COMPACT PHOTO DENSITY
COMPENSATED NEUTRON
MICRORESISTIVITY LOG

Weatherford®

COMPANY	GRAND MESA OPERATING COMPANY
WELL	Q-B #1-17
FIELD	WILDCAT
PROVINCE/COUNTY	GOVE
COUNTRY/STATE	U.S.A. / KANSAS
LOCATION	1477' FNL & 2519' FWL
	NE NE SE NW

40 Years of Wireline 1970 2010

SEC	TWP	RGE	Other Services
17	11S	26W	MAI/MFE MSS

API Number 15-063-21990
Permit Number

Permanent Datum G.L., Elevation 2644 feet
Log Measured From KB
Drilling Measured From K.B.

Elevations:	feet
KB	2649.00
DF	2648.00
GL	2644.00

Date	20-MAY-2012			
Run Number	ONE			
Depth Driller	4632.00	feet		
Depth Logger	4633.00	feet		
First Reading	4601.00	feet		
Last Reading	3600.00	feet		
Casing Driller	260.00	feet		
Casing Logger	260.00	feet		
Bit Size	7.875	inches		
Hole Fluid Type	CHEMICAL			
Density / Viscosity	9.20 lb/USg	50.00 CP		
PH / Fluid Loss	9.50	8.80 ml/30Min		
Sample Source	FLOWLINE			
Rm @ Measured Temp	0.88 @ 93.0	ohm-m		
Rmf @ Measured Temp	0.70 @ 93.0	ohm-m		
Rmc @ Measured Temp	1.06 @ 93.0	ohm-m		
Source Rmf / Rmc	CALC	CALC		
Rm @ BHT	0.68 @120.0	ohm-m		
Time Since Circulation	4 HOURS			
Max Recorded Temp	120.00	deg F		
Equipment Name	COMPACT			
Equipment / Base	13057	LIB		
Recorded By	L. SCOTT			
Witnessed By	JOHN GOLDSMITH		STEVE STRIBLING	
S.O.# / JOB#	3534580		LB12-130	

BOREHOLE RECORD

Last Edited: 20-MAY-2012 14:40

Bit Size inches	Depth From feet	Depth To feet
7.875	260.00	4633.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	260.00	24.00

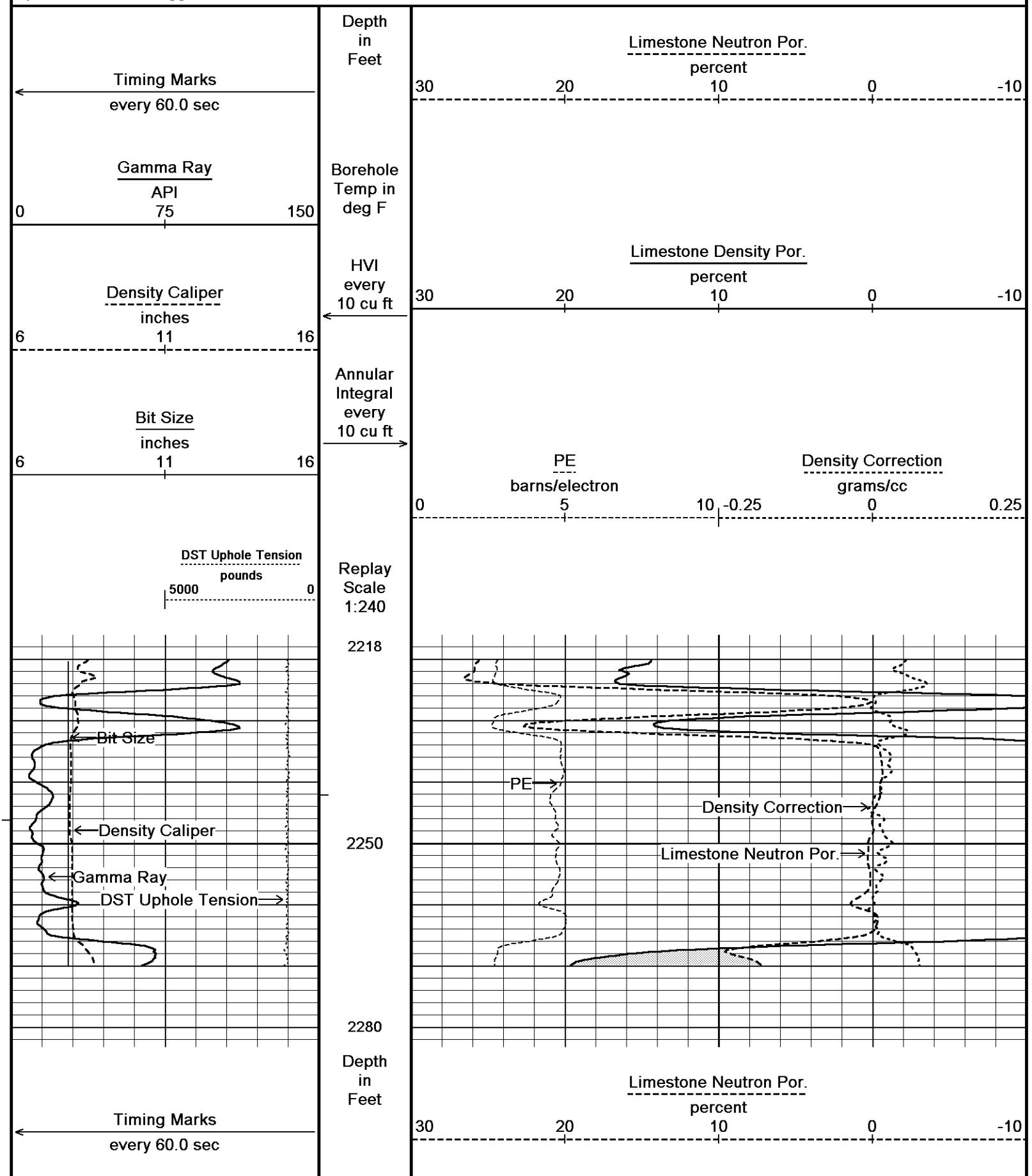
REMARKS

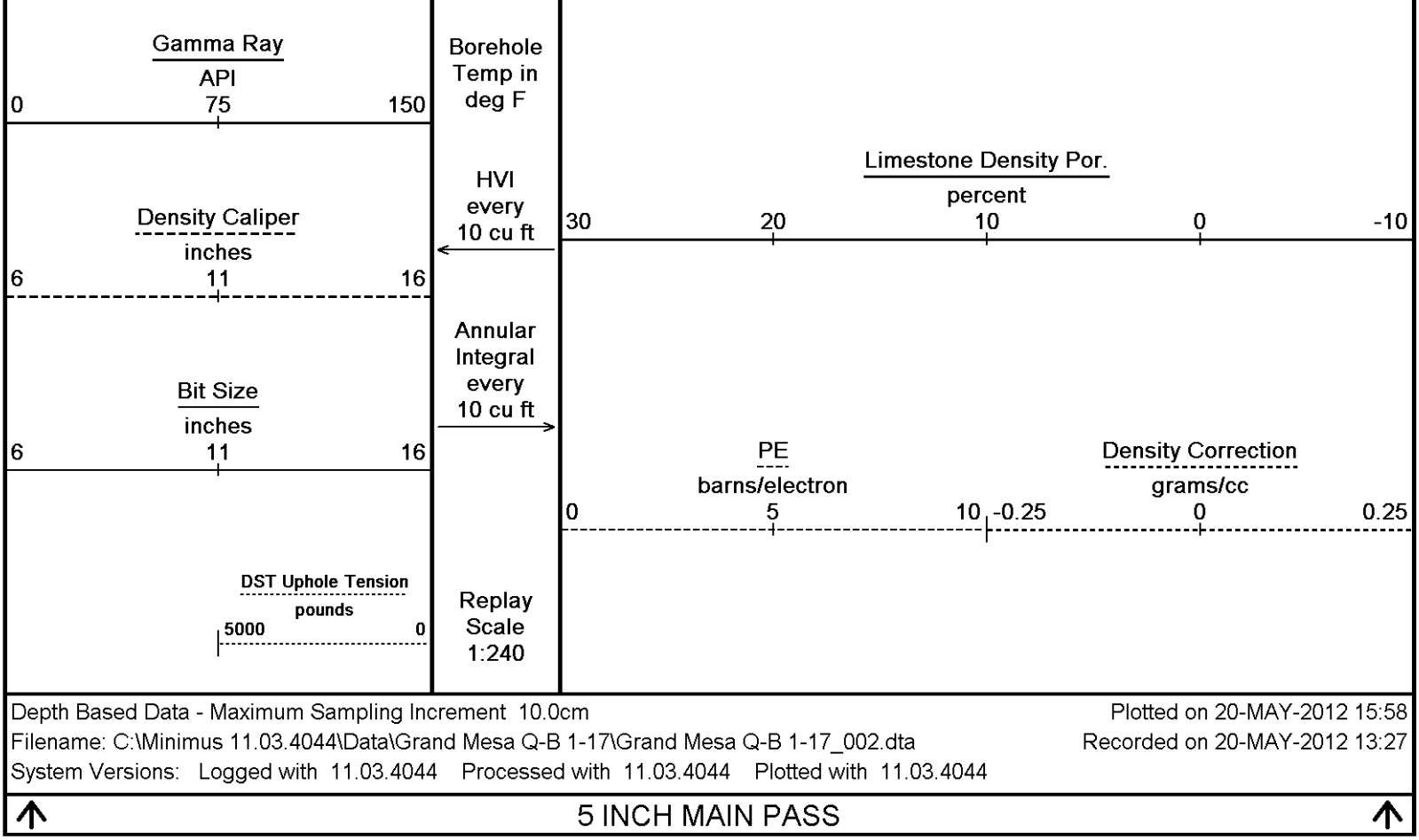
Tools Ran: MCG, MML, MDN, MPD, MFE, MSS, MAI.
Hardware Used: MDN Dual Eccentralizer used. MPD 8 inch profile plate used.
MFE: 0.5 inch Standoff = 1
MAI: 0.5 inch Standoff = 1
MSS: 0.5 inch Standoffs = 2
2.71 g/cc Limestone Density Matrix used to calculate porosity.
Sonic porosity calculated using (47.5usec/ft) Limestone scale.
All intervals logged and scaled per customer's request.
Annular volume with 5.5 inch production casing= 185 cu. ft.
Total hole volume from TD to surface casing= 1844 cu. ft.
Service order: #3534580
Rig: Murfin #24
Engineer: L. Scott
Operator(s): B. Johnson

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 20-MAY-2012 15:58
Filename: C:\Minimus 11.03.4044\Data\Grand Mesa Q-B 1-17\Grand Mesa Q-B 1-17_002.dta
Recorded on 20-MAY-2012 13:27
System Versions: Logged with 11.03.4044 Processed with 11.03.4044 Plotted with 11.03.4044





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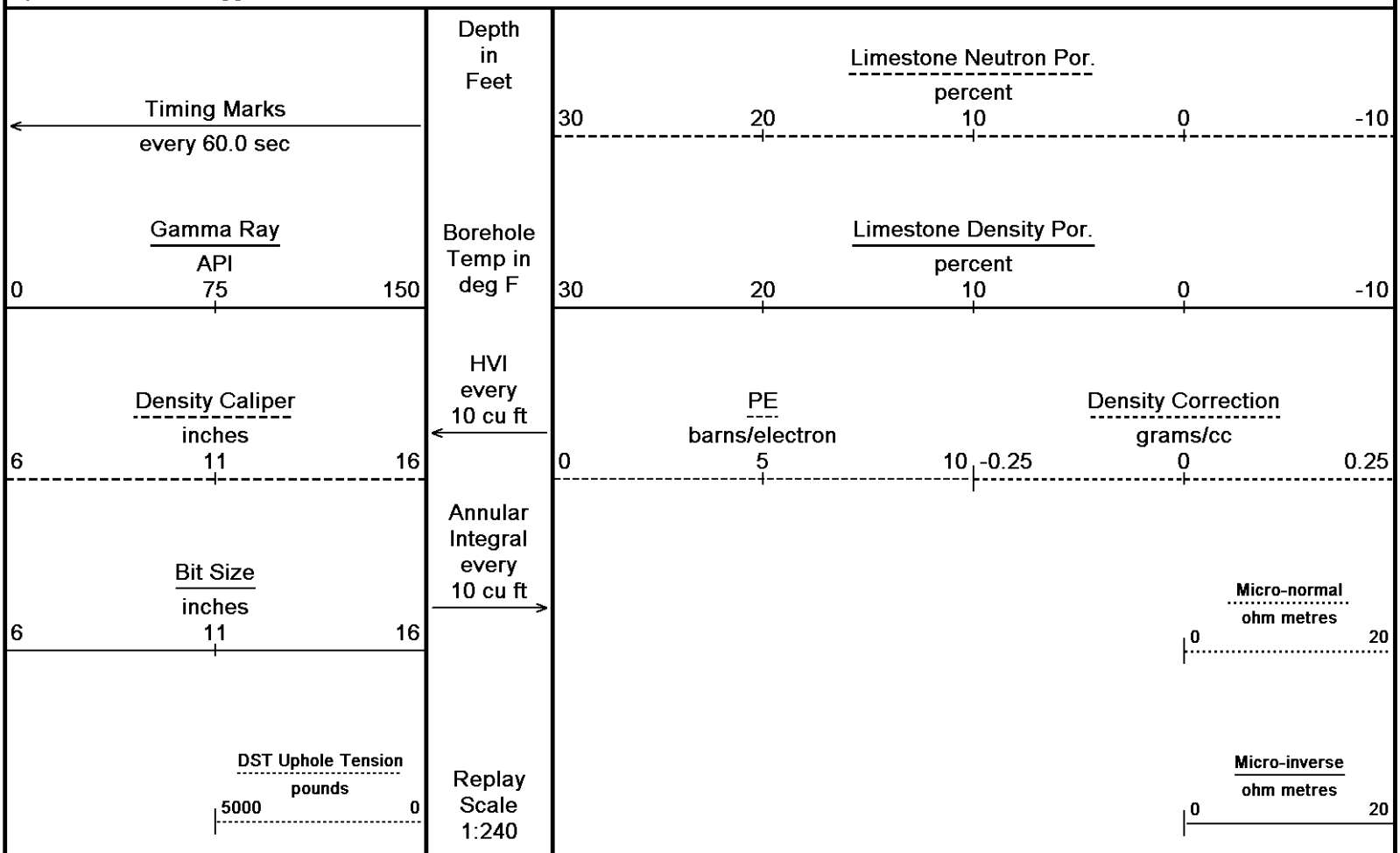
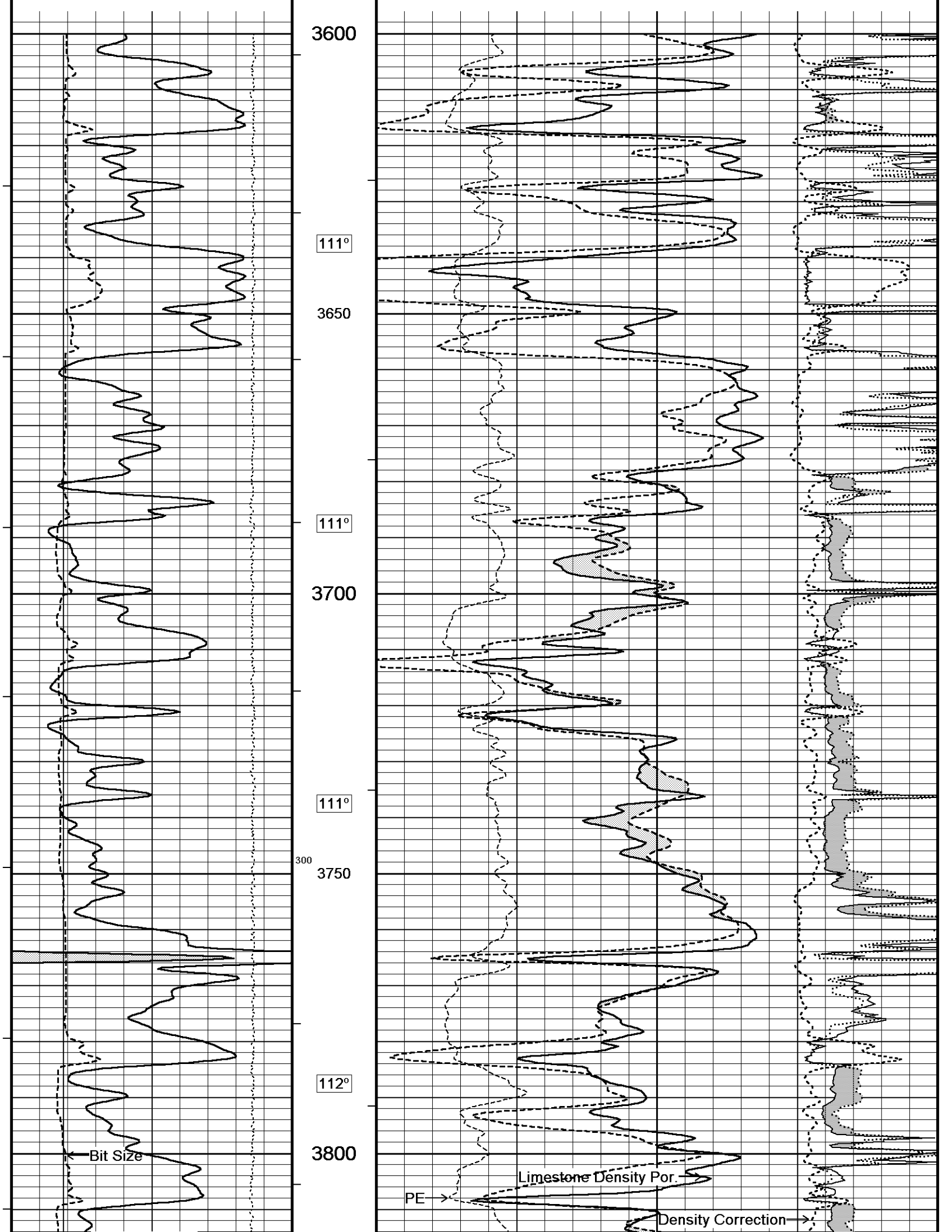
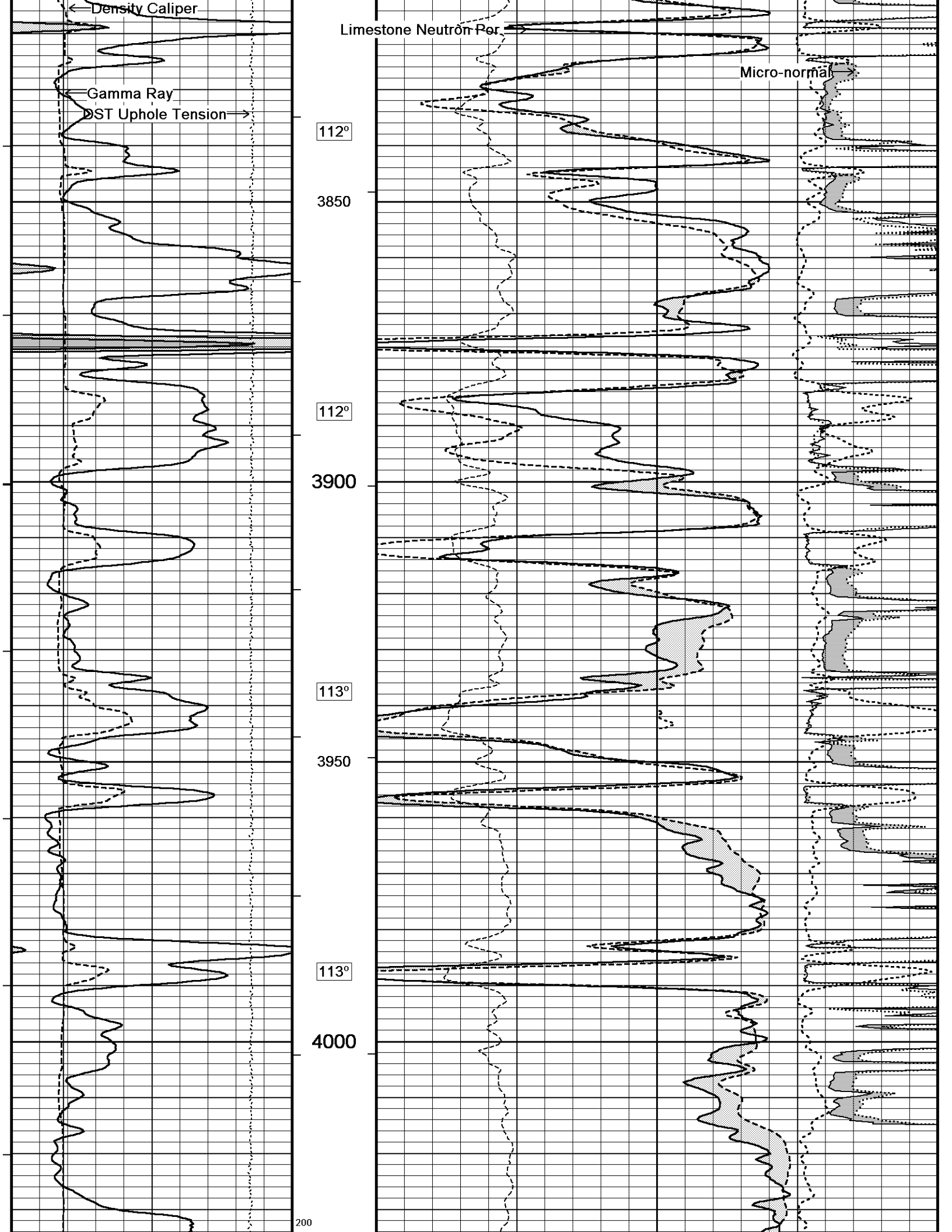
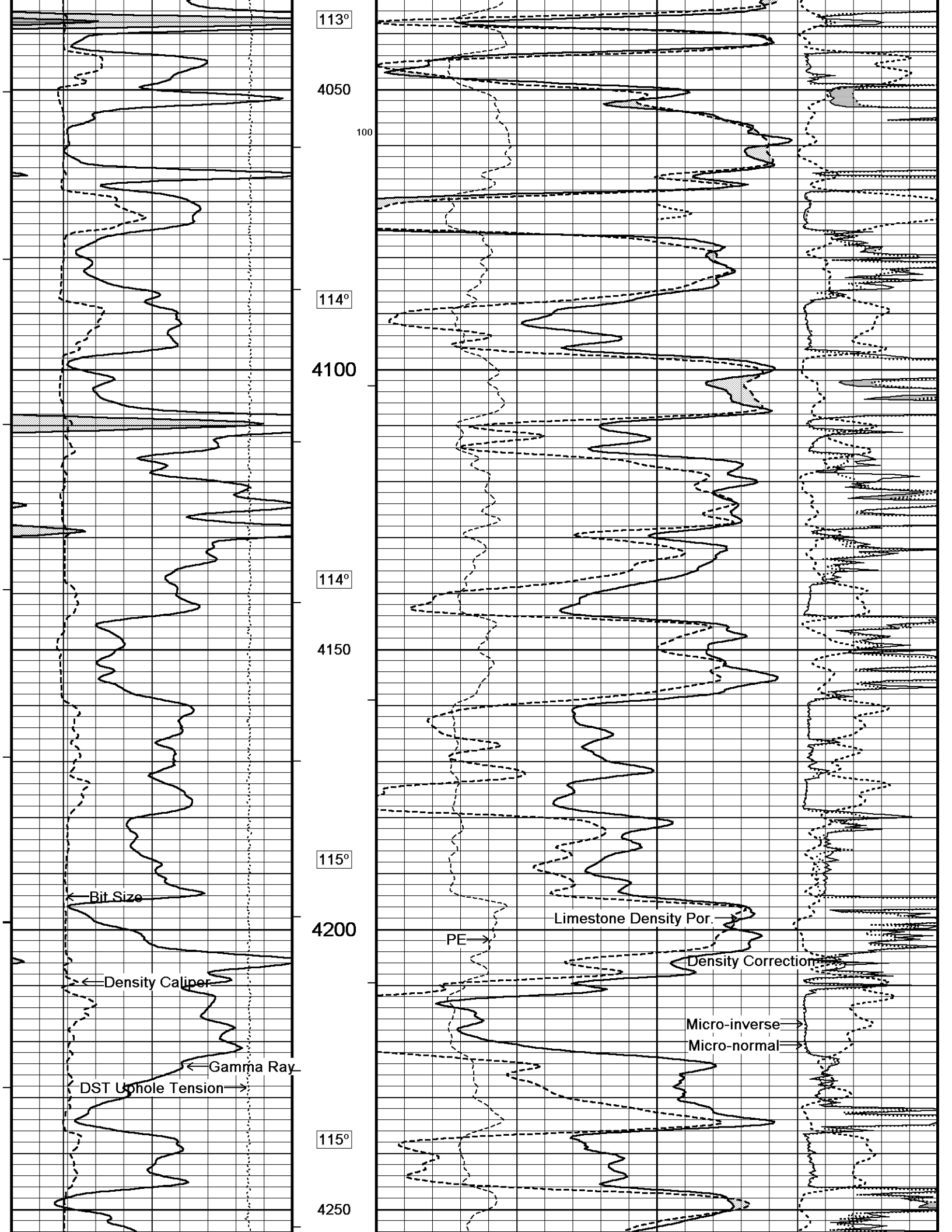
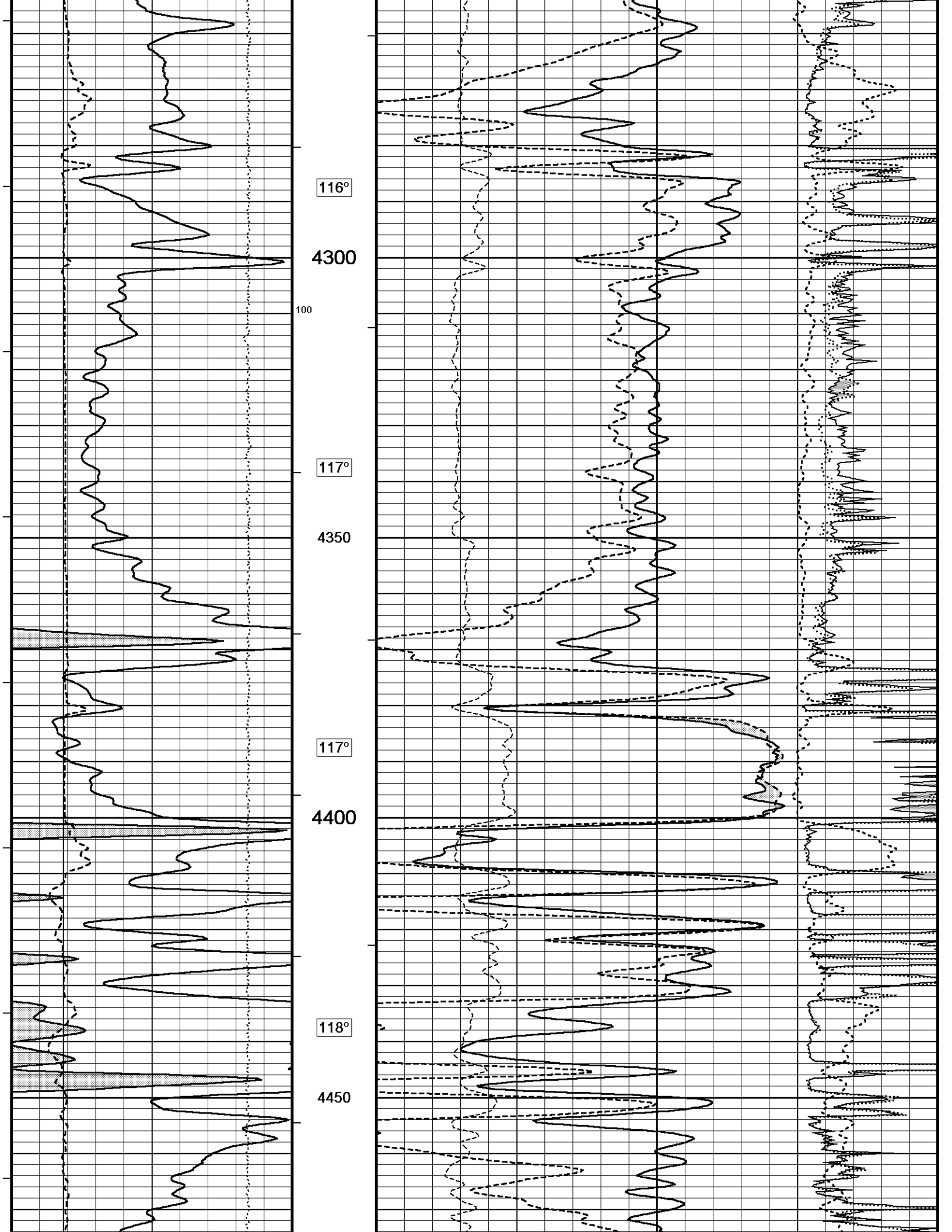
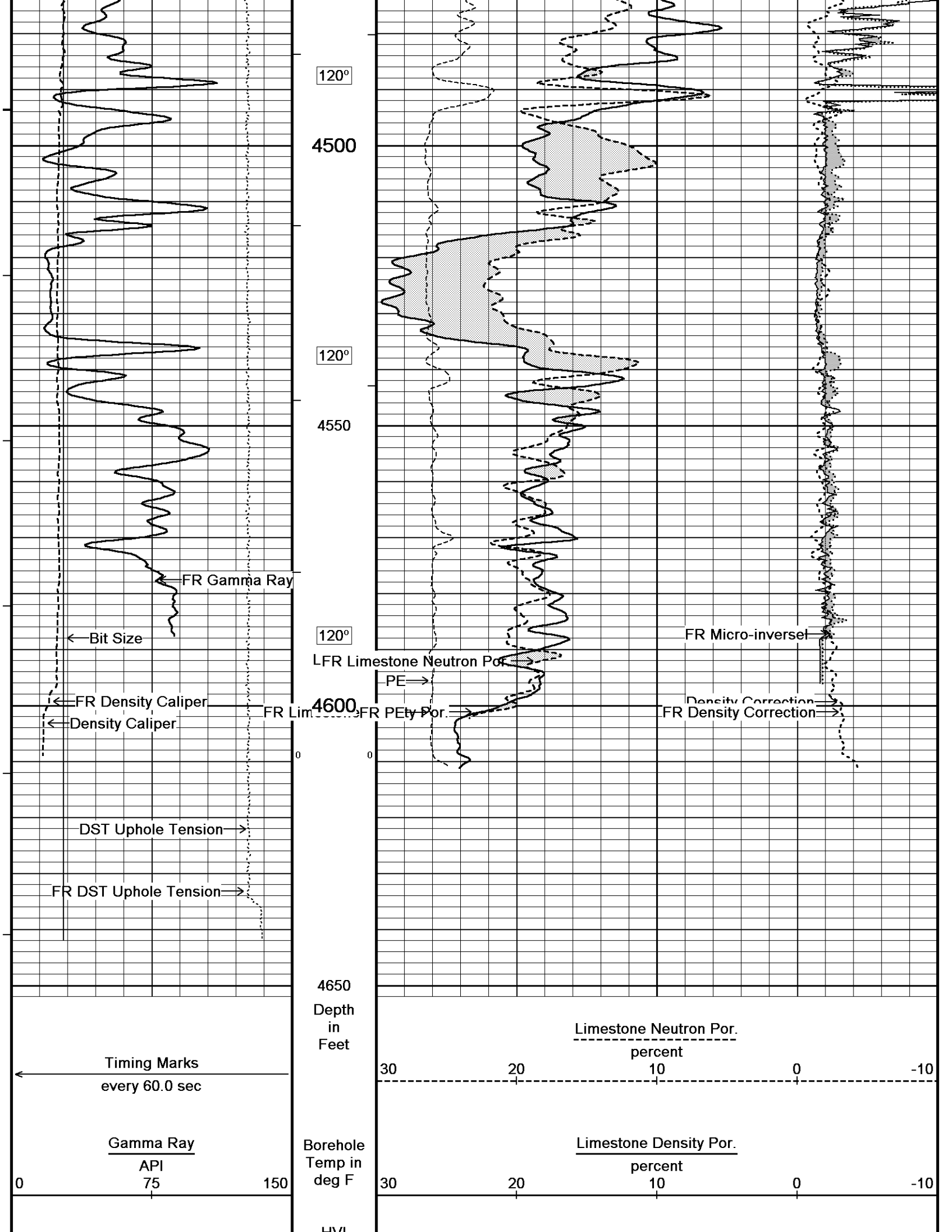


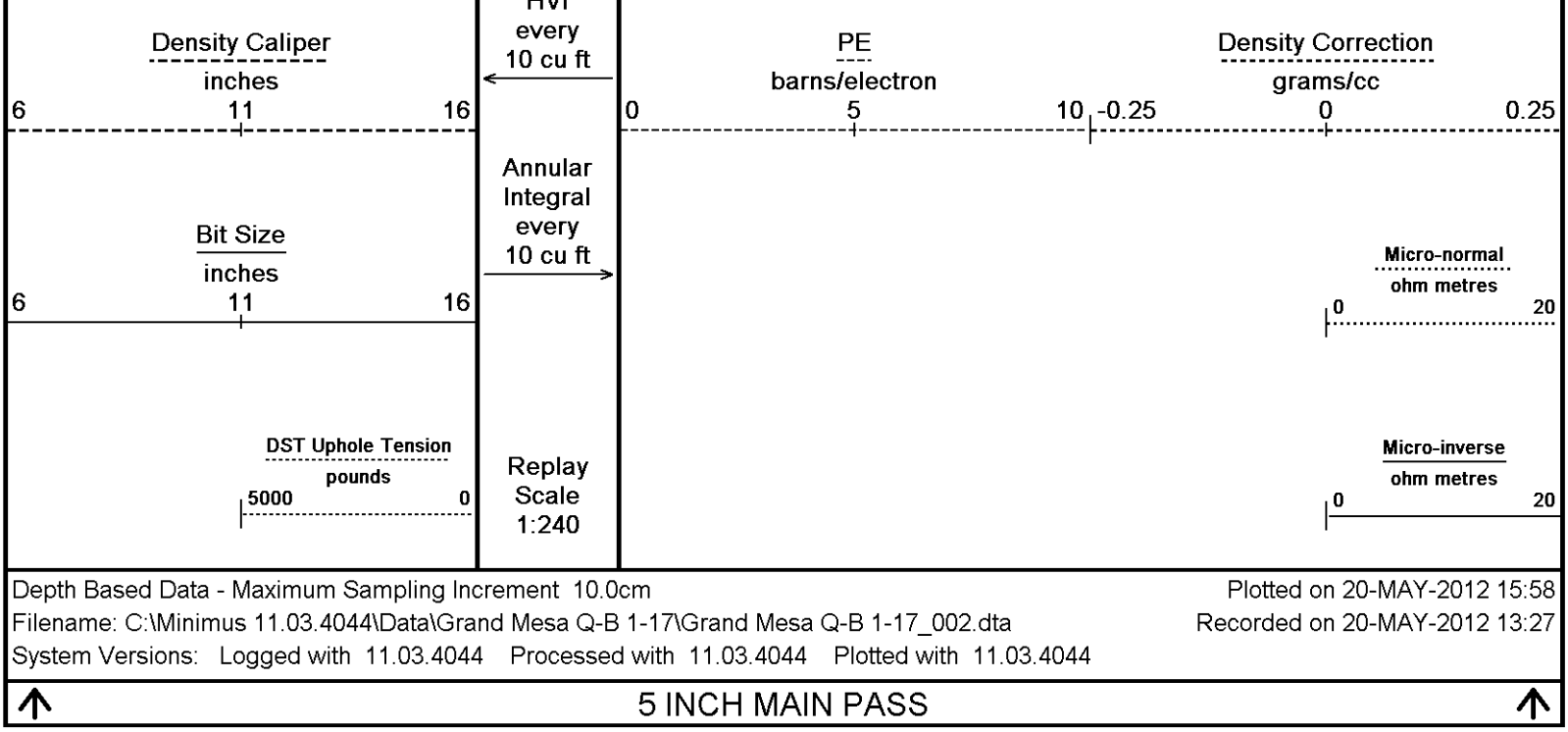

3600
111°
3650
111°
3700
111°
300
3750
112°
3800
Bit Size
PE
Limestone Density Por.
Density Correction


Density Caliper
Limestone Neutron Por
Micro-normal
Gamma Ray
DST Uphole Tension
112°
3850
112°
3900
113°
3950
113°
4000
200


113°
4050
100
114°
4100
114°
4150
115°
4200
115°
4250
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
PE
Limestone Density Por.
Density Correction
Micro-inverse
Micro-normal


116°
4300
100
117°
4350
117°
4400
118°
4450


120°
4500
120°
4550
120°
4600
4650
FR Gamma Ray
Bit Size
FR Density Caliper
Density Caliper
DST Uphole Tension
FR DST Uphole Tension
FR Limestone Neutron Por.
PE
FR PEty Por.
FR Micro-inverse
Density Correction
FR Density Correction
0
0
Depth in Feet
Timing Marks
every 60.0 sec
Gamma Ray
API
0
75
150
Borehole Temp in deg F
Limestone Neutron Por.
percent
30
20
10
0
-10
Limestone Density Por.
percent
30
20
10
0
-10



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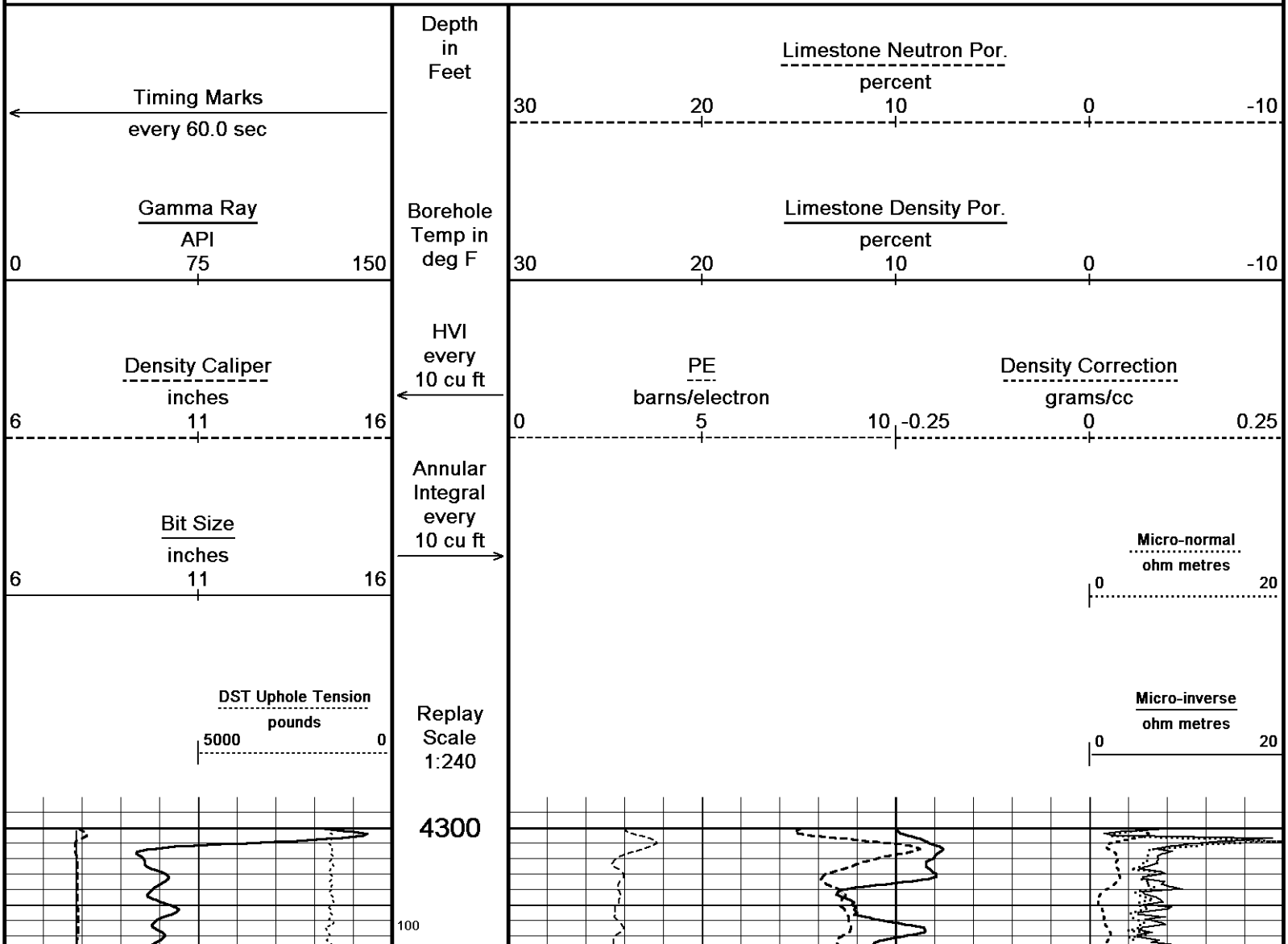
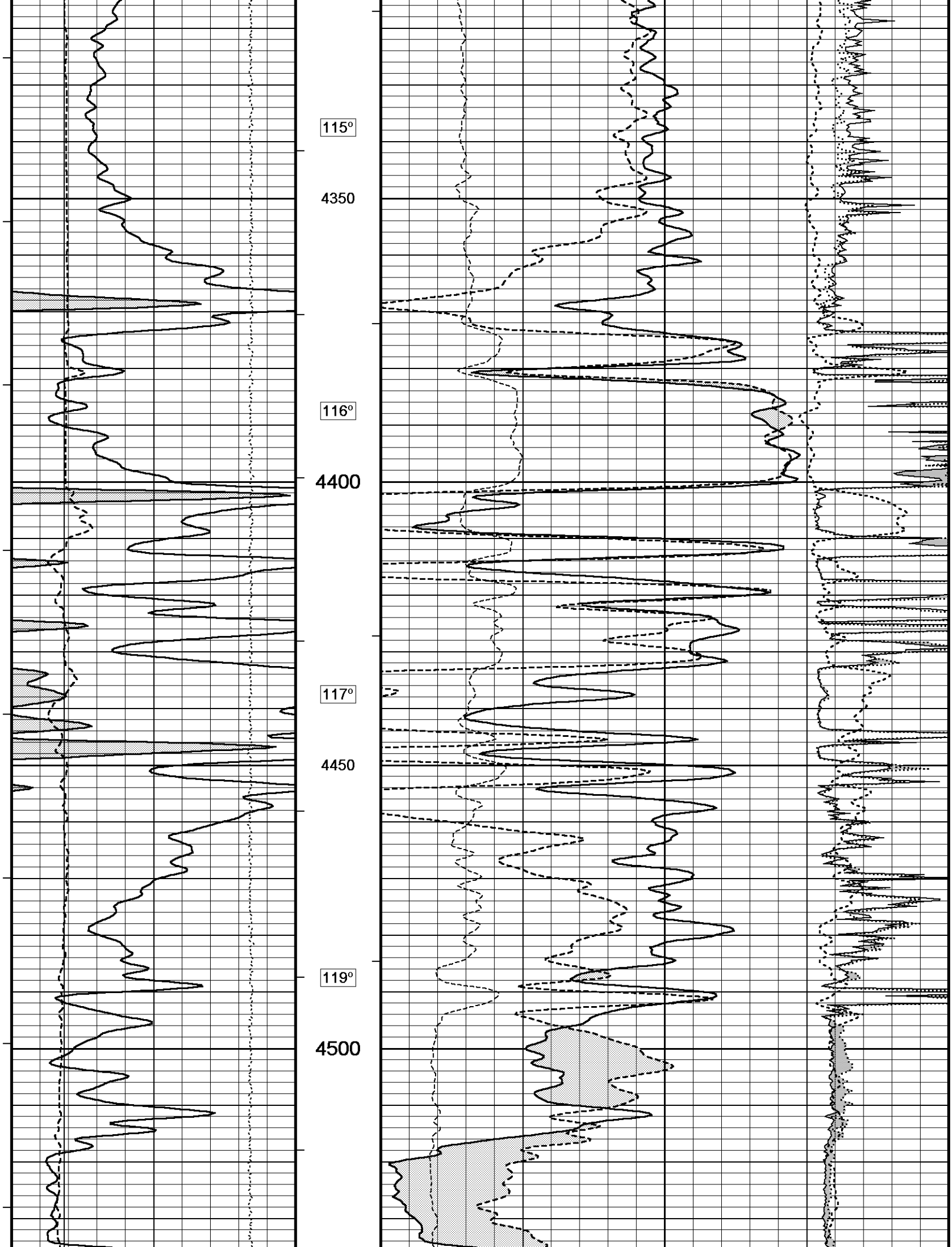
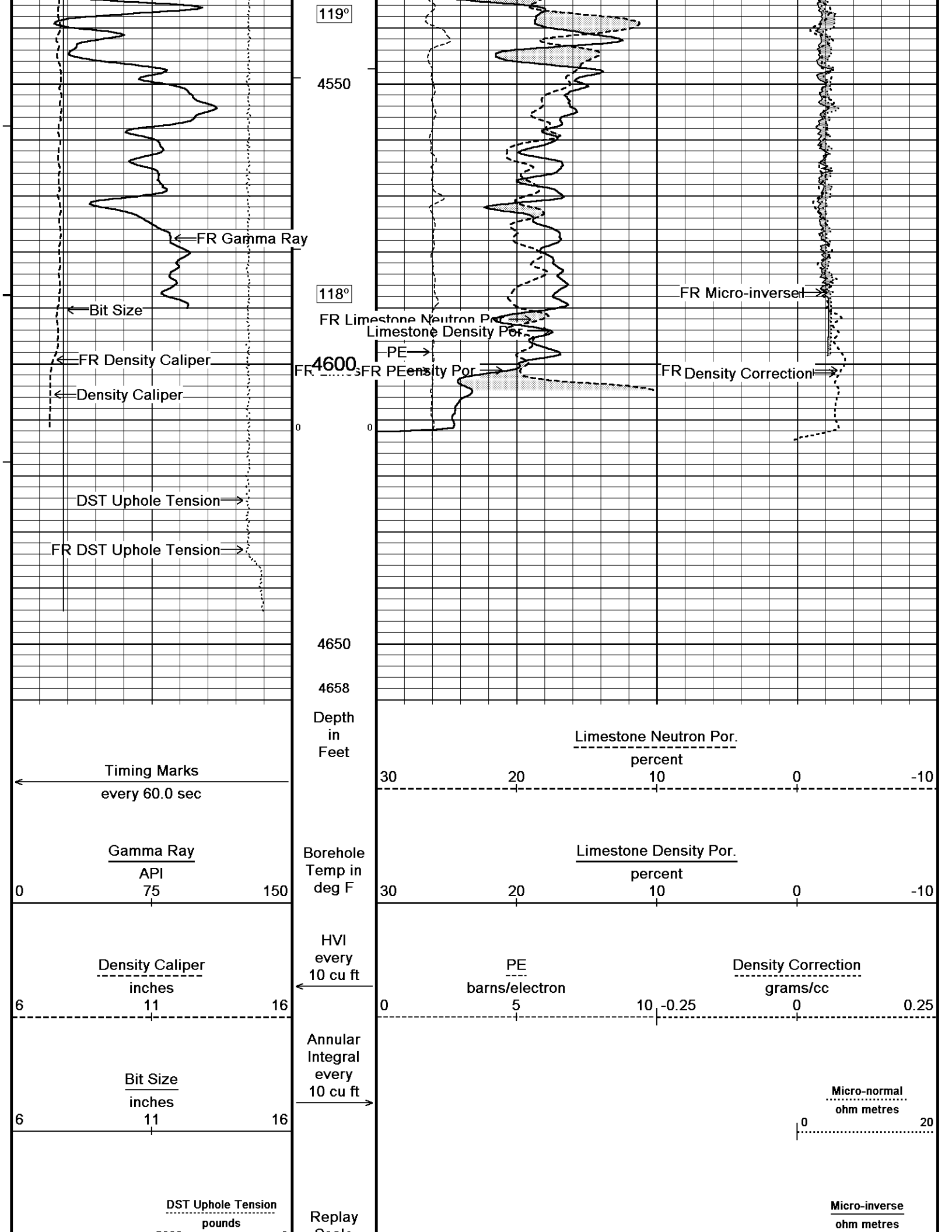
5 INCH MAIN PASS

5 INCH REPEAT PASS

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 20-MAY-2012 15:58
Filename: C:\Minimus 11.03.4044\Data\Grand Mesa Q-B 1-17\Grand Mesa Q-B 1-17_001.dta
Recorded on 20-MAY-2012 13:06
System Versions: Logged with 11.03.4044 Processed with 11.03.4044 Plotted with 11.03.4044




115°
4350
116°
4400
117°
4450
119°
4500


119°
4550
FR Gamma Ray
118°
Bit Size
FR Limestone Neutron Por.
Limestone Density Por.
PE
FR Density Caliper
4600
FR PE
FR Density Por.
FR Density Correction
Density Caliper
0
0
DST Uphole Tension
FR DST Uphole Tension
FR Micro-inverse
4650
4658
Depth in Feet
Timing Marks
every 60.0 sec
Limestone Neutron Por.
percent
30 20 10 0 -10
Gamma Ray
API
0 75 150
Borehole Temp in deg F
Limestone Density Por.
percent
30 20 10 0 -10
HVI every 10 cu ft
Density Caliper
inches
6 11 16
PE
barns/electron
0 5 10
Density Correction
grams/cc
-0.25 0 0.25
Annular Integral every 10 cu ft
Bit Size
inches
6 11 16
Micro-normal
ohm metres
0 20
DST Uphole Tension
pounds
Replay
Micro-inverse
ohm metres

5000 0

Scale 1:240

0 20

Depth Based Data - Maximum Sampling Increment 10.0cm
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5 INCH REPEAT PASS

5 INCH MAIN PASS

Depth Based Data - Maximum Sampling Increment 10.0cm
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Timing Marks
every 60.0 sec

Depth in Feet

Compensated Density
grams/cc
2 2.25 2.50 2.75 3

Gamma Ray
API
0 75 150

Borehole Temp in deg F

HVI every 10 cu ft

Limestone Density Por.
percent
30 20 10 0 -10

Density Caliper
inches
6 11 16

Annular Integral every 10 cu ft

Bit Size
inches
6 11 16

PE
barns/electron
0 5 10

Density Correction
grams/cc
-0.25 0 0.25

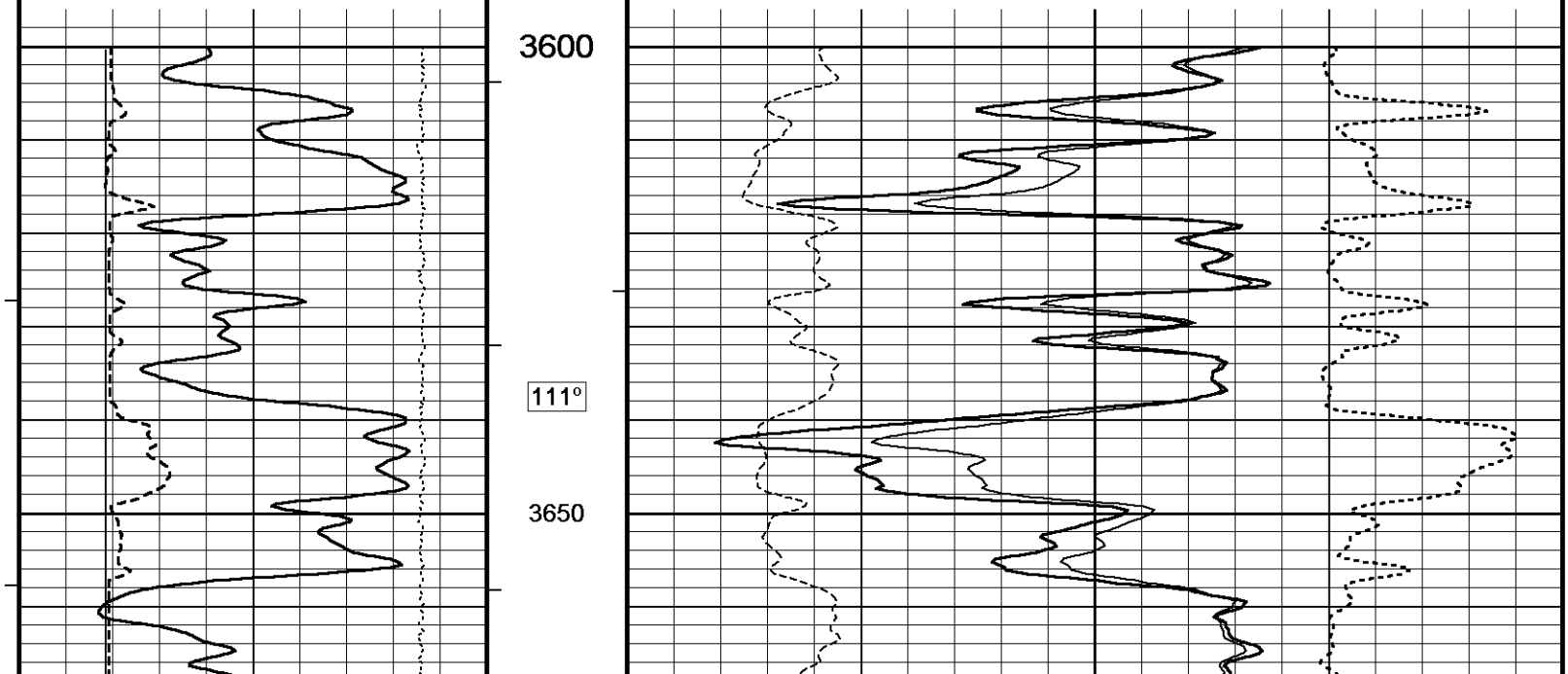
DST Uphole Tension
pounds
5000 0

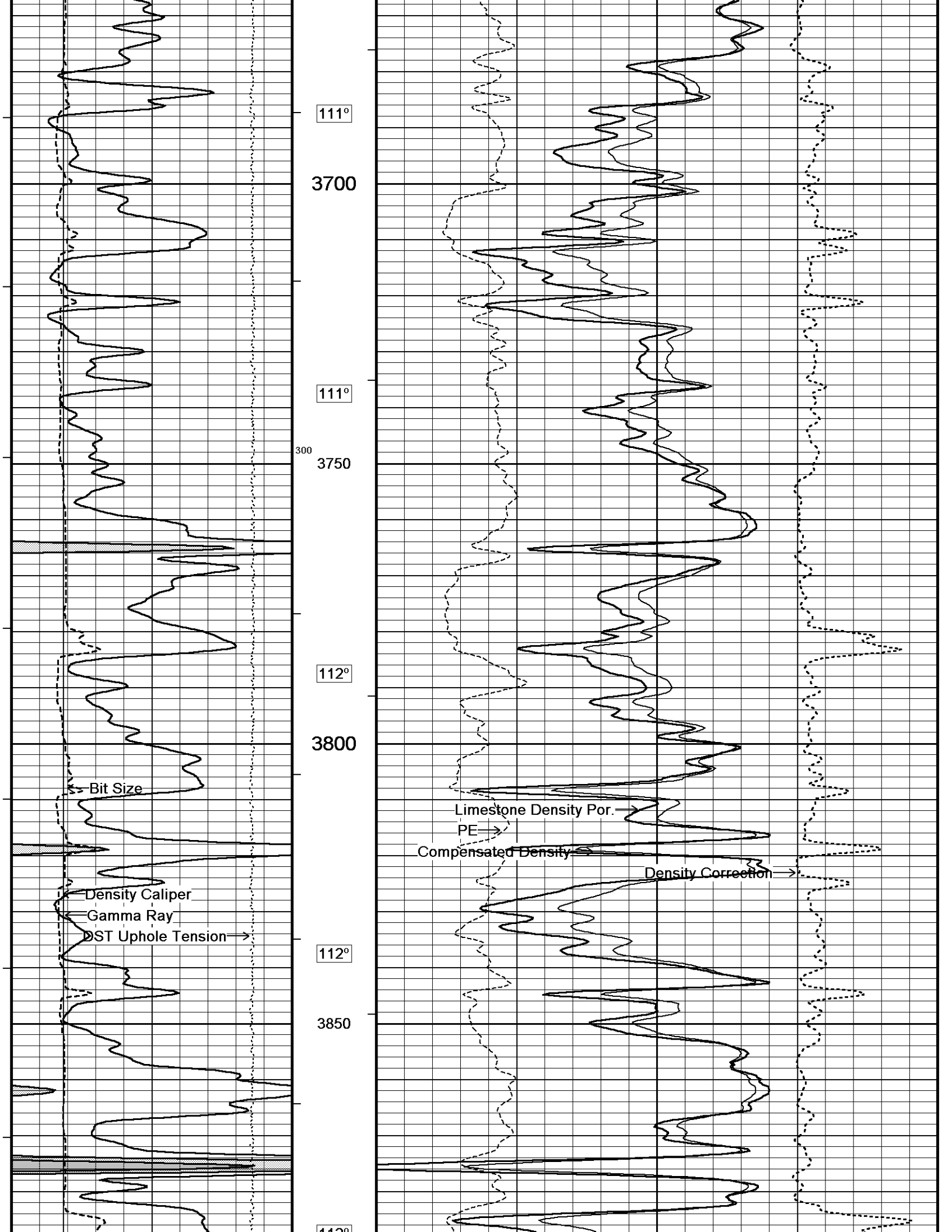
Replay Scale 1:240

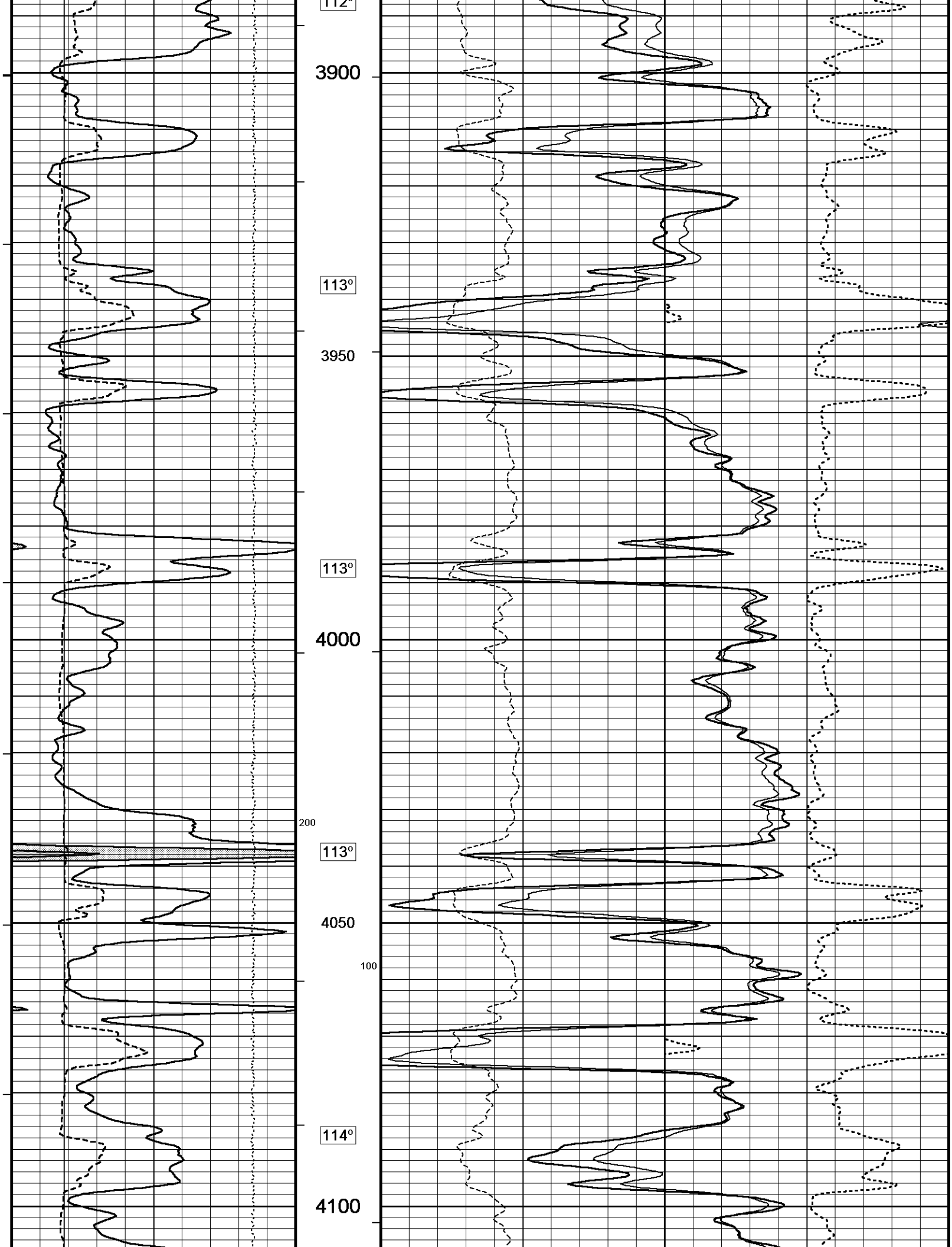
3600

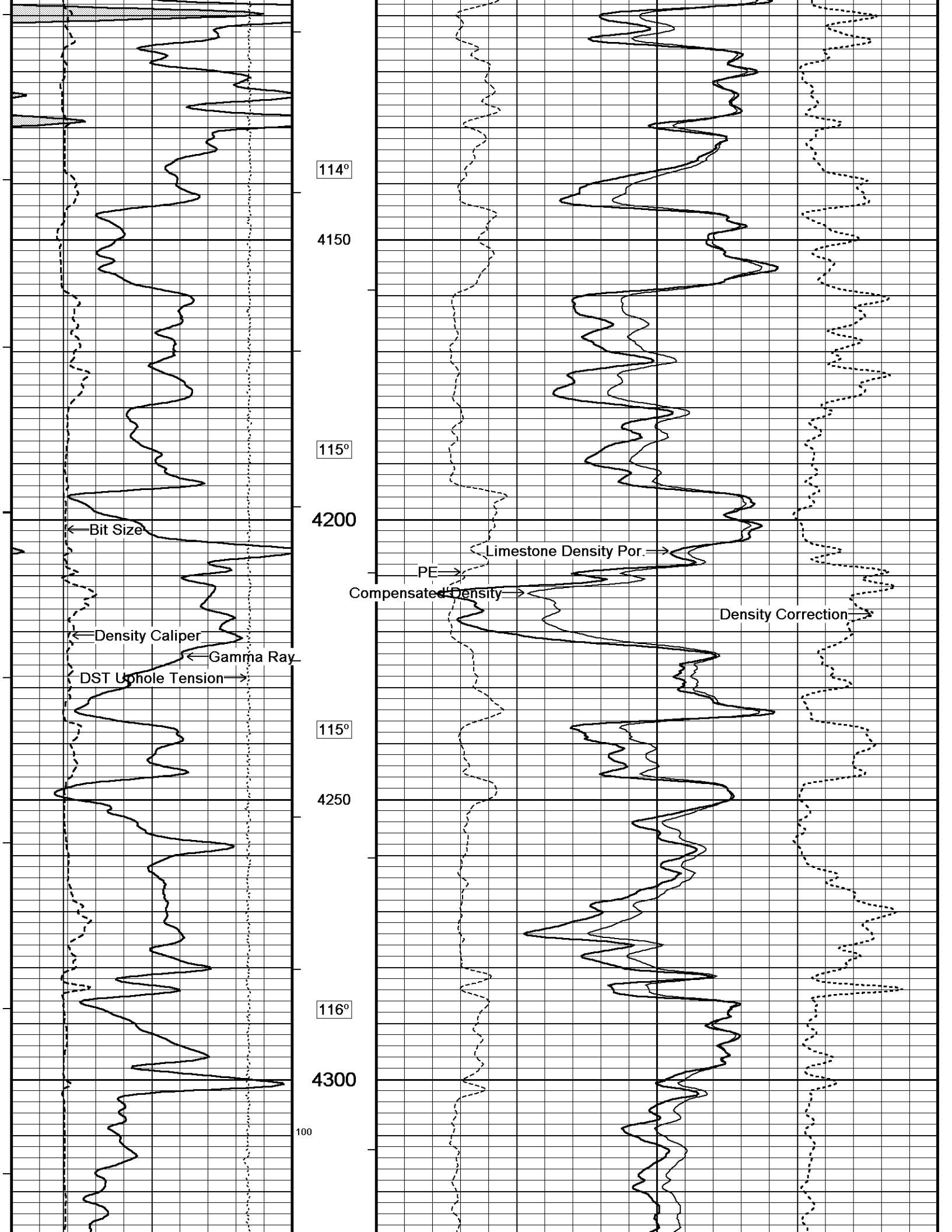
111°

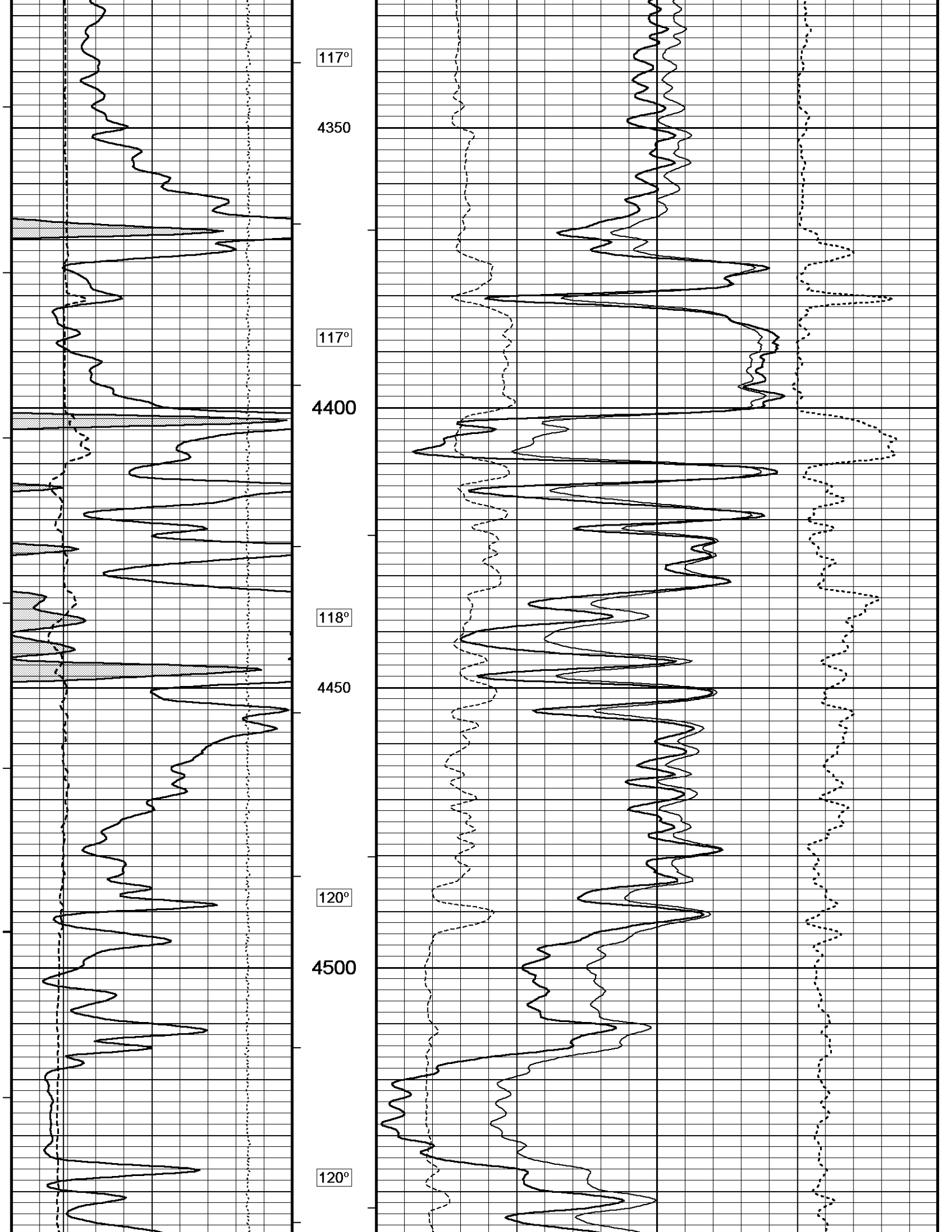
3650

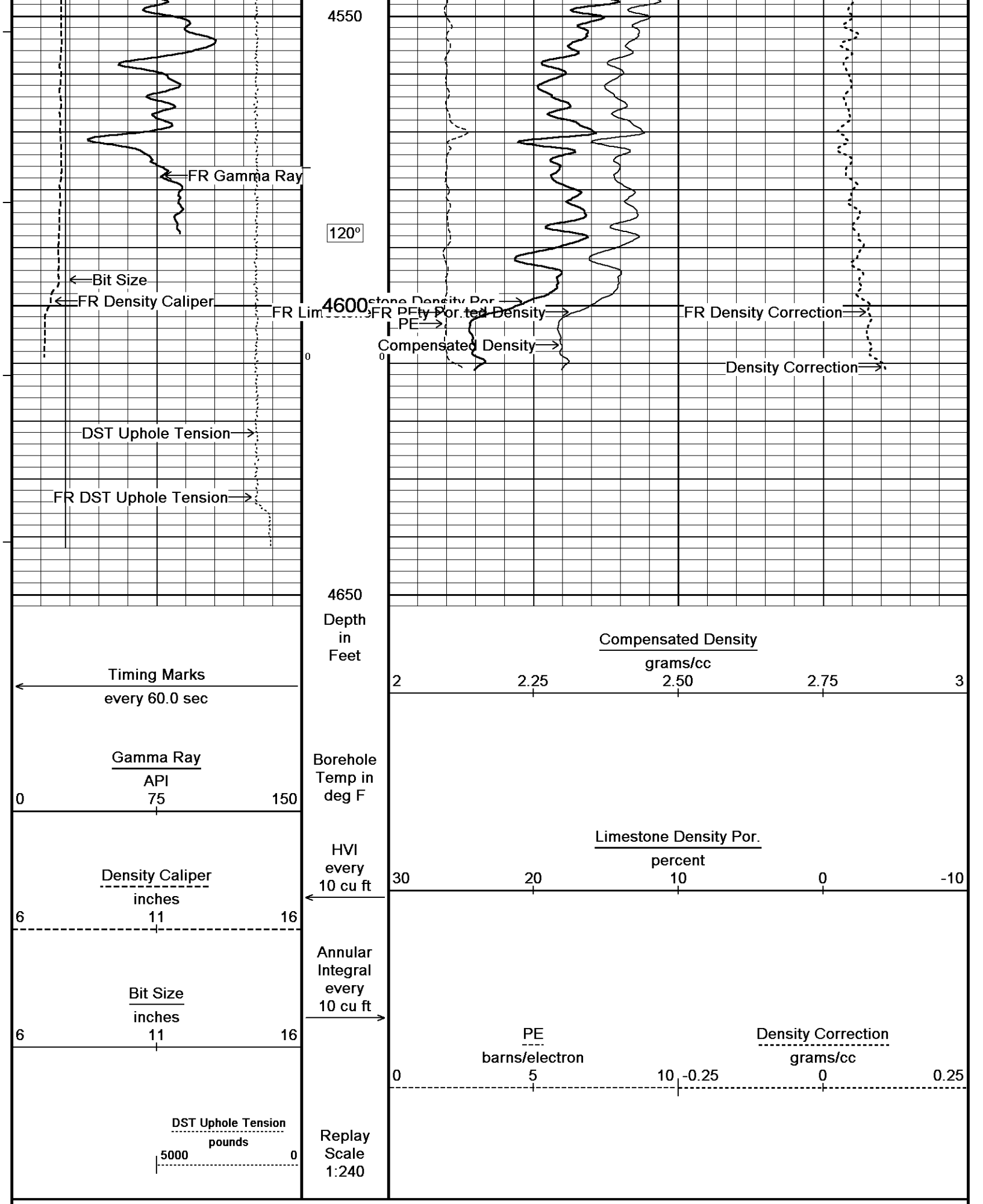



111°
3700
111°
300
3750
112°
3800
Bit Size
Limestone Density Por.
PE
Compensated Density
Density Correction
Density Caliper
Gamma Ray
DST Uphole Tension
112°
3850
112°


112°
3900
113°
3950
113°
4000
200
113°
4050
100
114°
4100


114°
4150
115°
4200
115°
4250
116°
4300
100
Bit Size
Density Caliper
Gamma Ray
DST Uphole Tension
Limestone Density Por.
PE
Compensated Density
Density Correction


117°
4350
117°
4400
118°
4450
120°
4500
120°



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Timing Marks
every 60.0 sec

Gamma Ray
API
0 75 150

Density Caliper
inches
6 11 16

Bit Size
inches
6 11 16

DST Uphole Tension
pounds
5000 0

Depth in Feet

Borehole Temp in deg F

HVI every 10 cu ft

Annular Integral every 10 cu ft

Replay Scale 1:240

Compensated Density
grams/cc
2 2.25 2.50 2.75 3

Limestone Density Por.
percent
30 20 10 0 -10

PE
barns/electron
0 5 10

Density Correction
grams/cc
-0.25 0 0.25

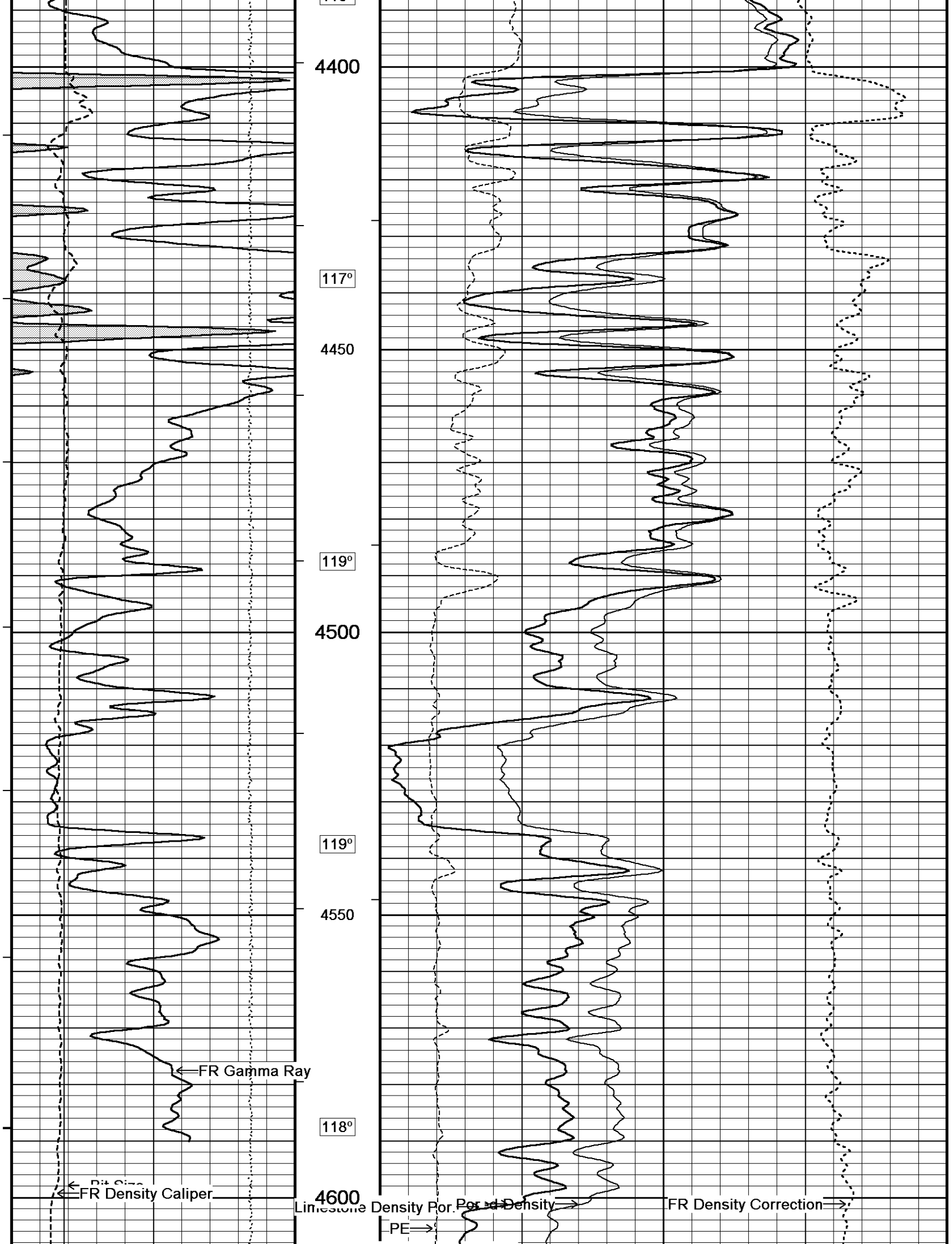
4300

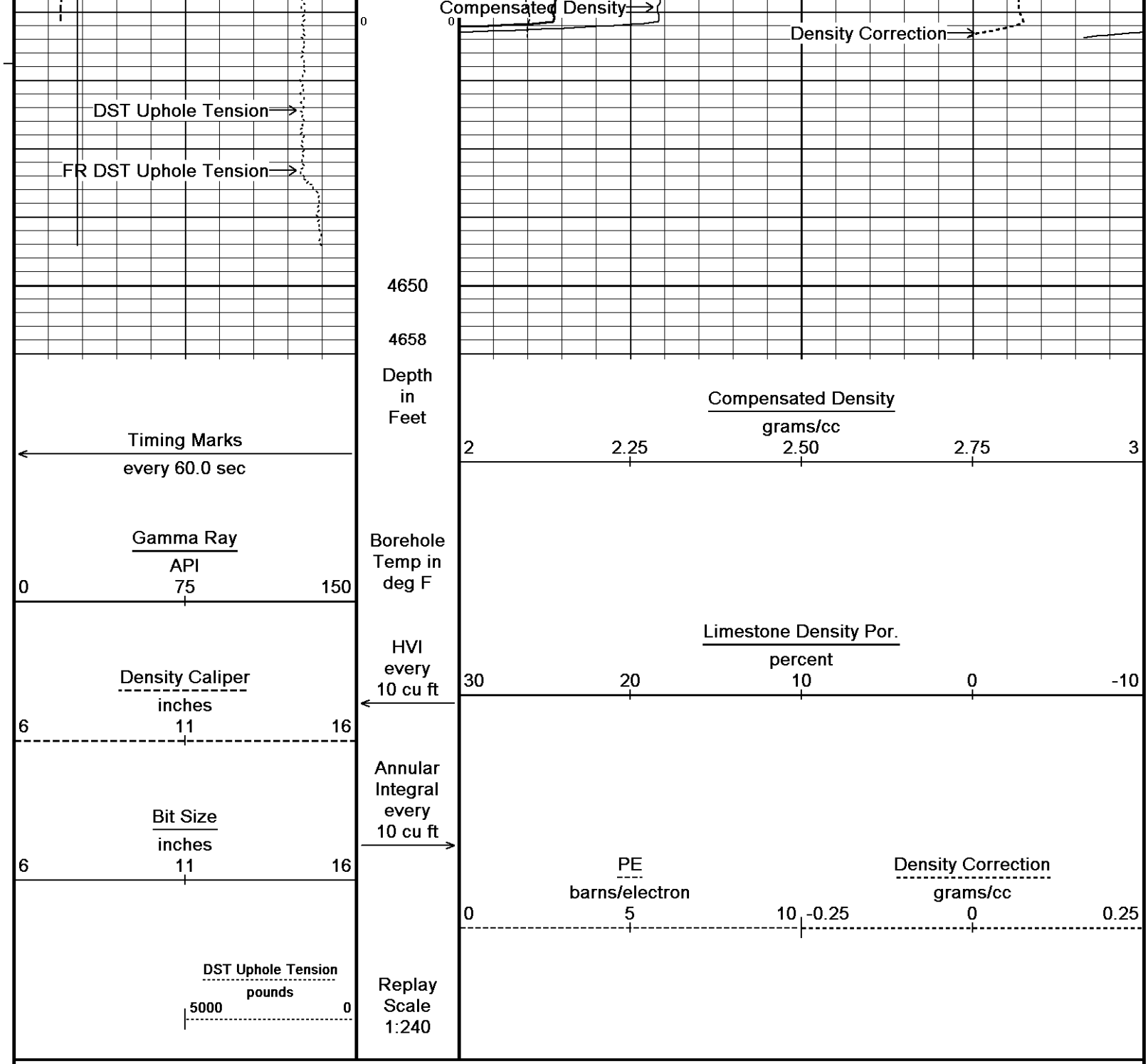
100

115°

4350

116°


4400
117°
4450
119°
4500
119°
4550
118°
4600
FR Gamma Ray
FR Density Caliper
Limestone Density Por.
Por ed Density
PE
FR Density Correction



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5 INCH REPEAT PASS

BEFORE SURVEY CALIBRATION

C:\Minimus 11.03.4044\Data\Grand Mesa Q-B 1-17\Grand Mesa Q-B 1-17.dta

General Constants All 000

Last Edited on 20-MAY-2012,12:39

General Parameters		
Mud Resistivity	0.880	ohm-metres
Mud Resistivity Temperature	93.000	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	Limestone Density Por.
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 11-MAY-2012 11:47

Reading No	Measured	Calibrated (lbs)
1	13322.68	0.00
2	13679.25	383.60

Gamma Calibration MCG-C 84

Field Calibration on 20-MAY-2012 07:19

	Measured	Calibrated (API)
Background	71	48
Calibrator (Gross)	1143	773
Calibrator (Net)	1073	725

Gamma Constants MCG-C 84

Last Edited on 20-MAY-2012,12:40

Gamma Calibrator Number	grc38	
Mud Density	1.10	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl	0.00	kppm

SP Calibration MCG-C 84

Field Calibration on 01-MAY-2012,03:09

	Measured	Calibrated (mV)
Reference 1	103.5	100.0
Reference 2	-96.9	-100.0

High Resolution Temperature Calibration MCG-C 84

Field Calibration on 01-MAY-2012,03:10

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

High Resolution Temperature Constants MCG-C 84

Last Edited on

Pre-filter Length	11

Caliper Calibration MML-A 16

Base Calibration on 09-MAY-2012 08:19
Field Calibration on 20-MAY-2012 07:11

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	14458	5.98
2	17779	7.97
3	21092	9.86
4	25087	11.92
5	0	0.00
6	N/A	N/A

Field Calibration

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

Micro Normal and Micro Inverse Calibration MML-A 16

Base Calibration on 09-MAY-2012 08:25
Field Check on 20-MAY-2012 07:13

Base Calibration

	Measured		Calibrated (ohm-m)	
Channel	Resistor 1	Resistor 2	Resistor 1	Resistor 2
Micro Normal	12.2	60.2	5.0	25.0
Micro Inverse	15.6	78.3	5.0	25.0

Channel	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	62.9	62.9
Micro Inverse	48.2	48.2

Micro Normal and Micro Inverse Constants MML-A 16

Last Edited on 18-MAY-2012,04:40

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		N/A	inches

Neutron Calibration MDN-A.B 65

Base Calibration on 27-APR-2012 16:25
Field Check on 20-MAY-2012 07:37

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	3227	100	3714	110
Ratio	32.312		33.764	

Field Calibrator at Base

	Calibrated (cps)	
	1605	2333
Ratio	0.688	

Field Check

	Calibrated (cps)	
	1579	2286
Ratio	0.691	

Neutron Constants MDN-A.B 65

Last Edited on 20-MAY-2012,07:19

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	Constant Value	
Formation Pressure	0.00	kpsi
Temperature Source	Constant Value	
Temperature	68.00	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 25-APR-2012 15:47
Field Check on 20-MAY-2012 07:01

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	950.5	126.8
Base Check		281.7
Field Check		281.9

FE Constants MFE-A.A 55

Last Edited on 20-MAY-2012,06:59

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-C.K 330

Last Edited on 20-MAY-2012,12:40

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/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 12-JAN-2012,13:36

	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 12-JAN-2012,11:13

Pre-filter Length 11

Induction Calibration MAI-A.A 45

Base Calibration on 12-JAN-2012,13:34
Field Check on 20-MAY-2012 06:59

Base Calibration

Test Loop Calibration Channel	Measured Low	Measured High	Calibrated (mmho/m) Low	Calibrated (mmho/m) 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 79.4 Deg F

Channel	Base Check (mmho/m)		Field Check (mmho/m)		
	Low	High	Low	High	
1	0.0	0.0	18.5	3851.8	
2	0.0	0.0	31.7	3630.1	
3	0.0	0.0	28.7	3050.0	
4	0.0	0.0	18.3	2079.5	
Deep	0.0	0.0	16.1	1911.5	
Medium	0.0	0.0	42.6	4061.6	
Shallow	0.0	0.0	49.6	5484.3	
Array Temperature		0.0		67.3	Deg F

Induction Constants MAI-A.A 45

Last Edited on 20-MAY-2012,06:57

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 59

Base Calibration on 16-MAY-2012 14:32
Field Calibration on 20-MAY-2012 07:02

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	19200	3.99
2	29152	5.98
3	39216	7.97
4	48949	9.86
5	60064	11.92
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
5.94	5.98

Photo Density Calibration MPD-B 59

Base Calibration on 16-MAY-2012 14:49
Field Check on 20-MAY-2012 07:09

Density Calibration

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	49293	24802	59556	30836
Reference 2	20819	2436	24941	2541

Field Check at Base

1213.5	1290.5

Field Check

1207.8	1289.0

PE Calibration

Base Calibration	Measured			Calibrated
	WS	WH	Ratio	Ratio
Background	220	1092		
Reference 1	18022	49118	0.371	0.371
Reference 2	5449	20689	0.267	0.272

Field Check at Base

220.3	1091.9

Field Check

218.1	1085.7

Density Constants MPD-B 59

Last Edited on 20-MAY-2012,12:40

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	1.10	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

DOWNHOLE EQUIPMENT

C:\Minimus 11.03.4044\Data\Grand Mesa Q-B 1-17\Grand Mesa Q-B 1-17.dta

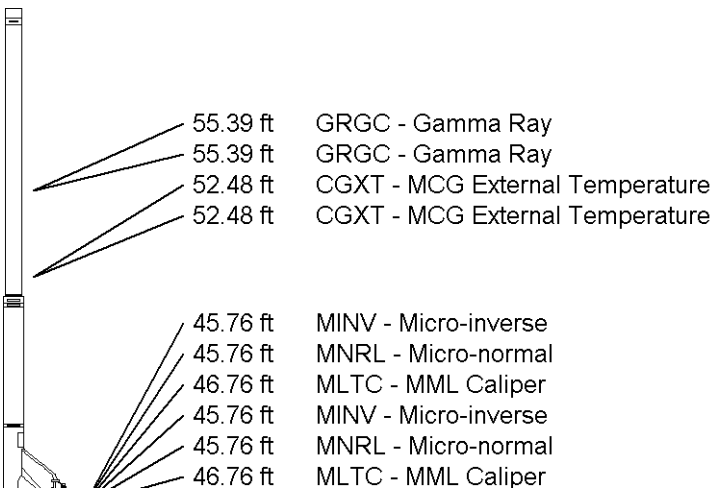
Compact Comms Gamma
MCG-C 84 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Compact Comms Gamma
MCG-C 84 LG: 8.70 ft WT: 63.9 lb OD: 2.24 in

Compact Micro-log
MML-A 16 LG: 7.97 ft WT: 81.6 lb OD: 2.24 in

Compact Micro-log
MML-A 16 LG: 7.97 ft WT: 81.6 lb OD: 2.24 in

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



55.39 ft	GRGC - Gamma Ray
55.39 ft	GRGC - Gamma Ray
52.48 ft	CGXT - MCG External Temperature
52.48 ft	CGXT - MCG External Temperature
45.76 ft	MINV - Micro-inverse
45.76 ft	MNRL - Micro-normal
46.76 ft	MLTC - MML Caliper
45.76 ft	MINV - Micro-inverse
45.76 ft	MNRL - Micro-normal
46.76 ft	MLTC - MML Caliper

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

Compact Density/Caliper
MPD-B 59 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

Compact Density/Caliper
MPD-B 59 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

Compact Focussed Electric
MFE-A.A 55 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

Compact Focussed Electric
MFE-A.A 55 LG: 6.05 ft WT: 48.5 lb OD: 2.24 in

Compact Sonic
MSS-C.K 330 LG: 12.52 ft WT: 72.8 lb OD: 2.24 in

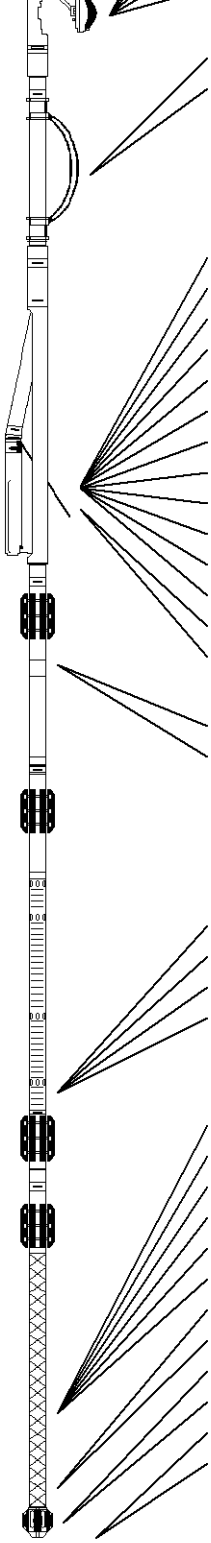
Compact Sonic
MSS-C.K 330 LG: 12.52 ft WT: 72.8 lb OD: 2.24 in

Compact Induction
MAI-A.A 45 LG: 10.81 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: 60.68 ft Weight: 456.4 lb

Total Length: 60.68 ft Weight: 456.4 lb



40.97 ft	NPRL - Limestone Neutron Por.
40.97 ft	NPRL - Limestone Neutron Por.
33.73 ft	AVOL - Annular Volume
33.73 ft	HVOL - Hole Volume
33.73 ft	CLDC - Density Caliper
33.73 ft	AVOL - Annular Volume
33.73 ft	HVOL - Hole Volume
33.73 ft	CLDC - Density Caliper
31.80 ft	DPRL - Limestone Density Por.
31.80 ft	DEN - Compensated Density
31.80 ft	DCOR - Density Correction
31.80 ft	DCOR - Density Correction
31.80 ft	DPRL - Limestone Density Por.
31.80 ft	DEN - Compensated Density
31.74 ft	PDPE - PE
31.74 ft	PDPE - PE
26.24 ft	FEFE - Shallow FE
26.24 ft	FEFE - Shallow FE
12.96 ft	SPRL - Wyllie Lime. Sonic Por.
12.96 ft	DT35 - 3-5' Compensated Sonic
12.96 ft	SPRL - Wyllie Lime. Sonic Por.
12.96 ft	DT35 - 3-5' Compensated Sonic
3.34 ft	R40O - Array Ind. One Res 40
3.34 ft	R40O - Array Ind. One Res 40
3.34 ft	R60O - Array Ind. One Res 60
3.34 ft	RTAO - Array Ind. One Res Rt
3.34 ft	R60O - Array Ind. One Res 60
3.34 ft	RTAO - Array Ind. One Res Rt
0.23 ft	SPCG - Spontaneous Potential
0.23 ft	SPCG - Spontaneous Potential
Tool Zero	(0.13ft from bottom)
Tool Zero	(0.13ft from bottom)
-0.13 ft	SMTU - DST Uphole Tension
-0.13 ft	SMTU - DST Uphole Tension

All measurements relative to tool zero.
All measurements relative to tool zero.

COMPANY	GRAND MESA OPERATING COMPANY
WELL	Q-B #1-17
FIELD	WILDCAT
PROVINCE/COUNTY	GOVE
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	2649.00	feet	First Reading	4601.00	feet
Elevation Drill Floor	2648.00	feet	Depth Driller	4632.00	feet
Elevation Ground Level	2644.00	feet	Depth Logger	4633.00	feet

COMPACT PHOTO DENSITY COMPENSATED NEUTRON

40 Years of

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COMPENSATED NEUTRON

MICRORESISTIVITY LOG

Wireline

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