



Weatherford[®]

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

COMPANY **SANDRIDGE ENERGY**
 WELL **FRUSHER 1-15H**
 FIELD **GOEBEL**
 PROVINCE/COUNTY **HODGEMAN**
 COUNTRY/STATE **USA / KANSAS**
 LOCATION **SW SE SE SE
200' FSL & 350' FEL**

SEC **15** TWP **21S** RGE **24W** Other Services **MA/MFE**
 API Number **15-083-21781**
 Permit Number
 Permanent Datum G.L., Elevation 2337 feet
 Log Measured From DF
 Drilling Measured From D.F. 21FEET

Elevations: KB 2358.00
 DF 2358.00
 GL 2337.00

| | |
|------------------------|----------------------|
| Date | 06-FEB-2013 |
| Run Number | ONE |
| Service Order | 3539396 |
| Depth Driller | 8095.00 feet |
| Depth Logger | 7700.00 feet |
| First Reading | 7660.00 feet |
| Last Reading | 3480.00 feet |
| Casing Driller | 4993.00 feet |
| Casing Logger | 4993.00 feet |
| Bit Size | 6.125 inches |
| Hole Fluid Type | WATER |
| Density / Viscosity | 9.80 lb/USg 40.00 CP |
| PH / Fluid Loss | 11.00 8.40 ml/30Min |
| Sample Source | FLOWLINE |
| Rm @ Measured Temp | 0.36 @ 64.6 ohm-m |
| Rmf @ Measured Temp | 0.29 @ 64.6 ohm-m |
| Rmc @ Measured Temp | 0.43 @ 64.6 ohm-m |
| Source Rmf / Rmc | CALC CALC |
| Rm @ BHT | 0.19 @131.0 ohm-m |
| Time Since Circulation | 18 HOURS |
| Max Recorded Temp | 131.00 deg F |
| Equipment / Base | 18006 OKC |
| Recorded By | GUTHMUELLER |
| Witnessed By | W SCOTT |
| AFE # DC11968 | |

BOREHOLE RECORD

Last Edited: 09-FEB-2013 14:13

| Bit Size inches | Depth From feet | Depth To feet |
|--------------------|--------------------|------------------|
| 12.250 | 0.00 | 1260.00 |
| 8.750 | 1260.00 | 4993.00 |
| 6.125 | 4993.00 | 8095.00 |

CASING RECORD

| Type | Size inches | Depth From feet | Shoe Depth feet | Weight pounds/ft |
|-------|----------------|--------------------|--------------------|---------------------|
| SURF | 9.625 | 0.00 | 1260.00 | 36.00 |
| INTER | 7.000 | 0.00 | 4993.00 | 26.00 |

REMARKS

LOGGED WITH WLS VER 13.04.8492 SOFTWARE
 WELL LOGGED USING MESSENGER METHOD OF DEPLOYMENT, AND MEMORY LOGGING SYSTEM
 TD NOT LOGGED DUE TO HOLE CONDITIONS
 HARDWARE: MAI: ISA STANDOFF BELOW, 0.5" MISB STANDOFF ABOVE
 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: 7600
 LOGGING TOOL DEPTH AFTER DEPLOYMENT: 7600

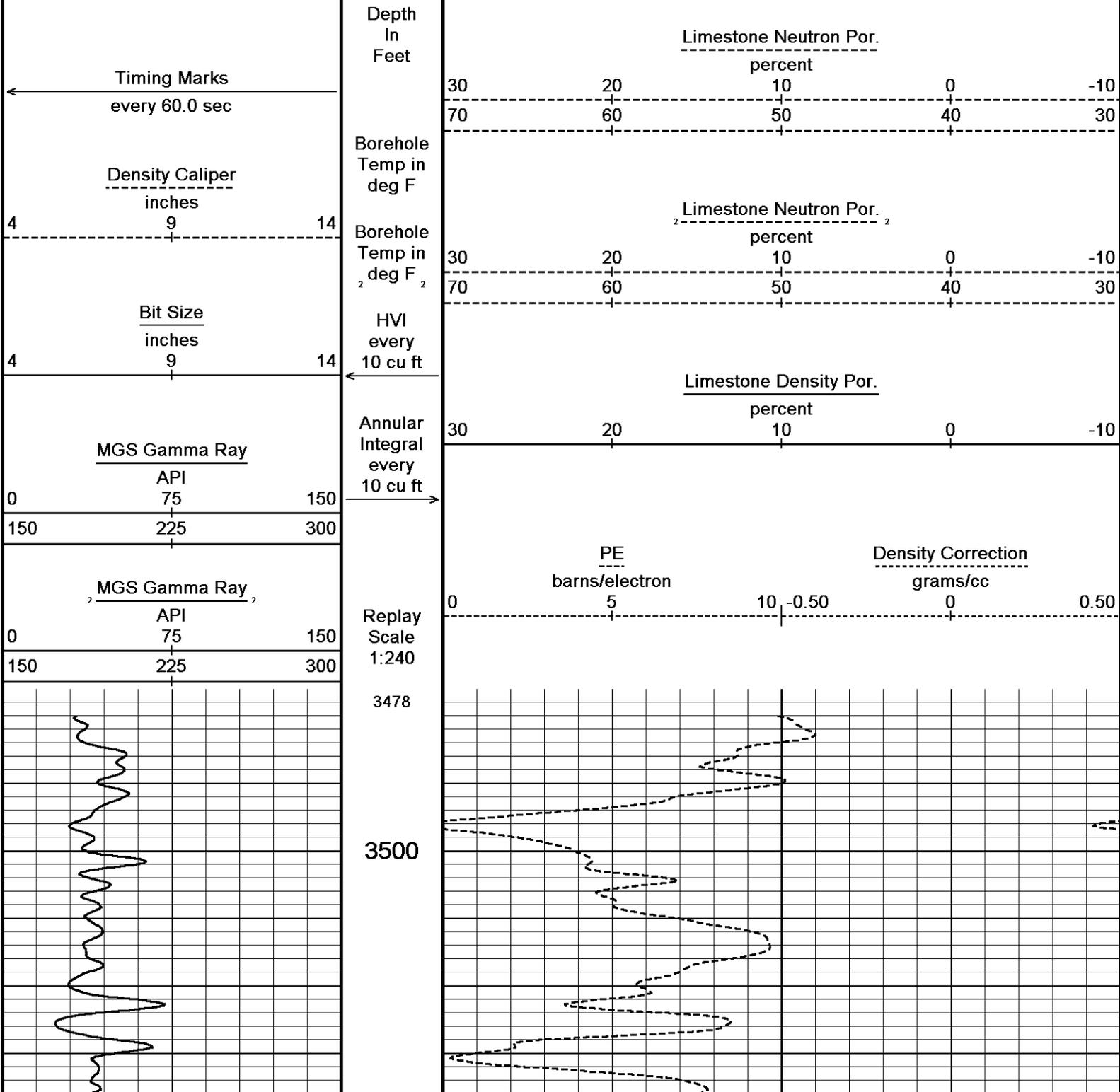
SERVICE ORDER: 3539396
RIG: LARIAT 3

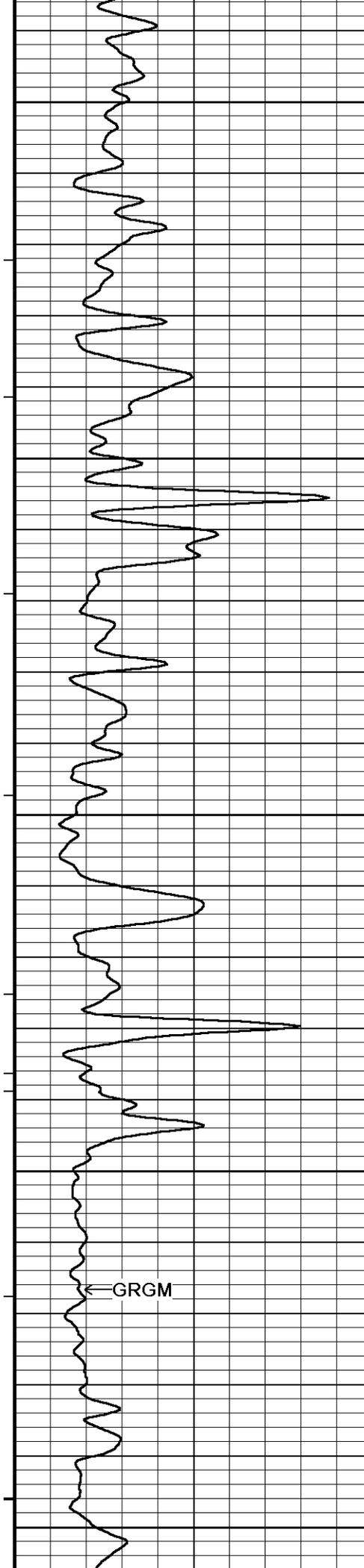
OPERATORS: B. BALLINGER, P BURGER

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-FEB-2013 02:05
 Filename: C:\13_04_8723 WLS\DATA\15083218710100 Frusher 1-15H\22851RTAP.dta Recorded on 11-FEB-2013 00:45
 System Versions: Processed with 13.04.8723 Plotted with 13.04.8723





113°

3550

114°

3600

114°

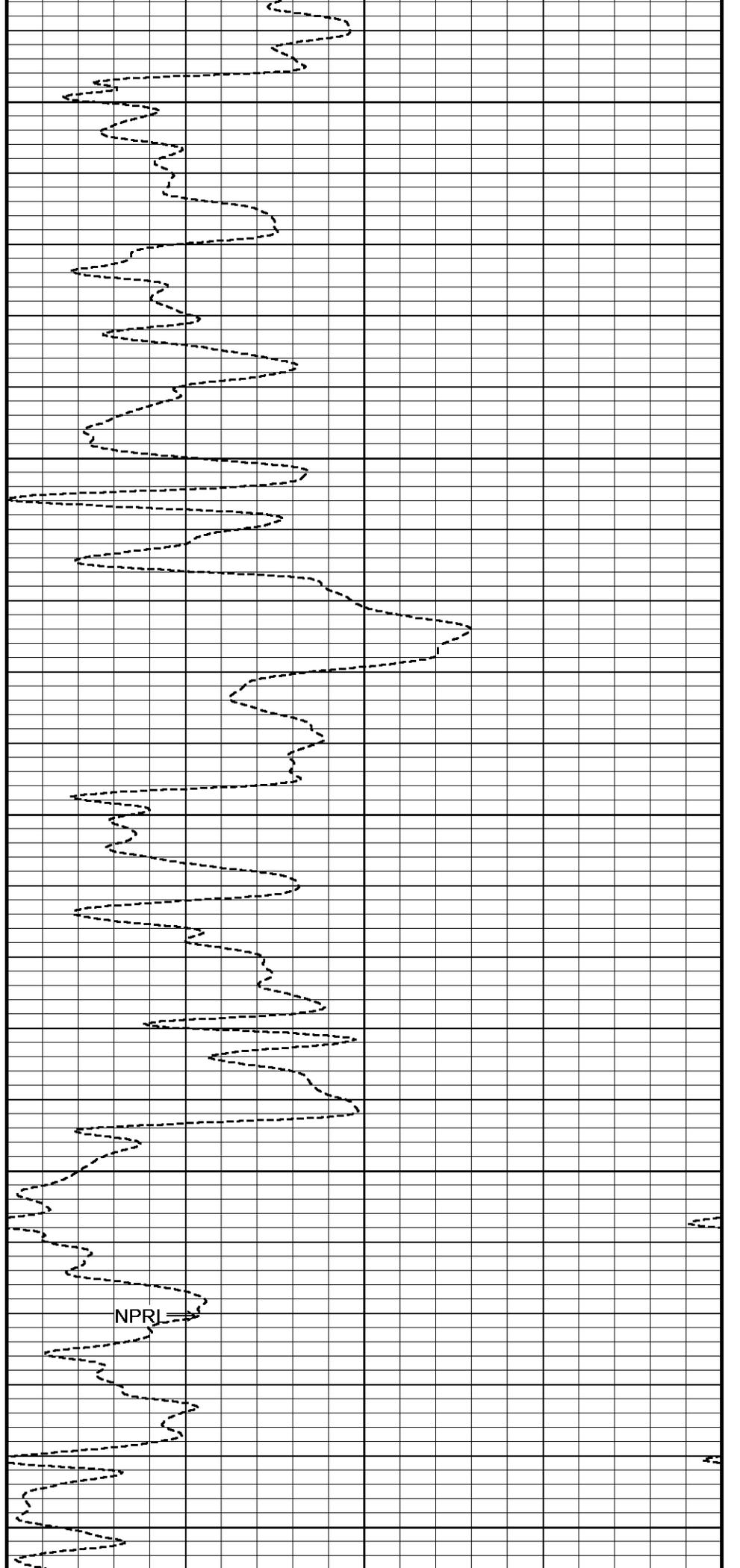
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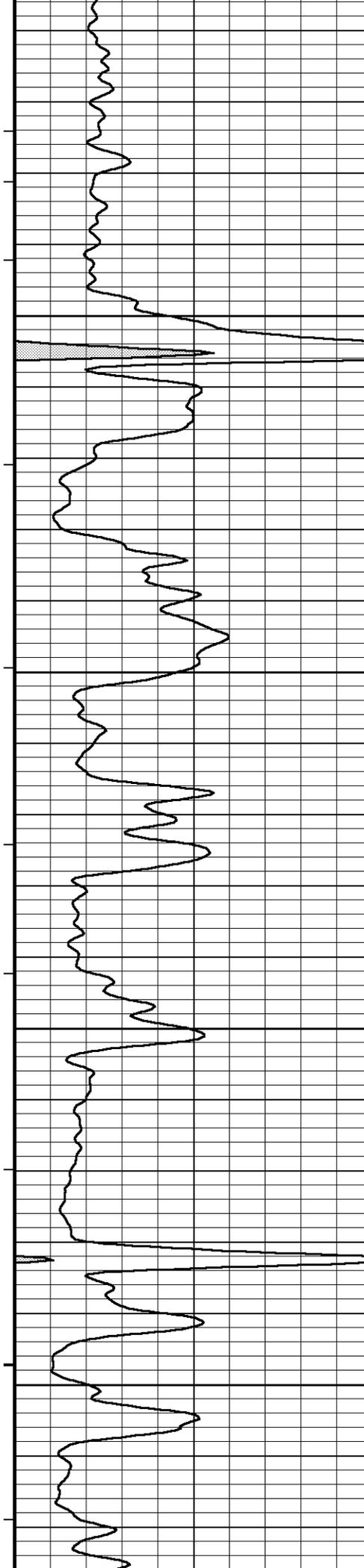
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3700

115°

3750





116°

3800

116°

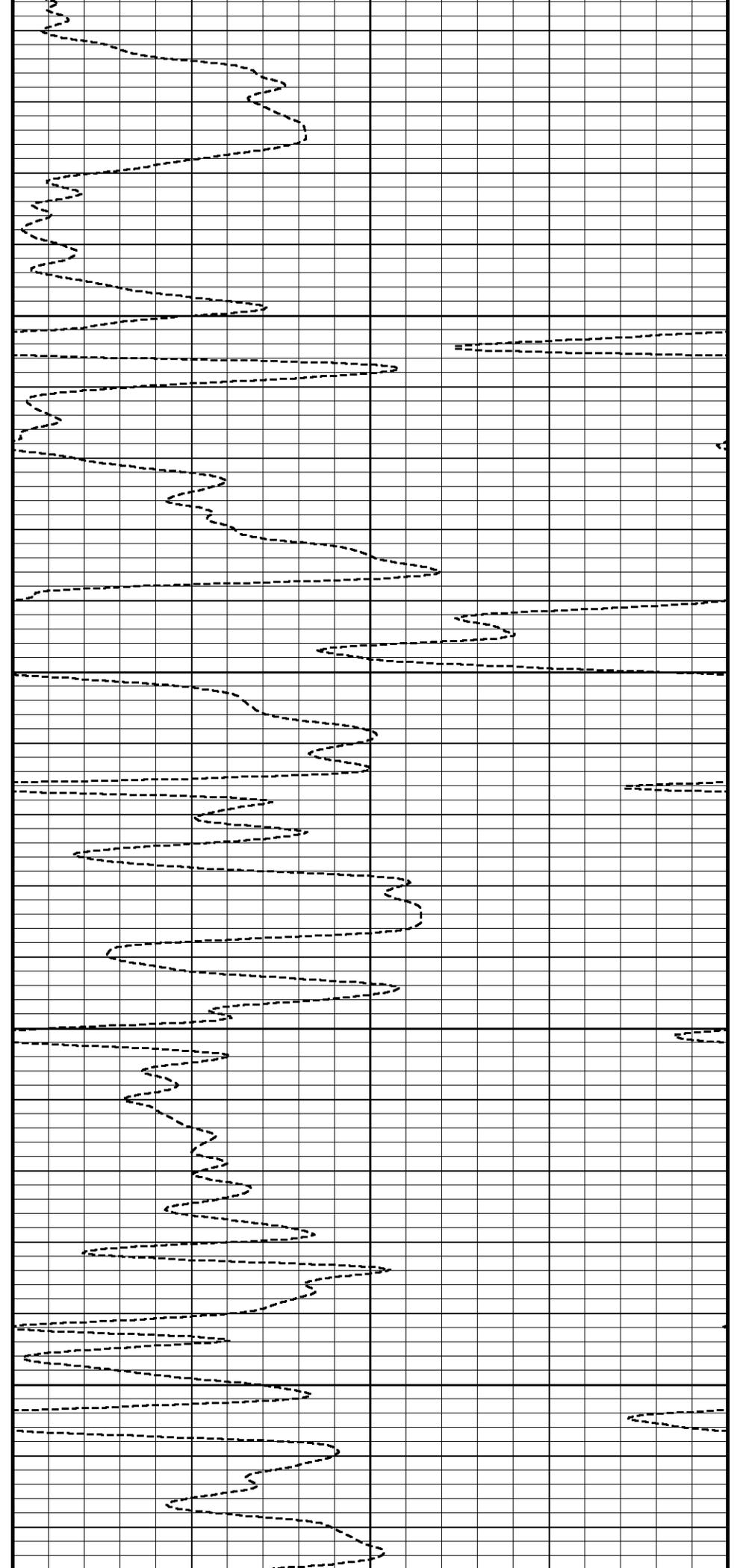
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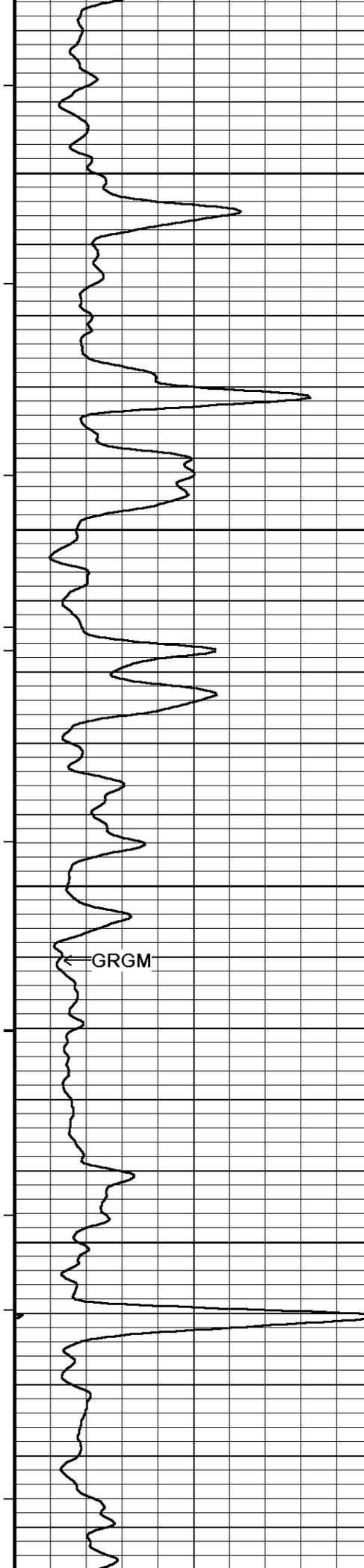
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3900

118°

3950





118°

4000

118°

4050

119°

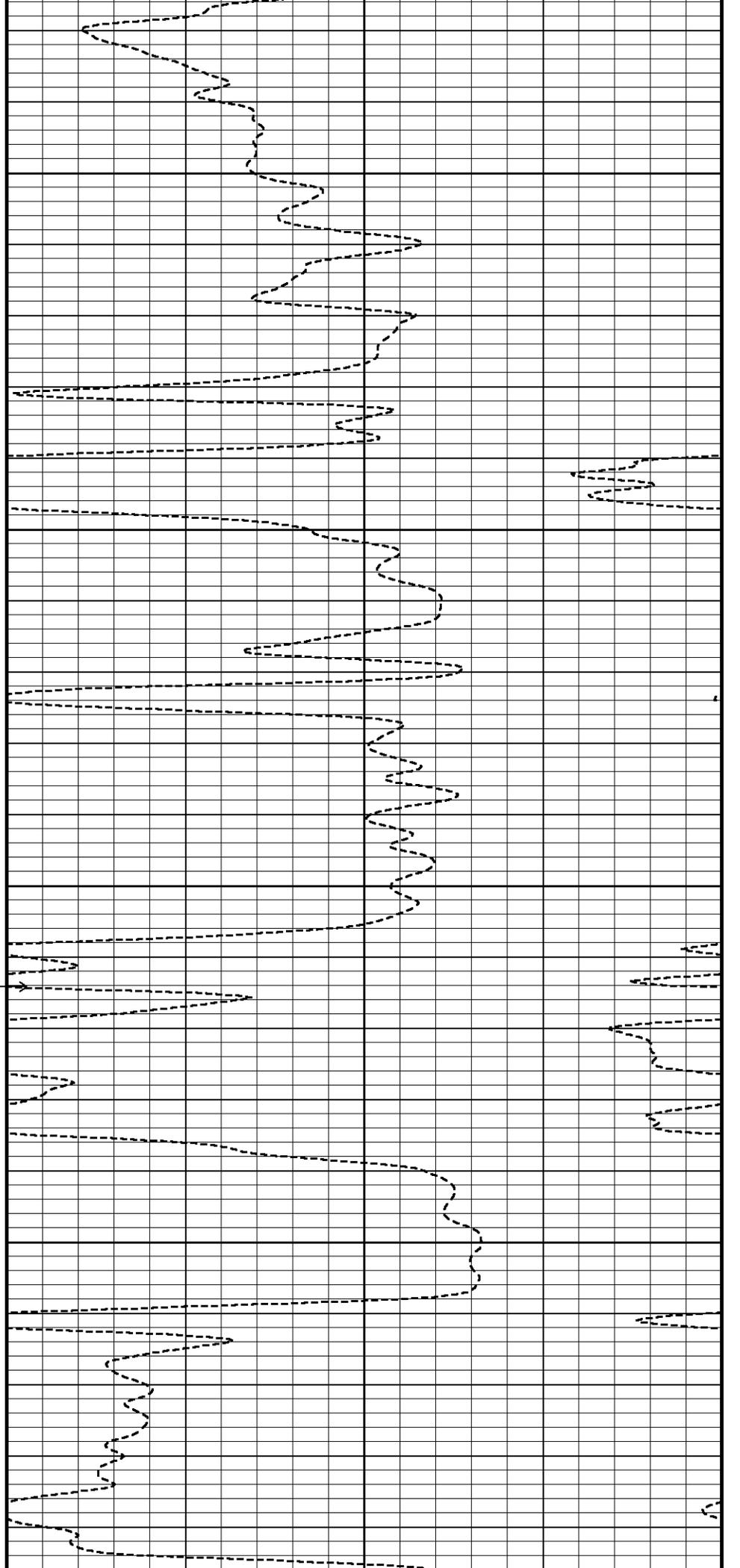
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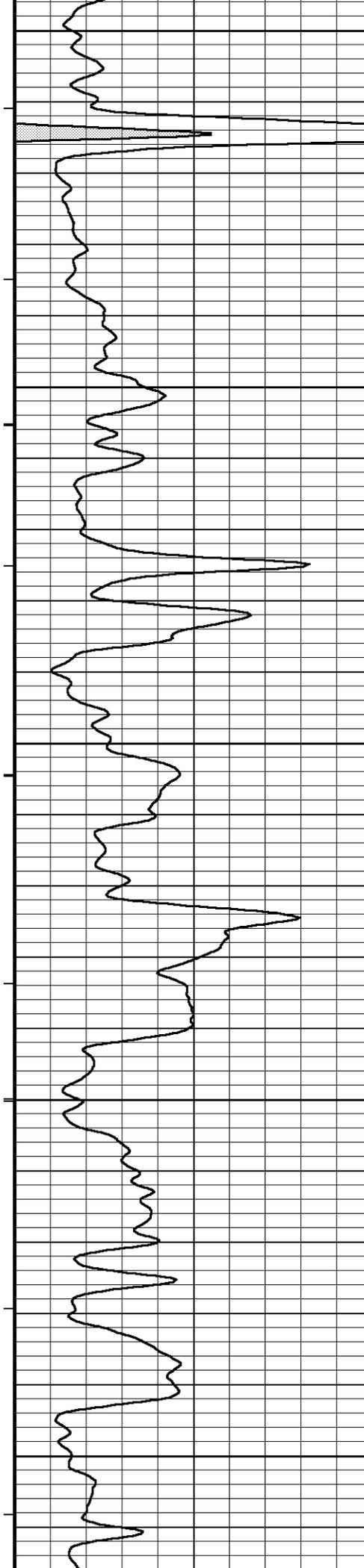
NPRL

120°

4150

120°





4200

120°

4250

121°

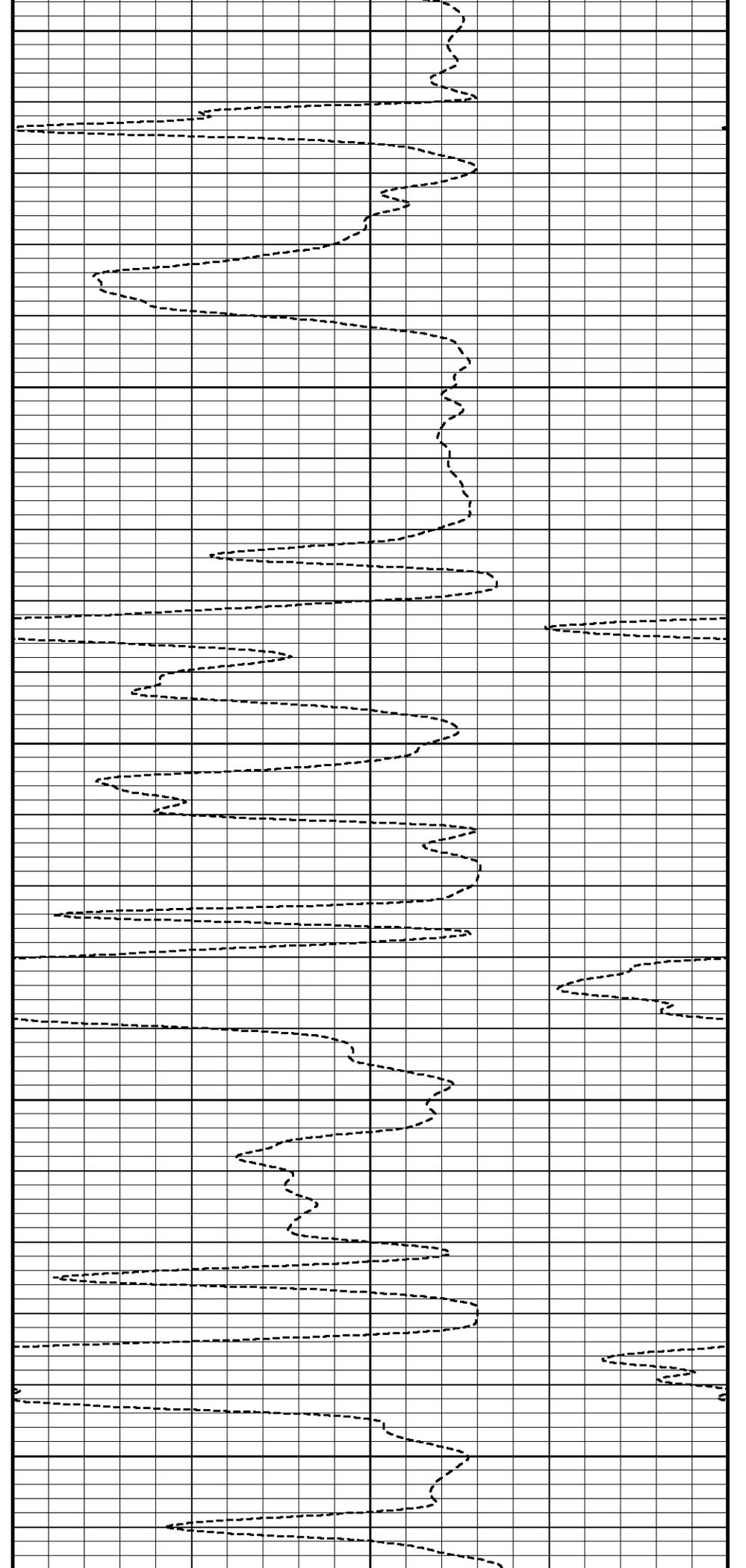
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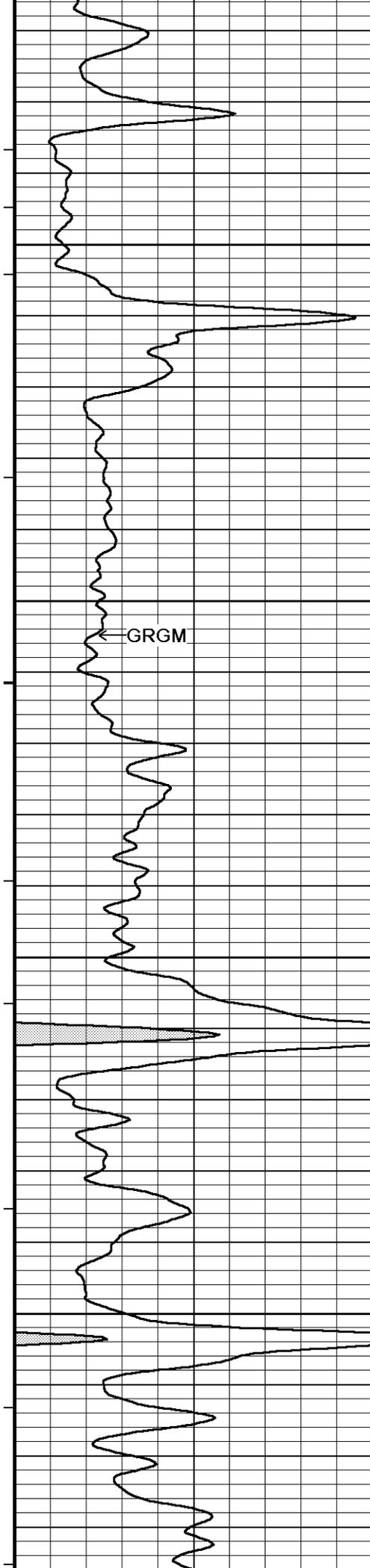
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4350

121°

4400





122°

4450

123°

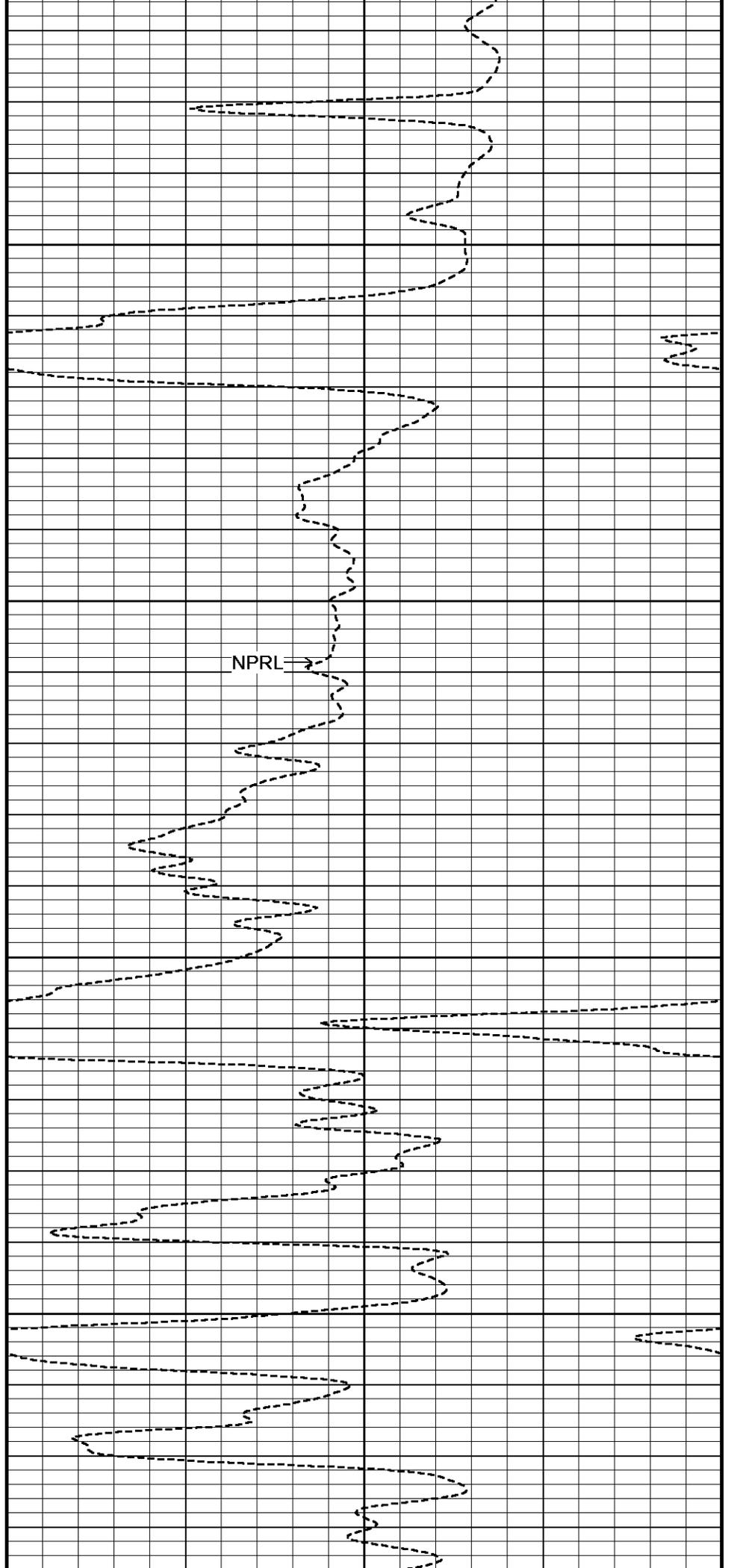
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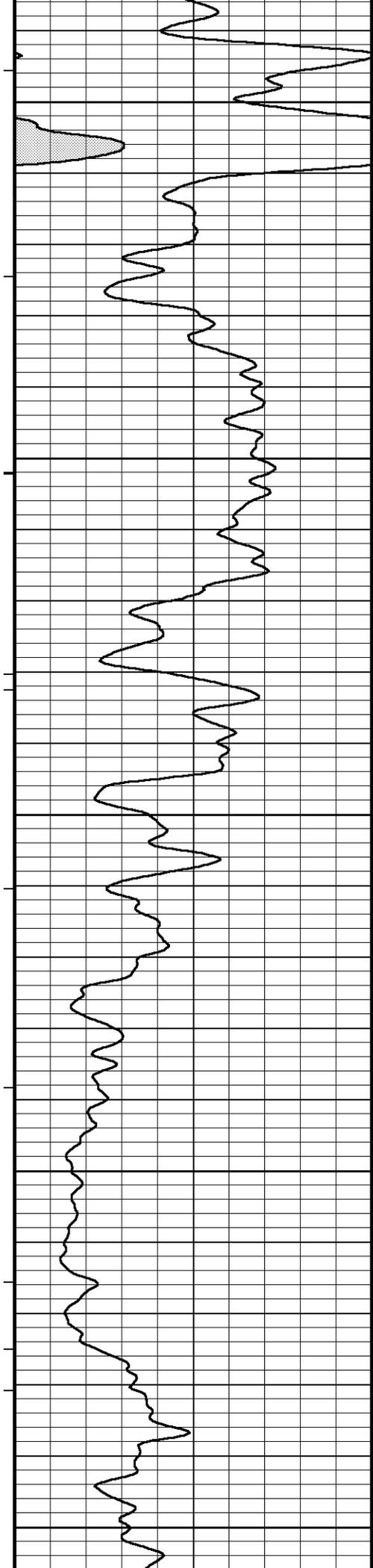
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4550

124°

4600





124°

4650

125°

4700

125°

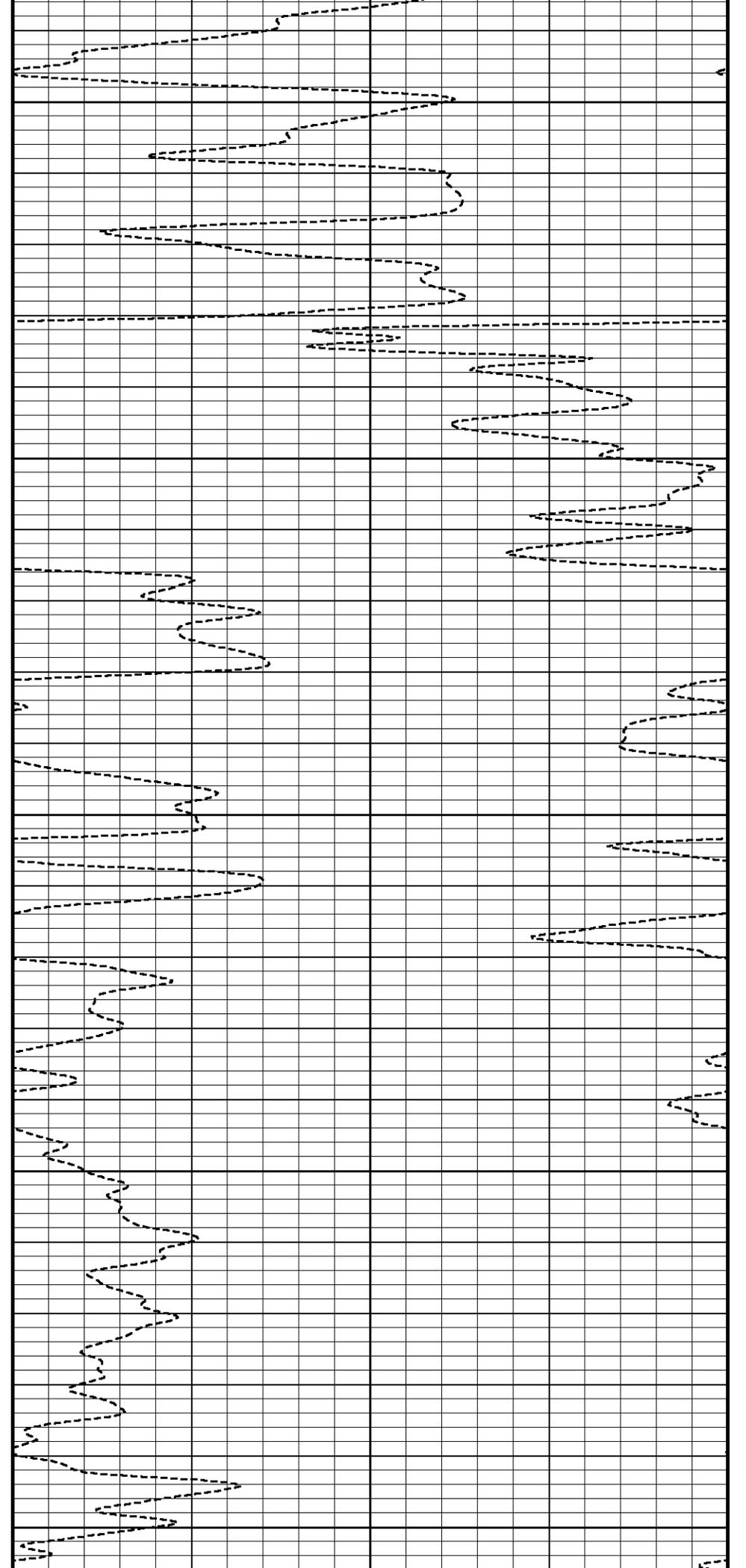
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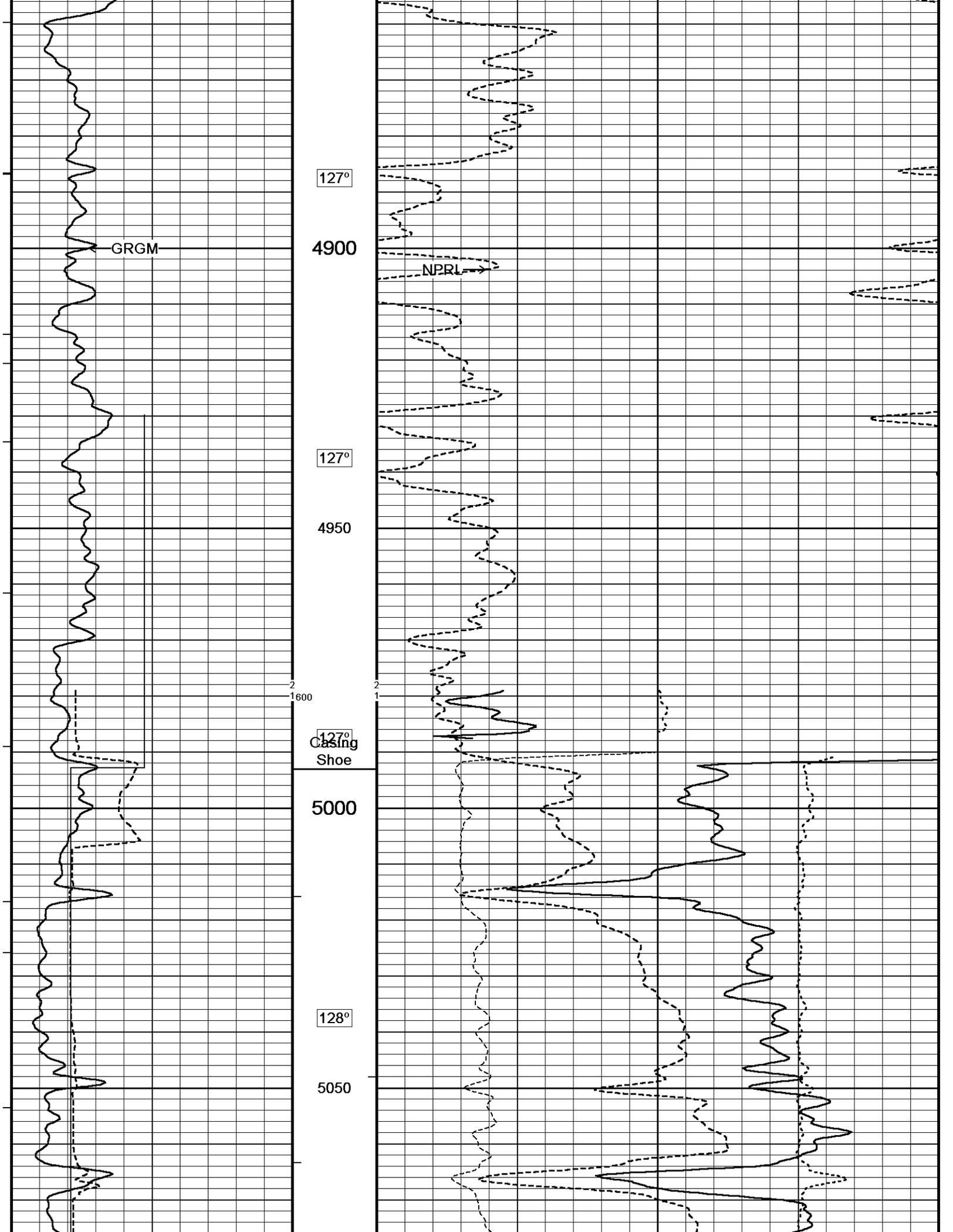
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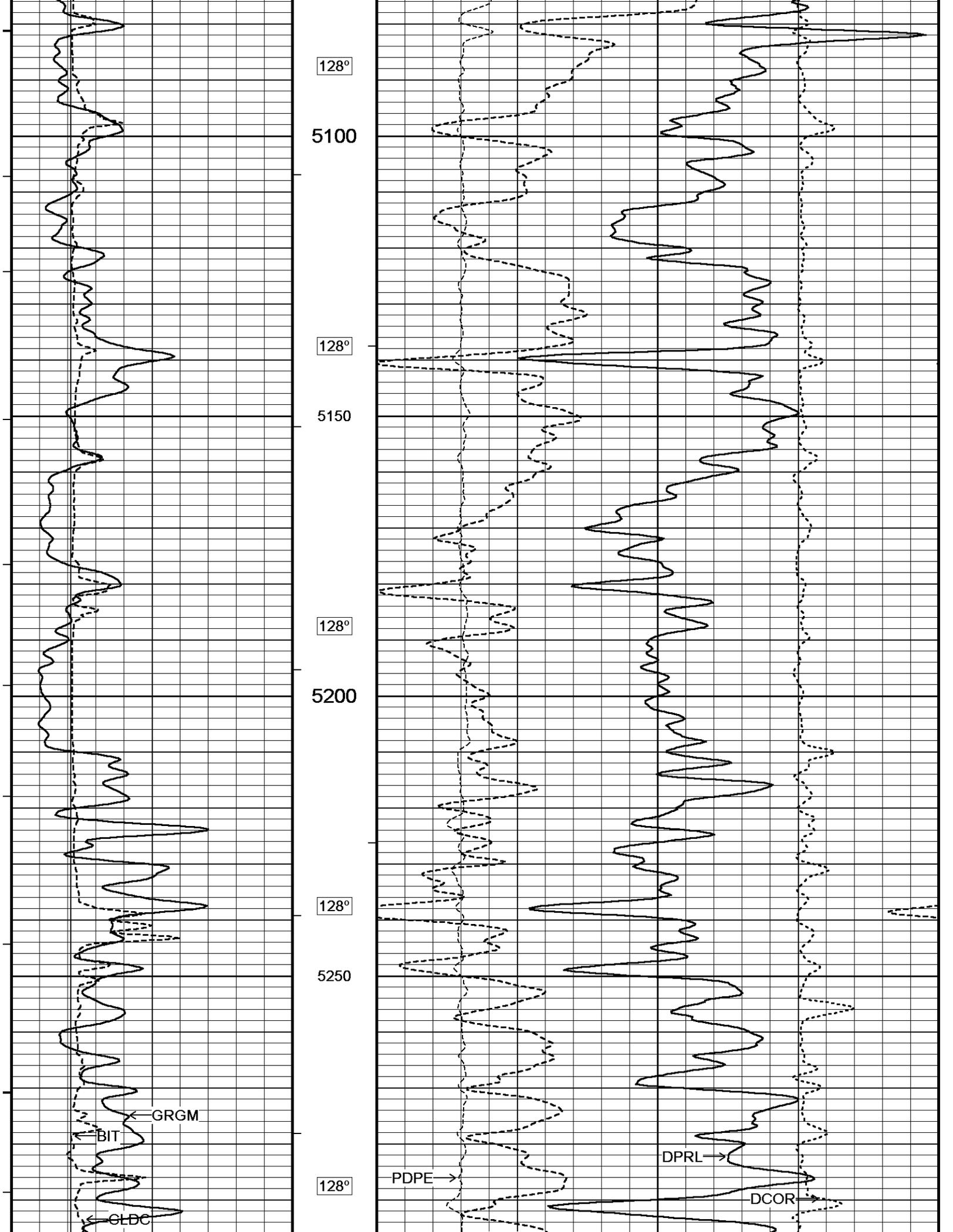
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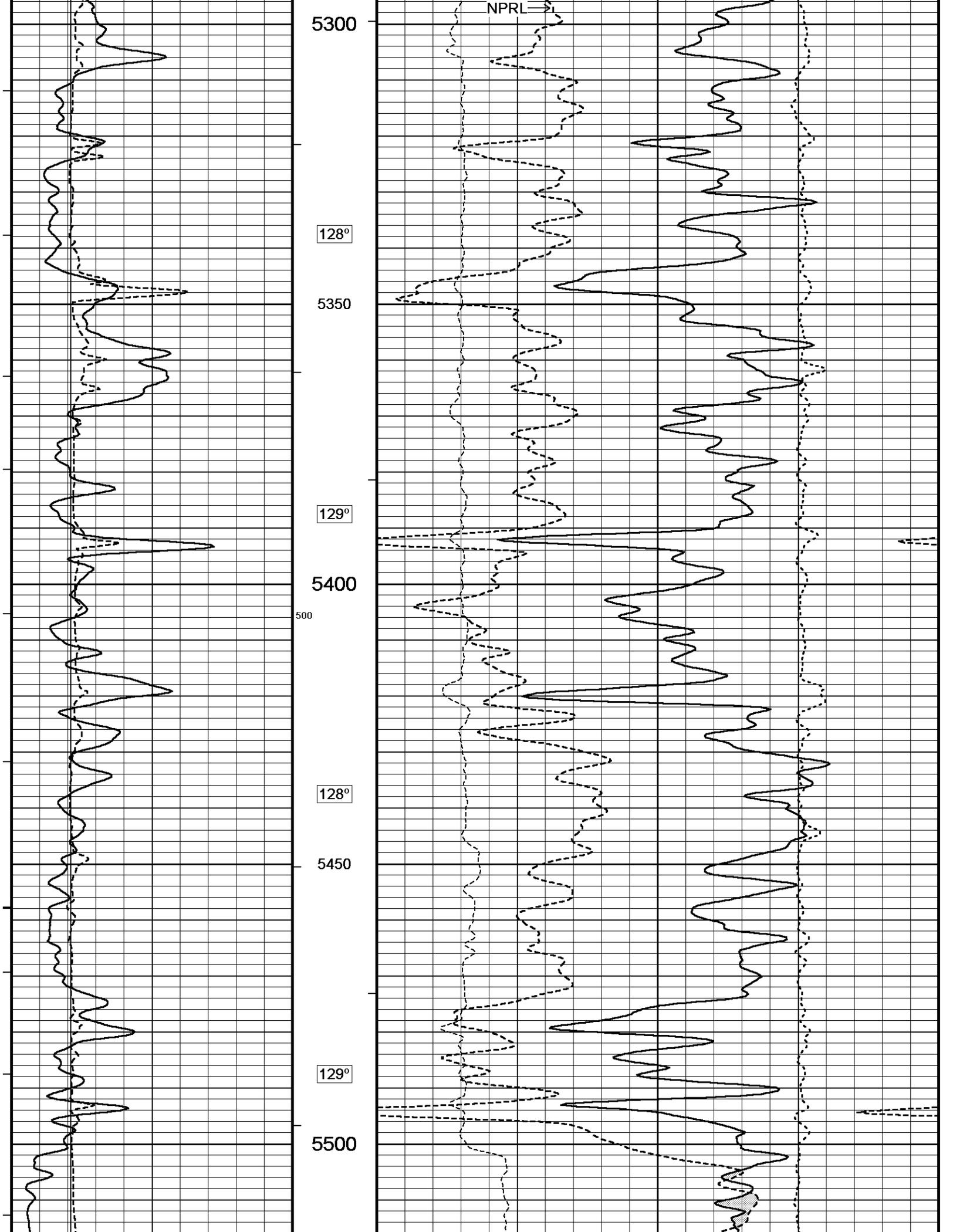
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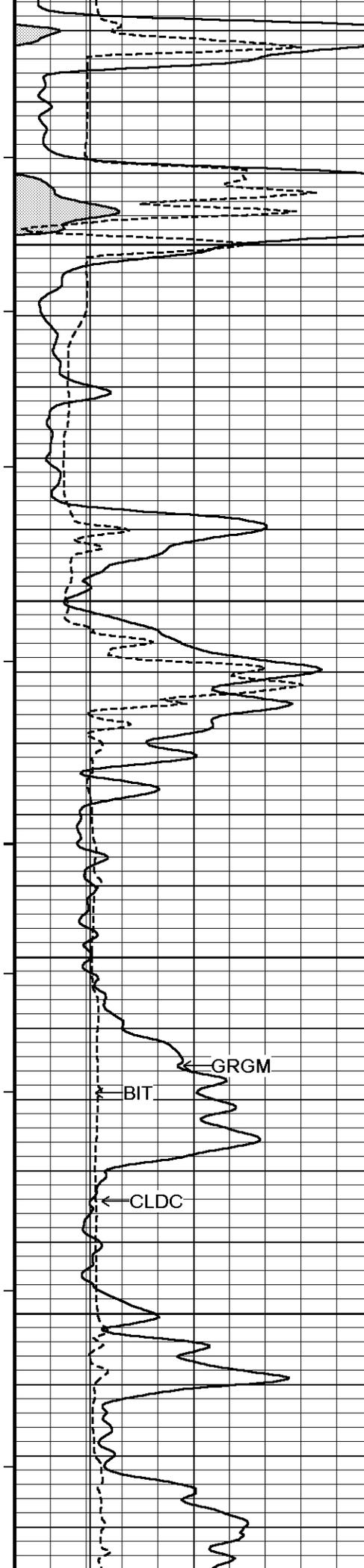
4850











129°

5550

129°

5600

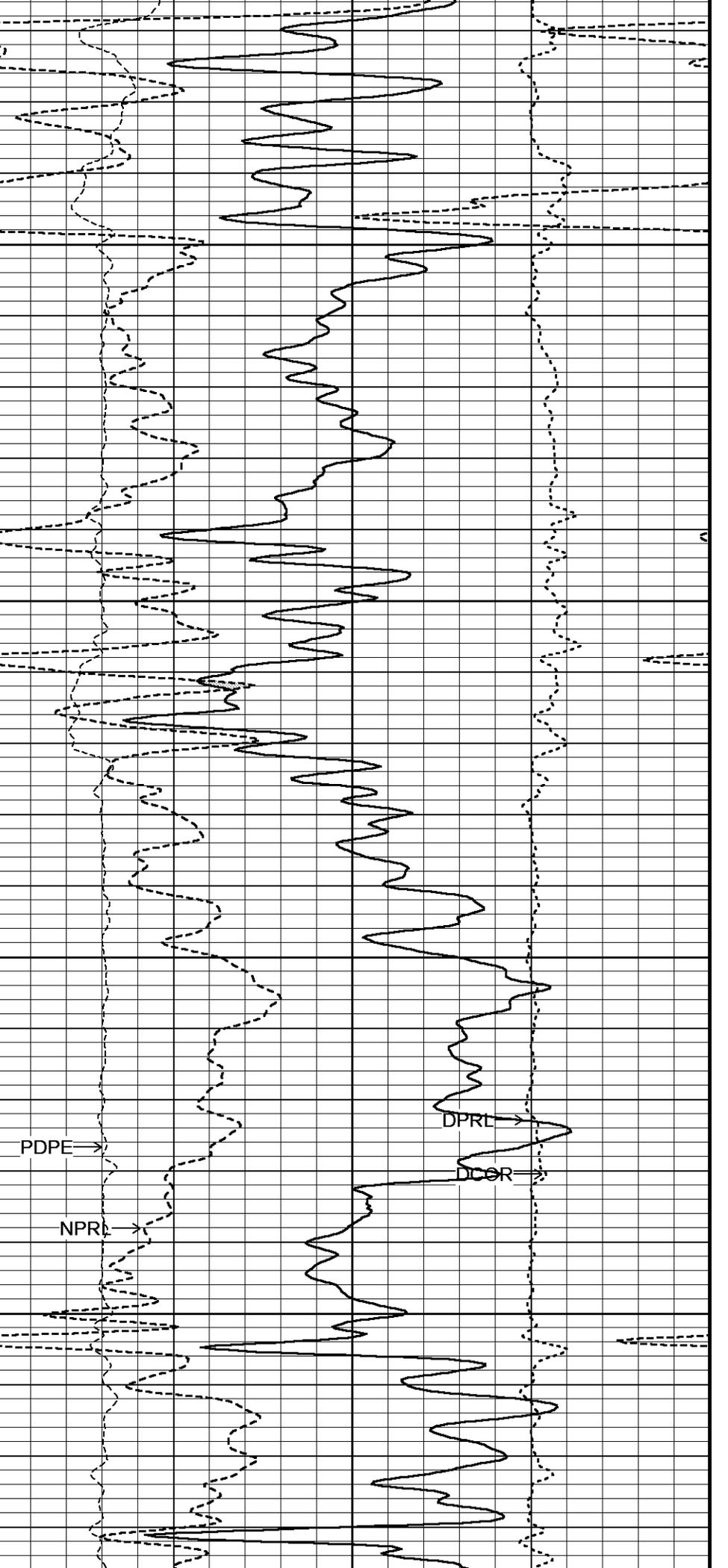
129°

5650

129°

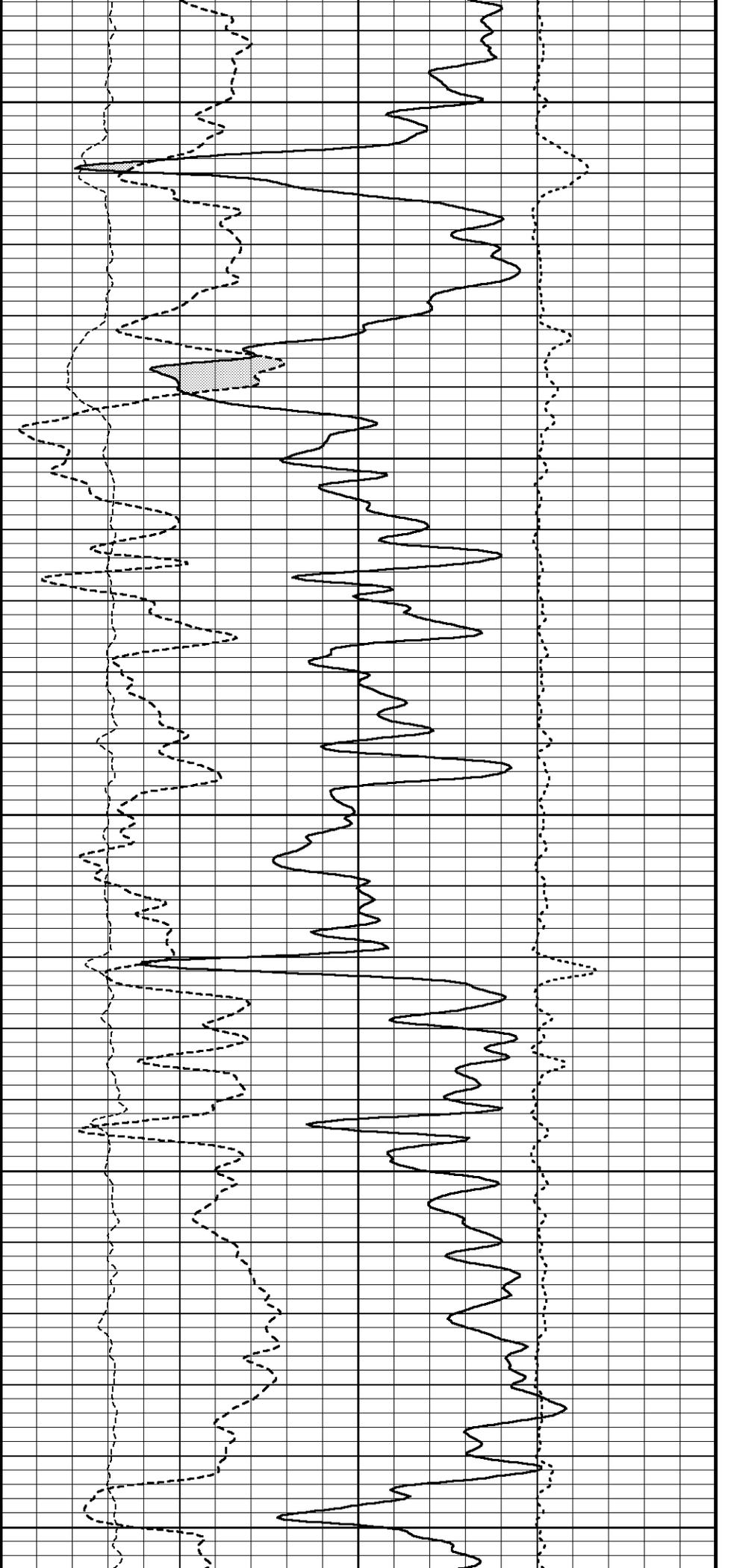
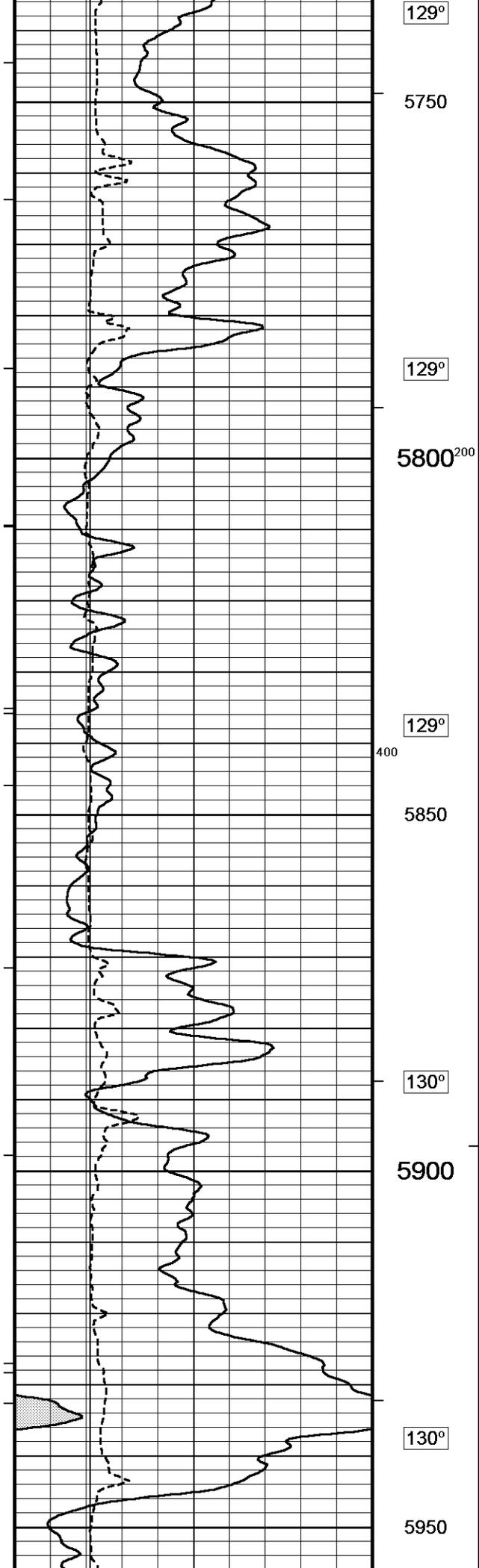
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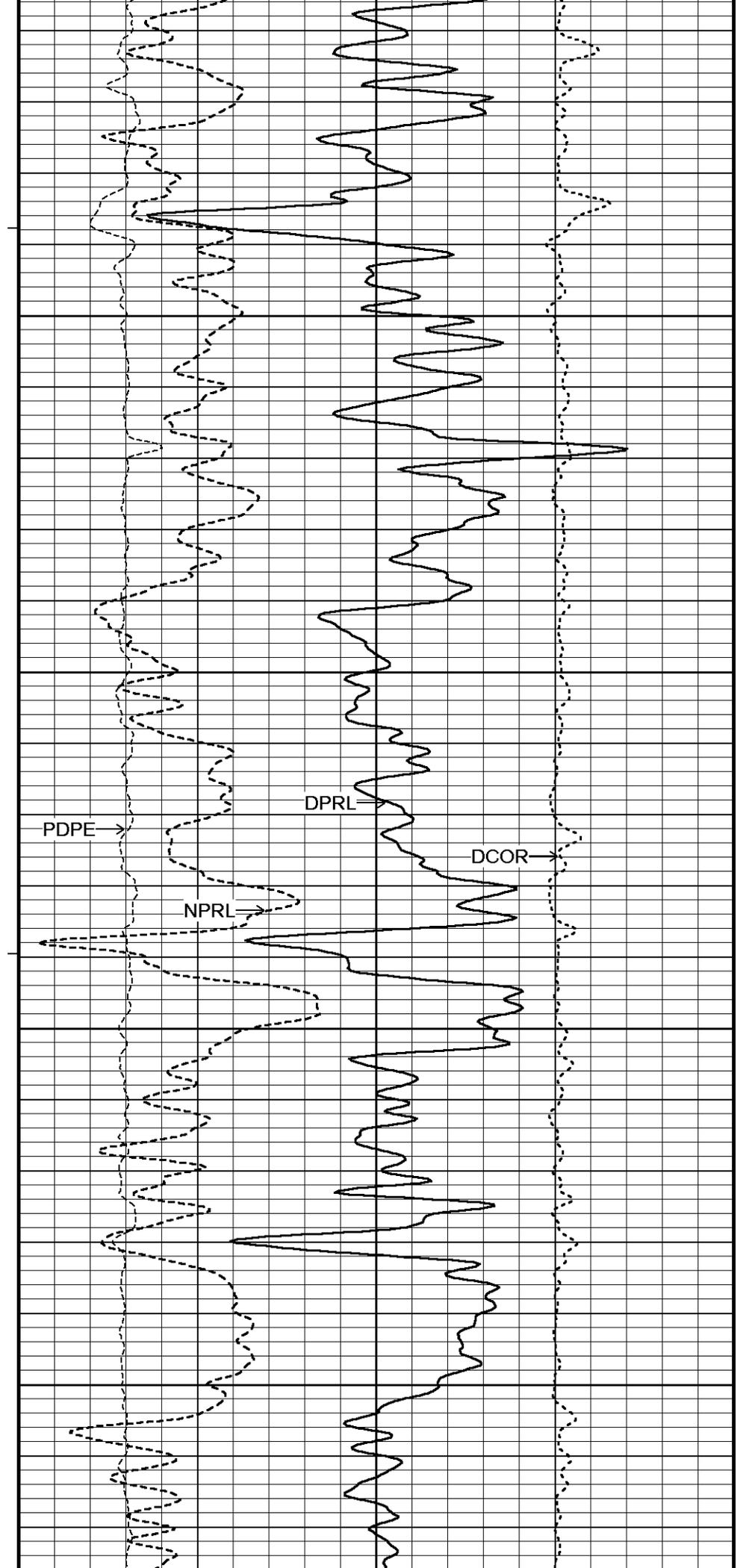
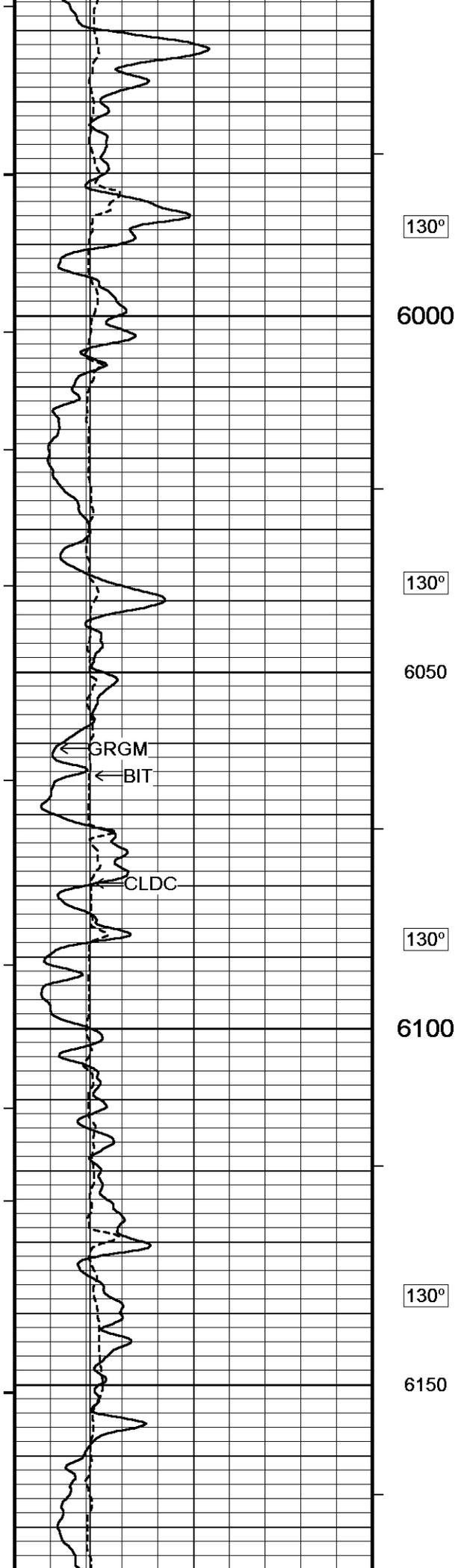
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BIT
CLDC

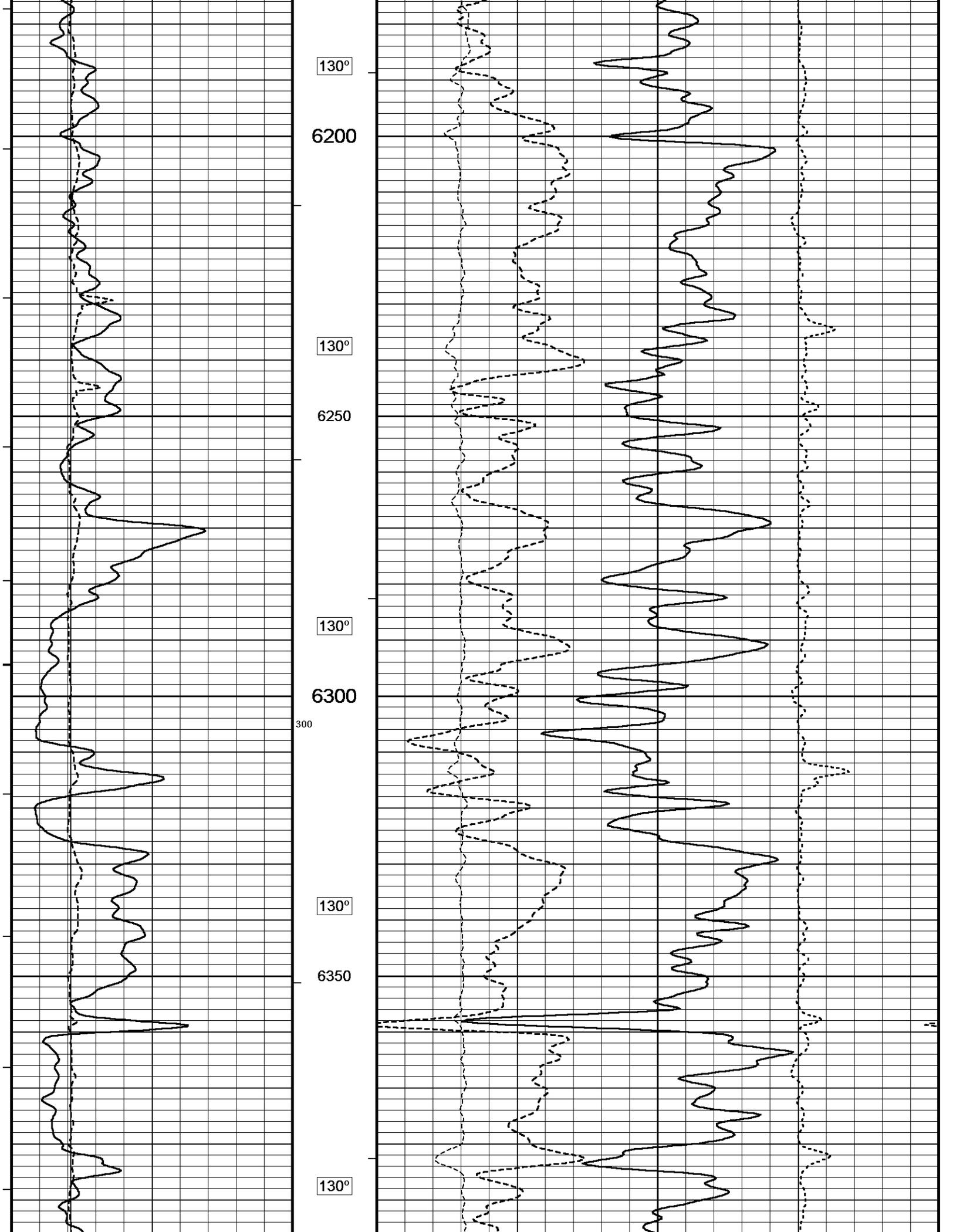


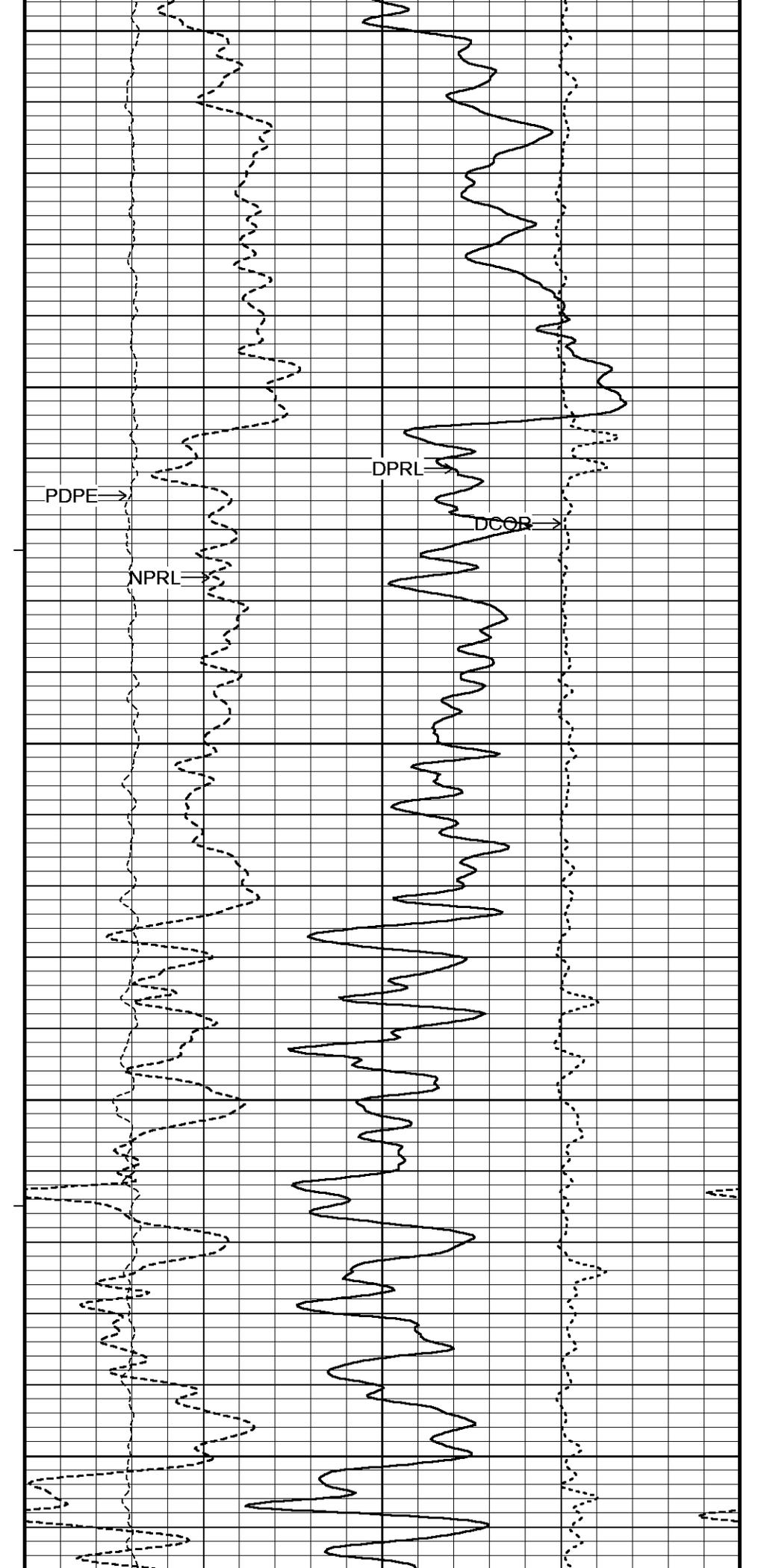
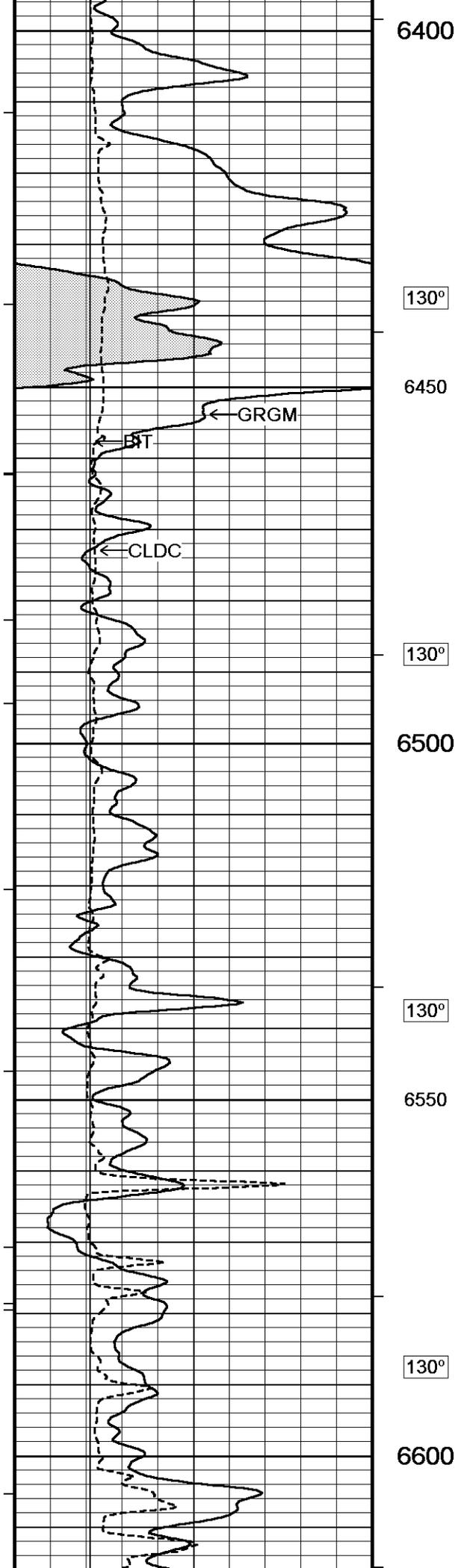
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NPRL

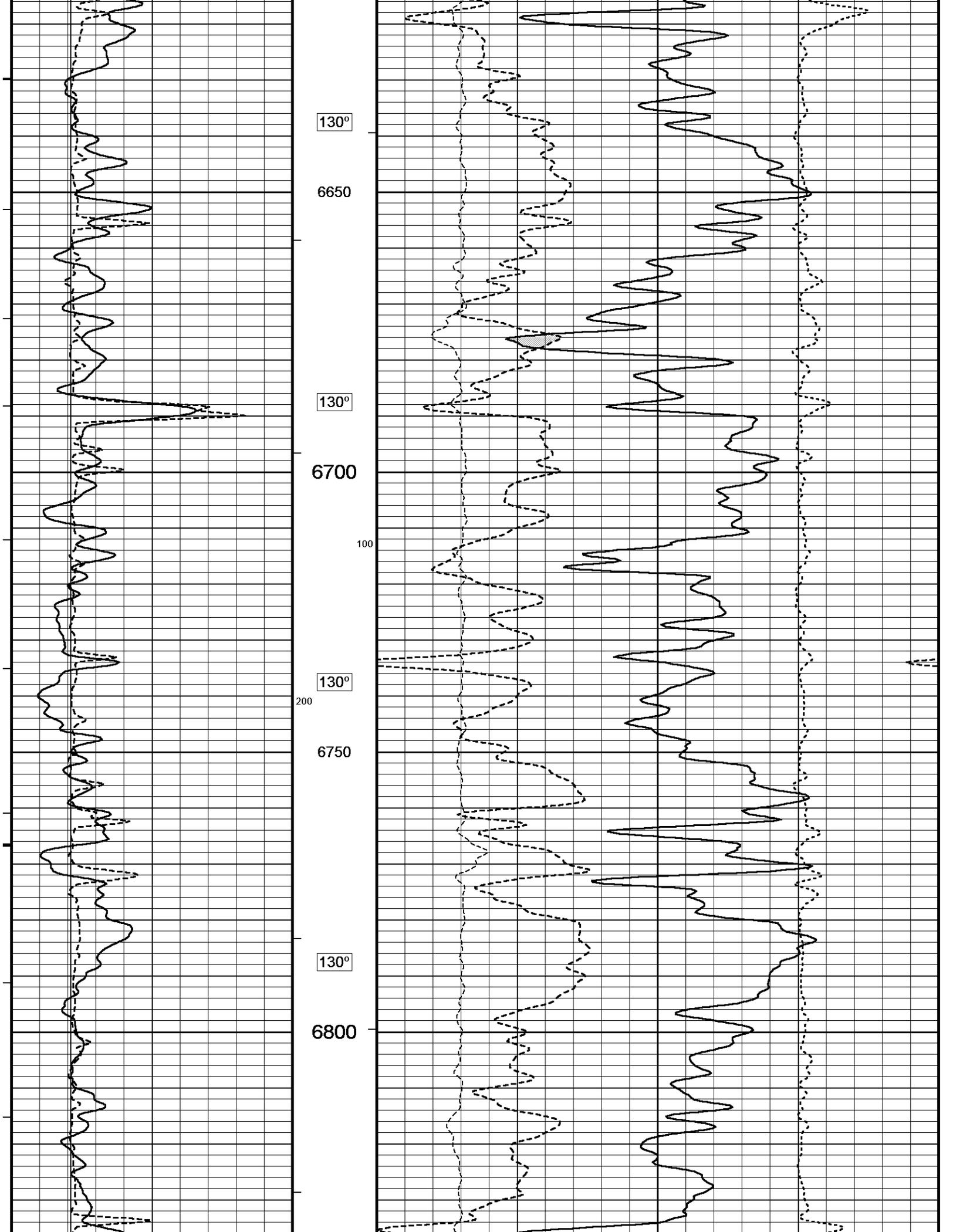
DPRL
DCOR

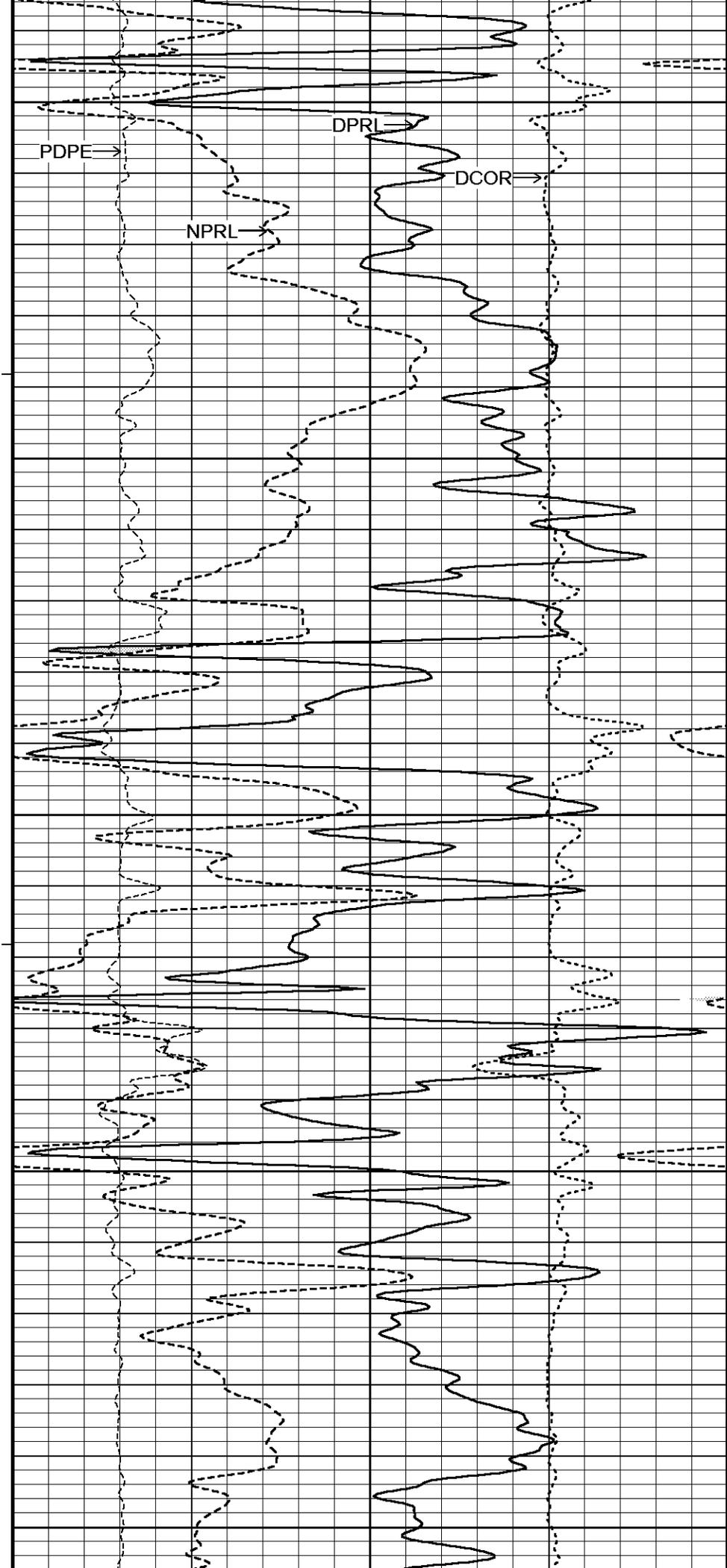
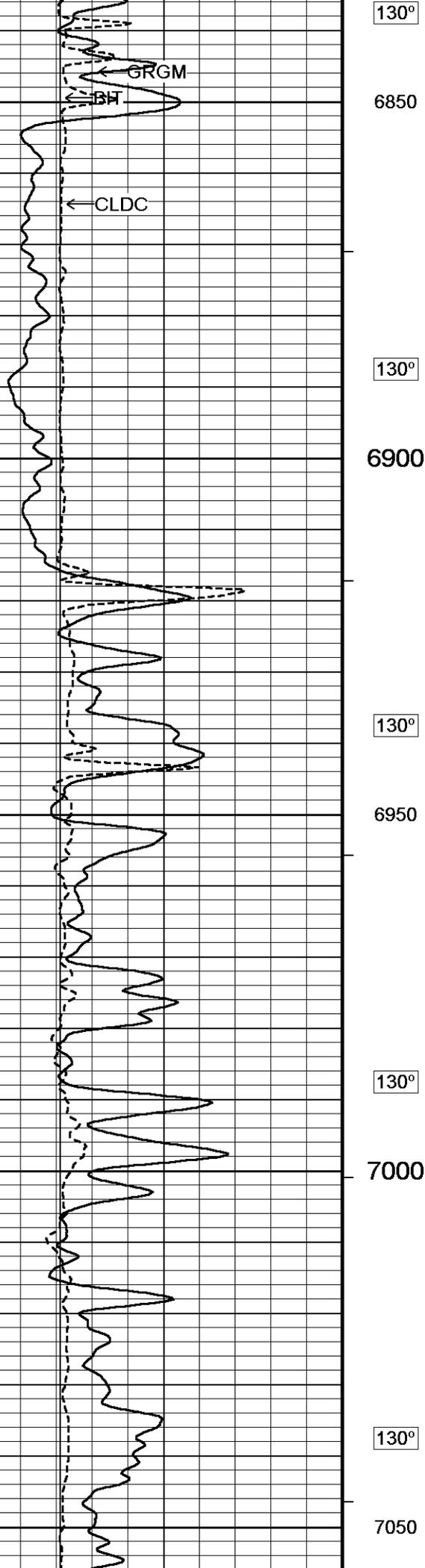


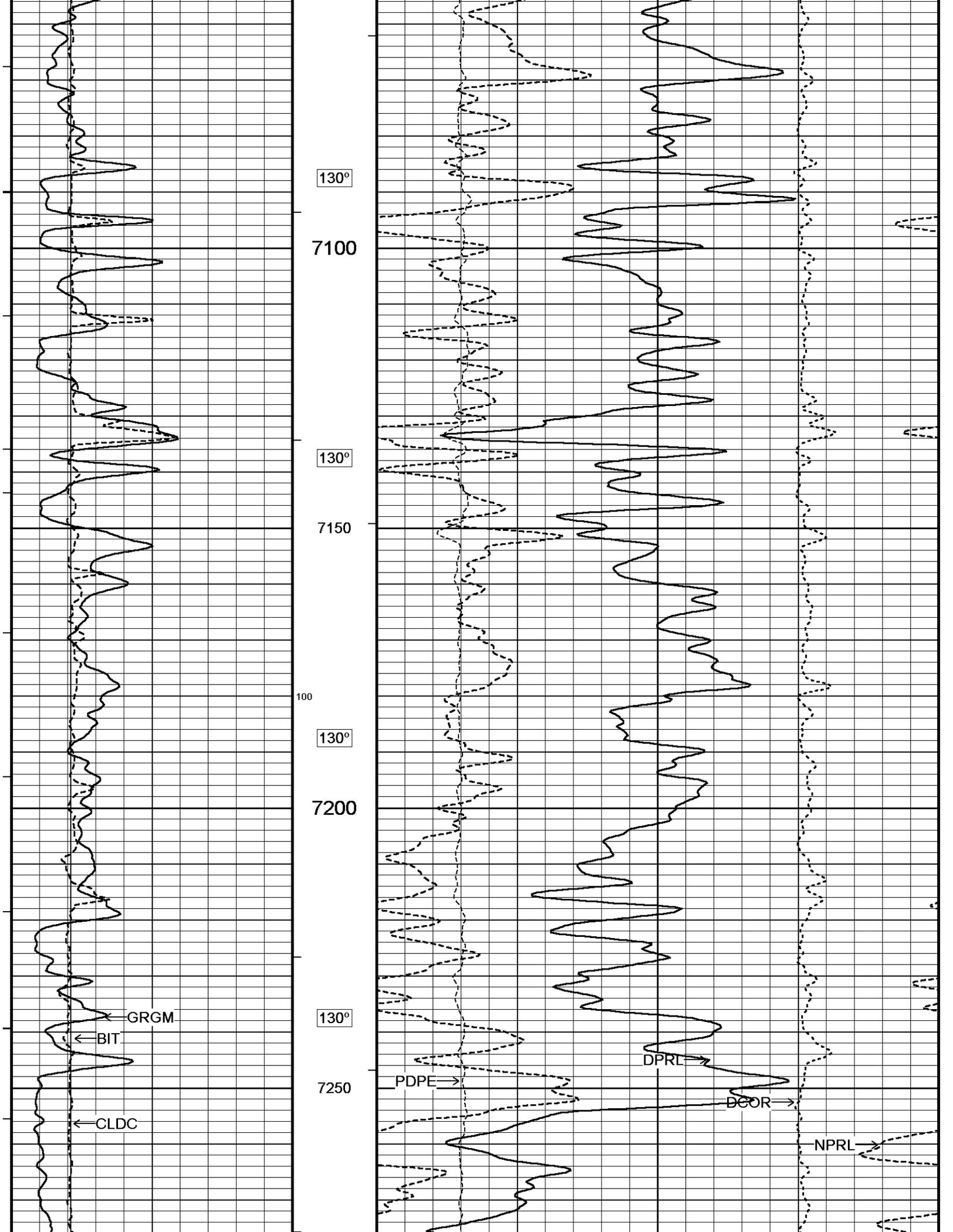


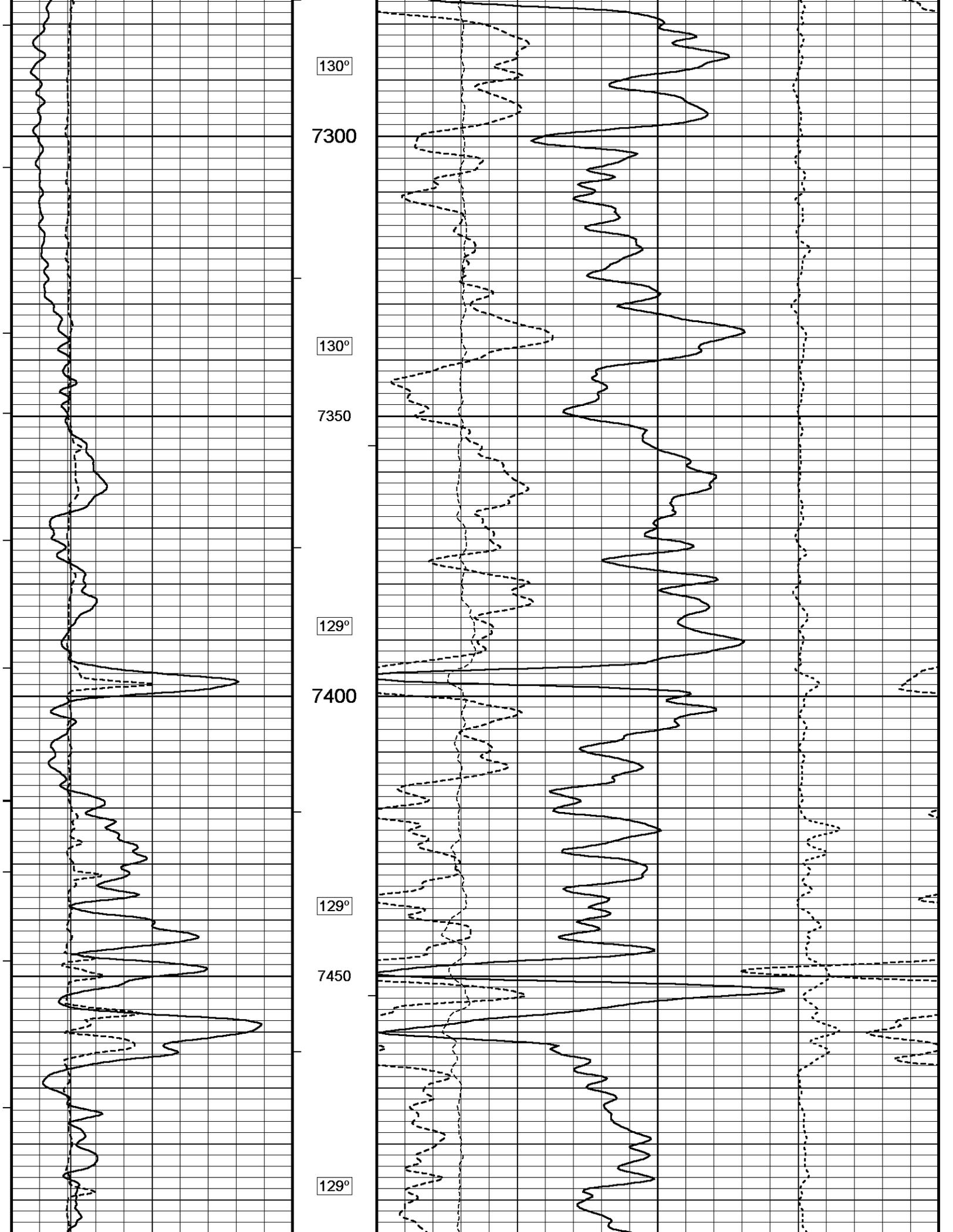


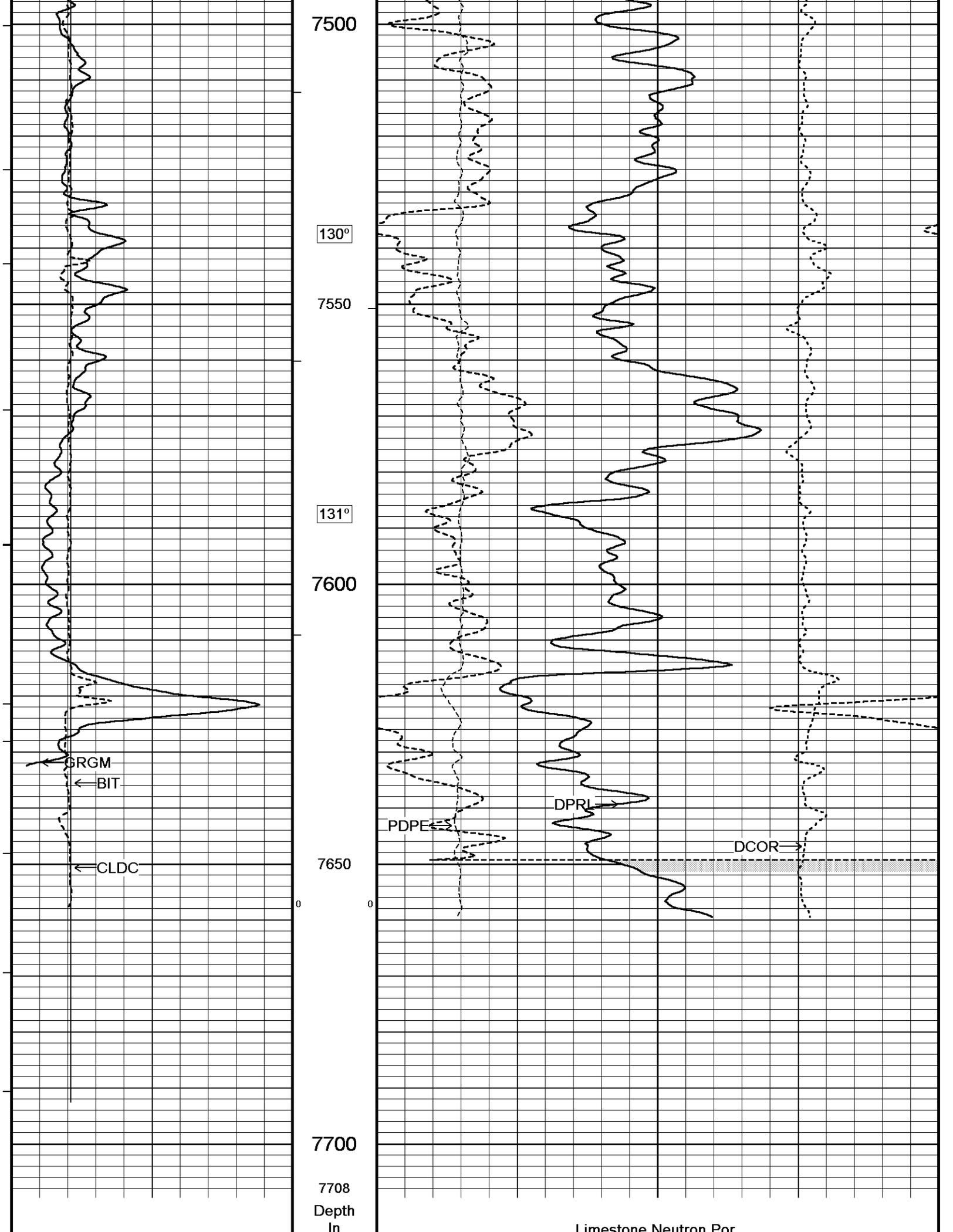


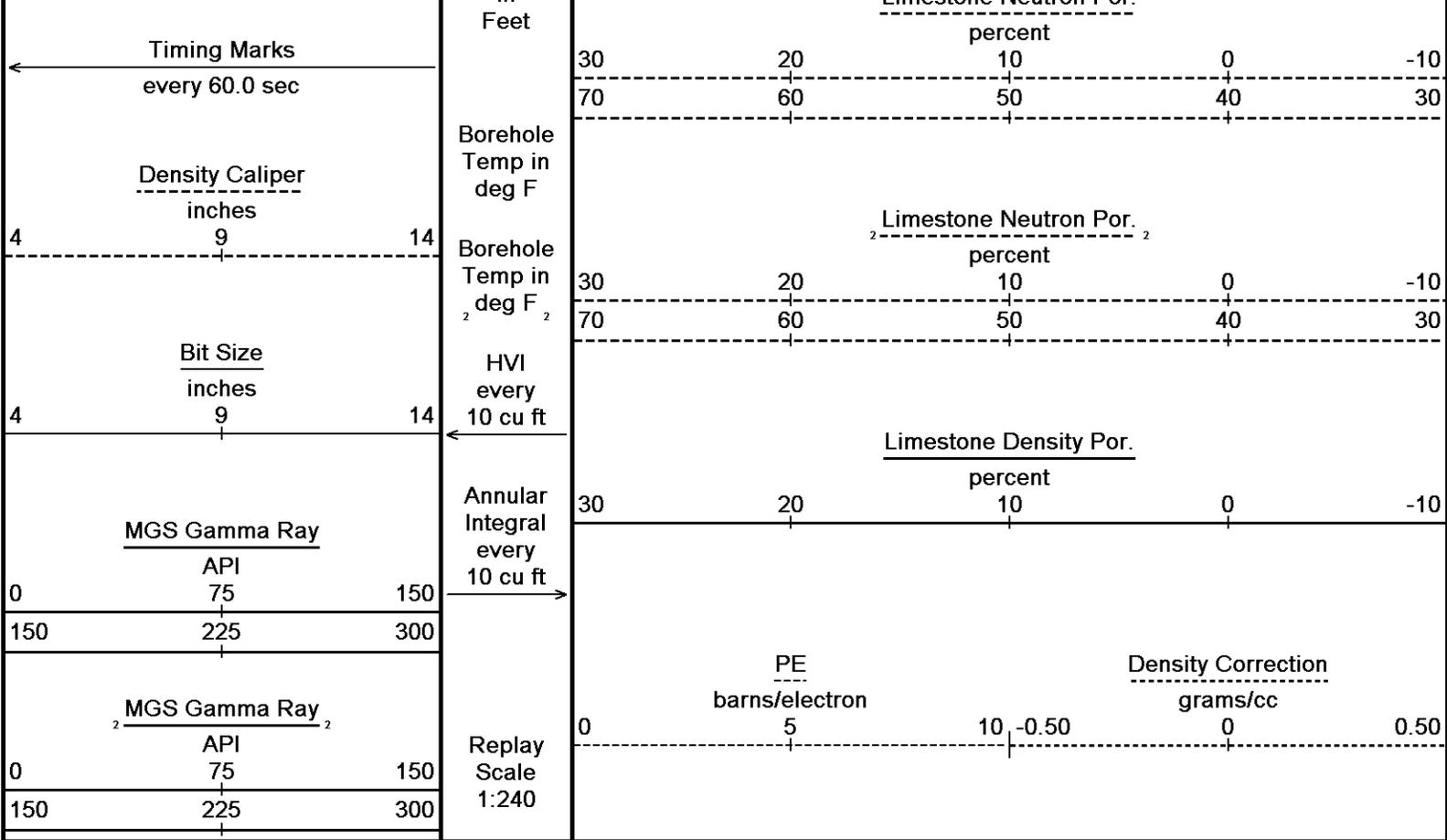






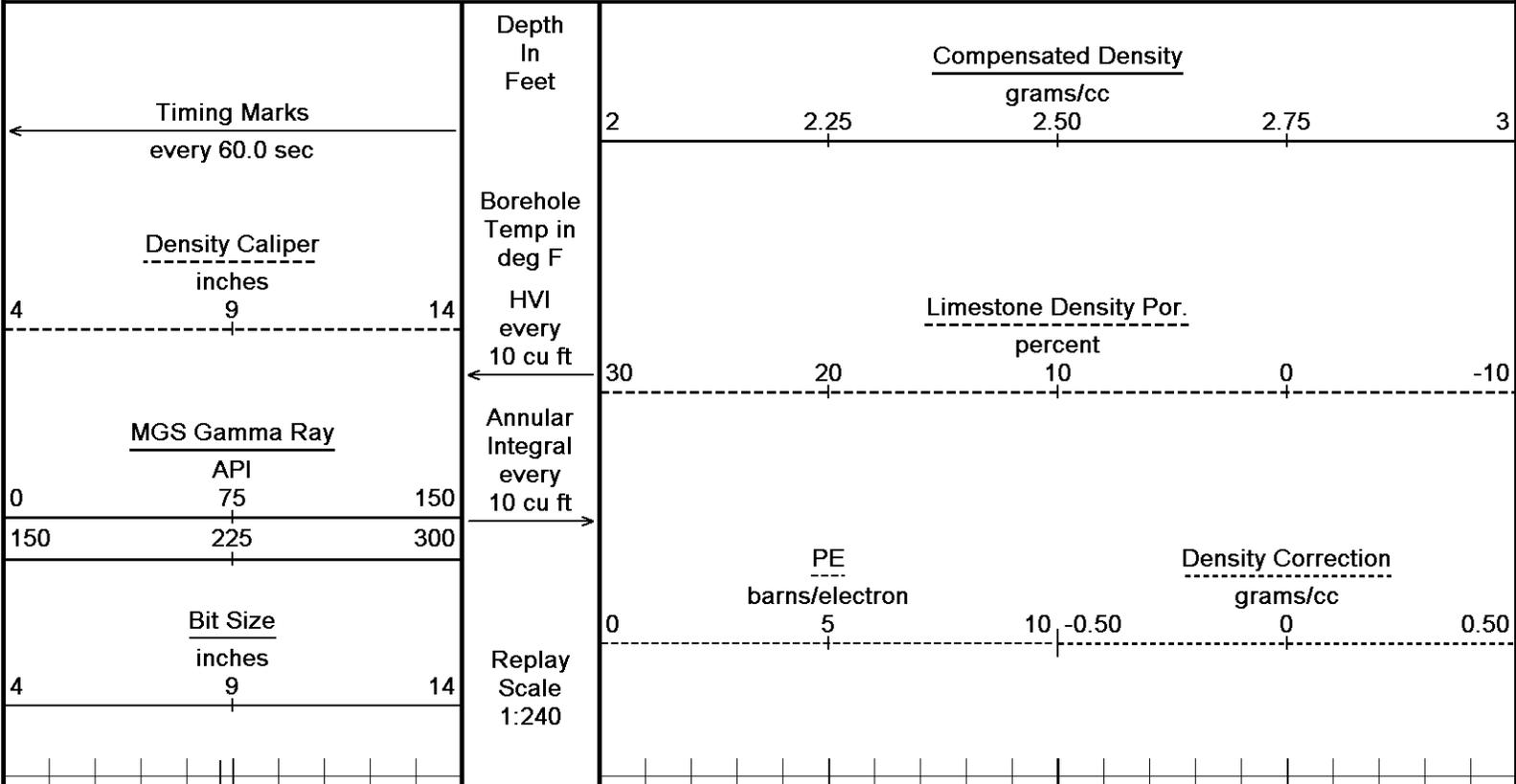






5 INCH BULK DENSITY

Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 11-FEB-2013 02:05
 Filename: C:\13_04_8723 WLS\DATA\15083218710100 Frusher 1-15H\22851RTAP.dta
 Recorded on 11-FEB-2013 00:45
 System Versions: Processed with 13.04.8723 Plotted with 13.04.8723



4950

2
1600

127°
Casing
Shoe

5000

128°

5050

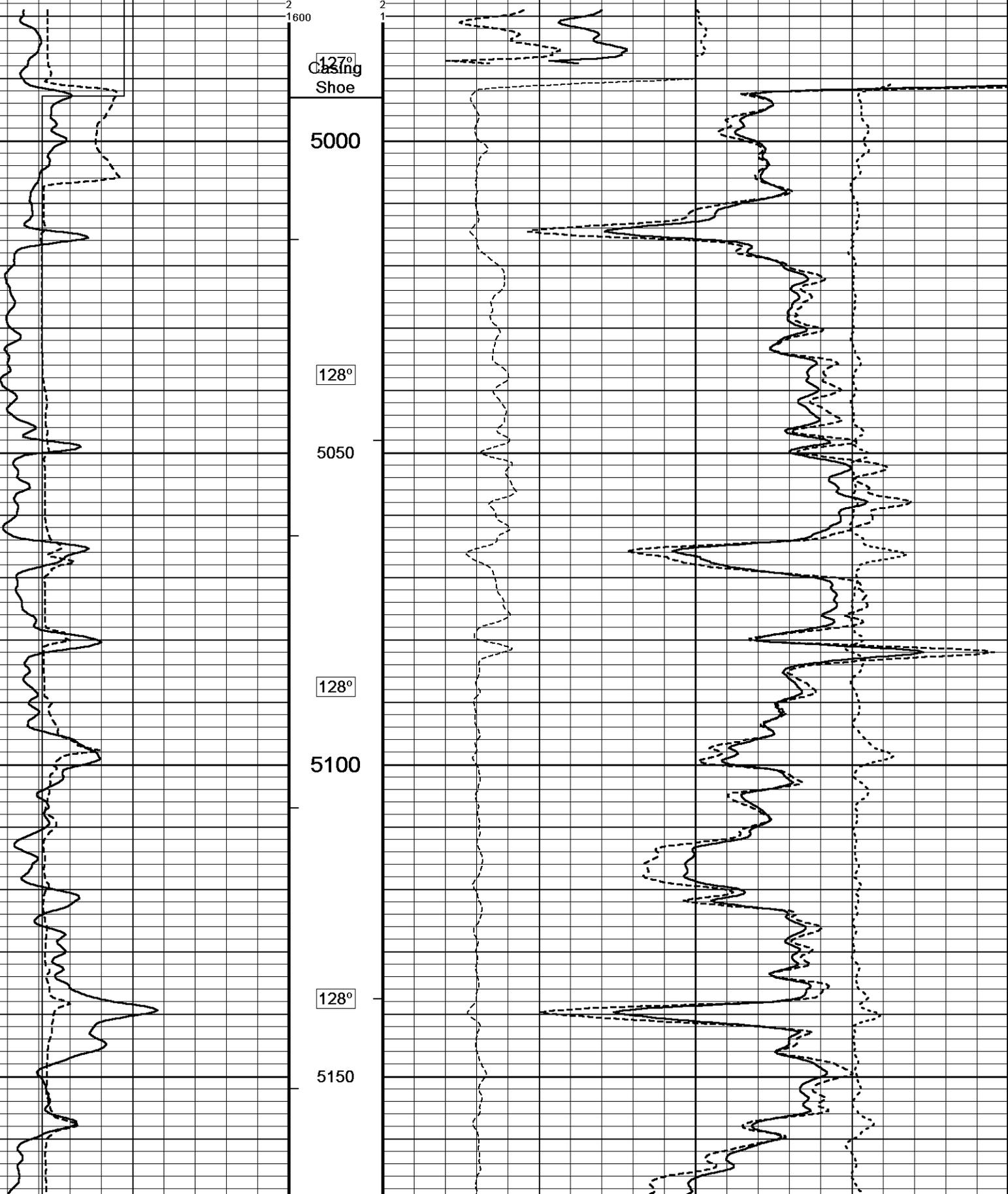
128°

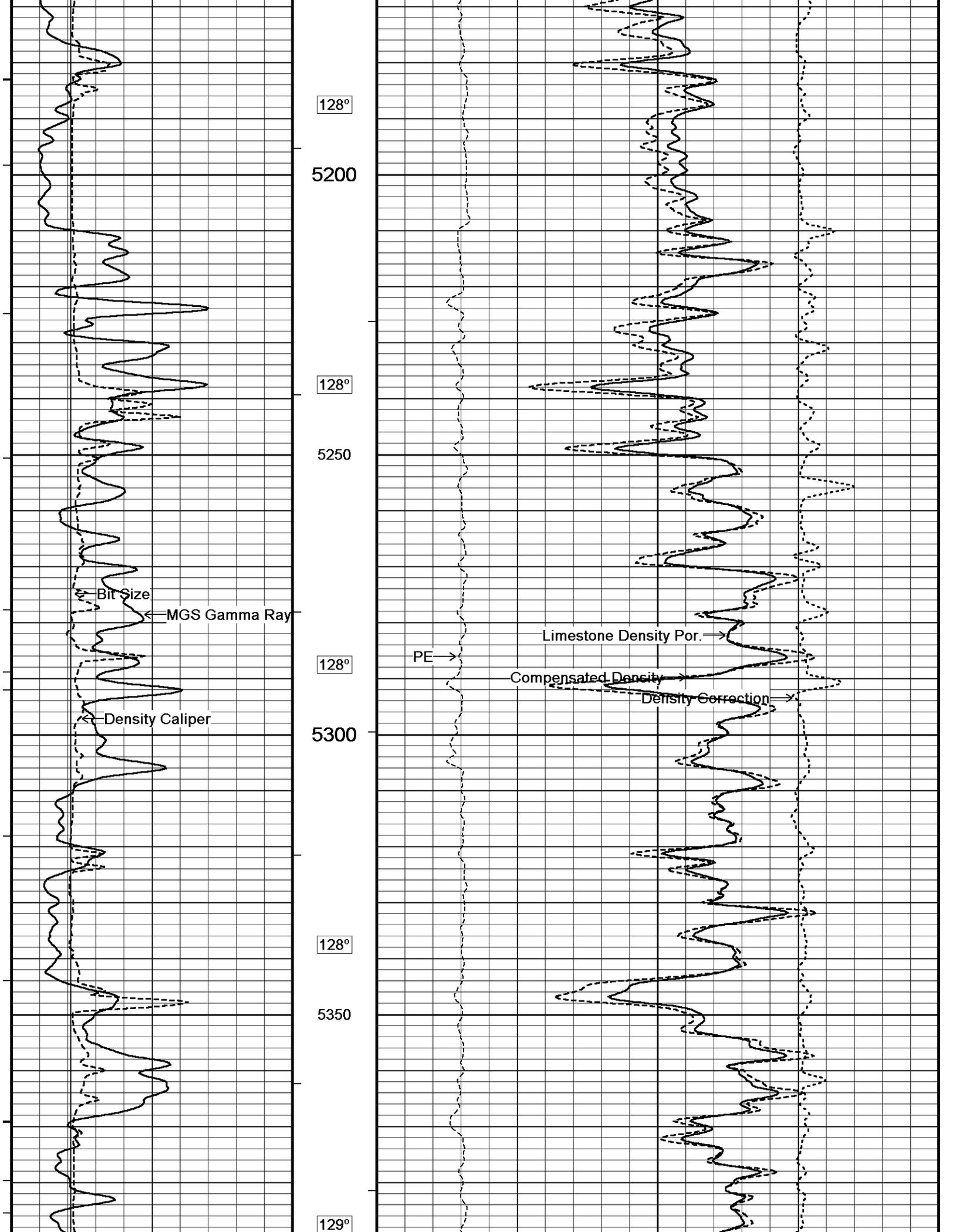
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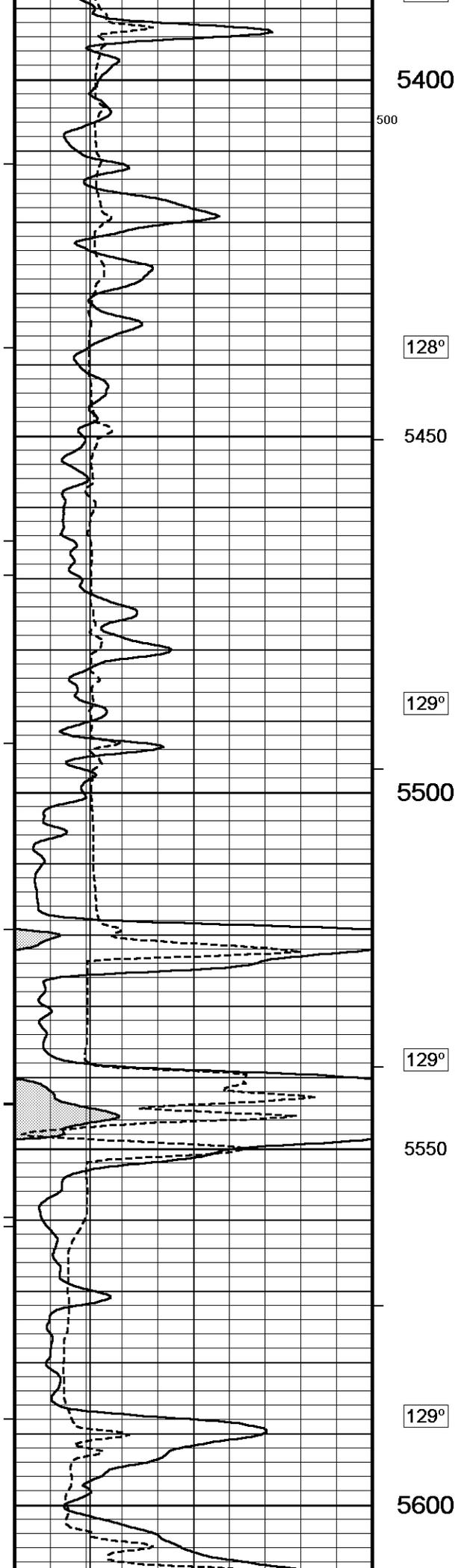
128°

5150

2
1







5400

500

128°

5450

129°

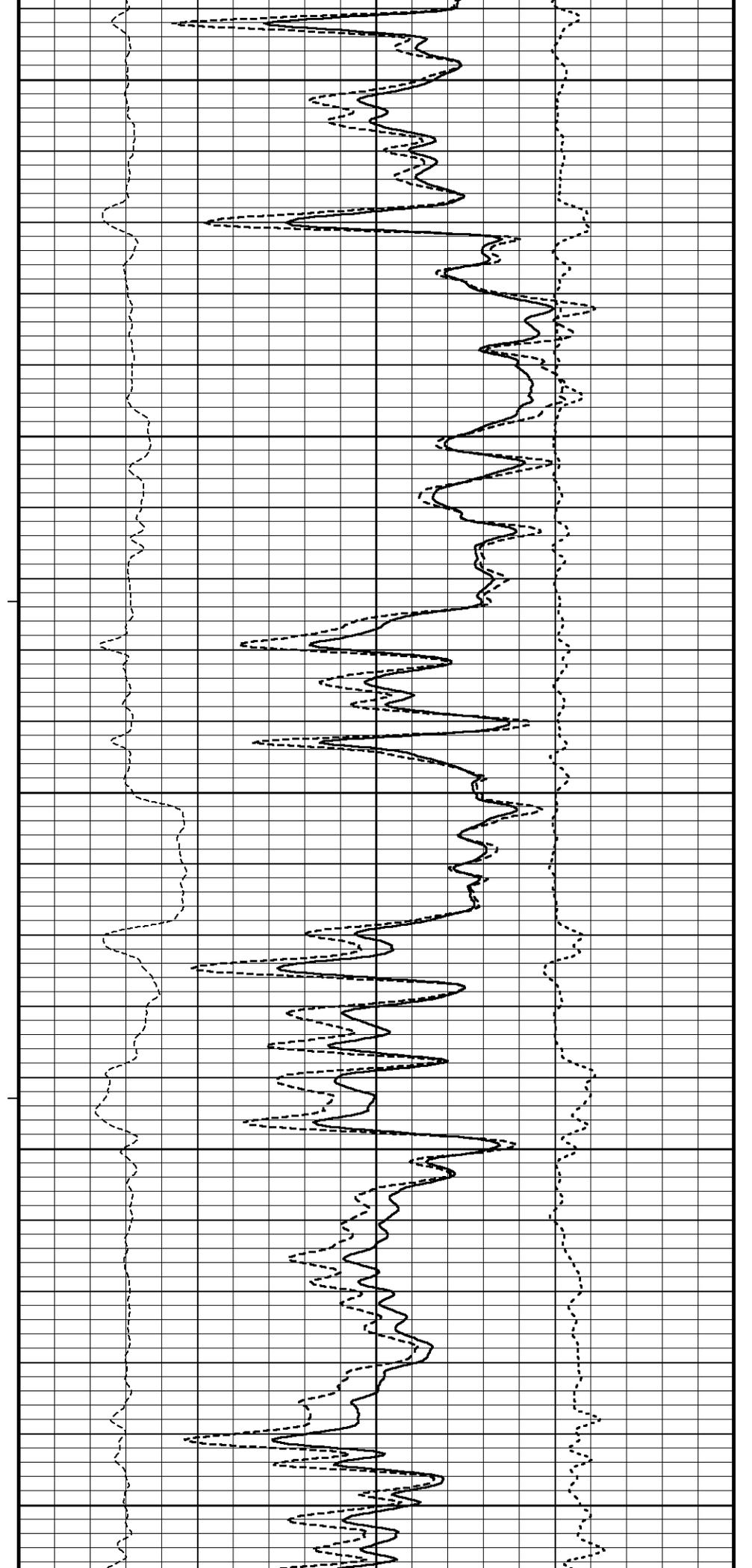
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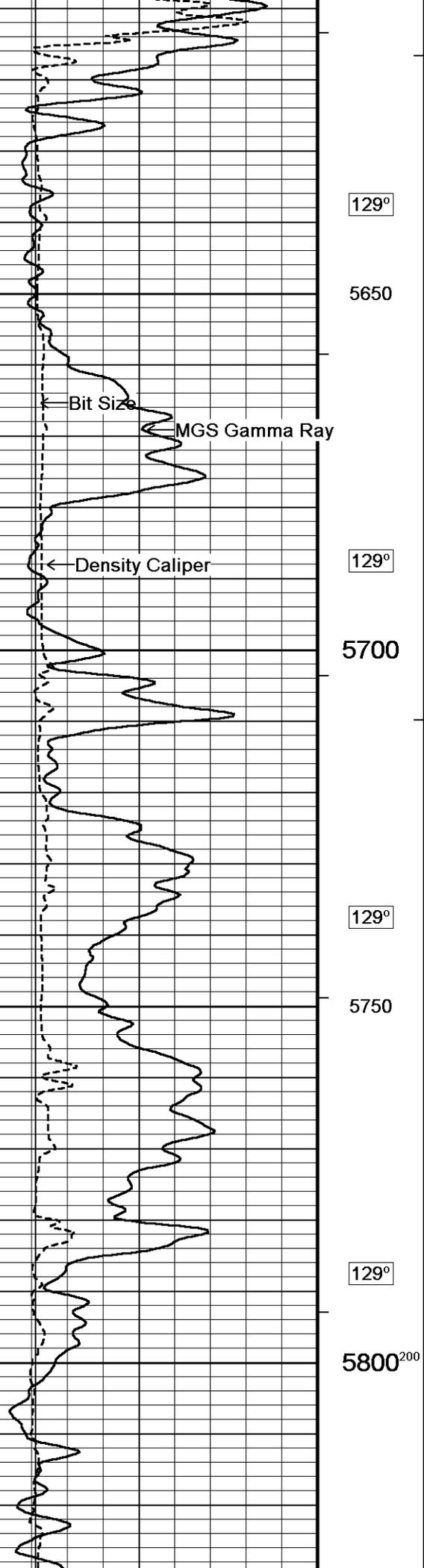
129°

5550

129°

5600





129°

5650

129°

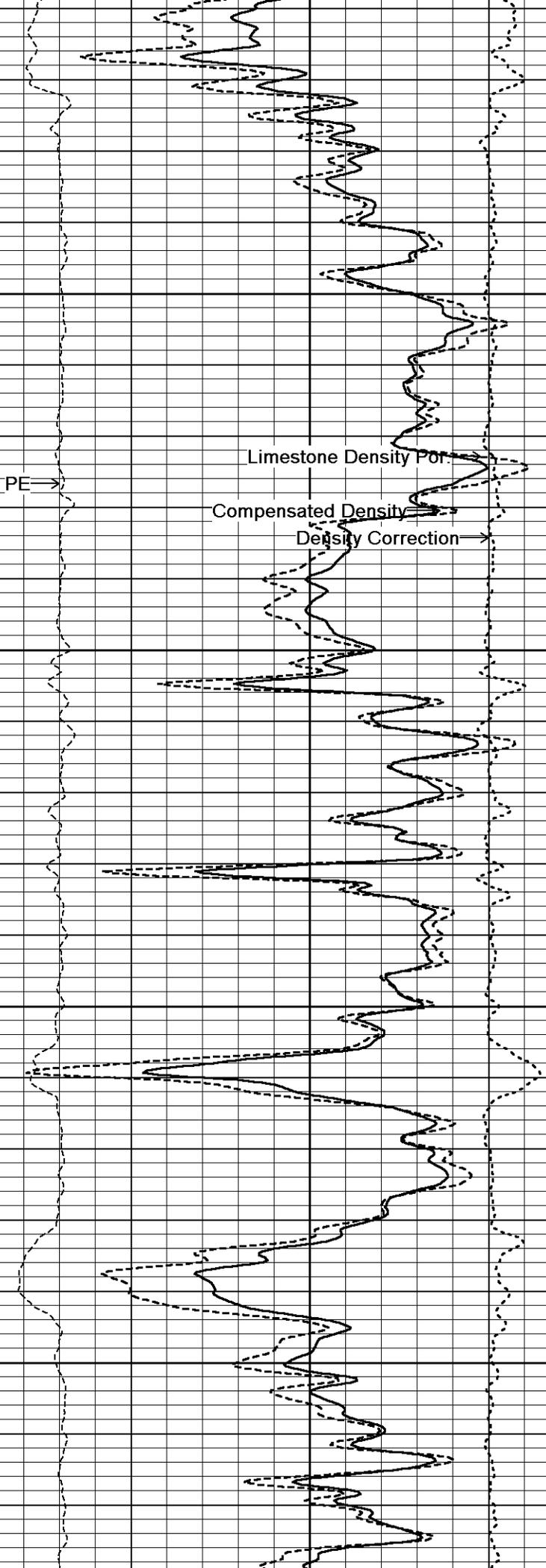
5700

129°

5750

129°

5800²⁰⁰

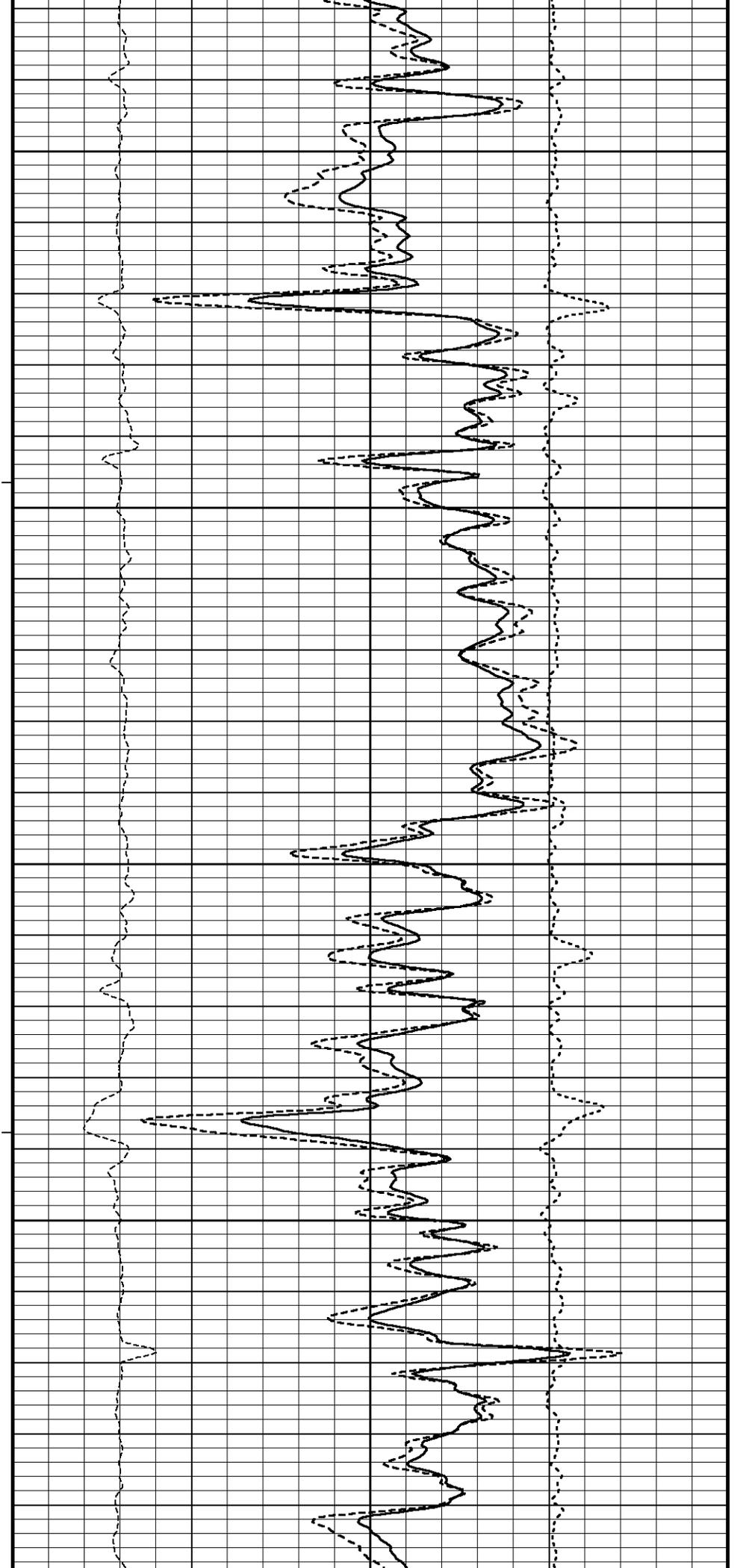
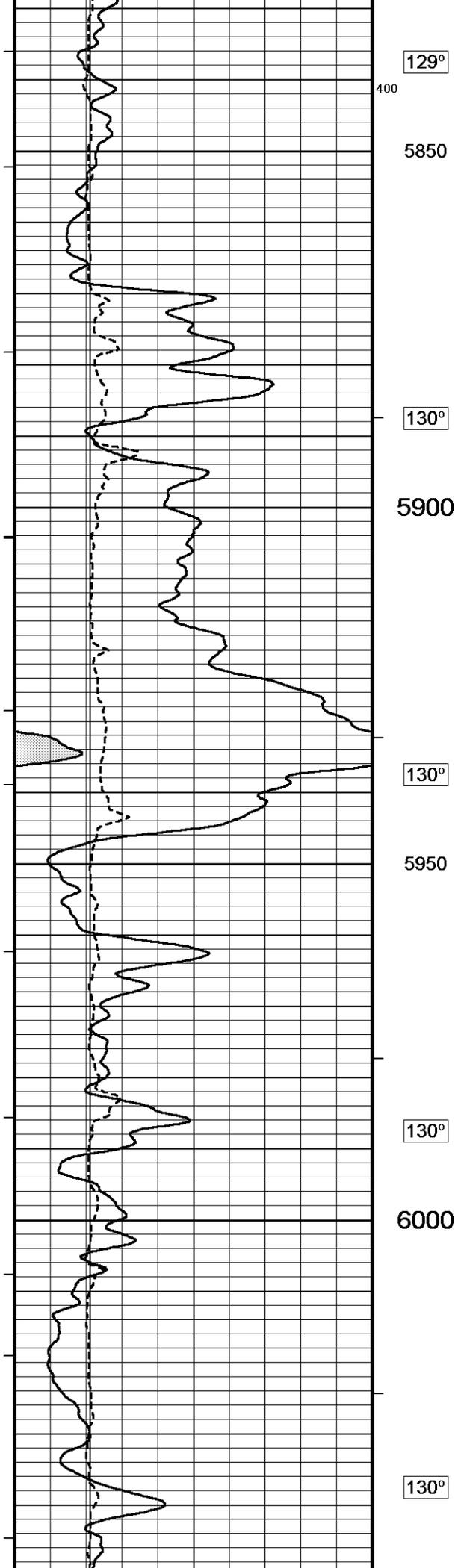


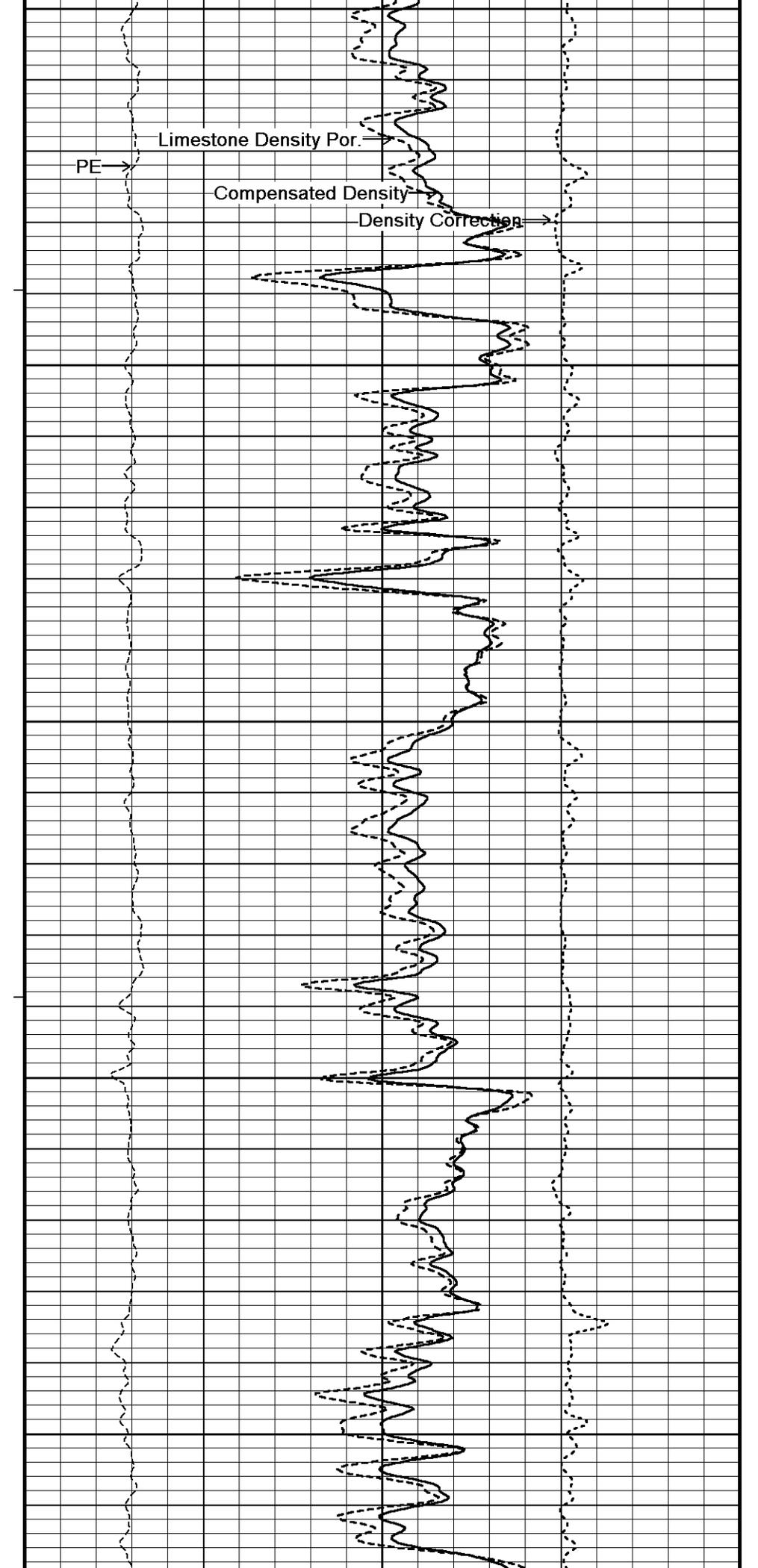
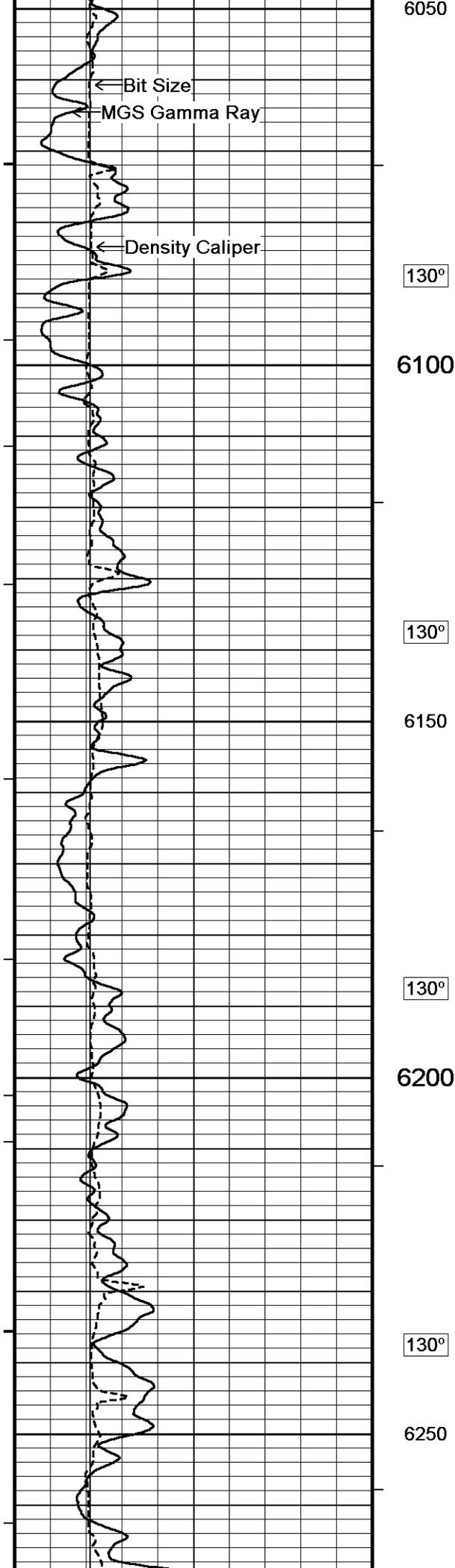
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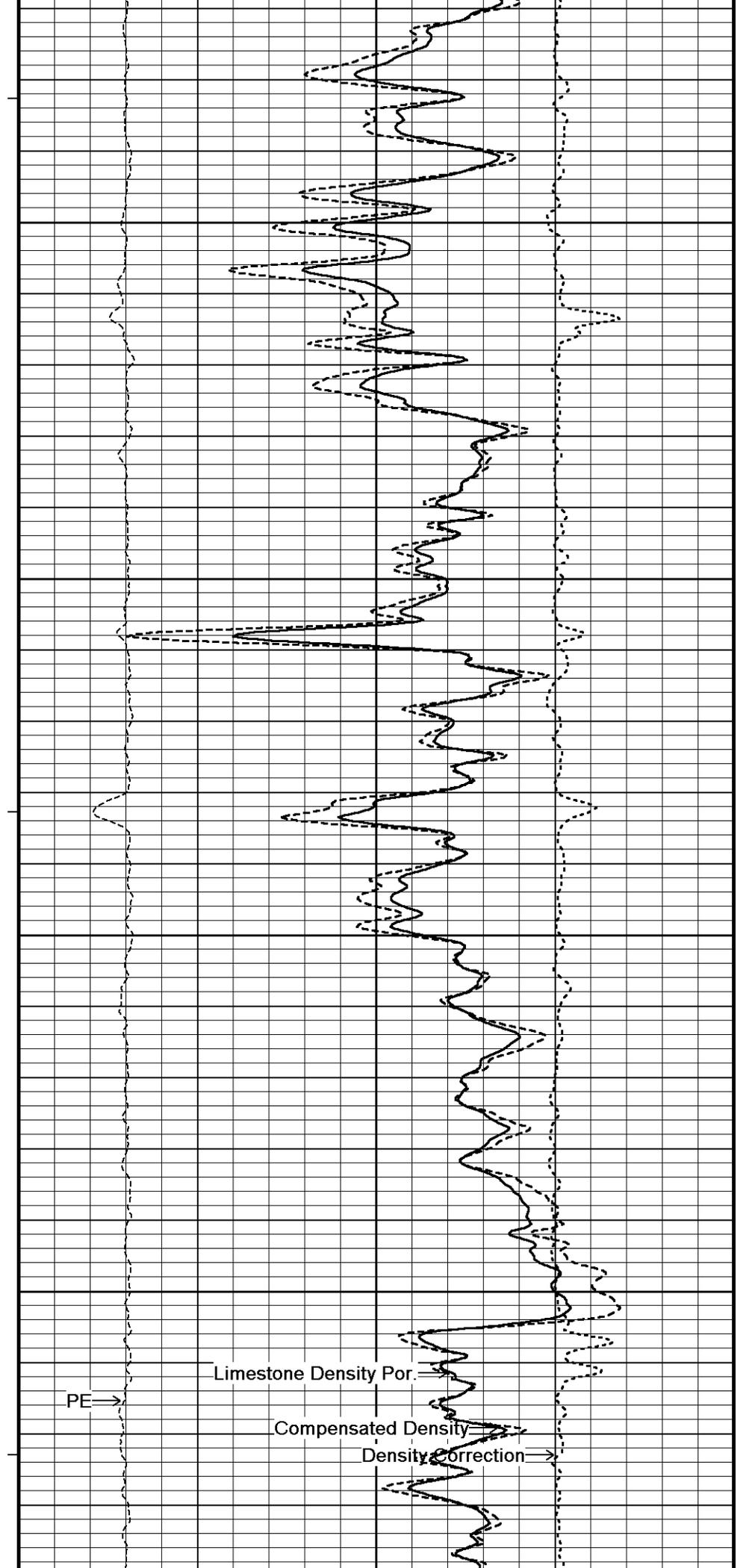
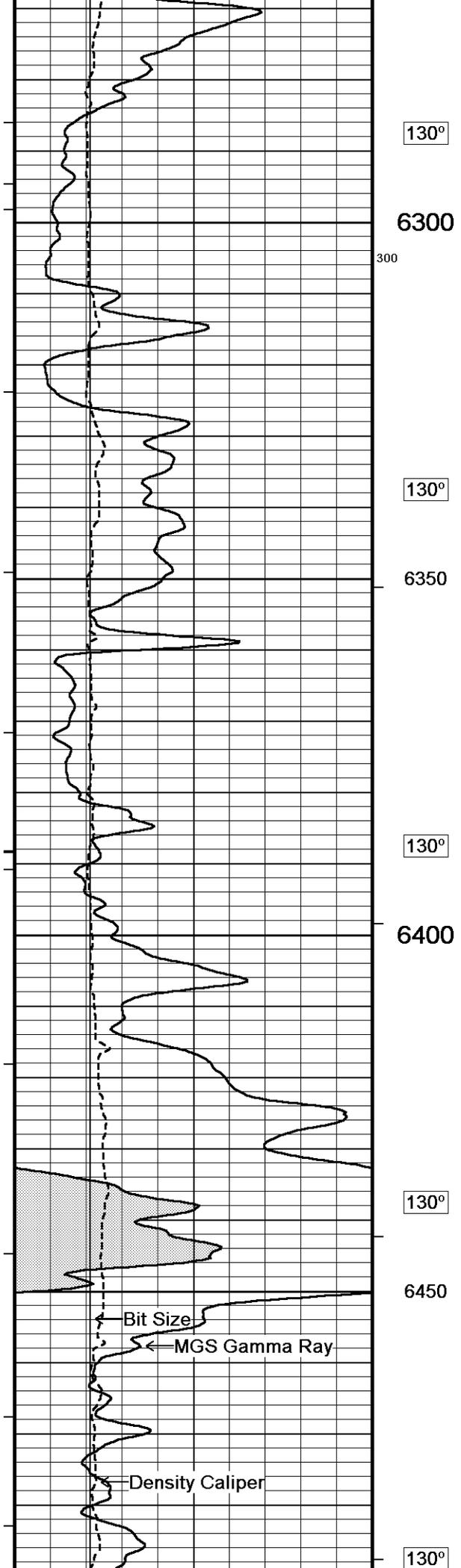
Limestone Density Por →

Compensated Density →

Density Correction →







6500

130°

6550

130°

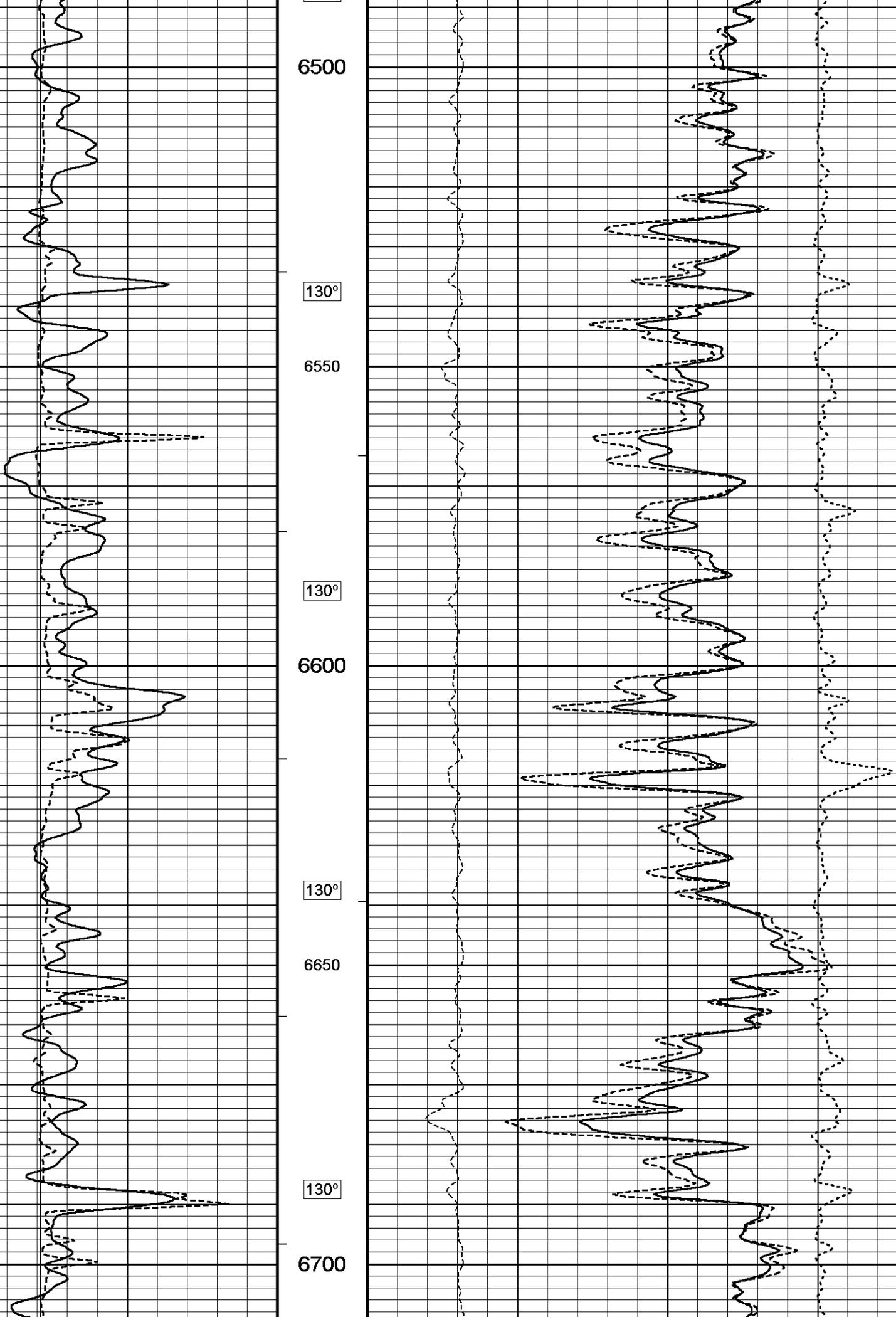
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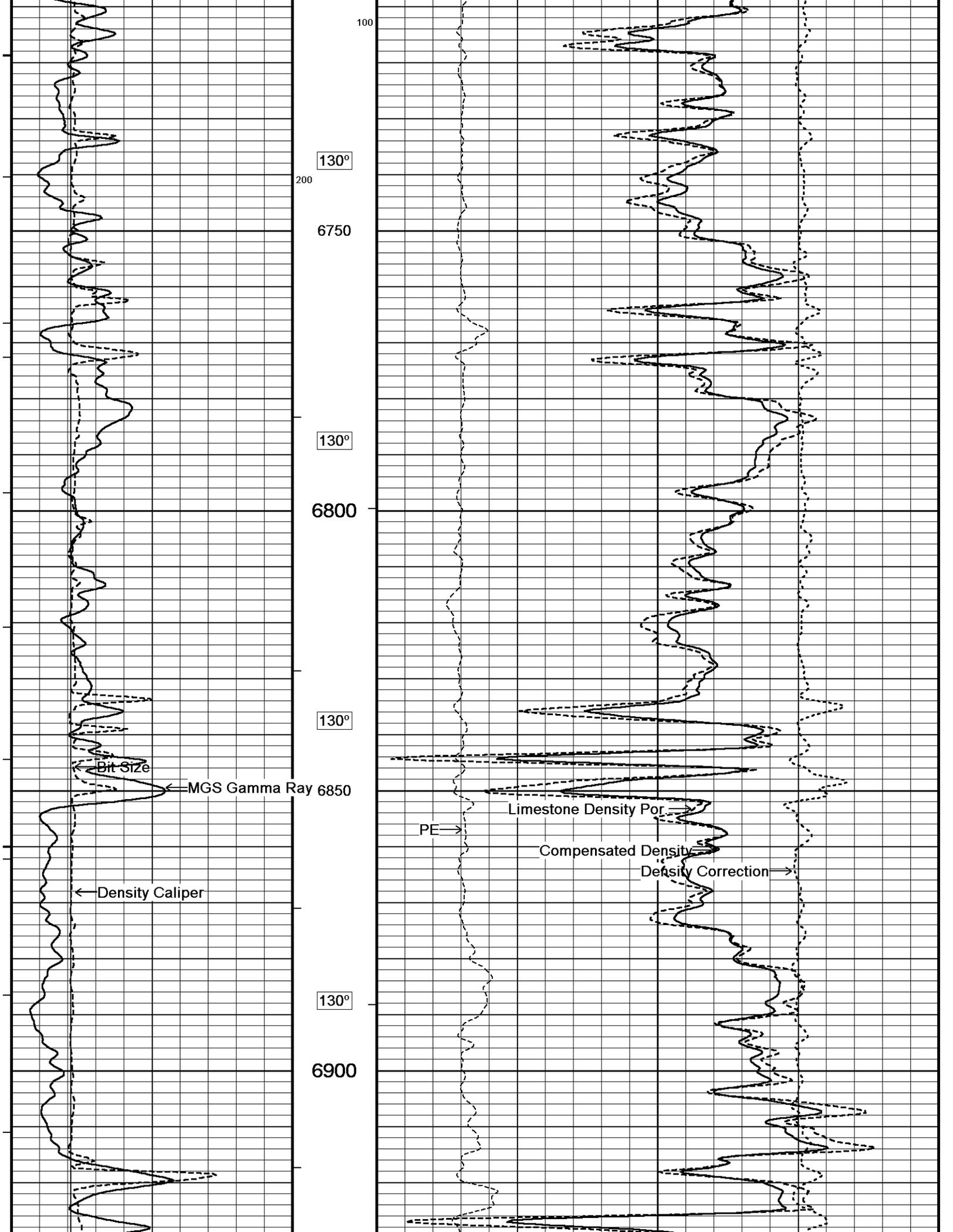
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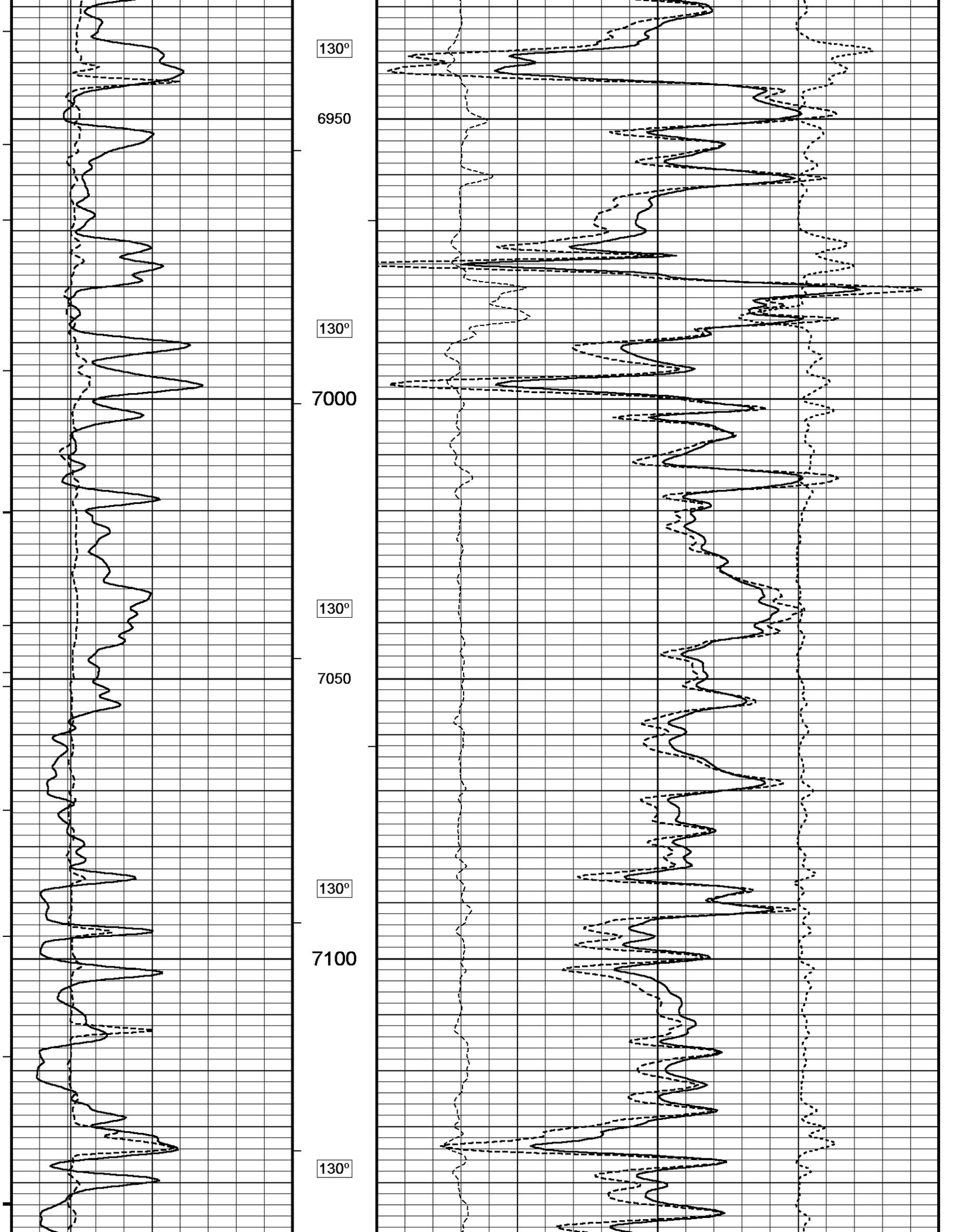
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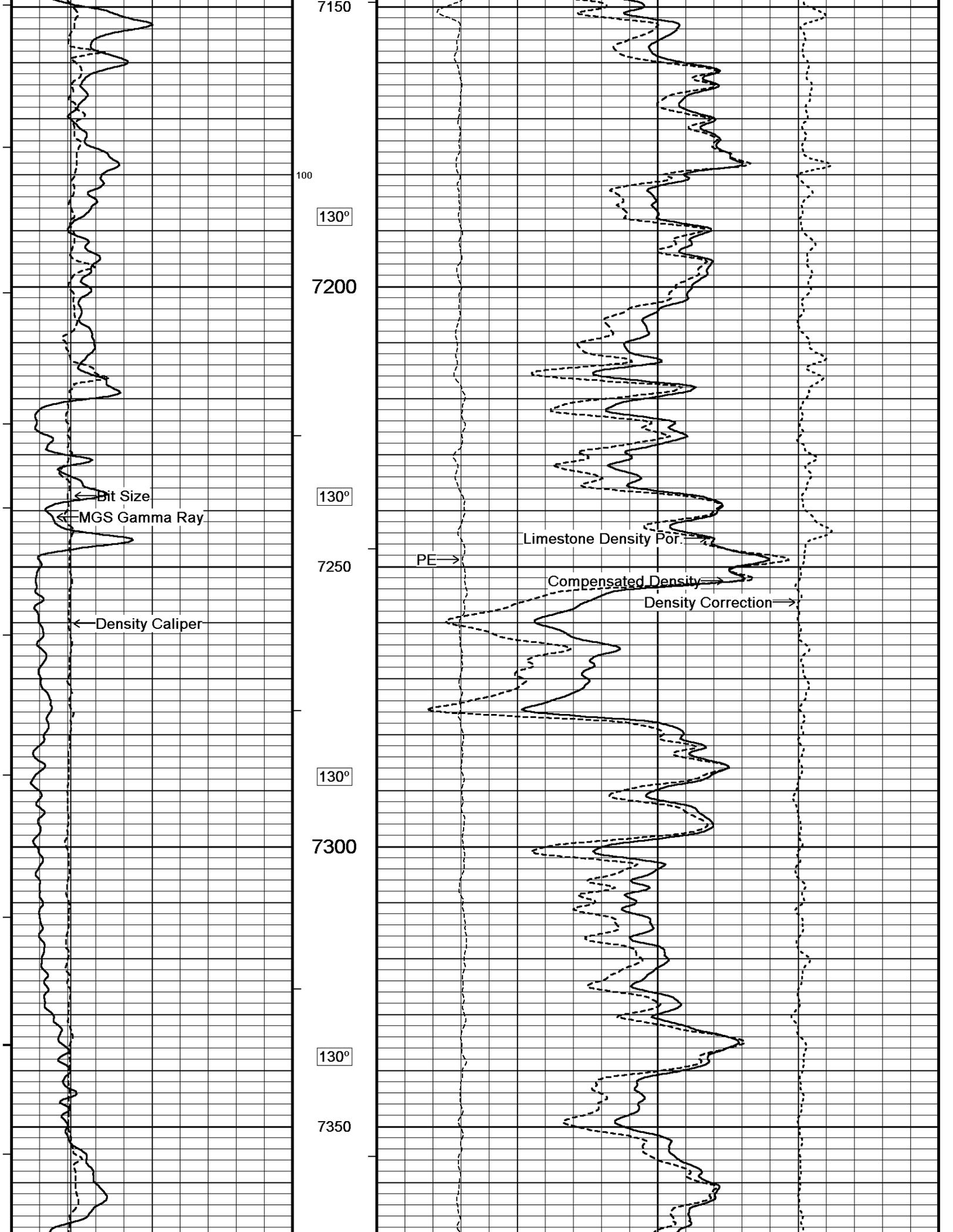
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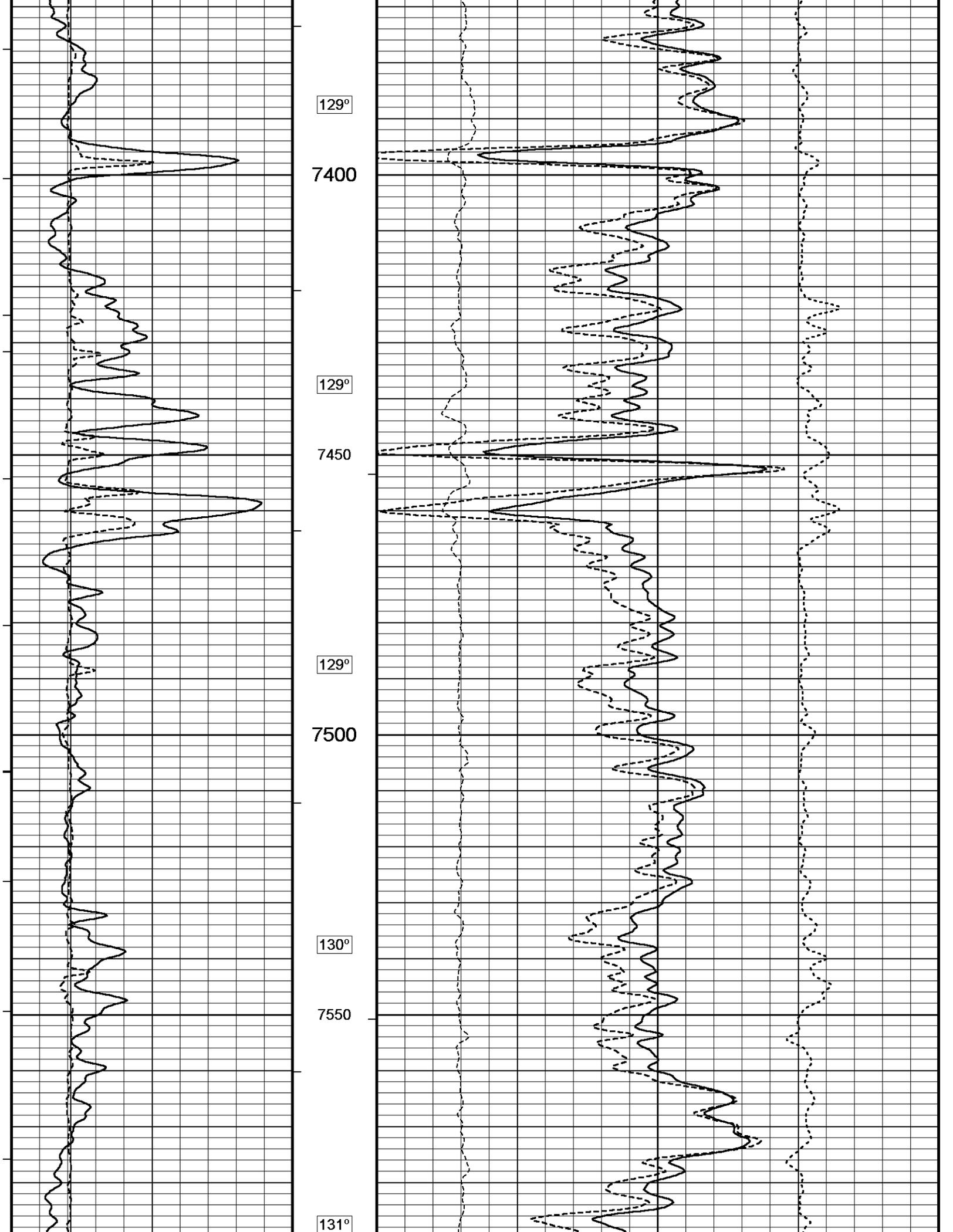
6700

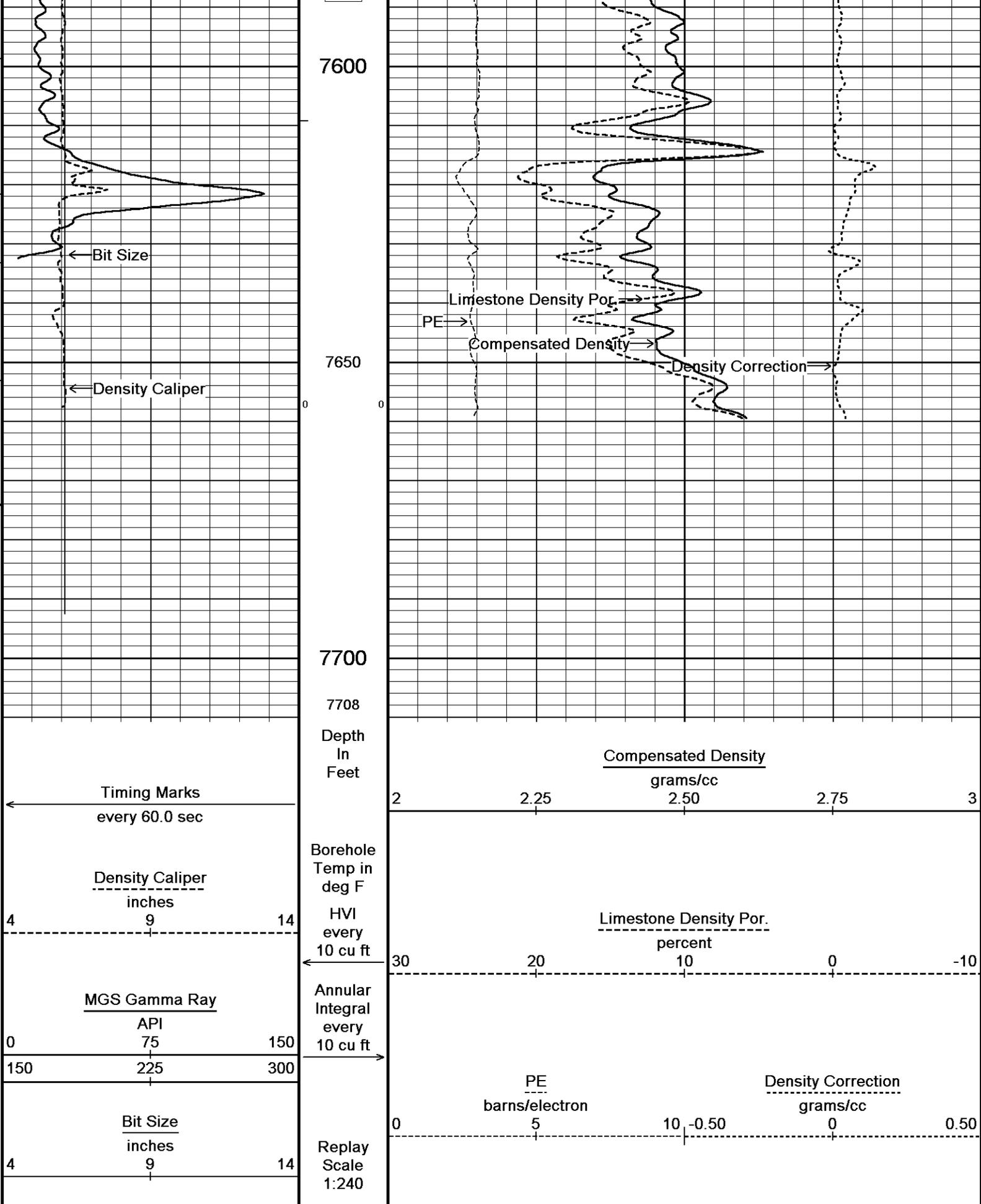












Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 11-FEB-2013 02:05
 Filename: C:\13_04_8723 WLS\DATA\15083218710100 Frusher 1-15H\22851RTAP.dta
 Recorded on 11-FEB-2013 00:45
 System Versions: Processed with 13.04.8723 Plotted with 13.04.8723

5 INCH BULK DENSITY

BEFORE SURVEY CALIBRATION

C:\13_04_8723 WLS\DATA\15083218710100 Frusher 1-15H\22851RTAP.dta

Down-hole Tension Calibration All 000

Field Calibration on 24-FEB-2009 00:00

| | | |
|------------|----------|---------|
| Reading No | Measured | |
| 1 | 14953.75 | 0.00 |
| 2 | 17846.38 | 1500.00 |

General Constants All 000

Last Edited on 11-FEB-2013,00:58

General Parameters

| | | |
|-----------------------------|----------|------------|
| Mud Resistivity | 0.360 | ohm-metres |
| Mud Resistivity Temperature | 64.600 | 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 | Limestone Density Por. |
| Resistivity used | Array Ind. One Res Rt |
| RWA Constant A | 0.610 |
| RWA Constant M | 2.150 |

Down-hole Tension Calibration SMS 0

Field Calibration on 07-FEB-2006 14:19

| | | |
|------------|----------|--------|
| Reading No | Measured | |
| 1 | 16292.42 | 0.00 |
| 2 | 17072.79 | 420.00 |

Strain Gauge Constants MMS-E.B 167

Last Edited on 02-FEB-2013,08:19

| | | | | | | | | |
|--------------------------------------|-------------|--------|--------|--------|-----------|--------|--------|--------|
| Atmospheric Pressure | 14.70 | psi | | | | | | |
| Serial Number | 262784 | | | | | | | |
| Calibration Date | 21-Jan-2011 | | | | | | | |
| Base Check Date | | | | | | | | |
| Dead Weight Serial Number | 0 | | | | | | | |
| Dead Weight Gravitational Correction | 1.0 | | | | | | | |
| Temperature | 75.0 | 150.0 | 250.0 | 350.0 | degrees F | | | |
| Pressure psia | Inc. | Dec. | Inc. | Dec. | Inc. | Dec. | Inc. | Dec. |
| 0.0 | 0.038 | 0.038 | 0.049 | 0.049 | 0.063 | 0.063 | 0.077 | 0.078 |
| 3000.0 | 5.218 | 5.220 | 5.230 | 5.232 | 5.244 | 5.246 | 5.257 | 5.259 |
| 6000.0 | 10.409 | 10.412 | 10.422 | 10.425 | 10.436 | 10.440 | 10.447 | 10.452 |
| 9000.0 | 15.610 | 15.615 | 15.623 | 15.628 | 15.638 | 15.643 | 15.650 | 15.656 |
| 12000.0 | 20.823 | 20.826 | 20.837 | 20.841 | 20.853 | 20.857 | 20.866 | 20.869 |
| 15000.0 | 26.048 | | 26.064 | | 26.081 | | 26.093 | |

MMS Parameters MMS-E.B 167

Last Edited on 10-FEB-2013 09:29

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 | |

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 15787.0 seconds
Pulse Pressure Discriminator 36189.0 seconds
Use Negative Pulsing No
Good Status Reply Open Hole 65535.0 seconds
Good Status Reply Cased Hole 20.0 seconds
Bad Status Reply 60.0 seconds
Status Pulse To 80.0 seconds
Caliper Close To seconds
Caliper Open To 210.0 seconds

Configuration

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

High Resolution Temperature Calibration MGS-C.J 136

Field Calibration on 02-FEB-2013,08:07

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

High Resolution Temperature Constants MGS-C.J 136

Last Edited on 02-FEB-2013,08:07

Pre-filter Length 11

SP Calibration MGS-C.J 136

Field Calibration on 02-FEB-2013,08:08

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

Gamma Calibration MGS-C.J 136

Field Calibration on 02-FEB-2013 08:12

| | Measured | Calibrated (API) |
|--------------------|----------|------------------|
| Background | 172 | 125 |
| Calibrator (Gross) | 1910 | 1386 |
| Calibrator (Net) | 1738 | 1261 |

Gamma Constants MGS-C.J 136

Last Edited on 09-FEB-2013,09:51

Gamma Calibrator Number BLUE
Mud Density 1.16 gm/cc
Caliper Source for Processing Density Caliper
Tool Position Eccentred
Concentration of KCl 0.00 kppm

Neutron Calibration MDN-B.J 390

Base Calibration on 07-JAN-2013 16:04

Field Check on 02-FEB-2013 08:19

Base Calibration

| | Measured | | Calibrated (cps) | |
|-------|----------|-----|------------------|-----|
| | Near | Far | Near | Far |
| Ratio | 2954 | 90 | 3714 | 110 |
| | 32.847 | | 33.764 | |

Field Calibrator at Base

| | Calibrated (cps) | |
|-------|------------------|------|
| Ratio | 1273 | 1896 |
| | 0.671 | |

Field Check

| | Calibrated (cps) | |
|-------|------------------|------|
| Ratio | 1288 | 1856 |
| | 0.667 | |

Neutron Constants MDN-B.J 390

Last Edited on 02-FEB-2013 09:51

| | | | |
|---------------------------------|--------------------------|-----------|--|
| Neutron Source Id | p33312b | | |
| Neutron Jig Number | blue | | |
| Epithermal Neutron | No | | |
| Caliper Source for Processing | Density Caliper | | |
| Stand-off | 0.00 | inches | |
| Mud Density | 1.16 | 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-B.J 359

Base Calibration on 07-JAN-2013 10:22
Field Check on 09-FEB-2013 09:40

| | | |
|------------------|----------|--------------------|
| Base Calibration | | |
| | Measured | Calibrated (ohm-m) |
| Reference 1 | 0.0 | 0.0 |
| Reference 2 | 967.3 | 126.8 |
| Base Check | | 278.7 |
| Field Check | | 279.1 |

FE Constants MFE-B.J 359

Last Edited on 09-FEB-2013,09:39

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

Induction Calibration MAI-A.A 158

Base Calibration on 07-JAN-2013 10:26
Field Check on 09-FEB-2013 09:38

| | | | | | |
|-----------------------|------|----------|-----|---------------------|--|
| Base Calibration | | | | | |
| Test Loop Calibration | | Measured | | Calibrated (mmho/m) | |
| Channel | Low | High | Low | High | |
| 1 | 17.2 | 475.3 | 9.3 | 966.2 | |
| 2 | 6.1 | 381.2 | 7.6 | 821.4 | |
| 3 | 3.8 | 265.2 | 5.2 | 566.0 | |
| 4 | 2.7 | 132.2 | 2.6 | 279.2 | |

Array Temperature 22.3 Deg F

| | | | | |
|---------|---------------------|------|----------------------|--------|
| Channel | Base Check (mmho/m) | | Field Check (mmho/m) | |
| | Low | High | Low | High |
| 1 | | | 11.1 | 3818.0 |
| 2 | | | 29.9 | 3534.8 |
| 3 | | | 27.3 | 2985.3 |
| 4 | | | 18.1 | 2100.3 |
| Deep | | | 15.0 | 1946.3 |
| Medium | | | 41.4 | 3892.6 |
| Shallow | | | 47.1 | 5242.5 |

Array Temperature 42.4 Deg F

Induction Constants MAI-A.A 158

Last Edited on 11-FEB-2013,00:58

| | | | |
|-----------------------------------|-----------------|--------|--|
| 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 | 0.0000 | |
| Stand-off Fin Angle | 60.00 | degrees |
| Stand-off Fin Width | 0.0000 | inches |
| Borehole Corr. Rm Source | Temperature Corr | |
| Temp. for Rm Corr. | 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 158

Field Calibration on 02-FEB-2013,07:51

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

High Resolution Temperature Constants MAI-A.A 158

Last Edited on 02-FEB-2013,07:51

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

Caliper Calibration MPD-C.J 435

Base Calibration on 07-JAN-2013 10:39

Field Calibration on 09-FEB-2013 09:42

Base Calibration

| | | |
|------------|----------|----------------------|
| Reading No | Measured | Calibrator Size (in) |
| 1 | 16608 | 4.01 |
| 2 | 26160 | 5.96 |
| 3 | 36208 | 7.98 |
| 4 | 45936 | 9.86 |
| 5 | 56688 | 11.88 |
| 6 | N/A | N/A |

Field Calibration

| | |
|-----------------------|---------------------|
| Measured Caliper (in) | Actual Caliper (in) |
| 5.94 | 5.96 |

Photo Density Calibration MPD-C.J 435

Base Calibration on 07-JAN-2013 15:06

Field Check on 09-FEB-2013 09:47

Density Calibration

| | | | | |
|------------------|----------|-------|------------------|-------|
| Base Calibration | Measured | | Calibrated (sdu) | |
| | Near | Far | Near | Far |
| Reference 1 | 56419 | 27206 | 59869 | 31110 |
| Reference 2 | 23392 | 2610 | 24557 | 2522 |

Field Check at Base

| | |
|--------|--------|
| 1291.0 | 1337.1 |
|--------|--------|

Field Check

| | |
|--------|--------|
| 1287.5 | 1338.2 |
|--------|--------|

PE Calibration

| Base Calibration | WS | Measured WH | Ratio | Calibrated Ratio |
|---------------------|-------|----------------|-------|---------------------|
| Background | 233 | 1153 | | |
| Reference 1 | 22844 | 56212 | 0.411 | 0.369 |
| Reference 2 | 6353 | 23241 | 0.277 | 0.271 |
| Field Check at Base | 233.0 | 1152.9 | | |
| Field Check | 234.4 | 1149.1 | | |

Density Constants MPD-C.J 435

Last Edited on 09-FEB-2013,09:52

| | | |
|-------------------------------|-----------------|-------|
| Density Source Id | p21137b | |
| Nylon Calibrator Number | 633 | |
| Aluminium Calibrator Number | 633 | |
| Density Shoe Profile | 4 inch | |
| Caliper Source for Processing | Density Caliper | |
| PE Correction to Density | Not Applied | |
| Mud Density | 1.16 | 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 | |
| 0.00 | 0.00 | |

DOWNHOLE EQUIPMENT

C:\13_04_8723 WLS\DATA\15083218710100 Frusher 1-15H\22851RTAP.dta

Shuttle Running Tool 3.5")
SRT-A.A 70 LG: 6.62 ft WT: 37.5 lb OD: 2.52 in



MBS-G.A 200v Compact Battery Sub
MBS-G.A 117 LG: 17.06 ft WT: 123.5 lb OD: 2.24 in

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

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

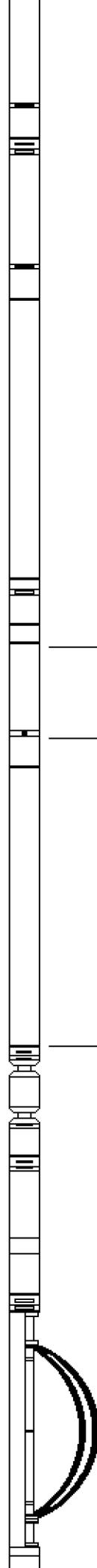
Compact Short Gamma
MGS-C.J 136 LG: 3.41 ft WT: 24.3 lb OD: 2.24 in

Compact Collar Locator
MCL-B.J 60 LG: 3.17 ft WT: 26.5 lb OD: 2.24 in

SKJ-D.A Compact Knuckle Joint
SKJ-D.A 42 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

SHA-J.A Compact Swivel Head Adaptor
SHA-J.A 454 LG: 2.30 ft WT: 22.0 lb OD: 2.24 in

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



62.19 ft GRGM - MGS Gamma Ray

60.21 ft GSXT - MGS External Temperature

58.19 ft GCSL - MCL C. Collar Locator

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

Compact Density/Caliper
MPD-C.J 435 LG: 9.59 ft WT: 90.4 lb OD: 2.24 in

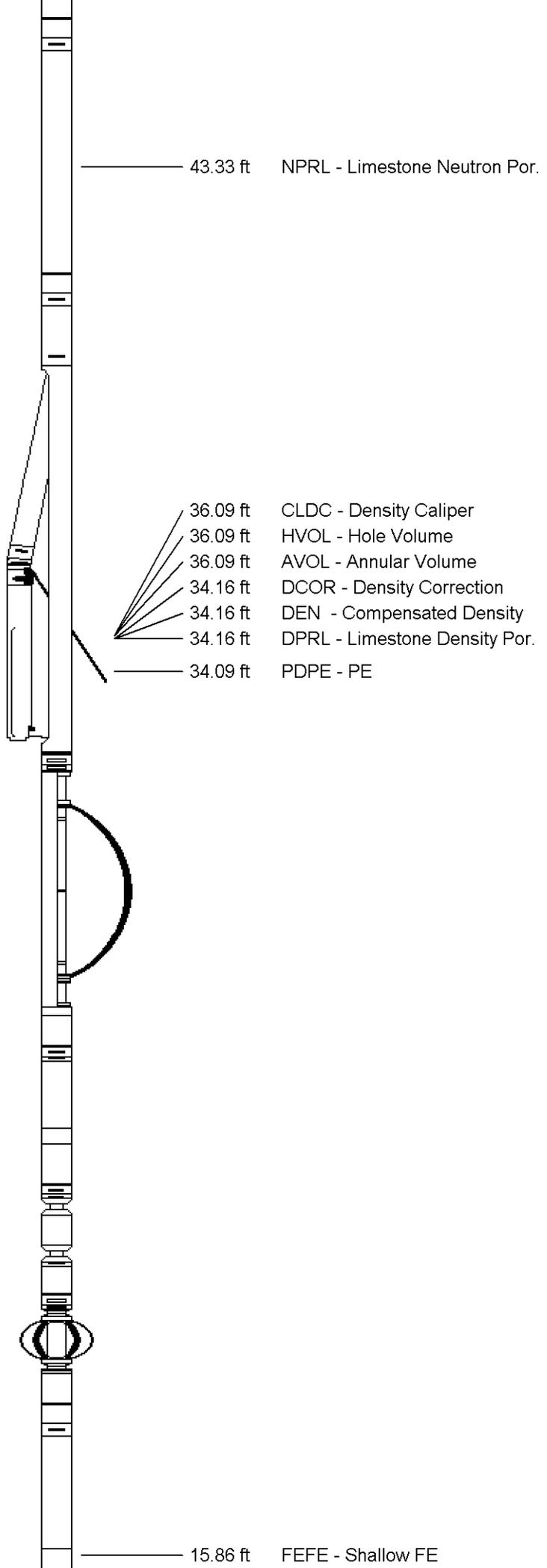
MIS-A.A Compact Inline Bowspring sub
MIS-A.A 15 LG: 5.70 ft WT: 33.1 lb OD: 2.24 in

SHA-F Compact Swivel Head Adaptor
SHA-F 33 LG: 2.74 ft WT: 26.5 lb OD: 2.24 in

SKJ-D.A Compact Knuckle Joint
SKJ-D.A 41 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

MIS-B Compact Inline Standoff sub
MIS-B 26 LG: 2.14 ft WT: 15.4 lb OD: 2.24 in

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



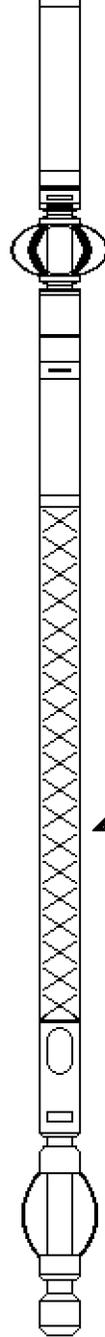
43.33 ft NPRL - Limestone Neutron Por.

36.09 ft CLDC - Density Caliper
36.09 ft HVOL - Hole Volume
36.09 ft AVOL - Annular Volume
34.16 ft DCOR - Density Correction
34.16 ft DEN - Compensated Density
34.16 ft DPRL - Limestone Density Por.
34.09 ft PDPE - PE

15.86 ft FEFE - Shallow FE

MIS-B Compact Inline Standoff sub
 MIS-B 27 LG: 2.14 ft WT: 15.4 lb OD: 2.24 in

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



3.34 ft CTAO - Array Ind. One Cond Ct
 3.34 ft R40O - Array Ind. One Res 40
 3.34 ft R60O - Array Ind. One Res 60
 3.34 ft R85O - Array Ind. One Res 85
 3.34 ft RTAO - Array Ind. One Res Rt

Tool Zero (1.84ft from bottom)

Total Length: 95.25 ft Weight: 694.5 lb

All measurements relative to tool zero.

| | |
|-----------------|------------------|
| COMPANY | SANDRIDGE ENERGY |
| WELL | FRUSHER 1-15H |
| FIELD | GOEBEL |
| PROVINCE/COUNTY | HODGEMAN |
| COUNTRY/STATE | USA / KANSAS |

| | | | | | |
|-------------------------|---------|------|---------------|---------|------|
| Elevation Kelly Bushing | 2358.00 | feet | First Reading | 7660.00 | feet |
| Elevation Drill Floor | 2358.00 | feet | Depth Driller | 8095.00 | feet |
| Elevation Ground Level | 2337.00 | feet | Depth Logger | 7700.00 | feet |



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 COMPENSATED NEUTRON LOG

