



Weatherford

MICRORESISTIVITY LOG

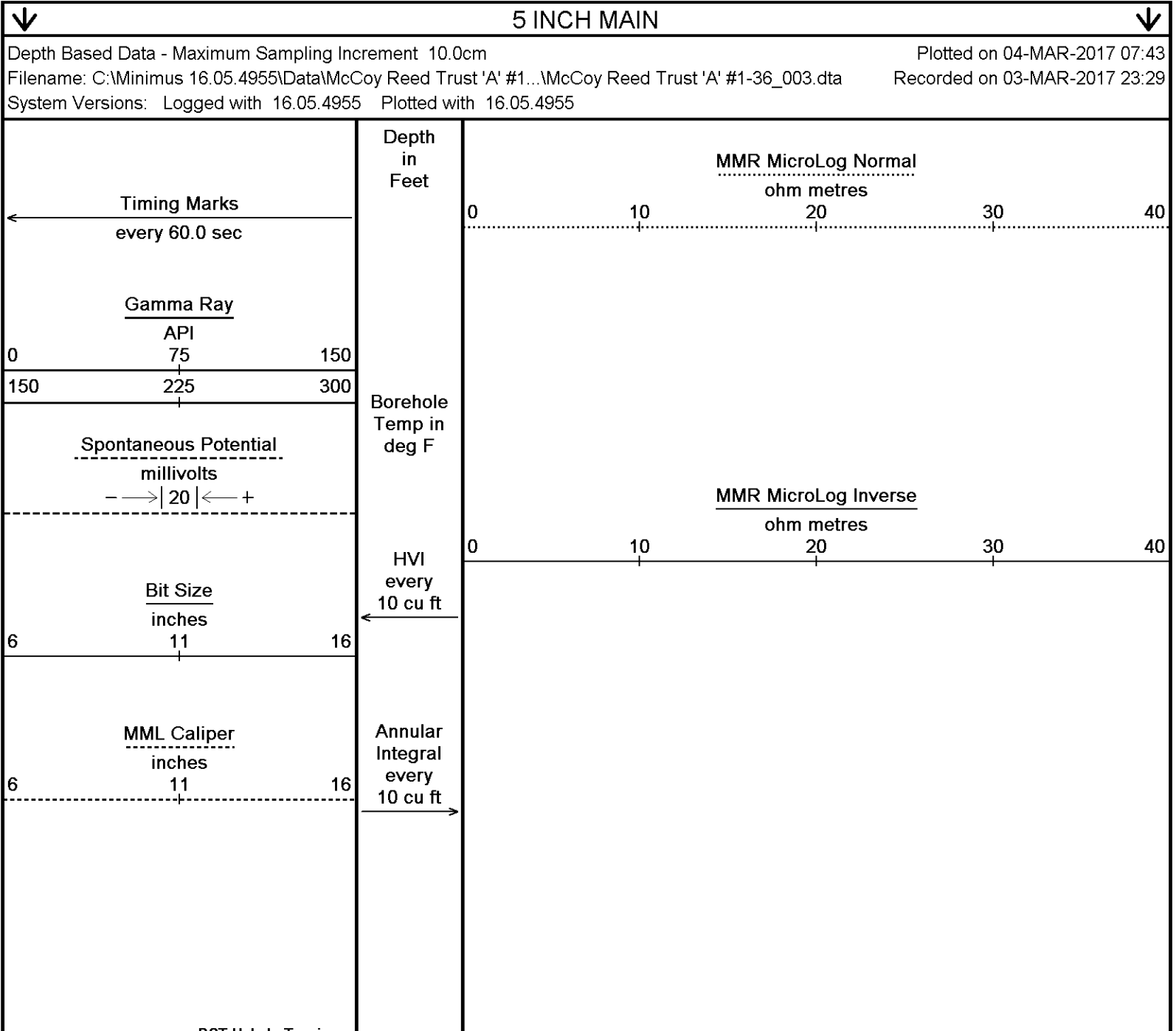
COMPANY		McCoy PETROLEUM CORPORATION	
WELL		REED TRUST "A" #1-36	
FIELD		WILDCAT	
PROVINCE/COUNTY		GRAY	
COUNTRY/STATE		U.S.A. / KANSAS	
LOCATION		660' FNL & 660' FEL	
SEC 36	TWP 28S	RGE 29W	Other Services
Latitude	37.574874	MAI/MFE	MPD/MDN
Longitude	-100.436004	MSS	
API Number	15-069-20498		
Permanent Datum GL, Elevation 2769 feet			
Log Measured From KB, 11.00 feet above Permanent Datum			
Drilling Measured From KB			
Date	03-MAR-2017	Elevations: KB 2780.00 DF 2778.00 GL 2769.00	
Run Number	ONE		
Service Order	4558-175770542		
Depth Driller	5500.00	feet	
Depth Logger	5501.00	feet	
First Reading	5455.00	feet	
Last Reading	2700.00	feet	
Casing Driller	1781.00	feet	
Casing Logger	1776.00	feet	
Bit Size	7.875	inches	
Hole Fluid Type	CHEMICAL		
Density / Viscosity	9.05 lb/USg	54.00 CP	
PH / Fluid Loss	10.00	8.00 ml/30Min	
Sample Source	FLOWLINE		
Rm @ Measured Temp	0.99 @ 75.0	ohm-m	
Rmf @ Measured Temp	0.79 @ 75.0	ohm-m	
Rmc @ Measured Temp	1.19 @ 75.0	ohm-m	
Source Rmf / Rmc	CALC	CALC	
Rm @ BHT	0.65 @ 115.0	ohm-m	
Time Since Circulation	5 HOURS		
Max Recorded Temp	115.00	deg F	
Equipment / Base	13096	LIB	
Recorded By	ADAM SILL		
Witnessed By	ZACH WIELE		

BOREHOLE RECORD				Last Edited: 03-MAR-2017 20:48
Bit Size inches		Depth From feet		Depth To feet
7.875		1781.00		5500.00
CASING RECORD				
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	1781.00	24.00

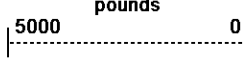
REMARKS
- SOFTWARE ISSUE: WLS 16.05.4955.
- RUN ONE: MCG, MML, MDN, MPD, MFE, MSS, MAI RUN IN COMBINATION. - HARDWARE: DUAL BOWSPRING USED ON MDN. 0.5 INCH STANDOFF USED ON MFE. TWO 0.5 INCH STANDOFFS USED ON MSS. 0.5 INCH STANDOFF USED ON MAI.
- RUN TWO: SHA, MCG, MIM, MIE RUN IN COMBINATION.
- 2.71 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: 1385 CU.FT.

- ANNULAR HOLE VOLUME WITH 4.5 INCH PRODUCTION CASING FROM TD TO 2700 FEET: 638 CU.FT.
- RIG: STERLING #4.
- ENGINEER: A. SILL.
- OPERATOR: B. TOVAR.

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.



DS1 Uphole Tension
pounds



Replay
Scale
1:240

2700

96°

2750

96°

2800

900

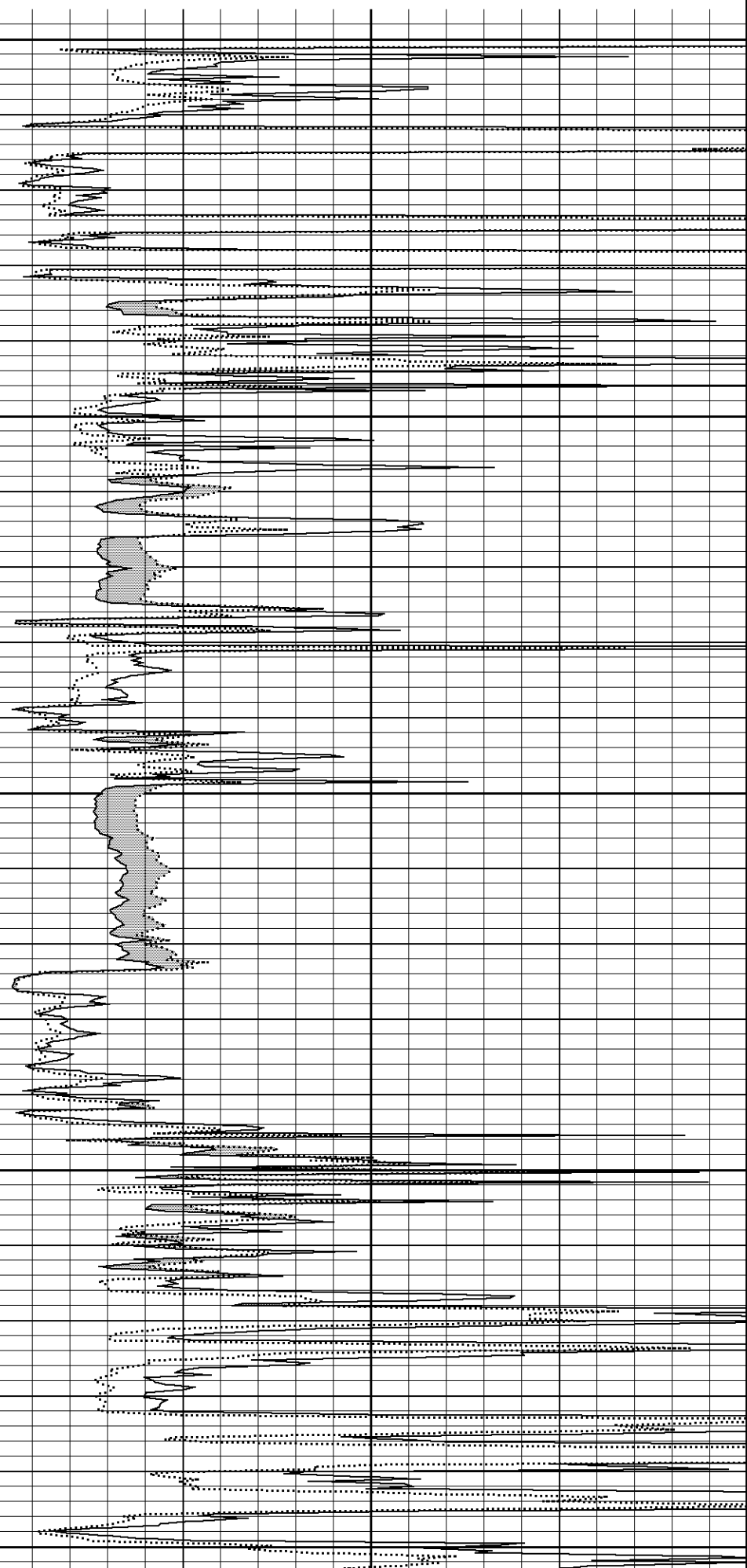
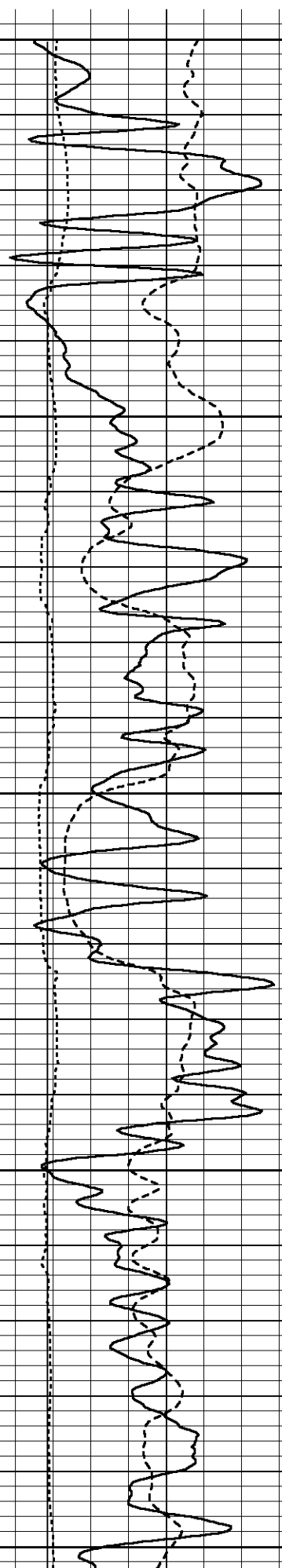
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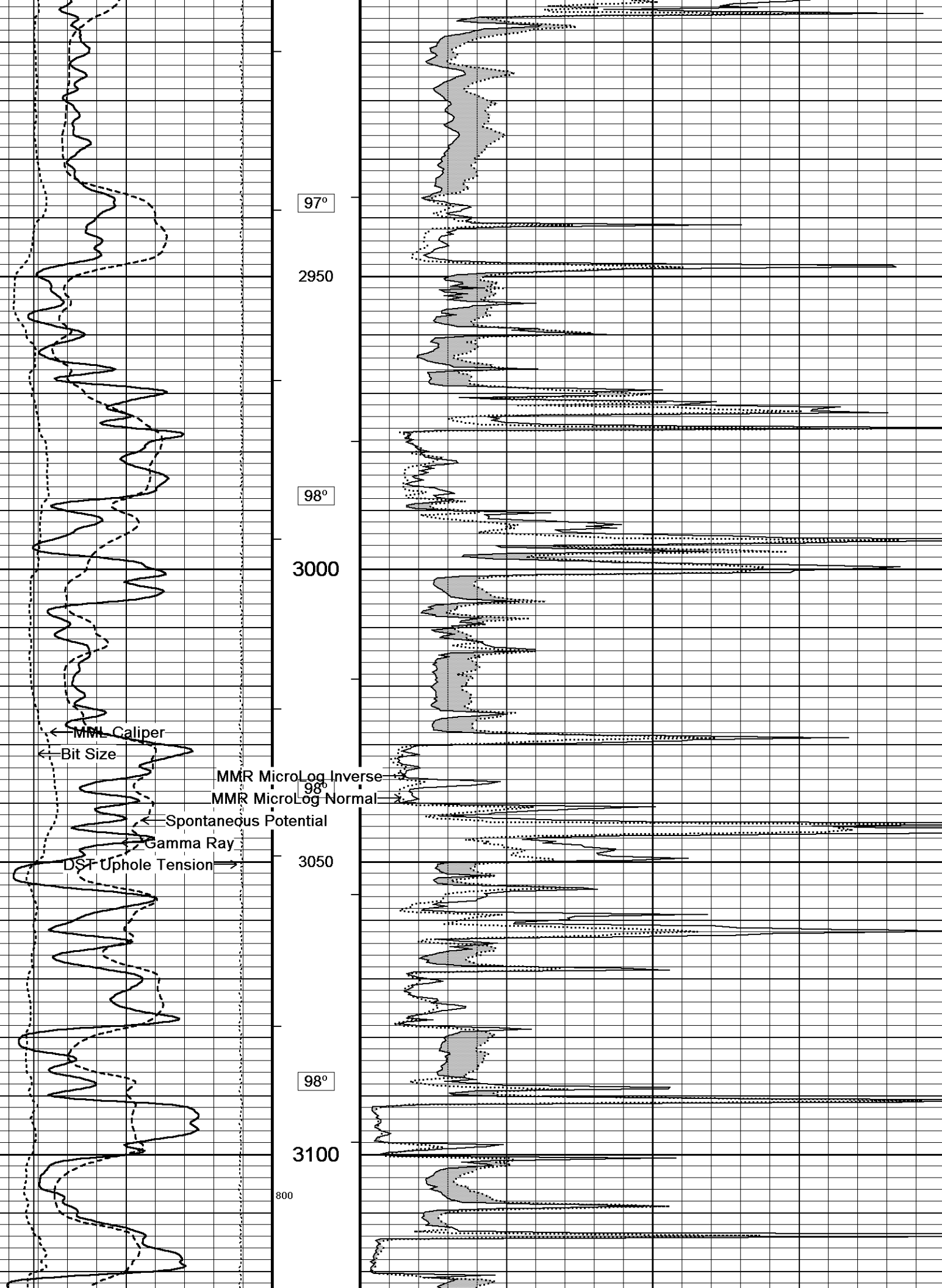
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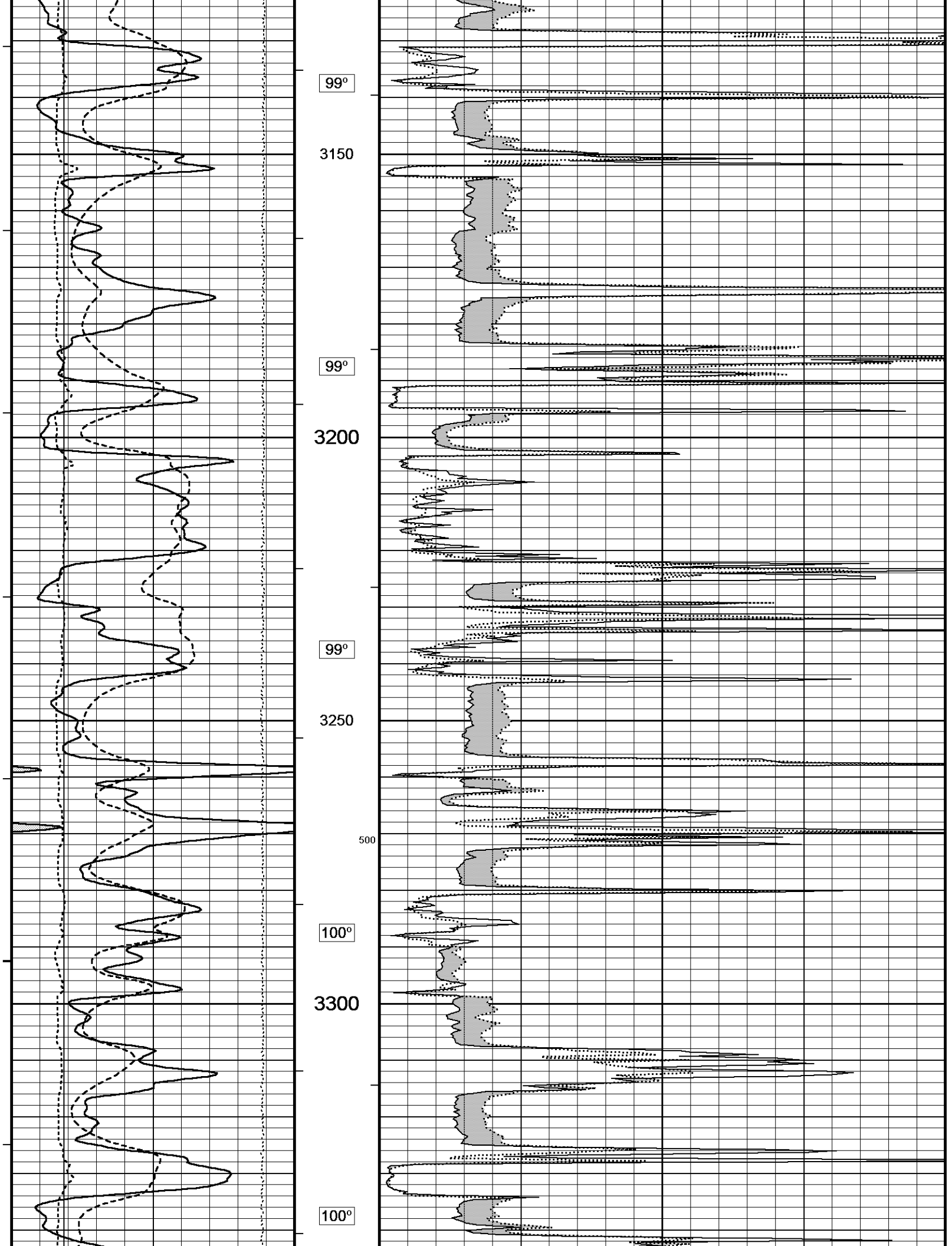
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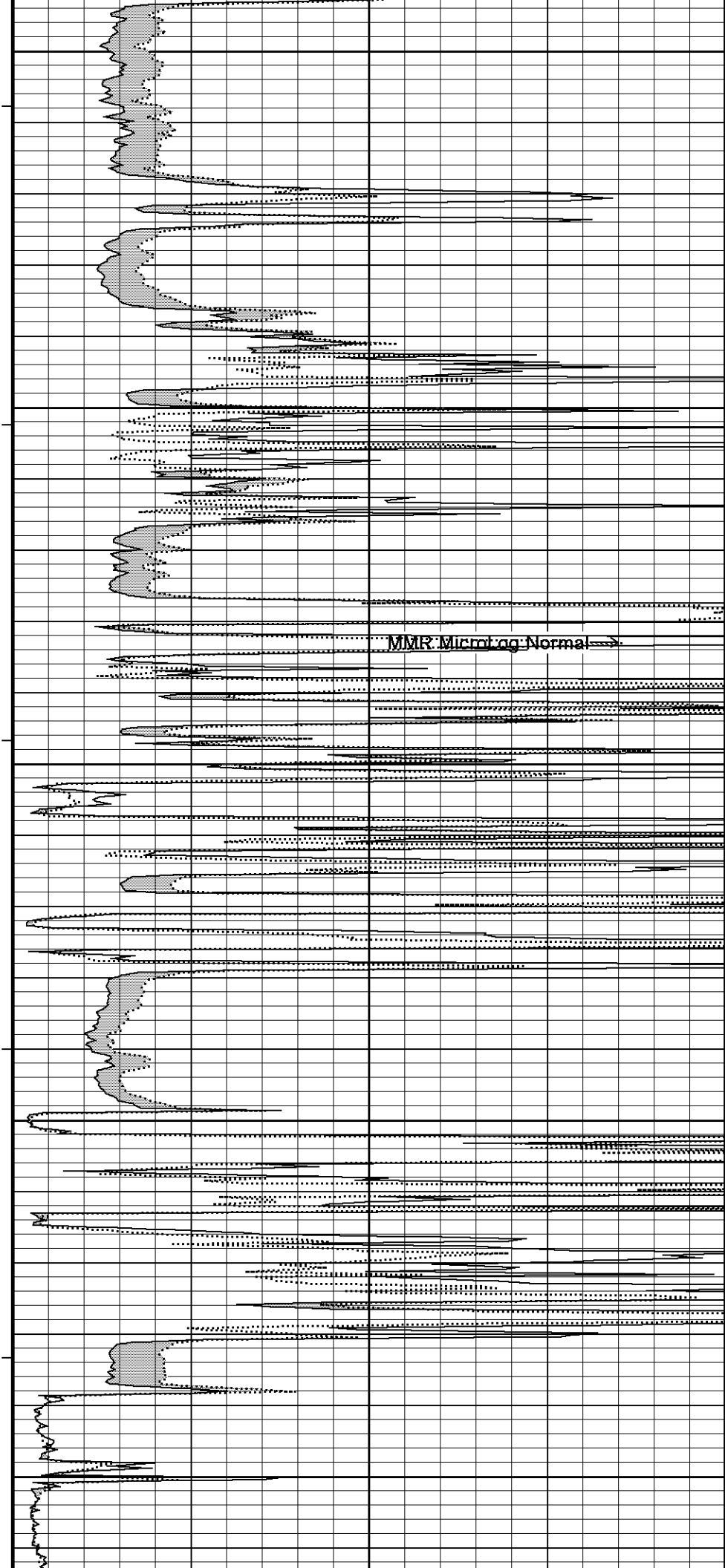
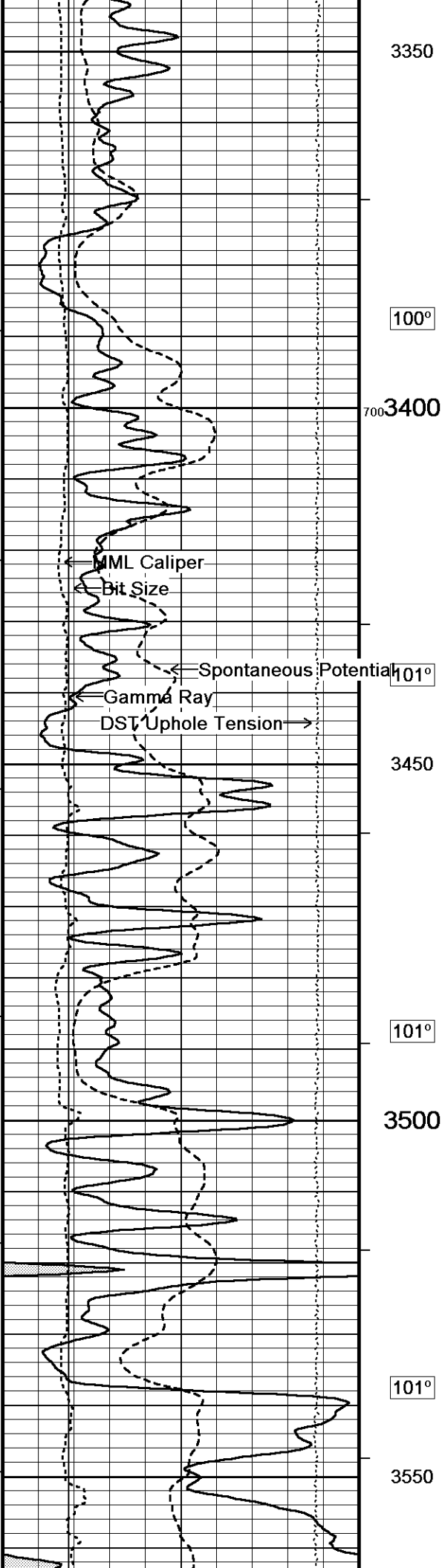
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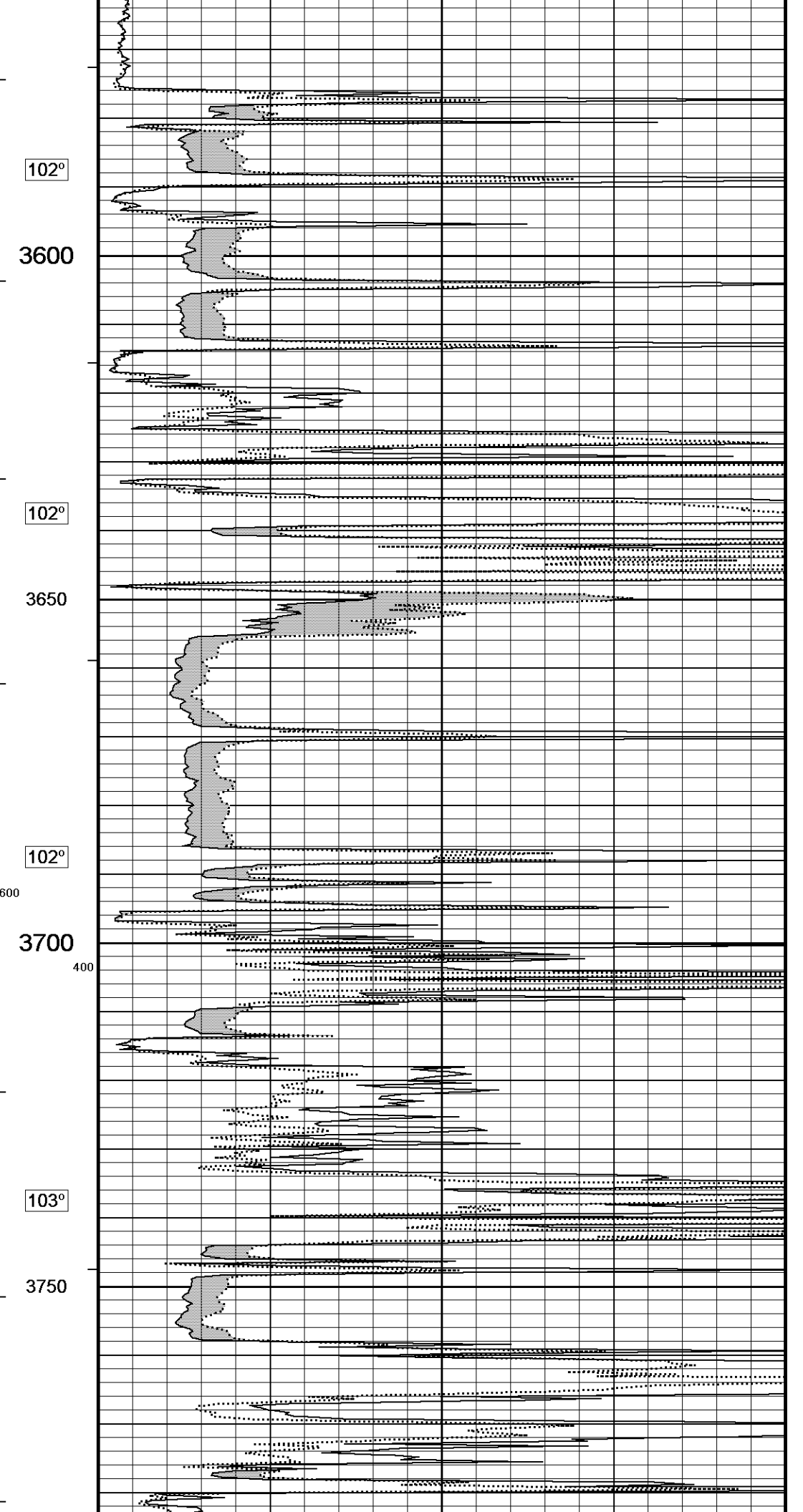
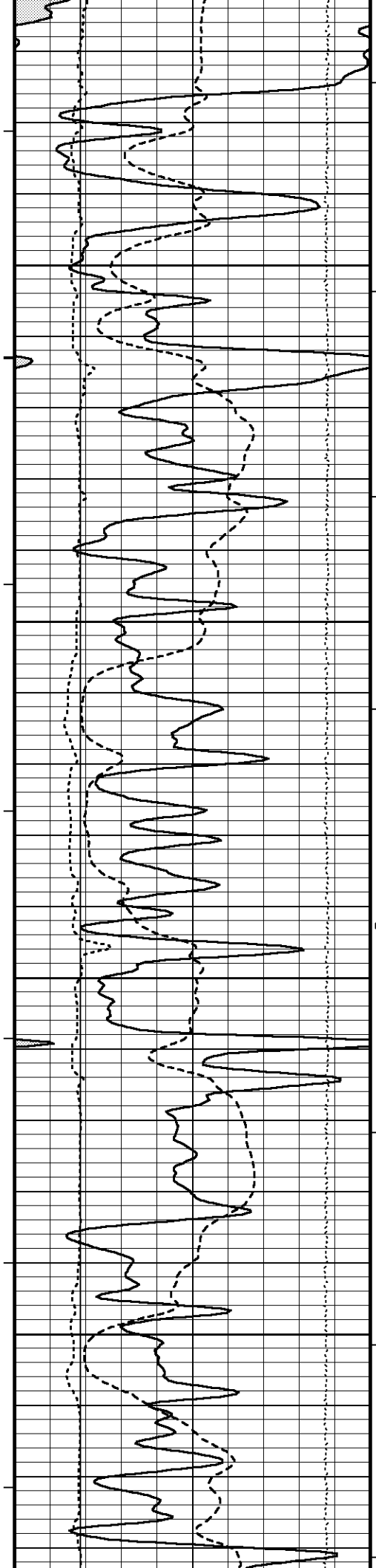
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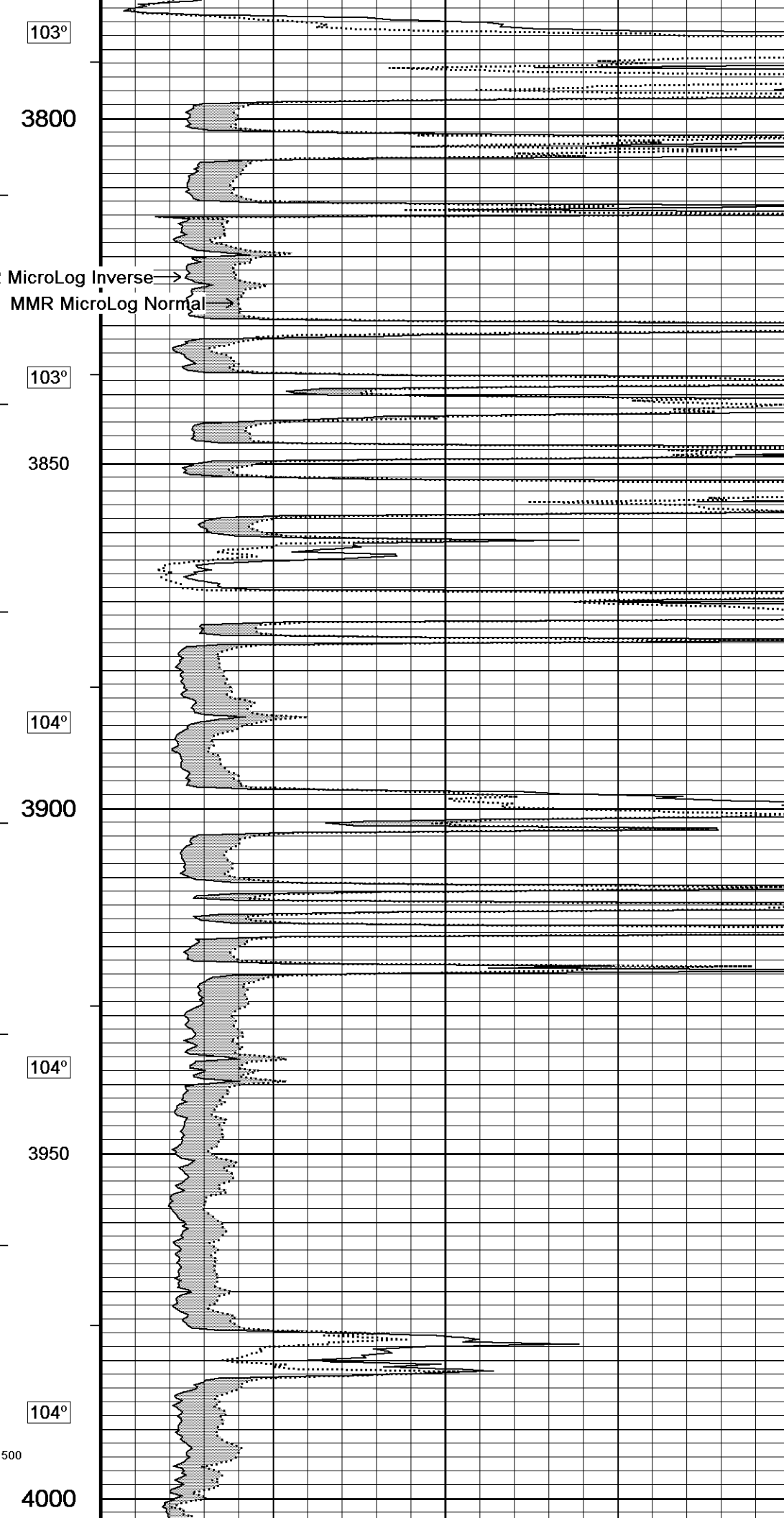
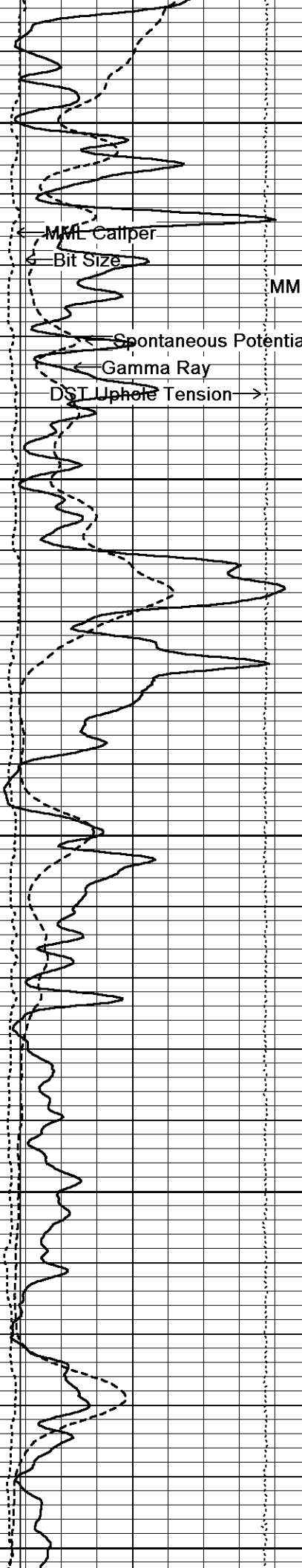


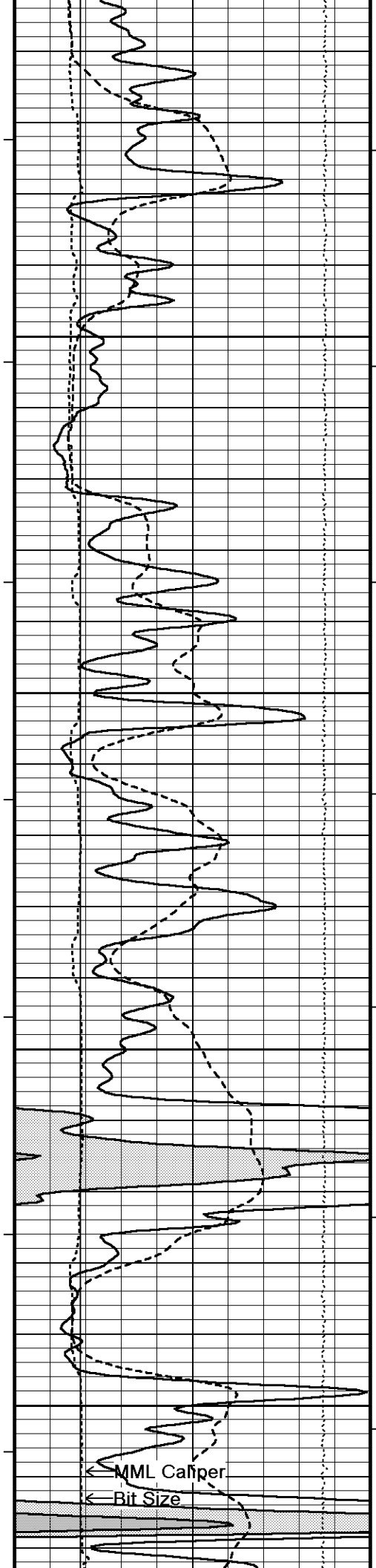












104°

4050

105°

4100

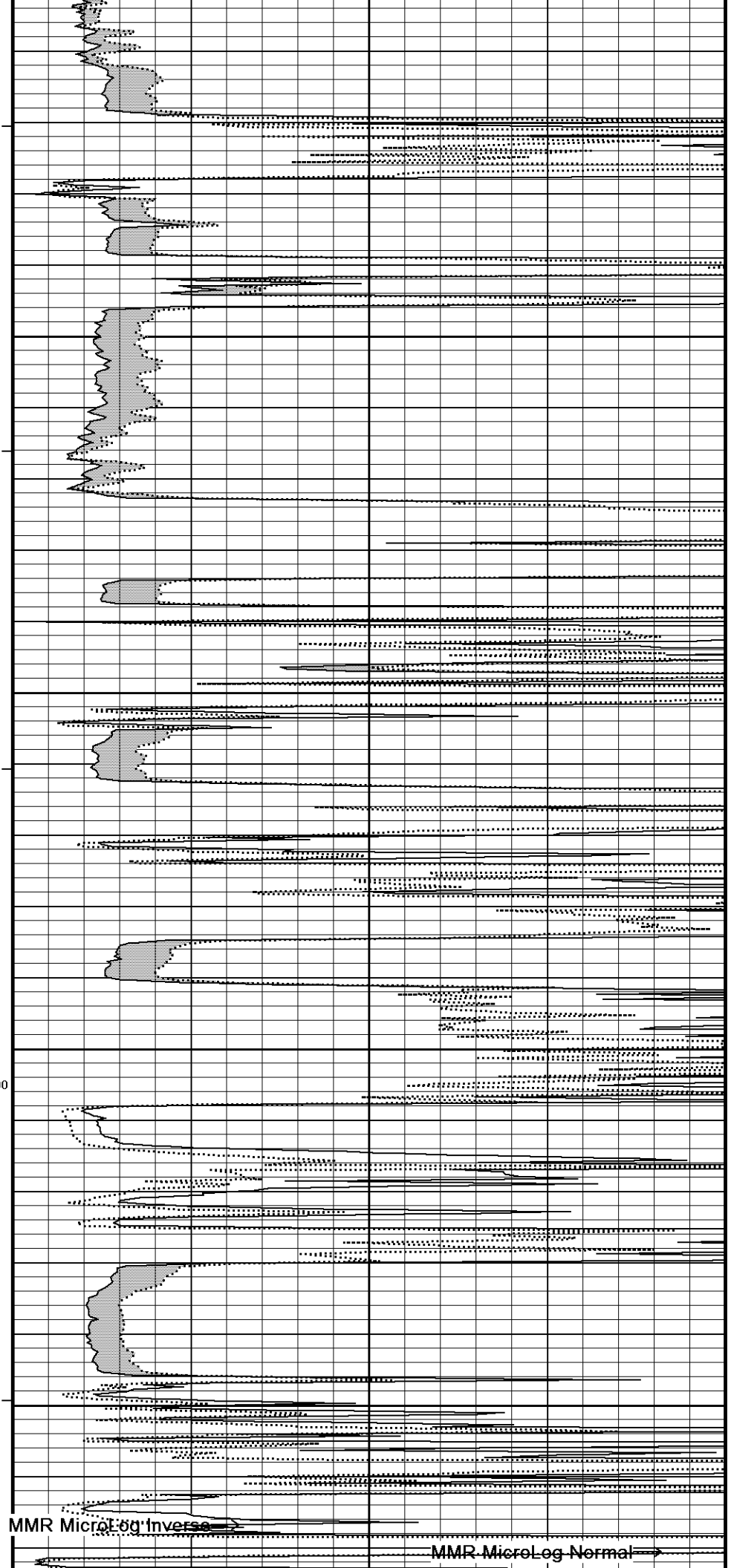
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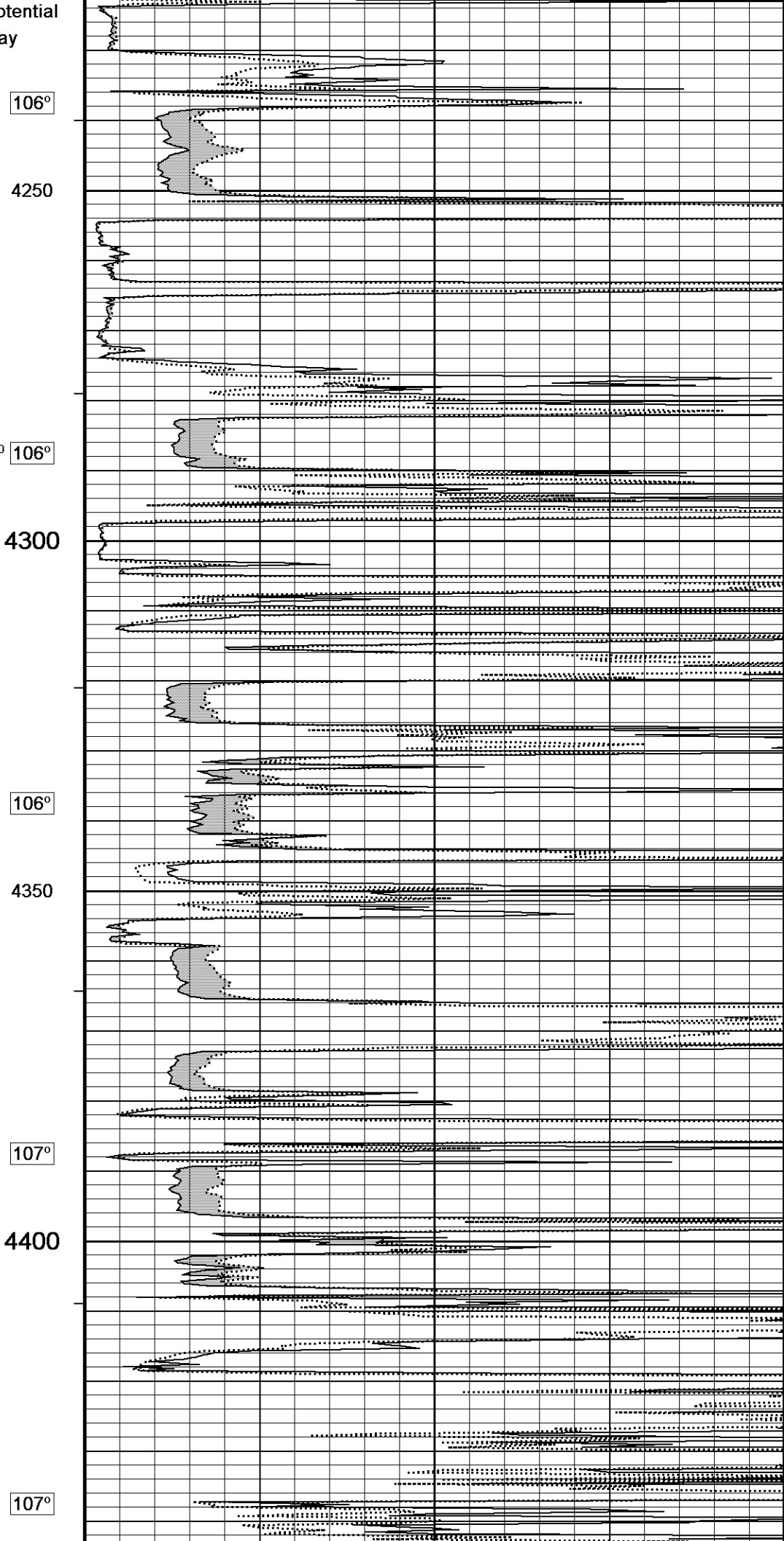
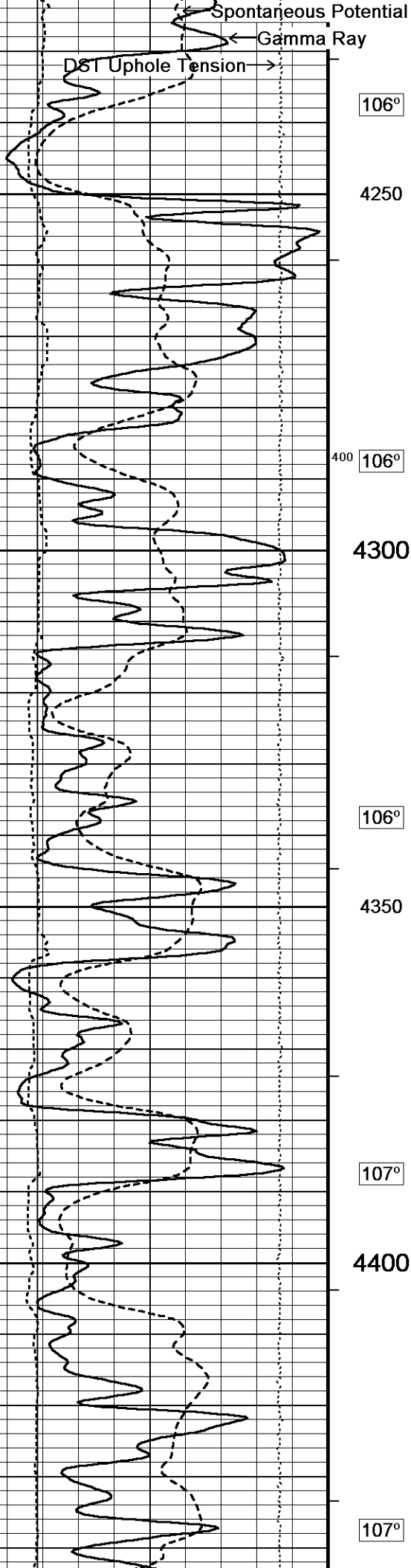
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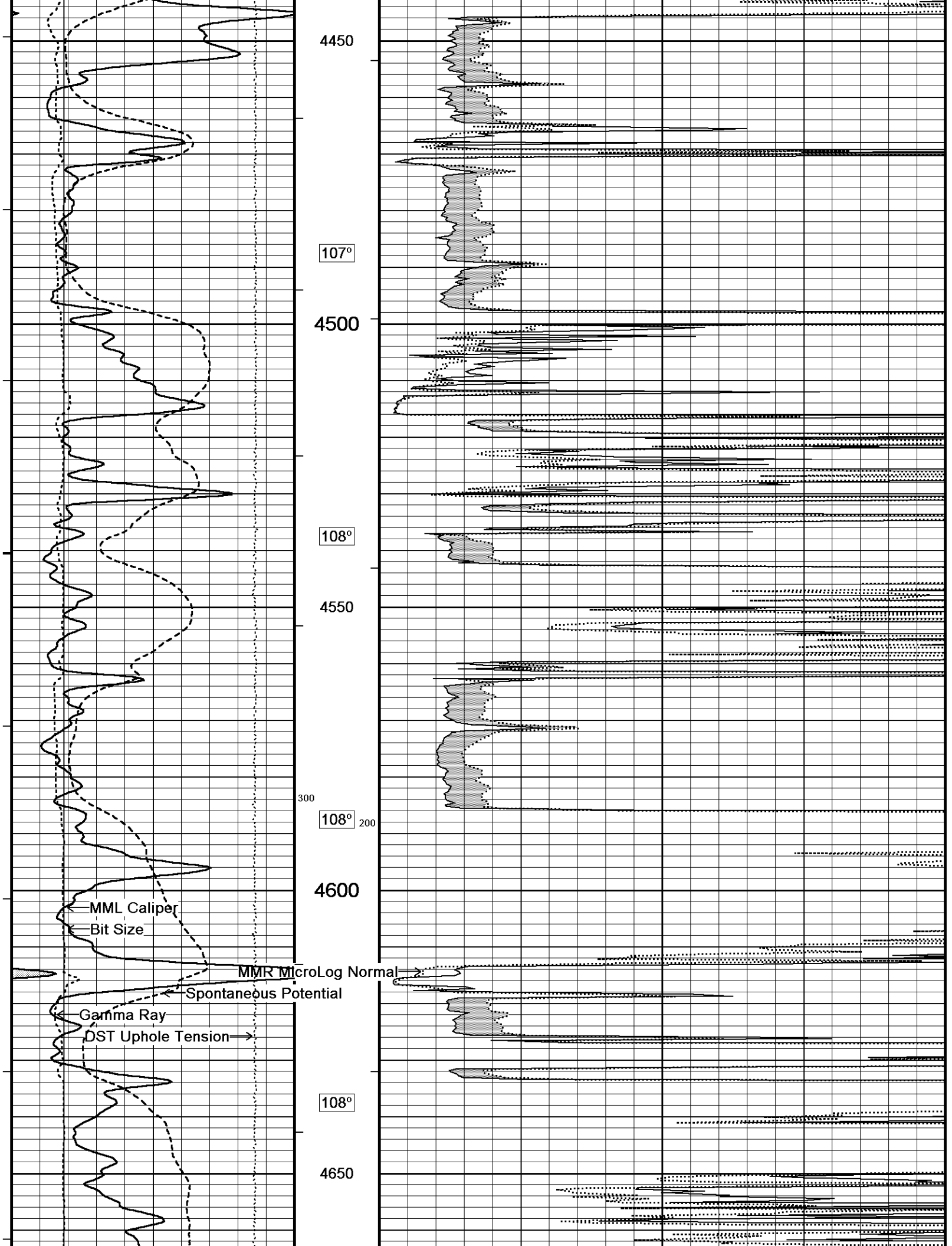
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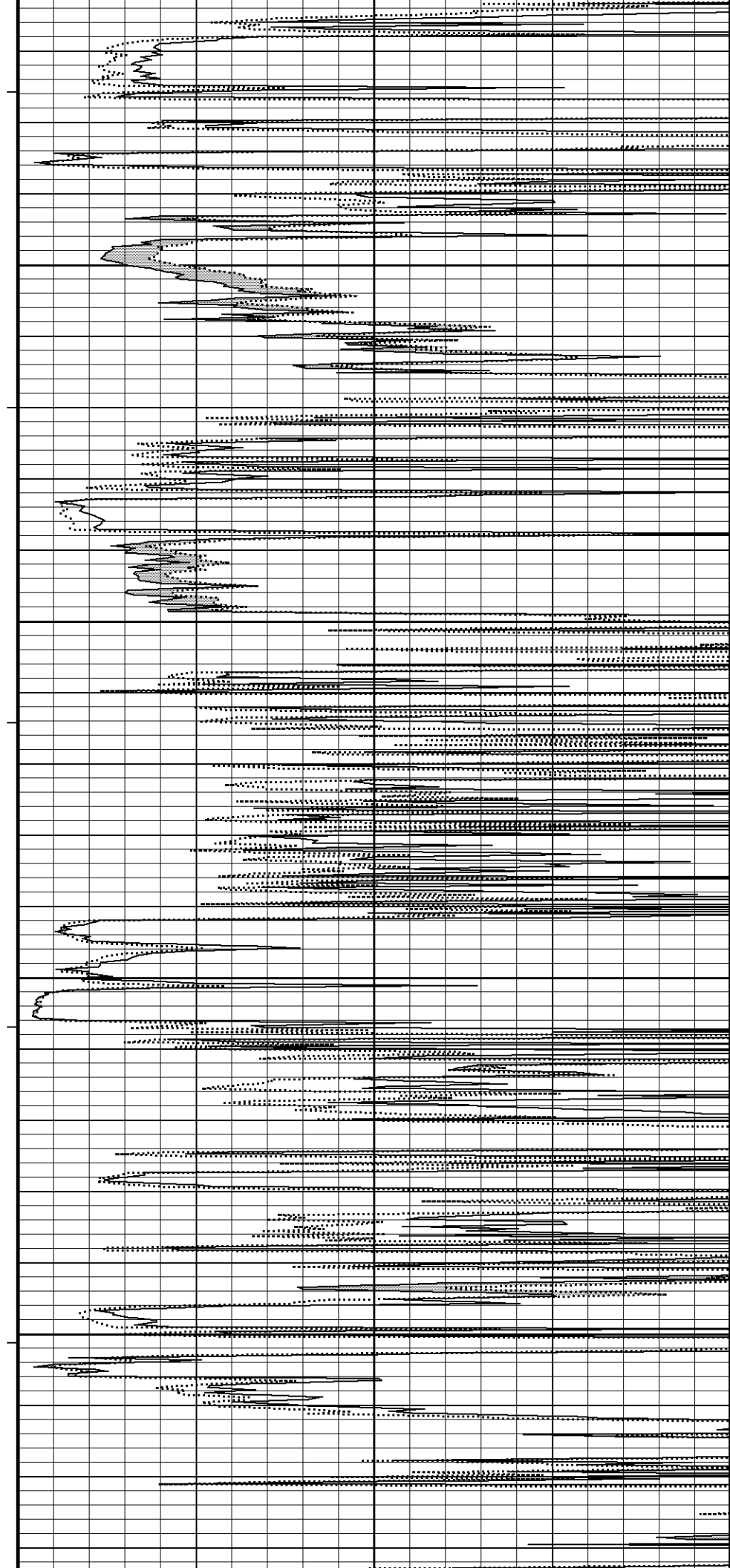
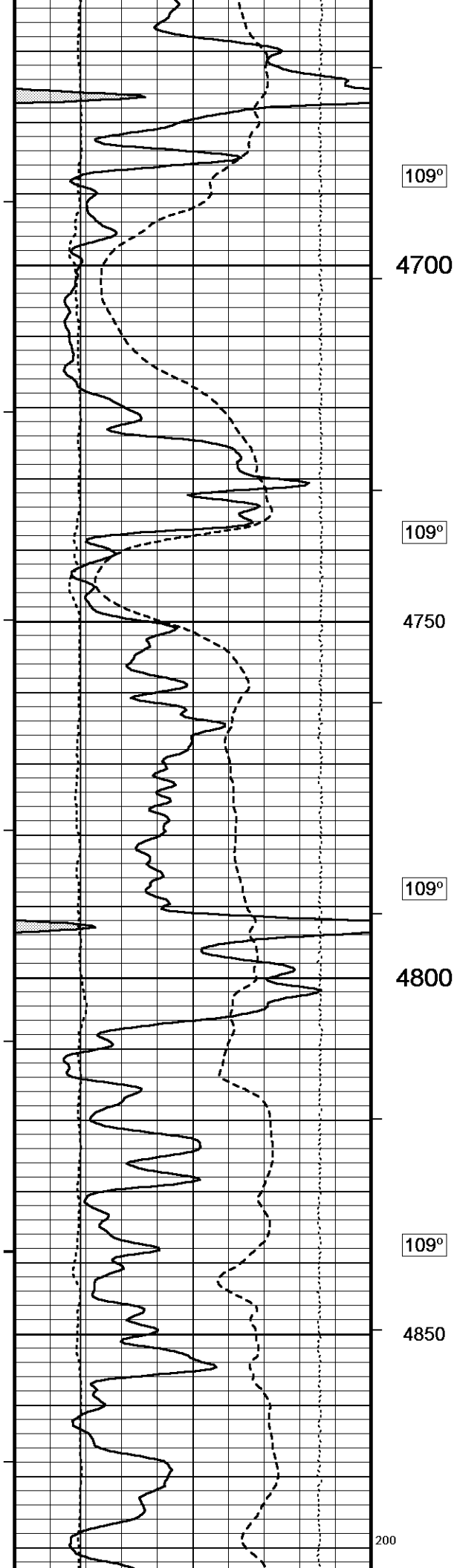
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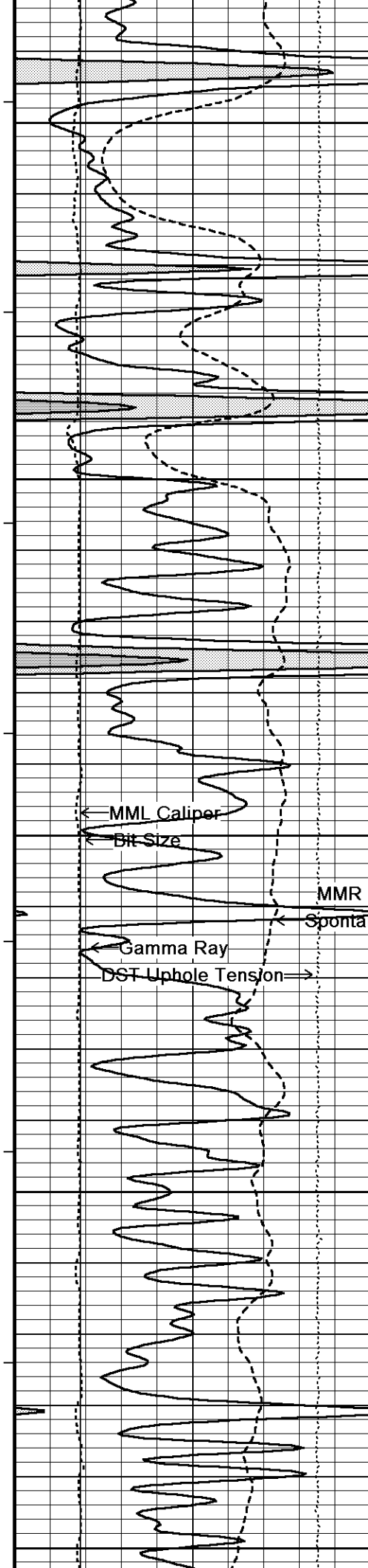
4200











110°

4900

110°

4950

111°

5000

MMR MicroLog Normal

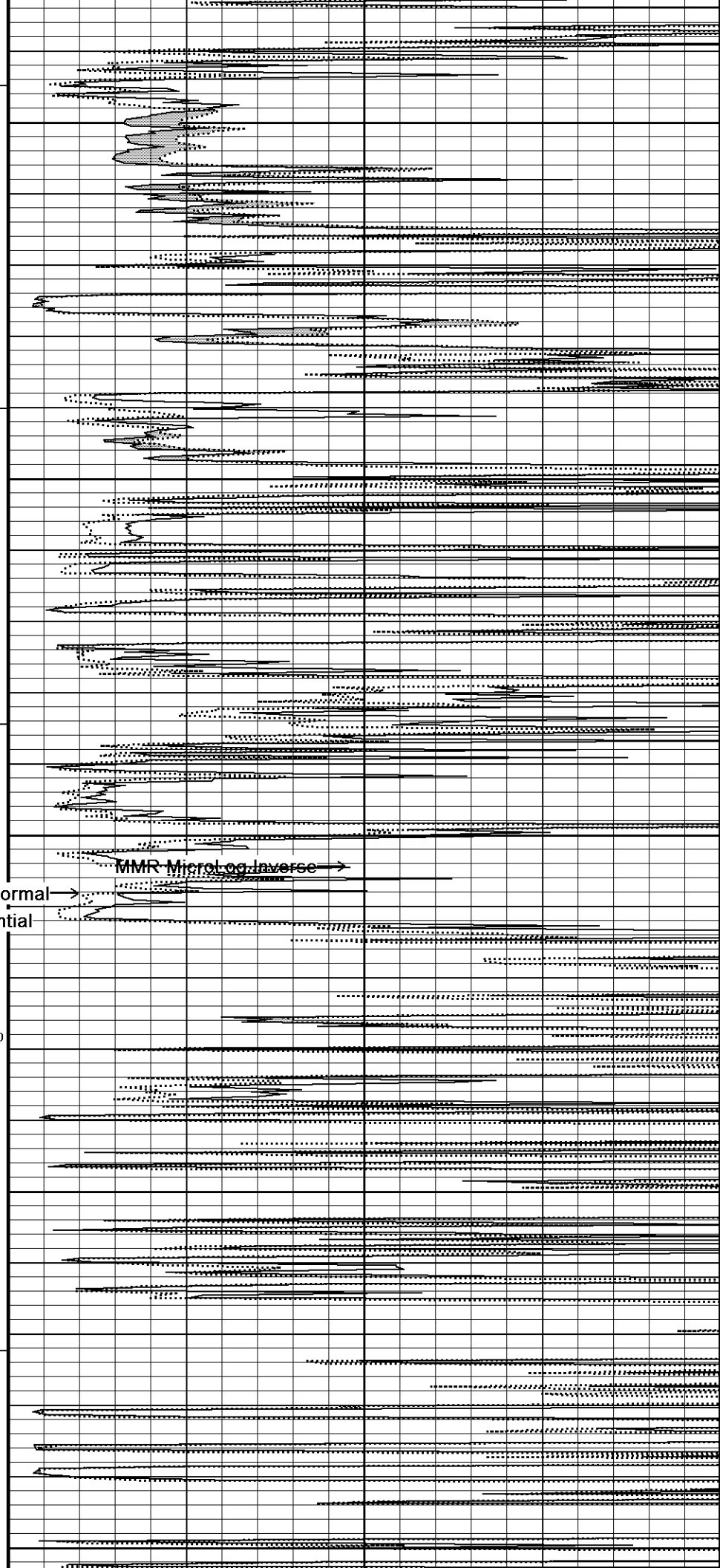
Spontaneous Potential

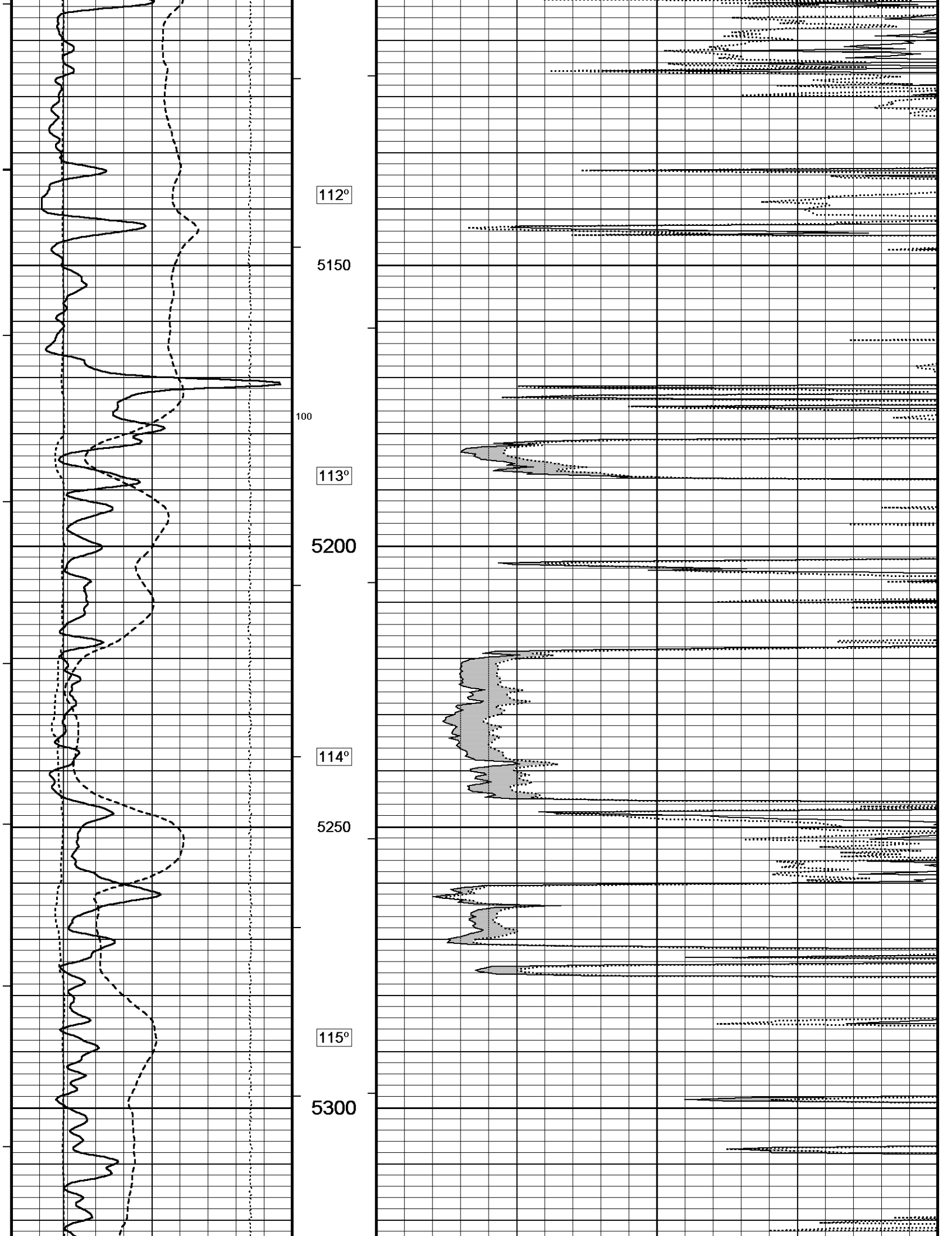
111°

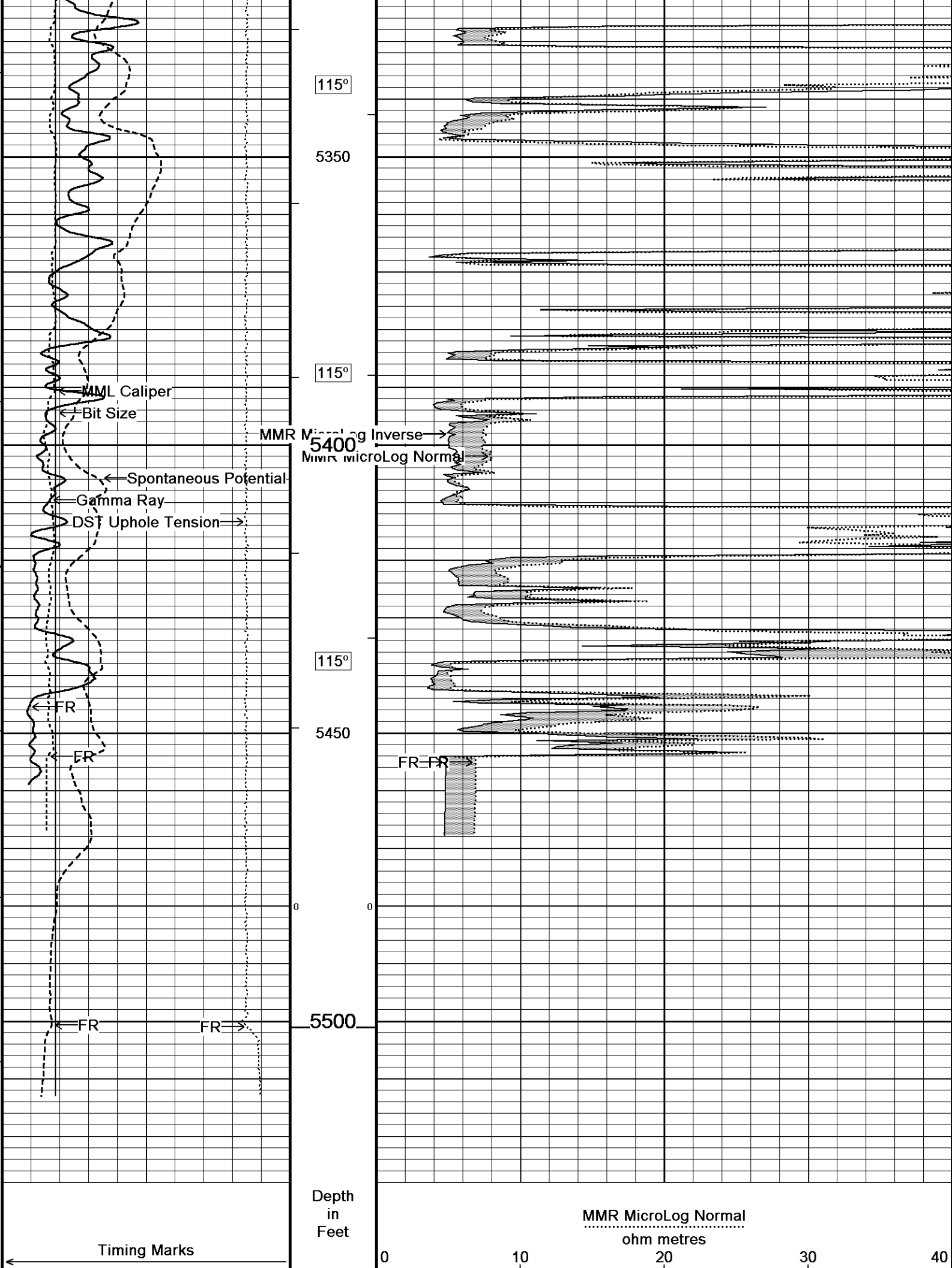
5050

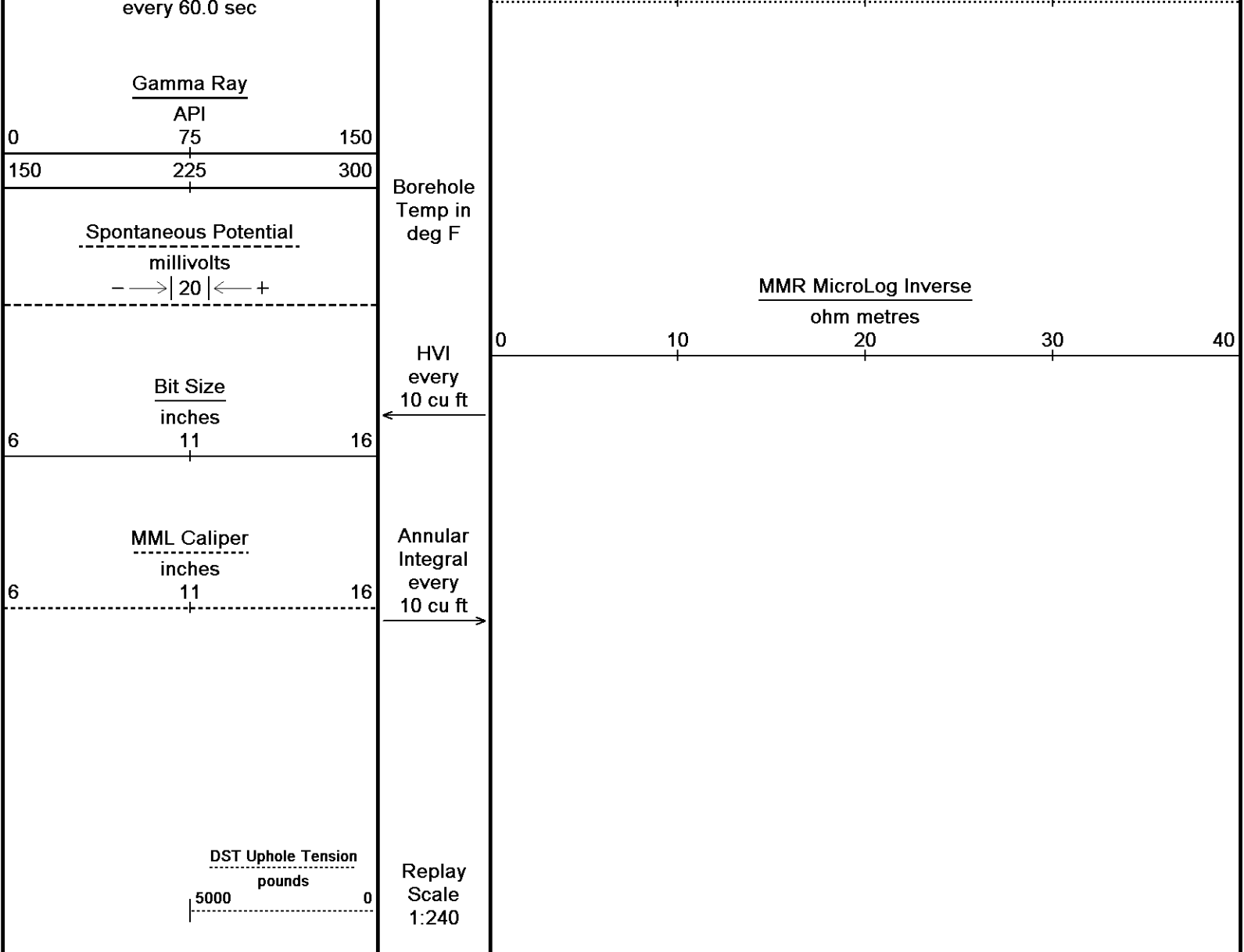
112°

5100







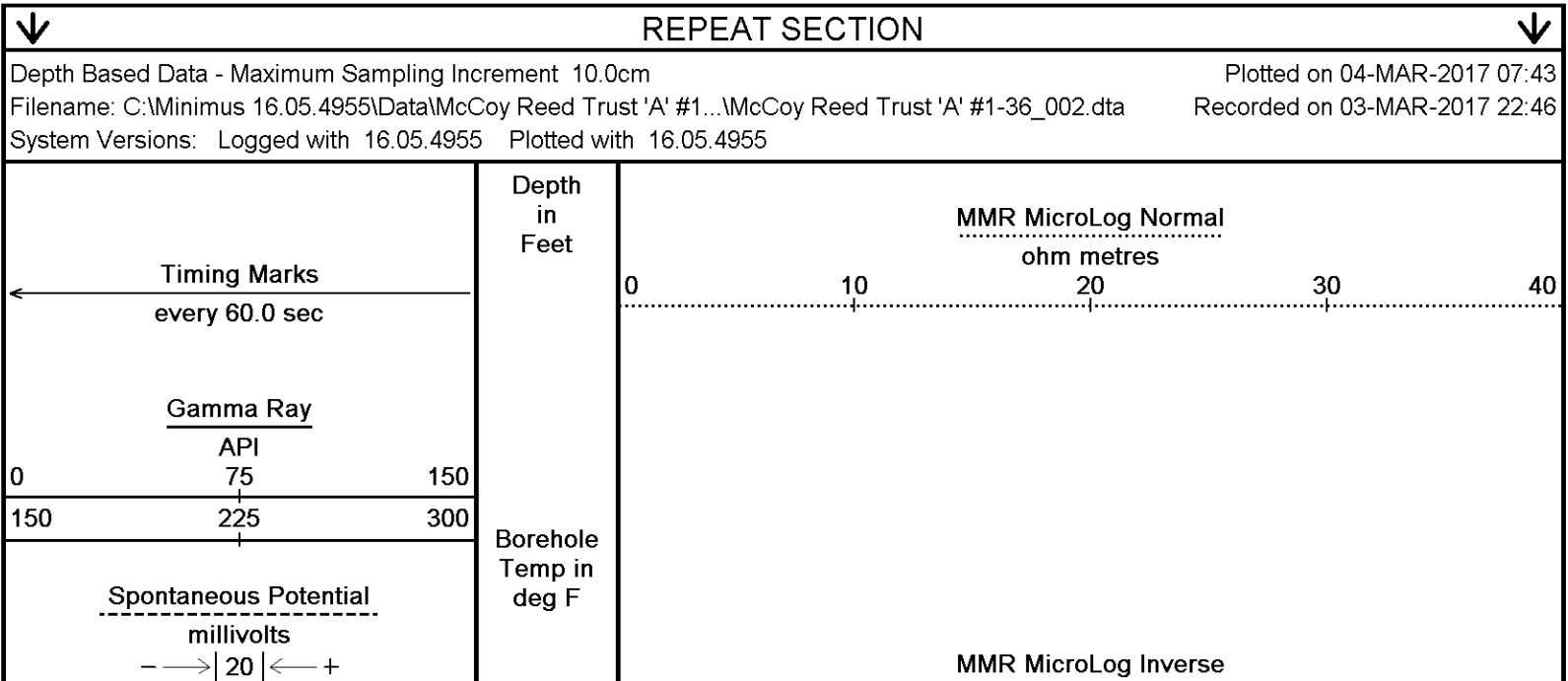


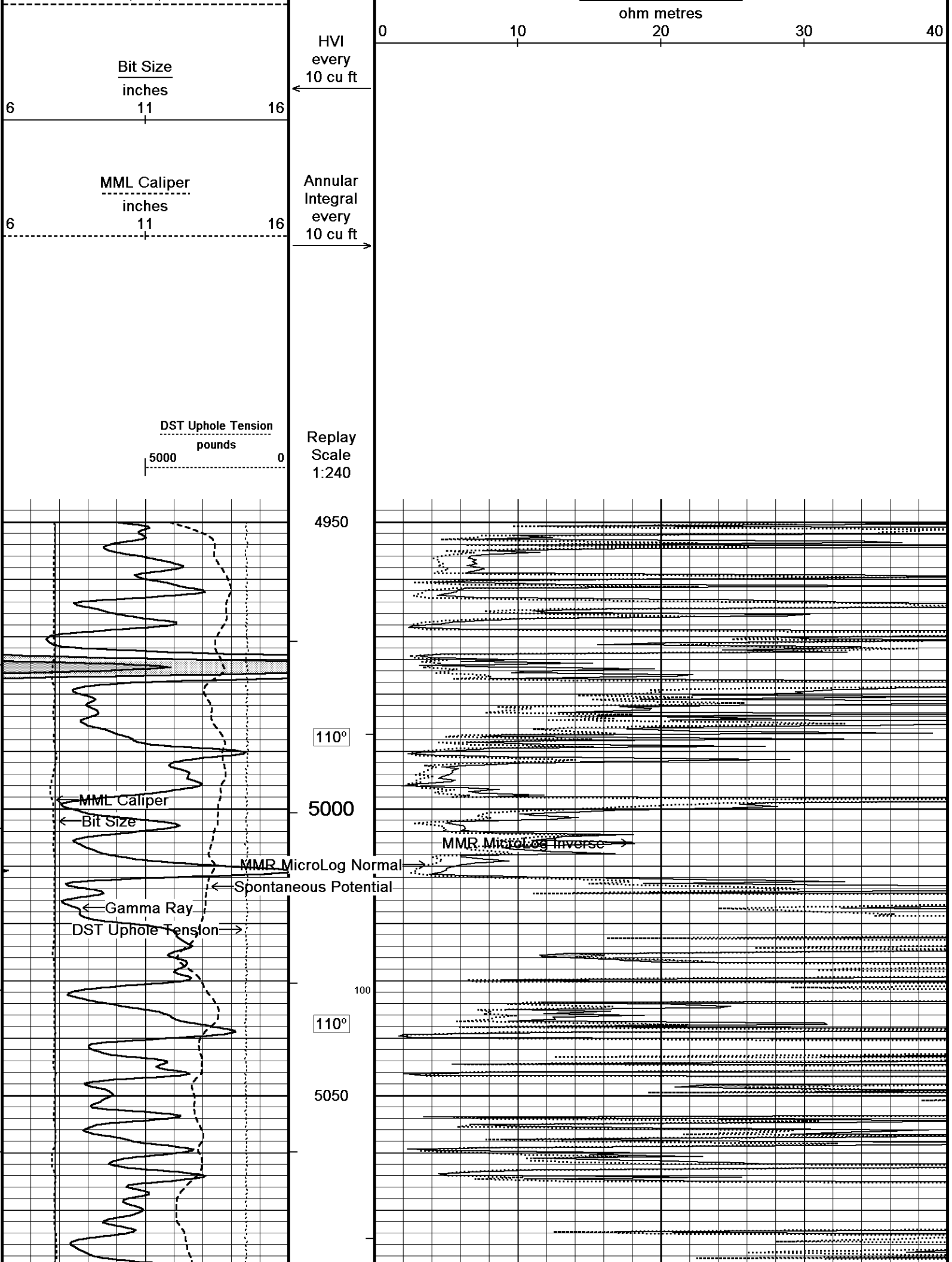
Depth Based Data - Maximum Sampling Increment 10.0cmPlotted on 04-MAR-2017 07:43

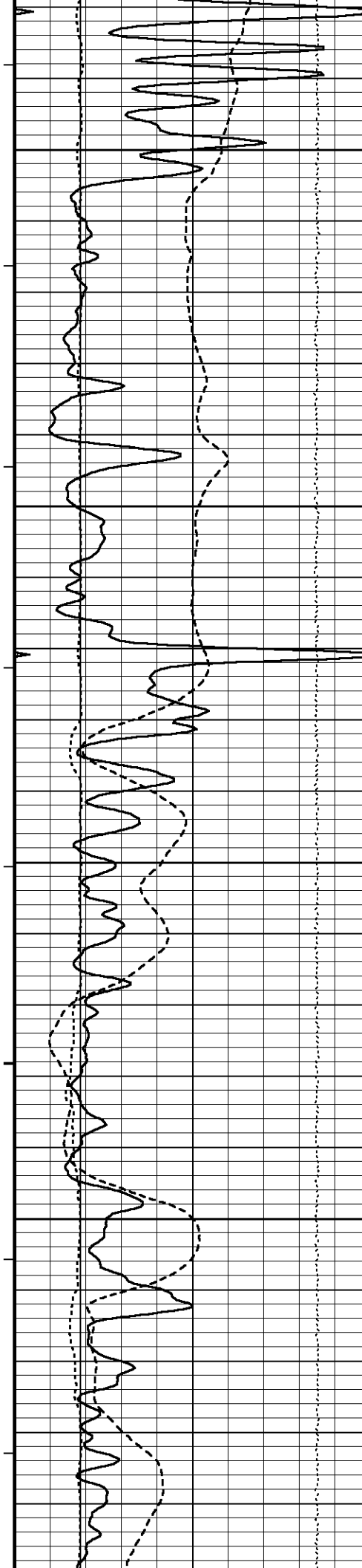
Filename: C:\Minimus 16.05.4955\Data\McCoy Reed Trust 'A' #1...\McCoy Reed Trust 'A' #1-36_003.dtaRecorded on 03-MAR-2017 23:29

System Versions: Logged with 16.05.4955Plotted with 16.05.4955

↑5 INCH MAIN↑







111°

5100

111°

5150

100

111°

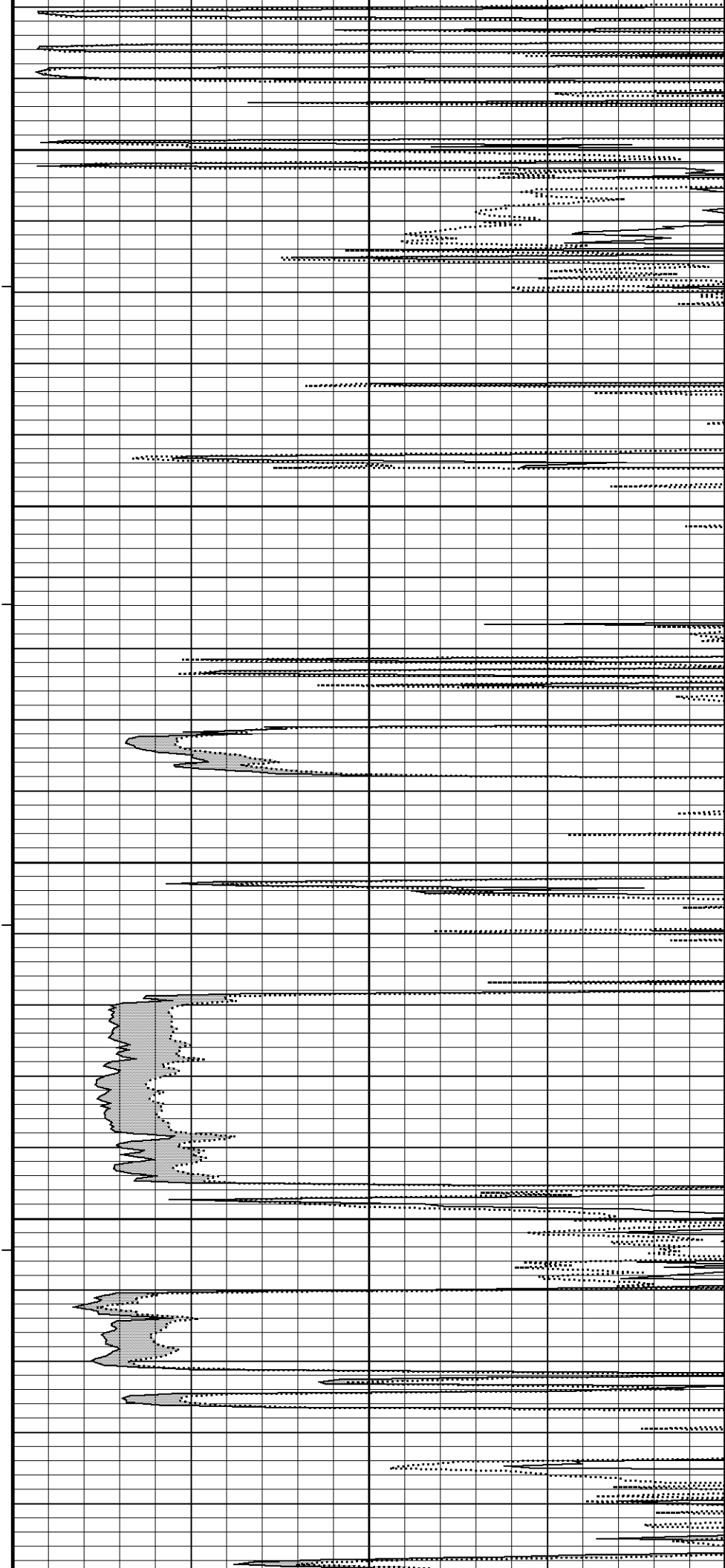
5200

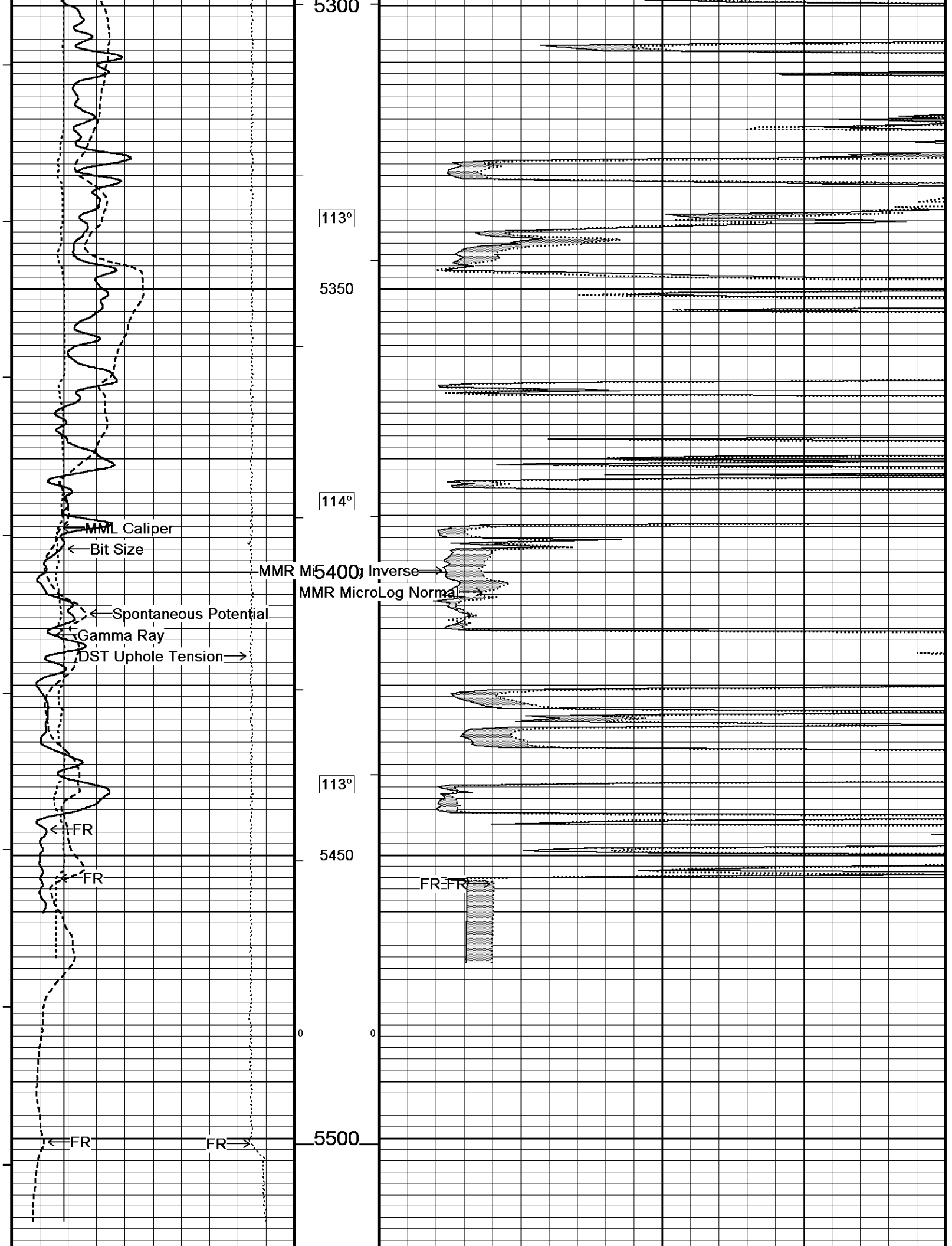
112°

5250

113°

5300





TVOL Caliper 1	Density Caliper	N/A	
HVOL Caliper 2	Annular Volume Diameter	4.500	inches
	Caliper for Differential Caliper	None	
Rwa Parameters			
Porosity used	Base Density 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 16-FEB-2017 01:57
Reading No	Measured	Calibrated (lbs)	
1	493.46	0.00	
2	-2294.05	481.00	

Gamma Calibration MCG-C 123			Field Calibration on 03-MAR-2017 11:09
	Measured	Calibrated (API)	
Background	71	49	
Calibrator (Gross)	733	505	
Calibrator (Net)	662	456	

Gamma Calibration Tolerances MCG-C 123			
Ratio	1.452	1.40 1.475 1.55	Counts/API

Gamma Constants MCG-C 123			Last Edited on 03-MAR-2017,20:51
Gamma Calibrator Number	MCGGRCC141		
GRC-M Calibrator Jig in Use?	NO		
Inactive Background Jig in Use?	NO		
Mud Density	1.09	gm/cc	
Caliper Source for Processing	Density Caliper		
Tool Position	Eccentred		
Potassium Equivalence	Chloride		
K Mud Concentration	0.00	%	

High Resolution Temperature Calibration MCG-C 123			Field Calibration on 11-FEB-2017,15:04
	Measured	Calibrated(Deg F)	
Lower	50.00	50.00	
Upper	100.00	100.00	

High Resolution Temperature Constants MCG-C 123			Last Edited on 22-SEP-2015,11:43
Pre-filter Length	11		

SP Calibration MCG-C 123			Field Calibration on 03-MAR-2017,11:10
	Measured	Calibrated (mV)	
Reference 1	100.9	100.0	
Reference 2	-99.4	-99.9	

Caliper Calibration MML-A 7			Base Calibration on 11-FEB-2017 10:20 Field Calibration on 03-MAR-2017 10:49
Base Calibration			
Reading No	Measured	Calibrator Size (in)	
1	14066	5.98	
2	17366	7.97	
3	20600	9.86	
4	24449	11.92	
5	0	0.00	
6	N/A	N/A	
Field Calibration			
	Measured Caliper (in)	Actual Caliper (in)	
	7.99	7.97	

Caliper Calibration Tolerances MML-A 7			
Short Arm Field Cal.	7.99	7.77 7.97 8.17	in

Micro Normal and Micro Inverse Calibration MML-A 7

Base Calibration on 11-FEB-2017 10:26

Field Check on 03-MAR-2017 10:51

Base Calibration

Channel	Measured		Calibrated (ohm-m)	
	Resistor 1	Resistor 2	Resistor 1	Resistor 2
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	76.8		76.8	
Micro Inverse	51.0		51.0	

Micro Normal & Micro Inverse Calibration Tolerance MML-A 7

Micro Normal Res. 1	10.1	-5% 10.0 +5%	ohm	Micro Normal Res. 2	50.4	-5% 50.0 +5%	ohm
Micro Inverse Res. 1	10.0	-5% 10.0 +5%	ohm	Micro Inverse Res. 2	50.1	-5% 50.0 +5%	ohm
Micro Normal Base Check	76.8	-2% 76.60 +2%	ohm-m				
Micro Inverse Base Check	51.0	-2% 50.97 +2%	ohm-m				
Micro Normal Field Check	76.8	-2% 76.8 +2%	ohm-m				
Micro Inverse Field Check	51.0	-2% 51.0 +2%	ohm-m				

Micro Normal and Micro Inverse Constants MML-A 7

Last Edited on 03-MAR-2017,20:50

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	

Neutron Calibration MDN-A.B 66

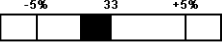
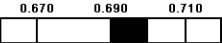
Base Calibration on 11-FEB-2017,10:45

Field Check on 03-MAR-2017 11:14

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	3031	94	3714	110
Ratio	32.309		33.764	
Field Calibrator at Base				
			Calibrated (cps)	
			2092	3032
Ratio			0.690	
Field Check				
			Calibrated (cps)	
			2196	3136
Ratio			0.700	

Neutron Calibration Tolerances MDN-A.B 66

Ratio	32.309	
Base Check	0.690	
Field Check	0.700	

Neutron Constants MDN-A.B 66

Last Edited on 03-MAR-2017,20:50

Neutron Source Id	P0204NN	
Neutron Jig Number	NJ5736	
Air Hole Processing	Legacy	
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		
FE Calibration MFE-B.J 352		Base Calibration on 11-FEB-2017 10:10 Field Check on 03-MAR-2017 10:39	
Base Calibration			
	Measured	Calibrated (ohm-m)	
Reference 1	0.0	0.0	
Reference 2	993.6	126.8	
Base Check		272.8	
Field Check		272.9	
FE Calibration Tolerances MFE-B.J 352			
Reference 2	993.6	-3% 980.0 +3%	ohm
Base Check	272.8	-2% 277.0 +2%	ohm-m
Field Check	272.9	-2% 272.8 +2%	ohm-m
FE Constants MFE-B.J 352		Last Edited on 03-MAR-2017,20:50	
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 03-MAR-2017,20:49	
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
3'	N/A	N/A	N/A
4'	N/A	N/A	N/A
5'	N/A	N/A	N/A
6'	N/A	N/A	N/A
Processed Fixed Gate Parameters			
Waveform	Start Time (micro-sec)	Width (micro-sec)	Pre Gain
3'	N/A	N/A	N/A
4'	N/A	N/A	N/A
5'	N/A	N/A	N/A
6'	N/A	N/A	N/A
Discriminator (mV)			
3'	N/A	N/A	N/A
4'	N/A	N/A	N/A
5'	N/A	N/A	N/A
6'	N/A	N/A	N/A
Processed Fixed Gate Parameters			
Waveform	Start Time (micro-sec)	Width (micro-sec)	Pre Gain
3'	N/A	N/A	N/A
4'	N/A	N/A	N/A
5'	N/A	N/A	N/A
6'	N/A	N/A	N/A
Discriminator (mV)			
3'	N/A	N/A	N/A
4'	N/A	N/A	N/A
5'	N/A	N/A	N/A
6'	N/A	N/A	N/A

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	N/A

Induction Calibration MAI-A.A 111

Base Calibration on 11-FEB-2017,10:02

Field Check on 03-MAR-2017 10:38

Base Calibration

Test Loop Calibration		Measured		Calibrated (mmho/m)	
Channel		Low	High	Low	High
1		17.6	473.6	9.3	966.2
2		6.4	385.9	7.6	821.4
3		3.2	264.0	5.2	566.0
4		2.1	135.5	2.6	279.2

Array Temperature 23.0 Deg F

Test Loop Calibration Verified 03-DEC-2016,14:48

Channel	Base Check (mmho/m)		Field Check (mmho/m)	
	Low	High	Low	High
1	10.6	3867.8	9.7	3865.8
2	29.4	3524.5	27.5	3522.1
3	28.8	3018.5	27.1	3016.5
4	19.0	2056.6	17.8	2055.0
Deep	17.5	1960.2	16.4	1958.8
Medium	42.9	3973.0	40.5	3970.4
Shallow	43.8	5227.4	41.0	5224.0

Array Temperature 43.0 66.6 Deg F

Induction Calibration Tolerances MAI-A.A 111

Low Conductivity 1	17.6		mmho/m	High Conductivity 1	473.6		mmho/m
Low Conductivity 2	6.4		mmho/m	High Conductivity 2	385.9		mmho/m
Low Conductivity 3	3.2		mmho/m	High Conductivity 3	264.0		mmho/m
Low Conductivity 4	2.1		mmho/m	High Conductivity 4	135.5		mmho/m
Background Vx 1	0.0		mmho/m	Phase Check Loop 1	0.0		%
Background Vx 2	0.0		mmho/m	Phase Check Loop 2	0.0		%
Background Vx 3	0.0		mmho/m	Phase Check Loop 3	0.0		%
Background Vx 4	0.0		mmho/m	Phase Check Loop 4	0.0		%

Induction Constants MAI-A.A 111

Last Edited on 03-MAR-2017,20:49

Induction Model	RtAP-WBM
Borehole Correction Constants	
Tool Centred	No
Hole Size Source	Density Caliper
Hole Size Constant Value	N/A
Stand-off Type	inches

Stand-off Type		1.00	
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		
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	

High Resolution Temperature Calibration MAI-A.A 111

Field Calibration on 13-JAN-2017,11:28

	Measured	Calibrated(Deg F)
Lower	10.00	10.00
Upper	100.00	100.00

High Resolution Temperature Constants MAI-A.A 111

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

Pre-filter Length	11
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Photo Density Calibration MPD-B 104

Base Calibration on 11-FEB-2017 11:11

Field Check on 03-MAR-2017 10:47

Density Calibration		Measured		Calibrated (sdu)	
Base Calibration		Near	Far	Near	Far
Background		1135	1314		
Reference 1		49907	23891	59556	30836
Reference 2		20183	2416	24941	2541

Field Check at Base	1135.4	1313.9
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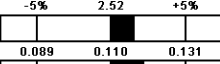
Field Check	1126.0	1310.0
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PE Calibration		Measured		Calibrated
Base Calibration		WS	WH	Ratio
Background		206	1011	
Reference 1		21020	49728	0.427
Reference 2		5897	20051	0.299

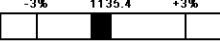
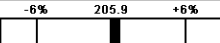
Field Check at Base
205.9 1011.5

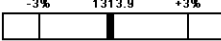
Field Check
207.5 1002.6

Photo Density Calibration Tolerances MPD-B 104

Near Density Ratio 2.56 
PE Calibration 0.120 

Far Density Ratio 20.48 

Near Den. Field Check 1126.0 
PE WS Field Check 207.5 

Far Den. Field Check 1310.0 
PE WH Field Check 1002.6 

Density Constants MPD-B 104

Last Edited on 03-MAR-2017,20:50

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	1.09	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	
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	0.00	

Caliper Calibration MPD-B 104

Base Calibration on 11-FEB-2017 10:55
Field Calibration on 03-MAR-2017 10:42

Base Calibration		
Reading No	Measured	Calibrator Size (in)
1	14696	3.99
2	23744	5.98
3	32402	7.97
4	40592	9.86
5	49680	11.92
6	N/A	N/A

Field Calibration		
	Measured Caliper (in)	Actual Caliper (in)
	7.91	7.97

Caliper Calibration Tolerances MPD-B 104

Short Arm Field Cal. 7.91  in

DOWNHOLE EQUIPMENT

C:\Minimus 16.05.4955\Data\McCoy Reed Trust 'A' #1-36\McCoy Reed Trust 'A' #1-36_002.dta

Cablehead, 11 pin
CBH-C 0 LG: 2.40 ft WT: 24.3 lb OD: 2.244 in



Compact Comms Gamma
MCG-C 123 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 66 LG: 5.04 ft WT: 50.7 lb OD: 2.244 in

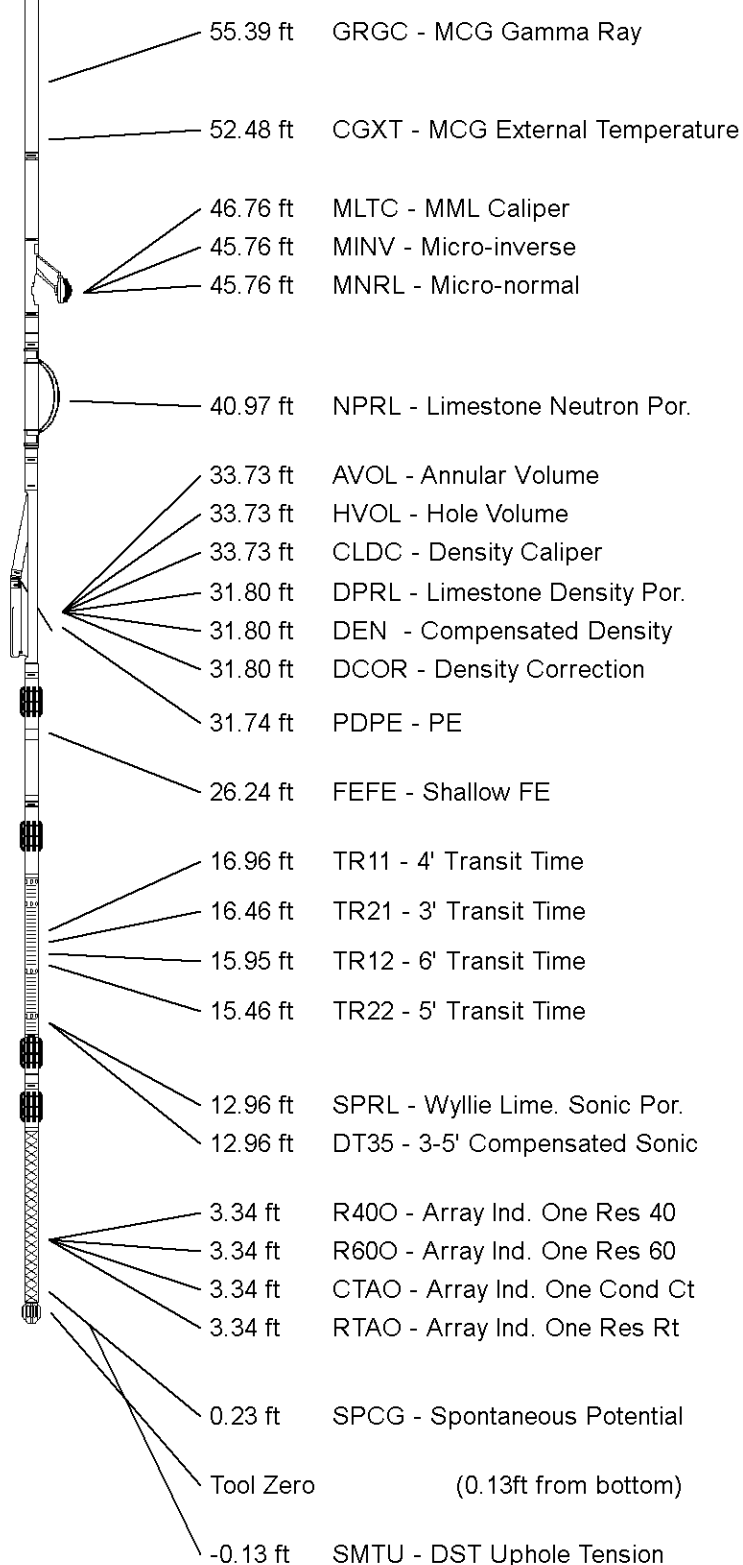
Compact Density/Caliper
MPD-B 104 LG: 9.59 ft WT: 90.4 lb OD: 2.449 in

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	McCOY PETROLEUM CORPORATION
WELL	REED TRUST "A" #1-36
FIELD	WILDCAT
PROVINCE/COUNTY	GRAY
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	2780	feet	First Reading	5455.00	feet
Elevation Drill Floor	2778	feet	Depth Driller	5500.00	feet
Elevation Ground Level	2769	feet	Depth Logger	5501.00	feet



