Weatherford®

CML MESSENGER SHUTTLE
COMPACT PHOTO DENSITY
COMPENSATED NEUTRON

COMPANY	SANDRIDGE ENERGY
WELL	ARIANA 3419 1-7H
FIELD	COMANCHE PROSPECT
PROVINCE/COUNTY	COMANCHE
COUNTRY/STATE	USA / KANSAS
LOCATION	SHL: 210' FSL & 685' FWL SEC 6
	BHL: 330' FNL & 660' FWL SEC 7

SEC	TWP	RGE	Other Services
6	34S	19W	MAI

API Number 15-033-21702-01
Permit Number

Permanent Datum G.L., Elevation 1809 feet
Log Measured From DF
Drilling Measured From D.F. @ 21 FEET

Elevations:	feet
KB	1830.00
DF	1830.00
GL	1809.00

Date	19-APR-2013			
Run Number	ONE			
Service Order	3539412			
Depth Driller	10160.00	feet		
Depth Logger	10160.00	feet		
First Reading	10119.00	feet		
Last Reading	4000.00	feet		
Casing Driller	5772.00	feet		
Casing Logger	5772.00	inches		
Bit Size	6.125			
Hole Fluid Type	WATER	lb/USg		
Density / Viscosity	8.80 lb/USg	31.00 CP		
PH / Fluid Loss	10.00	10.00		
Sample Source	FLOWLINE			
Rm @ Measured Temp	1.50 @ 69.0	ohm-m		
Rmf @ Measured Temp	1.20 @ 69.0	ohm-m		
Rmc @ Measured Temp	1.80 @ 69.0	ohm-m		
Source Rmf / Rmc	CALC	CALC		
Rm @ BHT	0.78 @133.0	ohm-m		
Time Since Circulation	0 HOURS			
Max Recorded Temp	133.00	deg F		
Equipment / Base	18006	OKC		
Recorded By	D. ROWELL			
Witnessed By	M. RODEN			
AFE	DC12767			

BOREHOLE RECORD

Last Edited: 19-APR-2013 23:13

Bit Size inches	Depth From feet	Depth To feet
8.750	0.00	5772.00
6.125	5772.00	10160.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
INTERMED	7.000	0.00	5772.00	29.00

REMARKS

LOGGED WITH WLS VER 13.04.8492 SOFTWARE

WELL LOGGED USING MESSENGER METHOD OF DEPLOYMENT, AND MEMORY LOGGING SYSTEM

HARDWARE: MAI: ISA STANDOFF BELOW
MPD: 4"PROFILE PLATE, MIS-A SINGLE SPRING DECENTRALIZER BELOW
MDN: MISD DOUBLE SPRING DECENTRALIZER RAN ABOVE

2.71 G/CC DENSITY MATRIX USED TOCALCULATE POROSITY
ALL INTERVALS LOGGED AND SCALED PER CUSTOMER REQUEST

DRILL PIPE DEPTH DURING DEPLOYMENT 10066
LOGGING TOOL DEPTH AFTER DEPLOYMENT: 10152

4.5" CASING USED TO CALCULATE AHV

SERVICE ORDER #3539412
RIG: LARIAT 20

OPERATORS: B. BALLINGER, D. TURNER

5 INCH MAIN LOG DSC

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 21-APR-2013 02:36
Filename: C:\Minimus 13.04.8492\Data\SDRGE (ARIANA 3419 1-7H)\32801 RTAP.dta
Recorded on 21-APR-2013 02:17
System Versions: Processed with 13.04.8492 Plotted with 13.04.8492

Timing Marks
every 60.0 sec

Density Caliper
inches
4 9 14

Borehole Corr. MGS Gamma
API
0 75 150
150 225 300

Borehole Corr. MGS Gamma
API
0 75 150
150 225 300

Bit Size
inches
4 9 14

Depth In Feet

HVI every 10 cu ft

Annular Integral every 10 cu ft

Replay Scale 1:240

Limestone Neutron Por.
percent
30 20 10 0 -10

Limestone Neutron Por.
percent
30 20 10 0 -10
70 60 50 40 30

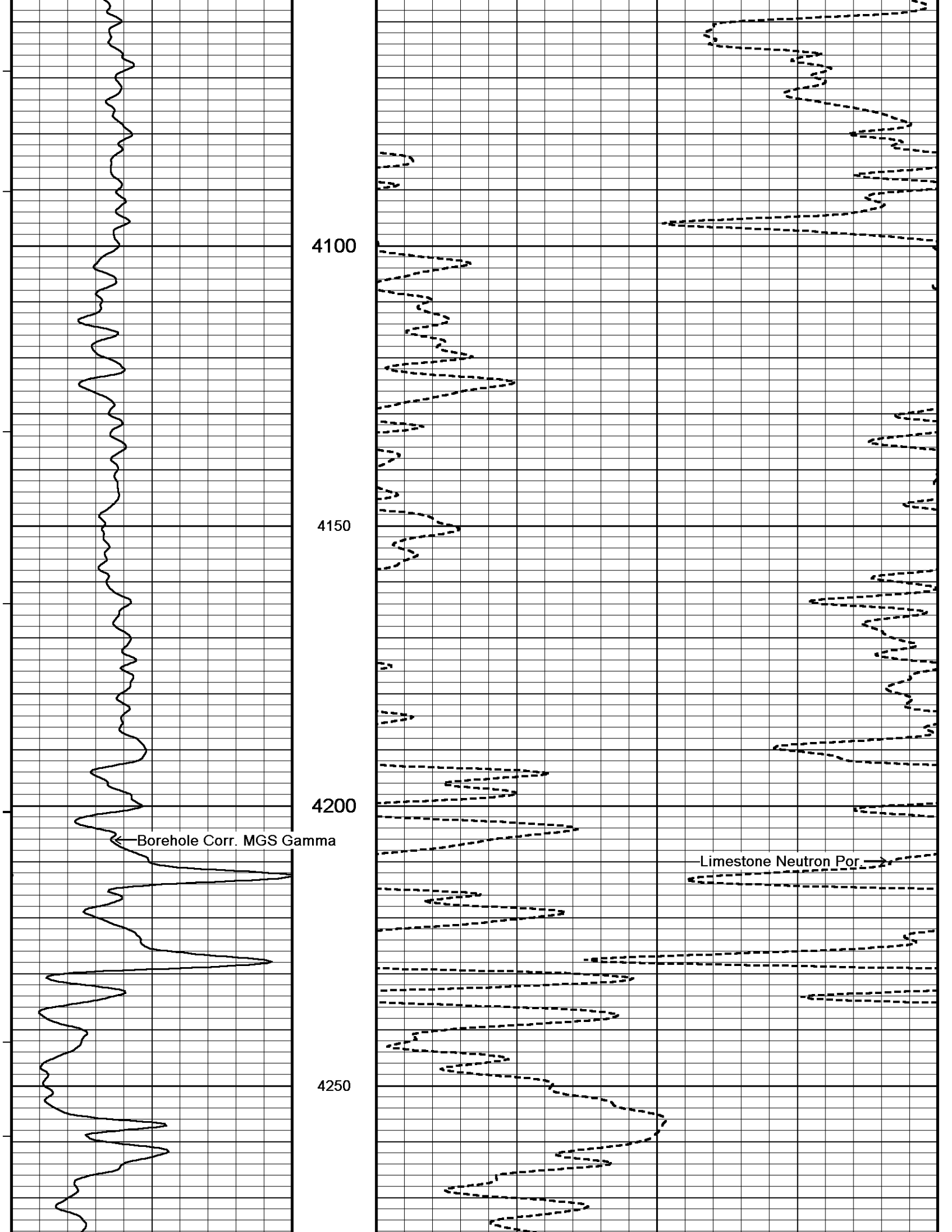
Limestone Density Por.
percent
30 20 10 0 -10

PE
barns/electron
0 5 10

Density Correction
grams/cc
-0.50 0 0.50

4000

4050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4150
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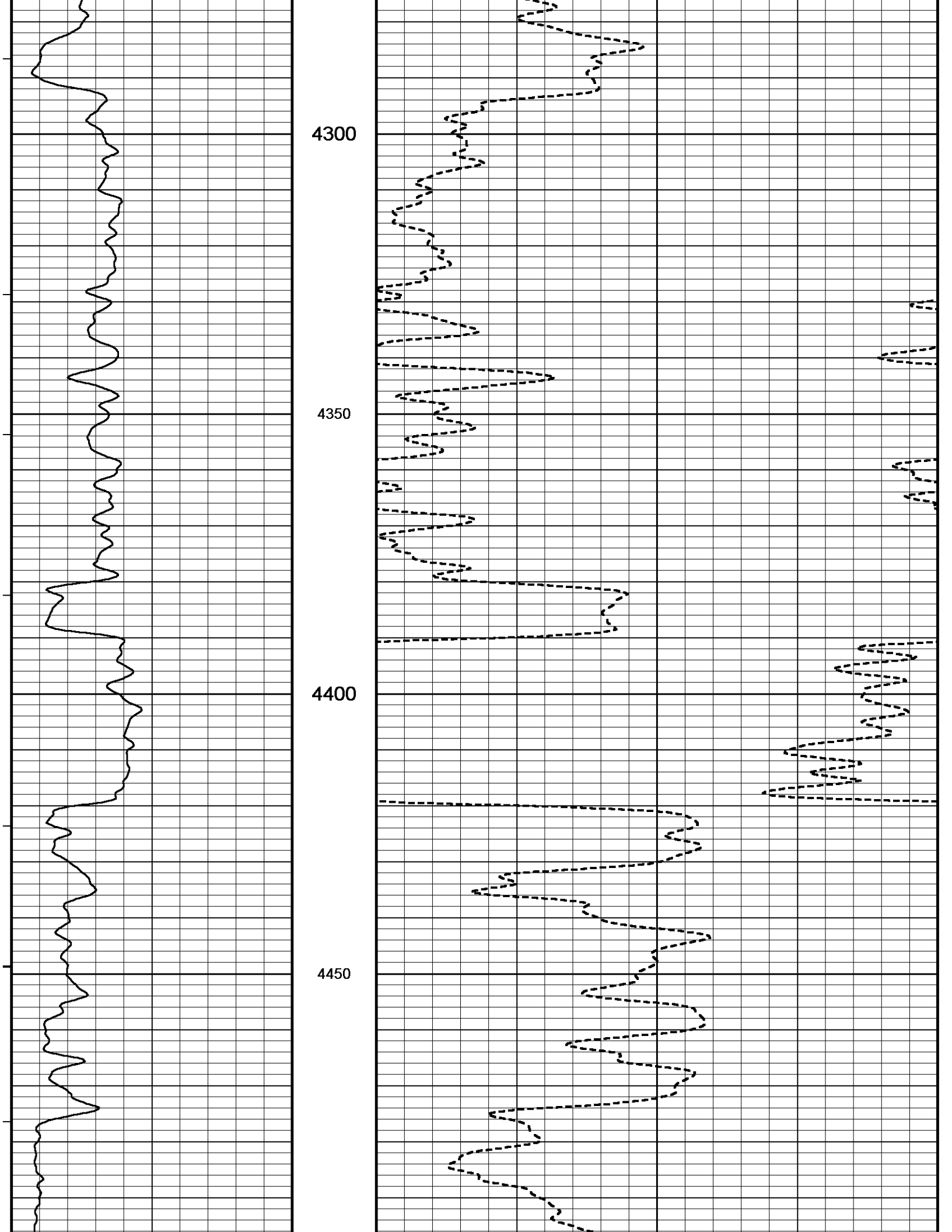
Borehole Corr. MGS Gamma
Limestone Neutron Por.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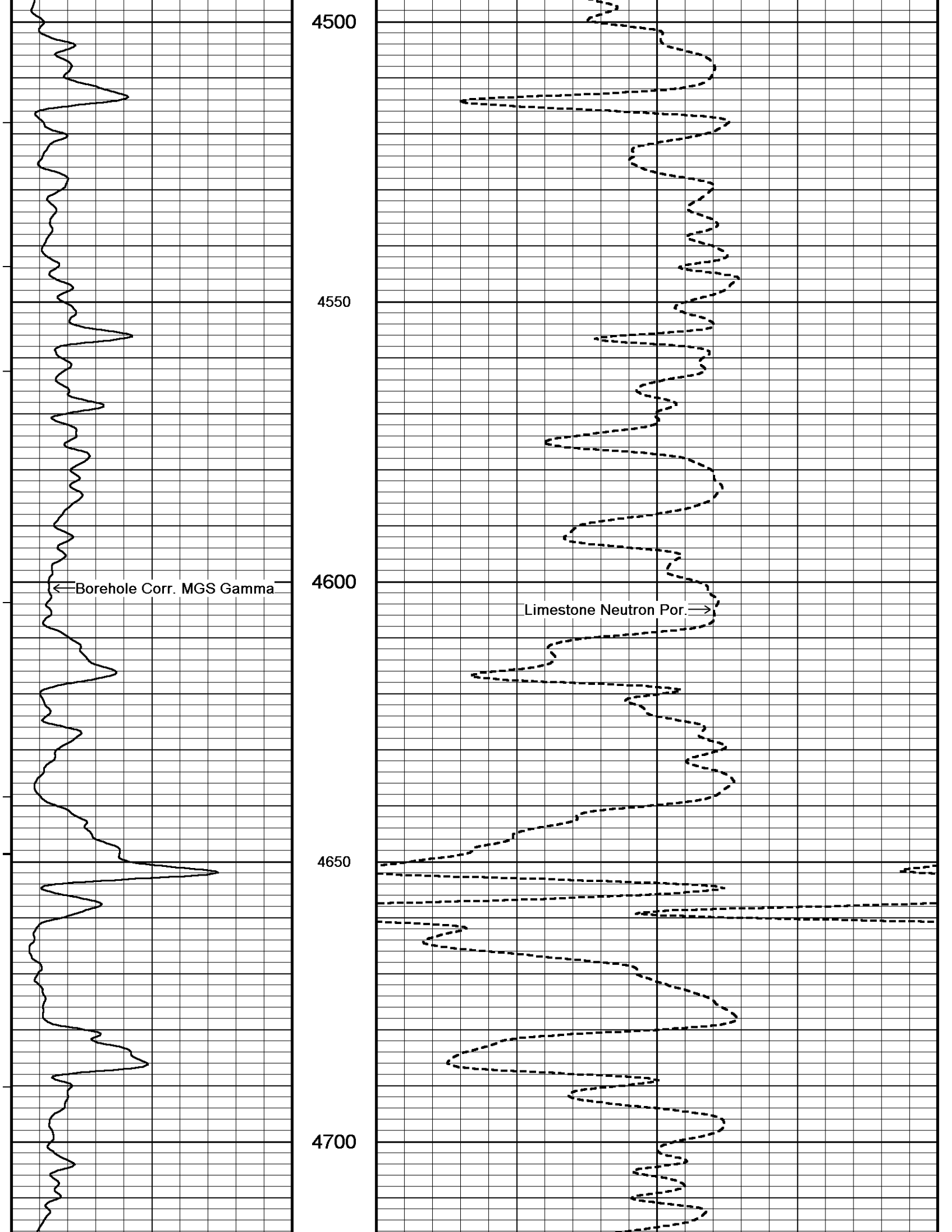
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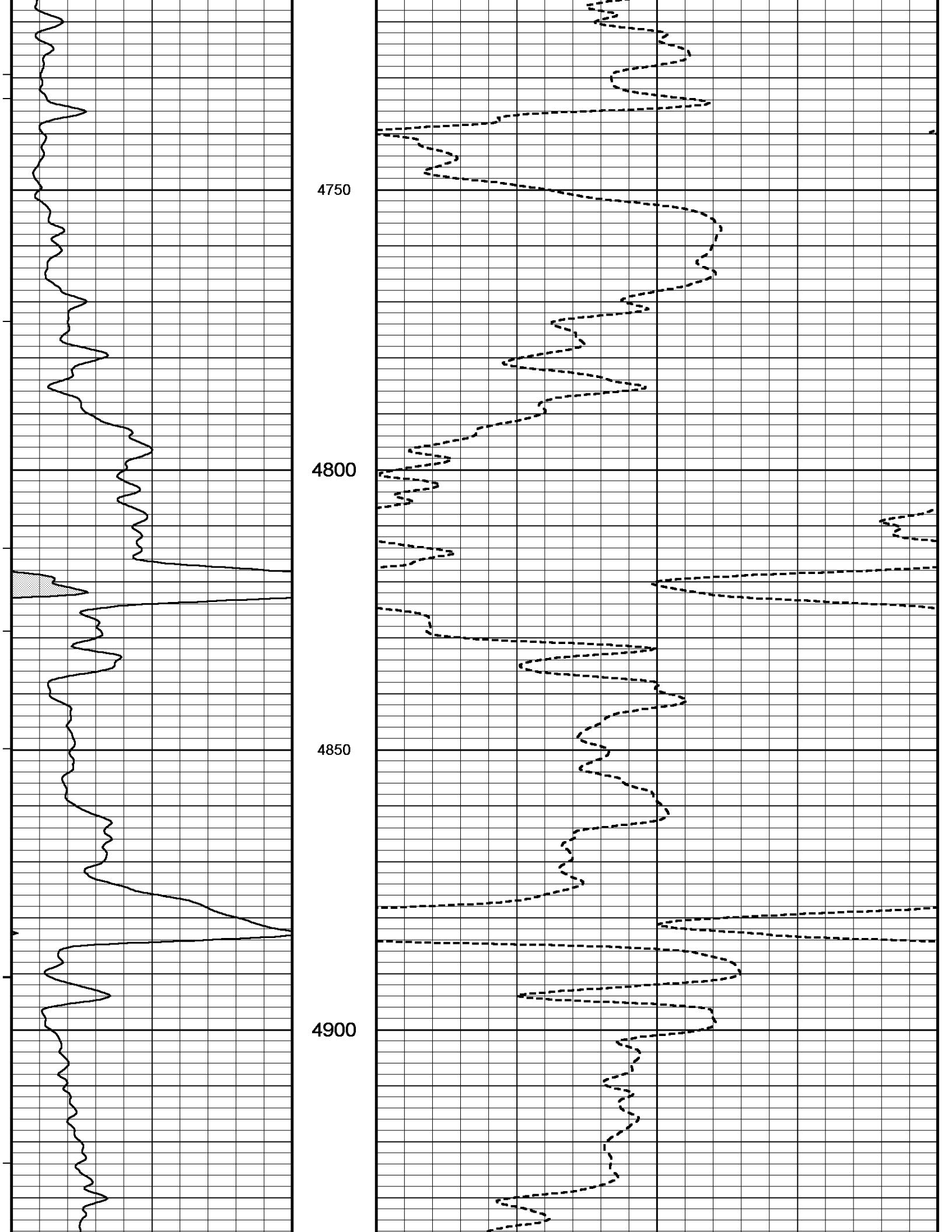
⟵Borehole Corr. MGS Gamma
Limestone Neutron Por.⟶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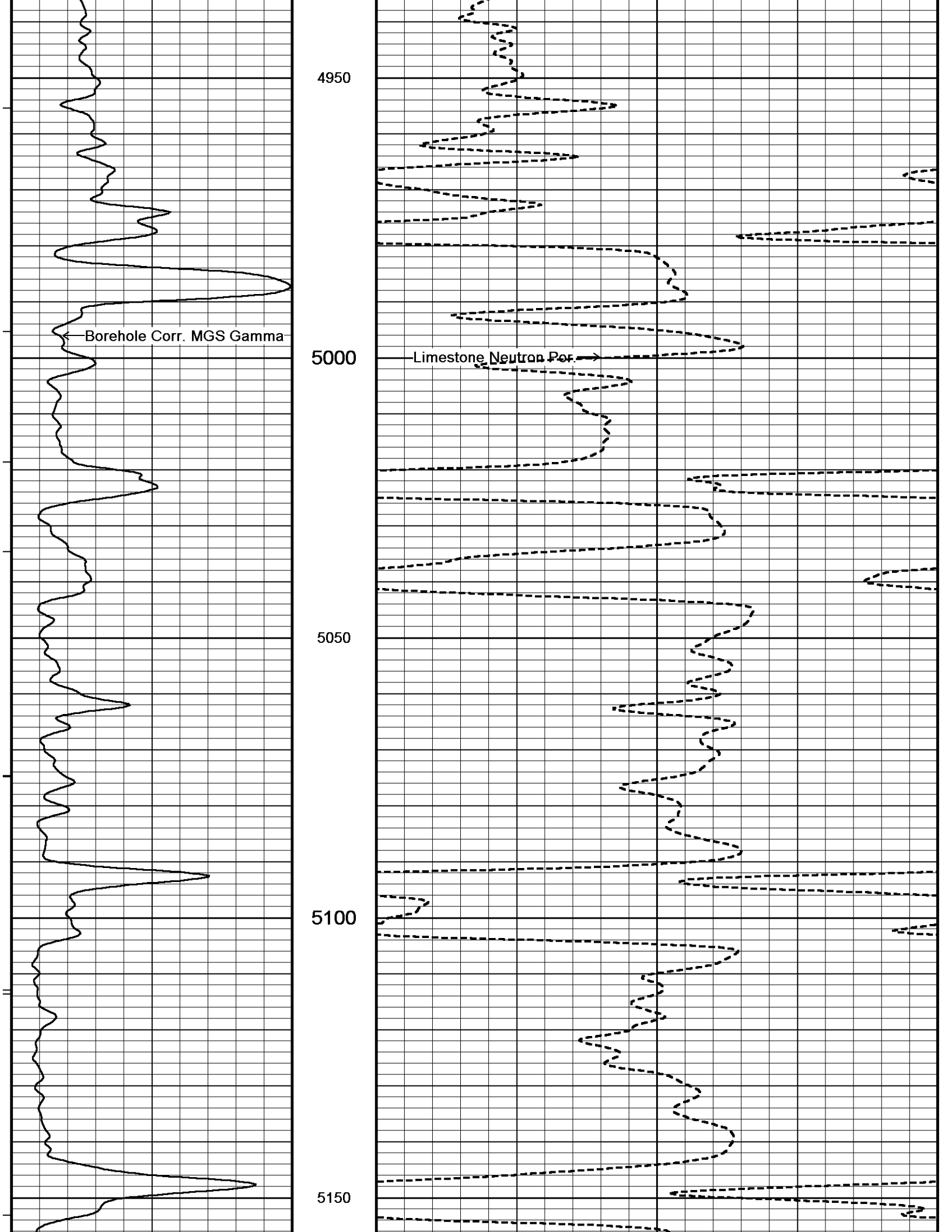
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5000
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5100
5150
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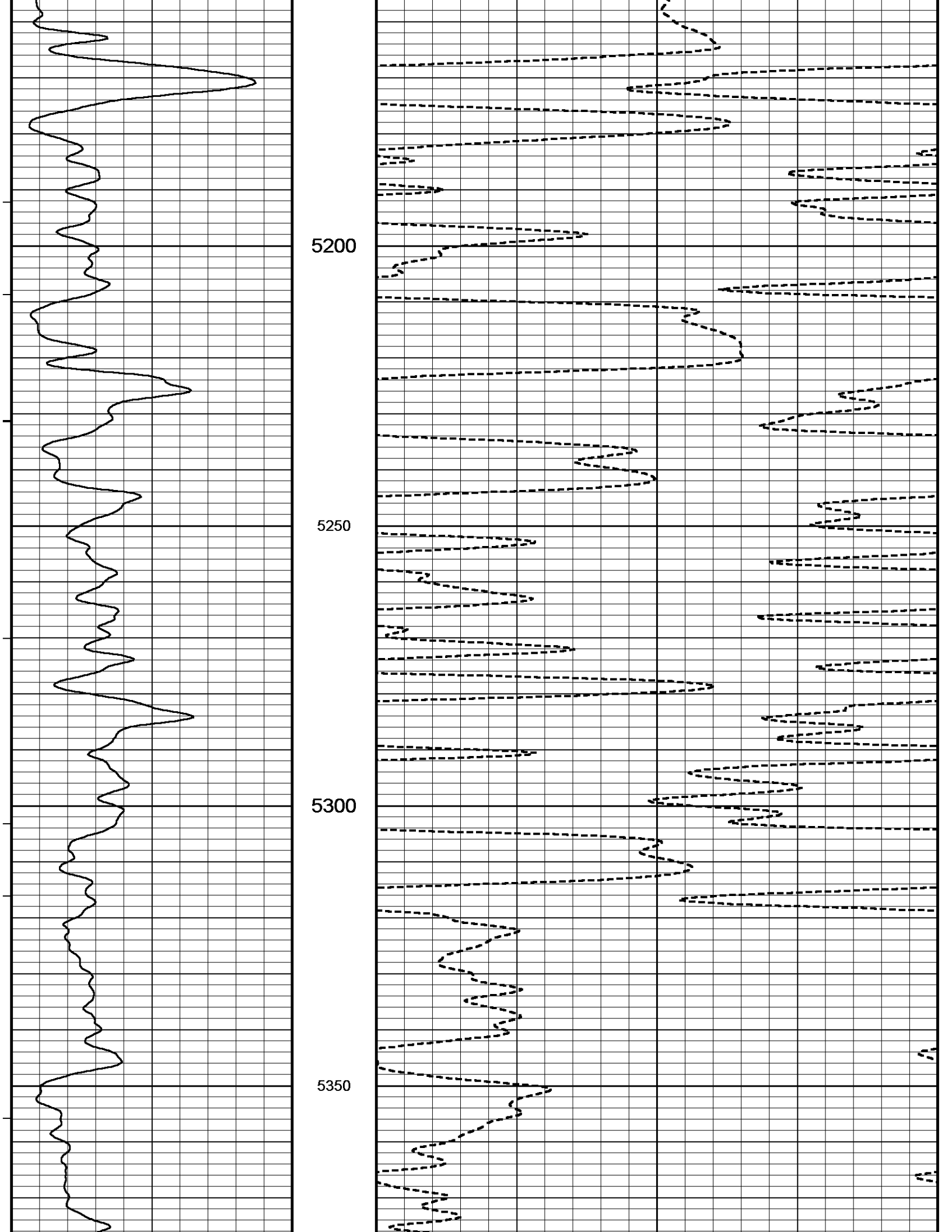
Limestone Neutron Por.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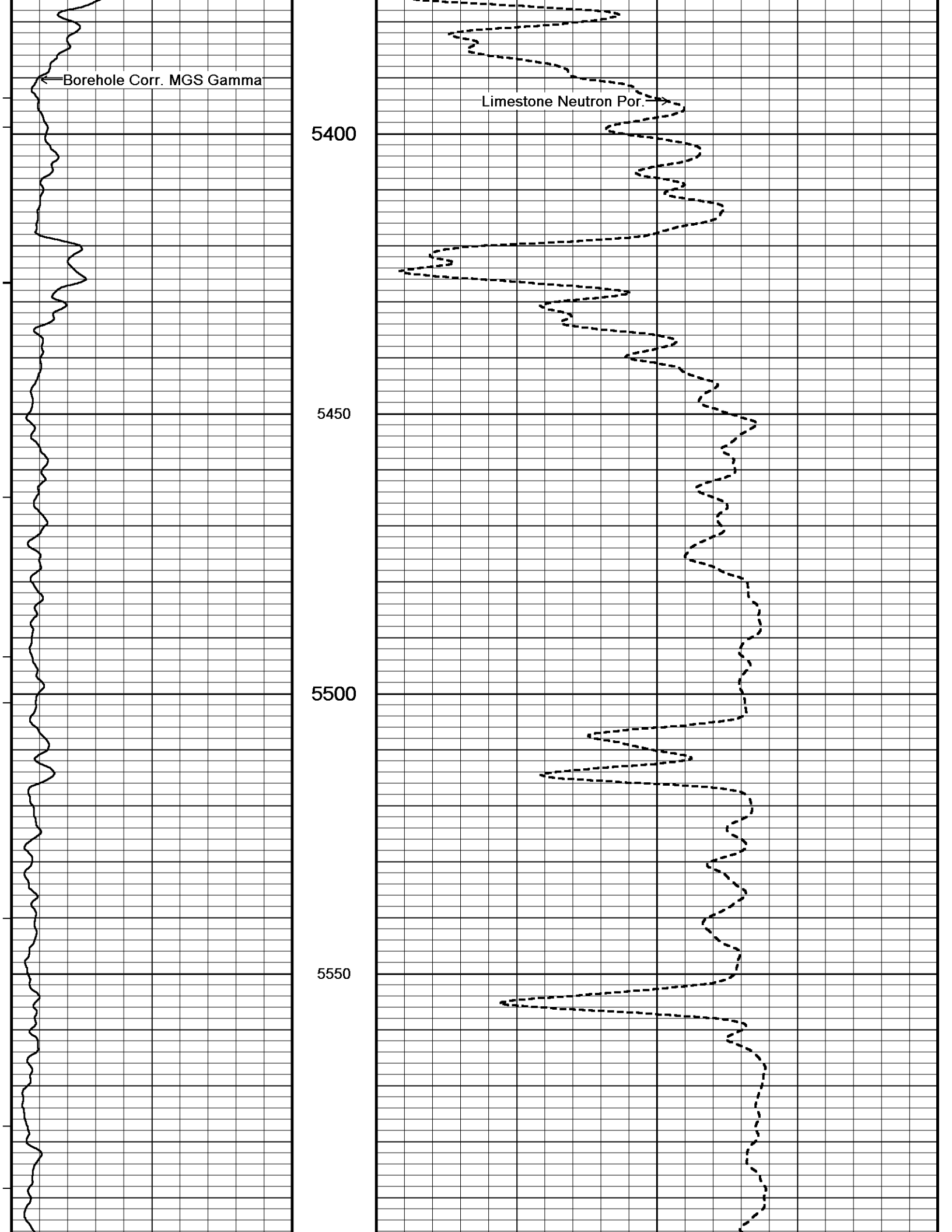
Borehole Corr. MGS Gamma
Limestone Neutron Por.
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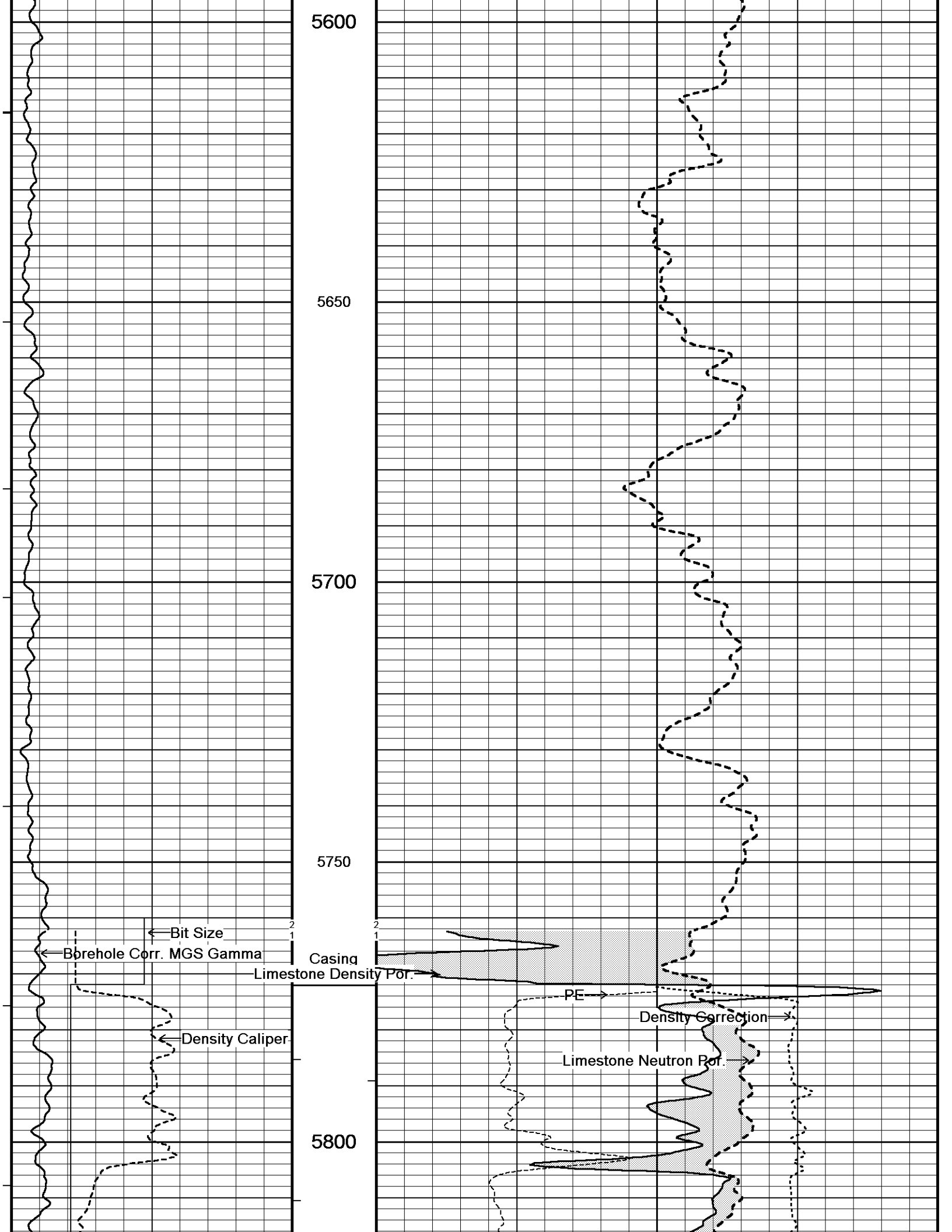
5500
5550


5600
5650
5700
5750
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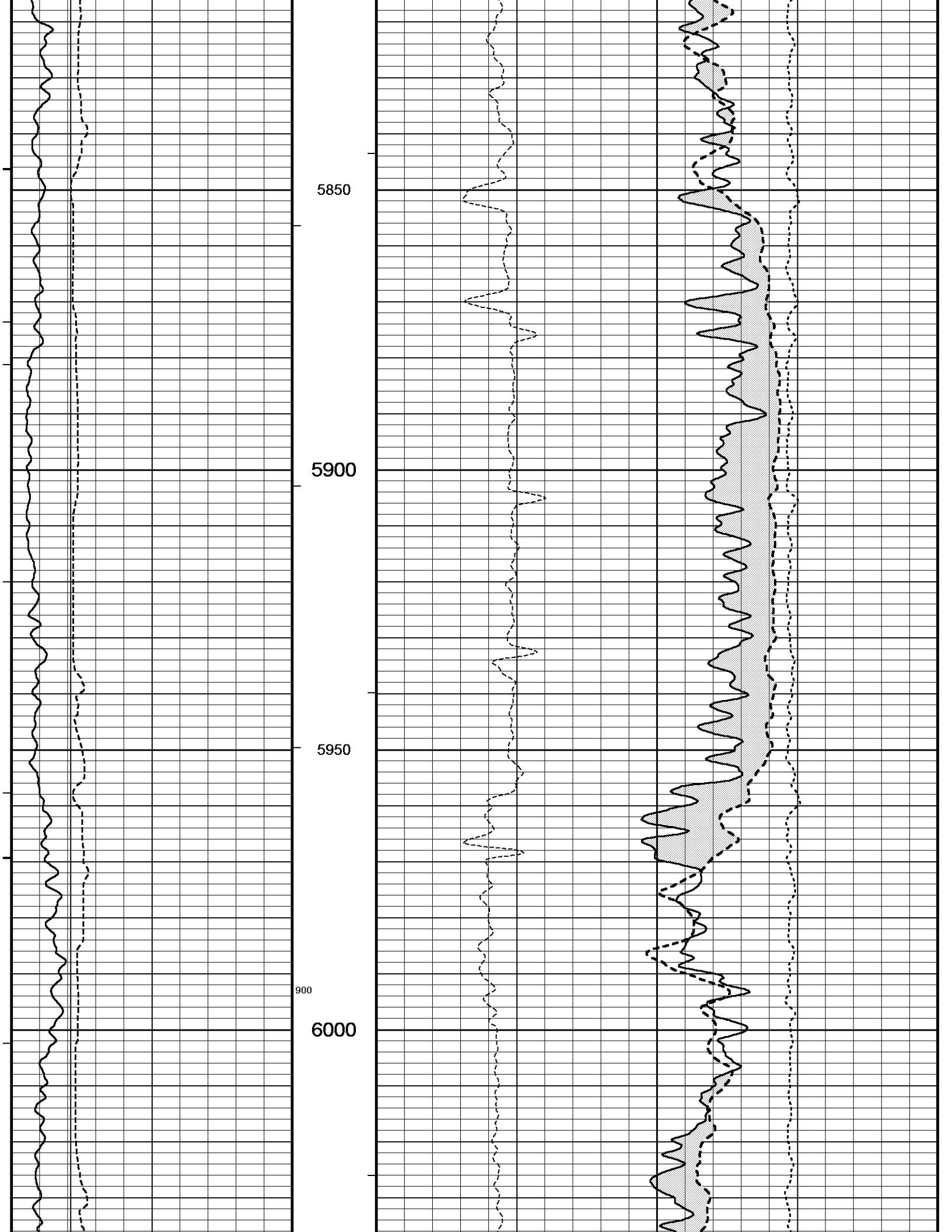
Bit Size
Borehole Corr. MGS Gamma
Density Caliper
Casing
Limestone Density Por.
PE
Density Correction
Limestone Neutron Por.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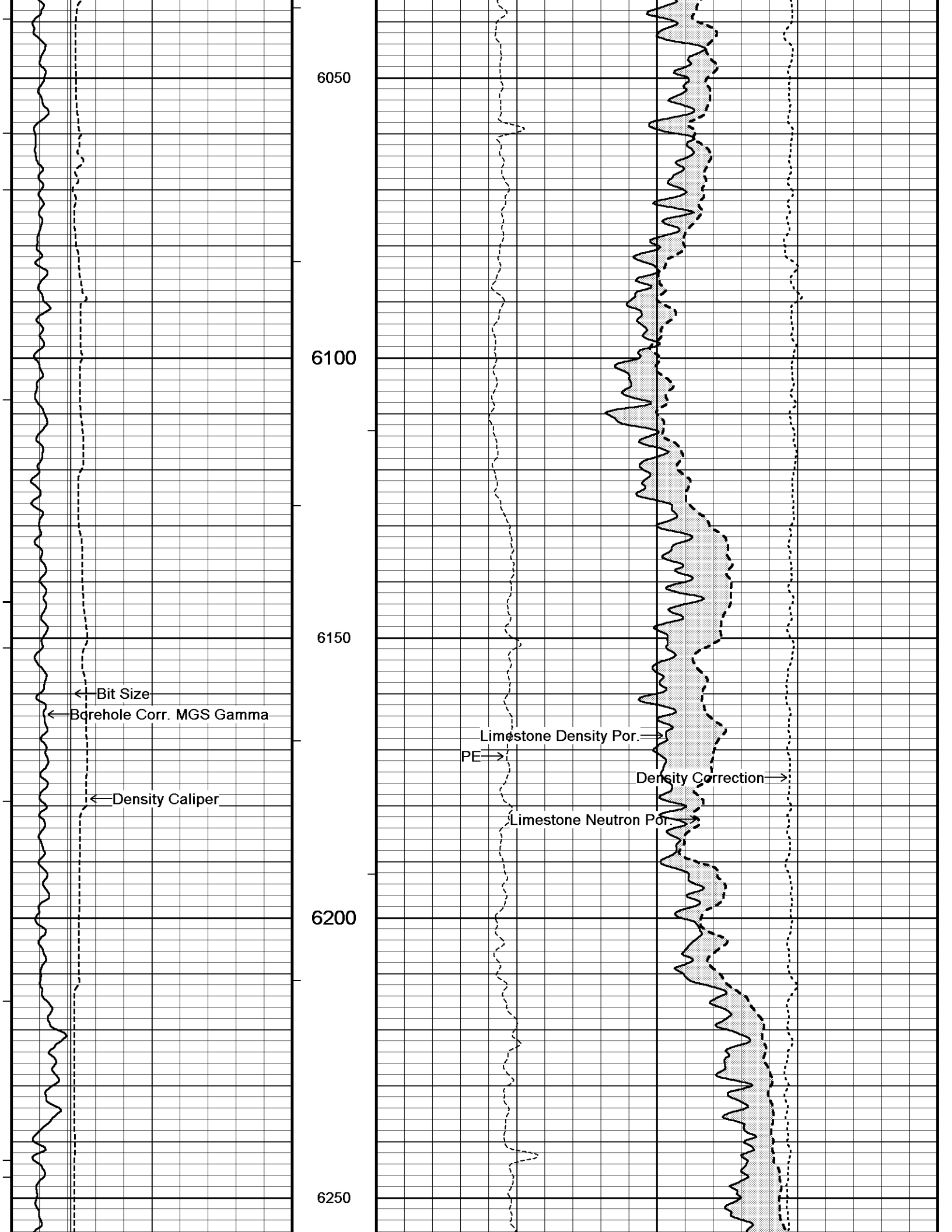
5900
5950
900
6000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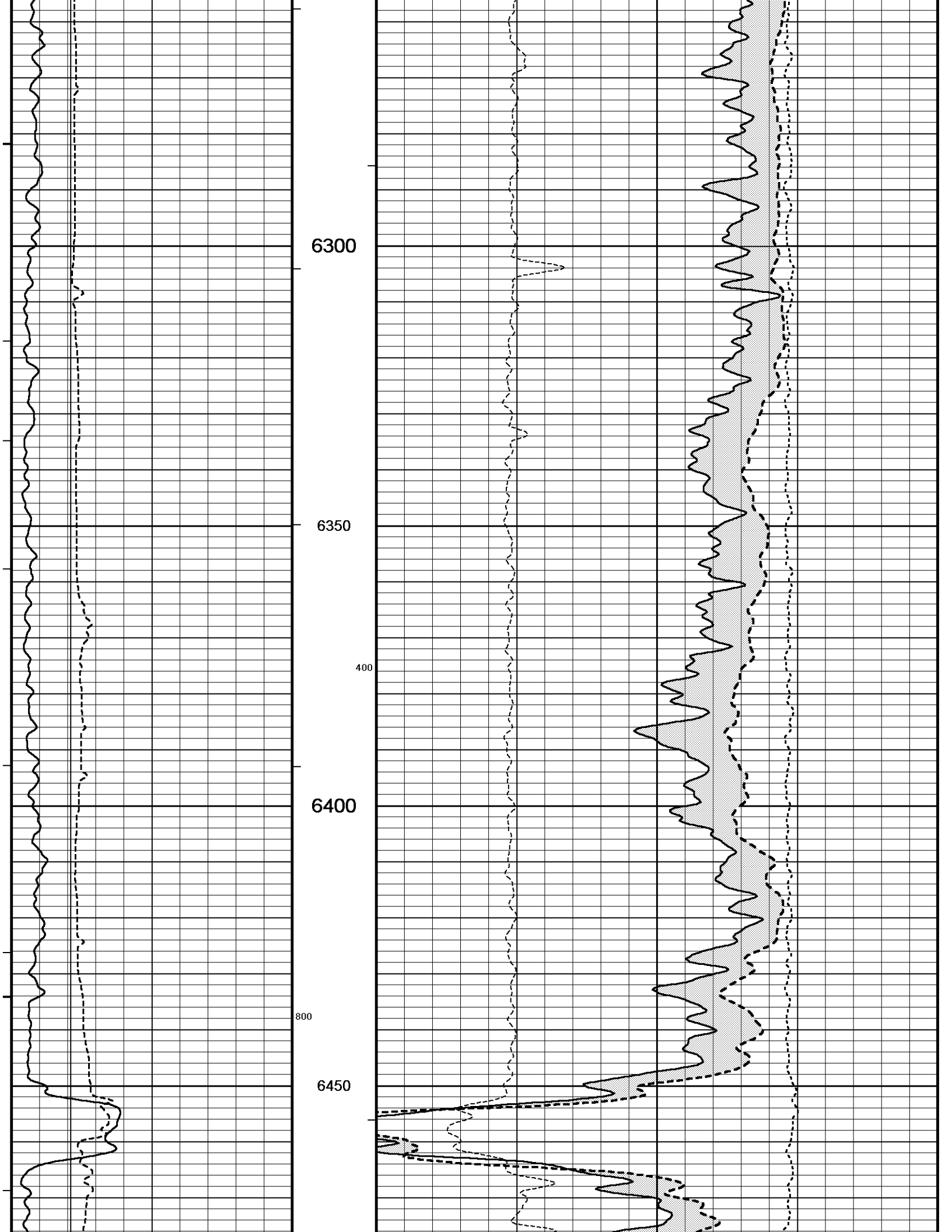
Bit Size
Borehole Corr. MGS Gamma
Density Caliper
Limestone Density Por.
PE
Density Correction
Limestone Neutron Por.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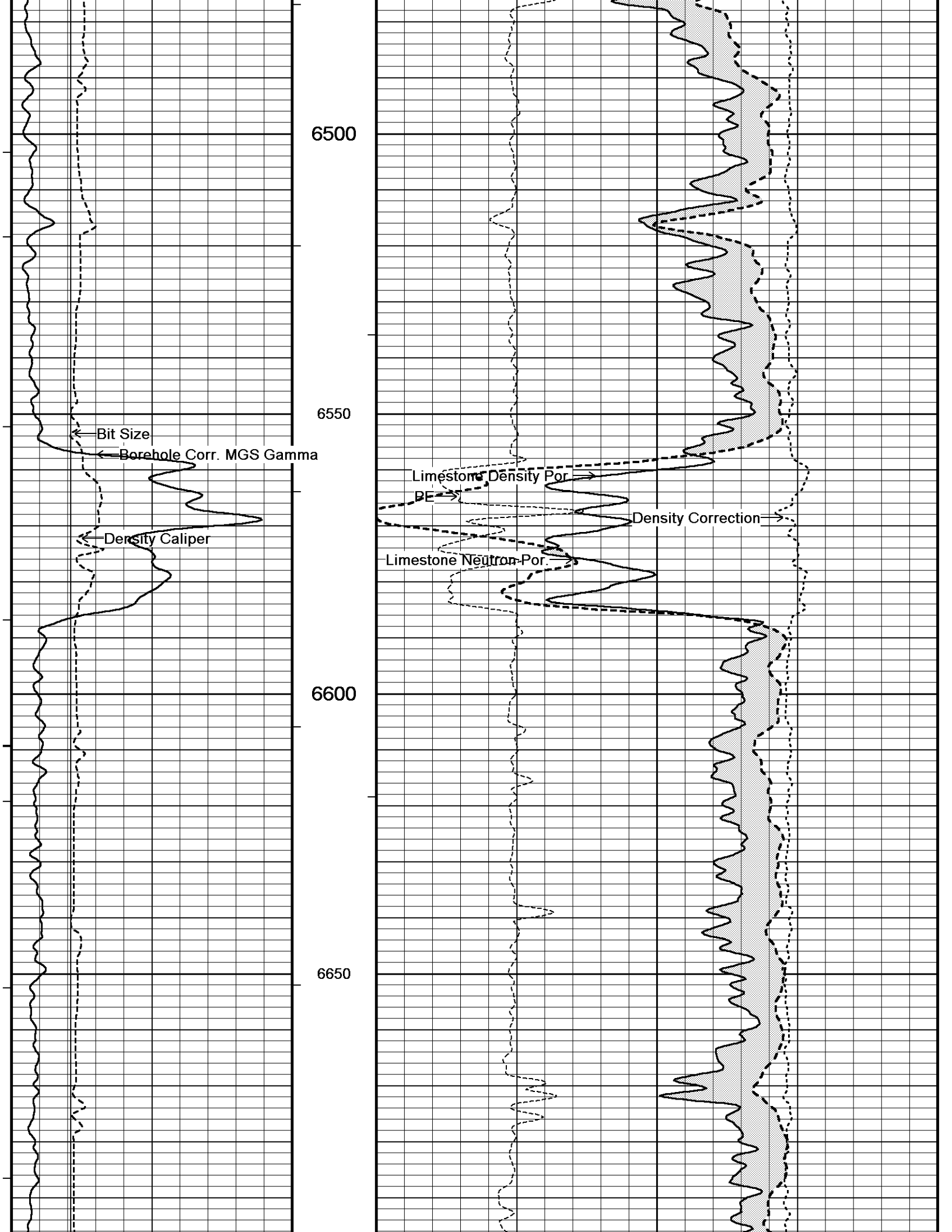
6350
400
6400
800
6450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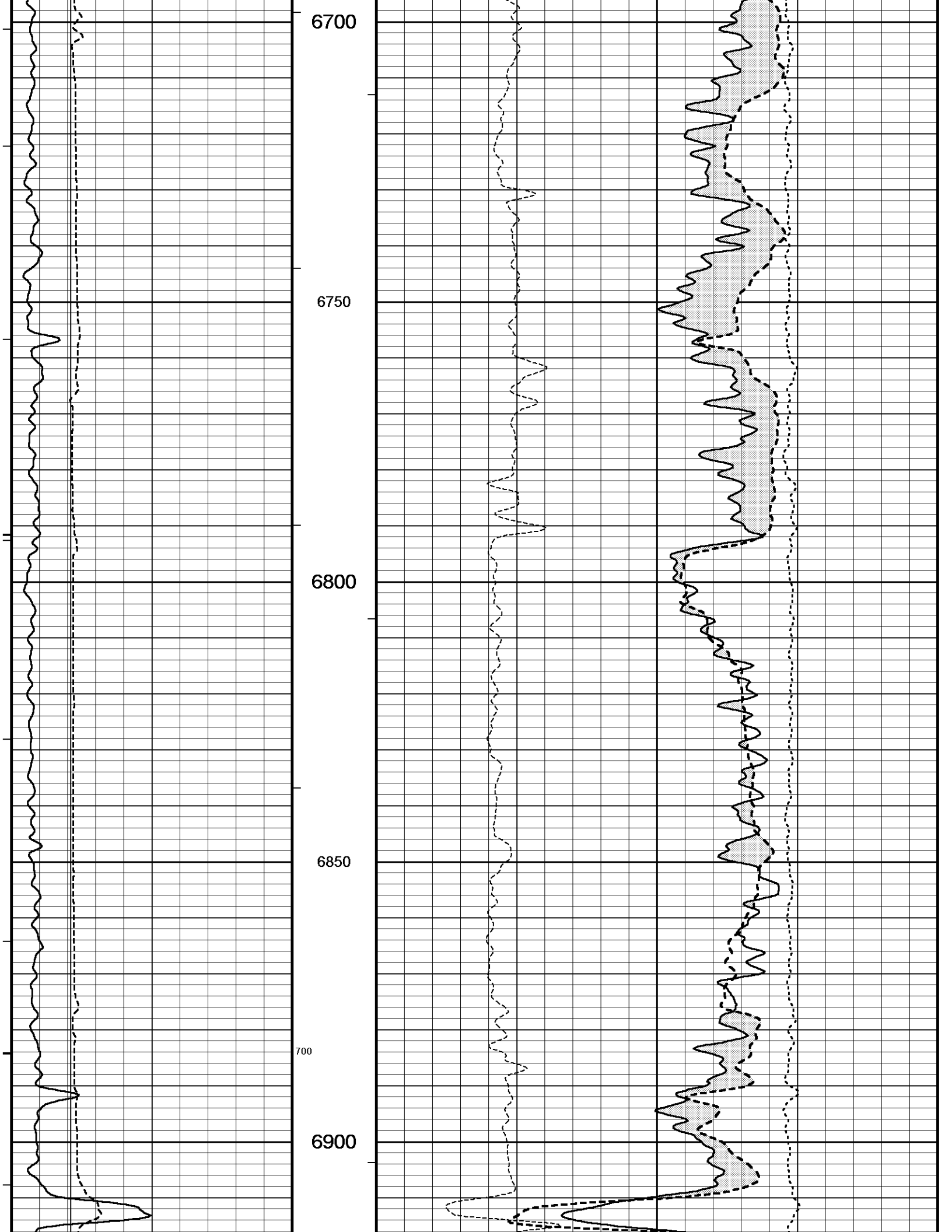
6550
6600
6650
Bit Size
Borehole Corr. MGS Gamma
Density Caliper
Limestone Density Por
PE
Density Correction
Limestone Neutron Por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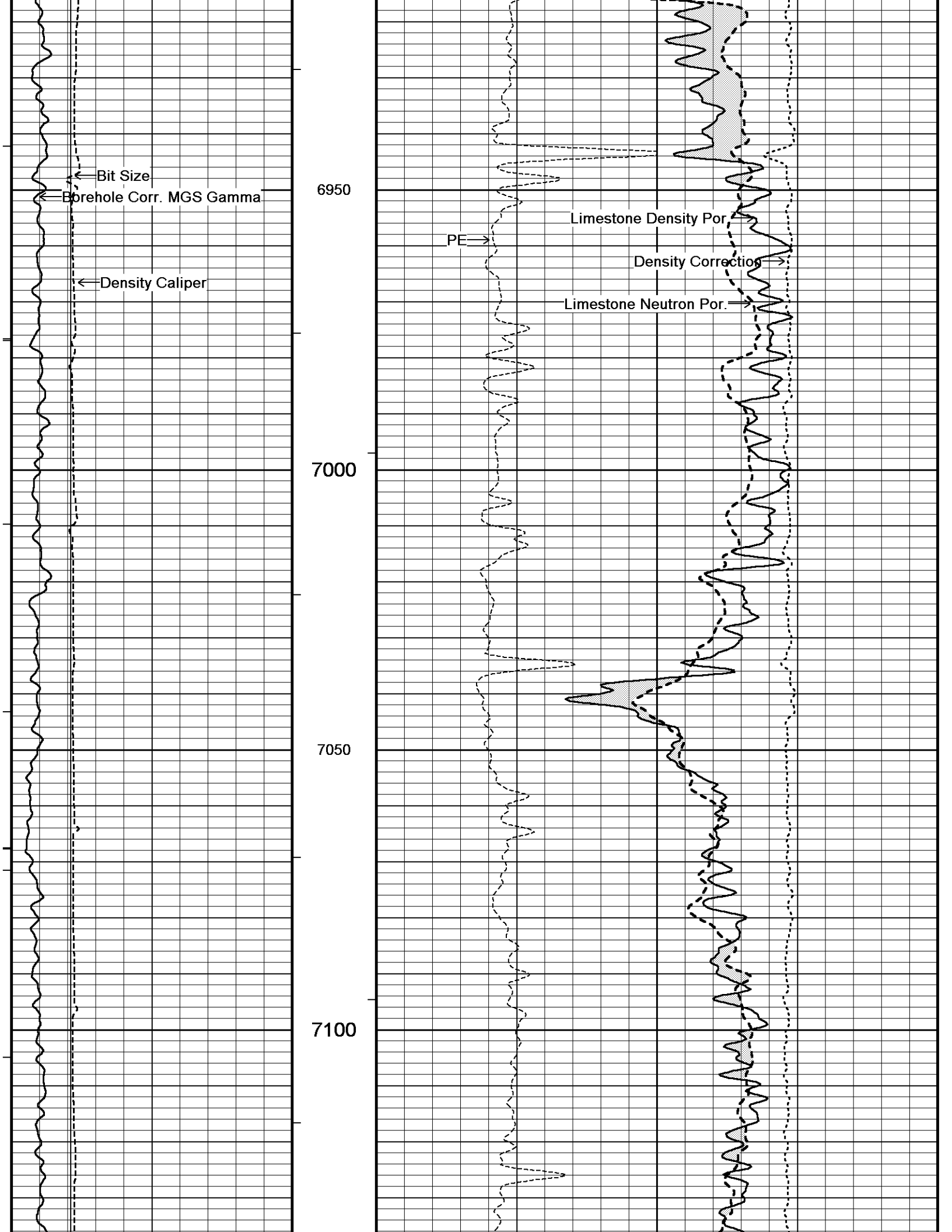
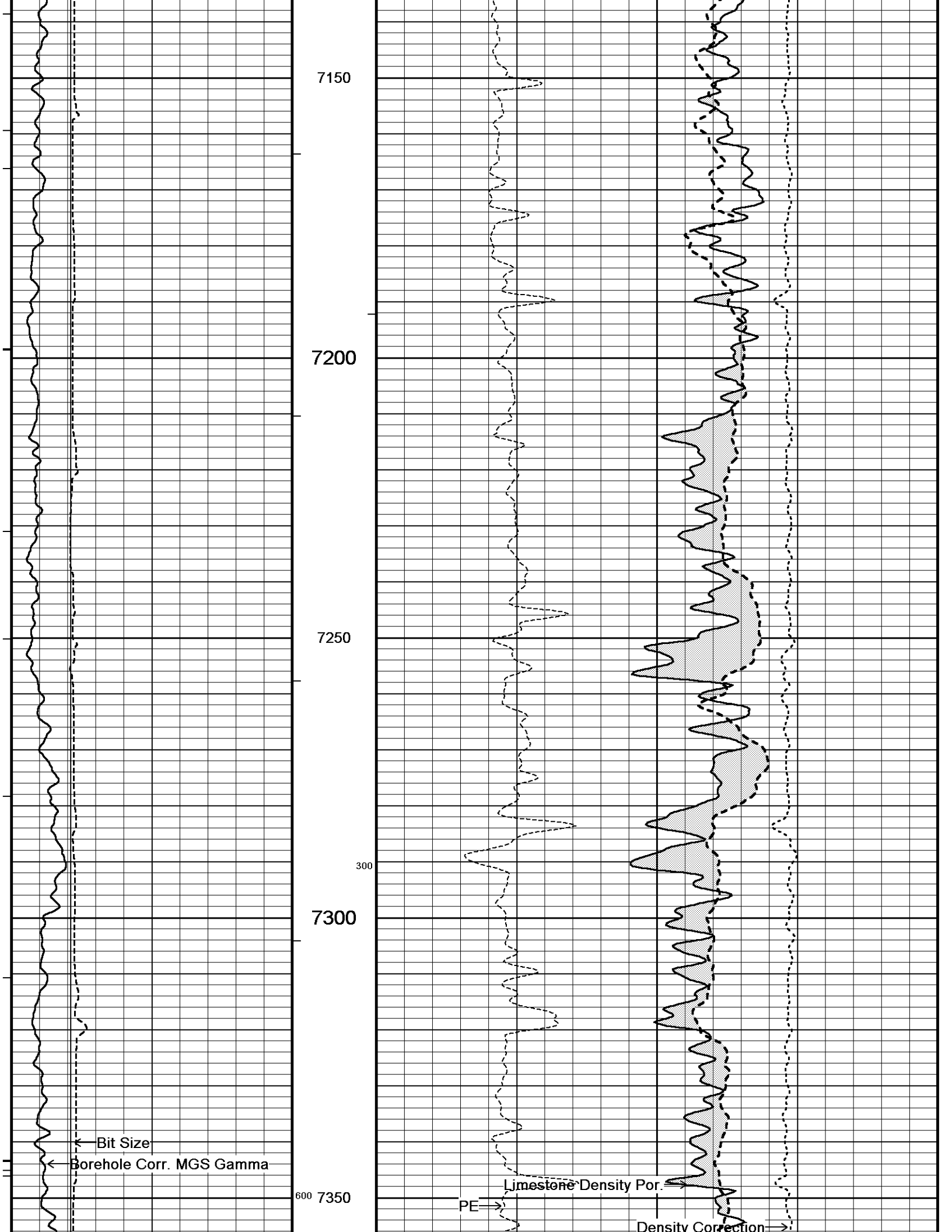
6750
6800
6850
700
6900


Bit Size
Borehole Corr. MGS Gamma
Density Caliper
6950
7000
7050
7100
Limestone Density Por
PE
Density Correction
Limestone Neutron Por.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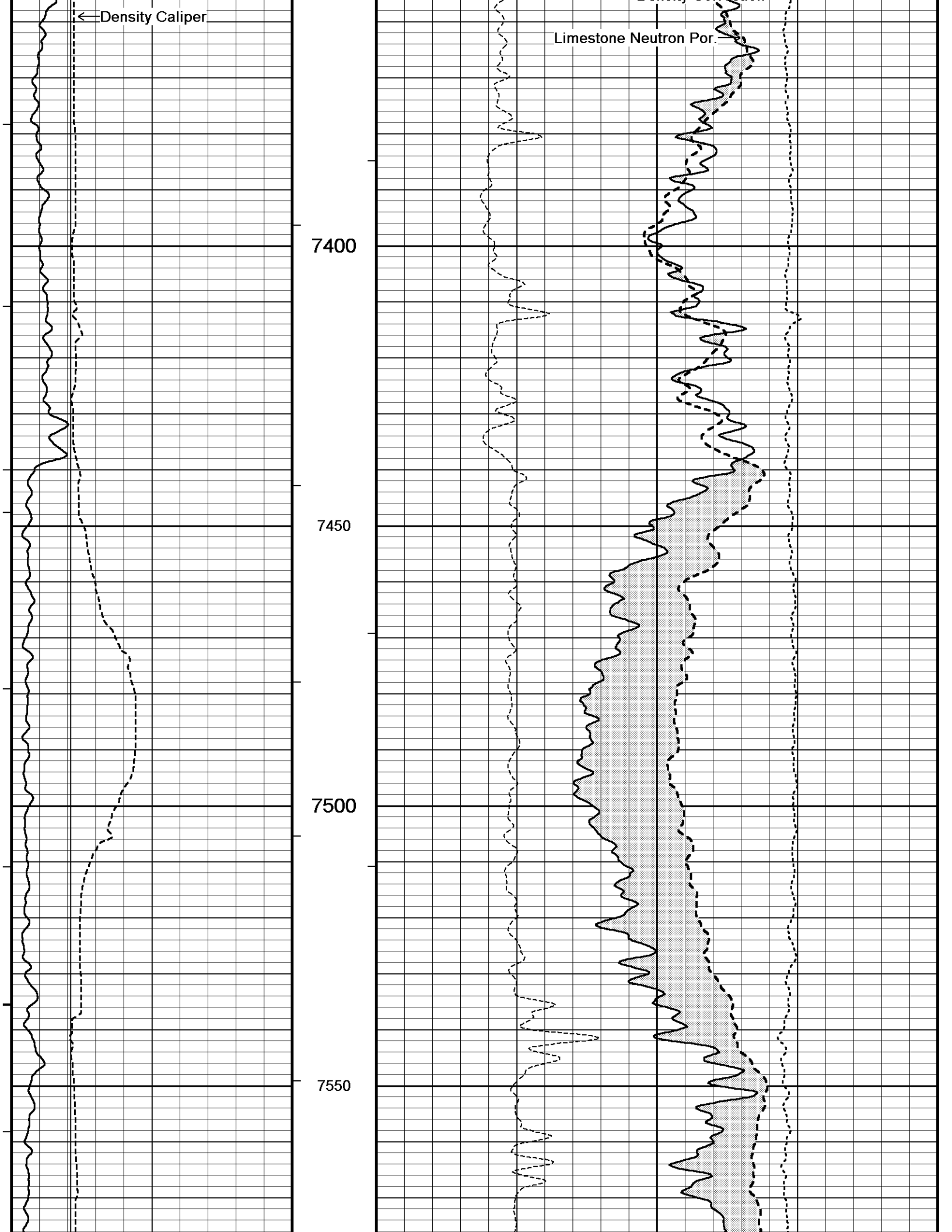
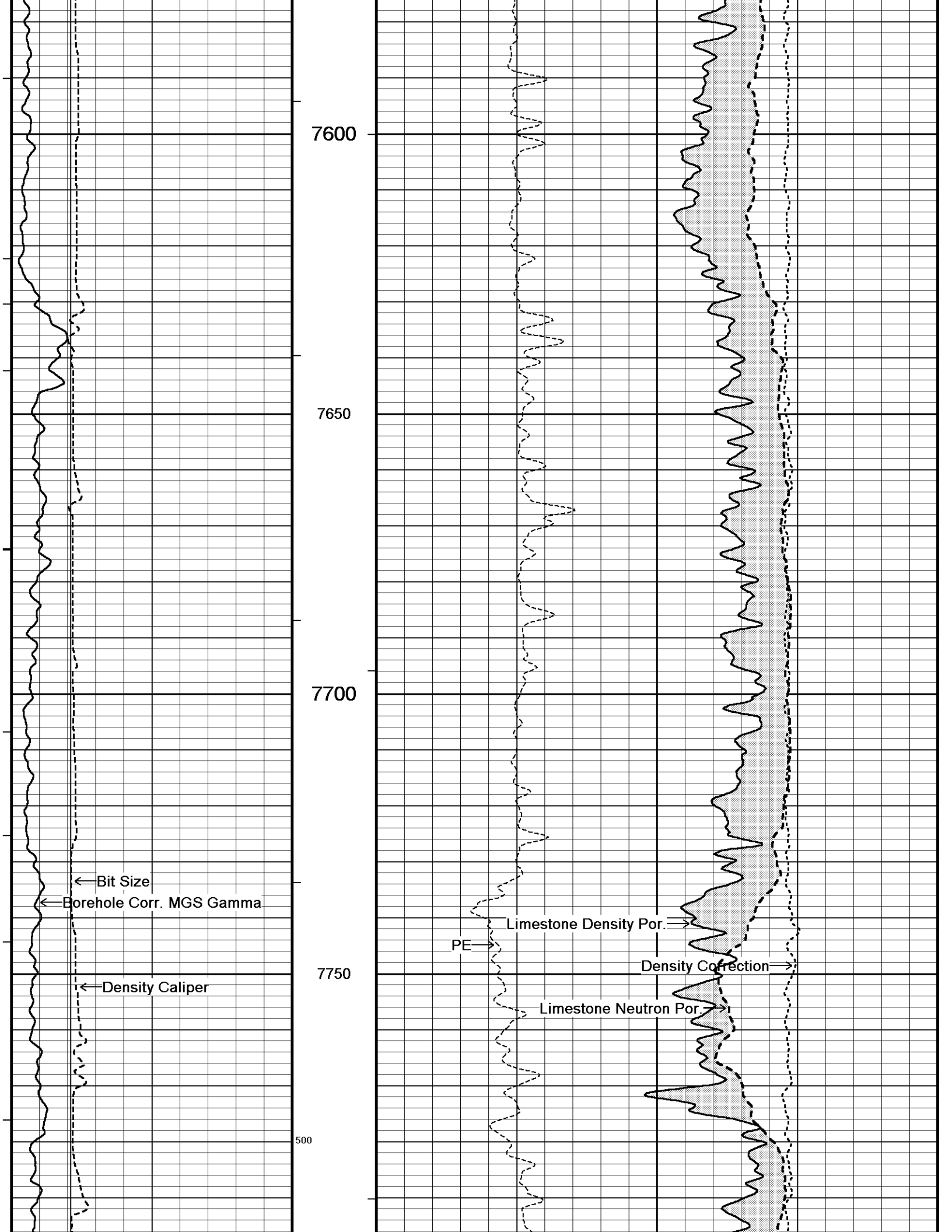
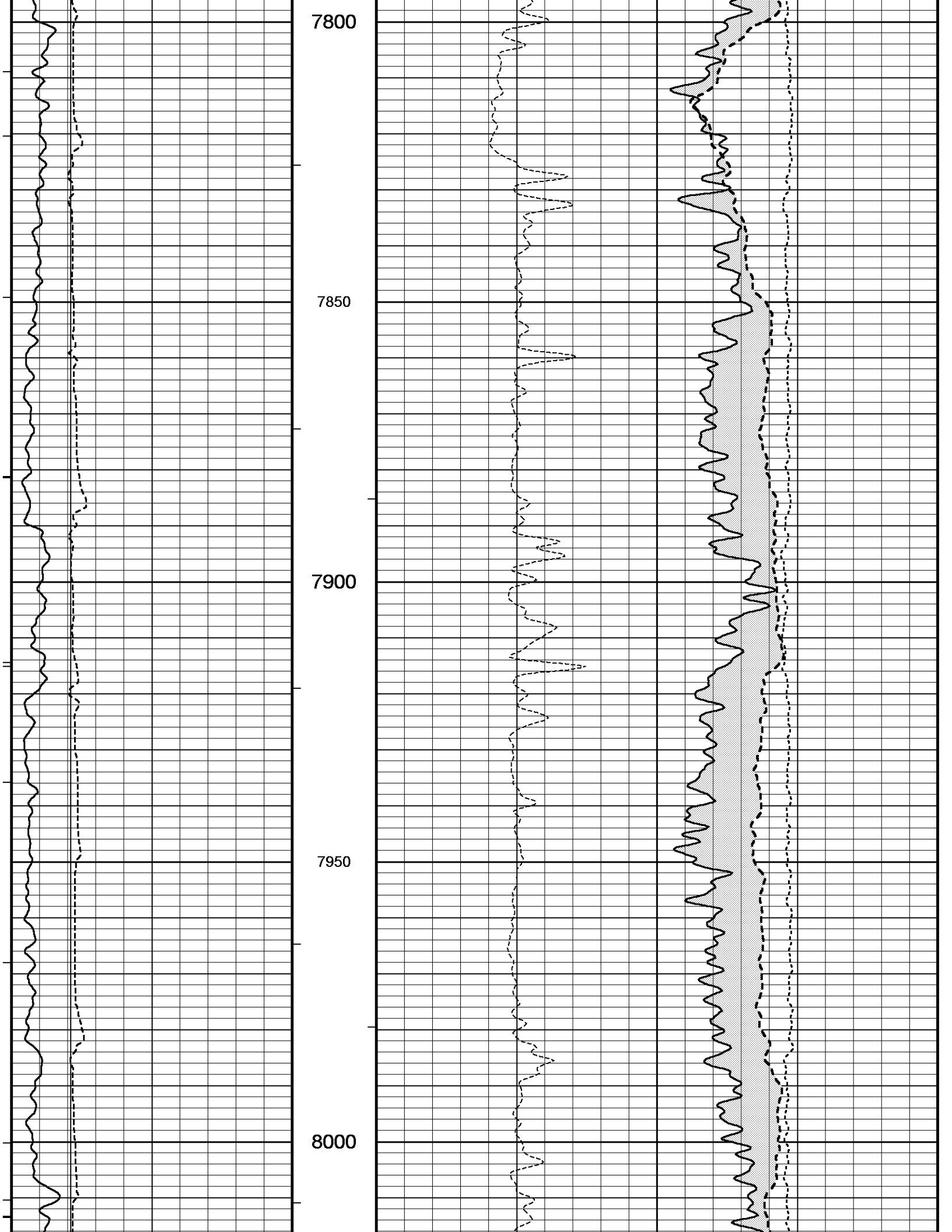
7200
7250
300
7300
600
7350
Bit Size
Borehole Corr. MGS Gamma
PE
Limestone Density Por.
Density Correction


←Density Caliper
Limestone Neutron Por.
7400
7450
7500
7550


7600
7650
7700
7750
500
Bit Size
Borehole Corr. MGS Gamma
Density Caliper
Limestone Density Por.
PE
Density Correction
Limestone Neutron Por.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7850
7900
7950
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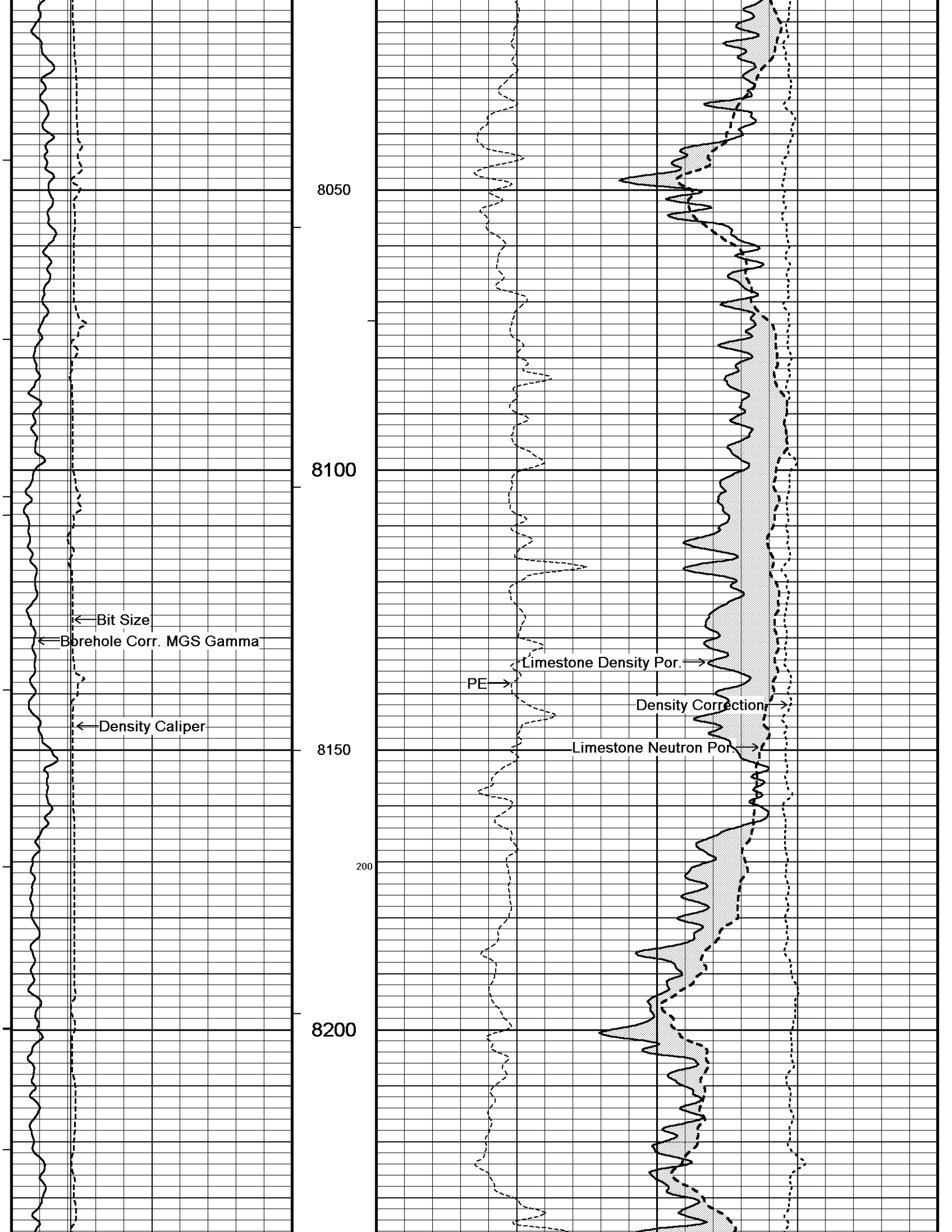
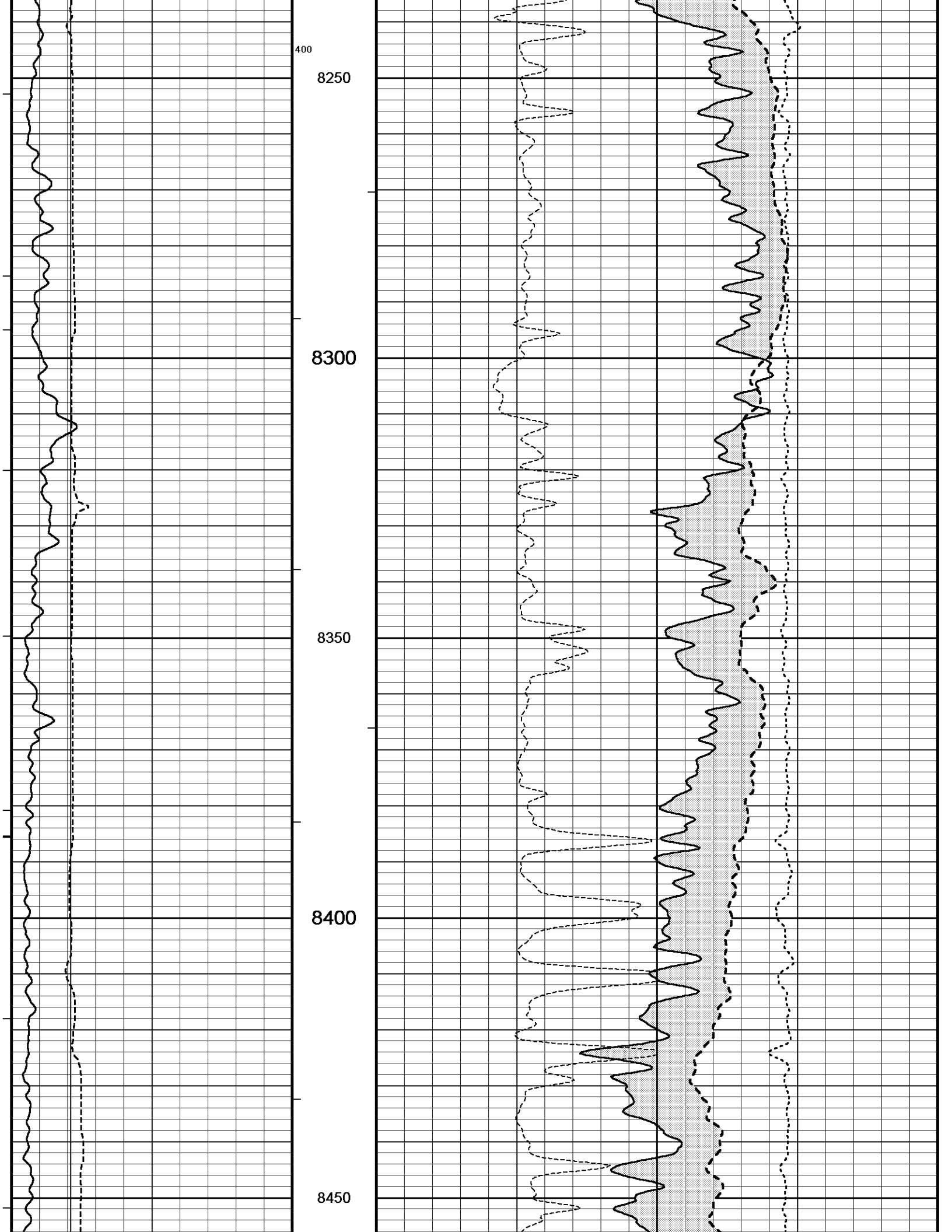

8050
8100
8150
200
8200
Bit Size
Borehole Corr. MGS Gamma
Density Caliper
Limestone Density Por.
PE
Density Correction
Limestone Neutron Por.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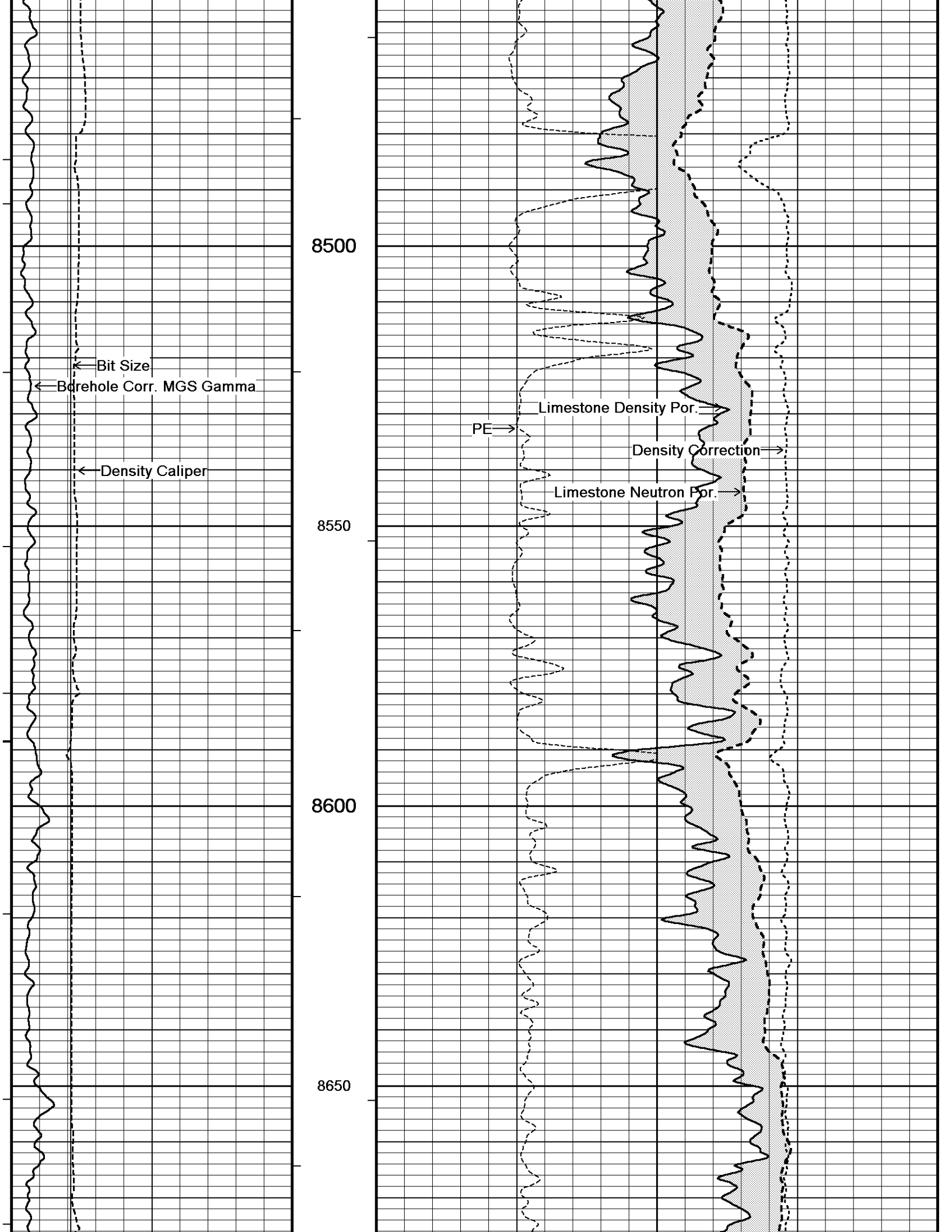
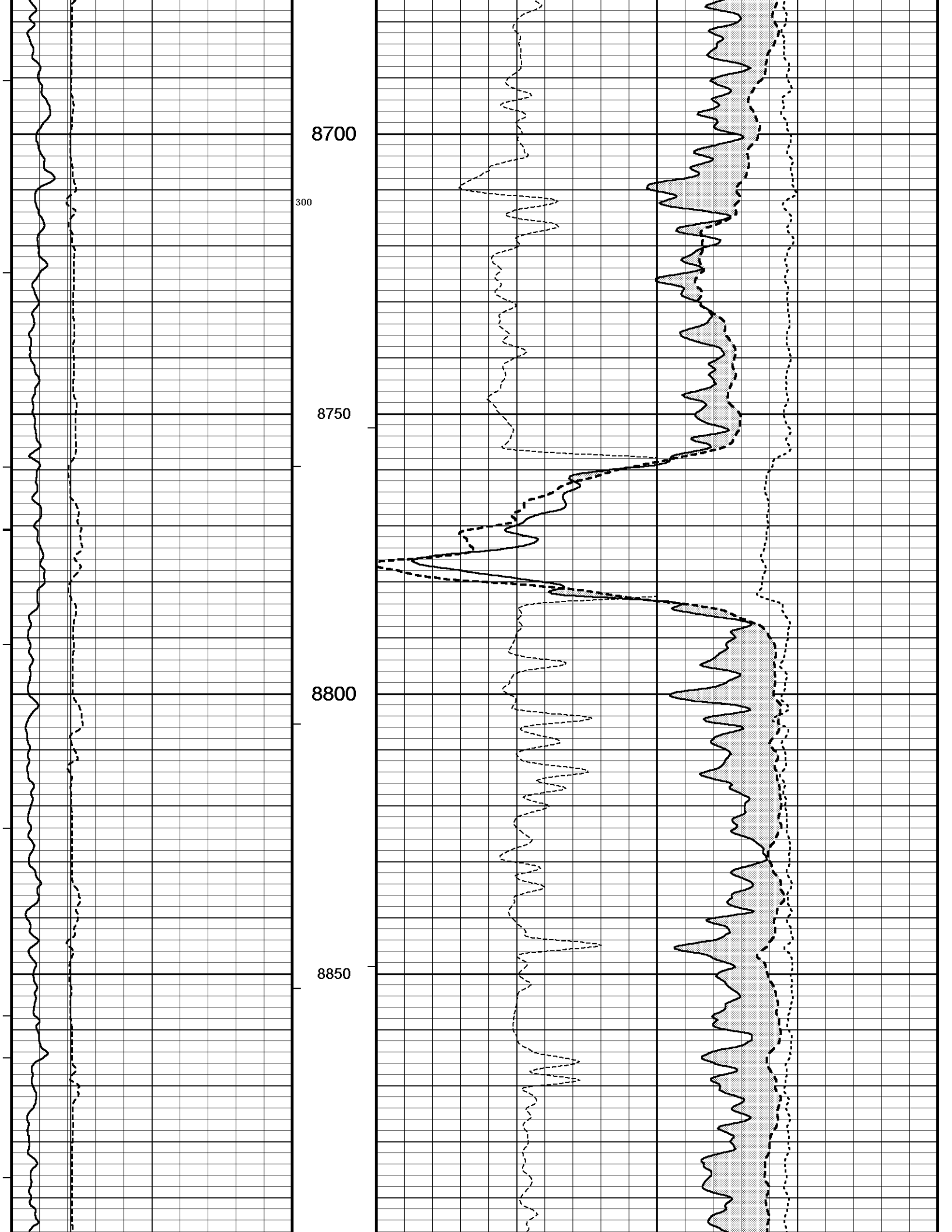
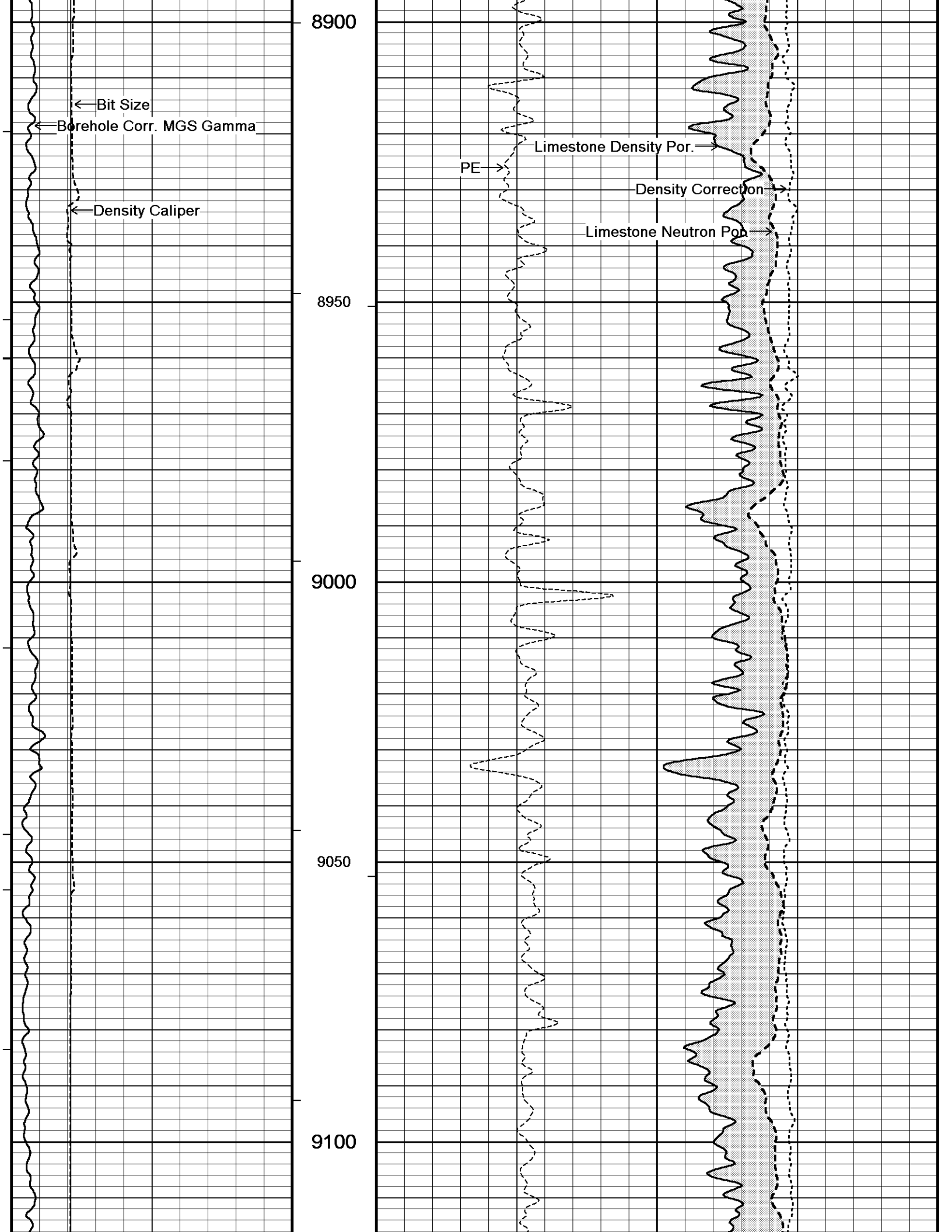
8250
8300
8350
8400
8450


8500
8550
8600
8650
Bit Size
Borehole Corr. MGS Gamma
Density Caliper
Limestone Density Por.
PE
Density Correction
Limestone Neutron Por.


8700
300
8750
8800
8850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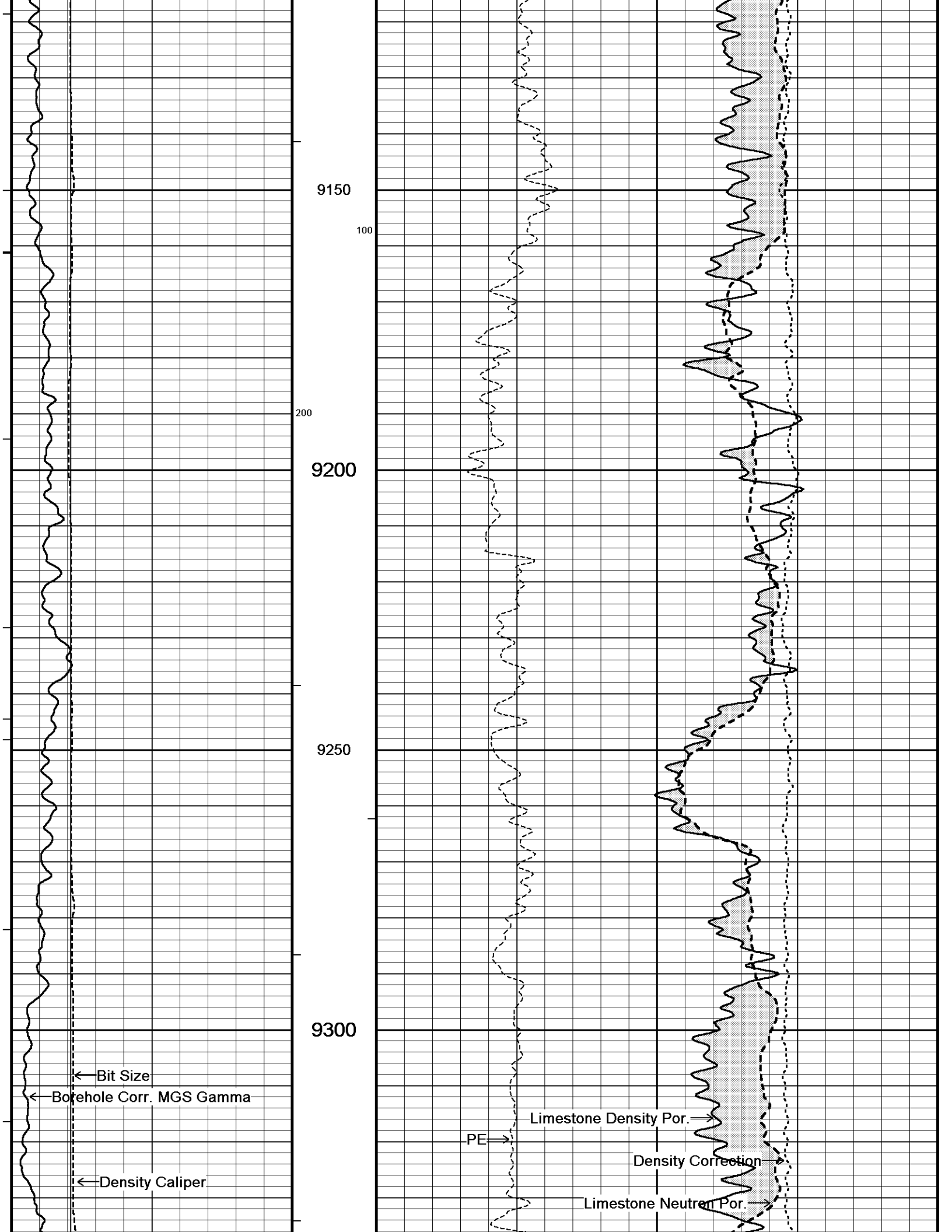
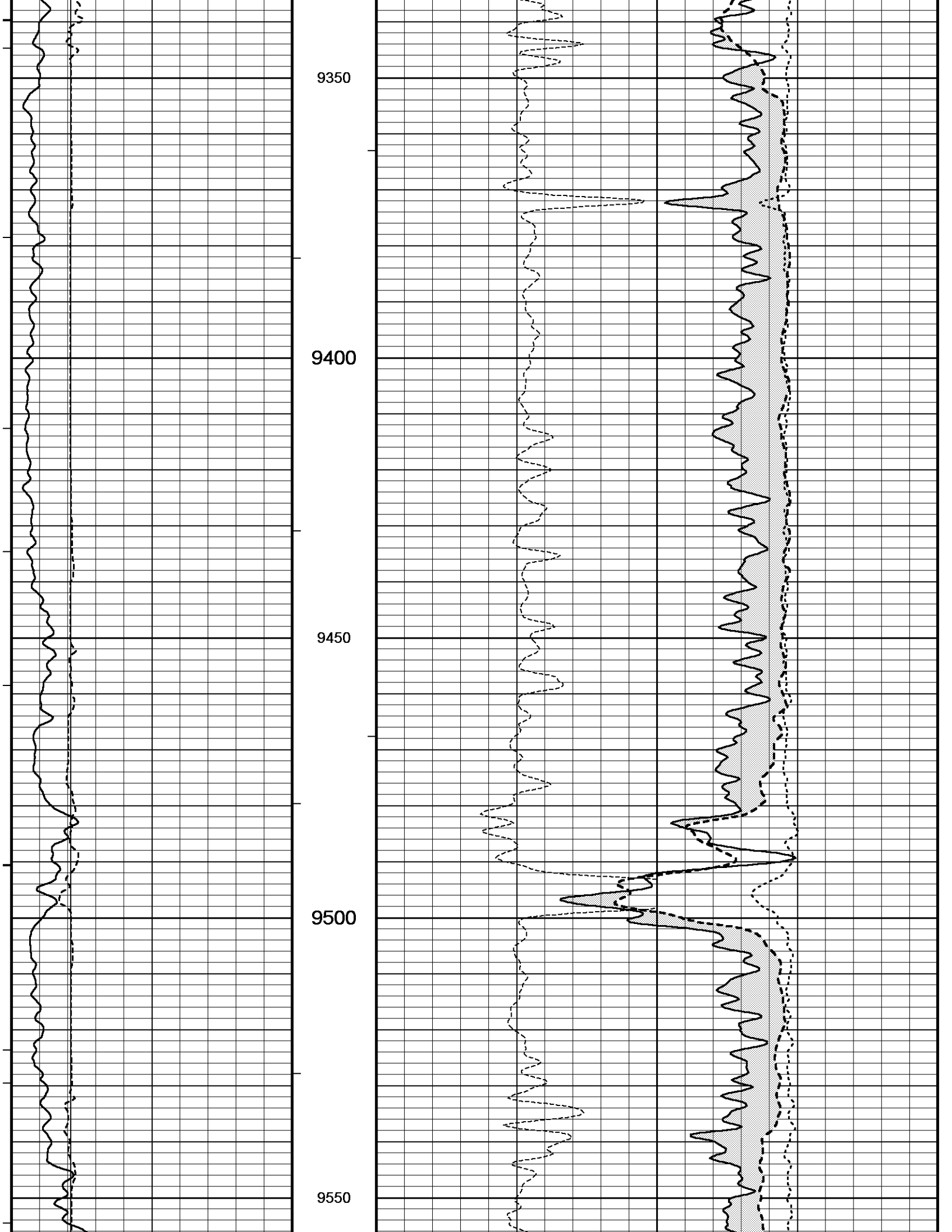
9000
9050
9100
Bit Size
Borehole Corr. MGS Gamma
Density Caliper
Limestone Density Por.
PE
Density Correction
Limestone Neutron Por.


9150
100
200
9200
9250
9300
Bit Size
Borehole Corr. MGS Gamma
Density Caliper
Limestone Density Por.
PE
Density Correction
Limestone Neutron Por.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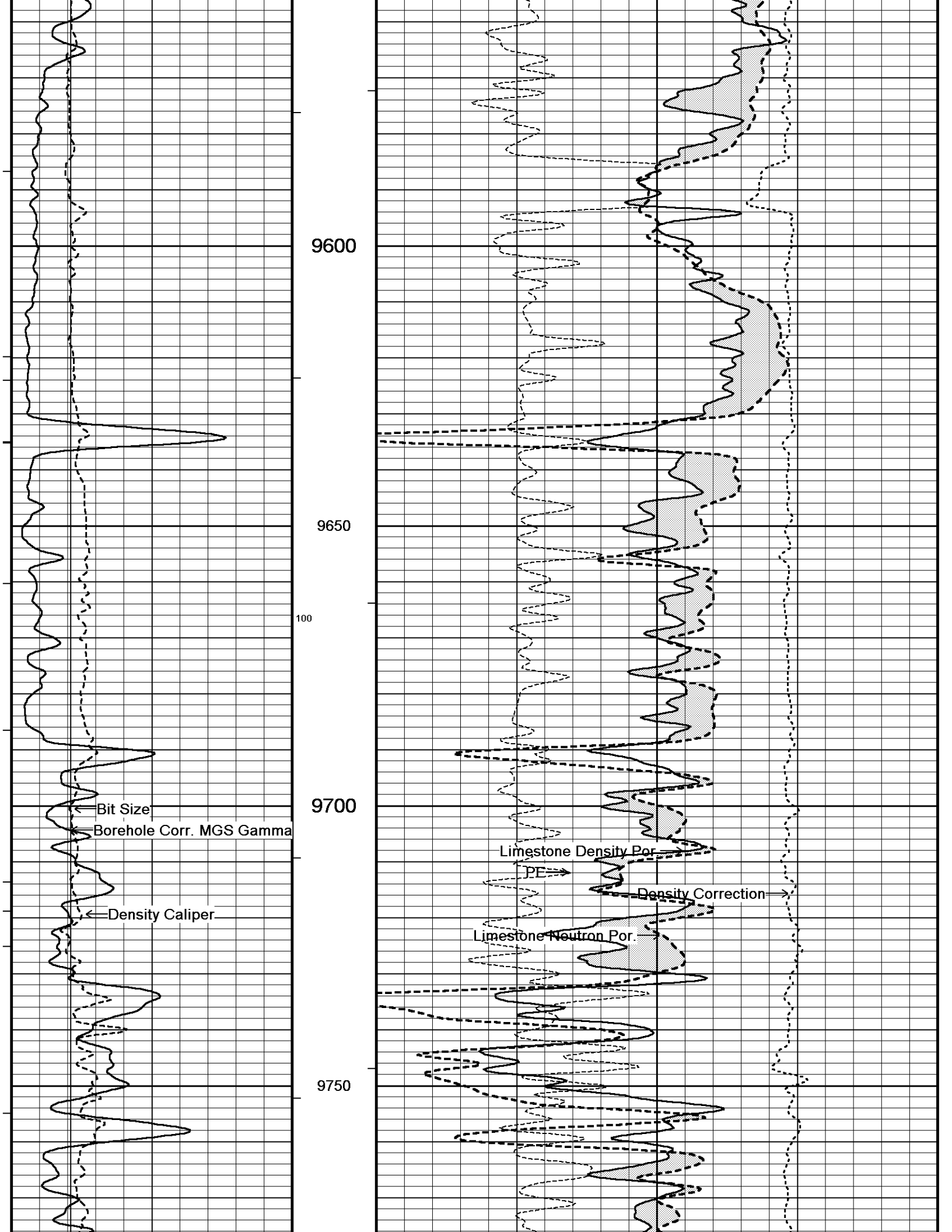
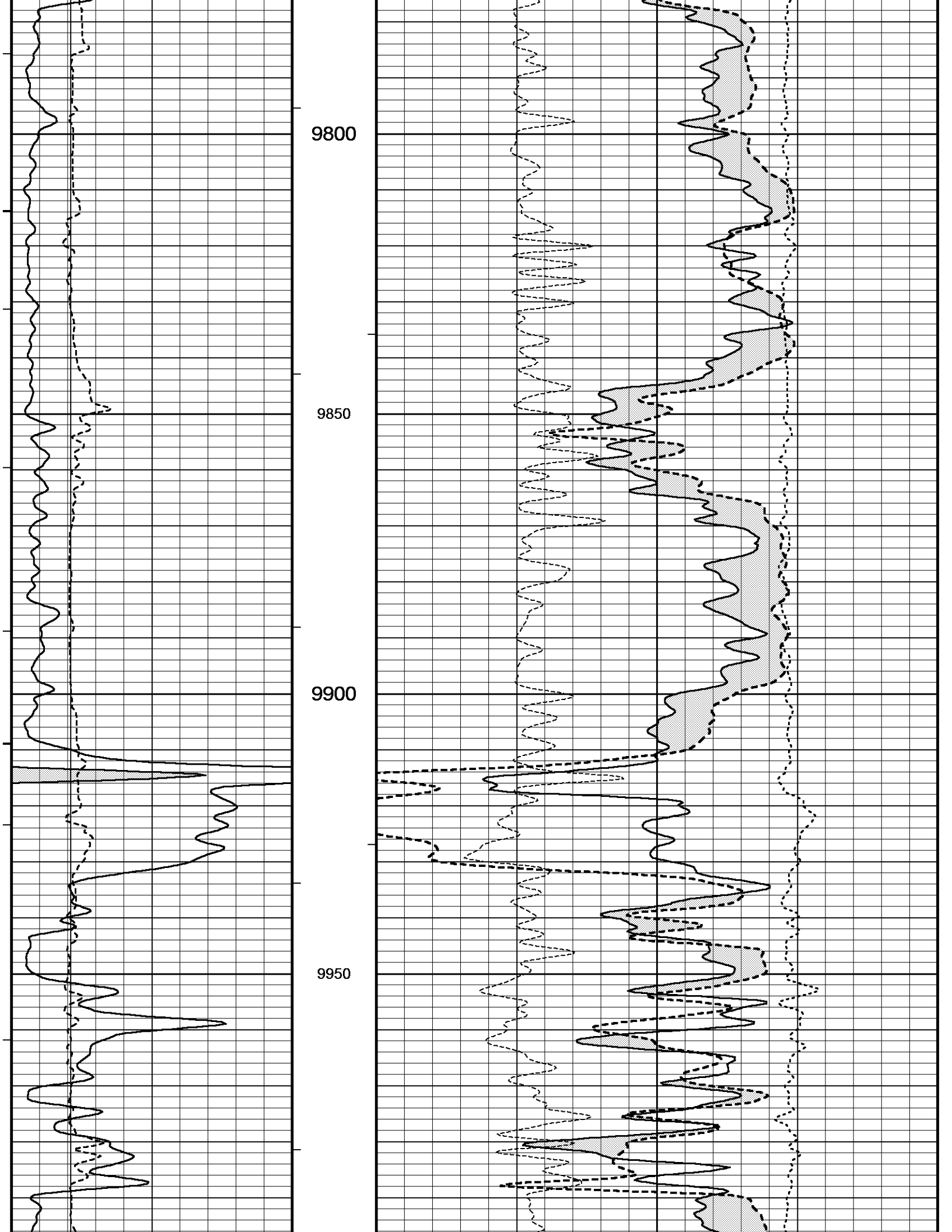
9400
9450
9500
9550


9600
9650
100
9700
9750
Bit Size
Borehole Corr. MGS Gamma
Density Caliper
Limestone Density Por.
PE
Density Correction
Limestone Neutron Por.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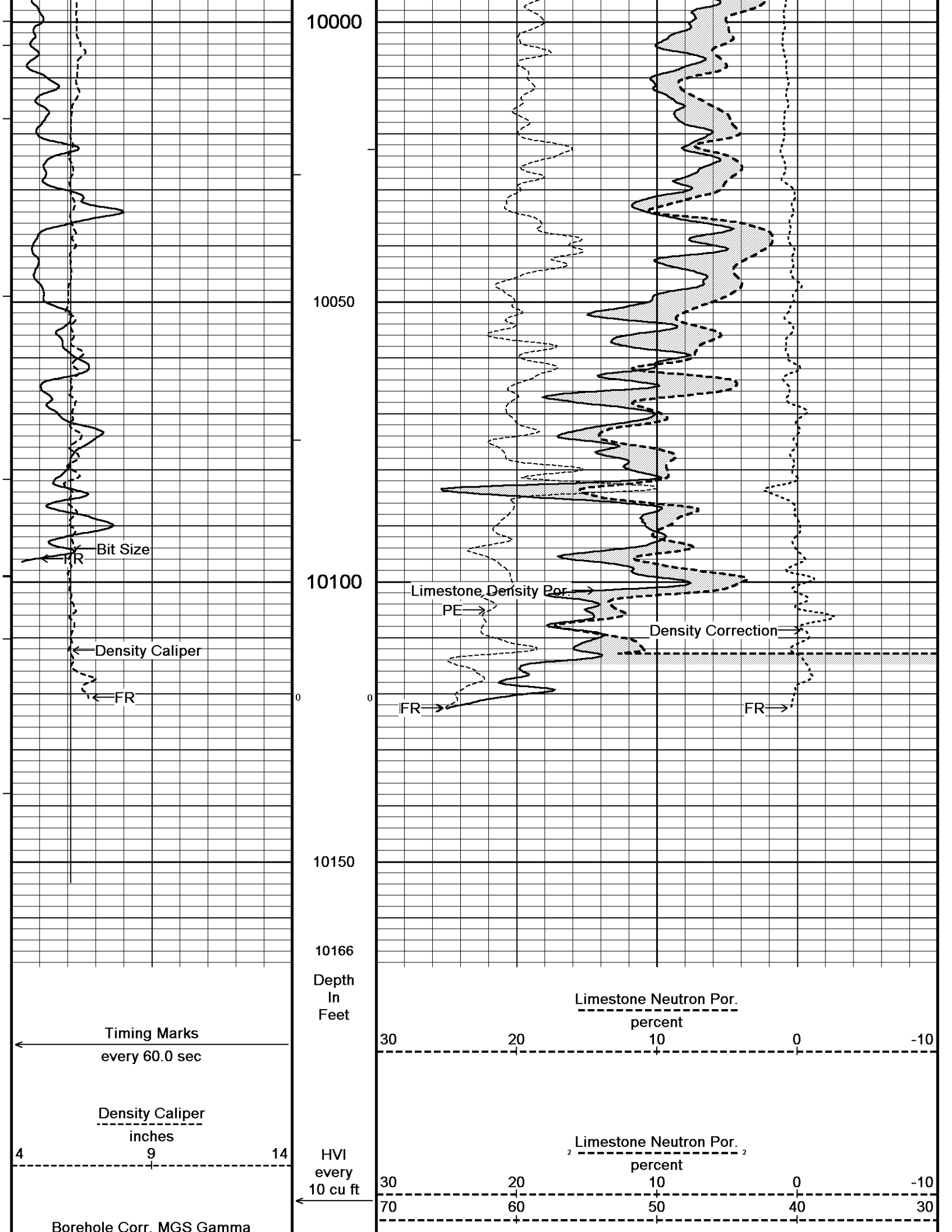

10000
10050
10100
10150
10166
Bit Size
FR
Density Caliper
FR
0
Limestone Density Por.
PE
Density Correction
FR
FR
0
Depth
In
Feet
Timing Marks
every 60.0 sec
Density Caliper
inches
4
9
14
HVI
every
10 cu ft
Borehole Corr. MGS Gamma
Limestone Neutron Por.
percent
30
20
10
0
-10
Limestone Neutron Por.
percent
30
20
10
0
-10
70
60
50
40
30

Borehole Corr. MGS Gamma
API
0 75 150
150 225 300

Annular Integral every 10 cu ft

Limestone Density Por.
percent
30 20 10 0 -10

Borehole Corr. MGS Gamma
API
0 75 150
150 225 300

PE
barns/electron
0 5 10

Density Correction
grams/cc
-0.50 0 0.50

Bit Size
inches
4 9 14

Replay Scale 1:240

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 21-APR-2013 02:36
Filename: C:\Minimus 13.04.8492\Data\SDRGE (ARIANA 3419 1-7H)\32801 RTAP.dta
Recorded on 21-APR-2013 02:17
System Versions: Processed with 13.04.8492 Plotted with 13.04.8492

5 INCH MAIN LOG DSC

5 INCH BULK DENSITY LOG DSC

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 21-APR-2013 02:36
Filename: C:\Minimus 13.04.8492\Data\SDRGE (ARIANA 3419 1-7H)\32801 RTAP.dta
Recorded on 21-APR-2013 02:17
System Versions: Processed with 13.04.8492 Plotted with 13.04.8492

Depth In Feet

Timing Marks
every 60.0 sec

Compensated Density
grams/cc
2 2.25 2.50 2.75 3

Density Caliper
inches
4 9 14

HVI every 10 cu ft

Limestone Density Por.
percent
30 20 10 0 -10

Borehole Corr. MGS Gamma
API
0 75 150
150 225 300

Annular Integral every 10 cu ft

PE
barns/electron
0 5 10

Density Correction
grams/cc
-0.50 0 0.50

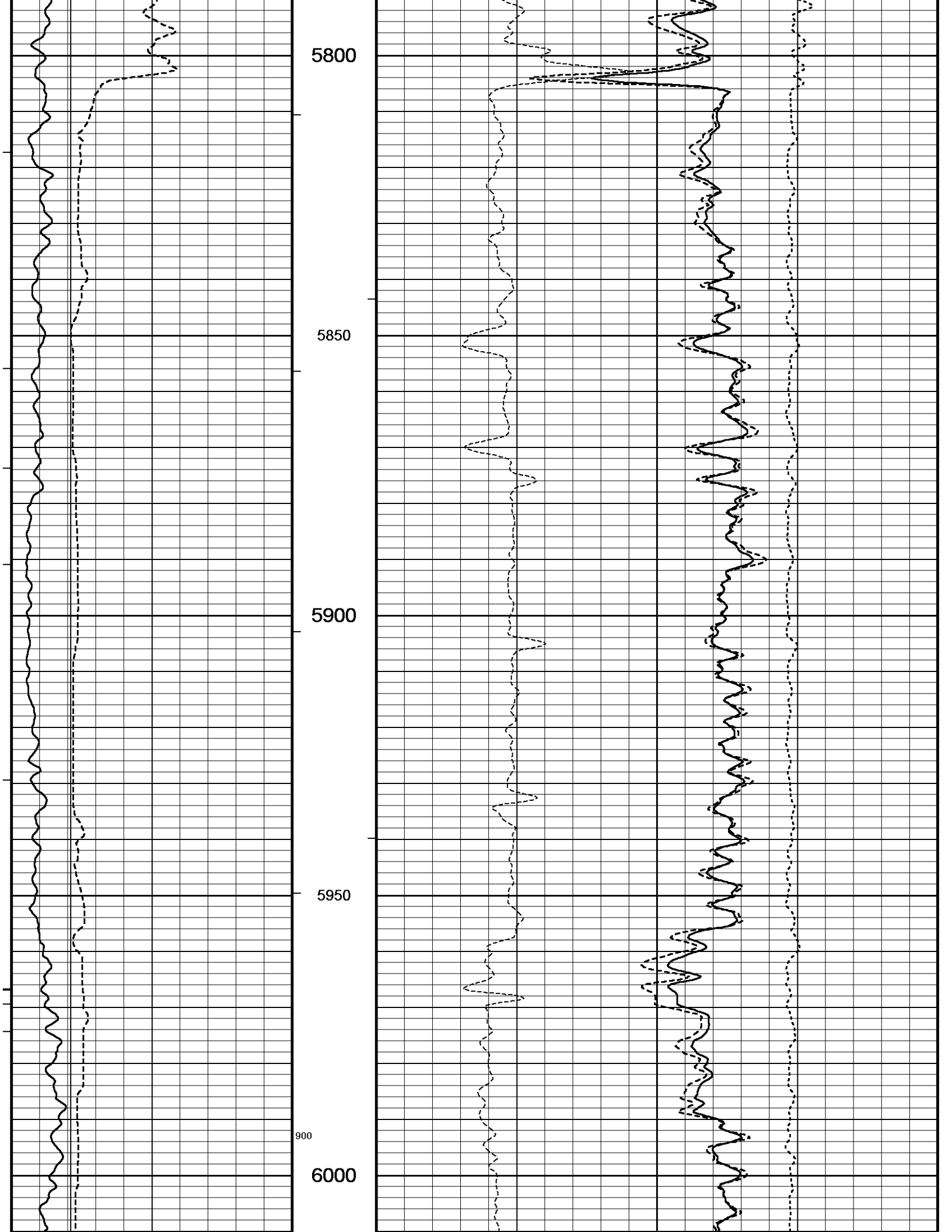
Bit Size
inches
4 9 14

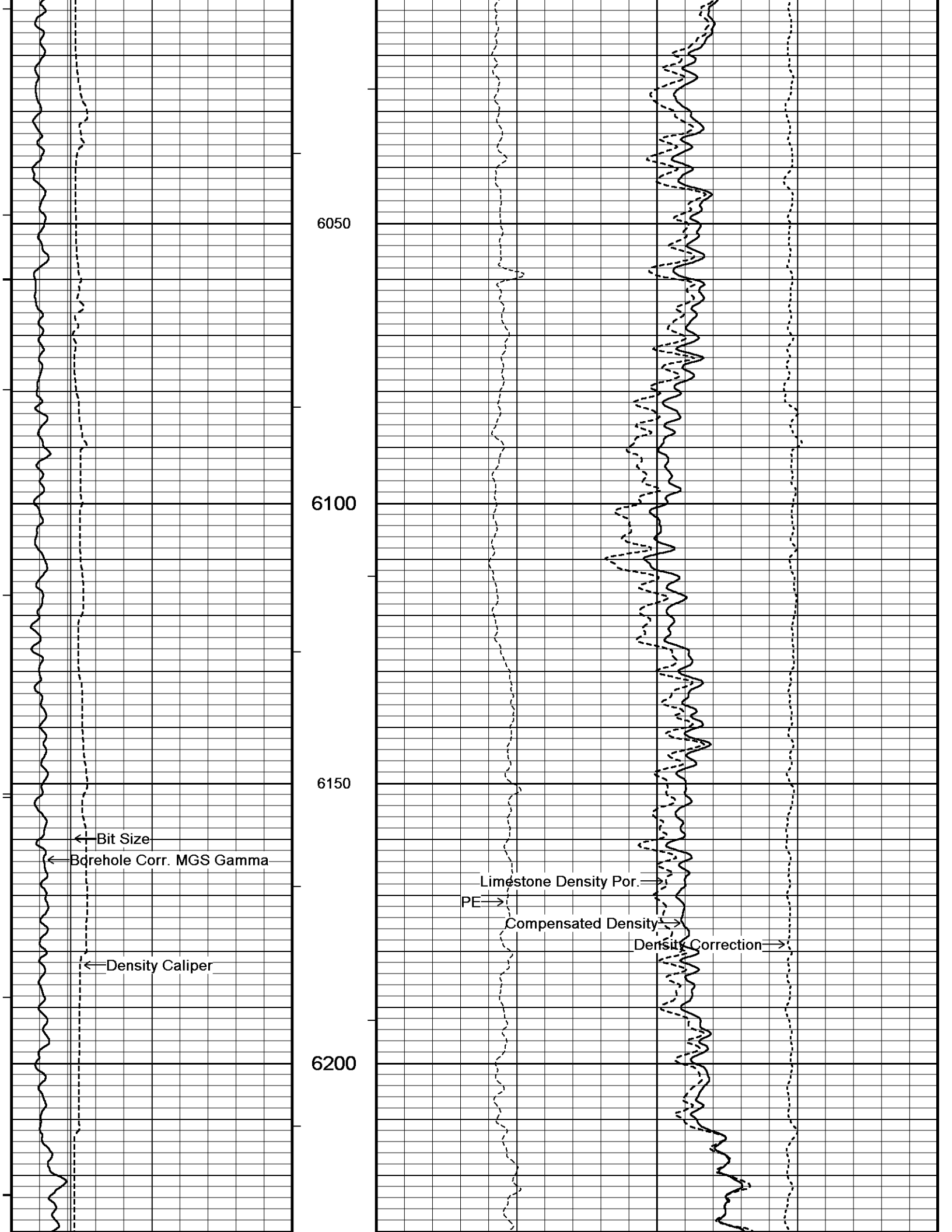
Replay Scale 1:240

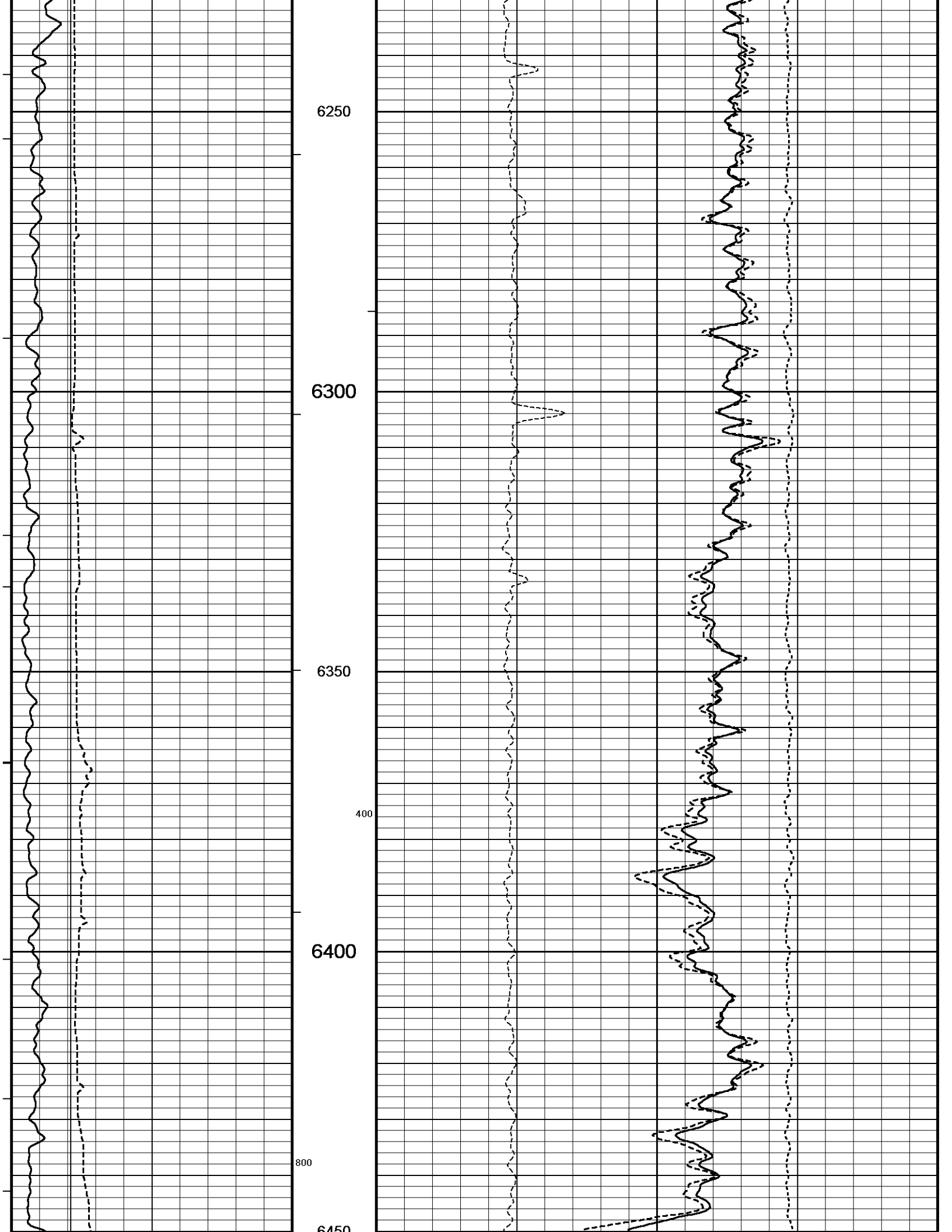
5750

Bit Size
Borehole Corr. MGS Gamma
Density Caliper

Casing
Limestone Density Por.
PE
Compensated Density
Density Correction


5800
5850
5900
5950
900
6000


6050
6100
6150
6200
Bit Size
Borehole Corr. MGS Gamma
Density Caliper
Limestone Density Por.
PE
Compensated Density
Density Correction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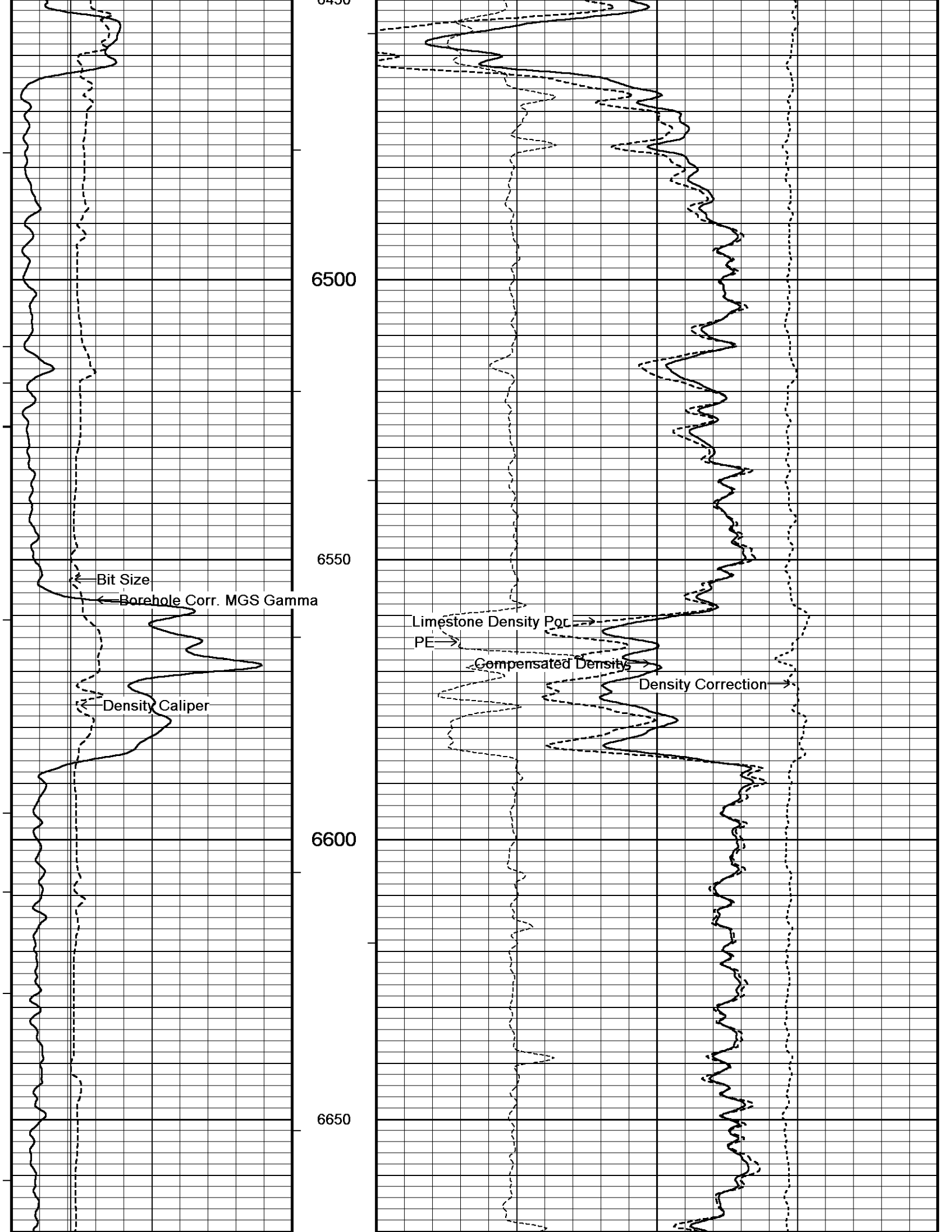
6350
400
6400
800
6450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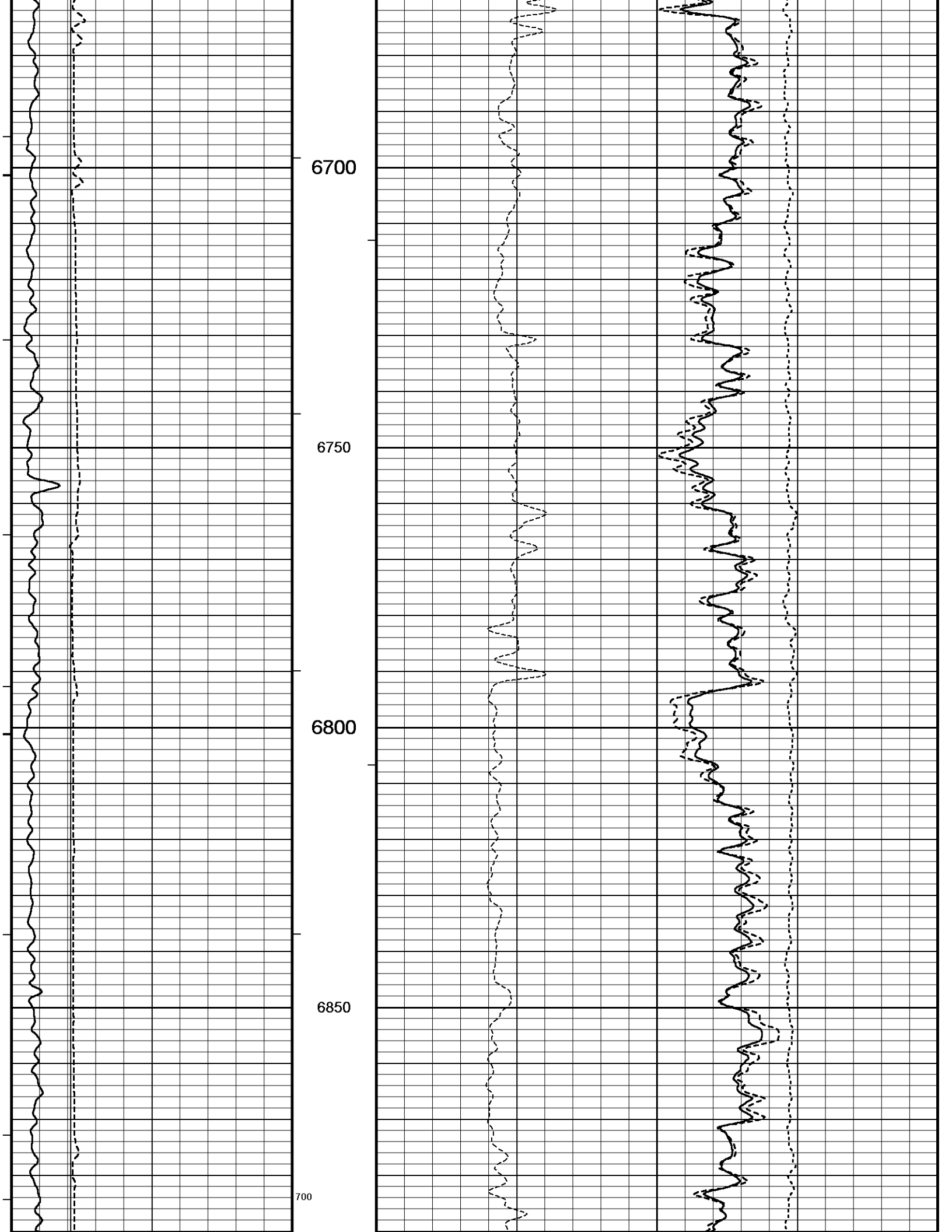
6600
6650
Bit Size
Borehole Corr. MGS Gamma
Density Caliper
Limestone Density Por
PE
Compensated Density
Density Correction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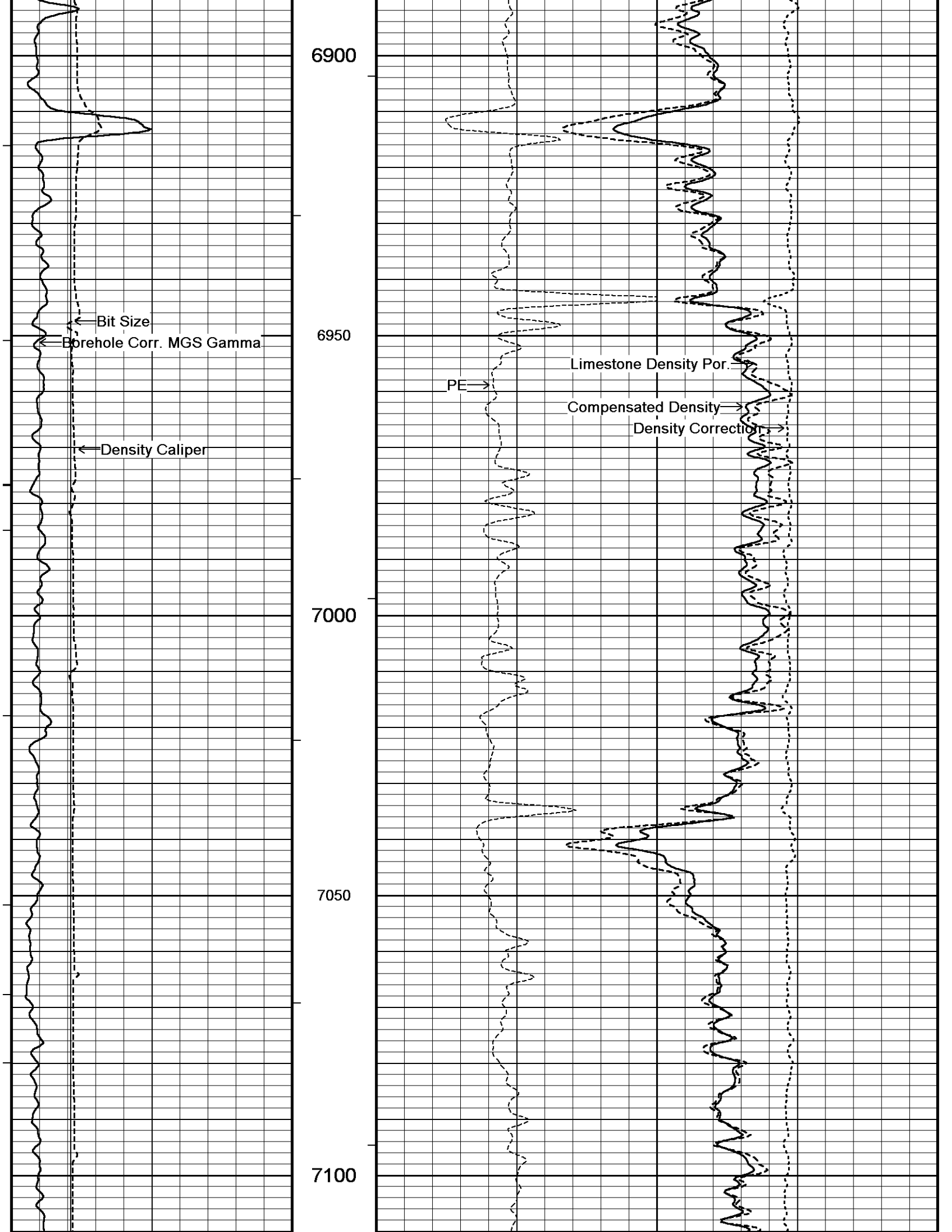
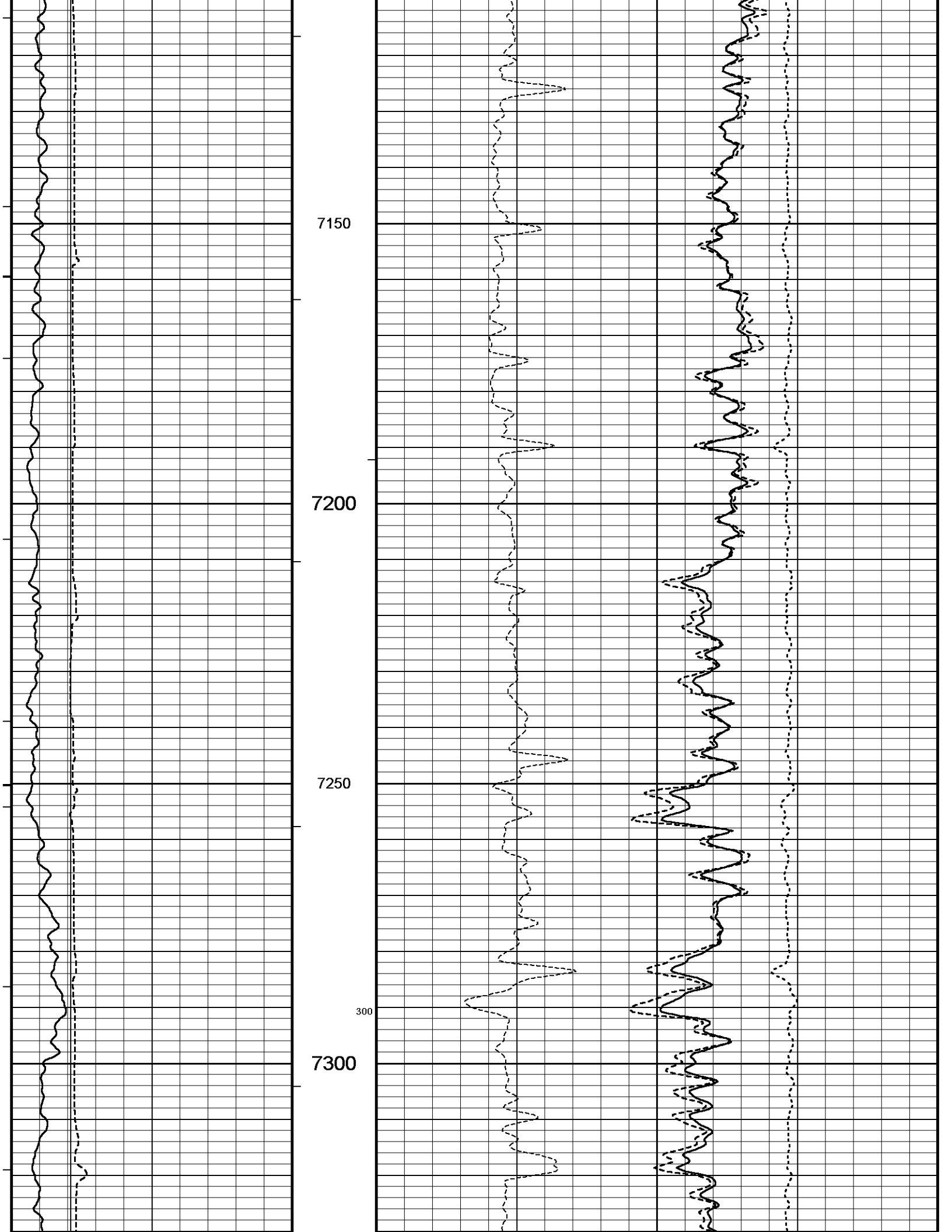
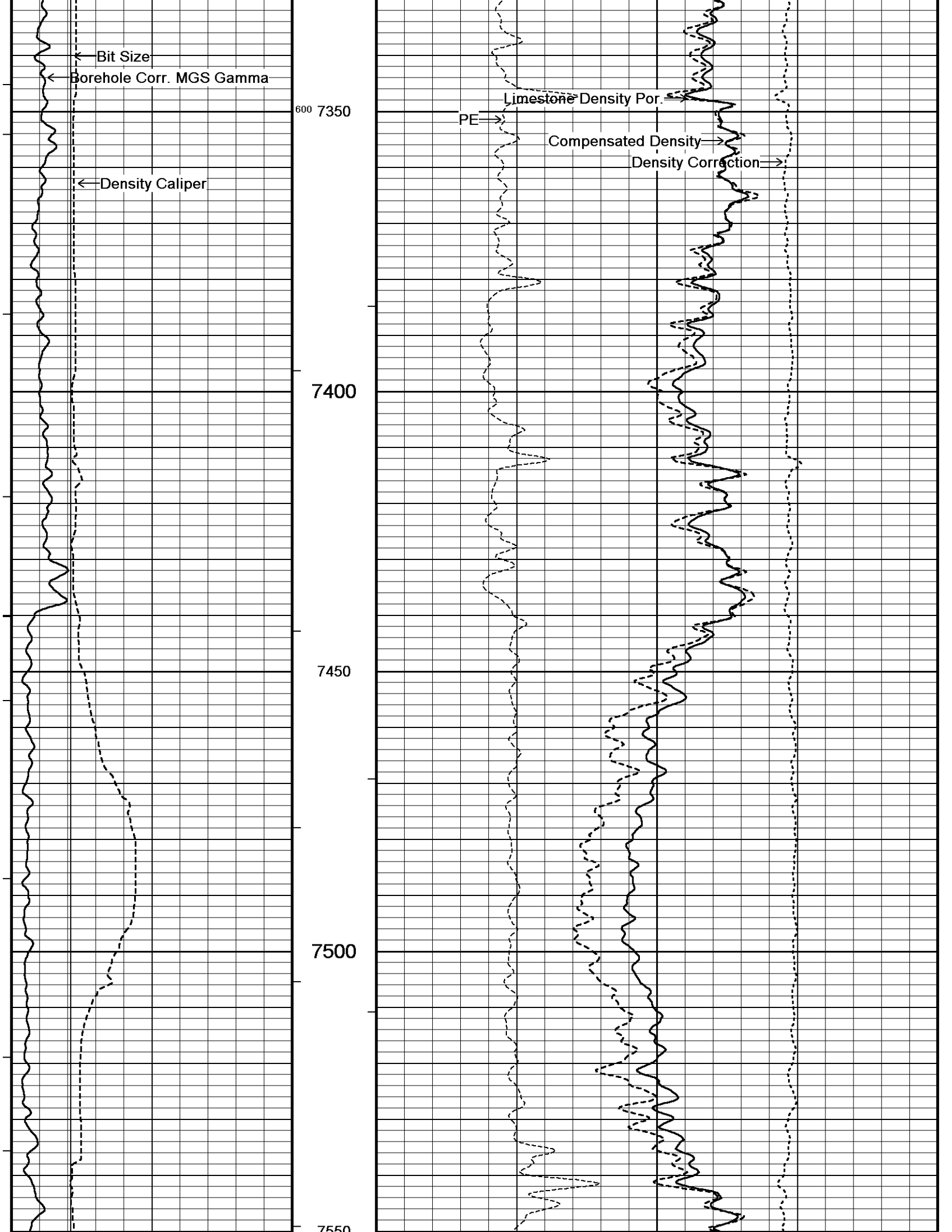
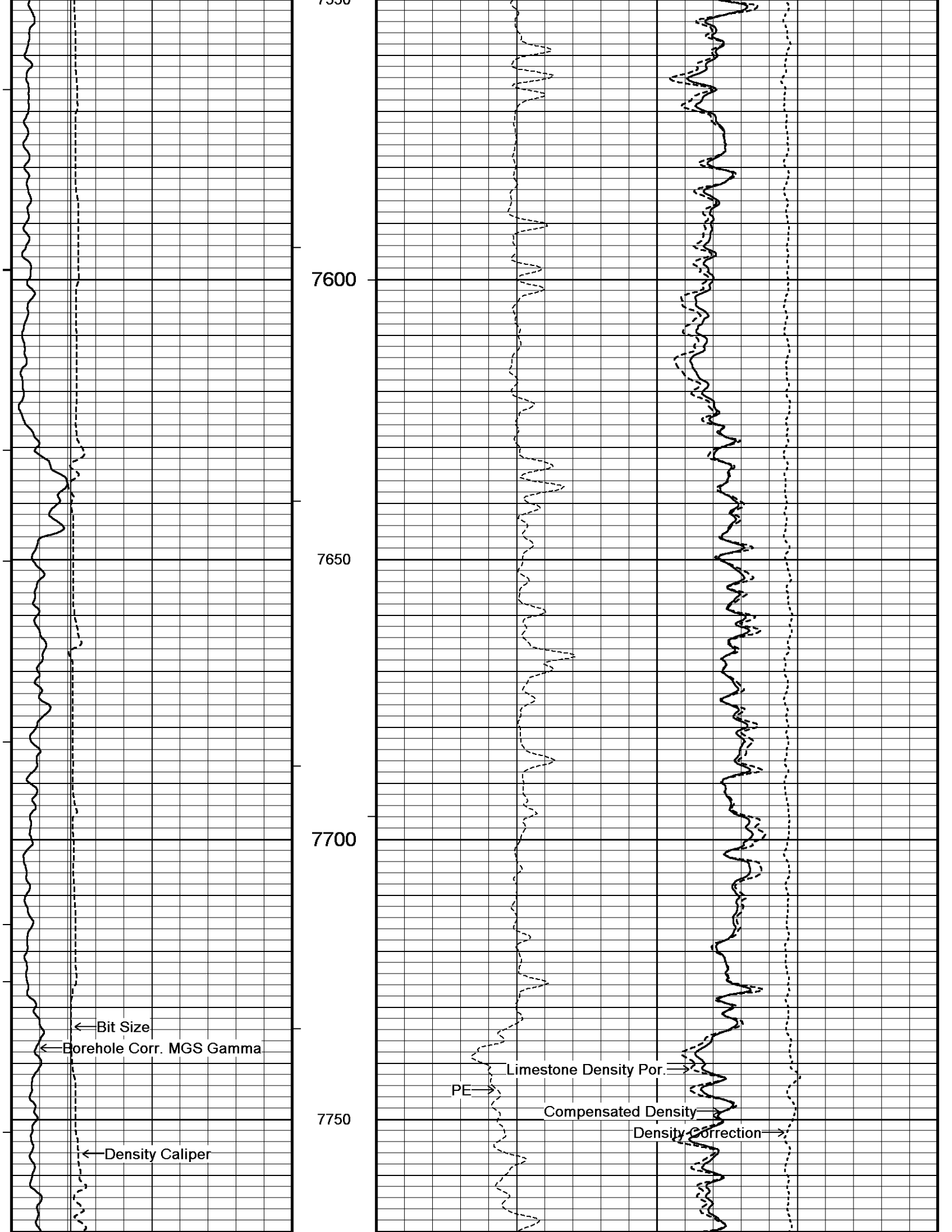
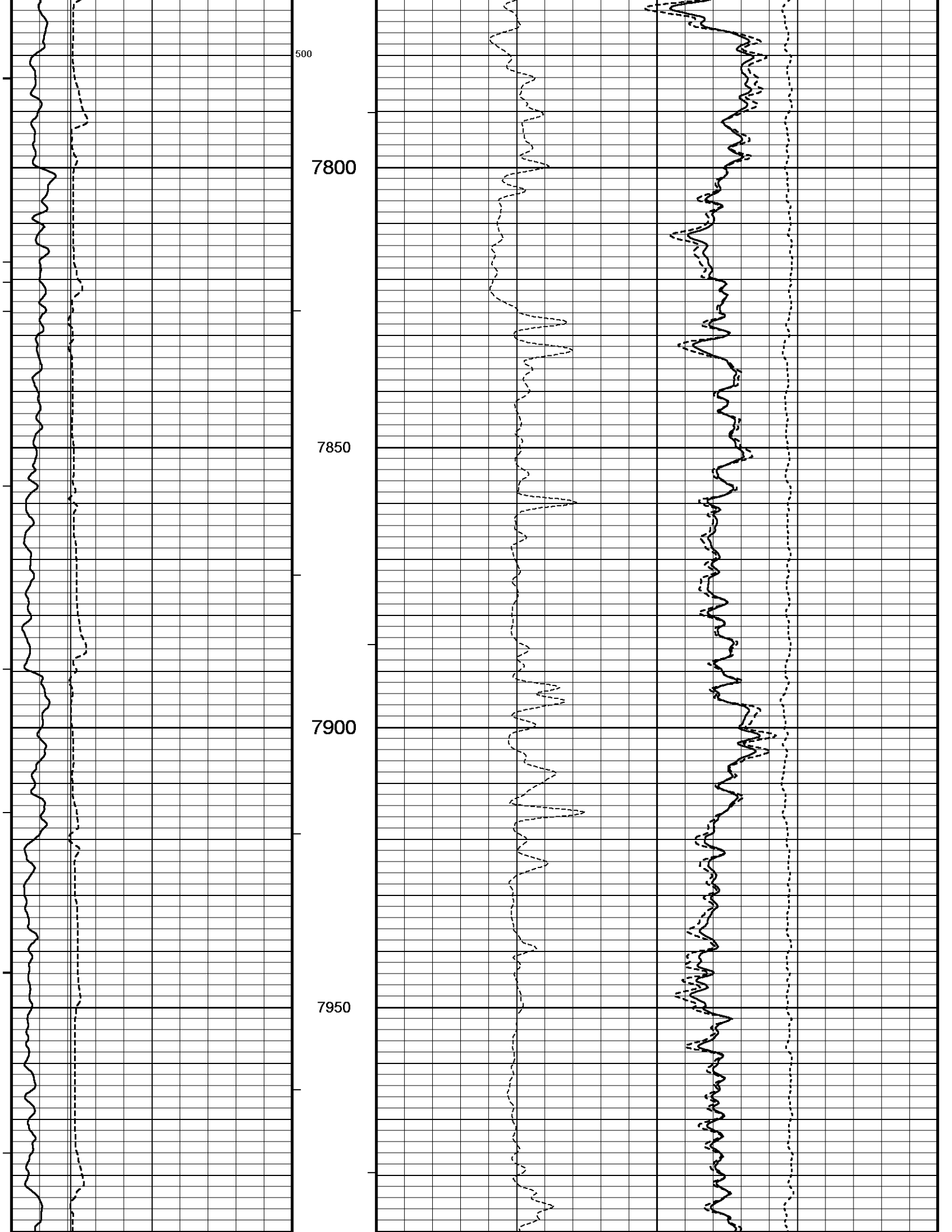
6750
6800
6850
700

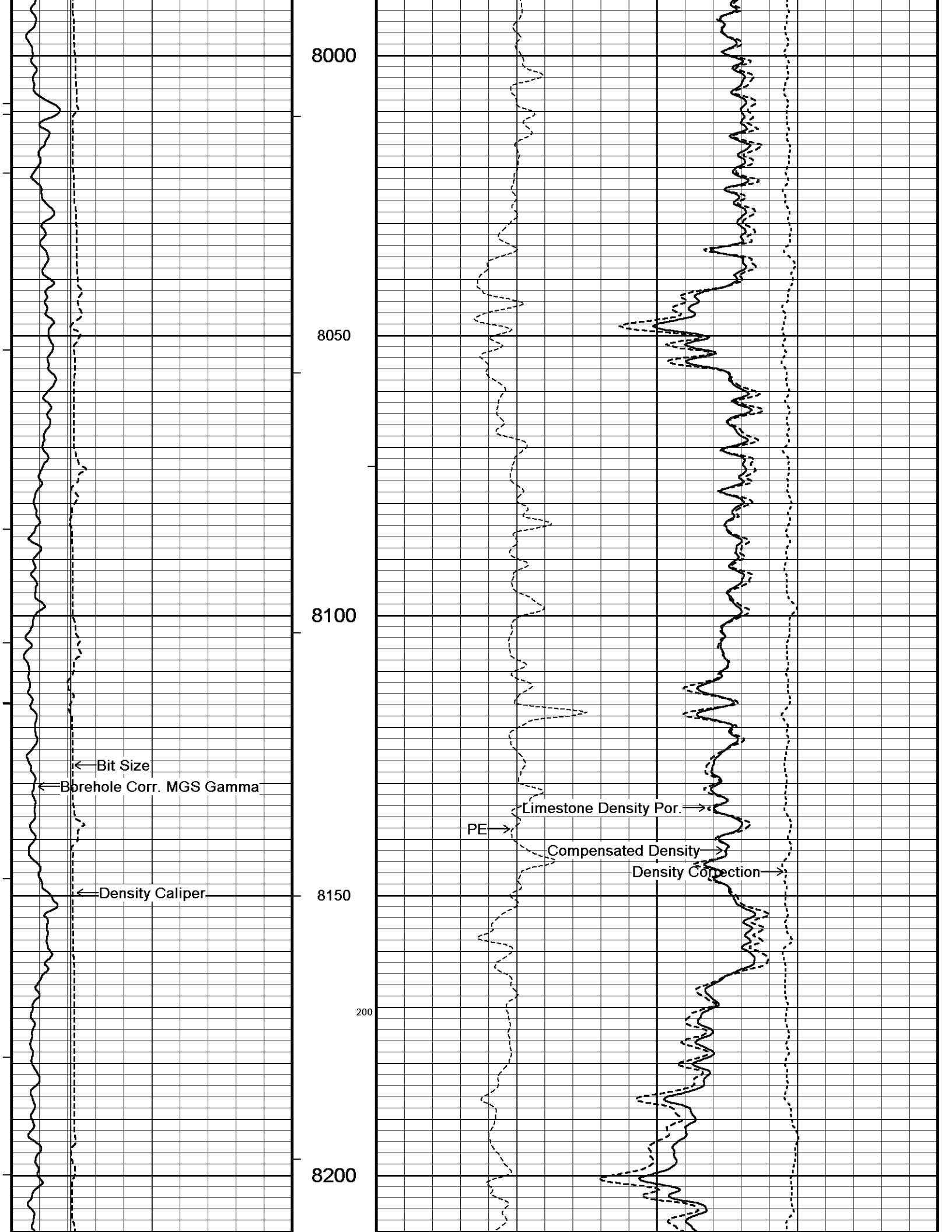

6900
6950
7000
7050
7100
Bit Size
Borehole Corr. MGS Gamma
Density Caliper
PE
Limestone Density Por.
Compensated Density
Density Correction

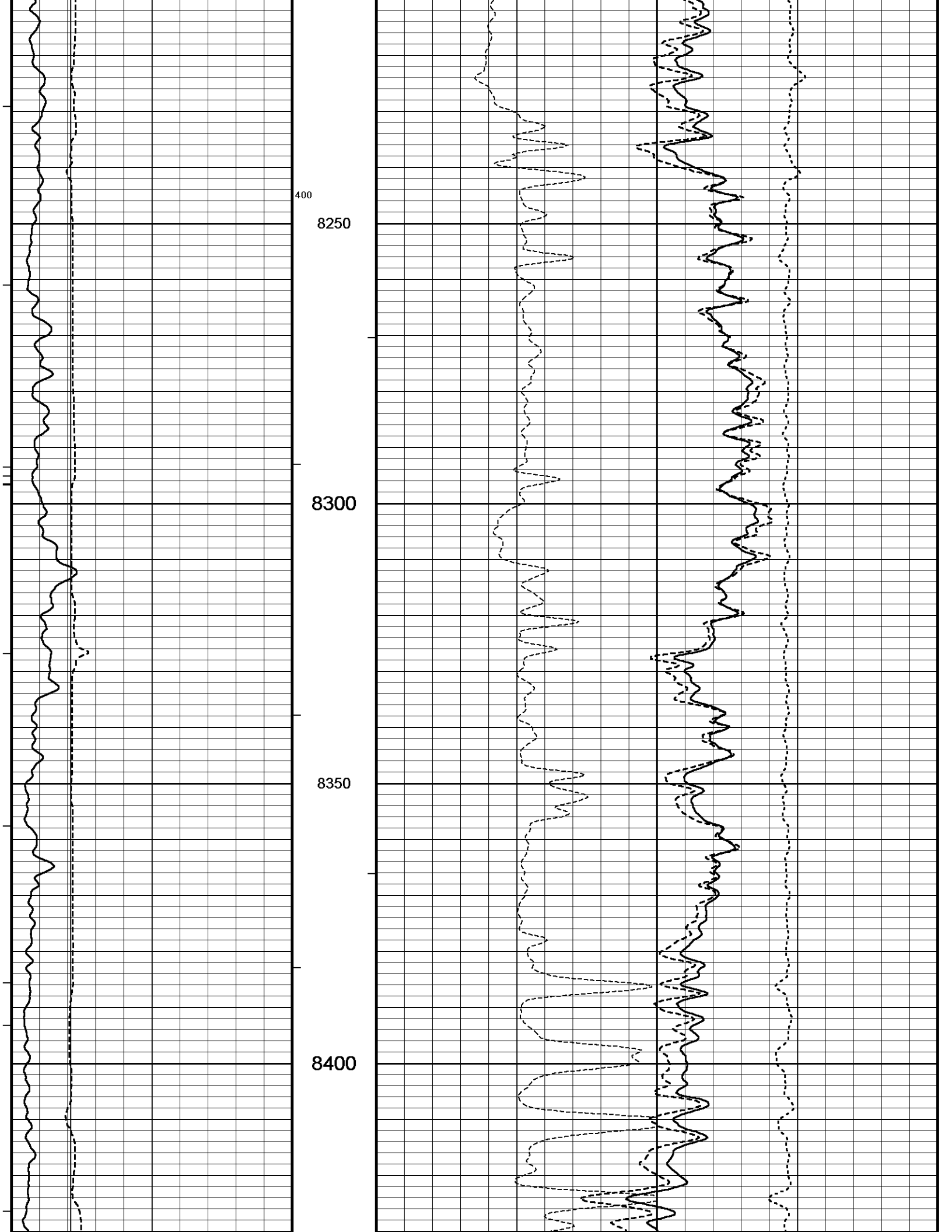

7150
7200
7250
300
7300


Bit Size
Borehole Corr. MGS Gamma
Density Caliper
600
7350
7400
7450
7500
7550
Limestone Density Por.
PE
Compensated Density
Density Correction


7600
7650
7700
7750
Bit Size
Borehole Corr. MGS Gamma
Density Caliper
Limestone Density Por.
PE
Compensated Density
Density Correction


500
7800
7850
7900
7950


8000
8050
8100
8150
200
8200
Bit Size
Borehole Corr. MGS Gamma
Density Caliper
PE
Limestone Density Por.
Compensated Density
Density Correction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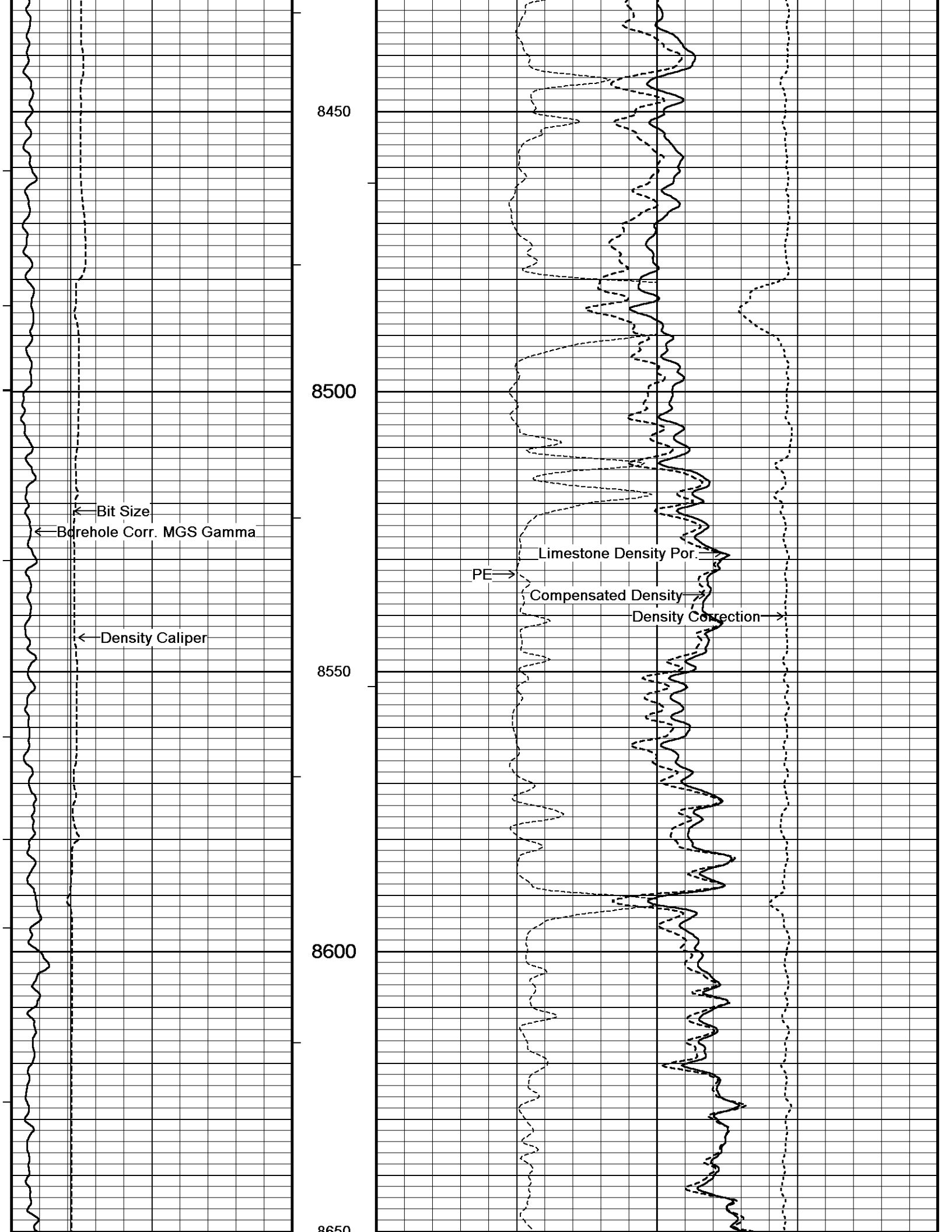
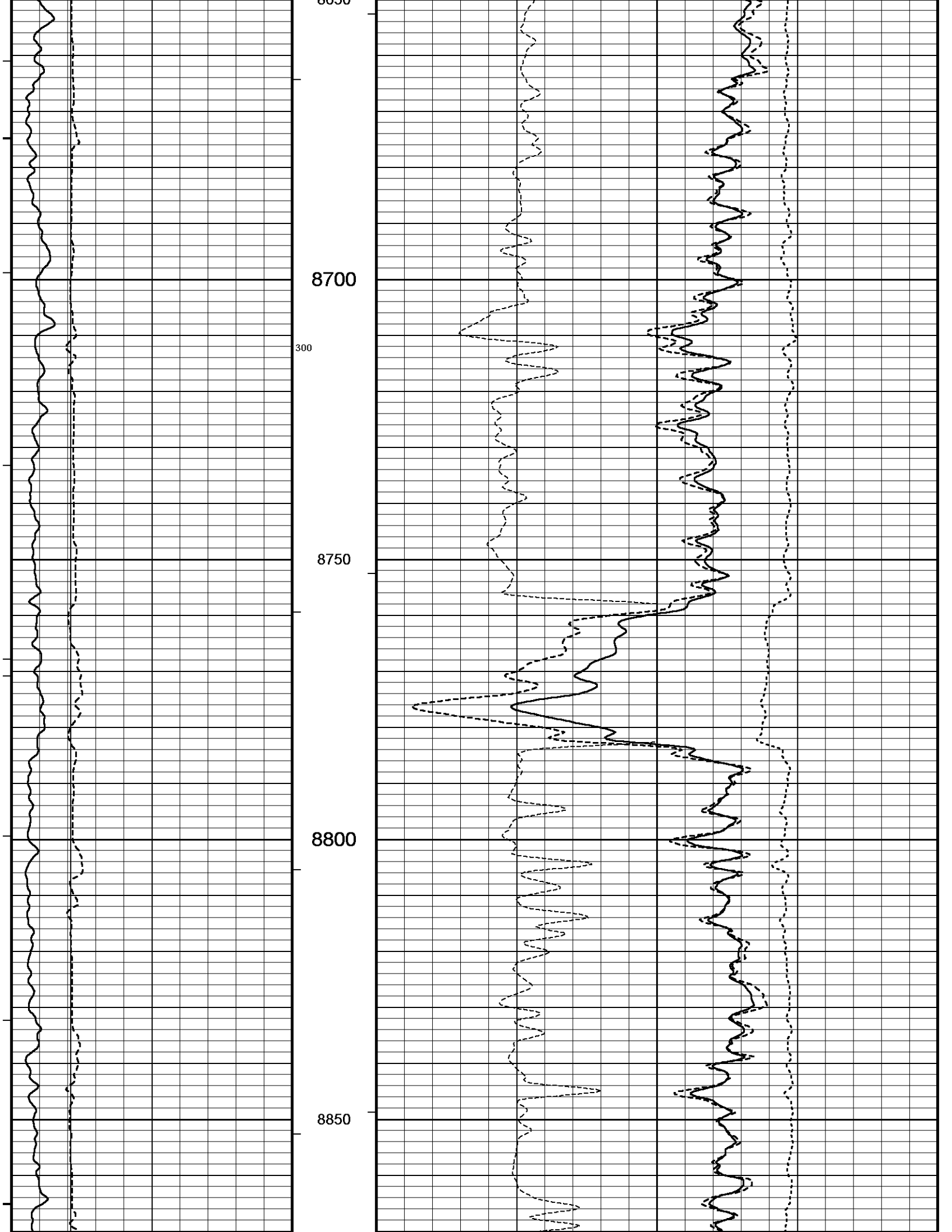
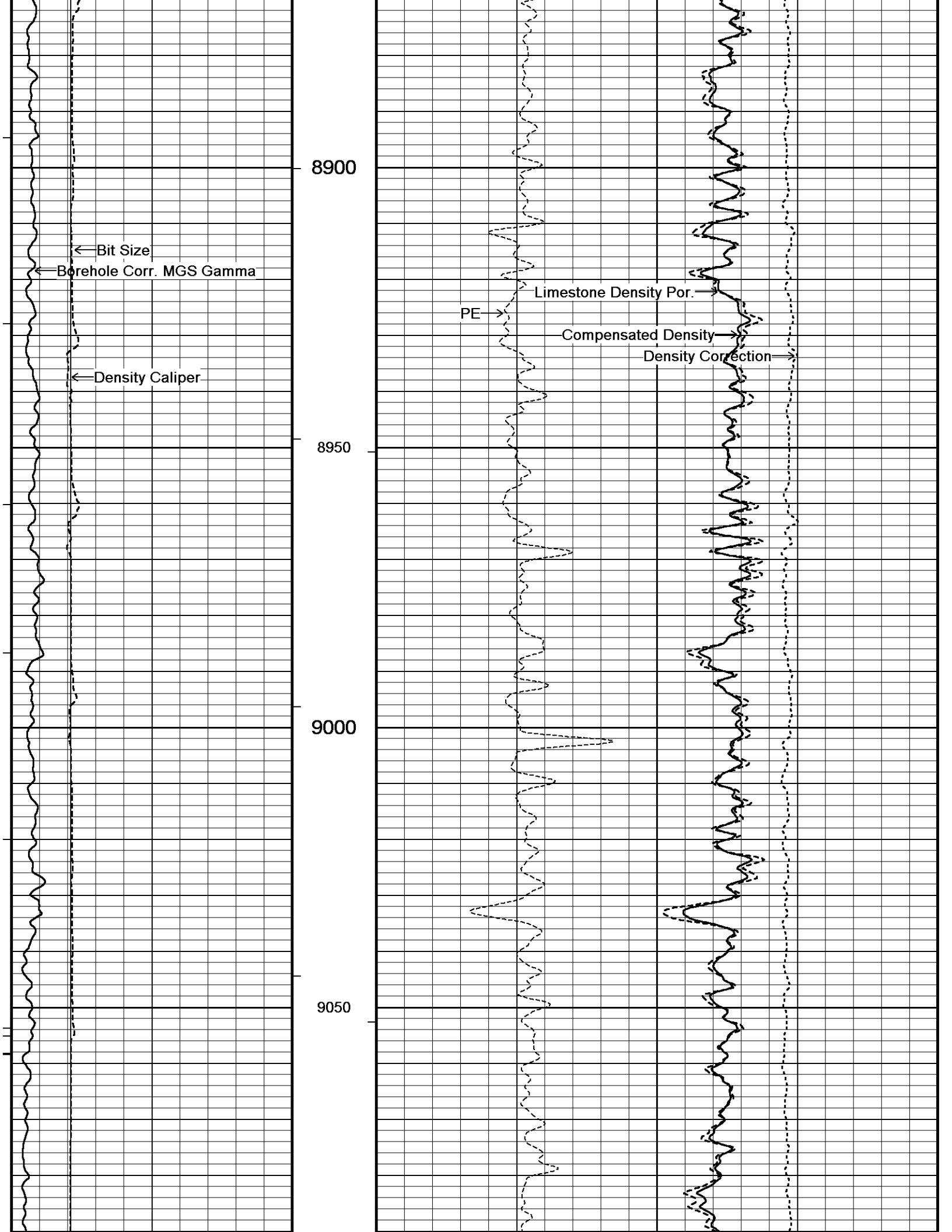
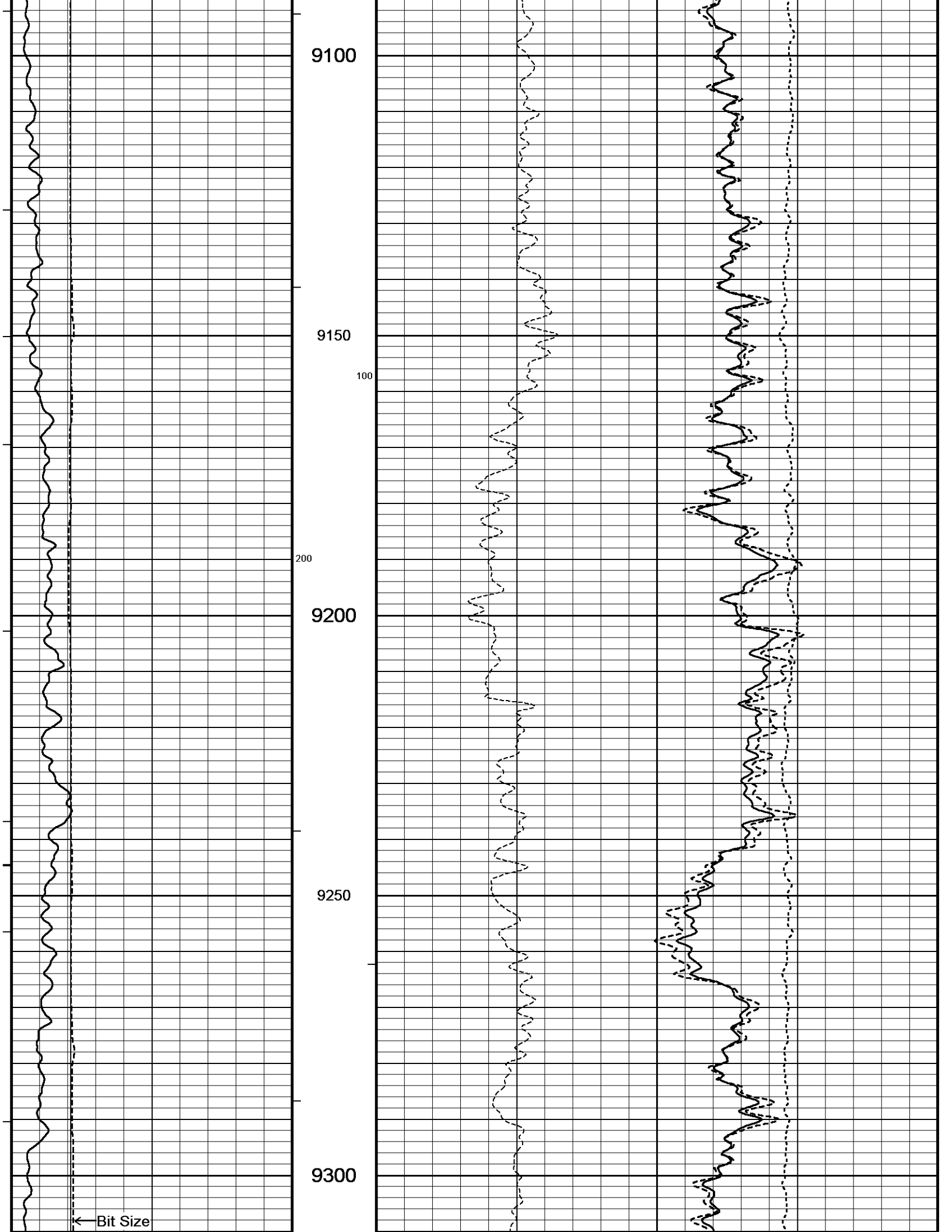
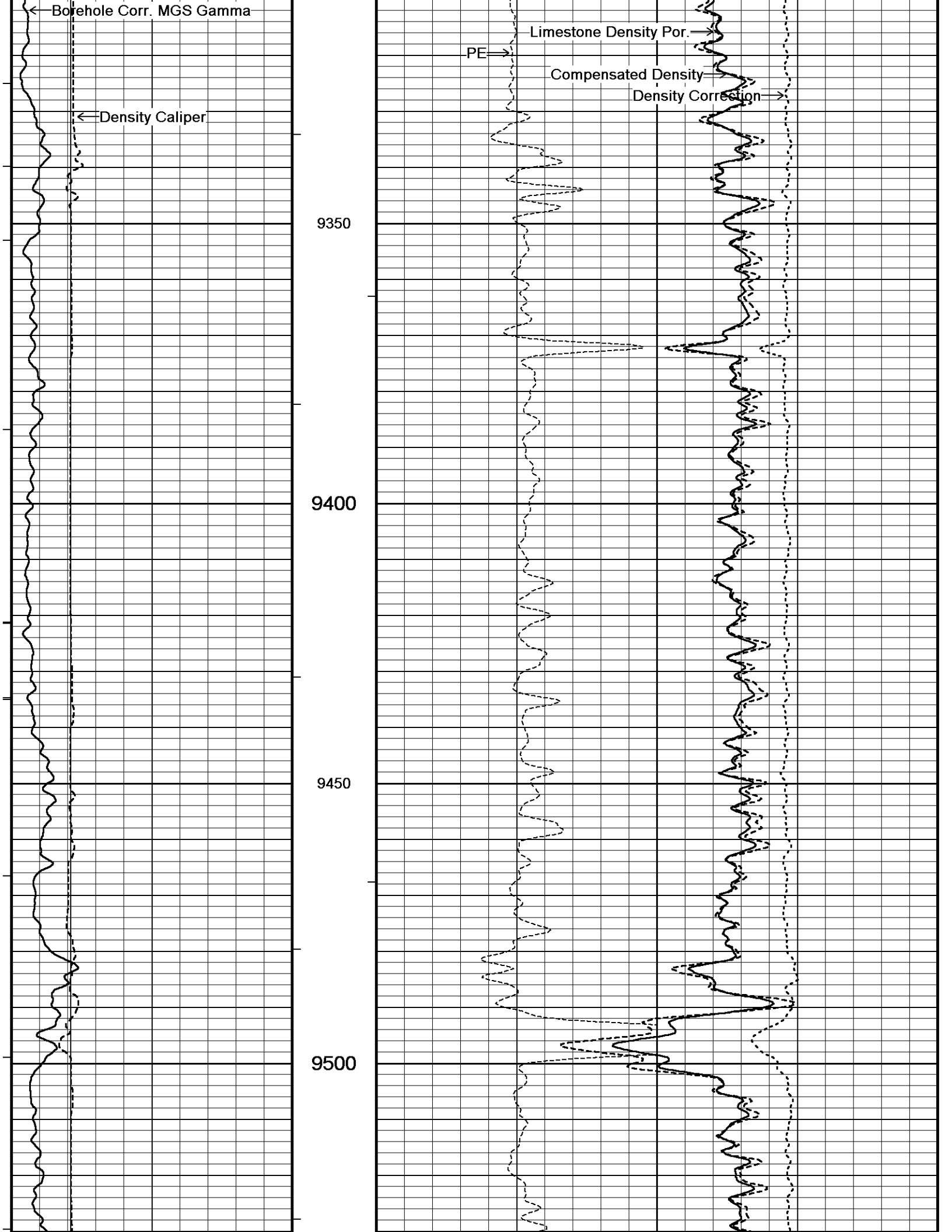
8250
8300
8350
8400

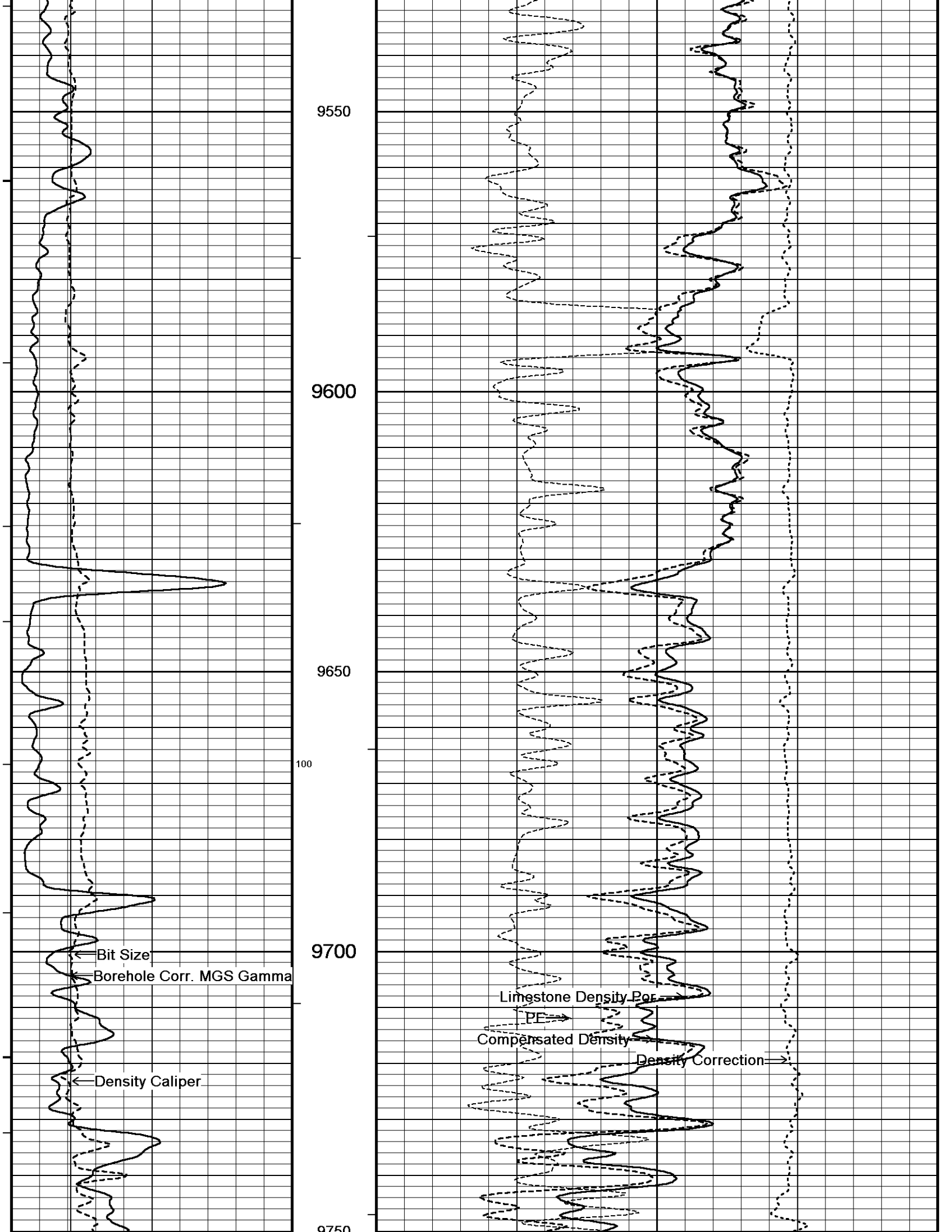

8450
8500
8550
8600
8650
Bit Size
Borehole Corr. MGS Gamma
Density Caliper
Limestone Density Por.
PE
Compensated Density
Density Correction

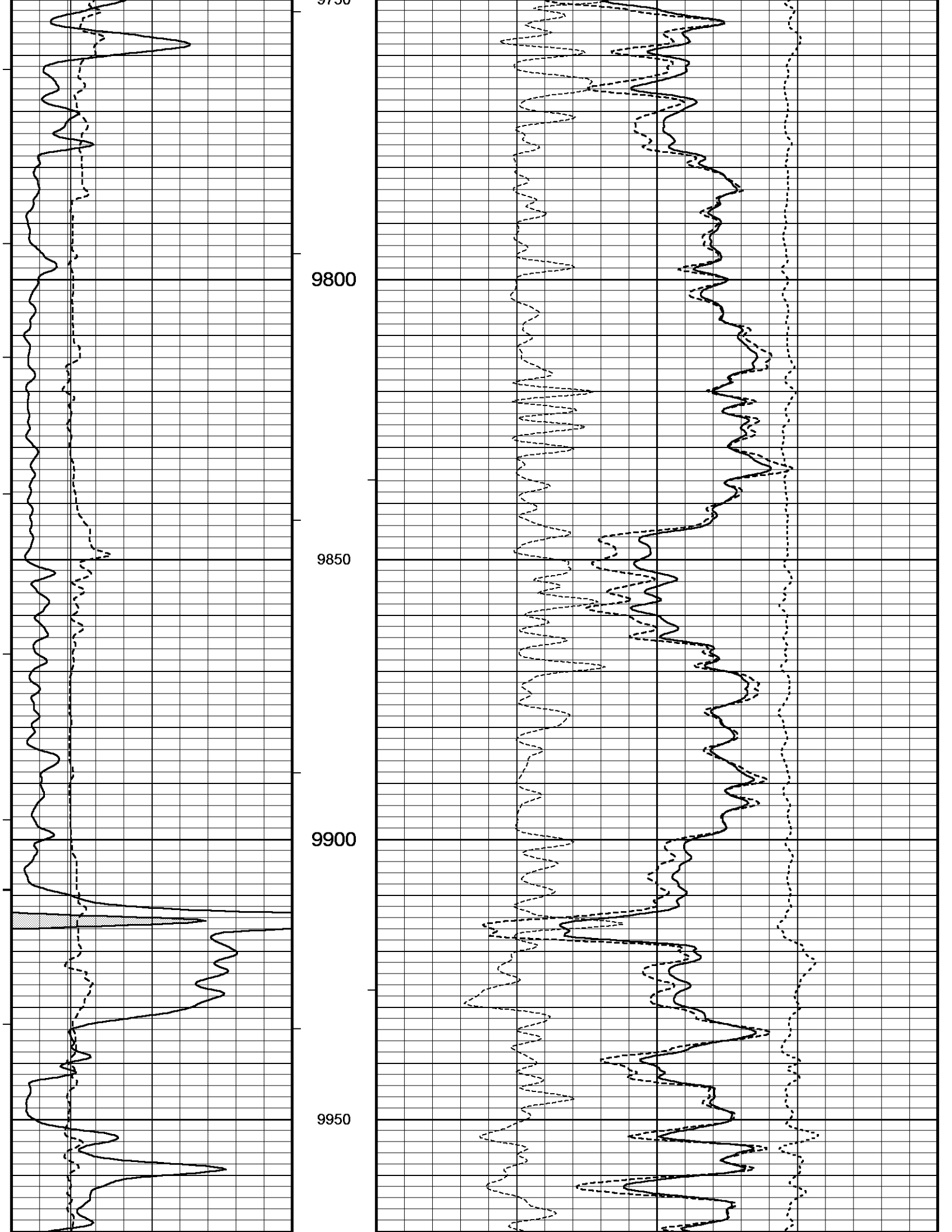

8700
300
8750
8800
8850

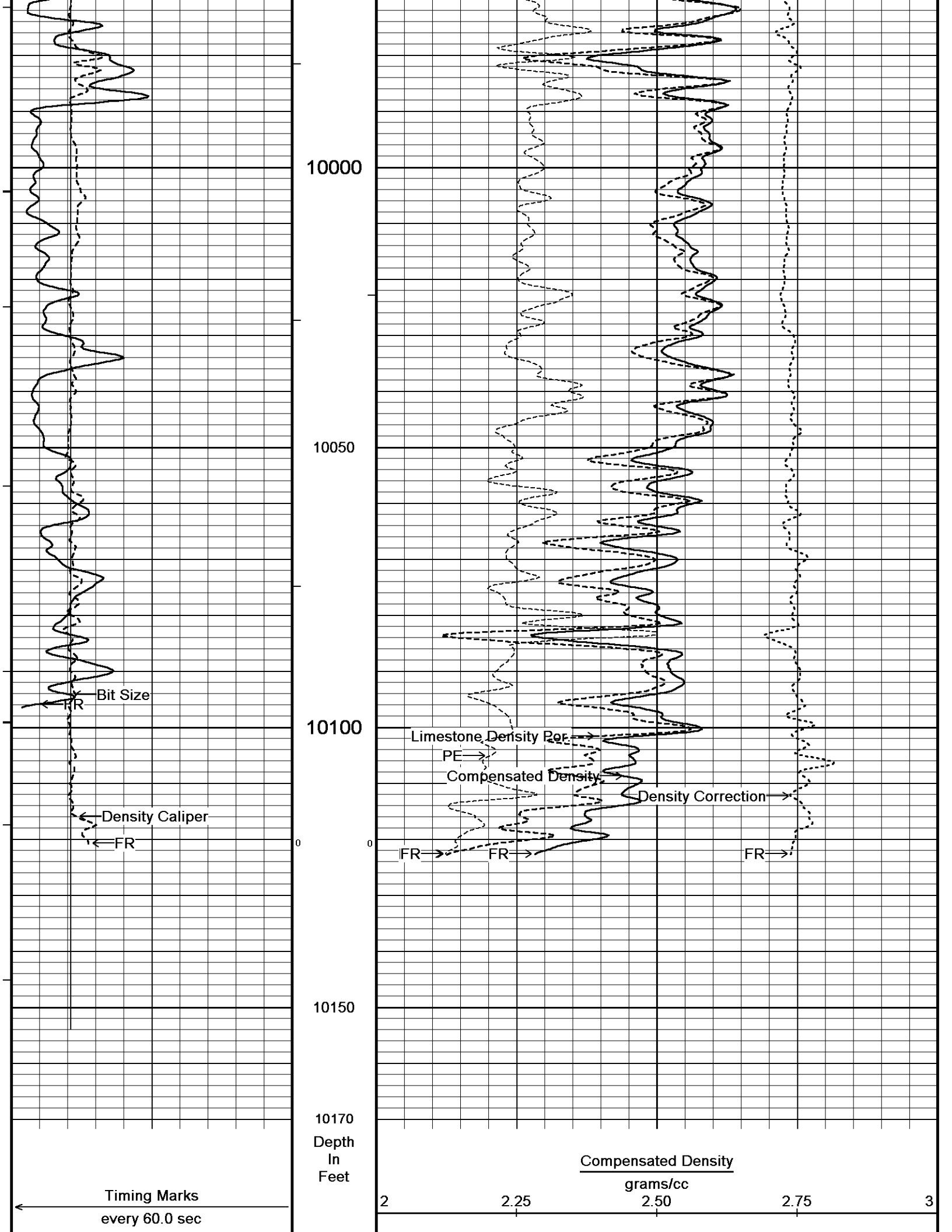

8900
8950
9000
9050
Bit Size
Borehole Corr. MGS Gamma
Density Caliper
Limestone Density Por.
PE
Compensated Density
Density Correction

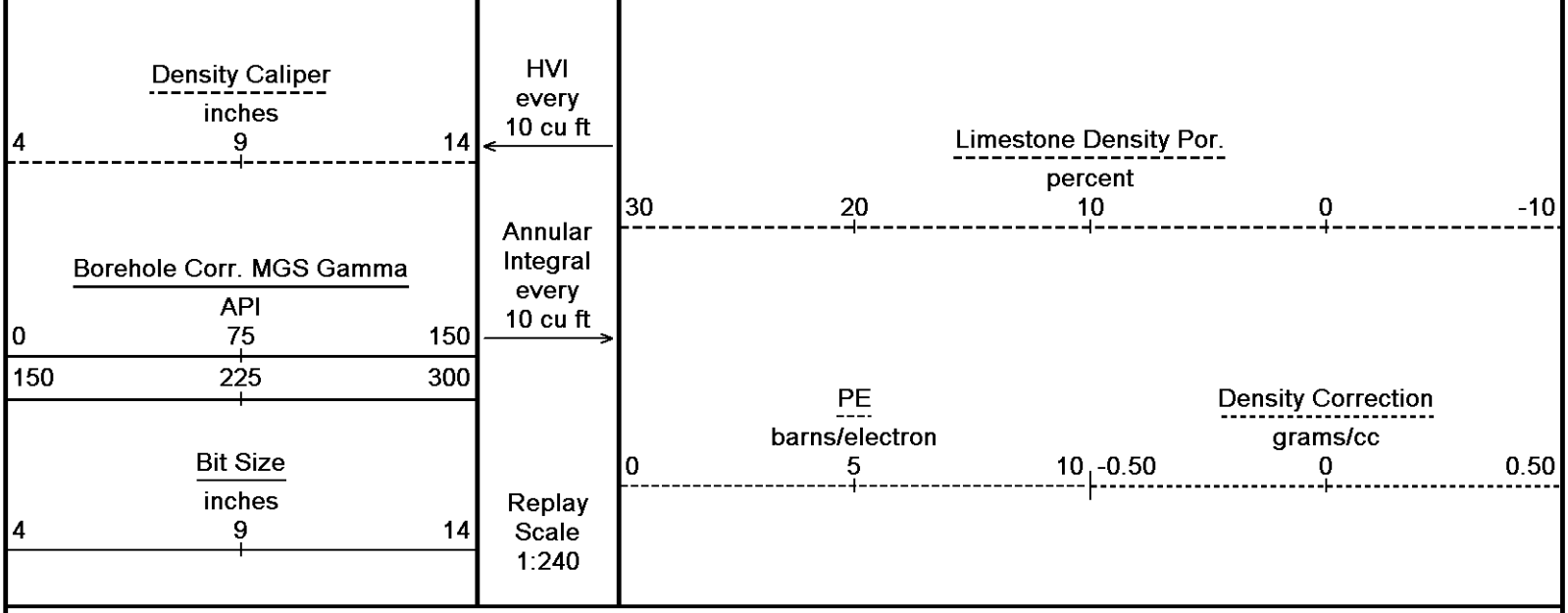

9100
9150
100
200
9200
9250
9300
Bit Size


Borehole Corr. MGS Gamma
Density Caliper
Limestone Density Por.
PE
Compensated Density
Density Correction
9350
9400
9450
9500


9550
9600
9650
100
9700
9750
Bit Size
Borehole Corr. MGS Gamma
Density Caliper
Limestone Density Por
PE
Compensated Density
Density Correction


9800
9850
9900
9950


10000
10050
10100
10150
10170
Depth
In
Feet
Bit Size
FR
Density Caliper
FR
Limestone Density Por
PE
Compensated Density
Density Correction
FR
FR
FR
0
0
Timing Marks
every 60.0 sec
Compensated Density
grams/cc
2
2.25
2.50
2.75
3



Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 21-APR-2013 02:36
Filename: C:\Minimus 13.04.8492\Data\SDRGE (ARIANA 3419 1-7H)\32801 RTAP.dta — Recorded on 21-APR-2013 02:17
System Versions: Processed with 13.04.8492 Plotted with 13.04.8492

5 INCH BULK DENSITY LOG DSC

BEFORE SURVEY CALIBRATION

C:\Minimus 13.04.8492\Data\SDRGE (ARIANA 3419 1-7H)\32801 RTAP.dta

Down-hole Tension Calibration All 000

Field Calibration on 24-FEB-2009 00:00

Reading No	Measured	
1	14953.75	0.00
2	17846.38	1500.00

General Constants All 000

Last Edited on 21-APR-2013,02:31

General Parameters		
Mud Resistivity	2.150	ohm-metres
Mud Resistivity Temperature	60.000	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	4.500	inches
Caliper for Differential Caliper	Density Caliper	
Rwa Parameters		
Porosity used	Limestone Density Por.	
Resistivity used	Array Ind. One Res Rt	
RWA Constant A	0.610	
RWA Constant M	2.150	

Down-hole Tension Calibration SMS 0

Field Calibration on 05-SEP-2012,13:01

Reading No	Measured	Calibrated (lbs)
1	15152.07	0.00
2	18386.74	2000.00

Strain Gauge Constants MMS-E.B 167

Last Edited on 07-APR-2013,21:02

Atmospheric Pressure	14.70	psi
Serial Number	262784	
Calibration Date	21-Jan-2011	
Base Check Date		
Dead Weight Serial Number	0	
Dead Weight Gravitational Correction	1.0	

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	0.038	0.038	0.049	0.049	0.063	0.063	0.077	0.078
3000.0	5.218	5.220	5.230	5.232	5.244	5.246	5.257	5.259
6000.0	10.409	10.412	10.422	10.425	10.436	10.440	10.447	10.452
9000.0	15.610	15.615	15.623	15.628	15.638	15.643	15.650	15.656
12000.0	20.823	20.826	20.837	20.841	20.853	20.857	20.866	20.869
15000.0	26.048		26.064		26.081		26.093	

MMS Parameters MMS-E.B 167

Last Edited on 19-APR-2013 14:13

Logging Parameters

Firmware Version	2v40	
Caliper Open On	MAI	
Caliper Open Delay		minutes
Caliper Closed On	Unknown	
Caliper Closed Delay	N/A	minutes
Sample Rate	1.00	seconds
Use Deep Sleep	No	
Delay Deep Sleep	N/A	
Deep Sleep Wake Time	N/A	minutes
Deep Sleep Wake on Temperature	N/A	
Deep Sleep Wake Temperature	N/A	degrees C
Deep Sleep Wake on Pressure	N/A	
Deep Sleep Wake Pressure	N/A	psi
MMI Pad Pressure	0.0	

Release Parameters

Pulse Duration Base Level	10.0	seconds
Pulse Duration Transition Time	60.0	seconds
Pulse Duration Status Pulse From	20.0	seconds
Pulse Duration Caliper Close From	145.0	seconds
Pulse Duration Caliper Open From	150.0	seconds
Pulse Duration Release Pulse From	215.0	seconds
Pulse Duration Release Pulse To	280.0	seconds
Pulse Release Duration	240.0	seconds
Pulse Discriminator Pressure Band	1235.0	seconds
Pulse Pressure Discriminator	2822.0	seconds
Use Negative Pulsing	No	
Good Status Reply Open Hole	65535.0	seconds
Good Status Reply Cased Hole	20.0	seconds
Bad Status Reply	60.0	seconds
Status Pulse To	80.0	seconds
Caliper Close To		seconds
Caliper Open To	210.0	seconds

Configuration

MMS,MGS,MDN,MPD,MPD,MFE,MAI

High Resolution Temperature Calibration MGS-C.J 136

Field Calibration on 19-APR-2013,13:40

	Measured	Calibrated(Deg F)
Lower	0.00	0.00
Upper	0.00	0.00

High Resolution Temperature Constants MGS-C.J 136

Last Edited on 19-APR-2013,13:40

Pre-filter Length	11

SP Calibration MGS-C.J 136

Field Calibration on 19-APR-2013,13:39

	Measured	Calibrated (mV)
Reference 1	102.2	98.7
Reference 2	-94.7	-98.3

Gamma Calibration MGS-C.J 136

Field Calibration on 19-APR-2013 13:39

	Measured	Calibrated (API)
Background	75	54
Calibrator (Gross)	1824	1315

Calibrator (Net)	1749	1261

Gamma Constants MGS-C.J 136

Last Edited on 17-APR-2013,12:24

Gamma Calibrator Number	BLUE	
Mud Density	1.00	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl	0.00	kppm

Neutron Calibration MDN-B.J 390

Base Calibration on 06-APR-2013 14:54
Field Check on 19-APR-2013 13:54

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	2935	90	3714	110
Ratio	32.709		33.764	

Field Calibrator at Base

	Calibrated (cps)	
	1296	1890
Ratio	0.685	

Field Check

	Calibrated (cps)	
	1276	1860
Ratio	0.688	

Neutron Constants MDN-B.J 390

Last Edited on 19-APR-2013,13:49

Neutron Source Id	p33312b	
Neutron Jig Number	blue	
Epithermal Neutron	No	
Caliper Source for Processing	Density Caliper	
Stand-off	0.00	inches
Mud Density	1.00	gm/cc
Limestone Sigma	7.10	cu
Sandstone Sigma	4.26	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	1.00	kppm
Salinity Correction	Applied	
Formation Fluid Salinity Source	None	
Formation Fluid Salinity	N/A	kppm
Barite Mud Correction	Not Applied	

FE Calibration MFE-B.J 359

Base Calibration on 13-MAR-2013 10:08
Field Check on 19-APR-2013 13:43

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	960.4	126.8
Base Check		280.9
Field Check		280.9

FE Constants MFE-B.J 359

Last Edited on 19-APR-2013,13:42

Running Mode	No Sleeve	
MFE K Factor	0.1268	
Caliper Source for FE correction	Density Caliper	
Caliper Value for FE correction	N/A	inches
Rm Source for FE correction	Temperature Corr	
Temp. for Rm Corr.	MGS External Temperature	
Stand-off	0.5	inches

Induction Calibration MAI-A.A 158

Base Calibration on 06-APR-2013,15:50
Field Check on 19-APR-2013 13:41

Base Calibration

Test Loop Calibration	Measured		Calibrated (mmho/m)	
Channel	Low	High	Low	High

Channel	Low	High	Low	High
1	17.2	475.3	9.3	966.2
2	6.1	381.2	7.6	821.4
3	3.8	265.2	5.2	566.0
4	2.7	132.2	2.6	279.2

Array Temperature 22.3 Deg F

Channel	Base Check (mmho/m) Low	Base Check (mmho/m) High	Field Check (mmho/m) Low	Field Check (mmho/m) High
1			11.4	3815.7
2			29.4	3531.6
3			26.7	2982.2
4			17.7	2098.0
Deep			14.6	1944.1
Medium			40.4	3888.5
Shallow			46.2	5238.0

Array Temperature 59.1 Deg F

Induction Constants MAI-A.A 158

Last Edited on 21-APR-2013,02:31

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	0.0000	inches
Borehole Corr. Rm Source	Temperature Corr	
Temp. for Rm Corr.	Borehole Temp. Unfilt.	
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-A.A 158

Field Calibration on 19-APR-2013,13:42

	Measured	Calibrated(Deg F)
Lower	0.00	0.00
Upper	0.00	0.00

High Resolution Temperature Constants MAI-A.A 158

Last Edited on 19-APR-2013,13:42

Pre-filter Length	11

Caliper Calibration MPD-C.J 393

Base Calibration on 05-APR-2013 10:07
Field Calibration on 19-APR-2013 13:45

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	18832	4.01
2	26992	5.96
3	35520	7.98
4	43613	9.86
5	52560	11.88
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
5.93	5.96

Photo Density Calibration MPD-C.J 393

Base Calibration on 05-APR-2013 09:57
Field Check on 19-APR-2013 13:49

Density Calibration

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	57842	26401	59869	31110
Reference 2	24614	2567	24557	2522

Field Check at Base

1206.7	1317.1

Field Check

1209.9	1335.8

PE Calibration

Base Calibration	Measured			Calibrated
	WS	WH	Ratio	Ratio
Background	221	1082		
Reference 1	25058	57644	0.439	0.369
Reference 2	7310	24479	0.303	0.271

Field Check at Base

220.9	1082.0

Field Check

220.2	1087.9

Density Constants MPD-C.J 393

Last Edited on 14-APR-2013,08:51

Density Source Id	P21137B	
Nylon Calibrator Number	633	
Aluminium Calibrator Number	633	
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 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

DOWNHOLE EQUIPMENT

C:\Minimus 13.04.8492\Data\SDRGE (ARIANA 3419 1-7H)\32801 RTAP.dta

RUNNING TOOL

MLK-A 1 LG: 4.87 ft WT: 30.9 lb OD: 2.24 in

MBS-F.A 200v Compact Battery Sub
MBS-F.A 115 LG: 10.61 ft WT: 70.5 lb OD: 2.24 in

Compact Memory Sub E.B
MMS-E.B 167 LG: 5.20 ft WT: 37.5 lb OD: 2.24 in

Compact Tool Isolator sub.
MTI-B.A 67 LG: 1.54 ft WT: 13.2 lb OD: 2.24 in

Compact Short Gamma
MGS-C.J 136 LG: 3.41 ft WT: 24.3 lb OD: 2.24 in

Compact Collar Locator
MCL-B.J 68 LG: 3.17 ft WT: 26.5 lb OD: 2.24 in

SKJ-E.B Compact Knuckle Joint
SKJ-E.B 456 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

SHA-J.A Compact Swivel Head Adaptor
SHA-J.A 451 LG: 2.30 ft WT: 22.0 lb OD: 2.24 in

MIS-A.A Compact Inline Bowspring sub
MIS-A.A 260 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

Compact Neutron
MDN-B.J 390 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

Compact Density/Caliper
MPD-C.J 393 LG: 9.59 ft WT: 90.4 lb OD: 2.24 in

MIS-D.B Compact Inline Bowspring sub
MIS-D.B 591 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

SHA-J.A Compact Swivel Head Adaptor
SHA-J.A 455 LG: 2.30 ft WT: 22.0 lb OD: 2.24 in

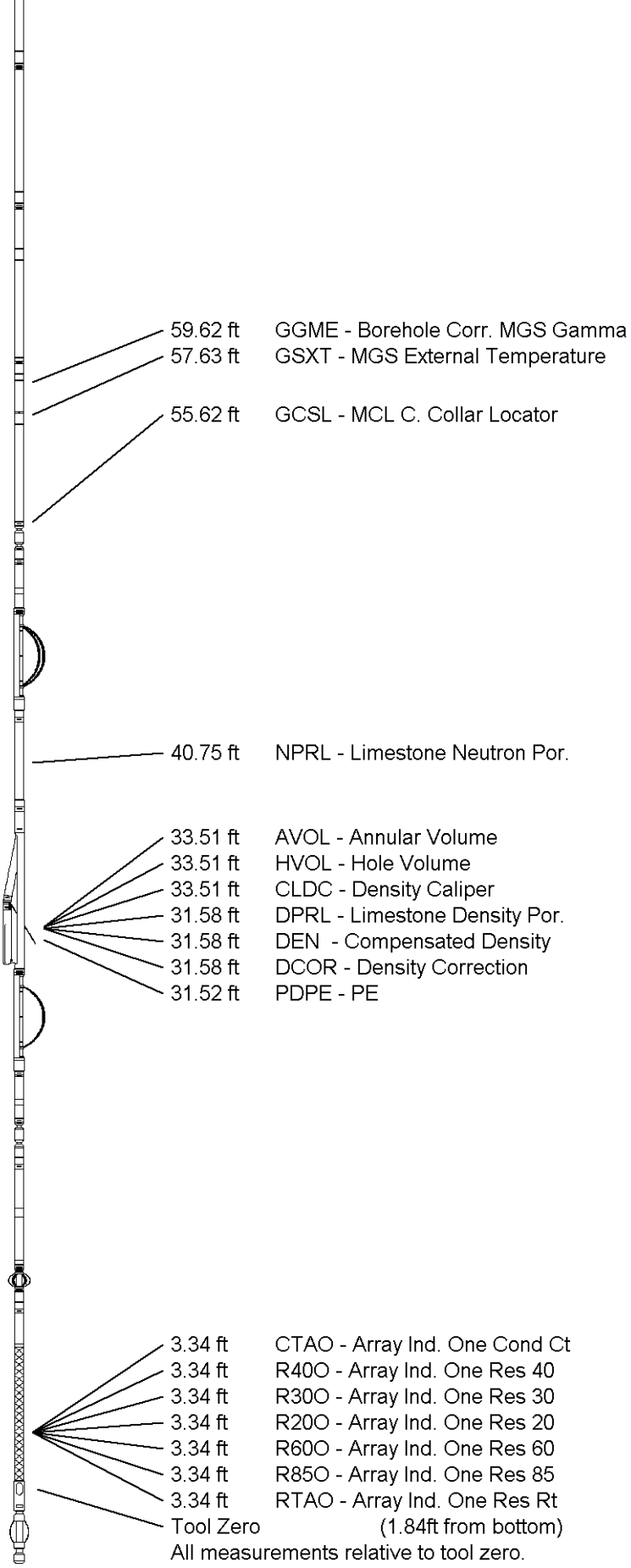
SKJ-E.B Compact Knuckle Joint
SKJ-E.B 469 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

Compact Focussed Electric
MFE-B.J 359 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

MIS-E.B Compact Inline Standoff sub
MIS-E.B 573 LG: 2.14 ft WT: 15.4 lb OD: 2.24 in

Compact Induction
MAI-A.A 158 LG: 12.52 ft WT: 48.5 lb OD: 2.24 in

Total Length: 84.48 ft Weight: 615.1 lb



COMPANY	SANDRIDGE ENERGY
WELL	ARIANA 3419 1-7H
FIELD	COMANCHE PROSPECT
PROVINCE/COUNTY	COMANCHE

PROVINCE/COUNTY	COMANCHE
COUNTRY/STATE	USA / KANSAS

Elevation Kelly Bushing	1830.00	feet	First Reading	10119.00	feet
Elevation Drill Floor	1830.00	feet	Depth Driller	10160.00	feet
Elevation Ground Level	1809.00	feet	Depth Logger	10160.00	feet

Weatherford®

CML MESSENGER SHUTTLE
COMPACT PHOTO DENSITY
COMPENSATED NEUTRON