



Weatherford

**COMPACT PHOTO DENSITY
COMPENSATED NEUTRON
MICRORESISTIVITY LOG**

COMPANY			SHAKESPEARE OIL CO., INC.		
WELL			EDWARDS #1-21		
FIELD			PENCE WEST		
PROVINCE/COUNTY			SCOTT		
COUNTRY/STATE			U.S.A. / KANSAS		
LOCATION			1428' FSL & 481' FEL		
SEC 21	TWP 16S	RGE 34W	Other Services		
Latitude			MAI/MFE		
Longitude			MSS		
API Number			15-171-21174		
Permanent Datum GL, Elevation 3132 feet			Elevations:		
Log Measured From KB			KB		3140.00
Drilling Measured From KB @ 8 FEET			DF		3138.00
Date			GL		3132.00
Run Number			ONE		
Service Order			4558-157610049		
Depth Driller			4915.00		
Depth Logger			4911.00		
First Reading			4879.00		
Last Reading			3800.00		
Casing Driller			264.00		
Casing Logger			266.00		
Bit Size			7.875		
Hole Fluid Type			CHEMICAL		
Density / Viscosity			9.50 lb/USg	59.00 CP	
PH / Fluid Loss			10.50	8.00 ml/30Min	
Sample Source			FLOWLINE		
Rm @ Measured Temp			0.62 @ 75.0	ohm-m	
Rmf @ Measured Temp			0.50 @ 75.0	ohm-m	
Rmc @ Measured Temp			0.74 @ 75.0	ohm-m	
Source Rmf / Rmc			CALC	CALC	
Rm @ BHT			0.40 @ 116.0	ohm-m	
Time Since Circulation			5 HOURS		
Max Recorded Temp			116.00	deg F	
Equipment / Base			13096	OKC	
Recorded By			ADAM SILL		
Witnessed By			TIM PRIEST		

BOREHOLE RECORD				Last Edited: 05-AUG-2016 17:49
Bit Size inches	Depth From feet		Depth To feet	
7.875	264.00		4915.00	
CASING RECORD				
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	264.00	24.00

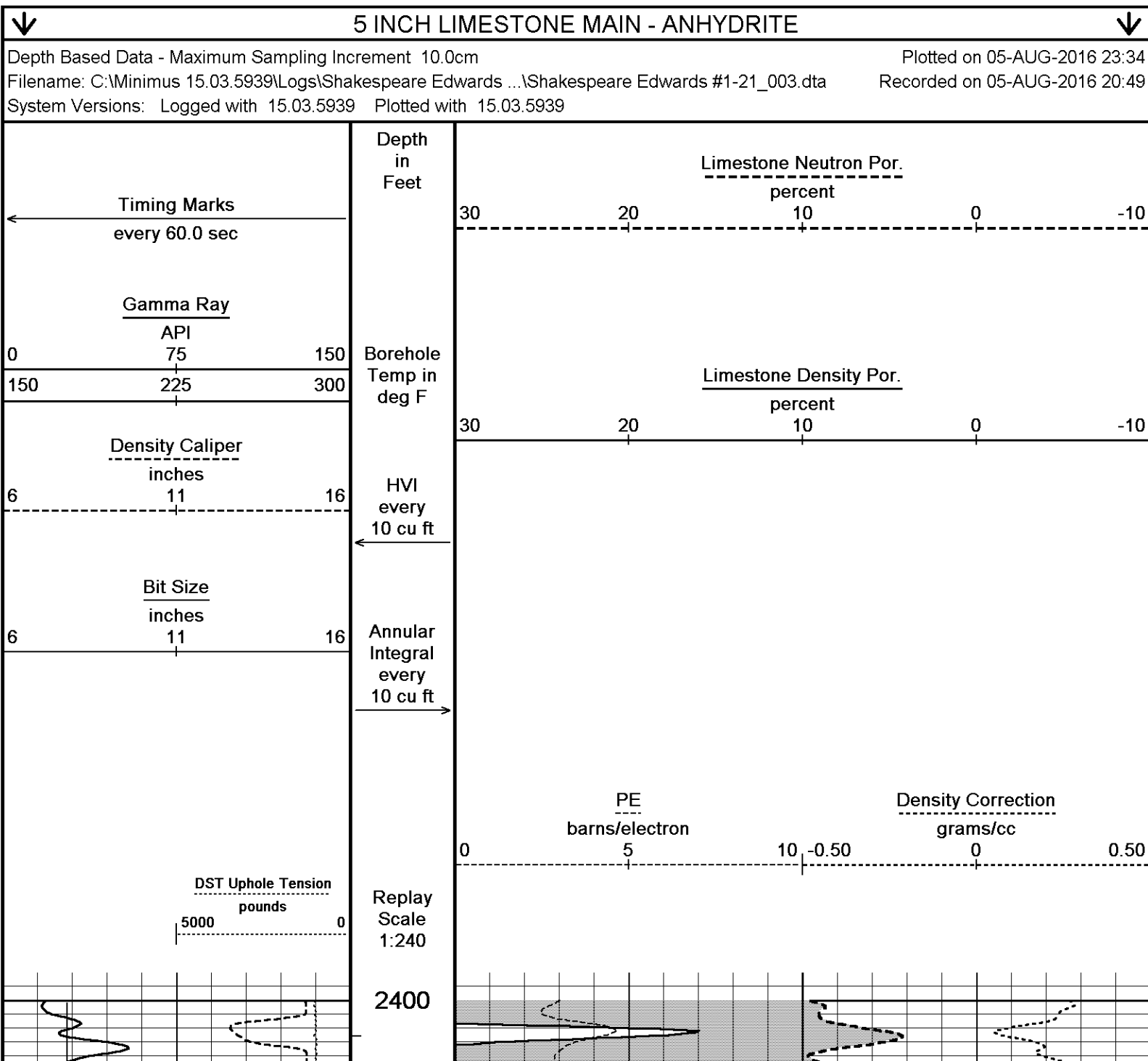
REMARKS
- SOFTWARE ISSUE: WLS 15.03.5939.
- RUN ONE: MCG, MML, MDN, MPD, MFE, MSS, MAI RUN IN COMBINATION. - HARDWARE: DUAL BOWSPRING USED ON MDN. 0.5 INCH STANDOFF USED ON MFE. TWO 0.5 INCH STANDOFFS USED ON MSS. 0.5 INCH STANDOFF USED ON MAI.
- 2.71 G/CC LIMESTONE DENSITY MATRIX USED TO CALCULATE POROSITY.
- 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: 2496 CU.FT.
- ANNULAR HOLE VOLUME WITH 5.5 INCH PRODUCTION CASING FROM TD TO 3800 FEET: 288 CU.FT.

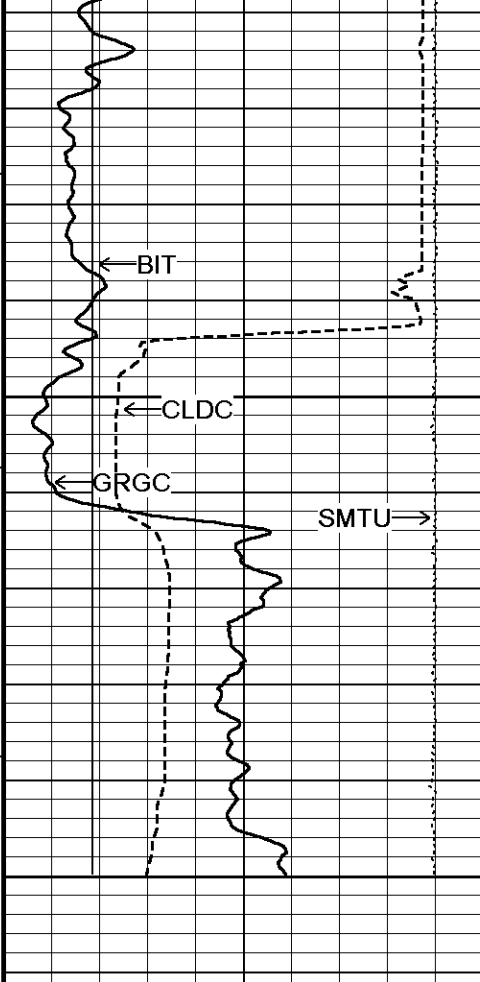
- RIG: DUKE #2.

- ENGINEER: A. SILL.

- OPERATOR: J. LaPOINT.

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.





103°

2450

103°

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

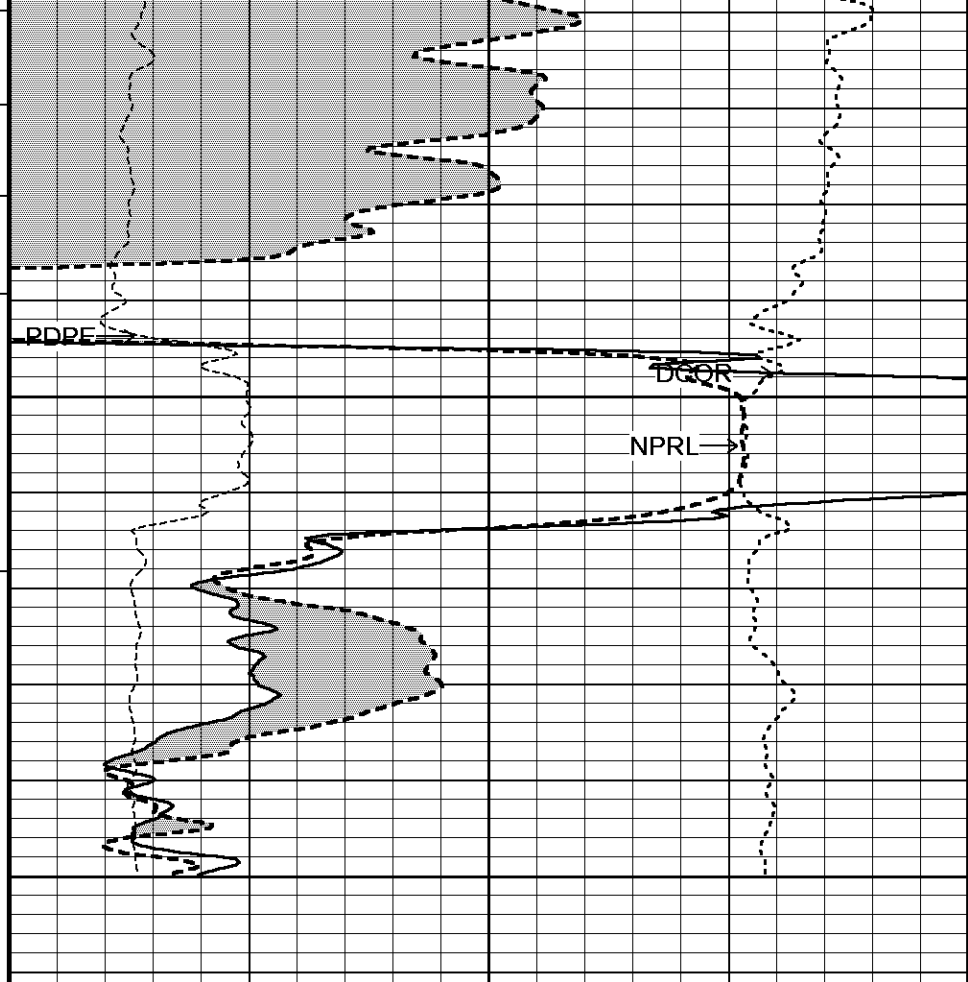
DST Uphole Tension
pounds
5000 0

Borehole
Temp in
deg F

HVI
every
10 cu ft

Annular
Integral
every
10 cu ft

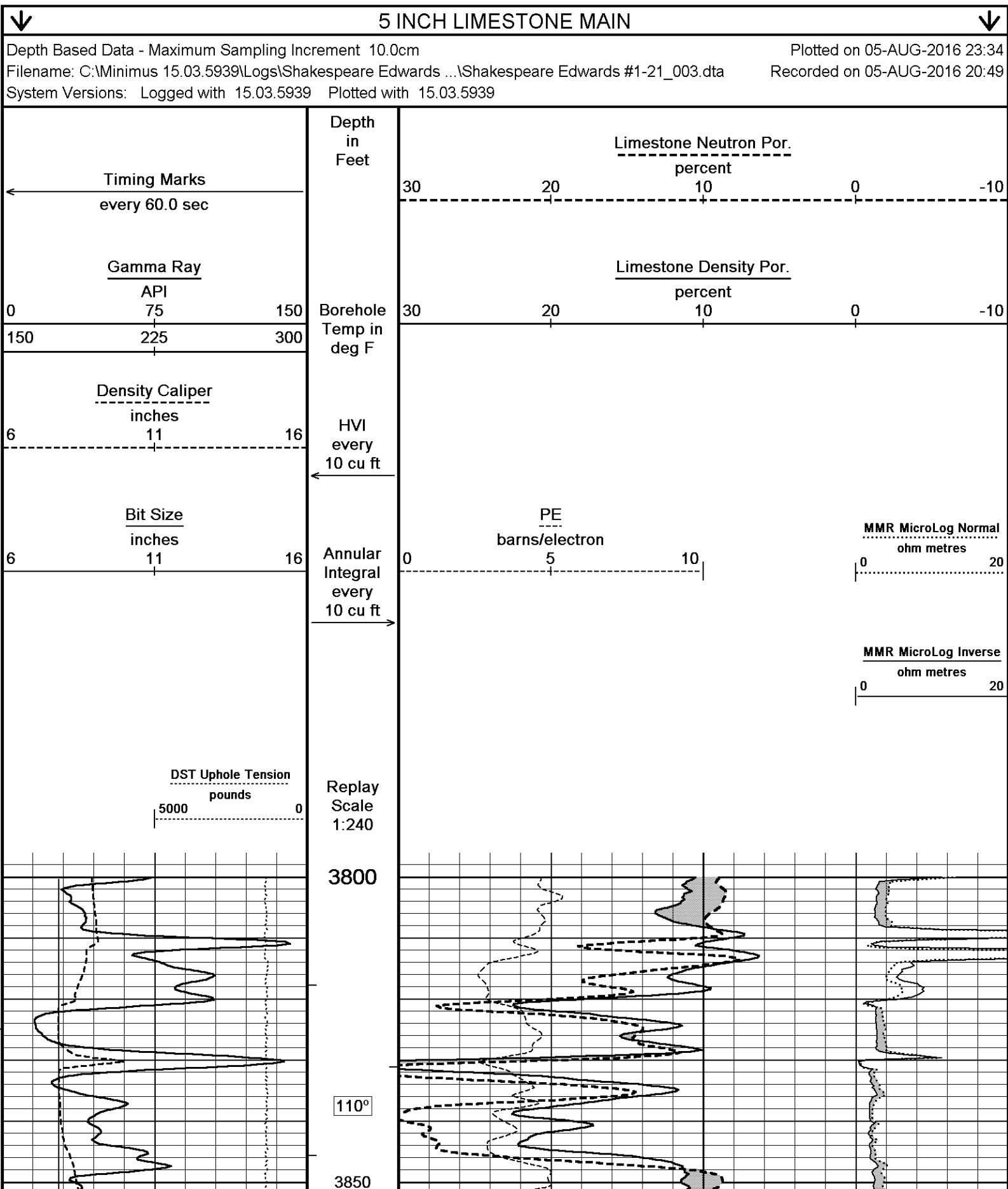
Replay
Scale
1:240

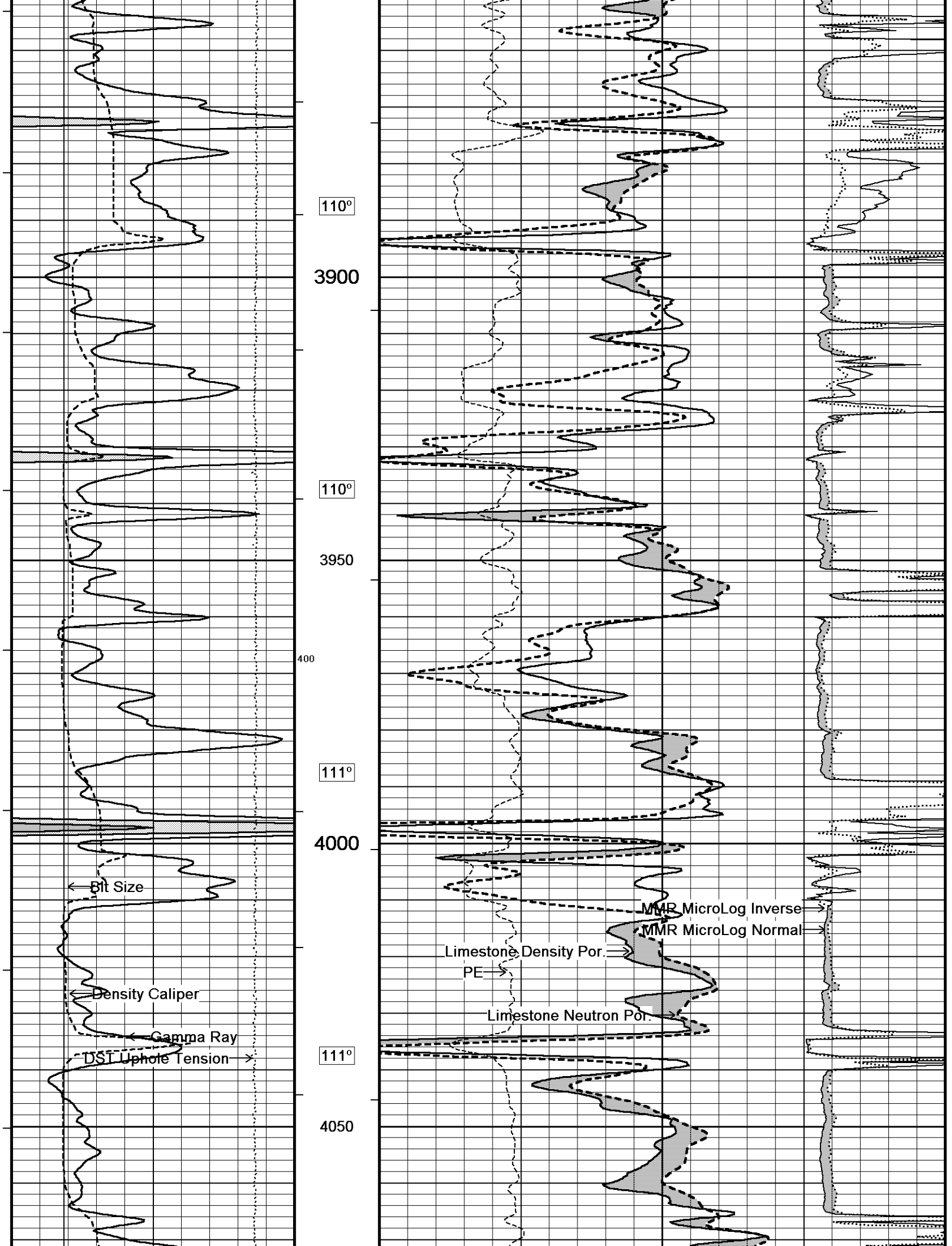


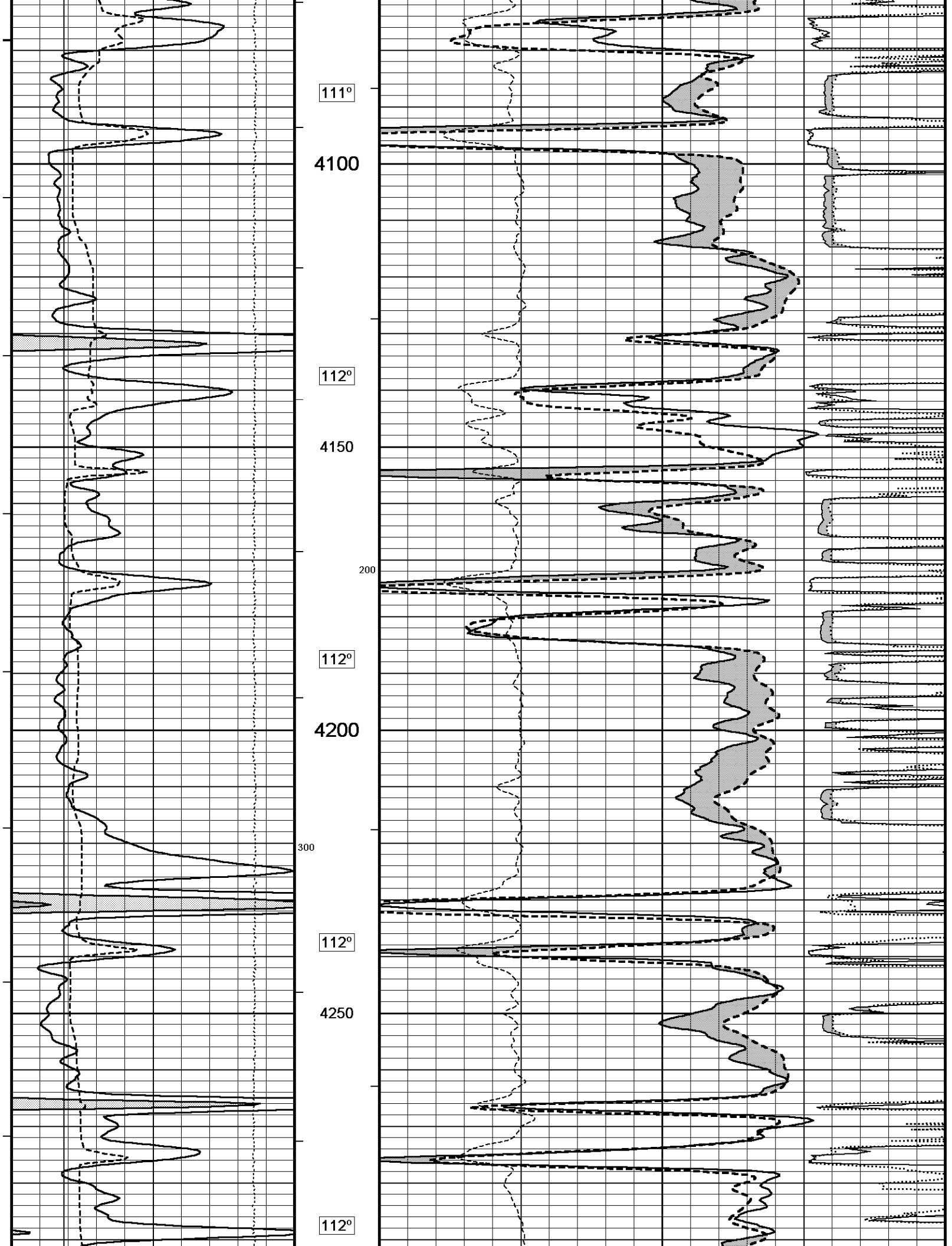
Limestone Neutron Por.
percent
30 20 10 0 -10

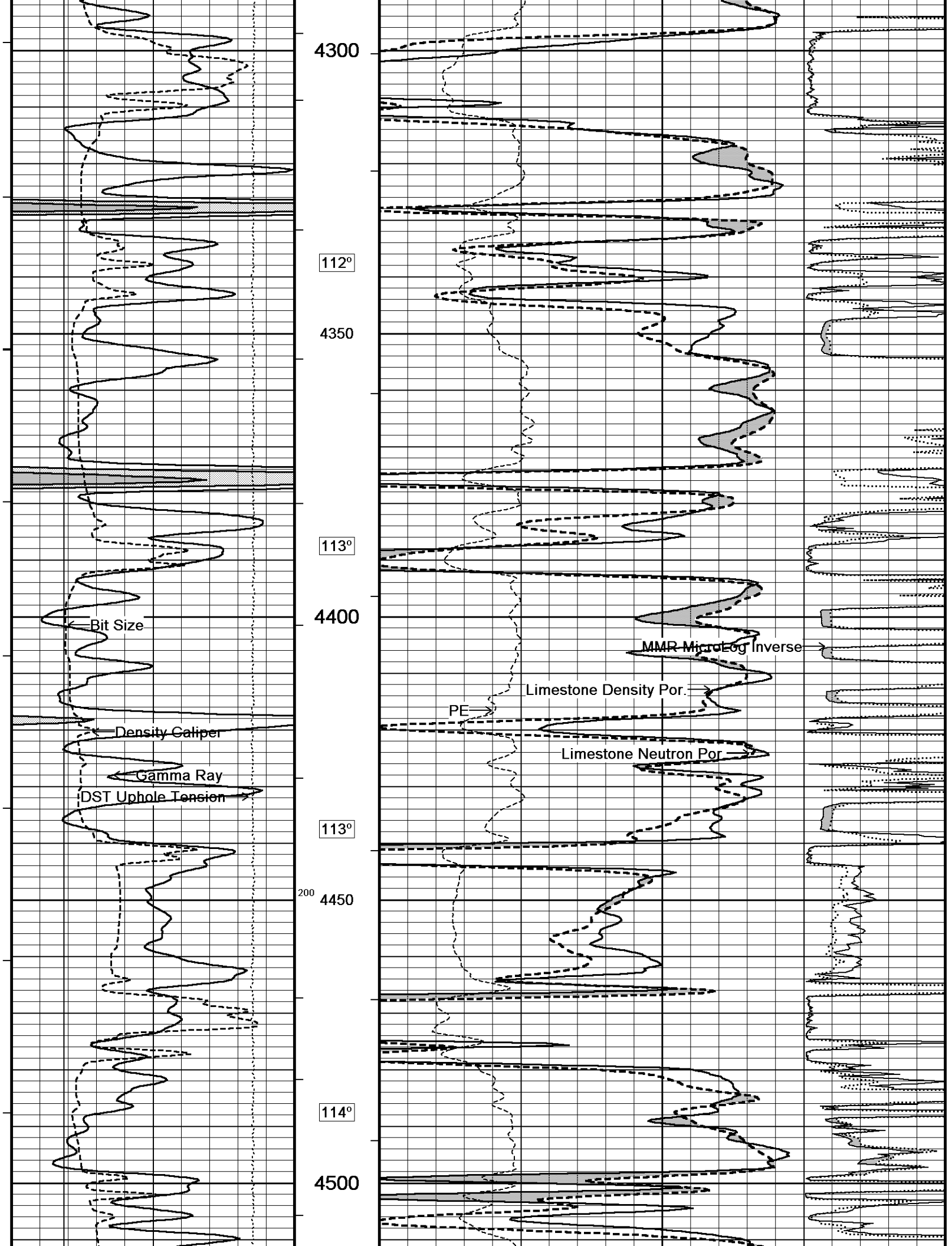
Limestone Density Por.
percent
30 20 10 0 -10

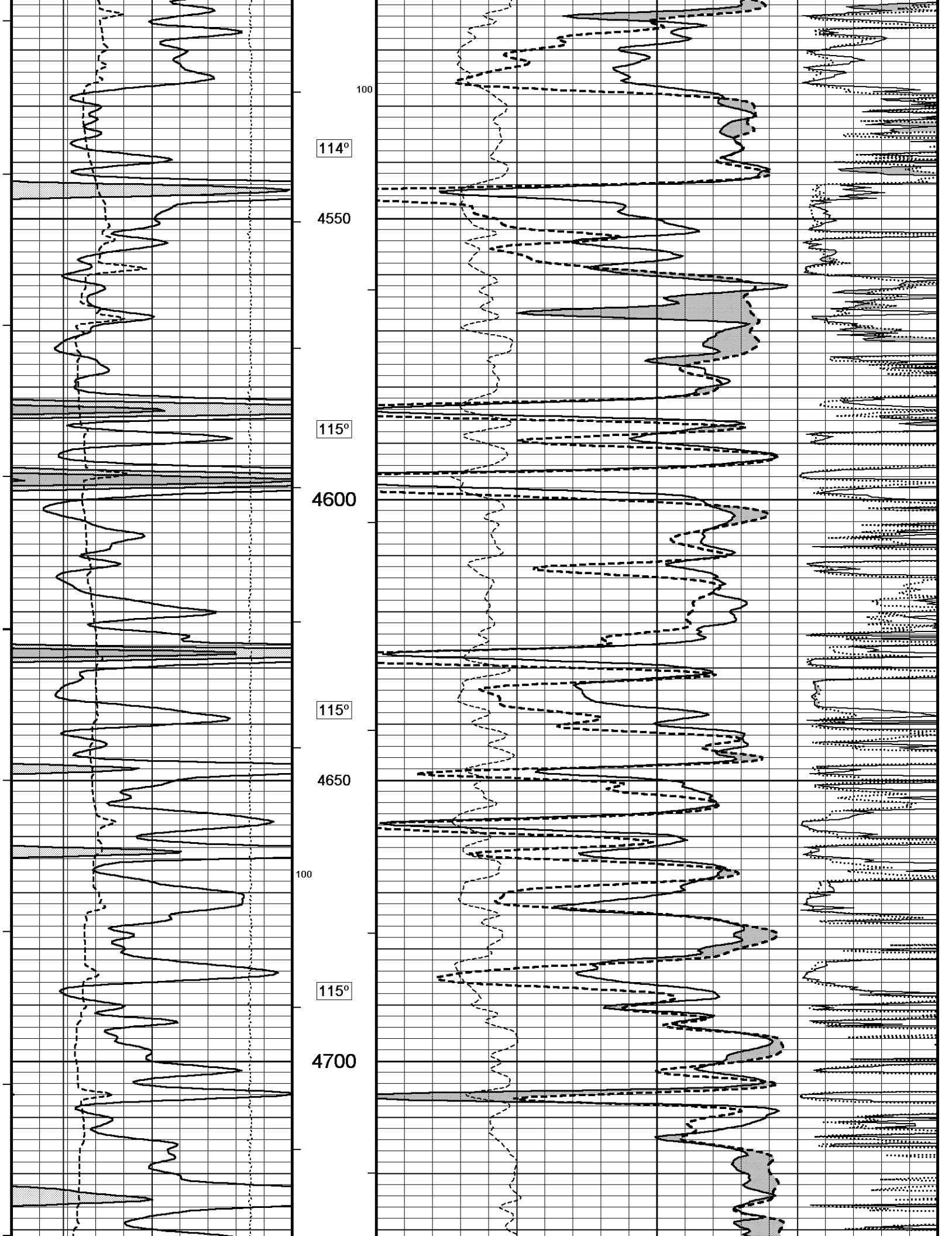
PE barns/electron 0 5 10
Density Correction grams/cc -0.50 0 0.50

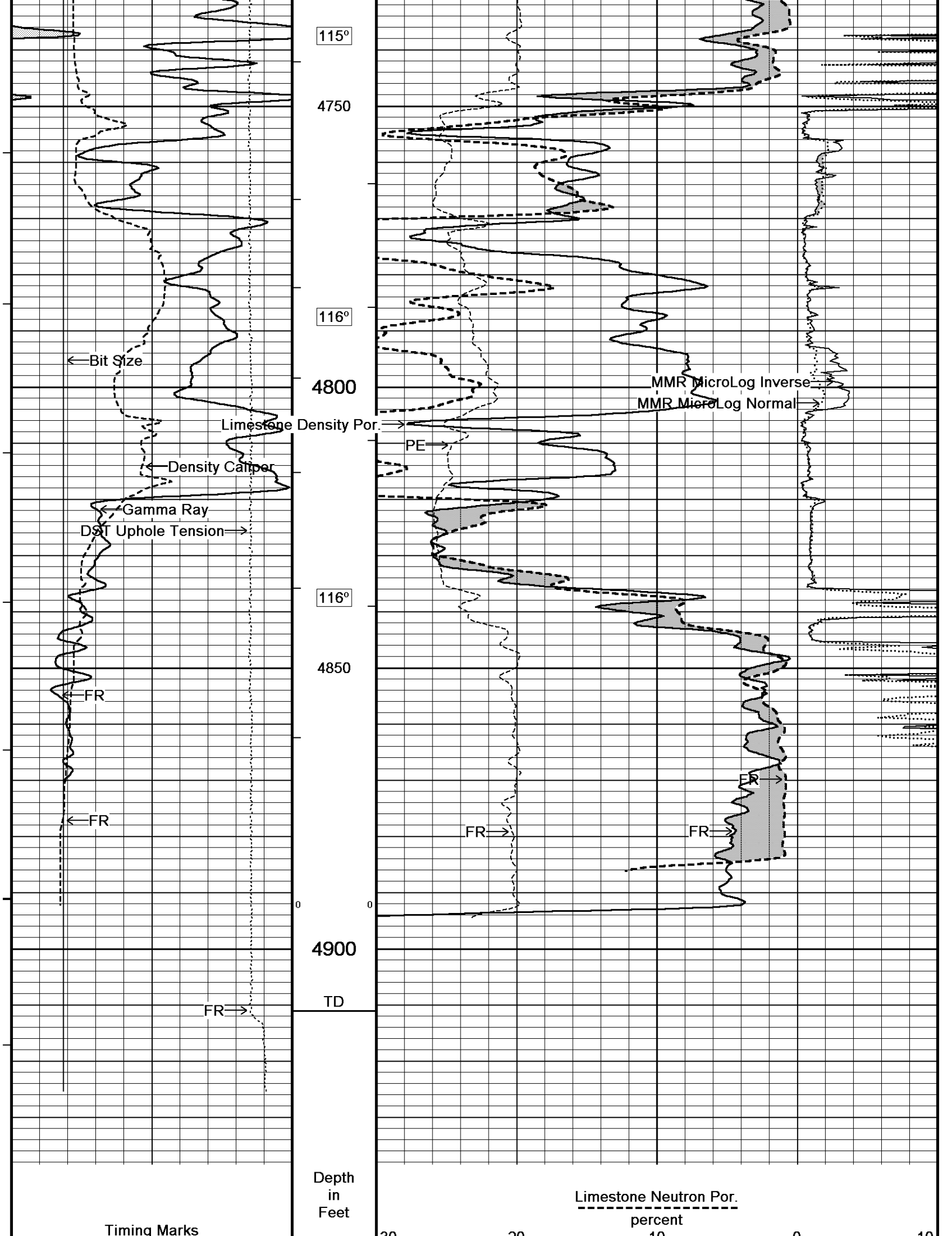


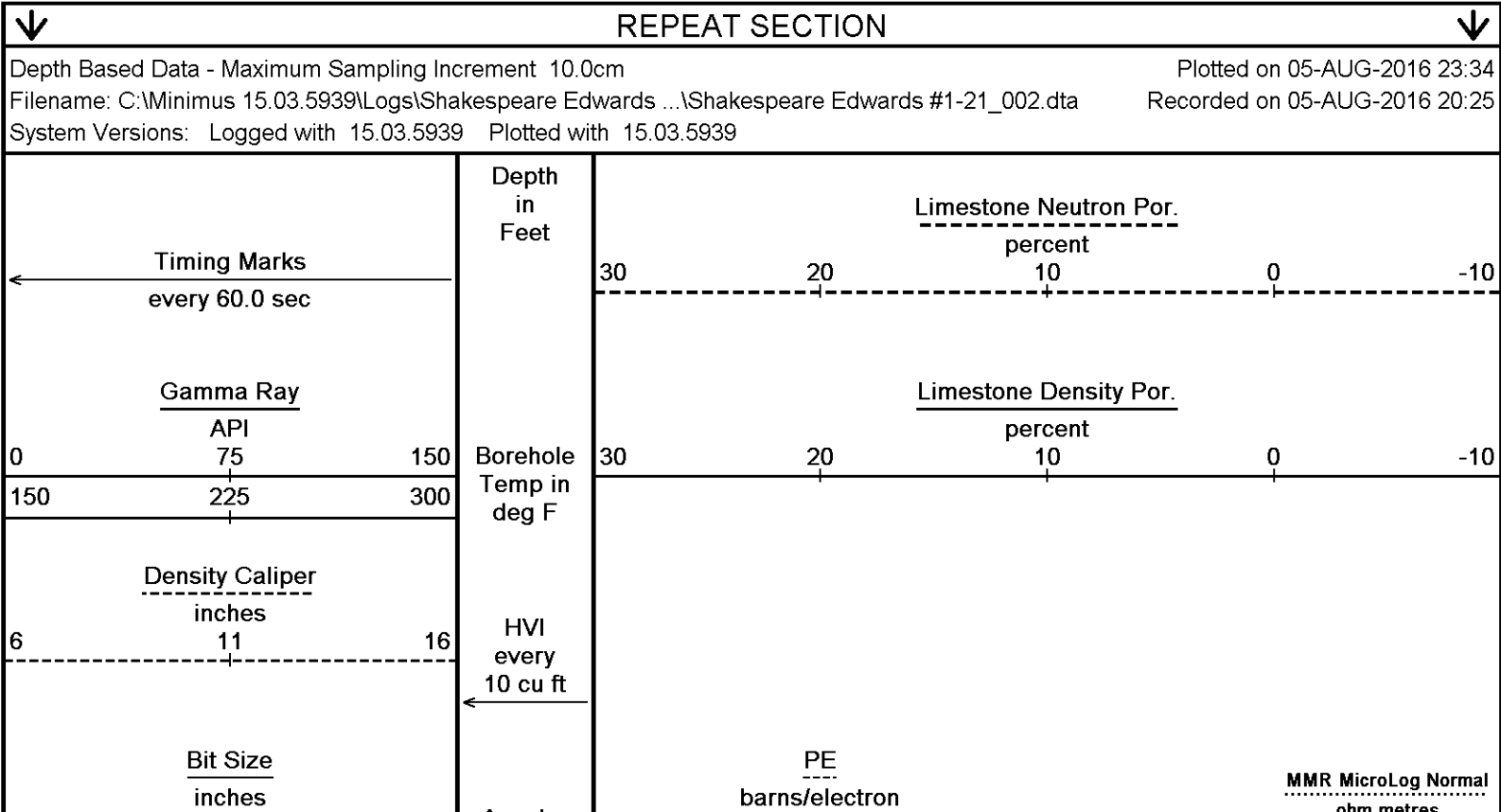
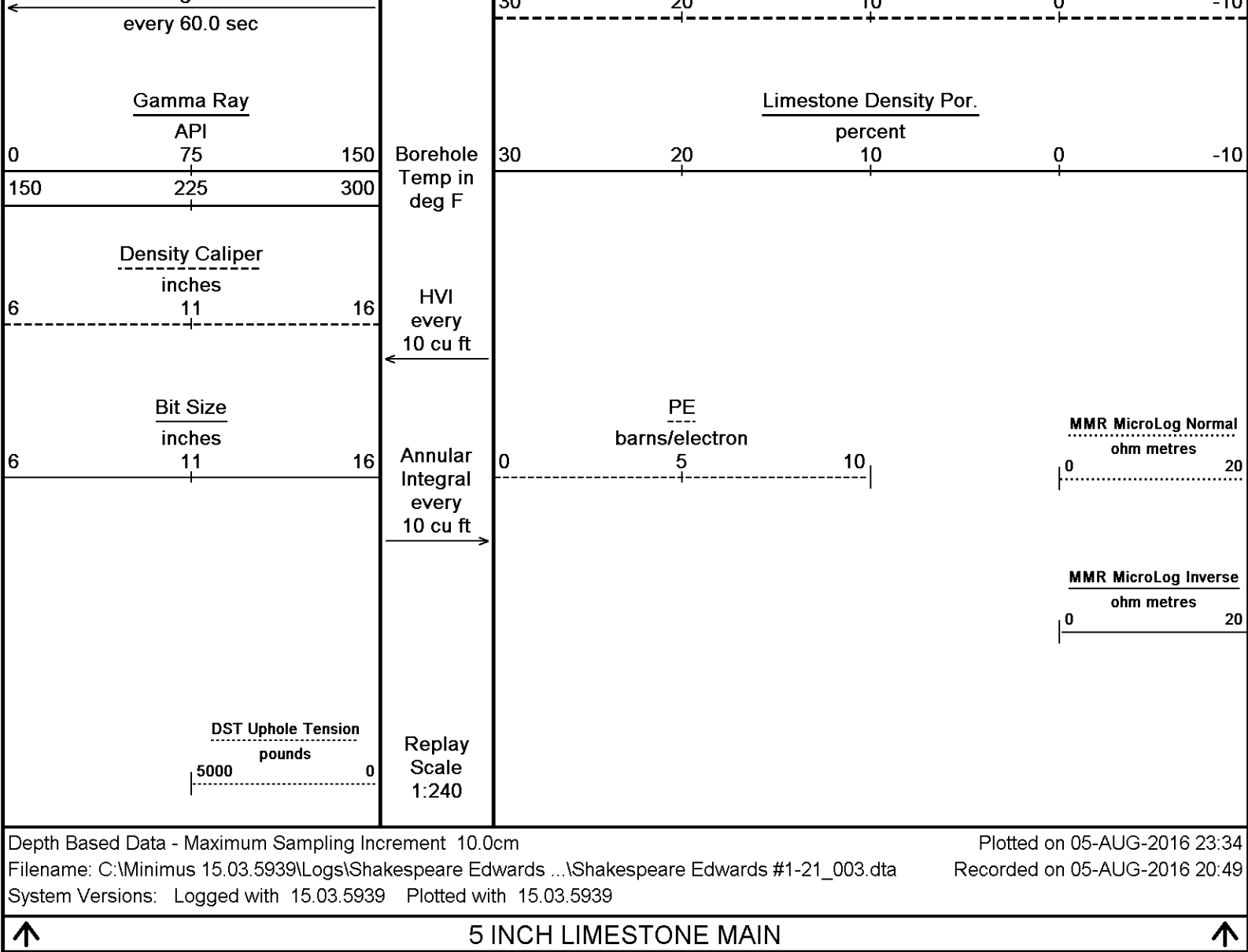


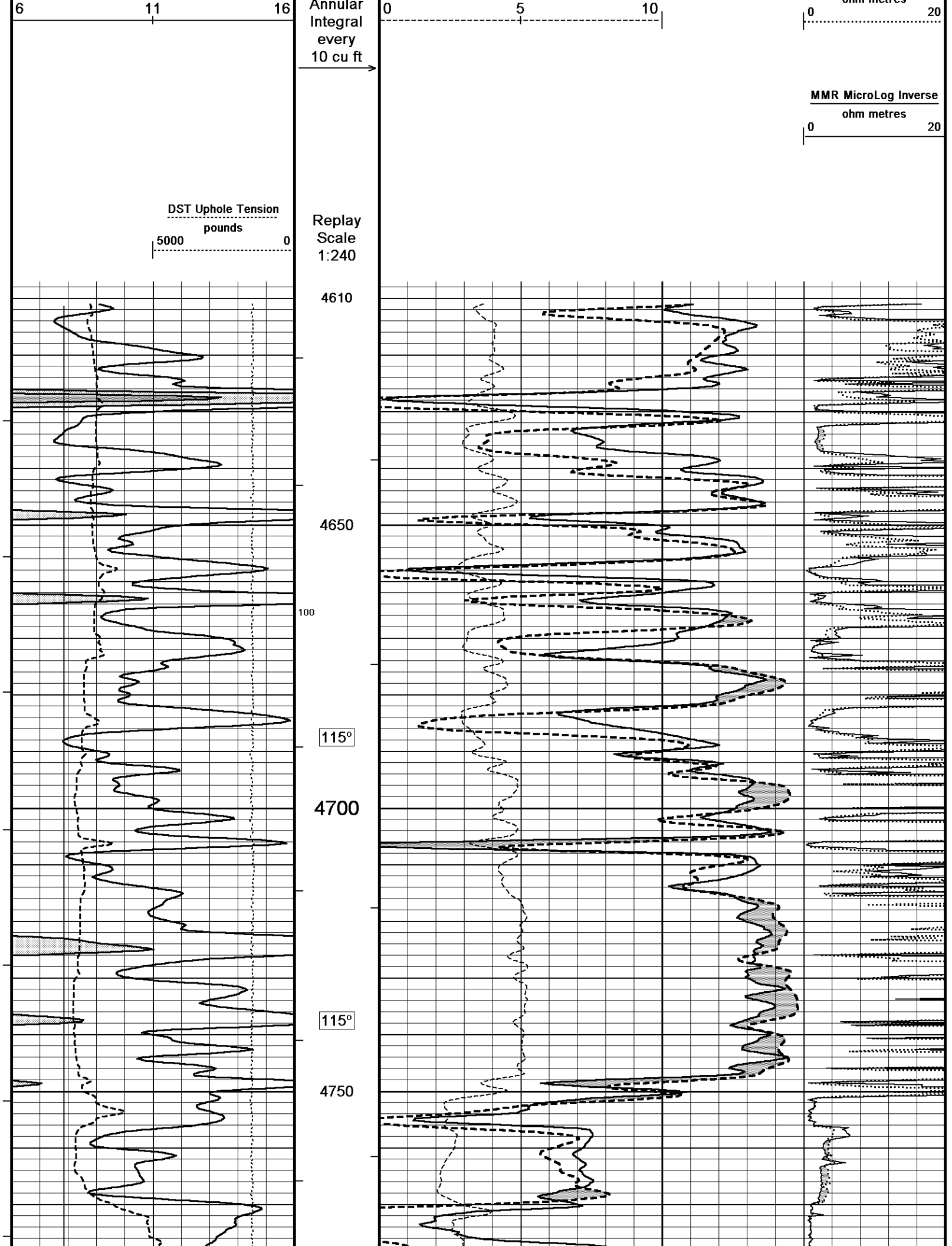


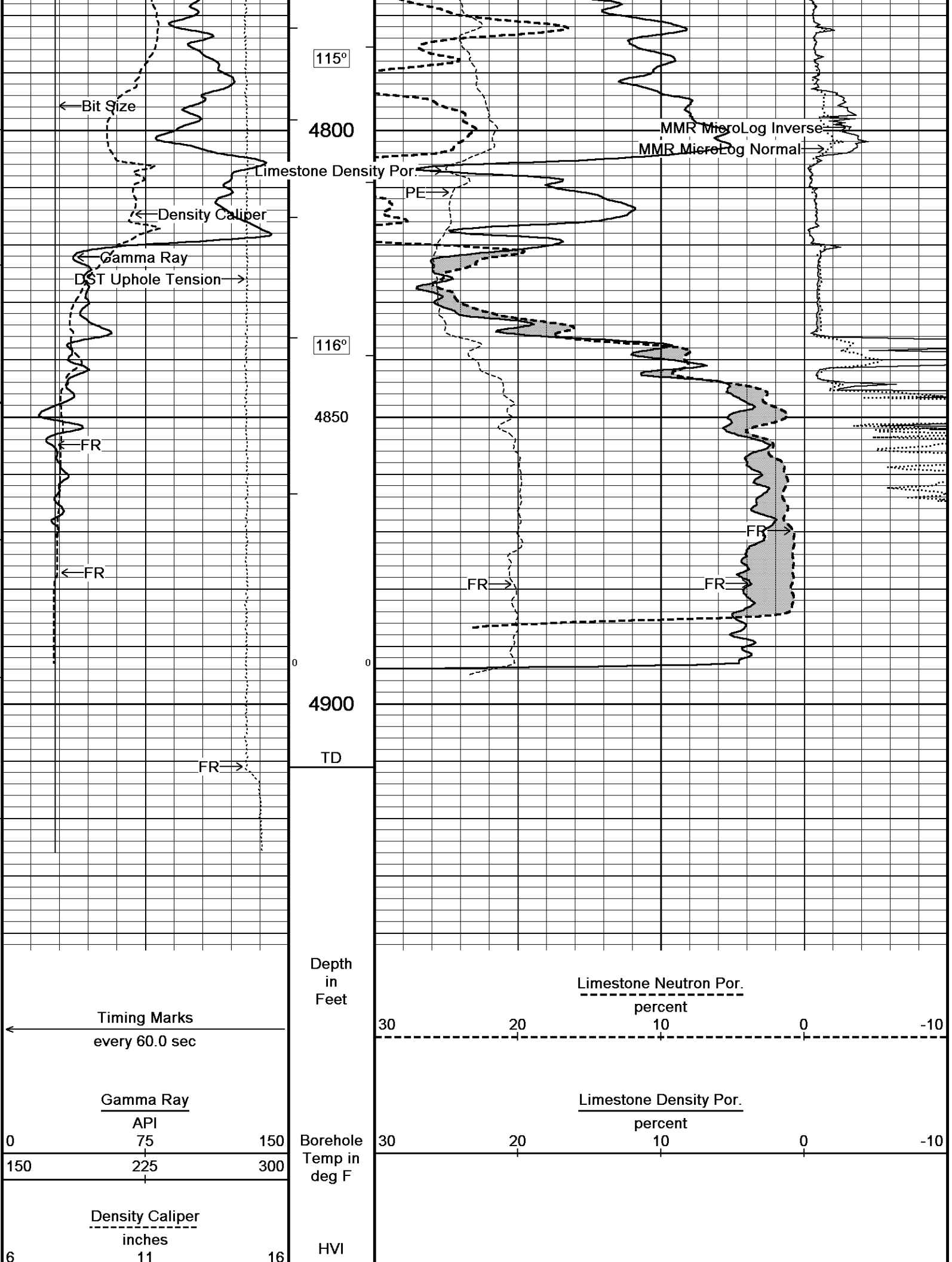


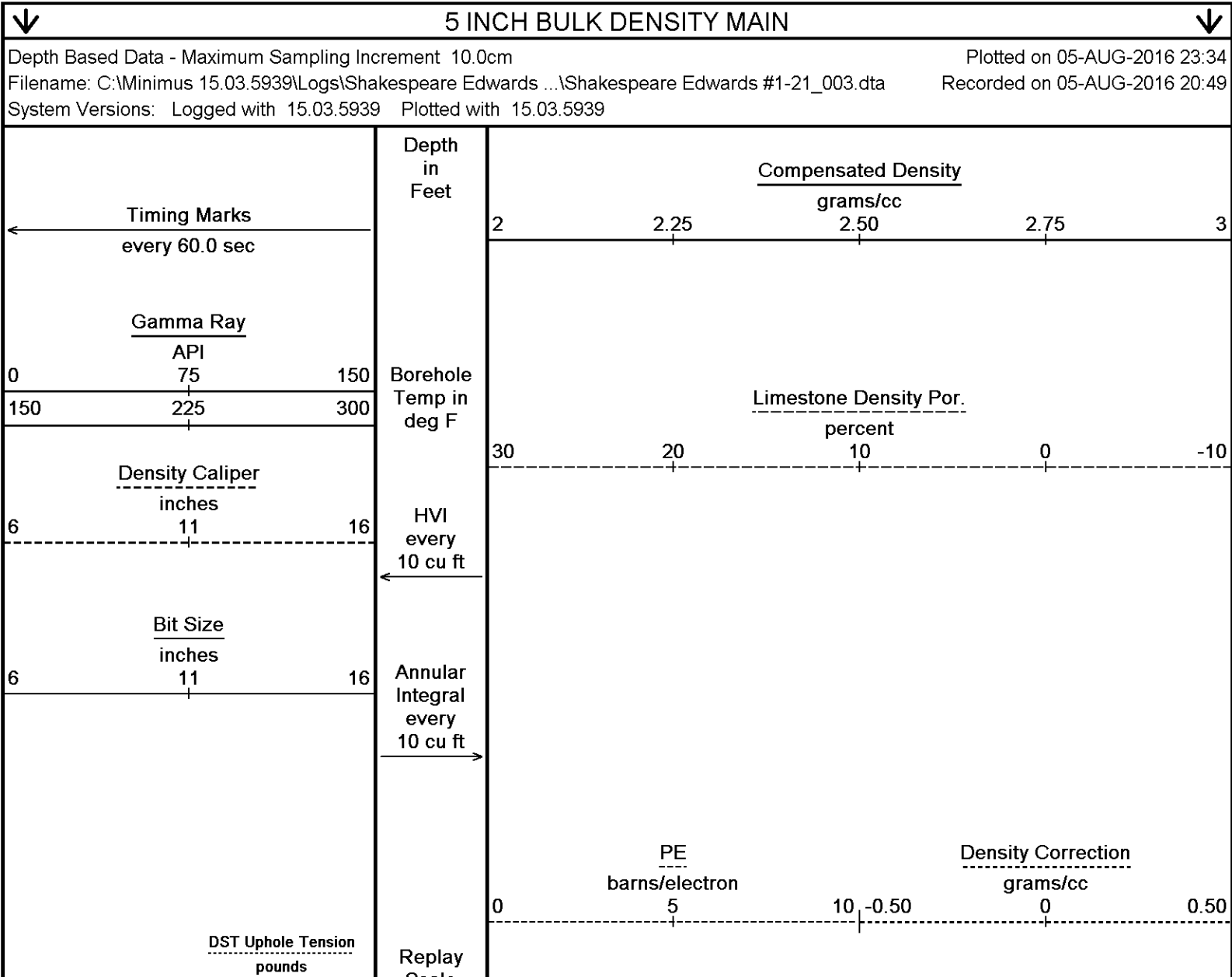
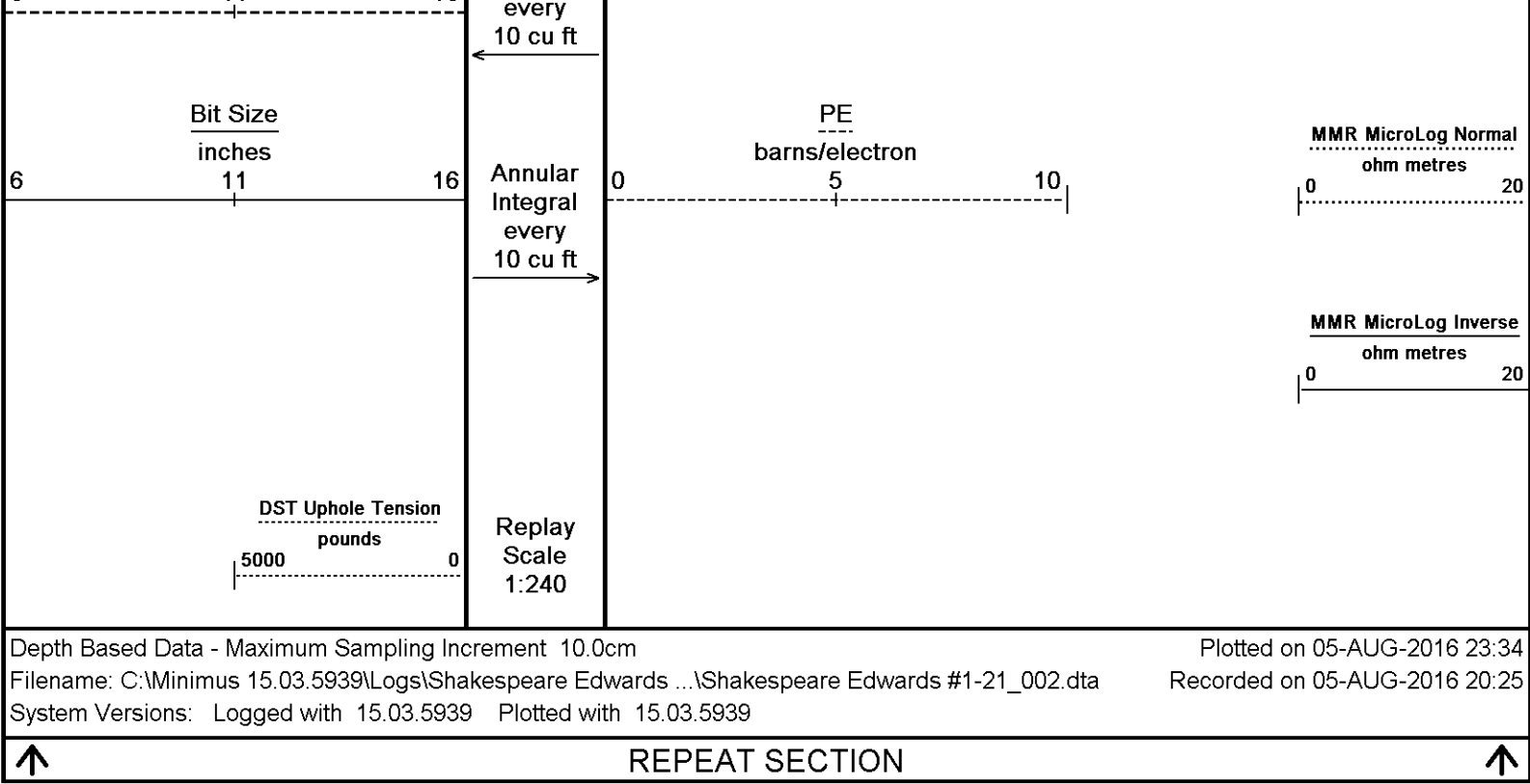












Scale
1:240

5000

0

3800

110°

3850

110°

3900

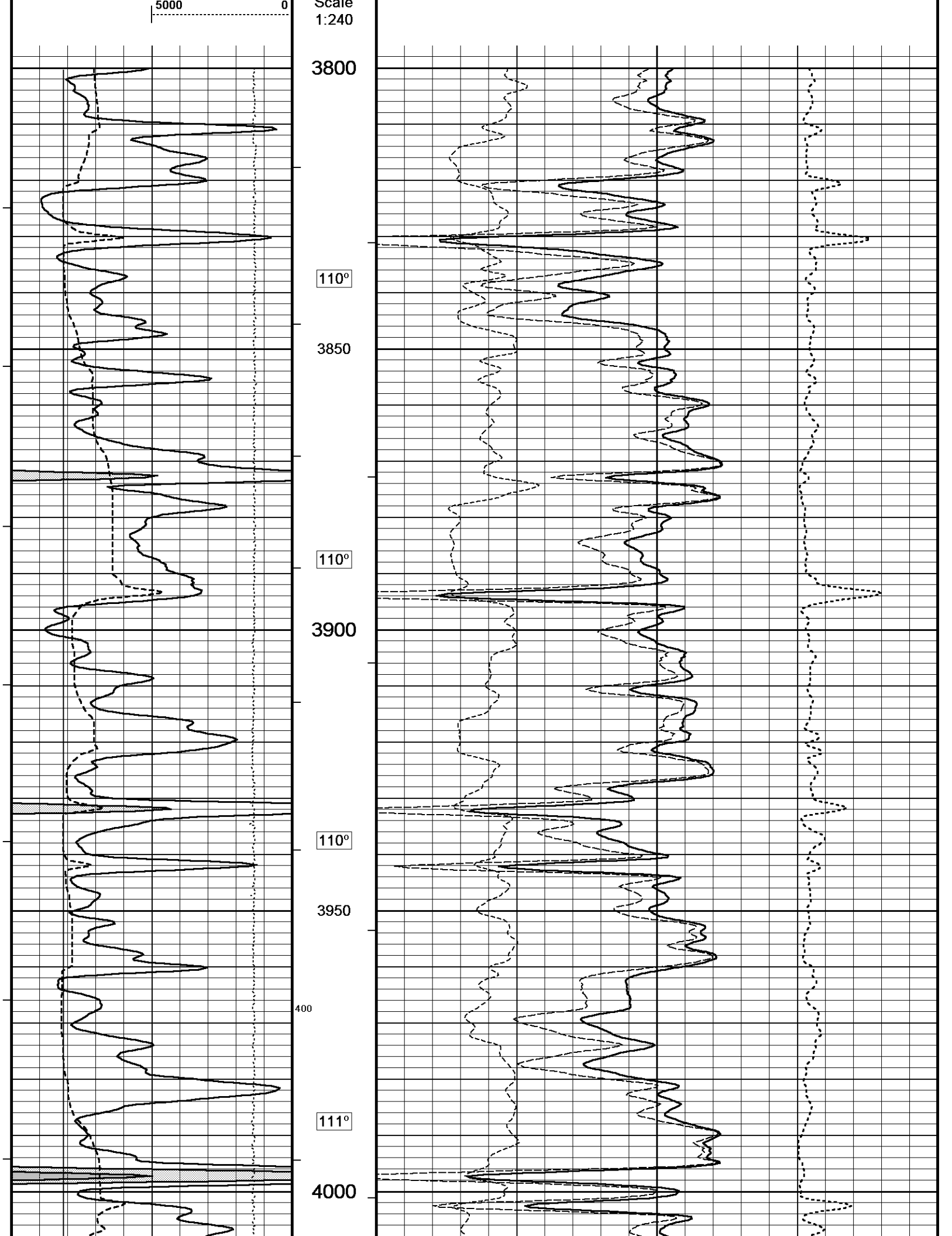
110°

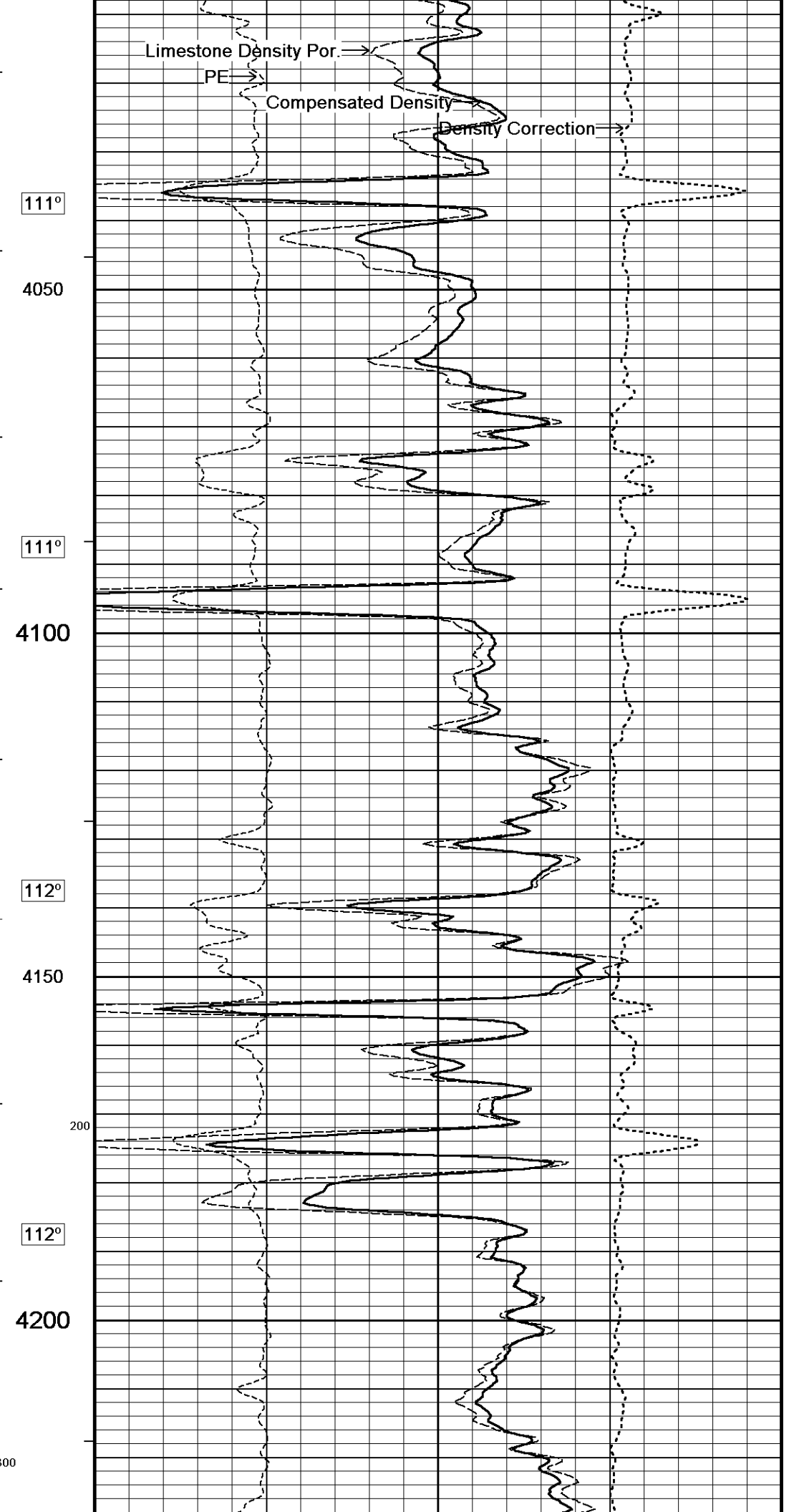
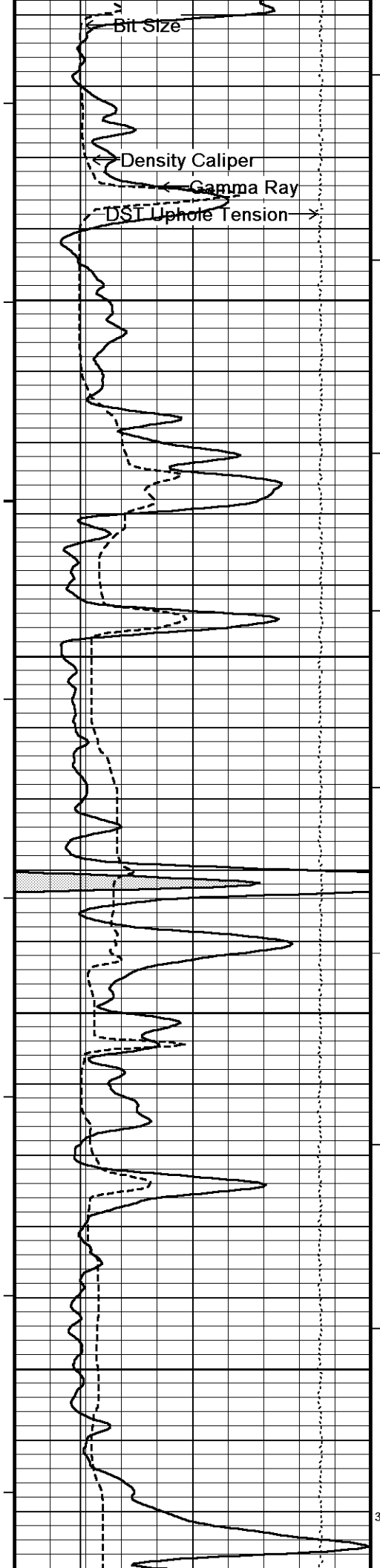
3950

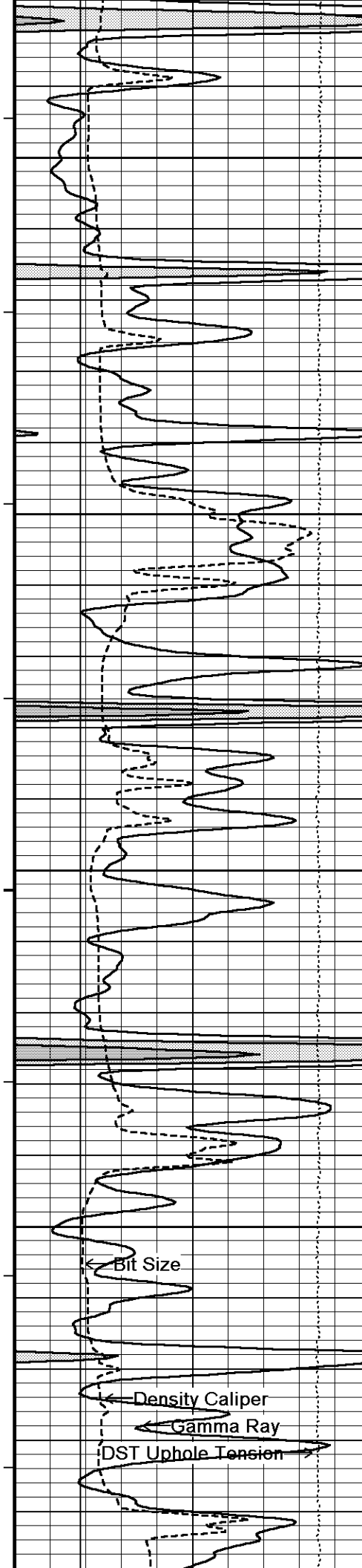
400

111°

4000







112°

4250

112°

4300

112°

4350

113°

4400

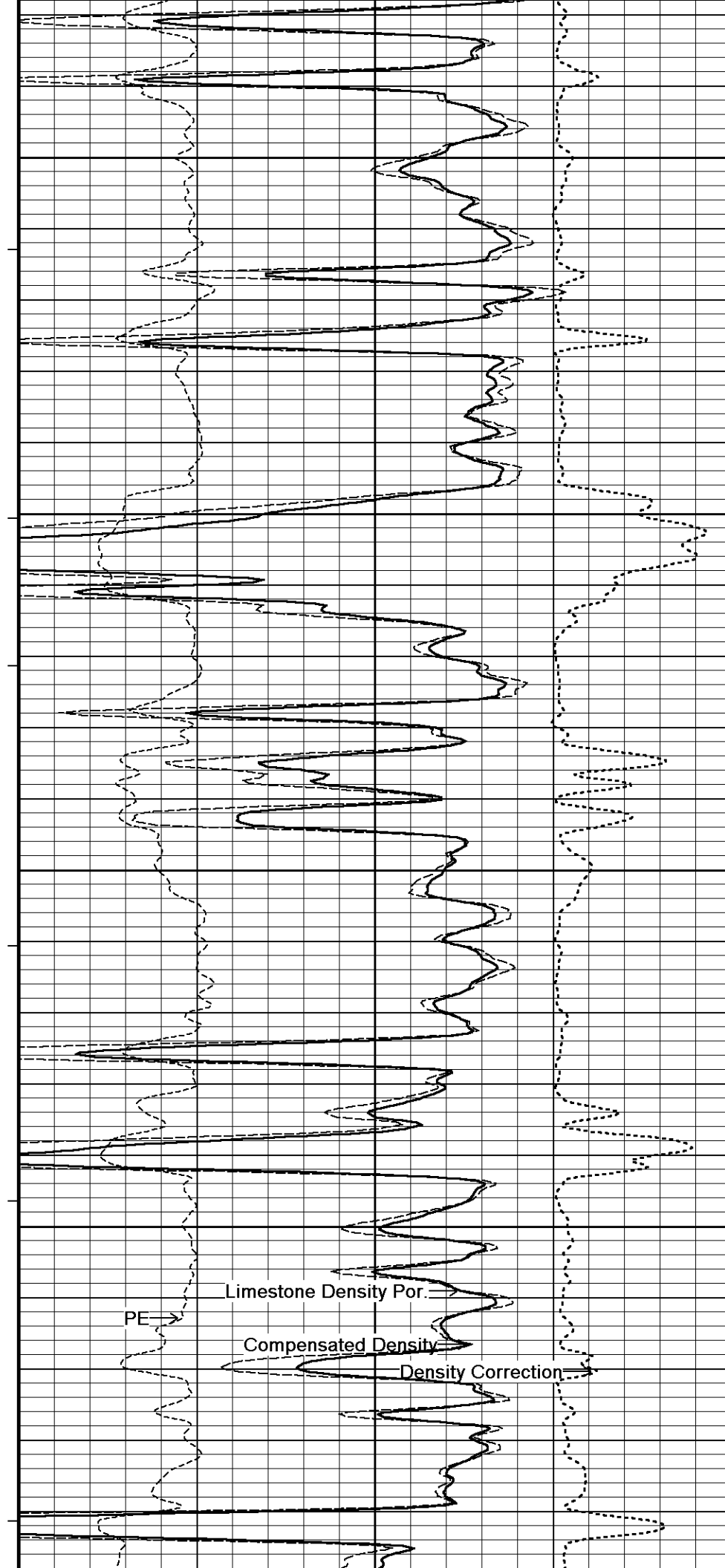
Bit Size

Density Caliper

Gamma Ray

DST Uphole Tension

113°

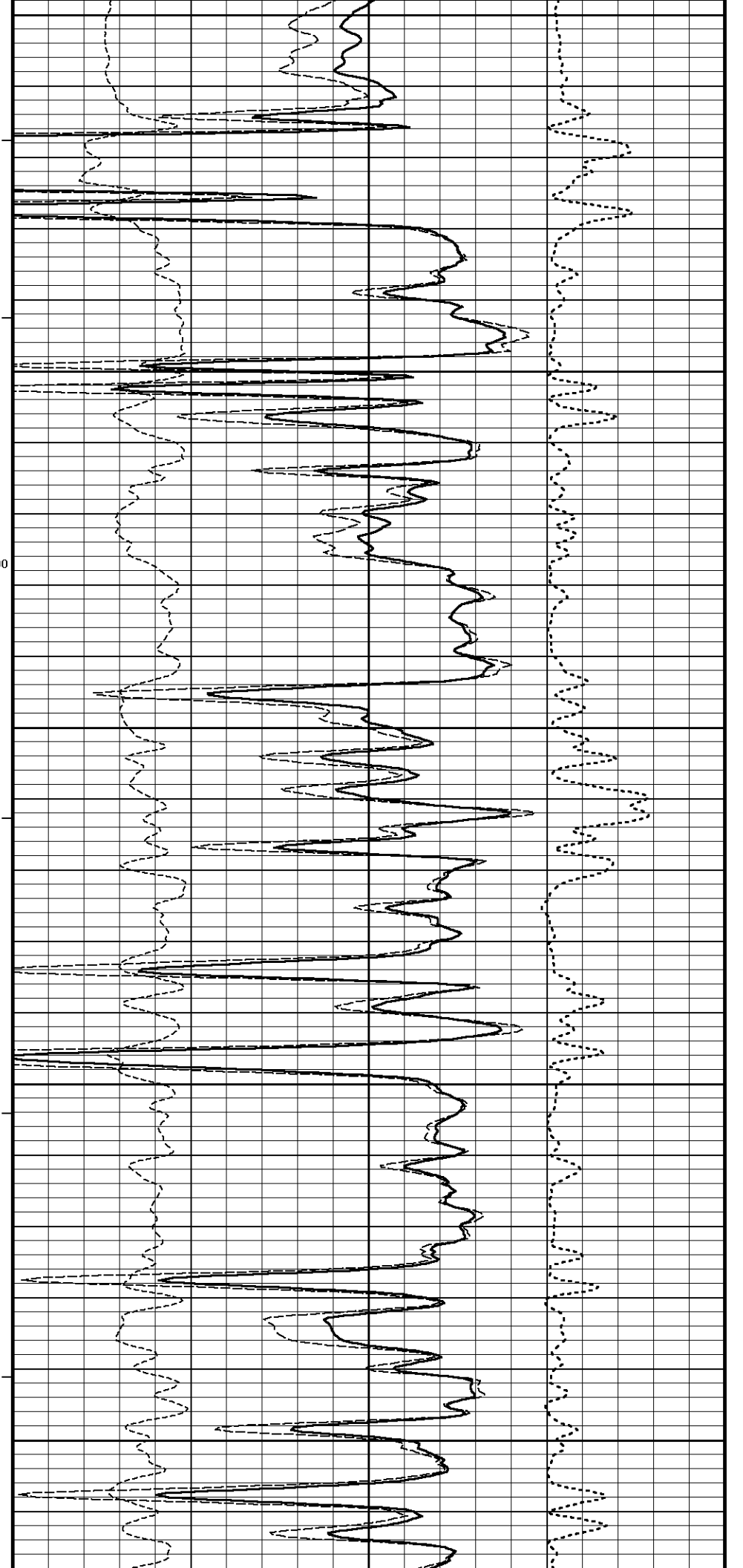
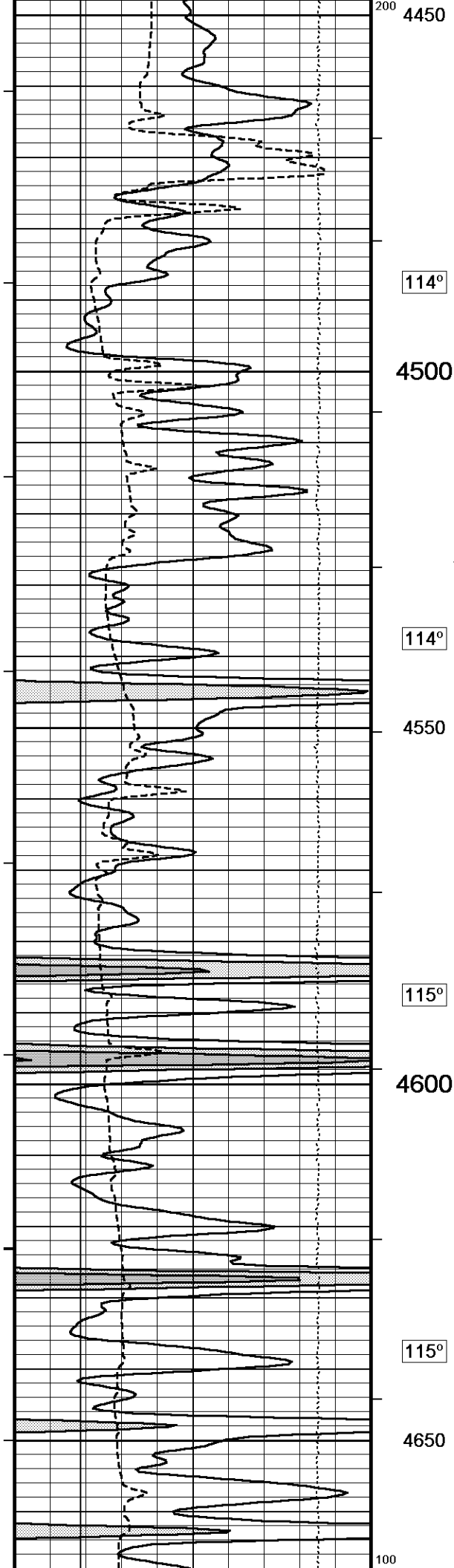


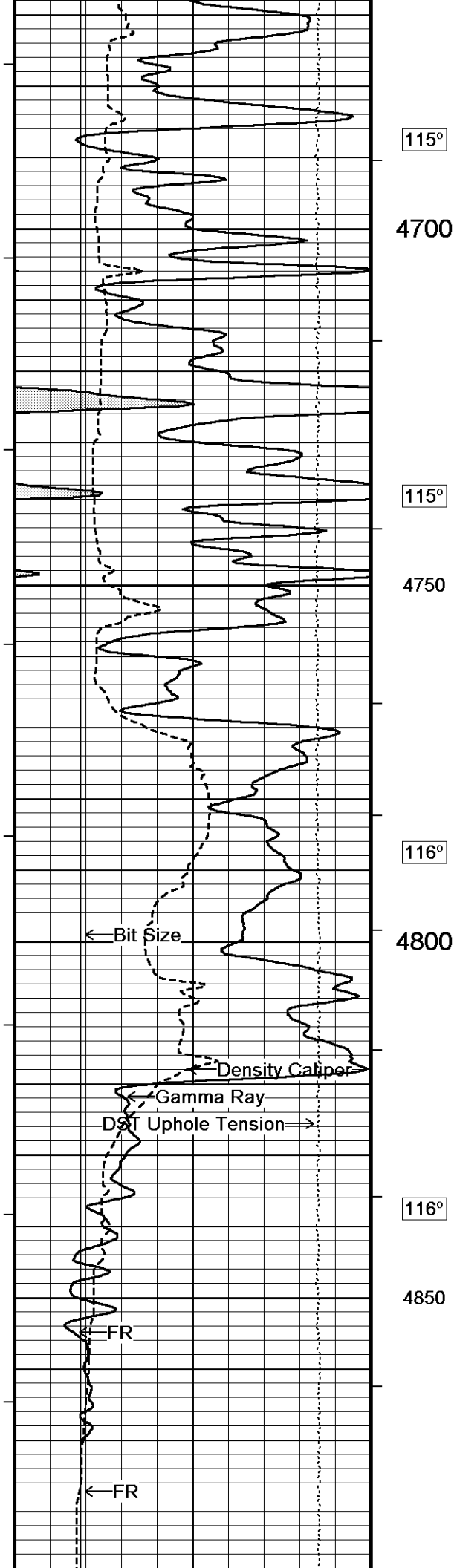
PE

Limestone Density Por.

Compensated Density

Density Correction





115°

4700

115°

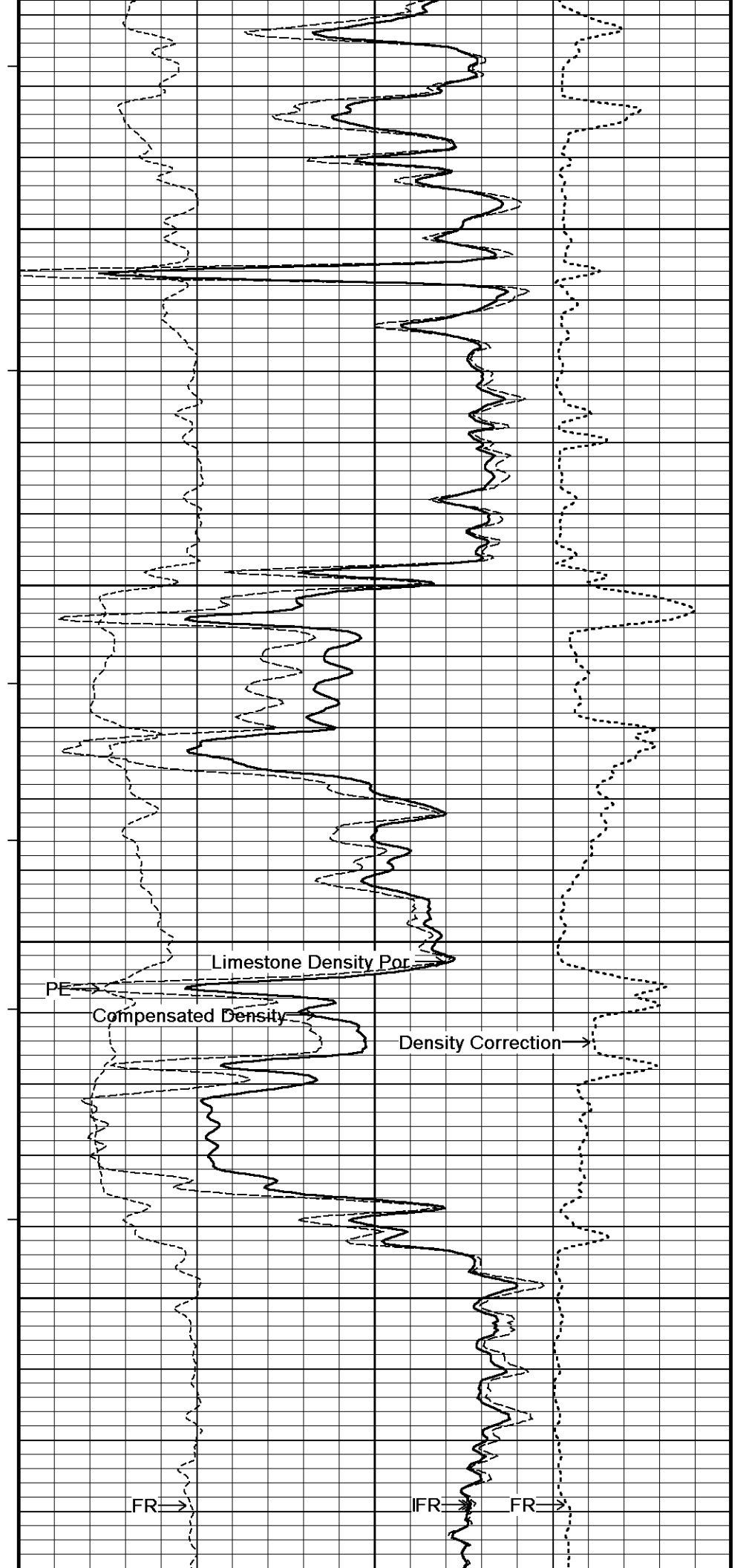
4750

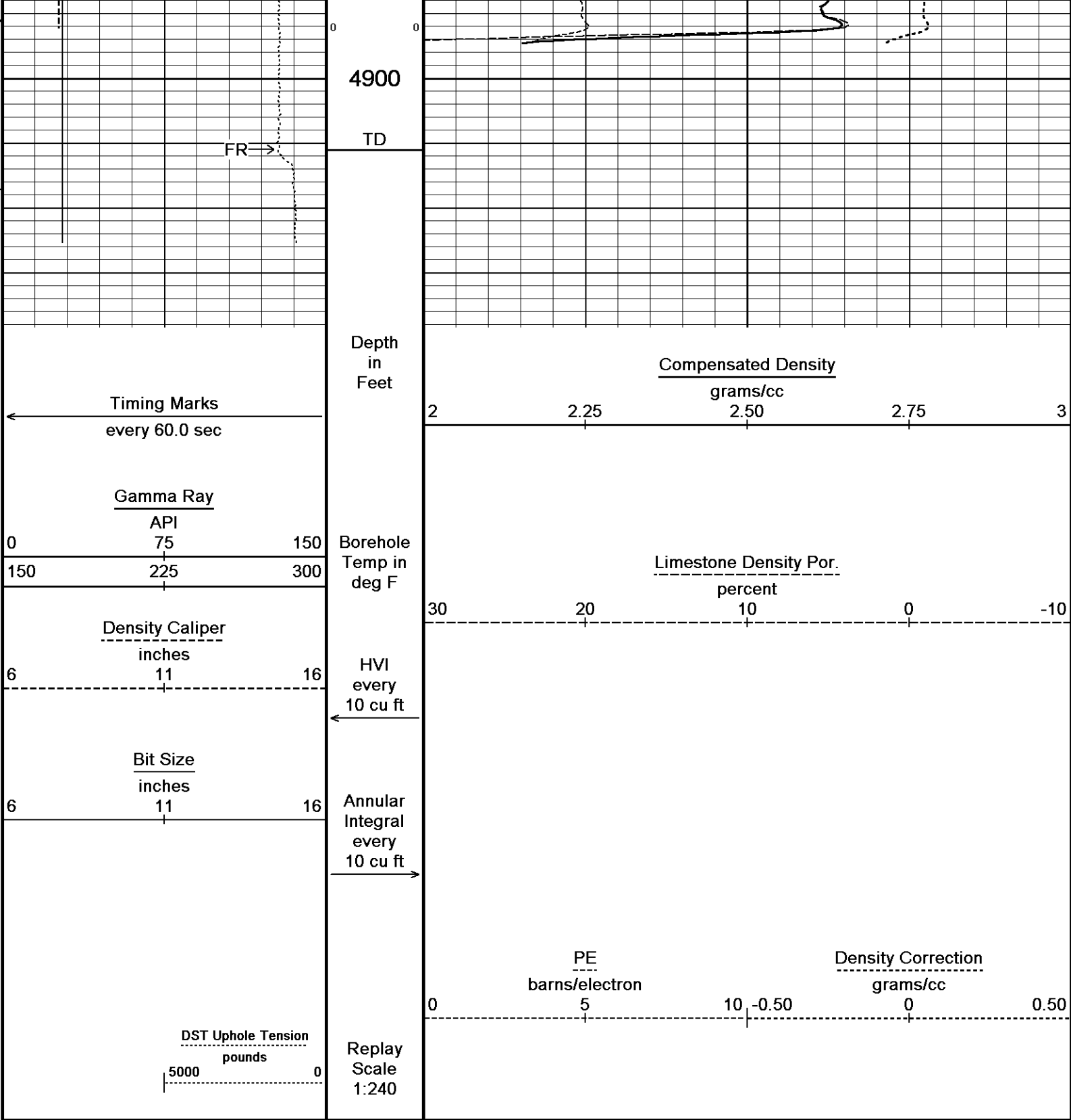
116°

4800

116°

4850





↑ 5 INCH BULK DENSITY MAIN ↑

↓ REPEAT SECTION ↓

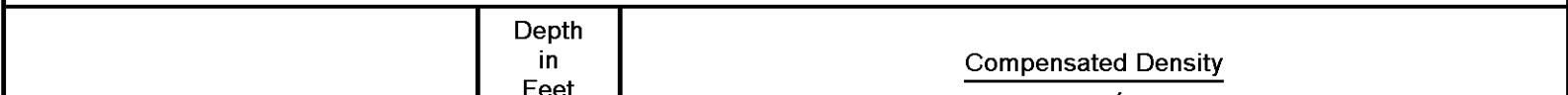
Depth Based Data - Maximum Sampling Increment 10.0cm

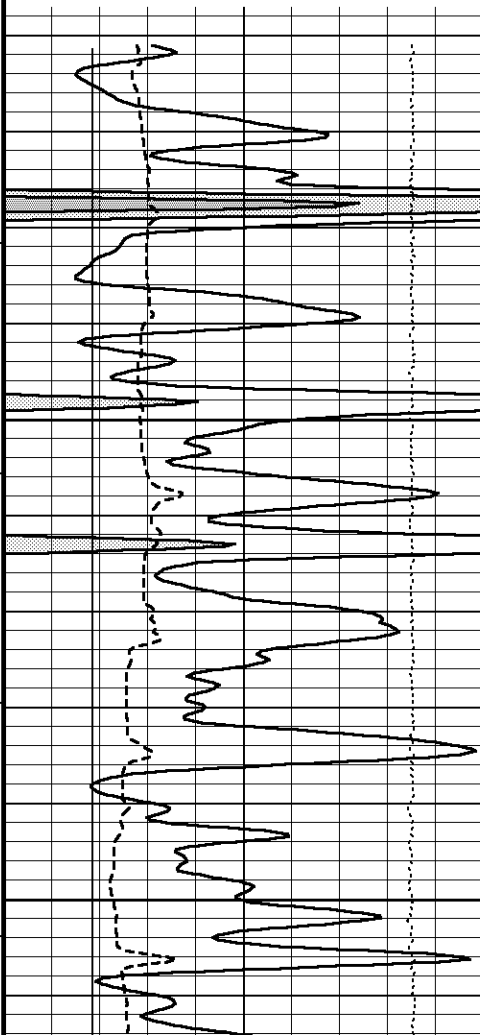
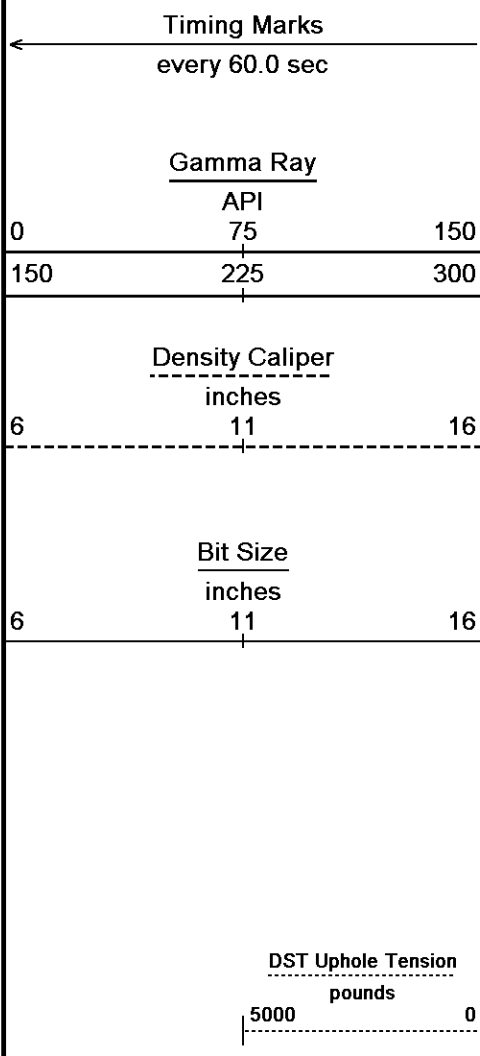
Filename: C:\Minimus 15.03.5939\Logs\Shakespeare Edwards ...\Shakespeare Edwards #1-21_002.dta

System Versions: Logged with 15.03.5939 Plotted with 15.03.5939

Plotted on 05-AUG-2016 23:34

Recorded on 05-AUG-2016 20:25





4600

Borehole
Temp in
deg F

HVI
every
10 cu ft

Annular
Integral
every
10 cu ft

Replay
Scale
1:240

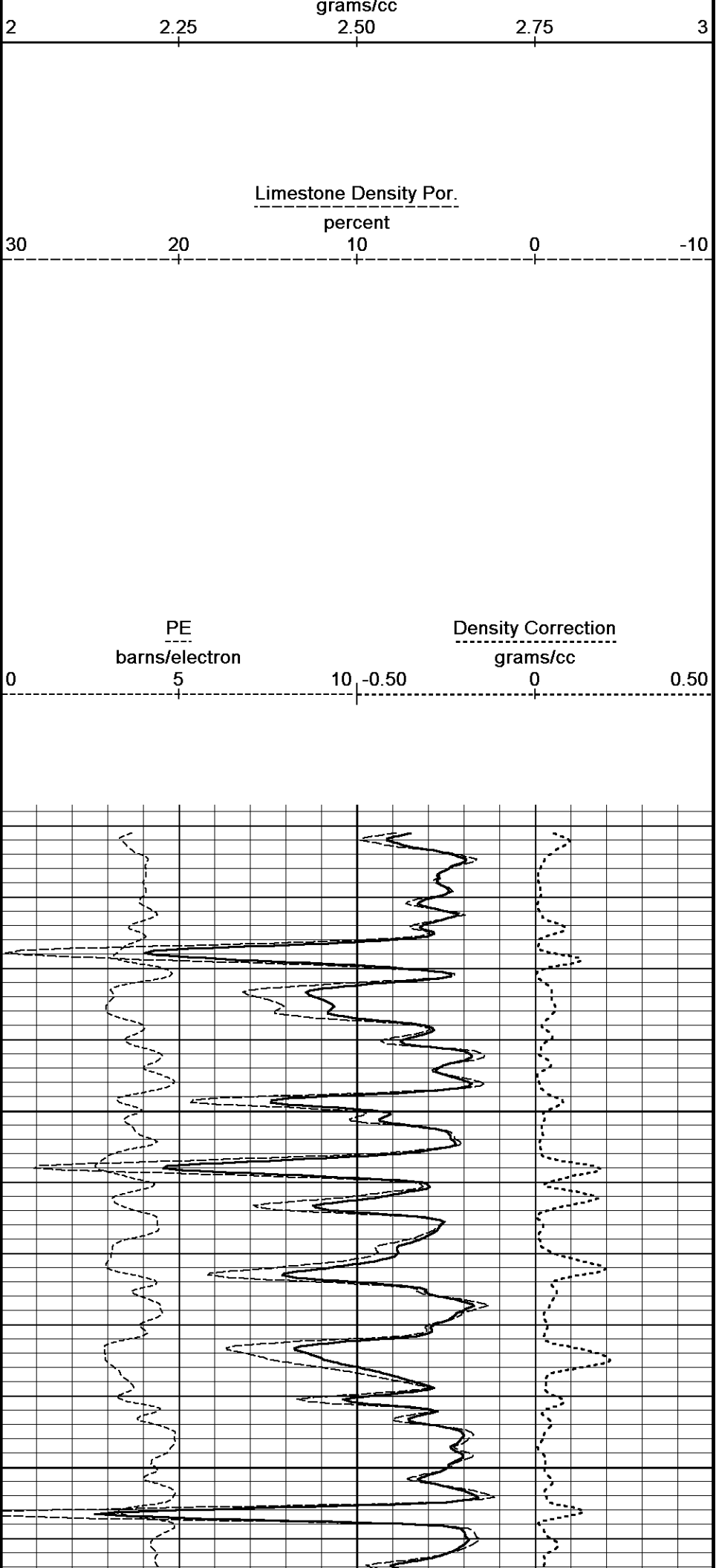
4610

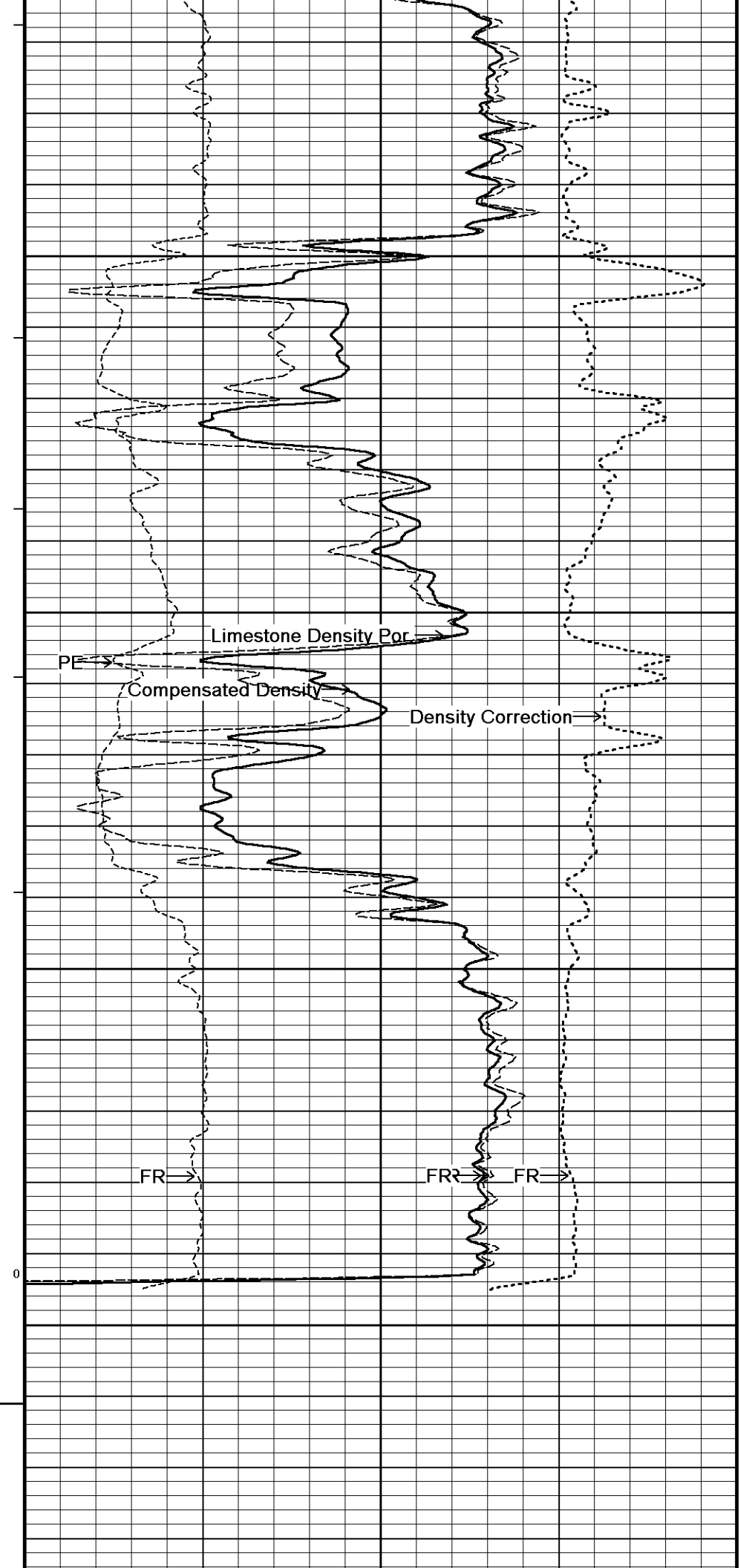
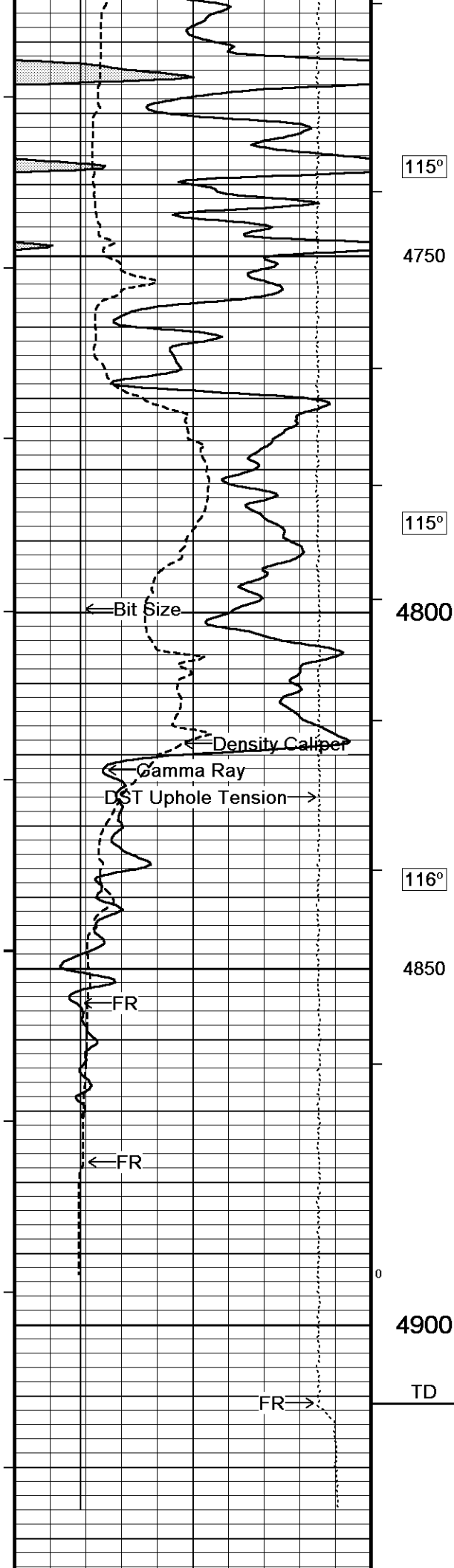
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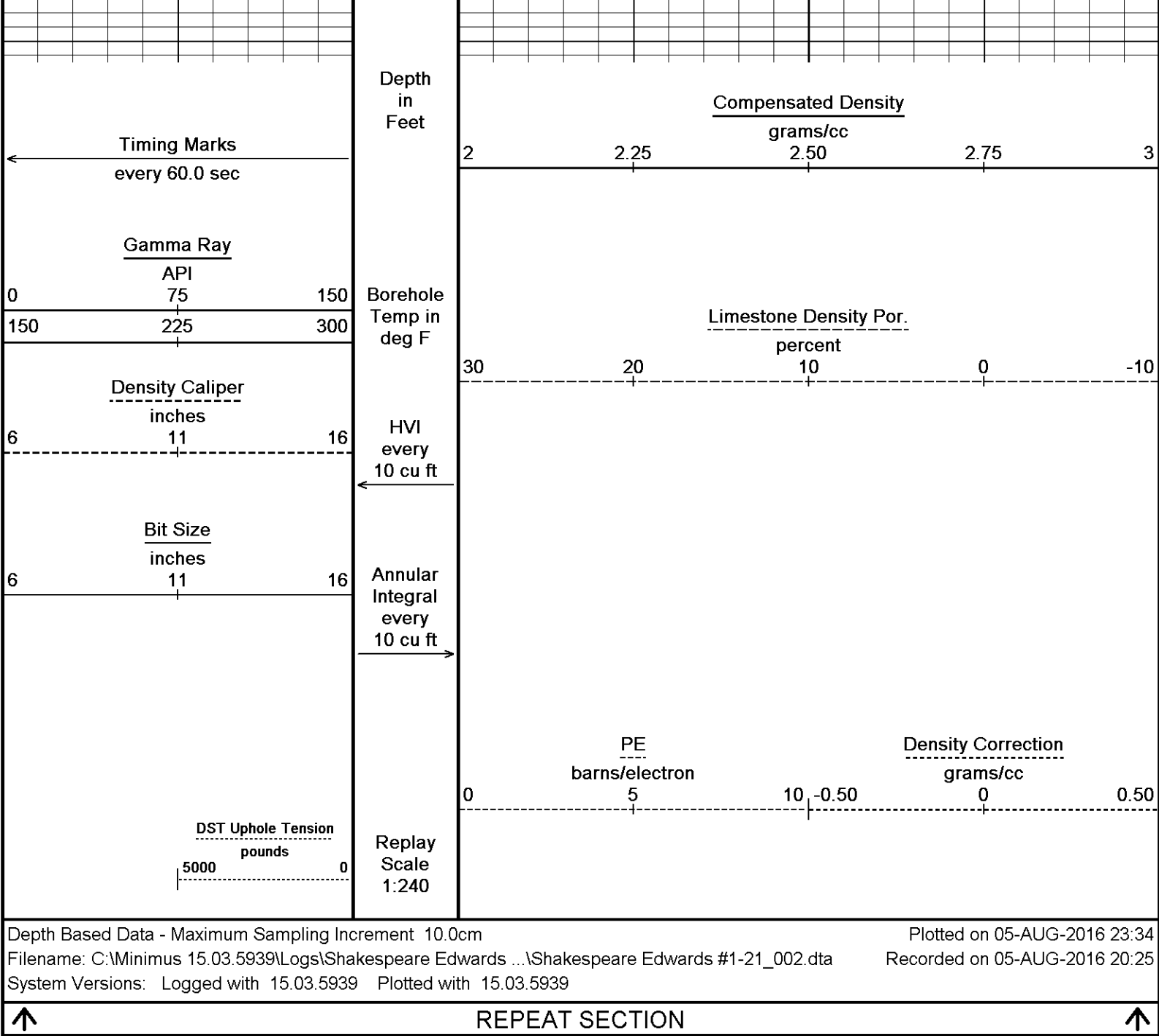
100

115°

4700







BEFORE SURVEY CALIBRATION		
C:\Minimus 15.03.5939\Logs\Shakespeare Edwards #1-21\Shakespeare Edwards #1-21_002.dta		
General Constants All 000		Last Edited on 05-AUG-2016,19:47
General Parameters		
Mud Resistivity	0.620	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	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

Down-hole Tension Calibration SMS 0			Field Calibration on 24-JUL-2016 15:20
Reading No	Measured	Calibrated (lbs)	
1	15235.81	0.00	
2	16026.61	481.00	

Gamma Calibration MCG-C 123			Field Calibration on 04-AUG-2016 08:11
	Measured	Calibrated (API)	
Background	71	49	
Calibrator (Gross)	731	505	
Calibrator (Net)	660	456	

Gamma Calibration Tolerances MCG-C 123		
Ratio	1.448	1.40 1.475 1.55 Counts/API

Gamma Constants MCG-C 123			Last Edited on 05-AUG-2016,17:51
Gamma Calibrator Number	MCGGRCC141		
GRC-M Calibrator Jig in Use?	NO		
Inactive Background Jig in Use?	NO		
Mud Density	1.14	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 31-OCT-2015,17:05
	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 14-JUL-2016 12:06
	Measured	Calibrated (mV)	
Reference 1	101.2	100.6	
Reference 2	-99.1	-99.9	

Micro Normal and Micro Inverse Calibration MMR-C.A 247			Base Calibration on 22-MAY-2016 16:59
Base Calibration			Field Check on 04-AUG-2016 07:56
Channel	Resistor 1	Measured Resistor 2	Calibrated (ohm-m) Resistor 1 Resistor 2
Micro Normal	10.2	49.9	5.1 25.6
Micro Inverse	10.0	49.5	3.4 16.9
Channel	Base Check (ohm-m)		Field Check (ohm-m)
Micro Normal	93.6		93.6
Micro Inverse	62.2		62.2

Micro Normal & Micro Inverse Calibration Tolerance MMR-C.A 247		
Micro Normal Res. 1	10.2	-5% 10.0 +5% ohm
Micro Inverse Res. 1	10.0	-5% 10.0 +5% ohm
Micro Normal Res. 2	49.9	-5% 50.0 +5% ohm
Micro Inverse Res. 2	49.5	-5% 50.0 +5% ohm
Micro Normal Base Check	93.6	-2% 93.21 +2% ohm-m
Micro Inverse Base Check	62.2	-2% 62.10 +2% ohm-m
Micro Normal Field Check	93.6	-2% 93.6 +2% ohm-m
Micro Inverse Field Check	62.2	-2% 62.2 +2% ohm-m

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	0.0000 inches

Caliper Calibration MMR-C.A 247

Base Calibration on 22-MAY-2016 16:40

Field Calibration on 04-AUG-2016 07:55

Base Calibration		Measured	Calibrator Size (in)
Reading No			
1		14762	5.98
2		18067	7.97
3		21325	9.86
4		25277	11.92
5		0	0.00
6		N/A	N/A

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

Caliper Calibration Tolerances MMR-C.A 247

Short Arm Field Cal.	7.95		in
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Micro-Resistivity Caliper Constants MMR-C.A 247

Last Edited on

Sonde Configuration	Resistivity Mode
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Neutron Calibration MDN-A.B 66

Base Calibration on 22-MAY-2016,18:15

Field Check on 04-AUG-2016 08:21

Base Calibration		Measured		Calibrated (cps)	
		Near	Far	Near	Far
		3116	97	3714	110
Ratio		32.277		33.764	

Field Calibrator at Base		Calibrated (cps)	
		2061	3028
Ratio		0.681	

Field Check		Calibrated (cps)	
		2178	3118
Ratio		0.698	

Neutron Calibration Tolerances MDN-A.B 66

Ratio	32.277	
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Base Check	0.681	
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Field Check	0.698	
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Neutron Constants MDN-A.B 66

Last Edited on 05-AUG-2016,17:51

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 22-MAY-2016 16:12 Field Check on 04-AUG-2016 07:46	
Base Calibration			
	Measured	Calibrated (ohm-m)	
Reference 1	0.0	0.0	
Reference 2	972.3	126.8	
Base Check		278.7	
Field Check		278.8	

FE Calibration Tolerances MFE-B.J 352			
Reference 2	972.3	-3% 980.0 +3%	ohm
Base Check	278.7	-2% 277.0 +2%	ohm-m
Field Check	278.8	-2% 278.7 +2%	ohm-m

FE Constants MFE-B.J 352		Last Edited on 05-AUG-2016,17:50	
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 05-AUG-2016,17:50		
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	Start Gain	Discriminator (mV)
3'	N/A	N/A	N/A	N/A	N/A
4'	N/A	N/A	N/A	N/A	N/A
5'	N/A	N/A	N/A	N/A	N/A
6'	N/A	N/A	N/A	N/A	N/A
Processed Fixed Gate Parameters					
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/AN/A
N/A
N/AN/A
N/A
N/AN/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
3' Waveform Filter	N/A	
4' Waveform Filter	N/A	
5' Waveform Filter	N/A	
6' Waveform Filter	N/A	

Semblance Level	N/A	
Semblance Window Width	N/A	micro-sec
Sonic 1 Despiker	N/A	N/A
Sonic 2 Despiker	N/A	N/A

Induction Calibration MAI-A.A 111

Base Calibration on 05-AUG-2014,09:34
Field Check on 04-AUG-2016 07:45

Base Calibration

Test Loop Calibration Channel	Measured		Calibrated (mmho/m)	
	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

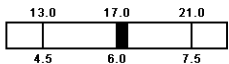
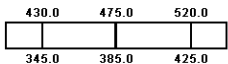
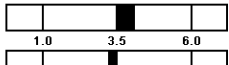
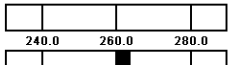
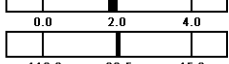
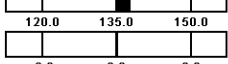
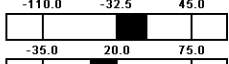
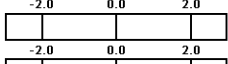
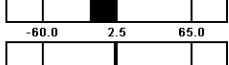
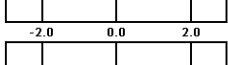
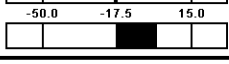
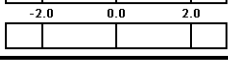
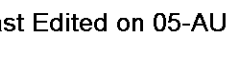
Array Temperature 23.0 Deg F

Test Loop Calibration Verified 22-MAY-2016,17:59

Channel	Base Check (mmho/m)		Field Check (mmho/m)	
	Low	High	Low	High
1	12.1	3873.0	10.5	3867.1
2	29.8	3528.1	27.6	3522.2
3	29.1	3021.3	27.1	3016.2
4	19.1	2058.5	17.8	2054.6
Deep	17.7	1962.1	16.5	1958.5
Medium	43.1	3976.4	40.4	3970.0
Shallow	44.4	5232.7	41.2	5224.4

Array Temperature 65.8 83.0 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 05-AUG-2016,17:50

Induction Model RtAP-WBM

Borehole Correction Constants

Tool Centred	No
Hole Size Source	Density Caliper
Hole Size Constant Value	N/A inches

Probe Size Constant Value		N/A	inches
Stand-off Type		Fins	
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 24-NOV-2014,10:23

	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 22-MAY-2016 17:45
Field Check on 04-AUG-2016 07:53

Density Calibration		Measured		Calibrated (sdu)	
Base Calibration		Near	Far	Near	Far
Background		1148	1338		
Reference 1		49789	23977	59556	30836
Reference 2		20127	2423	24941	2541

Field Check at Base	1148.2	1337.6
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Field Check	1145.5	1333.5
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PE Calibration		Measured		Calibrated
Base Calibration		WH	Ratio	Ratio
Background	WS 211	1025		
Reference 1	20854	49612	0.425	0.371

Reference 2 5819 19993 0.296 0.272

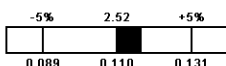
Field Check at Base

211.2 1025.1

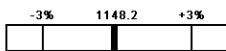
Field Check

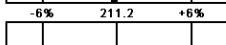
211.0 1024.0

Photo Density Calibration Tolerances MPD-B 104

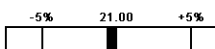
Near Density Ratio 2.56 

PE Calibration 0.121 

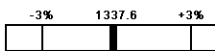
Near Den. Field Check 1145.5 

PE WS Field Check 211.0 

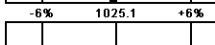
Far Density Ratio

20.85 

Far Den. Field Check

1333.5 

PE WH Field Check

1024.0 

Density Constants MPD-B 104

Last Edited on 05-AUG-2016,17:50

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	1.14	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	

Caliper Calibration MPD-B 104

Base Calibration on 22-MAY-2016 17:26
Field Calibration on 04-AUG-2016 07:48

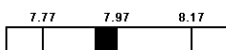
Base Calibration

Reading No	Measured	Calibrator Size (in)
1	13598	3.99
2	22432	5.98
3	31029	7.97
4	39246	9.86
5	48339	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 15.03.5939\Logs\Shakespeare Edwards #1-21\Shakespeare Edwards #1-21_002.dta

Cablehead, 11 pin
CBH-CA 176 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-Resistivity
MMR-C.A 247 LG: 8.59 ft WT: 81.6 lb OD: 4.882 in

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

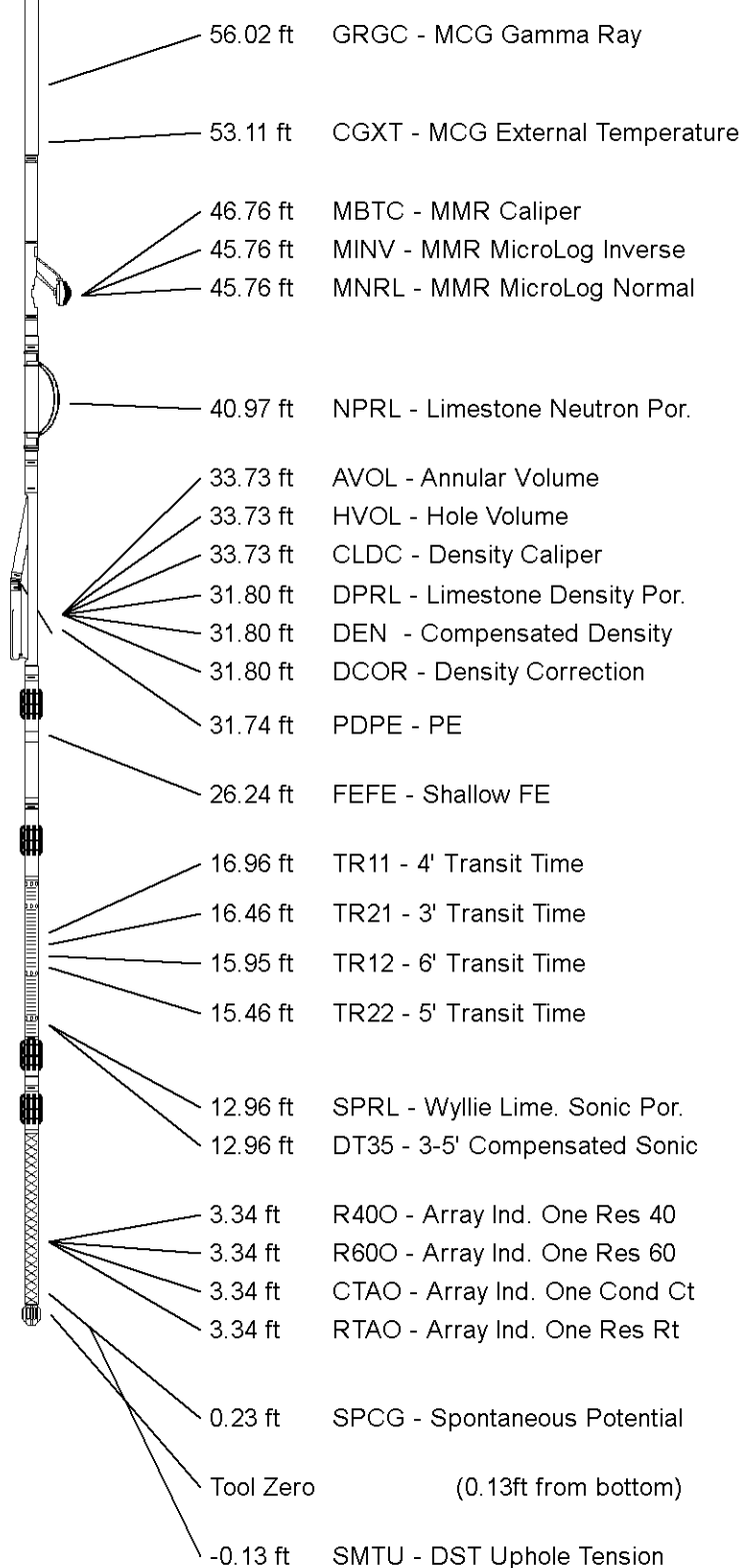
Compact Density/Caliper
MPD-B 104 LG: 9.59 ft WT: 90.4 lb OD: 2.449 in

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: 63.70 ft Weight: 480.6 lb



All measurements relative to tool zero.

COMPANY	SHAKESPEARE OIL CO., INC.
WELL	EDWARDS #1-21
FIELD	PENCE WEST
PROVINCE/COUNTY	SCOTT
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	3140.00	feet	First Reading	4879.00	feet
Elevation Drill Floor	3138.00	feet	Depth Driller	4915.00	feet
Elevation Ground Level	3132.00	feet	Depth Logger	4911.00	feet



COMPACT PHOTO DENSITY



Weatherford[®]

COMPACT PHOTO DENSITY
COMPENSATED NEUTRON
MICRORESISTIVITY LOG