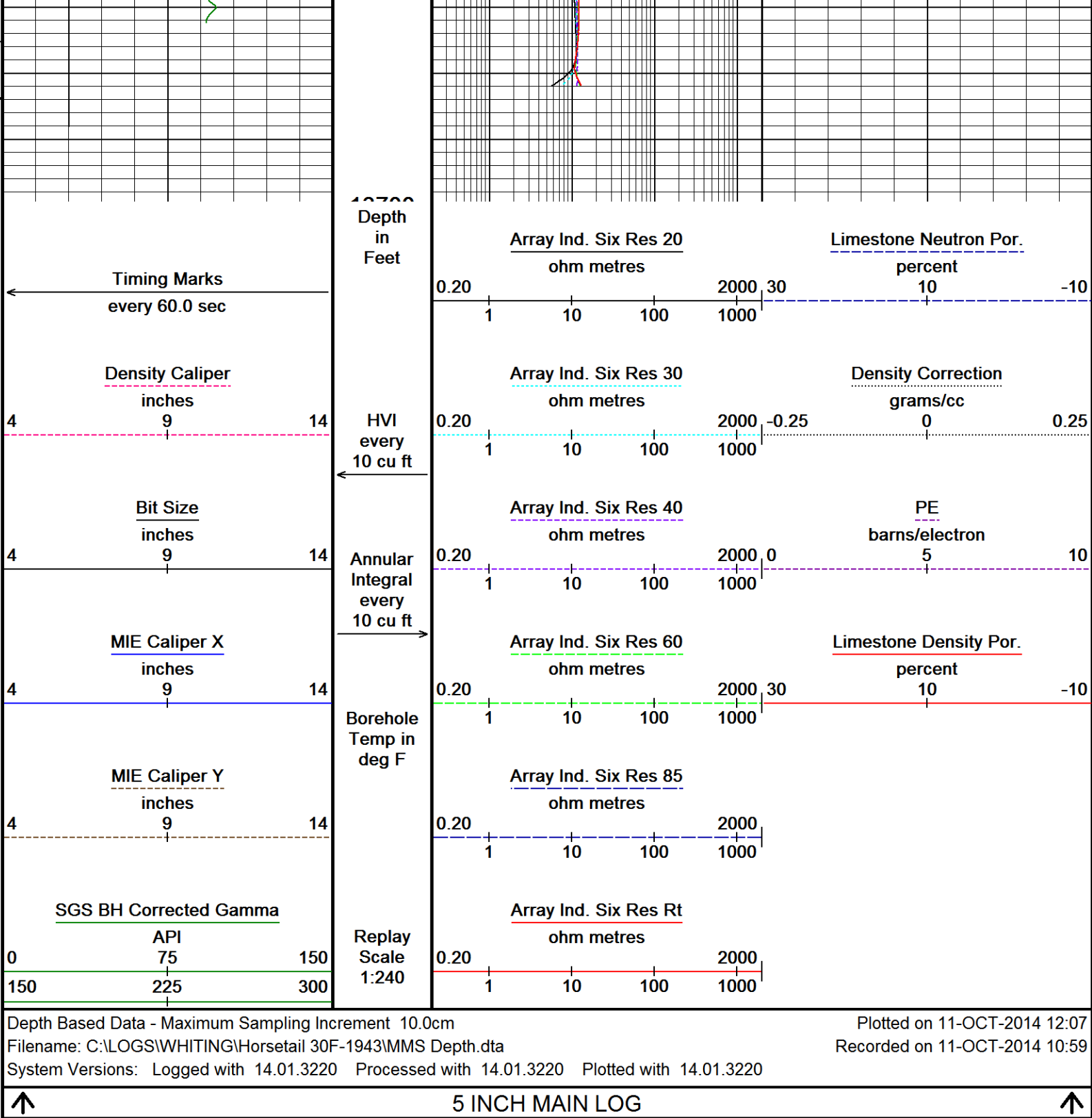




13450  
214°  
13500  
217°  
13550  
219°  
13600  
0  
13650



Array Ind. Six Res Rt  
Array Ind. Six Res 85  
Array Ind. Six Res 60  
Array Ind. Six Res 40  
Array Ind. Six Res 30  
13650y Ind. Six Res 20



## BEFORE SURVEY CALIBRATION

C:\LOGS\WHITING\Horsetail 30F-1943\MMS Depth.dta

General Constants All 000

Last Edited on 11-OCT-2014,09:40

### General Parameters

Mud Resistivity	1.650	ohm-metres
Mud Resistivity Temperature	63.700	degrees F
Water Level	0.000	feet
Borehole Fluid Processing	Wet Hole	

### Hole/Annular Volume and Differential Caliper Parameters

HVOL Method	Single Caliper
HVOL Caliper 1	Density Caliper

Strain Gauge Constants MMS-F.A 246 Last Edited on

Gamma Calibration MGS-D.A 220

Gamma Constants MGS-D.A 220 Last Edited on 09-OCT-2014,19:14

SP Calibration MGS-D.A 220

## High Resolution Temperature Calibration MGS-D.A 220

High Resolution Temperature Constants MGS-D.A 220 Last Edited on 10-OCT-2014,22:06

Neutron Calibration MDN-B.J 372 Base Calibration on 01-OCT-2014 13:06

Base Calibration		Measured		Calibrated (cps)	
	Near	Far		Near	Far
	2881	87		3714	110
Ratio	33.018			33.764	
Field Calibrator at Base				Calibrated (cps)	
				2377	3500
Ratio				0.679	

Field Check	Calibrated (cps)	
	2390	3561
Ratio	0.671	

Neutron Constants MDN-B.J 372			Last Edited on 10-OCT-2014,22:07
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	Constant Value		
Formation Fluid Salinity	0.00	kppm	
Barite Mud Correction	Not Applied		

Caliper Calibration MIE-A.J 244			Base Calibration on 25-JUL-2014 11:44		
			Field Calibration on 02-OCT-2014 16:29		
Base Calibration					
Reading No	Pads 1-5 Meas.	Pads 3-7 Meas.	Calibrator Size (in)		
1	26004	25378	5.97		
2	36167	35519	7.96		
3	46431	45371	9.86		
4	57324	56752	11.92		
5	0	0	0.00		
Reading No	Pad 2 Meas.	Pad 4 Meas.	Pad 6 Meas.	Pad 8 Meas.	Calibrator Size (in)
1	26012	25269	23347	25203	5.97
2	34599	33642	31769	34020	7.96
3	42691	41621	39973	42619	9.86
4	52950	51129	49036	52308	11.92
5	0	0	0	0	0.00
Field Calibration					
	Measured	Measured	Actual		
	Pads 1-5 Caliper(in)	Pads 3-7 Caliper(in)	Caliper(in)		
	5.84	5.85	5.97		
	Measured	Measured	Measured	Measured	Actual
	Pad 2 Caliper(in)	Pad 4 Caliper(in)	Pad 6 Caliper(in)	Pad 8 Caliper(in)	Caliper(in)
	2.81	2.98	3.15	3.00	5.97

Caliper Constants MIE-A.J 244			Last Edited on 25-JUL-2014,11:39
Caliper Difference for BRKT	0.120	inches	

Accelerometer Parameters MIE-A.J 244			
Date Of Last Accelerometer Calibration	13-FEB-2013,14:31		
	X Accelerometer	Y Accelerometer	Z Accelerometer
Slope	-1.103572	-1.107641	-1.103778
Offset	-0.006989	0.006286	-0.003996

Accelerometer Constants MIE-A.J 244				Last Edited on 02-OCT-2014,16:25	
Accelerometer Calibrator Number		000			
Accelerometer Temperature Characterisation					
X Accelerometer					
Serial Number		1016			
Calibration Date		12-Apr-2011			
		B0	B1	B2	B3
Bias(g)	0.00000e+000	1.93698e-005	-7.60293e-010	6.54727e-011	
	SE0	SE1	SE2	SE3	

Scale Factor(mA/g)	3.00000e+000	2.59257e-004	6.13375e-007	-3.90888e-010
Y Accelerometer				
Serial Number	973			
Calibration Date	19-Jan-2011			
	B0	B1	B2	B3
Bias(g)	0.00000e+000	1.95276e-005	-1.88058e-008	2.74122e-010
	SF0	SF1	SF2	SF3
Scale Factor(mA/g)	3.00000e+000	2.75268e-004	3.53140e-007	7.52116e-010
Z Accelerometer				
Serial Number	1032			
Calibration Date	18-Apr-2011			
	B0	B1	B2	B3
Bias(g)	0.00000e+000	-1.14960e-005	3.94288e-009	8.97135e-011
	SF0	SF1	SF2	SF3
Scale Factor(mA/g)	3.00000e+000	2.88058e-004	2.44833e-007	8.38007e-010
Magnetometer Parameters MIE-A.J 244				
Date Of Last Magnetometer Calibration		22-AUG-2013,09:56		
	X Magnetometer	Y Magnetometer	Z Magnetometer	
Slope	-1.000000	-1.011965	-0.991340	
Offset	0.010303	-0.015788	0.008269	
Magnetometer Constants MIE-A.J 244				Last Edited on
Magnetometer Calibrator Number		000		
Navigation Constants MIE-A.J 244				Last Edited on 10-OCT-2014,22:11
Magnetic Declination		7.92	degrees	East
Imager Pad Check MIE-A.J 244				Field Check on
Pad 1	Pad Not Tested	Pad 5	Pad Not Tested	
Pad 2	Pad Not Tested	Pad 6	Pad Not Tested	
Pad 3	Pad Not Tested	Pad 7	Pad Not Tested	
Pad 4	Pad Not Tested	Pad 8	Pad Not Tested	
Compact Micro Imager Constants MIE-A.J 244				Last Edited on 25-JUL-2014,11:39
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			
Induction Calibration MAI-B.A 289				Base Calibration on 09-OCT-2014,22:26 Field Check on 09-OCT-2014 22:28
Base Calibration				
Test Loop Calibration		Measured	Calibrated (mmho/m)	
Channel	Low	High	Low	High
1	16.7	472.3	9.3	966.2
2	5.8	381.9	7.6	821.4
3	3.2	261.2	5.2	566.0
4	1.9	138.0	2.6	279.2
Array Temperature		76.1	Deg F	
Channel	Base Check (mmho/m)		Field Check (mmho/m)	
	Low	High	Low	High
1	0.0	0.0	13.0	3835.7
2	0.0	0.0	30.8	3521.5
3	0.0	0.0	28.8	3021.0
4	0.0	0.0	19.0	1997.2

Deep	0.0	0.0	16.6	1912.9
Medium	0.0	0.0	43.1	4040.1
Shallow	0.0	0.0	47.3	5283.2

Array Temperature	0.0	53.9	Deg F
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Induction Constants MAI-B.A 289	Last Edited on 09-OCT-2014,22:41
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Induction Model	RtAP-WBM		
Caliper for Borehole Corr.	Density Caliper		
Hole Size for Borehole Correction	N/A	inches	
Tool Centred	No		
Stand-off Type	Pineapple		
Stand-off	0.49	inches	
Number of Fins on Stand-off	5.0000		
Stand-off Fin Angle	72.00	degrees	
Stand-off Fin Width	1.3878	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.A 289	Field Calibration on 19-NOV-2008,15:30
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	Measured	Calibrated(Deg C)
Lower	10.00	10.00
Upper	100.00	100.00

High Resolution Temperature Constants MAI-B.A 289	Last Edited on
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Pre-filter Length	11
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Photo Density Calibration MPD-C.J 378	Base Calibration on 01-OCT-2014 11:53
	Field Check on 09-OCT-2014 19:05

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				
	1146.8	1224.5		

PE Calibration

PE Calibration		Measured		Calibrated
Base Calibration		WS	WH	Ratio
Background		209	1030	
Reference 1		24056	55936	0.434
Reference 2		6396	22017	0.295
Field Check at Base				
	209.3	1029.7		
Field Check				
	210.6	1030.1		

Density Constants MPD-C.J 378		Last Edited on 10-OCT-2014,22:07	
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	1.22	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		

Caliper Calibration MPD-C.J 378			Base Calibration on 01-OCT-2014 12:42
			Field Calibration on 09-OCT-2014 18:46
Base Calibration			
Reading No	Measured	Calibrator Size (in)	
1	12771	4.01	
2	21027	5.97	
3	29312	7.96	
4	37448	9.86	
5	46707	11.92	
6	N/A	N/A	
Field Calibration			
	Measured Caliper (in)	Actual Caliper (in)	
	7.93	7.96	

Spectral Gamma Calibration			SGS-E.J 128			Base Calibration on 25-SEP-2014 17:21			Field Calibration on 03-OCT-2014 16:24		
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					
		K %		U ppm		Th ppm					
	Concentrations	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					
		K %		U ppm		Th ppm					

Concentrations

K %

0.0

U ppm

16.6

Th ppm

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

## 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 09-OCT-2014,19:31

Background Calibrator Number	440	
Mixture Calibrator Number	450	
Potassium Calibrator Number	500	
Uranium Calibrator Number	506	
Thorium Calibrator Number	503	
Mud Density	1.22	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl		kppm
K Mud Type	Chloride	
K Mud Concentration	0.29	%

## DOWNHOLE EQUIPMENT

C:\LOGS\WHITING\Horsetail 30F-1943\MMS Depth.dta

Shuttle Running Tool 3.5"

SRT-A.A 59 LG: 6.62 ft WT: 37.5 lb OD: 2.520 in

Compact Linker 400 EXT

MLK-A 2 LG: 14.23 ft WT: 30.9 lb OD: 2.240 in

Compact Linker 200 STD

MLK-A 1 LG: 8.52 ft WT: 30.9 lb OD: 2.240 in

SHA-J.A Compact Swivel Head Adaptor

SHA-J.A 397 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 662 LG: 2.14 ft WT: 15.4 lb OD: 2.244 in

MBS-E.A 200x Compact Battery Sub



MBS-F.A 200V Compact Battery Sub  
MBS-F.A 123 LG: 17.06 ft WT: 123.5 lb OD: 2.240 in

Compact Memory Sub F.A  
MMS-F.A 246 LG: 5.20 ft WT: 37.5 lb OD: 2.244 in

Compact Tool Isolator sub.  
MTI-C.A 146 LG: 1.54 ft WT: 13.2 lb OD: 2.244 in

Compact Short Gamma  
MGS-D.A 220 LG: 3.41 ft WT: 24.3 lb OD: 2.244 in

Compact Collar Locator  
MCL-C.A 129 LG: 3.17 ft WT: 26.5 lb OD: 2.244 in

SKJ-E.B Compact Knuckle Joint  
SKJ-E.B 610 LG: 2.17 ft WT: 24.3 lb OD: 2.244 in

SHA-J.A Compact Swivel Head Adaptor  
SHA-J.A 314 LG: 2.30 ft WT: 22.0 lb OD: 2.244 in

MIS-D.B Compact Inline Bowspring sub  
MIS-D.B 695 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 734 LG: 5.70 ft WT: 33.1 lb OD: 2.240 in

SHA-J.B Compact Swivel Head Adaptor  
SHA-J.B 682 LG: 2.30 ft WT: 22.0 lb OD: 2.244 in

SKJ-E.B Compact Knuckle Joint  
SKJ-E.B 537 LG: 2.17 ft WT: 24.3 lb OD: 2.244 in

MIS-E.A Compact Inline Standoff sub  
MIS-E.A 363 LG: 2.14 ft WT: 15.4 lb OD: 2.244 in

SKJ-E.A Compact Knuckle Joint  
SKJ-E.A 410 LG: 2.17 ft WT: 24.3 lb OD: 2.244 in

MIS-D.B Compact Inline Bowspring sub  
MIS-D.B 698 LG: 5.70 ft WT: 33.1 lb OD: 2.240 in

Compact MMI Memory Section  
MIM-A.J 244 LG: 4.65 ft WT: 26.5 lb OD: 2.244 in

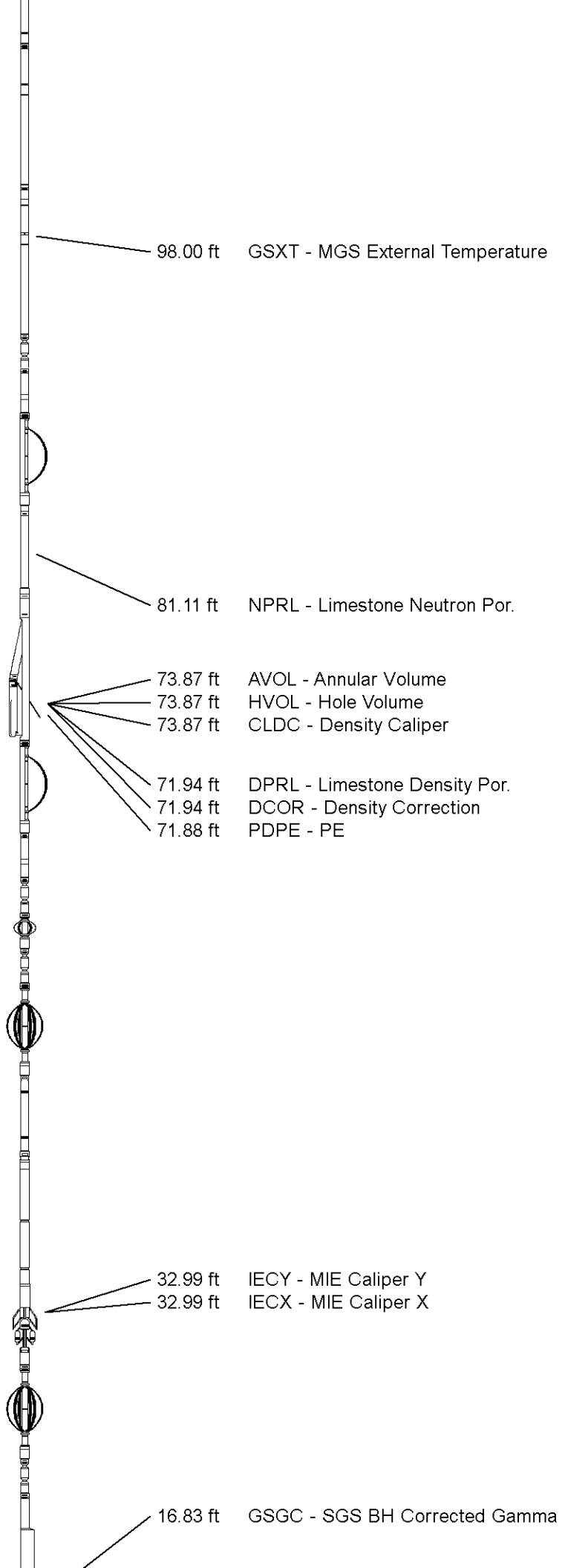
Compact MMI Electrode Section  
MIE-A.J 244 LG: 13.96 ft WT: 99.2 lb OD: 4.094 in

MIS-D.B Compact Inline Bowspring sub  
MIS-D.B 810 LG: 5.70 ft WT: 33.1 lb OD: 2.240 in

SKJ-E.A Compact Knuckle Joint  
SKJ-E.A 203 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.B Compact Knuckle Joint



SKJ-E.B 611 LG: 2.17 ft WT: 24.3 lb OD: 2.244 in

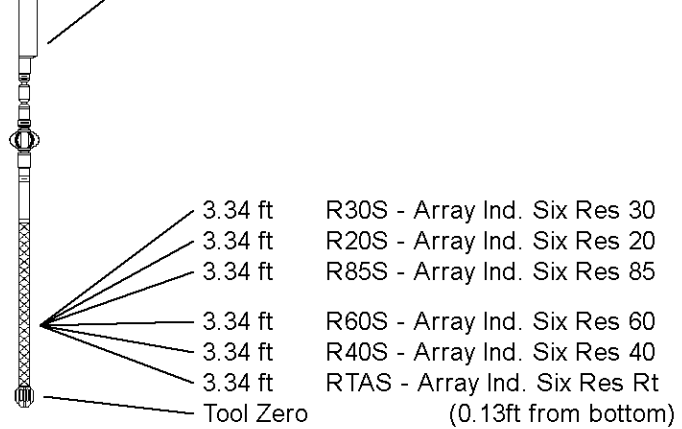
MIS-E.B Compact Inline Standoff sub

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

Compact Induction

MAI-B.A 289 LG: 10.81 ft WT: 48.5 lb OD: 2.244 in

Total Length: 160.68 ft Weight: 1135.4 lb



COMPANY	WHITING OIL AND GAS CORPORATION
WELL	HORSETAIL 30F-1943
FIELD	REDTAIL
PROVINCE/COUNTY	WELD
COUNTRY/STATE	U.S.A. / COLORADO

Elevation Kelly Bushing	4797.00	feet	First Reading	13685.00	feet
Elevation Drill Floor	4797.00	feet	Depth Driller	13702.00	feet
Elevation Ground Level	4780.00	feet	Depth Logger	13702.00	feet



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