



**PHOTO DENSITY
DUAL SPACED NEUTRON
GAMMA RAY**

COMPANY	NAVEX RESOURCES LLC		
WELL	PFAFFLY #1-12		
FIELD	NORTH CHEYENNE PROJECT/ PFAFFLY PROSPECT		
COUNTY	KIT CARSON		
STATE	COLORADO		
LOCATION	1602' FSL & 1269' FWL		
SEC 12	TWP 11S	RGE 46W	Other Services
Latitude	39.1037632		ARRAY INDUCTION
Longitude	-102.5167609		COMPENSATED SONIC
API Number	05-063-06363		
Permanent Datum GL, Elevation	4466.9 feet		
Log Measured From KB, 12.10 feet above Permanent Datum	KB 4479.00		
Drilling Measured From KB	DF 4479.00		
	GL 4466.90		
Date	26-MAY-2023		
Run Number	ONE		
Service Order	T1-230526WFT		
Depth Driller	6076.00	feet	
Depth Logger	6082.00	feet	
First Reading	6039.00	feet	
Last Reading	648.00	feet	
Casing Driller	651.00	feet	
Casing Logger	648.00	feet	
Bit Size	7.875	inches	
Hole Fluid Type	WBM		
Density / Viscosity	9.10 lb/USg	63.00 sec/qt	
PH / Fluid Loss	10.00	8.00 ml/30Min	
Sample Source	FLOWLINE		
Rm @ Measured Temp	0.71 @ 86.0	ohm-m	
Rmf @ Measured Temp	0.61 @ 86.0	ohm-m	
Rmc @ Measured Temp	1.01 @ 86.0	ohm-m	
Source Rmf / Rmc	CALC	CALC	
Rm @ BHT	0.36 @154.0	ohm-m	
Time Since Circulation	8 HRS		
Max Recorded Temp	154.00	deg F	
Equipment / Base	10001	OKC	
Recorded By	B. GRAHMANN		
Witnessed By	CRAIG ADAMS		
Rig Name	DUKE #9		

BOREHOLE RECORD			Last Edited: 26-MAY-2023 11:08
Bit Size inches	Depth From feet	Depth To feet	
12.250	0.00	651.00	
7.875	651.00	6076.00	

CASING RECORD			
Type	Size inches	Depth From feet	Shoe Depth feet
SURFACE	8.625	0.00	651.00
			Weight pounds/ft 36.00

REMARKS

WWLS VERSION 21.11

- TOOLSTRING:
RUN 1 : MAI, MSS, MFE, SKJ, MVC, MPD, MDN, MMR, MCG, SHA, MTA, CBHC

- HARDWARE USED:
MAI: 1" STANDOFF
MFE: 1" STANDOFF
MSS: 1" STANDOFFS
MDN: DUAL ECCENTERED BOWSPRING

- 2.71 G/CC DENSITY MATRIX USED TO CALCULATE POROSITY.

- ANNULAR HOLE VOLUME WITH 5.5 INCH PRODUCTION CASING FROM TD TO SURFACE CASING

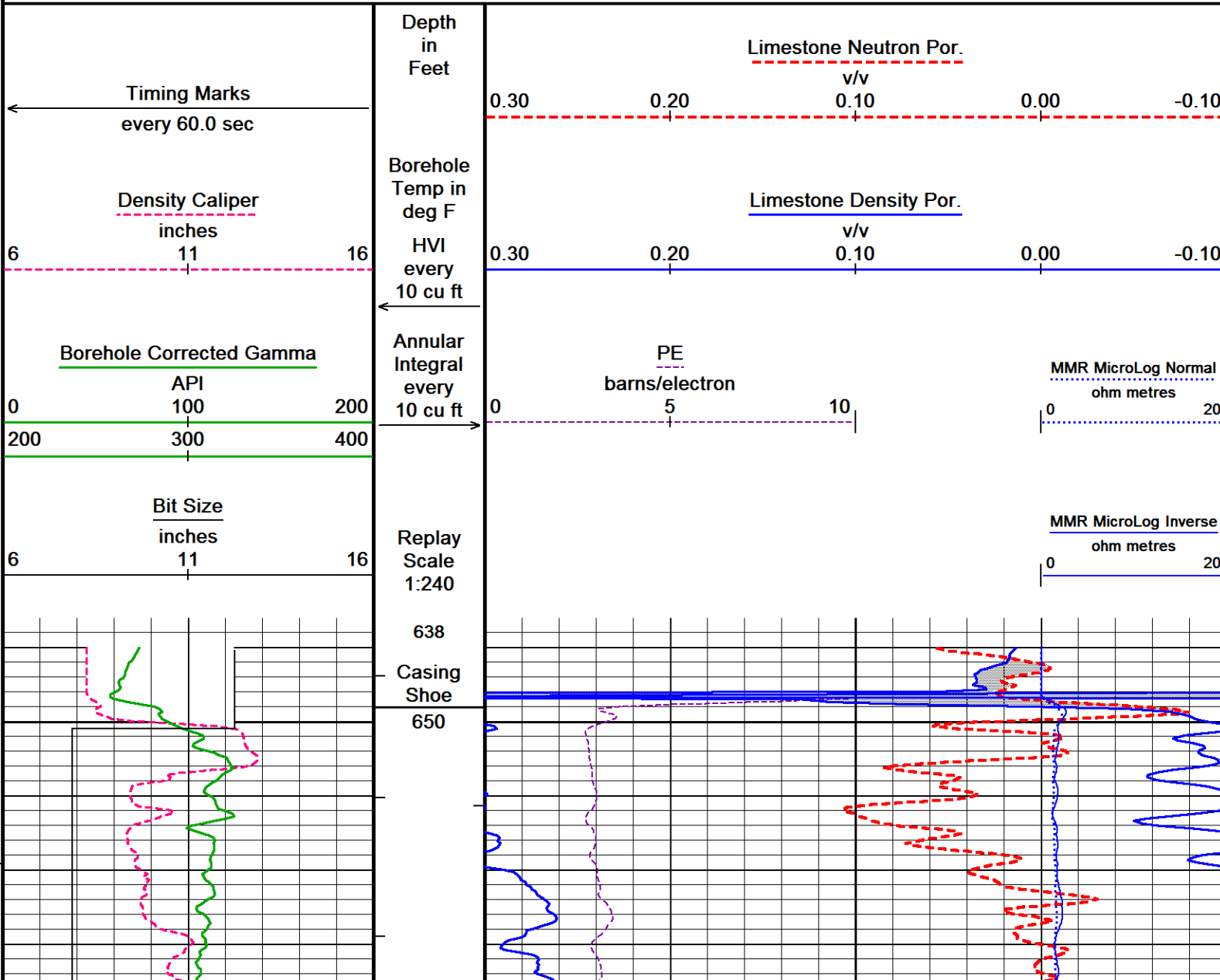
- CREW
 J. WILLIS, D. STEELE

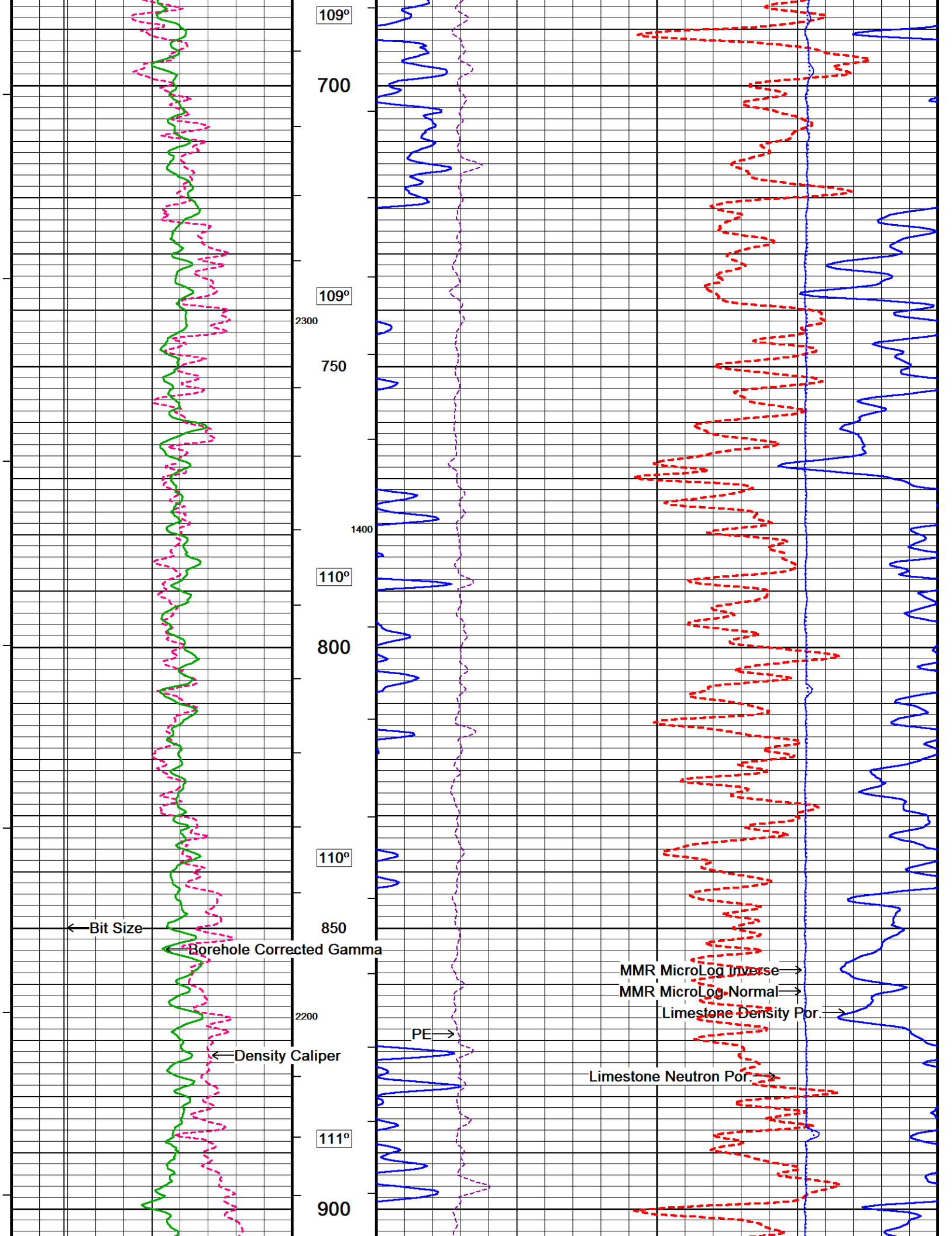
In interpreting, communicating or providing information and/or making recommendations, either written or oral, as to logs or test or other data, type or amount of material, or Work or other service to be furnished, or manner of performance, or in predicting results to be obtained, the Contractor will 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.

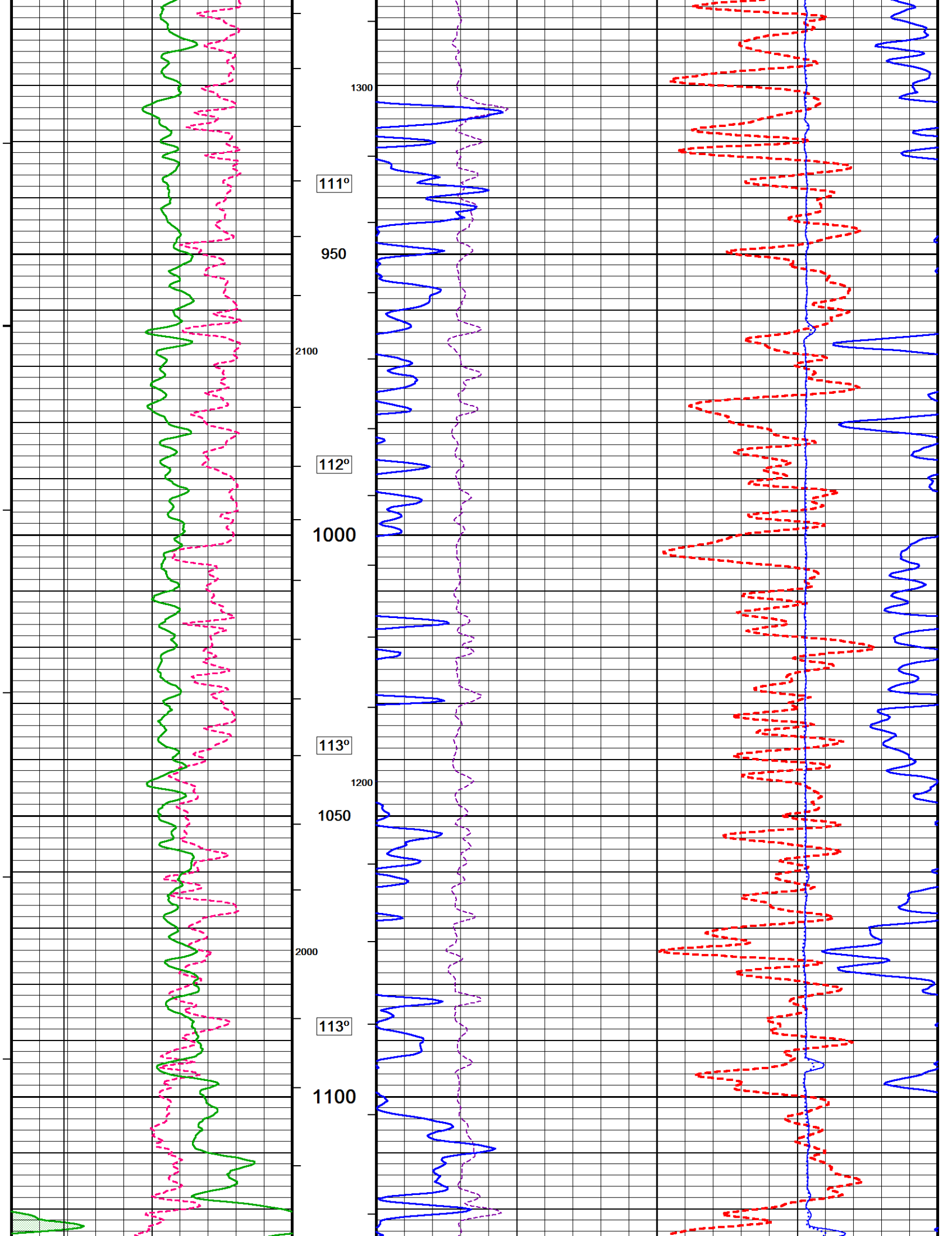
Powered by Weatherford tools, acquisition systems, and software

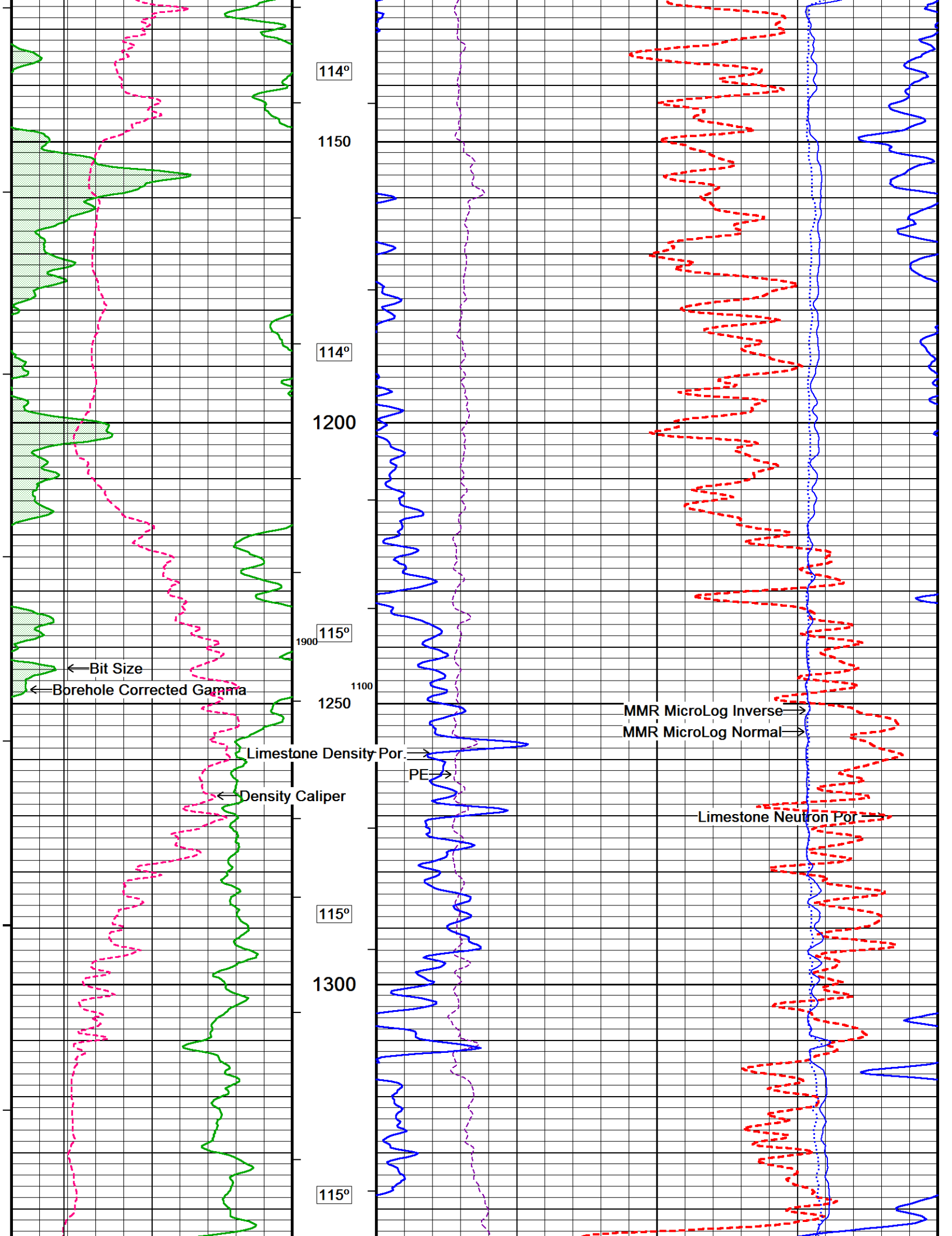
5 INCH MAIN PASS

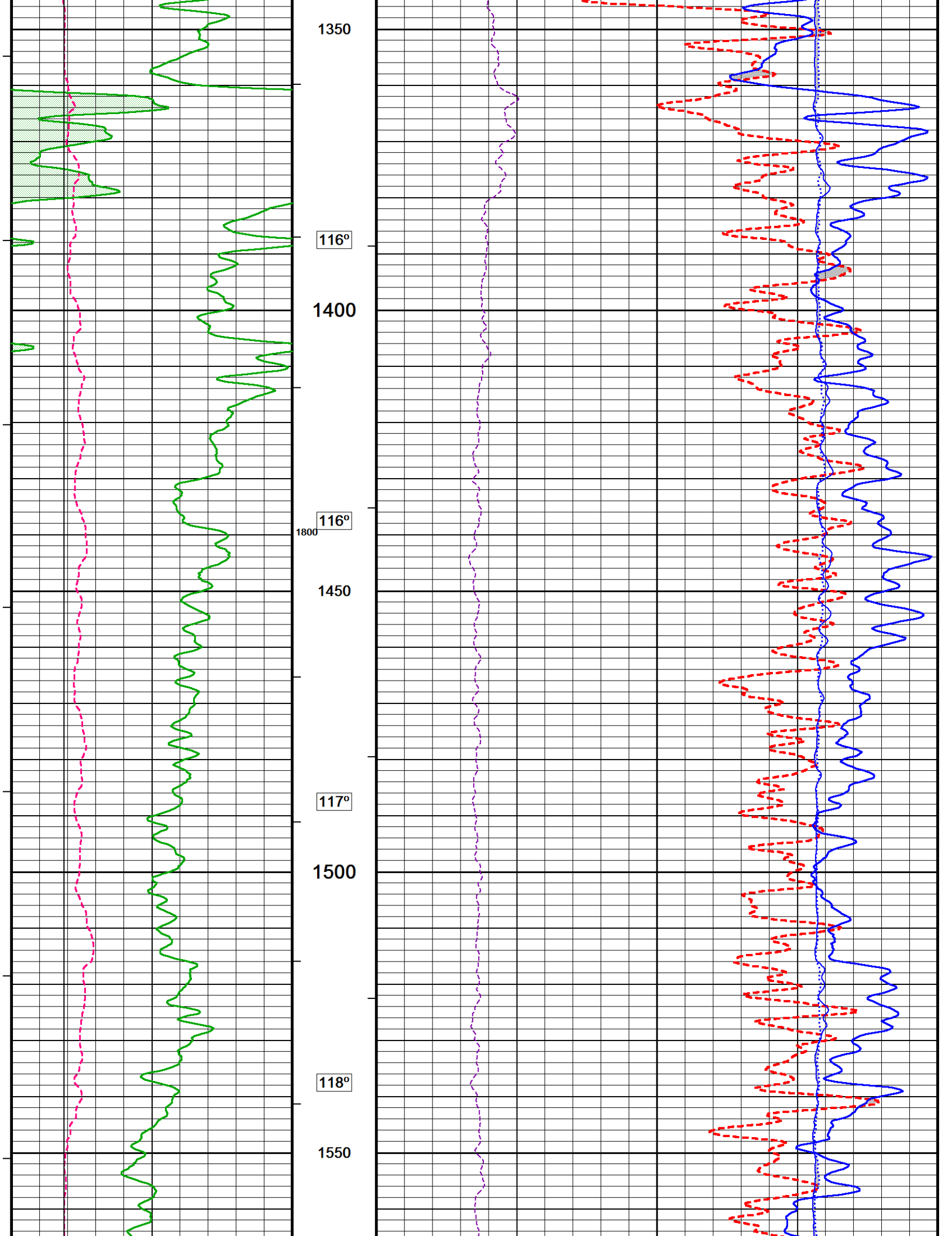
Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 26-MAY-2023 17:15
 Filename: C:_LOGS\Trek Resources\Pfaffly #1-12>MainPass.dta
 Recorded on 26-MAY-2023 13:17
 System Versions: Logged with 21.11.3172 Plotted with 21.11.3172

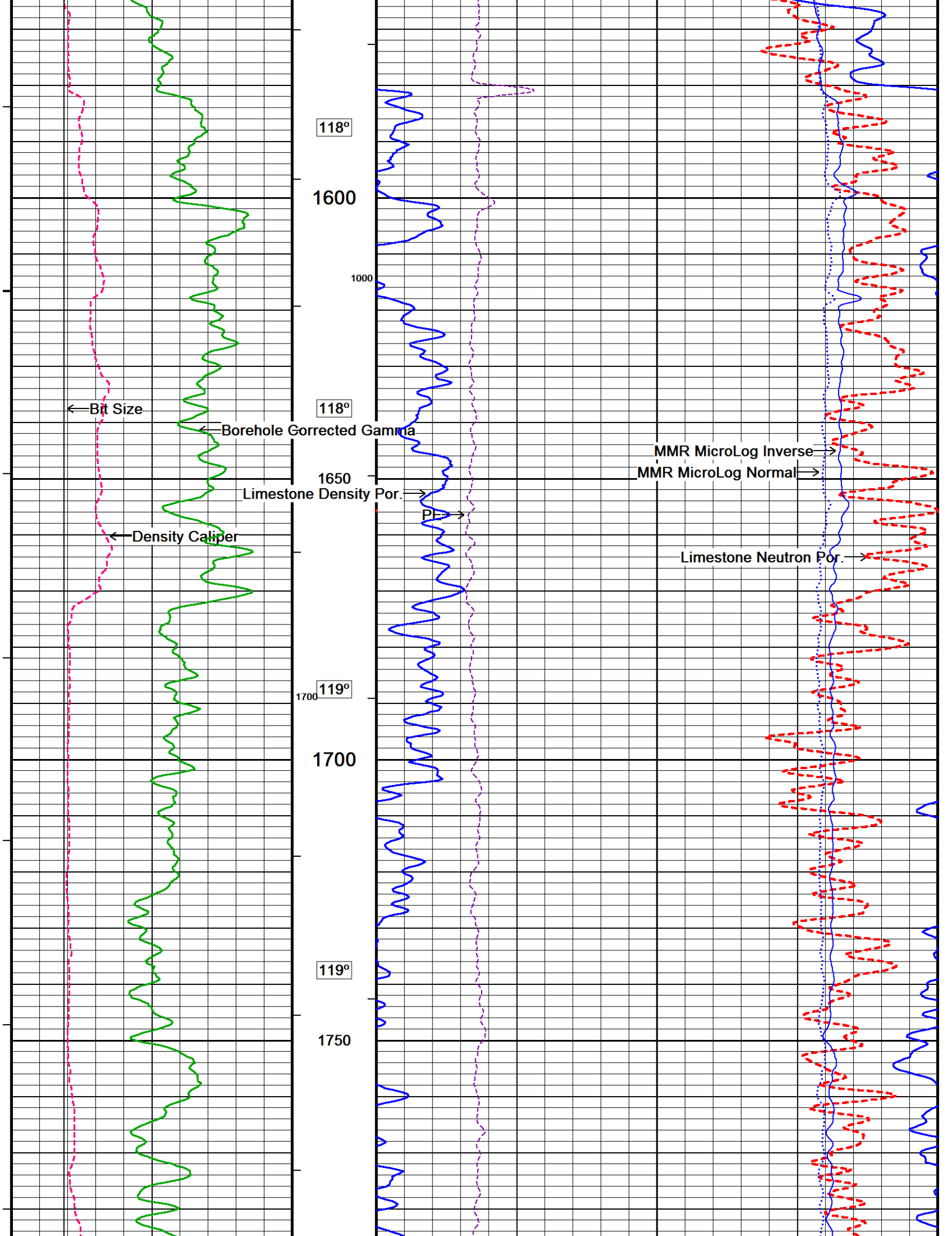


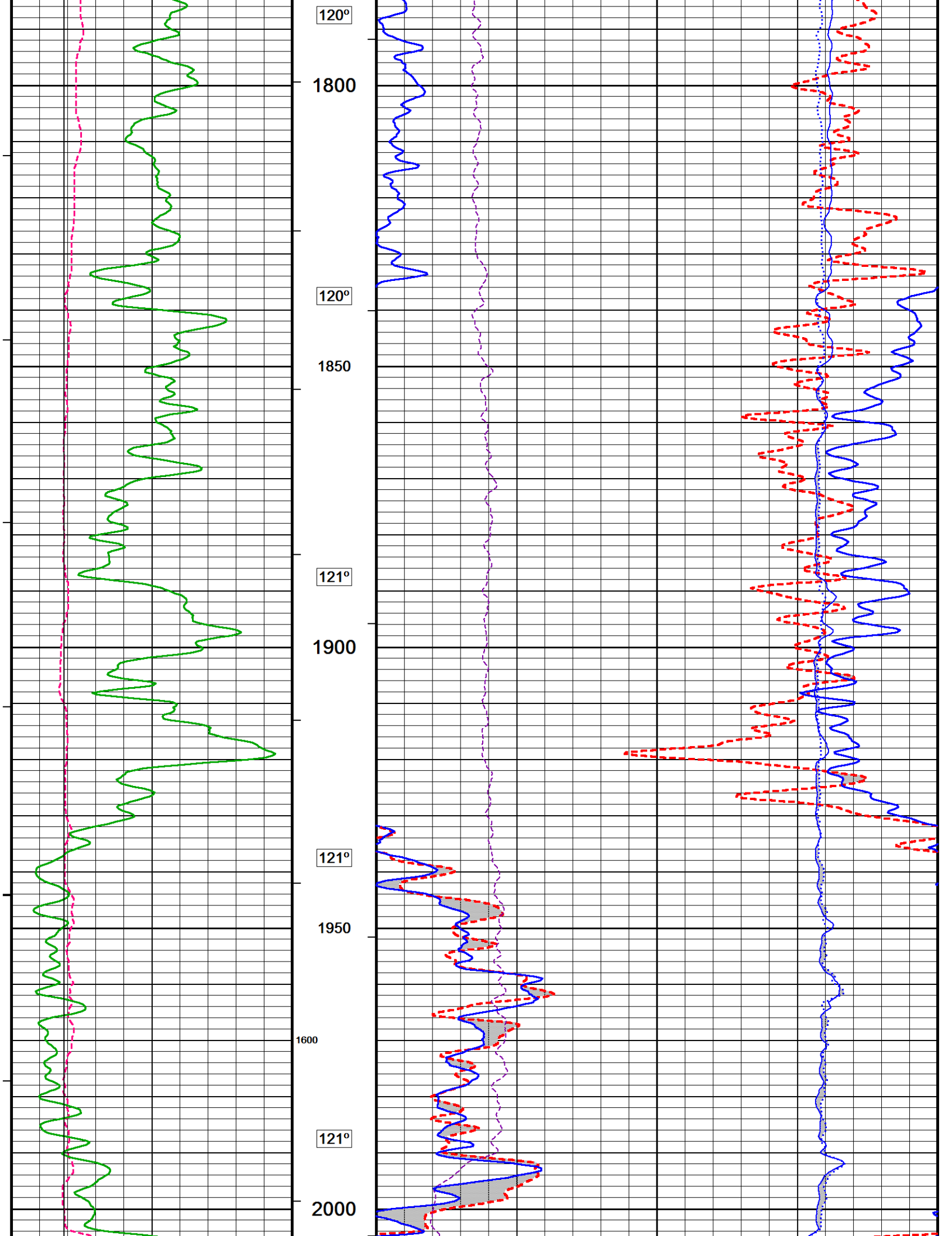


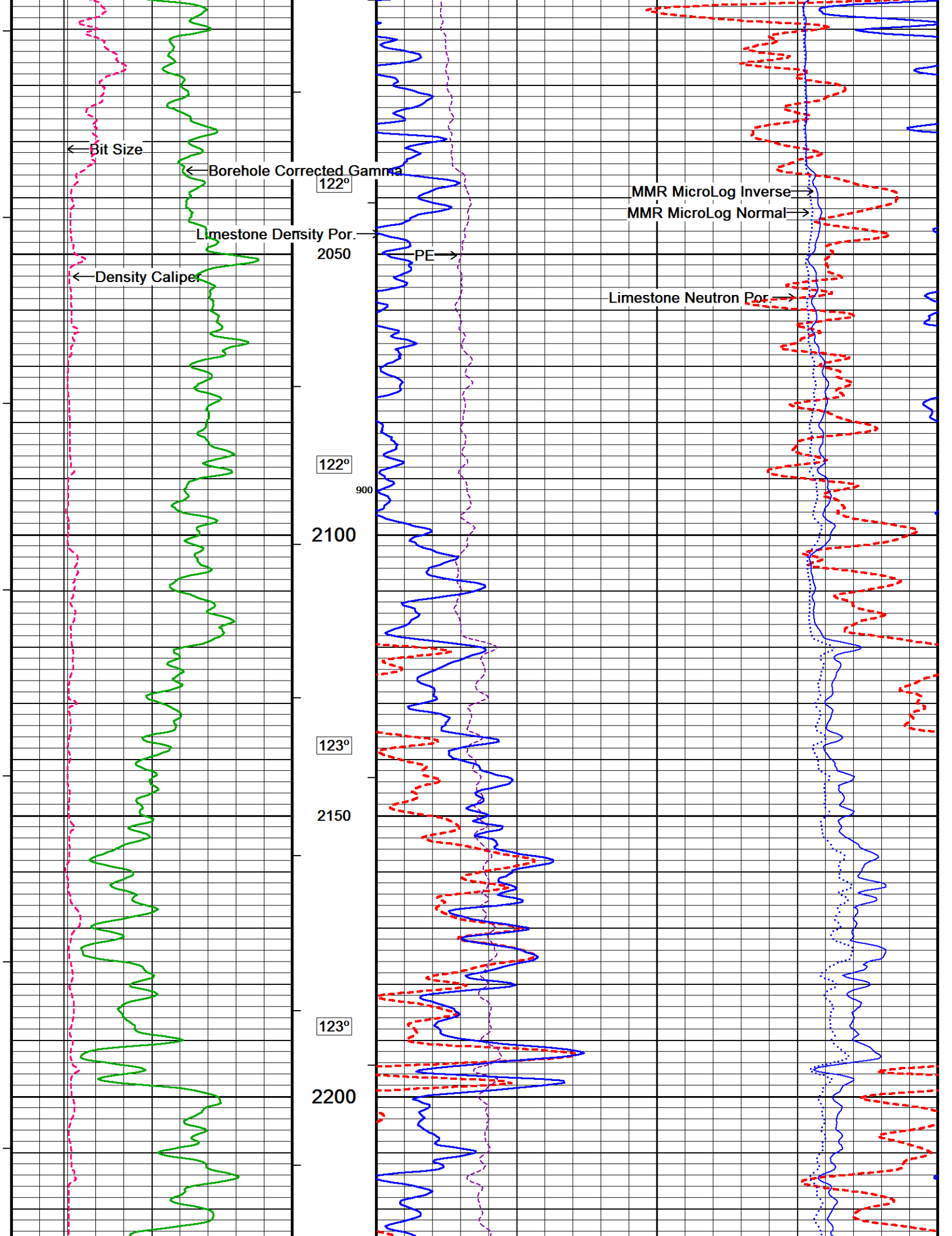


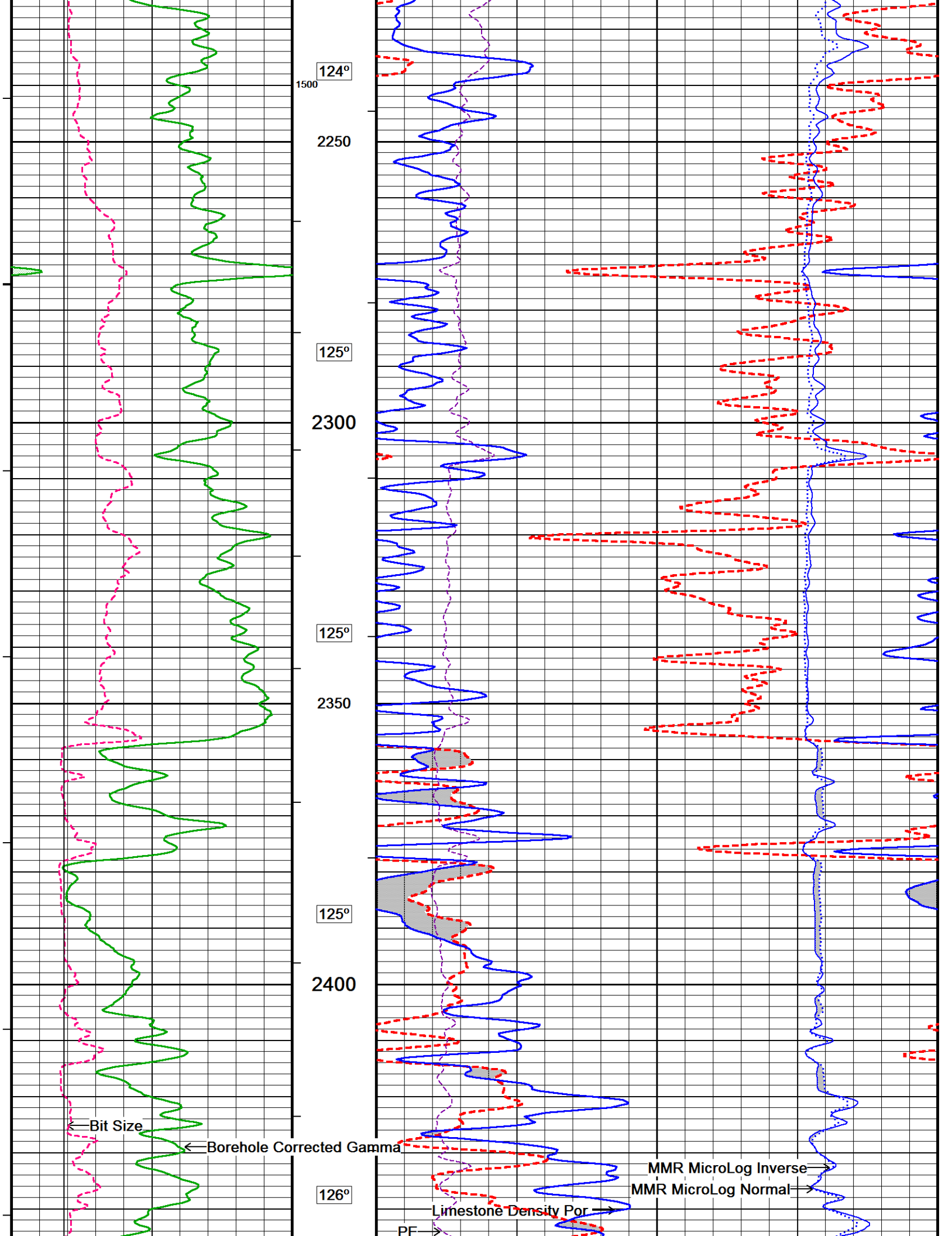












124°

125°

125°

125°

126°

1500

2250

2300

2350

2400

← Bit Size

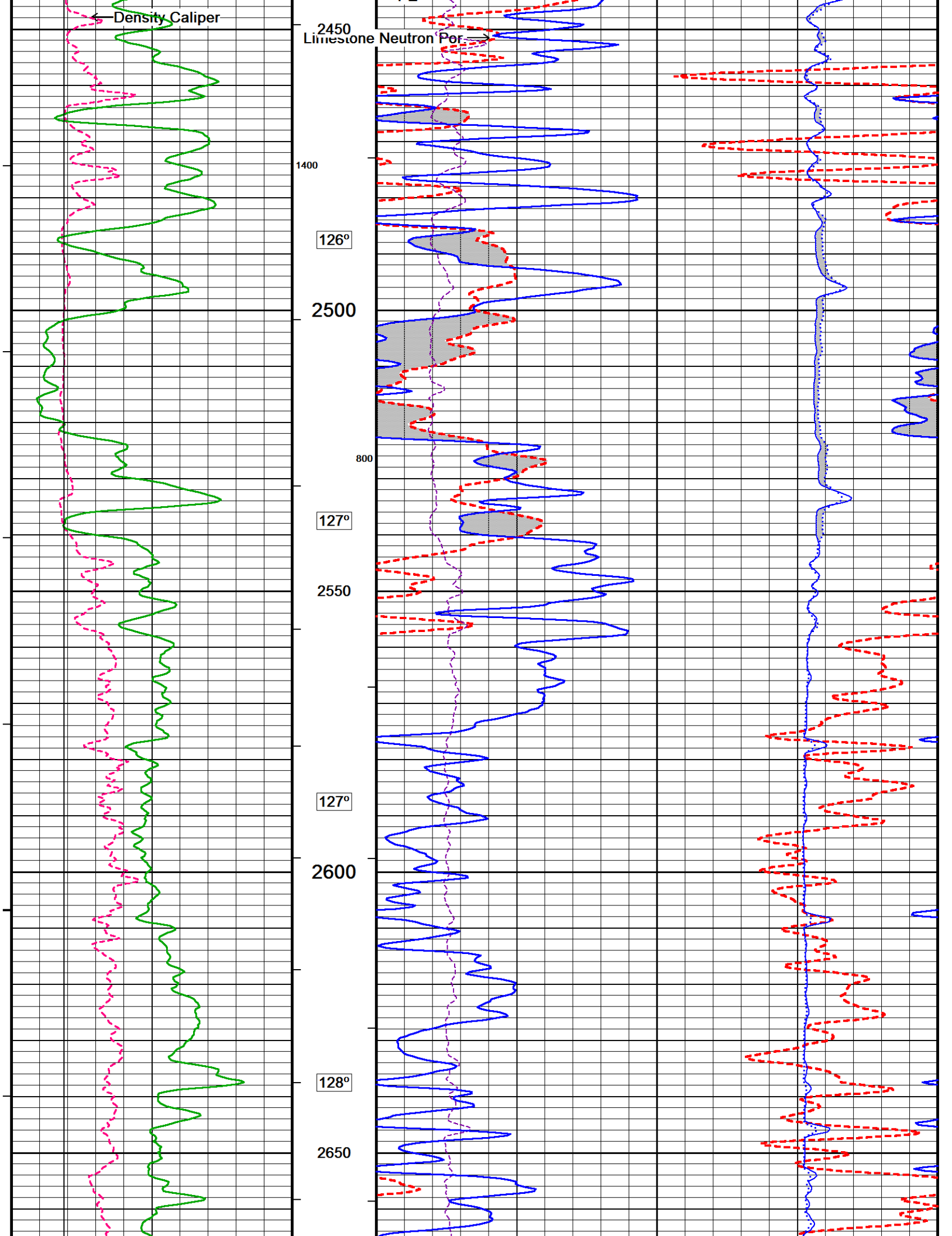
← Borehole Corrected Gamma

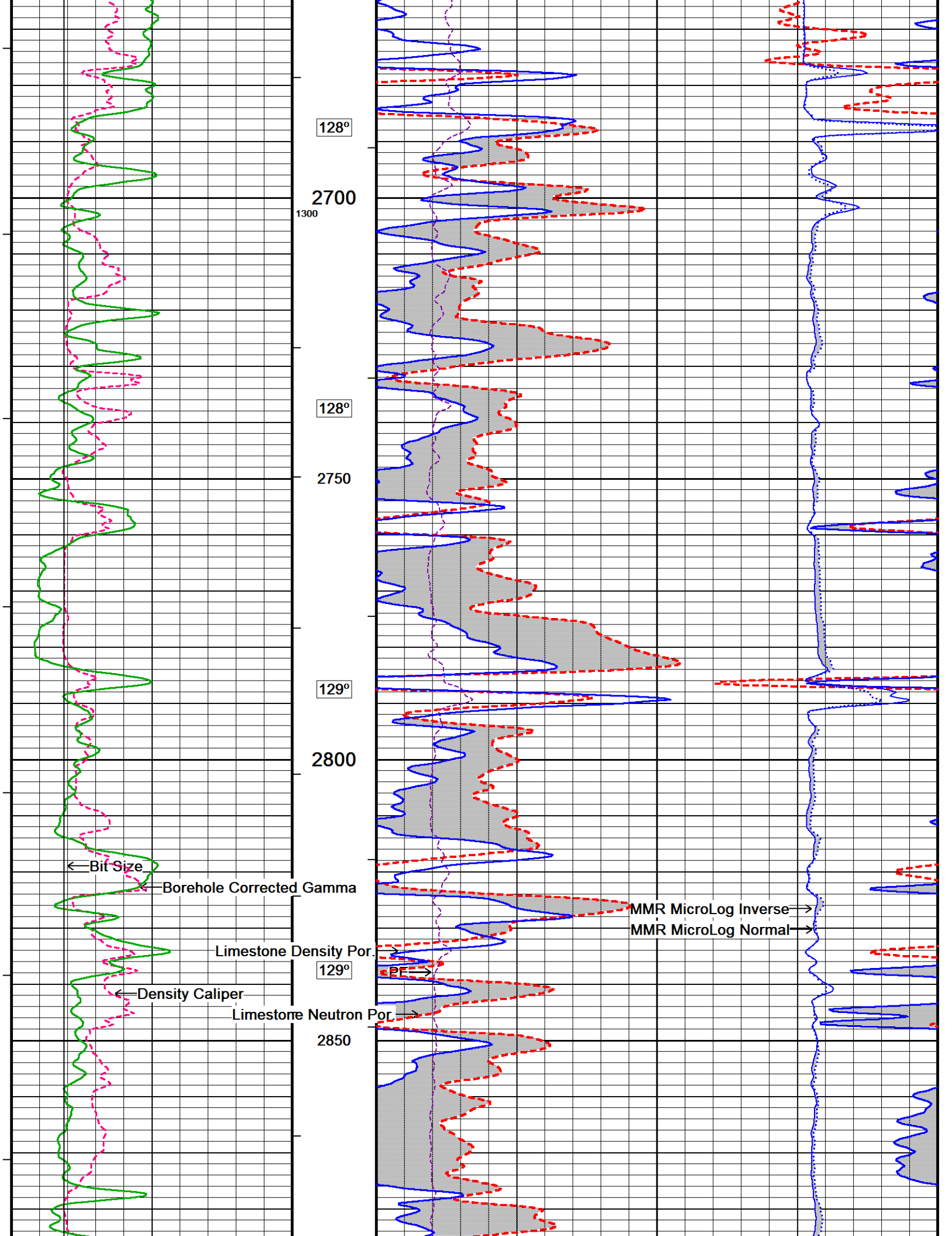
← Limestone Density Por

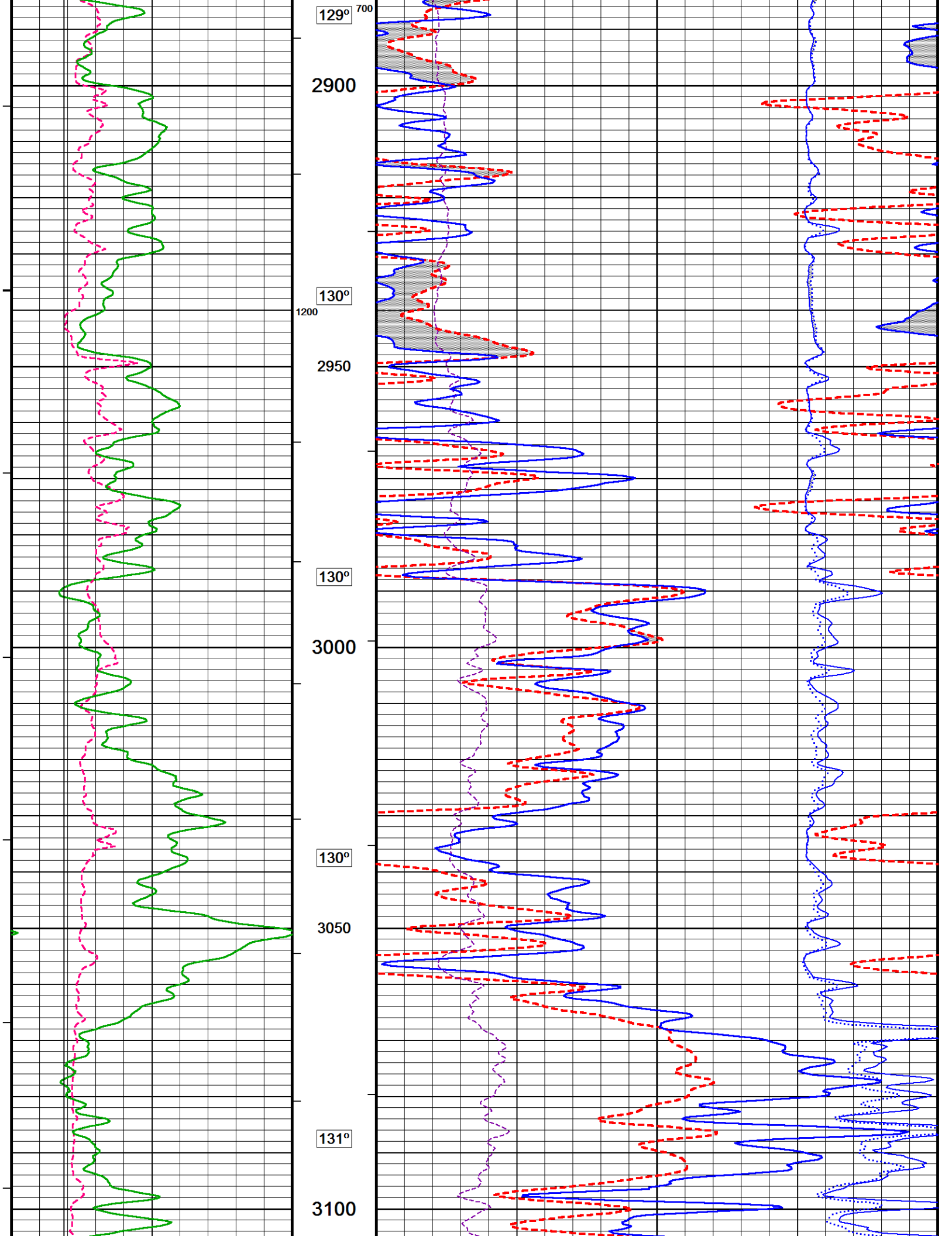
← PF

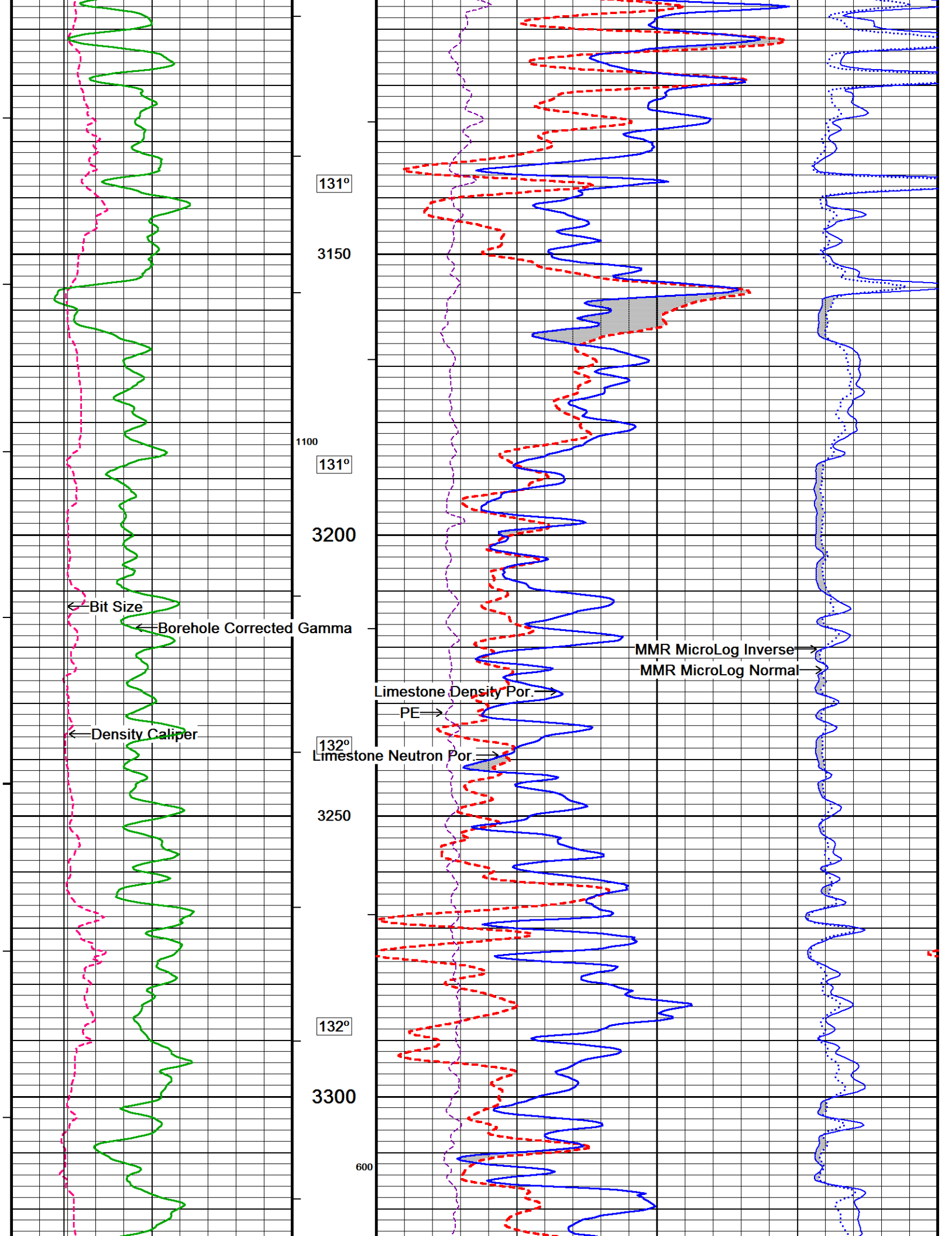
← MMR MicroLog Inverse

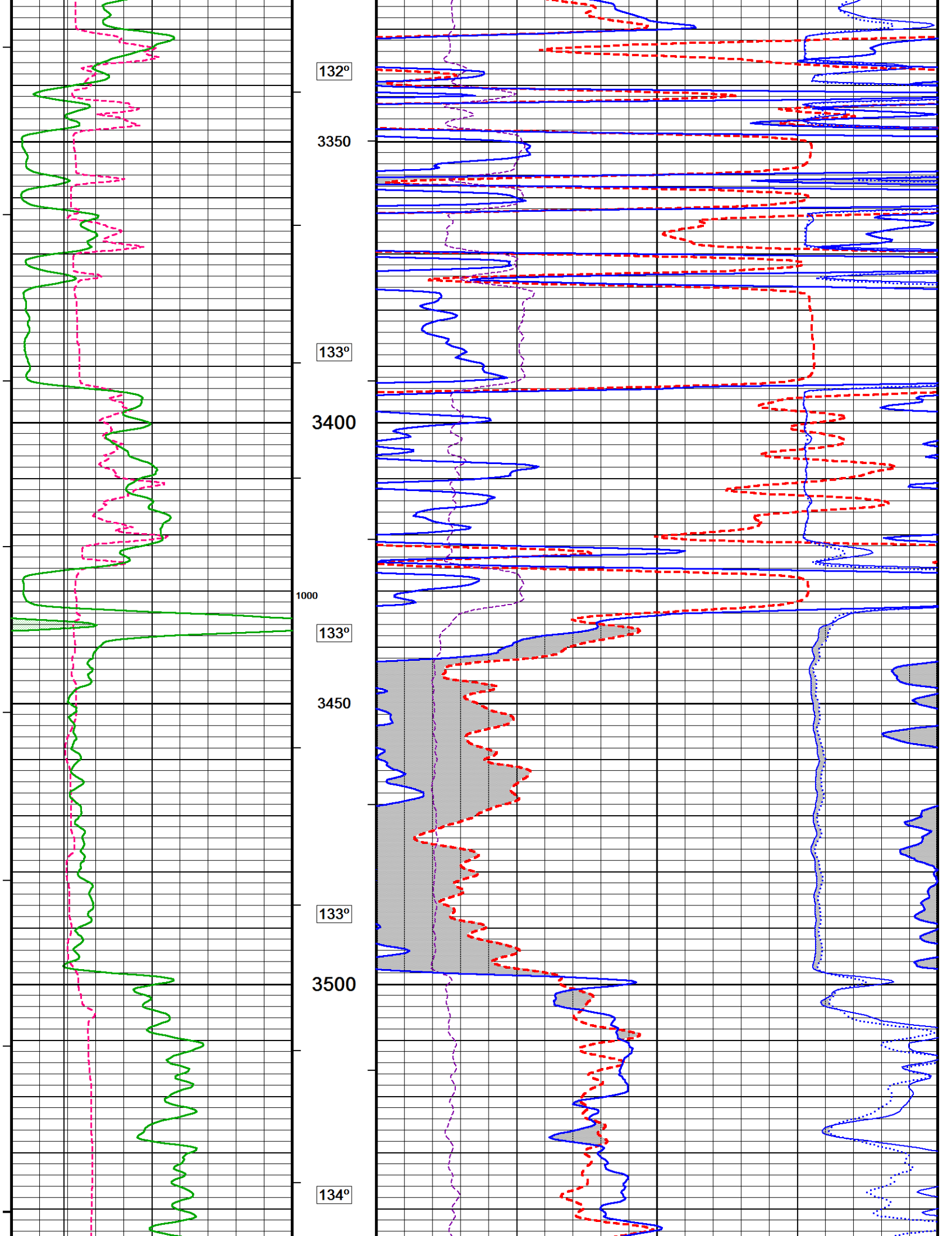
← MMR MicroLog Normal

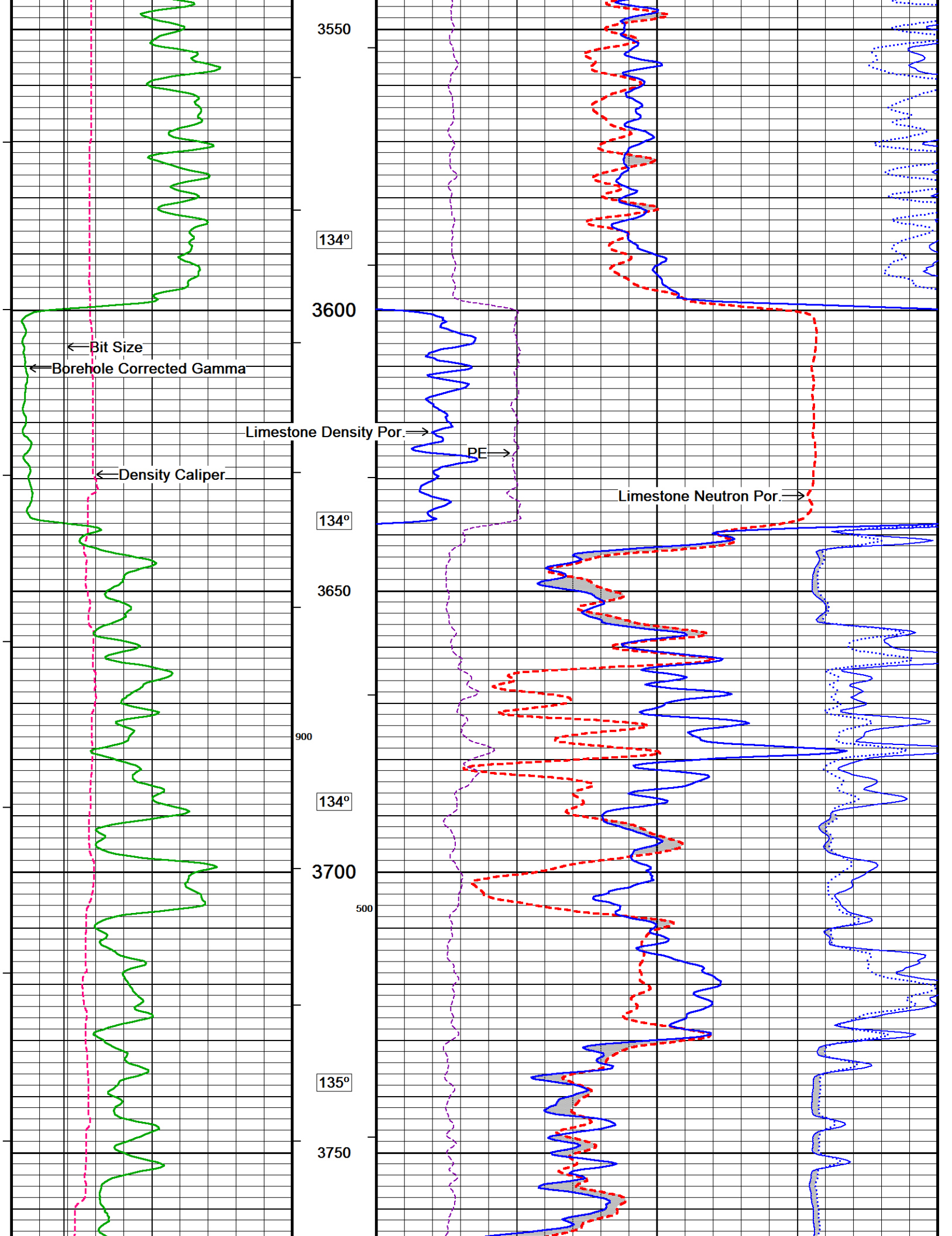


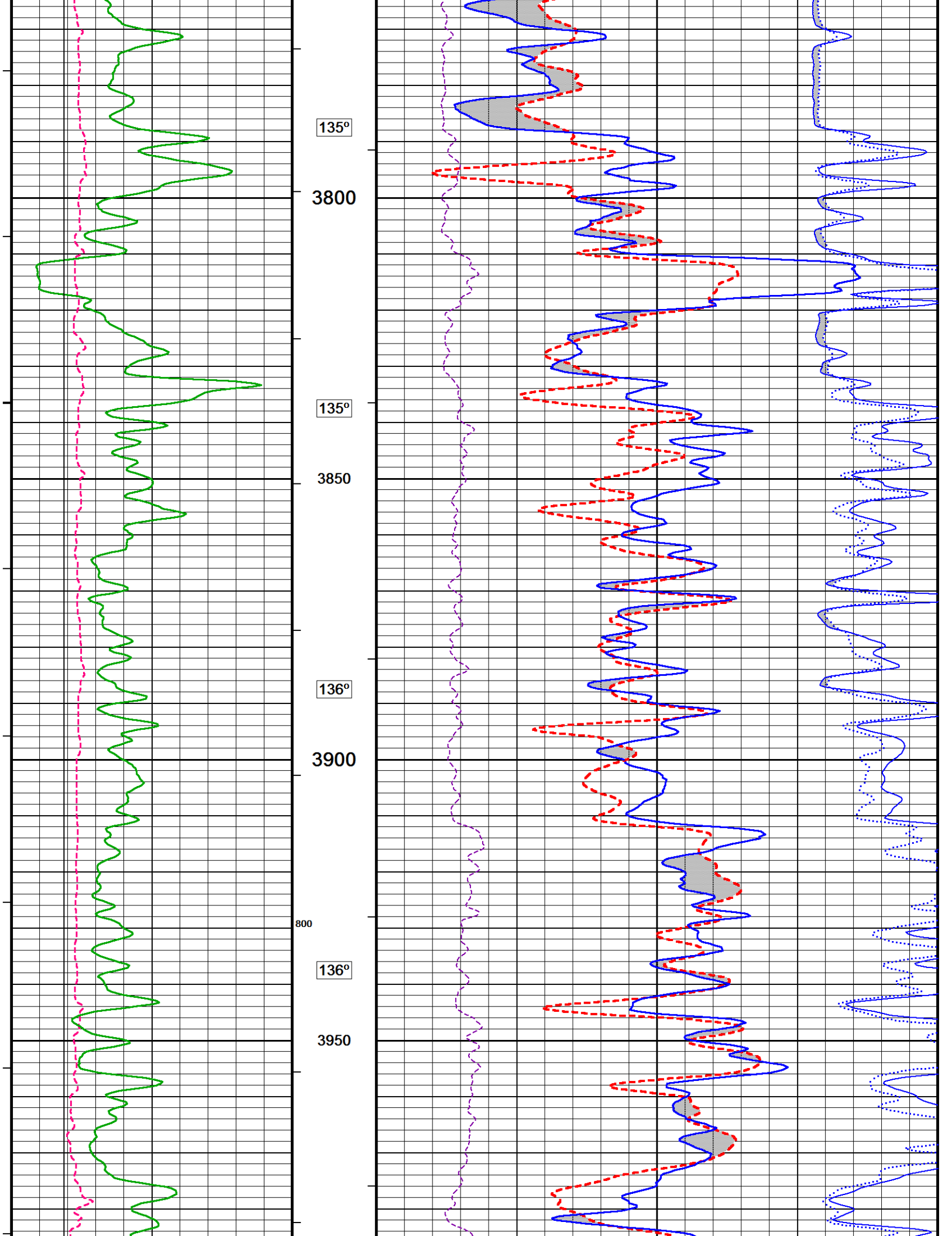


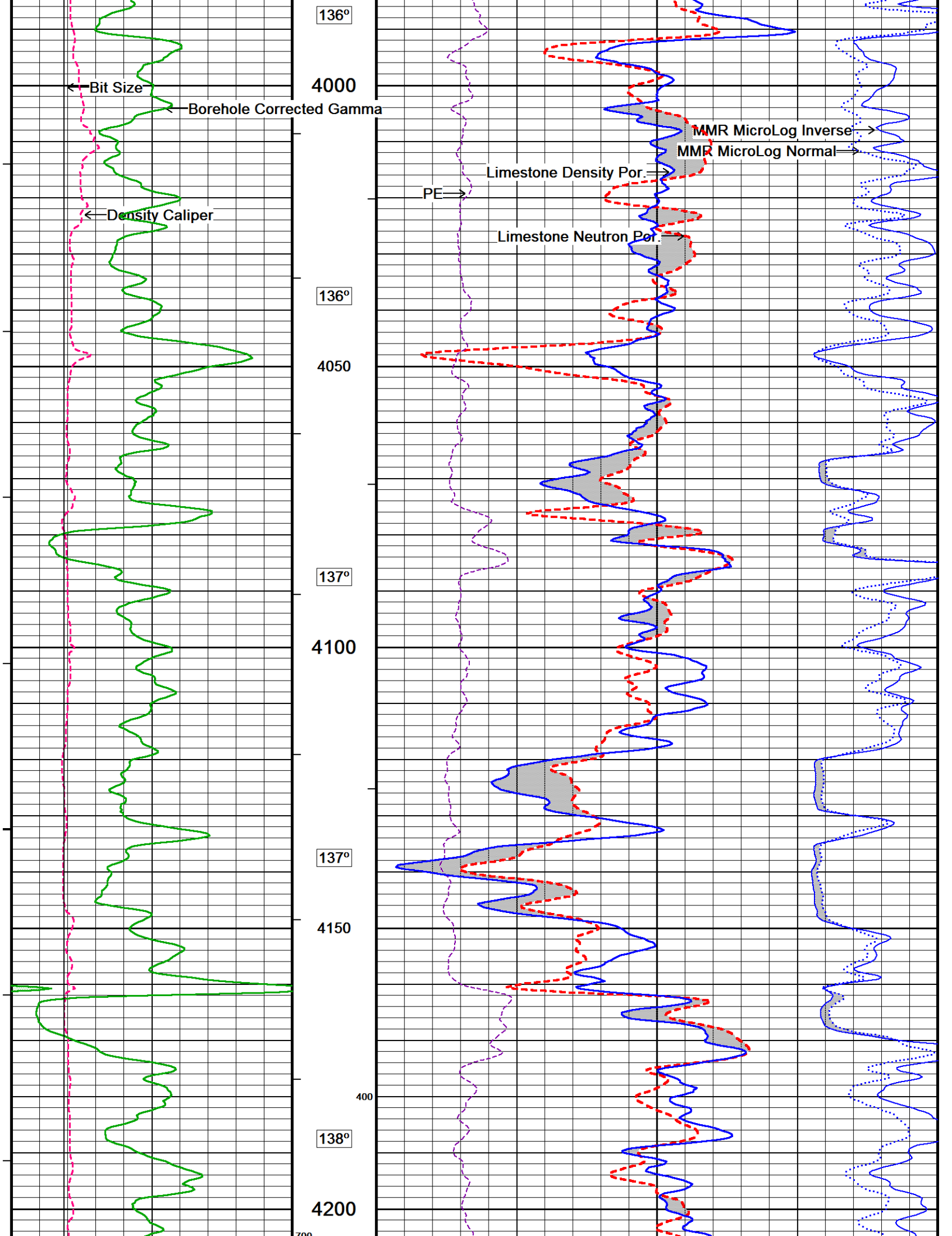


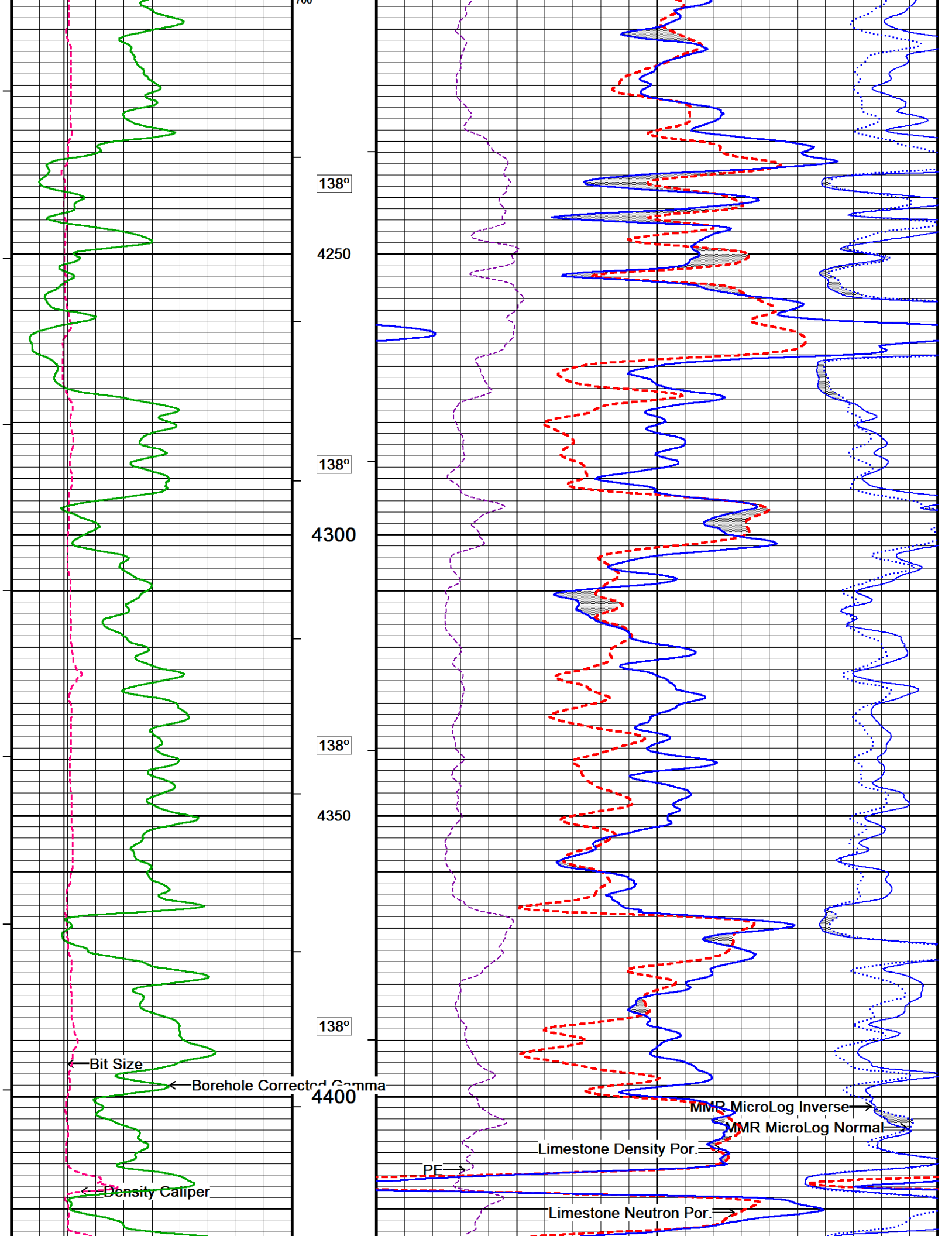


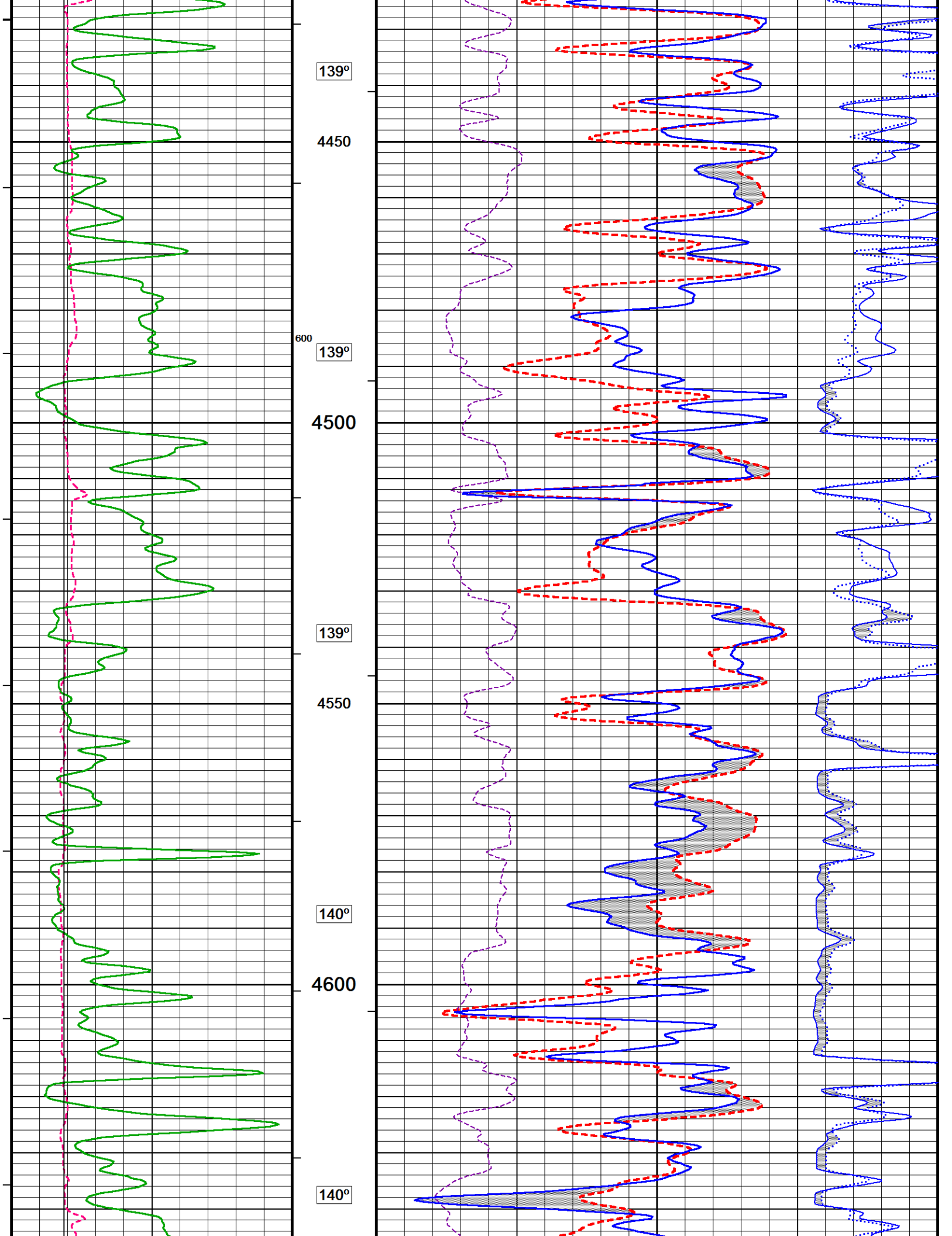


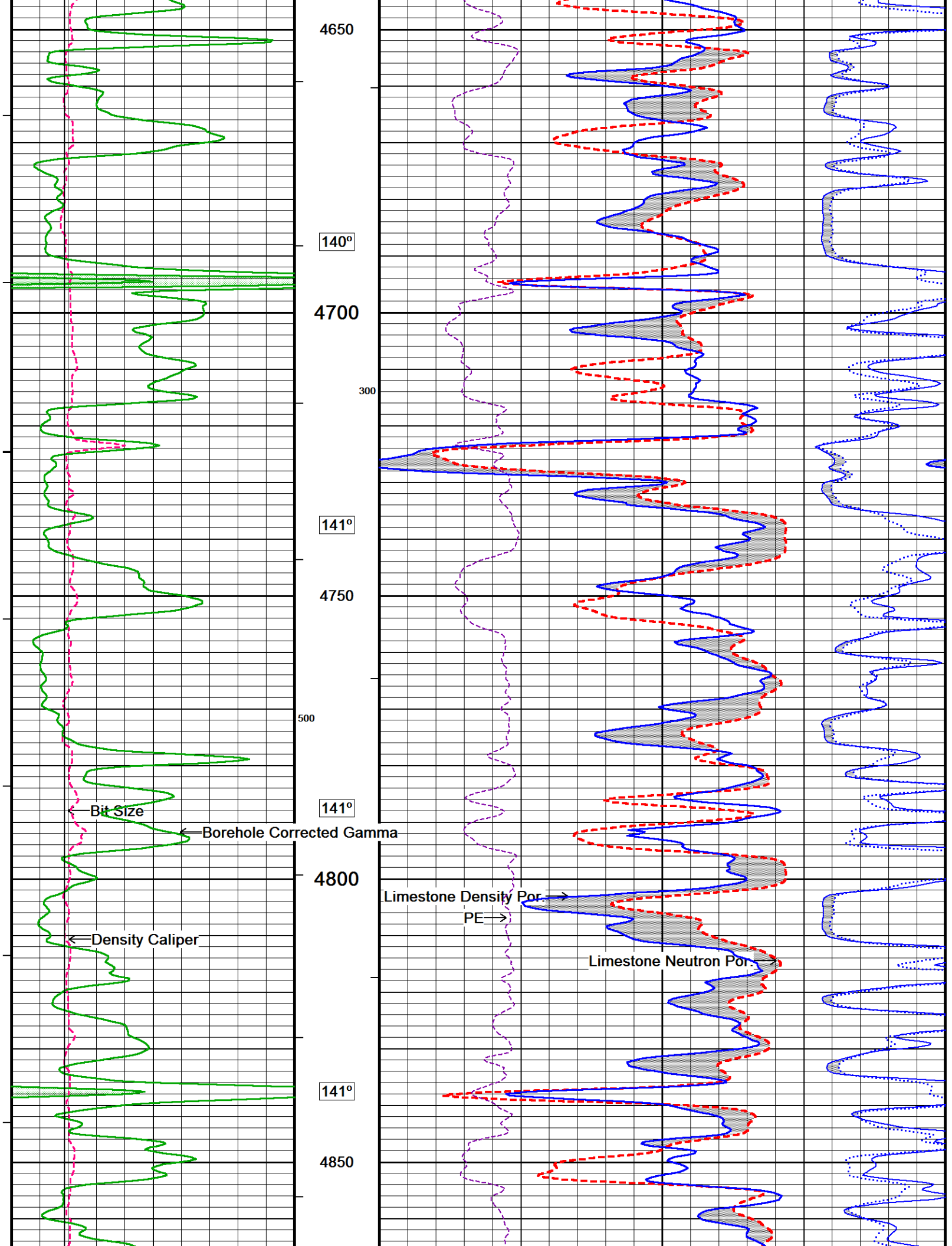


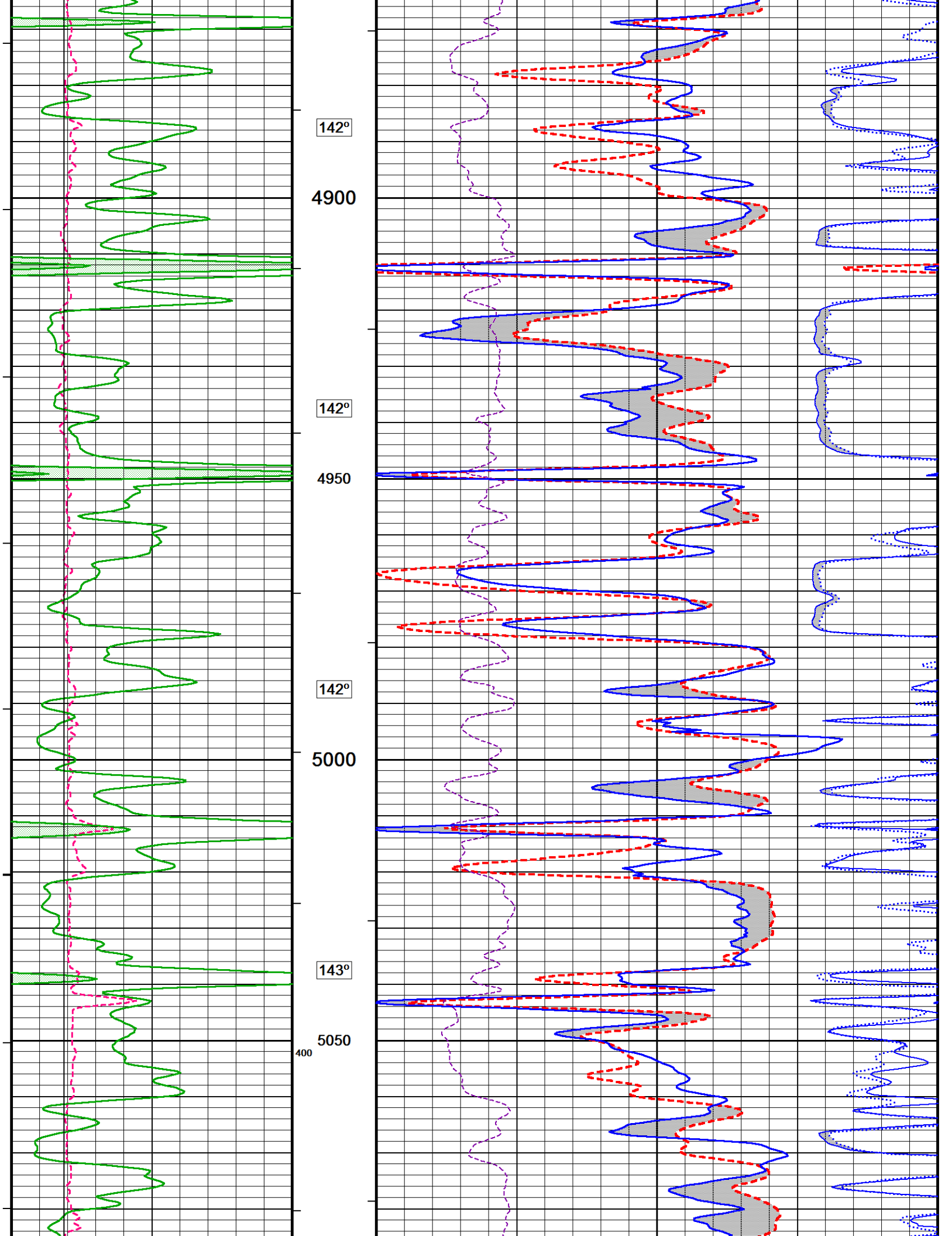


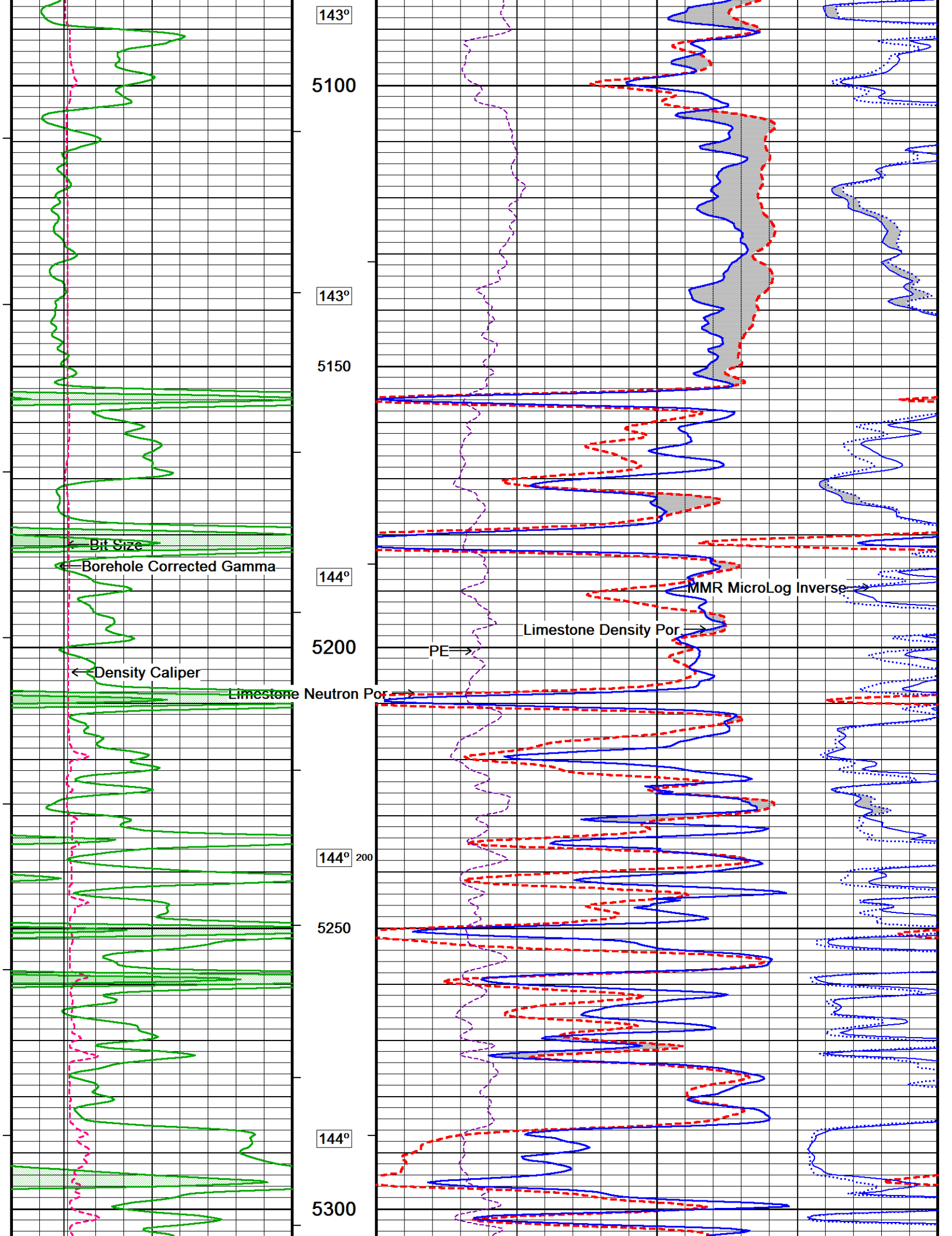


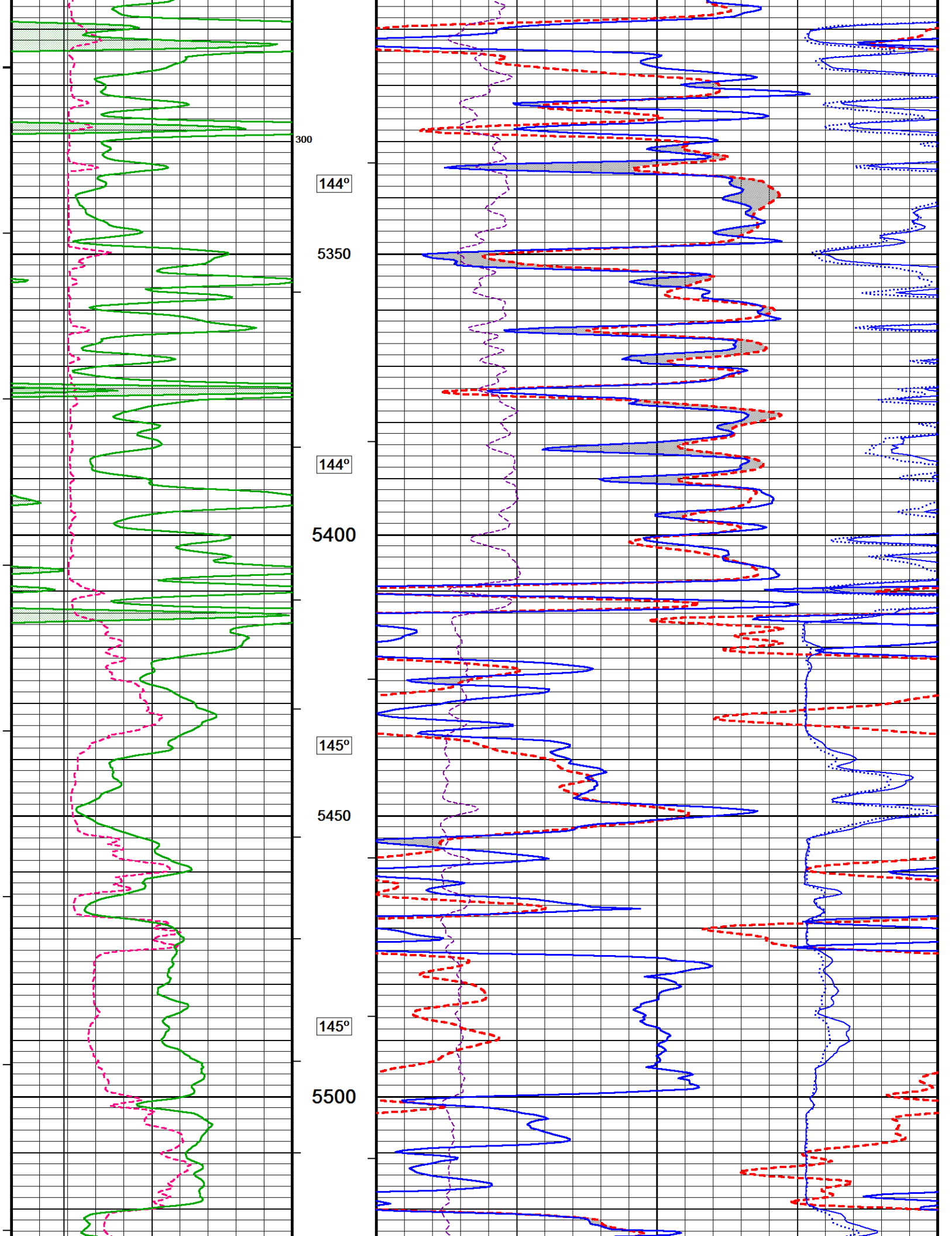


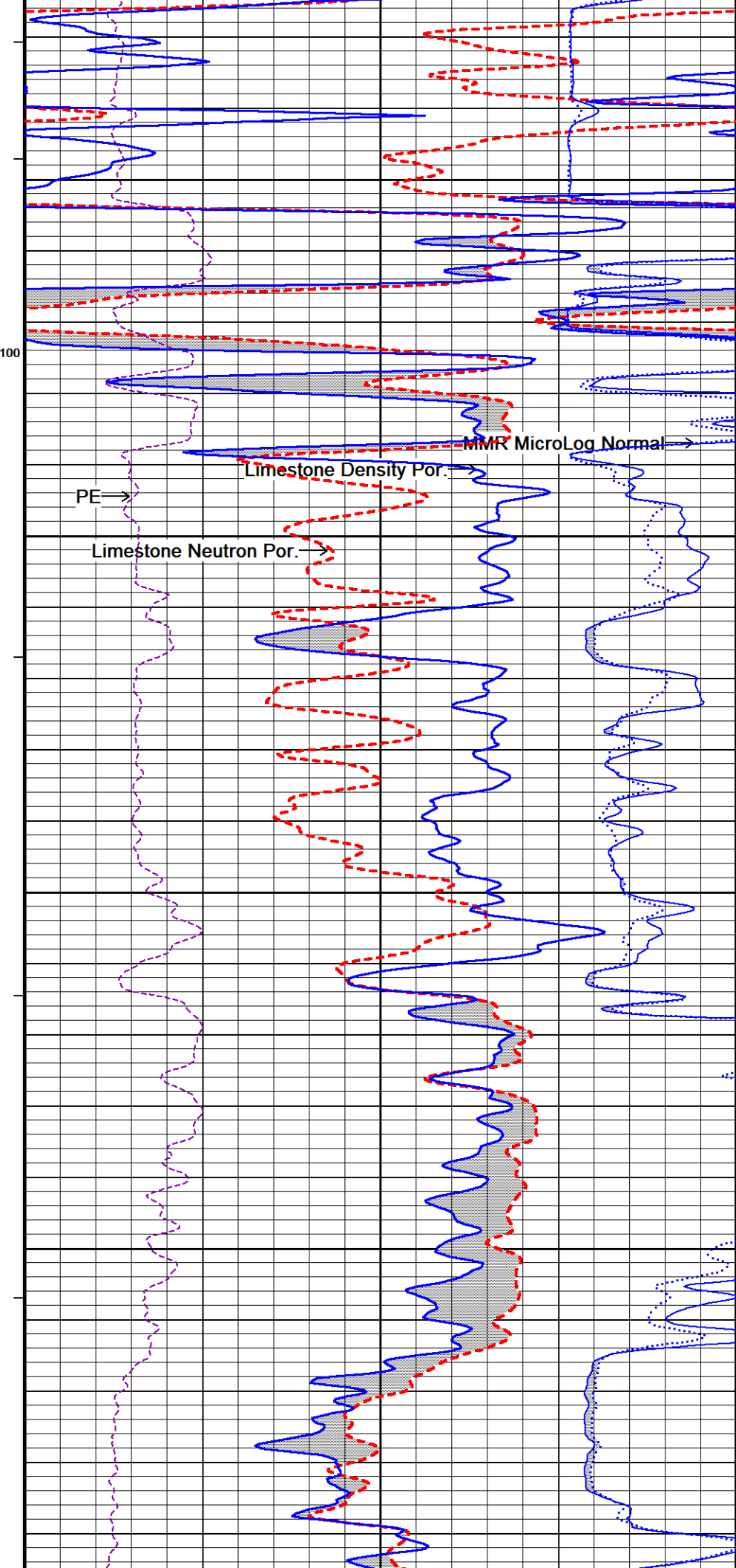
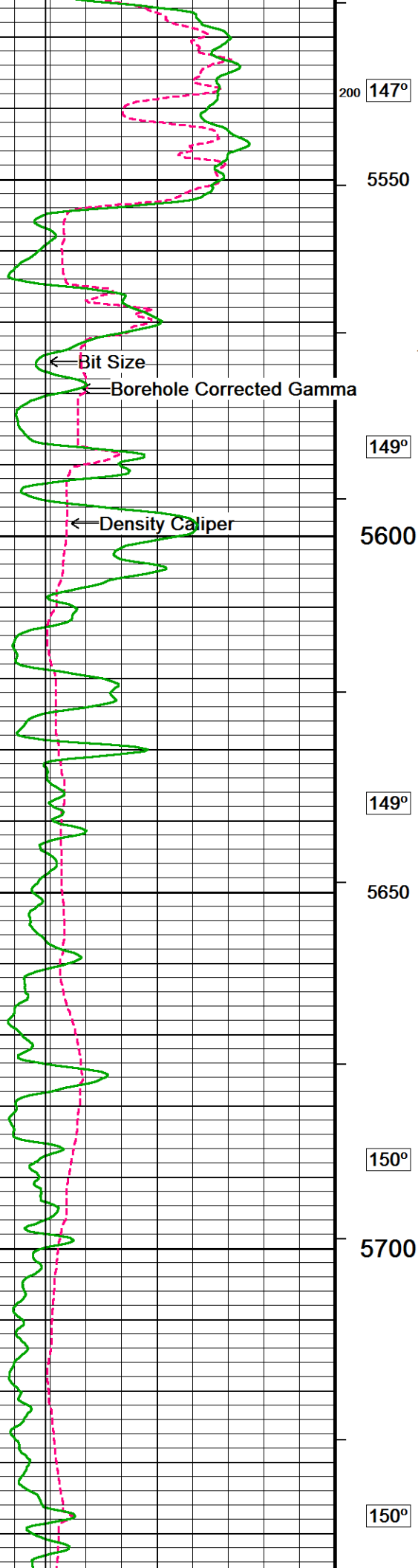


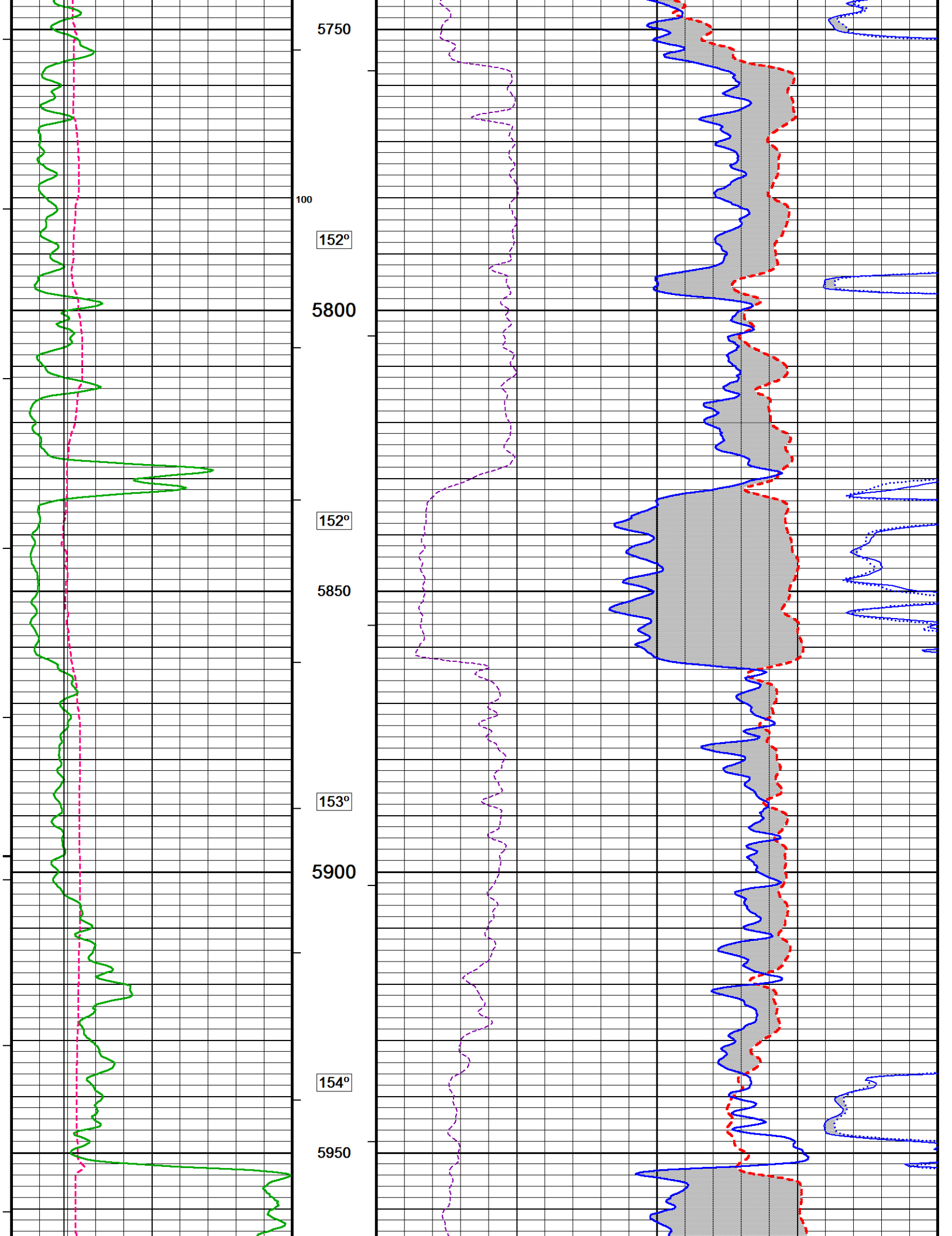


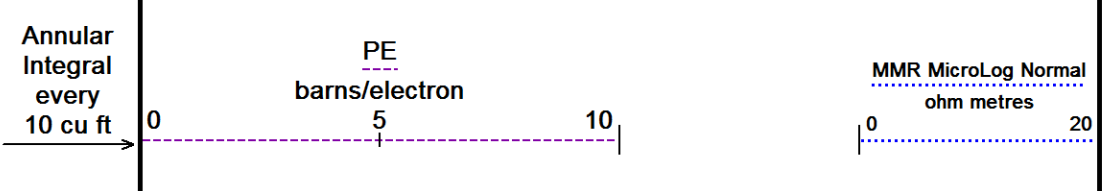
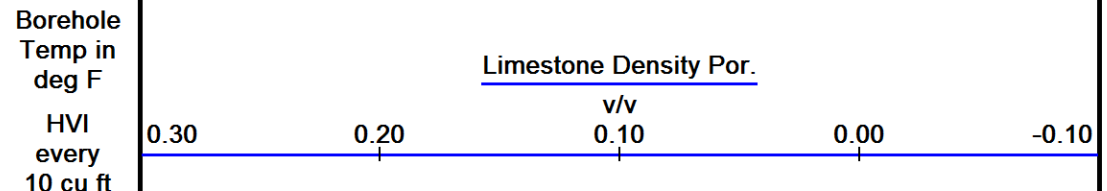
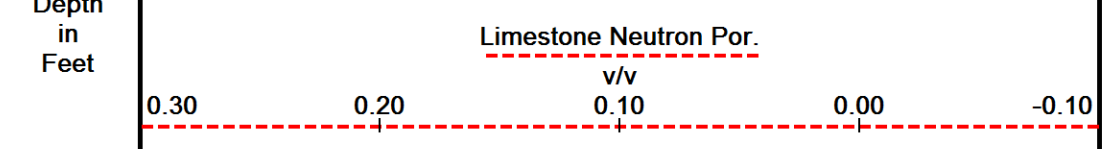
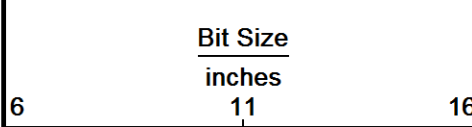
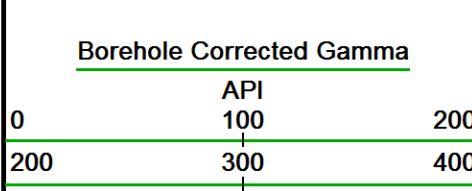
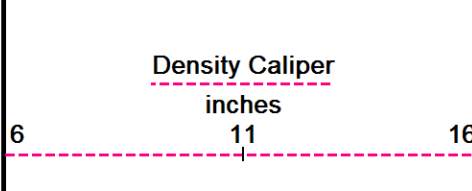
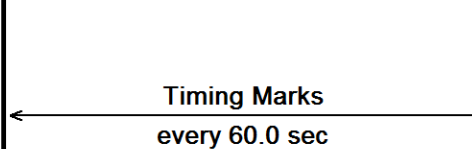
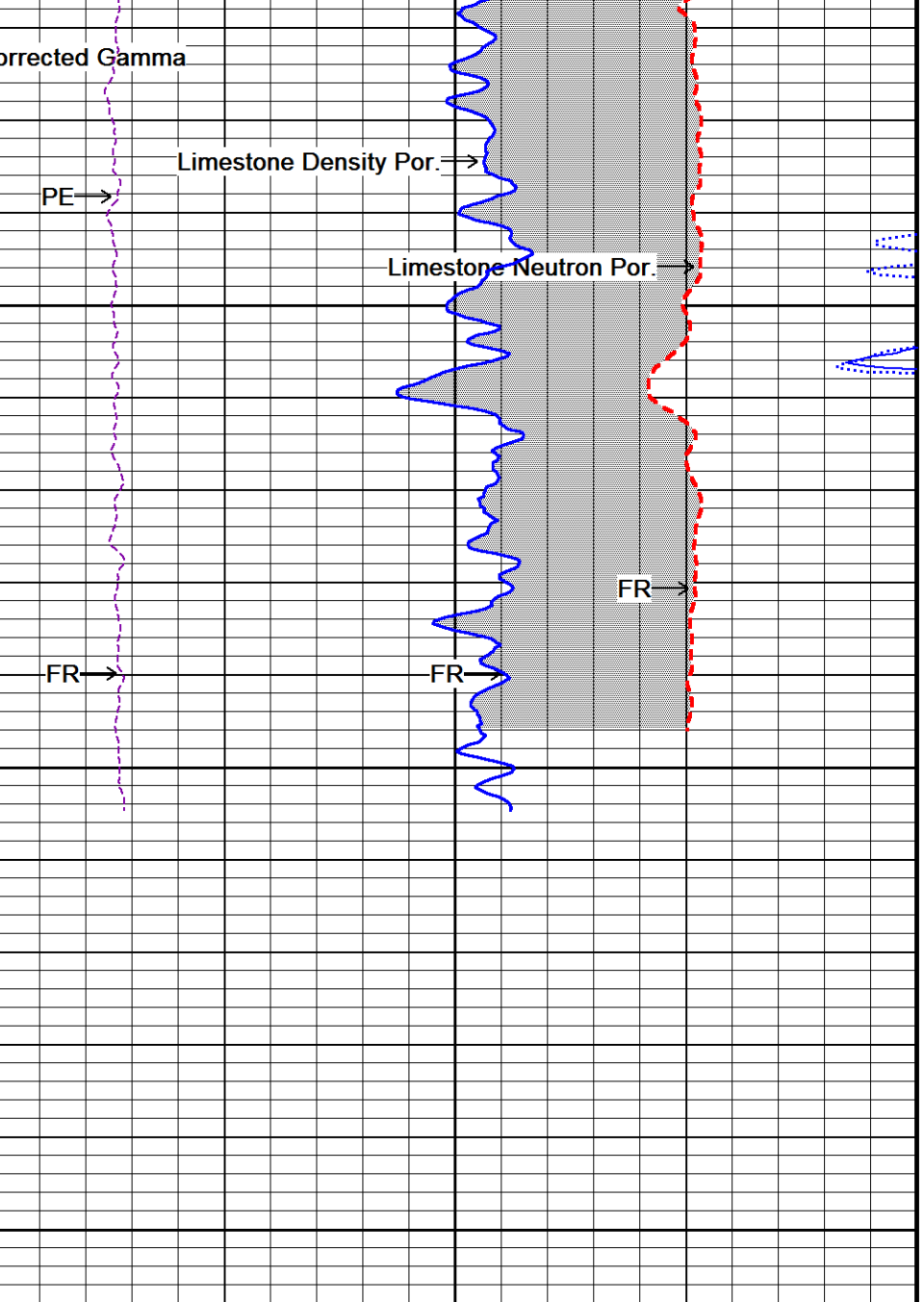
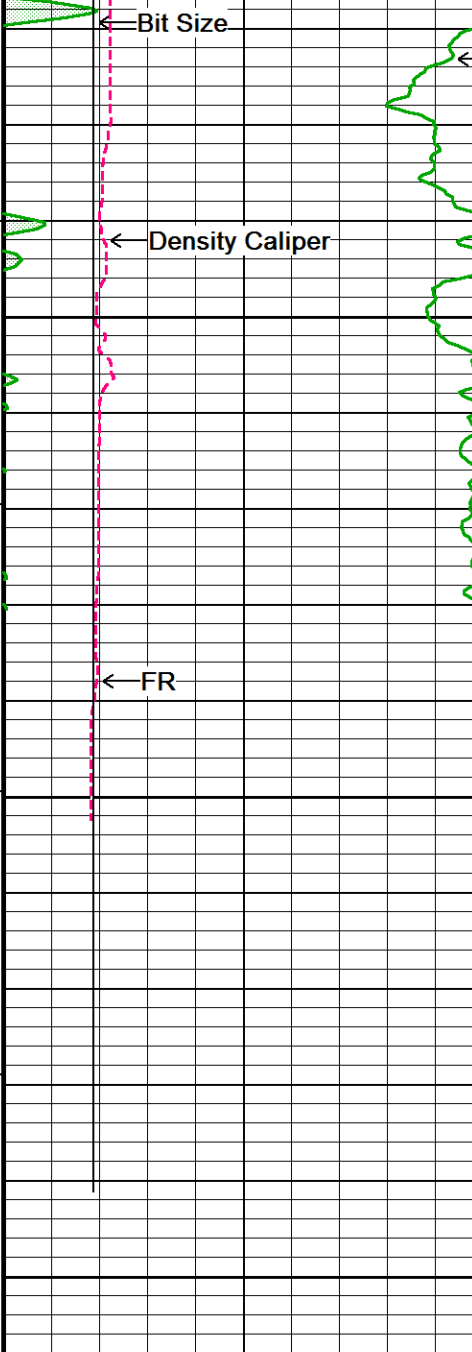
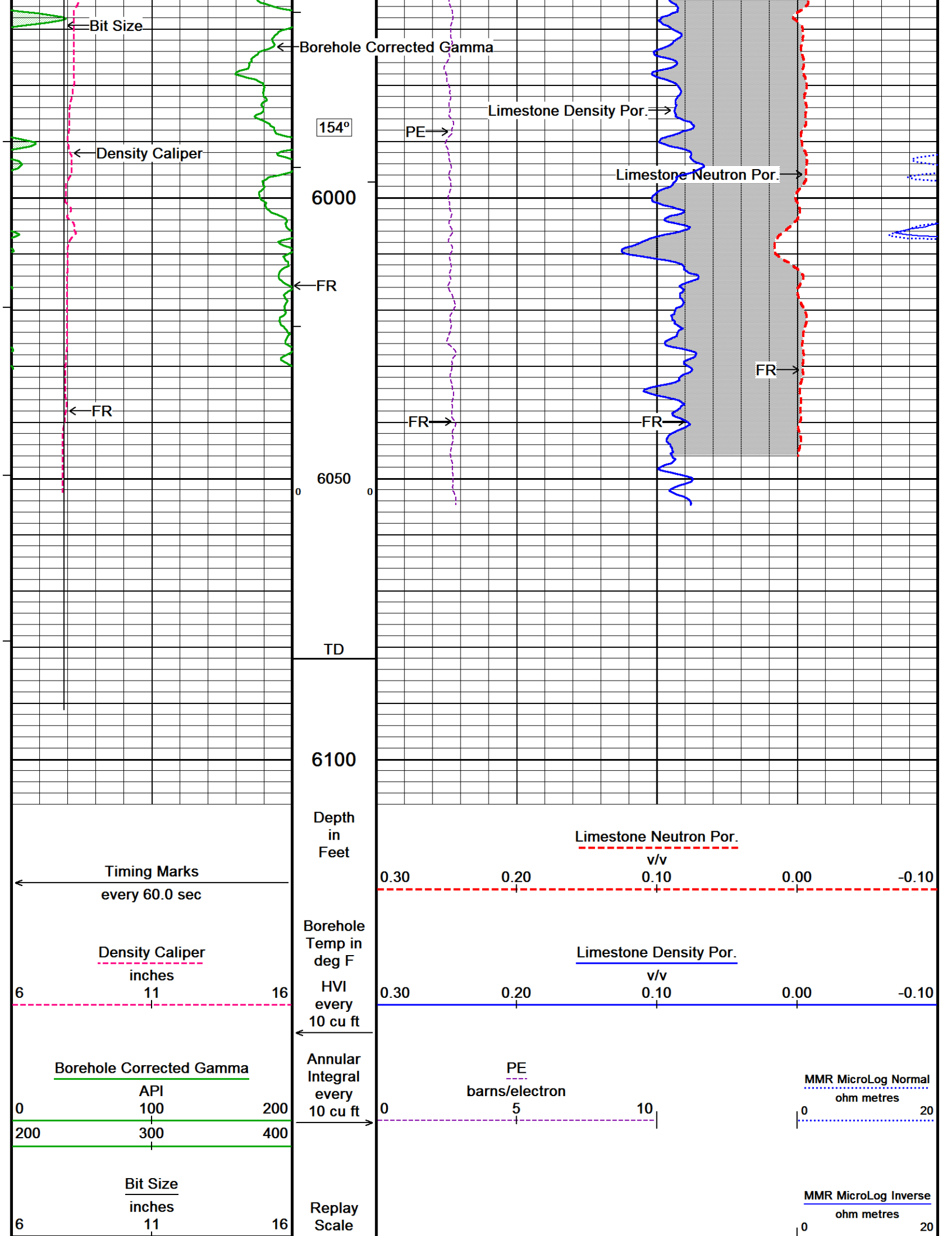












1:240

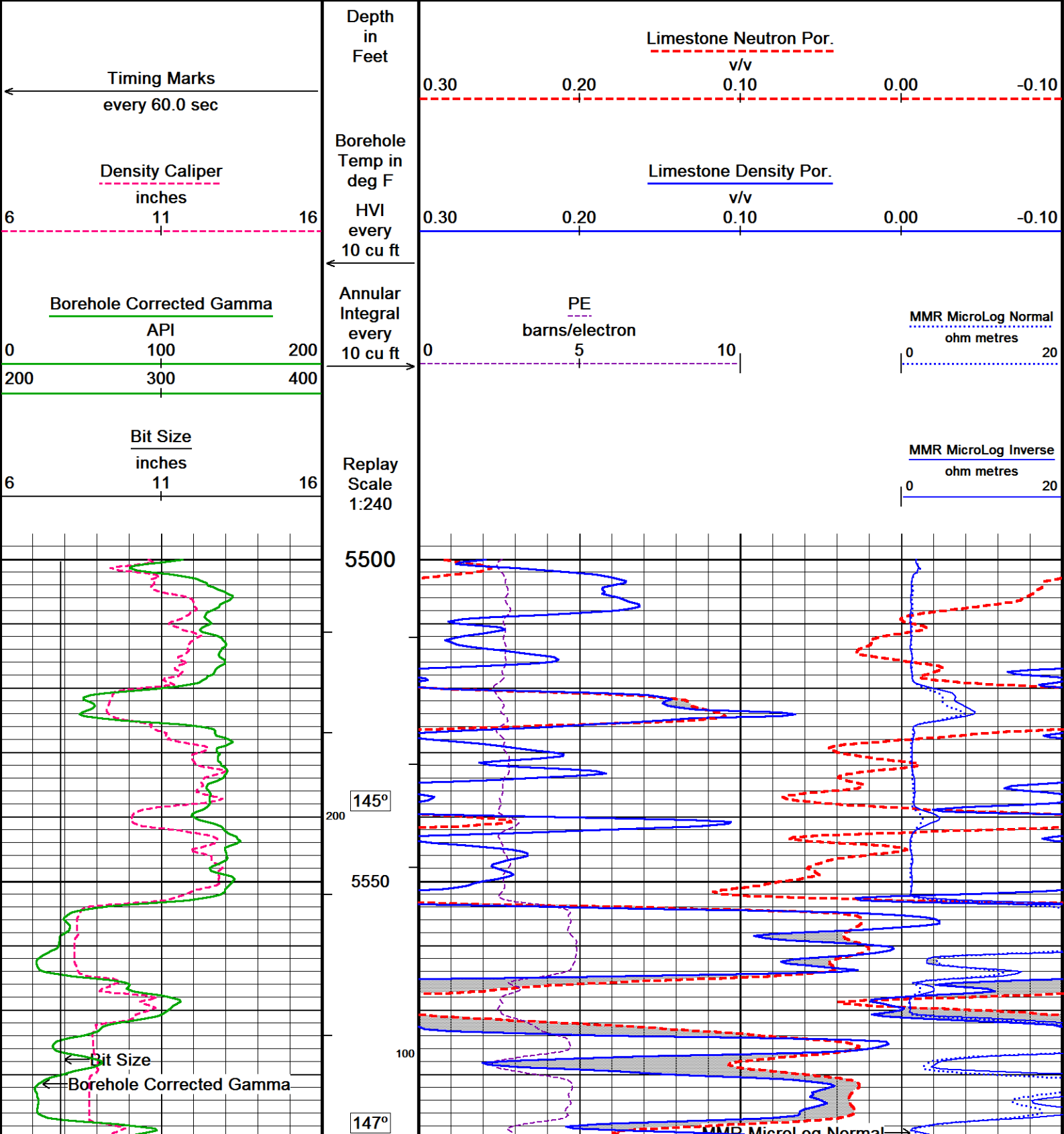
Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:_LOGS\Trek Resources\Pfaffly #1-12\MainPass.dta
System Versions: Logged with 21.11.3172 Plotted with 21.11.3172

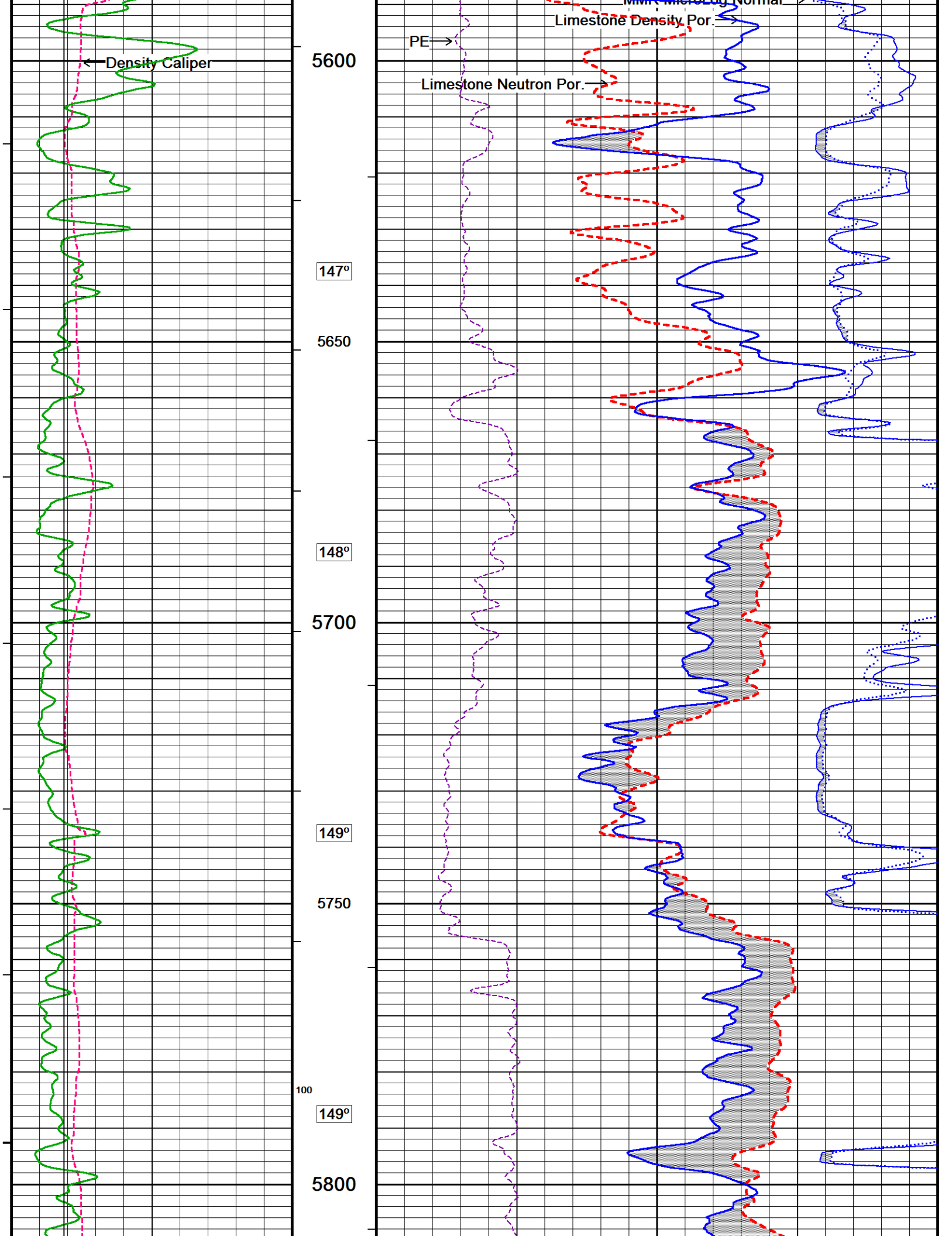
Plotted on 26-MAY-2023 17:15
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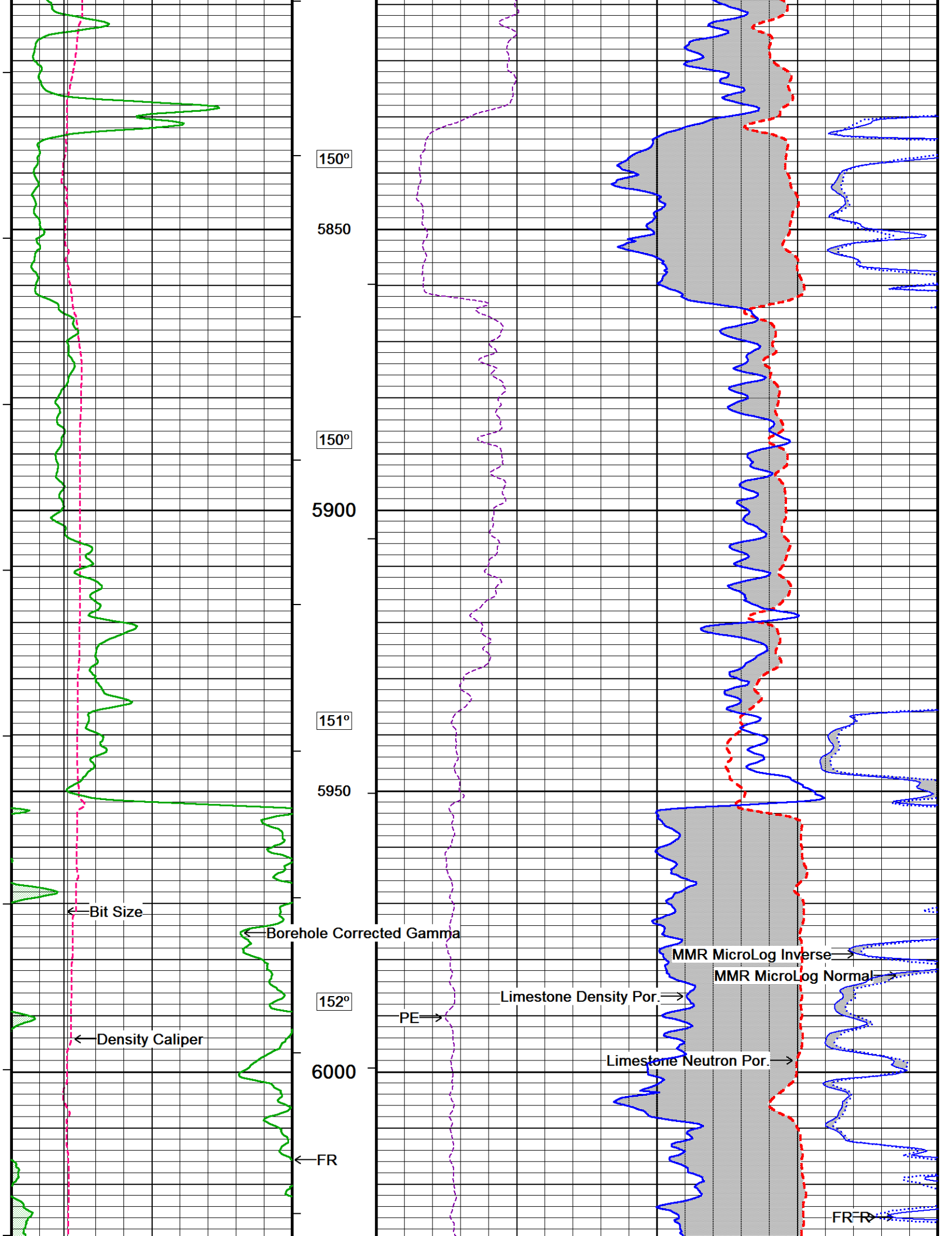
5 INCH MAIN PASS

5 INCH REPEAT PASS

Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:_LOGS\Trek Resources\Pfaffly #1-12\Repeat_Reprocessed.dta
System Versions: Logged with 20.11.3980 Processed with 21.11.3172 Plotted with 21.11.3172







150°

5850

150°

5900

151°

5950

152°

6000

← Bit Size

← Borehole Corrected Gamma

← Density Caliper

PE →

Limestone Density Por. →

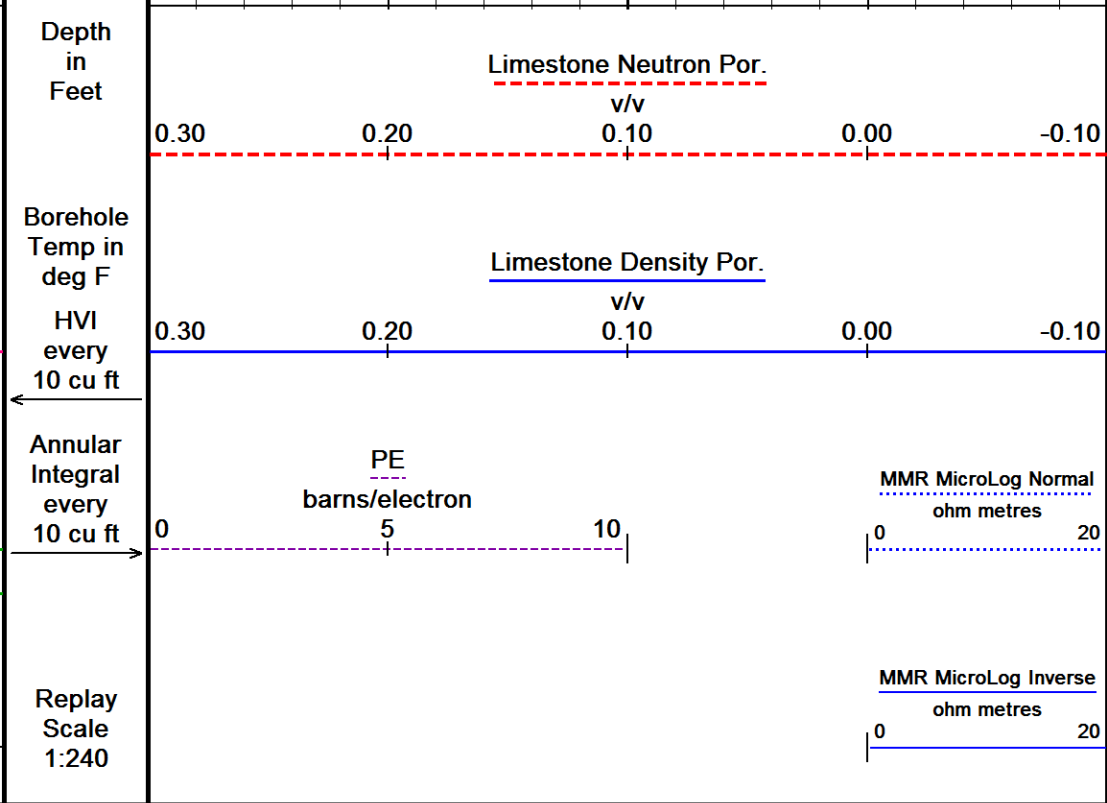
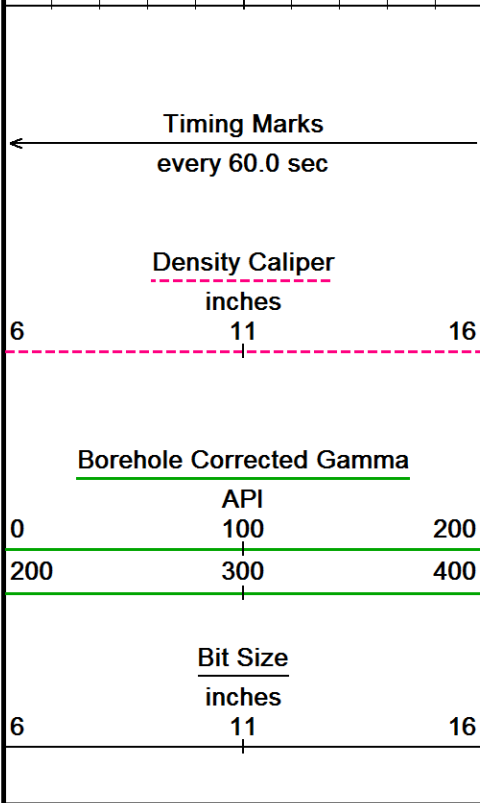
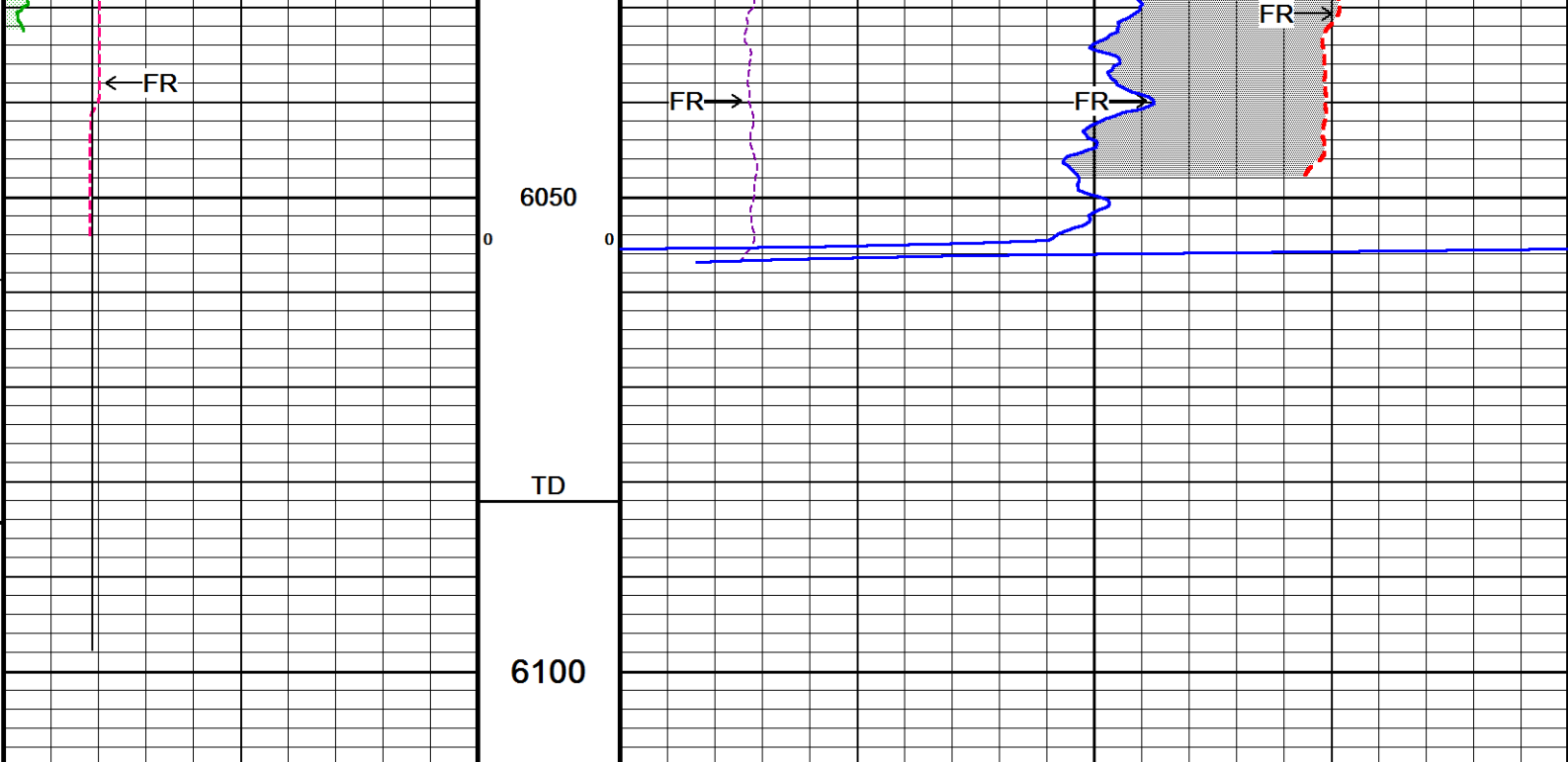
Limestone Neutron Por. →

MMR MicroLog Inverse →

MMR MicroLog Normal →

← FR

FR →

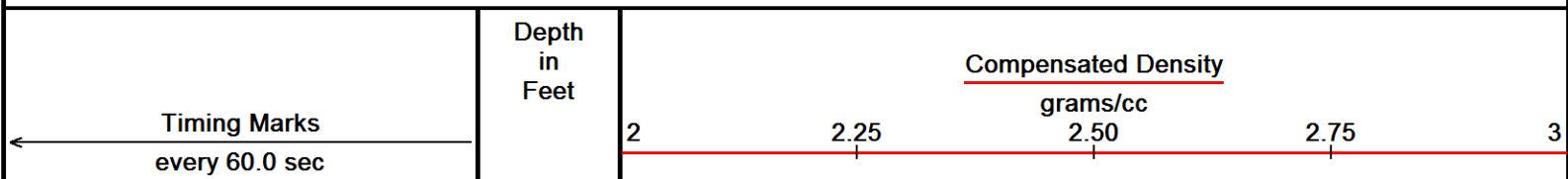


Depth Based Data - Maximum Sampling Increment 10.0cm
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 Plotted on 26-MAY-2023 17:15
 Recorded on 26-MAY-2023 12:08

↑ 5 INCH REPEAT PASS ↑

↓ 5 INCH MAIN PASS - BULK DENSITY ↓

Depth Based Data - Maximum Sampling Increment 10.0cm
 Filename: C:_LOGS\Trek Resources\Pfaffly #1-12>MainPass.dta
 System Versions: Logged with 21.11.3172 Plotted with 21.11.3172
 Plotted on 26-MAY-2023 17:15
 Recorded on 26-MAY-2023 13:17



Density Caliper
inches
6 11 16

Borehole Corrected Gamma
API
0 100 200
200 300 400

Bit Size
inches
6 11 16

Borehole Temp in deg F
HVI every 10 cu ft

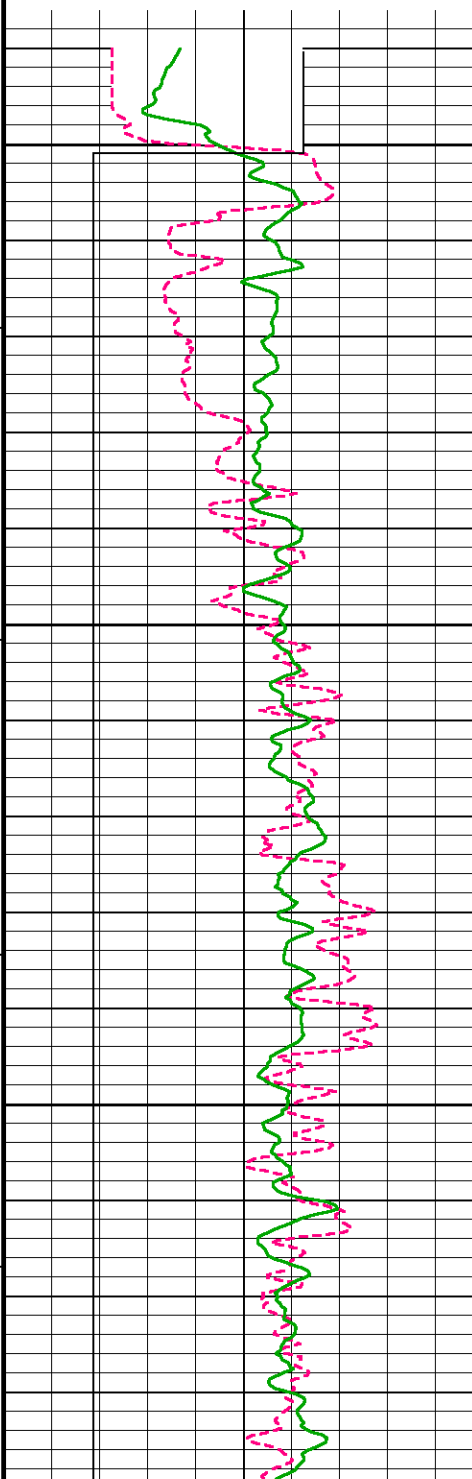
Annular Integral every 10 cu ft

Replay Scale 1:240

Limestone Density Por.
v/v
0.30 0.20 0.10 0.00 -0.10

PE
barns/electron
0 5 10

Density Correction
grams/cc
-0.50 0 0.50



638
Casing Shoe
650

109°

700

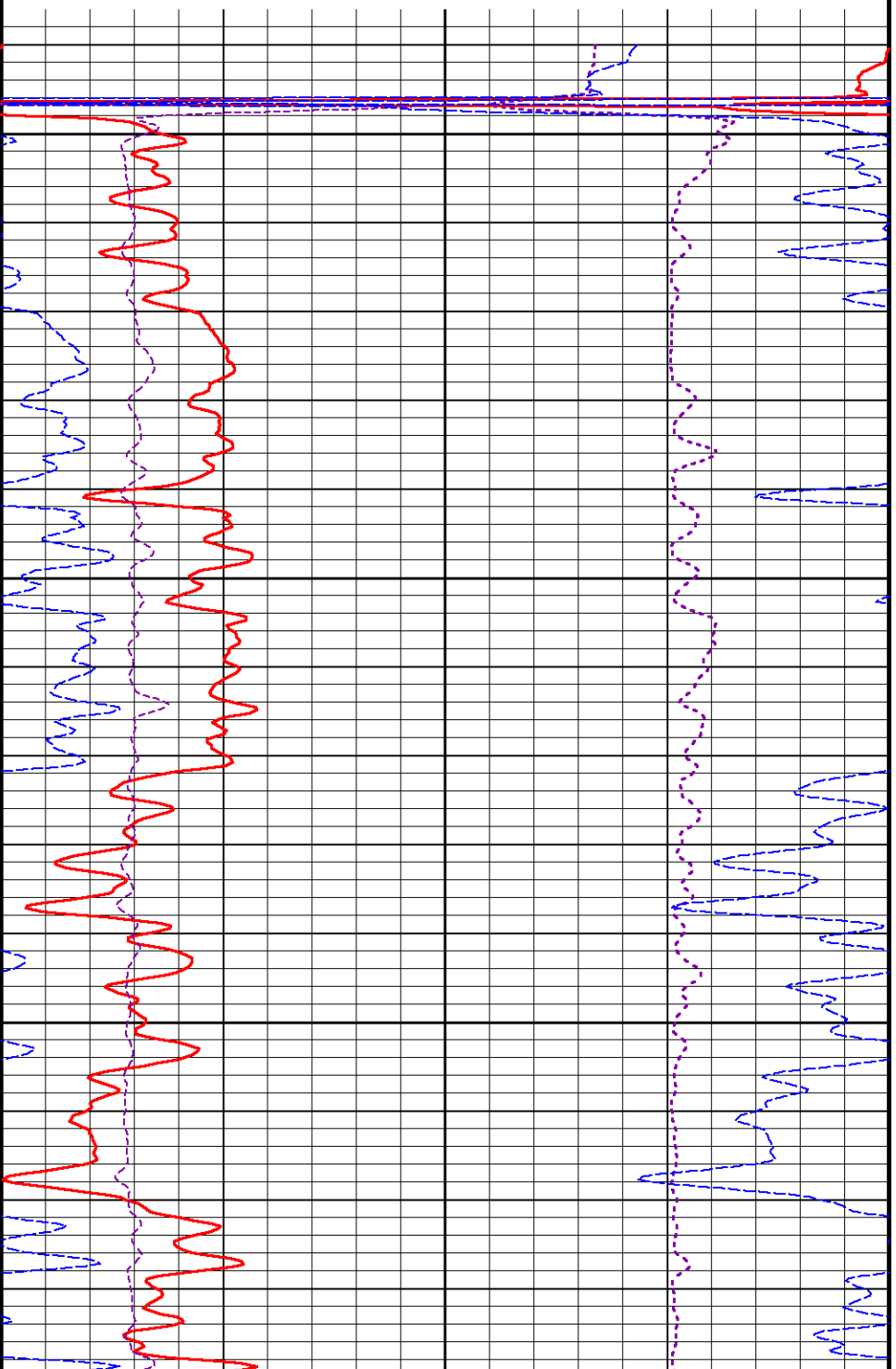
109°

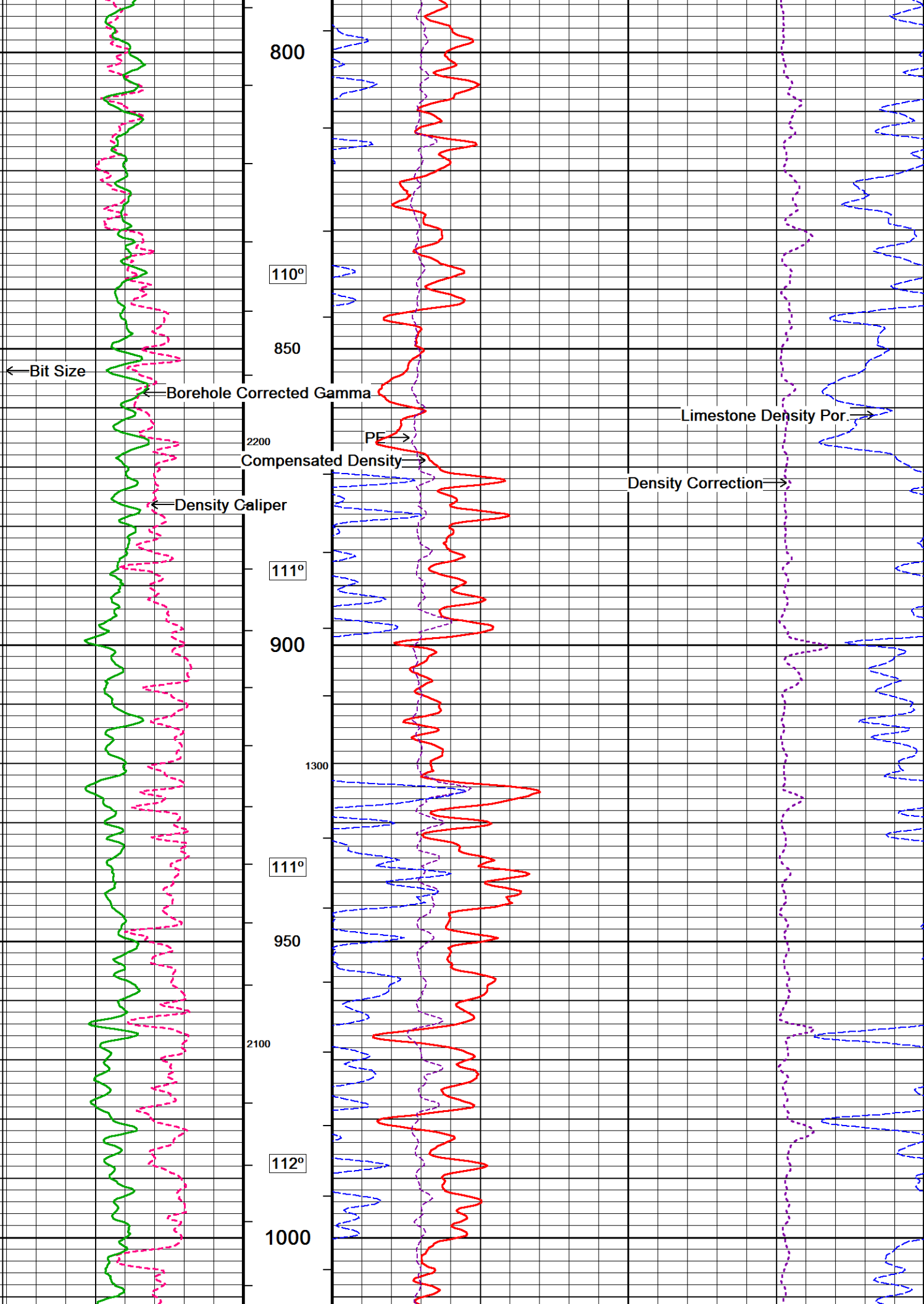
2300

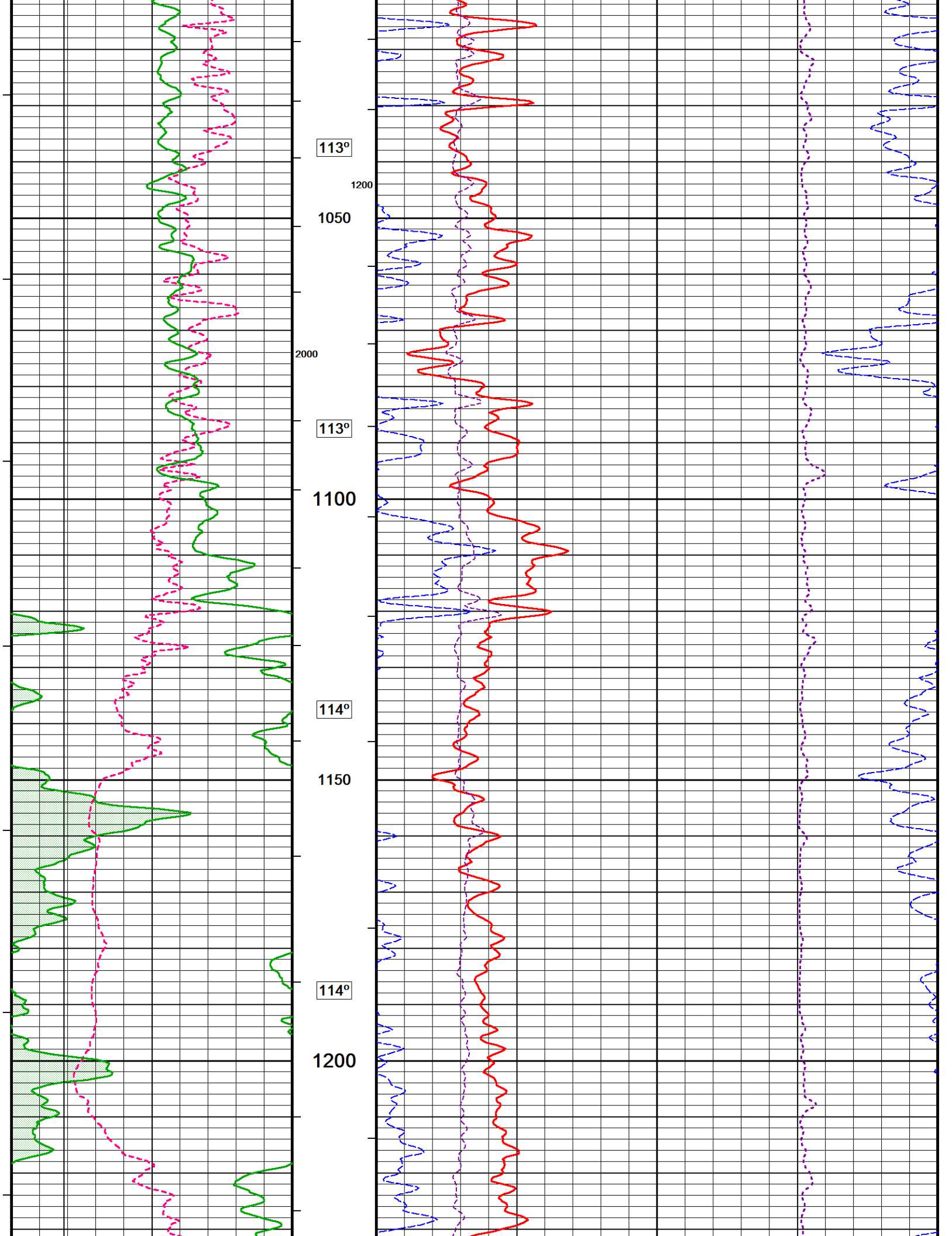
750

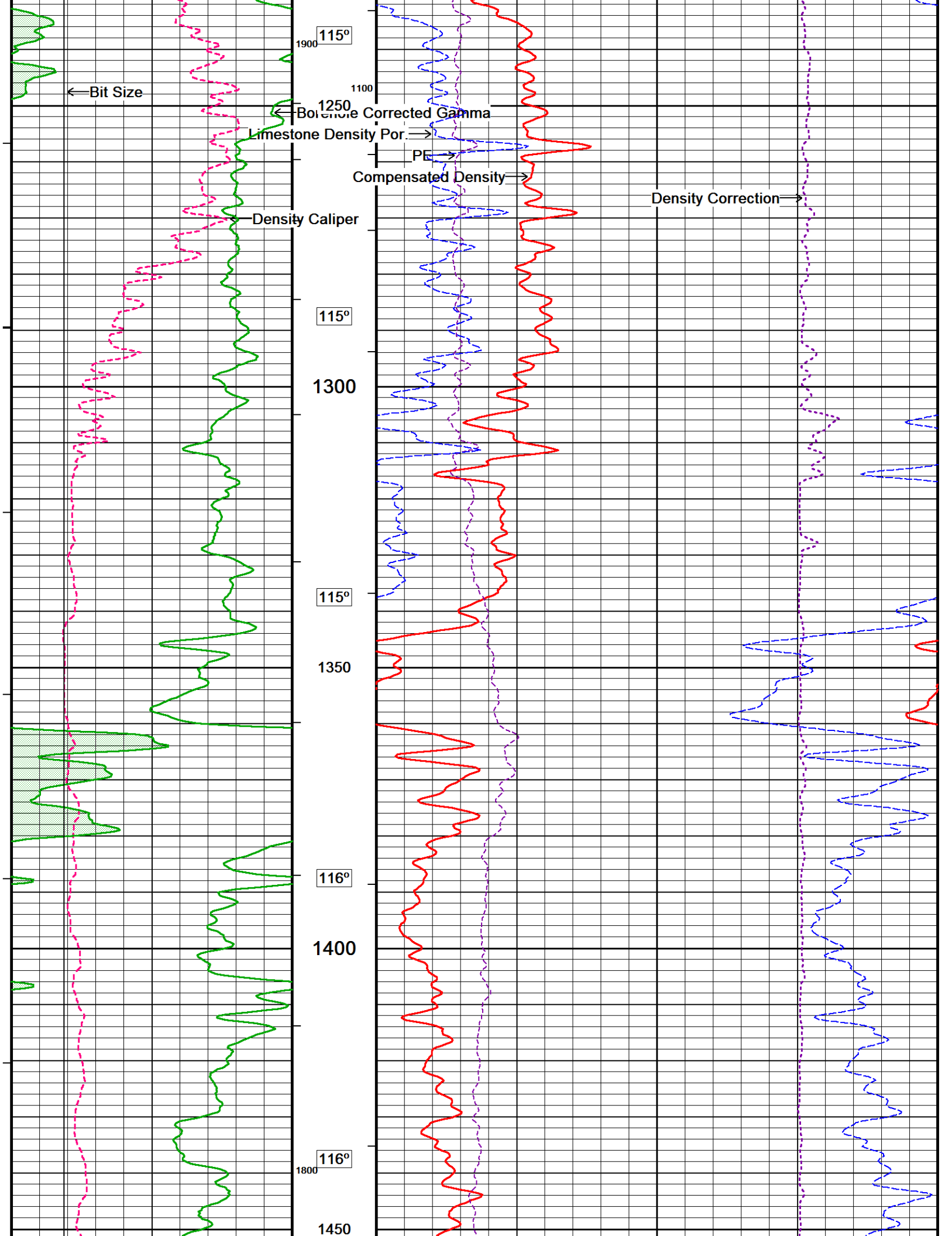
1400

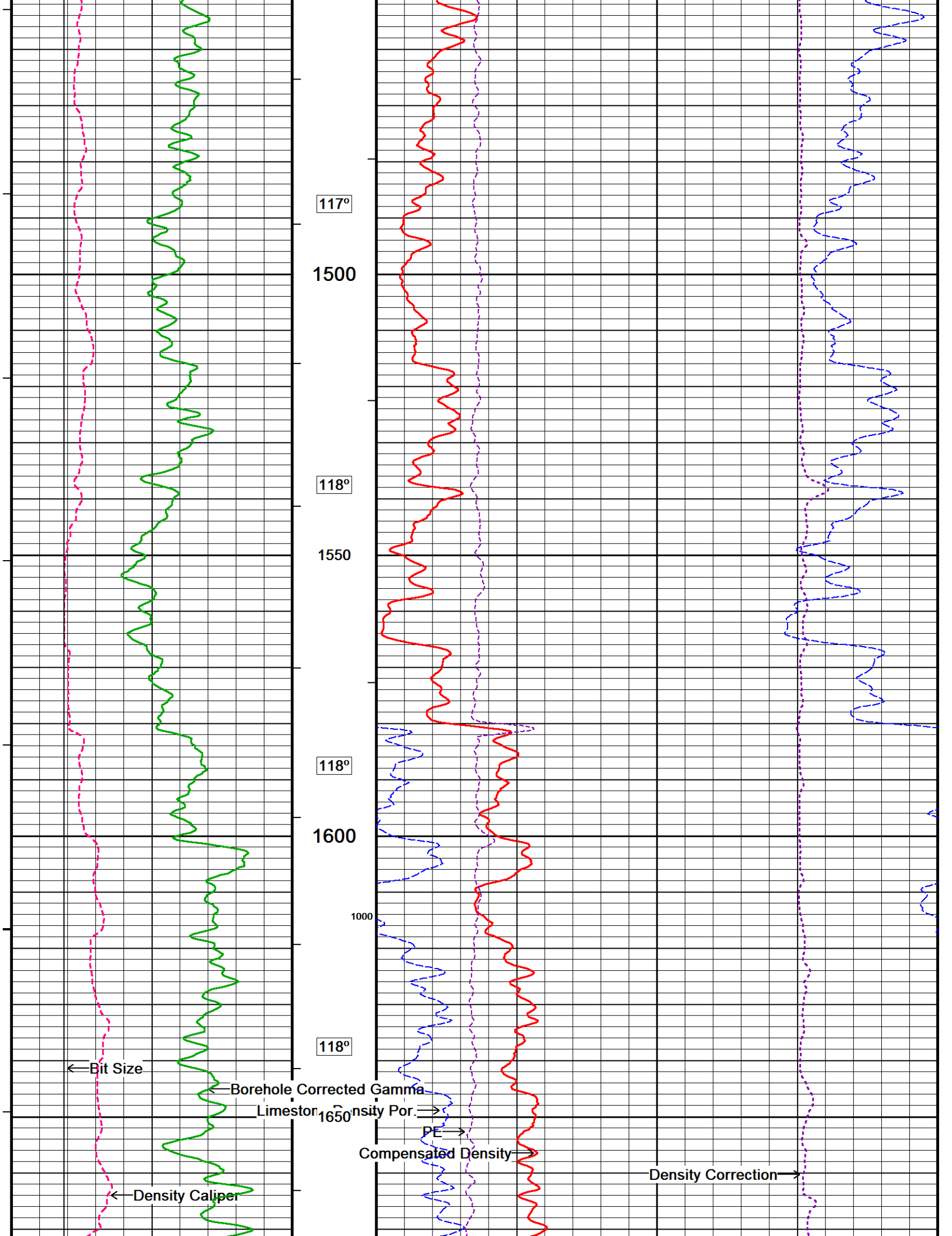
110°











117°

1500

118°

1550

118°

1600

1000

118°

← Bit Size

← Borehole Corrected Gamma

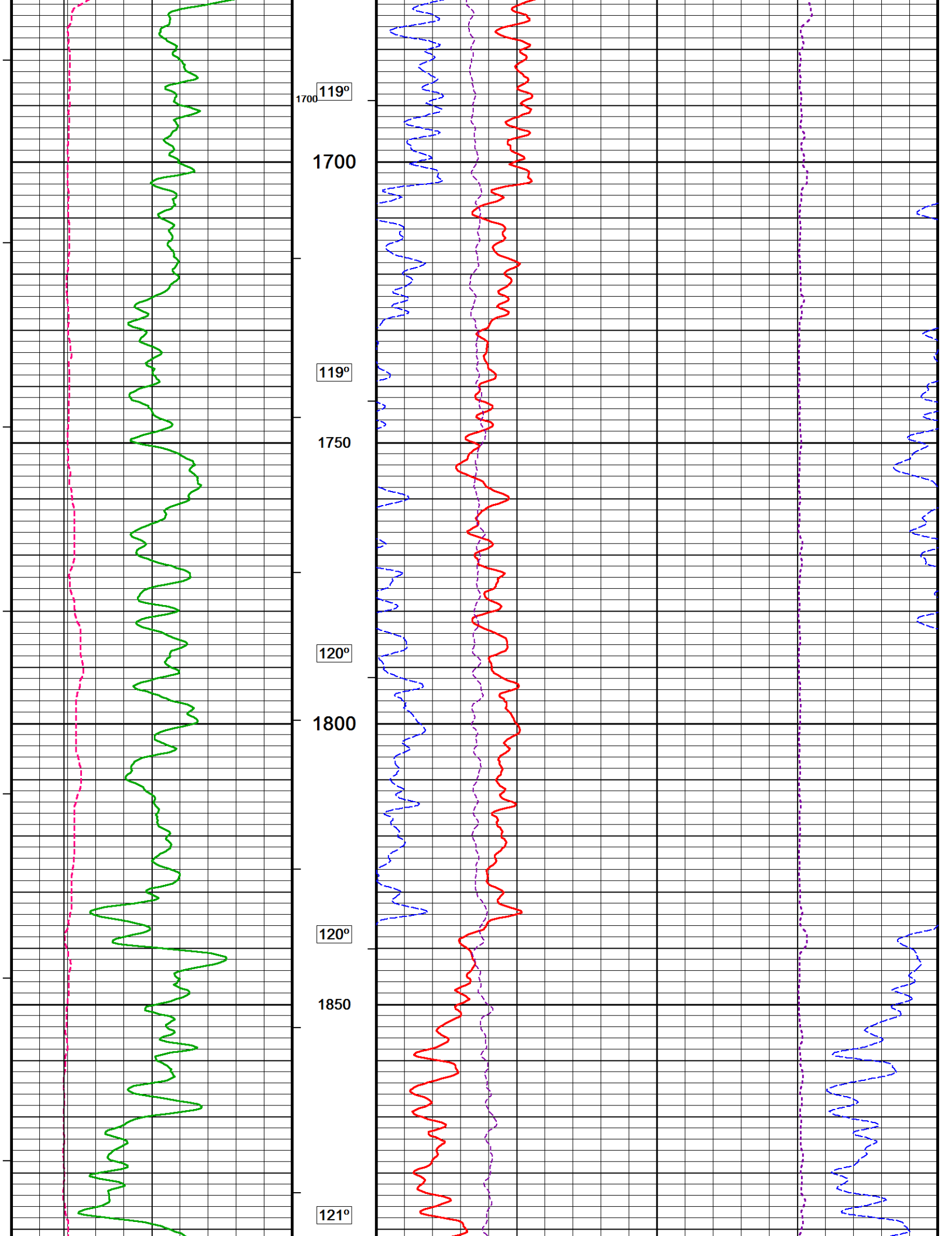
Limestone Porosity →

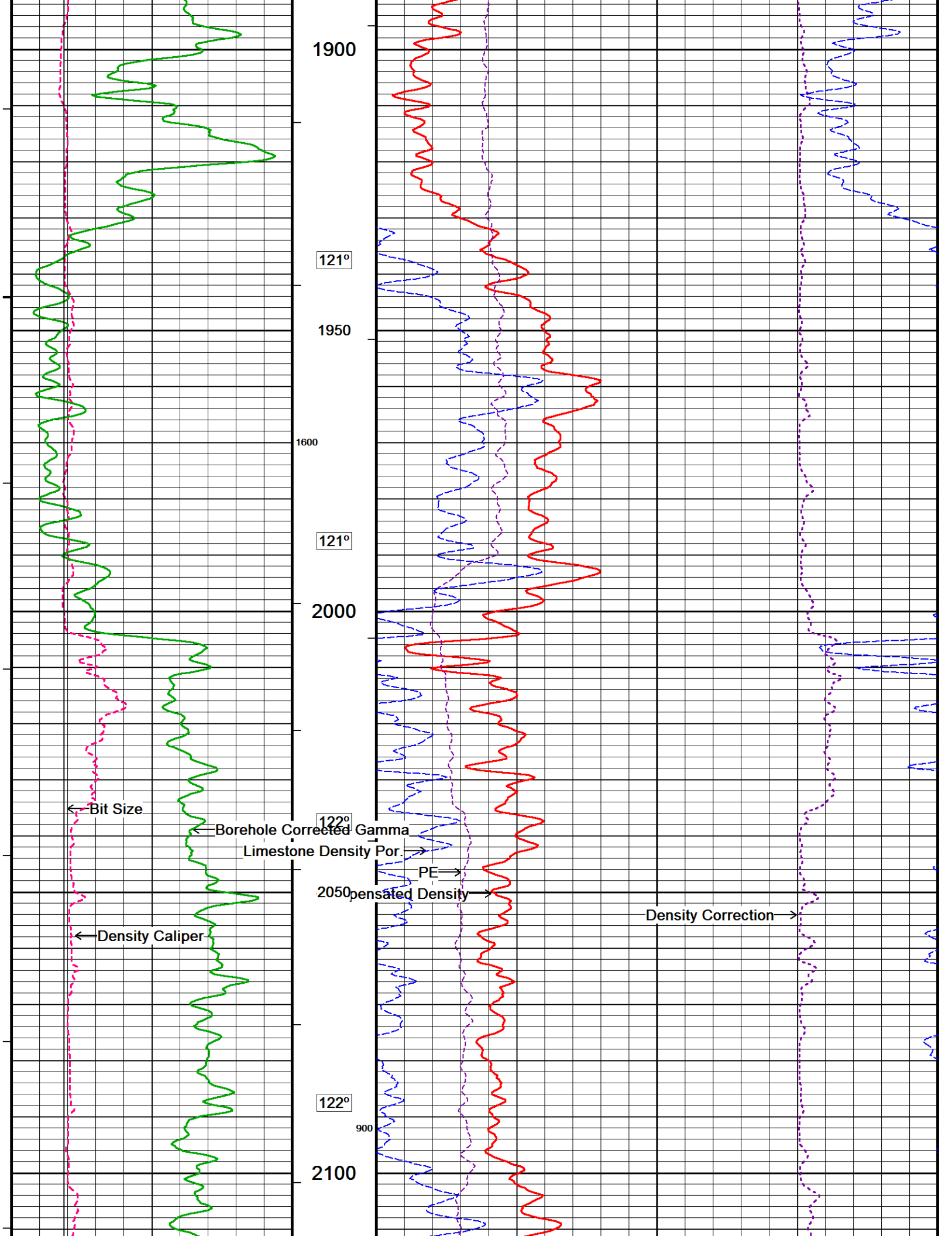
PE →

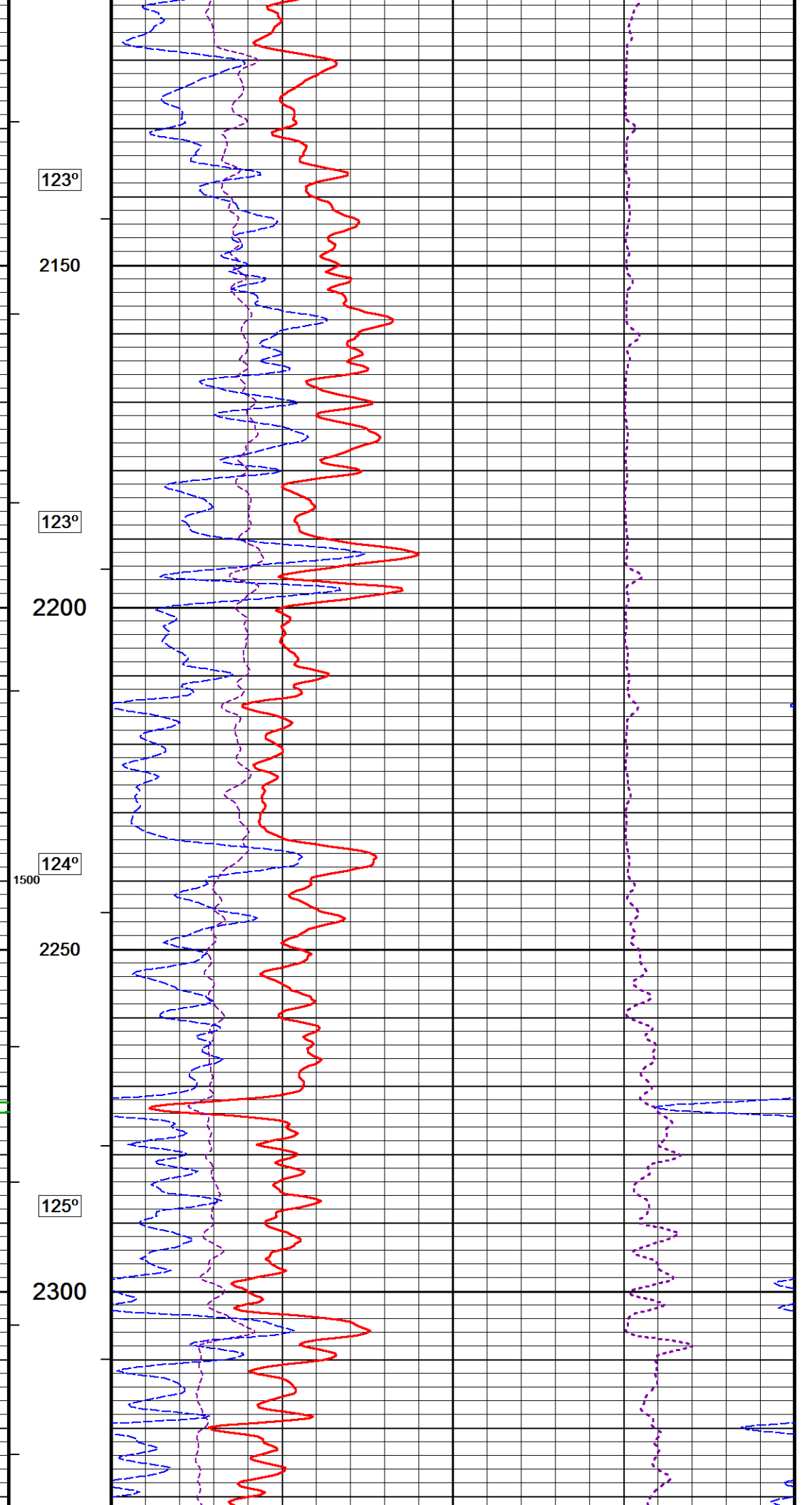
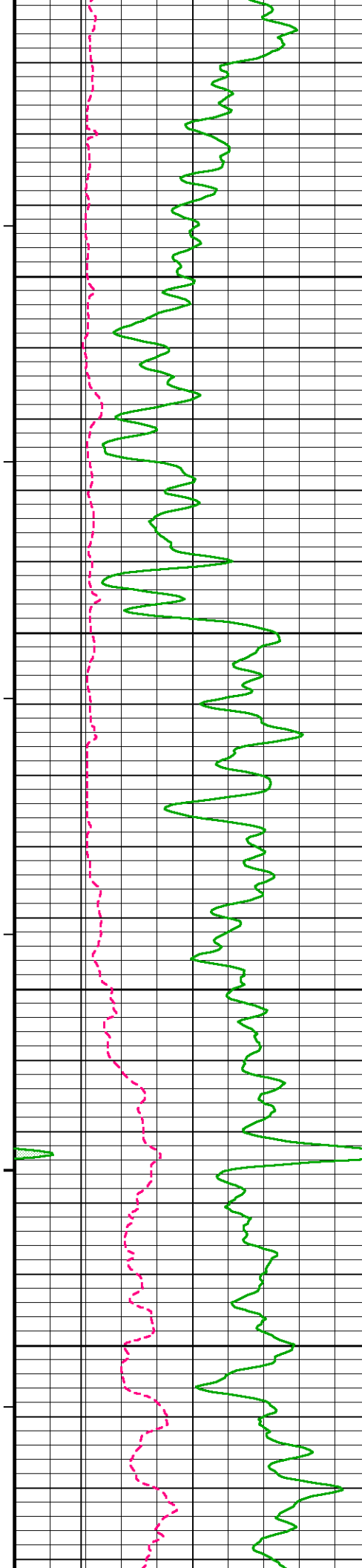
Compensated Density

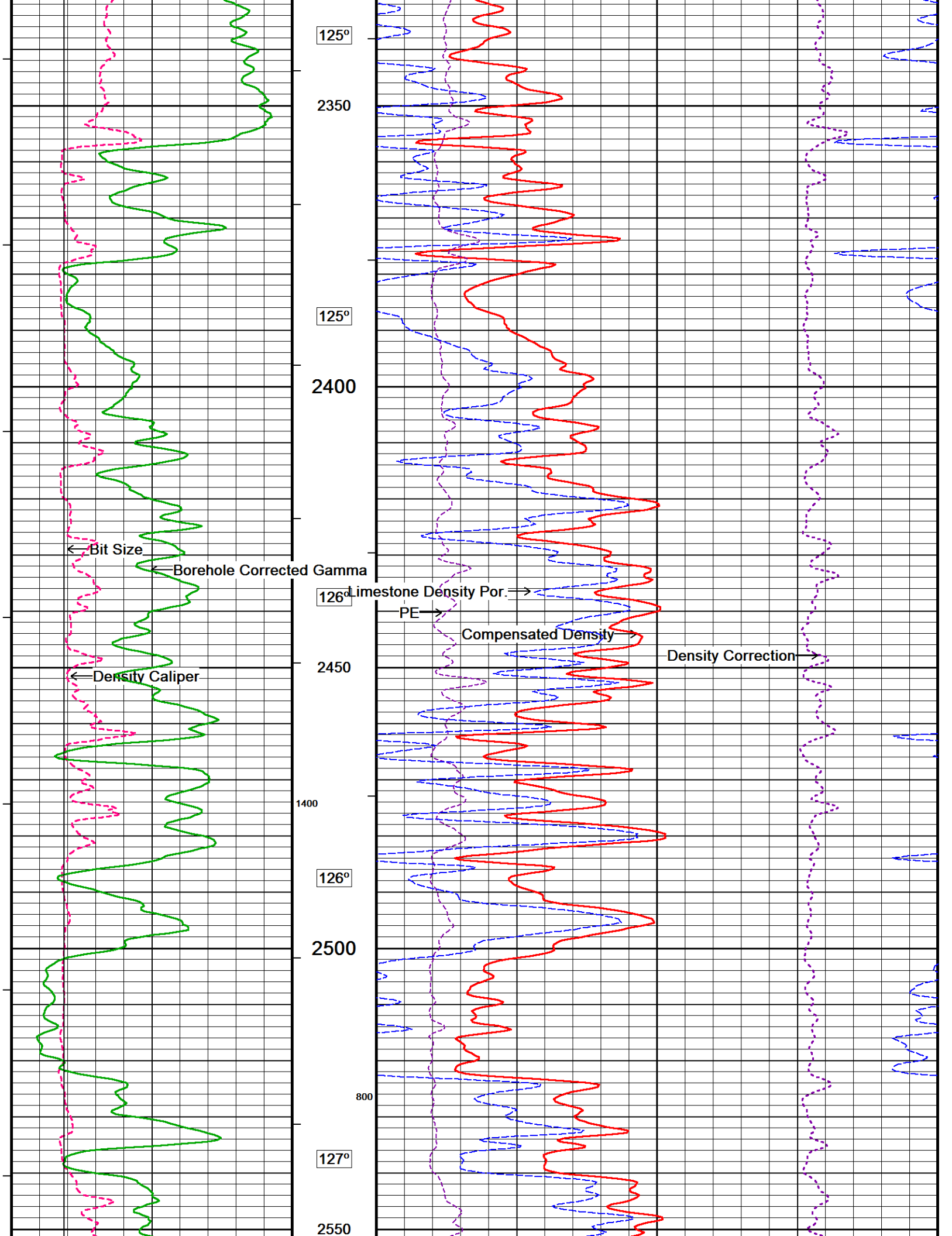
Density Correction →

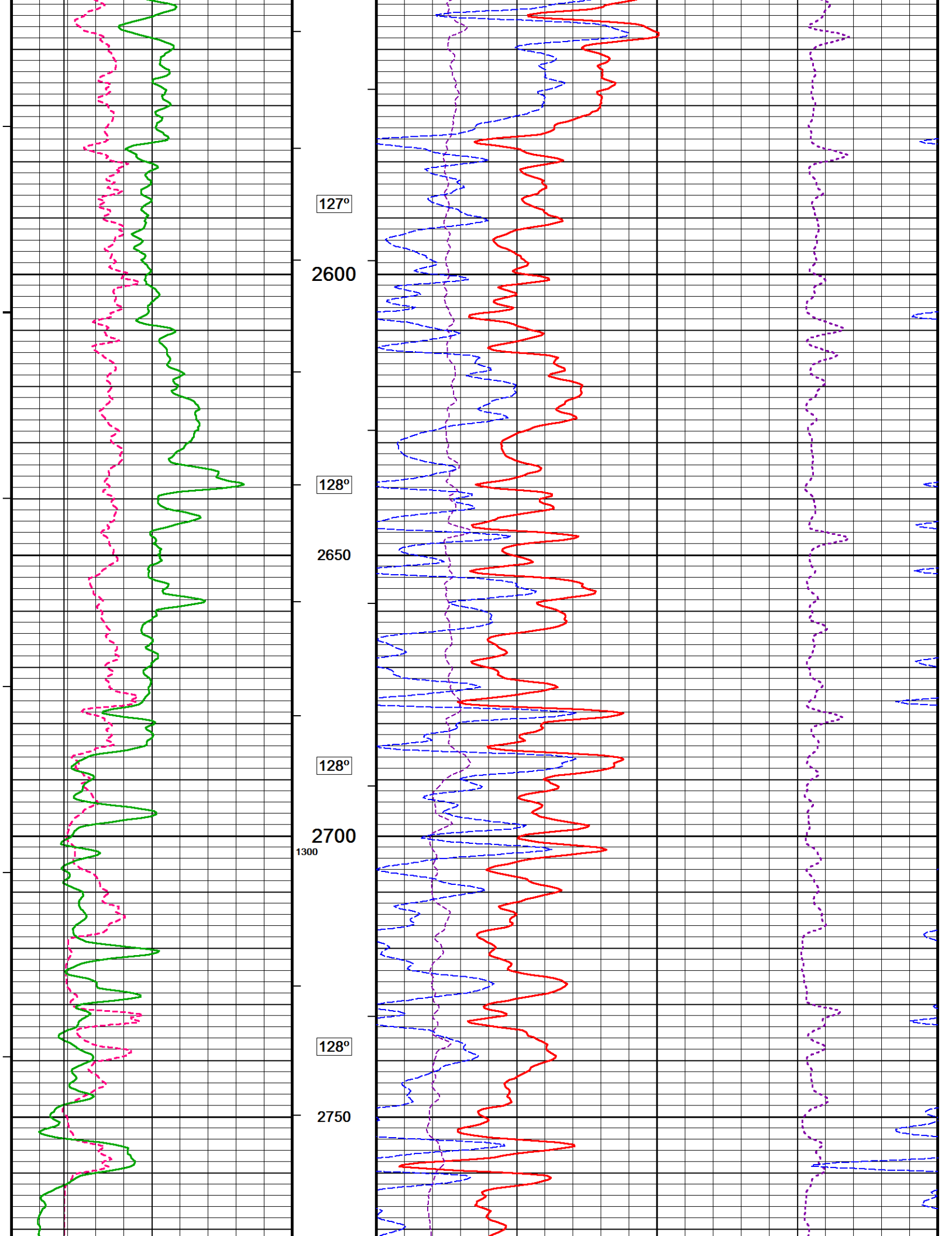
← Density Caliper

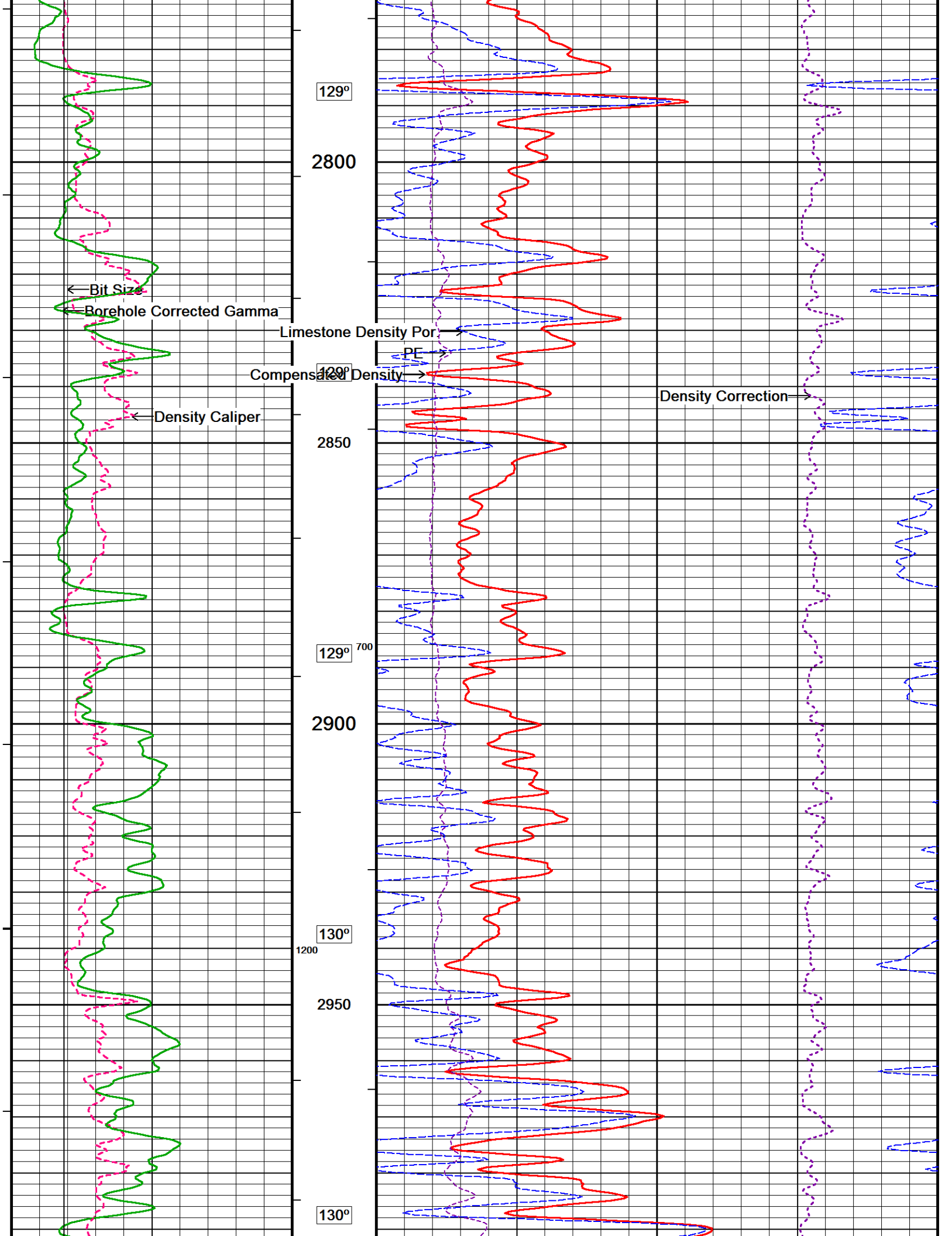












129°

2800

← Bit Size

← Borehole Corrected Gamma

Limestone Density Por.

PE

Compensated Density

Density Correction

← Density Caliper

2850

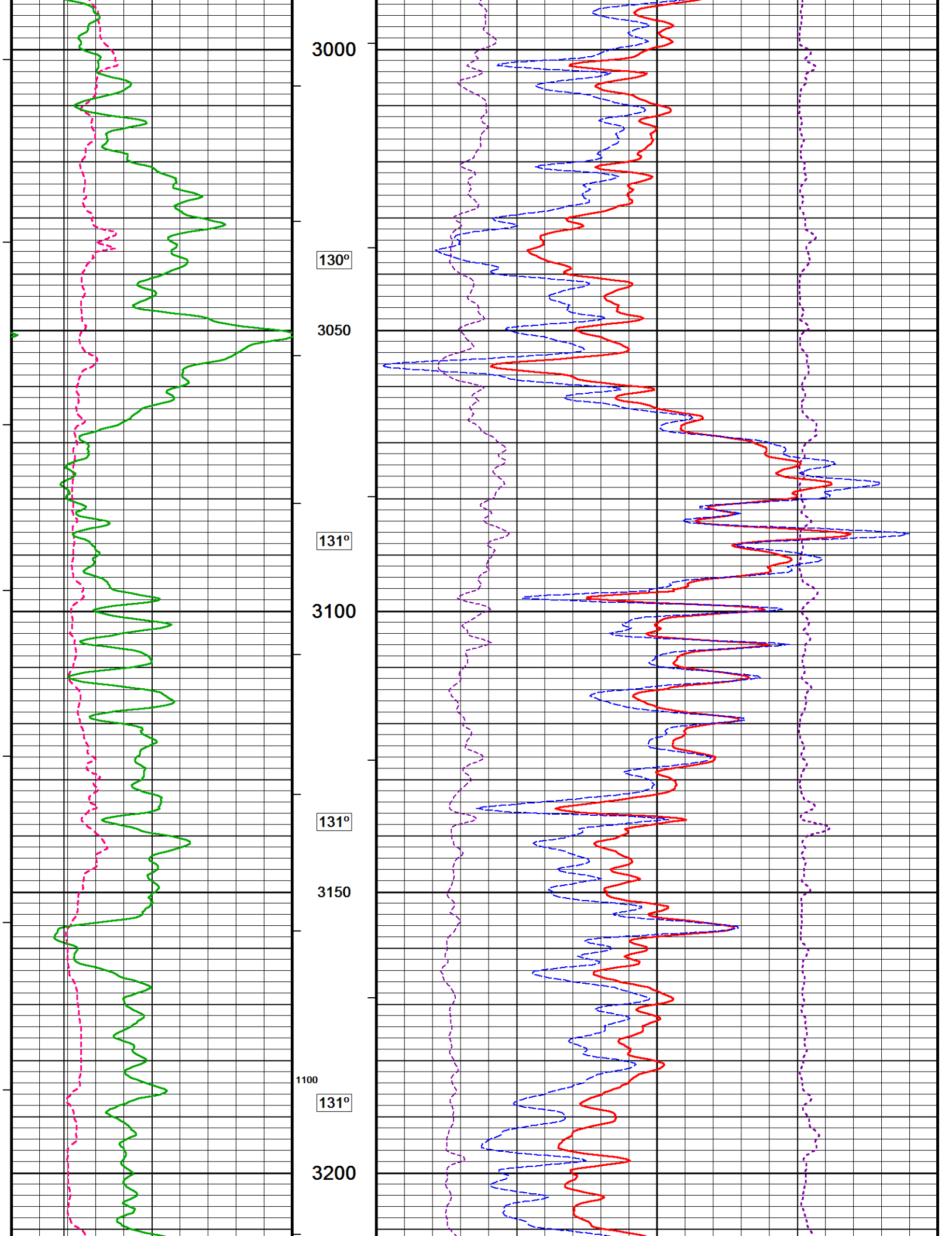
129°⁷⁰⁰

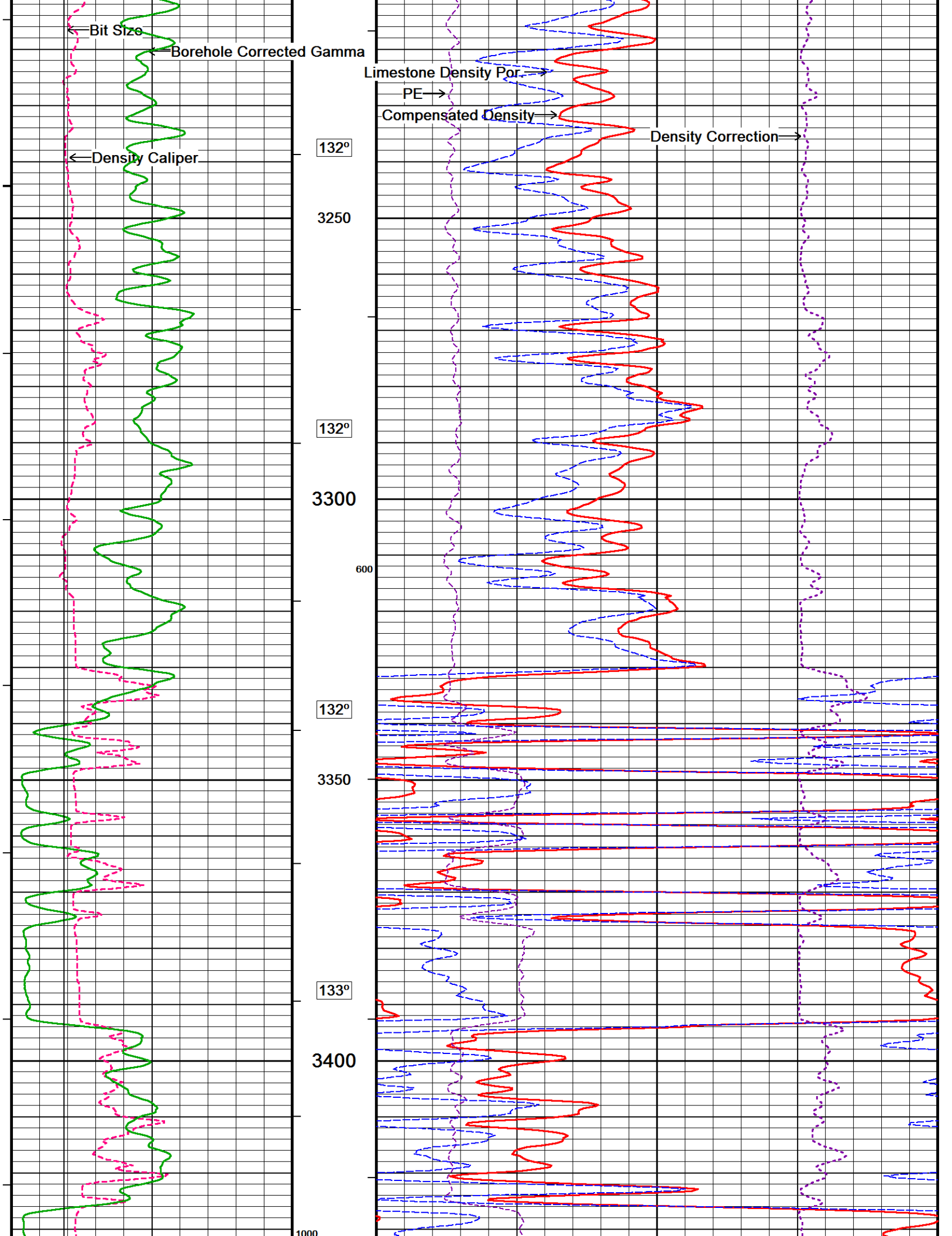
2900

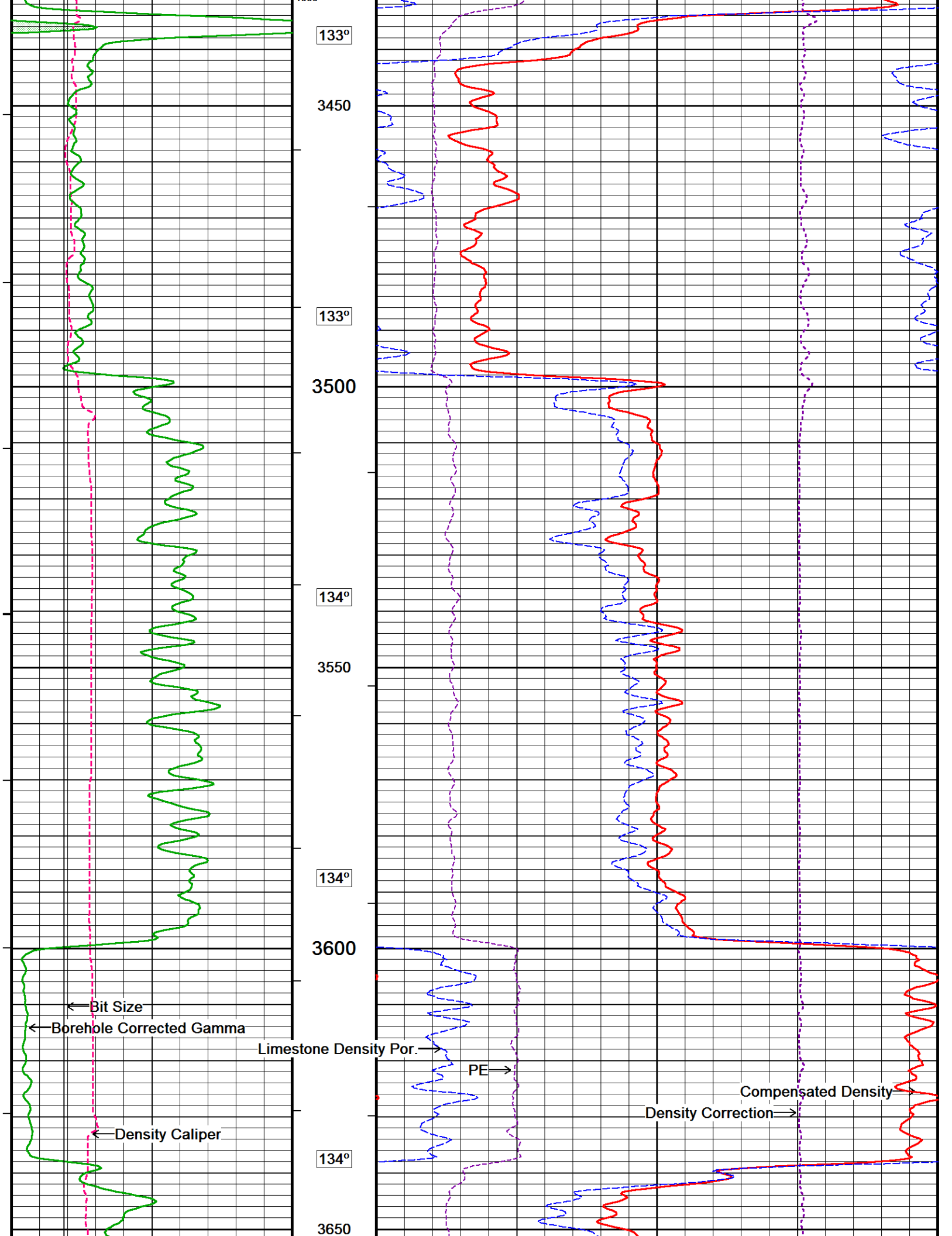
130°¹²⁰⁰

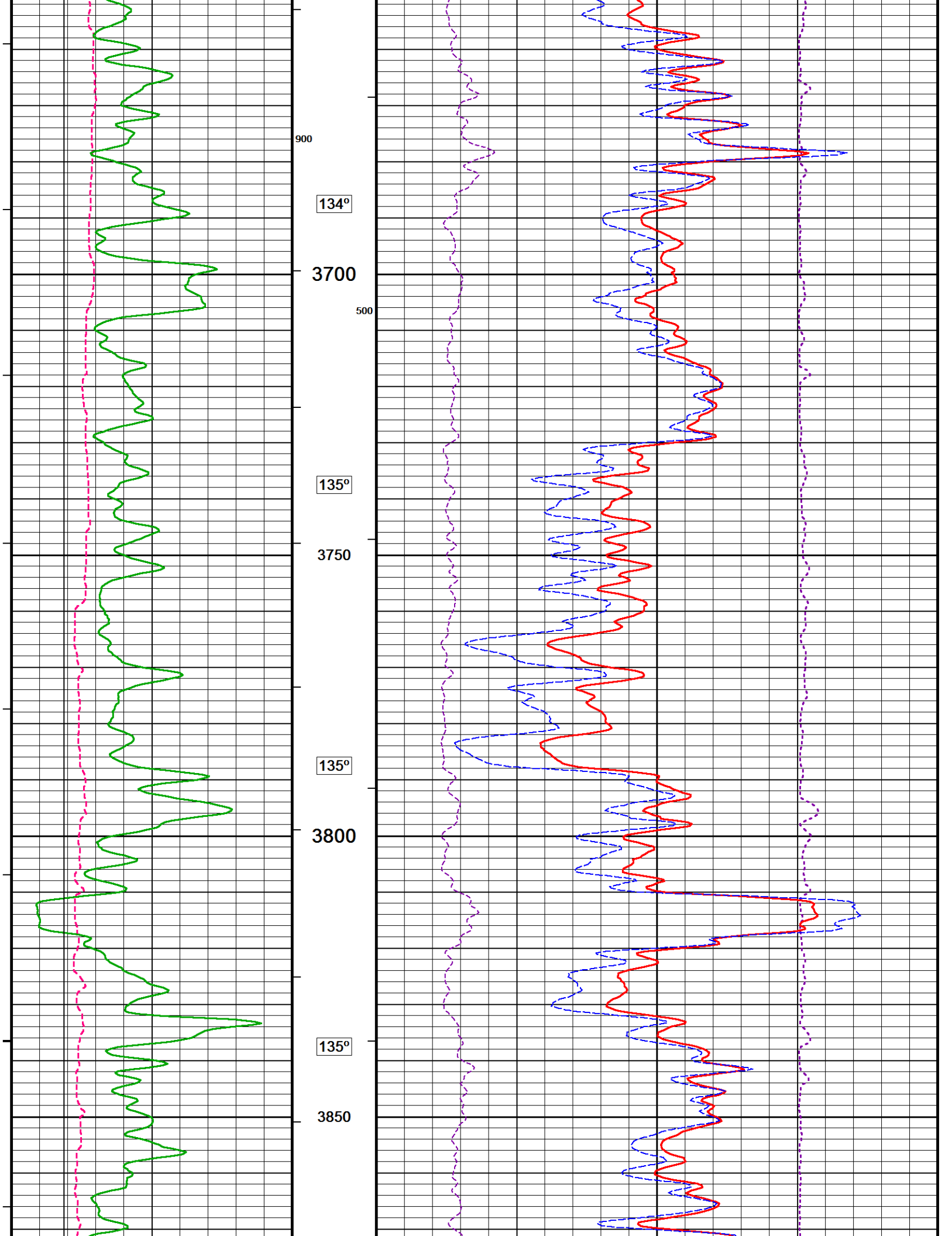
2950

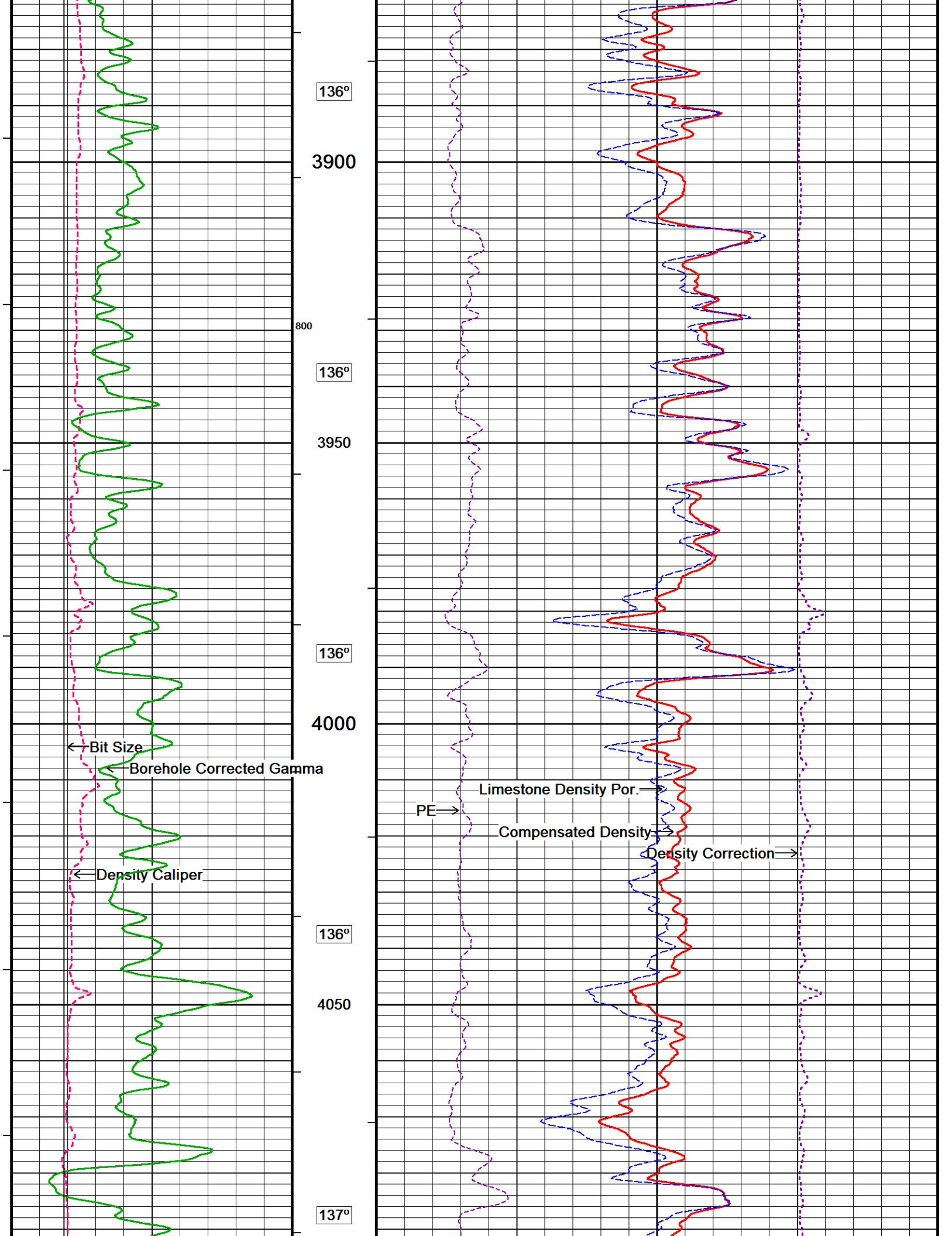
130°

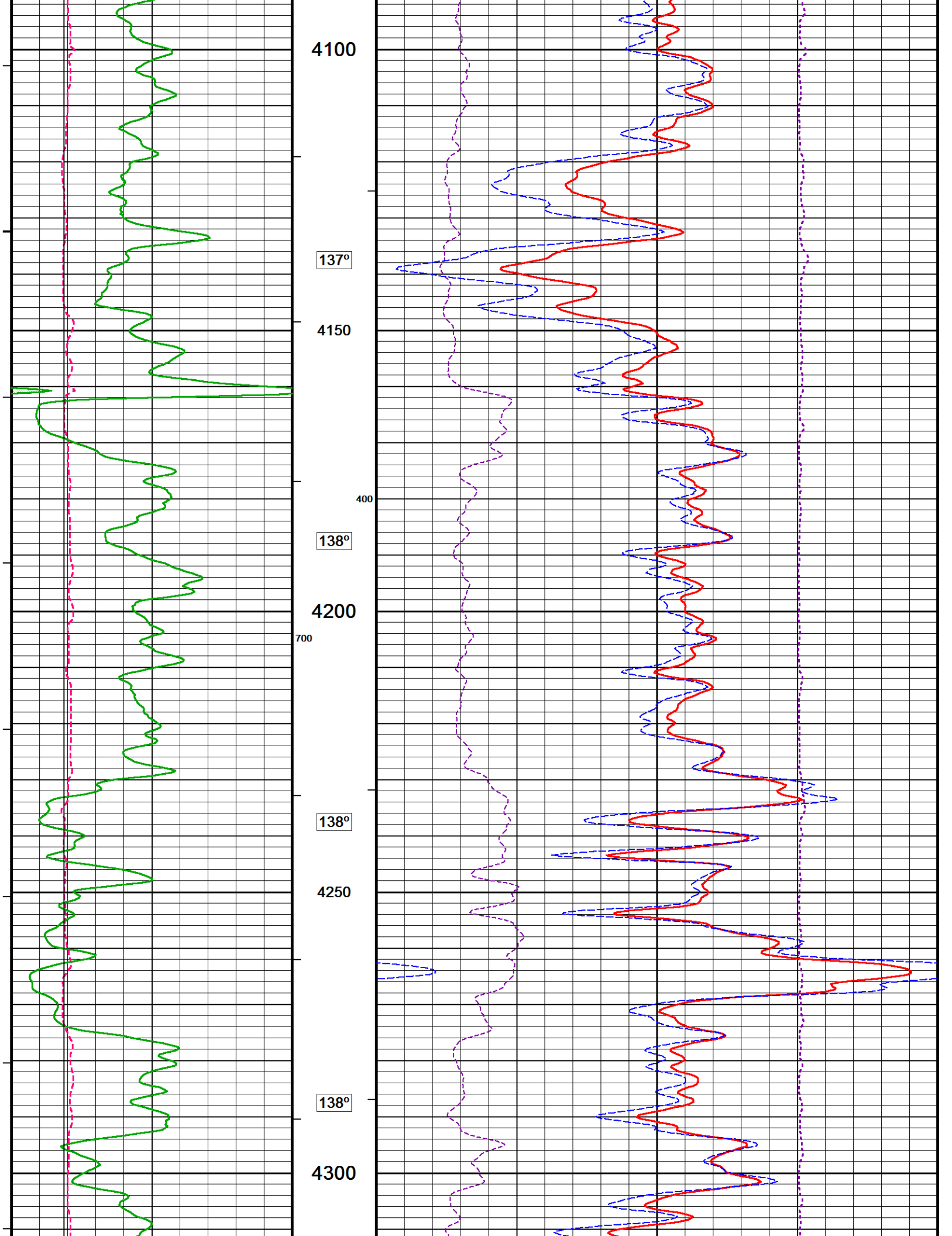


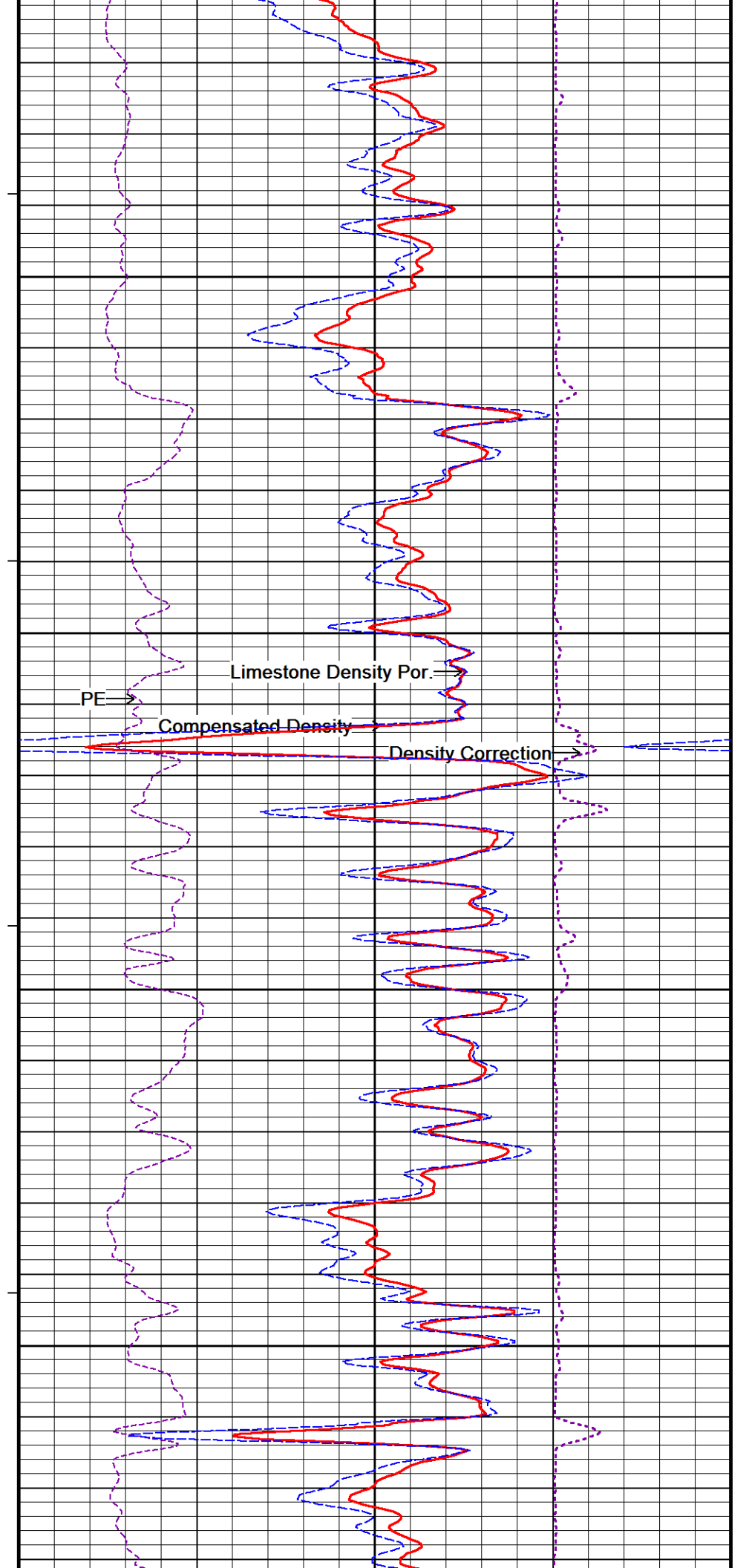
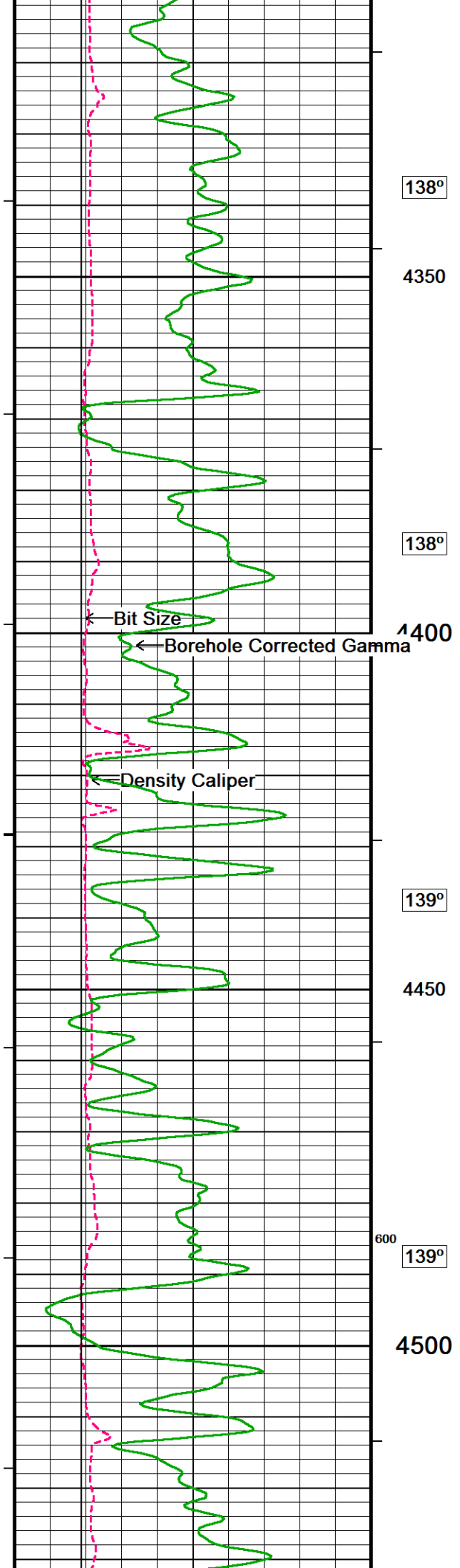


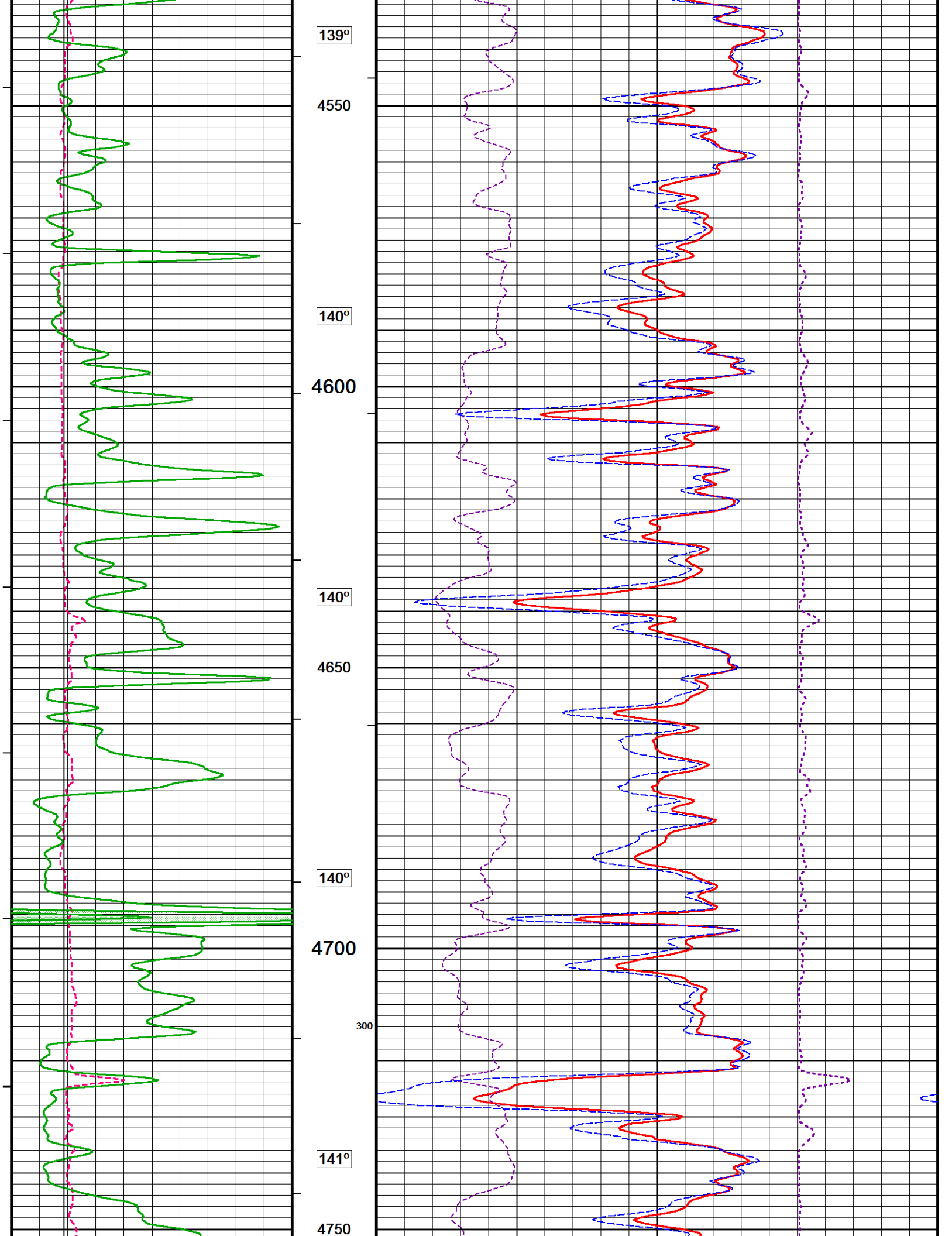


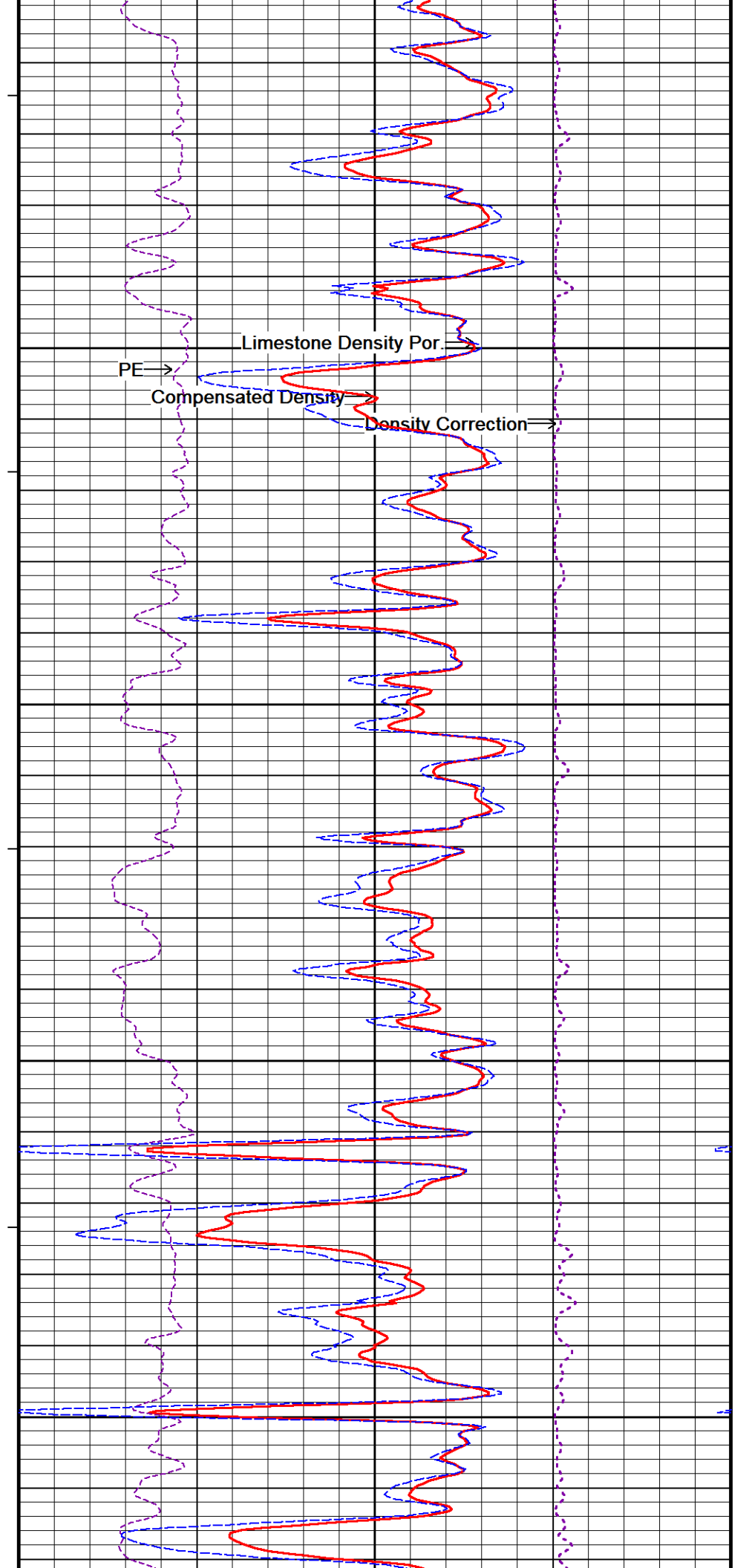
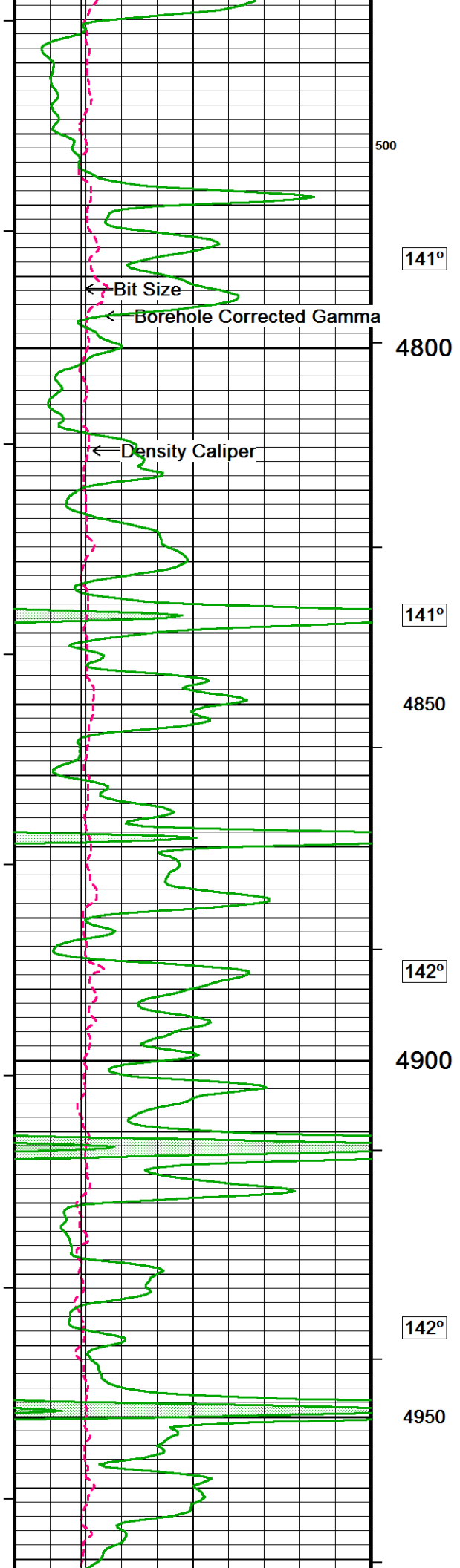












← Bit Size

← Borehole Corrected Gamma

← Density Caliper

PE →

Limestone Density Por →

Compensated Density →

Density Correction →

141°

4800

141°

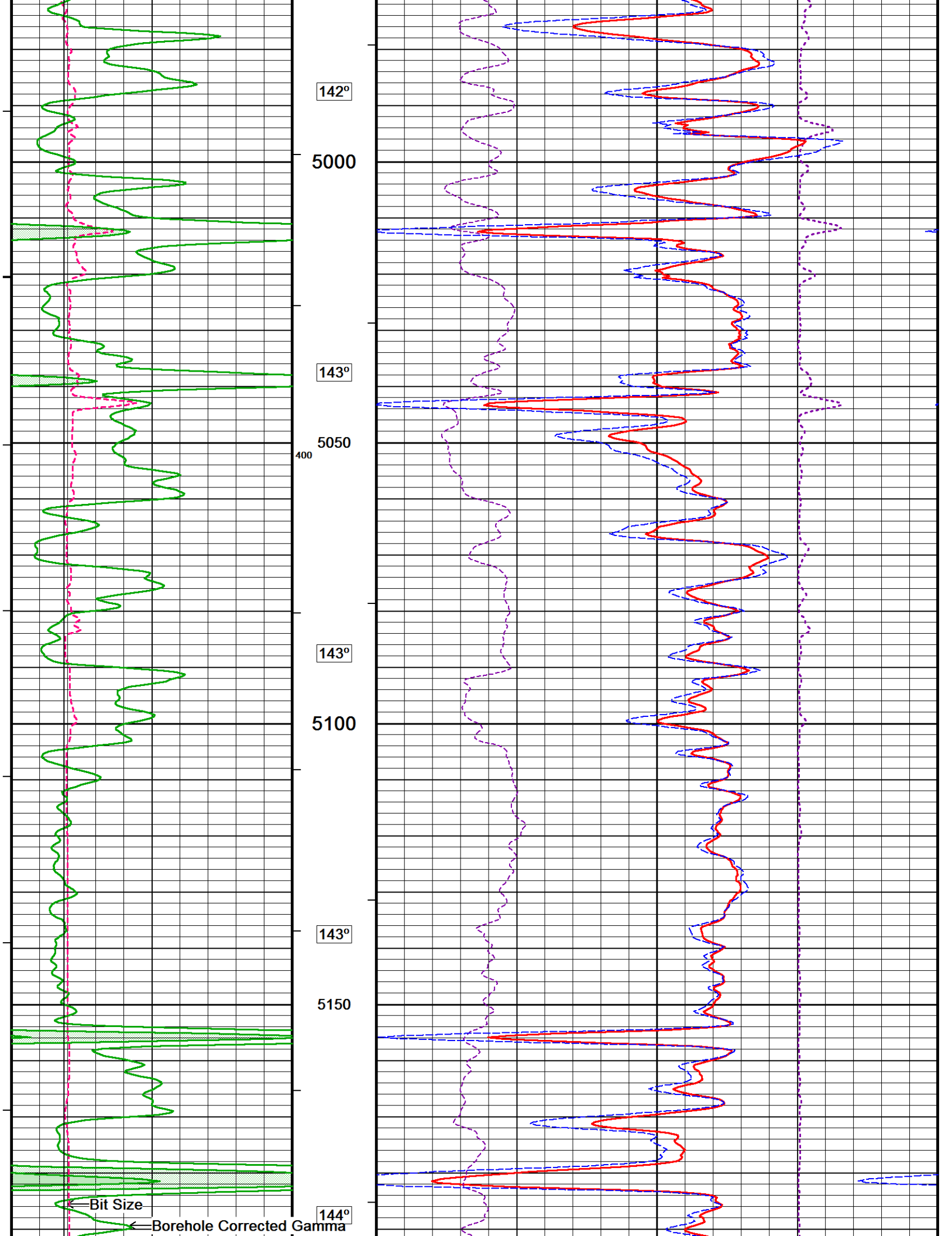
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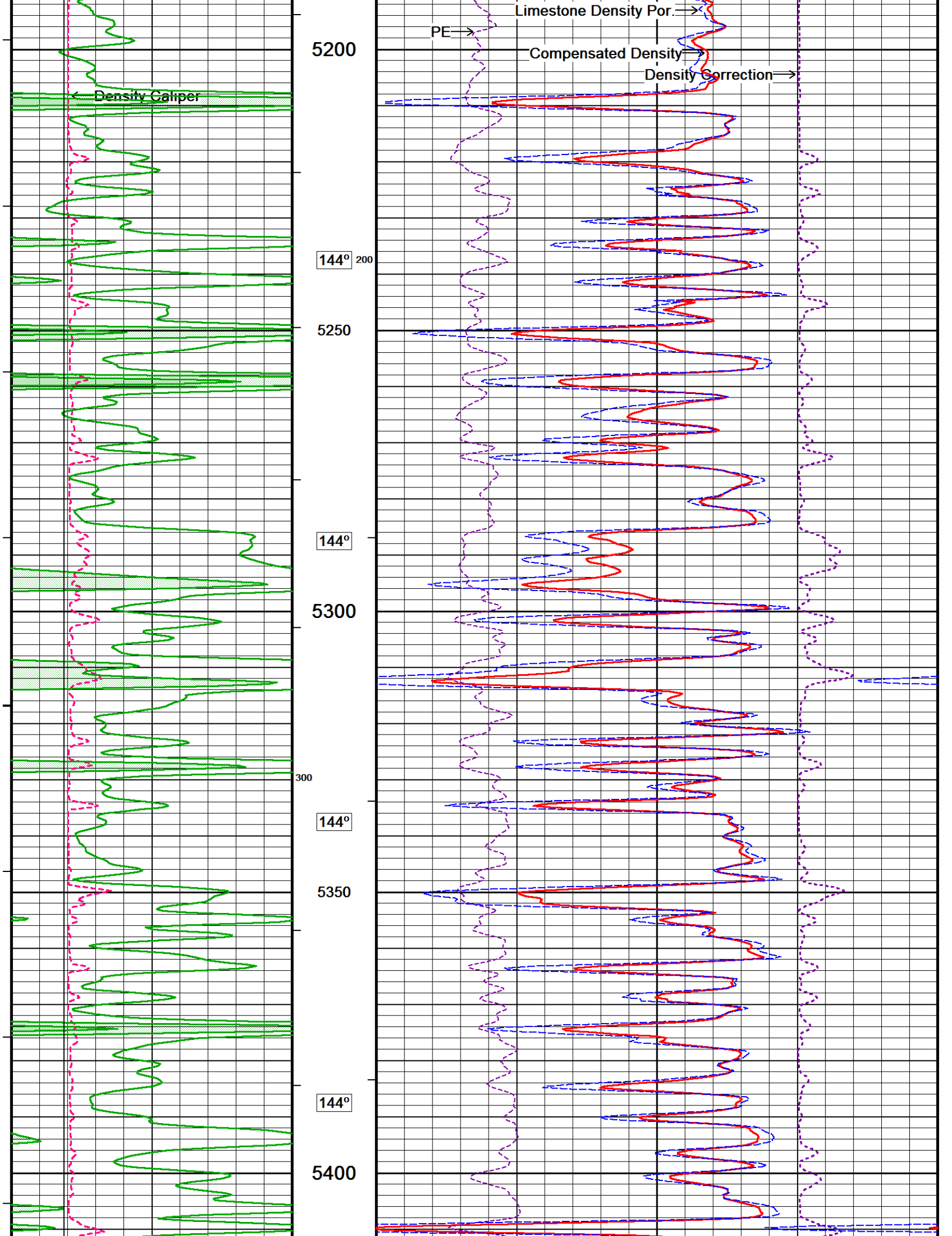
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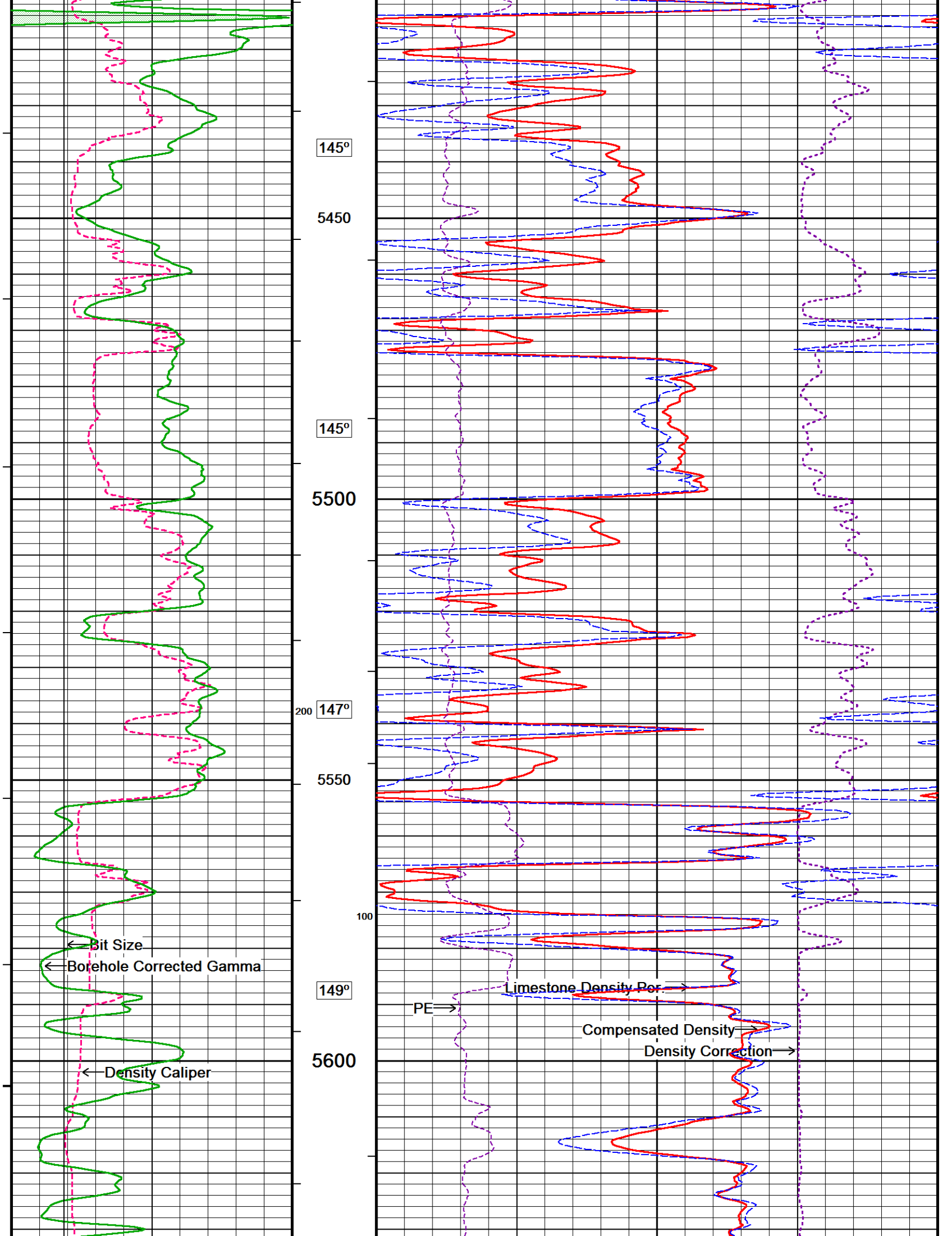
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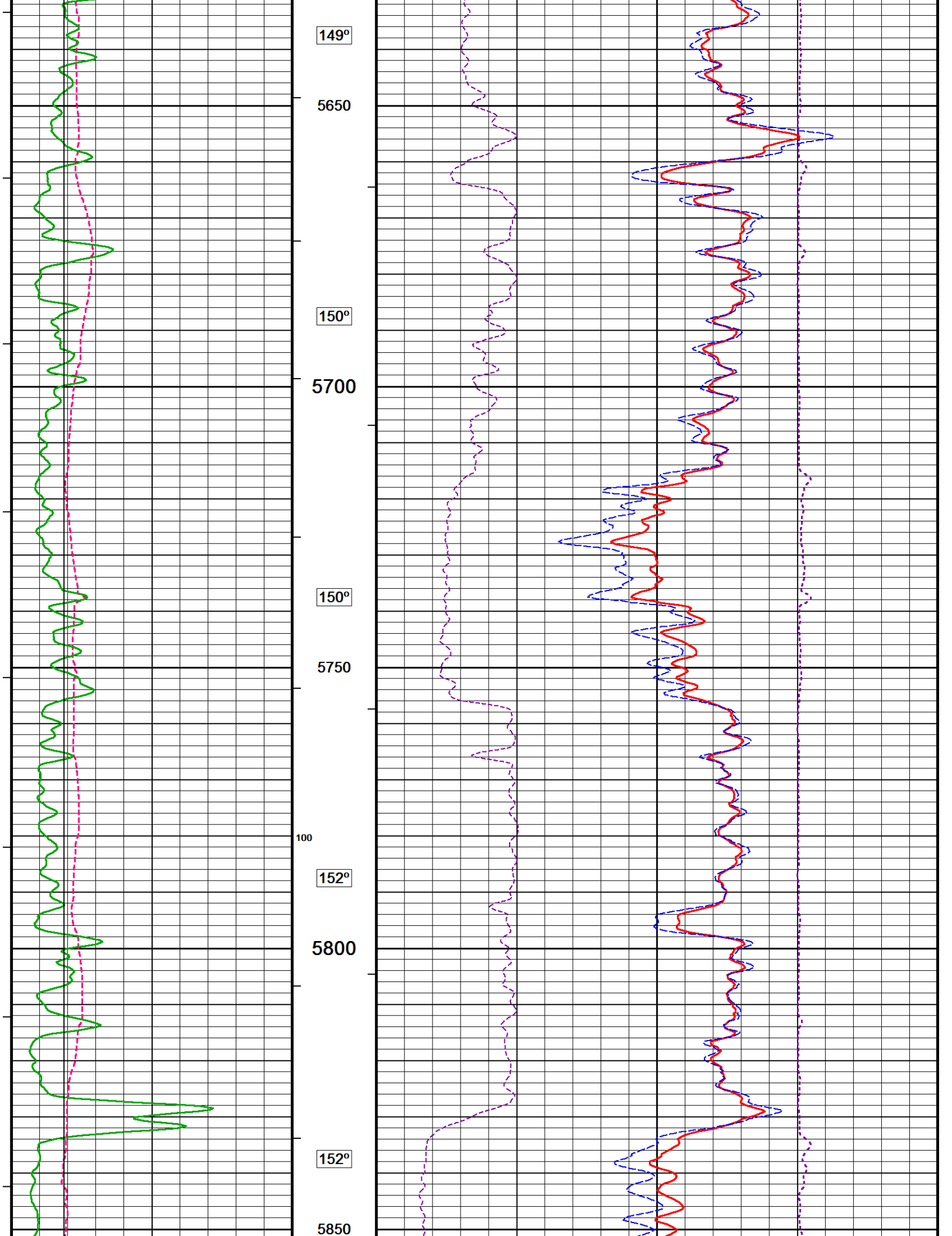
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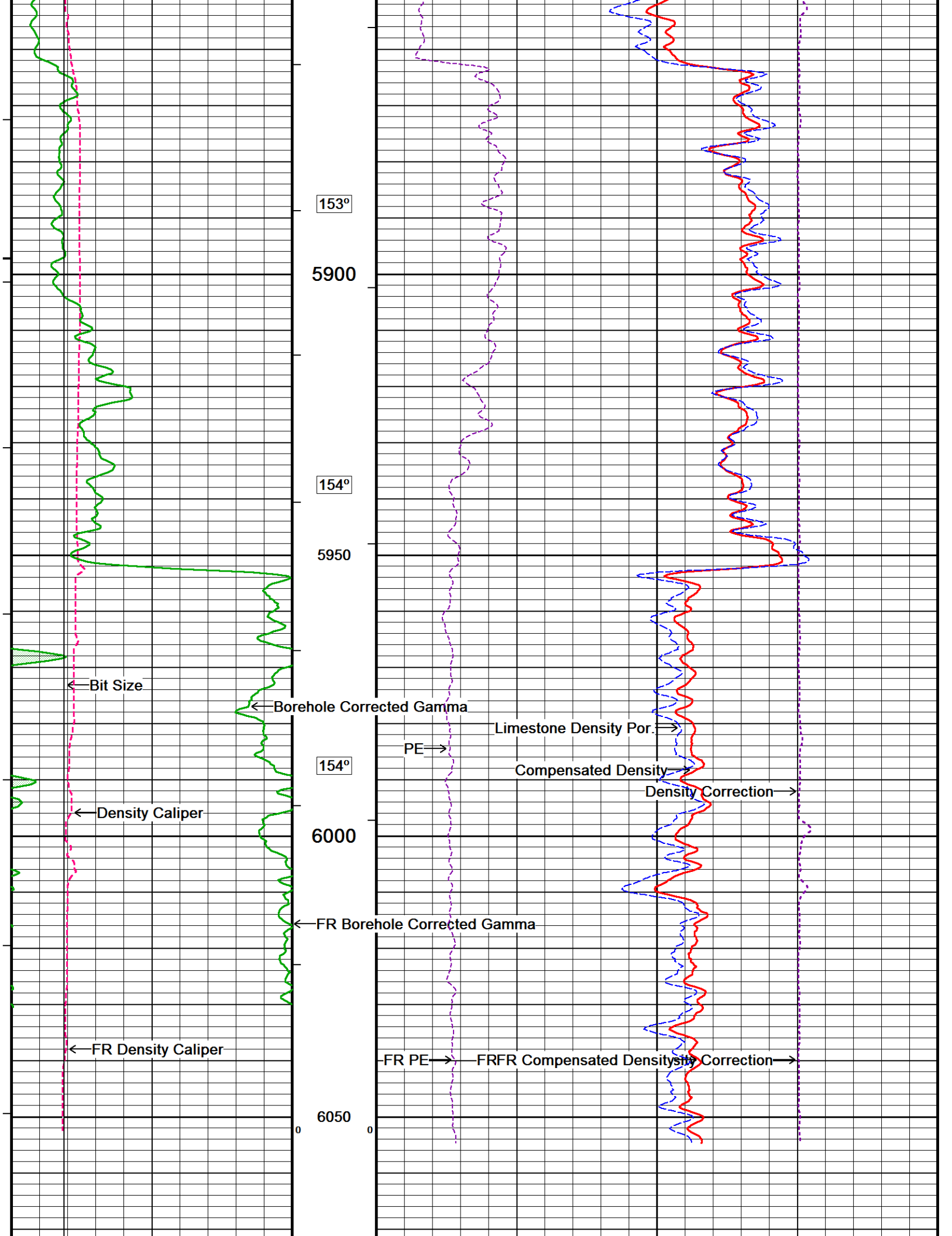
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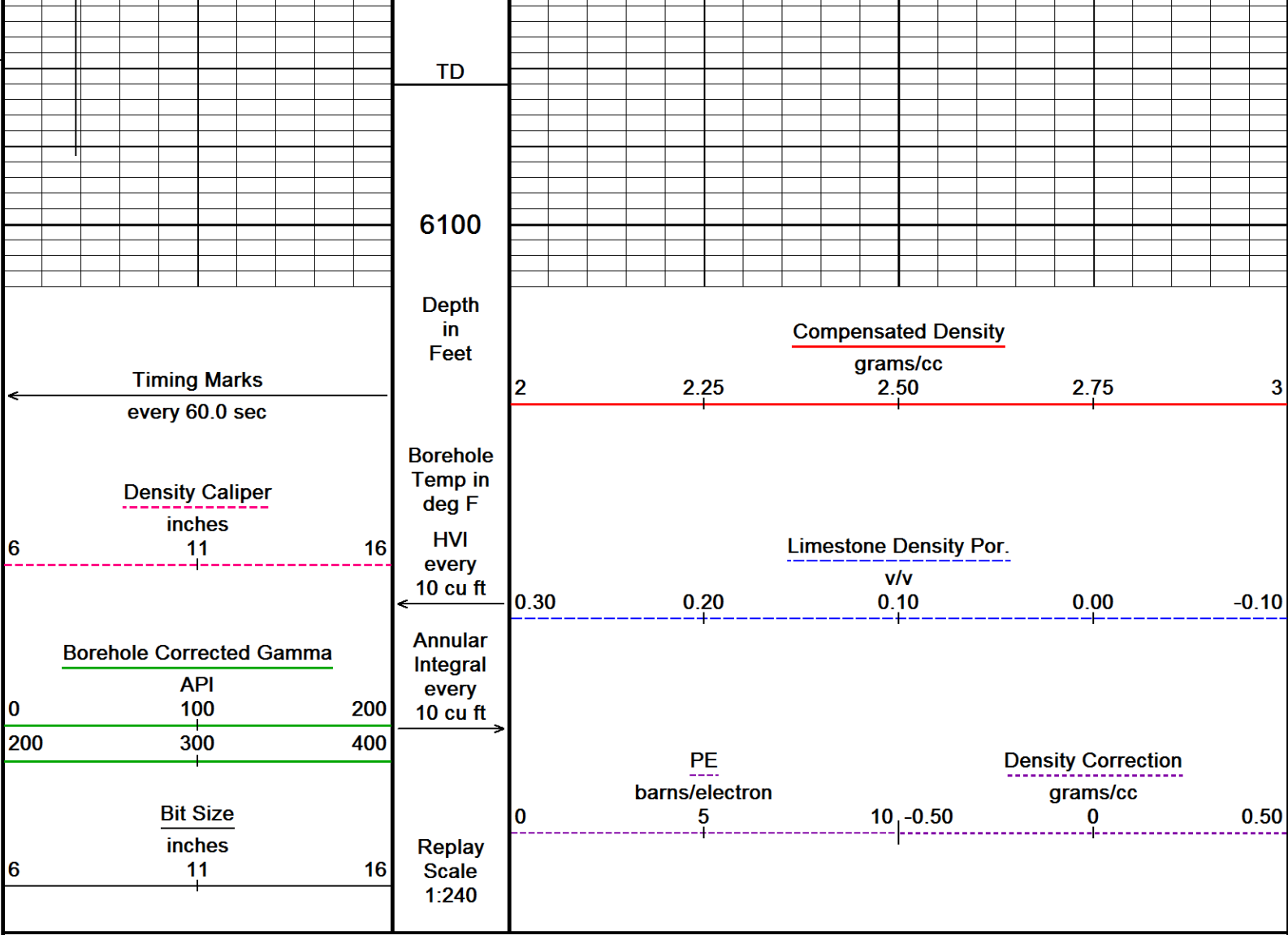










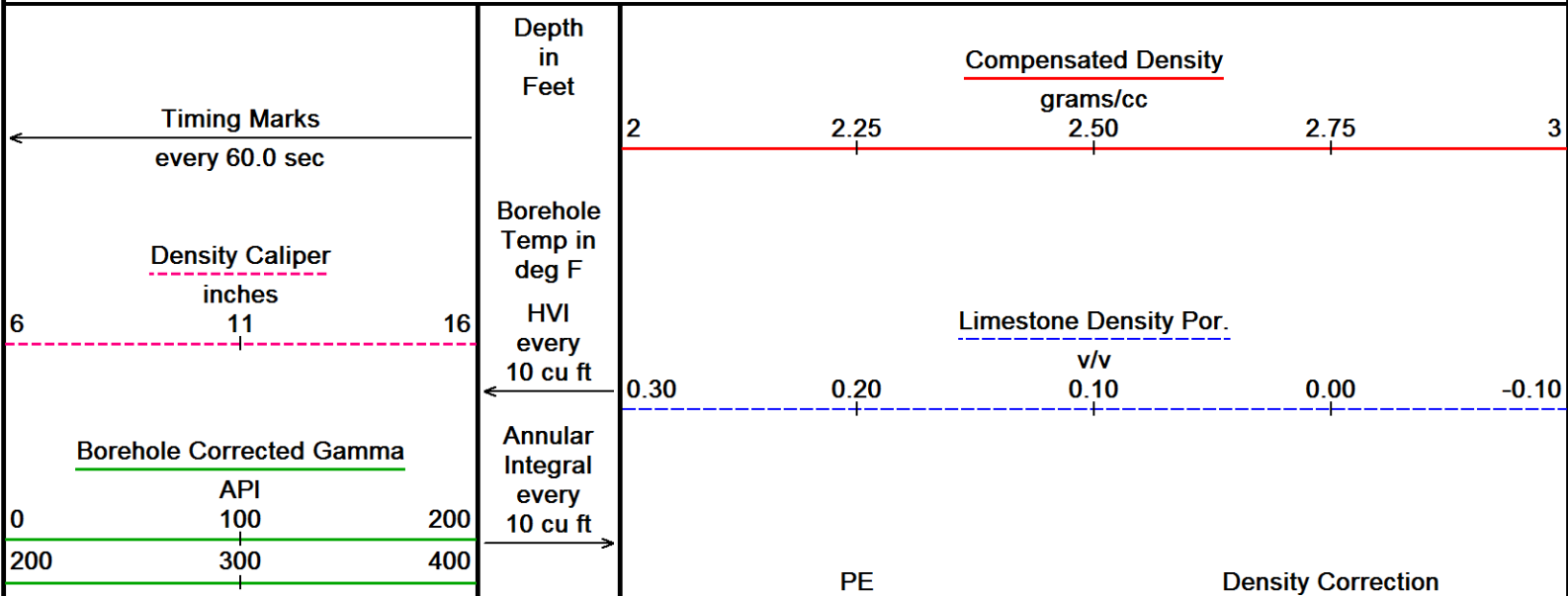


Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 26-MAY-2023 17:15
 Filename: C:_LOGS\Trek Resources\Pfaffly #1-12\MainPass.dta Recorded on 26-MAY-2023 13:17
 System Versions: Logged with 21.11.3172 Plotted with 21.11.3172

↑ **5 INCH MAIN PASS - BULK DENSITY** ↑

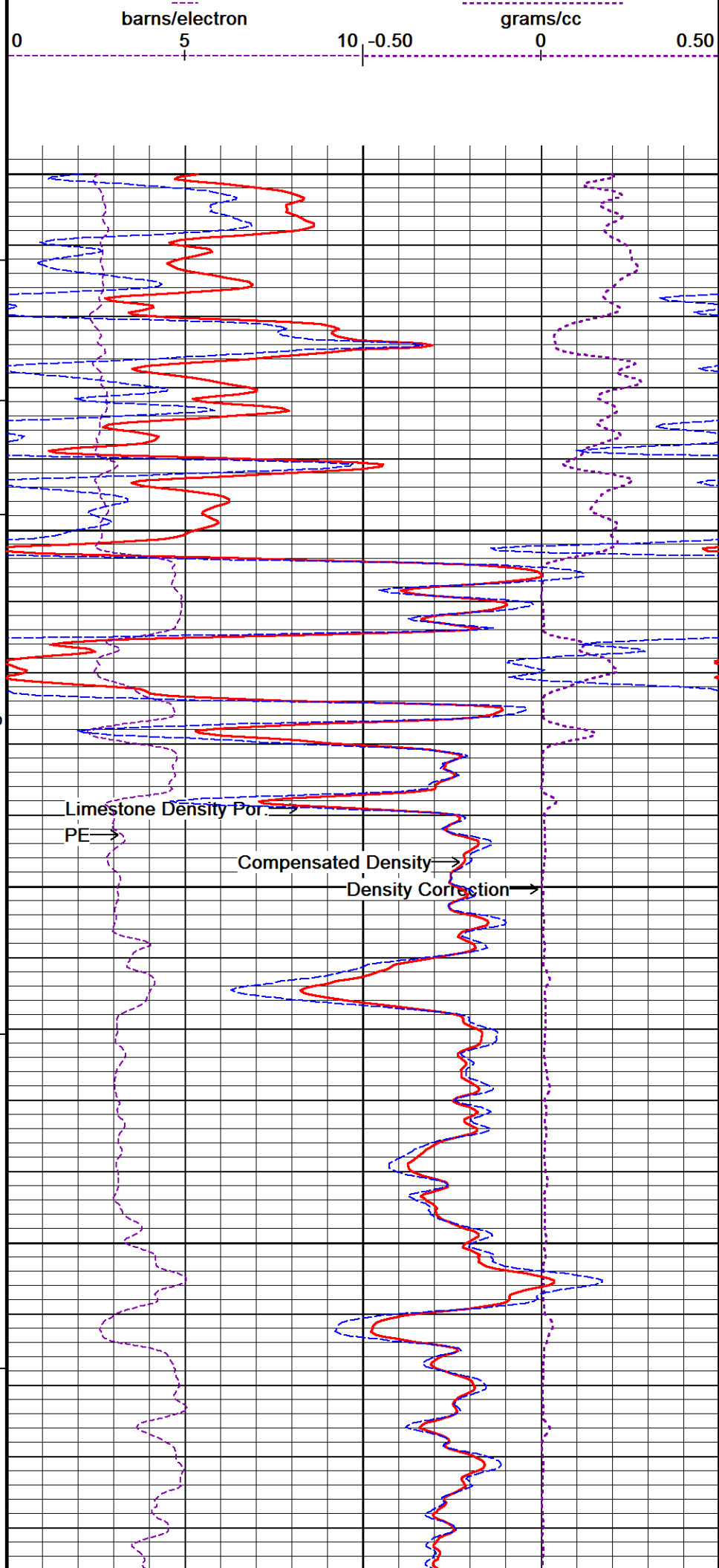
↓ **5 INCH REPEAT PASS - BULK DENSITY** ↓

Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 26-MAY-2023 17:15
 Filename: C:_LOGS\Trek Resources\Pfaffly #1-12\Repeat_Reprocessed.dta Recorded on 26-MAY-2023 12:08
 System Versions: Logged with 20.11.3980 Processed with 21.11.3172 Plotted with 21.11.3172

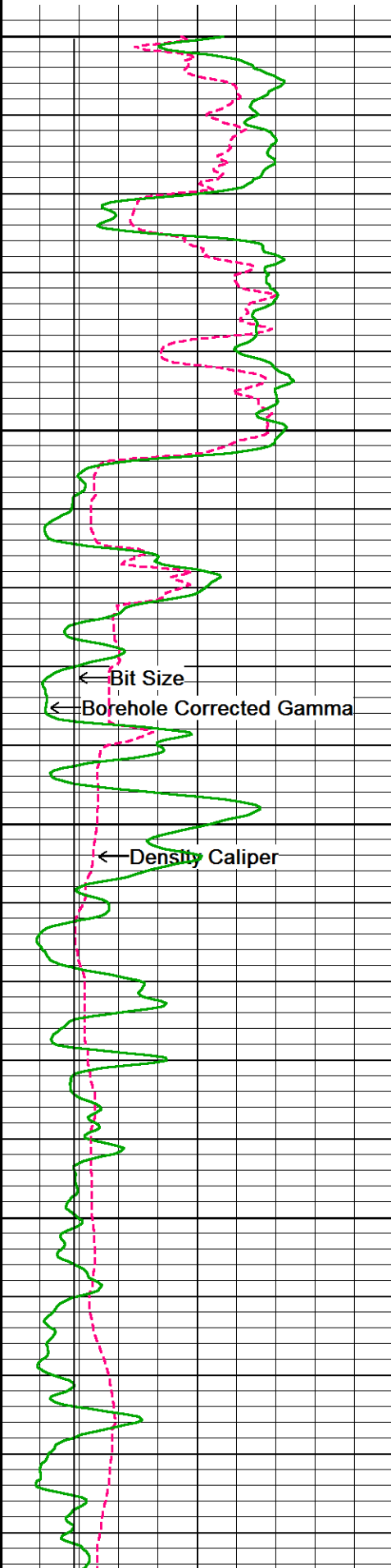


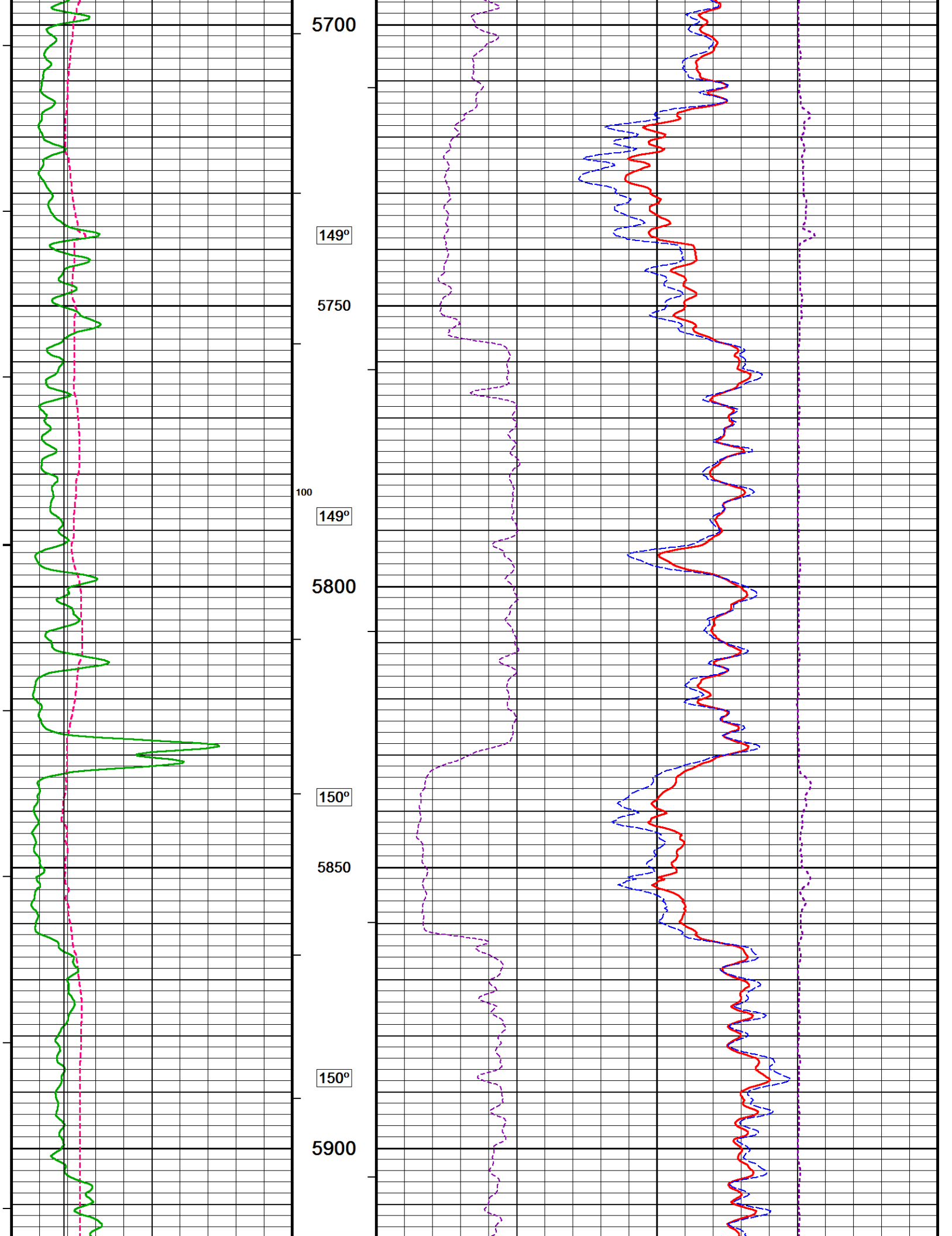
Bit Size
inches
6 11 16

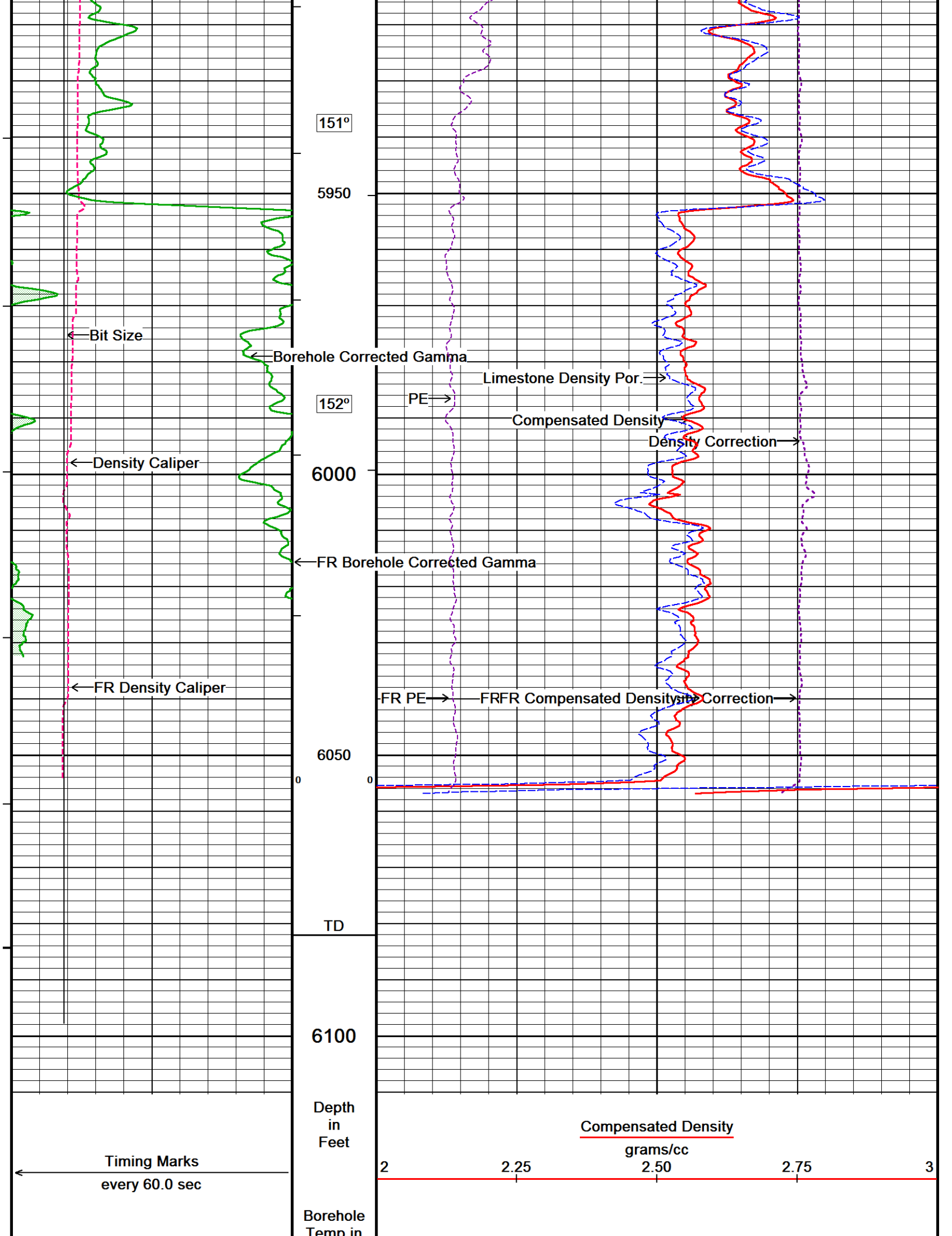
Replay
Scale
1:240

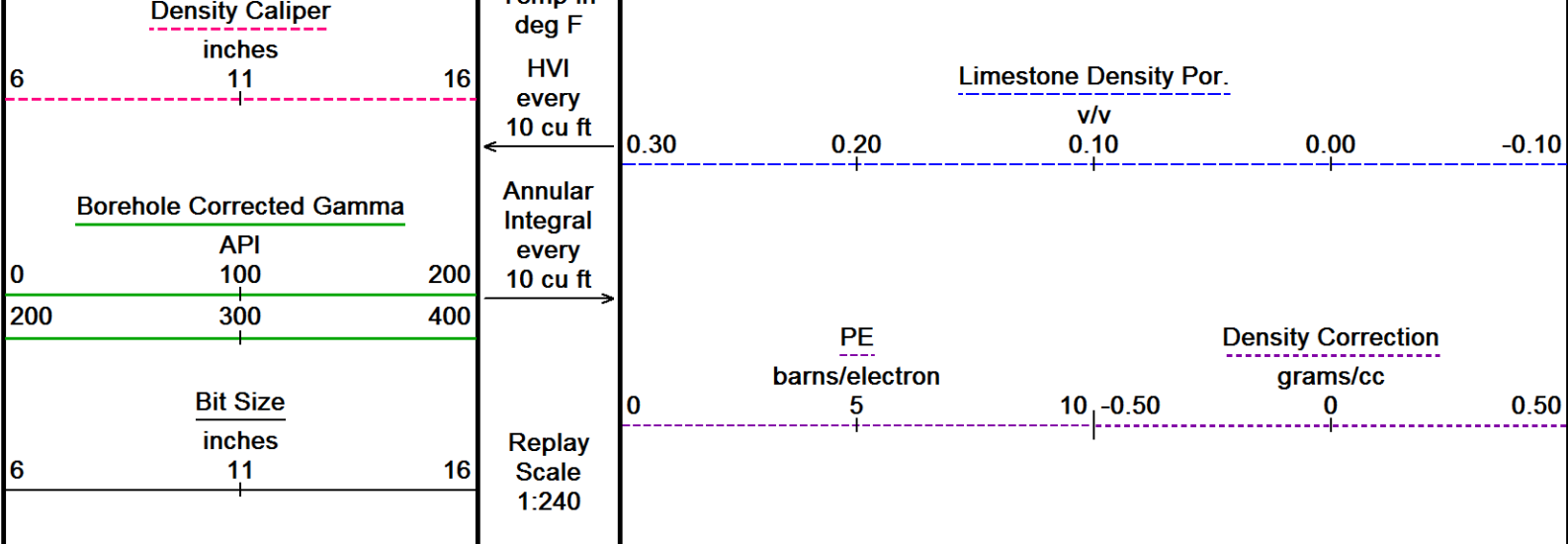


← Bit Size
← Borehole Corrected Gamma
← Density Caliper









Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 26-MAY-2023 17:15
 Filename: C:_LOGS\Trek Resources\Pfaffly #1-12\Repeat_Reprocessed.dta
 Recorded on 26-MAY-2023 12:08
 System Versions: Logged with 20.11.3980 Processed with 21.11.3172 Plotted with 21.11.3172

↑ **5 INCH REPEAT PASS - BULK DENSITY** ↑

BEFORE SURVEY CALIBRATION
 C:_LOGS\Trek Resources\Pfaffly #1-12\MainPass.dta

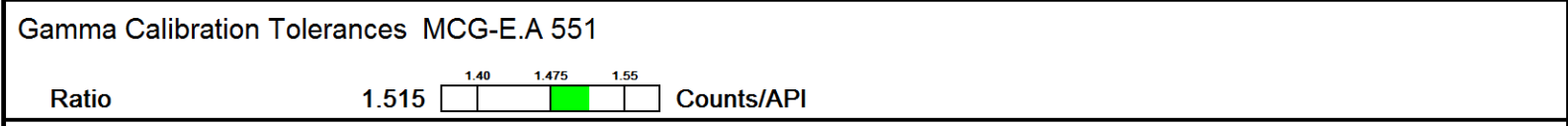
General Constants All 000 Last Edited on 26-MAY-2023,12:35

General Parameters		
Mud Resistivity	0.750	ohm-metres
Mud Resistivity Temperature	86.000	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	
HVOL Caliper 2	N/A	
Annular Volume Diameter	5.500	inches
Caliper for Differential Caliper	Density Caliper	
Rwa Parameters		
Porosity used	Limestone Density Por.	
Resistivity used	Array Ind. One Res Rt	
RWA Constant A	1.000	
RWA Constant M	2.000	
SW/APOR Tool Source	0.000	

High Resolution Temperature Constants MCG-E.A 551
 Pre-filter Length 11

Gamma Calibration MCG-E.A 551 Field Calibration on 20-APR-2023 13:00

	Measured	Calibrated (API)
Background	52	35
Calibrator (Gross)	860	568
Calibrator (Net)	807	533



Gamma Constants MCG-E.A 551 Last Edited on 26-MAY-2023,12:36

Gamma Calibrator Number	MCG 111
GRC-M Calibrator Jig in Use?	NO
Inactive Background Jig in Use?	NO
Mud Density	1.09 gm/cc

Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Potassium Equivalence	Chloride	
K Mud Concentration	0.00	%

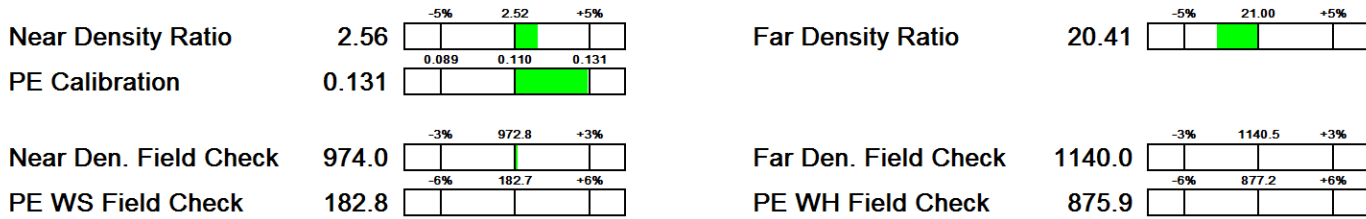
Photo Density Calibration MPD-C.J 438

Base Calibration on 06-APR-2023 14:01
Field Check on 06-APR-2023 14:07

Density Calibration					
Base Calibration		Measured		Calibrated (sdu)	
		Near	Far	Near	Far
Background		973	1140		
Reference 1		44856	20382	59814	31141
Reference 2		18117	2083	24963	2524
Field Check at Base		972.8	1140.5		
Field Check		974.0	1140.0		

PE Calibration					
Base Calibration		Measured		Calibrated	
	WS	WH	Ratio	Ratio	
Background	183	877			
Reference 1	20347	44708	0.460	0.368	
Reference 2	5757	18012	0.325	0.273	
Field Check at Base		182.7	877.2		
Field Check		182.8	875.9		

Photo Density Calibration Tolerances MPD-C.J 438



Density Constants MPD-C.J 438

Last Edited on 26-MAY-2023,12:37

Density Source Id	H79956B	
Nylon Calibrator Number	DNCE 687	
Aluminium Calibrator Number	DACD 526	
Density Shoe Profile	8 inch	
Caliper Source for Processing	Density Caliper	
PE Correction to Density	Not Applied	
Mud Density	1.09	gm/cc
Mud Density Type	Non-Barite	
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	
Precision Enhanced Density Processing	Applied	
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	
0.00	0.00	
0.00	0.00	

Caliper Calibration MPD-C.J 438

Base Calibration on 06-APR-2023 14:51
Field Calibration on 06-APR-2023 14:52

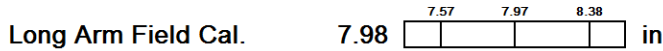
Base Calibration

Reading No	Measured	Calibrator Size (in)
1	15285	4.01
2	23599	5.96
3	32288	7.97
4	40480	9.86
5	49552	11.88
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
7.98	7.97

Caliper Calibration Tolerances MPD-C.J 438



DOWNHOLE EQUIPMENT

C:_LOGS\Trek Resources\Pfaffly #1-12\MainPass.dta

Cablehead, 11 pin
CBH-CC 348 LG: 2.40 ft WT: 24.3 lb OD: 2.244 in

11C-11B Compact Tool Adaptor
MTA-K.A 189 LG: 1.53 ft WT: 13.2 lb OD: 2.240 in

Compact Comms Gamma
MCG-E.A 551 LG: 8.70 ft WT: 63.9 lb OD: 2.244 in

Compact Micro-Resistivity
MMR-C.A 257 LG: 8.59 ft WT: 81.6 lb OD: 4.882 in

Compact Neutron
MDN-C.A 399 LG: 5.04 ft WT: 50.7 lb OD: 2.244 in

Compact Density/Caliper
MPD-C.J 438 LG: 9.59 ft WT: 90.4 lb OD: 2.449 in

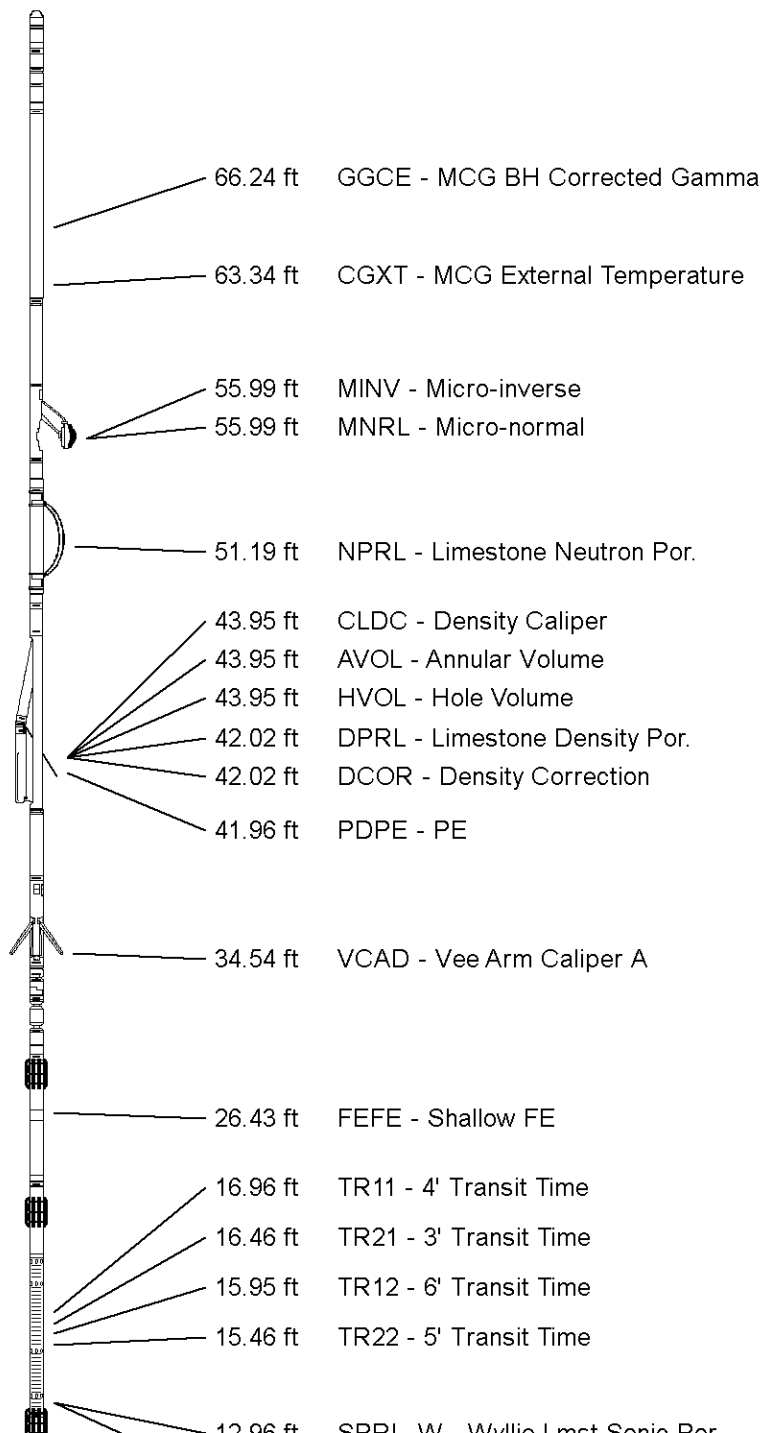
Compact Vee Arm Caliper
MVC-A.A 146 LG: 8.06 ft WT: 61.7 lb OD: 2.244 in

Compact Knuckle Joint
SKJ-E.B 694 LG: 2.17 ft WT: 24.3 lb OD: 2.244 in

Compact Focussed Electric
MFE-C.A 399 LG: 6.05 ft WT: 48.5 lb OD: 2.244 in

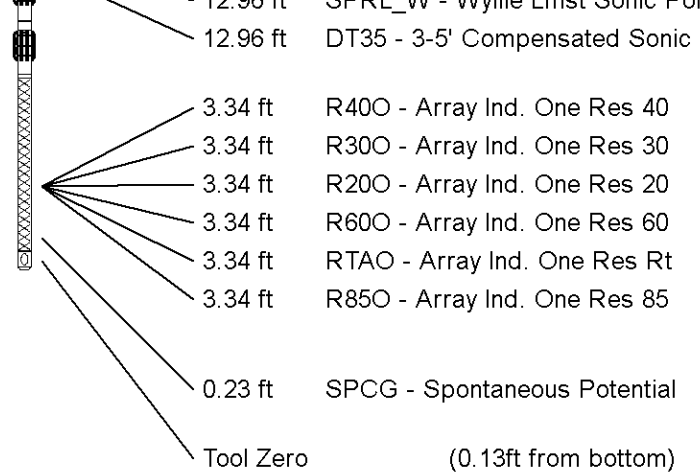
Compact Sonic
MSS-C.K 374 LG: 12.52 ft WT: 72.8 lb OD: 2.244 in

Compact Induction
MAL-C.A 400 LG: 10.81 ft WT: 48.5 lb OD: 2.244 in



MALCO-A 490 LG: 10.81 ft Wt: 48.5 lb OD: 2.244 in

Total Length: 75.45 ft Weight: 579.8 lb



All measurements relative to tool zero.

COMPANY	NAVEX RESOURCES LLC
WELL	PFAFFLY #1-12
FIELD	NORTH CHEYENNE PROJECT/ PFAFFLY PROSPECT
PROVINCE/COUNTY	KIT CARSON
COUNTRY/STATE	COLORADO

Elevation Kelly Bushing	4479.00	feet	Last Reading	648.00	feet
Elevation Drill Floor	4479.00	feet	First Reading	6039.00	feet
Elevation Ground Level	4466.90	feet	Depth Driller	6076.00	feet
			Depth Logger	6082.00	feet

WIRESLINE LOGGING SOLUTIONS PHOTO DENSITY
 DUAL SPACED NEUTRON
 GAMMA RAY