



Weatherford

**COMPACT PHOTO DENSITY
COMPENSATED NEUTRON
MICRORESISTIVITY LOG**

COMPANY			SHAKESPEARE OIL CO., INC		
WELL			JANZEN #3-36		
FIELD			CAPSTONE EAST		
PROVINCE/COUNTY			SCOTT		
COUNTRY/STATE			U.S.A / KANSAS		
LOCATION			915' FSL & 1880' FWL		
SEC 36	TWP 16S	RGE 34W	Other Services		
Latitude	38.615082		MAI/MFE		
Longitude	101.029757				
API Number	15-171-21026				
Permanent Datum GL, Elevation 3102 feet					
Log Measured From KB					
Drilling Measured From KB @ 12 FEET					
Date	28-FEB-2014				
Run Number	ONE				
Service Order	7036-80773435				
Depth Driller	4880.00		feet		
Depth Logger	4874.00		feet		
First Reading	4854.00		feet		
Last Reading	3874.00		feet		
Casing Driller	264.00		feet		
Casing Logger	265.00		feet		
Bit Size	7.875		inches		
Hole Fluid Type	CHEMICAL				
Density / Viscosity	9.10 lb/USg		48.00 CP		
PH / Fluid Loss	10.00		8.80 ml/30Min		
Sample Source	MUDPIT				
Rm @ Measured Temp	0.38 @ 75.0		ohm-m		
Rmf @ Measured Temp	0.31 @ 75.0		ohm-m		
Rmc @ Measured Temp	0.46 @ 75.0		ohm-m		
Source Rmf / Rmc	CALC	CALC			
Rm @ BHT	0.26 @111.0		ohm-m		
Time Since Circulation	4 HOURS				
Max Recorded Temp	112.00		deg F		
Equipment / Base	13096	LIB			
Recorded By	DEREK CARTER		BEN WELDIN		
Witnessed By	MARK HERNDON				
JOB #	LB14-057				

BOREHOLE RECORD					Last Edited: 28-FEB-2014 10:34
Bit Size inches		Depth From feet		Depth To feet	
7.875		264.00		4880.00	
CASING RECORD					
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft	
SURFACE	8.625	0.00	264.00	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: 2020 CU. FT.
- ANNUILLAR HOLE VOLUME WITH 5.5 INCH CASING FROM TD TO 3874 FT : 180 CU. FT.

- SERVICE ORDER # 7036-80773435

- RIG: SOUTHWIND #70

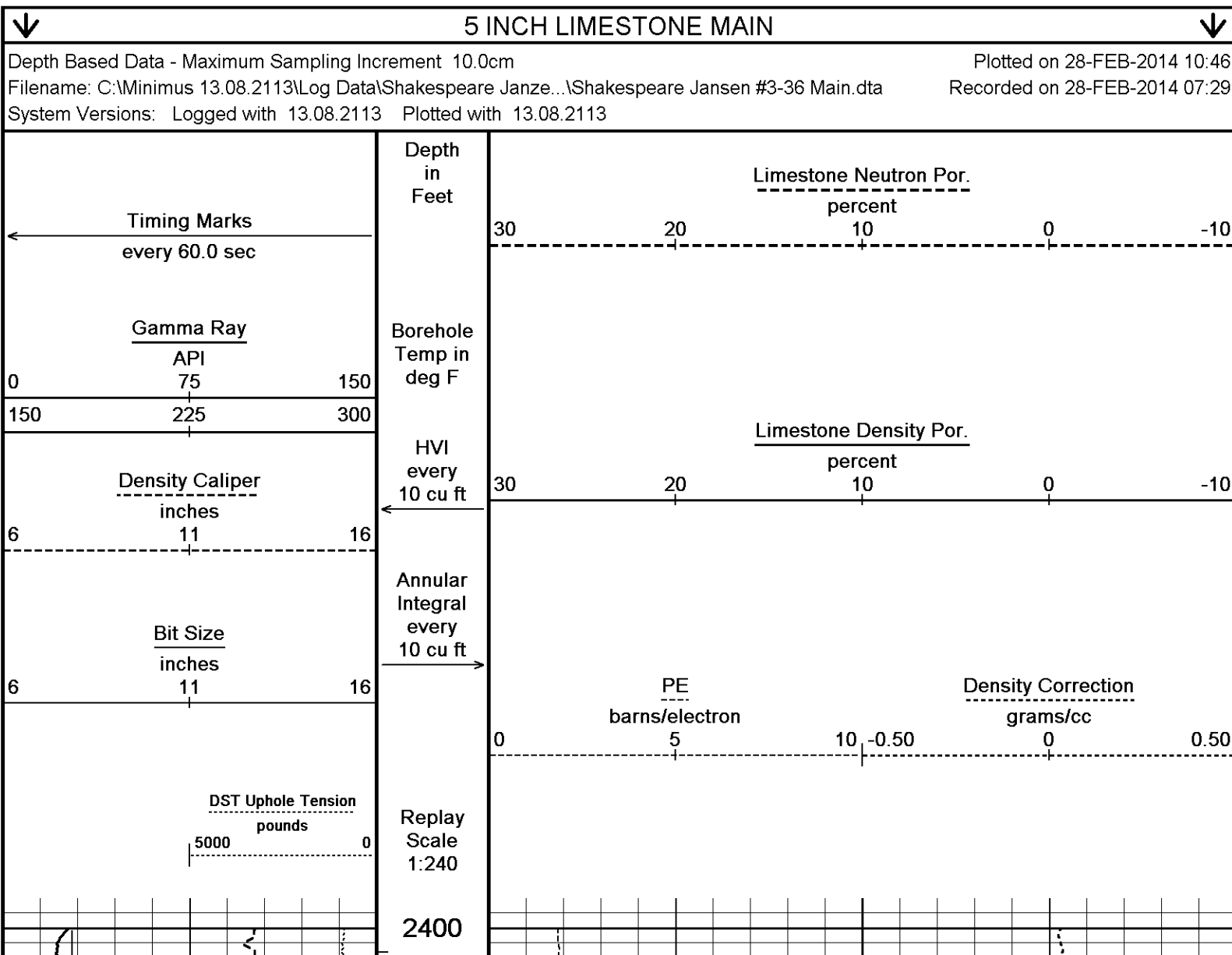
- ENGINEER: DEREK CARTER

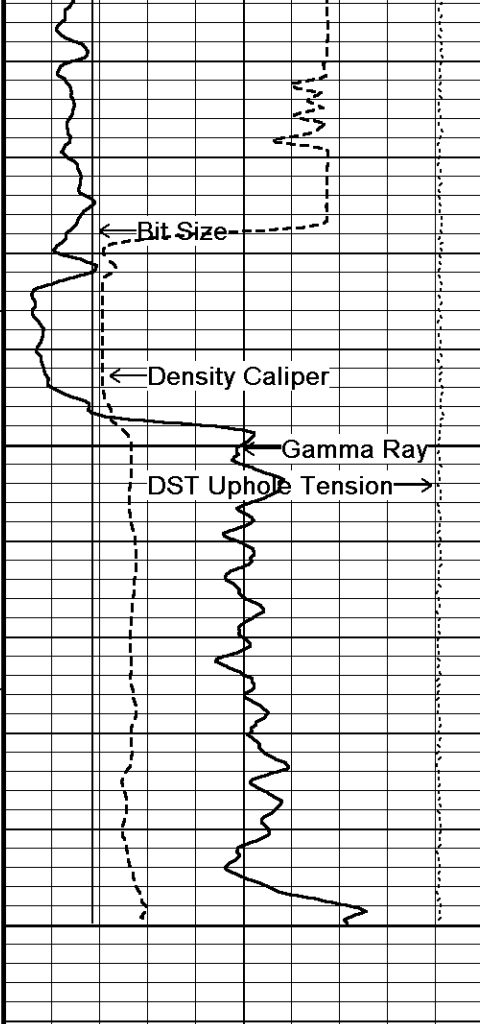
- JUNIOR FIELD ENGINEER: BEN WELDIN

- OPERATORS: KEN RINEHART

- WELL SITE GEOLOGIST AND DRILLER STATED THAT THEY WERE HAVING PROBLEMS WITH THEIR GEOLOGRAPH AND THAT THE LOGGERS TD OF 4874 FT. WAS ACCEPTABLE; DRILLERS TD WAS 4880 FT.

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.





94°

2450

94°

2500

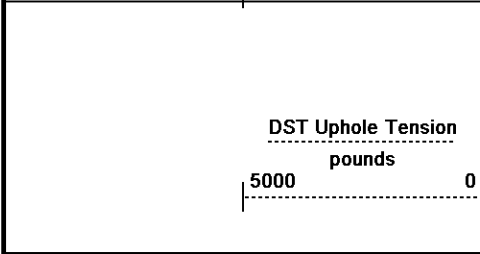
Depth
in
Feet

Timing Marks
every 60.0 sec

Gamma Ray		
API		
0	75	150
150	225	300

Density Caliper		
inches		
6	11	16

Bit Size		
inches		
6	11	16

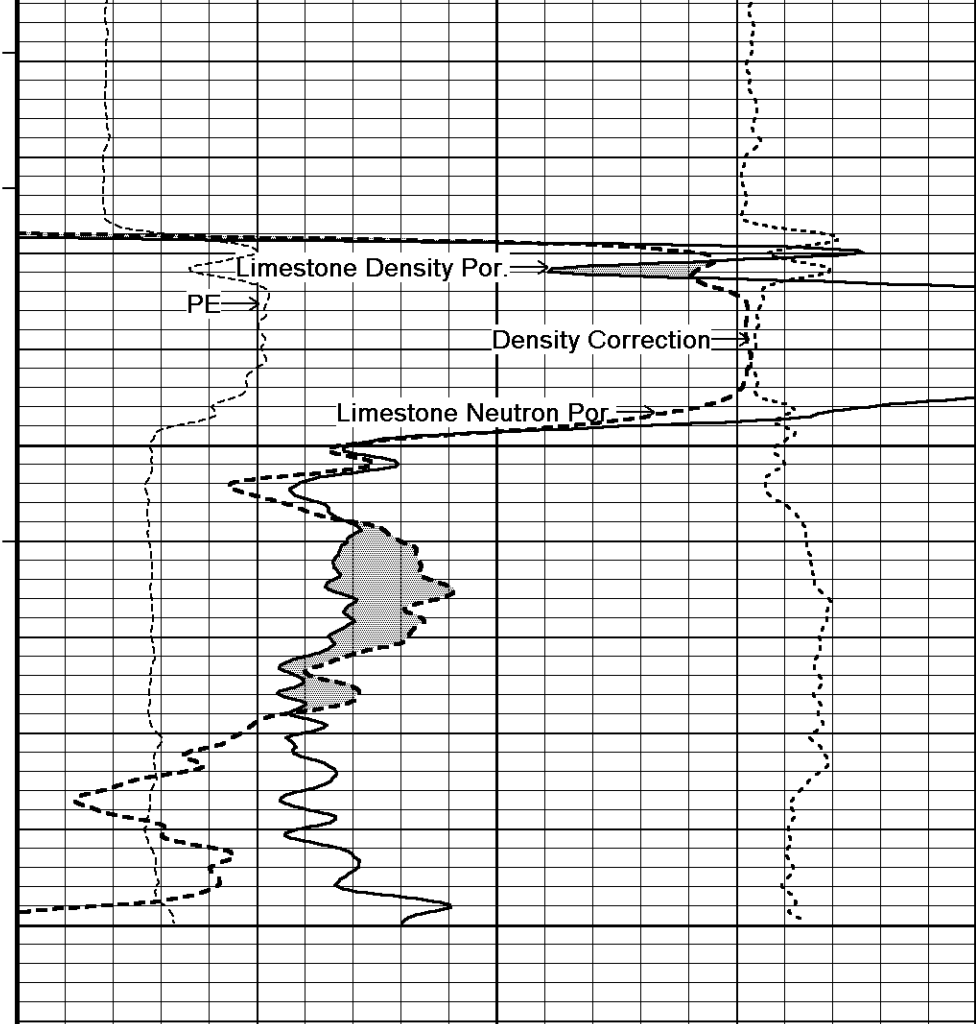


Borehole
Temp in
deg F

HVI
every
10 cu ft

Annular
Integral
every
10 cu ft

Replay
Scale
1:240



Limestone Neutron Por.
percent

30 20 10 0 -10

Limestone Density Por.
percent

30 20 10 0 -10

PE
barns/electron

Density Correction
grams/cc

0 5 10 -0.50 0 0.50

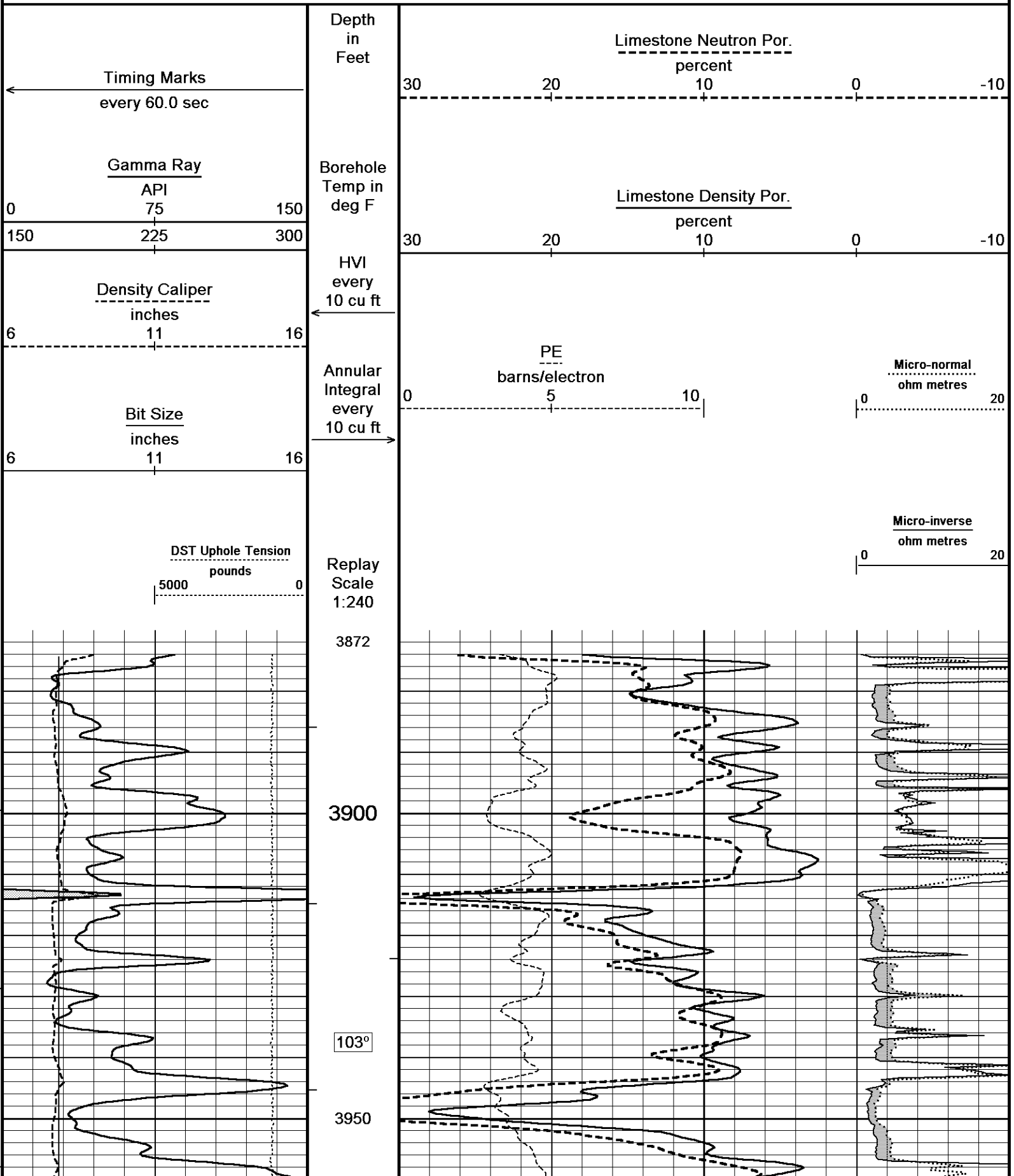
Depth Based Data - Maximum Sampling Increment 10.0cm

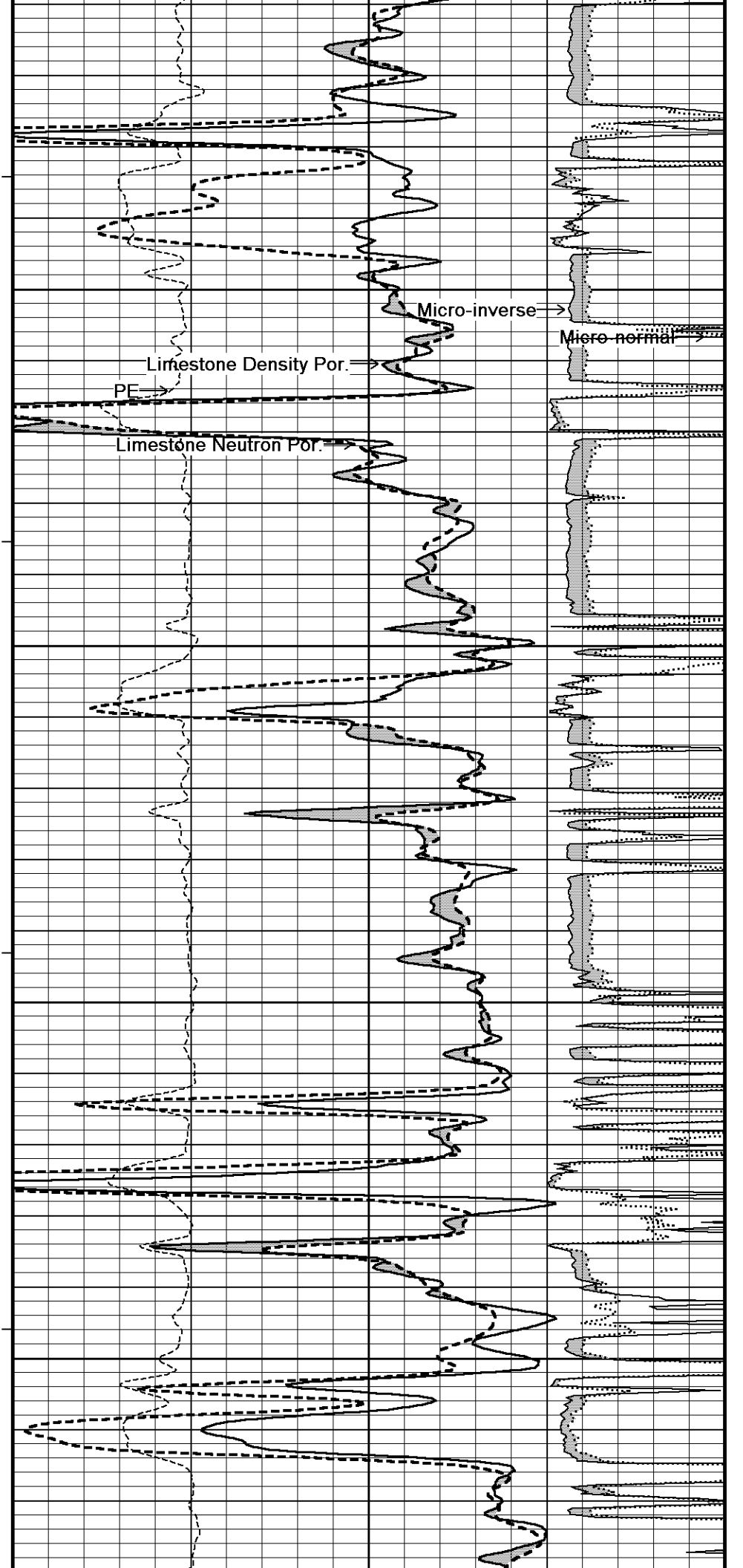
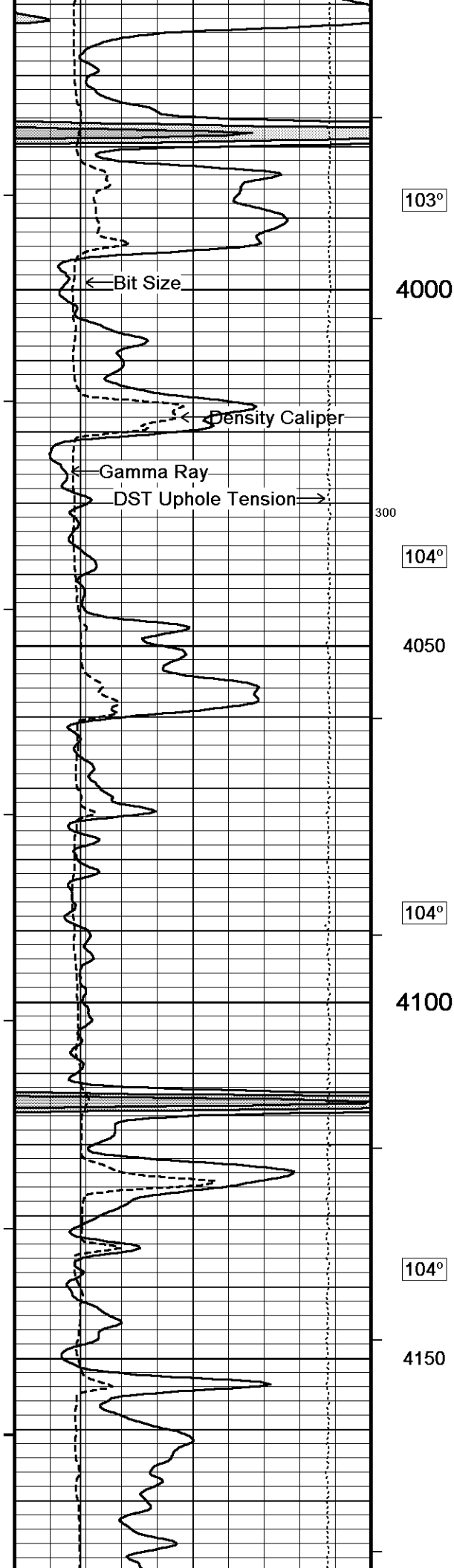
Plotted on 28-FEB-2014 10:46

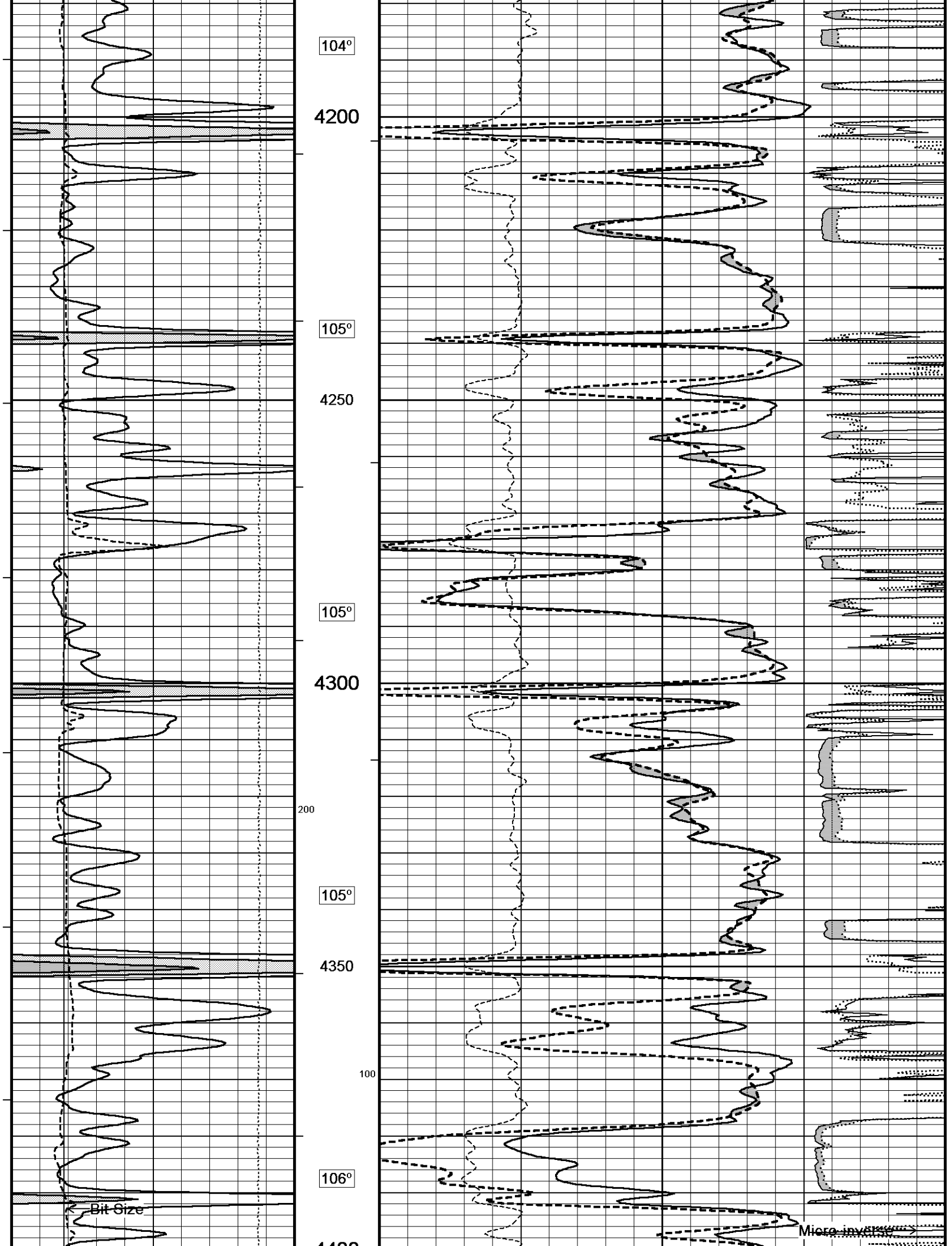
Filename: C:\Minimus 13.08.2113\Log Data\Shakespeare Janze...\Shakespeare Jansen #3-36 Main.dta

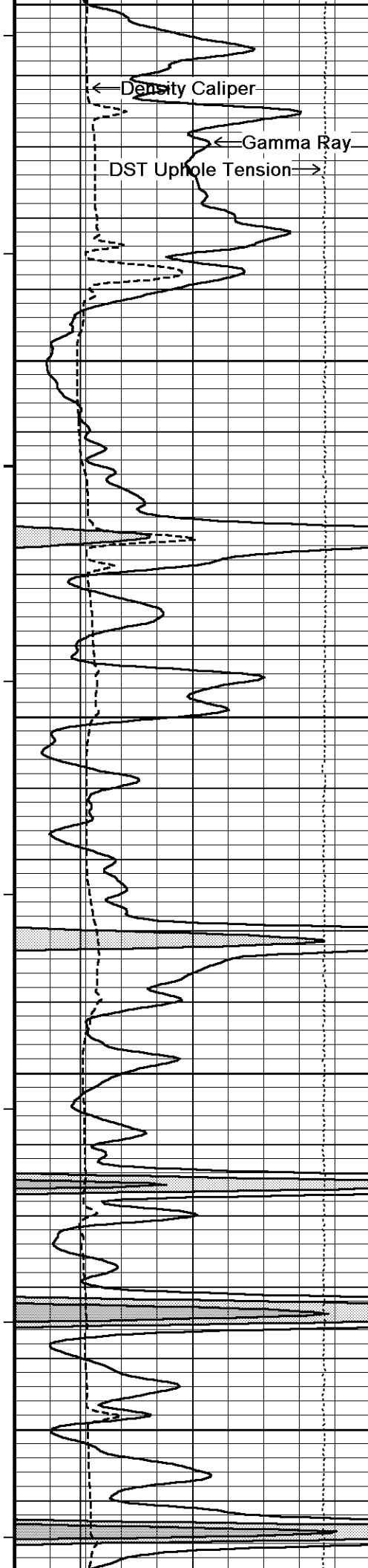
Recorded on 28-FEB-2014 07:29

System Versions: Logged with 13.08.2113 Plotted with 13.08.2113

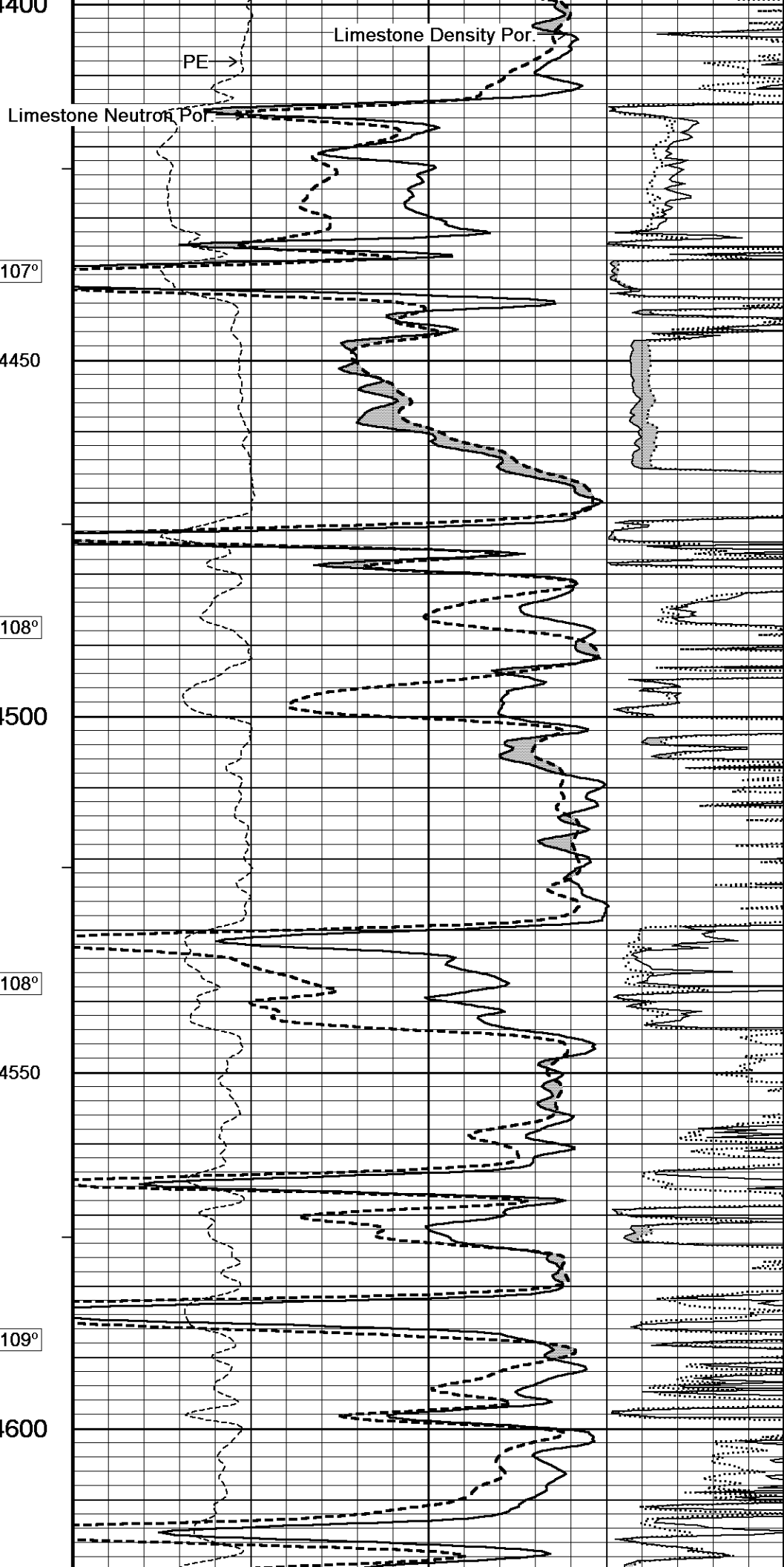


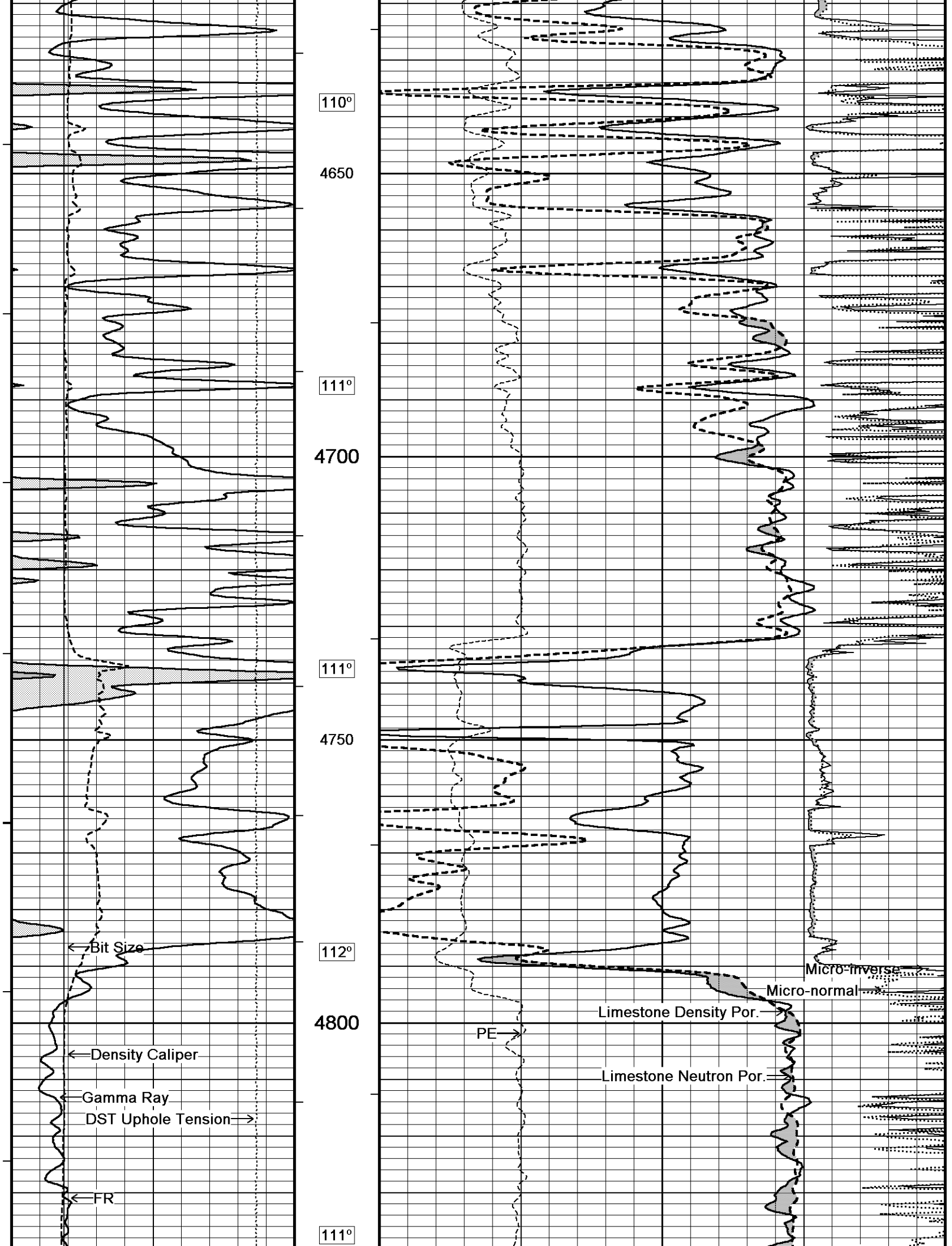


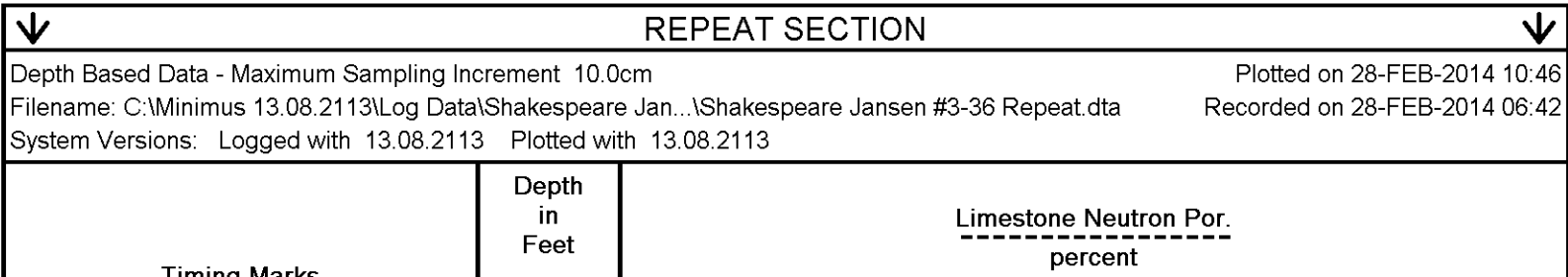
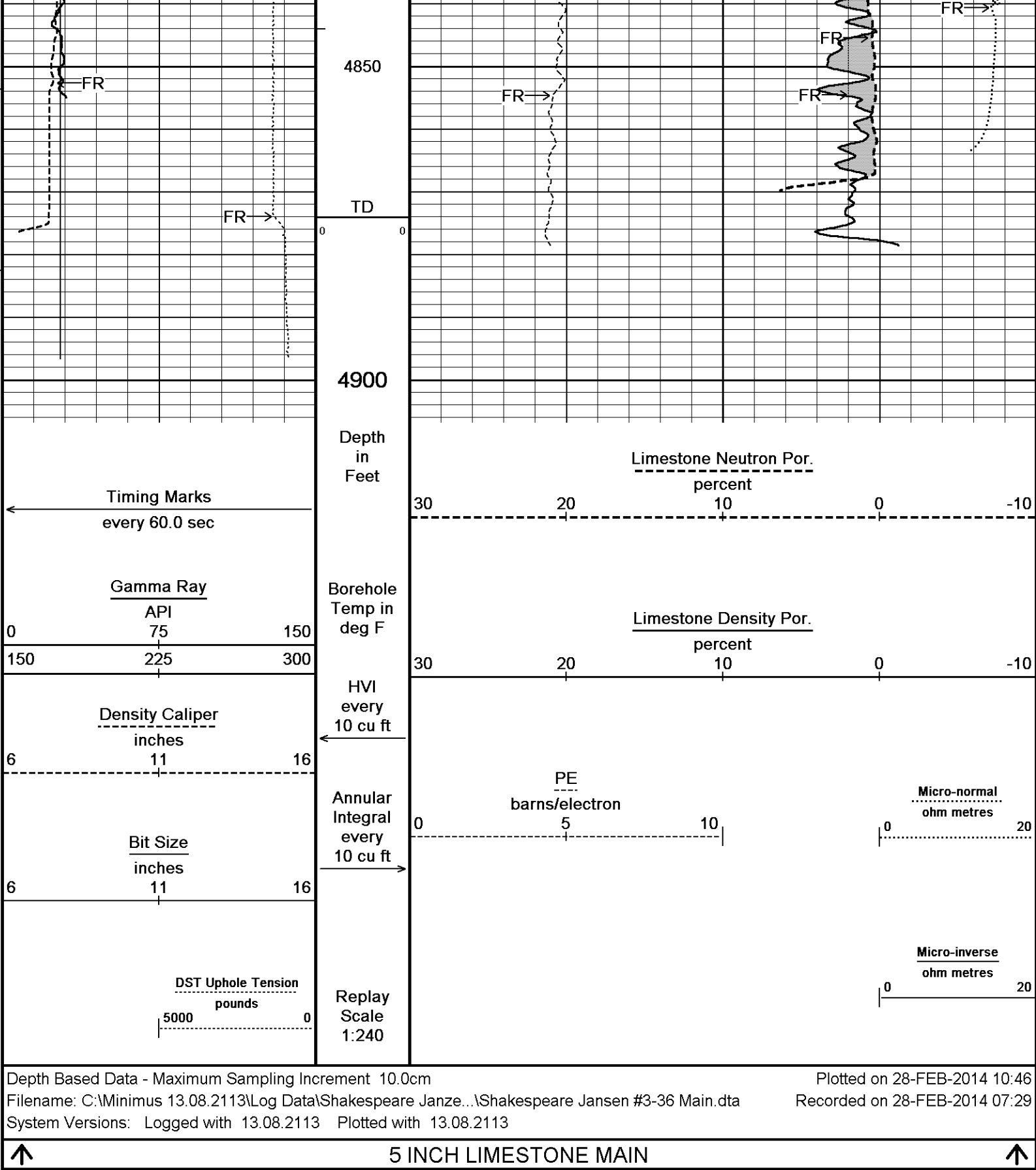


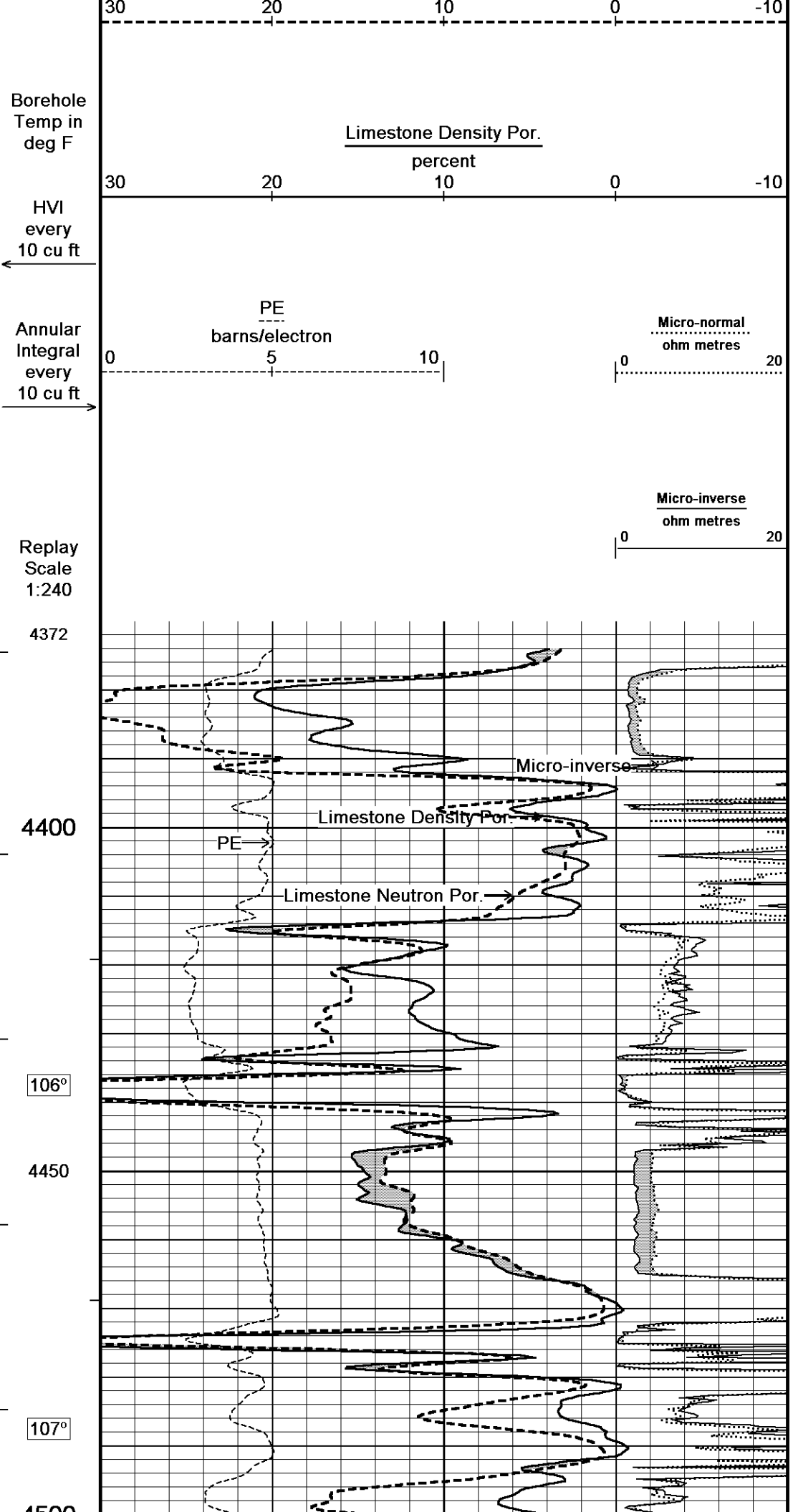
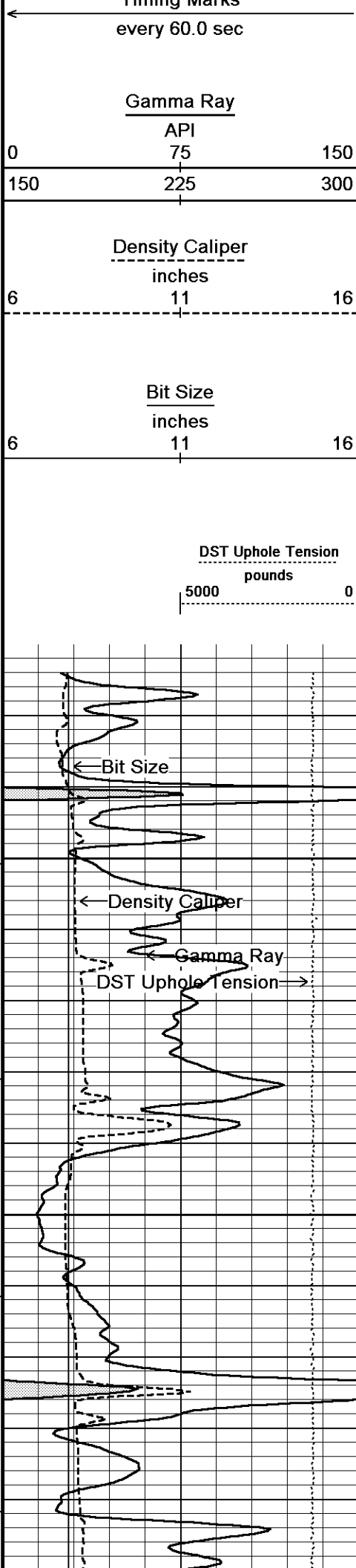


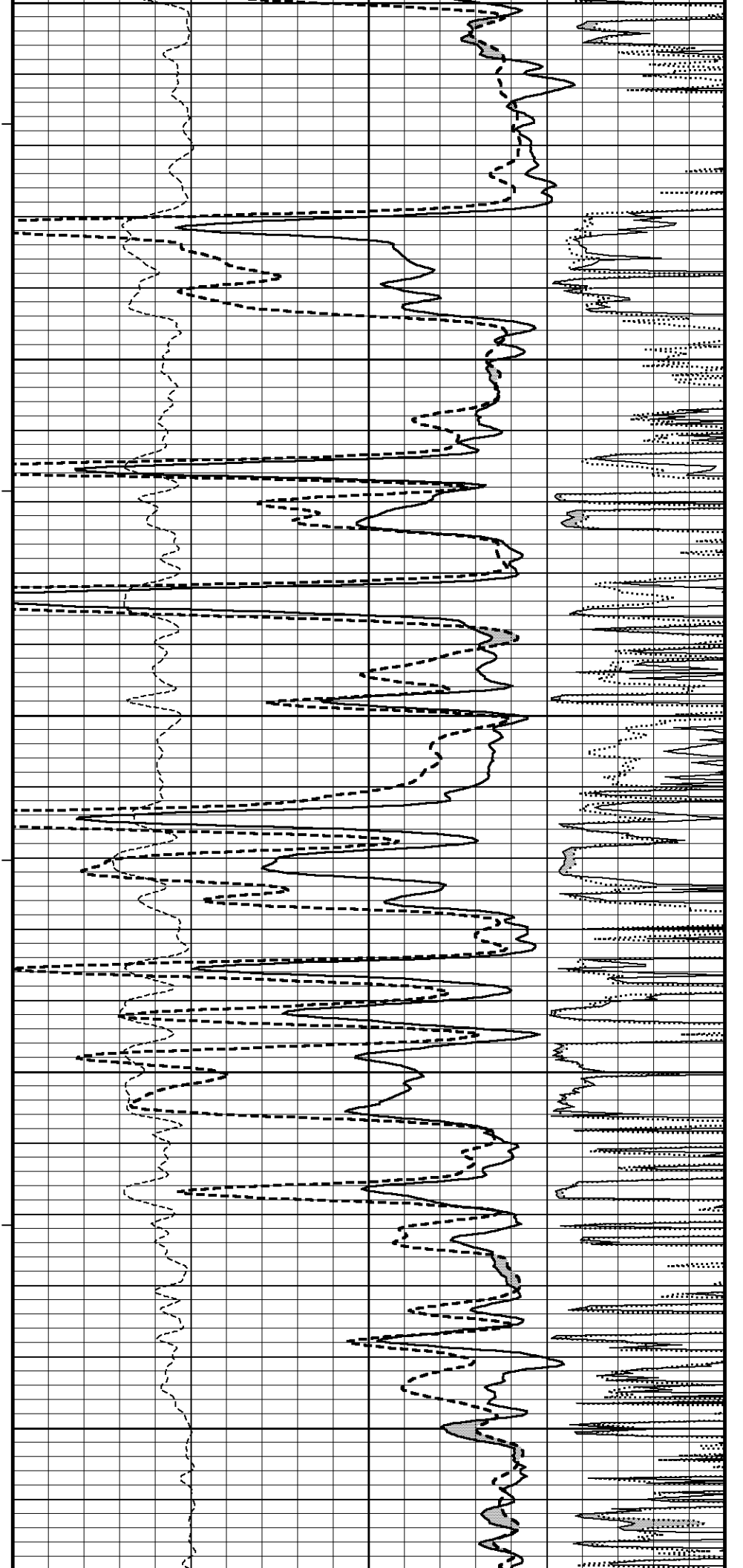
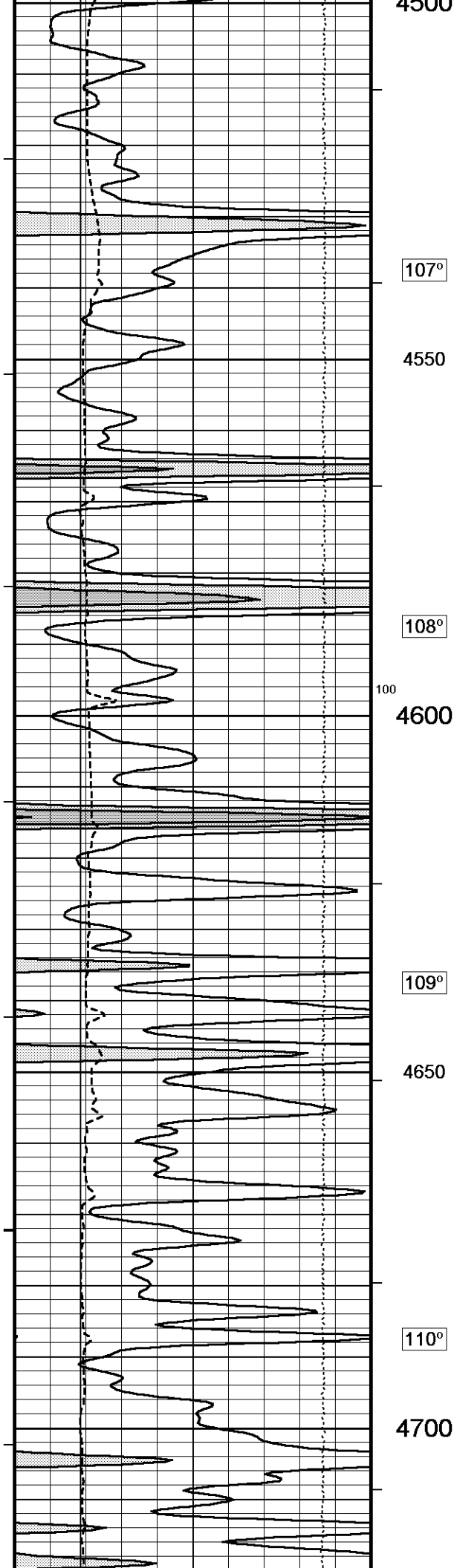
4400
107°
4450
108°
4500
108°
4550
109°
4600
100

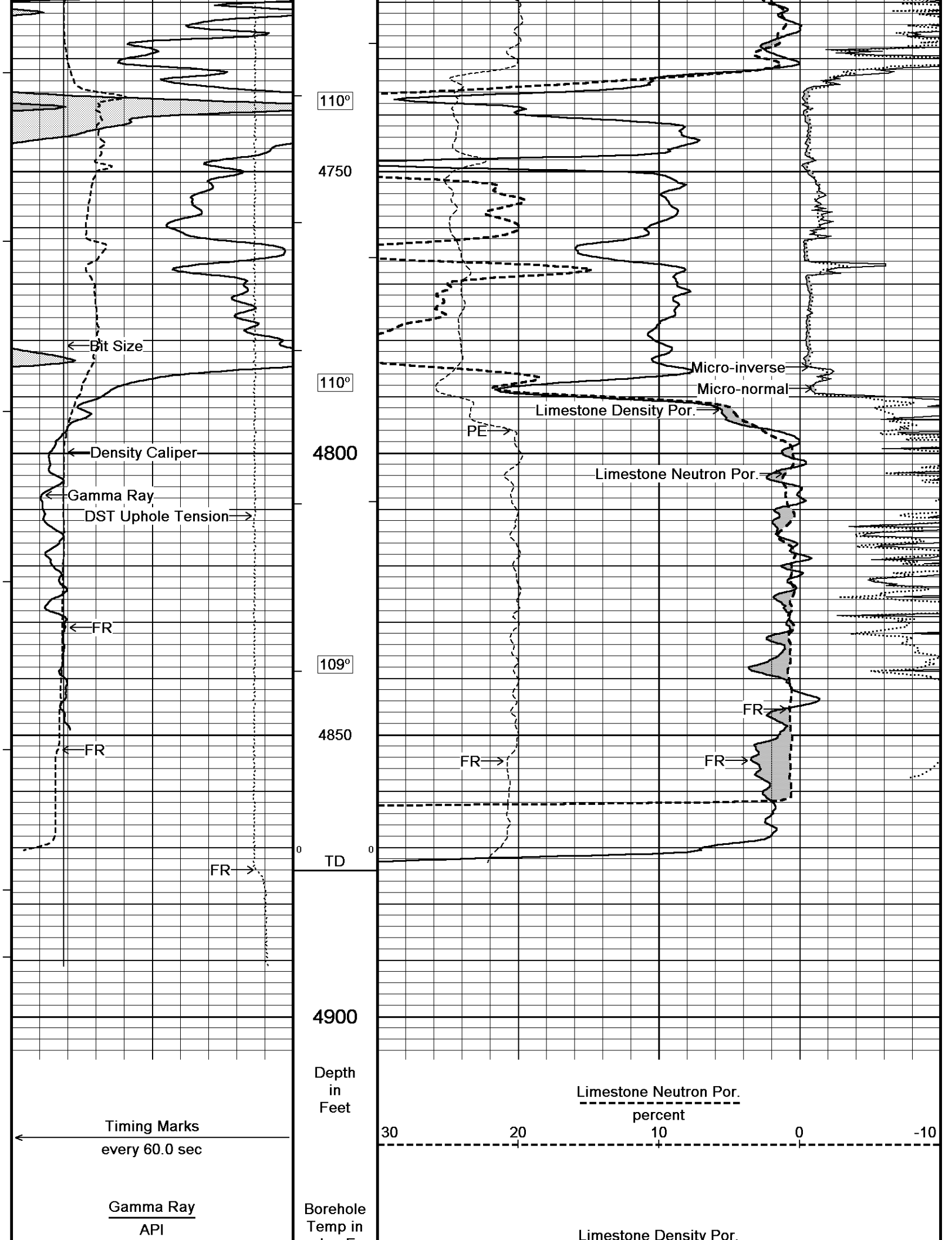


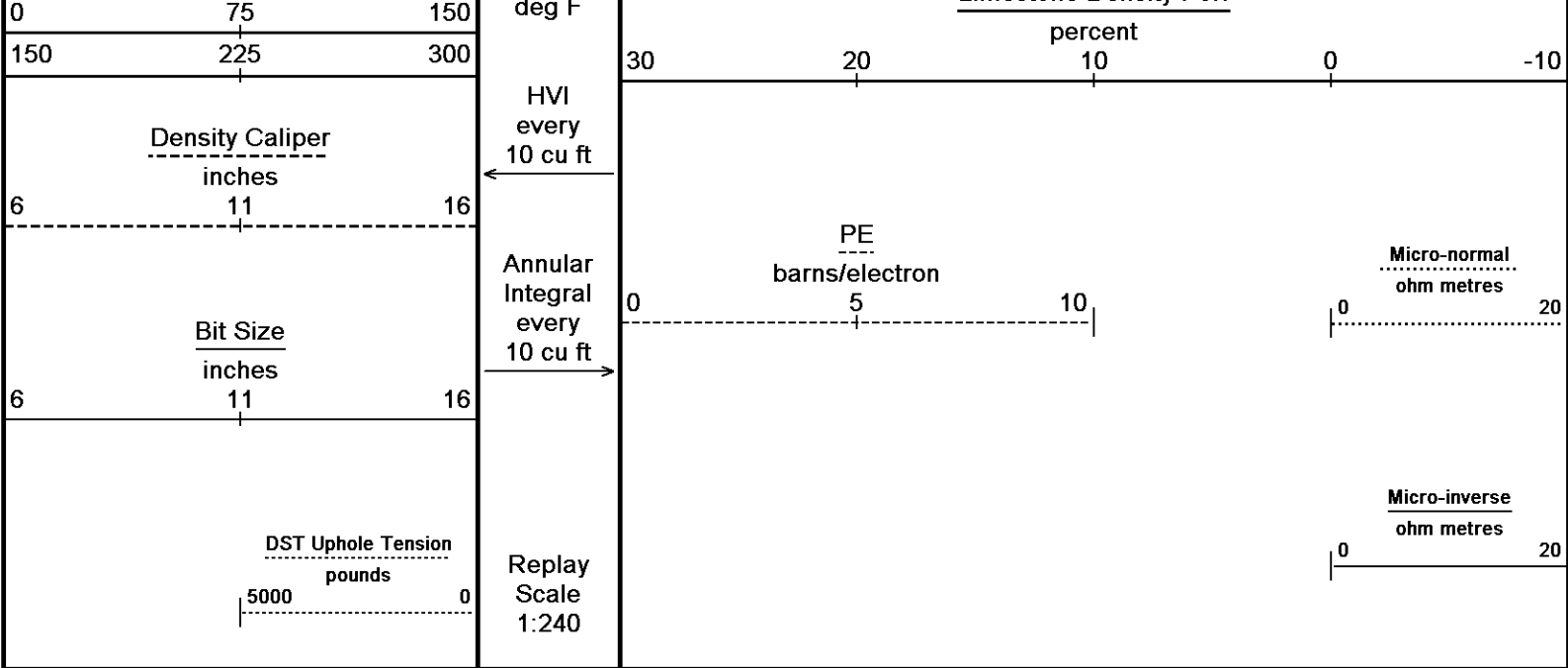










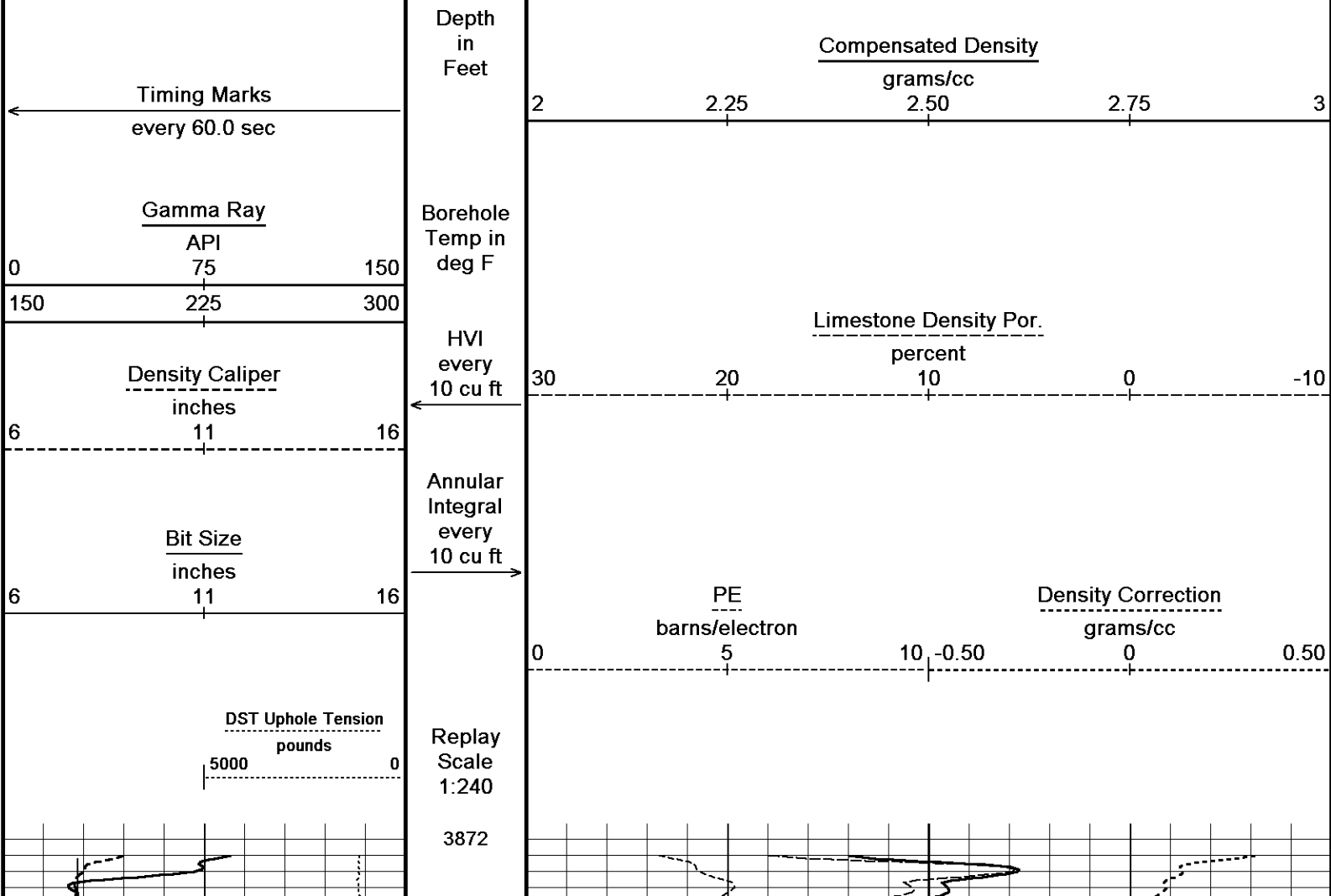


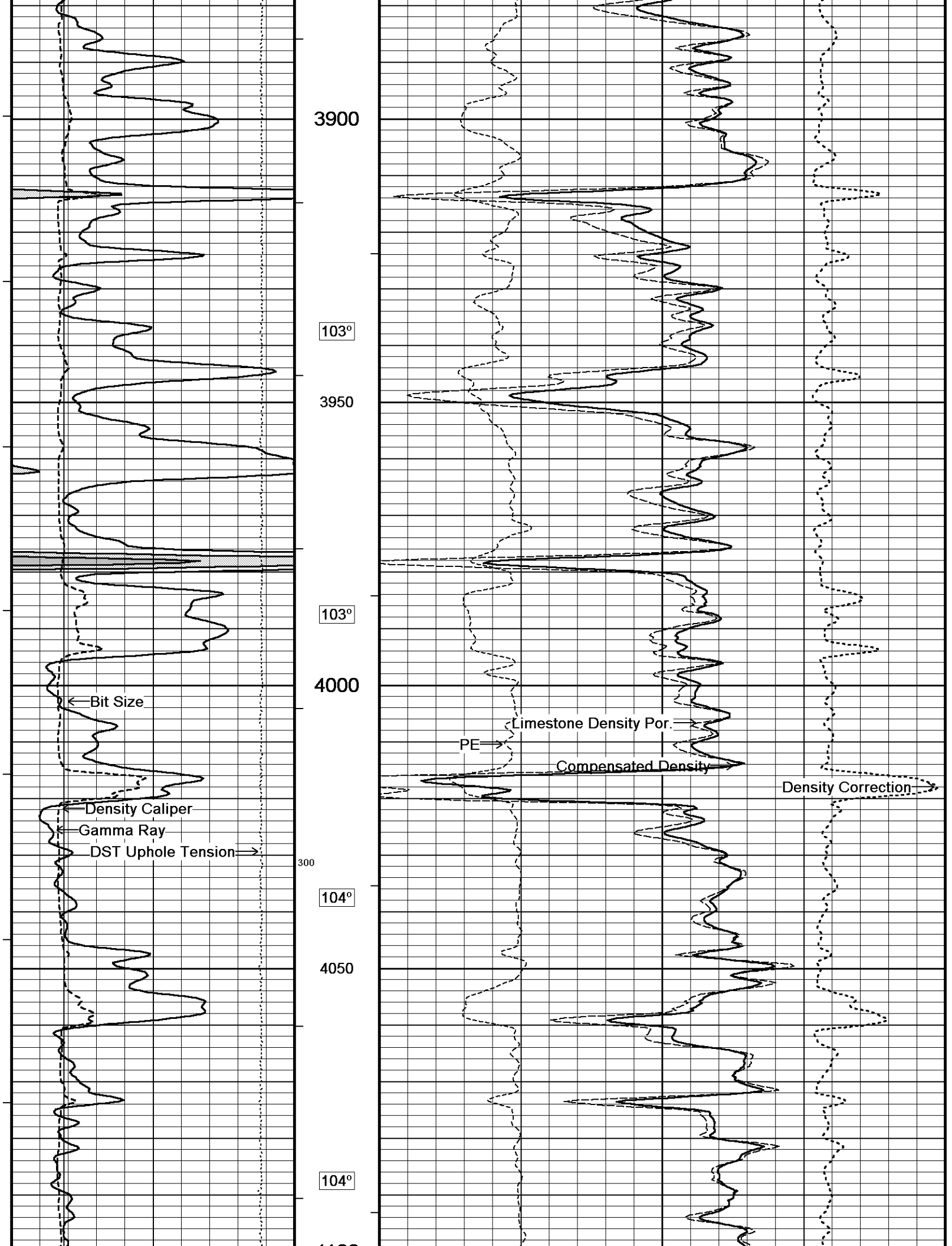
Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 28-FEB-2014 10:46
Filename: C:\Minimus 13.08.2113\Log Data\Shakespeare Janze...\Shakespeare Jansen #3-36 Repeat.dta Recorded on 28-FEB-2014 06:42
System Versions: Logged with 13.08.2113 Plotted with 13.08.2113

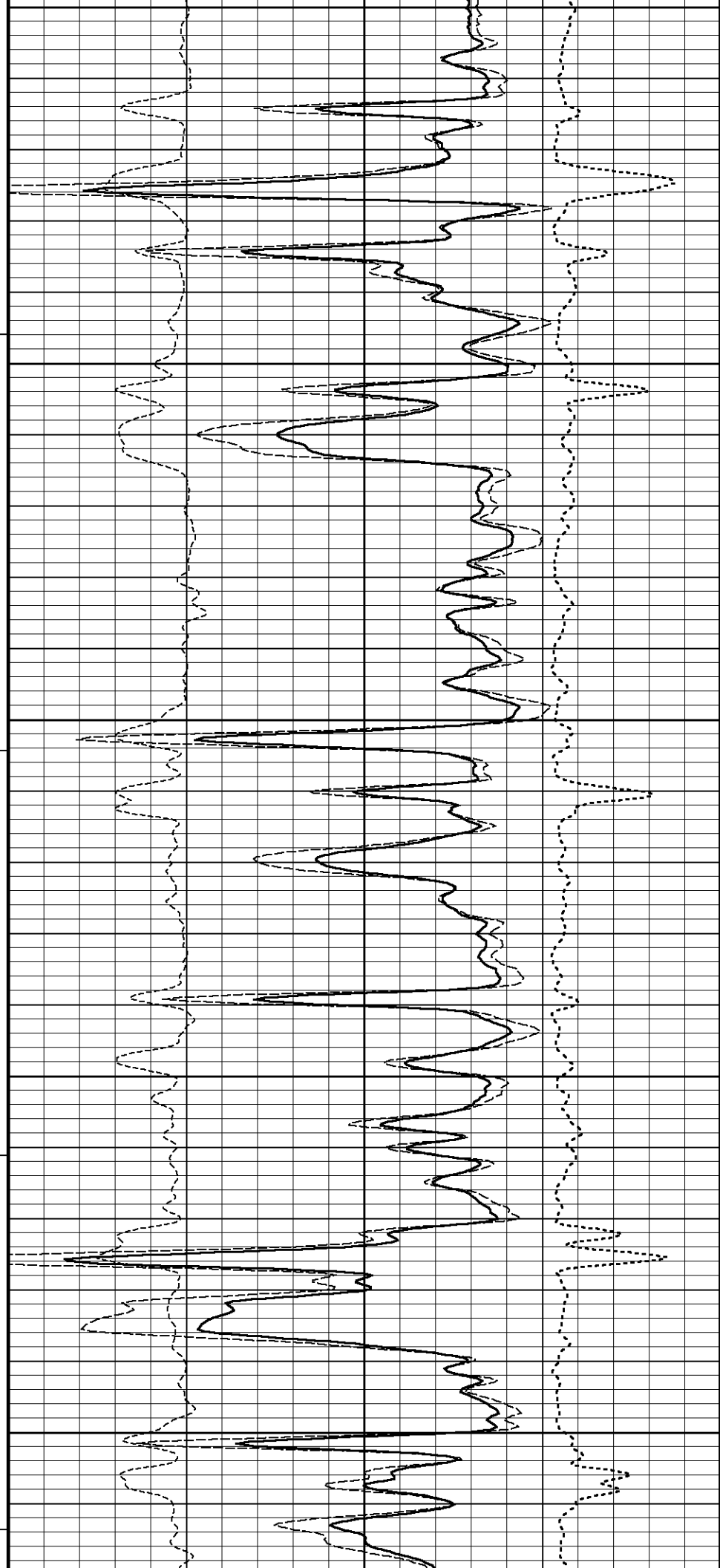
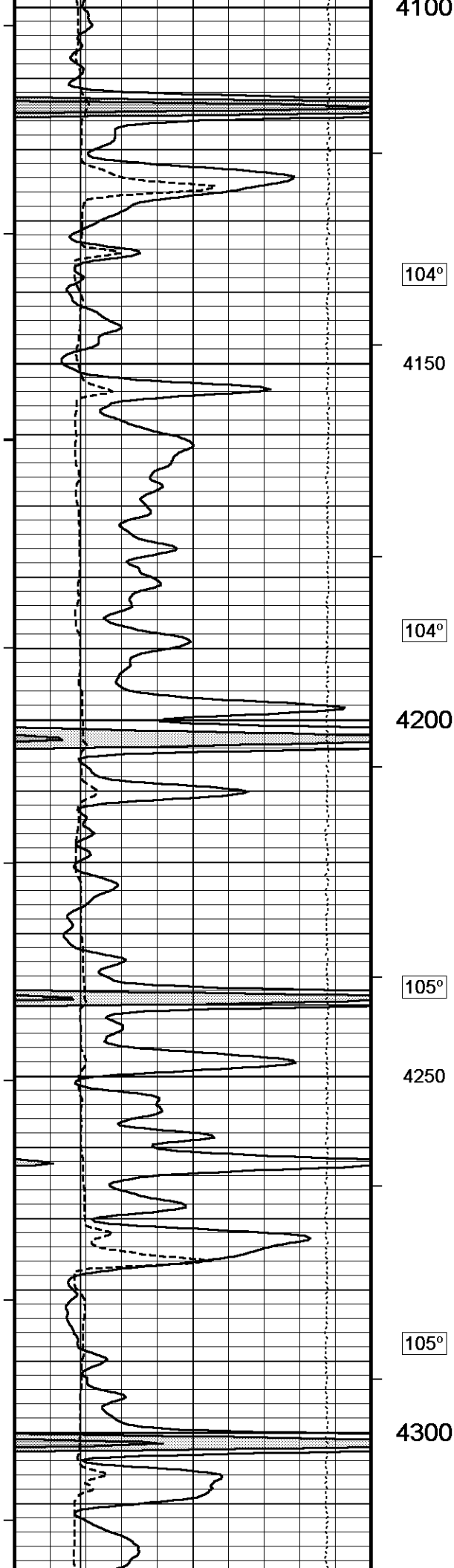
REPEAT SECTION

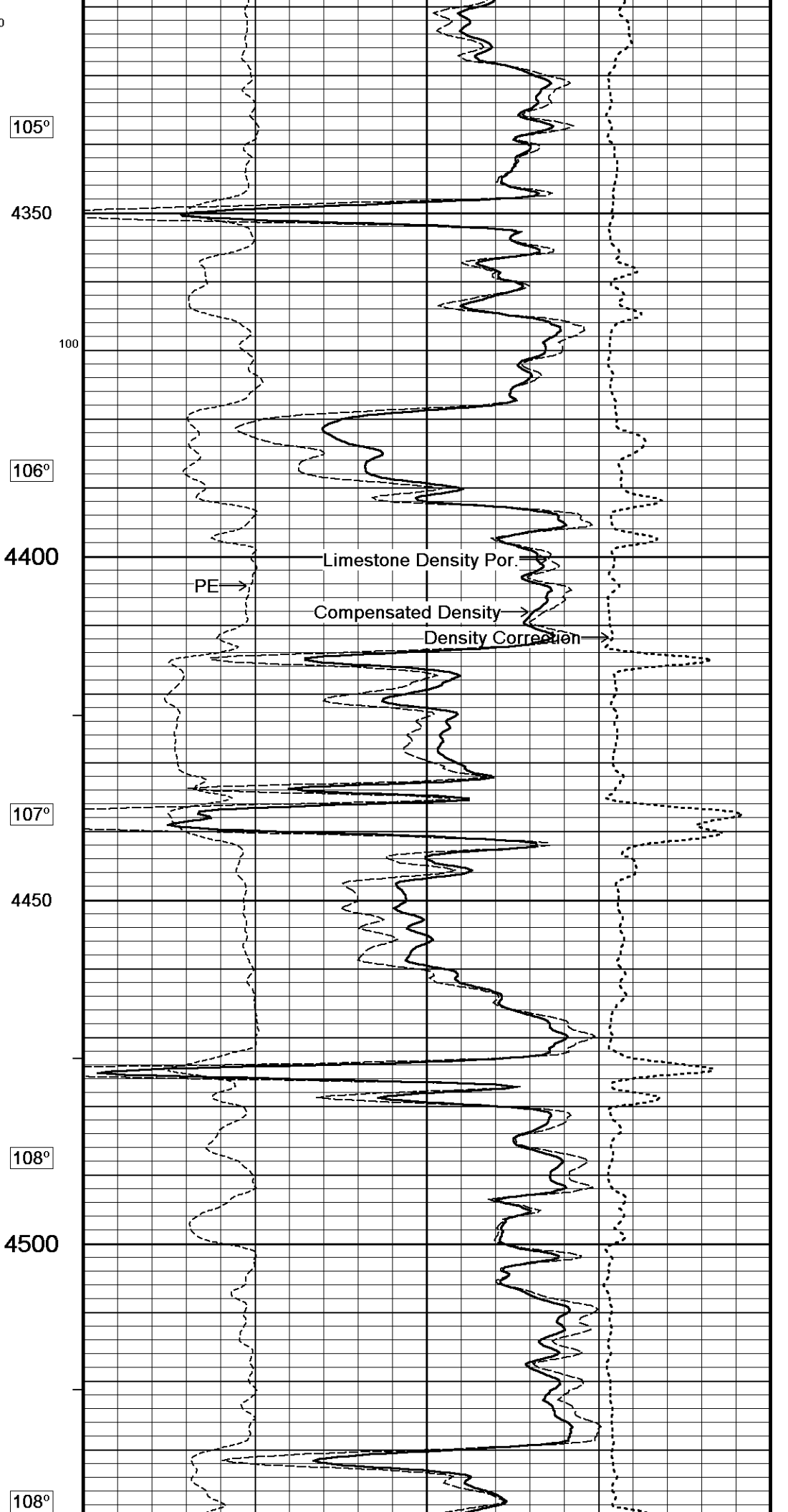
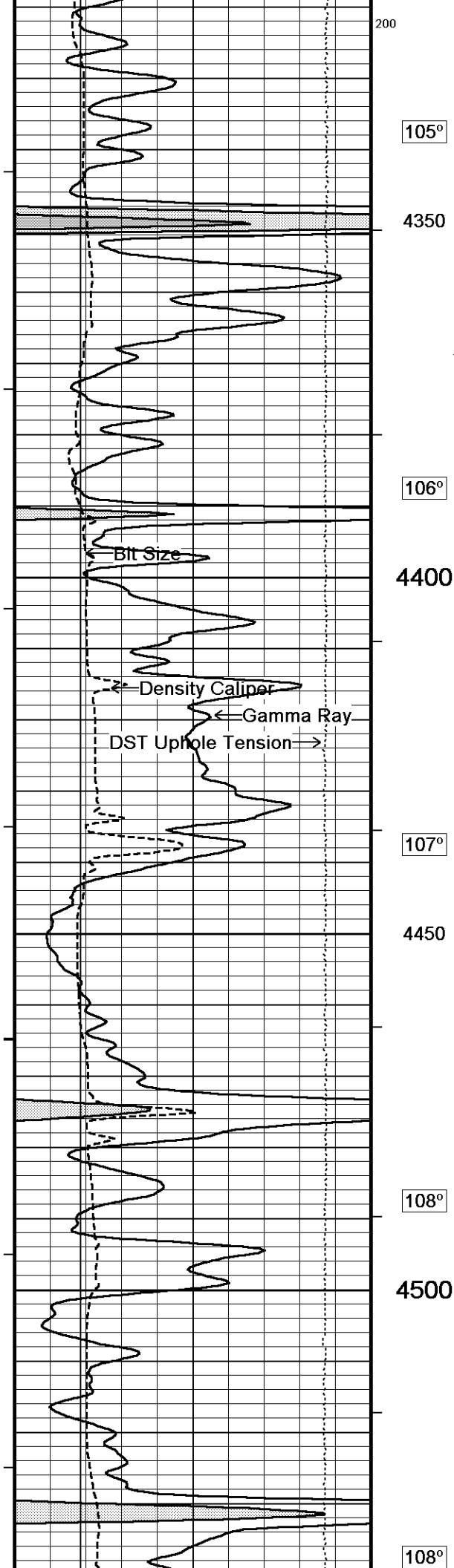
5 INCH BULK DENSITY MAIN

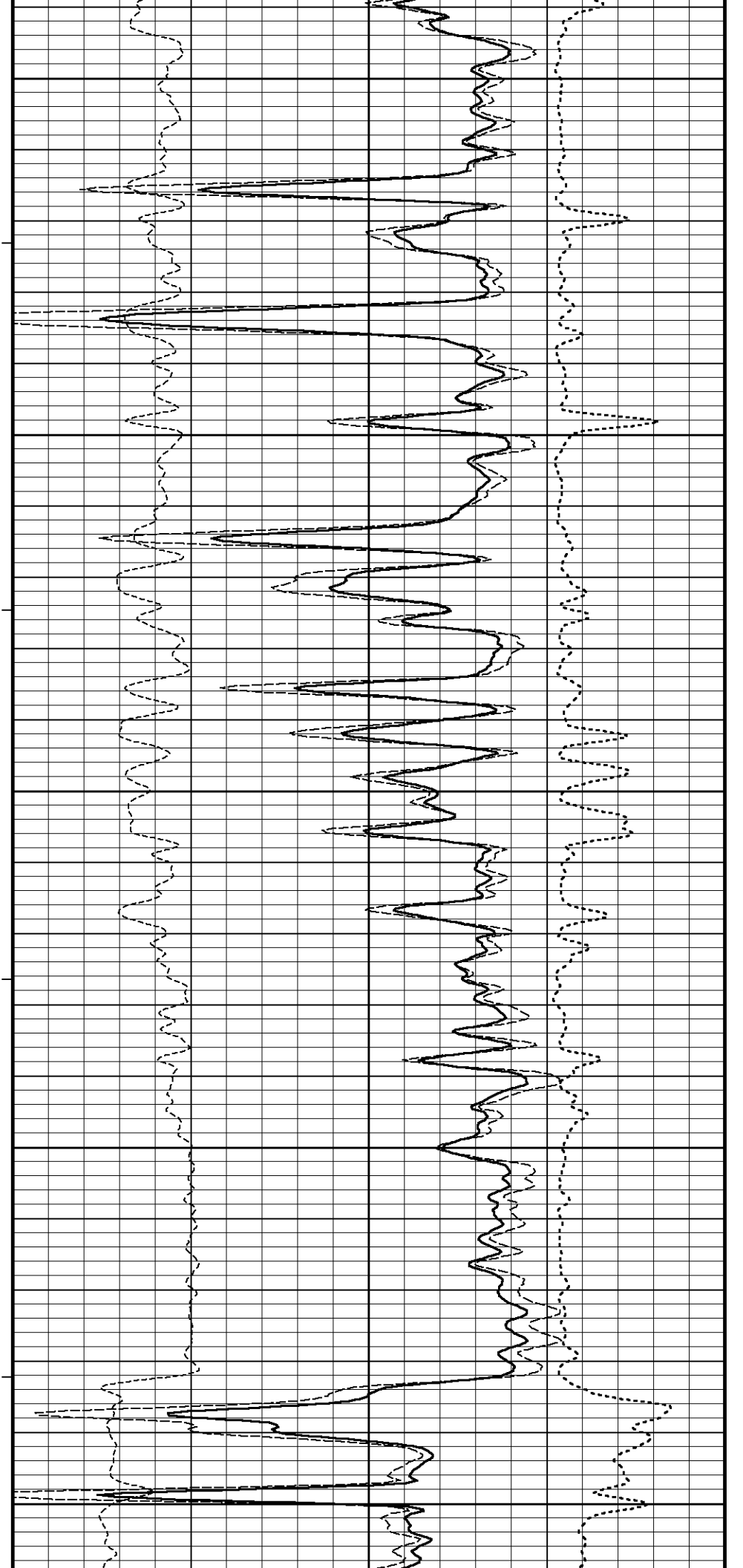
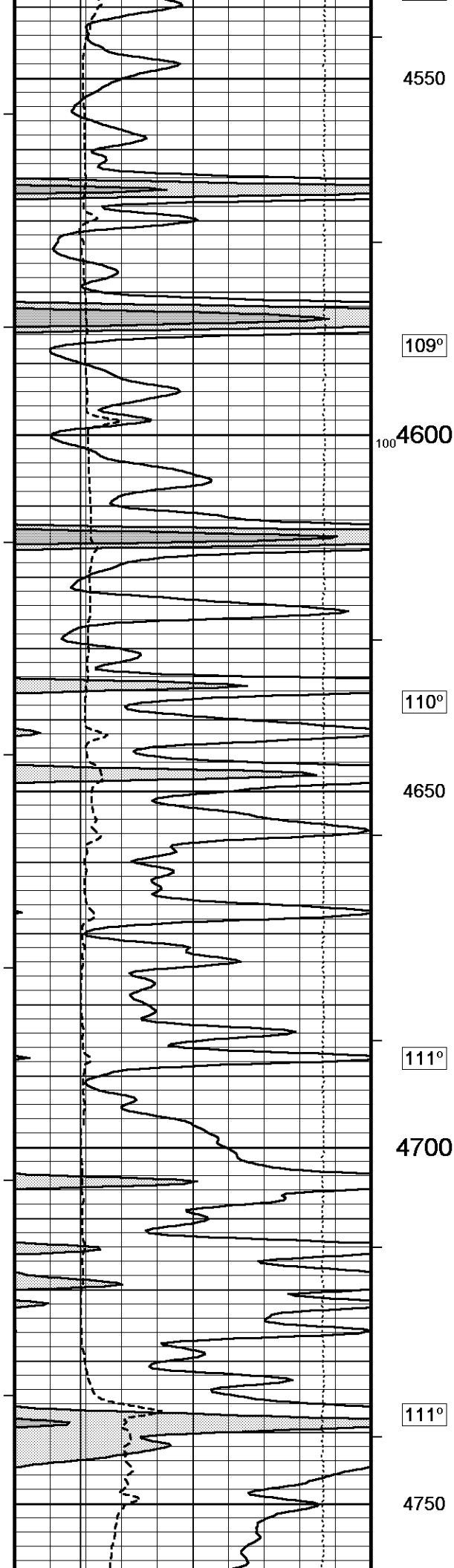
Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 28-FEB-2014 10:46
Filename: C:\Minimus 13.08.2113\Log Data\Shakespeare Janze...\Shakespeare Jansen #3-36 Main.dta Recorded on 28-FEB-2014 07:29
System Versions: Logged with 13.08.2113 Plotted with 13.08.2113

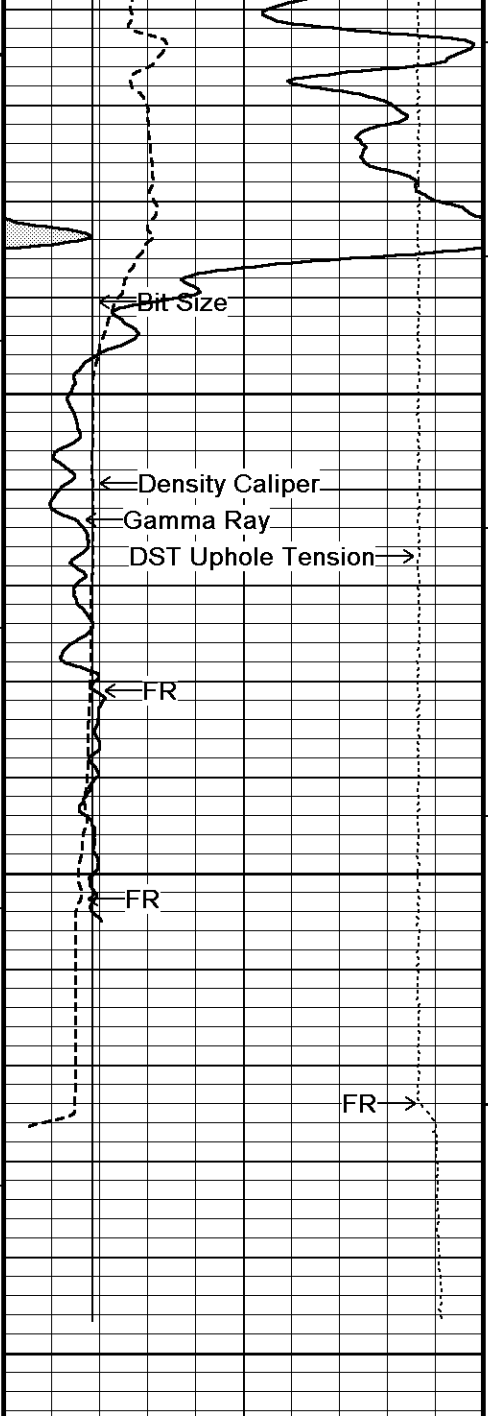












112°

4800

111°

4850

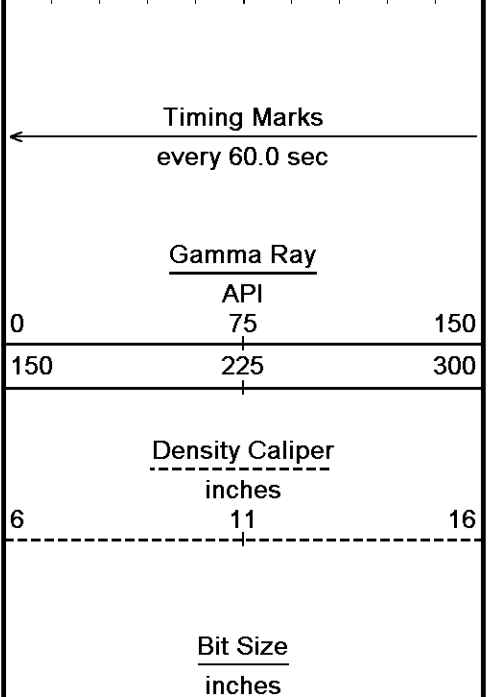
TD

0

0

4900

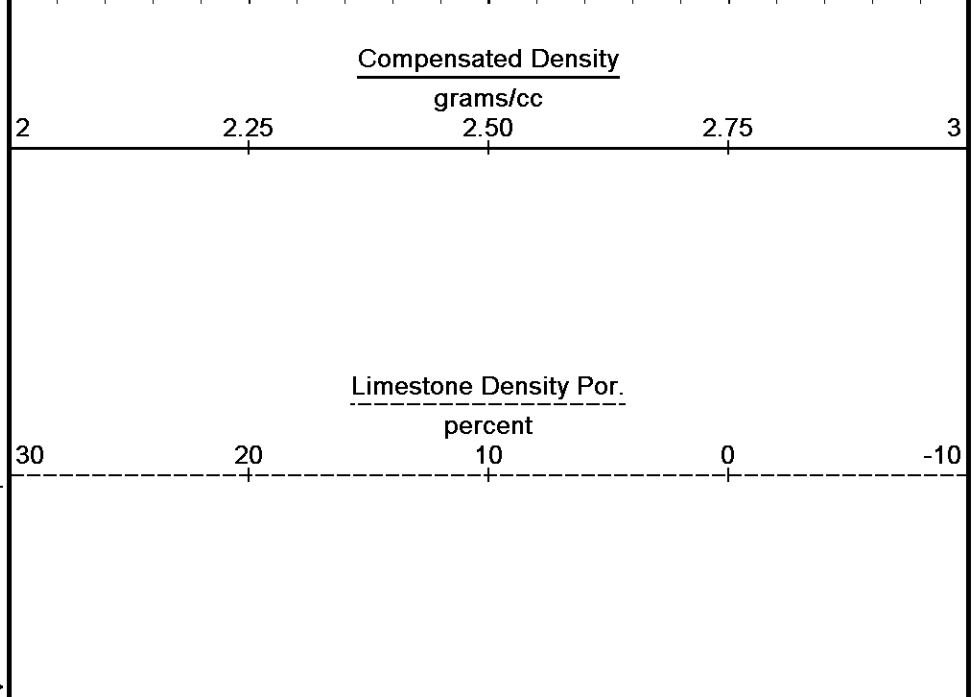
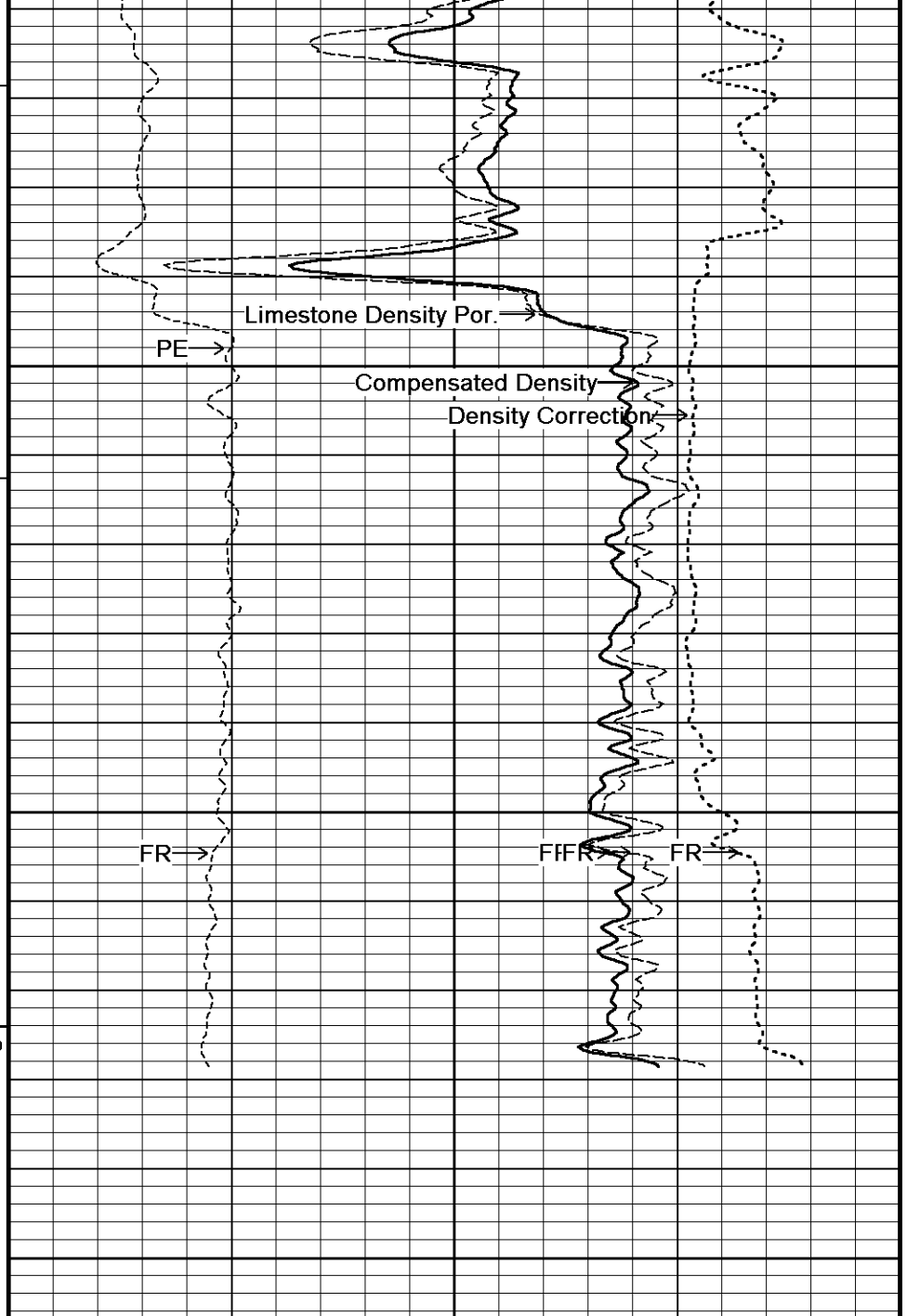
Depth in Feet

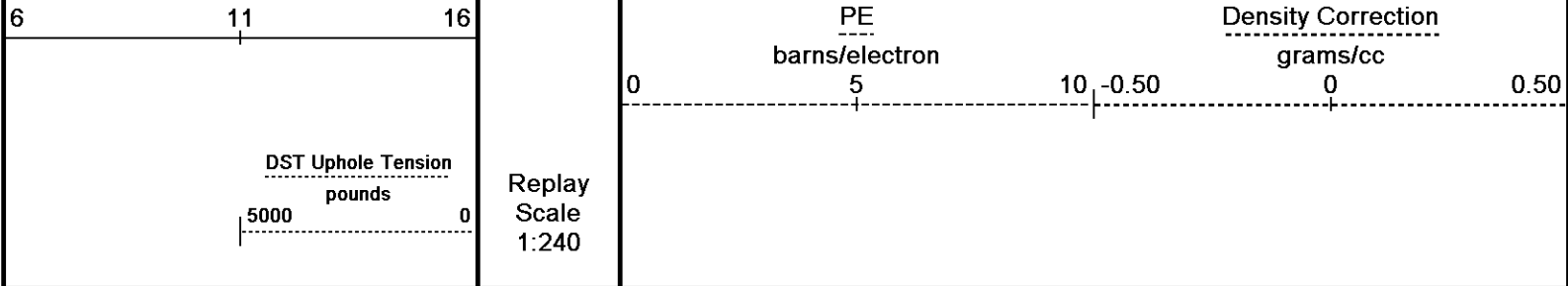


Borehole Temp in deg F

HVI every 10 cu ft

Annular Integral every 10 cu ft





Depth Based Data - Maximum Sampling Increment 10.0cm	Plotted on 28-FEB-2014 10:46
Filename: C:\Minimus 13.08.2113\Log Data\Shakespeare Janze...\Shakespeare Jansen #3-36 Main.dta	Recorded on 28-FEB-2014 07:29
System Versions: Logged with 13.08.2113 Plotted with 13.08.2113	

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5 INCH BULK DENSITY MAIN

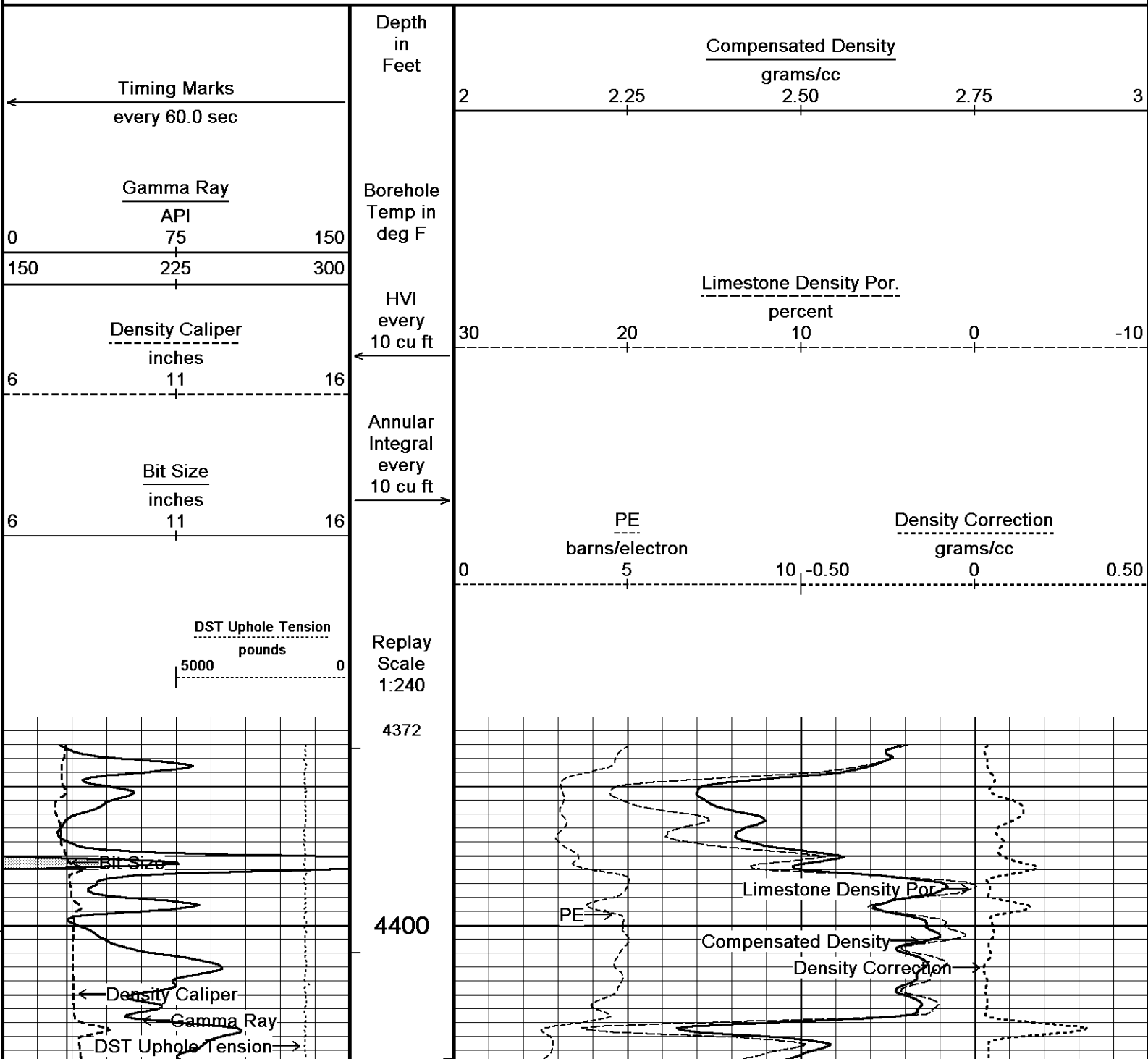
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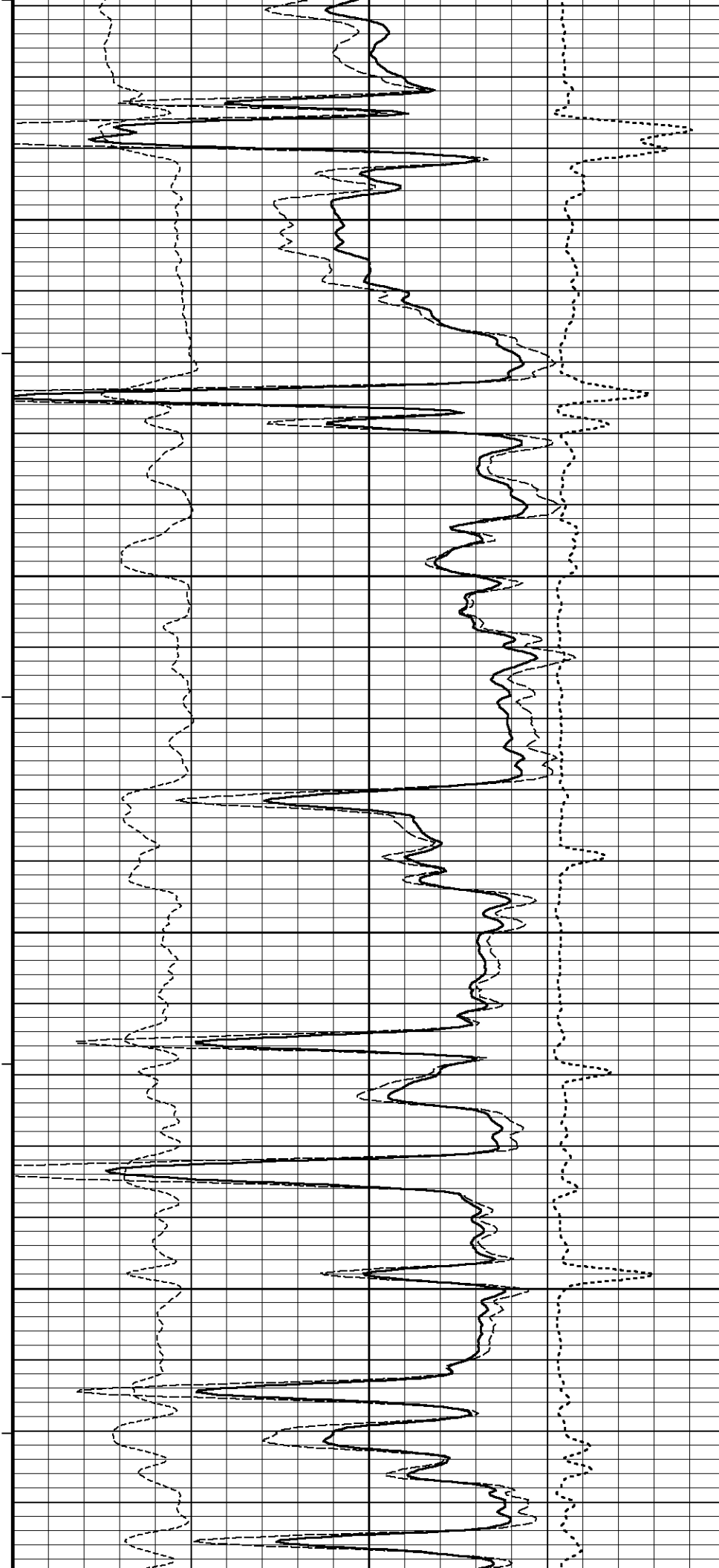
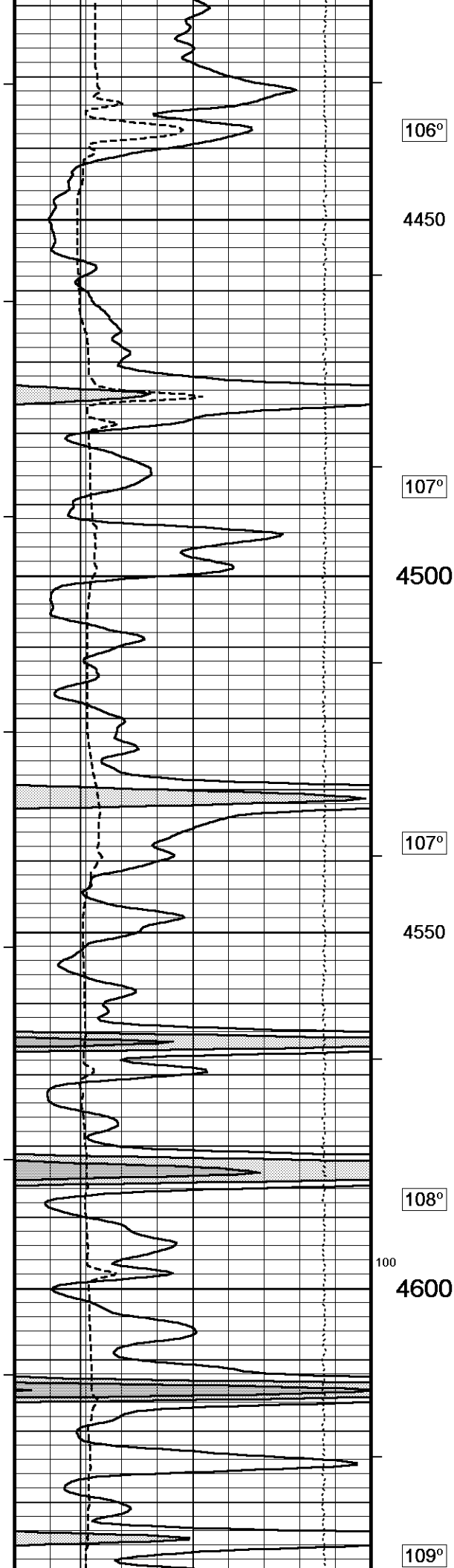
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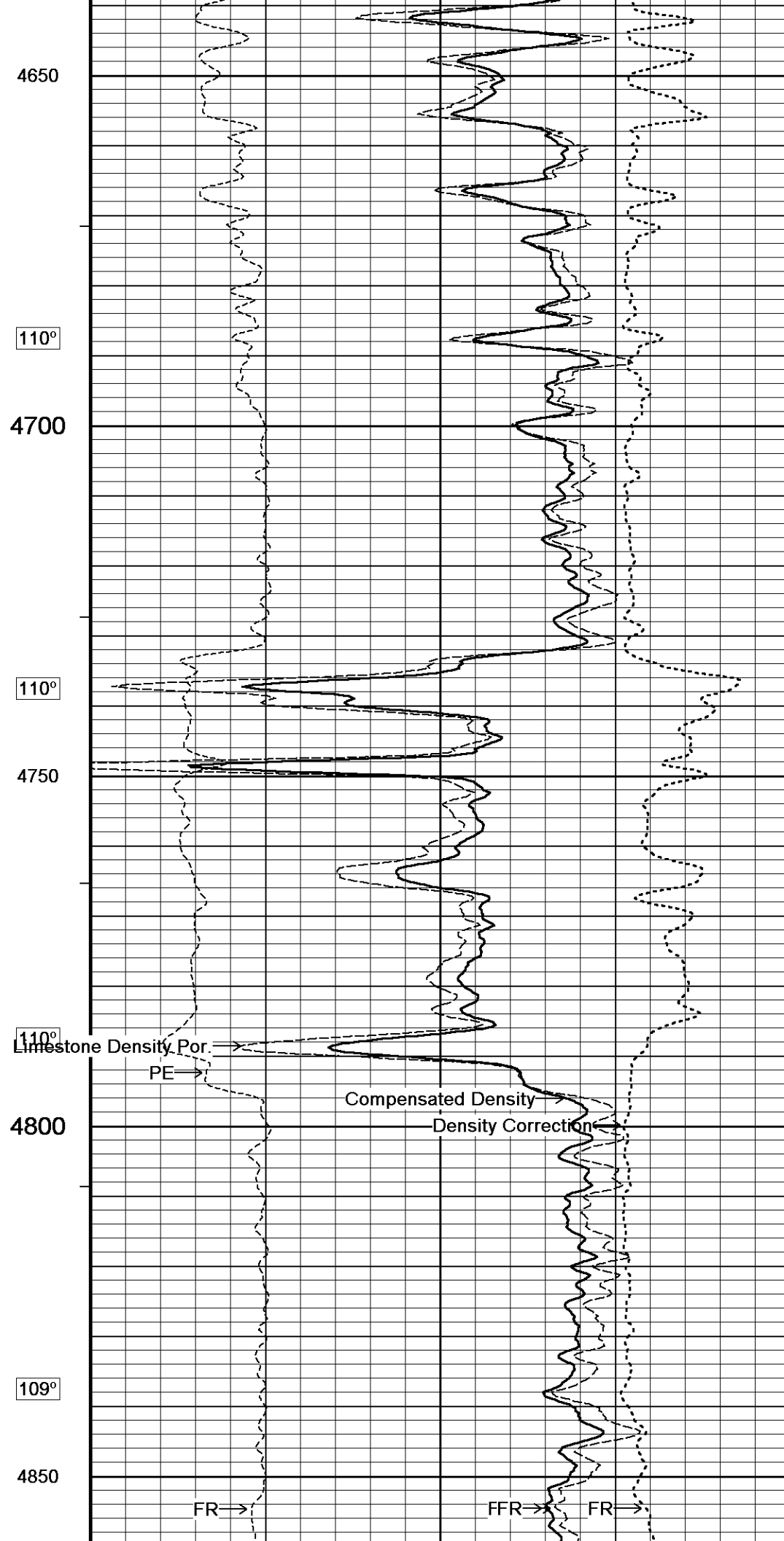
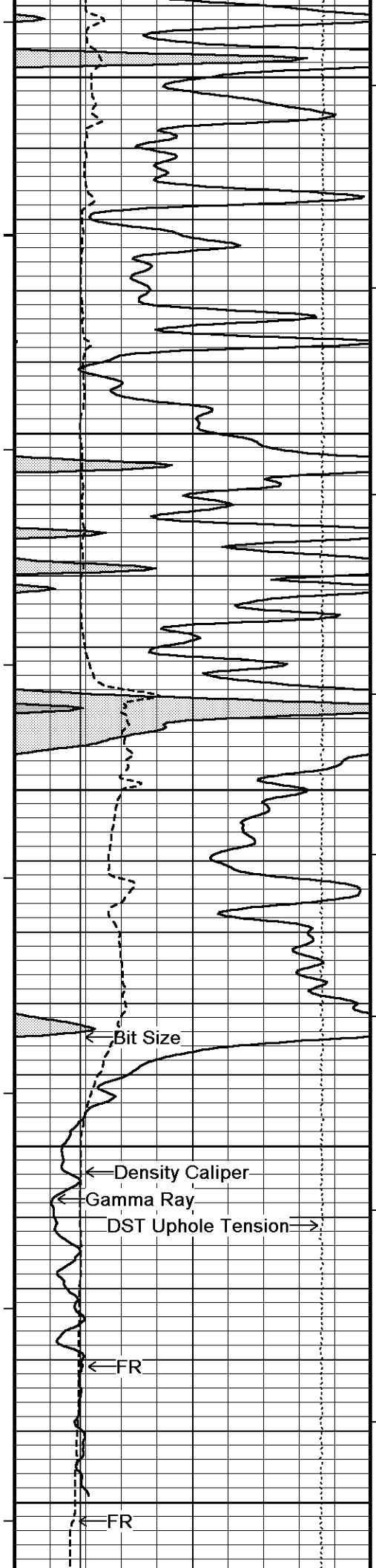
REPEAT SECTION

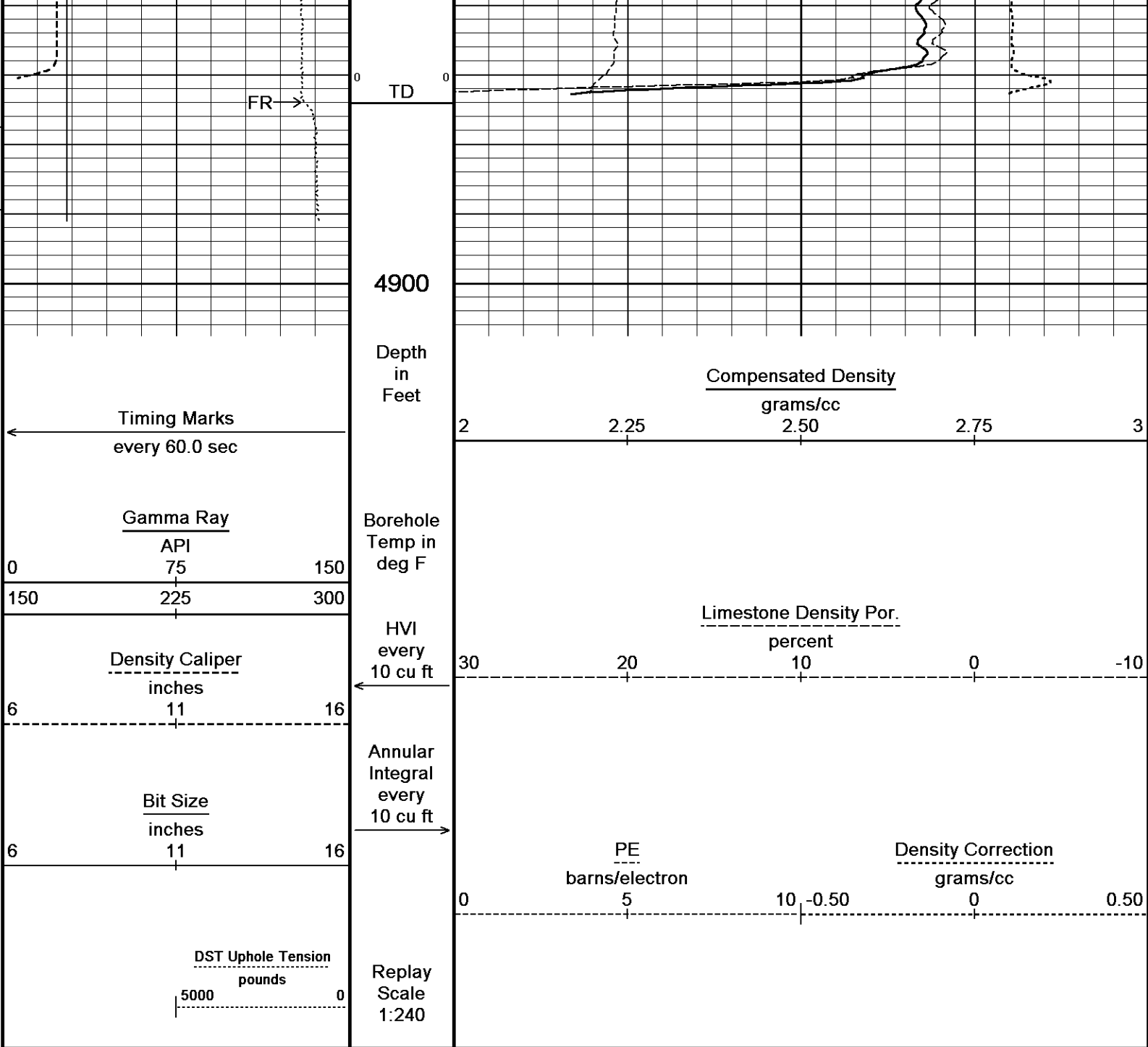
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Depth Based Data - Maximum Sampling Increment 10.0cm	Plotted on 28-FEB-2014 10:46
Filename: C:\Minimus 13.08.2113\Log Data\Shakespeare Jan...\Shakespeare Jansen #3-36 Repeat.dta	Recorded on 28-FEB-2014 06:42
System Versions: Logged with 13.08.2113 Plotted with 13.08.2113	









Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\Minimus 13.08.2113\Log Data\Shakespeare Janzen #3-36\Shakespeare Jansen #3-36 Repeat.dta
System Versions: Logged with 13.08.2113 Plotted with 13.08.2113

↑ REPEAT SECTION ↑

BEFORE SURVEY CALIBRATION
C:\Minimus 13.08.2113\Log Data\Shakespeare Janzen #3-36\Shakespeare Jansen #3-36 Main.dta

General Constants All 000 Last Edited on 28-FEB-2014,05:53

General Parameters
Mud Resistivity 0.381 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	1.000	
RWA Constant M	2.000	
SW/APOR Tool Source	0.000	

Gamma Calibration MCG-D.K 442			Field Calibration on 28-FEB-2014 00:52
	Measured	Calibrated (API)	
Background	68	45	
Calibrator (Gross)	1157	770	
Calibrator (Net)	1089	725	

Gamma Constants MCG-D.K 442			Last Edited on 28-FEB-2014,04:18
Gamma Calibrator Number	GRC038		
Mud Density	1.09	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 Constants MCG-D.K 442			Last Edited on
Pre-filter Length	11		

Caliper Calibration MPD-C.A 216			Base Calibration on 22-FEB-2014,15:53
			Field Calibration on 28-FEB-2014 00:33
Base Calibration			
Reading No	Measured	Calibrator Size (in)	
1	16592	3.99	
2	26576	5.98	
3	36592	7.97	
4	46339	9.86	
5	57568	11.92	
6	N/A	N/A	
Field Calibration			
	Measured Caliper (in)	Actual Caliper (in)	
	7.94	7.97	

Photo Density Calibration MPD-C.A 216					Base Calibration on 22-FEB-2014 16:16	
					Field Check on 28-FEB-2014 00:27	
Density Calibration						
Base Calibration		Measured		Calibrated (sdu)		
		Near	Far	Near	Far	
	Background	1119	1310			
	Reference 1	60811	31547	59556	30836	
	Reference 2	25154	2777	24941	2541	
Field Check at Base						
		1118.7	1309.8			
Field Check						
		1108.9	1307.3			
PE Calibration						
Base Calibration		Measured		Calibrated		
	WS	WH	Ratio	Ratio		
	Background	202	998			
	Reference 1	25204	60611	0.419	0.371	
	Reference 2	7179	25020	0.290	0.272	
Field Check at Base						
		201.9	997.7			
Field Check						

Density Constants MPD-C.A 216

Last Edited on 28-FEB-2014,04:17

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	1.09	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	

Matrix density (gm/cc)	Depth (m)
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\Shakespeare Janzen #3-36\Shakespeare Jansen #3-36 Main.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 442 LG: 8.70 ft WT: 63.9 lb OD: 2.244 in

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

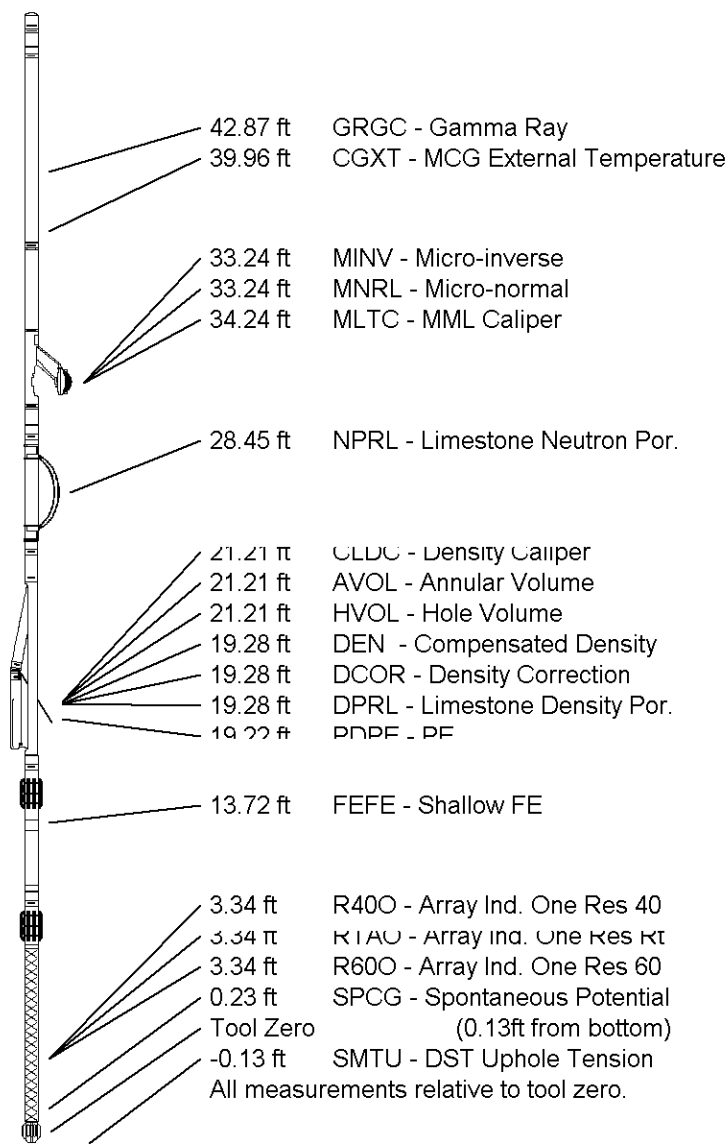
Compact Neutron
MDN-A.B 66 LG: 5.04 ft WT: 50.7 lb OD: 2.244 in

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	SHAKESPEARE OIL CO., INC
WELL	JANZEN #3-36
FIELD	CAPSTONE EAST
PROVINCE/COUNTY	SCOTT
COUNTRY/STATE	U.S.A / KANSAS

Elevation Kelly Bushing	3114.00	feet	First Reading	4854.00	feet
Elevation Drill Floor	3112.00	feet	Depth Driller	4880.00	feet
Elevation Ground Level	3102.00	feet	Depth Logger	4874.00	feet



COMPACT PHOTO DENSITY
COMPENSATED NEUTRON
MICRORESISTIVITY LOG