



Weatherford

**COMPACT DENSITY
COMPENSATED NEUTRON
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					
Longitude							
API Number		15-097-21793					
Permanent Datum GL, Elevation 2220 feet							
Log Measured From KB							
Drilling Measured From KB @ 13 FEET				Elevations: feet			
Date	16-JUN-2014			KB	2233.00		
Run Number	ONE			DF	2231.00		
Service Order	7606-90113177			GL	2220.00		
Depth Driller	5200.00	feet					
Depth Logger	5198.00	feet					
First Reading	5178.65	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			DEREK CARTER			
Witnessed By	DAVE WILLIAMS						
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

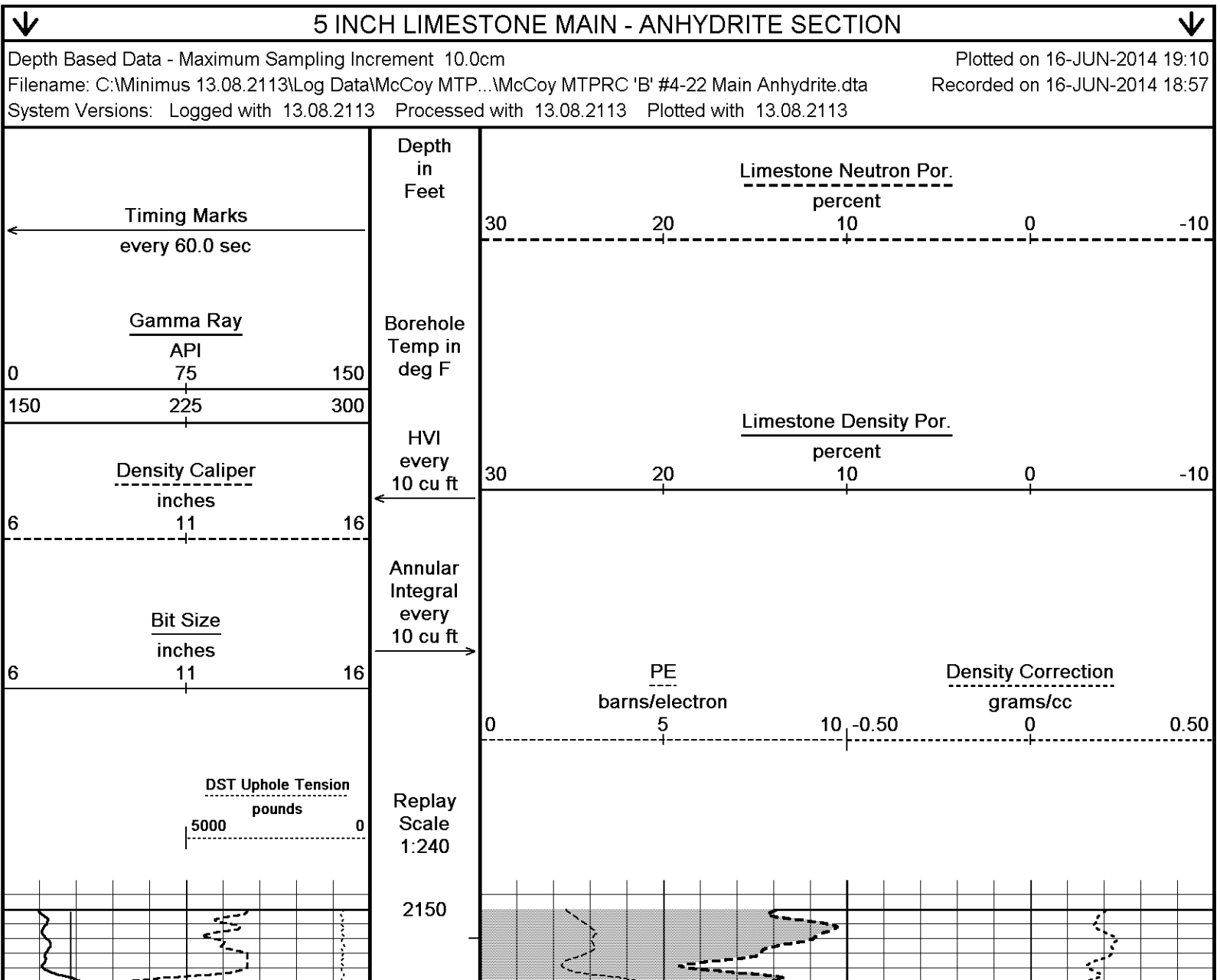
- RIG: STERLING #5

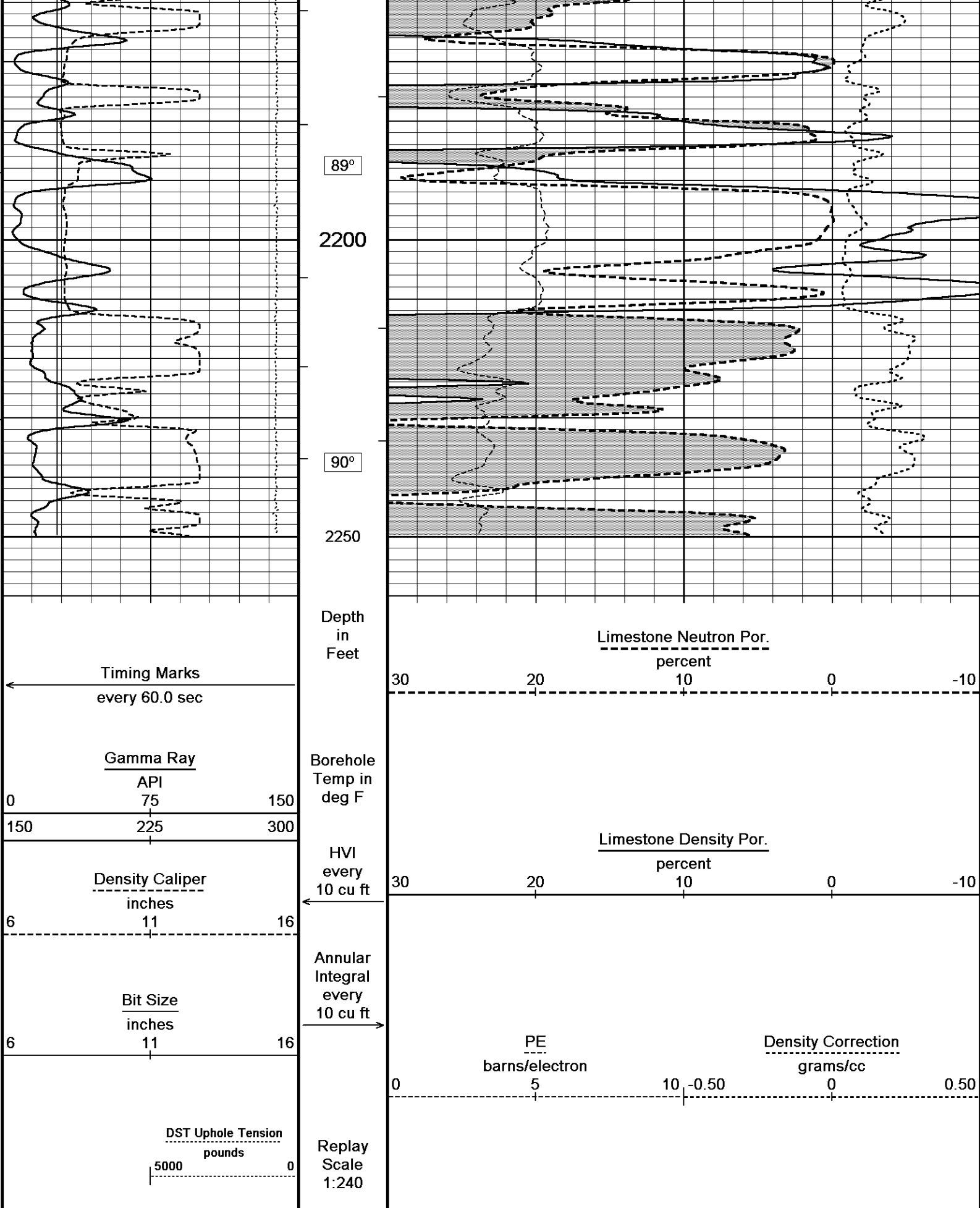
- ENGINEER: DEREK CARTER

- 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.





Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\Minimus 13.08.2113\Log Data\McCoy MTP...\McCoy MTPRC 'B' #4-22 Main Anhydrite.dta
System Versions: Logged with 13.08.2113 Processed with 13.08.2113 Plotted with 13.08.2113
Plotted on 16-JUN-2014 19:10
Recorded on 16-JUN-2014 18:57

5 INCH LIMESTONE MAIN - ANHYDRITE SECTION

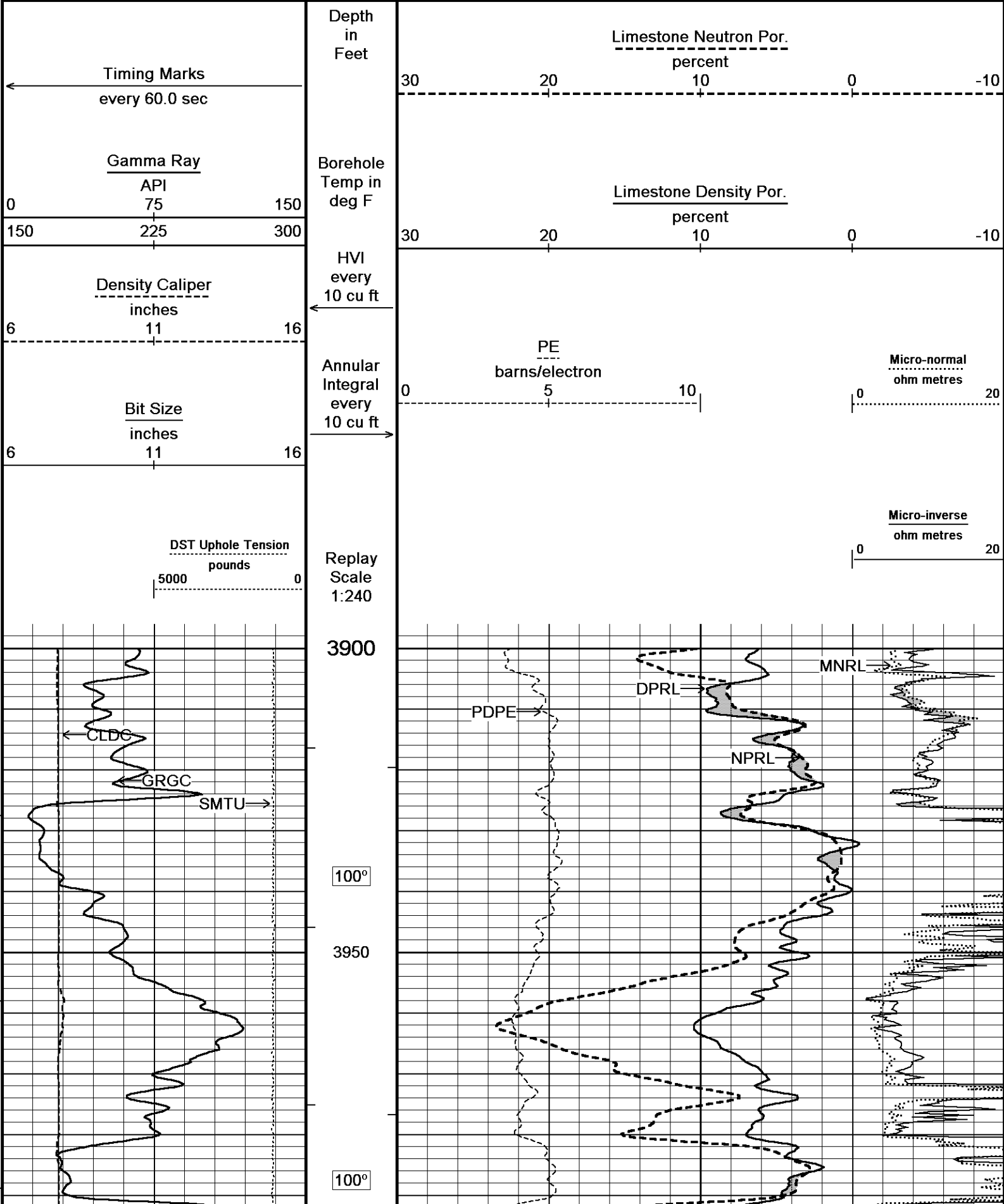
Depth Based Data - Maximum Sampling Increment 10.0cm

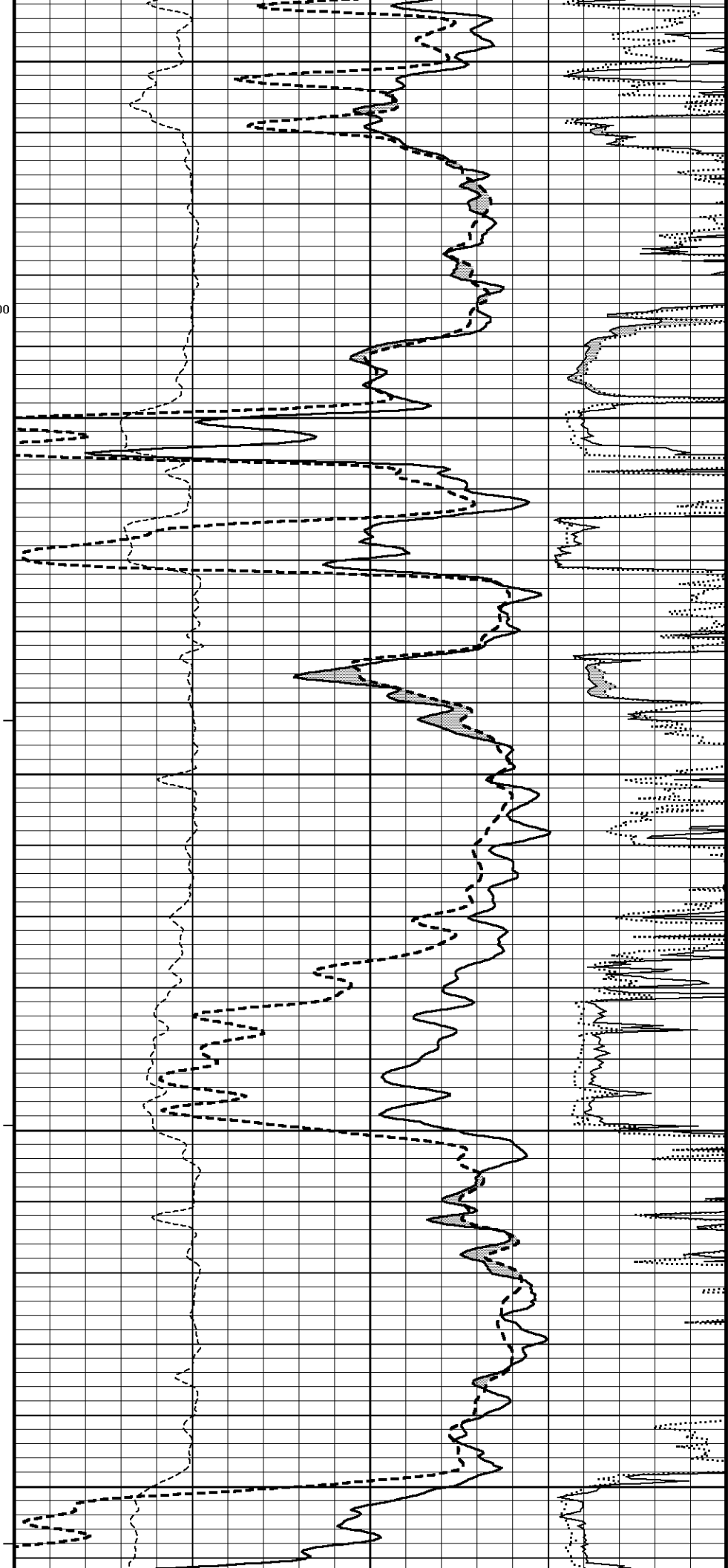
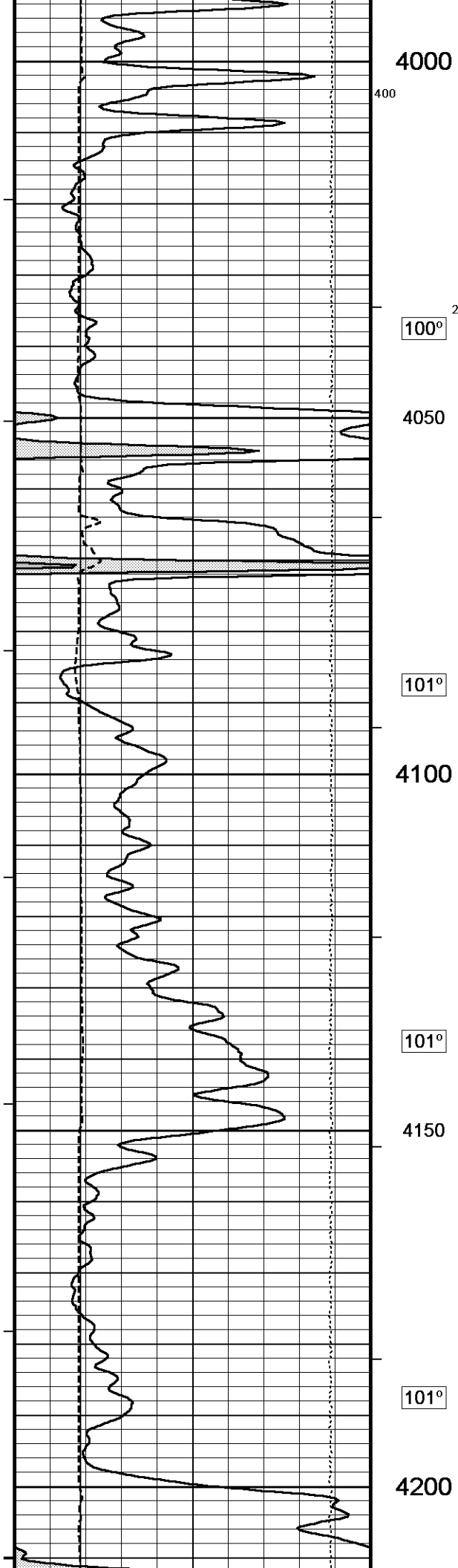
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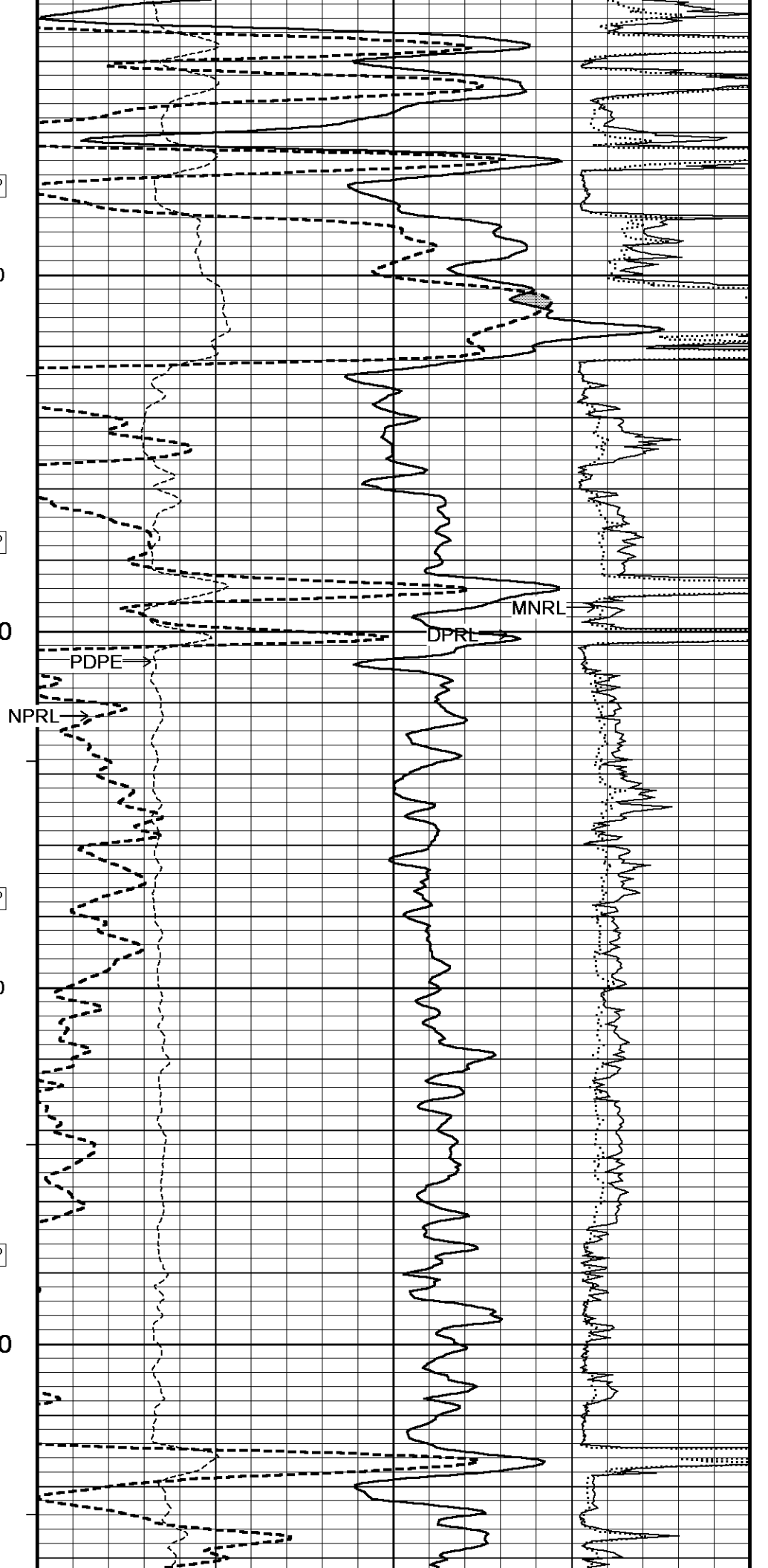
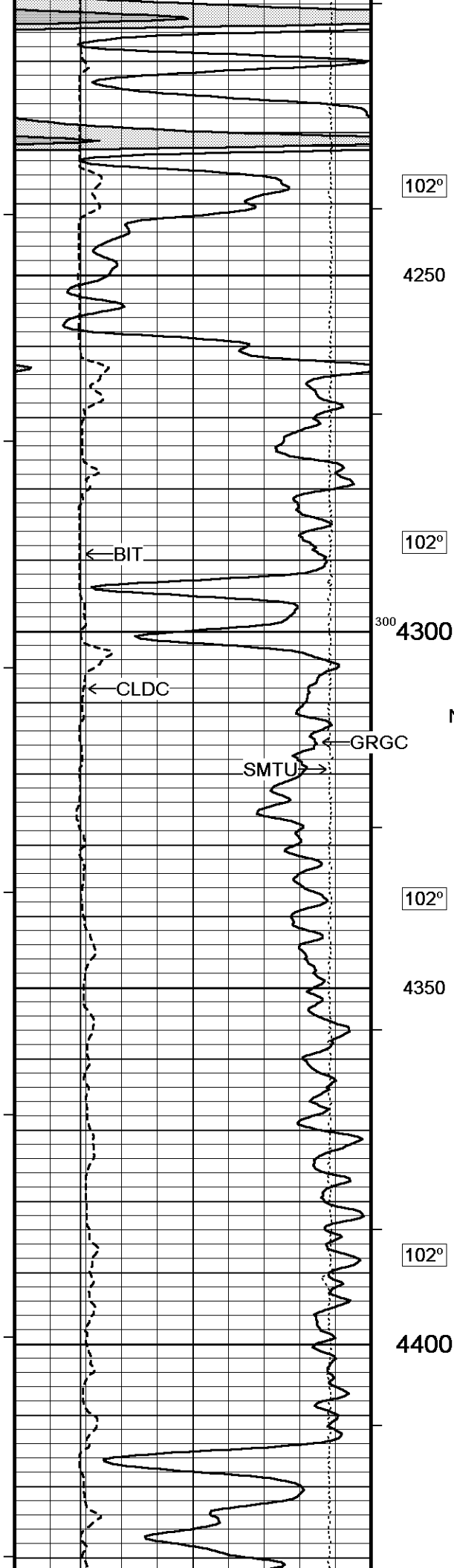
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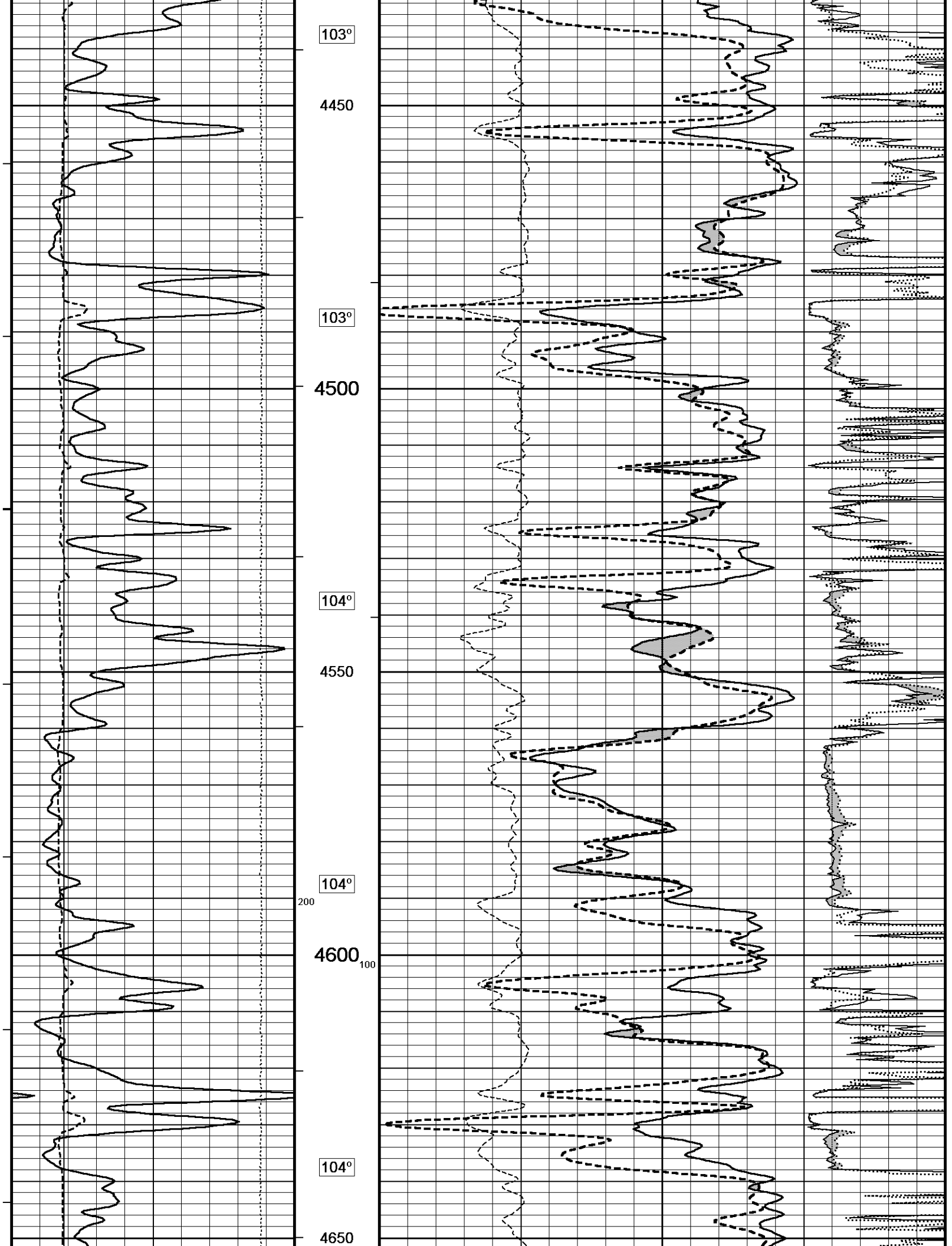
Recorded on 16-JUN-2014 17:59

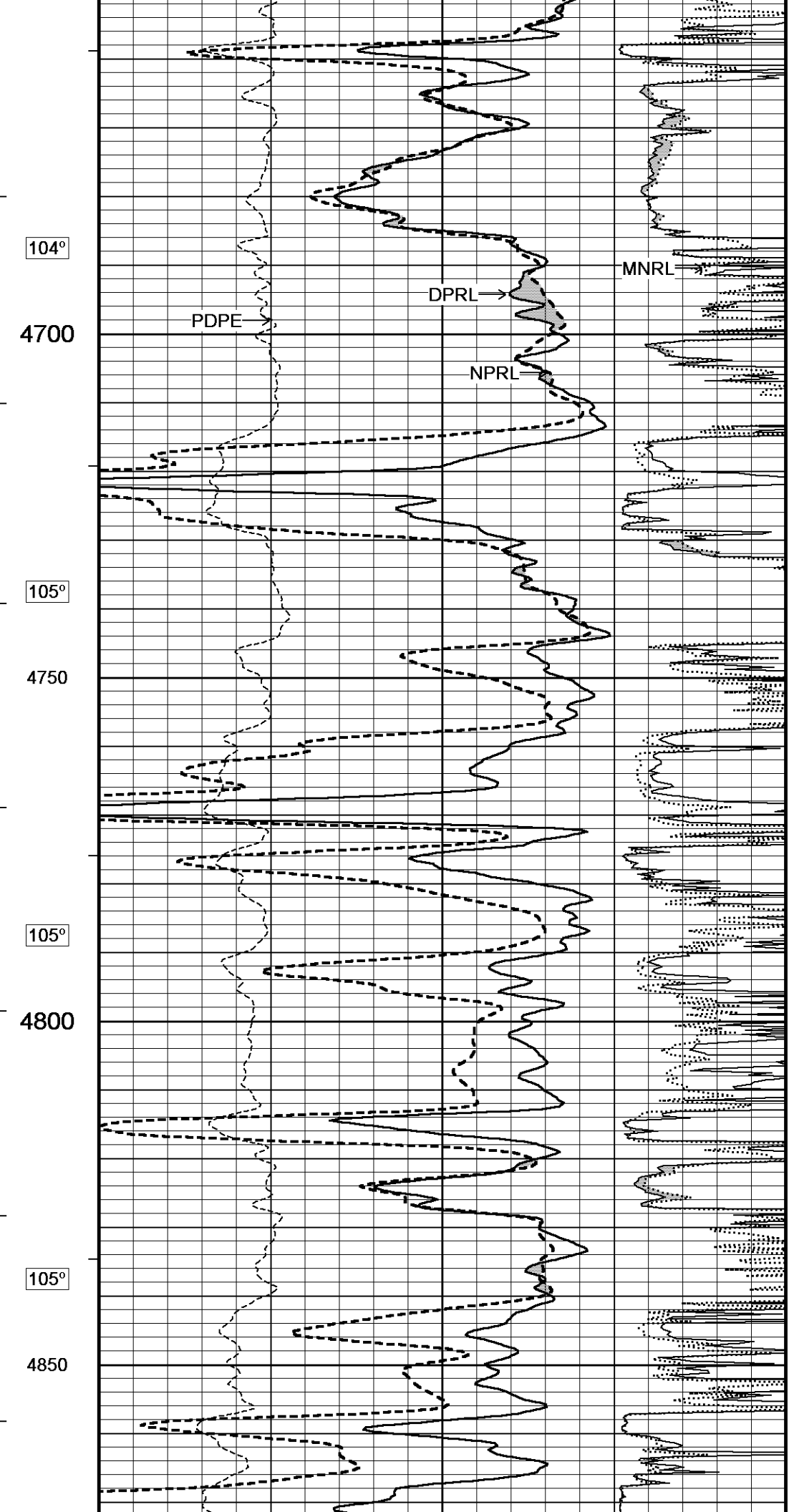
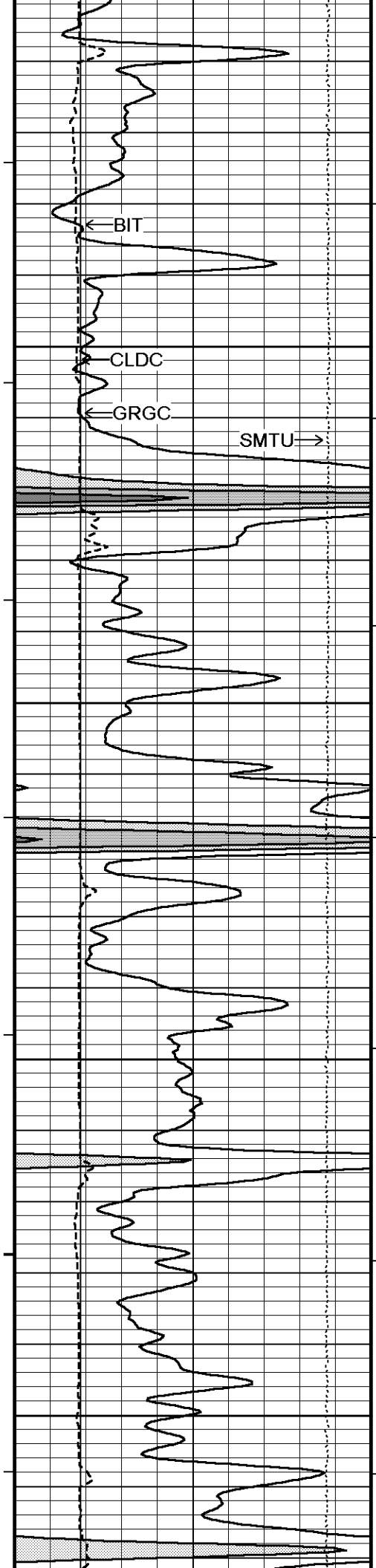
System Versions: Logged with 13.08.2113 Processed with 13.08.2113 Plotted with 13.08.2113

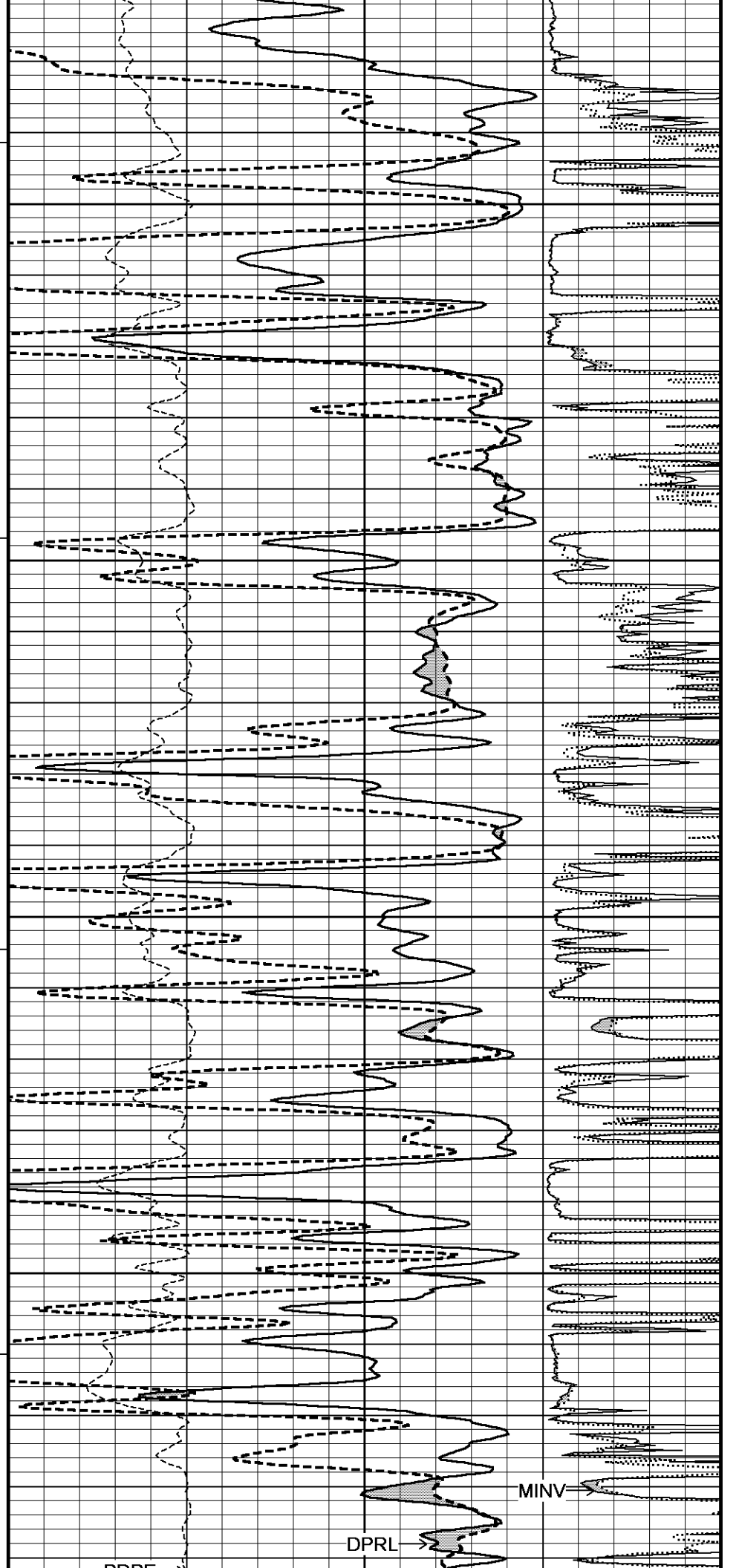
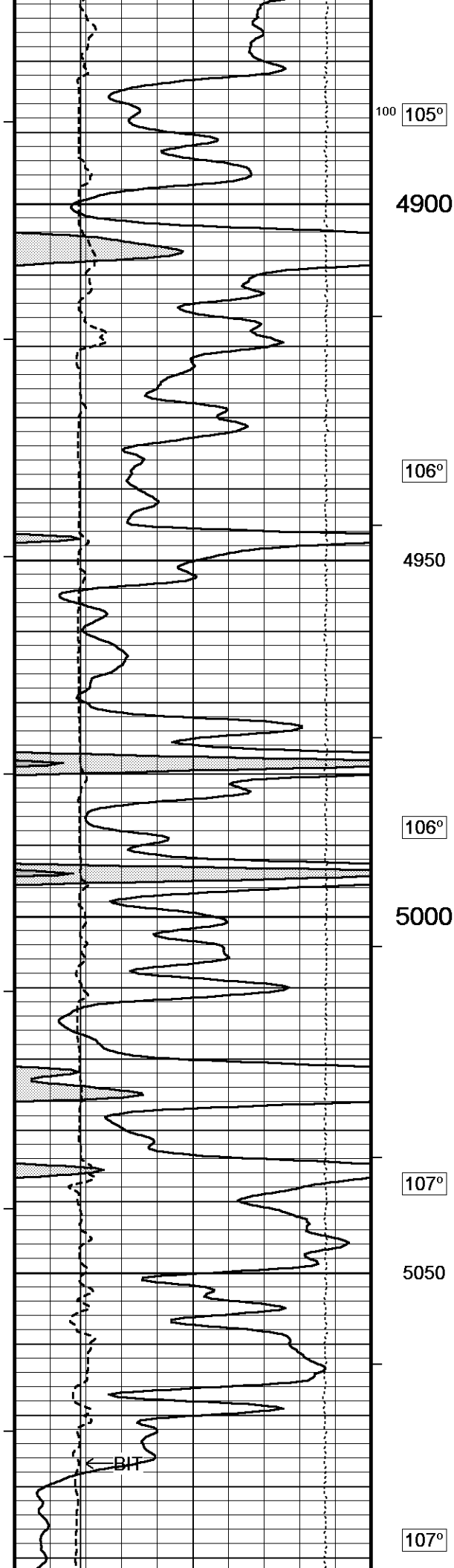


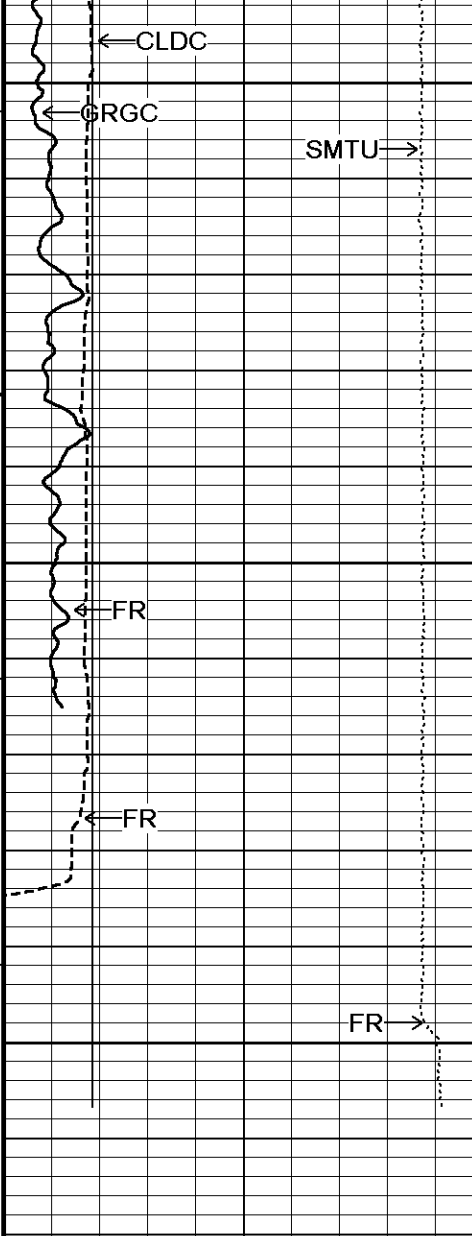




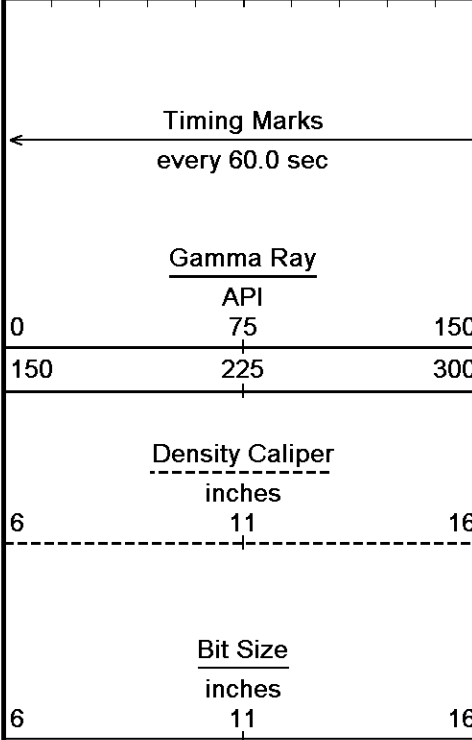
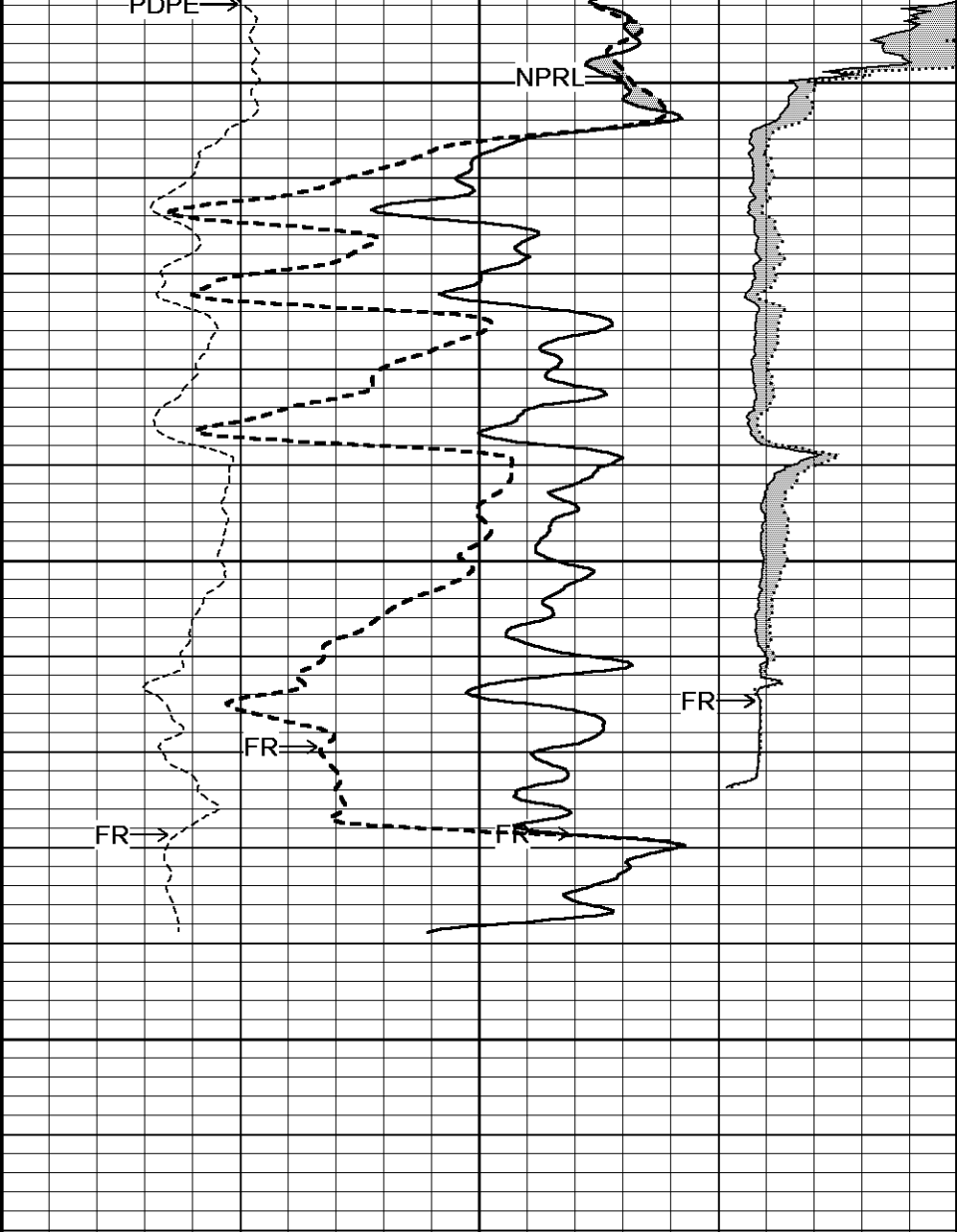




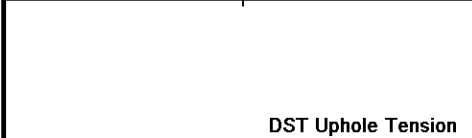
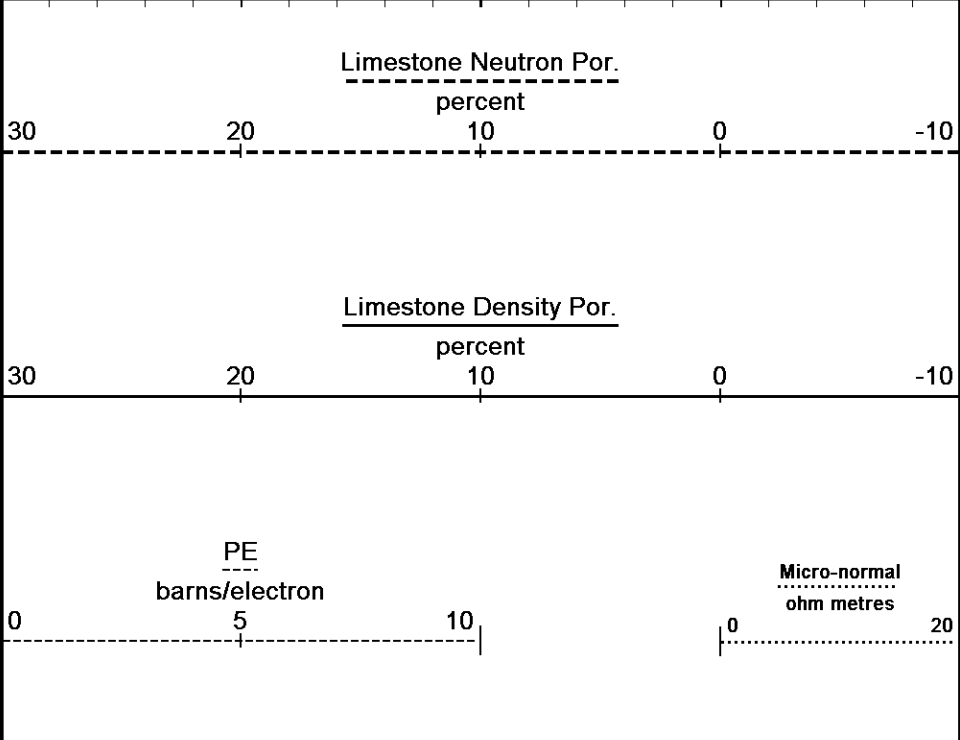




5100
108°
5150
0
0
TD
5200



Depth in Feet
Borehole Temp in deg F
HVI every 10 cu ft
Annular Integral every 10 cu ft



DST Uphole Tension



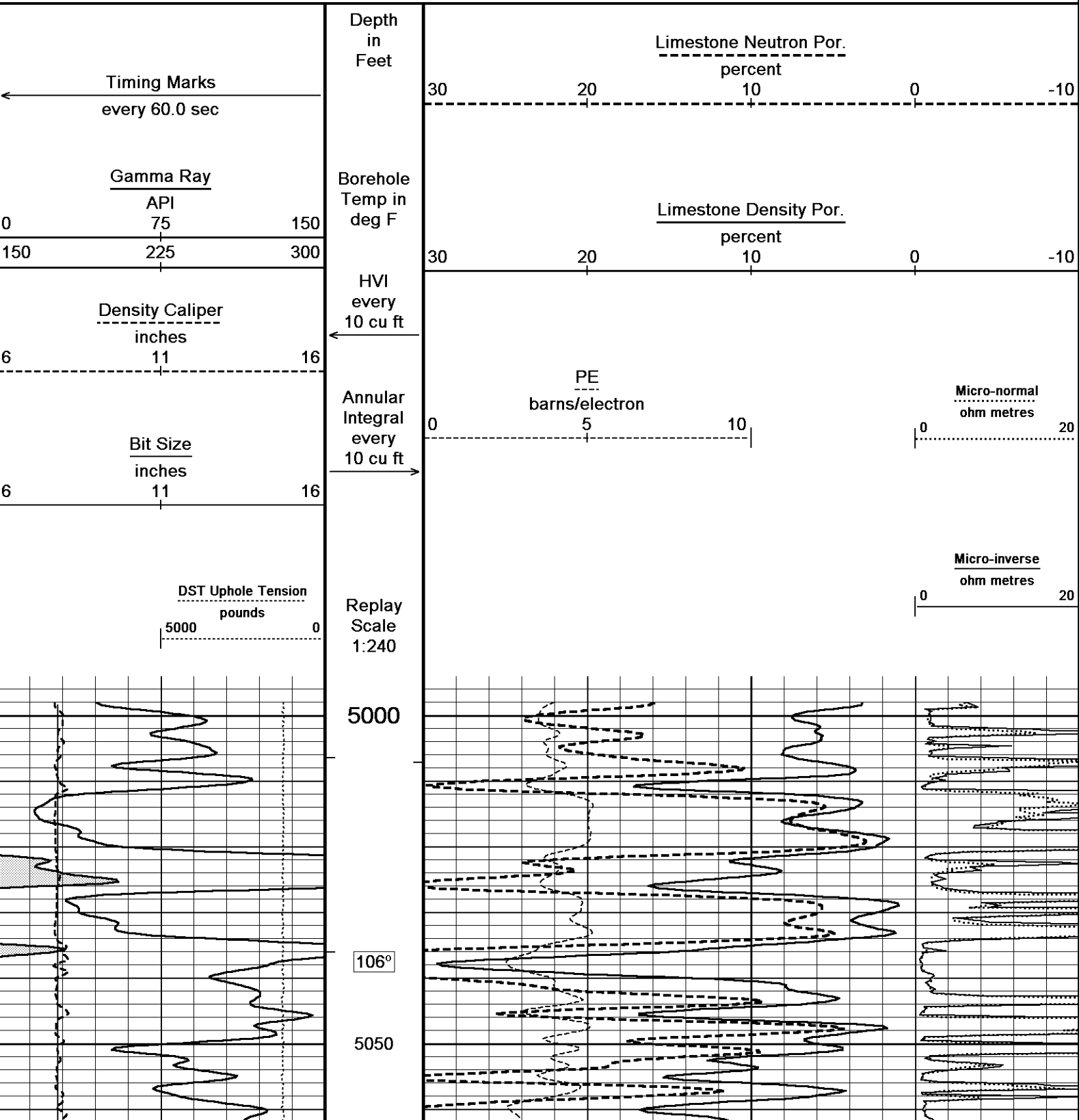
5000 pounds 0
Replay Scale 1:240

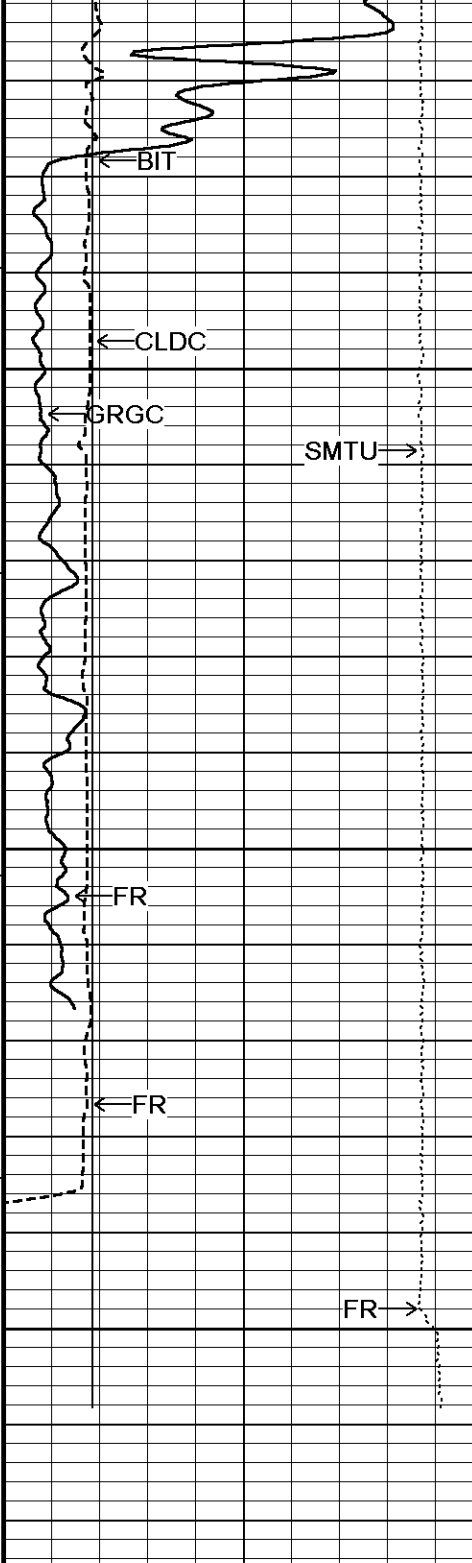
Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 16-JUN-2014 19:10
Filename: C:\Minimus 13.08.2113\Log Data\McCoy MTPRC 'B' #4-22 Main Detail.dta
Recorded on 16-JUN-2014 17:59
System Versions: Logged with 13.08.2113 Processed with 13.08.2113 Plotted with 13.08.2113

5 INCH LIMESTONE MAIN

REPEAT SECTION

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 16-JUN-2014 19:10
Filename: C:\Minimus 13.08.2113\Log Data\McCo...McCoy MTPRC 'B' #4-22 Repeat Reprocessed.dta
Recorded on 16-JUN-2014 16:17
System Versions: Logged with 13.08.2113 Processed with 13.08.2113 Plotted with 13.08.2113





107°

5100

107°

5150

TD
5200

Depth
in
Feet

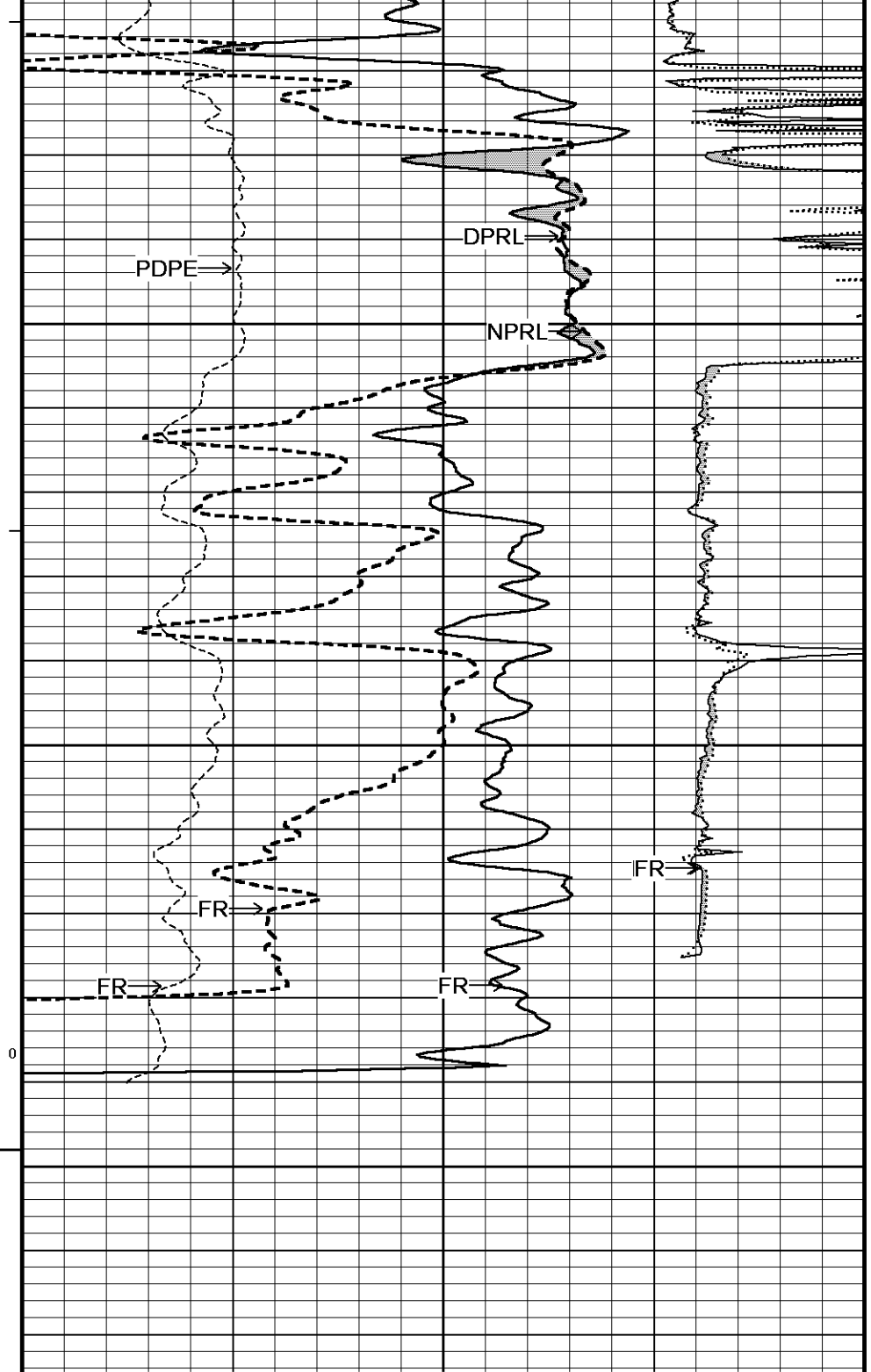
Borehole
Temp in
deg F

HVI
every
10 cu ft

Timing Marks
every 60.0 sec

Gamma Ray
API
0 75 150
150 225 300

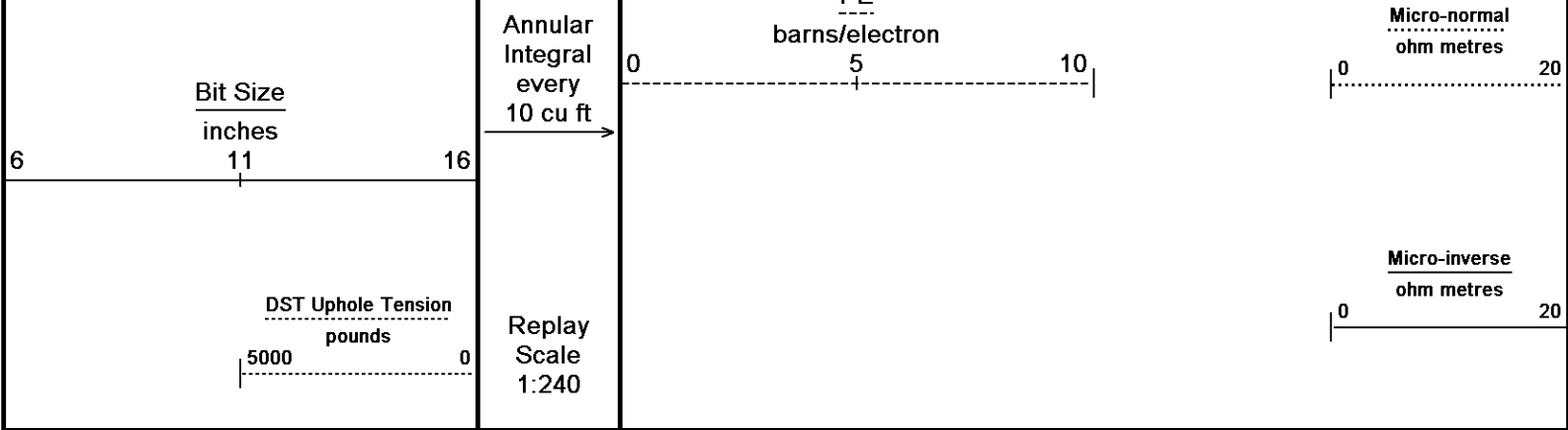
Density Caliper
inches
6 11 16



Limestone Neutron Por.
percent
30 20 10 0 -10

Limestone Density Por.
percent
30 20 10 0 -10

PF



Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 16-JUN-2014 19:10

Filename: C:\Minimus 13.08.2113\Log Data\McCo...\McCoy MTPRC 'B' #4-22 Repeat Reprocessed.dta

Recorded on 16-JUN-2014 16:17

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

↑

REPEAT SECTION

↑

↓

BULK DENSITY

↓

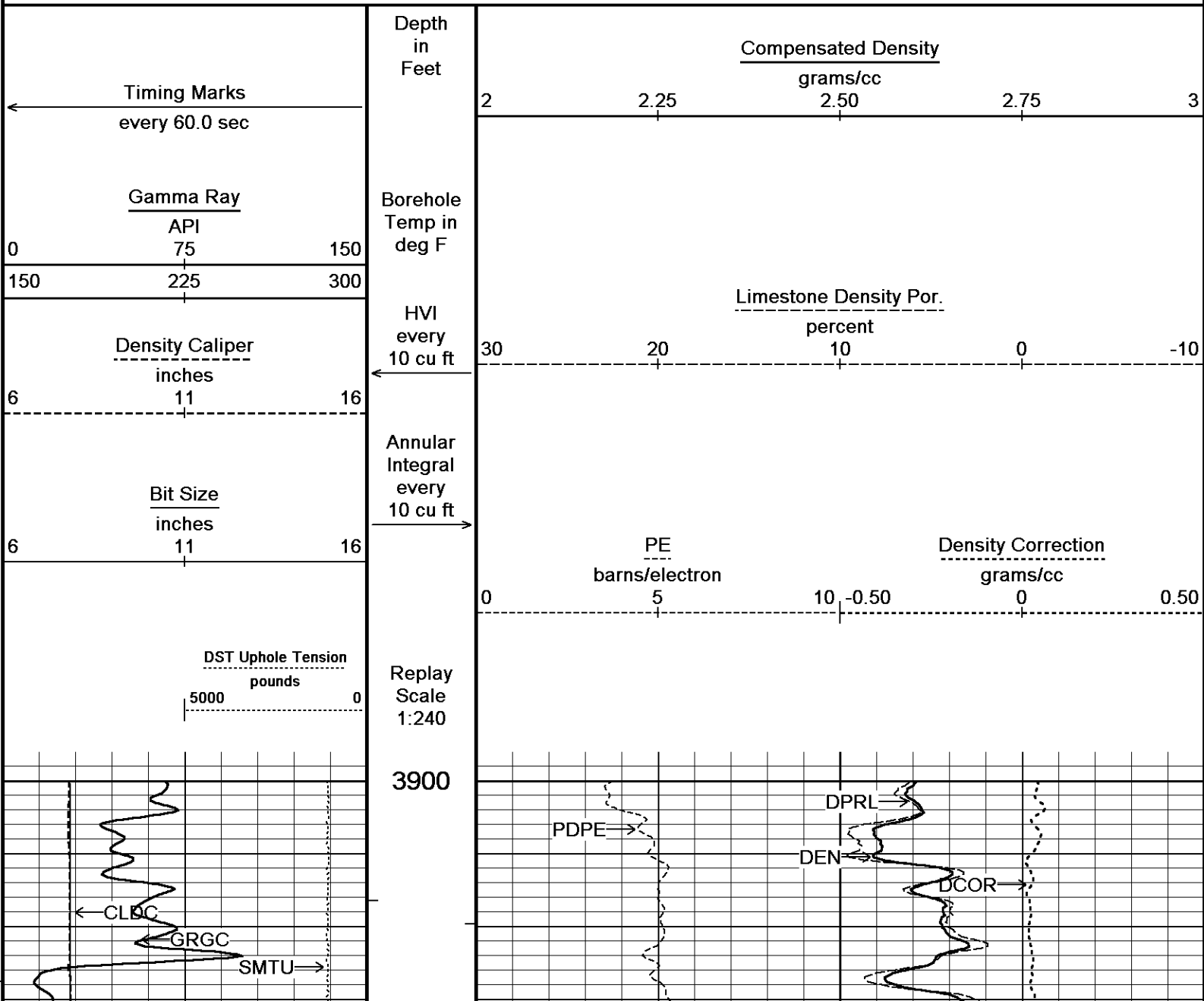
Depth Based Data - Maximum Sampling Increment 10.0cm

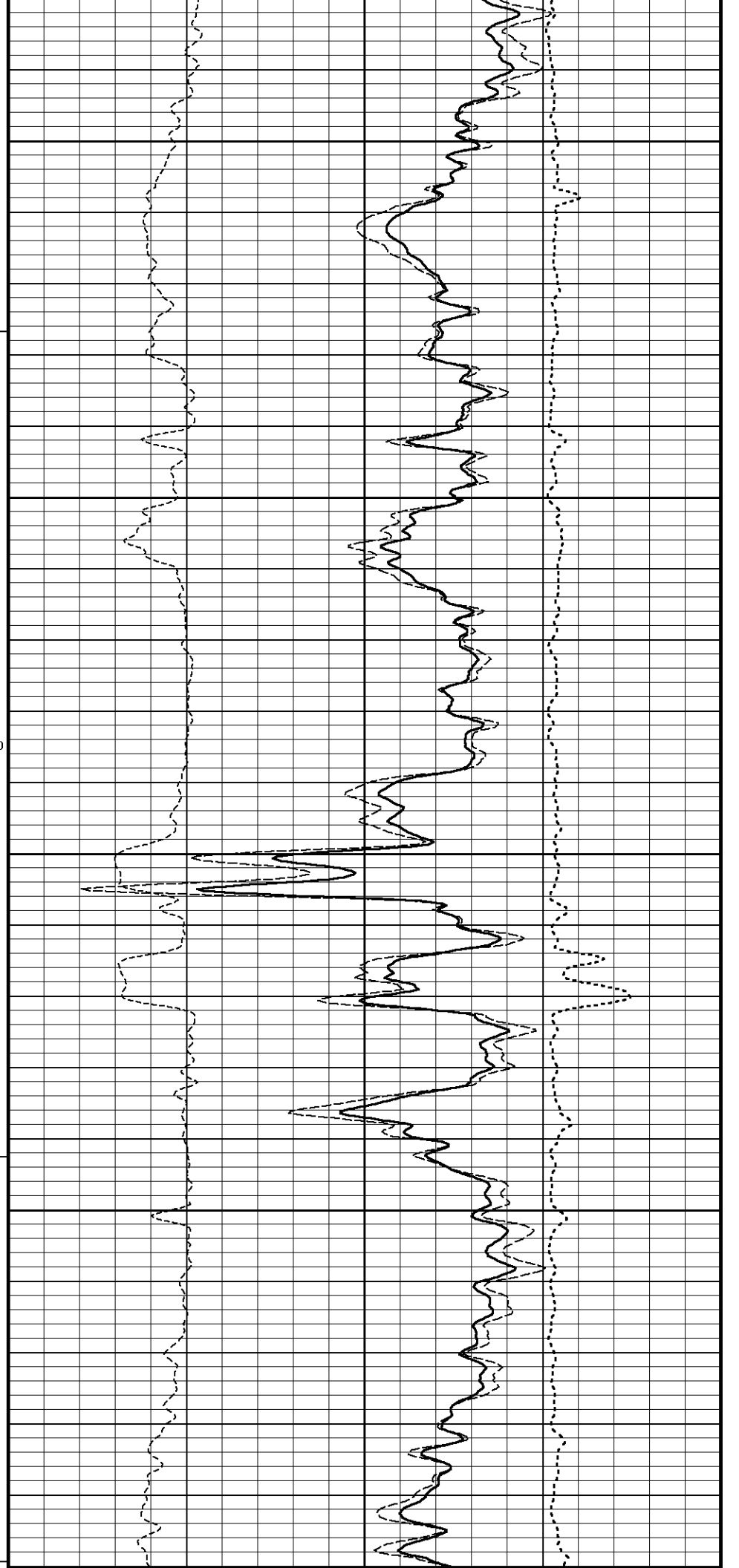
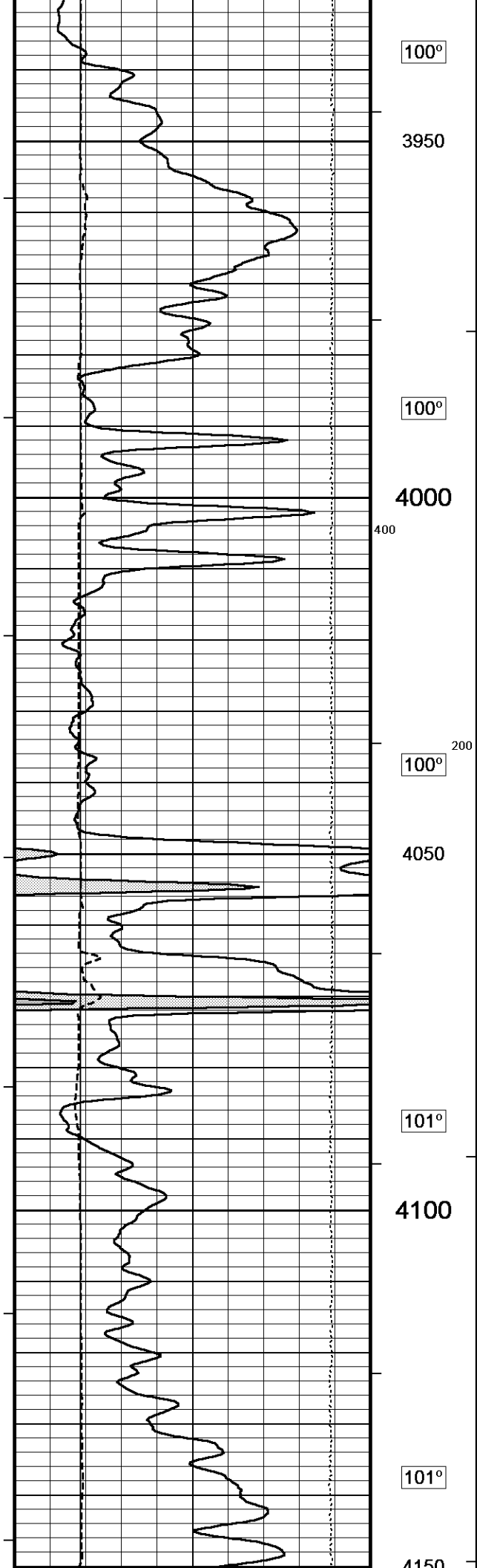
Plotted on 16-JUN-2014 19:10

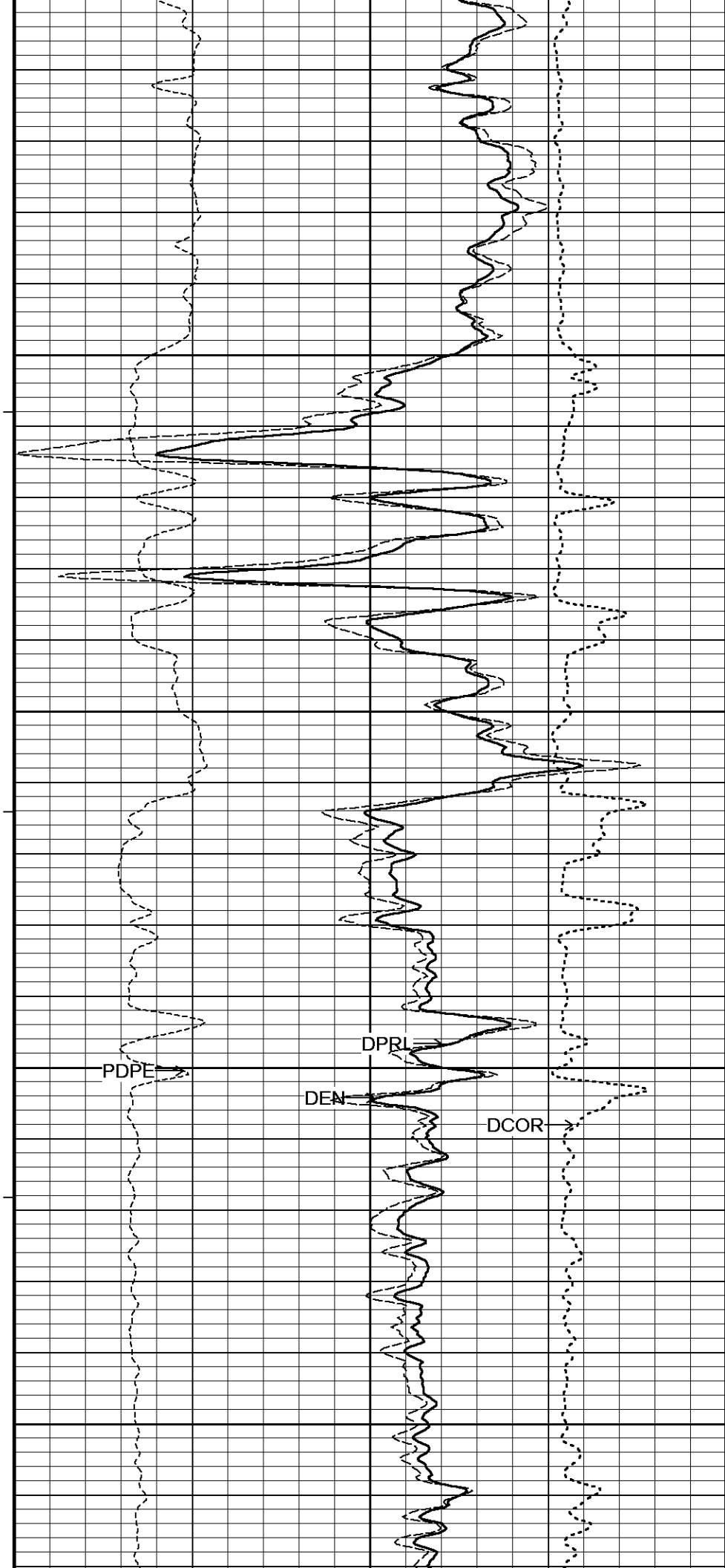
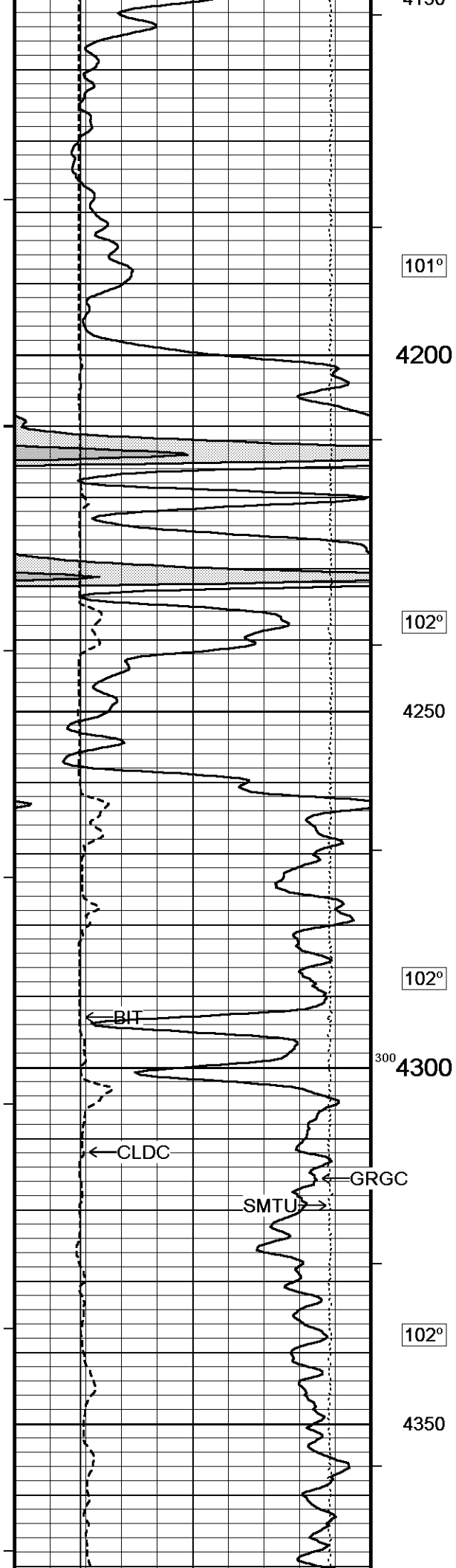
Filename: C:\Minimus 13.08.2113\Log Data\McCoy MTPRC '...\McCoy MTPRC 'B' #4-22 Main Detail.dta

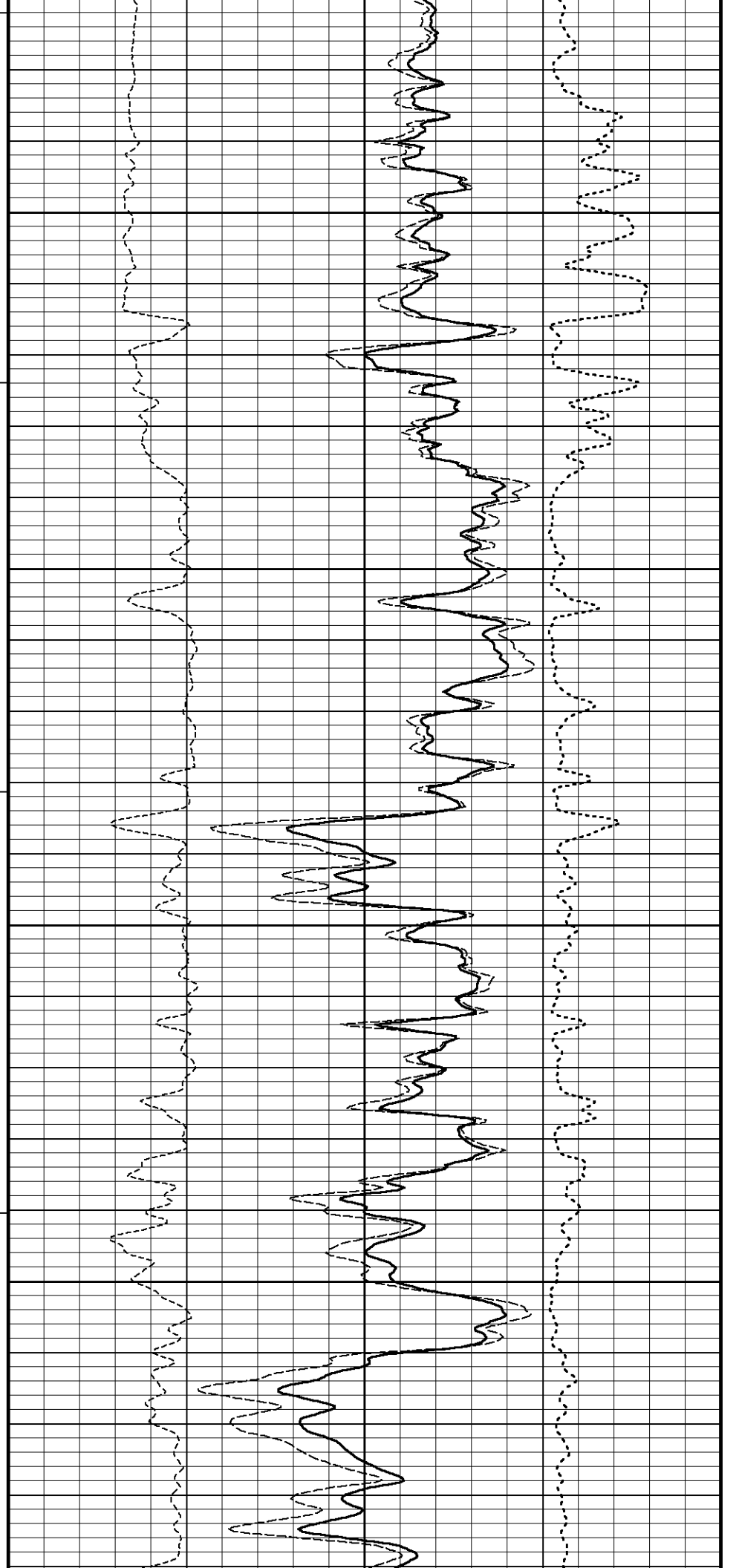
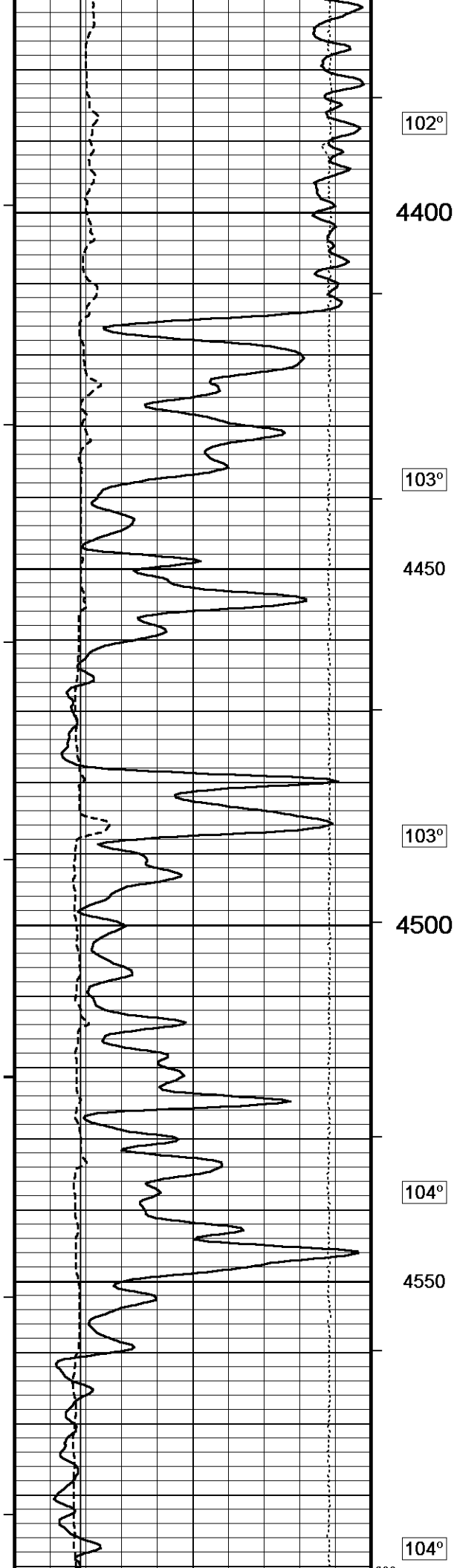
Recorded on 16-JUN-2014 17:59

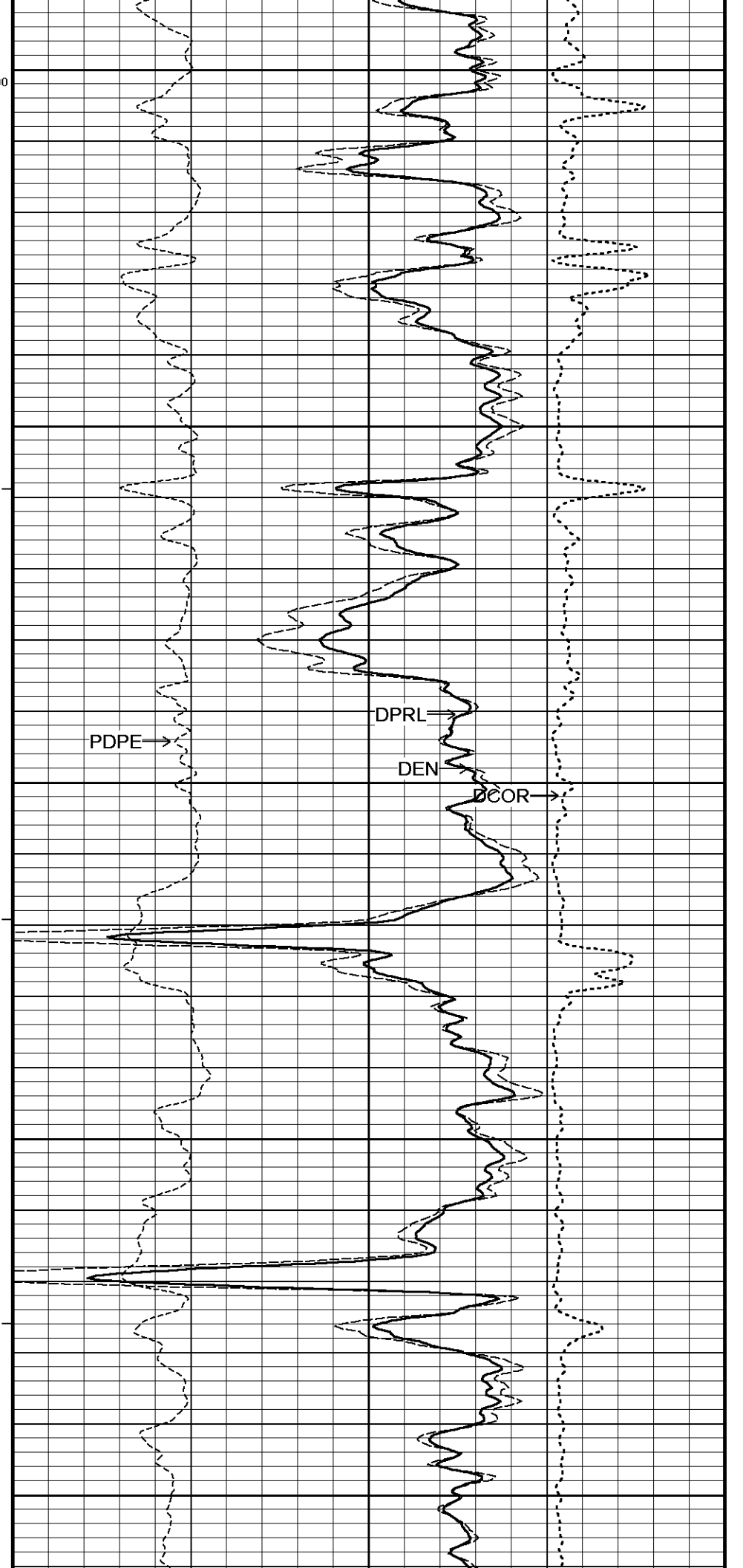
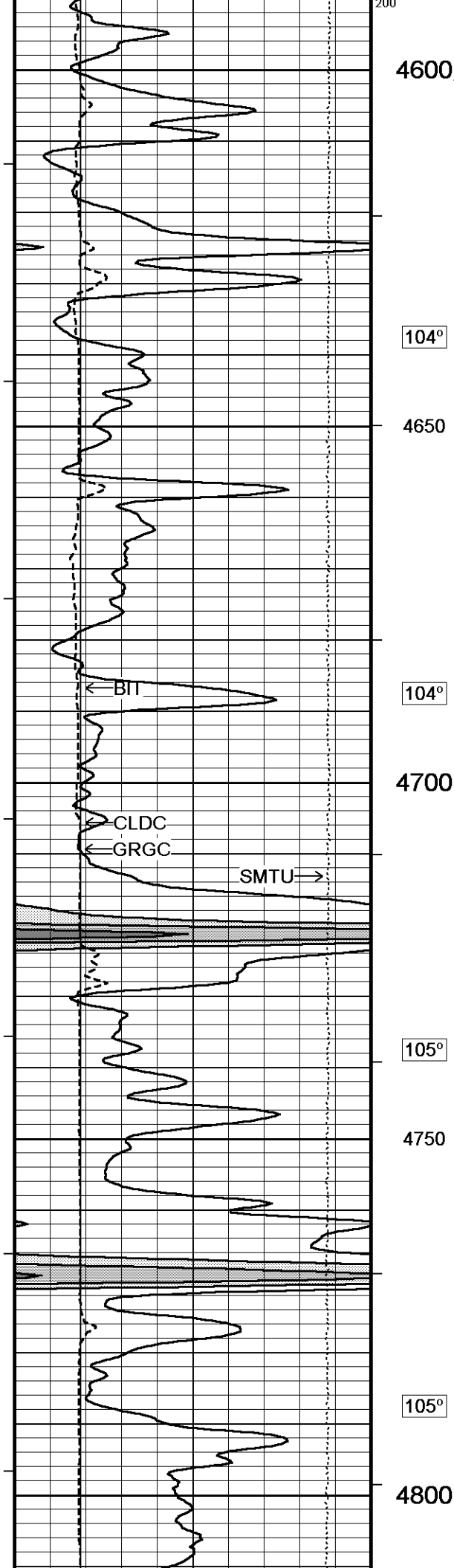
System Versions: Logged with 13.08.2113 Processed with 13.08.2113 Plotted with 13.08.2113

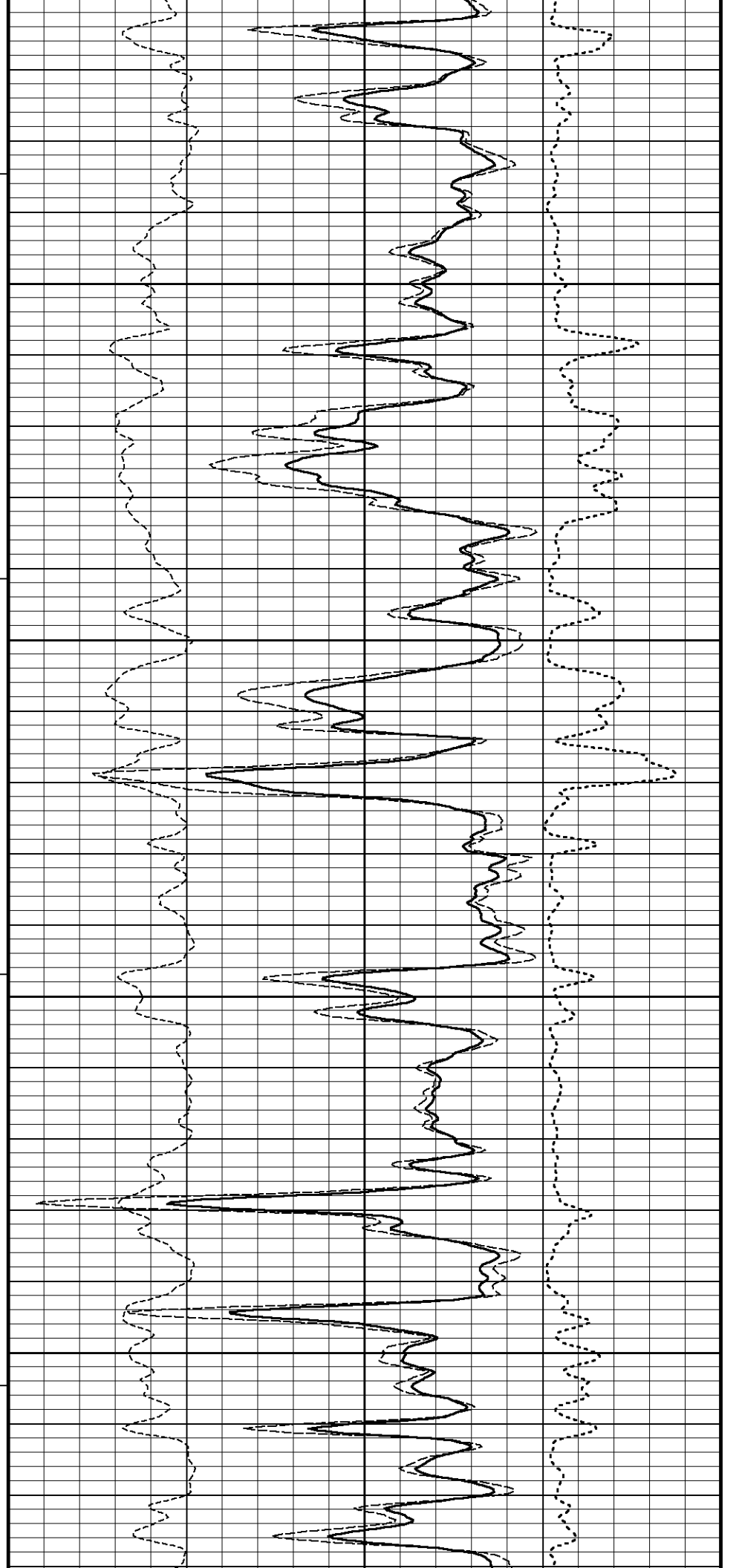
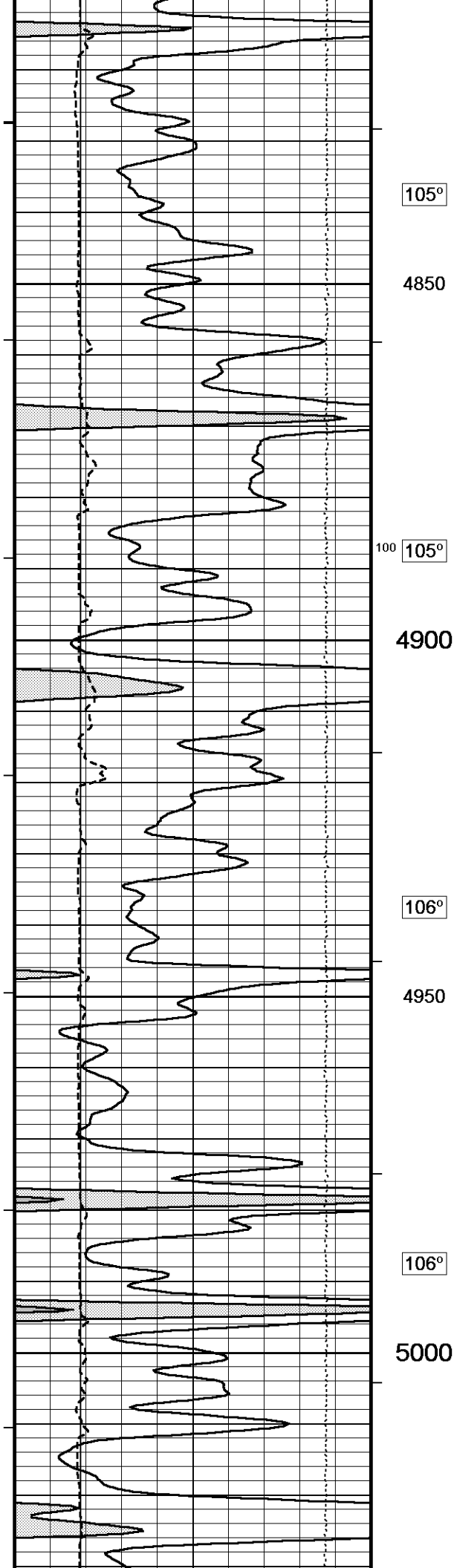


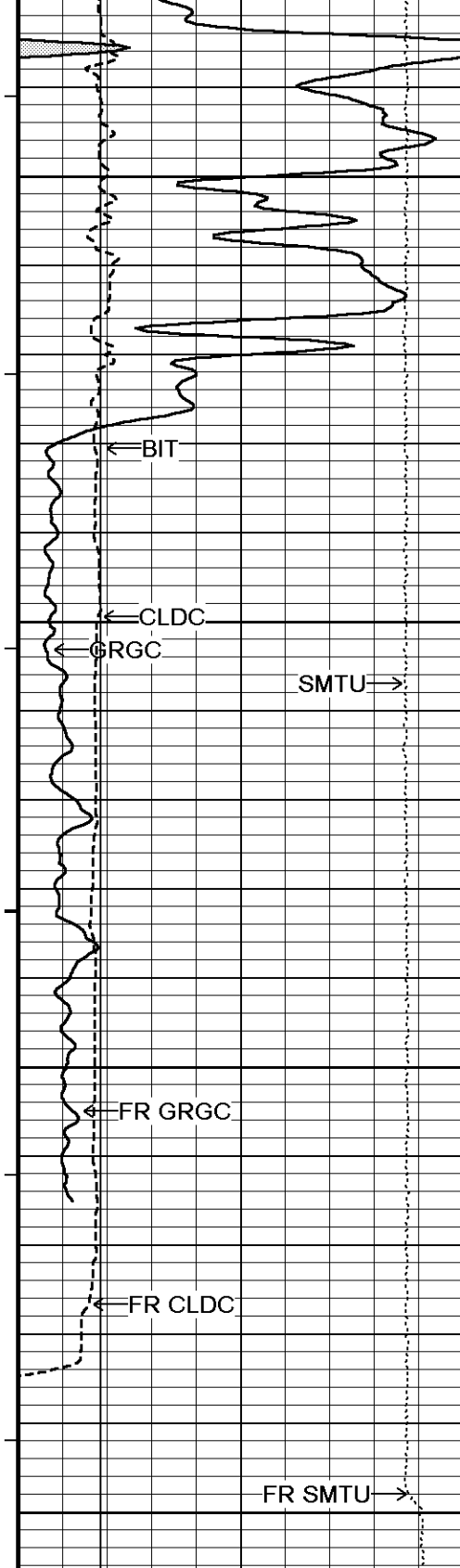












107°

5050

107°

5100

108°

5150

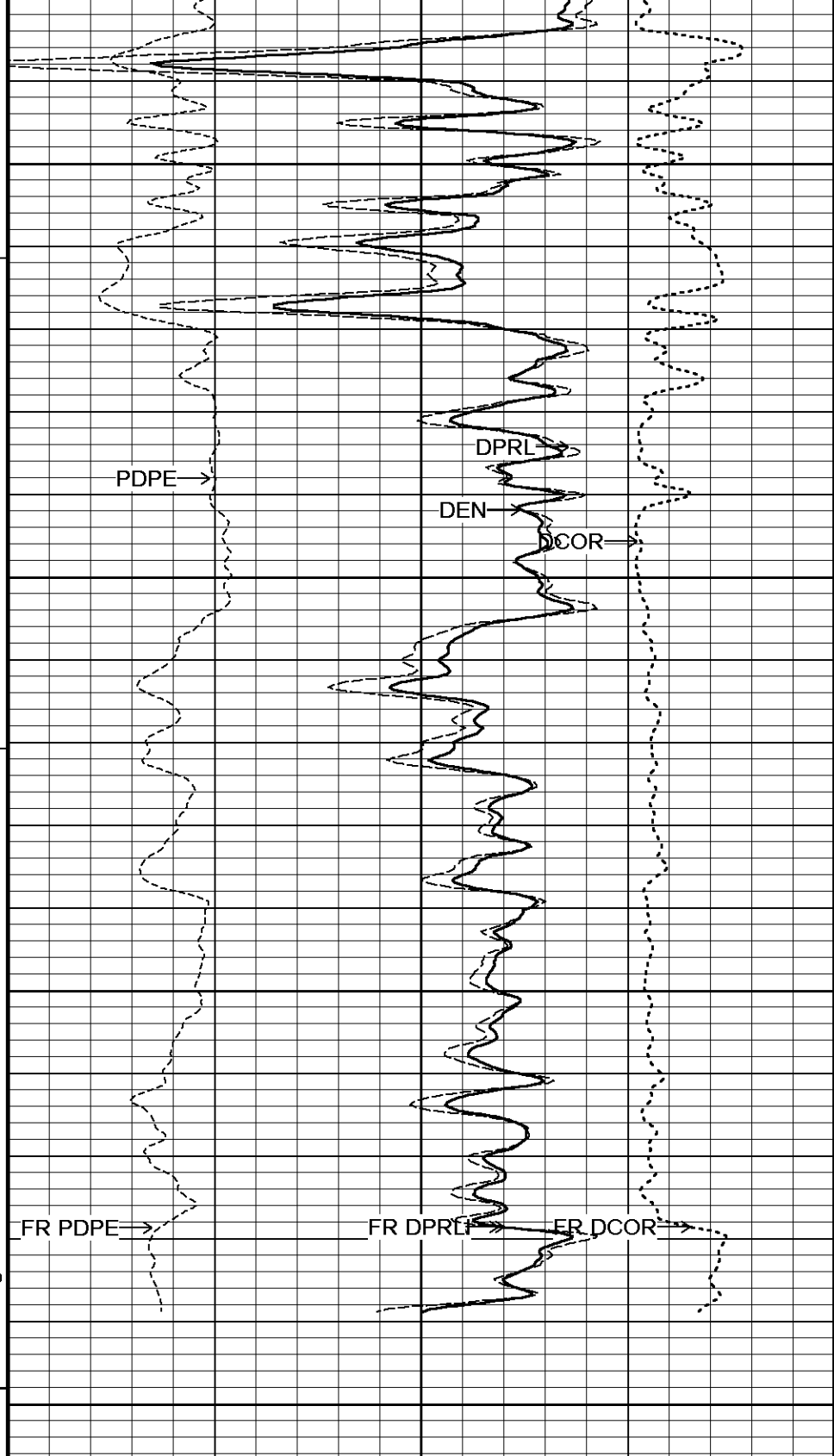
TD
5200

Depth
in
Feet

Timing Marks
every 60.0 sec

Gamma Ray

Borehole
Temp in



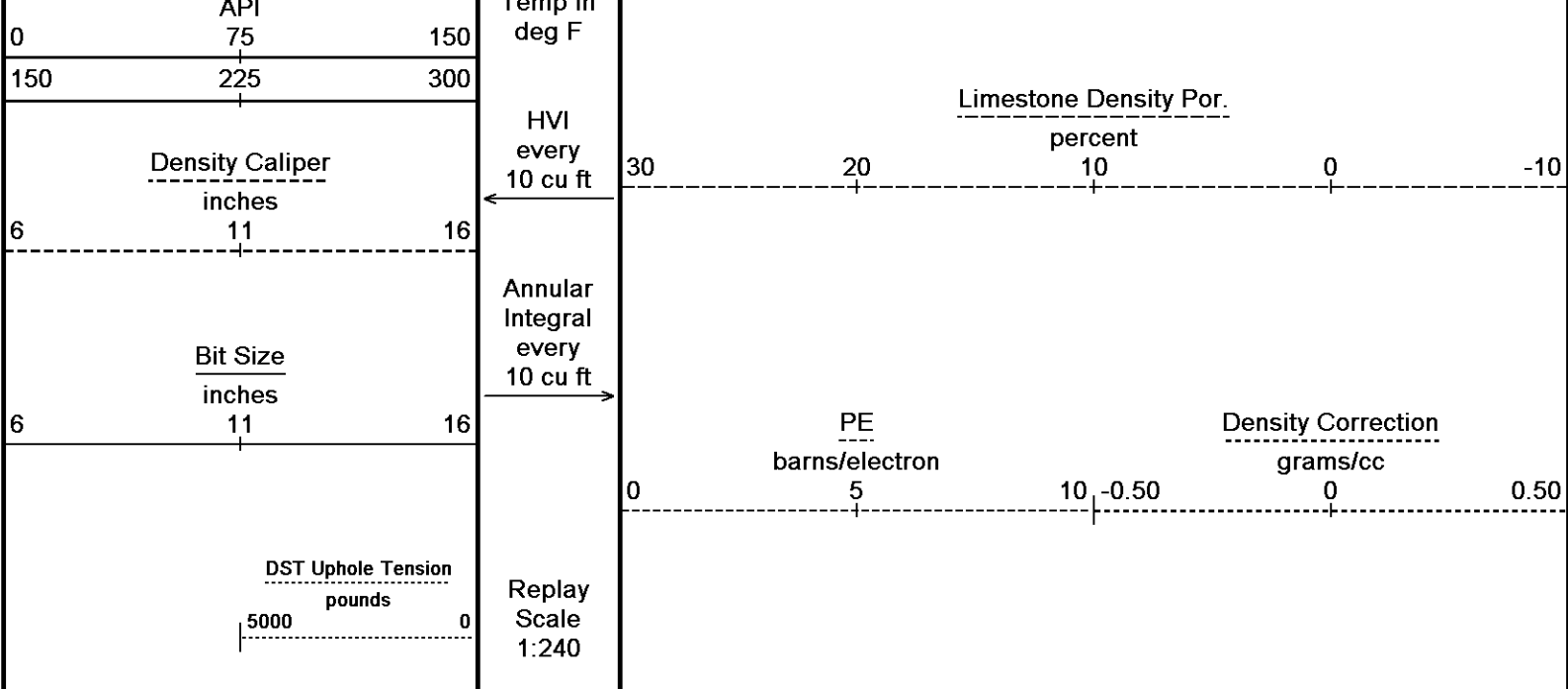
2

2.25

Compensated Density
grams/cc
2.50

2.75

3

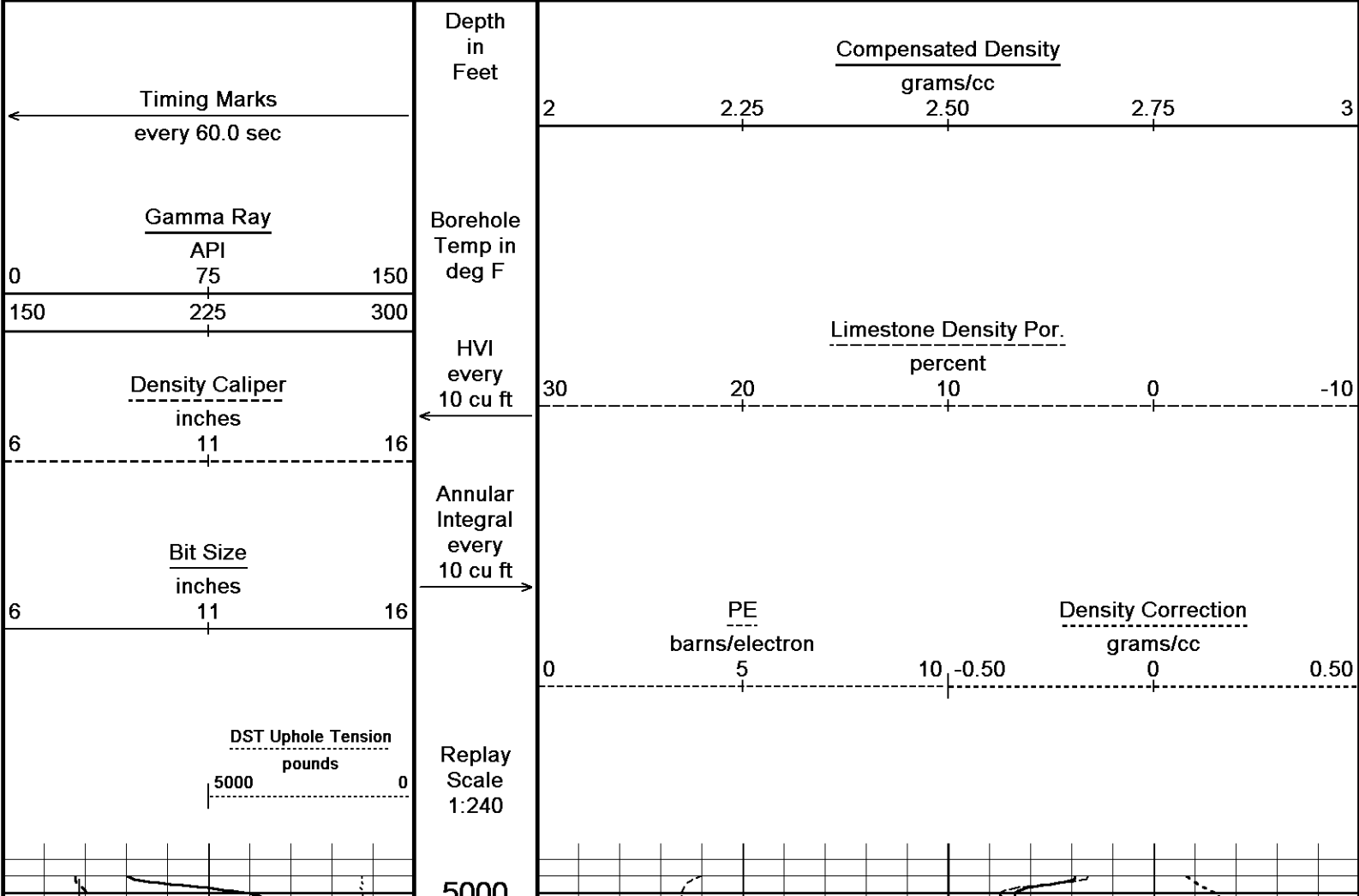


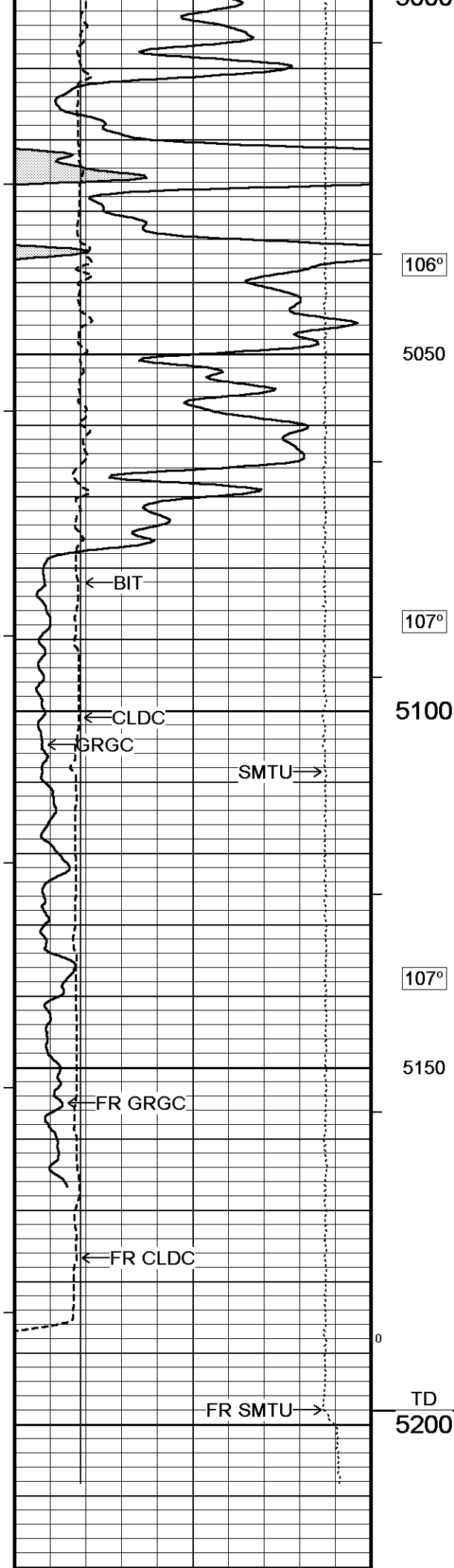
Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 16-JUN-2014 19:10
Filename: C:\Minimus 13.08.2113\Log Data\McCoy MTPRC 'B' #4-22 Main Detail.dta Recorded on 16-JUN-2014 17:59
System Versions: Logged with 13.08.2113 Processed with 13.08.2113 Plotted with 13.08.2113

↑ BULK DENSITY ↑

↓ REPEAT SECTION ↓

Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 16-JUN-2014 19:10
Filename: C:\Minimus 13.08.2113\Log Data\McCo...McCoy MTPRC 'B' #4-22 Repeat Reprocessed.dta Recorded on 16-JUN-2014 16:17
System Versions: Logged with 13.08.2113 Processed with 13.08.2113 Plotted with 13.08.2113





5000
106°

5050

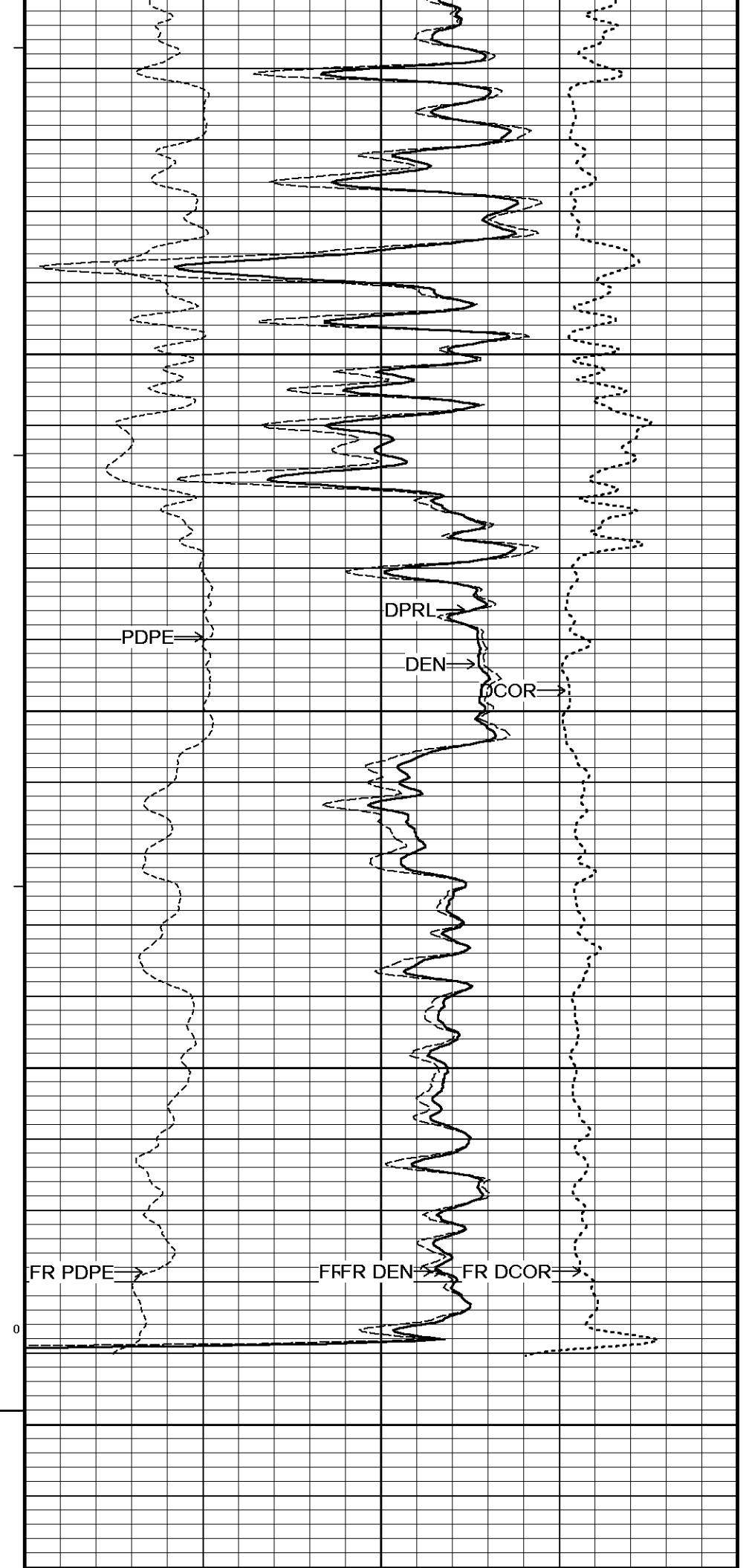
107°

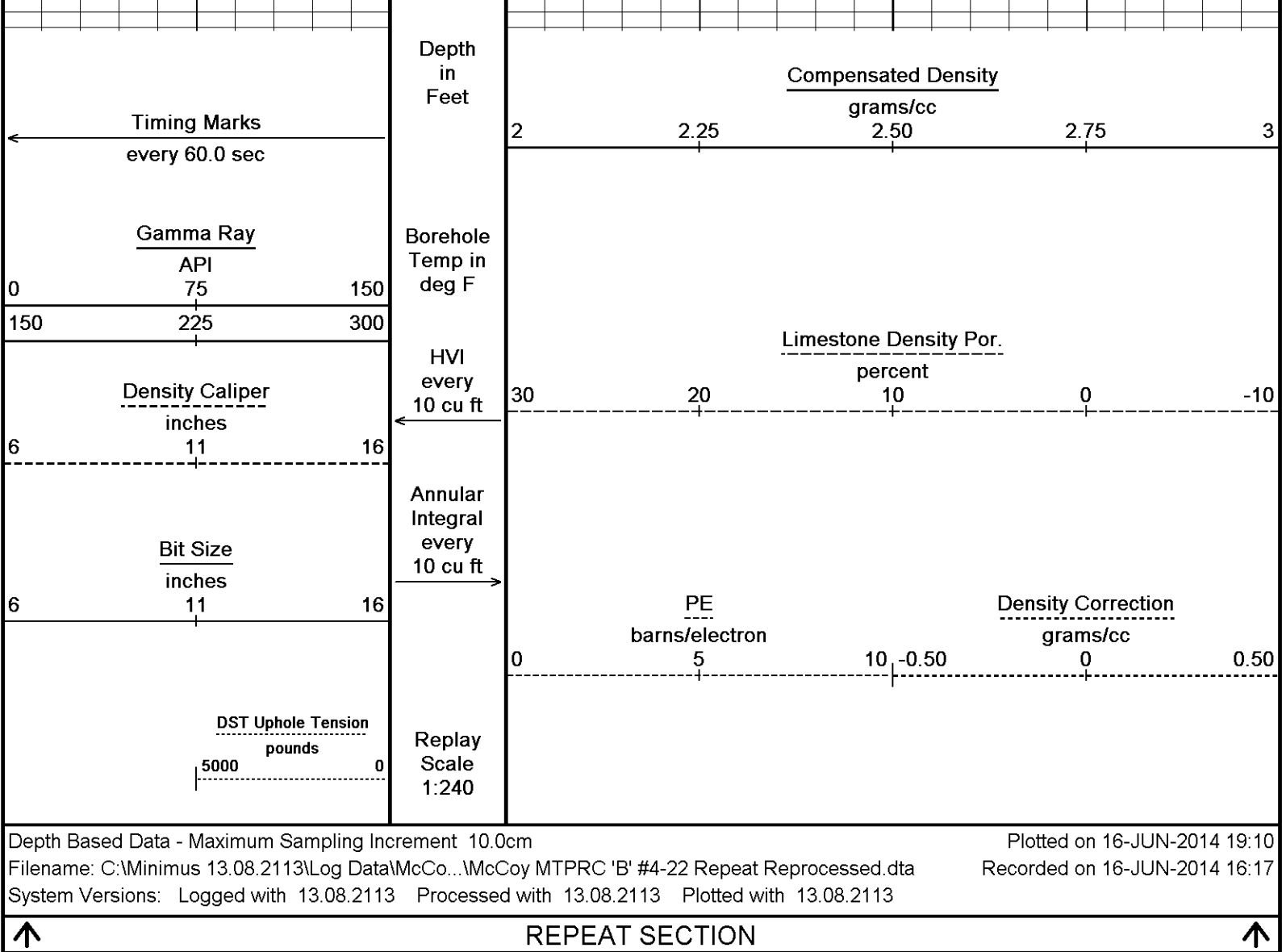
5100

107°

5150

TD
5200





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	
Calibration (C)	1122	772	

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	
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
Photo Density Calibration MPD-C.A 216		Base Calibration on 30-MAY-2014 10:55 Field Check on 16-JUN-2014 08:49
Density Calibration		
Base Calibration	Measured	Calibrated (sdu)
	Near	Far
Background	1108	1300
Reference 1	59509	31031
Reference 2	24751	2737
Field Check at Base		
	1108.2	1300.2
Field Check		
	1100.7	1306.0
PE Calibration		
Base Calibration	Measured	Calibrated
	WS	WH
	Ratio	Ratio
Background	200	988
Reference 1	24470	59315
Reference 2	7072	24619
Field Check at Base		
	199.8	987.7
Field Check		
	200.5	980.0
Density Constants MPD-C.A 216		Last Edited on 16-JUN-2014,13:45
Density Source Id	18235B	
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	1.12	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	
0.00	0.00	

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

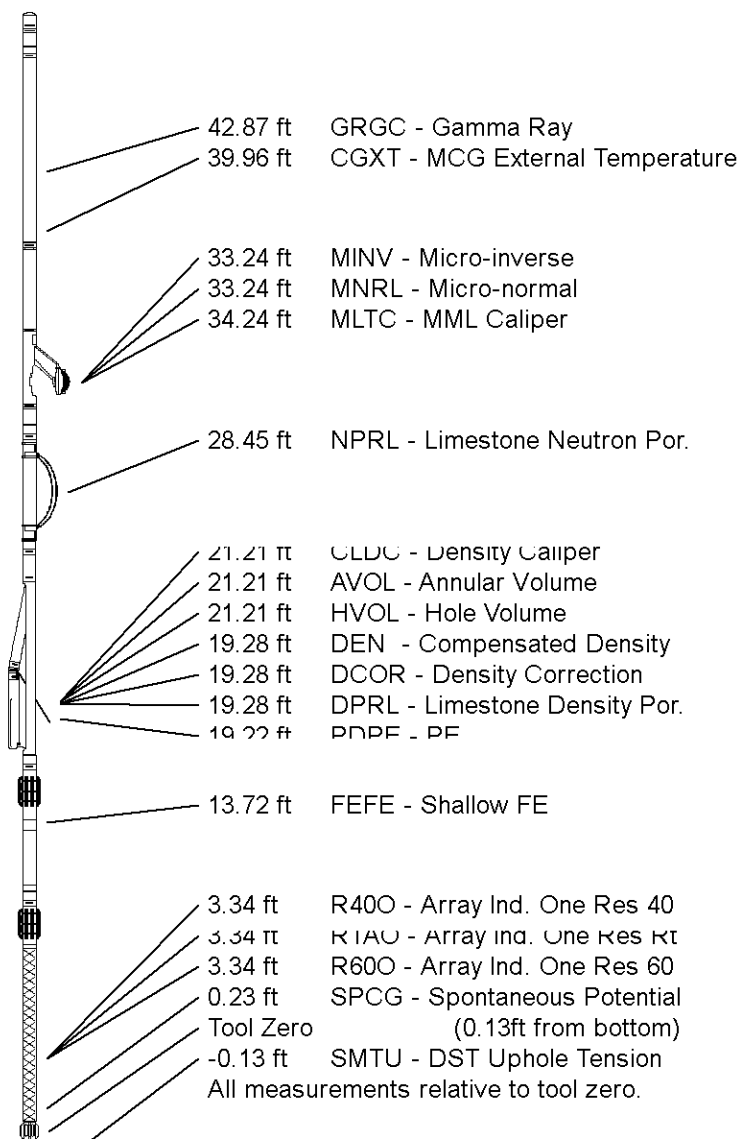
Compact Focussed Electric

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

KLON

PROVINCE/COUNTY		KIOWA			
COUNTRY/STATE		U.S.A. / KANSAS			
Elevation Kelly Bushing	2233.00	feet	First Reading	5178.65	feet
Elevation Drill Floor	2231.00	feet	Depth Driller	5200.00	feet
Elevation Ground Level	2220.00	feet	Depth Logger	5198.00	feet
 Weatherford[®] COMPACT DENSITY COMPENSATED NEUTRON MICRORESISTIVITY LOG					