



Weatherford

**COMPACT PHOTO DENSITY
COMPENSATED NEUTRON
MICRORESISTIVITY LOG**

COMPANY	O'BRIAN RESOURCES, LLC		
WELL	BAR S RANCH 28 #1		
FIELD	WILDCAT		
PROVINCE/COUNTY	RUSSELL		
COUNTRY/STATE	U.S.A. / KANSAS		
LOCATION	472' FNL & 814' FEL		
SEC	TWP	RGE	Other Services
28	11S	14W	MAI/MFE
API Number	15-167-23897		MML
Permit Number			
Permanent Datum GL, Elevation 1730 feet			Elevations: feet
Log Measured From KB			KB 1741.00
Drilling Measured From KB @ 11 FEET			DF 1740.00
			GL 1730.00
Date	12-AUG-2013		
Run Number	ONE		
Service Order	3541030		
Depth Driller	3518.00		
Depth Logger	3512.00		
First Reading	3493.00		
Last Reading	2550.00		
Casing Driller	267.00		
Casing Logger	261.00		
Bit Size	7.875		
Hole Fluid Type	CHEM		
Density / Viscosity	9.20 lb/USg		
PH / Fluid Loss	10.50		
Sample Source	PIT		
Rm @ Measured Temp	1.20 @ 85.0		
Rmf @ Measured Temp	0.96 @ 85.0		
Rmc @ Measured Temp	1.44 @ 85.0		
Source Rmf / Rmc	CALC	CALC	
Rm @ BHT	1.0 @ 85.0		
Time Since Circulation	4 HRS		
Max Recorded Temp	102.00		
Equipment / Base	13057		
Recorded By	D. COLE		
Witnessed By	S. DEENIHAN		

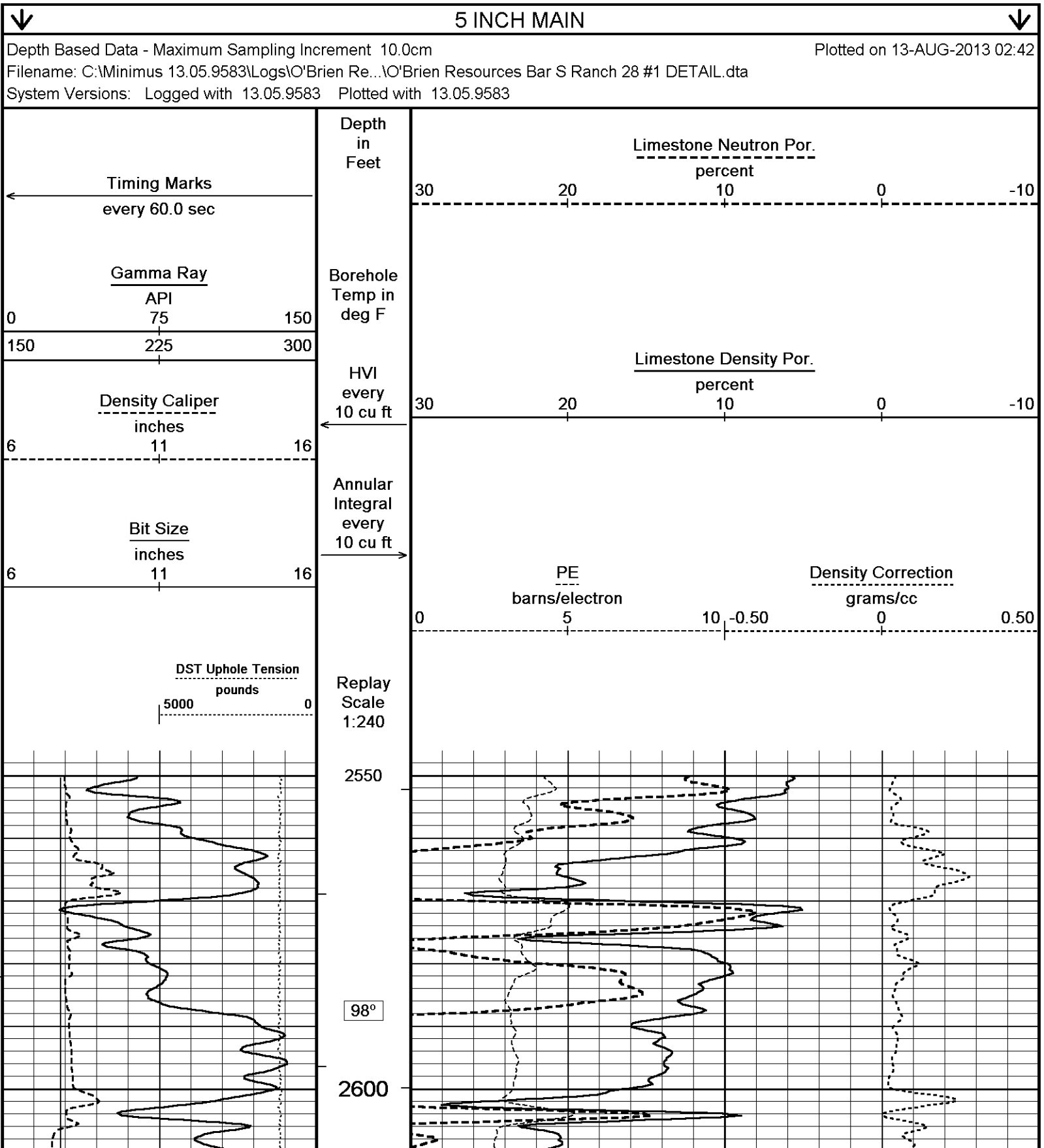
BOREHOLE RECORD			Last Edited: 12-AUG-2013 22:46	
Bit Size inches	Depth From feet		Depth To feet	
7.875	267.00		3518.00	
CASING RECORD				
Type	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	8.625	0.00	267.00	24.00

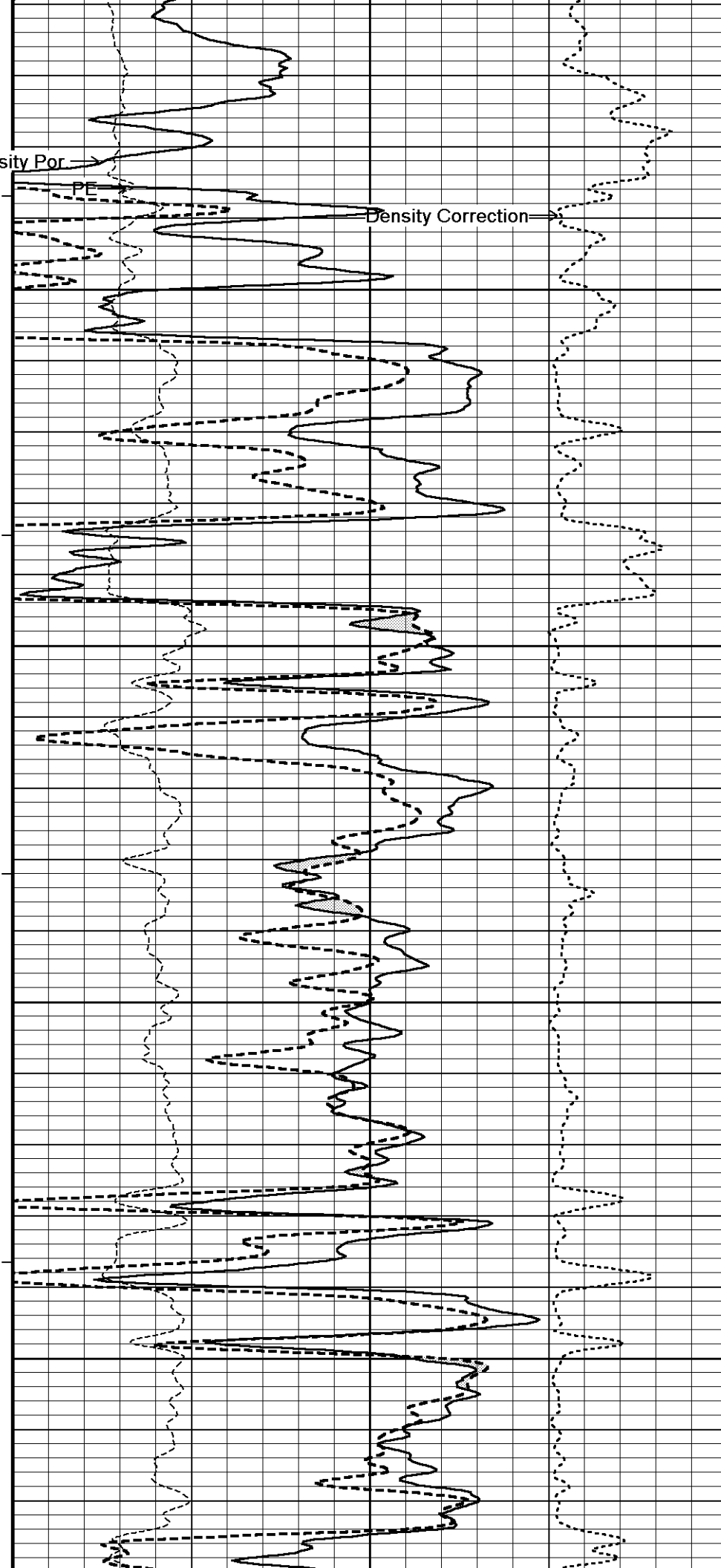
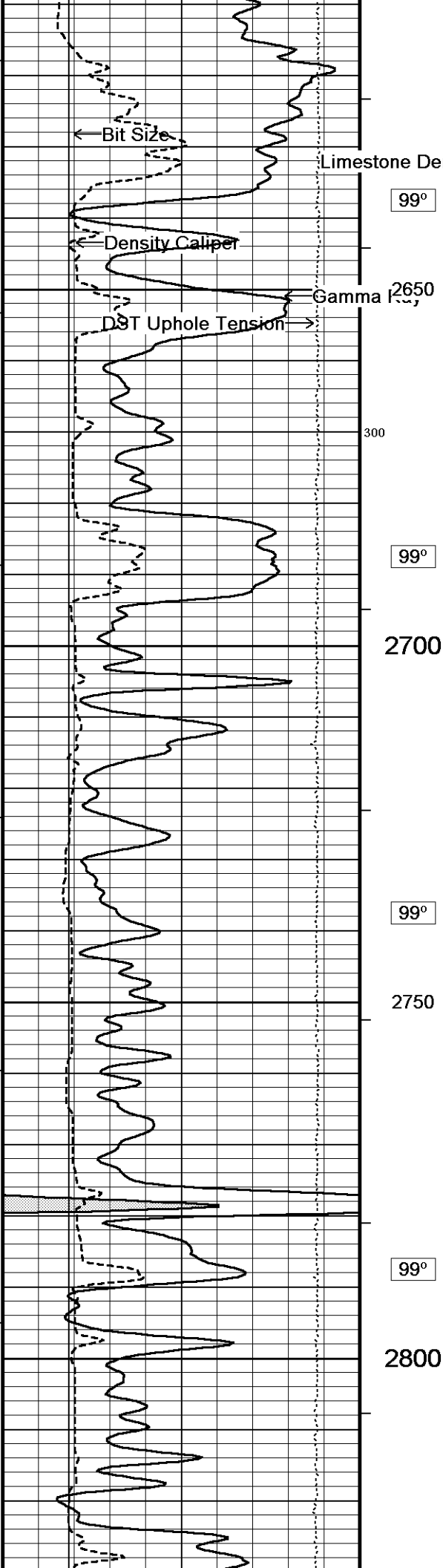
REMARKS
- SOFTWARE ISSUE: 13.05.9583
- MCG, MML, MDN, MPD, MFE, MAI RAN IN COMBINATION
- HARDWARE: DUAL BOWSPRING USED ON MDN 0.5 INCH STANDOFF USED ON MFE AND MAI
- 2.71 G/CC LIMESTONE DENSITY MATRIX USED TO CALCULATE POROSITY
- BOREHOLE RUGOSITY, TIGHT PULLS, AND WASHOUTS WILL EFFECT DATA QUALITY
- ALL INTERVALS LOGGED AND SCALED PER CUSTOMRES REQUEST
- TOTAL HOLE VOLUME FROM TD TO 2550: 340 CU.FT.
- ANNULAR HOLE VOLUME WITH 5.5 INCH PRODUCTION CASING FROM TD TO 2550: 190 CU.FT.
-RIG: DUKE 10

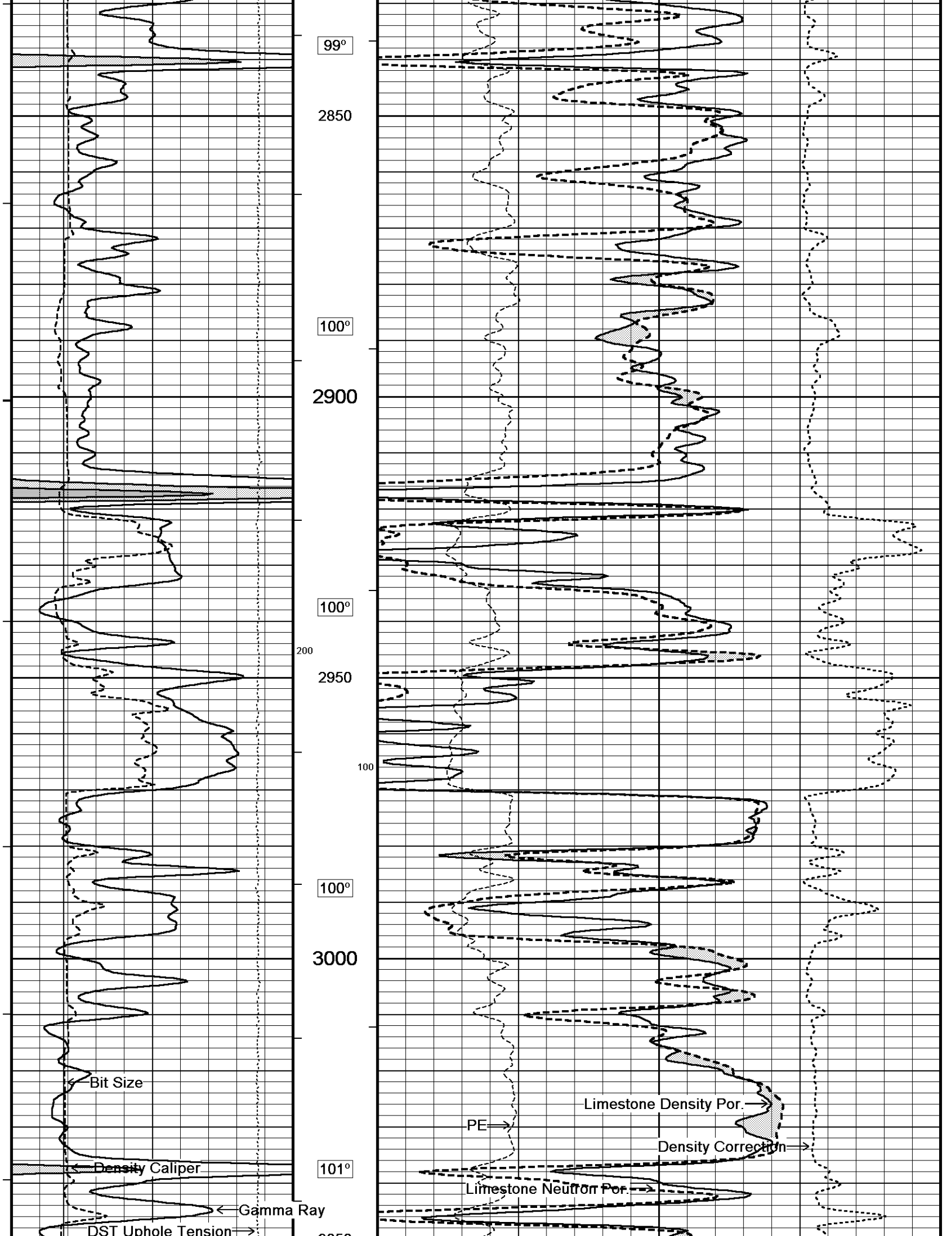
- ENGINEER: D. COLE

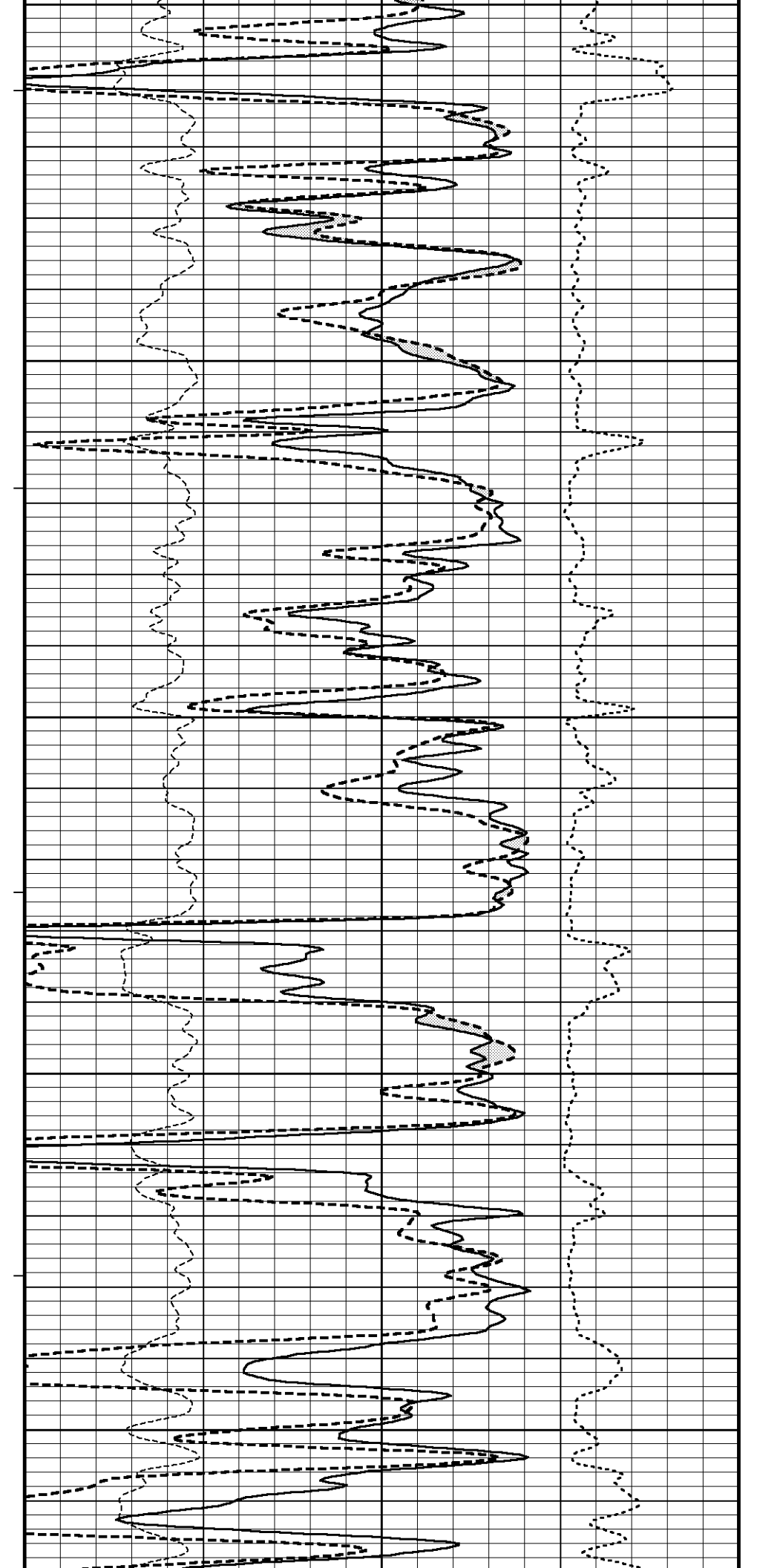
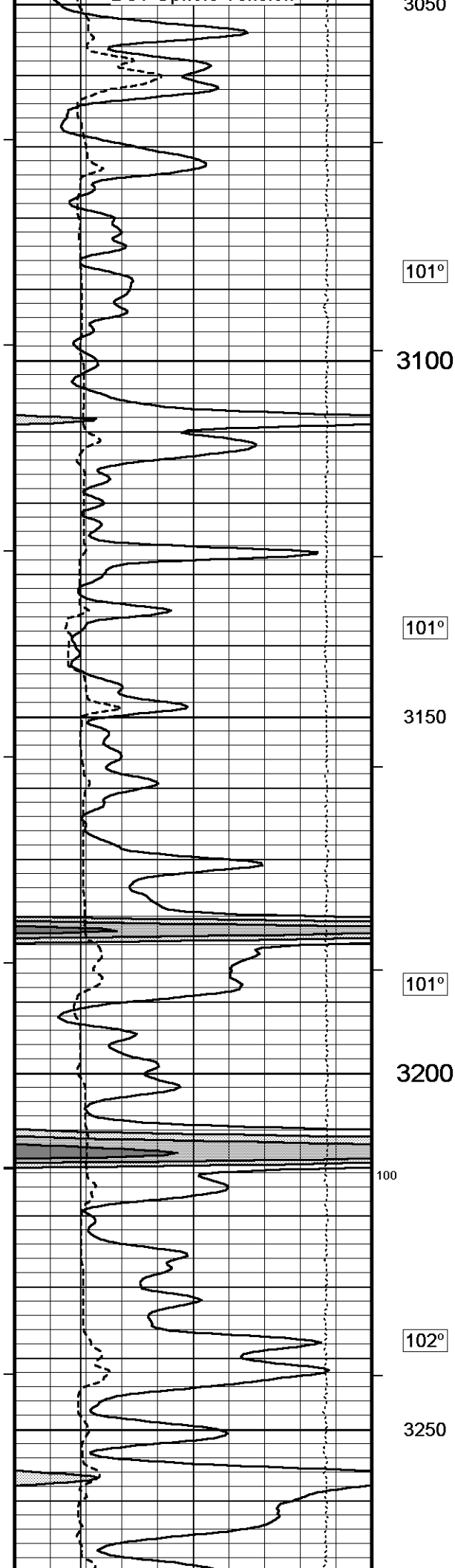
- OPERATOR: C. RAMIREZ

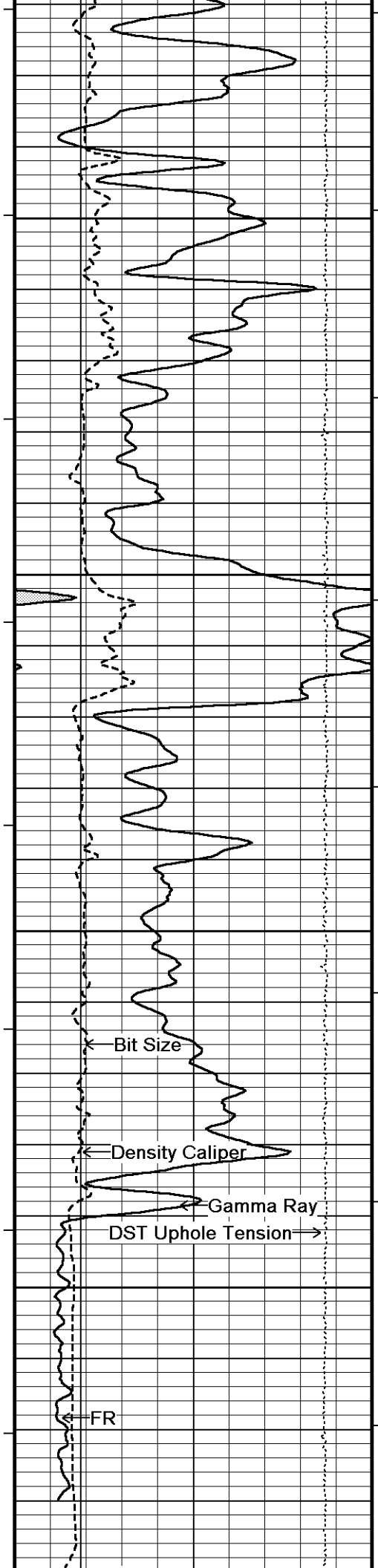
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs,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











102°

3300

102°

3350

103°

3400

Limestone Density Por.

PE

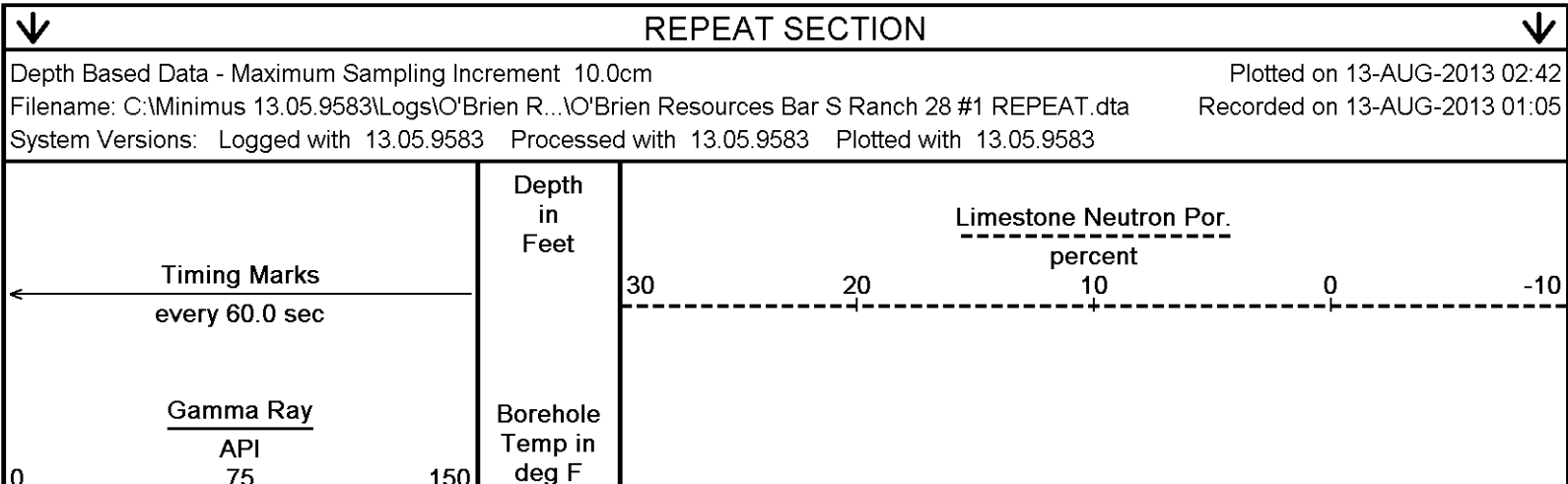
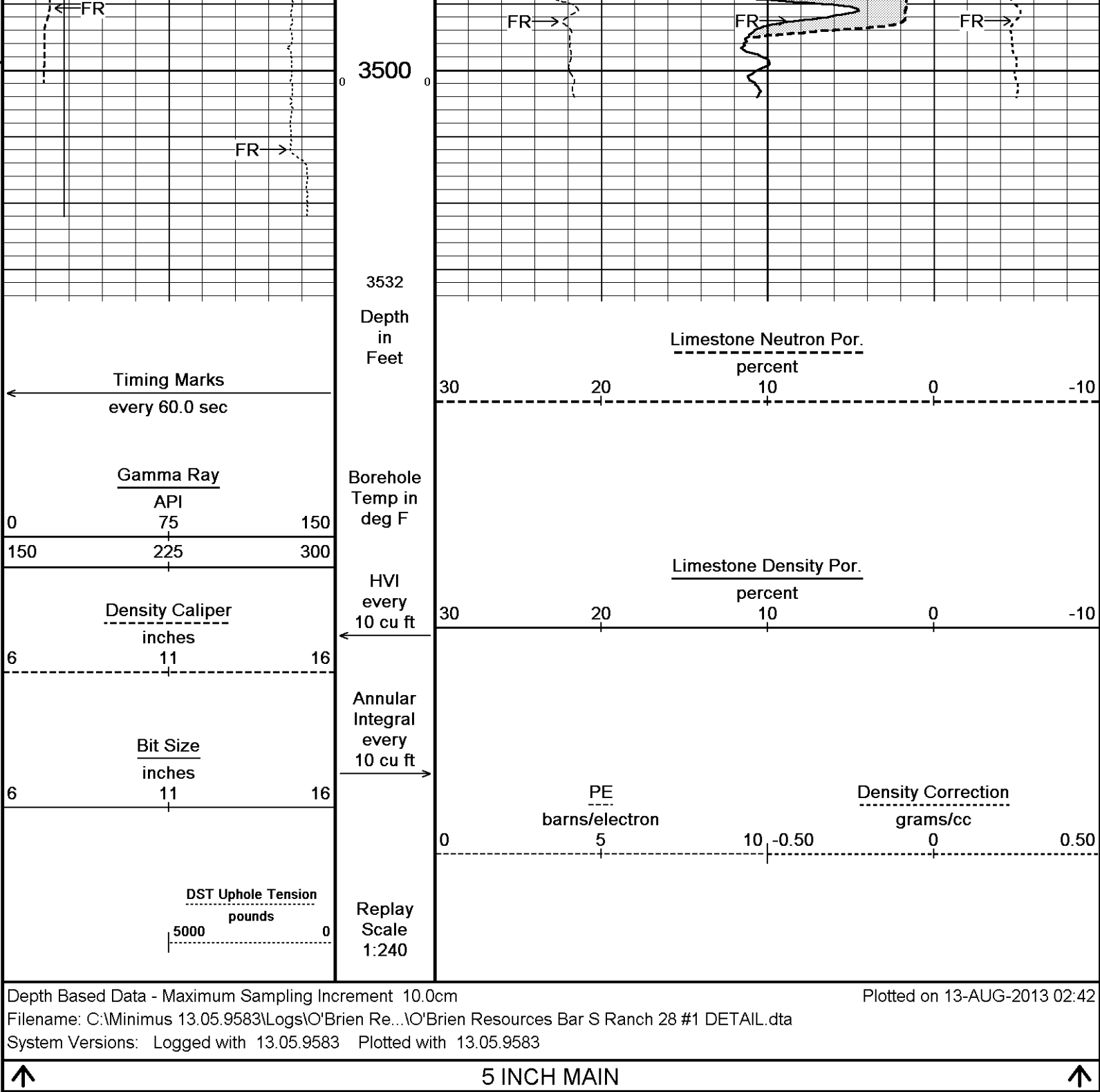
Density Correction

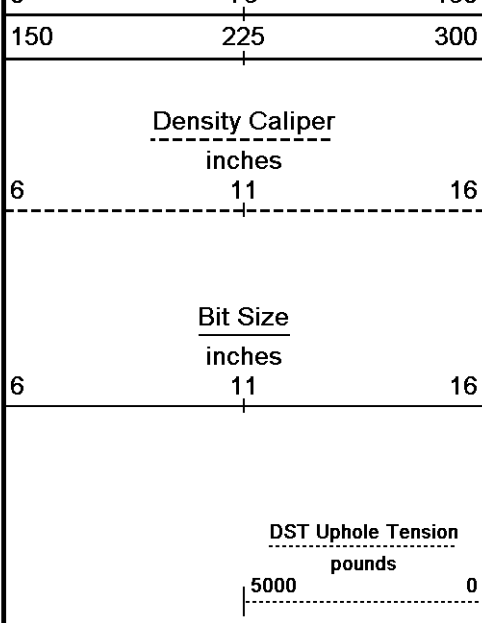
102°

3450

Limestone Neutron Por.

FR

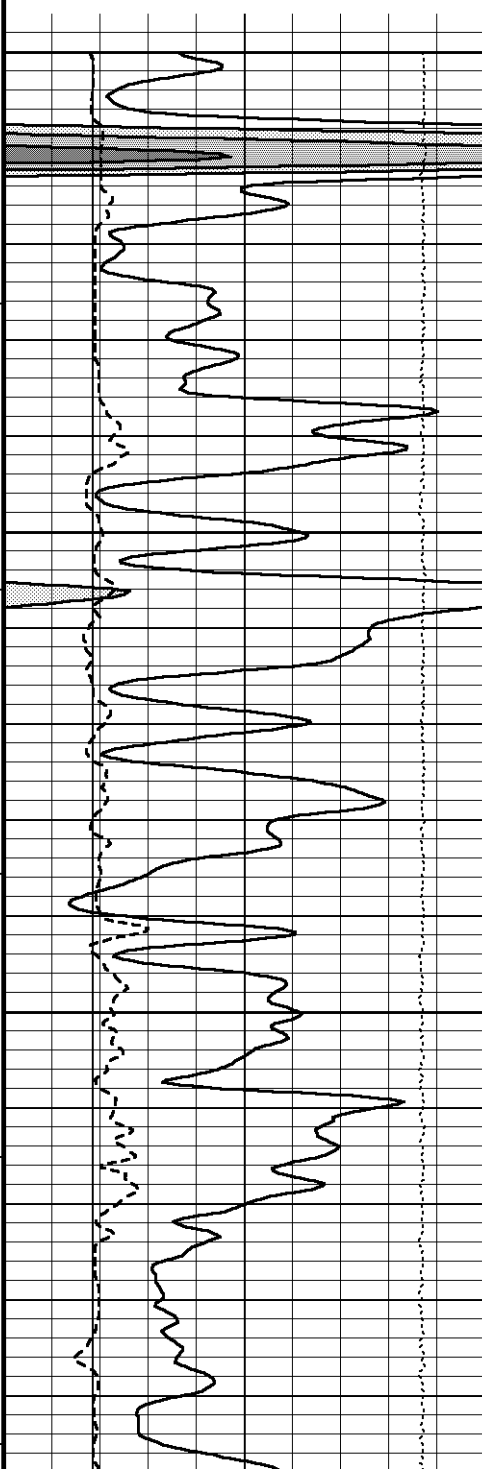




HVI
every
10 cu ft

Annular
Integral
every
10 cu ft

Replay
Scale
1:240



3200

100

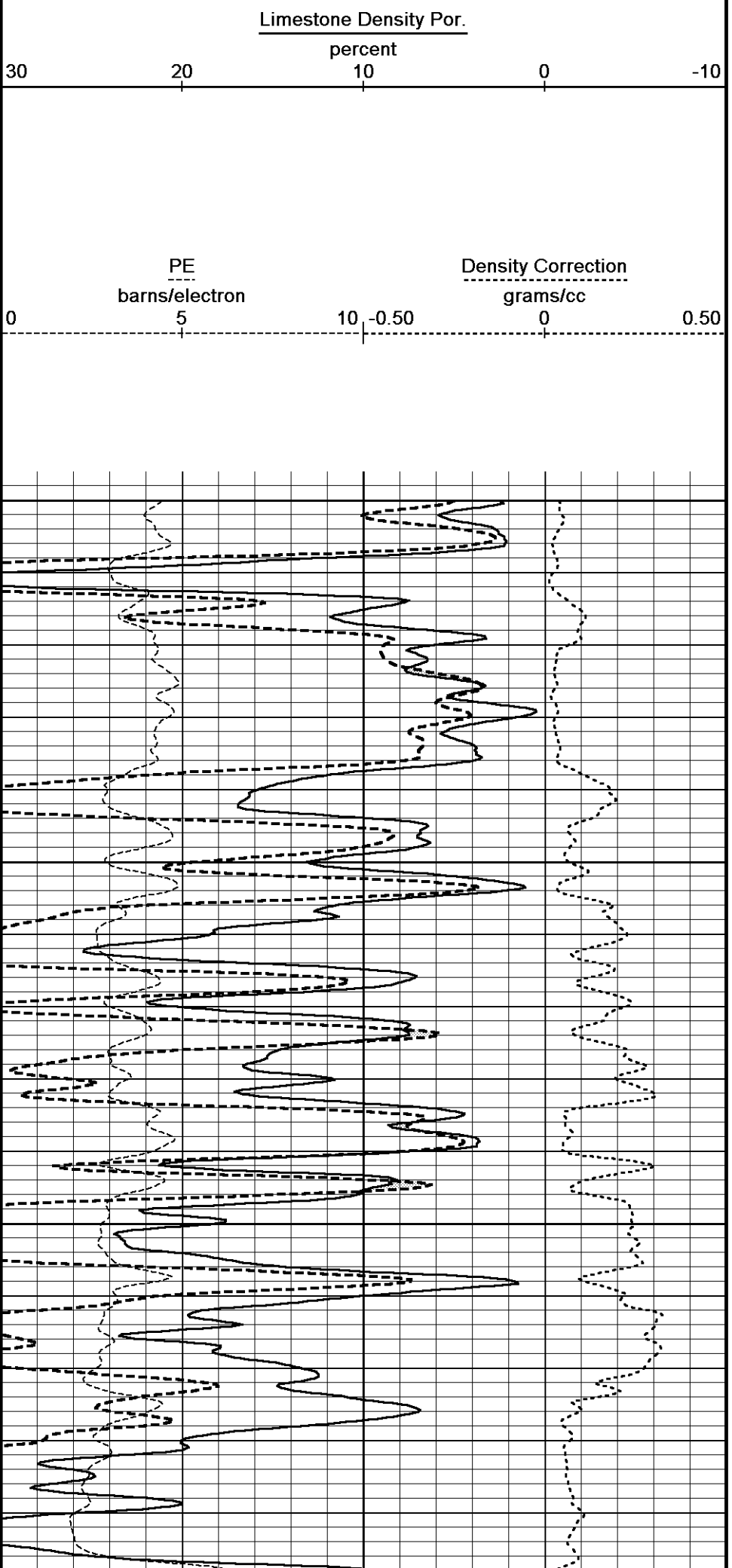
102°

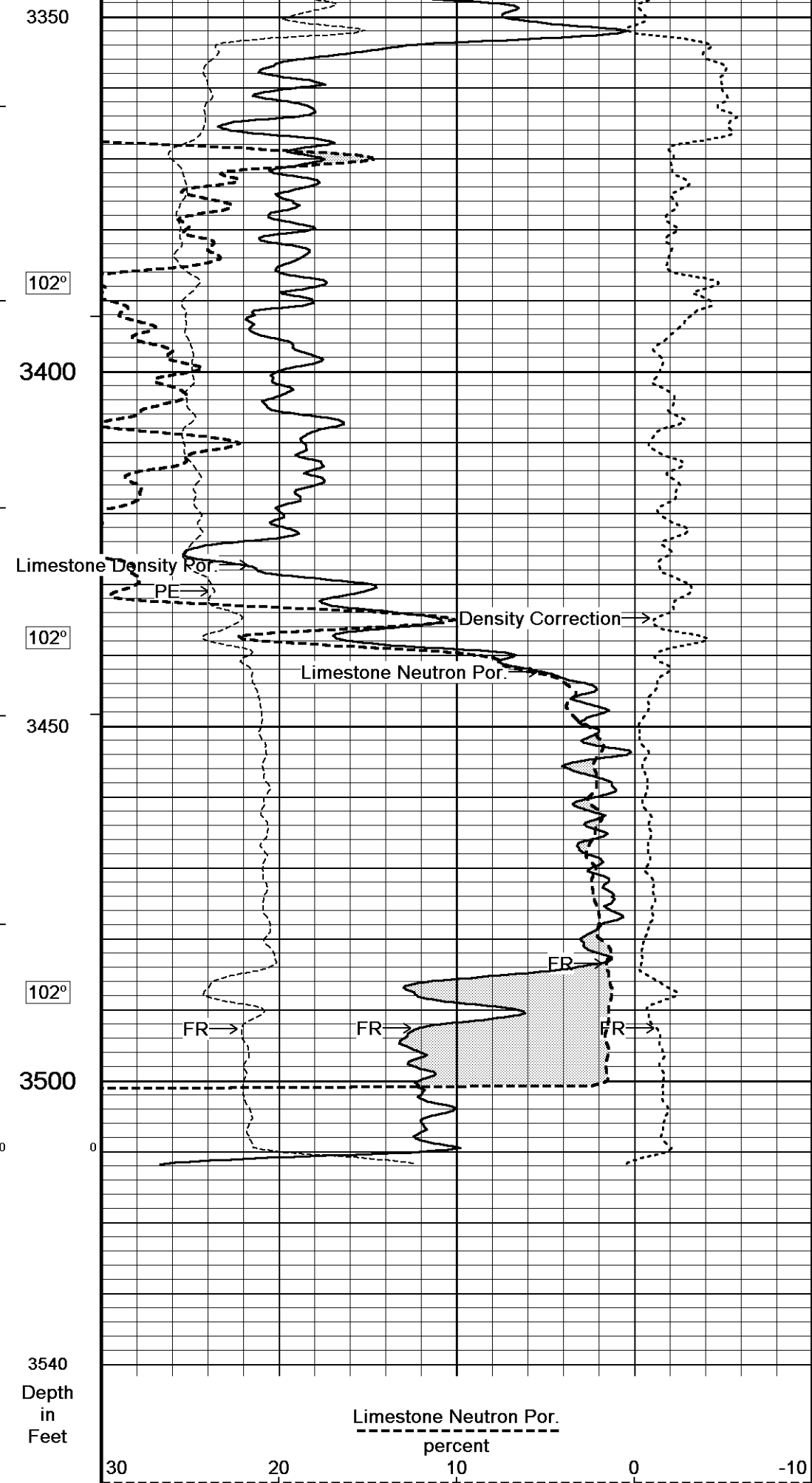
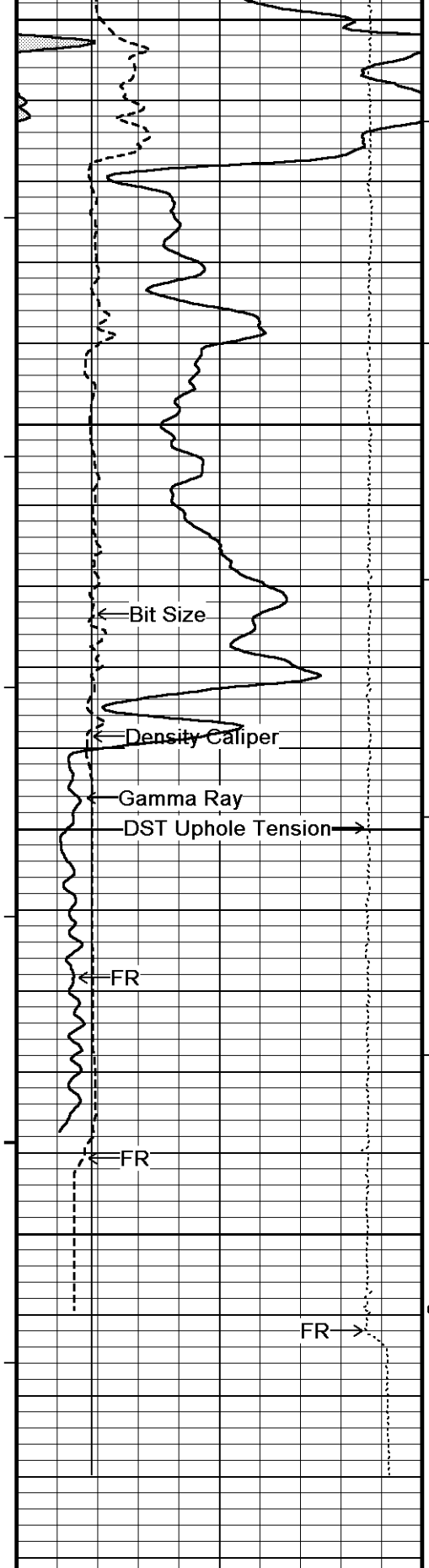
3250

102°

3300

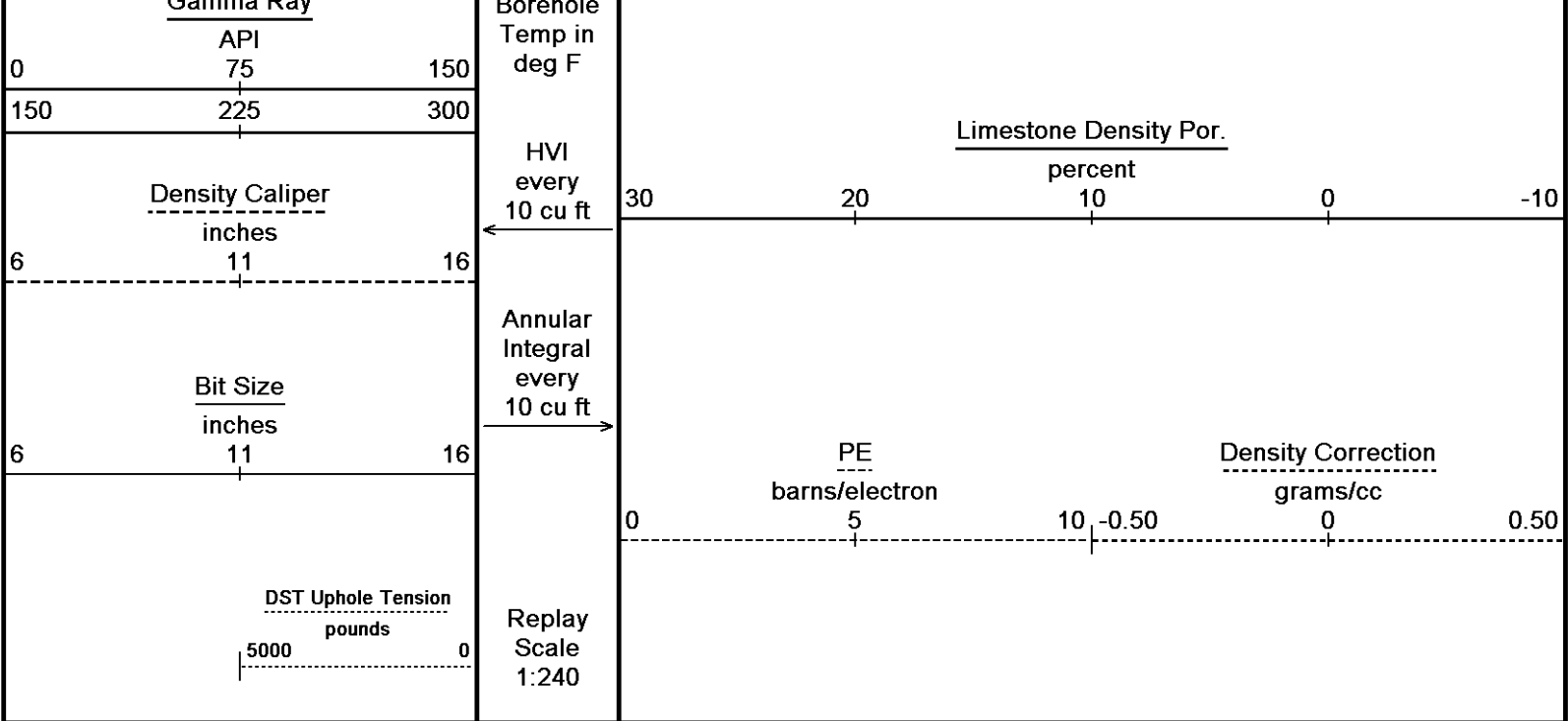
102°





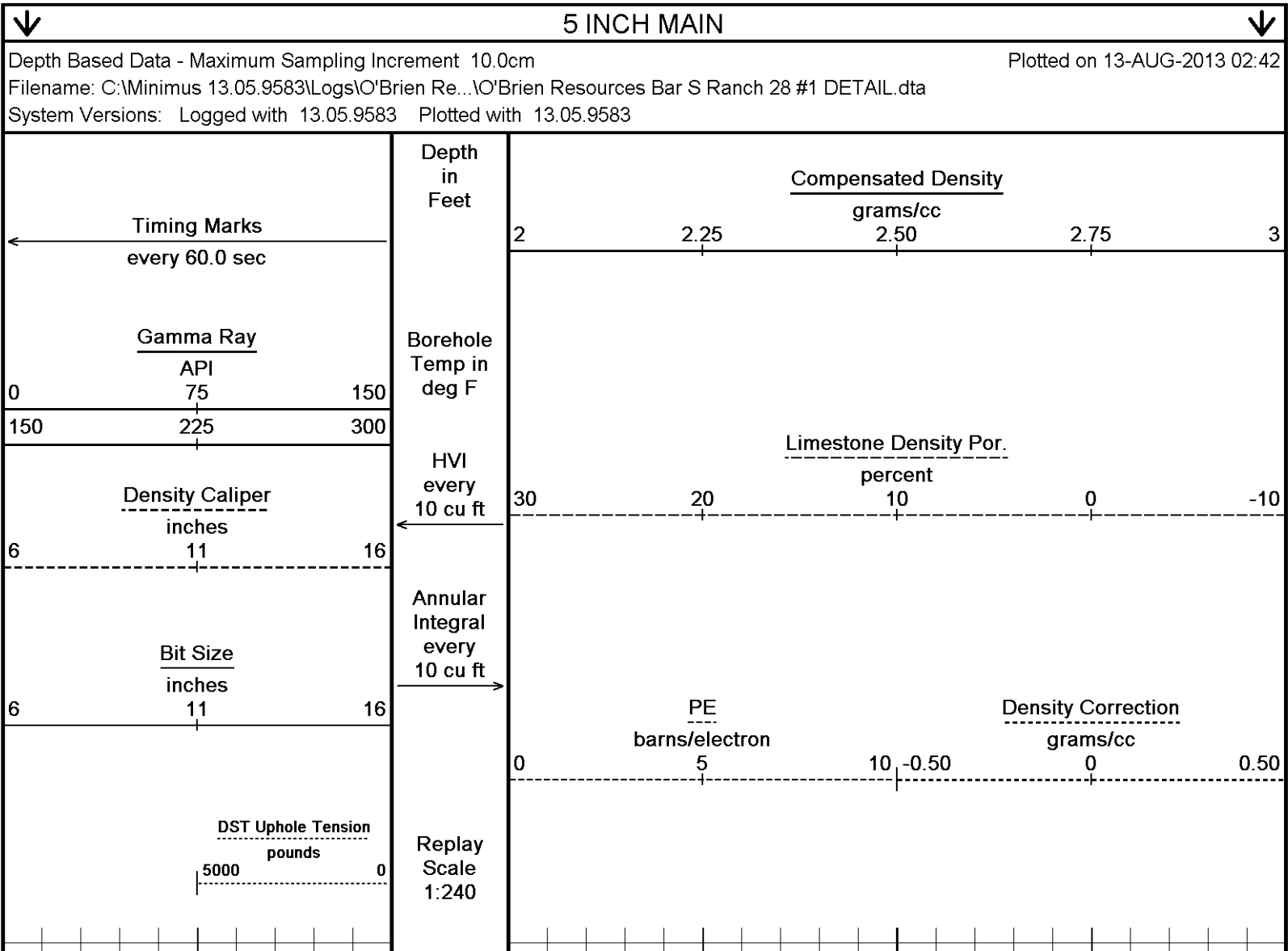
3540
Depth
in
Feet

Limestone Neutron Por.
percent

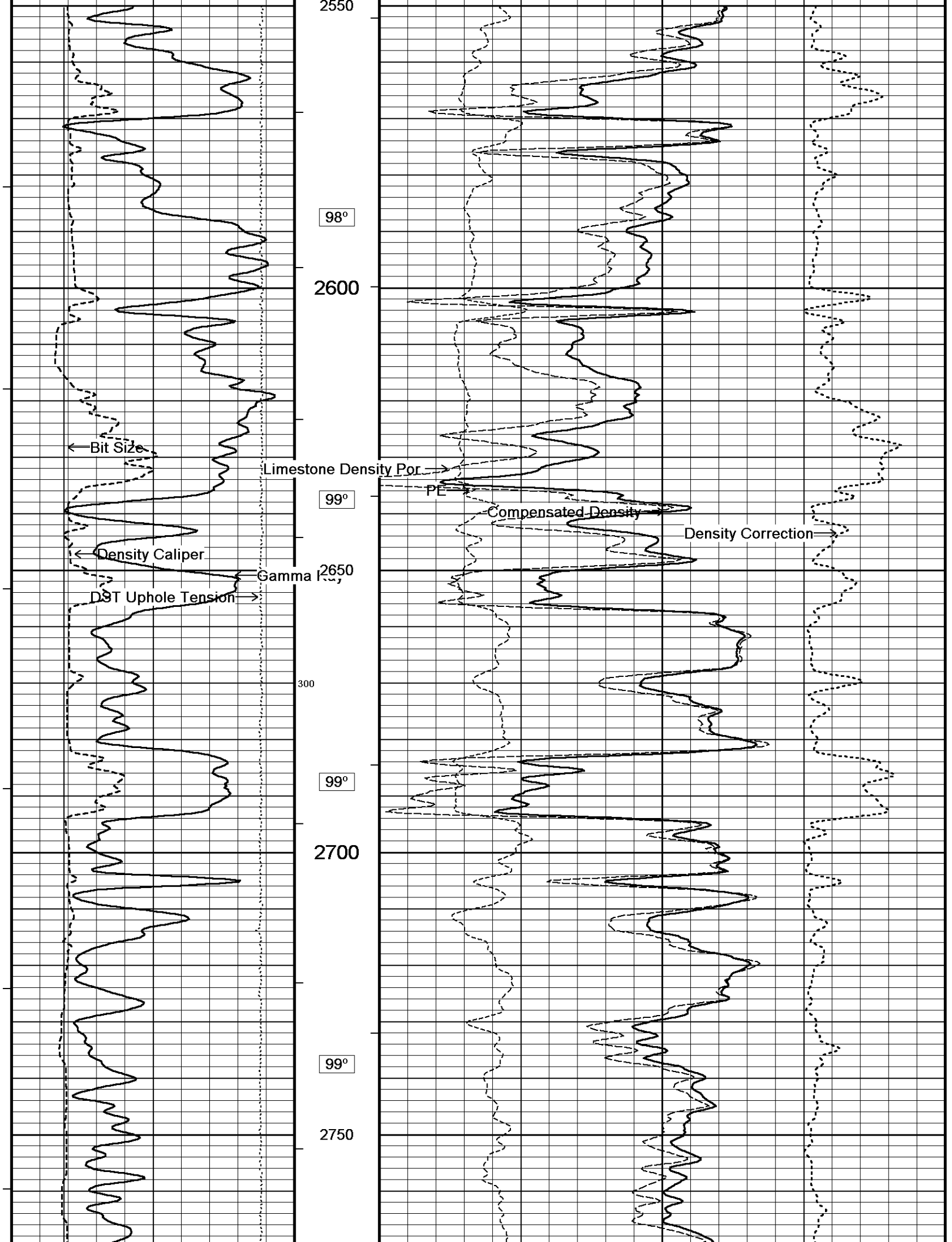


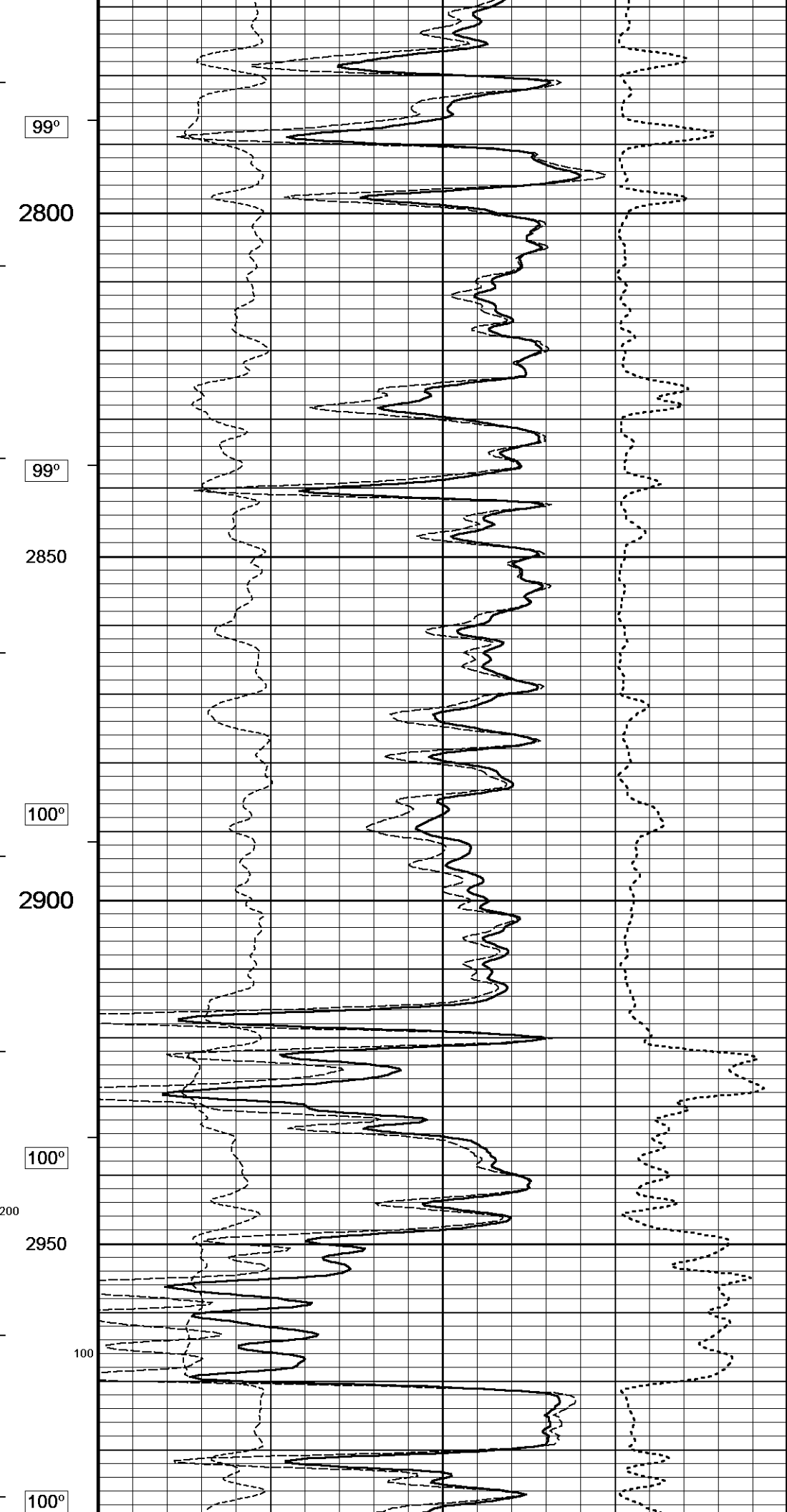
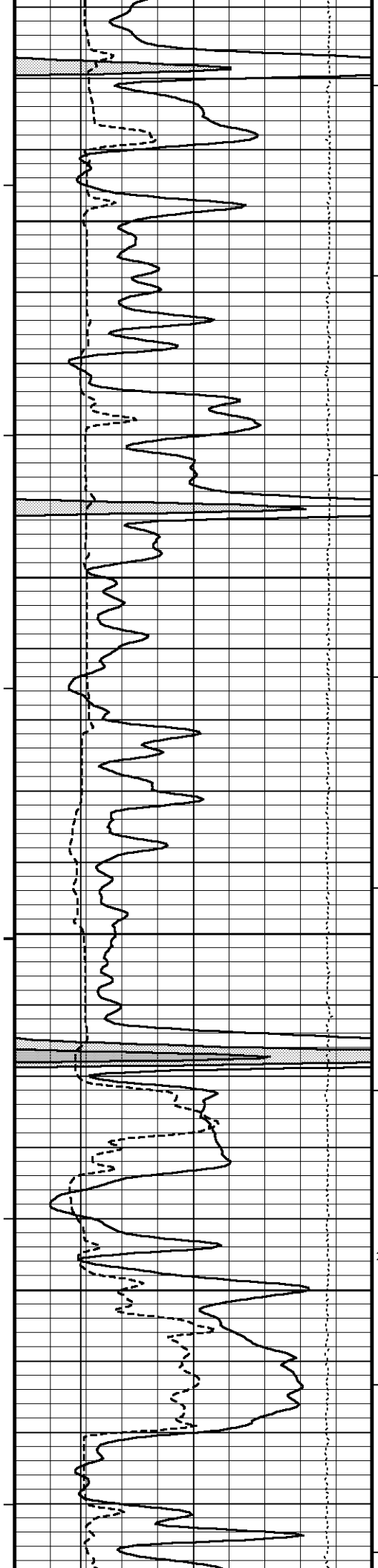
Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 13-AUG-2013 02:42
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System Versions: Logged with 13.05.9583 Processed with 13.05.9583 Plotted with 13.05.9583

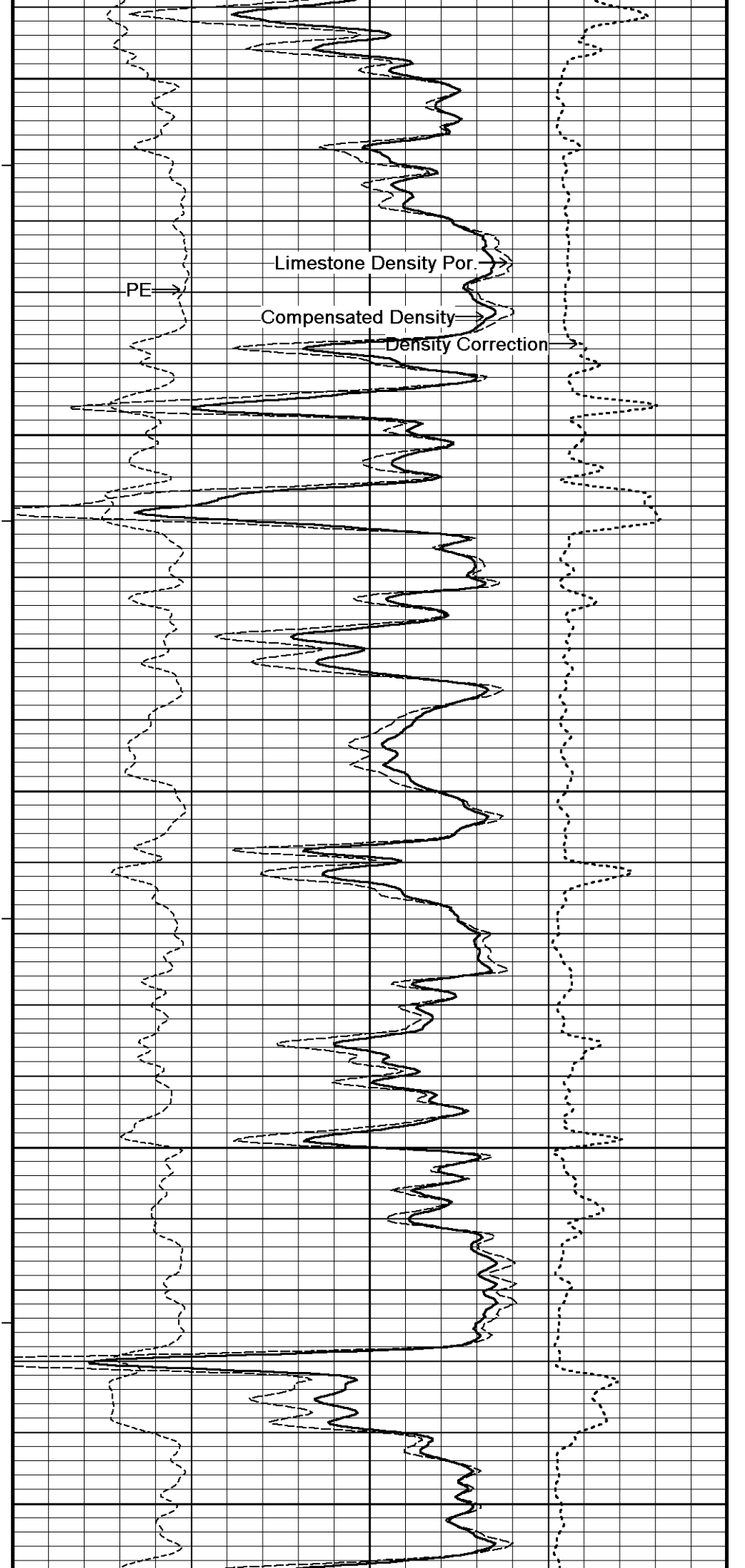
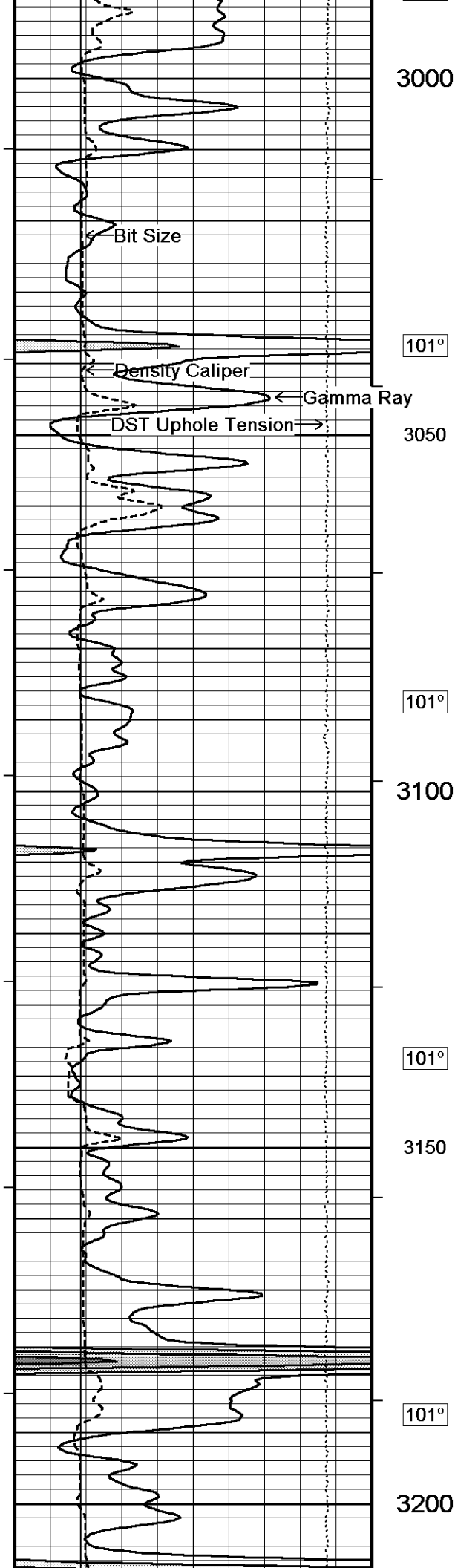
↑ REPEAT SECTION ↑

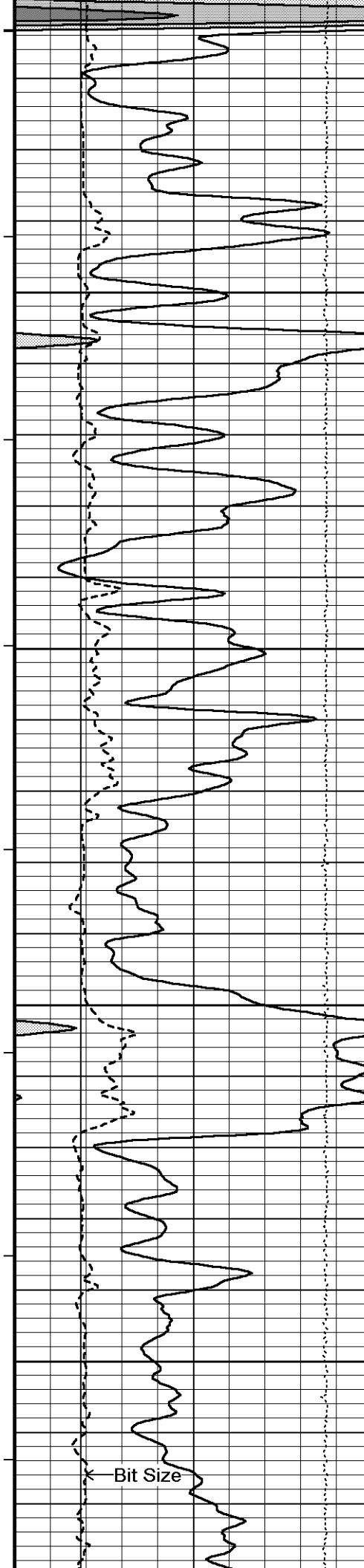


Depth Based Data - Maximum Sampling Increment 10.0cm Plotted on 13-AUG-2013 02:42
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System Versions: Logged with 13.05.9583 Plotted with 13.05.9583

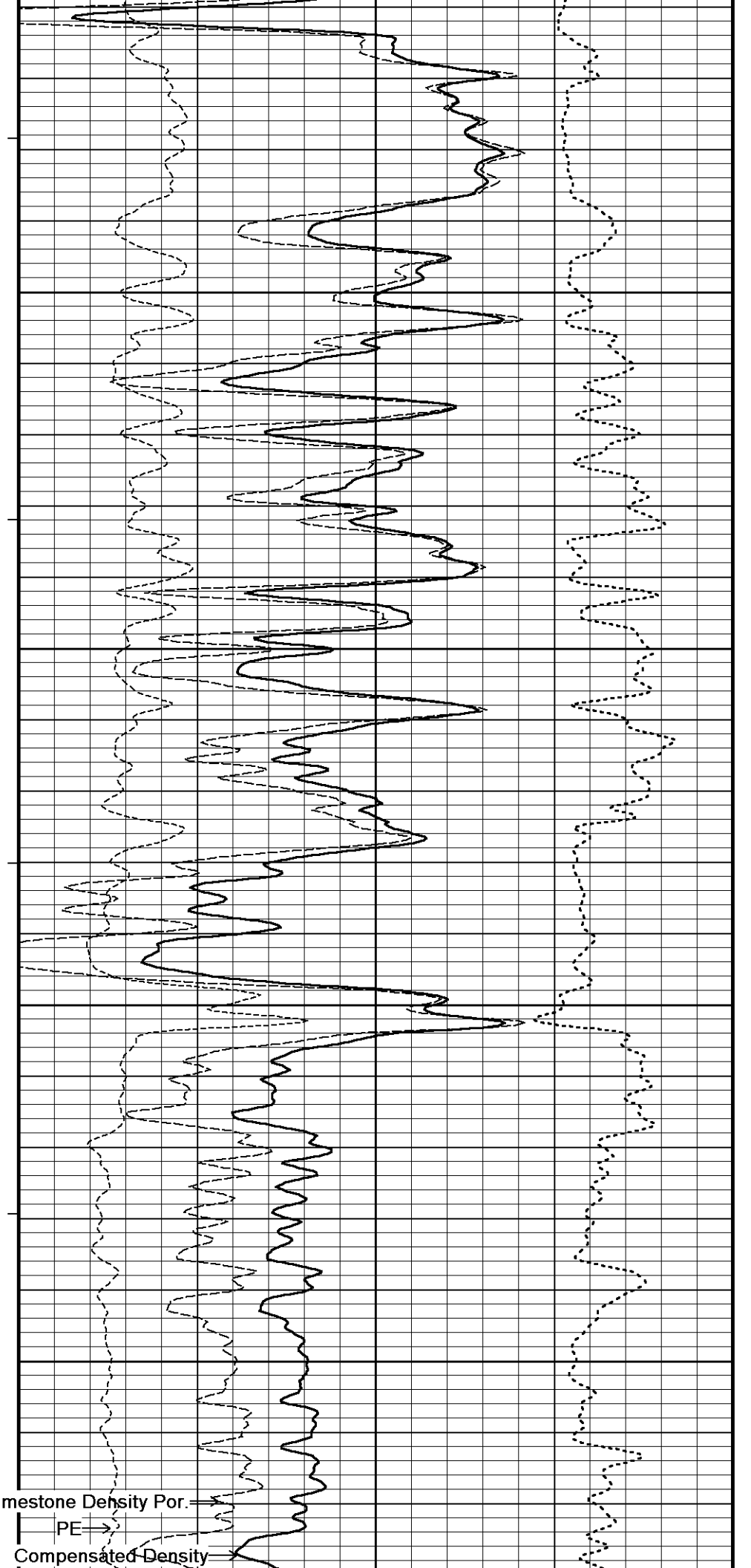




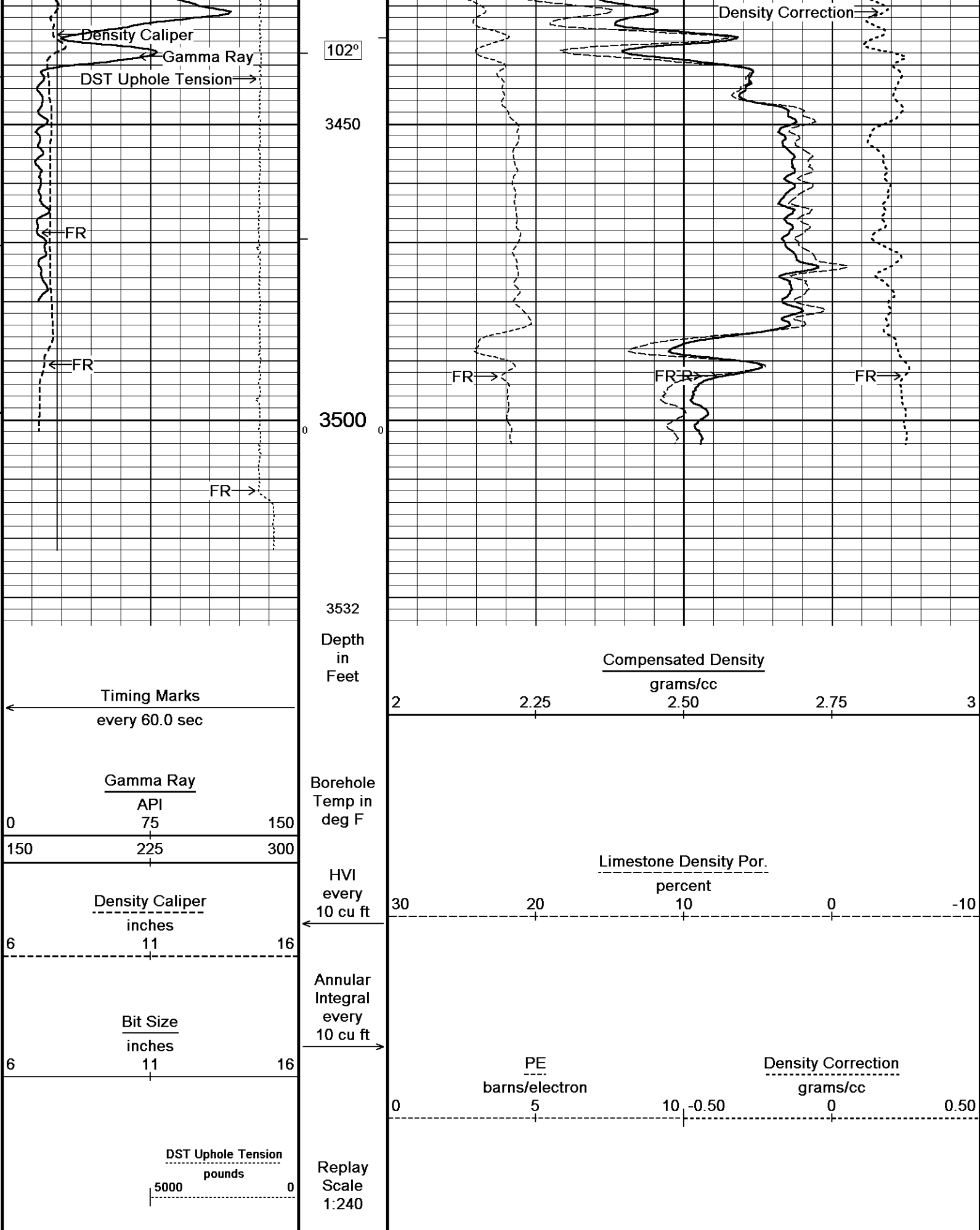


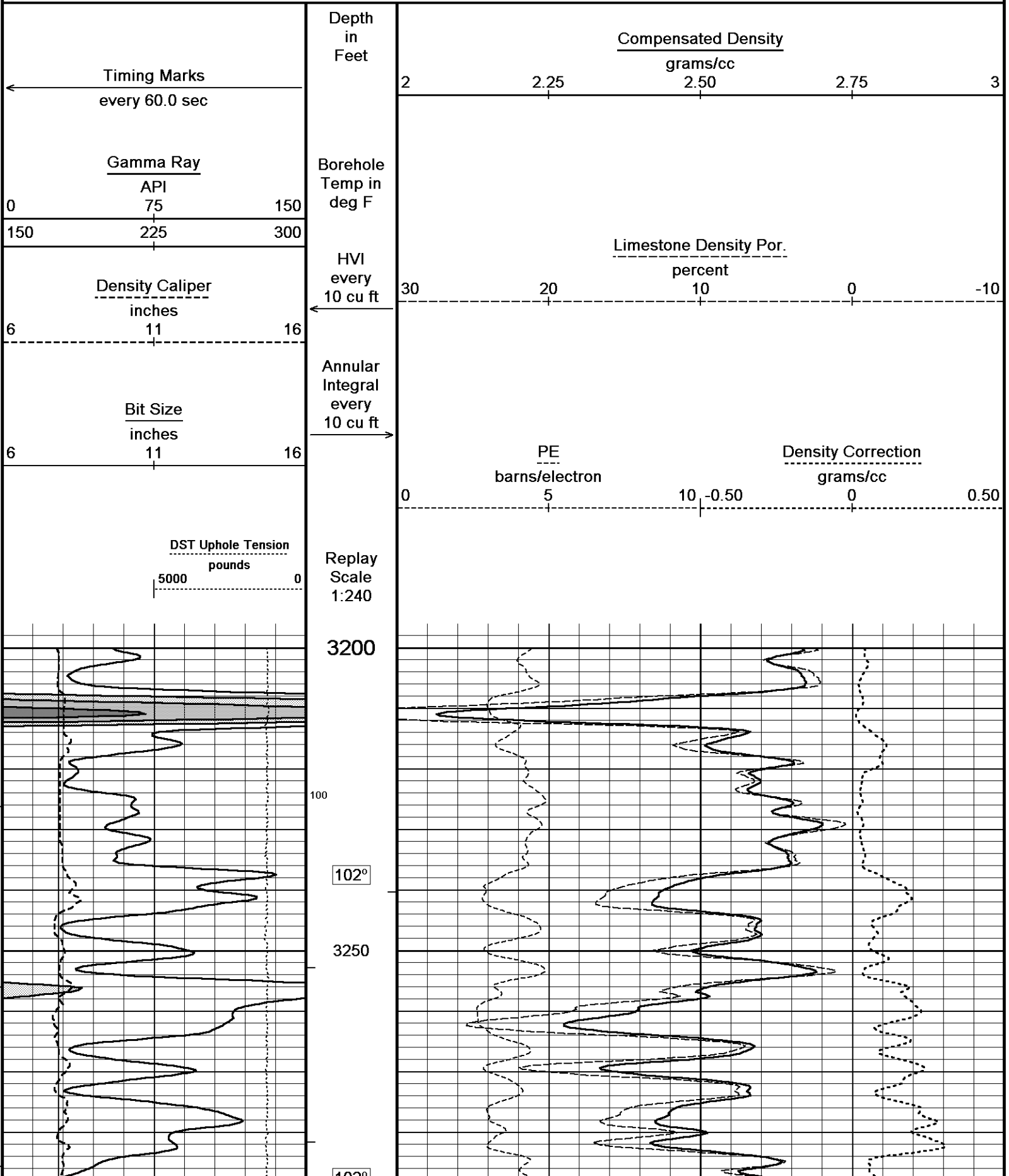


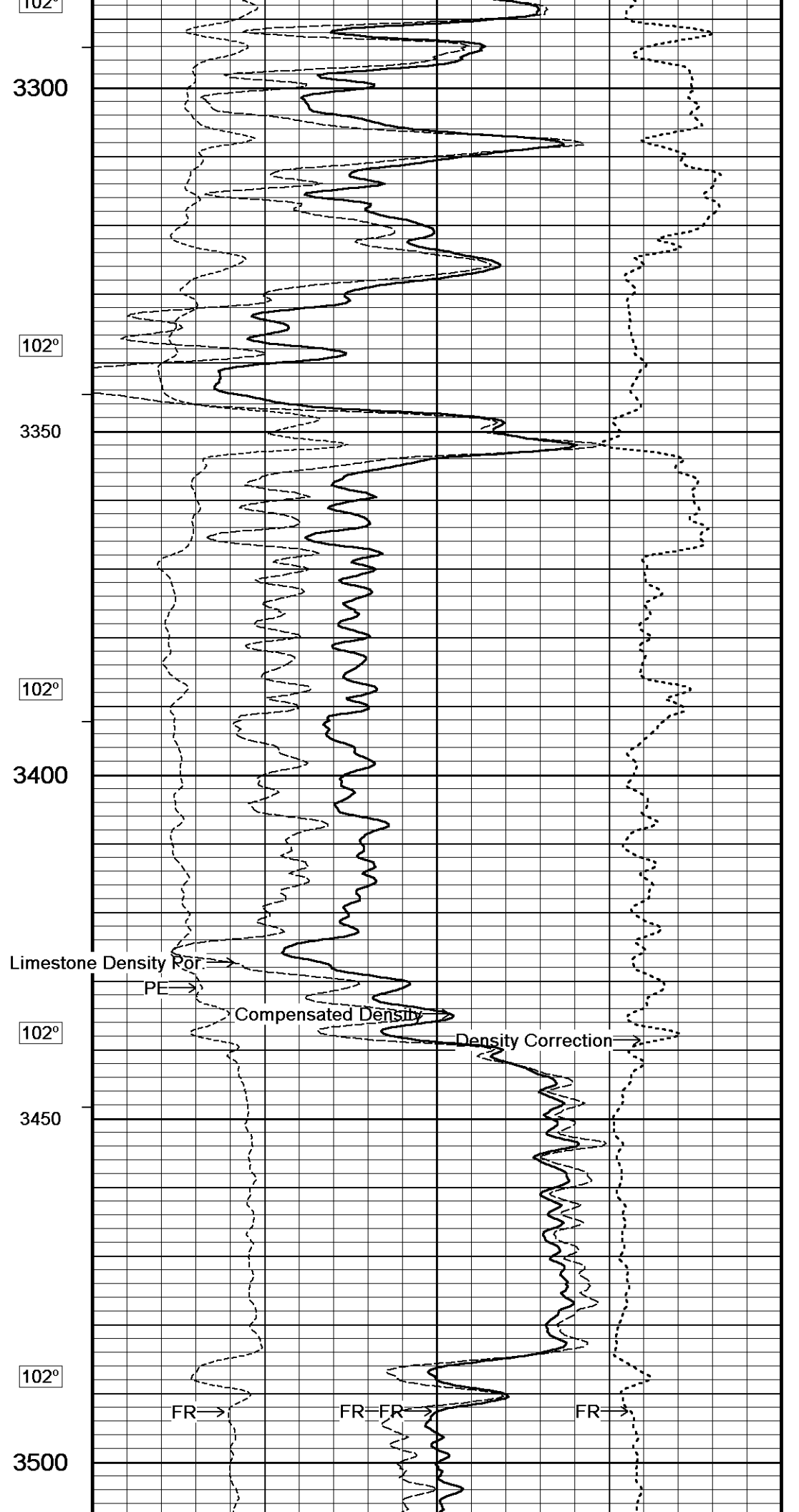
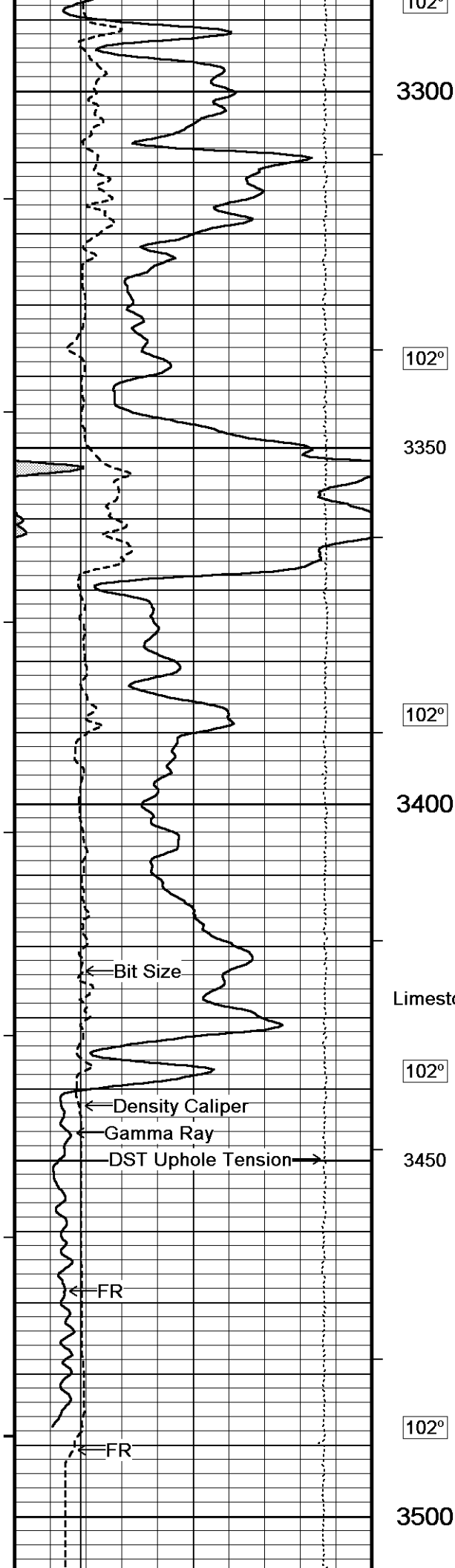
100
102°
3250
102°
3300
102°
3350
103°
3400

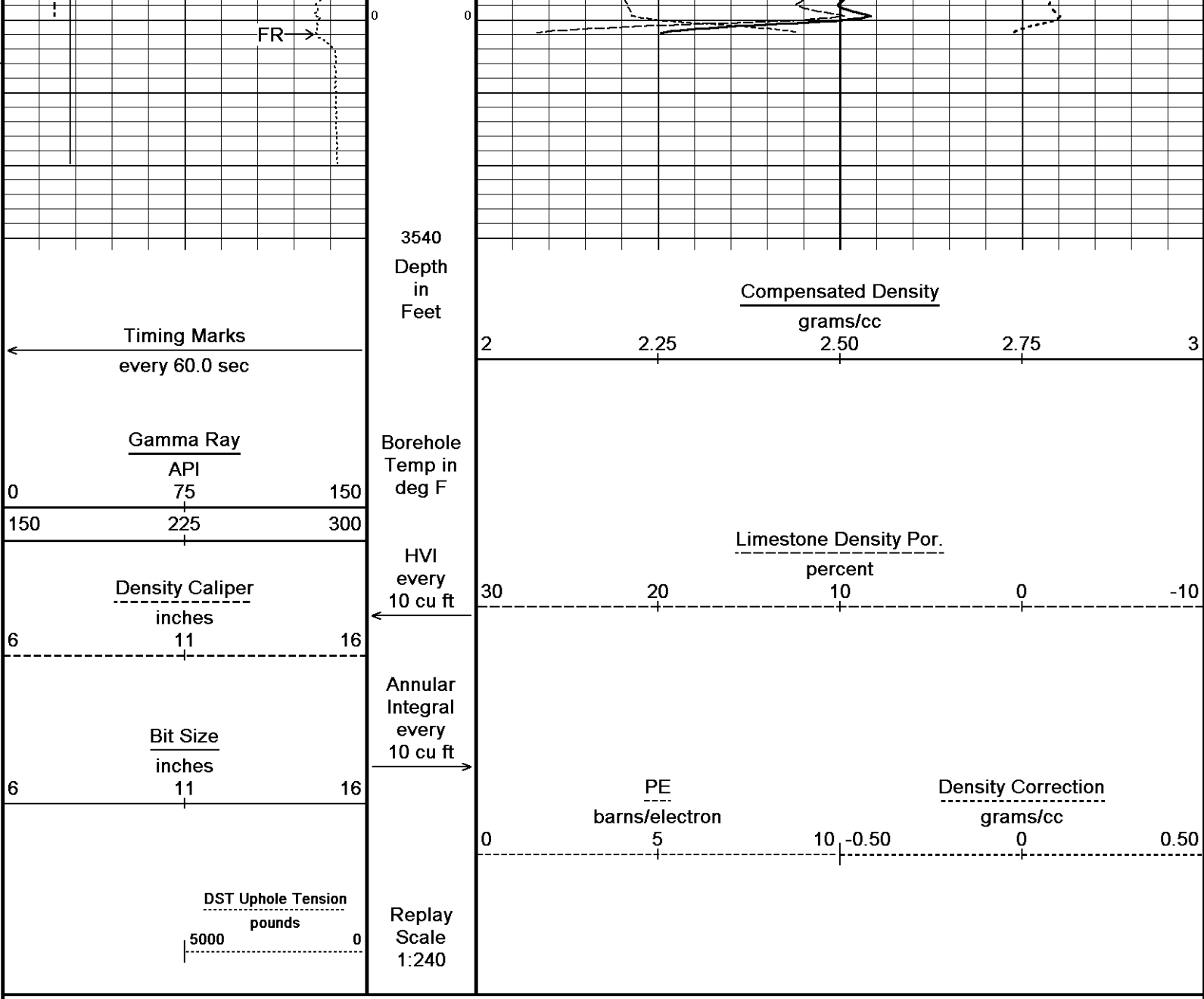


Limestone Density Por. →
PE →
Compensated Density →









Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\Minimus 13.05.9583\Logs\O'Brien R...\O'Brien Resources Bar S Ranch 28 #1 REPEAT.dta
System Versions: Logged with 13.05.9583 Processed with 13.05.9583 Plotted with 13.05.9583

↑ REPEAT SECTION ↑

BEFORE SURVEY CALIBRATION		
C:\Minimus 13.05.9583\Logs\O'Brien Resources Bar S Ranch 28 #1\O'Brien Resources Bar S Ranch 28 #1 REPEAT.dta		
General Constants All 000		Last Edited on 13-AUG-2013,01:27
General Parameters		
Mud Resistivity	1.200	ohm-metres
Mud Resistivity Temperature	85.000	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	MMR Caliper	
Rwa Parameters		

Porosity used	Crossplot Porosity	
Resistivity used	Array Ind. Six Res Rt	
RWA Constant A	0.610	
RWA Constant M	2.150	
SW/APOR Tool Source	0.000	
High Resolution Temperature Calibration MCG-D.K 442		
	Measured	Calibrated(Deg F)
Lower	50.00	50.00
Upper	75.00	75.00
High Resolution Temperature Constants MCG-D.K 442		
Pre-filter Length	11	
Gamma Calibration MCG-D.K 442		
	Measured	Calibrated (API)
Background	68	45
Calibrator (Gross)	1160	770
Calibrator (Net)	1092	725
Gamma Constants MCG-D.K 442		
Gamma Calibrator Number	GRC38	
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	%
Caliper Calibration MPD-B 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)
	6.02	5.98
Photo Density Calibration MPD-B 31		
Density Calibration		
Base Calibration		
	Measured	Calibrated (sdu)
	Near	Far
Reference 1	44616	22757
Reference 2	18262	1889
Field Check at Base		
	672.4	838.4
Field Check		
	675.4	828.9
PE Calibration		
Base Calibration		
	Measured	Calibrated
	WS	Ratio
Background	126	597
Reference 1	18938	44504
Reference 2	5515	18179
Field Check at Base		
	125.7	597.4
Field Check		

Density Constants MPD-B 31

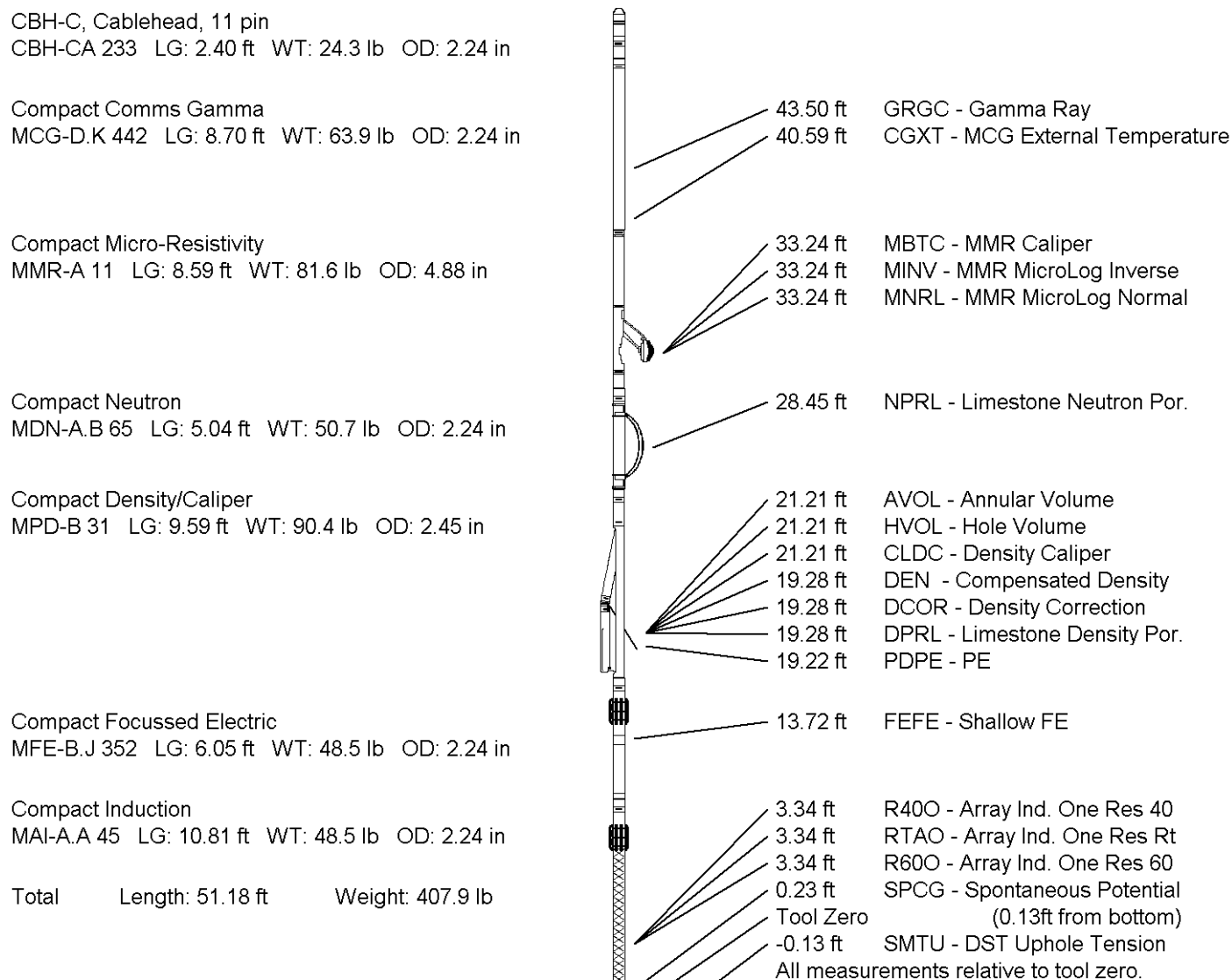
Last Edited on 10-AUG-2013,15:45

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
0.00	0.00

DOWNHOLE EQUIPMENT

C:\Minimus 13.05.9583\Logs\O'Brien Resources Bar S Ranch 28 #1\O'Brien Resources Bar S Ranch 28 #1 REPEAT.dta



COMPANY	O'BRIAN RESOURCES, LLC
WELL	BAR S RANCH 28 #1
FIELD	WILDCAT
PROVINCE/COUNTY	RUSSELL
COUNTRY/STATE	U.S.A. / KANSAS

Elevation Kelly Bushing	1741.00	feet	First Reading	3493.00	feet
Elevation Drill Floor	1740.00	feet	Depth Driller	3518.00	feet
Elevation Ground Level	1730.00	feet	Depth Logger	3512.00	feet



COMPACT PHOTO DENSITY
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MICRORESISTIVITY LOG