



Weatherford

MICRORESISTIVITY LOG

COMPANY				K3 OIL & GAS OPERATING COMPANY			
WELL				SORENSEN #4-3			
FIELD				WILDCAT			
PROVINCE/COUNTY				LINCOLN			
COUNTRY/STATE				U.S.A. / COLORADO			
LOCATION				650' FNL & 650' FWL			
SEC 3	TWP 16S	RGE 55W	Other Services		MDN/MPD		
Latitude			MAI/MFE				
Longitude			MSS				
API Number	05-073-06727						
Permanent Datum GL, Elevation 5030 feet							
Log Measured From KB, 18.00 feet above Permanent Datum							
Drilling Measured From KB						Elevations: KB 5048.00 DF 5046.00 GL 5030.00	
Date	08-NOV-2017						
Run Number	ONE						
Service Order	4558-197333139						
Depth Driller	7550.00					feet	
Depth Logger	7550.00					feet	
First Reading	7504.00					feet	
Last Reading	2500.00					feet	
Casing Driller	496.00					feet	
Casing Logger	496.00					feet	
Bit Size	7.875					inches	
Hole Fluid Type	CHEMICAL						
Density / Viscosity	9.40 lb/USg		83.00 CP				
PH / Fluid Loss	10.00		7.20 ml/30Min				
Sample Source	FLOWLINE						
Rm @ Measured Temp	1.76 @ 75.0					ohm-m	
Rmf @ Measured Temp	1.41 @ 75.0					ohm-m	
Rmc @ Measured Temp	2.11 @ 75.0					ohm-m	
Source Rmf / Rmc	CALC		CALC				
Rm @ BHT	0.74 @178.0					ohm-m	
Time Since Circulation	5 HOURS						
Max Recorded Temp	178.00		deg F				
Equipment / Base	13096		LIB				
Recorded By	ADAM SILL						
Witnessed By	RANDY SAY					JOHN MARVIN	
Witnessed By	SUSAN RAINBOLT						

BOREHOLE RECORD					Last Edited: 08-NOV-2017 09:44
Bit Size inches		Depth From feet		Depth To feet	
7.875		496.00		7550.00	
CASING RECORD					
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft	
SURFACE	13.375	0.00	496.00	48.00	

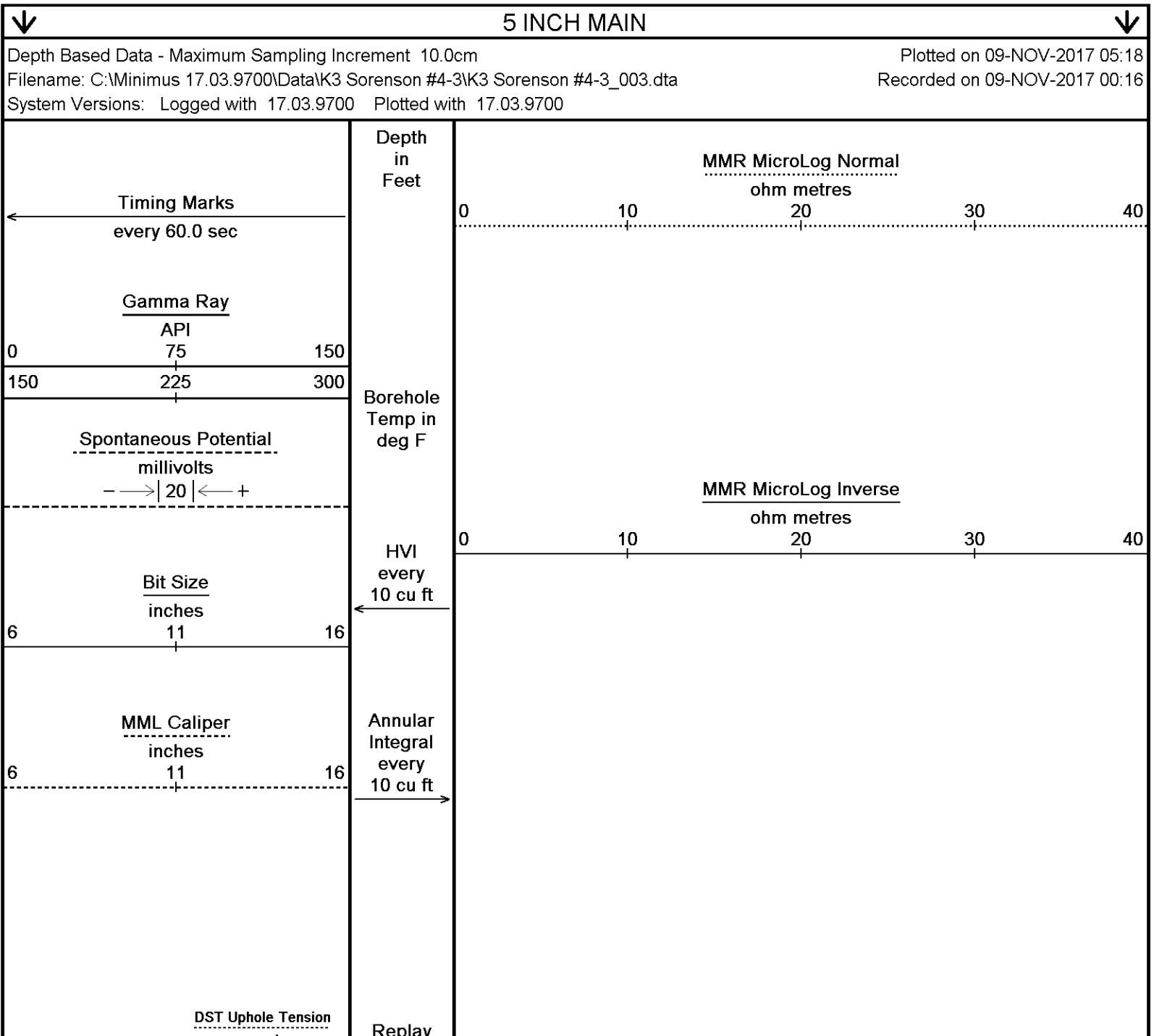
REMARKS
- SOFTWARE ISSUE: WLS 17.03.9700.
- RUN ONE: MCG, MML, MDN, MPD, MFE, MSS, MAI RUN IN COMBINATION. - HARDWARE: DUAL BOWSPRING USED ON MDN. 0.5 INCH STANDOFF USED ON MFE. TWO 0.5 INCH STANDOFFS USED ON MSS. 0.5 INCH STANDOFF USED ON MAI.
- 2.71 G/CC LIMESTONE DENSITY MATRIX USED TO CALCULATE POROSITY.
- 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: 2712 CU.FT.
- ANNULAR HOLE VOLUME WITH 5.5 INCH PRODUCTION CASING FROM TD TO 2500 FEET: 914 CU.FT.

- RIG: WW DRILLING #20.

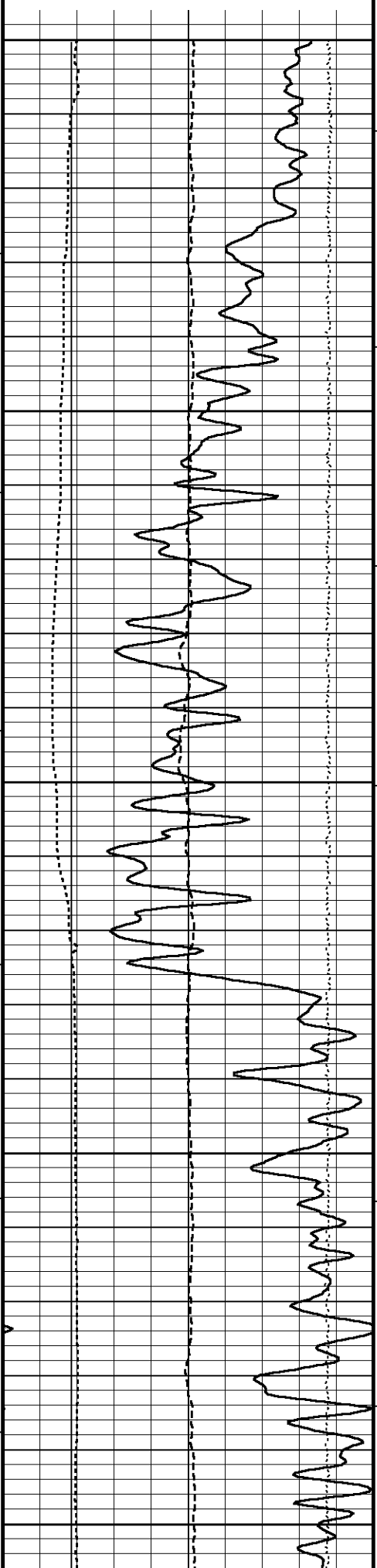
- ENGINEER: A. SILL.

- OPERATOR: B. TOVAR, J. HOLCOMB.

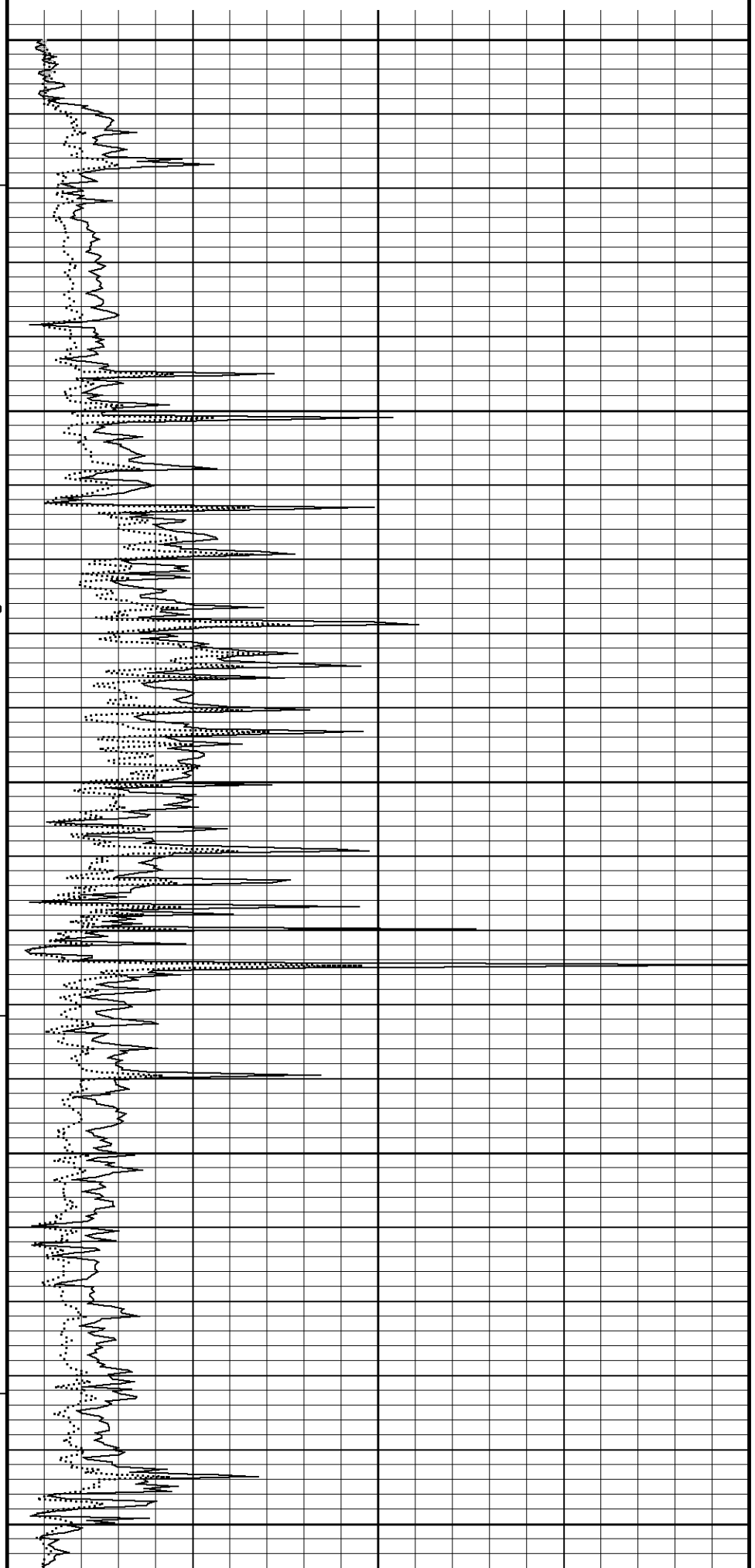
In interpreting, communicating or providing information and/or making recommendations, either written or oral, as to logs or test or other data, type or amount of material, or Work or other service to be furnished, or manner of performance, or in predicting results to be obtained, the Contractor will give the Company the benefit of the Contractor's best judgment based on its experience and will perform all such Work in a good and workmanlike manner. Any interpretation of test or other data, and any recommendation or reservoir description based upon such interpretations, are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and assumptions are not infallible, and with respect to which professional engineers and analysts may differ. ACCORDINGLY ANY INTERPRETATION OR RECOMMENDATION RESULTING FROM THE SERVICES WILL BE AT THE SOLE RISK OF THE COMPANY, AND THE CONTRACTOR CANNOT AND DOES NOT WARRANT THE ACCURACY, CORRECTNESS OR COMPLETENESS OF ANY SUCH INTERPRETATION OR RECOMMENDATION, WHICH INTERPRETATIONS AND RECOMMENDATIONS SHOULD NOT, THEREFORE, UNDER ANY CIRCUMSTANCES BE RELIED UPON AS THE SOLE OR MAIN BASIS FOR ANY DRILLING, COMPLETION, WELL TREATMENT, PRODUCTION OR FINANCIAL DECISION, OR ANY PROCEDURE INVOLVING ANY RISK TO THE SAFETY OF ANY DRILLING ACTIVITY, DRILLING RIG OR ITS CREW OR ANY OTHER INDIVIDUAL. THE COMPANY HAS FULL RESPONSIBILITY FOR ALL DECISIONS CONCERNING THE SERVICES.

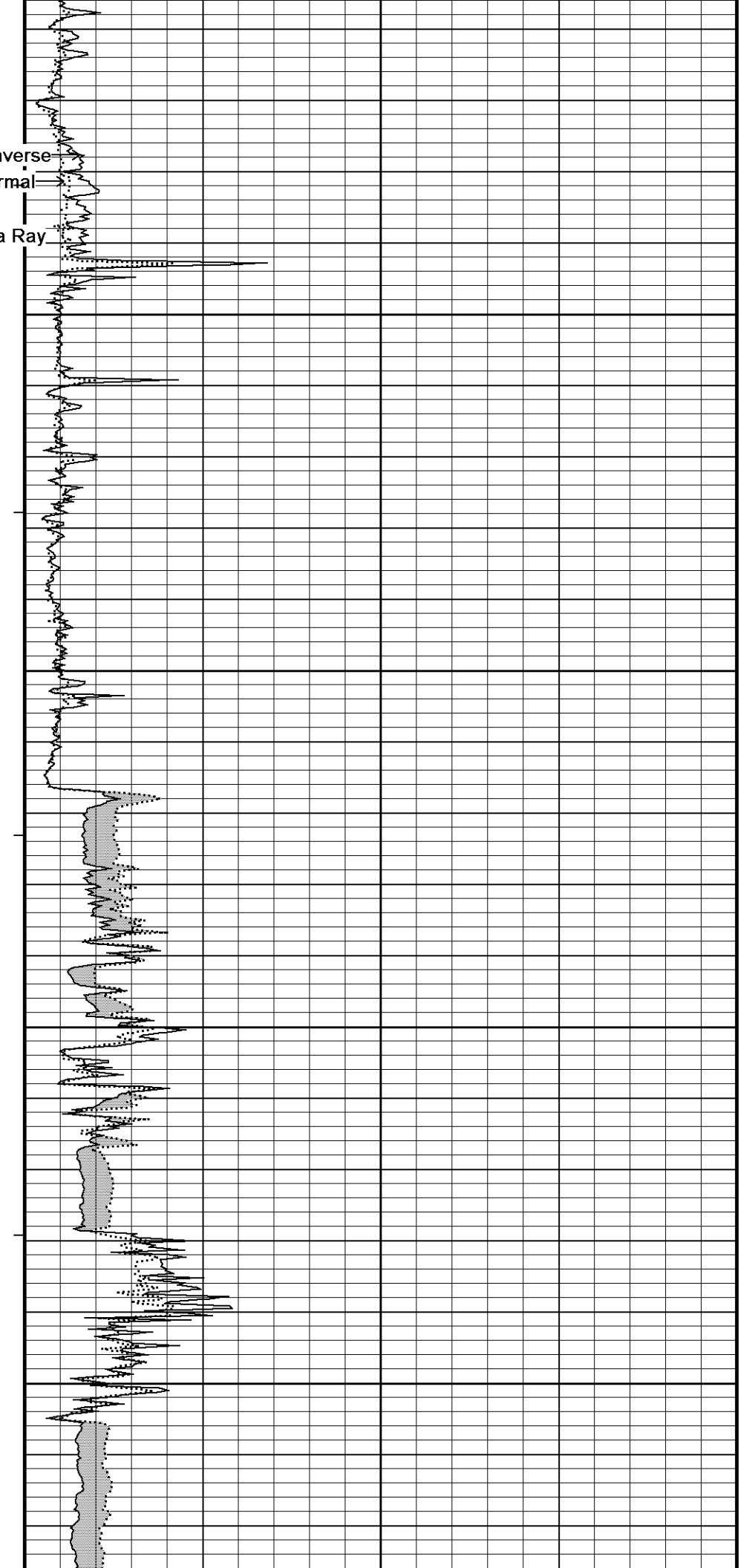
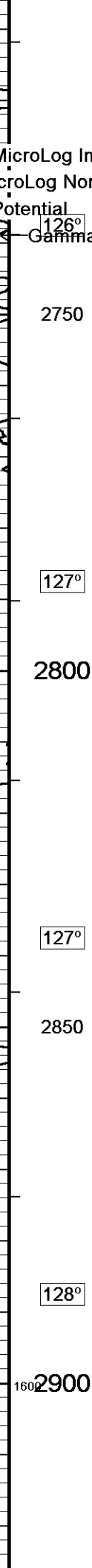
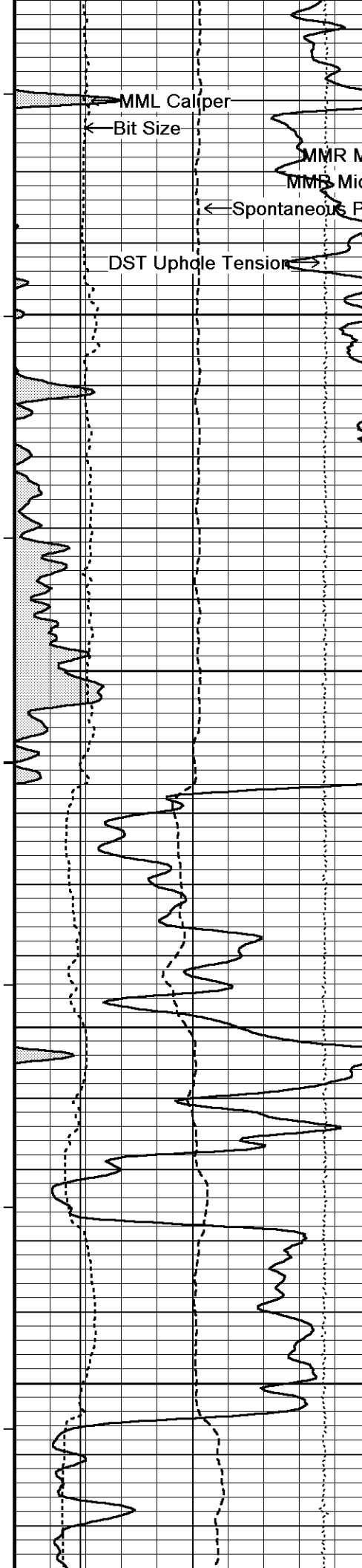


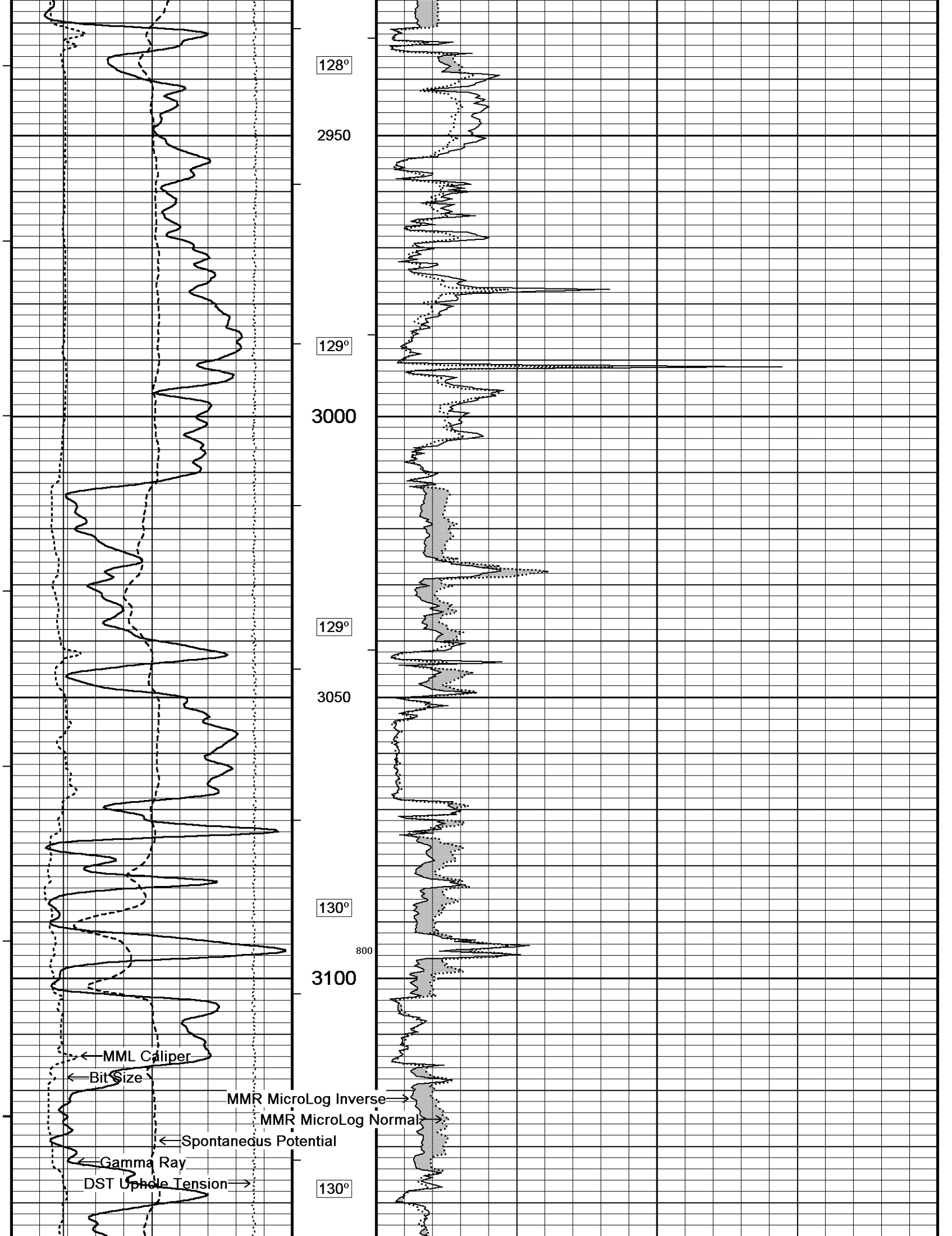
5000 pounds
Scale
1:240

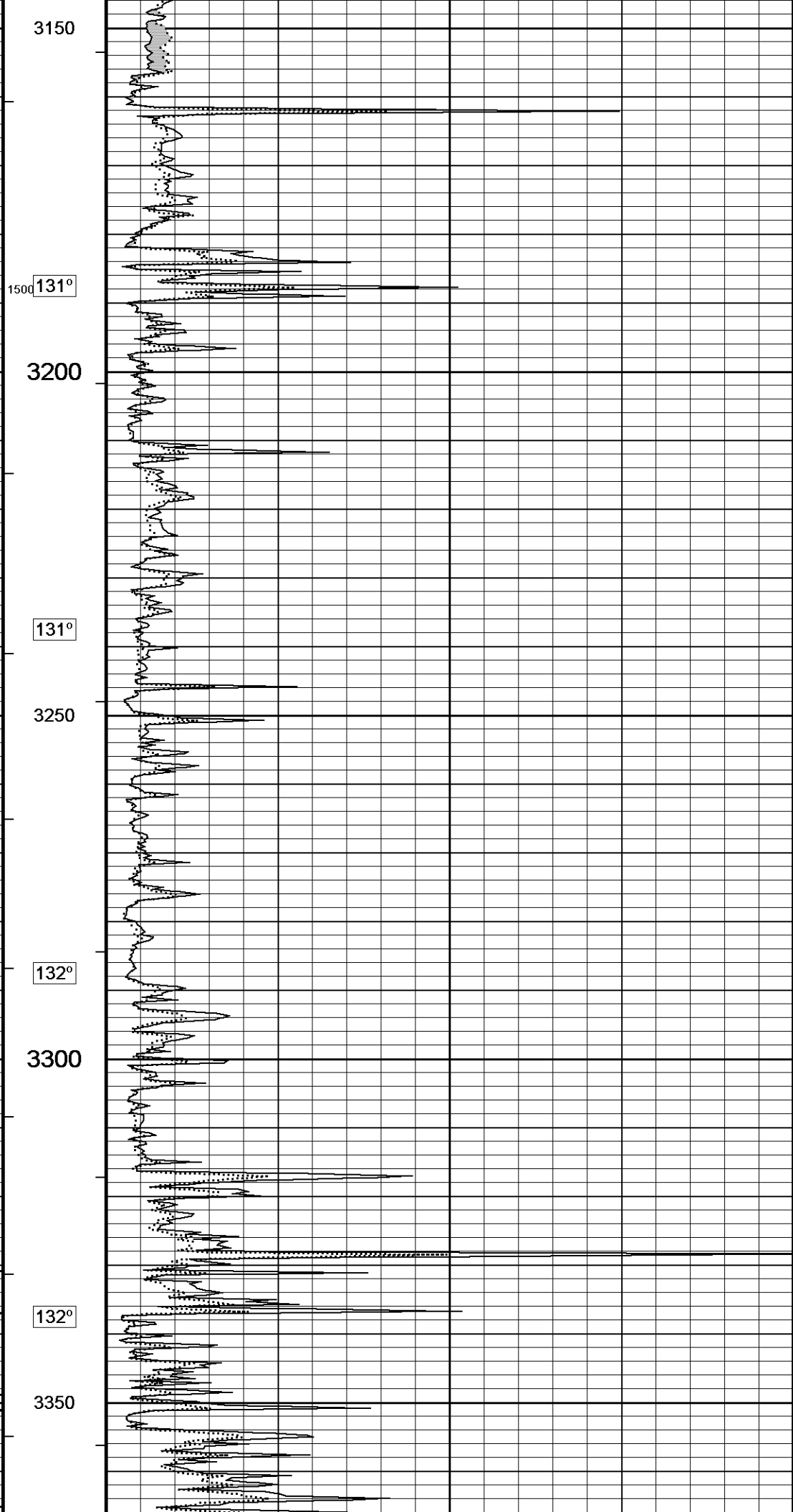
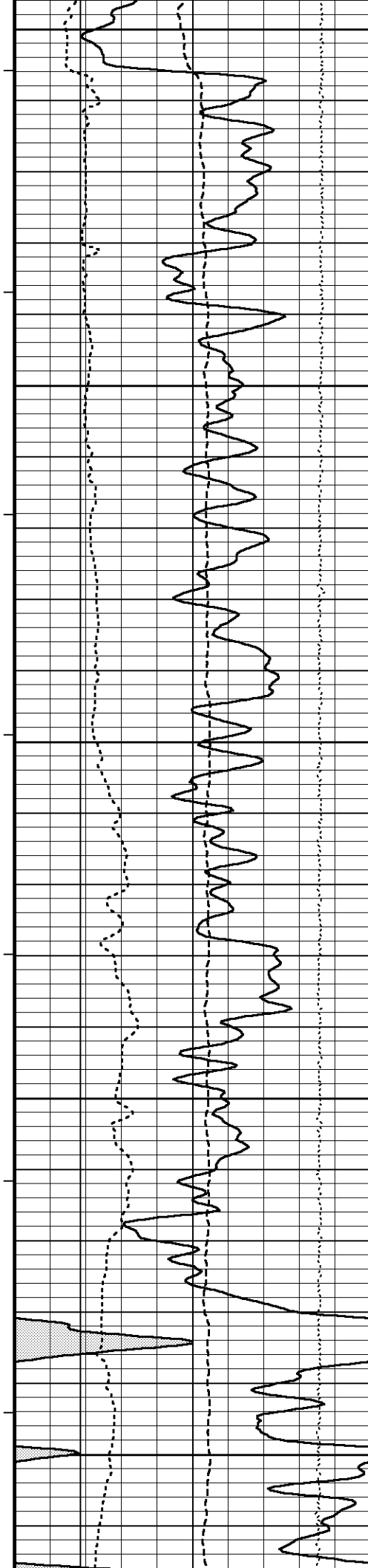


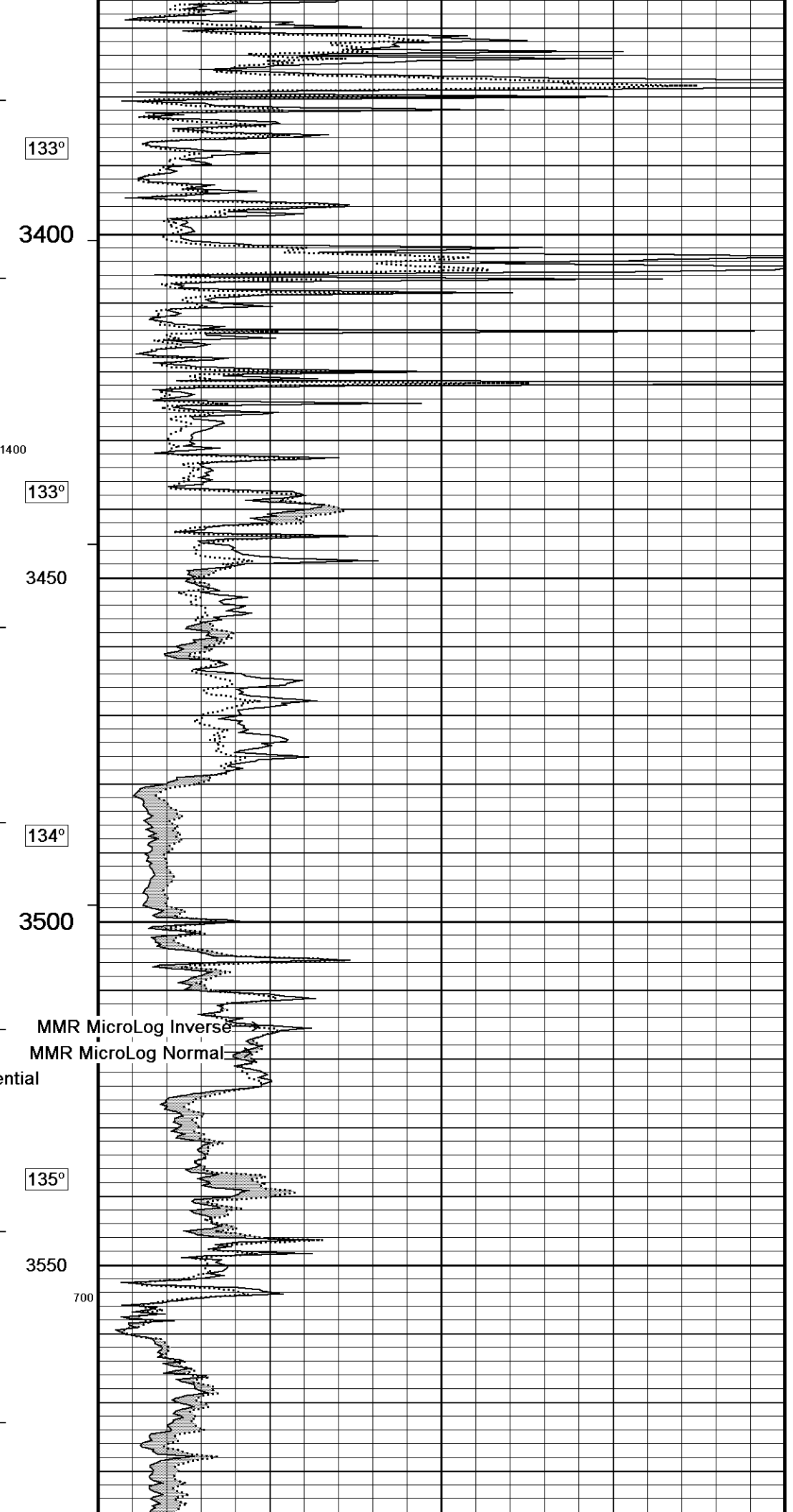
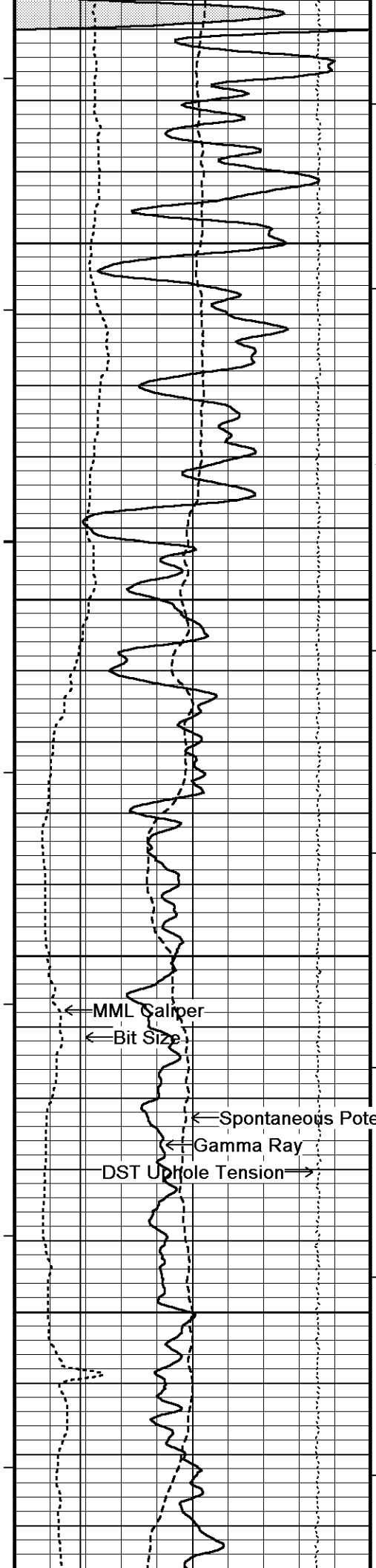
2500
123°
2550
900
124°
2600
1700
125°
2650
125°
2700

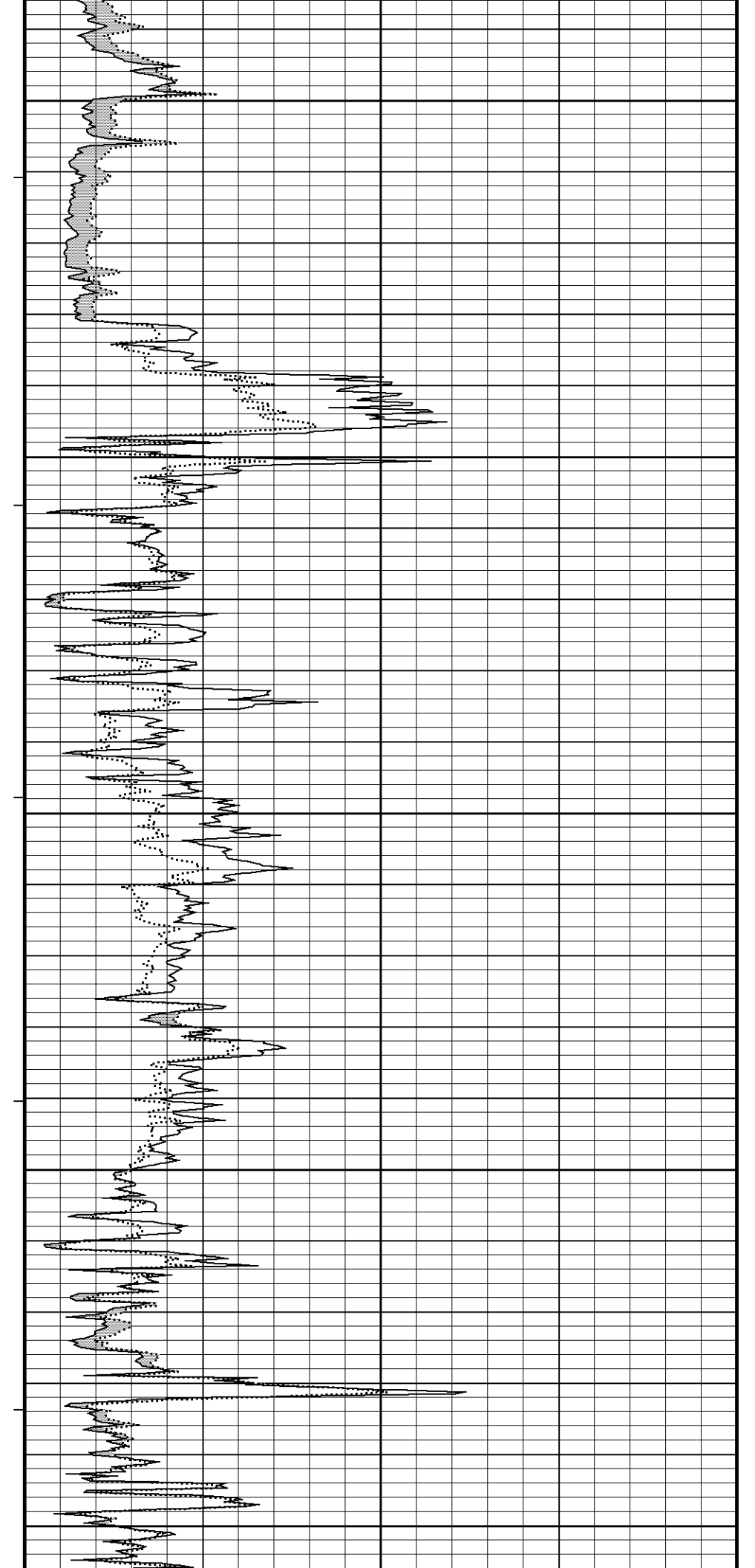
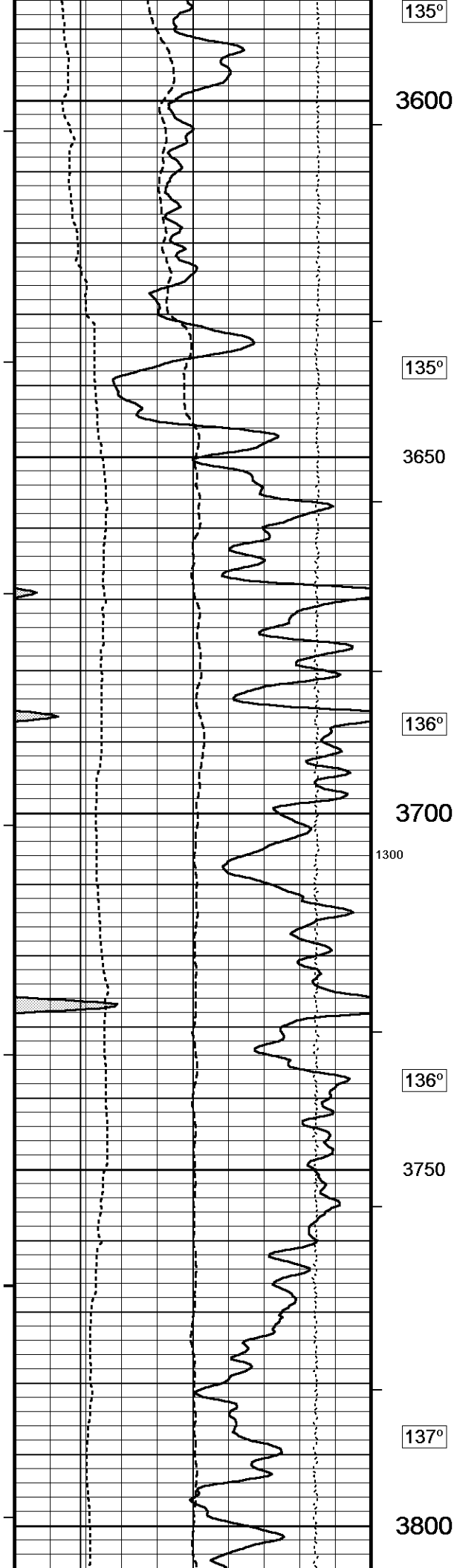


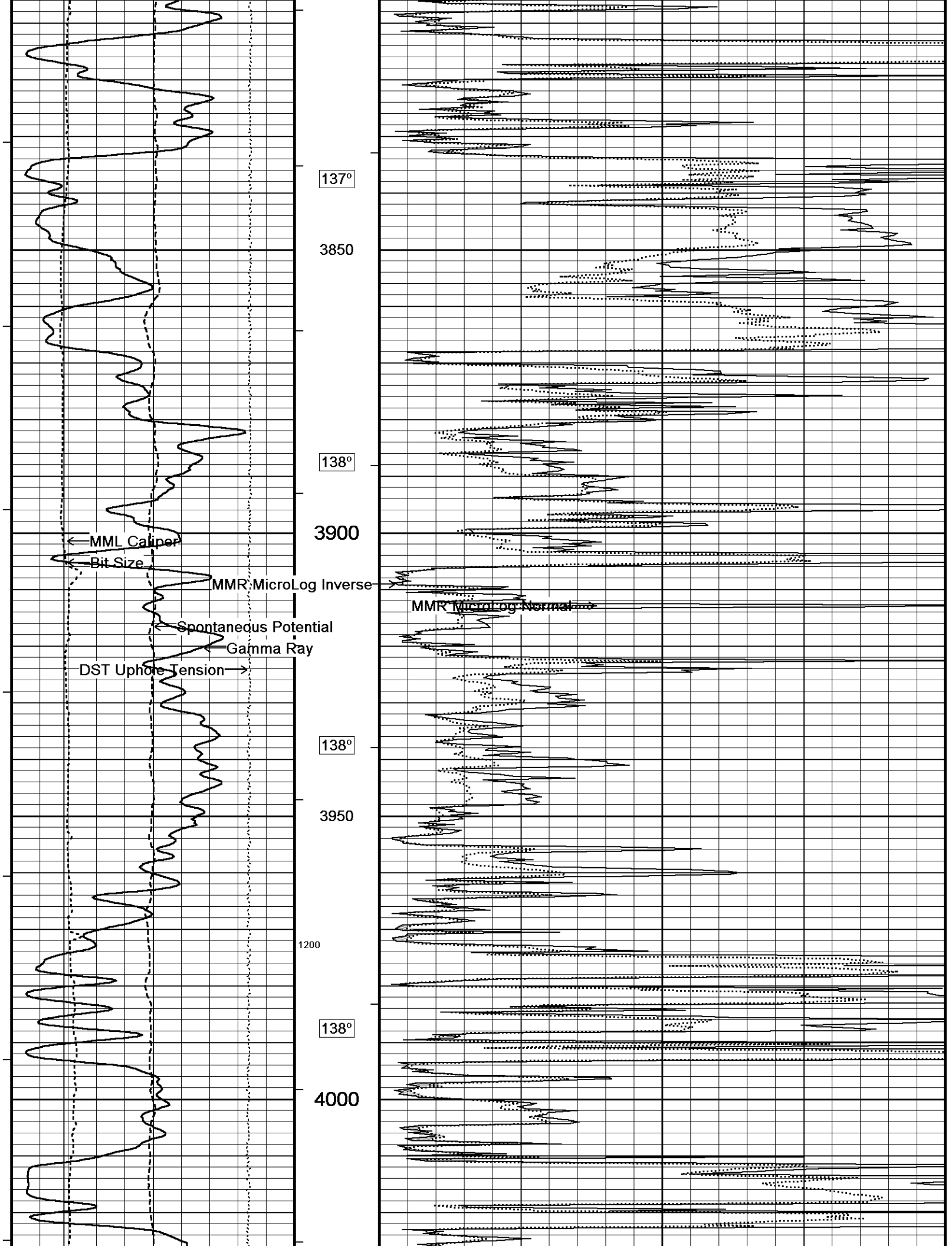


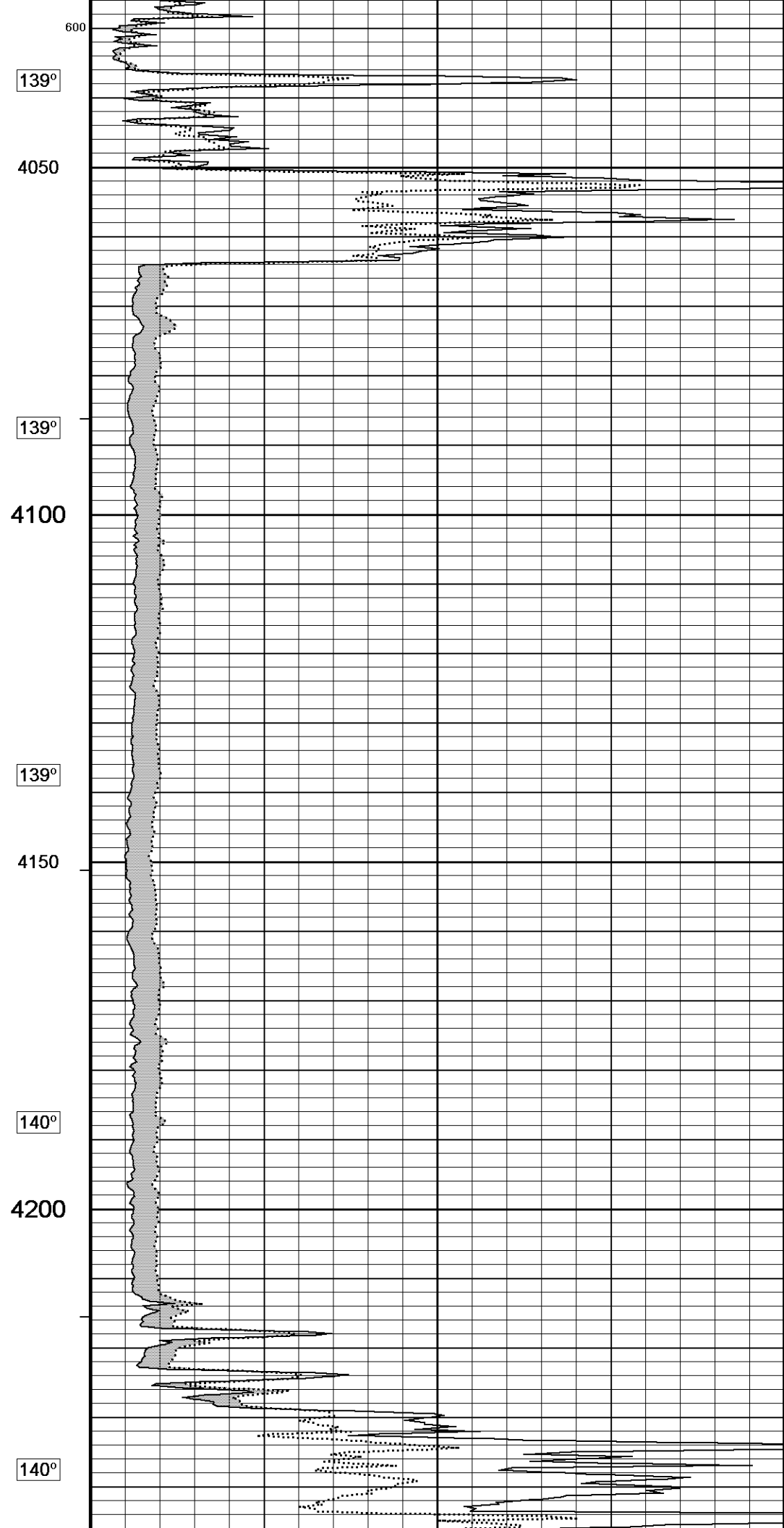
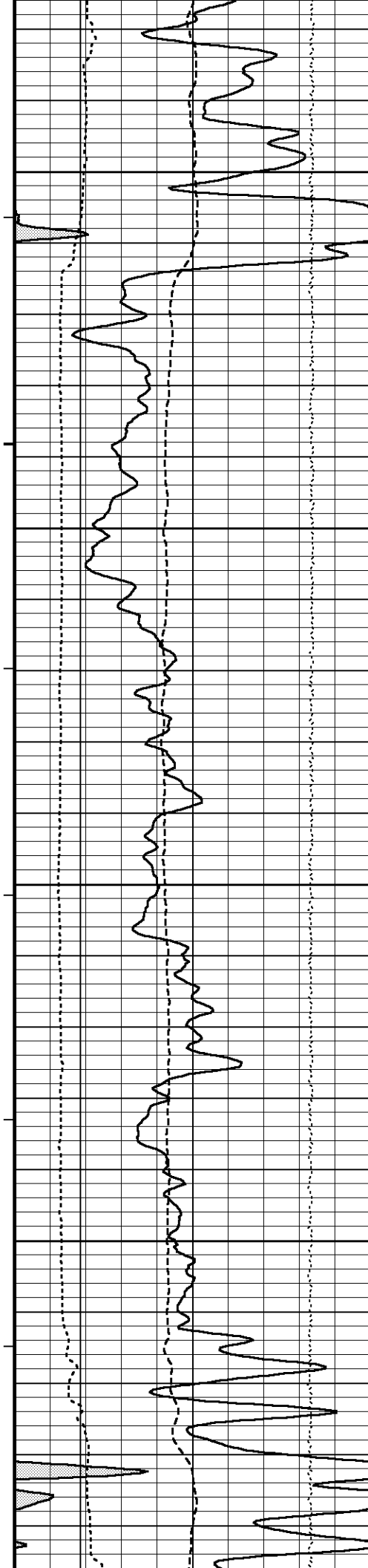


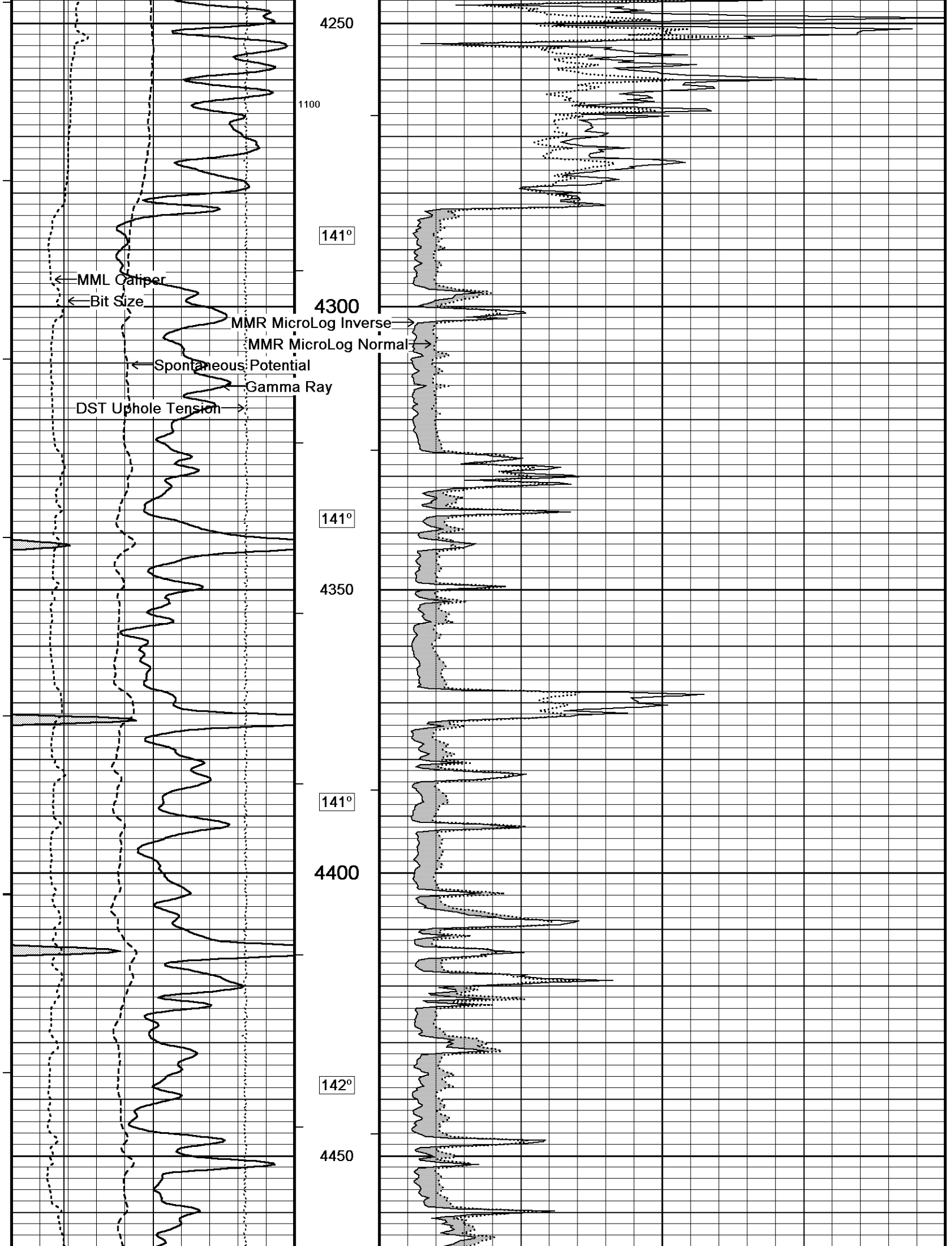


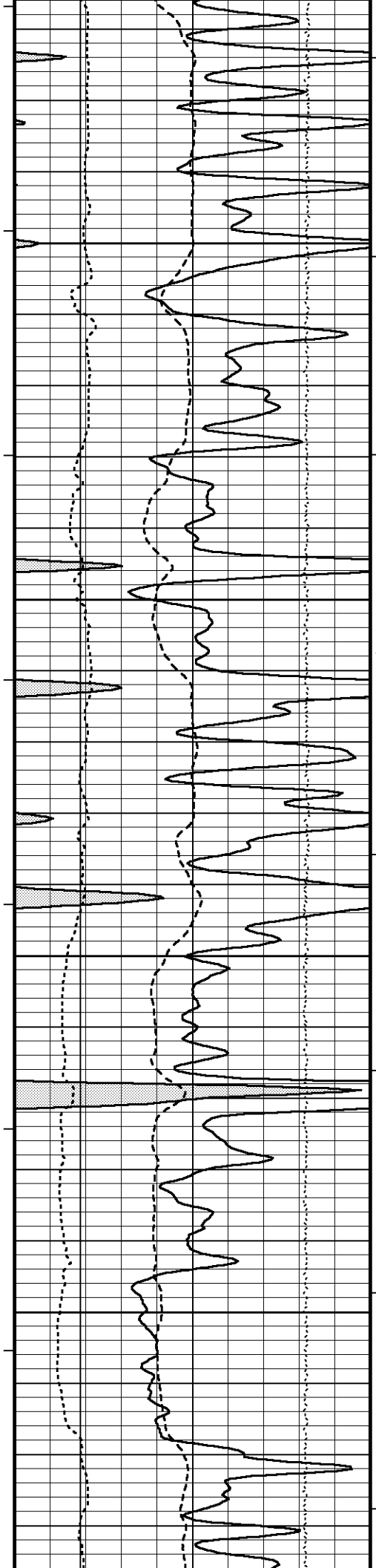












143°

4500

143°

4550

1000

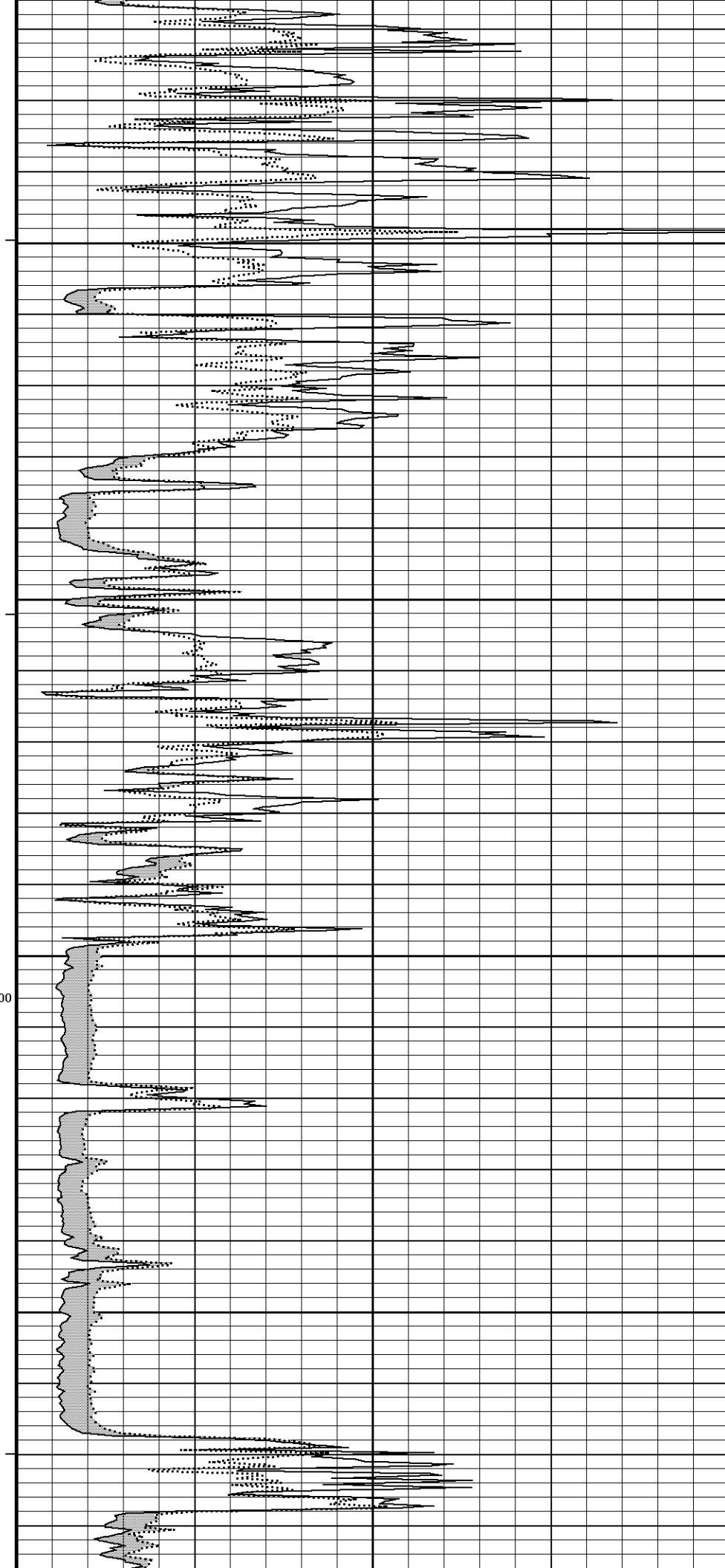
144°

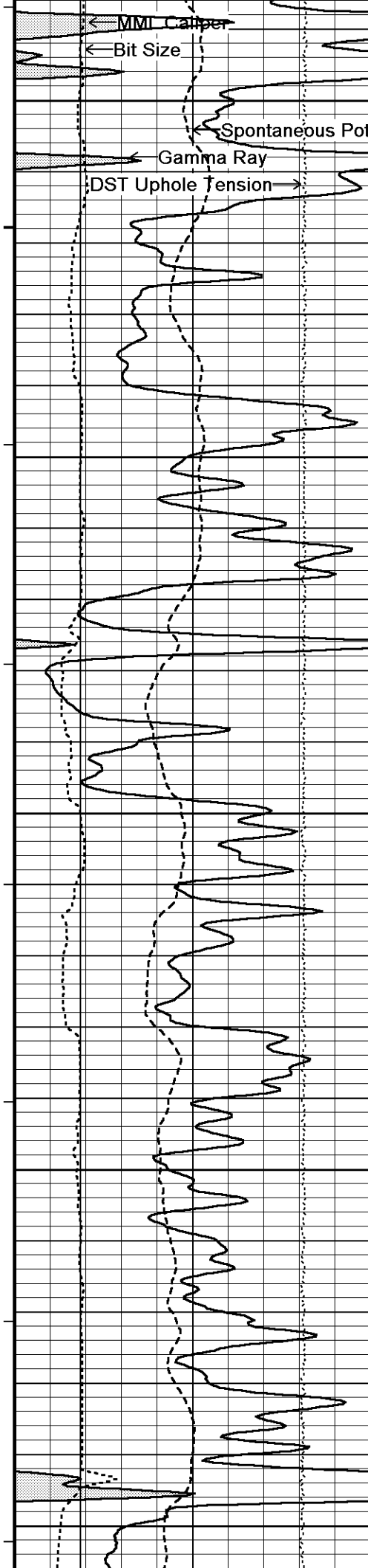
4600

500

144°

4650





144°

MMR MicroLog Inverse
M4700 MicroLog Normal

145°

4750

145°

4800

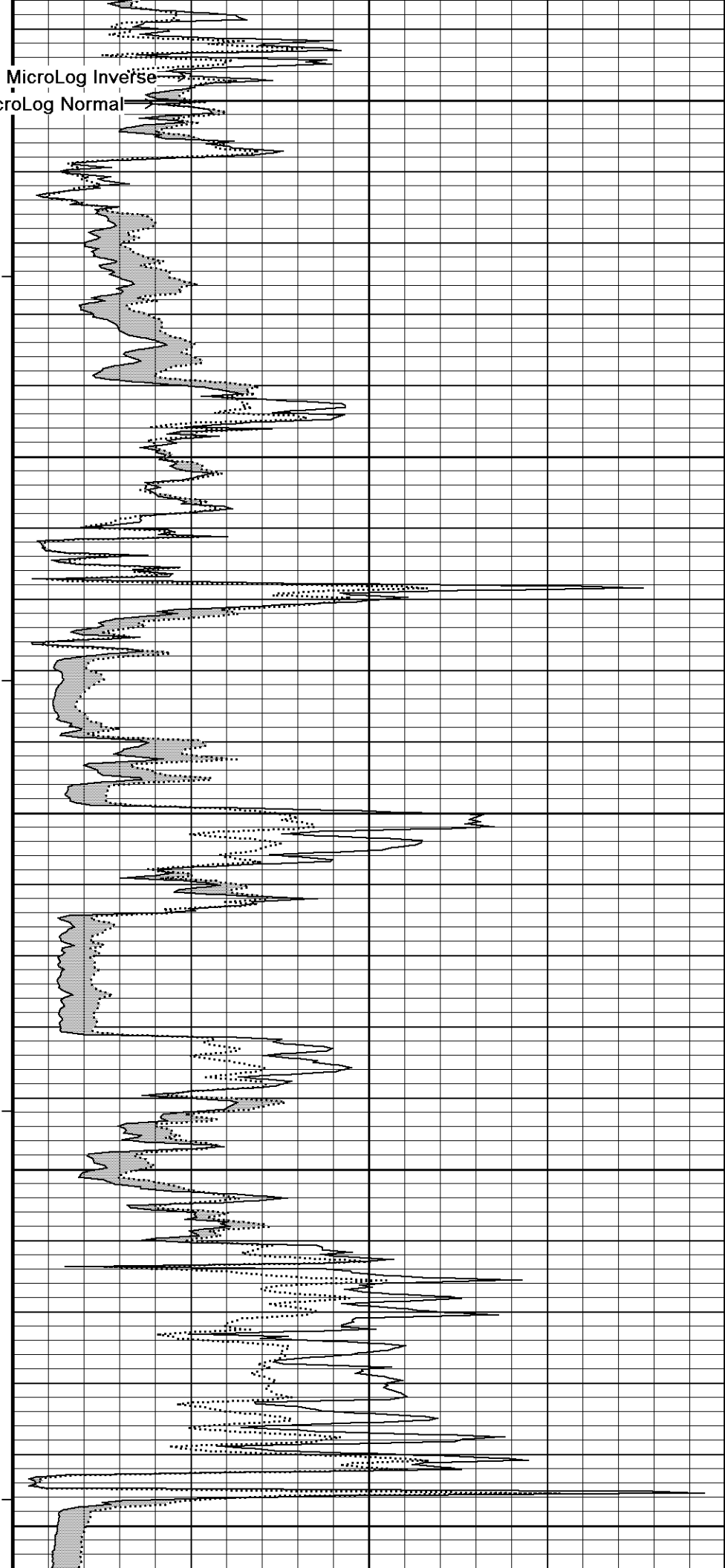
146°

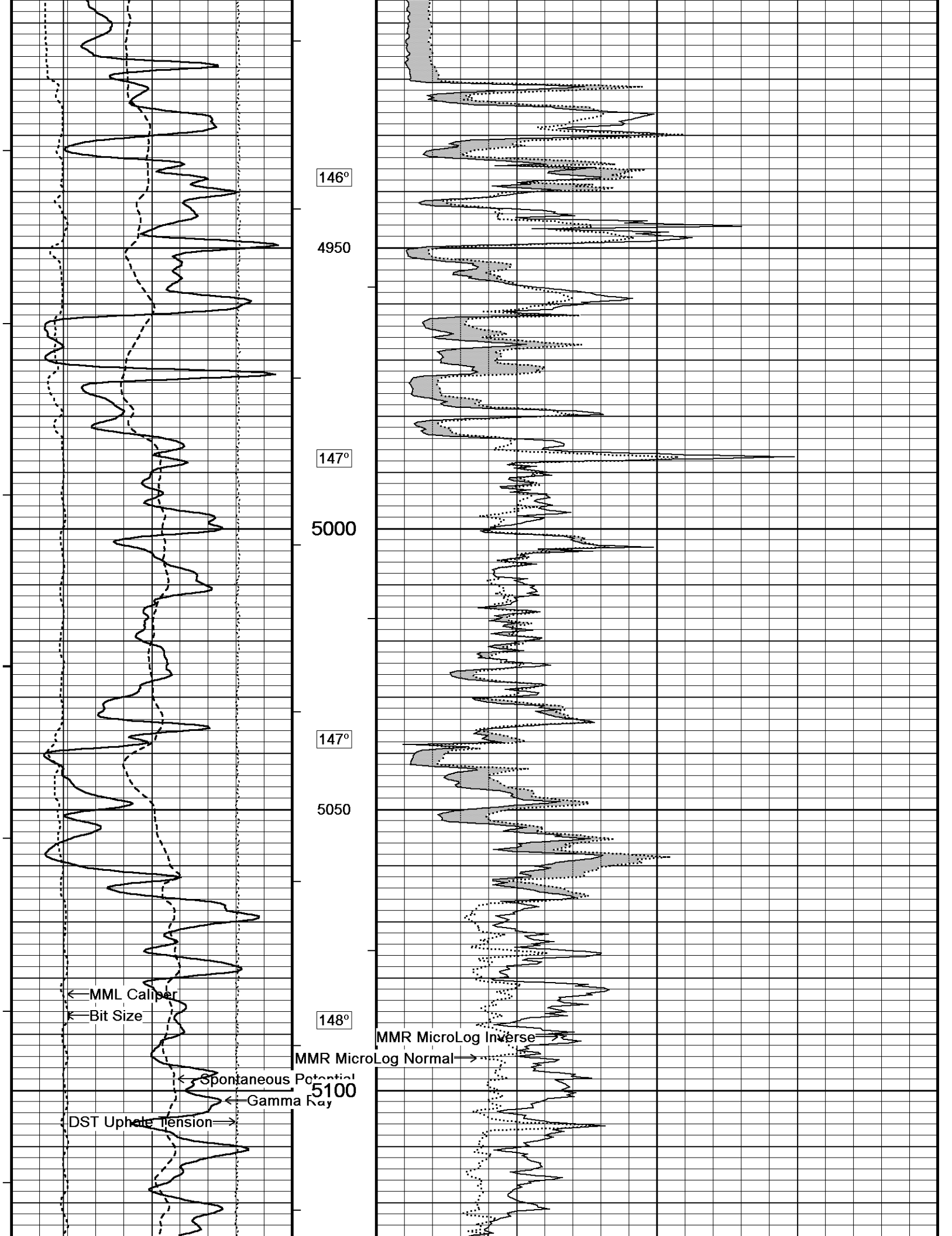
4850

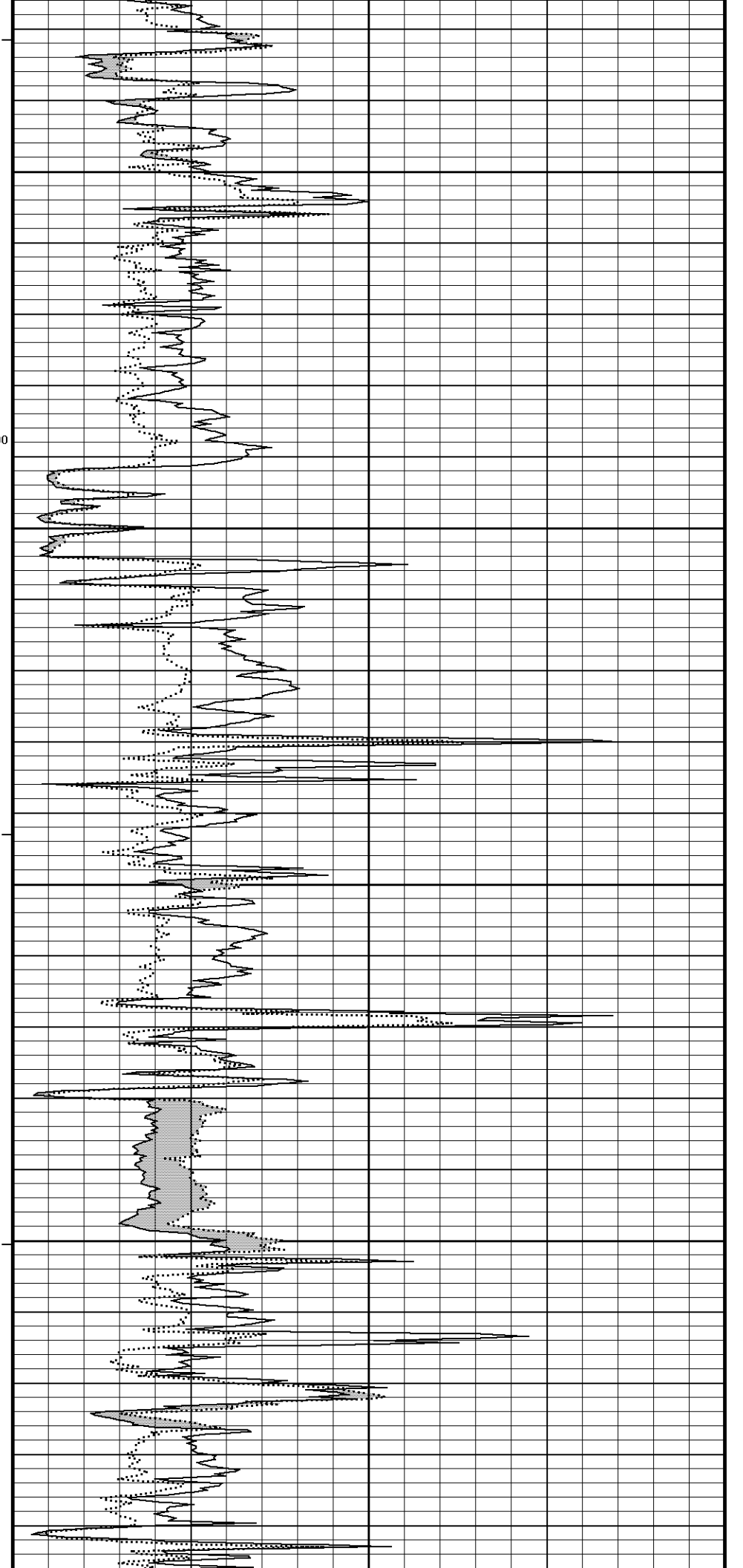
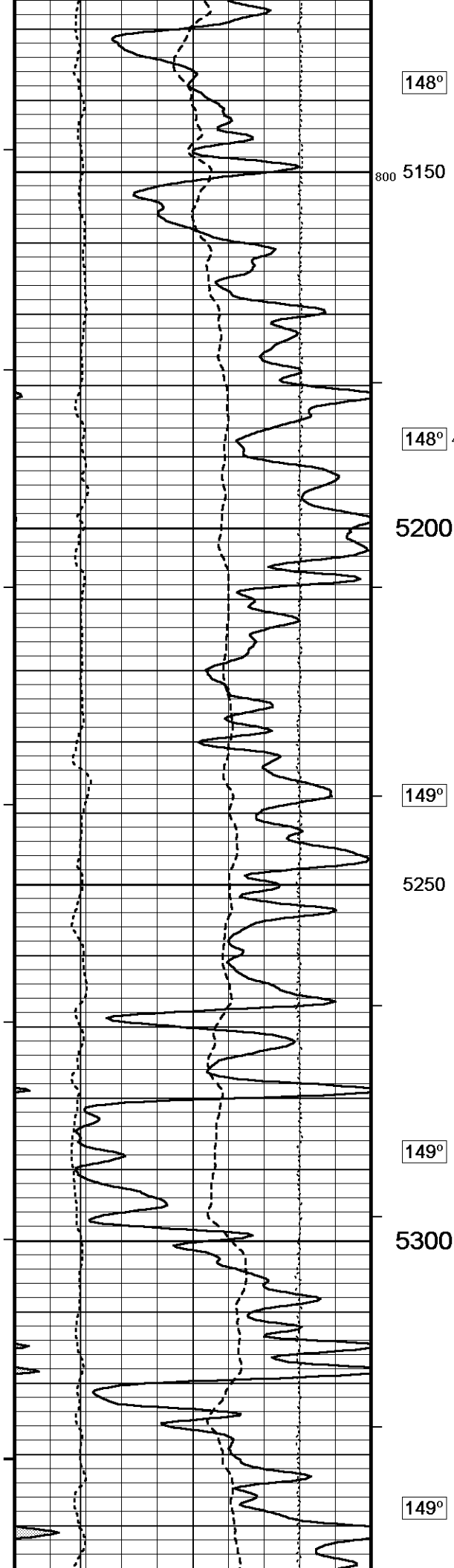
900

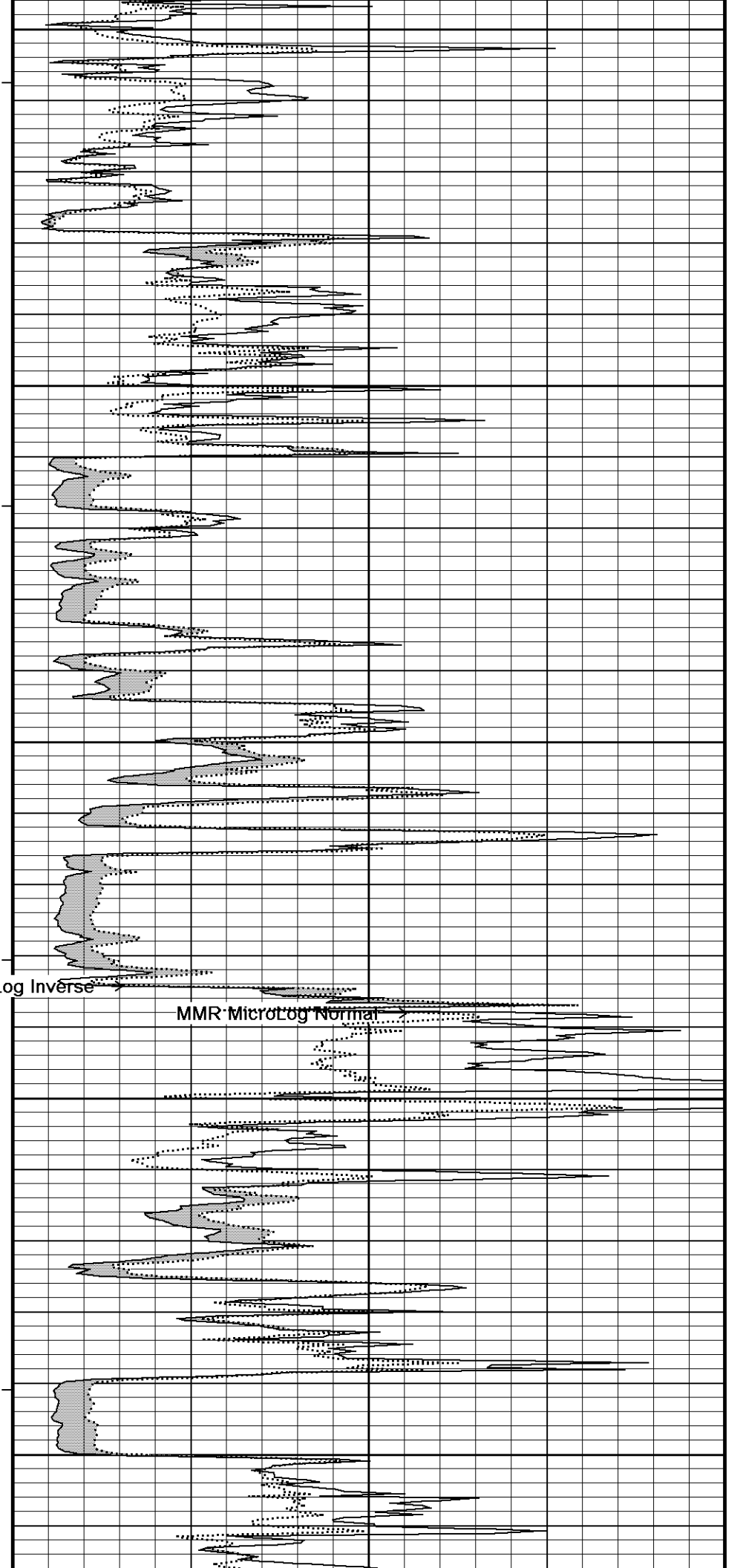
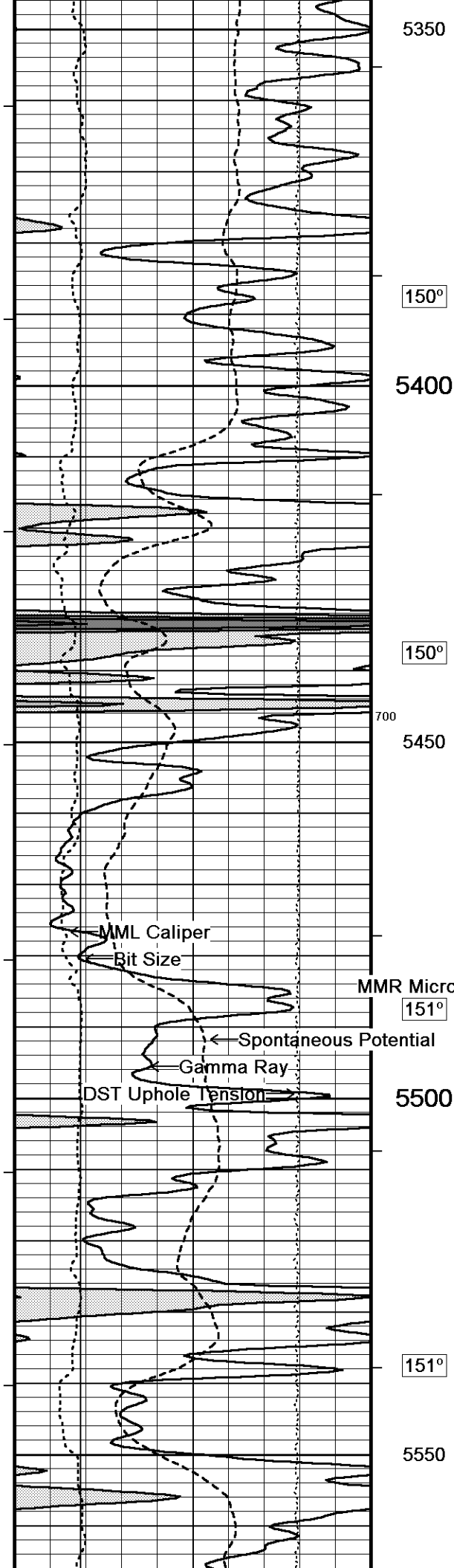
146°

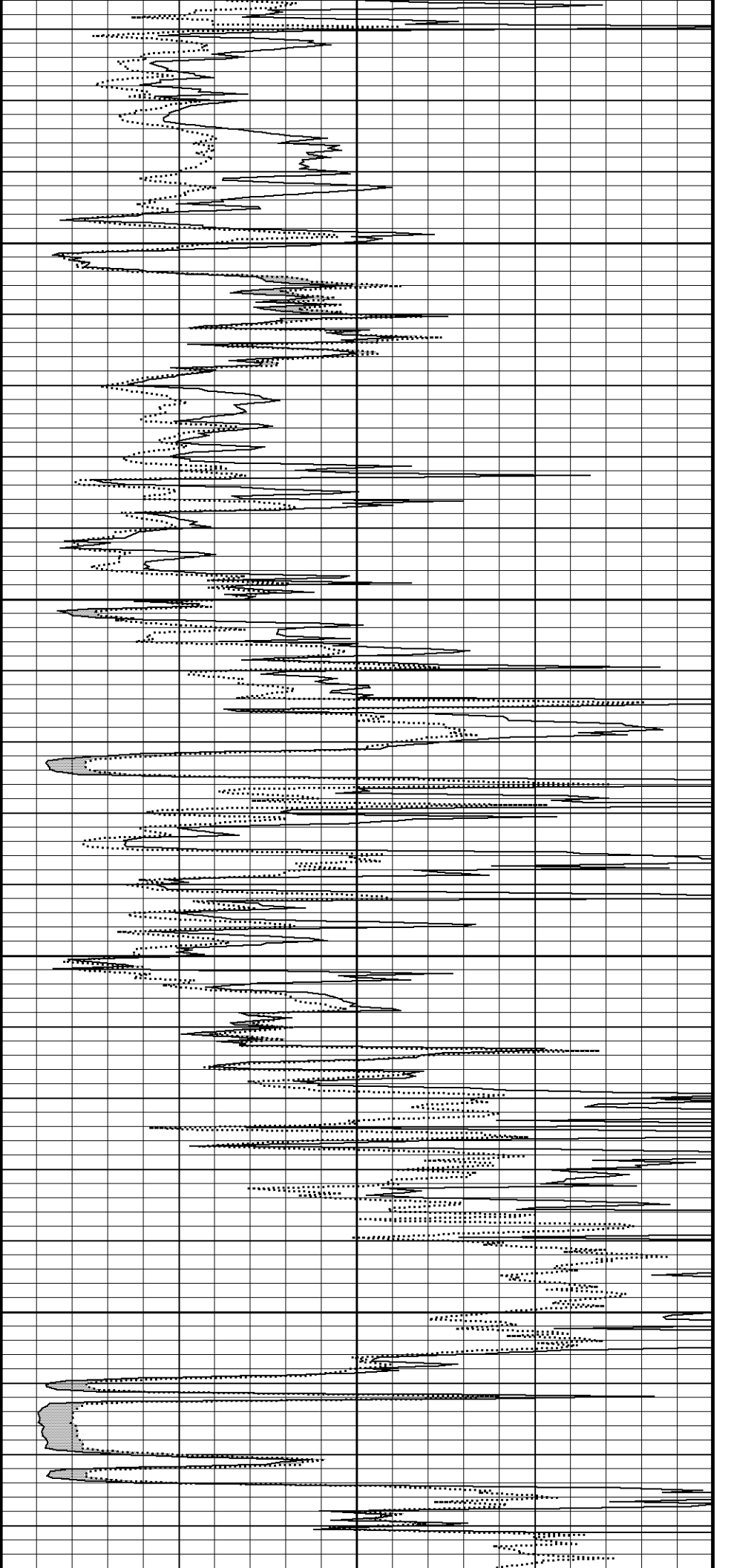
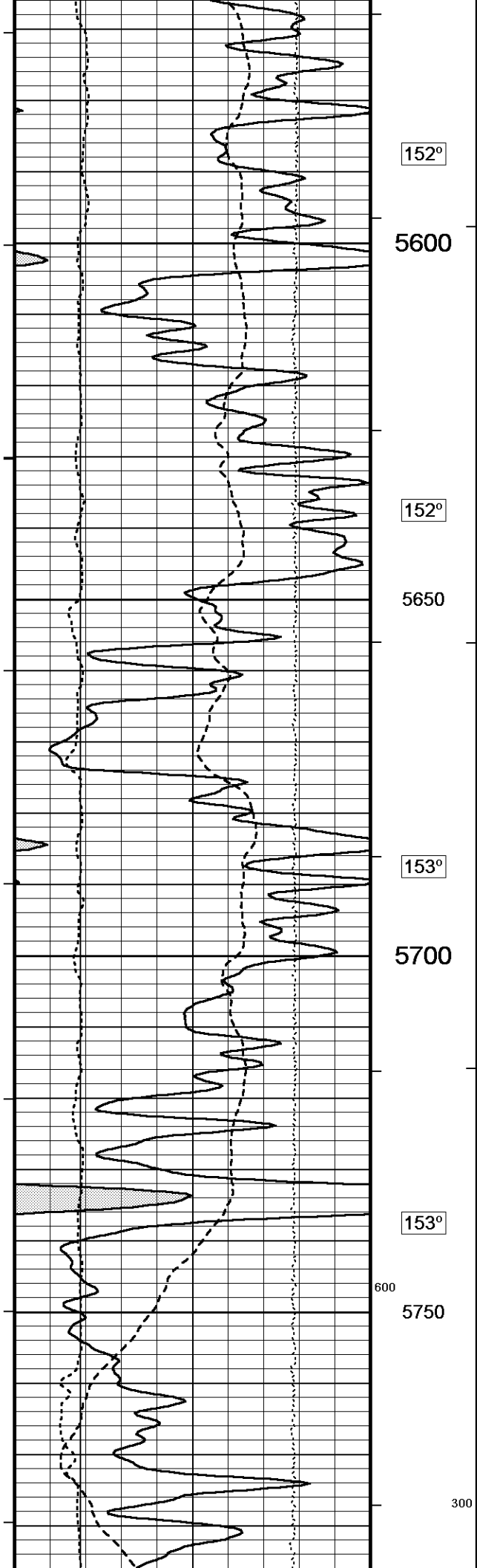
4900

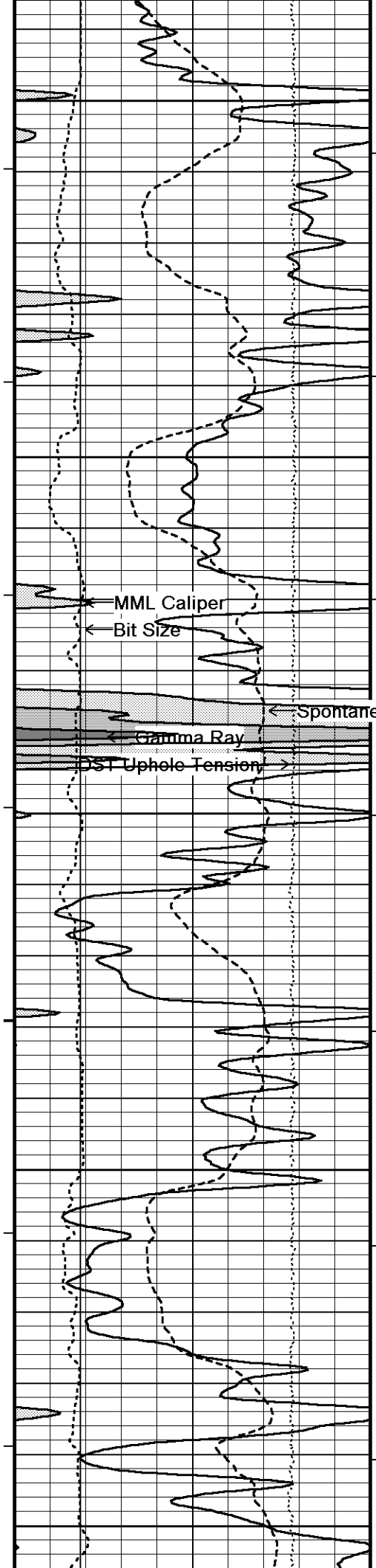












154°

5800

154°

5850

MMR MicroLog Inverse

MMR MicroLog Normal

154°

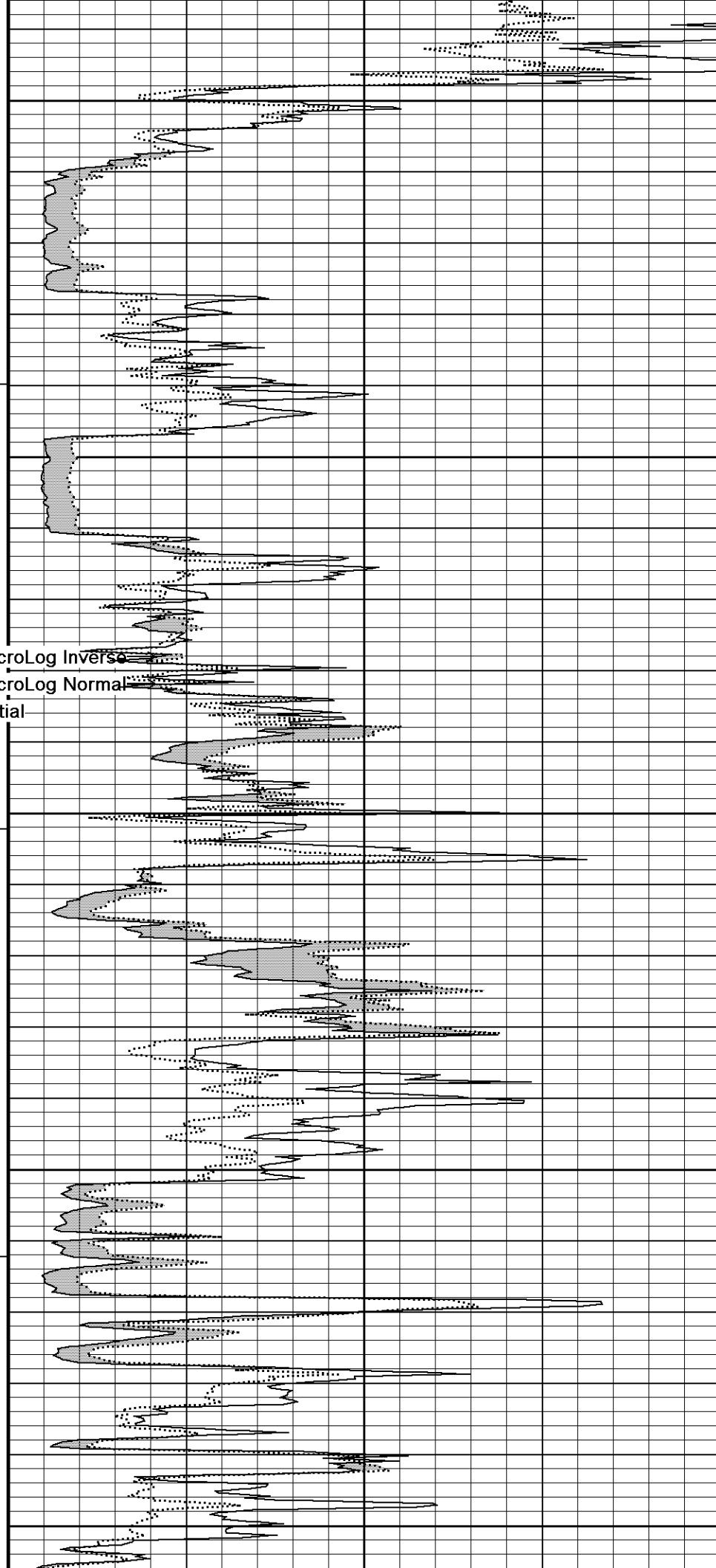
5900

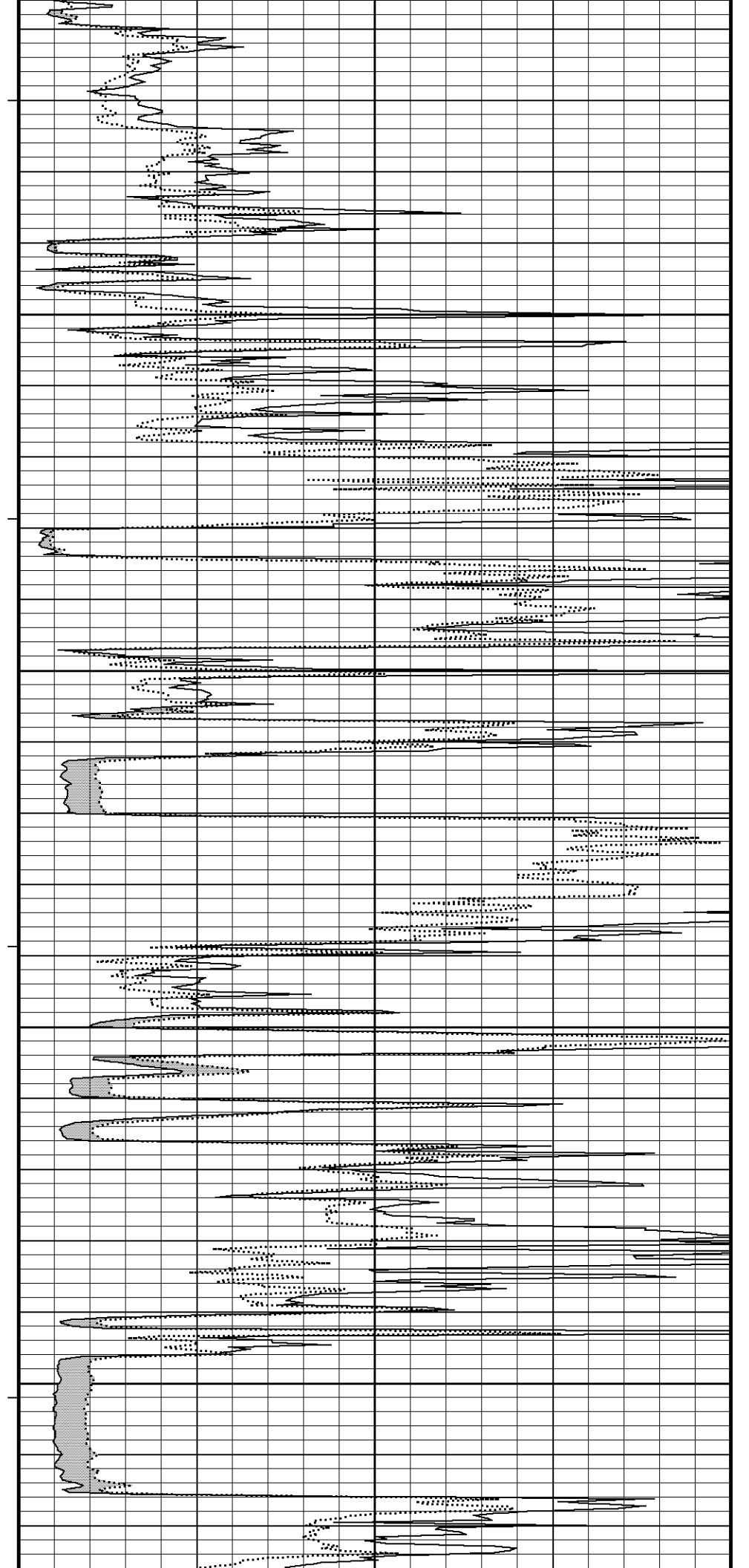
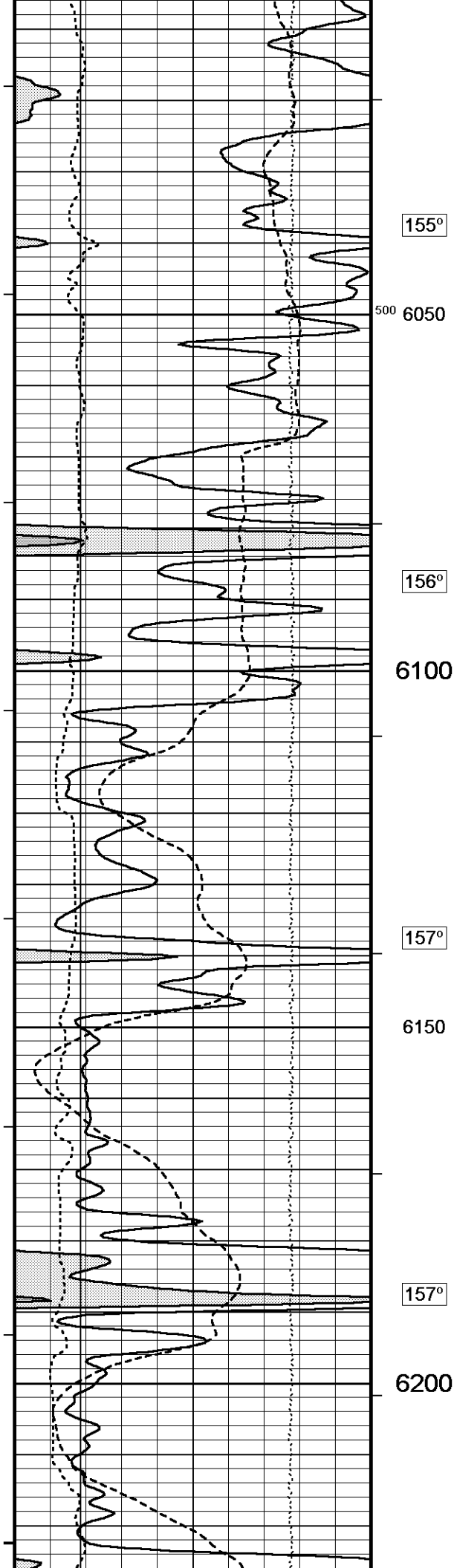
154°

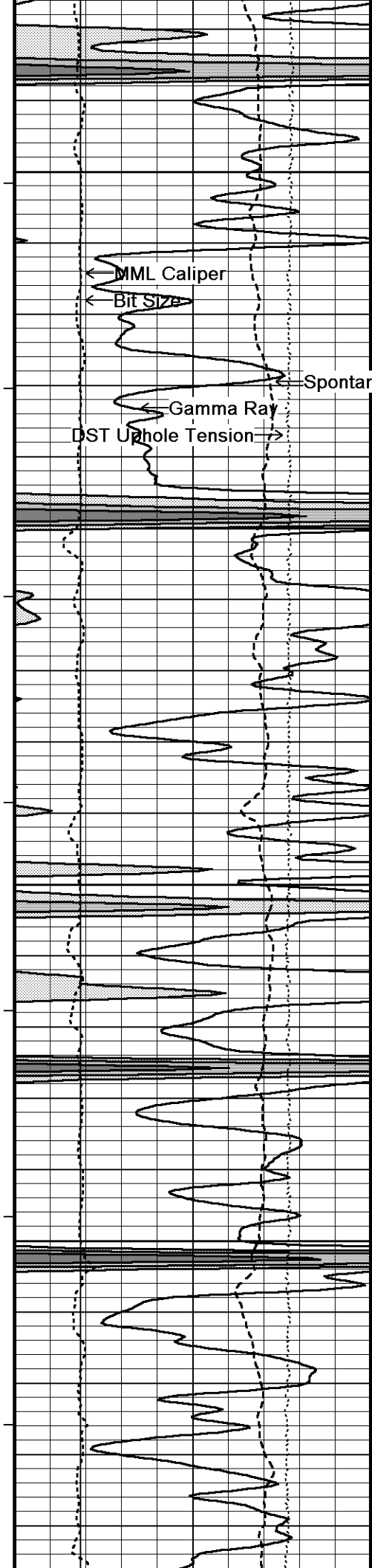
5950

155°

6000







158°

6250

MMR MicroLog Normal

158°

6300

159°

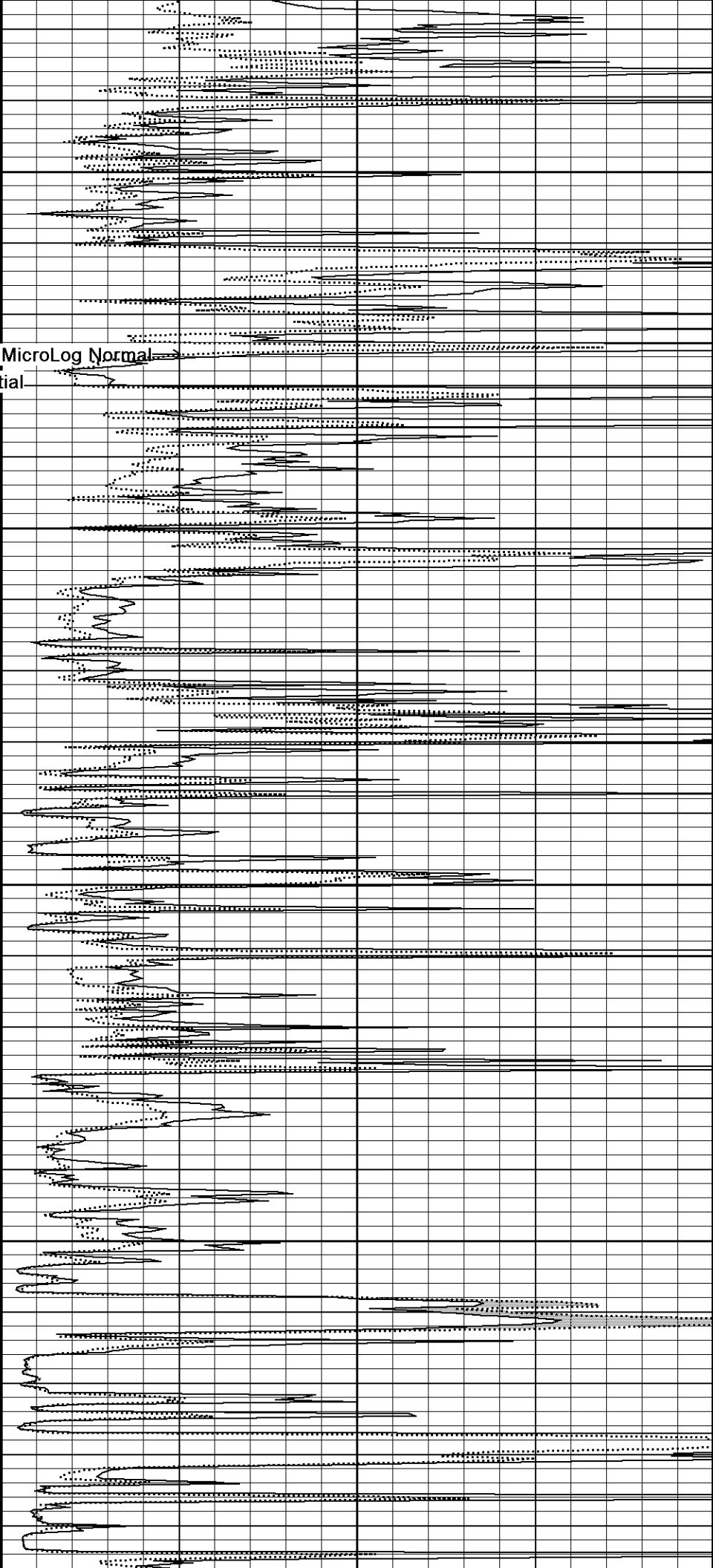
6350

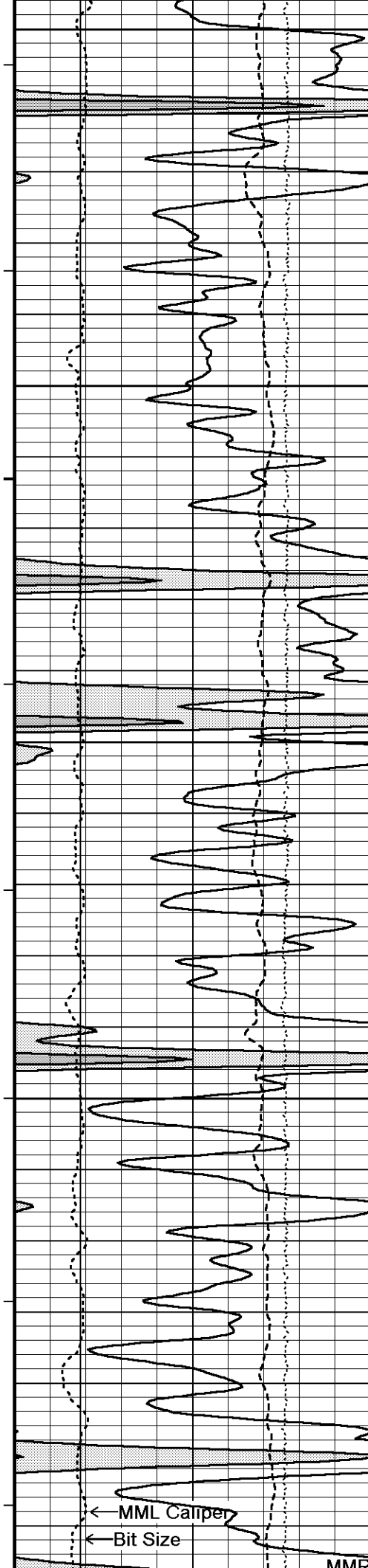
200

159°

6400

159°





6450

160°

6500

161°

6550

161°

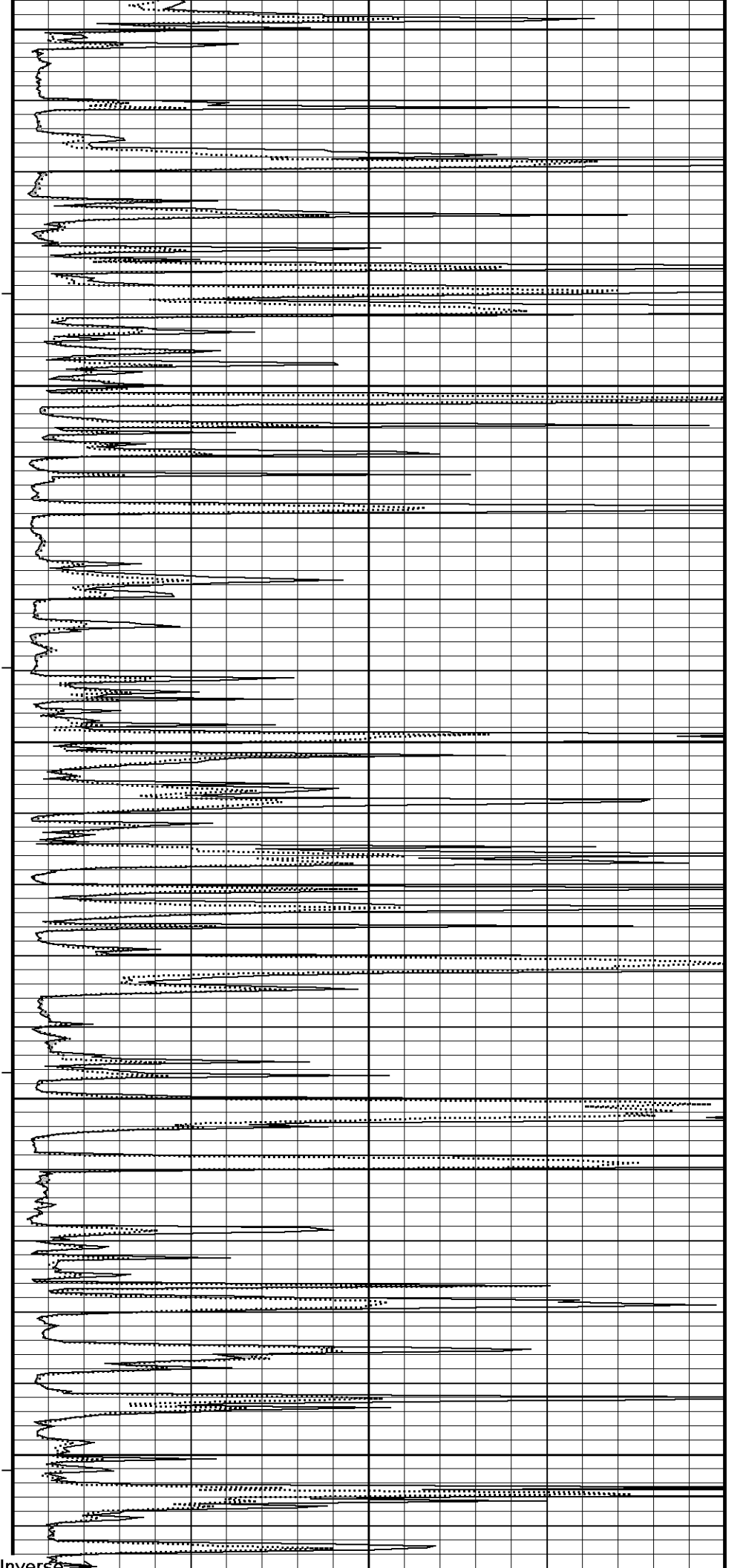
6600

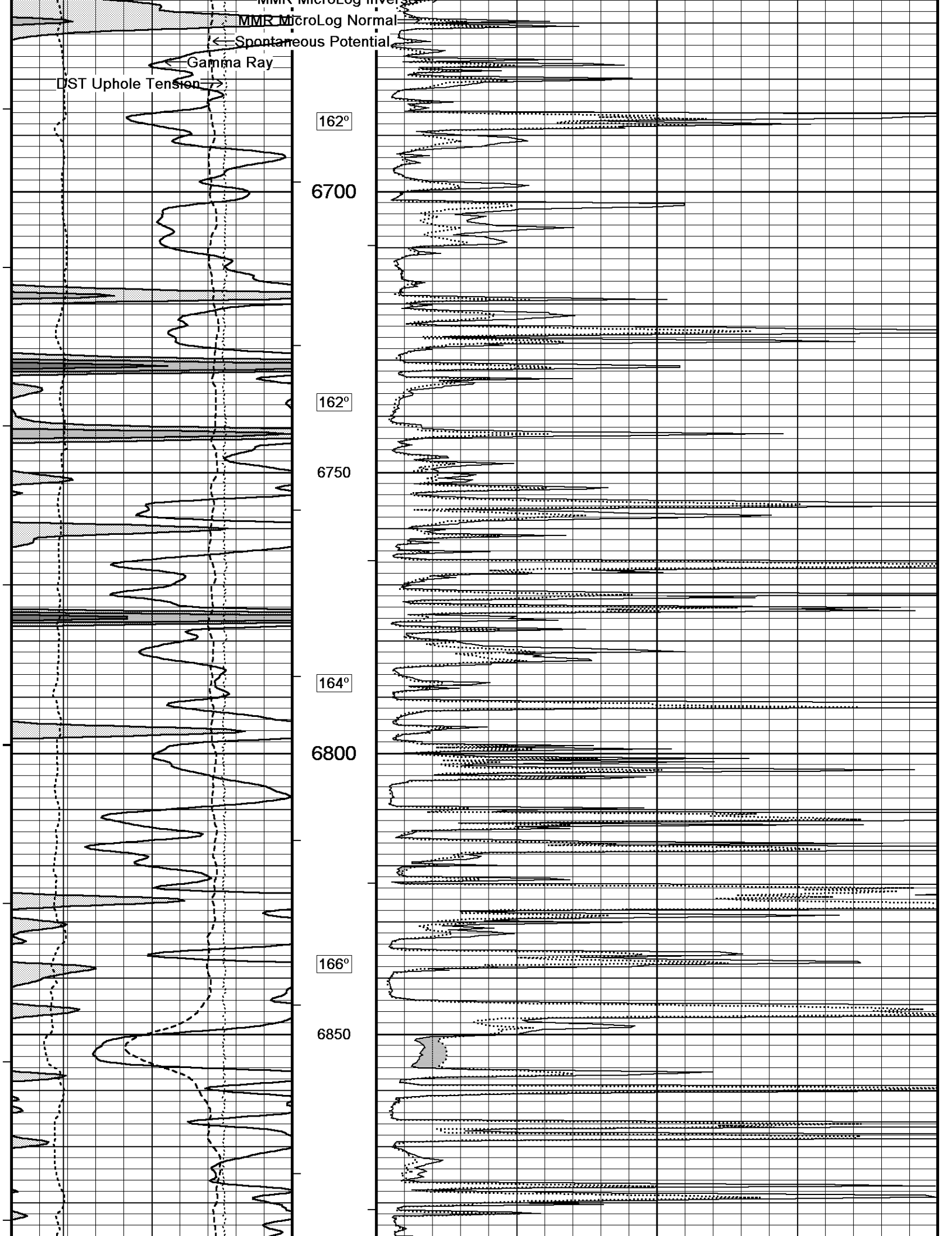
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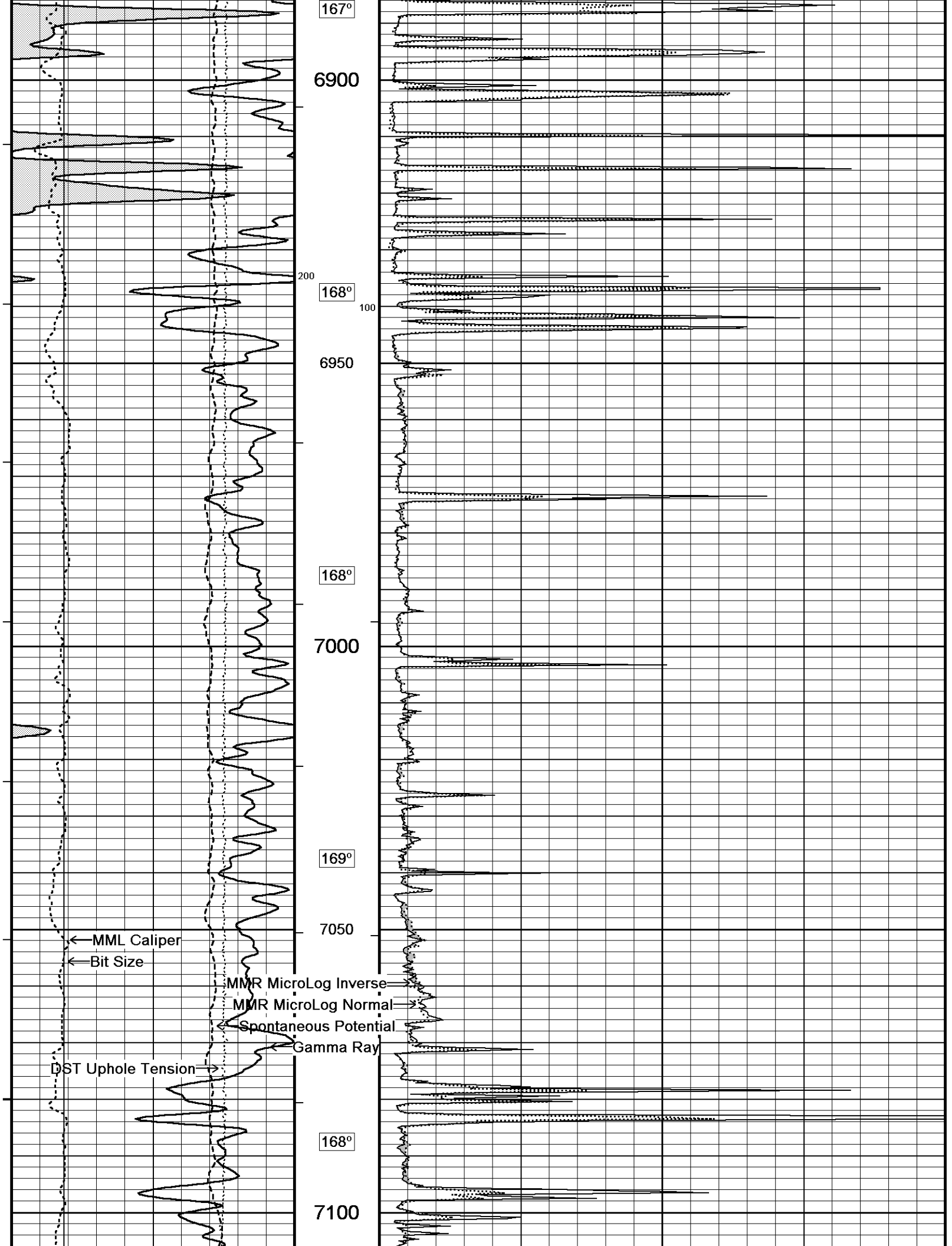
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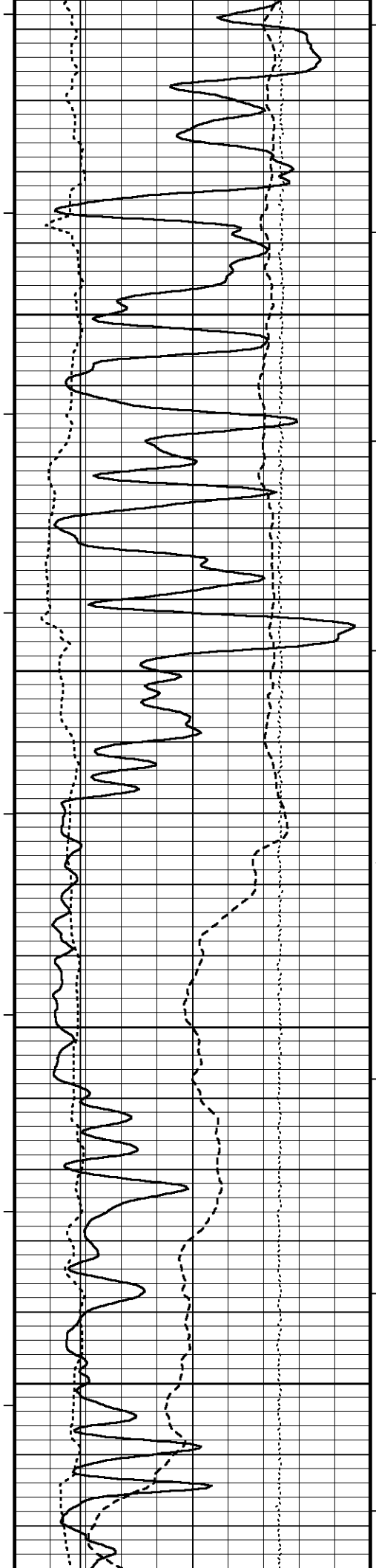
← MML Caliper
← Bit Size

MMP Microlog Inverse









168°

7150

171°

7200

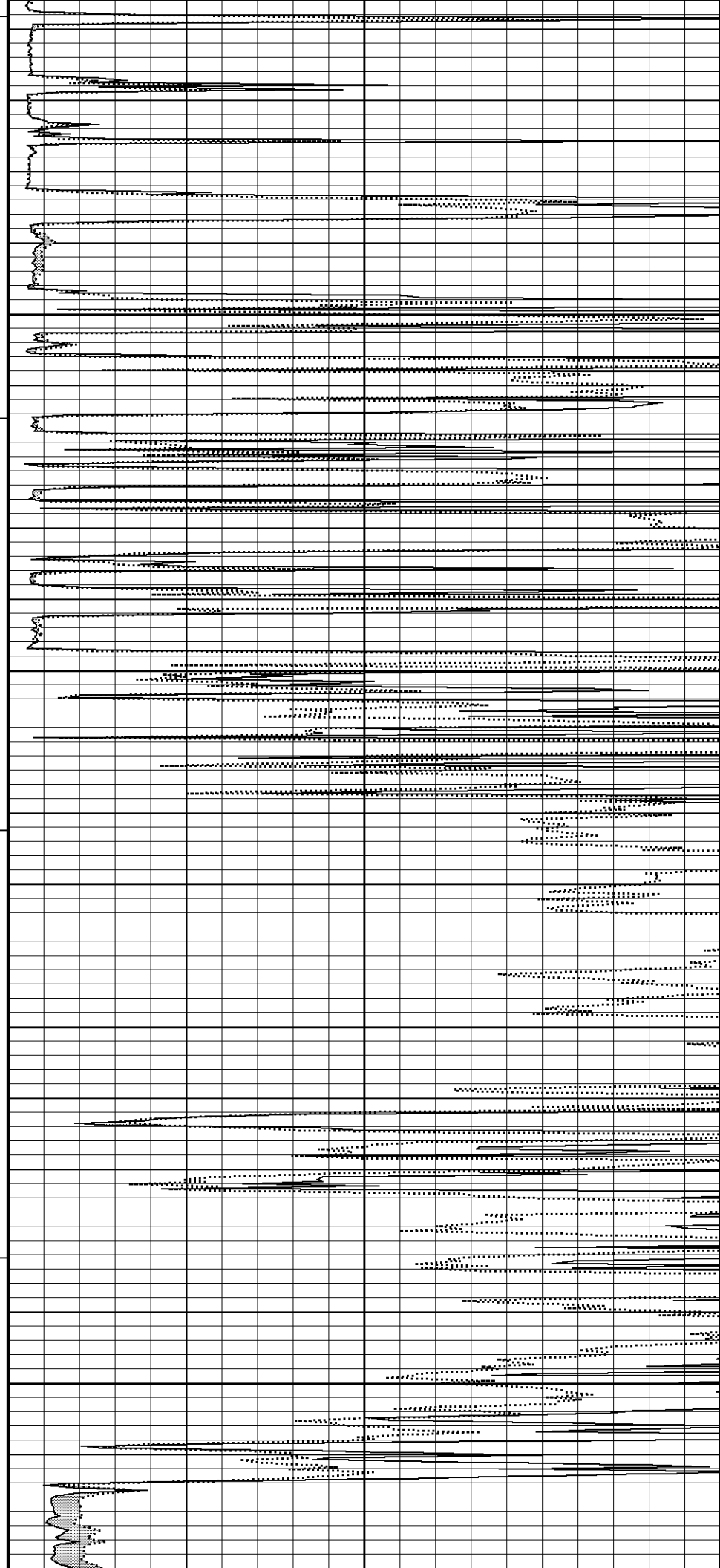
100

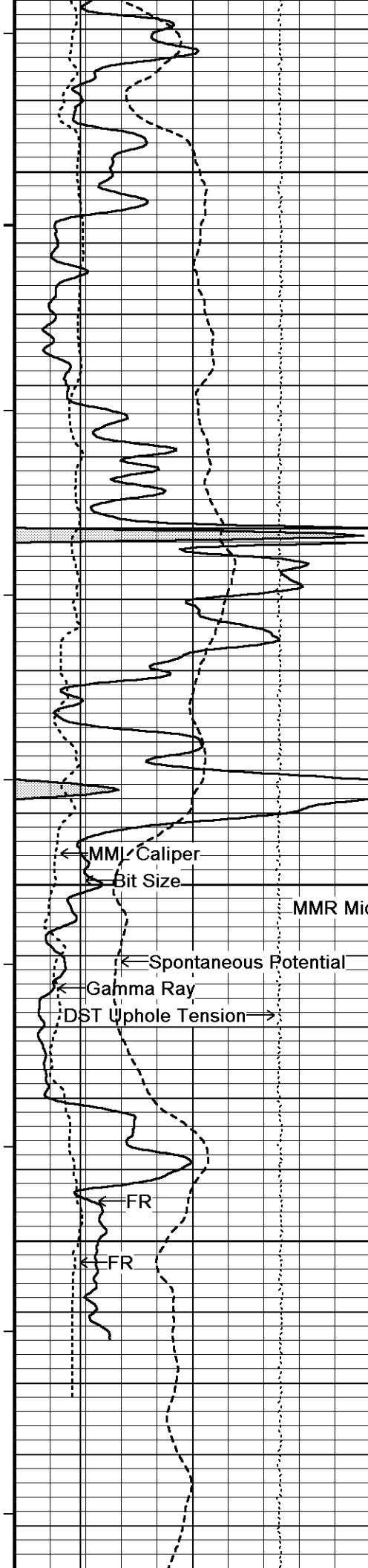
173°

7250

174°

7300





174°

7350

175°

7400

177°

7450

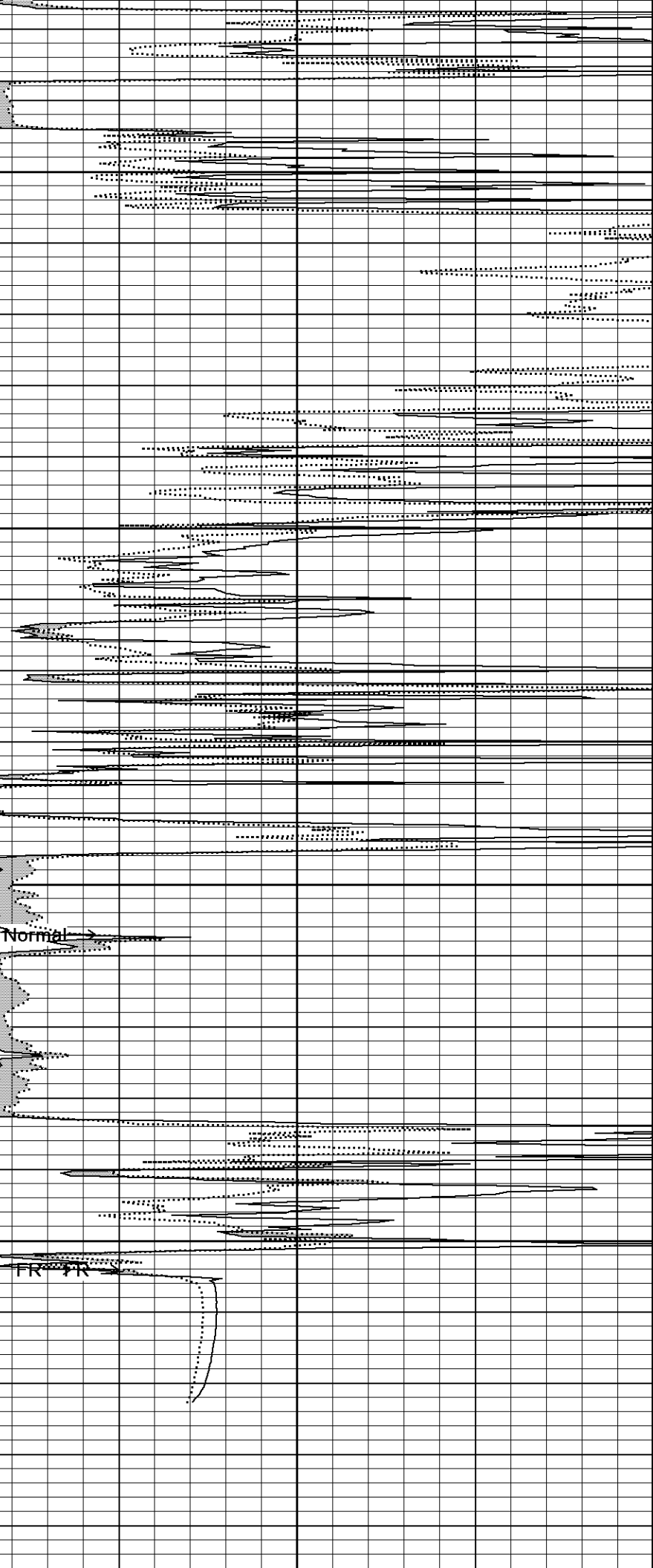
178°

7500

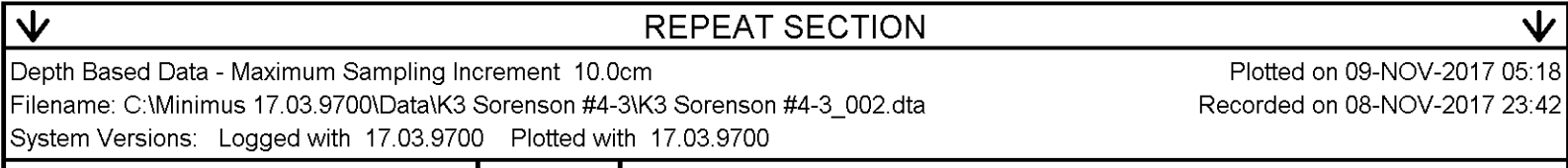
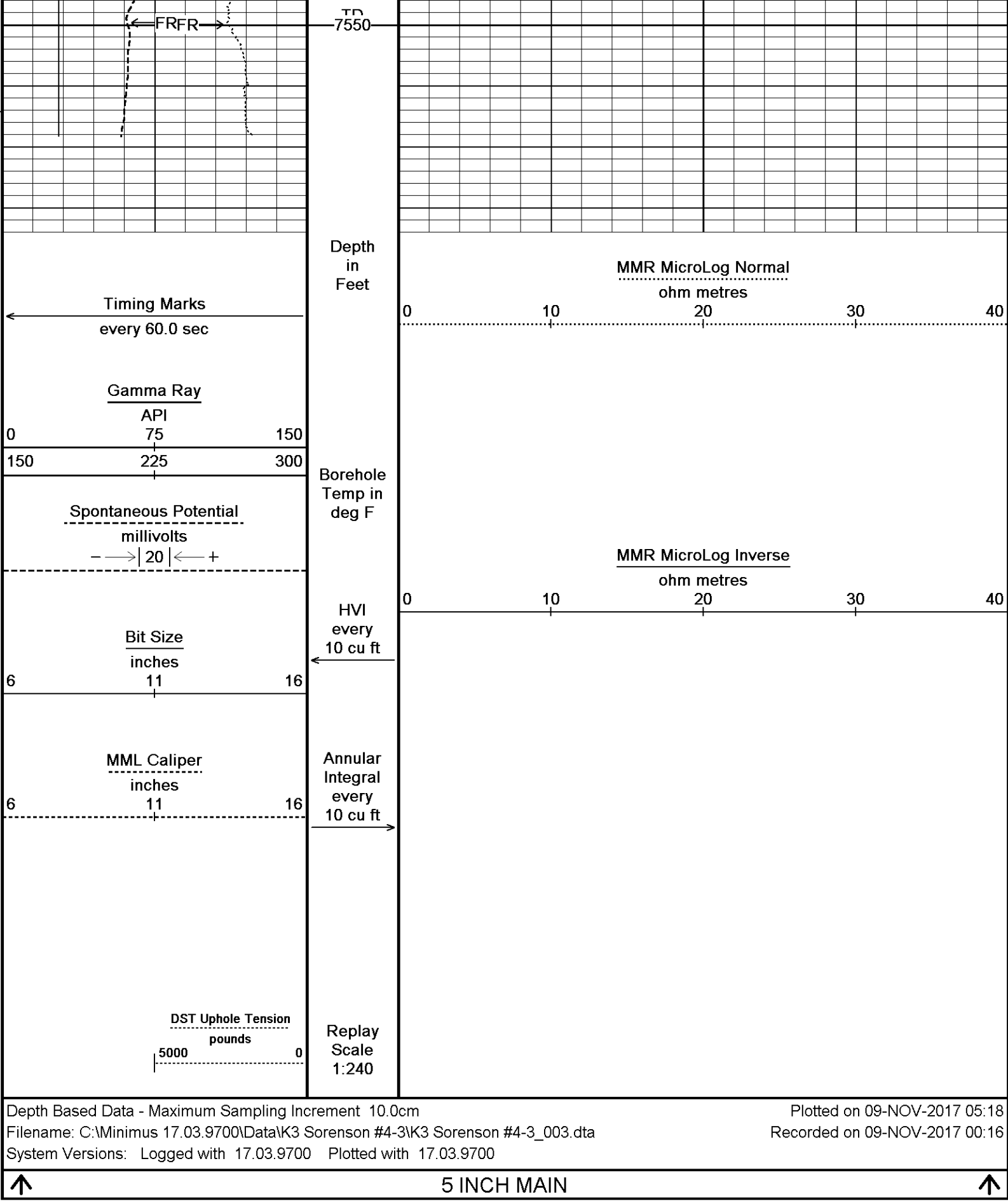
0

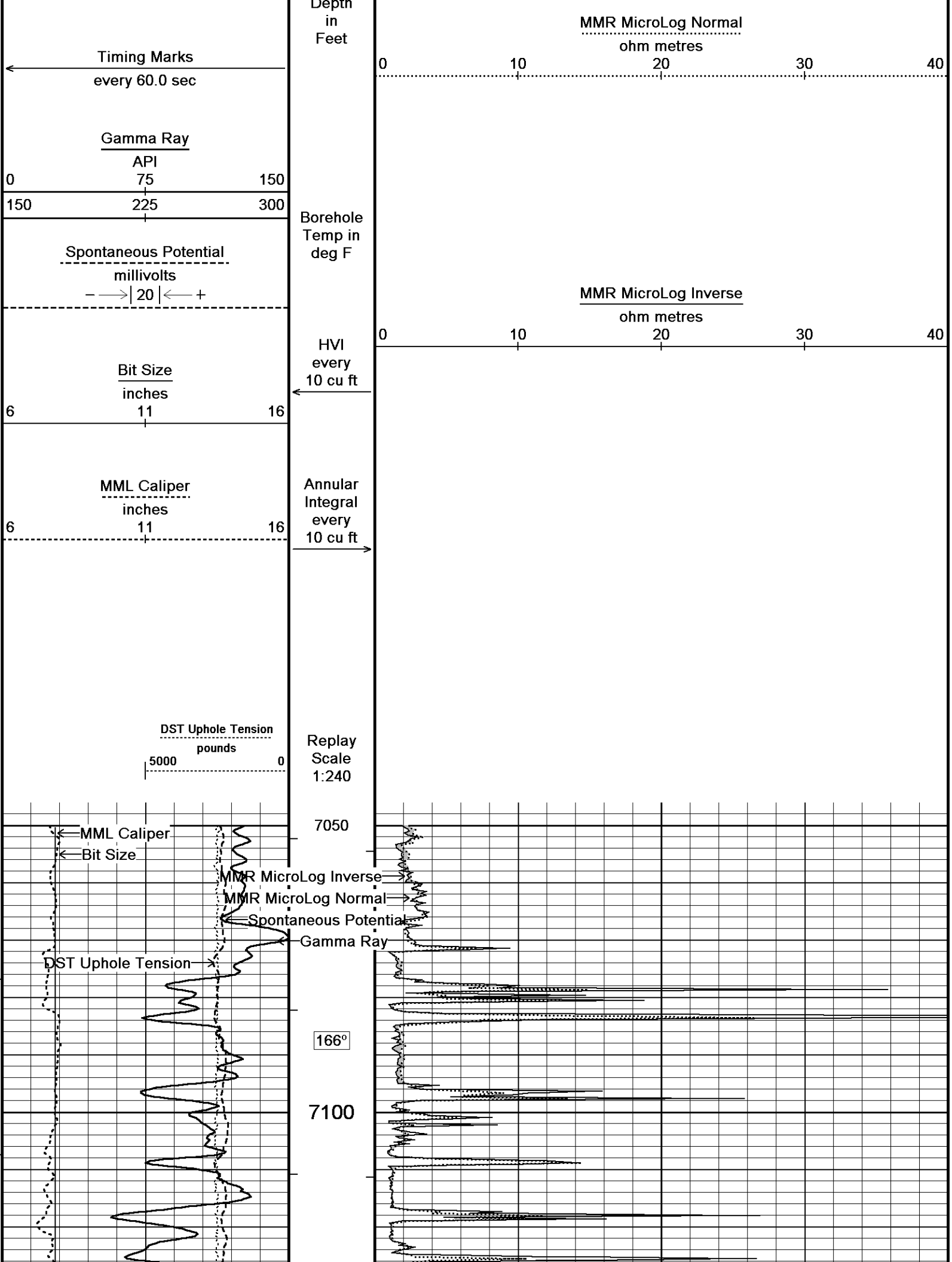
MMR MicroLog Inverse

MMR MicroLog Normal



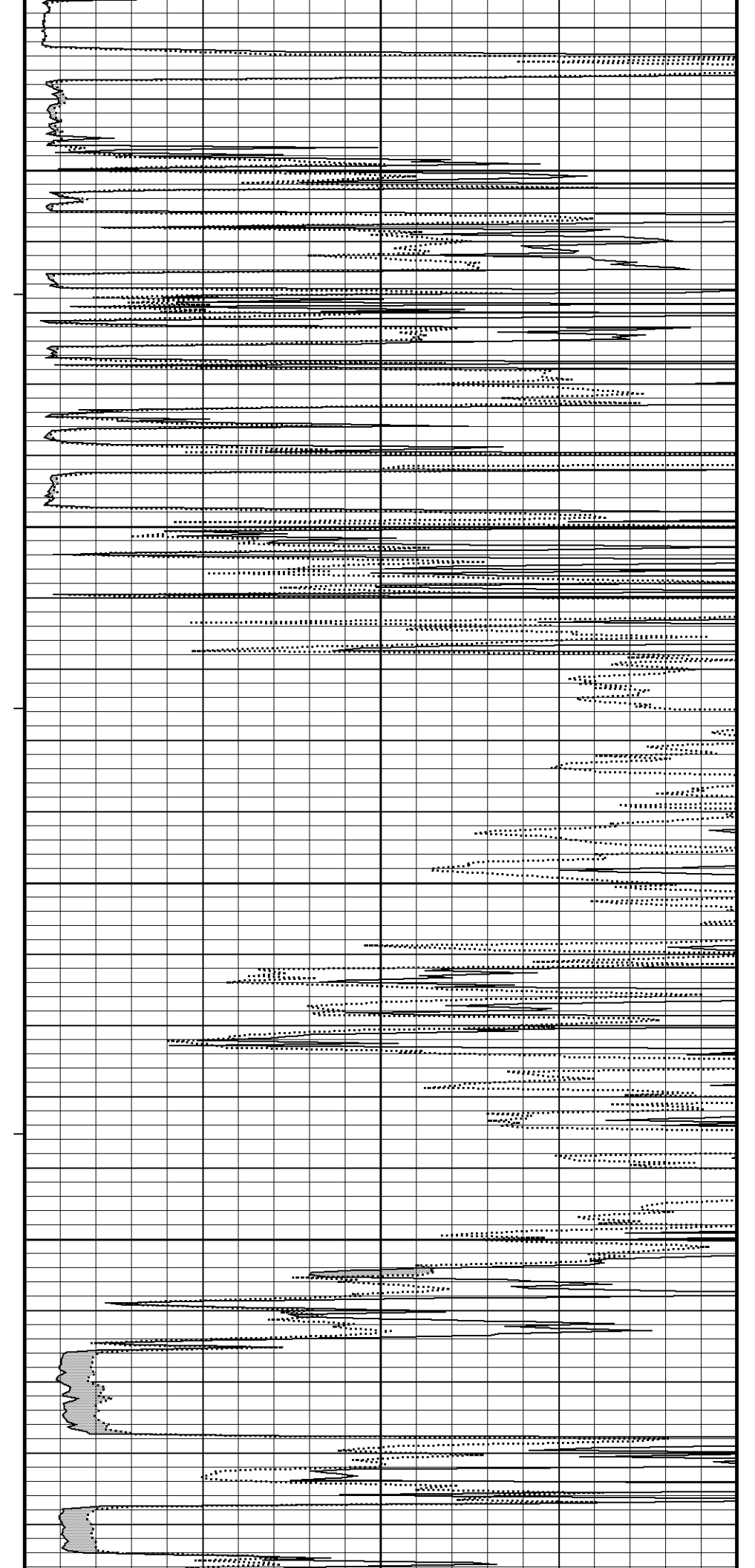
FR FR

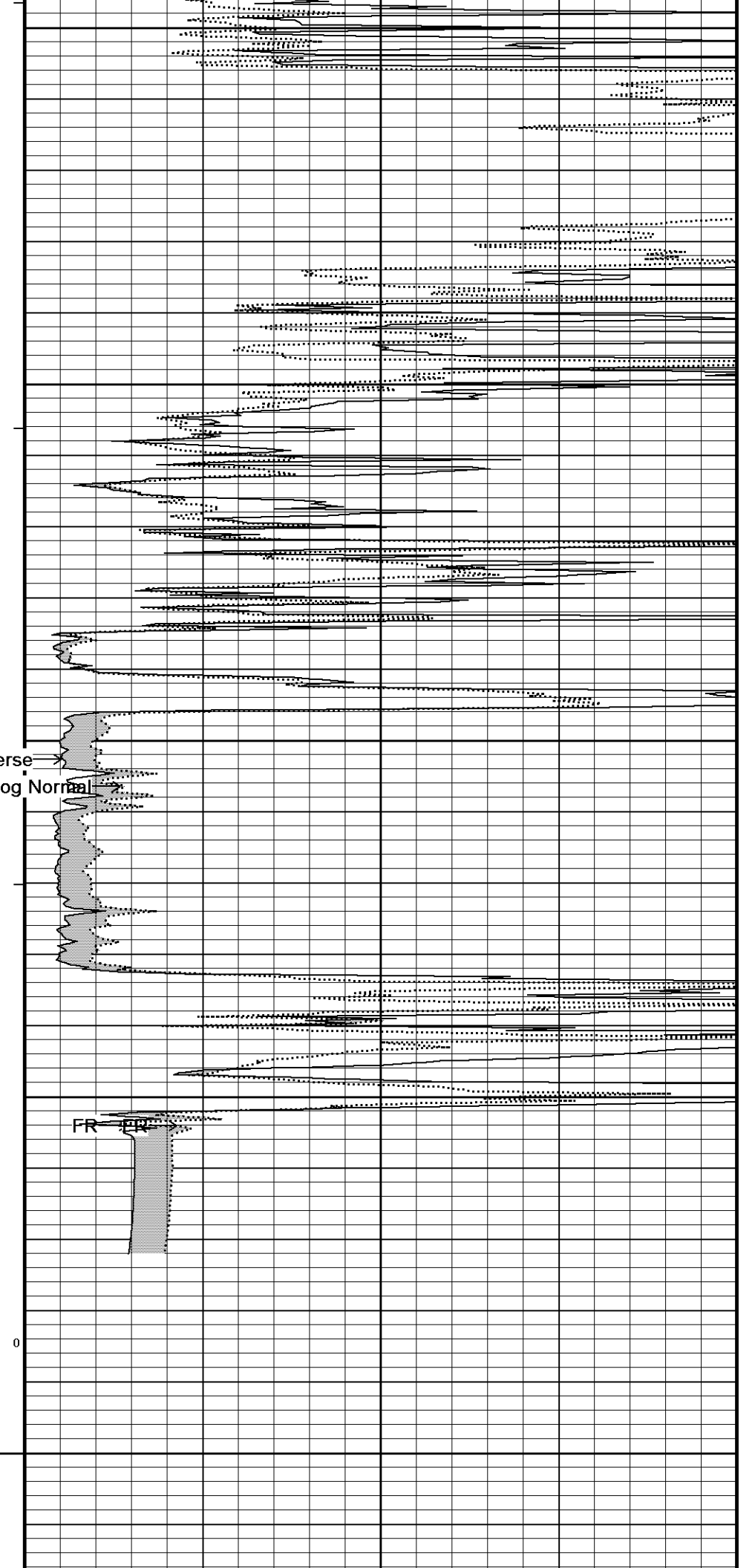
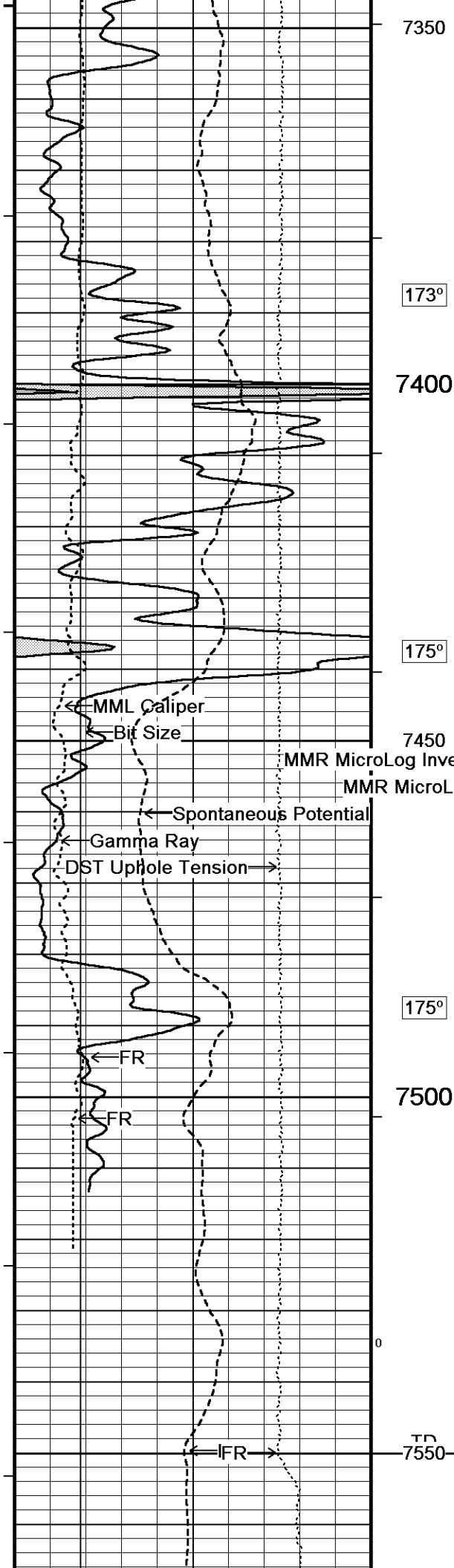


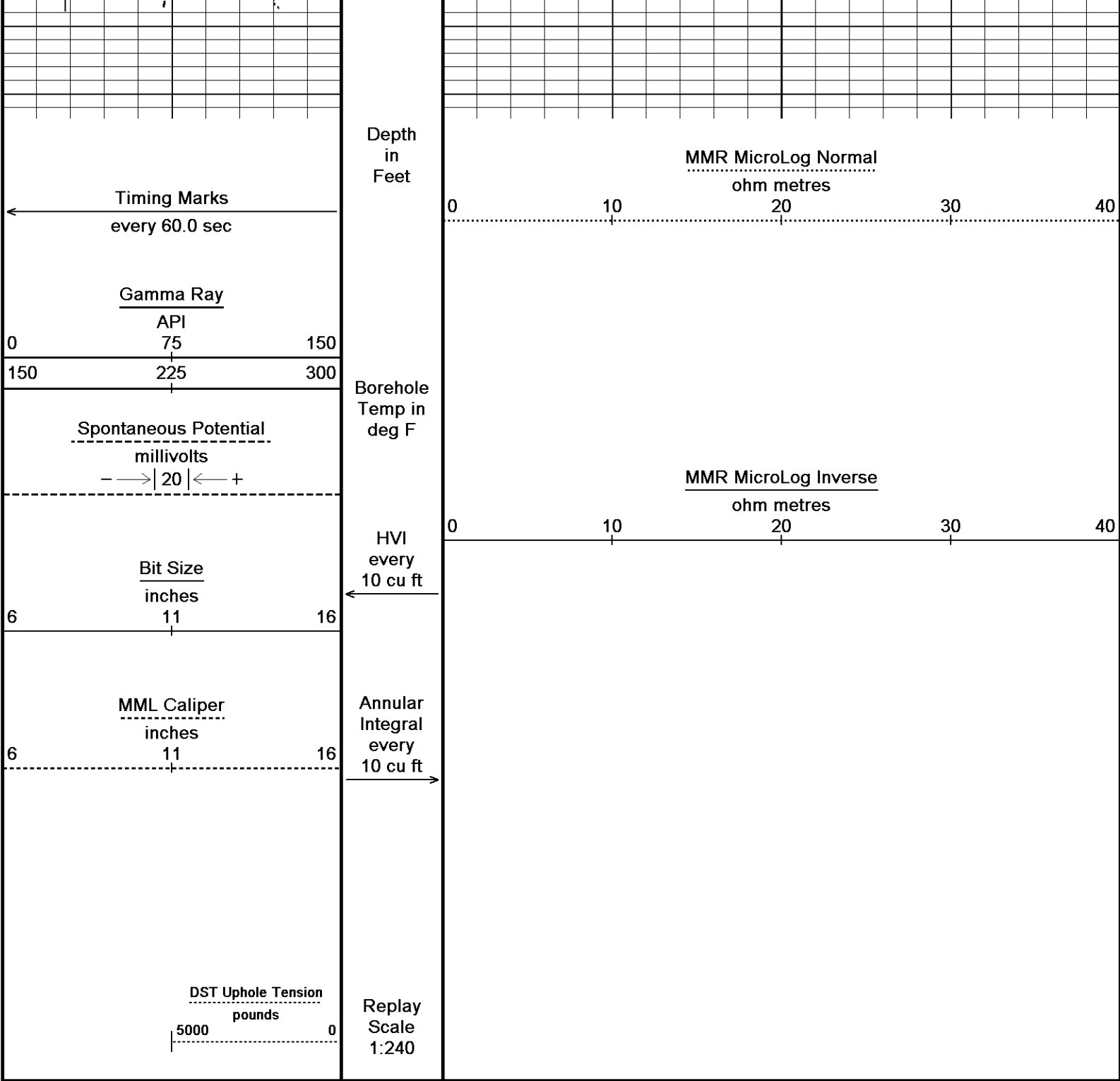




167°
7150
170°
7200
100
172°
7250
174°
7300
174°







Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\Minimus 17.03.9700\Data\K3 Sorenson #4-3\K3 Sorenson #4-3_002.dta
System Versions: Logged with 17.03.9700 Plotted with 17.03.9700

↑ REPEAT SECTION ↑

BEFORE SURVEY CALIBRATION		
C:\Minimus 17.03.9700\Data\K3 Sorenson #4-3\K3 Sorenson #4-3_002.dta		
General Constants All 000		Last Edited on 08-NOV-2017,09:45
General Parameters		
Mud Resistivity	1.760	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	None	
Rwa Parameters		
Porosity used	Crossplot Porosity	
Resistivity used	Array Ind. One Res Rt	
RWA Constant A	0.620	
RWA Constant M	2.150	
SW/APOR Tool Source	0.000	

Down-hole Tension Calibration SMS 0			Field Calibration on 03-NOV-2017 15:03
Reading No	Measured	Calibrated (lbs)	
1	-64.04	0.00	
2	-2337.74	481.00	

Gamma Calibration MCG-C 84			Field Calibration on 05-NOV-2017 09:45
	Measured	Calibrated (API)	
Background	97	67	
Calibrator (Gross)	758	523	
Calibrator (Net)	661	456	

Gamma Calibration Tolerances MCG-C 84		
Ratio	1.449	<div> <div>1.40</div> <div>1.475</div> <div>1.55</div> </div> Counts/API

Gamma Constants MCG-C 84			Last Edited on 08-NOV-2017,07:35
Gamma Calibrator Number	MCGGRCC141		
GRC-M Calibrator Jig in Use?	NO		
Inactive Background Jig in Use?	NO		
Mud Density	1.13	gm/cc	
Caliper Source for Processing	Density Caliper		
Tool Position	Eccentred		
Potassium Equivalence	Chloride		
K Mud Concentration	0.00	%	

SP Calibration MCG-C 84			Field Calibration on 27-OCT-2017,07:20
	Measured	Calibrated (mV)	
Reference 1	104.4	100.1	
Reference 2	-95.8	-100.1	

High Resolution Temperature Calibration MCG-C 84			Field Calibration on 27-OCT-2017,07:21
	Measured	Calibrated(Deg F)	
Lower	50.00	50.00	
Upper	212.00	212.00	

High Resolution Temperature Constants MCG-C 84			Last Edited on 30-AUG-2017,13:52
Pre-filter Length	11		

Micro Normal and Micro Inverse Calibration MML-A 7			Base Calibration on 23-OCT-2017 14:05
	Resistor 1 (ohm)	Resistor 2 (ohm)	Field Check on 03-NOV-2017 15:31
	10.0	50.0	
Base Calibration			
	Measured	Calibrated (ohm-m)	
Micro Normal	10.1 50.4	5.1 25.6	
Micro Inverse	10.0 50.1	3.4 16.9	
Channel	Base Check (ohm-m)	Field Check (ohm-m)	
Micro Normal	76.7	76.7	
Micro Inverse	51.0	51.0	

Micro Normal & Micro Inverse Calibration Tolerance MML-A 7		
Micro Normal Res. 1	10.1	<div> <div>-5%</div> <div>10.0</div> <div>+5%</div> </div> ohm
Micro Normal Res. 2	50.4	<div> <div>-5%</div> <div>50.0</div> <div>+5%</div> </div> ohm

Micro Inverse Res. 1	10.0	<div><div></div><div></div><div></div><div></div><div></div></div>	ohm	Micro Inverse Res. 2	50.1	<div><div></div><div></div><div></div><div></div><div></div></div>	ohm
Micro Normal Base Check	76.7	<div><div></div><div></div><div></div><div></div><div></div></div>	ohm-m				
Micro Inverse Base Check	51.0	<div><div></div><div></div><div></div><div></div><div></div></div>	ohm-m				
Micro Normal Field Check	76.7	<div><div></div><div></div><div></div><div></div><div></div></div>	ohm-m				
Micro Inverse Field Check	51.0	<div><div></div><div></div><div></div><div></div><div></div></div>	ohm-m				

Micro Normal and Micro Inverse Constants MML-A 7

Last Edited on 08-NOV-2017,07:35

Pad Type	8-12 in Soft Rubber Inflatable 006-9011-159
Micro Normal K Factor	0.5110
Micro Inverse K Factor	0.3380
Standoff Offset	N/A inches

Caliper Calibration MML-A 7

Base Calibration on 23-OCT-2017 13:59
Field Calibration on 03-NOV-2017 15:29

Base Calibration		
Reading No	Measured	Calibrator Size (in)
1	14085	5.98
2	17580	7.97
3	20846	9.86
4	24750	11.92
5	0	0.00
6	N/A	N/A
Field Calibration		
	Measured Caliper (in)	Actual Caliper (in)
	8.11	8.10

Caliper Calibration Tolerances MML-A 7

Short Arm Field Cal.	8.11	<div><div></div><div></div><div></div><div></div><div></div></div>	in
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Neutron Calibration MDN-A.B 114

Base Calibration on 25-OCT-2017 16:20
Field Check on 05-NOV-2017 09:48

Base Calibration				
	Measured	Calibrated (cps)		
	Near Far	Near Far		
	3039 94	3714 110		
Ratio	32.458	33.764		
Field Calibrator at Base		Calibrated (cps)		
		2150 3142		
Ratio		0.684		
Field Check		Calibrated (cps)		
		2141 3120		
Ratio		0.686		

Neutron Calibration Tolerances MDN-A.B 114

Ratio	32.458	<div><div></div><div></div><div></div><div></div><div></div></div>
Base Check	0.684	<div><div></div><div></div><div></div><div></div><div></div></div>
Field Check	0.686	<div><div></div><div></div><div></div><div></div><div></div></div>

Neutron Constants MDN-A.B 114

Last Edited on 08-NOV-2017,07:35

Neutron Source Id	P0204NN
Neutron Jig Number	NJ5736
Air Hole Processing	Modified Ratio
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

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	

FE Calibration MFE-B.J 352		Base Calibration on 23-OCT-2017 13:20 Field Check on 06-NOV-2017 11:50	
	Resistor 1 (ohm)	Resistor 2 (ohm)	
	0.0	1000.0	
Base Calibration			
	Measured	Calibrated (ohm-m)	
Reference 1	0.0	0.0	
Reference 2	963.8	126.8	
Base Check		281.3	
Field Check		281.2	

FE Calibration Tolerances MFE-B.J 352		
Reference 2	963.8	<div> <div>-3%</div> <div>980.0</div> <div>+3%</div> </div> ohm
Base Check	281.3	<div> <div>-2%</div> <div>277.0</div> <div>+2%</div> </div> ohm-m
Field Check	281.2	<div> <div>-2%</div> <div>281.3</div> <div>+2%</div> </div> ohm-m

FE Constants MFE-B.J 352		Last Edited on 08-NOV-2017,07:34	
Running Mode	No Sleeve		
MFE K Factor	0.1268		
Borehole Correction Constants			
Sonde Position	0.5	inches	
Hole Size Source	Density Caliper		
Hole Size Constant Value	N/A	inches	
Rm Source	Global Value: Temperature Corrected		
Temp. for Rm Corr.	MCG External Temperature		

Sonic Constants MSS-A.A 55		Last Edited on 08-NOV-2017,07:34			
Maximum Boundary Contrast	100.00	micro-sec/ft			
Fluid Transit Time	189.00	micro-sec/ft			
Limestone Transit Time	47.50	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			
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
7'	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
Waveform Discriminator Filter	N/A
Semblance Window Width	N/A micro-sec
Sonic Despiker	N/A

High Resolution Temperature Calibration MAI-A.A 111

Field Calibration on 01-OCT-2017,14:58

	Measured	Calibrated(Deg F)
Lower	50.00	50.00
Upper	212.00	212.00

High Resolution Temperature Constants MAI-A.A 111

Last Edited on 26-JUN-2014,15:06

Pre-filter Length 11

Induction Calibration MAI-A.A 111

Factory Loop Calibration 03-NOV-2017 04:57
Field Check on 05-NOV-2017 09:34

Factory Loop Calibration

Low Conductivity Reference Resistor	3.3 ohm
High Conductivity Reference Resistor	333.3 ohm

Array	Measured Signal (unitless)		Reference Conductivity (mmho/m)		Calibration	
	Low	High	Low	High	Gain	Offset
1 (near)	17.6	473.6	9.3	966.2	0.0	0.0
2	6.4	385.9	7.6	821.4	0.0	0.0
3	3.2	264.0	5.2	566.0	0.0	0.0
4 (far)	2.1	135.5	2.6	279.2	0.0	0.0
Array Temperature	23.0		Deg F			

Tool Checks

Array	Factory Reference (mmho/m)		Before Survey (mmho/m)		
	Low	High	Low	High	
1 (near)	10.7	3840.6	10.6	3840.6	
2	28.8	3498.9	28.7	3499.1	
3	28.2	2996.4	28.1	2996.7	
4 (far)	18.5	2041.3	18.5	2041.9	
Array Temperature	65.6		63.9		Deg F

Induction Check Tolerances MAI-A.A 111

Low Array 1	10.6	<div><div>9.2</div><div>10.7</div><div>12.2</div></div>	mmho/m	High Array 1	3840.6	<div><div>3839.1</div><div>3840.6</div><div>3842.1</div></div>	mmho/m
Low Array 2	28.7	<div><div>27.3</div><div>28.8</div><div>30.3</div></div>	mmho/m	High Array 2	3499.1	<div><div>3497.4</div><div>3498.9</div><div>3500.4</div></div>	mmho/m
Low Array 3	28.1	<div><div>26.7</div><div>28.2</div><div>29.7</div></div>	mmho/m	High Array 3	2996.7	<div><div>2994.9</div><div>2996.4</div><div>2997.9</div></div>	mmho/m
Low Array 4	18.5	<div><div>17.0</div><div>18.5</div><div>20.0</div></div>	mmho/m	High Array 4	2041.9	<div><div>2039.8</div><div>2041.3</div><div>2042.8</div></div>	mmho/m

Induction Constants MAI-A.A 111

Last Edited on 08-NOV-2017,07:34

Borehole Correction Constants

Tool Centred	No	
Hole Size Source	Density Caliper	
Hole Size Constant Value	N/A	inches
Stand-off Type	Fins	
Stand-off	0.50	inches
Number of Fins on Stand-off	8.0000	
Stand-off Fin Angle	45.00	degrees
Stand-off Fin Width	0.5000	inches
Rm Source	Global Value: Temperature Corrected	
Temp. for Rm Corr.	MCG External Temperature	
Borehole Correction Method	Default	
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

Symmetrised Receiver Gains

Receiver 1	1.00
Receiver 2	1.00
Receiver 3	1.00
Receiver 4	1.00

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	

Photo Density Calibration MPD-C.A 216

Base Calibration on 23-OCT-2017 14:37

Field Check on 06-NOV-2017 11:49

Density Calibration

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Background	1025	1218		
Reference 1	51146	24580	59556	30836
Reference 2	20383	2310	24941	2541

Field Check at Base

1024.7 1217.9

Field Check

1021.0 1211.5

PE Calibration

Base Calibration	Measured			Calibrated Ratio
	WS	WH	Ratio	
Background	187	916		
Reference 1	21227	50978	0.420	0.371
Reference 2	5863	20269	0.293	0.272

Field Check at Base

187.1

916.4

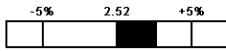
Field Check

185.7

907.5

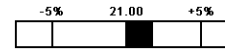
Photo Density Calibration Tolerances MPD-C.A 216

Near Density Ratio 2.59



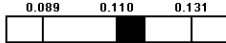
Far Density Ratio

21.38

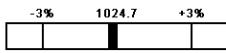


PE Calibration

0.118

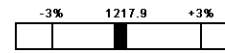


Near Den. Field Check 1021.0



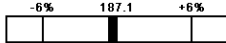
Far Den. Field Check

1211.5



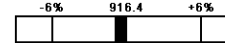
PE WS Field Check

185.7



PE WH Field Check

907.5



Density Constants MPD-C.A 216

Last Edited on 08-NOV-2017,07:35

Density Source Id P50557B
 Nylon Calibrator Number DNCE695
 Aluminium Calibrator Number DACD698
 Density Shoe Profile 8 inch
 Caliper Source for Processing Density Caliper
 PE Correction to Density Not Applied
 Mud Density 1.13 gm/cc
 Mud Density Type
 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
 Precision Enhanced Density Processing Not Applied

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

Caliper Calibration MPD-C.A 216

Base Calibration on 23-OCT-2017 14:16

Field Calibration on 06-NOV-2017 12:00

Base Calibration

Reading No

Measured

Calibrator Size (in)

1

16832

3.99

2

27040

5.98

3

37135

7.97

4

46864

9.86

5

58032

11.92

6

N/A

N/A

Field Calibration

Measured Caliper (in)

8.92

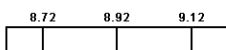
Actual Caliper (in)

8.92

Caliper Calibration Tolerances MPD-C.A 216

Short Arm Field Cal.

8.92



in

DOWNHOLE EQUIPMENT

C:\Minimus 17.03.9700\Data\K3 Sorenson #4-3\K3 Sorenson #4-3_002.dta

Cablehead, 11 pin

CBH-C 0 LG: 2.40 ft WT: 24.3 lb OD: 2.244 in

Compact Comms Gamma

MCC-C 84 LG: 8.70 ft WT: 63.9 lb OD: 2.244 in



55.39 ft

GRGC - MCG Gamma Ray

MCG-C 84 LG: 8.70 ft WT: 63.9 lb OD: 2.244 in

Compact Micro-log

MML-A 7 LG: 7.97 ft WT: 81.6 lb OD: 2.244 in

Compact Neutron

MDN-A.B 114 LG: 5.04 ft WT: 50.7 lb OD: 2.244 in

Compact Density/Caliper

MPD-C.A 216 LG: 9.59 ft WT: 90.4 lb OD: 2.449 in

Compact Focussed Electric

MFE-B.J 352 LG: 6.05 ft WT: 48.5 lb OD: 2.244 in

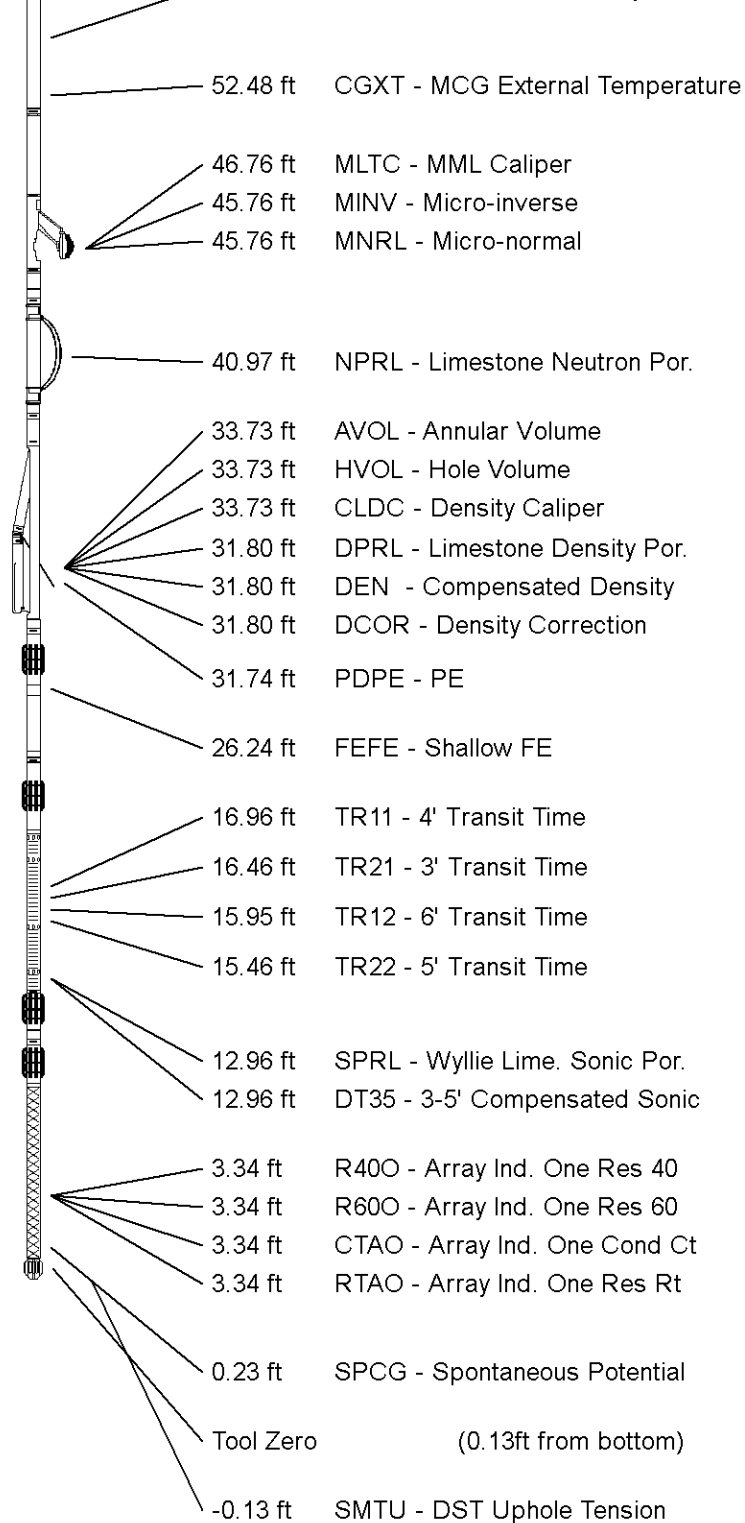
Compact Sonic

MSS-A.A 55 LG: 12.52 ft WT: 72.8 lb OD: 2.244 in

Compact Induction

MAI-A.A 111 LG: 10.81 ft WT: 48.5 lb OD: 2.244 in

Total Length: 63.07 ft Weight: 480.6 lb



All measurements relative to tool zero.

COMPANY

K3 OIL & GAS OPERATING COMPANY

WELL

SORENSEN #4-3

FIELD

WILDCAT

PROVINCE/COUNTY

LINCOLN

COUNTRY/STATE

U.S.A. / COLORADO

Elevation Kelly Bushing	5048	feet
Elevation Drill Floor	5046	feet
Elevation Ground Level	5030	feet

First Reading	7504.00	feet
Depth Driller	7550.00	feet
Depth Logger	7550.00	feet



