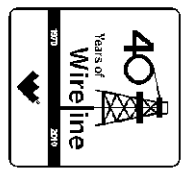




Weatherford[®]

**COMPACT PHOTO DENSITY
COMPENSATED NEUTRON
MICRORESISTIVITY LOG**

COMPANY SHAKESPEARE OIL COMPANY, INC.
WELL PETERSON #1-8
FIELD STRATFORD WEST
PROVINCE/COUNTY LOGAN
COUNTRY/STATE U.S.A. / KANSAS
LOCATION 1950' FSL & 1655' FWL SW/4



SEC 8 TWP 13S RGE 32W Other Services MAI/MFE MSS
API Number 15-109-20997 Permit Number MSS

Permanent Datum G.L., Elevation 2965 feet
Log Measured From K.B. @ 5 FEET above Permanent Datum
Drilling Measured From K.B.

Elevations: feet
KB 2970.00
DF 2968.00
GL 2965.00

Date	29-JUN-2011
Run Number	ONE
Depth Driller	4660.00 feet
Depth Logger	4658.00 feet
First Reading	4624.00 feet
Last Reading	3700.00 feet
Casing Driller	220.00 feet
Casing Logger	220.00 feet
Bit Size	7.875 inches
Hole Fluid Type	CHEMICAL
Density / Viscosity	9.40 lb/USg 68.00 CP
PH / Fluid Loss	9.50 10.40 ml/30Min
Sample Source	FLOWLINE
Rm @ Measured Temp	0.45 @ 94.0 ohm-m
Rmf @ Measured Temp	0.36 @ 94.0 ohm-m
Rmc @ Measured Temp	0.54 @ 94.0 ohm-m
Source Rmf / Rmc	CALC CALC
Rm @ BHT	0.37 @ 115.0 ohm-m
Time Since Circulation	4 HOURS
Max Recorded Temp	115.00 deg F
Equipment Name	COMPACT
Equipment / Base	13057 LIB
Recorded By	L. SCOTT
Witnessed By	DON WILLIAMS
S.O.# / JOB#	3531097 LB11-148

BOREHOLE RECORD			Last Edited: 29-JUN-2011 19:45	
Bit Size inches	Depth From feet	Depth To feet		
7.875	220.00	4658.00		
CASING RECORD				
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	220.00	24.00

REMARKS

Tools Ran: MCG, MML, MDN, MPD, SKJ, MFE, MAI, MSS.
Hardware Used: MDN Dual Eccentralizer used. MPD 8 inch profile plate used. MFE MSS and MAI 0.5 inch standoffs used.
2.71 g/cc Limestone Density Matrix used to calculate porosity.
Sonic porosity calculated using a Limestone scale (47.5 usec/ft).
All intervals logged and scaled per customer's request.
Annular volume with 5.5 inch production casing= 171 cu. ft.
Service order #3531097
Rig: WW #2
Engineer: L. Scott
Operator(s): N. Adame

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 PASS

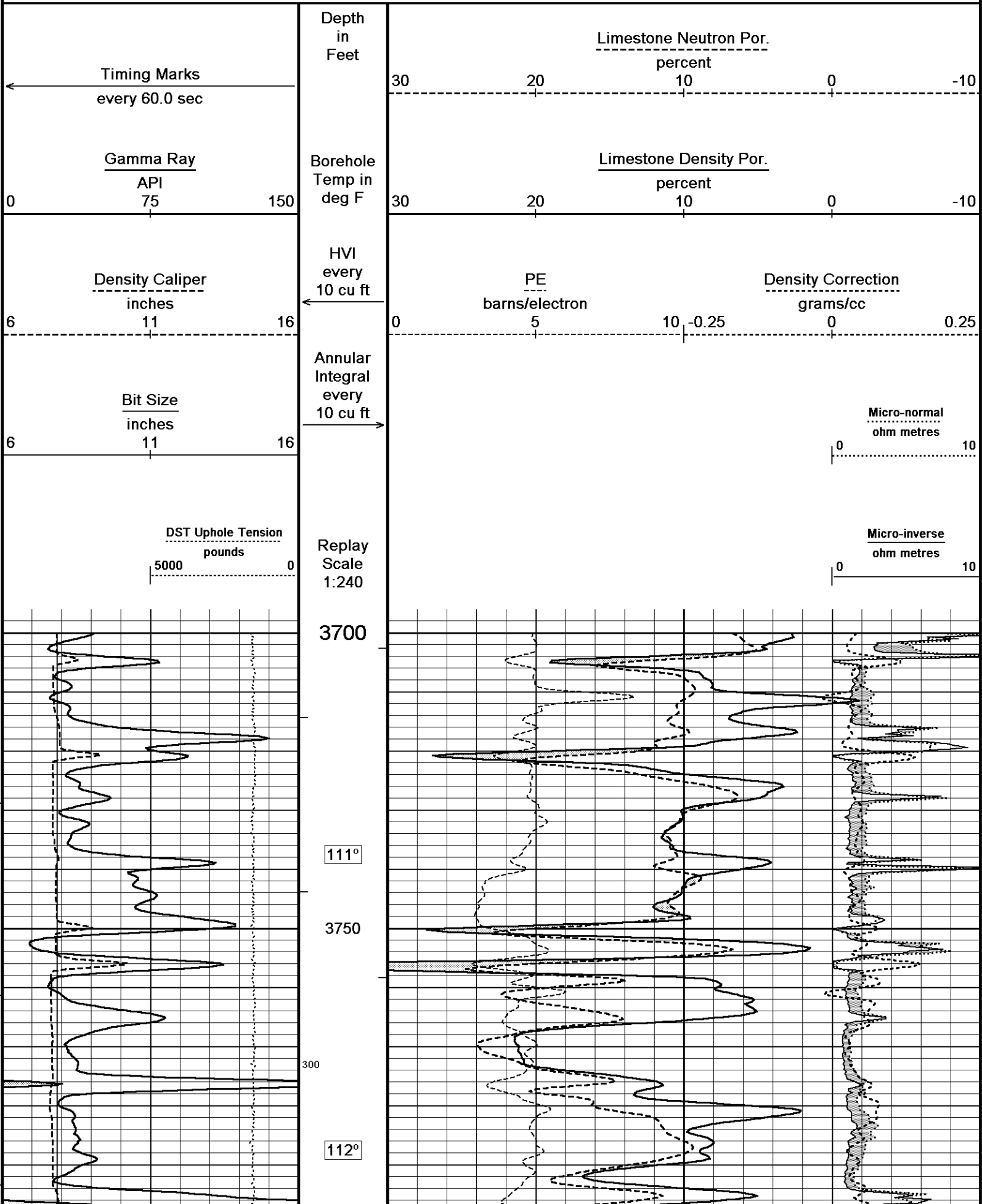
Depth Based Data - Maximum Sampling Increment 10.0cm

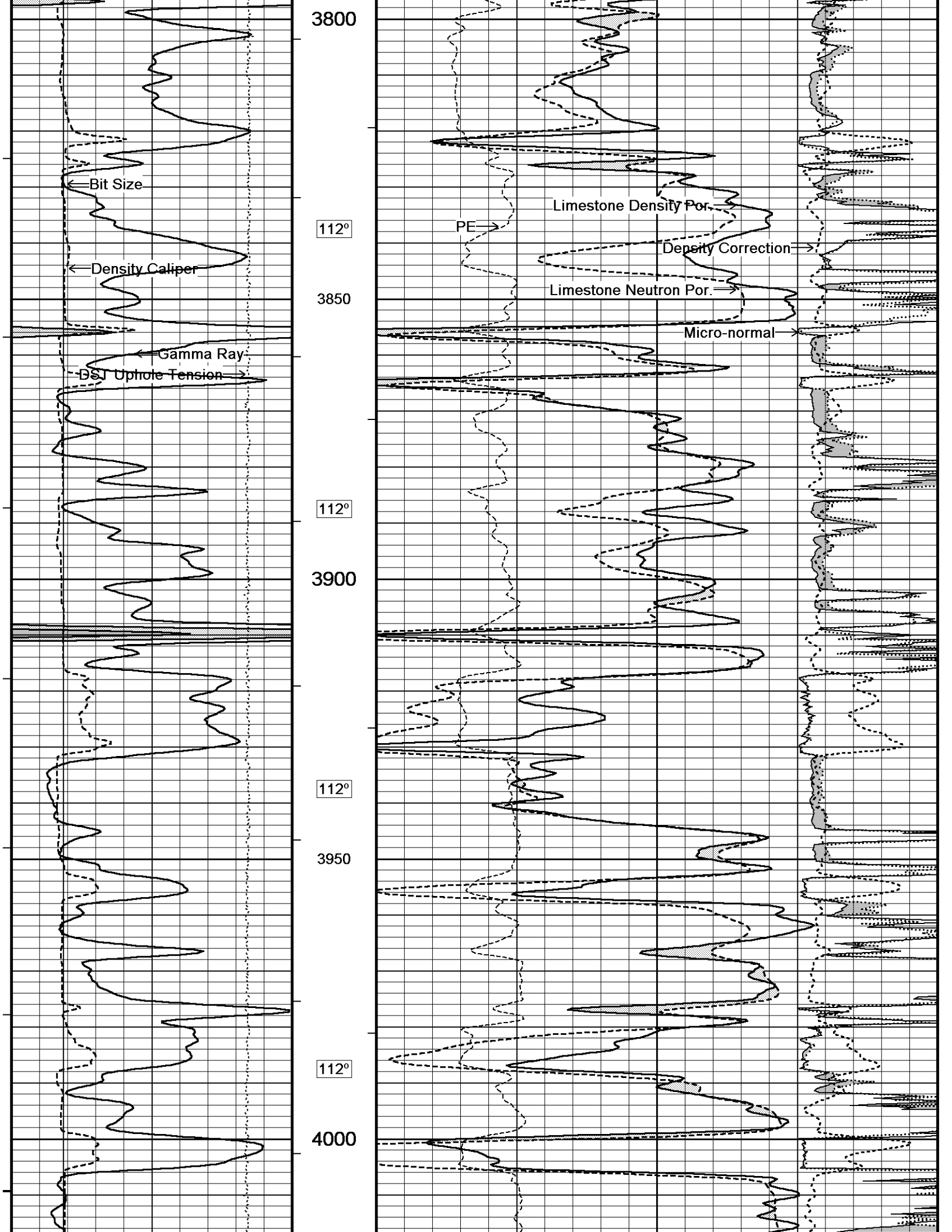
Plotted on 29-JUN-2011 21:09

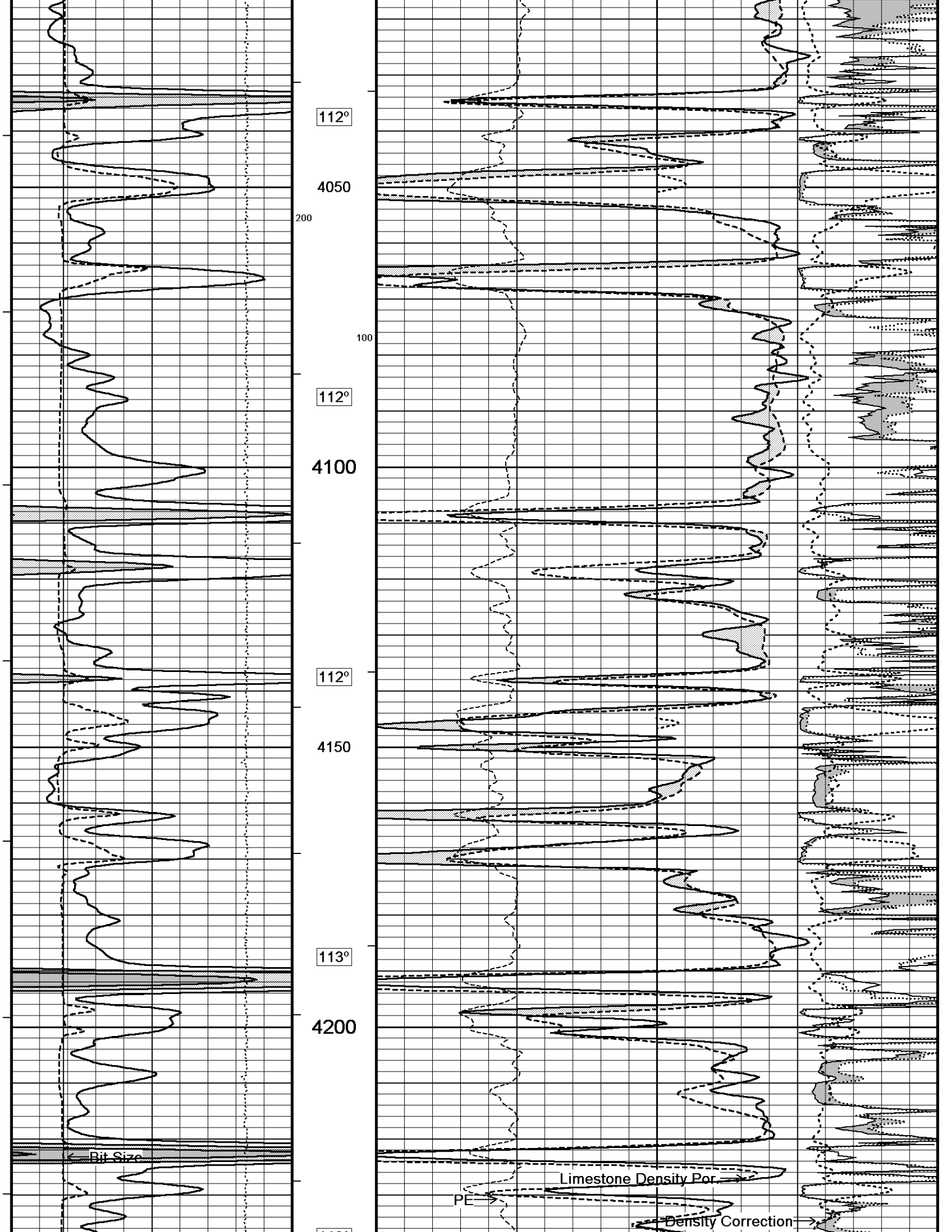
Filename: C:\Minimus 11.02.3186\Data\Shakespeare Peter...\SHAKESPEARE PETERSON 1-8_002.dta

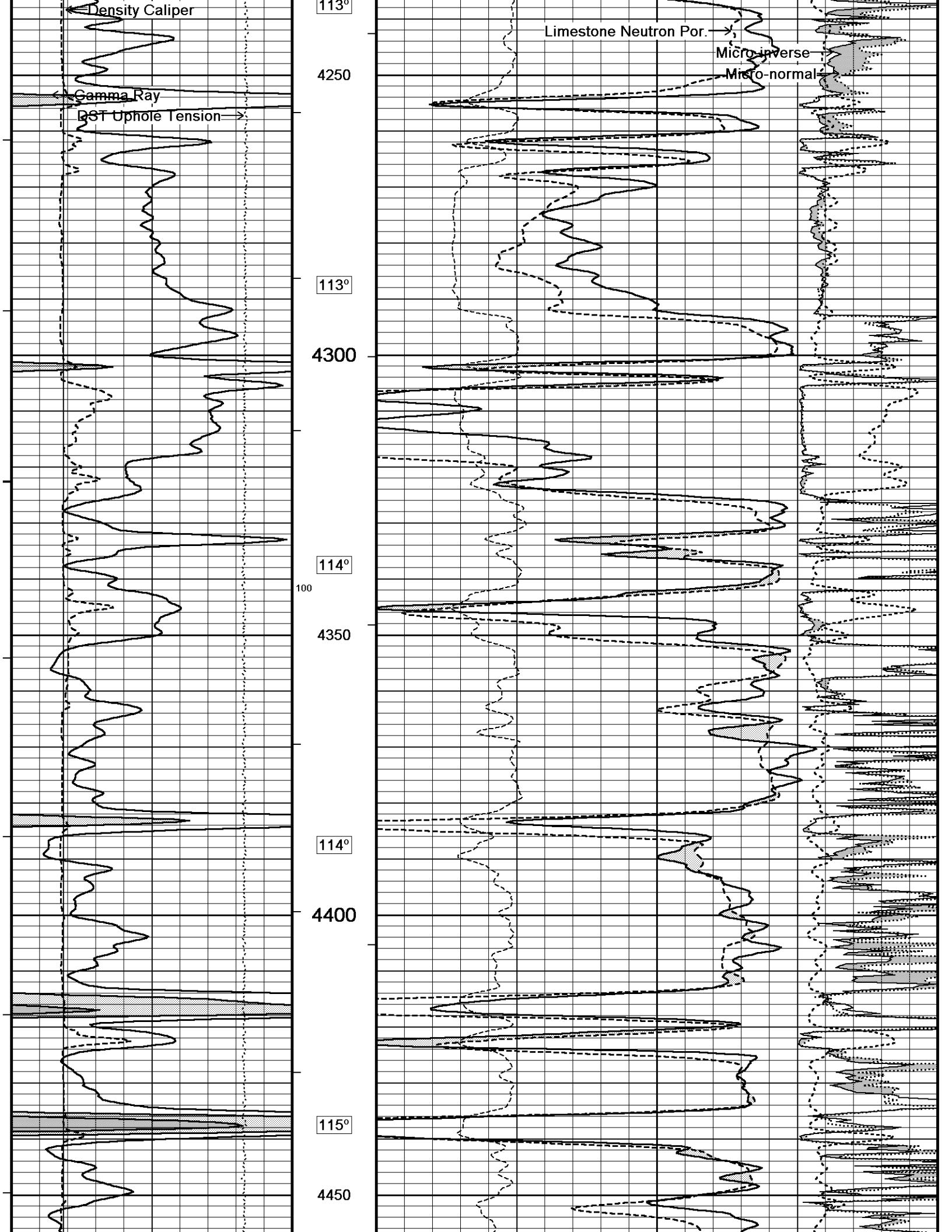
Recorded on 29-JUN-2011 18:40

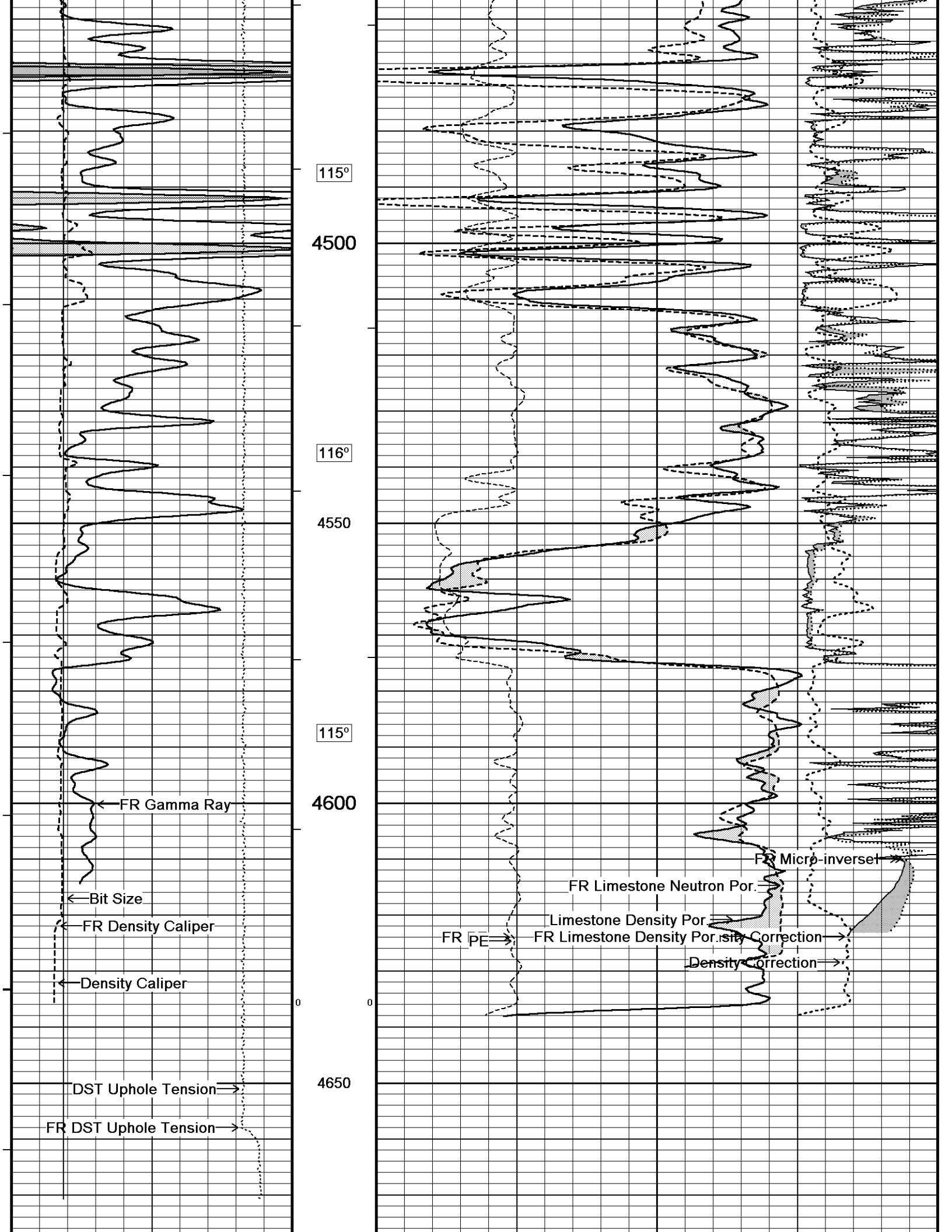
System Versions: Logged with 11.02.3186 Plotted with 11.02.3186

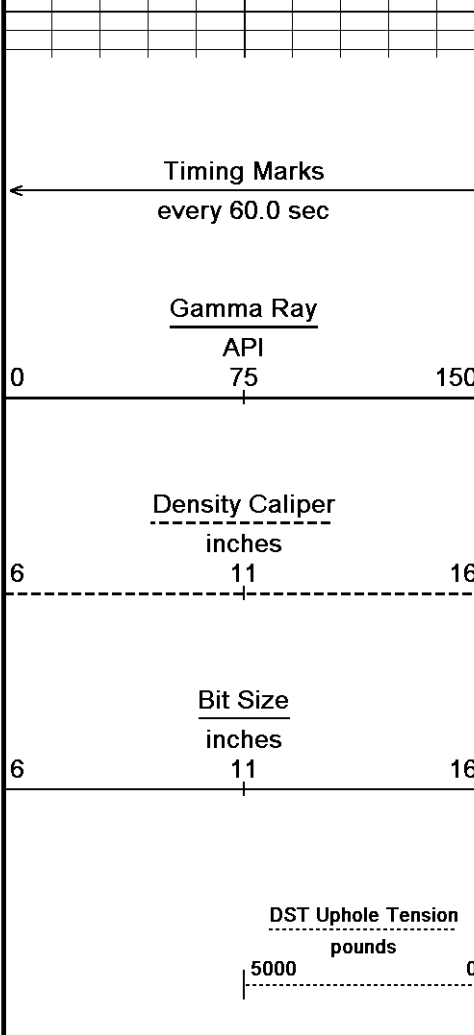












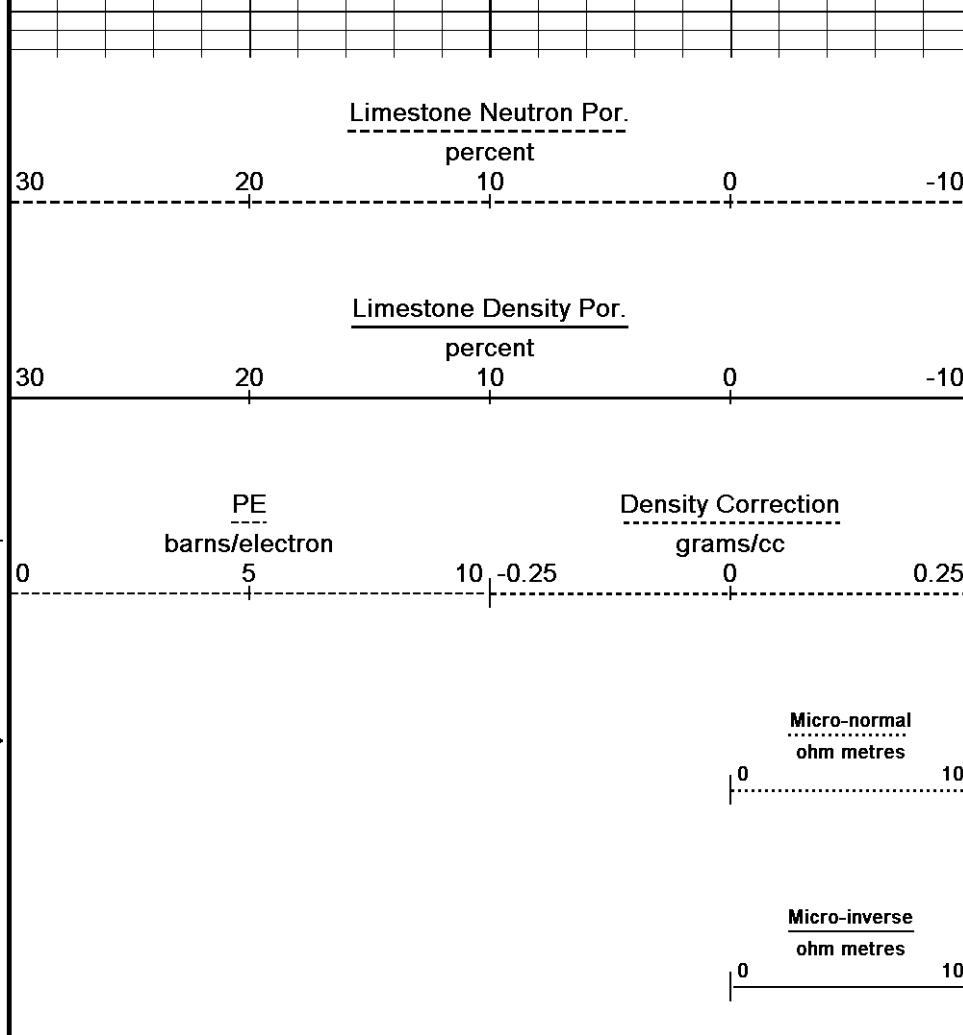
4682
Depth
in
Feet

Borehole
Temp in
deg F

HVI
every
10 cu ft

Annular
Integral
every
10 cu ft

Replay
Scale
1:240

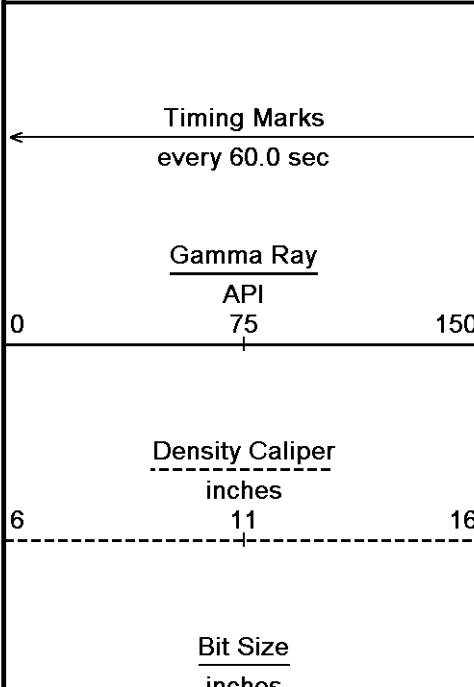


Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 29-JUN-2011 21:09
 Filename: C:\Minimus 11.02.3186\Data\Shakespeare Peter...\SHAKESPEARE PETERSON 1-8_002.dta
 Recorded on 29-JUN-2011 18:40
 System Versions: Logged with 11.02.3186 Plotted with 11.02.3186

↑ 5 INCH MAIN PASS ↑

↓ 5 INCH REPEAT PASS ↓

Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 29-JUN-2011 21:09
 Filename: C:\Minimus 11.02.3186\Data\Shakespeare Peter...\SHAKESPEARE PETERSON 1-8_001.dta
 Recorded on 29-JUN-2011 18:18
 System Versions: Logged with 11.02.3186 Plotted with 11.02.3186

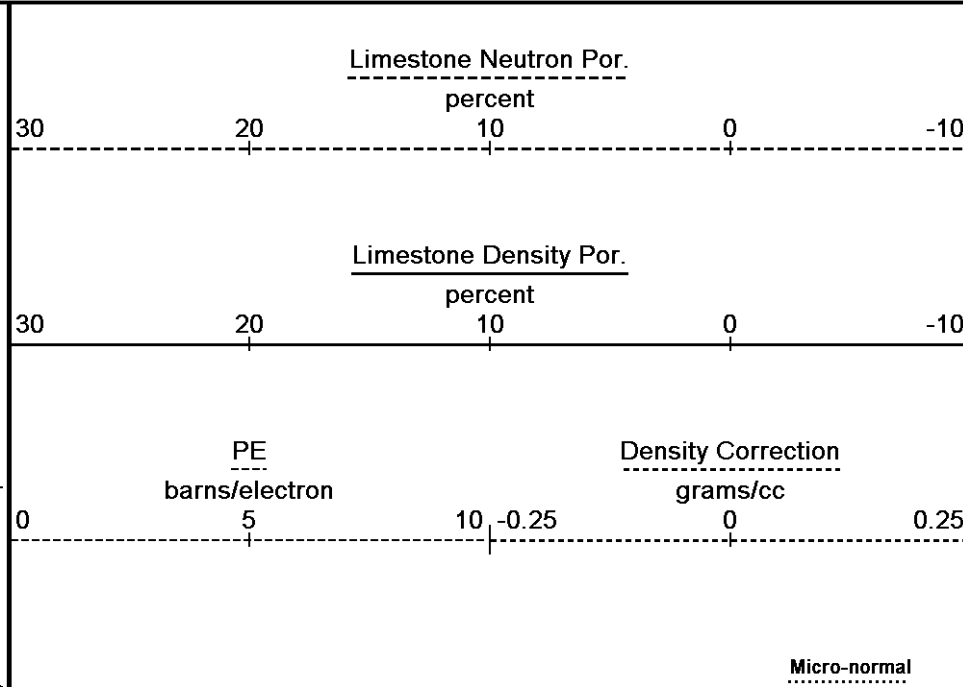


Depth
in
Feet

Borehole
Temp in
deg F

HVI
every
10 cu ft

Annular
Integral
every
10 cu ft



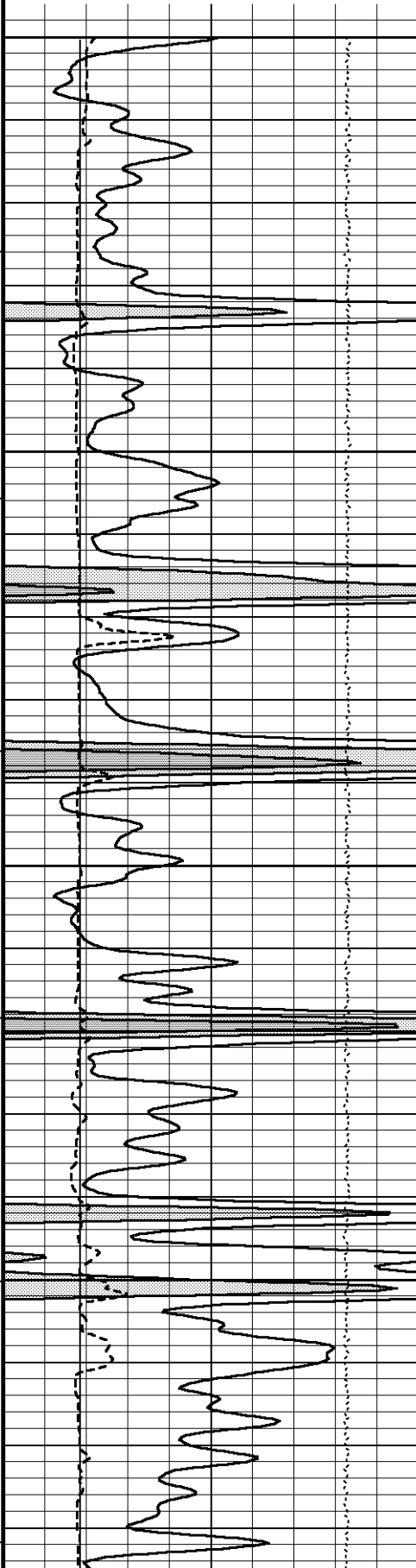
6 11 16
inches

DST Uphole Tension
pounds
5000 0

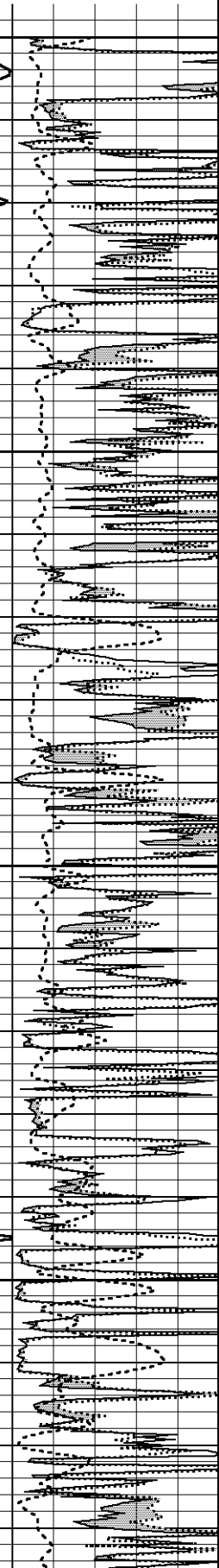
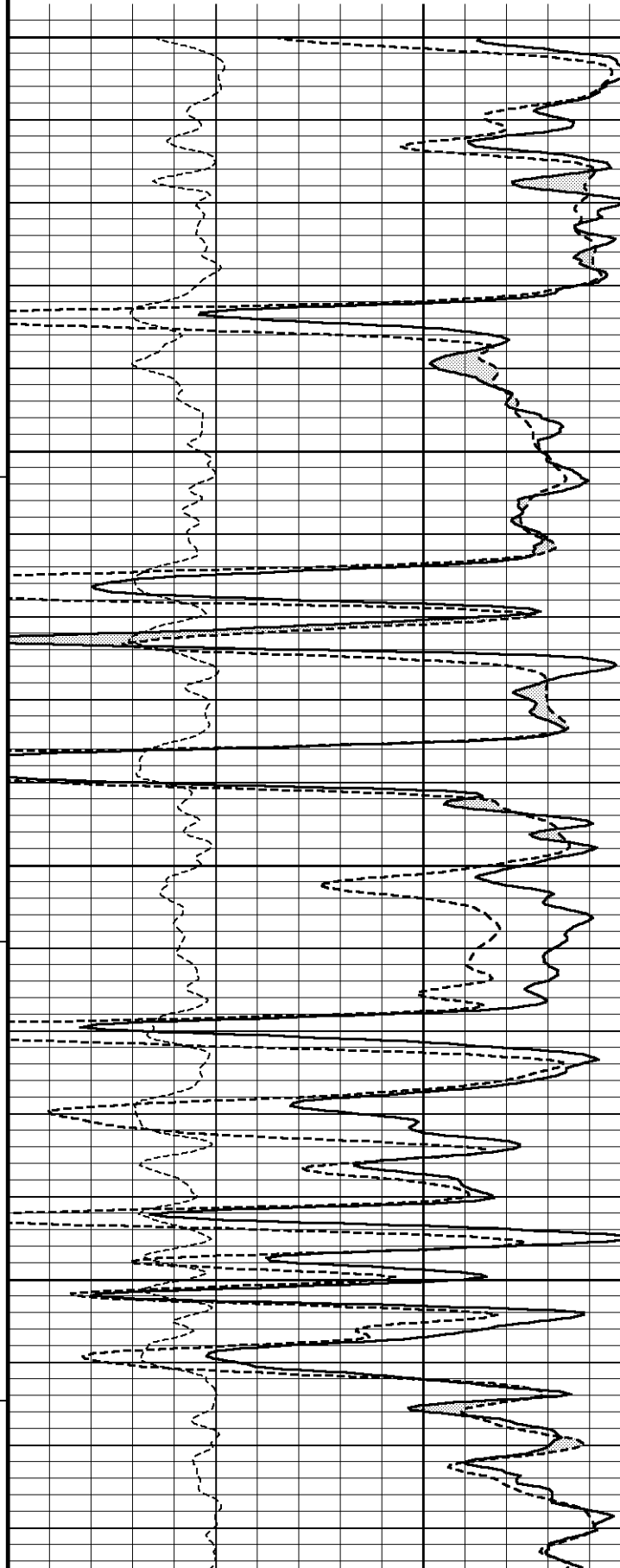
Replay
Scale
1:240

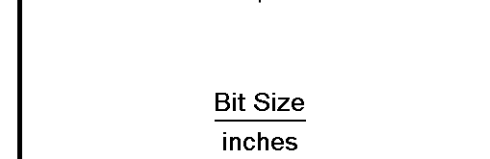
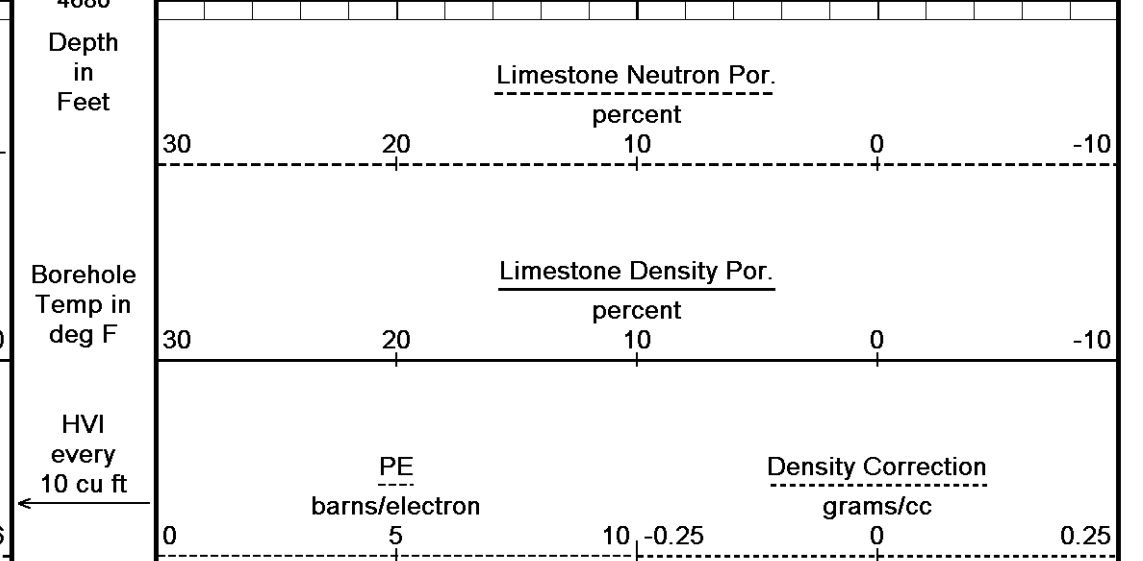
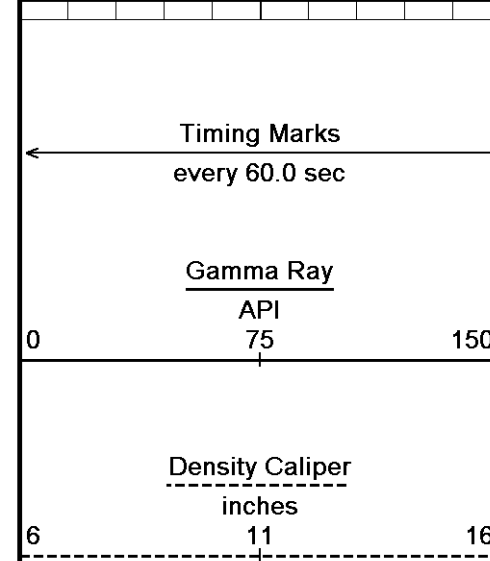
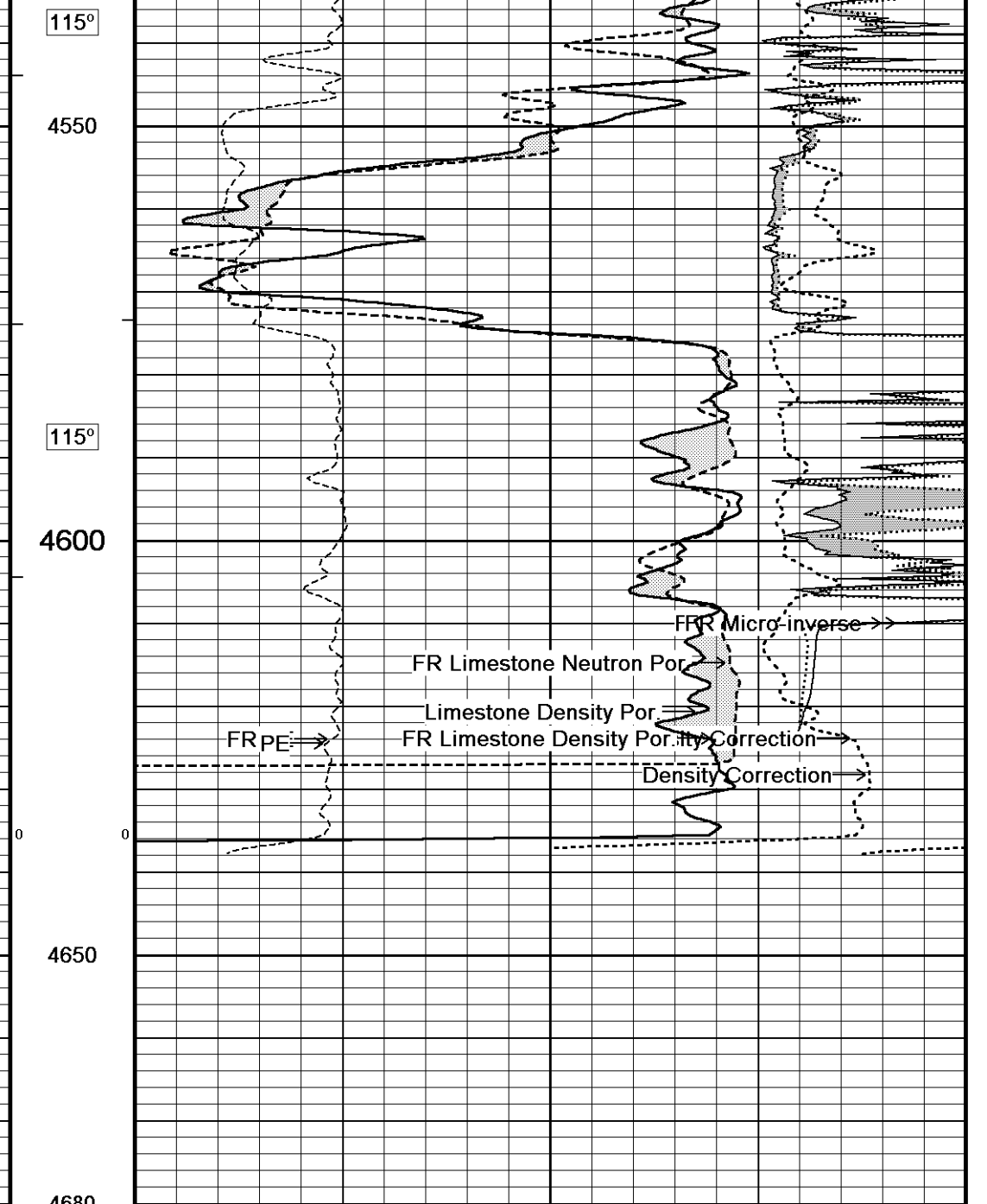
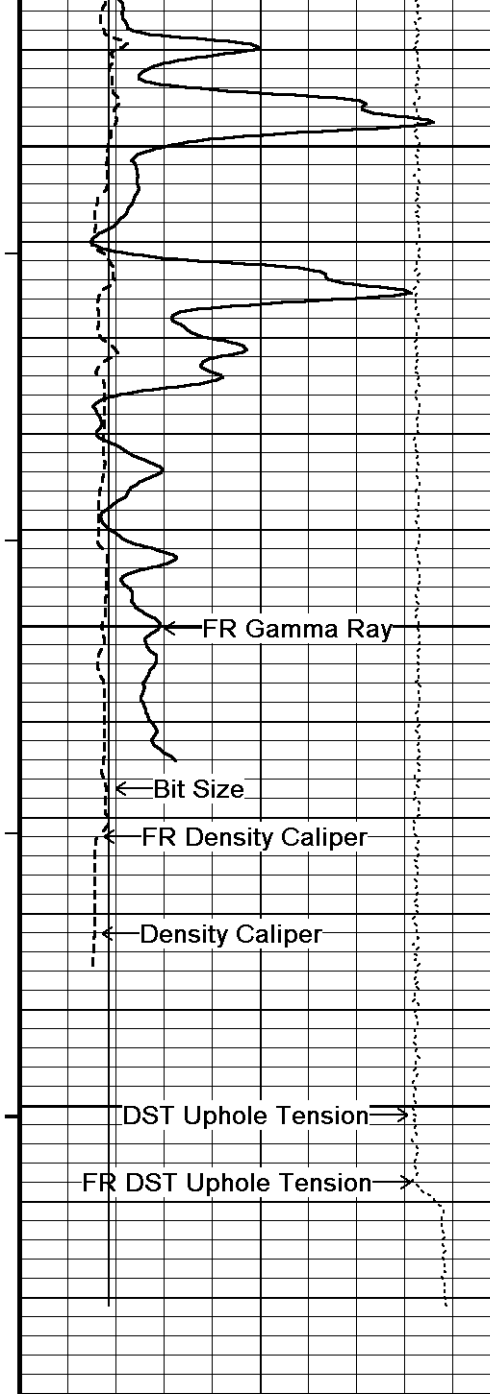
0 10
ohm metres

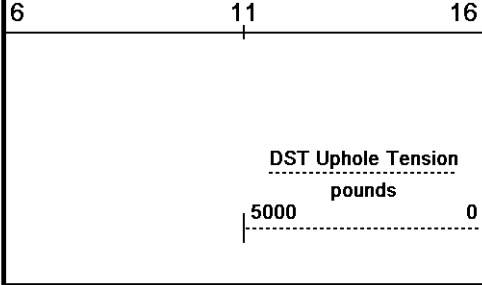
0 10
ohm metres
Micro-inverse



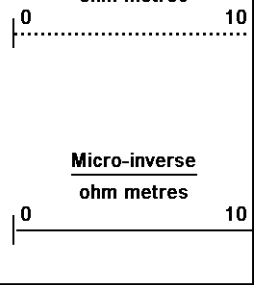
4350
114°
4400
114°
4450
114°
4500







Replay
Scale
1:240

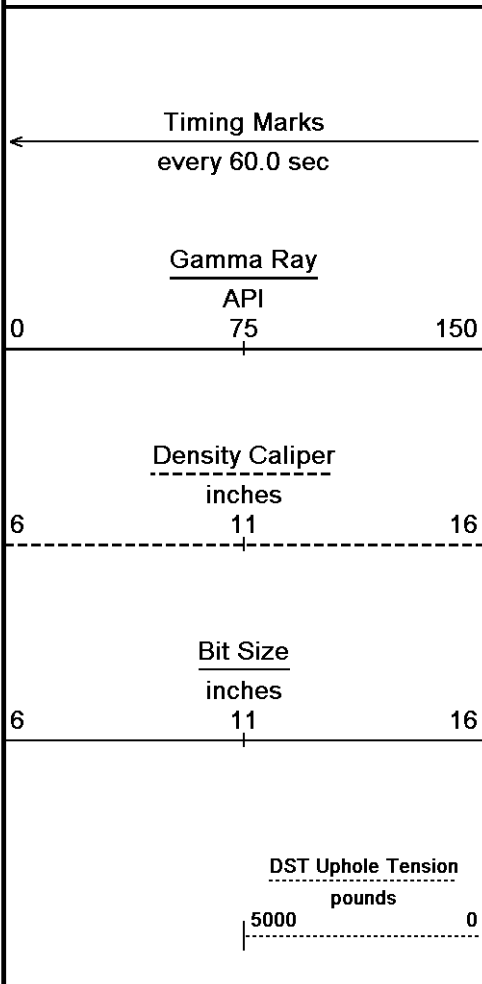


Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 29-JUN-2011 21:09
 Filename: C:\Minimus 11.02.3186\Data\Shakespeare Peter...\SHAKESPEARE PETERSON 1-8_001.dta
 Recorded on 29-JUN-2011 18:18
 System Versions: Logged with 11.02.3186 Plotted with 11.02.3186

↑ 5 INCH REPEAT PASS ↑

↓ 5 INCH MAIN PASS ↓

Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 29-JUN-2011 21:09
 Filename: C:\Minimus 11.02.3186\Data\Shakespeare Peter...\SHAKESPEARE PETERSON 1-8_002.dta
 Recorded on 29-JUN-2011 18:40
 System Versions: Logged with 11.02.3186 Plotted with 11.02.3186



Depth
in
Feet

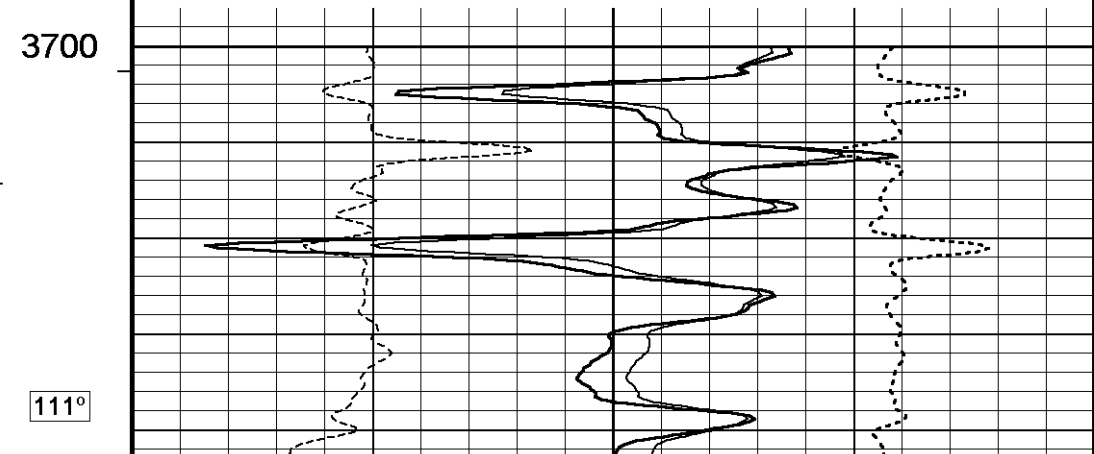
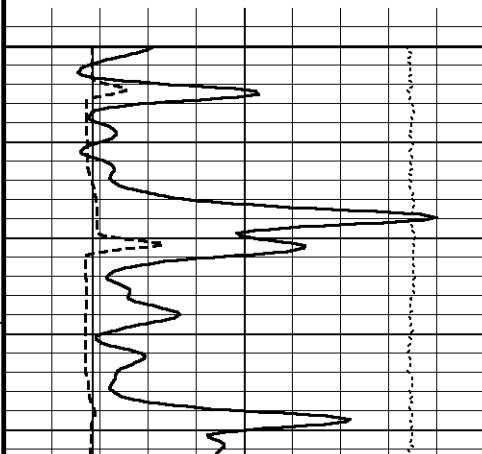
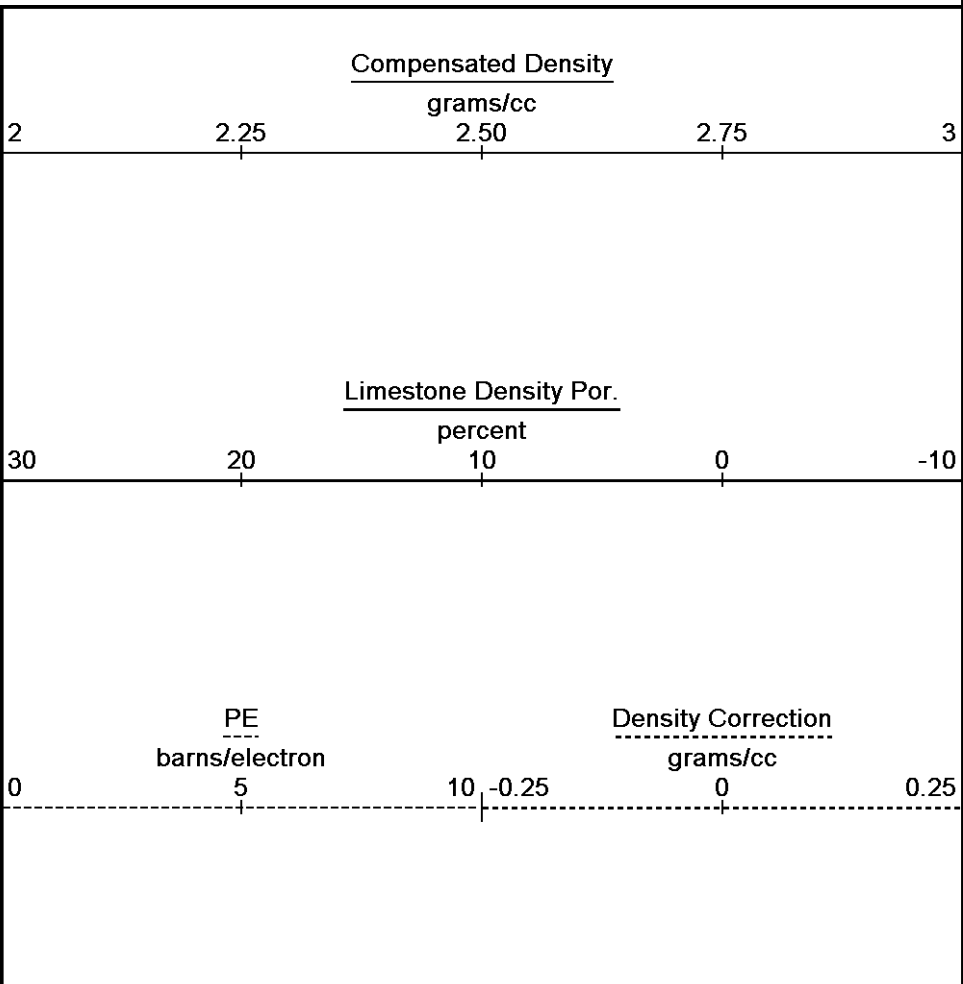
Borehole
Temp in
deg F

HVI
every
10 cu ft

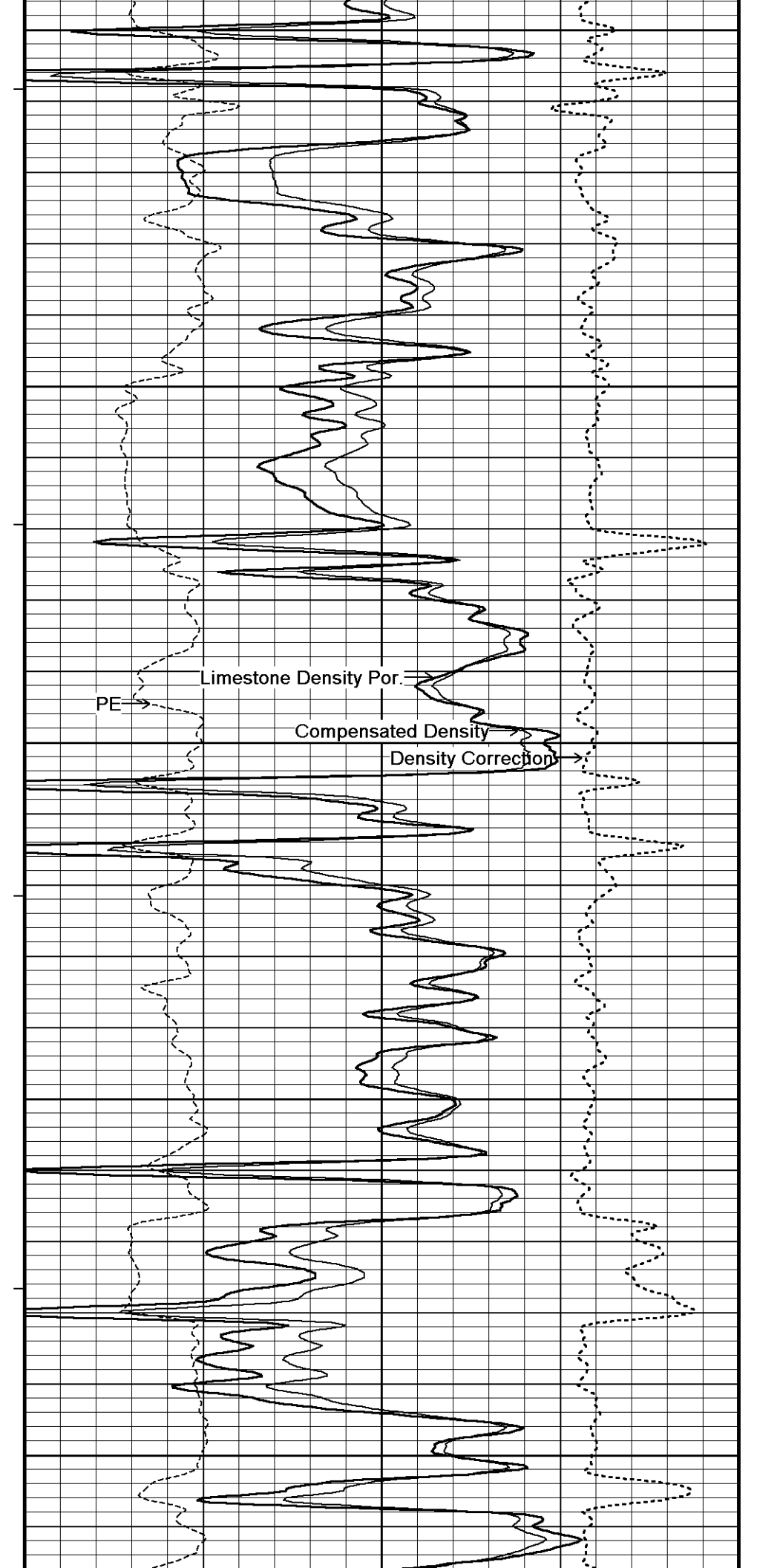
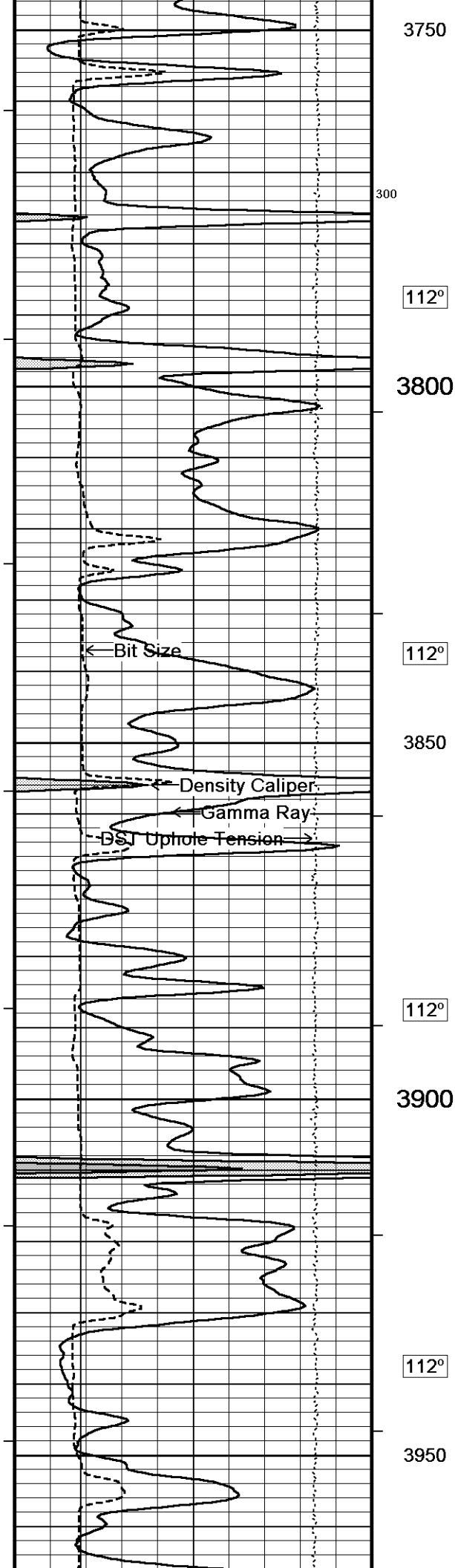
Annular
Integral
every
10 cu ft

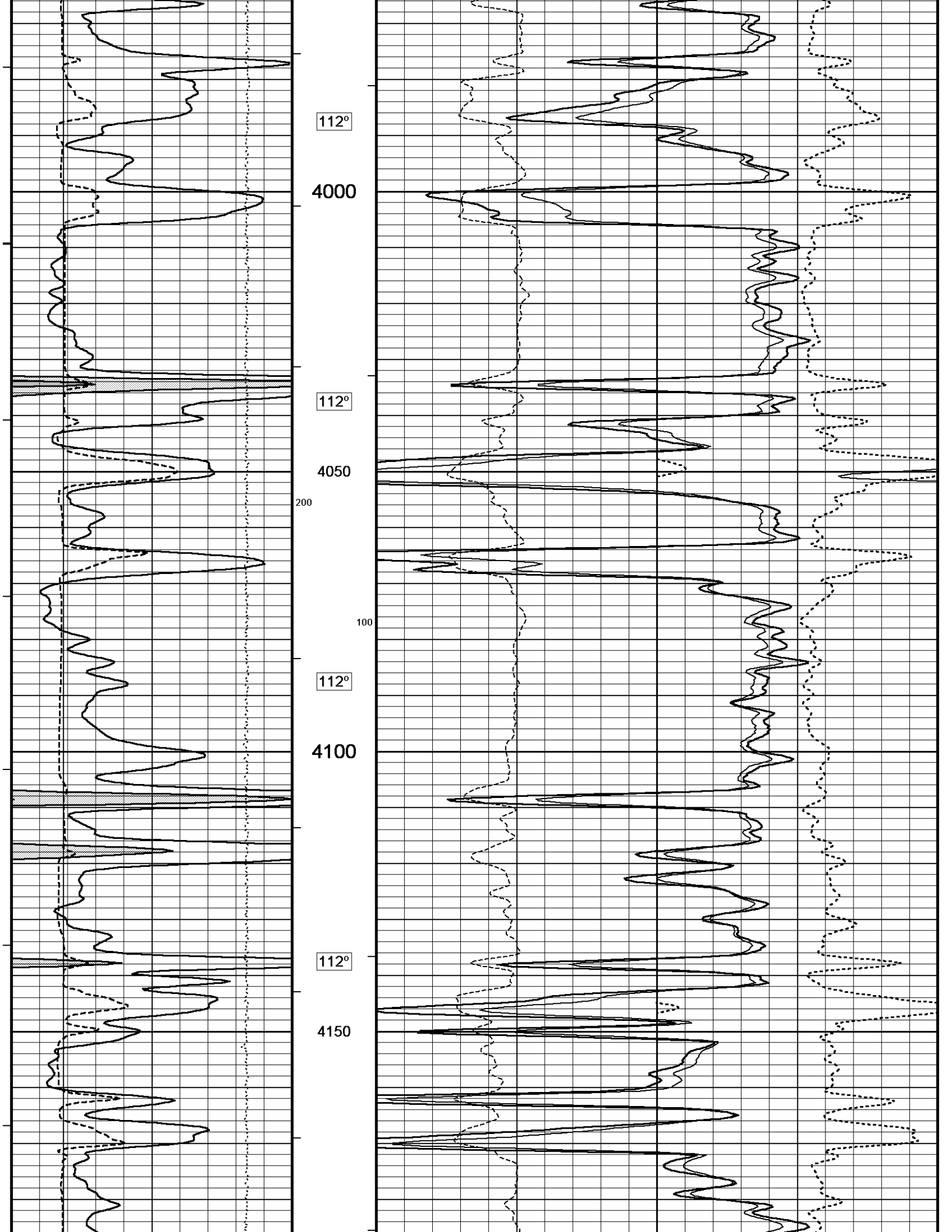
Replay
Scale
1:240

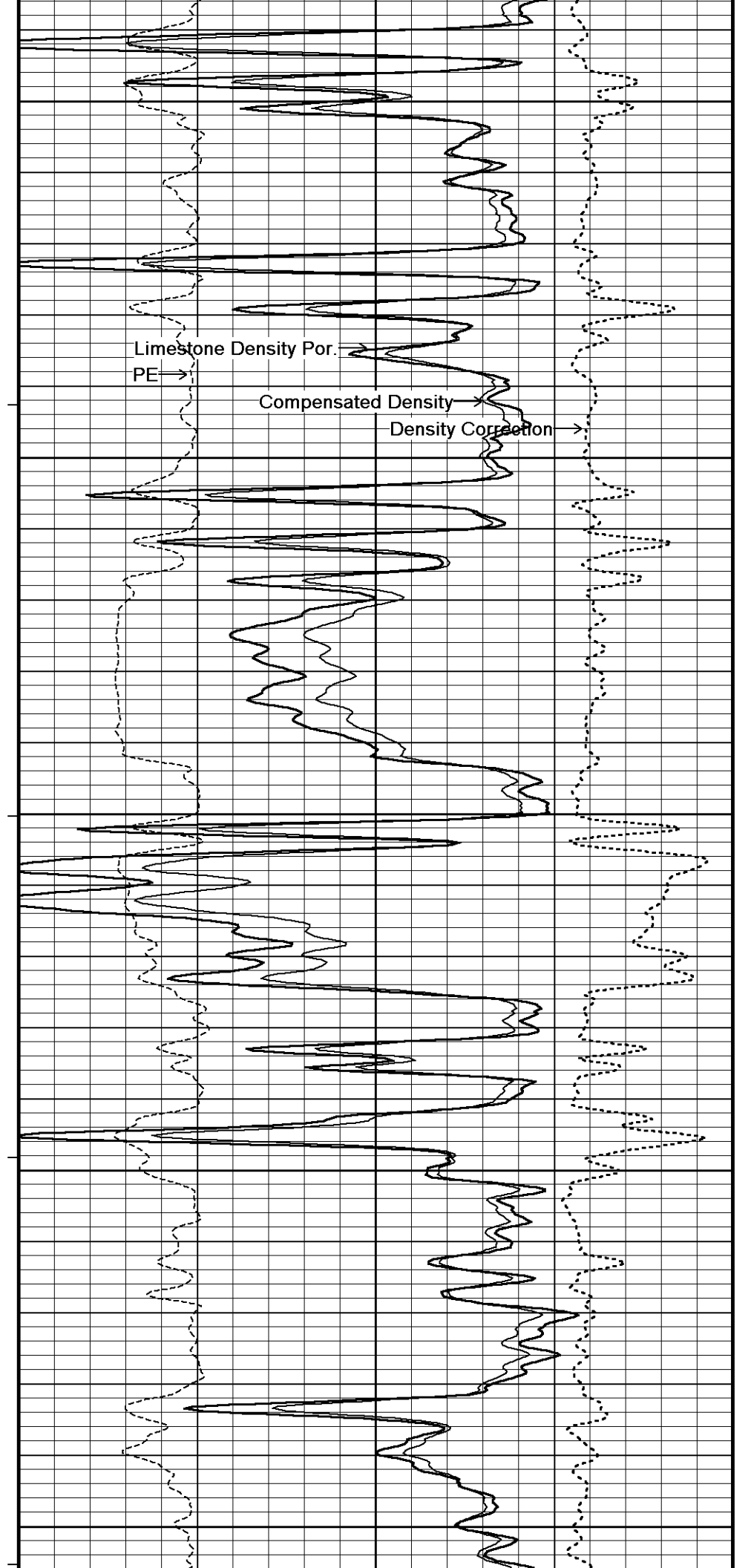
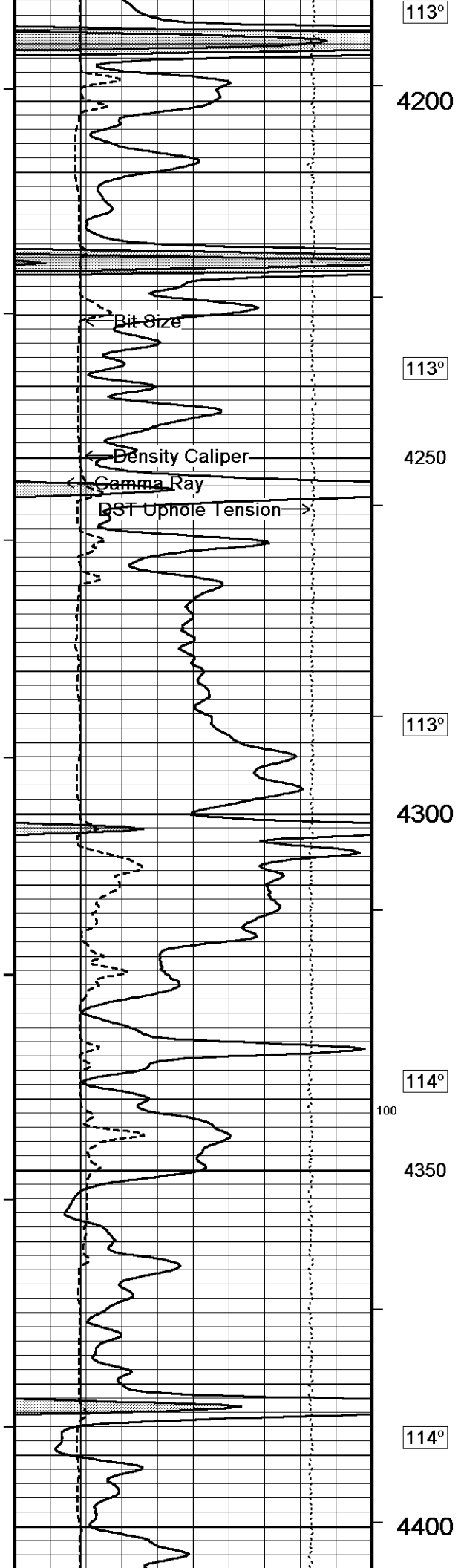
3700

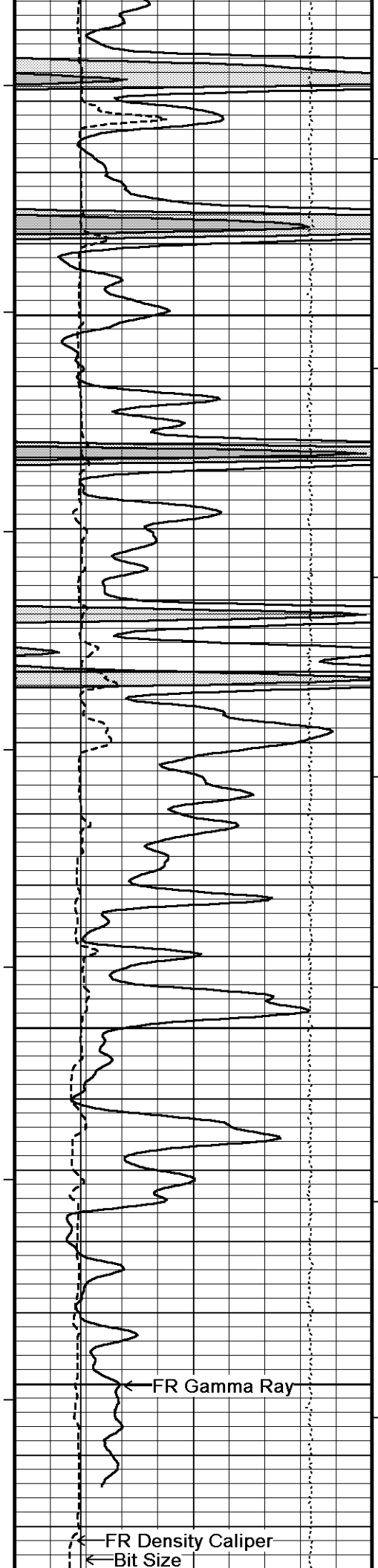


111°









115°

4450

115°

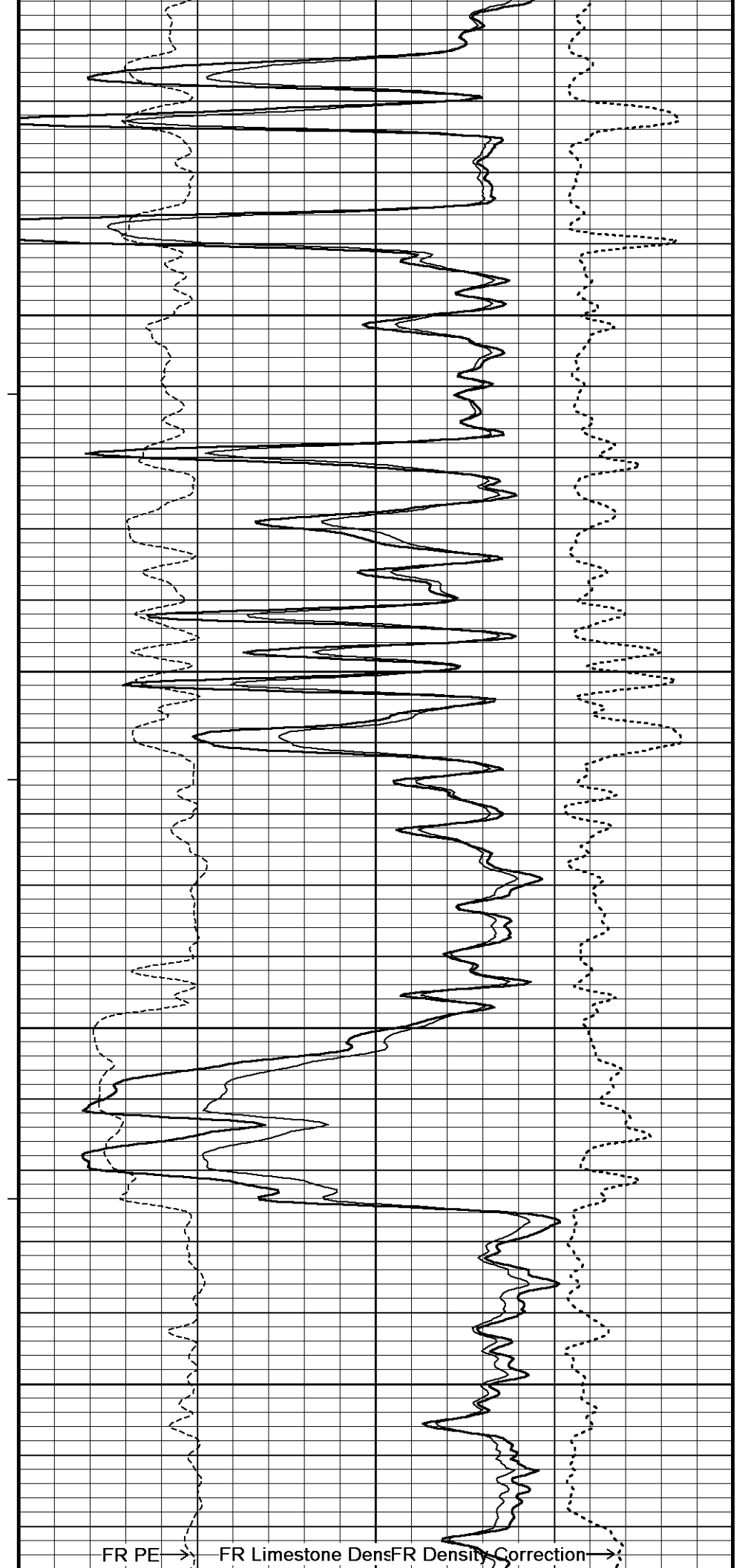
4500

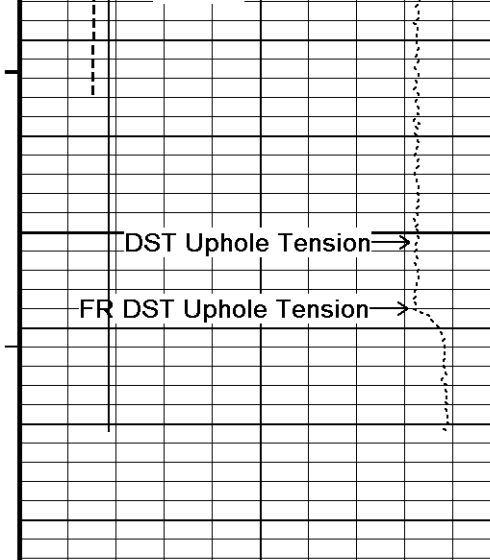
116°

4550

115°

4600



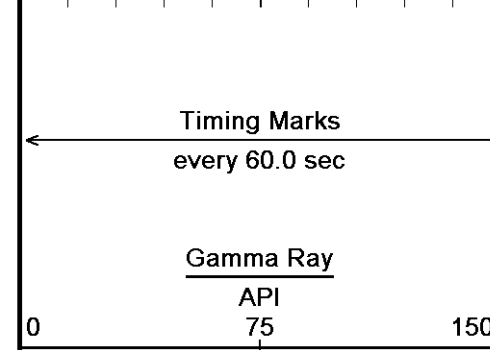
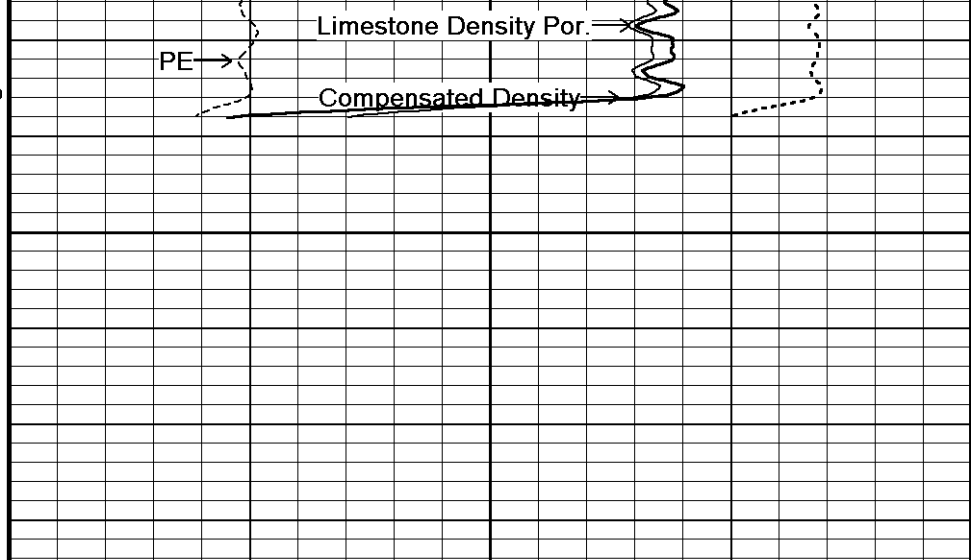


0

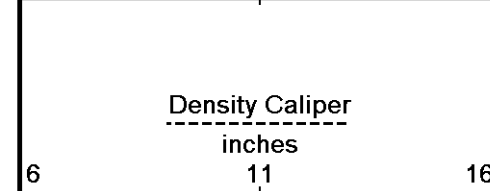
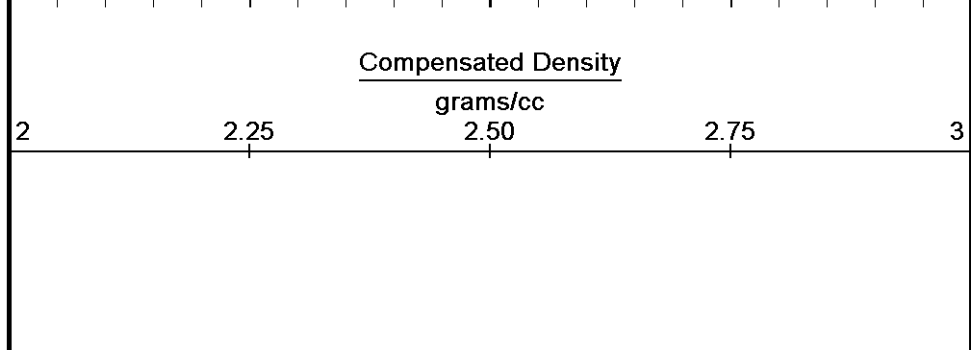
4650

4682

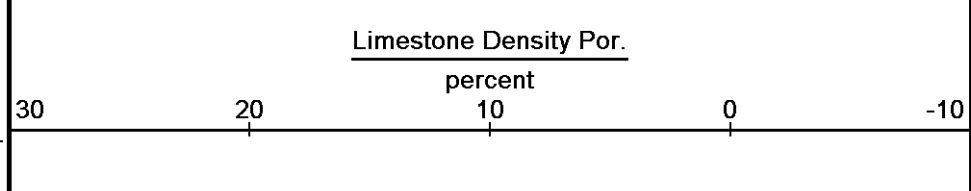
Depth in Feet



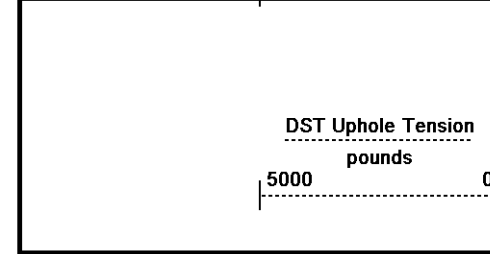
Borehole Temp in deg F



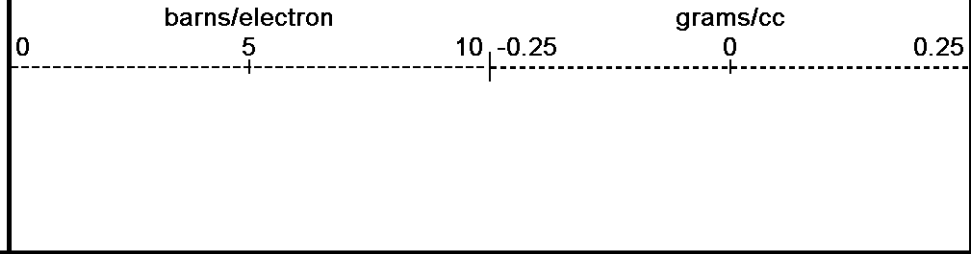
HVI every 10 cu ft



Annular Integral every 10 cu ft



Replay Scale 1:240



Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 29-JUN-2011 21:09

Filename: C:\Minimus 11.02.3186\Data\Shakespeare Peter...\SHAKESPEARE PETERSON 1-8_002.dta Recorded on 29-JUN-2011 18:40

System Versions: Logged with 11.02.3186 Plotted with 11.02.3186

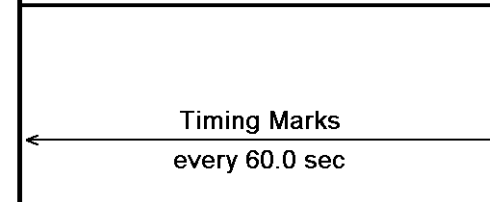
↑ 5 INCH MAIN PASS ↑

↓ 5 INCH REPEAT PASS ↓

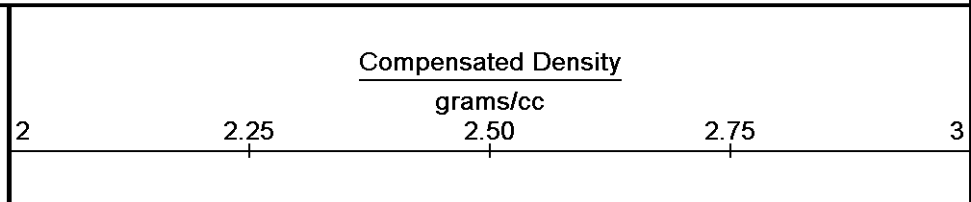
Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 29-JUN-2011 21:09

Filename: C:\Minimus 11.02.3186\Data\Shakespeare Peter...\SHAKESPEARE PETERSON 1-8_001.dta Recorded on 29-JUN-2011 18:18

System Versions: Logged with 11.02.3186 Plotted with 11.02.3186



Depth in Feet



Gamma Ray
API
0 75 150

Density Caliper
inches
6 11 16

Bit Size
inches
6 11 16

DST Uphole Tension
pounds
5000 0

Borehole
Temp in
deg F

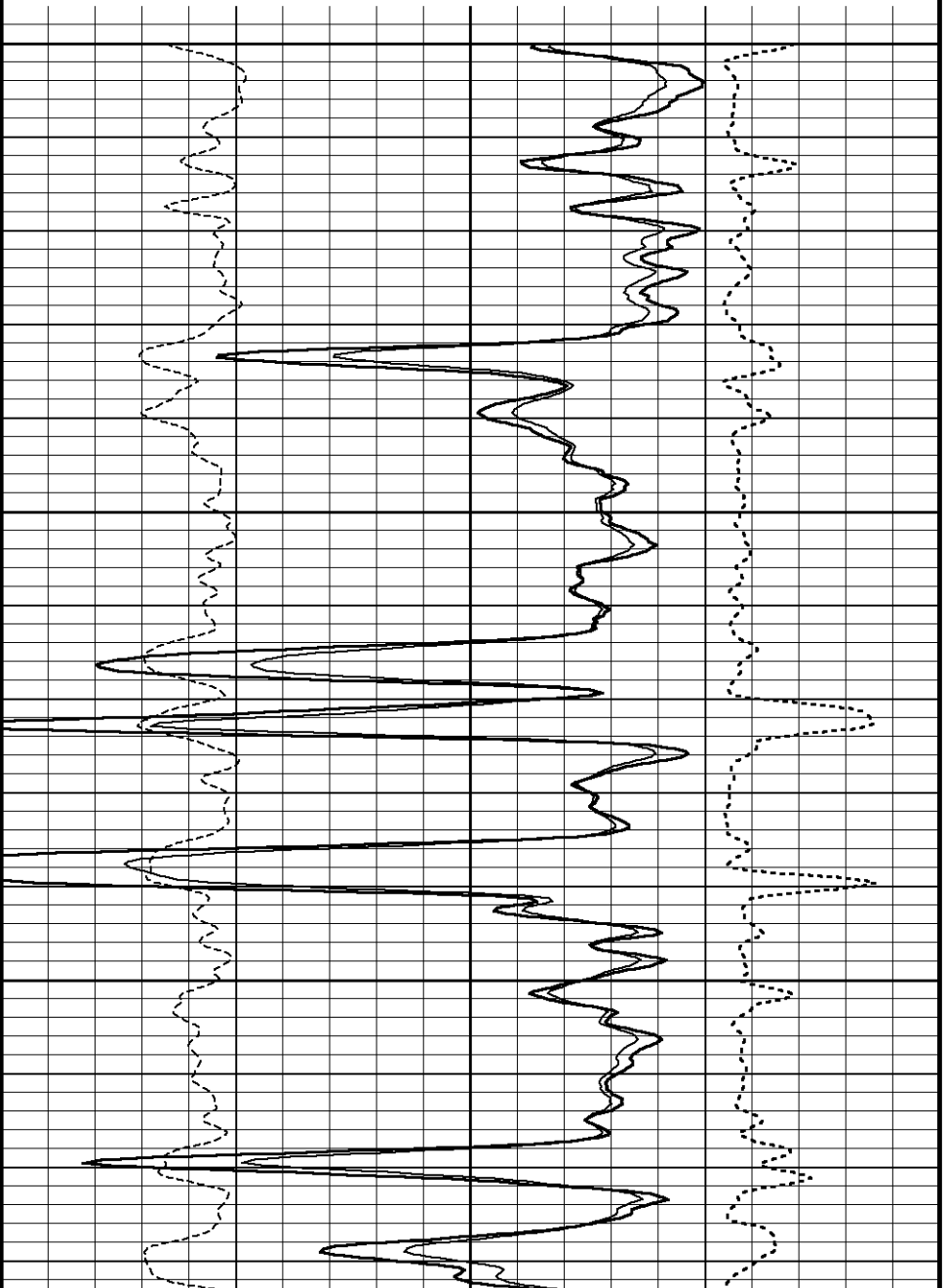
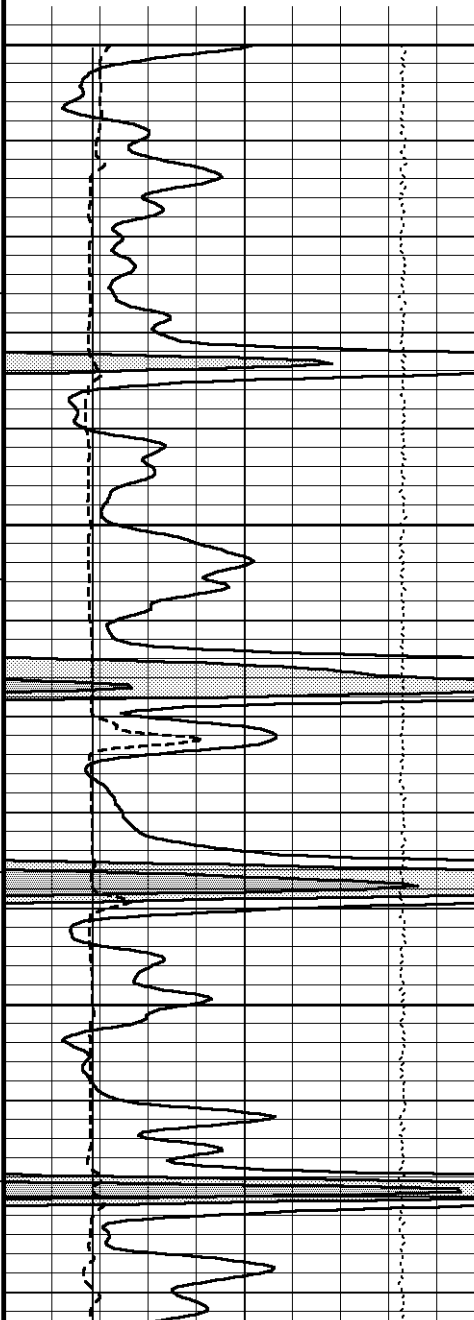
HVI
every
10 cu ft

Annular
Integral
every
10 cu ft

Replay
Scale
1:240

Limestone Density Por.
percent
30 20 10 0 -10

PE
barns/electron
0 5 10
Density Correction
grams/cc
-0.25 0 0.25



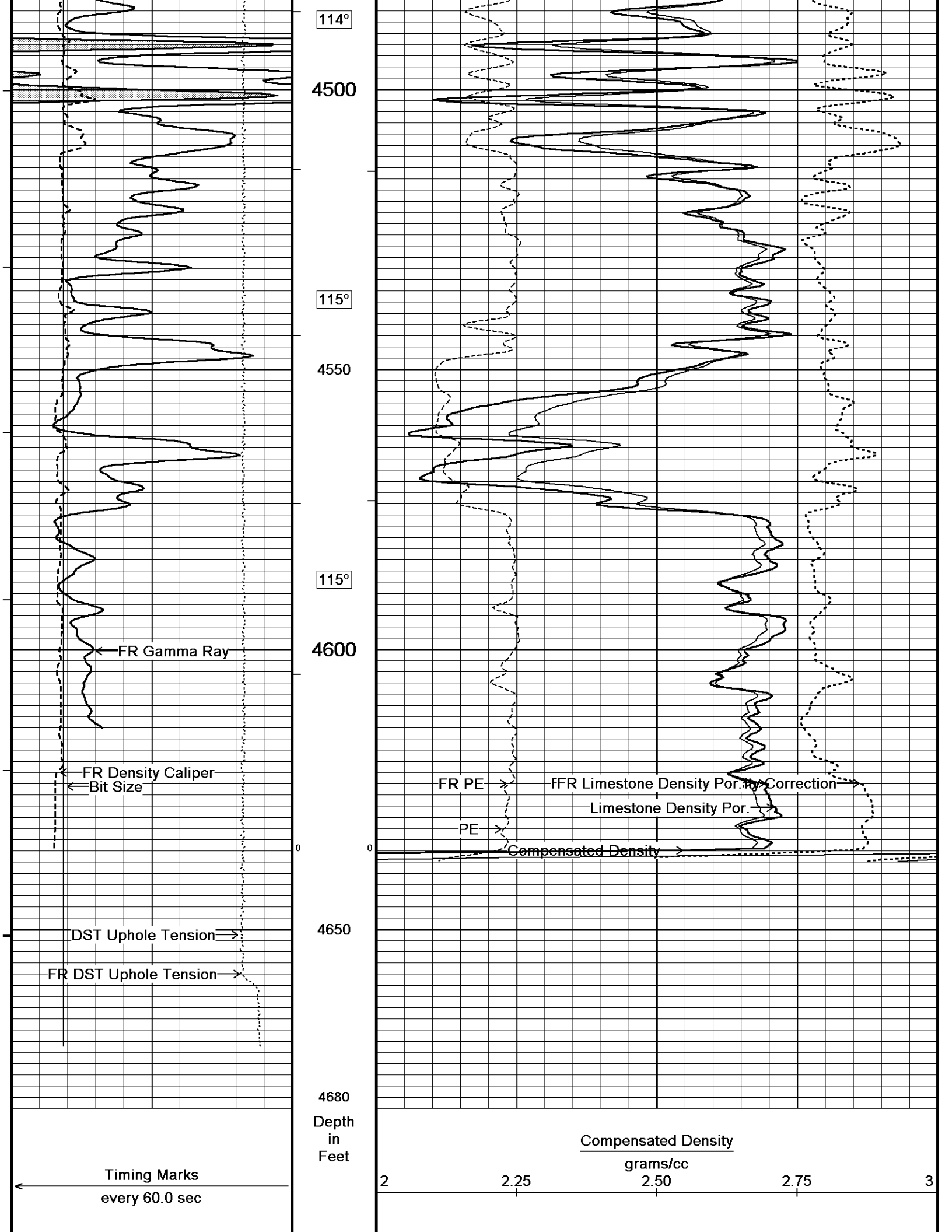
4350

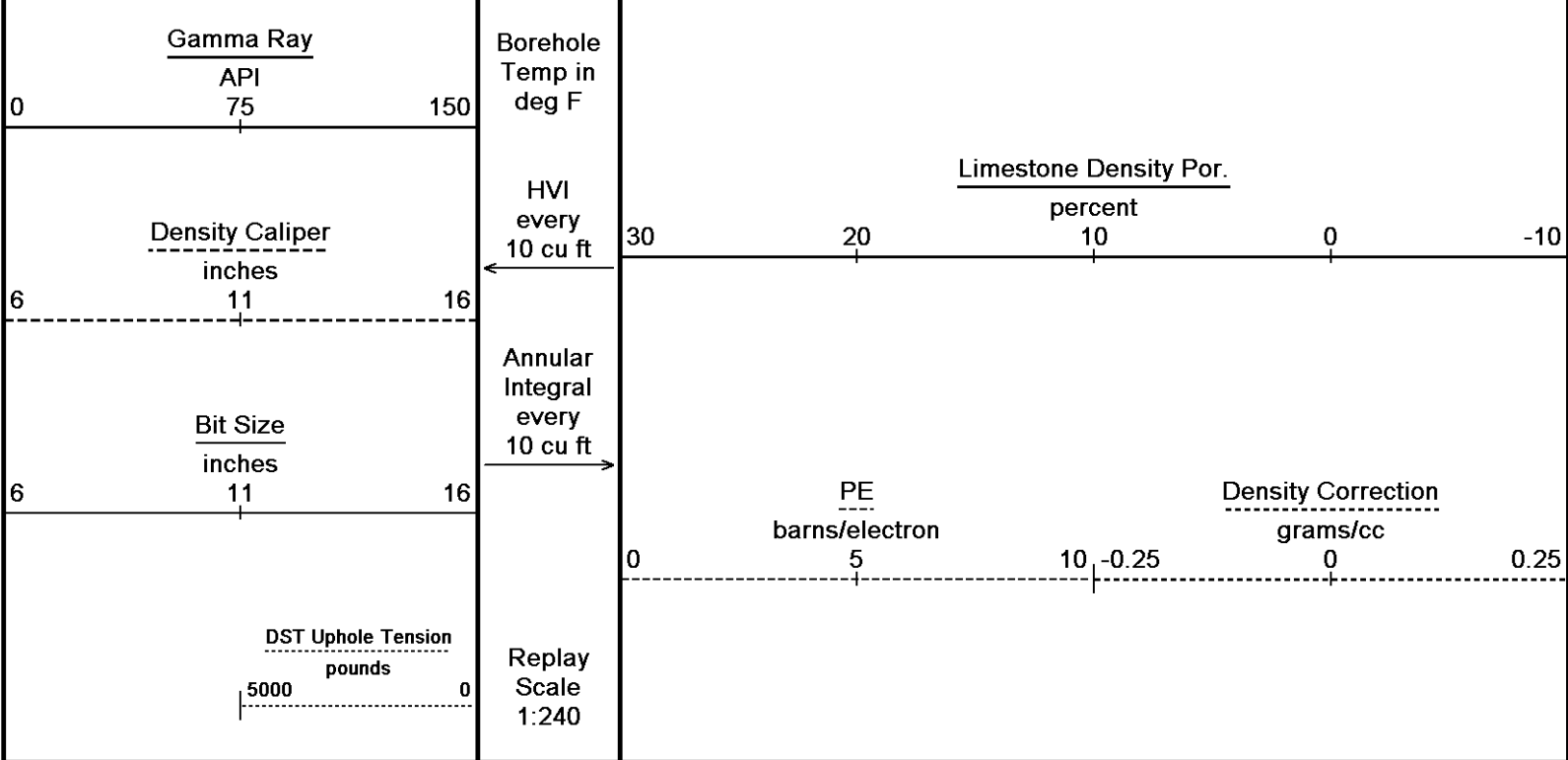
114°

4400

114°

4450





Depth Based Data - Maximum Sampling Increment 10.0cm
 Plotted on 29-JUN-2011 21:09
 Filename: C:\Minimus 11.02.3186\Data\Shakespeare Peter...\SHAKESPEARE PETERSON 1-8_001.dta
 Recorded on 29-JUN-2011 18:18
 System Versions: Logged with 11.02.3186 Plotted with 11.02.3186

↑ **5 INCH REPEAT PASS** ↑

BEFORE SURVEY CALIBRATION
 C:\Minimus 11.02.3186\Data\Shakespeare Peterson #1-8\SHAKESPEARE PETERSON 1-8.dta

General Constants All 000 Last Edited on 29-JUN-2011,16:55

General Parameters		
Mud Resistivity	0.450	ohm-metres
Mud Resistivity Temperature	94.000	degrees F
Water Level	0.000	feet
Density/Neutron 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	Base Density Porosity	
Resistivity used	Array Ind. One Res Rt	
RWA Constant A	1.000	
RWA Constant M	2.000	

Down-hole Tension Calibration SMS 0 Field Calibration on 05-JUN-2011 04:37

Reading No	Measured	Calibrated (lbs)
1	13499.89	0.00
2	14983.70	496.00

SP Calibration MCG-B 34 Field Calibration on 20-APR-2011 14:53

	Measured	Calibrated (mV)
Reference 1	106.7	100.0
Reference 2	-95.0	-100.0

Gamma Calibration MCG-B 34 Field Calibration on 28-JUN-2011 14:29

	Measured	Calibrated (API)
--	----------	------------------

Background	Measured	64	Calibrated (API)	44
Calibrator (Gross)		1113		769
Calibrator (Net)		1049		725

Gamma Constants MCG-B 34

Last Edited on 29-JUN-2011,16:56

Gamma Calibrator Number	grc38		
Mud Density	1.13	gm/cc	
Caliper Source for Processing	Bit Size		
Tool Position	Eccentred		
Concentration of KCl	0.00	kppm	

High Resolution Temperature Calibration MCG-B 34

Field Calibration on 05-MAR-2011,23:56

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

High Resolution Temperature Constants MCG-B 34

Last Edited on

Pre-filter Length	11
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Caliper Calibration MML-A 4

Base Calibration on 16-MAY-2011 09:38

Field Calibration on 28-JUN-2011 14:15

Base Calibration		
Reading No	Measured	Calibrator Size (in)
1	14953	5.98
2	18280	7.97
3	21656	9.86
4	25588	11.92
5	0	0.00
6	N/A	N/A
Field Calibration		
	Measured Caliper (in)	Actual Caliper (in)
	6.04	5.98

Micro Normal and Micro Inverse Calibration MML-A 4

Base Calibration on 16-MAY-2011 09:23

Field Check on 28-JUN-2011 14:07

Base Calibration					
Channel	Resistor 1	Resistor 2	Measured		
			Calibrated (ohm-m)		
Micro Normal	12.1	60.1	2.6	12.8	
Micro Inverse	15.6	78.3	1.7	8.4	
Channel	Base Check (ohm-m)		Field Check (ohm-m)		
	Micro Normal	32.2	32.2		
	Micro Inverse	16.3	16.3		

Micro Normal and Micro Inverse Constants MML-A 4

Last Edited on 28-JUN-2011,14:06

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	

Neutron Calibration MDN-A.B 65

Base Calibration on 16-MAY-2011 11:23

Field Check on 28-JUN-2011 14:23

Base Calibration					
Ratio	Near	Far	Measured		
			Calibrated (cps)		
	3166	99	3714	33.764	110
Field Calibrator at Base			Calibrated (cps)		
Ratio			1629	2336	0.697
Field Check			Calibrated (cps)		
Ratio			1621	2337	0.693

Neutron Constants MDN-A.B 65

Last Edited on 29-JUN-2011,16:56

Neutron Source Id	757	
Neutron Jig Number	5824NE	
Epithermal Neutron	No	
Caliper Source for Processing	Density Caliper	
Stand-off	0.00	inches
Mud Density	1.13	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	MCG External Temperature	
Temperature	N/A	degrees F
Mud Salinity	0.00	kppm
Formation Fluid Salinity Source	Constant Value	
Formation Fluid Salinity	0.00	kppm
Barite Mud Correction	Not Applied	

FE Calibration MFE-A.A 55

Base Calibration on 21-JUN-2011 10:19
Field Check on 28-JUN-2011 14:43

Base Calibration			
	Measured	Calibrated (ohm-m)	
Reference 1	0.0	0.0	
Reference 2	953.6	126.8	
Base Check		281.3	
Field Check		281.3	

FE Constants MFE-A.A 55

Last Edited on 29-JUN-2011,16:57

Running Mode	No Sleeve	
MFE K Factor	0.1268	
Caliper Source for FE correction	Density Caliper	
Caliper Value for FE correction	N/A	inches
Rm Source for FE correction	Temperature Corr	
Temp. for Rm Corr.	MCG External Temperature	
Stand-off	0.5	inches

Sonic Constants MSS-A.A 126

Last Edited on 29-JUN-2011,16:56

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
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Waveform Used For Processing	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/A			N/A	N/A
N/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	

High Resolution Temperature Calibration MAI-A.A 45

Field Calibration on 13-AUG-2010,13:31

	Measured	Calibrated(Deg F)
Lower	50.00	50.00
Upper	100.00	100.00

High Resolution Temperature Constants MAI-A.A 45

Last Edited on

Pre-filter Length 11

Induction Calibration MAI-A.A 45

Base Calibration on 13-AUG-2010,13:32
Field Check on 28-JUN-2011 14:42

Base Calibration

Test Loop Calibration

Channel	Measured		Calibrated (mmho/m)	
	Low	High	Low	High
1	14.5	473.5	9.3	966.2
2	5.2	373.4	7.6	821.4
3	2.8	260.6	5.2	566.0
4	1.6	132.2	2.6	279.2

Array Temperature 86.2 Deg F

Channel	Base Check (mmho/m)		Field Check (mmho/m)	
	Low	High	Low	High
1	0.0	0.0	19.6	3845.9
2	0.0	0.0	33.2	3632.1
3	0.0	0.0	30.1	3050.7
4	0.0	0.0	20.5	2094.1
Deep	0.0	0.0	18.1	1920.8
Medium	0.0	0.0	43.4	4051.4
Shallow	0.0	0.0	50.4	5476.2

Array Temperature 0.0 84.8 Deg F

Induction Constants MAI-A.A 45

Last Edited on 29-JUN-2011,16:56

Induction Model	RtAP-WBM	
Caliper for Borehole Corr.	Density Caliper	
Hole Size for Borehole Correction	N/A	inches
Tool Centred	No	
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

Borehole Corr. Rm Source		Temperature Corr	
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

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	

Caliper Calibration MPD-B 65

Base Calibration on 16-MAY-2011 09:53
Field Calibration on 28-JUN-2011 14:08

Base Calibration			
Reading No		Measured	Calibrator Size (in)
1		13344	3.99
2		21952	5.98
3		30560	7.97
4		38880	9.86
5		48095	11.92
6		N/A	N/A

Field Calibration			
		Measured Caliper (in)	Actual Caliper (in)
		6.02	5.98

Photo Density Calibration MPD-B 65

Base Calibration on 16-MAY-2011 10:48
Field Check on 28-JUN-2011 14:14

Density Calibration					
Base Calibration					
		Measured		Calibrated (sdu)	
		Near	Far	Near	Far
Reference 1		51543	24465	59556	30836
Reference 2		20910	2298	24941	2541

Field Check at Base		
	1247.1	1201.6

Field Check		
	1248.2	1194.8

PE Calibration					
Base Calibration					
		Measured		Calibrated	
		WS	WH	Ratio	Ratio
Background		227	1108		
Reference 1	19826	51340	0.390	0.371	
Reference 2	5731	20764	0.280	0.272	

Field Check at Base		
	226.6	1107.8

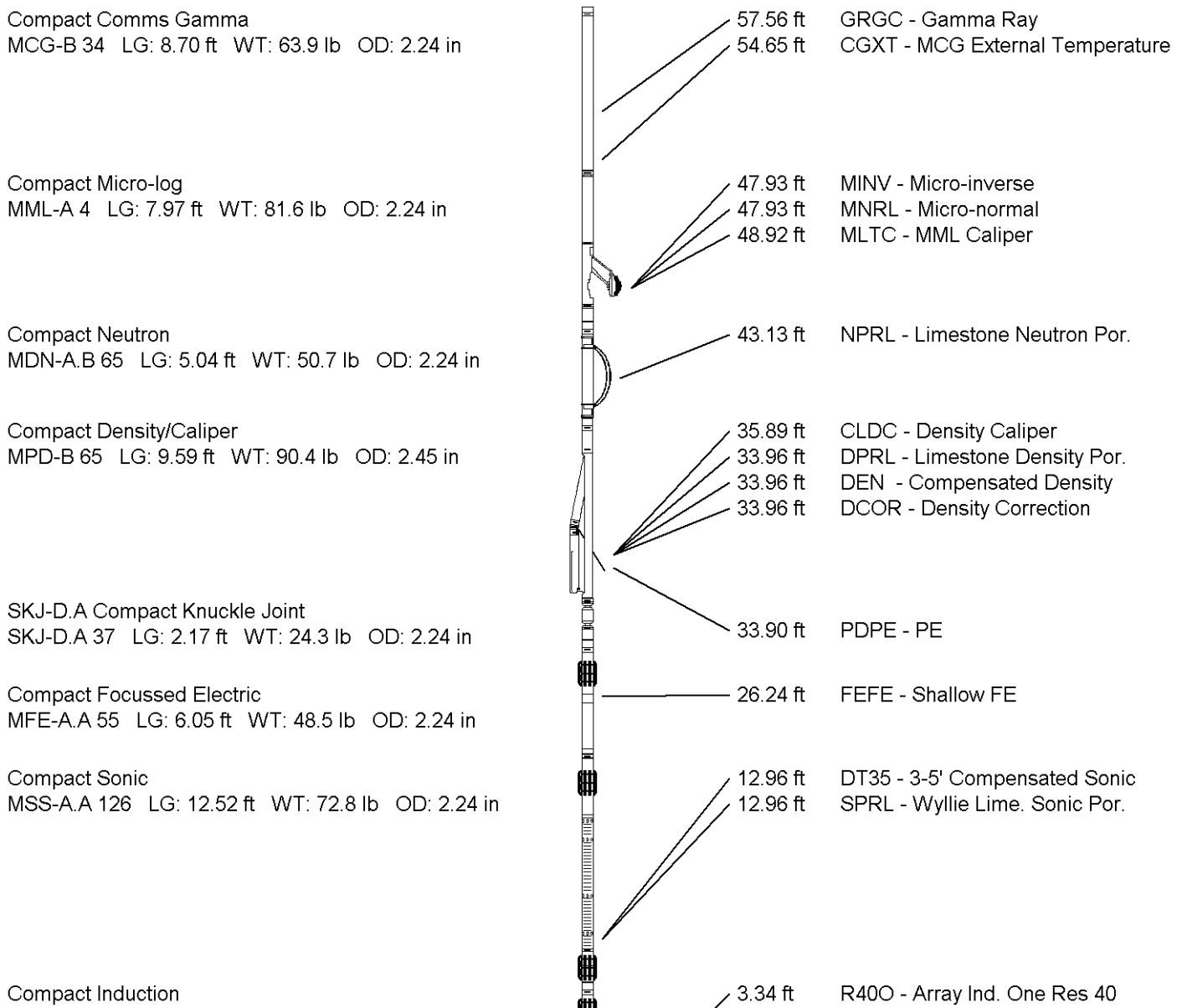
Field Check		
	226.0	1110.4

Density Source Id	254	
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	1.13	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

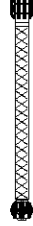
DOWNHOLE EQUIPMENT

C:\Minimus 11.02.3186\Data\Shakespeare Peterson #1-8\SHAKESPEARE PETERSON 1-8.dta



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

Total Length: 62.84 ft Weight: 480.6 lb



3.34 ft RTAO - Array Ind. One Res Rt
 3.34 ft R60O - Array Ind. One Res 60
 0.23 ft SPCG - Spontaneous Potential
 Tool Zero (0.13ft from bottom)
 -0.13 ft SMTU - DST Uphole Tension
 All measurements relative to tool zero.

COMPANY SHAKESPEARE OIL COMPANY, INC.
WELL PETERSON #1-8
FIELD STRATFORD WEST
PROVINCE/COUNTY LOGAN
COUNTRY/STATE U.S.A. / KANSAS

Elevation Kelly Bushing	2970.00	feet	First Reading	4624.00	feet
Elevation Drill Floor	2968.00	feet	Depth Driller	4660.00	feet
Elevation Ground Level	2965.00	feet	Depth Logger	4658.00	feet



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