



**Weatherford**

**CML MESSENGER SHUTTLE  
COMPACT PHOTO DENSITY  
COMPENSATED NEUTRON LOG**

|                                           |               |              |                |                     |             |  |  |
|-------------------------------------------|---------------|--------------|----------------|---------------------|-------------|--|--|
| COMPANY                                   |               |              |                | Sandridge Energy    |             |  |  |
| WELL                                      |               |              |                | Gabriel 3120 1-12H  |             |  |  |
| FIELD                                     |               |              |                | Six Moons           |             |  |  |
| PROVINCE/COUNTY                           |               |              |                | Comanche            |             |  |  |
| COUNTRY/STATE                             |               |              |                | U.S.A. / Kansas     |             |  |  |
| LOCATION                                  |               |              |                | 330' FNL & 660' FEL |             |  |  |
| SEC                                       | TWP           | RGE          | Other Services |                     |             |  |  |
| 13                                        | 31S           | 20W          | MAI            |                     |             |  |  |
| API Number                                |               | 15-033-21693 |                |                     |             |  |  |
| Permit Number                             |               |              |                |                     |             |  |  |
| Permanent Datum G.L., Elevation 2042 feet |               |              |                |                     | Elevations: |  |  |
| Log Measured From KB                      |               |              |                |                     | KB 2060.00  |  |  |
| Drilling Measured From K.B. @ 18 feet     |               |              |                |                     | DF 2060.00  |  |  |
|                                           |               |              |                |                     | GL 2042.00  |  |  |
| Date                                      | 15-MAR-2013   |              |                |                     |             |  |  |
| Run Number                                | One           |              |                |                     |             |  |  |
| Service Order                             | 3540322       |              |                |                     |             |  |  |
| Depth Driller                             | 10314.00      |              | feet           |                     |             |  |  |
| Depth Logger                              | 10314.00      |              | feet           |                     |             |  |  |
| First Reading                             | 10259.00      |              | feet           |                     |             |  |  |
| Last Reading                              | 4900.00       |              | feet           |                     |             |  |  |
| Casing Driller                            | 5517.00       |              | feet           |                     |             |  |  |
| Casing Logger                             | 5517.00       |              | inches         |                     |             |  |  |
| Bit Size                                  | 6.125         |              |                |                     |             |  |  |
| Hole Fluid Type                           | WBM           |              | lb/USg         |                     |             |  |  |
| Density / Viscosity                       | 9.00 lb/USg   |              | 35.00 CP       |                     |             |  |  |
| PH / Fluid Loss                           | 10.50         |              | 10.50          |                     |             |  |  |
| Sample Source                             | Flowline      |              |                |                     |             |  |  |
| Rm @ Measured Temp                        | 0.84 @ 71.0   |              | ohm-m          |                     |             |  |  |
| Rmf @ Measured Temp                       | 0.67 @ 71.0   |              | ohm-m          |                     |             |  |  |
| Rmc @ Measured Temp                       | 1.01 @ 71.0   |              | ohm-m          |                     |             |  |  |
| Source Rmf / Rmc                          | Calc          |              | Calc           |                     |             |  |  |
| Rm @ BHT                                  | 0.46 @130.0   |              | ohm-m          |                     |             |  |  |
| Time Since Circulation                    | 1 hour        |              |                |                     |             |  |  |
| Max Recorded Temp                         | 130.00        |              | deg F          |                     |             |  |  |
| Equipment / Base                          | 18077         |              | okc            |                     |             |  |  |
| Recorded By                               | Steven Totley |              |                |                     |             |  |  |
| Witnessed By                              | J Hileman     |              |                |                     |             |  |  |
| AFE                                       | DC11857       |              |                |                     |             |  |  |

| BOREHOLE RECORD    |                    |                  | Last Edited: 15-MAR-2013 16:38 |
|--------------------|--------------------|------------------|--------------------------------|
| Bit Size<br>inches | Depth From<br>feet | Depth To<br>feet |                                |
| 8.750              | 0.00               | 5517.00          |                                |
| 6.125              | 5517.00            | 10314.00         |                                |

| CASING RECORD |                |                    |                    |                     |
|---------------|----------------|--------------------|--------------------|---------------------|
| Type          | Size<br>inches | Depth From<br>feet | Shoe Depth<br>feet | Weight<br>pounds/ft |
| inter         | 7.000          | 0.00               | 5517.00            | 24.00               |

| REMARKS                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LOGGED WITH WLS 13.04.8492                                                                                                                                                                                                                       |
| LOGGED USING MESSENGER SHUTTLE METHOD OF DEPLOYMENT                                                                                                                                                                                              |
| TOOLS RAN: SRT-69,,200V MBS-114,MMSE133,MTI-076, MGS-142,MCL-063,SKJ-472,SHA-438,MIS-608, MDN-391, MPD-394,MIS-607, SHA-167, SKJ-479,, MAI-170 RAN IN COMBINATION                                                                                |
| HARDWARE: MAI: MIS-B 0.5" STANDOFF USED ABOVE MAI, ISA STAND-OFF RAN BELOW MAI<br>MFE: MIS-B 0.5" STANDOFF USED ABOVE MFE<br>MDN: MIS-A DOUBLE BOWSPRING USED ABOVE MDN.<br>MPD: 4INCH PROFILE PLATE USED, MIS-A SINGLE BOWSPRING USED BELOW MPD |
| 2.71 G/CC DENSITY MATRIX USED TO CALCULATE POROSITY<br>ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST                                                                                                                                    |
| DRILL PIPE DEPTH DURING DEPLOYMENT: 10209                                                                                                                                                                                                        |

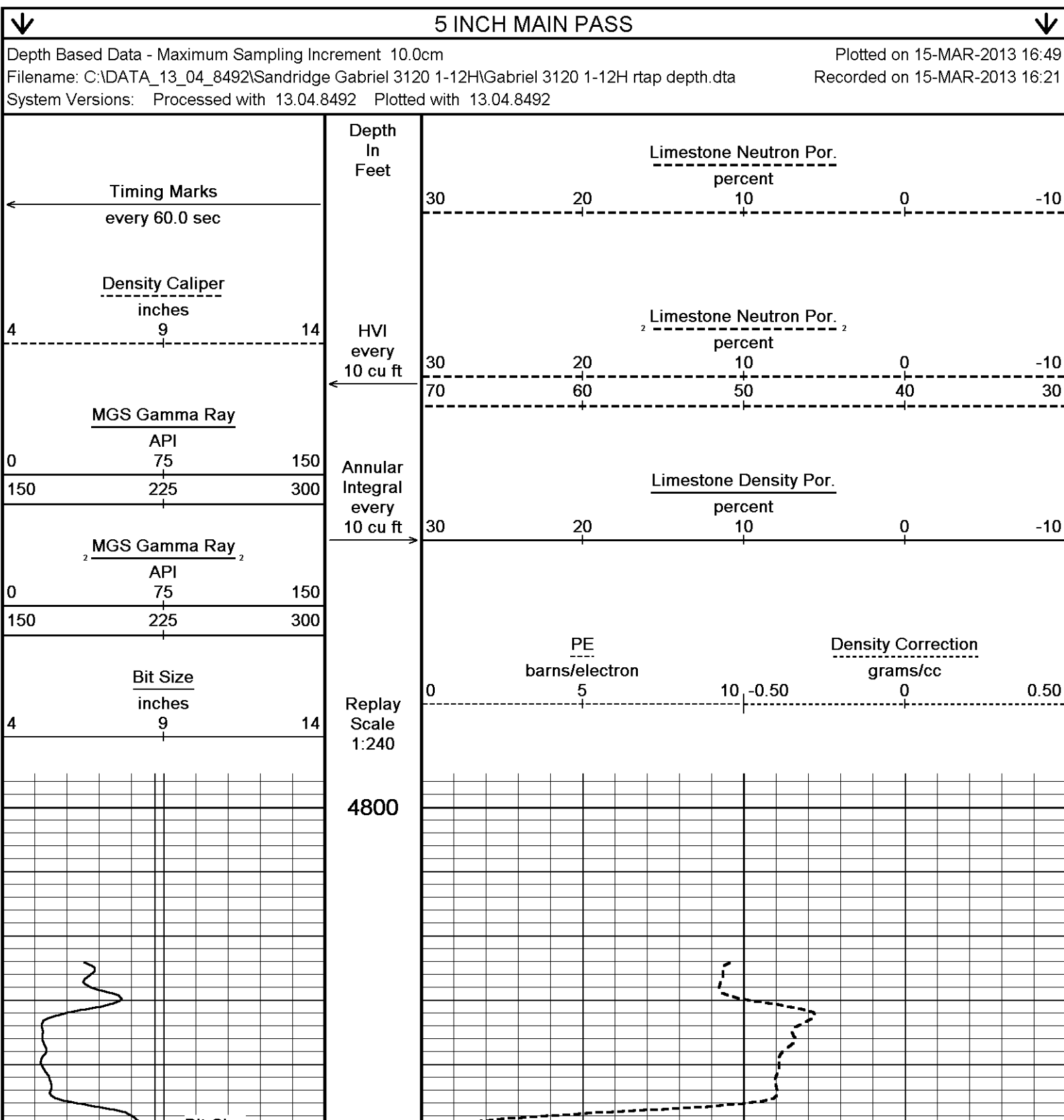
DRILL FILE DEPTH BORING DEPTH: 10292  
LOGGING TOOL DEPTH AFTER DEPLOYMENT: 10292

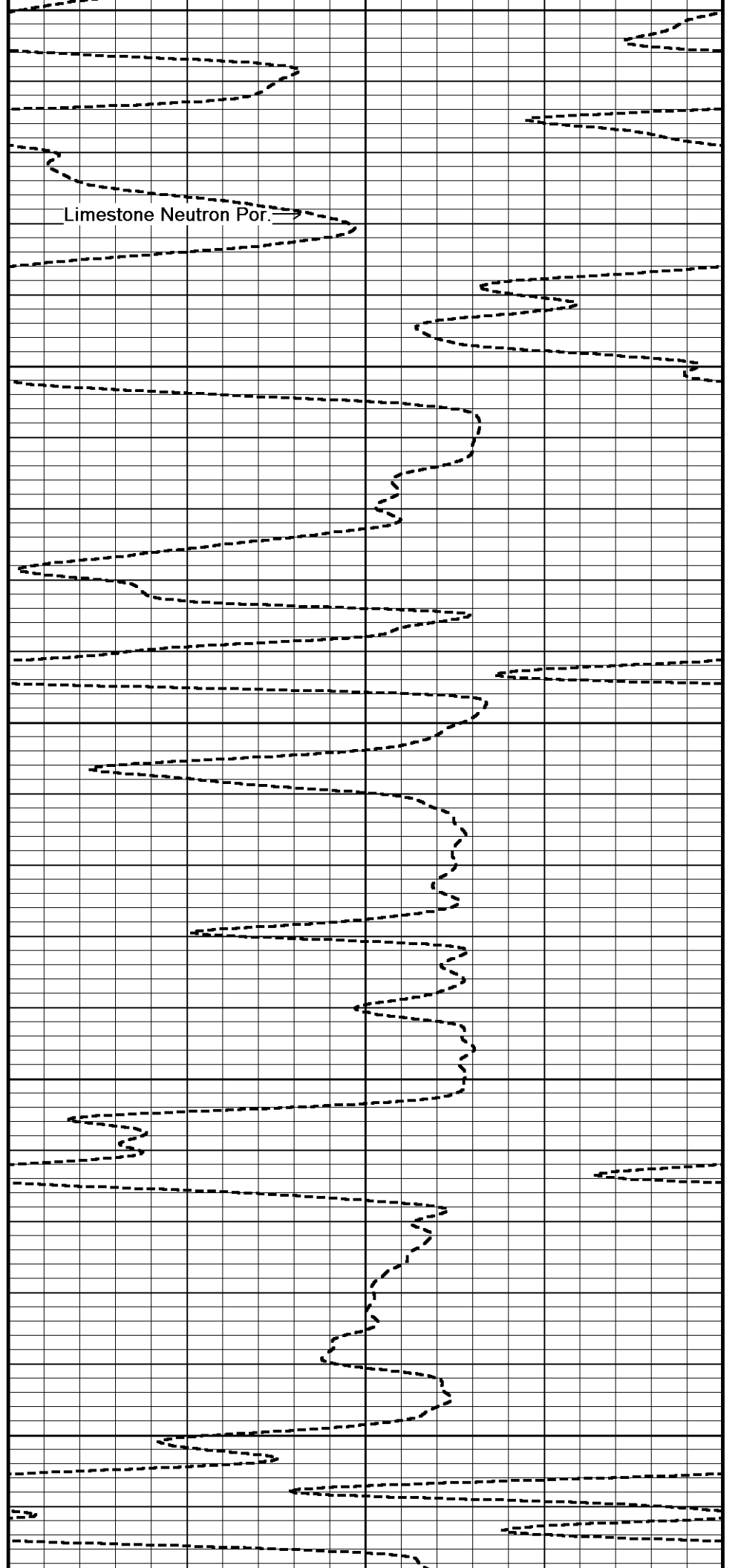
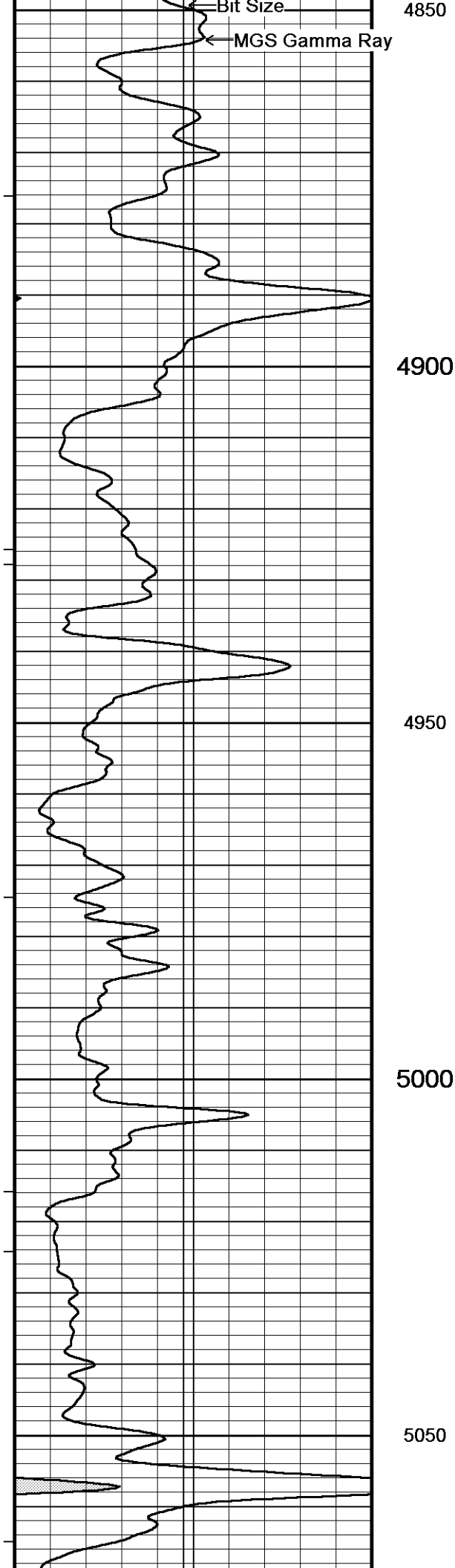
OPERATORS: Drew Turner and Ryan Bradshaw

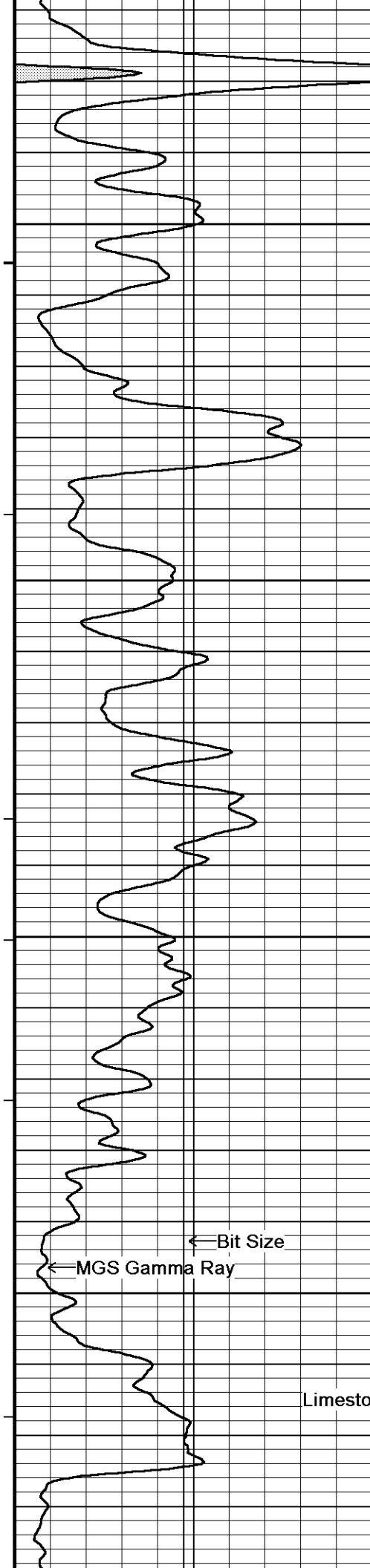
RIG: LARIAT #45

LOG RESPONSES EFFECTED BY HOLE RUGOSITY

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.







5100

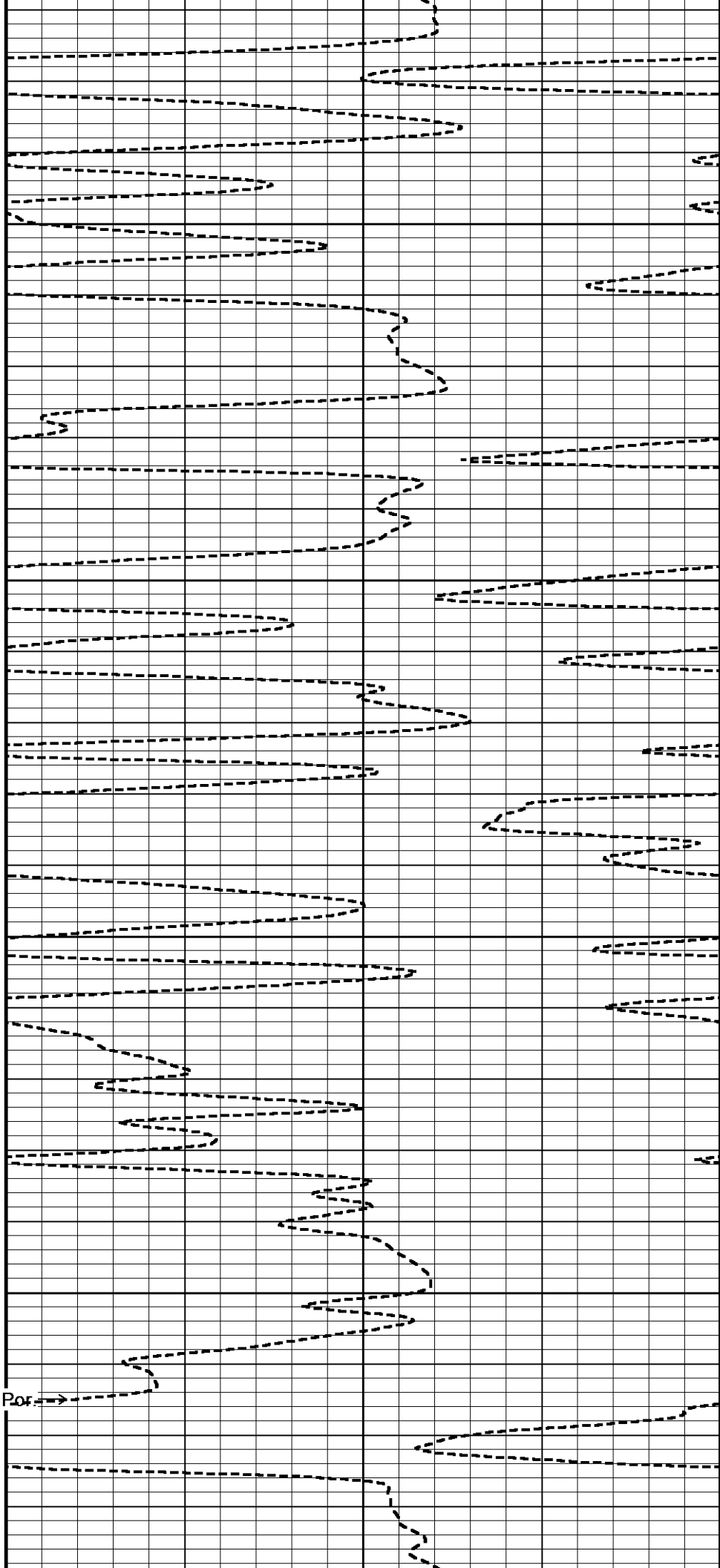
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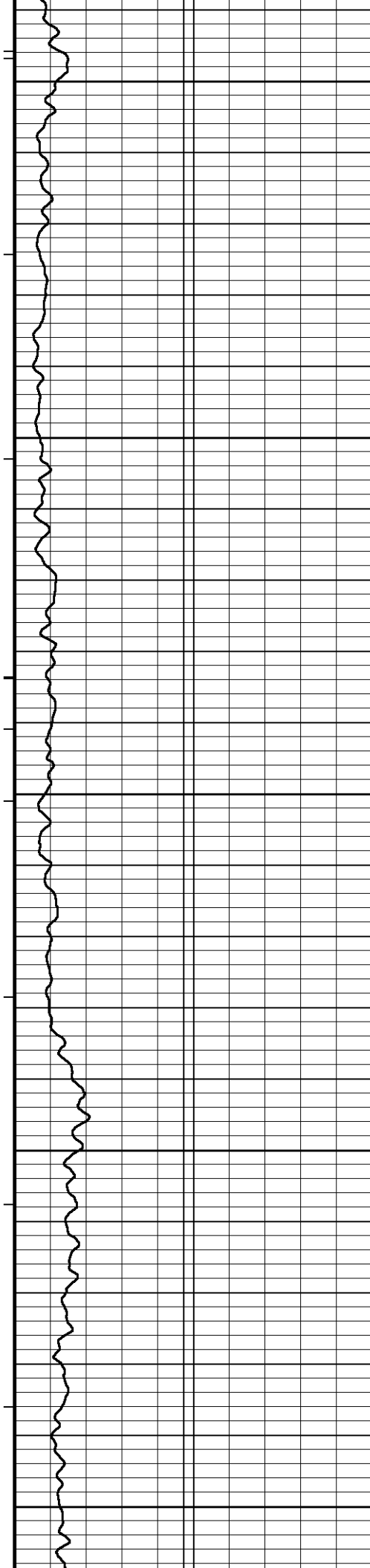
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5250

← Bit Size  
← MGS Gamma Ray

Limestone Neutron Por.





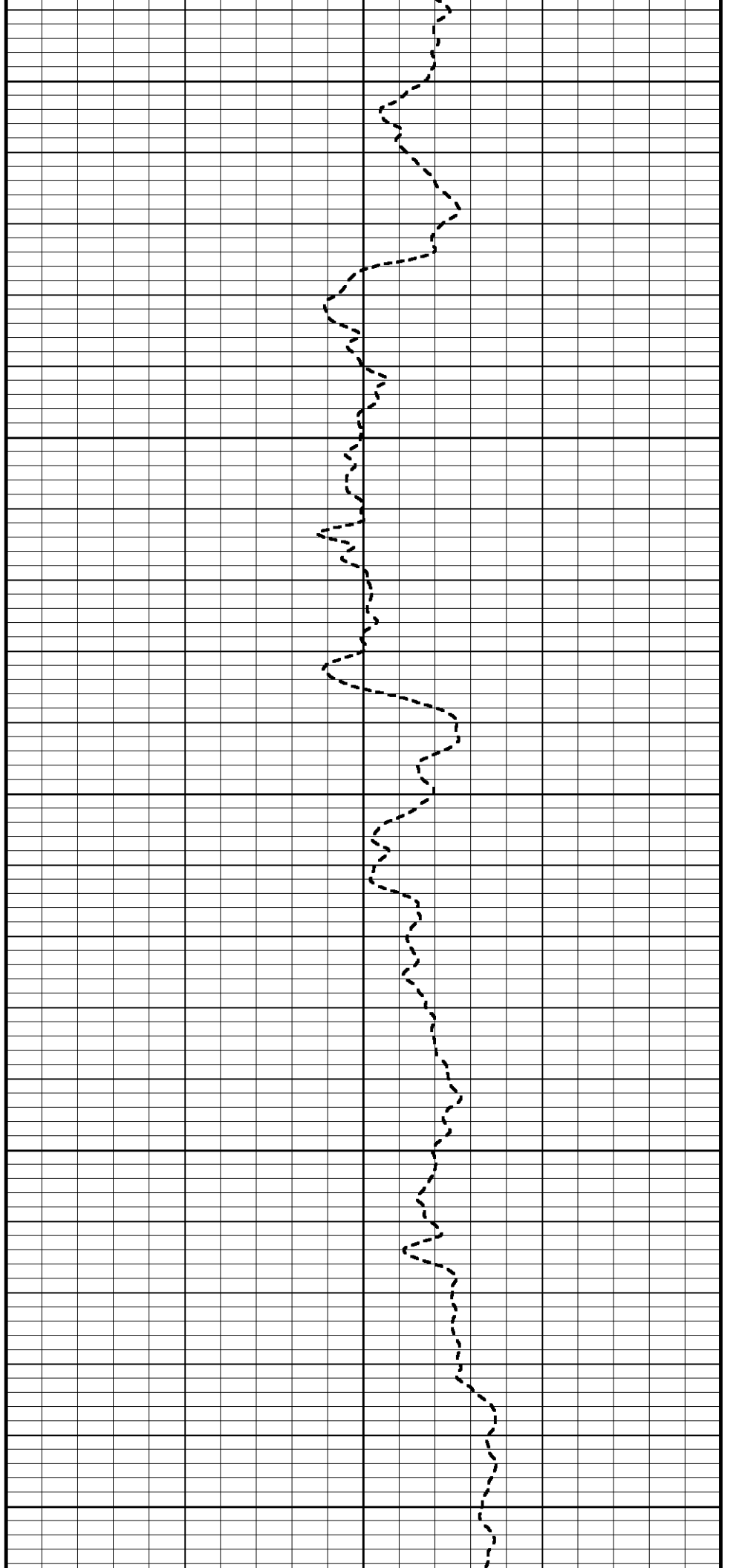
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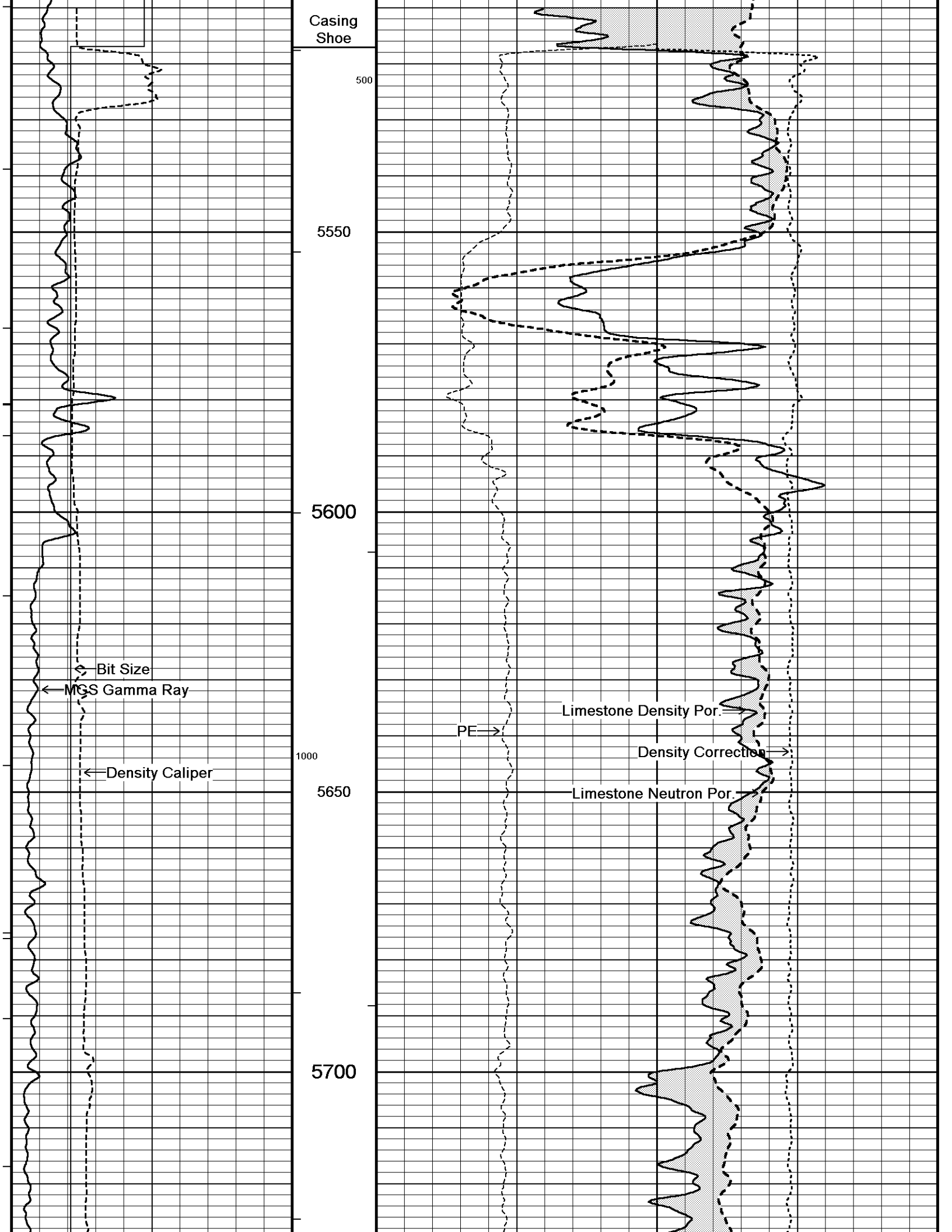
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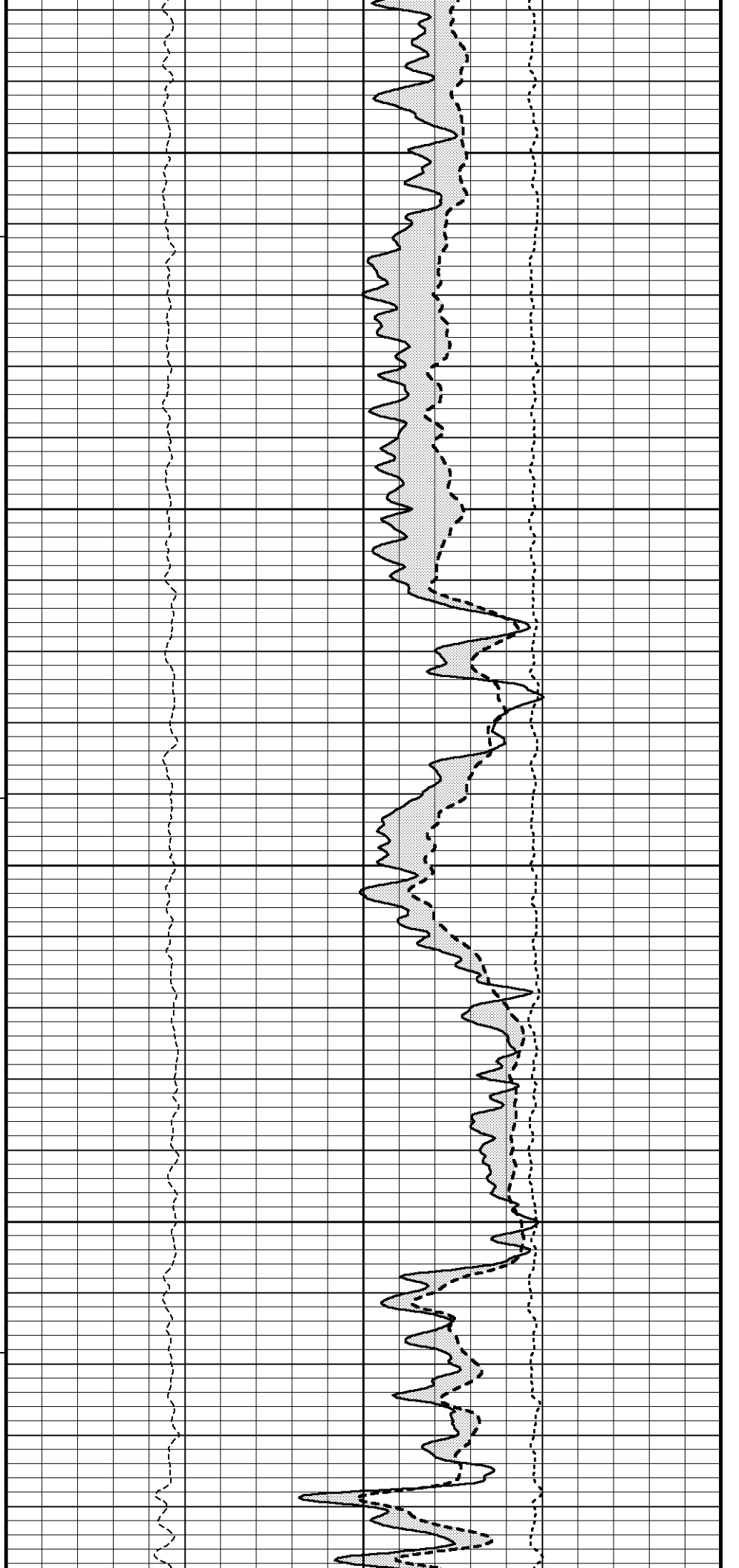
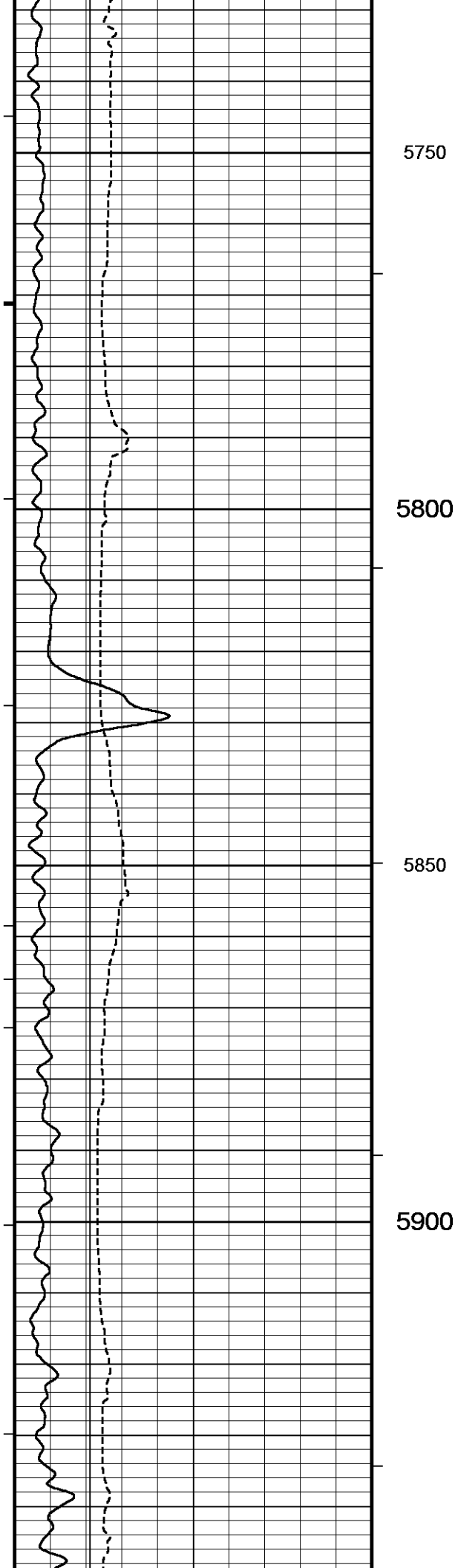
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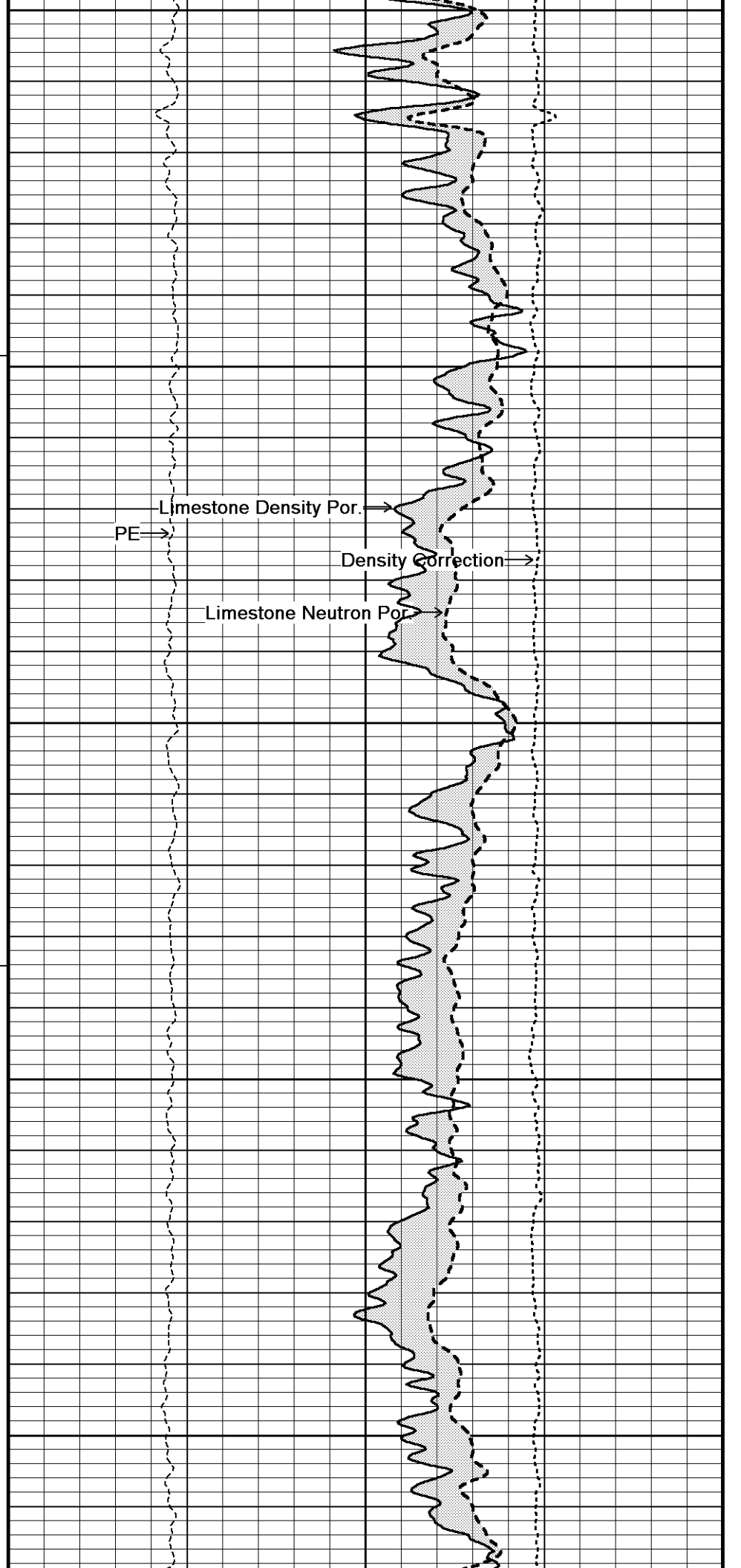
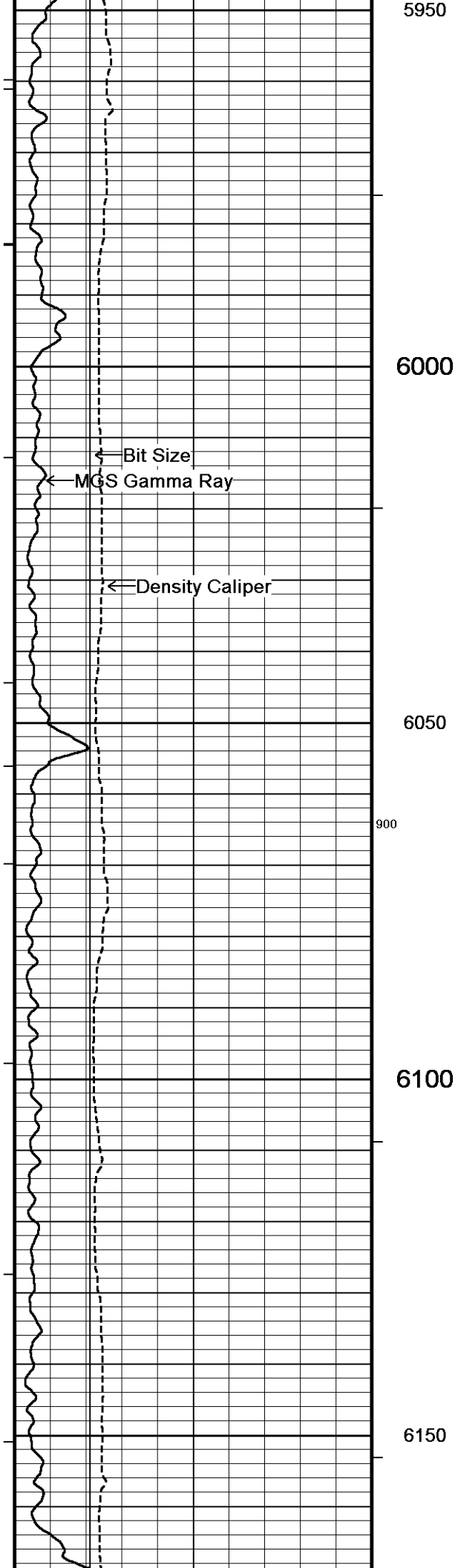
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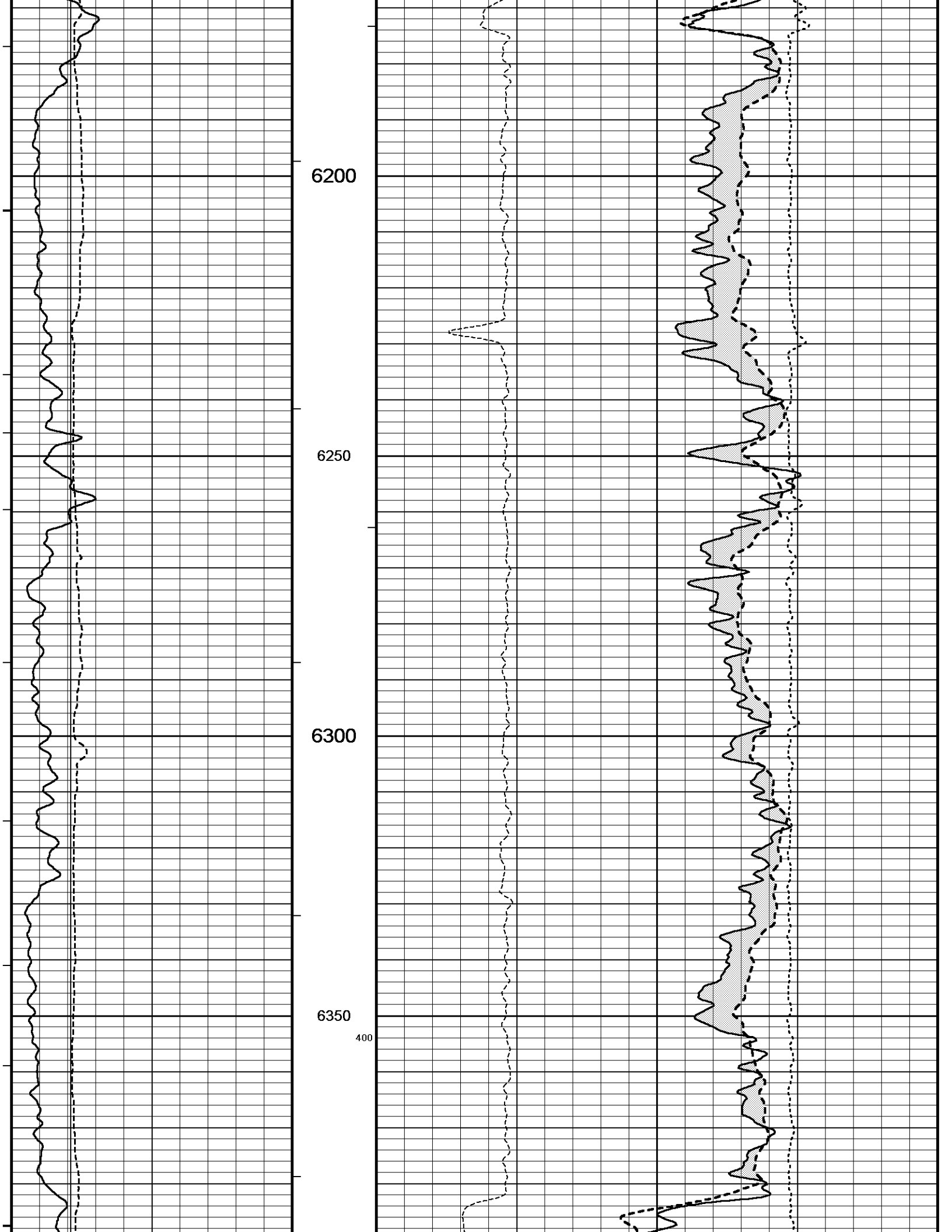


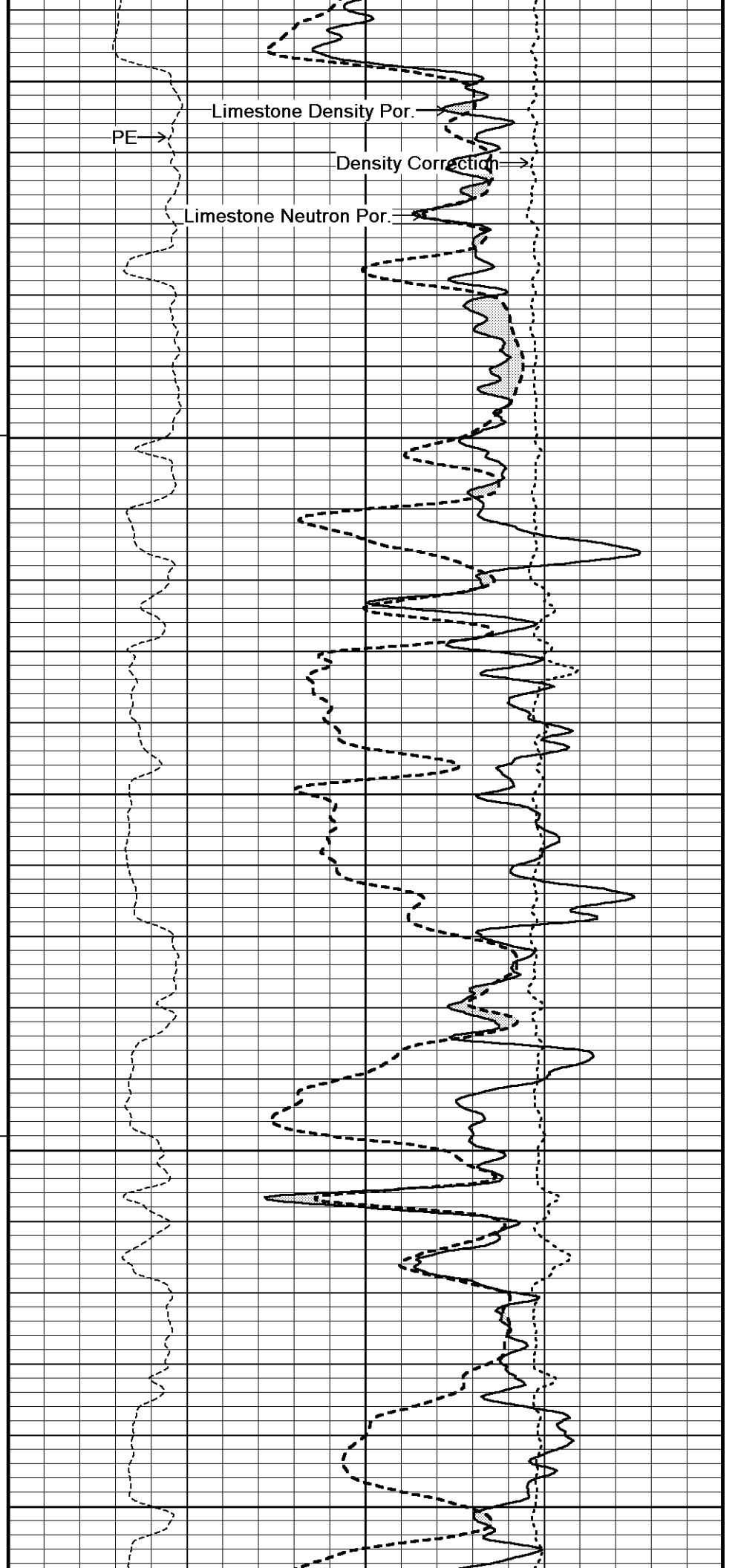
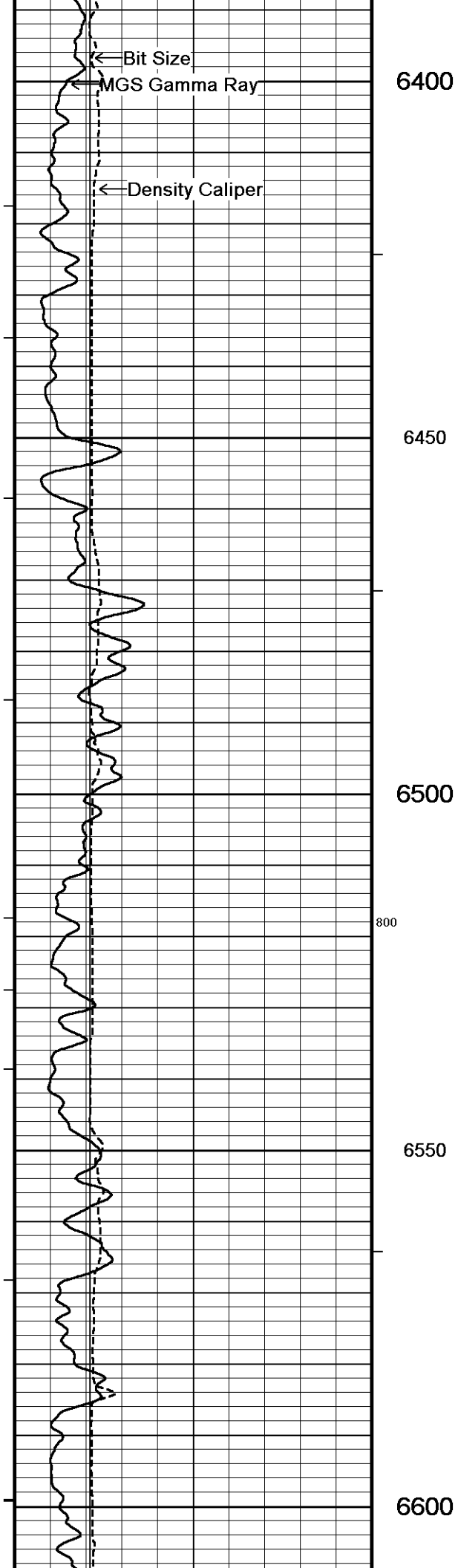


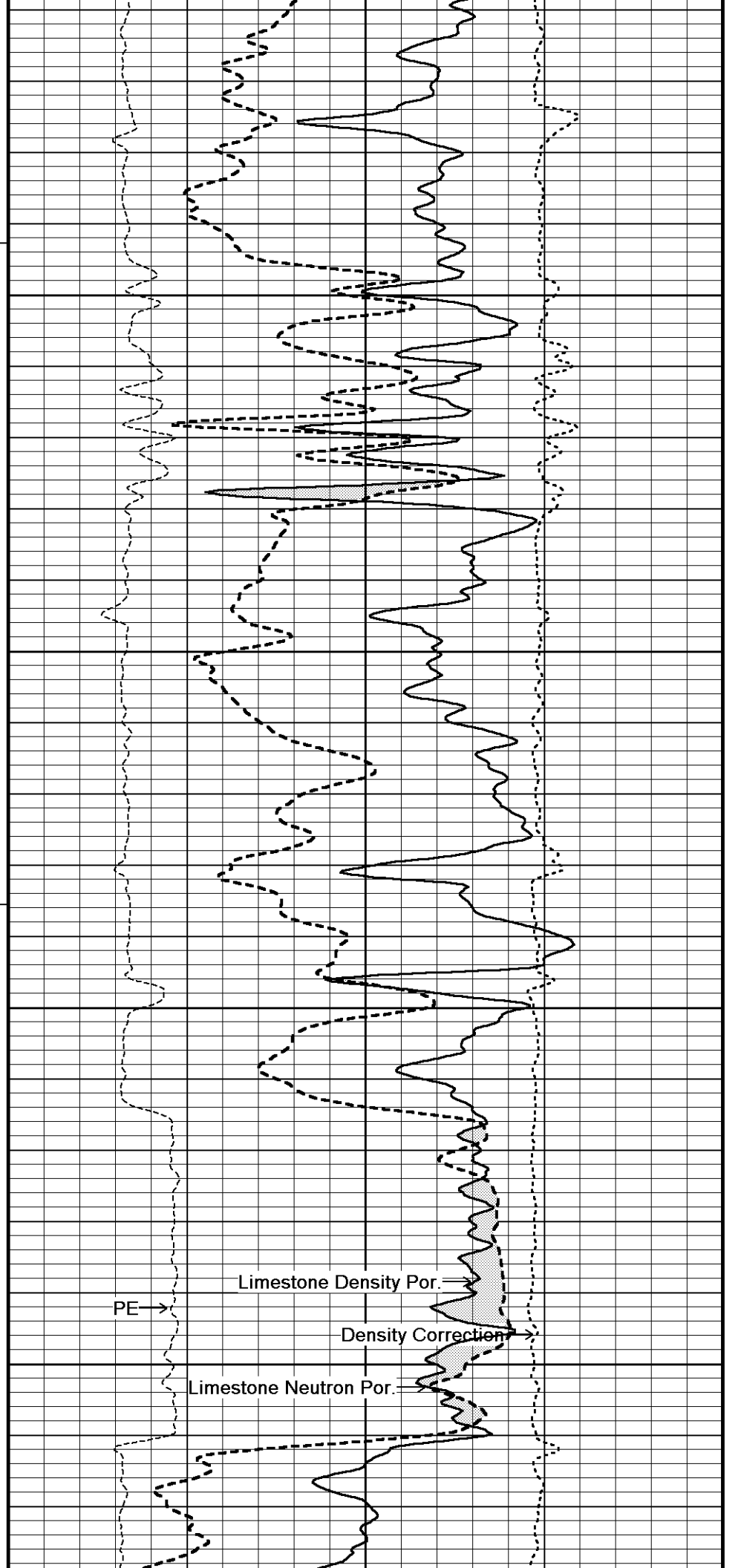
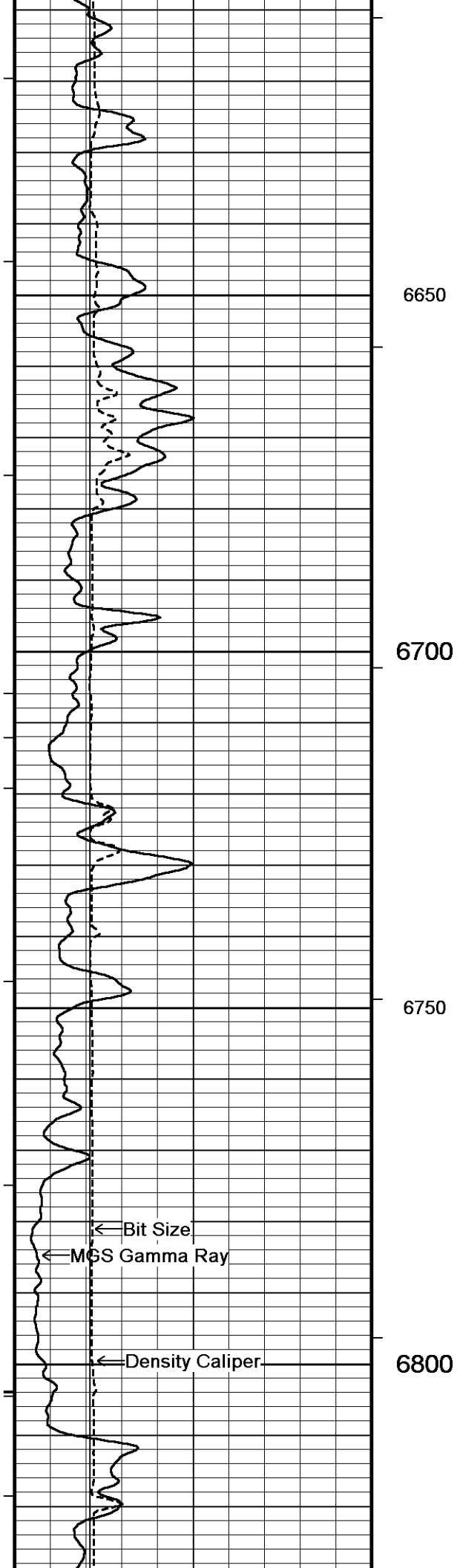


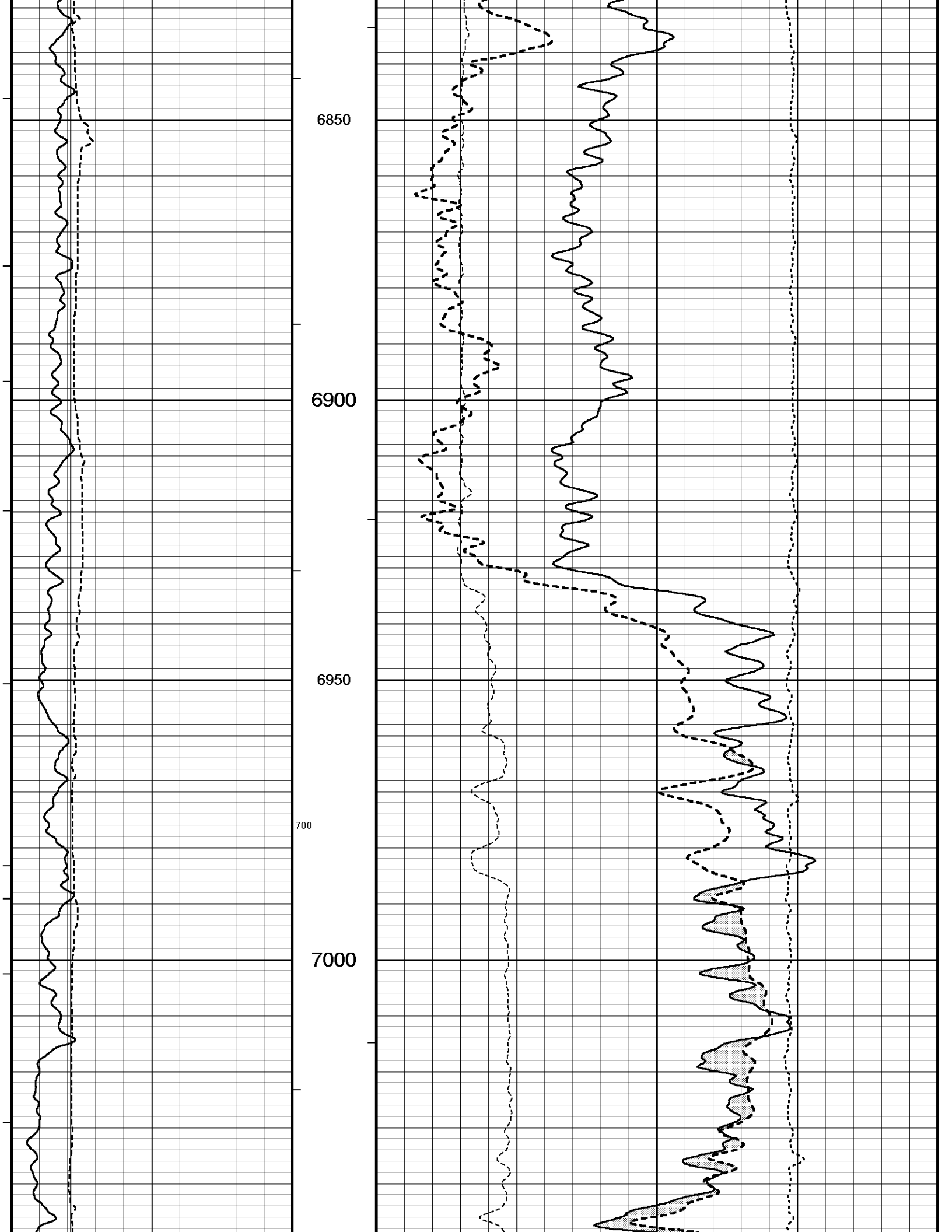


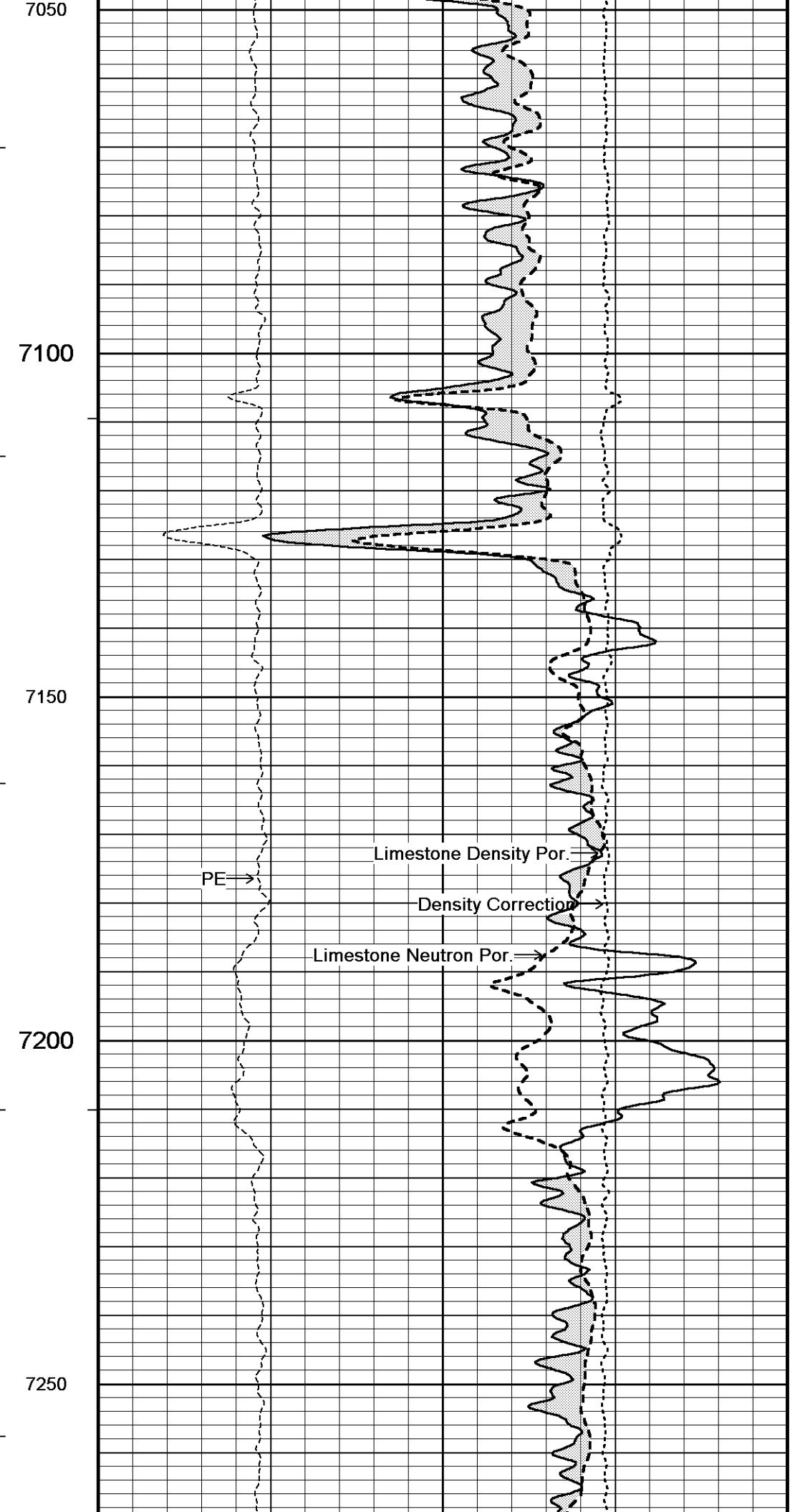
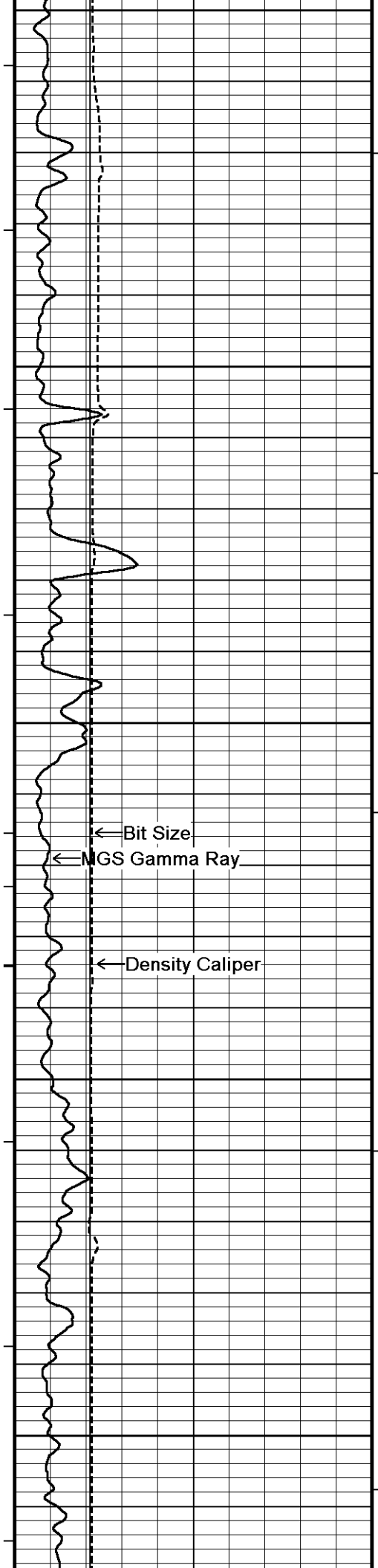


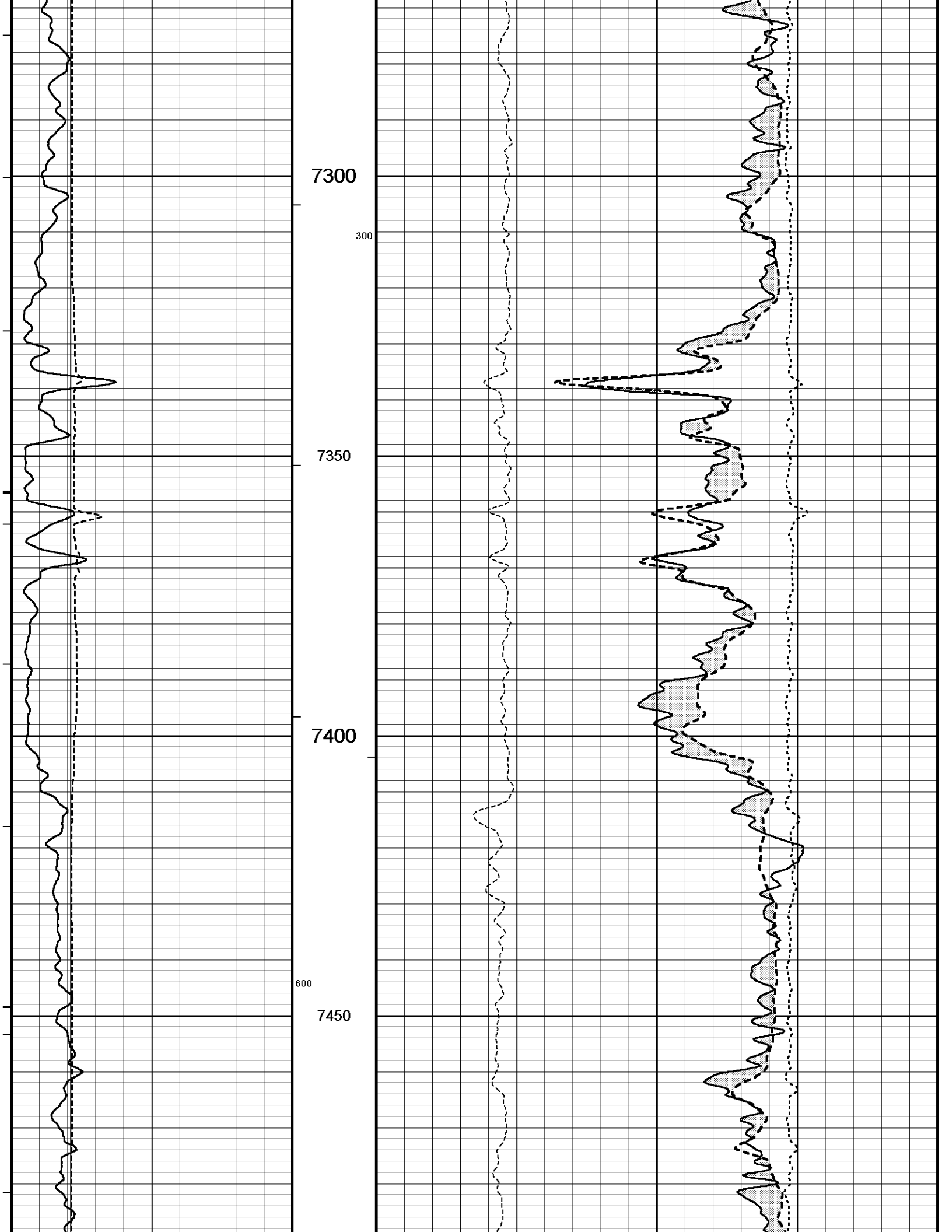


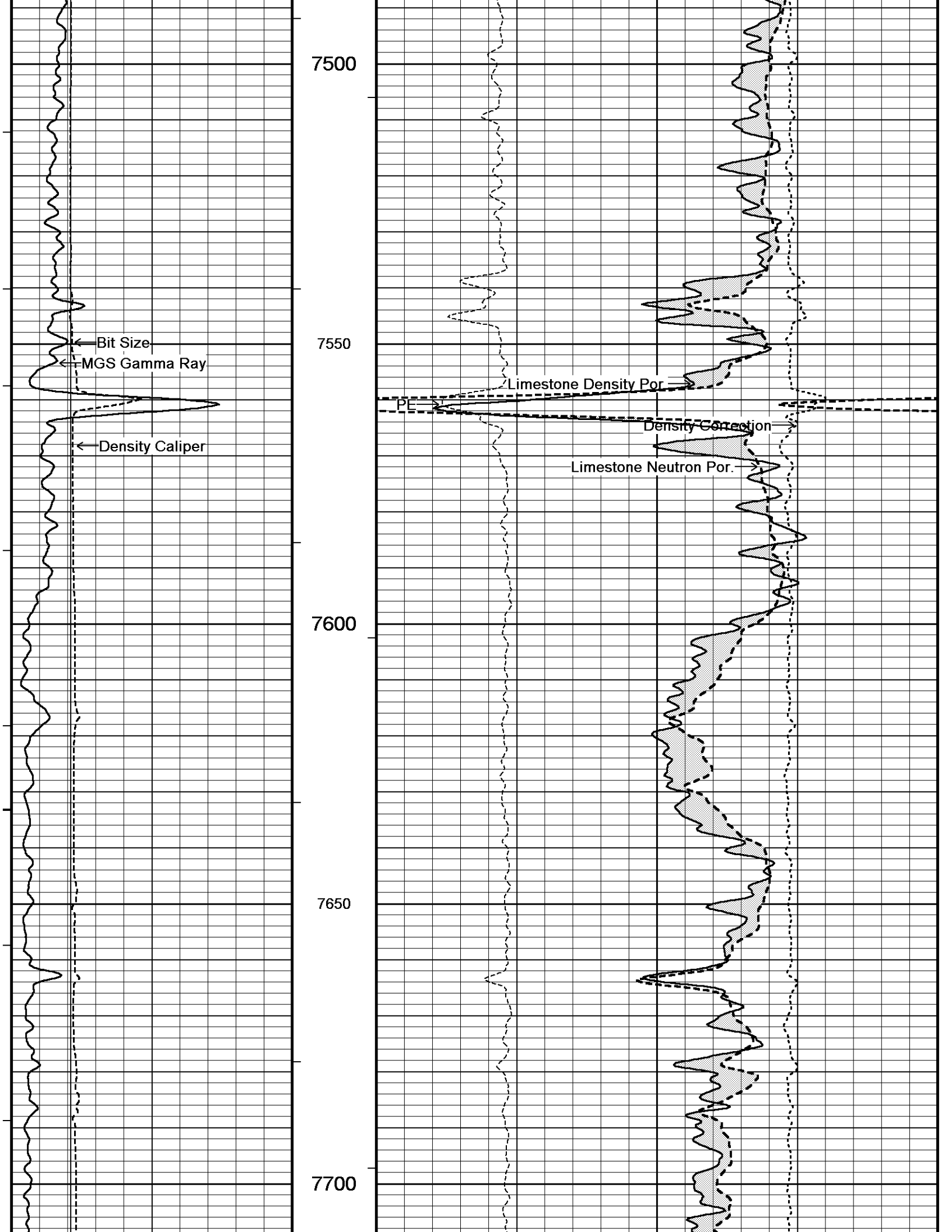


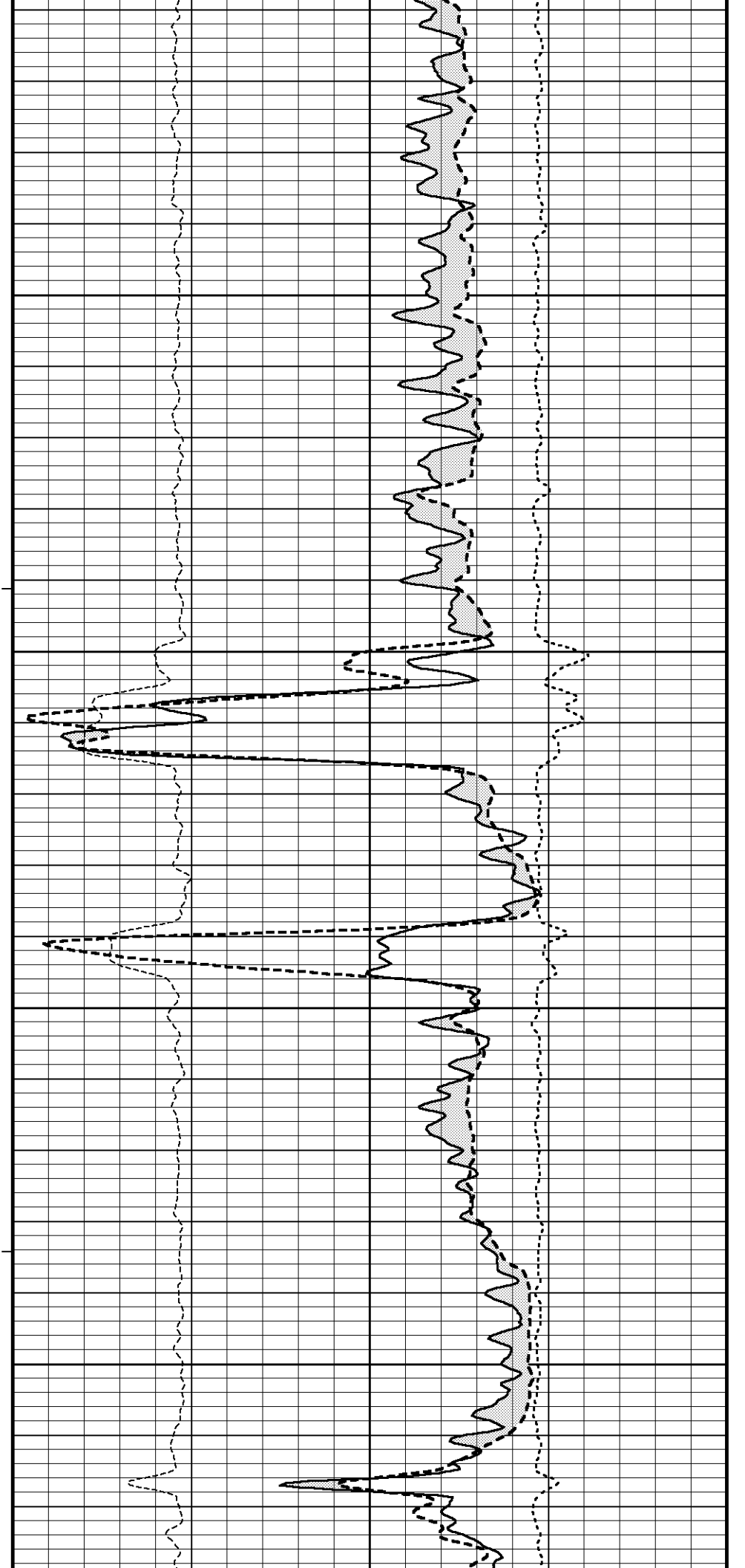
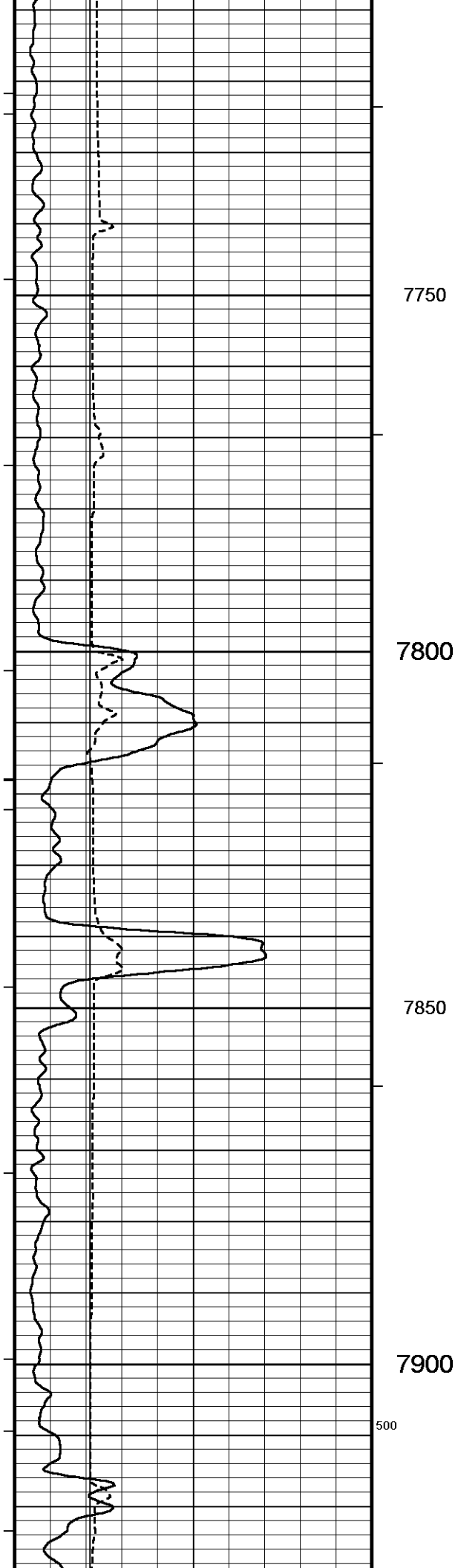




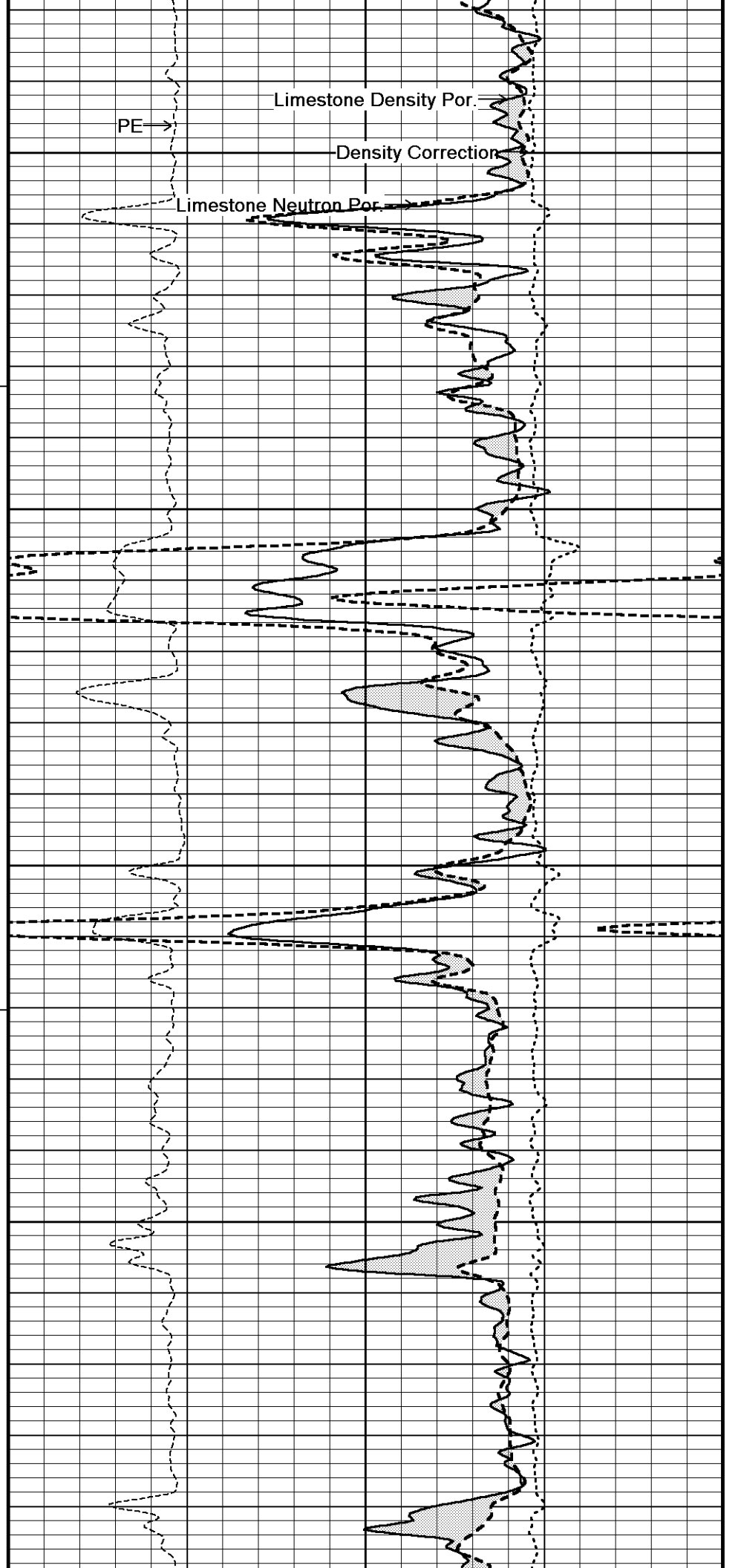
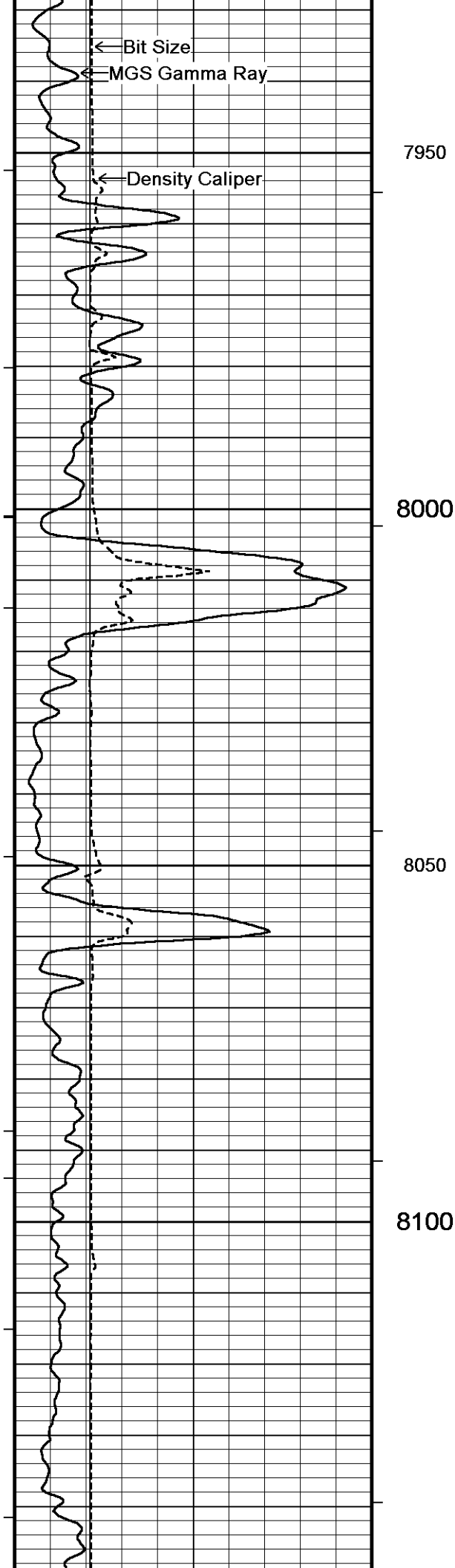


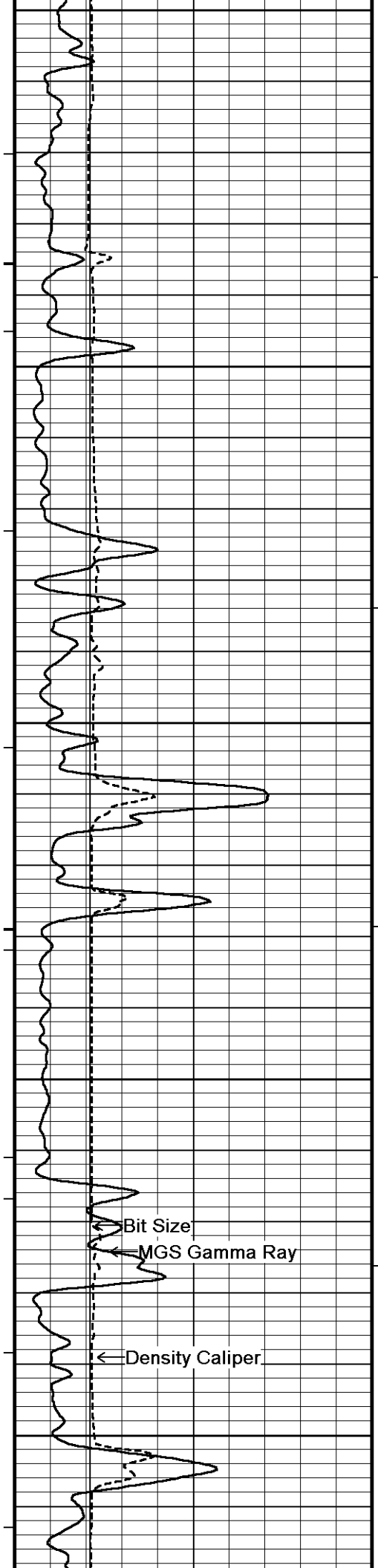




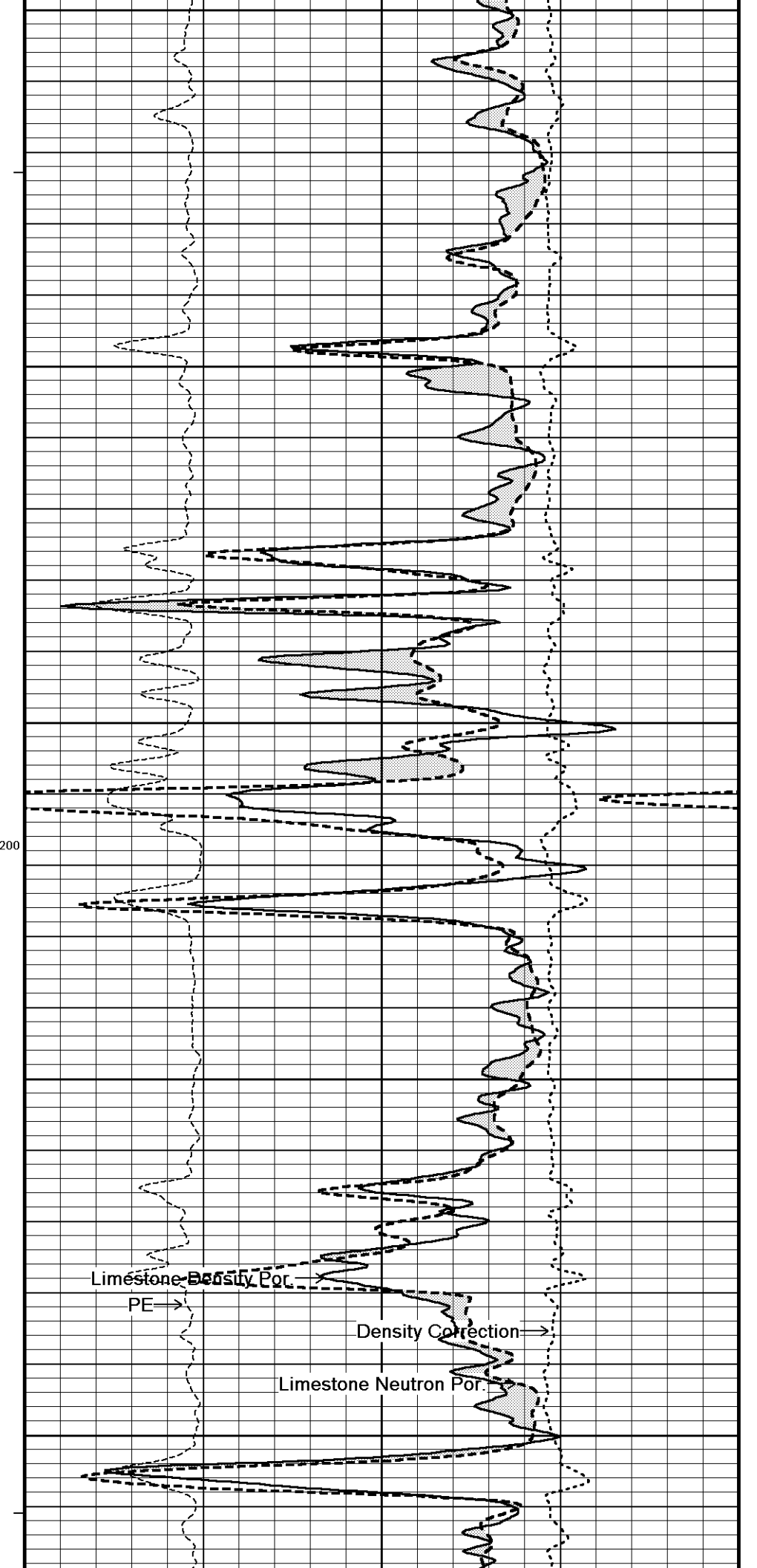


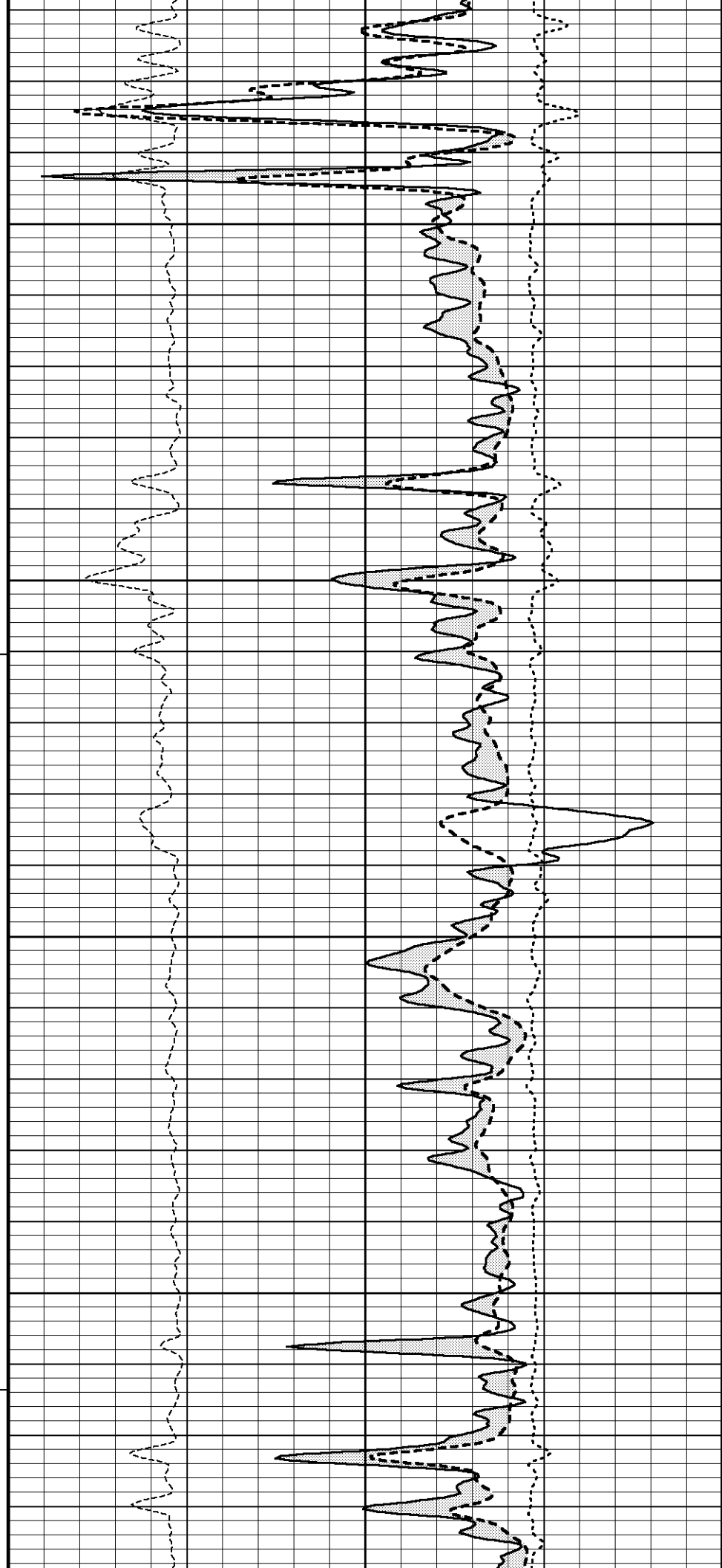
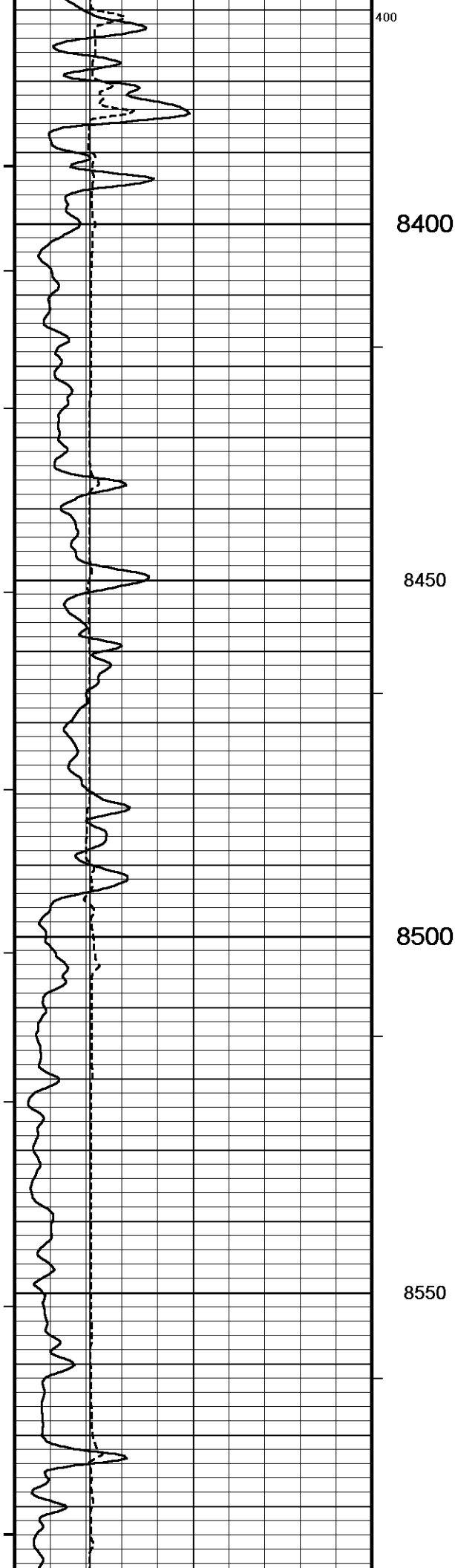


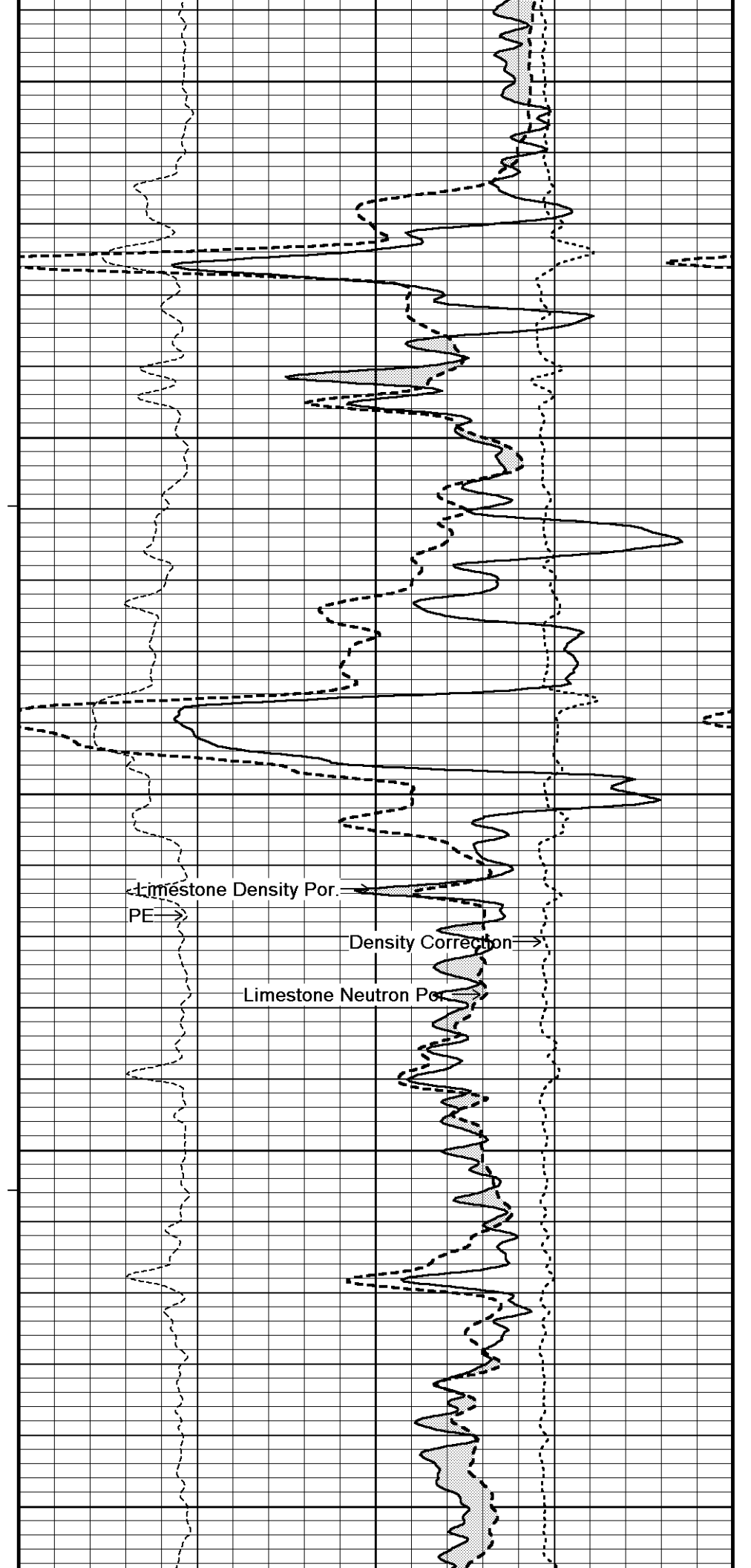
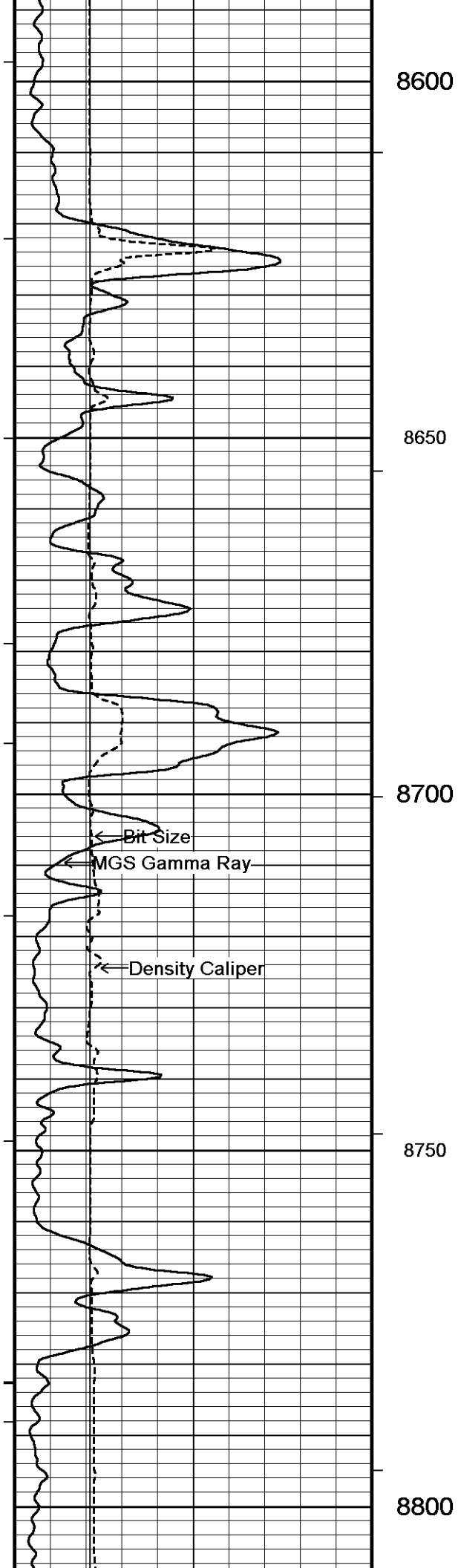


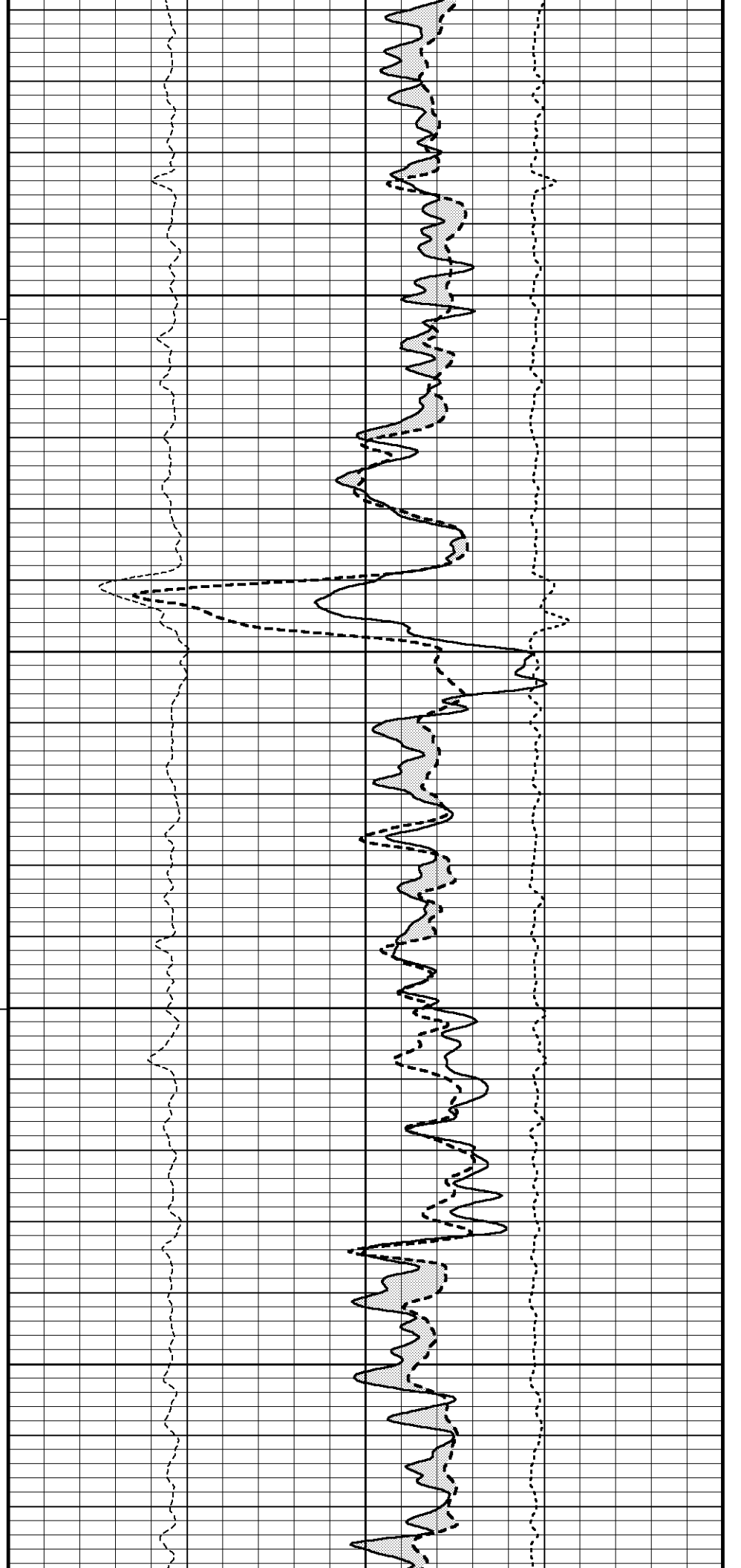
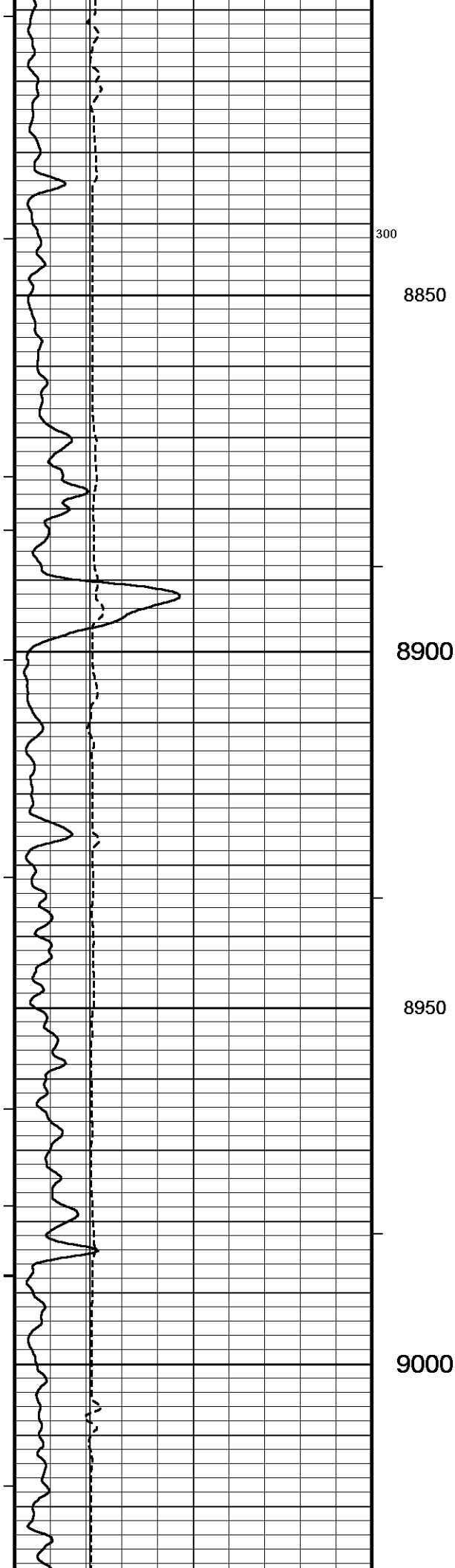


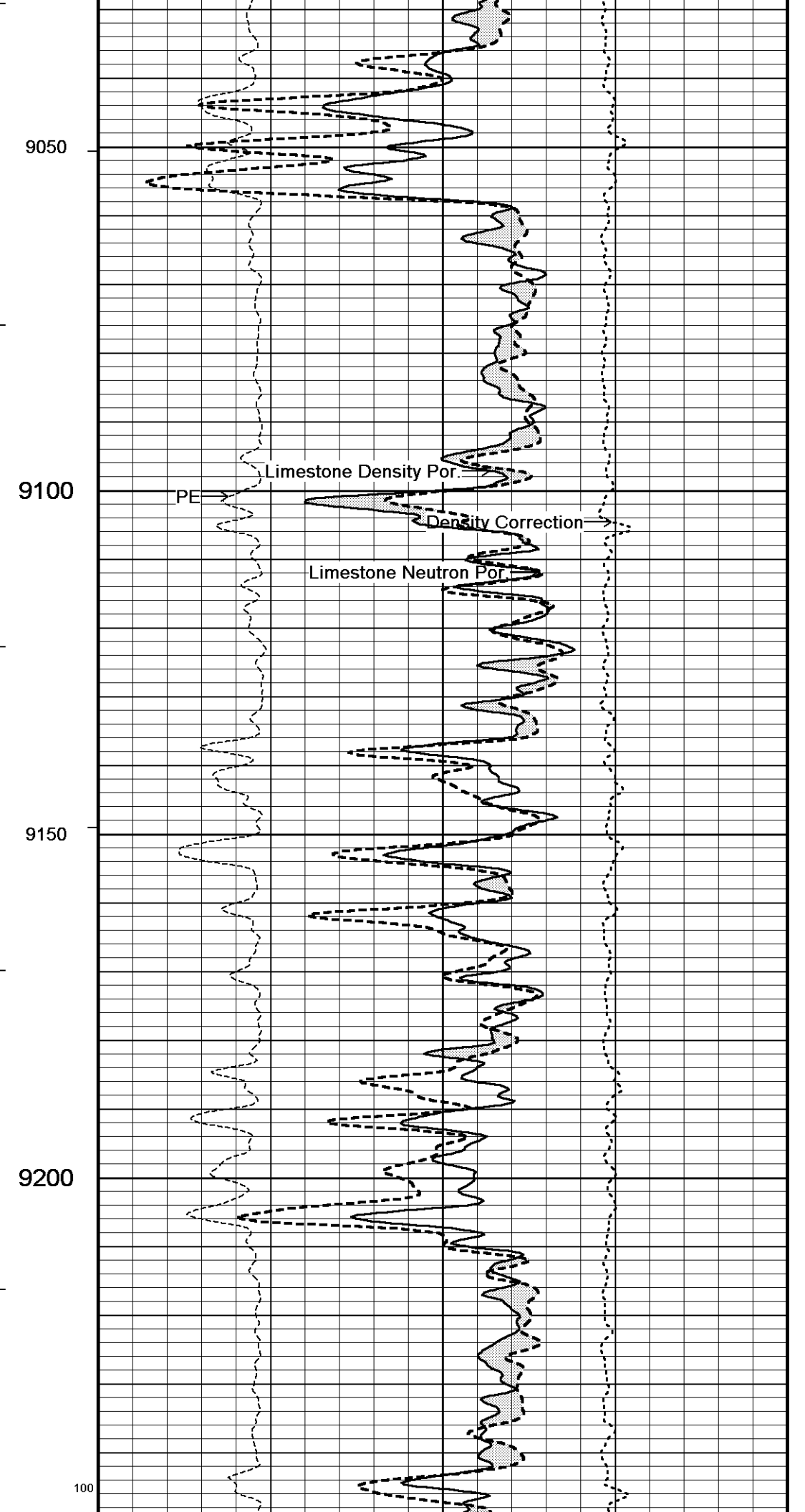
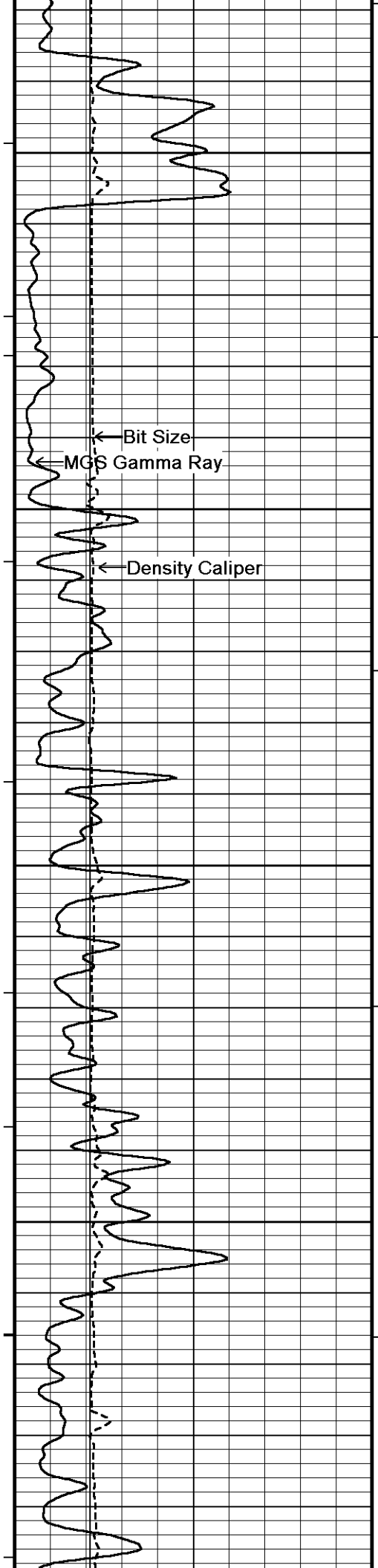
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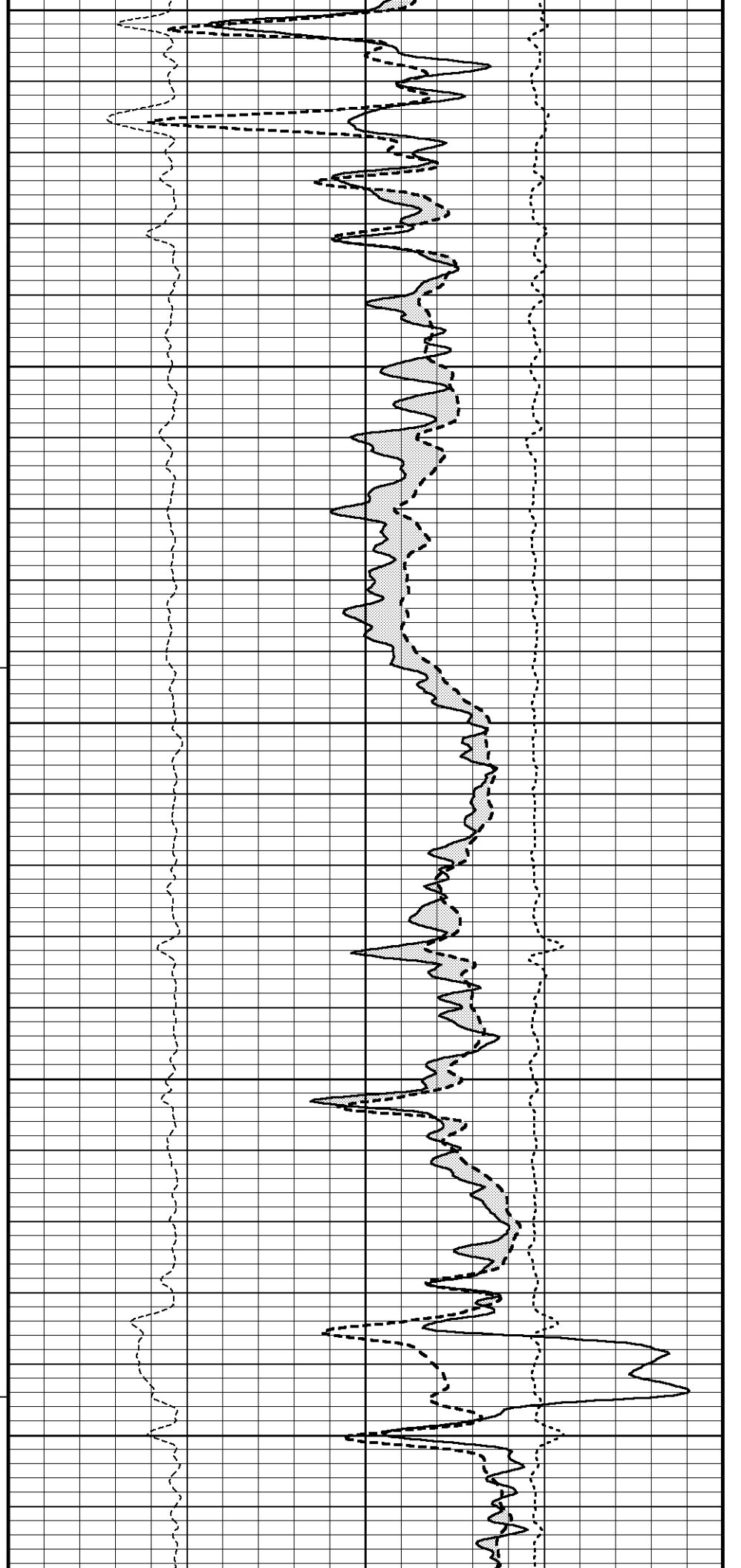
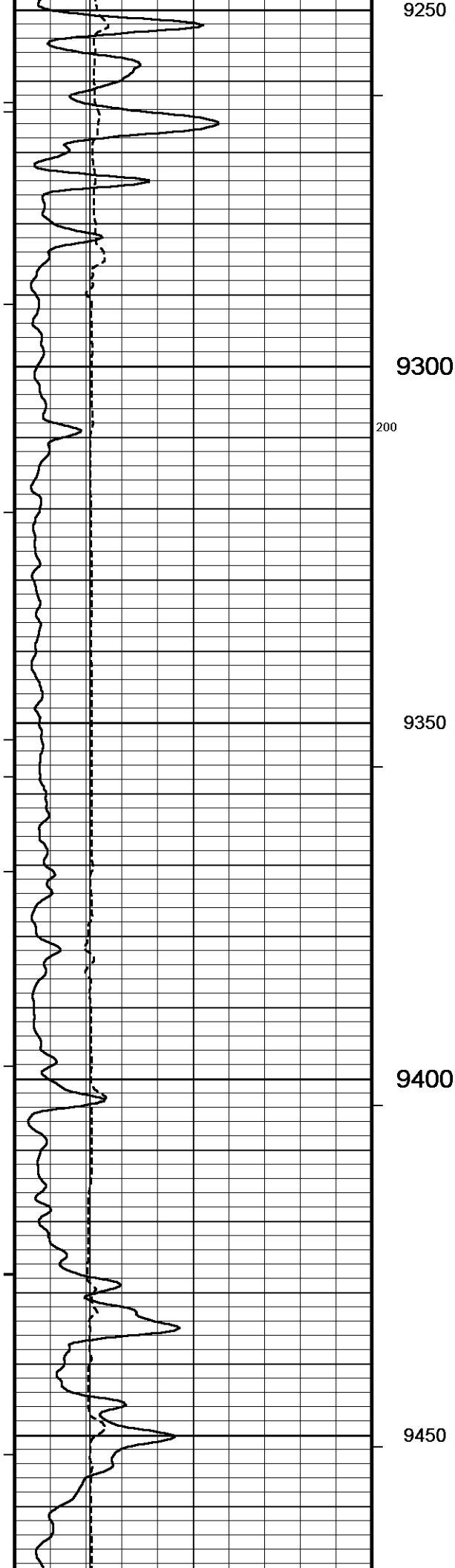


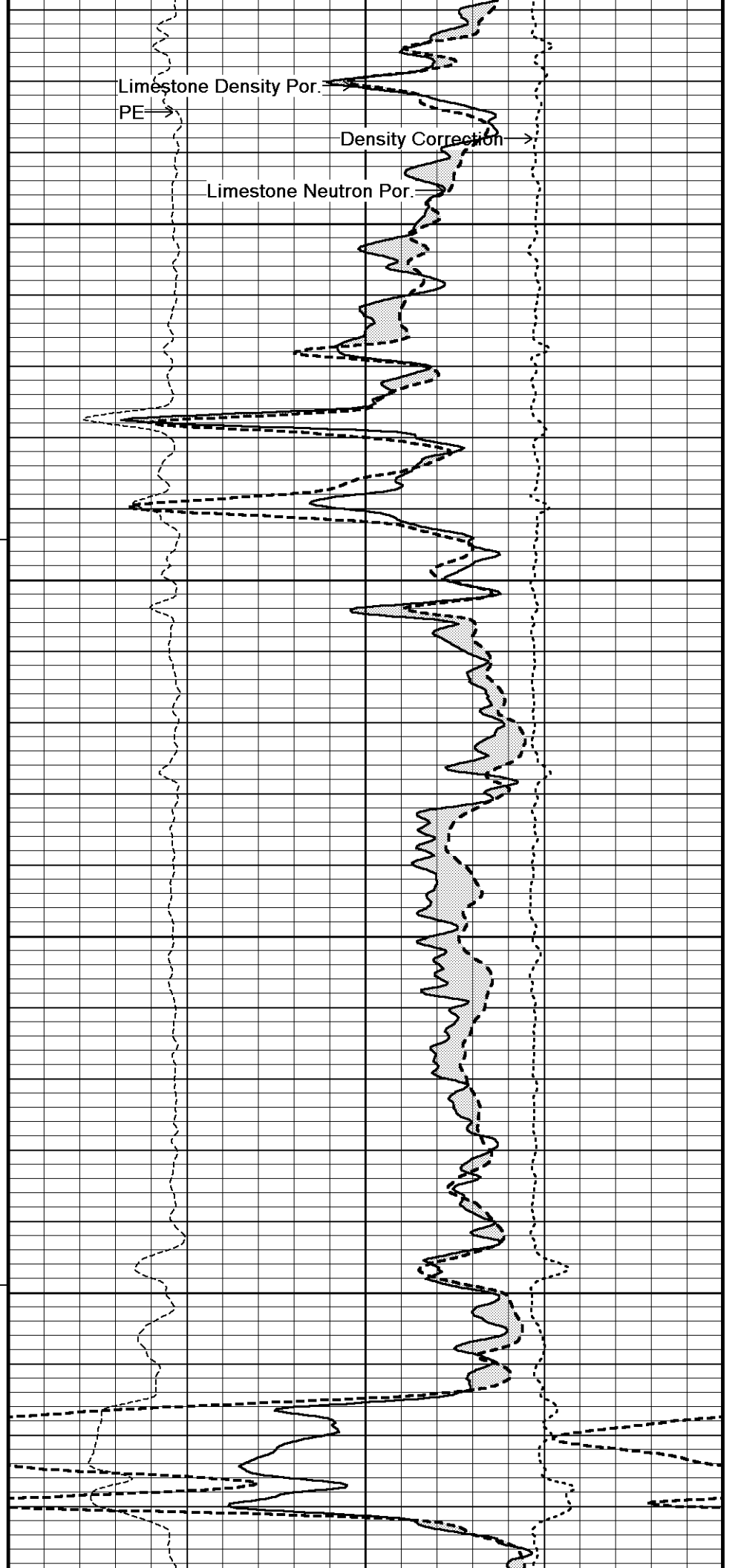
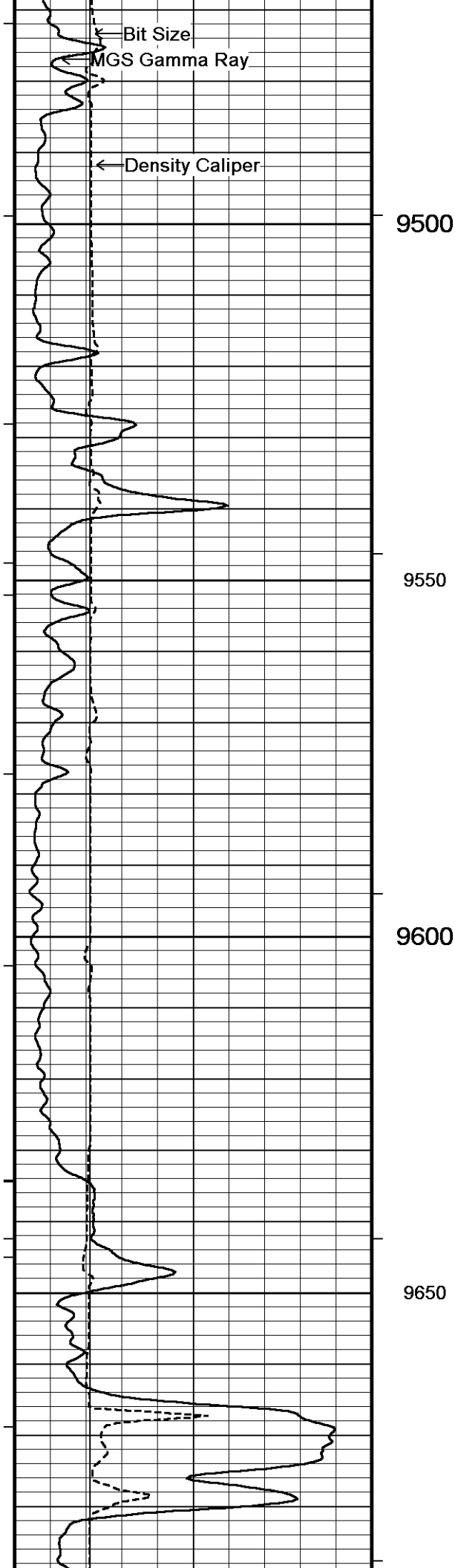




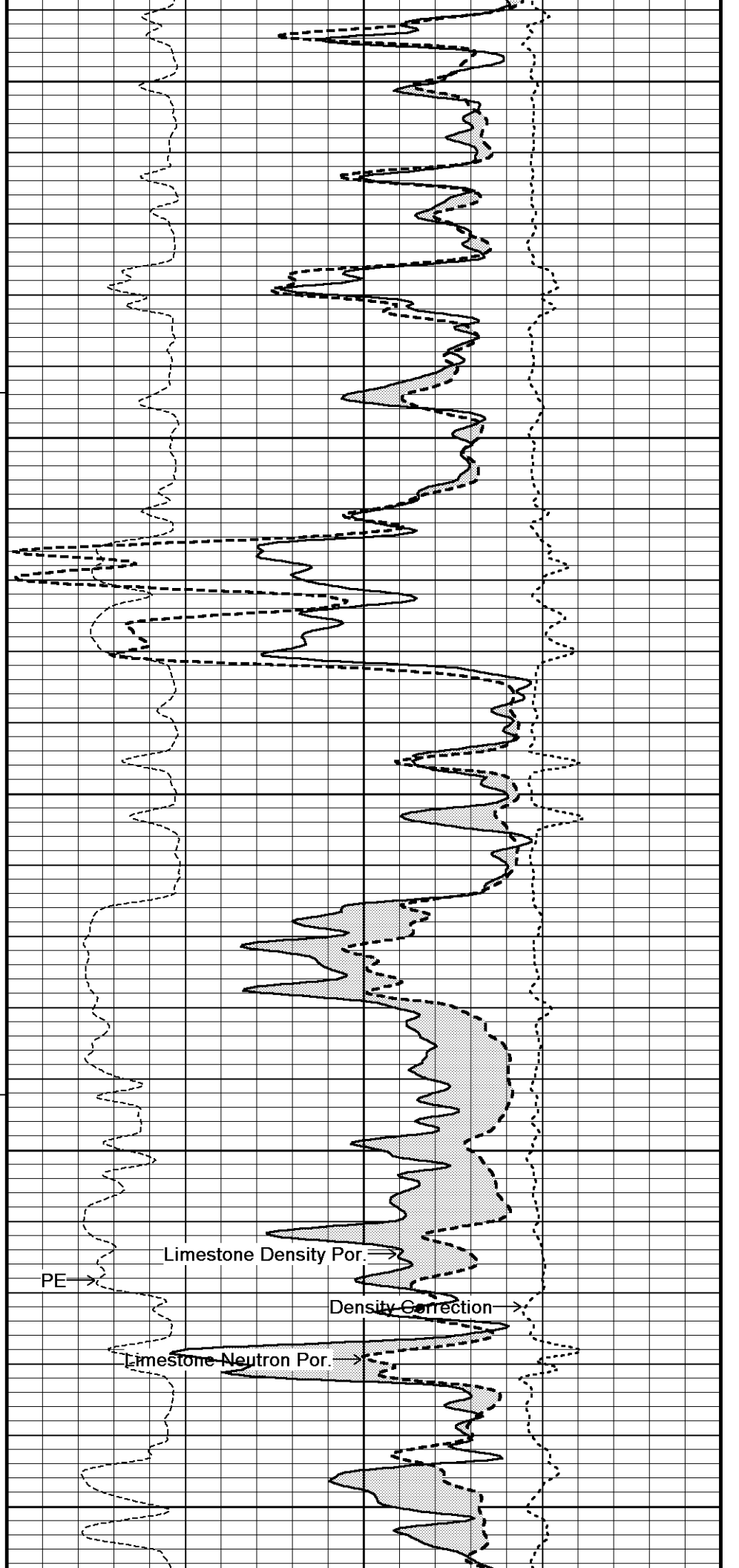
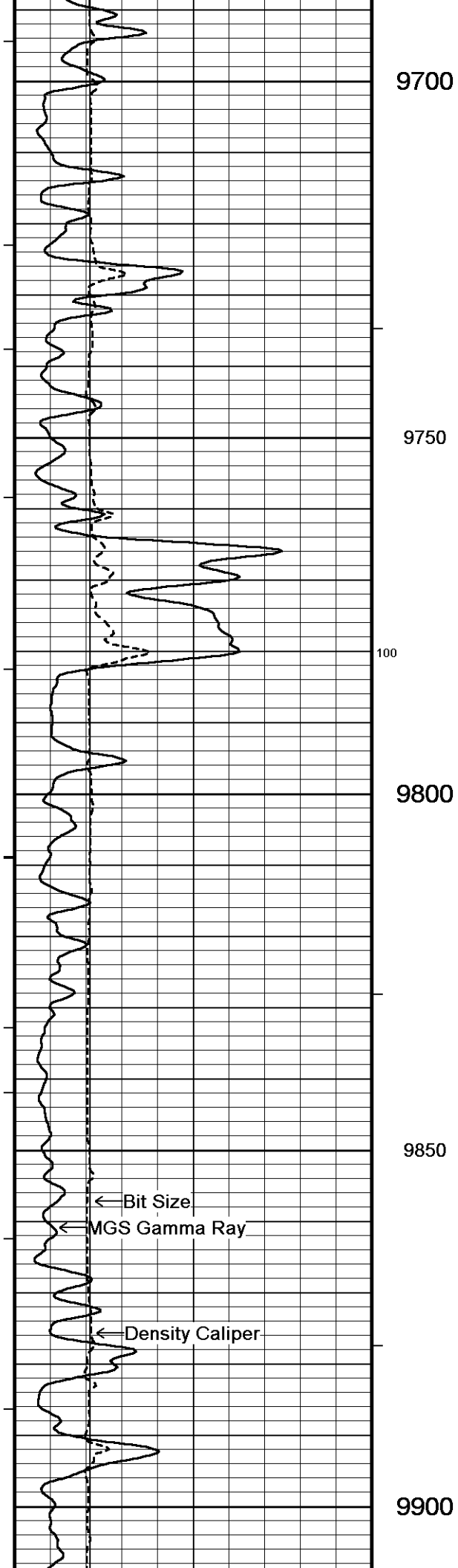


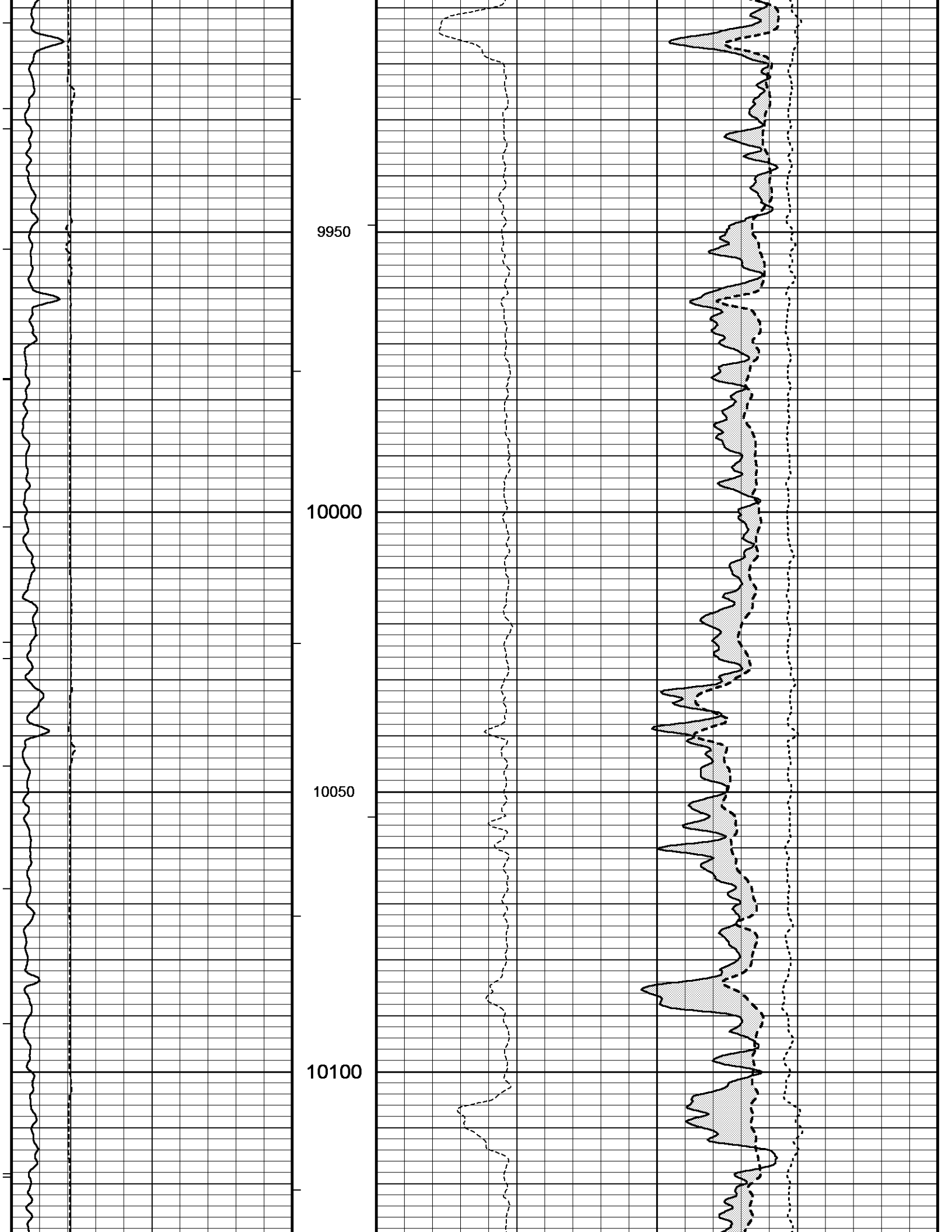


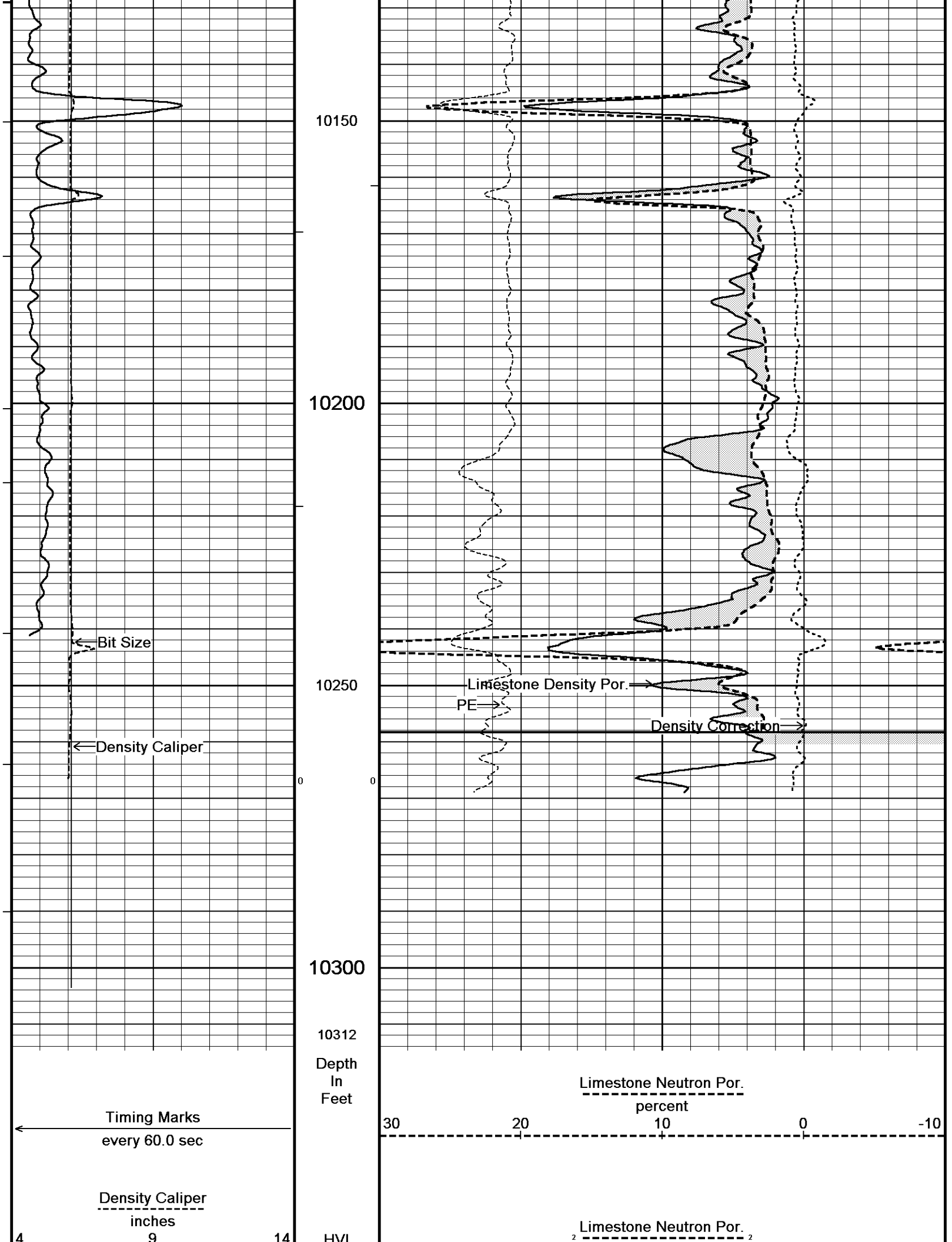


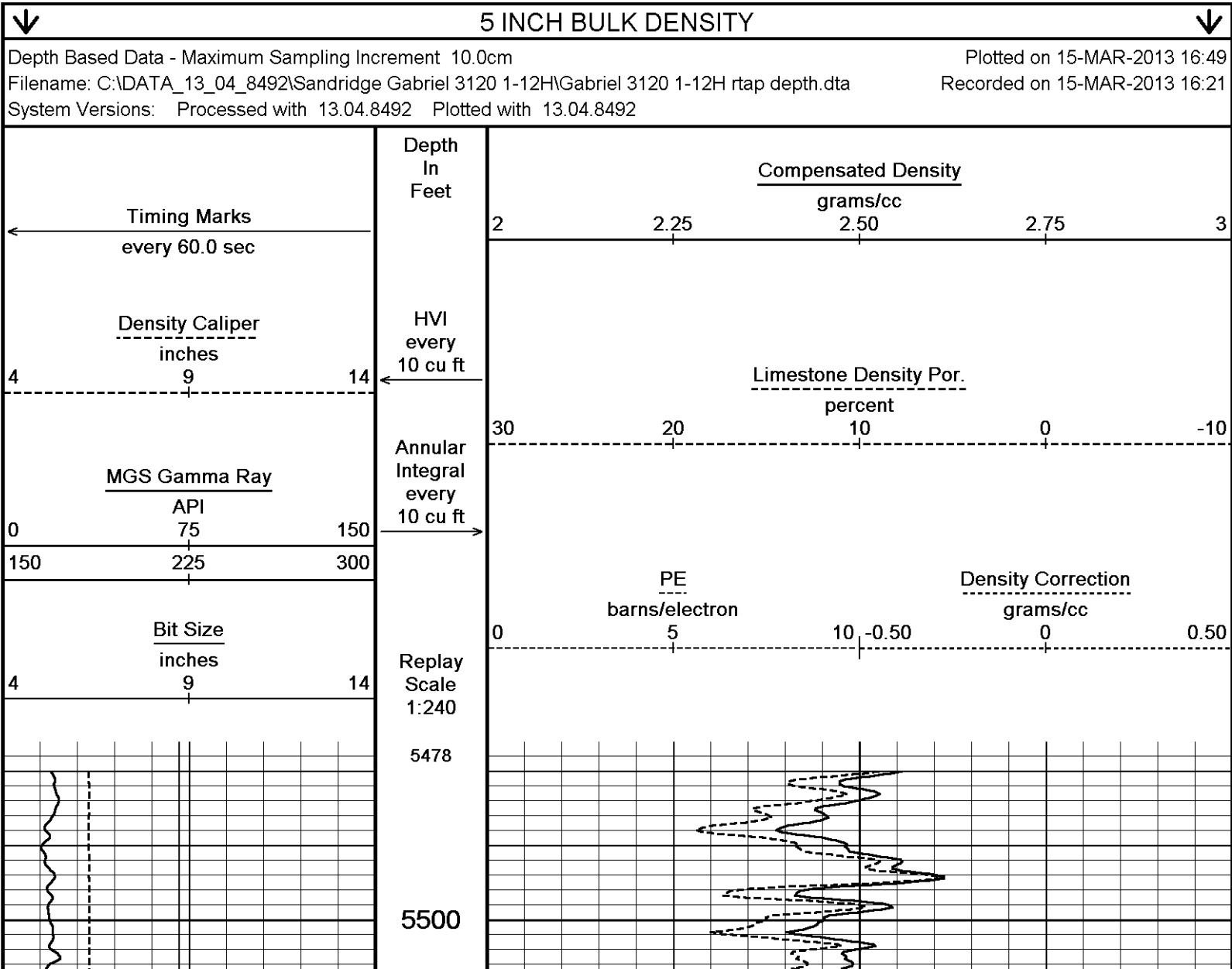
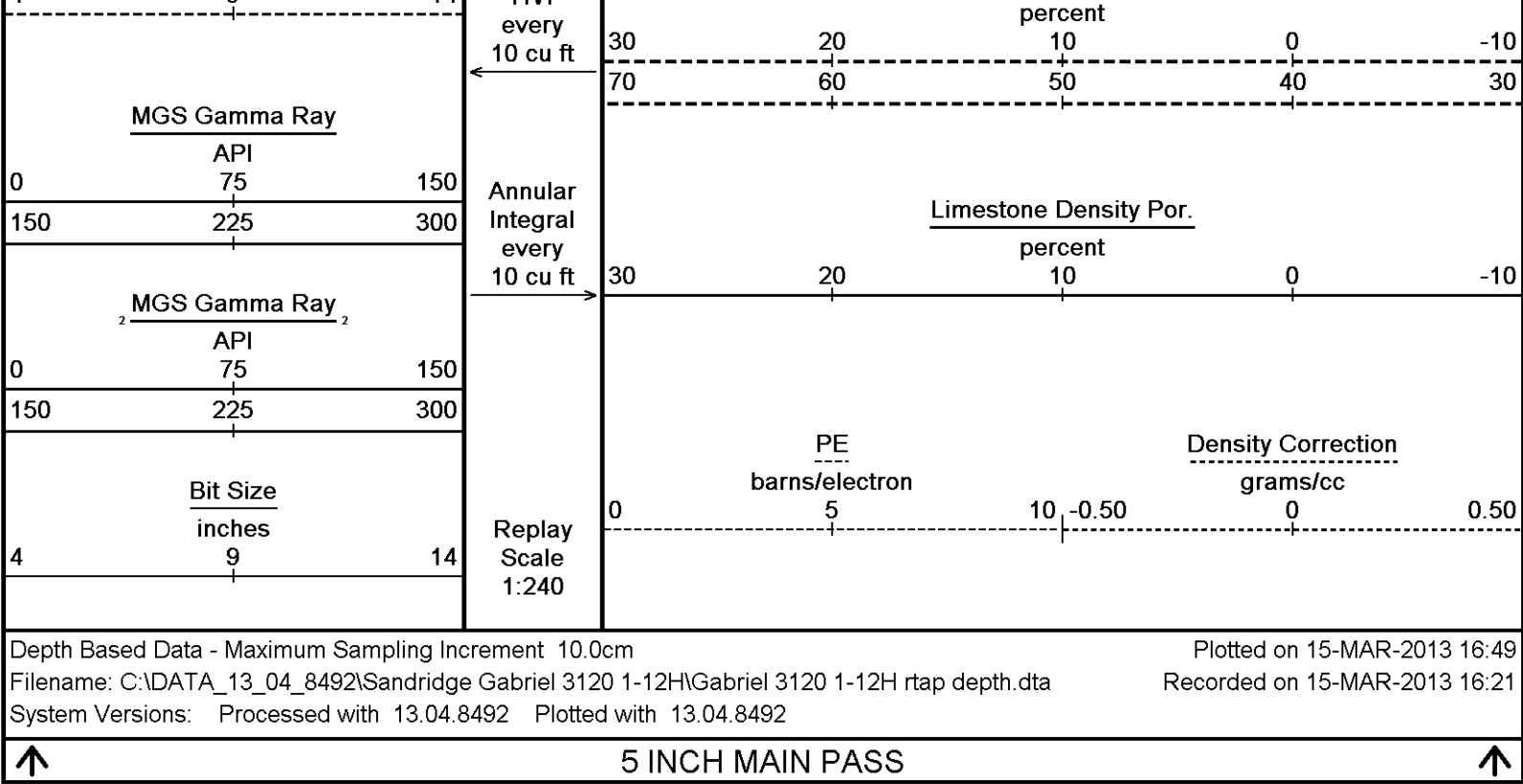


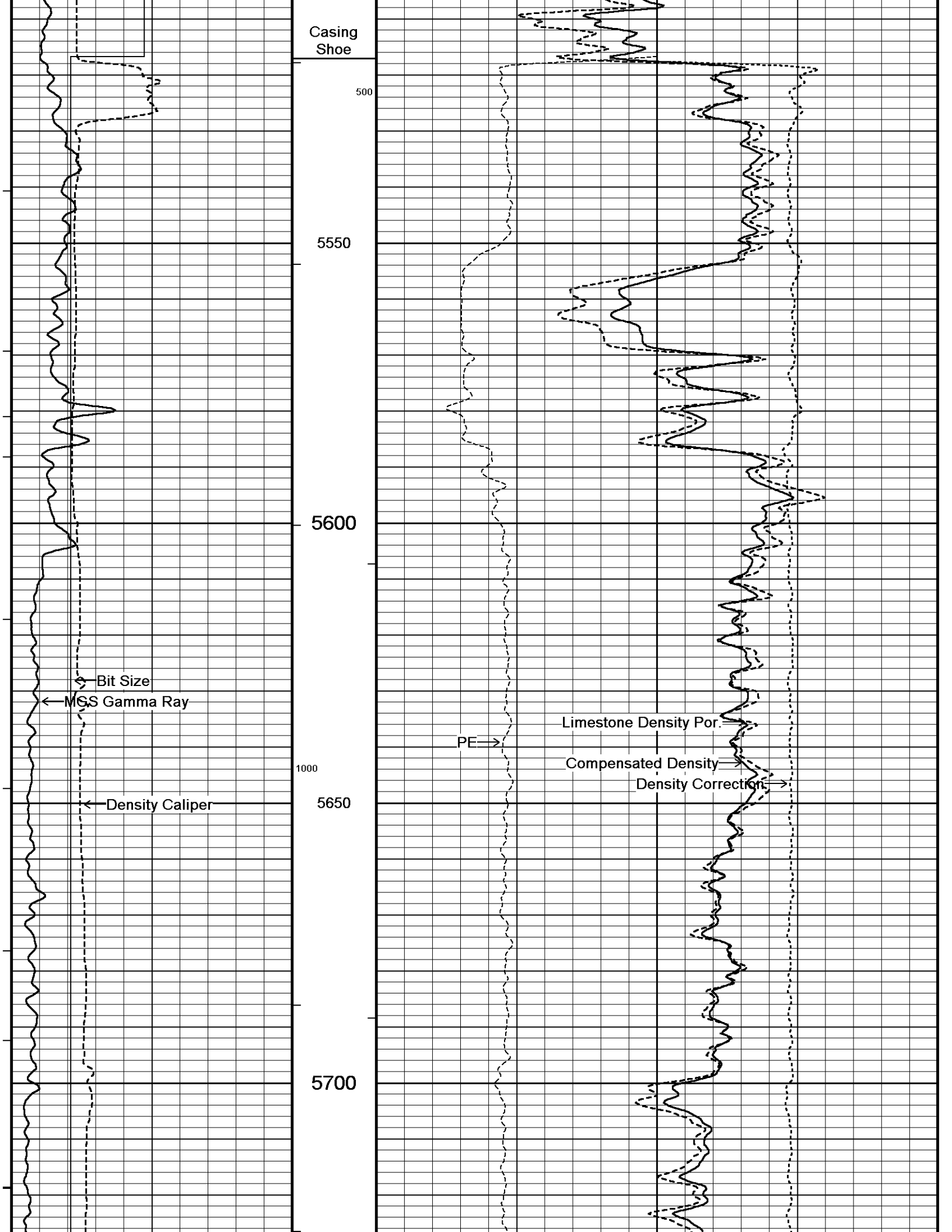


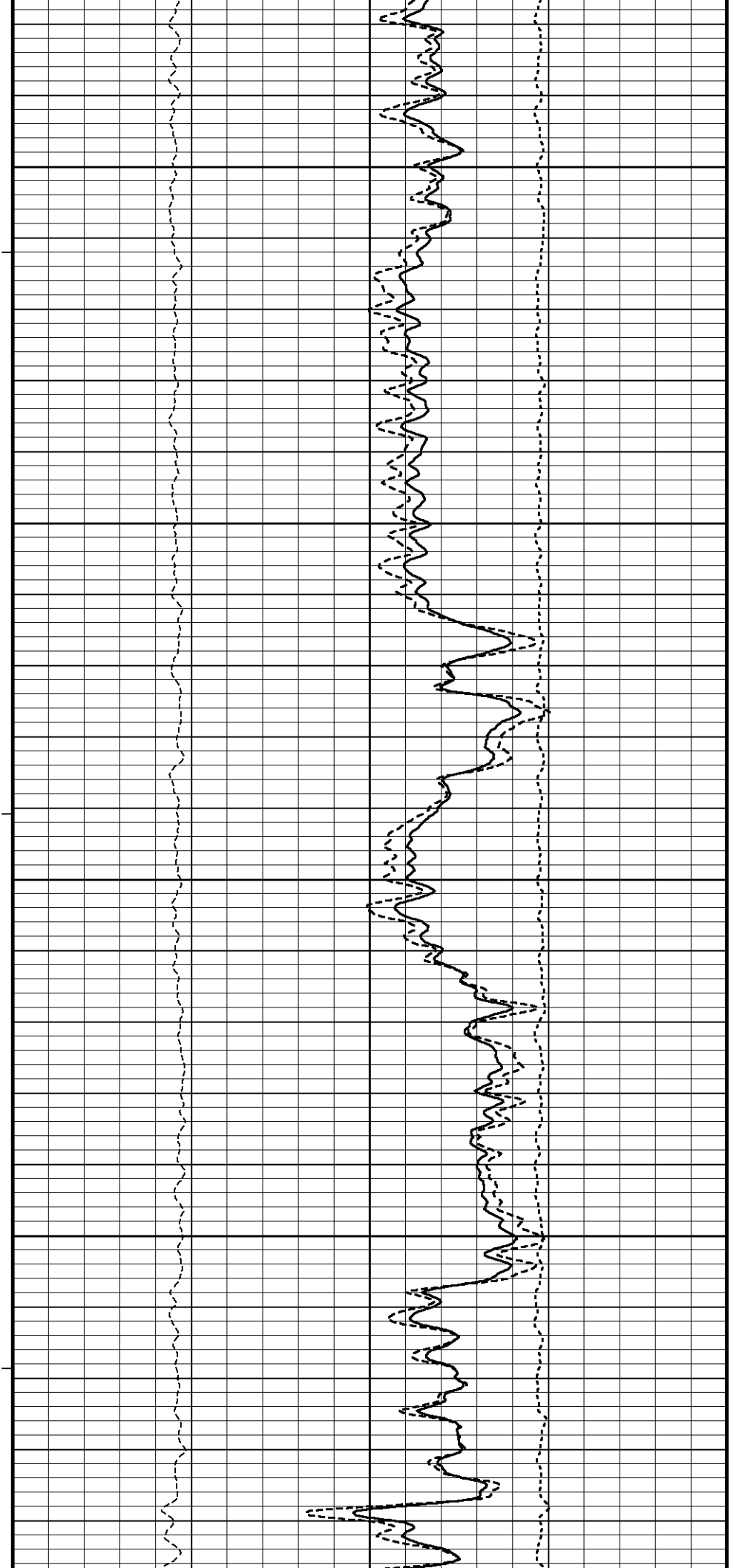
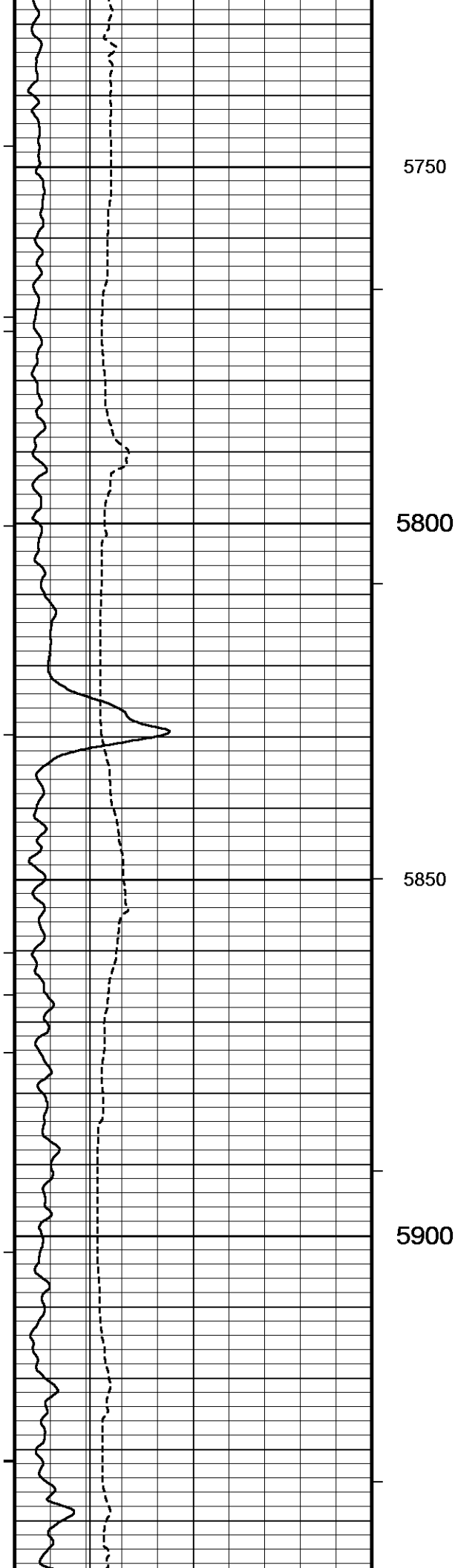


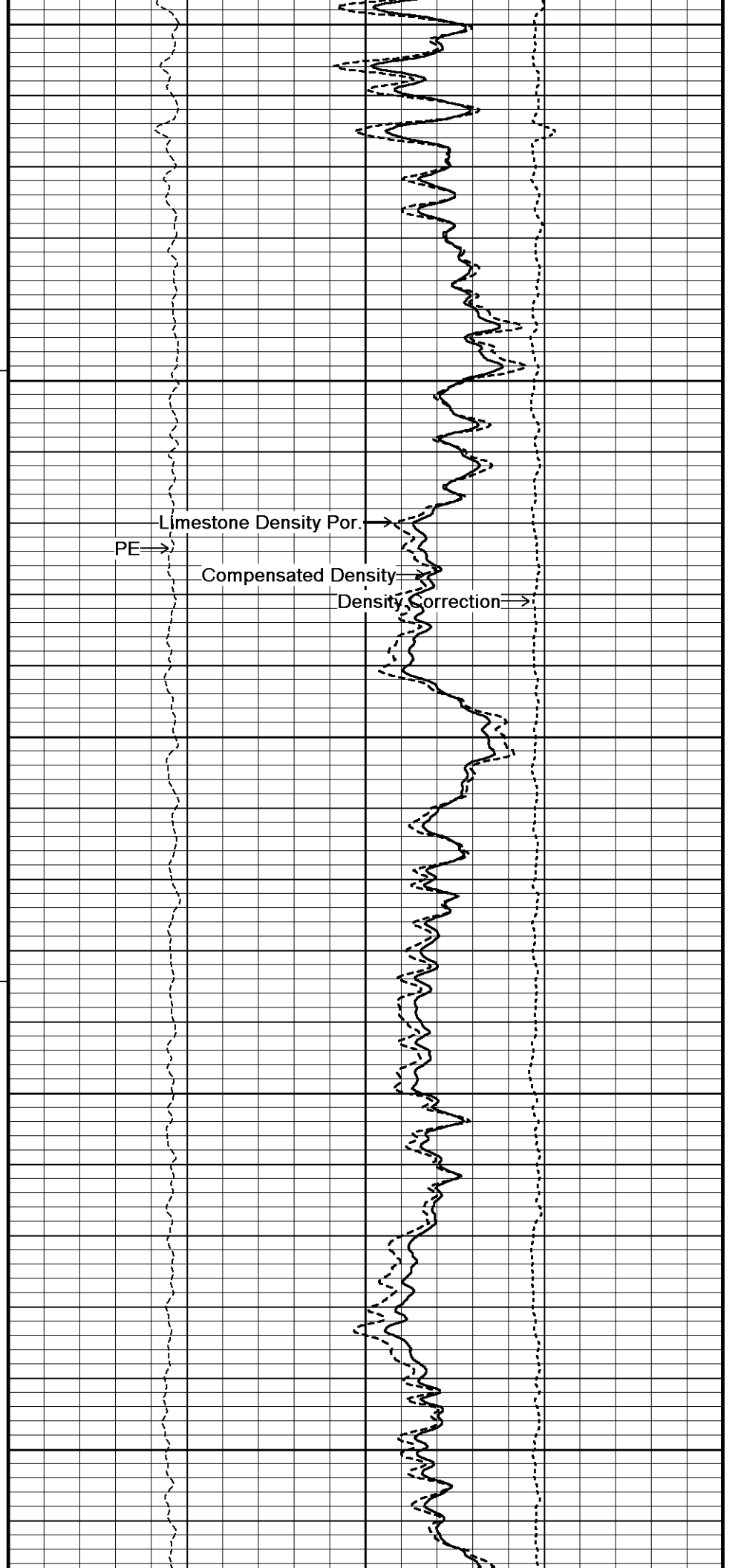
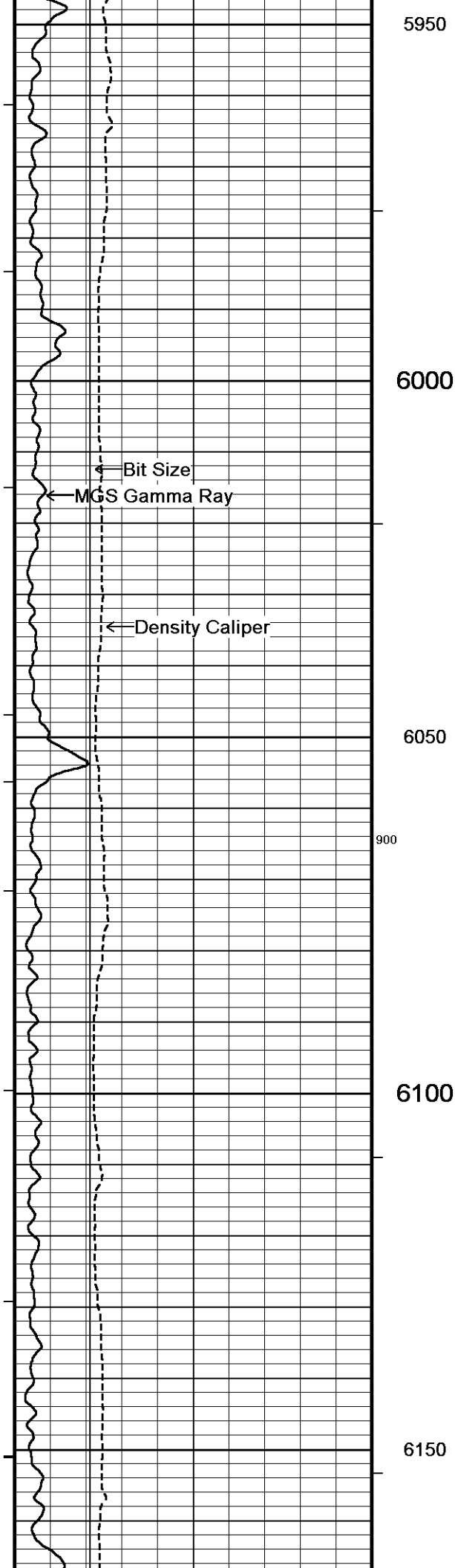


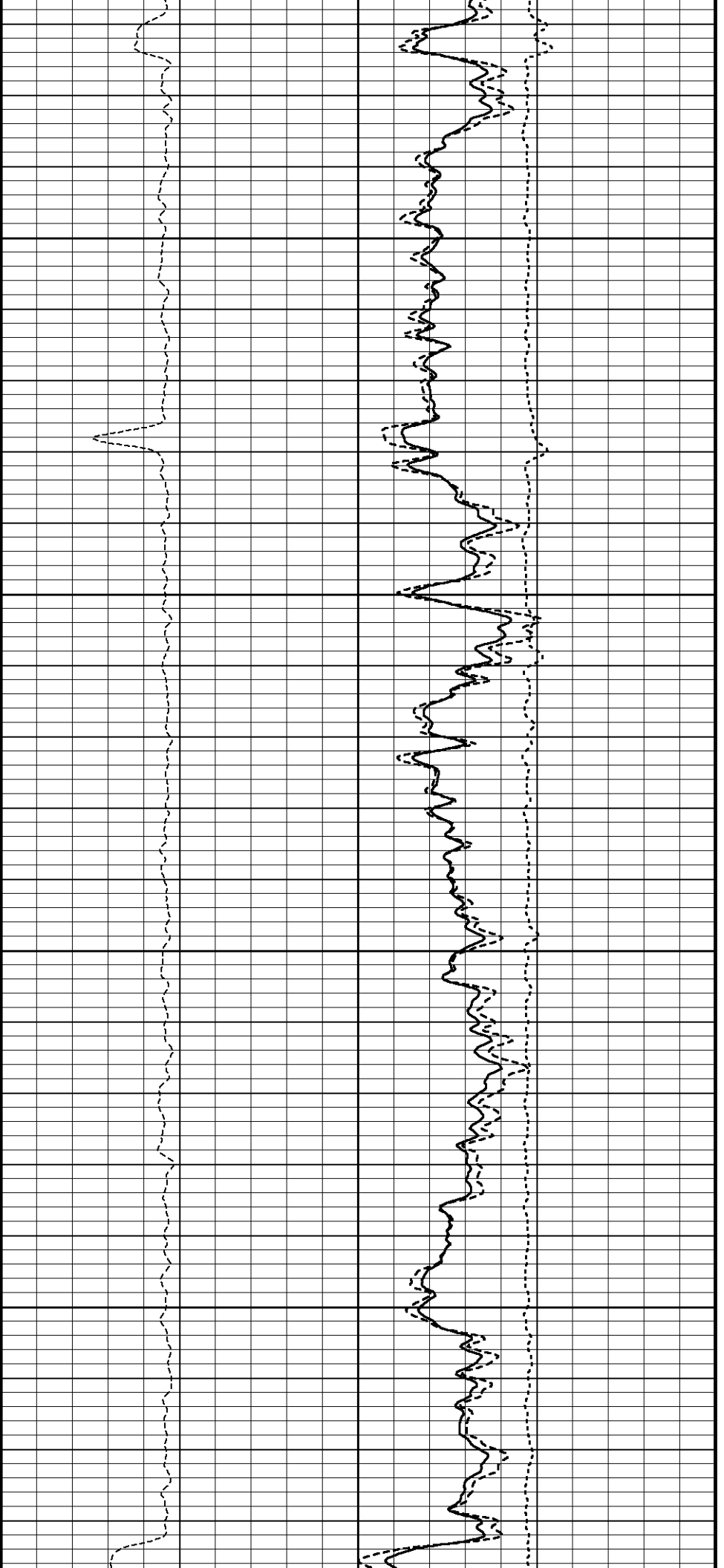
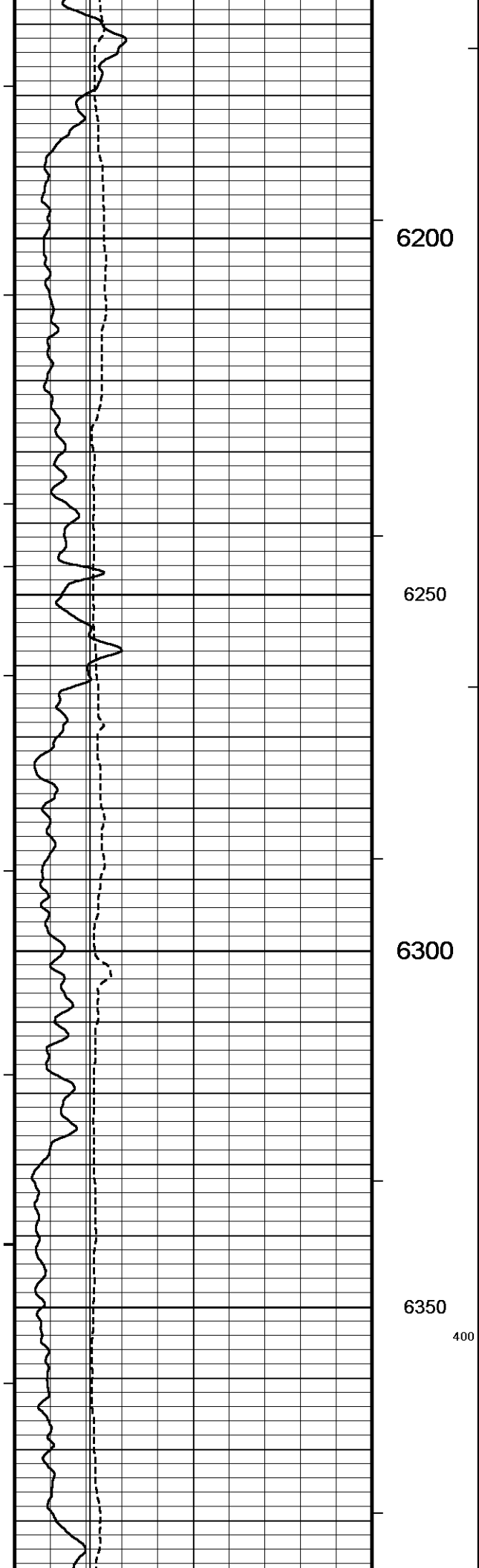




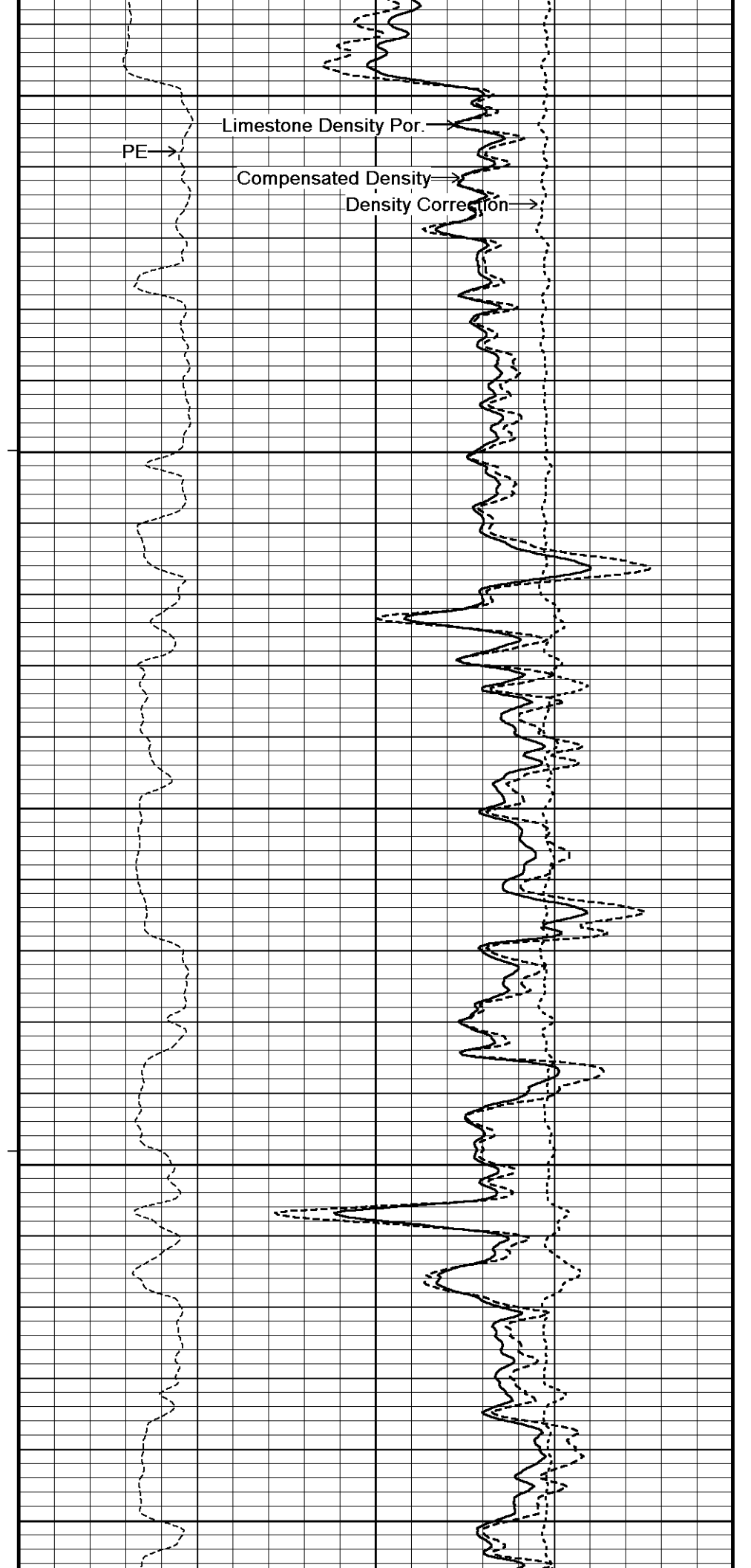
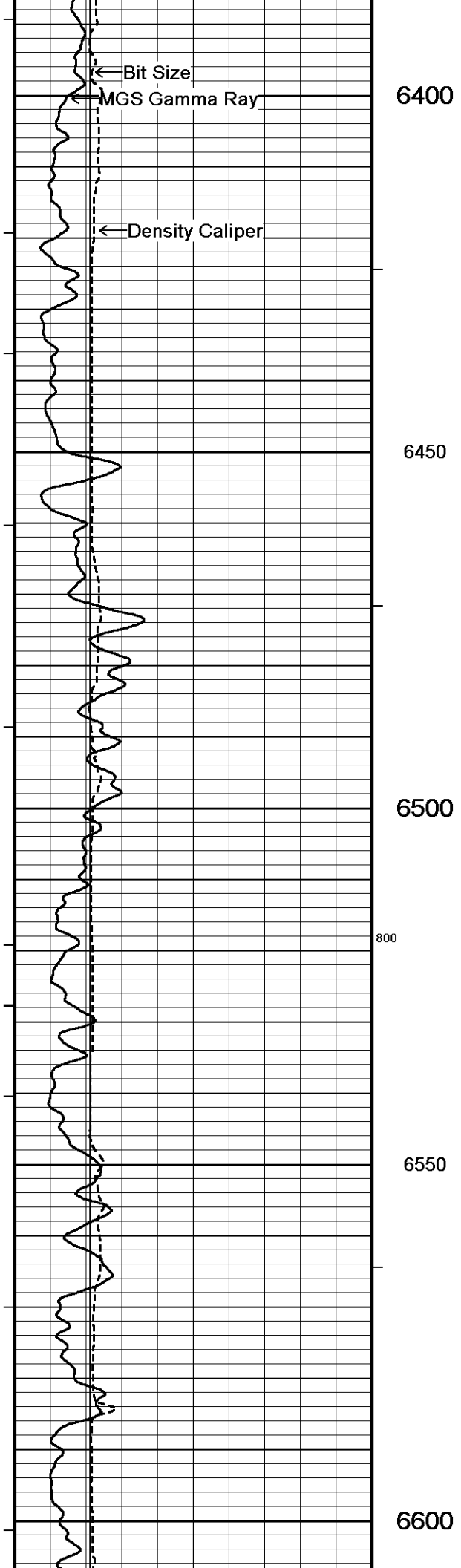


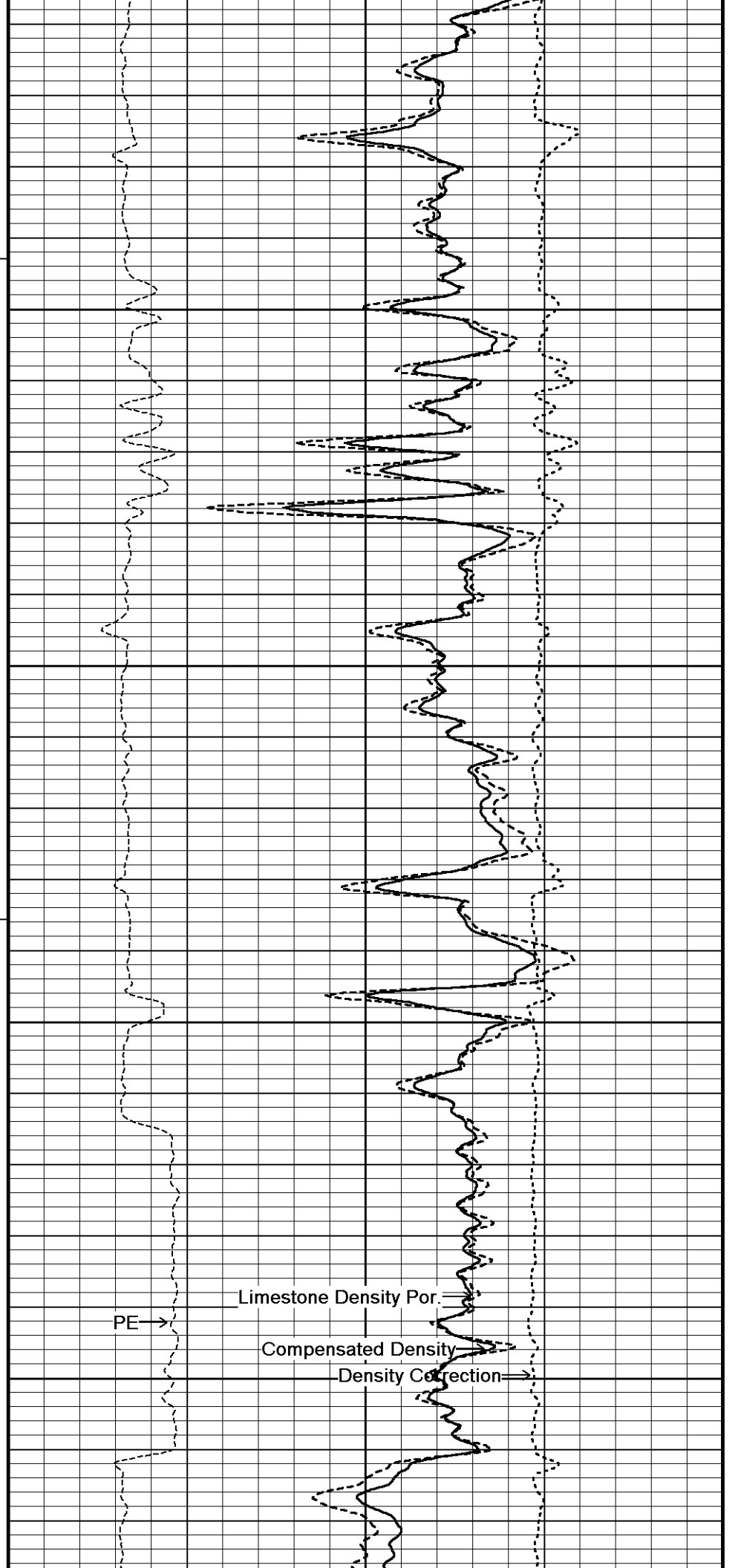
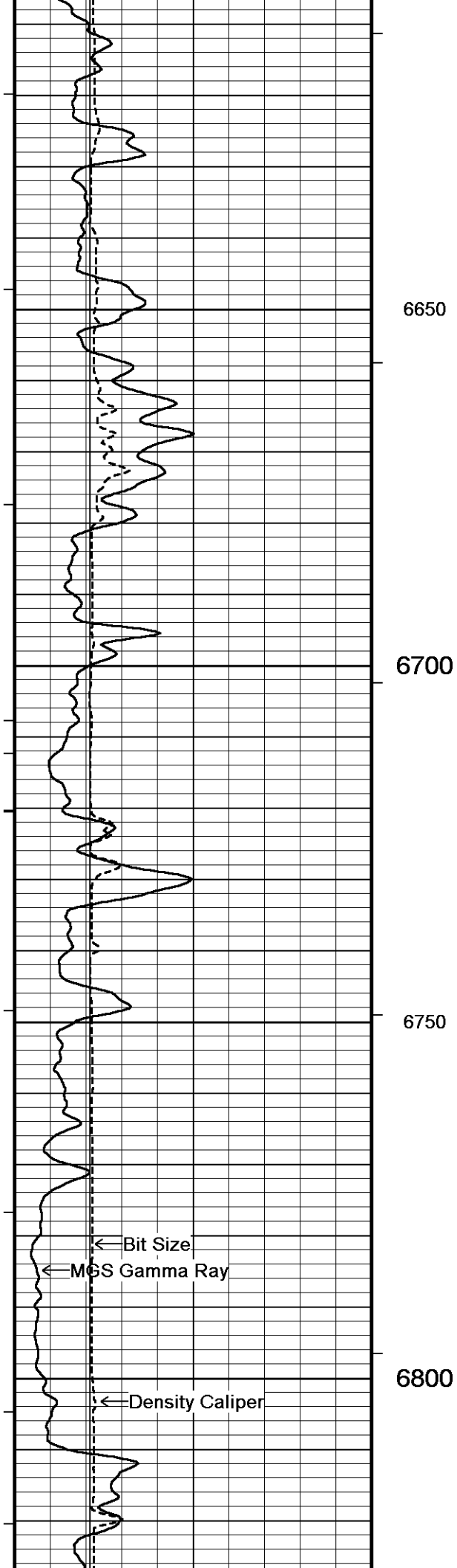


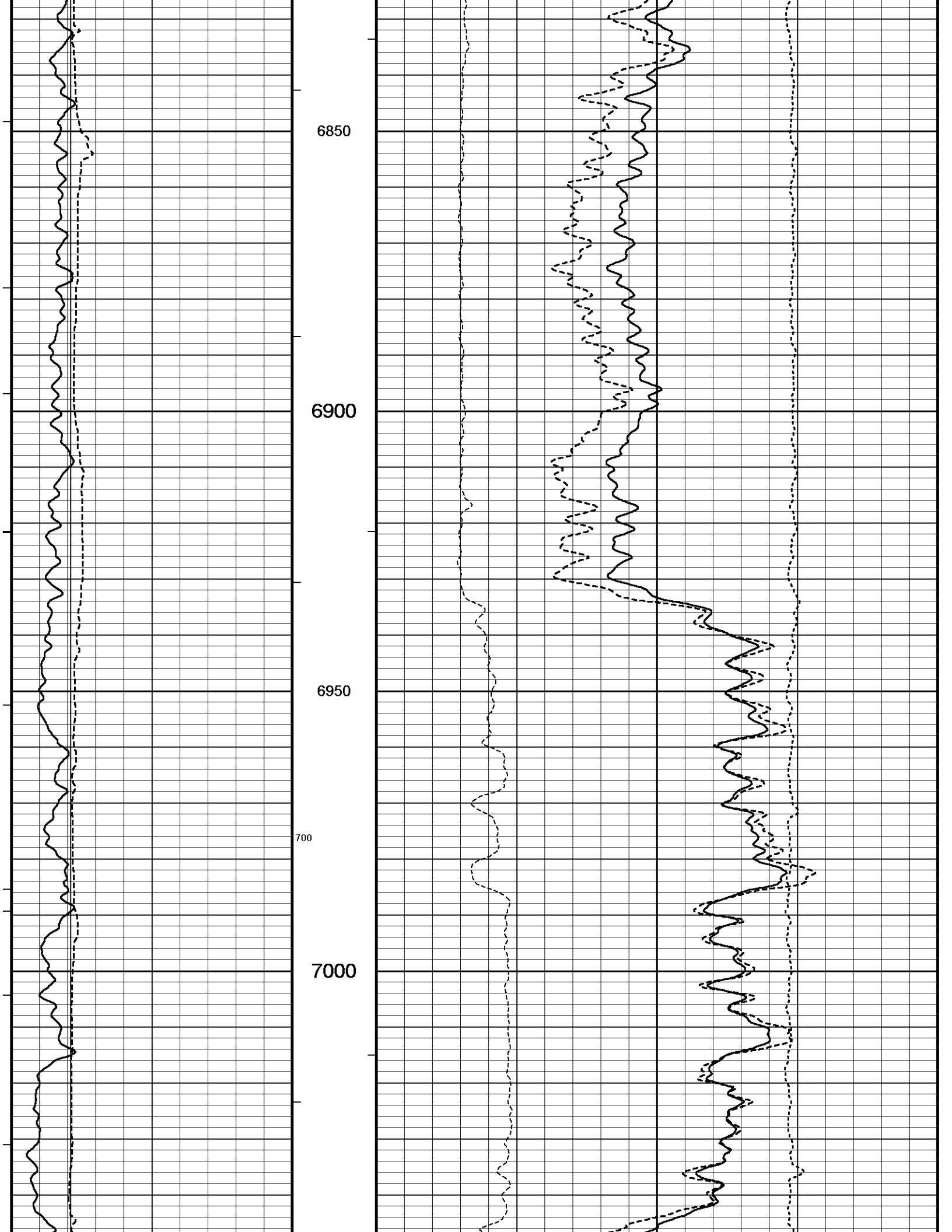


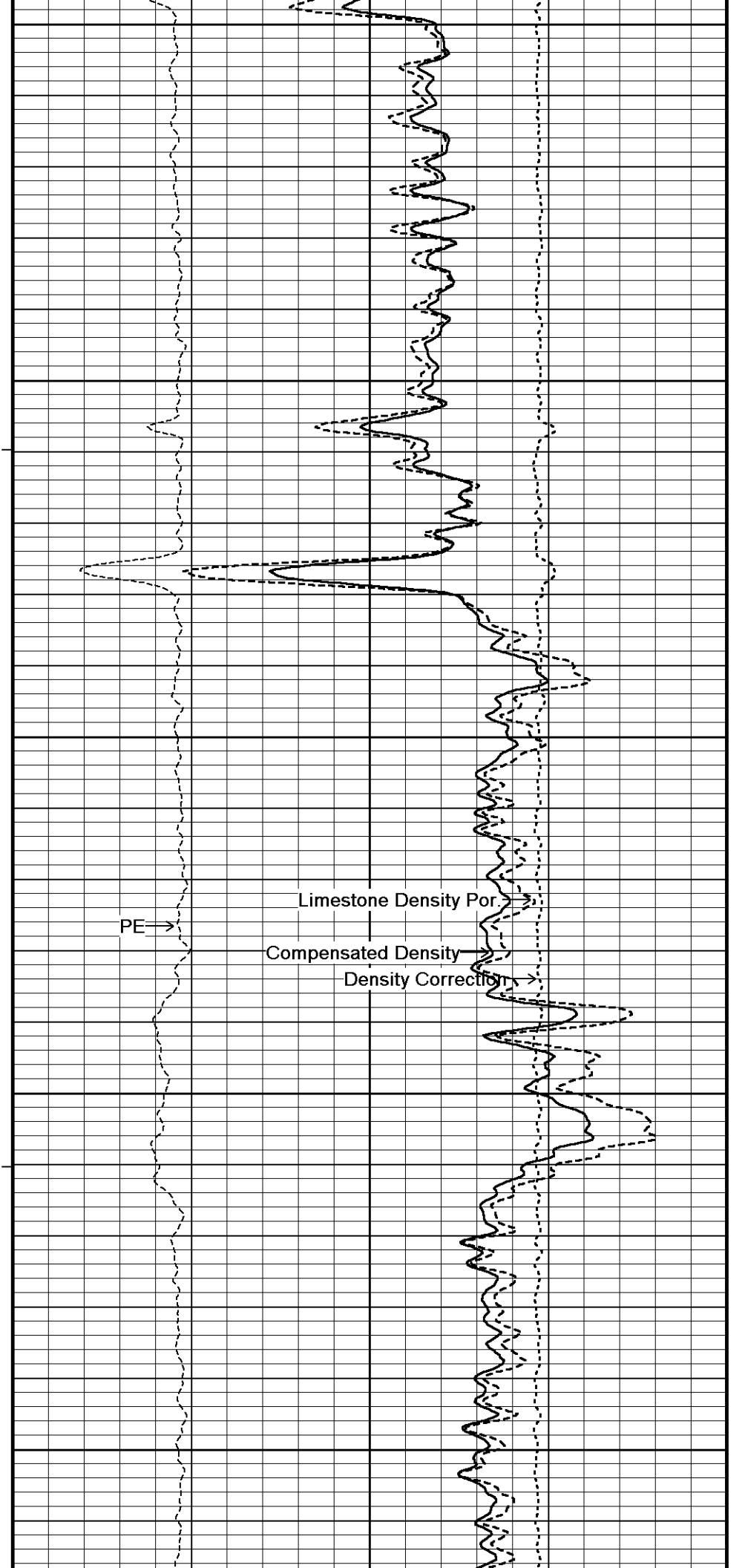
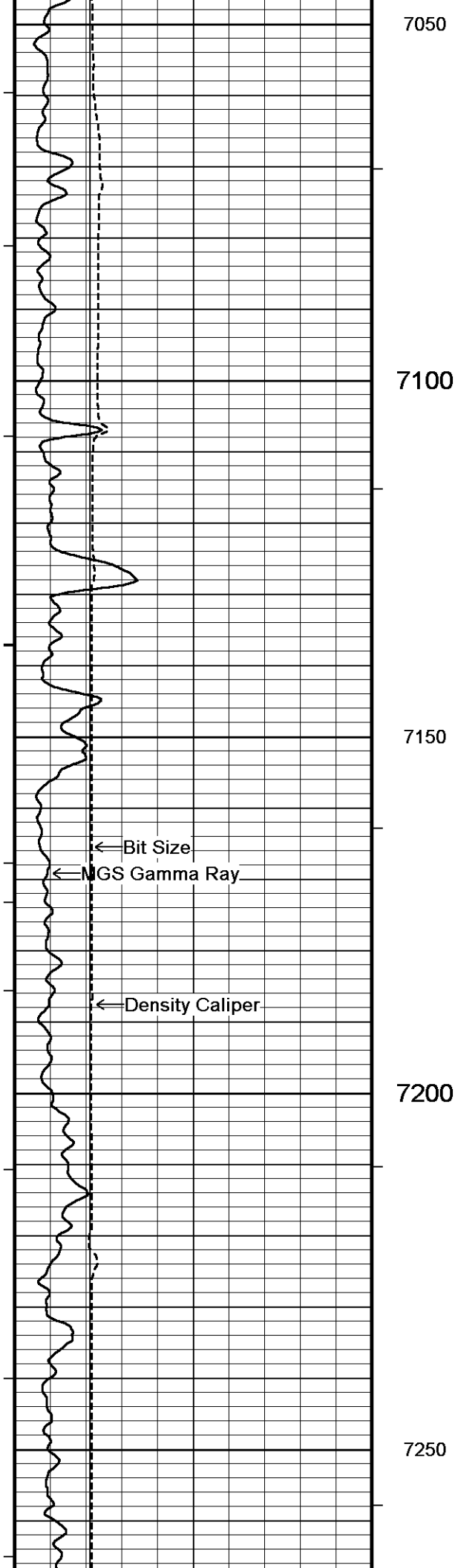


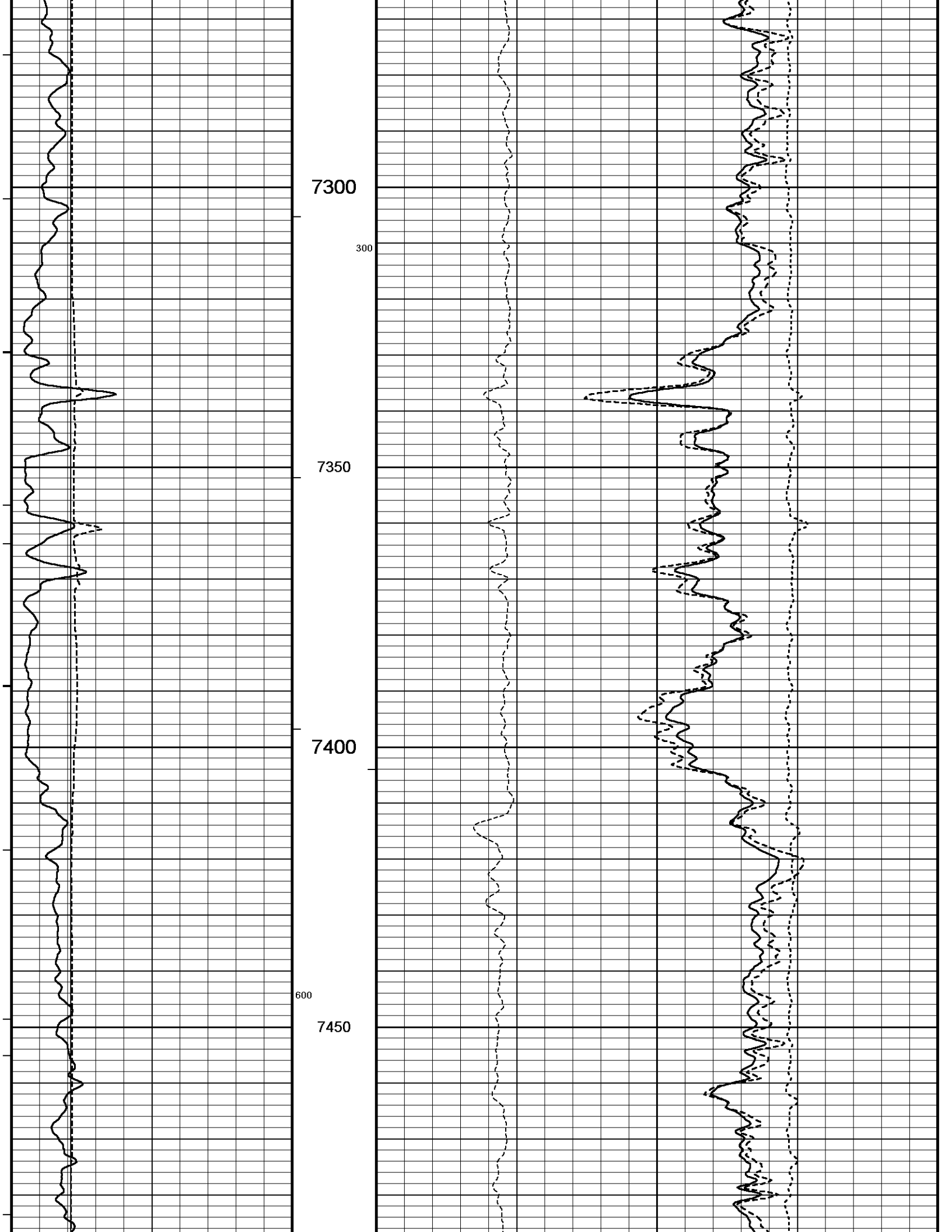


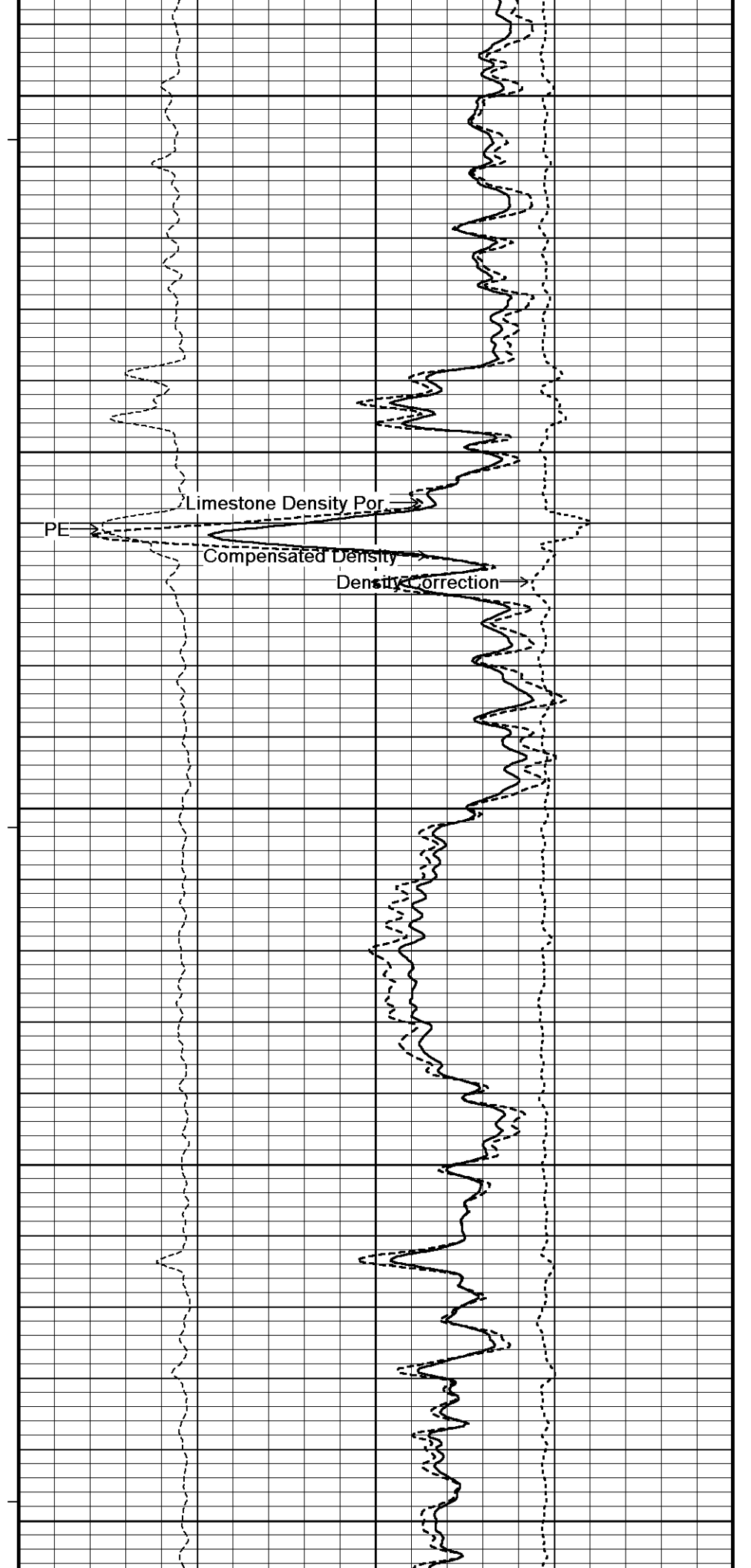
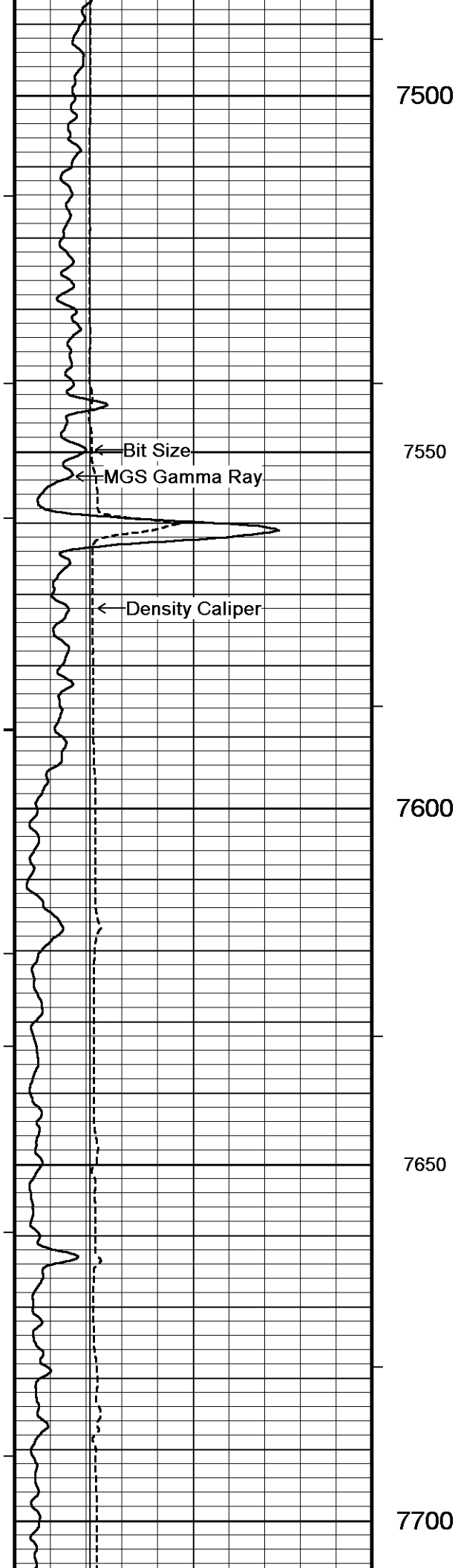


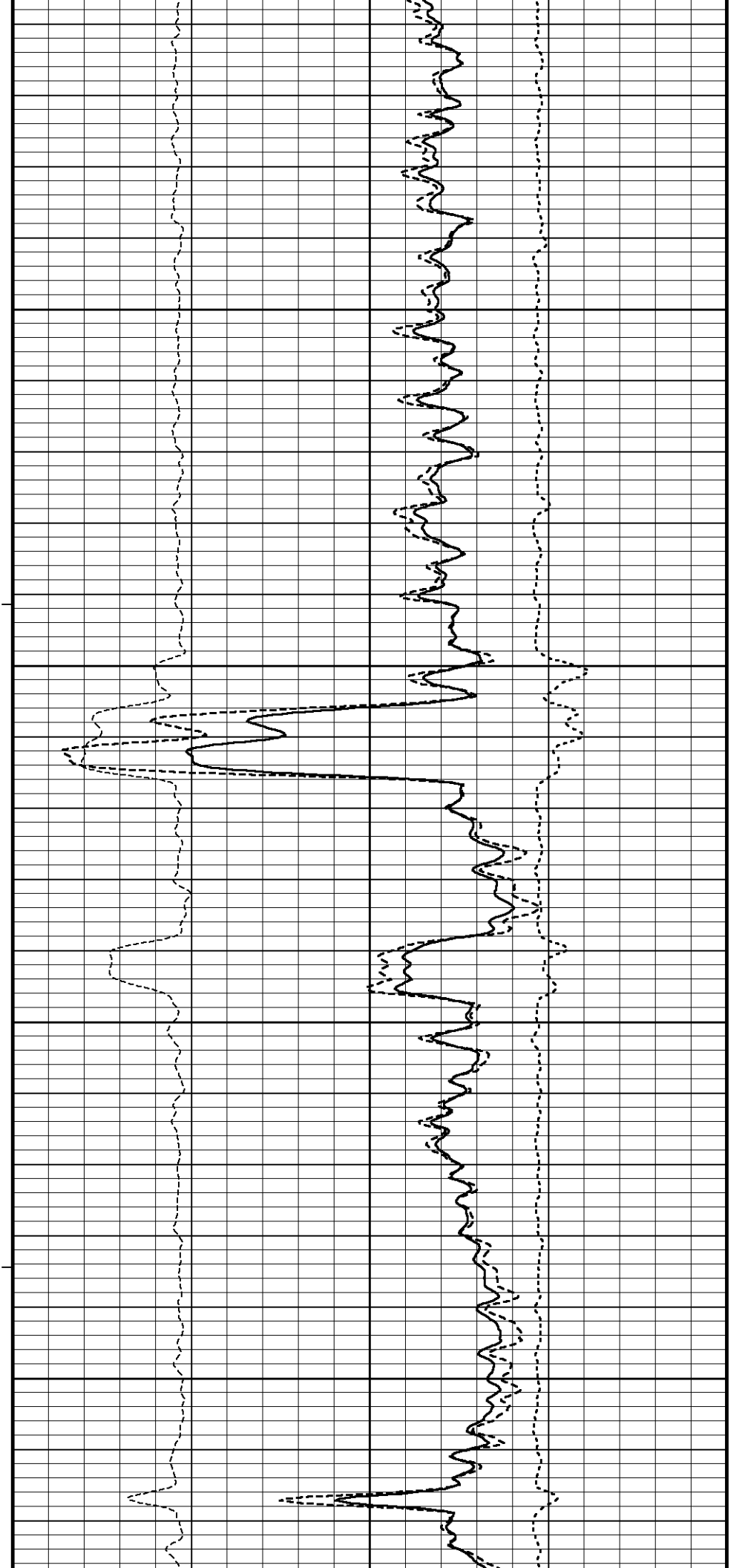
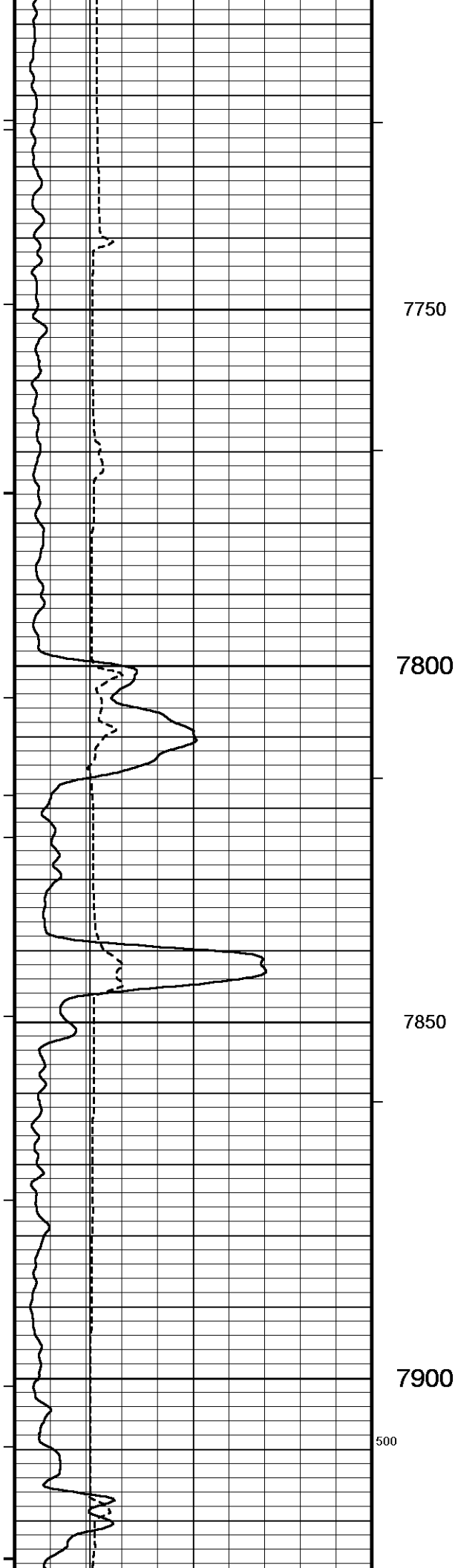


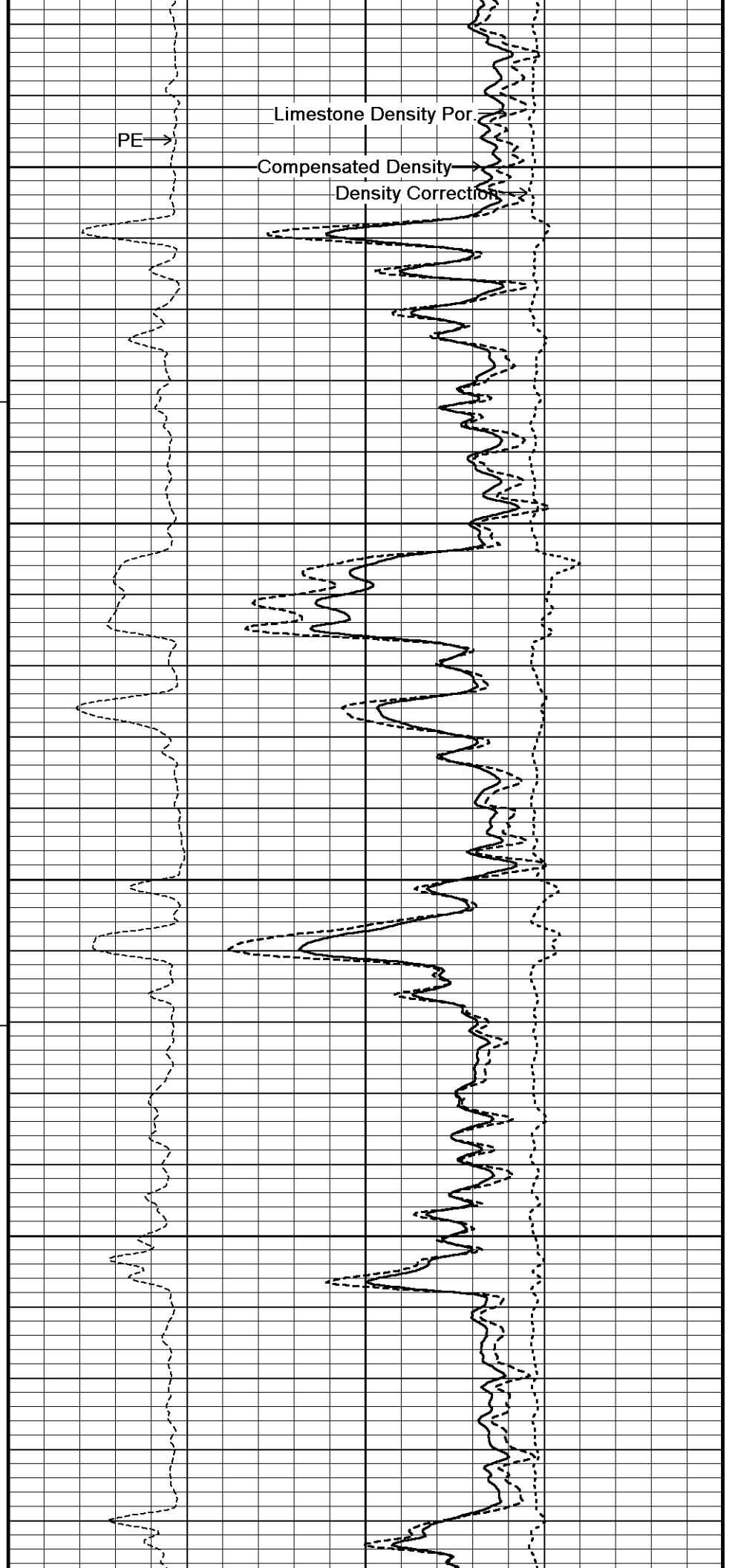
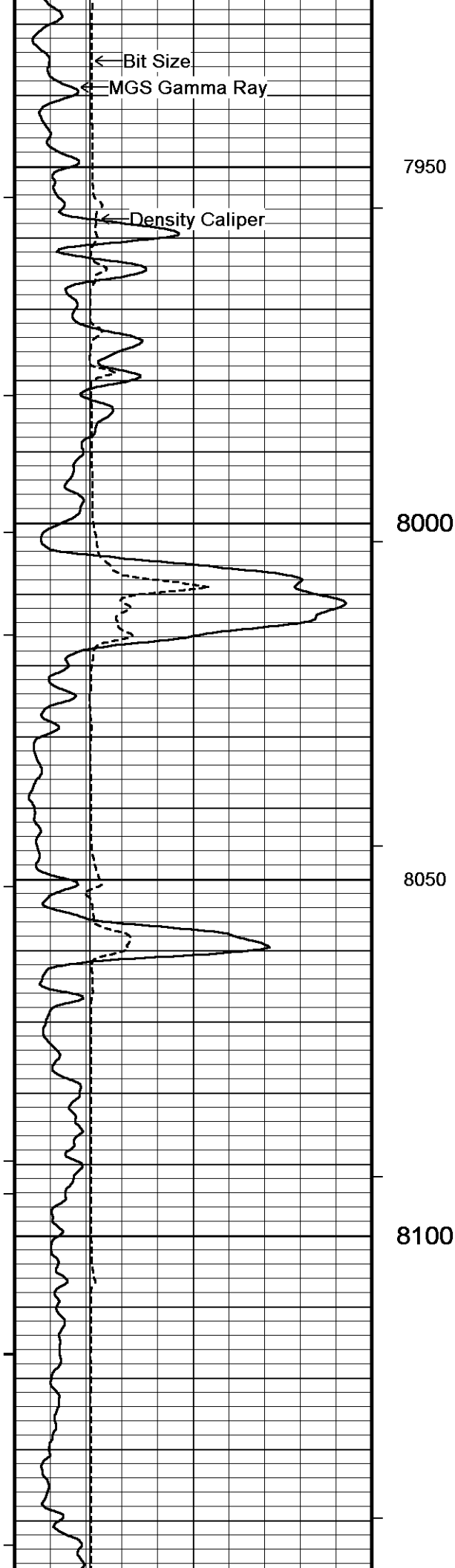




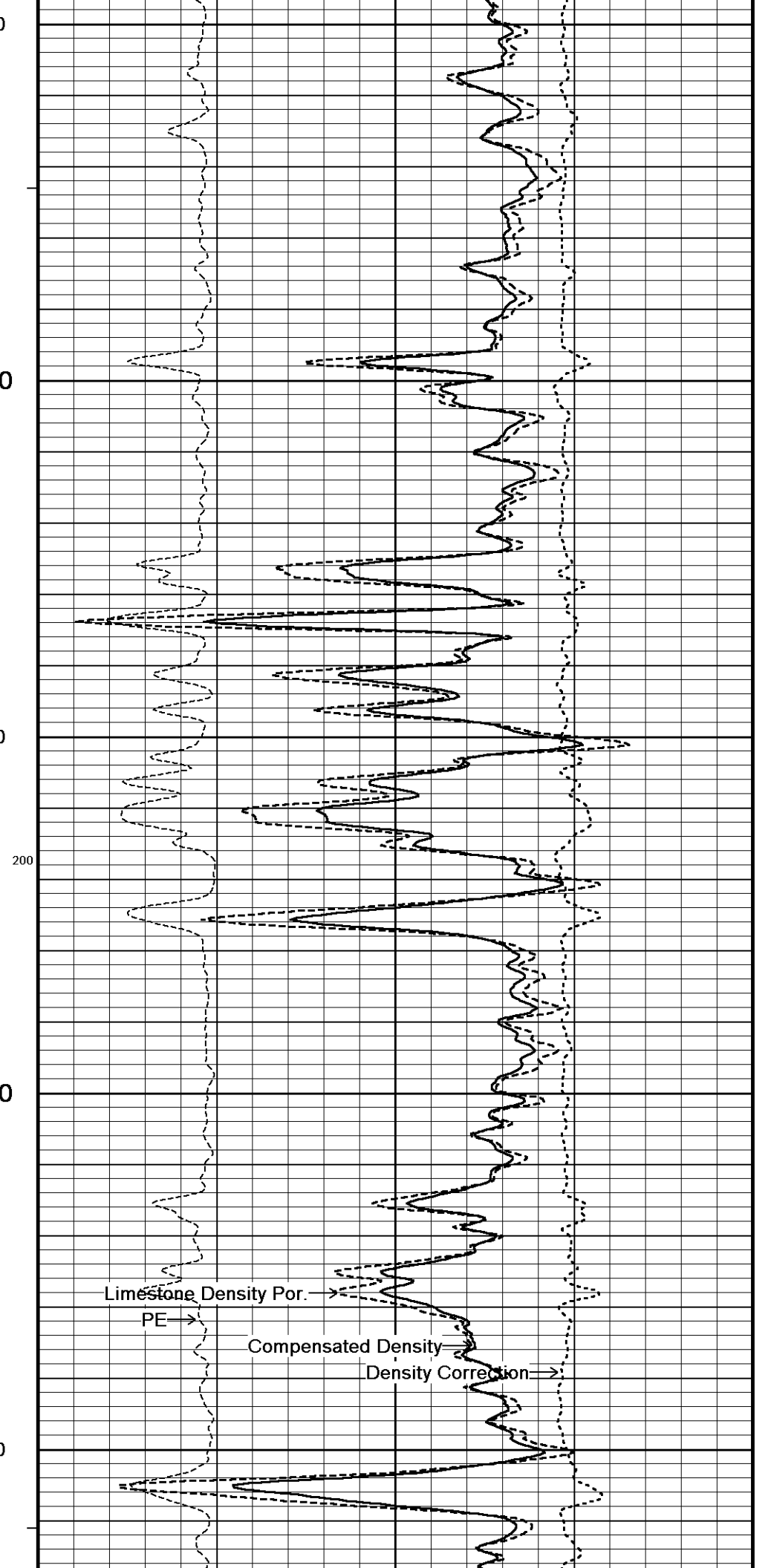
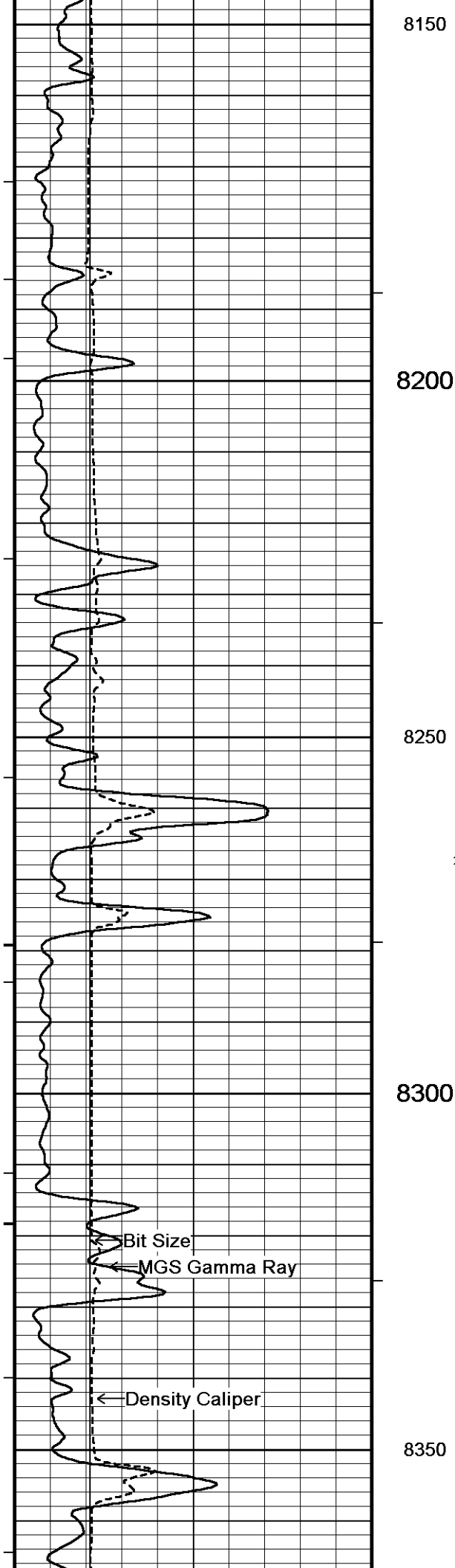


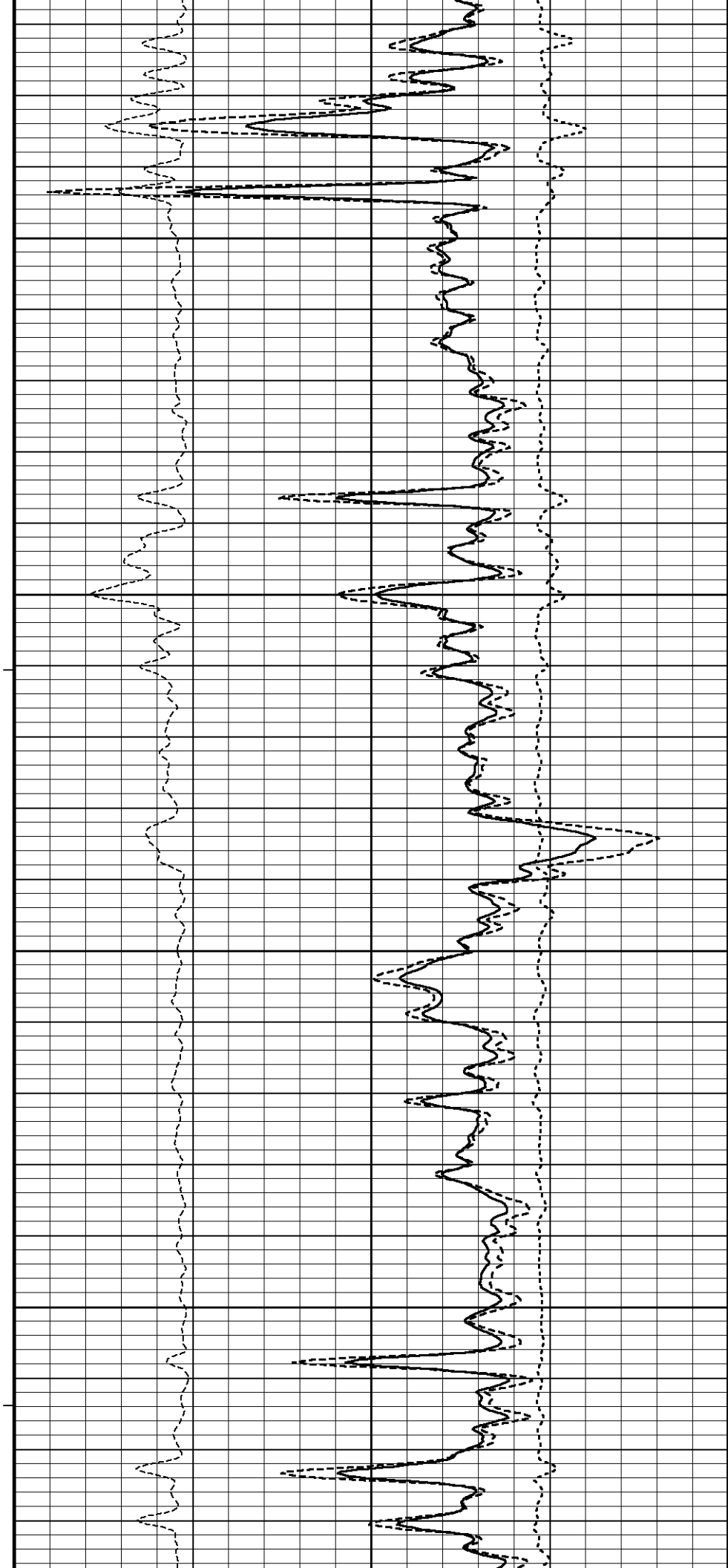
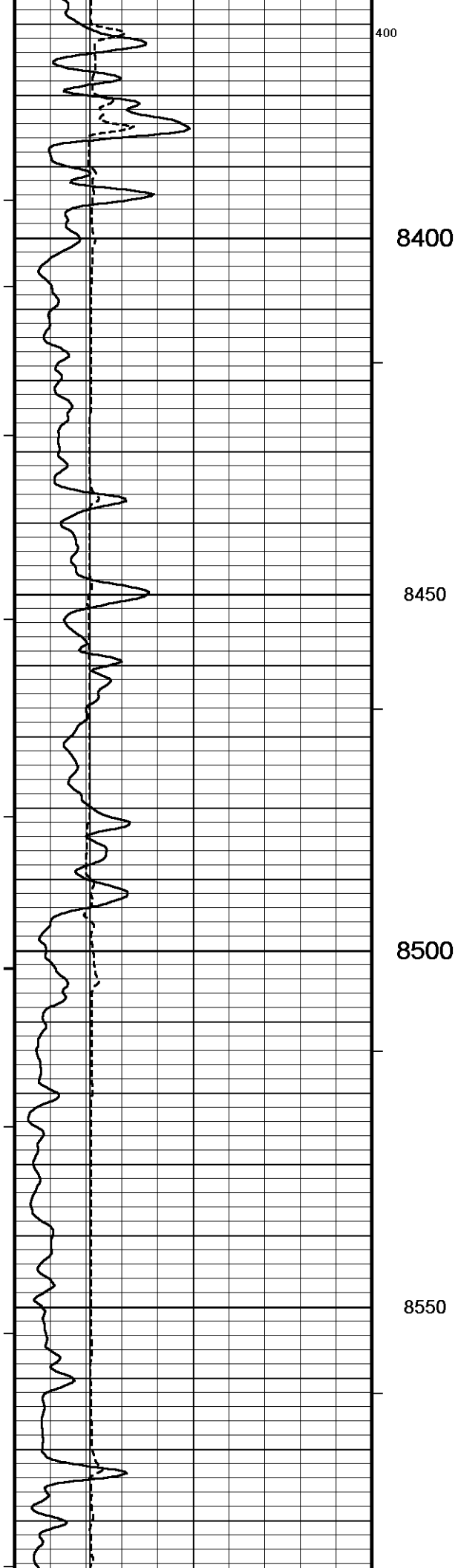


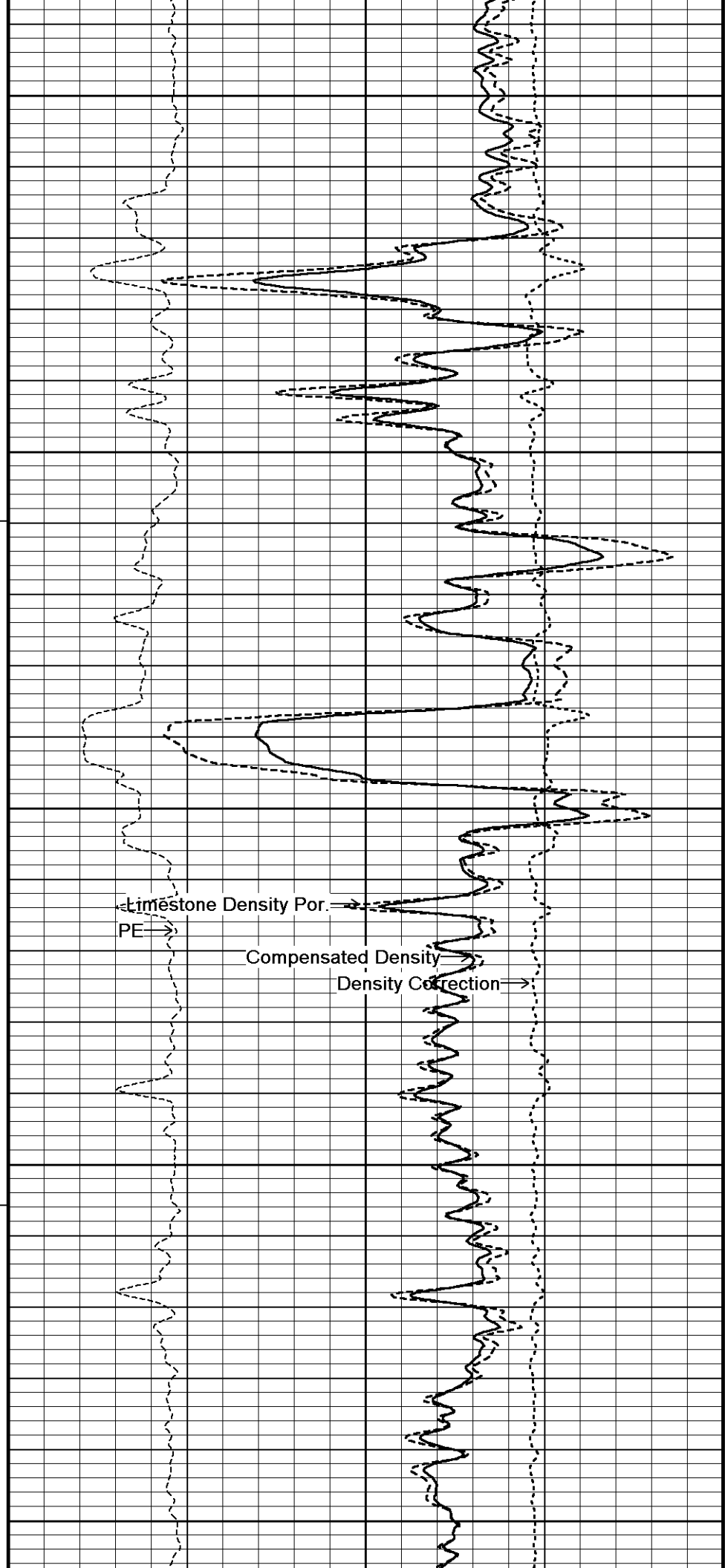
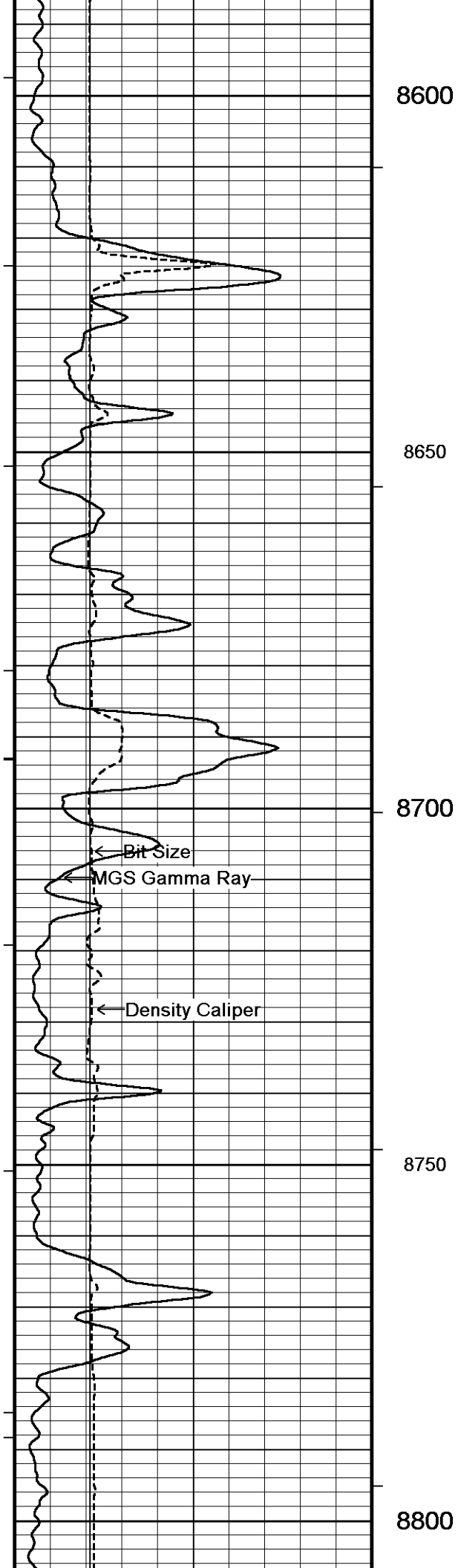


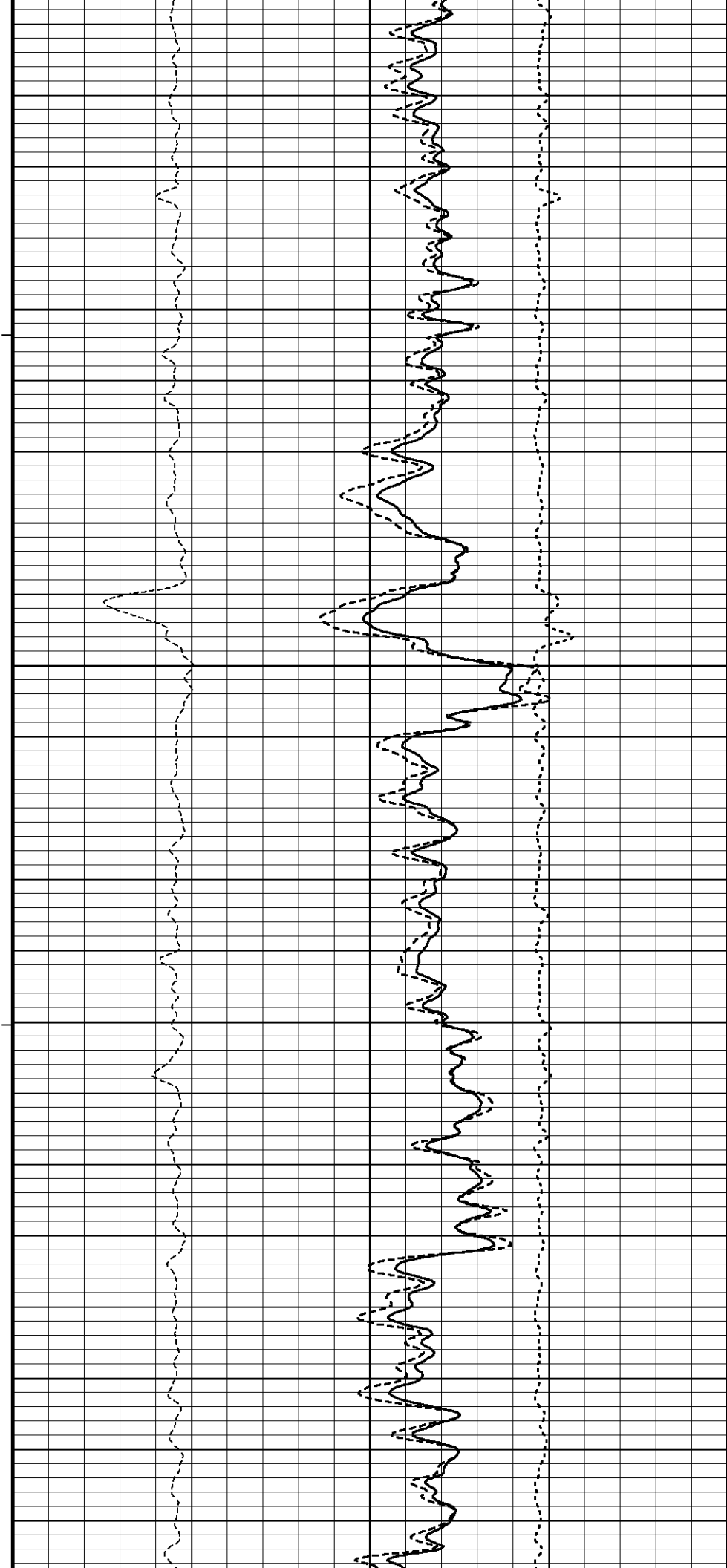
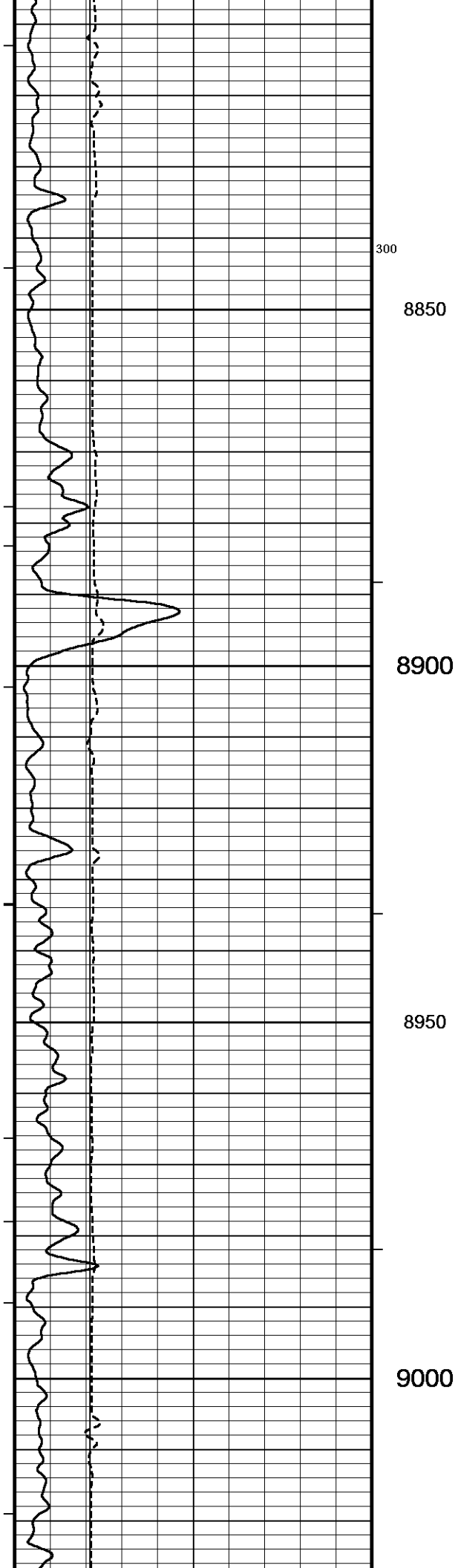


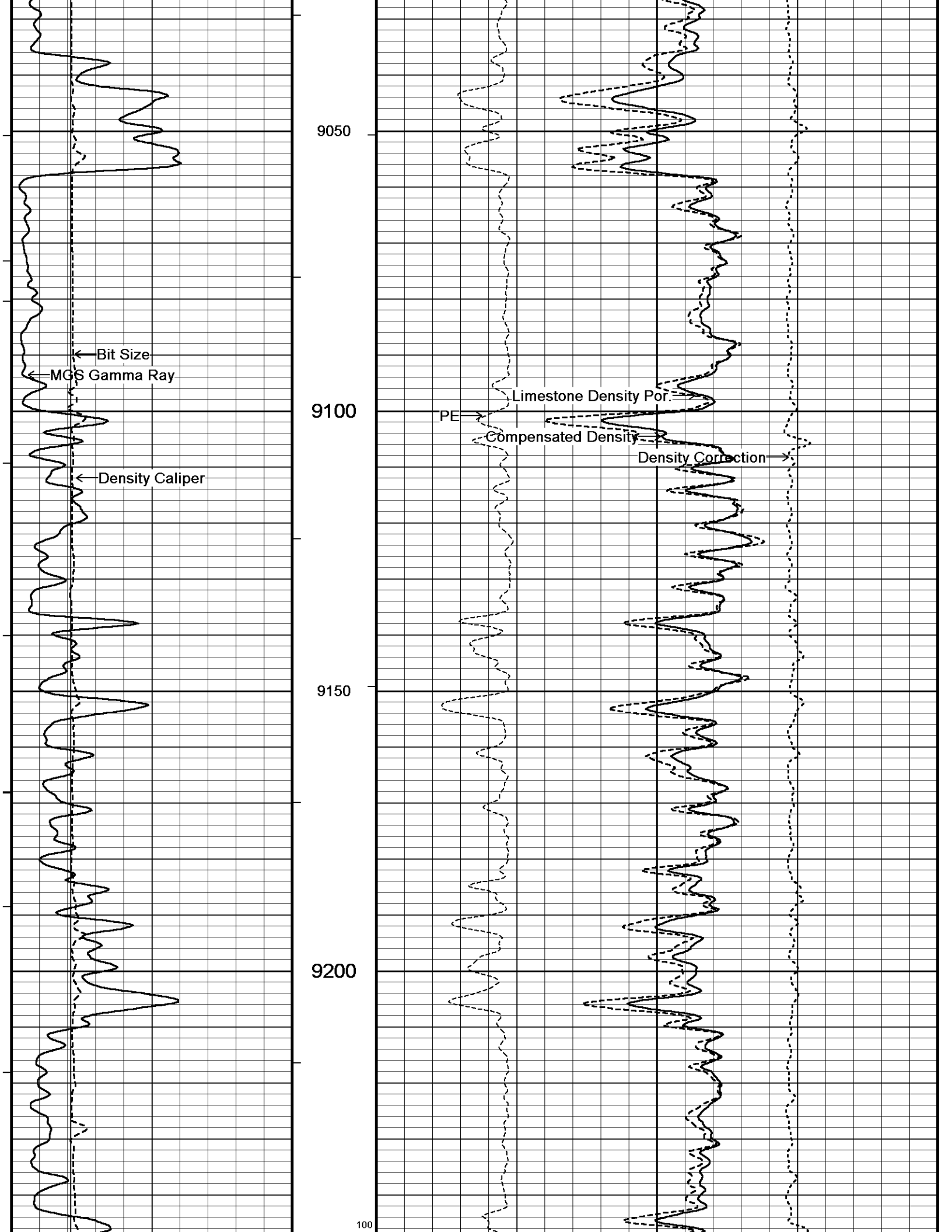


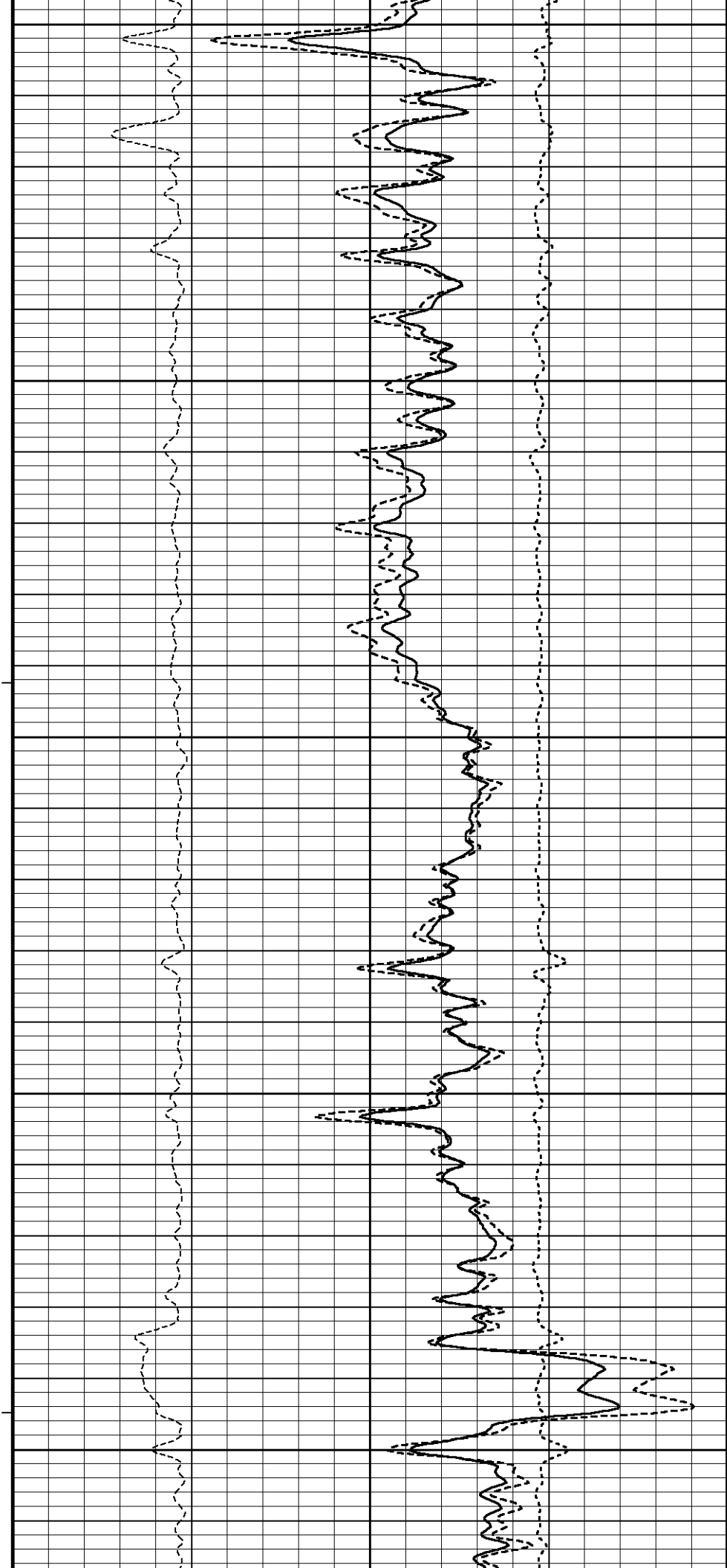
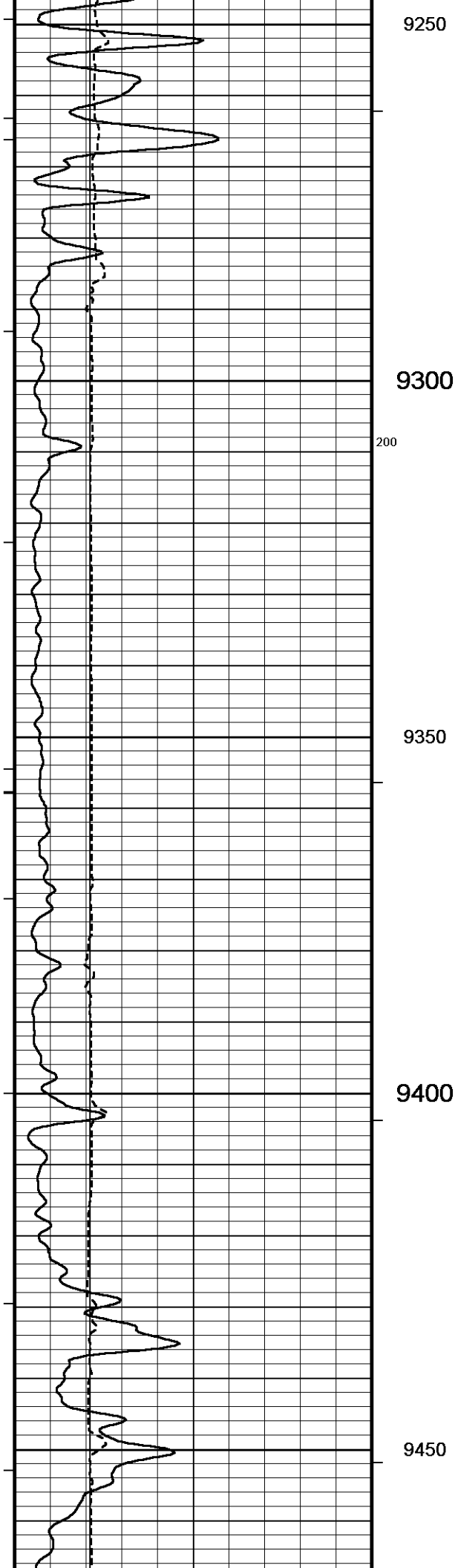


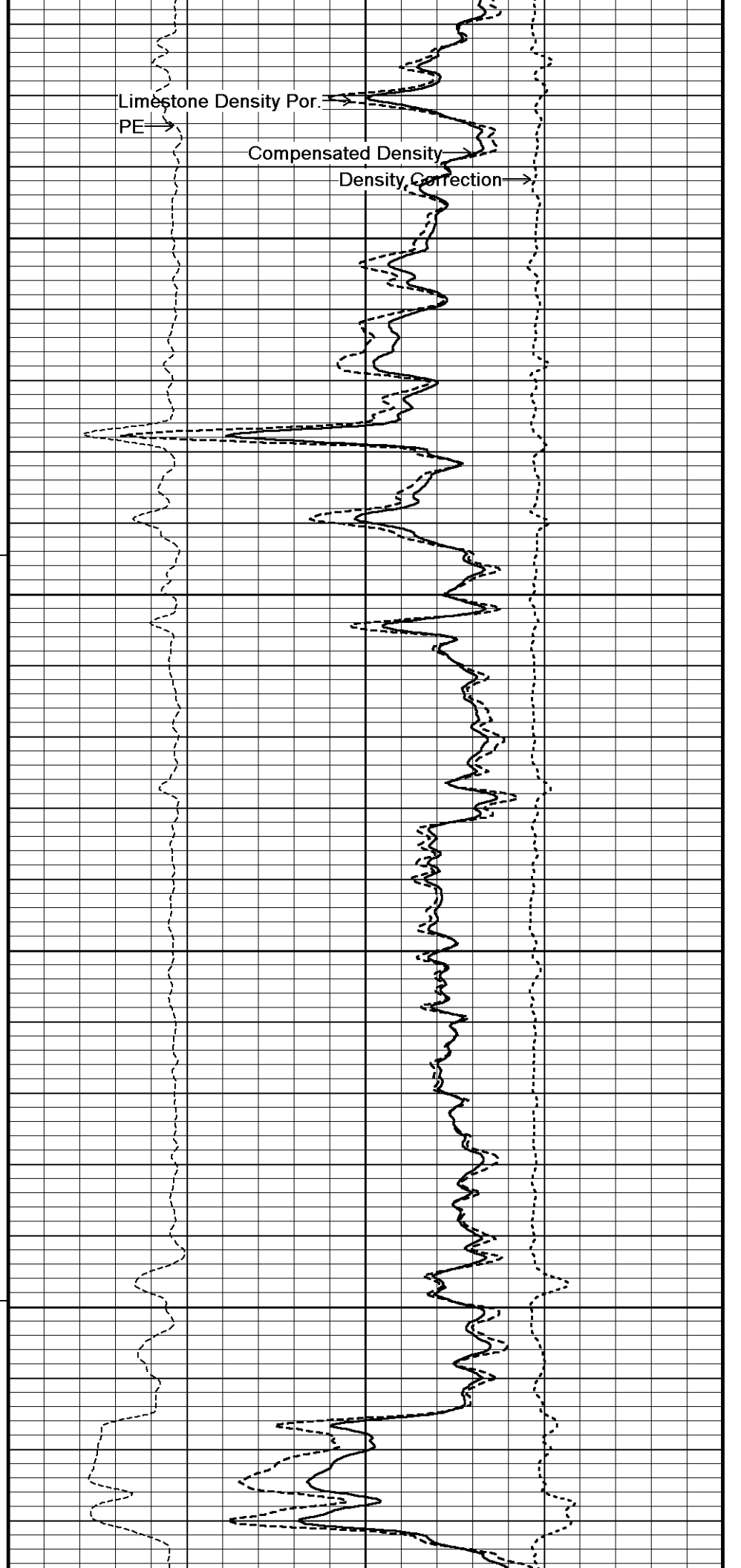
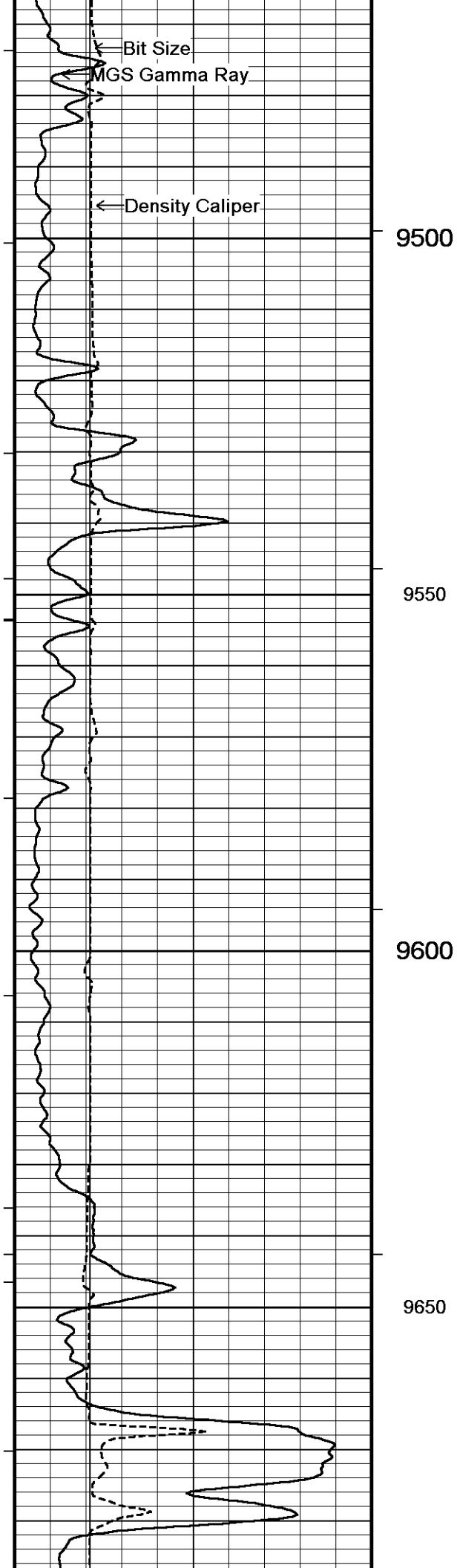


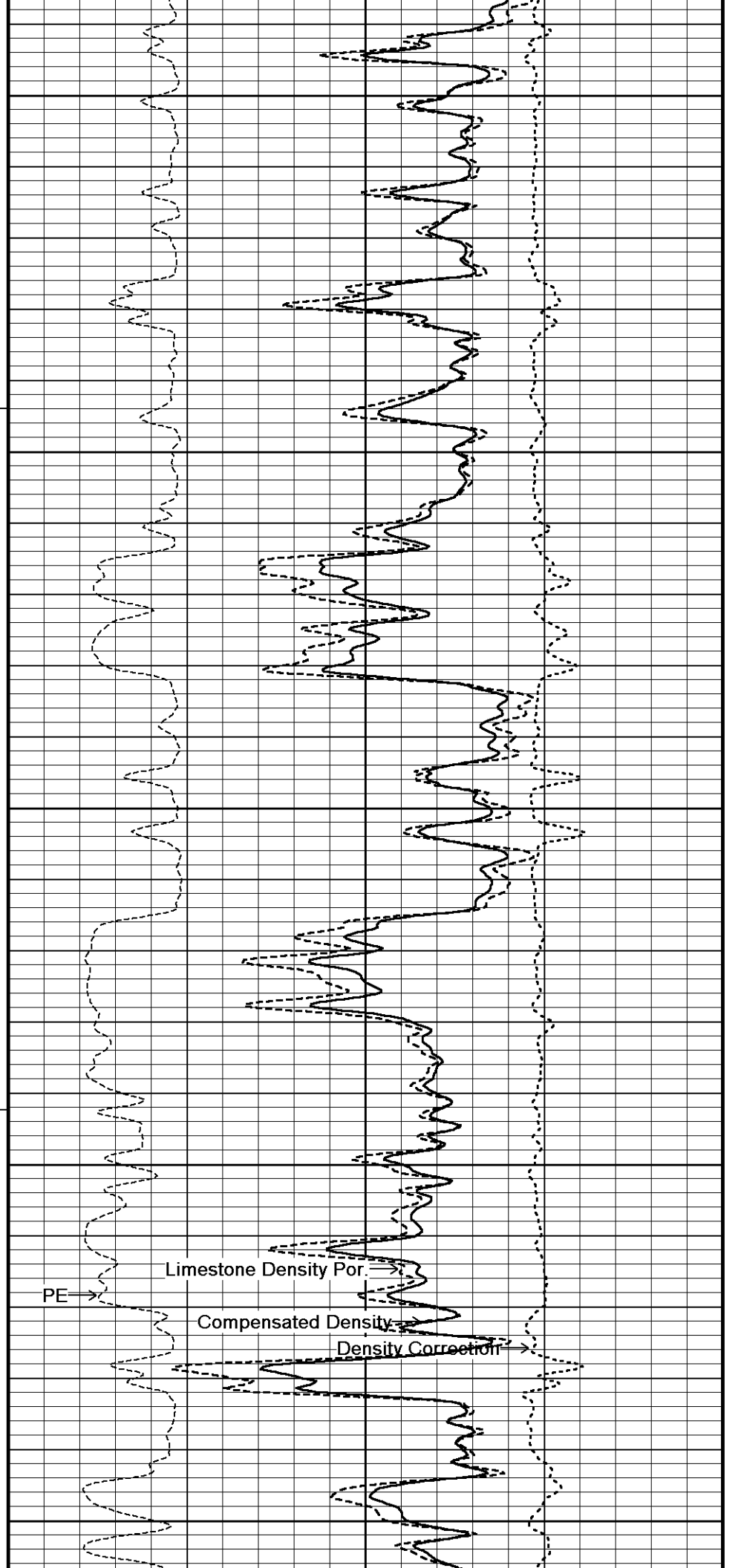
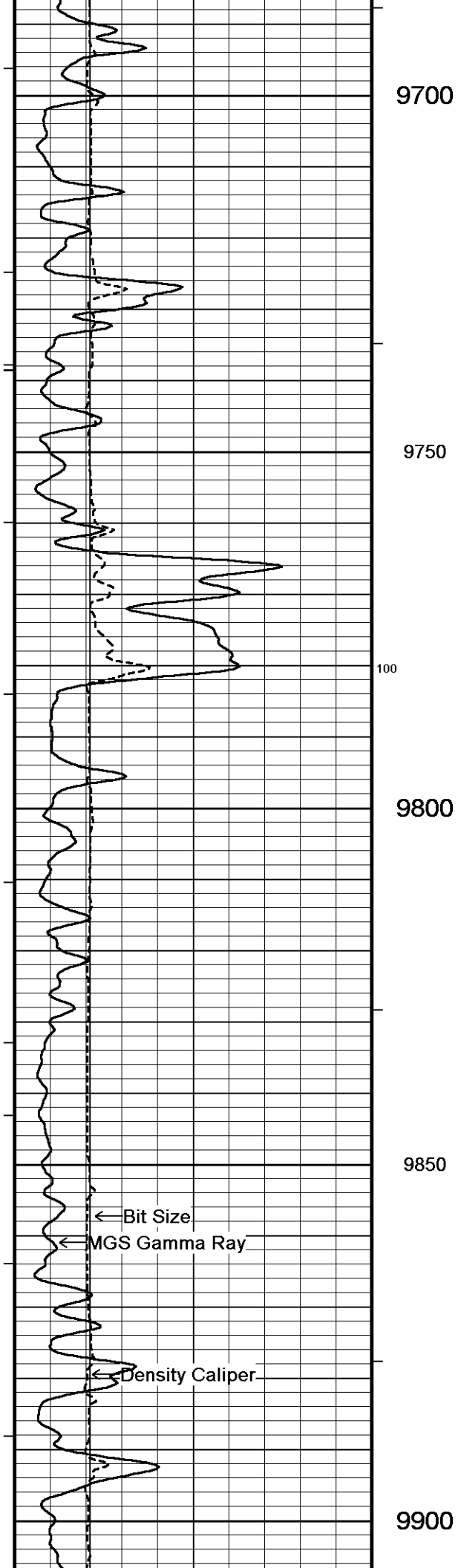




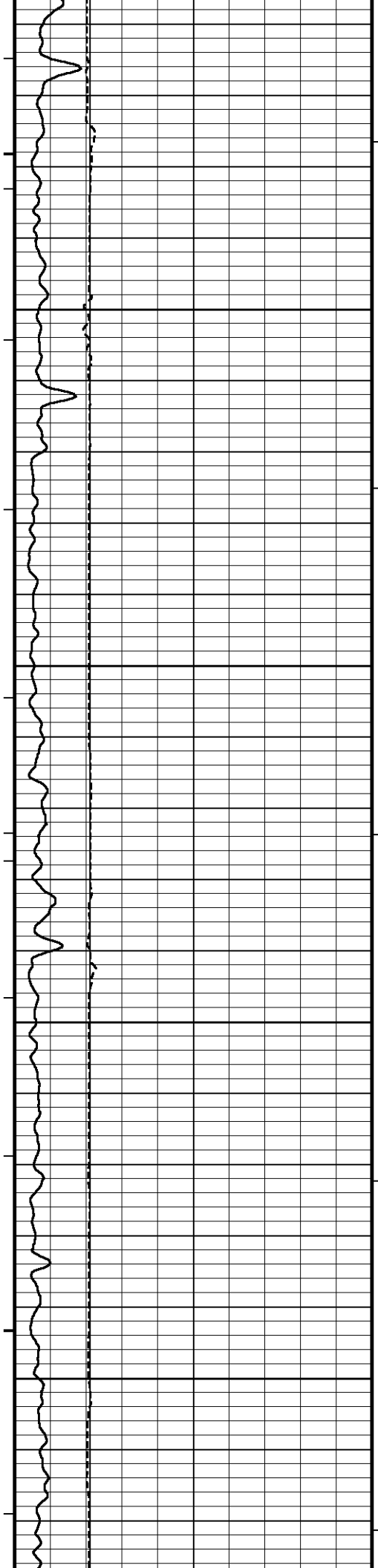




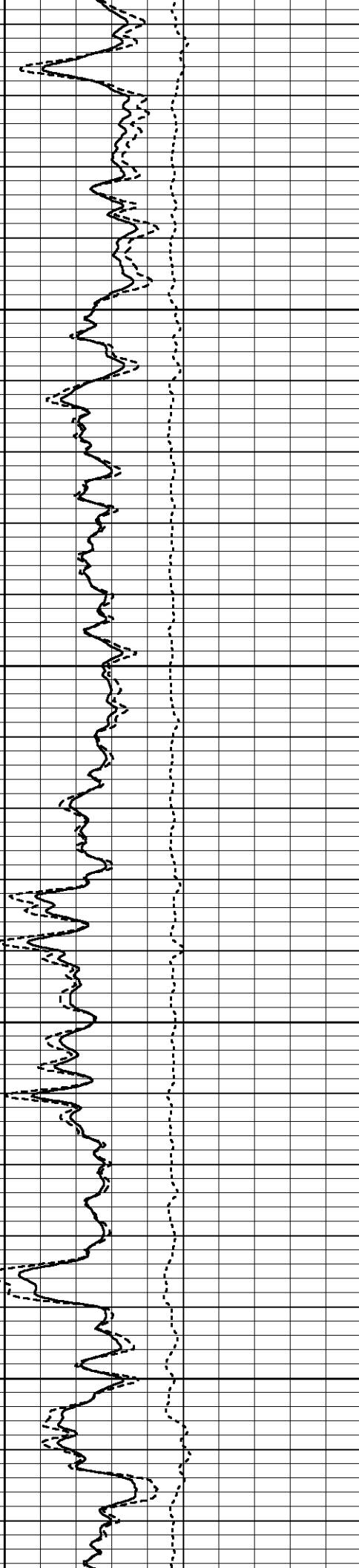
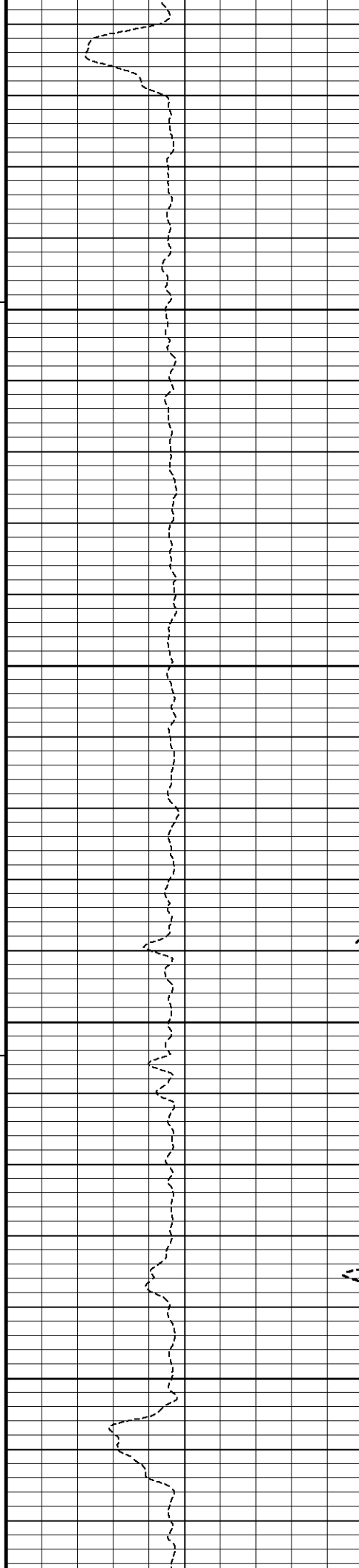


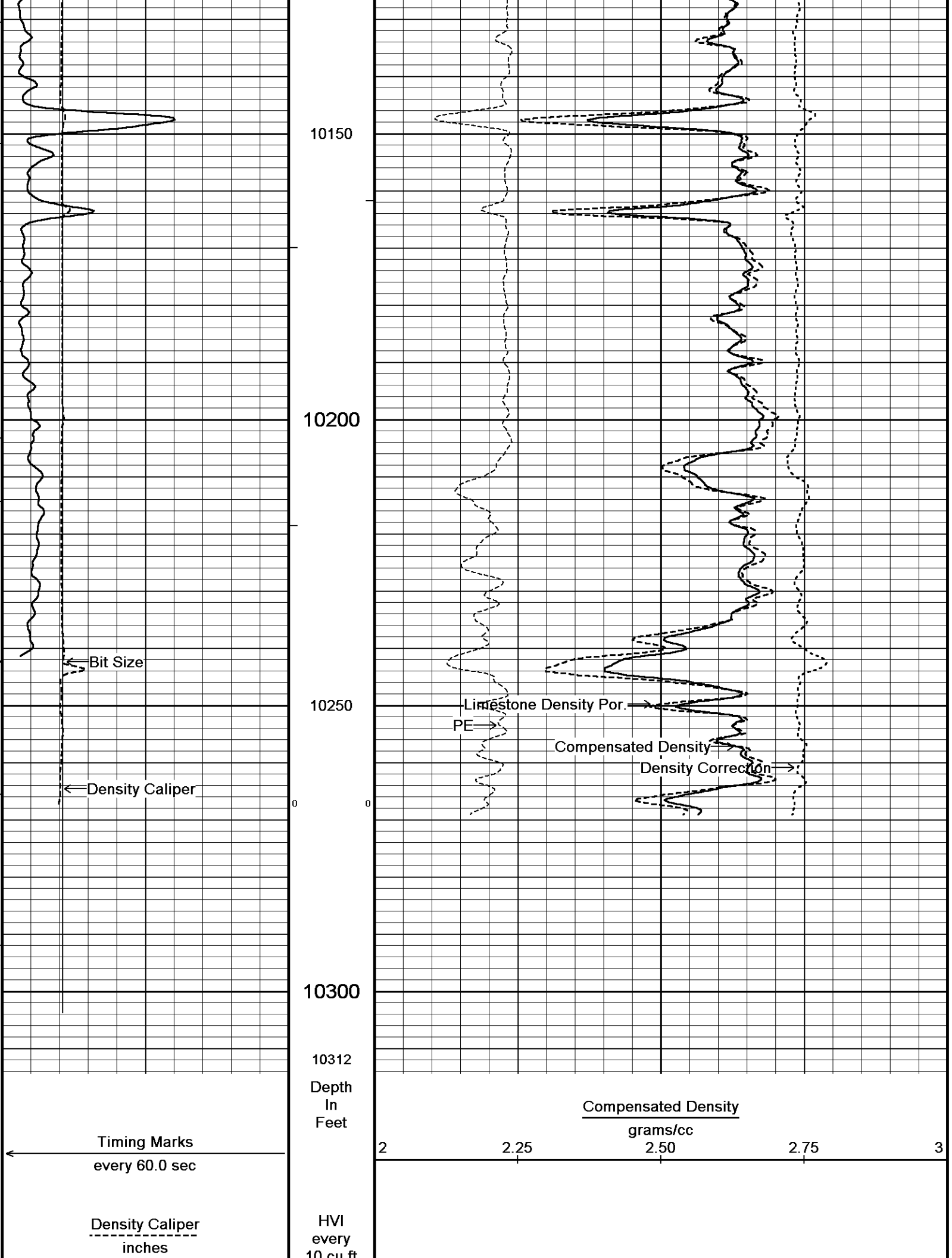


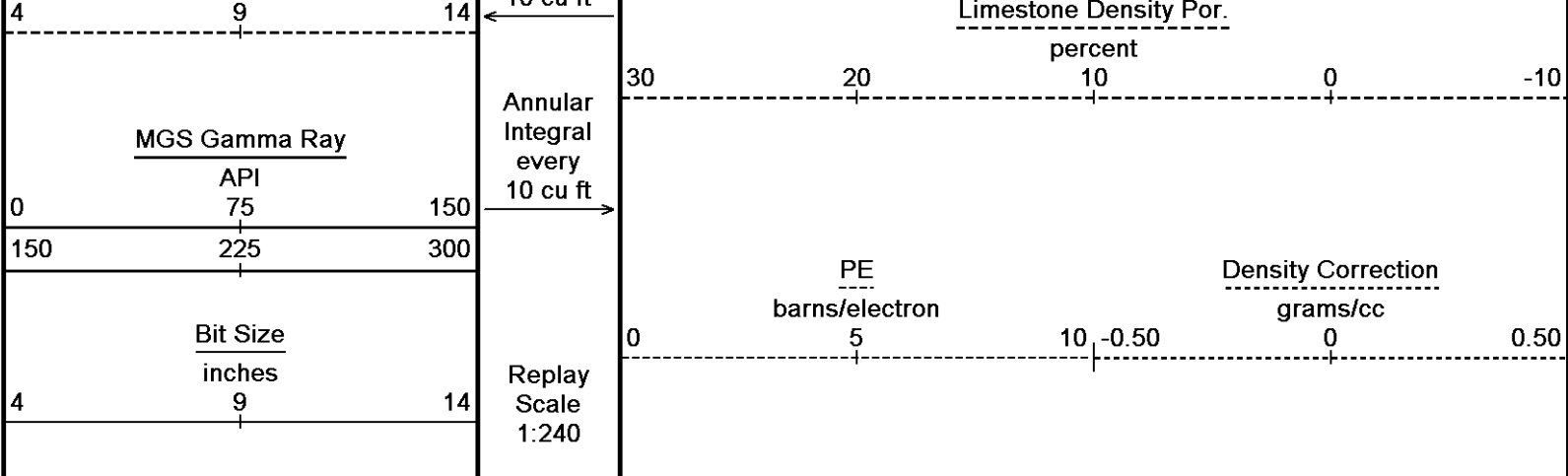




9950  
10000  
10050  
10100







Depth Based Data - Maximum Sampling Increment 10.0cm
 

Plotted on 15-MAR-2013 16:49

Filename: C:\DATA\_13\_04\_8492\Sandridge Gabriel 3120 1-12H\Gabriel 3120 1-12H rtap depth.dta
 

Recorded on 15-MAR-2013 16:21

System Versions: Processed with 13.04.8492 Plotted with 13.04.8492

↑
 5 INCH BULK DENSITY
 ↑

BEFORE SURVEY CALIBRATION
 

C:\DATA\_13\_04\_8492\Sandridge Gabriel 3120 1-12H\Gabriel 3120 1-12H rtap depth.dta

|                                                         |                       |  |                                  |  |  |
|---------------------------------------------------------|-----------------------|--|----------------------------------|--|--|
| General Constants All 000                               |                       |  | Last Edited on 13-MAR-2013,14:18 |  |  |
| General Parameters                                      |                       |  |                                  |  |  |
| Mud Resistivity                                         | 2.400                 |  | ohm-metres                       |  |  |
| Mud Resistivity Temperature                             | 50.000                |  | 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                        | None                  |  |                                  |  |  |
| Rwa Parameters                                          |                       |  |                                  |  |  |
| Porosity used                                           | Base Density Porosity |  |                                  |  |  |
| Resistivity used                                        | Deep Induction        |  |                                  |  |  |
| RWA Constant A                                          | 0.610                 |  |                                  |  |  |
| RWA Constant M                                          | 2.150                 |  |                                  |  |  |

|                                      |        |             |        |        |                                  |        |        |        |           |
|--------------------------------------|--------|-------------|--------|--------|----------------------------------|--------|--------|--------|-----------|
| Strain Gauge Constants MMS-E.B 158   |        |             |        |        | Last Edited on 02-MAR-2013,15:44 |        |        |        |           |
| Atmospheric Pressure                 |        | 14.70       |        | psi    |                                  |        |        |        |           |
| Serial Number                        |        | 261995      |        |        |                                  |        |        |        |           |
| Calibration Date                     |        | 13-Nov-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                                  | -0.116 | -0.116      | -0.105 | -0.106 | -0.097                           | -0.097 | -0.095 | -0.095 |           |
| 3000.0                               | 5.065  | 5.068       | 5.080  | 5.083  | 5.094                            | 5.097  | 5.101  | 5.103  |           |
| 6000.0                               | 10.257 | 10.263      | 10.277 | 10.282 | 10.296                           | 10.301 | 10.307 | 10.313 |           |
| 9000.0                               | 15.460 | 15.466      | 15.484 | 15.490 | 15.509                           | 15.515 | 15.526 | 15.533 |           |
| 12000.0                              | 20.673 | 20.678      | 20.703 | 20.707 | 20.734                           | 20.739 | 20.757 | 20.762 |           |
| 15000.0                              | 25.900 |             | 25.935 |        | 25.973                           |        | 26.002 |        |           |

|                            |          |  |                                        |  |  |
|----------------------------|----------|--|----------------------------------------|--|--|
| SP Calibration MGS-C.J 142 |          |  | Field Calibration on 02-MAR-2013,15:32 |  |  |
|                            | Measured |  | Calibrated (mV)                        |  |  |
| Reference 1                | 100.0    |  | 100.0                                  |  |  |
| Reference 2                | -100.0   |  | -100.0                                 |  |  |

High Resolution Temperature Calibration MGS-C.J 142

# High Resolution Temperature Calibration MGS-C.J 142

Field Calibration on 02-MAR-2013,15:32

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

## High Resolution Temperature Constants MGS-C.J 142

Last Edited on 02-MAR-2013,15:32

Pre-filter Length 11

## Gamma Calibration MGS-C.J 142

Field Calibration on 14-MAR-2013,13:03

|                    |          |                  |
|--------------------|----------|------------------|
|                    | Measured | Calibrated (API) |
| Background         | 44       | 29               |
| Calibrator (Gross) | 1099     | 725              |
| Calibrator (Net)   | 1055     | 696              |

## Gamma Constants MGS-C.J 142

Last Edited on 06-MAR-2013,19:41

|                               |                 |       |
|-------------------------------|-----------------|-------|
| 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  |

## Neutron Calibration MDN-B.J 391

Base Calibration on 04-FEB-2013 09:37

Field Check on 14-MAR-2013,13:03

### Base Calibration

|       |          |     |                  |     |
|-------|----------|-----|------------------|-----|
|       | Measured |     | Calibrated (cps) |     |
|       | Near     | Far | Near             | Far |
|       | 3127     | 94  | 3714             | 110 |
| Ratio | 33.324   |     | 33.764           |     |

### Field Calibrator at Base

|       |                  |
|-------|------------------|
|       | Calibrated (cps) |
|       | 2292 3445        |
| Ratio | 0.665            |

### Field Check

|       |                  |
|-------|------------------|
|       | Calibrated (cps) |
|       | 2101 3158        |
| Ratio | 0.668            |

## Neutron Constants MDN-B.J 391

Last Edited on 14-MAR-2013,13:03

|                                 |                          |           |
|---------------------------------|--------------------------|-----------|
| 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       | 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 395

Base Calibration on 09-MAR-2013,23:07

Field Check on 14-MAR-2013 12:58

### Base Calibration

|             |          |                    |
|-------------|----------|--------------------|
|             | Measured | Calibrated (ohm-m) |
| Reference 1 | 0.0      | 0.0                |
| Reference 2 | 972.5    | 126.8              |

Base Check 279.1

Field Check 278.9

## FE Constants MFE-C.A 395

Last Edited on

|                                  |                          |        |
|----------------------------------|--------------------------|--------|
| Running Mode                     | No Sleeve                |        |
| MFE K Factor                     | 0.1268                   |        |
| Caliper Source for FE correction | Bit Size                 |        |
| Caliper Value for FE correction  | 2.25                     | inches |
| Rm Source for FE correction      | Constant Value           |        |
| Temp. for Rm Corr.               | MCG External Temperature |        |
| Stand-off                        | Centred                  | inches |

Induction Calibration MAI-A.A 166

Base Calibration on 01-MAR-2013,14:03  
Field Check on 14-MAR-2013 12:57

Base Calibration

Test Loop Calibration

| Channel | Measured |       | Calibrated (mmho/m) |       |
|---------|----------|-------|---------------------|-------|
|         | Low      | High  | Low                 | High  |
| 1       | 17.4     | 475.9 | 9.3                 | 966.2 |
| 2       | 6.7      | 390.1 | 7.6                 | 821.4 |
| 3       | 3.6      | 261.4 | 5.2                 | 566.0 |
| 4       | 2.0      | 135.3 | 2.6                 | 279.2 |

Array Temperature 0.0 Deg F

| Channel | Base Check (mmho/m) |        | Field Check (mmho/m) |        |
|---------|---------------------|--------|----------------------|--------|
|         | Low                 | High   | Low                  | High   |
| 1       | 13.0                | 3816.9 | 13.1                 | 3817.3 |
| 2       | 29.0                | 3457.6 | 29.0                 | 3457.6 |
| 3       | 28.5                | 3027.8 | 28.5                 | 3027.4 |
| 4       | 19.4                | 2043.9 | 19.4                 | 2043.5 |
| Deep    | 18.3                | 2009.1 | 18.3                 | 2008.5 |
| Medium  | 41.3                | 3980.2 | 41.3                 | 3979.7 |
| Shallow | 42.0                | 5057.4 | 42.1                 | 5058.0 |

Array Temperature 71.0 72.3 Deg F

Induction Constants MAI-A.A 166

Last Edited on 15-MAR-2013,16:42

|                                   |                          |            |
|-----------------------------------|--------------------------|------------|
| 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                         | 0.00                     | 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   |         |
| 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 166

Field Calibration on 01-MAR-2013,06:39

|       | Measured | Calibrated(Deg F) |
|-------|----------|-------------------|
| Lower | 0.00     | 10.00             |
| Upper | 100.00   | 100.00            |

## High Resolution Temperature Constants MAI-A.A 166

Last Edited on 02-MAR-2013,15:30

Pre-filter Length 11

## Photo Density Calibration MPD-C.J 394

Base Calibration on 12-MAR-2013 13:01

Field Check on 14-MAR-2013 13:02

| Density Calibration |       | Measured |       | Calibrated (sdu) |     |
|---------------------|-------|----------|-------|------------------|-----|
| Base Calibration    |       | Near     | Far   | Near             | Far |
| Reference 1         | 50748 | 25116    | 59869 | 31110            |     |
| Reference 2         | 21401 | 2759     | 24557 | 2522             |     |

Field Check at Base

1256.5 1578.1

Field Check

1260.6 1584.9

| PE Calibration   |       | Measured |       | Calibrated |
|------------------|-------|----------|-------|------------|
| Base Calibration |       | WS       | WH    | Ratio      |
| Background       | 230   | 1122     |       |            |
| Reference 1      | 22100 | 50552    | 0.442 | 0.369      |
| Reference 2      | 6194  | 21257    | 0.296 | 0.271      |

Field Check at Base

230.3 1122.1

Field Check

231.0 1128.2

## Density Constants MPD-C.J 394

Last Edited on 20-JAN-2013,18:20

|                               |                 |       |
|-------------------------------|-----------------|-------|
| 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                   | 1.02            | 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                          | 0.00            |       |

## Caliper Calibration MPD-C.J 394

Base Calibration on 12-MAR-2013 10:53

Field Calibration on 12-MAR-2013 10:55

| Base Calibration |  | Measured | Calibrator Size (in) |
|------------------|--|----------|----------------------|
| Reading No       |  |          |                      |
| 1                |  | 17108    | 4.02                 |
| 2                |  | 25354    | 6.00                 |
| 3                |  | 33780    | 8.03                 |
| 4                |  | 42352    | 10.02                |

5  
6

51152  
N/A

12.01  
N/A

Field Calibration

Measured Caliper (in)  
5.99

Actual Caliper (in)  
6.00

## DOWNHOLE EQUIPMENT

C:\DATA\_13\_04\_8492\Sandridge Gabriel 3120 1-12H\Gabriel 3120 1-12H rtap depth.dta

Shuttle Running Tool 3.5" )

SRT-A.A 69 LG: 6.62 ft WT: 37.5 lb OD: 2.52 in

MBS-G.A 200v Compact Battery Sub

MBS-G.A 115 LG: 10.61 ft WT: 70.5 lb OD: 2.24 in

Compact Memory Sub E.B

MMS-E.B 158 LG: 5.20 ft WT: 37.5 lb OD: 2.24 in

Compact Tool Isolator sub.

MTI-B.A 76 LG: 1.54 ft WT: 13.2 lb OD: 2.24 in

Compact Short Gamma

MGS-C.J 142 LG: 3.41 ft WT: 24.3 lb OD: 2.24 in

Compact Collar Locator

MCL-B.J 63 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 451 LG: 2.30 ft WT: 22.0 lb OD: 2.24 in

MIS-D.B Compact Inline Bowspring sub

MIS-D.B 608 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

Compact Neutron

MDN-B.J 391 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

Compact Density/Caliper

MPD-C.J 394 LG: 9.59 ft WT: 90.4 lb OD: 2.24 in

MIS-D.B Compact Inline Bowspring sub

MIS-D.B 607 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

SHA-J.A Compact Swivel Head Adaptor

SHA-J.A 438 LG: 2.30 ft WT: 22.0 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

MIS-E.B Compact Inline Standoff sub

MIS-E.B 597 LG: 2.14 ft WT: 15.4 lb OD: 2.24 in

Compact Focussed Electric

MFE-C.A 395 LG: 6.05 ft WT: 48.5 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



61.76 ft

59.77 ft

GRGM - MGS Gamma Ray

GSXT - MGS External Temperature

42.89 ft

NPRL - Limestone Neutron Por.

35.65 ft

35.65 ft

35.65 ft

33.72 ft

33.72 ft

33.72 ft

33.65 ft

AVOL - Annular Volume

HVOL - Hole Volume

CLDC - Density Caliper

DPRL - Limestone Density Por.

DEN - Compensated Density

DCOR - Density Correction

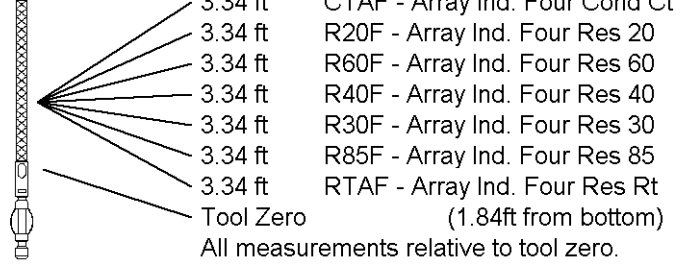
PDPE - PE

2.24 ft

CTAF - Arrow Ind. Four Cond Ct

Compact induction  
MAI-A.A 166 LG: 12.52 ft WT: 48.5 lb OD: 2.24 in

Total Length: 88.36 ft Weight: 637.1 lb



COMPANY Sandridge Energy  
WELL Gabriel 3120 1-12H  
FIELD Six Moons  
PROVINCE/COUNTY Comanche  
COUNTRY/STATE U.S.A. / Kansas

|                         |         |      |               |          |      |
|-------------------------|---------|------|---------------|----------|------|
| Elevation Kelly Bushing | 2060.00 | feet | First Reading | 10259.00 | feet |
| Elevation Drill Floor   | 2060.00 | feet | Depth Driller | 10314.00 | feet |
| Elevation Ground Level  | 2042.00 | feet | Depth Logger  | 10314.00 | feet |



**Weatherford®**

CML MESSENGER SHUTTLE  
COMPACT PHOTO DENSITY  
COMPENSATED NEUTRON LOG