



Weatherford[®]

**CML IMPULSE SHUTTLE
COMPACT PHOTO DENSITY
COMPENSATED NEUTRON**

COMPANY **SANDRIDGE EXPLORATION & PRODUCTION LLC**
 WELL **PEPPER 3419 1-4H**
 FIELD **SADDLE**
 PROVINCE/COUNTY **COMANCHE**
 COUNTRY/STATE **U.S.A./KANSAS**
 LOCATION **SL:250' FNL & 660' FEL OF NE/4
BHL:330' FSL & 660' FEL**

| | | | |
|-------------------------------|------------------|--------|---|
| SEC | TWP | RGE | Other Services |
| 4 | 34S | 19W | MAI CMI |
| API Number | 15-033-216450100 | | |
| Permit Number | | | |
| Permanent Datum GL, Elevation | 1994 feet | | |
| Log Measured From | KB | | |
| Drilling Measured From | KB | | |
| Date | 09-JUL-2012 | | |
| Run Number | TWO | | |
| Depth Driller | 9804.00 | feet | Elevations: KB 2014.00 DF 2014.00 GL 1994.00 |
| Depth Logger | 9774.00 | feet | |
| First Reading | 9719.00 | feet | |
| Last Reading | 5050.00 | feet | |
| Casing Driller | 6024.00 | feet | |
| Casing Logger | 6024.00 | feet | |
| Bit Size | 6.125 | inches | |
| Hole Fluid Type | WBM | | |
| Density / Viscosity | 8.90 | g/c3 | 32.00 CP |
| PH / Fluid Loss | 9.50 | | |
| Sample Source | FLOWLINE | | |
| Rm @ Measured Temp | 1.50 @ 80.0 | ohm-m | |
| Rmf @ Measured Temp | 1.20 @ 80.0 | ohm-m | |
| Rmc @ Measured Temp | 1.80 @ 80.0 | ohm-m | |
| Source Rmf / Rmc | CALC | CALC | |
| Rm @ BHT | 0.88 @ 136.0 | ohm-m | |
| Time Since Circulation | 2 HOURS | | |
| Max Recorded Temp | 136.00 | deg F | |
| Equipment Name | COMPACT | | |
| Equipment / Base | 18077 | OKC | |
| Recorded By | MIKE GARRISON | | |
| Witnessed By | KATHY GENTRY | | |
| | 3536270 | | |

BOREHOLE RECORD

Last Edited: 11-JUL-2012 17:52

| | | |
|--------------------|--------------------|------------------|
| Bit Size inches | Depth From feet | Depth To feet |
| 6.125 | 6025.00 | 9804.00 |

CASING RECORD

| | | | | |
|----------|----------------|--------------------|--------------------|---------------------|
| Type | Size inches | Depth From feet | Shoe Depth feet | Weight pounds/ft |
| INTERMID | 7.000 | 0.00 | 6024.00 | 34.00 |

REMARKS

TOOLS RAN:SMR-152, SER-159, MLK-001, MLK-A1, 200V MBS-116,MMSE157, MGS-133, MDN-388, MPD-434,MIE-105, MAI-390 RAN IN COMBINATION

HARDWARE: MAI: ISA 0.5" STANDOFF USED BELOW MAI.
 | MDN: MIS-A DOUBLE BOWSPRING USED ABOVE MDN.
 | MPD: 4INCH PROFILE PLATE USED, MIS-A SINGLE BOWSPRING USED BELOW MPD
 | CMI: MIS-A CENTRALIZER RAN ABOVE AND BELOW CMI

2.71 G/CC DENSITY MATRIX USED TO CALCULATE POROSITY
 ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST.

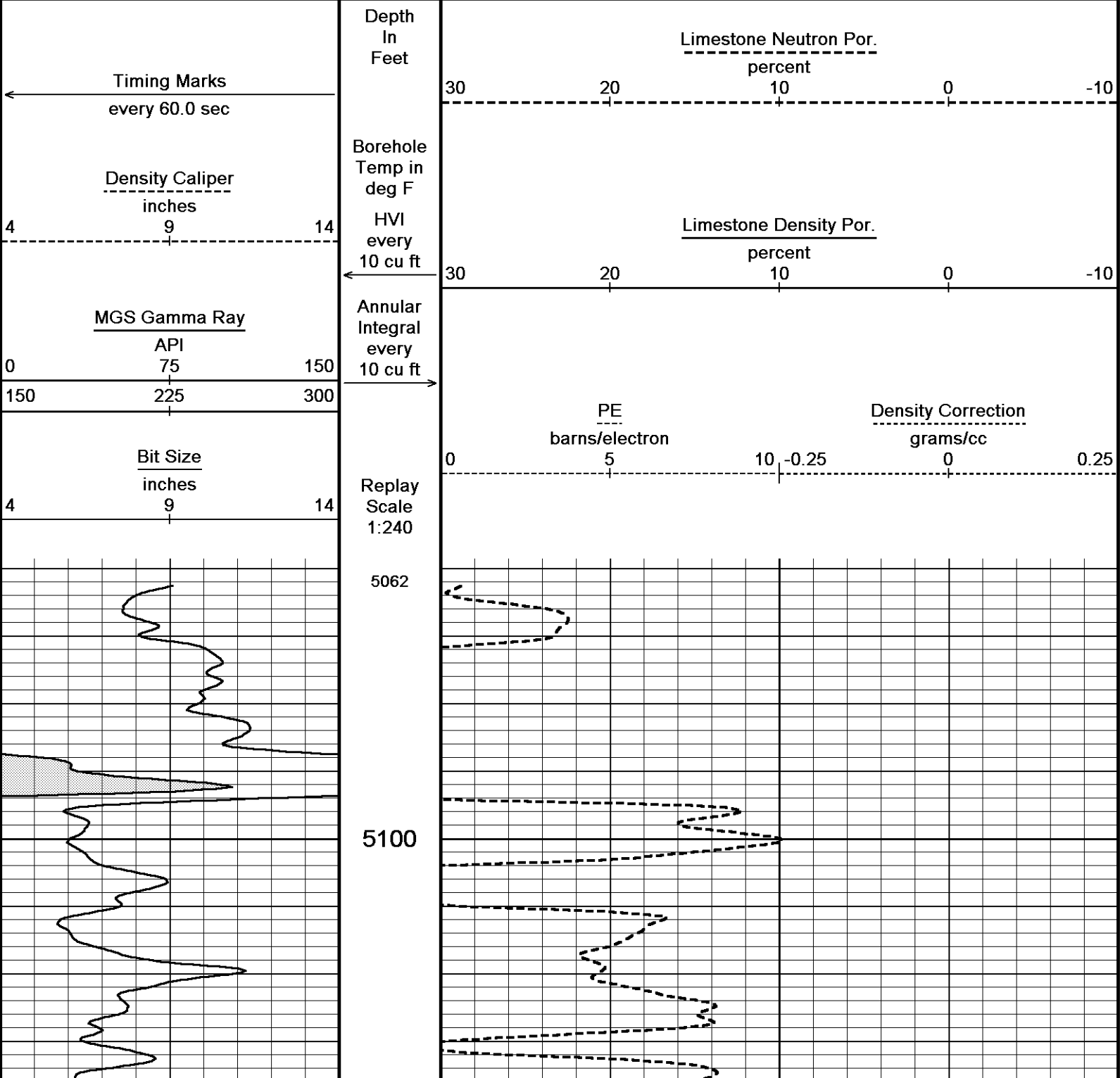
DRILL PIPE DEPTH DURING DEPLOYMENT: 9678
 LOGGING TOOL DEPTH AFTER DEPLOYMENT: 9774

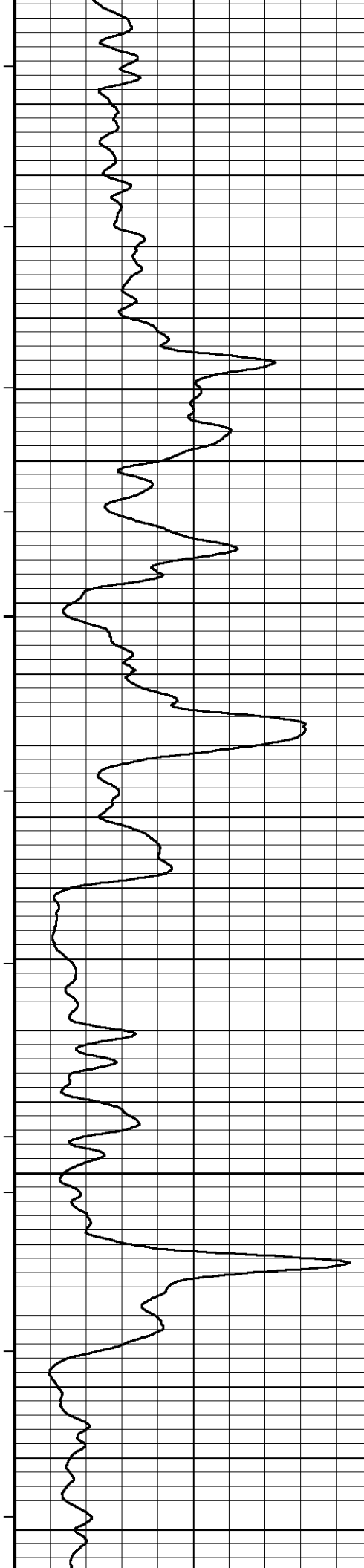
ANNULAR HOLE VOLUME CALCULATED USING WITH 4.5 INCH PRODUCTION CASING

All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions in our price schedule.

5 INCH MAIN LOG

Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 11-JUL-2012 17:58
 Filename: C:\Data\SDRG(PEPPER 3419 1-4H)\PEPPER 3419 1-4H MAIN LOGS3.dta Recorded on 11-JUL-2012 15:23
 System Versions: Processed with 13.02.6600 Plotted with 13.02.6600





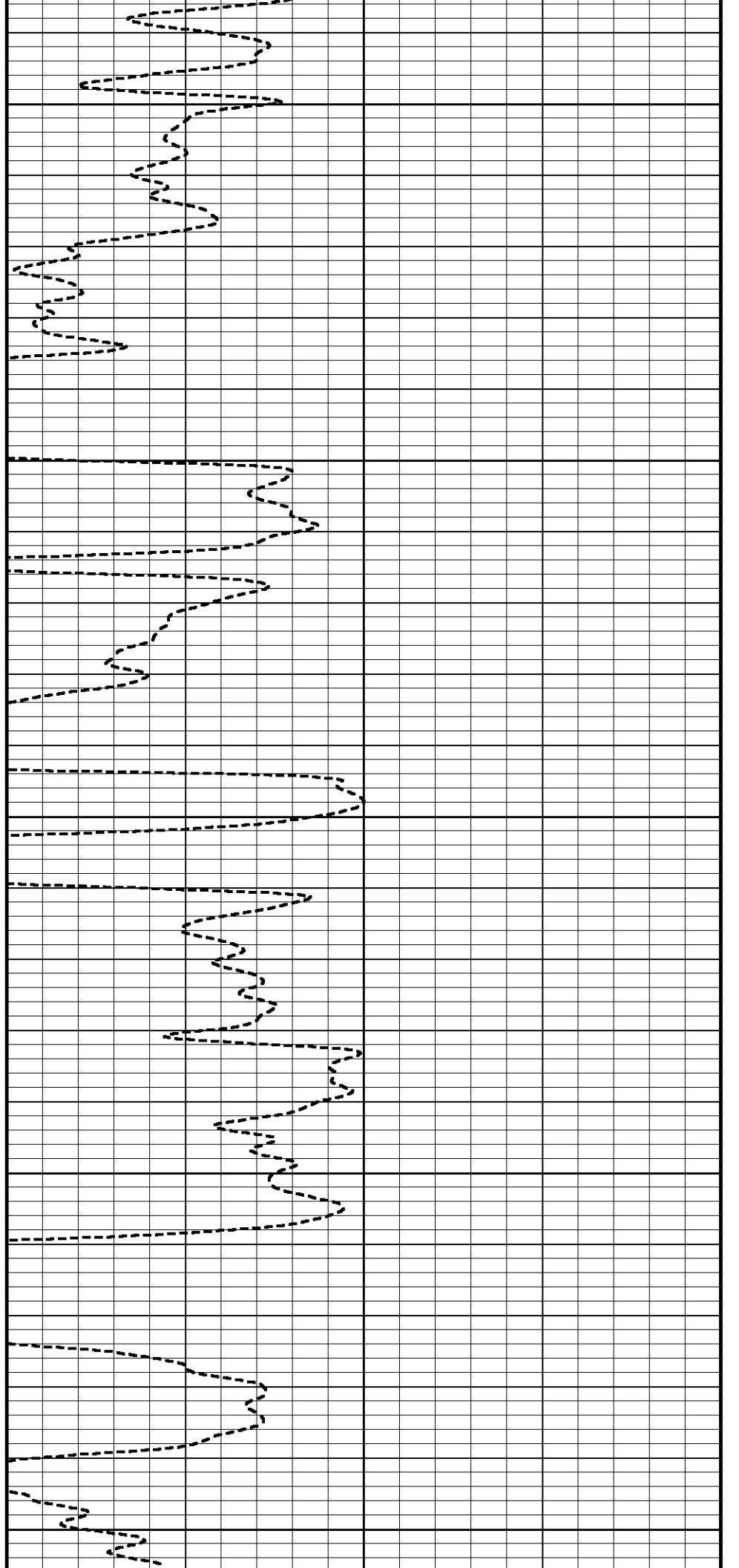
5150

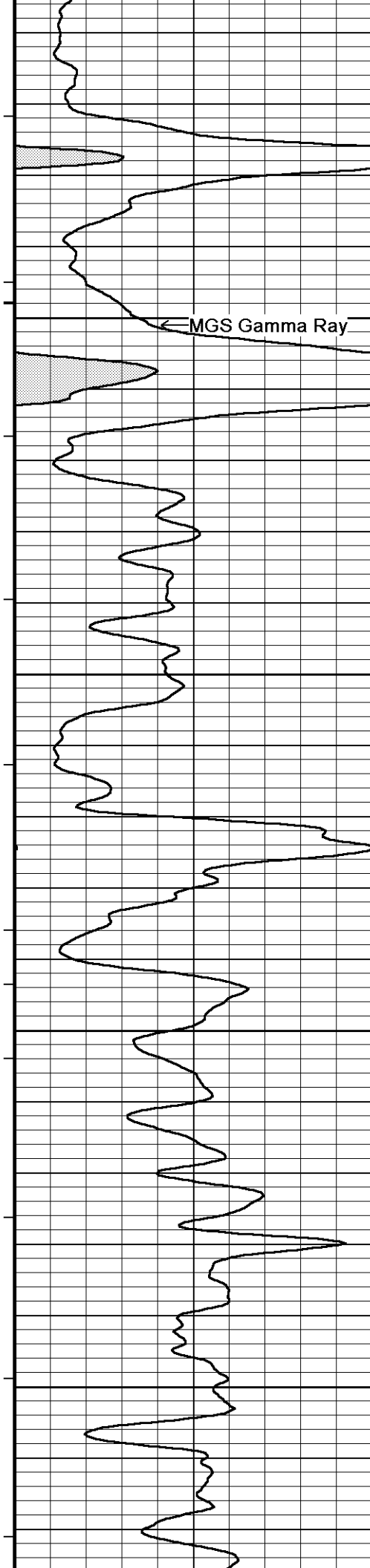
5200

5250

5300

5350





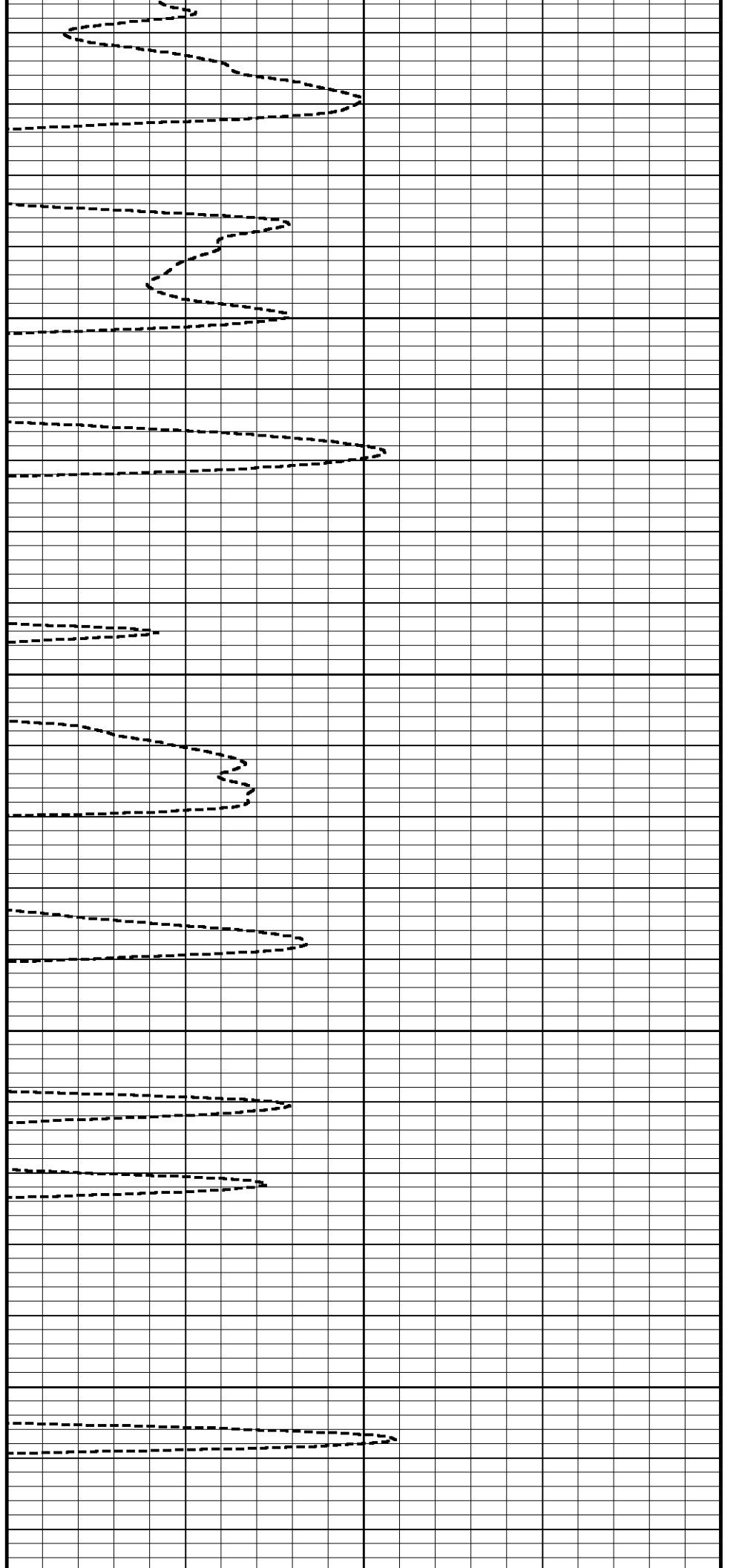
MGS Gamma Ray

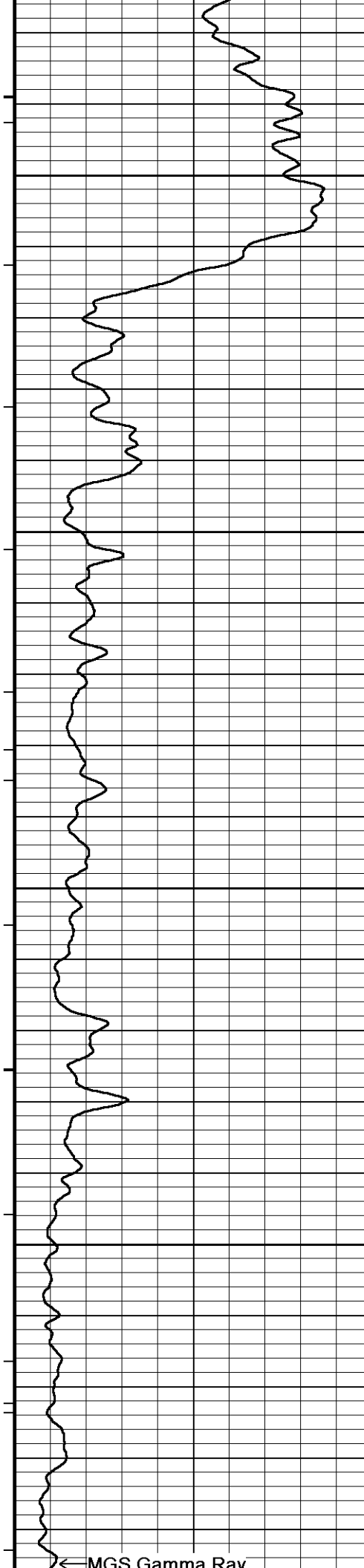
5400

5450

5500

5550



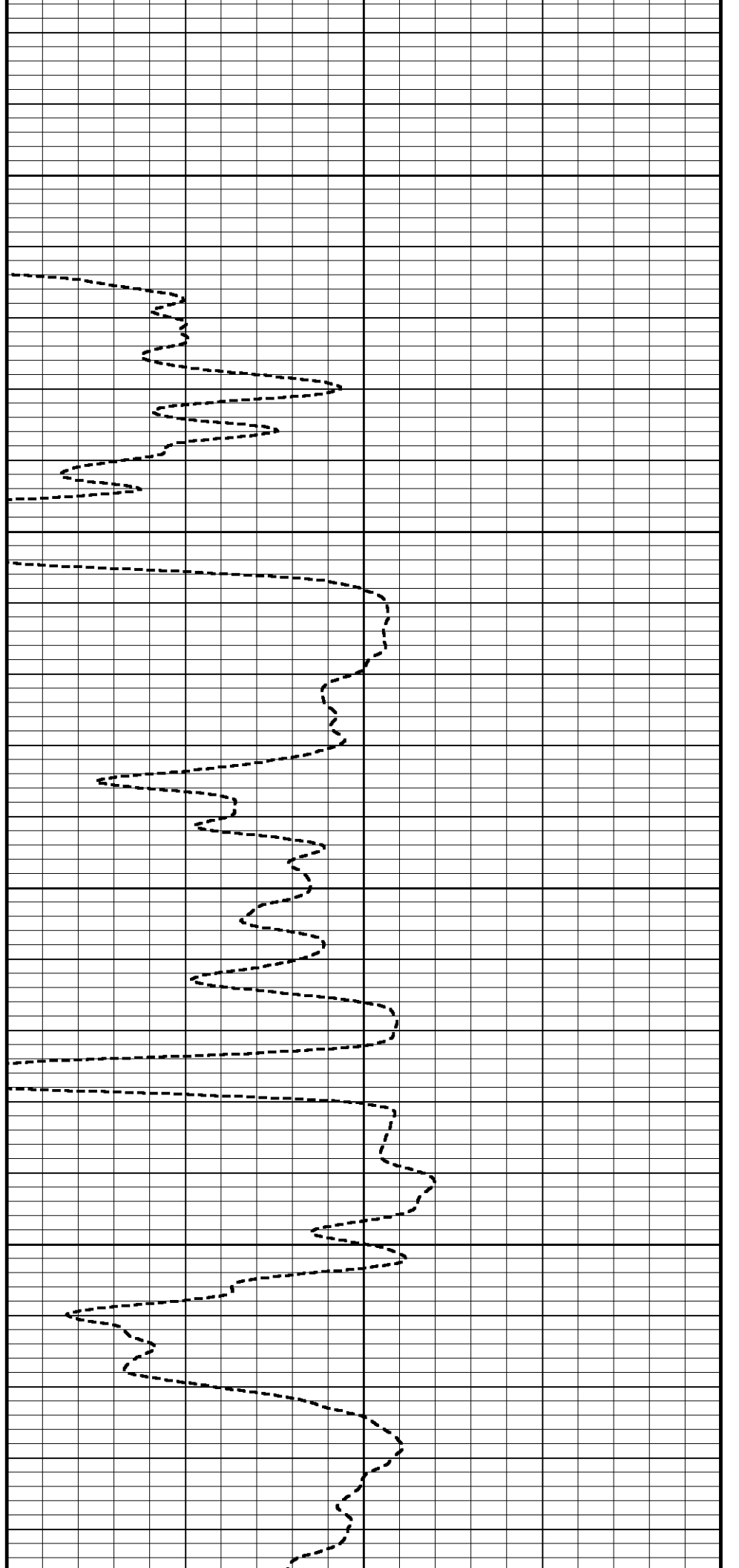


5600

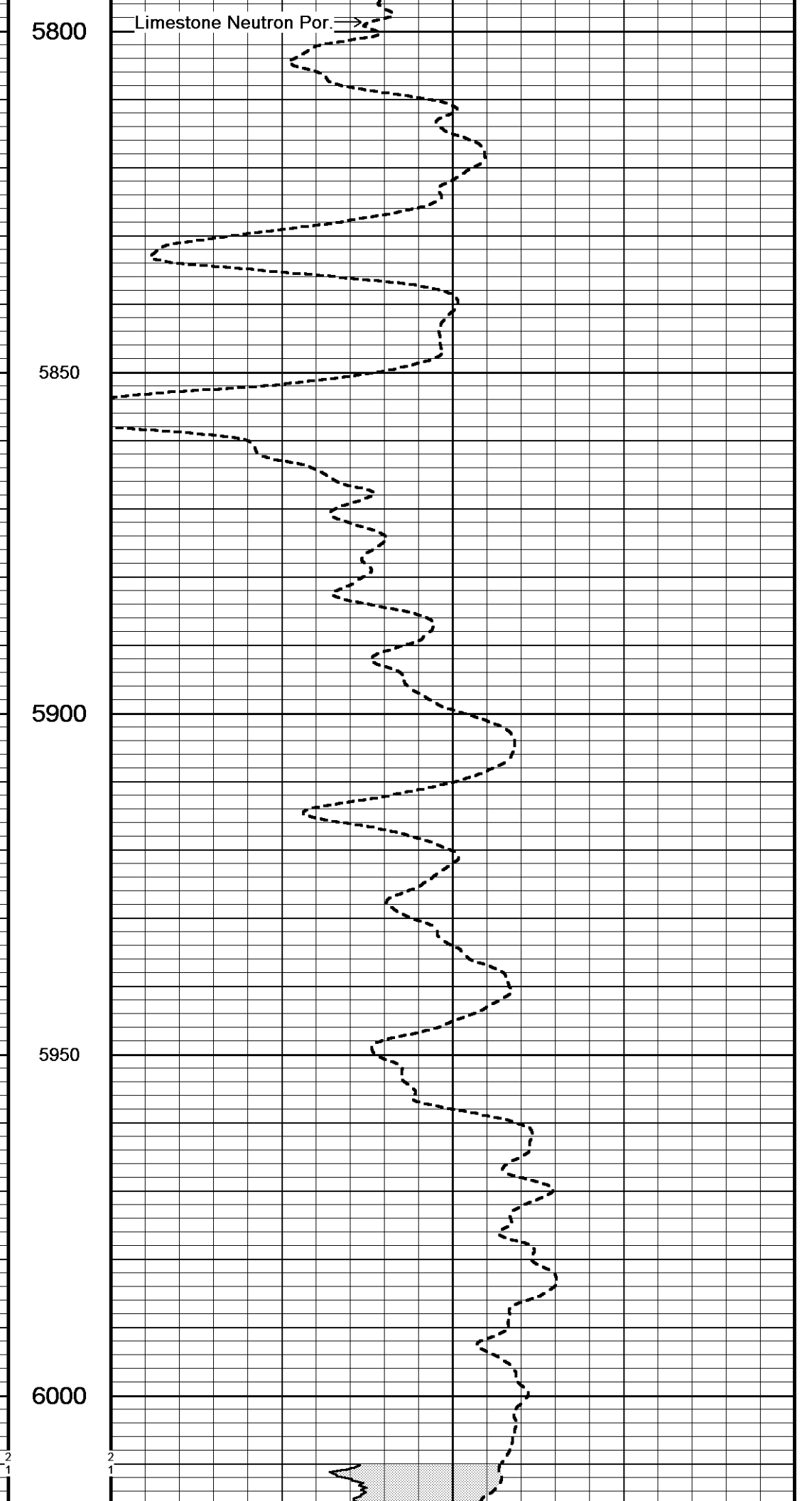
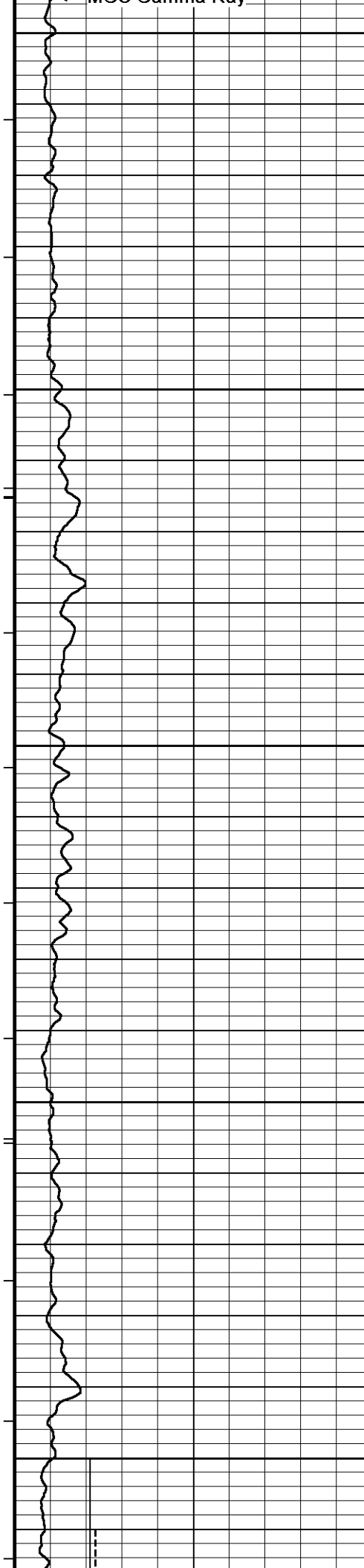
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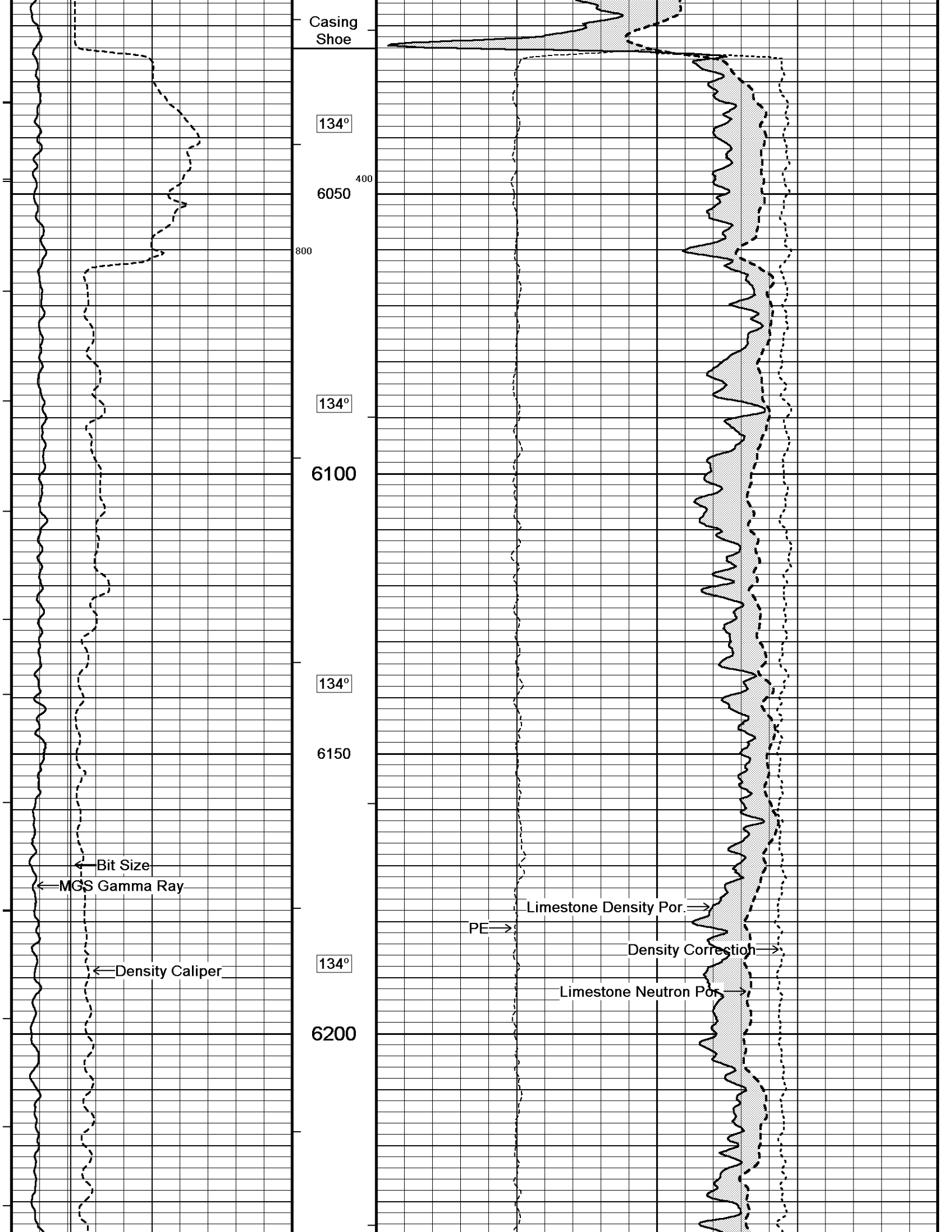
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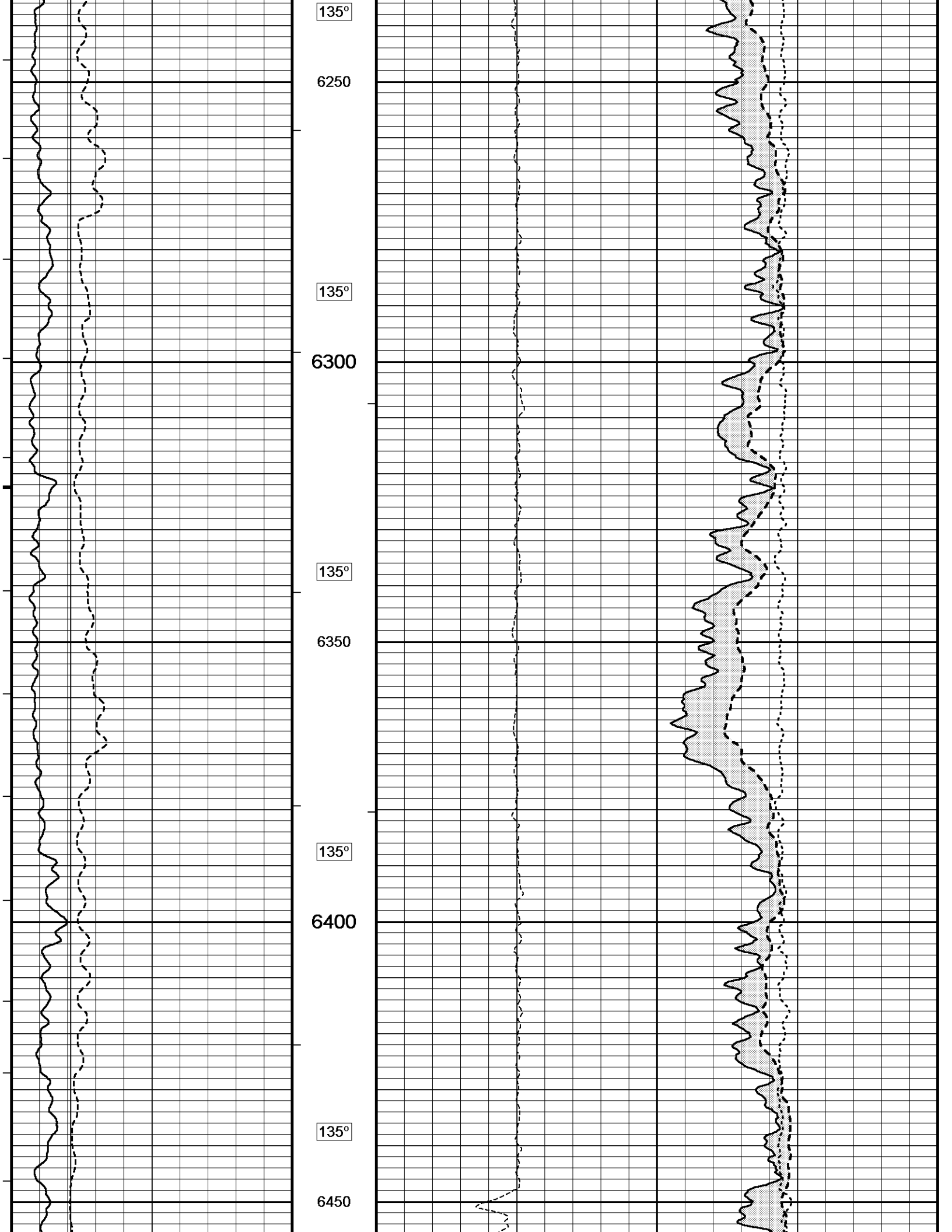
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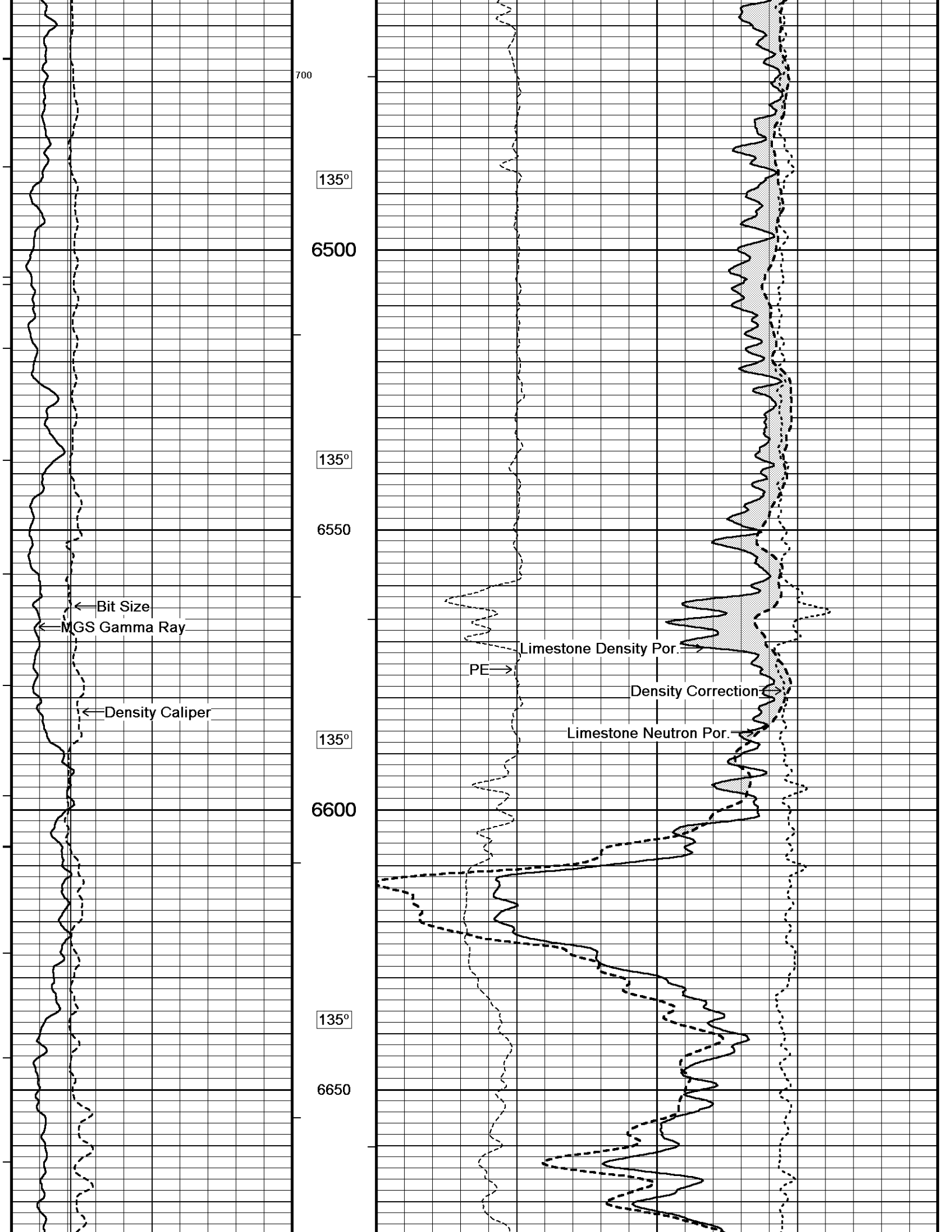


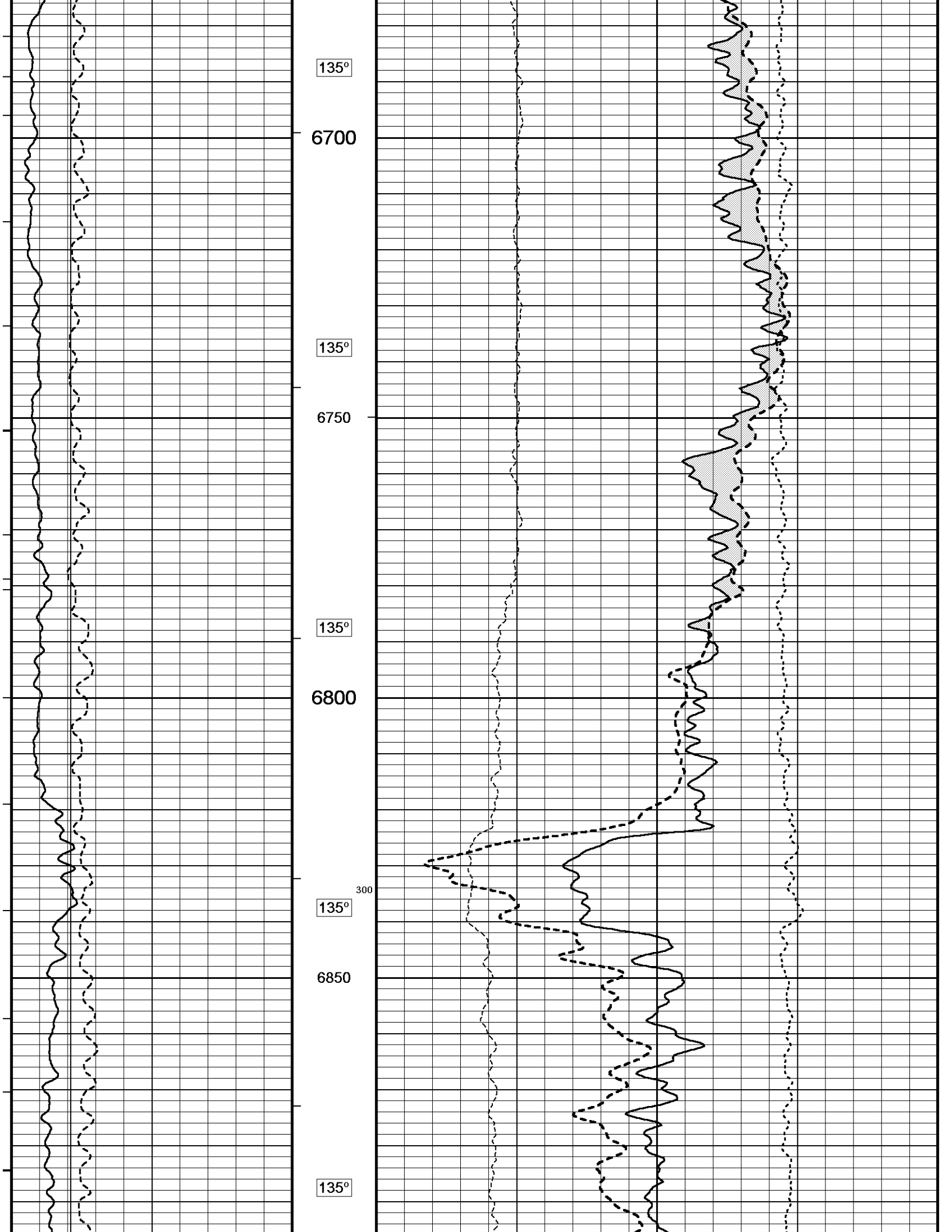
← MGS Gamma Ray

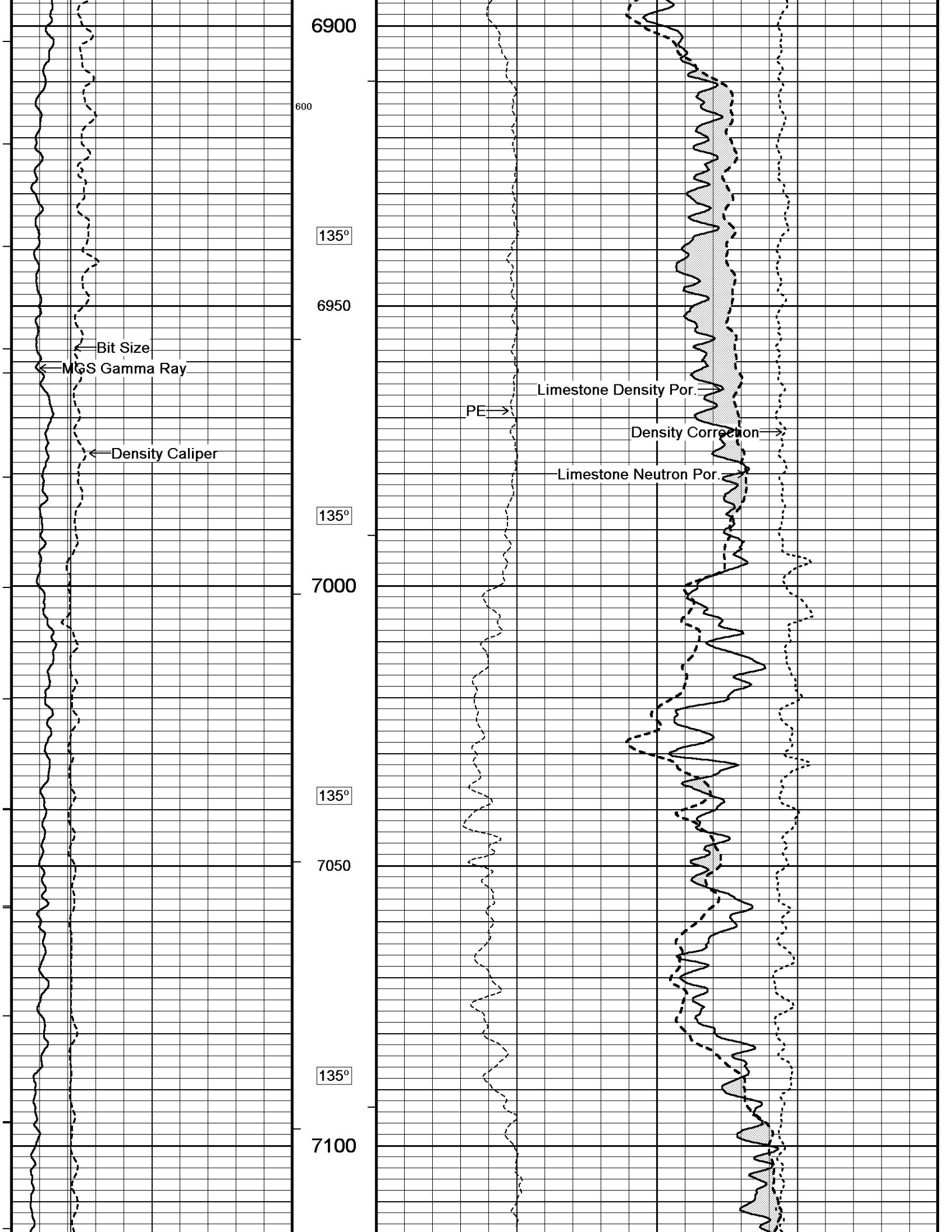


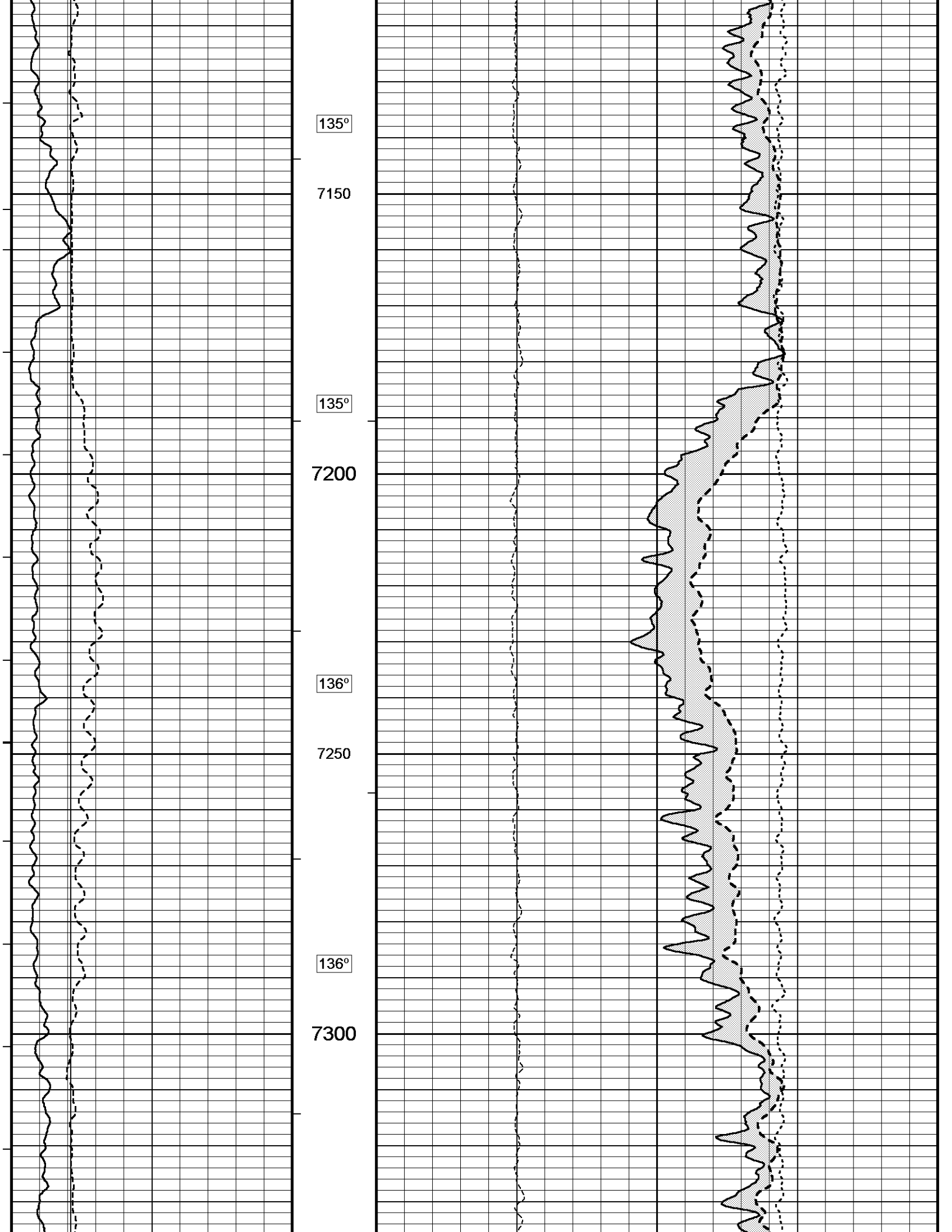


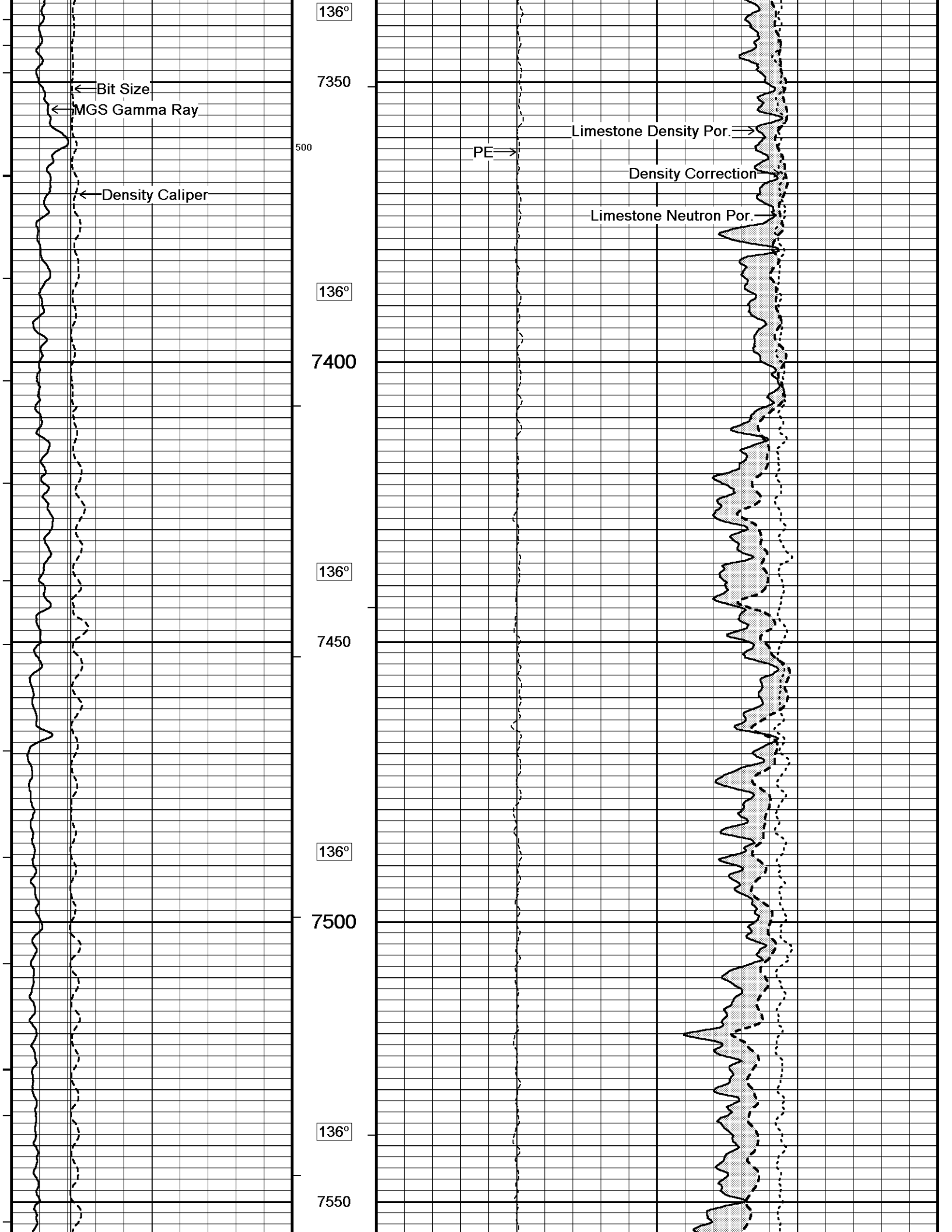


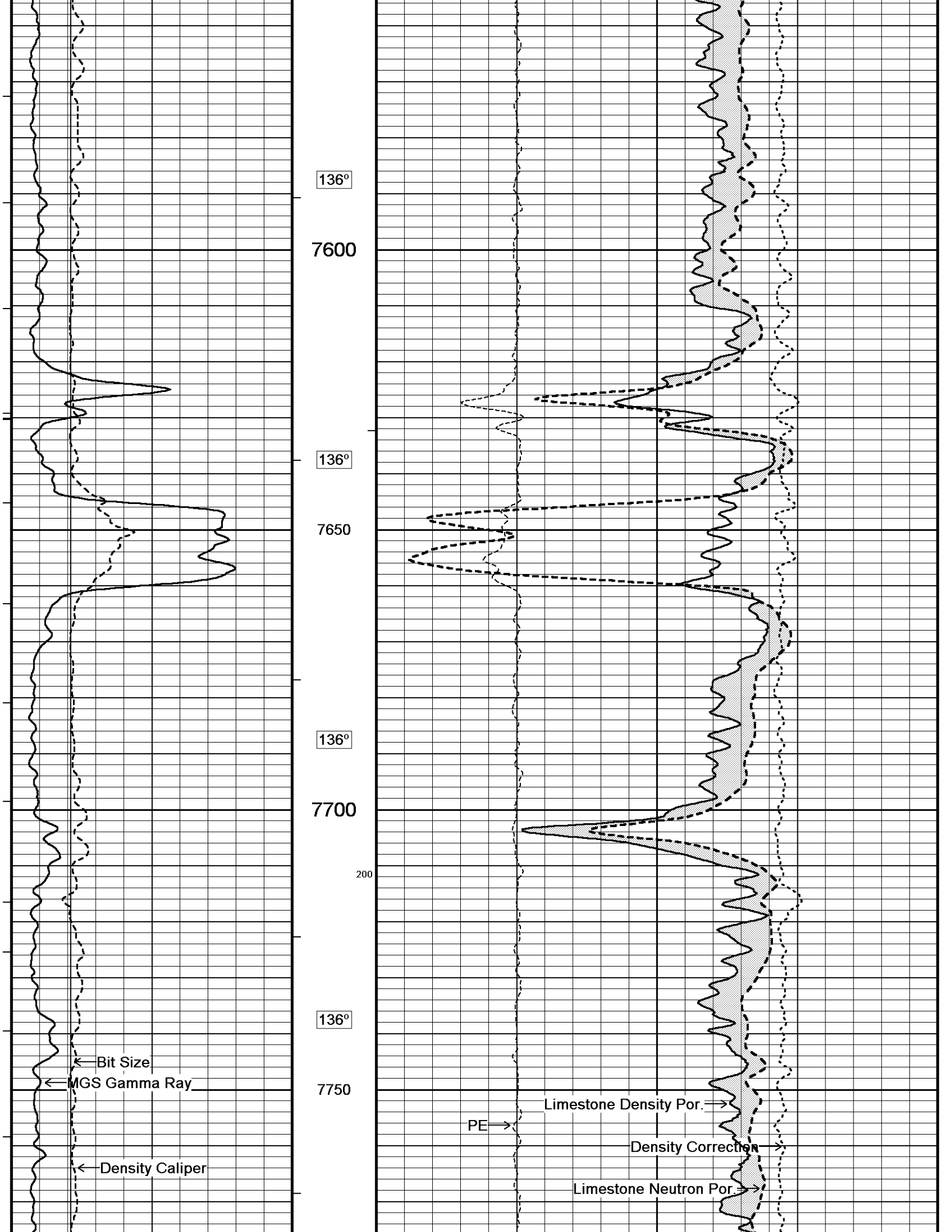


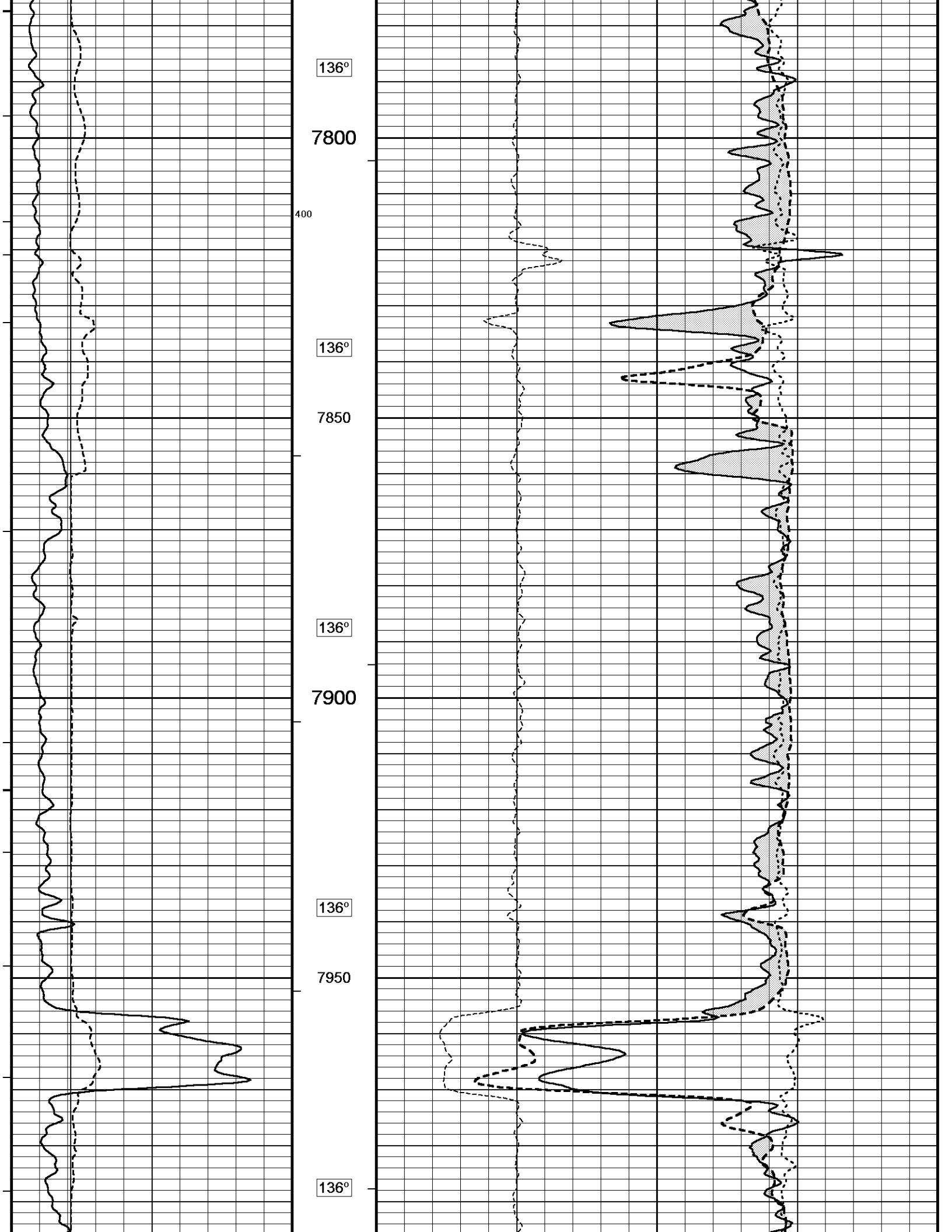


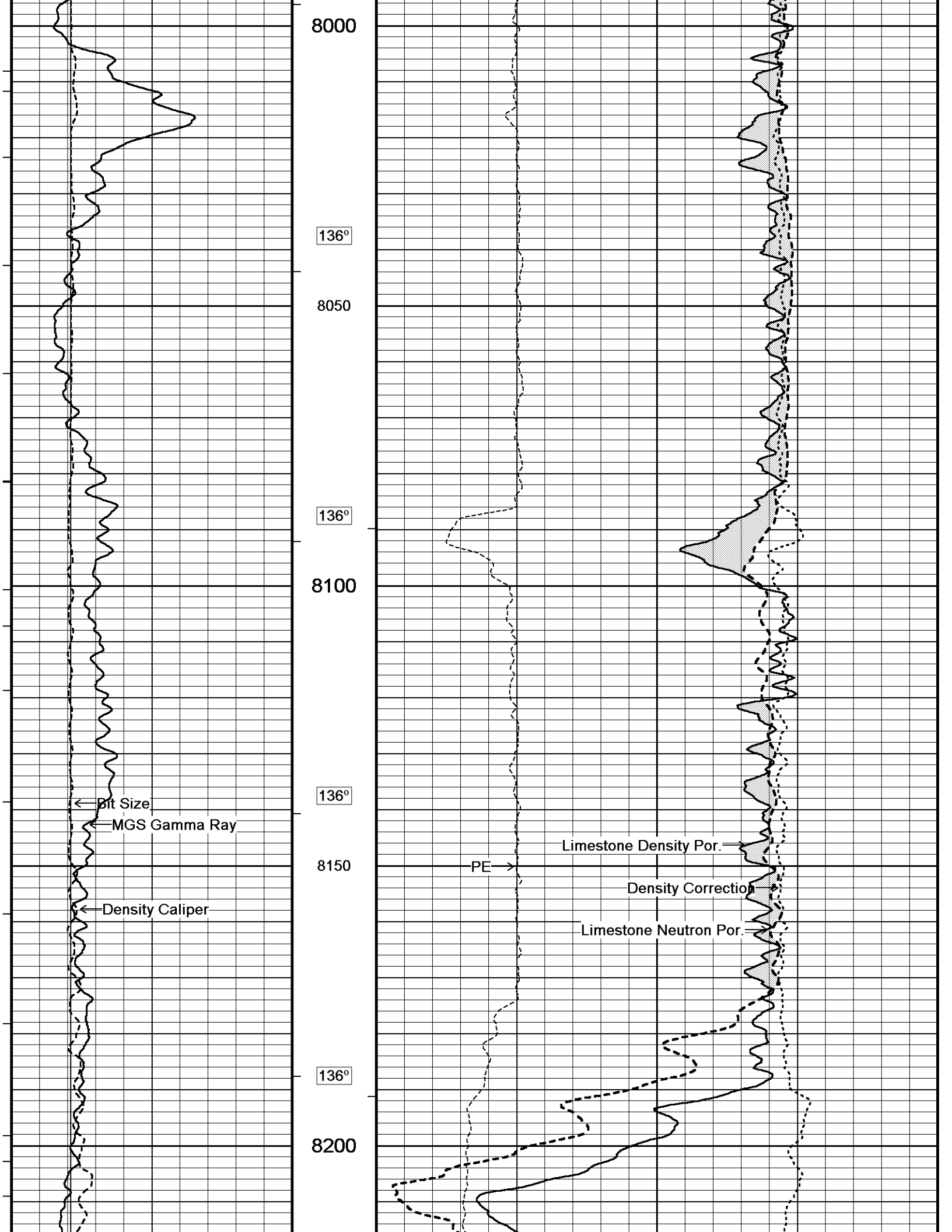


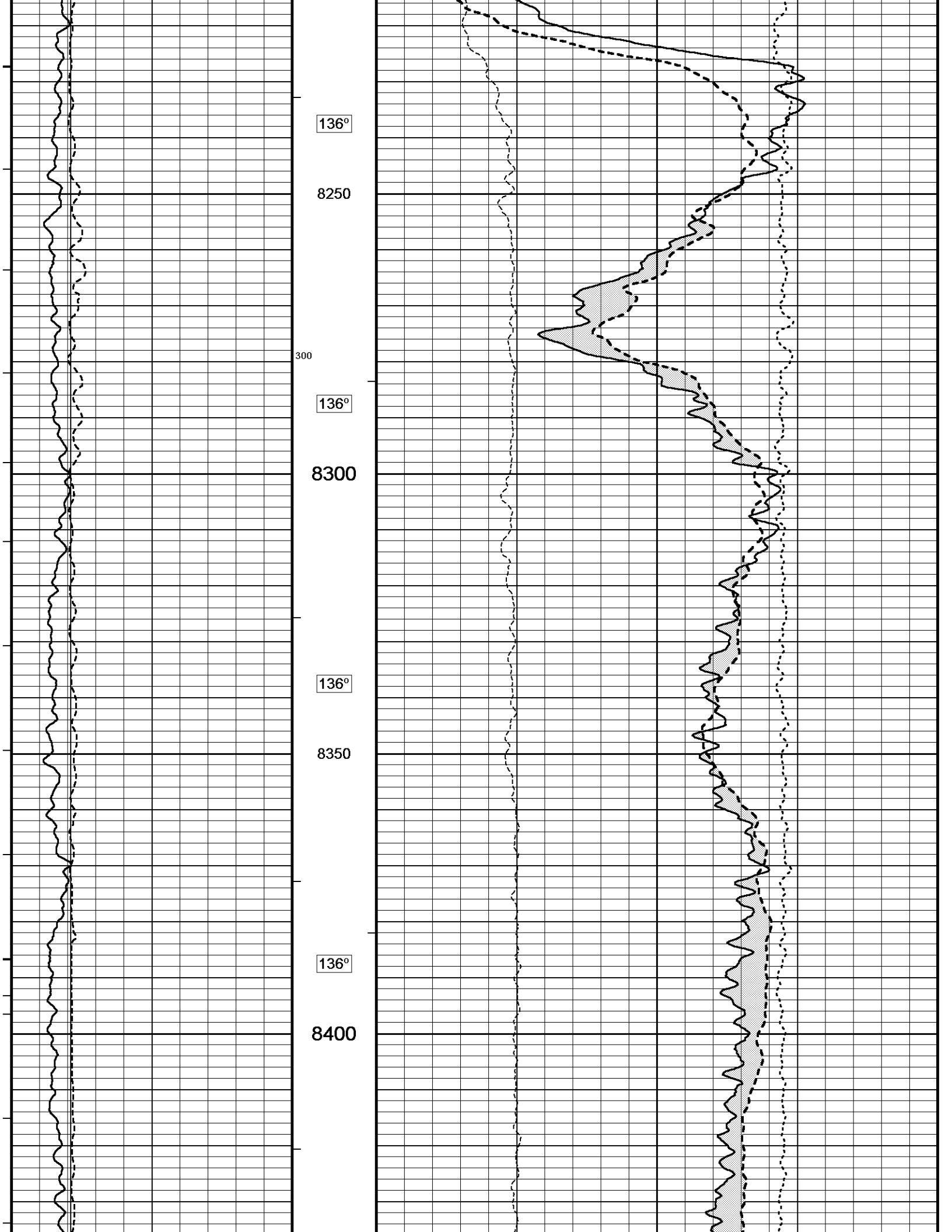


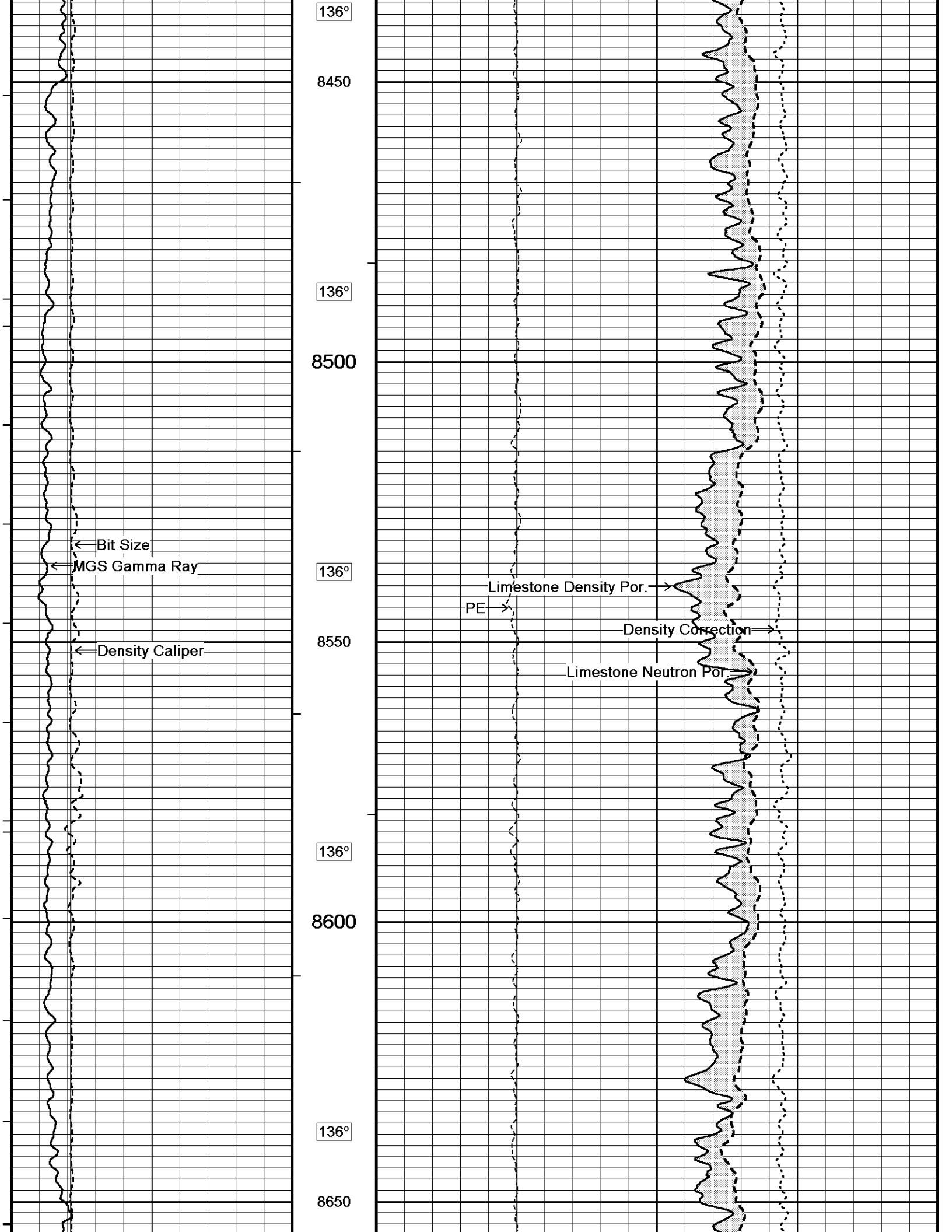


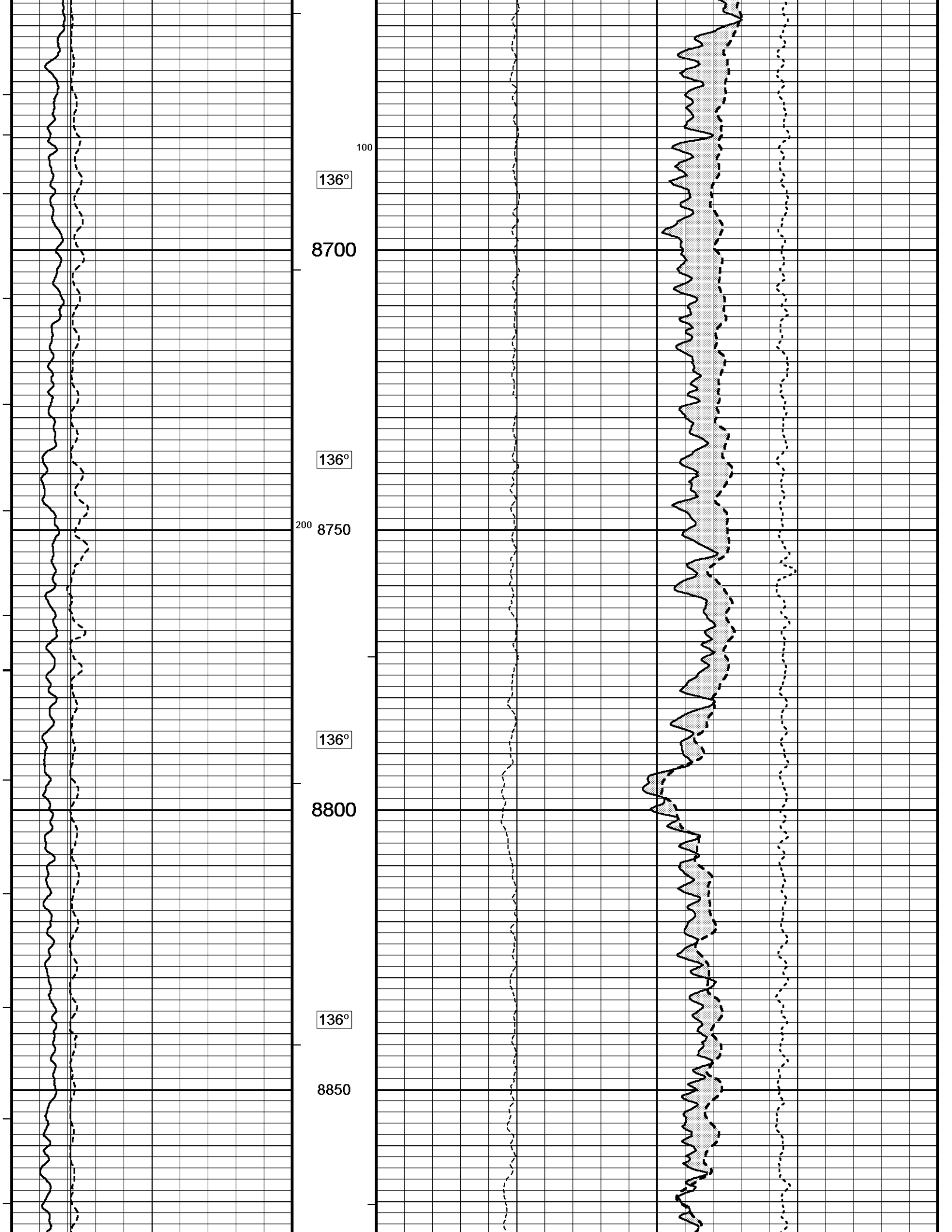


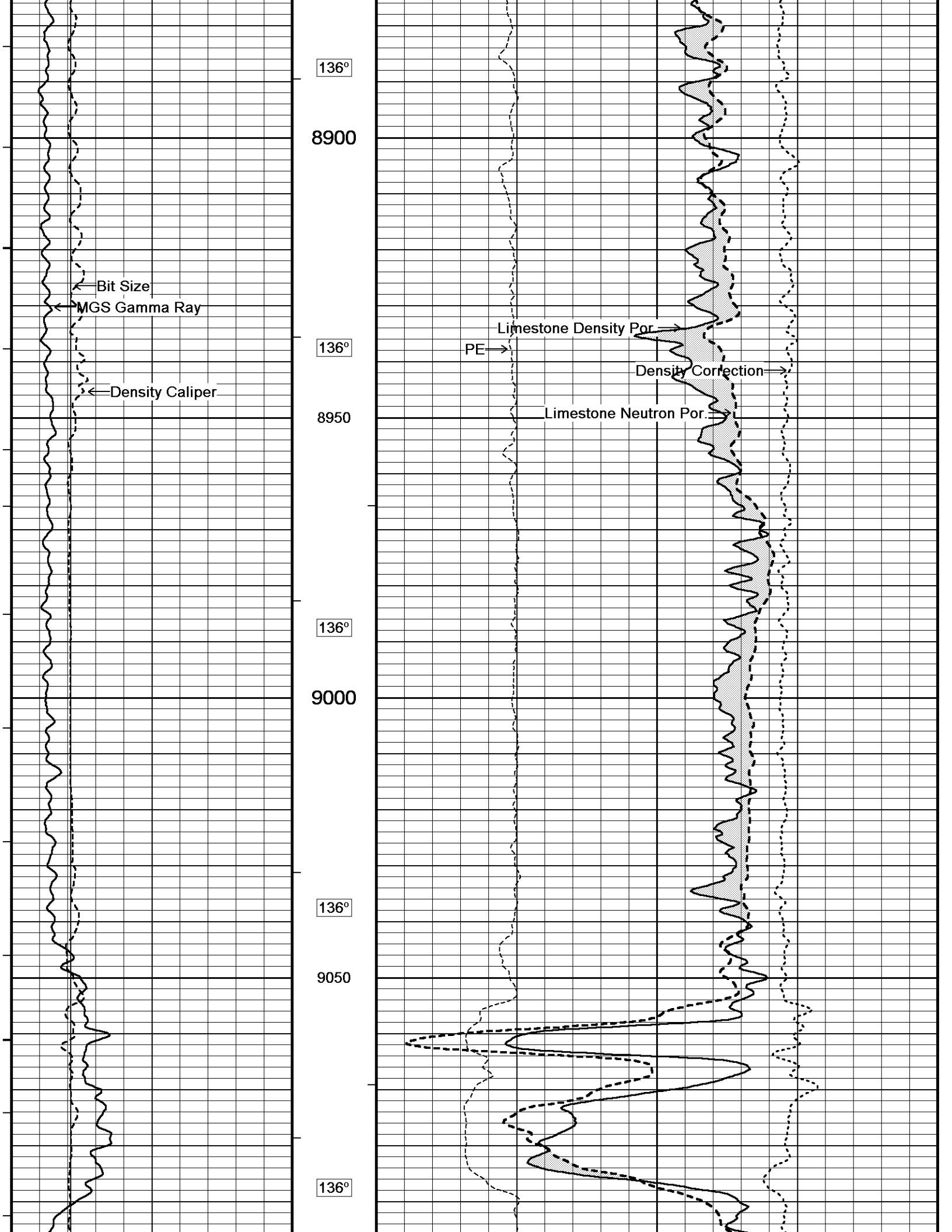


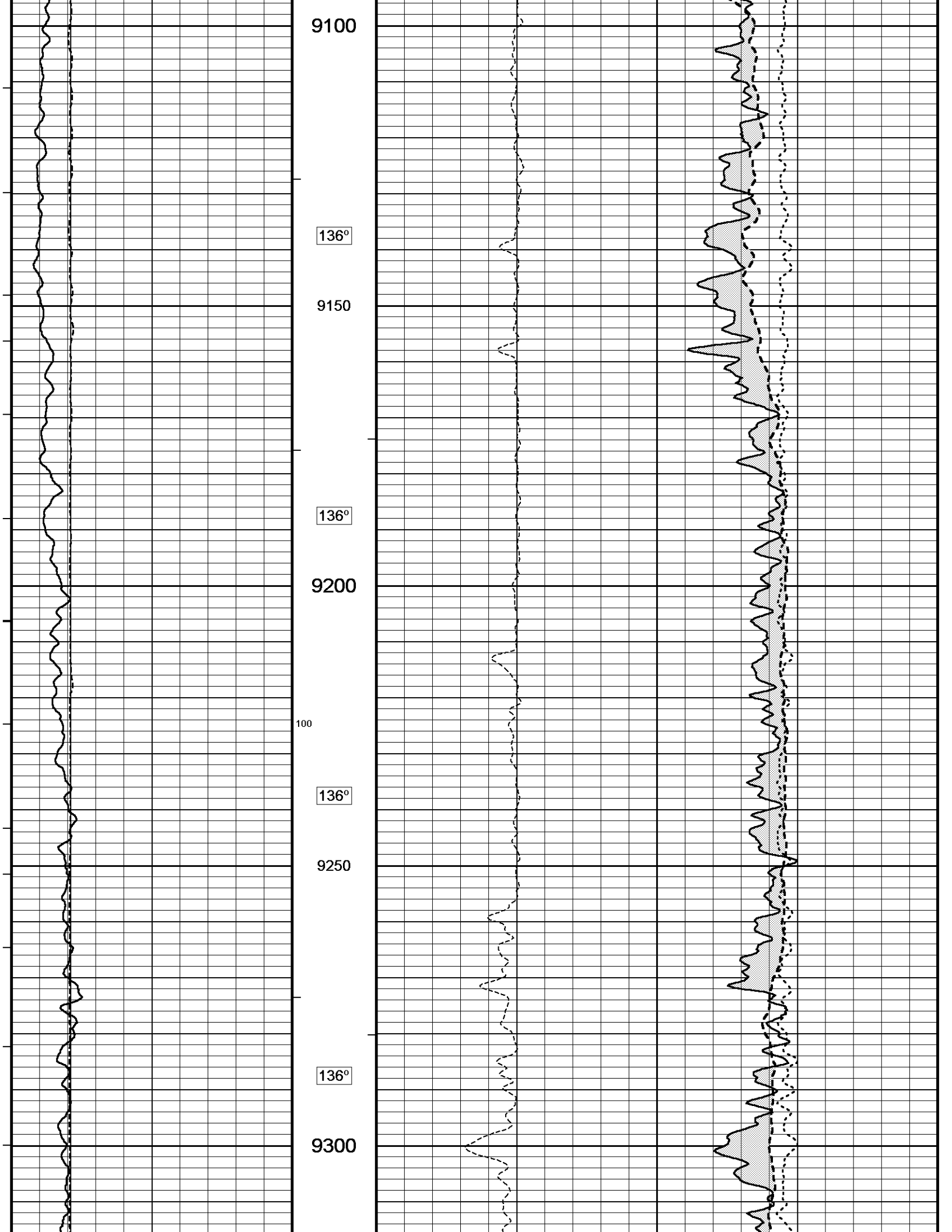


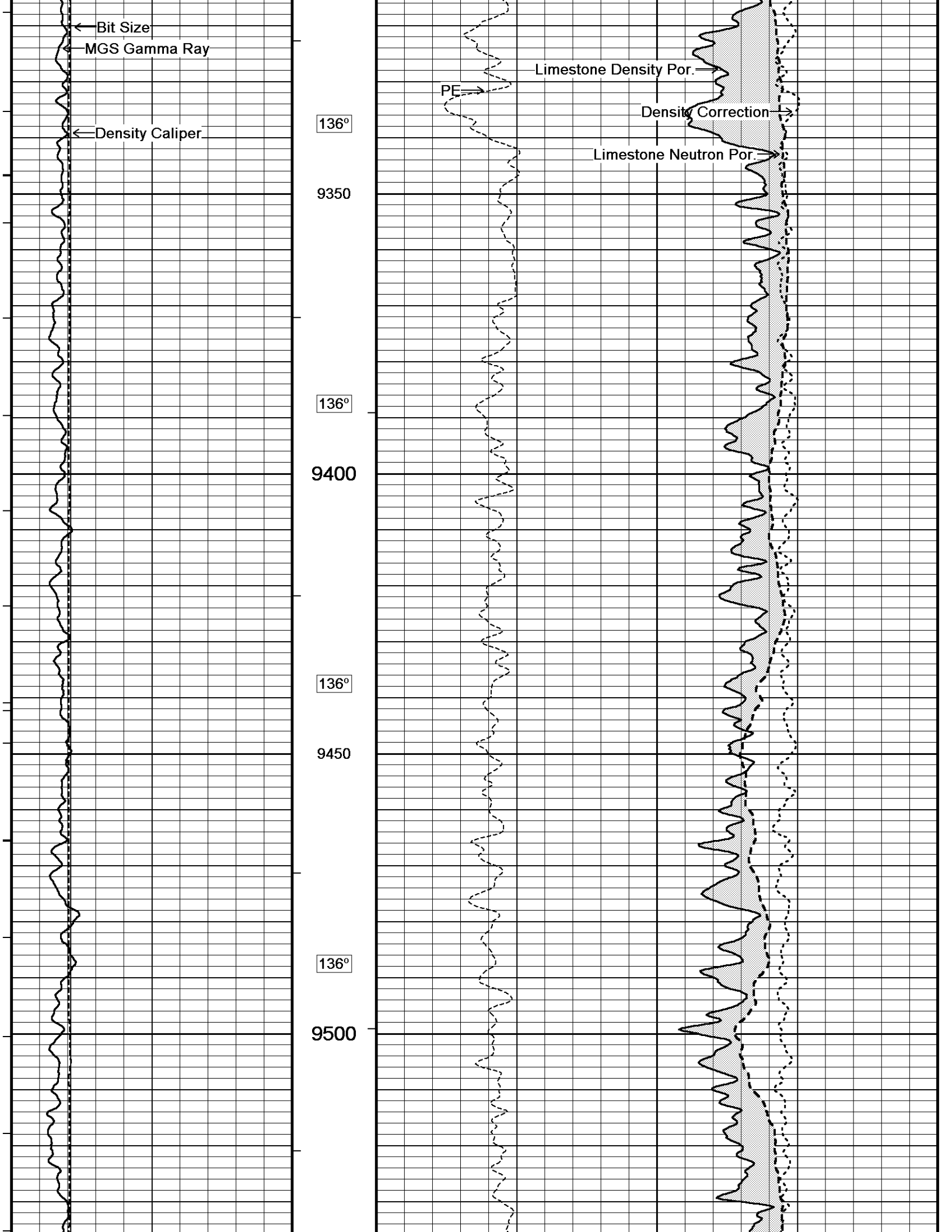


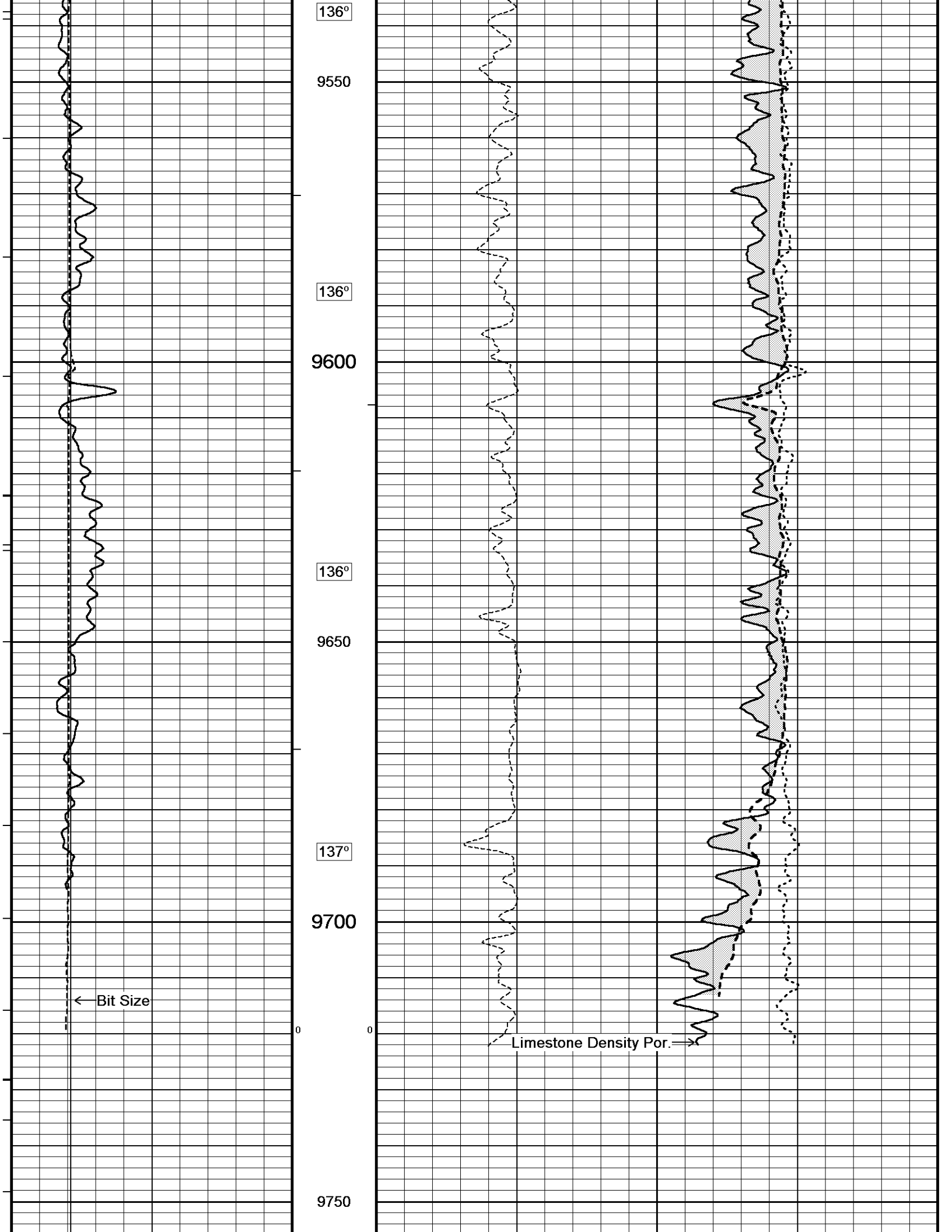












136°

9550

136°

9600

136°

9650

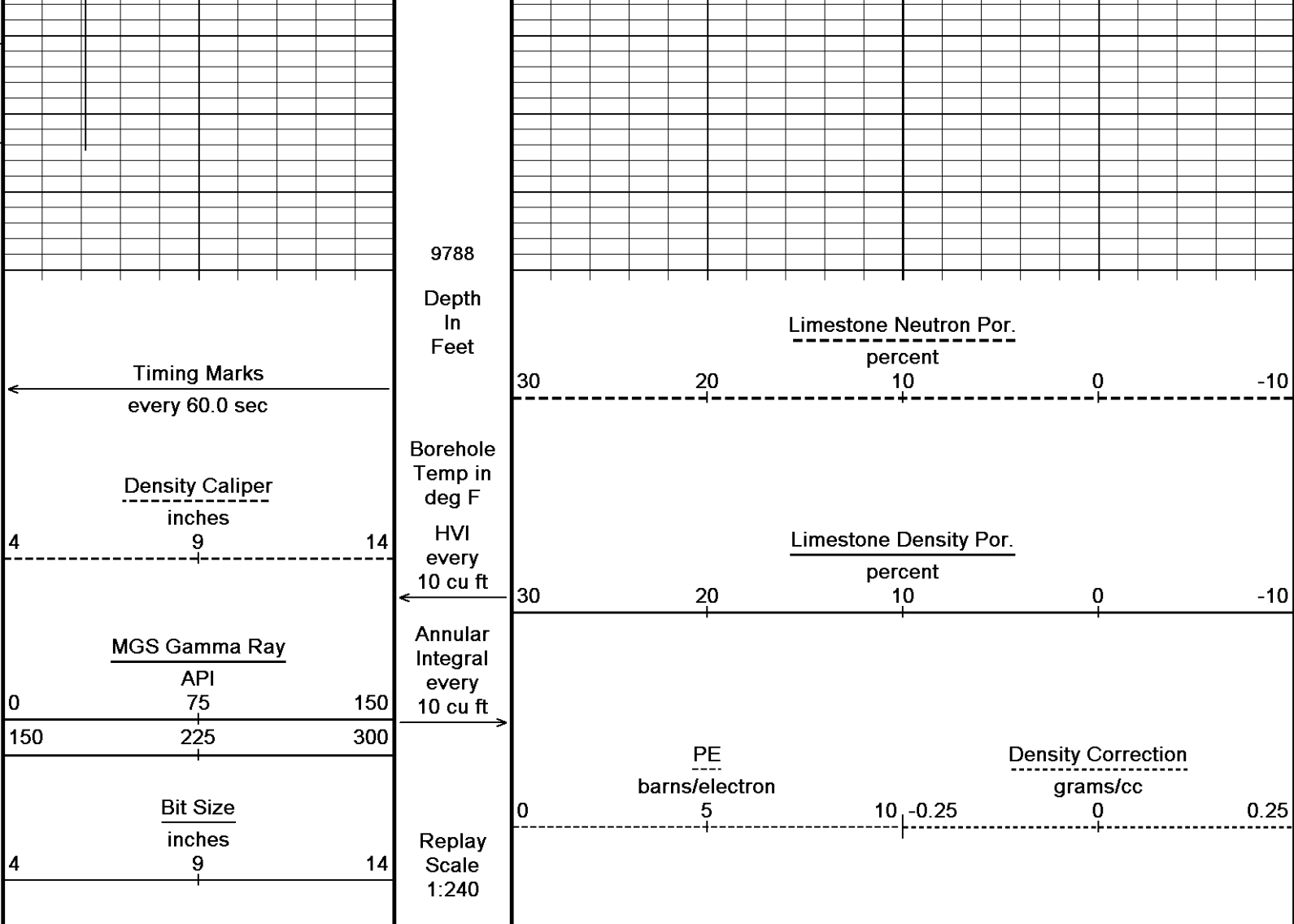
137°

9700

9750

← Bit Size

Limestone Density Por. →

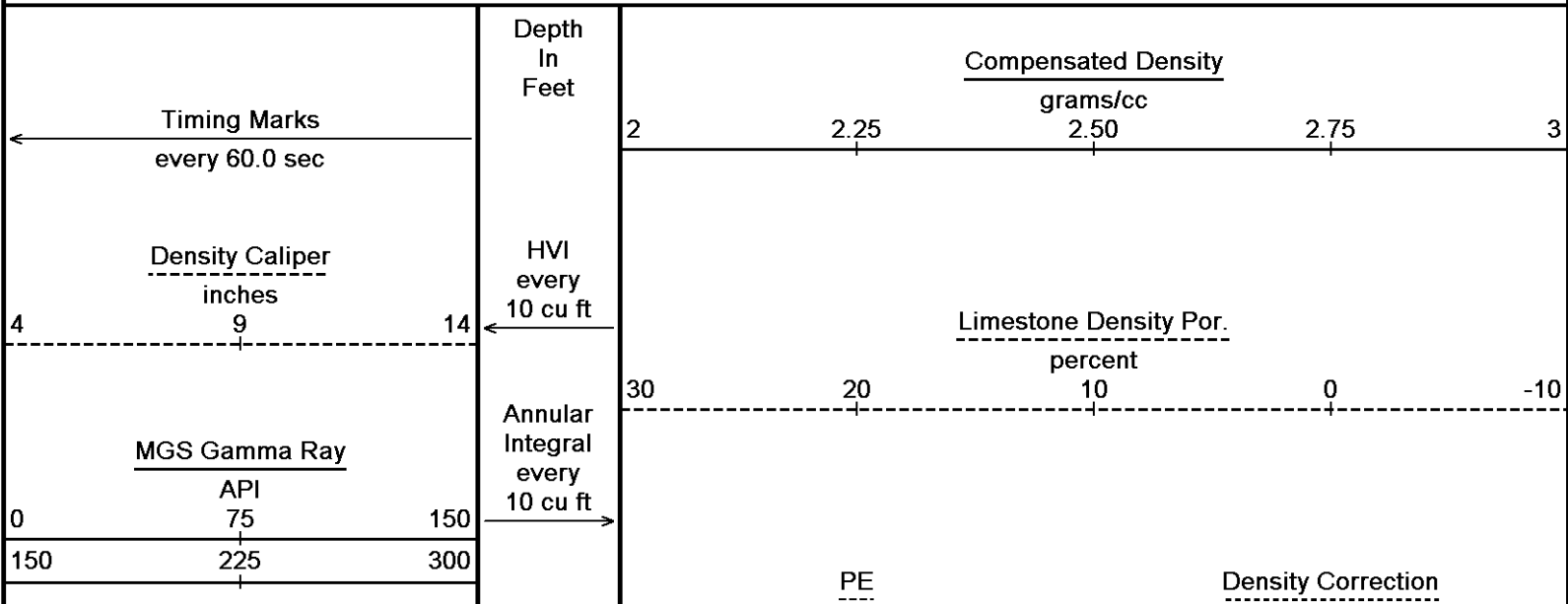


Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 11-JUL-2012 17:58
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↑ 5 INCH MAIN LOG ↑

↓ 5 INCH BULK DENSITY LOG ↓

Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 11-JUL-2012 17:58
 Filename: C:\Data\SDRG(PEPPER 3419 1-4H)\PEPPER 3419 1-4H MAIN LOGS3.dta Recorded on 11-JUL-2012 15:23
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Bit Size
inches
4 9 14

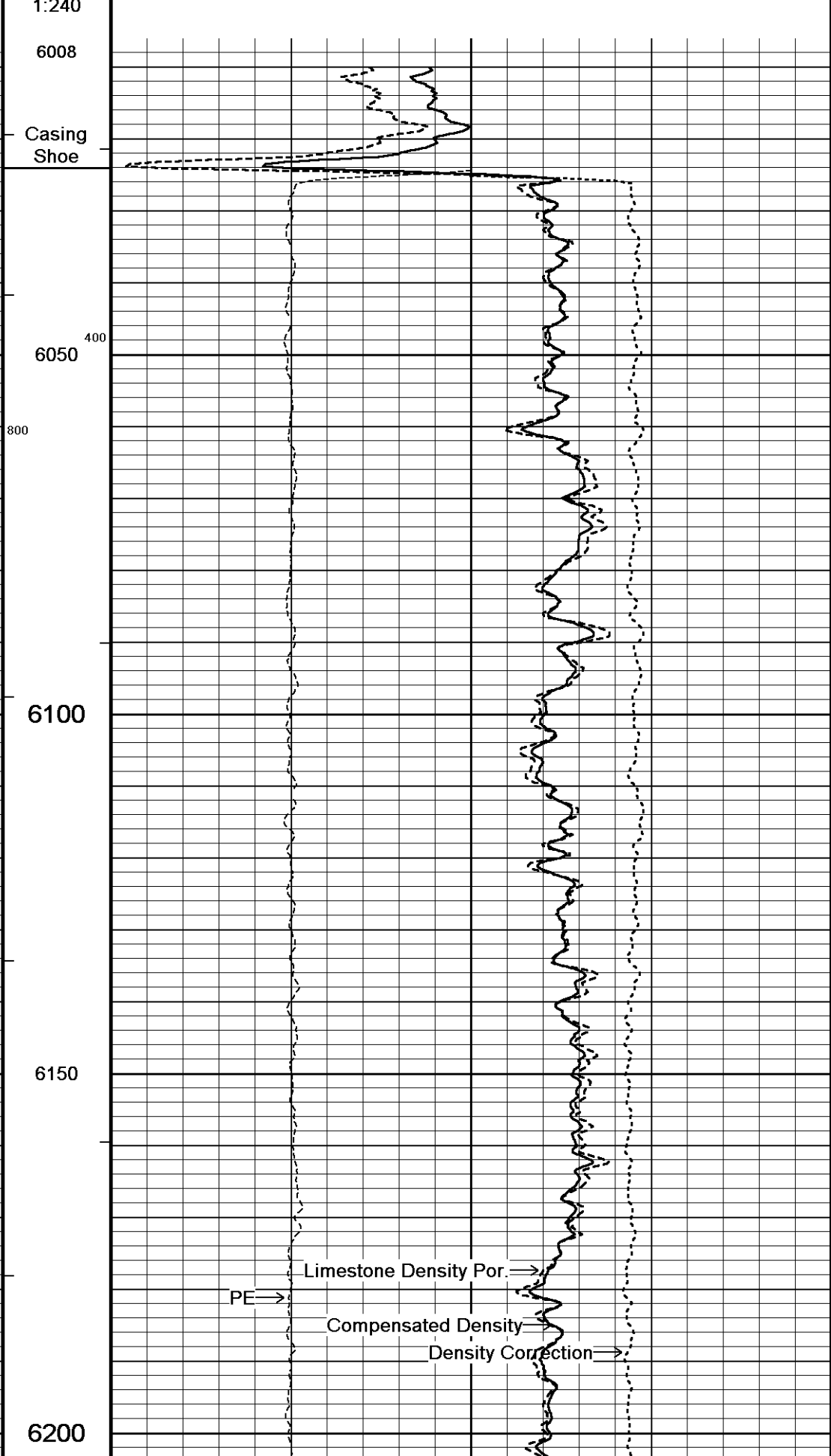
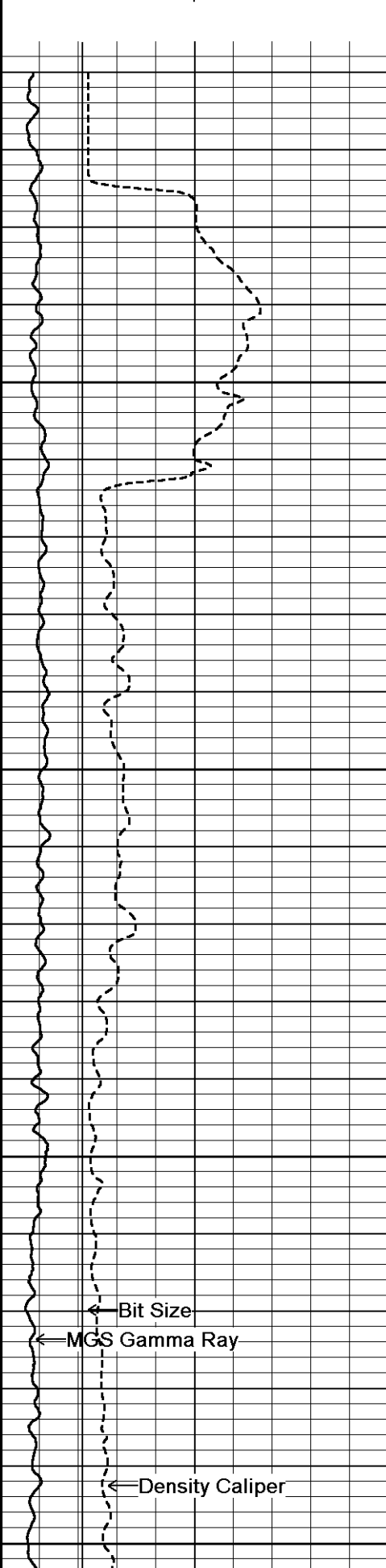
Replay
Scale
1:240
6008
Casing
Shoe

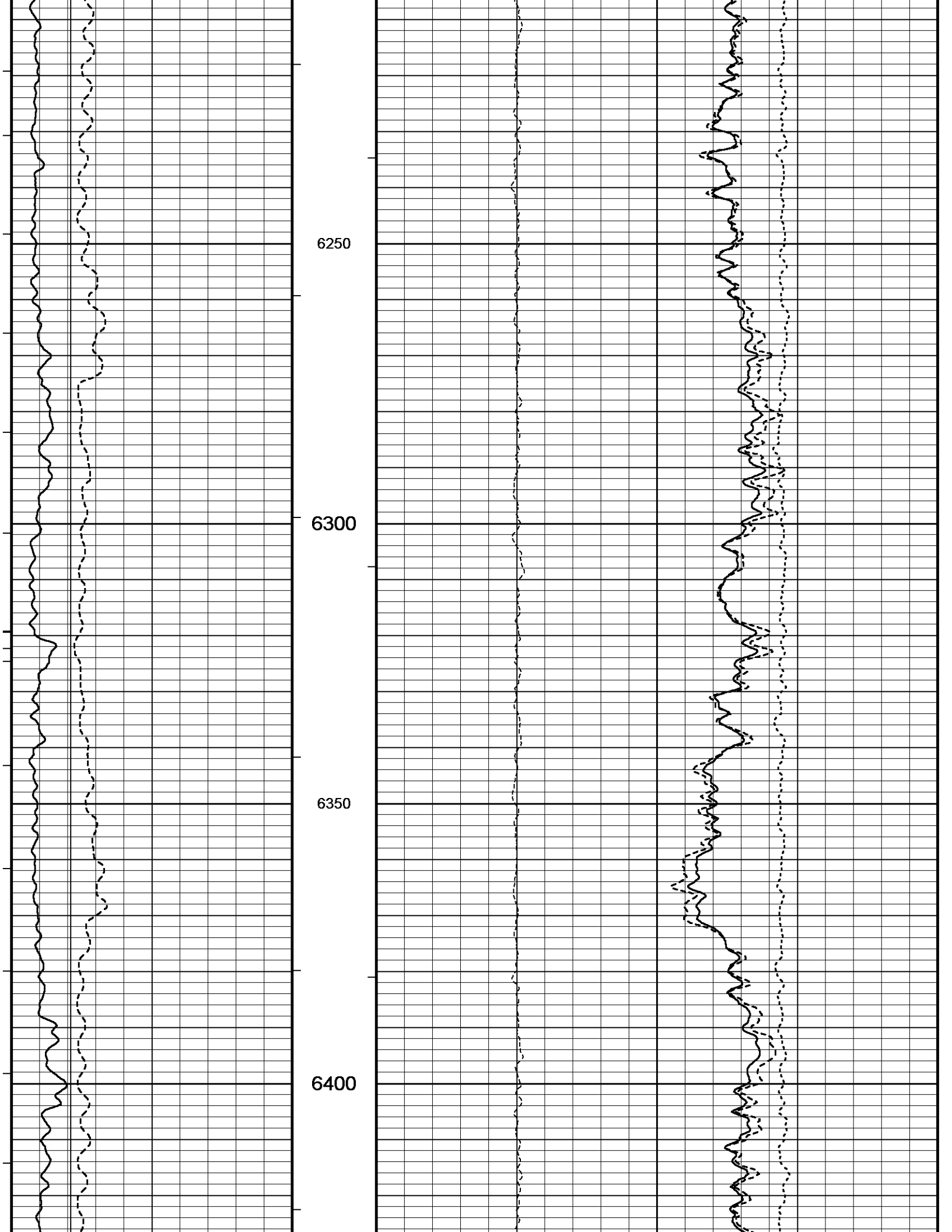
0 5 10 barns/electron -0.25 0 0.25 grams/cc

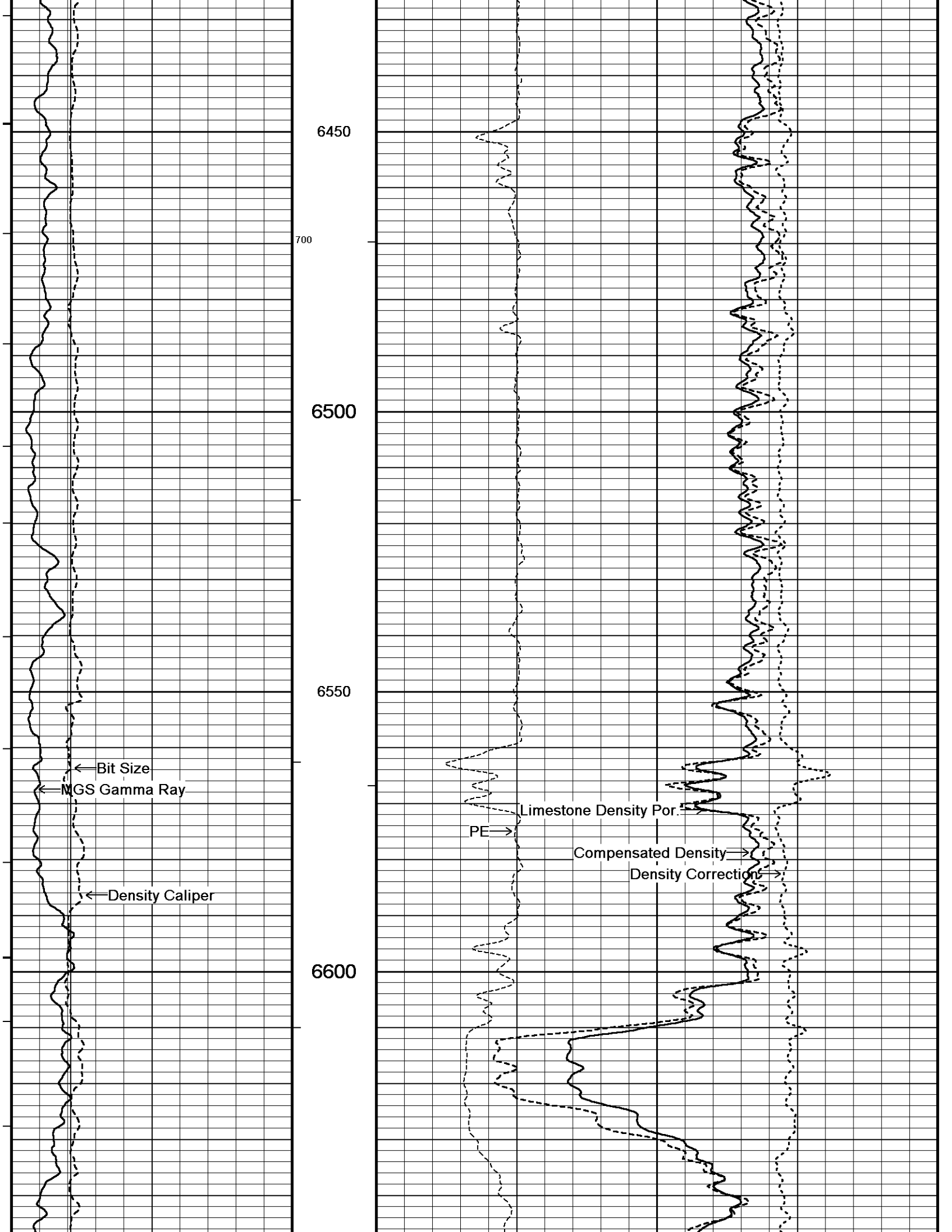
6050 400
800
6100
6150
6200

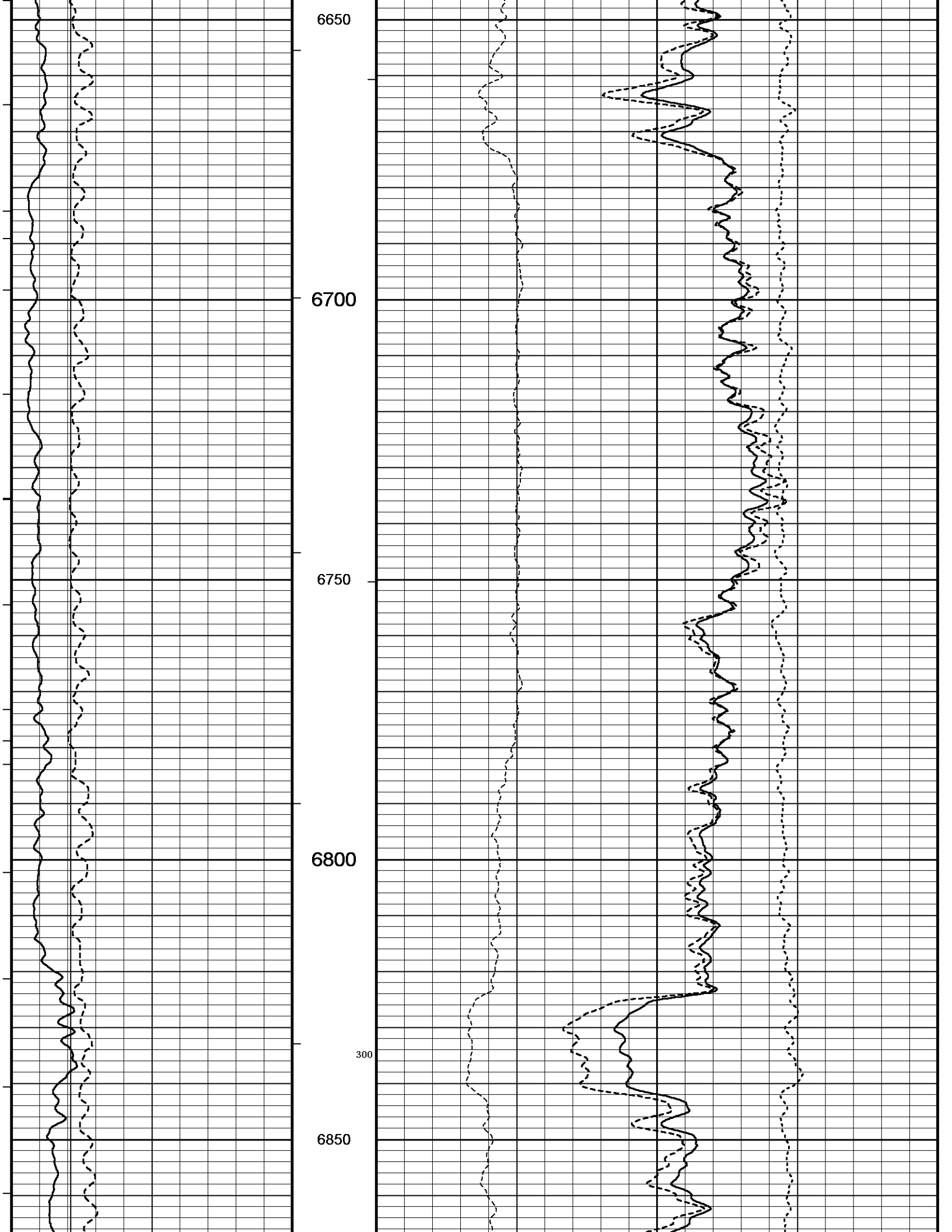
← Bit Size
← MGS Gamma Ray
← Density Caliper

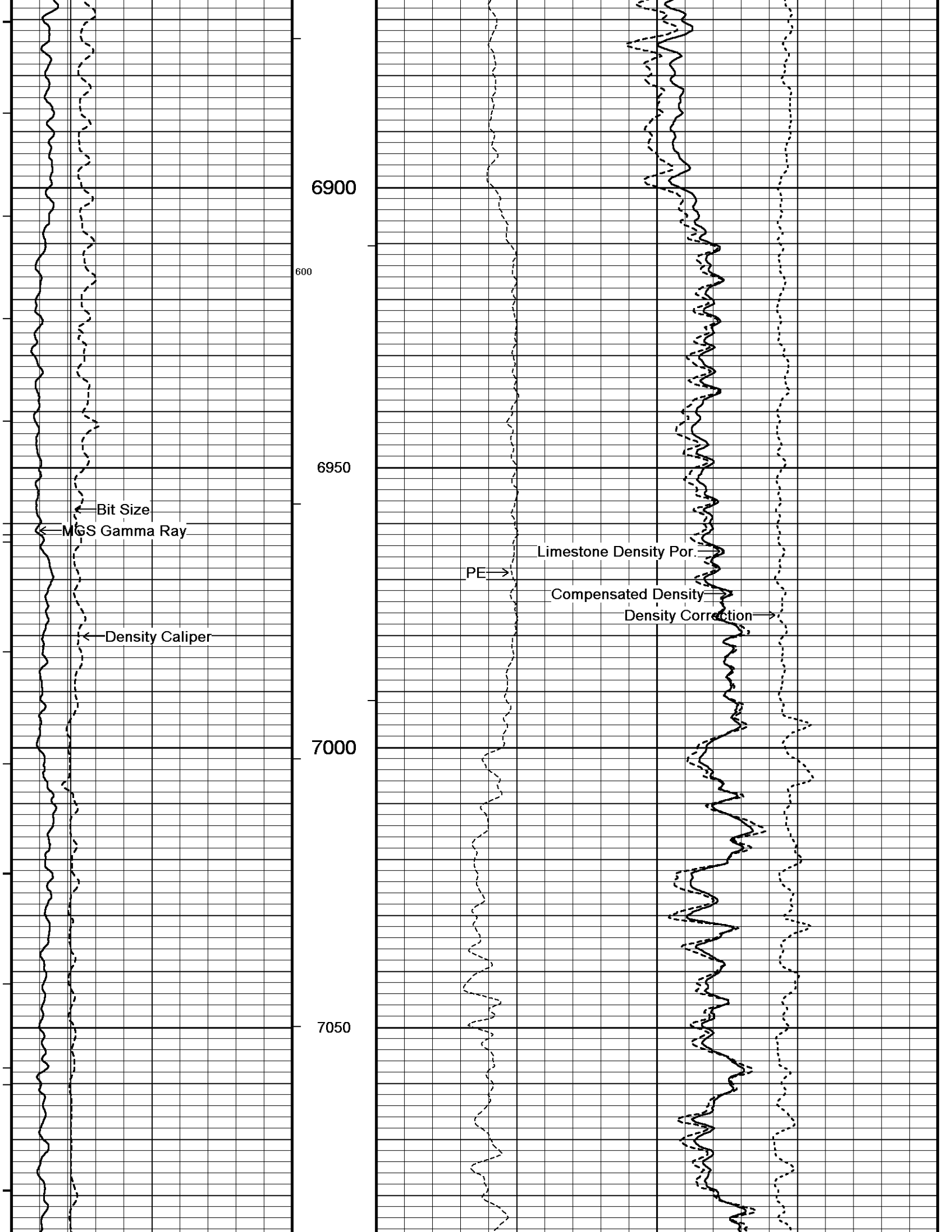
PE →
Limestone Density Por. →
Compensated Density →
Density Correction →

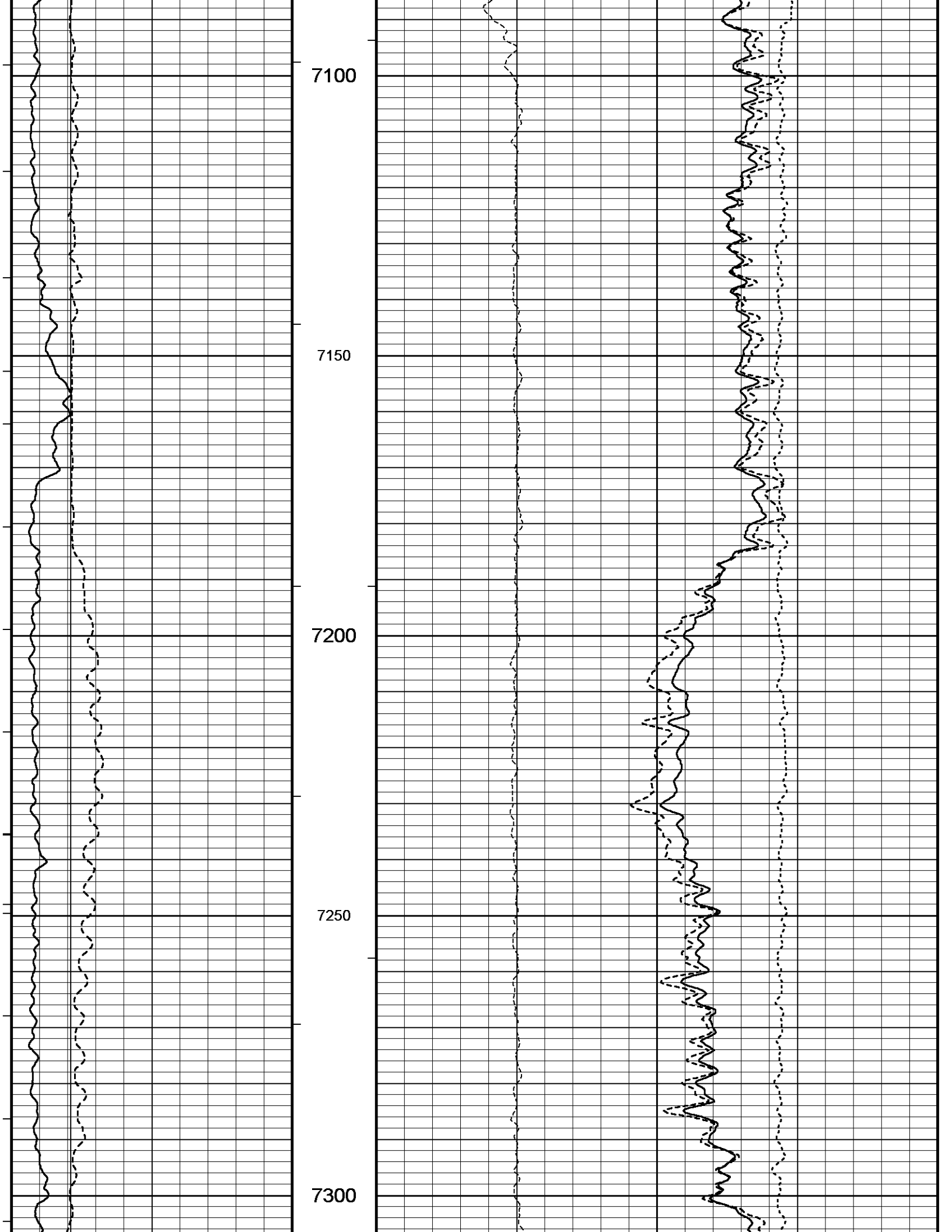


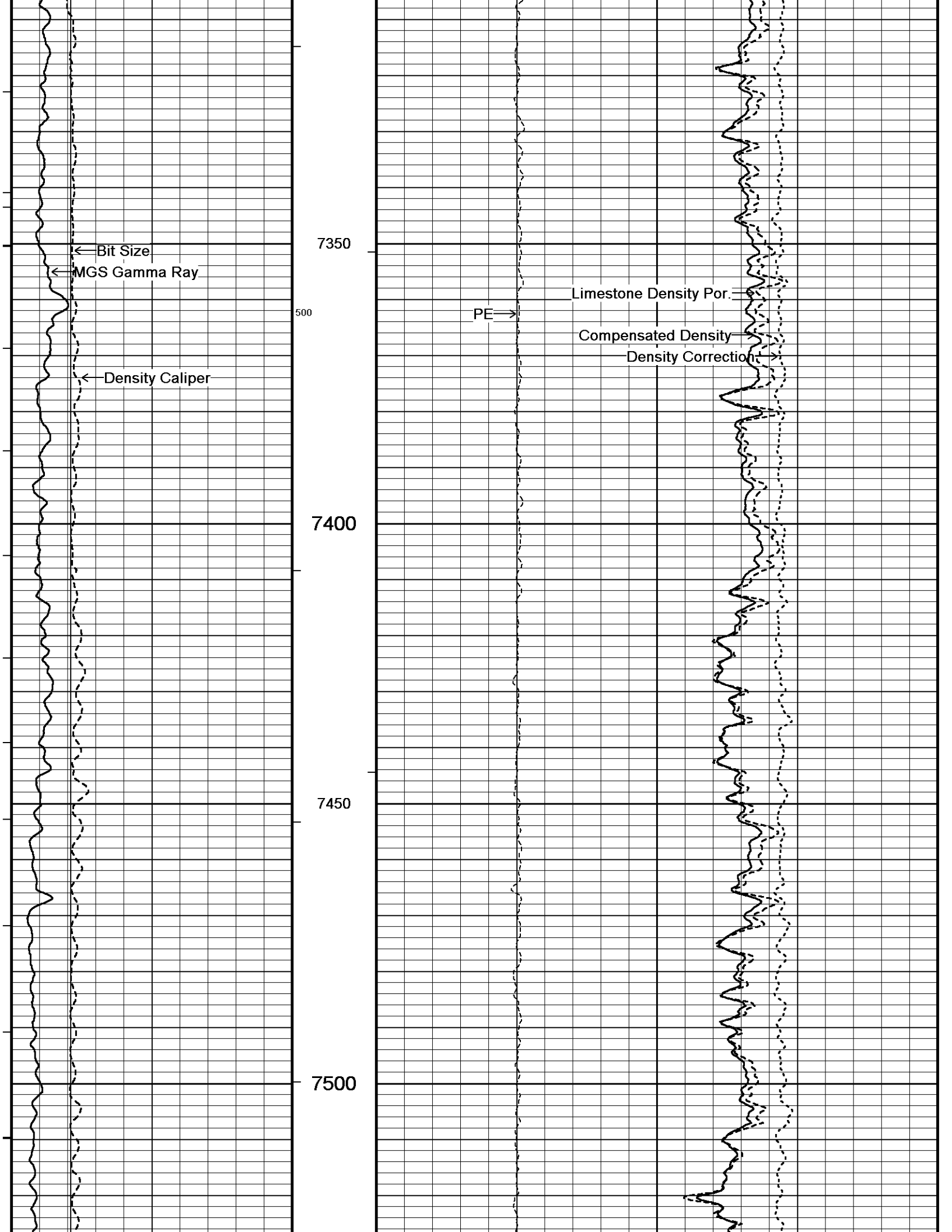


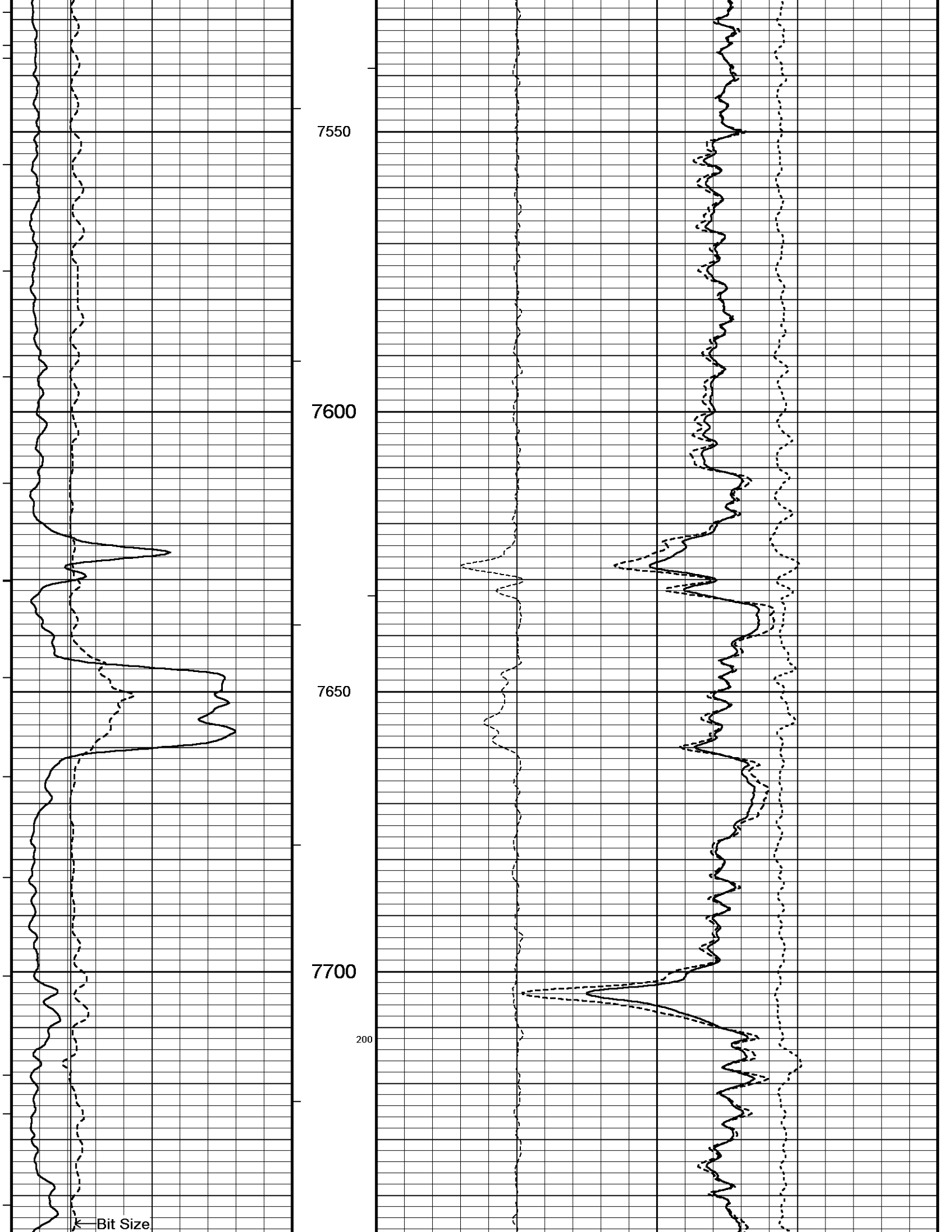


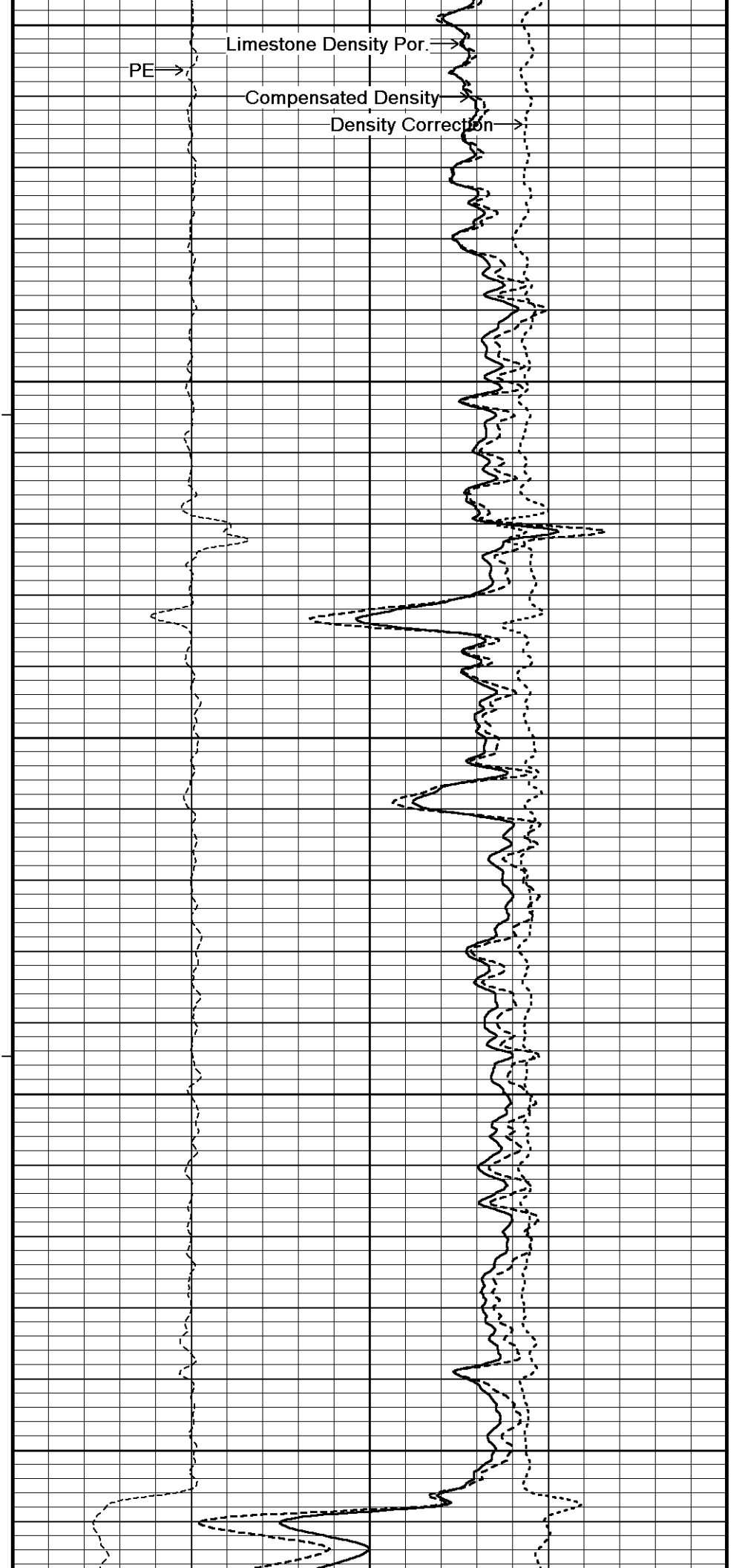
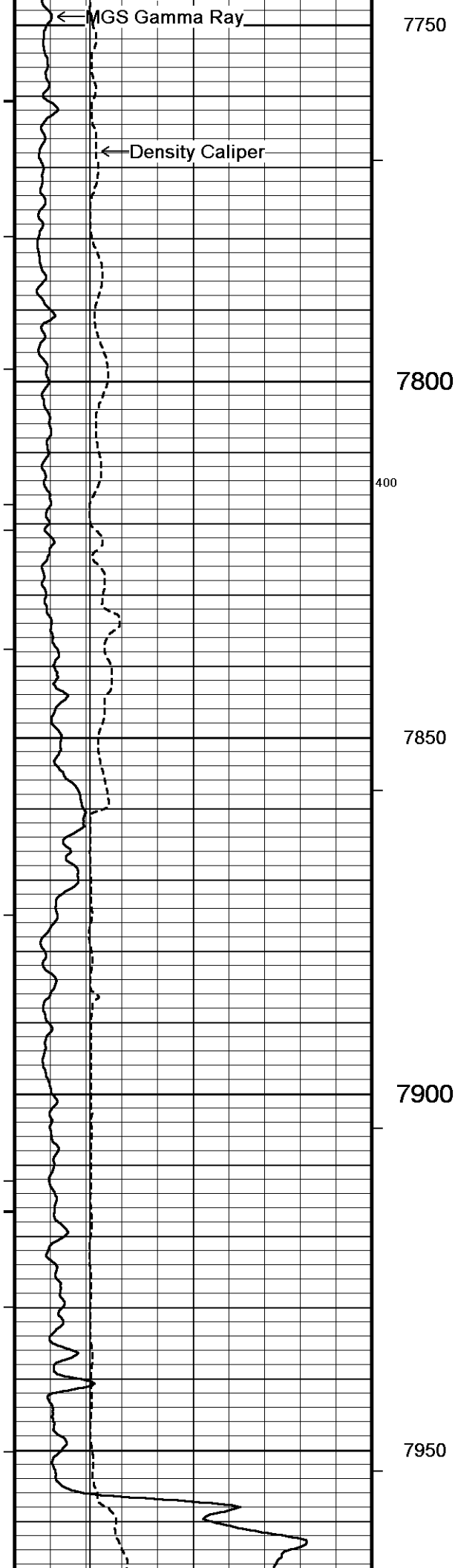


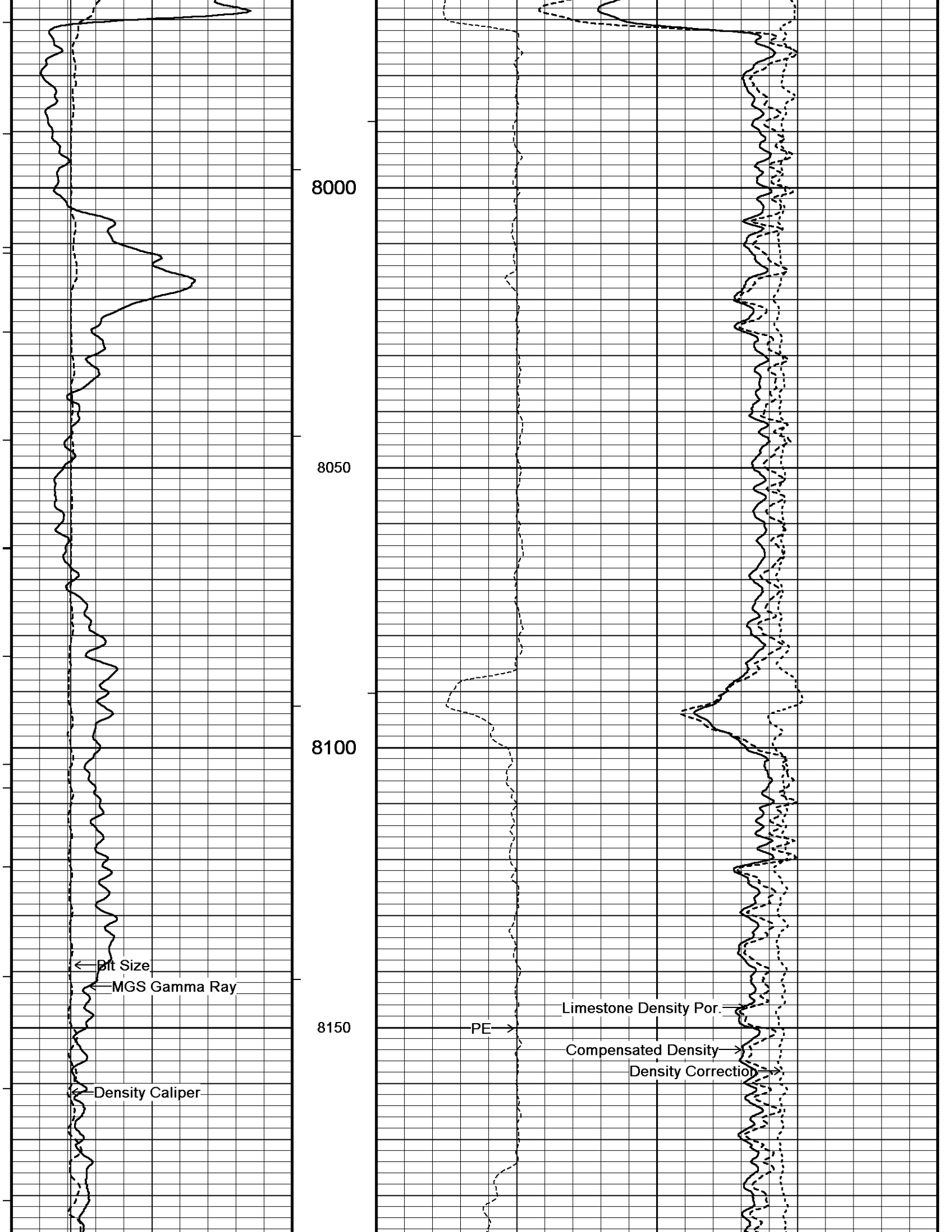












8000

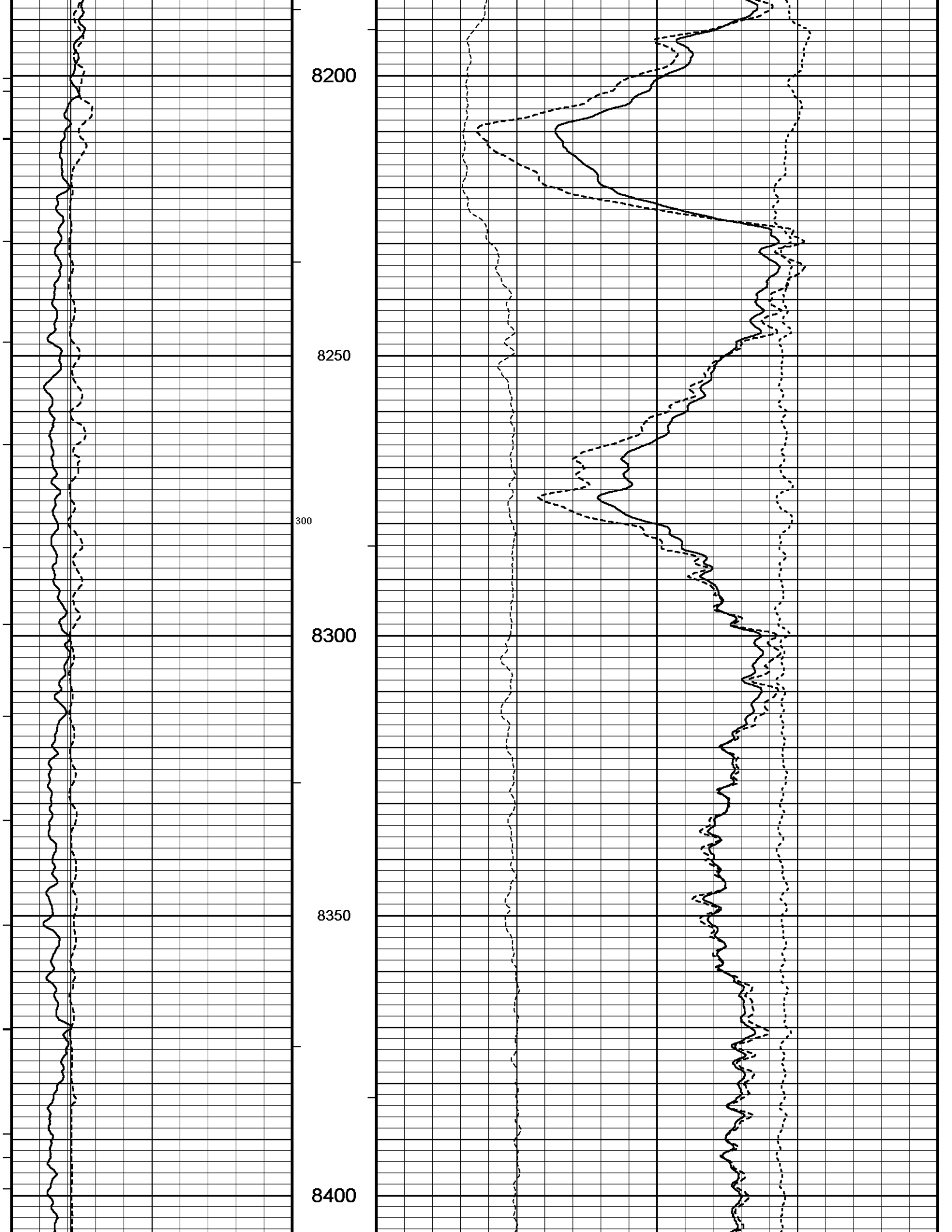
8050

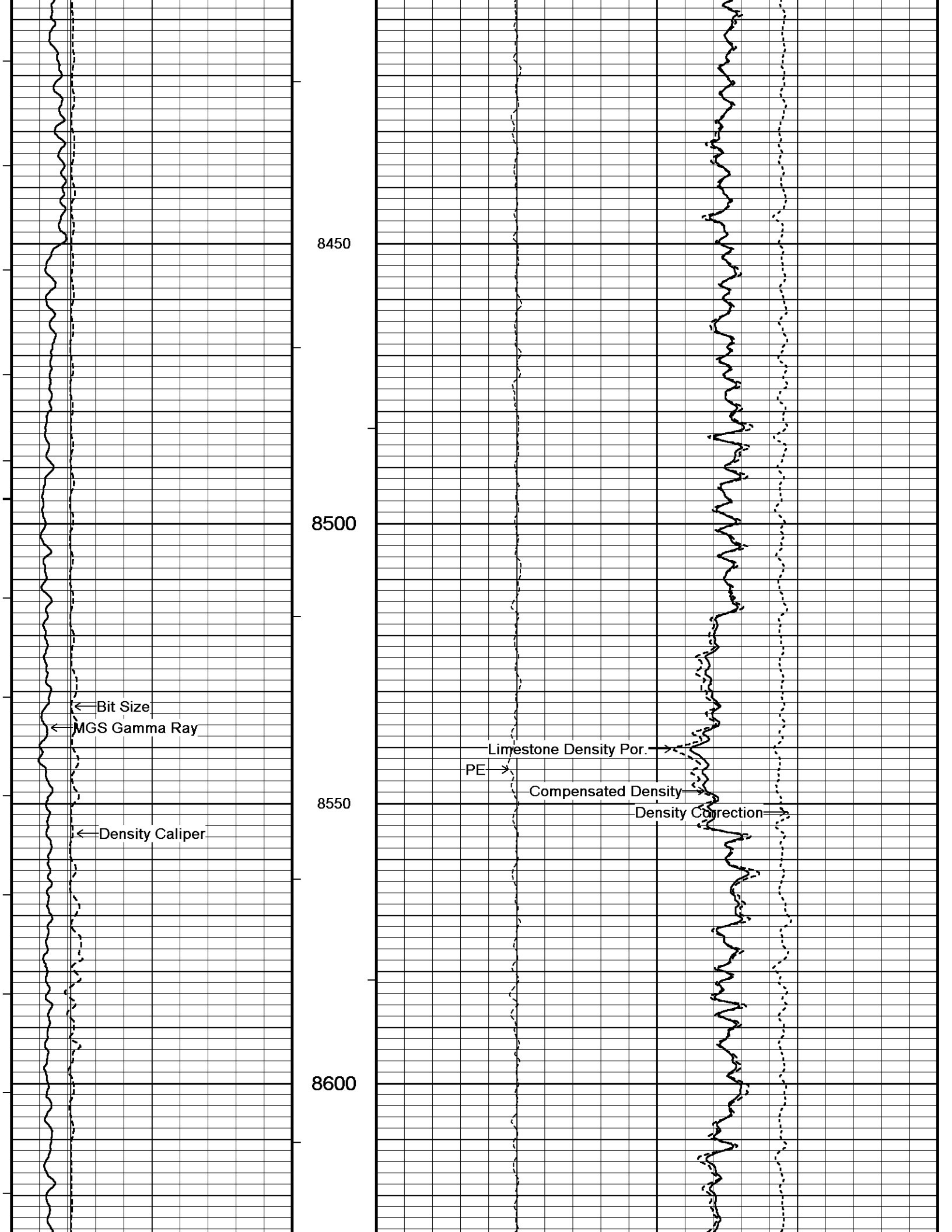
8100

8150

← Bit Size
← MGS Gamma Ray
Density Caliper

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





8450

8500

8550

8600

← Bit Size

← MGS Gamma Ray

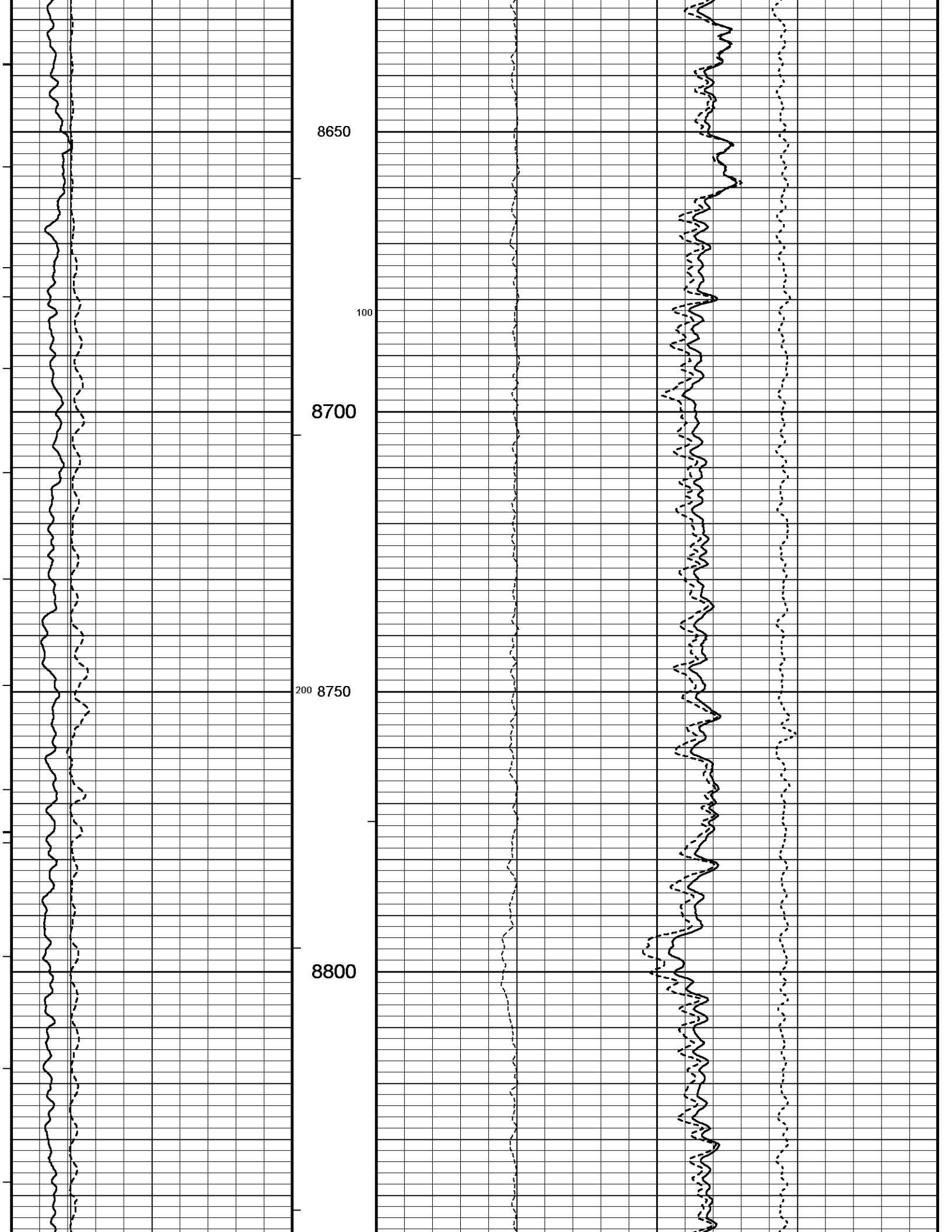
← Density Caliper

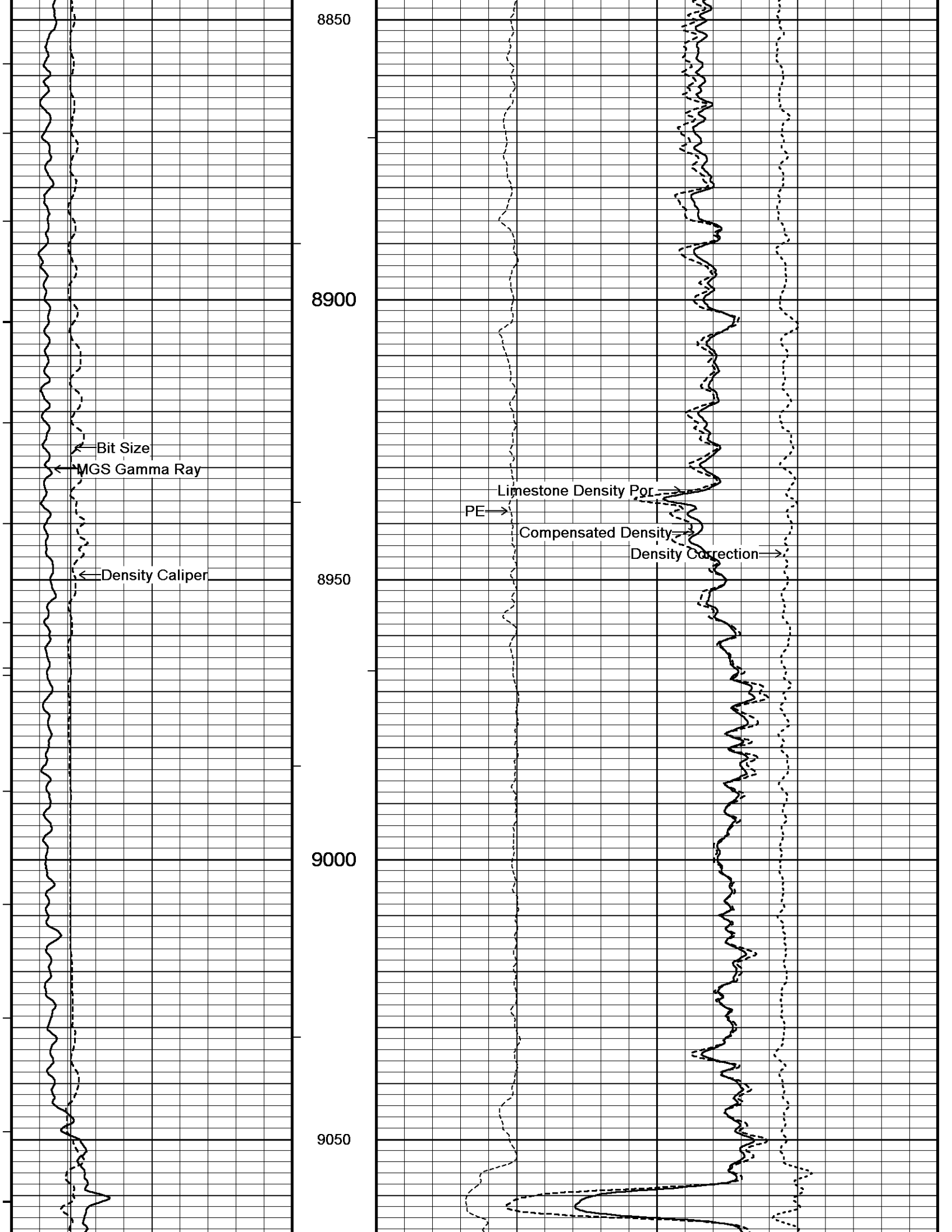
Limestone Density Por. →

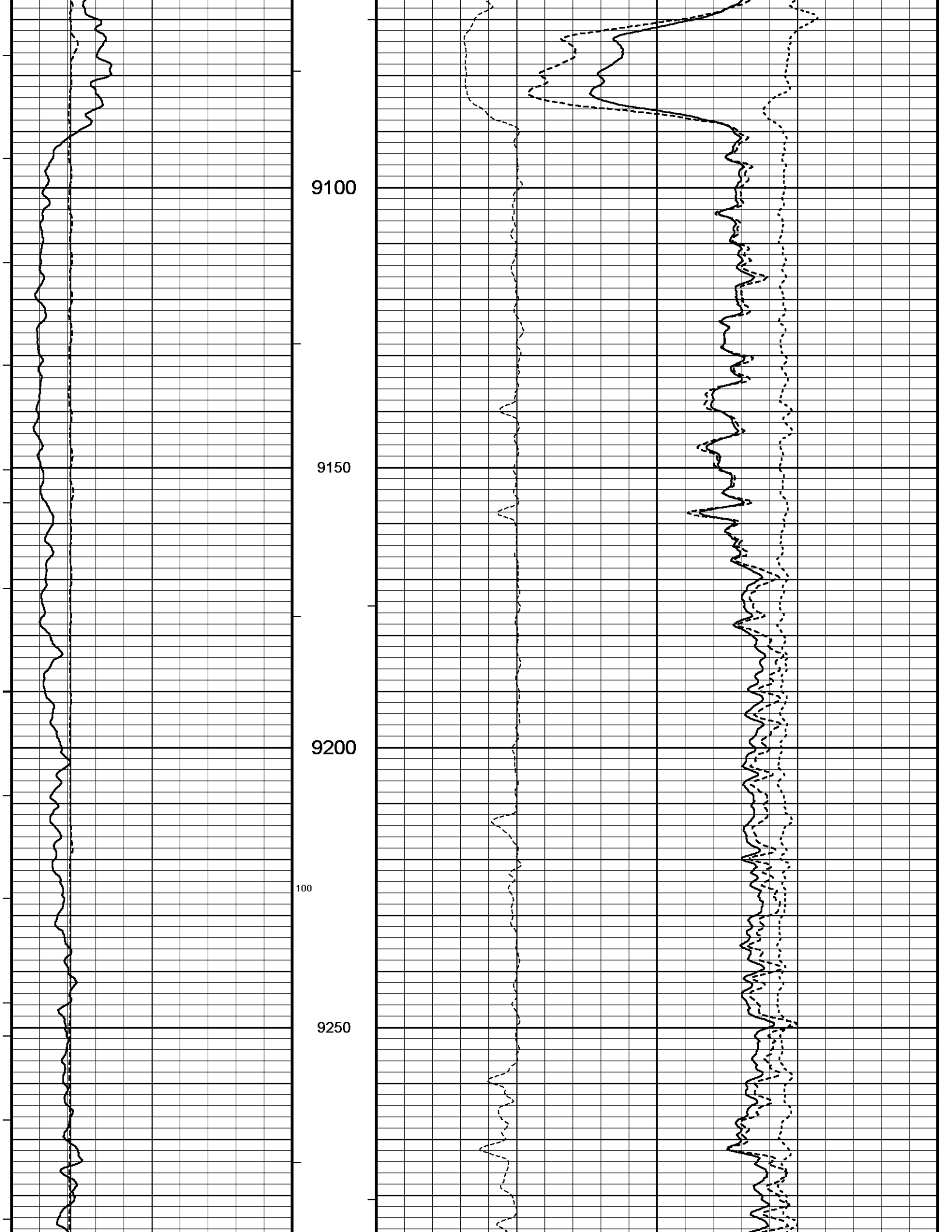
PE →

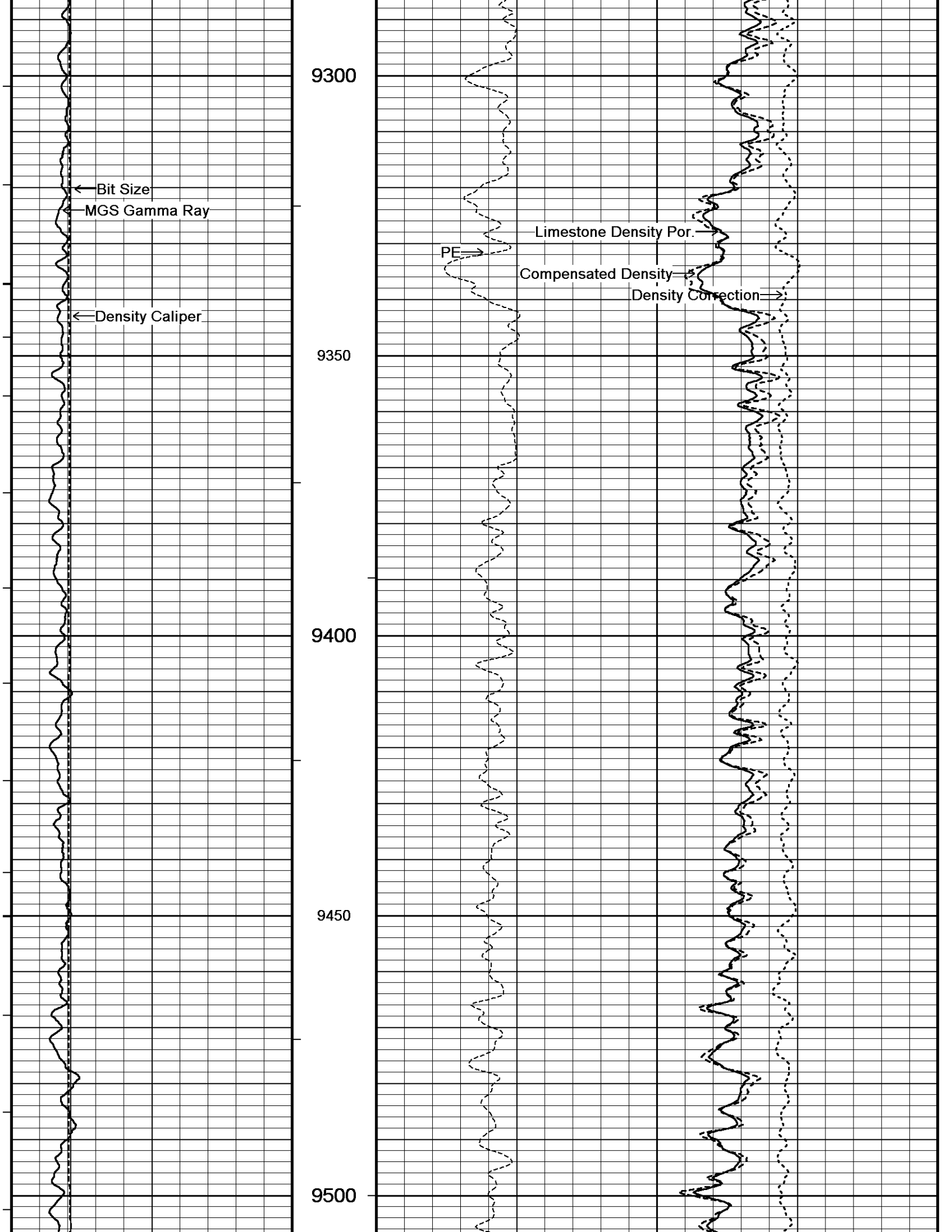
Compensated Density →

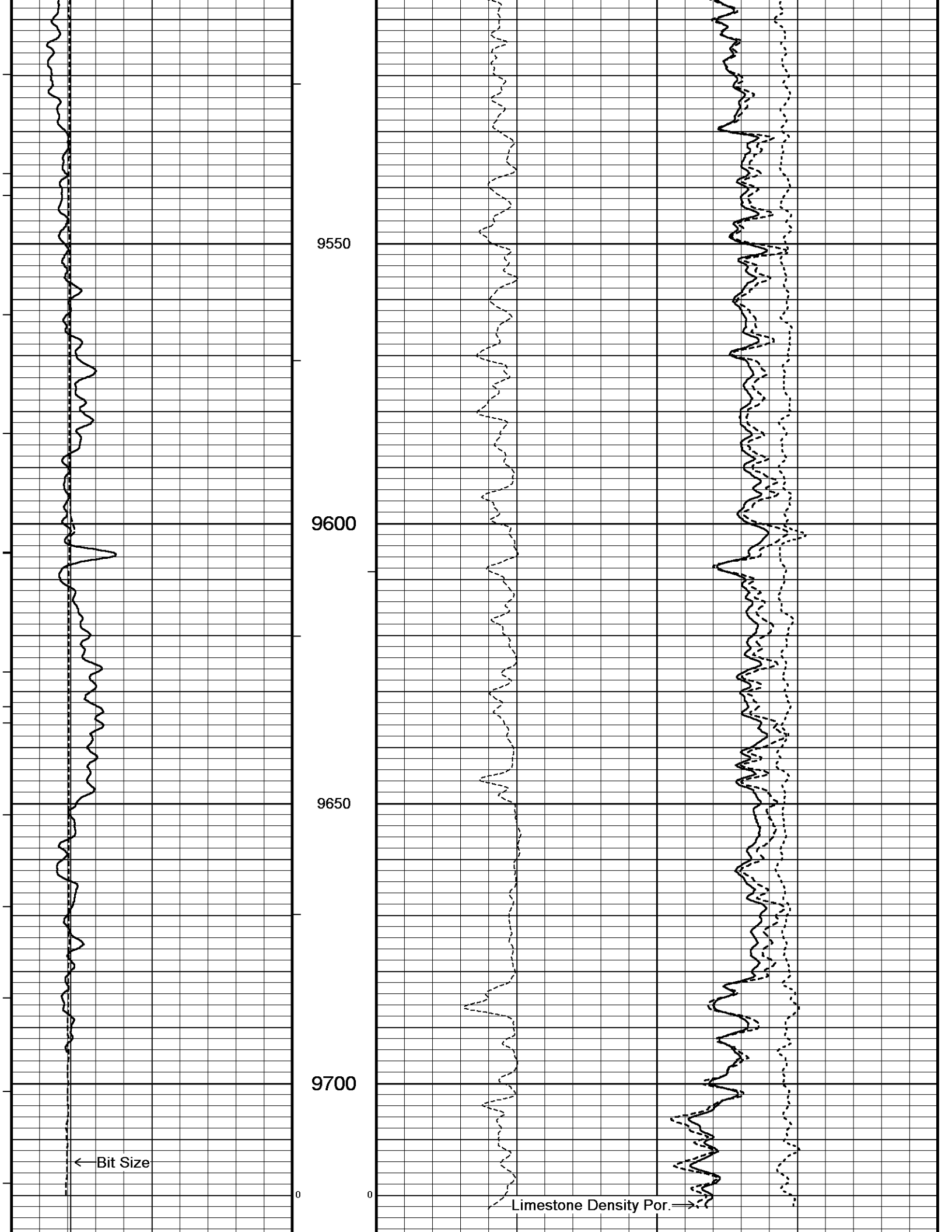
Density Correction →

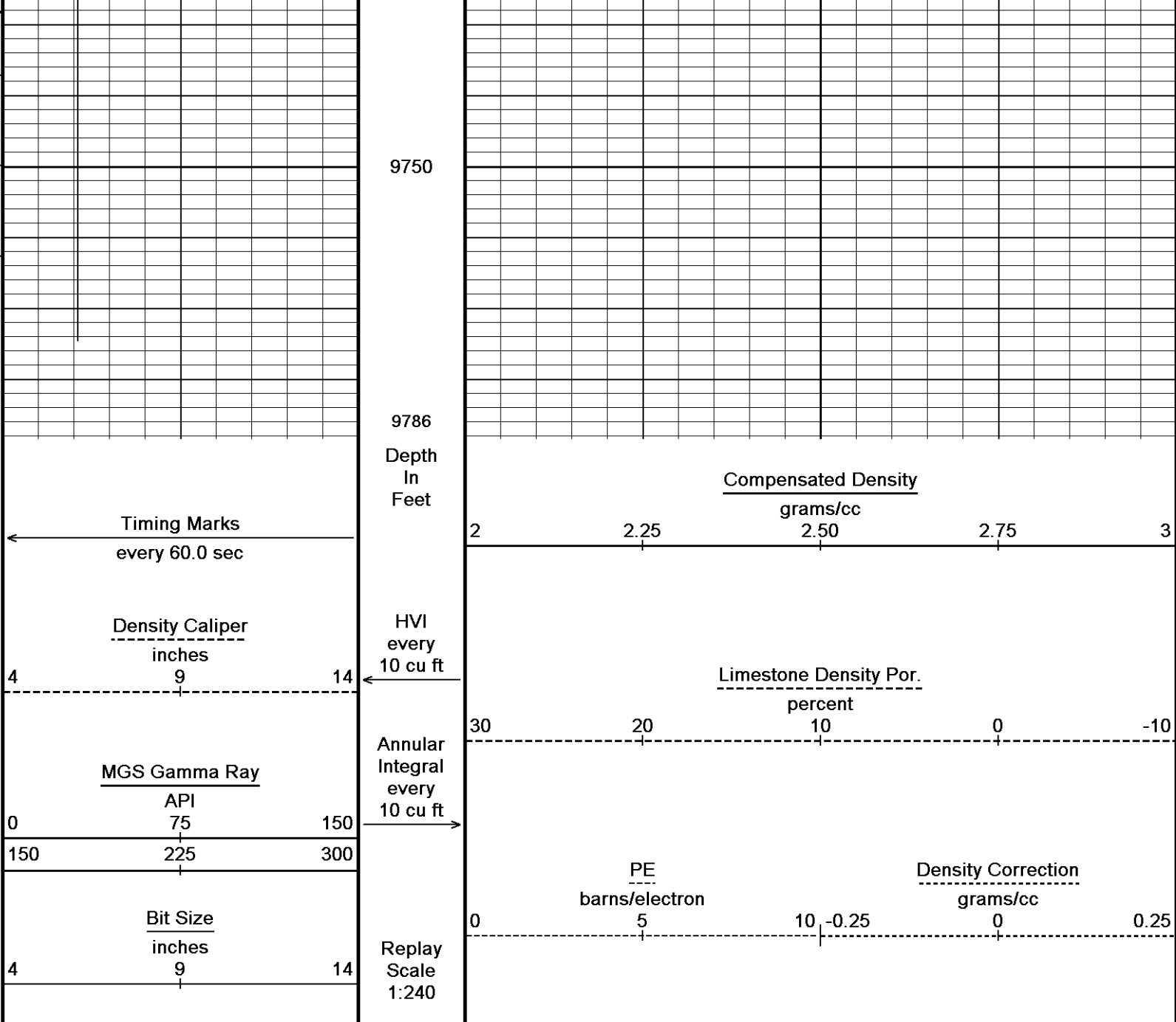












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↑ 5 INCH BULK DENSITY LOG ↑

BEFORE SURVEY CALIBRATION
 C:\Data\SDRG(PEPPER 3419 1-4H)\PEPPER 3419 1-4H MAIN LOGS3.dta

General Constants All 000 Last Edited on 11-JUL-2012,14:36

General Parameters
 Mud Resistivity 1.500 ohm-metres
 Mud Resistivity Temperature 80.000 degrees F
 Water Level 0.000 feet
 Density/Neutron 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 Base Density Porosity
 Resistivity used Deep Induction
 RWA Constant A 0.610
 RWA Constant M 2.150

Strain Gauge Constants SER-B.A 159

Last Edited on

Atmospheric Pressure 14.70 psi
 Serial Number 0
 Calibration Date 000000000000
 Base Check Date
 Dead Weight Serial Number 0
 Dead Weight Gravitational Correction 1.0

Temperature 75.0 150.0 250.0 350.0 degrees F

| Pressure psia | Inc. | Dec. | Inc. | Dec. | Inc. | Dec. | Inc. | Dec. |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2000.0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 4000.0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 6000.0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 8000.0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 10000.0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

Strain Gauge Constants MMS-E.B 157

Last Edited on

Atmospheric Pressure 14.70 psi
 Serial Number 0
 Calibration Date 000000000000
 Base Check Date
 Dead Weight Serial Number 0
 Dead Weight Gravitational Correction 1.0

Temperature 75.0 150.0 250.0 350.0 degrees F

| Pressure psia | Inc. | Dec. | Inc. | Dec. | Inc. | Dec. | Inc. | Dec. |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0.0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2000.0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 4000.0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 6000.0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 8000.0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 10000.0 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

Gamma Calibration MGS-C.J 133

Field Calibration on 05-JUL-2012 15:00

| | Measured | Calibrated (API) |
|--------------------|----------|------------------|
| Background | 41 | 28 |
| Calibrator (Gross) | 1055 | 724 |
| Calibrator (Net) | 1014 | 696 |

Gamma Constants MGS-C.J 133

Last Edited on 05-JUL-2012,13:27

Gamma Calibrator Number 036
 Mud Density 1.00 gm/cc
 Caliper Source for Processing Density Caliper
 Tool Position Eccentred
 Concentration of KCl 0.00 kppm

High Resolution Temperature Constants MGS-C.J 133

Last Edited on

Pre-filter Length 11

Neutron Calibration MDN-B.J 388

Base Calibration on 29-JUN-2012,14:59
 Field Check on 05-JUL-2012 14:46

Base Calibration

| Ratio | Measured | | Calibrated (cps) | |
|-------|----------|-----|------------------|-----|
| | Near | Far | Near | Far |
| | 3277 | 100 | 3714 | 110 |
| | 32.858 | | 33.764 | |

Field Calibrator at Base

| Ratio | Calibrated (cps) | |
|-------|------------------|------|
| | 2207 | 3289 |
| | 0.671 | |

Field Check

Calibrated (cps)

2231 3352

Ratio

0.666

Neutron Constants MDN-B.J 388

Last Edited on 05-JUL-2012,14:40

| | | | |
|---------------------------------|-----------------|-----------|--|
| Neutron Source Id | N1055 | | |
| Neutron Jig Number | N639 | | |
| 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 | Constant Value | | |
| Formation Pressure | 0.00 | kpsi | |
| Temperature Source | Constant Value | | |
| Temperature | 68.00 | degrees F | |
| Mud Salinity | 0.00 | kppm | |
| Salinity Correction | Not Applied | | |
| Formation Fluid Salinity Source | Constant Value | | |
| Formation Fluid Salinity | 0.00 | kppm | |
| Barite Mud Correction | Not Applied | | |

Caliper Calibration MIE-A.A 105

Base Calibration on 09-JUL-2012,10:54

Field Calibration on

Base Calibration

| Reading No | Pads 1-5 Meas. | Pads 3-7 Meas. | Calibrator Size (in) |
|------------|----------------|----------------|----------------------|
| 1 | 25412 | 26386 | 5.96 |
| 2 | 35368 | 36570 | 7.97 |
| 3 | 43357 | 46262 | 9.84 |
| 4 | 56756 | 59167 | 11.91 |
| 5 | 0 | 0 | 0.00 |

| Reading No | Pad 2 Meas. | Pad 4 Meas. | Pad 6 Meas. | Pad 8 Meas. | Calibrator Size (in) |
|------------|-------------|-------------|-------------|-------------|----------------------|
| 1 | 26179 | 24910 | 25666 | 24796 | 5.96 |
| 2 | 34930 | 33437 | 34126 | 33897 | 7.97 |
| 3 | 43939 | 40603 | 41291 | 43056 | 11.91 |
| 4 | 0 | 0 | 0 | 0 | 0.00 |
| 5 | 0 | 0 | 0 | 0 | 0.00 |

Field Calibration

| Measured | Measured | Actual |
|----------|----------|--------|
| 0 | 0 | 0 |
| 0.00 | 0.00 | 0.00 |

| Measured | Measured | Measured | Measured | Actual |
|----------|----------|----------|----------|--------|
| 0 | 0 | 0 | 0 | 0 |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Caliper Constants MIE-A.A 105

Last Edited on

Caliper Difference for BRKT 3.000 mm

Accelerometer Parameters MIE-A.A 105

| | | | |
|--|-------------------|-----------------|-----------------|
| Date Of Last Accelerometer Calibration | 29-FEB-2012,11:33 | | |
| | X Accelerometer | Y Accelerometer | Z Accelerometer |
| Slope | -1.112408 | -1.110445 | -1.120631 |
| Offset | 0.011742 | 0.001482 | 0.006930 |

Accelerometer Constants MIE-A.A 105

Last Edited on 09-JUL-2012,08:48

Accelerometer Calibrator Number 000

Accelerometer Temperature Characterisation

X Accelerometer

| | | | | |
|------------------|--------------|---------------|--------------|---------------|
| Serial Number | 3745 | | | |
| Calibration Date | 10-Jul-2007 | | | |
| | B0 | B1 | B2 | B3 |
| Bias(g) | 0.00000e+000 | -2.02925e-005 | 6.54754e-008 | -1.79517e-010 |

| | | | | |
|--------------------|--------------|--------------|---------------|---------------|
| | SF0 | SF1 | SF2 | SF3 |
| Scale Factor(mA/g) | 3.00000e+000 | 2.48327e-004 | 4.75709e-007 | -6.03094e-011 |
| Y Accelerometer | | | | |
| Serial Number | 218 | | | |
| Calibration Date | 10-Jul-2007 | | | |
| | B0 | B1 | B2 | B3 |
| Bias(g) | 0.00000e+000 | 2.20530e-005 | -2.95334e-008 | 1.50437e-010 |
| | SF0 | SF1 | SF2 | SF3 |
| Scale Factor(mA/g) | 3.00000e+000 | 2.70587e-004 | 5.34011e-007 | -5.79861e-012 |
| Z Accelerometer | | | | |
| Serial Number | 231 | | | |
| Calibration Date | 10-Jul-2007 | | | |
| | B0 | B1 | B2 | B3 |
| Bias(g) | 0.00000e+000 | 4.37276e-006 | -7.93417e-011 | 8.17287e-011 |
| | SF0 | SF1 | SF2 | SF3 |
| Scale Factor(mA/g) | 3.00000e+000 | 2.74026e-004 | 6.12371e-007 | -2.15117e-010 |

| | | | | |
|---------------------------------------|-------------------|----------------|----------------|--|
| Magnetometer Parameters MIE-A.A 105 | | | | |
| Date Of Last Magnetometer Calibration | 09-JUL-2012,10:55 | | | |
| | X Magnetometer | Y Magnetometer | Z Magnetometer | |
| Slope | -1.000000 | -0.998568 | -0.980616 | |
| Offset | 0.005777 | -0.016073 | 0.003505 | |

| | | | | |
|------------------------------------|-----|--|--|----------------|
| Magnetometer Constants MIE-A.A 105 | | | | Last Edited on |
| Magnetometer Calibrator Number | 000 | | | |

| | | | | |
|----------------------------------|------|---------|------|----------------|
| Navigation Constants MIE-A.A 105 | | | | Last Edited on |
| Magnetic Declination | 0.00 | degrees | East | |

| | | | | |
|------------------------------|----------------|-------|----------------|----------------|
| Imager Pad Check MIE-A.A 105 | | | | Field Check on |
| Pad 1 | Pad Not Tested | Pad 5 | Pad Not Tested | |
| Pad 2 | Pad Not Tested | Pad 6 | Pad Not Tested | |
| Pad 3 | Pad Not Tested | Pad 7 | Pad Not Tested | |
| Pad 4 | Pad Not Tested | Pad 8 | Pad Not Tested | |

| | | | | |
|--|------------------------|---------|--|----------------------------------|
| Compact Micro Imager Constants MIE-A.A 105 | | | | Last Edited on 09-JUL-2012,08:49 |
| Sonde Configuration | Imager Mode | degrees | | |
| Arm-Pad Kit | Normal Pads (12.25 in) | | | |
| Centre Pad 1 Rotational Offset | 0.00 | | | |
| Image/Borehole Ovality Reference | Azimuth of Pad 1 | degrees | | |
| Non Active Buttons | Omit | feet | | |
| Search Angle | 0.00 | feet | | |
| Correlation Interval | 3.28 | mAmp | | |
| Correlation Step | 1.64 | mAmp | | |
| Current Offset | 0.0000 | | | |
| Squasher Start | N/A | | | |
| Image Processing | Enabled | | | |

| | | | | | |
|-----------------------------------|---------------------|----------|----------------------|---------------------|---------------------------------------|
| Induction Calibration MAI-B.J 390 | | | | | Base Calibration on 16-AUG-2010 14:24 |
| | | | | | Field Check on 05-JUL-2012 14:31 |
| Base Calibration | | | | | |
| Test Loop Calibration | | Measured | | Calibrated (mmho/m) | |
| Channel | Low | High | Low | High | |
| 1 | 16.8 | 458.6 | 9.3 | 966.2 | |
| 2 | 6.3 | 377.7 | 7.6 | 821.4 | |
| 3 | 3.8 | 258.6 | 5.2 | 566.0 | |
| 4 | 1.9 | 132.3 | 2.6 | 279.2 | |
| Array Temperature | 77.9 | | Deg F | | |
| Channel | Base Check (mmho/m) | | Field Check (mmho/m) | | |
| | Low | High | Low | High | |
| 1 | 0.0 | 0.0 | 15.4 | 3954.5 | |
| 2 | 0.0 | 0.0 | 30.8 | 3557.2 | |
| 3 | 0.0 | 0.0 | 28.5 | 3056.0 | |
| 4 | 0.0 | 0.0 | 20.0 | 2084.2 | |

| | | | | |
|-------------------|-----|-----|------|------------|
| Deep | 0.0 | 0.0 | 17.5 | 2002.6 |
| Medium | 0.0 | 0.0 | 41.0 | 4005.1 |
| Shallow | 0.0 | 0.0 | 46.0 | 5251.5 |
| Array Temperature | | 0.0 | | 90.7 Deg F |

Induction Constants MAI-B.J 390

Last Edited on 11-JUL-2012,17:30

| | | | |
|-----------------------------------|--------------------------|------------------|------------|
| Induction Model | | RtAP-WBM | |
| Caliper for Borehole Corr. | | Bit Size | |
| 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 | | 0.0060 | mhos/metre |
| Squasher Offset | | N/A | mhos/metre |
| Borehole Normalisation | | | |
| DRM1 | 0.0000 | DRC1 | 0.0000 |
| DRM2 | 0.0000 | DRC2 | 0.0000 |
| MRM1 | 0.0000 | MRC1 | 0.0000 |
| MRM2 | 0.0000 | MRC2 | 0.0000 |
| SRM1 | 0.0000 | SRC1 | 0.0000 |
| SRM2 | 0.0000 | SRC2 | 0.0000 |

| | | | |
|------------------------------|--|------|-------------|
| Calibration Site Corrections | | | |
| Channel 1 | | 0.00 | mmhos/metre |
| Channel 2 | | 0.00 | mmhos/metre |
| Channel 3 | | 0.00 | mmhos/metre |
| Channel 4 | | 0.00 | mmhos/metre |

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

High Resolution Temperature Calibration MAI-B.J 390

Field Calibration on 07-NOV-2011 02:31

| | | |
|-------|----------|-------------------|
| | Measured | Calibrated(Deg F) |
| Lower | 50.00 | 50.00 |
| Upper | 100.00 | 100.00 |

High Resolution Temperature Constants MAI-B.J 390

Last Edited on

| | |
|-------------------|----|
| Pre-filter Length | 11 |
|-------------------|----|

Photo Density Calibration MPD-C.J 434

Base Calibration on 29-JUN-2012 10:58

Field Check on 05-JUL-2012 14:40

| | | | | |
|---------------------|--------|----------|------------------|-------|
| Density Calibration | | | | |
| Base Calibration | | Measured | Calibrated (sdu) | |
| | Near | Far | Near | Far |
| Reference 1 | 52940 | 25712 | 59869 | 31110 |
| Reference 2 | 21852 | 2601 | 24557 | 2522 |
| Field Check at Base | | | | |
| | 1309.1 | 1448.8 | | |
| Field Check | | | | |
| | 1303.1 | 1448.2 | | |

| | | |
|------------------|----------|------------|
| PE Calibration | | |
| Base Calibration | Measured | Calibrated |

| | WS | WH | Ratio | Ratio |
|-------------|-------|-------|-------|-------|
| Background | 237 | 1166 | | |
| Reference 1 | 21674 | 52729 | 0.416 | 0.369 |
| Reference 2 | 6063 | 21699 | 0.284 | 0.271 |

Field Check at Base
237.1 1166.2

Field Check
236.8 1163.4

Density Constants MPD-C.J 434

Last Edited on 29-JUN-2012,10:13

| | | |
|-------------------------------|-----------------|-------|
| Density Source Id | 236 | |
| 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 | 1.00 | 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 (m) | |
| 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 | |

Caliper Calibration MPD-C.J 434

Base Calibration on 29-JUN-2012 11:22
Field Calibration on 05-JUL-2012 14:35

| Base Calibration | | | |
|-------------------|-----------------------|----------------------|--|
| Reading No | Measured | Calibrator Size (in) | |
| 1 | 16576 | 4.02 | |
| 2 | 26320 | 6.00 | |
| 3 | 36352 | 8.03 | |
| 4 | 46544 | 10.02 | |
| 5 | 57344 | 12.01 | |
| 6 | N/A | N/A | |
| Field Calibration | | | |
| | Measured Caliper (in) | Actual Caliper (in) | |
| | 5.94 | 6.00 | |

DOWNHOLE EQUIPMENT

C:\Data\SDRG(PEPPER 3419 1-4H)\PEPPER 3419 1-4H MAIN LOGS3.dta

Shuttle Mechanical Release (SMR A)
SMR-A 152 LG: 8.53 ft WT: 77.2 lb OD: 2.52 in

Shuttle Electrical Release
SER-B.A 159 LG: 6.90 ft WT: 50.7 lb OD: 2.24 in

MBS-G.A 200v Compact Battery Sub
MBS-G.A 116 LG: 10.22 ft WT: 66.1 lb OD: 2.24 in

Spacer - Empty Battery
MLK-A 1 LG: 14.23 ft WT: 30.9 lb OD: 2.24 in

SKJ-E.B Compact Knuckle Joint



SKJ-E.B 478 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

Compact Memory Sub E.B

MMS-E.B 157 LG: 5.20 ft WT: 37.5 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

Compact Tool Isolator sub.

MTI-B.A 63 LG: 1.54 ft WT: 13.2 lb OD: 2.24 in

Compact Short Gamma

MGS-C.J 133 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 479 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

SHA-J.A Compact Swivel Head Adaptor

SHA-J.A 431 LG: 2.30 ft WT: 22.0 lb OD: 2.24 in

MIS-D.B Compact Inline Bowspring sub

MIS-D.B 606 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

Compact Neutron

MDN-B.J 388 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

Compact Density/Caliper

MPD-C.J 434 LG: 9.59 ft WT: 90.4 lb OD: 2.24 in

MIS-A.A Compact Inline Bowspring sub

MIS-A.A 275 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

SHA-J.A Compact Swivel Head Adaptor

SHA-J.A 434 LG: 2.30 ft WT: 22.0 lb OD: 2.24 in

SKJ-E.B Compact Knuckle Joint

SKJ-E.B 474 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

MIS-A.A Compact Inline Bowspring sub

MIS-A.A 62 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

Compact MMI Memory Section

MIM-A.A 105 LG: 4.65 ft WT: 26.5 lb OD: 2.24 in

Compact MMI Electrode Section

MIE-A.A 105 LG: 13.96 ft WT: 99.2 lb OD: 4.09 in

MIS-D.B Compact Inline Bowspring sub

MIS-D.B 593 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

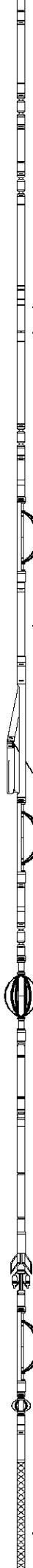
MIS-E.B Compact Inline Standoff sub

MIS-E.B 575 LG: 2.14 ft WT: 15.4 lb OD: 2.24 in

Compact Induction

MAI-B.J 390 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

Total Length: 135.45 ft Weight: 930.4 lb



83.57 ft

81.59 ft

GRGM - MGS Gamma Ray

GSXT - MGS External Temperature

64.70 ft

NPRL - Limestone Neutron Por.

57.46 ft

55.53 ft

55.53 ft

55.53 ft

55.47 ft

CLDC - Density Caliper

DPRL - Limestone Density Por.

DEN - Compensated Density

DCOR - Density Correction

PDPE - PE

3.34 ft

3.34 ft

3.34 ft

3.34 ft

3.34 ft

3.34 ft

3.34 ft

3.34 ft
Tool Zero

CTAS - Array Ind. Six Cond Ct

R40S - Array Ind. Six Res 40

R30S - Array Ind. Six Res 30

R20S - Array Ind. Six Res 20

R60S - Array Ind. Six Res 60

R85S - Array Ind. Six Res 85

RTAS - Array Ind. Six Res Rt

(0.13ft from bottom)



All measurements relative to tool zero.

| | | | |
|-----------------|--|--|--|
| COMPANY | SANDRIDGE EXPLORATION & PRODUCTION LLC | | |
| WELL | PEPPER 3419 1-4H | | |
| FIELD | SADDLE | | |
| PROVINCE/COUNTY | COMANCHE | | |
| COUNTRY/STATE | U.S.A./KANSAS | | |

| | | | | | |
|-------------------------|---------|------|---------------|---------|------|
| Elevation Kelly Bushing | 2014.00 | feet | First Reading | 9719.00 | feet |
| Elevation Drill Floor | 2014.00 | feet | Depth Driller | 9804.00 | feet |
| Elevation Ground Level | 1994.00 | feet | Depth Logger | 9774.00 | feet |



Weatherford[®]

CML IMPULSE SHUTTLE
 COMPACT PHOTO DENSITY
 COMPENSATED NEUTRON