



Weatherford

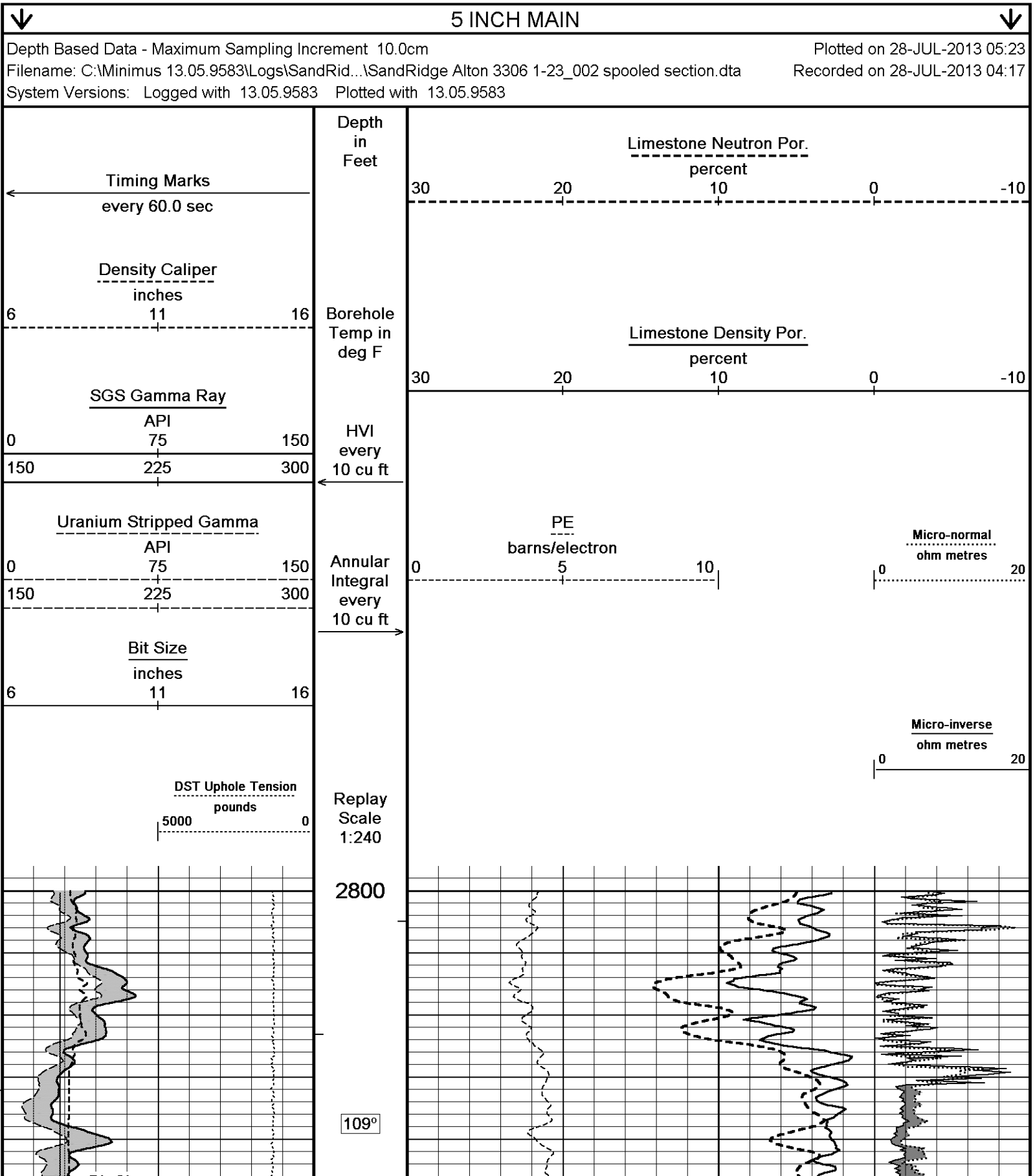
**COMPACT PHOTO DENSITY
COMPENSATED NEUTRON**

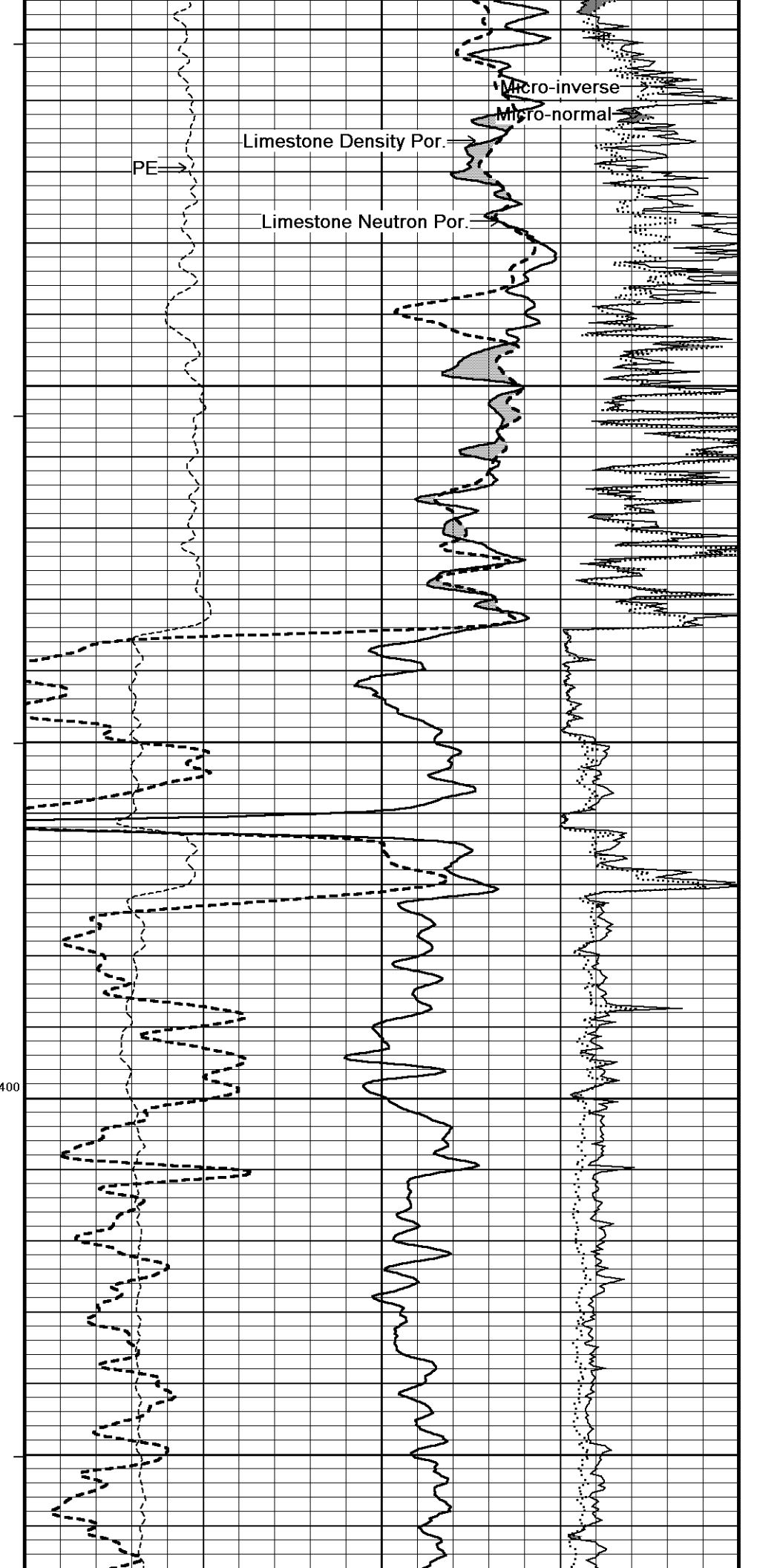
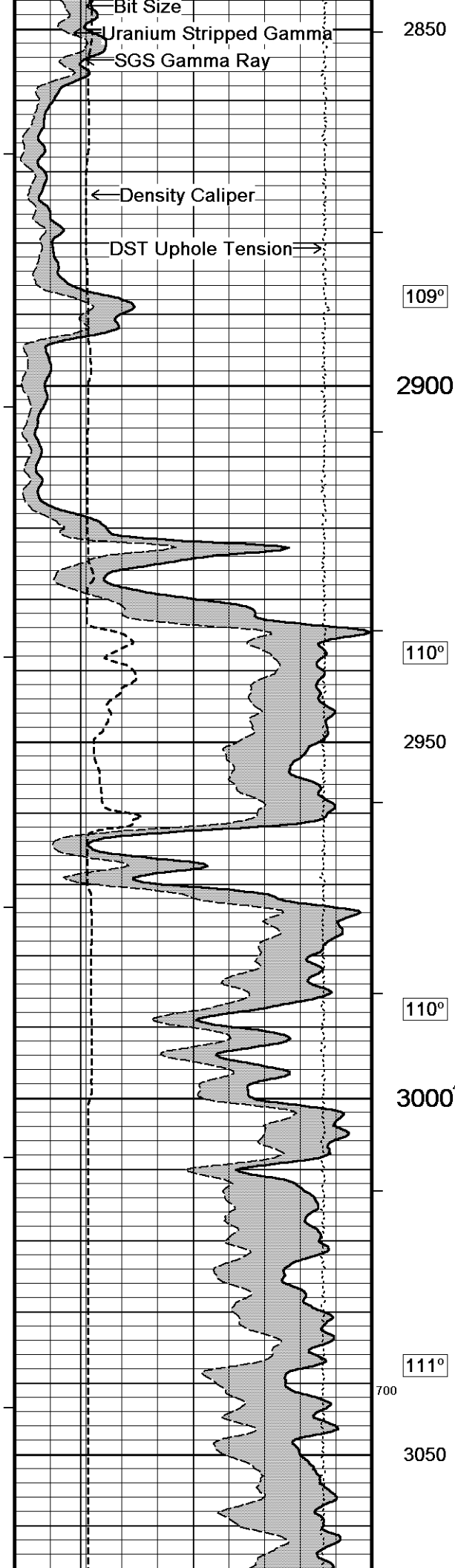
COMPANY				SANDRIDGE EXPLORATION AND PRODUCTION LLC.			
WELL				ALTON 3306 1-23			
FIELD				STOHRVILLE			
PROVINCE/COUNTY				HARPER			
COUNTRY/STATE				U.S.A / KANSAS			
LOCATION				660' FNL & 560' FWL			
SEC	TWP	RGE	Other Services				
	33S	6W	MAI/MFE				
API Number	15-077-219520000		SGS				
Permit Number	DC13109		MML				
Permanent Datum G.L., Elevation 1308 feet							
Log Measured From KB					Elevations: KB 1317.00		
Drilling Measured From K.B. @ 9 FEET					DF 1316.00		
					GL 1308.00		
Date	27-JUL-2013						
Run Number	ONE						
Service Order	3539902						
Depth Driller	4920.00				feet		
Depth Logger	4918.00				feet		
First Reading	4899.00				feet		
Last Reading	2800.00				feet		
Casing Driller	630.00				feet		
Casing Logger	628.00				feet		
Bit Size	7.875				inches		
Hole Fluid Type	CHEMICAL						
Density / Viscosity	8.80 lb/USg		43.00 CP				
PH / Fluid Loss	9.80		8.60 ml/30Min				
Sample Source	FLOWLINE						
Rm @ Measured Temp	0.66 @ 83.0		ohm-m				
Rmf @ Measured Temp	0.48 @ 83.0		ohm-m				
Rmc @ Measured Temp	0.80 @ 83.0		ohm-m				
Source Rmf / Rmc	CALC	CALC					
Rm @ BHT	0.41 @134.0		ohm-m				
Time Since Circulation	4 HOURS						
Max Recorded Temp	134.00		deg F				
Equipment / Base	13057		LIB				
Recorded By	ROB HOFFMAN						
Witnessed By	TAMMY ALCORN				GREG RAVERA		
JOB #	LB13-215						

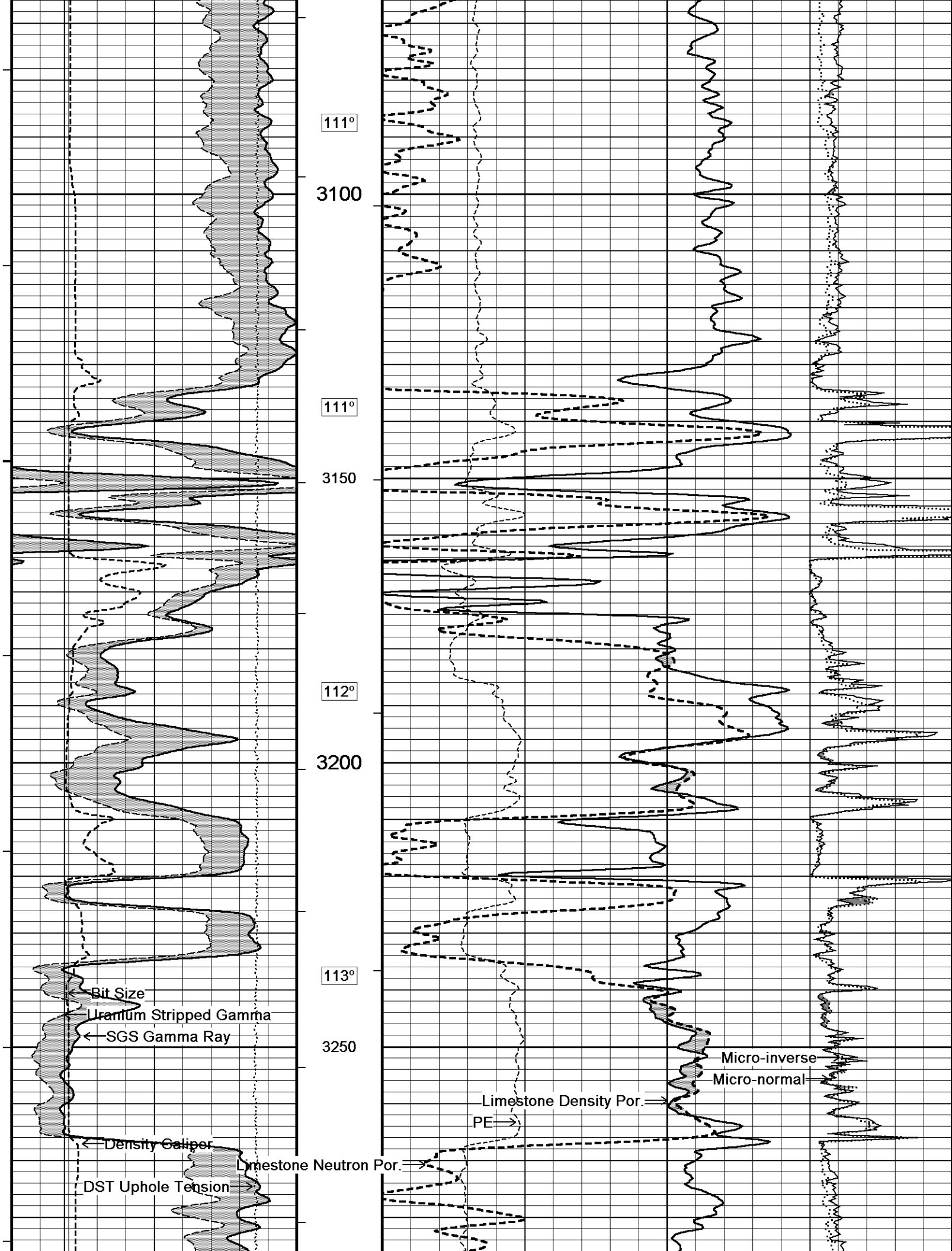
BOREHOLE RECORD					Last Edited: 27-JUL-2013 23:40
Bit Size inches		Depth From feet		Depth To feet	
7.875		630.00		4920.00	
CASING RECORD					
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft	
SURFACE	8.625	0.00	630.00	24.00	

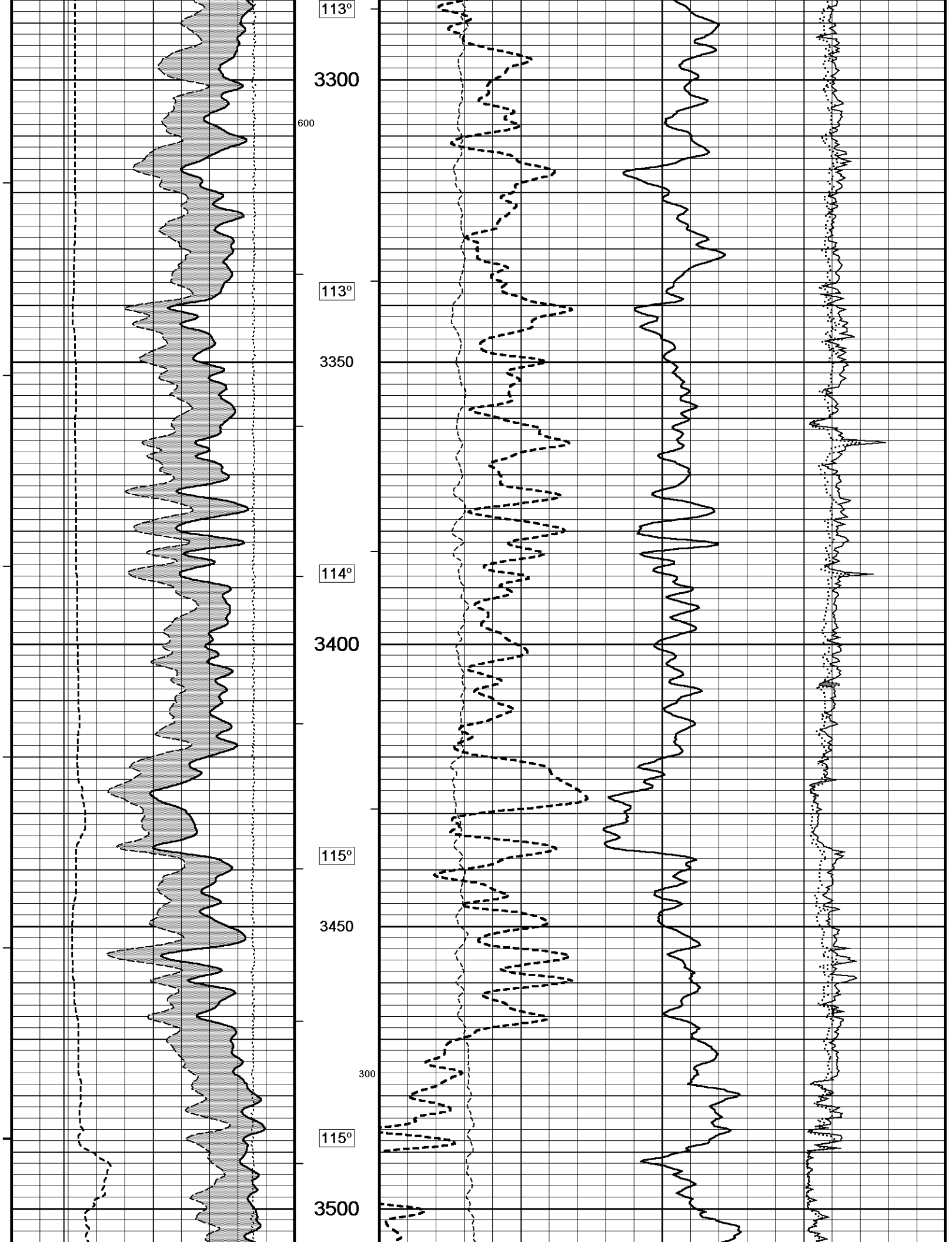
REMARKS
- SOFTWARE ISSUE: WLS 13.05.9583.
MCG, SGS, MML, MDN, MPD, MFE, MAI RUN IN COMBINATION.
- HARDWARE: DUAL BOWSPRING USED ON MDN.
0.5 INCH STANDOFF USED ON MFE.
0.5 INCH STANDOFF USED ON MAI.
- 2.71 G/CC LIMESTONE DENSITY MATRIX USED TO CALCULATE POROSITY.
- BOREHOLE RUGOSITY, TIGHT PULLS, AND WASHOUTS WILL AFFECT DATA QUALITY.
- ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST.
- ANNULAR HOLE VOLUME WITH 5.5 INCH PRODUCTION CASING FROM TD TO SURFACE CASING: 442 CU.FT.
- RIG: HORIZON RIG #3
- ENGINEER: ROB HOFFMAN

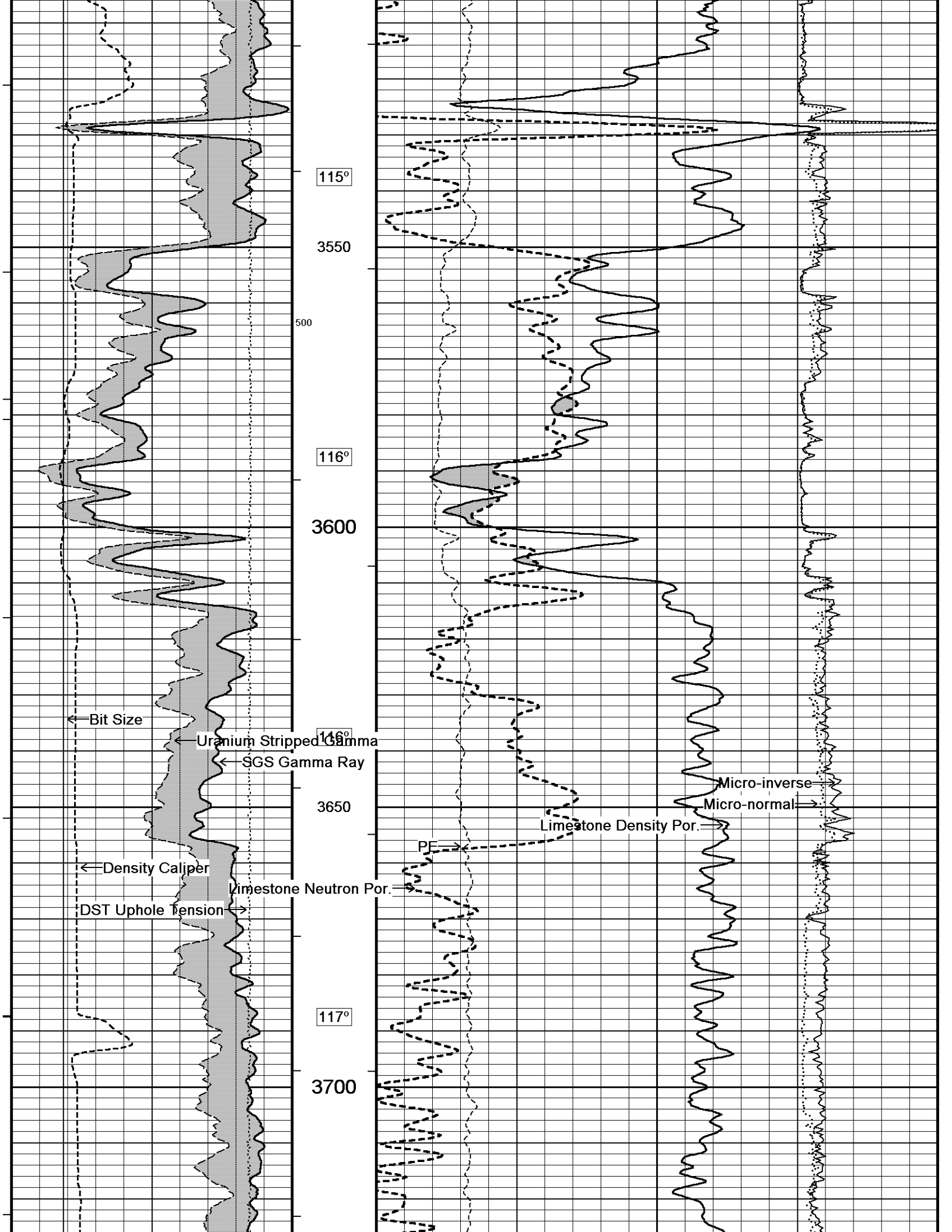
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs, 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.

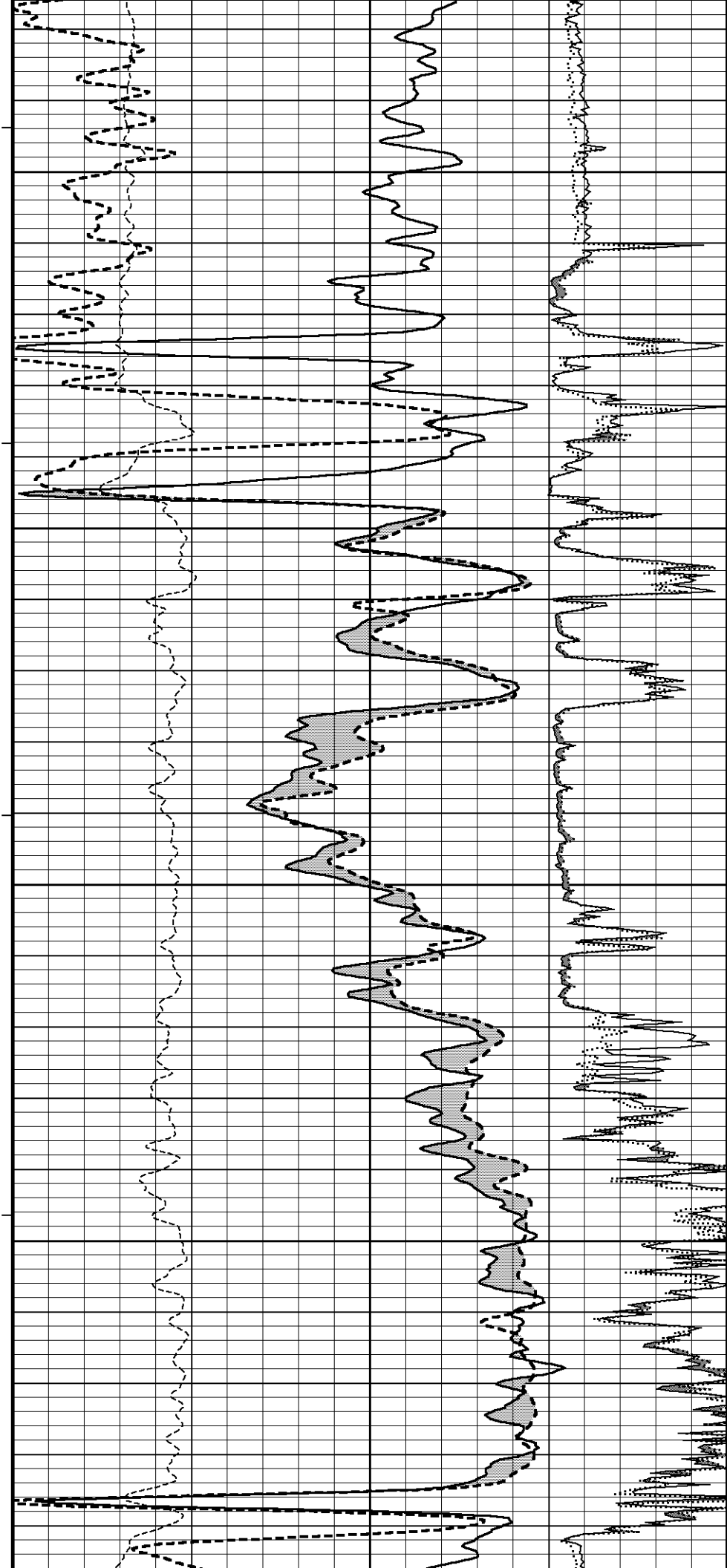
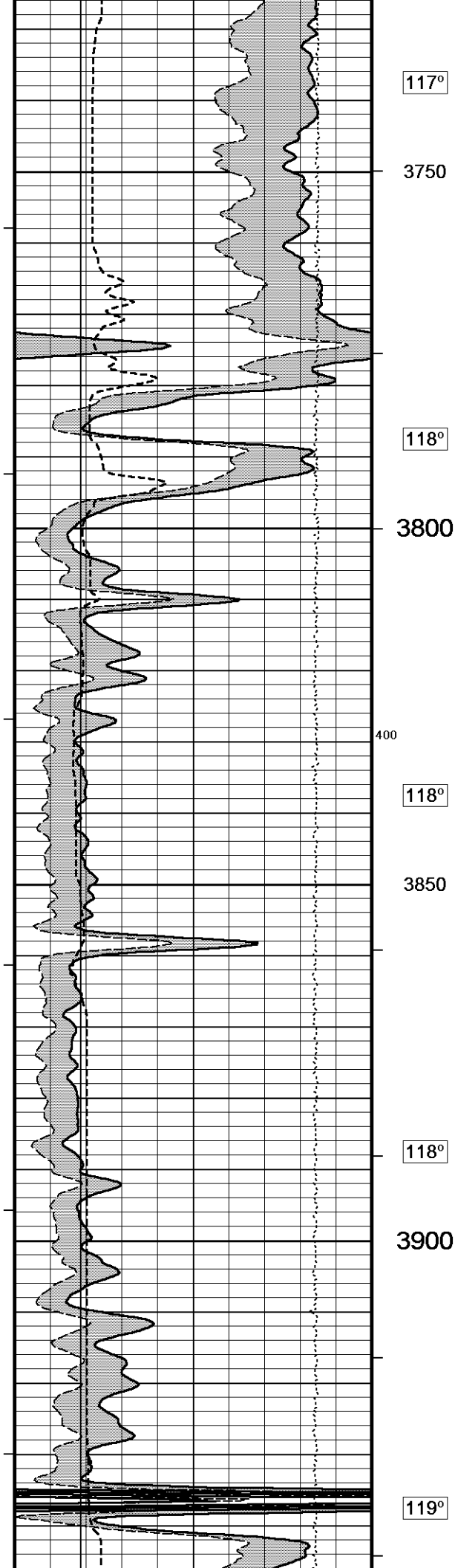


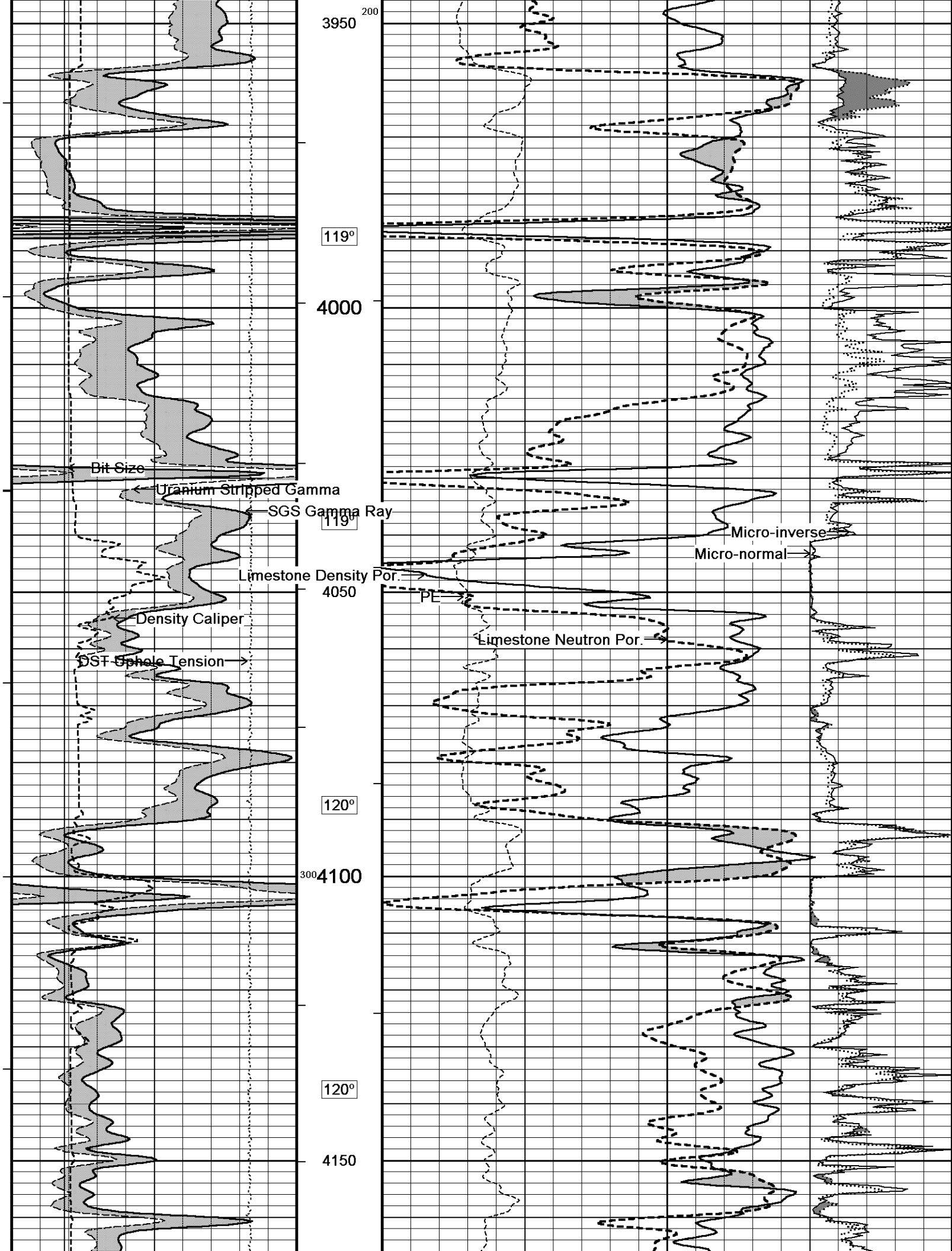


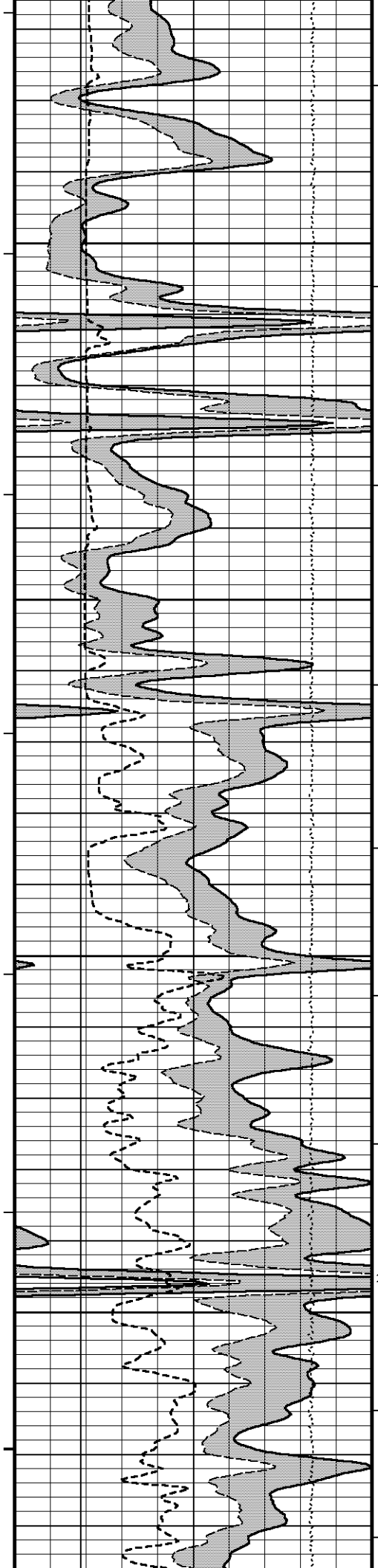












121°

4200

121°

4250

120°

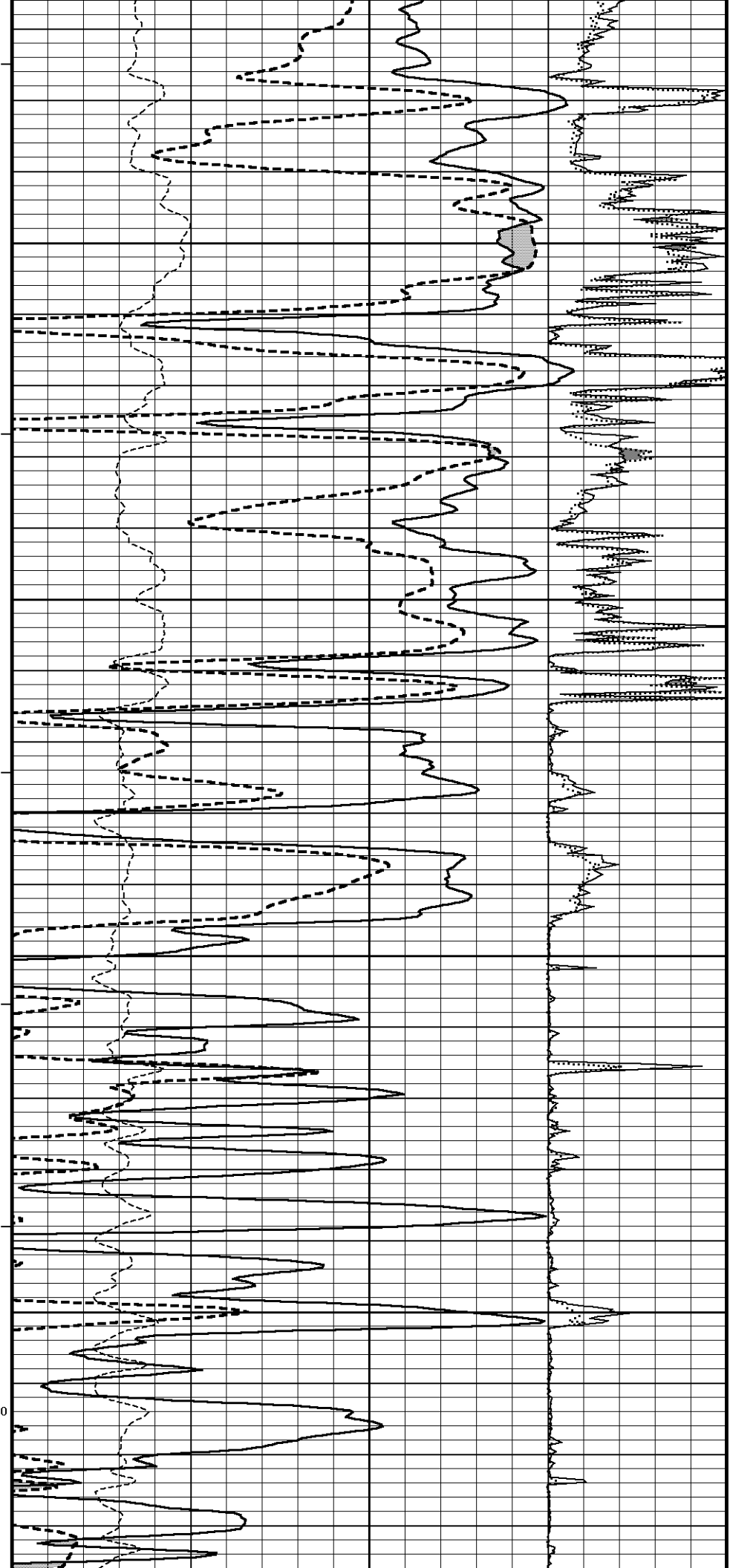
4300

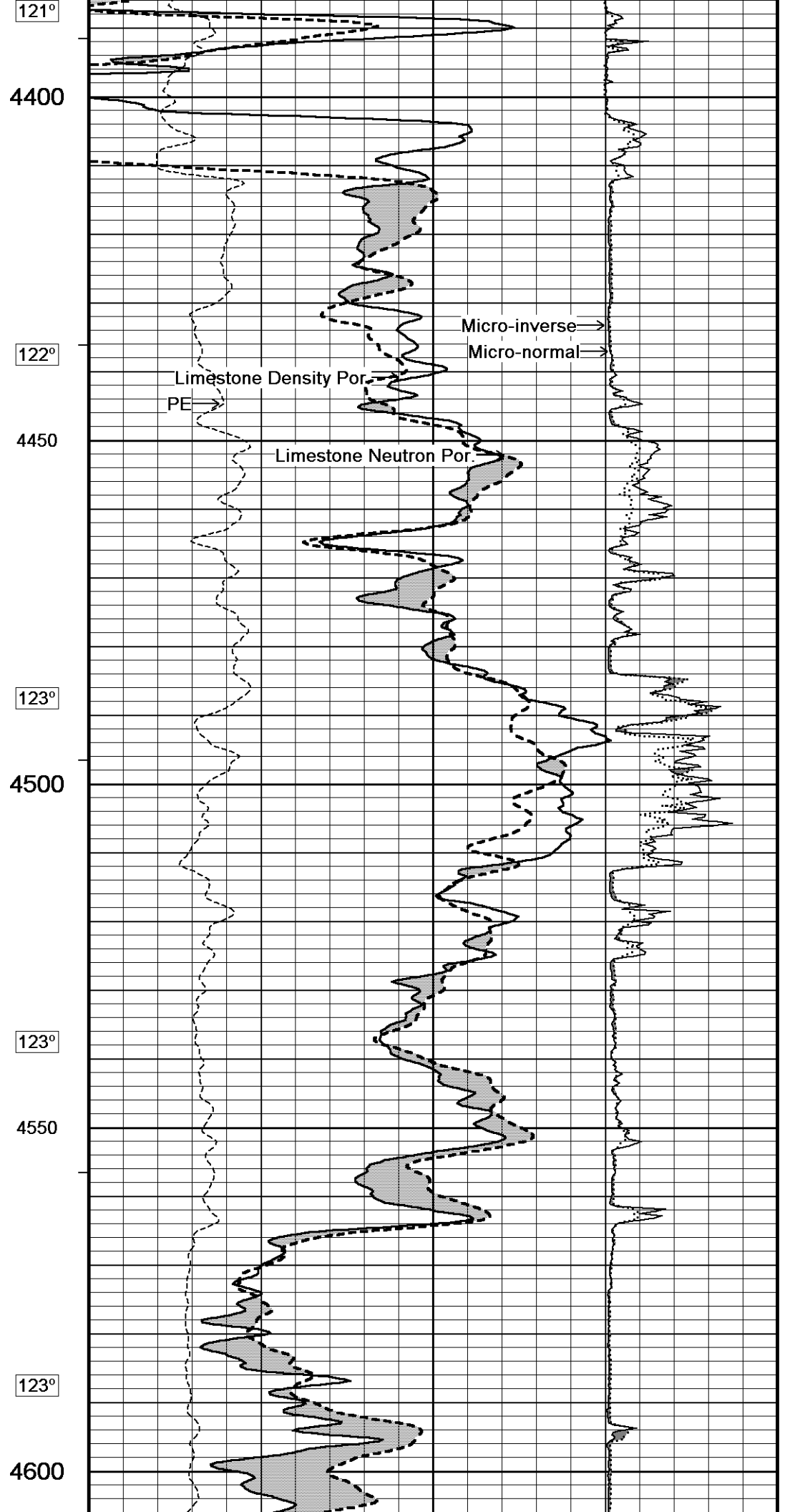
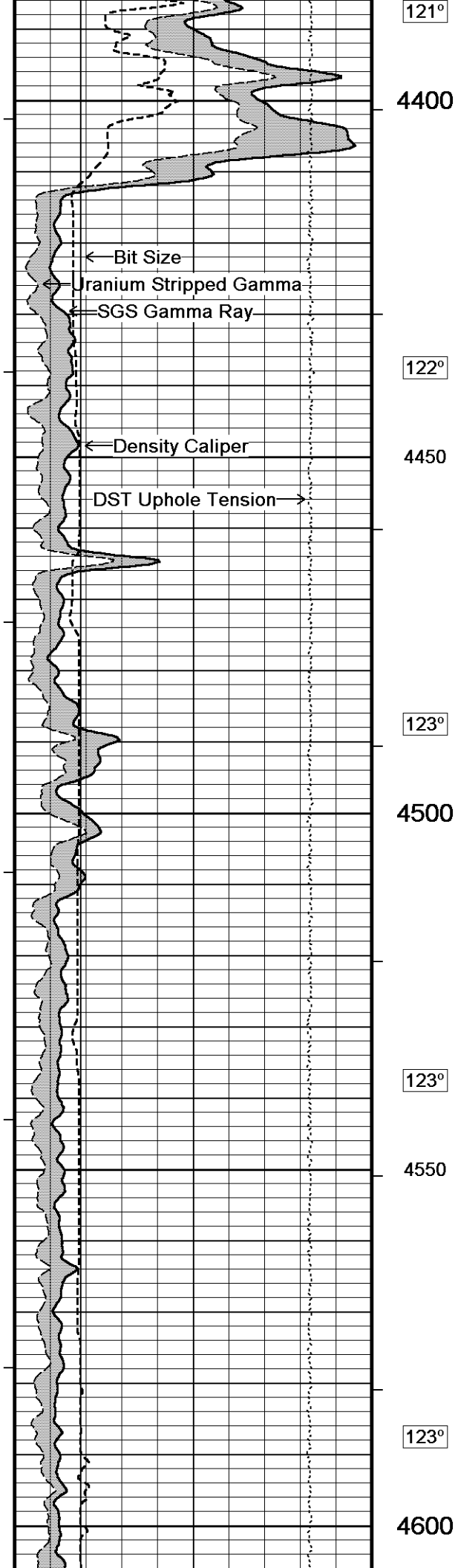
120°

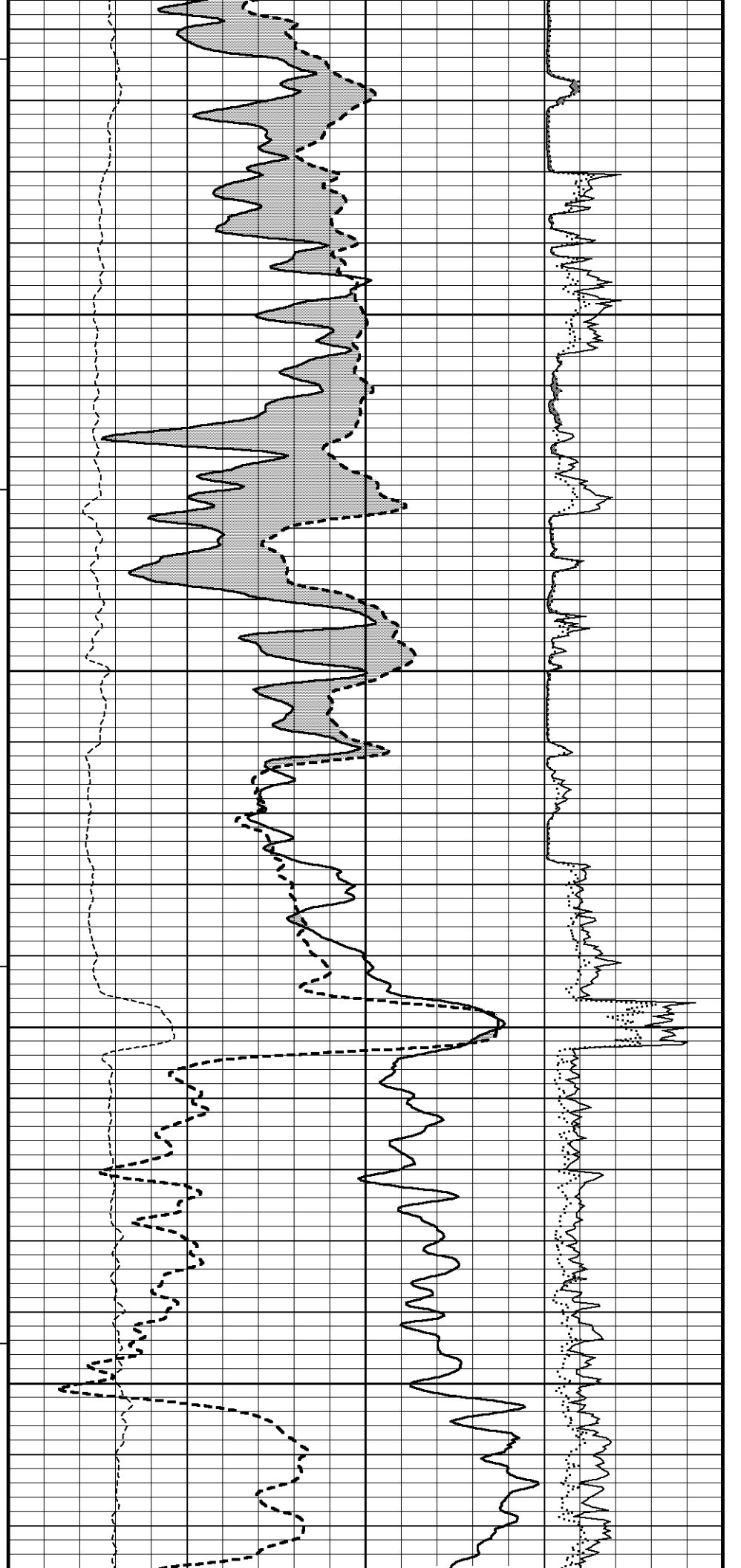
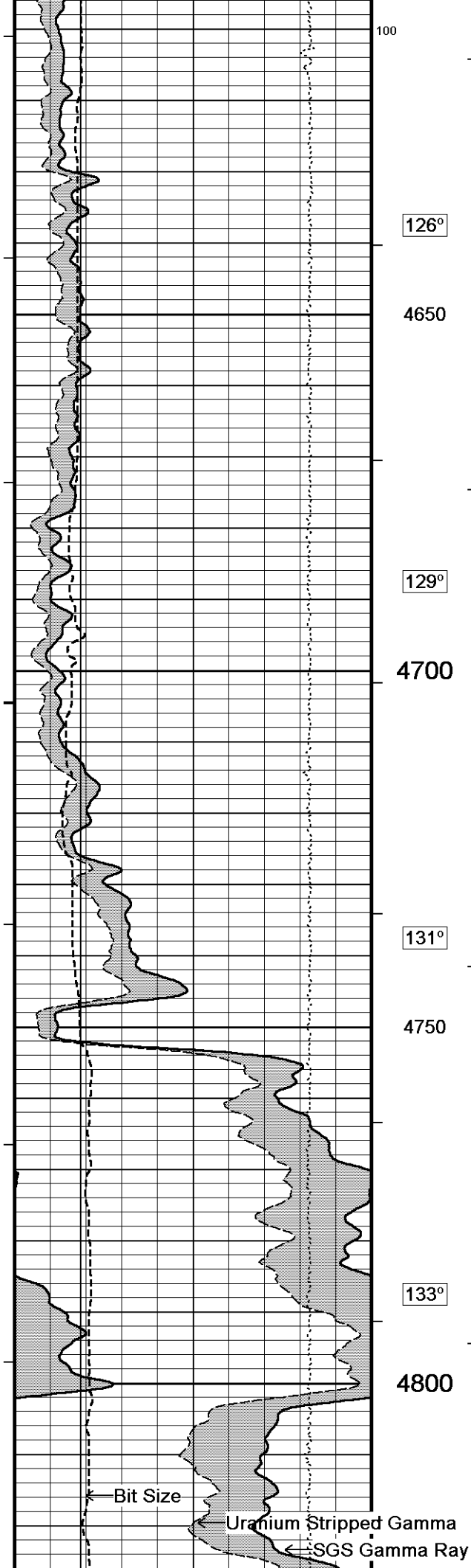
200

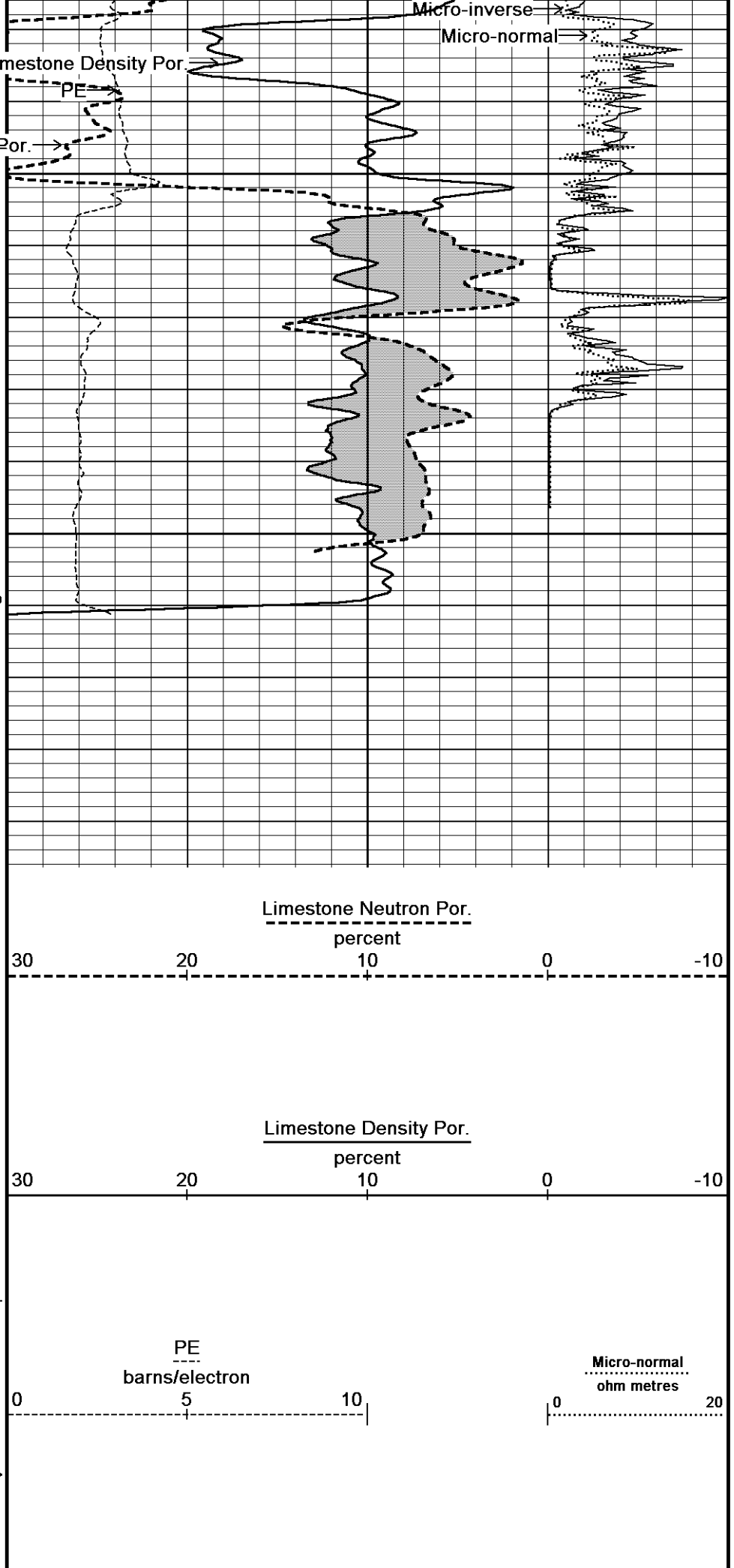
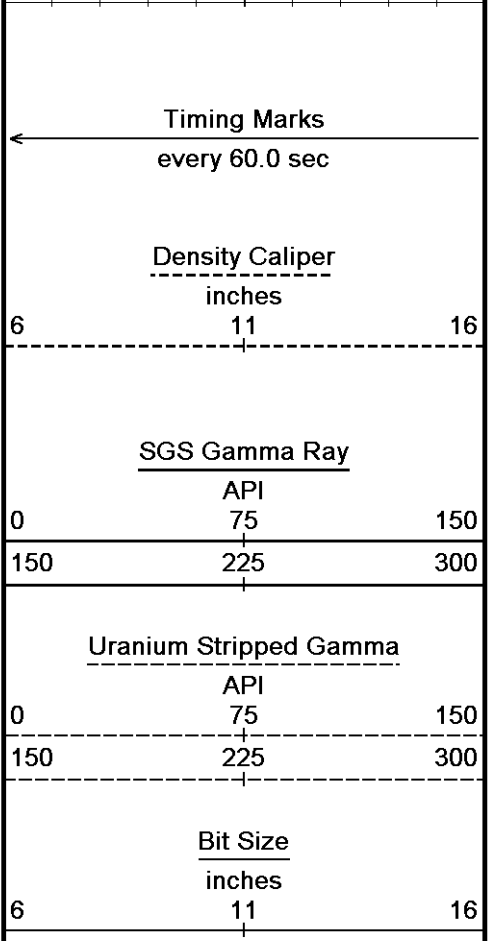
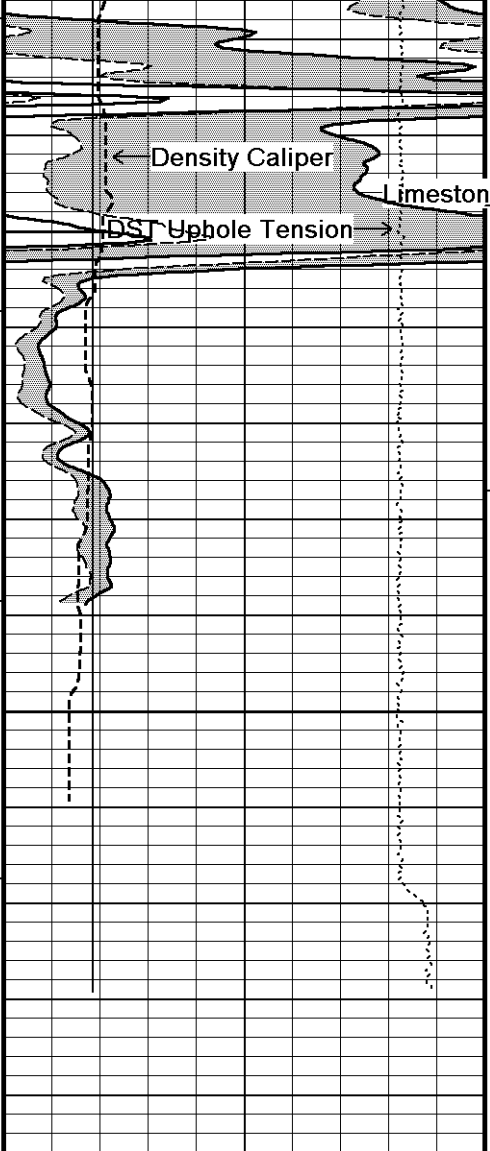
4350

100











Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 28-JUL-2013 05:23

Filename: C:\Minimus 13.05.9583\Logs\SandRidge Alton 3306 1-23_002 spooled section.dta

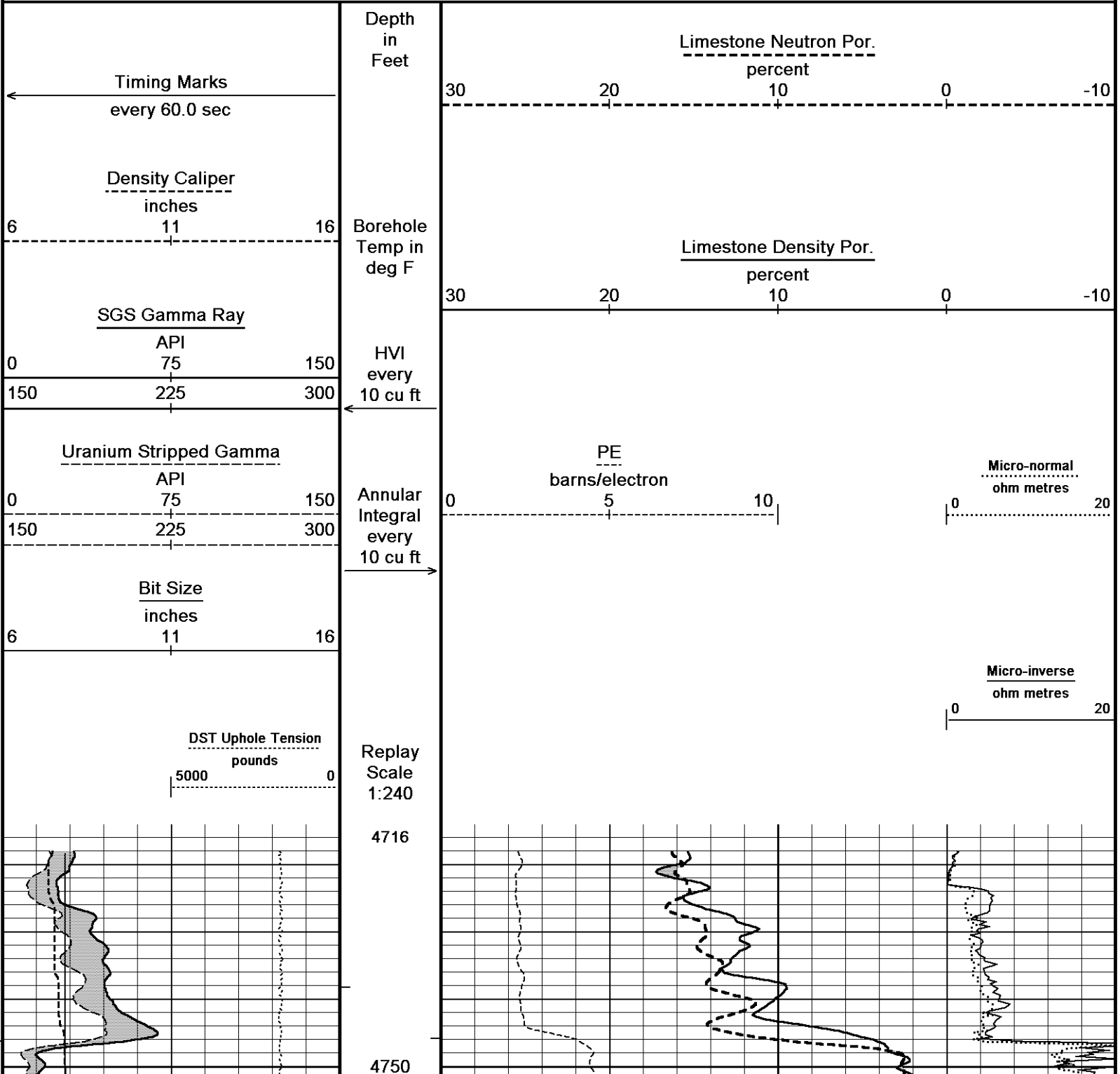
Recorded on 28-JUL-2013 04:17

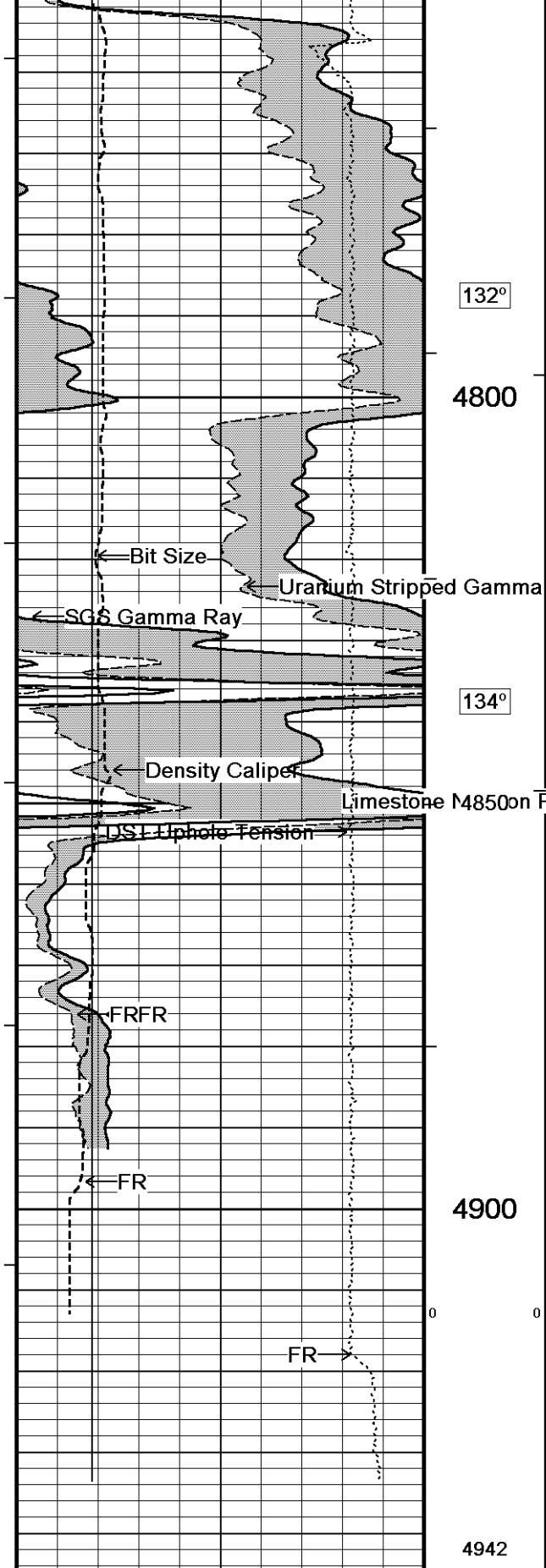
System Versions: Logged with 13.05.9583 Plotted with 13.05.9583

↑

5 INCH MAIN

↑





132°

4800

134°

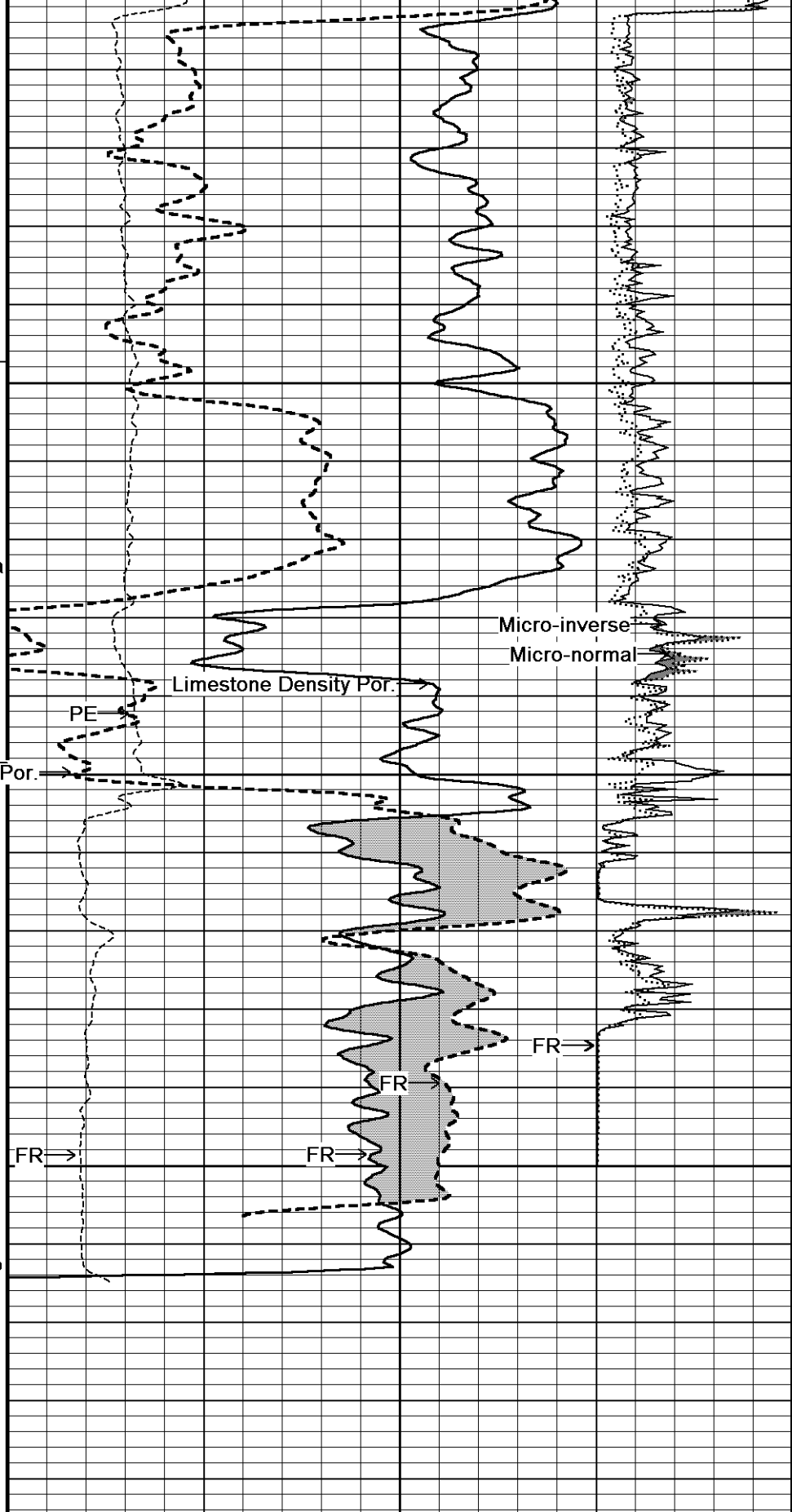
4900

4942

Depth
in
Feet

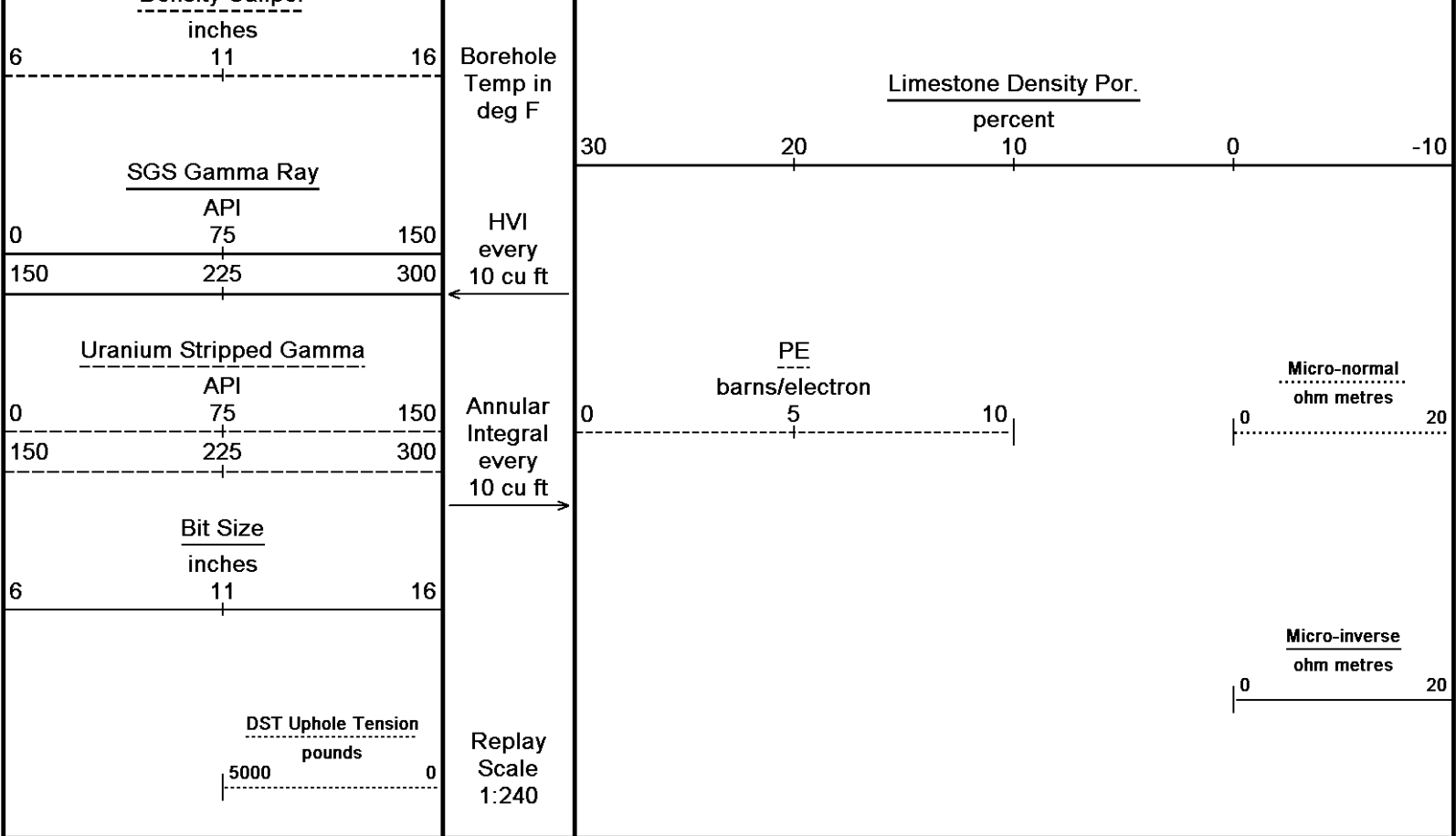
Timing Marks
every 60.0 sec

Density Caliper



Limestone Neutron Por.
percent

30 20 10 0 -10



Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 28-JUL-2013 05:23

Filename: C:\Minimus 13.05.9583\Logs\SandRidge Alton 3306 1...\SandRidge Alton 3306 1-23_001.dta

Recorded on 28-JUL-2013 02:43

System Versions: Logged with 13.05.9583 Plotted with 13.05.9583

↑

REPEAT SECTION

↑

↓

5 INCH MAIN

↓

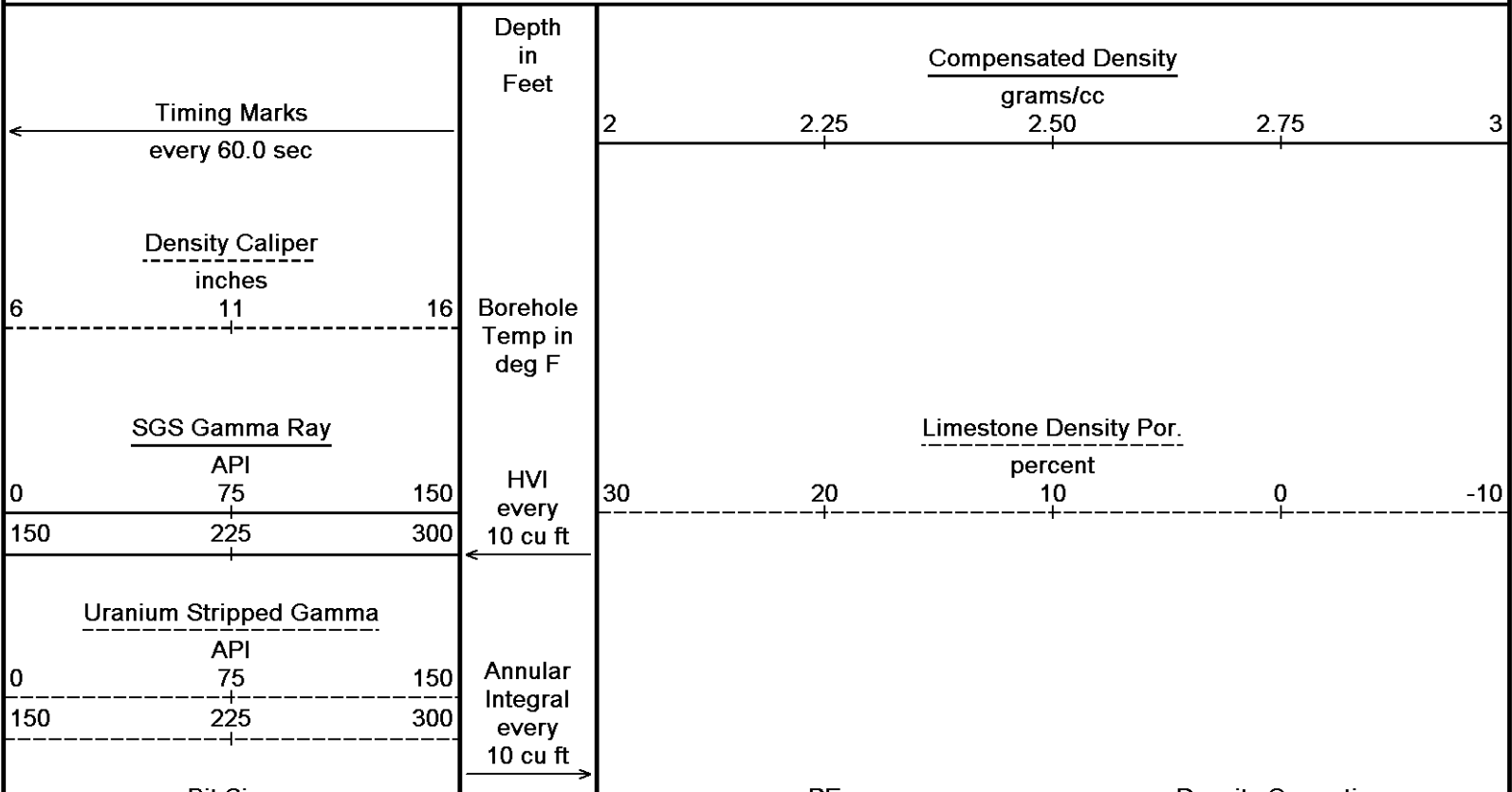
Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 28-JUL-2013 05:23

Filename: C:\Minimus 13.05.9583\Logs\SandRid...\SandRidge Alton 3306 1-23_002 spooled section.dta

Recorded on 28-JUL-2013 04:17

System Versions: Logged with 13.05.9583 Plotted with 13.05.9583



Bit Size

inches

6 11 16

DST Uphole Tension

pounds

5000

0

Replay
Scale
1:240

2800

109°

2850

2900

110°

2950

Bit Size

Uranium Stripped Gamma

SGS Gamma Ray

Density Caliper

DST Uphole Tension

PE
barns/electron

0

5

10

-0.50

Density Correction

grams/cc

0

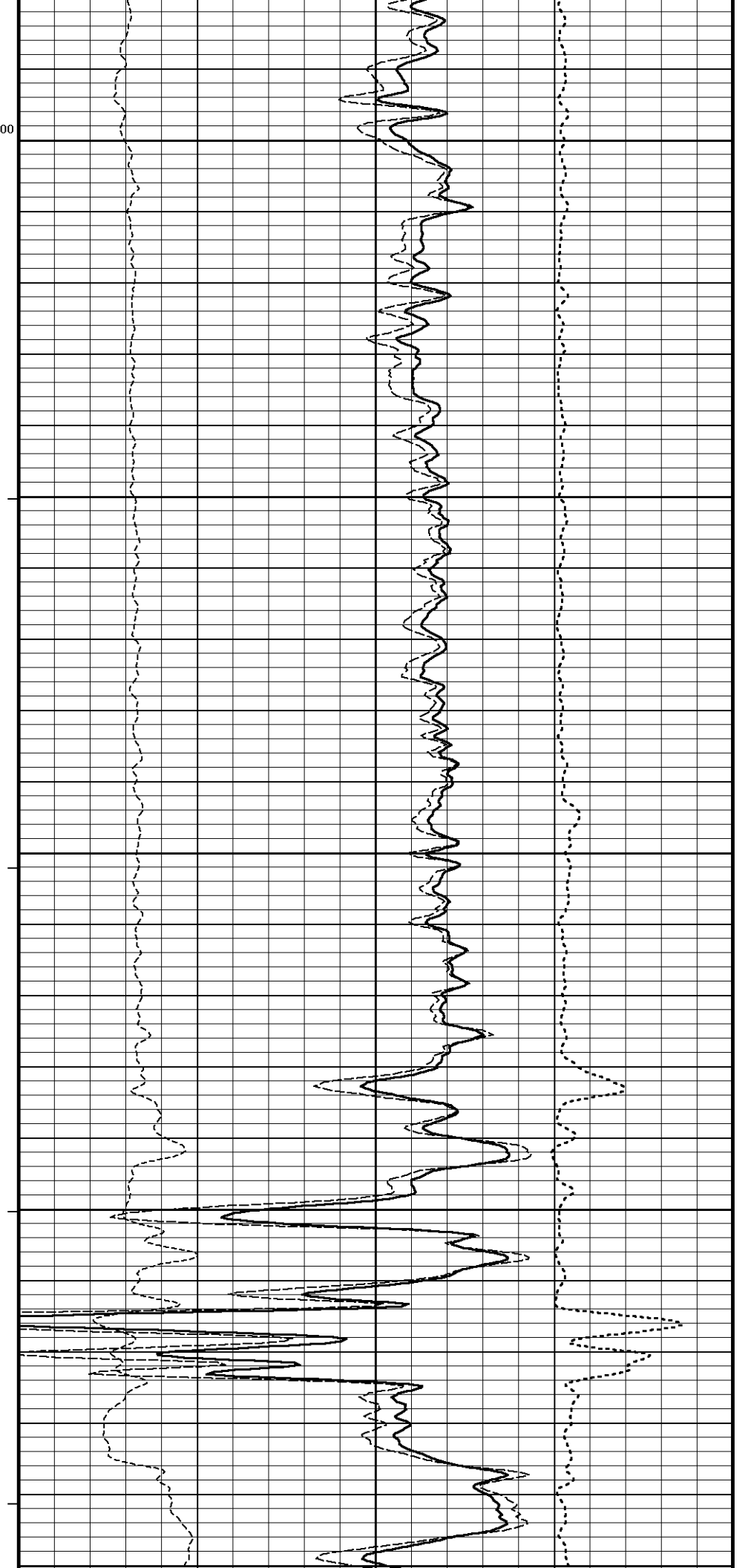
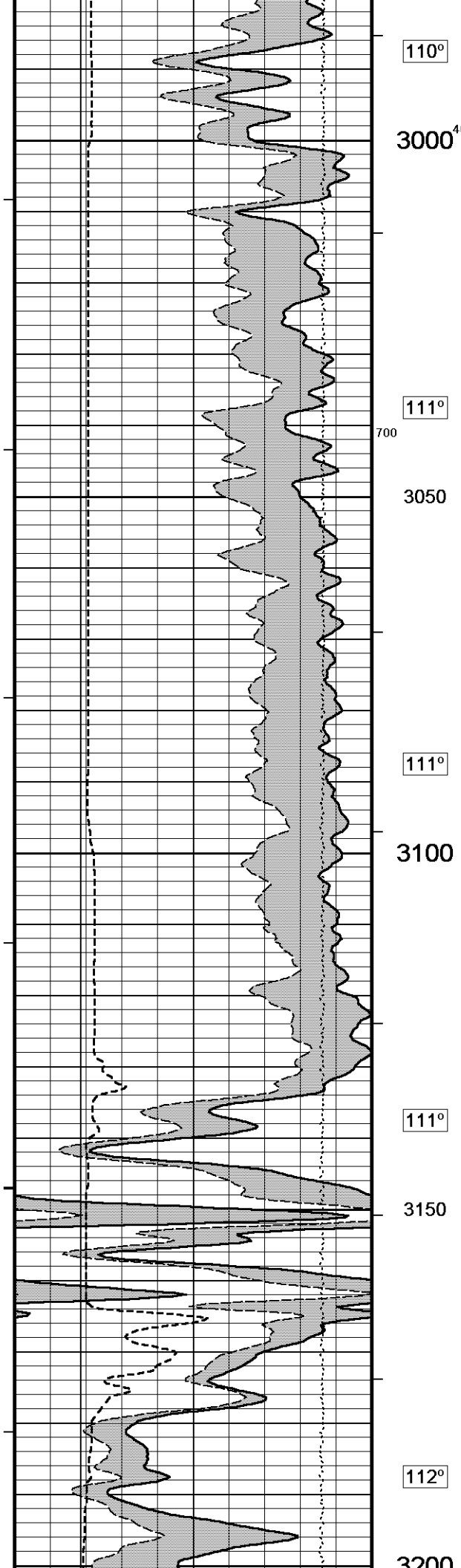
0.50

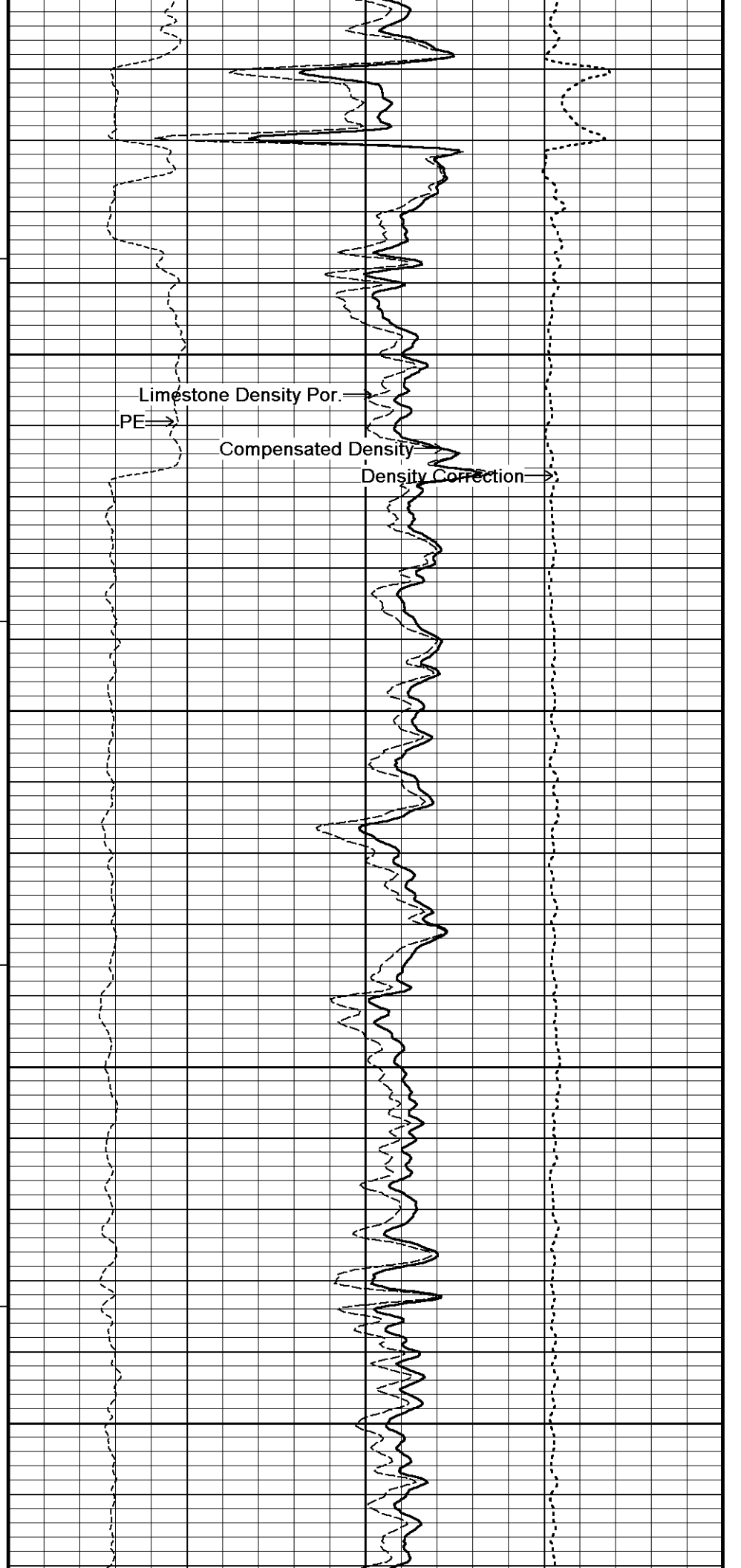
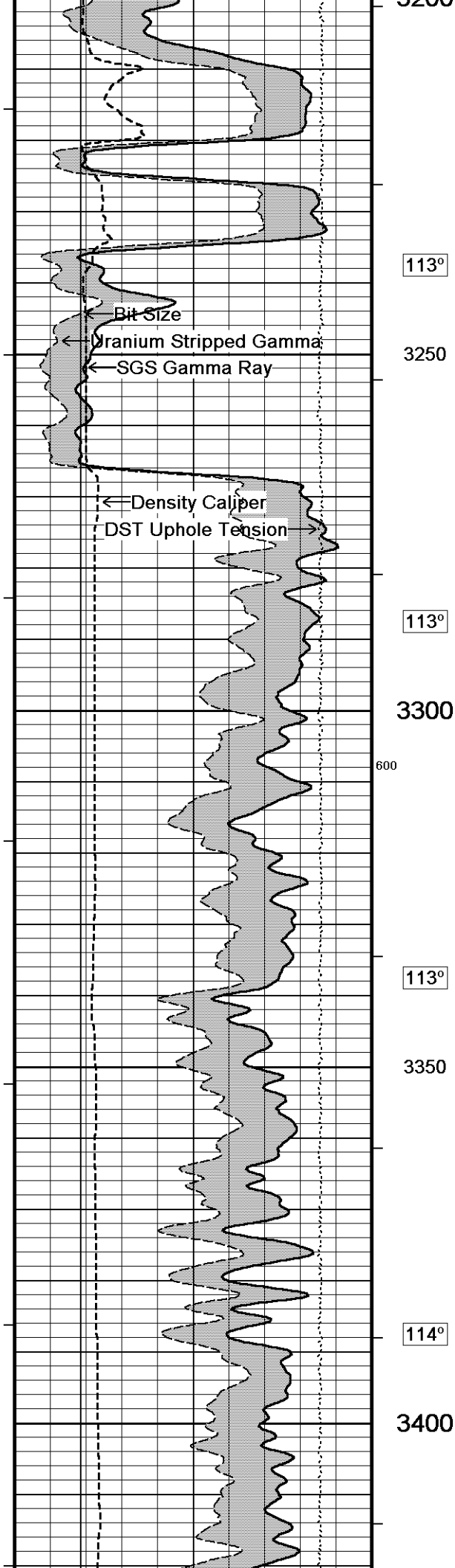
PE

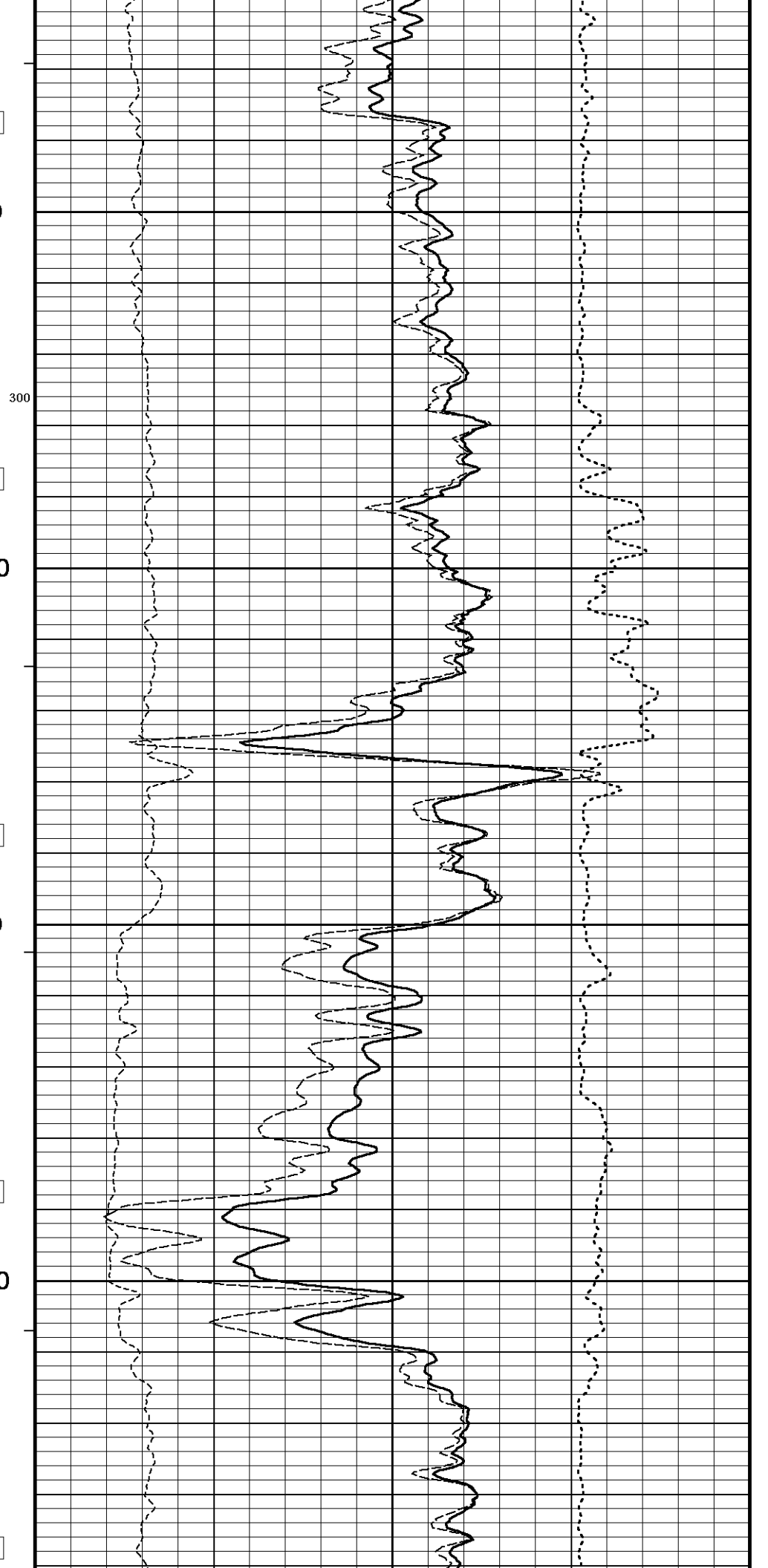
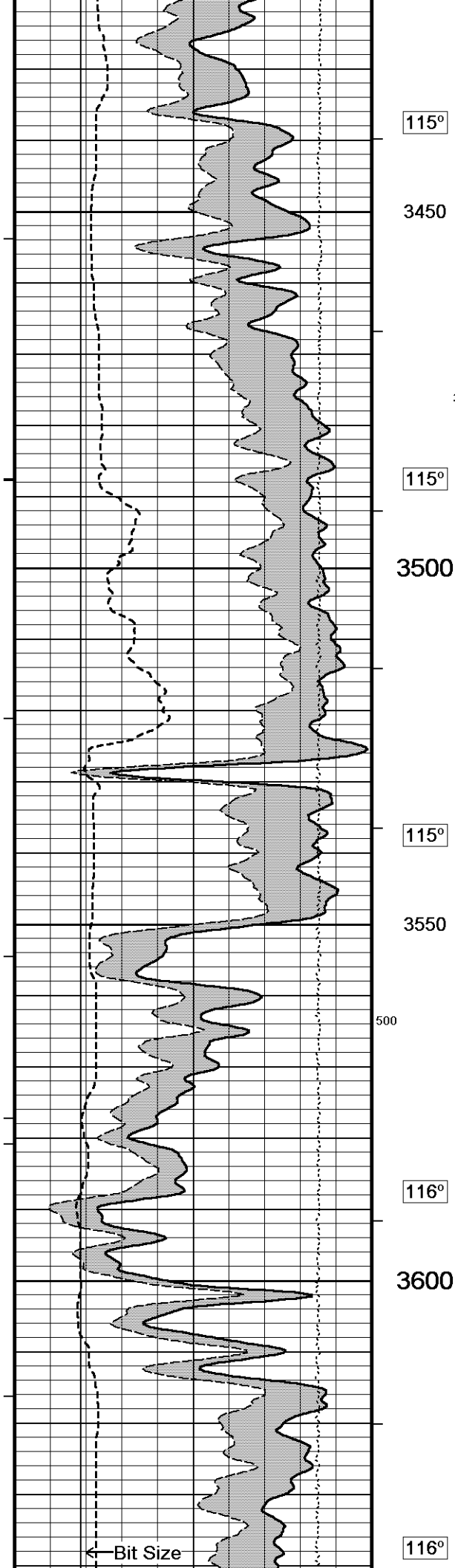
Limestone Density Por.

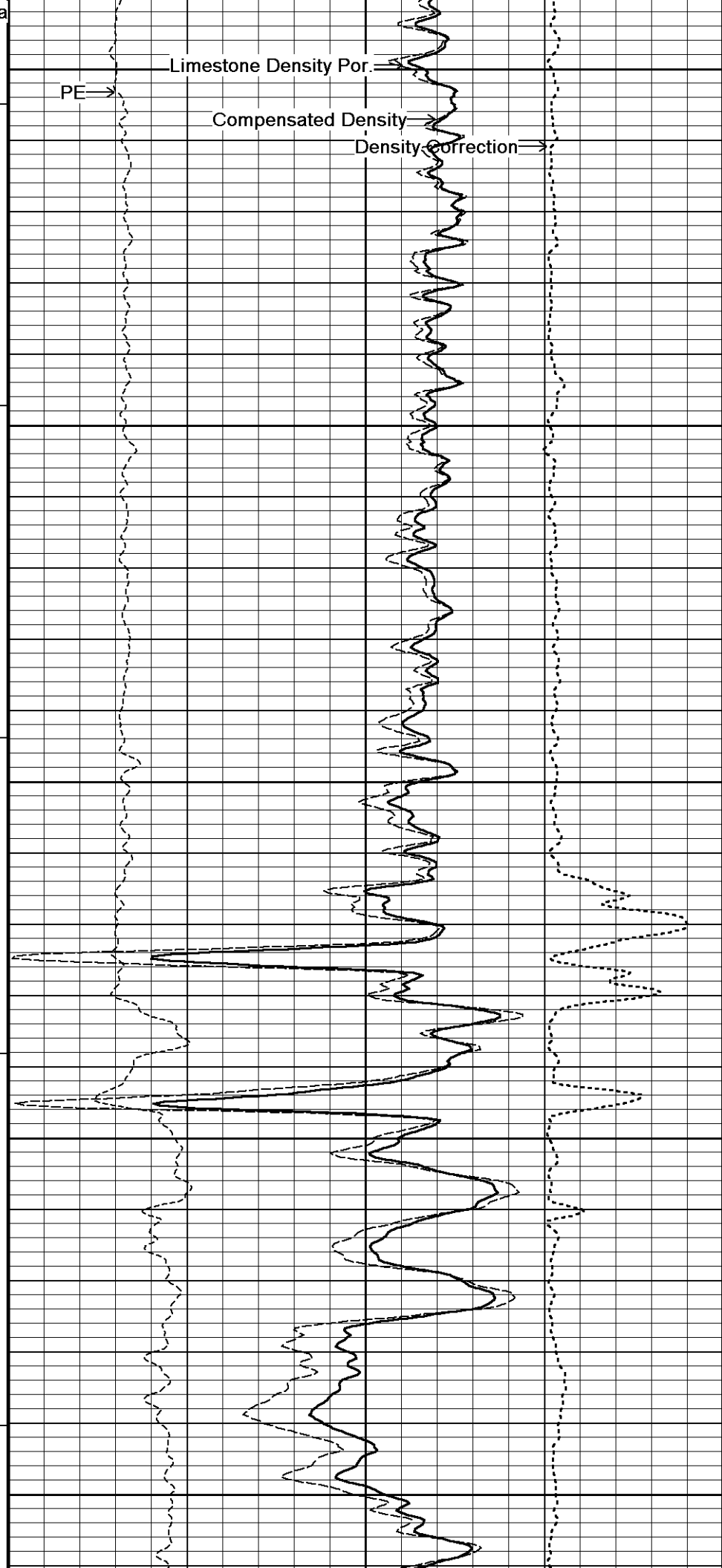
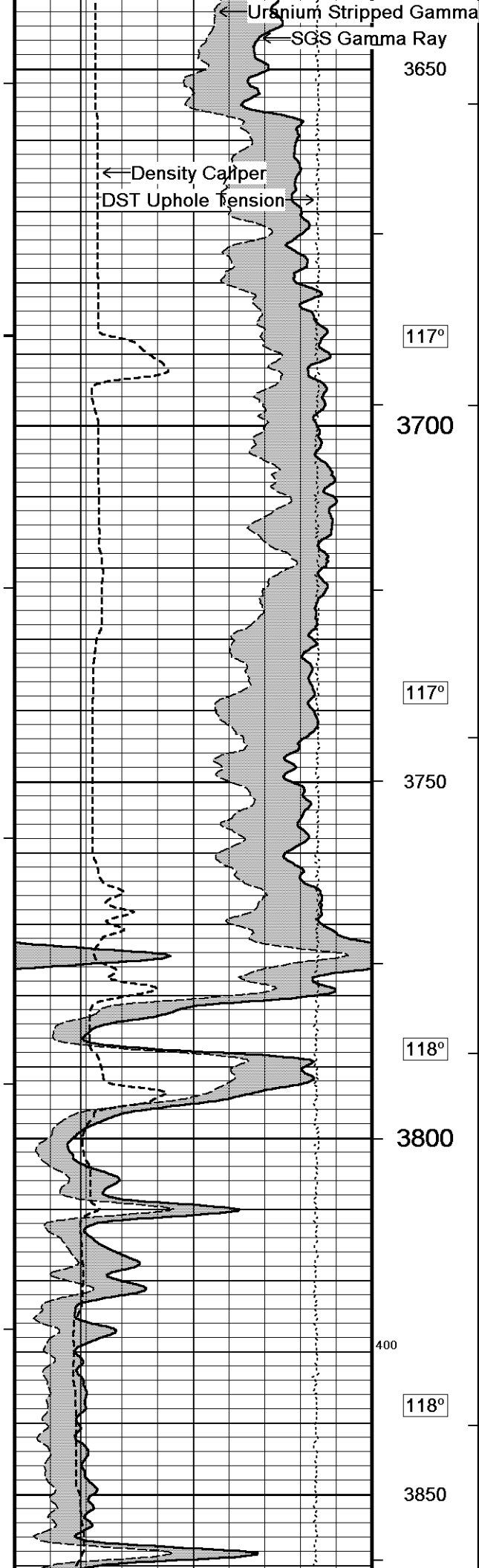
Compensated Density

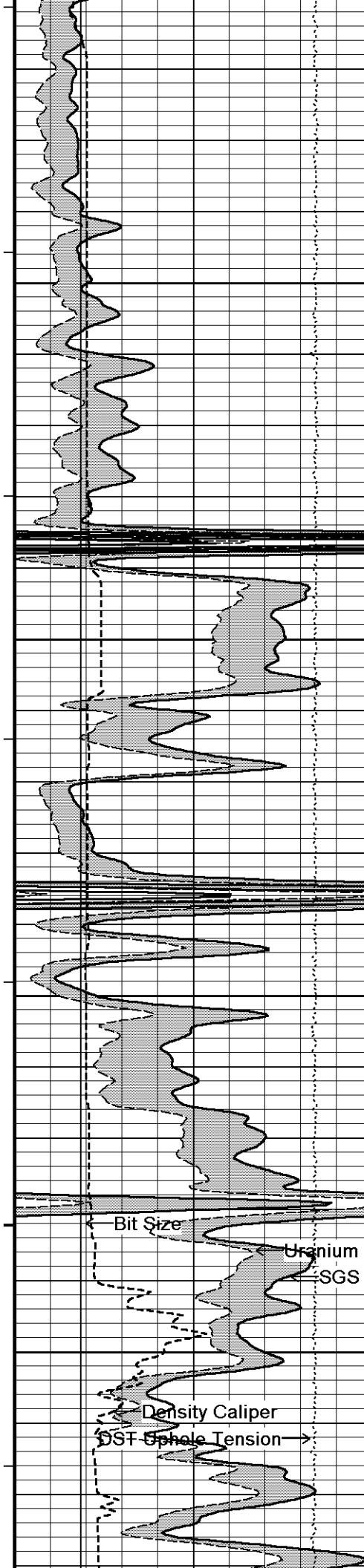
Density Correction











118°

3900

119°

3950²⁰⁰

119°

4000

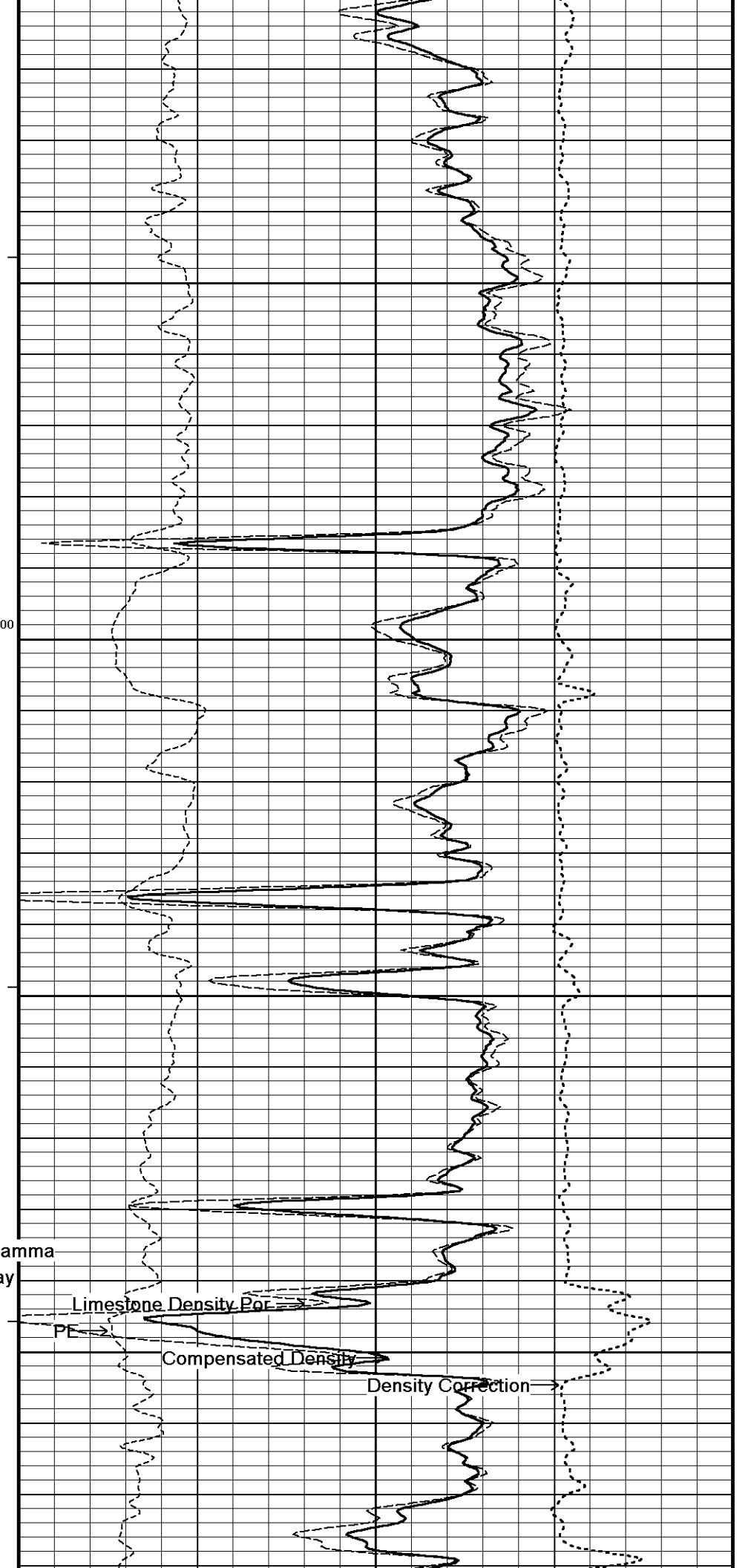
119°
Uranium Stripped Gamma
SGS Gamma Ray

4050

Bit Size

Density Caliper

DST - Spole Tension

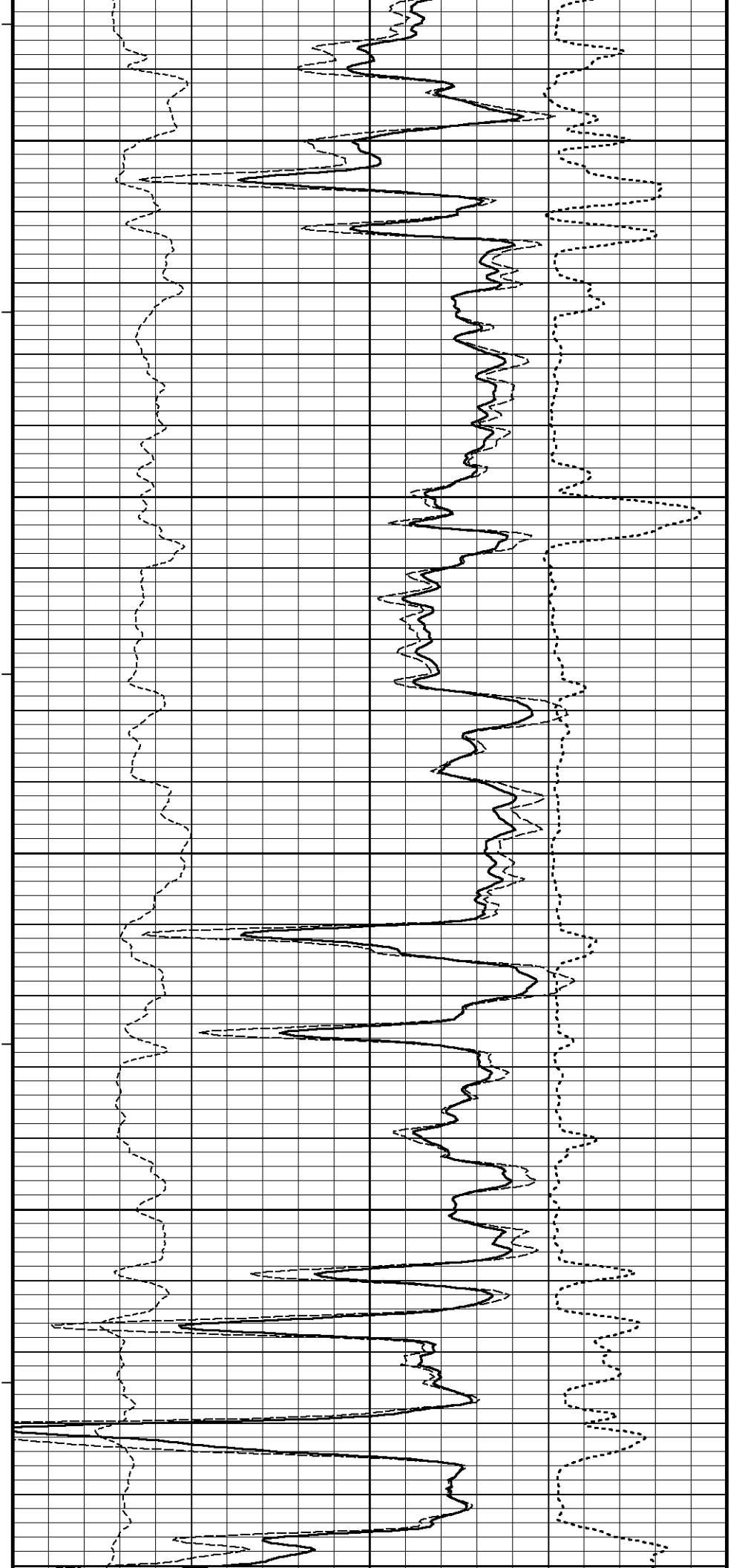
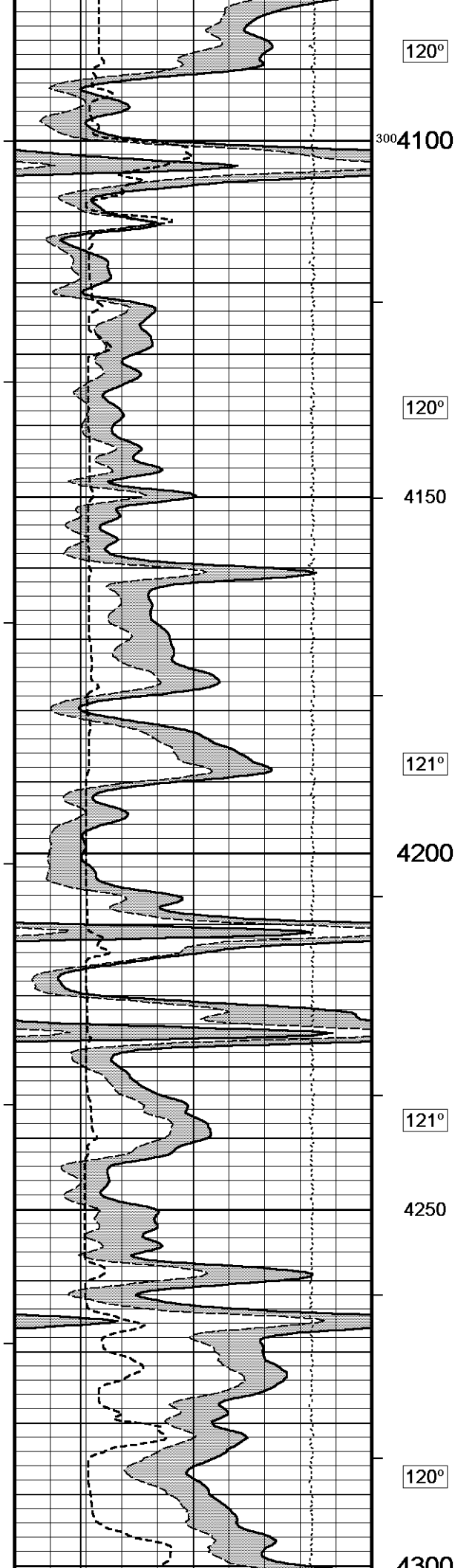


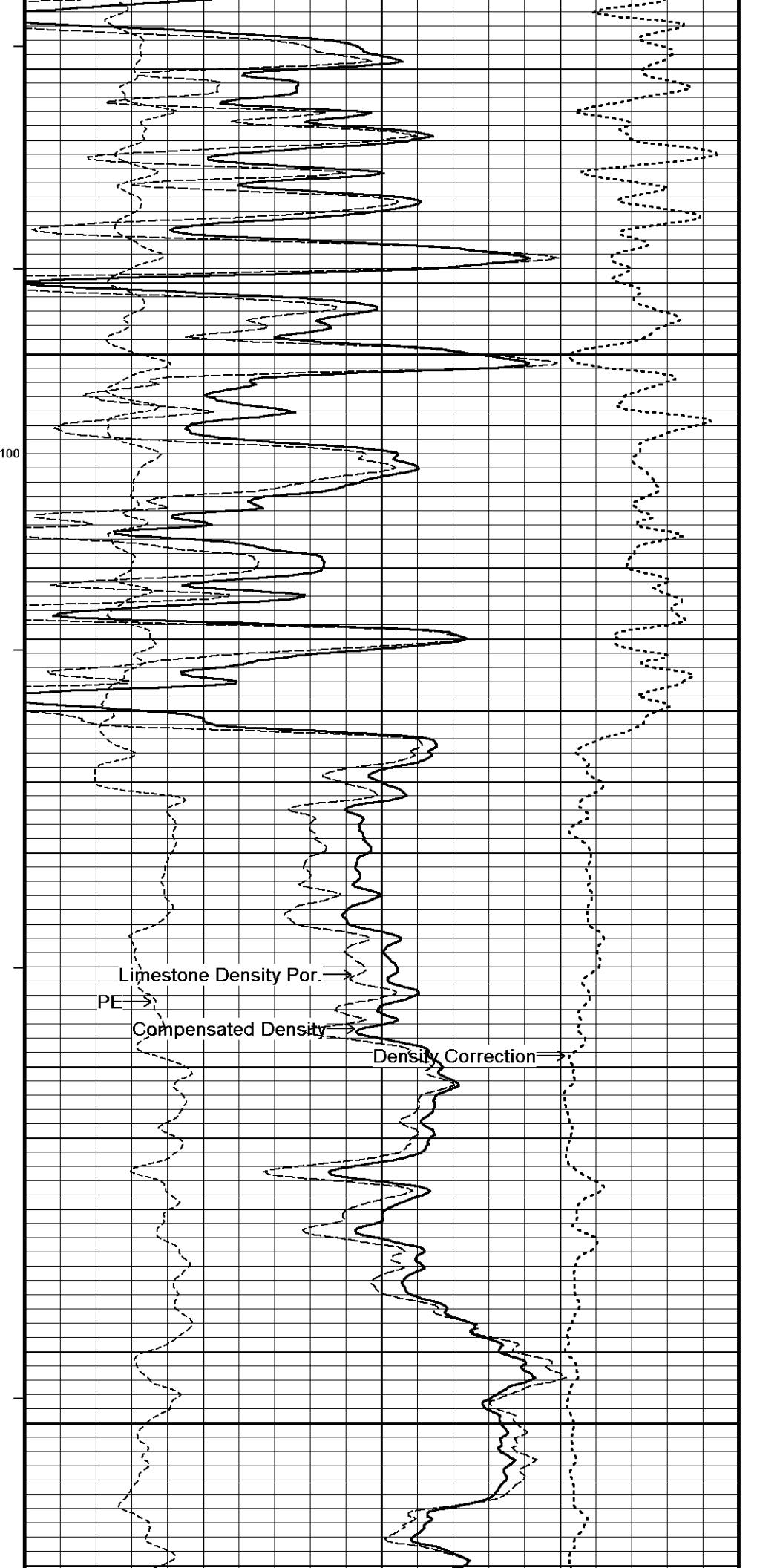
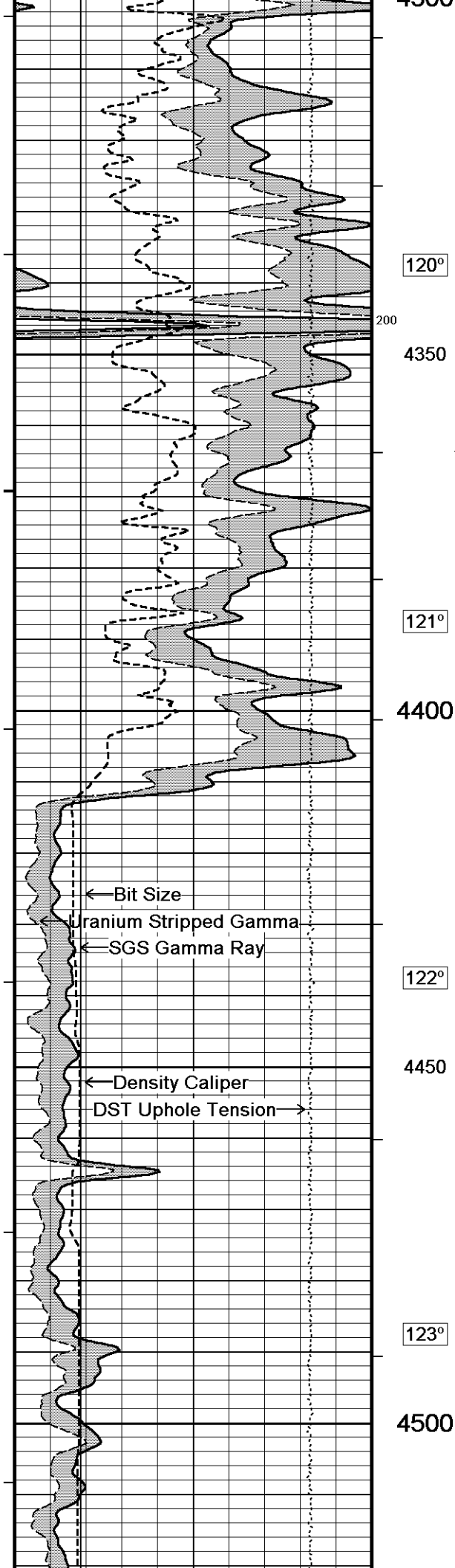
Limestone Density Por

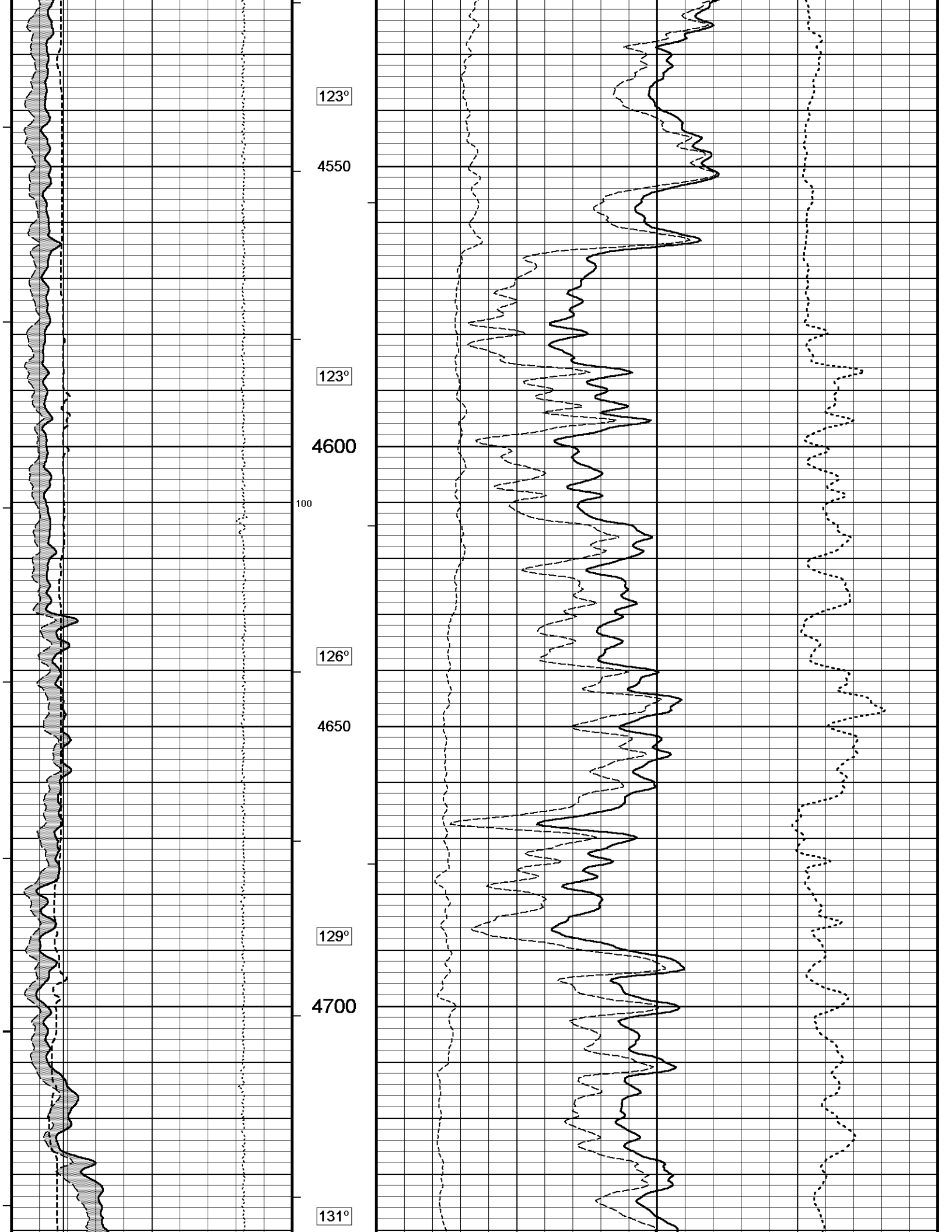
PE

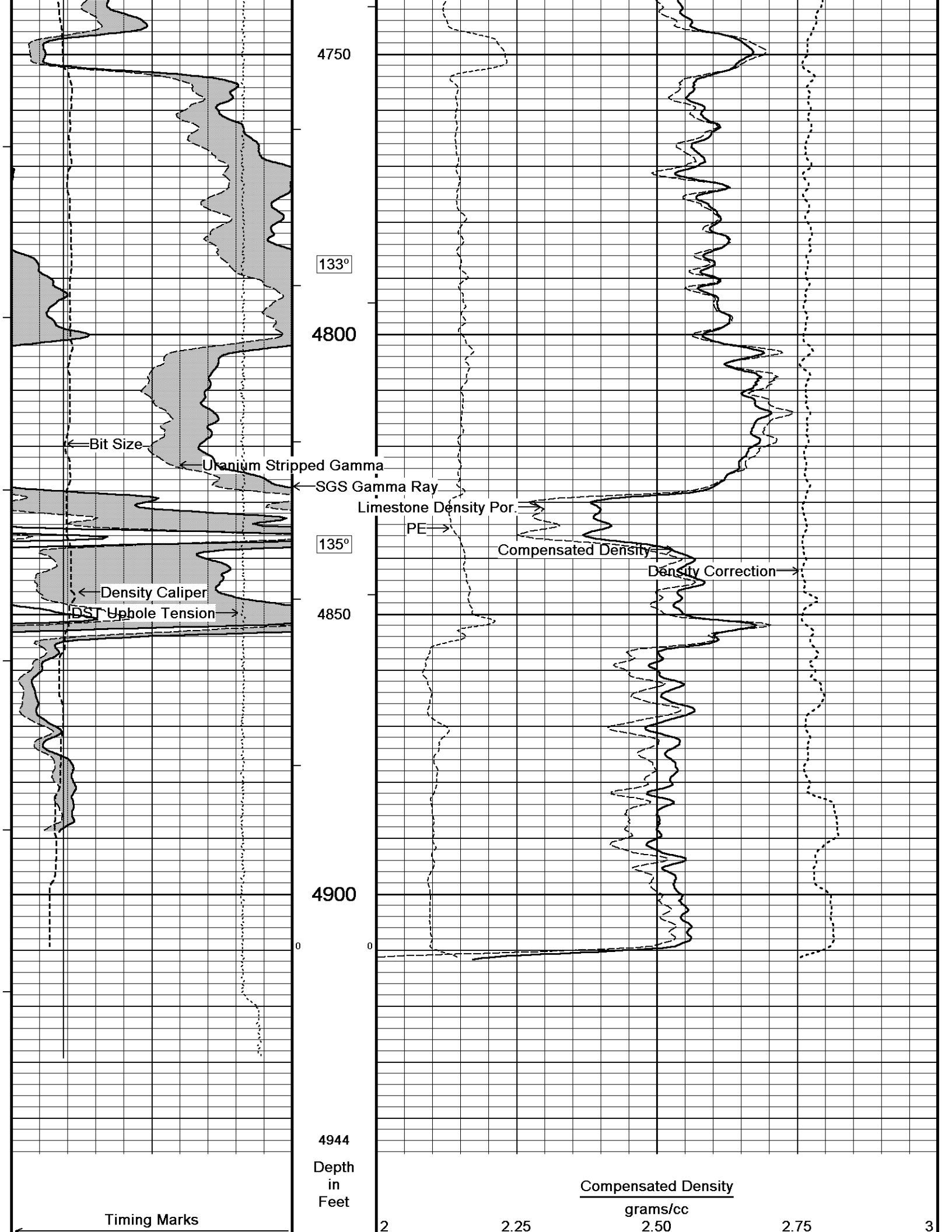
Compensated Density

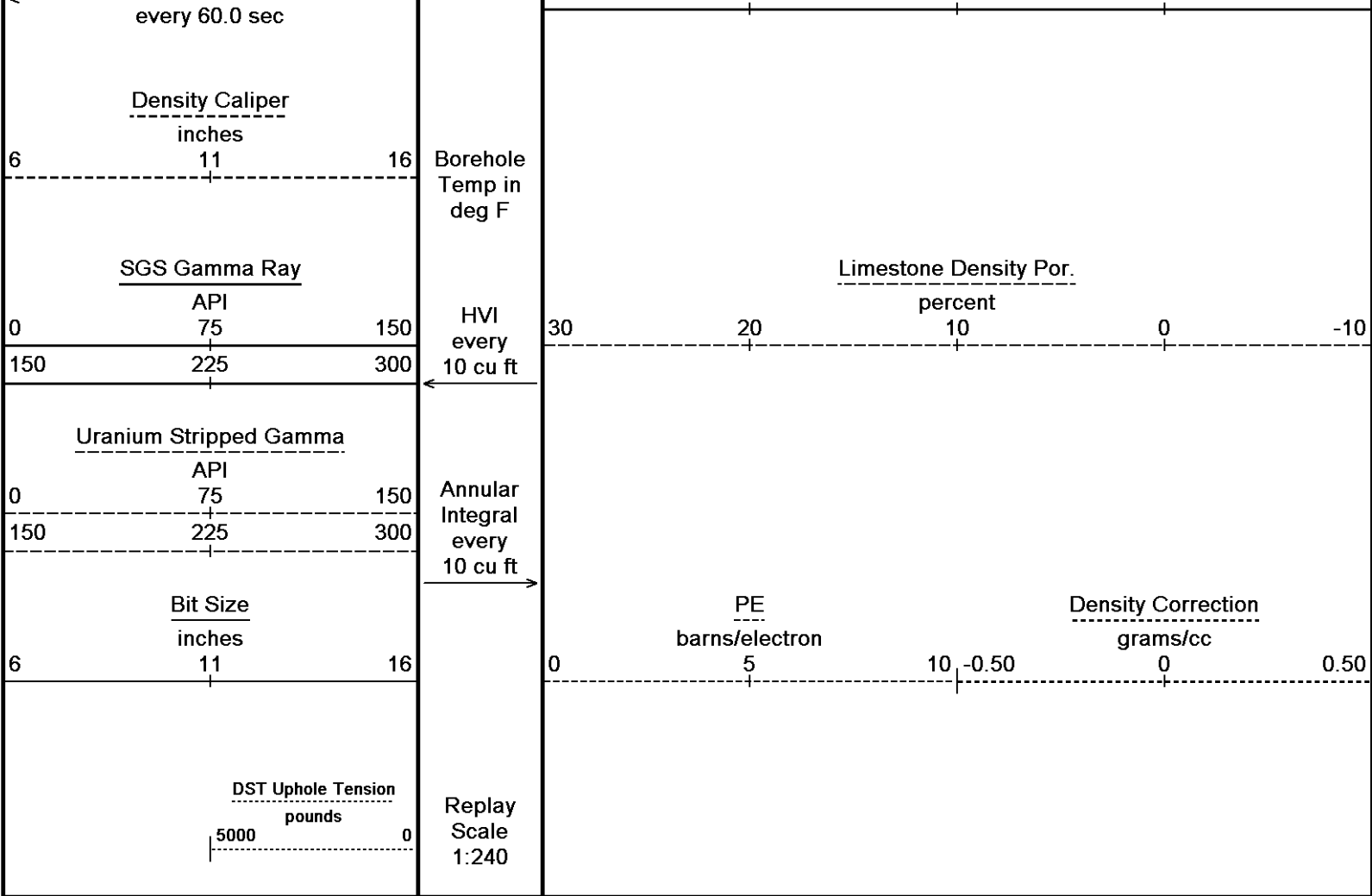
Density Correction







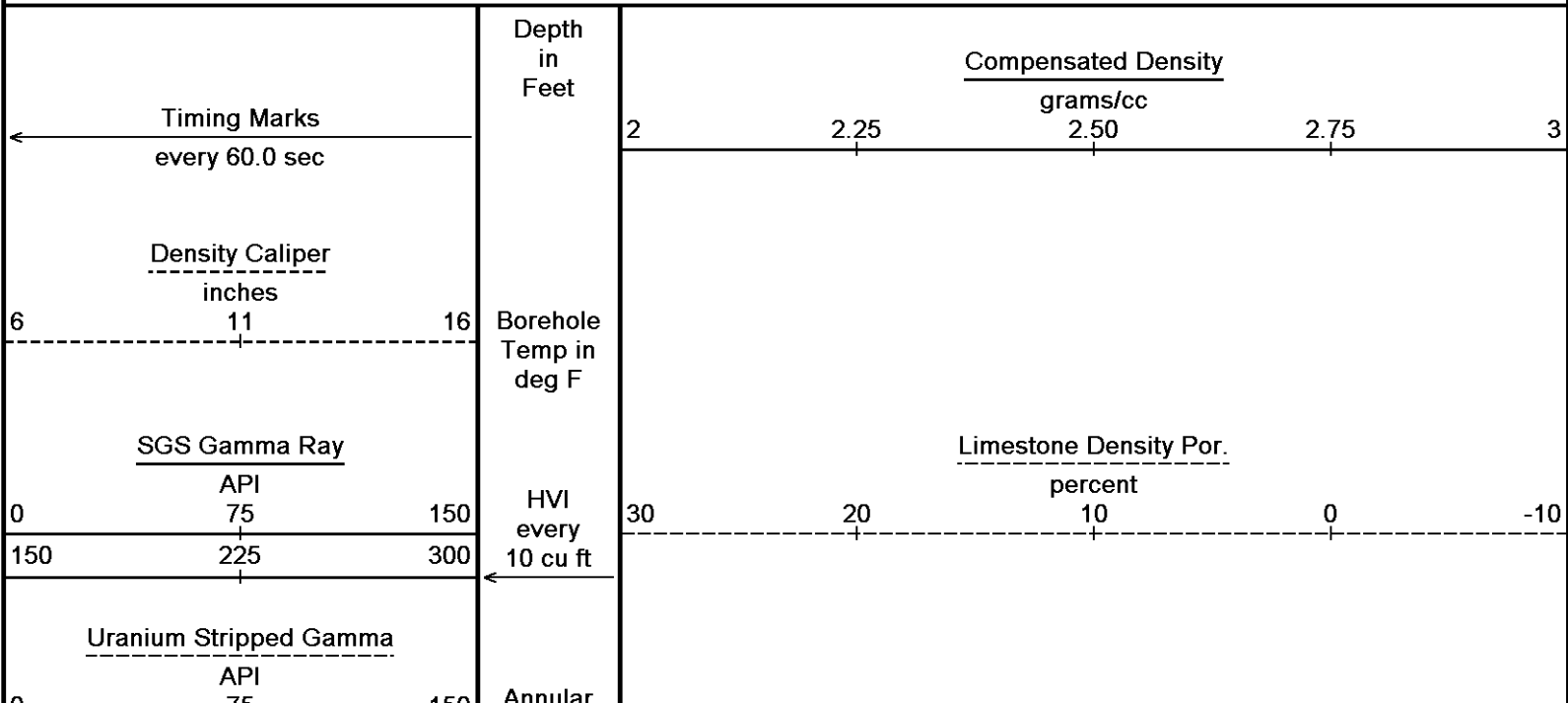


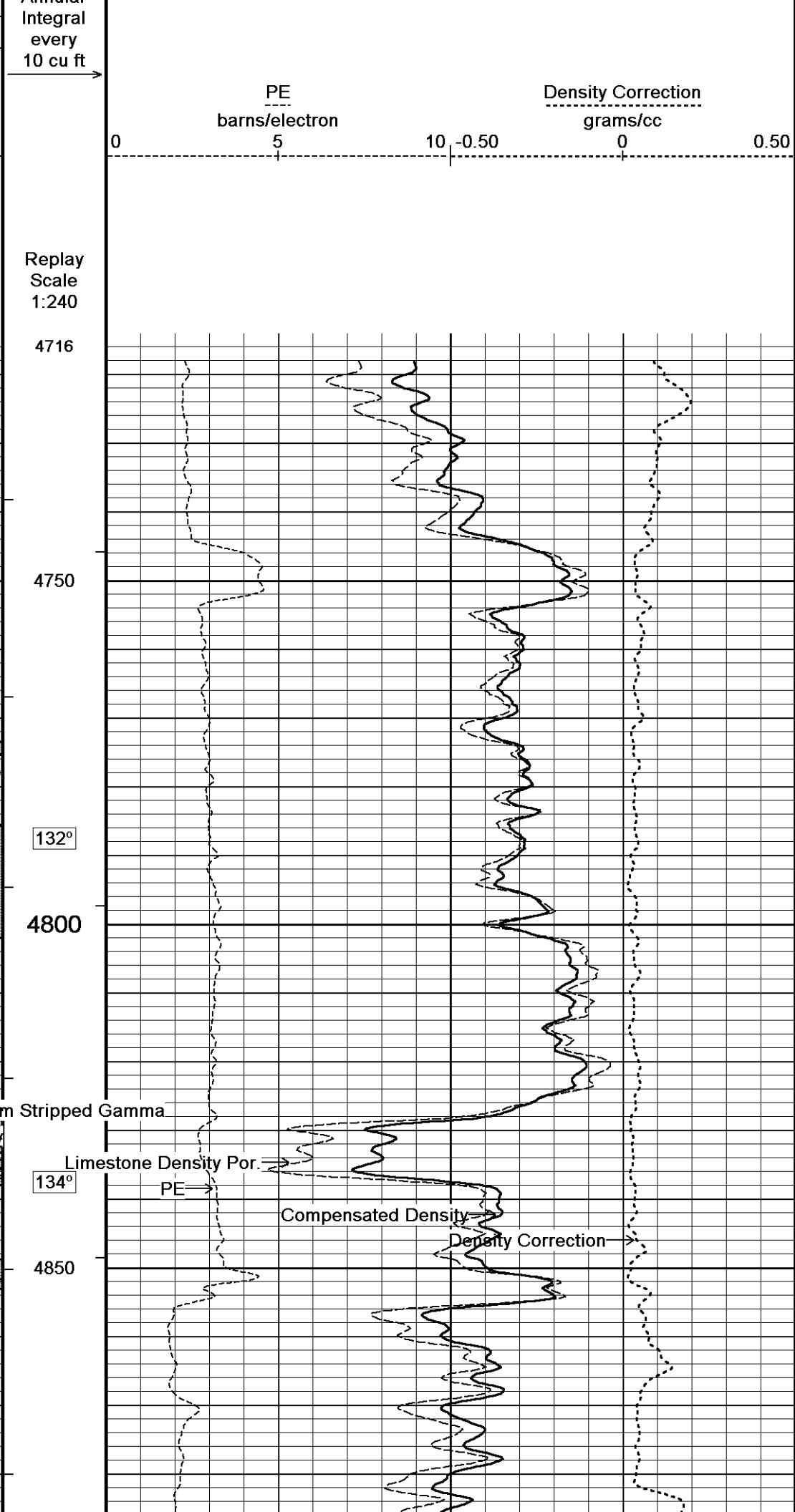
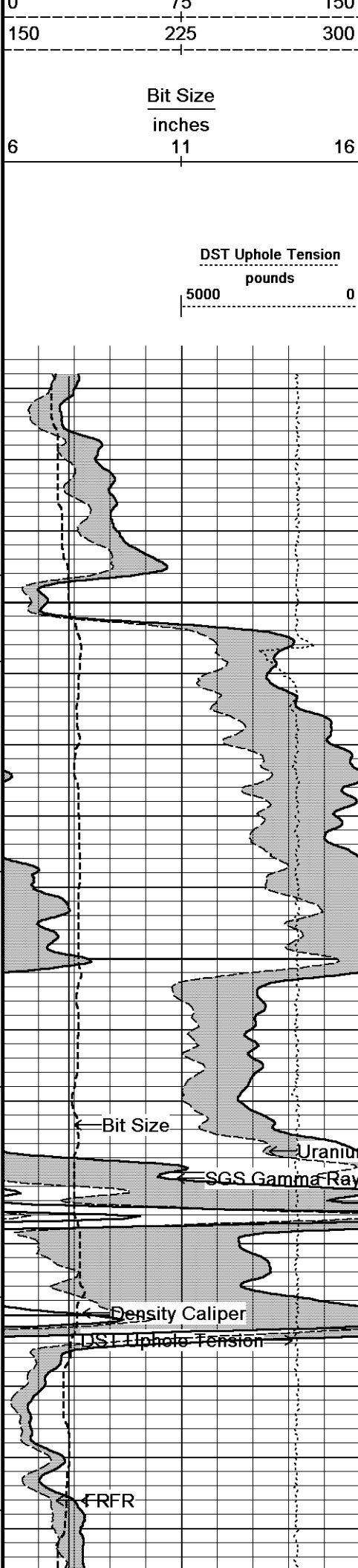


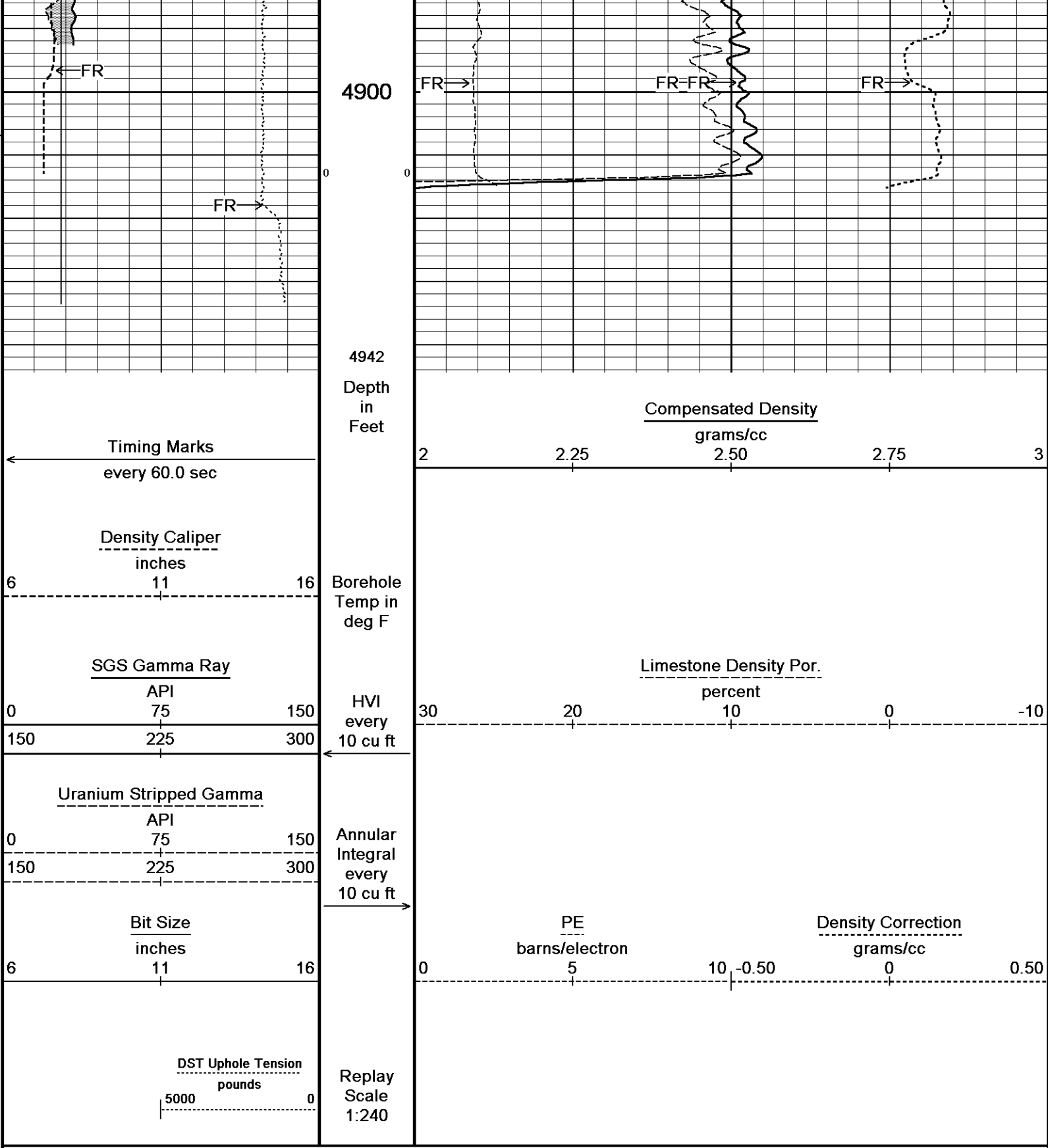
Depth Based Data - Maximum Sampling Increment 10.0cm	Plotted on 28-JUL-2013 05:23
Filename: C:\Minimus 13.05.9583\Logs\SandRid...\SandRidge Alton 3306 1-23_002 spooled section.dta	Recorded on 28-JUL-2013 04:17
System Versions: Logged with 13.05.9583 Plotted with 13.05.9583	

↑	5 INCH MAIN	↑
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↓	REPEAT SECTION	↓
Depth Based Data - Maximum Sampling Increment 10.0cm		Plotted on 28-JUL-2013 05:23
Filename: C:\Minimus 13.05.9583\Logs\SandRidge Alton 3306 1...\SandRidge Alton 3306 1-23_001.dta		Recorded on 28-JUL-2013 02:43
System Versions: Logged with 13.05.9583 Plotted with 13.05.9583		







Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\Minimus 13.05.9583\Logs\SandRidge Alton 3306 1-23\SandRidge Alton 3306 1-23_001.dta
System Versions: Logged with 13.05.9583 Plotted with 13.05.9583

↑ REPEAT SECTION ↑

BEFORE SURVEY CALIBRATION
C:\Minimus 13.05.9583\Logs\SandRidge Alton 3306 1-23\SandRidge Alton 3306 1-23_002 spooled section.dta
General Constants All 000
Last Edited on 27-JUL-2013,23:43

General Parameters		
Mud Resistivity	0.660	ohm-metres
Mud Resistivity Temperature	83.000	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. Six Res Rt	
RWA Constant A	1.000	
RWA Constant M	2.000	
SW/APOR Tool Source	0.000	

Down-hole Tension Calibration SMS 0			Field Calibration on 28-JUL-2013 02:06
Reading No	Measured	Calibrated (lbs)	
1	15849.59	0.00	
2	16785.44	500.00	

SP Calibration MCG-D.K 442			Field Calibration on 15-JUL-2013,14:26
	Measured	Calibrated (mV)	
Reference 1	100.9	100.0	
Reference 2	-100.5	-100.0	

High Resolution Temperature Calibration MCG-D.K 442			Field Calibration on 15-JUL-2013,14:26
	Measured	Calibrated(Deg F)	
Lower	50.00	50.00	
Upper	75.00	75.00	

High Resolution Temperature Constants MCG-D.K 442			Last Edited on 15-JUL-2013,14:26
Pre-filter Length	11		

Gamma Calibration MCG-D.K 442			Field Calibration on 27-JUL-2013 17:50
	Measured	Calibrated (API)	
Background	67	45	
Calibrator (Gross)	1142	770	
Calibrator (Net)	1074	725	

Gamma Constants MCG-D.K 442			Last Edited on 27-JUL-2013,23:41
Gamma Calibrator Number	GRC38		
Mud Density	1.06	gm/cc	
Caliper Source for Processing	Density Caliper		
Tool Position	Eccentred		
Concentration of KCl		kppm	
K Mud Type	Chloride		
K Mud Concentration	0.00	%	

Micro Laterolog Calibration MMR-A 11			Base Calibration on 31-DEC-1999 00:00
Base Calibration			Field Check on 31-DEC-1999 00:00
	Measured	Calibrated (ohm-m)	
Ref 1	Ref 2	Ref 1	Ref 2
0.0	0.0	0.0	0.0
Base Check (ohm-m)		Field Check (ohm-m)	
0.0		0.0	

Micro Laterolog Constants MMR-A 11			Last Edited on
Pad Type	6 in Solid Nylon B23059		
Micro Laterolog K Factor	0.0128		
Standoff Offset	0.0000	inches	

Mudcake Thickness Correction Constants

Mud Cake Source	Constant Value	
Mud Cake Thickness	0.4000	inches
Mud Cake Thickness Caliper		
Mud Cake Resistivity	0.1500	ohm-m
Mud Cake Resistivity Temp.	68.00	Deg F
Mud Cake Resistivity Source	Constant Value	
Temp. Source Rmc Correc.	MCG External Temperature	

Caliper Calibration MMR-A 11

Base Calibration on 27-JUL-2013 17:35

Field Calibration on 27-JUL-2013 17:36

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	14109	5.98
2	17244	7.97
3	20444	9.86
4	24103	11.92
5	0	0.00
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
5.99	5.98

Micro Normal and Micro Inverse Calibration MMR-A 11

Base Calibration on 07-JUL-2013 11:25

Field Check on 27-JUL-2013 17:38

Base Calibration

Channel	Measured		Calibrated (ohm-m)	
	Resistor 1	Resistor 2	Resistor 1	Resistor 2
Micro Normal	12.0	58.0	5.0	25.0
Micro Inverse	15.3	75.4	5.0	25.0

Channel	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	79.0	79.0
Micro Inverse	60.5	60.5

Micro Normal and Micro Inverse Constants MMR-A 11

Last Edited on 18-APR-2013,13:52

Pad Type	8-12 in Soft Rubber Inflatable 006-9011-159
Micro Normal K Factor	1.0000
Micro Inverse K Factor	1.0000
Standoff Offset	0.0000 inches

Neutron Calibration MDN-A.B 65

Base Calibration on 15-JUL-2013,14:09

Field Check on 27-JUL-2013 17:57

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	3104	96	3714	110
Ratio	32.242		33.764	

Field Calibrator at Base

	Calibrated (cps)
	1652 2397
Ratio	0.689

Field Check

	Calibrated (cps)
	1659 2389
Ratio	0.693

Neutron Constants MDN-A.B 65

Last Edited on 27-JUL-2013,17:50

Neutron Source Id	PN-521
Neutron Jig Number	5824NE
Epithermal Neutron	No
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 07-JUL-2013 11:12 Field Check on 27-JUL-2013 17:45	
Base Calibration			
	Measured	Calibrated (ohm-m)	
Reference 1	0.0	0.0	
Reference 2	962.8	126.8	
Base Check		281.6	
Field Check		281.6	

FE Constants MFE-B.J 352			Last Edited on 27-JUL-2013,17:44		
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	

High Resolution Temperature Calibration MAI-A.A 45		Field Calibration on 15-JUL-2013,10:21	
	Measured	Calibrated(Deg F)	
Lower	50.00	50.00	
Upper	75.00	75.00	

High Resolution Temperature Constants MAI-A.A 45		Last Edited on 15-JUL-2013,10:21	
Pre-filter Length	11		

Induction Calibration MAI-A.A 45				Base Calibration on 15-JUL-2013,10:25	
				Field Check on 27-JUL-2013 17:44	
Base Calibration					
Test Loop Calibration		Measured		Calibrated (mmho/m)	
Channel	Low	High	Low	High	
1	14.4	472.6	9.3	966.2	
2	5.7	374.0	7.6	821.4	
3	3.4	261.2	5.2	566.0	
4	2.5	133.9	2.6	279.2	
Array Temperature		0.0		Deg F	
Channel	Base Check (mmho/m)		Field Check (mmho/m)		
	Low	High	Low	High	
1			20.0	3852.6	
2			32.0	3629.5	
3			28.8	3049.3	
4			18.3	2078.9	
Deep			16.2	1911.0	
Medium			42.5	4060.4	
Shallow			50.0	5483.5	
Array Temperature				88.6	Deg F

Induction Constants MAI-A.A 45		Last Edited on 27-JUL-2013,17:42	
Induction Model	RtAP-WBM		
Caliper for Borehole Corr.	Density Caliper		
Hole Size for Borehole Correction	2.500	inches	
Tool Centred	No		
Stand-off Type	Fins		
Stand-off	0.50	inches	
Number of Fins on Stand-off	8.0000		
Stand-off Fins on Stand-off	15.00		

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 31

Base Calibration on 19-MAY-2013 17:48

Field Calibration on 27-JUL-2013 17:31

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	17088	3.99
2	25888	5.98
3	34607	7.97
4	42944	9.86
5	52301	11.92
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
6.05	5.98

Photo Density Calibration MPD-B 31

Base Calibration on 15-JUL-2013 11:39

Field Check on 27-JUL-2013 17:42

Density Calibration

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	44616	22757	59556	30836
Reference 2	18262	1889	24941	2541

Field Check at Base

672.4	838.4
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Field Check

673.6	828.9
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PE Calibration

Base Calibration	WS	Measured WH	Ratio	Calibrated Ratio
Background	126	597		
Reference 1	18938	44504	0.428	0.371
Reference 2	5515	18179	0.307	0.272

Field Check at Base

125.7	597.4
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Field Check

Density Constants MPD-B 31

Last Edited on 27-JUL-2013,23:41

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	1.06	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	

Spectral Gamma Calibration SGS-E.J 149

Base Calibration on 19-APR-2013,12:59

Field Calibration on 19-APR-2013,12:59

Base Calibration

Potassium Calibrator

	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
Background	76.7	23.0	2.3	0.9	1.5
Calibrator (Gross)	202.1	106.6	25.2	0.8	1.4
Calibrator (Net)	125.3	83.6	23.0	-0.1	-0.1

	K %	U ppm	Th ppm
Concentrations	5.8	0.0	0.0

Uranium Calibrator

	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
Background	76.7	23.0	2.3	0.9	1.5
Calibrator (Gross)	473.2	163.3	14.0	8.5	3.9
Calibrator (Net)	396.5	140.3	11.7	7.6	2.4

	K %	U ppm	Th ppm
Concentrations	0.0	9.8	0.0

Thorium Calibrator

	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
Background	76.7	23.0	2.3	0.9	1.5
Calibrator (Gross)	389.8	138.7	11.1	6.4	15.6
Calibrator (Net)	313.1	115.7	8.8	5.5	14.1

	K %	U ppm	Th ppm
Concentrations	0.0	0.0	44.3

Mixture Calibrator

	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
Background	76.7	23.0	2.3	0.9	1.5
Calibrator (Gross)	902.4	361.7	45.0	13.8	18.8
Calibrator (Net)	825.6	338.7	42.7	12.9	17.3

Field Calibration

Gamma Ray

	Measured	Calibrated (API)
Background	109	22
Calibrator (Gross)	1346	272
Calibrator (Net)	1237	250

Mixture Calibrator

Mixture Calibrator

	Gate 1	Gate 2	Gate 3	Gate 4	Gate 5
Background	76.7	23.0	2.3	0.9	1.5
Calibrator (Gross)	902.4	361.7	45.0	13.8	18.8
Calibrator (Net)	825.6	338.7	42.7	12.9	17.3

Spectral Gamma Constants SGS-E.J 149

Last Edited on 27-JUL-2013,23:43

Background Calibrator Number	000	
Mixture Calibrator Number	147-1	
Potassium Calibrator Number	148-1	
Uranium Calibrator Number	150-1	
Thorium Calibrator Number	149-1	
Mud Density	1.06	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl		kppm
K Mud Type	Chloride	
K Mud Concentration	0.00	%

DOWNHOLE EQUIPMENT

C:\Minimus 13.05.9583\Logs\SandRidge Alton 3306 1-23\SandRidge Alton 3306 1-23_002 spooled section.dta

3/8" Triple Cone Cable Head (MCB C A)
MCB-C.A 5 LG: 1.58 ft WT: 15.4 lb OD: 2.24 in

Compact Comms Gamma
MCG-D.K 442 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Spectral Gamma Ray Sub
SGS-E.J 149 LG: 7.78 ft WT: 105.8 lb OD: 3.54 in

Compact Micro-Resistivity
MMR-A 11 LG: 8.59 ft WT: 81.6 lb OD: 4.88 in

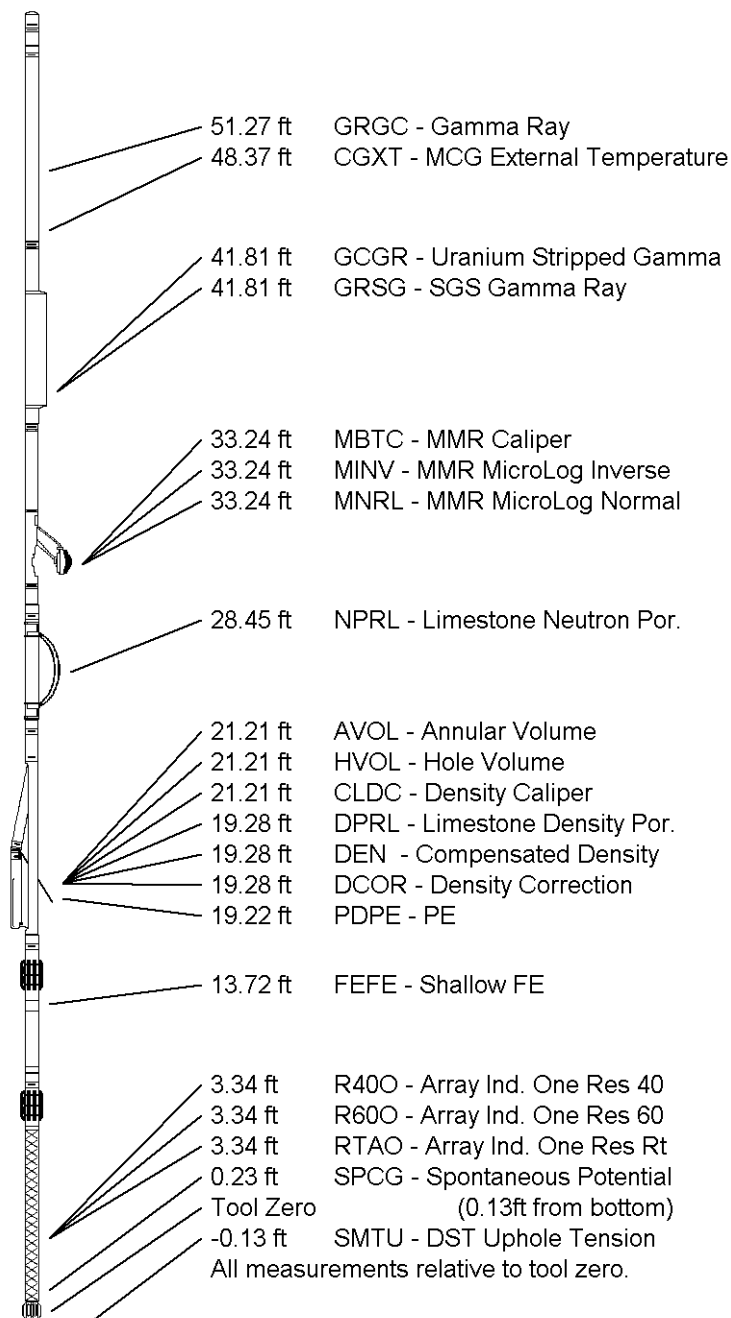
Compact Neutron
MDN-A.B 65 LG: 5.04 ft WT: 50.7 lb OD: 2.24 in

Compact Density/Caliper
MPD-B 31 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

Compact Focussed Electric
MFE-B.J 352 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

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

Total Length: 58.14 ft Weight: 504.9 lb



COMPANY	SANDRIDGE EXPLORATION AND PRODUCTION LLC.				
WELL	ALTON 3306 1-23				
FIELD	STOHRVILLE				
PROVINCE/COUNTY	HARPER				
COUNTRY/STATE	U.S.A / KANSAS				

Elevation Kelly Bushing	1317.00	feet	First Reading	4899.00	feet
Elevation Drill Floor	1316.00	feet	Depth Driller	4920.00	feet
Elevation Ground Level	1308.00	feet	Depth Logger	4918.00	feet


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COMPACT PHOTO DENSITY
COMPENSATED NEUTRON