



Weatherford

MICRORESISTIVITY LOG

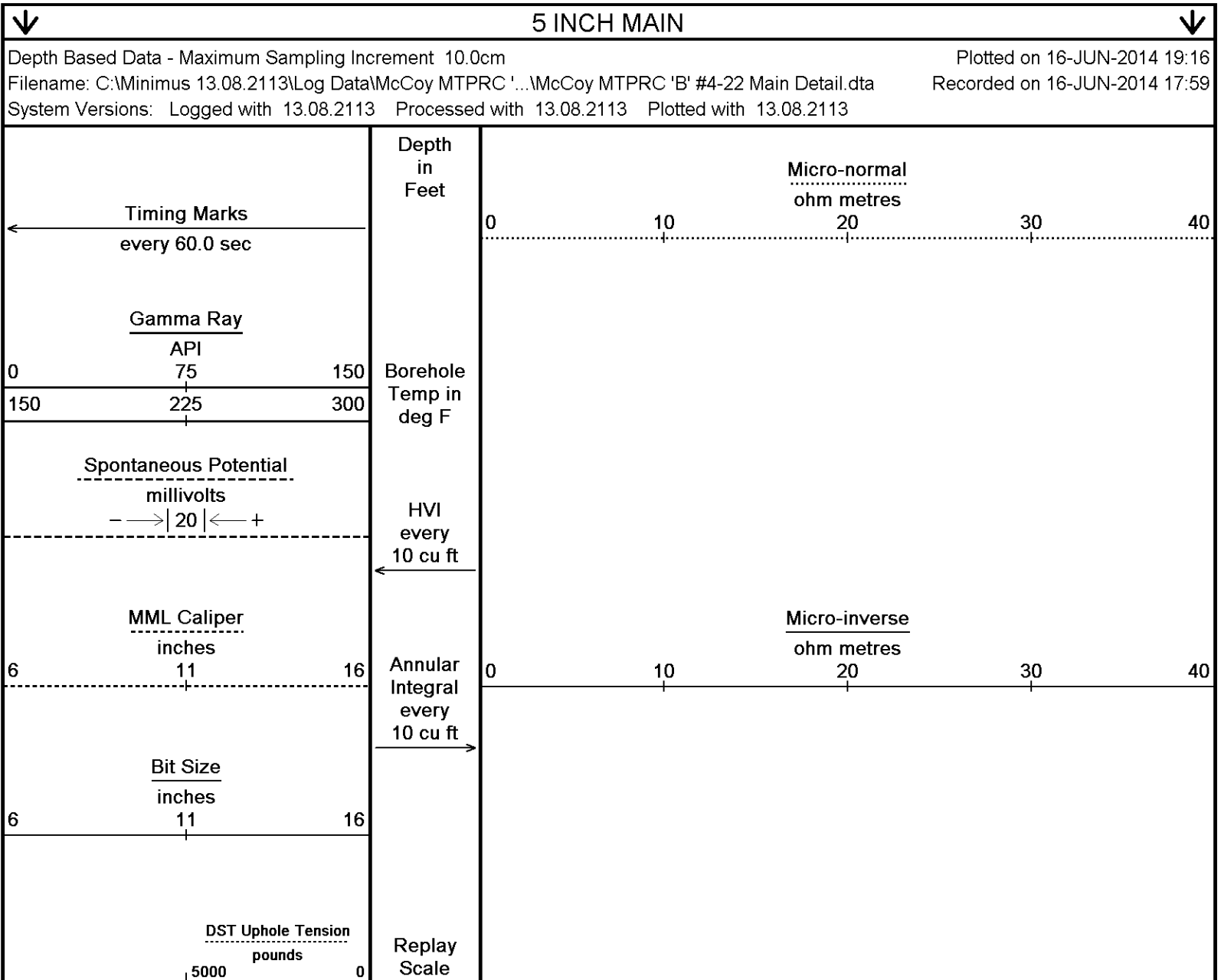
COMPANY		MCCOY PETROLEUM CORPORATION		
WELL		MTPRC 'B' #4-22		
FIELD		ALFORD		
PROVINCE/COUNTY		KIOWA		
COUNTRY/STATE		U.S.A. / KANSAS		
LOCATION		660' FSL & 1320' FEL		
SEC 22	TWP 30S	RGE 19W	Other Services	
Latitude		MAI/MFE		MPD/MDN
Longitude				
API Number		15-097-21793		
Permanent Datum GL, Elevation 2220 feet				
Log Measured From KB				Elevations: KB 2233.00 DF 2231.00 GL 2220.00
Drilling Measured From KB @ 13 FEET				
Date	16-JUN-2014			
Run Number	ONE			
Service Order	7606-90113177			
Depth Driller	5200.00	feet		
Depth Logger	5198.00	feet		
First Reading	5164.63	feet		
Last Reading	3900.00	feet		
Casing Driller	621.00	feet		
Casing Logger	621.00	feet		
Bit Size	7.875	inches		
Hole Fluid Type	CHEMICAL			
Density / Viscosity	9.30 lb/USg	65.00 CP		
PH / Fluid Loss	9.00	10.40 ml/30Min		
Sample Source	MUD PIT			
Rm @ Measured Temp	0.56 @ 75.0	ohm-m		
Rmf @ Measured Temp	0.448 @ 75.0	ohm-m		
Rmc @ Measured Temp	0.672 @ 75.0	ohm-m		
Source Rmf / Rmc	CALC	CALC		
Rm @ BHT	0.40 @107.0	ohm-m		
Time Since Circulation	3 HOURS			
Max Recorded Temp	107.00	deg F		
Equipment / Base	13096	LIB		
Recorded By	BEN WELDIN			
Witnessed By	DAVE WILLIAMS	DEREK CARTER		
JOB #	LB14-180			

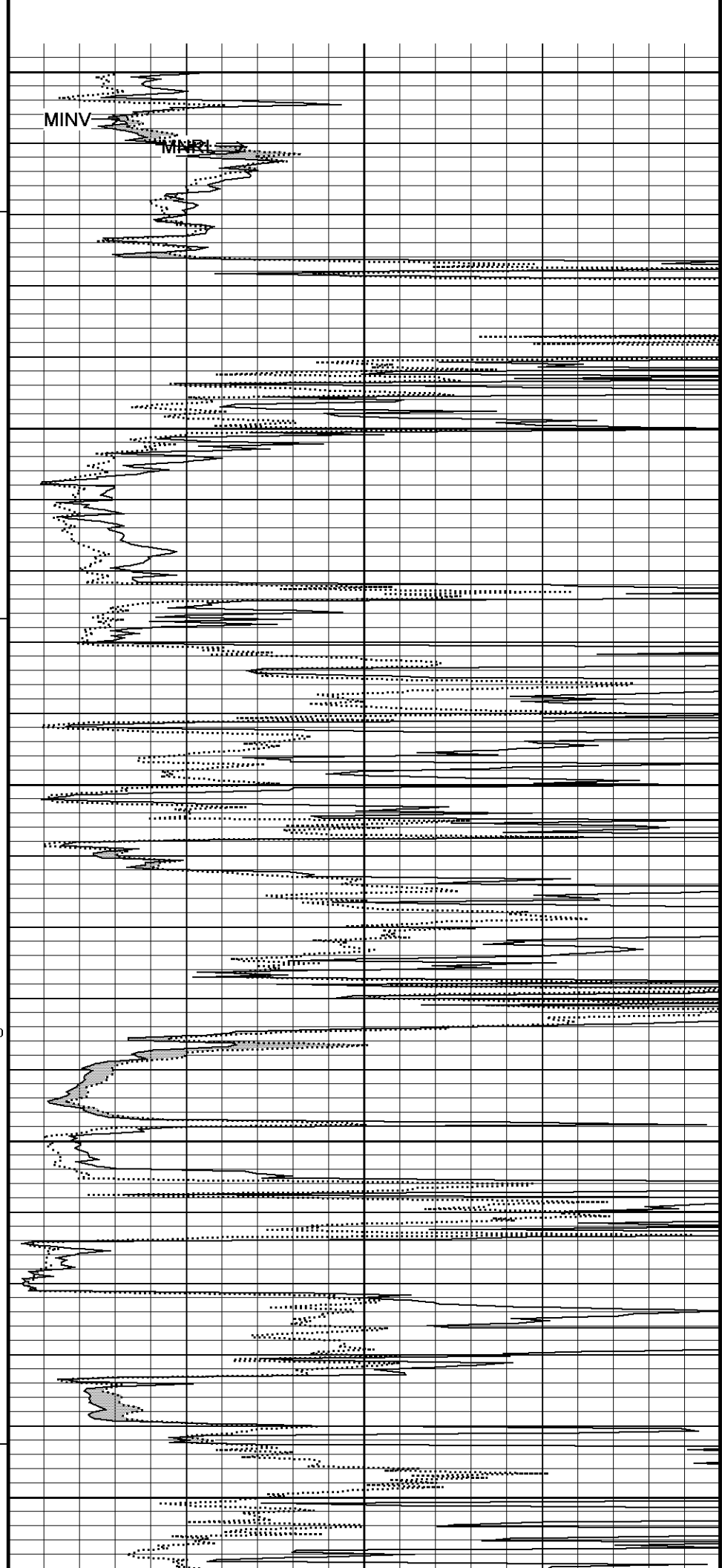
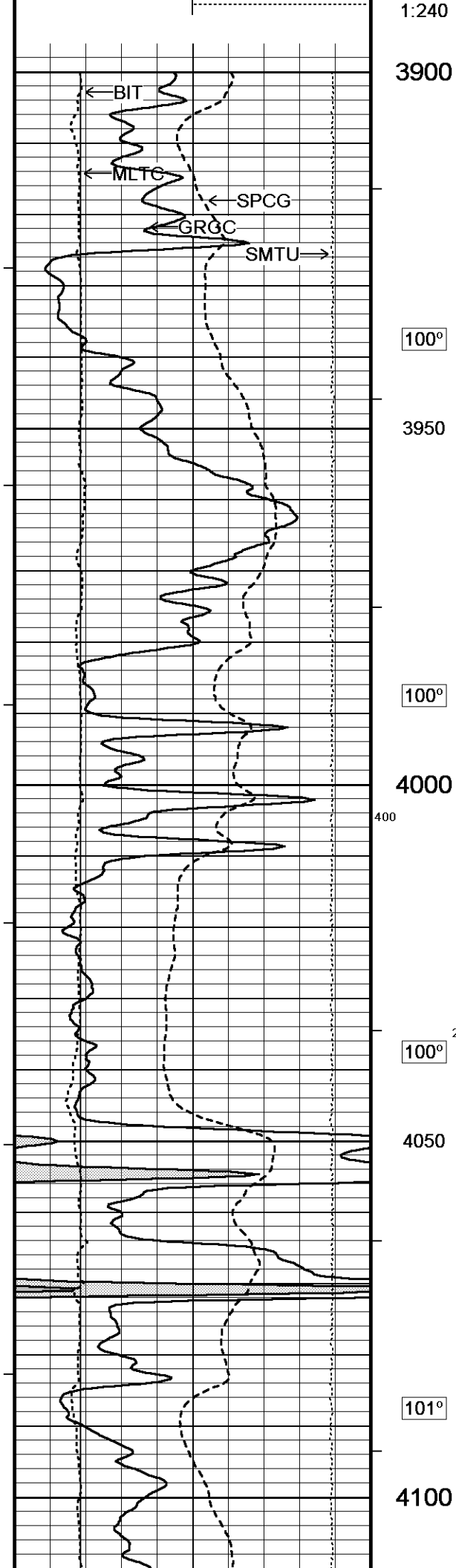
BOREHOLE RECORD					Last Edited: 16-JUN-2014 13:50
Bit Size inches		Depth From feet		Depth To feet	
10.750		0.00		621.00	
7.875		621.00		5200.00	
CASING RECORD					
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft	
SURFACE	8.625	0.00	621.00	24.00	

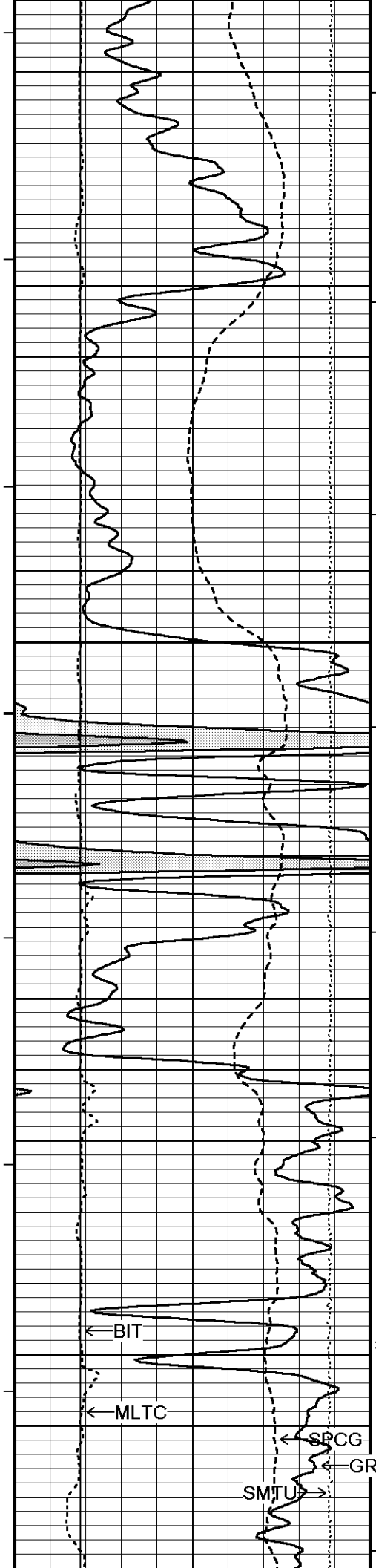
REMARKS
- SOFTWARE ISSUE: WLS 13.08.2113
- TOOL STRING: MCG, MML, MDN, MPD, MFE, MAI RUN IN COMBINATION
- HARDWARE: MDN: DUAL BOWSPRING ECCENTRALIZER MFE: 1 X 0.5 INCH STANDOFF MAI: 2 X 0.5 INCH STANDOFF
- 2.71 G/CC LIMESTONE DENSITY MATRIX USED TO CALCULATE POROSITY
- BOREHOLE RUGOSITY, TIGHT PULLS, AND WASHOUTS WILL AFFECT DATA QUALITY
- ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST
- TOTAL HOLE VOLUME FROM TD TO SURFACE CASING: 1930 CU. FT.

- ANNULAR HOLE VOLUME WITH 5.5 INCH CASING FROM TD TO 3900 FT.: 220 CU. FT.
- SERVICE ORDER # 7606-90113177
- RIG: STERLING #5
- ENGINEER: DEREK CARTER
- JUNIOR FIELD ENGINEER: BEN WELDIN
- OPERATOR: CARLOS RAMIREZ

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.







101°

4150

101°

4200

102°

4250

102°

4300

MNRL

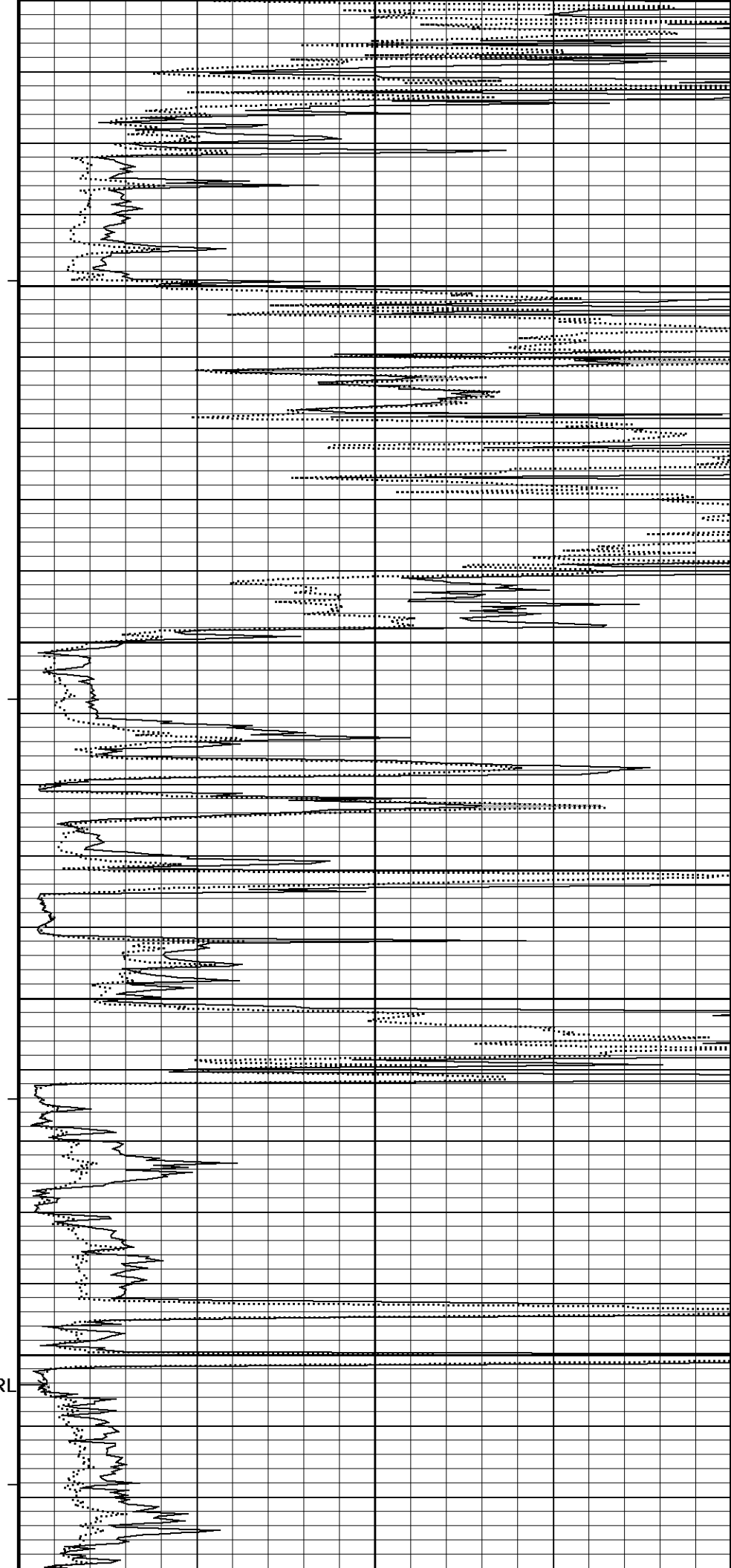
← BIT

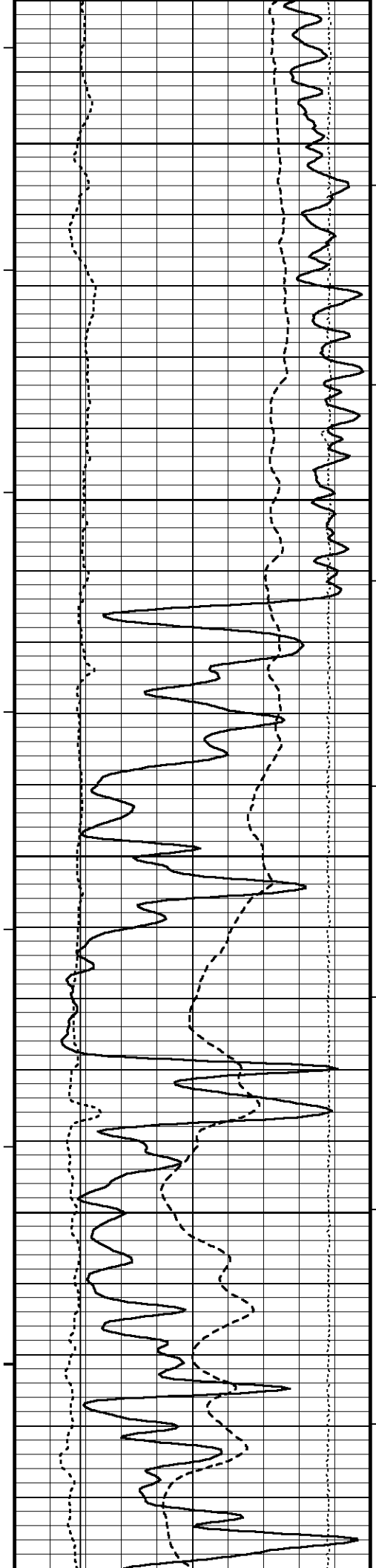
← MLTC

← SPCG

← GRGC

SMTU →





102°

4350

102°

4400

103°

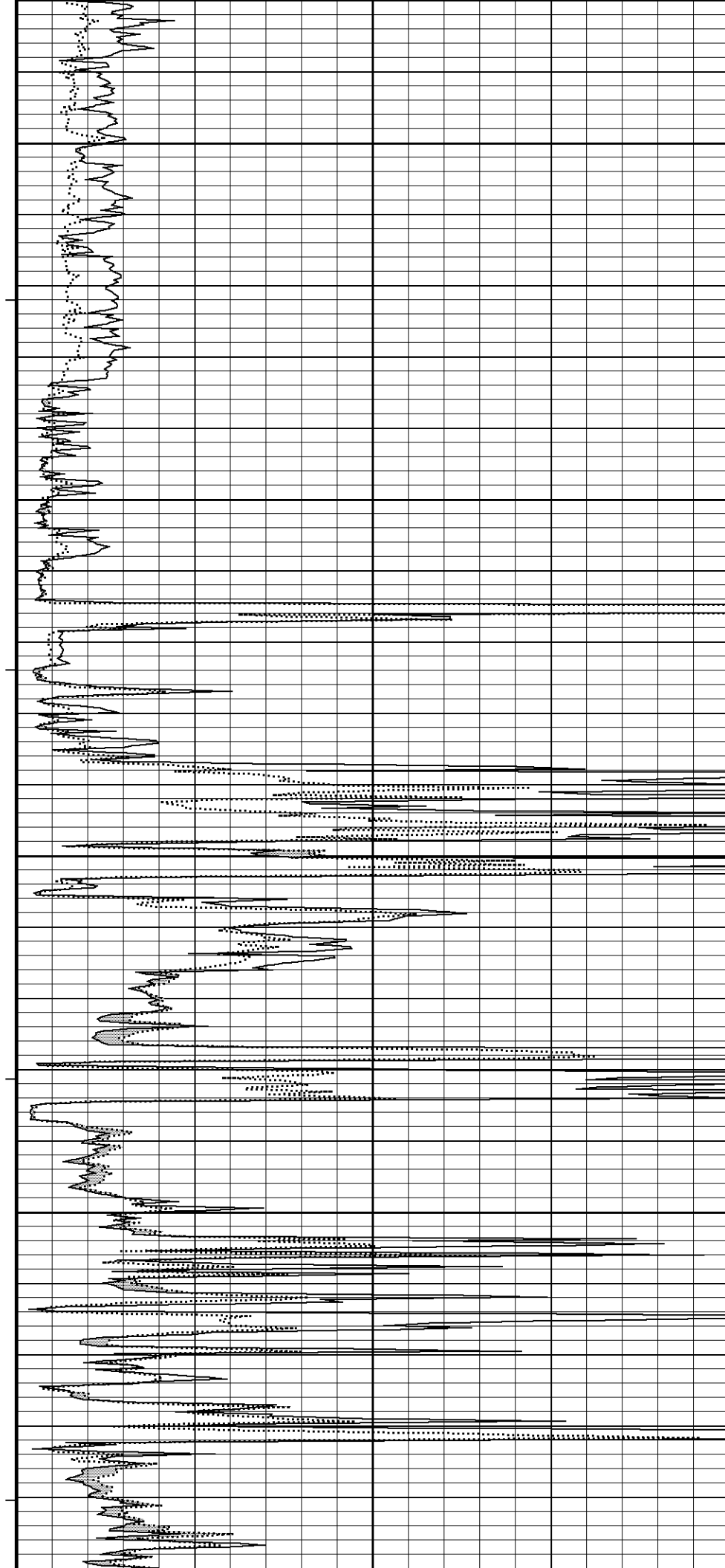
4450

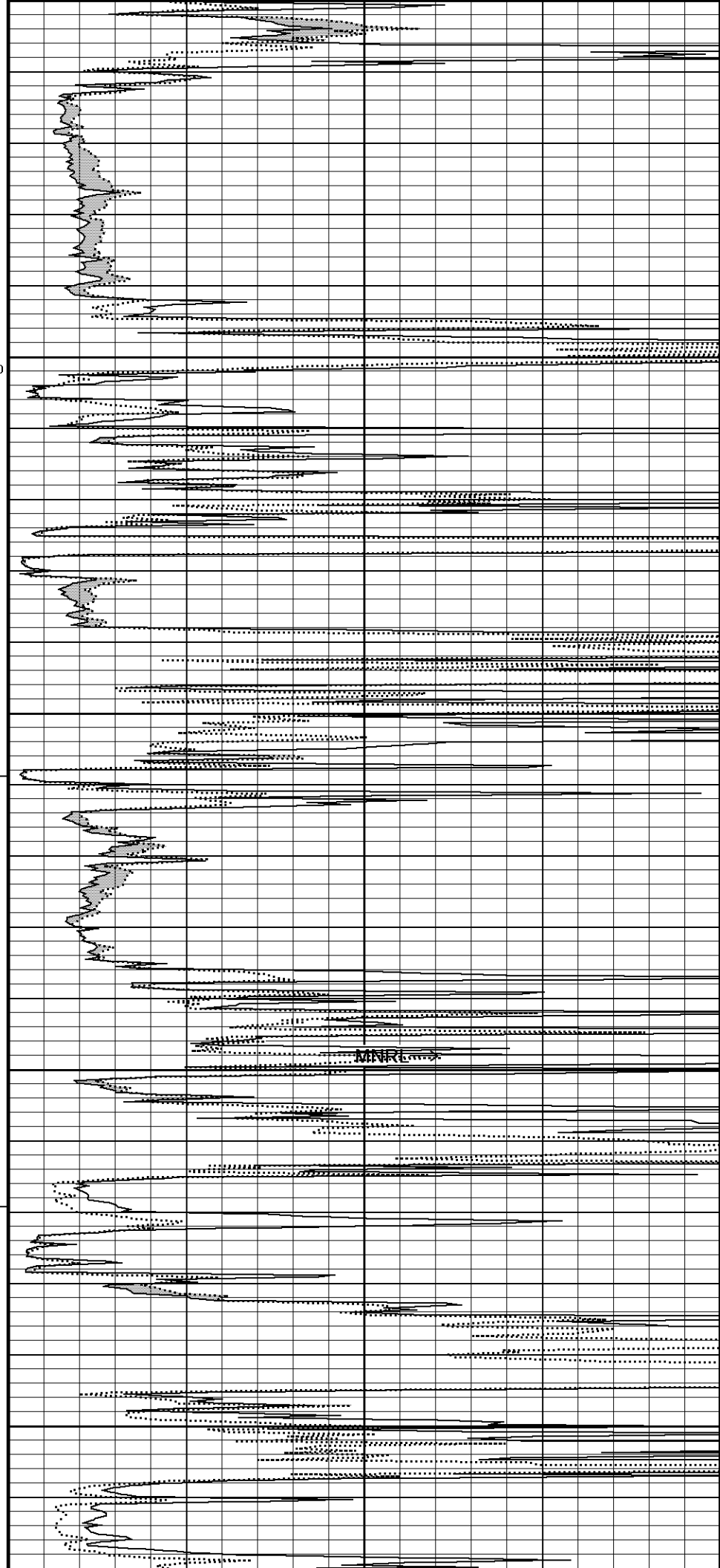
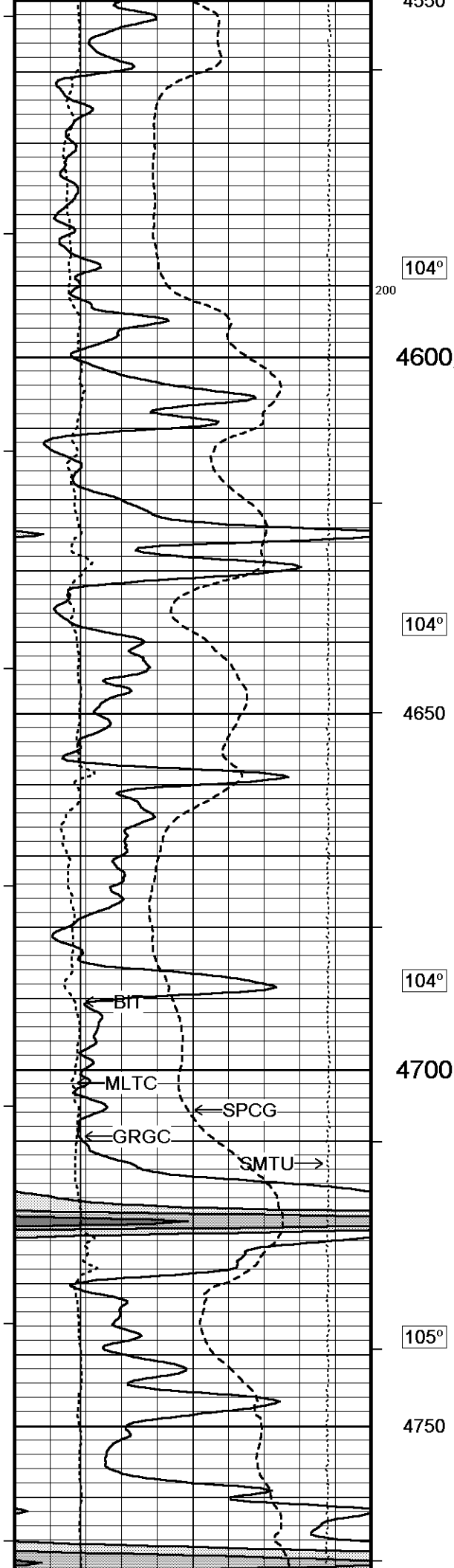
103°

4500

104°

4550







105°

4800

105°

4850

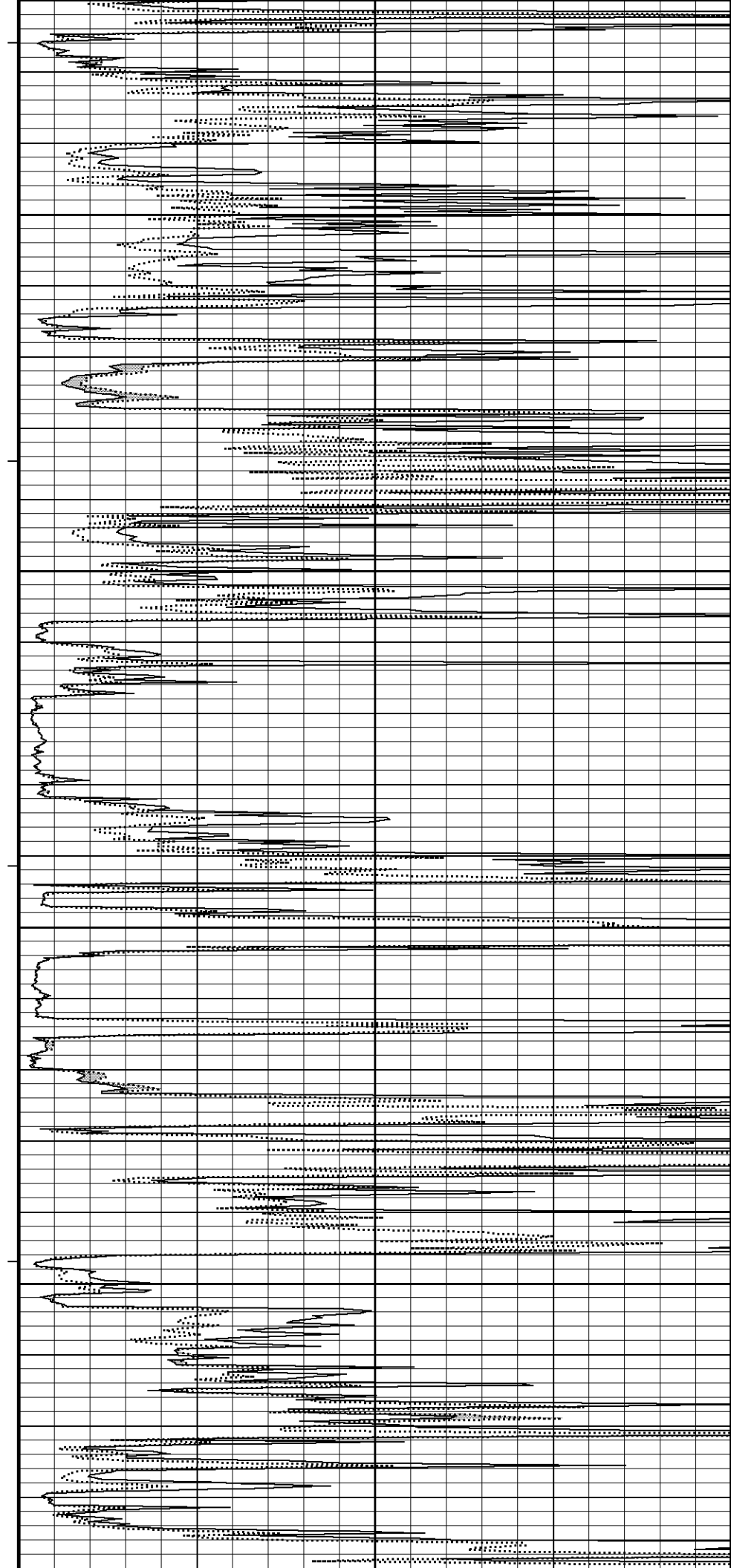
100 105°

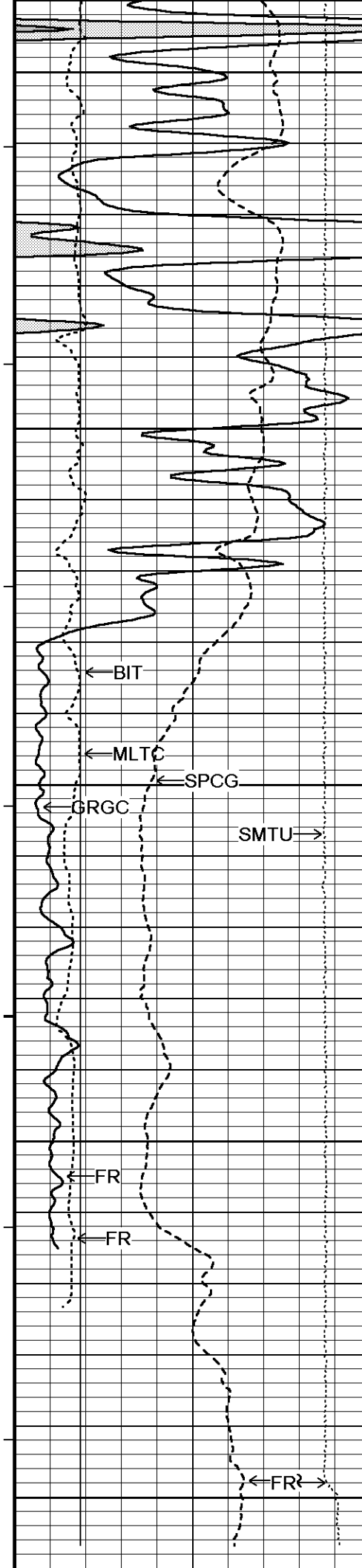
4900

106°

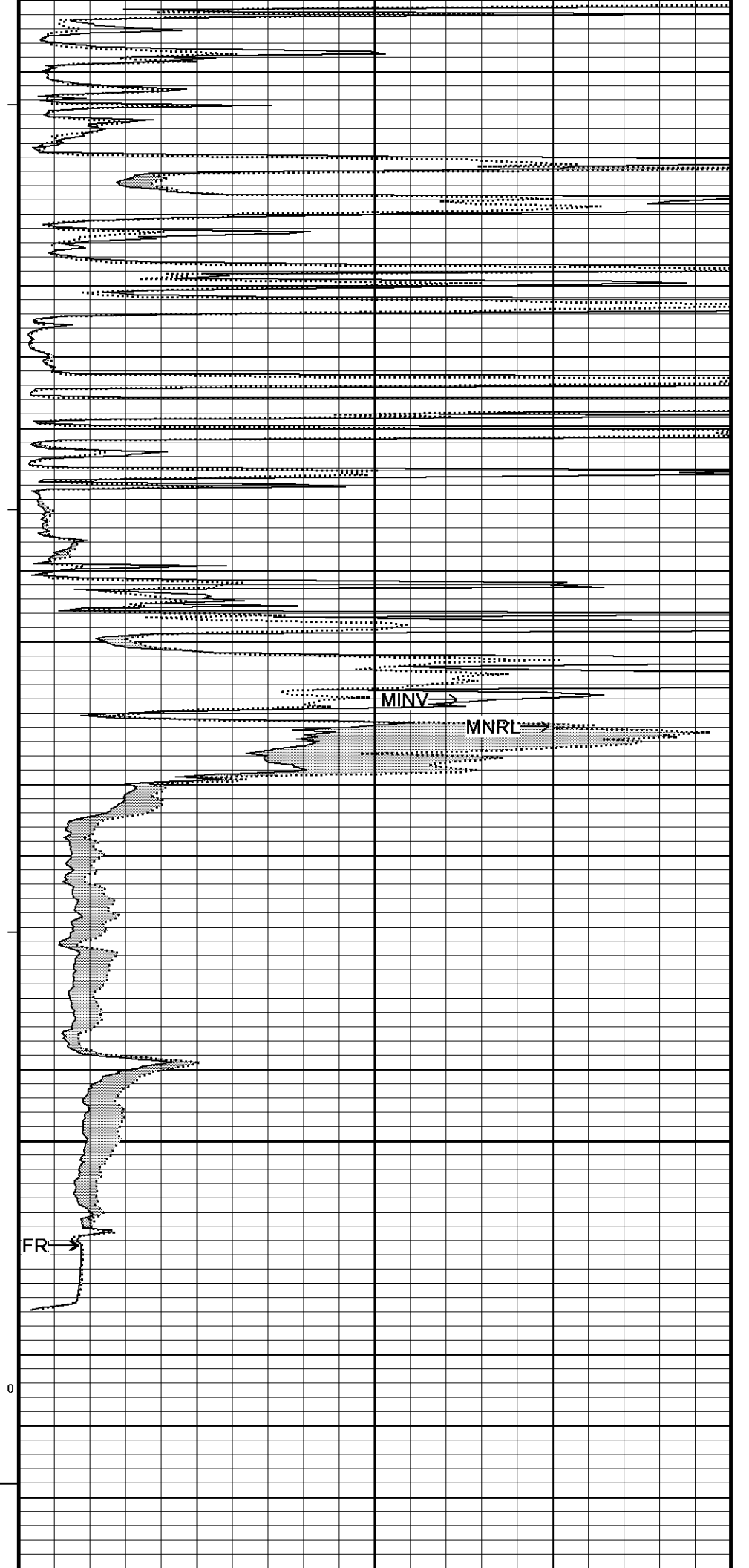
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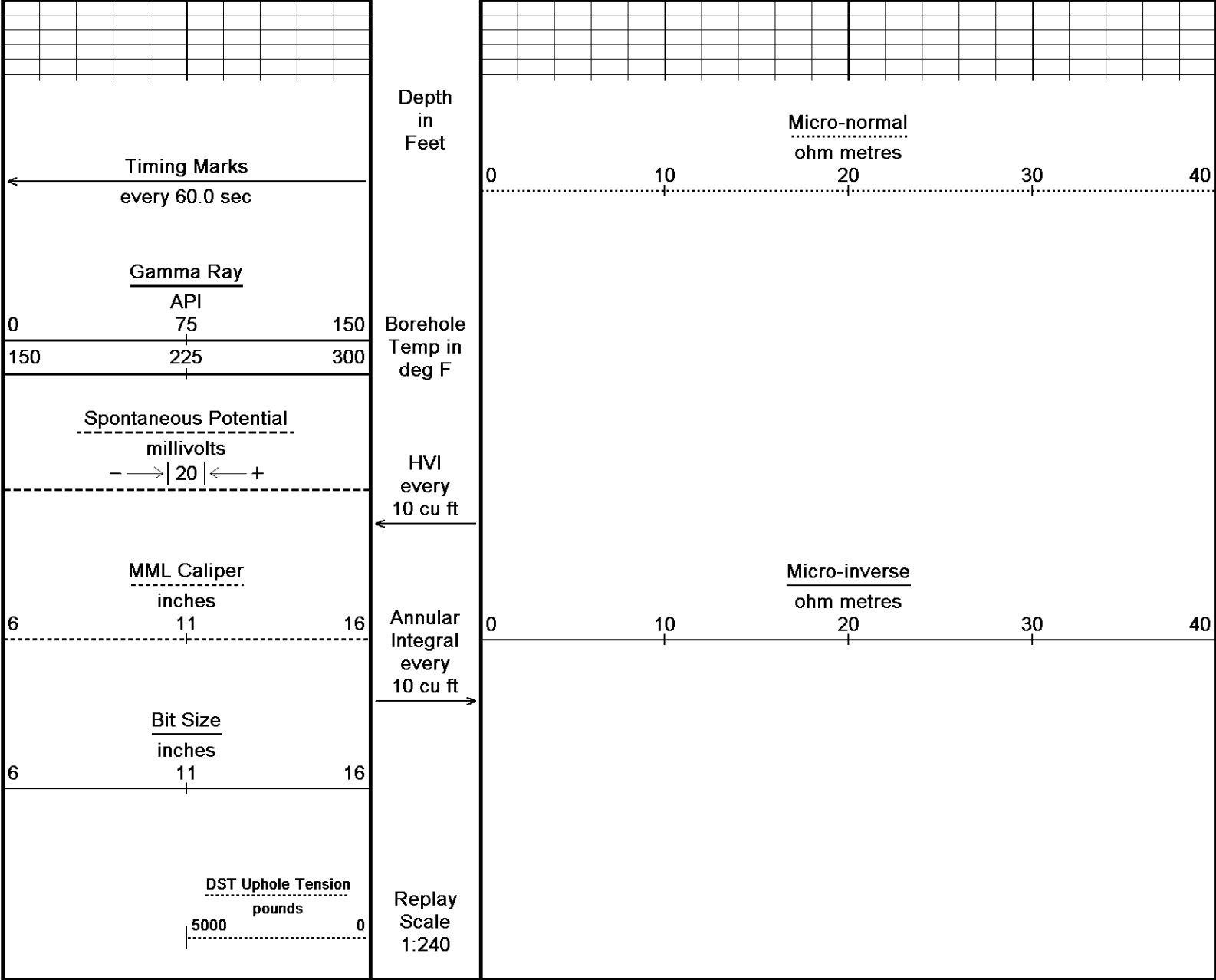
106°





5000
107°
5050
107°
5100
108°
5150
0
TD
5200





Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 16-JUN-2014 19:16

Filename: C:\Minimus 13.08.2113\Log Data\McCoy MTPRC 'B' #4-22 Main Detail.dta

Recorded on 16-JUN-2014 17:59

System Versions: Logged with 13.08.2113 Processed with 13.08.2113 Plotted with 13.08.2113

↑

5 INCH MAIN

↑

↓

REPEAT SECTION

↓

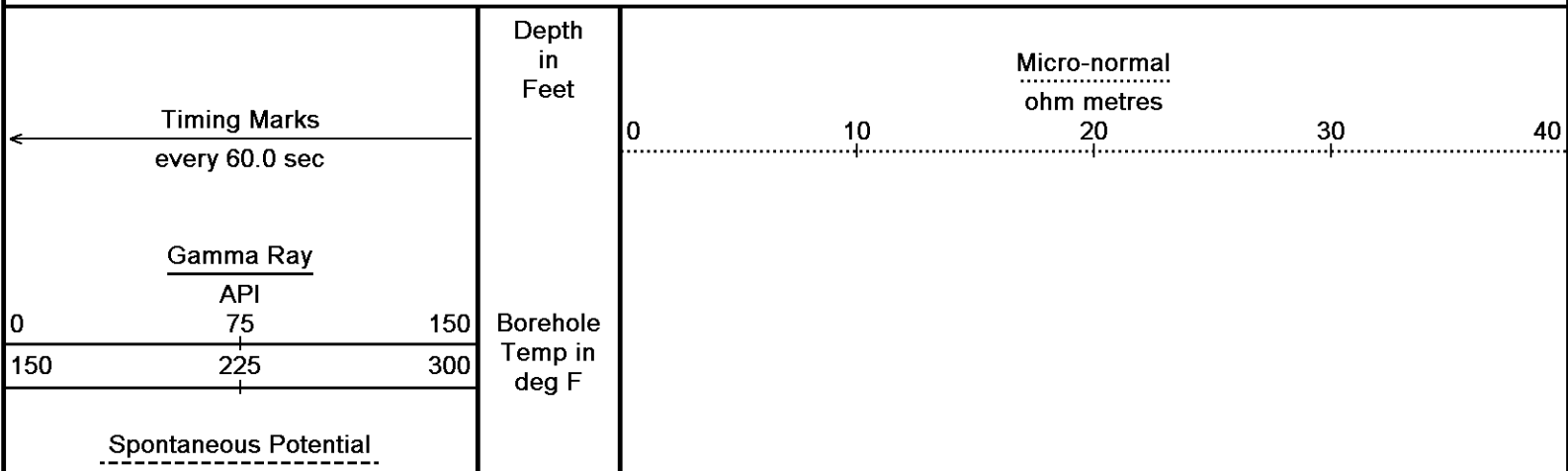
Depth Based Data - Maximum Sampling Increment 10.0cm

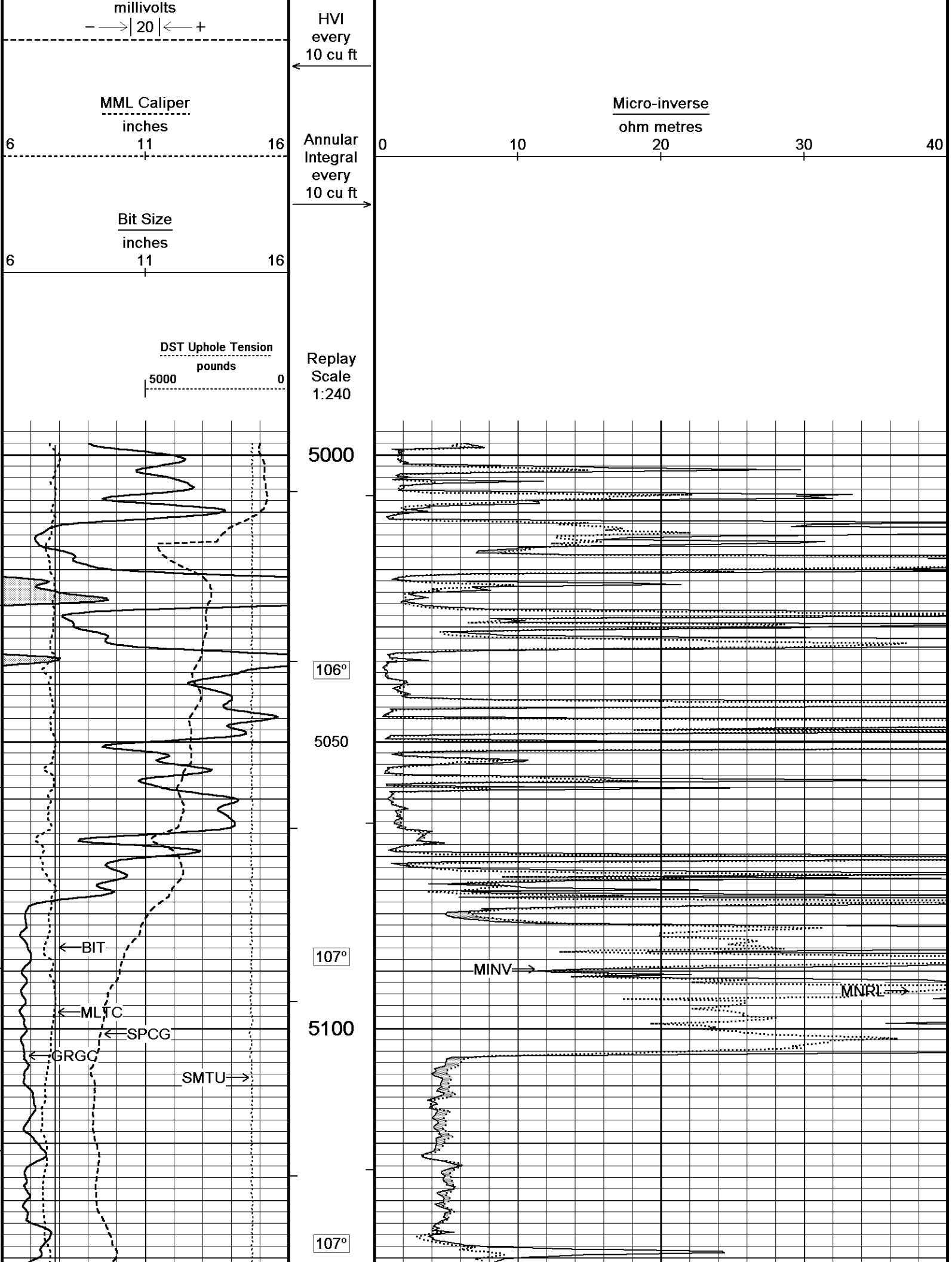
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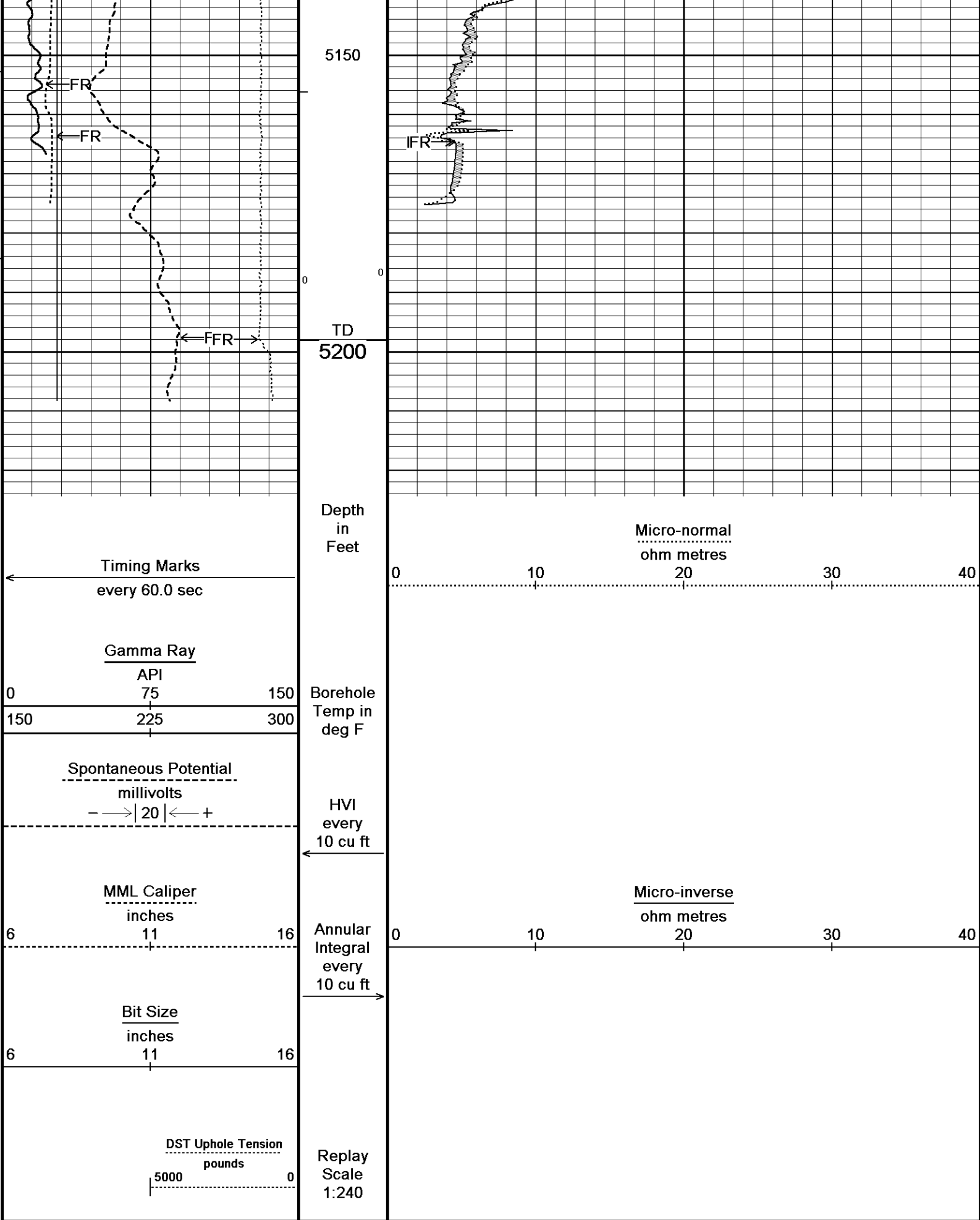
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Recorded on 16-JUN-2014 16:17

System Versions: Logged with 13.08.2113 Processed with 13.08.2113 Plotted with 13.08.2113







BEFORE SURVEY CALIBRATION

C:\Minimus 13.08.2113\Log Data\McCoy MTPRC 'B' #4-22\McCoy MTPRC 'B' #4-22 Main Detail.dta

General Constants All 000

Last Edited on 16-JUN-2014,13:46

General Parameters

Mud Resistivity	0.560	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	Crossplot 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 469

Field Calibration on 16-JUN-2014 09:10

	Measured	Calibrated (API)
Background	68	45
Calibrator (Gross)	1160	770
Calibrator (Net)	1092	725

Gamma Constants MCG-D.K 469

Last Edited on 16-JUN-2014,13:45

Gamma Calibrator Number	GRC038	
Mud Density	1.12	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 12-MAY-2014,02:16

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

High Resolution Temperature Constants MCG-D.K 469

Last Edited on 12-JUN-2014,06:51

Pre-filter Length	11
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Caliper Calibration MML-A 3

Base Calibration on 03-JUN-2014 20:27

Field Calibration on 16-JUN-2014 08:44

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	15102	5.98
2	18353	7.97
3	21621	9.86
4	25608	11.92
5	0	0.00
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
7.97	7.97

Micro Normal and Micro Inverse Calibration MML-A 3

Base Calibration on 03-JUN-2014 20:20

Field Check on 16-JUN-2014 08:43

Base Calibration

Channel	Measured		Calibrated (ohm-m)	
	Resistor 1	Resistor 2	Resistor 1	Resistor 2
Micro Normal	10.0	50.0	5.1	25.6
Micro Inverse	10.0	49.9	3.4	16.9
Channel	Base Check (ohm-m)		Field Check (ohm-m)	
Micro Normal	77.3		77.3	
Micro Inverse	51.2		51.2	

Micro Normal and Micro Inverse Constants MML-A 3

Last Edited on 16-JUN-2014,08:42

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 MPD-C.A 216

Base Calibration on 30-MAY-2014 10:28
Field Calibration on 16-JUN-2014 08:50

Base Calibration		
Reading No	Measured	Calibrator Size (in)
1	16881	3.99
2	26816	5.98
3	36848	7.97
4	46640	9.86
5	57917	11.92
6	N/A	N/A

Field Calibration	Measured Caliper (in)	Actual Caliper (in)
	7.95	7.97

DOWNHOLE EQUIPMENT

C:\Minimus 13.08.2113\Log Data\McCoy MTPRC 'B' #4-22\McCoy MTPRC 'B' #4-22 Main Detail.dta

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

MCB-C.A 5 LG: 1.58 ft WT: 15.4 lb OD: 2.244 in

Compact Comms Gamma

MCG-D.K 469 LG: 8.70 ft WT: 63.9 lb OD: 2.240 in

Compact Micro-log

MML-A 3 LG: 7.97 ft WT: 81.6 lb OD: 2.240 in

Compact Neutron

MDN-A.B 66 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

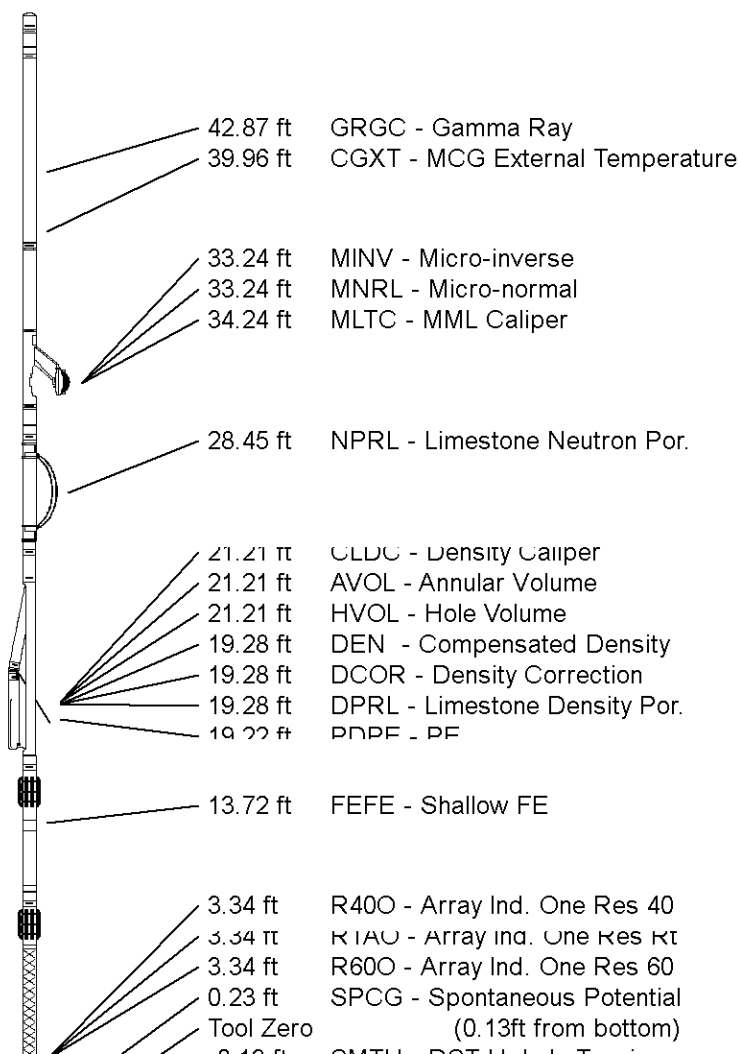
Compact Focussed Electric

MFE-A.A 135 LG: 6.05 ft WT: 48.5 lb OD: 2.244 in

Compact Induction

MAI-A.A 167 LG: 10.81 ft WT: 48.5 lb OD: 2.244 in

Total Length: 49.73 ft Weight: 399.0 lb



COMPANY		MCCOY PETROLEUM CORPORATION			
WELL		MTPRC 'B' #4-22			
FIELD		ALFORD			
PROVINCE/COUNTY		KIOWA			
COUNTRY/STATE		U.S.A. / KANSAS			
Elevation Kelly Bushing	2233.00	feet	First Reading	5164.63	feet
Elevation Drill Floor	2231.00	feet	Depth Driller	5200.00	feet
Elevation Ground Level	2220.00	feet	Depth Logger	5198.00	feet



Weatherford[®]

MICRORESISTIVITY LOG