

Tucker

WIRELINER SERVICES

COMPENSATED NEUTRON

PEL DENSITY LOG

Company LB EXPLORATIONS INC. Well LARKIN #14-2 Field DEERHEAD NORTH County BARBER State KANSAS Country USA API No. 15-007-20258-00-01		File No : TUL-55923 Company : LB EXPLORATIONS INC. Well : LARKIN #14-2 Field : DEERHEAD NORTH County : BARBER State : KANSAS Country : USA API No : 15-007-20258-00-01	
Location : 1880' FSL & 2120' FWL NW SE		LSD : Sect : 14 Twp : 32S Rge : 15E	
Permanent Datum:	GL	Elevations:	Services:
Drilling Measured From:	KB	KB 2110.00	CNT
Log Measured From:	KB	DF 2009.00	LDT
Above Permanent Datum:	13.00 Ft	GL 1997.00	MLT
Date	Oct 10 2011		
Run Number	1		
Depth--Driller	5400.0 Ft		
Depth--Logger	5393.0 Ft		
First Reading	5346.0 Ft		
Last Reading	3500.0 Ft		
Casing--Driller	244.0 Ft		
Casing--Logger	257.0 Ft		
Bit Size	7.875 In		
Casing Size	8.625 In		
Hole Fluid Type	WBM		
Density	9.1 LBS/GAL		
Fluid Loss	11.2 CC		
PH/Viscosity	9.0 45.0 SEC		
Sample Source	MEASURED		
RMF@Measured Temp.	0.780 @ 66 F		
RMF@Measured Temp	0.663 @ 66 F		
RMF@Measured Temp.	1.031 @ 66 F		
Source RMF/RMC	CALCULATED/CALCULATED		
RM@BHT	0.414 @ 130 F		
Time Circulation Stopped	Oct 09 2011 10:00		
Max Recorded Temp.	130 F		
Equipment/Base	TRK123 TULSA		
Recorded By	S. DAVIS / R. FRANKLIN		
Witnessed By	S. PETERMAN		

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.

Bitsize Intervals		Casing Strings		
Size (In)	Bottom (Ft)	Size (In)	Weight (Lbs)	Bottom (Ft)
7.875	5400.00	8.625	20.00	244.00

Run Number	1	
Date	Oct 10 2011	
Date/Time On Bottom	Oct 10 2011 03:30	
Depth to Fluid	0.0 Ft	
Salinity	0.000 PPM	
RMF@BHT	0.352 @ 130 F	
RMC@BHT	0.548 @ 130 F	

Run Number 1

Comments

ALL PRESENTATIONS AS PER CUSTOMER REQUEST
 GRT, CNT, LDT, MLT, CST, AND PIT RUN IN COMBINATION.
 CALIPERS ORIENTED ON X-Y AXIS.
 2.71 G/CC USED TO CALCULATED POROSITY.
 ANNULAR HOLE VOLUME CALCULATED USING 5.50" PRODUCTION CASING.
 DETAIL PRESENTED FROM TD TO DETAIL 3500' PER CUSTOMER REQUEST.

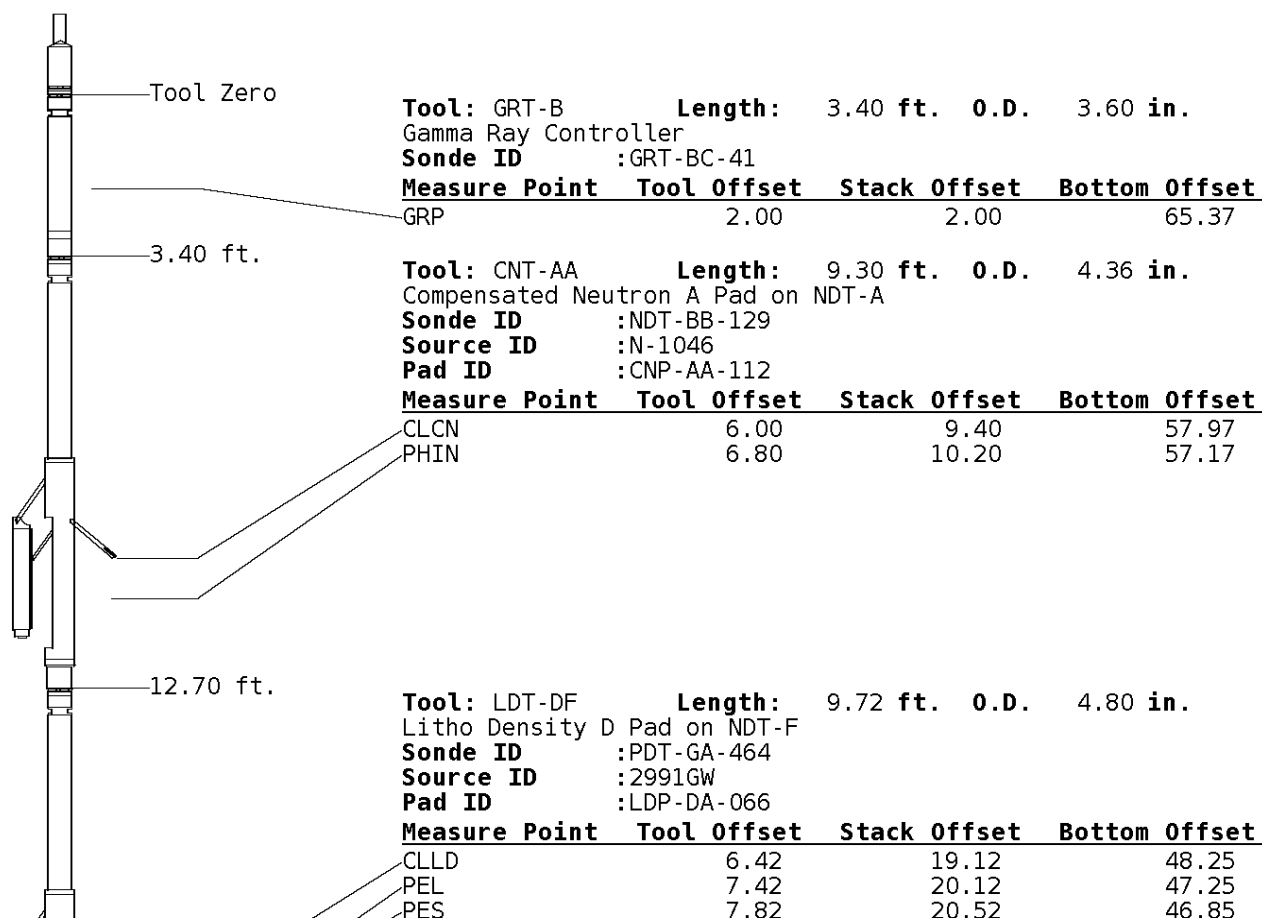
GRT: GRP, UFGRP, S-KK, S-UK, S-TK.
 CNT: PHIN, CLCNIN.
 LDT: PORL, LCORN, PECLN, LDENN, PORLLS, CLLDIN.
 MLT: NOR_RF, INV_RF, MSCLPIN.
 CST: PORS, ITT, CDTF, TT1, TT2, TT3, TT4.
 PIT: ILD, ILM, SPU, SFLAEC.

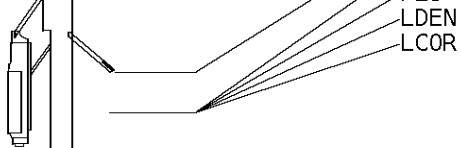
OPERATORS:

J. THOMAS
 S. DAVIS
 A. WARREN

Tool String Schematic

Total Tool Length - 67.37 ft.
Maximum Outside diameter - 6.00 in.
Net Weight in Air - 1171.00 lbs.



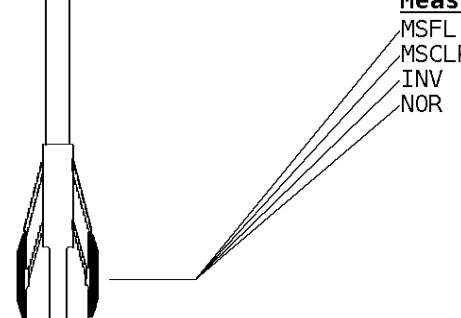


LDEN	7.62	20.32	47.05
LCOR	7.62	20.32	47.05

22.42 ft.

Tool: MST-DA **Length:** 9.66 ft. **O.D.** 6.00 in.
 Micro Spherically Focused (IC,D)
Sonde ID :MLT-DA-21

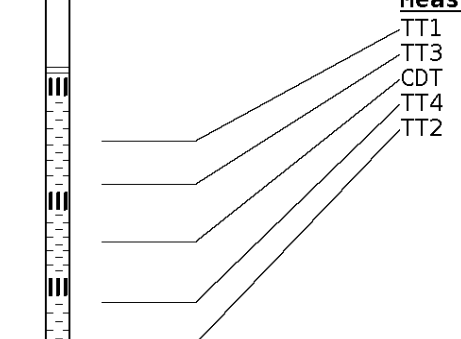
Measure Point	Tool Offset	Stack Offset	Bottom Offset
MSFL	7.60	30.02	37.35
MSCLP	7.60	30.02	37.35
INV	7.60	30.02	37.35
NOR	7.60	30.02	37.35



32.08 ft.

Tool: CST-AD **Length:** 13.80 ft. **O.D.** 3.60 in.
 Open Hole Sonic
Sonde ID :CST-AD-078

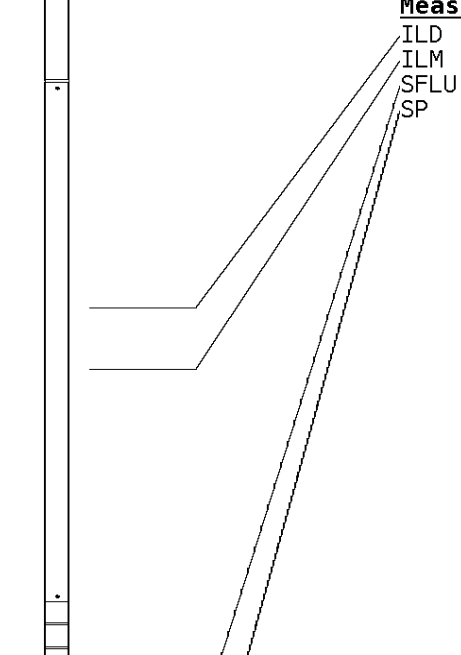
Measure Point	Tool Offset	Stack Offset	Bottom Offset
TT1	4.80	36.88	30.49
TT3	5.80	37.88	29.49
CDT	7.30	39.38	27.99
TT4	8.80	40.88	26.49
TT2	9.80	41.88	25.49



45.88 ft.

Tool: PIT-CA **Length:** 21.49 ft. **O.D.** 3.62 in.
 Phased Dual Induction w/ RM & D
Sonde ID :PIT-BA-20

Measure Point	Tool Offset	Stack Offset	Bottom Offset
ILD	8.92	54.80	12.56
ILM	10.10	55.98	11.39
SFLU	17.49	63.37	4.00
SP	20.60	66.48	0.88



LWT 67.37 ft.

Well File: lb_exp_lar_14-2_oct_10 Quint

Scale: 1:240

Segment: V1.D4.S1 MAIN

Acquired: Not Available

Reference: 0

Processed: Not Available

TENSION
LBS

10000 0

BIT SIZE
INCHES (IN)

6 16

DENSITY (X) CALIPER
INCHES (IN)

16 26
6 16

Volume
Quartz

PE CROSS-SECTION
BARNES/ELECTRON

DENSITY CORRECTION
G/CC

0 10 -0.25 0.25

NEUTRON (Y) CALIPER
INCHES (IN)

16 26
6 16

Volume
Calcite

NEUTRON POROSITY
PERCENT (LIMESTONE MATRIX)

70 30
30 -10
-10 -50

GAMMA RAY
API UNITS

150 300
0 150

Volume
Dolo/Shale

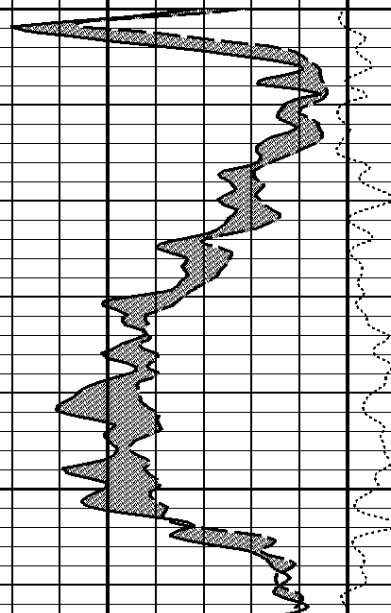
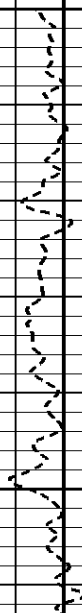
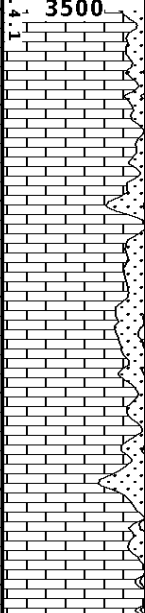
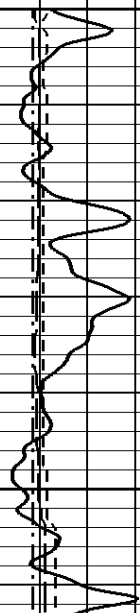
DENSITY POROSITY
PERCENT (2.71 g/cc)

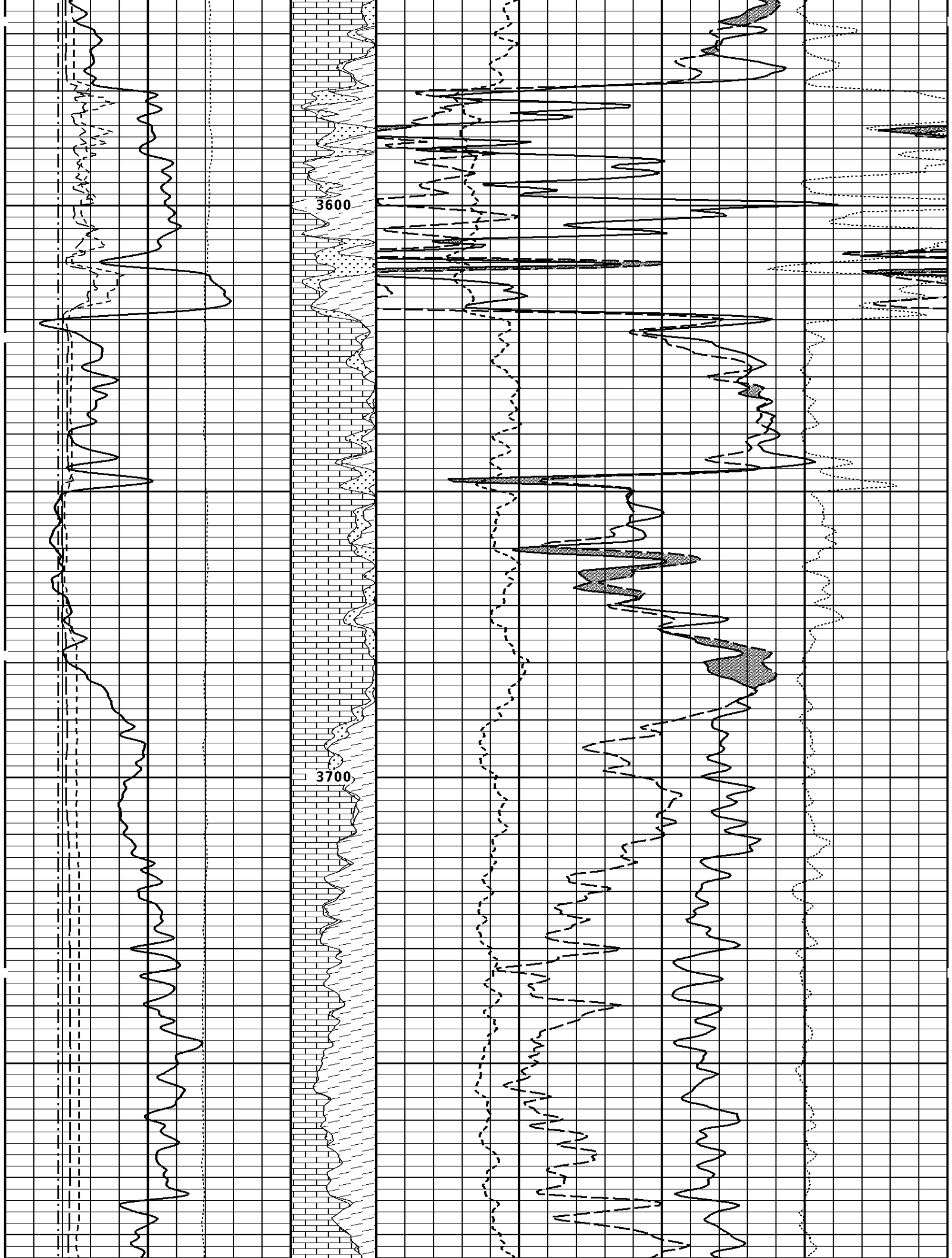
70 30
30 -10
-10 -50

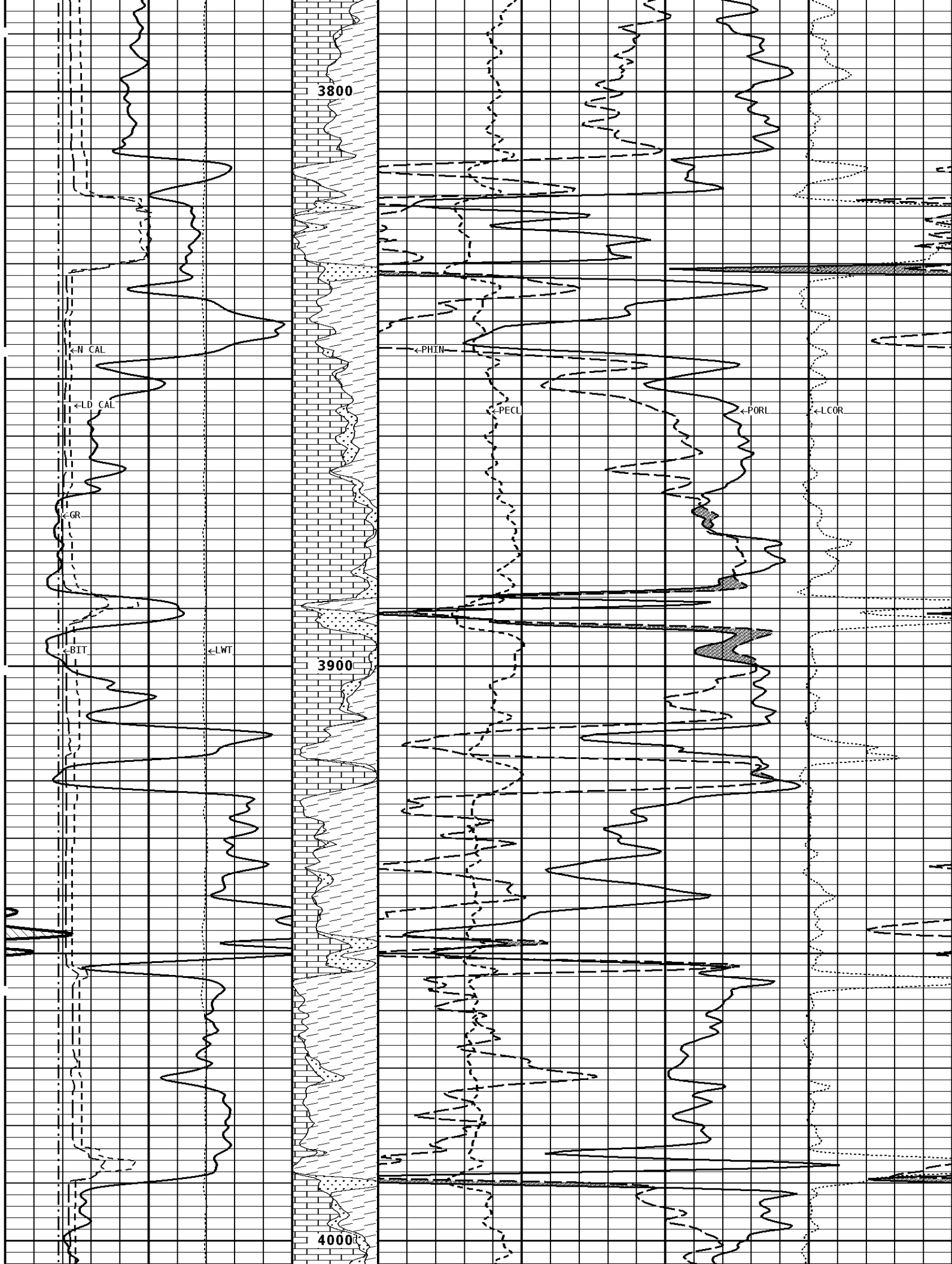
1:240 MAIN SECTION

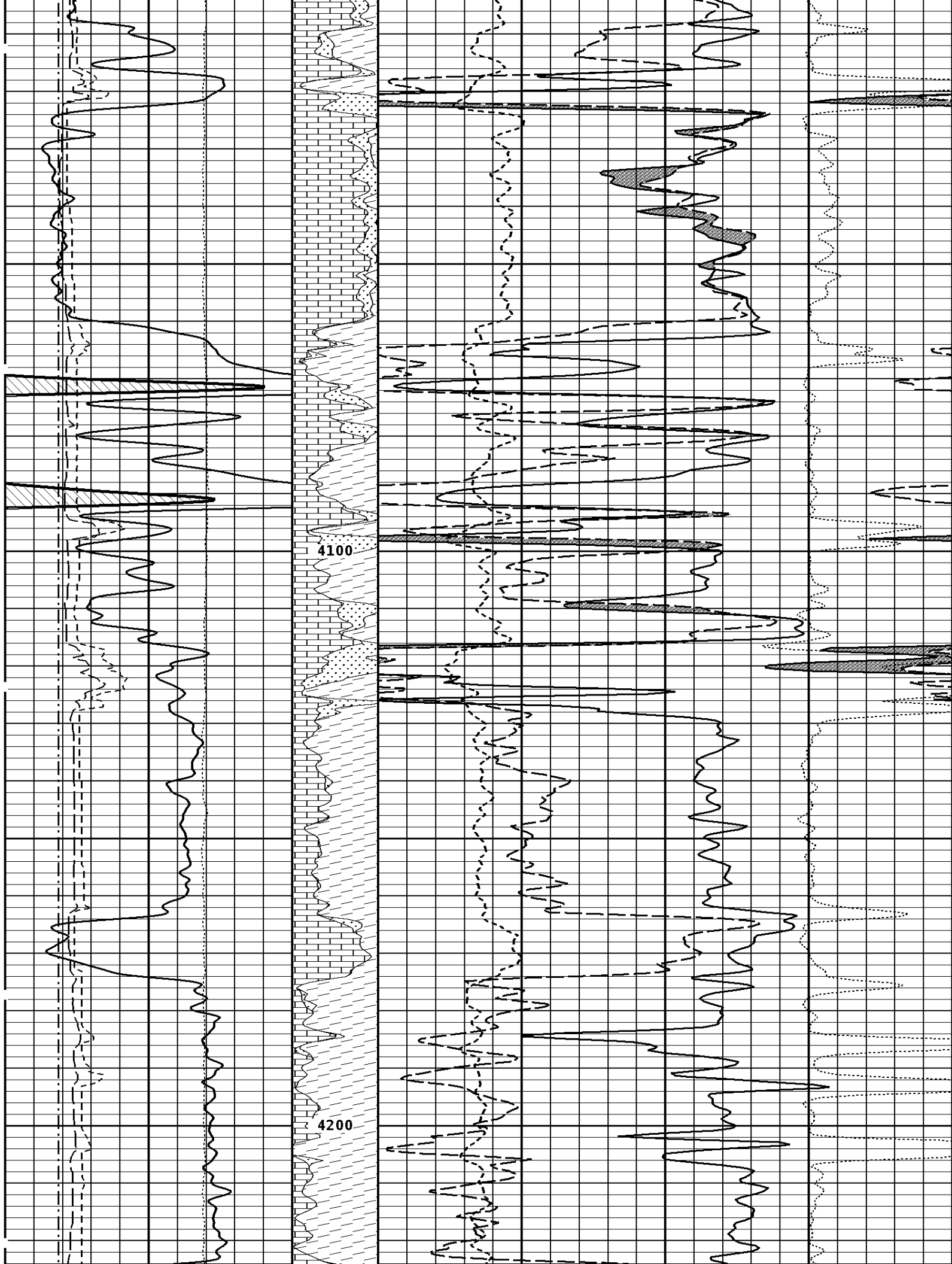
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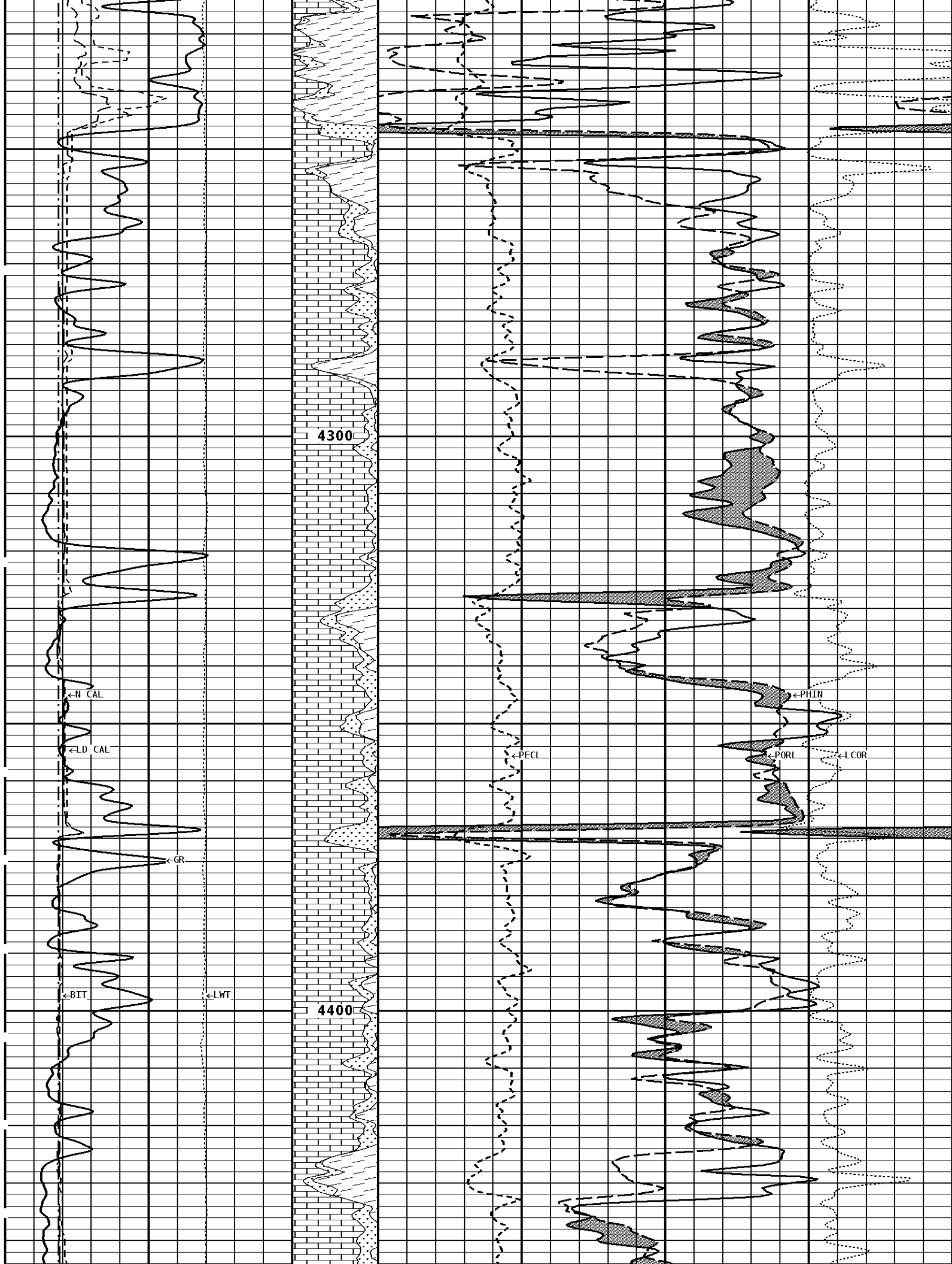
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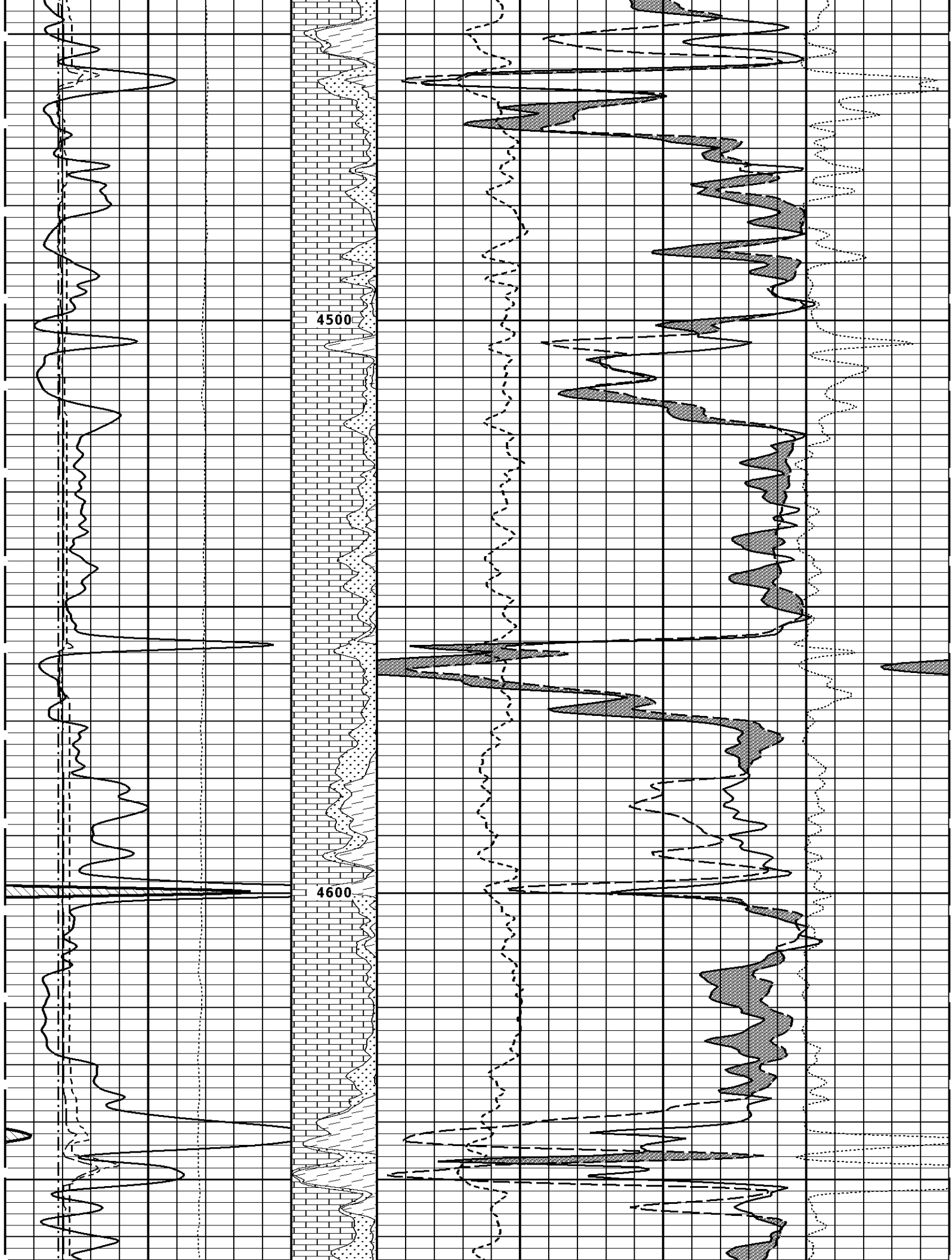


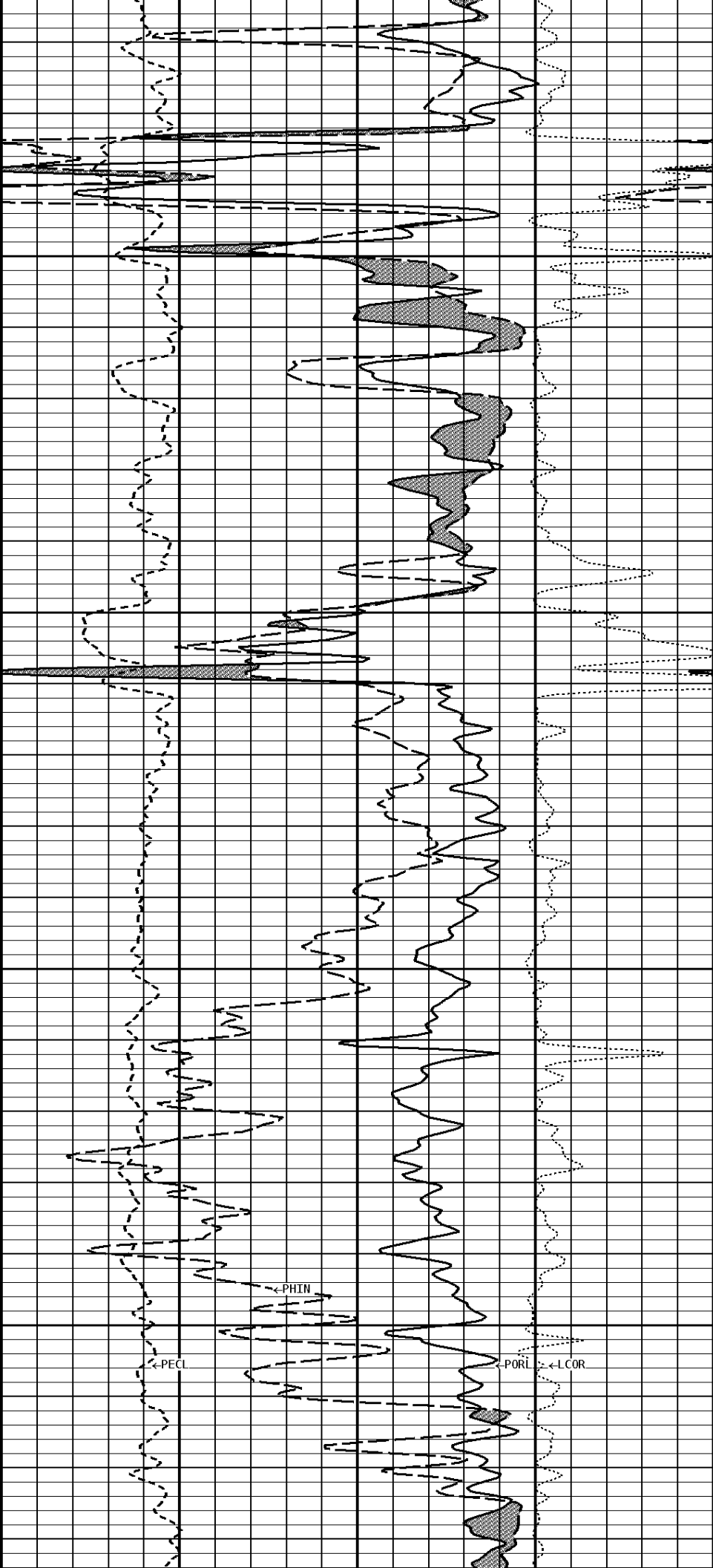
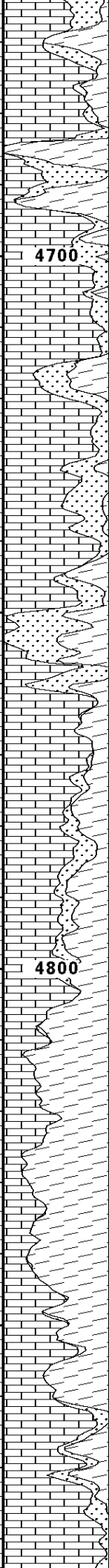
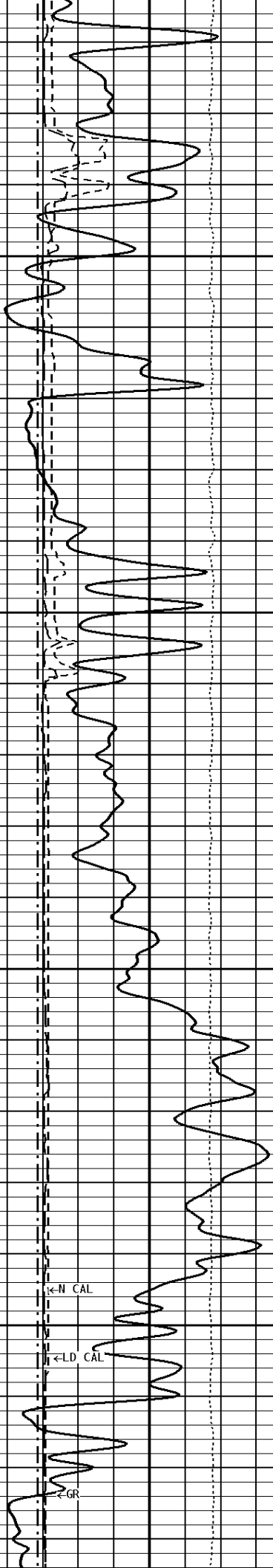


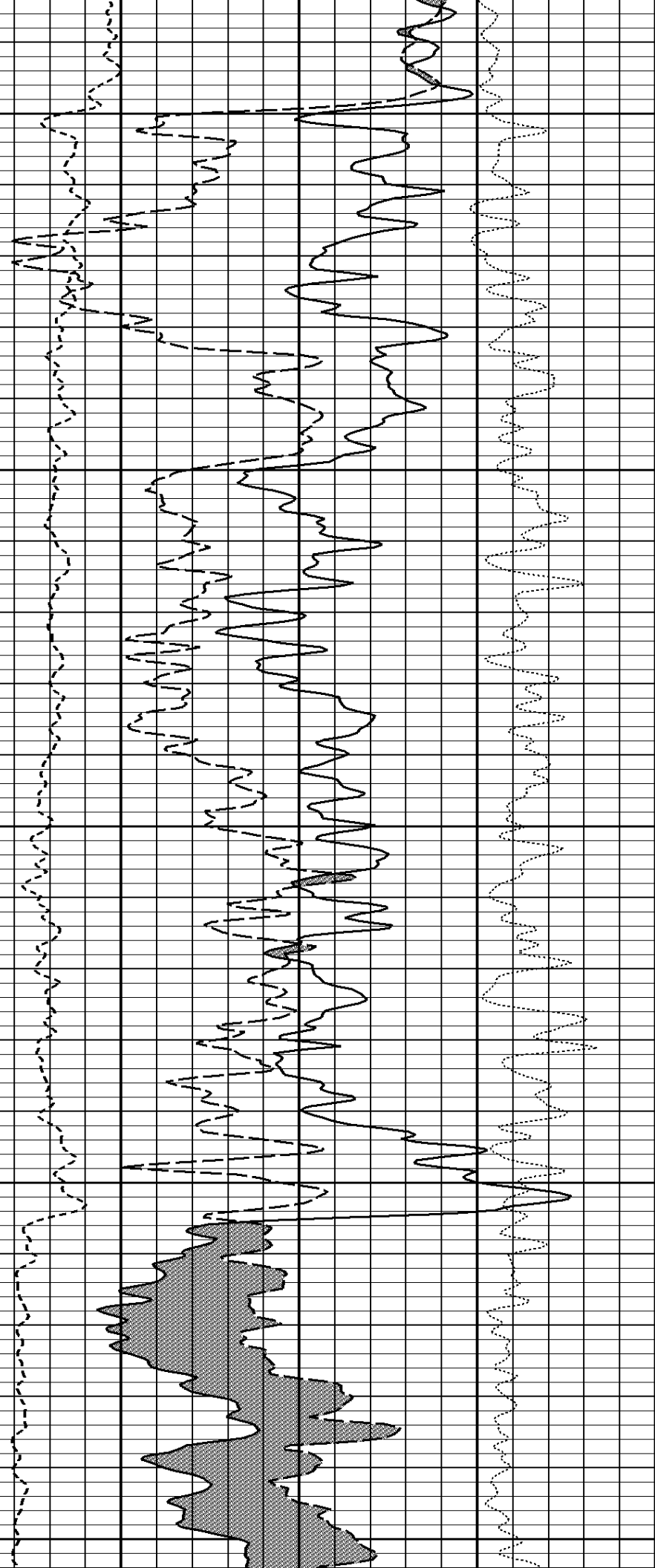
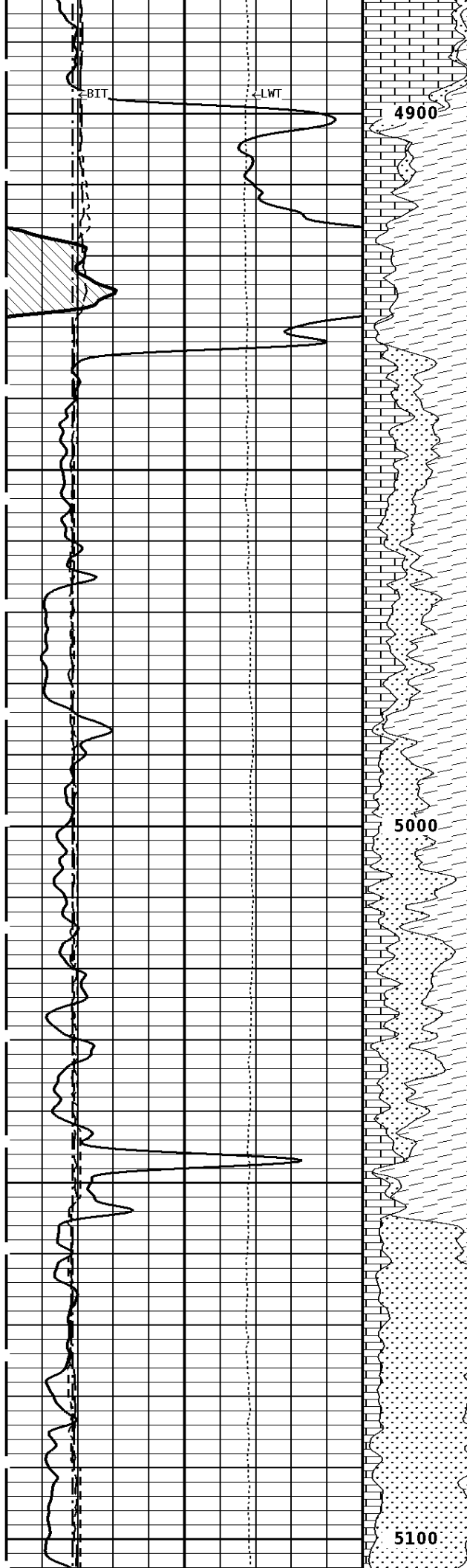


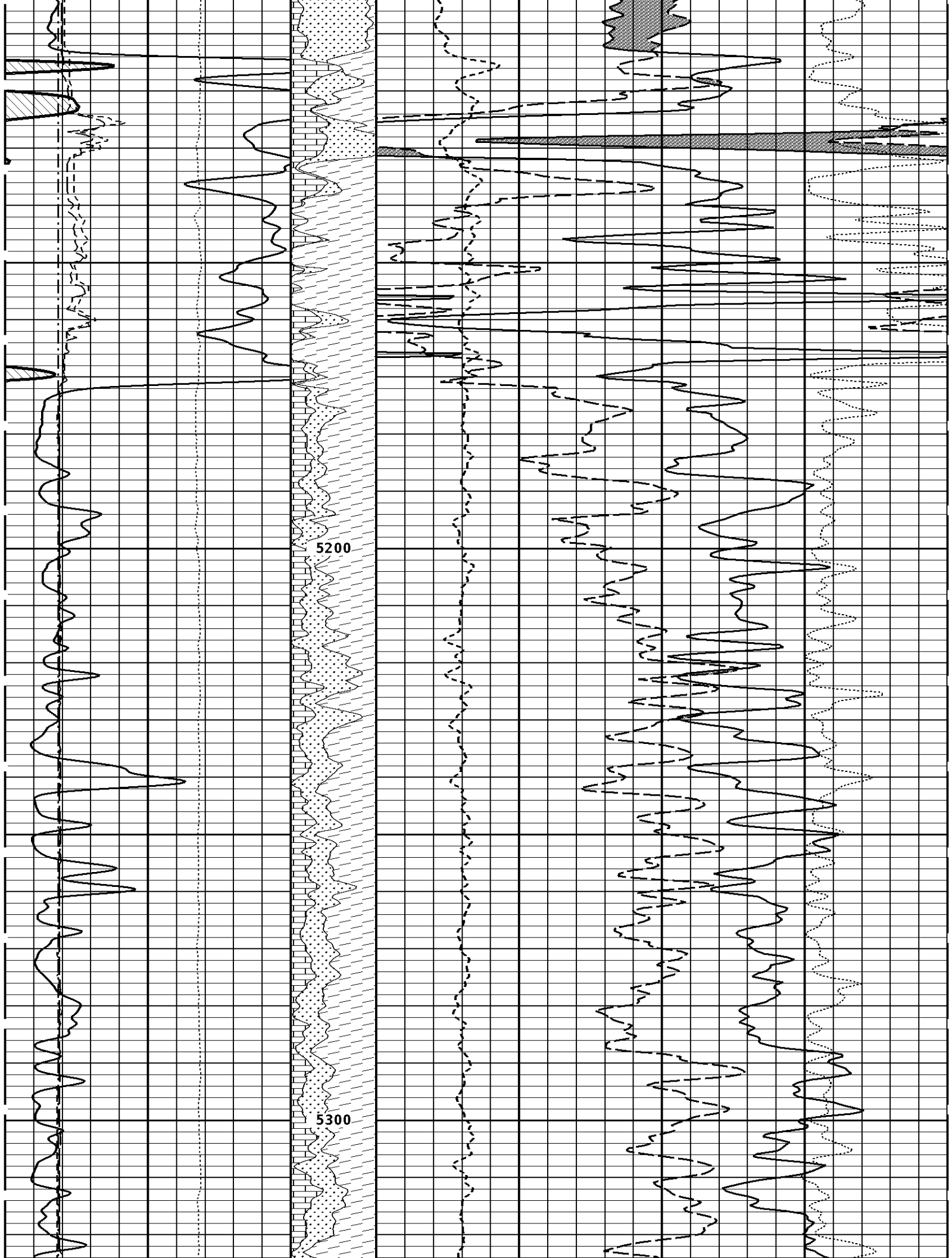


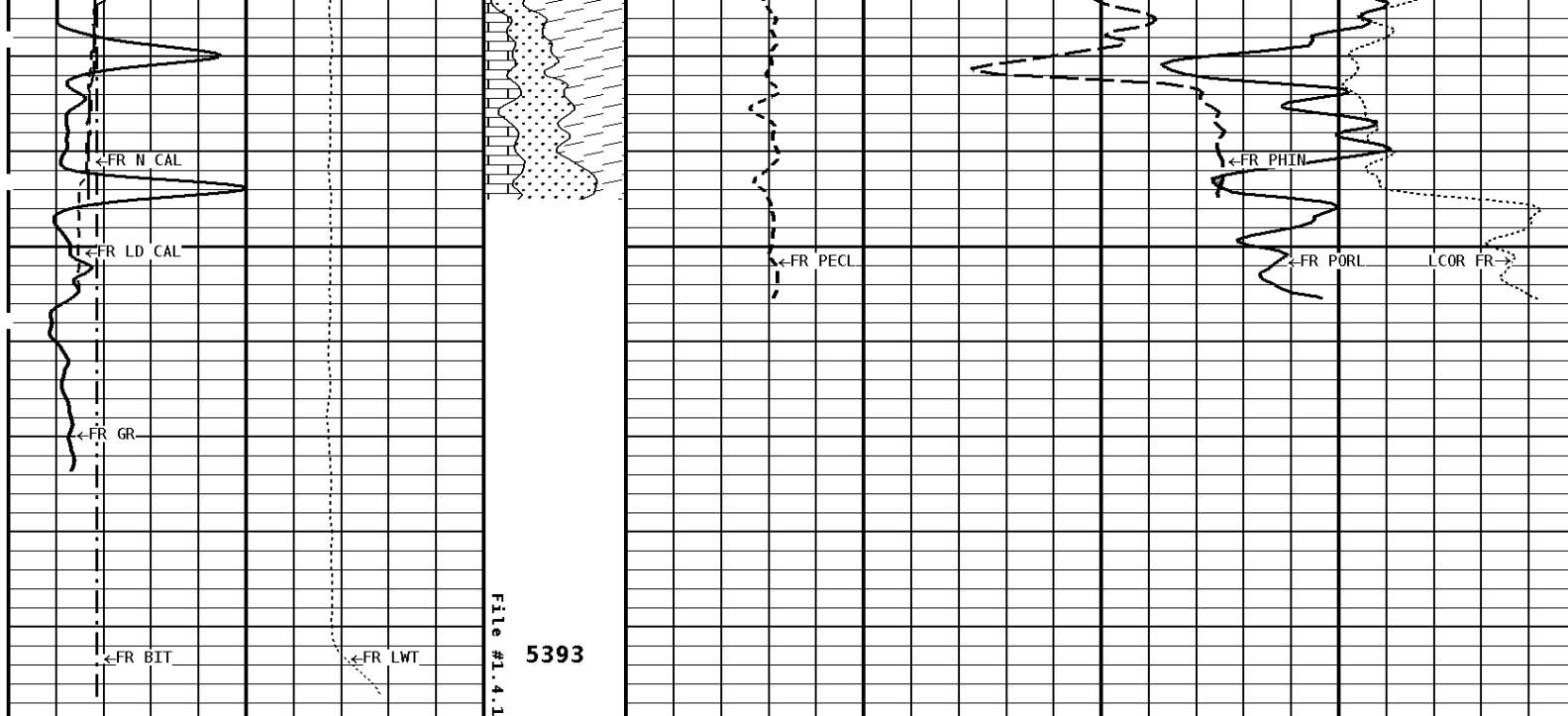












1:240 MAIN SECTION

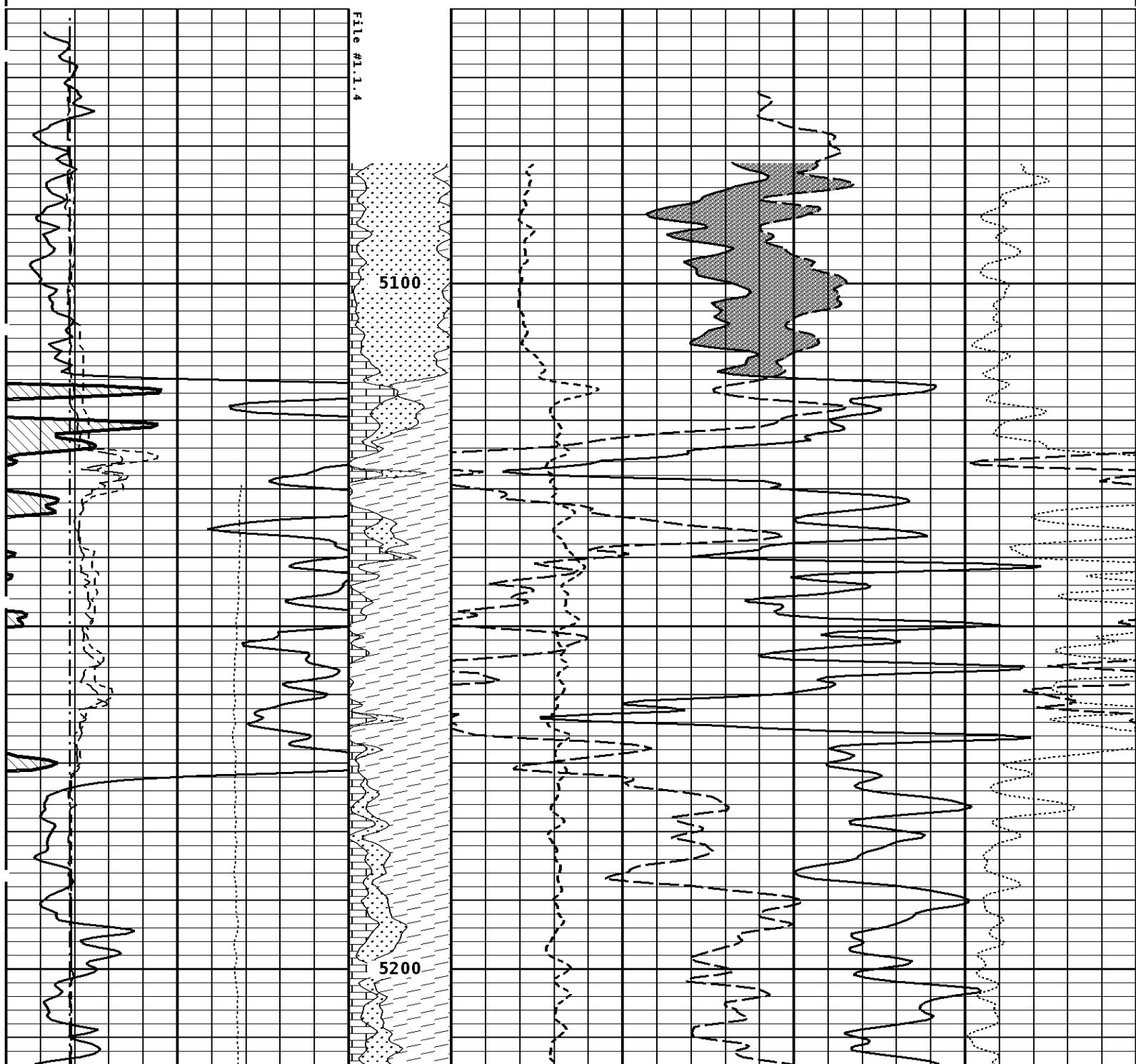
GAMMA RAY API UNITS 150 0 300 150		Volume Dolo/Shale 70 30 -10 -50	DENSITY POROSITY PERCENT (2.71 g/cc) 30 -10 -50	
NEUTRON (Y) CALIPER INCHES (IN) 16 6 26 16		Volume Calcite 70 30 -10 -50	NEUTRON POROSITY PERCENT (LIMESTONE MATRIX) 30 -10 -50	
DENSITY (X) CALIPER INCHES (IN) 16 6 26 16		Volume Quartz 0 10 -0.25 0.25	PE CROSS-SECTION BARNS/ELECTRON	DENSITY CORRECTION G/CC
BIT SIZE INCHES (IN) 6 16				
TENSION LBS 10000 0				

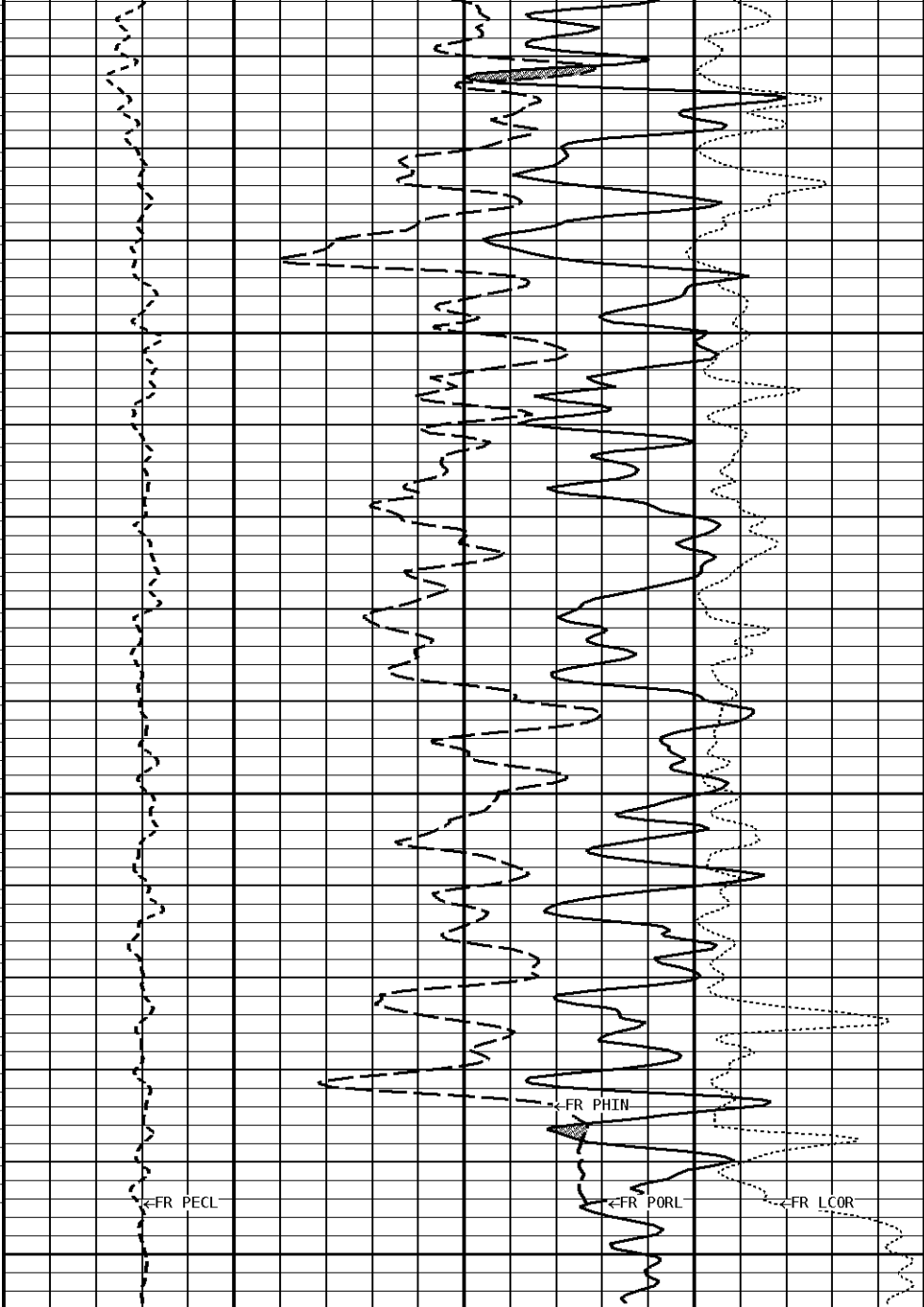
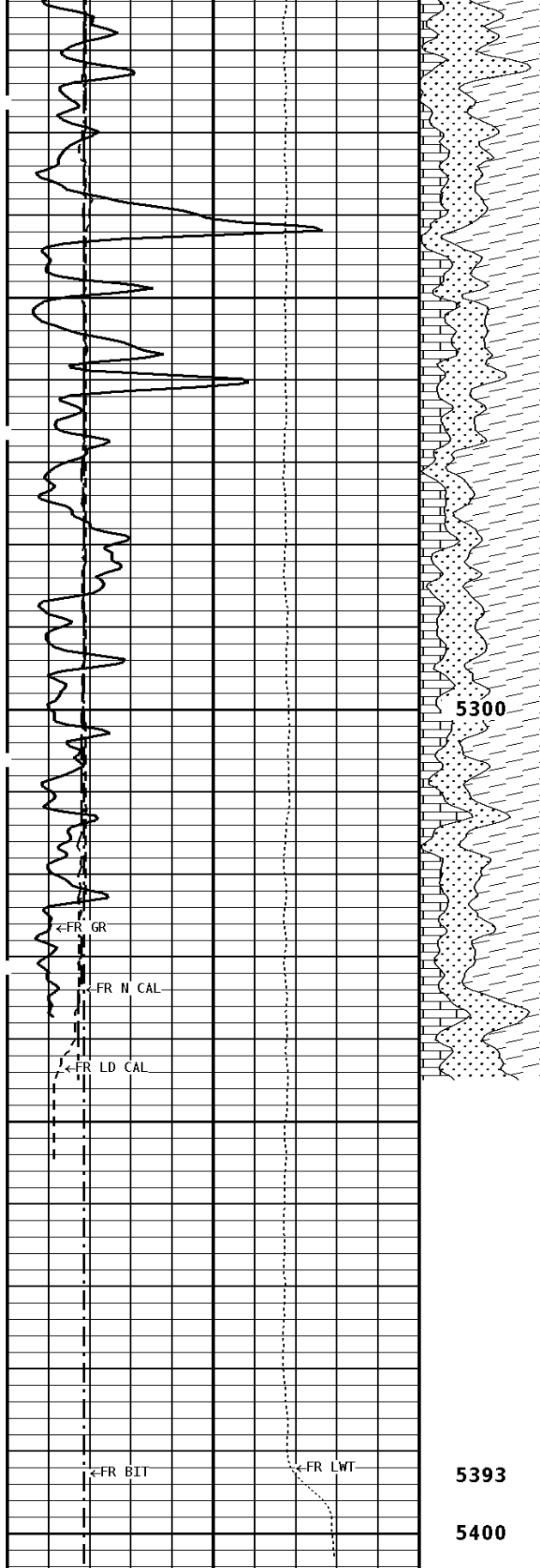
Well File: lb_exp_lar_14-2_oct_10 Quint	Scale: 1:240
Segment: V1.D1.S4 RP	Acquired: 2011-10/10 03:24 3.2.0-9963
Reference: 0	Processed: 2011-10/10 05:53 3.2.0-9963

TENSION LBS 10000 0			
BIT SIZE INCHES (IN) 6 16			
DENSITY (X) CALIPER	Volume	PE CROSS-SECTION	DENSITY CORRECTION

INCHES (IN)		BARNs/ELECTRON		G/CC	
16	26	Quartz	0	10	-0.25
6	16				0.25
NEUTRON (Y) CALIPER INCHES (IN)		Volume Calcite	NEUTRON POROSITY PERCENT (LIMESTONE MATRIX)		
16	26	Volume Dolo/Shale	70		30
6	16		30		-10
			-10		-50
GAMMA RAY API UNITS		DENSITY POROSITY PERCENT (2.71 g/cc)			
150	300		70		30
0	150		30		-10
			-10		-50

1:240 REPEAT SECTION





GAMMA RAY
API UNITS

- BHV ARV -
CU. FT

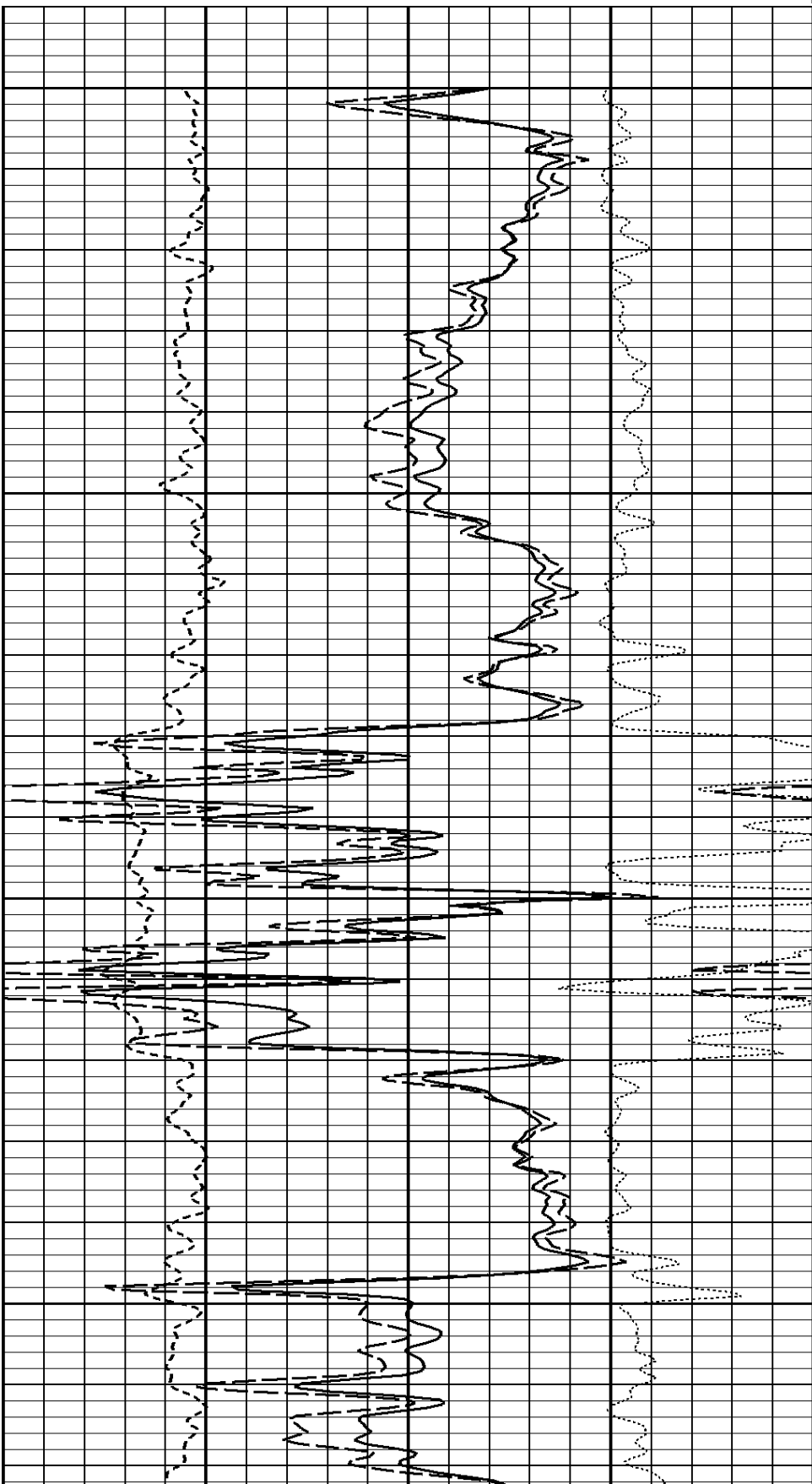
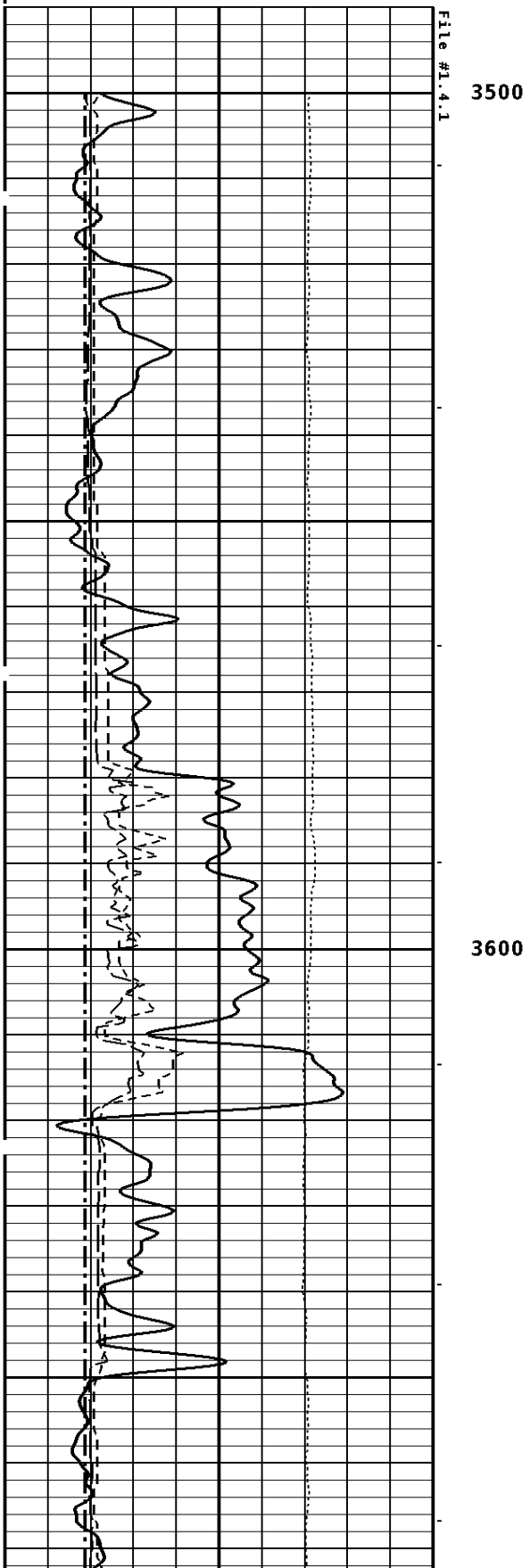
COMPENSATED BULK DENSITY
G/CC

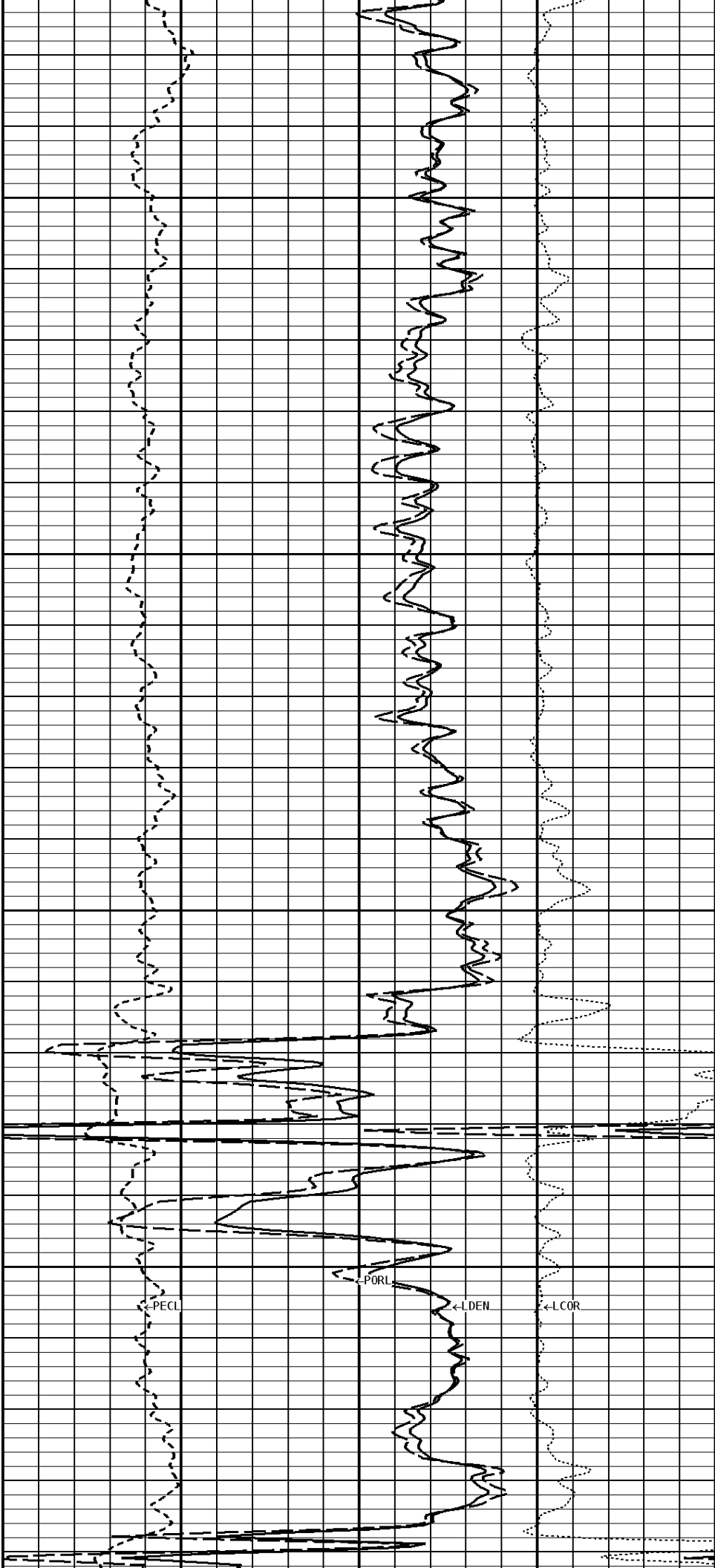
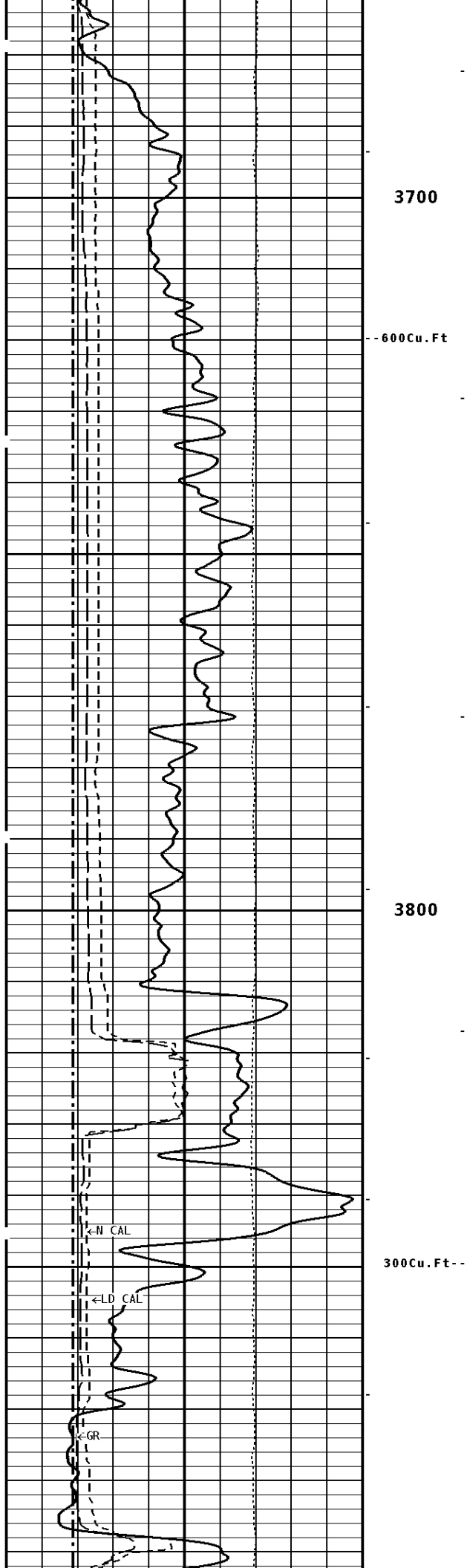
150 0 300 150

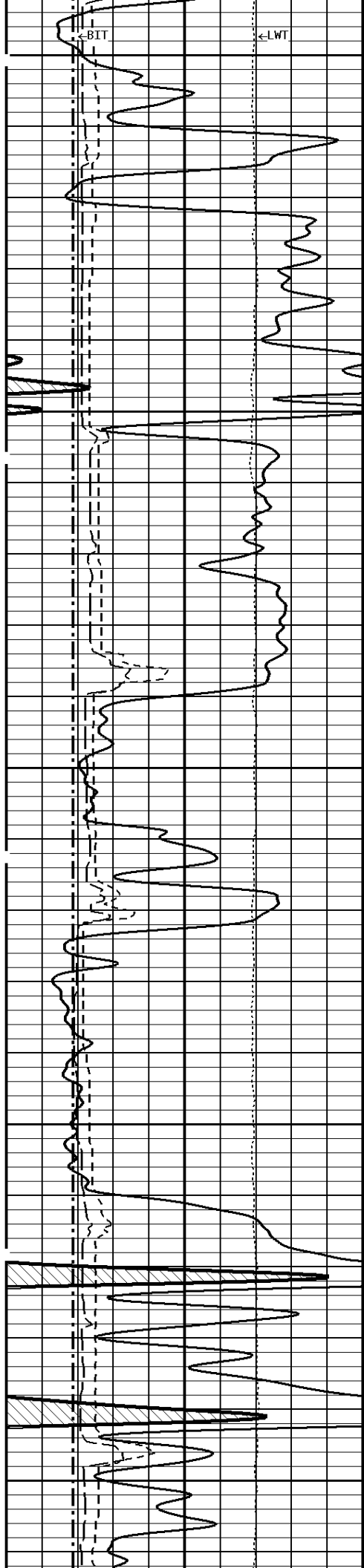
3.0
2.0
1.0

4.0
3.0
2.0

1:240 MAIN SECTION BULK DENSITY





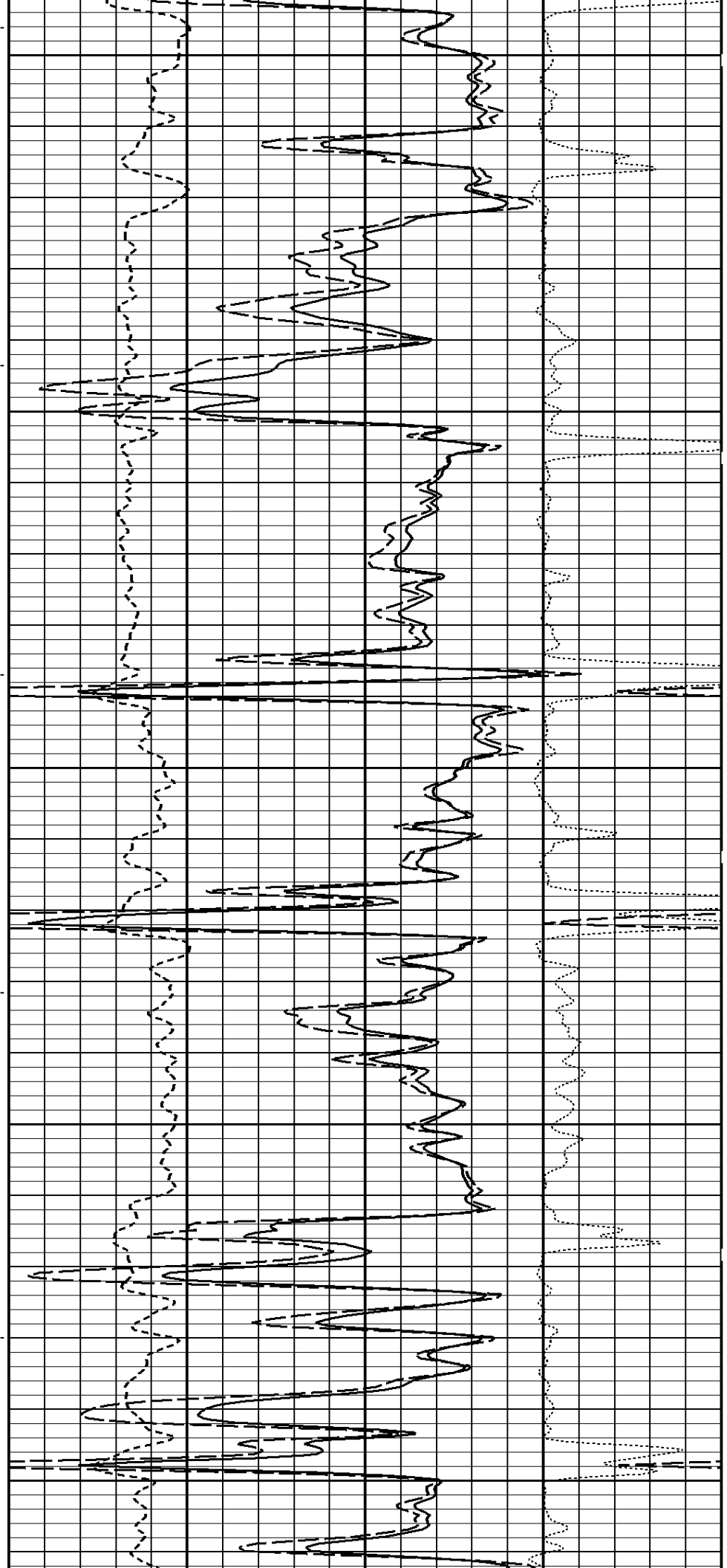


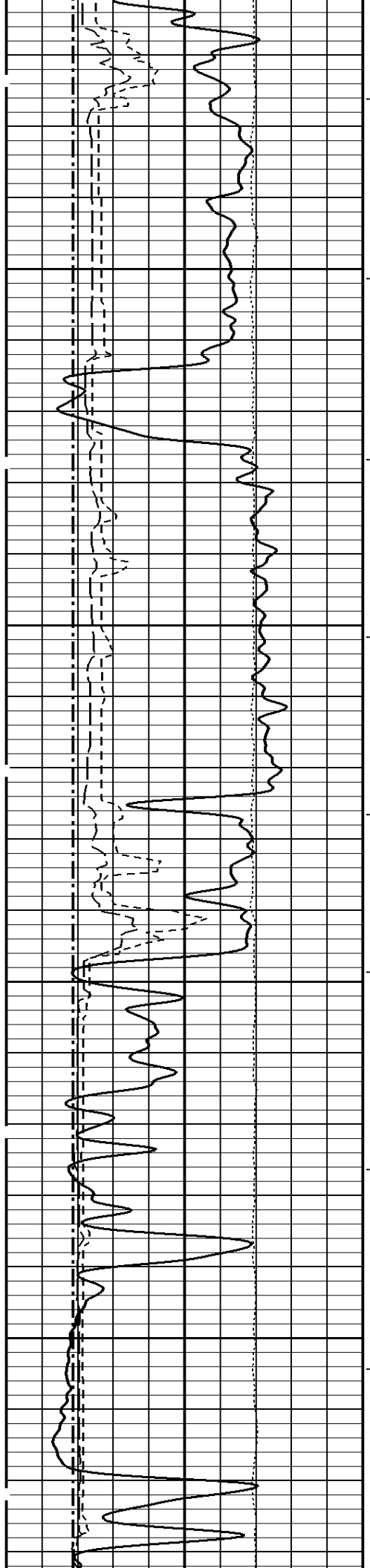
3900

--500Cu. Ft

4000

4100



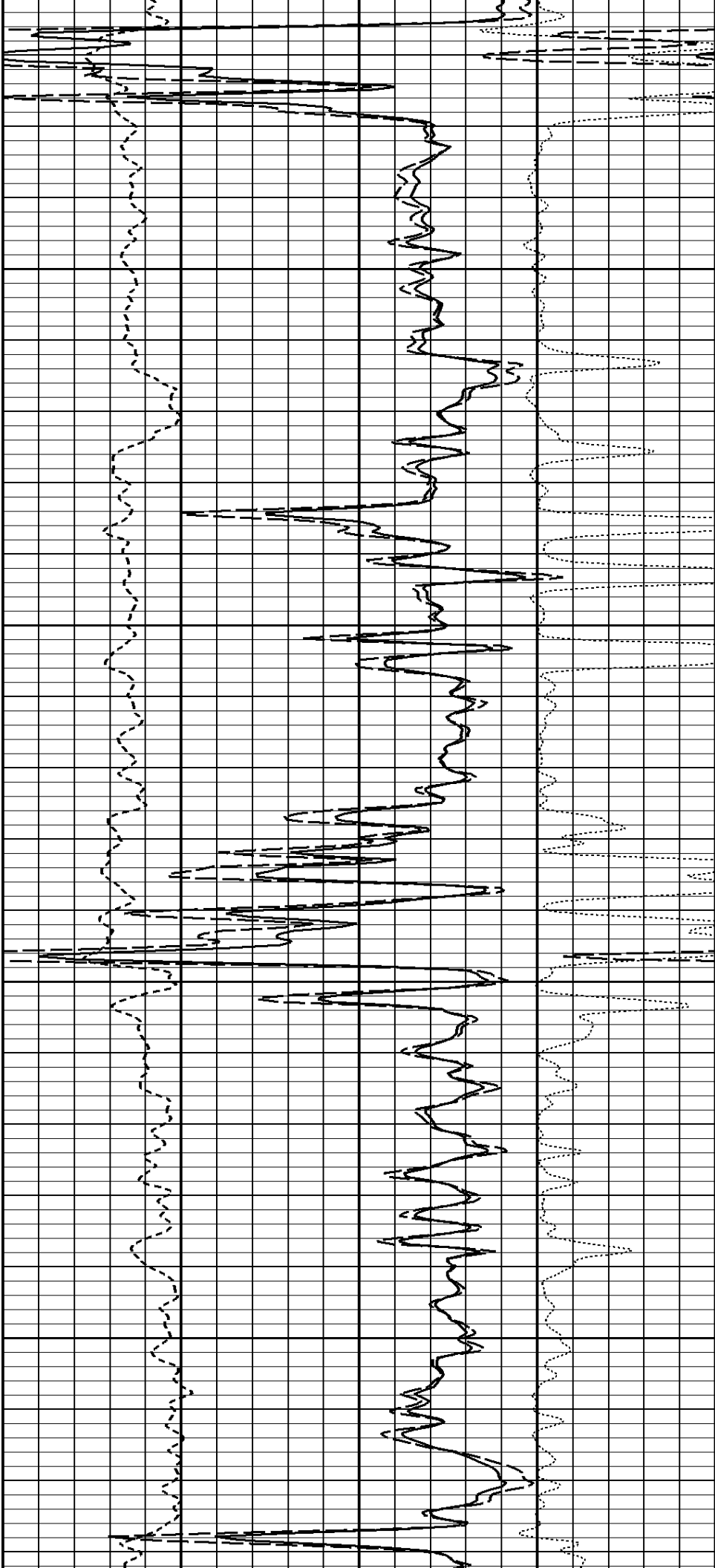


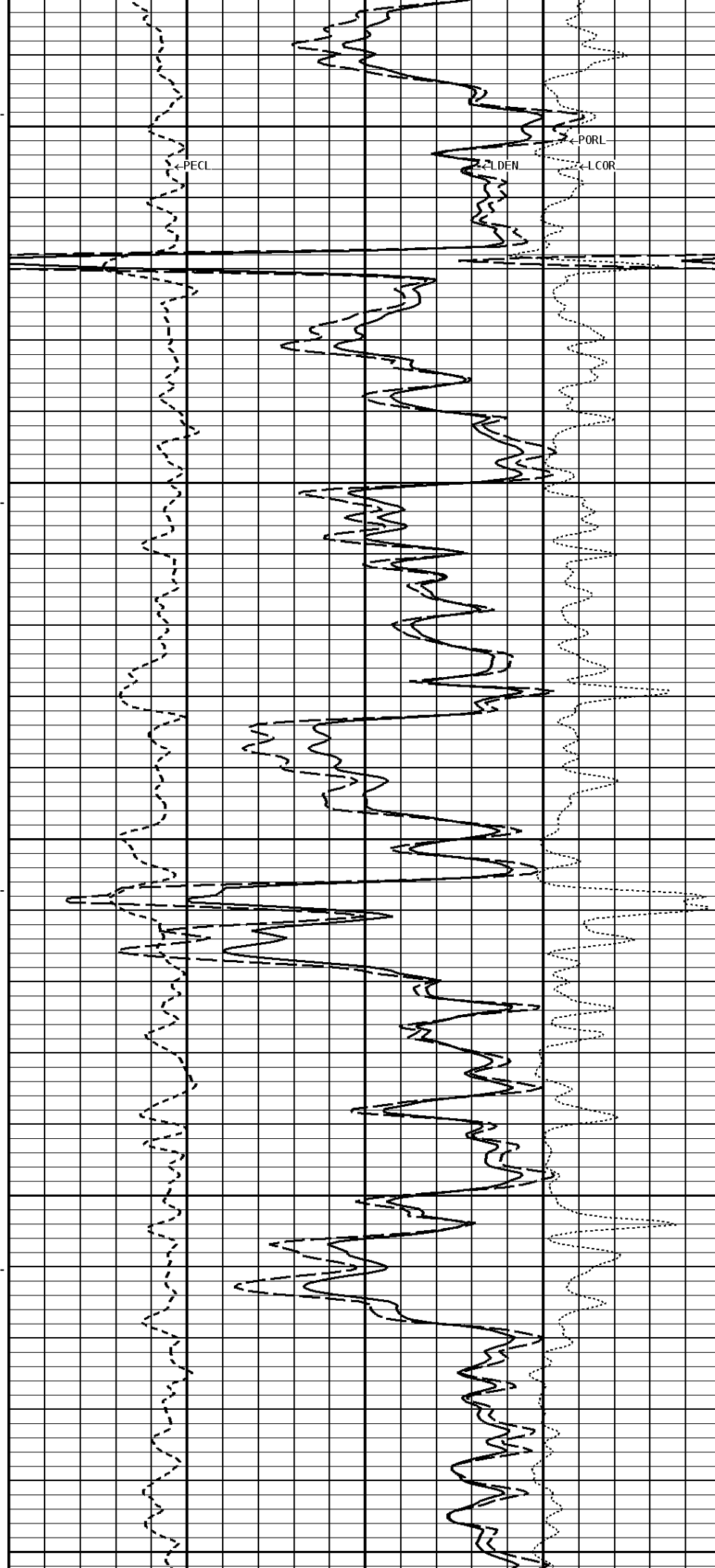
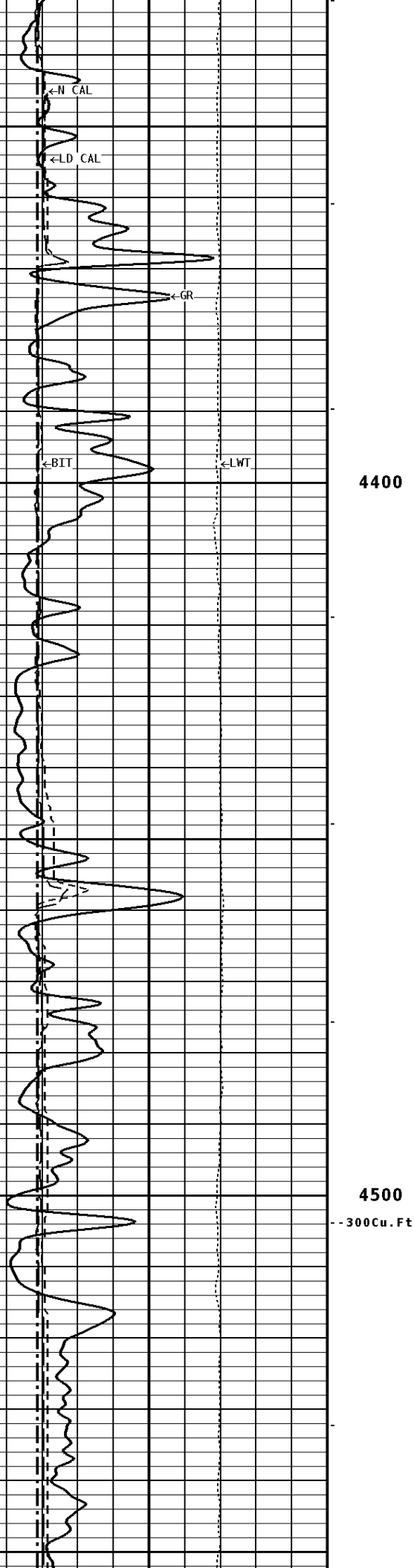
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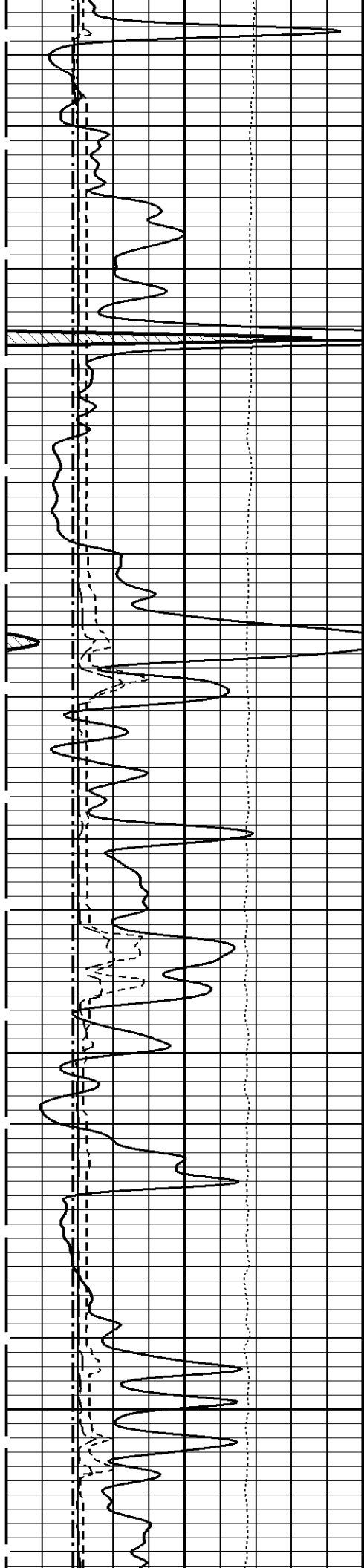
-- 400 Cu. Ft

200 Cu. Ft --

4300

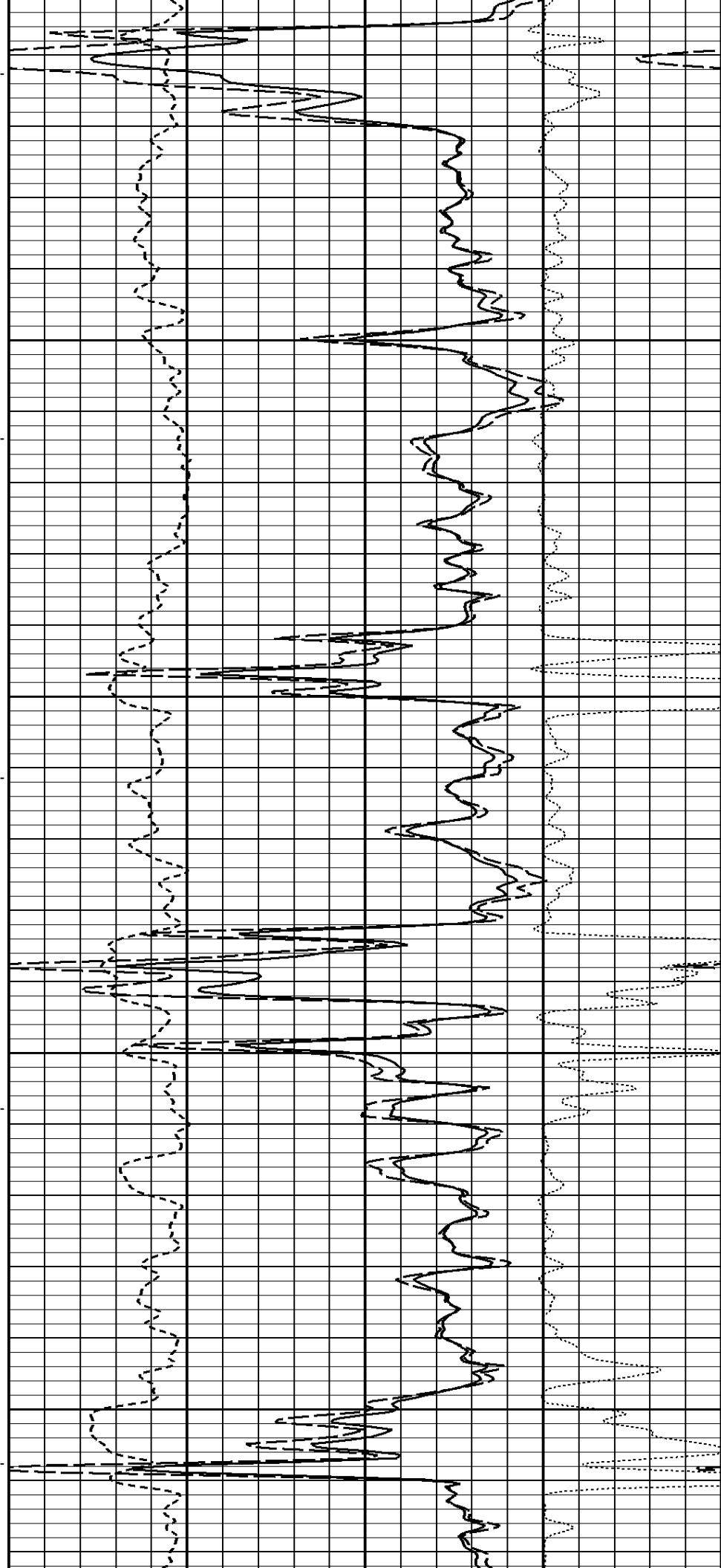


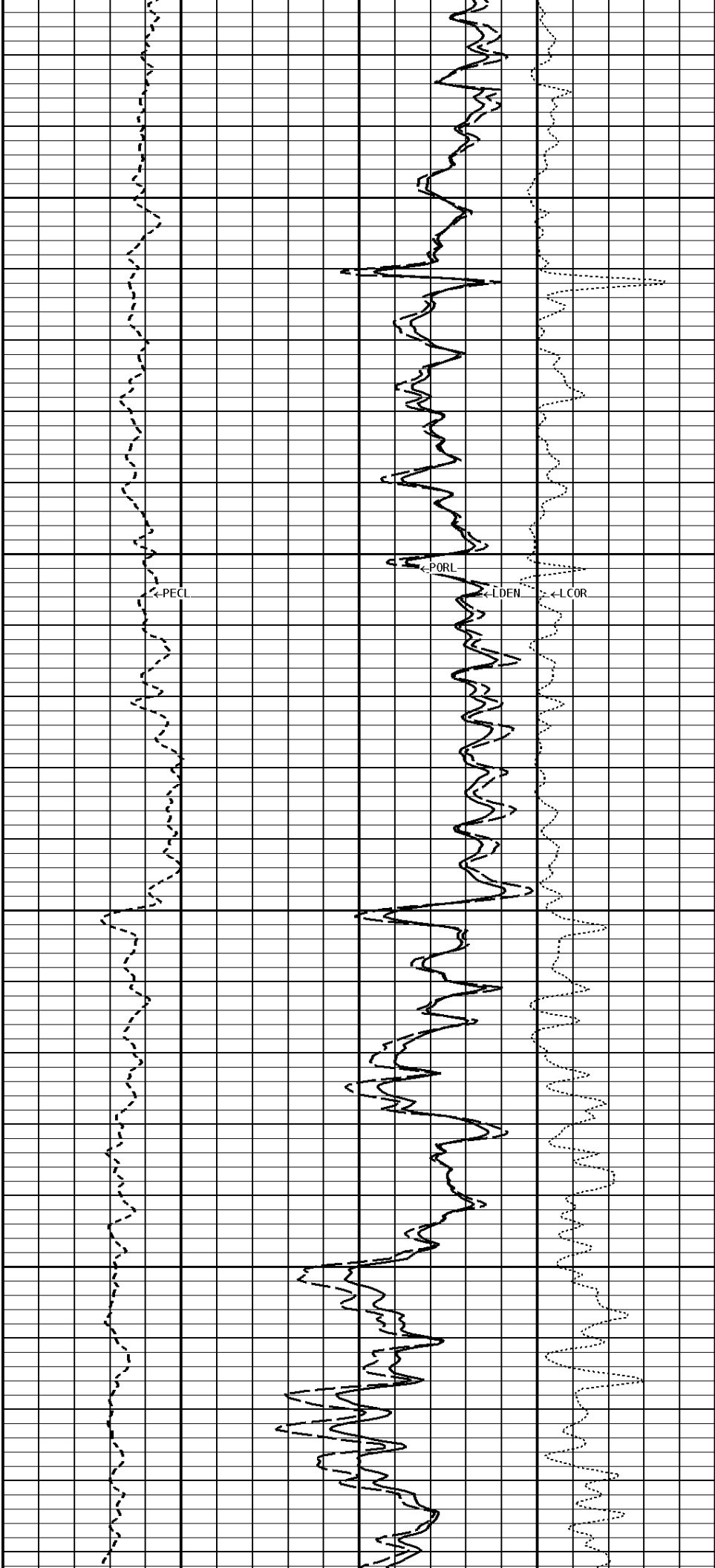
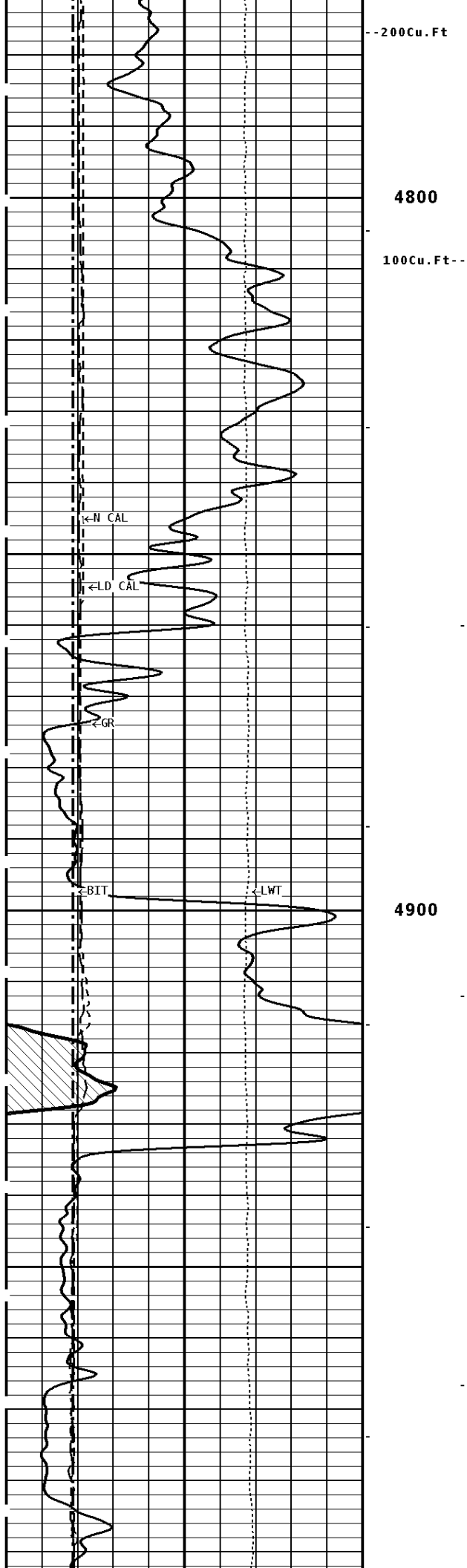


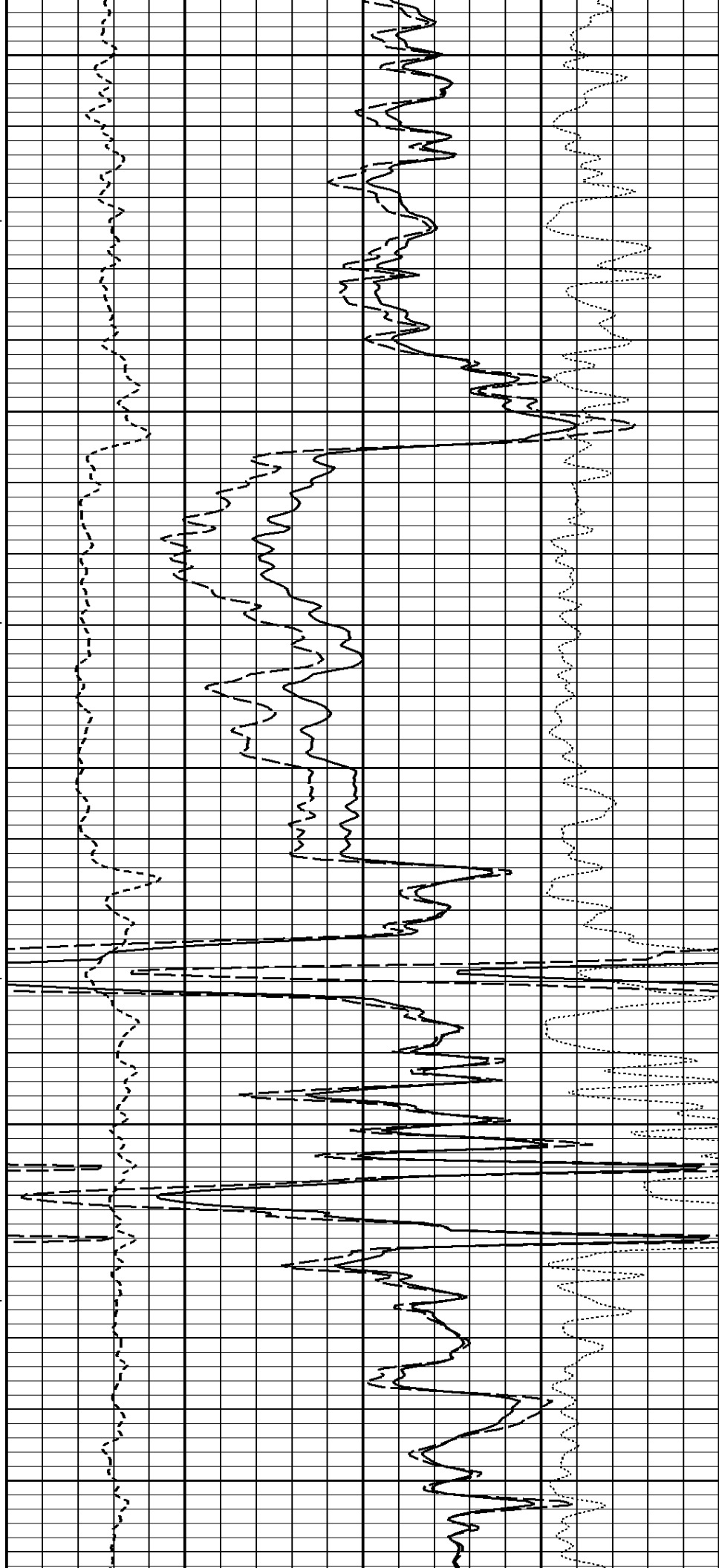
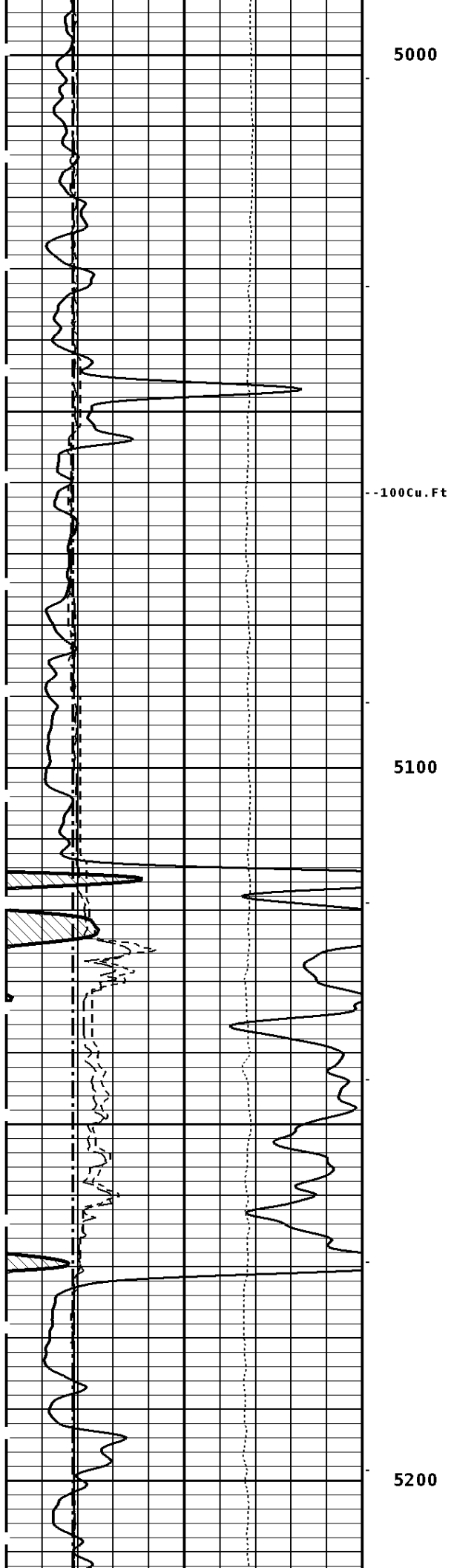


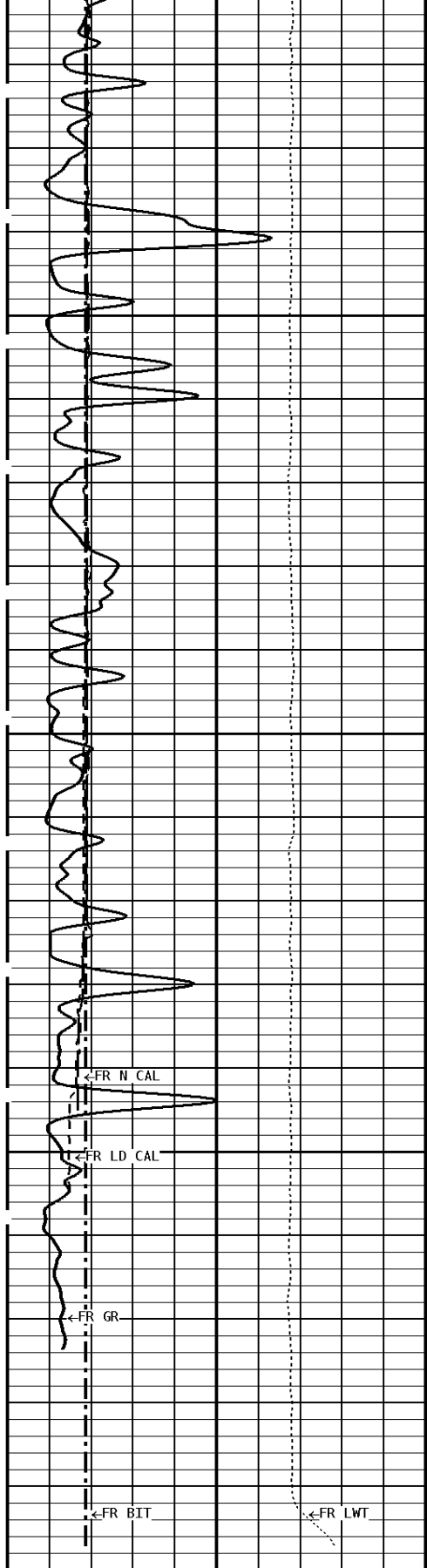
4600

4700







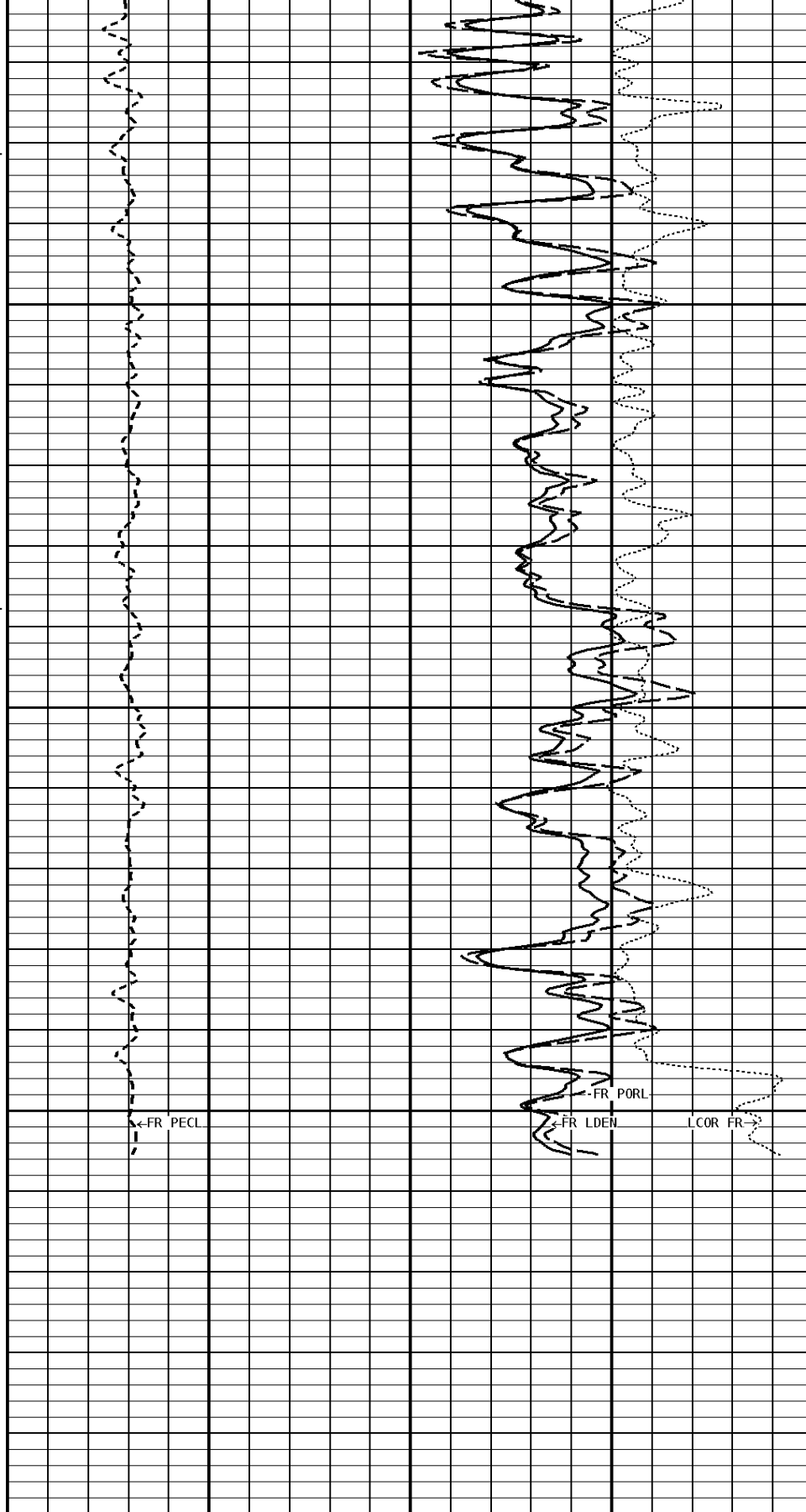


5300

5393

File #1.4.1

1:240 MAIN SECTION BULK DENSITY



-BNV ANV-
CU.FT

3.0

COMPENSATED BULK DENSITY
G/CC

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	70	30
6	16	30	-10
		-10	-50
DENSITY (X) CALIPER INCHES (IN)		PE CROSS-SECTION BARNs/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		

*** Calibration Summary ***

Shop Calibration GRT-B					
Performed : 04-APR-2011			Time : 19:28		
Sensor Suite : GR-GR5			ID : GRT-BC-41		
	Measured	Units	Calibrated	Units	
GR	Background	Jig	Jig	GRAPI	
	46	346	175		
Shop Calibration CNT-AA					
Performed : 18-MAY-2011			Time : 14:07		
Sensor Suite : CALI-BCN			ID : NDT-BB-129		
	Jig - Measured		Jig - Calibrated	Units	
	Ring#1	Ring#2	Ring#1	Ring#2	
CL # 1	8.1	16.0	6.0	12.0	IN.
Shop Calibration LDT-DF					
Performed : 26-APR-2011			Time : 13:10		
Sensor Suite : CALI-LTH			ID : PDT-GA-464		
	Jig - Measured		Jig - Calibrated	Units	
	Ring#1	Ring#2	Ring#1	Ring#2	
CL # 1	7.1	10.5	6.0	12.0	IN.
Shop Calibration LDP-DA					
Performed : 29-Aug-2011			Time : 10:02		
Sensor Suite : BHCPELNG			ID : LDP-DA-066		
Source ID : 2991GW					
	Short Space				
	BKGD	Al	Mg	Al+Fe	Units
LSW1	68	1145	1862	741	CPS
LSW2	72	1342	2135	975	CPS
LSW3	272	3097	4995	2638	CPS
LSW4	332	2745	3951	2425	CPS
LSW5	32	58	65	55	CPS
LSW6	89	94	92	93	CPS
LSW7	57	61	62	63	CPS
LSW8	2	4	6	4	CPS
QS	0.222	0.209	0.192	0.188	
PES			2.778	5.967	
SSDN		2.600	1.680		G/CC
	Long Space				

	BKGD	Al	Long space	Mg	Al+Fe	Units
LLW1	99	1267		5271	771	CPS
LLW2	117	2259		8880	1658	CPS
LLW3	435	4175		15756	3607	CPS
LLW4	558	1992		6286	1800	CPS
LLW5	59	72		133	70	CPS
LLW6	179	173		165	176	CPS
LLW7	113	110		107	112	CPS
LLW8	3	7		19	6	CPS
QL	0.226	0.223		0.212	0.222	
PEL				2.697	5.458	
LSDN		2.600		1.680		G/CC