Weatherford

COMPACT PHOTO DENSITY COMPENSATED NEUTRON MICRORESISTIVITY LOG

COMPANY	SHAKESPEARE OIL CO., INC.
WELL	RUDOLPH 1-23
FIELD	WILDCAT
PROVINCE/COUNTY	SCOTT
COUNTRY/STATE	U.S.A. / KANSAS
LOCATION	1300' FNL & 1050' FWL
PERMIT NUMBER	SE SE NW NW

SEC 23	TWP 17S	RGE 33W	Other Services
Latitude	38.565719897		MAI/MFE
Longitude	-100.940172130		
API Number	15-171-21114		

Permanent Datum GL, Elevation 3016 feet
Log Measured From KB
Drilling Measured From KB @ 10 FEET

Elevations:	feet
KB	3026.00
DF	3024.00
GL	3016.00

Date	10-DEC-2014			
Run Number	ONE			
Service Order	7036-105380343			
Depth Driller	4770.00	feet		
Depth Logger	4775.00	feet		
First Reading	4755.78	feet		
Last Reading	3800.00	feet		
Casing Driller	267.00	feet		
Casing Logger	265.00	feet		
Bit Size	7.875	inches		
Hole Fluid Type	CHEMICAL			
Density / Viscosity	9.20	lb/USg	58.00 CP	
PH / Fluid Loss	10.50		6.40 ml/30Min	
Sample Source	MUDPIT			
Rm @ Measured Temp	0.598 @ 75.0	ohm-m		
Rmf @ Measured Temp	0.479 @ 75.0	ohm-m		
Rmc @ Measured Temp	0.718 @ 75.0	ohm-m		
Source Rmf / Rmc	CALC		CALC	
Rm @ BHT	0.386 @119.0	ohm-m		
Time Since Circulation	4.5 HOURS			
Max Recorded Temp	119.00	deg F		
Equipment / Base	13096		LIB	
Recorded By	DEREK CARTER			
Witnessed By	TIM PRIEST			
JOB #	LB14-377			

BOREHOLE RECORD

Last Edited: 10-DEC-2014 03:16

Bit Size inches	Depth From feet	Depth To feet
7.875	267.00	4770.00

CASING RECORD

Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	267.00	24.00

REMARKS

- SOFTWARE ISSUE: WLS 14.05.5280
- TOOLSTRING: MCG, MML, MDN, MPD, MFE, MAI RUN IN COMBINATION
- HARDWARE:
  MDN: DUAL BOWSPRING ECCENTRALIZER
  MFE: 1 X 0.5 INCH STANDOFF
  MAI: 2 X 0.5 INCH STANDOFF
- 2.71 G/CC LIMESTONE DENSITY MATRIX USED TO CALCULATE POROSITY
- BOREHOLE RUGOSITY, TIGHT PULLS, AND WASHOUTS WILL AFFECT DATA QUALITY
- ALL INTERVALS LOGGED AND SCALED PER CUSTOMER'S REQUEST
- TOTAL HOLE VOLUME FROM TD TO 3800 FT.: 320 CU.FT.
- ANNULAR HOLE VOLUME WITH 5.5 INCH PRODUCTION CASING FROM TD TO 3800 FT.: 160 CU.FT.

- RIG: H. D. DRILLING #2

- ENGINEER: DEREK CARTER

- OPERATOR: CARLOS RAMIREZ

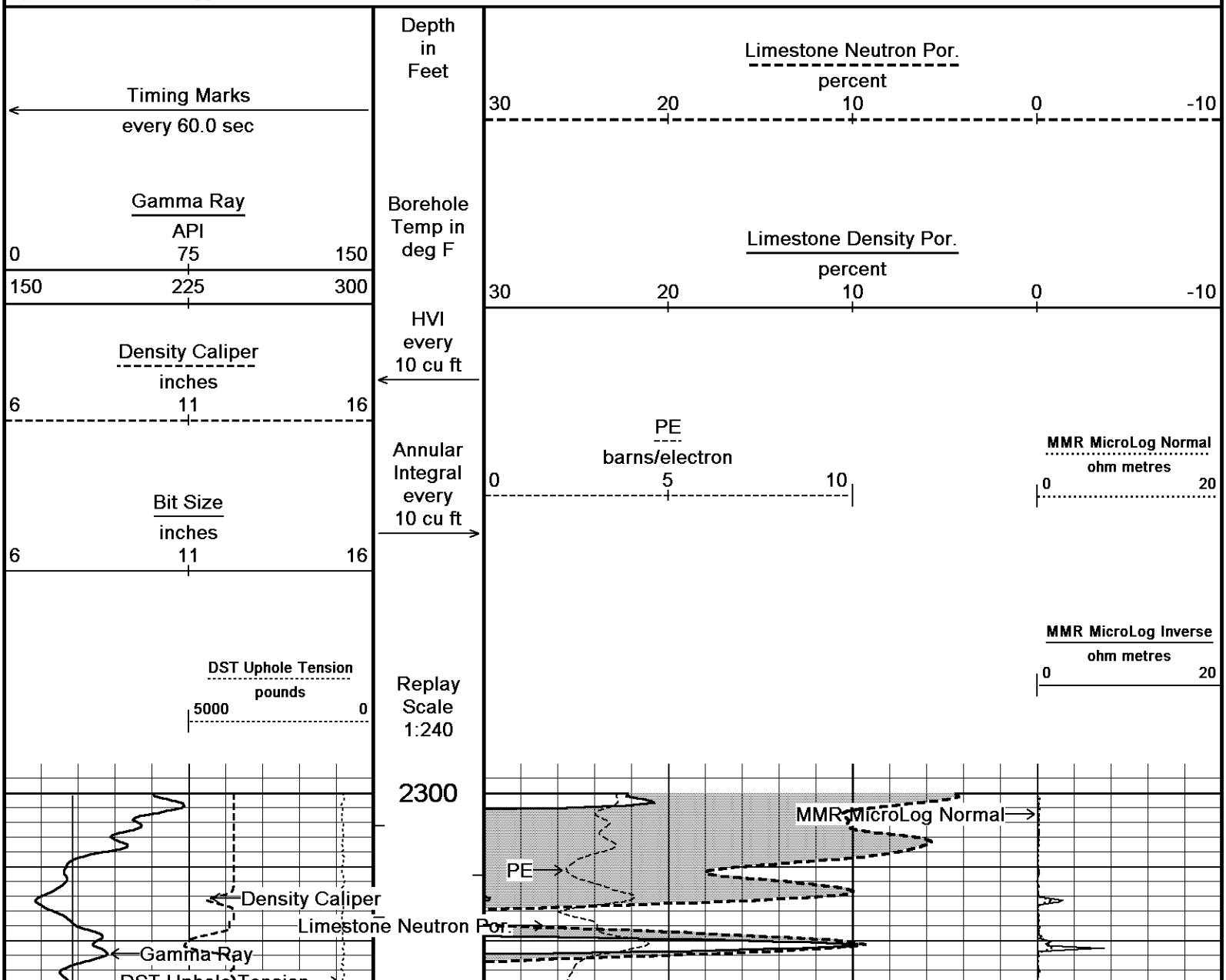
In interpreting, communicating or providing information and/or making recommendations, either written or oral, as to logs or test or other data, type or amount of material, or Work or other service to be furnished, or manner of performance, or in predicting results to be obtained, the Contractor will give the Company the benefit of the Contractor's best judgment based on its experience and will perform all such Work in a good and workmanlike manner. Any interpretation of test or other data, and any recommendation or reservoir description based upon such interpretations, are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and assumptions are not infallible, and with respect to which professional engineers and analysts may differ. ACCORDINGLY ANY INTERPRETATION OR RECOMMENDATION RESULTING FROM THE SERVICES WILL BE AT THE SOLE RISK OF THE COMPANY, AND THE CONTRACTOR CANNOT AND DOES NOT WARRANT THE ACCURACY, CORRECTNESS OR COMPLETENESS OF ANY SUCH INTERPRETATION OR RECOMMENDATION, WHICH INTERPRETATIONS AND RECOMMENDATIONS SHOULD NOT, THEREFORE, UNDER ANY CIRCUMSTANCES BE RELIED UPON AS THE SOLE OR MAIN BASIS FOR ANY DRILLING, COMPLETION, WELL TREATMENT, PRODUCTION OR FINANCIAL DECISION, OR ANY PROCEDURE INVOLVING ANY RISK TO THE SAFETY OF ANY DRILLING ACTIVITY, DRILLING RIG OR ITS CREW OR ANY OTHER INDIVIDUAL. THE COMPANY HAS FULL RESPONSIBILITY FOR ALL DECISIONS CONCERNING THE SERVICES.

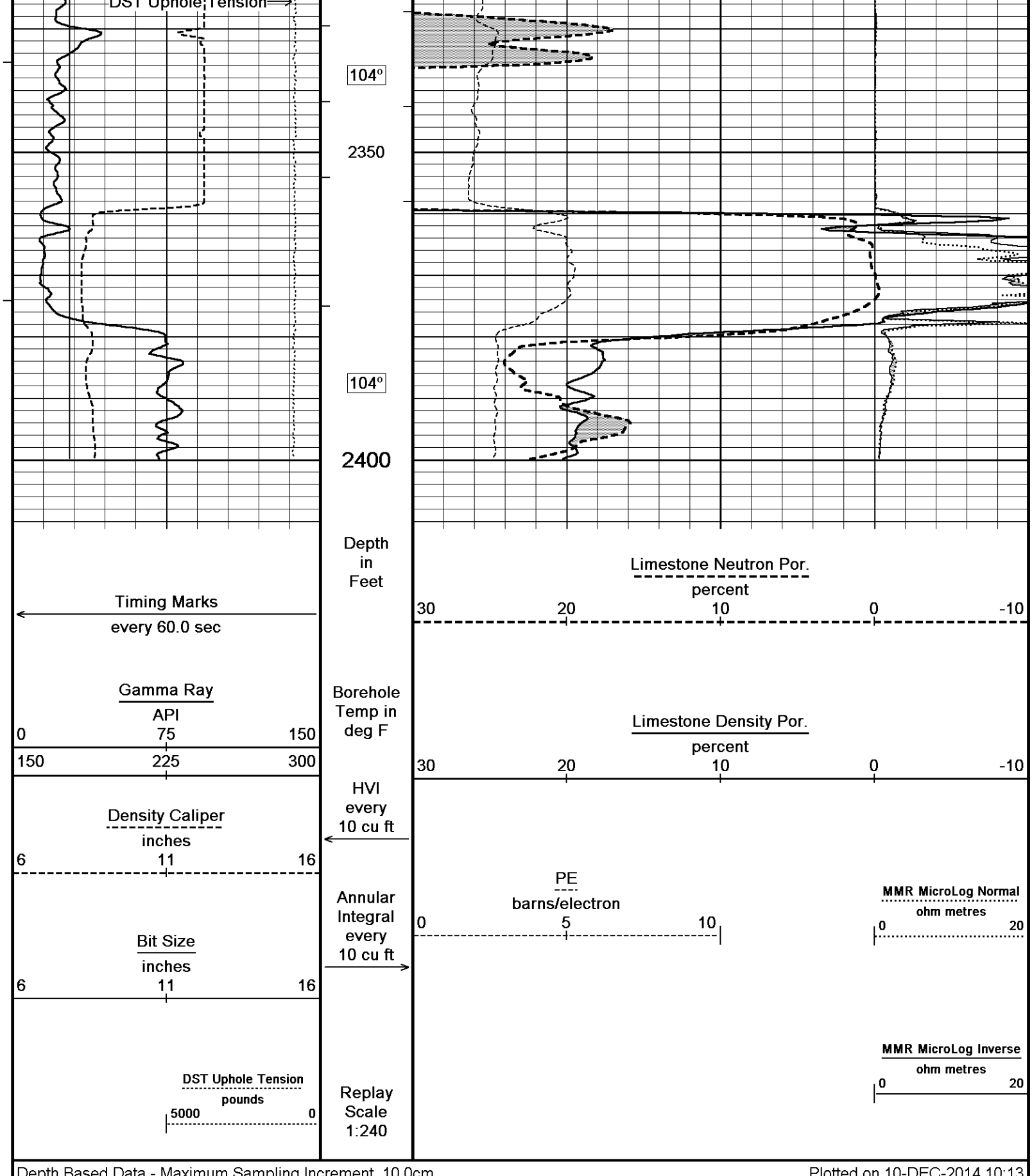
5 INCH LIMESTONE MAIN - ANHYDRITE SECTION

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 10-DEC-2014 10:13

Filename: C:\Minimus 14.05\Log Data\Shakespeare Rudolph 1-23\Shakespeare Rudolph 1-23 Main.dta — Recorded on 10-DEC-2014 08:02

System Versions: Logged with 14.05.5280 Plotted with 14.05.5280





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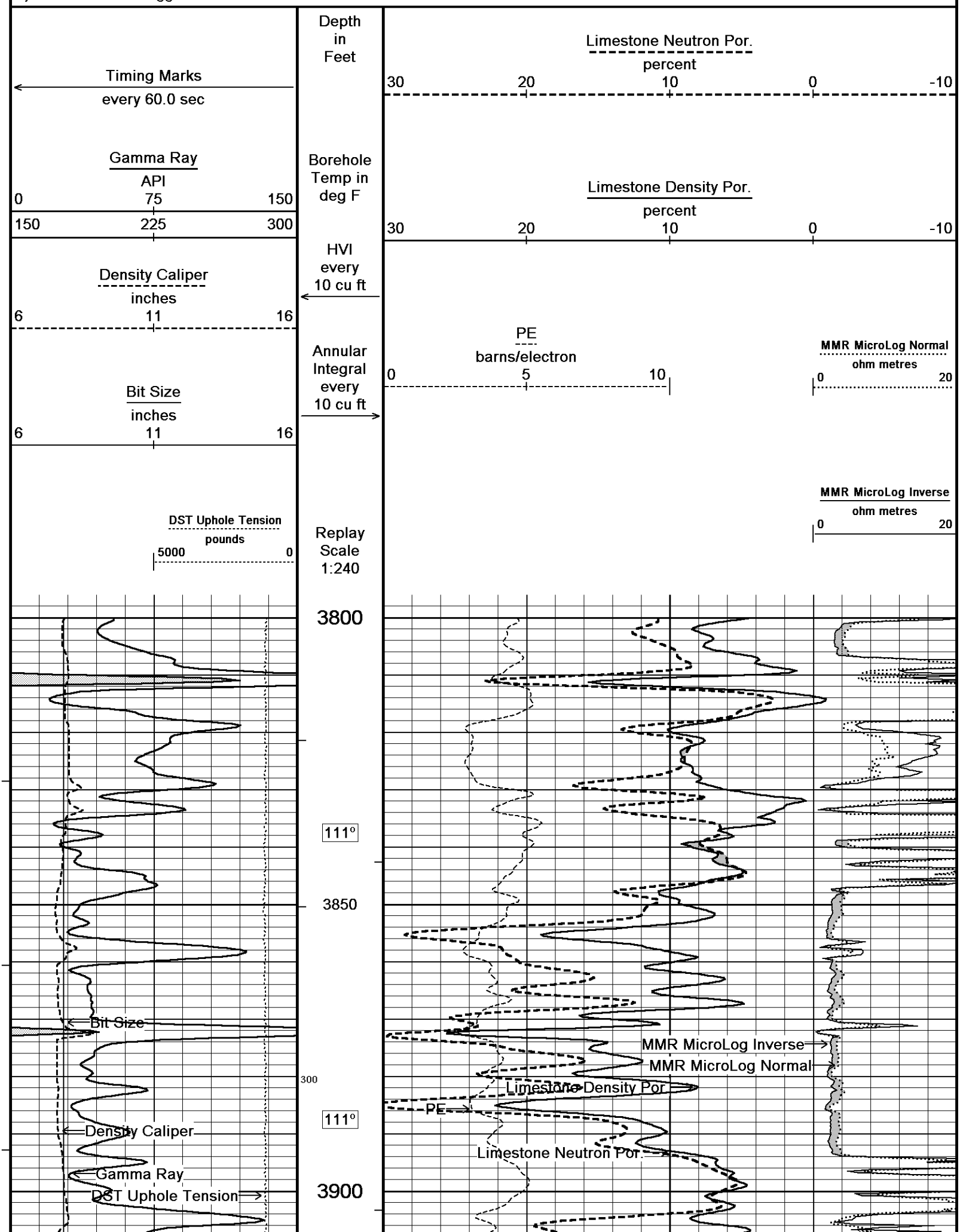
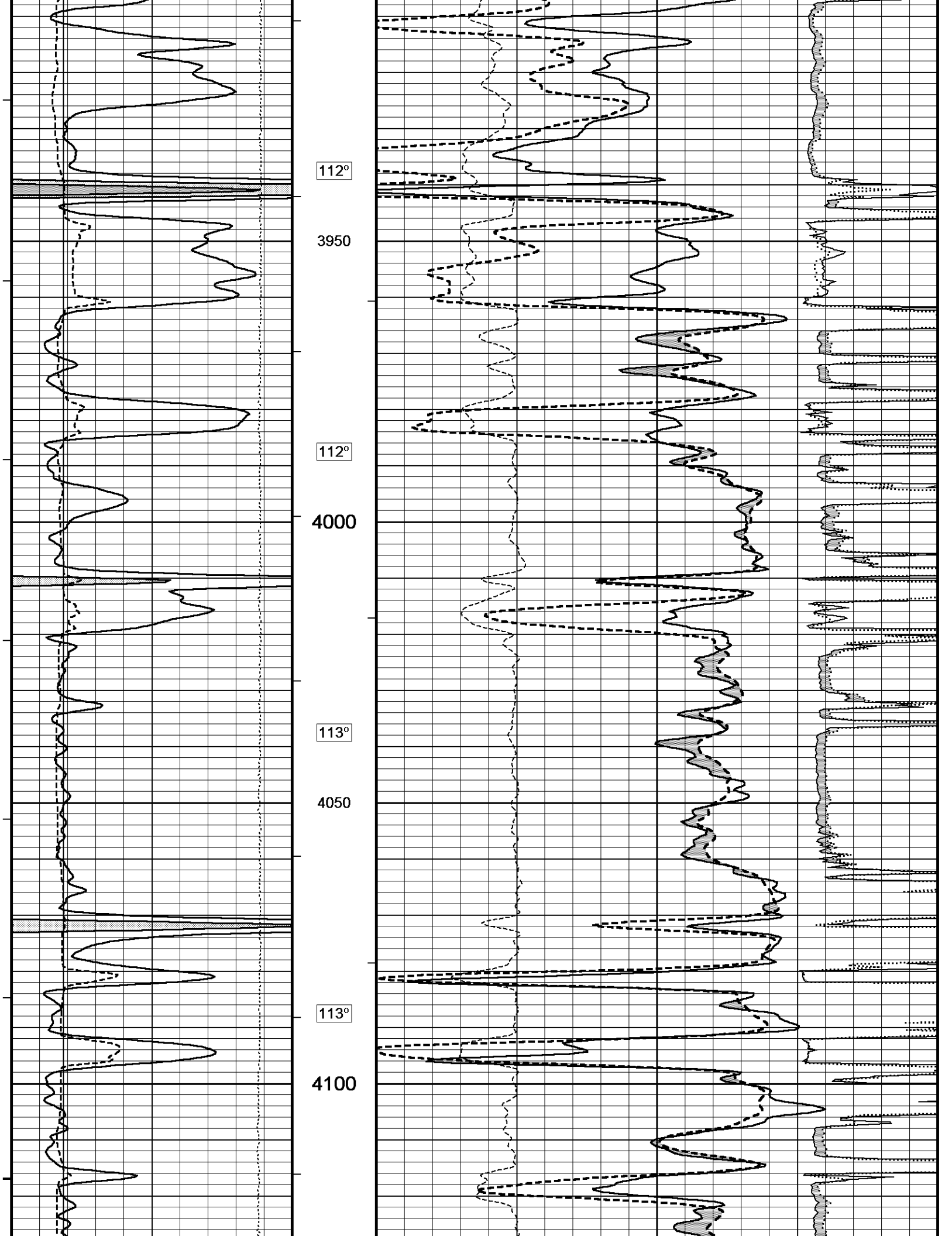
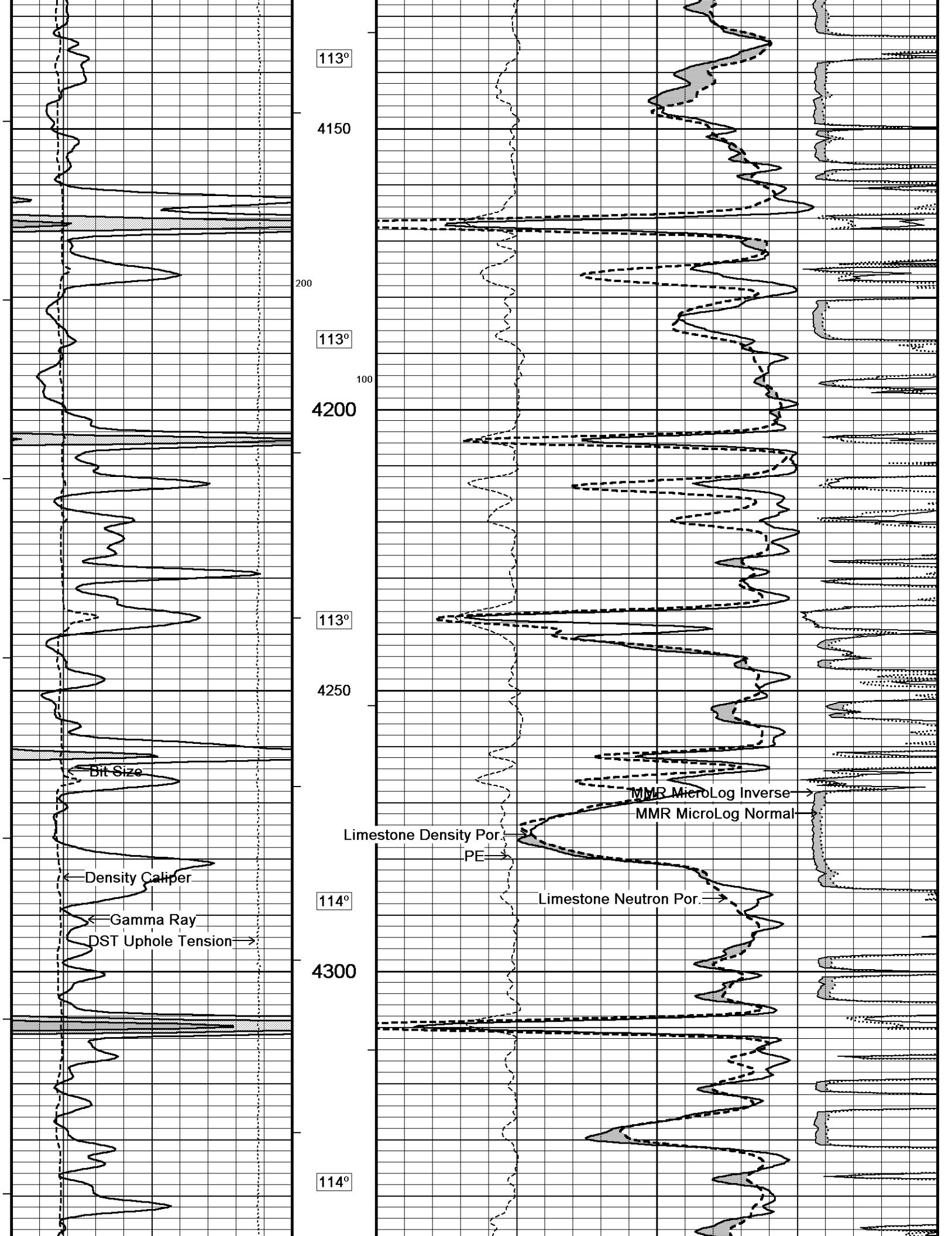
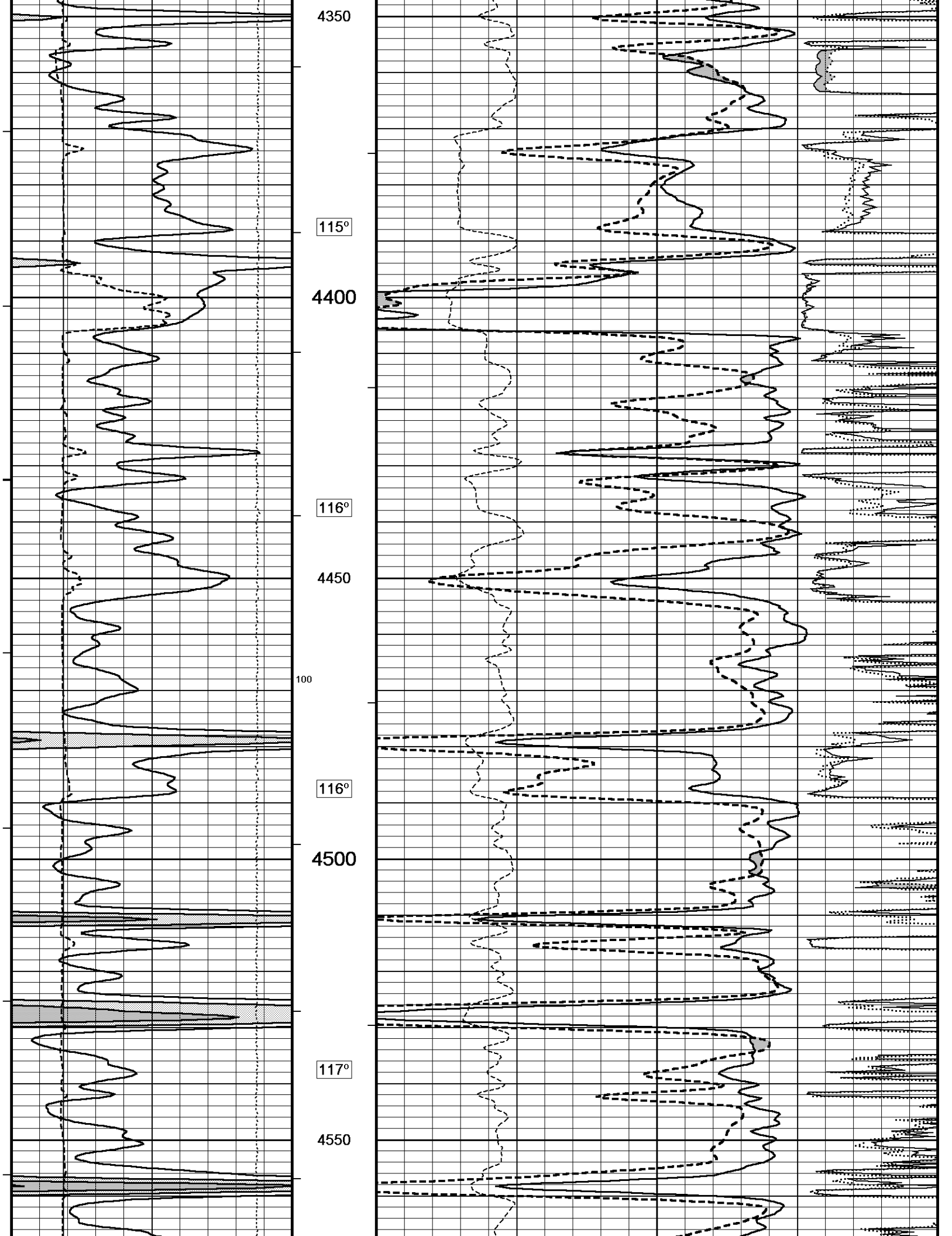
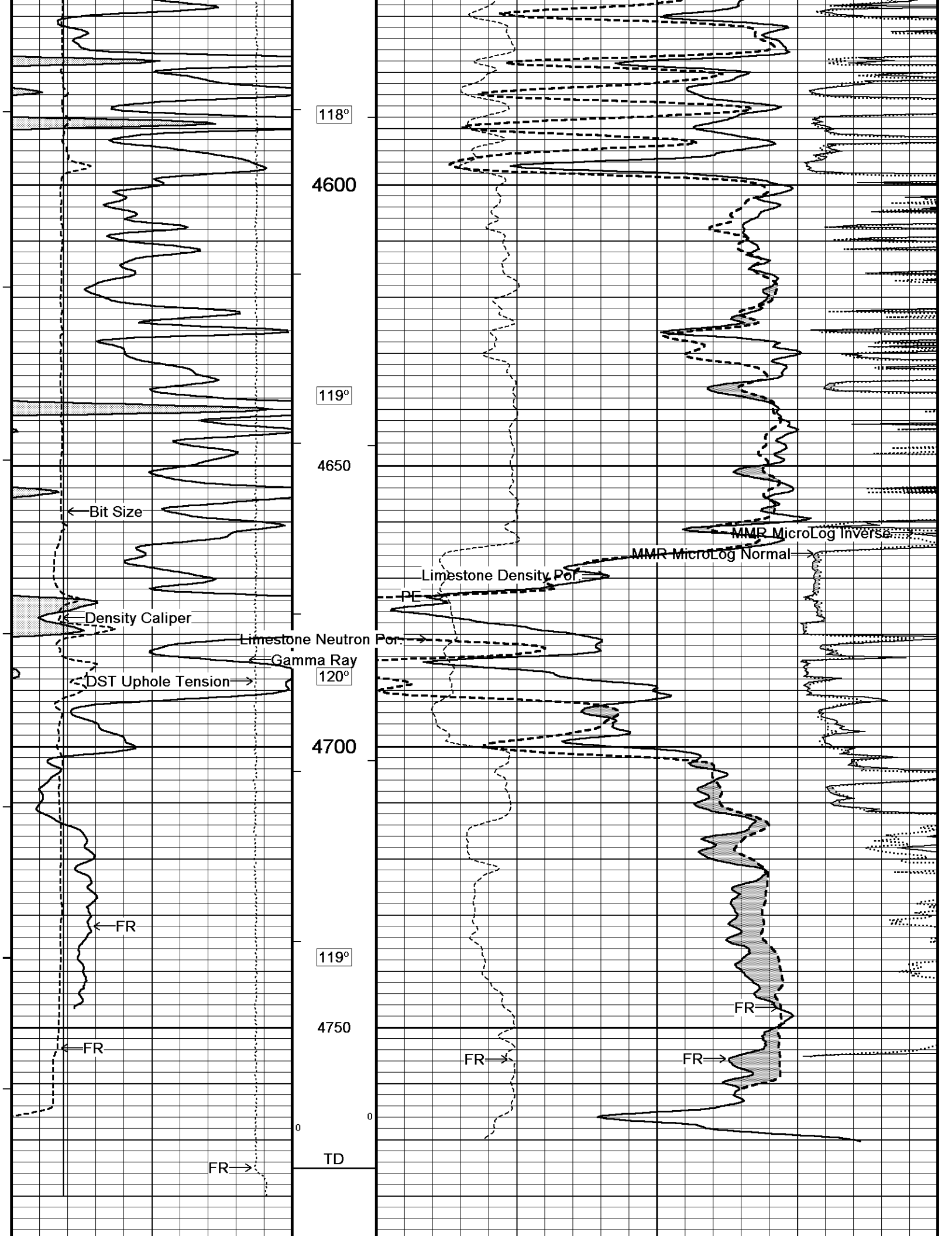
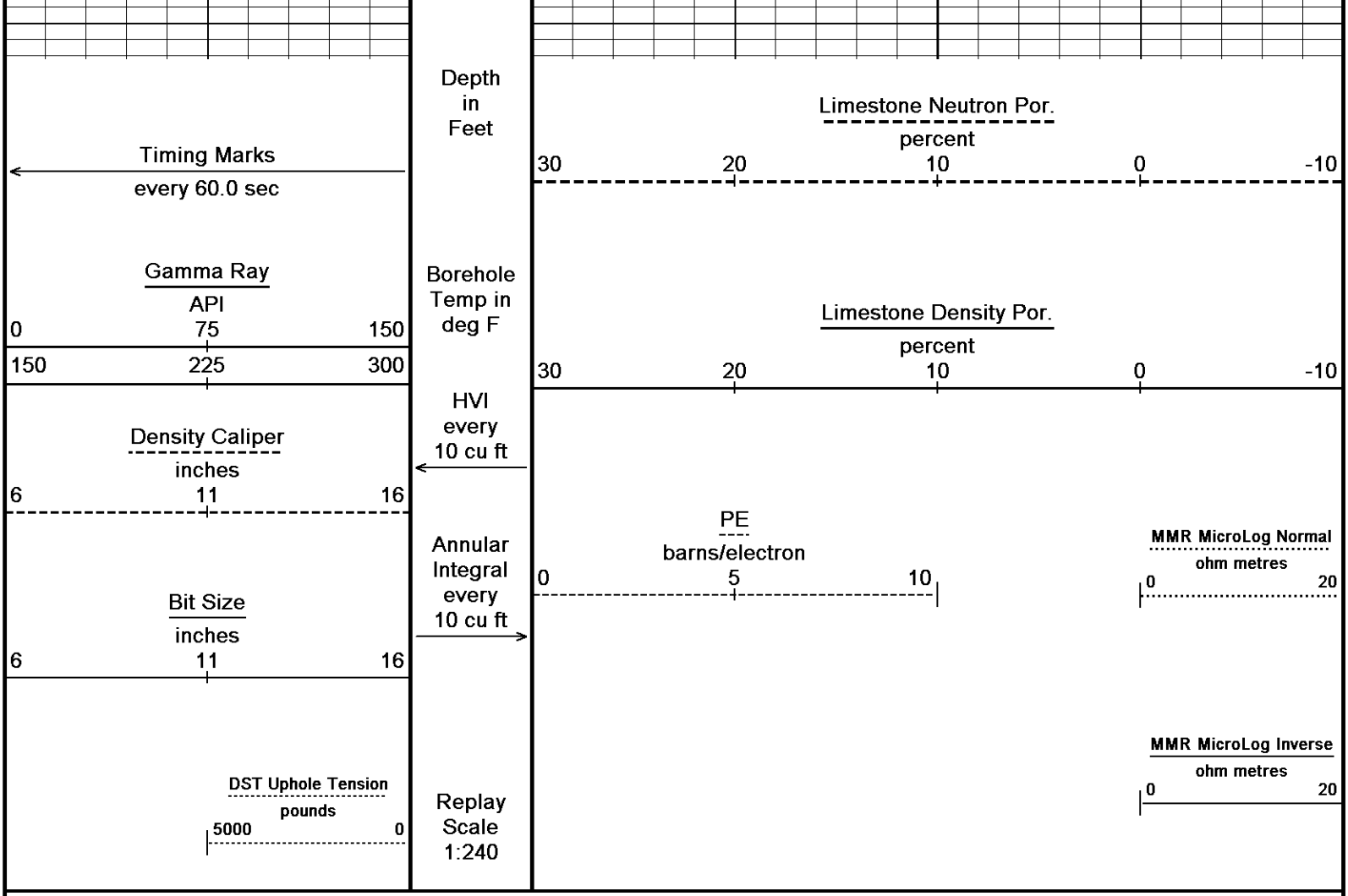



112°
3950
112°
4000
113°
4050
113°
4100


113°
4150
200
113°
100
4200
113°
4250
Bit Size
MMR MicroLog Inverse
MMR MicroLog Normal
Limestone Density Por.
PE
Density Caliper
Limestone Neutron Por.
114°
Gamma Ray
DST Uphole Tension
4300
114°


4350
115°
4400
116°
4450
100
116°
4500
117°
4550


118°
4600
119°
4650
Bit Size
MMR MicroLog Inverse
MMR MicroLog Normal
Limestone Density Por.
PE
Density Caliper
Limestone Neutron Por.
Gamma Ray
120°
DST Uphole Tension
4700
FR
119°
FR
4750
FR
FR
FR
0
0
TD



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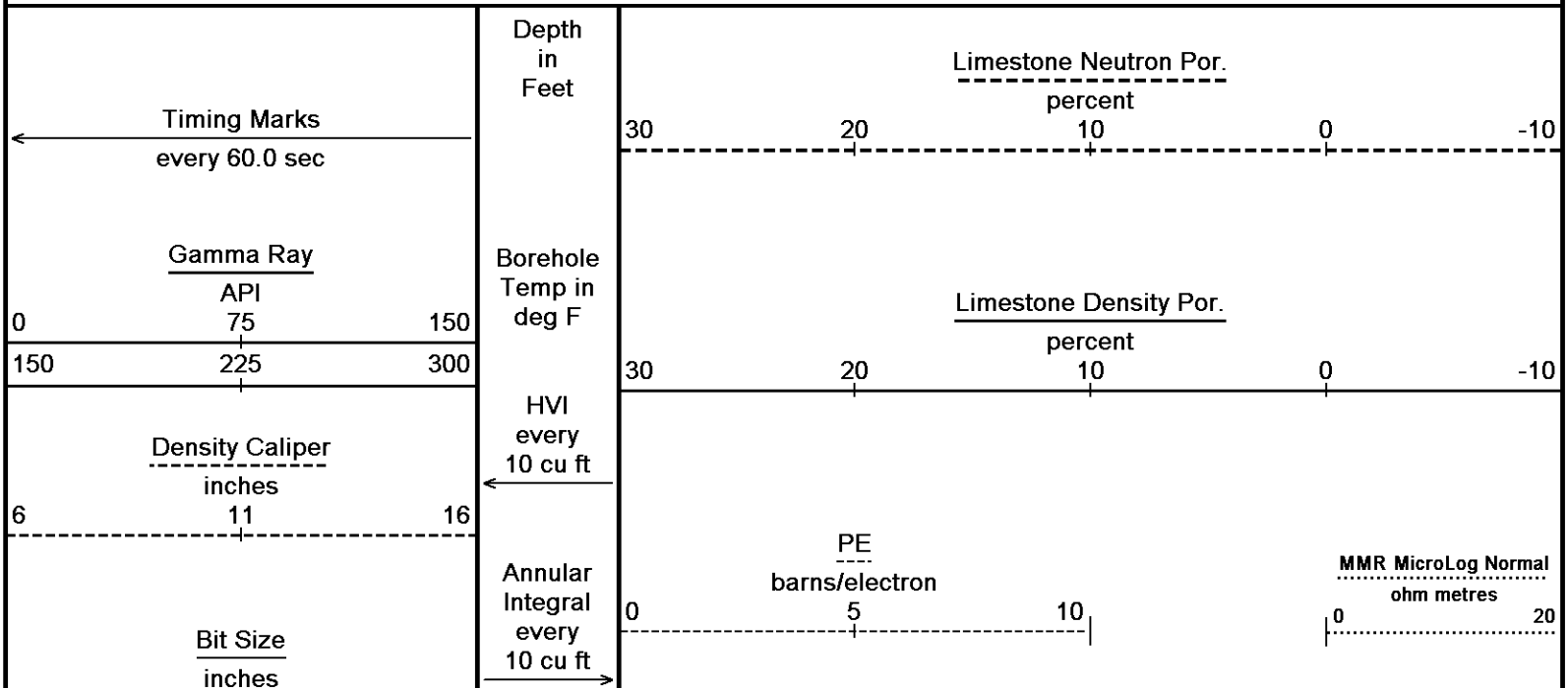
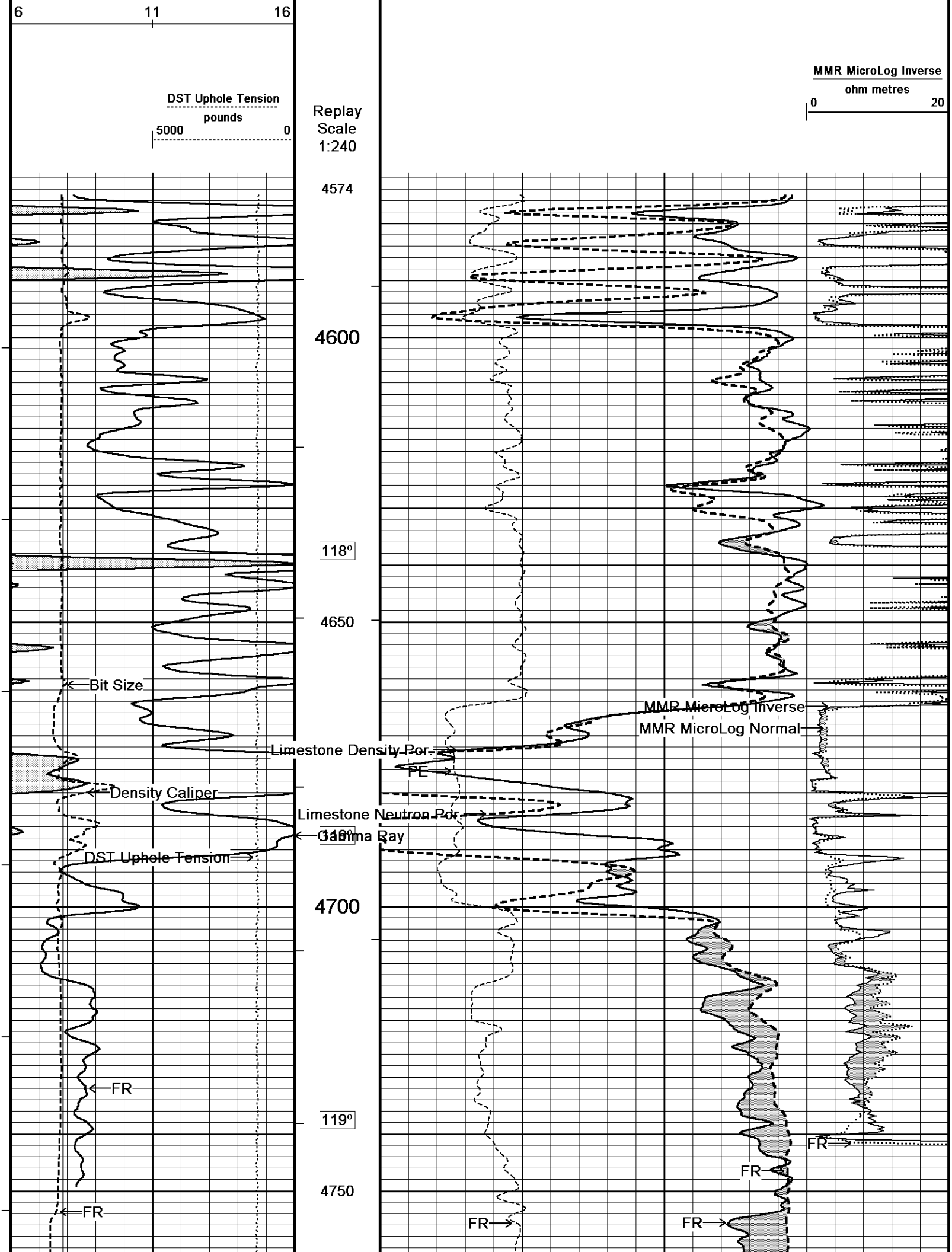
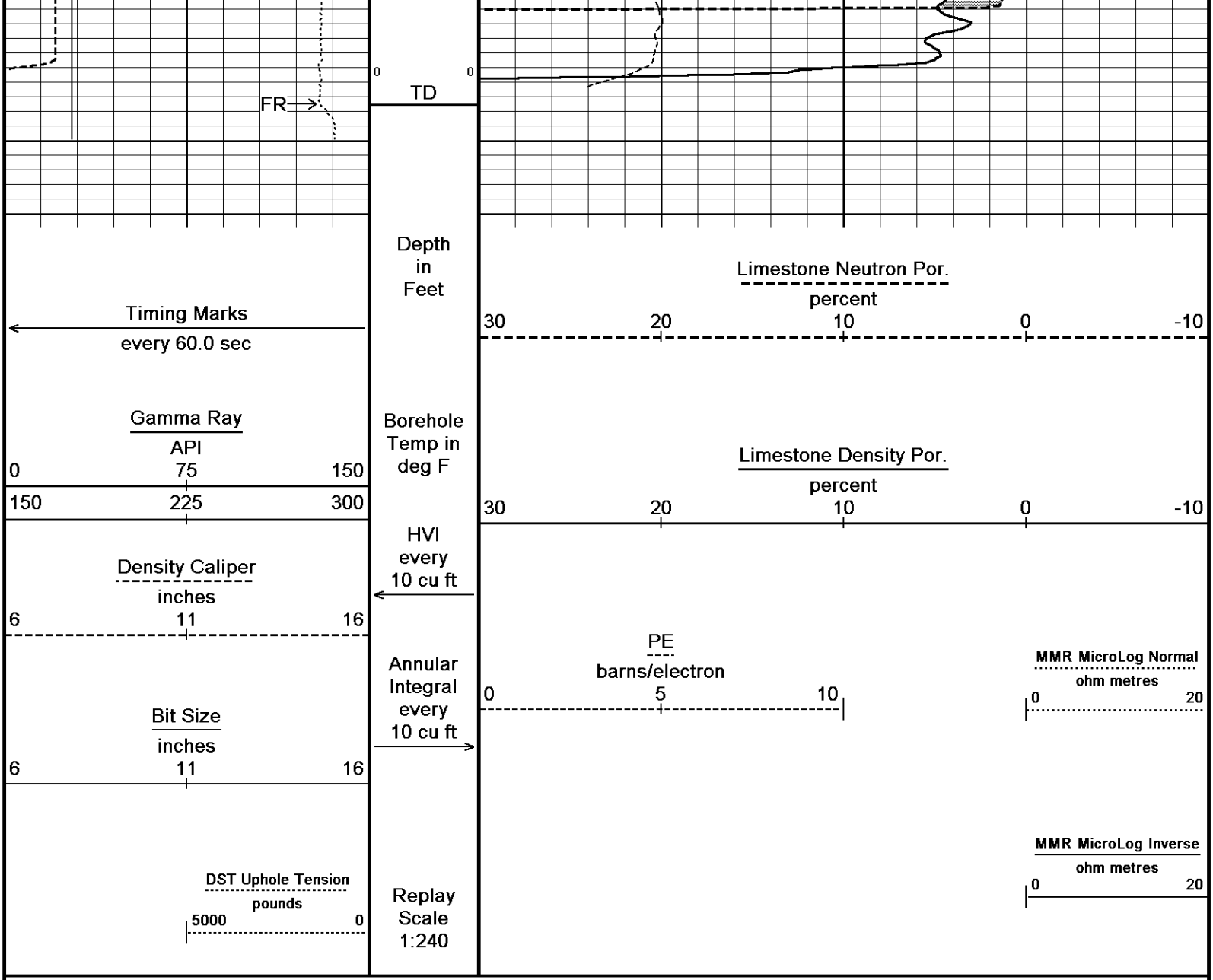
5 INCH LIMESTONE MAIN

REPEAT SECTION

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 10-DEC-2014 10:13
Filename: C:\Minimus 14.05\Log Data\Shakespeare Rudolph ...\Shakespeare Rudolph 1-23 Repeat.dta — Recorded on 10-DEC-2014 07:45
System Versions: Logged with 14.05.5280 Plotted with 14.05.5280




6
11
16
DST Uphole Tension
pounds
5000
0
Replay
Scale
1:240
MMR MicroLog Inverse
ohm metres
0
20
4574
4600
118°
4650
Bit Size
Limestone Density Por.
PE
Density Caliper
Limestone Neutron Por.
Gamma Ray
DST Uphole Tension
MMR MicroLog Inverse
MMR MicroLog Normal
4700
FR
119°
4750
FR
FR
FR
FR
FR



Depth Based Data - Maximum Sampling Increment 10.0cm
Plotted on 10-DEC-2014 10:13
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Recorded on 10-DEC-2014 07:45
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REPEAT SECTION

5 INCH BULK DENSITY MAIN

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Recorded on 10-DEC-2014 08:02
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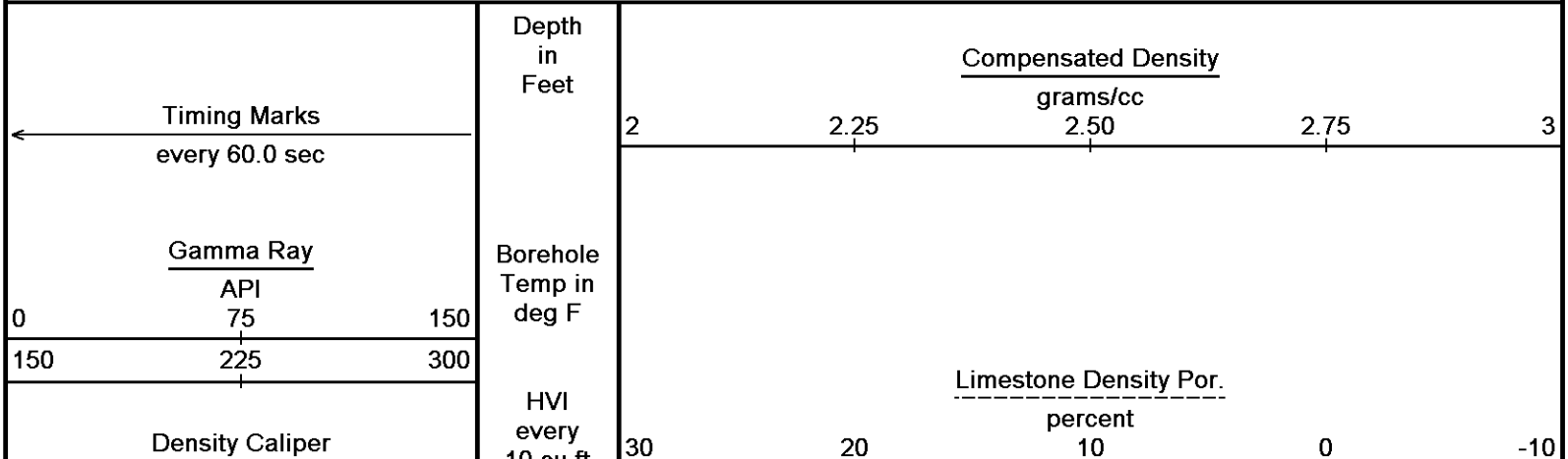
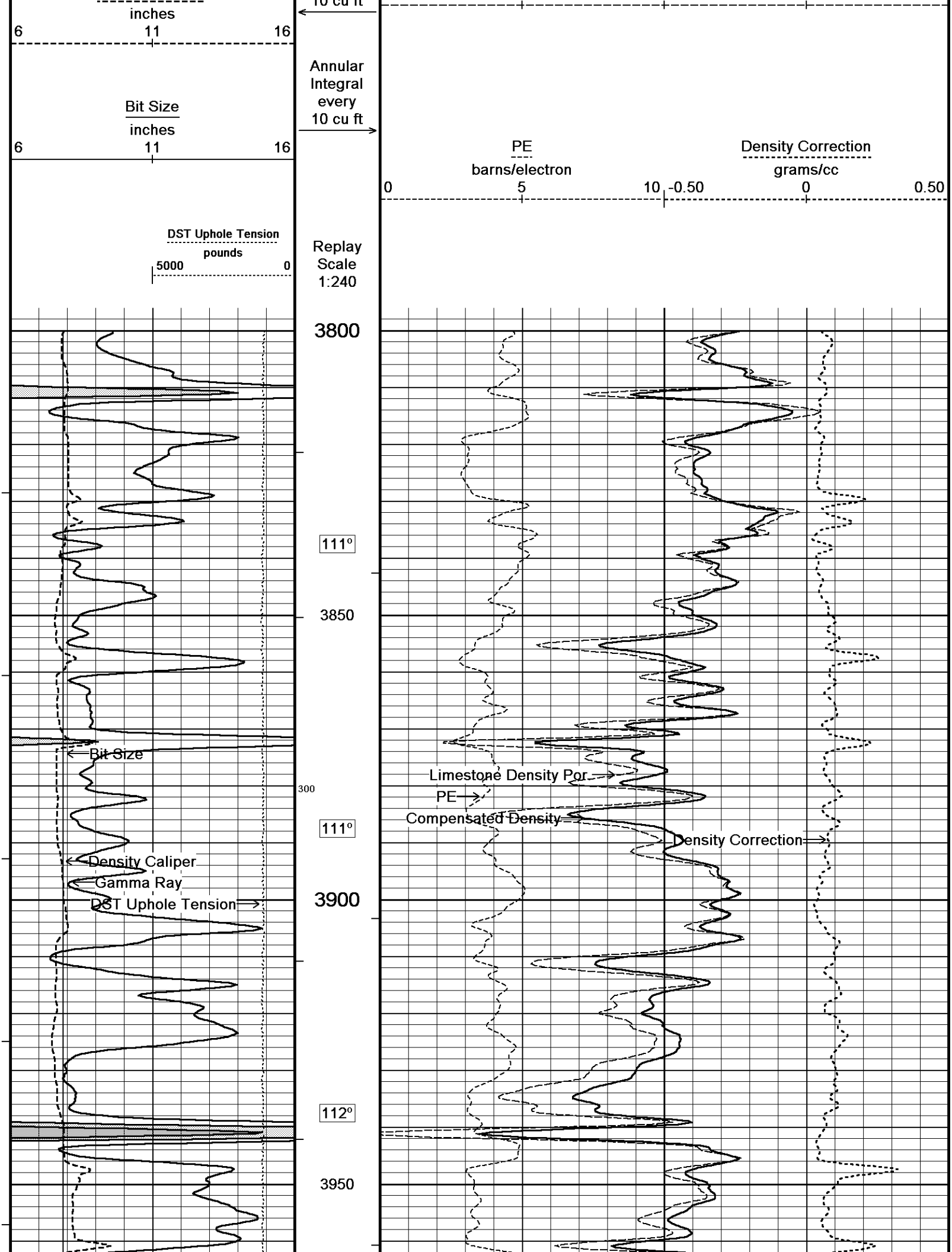
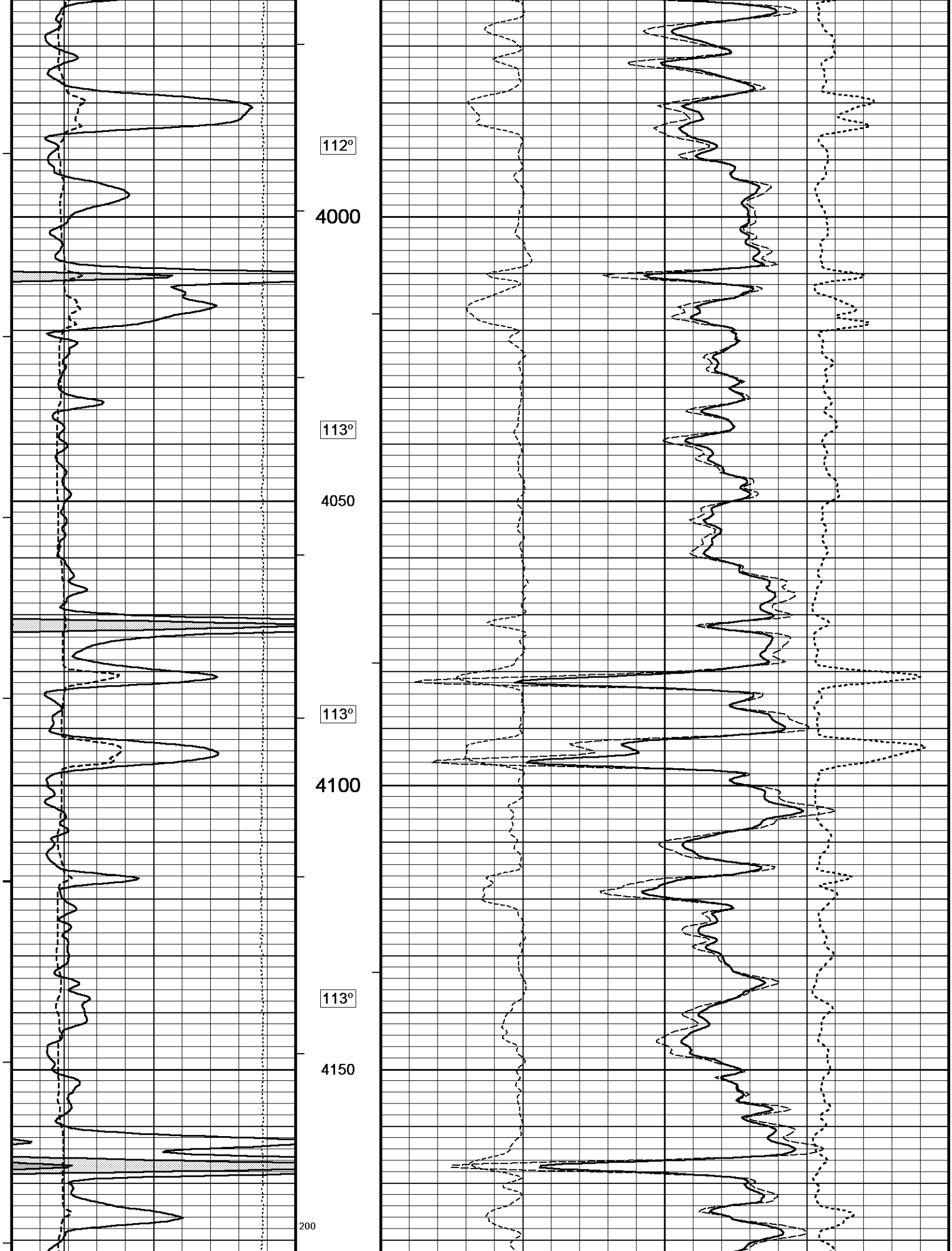
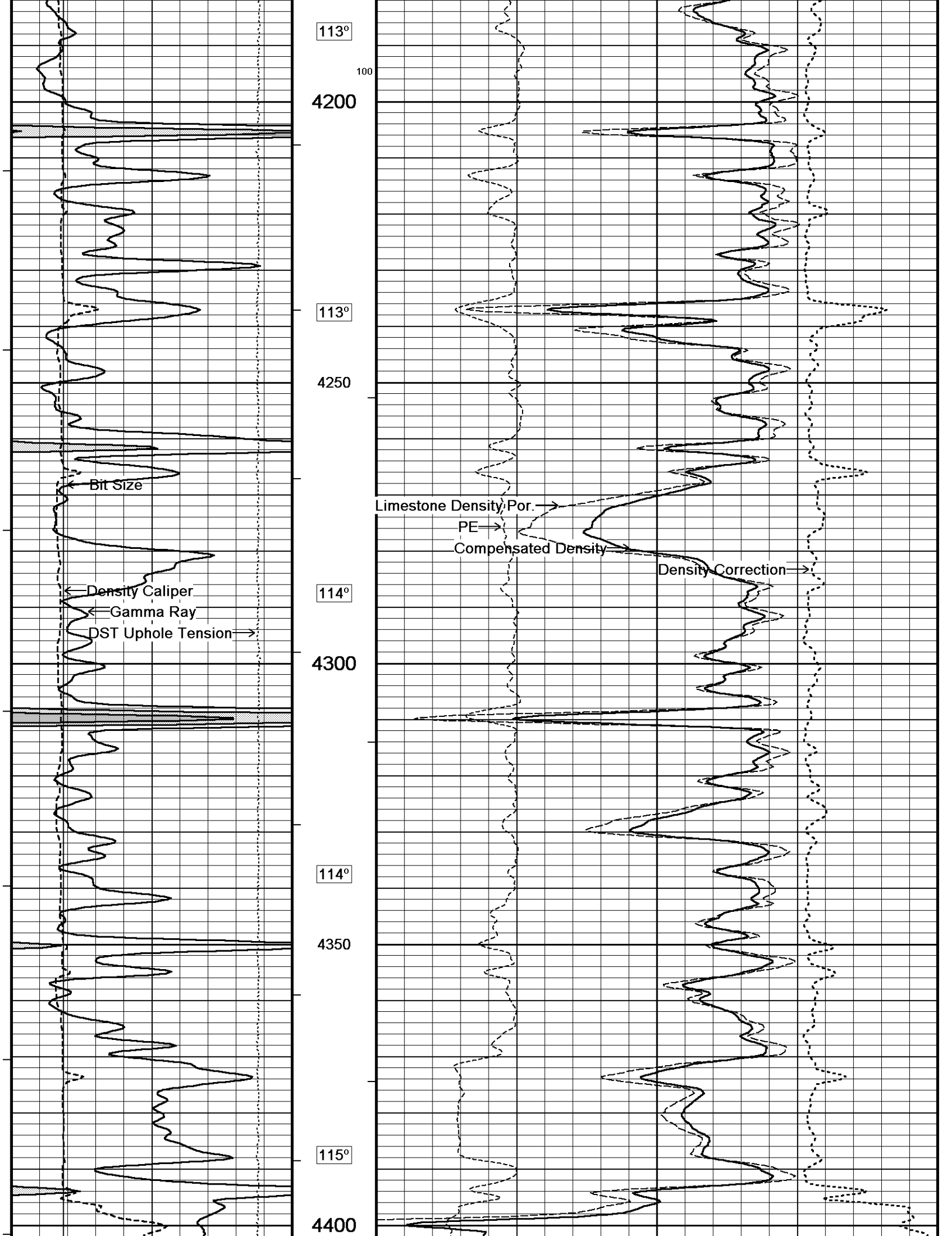
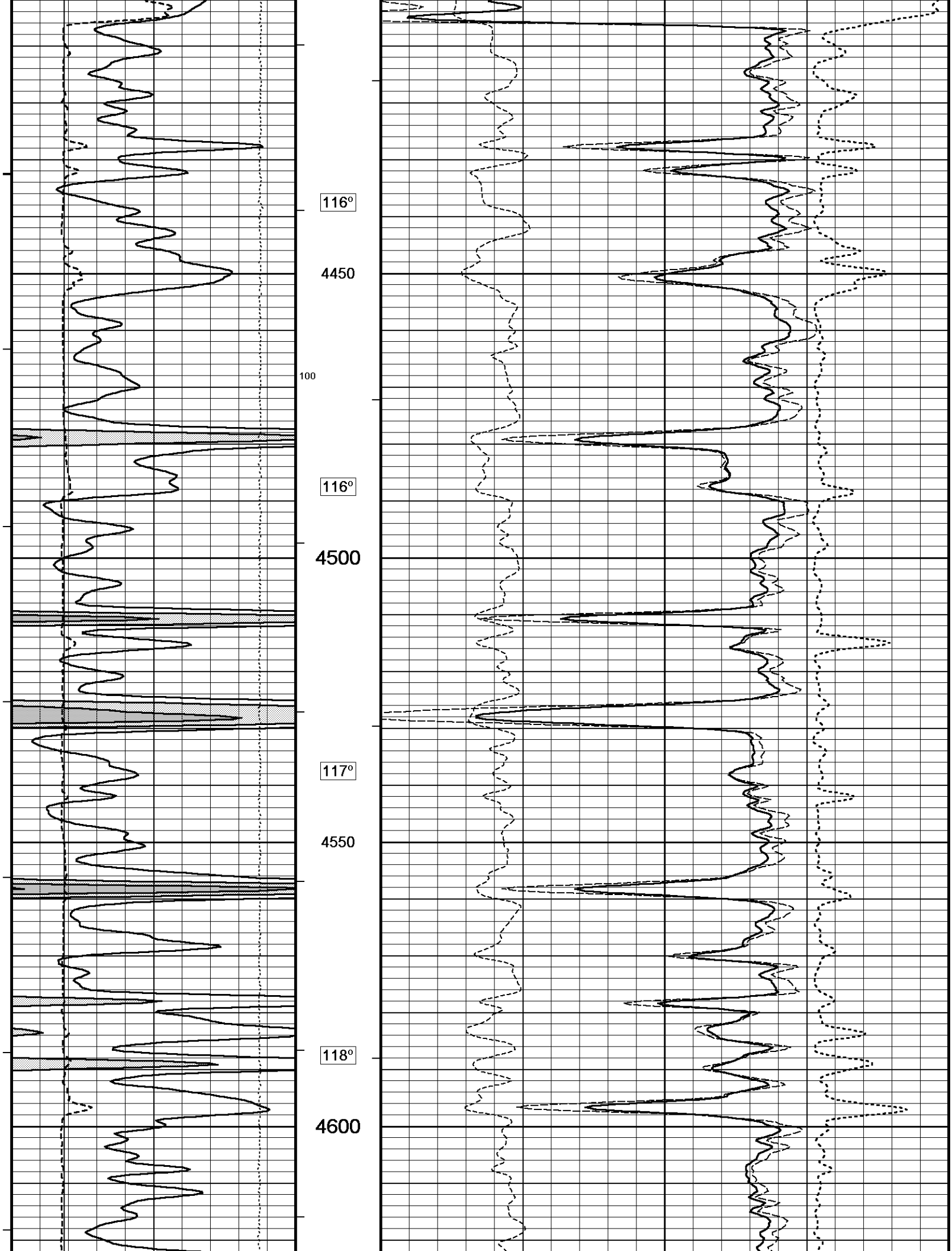
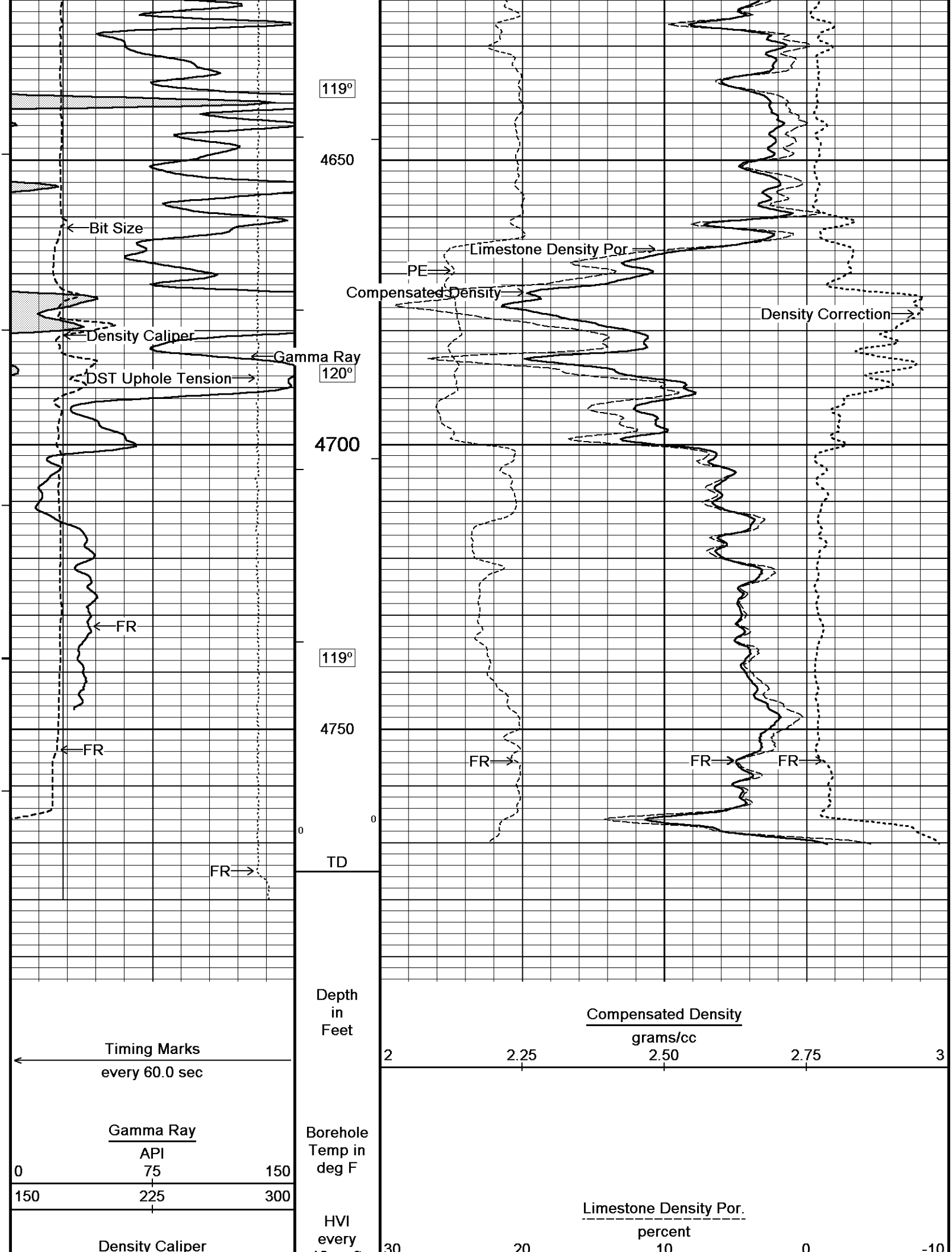


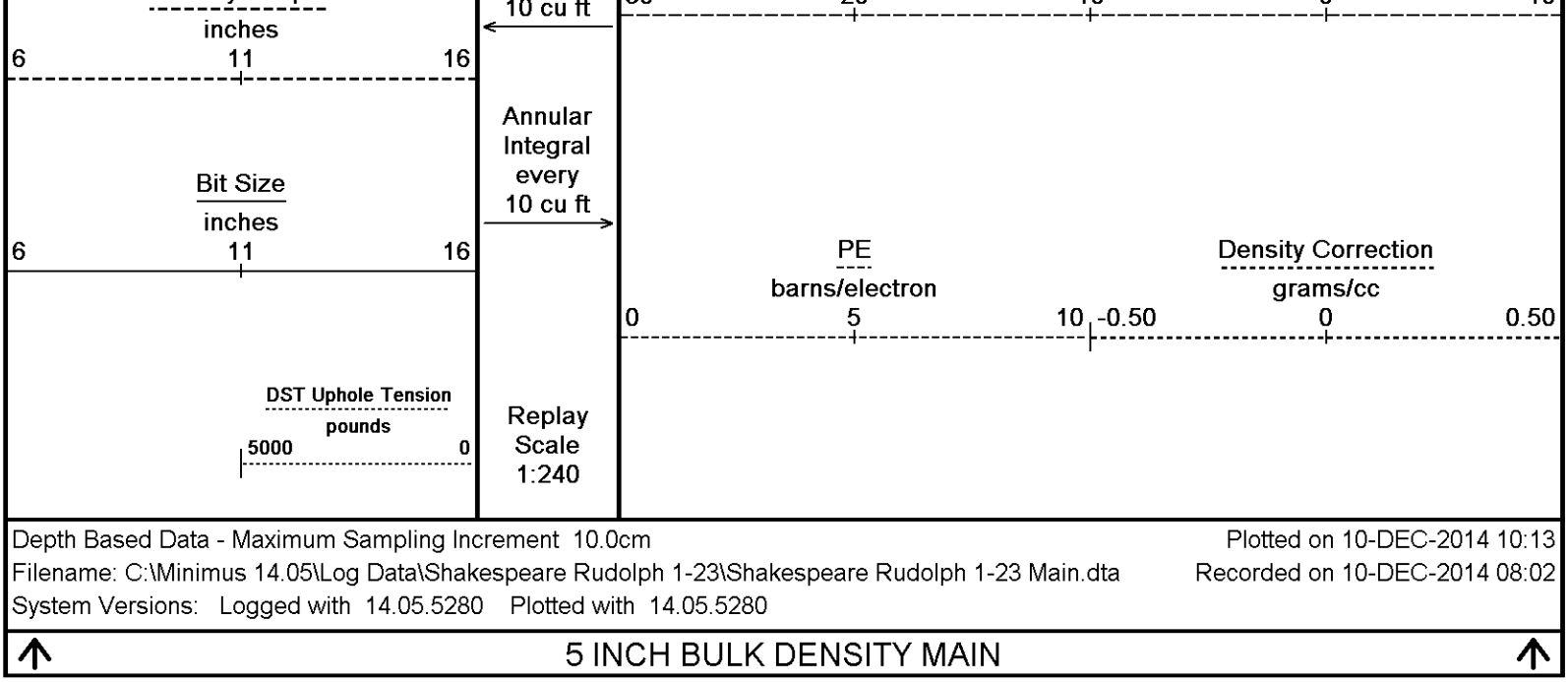

10 cu ft
inches
6
11
16
Annular
Integral
every
10 cu ft
Bit Size
inches
6
11
16
PE
barns/electron
0
5
10
Density Correction
grams/cc
-0.50
0
0.50
DST Uphole Tension
pounds
5000
0
Replay
Scale
1:240
3800
111°
3850
Bit Size
300
Limestone Density Por
PE
Compensated Density
111°
Density Correction
Density Caliper
Gamma Ray
DST Uphole Tension
3900
112°
3950


112°
4000
113°
4050
113°
4100
113°
4150
200


113°
100
4200
113°
4250
Bit Size
Limestone Density Por.
PE
Compensated Density
Density Correction
Density Caliper
Gamma Ray
DST Uphole Tension
114°
4300
114°
4350
115°
4400


116°
4450
100
116°
4500
117°
4550
118°
4600


119°
4650
Bit Size
Density Caliper
Gamma Ray
120°
DST Uphole Tension
4700
FR
119°
4750
FR
0
TD
FR
Limestone Density Por
PE
Compensated Density
Density Correction
FR
FR
FR
0
Depth in Feet
Timing Marks
every 60.0 sec
Gamma Ray
API
0
75
150
150
225
300
Density Caliper
Borehole Temp in deg F
HVI
every
Compensated Density
grams/cc
2
2.25
2.50
2.75
3
Limestone Density Por.
percent
30
20
10
0
-10



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5 INCH BULK DENSITY MAIN

REPEAT SECTION

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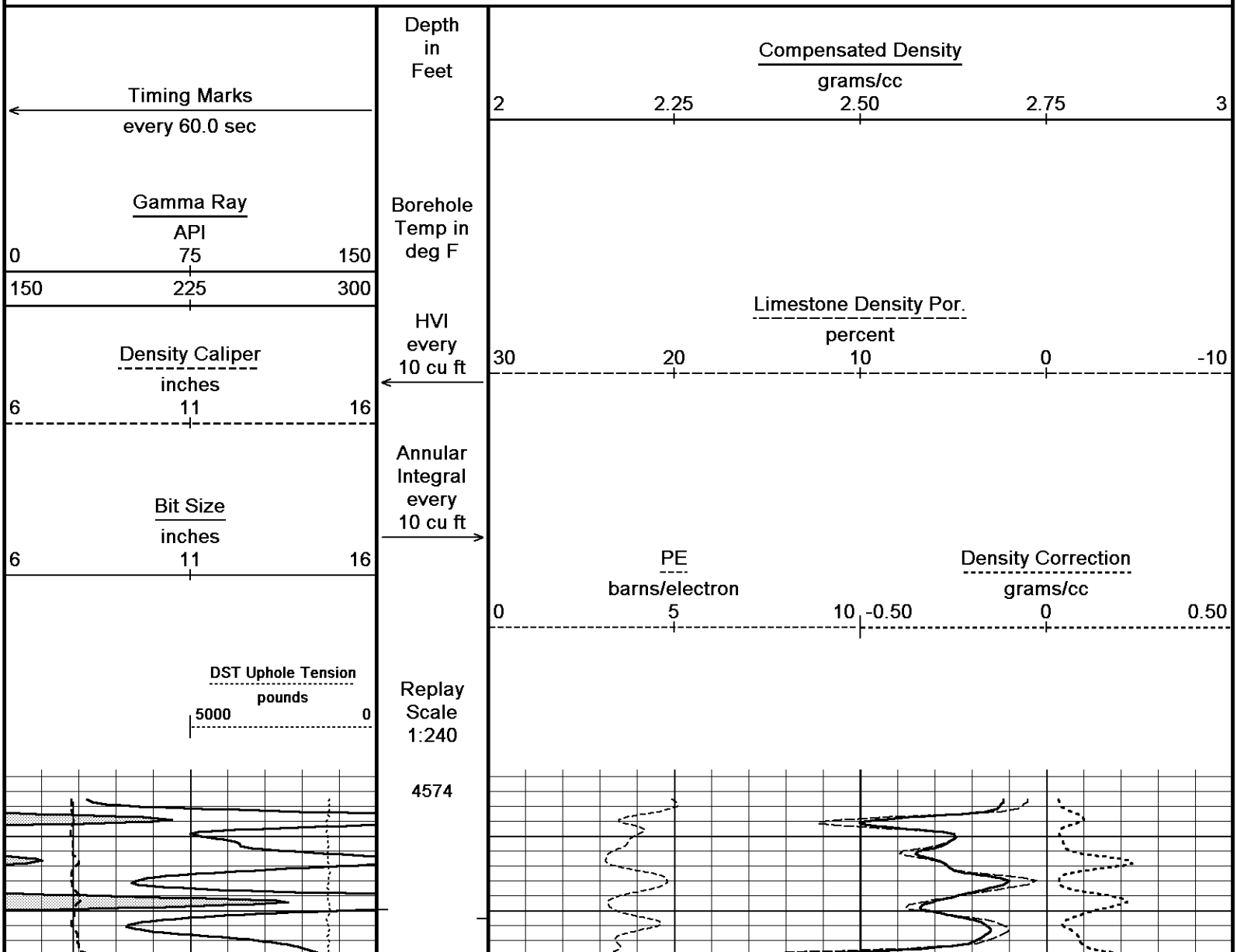
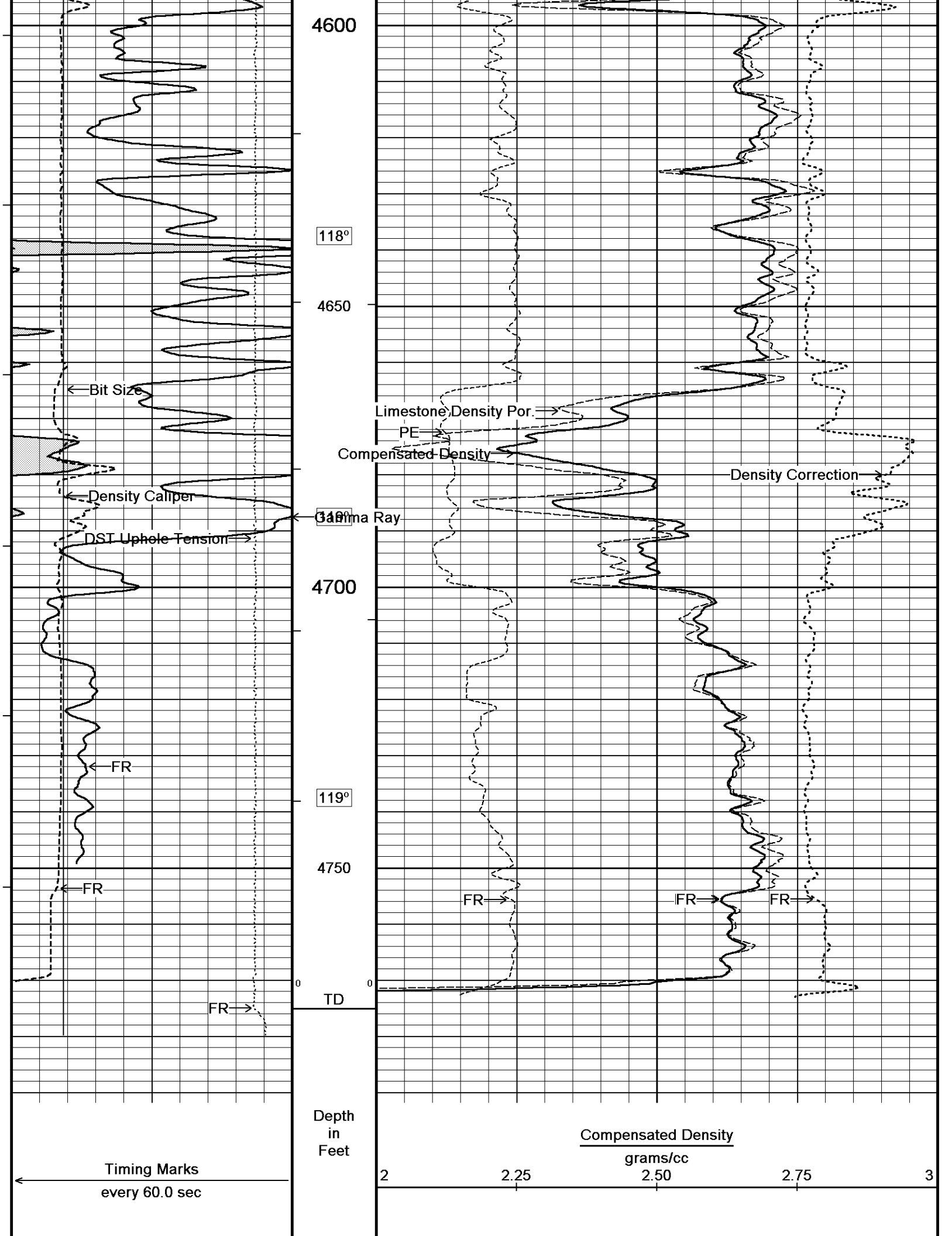
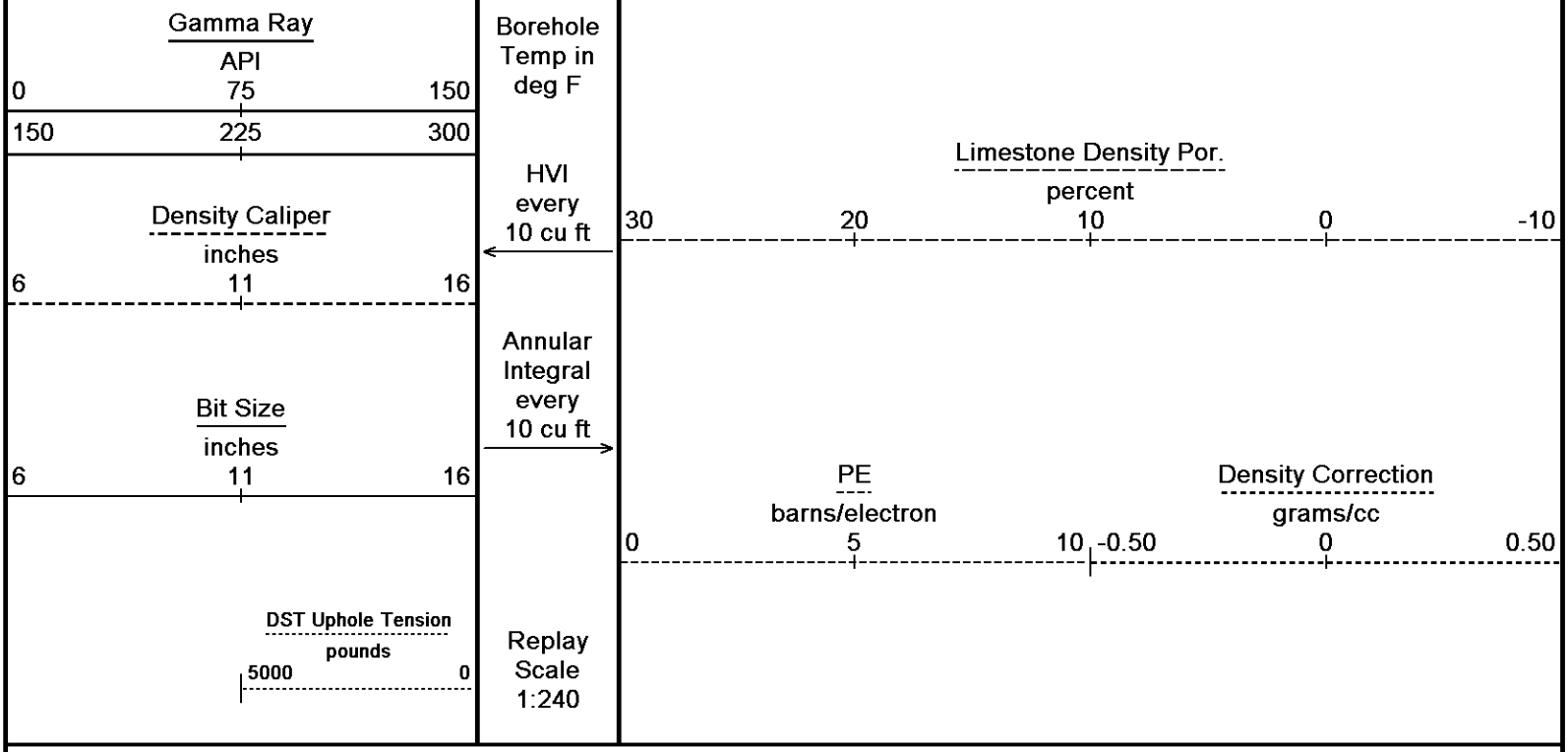



4600
118°
4650
Bit Size
Limestone Density Por
PE
Compensated Density
Density Correction
Density Caliper
Gamma Ray
DST Uphole Tension
4700
FR
119°
4750
FR
FR
FR
FR
0
0
TD
Depth
in
Feet
Timing Marks
every 60.0 sec
Compensated Density
grams/cc
2
2.25
2.50
2.75
3



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REPEAT SECTION

BEFORE SURVEY CALIBRATION

C:\Minimus 14.05\Log Data\Shakespeare Rudolph 1-23\Shakespeare Rudolph 1-23.dta

General Constants All 000

Last Edited on 10-DEC-2014,07:05

General Parameters		
Mud Resistivity	0.598	ohm-metres
Mud Resistivity Temperature	75.000	degrees F
Water Level	0.000	feet
Borehole Fluid Processing	Wet Hole	
Hole/Annular Volume and Differential Caliper Parameters		
HVOL Method	Single Caliper	
HVOL Caliper 1	Density Caliper	
HVOL Caliper 2	N/A	
Annular Volume Diameter	5.500	inches
Caliper for Differential Caliper	Density Caliper	
Rwa Parameters		
Porosity used	Crossplot Porosity	
Resistivity used	Array Ind. One Res Rt	
RWA Constant A	0.610	
RWA Constant M	2.150	
SW/APOR Tool Source	0.000	

Down-hole Tension Calibration SMS 0

Field Calibration on 10-DEC-2014 06:54

Reading No	Measured	Calibrated (lbs)
1	14625.10	0.00
2	15498.90	393.00

High Resolution Temperature Calibration MCG-B 39

Field Calibration on 24-NOV-2014,12:05

	Measured	Calibrated(Deg F)
Lower	10.00	10.00
Upper	100.00	100.00

High Resolution Temperature Constants MCG-B 39

Last Edited on 28-AUG-2014,01:02

Pre-filter Length	11

SP Calibration MCG-B 39

Field Calibration on 24-NOV-2014,12:05

	Measured	Calibrated (mV)
Reference 1	102.6	99.9
Reference 2	-97.9	-100.0

Gamma Calibration MCG-B 39

Field Calibration on 09-DEC-2014 16:20

	Measured	Calibrated (API)
Background	78	53
Calibrator (Gross)	1146	778
Calibrator (Net)	1069	725

Gamma Calibration Tolerances MCG-B 39

Ratio	1.474	1.40 1.475 1.55	Counts/API

Gamma Constants MCG-B 39

Last Edited on 10-DEC-2014,03:21

Gamma Calibrator Number	GRC038	
GRC-M Calibrator Jig in Use?	NO	
Inactive Background Jig in Use?	NO	
Mud Density	1.10	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 Normal and Micro Inverse Calibration MML-A 3

Base Calibration on 01-DEC-2014 10:30
Field Check on 09-DEC-2014 16:40

Base Calibration

Channel	Measured Resistor 1	Measured Resistor 2	Calibrated (ohm-m) Resistor 1	Calibrated (ohm-m) Resistor 2
Micro Normal	10.0	49.9	5.1	25.6
Micro Inverse	10.0	49.9	3.4	16.9

Channel	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	77.4	77.4
Micro Inverse	51.3	51.3

Micro Normal & Micro Inverse Calibration Tolerance MML-A 3

Micro Normal Res. 1	10.0	-5% 10.0 +5%	ohm	Micro Normal Res. 2	49.9	-5% 50.0 +5% ohm
Micro Inverse Res. 1	10.0	-5% 10.0 +5%	ohm	Micro Inverse Res. 2	49.9	-5% 50.0 +5% ohm

Micro Normal Base Check	77.4	-2% 77.26 +2%	ohm-m
Micro Inverse Base Check	51.3	-2% 51.18 +2%	ohm-m
Micro Normal Field Check	77.4	-2% 77.4 +2%	ohm-m
Micro Inverse Field Check	51.3	-2% 51.3 +2%	ohm-m

Micro Normal and Micro Inverse Constants MML-A 3

Last Edited on 09-DEC-2014,16:38

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-A 3

Base Calibration on 01-DEC-2014 10:40
Field Calibration on 09-DEC-2014 16:38

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	15291	5.98
2	18492	7.97
3	21784	9.86
4	25739	11.92
5	0	0.00

6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
7.96	7.97

Caliper Calibration Tolerances MML-A 3

Short Arm Field Cal. 7.96 in (7.77 | 7.97 | 8.17)

Neutron Calibration MDN-A.B 152

Base Calibration on 09-DEC-2014 15:34
Field Check on 09-DEC-2014 15:59

Base Calibration

	Measured Near	Measured Far	Calibrated (cps) Near	Calibrated (cps) Far
	2888	88	3714	110
Ratio	32.811		33.764	

Field Calibrator at Base

	Calibrated (cps)	
	1761	2584
Ratio	0.681	

Field Check

	Calibrated (cps)	
	1761	2586
Ratio	0.681	

Neutron Calibration Tolerances MDN-A.B 152

Near Reading 2888 cps (-25% | 3500 | +25%)

Far Reading 88 cps (-50% | 106 | +50%)

Ratio 32.811 (-5% | 33 | +5%)

Base Check 0.681 (0.65 | 0.7 | 0.75)

Field Check 0.681 (0.661 | 0.681 | 0.701)

Neutron Constants MDN-A.B 152

Last Edited on 10-DEC-2014,03:21

Neutron Source Id	P0204NN	
Neutron Jig Number	5824NE	
Air Hole Processing	Legacy	
Caliper Source for Processing	Density Caliper	
Stand-off	0.00	inches
Mud Density	1.00	gm/cc
Limestone Sigma	7.10	cu
Sandstone Sigma	4.26	cu
Dolomite Sigma	4.70	cu
Formation Pressure Source	None	
Formation Pressure	N/A	kpsi
Temperature Source	Constant Value	
Temperature	68.00	degrees F
Mud Salinity	0.00	kppm
Salinity Correction	Not Applied	
Formation Fluid Salinity Source	None	
Formation Fluid Salinity	N/A	kppm
Barite Mud Correction	Not Applied	

FE Calibration MFE-B.J 353

Base Calibration on 01-DEC-2014 10:12
Field Check on 09-DEC-2014 16:35

Base Calibration

	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	975.8	126.8
Base Check		277.9
Field Check		277.8

FE Calibration Tolerances MFE-B.J 353

Reference 2 975.8 ohm (-3% | 980.0 | +3%)

Base Check	277.9	-2% 277.0 +2%	ohm-m
Field Check	277.8	-2% 277.9 +2%	ohm-m

FE Constants MFE-B.J 353

Last Edited on 10-DEC-2014,03:20

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	Check Value: Temperature Corrected	
Temp. for Rm Corr.	MCG External Temperature	
Stand-off	0.5	inches

High Resolution Temperature Calibration MAI-A.A 111

Field Calibration on 24-NOV-2014,10:23

	Measured	Calibrated(Deg F)
Lower	10.00	10.00
Upper	100.00	100.00

High Resolution Temperature Constants MAI-A.A 111

Last Edited on 26-JUN-2014,15:06

Pre-filter Length	11

Induction Calibration MAI-A.A 111

Base Calibration on 05-AUG-2014,09:34
Field Check on 09-DEC-2014 16:33

Base Calibration

Test Loop Calibration

Channel	Measured Low	Measured High	Calibrated (mmho/m) Low	Calibrated (mmho/m) High
1	17.6	473.6	9.3	966.2
2	6.4	385.9	7.6	821.4
3	3.2	264.0	5.2	566.0
4	2.1	135.5	2.6	279.2
Array Temperature		23.0	Deg F	

Test Loop Calibration Verified

Channel	Base Check (mmho/m) Low	Base Check (mmho/m) High	Field Check (mmho/m) Low	Field Check (mmho/m) High	
1	0.0	0.0	11.9	3872.3	
2	0.0	0.0	29.7	3527.5	
3	0.0	0.0	29.0	3020.8	
4	0.0	0.0	19.1	2058.0	
Deep			17.7	1961.6	
Medium			43.1	3975.9	
Shallow			44.3	5232.1	
Array Temperature		0.0		61.6	Deg F

Induction Calibration Tolerances MAI-A.A 111

Low Conductivity 1	17.6	13.0 17.0 21.0	mmho/m	High Conductivity 1	473.6	430.0 475.0 520.0 mmho/m
Low Conductivity 2	6.4	4.5 6.0 7.5	mmho/m	High Conductivity 2	385.9	345.0 385.0 425.0 mmho/m
Low Conductivity 3	3.2	1.0 3.5 6.0	mmho/m	High Conductivity 3	264.0	240.0 260.0 280.0 mmho/m
Low Conductivity 4	2.1	0.0 2.0 4.0	mmho/m	High Conductivity 4	135.5	120.0 135.0 150.0 mmho/m
Background Vx 1	0.0	-110.0 -32.5 45.0	mmho/m	Phase Check Loop 1	0.0	-2.0 0.0 2.0 %
Background Vx 2	0.0	-35.0 20.0 75.0	mmho/m	Phase Check Loop 2	0.0	-2.0 0.0 2.0 %
Background Vx 3	0.0	-60.0 2.5 65.0	mmho/m	Phase Check Loop 3	0.0	-2.0 0.0 2.0 %
Background Vx 4	0.0	-50.0 -17.5 15.0	mmho/m	Phase Check Loop 4	0.0	-2.0 0.0 2.0 %

Induction Constants MAI-A.A 111

Last Edited on 10-DEC-2014,03:19

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	Global Value: Temperature Corrected	
Temp. for Rm Corr.	MCG External Temperature	
Squasher Start	0.0020	mhos/metre
Squasher Offset	N/A	mhos/metre

Borehole Normalisation

DRM1	0.0000	DRC1	0.0000
DRM2	0.0000	DRC2	0.0000
MRM1	0.0000	MRC1	0.0000
MRM2	0.0000	MRC2	0.0000
SRM1	0.0000	SRC1	0.0000
SRM2	0.0000	SRC2	0.0000

Calibration Site Corrections

Channel 1	0.00	mmhos/metre
Channel 2	0.00	mmhos/metre
Channel 3	0.00	mmhos/metre
Channel 4	0.00	mmhos/metre

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-C.A 216

Base Calibration on 09-DEC-2014 13:29
Field Calibration on 09-DEC-2014 13:33

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	19120	3.99
2	29184	5.98
3	39328	7.97
4	49072	9.86
5	60273	11.92
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
7.97	7.97

Caliper Calibration Tolerances MPD-C.A 216

Short Arm Field Cal. 7.97 in

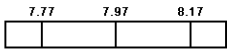


Photo Density Calibration MPD-C.A 216

Base Calibration on 09-DEC-2014 13:48
Field Check on 09-DEC-2014 13:54

Density Calibration

Base Calibration	Measured Near	Measured Far	Calibrated (sdu) Near	Calibrated (sdu) Far
Background	1092	1289		
Reference 1	58913	30669	59556	30836
Reference 2	24800	2733	24941	2541

Field Check at Base

1091.9	1288.6

Field Check

1102.4	1312.8

PE Calibration

Base Calibration	Measured WS	Measured WH	Measured Ratio	Calibrated Ratio

Background	200	972		
Reference 1	24229	58725	0.416	0.371
Reference 2	6999	24668	0.287	0.272

Field Check at Base

200.5	971.7

Field Check

200.8	980.3

Photo Density Calibration Tolerances MPD-C.A 216

Near Density Ratio	2.44	-5% 2.52 +5%	Far Density Ratio	20.34	-5% 21.00 +5%
PE Calibration	0.120	0.089 0.110 0.131			
Near Den. Field Check	1102.4	-3% 1091.9 +3%	Far Den. Field Check	1312.8	-3% 1288.6 +3%
PE WS Field Check	200.8	-6% 200.5 +6%	PE WH Field Check	980.3	-6% 971.7 +6%

Density Constants MPD-C.A 216

Last Edited on 10-DEC-2014,03:21

Density Source Id	18235B	
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 14.05\Log Data\Shakespeare Rudolph 1-23\Shakespeare Rudolph 1-23.dta

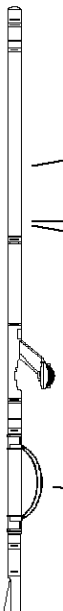
3/8" Triple Cone Cable Head (MCB C A)
MCB-C.A 233 LG: 1.58 ft WT: 15.4 lb OD: 2.240 in

Compact Comms Gamma
MCG-B 39 LG: 8.70 ft WT: 63.9 lb OD: 2.244 in

Compact Micro-log
MML-A 3 LG: 7.97 ft WT: 81.6 lb OD: 2.240 in

Compact Neutron
MDN-A.B 152 LG: 5.04 ft WT: 50.7 lb OD: 2.244 in

Compact Density/Caliper
MPD-C.A 216 LG: 9.59 ft WT: 90.4 lb OD: 2.449 in



42.87 ft GRGC - Gamma Ray

40.69 ft CCLG - Casing Collar Locator
39.96 ft CGXT - MCG External Temperature

33.24 ft MINV - Micro-inverse
33.24 ft MNRL - Micro-normal

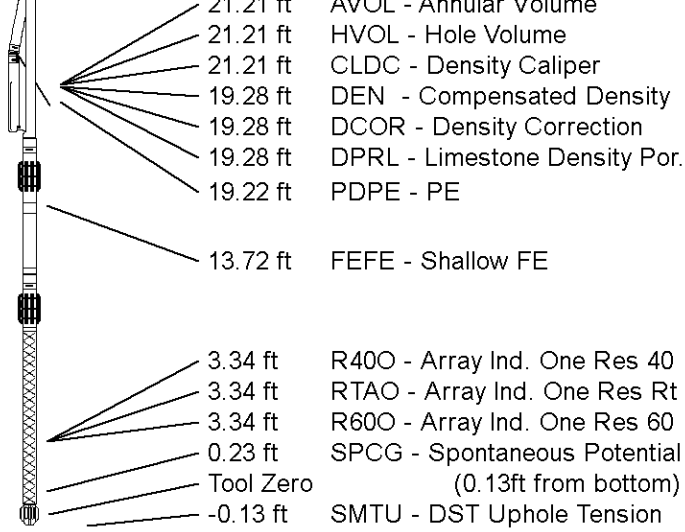
28.45 ft NPRL - Limestone Neutron Por.

21.21 ft AVOL - Annular Volume

Compact Focussed Electric
MFE-B.J 353 LG: 6.05 ft WT: 48.5 lb OD: 2.244 in

Compact Induction
MAI-A.A 111 LG: 10.81 ft WT: 48.5 lb OD: 2.244 in

Total Length: 49.73 ft Weight: 399.0 lb



COMPANY	SHAKESPEARE OIL CO., INC.
WELL	RUDOLPH 1-23
FIELD	WILDCAT
PROVINCE/COUNTY	SCOTT
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	3026.00	feet	First Reading	4755.78	feet
Elevation Drill Floor	3024.00	feet	Depth Driller	4770.00	feet
Elevation Ground Level	3016.00	feet	Depth Logger	4775.00	feet

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COMPACT PHOTO DENSITY COMPENSATED NEUTRON MICRORESISTIVITY LOG