

**Weatherford****MICRORESISTIVITY LOG**

| | | | | | |
|---|---------------|------------------------------|----------------|----------------|---------|
| COMPANY | | GRAND MESA OPERATING COMPANY | | | |
| WELL | | K-M #1-2 | | | |
| FIELD | | WILDCAT | | | |
| PROVINCE/COUNTY | | WASHINGTON | | | |
| COUNTRY/STATE | | UNITED STATES / COLORADO | | | |
| LOCATION | | 2384' FNL & 2540' FWL | | | |
| SEC | TWP | RGE | Other Services | | |
| 2 | 2S | 52W | MPD/MDN | | |
| API Number | | 05-121-11033 | | MAI/MFE | |
| Permit Number | | | | | |
| Permanent Datum G.L., Elevation 4672 feet | | | | | |
| Log Measured From KB | | | | Elevations: | |
| Drilling Measured From K.B. @ 10 FEET | | | | KB | 4682.00 |
| | | | | DF | 4680.00 |
| | | | | GL | 4672.00 |
| Date | 07-OCT-2013 | | | 02-NOV-2013 | |
| Run Number | ONE | | | TWO | |
| Service Order | 3541093 | | | 3541093 | |
| Depth Driller | 4485.00 | feet | 7720.00 | | |
| Depth Logger | 4482.00 | feet | 7718.00 | | |
| First Reading | 4448.00 | feet | 7680.00 | | |
| Last Reading | 3480.00 | feet | 3400.00 | | |
| Casing Driller | 396.00 | feet | 396.00 | | |
| Casing Logger | 396.00 | feet | 396.00 | | |
| Bit Size | 7.880 | inches | 7.880 | | |
| Hole Fluid Type | CHEMICAL | CHEMICAL | | | |
| Density / Viscosity | 9.30 lb/USg | 50.00 CP | 9.30 lb/USg | 67.00 CP | |
| PH / Fluid Loss | 8.50 | 6.40 ml/30Min | 9.00 | 10.80 ml/30Min | |
| Sample Source | MUDPIT | MUDPIT | | | |
| Rm @ Measured Temp | 2.34 @ 75.0 | ohm-m | 2.34 @ 75.0 | ohm-m | |
| Rmf @ Measured Temp | 1.87 @ 75.0 | ohm-m | 1.87 @ 75.0 | ohm-m | |
| Rmc @ Measured Temp | 2.81 @ 75.0 | ohm-m | 2.81 @ 75.0 | ohm-m | |
| Source Rmf / Rmc | CALC | CALC | CALC | CALC | |
| Rm @ BHT | 1.34 @131.0 | ohm-m | 0.93 @189.0 | ohm-m | |
| Time Since Circulation | 4 HOURS | 5 HOURS | | | |
| Max Recorded Temp | 131.00 | deg F | 189.00 | deg F | |
| Equipment / Base | 13096 | LIB | 13244 | | |
| Recorded By | W. STAMBAUGH | W. STAMBAUGH | | | |
| Witnessed By | BOB SCHREIBER | BOB SCHREIBER | | | |
| JOB# | LB13-282 | LB13-313 | | | |

BOREHOLE RECORD

Last Edited: 02-NOV-2013 19:47

| | | |
|--------------------|--------------------|------------------|
| Bit Size inches | Depth From feet | Depth To feet |
| 7.880 | 396.00 | 7270.00 |

CASING RECORD

| | | | | |
|---------|----------------|--------------------|--------------------|---------------------|
| Type | Size inches | Depth From feet | Shoe Depth feet | Weight pounds/ft |
| SURFACE | 8.625 | 0.00 | 396.00 | 24.00 |

REMARKS

- SOFTWARE ISSUE: WLS 13.05.9583.
- RUN #1 07-OCT-2013
- MCG, MML, MDN, MPD, MFE, MAI RUN IN COMBINATION.
HARDWARE: DUAL BOWSPRING USED ON MDN.
0.5 INCH STANDOFF USED ON MFE.
0.5 INCH STANDOFF USED ON MAI.
- RUN #2 02-NOV-2013
- 4 DEGREE DEVIATION AT 4700' ANOTHER 4 DEGREE DEVIATION AT 6500' TO 6900' FEET.
- ORIGINAL TD WAS 7433' 530' OF COLLARS SET IN HOLE,
- WHIPSTOCK SET IN THE 6500' TO 6900' INTERVAL AND HOLE KICKED OFF AROUND 6600'.
- MCG, MFE, MAI RUN IN COMBINATION ON FIRST RUN OF RUN #2.
- MCG, MML, MDN, MPD, MSS RUN IN COMBINATION ON SECOND RUN OF RUN #2.
NO REPEAT SECTION ON FINAL ATTEMPT DUE TO CUSTOMER CONCERNS ABOUT HOLE CONDITONS,
AFTER BRIDGING OFF AT 5650' ON THE WAY IN THE HOLE.
HARDWARE: DUAL BOWSPRING USED ON MDN.
0.5 INCH STANDOFF USED ON MSS.

- 2.71 G/CC LIMESTONE DENSITY MATRIX USED TO CALCULATE POROSITY.
- BOREHOLE RUGOSITY, TIGHT PULLS, AND WASHOUTS WILL AFFECT DATA QUALITY.
- ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST.
- TOTAL HOLE VOLUME FROM TD TO SURFACE CASING AT 396 FEET: 1460 CU. FT.
- ANNULAR HOLE VOLUME WITH 5.5 INCH CASING FROM TD TO SURFACE CASING AT 396 FEET: 790 CU. FT.

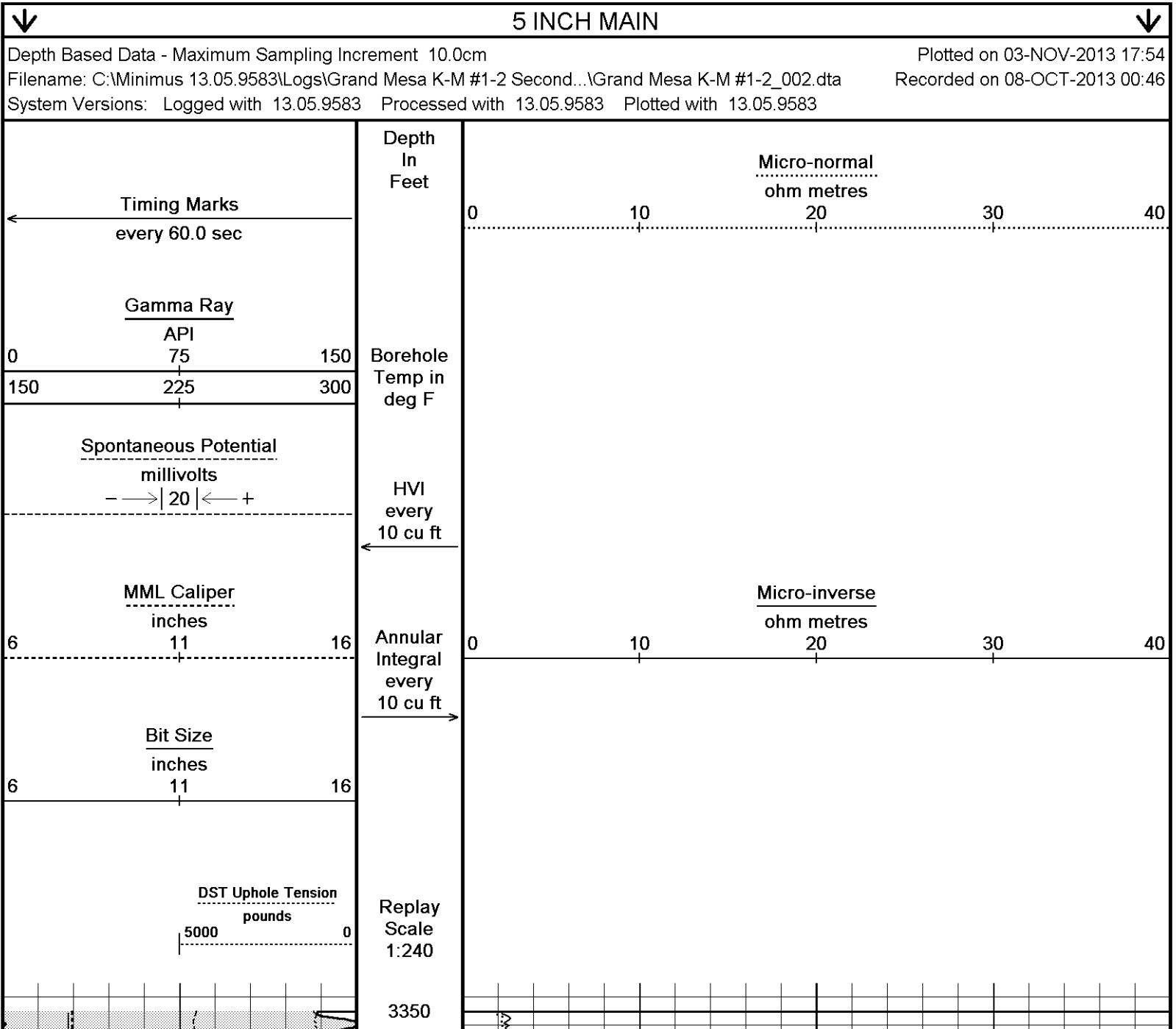
DRILLING RIG: MURFIN DRILLING #14

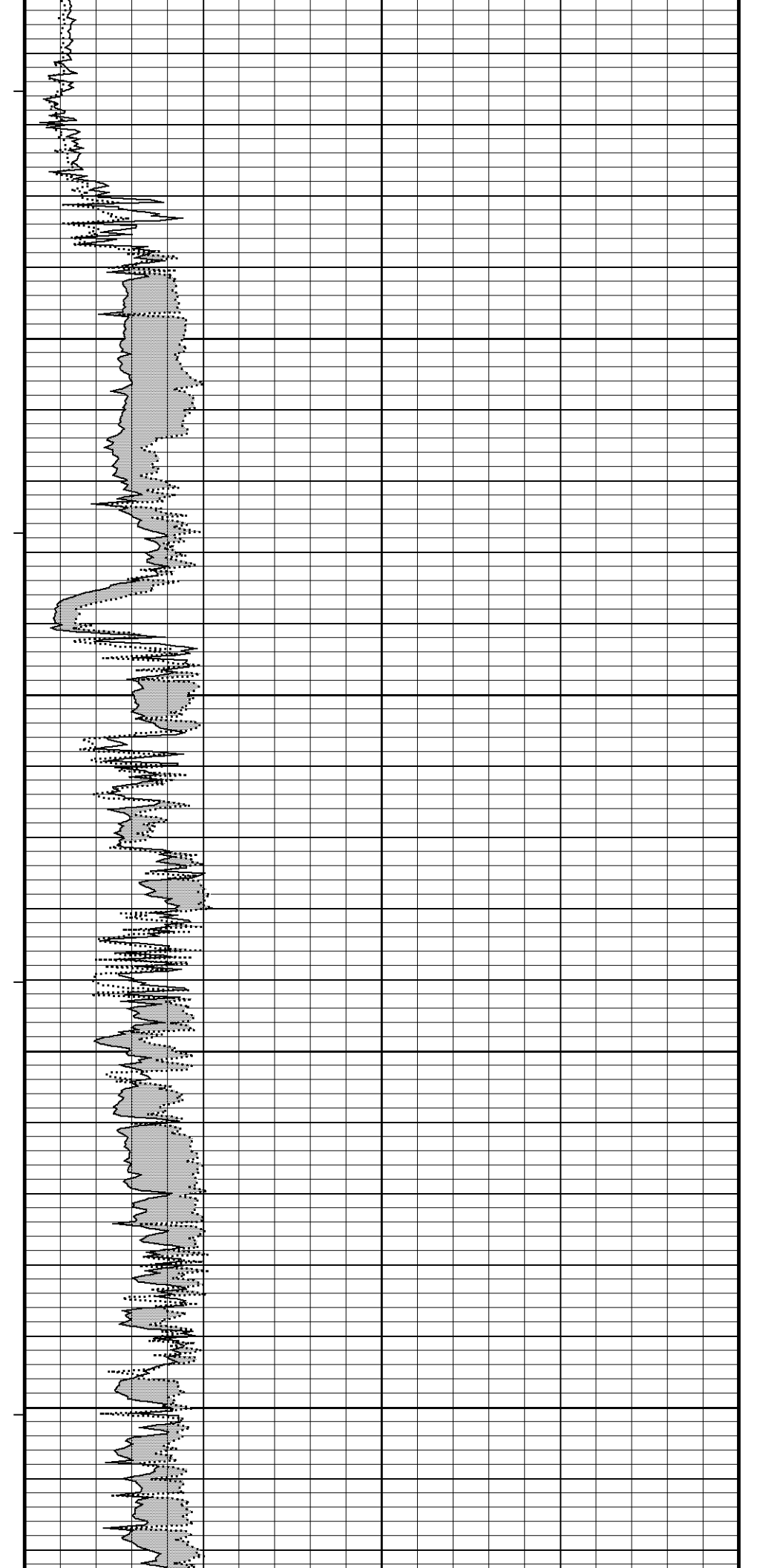
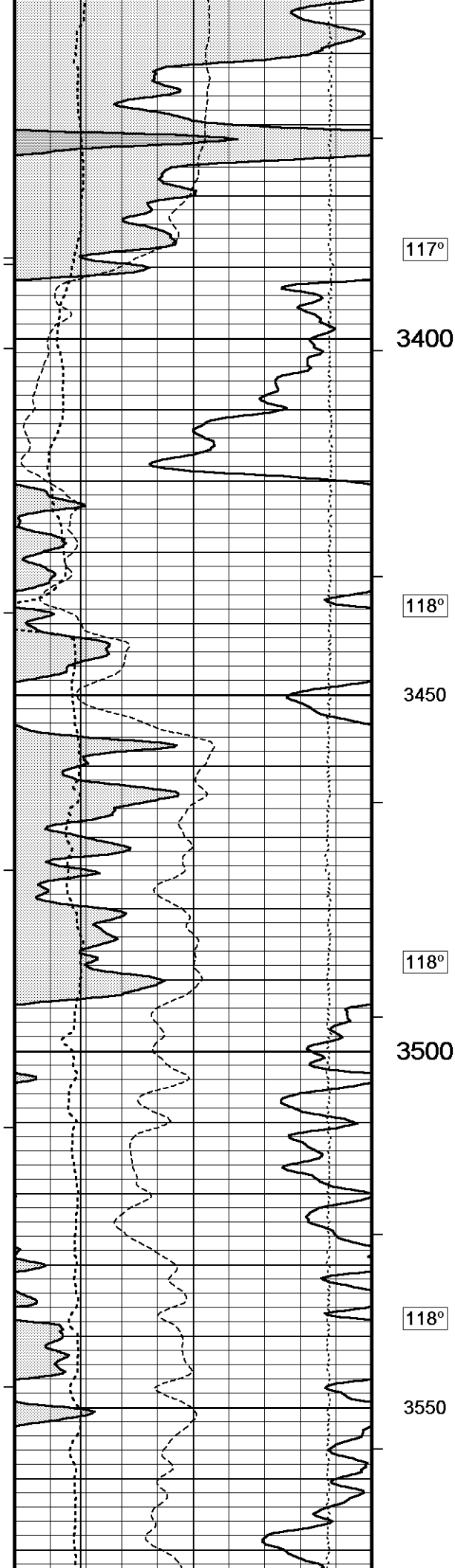
- (FIRST AND SECOND RUN) ENGINEER: W. STAMBAUGH

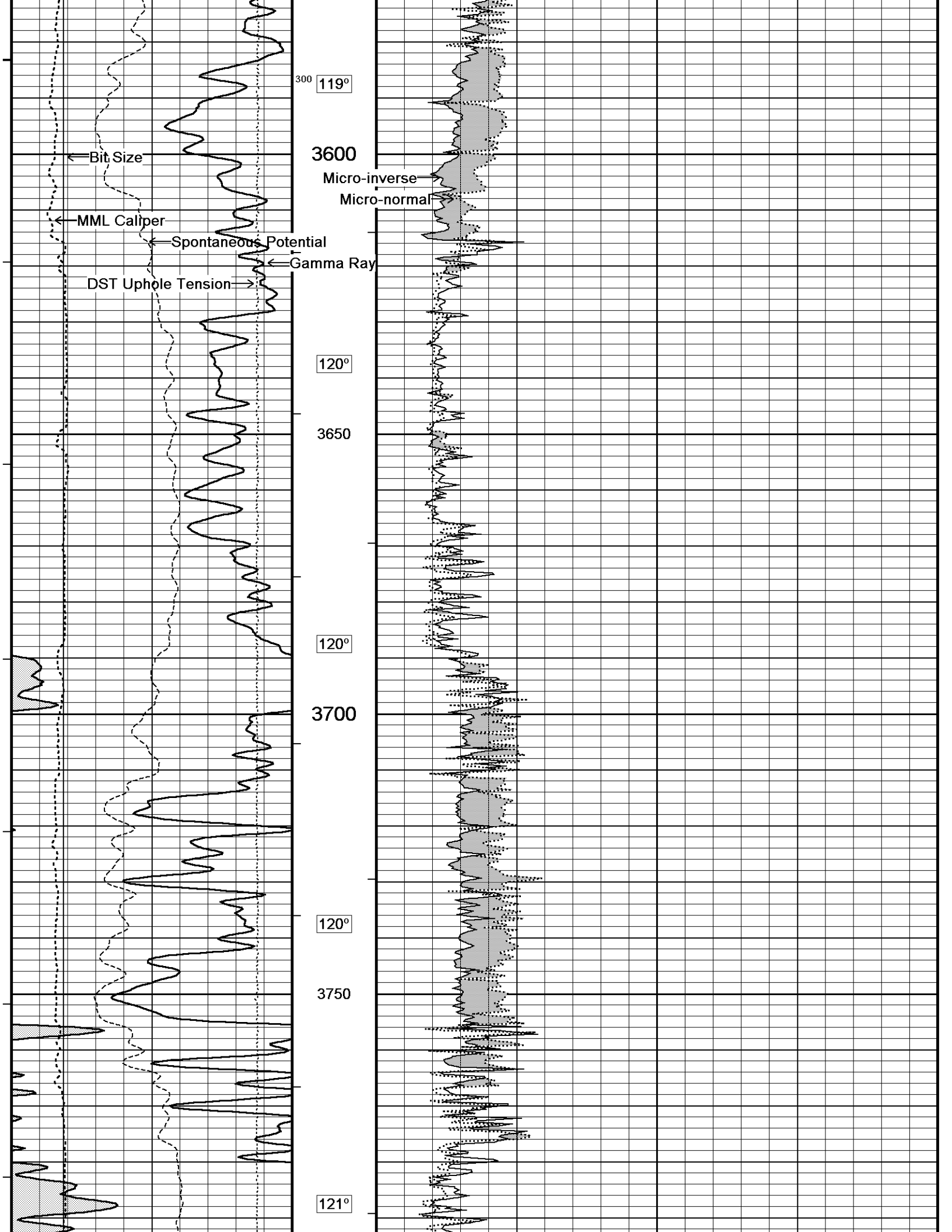
- FIRST RUN OPERATOR(S): J. DUNLAP, D. CANADAY.

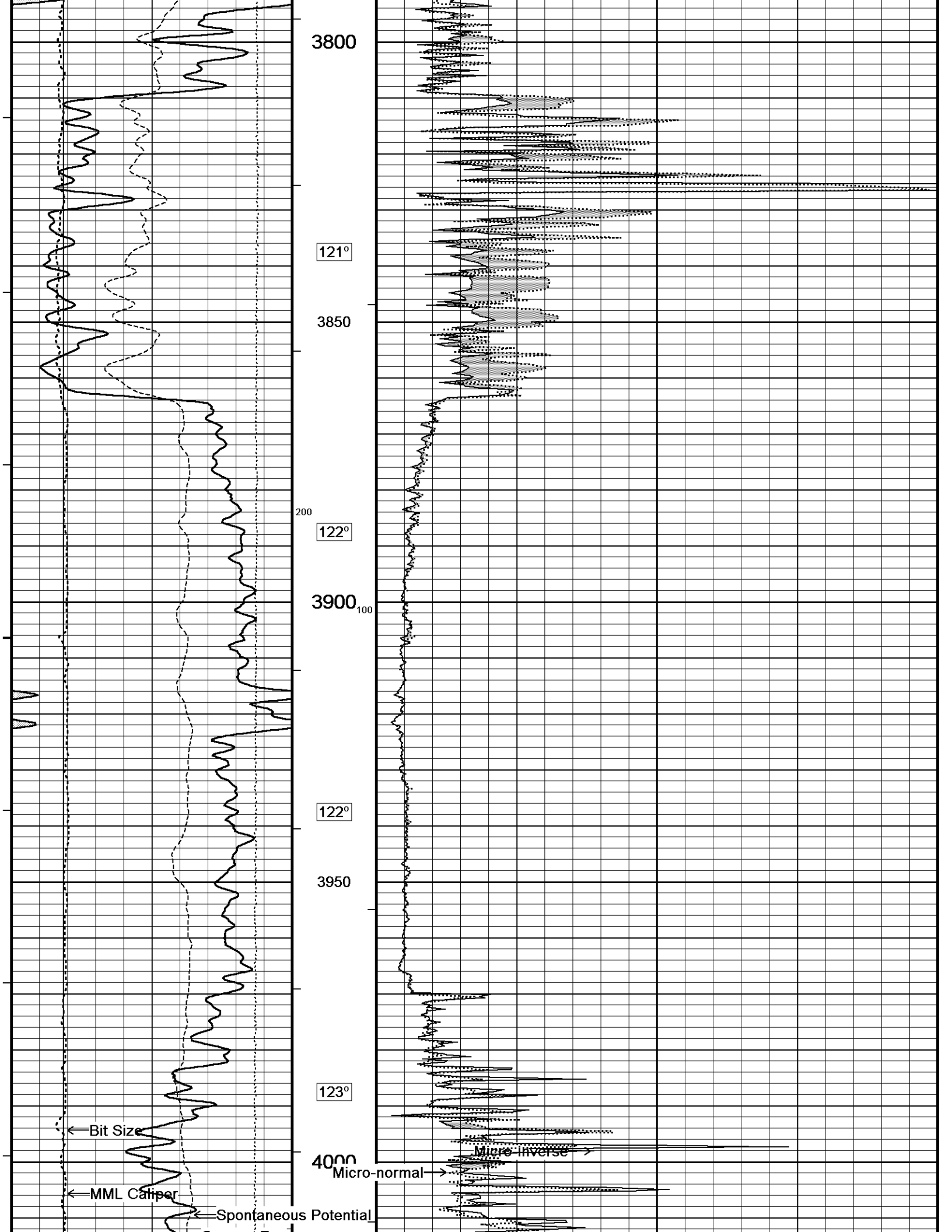
- SECOND RUN OPERATOR(S): K. RINEHART, D. CANADAY.

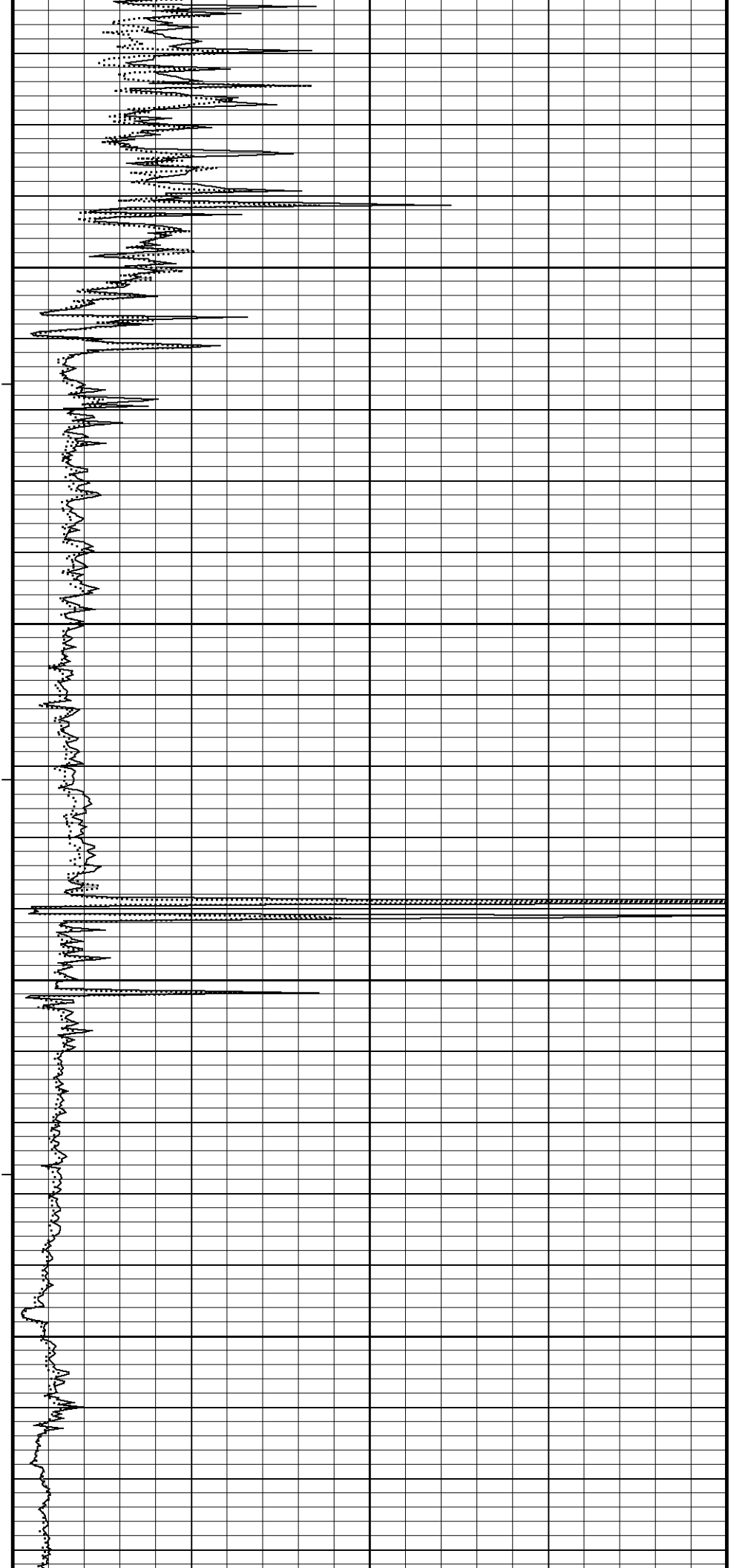
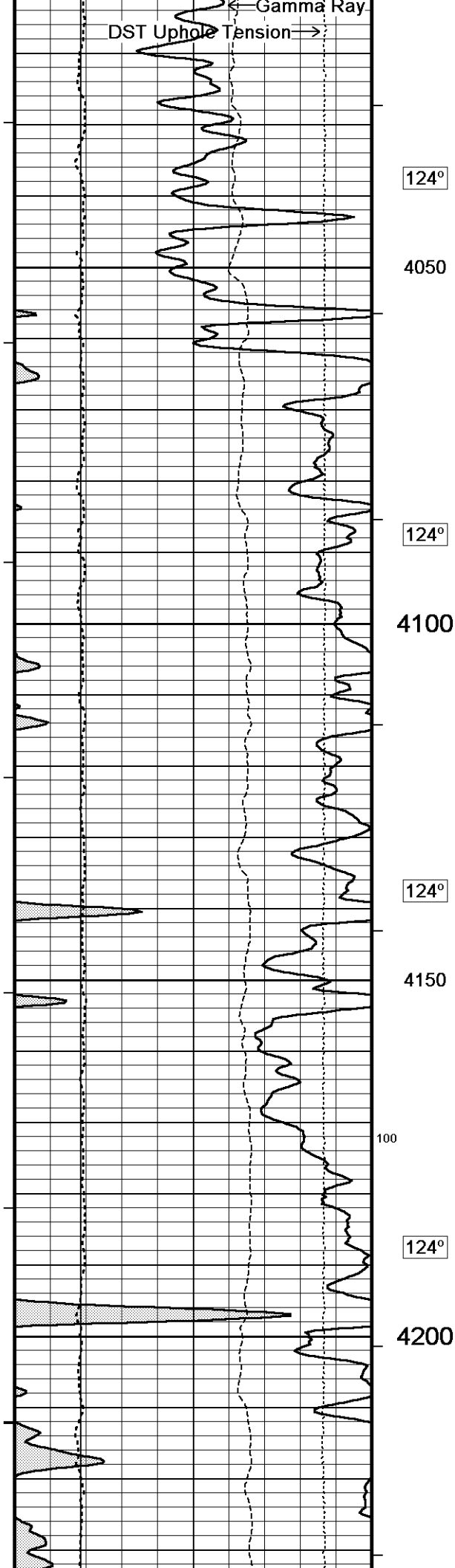
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs, 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.

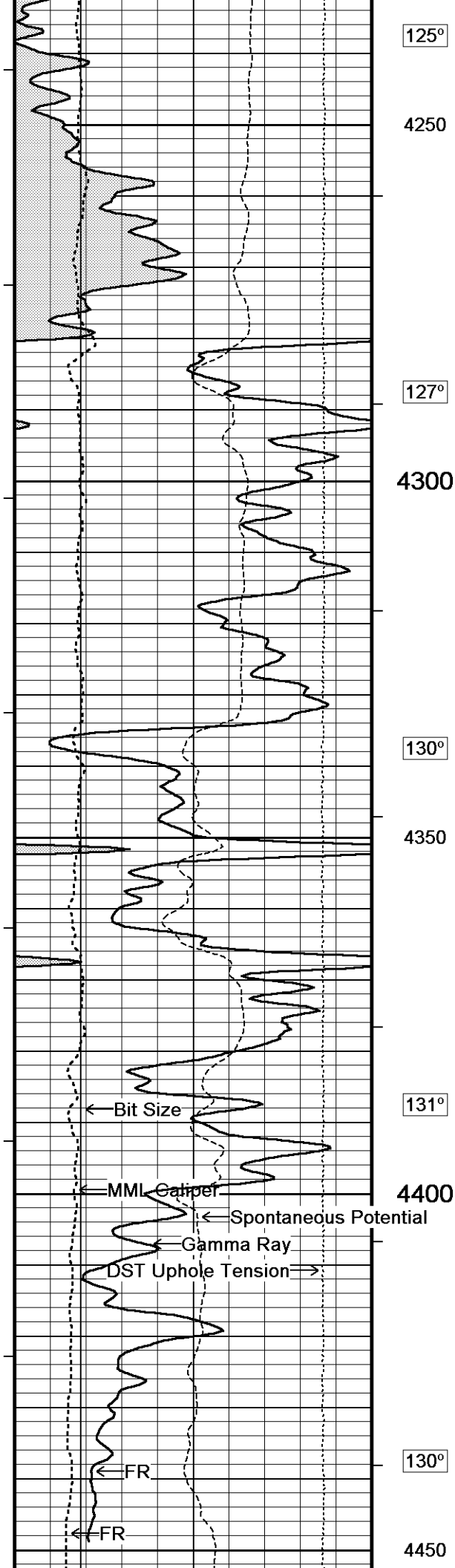












125°

4250

127°

4300

130°

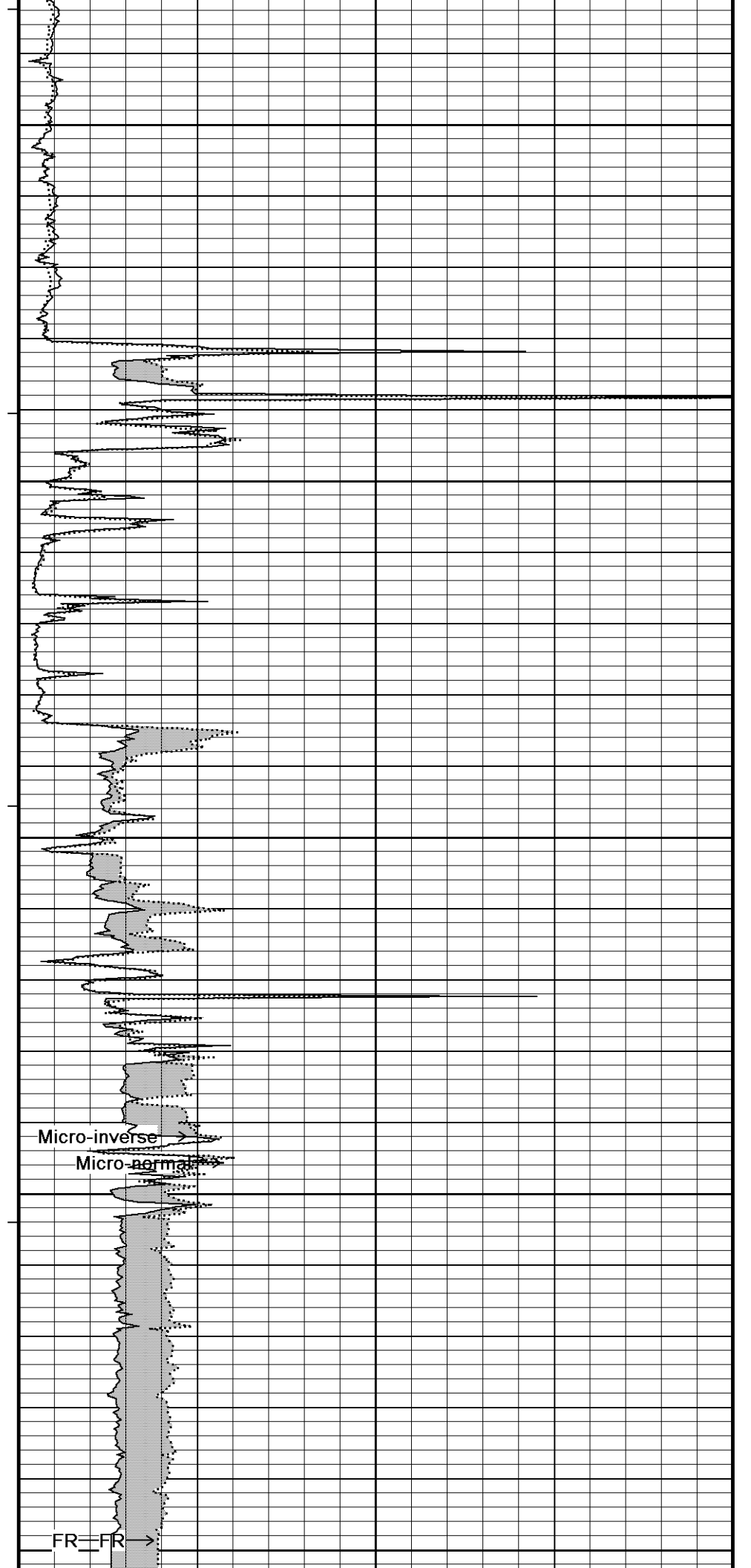
4350

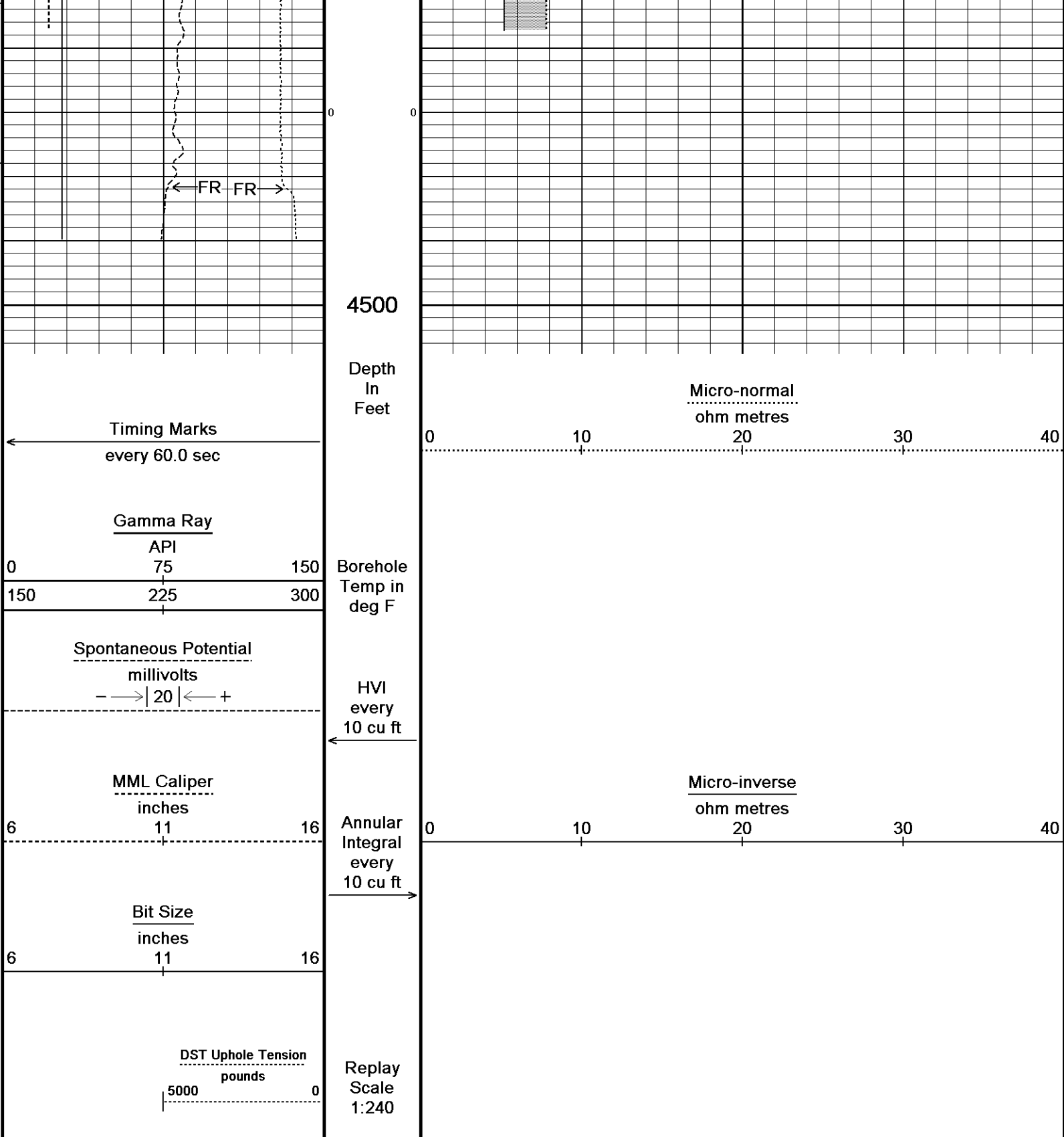
131°

4400

130°

4450



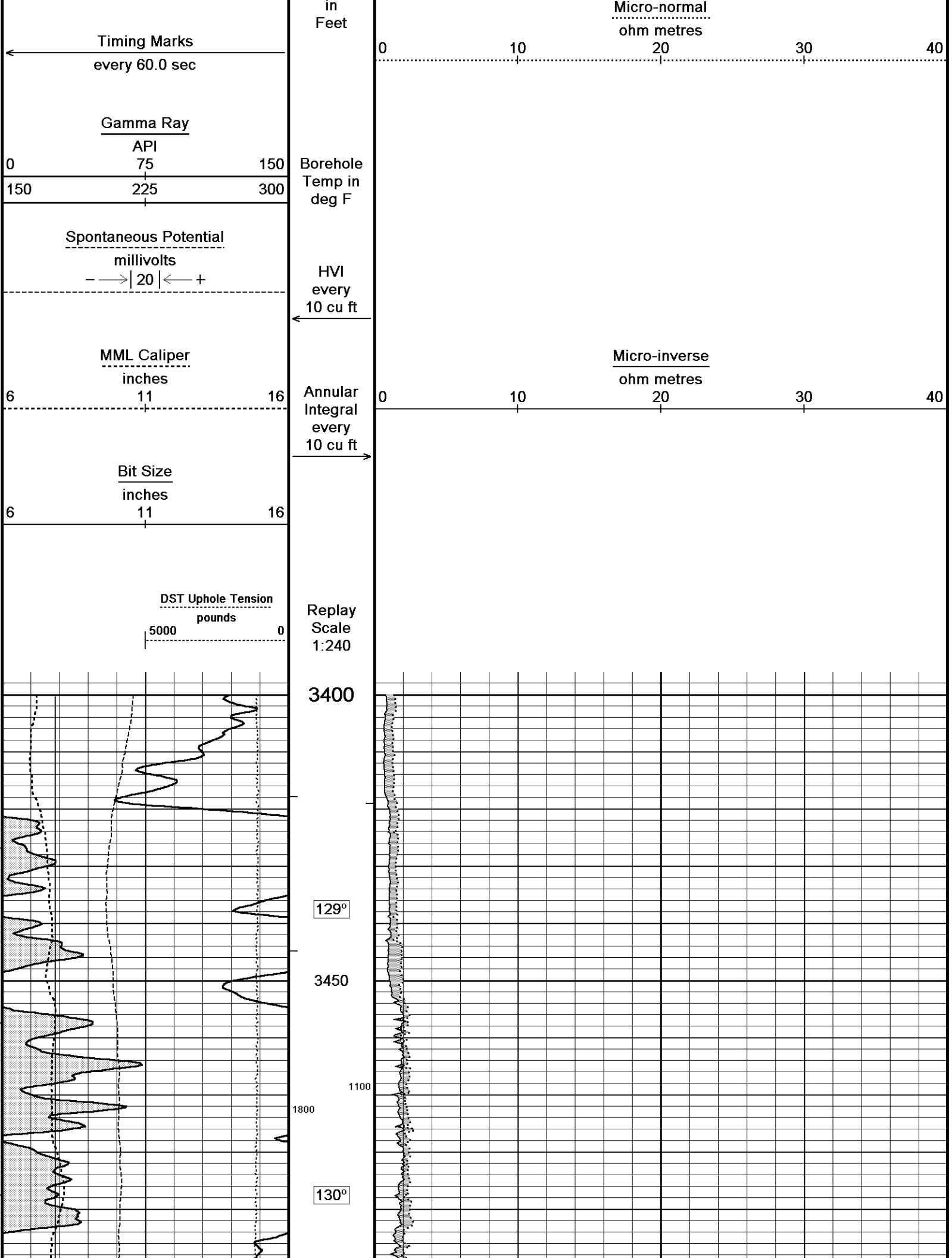


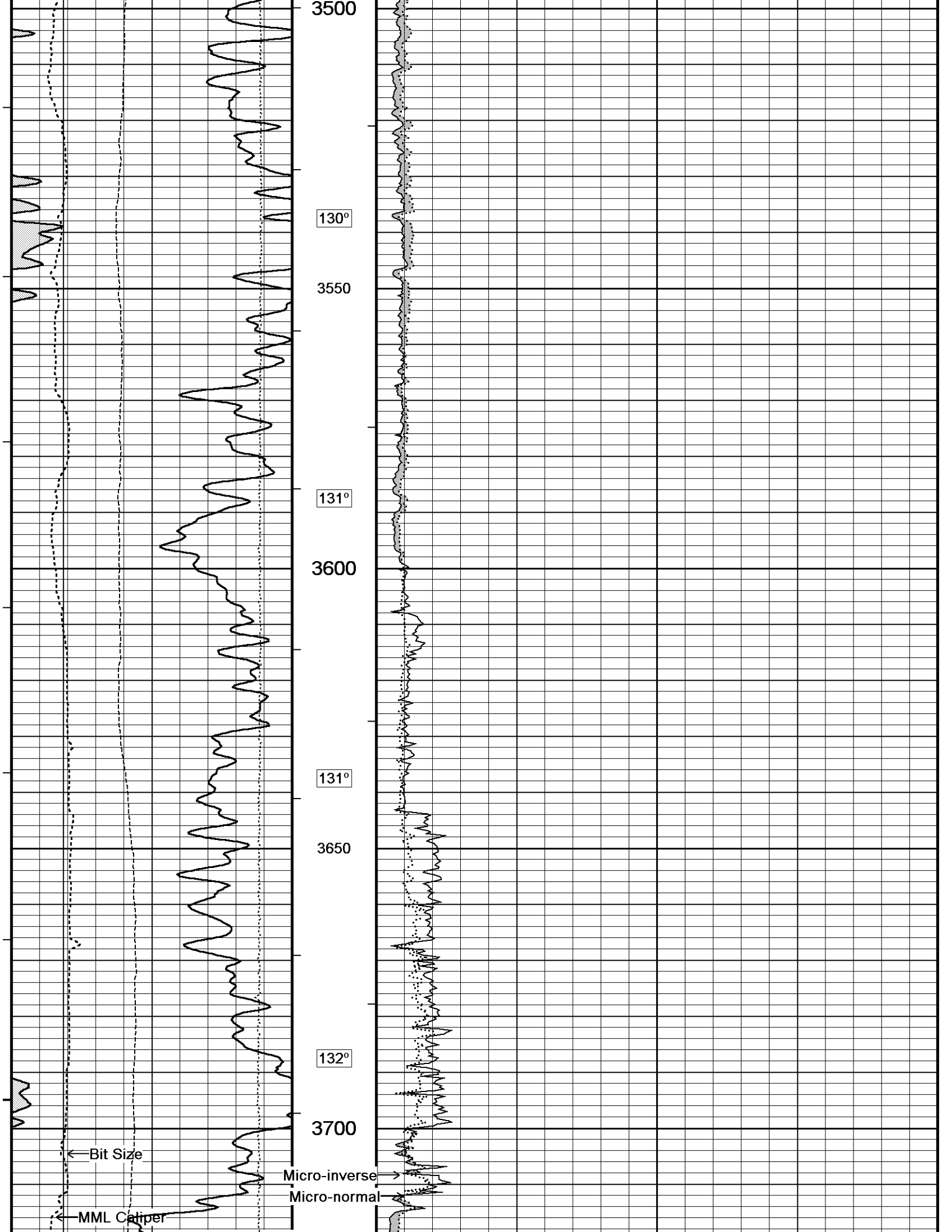
Depth Based Data - Maximum Sampling Increment 10.0cm
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System Versions: Logged with 13.05.9583 Processed with 13.05.9583 Plotted with 13.05.9583

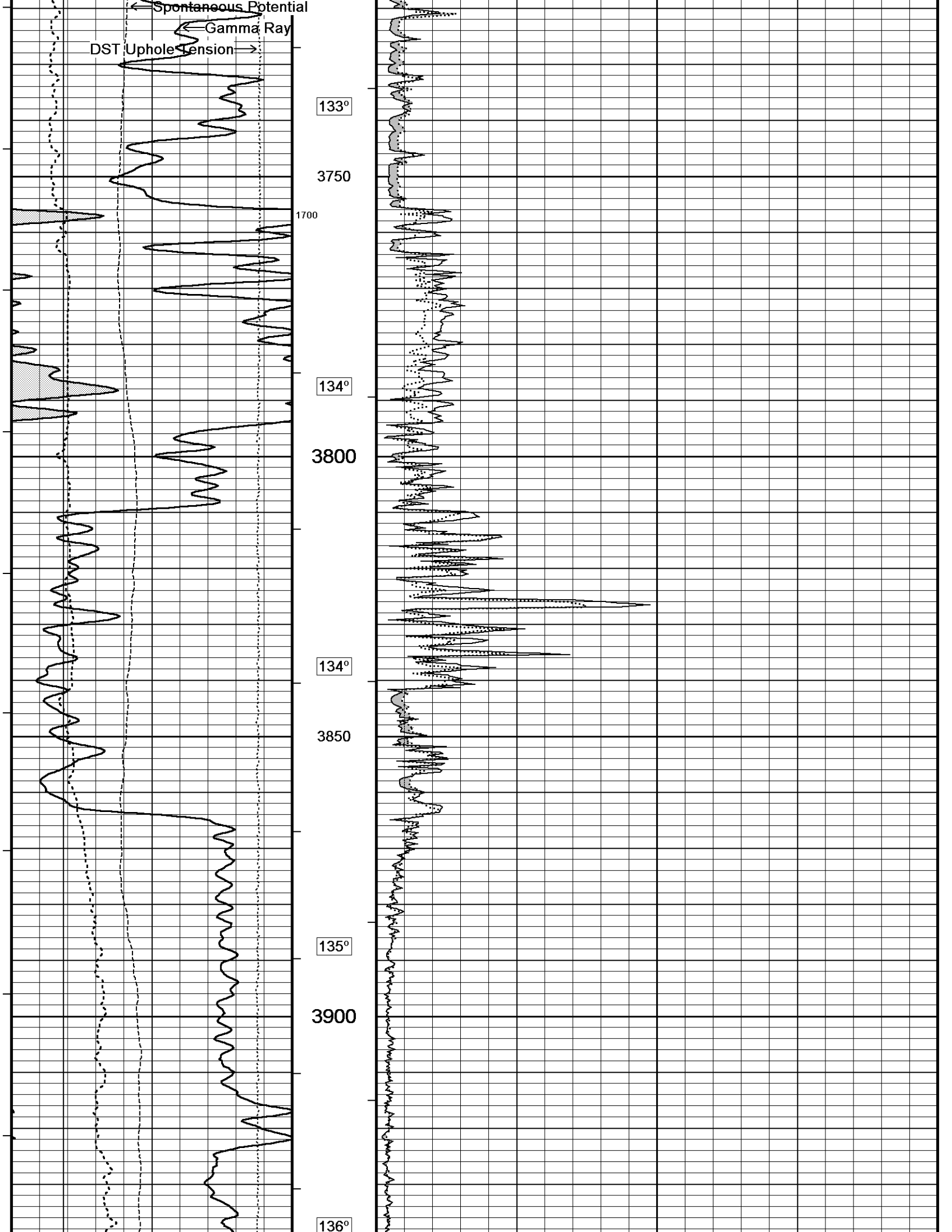
5 INCH MAIN

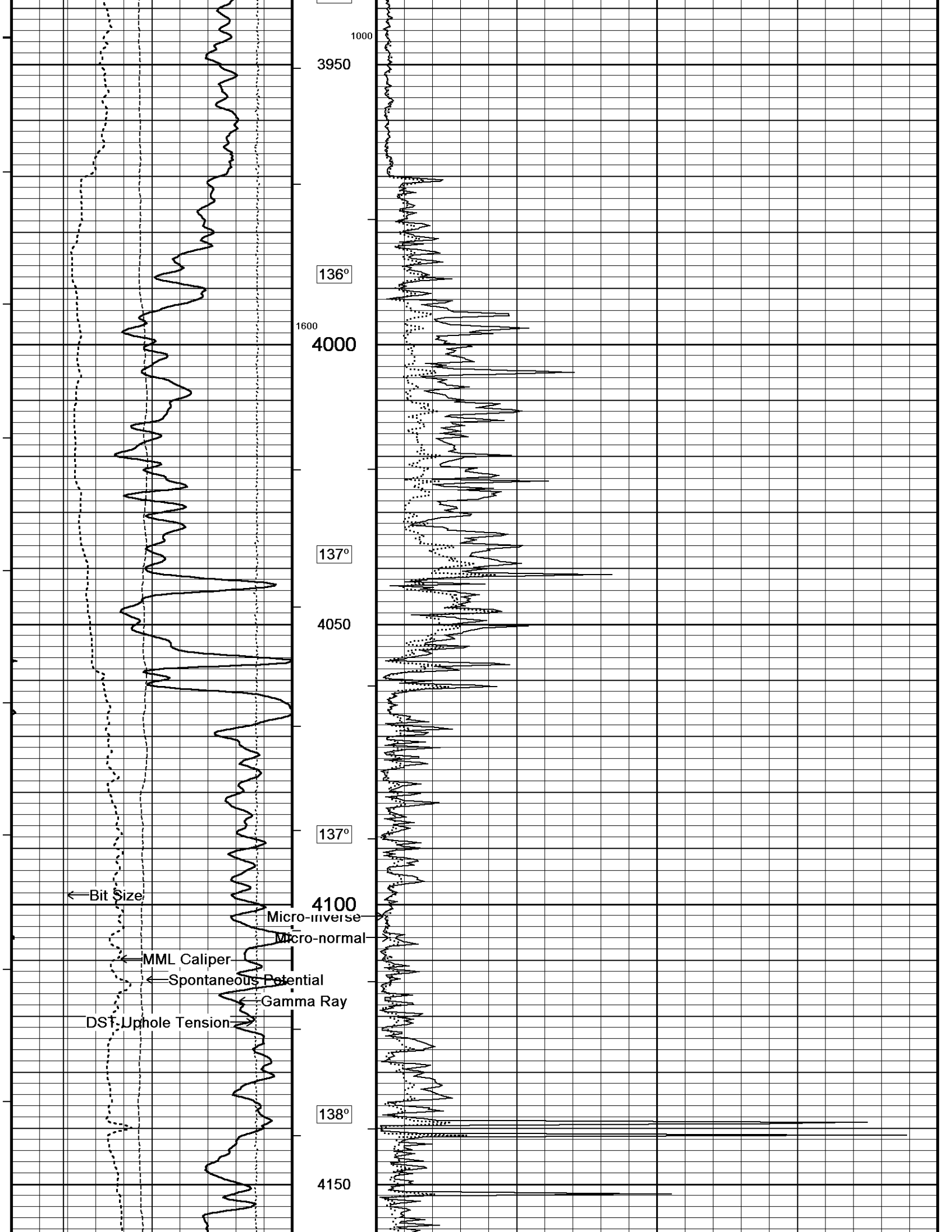
Depth Based Data - Maximum Sampling Increment 10.0cm
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System Versions: Logged with 13.05.9583 Processed with 13.05.9583 Plotted with 13.05.9583

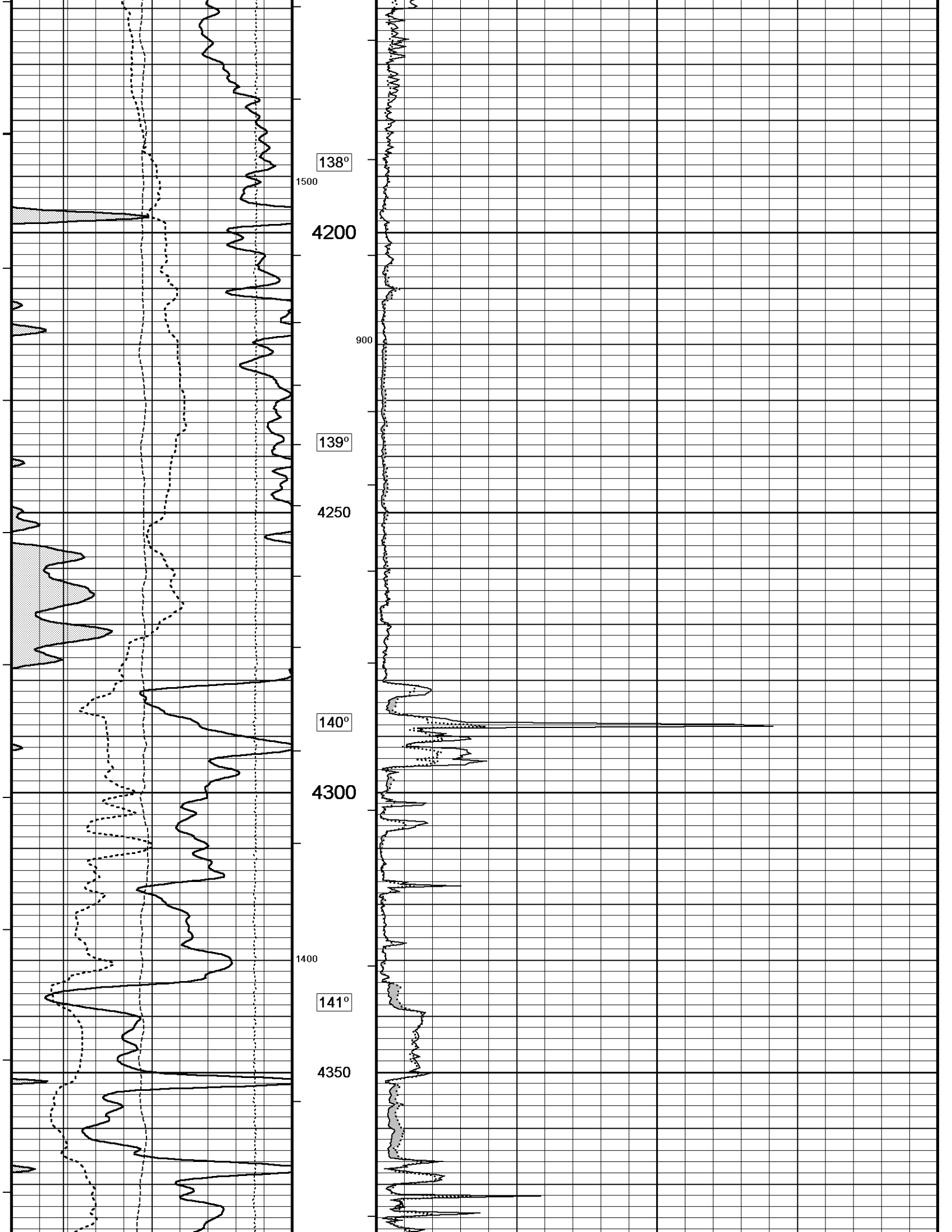
Depth

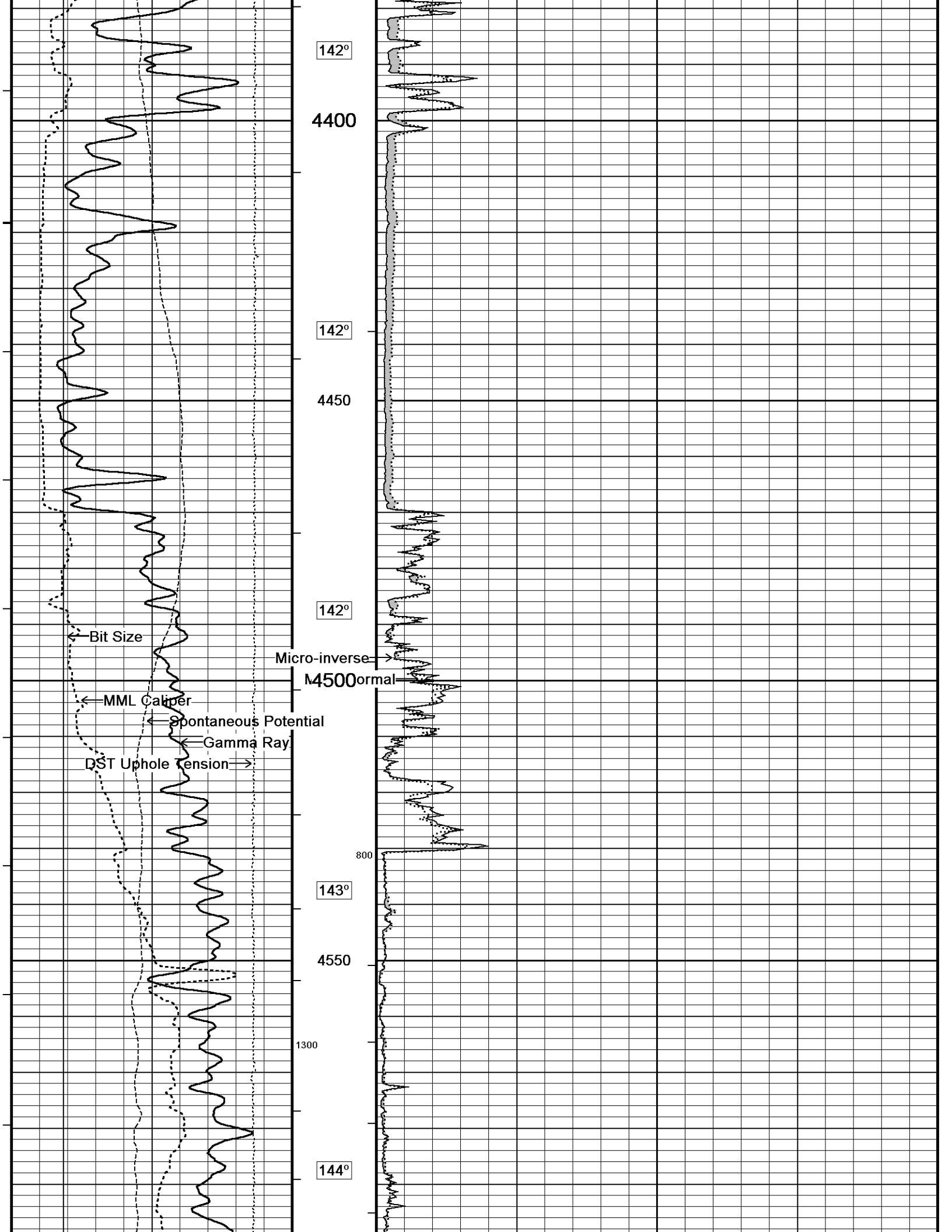


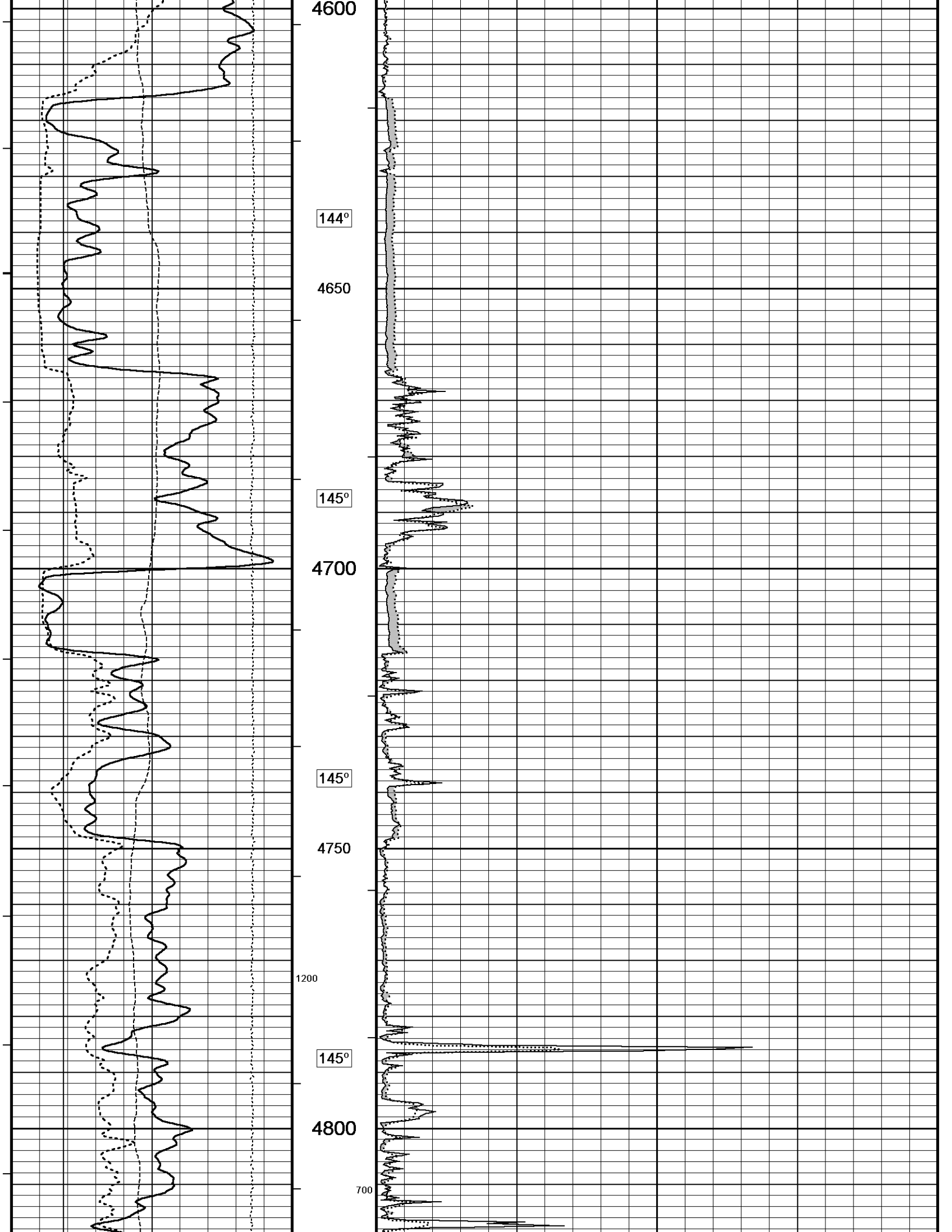


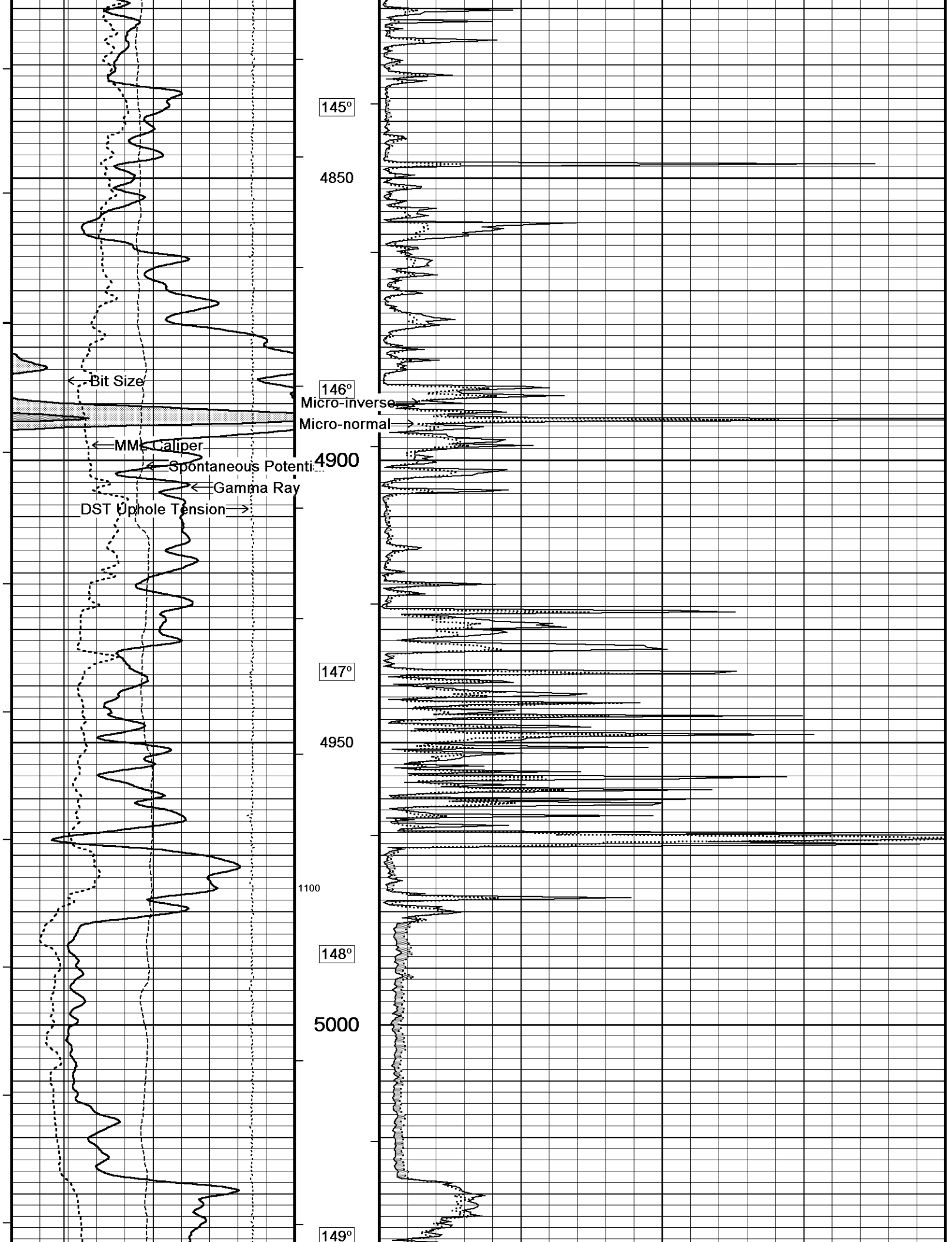


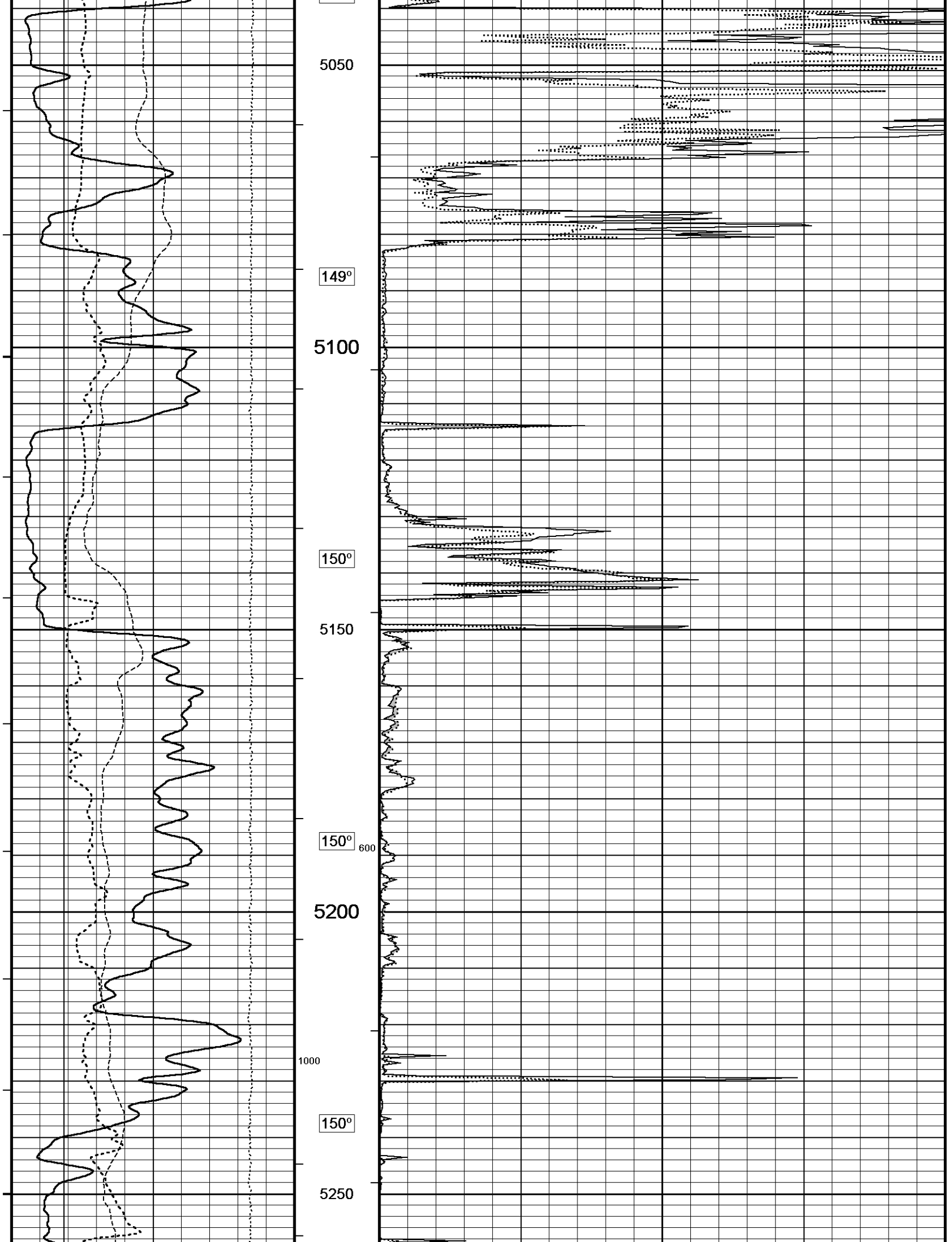


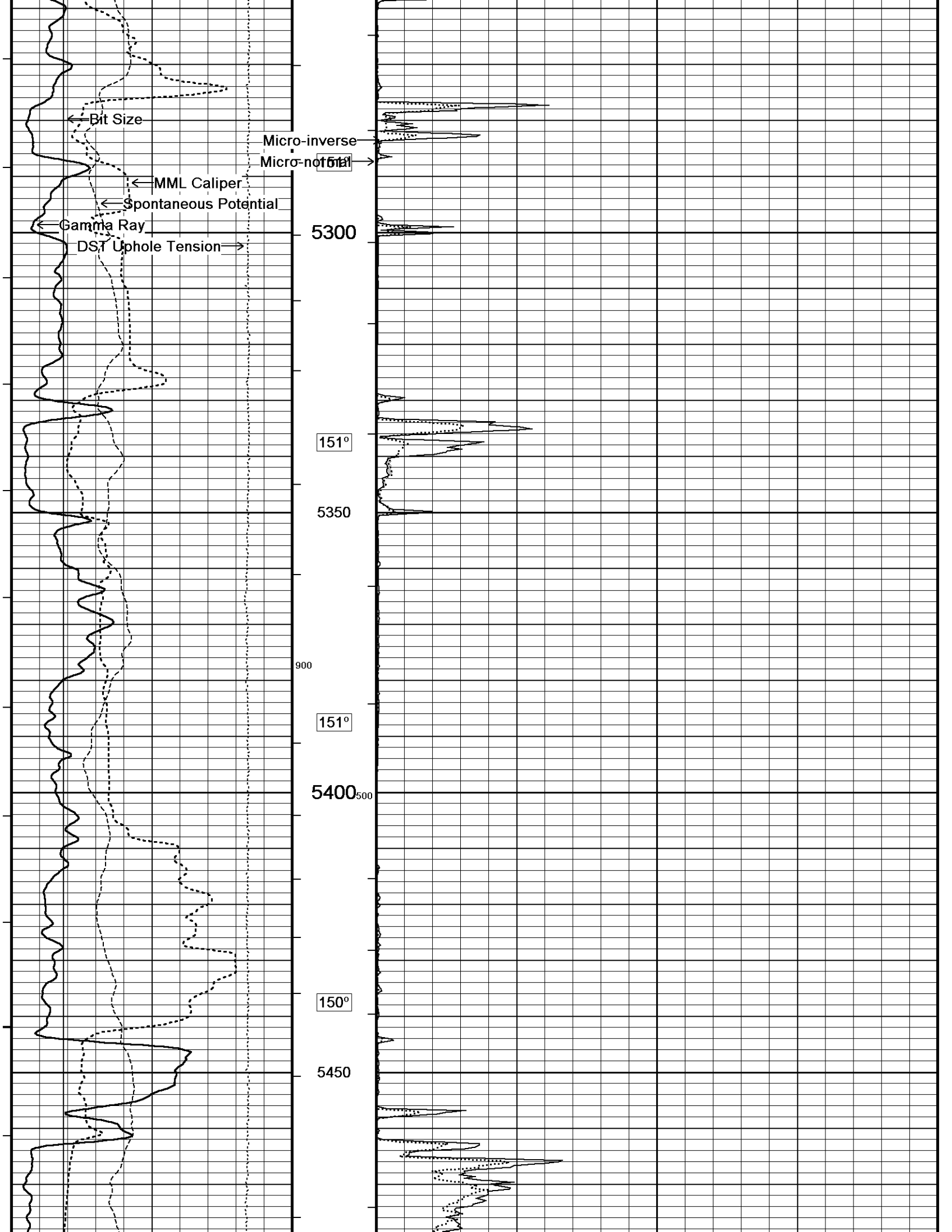


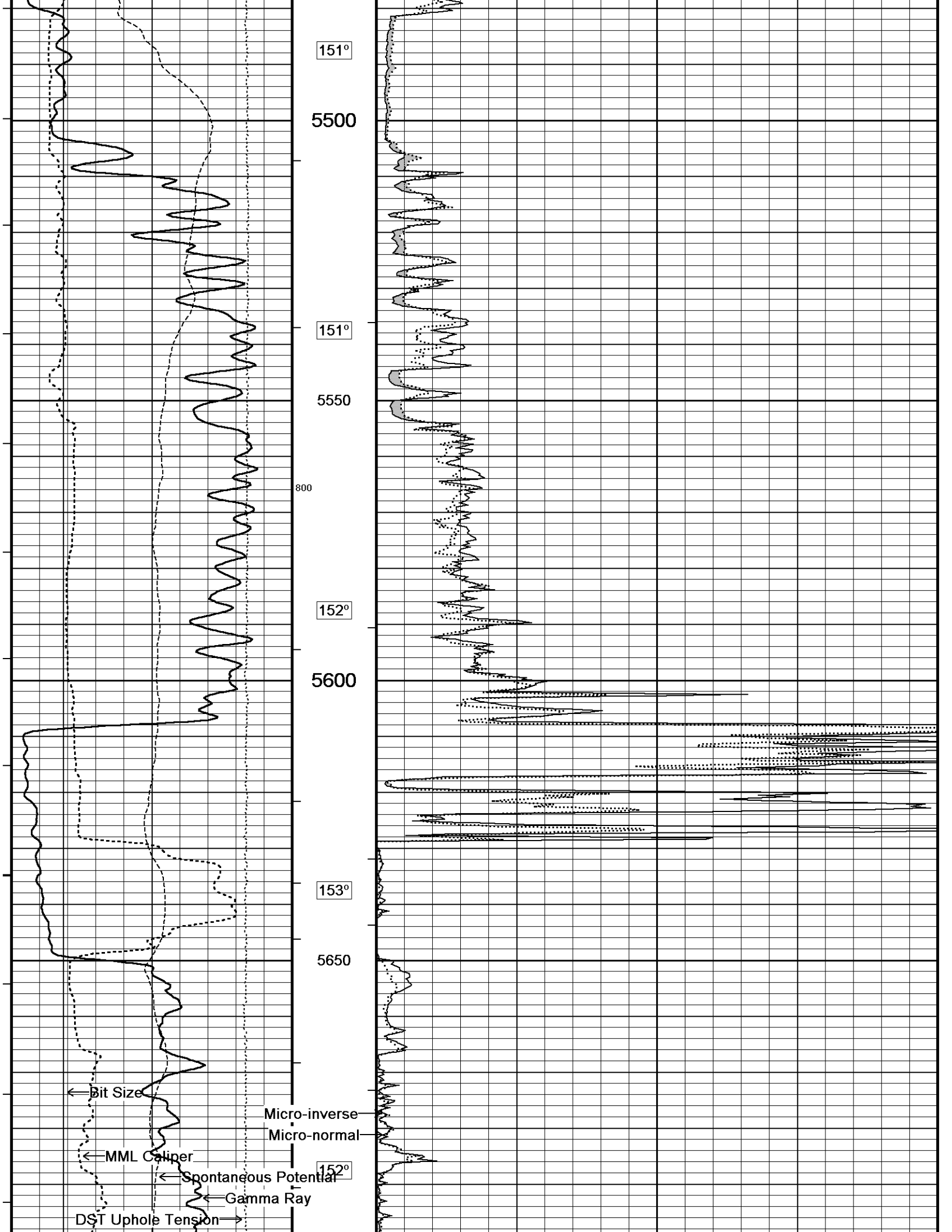


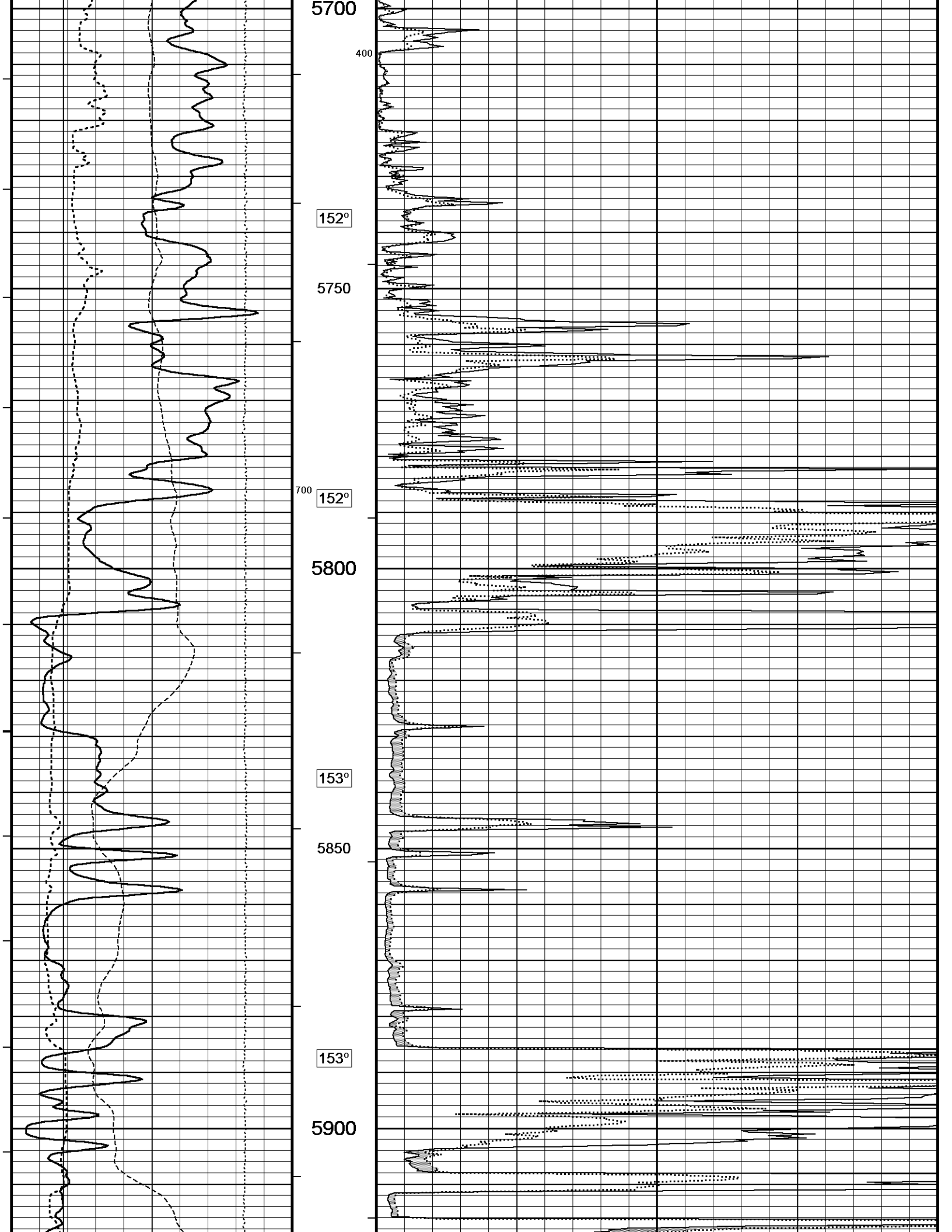


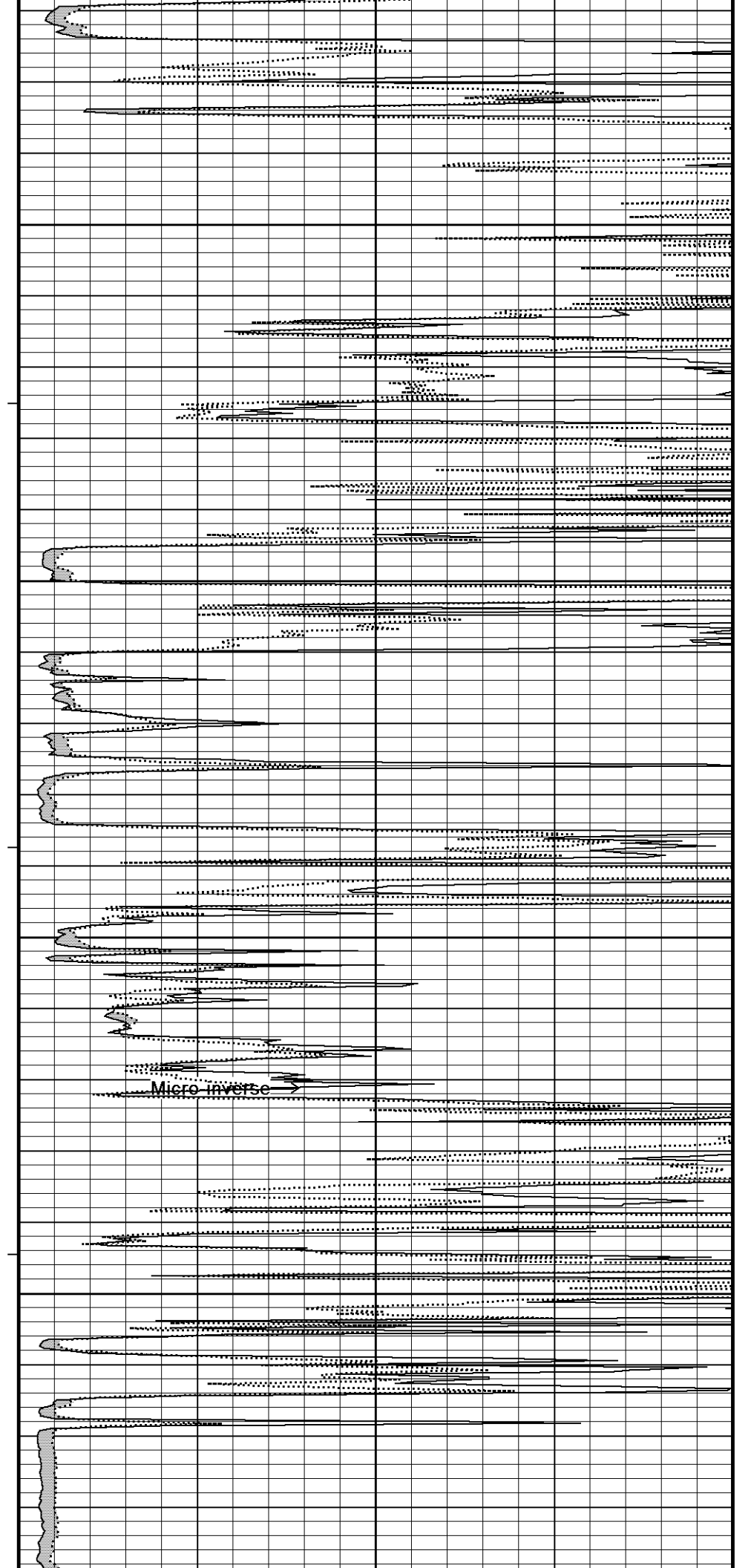
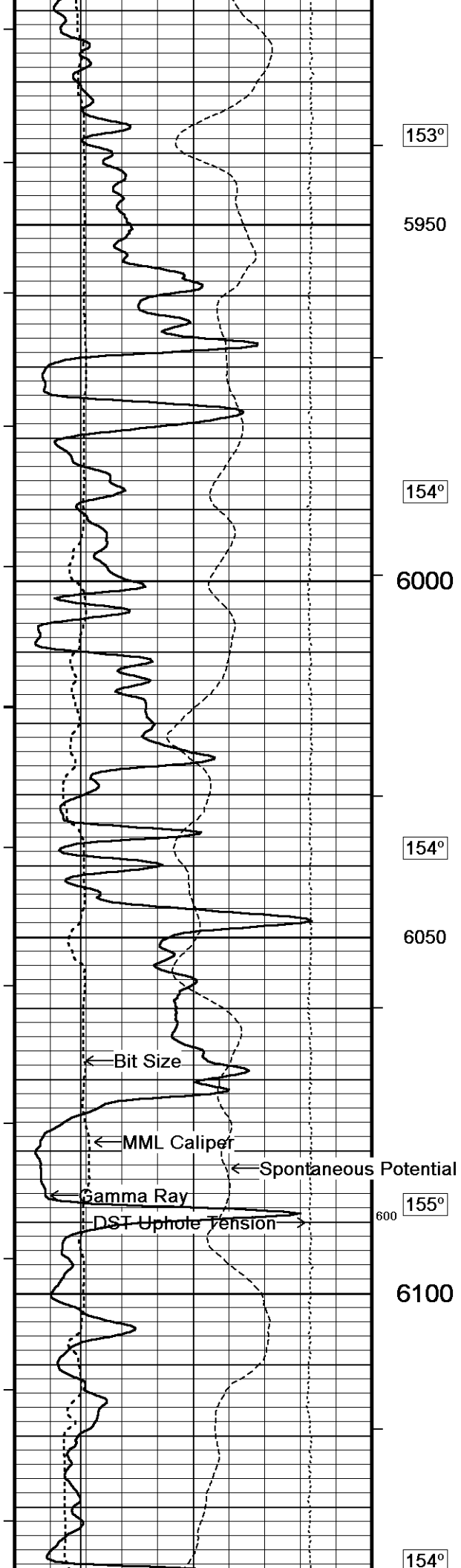


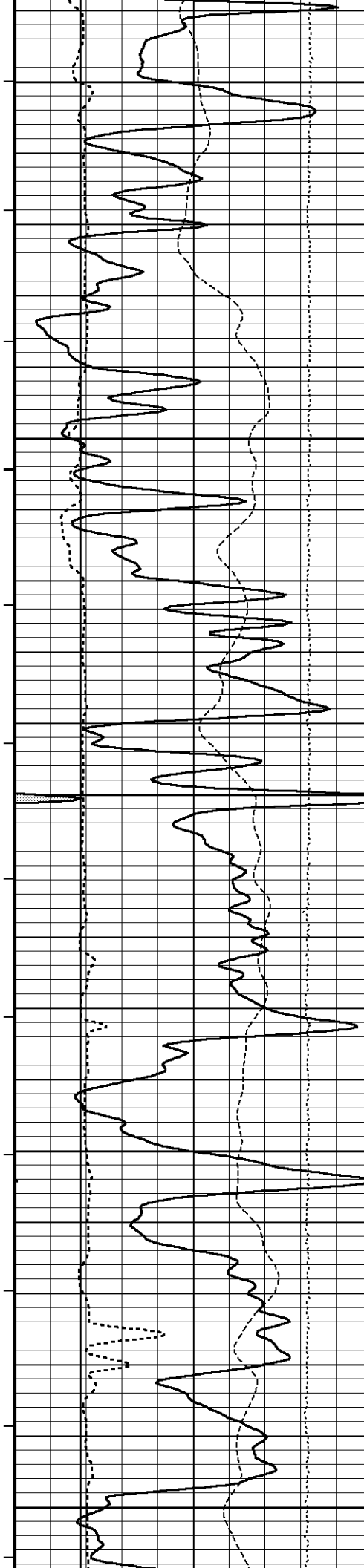












6150

154°

6200

154°

6250

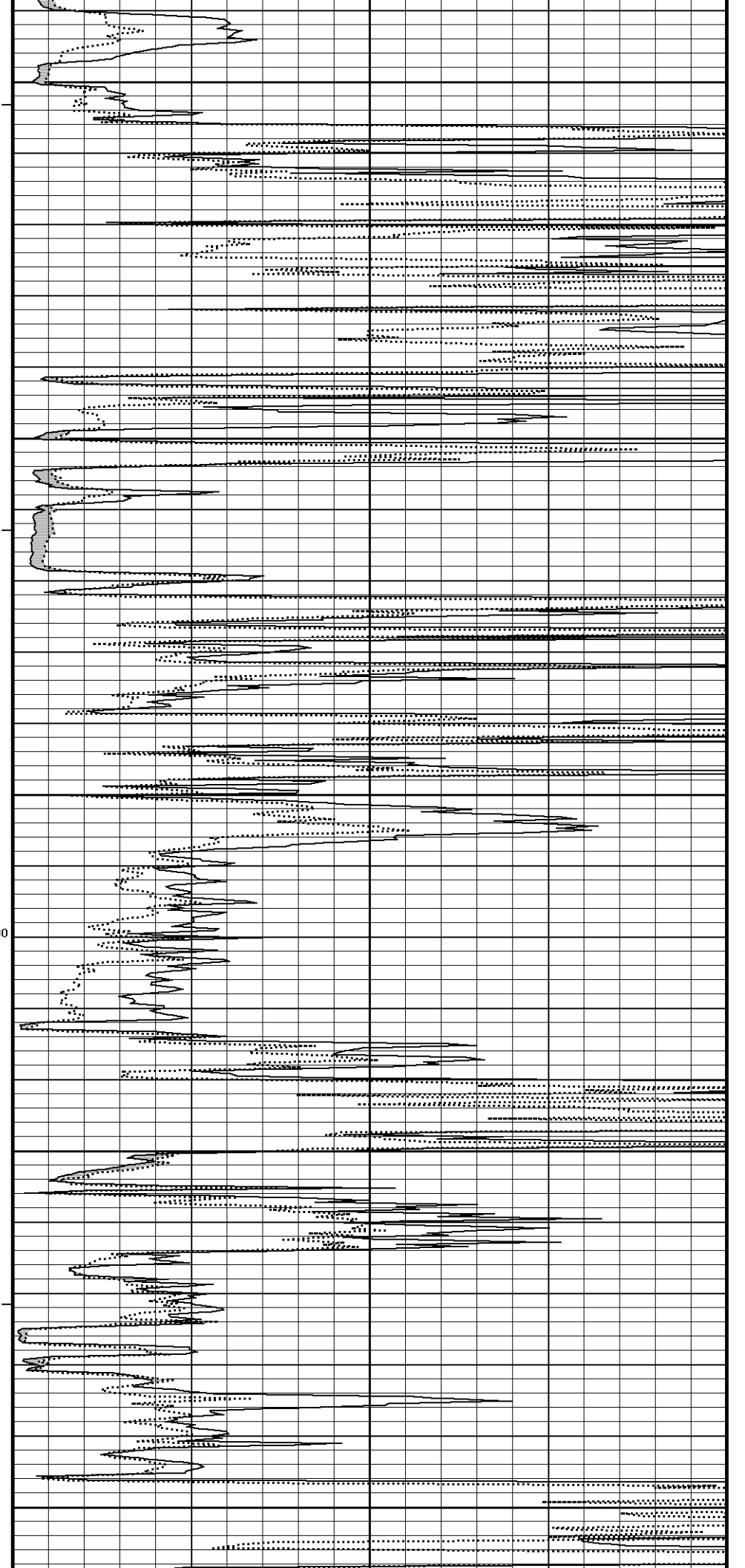
300

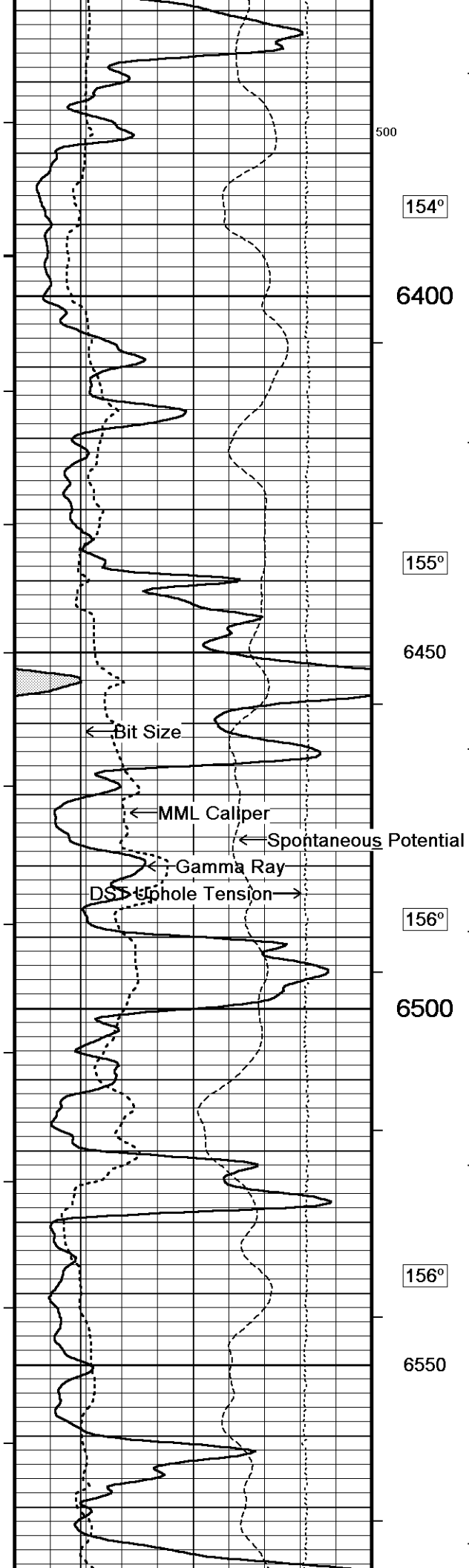
154°

6300

154°

6350





154°

6400

155°

6450

Micro-inverse

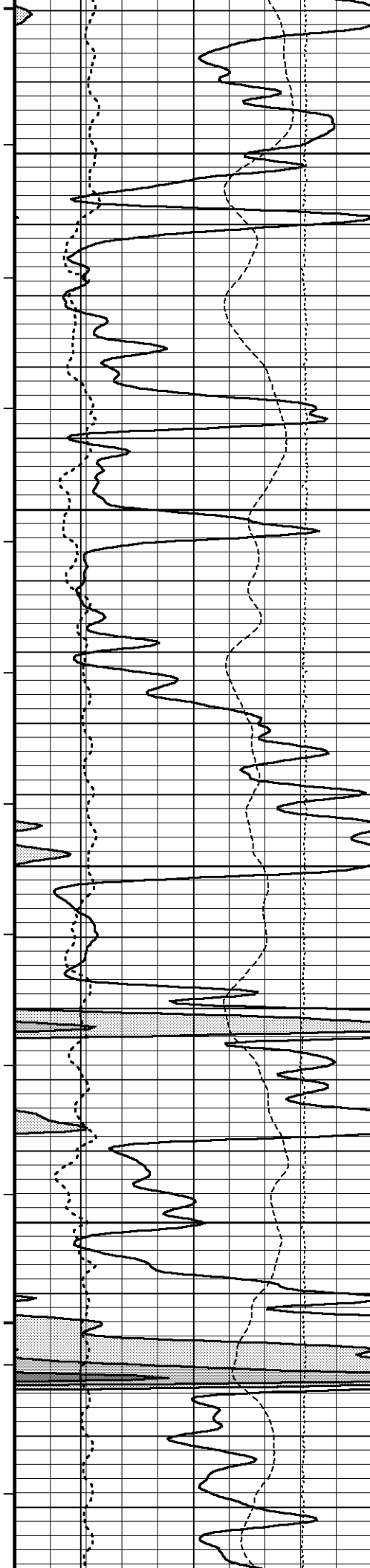
Micro-normal

156°

6500

156°

6550



158°

6600

400

160°

6650

160°

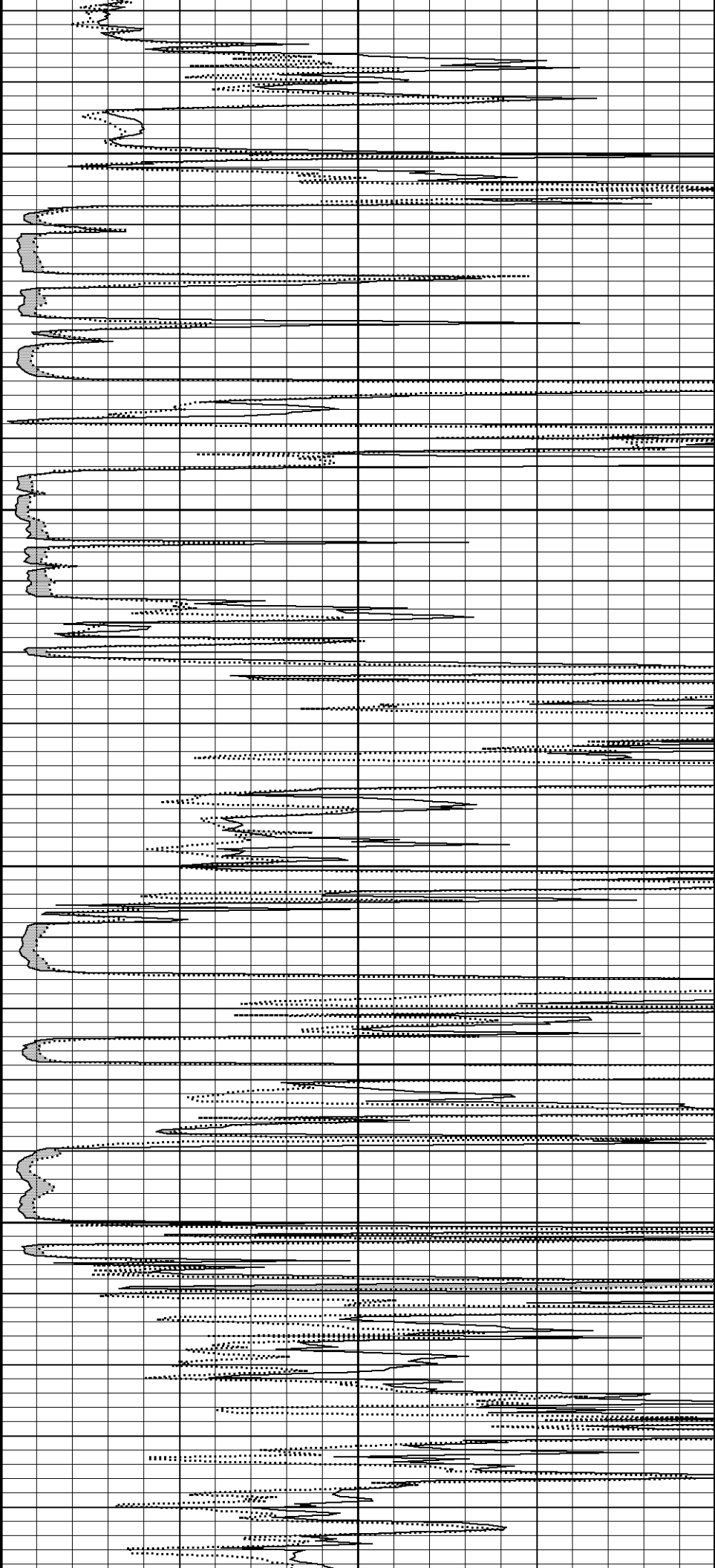
6700

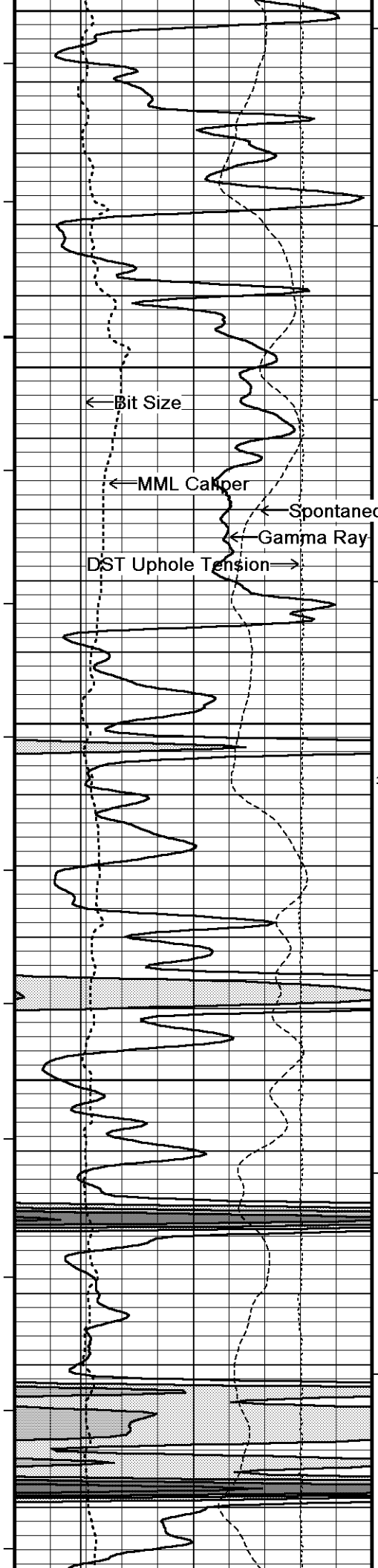
160°

200

6750

161°





6800

161°

6850

Micro-inverse
Micro-normal

161°

6900

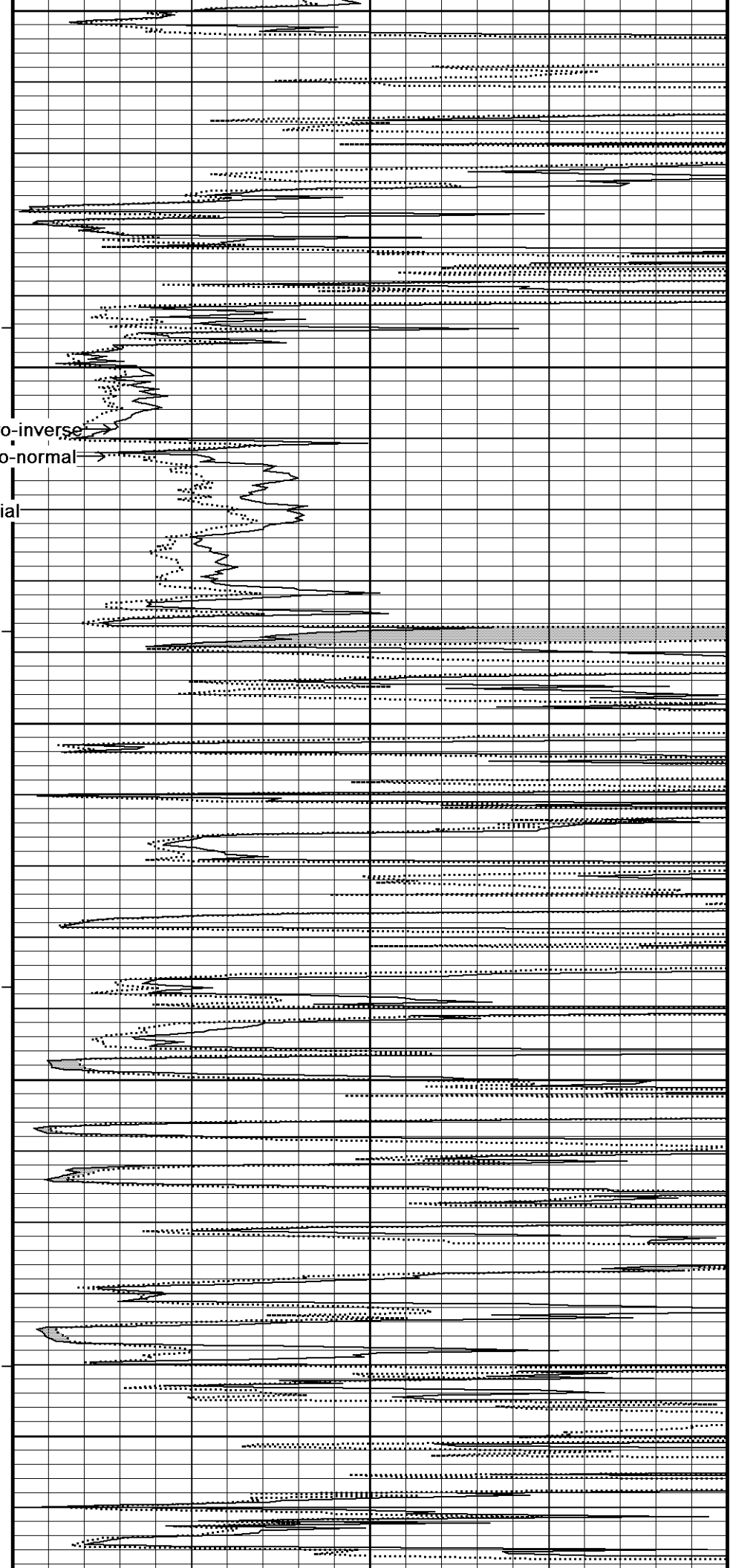
300

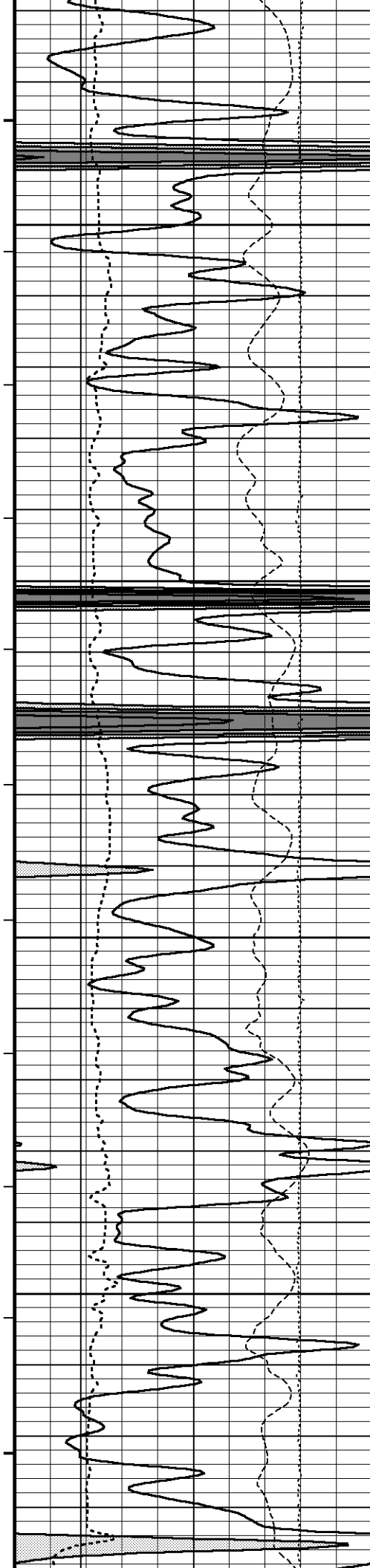
161°

6950

161°

7000





161°

7050

161°

7100

160°

7150

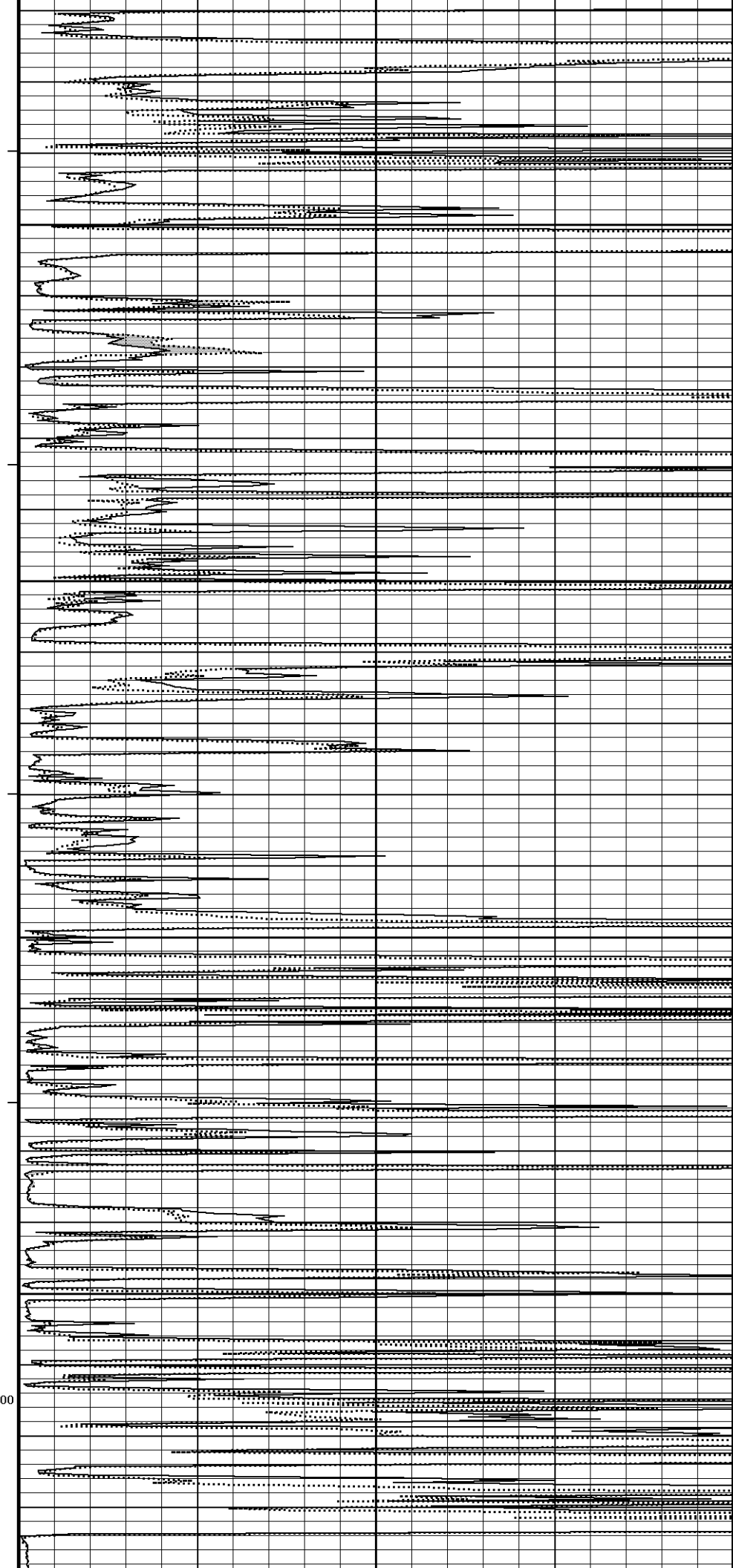
200

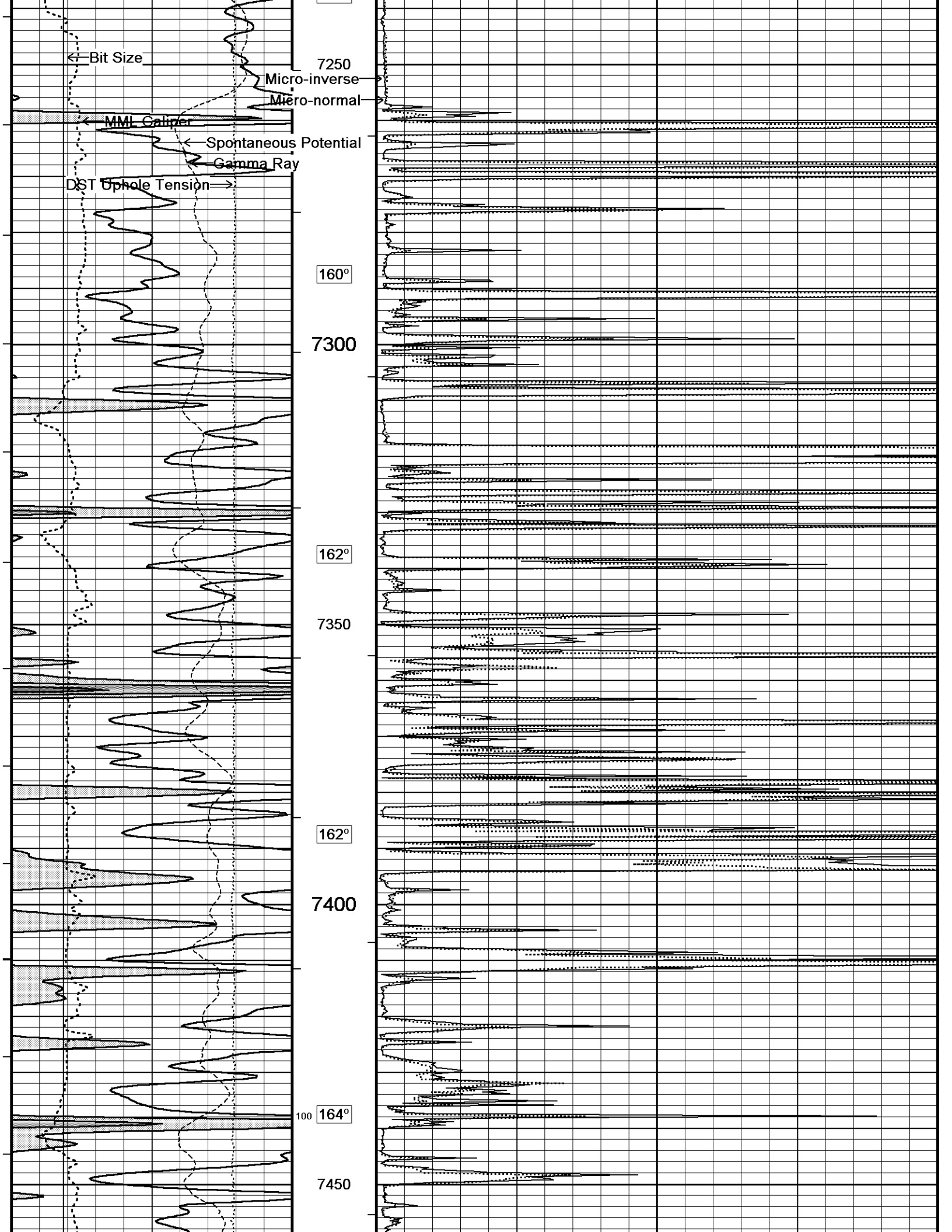
160°

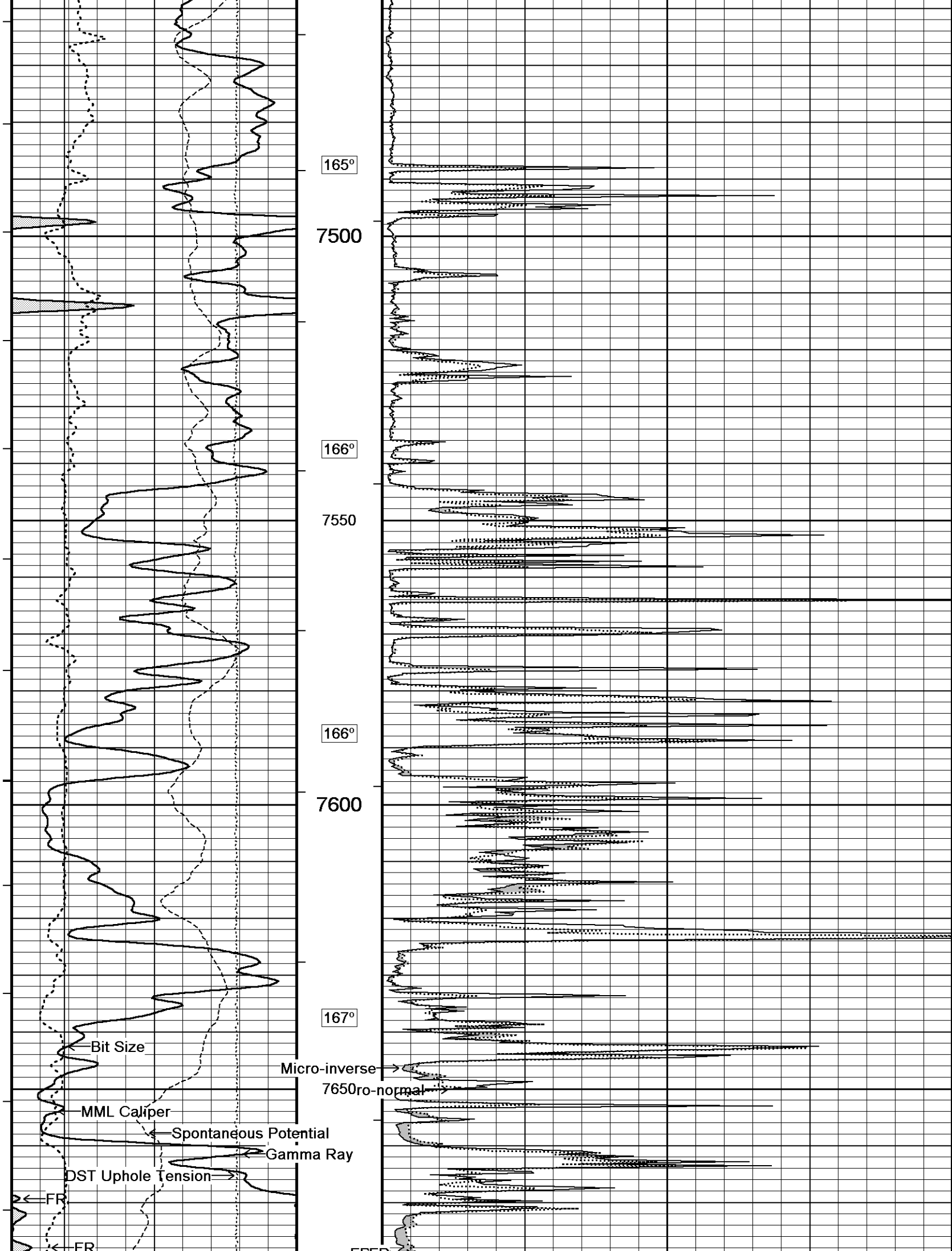
7200

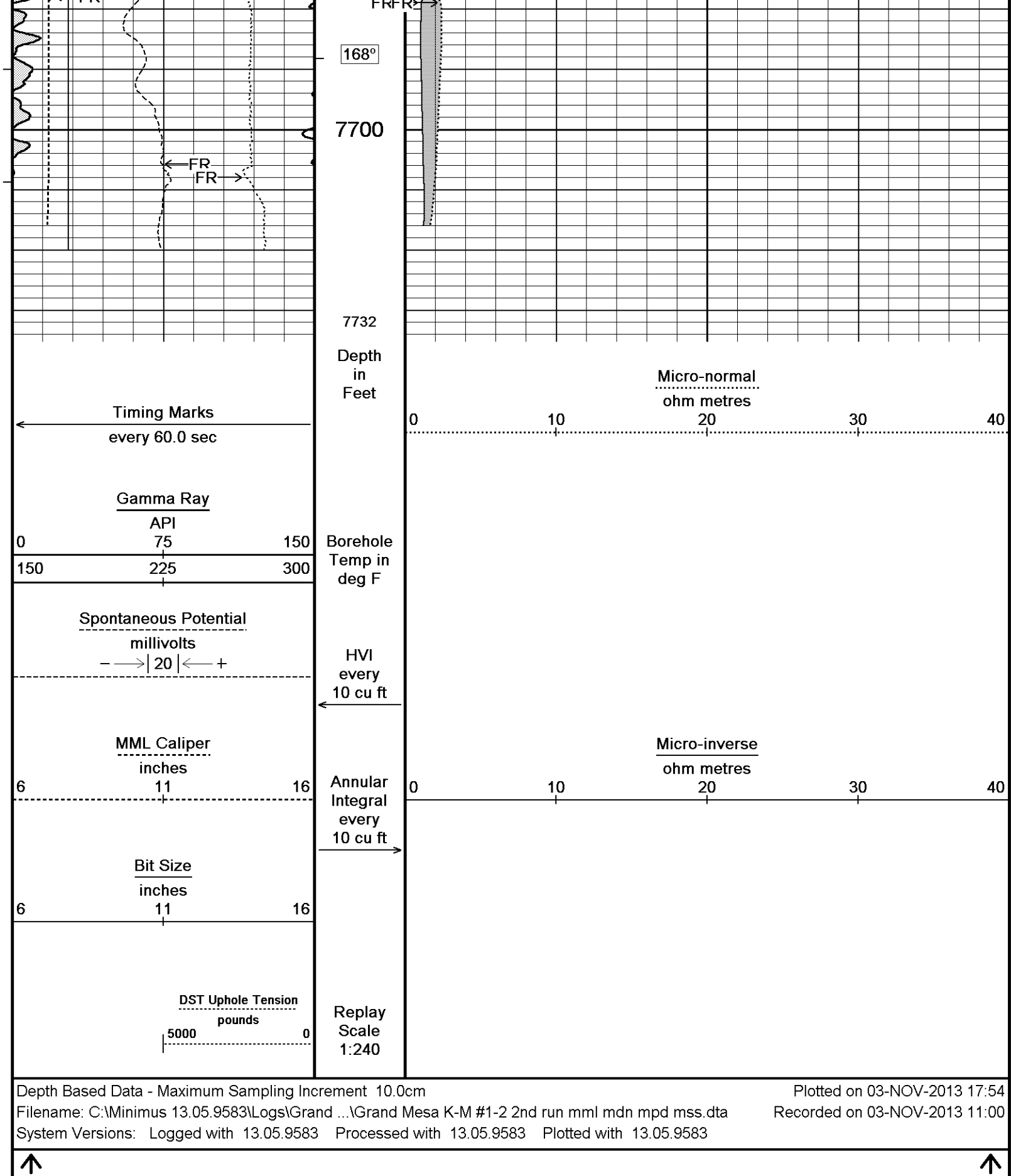
100

160°

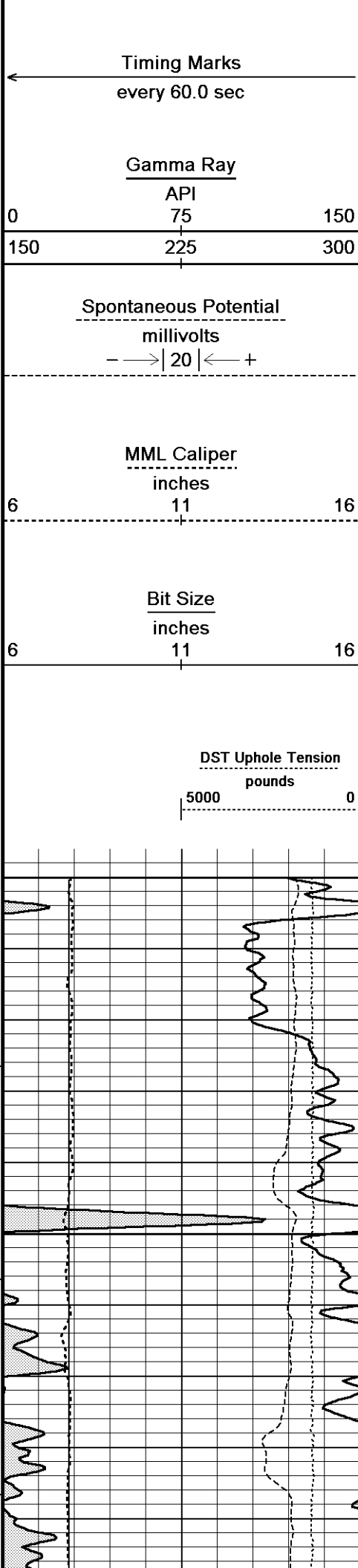








Depth



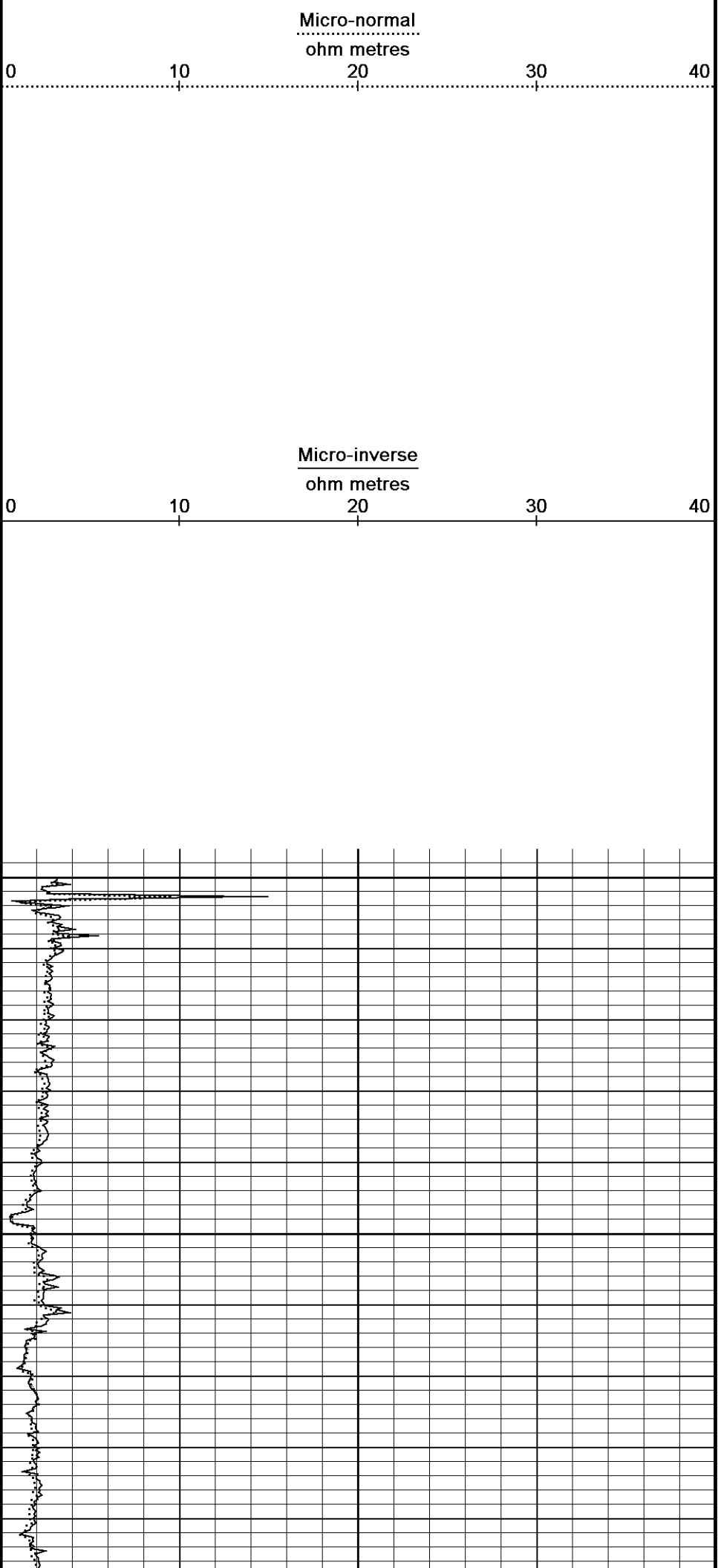
Depth
in
Feet

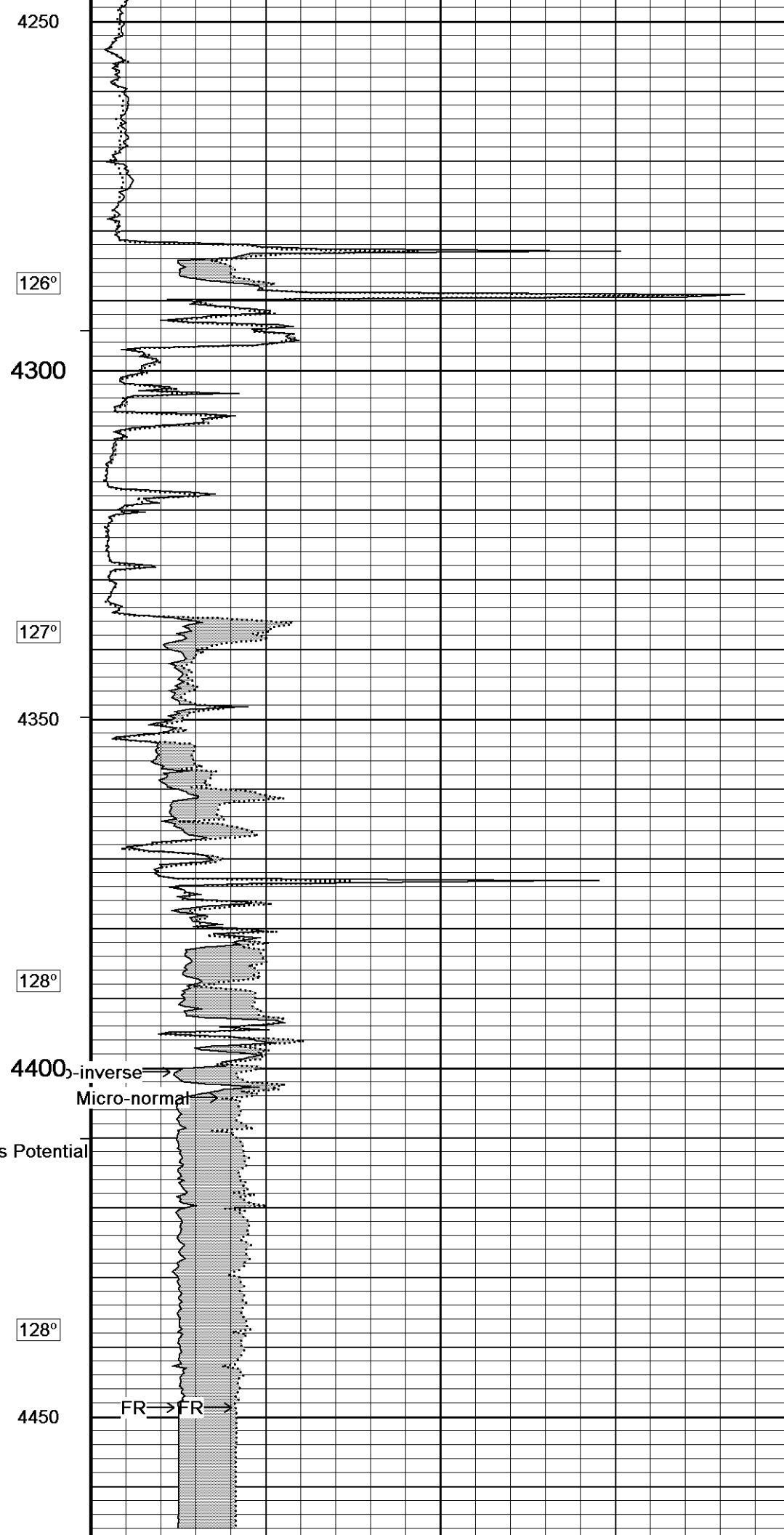
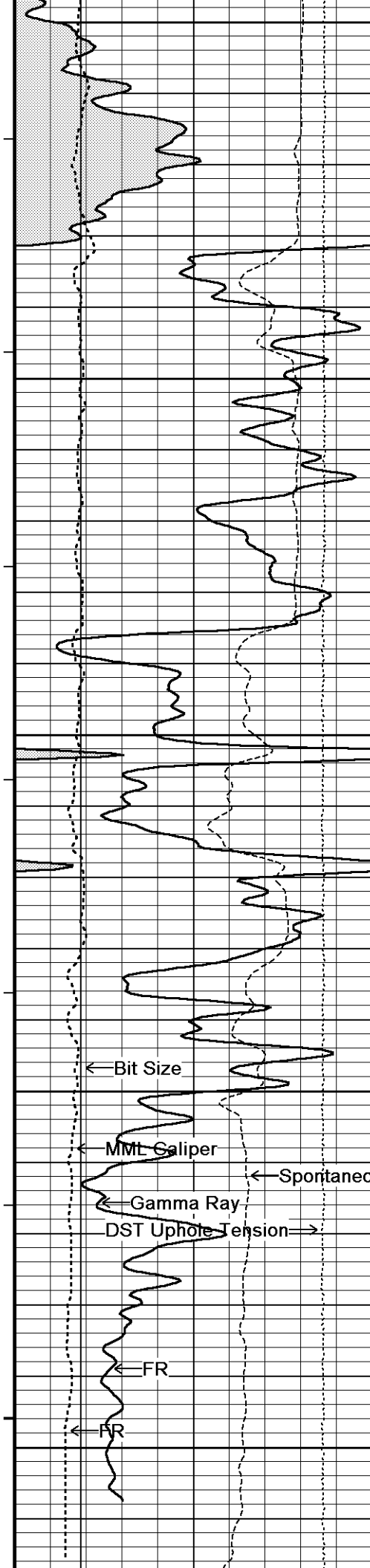
Borehole
Temp in
deg F

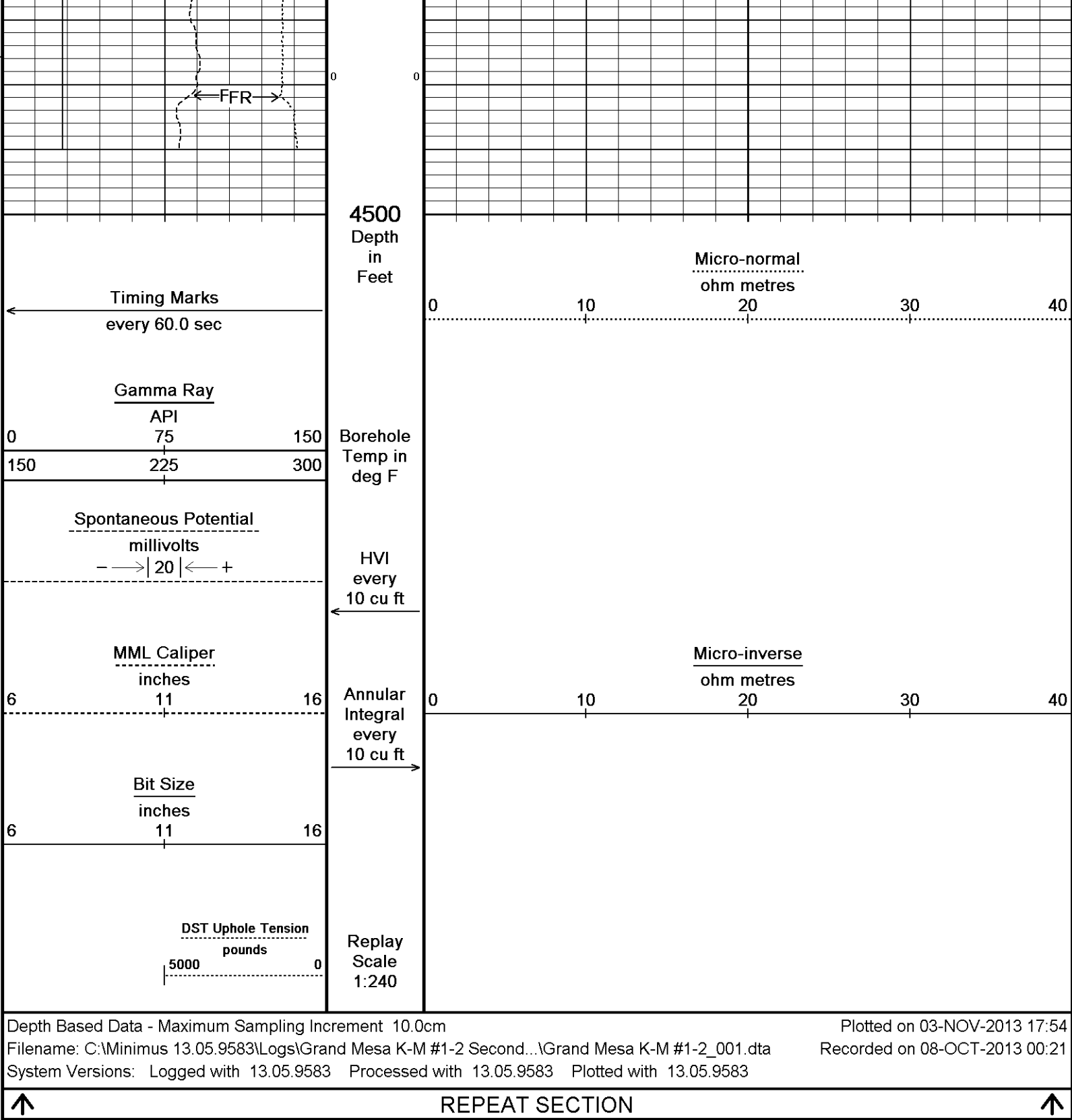
HVI
every
10 cu ft

Annular
Integral
every
10 cu ft

Replay
Scale
1:240







| BEFORE SURVEY CALIBRATION | | |
|---|----------------|----------------------------------|
| C:\Minimus 13.05.9583\Logs\Grand Mesa K-M #1-2 Second Run\K-M #1-2 First Run data\Grand Mesa K-M #1-2_002.dta | | |
| General Constants All 000 | | Last Edited on 07-OCT-2013,23:46 |
| General Parameters | | |
| Mud Resistivity | 2.340 | ohm-metres |
| Mud Resistivity Temperature | 75.000 | 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 | 5.500 | inches |
| Caliper for Differential Caliper | Density Caliper | |
| Rwa Parameters | | |
| Porosity used | Base Density Porosity | |
| Resistivity used | Array Ind. Six Res Rt | |
| RWA Constant A | 0.610 | |
| RWA Constant M | 2.150 | |
| SW/APOR Tool Source | 0.000 | |

| | | |
|-------------------------------|----------|--|
| Gamma Calibration MCG-D.K 469 | | Field Calibration on 01-OCT-2013 14:45 |
| | Measured | Calibrated (API) |
| Background | 67 | 45 |
| Calibrator (Gross) | 1147 | 770 |
| Calibrator (Net) | 1079 | 725 |

| | | |
|-------------------------------|-----------------|----------------------------------|
| Gamma Constants MCG-D.K 469 | | Last Edited on 07-OCT-2013,21:36 |
| Gamma Calibrator Number | GRC38 | |
| Mud Density | 1.11 | gm/cc |
| Caliper Source for Processing | Density Caliper | |
| Tool Position | Eccentred | |
| Concentration of KCl | | kppm |
| K Mud Type | Chloride | |
| K Mud Concentration | 0.00 | % |

| | | |
|---|----------|--|
| High Resolution Temperature Calibration MCG-D.K 469 | | Field Calibration on 18-AUG-2013,02:35 |
| | Measured | Calibrated(Deg F) |
| Lower | 50.00 | 50.00 |
| Upper | 100.00 | 100.00 |

| | | |
|---|----|----------------------------------|
| High Resolution Temperature Constants MCG-D.K 469 | | Last Edited on 18-AUG-2013,02:35 |
| Pre-filter Length | 11 | |

| | | |
|-----------------------------|-----------------------|--|
| Caliper Calibration MML-A 3 | | Base Calibration on 07-OCT-2013 08:47 |
| | | Field Calibration on 07-OCT-2013 08:49 |
| Base Calibration | | |
| Reading No | Measured | Calibrator Size (in) |
| 1 | 14962 | 5.98 |
| 2 | 18212 | 7.97 |
| 3 | 21407 | 9.86 |
| 4 | 25492 | 11.92 |
| 5 | 0 | 0.00 |
| 6 | N/A | N/A |
| Field Calibration | | |
| | Measured Caliper (in) | Actual Caliper (in) |
| | 6.00 | 5.98 |

| | | |
|--|-----------------------|---------------------------------------|
| Micro Normal and Micro Inverse Calibration MML-A 3 | | Base Calibration on 07-OCT-2013 08:36 |
| | | Field Check on 07-OCT-2013 08:38 |
| Base Calibration | | |
| | Measured | Calibrated (ohm-m) |
| Channel | Resistor 1 Resistor 2 | Resistor 1 Resistor 2 |
| Micro Normal | 12.1 60.1 | 5.0 25.0 |
| Micro Inverse | 15.7 78.4 | 5.0 25.0 |
| Channel | Base Check (ohm-m) | Field Check (ohm-m) |
| Micro Normal | 63.0 | 63.0 |
| Micro Inverse | 48.2 | 48.2 |

| | | |
|--|---|----------------------------------|
| Micro Normal and Micro Inverse Constants MML-A 3 | | Last Edited on 07-OCT-2013,08:33 |
| Pad Type | 8-12 in Soft Rubber Inflatable 006-9011-159 | |
| Micro Normal K Factor | 1.0000 | |
| Micro Inverse K Factor | 1.0000 | |
| Standoff Offset | N/A | inches |

| | | |
|-----------------------------|--|---------------------------------------|
| Caliper Calibration MML-A 3 | | Base Calibration on 07-OCT-2013 08:47 |
|-----------------------------|--|---------------------------------------|

Base Calibration

| Reading No | Measured | Calibrator Size (in) |
|------------|----------|----------------------|
| 1 | 16381 | 3.99 |
| 2 | 25151 | 5.98 |
| 3 | 33629 | 7.97 |
| 4 | 41918 | 9.86 |
| 5 | 51268 | 11.92 |
| 6 | N/A | N/A |

Field Calibration

| Measured Caliper (in) | Actual Caliper (in) |
|-----------------------|---------------------|
| 5.96 | 5.98 |

DOWNHOLE EQUIPMENT

C:\Minimus 13.05.9583\Logs\Grand Mesa K-M #1-2 Second Run\K-M #1-2 First Run data\Grand Mesa K-M #1-2_002.dta

3/8" Triple Cone Cable Head (MCB C A)

MCB-C.A 5 LG: 1.58 ft WT: 15.4 lb OD: 2.24 in

Compact Comms Gamma

MCG-D.K 469 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Compact Micro-log

MML-A 3 LG: 7.97 ft WT: 81.6 lb OD: 2.24 in

Compact Neutron

MDN-A.B 66 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

Compact Density/Caliper

MPD-B 64 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

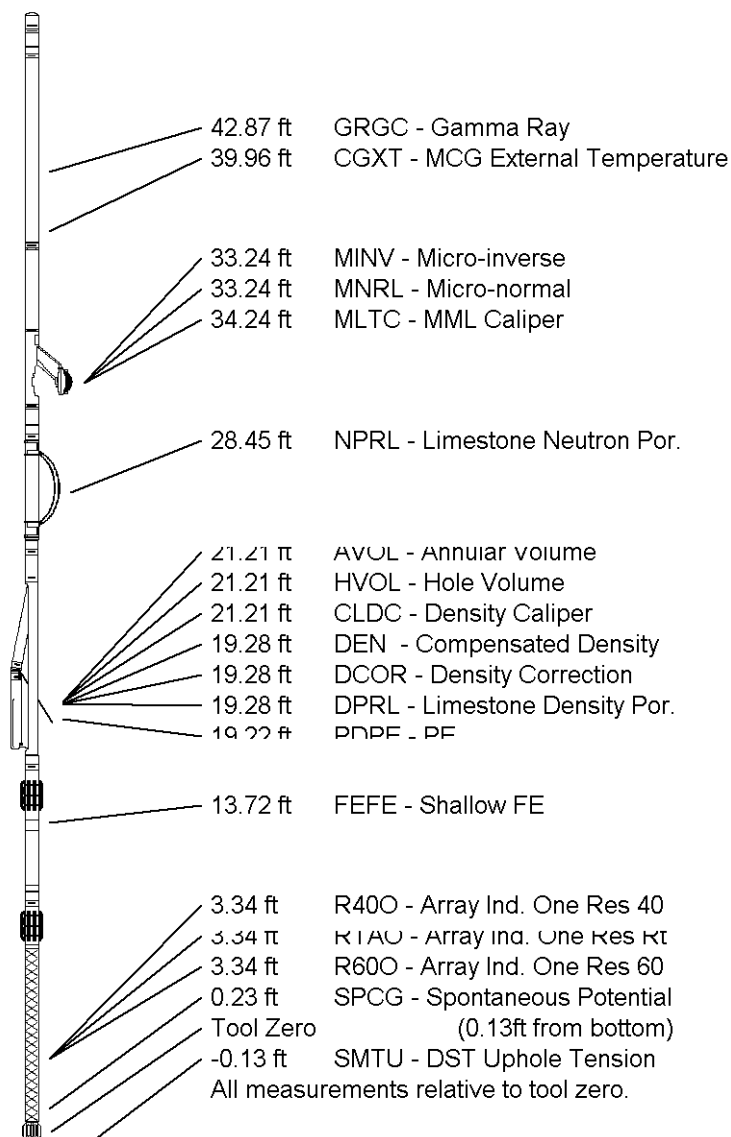
Compact Focussed Electric

MFE-B.J 353 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

Compact Induction

MAI-A.A 167 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

Total Length: 49.73 ft Weight: 399.0 lb



BEFORE SURVEY CALIBRATION

C:\Minimus 13.05.9583\Logs\Grand Mesa K-M #1-2 Second Run\K-M #1-2 F...Grand Mesa K-M #1-2 2nd run mml mdn mpd mss.dta

General Constants All 000

Last Edited on 03-NOV-2013,17:19

General Parameters

| | | |
|------------------------------|----------|------------|
| Mud Resistivity | 2.340 | ohm-metres |
| Mud Resistivity Temperature | 75.000 | degrees F |
| Water Level | 0.000 | feet |
| Perforation 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 | 5.500 | inches |
| Caliper for Differential Caliper | None | |

Rwa Parameters

| | |
|---------------------|-----|
| Porosity used | N/A |
| Resistivity used | N/A |
| RWA Constant A | N/A |
| RWA Constant M | N/A |
| SW/APOR Tool Source | |

Down-hole Tension Calibration SMS 0

Field Calibration on 03-NOV-2013 09:42

| Reading No | Measured | Calibrated (lbs) |
|------------|----------|------------------|
| 1 | 14752.95 | 0.00 |
| 2 | 15333.97 | 374.80 |

Gamma Calibration MCG-C 208

Field Calibration on 09-JUL-2013 07:32

| | Measured | Calibrated (API) |
|--------------------|----------|------------------|
| Background | 68 | 46 |
| Calibrator (Gross) | 1134 | 771 |
| Calibrator (Net) | 1066 | 725 |

Gamma Constants MCG-C 208

Last Edited on 09-JUL-2013,11:50

| | | |
|-------------------------------|-----------------|-------|
| Gamma Calibrator Number | GRC038 | |
| Mud Density | 1.08 | gm/cc |
| Caliper Source for Processing | Density Caliper | |
| Tool Position | Eccentred | |
| Concentration of KCl | | kppm |
| K Mud Type | Chloride | |
| K Mud Concentration | 0.00 | % |

SP Calibration MCG-C 208

Field Calibration on 12-JUN-2013,14:40

| | Measured | Calibrated (mV) |
|-------------|----------|-----------------|
| Reference 1 | 100.1 | 100.0 |
| Reference 2 | -100.5 | -100.0 |

High Resolution Temperature Calibration MCG-C 208

Field Calibration on 12-JUN-2013,14:22

| | Measured | Calibrated(Deg F) |
|-------|----------|-------------------|
| Lower | 50.00 | 50.00 |
| Upper | 75.00 | 75.00 |

High Resolution Temperature Constants MCG-C 208

Last Edited on 23-AUG-2013,11:59

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

Caliper Calibration MML-A 16

Base Calibration on 11-OCT-2013 14:20

Field Calibration on 29-OCT-2013 10:14

| Base Calibration | | |
|------------------|----------|----------------------|
| Reading No | Measured | Calibrator Size (in) |
| 1 | 13890 | 5.98 |
| 2 | 17012 | 7.97 |
| 3 | 20232 | 9.86 |
| 4 | 24164 | 11.92 |
| 5 | 0 | 0.00 |
| 6 | N/A | N/A |

Field Calibration

| Measured Caliper (in) | Actual Caliper (in) |
|-----------------------|---------------------|
| 7.99 | 7.97 |

Micro Normal and Micro Inverse Calibration MML-A 16

Base Calibration on 11-OCT-2013 14:03

Field Check on 29-OCT-2013 10:15

| | | |
|------------------|----------|--------------------|
| Base Calibration | | |
| | Measured | Calibrated (ohm-m) |

| | | | | |
|---------------|--------------------|------------|---------------------|------------|
| Channel | Resistor 1 | Resistor 2 | Resistor 1 | Resistor 2 |
| Micro Normal | 12.2 | 60.2 | 5.0 | 25.0 |
| Micro Inverse | 15.6 | 78.3 | 5.0 | 25.0 |
| Channel | Base Check (ohm-m) | | Field Check (ohm-m) | |
| Micro Normal | 62.9 | | 62.9 | |
| Micro Inverse | 48.3 | | 48.3 | |

| | | | | |
|---|---|--|----------------------------------|--|
| Micro Normal and Micro Inverse Constants MML-A 16 | | | Last Edited on 01-NOV-2013,18:35 | |
| Pad Type | 8-12 in Soft Rubber Inflatable 006-9011-159 | | | |
| Micro Normal K Factor | 1.0000 | | | |
| Micro Inverse K Factor | 1.0000 | | | |
| Standoff Offset | N/A inches | | | |

| | | | | | | |
|---------------------------------|--------|----------|---------------------------------------|------------------|----------------------------------|--|
| Neutron Calibration MDN-B.J 387 | | | Base Calibration on 11-OCT-2013 11:56 | | Field Check on 29-OCT-2013 10:27 | |
| Base Calibration | | | | | | |
| | | Measured | | Calibrated (cps) | | |
| | Near | Far | Near | Far | | |
| | 2939 | 89 | 3714 | 110 | | |
| Ratio | 32.951 | | 33.764 | | | |
| Field Calibrator at Base | | | Calibrated (cps) | | | |
| | | | 1693 | 2506 | | |
| Ratio | 0.676 | | | | | |
| Field Check | | | Calibrated (cps) | | | |
| | | | 0.664 | | | |

| | | | | | | |
|---------------------------------|-----------------|--|----------------------------------|--|--|--|
| Neutron Constants MDN-B.J 387 | | | Last Edited on 01-NOV-2013,18:35 | | | |
| Neutron Source Id | P58125B | | | | | |
| Neutron Jig Number | 5824NE | | | | | |
| 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 | Constant Value | | | | | |
| Temperature | 68.00 | | 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 | | | | | |

| | | | | | | |
|-----------------------------|------------------------|--|----------------------------------|--|--|--|
| Sonic Constants MSS-A.A 126 | | | Last Edited on 16-SEP-2013,03:59 | | | |
| Maximum Boundary Contrast | 100.00 | | micro-sec/ft | | | |
| Fluid Transit Time | 189.00 | | micro-sec/ft | | | |
| Limestone Transit Time | 47.60 | | micro-sec/ft | | | |
| Sandstone Transit Time | 55.50 | | micro-sec/ft | | | |
| Dolomite Transit Time | 43.50 | | micro-sec/ft | | | |
| Sonic used for Porosities | 3-5' Compensated Sonic | | | | | |
| Correction for Sonde Skew | Applied | | | | | |
| Cycle Stretch Algorithm | Applied | | | | | |
| MN3FT | N/A | | micro-sec | | | |
| MX3FT | N/A | | micro-sec | | | |
| Hunt-Raymer Constant | 83.13 | | micro-sec/ft | | | |
| Sonde Mode | Compensated | | | | | |
| Hole Type | Open Hole | | | | | |
| Sonde Parameters | | | | | | |
| | Measured | | Calibrated | | | |
| Offset | N/A | | 0.0000 | | | |

| | | | | | |
|-----------------------|------------------------|-------------------|----------|------------|--------------------|
| Onset | N/A | 0.0000 | | | |
| Free Pipe | N/A | N/A | | | |
| Peak Amplitude Source | | N/A | | | |
| Waveform | Start Time (micro-sec) | Width (micro-sec) | Pre Gain | Start Gain | Discriminator (mV) |
| 3' | N/A | N/A | N/A | N/A | N/A |
| 4' | N/A | N/A | N/A | N/A | N/A |
| 5' | N/A | N/A | N/A | N/A | N/A |
| 6' | N/A | N/A | N/A | N/A | N/A |

Processed Fixed Gate Parameters

| | | | | |
|------------------------------|----------------------|--------------------|-----|-----|
| Waveform Used For Processing | N/A | | | |
| Start Time (micro-sec) | End Time (micro-sec) | Discriminator (mV) | N/A | |
| N/A | N/A | N/A | | N/A |
| N/A | N/A | N/A | | N/A |
| N/A | N/A | N/A | | N/A |
| N/A | N/A | N/A | | N/A |
| N/A | N/A | N/A | | N/A |

Full Waveform Parameters

| | | |
|---------------------------------|-----|-----------|
| Use 3' Waveform to derive TR | N/A | |
| Use 4' Waveform to derive TR | N/A | |
| Use 5' Waveform to derive TR | N/A | |
| Use 6' Waveform to derive TR | N/A | |
| 3' Waveform Discriminator Level | N/A | mV |
| 4' Waveform Discriminator Level | N/A | mV |
| 5' Waveform Discriminator Level | N/A | mV |
| 6' Waveform Discriminator Level | N/A | mV |
| 3' Waveform Filter | N/A | |
| 4' Waveform Filter | N/A | |
| 5' Waveform Filter | N/A | |
| 6' Waveform Filter | N/A | |
| Semblance Level | N/A | |
| Semblance Window Width | N/A | micro-sec |
| Sonic 1 Despiker | N/A | N/A |
| Sonic 2 Despiker | N/A | N/A |

Photo Density Calibration MPD-B 64

Base Calibration on 03-NOV-2013 07:35
Field Check on 03-NOV-2013 07:42

| | | | | |
|---------------------|--------|----------|------------------|-------|
| Density Calibration | | | | |
| Base Calibration | | Measured | Calibrated (sdu) | |
| | Near | Far | Near | Far |
| Reference 1 | 55447 | 28796 | 59556 | 30836 |
| Reference 2 | 22379 | 2604 | 24941 | 2541 |
| Field Check at Base | | | | |
| | 1155.7 | 1343.0 | | |
| Field Check | | | | |
| | 1157.4 | 1343.6 | | |

PE Calibration

| | | | | |
|---------------------|-------|----------|------------|-------|
| Base Calibration | | Measured | Calibrated | |
| | WS | WH | Ratio | Ratio |
| Background | 209 | 1027 | | |
| Reference 1 | 21062 | 55250 | 0.385 | 0.371 |
| Reference 2 | 6079 | 22238 | 0.277 | 0.272 |
| Field Check at Base | | | | |
| | 209.3 | 1026.6 | | |
| Field Check | | | | |
| | 208.2 | 1027.0 | | |

Density Constants MPD-B 64

Last Edited on 03-NOV-2013,06:43

| | |
|-----------------------------|---------|
| Density Source Id | P50557B |
| Nylon Calibrator Number | DNCE695 |
| Aluminium Calibrator Number | DACD698 |

| | | |
|-------------------------------|-------------|-------|
| Density Shoe Profile | 8 inch | |
| Caliper Source for Processing | MML Caliper | |
| PE Correction to Density | Not Applied | |
| Mud Density | 1.11 | 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-B 64

Base Calibration on 03-NOV-2013 07:13
Field Calibration on 03-NOV-2013 07:15

Base Calibration

| Reading No | Measured | Calibrator Size (in) |
|------------|----------|----------------------|
| 1 | 16258 | 3.99 |
| 2 | 25100 | 5.98 |
| 3 | 33840 | 7.97 |
| 4 | 42066 | 9.86 |
| 5 | 51536 | 11.92 |
| 6 | N/A | N/A |

Field Calibration

| Measured Caliper (in) | Actual Caliper (in) |
|-----------------------|---------------------|
| 5.97 | 5.98 |

DOWNHOLE EQUIPMENT

C:\Minimus 13.05.9583\Logs\Grand Mesa K-M #1-2 Second Run\K-M #1-2 F...\Grand Mesa K-M #1-2 2nd run mml mdn mpd mss.dta

3/8" Triple Cone Cable Head (MCB F B)
MCB-F.B 9 LG: 1.58 ft WT: 15.4 lb OD: 2.24 in

Compact Comms Gamma
MCG-C 208 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Compact Micro-log
MML-A 16 LG: 7.97 ft WT: 81.6 lb OD: 2.24 in



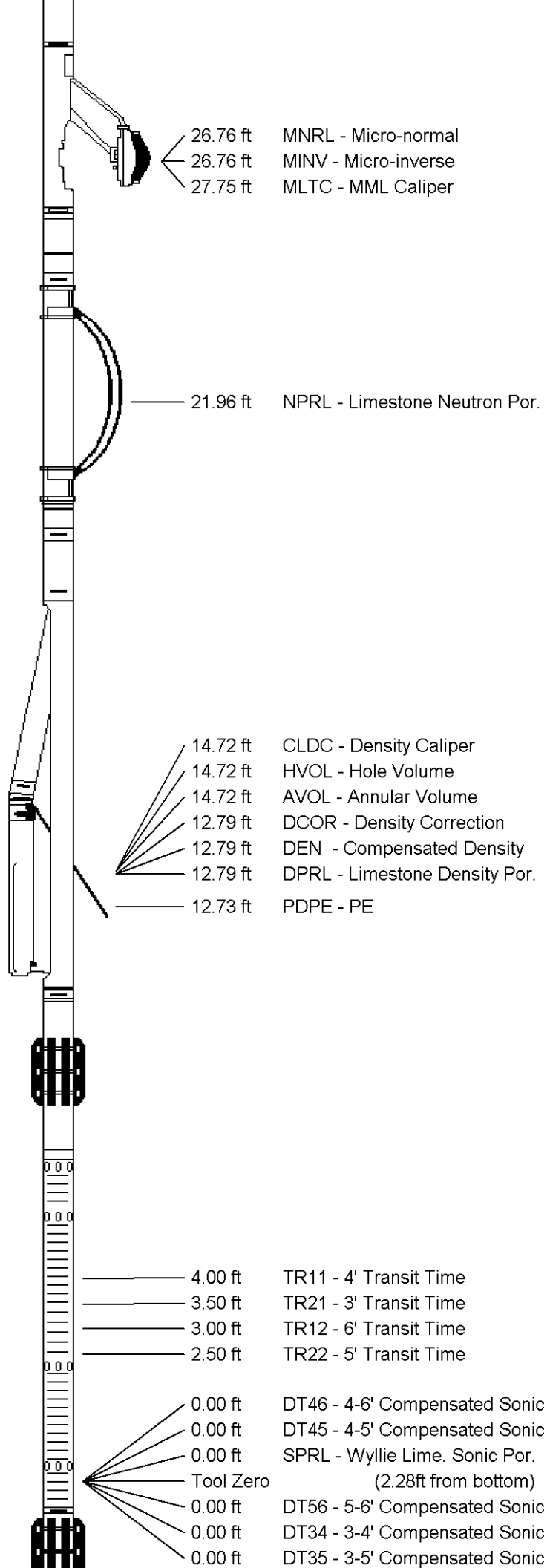
36.38 ft GRGC - Gamma Ray

33.47 ft CGXT - MCG External Temperature

Compact Neutron
MDN-B.J 387 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

Compact Density/Caliper
MPD-B 64 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

Compact Sonic
MSS-A.A 126 LG: 12.52 ft WT: 72.8 lb OD: 2.24 in





_____ -2.28 ft SMTU - DST Uphole Tension

Total Length: 45.39 ft Weight: 374.8 lb

All measurements relative to tool zero.

| | |
|-----------------|------------------------------|
| COMPANY | GRAND MESA OPERATING COMPANY |
| WELL | K-M #1-2 |
| FIELD | WILDCAT |
| PROVINCE/COUNTY | WASHINGTON |
| COUNTRY/STATE | UNITED STATES / COLORADO |

| | | | | | |
|-------------------------|---------|------|---------------|---------|------|
| Elevation Kelly Bushing | 4682.00 | feet | First Reading | 4448.00 | feet |
| Elevation Drill Floor | 4680.00 | feet | Depth Driller | 4485.00 | feet |
| Elevation Ground Level | 4672.00 | feet | Depth Logger | 4482.00 | feet |



MICRORESISTIVITY LOG

Weatherford®