



**Weatherford**<sup>®</sup>

**MICRORESISTIVITY LOG**

COMPANY

MCCOY PETROLEUM CORPORATION

WELL

UMCC A 1-17

FIELD

WILDCAT

PROVINCE/COUNTY

MEADE

COUNTRY/STATE

U.S.A. / KANSAS

LOCATION

2310' FSL & 990' FWL OF THE NE NW SW

SEC

TWP

30S

RGE

30W

Other Services  
MPD/MDN  
MAI/MFE  
MAI/MFE

API Number

15-119-21363

Permit Number

MAI/MFE

Permanent Datum GL, Elevation 2816 feet

Log Measured From KB

Drilling Measured From KB AT 11 FEET

Date

04-MAR-2014

Elevations:  
KB 2827.00  
DF 2825.00  
GL 2816.00

Run Number

ONE

Service Order

5872-8112334

Depth Driller

5700.00 feet

Depth Logger

5702.00 feet

First Reading

5669.00 feet

Last Reading

4000.00 feet

Casing Driller

1828.00 feet

Casing Logger

1829.00 feet

Bit Size

7.875 inches

Hole Fluid Type

CHEM

Density / Viscosity

9.30 lb/USg 62.00 CP

PH / Fluid Loss

10.00 8.00 ml/30Min

Sample Source

FLOW LINE

Rm @ Measured Temp

1.40 @ 70.0 ohm-m

Rmf @ Measured Temp

1.12 @ 70.0 ohm-m

Rmc @ Measured Temp

1.68 @ 70.0 ohm-m

Source Rmf / Rmc

CALC CALC

Rm @ BHT

0.83 @ 118.0 ohm-m

Time Since Circulation

4 HRS

Max Recorded Temp

118.00 deg F

Equipment / Base

13057 LIB

Recorded By

D. COLE

Witnessed By

D. WILLIAMS

JOB #

LB 14-063

**BOREHOLE RECORD**

Last Edited: 04-MAR-2014 07:55

Bit Size inches	Depth From feet	Depth To feet
7.875	1828.00	5700.00

**CASING RECORD**

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
CASING	8.625	0.00	1828.00	24.00

**REMARKS**

- SOFTWARE ISSUE: WLS 13.05.9583.
- MCG, MML, MDN, MPD, MFE, AND MAI RAN 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 4000 FEET: 600 CU. FT.
- ANNULAR HOLE VOLUME WITH 5.5 INCH PRODUCTION CASING FROM TD TO 4000 FEET: 320 CU. FT.

- RIG: STIRLING

- ENGINEER: D. COLE

- OPERATOR(S): K. PHILLIPS AND C. RAMIREZ

- LCM: 6 LBS/PBL

- CHLORIDES: 1800 PPM

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

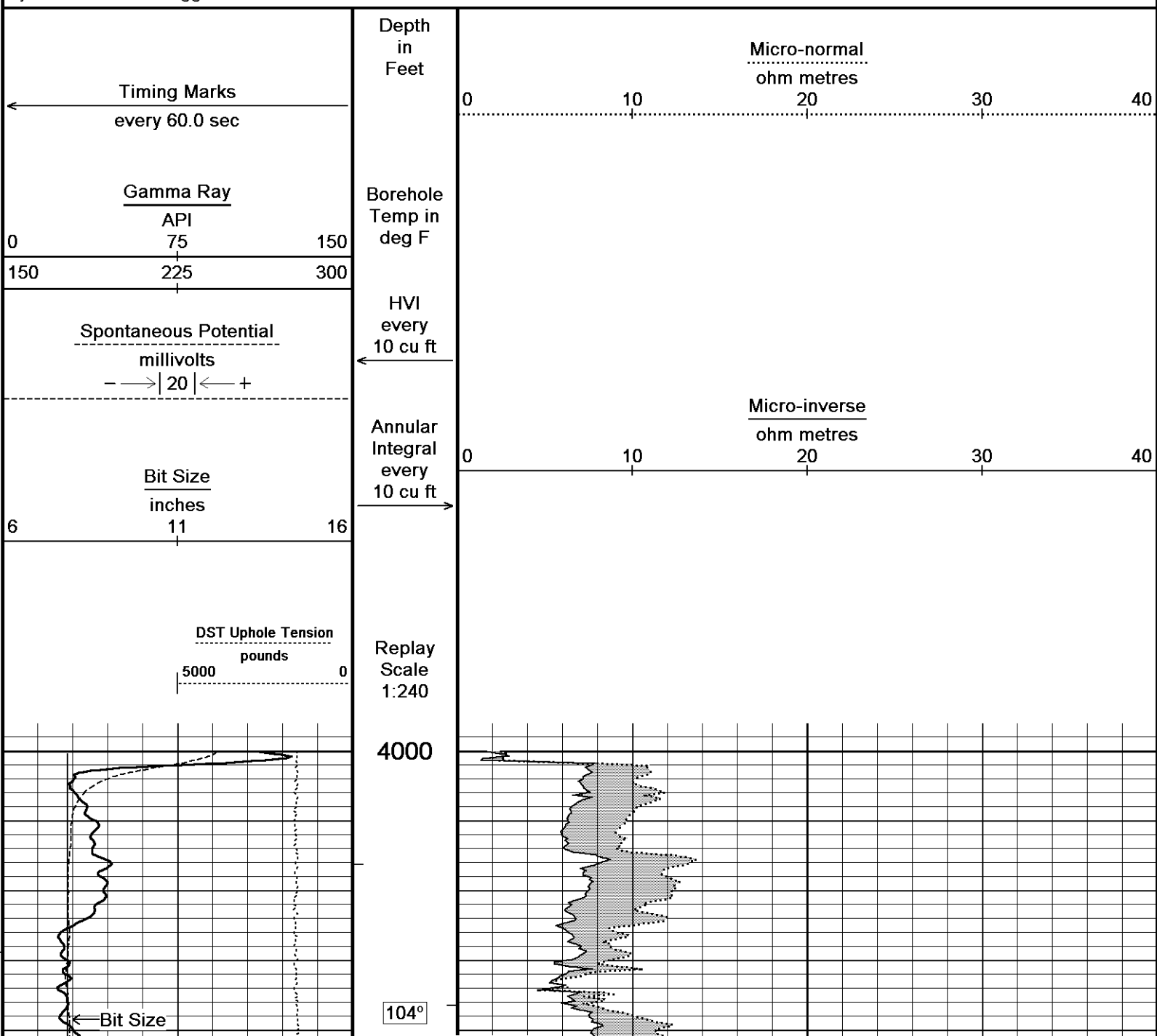
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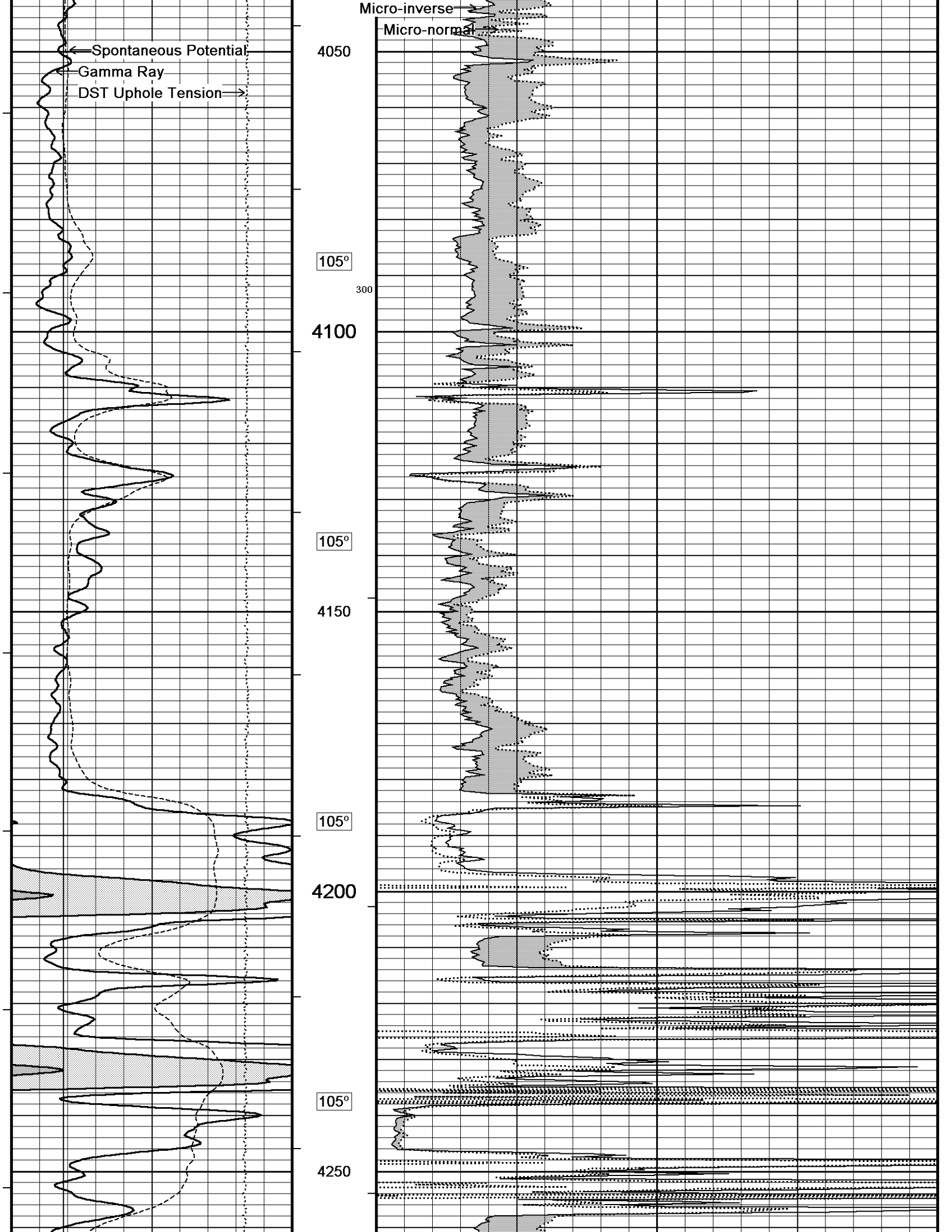
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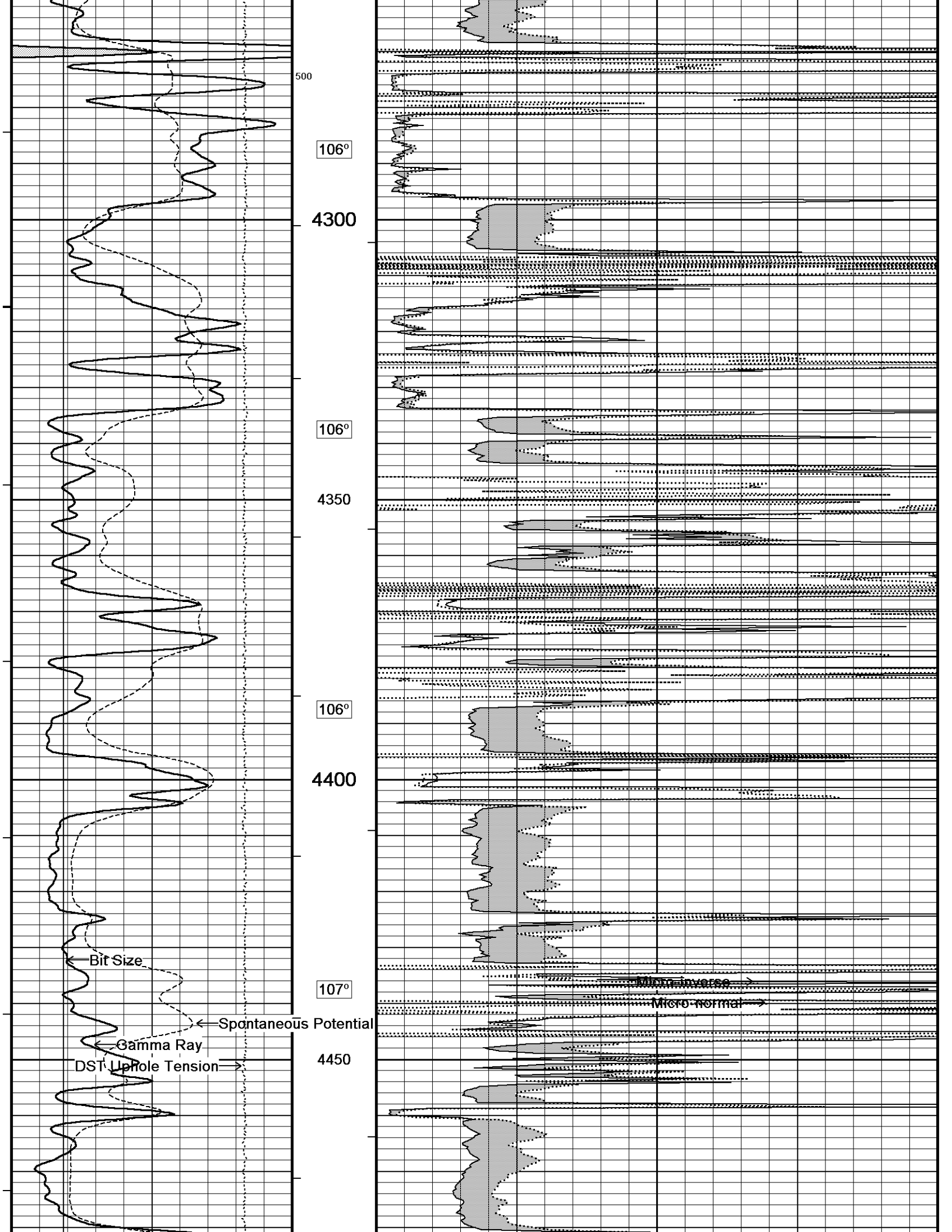
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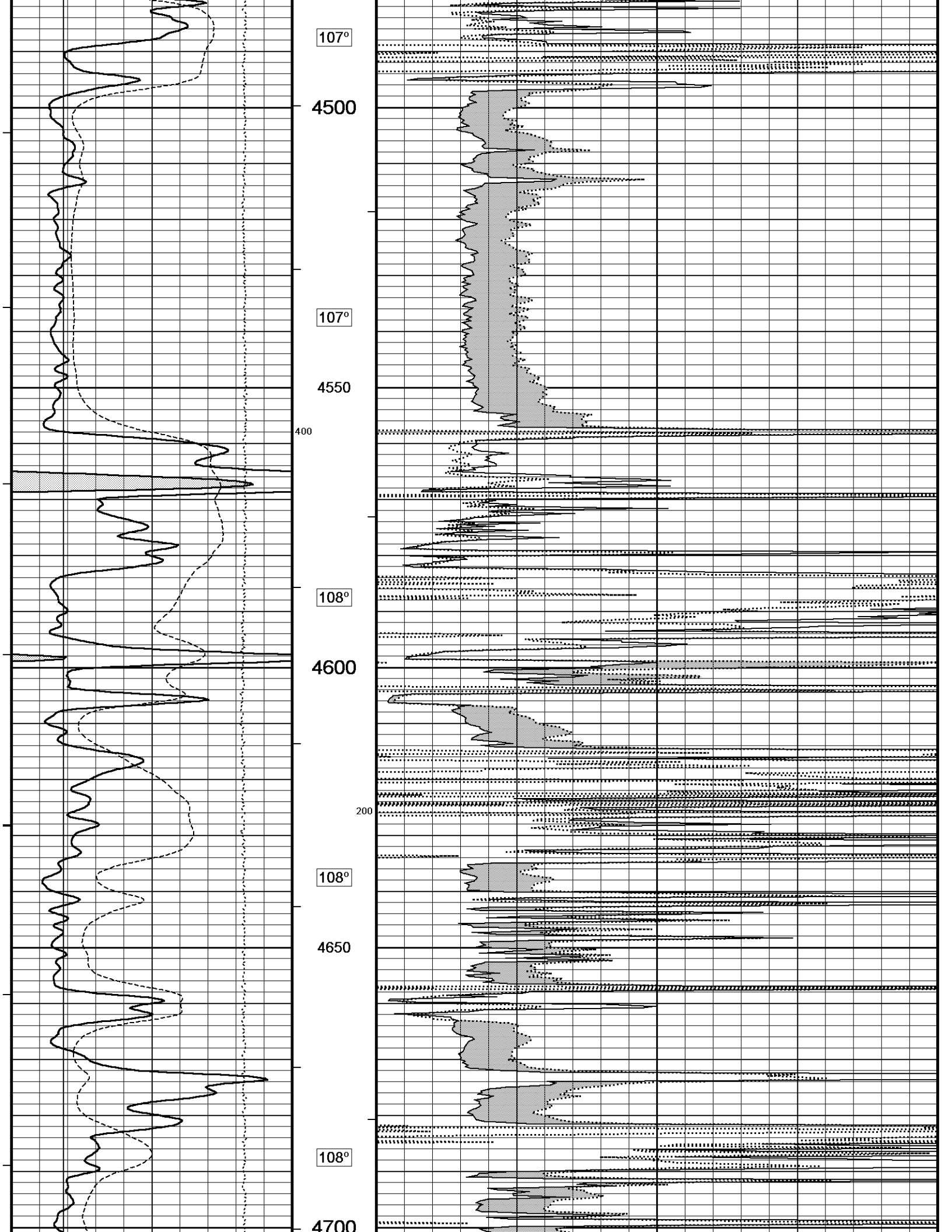
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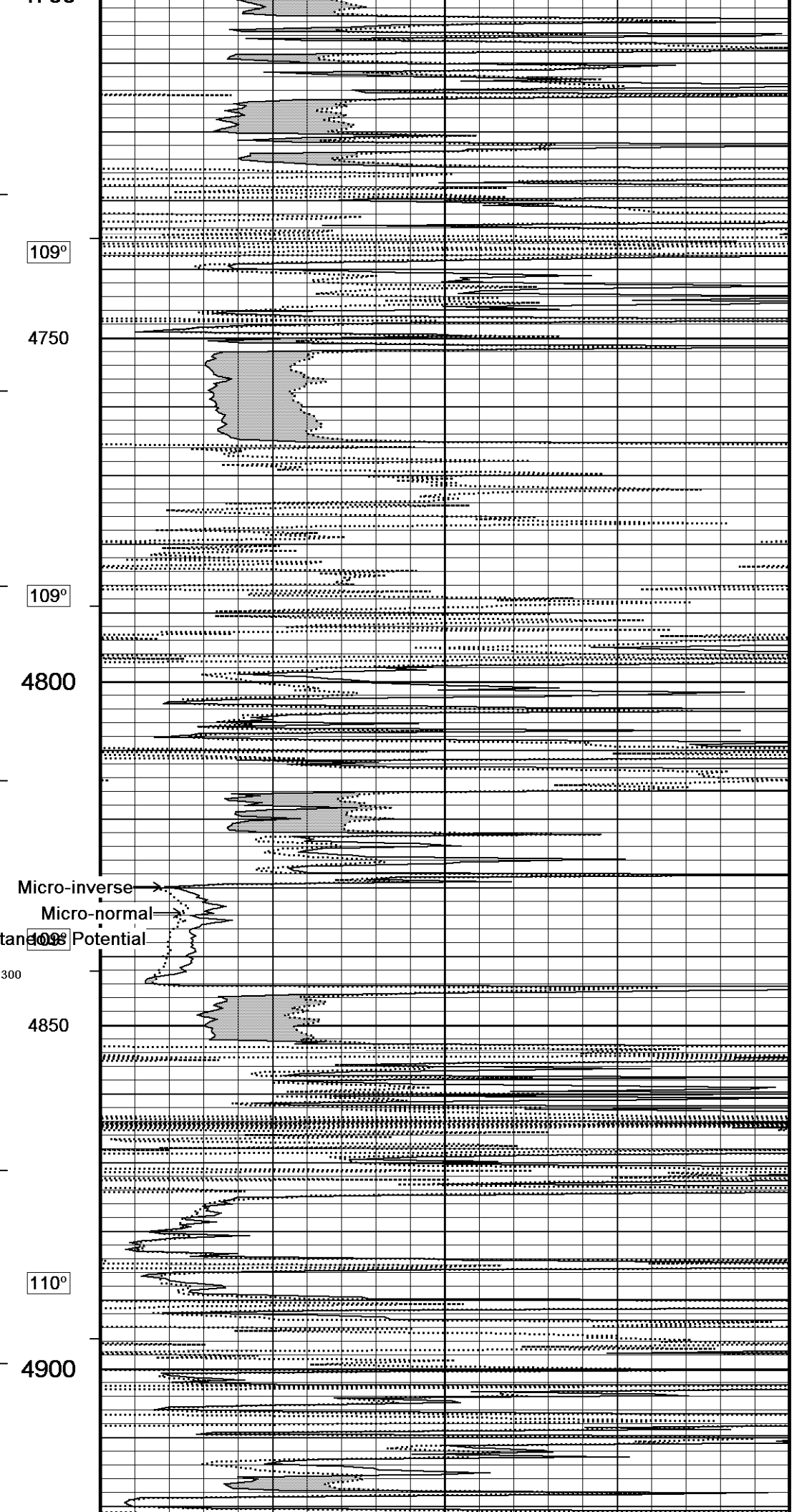
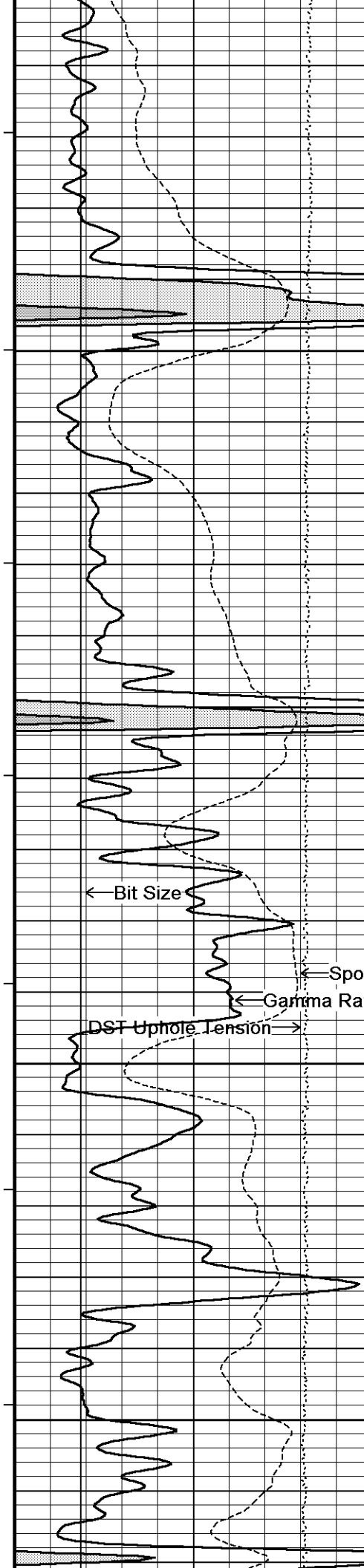
System Versions: Logged with 13.05.9583 Processed with 13.05.9583 Plotted with 13.05.9583











← Bit Size

DST Uphole Tension →

← Spontaneous Potential

← Gamma Ray

Micro-inverse →

Micro-normal →

← Spontaneous Potential

← Gamma Ray

109°

109°

110°

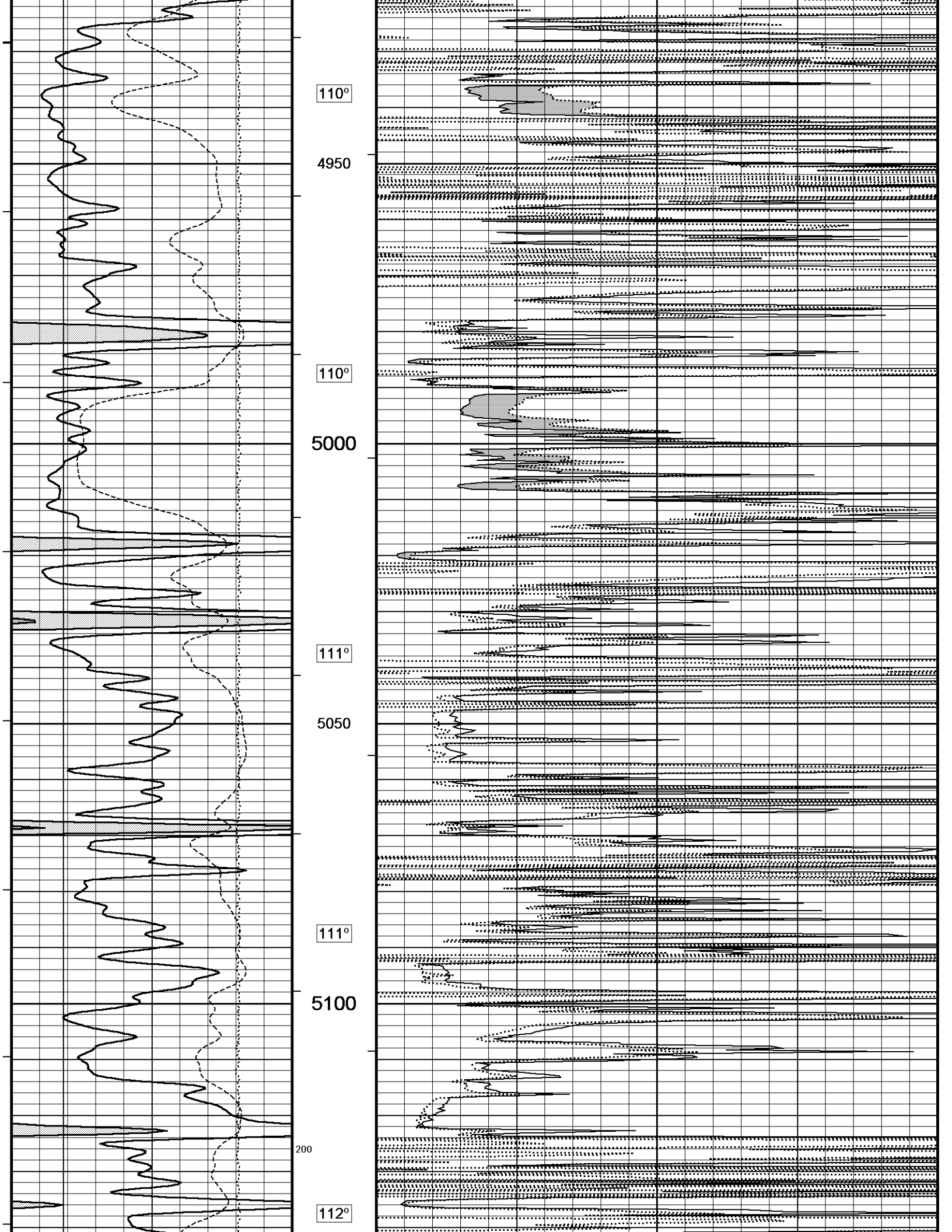
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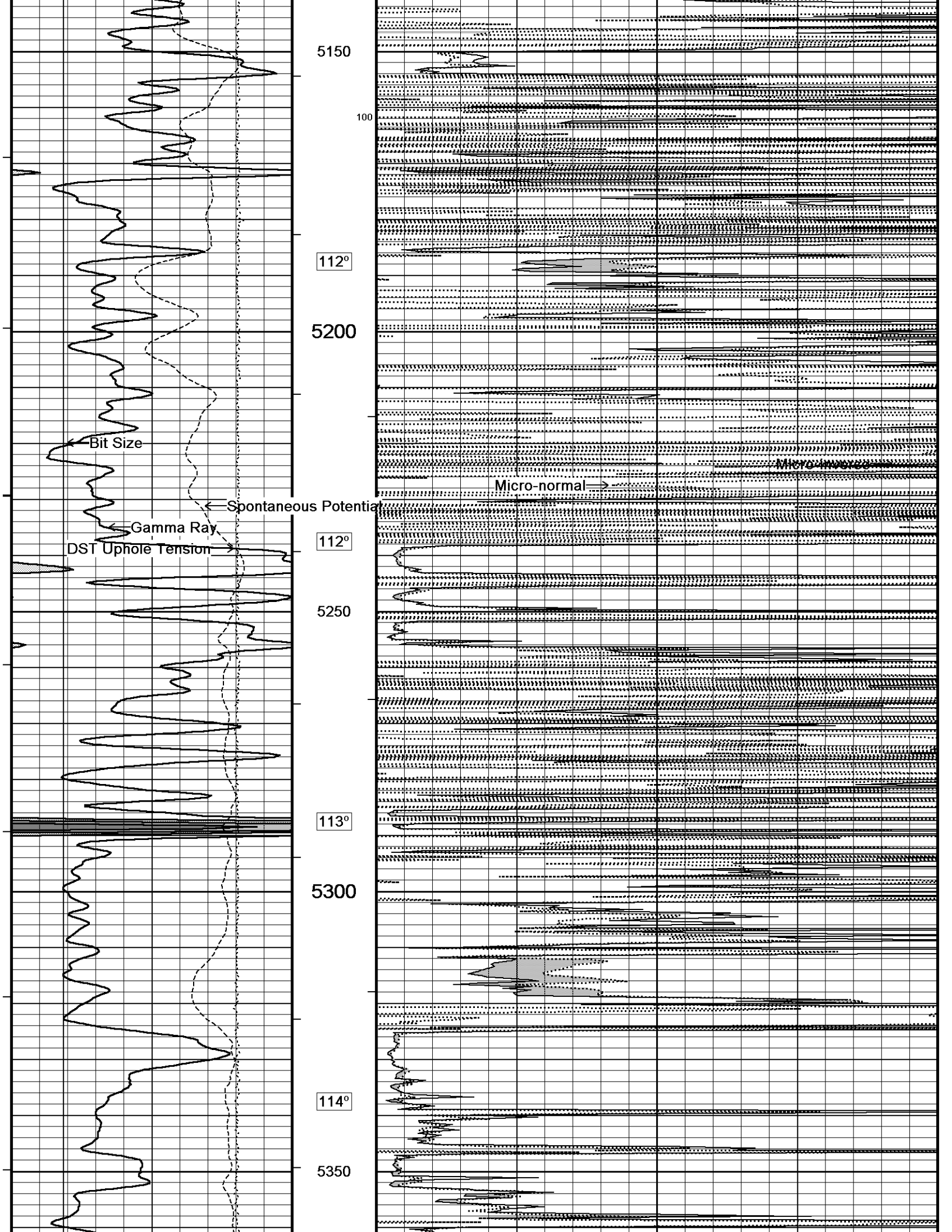
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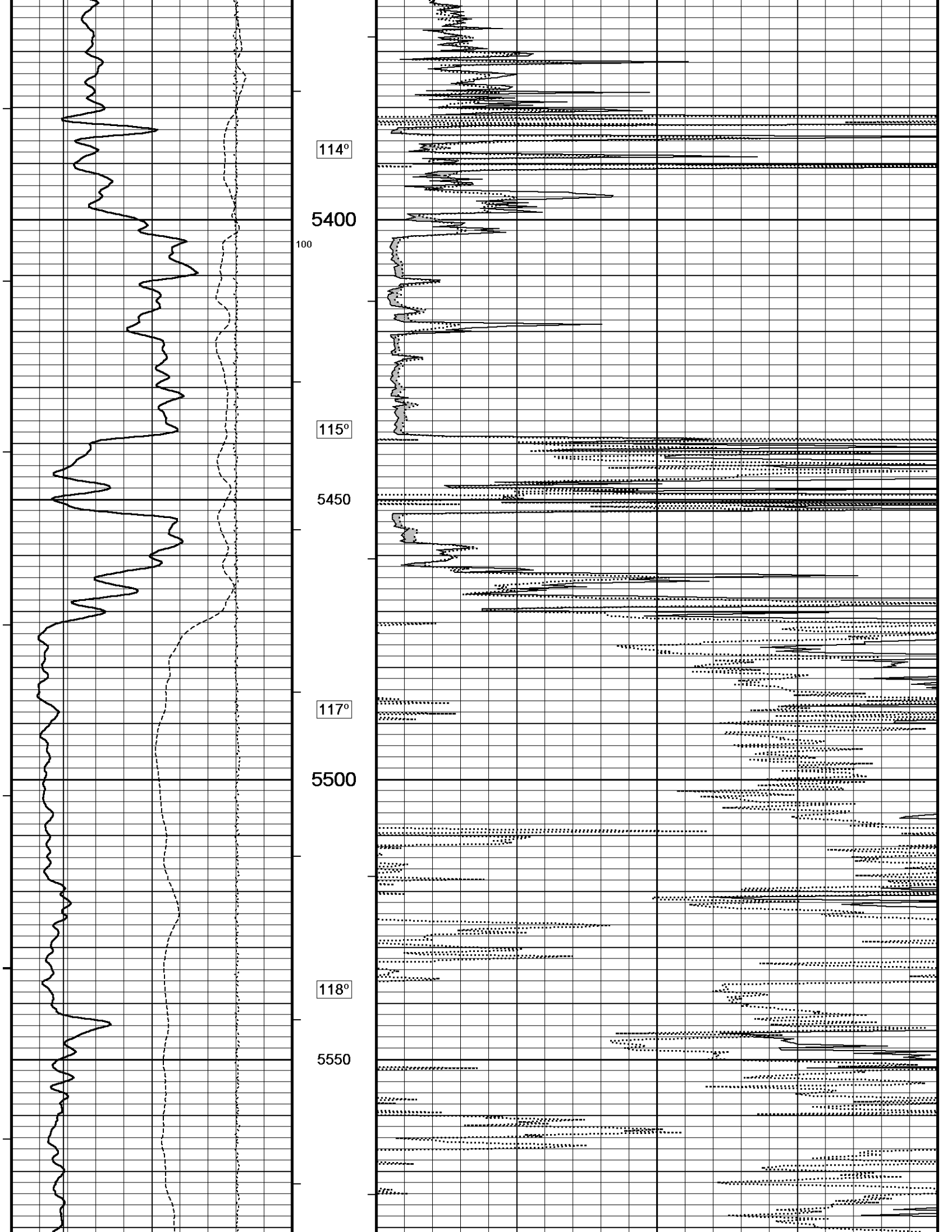
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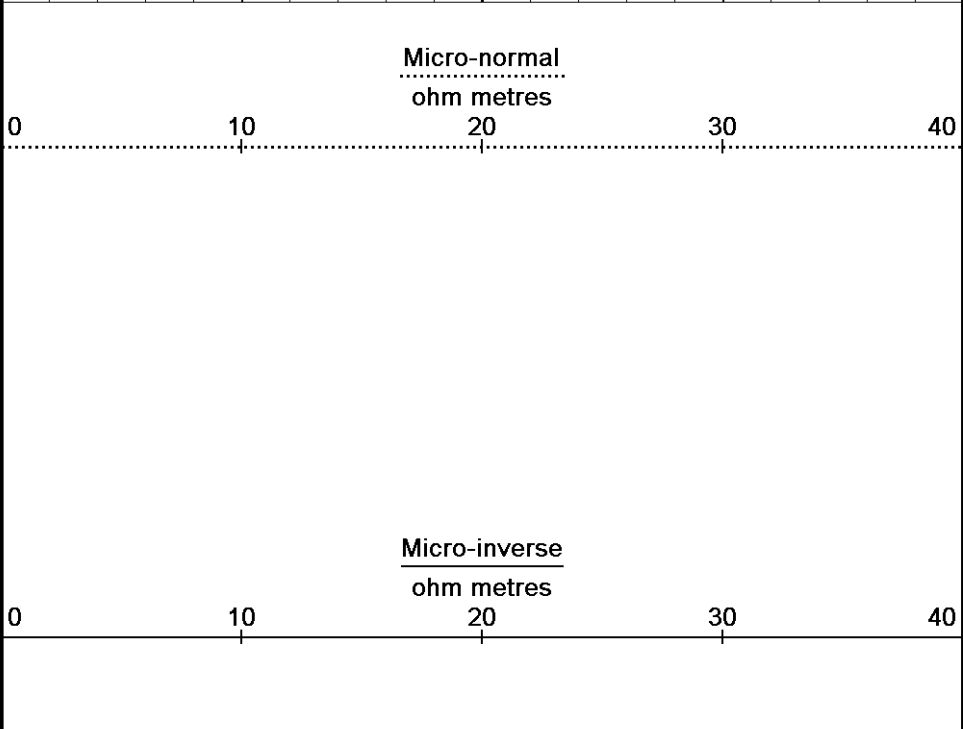
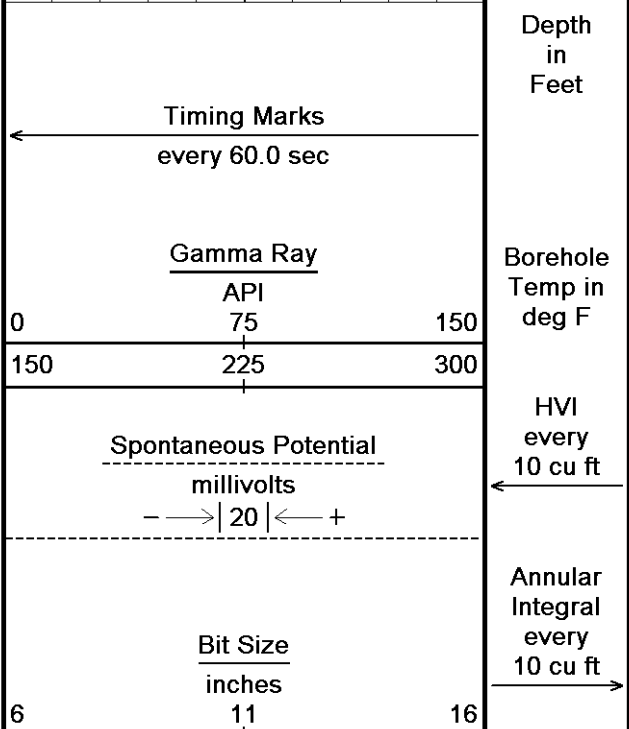
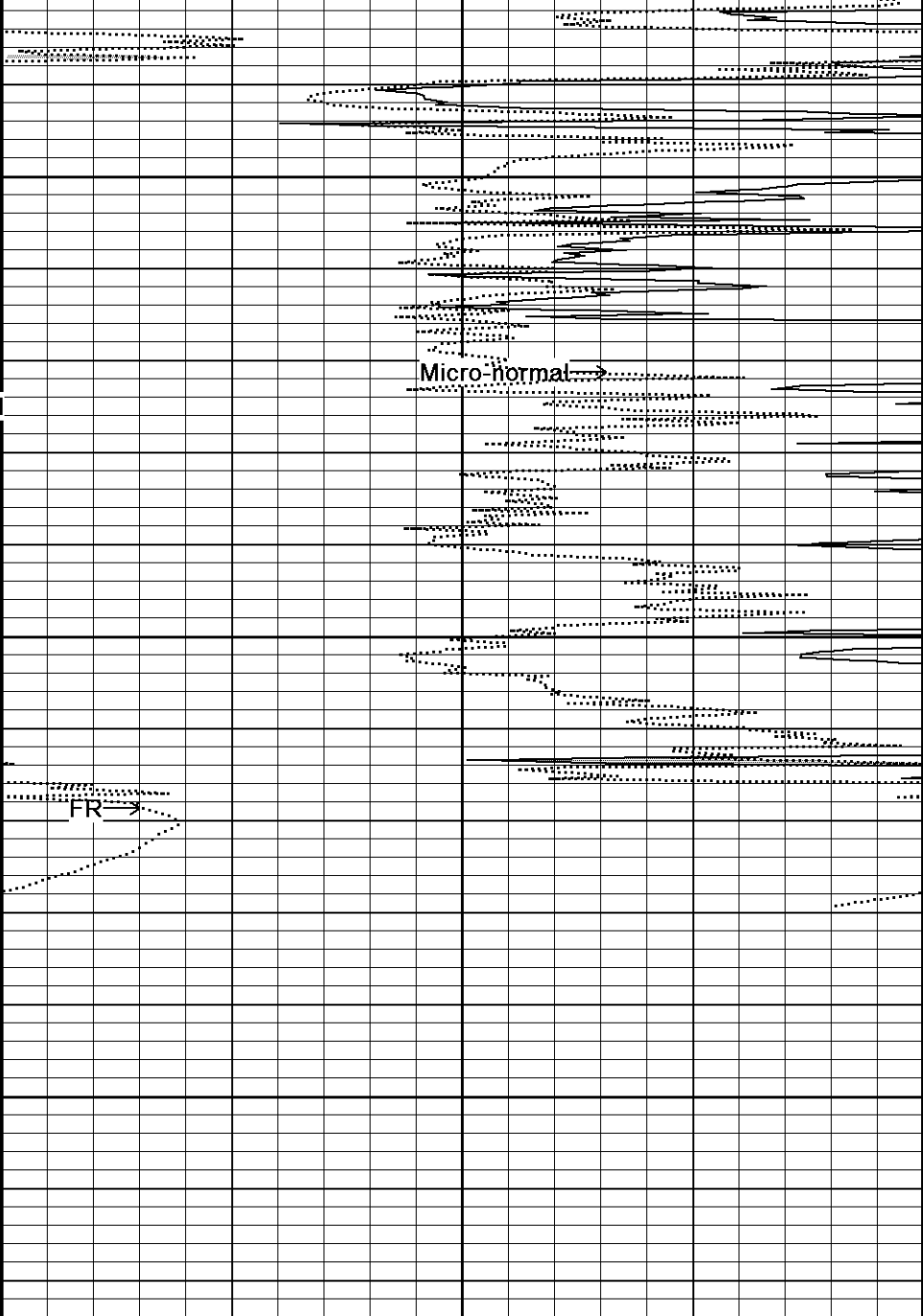
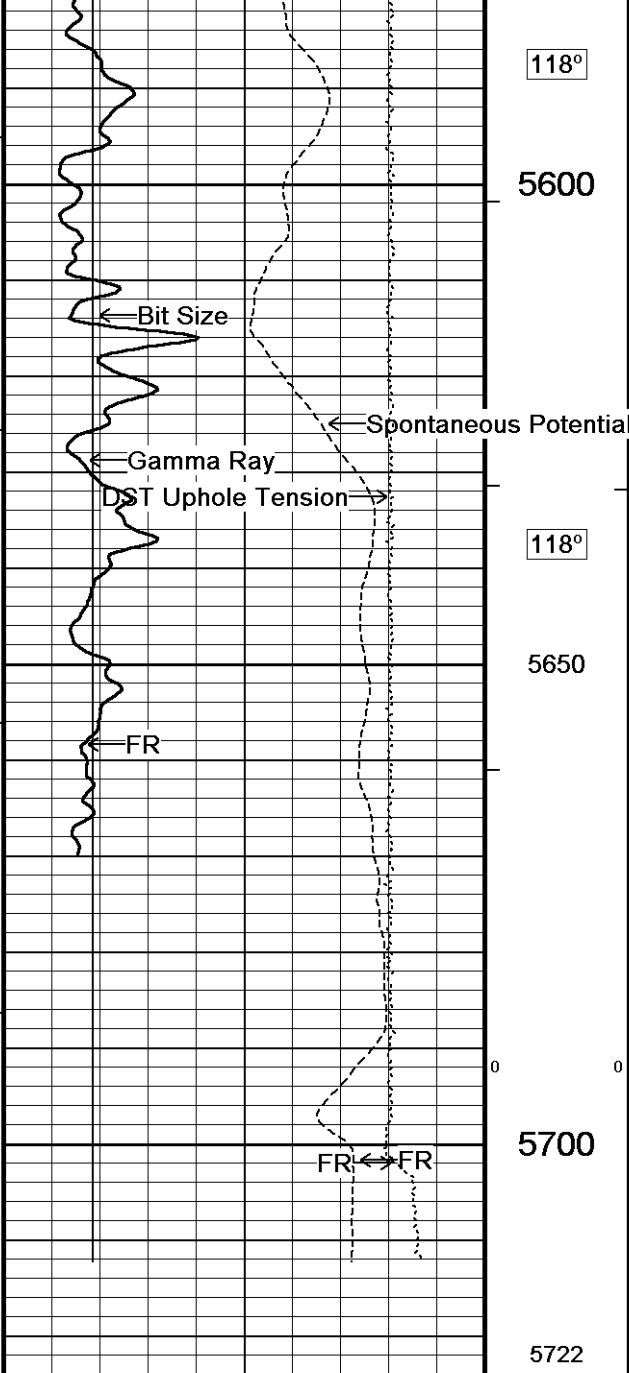
4850

4900









DST Uphole Tension  
pounds  
5000 0

Replay  
Scale  
1:240

Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 04-MAR-2014 13:48

Filename: C:\Minimus 13.05.9583\Logs\MCCOY UMCC A 1-17\MCCOY UMCC A 1-17 MAIN.dta

Recorded on 04-MAR-2014 10:53

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5 INCH MAIN



REPEAT SECTION



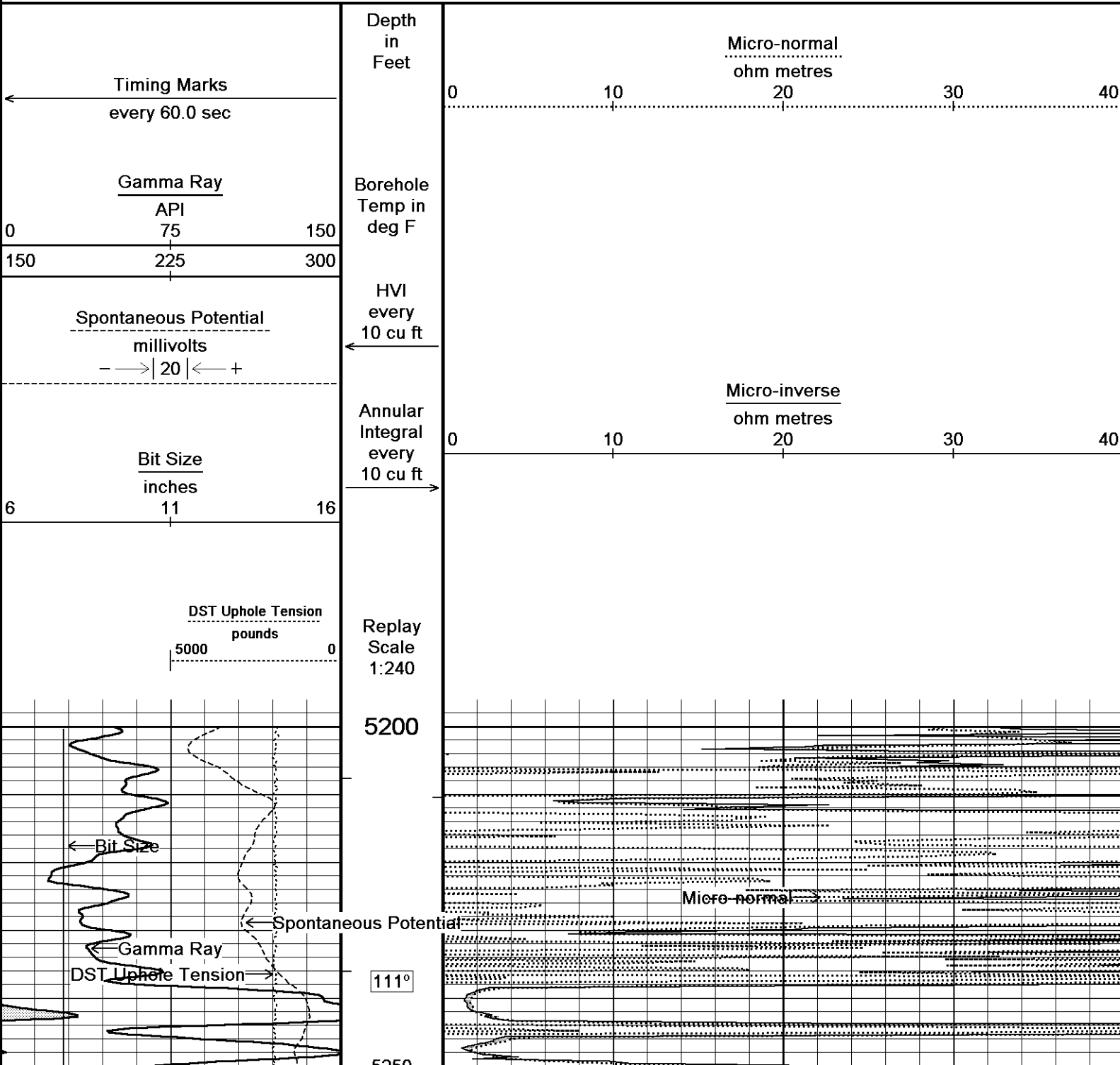
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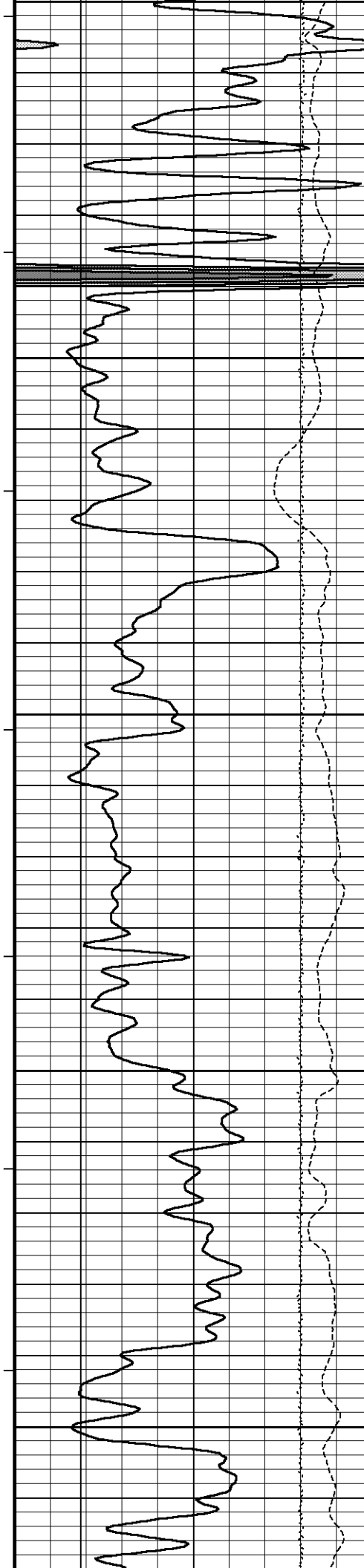
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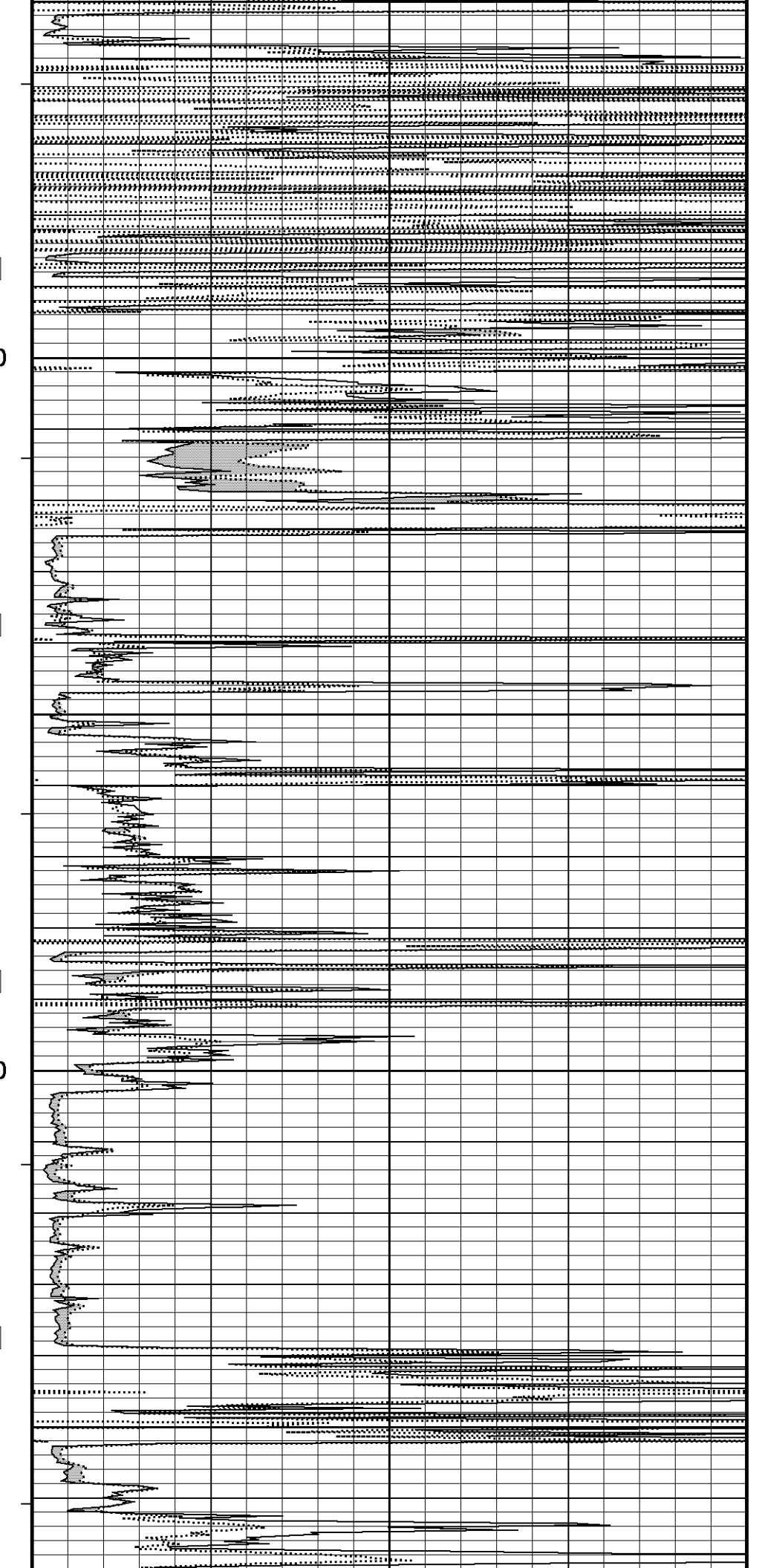
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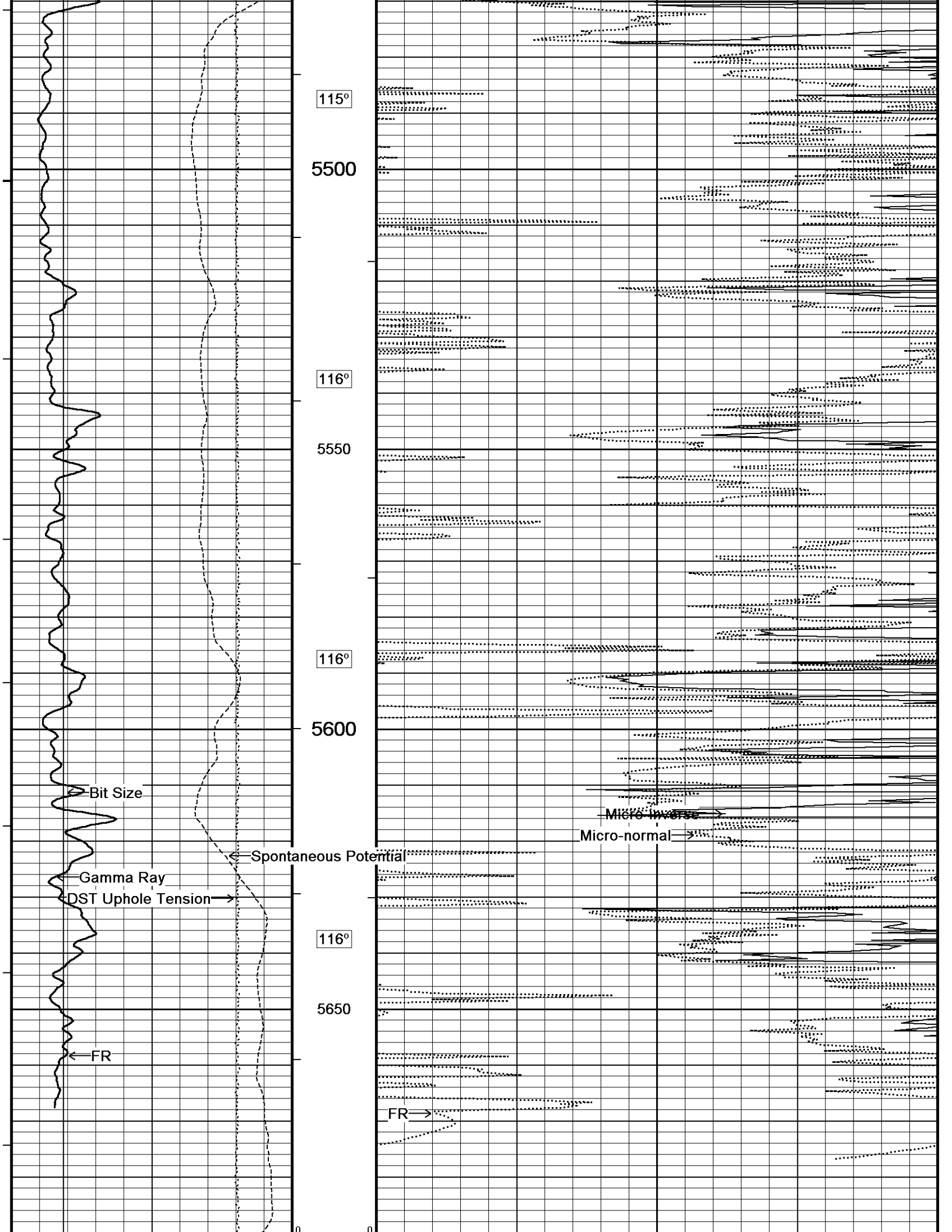
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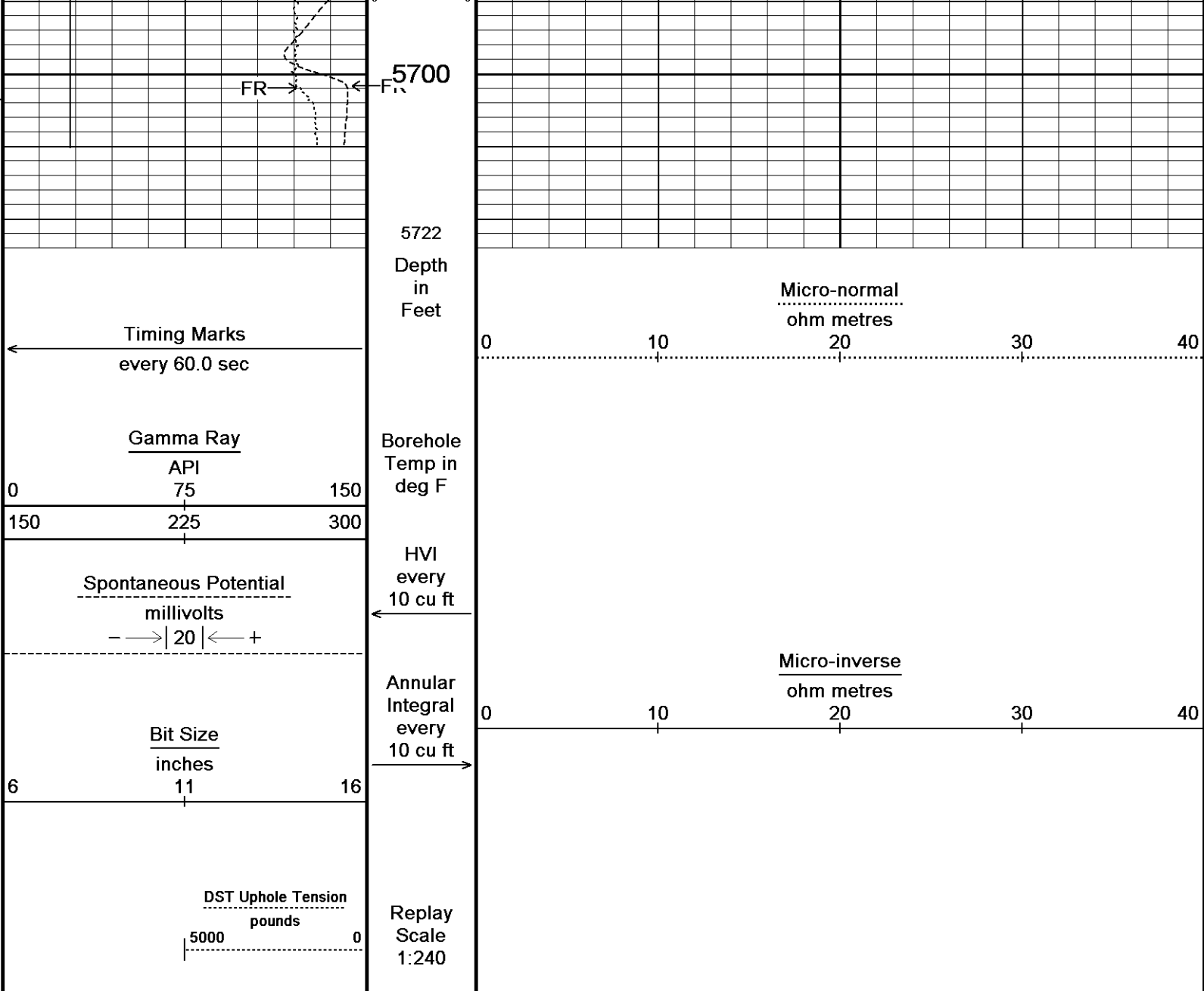




5250  
112°  
5300  
112°  
5350  
112°  
5400  
100  
114°  
5450







Depth Based Data - Maximum Sampling Increment 10.0cm  
 Plotted on 04-MAR-2014 13:48  
 Filename: C:\Minimus 13.05.9583\Logs\MCCOY UMCC A 1-17\MCCOY UMCC A 1-17 REPEAT3.dta  
 Recorded on 04-MAR-2014 10:05  
 System Versions: Processed with 13.05.9583 Plotted with 13.05.9583

↑ REPEAT SECTION ↑

**BEFORE SURVEY CALIBRATION**  
 C:\Minimus 13.05.9583\Logs\MCCOY UMCC A 1-17\MCCOY UMCC A 1-17 REPEAT3.dta

General Constants All 000 Last Edited on 04-MAR-2014,08:13

<b>General Parameters</b>		
Mud Resistivity	1.400	ohm-metres
Mud Resistivity Temperature	70.000	degrees F
Water Level	0.000	feet
Borehole Fluid Processing	Wet Hole	
<b>Hole/Annular Volume and Differential Caliper Parameters</b>		
HVOL Method	Single Caliper	
HVOL Caliper 1	Density Caliper	
HVOL Caliper 2	N/A	
Annular Volume Diameter	5.500	inches
Caliper for Differential Caliper	MMR Caliper	
<b>Rwa Parameters</b>		

Porosity used	Base Density Porosity
Resistivity used	Array Ind. One Res Rt
RWA Constant A	0.610
RWA Constant M	2.150
SW/APOR Tool Source	0.000

**Gamma Calibration MCG-D.K 443**

Field Calibration on 04-MAR-2014 03:57

	Measured	Calibrated (API)
Background	75	48
Calibrator (Gross)	1215	773
Calibrator (Net)	1140	725

**Gamma Constants MCG-D.K 443**

Last Edited on 04-MAR-2014,07:49

Gamma Calibrator Number	GRC38	
Mud Density	1.11	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Centred	
Concentration of KCl		kppm
K Mud Type	Chloride	
K Mud Concentration	0.00	%

**High Resolution Temperature Calibration MCG-D.K 443**

Field Calibration on 04-MAR-2014,09:07

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

**High Resolution Temperature Constants MCG-D.K 443**

Last Edited on 04-MAR-2014,09:07

Pre-filter Length 11

**Micro Normal and Micro Inverse Calibration MMR-A 11**

Base Calibration on 20-JAN-2014 13:46  
Field Check on 04-MAR-2014 03:51

Base Calibration

Channel	Measured		Calibrated (ohm-m)	
	Resistor 1	Resistor 2	Resistor 1	Resistor 2
Micro Normal	12.2	59.7	5.0	25.0
Micro Inverse	15.5	77.5	5.0	25.0

Channel	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	76.5	76.5
Micro Inverse	58.7	58.7

**Micro Normal and Micro Inverse Constants MMR-A 11**

Last Edited on 18-APR-2013,13:52

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	0.0000 inches

**Caliper Calibration MPD-B 31**

Base Calibration on 24-FEB-2014 03:42  
Field Calibration on 04-MAR-2014,10:20

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	18272	3.99
2	26496	5.98
3	35155	7.97
4	43472	9.86
5	52816	11.92
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
7.76	7.81

**DOWNHOLE EQUIPMENT**

C:\Minimus 13.05.9583\Logs\MCCOY UMCC A 1-17\MCCOY UMCC A 1-17 REPEAT3.dta



CBH-CA 170 LG: 2.40 ft WT: 24.3 lb OD: 2.24 in

Compact Comms Gamma  
MCG-D.K 443 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Compact Micro-Resistivity  
MMR-A 11 LG: 8.59 ft WT: 81.6 lb OD: 4.88 in

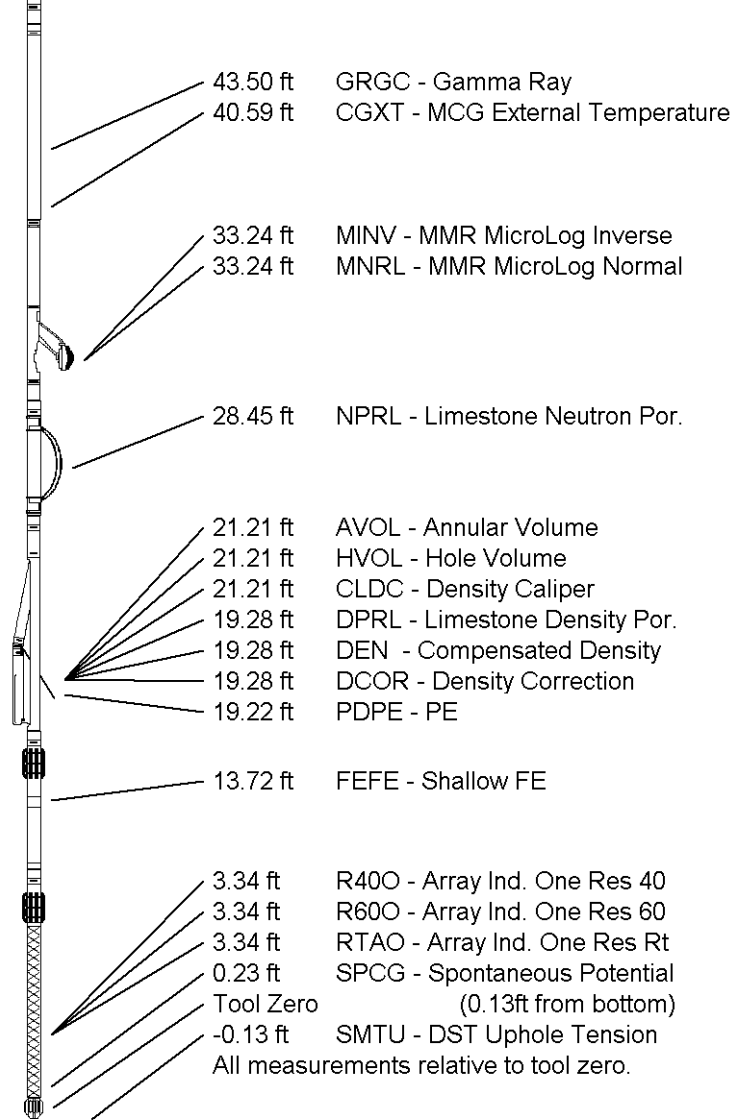
Compact Neutron  
MDN-A.B 65 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

Compact Density/Caliper  
MPD-B 31 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

Compact Focussed Electric  
MFE-B.J 352 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

Compact Induction  
MAI-A.A 45 LG: 10.81 ft WT: 48.5 lb OD: 2.24 in

Total Length: 51.18 ft Weight: 407.9 lb



COMPANY MCCOY PETROLEUM CORPORATION  
WELL UMCC A 1-17  
FIELD WILDCAT  
PROVINCE/COUNTY MEADE  
COUNTRY/STATE U.S.A. / KANSAS

Elevation Kelly Bushing	2827.00	feet	First Reading	5669.00	feet
Elevation Drill Floor	2825.00	feet	Depth Driller	5700.00	feet
Elevation Ground Level	2816.00	feet	Depth Logger	5702.00	feet



**Weatherford**<sup>®</sup>

MICRORESISTIVITY LOG