COMPACT PHOTO DENSITY
COMPENSATED NEUTRON
MICRO-RESISTIVITY LOG

COMPANY	GRAND MESA OPERATING COMPANY
WELL	PHELPS #8-31
FIELD	MAURICE NORTHEAST
PROVINCE/COUNTY	GOVE
COUNTRY/STATE	U.S.A. / KANSAS
LOCATION	1812' FSL & 461' FEL

SEC	TWP	RGE	Other Services
31	13S	31W	MAI/MFE

API Number 15-063-21874
Permit Number

Permanent Datum G.L., Elevation 2917 feet
Log Measured From K.B. @ 5 FEET above Permanent Datum
Drilling Measured From K.B.

Elevations:	feet
KB	2922.00
DF	2921.00
GL	2917.00

Date	29-OCT-2010				
Run Number	ONE				
Depth Driller	4720.00	feet			
Depth Logger	4717.00	feet			
First Reading	4695.00	feet			
Last Reading	2350.00	feet			
Casing Driller	220.00	feet			
Casing Logger	219.00	feet			
Bit Size	7.875	inches			
Hole Fluid Type	CHEMICAL				
Density / Viscosity	9.30 lb/USg	57.00 CP			
PH / Fluid Loss	10.00	9.60 ml/30Min			
Sample Source	FLOWLINE				
Rm @ Measured Temp	0.93 @ 77.0	ohm-m			
Rmf @ Measured Temp	0.74 @ 77.0	ohm-m			
Rmc @ Measured Temp	1.12 @ 77.0	ohm-m			
Source Rmf / Rmc	CALC	CALC			
Rm @ BHT	0.58 @125.0	ohm-m			
Time Since Circulation	4 HOURS				
Max Recorded Temp	125.00	deg F			
Equipment Name	COMPACT				
Equipment / Base	13096	LIB			
Recorded By	LYNN SCOTT				
Witnessed By	BOB PETERSEN				
S.O.# / JOB#	3524589		LB10-270		

BOREHOLE RECORD

Last Edited: 29-OCT-2010 16:05

Bit Size inches	Depth From feet	Depth To feet
7.875	219.00	4717.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	219.00	24.00

REMARKS

Tools Run: MAI, MPD, MCG, MDN, MML, MFE, SKJ
Hardware: MPD: 8 inch profile plate used. MAI and MFE: 0.5 Inch standoffs used. MDN: Dual Eccentraliser used.
2.71 G/CC Limestone density matrix used to calculate porosity.
Borhole rugosity, tight pulls, and washouts will affect data quality.
All intervals logged and scaled per customer's request.
Annular volume with 5.5 inch production casing=194 cu. ft.
Service order #3524589
Rig: Murfin #24
Engineer: L. Scott
Operator(s): J. LaPoint

5 INCH MAIN

Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 29-OCT-2010 16:08
Filename: C:\Minimus 10_8\Plot Presentations\Density Neutron\GRAND MESA PHELPS 8-31_002.dta
Recorded on 29-OCT-2010 13:55
System Versions: Logged with 10.08.1568 Plotted with 10.08.1568

Timing Marks
every 60.0 sec

Bit Size
inches
6 11 16

Gamma Ray
API
0 75 150
150 225 300

MML Caliper
inches
6 11 16

Density Caliper
inches
6 11 16

DST Uphole Tension
pounds
5000 0
0 -5000

Depth in Feet

Borehole Temp in deg F

HVI every 10 cu ft

Annular Integral every 10 cu ft

Replay Scale 1:240

2350

100°

2400

Limestone Density Por.
percent
30 20 10 0 -10

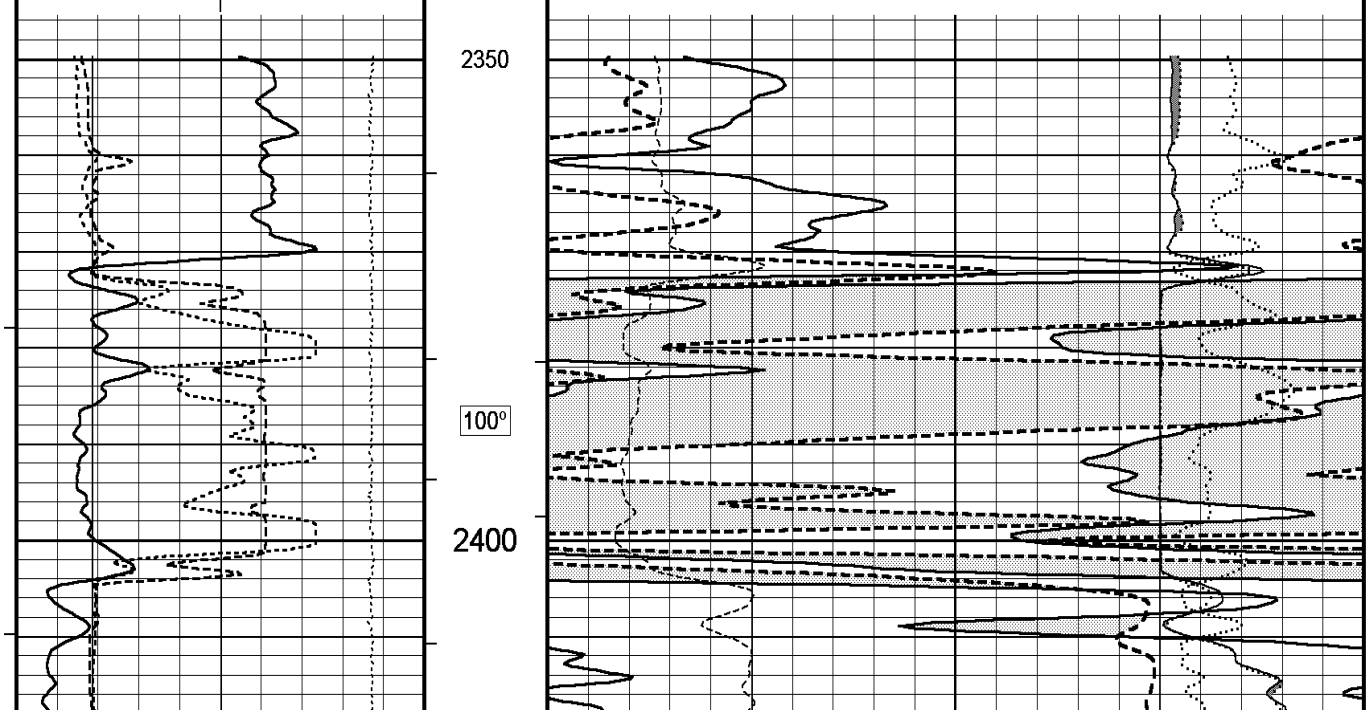
Limestone Neutron Por.
percent
30 20 10 0 -10

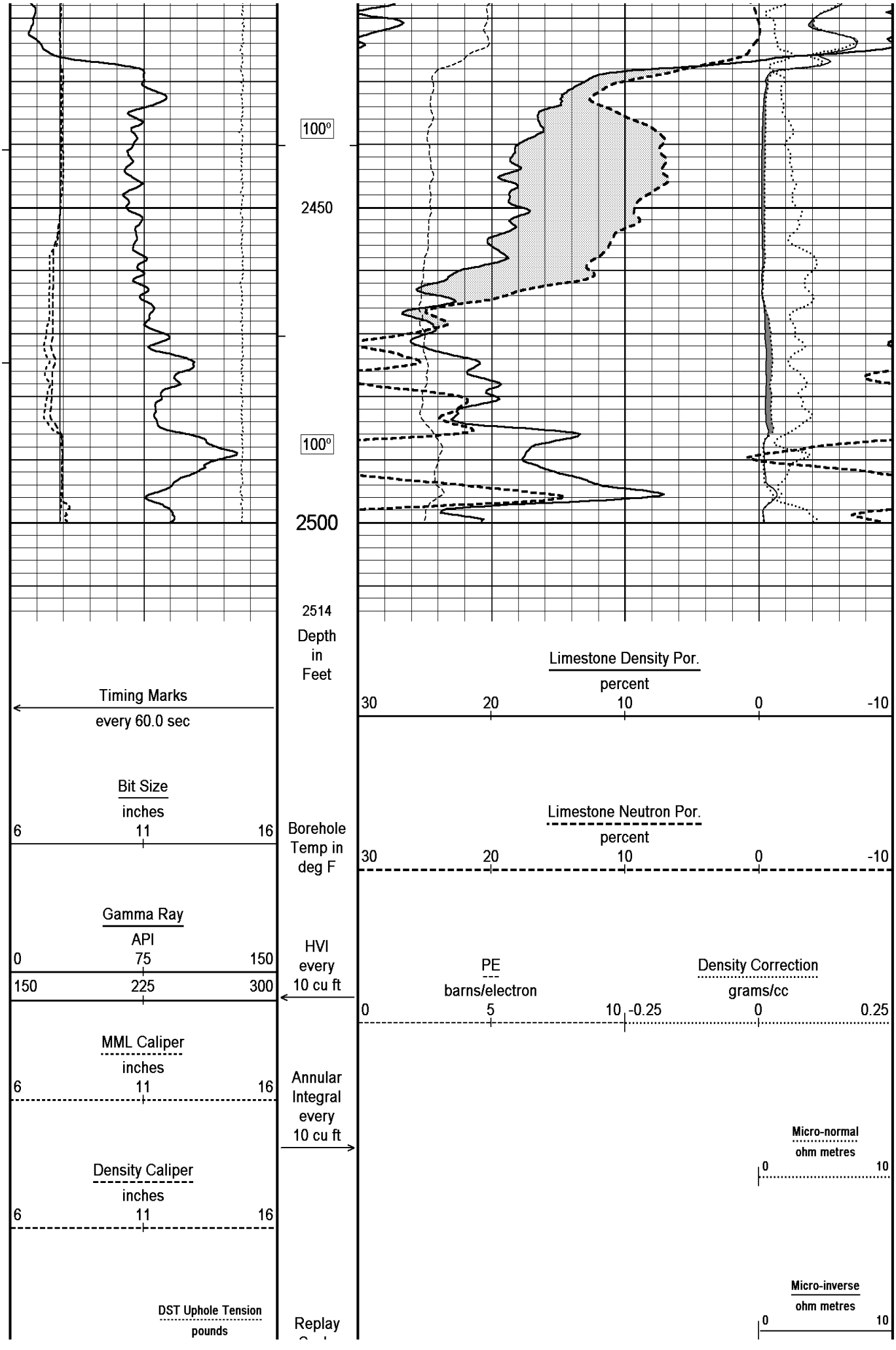
PE
barns/electron
0 5 10

Density Correction
grams/cc
-0.25 0 0.25

Micro-normal
ohm metres
0 10

Micro-inverse
ohm metres
0 10




100°
2450
100°
2500
2514
Depth in Feet
Limestone Density Por.
percent
30 20 10 0 -10
Timing Marks
every 60.0 sec
Bit Size
inches
6 11 16
Limestone Neutron Por.
percent
30 20 10 0 -10
Borehole Temp in deg F
Gamma Ray
API
0 75 150
150 225 300
HVI every 10 cu ft
PE
barns/electron
0 5 10
Density Correction
grams/cc
-0.25 0 0.25
MML Caliper
inches
6 11 16
Annular Integral every 10 cu ft
Micro-normal
ohm metres
0 10
Density Caliper
inches
6 11 16
Micro-inverse
ohm metres
0 10
DST Uphole Tension
pounds
Replay

5000 0
0 -5000

Scale
1:240

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 29-OCT-2010 16:08
Filename: C:\Minimus 10_8\Plot Presentations\Density Neutron\GRAND MESA PHELPS 8-31_002.dta — Recorded on 29-OCT-2010 13:55
System Versions: Logged with 10.08.1568 Plotted with 10.08.1568

5 INCH MAIN

5 Inch Main

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 29-OCT-2010 16:08
Filename: C:\Minimus 10_8\Plot Presentations\Density Neutron\GRAND MESA PHELPS 8-31_002.dta — Recorded on 29-OCT-2010 13:55
System Versions: Logged with 10.08.1568 Plotted with 10.08.1568

Timing Marks
every 60.0 sec

Bit Size
inches
6 11 16

Gamma Ray
API
0 75 150
150 225 300

MML Caliper
inches
6 11 16

Density Caliper
inches
6 11 16

DST Uphole Tension
pounds
5000 0
0 -5000

Depth
in
Feet

Borehole
Temp in
deg F

HVI
every
10 cu ft

Annular
Integral
every
10 cu ft

Replay
Scale
1:240

3600

110°

Limestone Density Por.
percent
30 20 10 0 -10

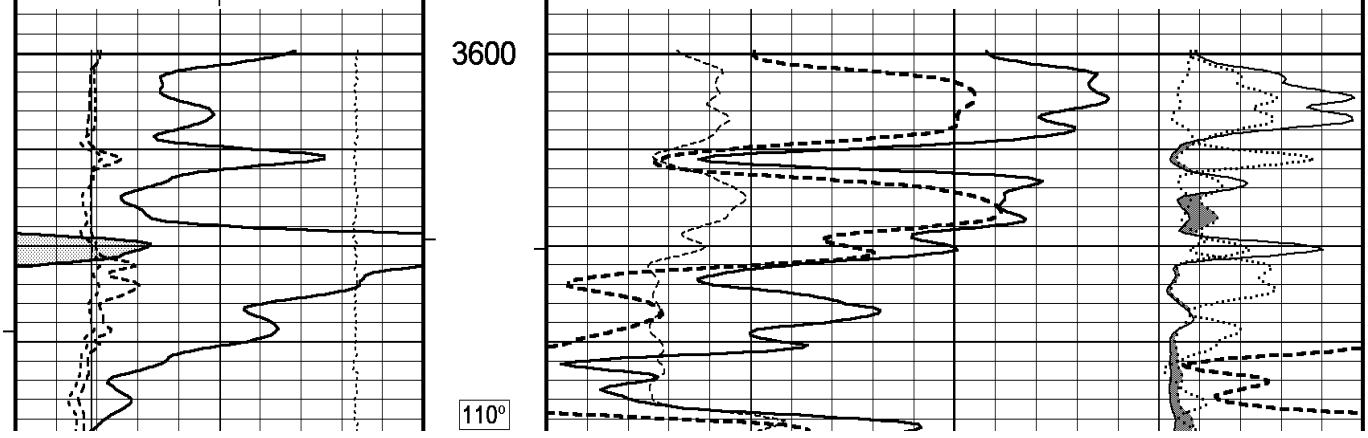
Limestone Neutron Por.
percent
30 20 10 0 -10

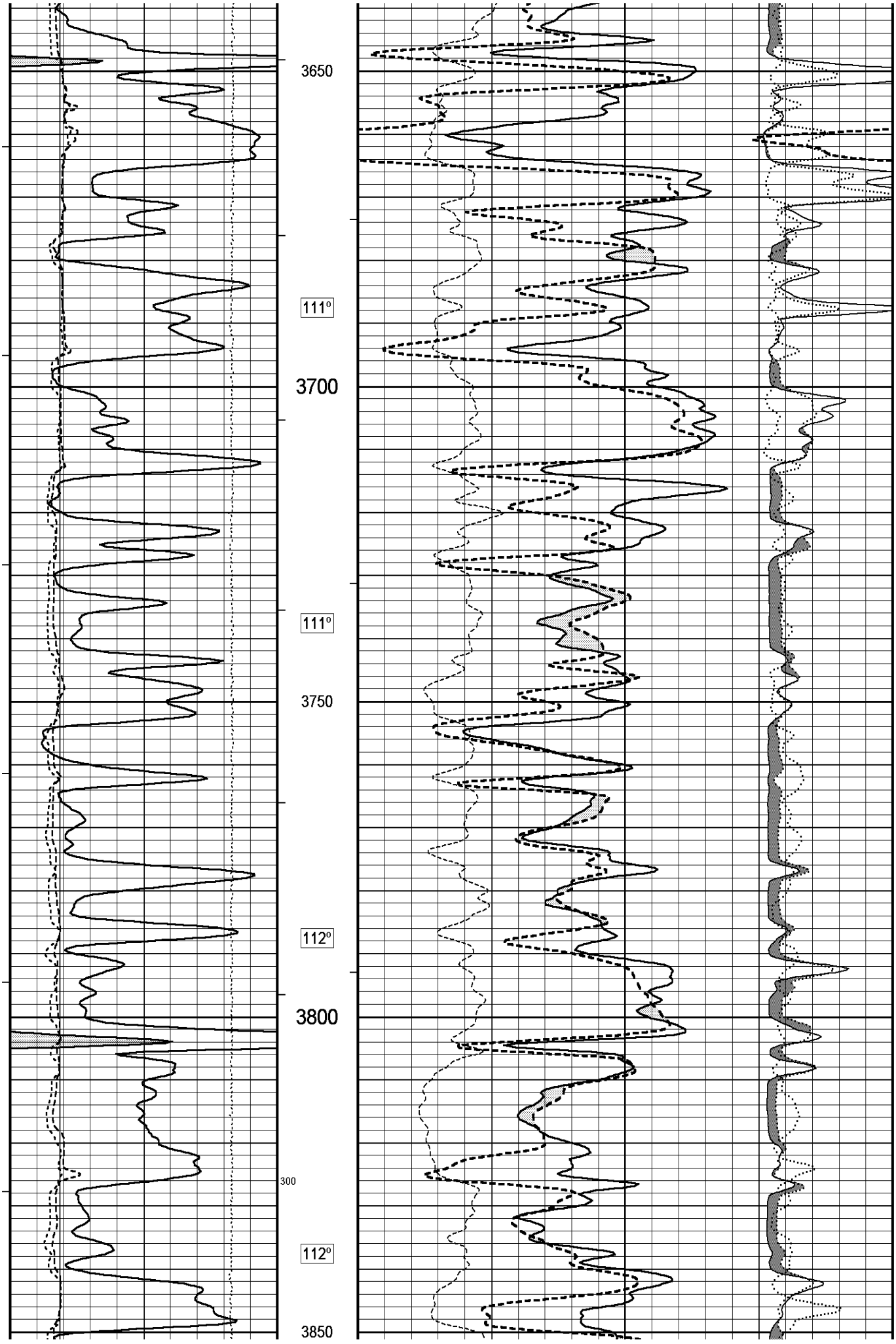
PE
barns/electron
0 5 10

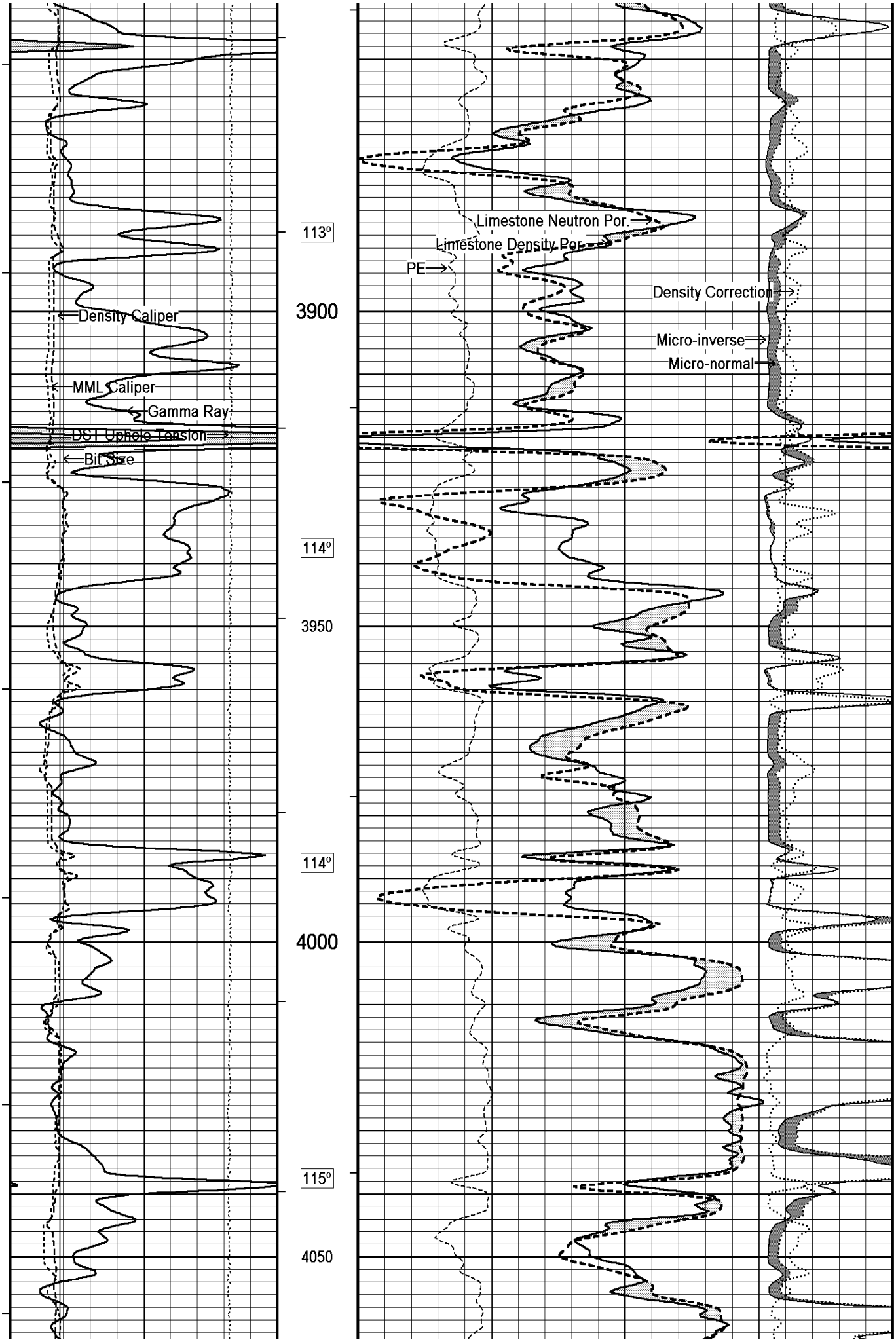
Density Correction
grams/cc
-0.25 0 0.25

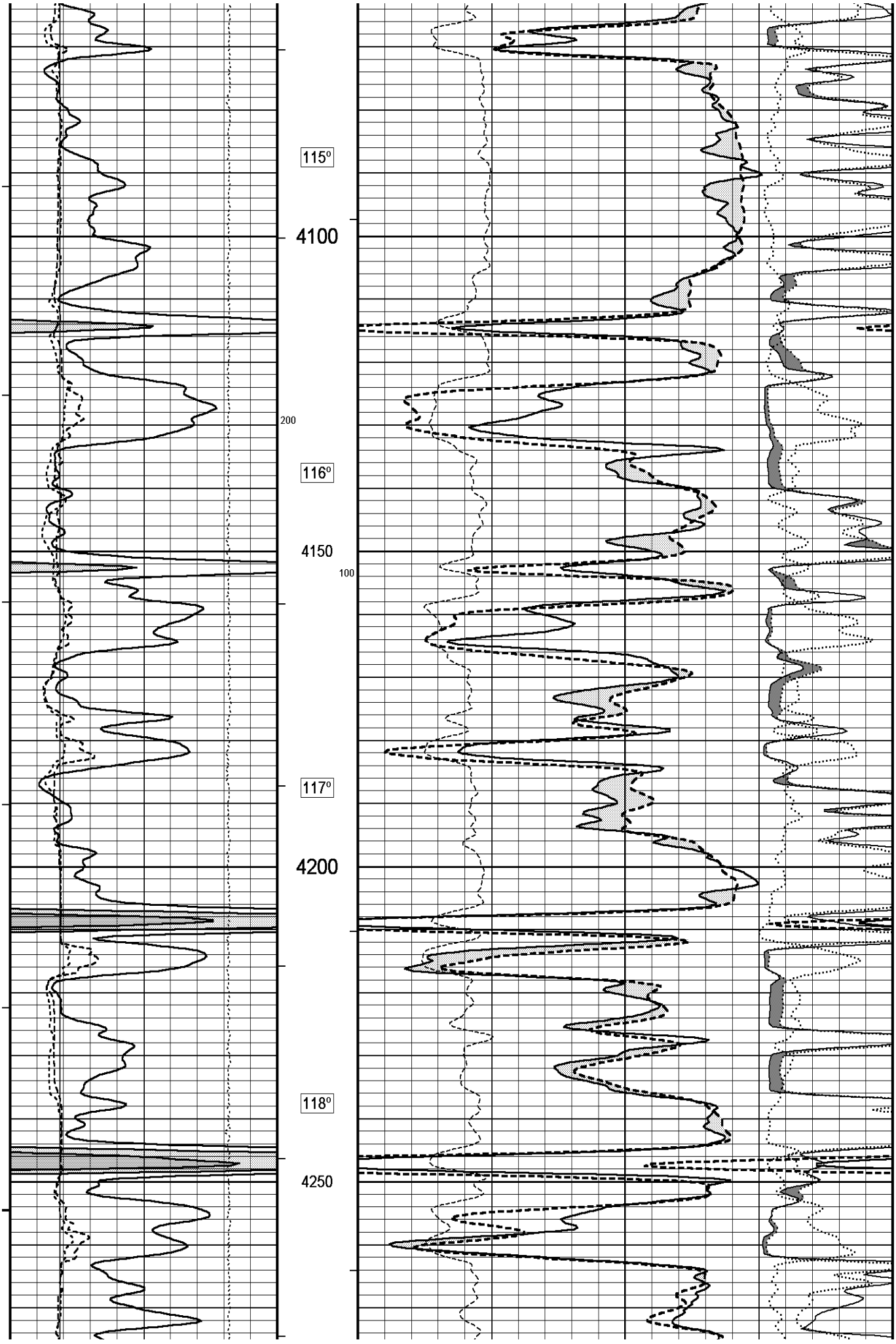
Micro-normal
ohm metres
0 10

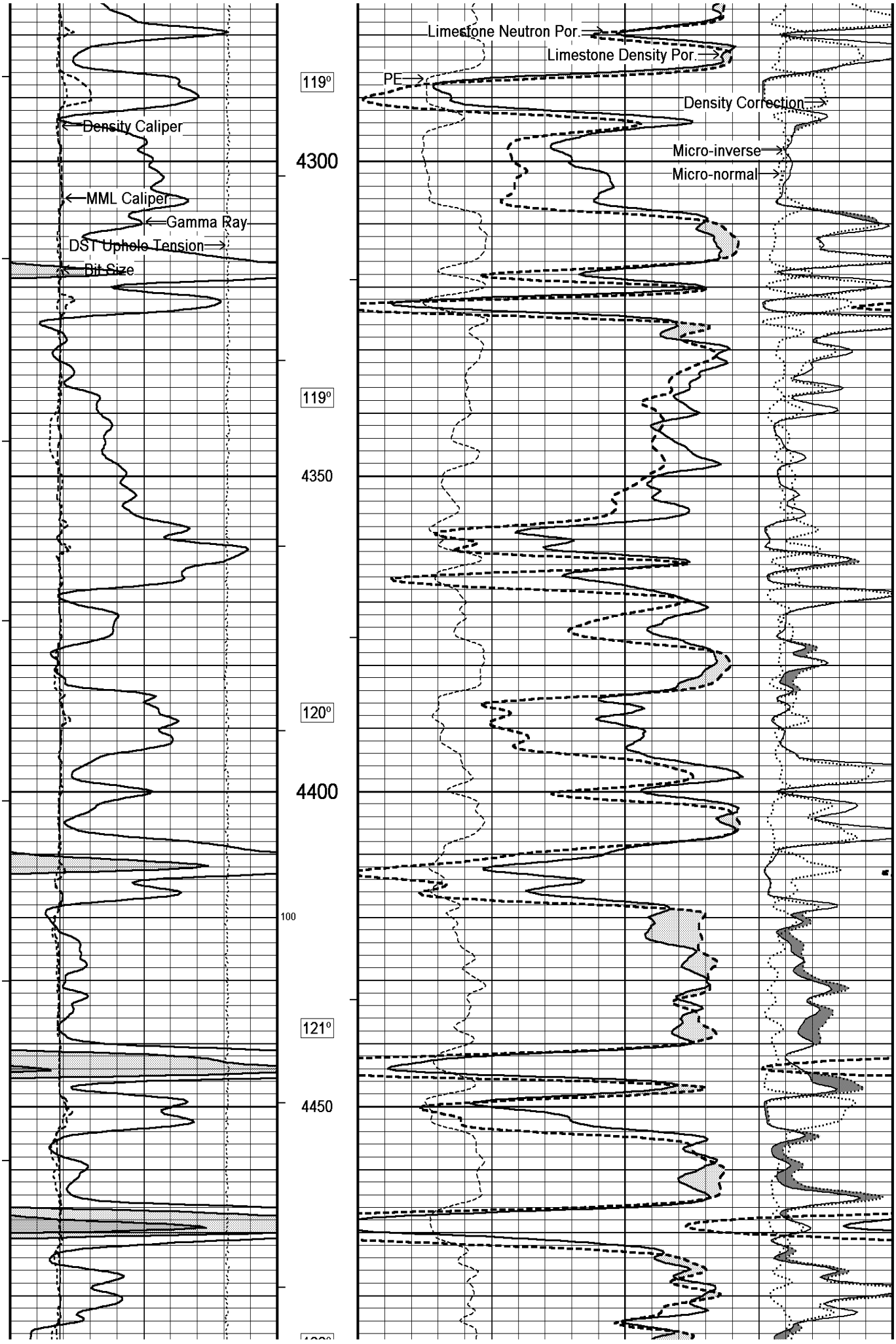
Micro-inverse
ohm metres
0 10

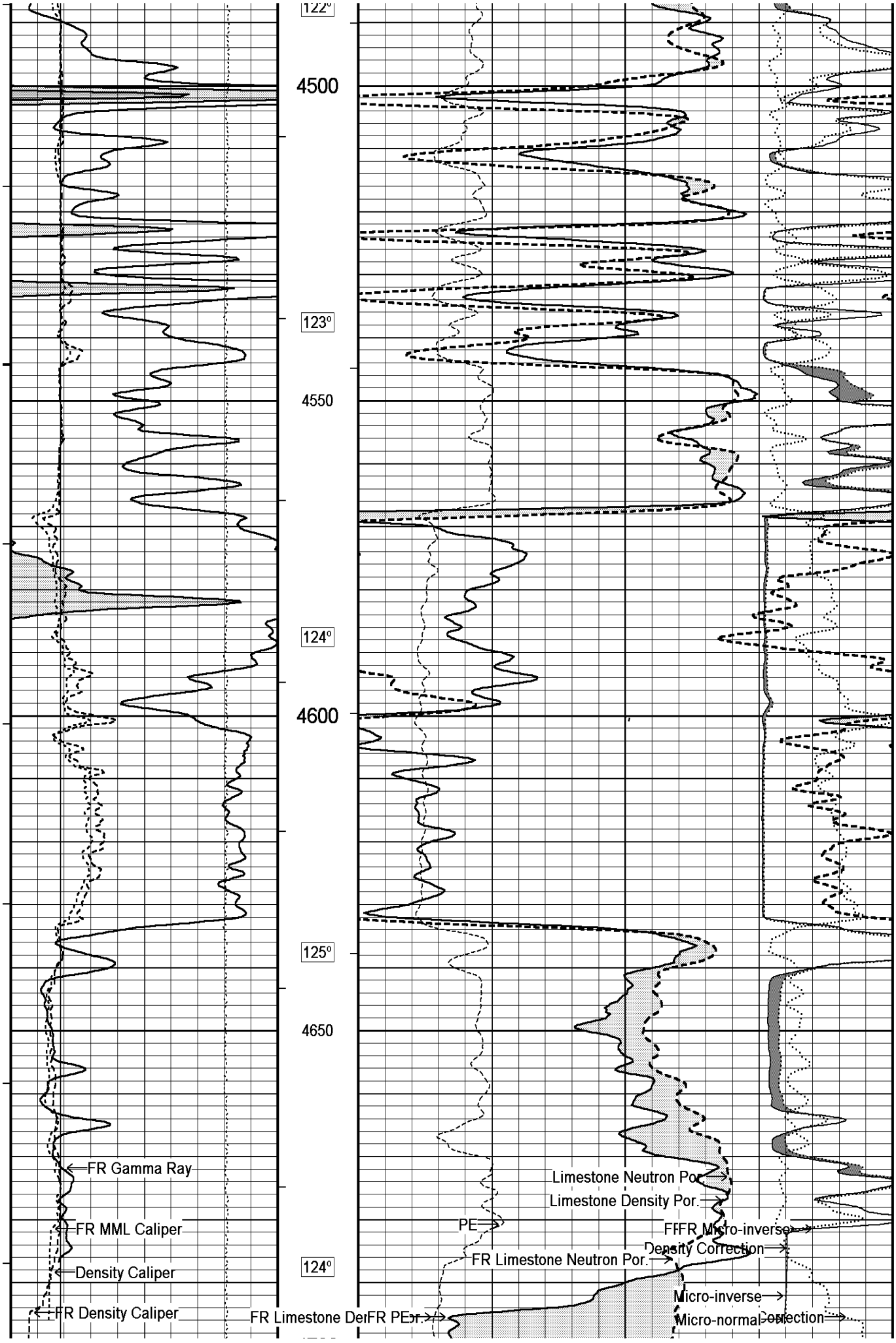


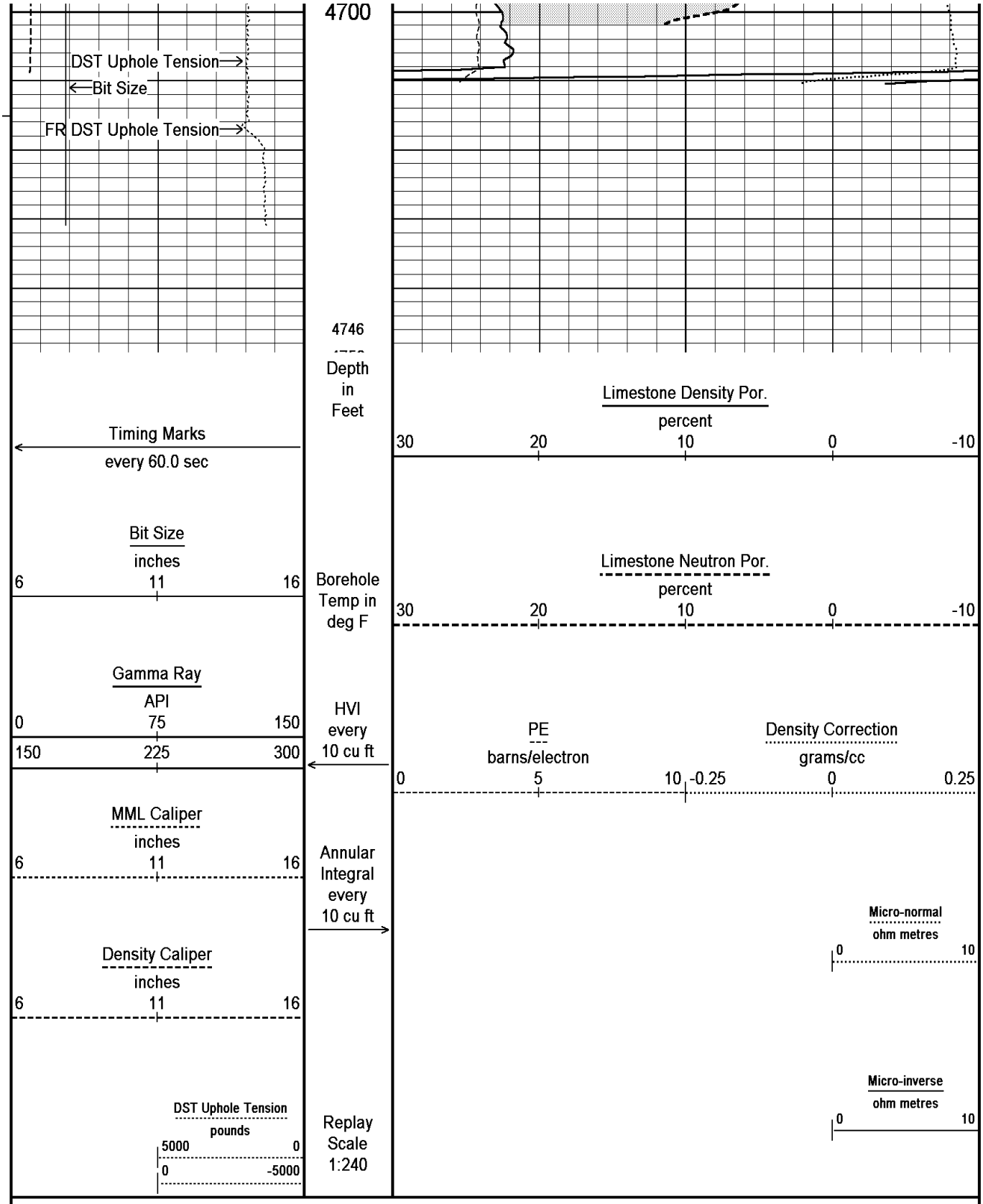

3650
111°
3700
111°
3750
112°
3800
300
112°
3850


Limestone Neutron Por
Limestone Density Por
PE
Density Correction
Micro-inverse
Micro-normal
Density Caliper
MML Caliper
Gamma Ray
DST Uphole Tension
Bit Size
113°
3900
114°
3950
114°
4000
115°
4050


115°
4100
200
116°
4150
100
117°
4200
118°
4250


Density Caliper
MML Caliper
Gamma Ray
DST Uphole Tension
Bit Size
119°
4300
119°
4350
120°
4400
100
121°
4450
Limestone Neutron Por
Limestone Density Por
PE
Density Correction
Micro-inverse
Micro-normal


122°
4500
123°
4550
124°
4600
125°
4650
124°
FR Gamma Ray
FR MML Caliper
Density Caliper
FR Density Caliper
FR Limestone Der
FR PEor.
PE
Limestone Neutron Por.
Limestone Density Por.
FFFR Micro-inverse
Density Correction
FR Limestone Neutron Por.
Micro-inverse
Micro-normal
orrection

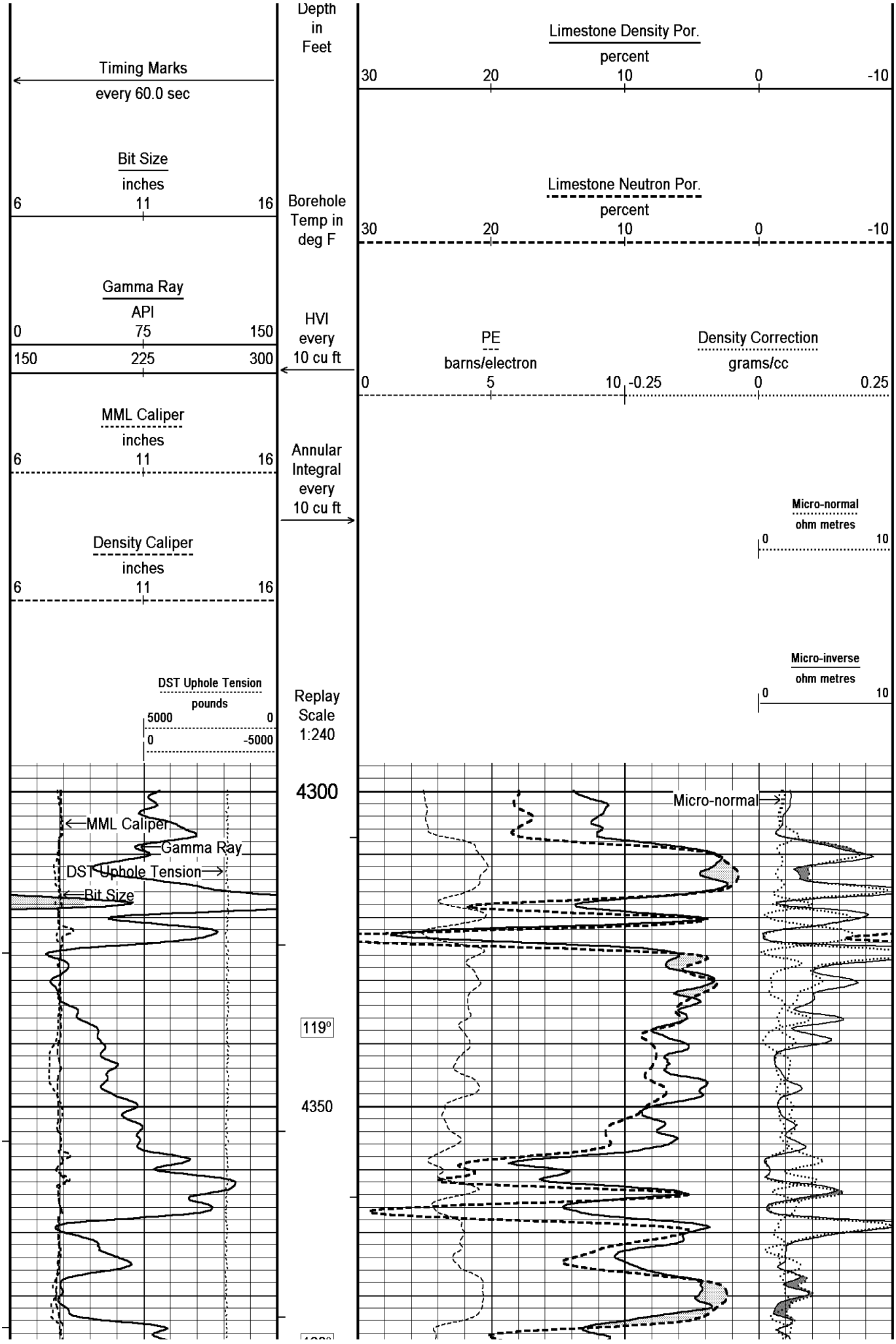


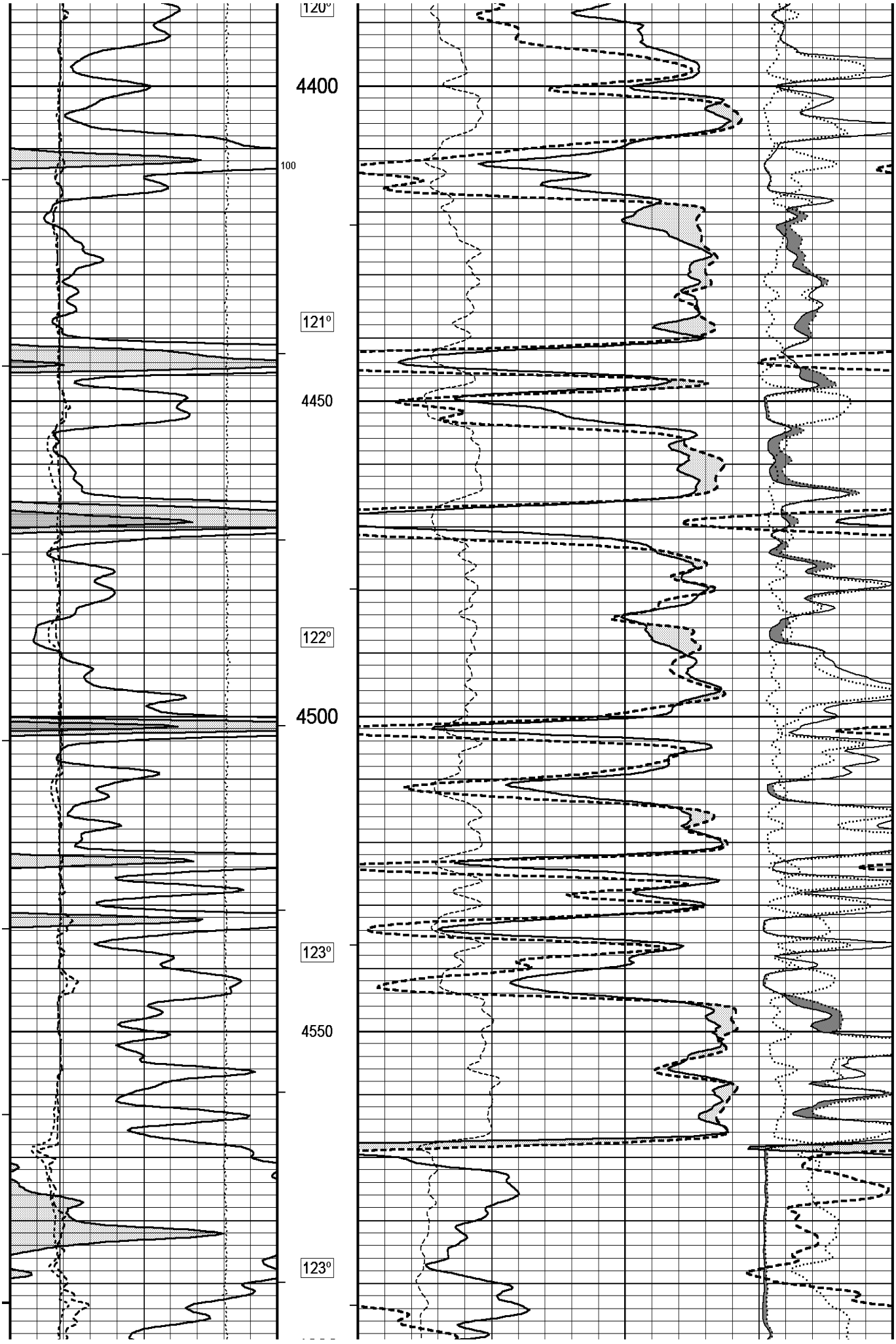
Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 29-OCT-2010 16:08
Filename: C:\Minimus 10_8\Plot Presentations\Density Neutron\GRAND MESA PHELPS 8-31_002.dta — Recorded on 29-OCT-2010 13:55
System Versions: Logged with 10.08.1568 Plotted with 10.08.1568

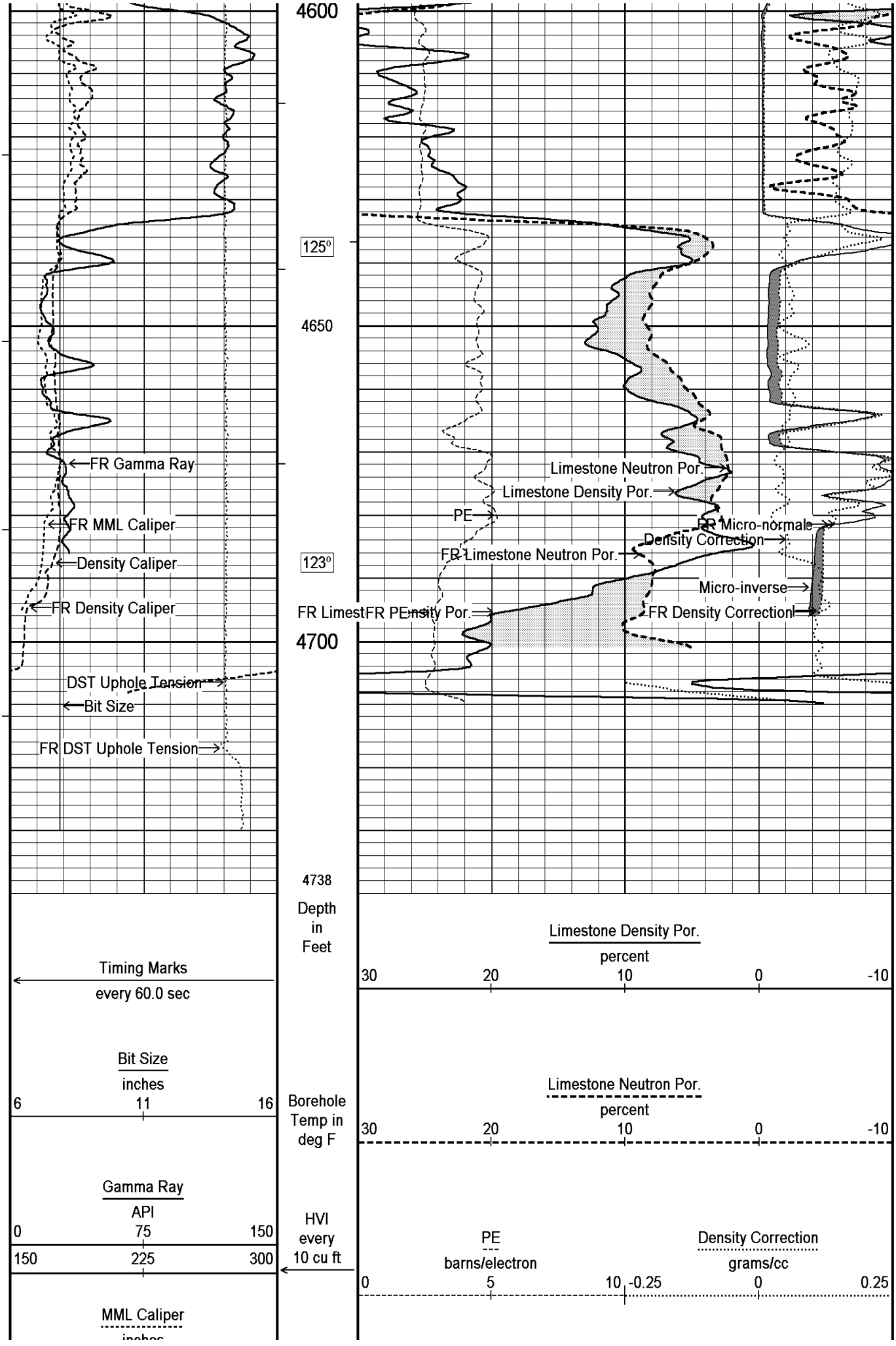
5 Inch Main

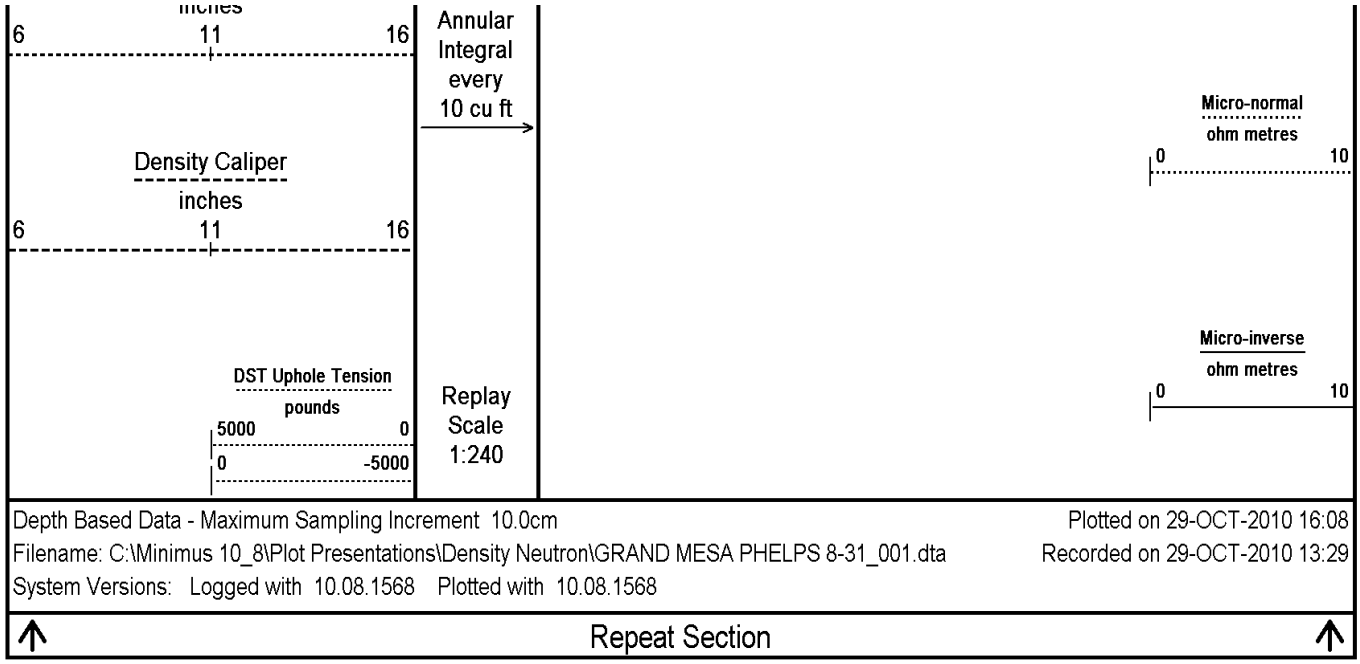
Repeat Section

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 29-OCT-2010 16:08
Filename: C:\Minimus 10_8\Plot Presentations\Density Neutron\GRAND MESA PHELPS 8-31_001.dta — Recorded on 29-OCT-2010 13:29
System Versions: Logged with 10.08.1568 Plotted with 10.08.1568


Depth in Feet
Timing Marks
every 60.0 sec
Bit Size
inches
6 11 16
Gamma Ray
API
0 75 150
150 225 300
MML Caliper
inches
6 11 16
Density Caliper
inches
6 11 16
DST Uphole Tension
pounds
5000 0
0 -5000
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
Limestone Neutron Por.
percent
30 20 10 0 -10
PE
barns/electron
0 5 10
Density Correction
grams/cc
-0.25 0 0.25
Micro-normal
ohm metres
0 10
Micro-inverse
ohm metres
0 10
4300
119°
4350
MML Caliper
Gamma Ray
DST Uphole Tension
Bit Size
Micro-normal


120°
4400
100
121°
4450
122°
4500
123°
4550
123°


4600
125°
4650
123°
4700
4738
FR Gamma Ray
FR MML Caliper
Density Caliper
FR Density Caliper
DST Uphole Tension
Bit Size
FR DST Uphole Tension
Limestone Neutron Por.
Limestone Density Por.
PE
FR Micro-normale
Density Correction
FR Limestone Neutron Por.
Micro-inverse
FR Limest
FR PE
nsity Por.
FR Density Correction
Depth in Feet
Timing Marks
every 60.0 sec
Bit Size
inches
6
11
16
Gamma Ray
API
0
75
150
150
225
300
MML Caliper
inches
Borehole Temp in deg F
HVI every 10 cu ft
Limestone Density Por.
percent
30
20
10
0
-10
Limestone Neutron Por.
percent
30
20
10
0
-10
PE
barns/electron
0
5
10
Density Correction
grams/cc
-0.25
0
0.25

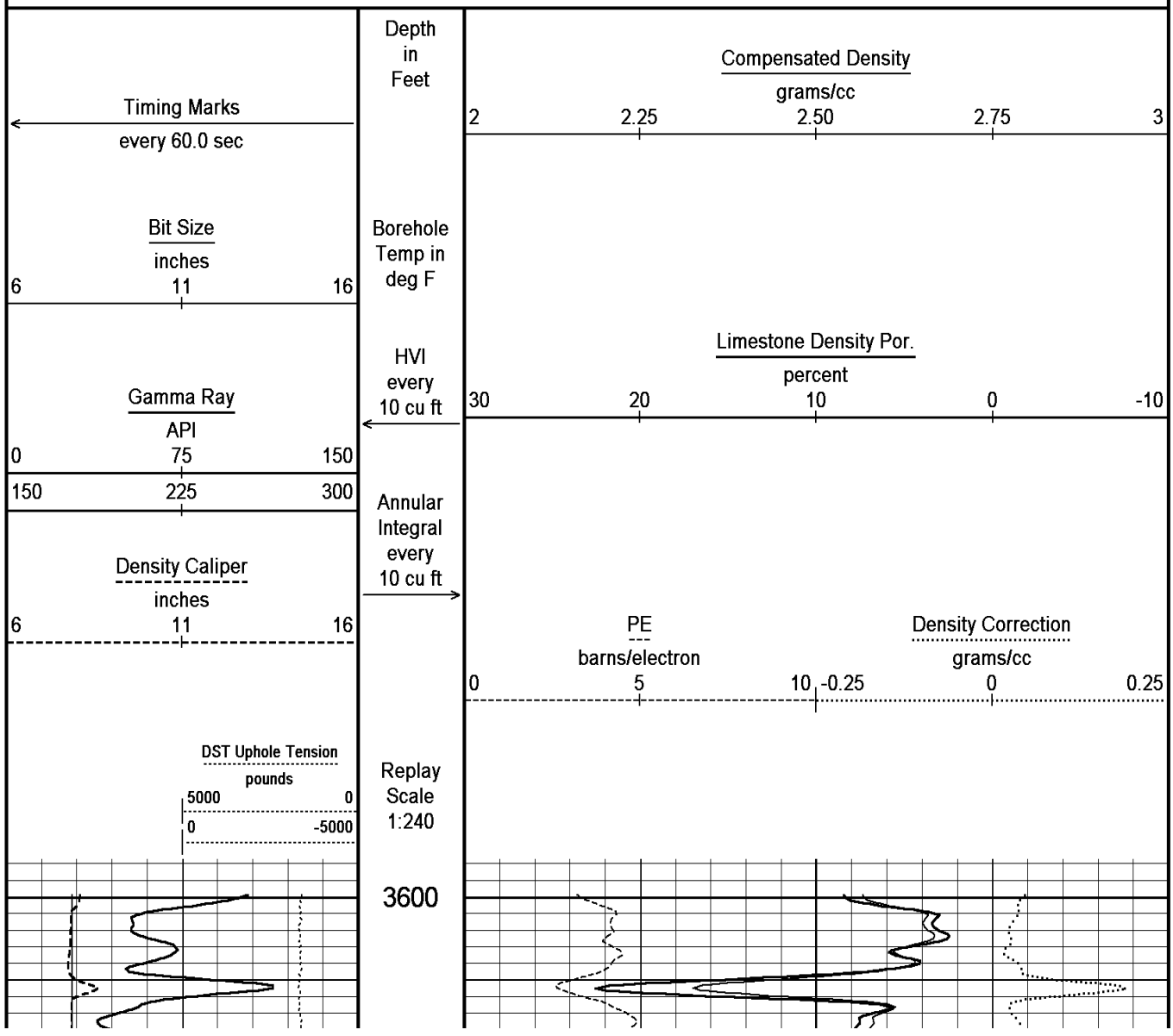


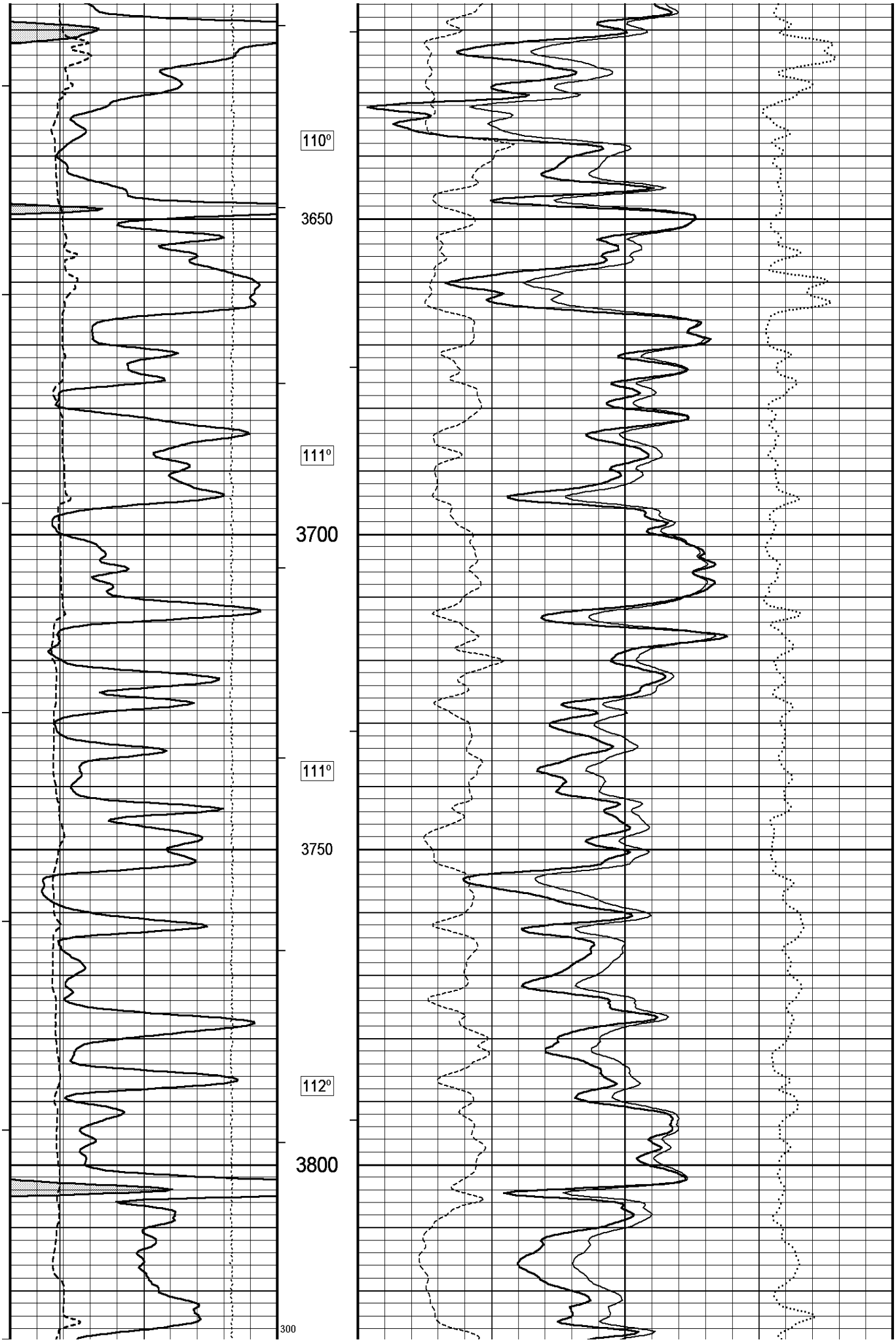
Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 29-OCT-2010 16:08
Filename: C:\Minimus 10_8\Plot Presentations\Density Neutron\GRAND MESA PHELPS 8-31_001.dta — Recorded on 29-OCT-2010 13:29
System Versions: Logged with 10.08.1568 Plotted with 10.08.1568

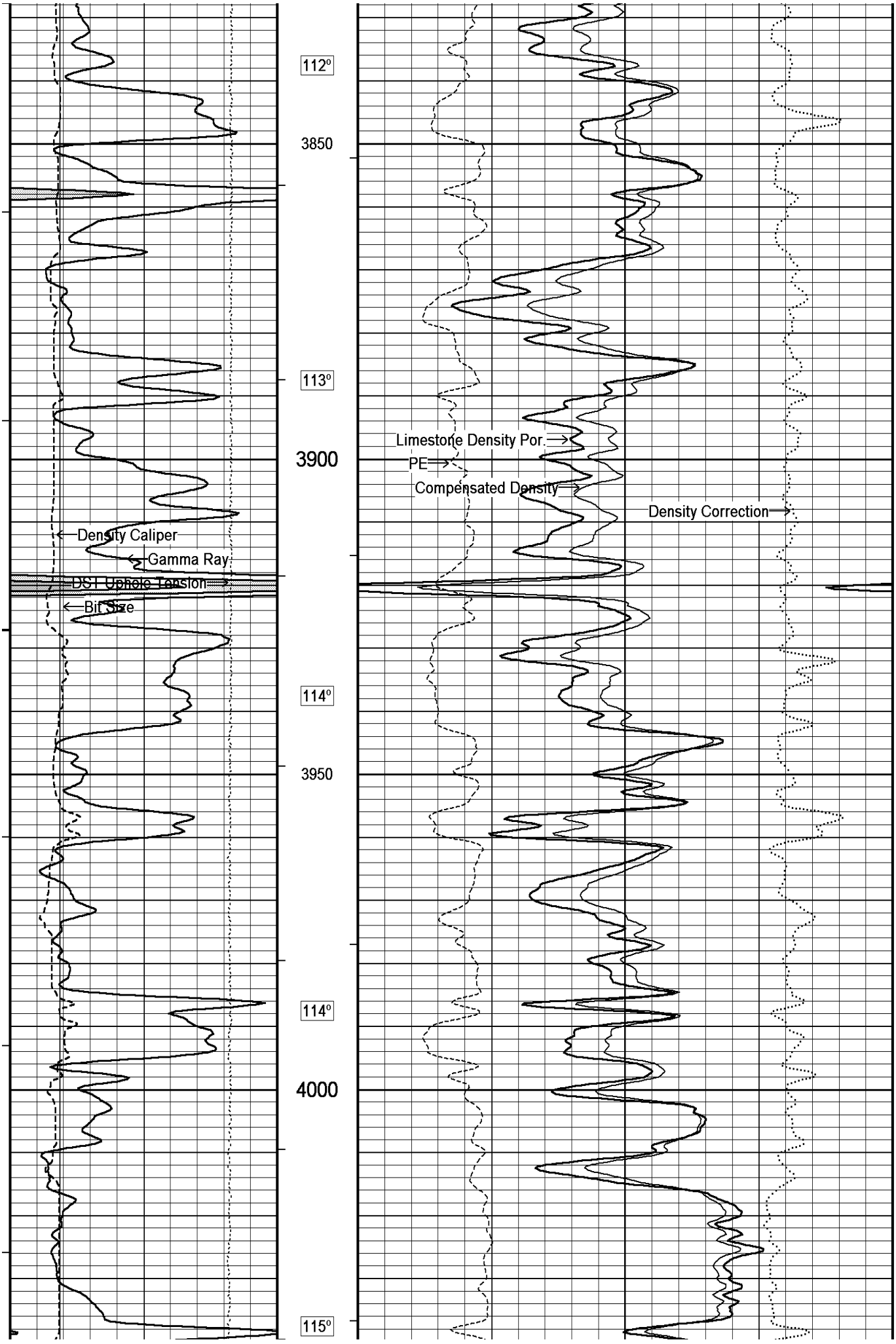
Repeat Section

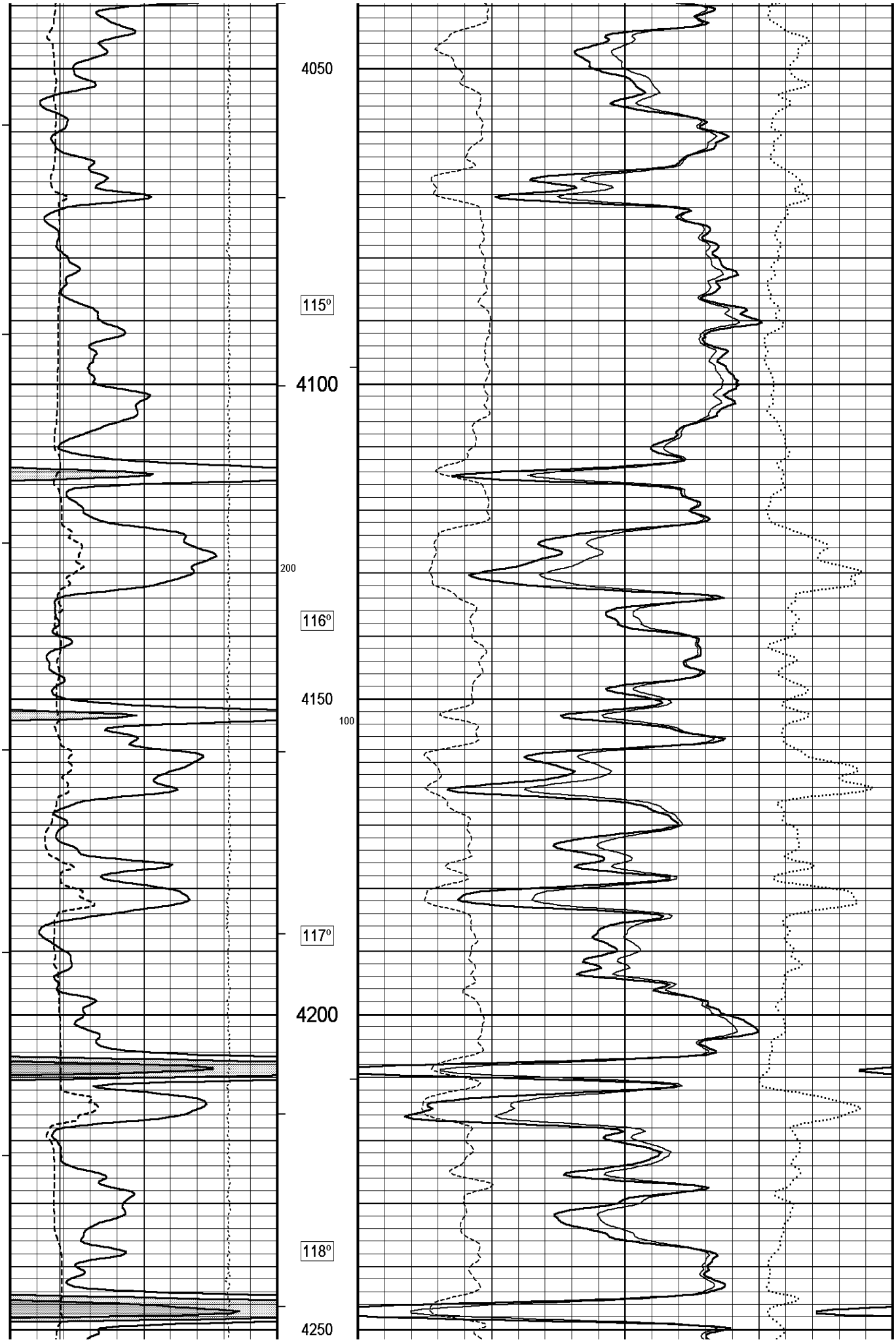
5 Inch Main

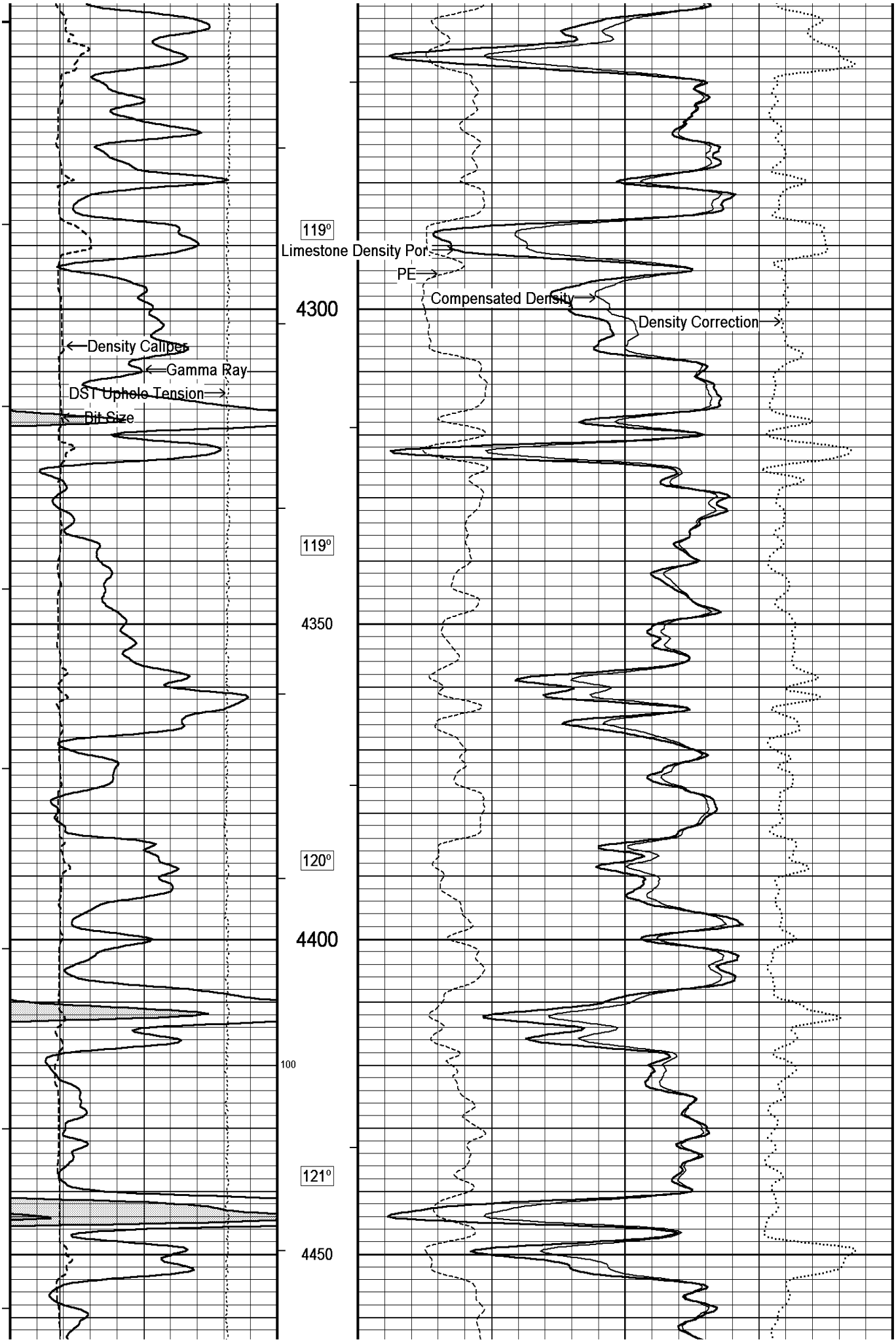
Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 29-OCT-2010 16:08
Filename: C:\Minimus 10_8\Plot Presentations\Density Neutron\GRAND MESA PHELPS 8-31_002.dta — Recorded on 29-OCT-2010 13:55
System Versions: Logged with 10.08.1568 Plotted with 10.08.1568

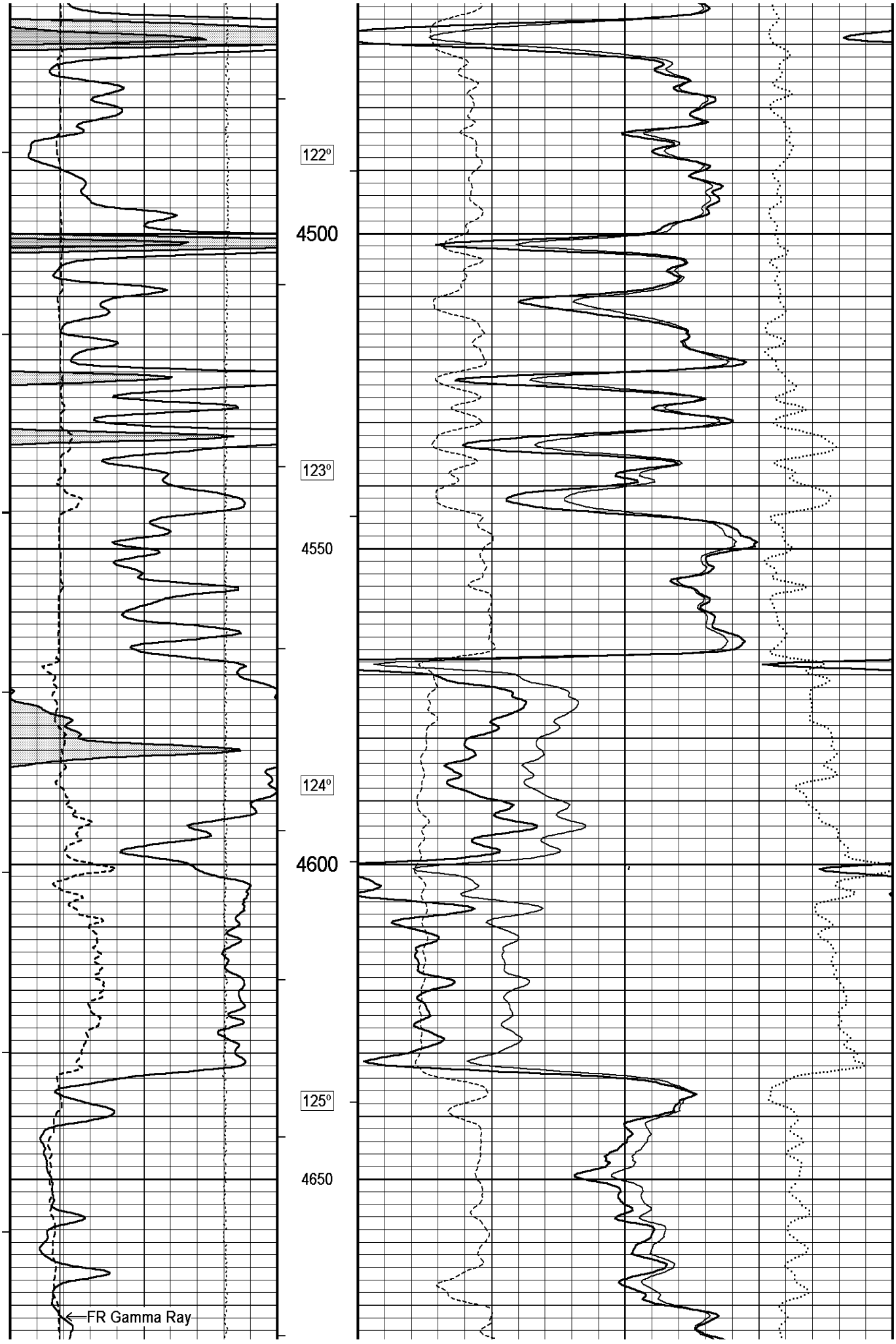


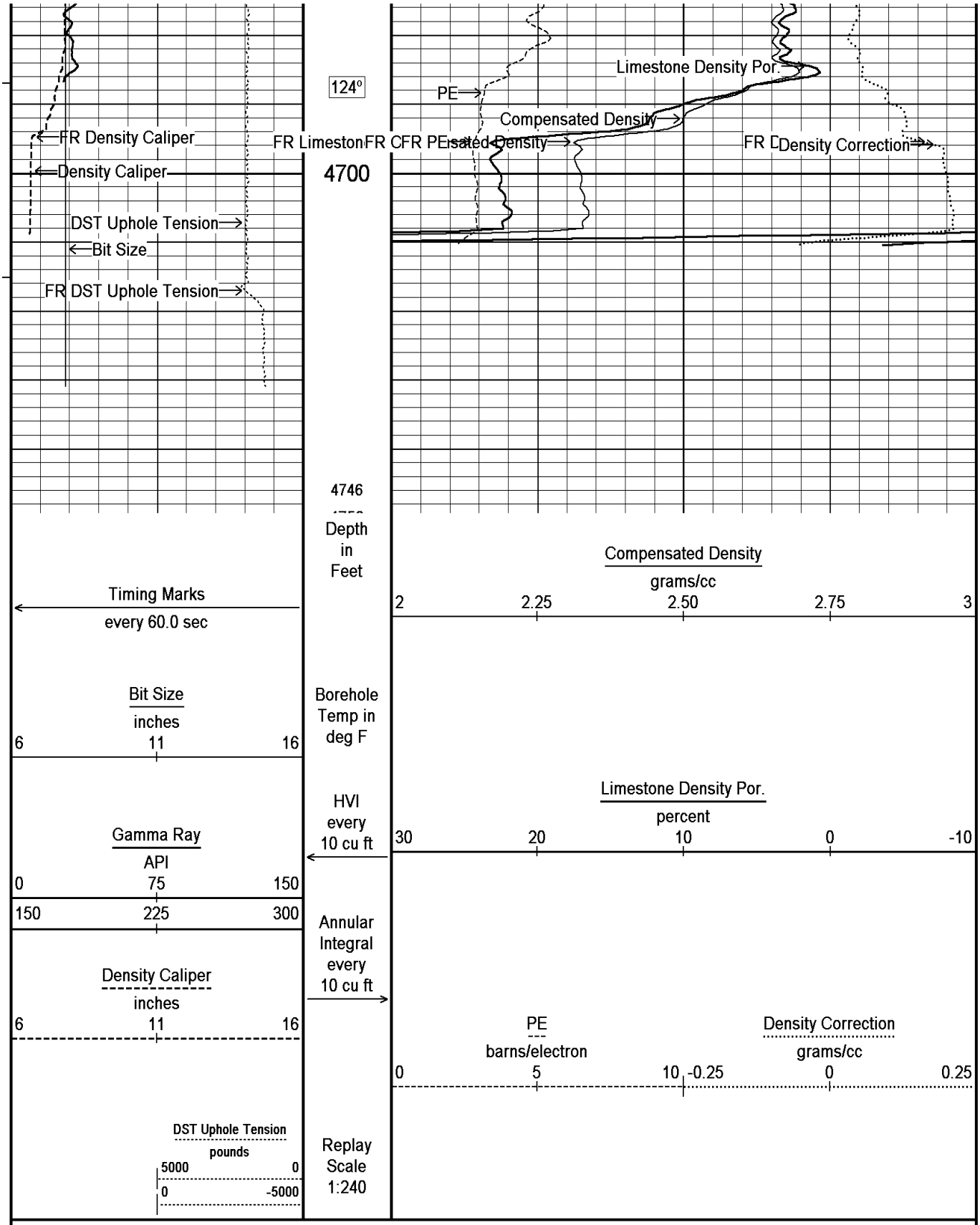

110°
3650
111°
3700
111°
3750
112°
3800
300


112°
3850
113°
3900
114°
3950
114°
4000
115°
Density Caliper
Gamma Ray
DST Uphole Tension
Bit Size
Limestone Density Por.
PE
Compensated Density
Density Correction


4050
115°
4100
200
116°
4150
100
117°
4200
118°
4250


119°
Limestone Density Por
PE
Compensated Density
Density Correction
4300
Density Caliper
Gamma Ray
DST Uphole Tension
Bit Size
119°
4350
120°
4400
100
121°
4450


122°
4500
123°
4550
124°
4600
125°
4650
←FR Gamma Ray

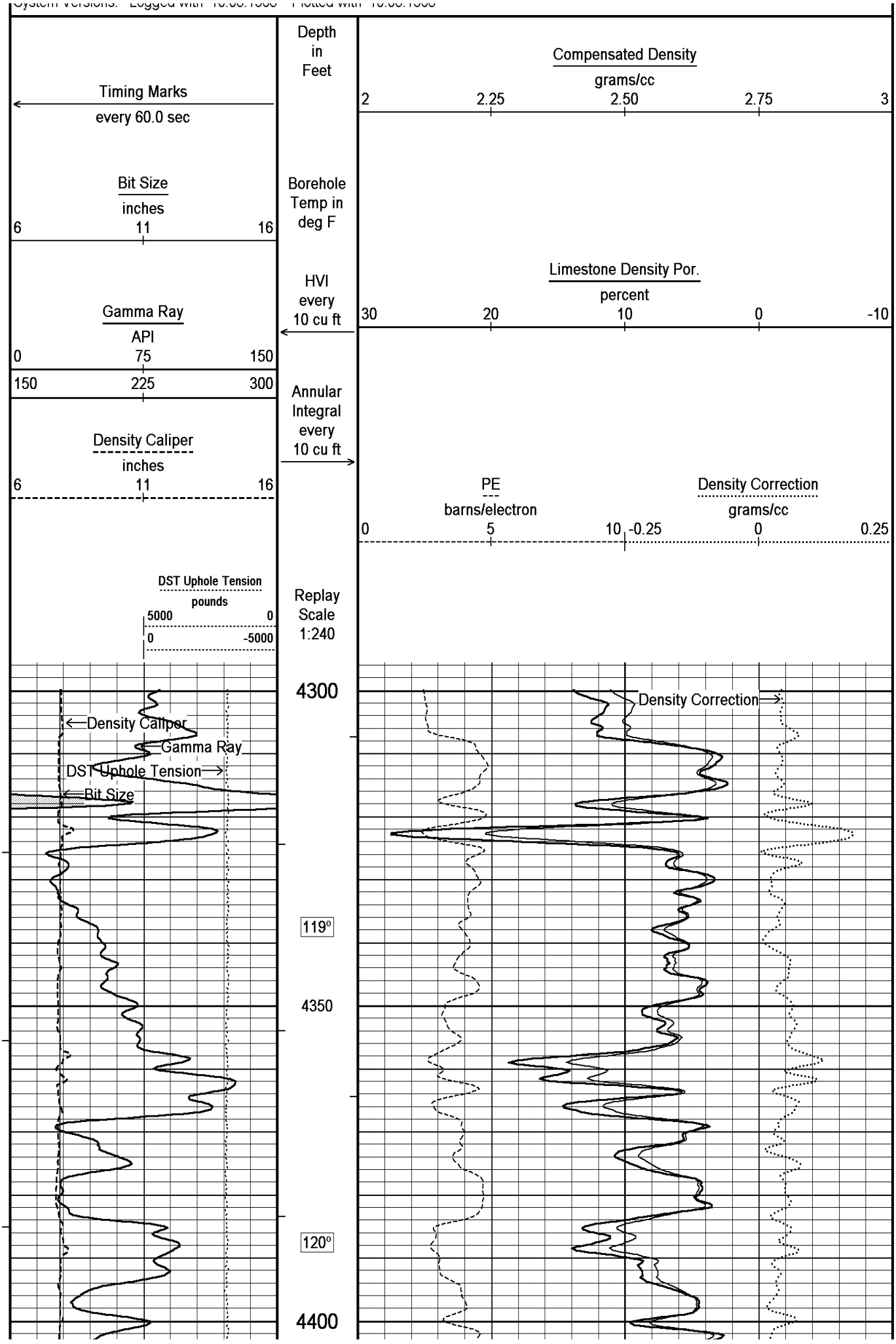


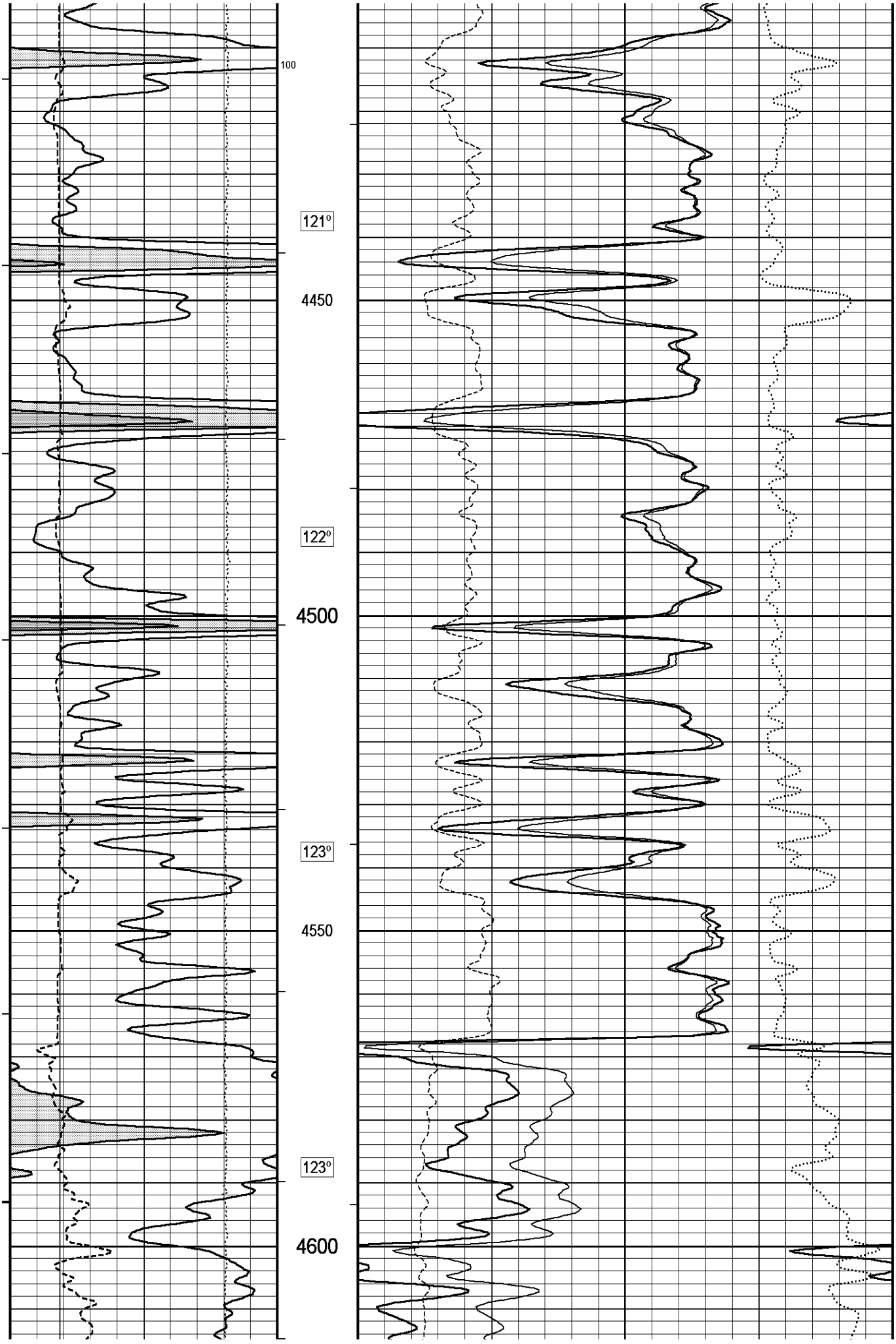
Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 29-OCT-2010 16:08
Filename: C:\Minimus 10_8\Plot Presentations\Density Neutron\GRAND MESA PHELPS 8-31_002.dta — Recorded on 29-OCT-2010 13:55
System Versions: Logged with 10.08.1568 Plotted with 10.08.1568

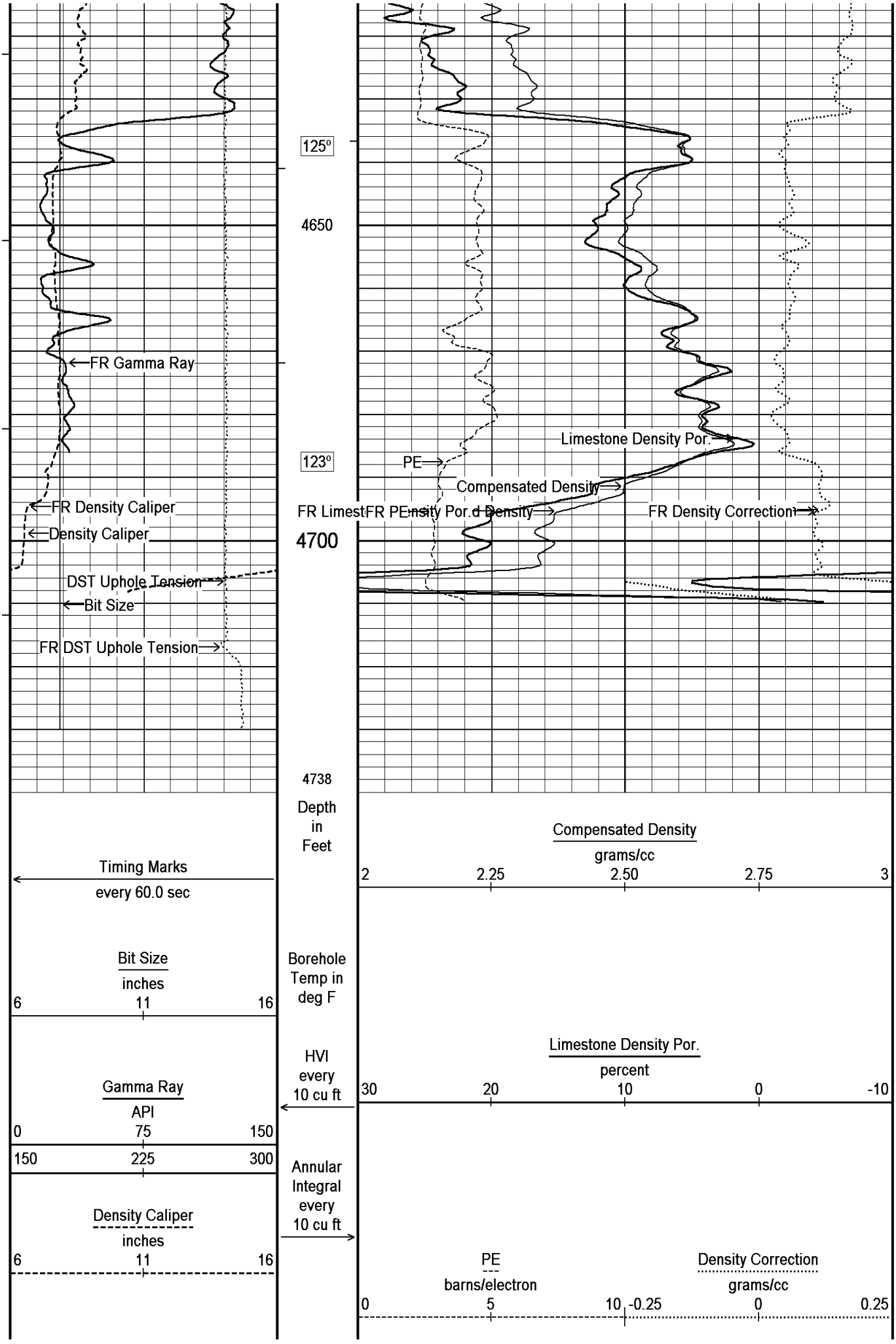
5 Inch Main

Repeat Section

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 29-OCT-2010 16:08
Filename: C:\Minimus 10_8\Plot Presentations\Density Neutron\GRAND MESA PHELPS 8-31_001.dta — Recorded on 29-OCT-2010 13:29
System Versions: Logged with 10.08.1568 Plotted with 10.08.1568


Timing Marks
every 60.0 sec
Bit Size
inches
6
11
16
Gamma Ray
API
0
75
150
150
225
300
Density Caliper
inches
6
11
16
DST Uphole Tension
pounds
5000
0
0
-5000
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
119°
4350
120°
4400
Density Caliper
Gamma Ray
DST Uphole Tension
Bit Size
Density Correction


100
121°
4450
122°
4500
123°
4550
123°
4600


125°
4650
123°
4700
4738
FR Gamma Ray
FR Density Caliper
Density Caliper
DST Uphole Tension
Bit Size
FR DST Uphole Tension
Limestone Density Por.
PE
Compensated Density
FR Limest
FR PE
nsity Por.d Density
FR Density Correction
Depth
in
Feet
Timing Marks
every 60.0 sec
Compensated Density
grams/cc
2
2.25
2.50
2.75
3
Bit Size
inches
6
11
16
Borehole
Temp in
deg F
Limestone Density Por.
percent
30
20
10
0
-10
HVI
every
10 cu ft
Gamma Ray
API
0
75
150
150
225
300
Annular
Integral
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

DST Uphole Tension pounds 5000 0 / 0 -5000	Replay Scale 1:240	

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 29-OCT-2010 16:08
Filename: C:\Minimus 10_8\Plot Presentations\Density Neutron\GRAND MESA PHELPS 8-31_001.dta — Recorded on 29-OCT-2010 13:29
System Versions: Logged with 10.08.1568 Plotted with 10.08.1568

Repeat Section

BEFORE SURVEY CALIBRATION

C:\Minimus 10_8\Plot Presentations\Density Neutron\GRAND MESA PHELPS 8-31.dta

General Constants All 000

Last Edited on 29-OCT-2010,12:57

General Parameters		
Mud Resistivity	0.930	ohm-metres
Mud Resistivity Temperature	77.000	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 000

Field Calibration on 24-OCT-2010 17:20

Reading No	Measured	Calibrated (lbs)
1	-1900.90	7.00
2	-1905.46	473.00

High Resolution Temperature Calibration MCG 067

Field Calibration on 06-AUG-2010,10:40

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

High Resolution Temperature Constants MCG 067

Last Edited on 06-AUG-2010,10:39

Pre-filter Length	11

SP Calibration MCG 067

Field Calibration on 09-SEP-2010 13:54

	Measured	Calibrated (mV)
Reference 1	104.1	100.0
Reference 2	-95.6	-100.0

Gamma Calibration MCG 067

Field Calibration on 28-OCT-2010 22:54

	Measured	Calibrated (API)
Background	63	43
Calibrator (Gross)	731	499
Calibrator (Net)	667	456

Gamma Constants MCG 067

Last Edited on 11-OCT-2010,09:23

Gamma Calibrator Number	grcc141	
Mud Density	1.00	gm/cc

Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl	0.00	kppm

Micro Normal and Micro Inverse Calibration MML 004

Base Calibration on 13-OCT-2010 10:02
Field Check on 28-OCT-2010 22:43

Base Calibration

Channel	Measured Resistor 1	Measured Resistor 2	Calibrated (ohm-m) Resistor 1	Calibrated (ohm-m) Resistor 2
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 004

Last Edited on 28-OCT-2010,22:42

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

Caliper Calibration MML 004

Base Calibration on 13-OCT-2010 09:56
Field Calibration on 28-OCT-2010 22:44

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	14810	5.96
2	18235	7.98
3	21638	9.95
4	25413	11.91
5	0	0.00
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
5.97	5.96

Neutron Calibration MDN 041

Base Calibration on 13-OCT-2010 12:02
Field Check on 28-OCT-2010 22:59

Base Calibration

	Measured Near	Measured Far	Calibrated (cps) Near	Calibrated (cps) Far
	3163	98	3714	110
Ratio	32.297		33.764	

Field Calibrator at Base

	Calibrated (cps)	
	2080	3027
Ratio	0.687	

Field Check

	Calibrated (cps)	
	2116	3035
Ratio	0.697	

Neutron Constants MDN 041

Last Edited on 29-OCT-2010,12:49

Neutron Source Id	p31124b	
Neutron Jig Number	nj5736	
Epithermal Neutron	No	
Caliper Source for Processing	Density Caliper	
Stand-off	0.00	inches
Mud Density	1.12	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 067

Base Calibration on 13-OCT-2010 09:44
Field Check on 28-OCT-2010 22:40

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	961.4	126.8
Base Check		280.8
Field Check		280.8

FE Constants MFE 067

Last Edited on 28-OCT-2010,22:38

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 188

Field Calibration on 02-AUG-2010,11:00

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

High Resolution Temperature Constants MAI 188

Pre-filter Length	11

Induction Calibration MAI 188

Base Calibration on 09-SEP-2010,10:03
Field Check on 28-OCT-2010 22:38

Base Calibration

Test Loop Calibration	Measured		Calibrated (mmho/m)	
Channel	Low	High	Low	High
1	16.5	472.3	9.3	966.2
2	6.0	378.3	7.6	821.4
3	3.5	260.7	5.2	566.0
4	1.1	135.1	2.6	279.2
Array Temperature		82.2	Deg F	

Channel	Base Check (mmho/m)		Field Check (mmho/m)		
	Low	High	Low	High	
1	0.0	0.0	13.9	3849.0	
2	0.0	0.0	30.7	3570.8	
3	0.0	0.0	28.4	3042.0	
4	0.0	0.0	21.0	2039.7	
Deep	0.0	0.0	18.1	1924.6	
Medium	0.0	0.0	40.3	4056.9	
Shallow	0.0	0.0	45.1	5363.4	
Array Temperature		0.0		60.4	Deg F

Induction Constants MAI 188

Last Edited on 28-OCT-2010,22:36

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 061

Base Calibration on 13-OCT-2010 11:11
Field Calibration on 28-OCT-2010 22:41

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	19181	4.01
2	29014	5.96
3	39136	7.98
4	49217	9.95
5	59496	11.91
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
5.97	5.96

Photo Density Calibration MPD 061

Base Calibration on 13-OCT-2010 11:34
Field Check on 28-OCT-2010 22:49

Density Calibration

Base Calibration	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	41790	18625	59556	30836
Reference 2	16181	1657	24941	2541

Field Check at Base

682.5	840.7

Field Check

683.6	837.7

PE Calibration

Base Calibration	Measured			Calibrated
	WS	WH	Ratio	Ratio
Background	124	608		
Reference 1	16630	41682	0.402	0.371
Reference 2	4501	16101	0.282	0.272

Field Check at Base

124.3	608.4

Field Check

125.9 611.4

Density Constants MPD 061

Last Edited on 29-OCT-2010,12:50

Density Source Id	20718b	
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	1.12	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	

DOWNHOLE EQUIPMENT

C:\Minimus 10_8\Plot Presentations\Density Neutron\GRAND MESA PHELPS 8-31.dta

3/8" Triple Cone Cable Head (MCB C A)
MCB 5 Length: 1.58 ft Weight: 15.4 lb

Compact Gamma
MCG 67 Length: 8.70 ft Weight: 63.9 lb

Compact Micro-log
MML 4 Length: 7.97 ft Weight: 81.6 lb

Compact Neutron
MDN 41 Length: 5.04 ft Weight: 50.7 lb

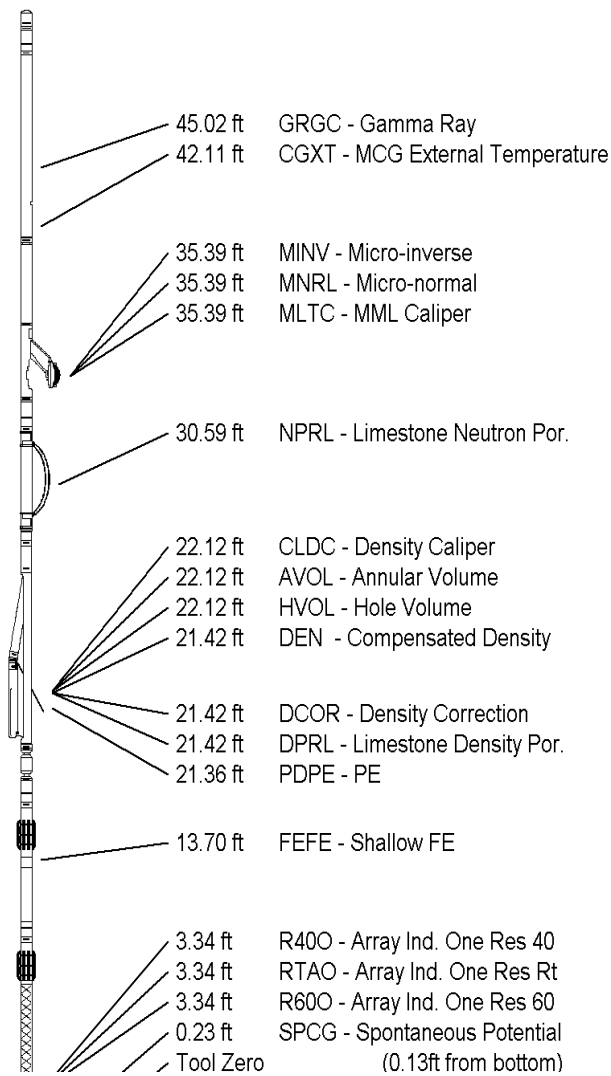
Compact Density/Caliper
MPD 61 Length: 9.59 ft Weight: 90.4 lb

SKJ-D.A Compact Knuckle Joint
SKJ 91 Length: 2.17 ft Weight: 24.3 lb

Compact Focussed Electric
MFE 67 Length: 6.03 ft Weight: 48.5 lb

Compact Induction
MAI 188 Length: 10.81 ft Weight: 48.5 lb

Total Length: 51.88 ft Weight: 423.3 lb



-0.13 ft SMTU - DST Uphole Tension
All measurements relative to tool zero.

COMPANY	GRAND MESA OPERATING COMPANY
WELL	PHELPS #8-31
FIELD	MAURICE NORTHEAST
PROVINCE/COUNTY	GOVE
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	2922.00	feet	First Reading	4695.00	feet
Elevation Drill Floor	2921.00	feet	Depth Driller	4720.00	feet
Elevation Ground Level	2917.00	feet	Depth Logger	4717.00	feet

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