Weatherford®

CML MESSENGER SHUTTLE
COMPACT PHOTO DENSITY
COMPENSATED NEUTRON LOG

COMPANY	SANDRIDGE ENERGY
WELL	ANITA 3420 2-12H
FIELD	COMANCHE PROSPECT
PROVINCE/COUNTY	COMANCHE
COUNTRY/STATE	USA / KANSAS
LOCATION	250' FNL & 700' FEL NE NW NE NE

SEC	TWP	RGE	Other Services
12	34S	20W	MAI

API Number 15-033-21703
Permit Number

Permanent Datum G.L., Elevation 1795 feet
Log Measured From DF
Drilling Measured From DF @ 21 FEET

Elevations:	feet
KB	1816.00
DF	1816.00
GL	1795.00

Date	22-APR-2013		
Run Number	ONE		
Service Order	3539486		
Depth Driller	9535.00	feet	
Depth Logger	9535.00	feet	
First Reading	9462.00	feet	
Last Reading	4000.00	feet	
Casing Driller	5690.00	feet	
Casing Logger	5690.00	feet	
Bit Size	6.125	inches	
Hole Fluid Type	WATER		
Density / Viscosity	8.50 lb/USg	28.00 CP	
PH / Fluid Loss	10.70	100.00 ml/30Min	
Sample Source	FLOWLINE		
Rm @ Measured Temp	1.90 @ 67.0	ohm-m	
Rmf @ Measured Temp	1.52 @ 67.0	ohm-m	
Rmc @ Measured Temp	2.28 @ 67.0	ohm-m	
Source Rmf / Rmc	CALC	CALC	
Rm @ BHT	0.91 @140.0	ohm-m	
Time Since Circulation	1 HOUR		
Max Recorded Temp	140.00	deg F	
Equipment / Base	18109	OKC	
Recorded By	B.ALLEN		
Witnessed By	M. RODEN		
AFE #/ S.O.	DC12852		3539486

BOREHOLE RECORD

Last Edited: 22-APR-2013 14:47

Bit Size inches	Depth From feet	Depth To feet
12.250	0.00	732.00
8.750	732.00	5690.00
6.125	5690.00	9535.00

REMARKS

LOGGED WITH WLS VER 13.05.9583 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 - 9411
LOGGING TOOL DEPTH AFTER DEPLOYMENT: 9494

4.5" CASING USED TO CALCULATE AHV

SERVICE ORDER # 3539486
RIG: LARIAT 4

OPERATORS: R. BRADSHAW, G. PERRETT

5 INCH MAIN PASS

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 22-APR-2013 17:06
Filename: C:\13_05_9583\DATA\SANDRIDGE(ANITA 3420 2-12H)\27342 RTAP.dta
Recorded on 22-APR-2013 16:13
System Versions: Processed with 13.05.9583 Plotted with 13.05.9583

Timing Marks
every 60.0 sec

Density Caliper
inches
4 9 14

MGS Gamma Ray
API
0 75 150
150 225 300

MGS Gamma Ray
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

3978

4000

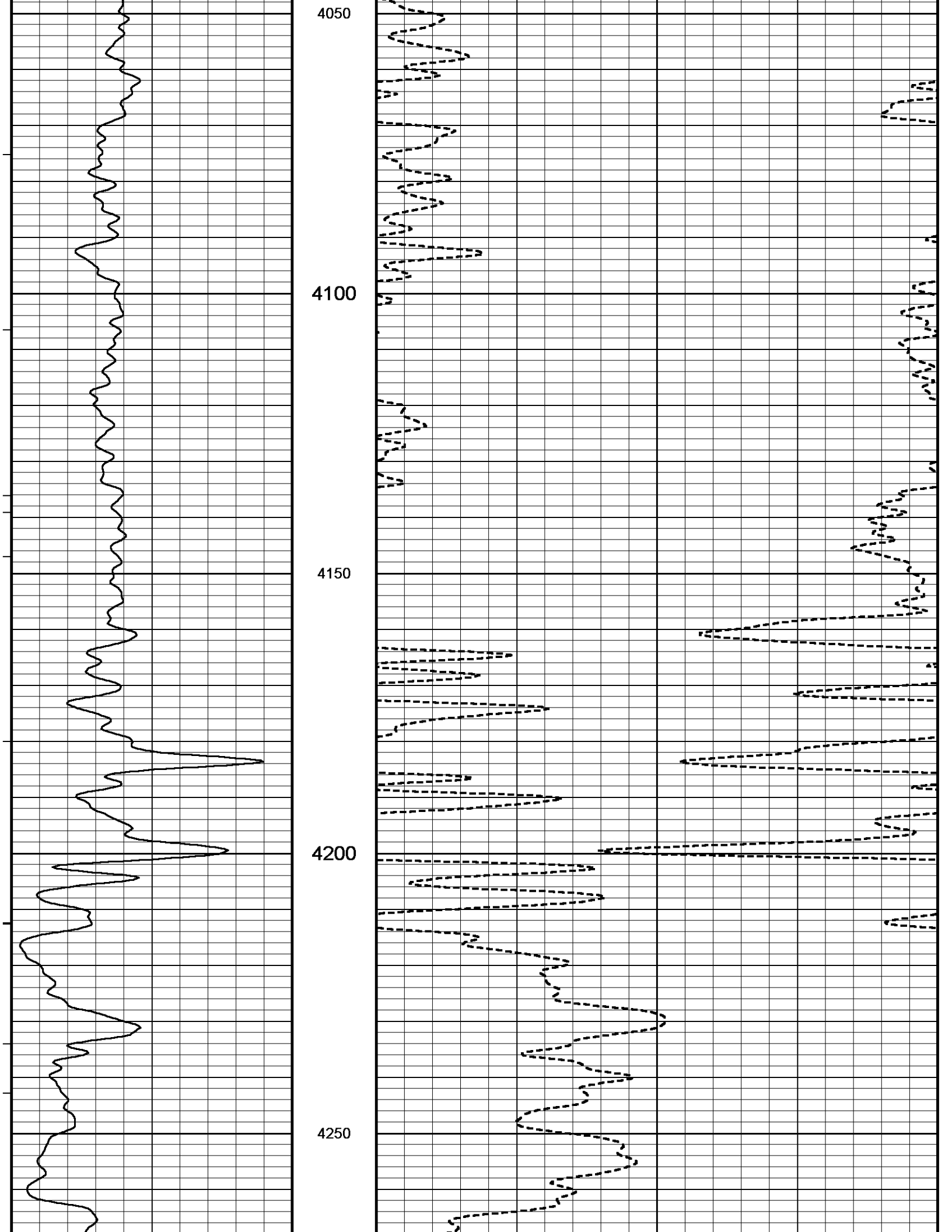
Limestone Neutron Por.
percent
30 20 10 0 -10

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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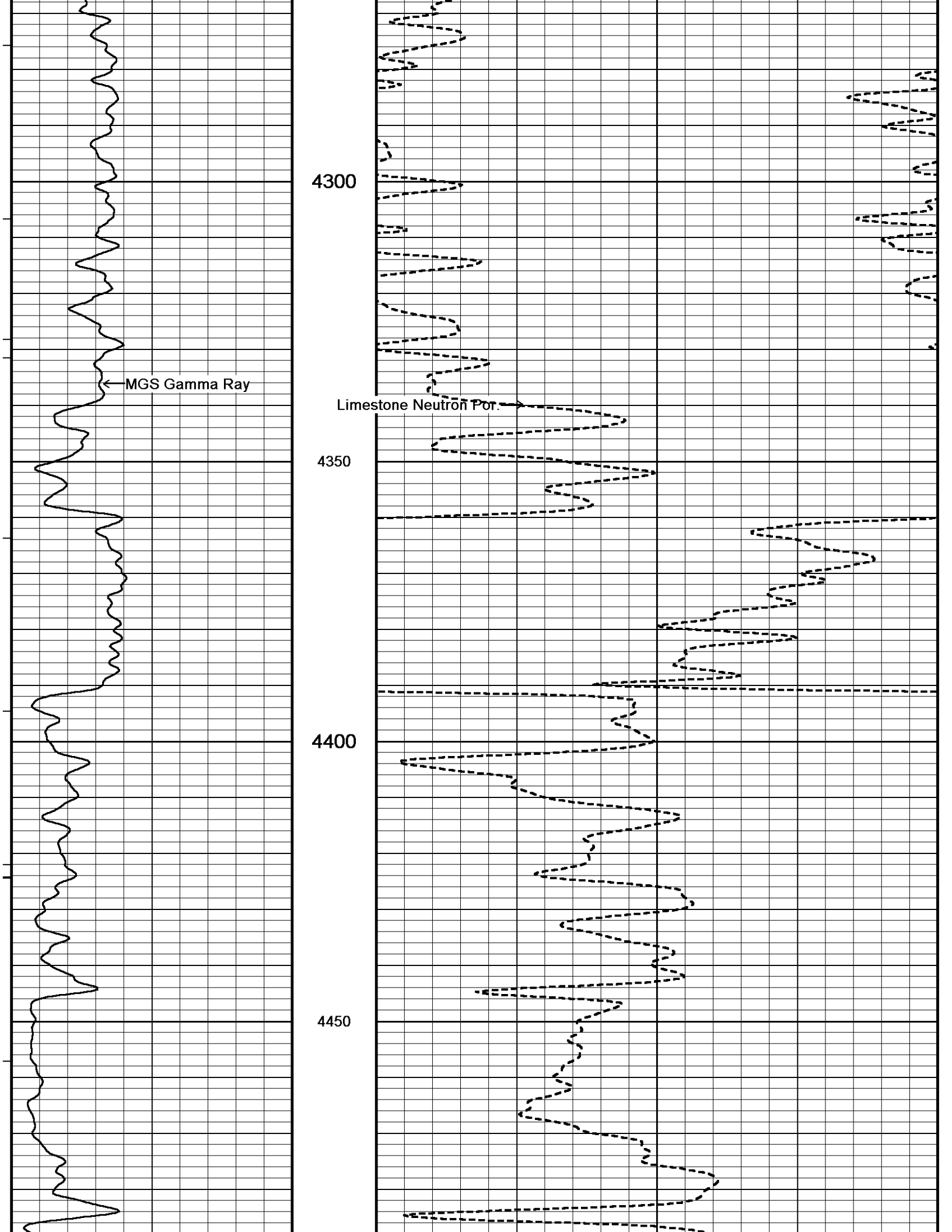
4200
4250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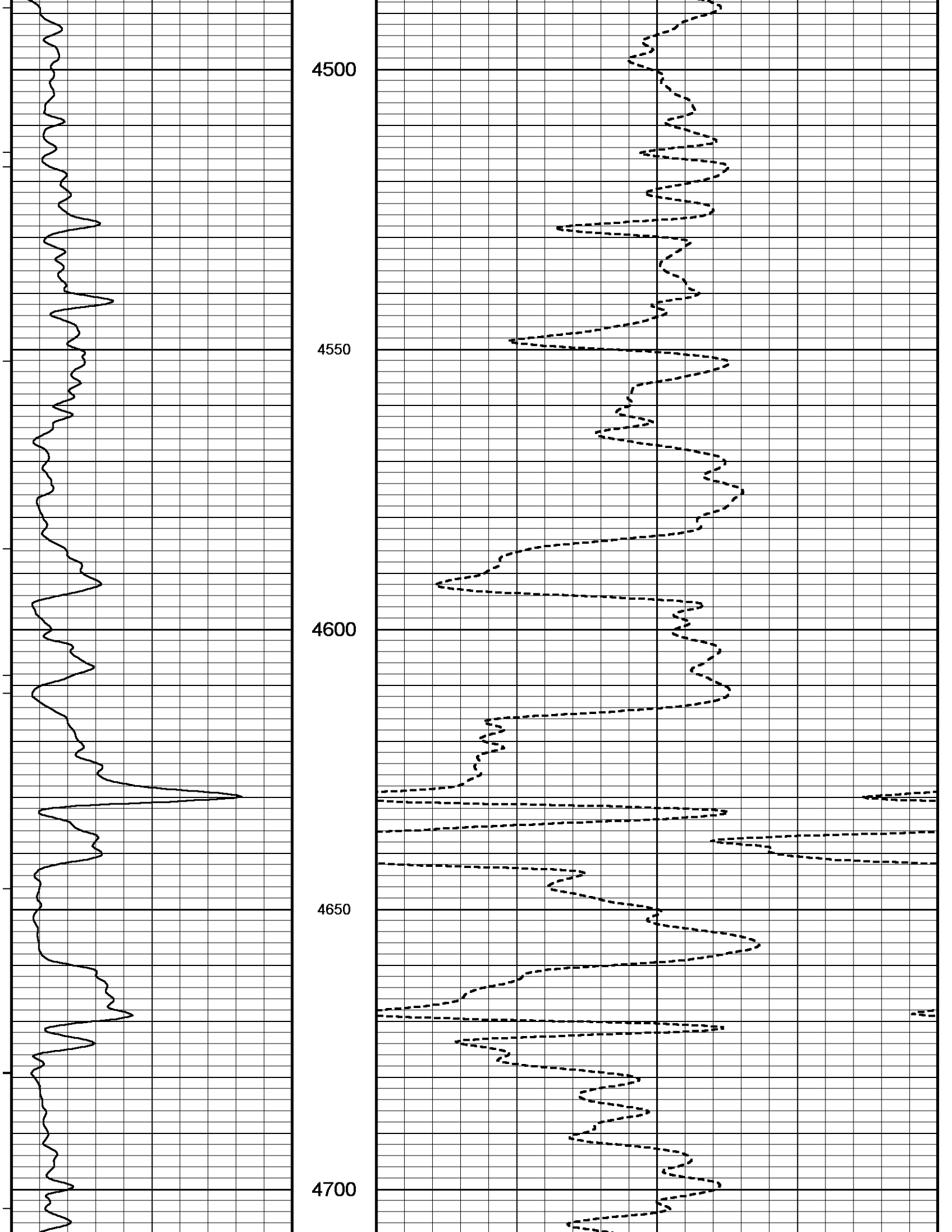
Limestone Neutron Por.
4350
4400
4450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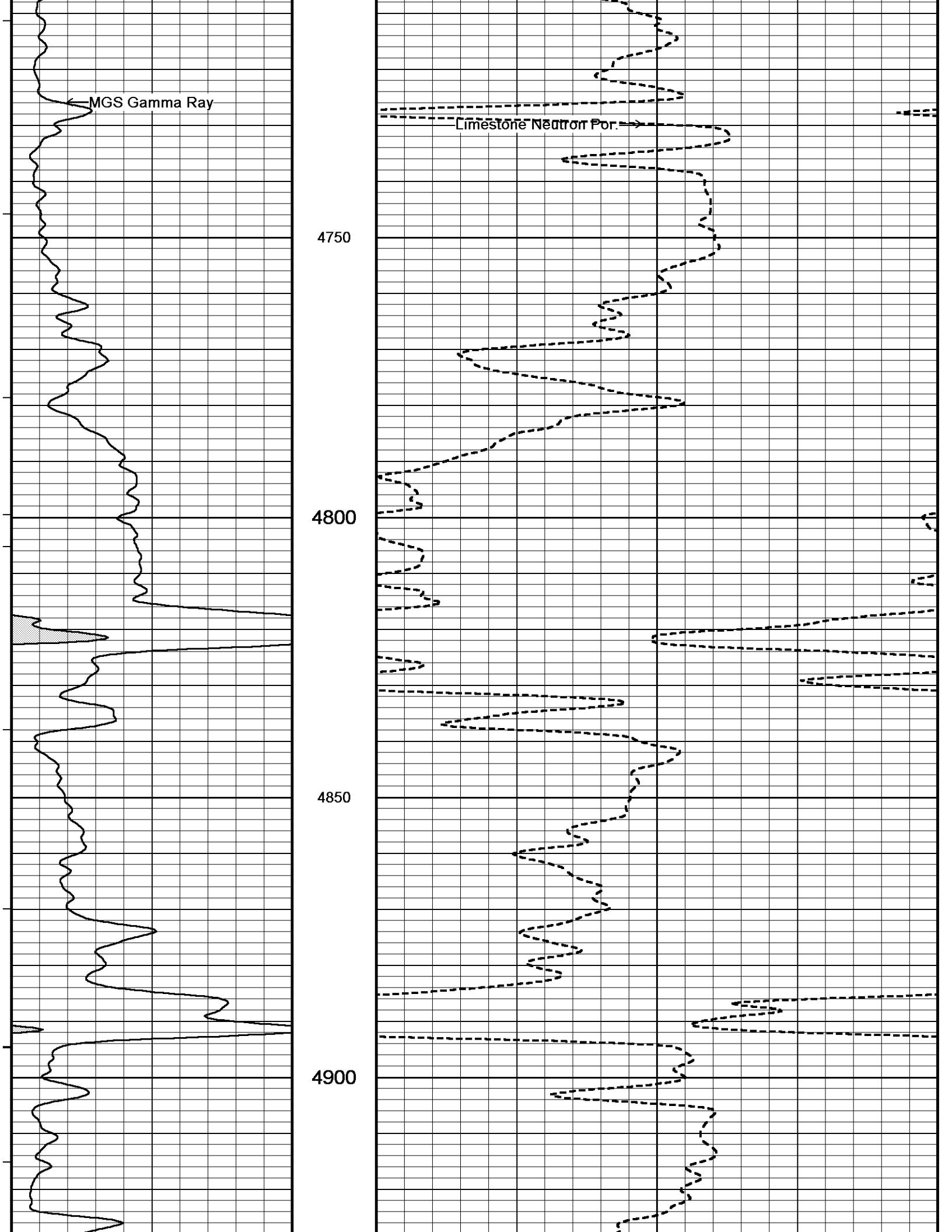
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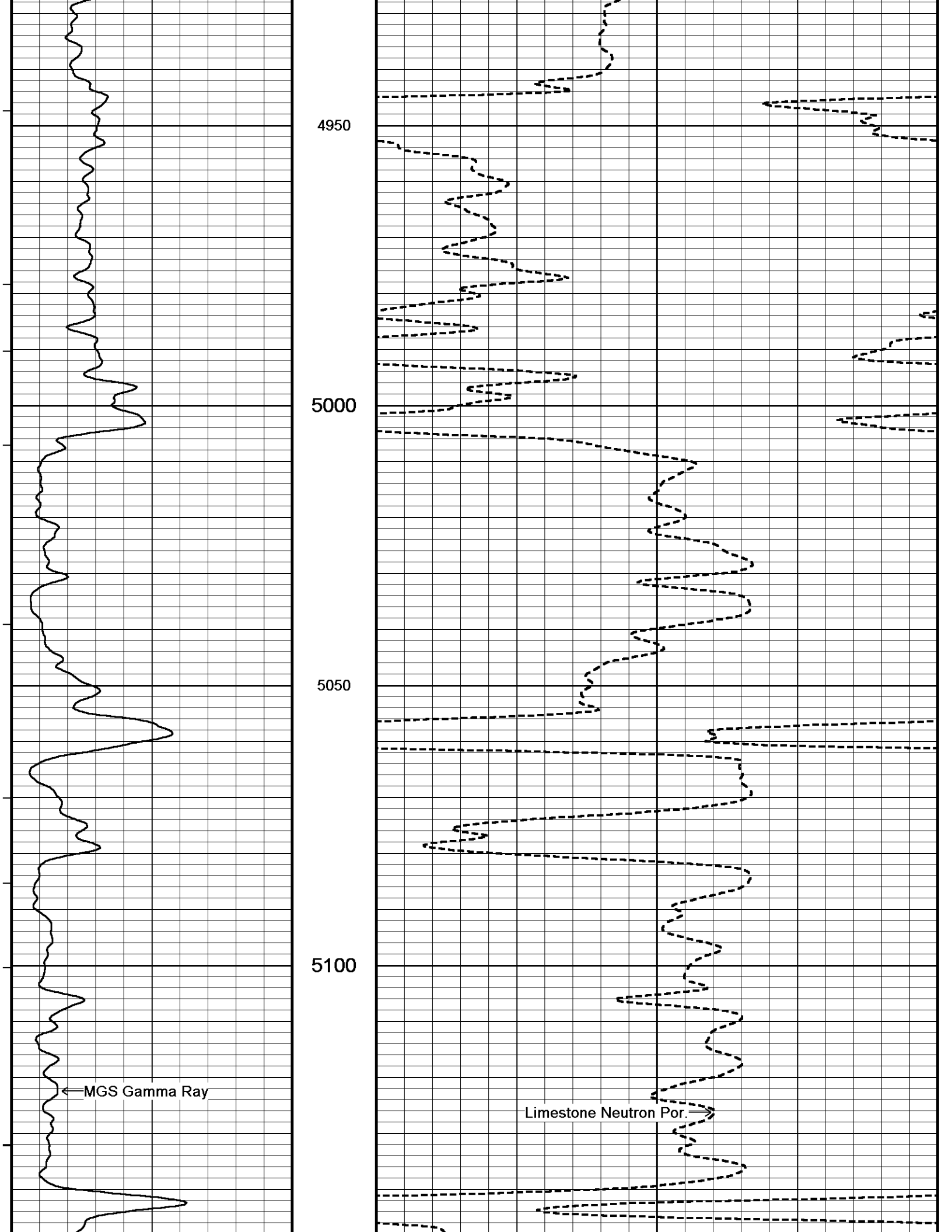
4850
4900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5000
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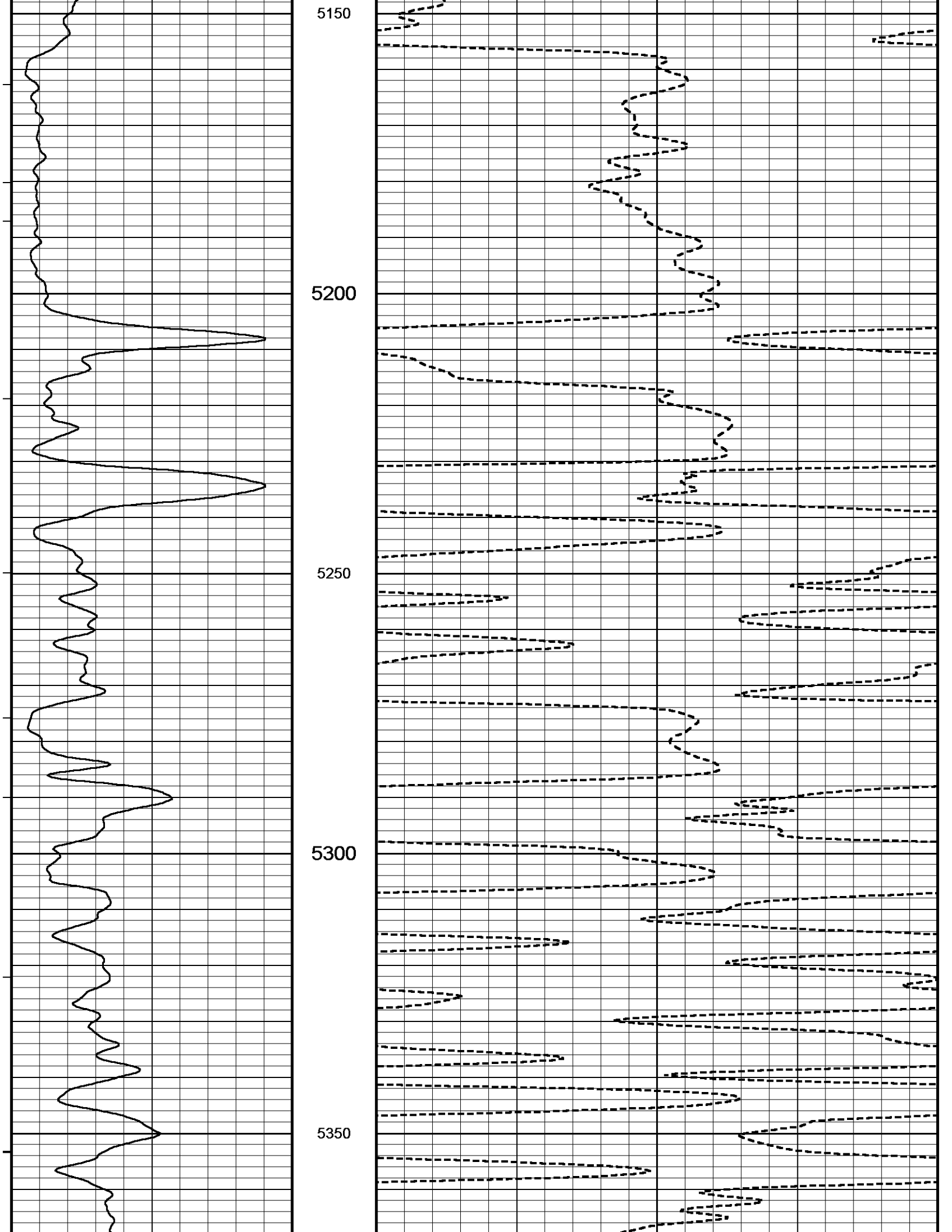
5100
⟵MGS Gamma Ray
Limestone Neutron Por.⟶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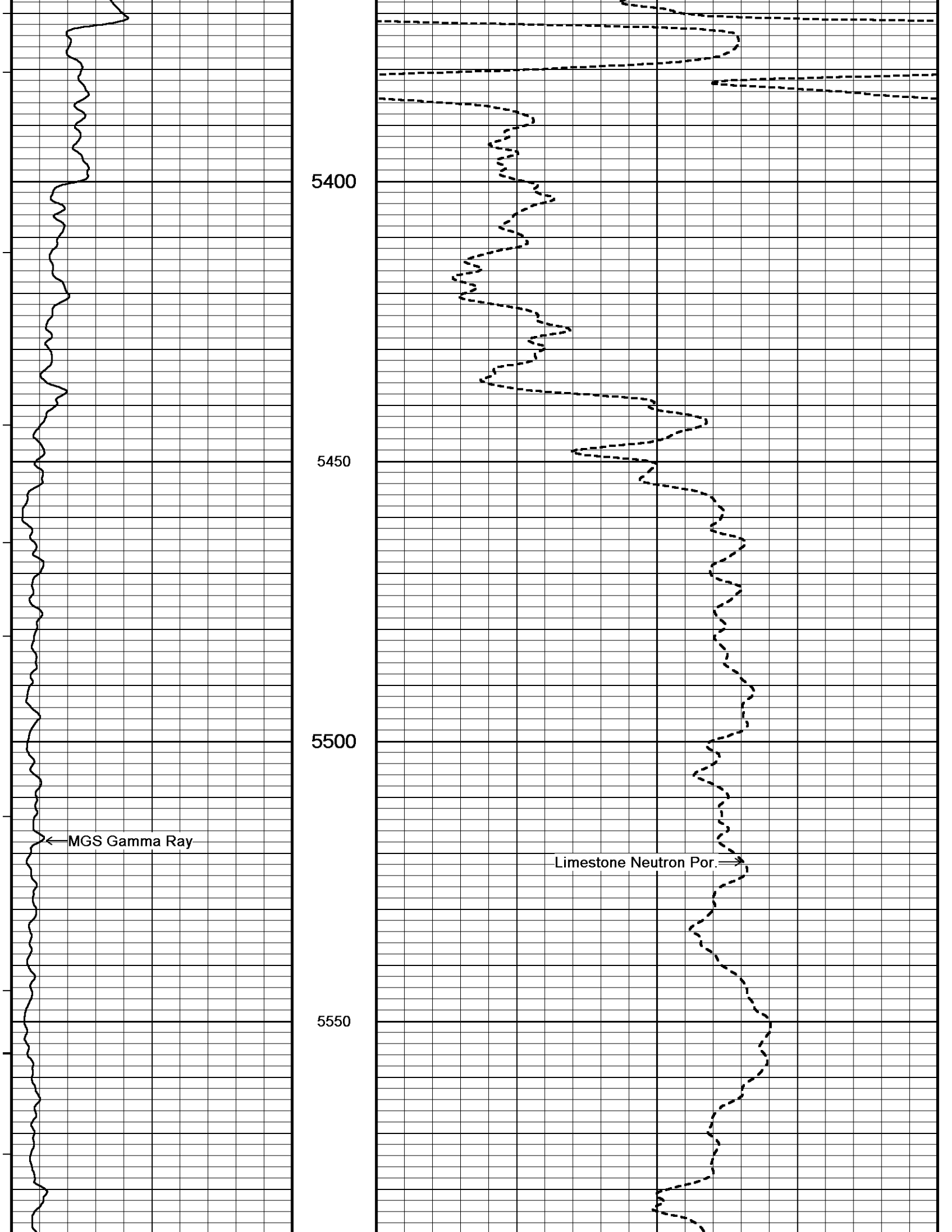
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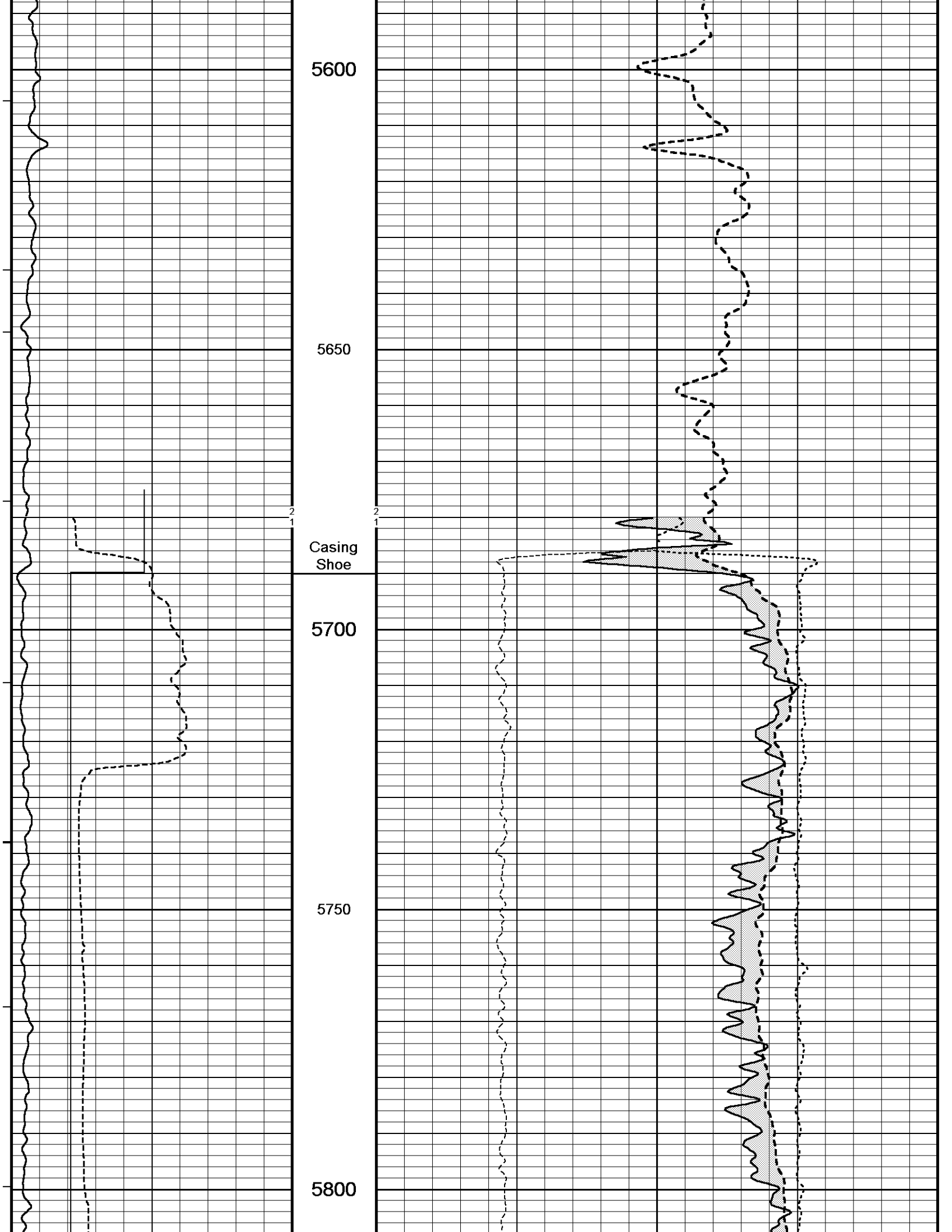
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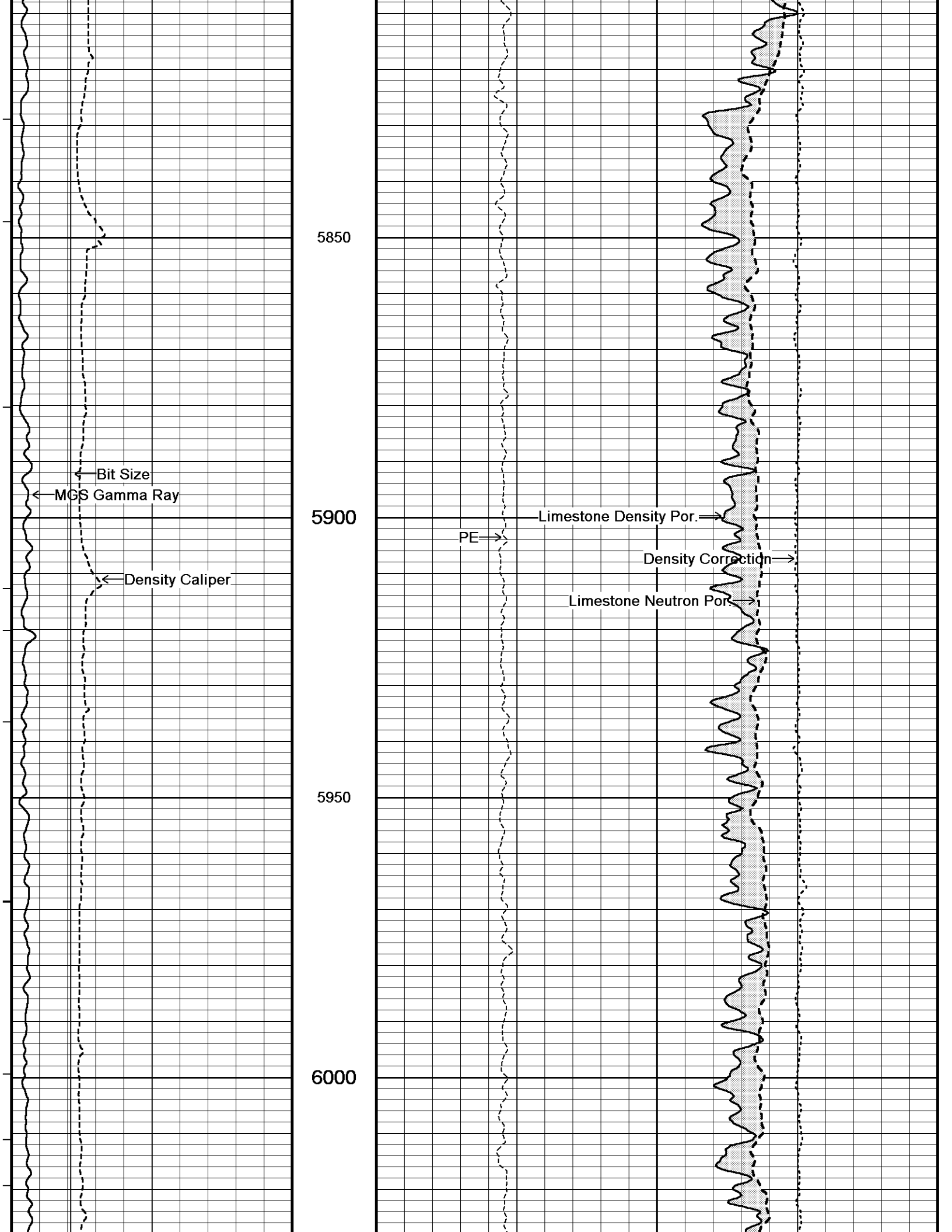
5650
Casing
Shoe
5700
5750
5800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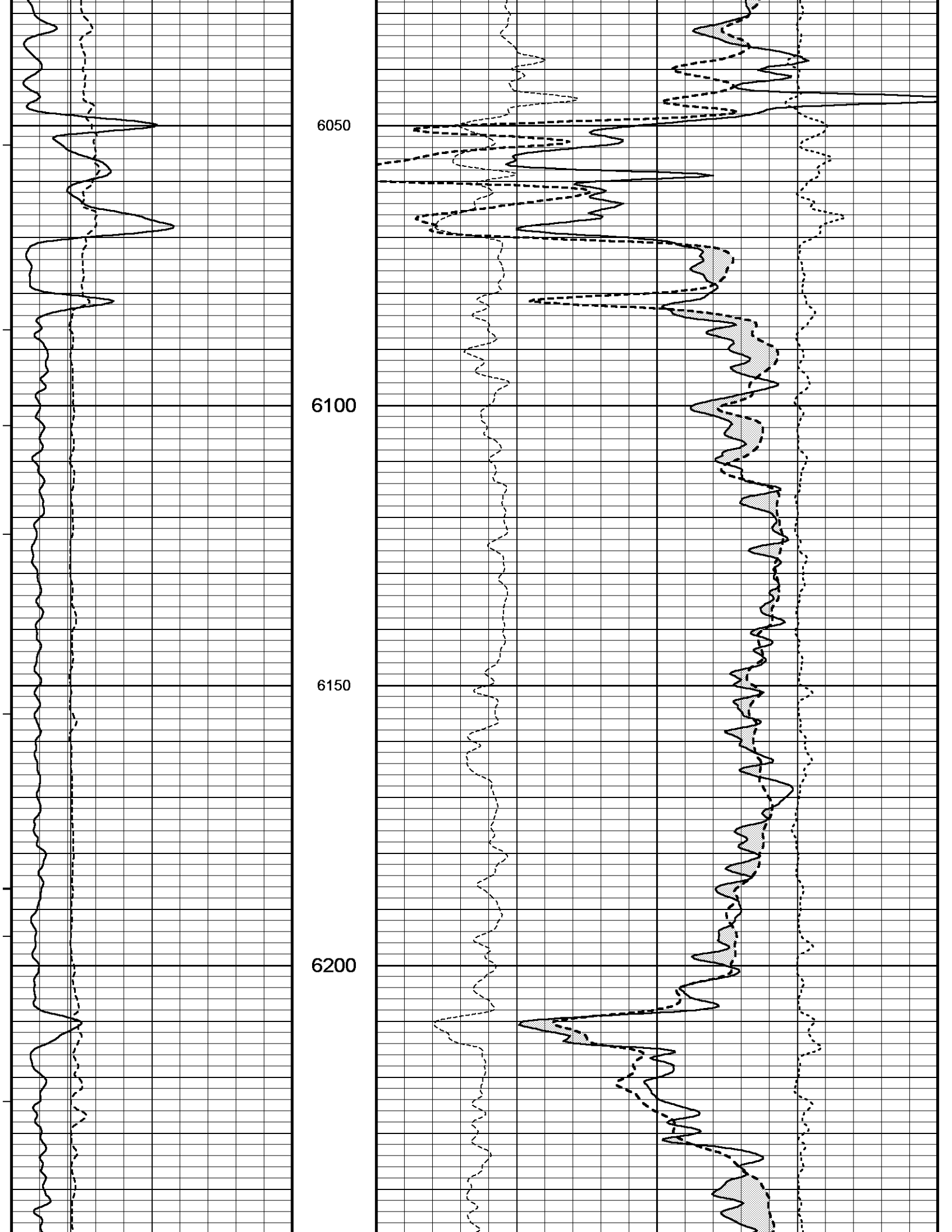
5900
5950
6000
Bit Size
MGS Gamma Ray
Density Caliper
PE
Limestone Density Por.
Density Correction
Limestone Neutron Por.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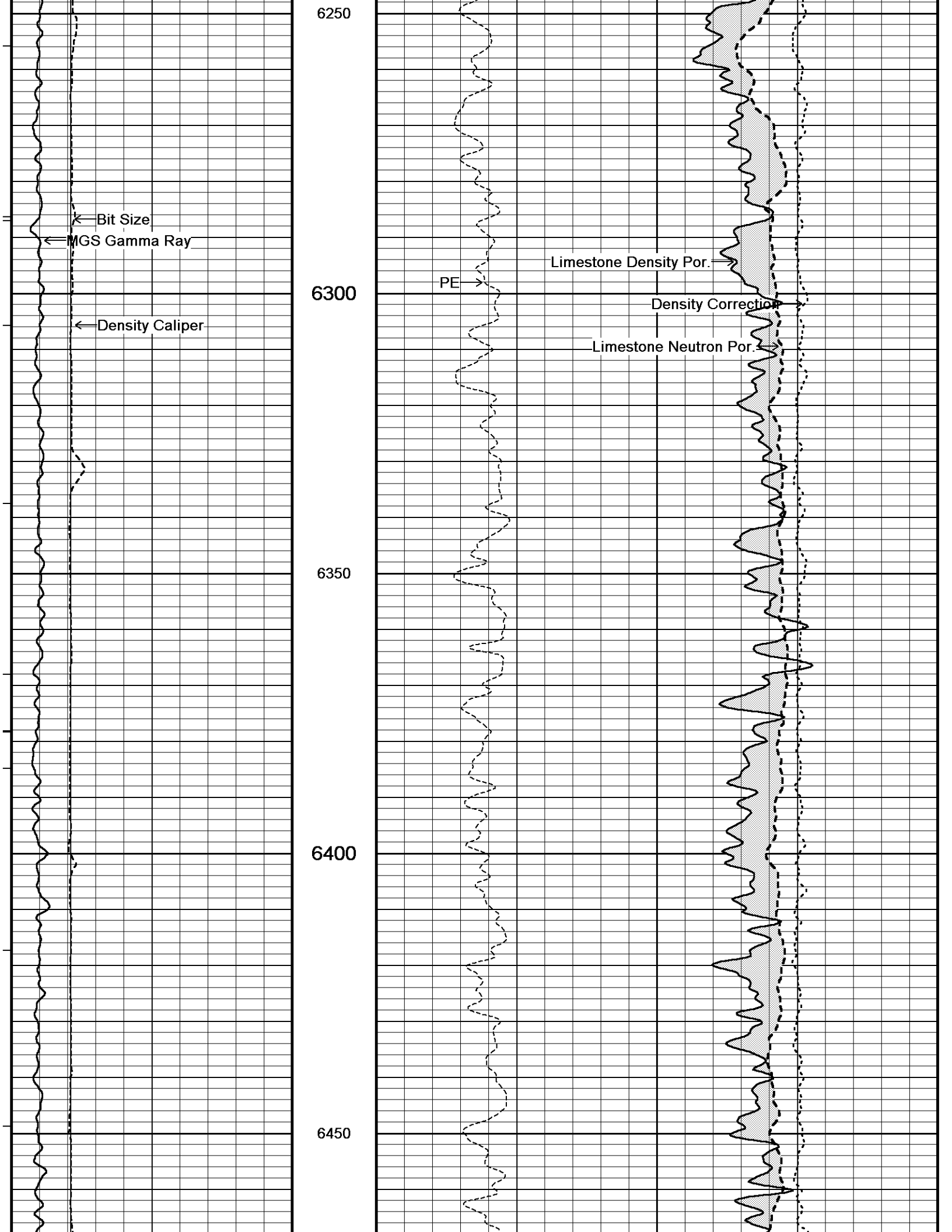
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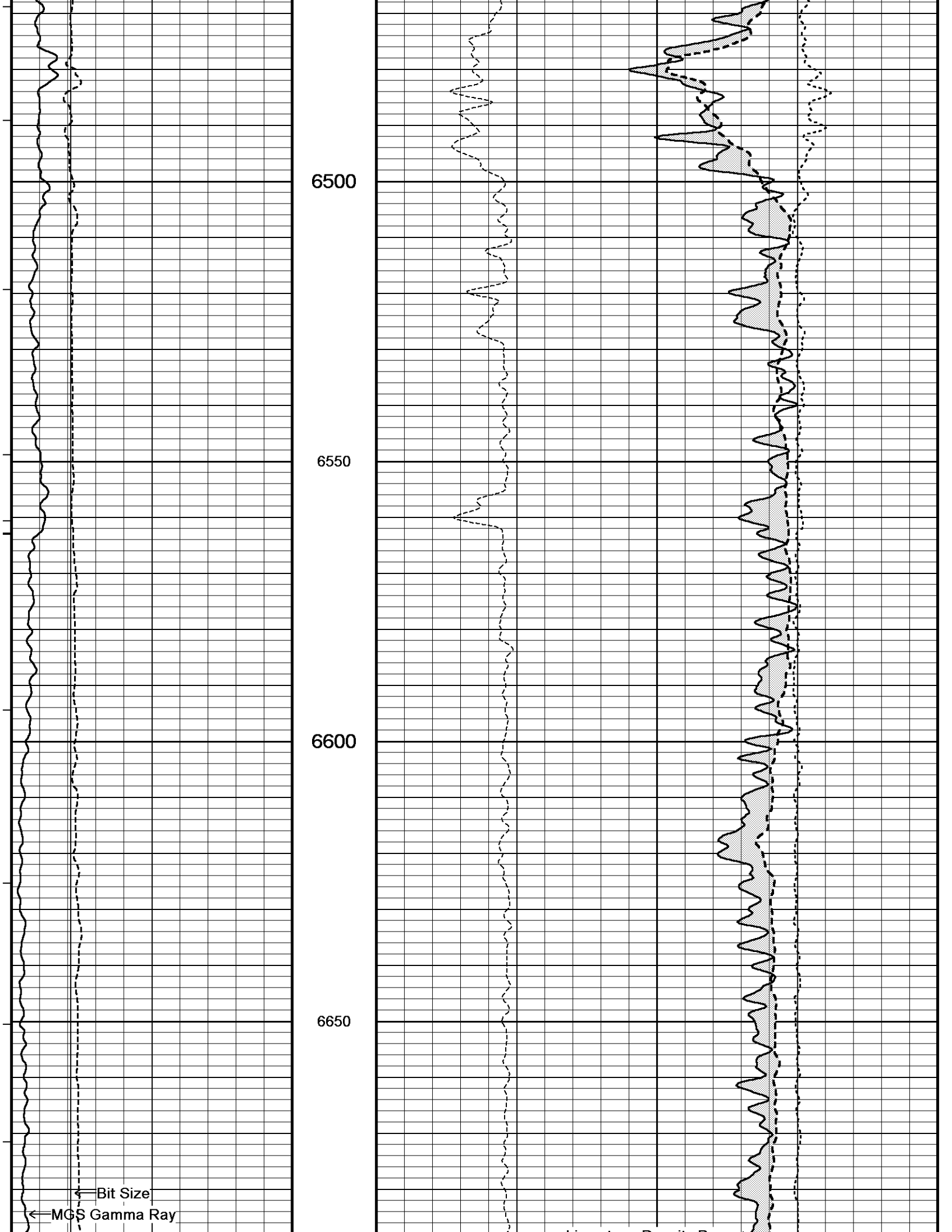
Bit Size
MGS Gamma Ray
Density Caliper
PE
Limestone Density Por.
Density Correction
Limestone Neutron Por.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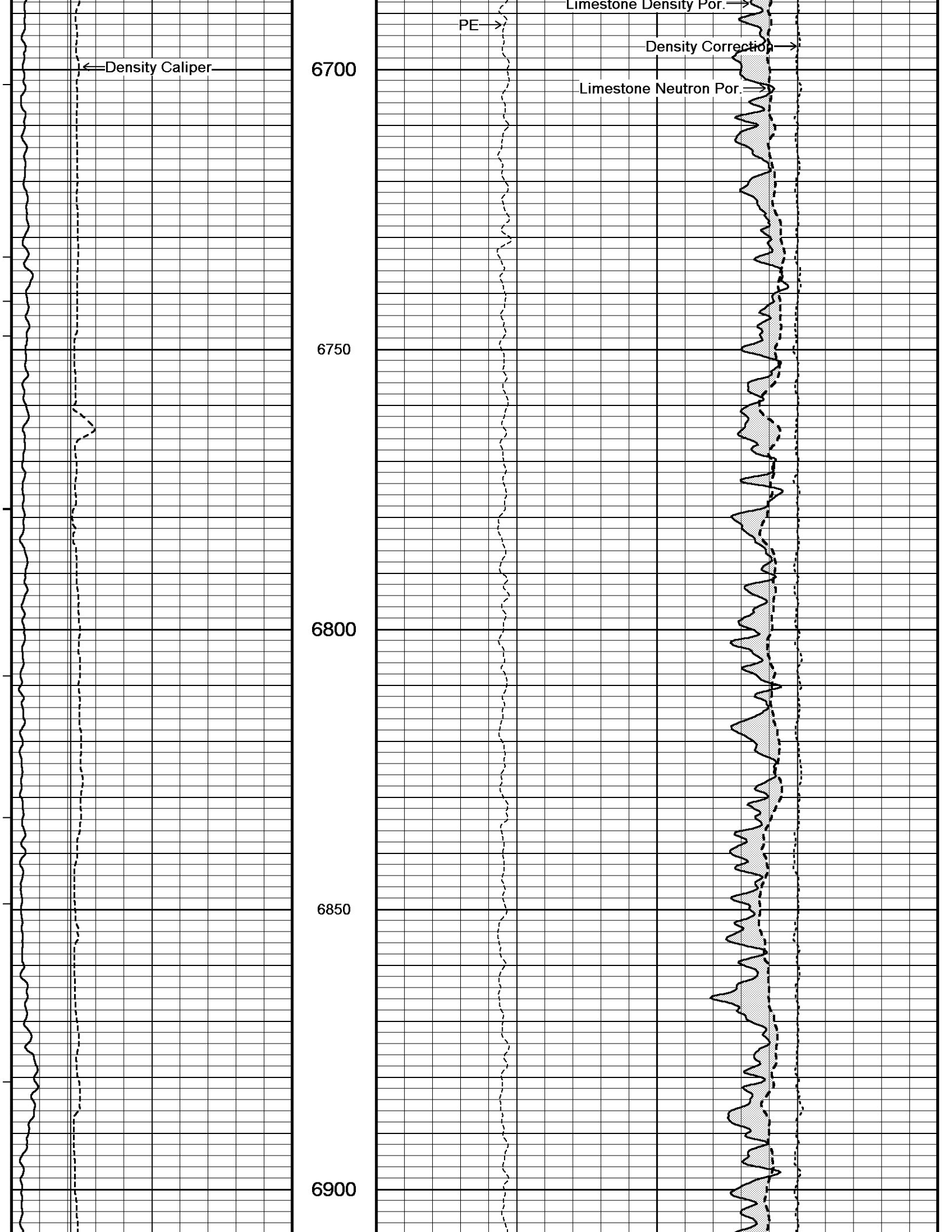
Bit Size
MGS Gamma Ray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6700
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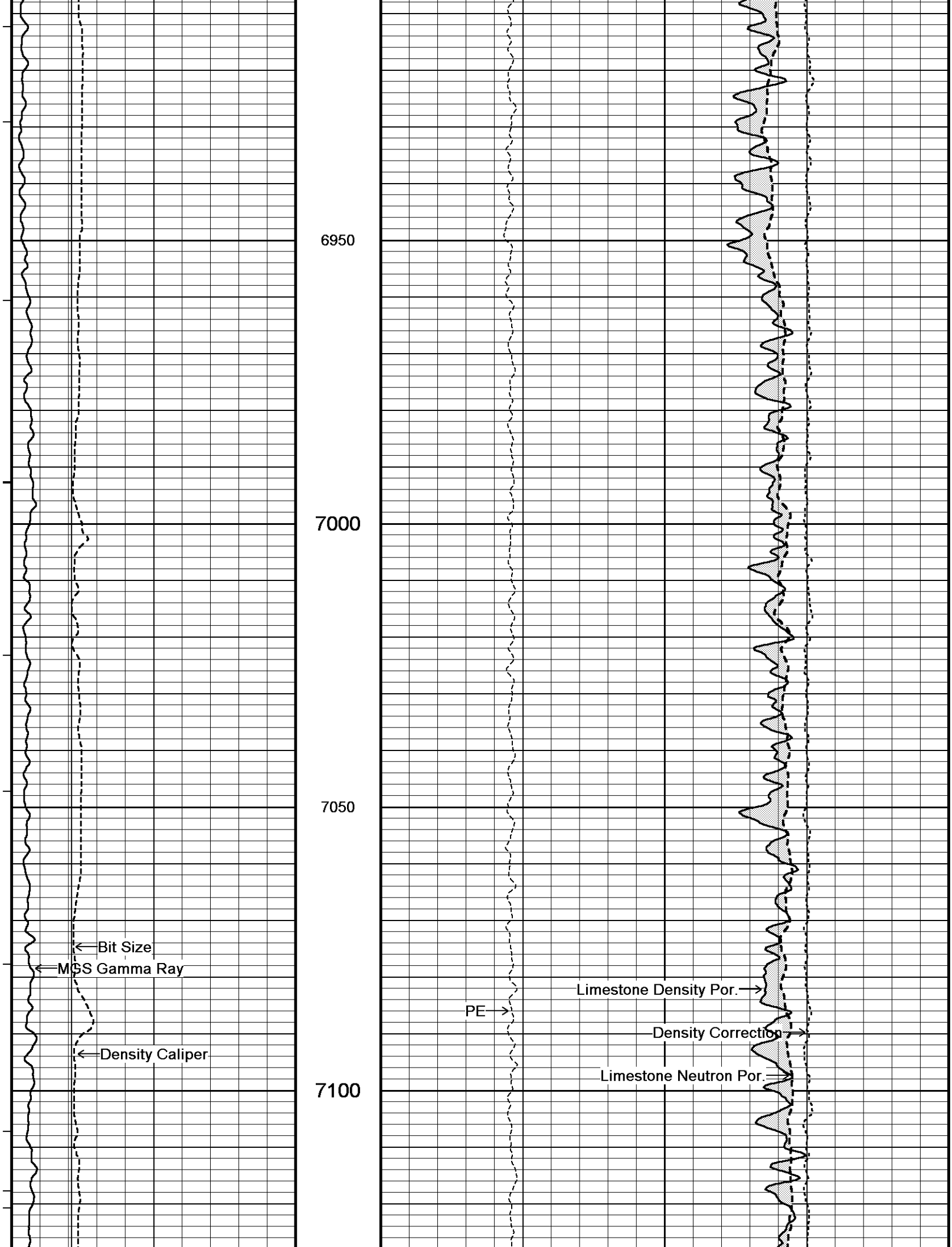
6800
6850
6900
PE
Limestone Density Por.
Density Correction
Limestone Neutron Por.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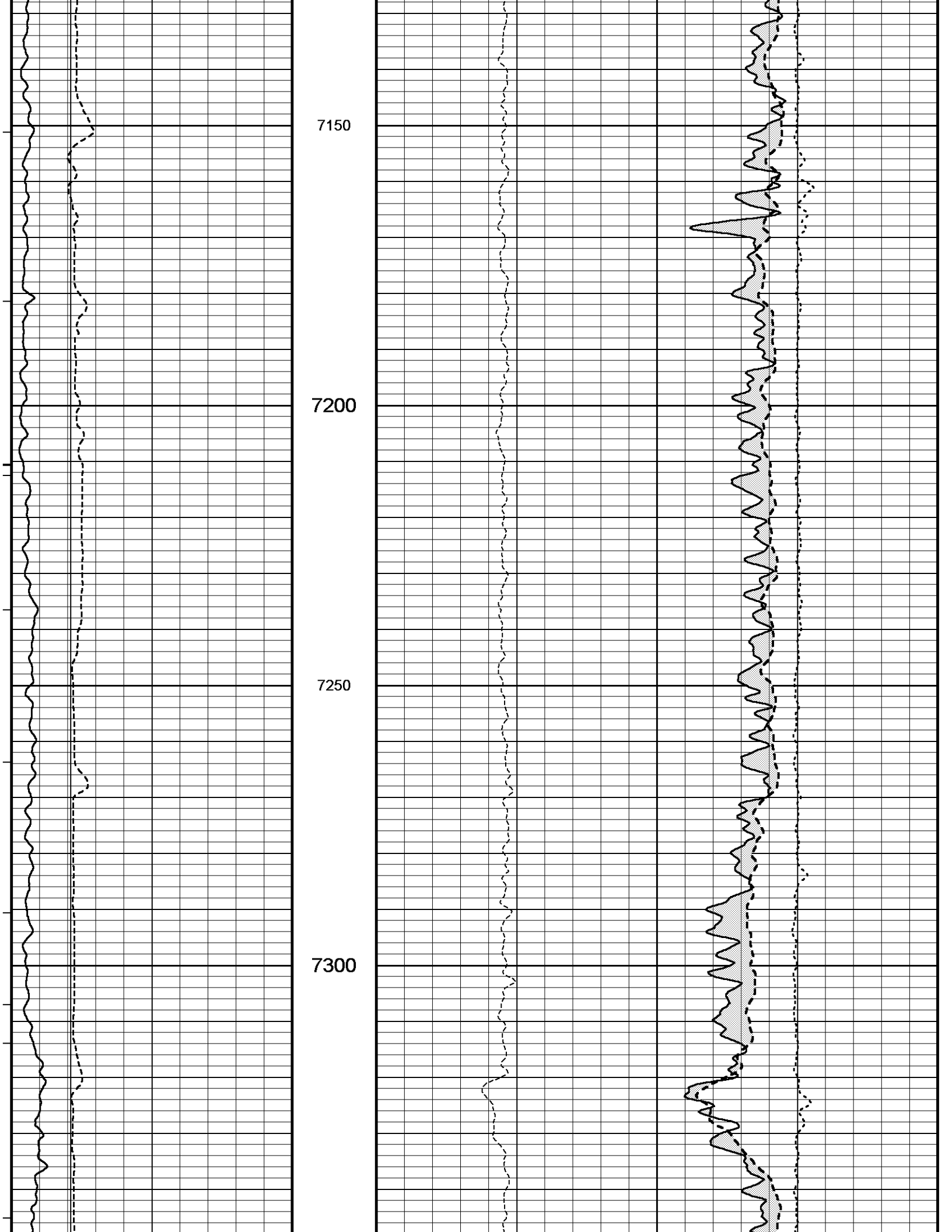
7000
7050
7100
Bit Size
MSS Gamma Ray
Density Caliper
PE
Limestone Density Por.
Density Correction
Limestone Neutron Por.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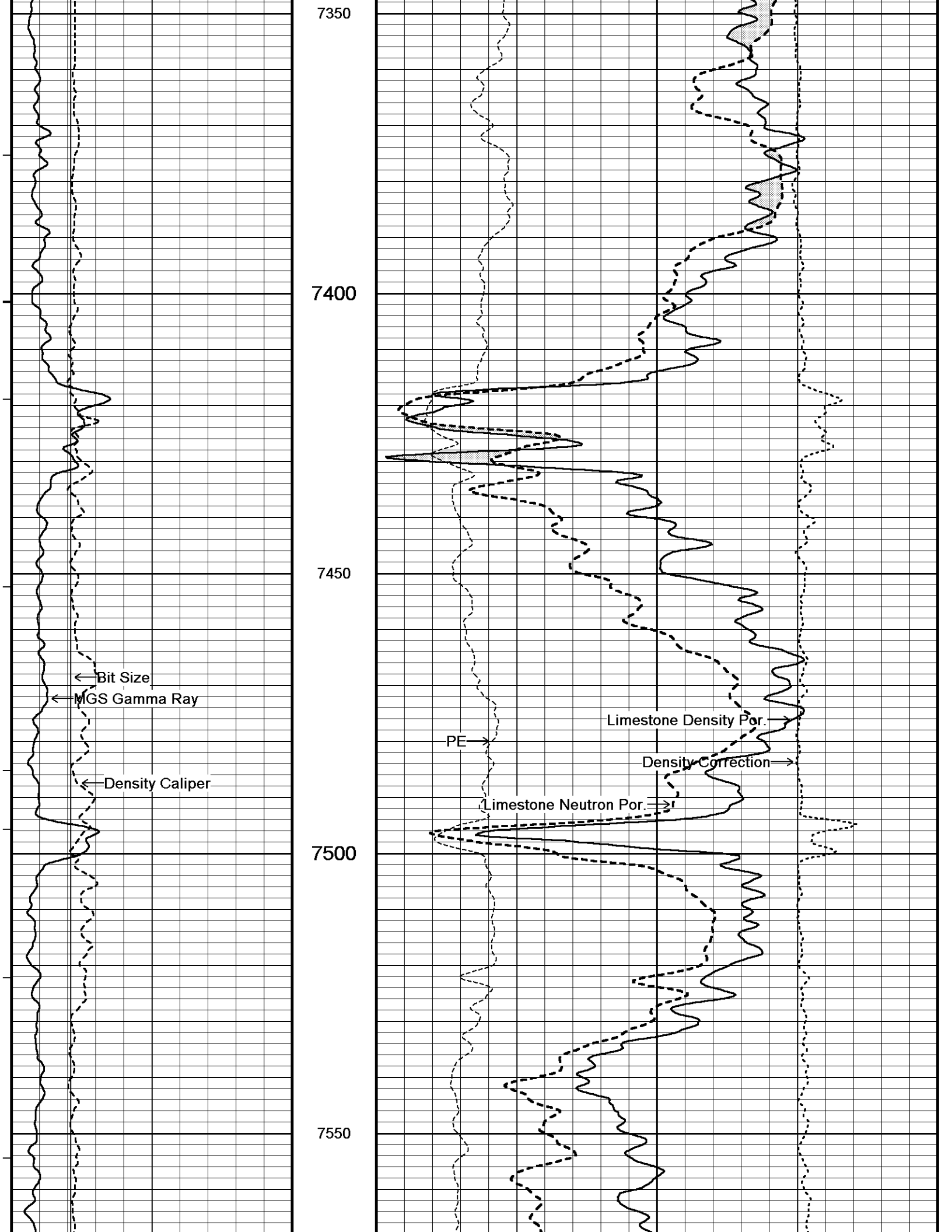
7200
7250
7300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7400
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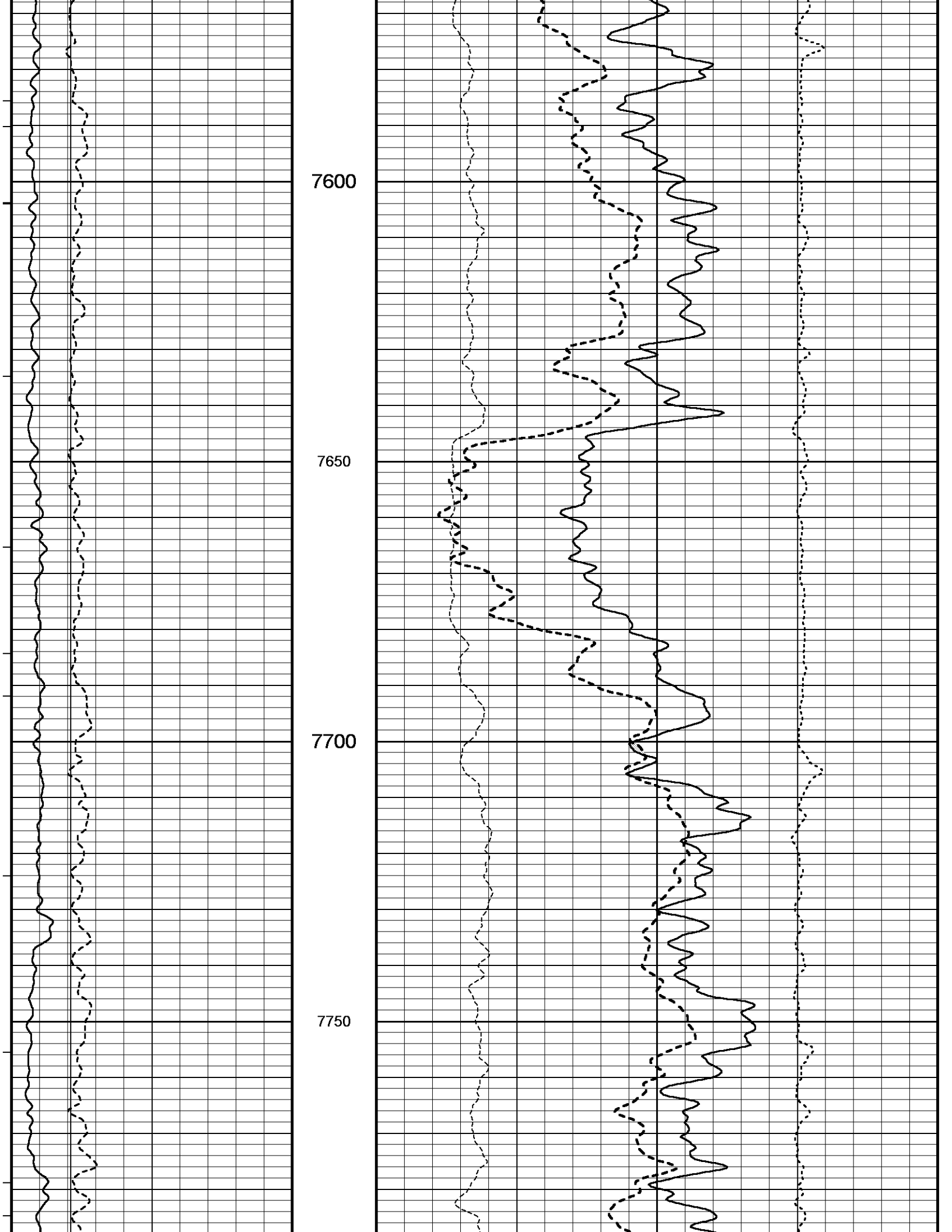
7500
7550
Bit Size
MGS Gamma Ray
Density Caliper
PE
Limestone Density Por.
Density Correction
Limestone Neutron Por.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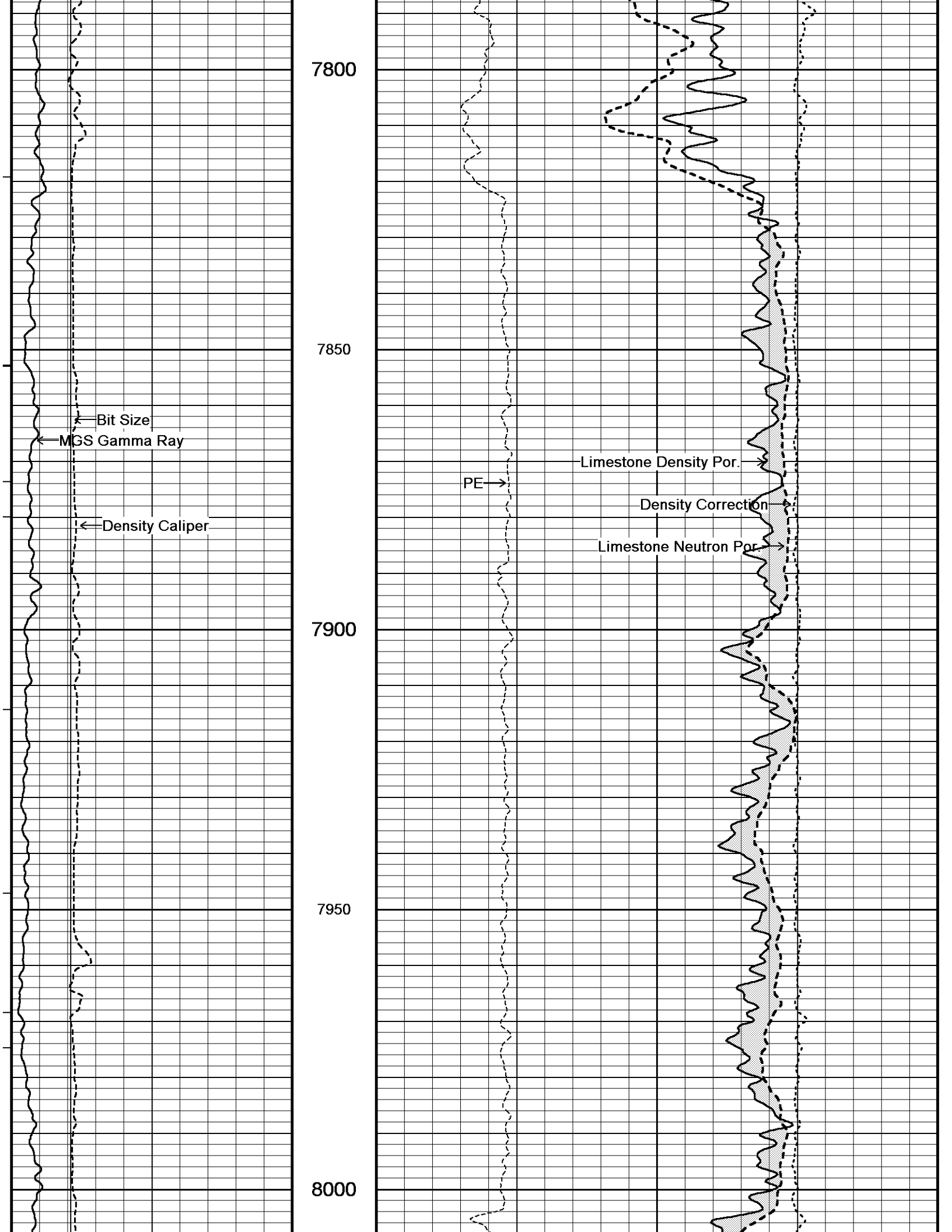
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Bit Size
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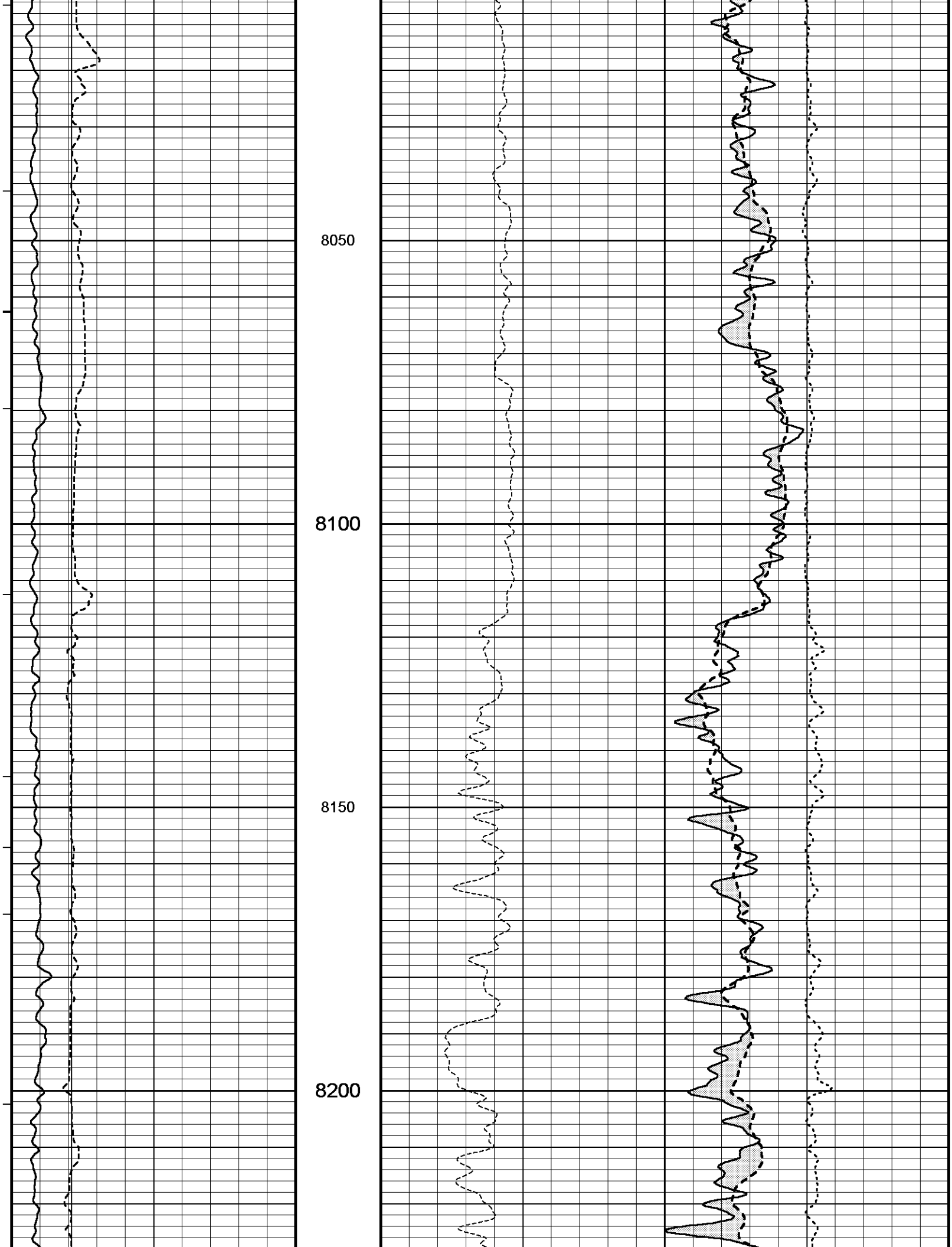
Density Caliper
PE
Limestone Density Por.
Density Correction
Limestone Neutron Por.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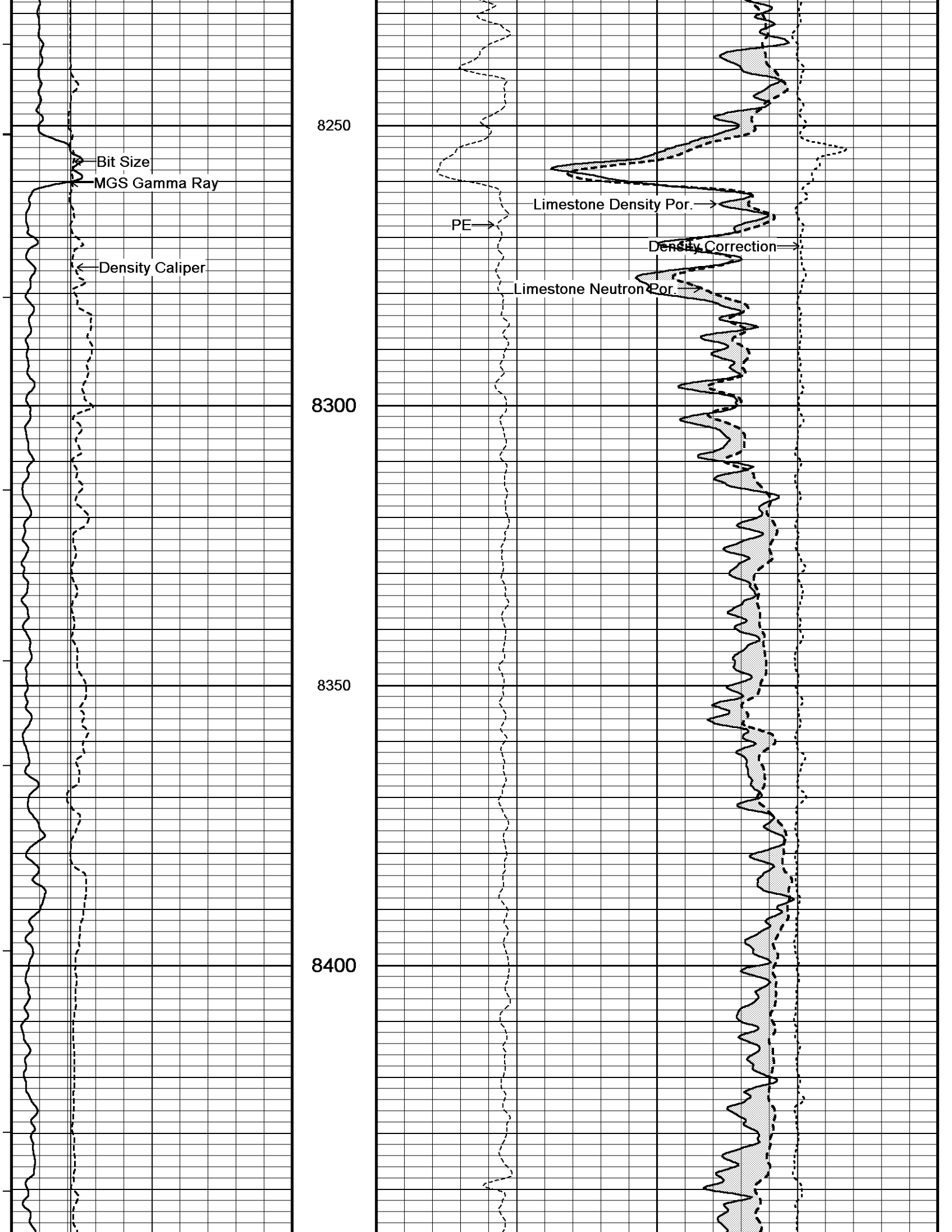
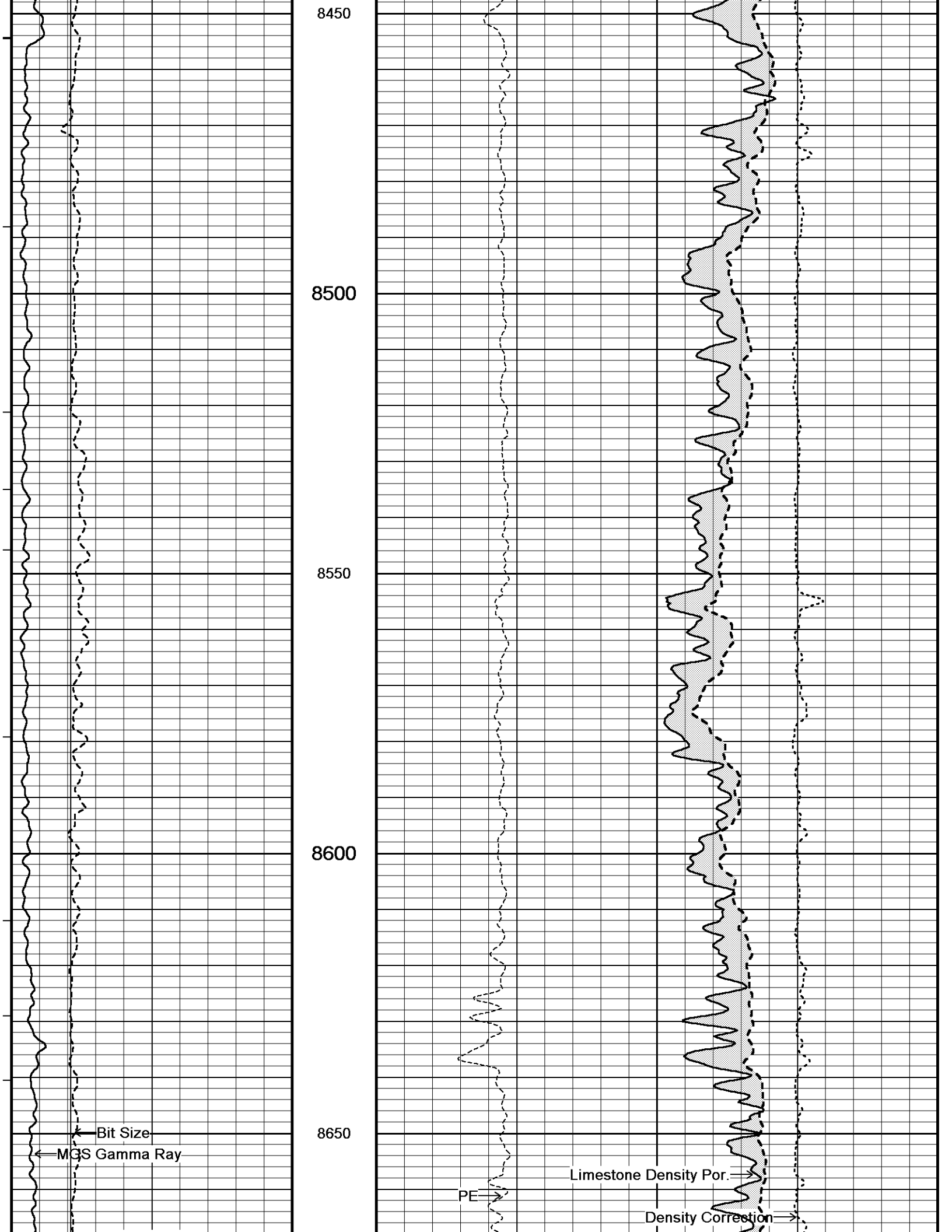

8250
8300
8350
8400
Bit Size
MGS Gamma Ray
Density Caliper
PE
Limestone Density Por.
Density Correction
Limestone Neutron Por.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8600
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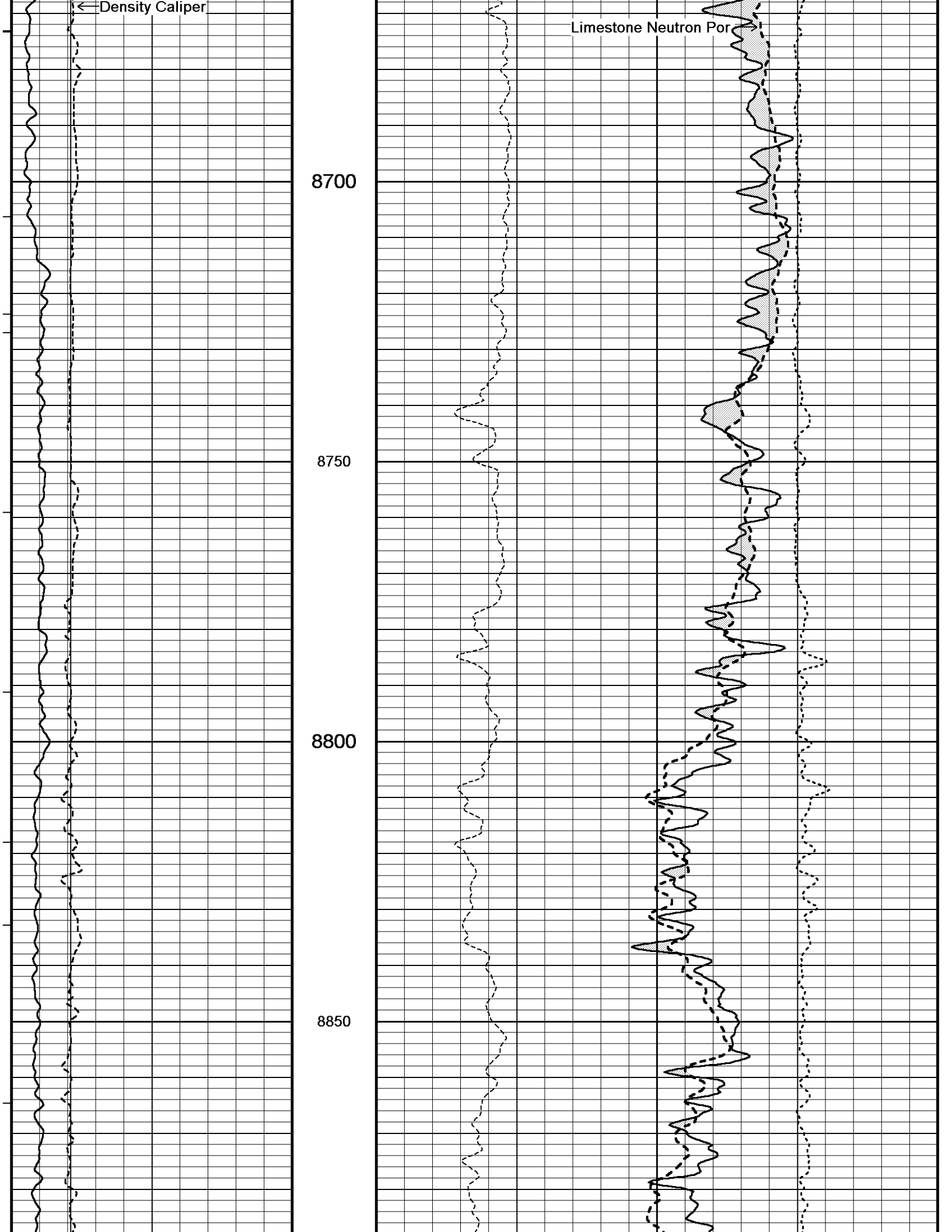
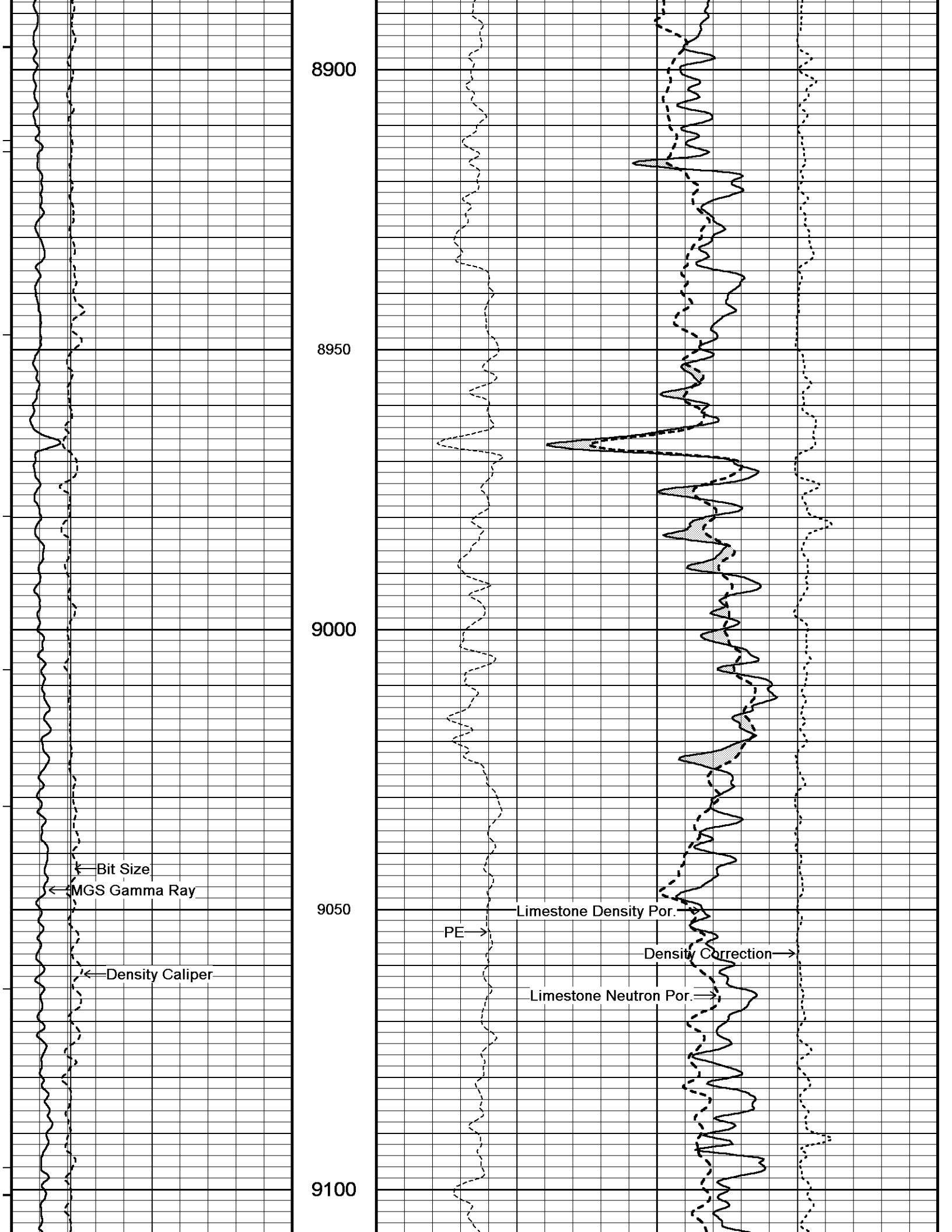
Bit Size
MGS Gamma Ray
PE
Limestone Density Por.
Density Correction


←Density Caliper
Limestone Neutron Por→
8700
8750
8800
8850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9000
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9100
Bit Size
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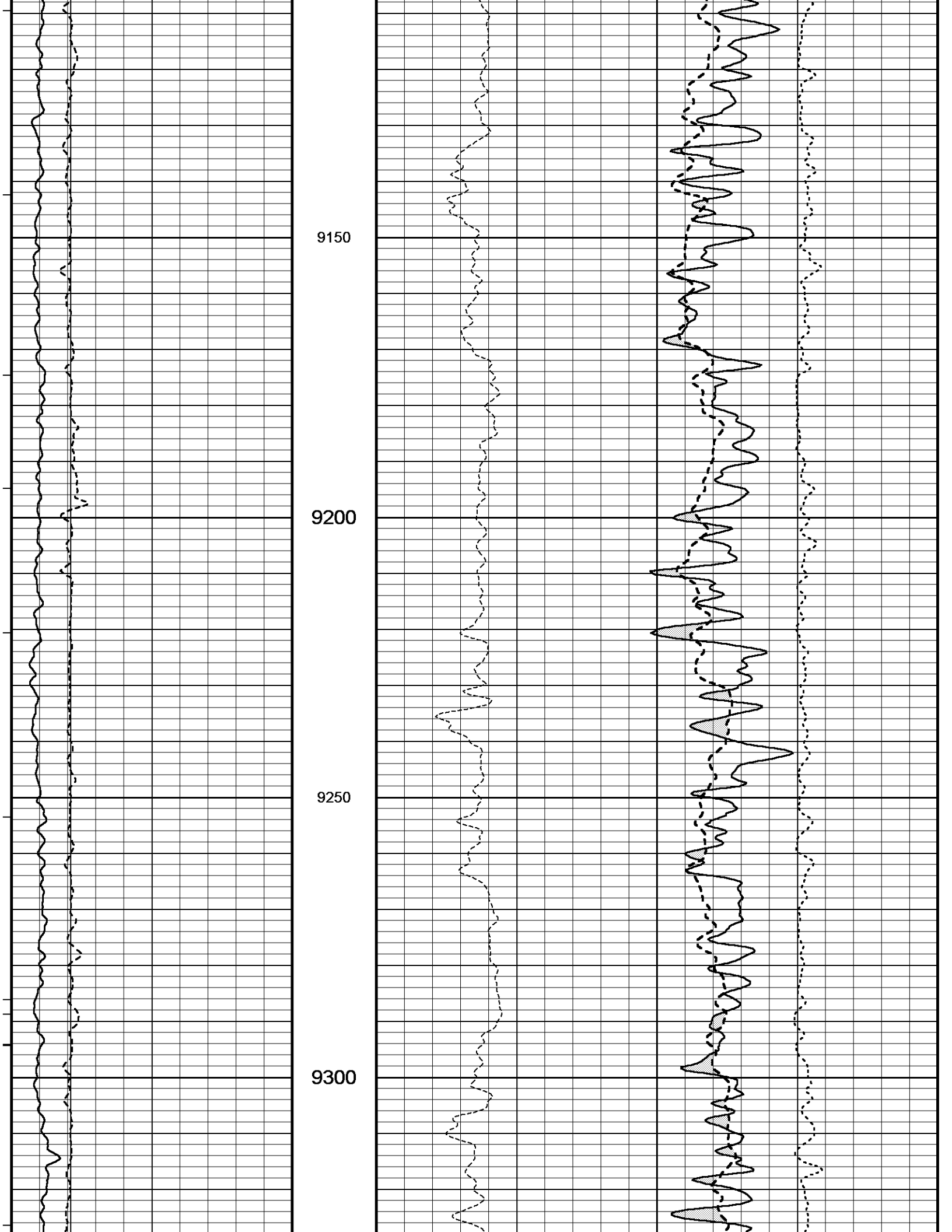
Density Caliper
PE
Limestone Density Por.
Density Correction
Limestone Neutron Por.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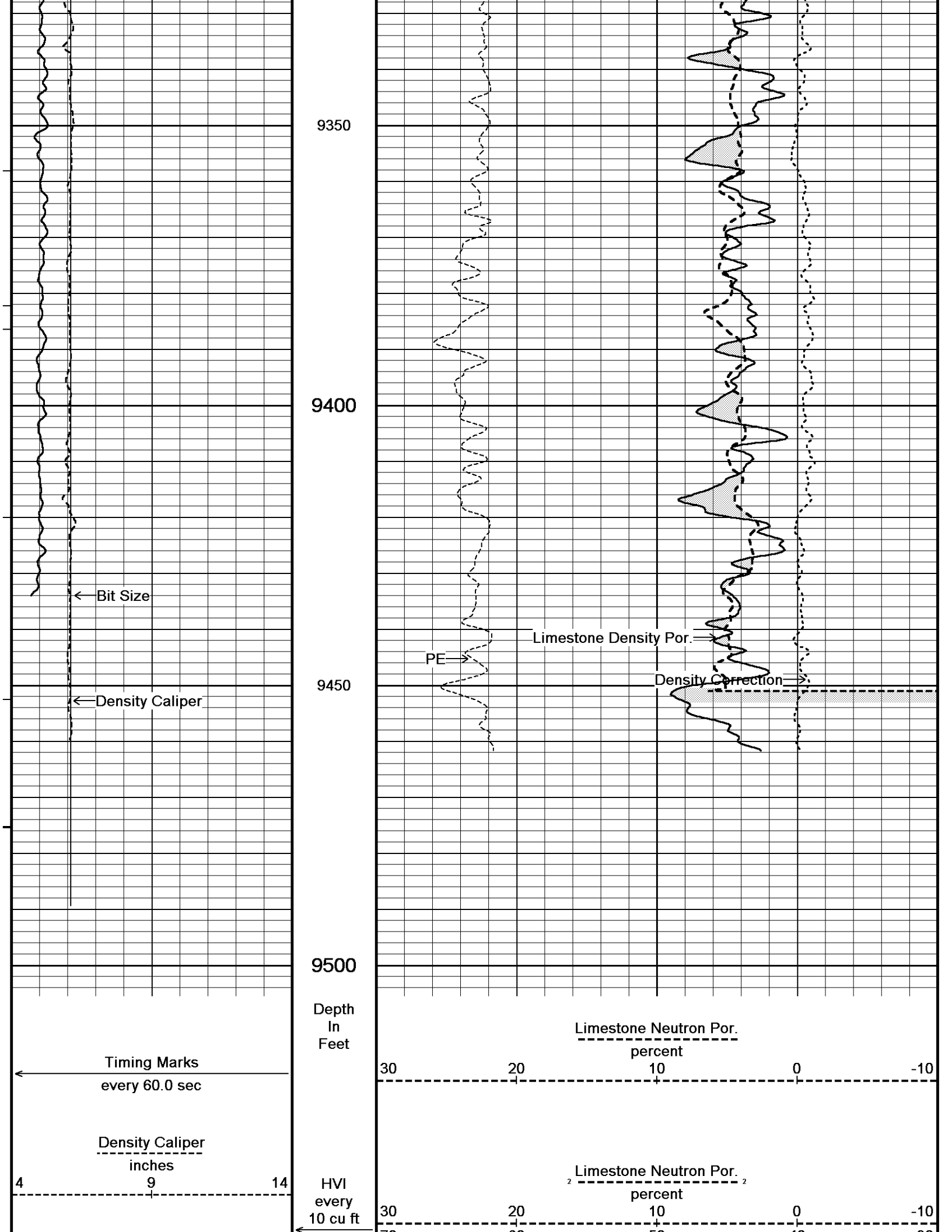
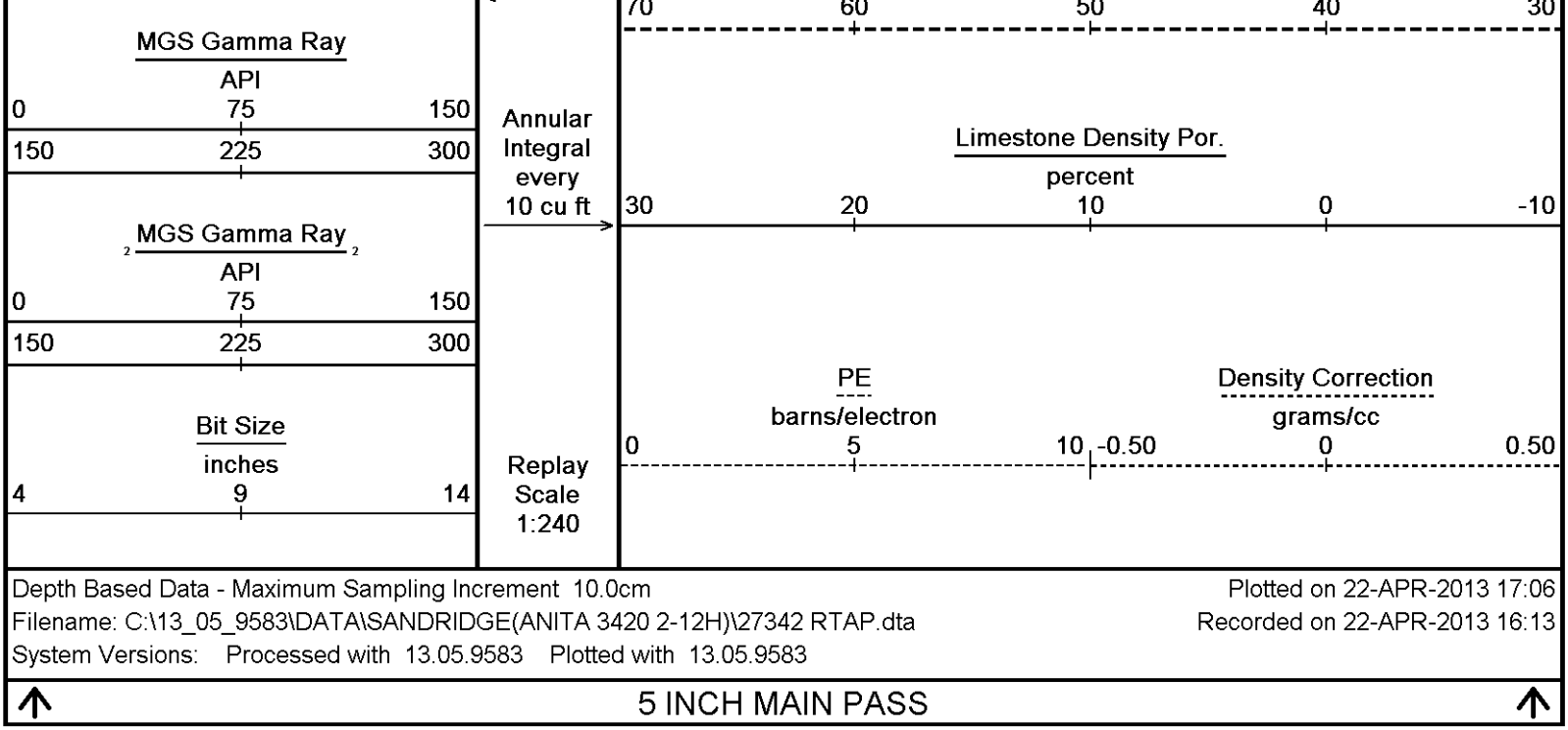

9350
9400
9450
9500
Bit Size
Density Caliper
PE
Limestone Density Por.
Density Correction
Depth
In
Feet
Timing Marks
every 60.0 sec
Density Caliper
inches
4
9
14
HVI
every
10 cu ft
Limestone Neutron Por.
percent
30
20
10
0
-10
Limestone Neutron Por.
percent
30
20
10
0
-10

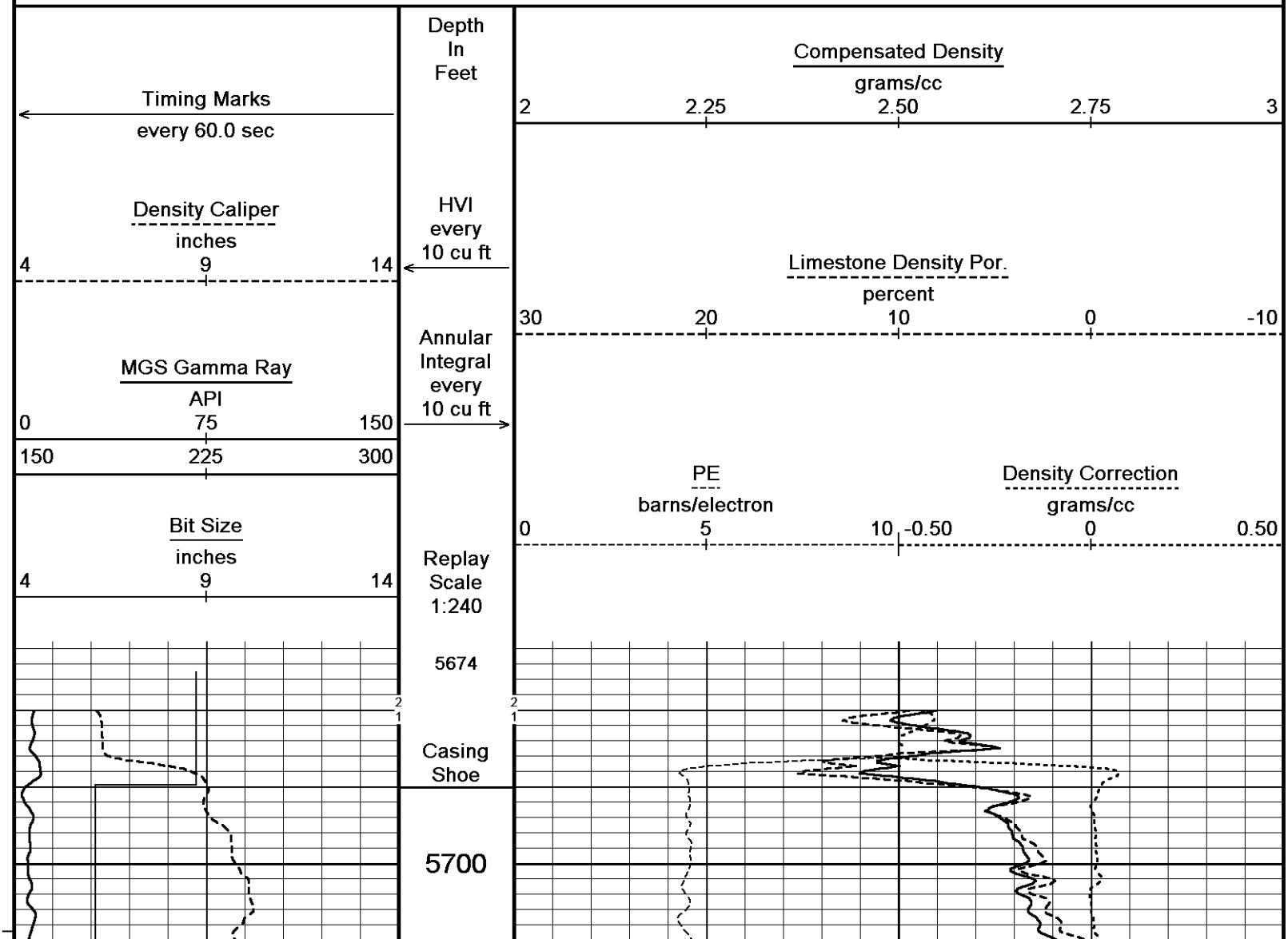


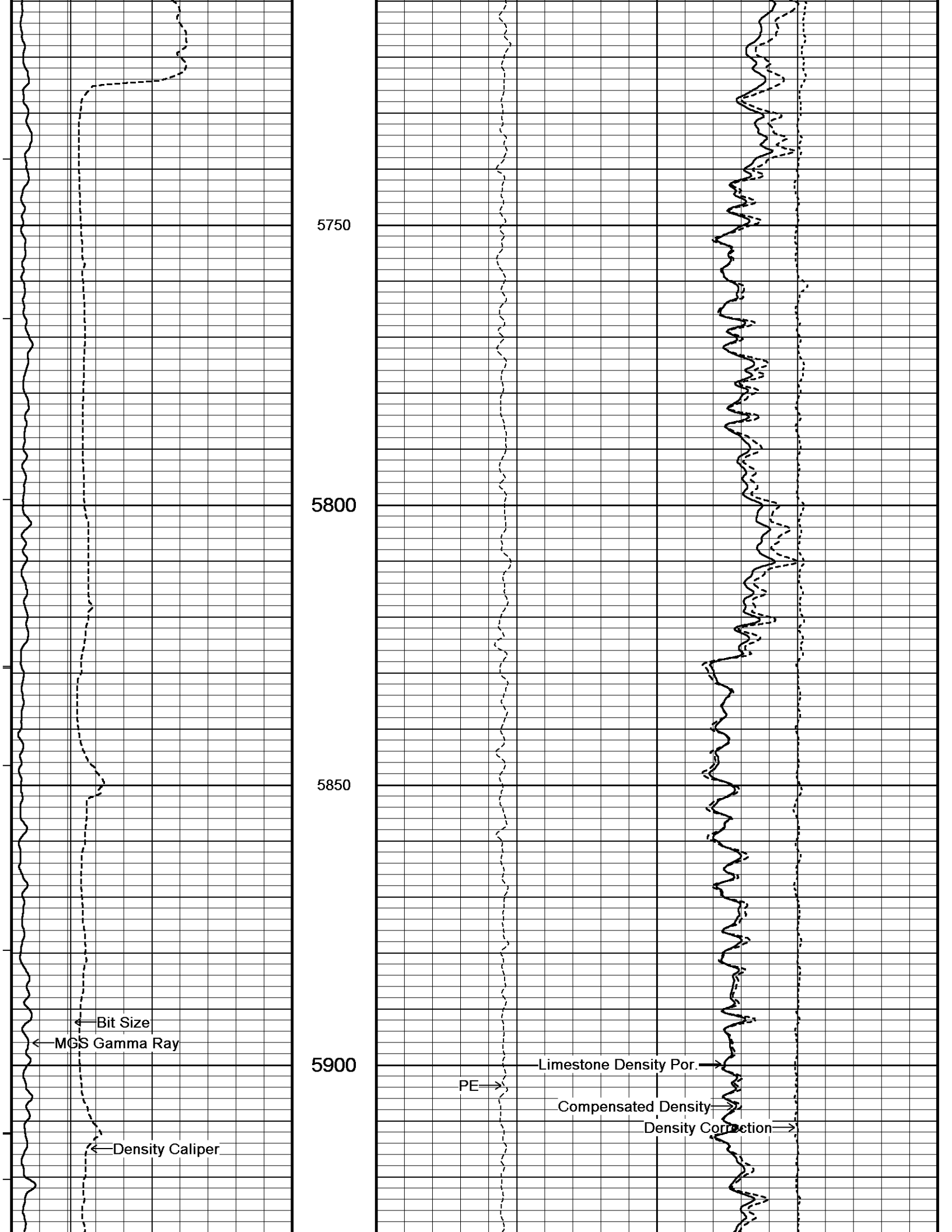
Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 22-APR-2013 17:06
Filename: C:\13_05_9583\DATA\SANDRIDGE(ANITA 3420 2-12H)\27342 RTAP.dta — Recorded on 22-APR-2013 16:13
System Versions: Processed with 13.05.9583 Plotted with 13.05.9583

5 INCH MAIN PASS

5 INCH BULK DENSITY DSC

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 22-APR-2013 17:06
Filename: C:\13_05_9583\DATA\SANDRIDGE(ANITA 3420 2-12H)\27342 RTAP.dta — Recorded on 22-APR-2013 16:13
System Versions: Processed with 13.05.9583 Plotted with 13.05.9583




5750
5800
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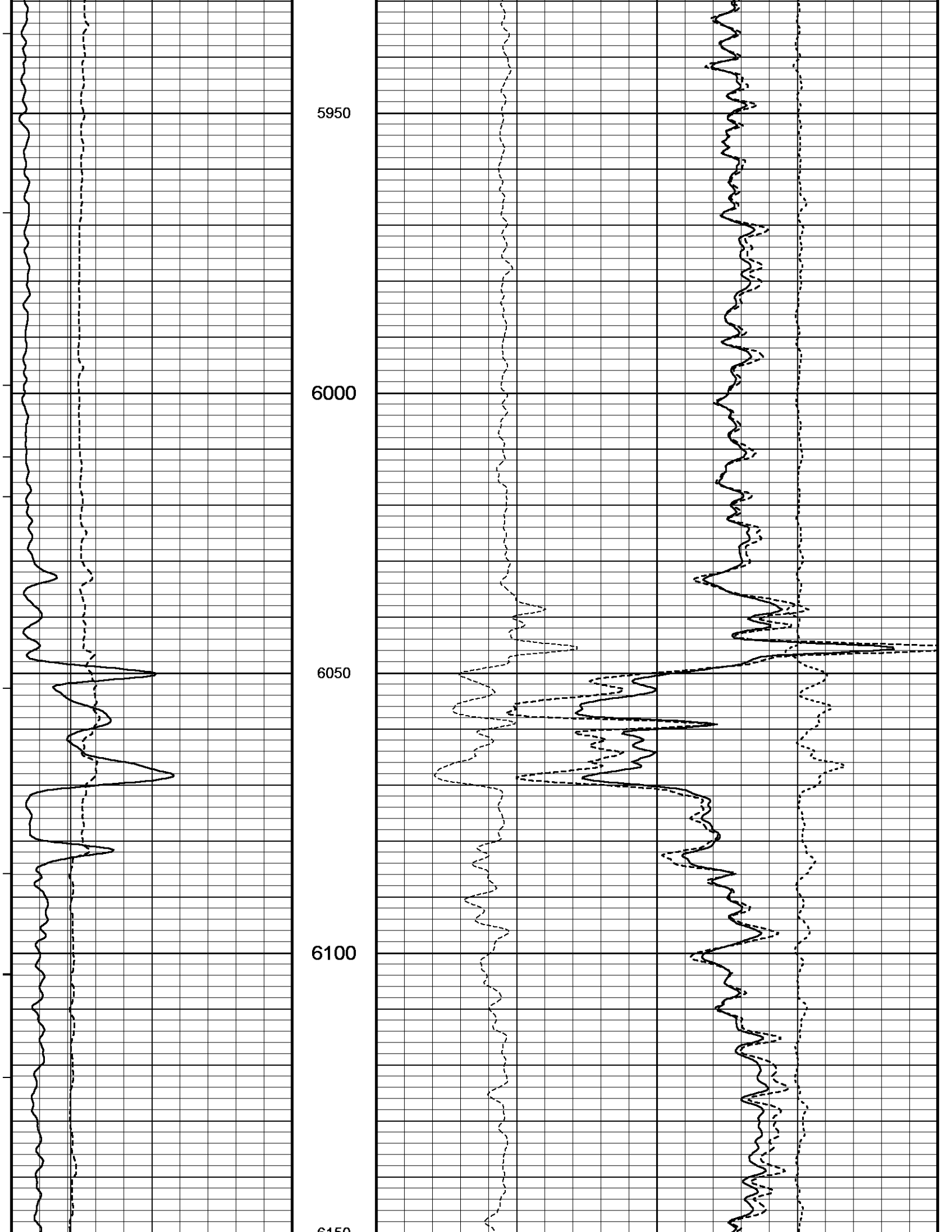
Bit Size
MGS Gamma Ray
Density Caliper
Limestone Density Por.
PE
Compensated Density
Density Correction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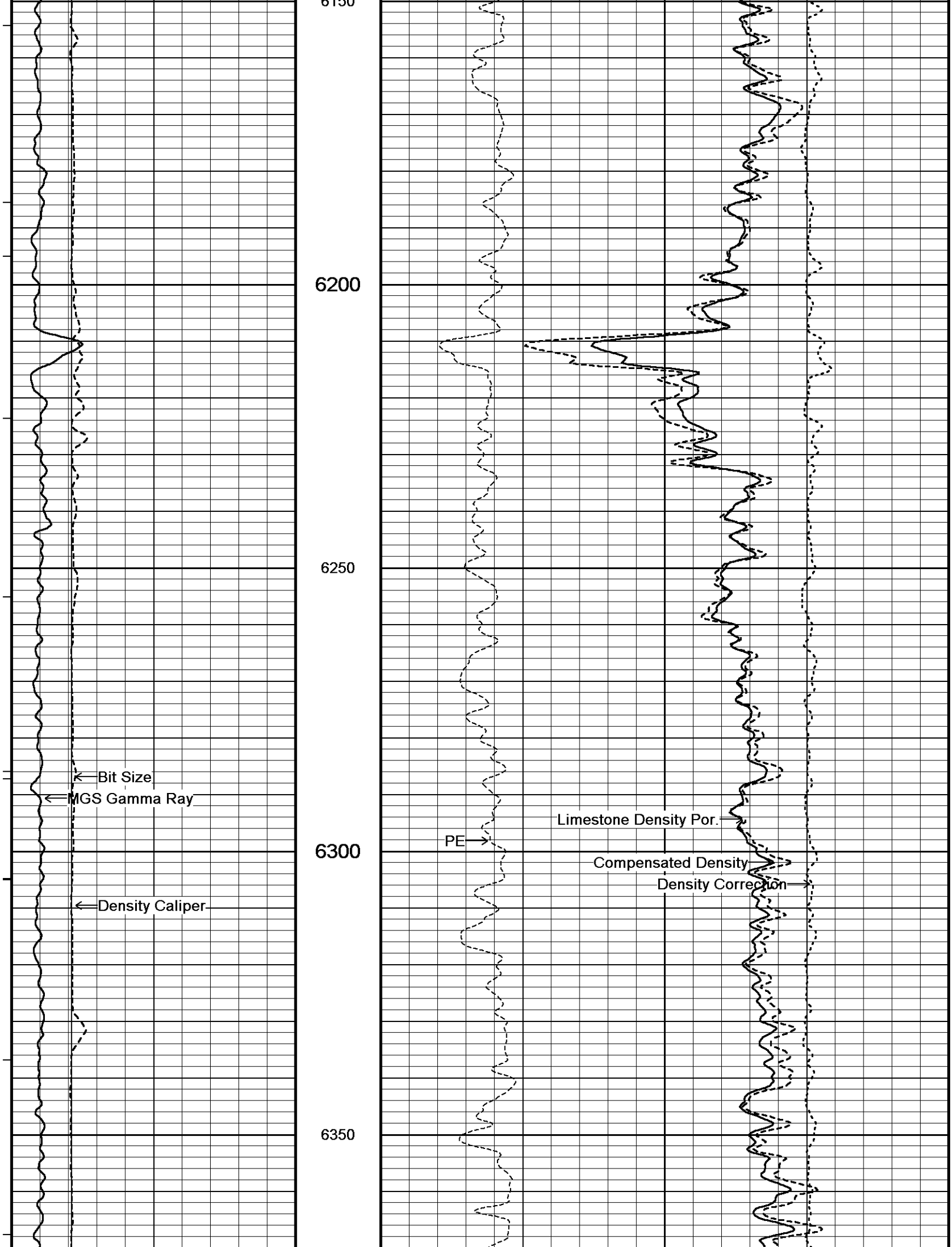
6100
6150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MGS Gamma Ray
Density Caliper
PE
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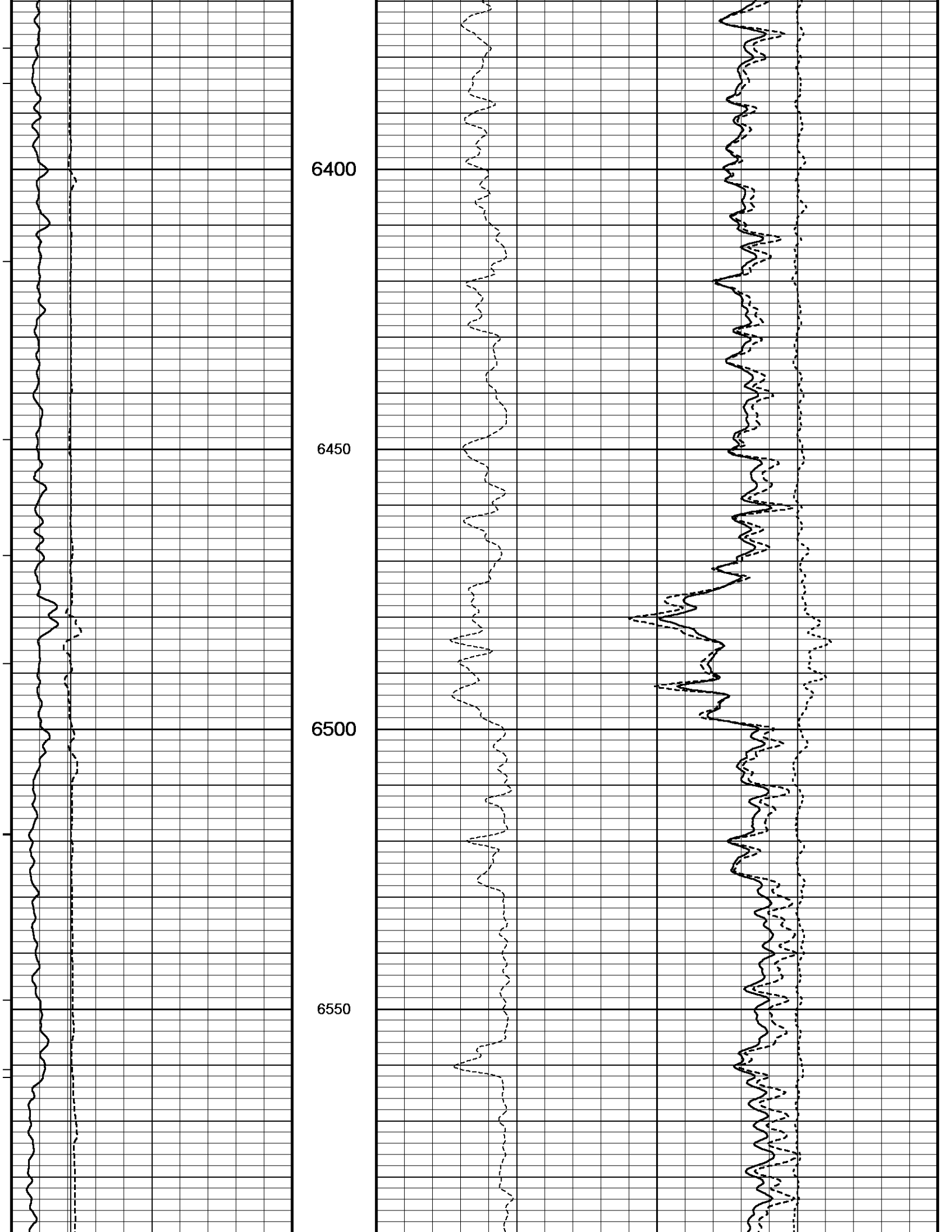
Compensated Density
Density Correction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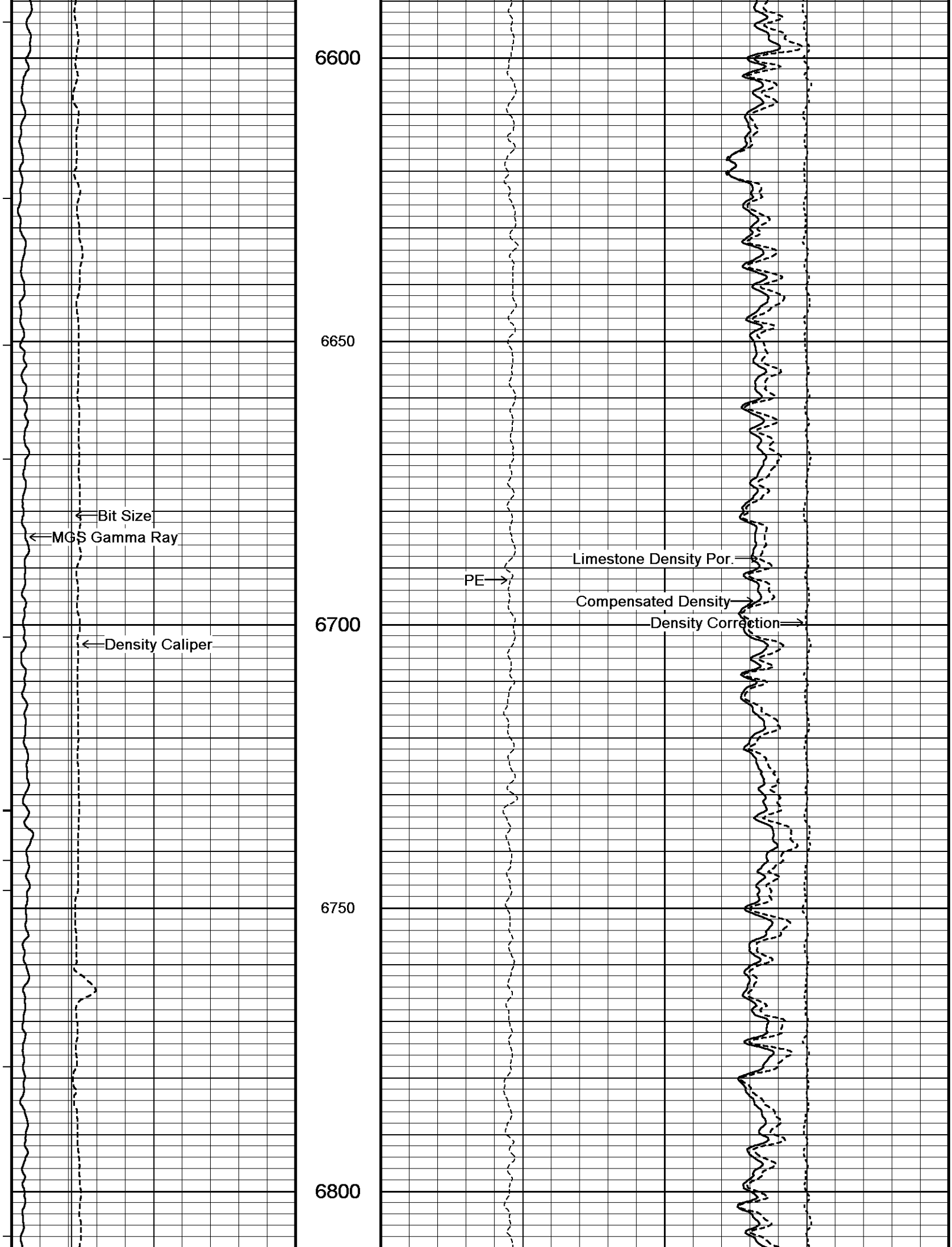
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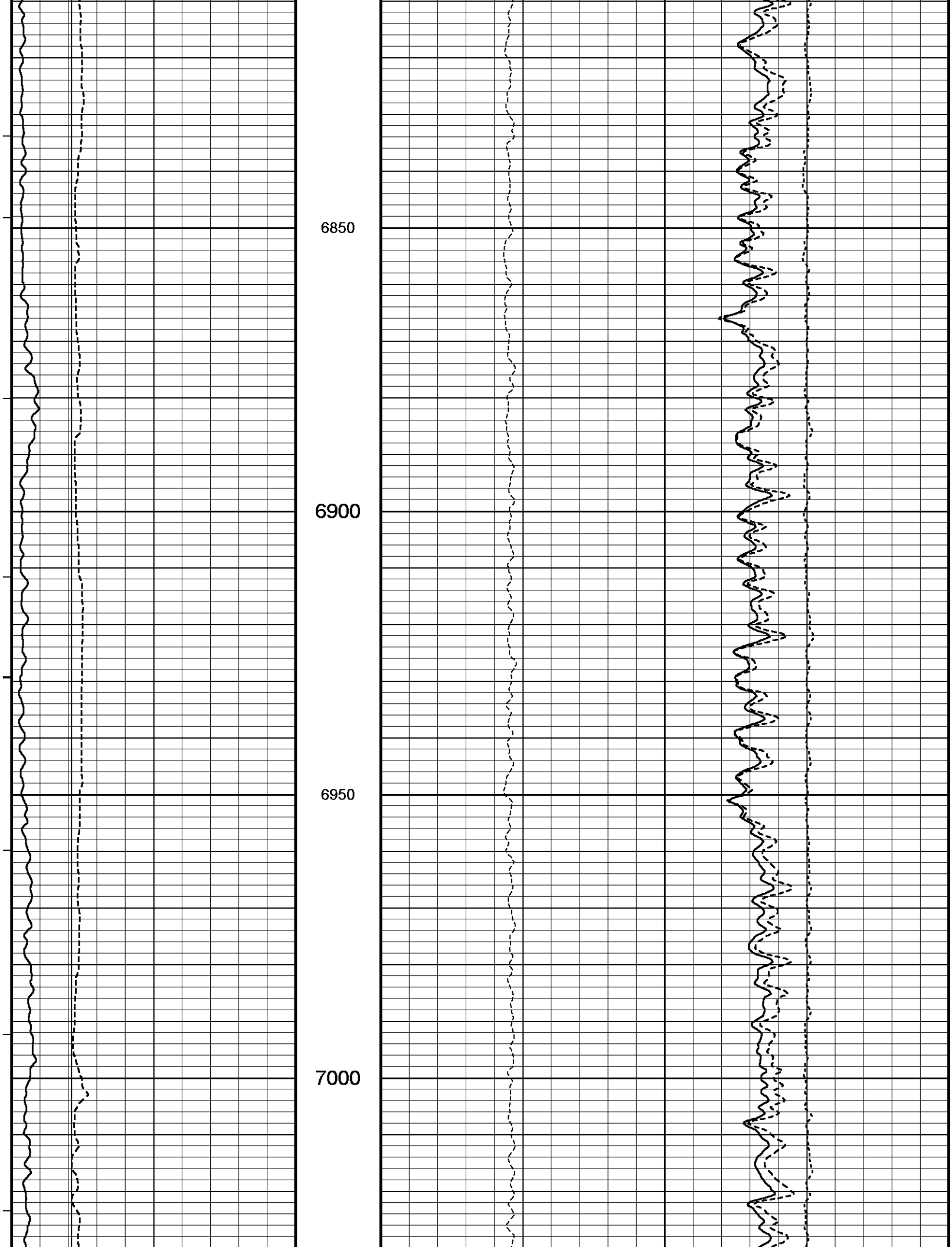
Bit Size
MGS Gamma Ray
Density Caliper
PE
Limestone Density Por.
Compensated Density
Density Correction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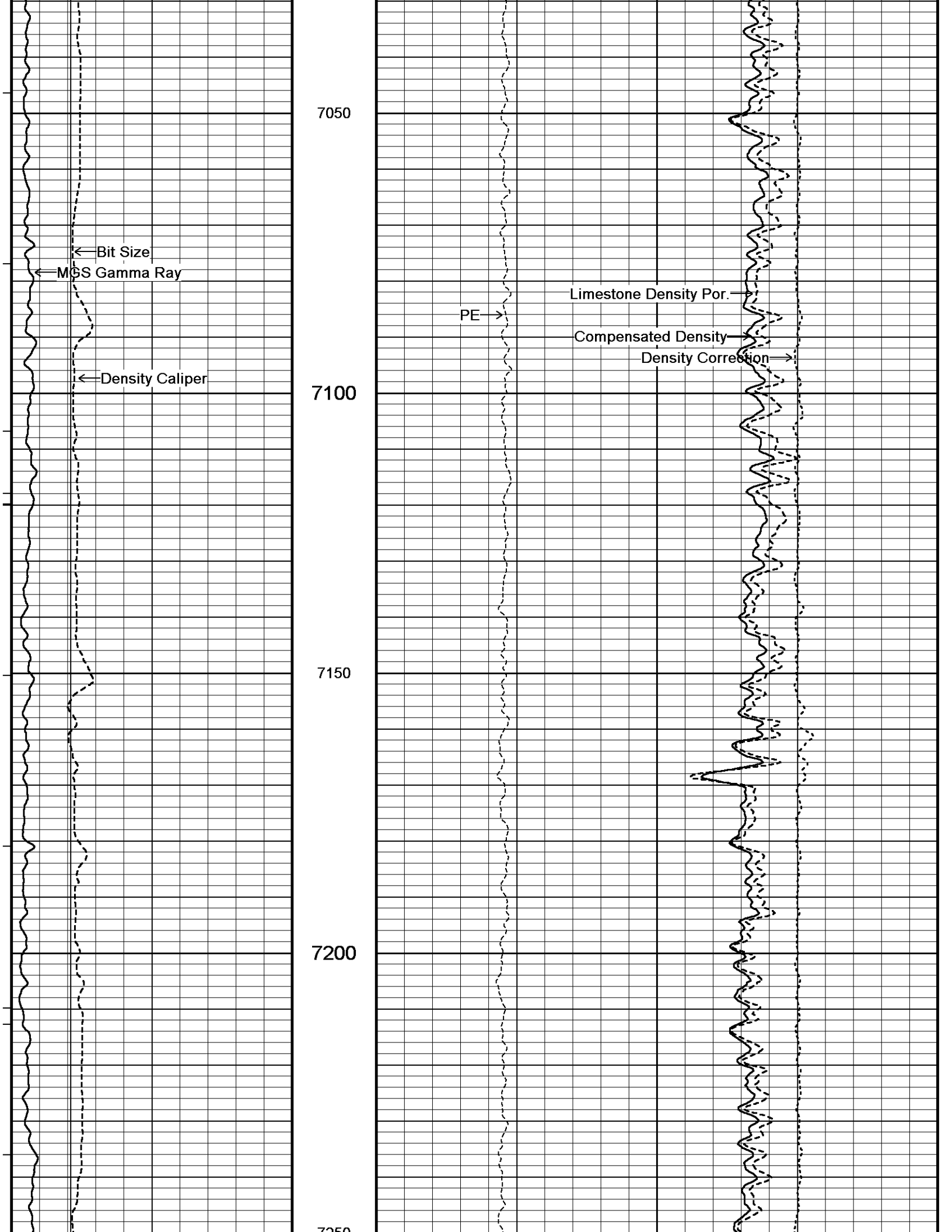
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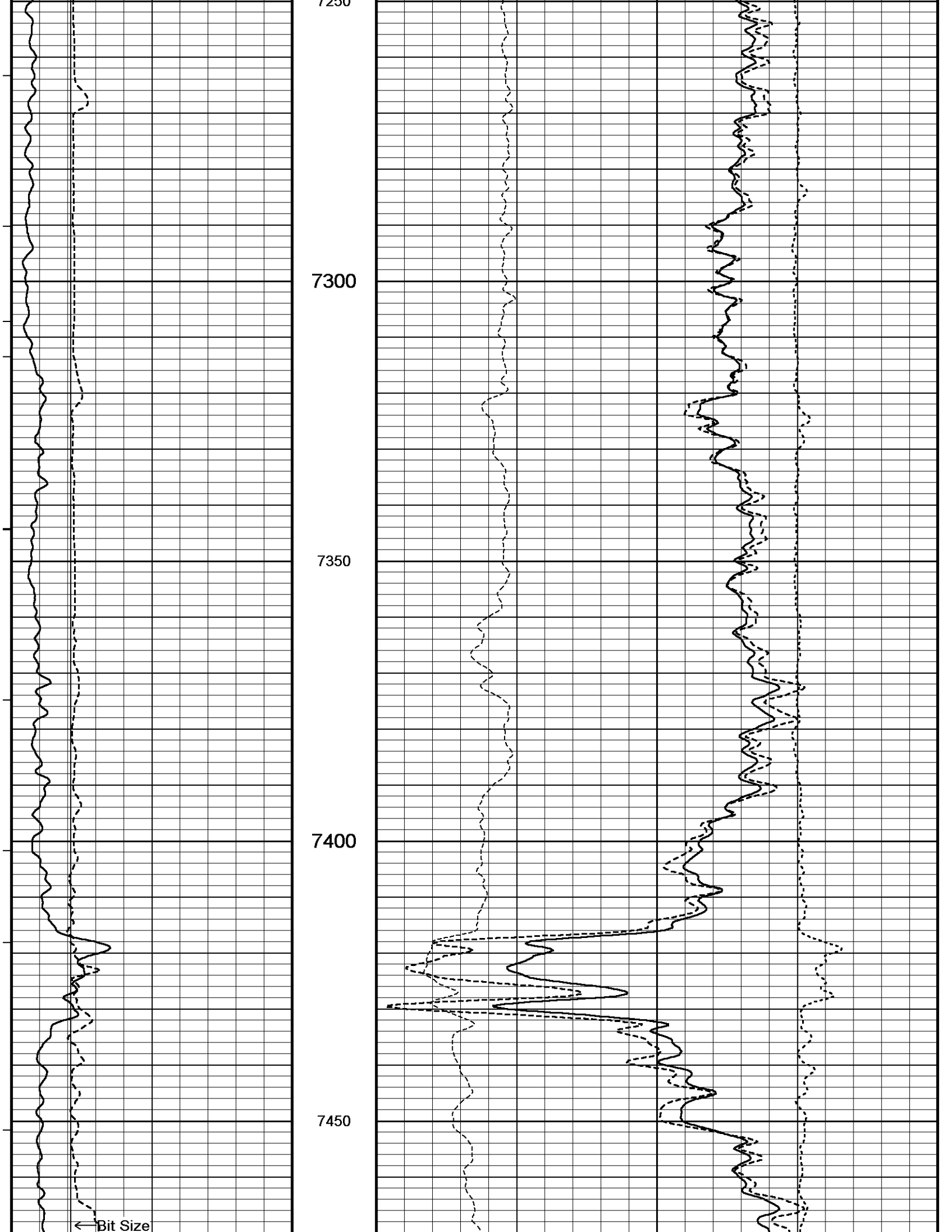
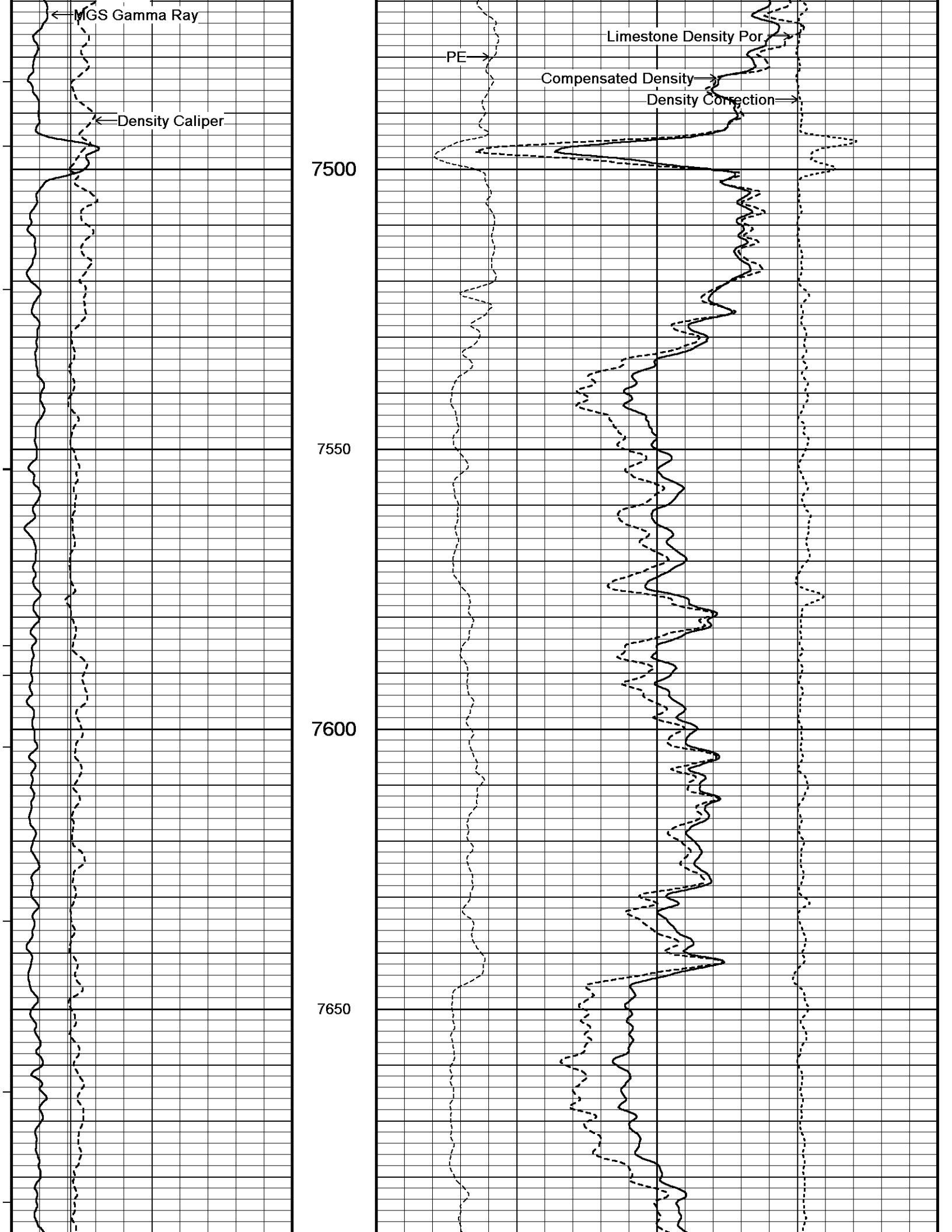
Density Caliper
PE
Limestone Density Por.
Compensated Density
Density Correction


7250
7300
7350
7400
7450
←Bit Size


MGS Gamma Ray
Density Caliper
PE
Limestone Density Por
Compensated Density
Density Correction
7500
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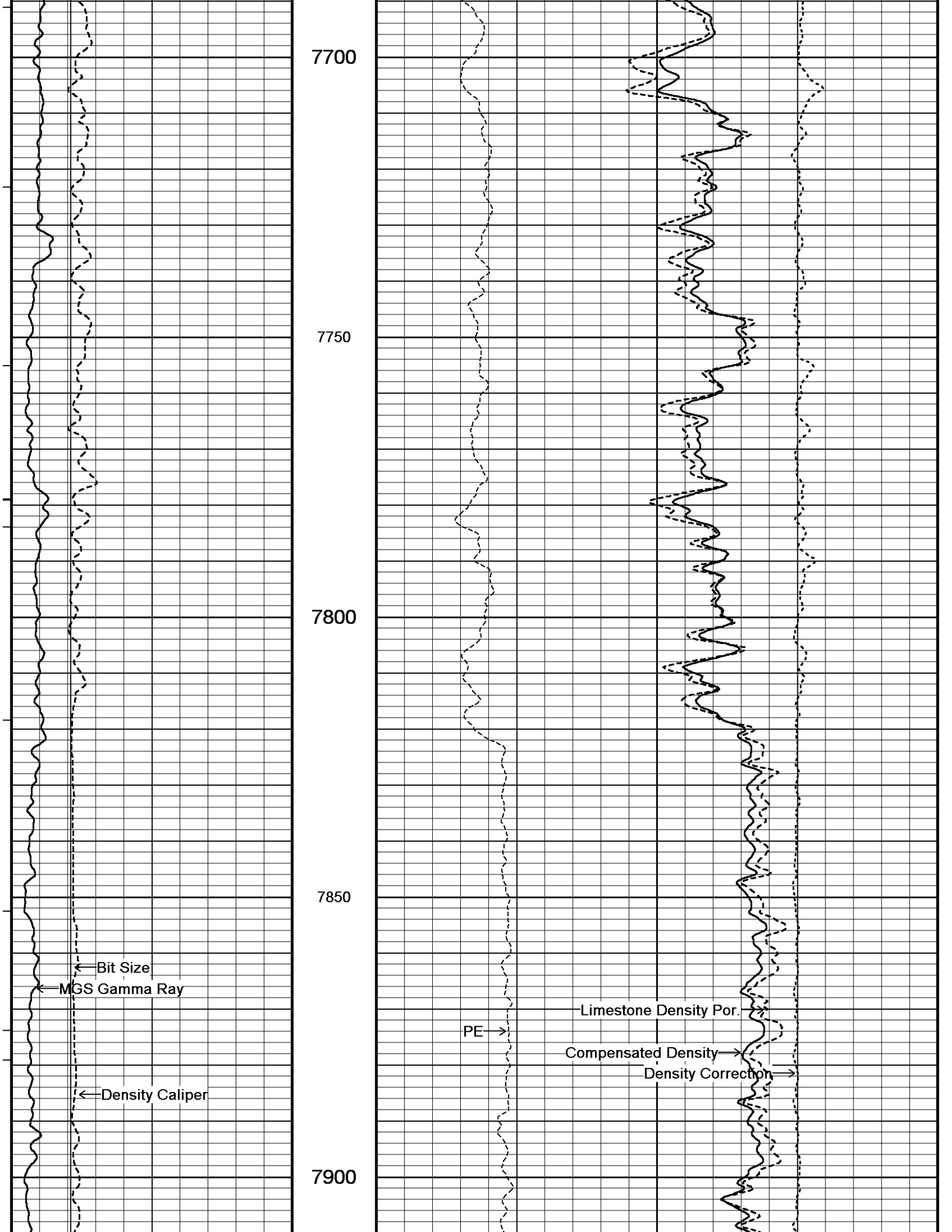
7600
7650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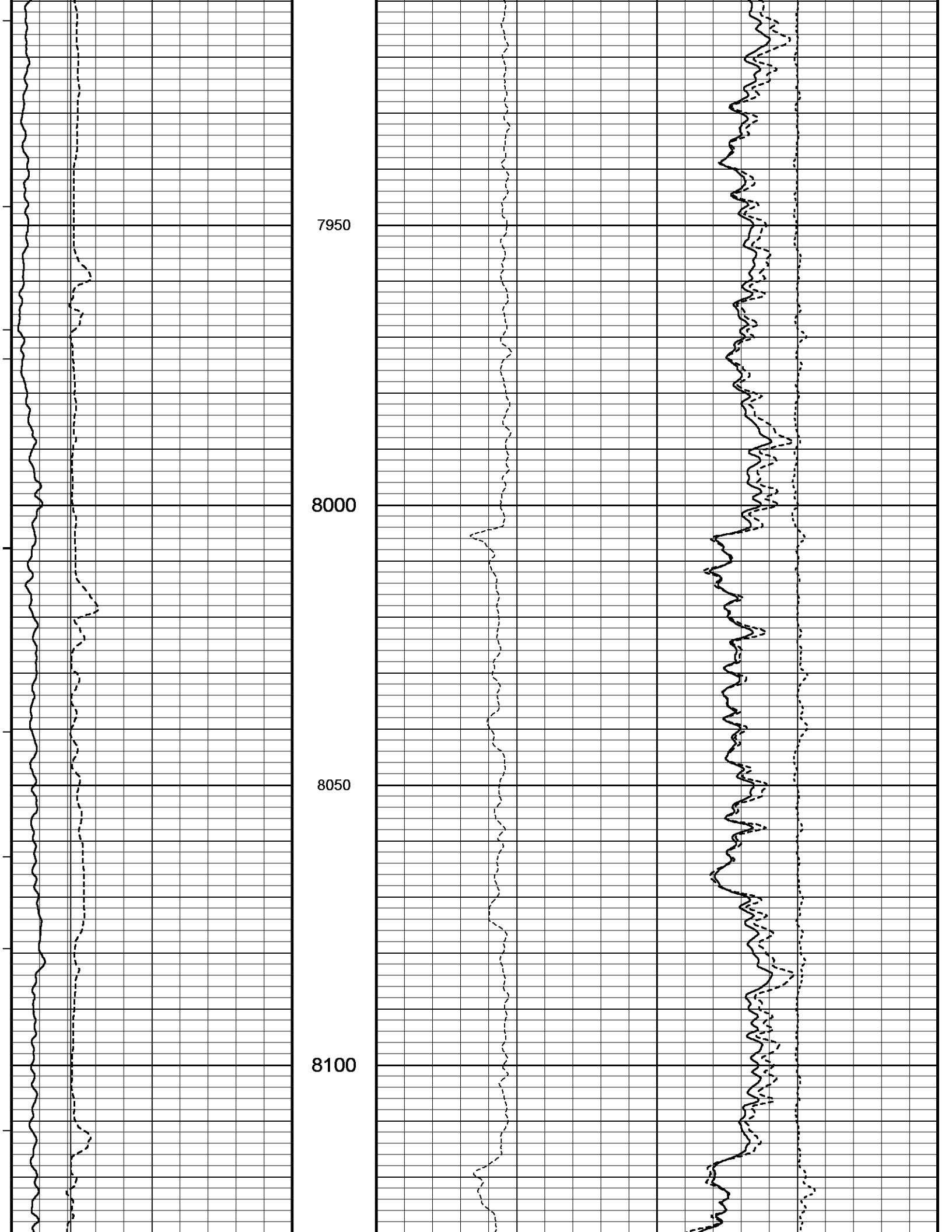
Density Caliper
PE
Limestone Density Por.
Compensated Density
Density Correction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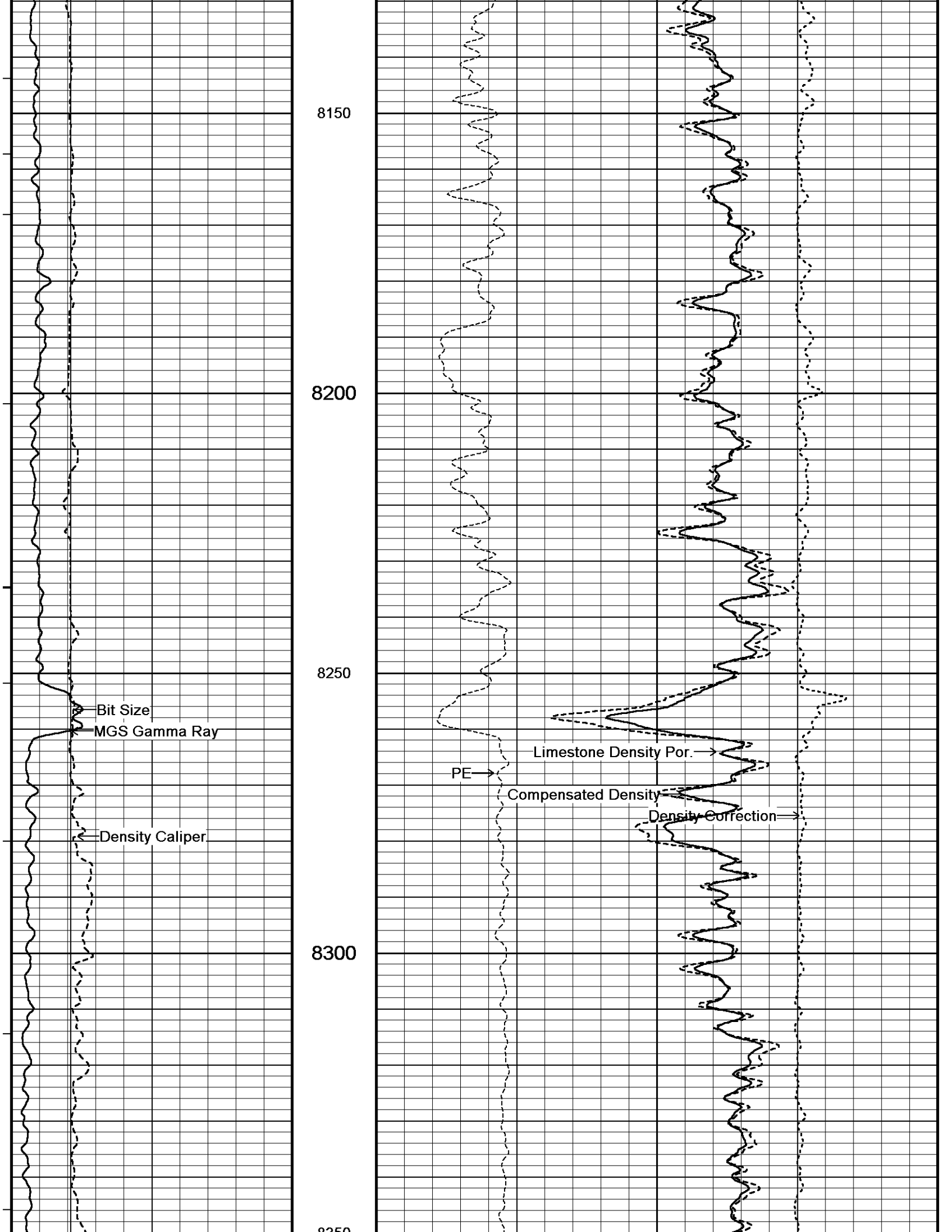
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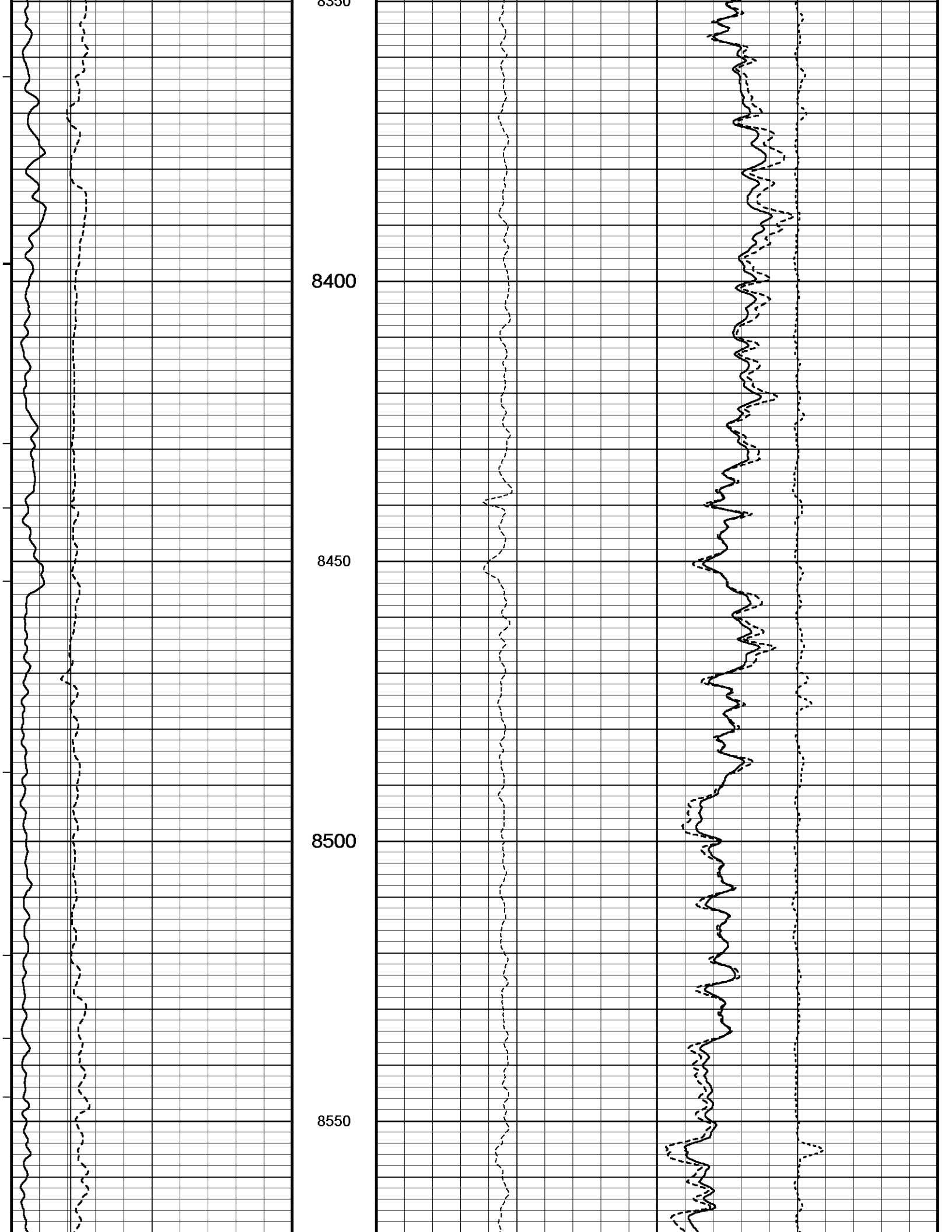
8200
8250
8300
Bit Size
MGS Gamma Ray
Density Caliper
PE
Limestone Density Por.
Compensated Density
Density Correction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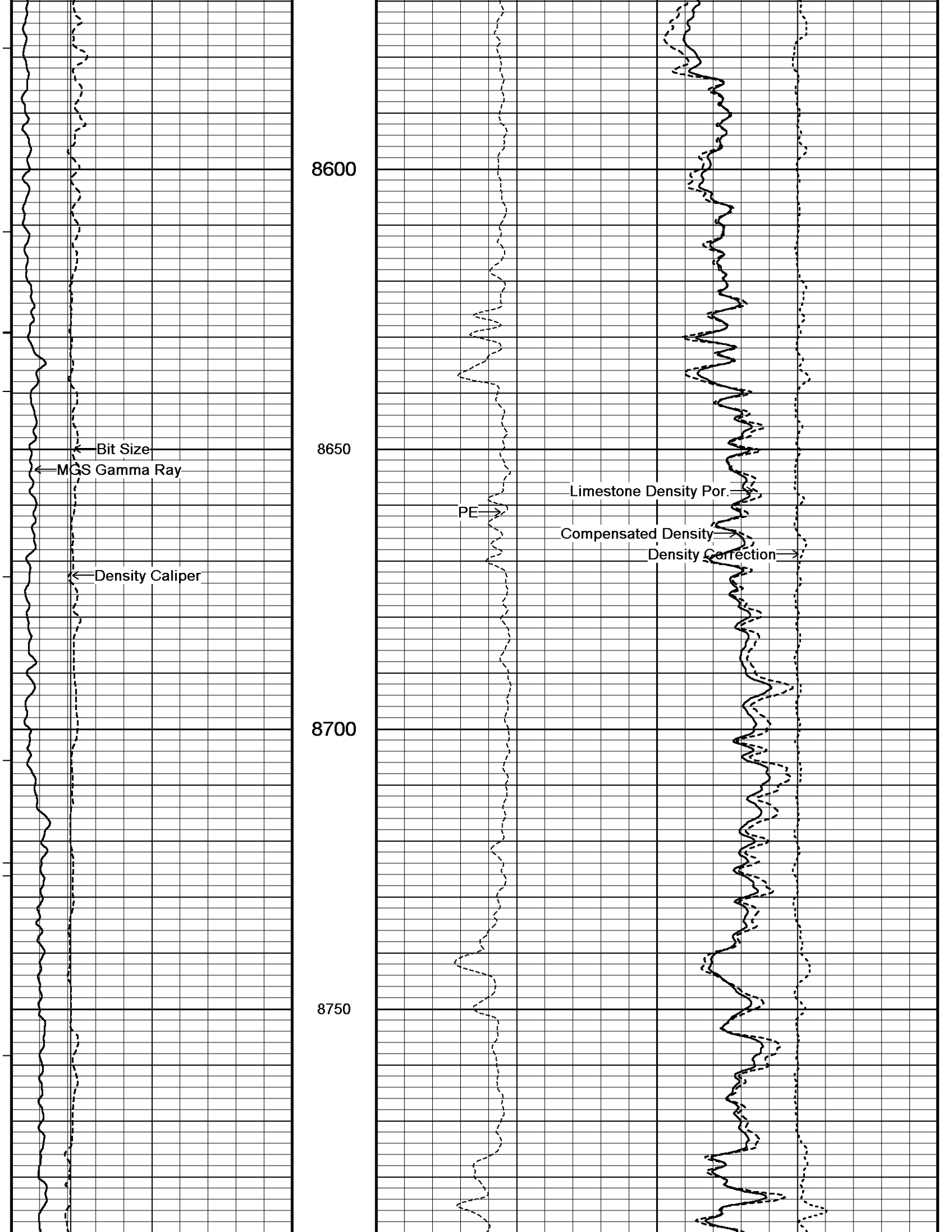
8500
8550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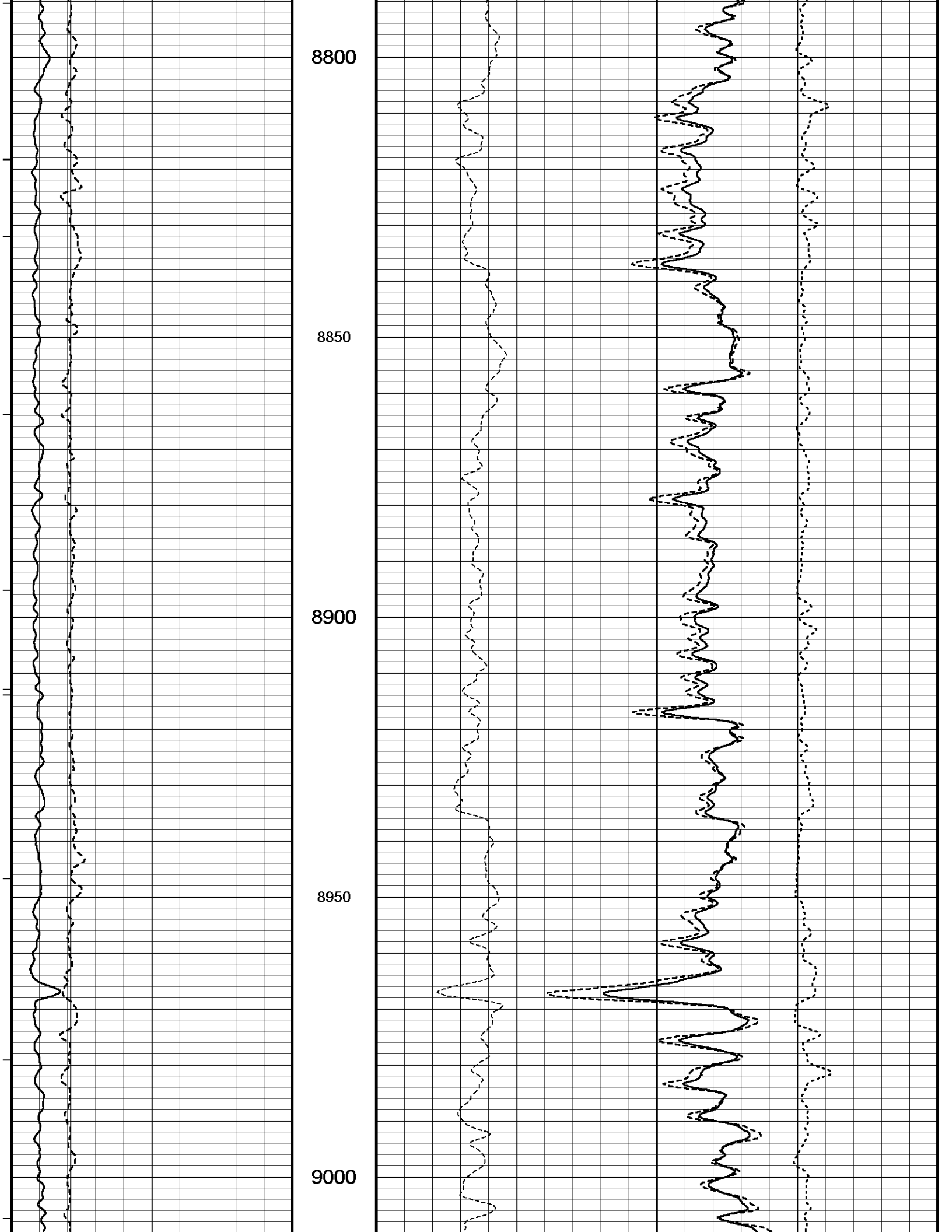
8700
8750
Bit Size
MGS Gamma Ray
Density Caliper
PE
Limestone Density Por.
Compensated Density
Density Correction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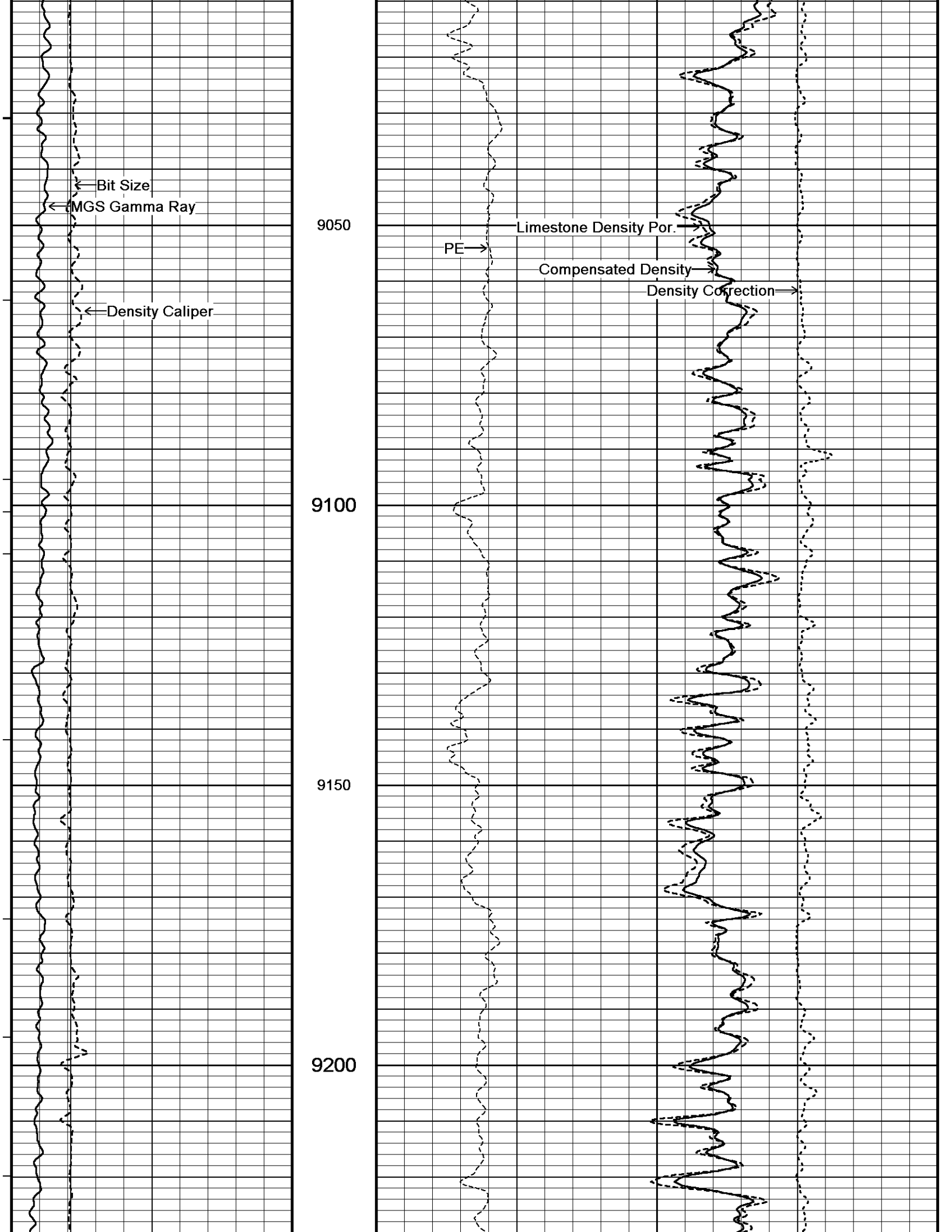
9000


Bit Size
MGS Gamma Ray
Density Caliper
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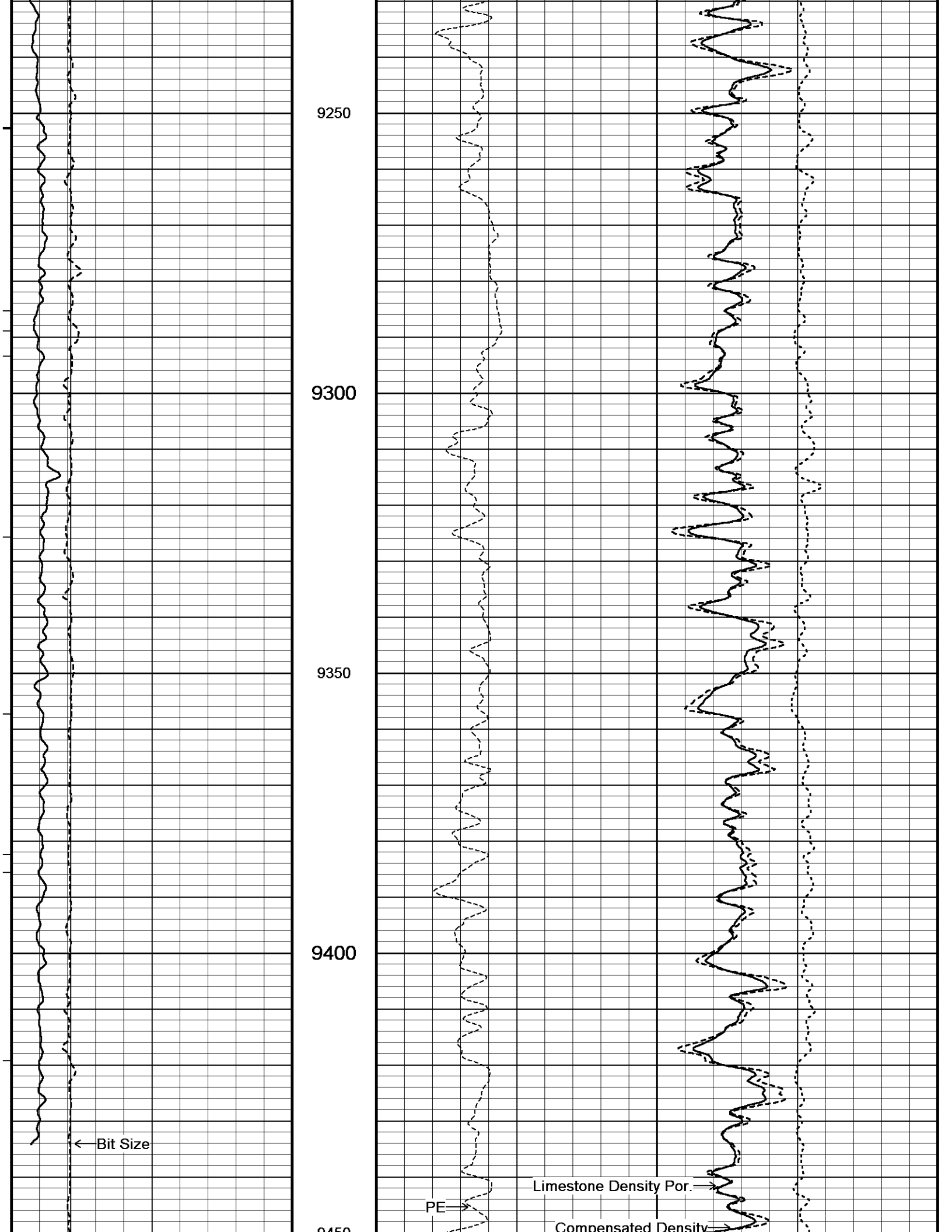
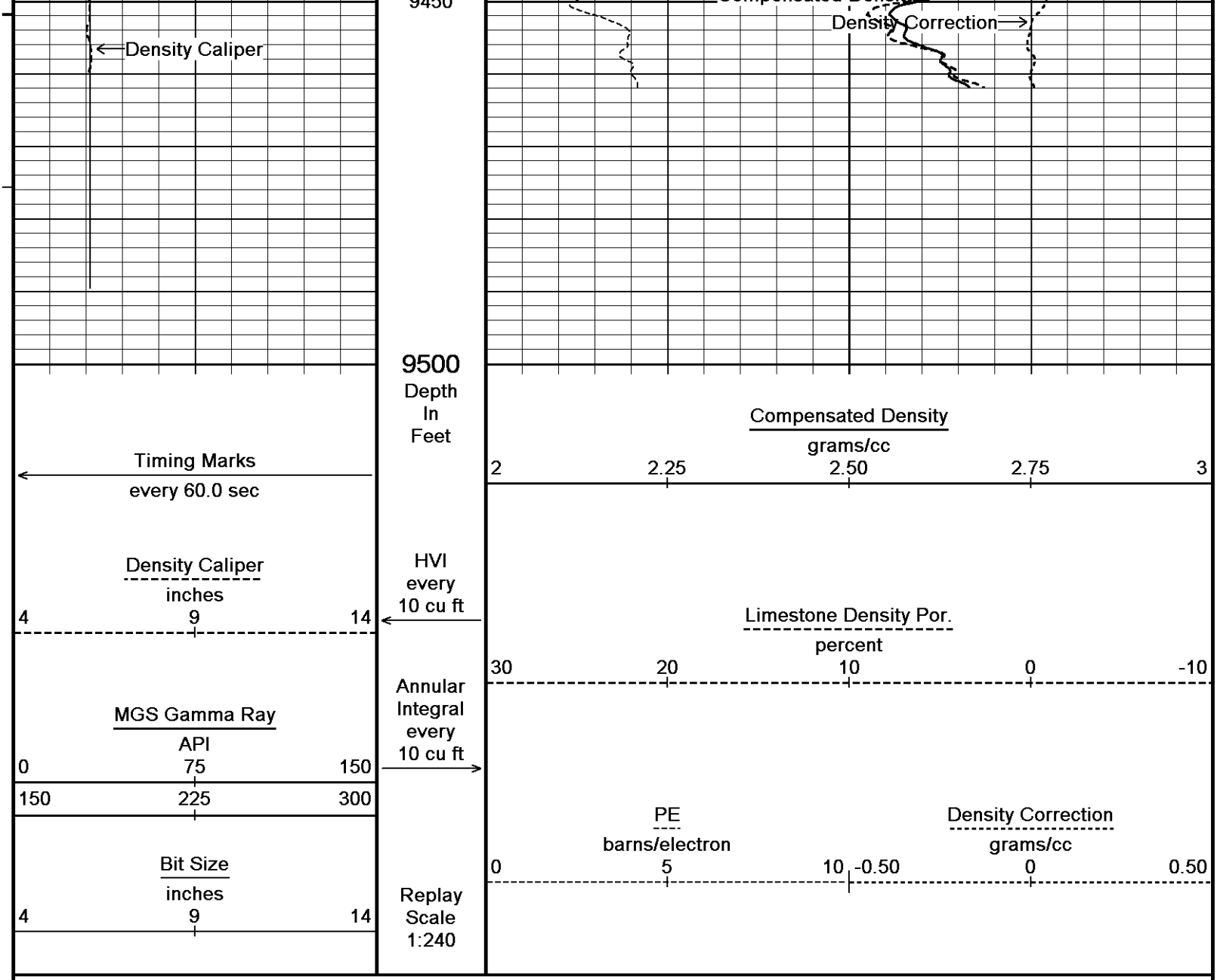
9100
9150
9200
Limestone Density Por.
PE
Compensated Density
Density Correction


9250
9300
9350
9400
9450
Bit Size
PE
Limestone Density Por.
Compensated Density



Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 22-APR-2013 17:06
Filename: C:\13_05_9583\DATA\SANDRIDGE(ANITA 3420 2-12H)\27342 RTAP.dta
Recorded on 22-APR-2013 16:13
System Versions: Processed with 13.05.9583 Plotted with 13.05.9583

5 INCH BULK DENSITY DSC

BEFORE SURVEY CALIBRATION

C:\13_05_9583\DATA\SANDRIDGE(ANITA 3420 2-12H)\27342 RTAP.dta

General Constants All 000

Last Edited on 22-APR-2013,16:26

General Parameters		
Mud Resistivity	1.900	ohm-metres
Mud Resistivity Temperature	67.000	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	None	
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
SW/APOR Tool Source	0.000

Down-hole Tension Calibration SMS 0

Field Calibration on 07-FEB-2006 14:19

Reading No	Measured	
1	16292.42	0.00
2	17072.79	420.00

Strain Gauge Constants MMS-E.B 165

Last Edited on 05-MAR-2013,02:14

Atmospheric Pressure	14.70	psi
Serial Number	262778	
Calibration Date	28-Dec-2010	
Base Check Date		
Dead Weight Serial Number	0	
Dead Weight Gravitational Correction	1.0	

Temperature	75.0		150.0		250.0		350.0	degrees F
Pressure psia	Inc.	Dec.	Inc.	Dec.	Inc.	Dec.	Inc.	Dec.
0.0	-0.111	-0.111	-0.108	-0.107	-0.109	-0.109	-0.117	-0.117
3000.0	5.068	5.069	5.072	5.072	5.070	5.071	5.061	5.063
6000.0	10.256	10.260	10.261	10.264	10.260	10.263	10.250	10.254
9000.0	15.454	15.459	15.460	15.464	15.459	15.463	15.449	15.455
12000.0	20.663	20.666	20.669	20.672	20.669	20.673	20.661	20.665
15000.0	25.884		25.891		25.893		25.885	

MMS Parameters MMS-E.B 165

Last Edited on 21-APR-2013 13:17

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	1613.0	seconds
Pulse Pressure Discriminator	3690.0	seconds
Use Negative Pulsing	No	
Good Status Reply Open Hole	0.0	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

Gamma Calibration MGS-C.J 108

Field Calibration on 21-APR-2013 13:13

	Measured	Calibrated (API)
Background	72	33
Calibrator (Gross)	1948	890
Calibrator (Net)	1876	857

Gamma Constants MGS-C.J 108

Last Edited on 22-APR-2013,10:21

Gamma Calibrator Number	GRCG073	
Mud Density	1.02	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl		kppm
K Mud Type	Chloride	
K Mud Concentration	0.00	%

SP Calibration MGS-C.J 108

Field Calibration on 15-APR-2013,10:33

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

High Resolution Temperature Calibration MGS-C.J 108

Field Calibration on 15-APR-2013,10:33

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

High Resolution Temperature Constants MGS-C.J 108

Last Edited on 15-APR-2013,10:33

Pre-filter Length	11

Neutron Calibration MDN-B.J 422

Base Calibration on 02-APR-2013 09:27
Field Check on 21-APR-2013 13:05

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	3035	92	3714	110
Ratio	32.903		33.764	

Field Calibrator at Base

	Calibrated (cps)	
	2275	3356
Ratio	0.678	

Field Check

	Calibrated (cps)	
	1246	1866
Ratio	0.668	

Neutron Constants MDN-B.J 422

Last Edited on 21-APR-2013,12:58

Neutron Source Id	HN553	
Neutron Jig Number	N639	
Epithermal Neutron	No	
Caliper Source for Processing	Density Caliper	
Stand-off	0.00	inches
Mud Density	1.02	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	MGS External Temperature	
Temperature	N/A	degrees F
Mud Salinity	0.00	kppm
Salinity Correction	Not Applied	
Formation Fluid Salinity Source	None	
Formation Fluid Salinity	N/A	kppm
Barite Mud Correction	Not Applied	

FE Calibration MFE-C.A 396

Base Calibration on 01-APR-2013 12:14
Field Check on 21-APR-2013 12:53

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0

Reference 2	961.7	126.8
Base Check		281.8
Field Check		281.8

FE Constants MFE-C.A 396

Last Edited on 21-APR-2013,12:52

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-B.J 394

Base Calibration on 09-FEB-2013,18:02
Field Check on 21-APR-2013 12:52

Base Calibration

Test Loop Calibration

Channel	Measured Low	Measured High	Calibrated (mmho/m) Low	Calibrated (mmho/m) High
1	16.7	473.5	9.3	966.2
2	5.6	368.9	7.6	821.4
3	3.3	256.4	5.2	566.0
4	1.8	133.4	2.6	279.2

Array Temperature 71.8 Deg F

Channel	Base Check (mmho/m) Low	Base Check (mmho/m) High	Field Check (mmho/m) Low	Field Check (mmho/m) High
1	0.0	0.0	14.5	3833.3
2	0.0	0.0	32.5	3651.7
3	0.0	0.0	29.4	3084.1
4	0.0	0.0	19.8	2068.9
Deep			16.6	1912.3
Medium			43.7	4145.1
Shallow			50.6	5538.7

Array Temperature 0.0 78.0 Deg F

Induction Constants MAI-B.J 394

Last Edited on 22-APR-2013,16:26

Induction Model	RtAP-WBM	
Caliper for Borehole Corr.	Density Caliper	
Hole Size for Borehole Correction	N/A	inches
Tool Centred	No	
Stand-off Type	Fins	
Stand-off	0.50	inches
Number of Fins on Stand-off	6.0000	
Stand-off Fin Angle	60.00	degrees
Stand-off Fin Width	0.5000	inches
Borehole Corr. Rm Source	Temperature Corr	
Temp. for Rm Corr.	MGS External Temperature	
Squasher Start	0.0020	mhos/metre
Squasher Offset	N/A	mhos/metre

Borehole Normalisation

DRM1	0.0000	DRC1	0.0000
DRM2	0.0000	DRC2	0.0000
MRM1	0.0000	MRC1	0.0000
MRM2	0.0000	MRC2	0.0000
SRM1	0.0000	SRC1	0.0000
SRM2	0.0000	SRC2	0.0000

Calibration Site Corrections

Channel 1	0.00	mmhos/metre
Channel 2	0.00	mmhos/metre
Channel 3	0.00	mmhos/metre
Channel 4	0.00	mmhos/metre

Apparent Porosity and Water Saturation Constants

Archie Constant (A)	1.00

Archie Constant (A)	1.00	
Cementation Exponent (M)	2.00	
Saturation Exponent (N)	2.00	
Saturation of Water for Apor	100.00	percent
Resistivity of Water for Apor and Sw	0.05	ohm-m
Resistivity of Mud Filtrate for Sw	0.00	ohm-m
Source for Rt	0.00	
Source for Rxo	0.00	

High Resolution Temperature Calibration MAI-B.J 394

Field Calibration on 03-APR-2013,14:52

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

High Resolution Temperature Constants MAI-B.J 394

Last Edited on 03-APR-2013,14:52

Pre-filter Length	11

Caliper Calibration MPD-D.A 472

Base Calibration on 01-APR-2013 11:55
Field Calibration on 15-APR-2013 10:26

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	18294	4.00
2	27757	5.98
3	37451	7.96
4	47445	9.86
5	58536	11.88
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
5.98	5.98

Photo Density Calibration MPD-D.A 472

Base Calibration on 01-APR-2013 11:33
Field Check on 21-APR-2013 12:58

Density Calibration

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	59828	30798	59494	30754
Reference 2	25544	2871	26398	2598

Field Check at Base

1197.3	1459.7

Field Check

1198.1	1465.0

PE Calibration

Base Calibration	Measured			Calibrated
	WS	WH	Ratio	Ratio
Background	232	1068		
Reference 1	26692	59617	0.452	0.367
Reference 2	8016	25400	0.320	0.270

Field Check at Base

232.5	1067.8

Field Check

232.8	1069.6

Density Constants MPD-D.A 472

Last Edited on 22-APR-2013,10:22

Density Source Id	P74840B	
Nylon Calibrator Number	DNCE766	
Aluminium Calibrator Number	DHCG856	
Density Shoe Profile	4 inch	
Caliper Source for Processing	Density Caliper	
PE Correction to Density	Not Applied	
Mud Density	1.02	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	

DOWNHOLE EQUIPMENT

C:\13_05_9583\DATA\SANDRIDGE(ANITA 3420 2-12H)\27342 RTAP.dta

Shuttle Running Tool 3.5"
SRT-A.A 71 LG: 6.62 ft WT: 37.5 lb OD: 2.52 in

MBS-F.A 200v Compact Battery Sub
MBS-F.A 131 LG: 10.61 ft WT: 70.5 lb OD: 2.24 in

Compact Memory Sub E.B
MMS-E.B 165 LG: 5.20 ft WT: 37.5 lb OD: 2.24 in

Compact Tool Isolator sub.
MTI-B.A 68 LG: 1.54 ft WT: 13.2 lb OD: 2.24 in

Compact Short Gamma
MGS-C.J 108 LG: 3.41 ft WT: 24.3 lb OD: 2.24 in

Compact Collar Locator
MCL-B.J 69 LG: 3.17 ft WT: 26.5 lb OD: 2.24 in

SKJ-E.B Compact Knuckle Joint
SKJ-E.B 455 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

SHA-H Compact Swivel Head Adaptor
SHA-H 185 LG: 2.30 ft WT: 22.0 lb OD: 2.24 in

MIS-D.B Compact Inline Bowspring sub
MIS-D.B 603 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

Compact Neutron
MDN-B.J 422 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

Compact Density/Caliper
MPD-D.A 472 LG: 9.59 ft WT: 90.4 lb OD: 2.24 in

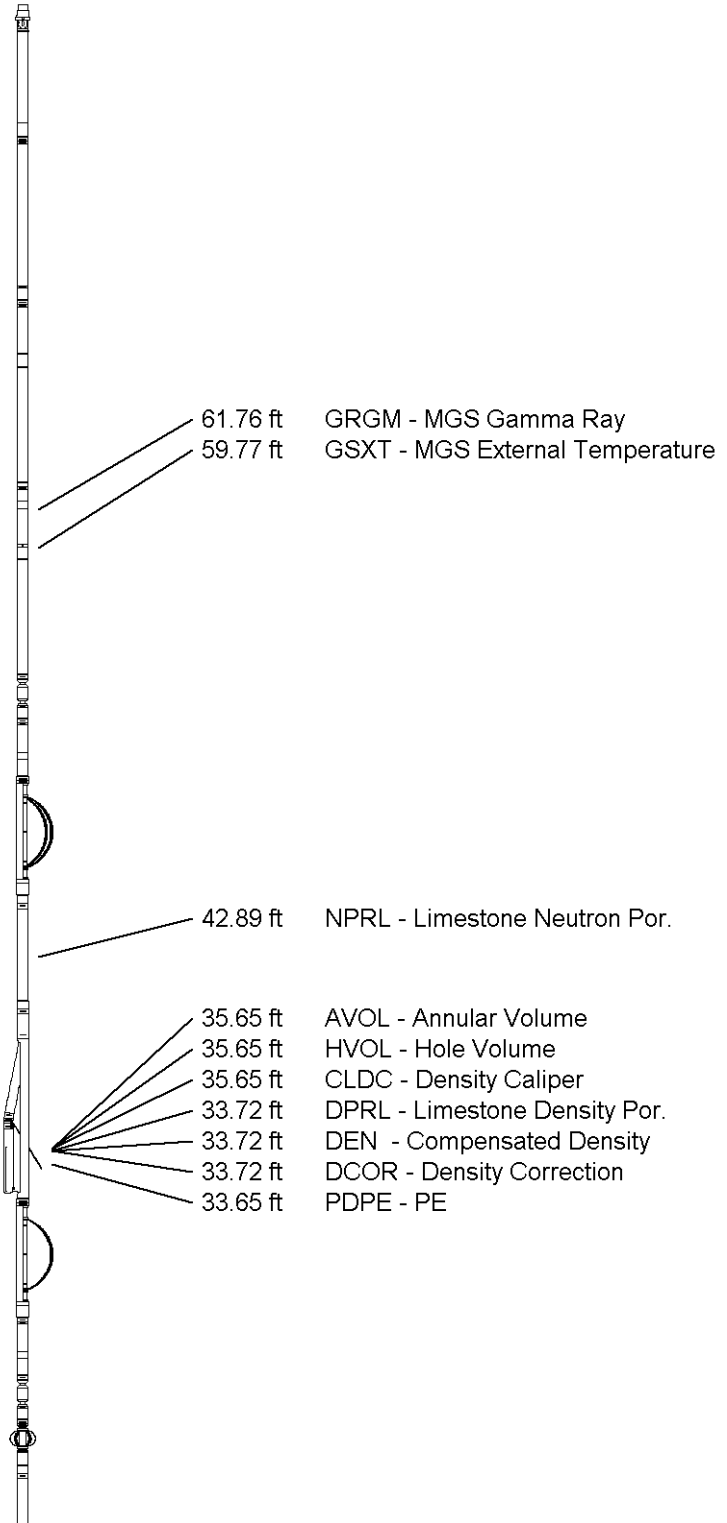
MIS-D.B Compact Inline Bowspring sub
MIS-D.B 733 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

SHA-J.B Compact Swivel Head Adaptor
SHA-J.B 594 LG: 2.30 ft WT: 22.0 lb OD: 2.24 in

SKJ-D.A Compact Knuckle Joint
SKJ-D.A 140 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

MIS-B Compact Inline Standoff sub
MIS-B 202 LG: 2.14 ft WT: 15.4 lb OD: 2.24 in

Compact Focussed Electric

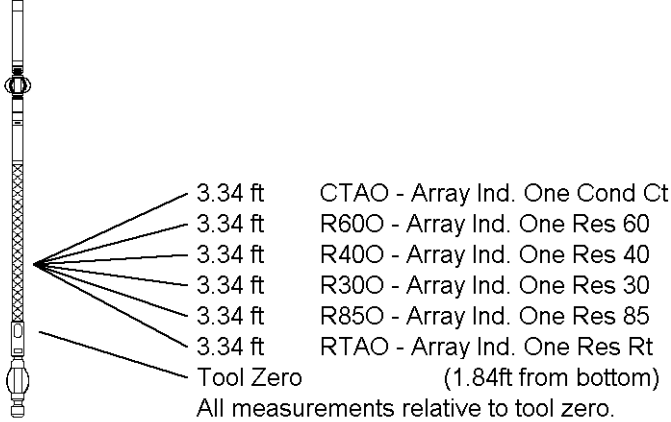


MFE-C.A 396 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

MIS-E.B Compact Inline Standoff sub
MIS-E.B 595 LG: 2.14 ft WT: 15.4 lb OD: 2.24 in

Compact Induction
MAI-B.J 394 LG: 12.52 ft WT: 48.5 lb OD: 2.24 in

Total Length: 88.36 ft Weight: 637.1 lb



All measurements relative to tool zero.

COMPANY	SANDRIDGE ENERGY
WELL	ANITA 3420 2-12H
FIELD	COMANCHE PROSPECT
PROVINCE/COUNTY	COMANCHE
COUNTRY/STATE	USA / KANSAS

Elevation Kelly Bushing	1816.00	feet	First Reading	9462.00	feet
Elevation Drill Floor	1816.00	feet	Depth Driller	9535.00	feet
Elevation Ground Level	1795.00	feet	Depth Logger	9535.00	feet

Weatherford®

CML MESSENGER SHUTTLE
COMPACT PHOTO DENSITY
COMPENSATED NEUTRON LOG