



Weatherford¹⁸⁰

**COMPACT PHOTO DENSITY
COMPENSATED NEUTRON
MICRORESISTIVITY LOG**

COMPANY

CITATION OIL & GAS CORP.

WELL

SCHMITT # 8-11

FIELD

FAIRPORT

PROVINCE/COUNTY

ELLIS

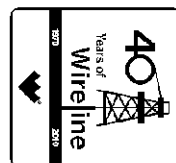
COUNTRY/STATE

U.S.A. / KANSAS

LOCATION

293' FNL & 3455' FEL

NE NW NE NW



SEC 12 TWP 13S RGE 16W Other Services MA/MFE MSS

API Number

15-051-26153

Permit Number

Permanent Datum G.L., Elevation 1940 feet

Log Measured From KB

Drilling Measured From K.B.

Elevations:
KB 1948.00
DF 1946.00
GL 1940.00

Date 28-FEB-2012

Run Number ONE

Depth Driller 3460.00 feet

Depth Logger 3461.00 feet

First Reading 3425.00 feet

Last Reading 2400.00 feet

Casing Driller 1015.00 feet

Casing Logger 1015.00 feet

Bit Size 7.875 inches

Hole Fluid Type CHEMICAL

Density / Viscosity 8.80 lb/USg 42.00 CP

PH / Fluid Loss 11.00 6.80 ml/30Min

Sample Source FLOWLINE

Rm @ Measured Temp 1.04 @ 70.0 ohm-m

Rmf @ Measured Temp 0.83 @ 70.0 ohm-m

Rmc @ Measured Temp 1.25 @ 70.0 ohm-m

Source Rmf / Rmc CALC CALC

Rm @ BHT 0.84 @ 88.0 ohm-m

Time Since Circulation 4 HOURS

Max Recorded Temp 88.00 deg F

Equipment Name COMPACT

Equipment / Base 13057 LIB

Recorded By A. GIAMBALVO

Witnessed By JOSH KULL

S.O. / JOB # 3534614

LB12-048

BOREHOLE RECORD

Last Edited: 28-FEB-2012 10:48

Bit Size inches	Depth From feet	Depth To feet
7.875	1015.00	3461.00

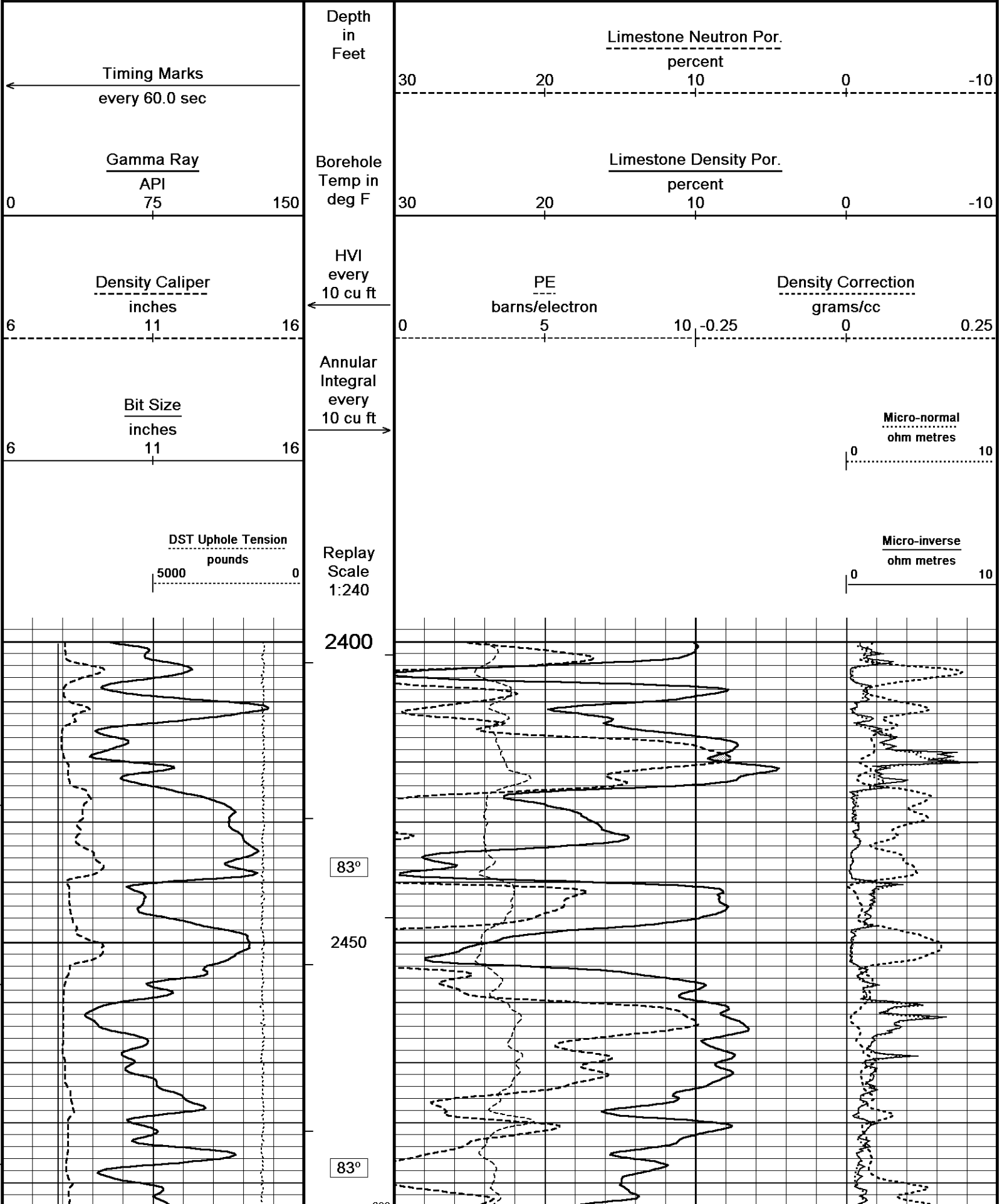
CASING RECORD

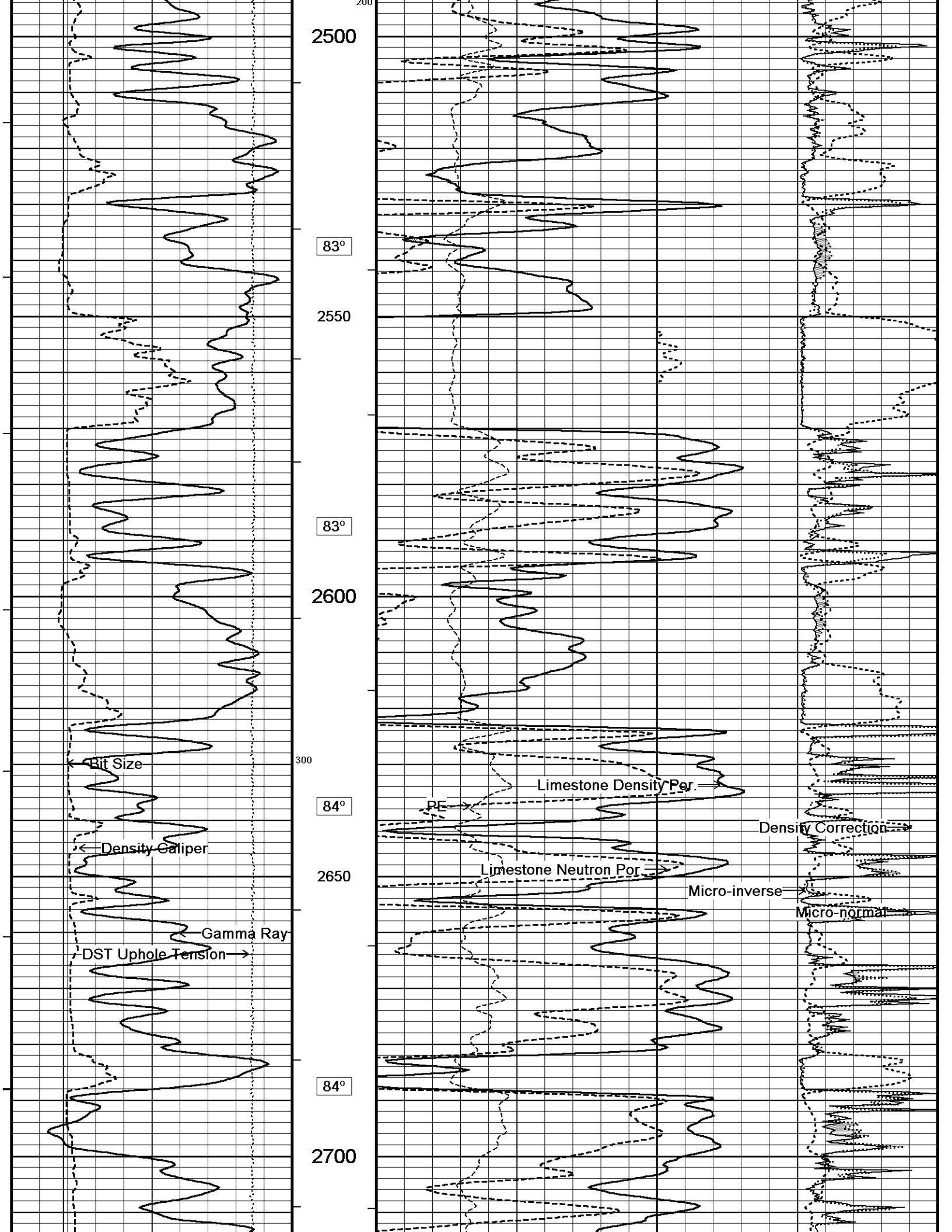
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	8.00	1015.00	24.00

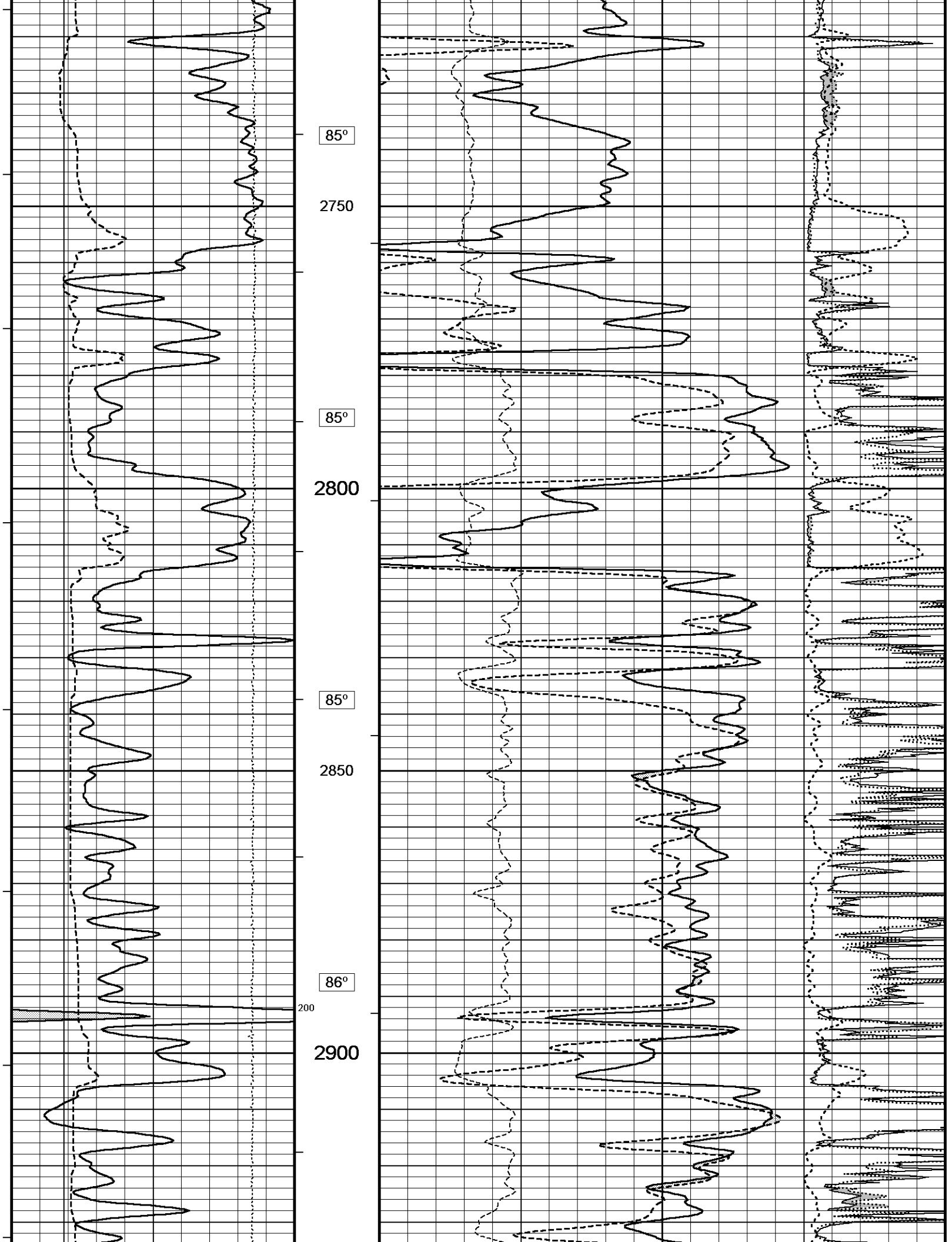
REMARKS

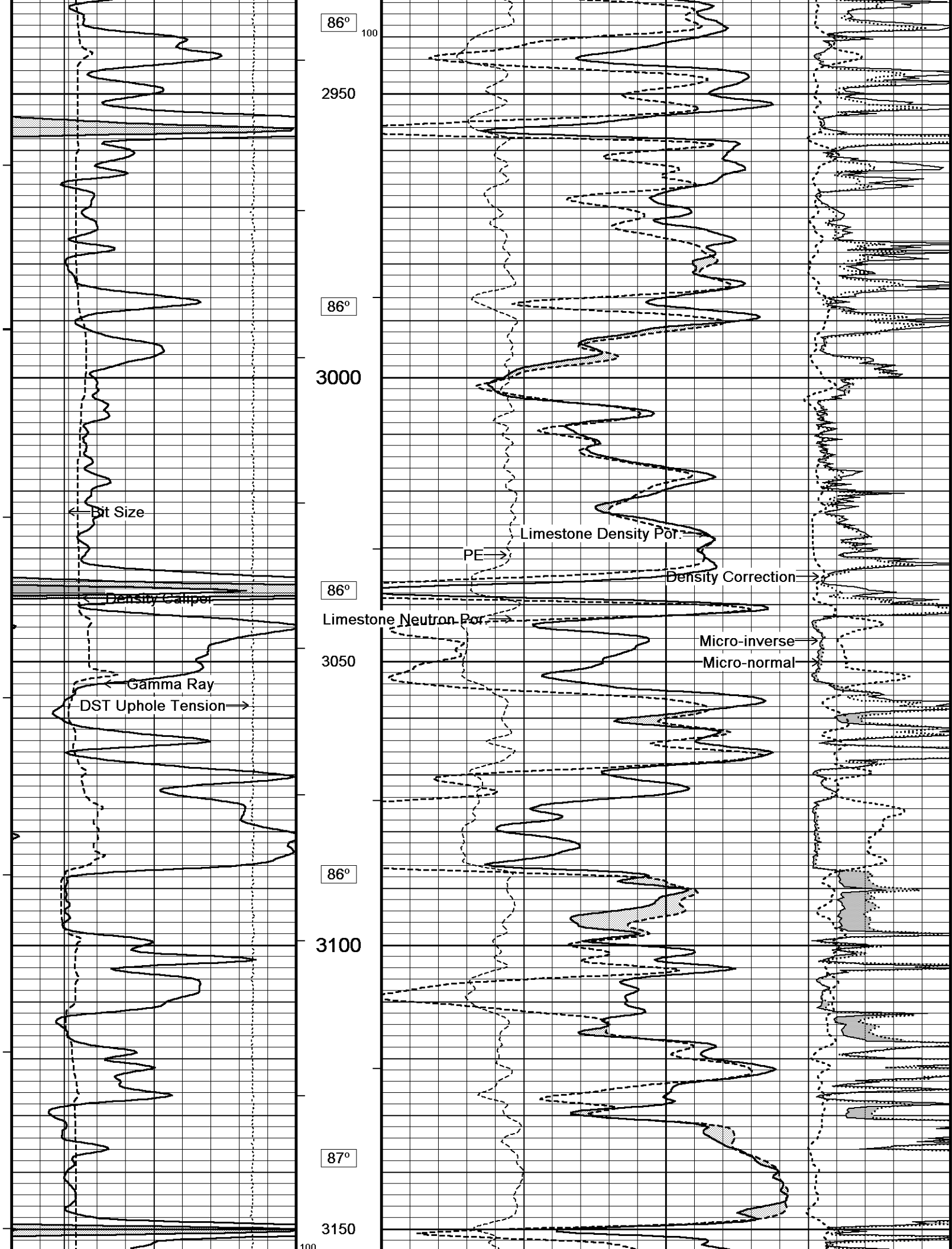
Tools Ran: MCG, MML, MDN, MPD, SKJ, MFE, MSS, MAI.
Hardware Used: MDN Dual Eccentralizer used. MPD 8 inch profile plate used. MFE, MSS and MAI 0.5 inch standoffs used.
2.71 g/cc Limestone Density Matrix used to calculate porosity.
Sonic porosity calculated using a Limestone scale (47.5 usec/ft).
All intervals logged and scaled per customer's request.
Annular volume with 5.5 inch production casing calculated = 869 cu. ft.
Total hole volume from TD to surface casing = 1258 cu. ft.
Service order #3534614
Rig: Duke Drilling Rig #2
Engineer: A. Giambalvo
Operator(s): N. Adame

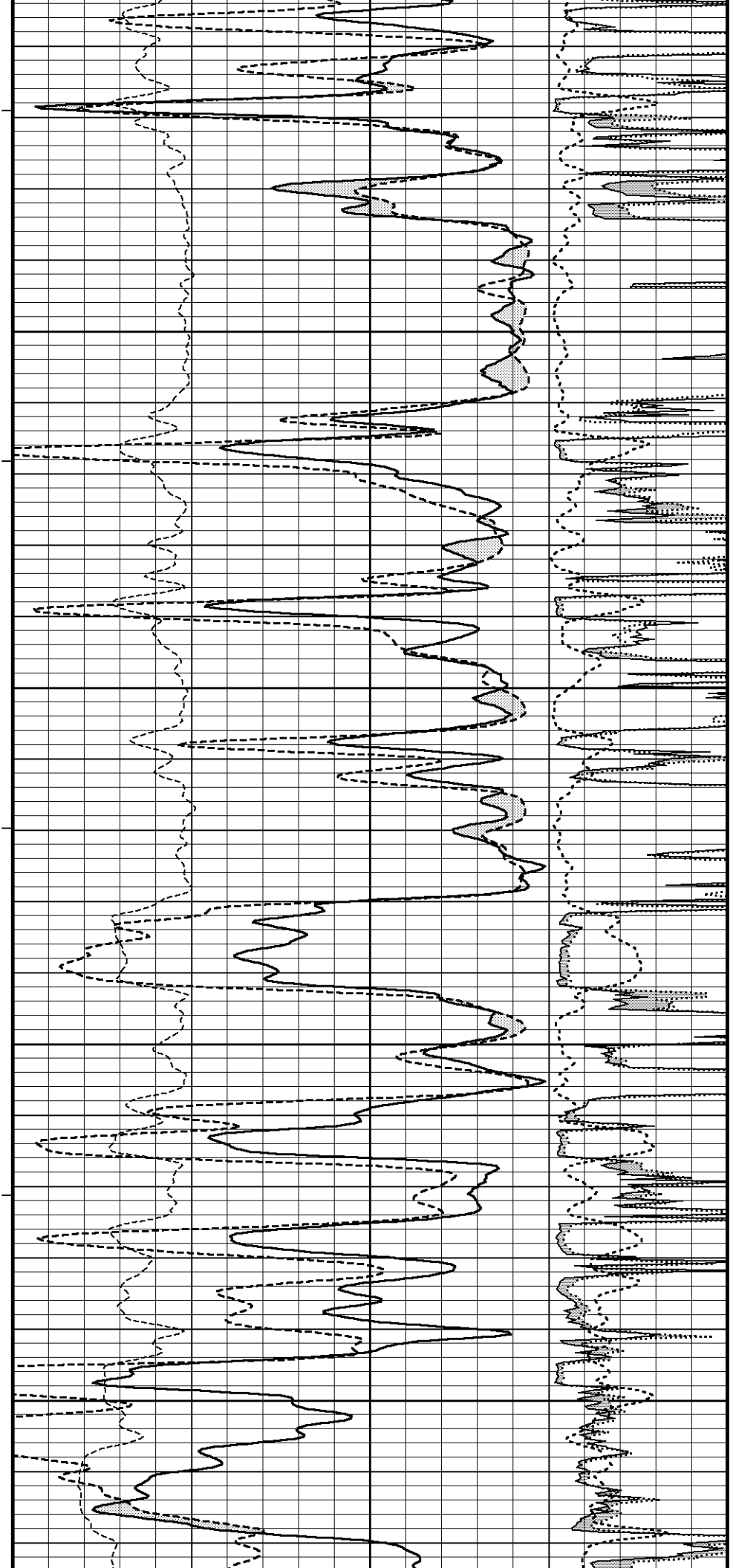
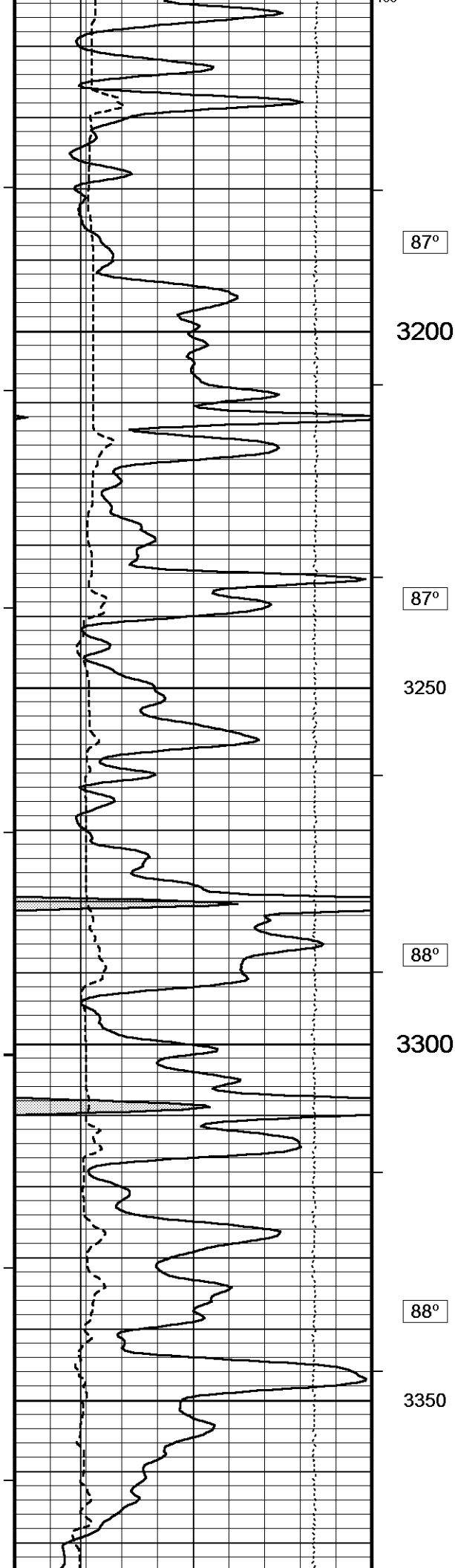
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions in our price schedule.

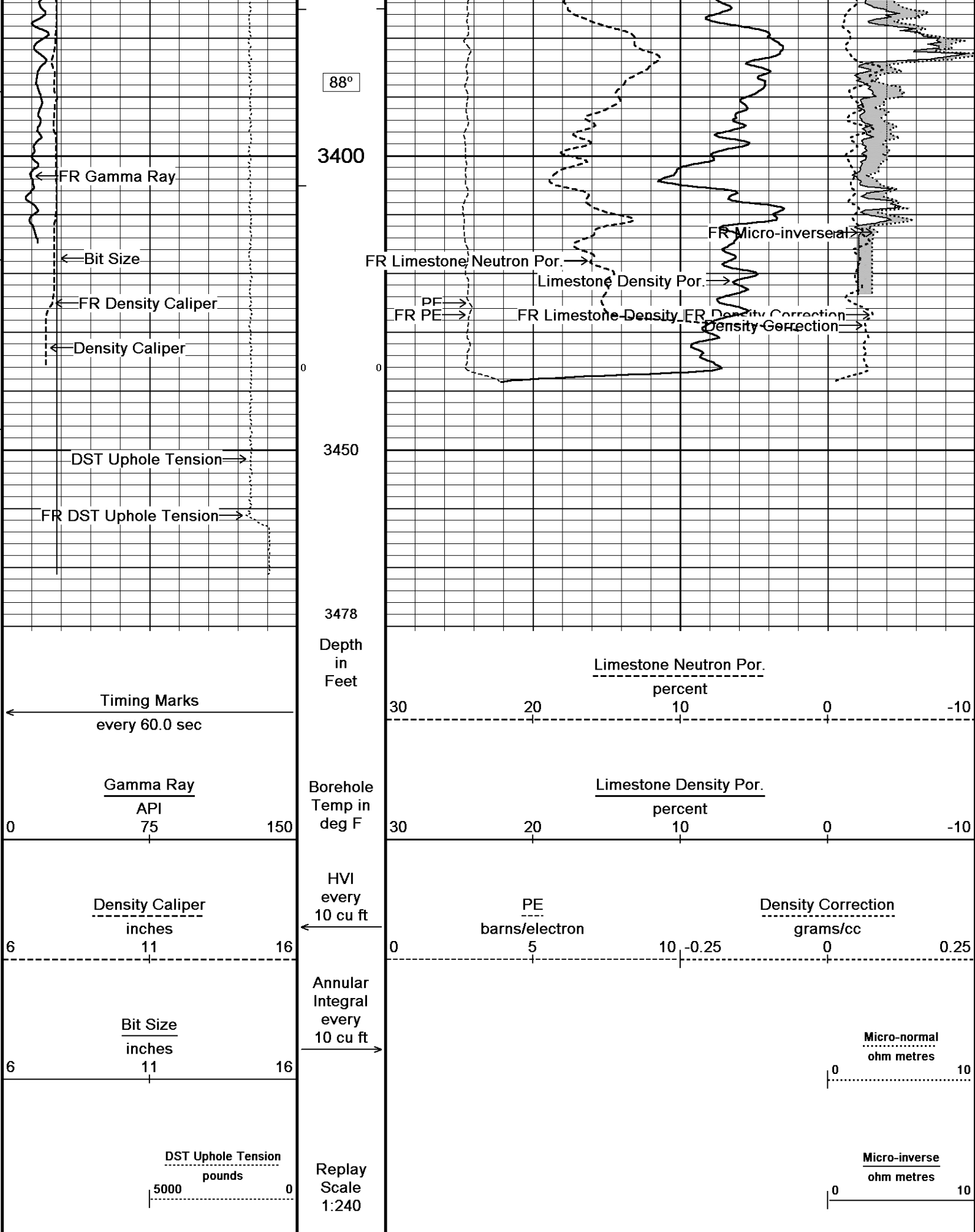












Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 28-FEB-2012 11:04

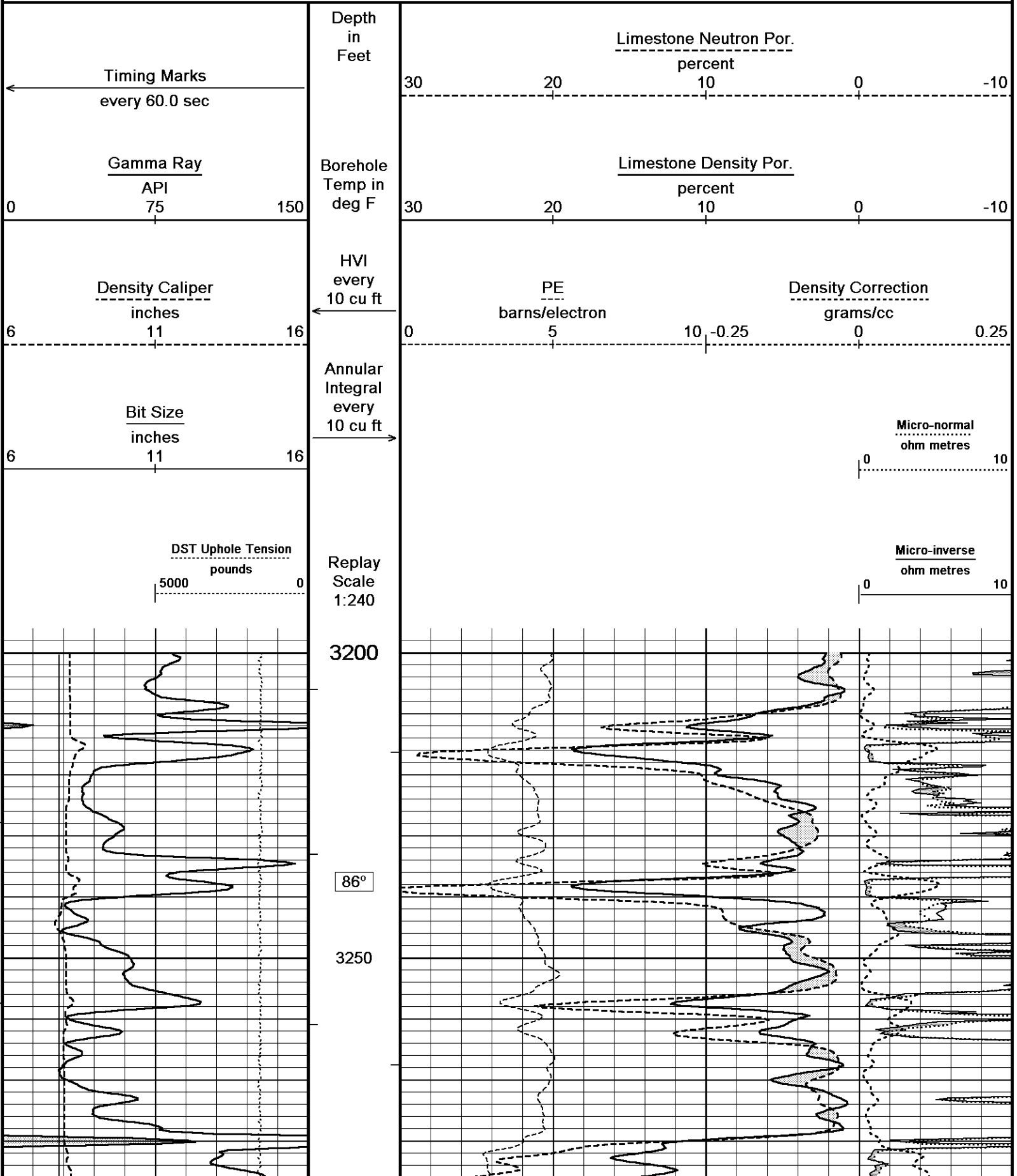
Filename: C:\Minimus 11.03.4044\Data\Citation Schmitt # 8-11\Citation Schmitt # 8-11_003.dta

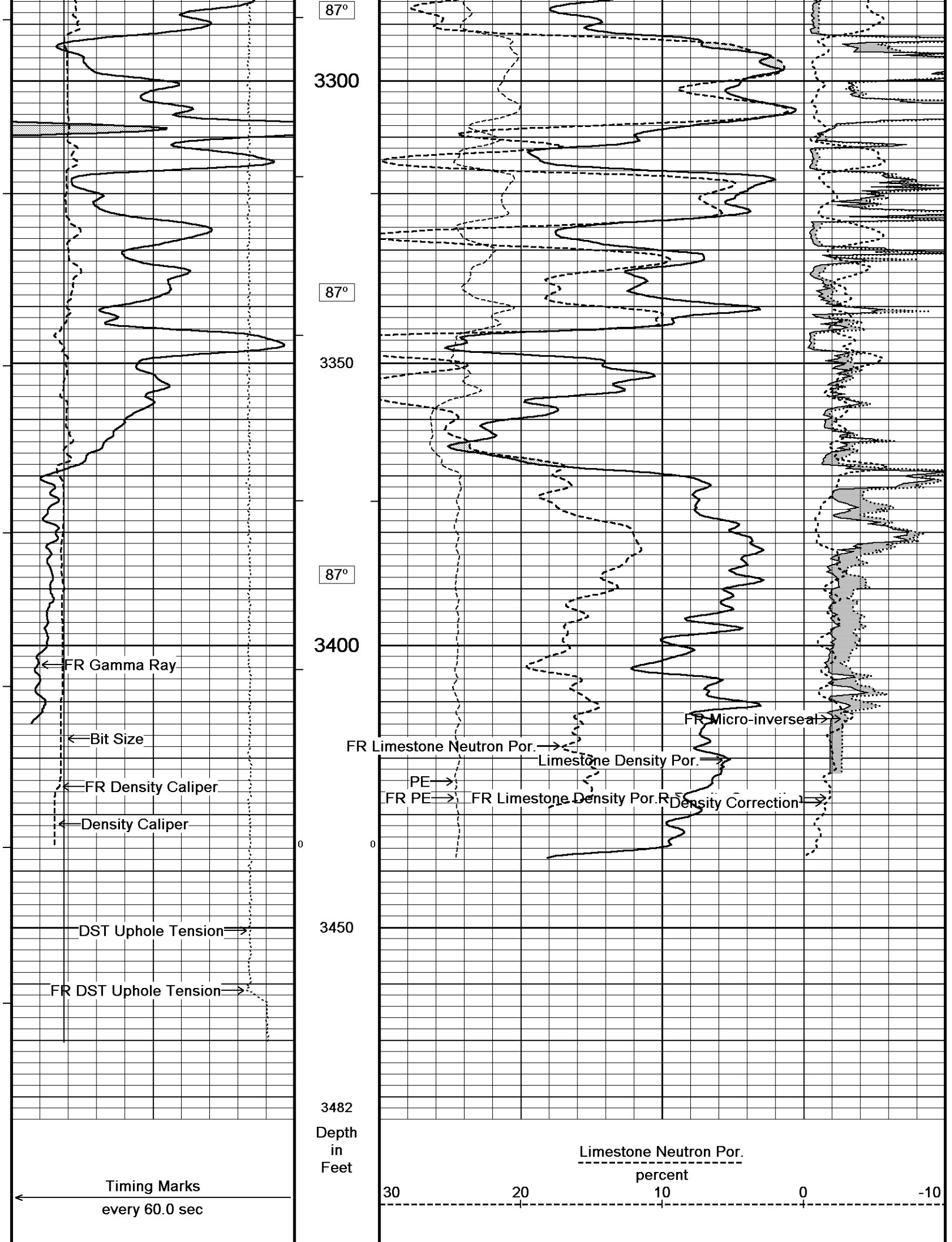
Recorded on 28-FEB-2012 09:19

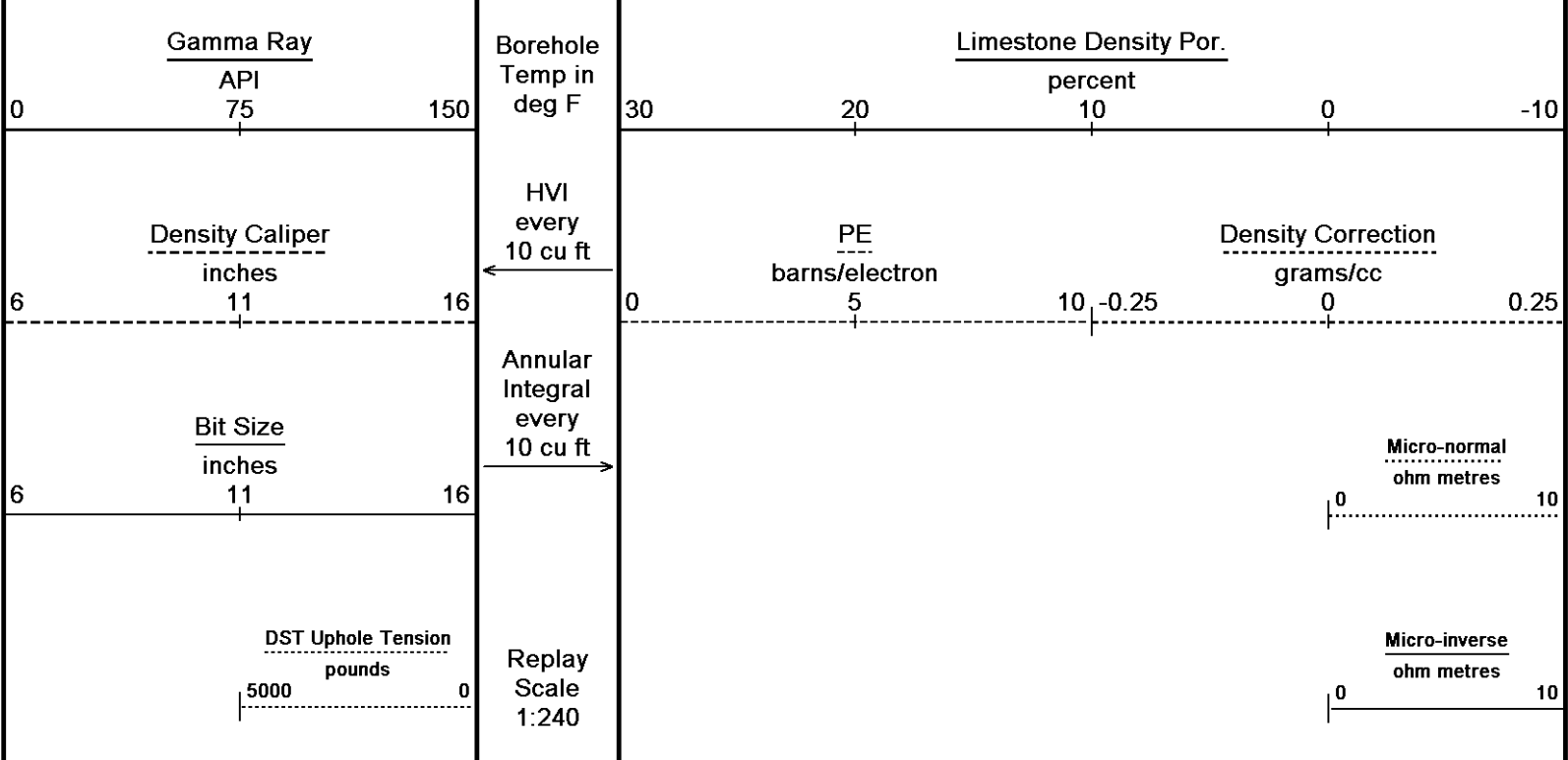
System Versions: Logged with 11.03.4044 Plotted with 11.03.4044

Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\Minimus 11.03.4044\Data\Citation Schmitt # 8-11\Citation Schmitt # 8-11_002.dta
System Versions: Logged with 11.03.4044 Plotted with 11.03.4044

Plotted on 28-FEB-2012 11:04
Recorded on 28-FEB-2012 08:59







Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 28-FEB-2012 11:04

Filename: C:\Minimus 11.03.4044\Data\Citation Schmitt # 8-11\Citation Schmitt # 8-11_002.dta

Recorded on 28-FEB-2012 08:59

System Versions: Logged with 11.03.4044 Plotted with 11.03.4044

5 INCH REPEAT PASS

5 INCH MAIN PASS

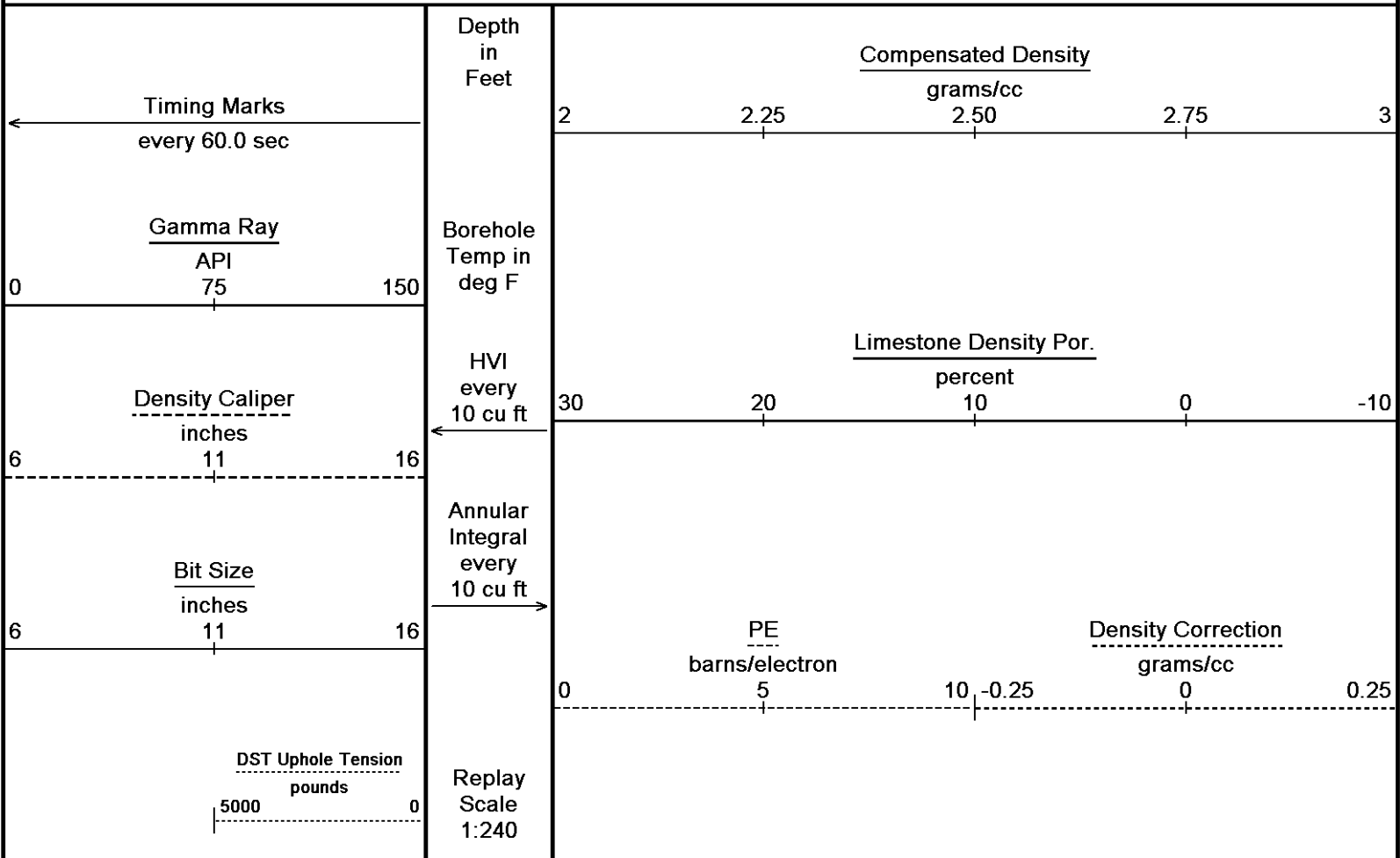
Depth Based Data - Maximum Sampling Increment 10.0cm

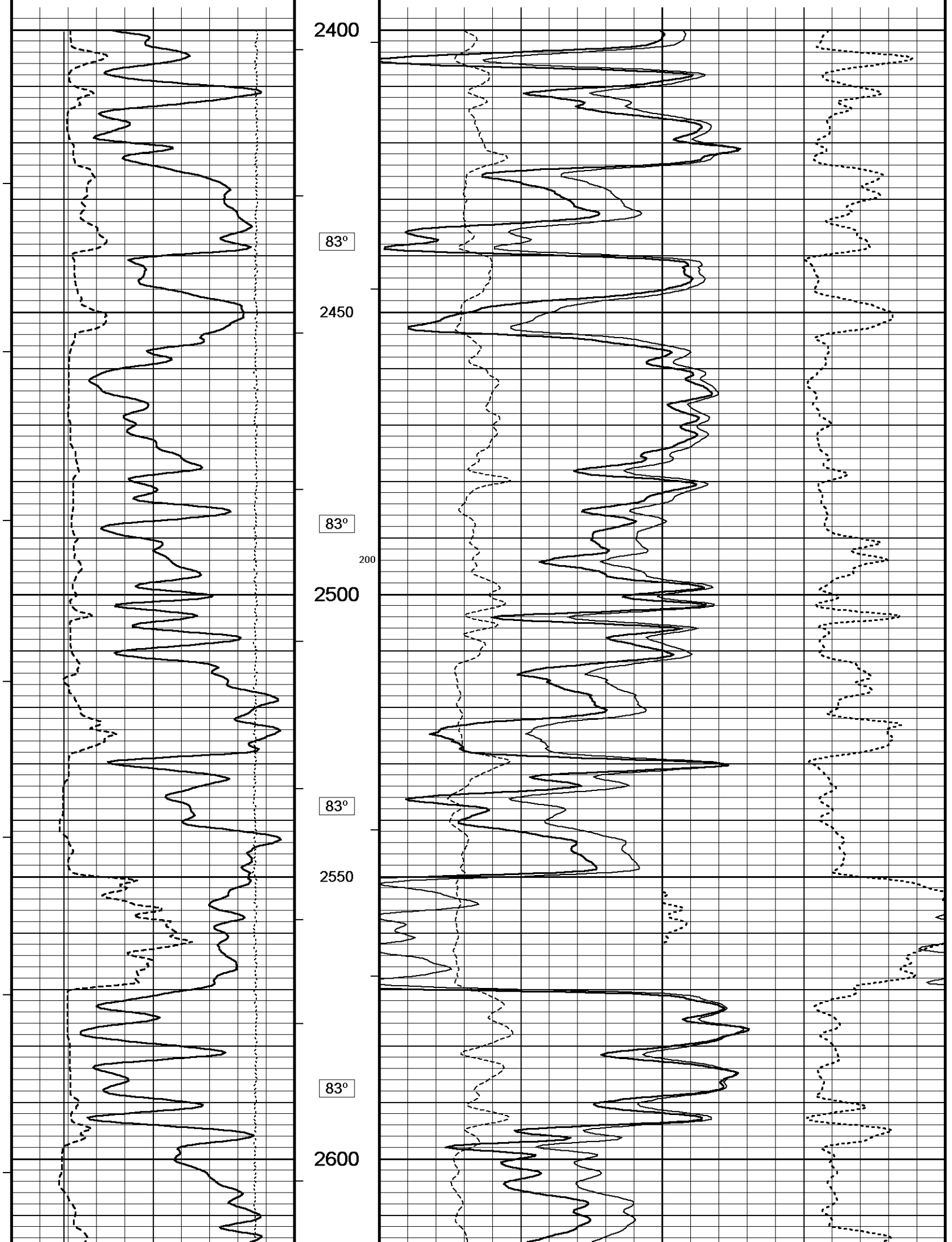
Plotted on 28-FEB-2012 11:04

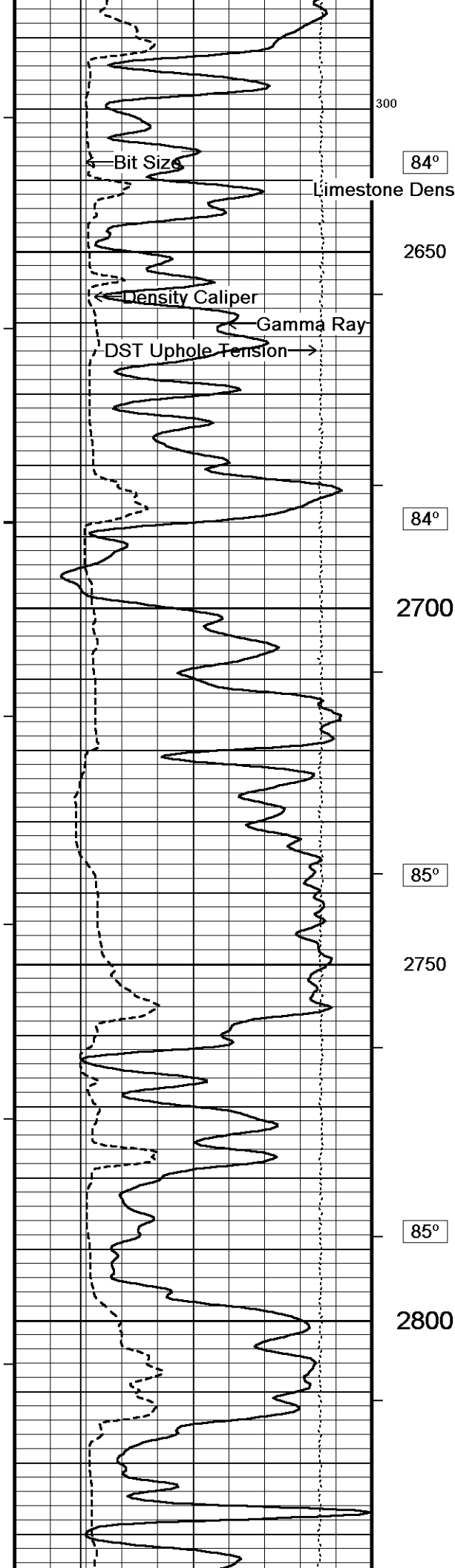
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Recorded on 28-FEB-2012 09:19

System Versions: Logged with 11.03.4044 Plotted with 11.03.4044







84°

2650

84°

2700

85°

2750

85°

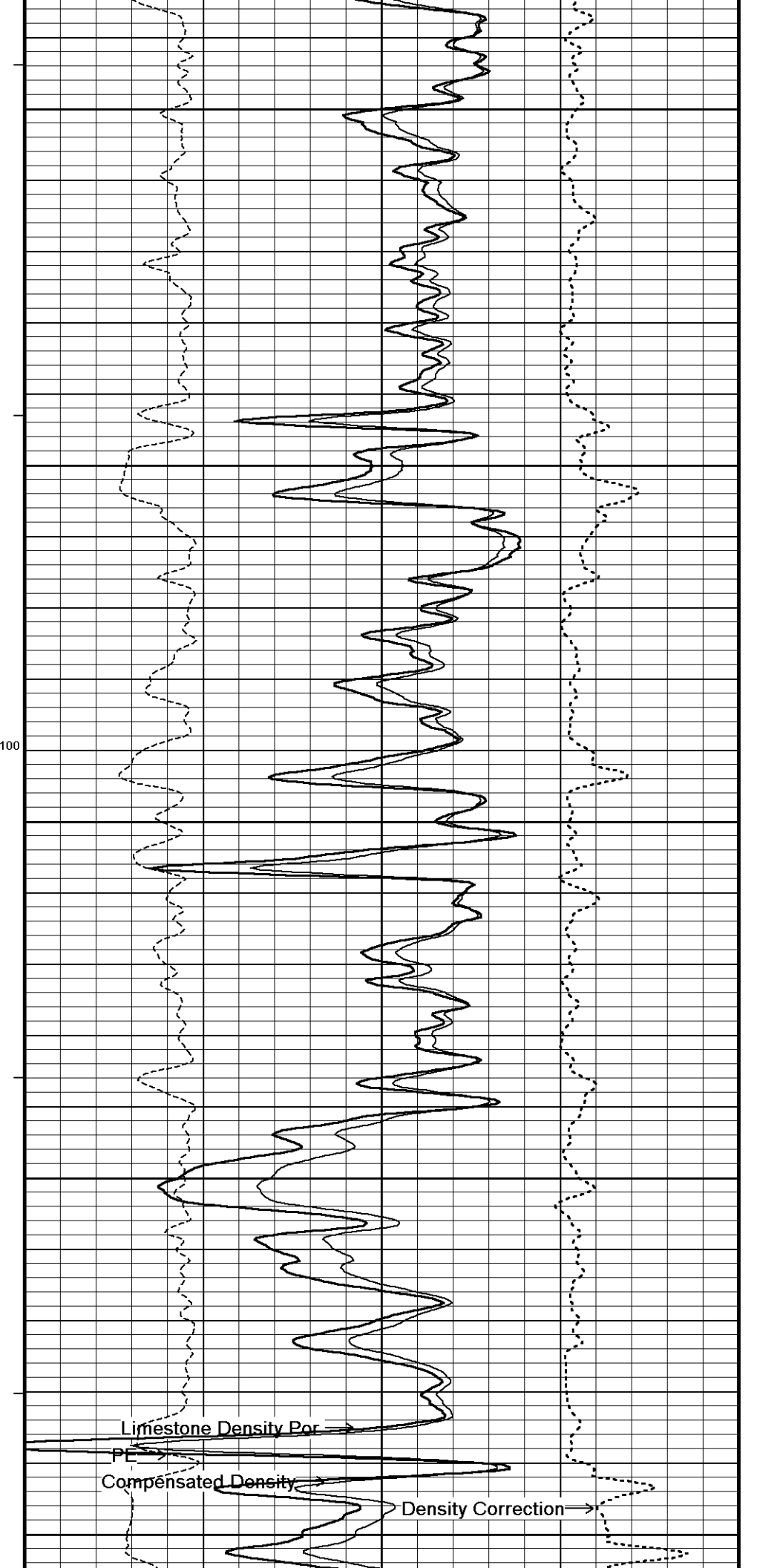
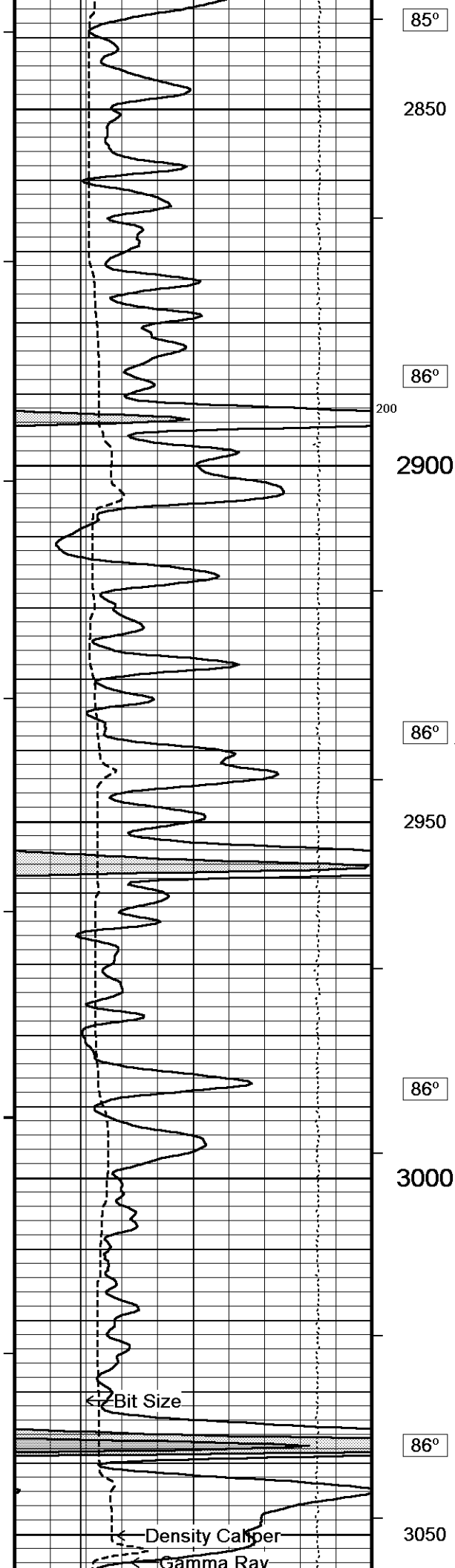
2800

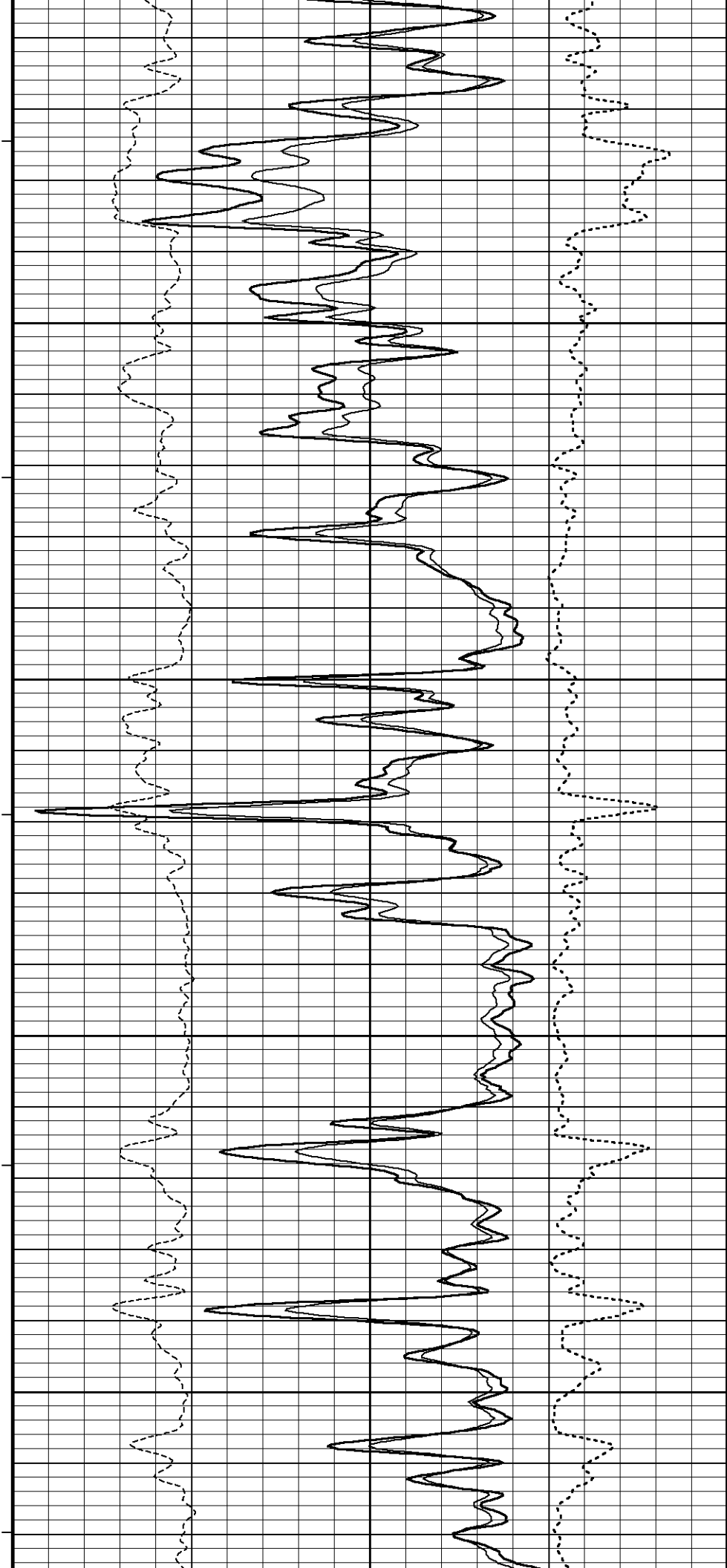
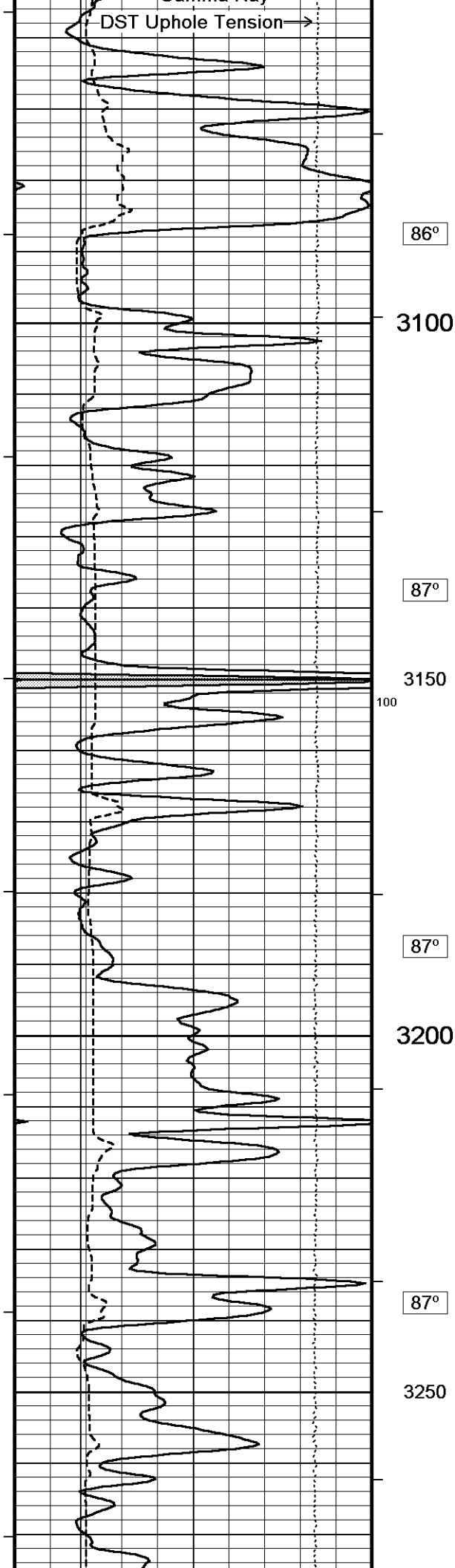
Limestone Density Por

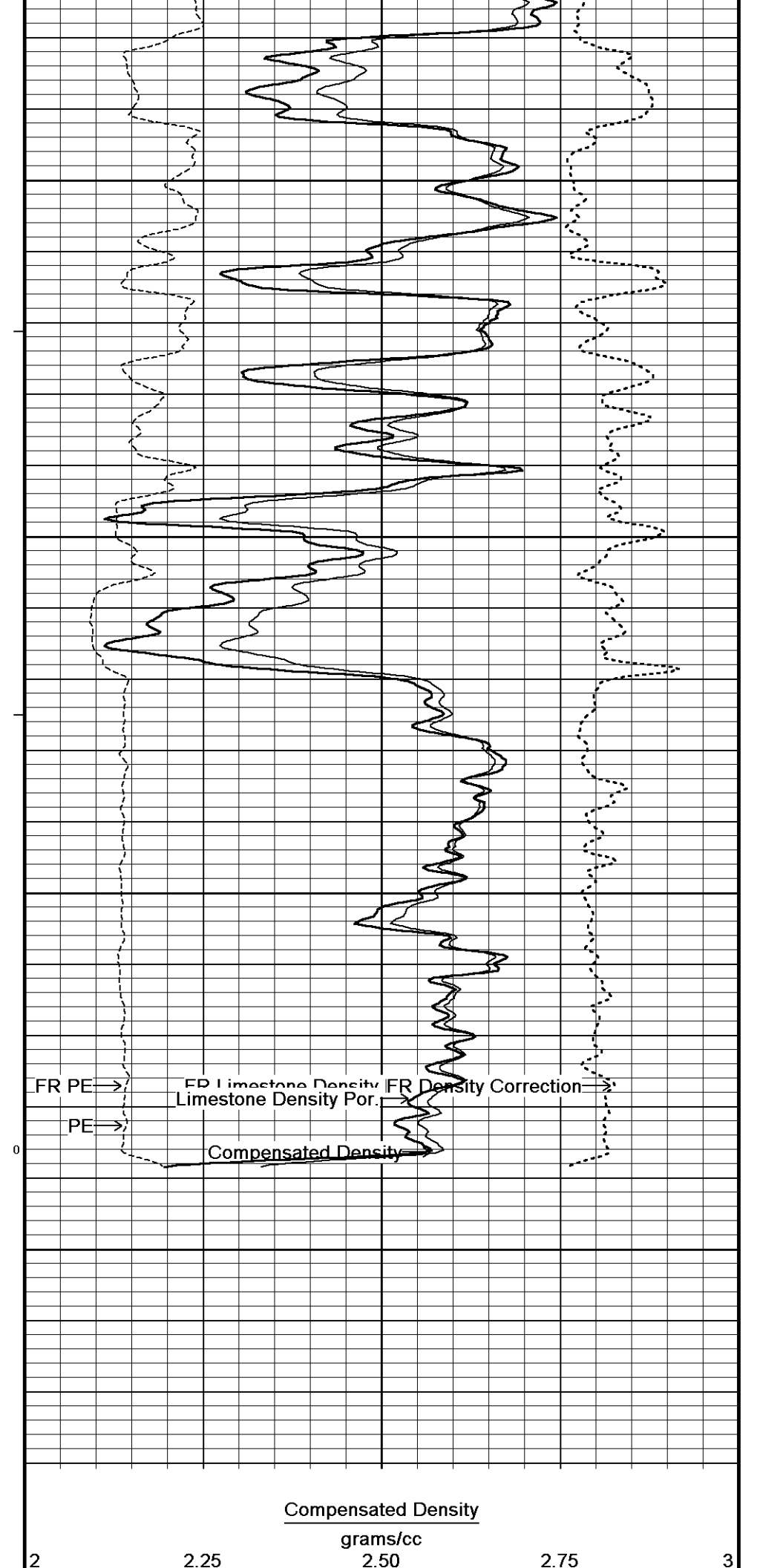
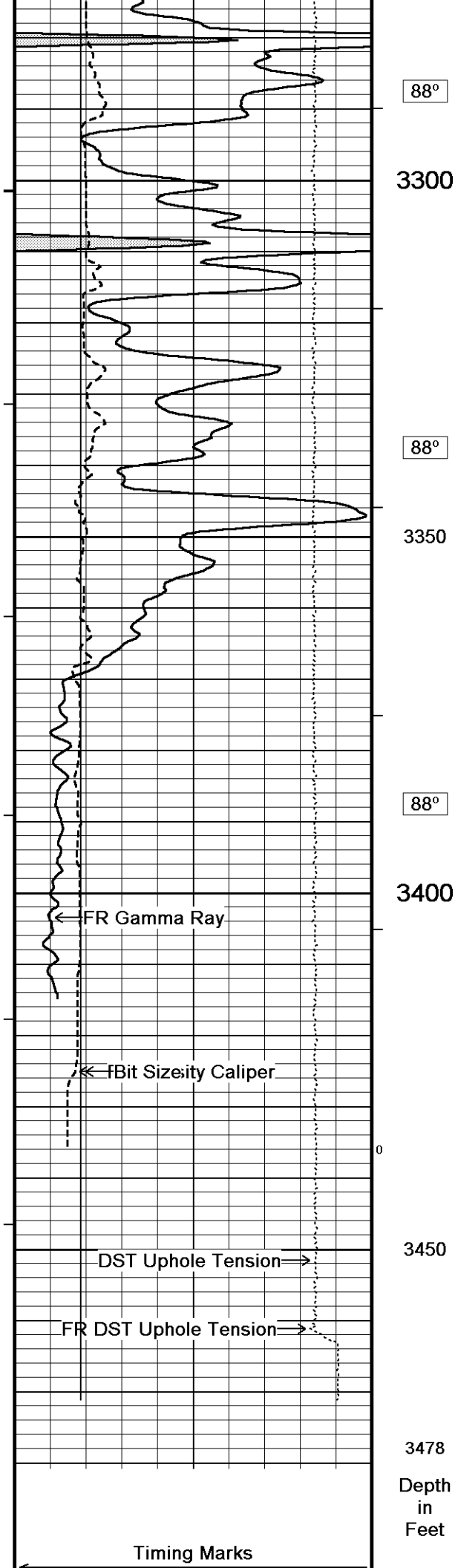
PE

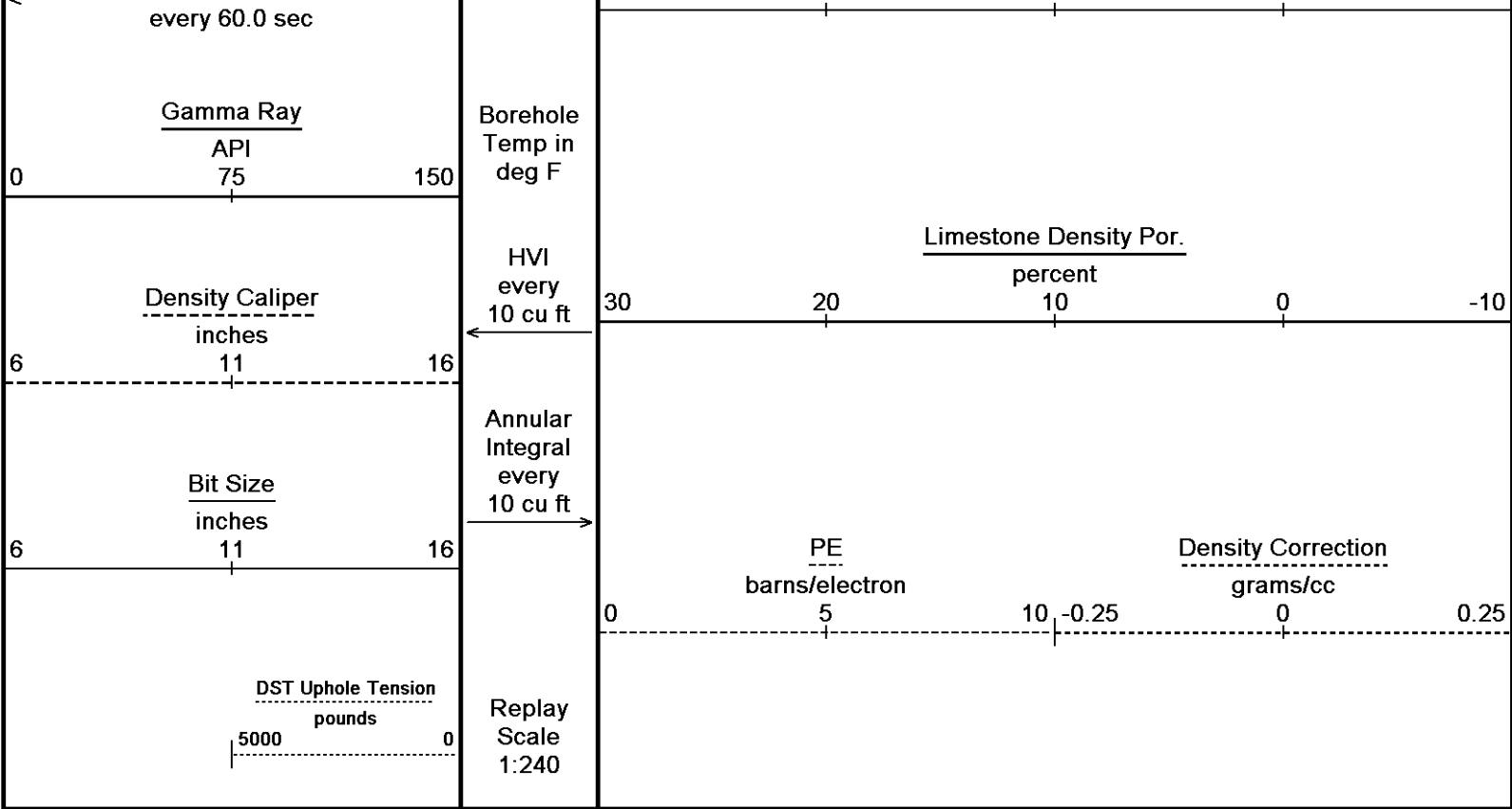
Compensated Density

Density Correction









Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 28-FEB-2012 11:04

Filename: C:\Minimus 11.03.4044\Data\Citation Schmitt # 8-11\Citation Schmitt # 8-11_003.dta

Recorded on 28-FEB-2012 09:19

System Versions: Logged with 11.03.4044 Plotted with 11.03.4044

↑

5 INCH MAIN PASS

↑

↓

5 INCH REPEAT PASS

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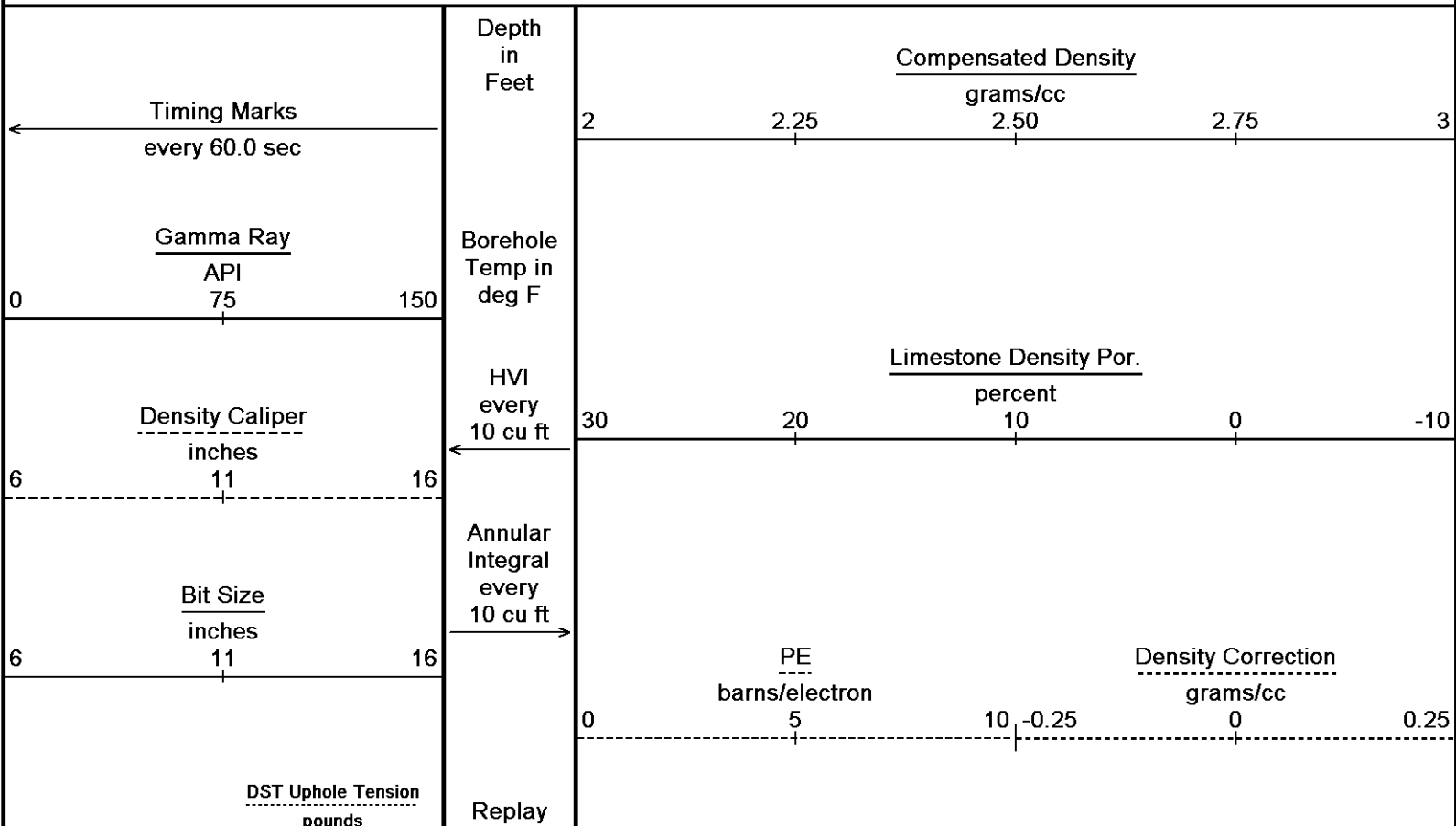
Depth Based Data - Maximum Sampling Increment 10.0cm

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Filename: C:\Minimus 11.03.4044\Data\Citation Schmitt # 8-11\Citation Schmitt # 8-11_002.dta

Recorded on 28-FEB-2012 08:59

System Versions: Logged with 11.03.4044 Plotted with 11.03.4044



5000 0

Scale
1:240

3200

86°

3250

87°

3300

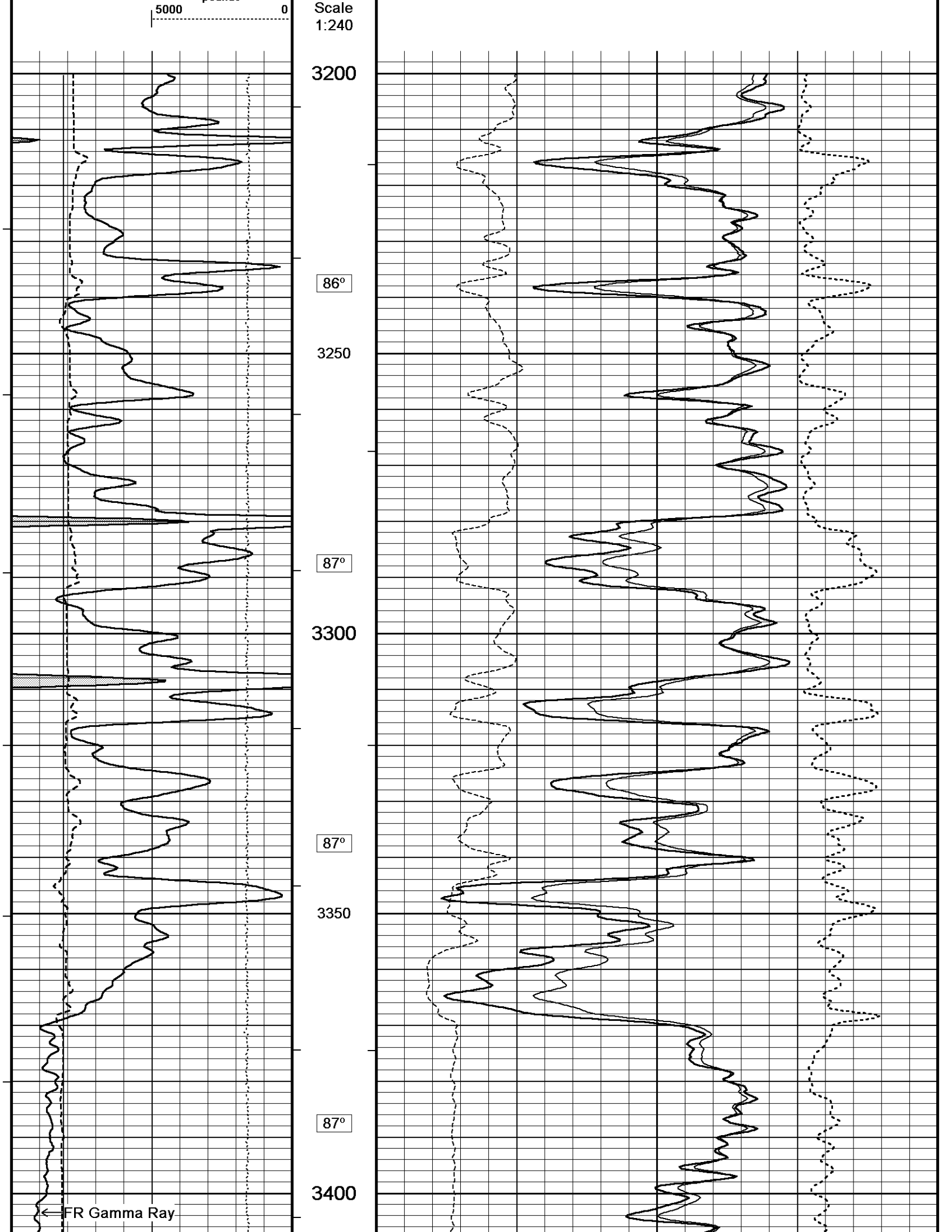
87°

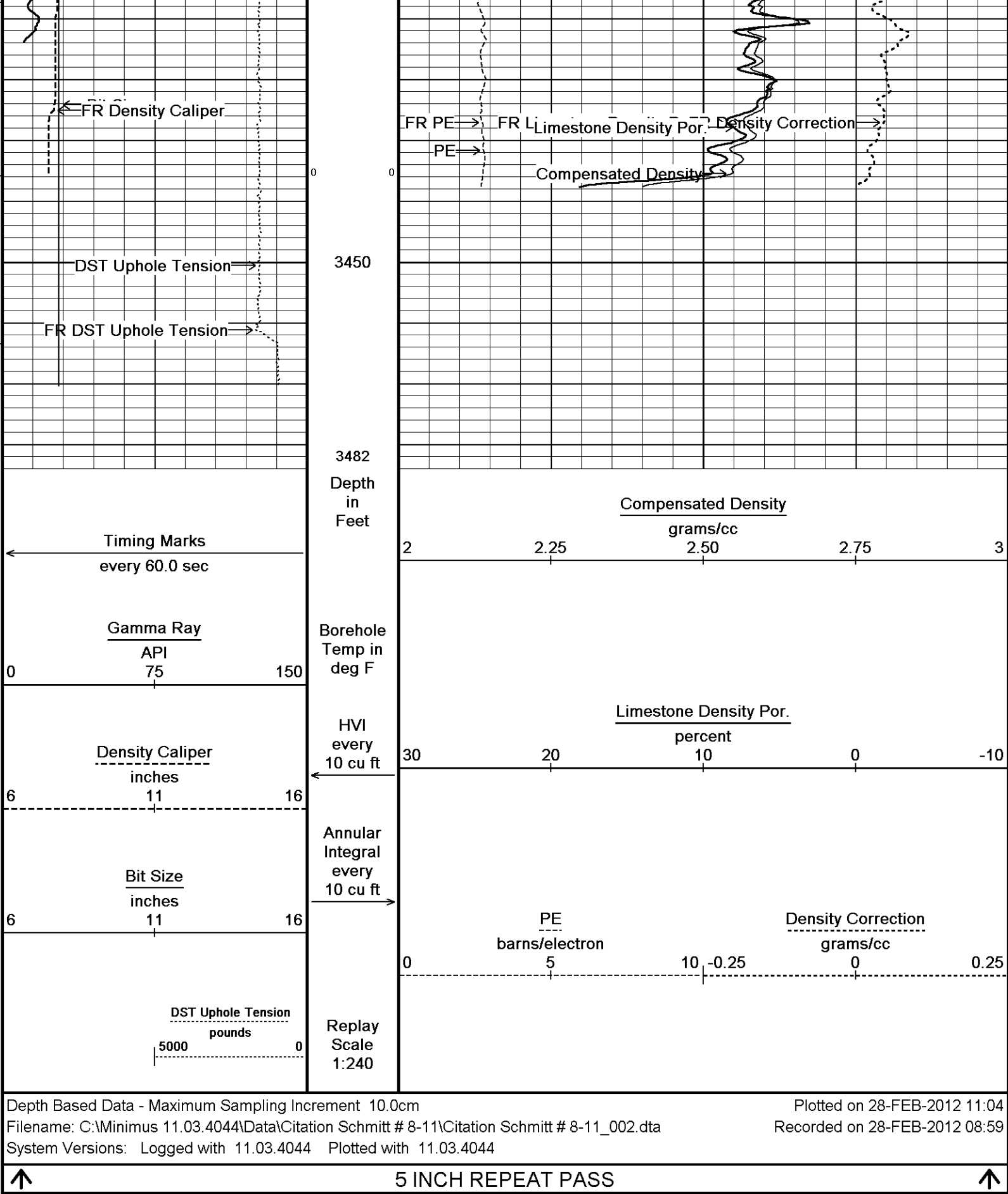
3350

87°

3400

← FR Gamma Ray





General Parameters		
Mud Resistivity	1.040	ohm-metres
Mud Resistivity Temperature	70.000	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	0.610	
RWA Constant M	2.150	

Down-hole Tension Calibration SMS 0			Field Calibration on 24-DEC-2011 19:14
Reading No	Measured	Calibrated (lbs)	
1	13180.10	0.00	
2	14049.87	408.00	

Gamma Calibration MCG-D.K 442			Field Calibration on 27-FEB-2012 09:38
	Measured	Calibrated (API)	
Background	69	47	
Calibrator (Gross)	1134	772	
Calibrator (Net)	1065	725	

Gamma Constants MCG-D.K 442			Last Edited on 28-FEB-2012,07:50
Gamma Calibrator Number	grc38		
Mud Density	1.06	gm/cc	
Caliper Source for Processing	Density Caliper		
Tool Position	Eccentred		
Concentration of KCl	0.00	kppm	

SP Calibration MCG-D.K 442			Field Calibration on 06-FEB-2012 10:17
	Measured	Calibrated (mV)	
Reference 1	101.0	100.0	
Reference 2	-99.9	-100.0	

High Resolution Temperature Calibration MCG-D.K 442			Field Calibration on 02-DEC-2011,12:34
	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 25-SEP-2011,21:25
Pre-filter Length	11		

Caliper Calibration MML-A 4			Base Calibration on 13-FEB-2012 09:03 Field Calibration on 27-FEB-2012 09:30
Base Calibration			
Reading No	Measured	Calibrator Size (in)	
1	15017	5.98	
2	18447	7.97	
3	21786	9.86	
4	25801	11.92	
5	0	0.00	
6	N/A	N/A	
Field Calibration			
	Measured Caliper (in)	Actual Caliper (in)	
	6.07	5.98	

Micro Normal and Micro Inverse Calibration MML-A 4			Base Calibration on 13-FEB-2012 09:11 Field Check on 27-FEB-2012 09:28
Base Calibration			

	Measured	Calibrated (ohm-m)
Channel	Resistor 1	Resistor 2
Micro Normal	12.2	60.2
Micro Inverse	15.7	78.3
	2.6	12.8
	1.7	8.4
Channel	Base Check (ohm-m)	Field Check (ohm-m)
Micro Normal	32.1	32.1
Micro Inverse	16.3	16.3

Micro Normal and Micro Inverse Constants MML-A 4		Last Edited on 27-FEB-2012,09:27
Pad Type	8-12 in Soft Rubber Inflatable 006-9011-159	
Micro Normal K Factor	0.5110	
Micro Inverse K Factor	0.3380	
Standoff Offset	N/A	inches

Neutron Calibration MDN-A.B 65		Base Calibration on 13-FEB-2012 14:25
		Field Check on 27-FEB-2012 09:42
Base Calibration		
	Measured	Calibrated (cps)
	Near Far	Near Far
	3053 95	3714 110
Ratio	32.113	33.764
Field Calibrator at Base		Calibrated (cps)
		1672 2379
Ratio		0.703
Field Check		Calibrated (cps)
		1684 2404
Ratio		0.701

Neutron Constants MDN-A.B 65		Last Edited on 28-FEB-2012,07:50
Neutron Source Id	14035B	
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 13-FEB-2012 09:17
		Field Check on 27-FEB-2012 09:20
Base Calibration		
	Measured	Calibrated (ohm-m)
Reference 1	0.0	0.0
Reference 2	951.6	126.8
Base Check		281.6
Field Check		281.6

FE Constants MFE-A.A 55		Last Edited on 28-FEB-2012,07:51
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

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		79.4		Deg F	
Channel		Base Check (mmho/m)		Field Check (mmho/m)	
		Low	High	Low	High
1		0.0	0.0	18.4	3850.6
2		0.0	0.0	31.6	3628.7
3		0.0	0.0	28.6	3048.9
4		0.0	0.0	18.3	2078.8
Deep		0.0	0.0	16.0	1910.9
Medium		0.0	0.0	42.5	4059.9
Shallow		0.0	0.0	49.5	5482.0
Array Temperature		0.0		60.9	
				Deg F	

Induction Constants MAI-A.A 45				Last Edited on 28-FEB-2012,07:51	
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 64			Base Calibration on 13-FEB-2012 10:56 Field Calibration on 27-FEB-2012 09:26		
Base Calibration					
Reading No	Measured	Calibrator Size (in)			
1	13425	3.99			
2	22192	5.98			
3	30768	7.97			
4	39024	9.86			
5	48432	11.92			
6	N/A	N/A			

Field Calibration

Measured Caliper (in)
5.91Actual Caliper (in)
5.98

Photo Density Calibration MPD-B 64

Base Calibration on 13-FEB-2012 11:14

Field Check on 27-FEB-2012 09:25

Density Calibration

Base Calibration

Measured

Calibrated (sdu)

Near

Far

Near

Far

Reference 1

47670

25060

59556

30836

Reference 2

19597

2525

24941

2541

Field Check at Base

1199.0

1386.9

Field Check

1204.9

1393.5

PE Calibration

Base Calibration

Measured

Calibrated

WS

WH

Ratio

Ratio

Background

218

1072

Reference 1

18017

47489

0.383

0.371

Reference 2

5304

19465

0.276

0.272

Field Check at Base

218.3

1071.8

Field Check

216.5

1076.6

Density Constants MPD-B 64

Last Edited on 28-FEB-2012,07:50

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

DOWNHOLE EQUIPMENT

C:\Minimus 11.03.4044\Data\Citation Schmitt # 8-11\Citation Schmitt # 8-11_003.dta

MCB-A.A 11B Tension Cablehead

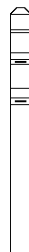
MCB-A.A 175 LG: 2.40 ft WT: 19.8 lb OD: 2.24 in

MCB-A.A 11B Tension Cablehead

MCB-A.A 175 LG: 2.40 ft WT: 19.8 lb OD: 2.24 in

Compact Comms Gamma

MCC D.K. 442 LG: 8.70 ft WT: 63.8 lb OD: 2.24 in



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

Compact Micro-log
MML-A 4 LG: 7.97 ft WT: 81.6 lb OD: 2.24 in

Compact Micro-log
MML-A 4 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

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

Compact Density/Caliper
MPD-B 64 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

Compact Density/Caliper
MPD-B 64 LG: 9.59 ft WT: 90.4 lb OD: 2.45 in

SKJ-D.A Compact Knuckle Joint
SKJ-D.A 37 LG: 2.17 ft WT: 24.3 lb OD: 2.24 in

SKJ-D.A Compact Knuckle Joint
SKJ-D.A 37 LG: 2.17 ft WT: 24.3 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 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

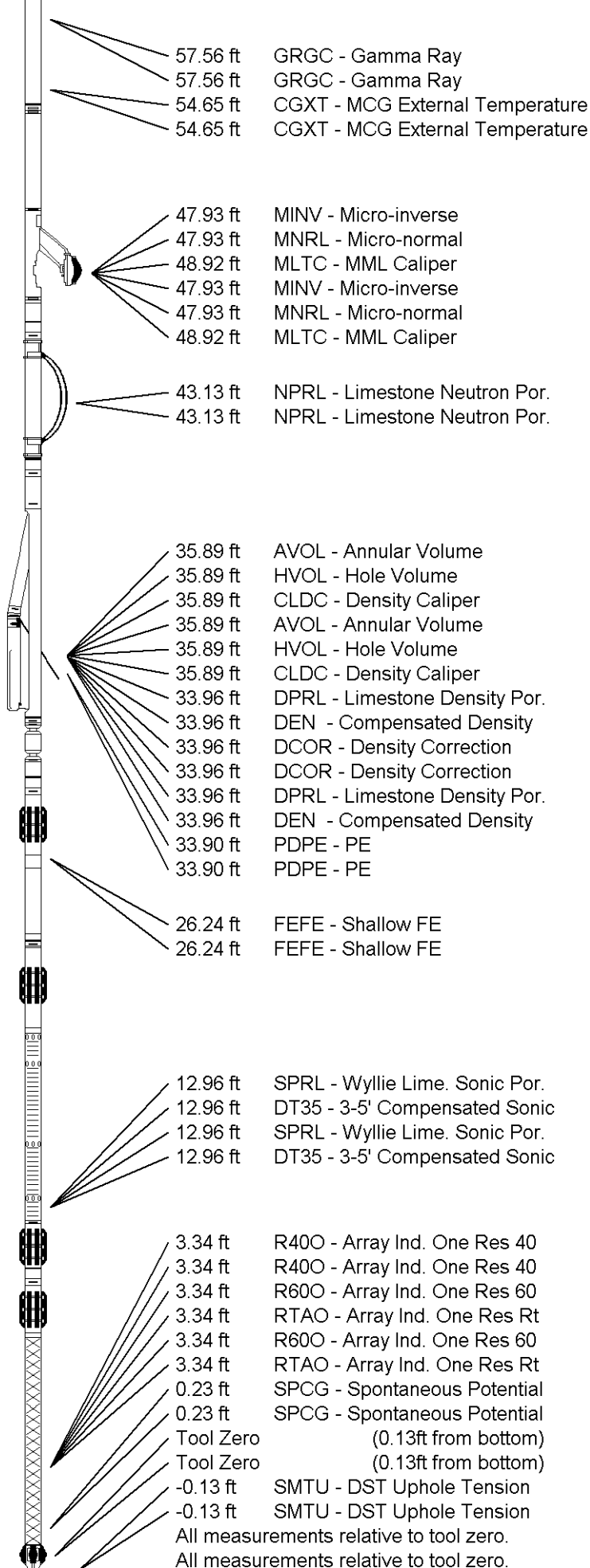
Compact Sonic
MSS-C.K 330 LG: 12.52 ft WT: 72.8 lb OD: 2.24 in

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: 65.24 ft Weight: 500.4 lb

Total Length: 65.24 ft Weight: 500.4 lb



WELL	SCHMITT # 8-11
FIELD	FAIRPORT
PROVINCE/COUNTY	ELLIS
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	1948.00	feet	First Reading	3425.00	feet
Elevation Drill Floor	1946.00	feet	Depth Driller	3460.00	feet
Elevation Ground Level	1940.00	feet	Depth Logger	3461.00	feet



Weatherford®

COMPACT PHOTO DENSITY
COMPENSATED NEUTRON
MICRORESISTIVITY LOG

