

Tucker
WIRELINE SERVICES

COMPENSATED NEUTRON
PEL DENSITY LOG

File No. : OKC-55481
Company : BRUNGARDT OIL & LEASING, INC.
Well : C. B. BEERY #6
Field : EMMERAN NE
County : ELLIS
State : KANSAS
Country : USA

Location : 2190' FNL & 2300' FEL
NE SW SW NE
Sect : 34 Twp : 12S Rge : 16W

Recorded By : T. MONTGOMERY
Witnessed By : G. BRUNGARDT

Date : NOV 30 2010
Run No. : 1
Permanent Datum : GL
Drilling Measured From : KB
Log Measured From : KB
Above Permanent Datum : 5.00 FT
Depth--Driller : 3508.0 FT
Depth--Logger : 3508.0 FT
Bottom Log Interval : 3475.0 FT
Top Log Interval : 1190.0 FT
Casing Depth--Driller : 225.0 FT
Casing Depth--Logger : 225.0 FT
Casing Diameter : 8.625 IN
Bit Size : 7.875 IN
Unit No. : 125
Location : OKLAHOMA CITY

Elevations :
KB : 2041.00 FT
DF : 2040.00 FT
GL : 2036.00 FT

Additional Services

MLT
PIT
XYT

The customer is hereby warned that by providing the log data herein, T. W. S. does not agree to provide any interpretation of log data, conversion of log data to physical rock parameters or recommendations. T. W. S. does not guarantee or warrant either expressly or impliedly, the accuracy of any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by T. W. S. personnel. Any interpretation, conversion or recommendation is not part of the consideration for the agreement between the parties and is not part of any part of the charge by T. W. S. for its services. Any user of the log data is warned that said user is not entitled to rely on interpretations, conversions or recommendations as aforesaid.

Run Number 1

Depth To Fluid 0.0 FT
Fluid Type In Hole : WBM
Density : 9.000 LDS/GAL
Viscosity : 53.000 SEC/QT
pH : 10.500 KKPM
Fluid Loss : 7.600 CC
Salinity : 0.000

RM Source : MEASURED
RM : 1.100 OHMM at 60 F
RM at BHT : 0.722 OHMM at 128 F

RMF Source : CALCULATED
RMF : 0.825 OHMM at 60 F
RMF at BHT : 0.577 OHMM at 128 F

RMC Source : CALCULATED
RMC : 1.265 OHMM at 60 F
RMC at BHT : 0.577 OHMM at 128 F

RMC :	1.265	OHMM at	60	F
RMC at BHT :	0.866	OHMM at	128	F
Max Recorded Temp. :			128	F
Time Circulation Stopped :				
Operating Rig Time, Hrs. :			3.0	

- Source Serial Numbers -

Gamma	CSV-C2
Neutron	N-1043

- Sonde Serial Numbers -

GRTB	GRT-BC-43
CNT	CNP-AA-106
LDT	LDP-BA-20
MST	MST-CA-021
PIT	PIT-AB-14

Casing Strings

Size (IN)	Weight (LB/FT)	Bottom (FT)
8.625	32.00	225.00

- Comments -

ALL PRESENTATIONS AS PER CLIENT REQUEST.

GRT, CNT, LDT, MST, PIT RAN IN COMBINATION.
 2.71 G/CC DENSITY MATRIX USED TO CALCULATE POROSITY.
 5.50" PRODUCTION CASING USED TO CALCULATE AHV.
 NO STANDOFF DEPLOYED ON PIT TOOL.
 CALIPERS ORIENTED ON X-Y AXIS.
 PHIN IS CALIPER CORECTED.
 MLT, CNT AND LDT PRESENTED FROM TD TO 2900' AS PER CLIENT REQUEST.
 GR, AND PIT PRESENTED FROM TD TO SURFACE AS PER CLIENT REQUEST.
 GR ONLY RUN TWO

GRP - GRP
 CNT - PHIN, CLMIN
 LDT - LDEN, PECL, LCOR, PORL, CLLDIN
 MST - CLMRIN, MSFI, MSFN
 PIT - ILD, ILM, CIRD, SFLAEC, SPU

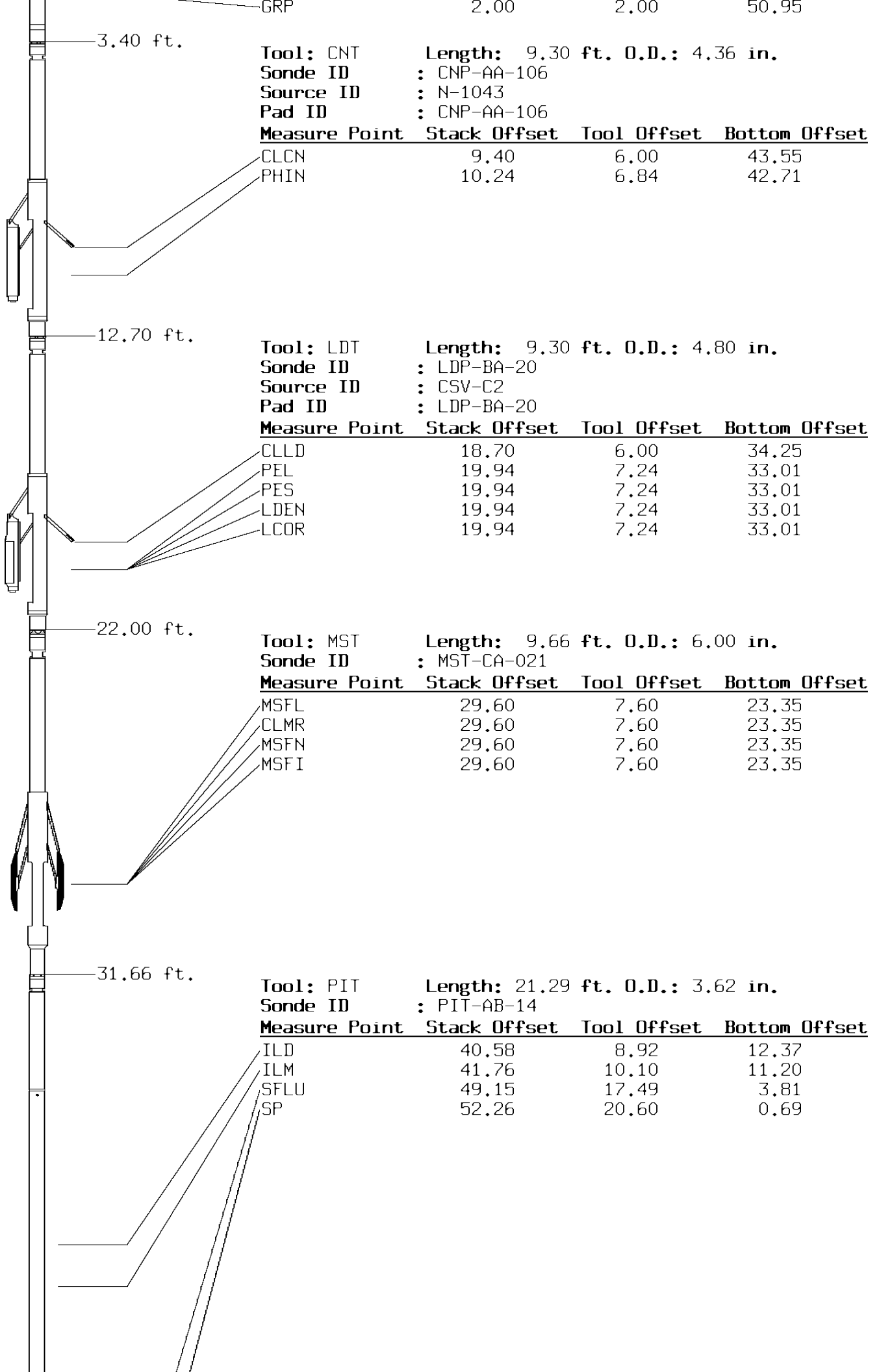
THANK YOU FOR USING TUCKER ENERGY SERVICES!
 OPERATORS.
 C.VANCE
 C. RADATZ

Tool String Schematic

Total Tool Length - 52.95 ft.
 Maximum Outside diameter - 6.00 in.
 Net Weight in Air - 943.00 lbs.



Tool: GRTB	Length: 3.40 ft.	O.D.: 3.60 in.
Sonde ID	: GRT-BC-43	
Measure Point	Stack Offset	Tool Offset
GRP	3.00	3.00
		50.95

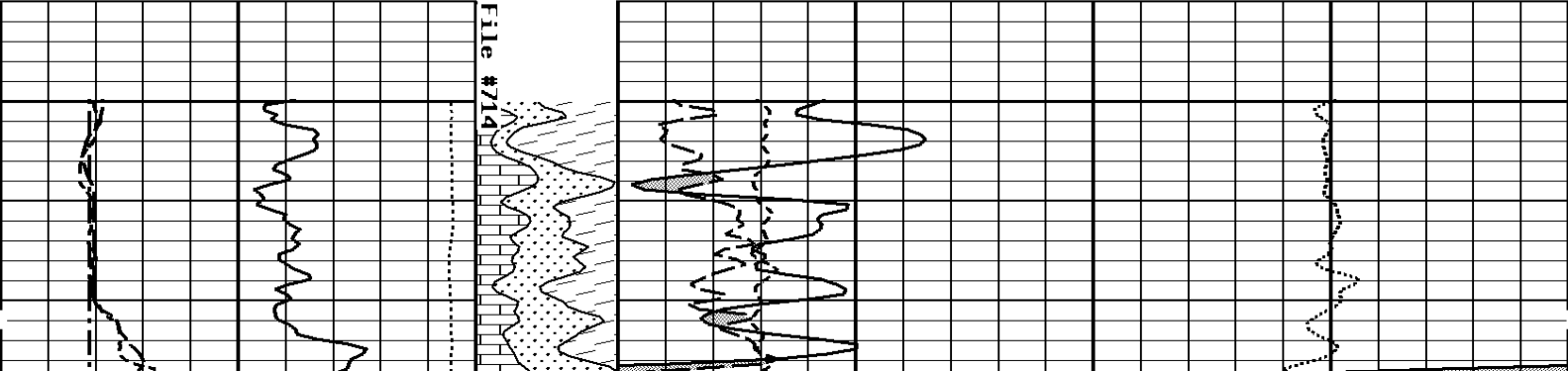


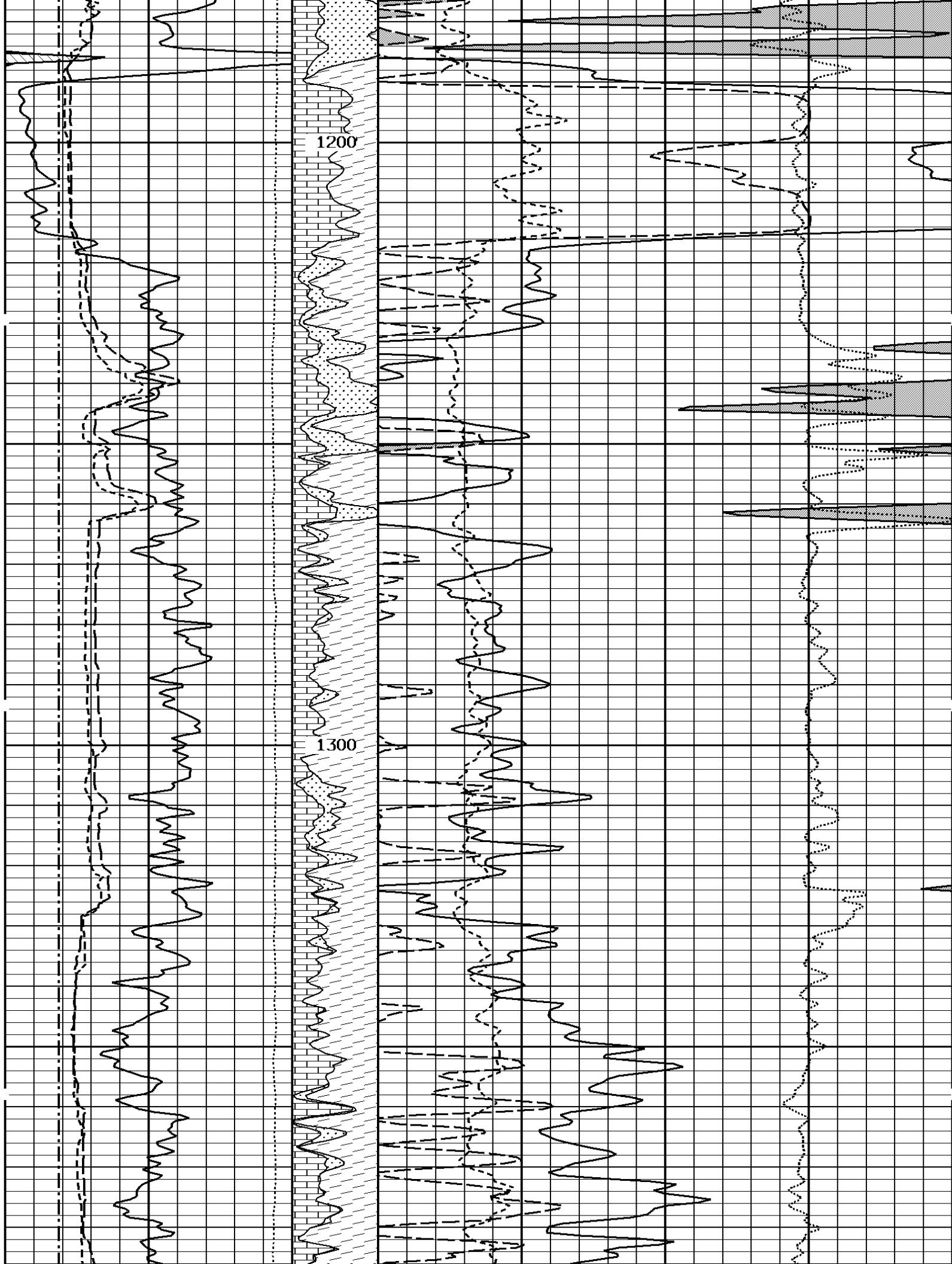


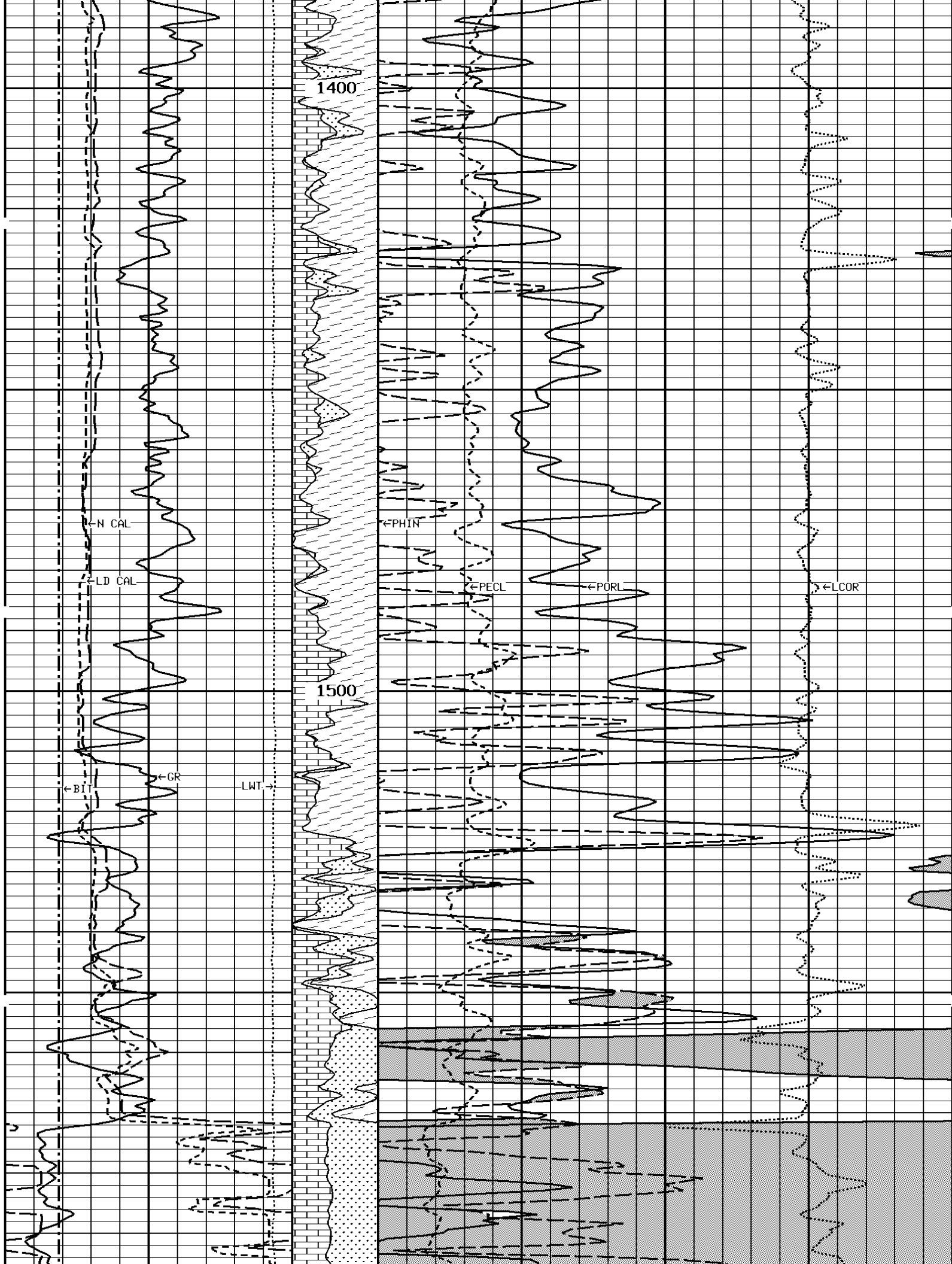
TENSION LBS	
10000	0
BIT SIZE INCHES (IN)	
6	16
DENSITY (X) CALIPER INCHES (IN)	
16	26
6	16
NEUTRON (Y) CALIPER INCHES (IN)	
16	26
6	16
GAMMA RAY API UNITS	
150	300
0	150

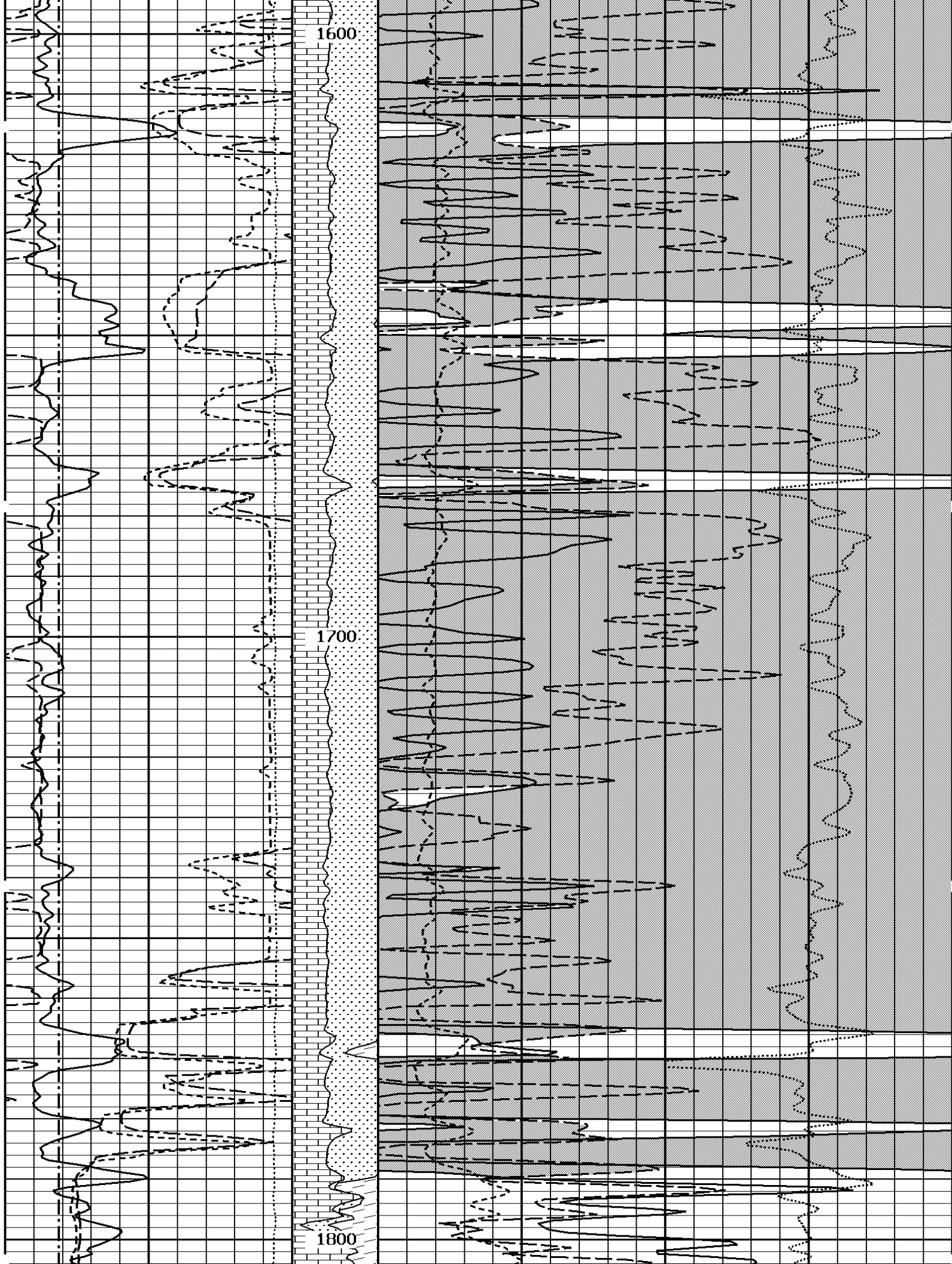
PE CROSS-SECTION BARNs/ELECTRON		DENSITY CORRECTION G/CC	
0	10	-0.25	0.25
NEUTRON POROSITY PERCENT (LIMESTONE MATRIX)			
30			-10
DENSITY POROSITY PERCENT (2.71 g/cc)			
70			30
30			-10

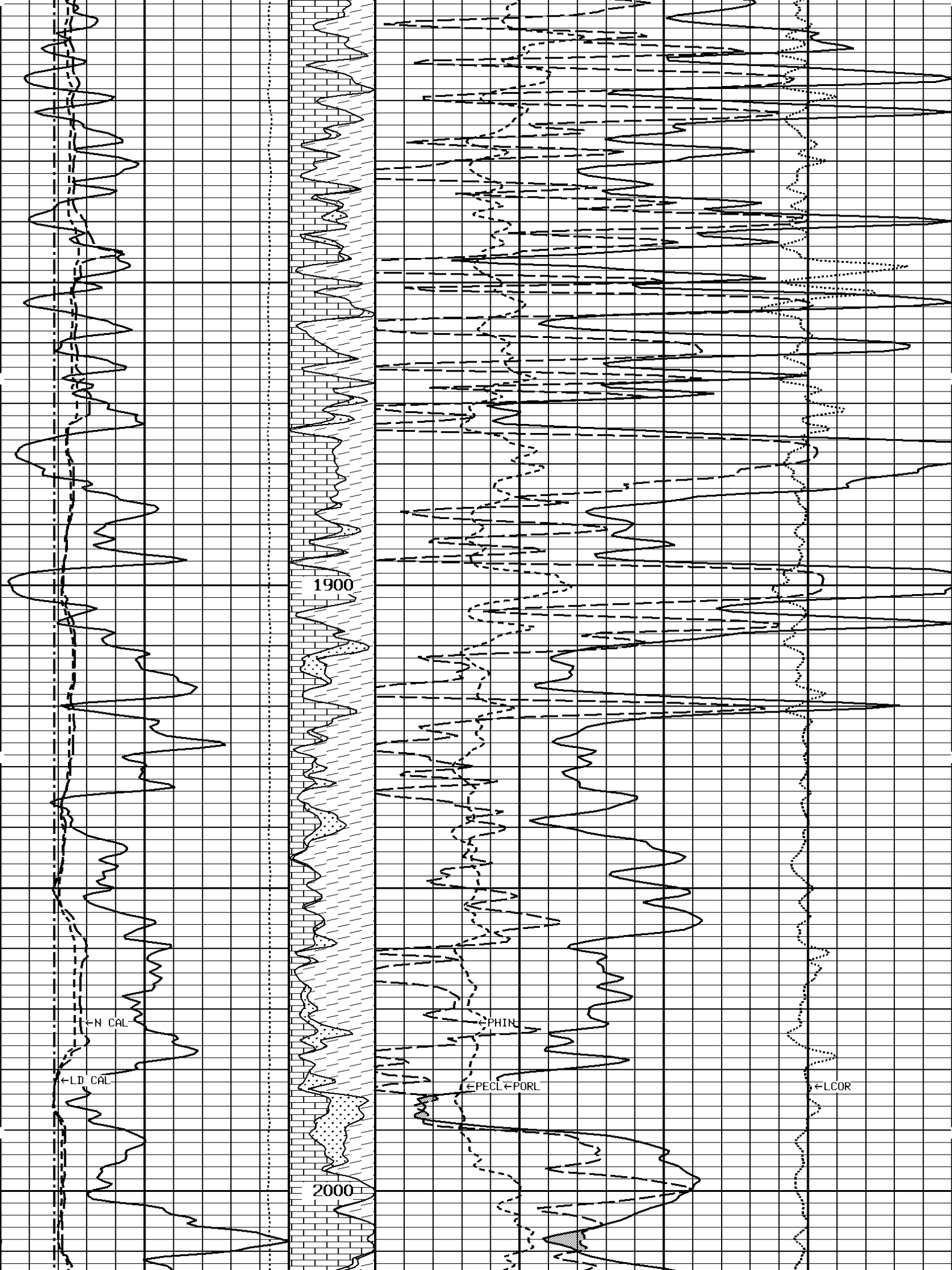
1:240 MAIN SECTION

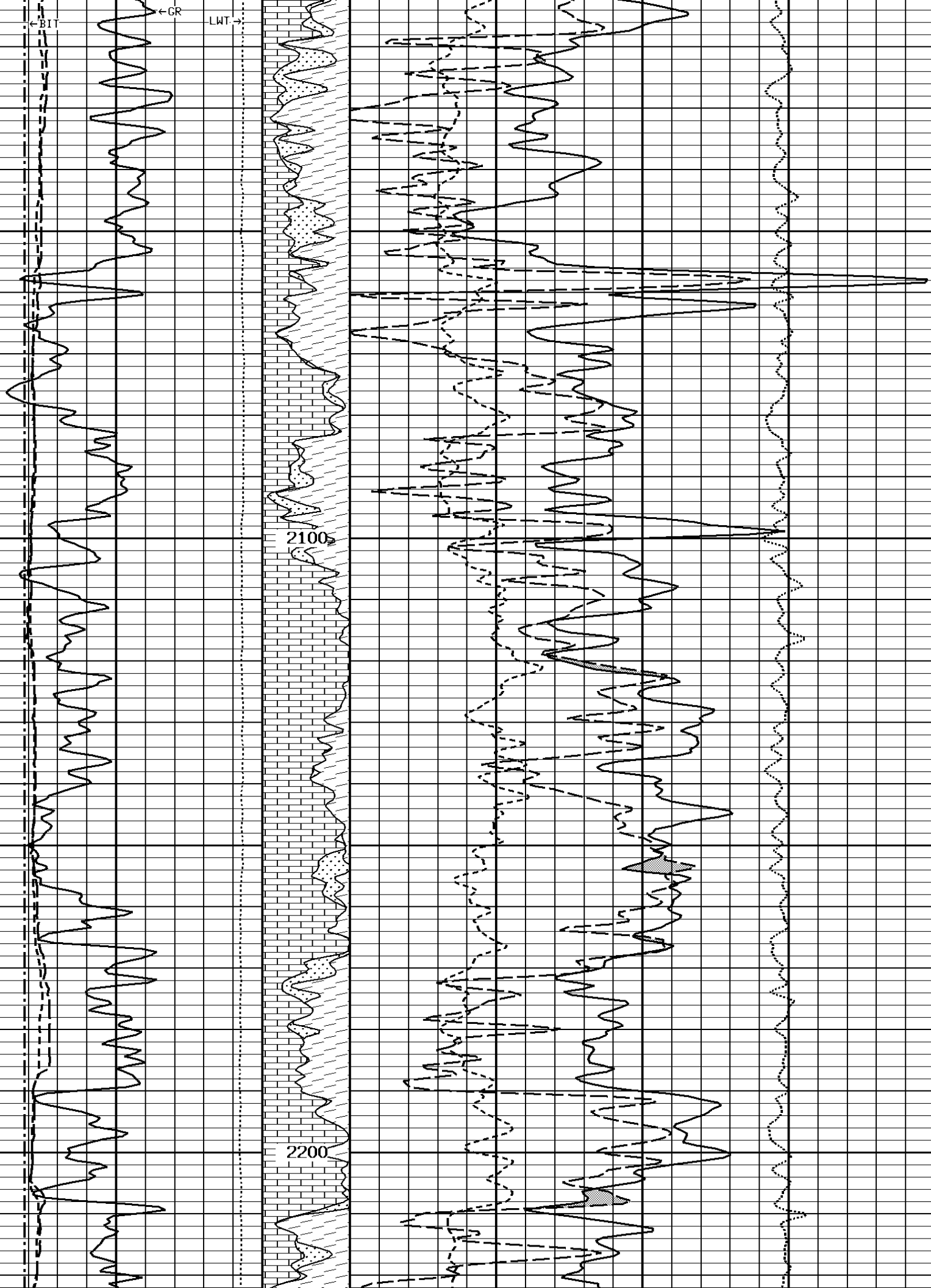


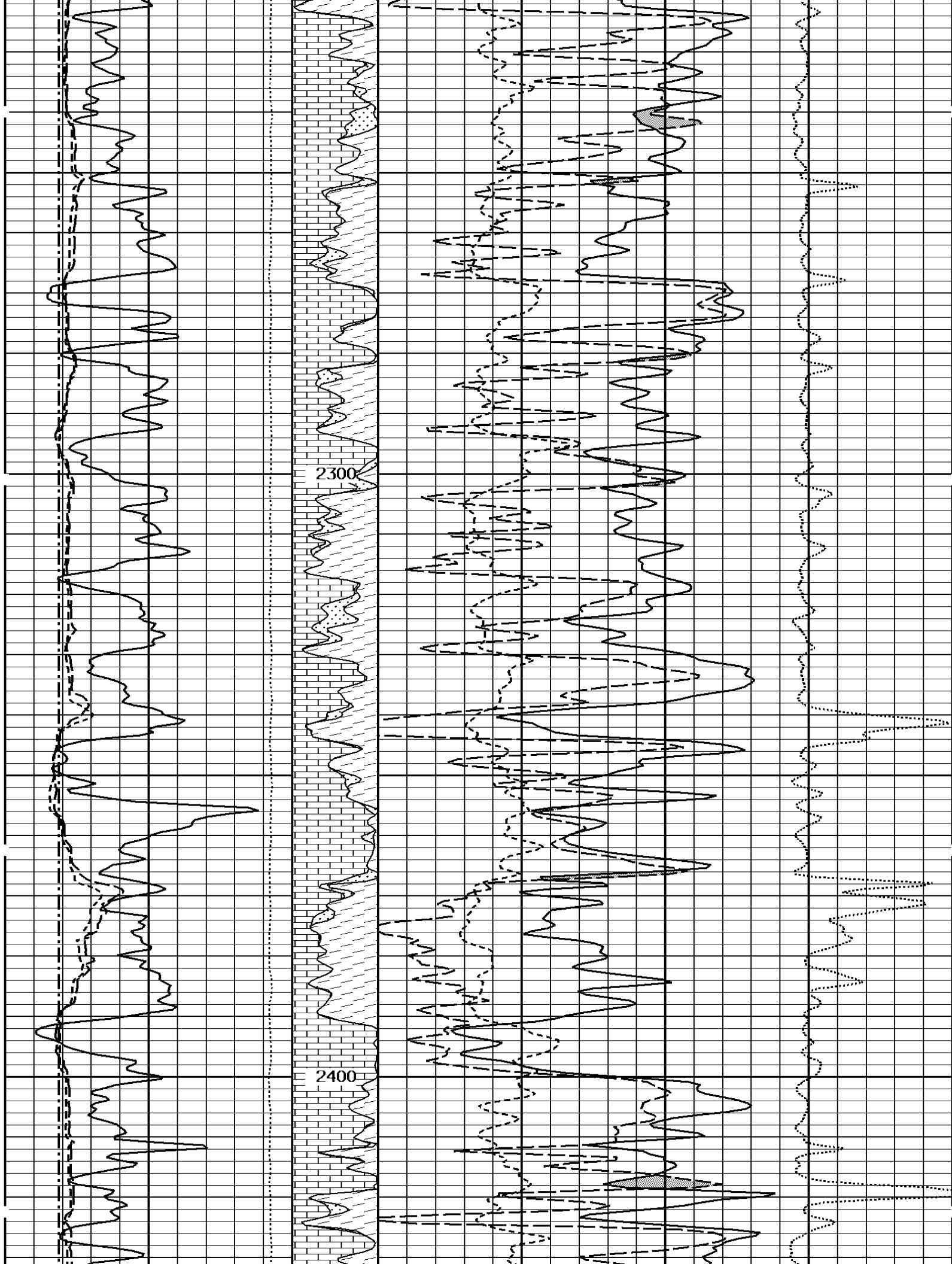


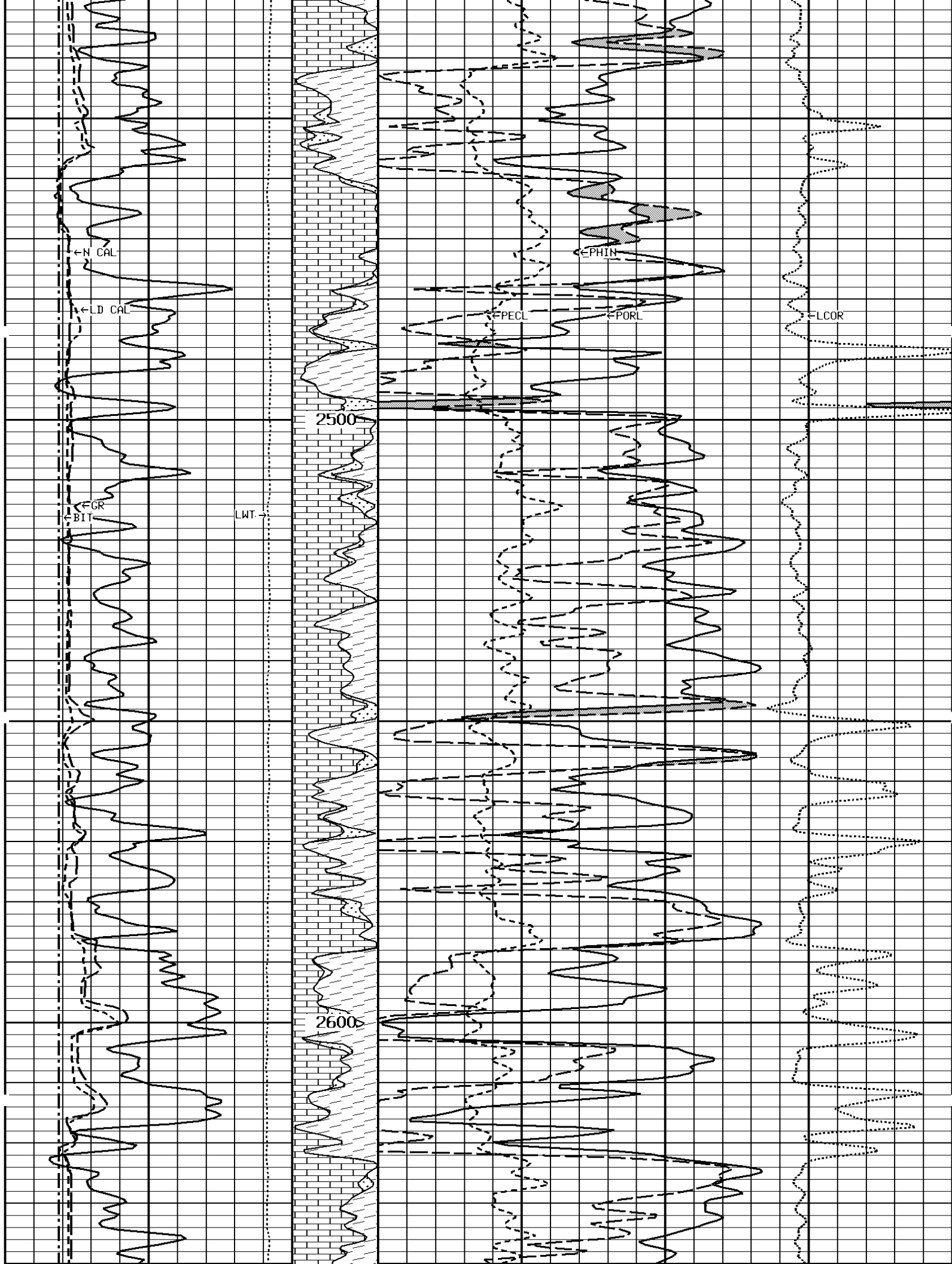


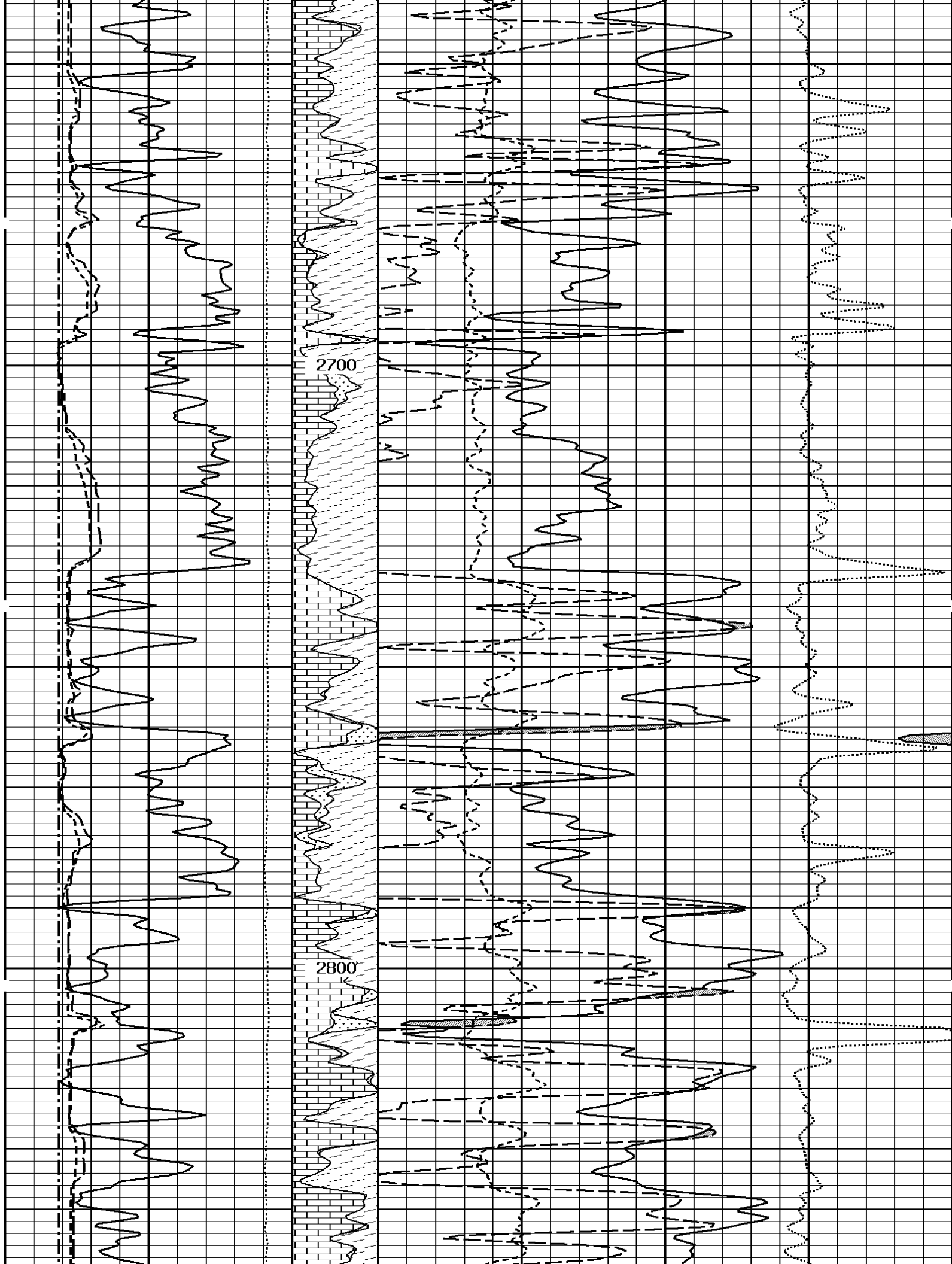


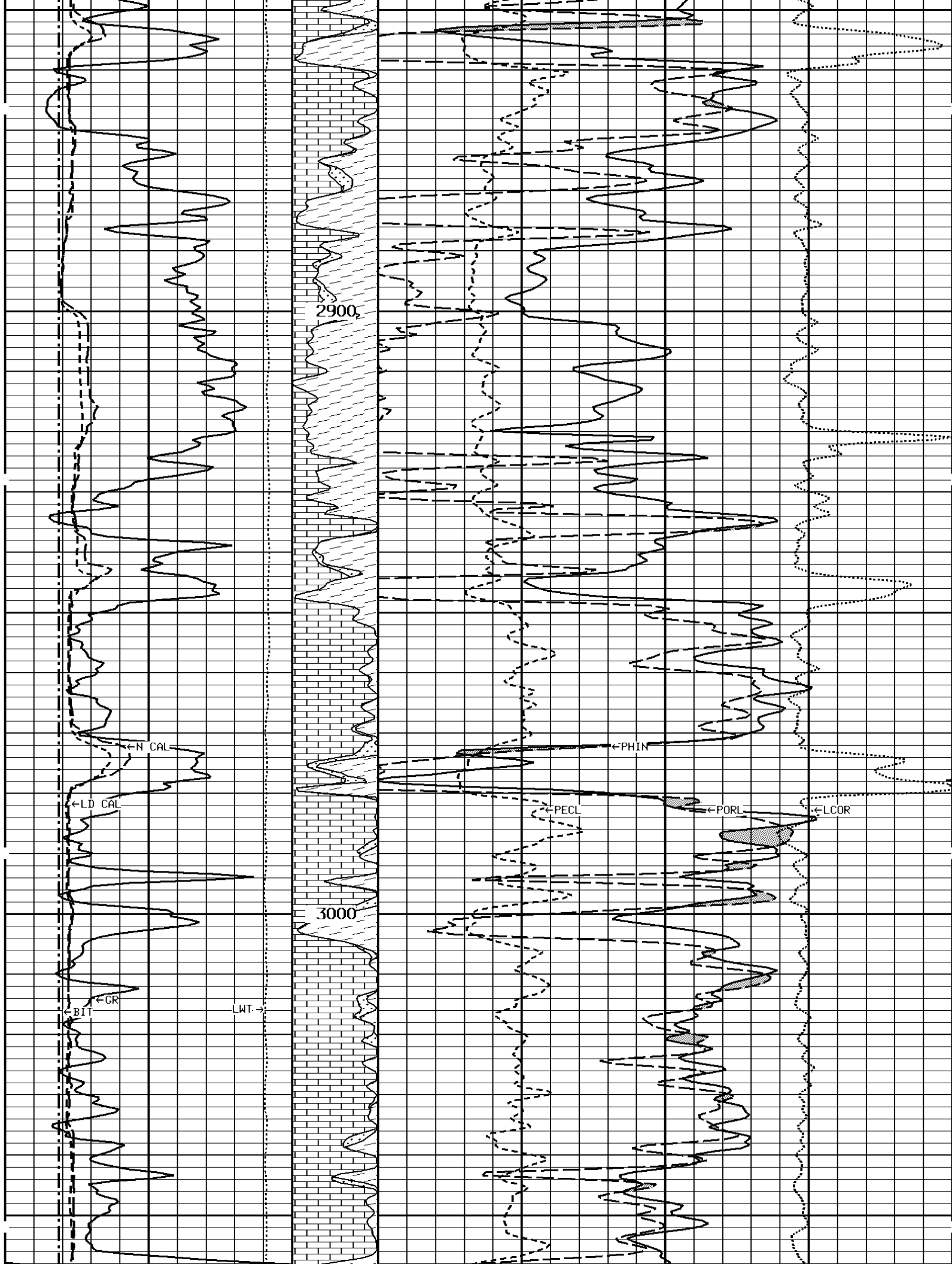


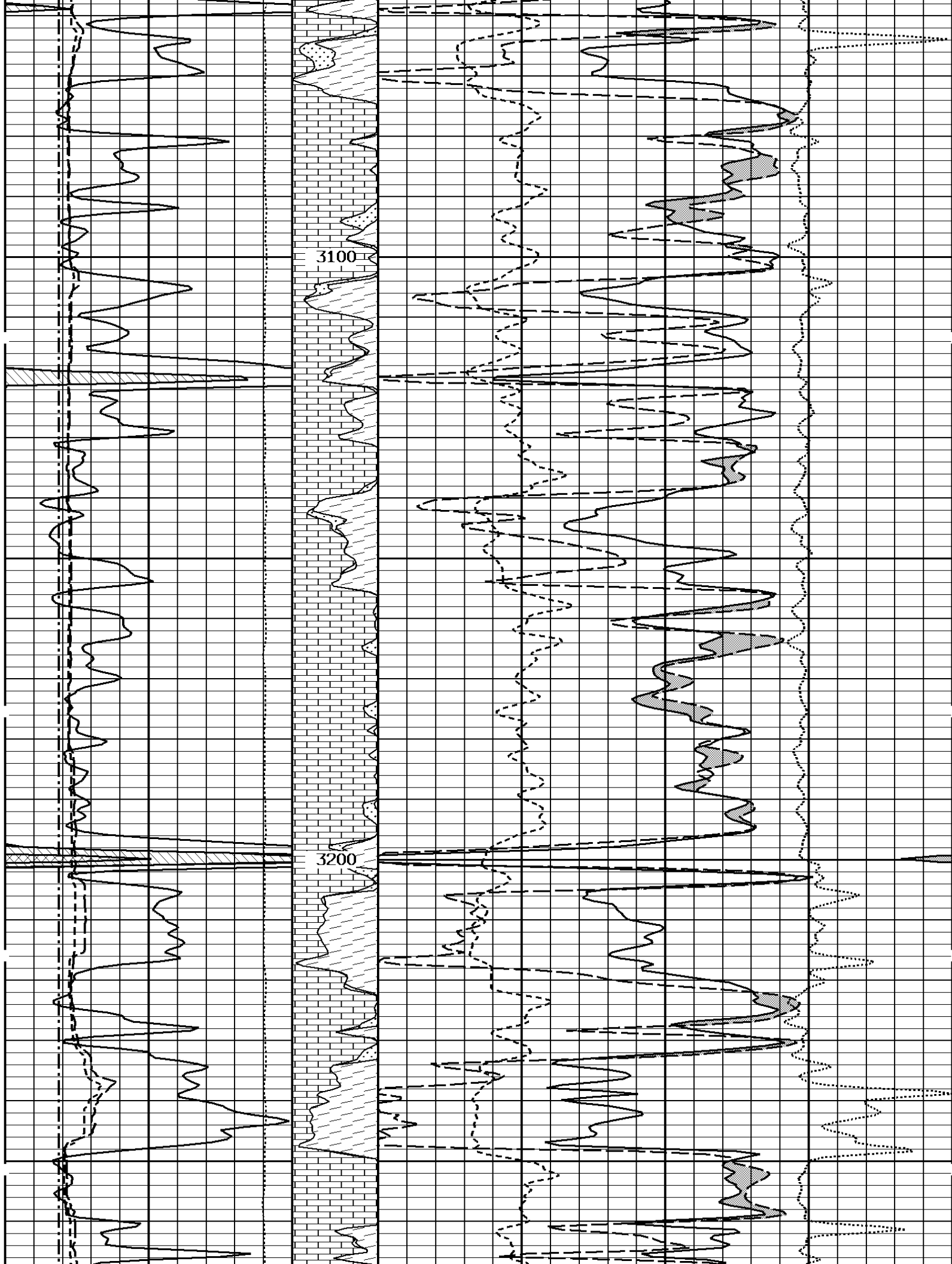


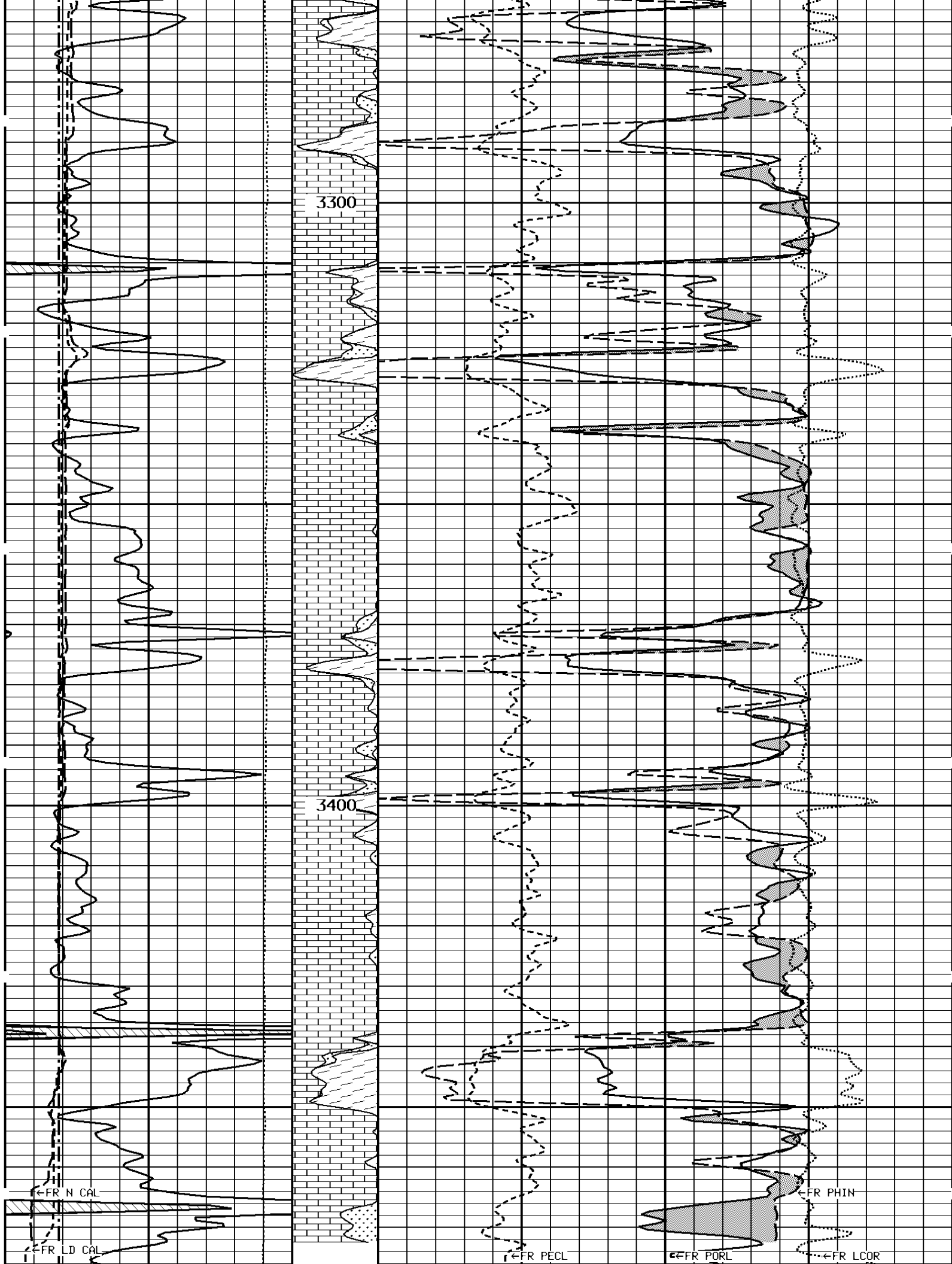


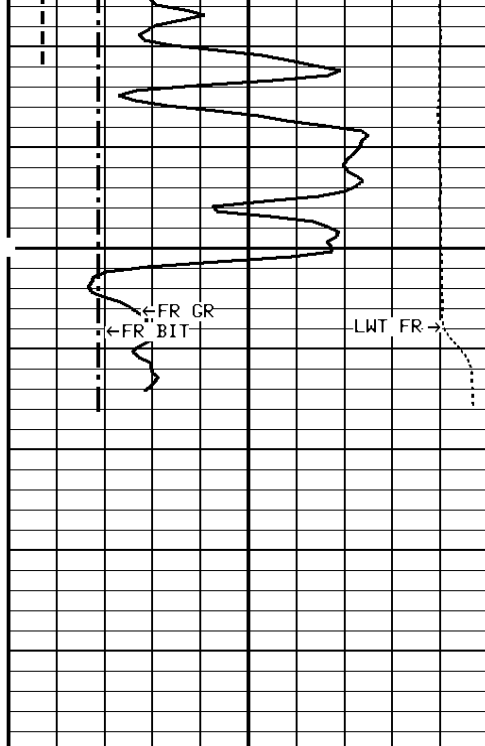












3500

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File #714

1:240 MAIN SECTION

GAMMA RAY API UNITS	
150 0	300 150
NEUTRON (Y) CALIPER INCHES (IN)	
16 6	26 16
DENSITY (X) CALIPER INCHES (IN)	
16 6	26 16
BIT SIZE INCHES (IN)	
6	16
TENSION LBS	
10000	0

DENSITY POROSITY PERCENT (2.71 g/cc)	
70 30	30 -10
NEUTRON POROSITY PERCENT (LIMESTONE MATRIX)	
30	-10
PE CROSS-SECTION BARN/EELECTRON	DENSITY CORRECTION G/CC
0	10 -0.25 0.25

* Borehole Zone Factors *

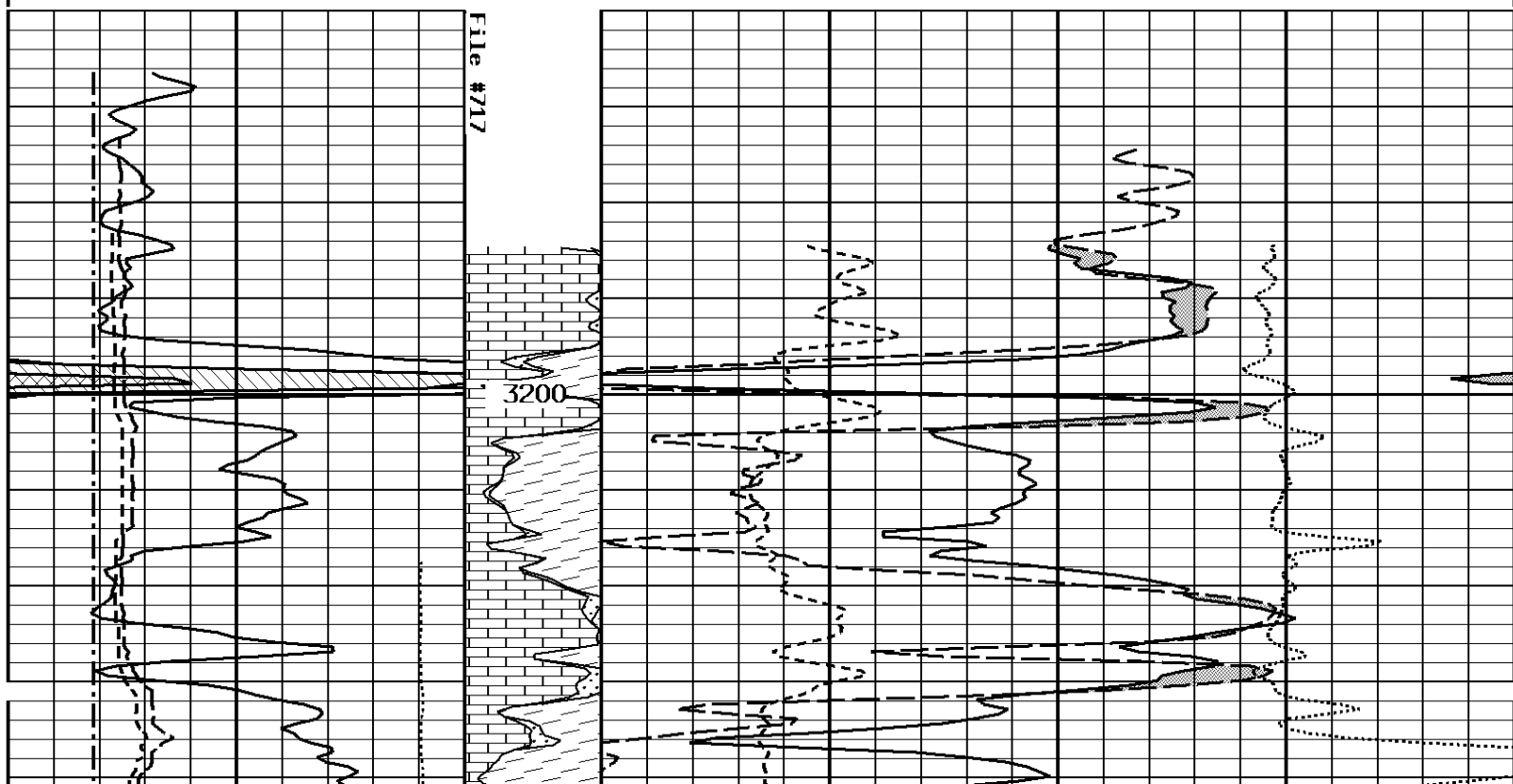
Zone 1	99999.0	to	0.0	F
Matrix Density	2.71	G/C3		
Fluid Density	1.00	G/C3		
Formation Matrix		Limestone		

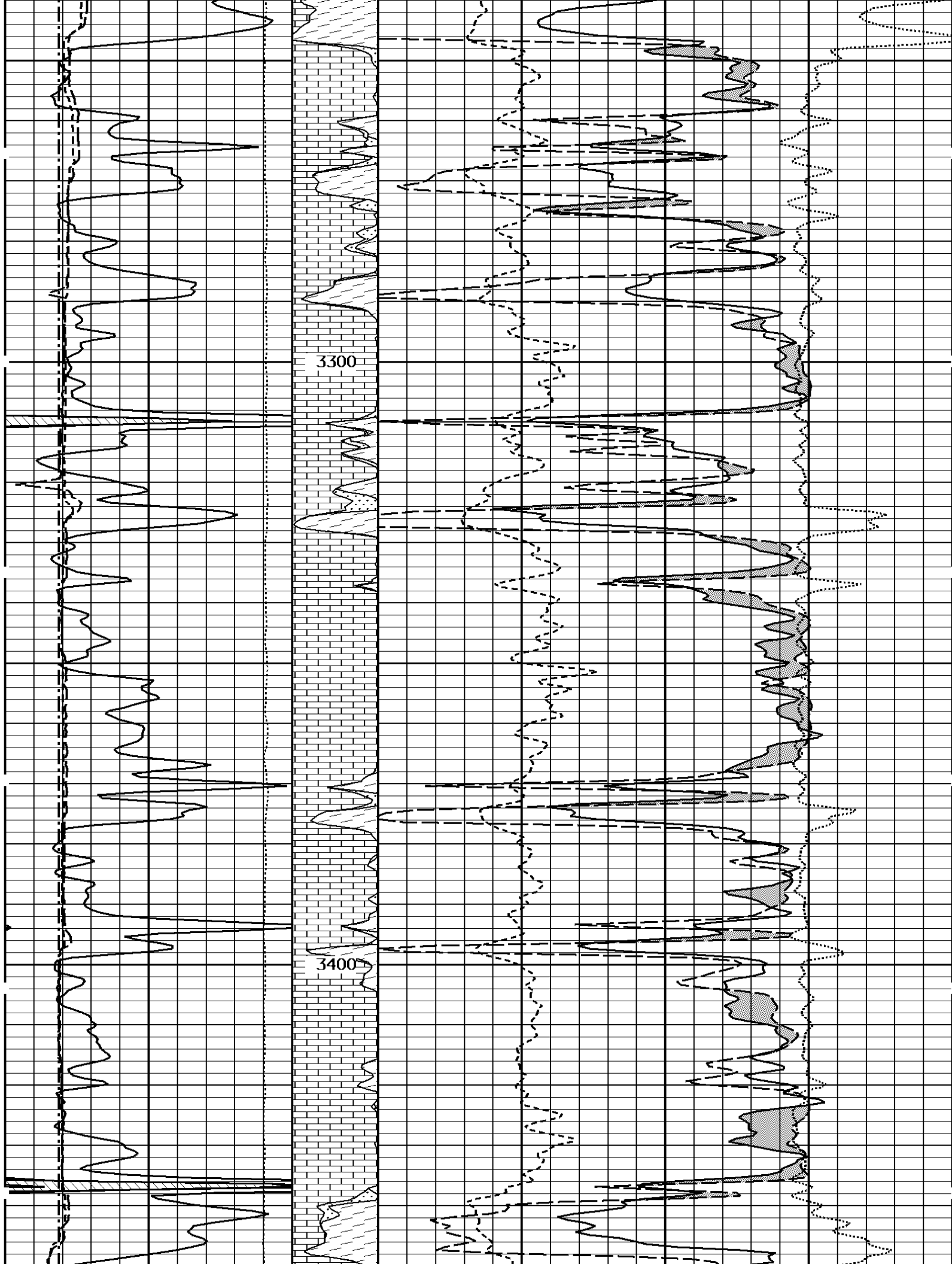
```
Limestone
    7.875  IN
    5.500  IN
Disable
```

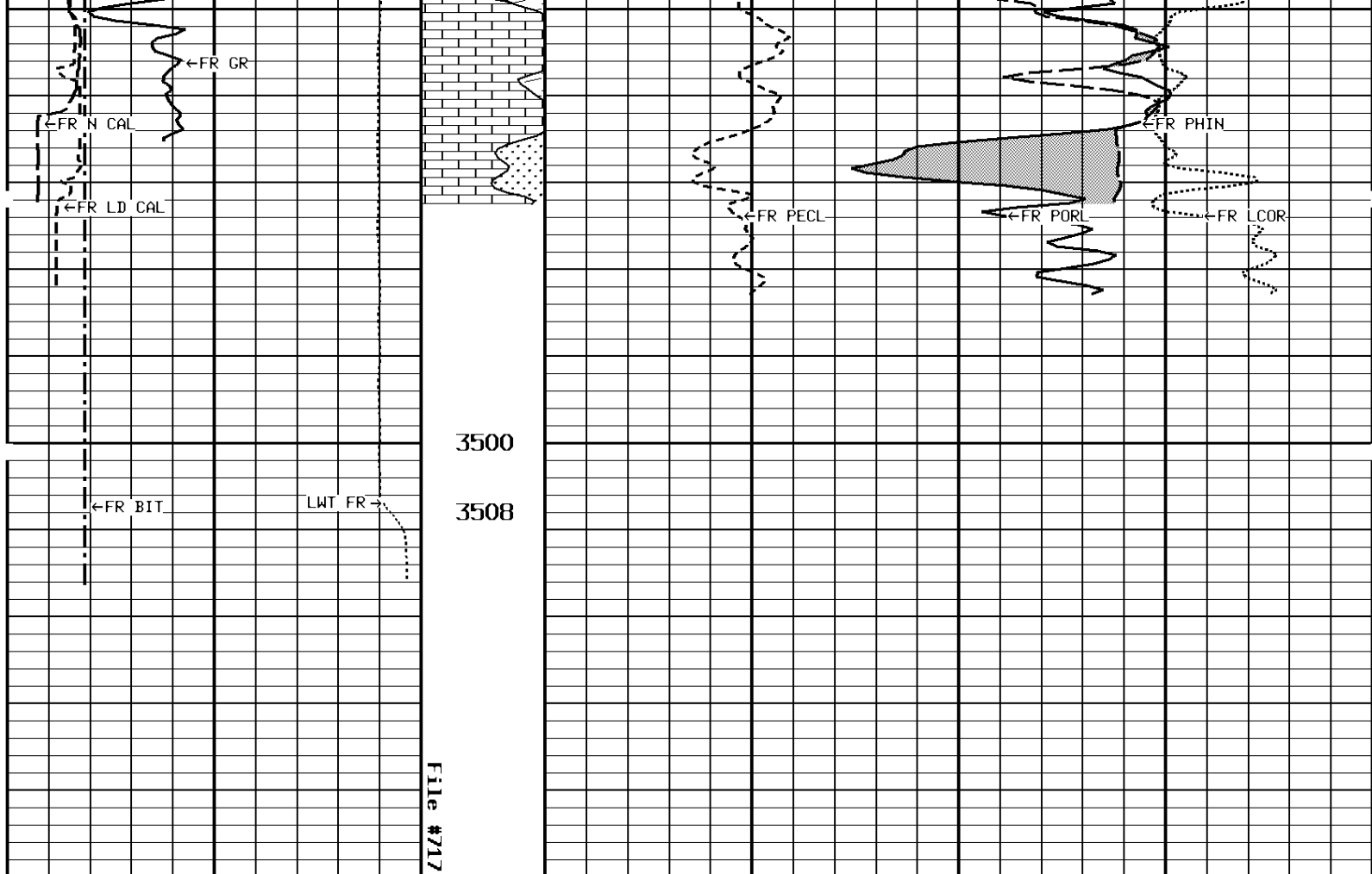
TENSION LBS	
10000	0
BIT SIZE INCHES (IN)	
6	16
DENSITY (X) CALIPER INCHES (IN)	
16	26
6	16
NEUTRON (Y) CALIPER INCHES (IN)	
16	26
6	16
GAMMA RAY API UNITS	
150	300
0	150

PE CROSS-SECTION BARN/ATOM	DENSITY CORRECTION G/CC
0	0.25
10	0.25
NEUTRON POROSITY PERCENT (LIMESTONE MATRIX)	
30	-10
DENSITY POROSITY PERCENT (2.71 g/cc)	
70	30
30	-10

1:240 REPEAT SECTION







1:240 REPEAT SECTION

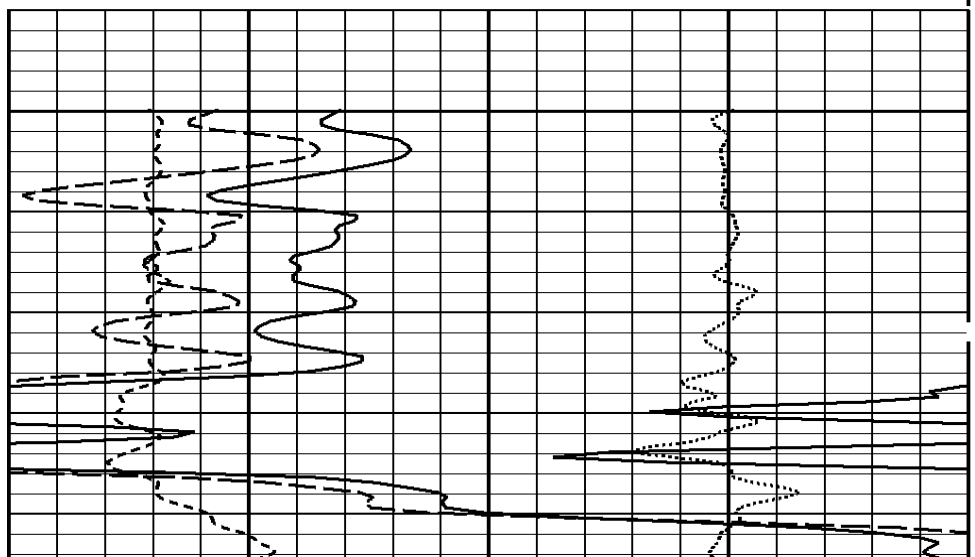
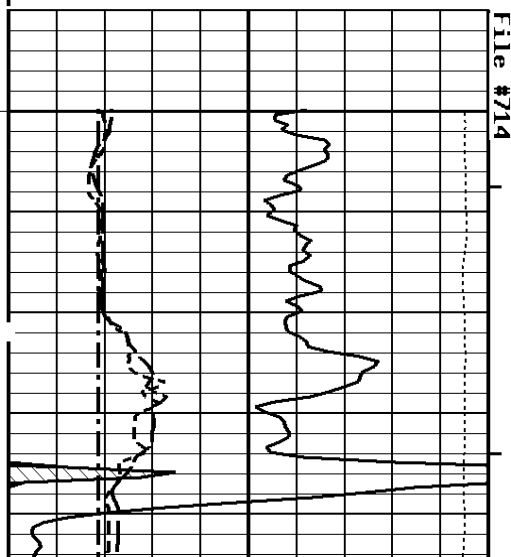
GAMMA RAY API UNITS		DENSITY POROSITY PERCENT (2.71 g/cc)	
150	300	70	30
0	150	30	-10
NEUTRON (Y) CALIPER INCHES (IN)		NEUTRON POROSITY PERCENT (LIMESTONE MATRIX)	
16	26	30	-10
6	16		
DENSITY (X) CALIPER INCHES (IN)		PE CROSS-SECTION BARN/ ELECTRON	DENSITY CORRECTION G/CC
16	26	0	-0.25
6	16	10	0.25
BIT SIZE INCHES (IN)			
6	16		
TENSION LBS			
10000	0		

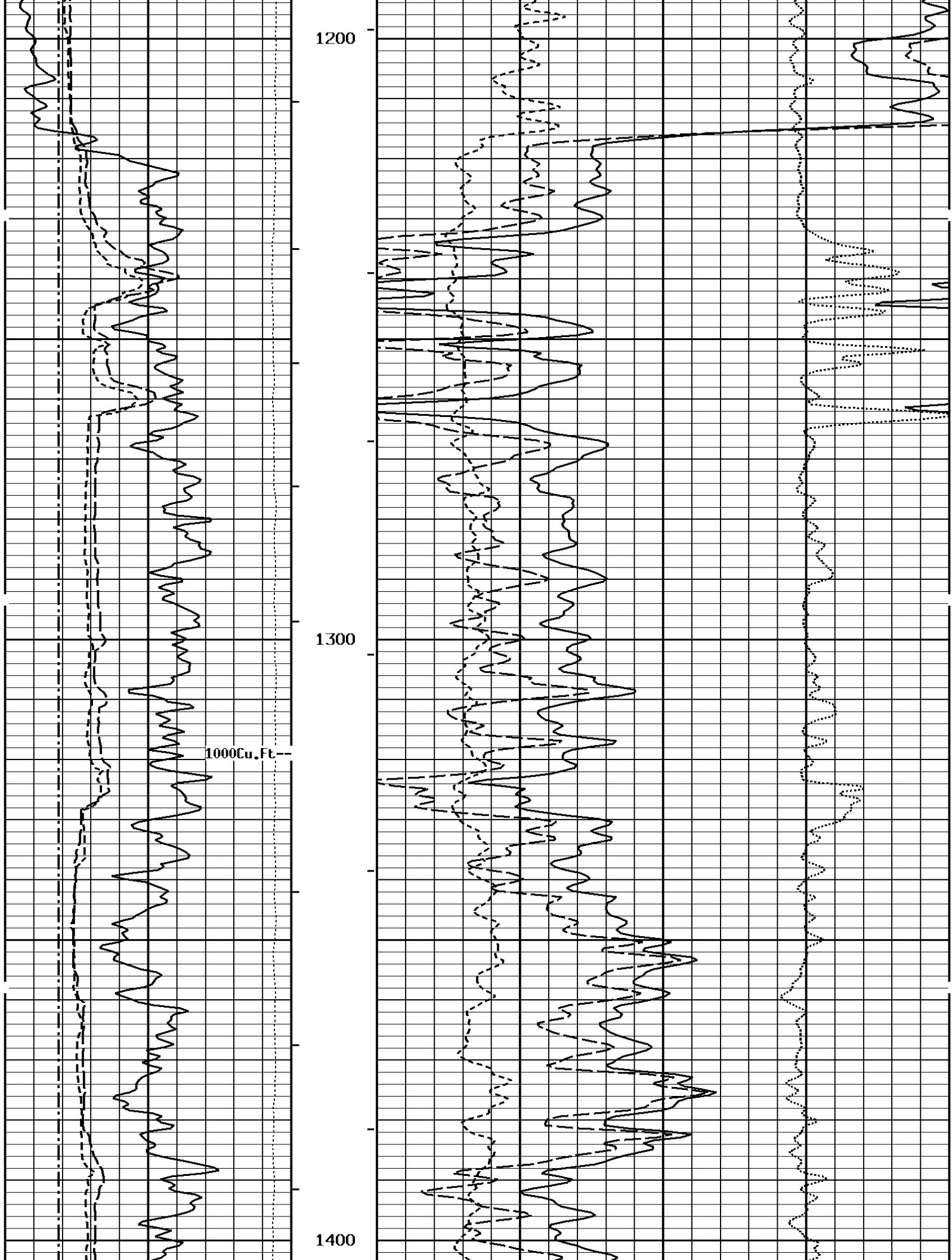
* Borehole Zone Factors *

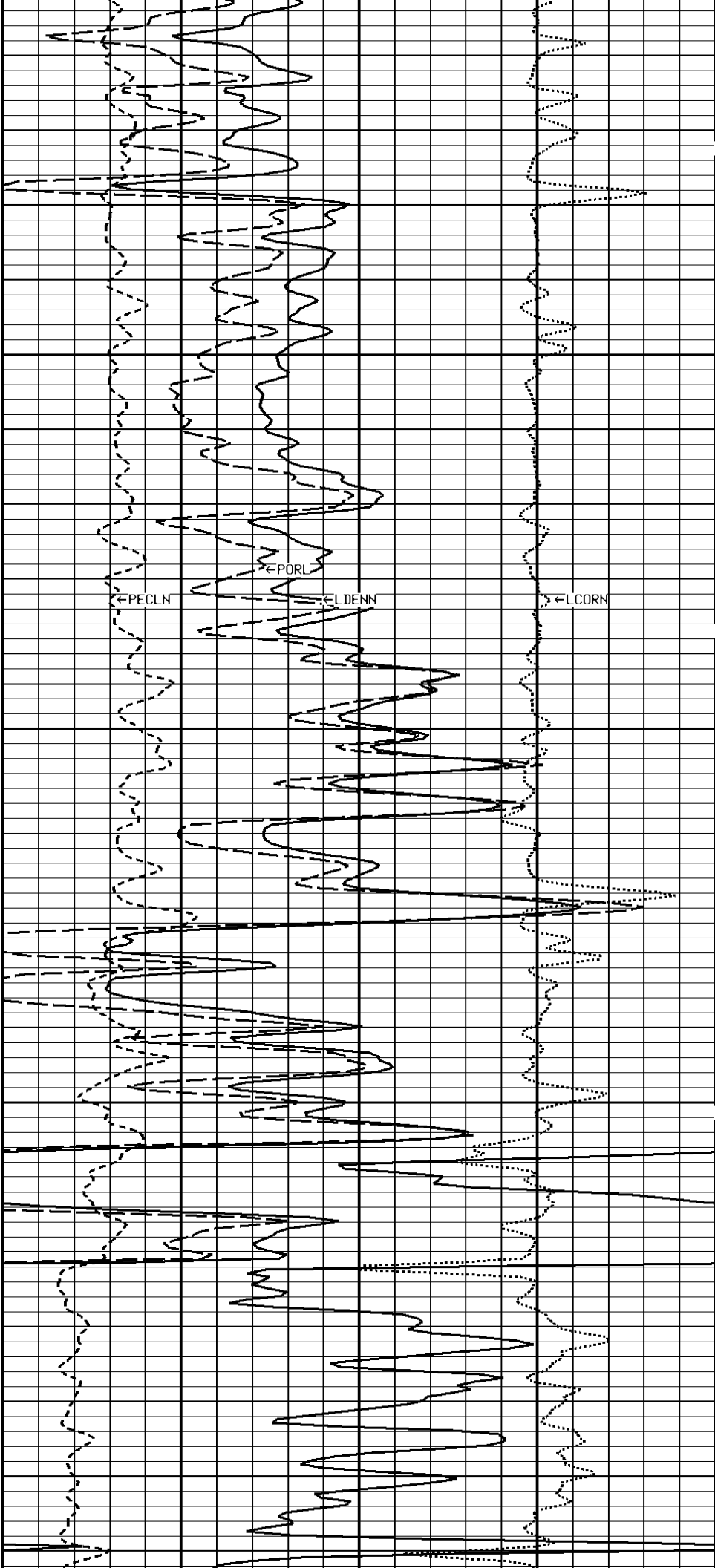
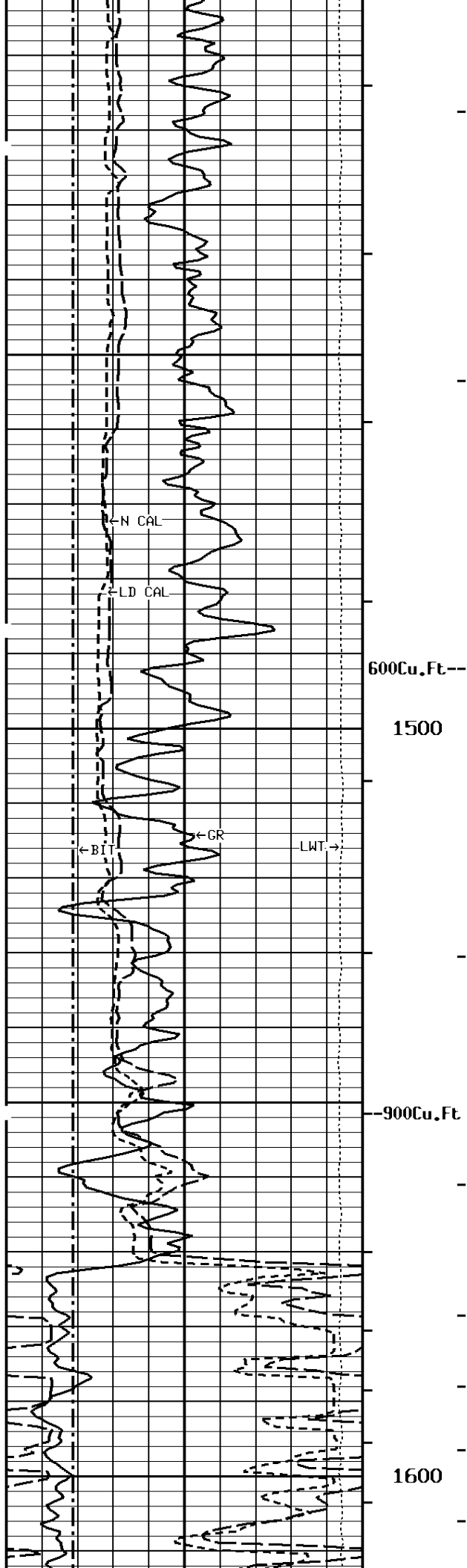
Zone 1 99999.0 to 0.0 F		
Matrix Density_____	2.71	G/C3
Fluid Density_____	1.00	G/C3
Formation Matrix_____	Limestone	
Drill Bit Size_____	7.875	IN
Production Casing Diameter_____	5.500	IN
Casing Correction (PHI N)_____	Disable	

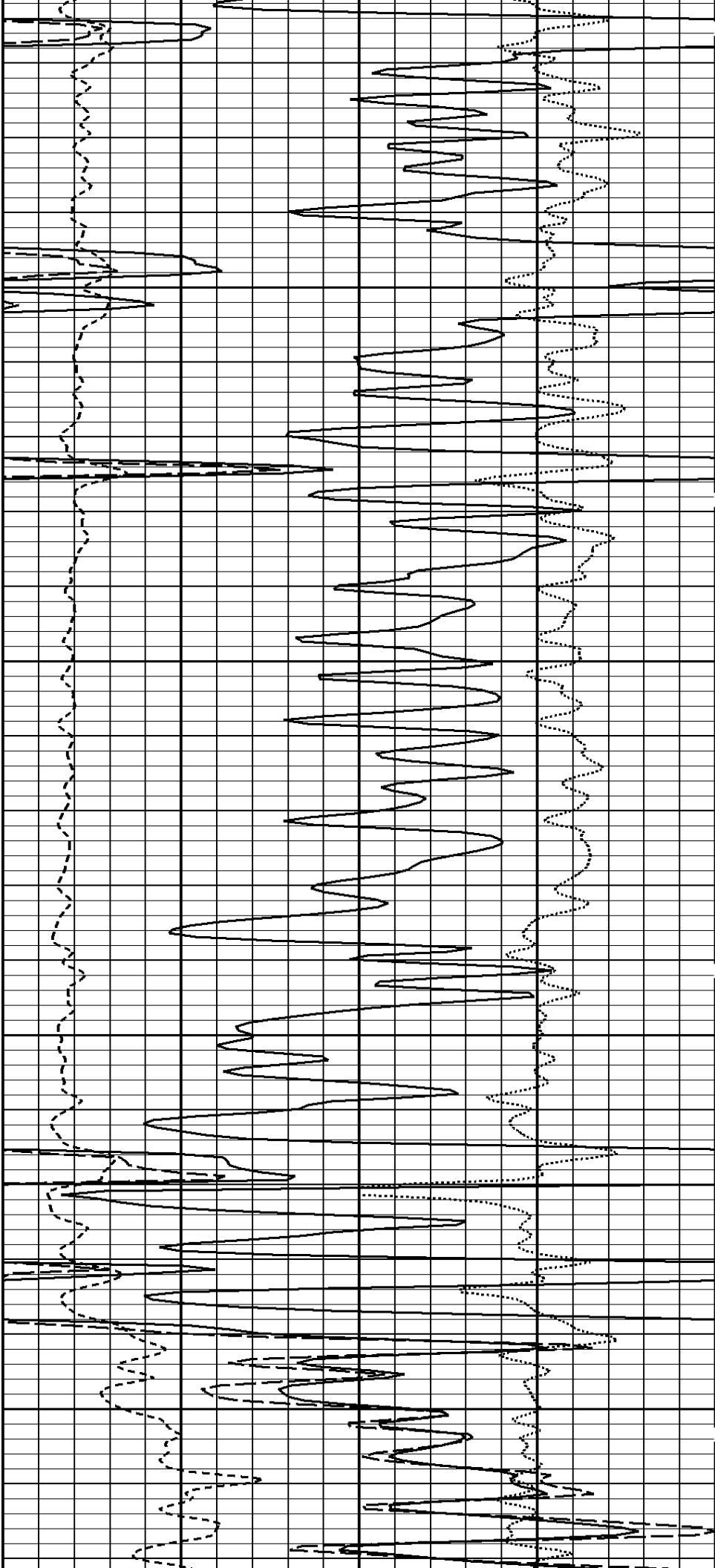
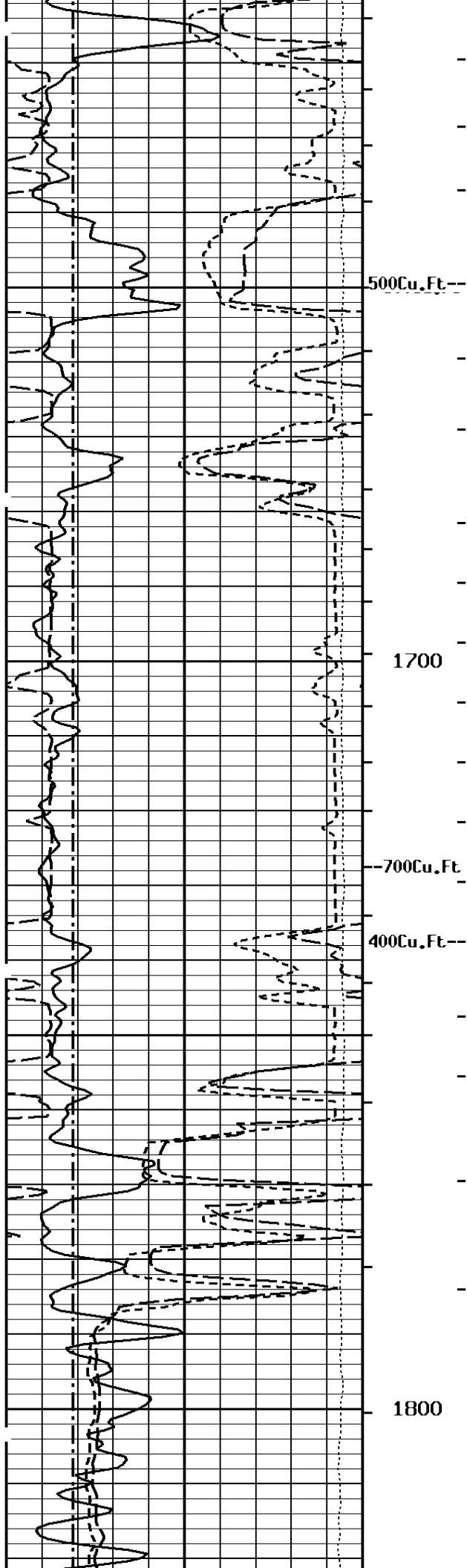
TENSION LBS		
10000		0
BIT SIZE INCHES (IN)		
6		16
DENSITY (X) CALIPER INCHES (IN)		
16		26
6		16
NEUTRON (Y) CALIPER INCHES (IN)		
16		26
6		16
GAMMA RAY API UNITS		
150		300
0		150
	-BHV AHV- CU,FT	
		PE CROSS-SECTION BARN/ ELECTRON
		DENSITY CORRECTION G/CC
		DENSITY POROSITY PERCENT (2.71 g/cc)
		COMPENSATED BULK DENSITY G/CC
		0
		10
		-0.25
		0.25
		30
		-10
		3.0
		2.0
		1.0
		4.0
		3.0
		2.0

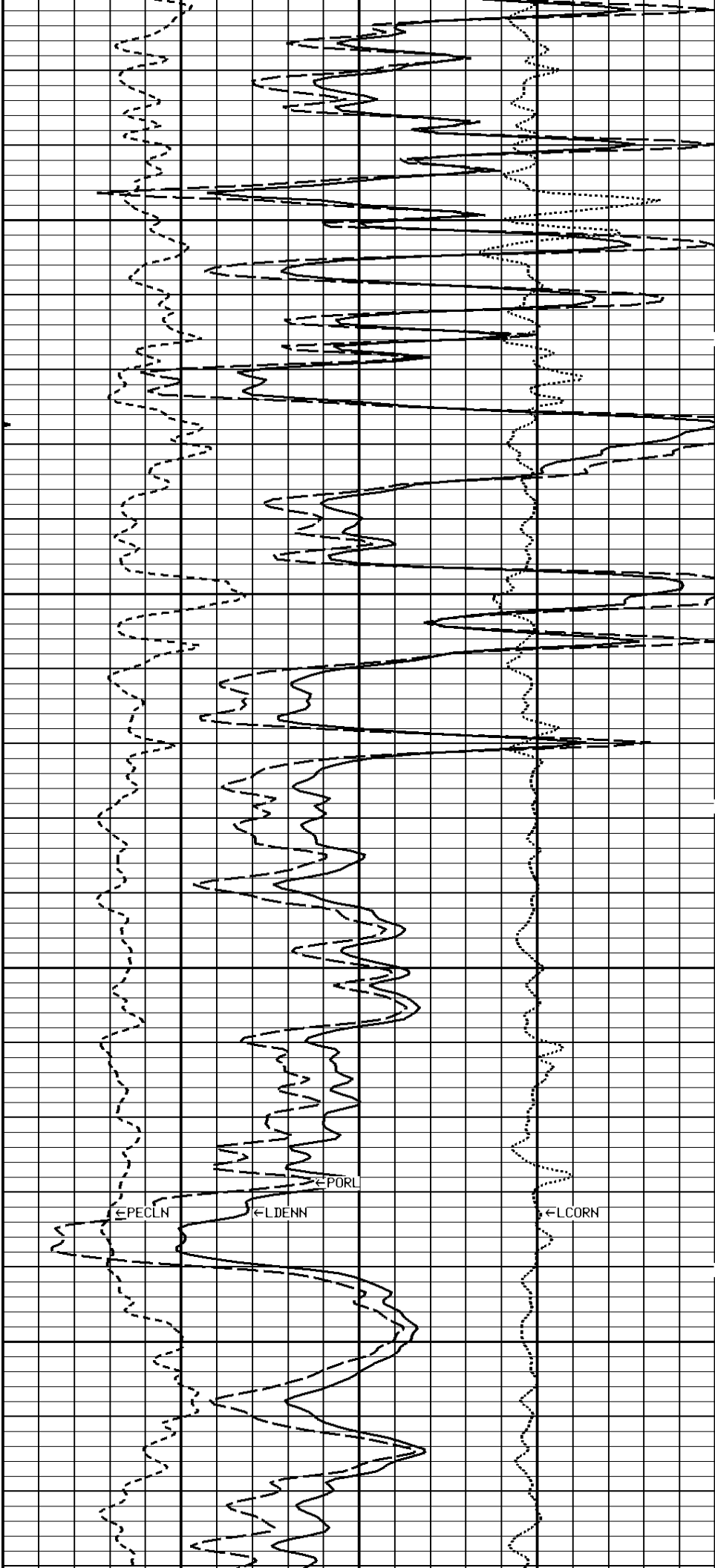
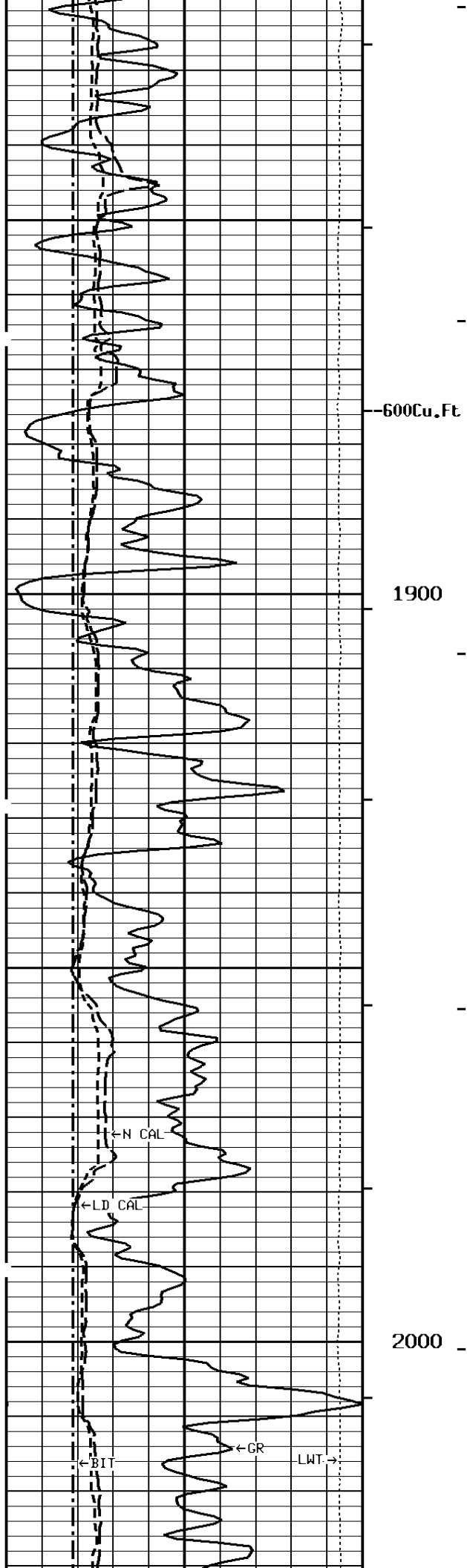
1:240 MAIN SECTION
BULK DENSITY

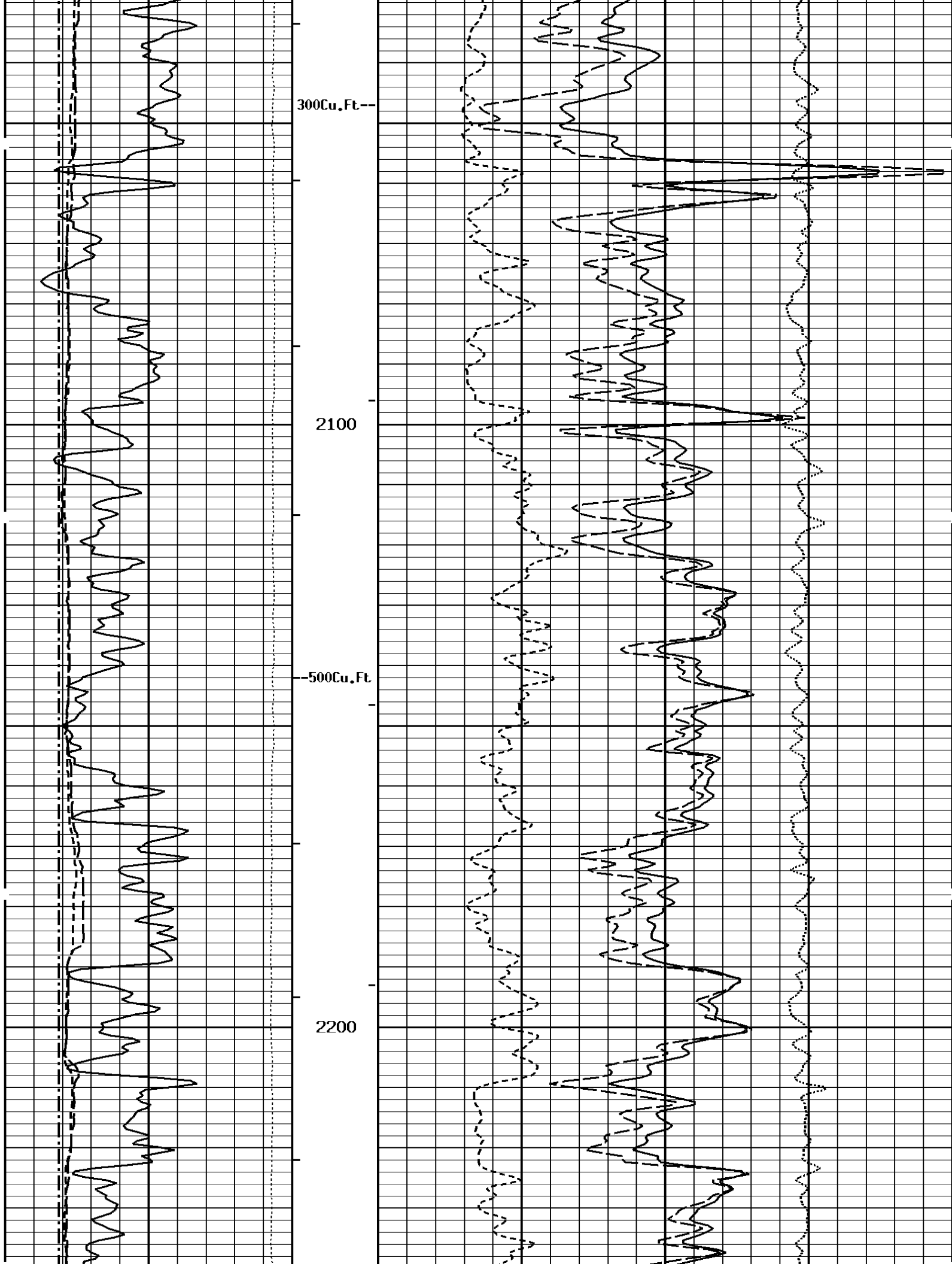


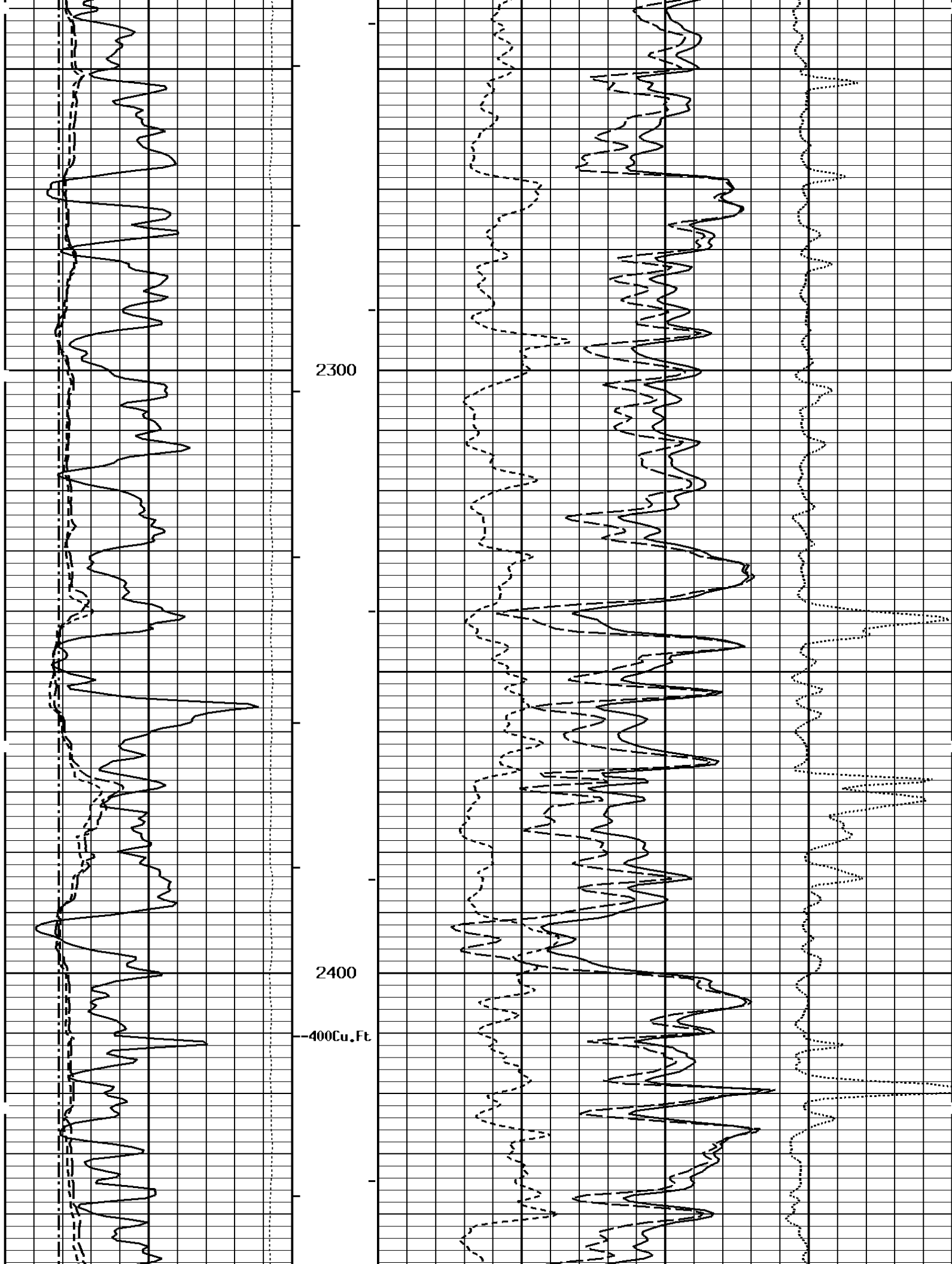


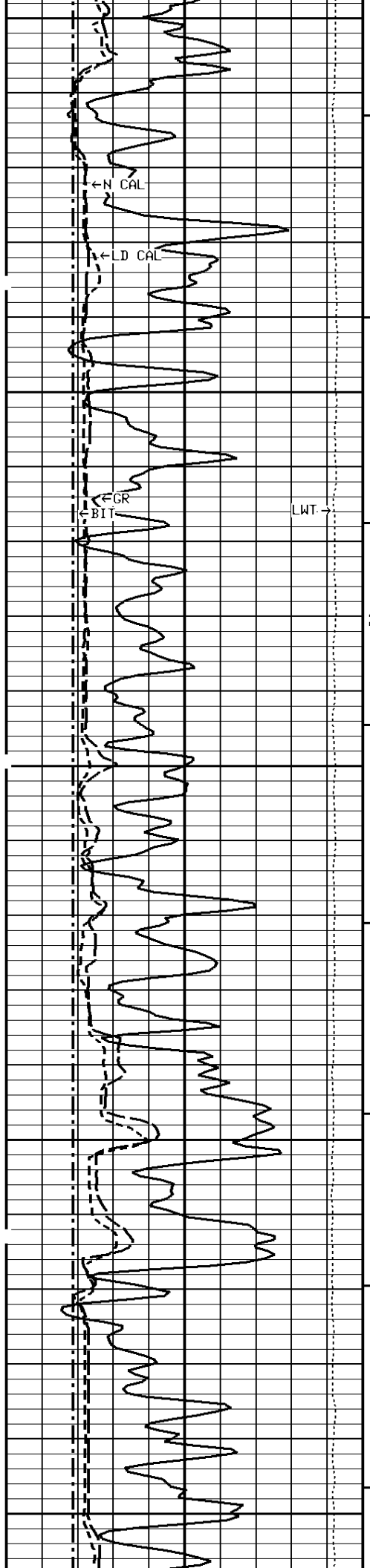




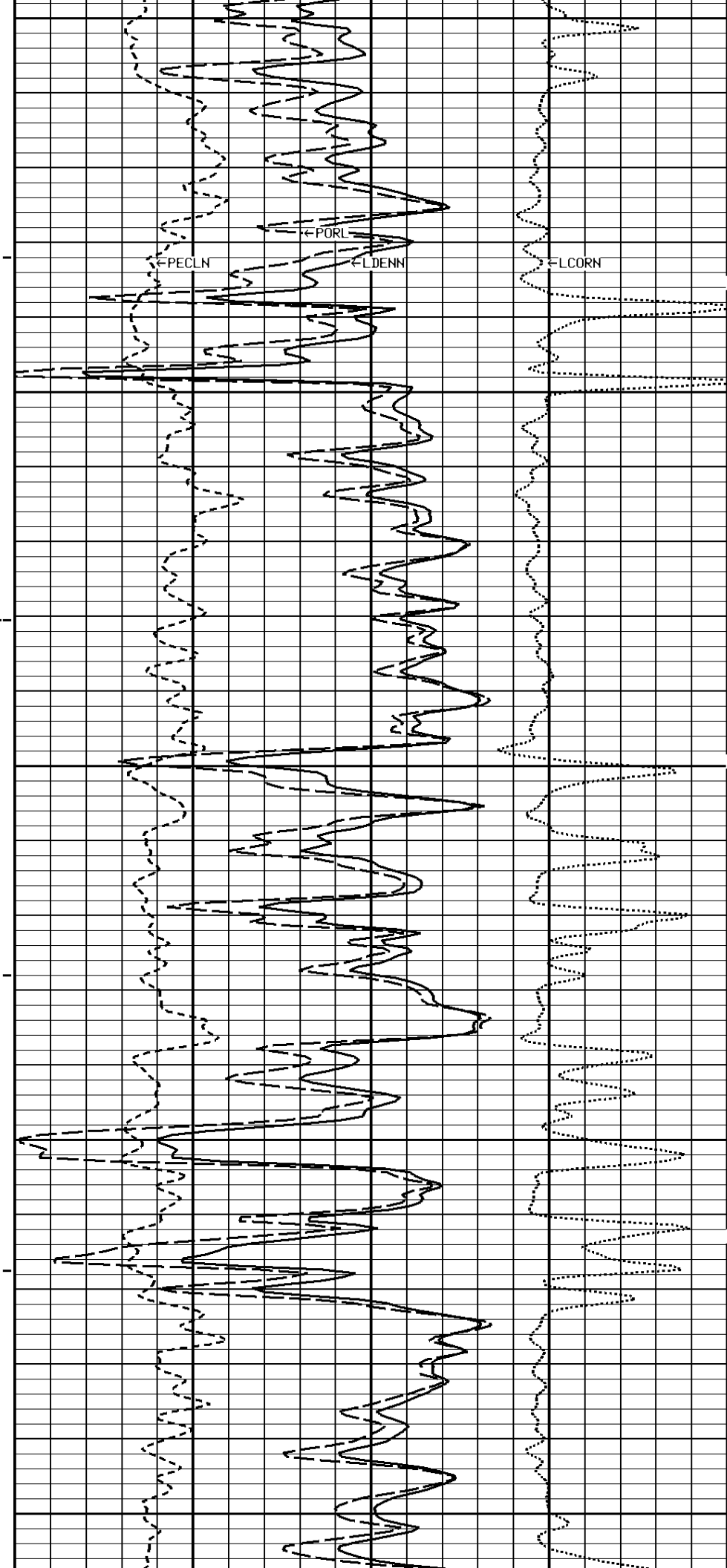


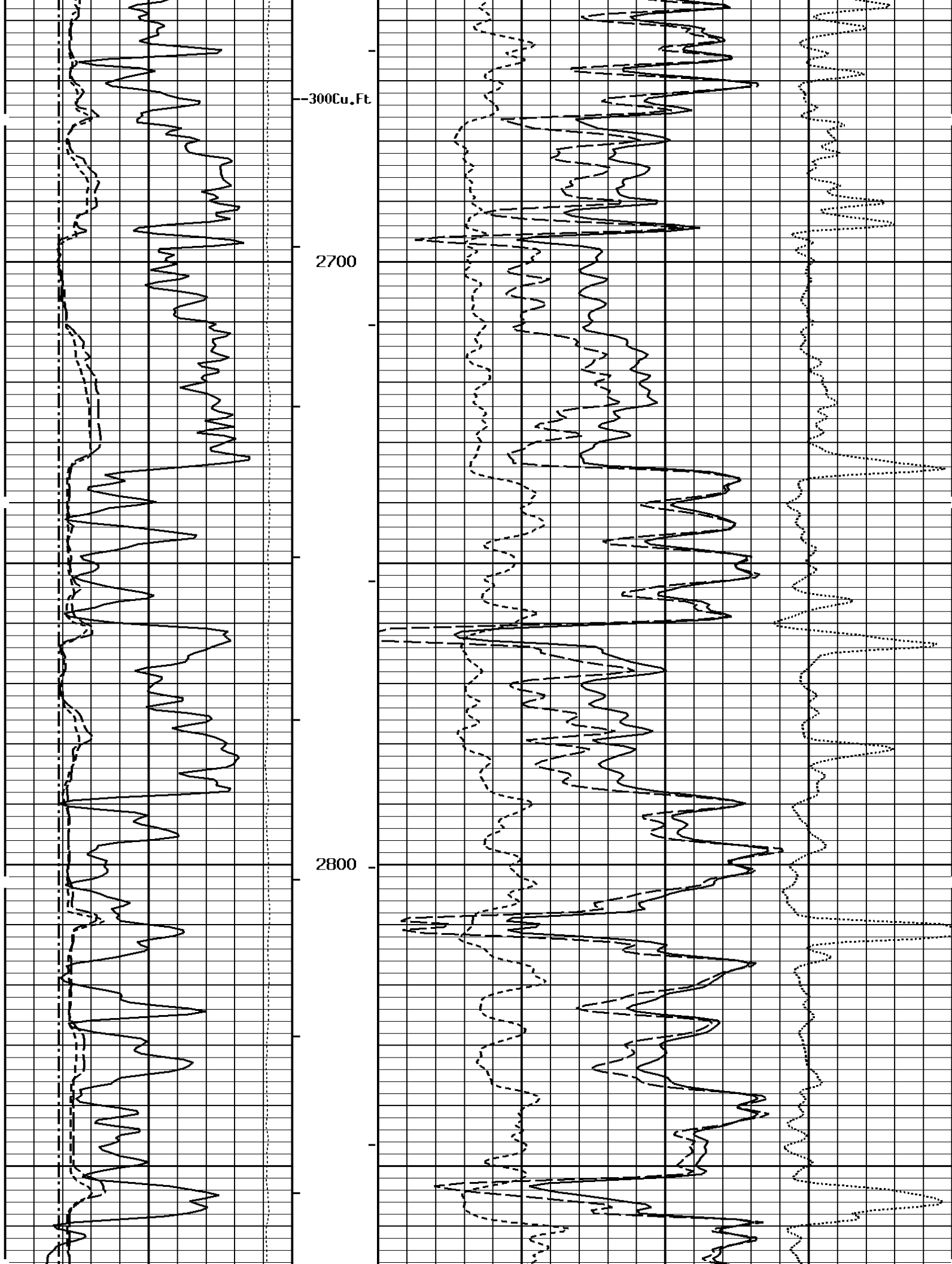


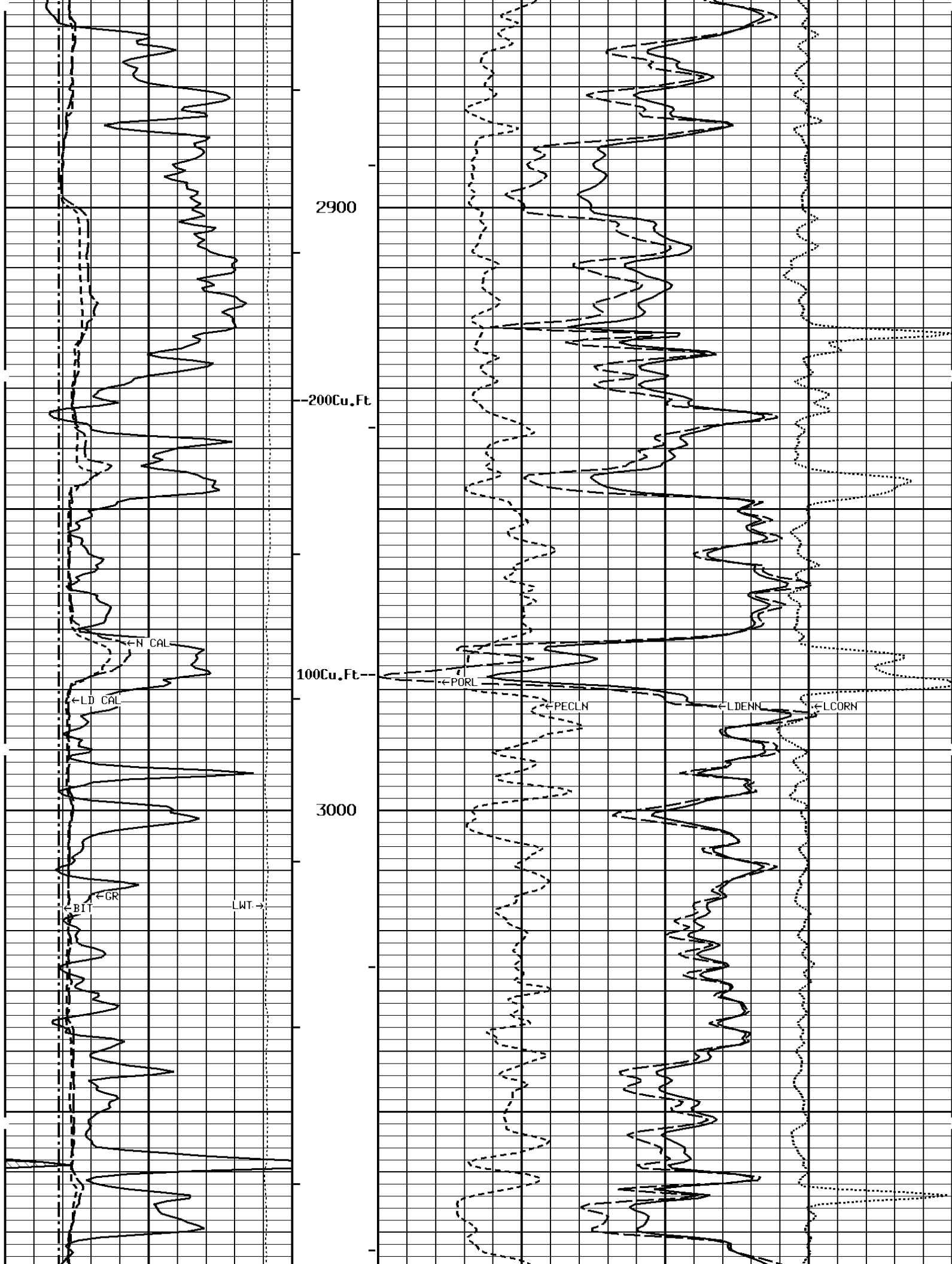


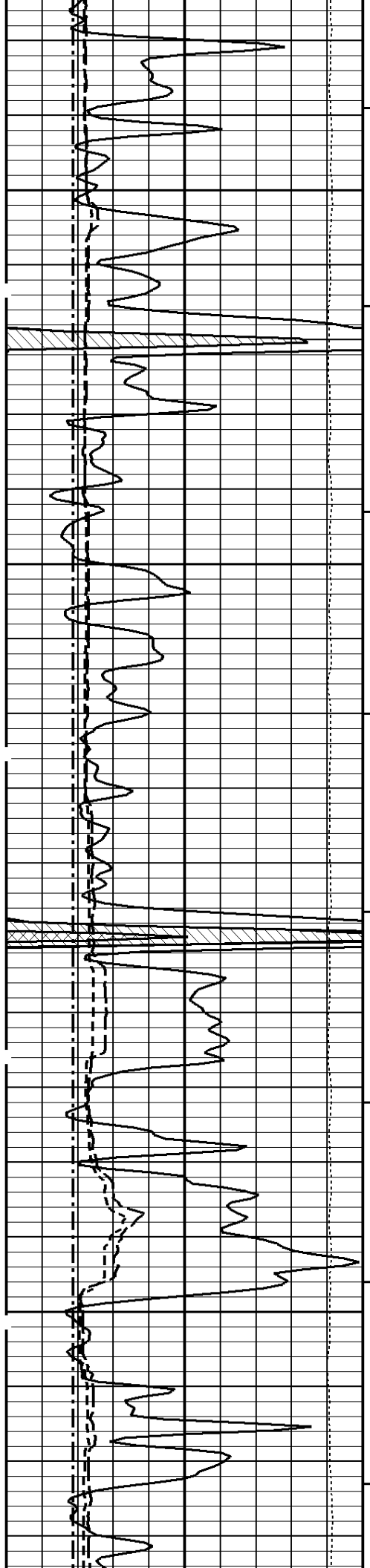


200Cu.Ft--



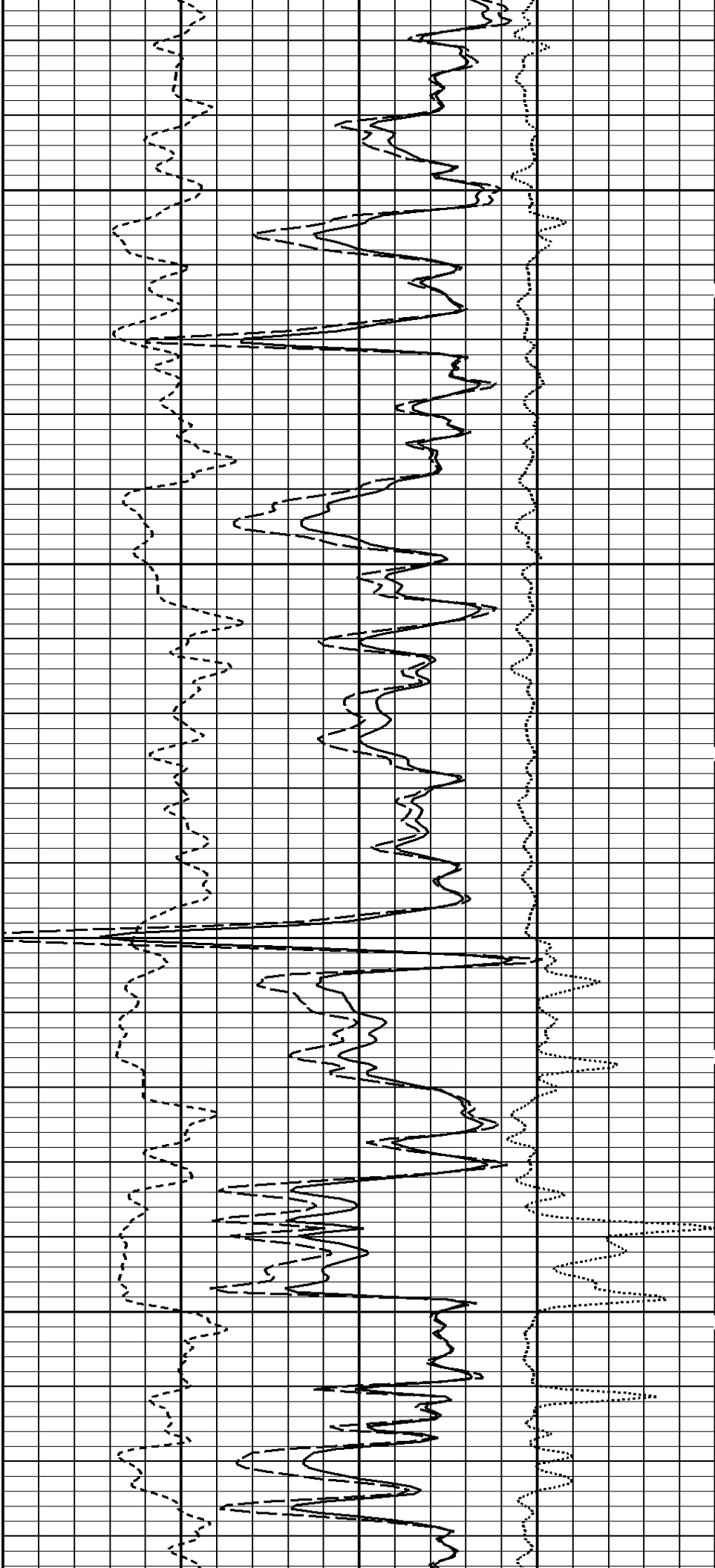


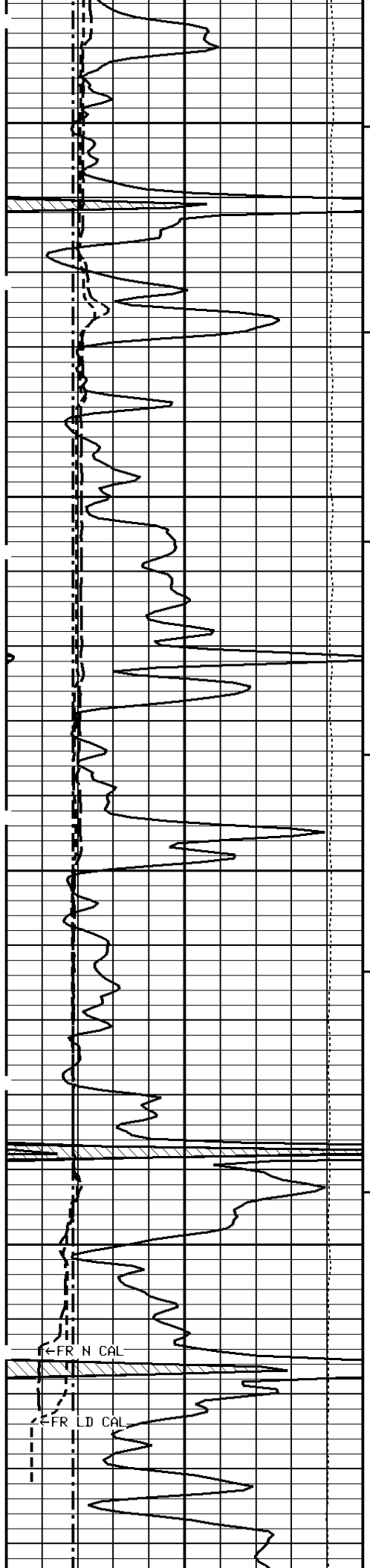




3100

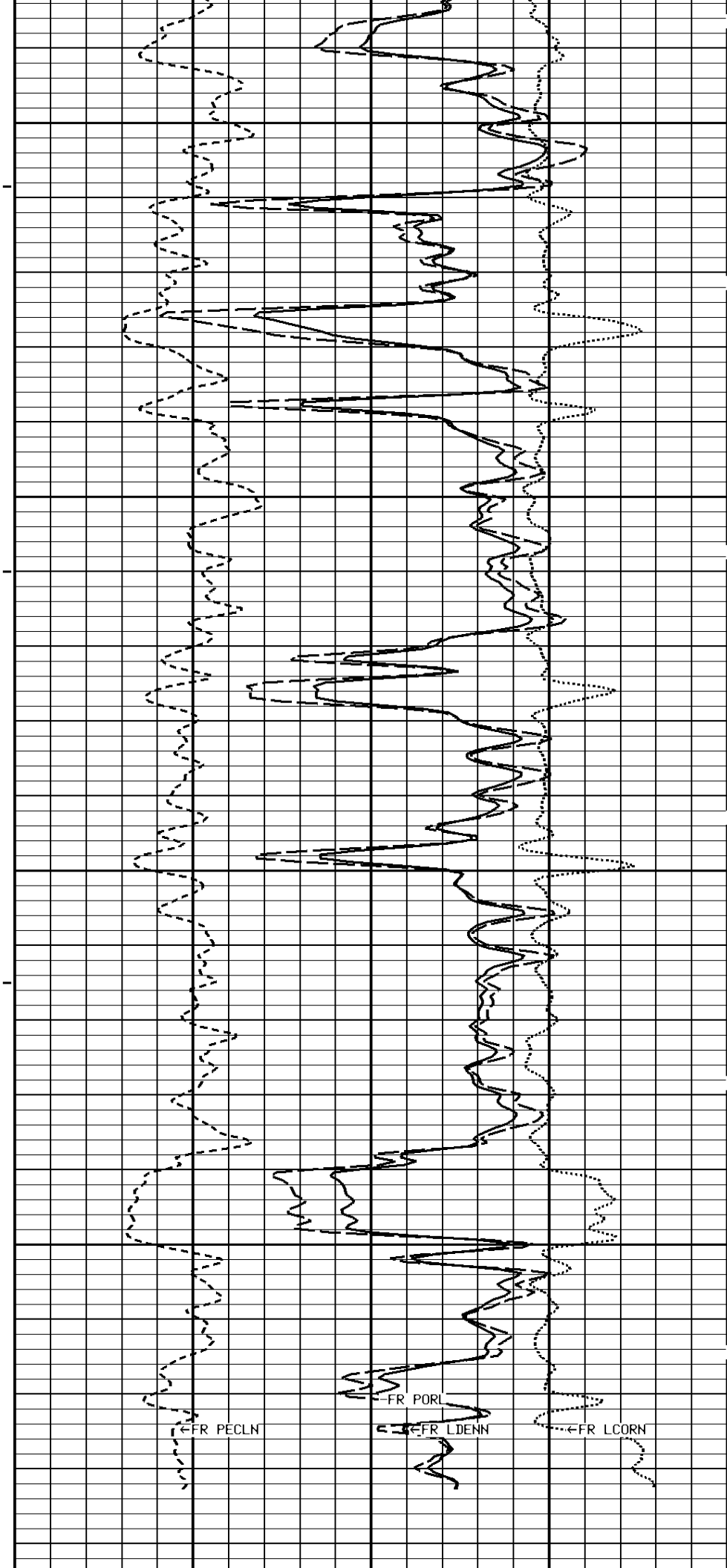
100Cu.Ft
3200

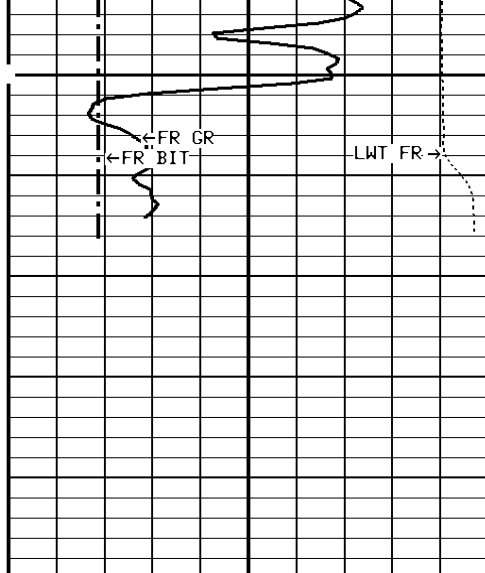




3300

3400





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File #714

1:240 MAIN SECTION BULK DENSITY

GAMMA RAY API UNITS		-BHV AHV- CU,FT	COMPENSATED BULK DENSITY G/CC	
150	300		3.0	4.0
0	150		2.0	3.0
			1.0	2.0
NEUTRON (Y) CALIPER INCHES (IN)			DENSITY POROSITY PERCENT (2.71 g/cc)	
16	26		30	-10
6	16			
DENSITY (X) CALIPER INCHES (IN)			PE CROSS-SECTION BARNS/ELECTRON	DENSITY CORRECTION G/CC
16	26		0	10
6	16			
BIT SIZE INCHES (IN)				
6	16			
TENSION LBS				
10000	0			

* Borehole Zone Factors *

Zone 1 99999.0 to 0.0 F

Matrix Density_____ 2.71 G/C3
 Fluid Density_____ 1.00 G/C3
 Formation Matrix_____ Limestone
 Drill Bit Size_____ 7.875 IN
 Production Casing Diameter_____ 5.500 IN
 Casing Correction (PHI N)_____ Disable

*** Calibration Summary ***

Shop Calibration					
GRTB					
Performed : 01-NOV-2010			Time : 02:32		
Sensor Suite : GR-GR5			ID : GRT-BC-43		
		Measured	Units	Calibrated	Units
Background		Jig		Jig	
GR	41	314	CPS	175	GRAPI