

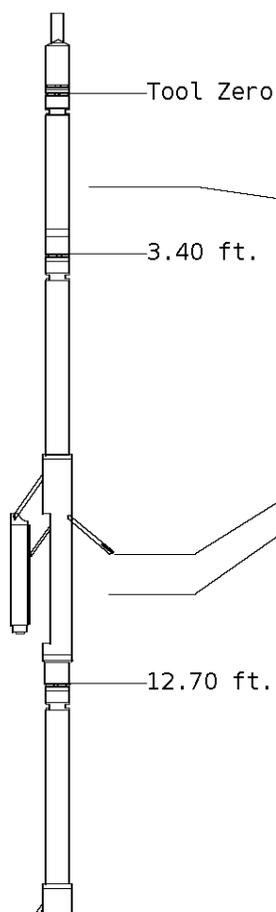
ALL PRESENTATIONS AS PER CUSTOMER REQUEST
 GRT, CNT, LDT, MLT AND PIT RUN IN COMBINATION
 CALIPERS ORIENTED ON X-Y AXIS
 2.71 G/CC USED TO CALCULATE POROSITY
 ANNULAR HOLE VOLUME CALCULATED USING 5.5" PRODUCTION CASING
 PHIN IS CALIPER CORRECTED

GRT: GRP, GRX
 CNT: PHIN, CLCNIN, PHXN
 LDT: PORL, LCORN, PECLN, LDENN, PORLLS, CLLDIN, PRXL, PECLX, LDENNX, LCORX
 MLT: NOR_RF, INV_RF, MSCLPIN
 PIT: ILD, ILM, SPU, SFLAEC, CIRD

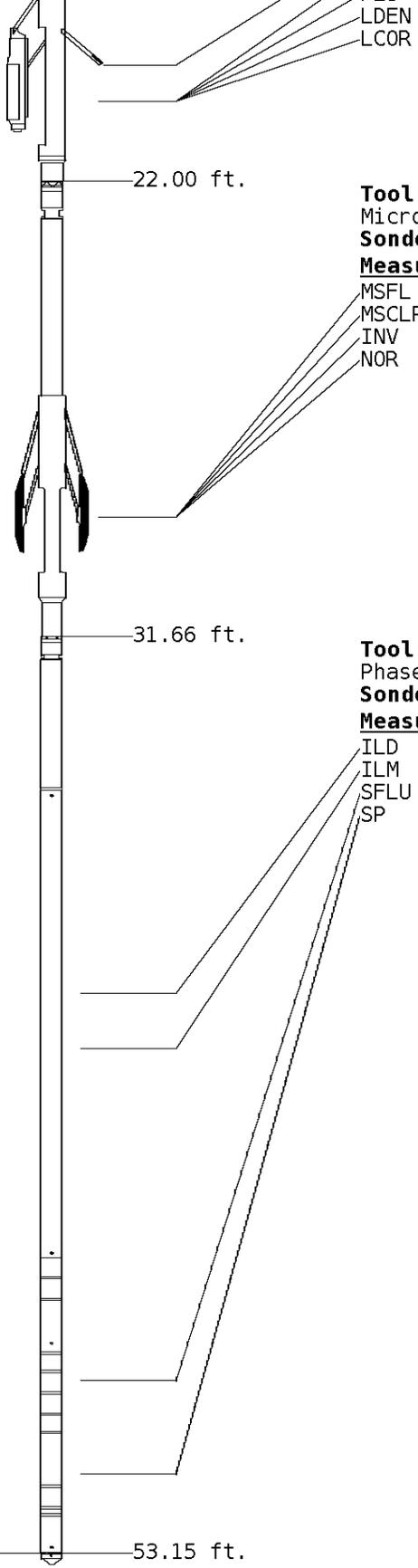
OPERATORS:
 K. WARREN
 S.KEELEY

Tool String Schematic

Total Tool Length - 53.15 ft.
Maximum Outside diameter - 6.00 in.
Net Weight in Air - 943.00 lbs.



Tool: GRT-B		Length: 3.40 ft.	O.D.: 3.60 in.
Gamma Ray Controller			
Sonde ID :GRT-BA-14			
Measure Point	Tool Offset	Stack Offset	Bottom Offset
GRP	2.00	2.00	51.15
Tool: CNT-AA		Length: 9.30 ft.	O.D.: 4.36 in.
Compensated Neutron A Pad on NDT-A			
Sonde ID :NDT-BB-033			
Source ID :N-1044			
Pad ID :CNP-AA-121			
Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLCN	6.00	9.40	43.75
PHIN	6.80	10.20	42.95
Tool: LDT-DA		Length: 9.30 ft.	O.D.: 4.80 in.
Litho Density D Pad on NDT-A			
Sonde ID :PDT-GA-426			
Source ID :63558B			
Pad ID :LDP-DA-75			
Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLLD	6.00	18.70	34.45
PEL	7.00	19.70	33.45
PES	7.40	20.10	33.05



7.20 19.90 33.25
 7.20 19.90 33.25

Tool: MST-DA **Length:** 9.66 ft. **O.D.** 6.00 in.
 Micro Spherically Focused (IC,D)
Sonde ID :MST-DA-024

Measure Point	Tool Offset	Stack Offset	Bottom Offset
MSFL	7.60	29.60	23.55
MSCLP	7.60	29.60	23.55
INV	7.60	29.60	23.55
NOR	7.60	29.60	23.55

Tool: PIT-CA **Length:** 21.49 ft. **O.D.** 3.62 in.
 Phased Dual Induction w/ RM & D
Sonde ID :PIT-CA-069

Measure Point	Tool Offset	Stack Offset	Bottom Offset
ILD	8.92	40.58	12.56
ILM	10.10	41.76	11.39
SFLU	17.49	49.15	4.00
SP	20.60	52.26	0.88

Well File: VAL ENERGY ANDES 2-36 JUNE30 MSTK **Scale:** 1:240 **Format:** NLD-240
Segment: V1.D1.S5 Reprocess of MAIN **Acquired:** 2019-06/30 19:09 3.4.1-13968
Reference: 0 **Processed:** 2019-06/30 20:09 3.4.1-13968

CALIPER MICRO INCHES (IN)	
16	26
6	16

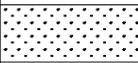
BIT SIZE INCHES (IN)

NORMAL
OHMH

6	16
NEUTRON (Y) CALIPER INCHES (IN)	
16	26
6	16

0	40
INVERSE OHMM	
0	40

DENSITY (X) CALIPER INCHES (IN)	
16	26
6	16

Volume Quartz	PE CROSS-SECTION BARN/ELECTRON
	10

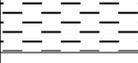
DENSITY CORRECTION G/CC
-0.25
0.25

TENSION LBS	
10000	0

Volume Calcite	DENSITY POROSITY (2.71g/cc) PERCENT
	70
	30
	-10

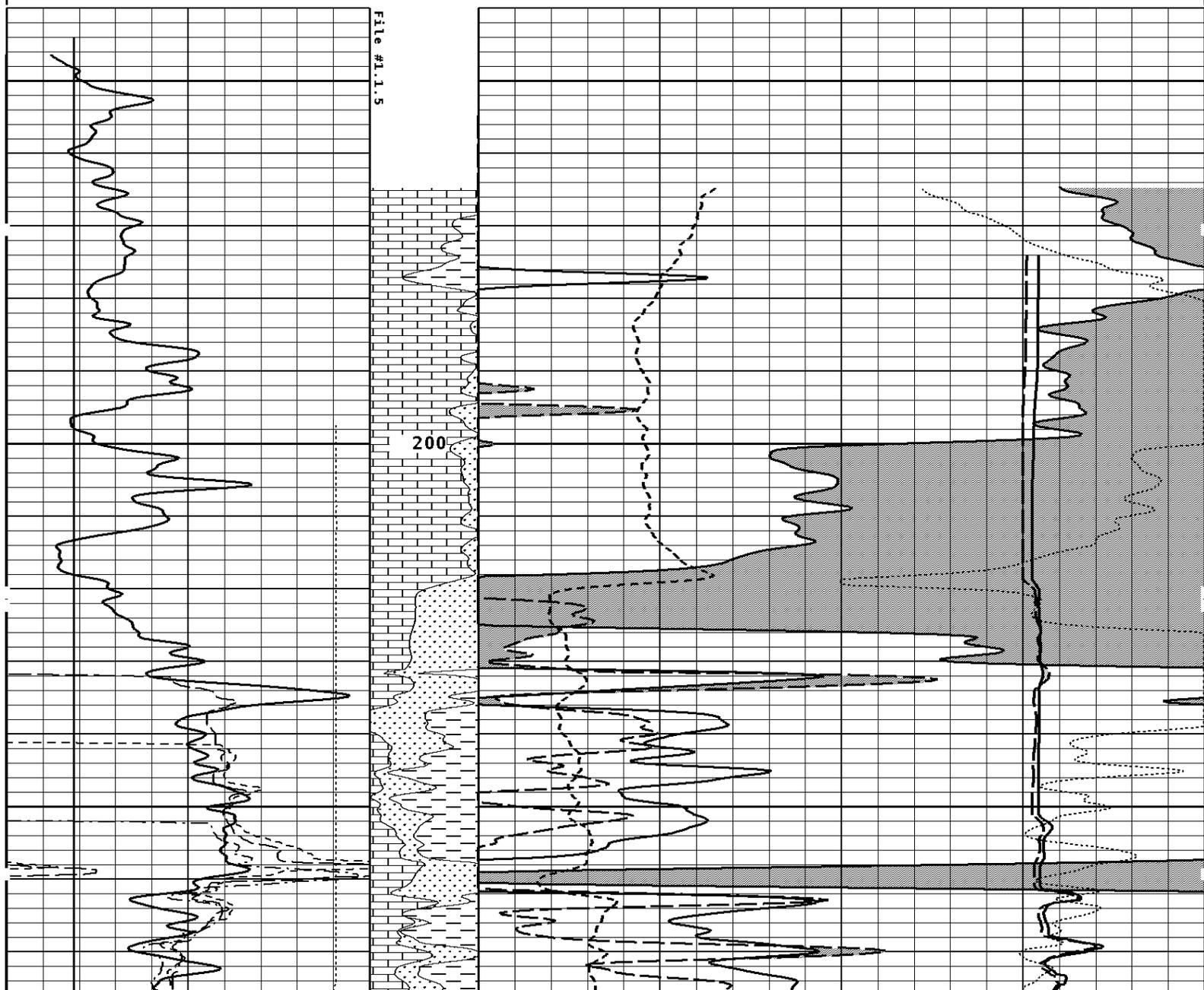
30
-10
-50

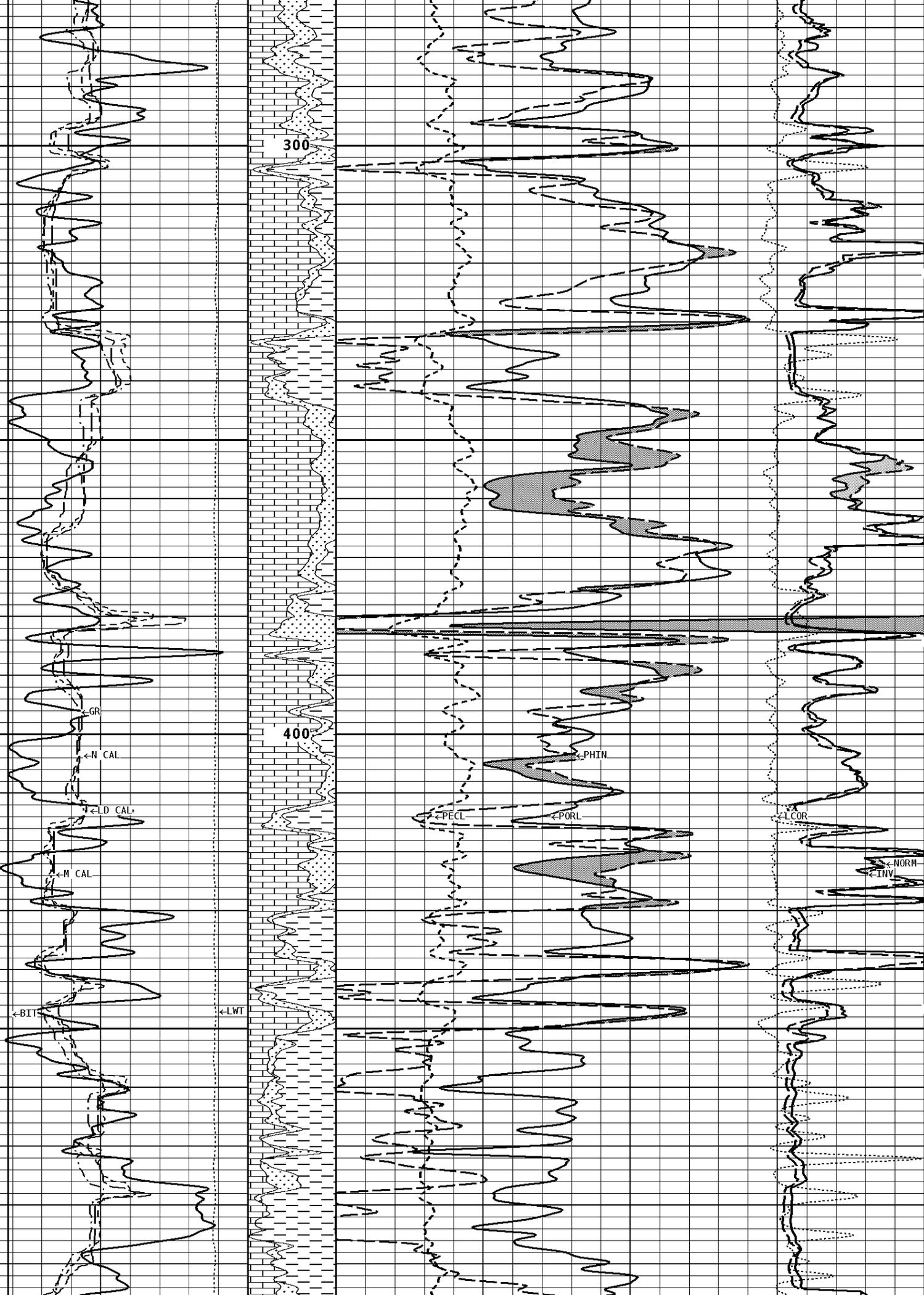
GAMMA RAY API UNITS	
150	300
0	150

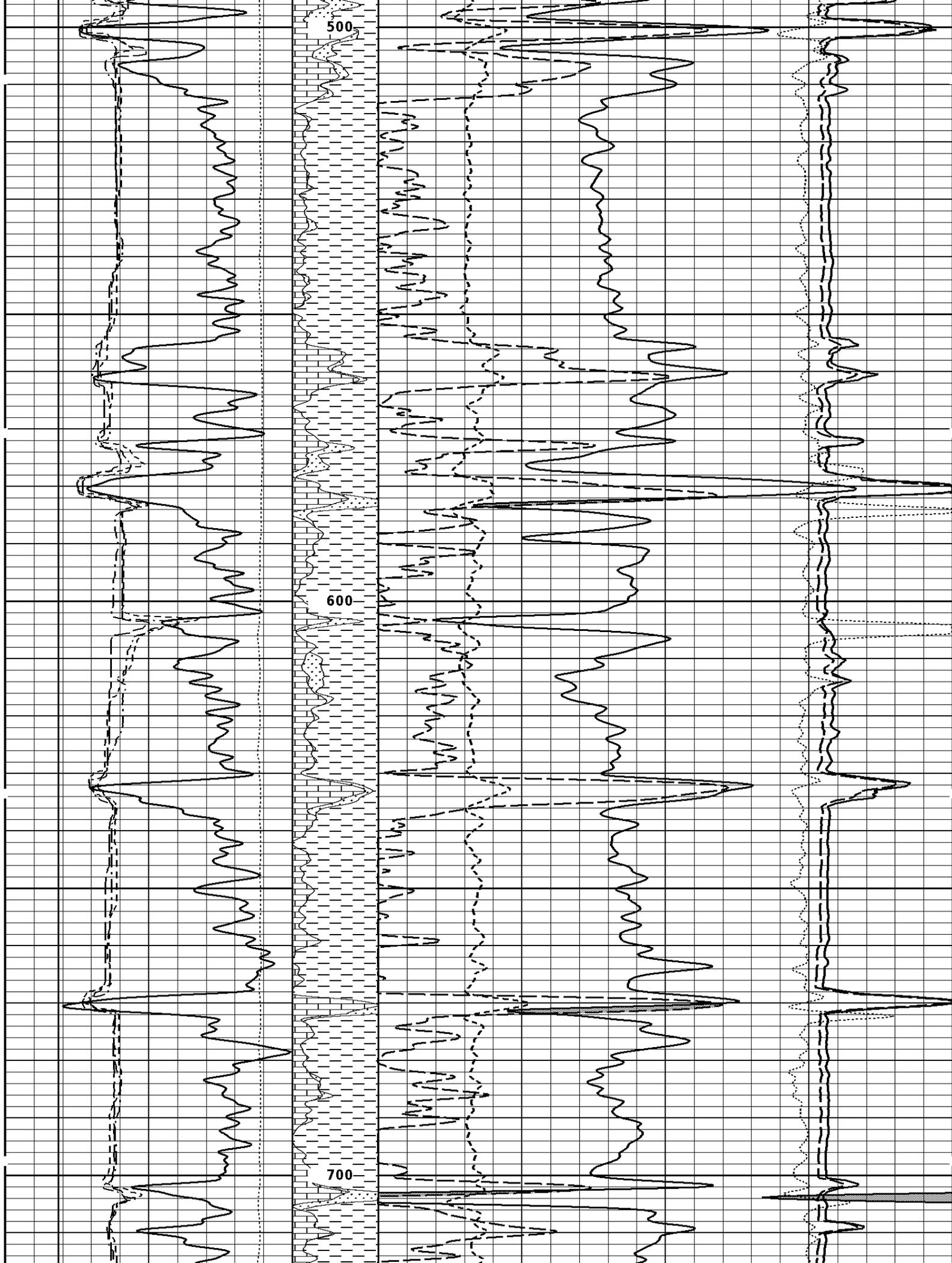
Volume Dolo/Shale	NEUTRON POROSITY (LIMESTONE) PERCENT
	30

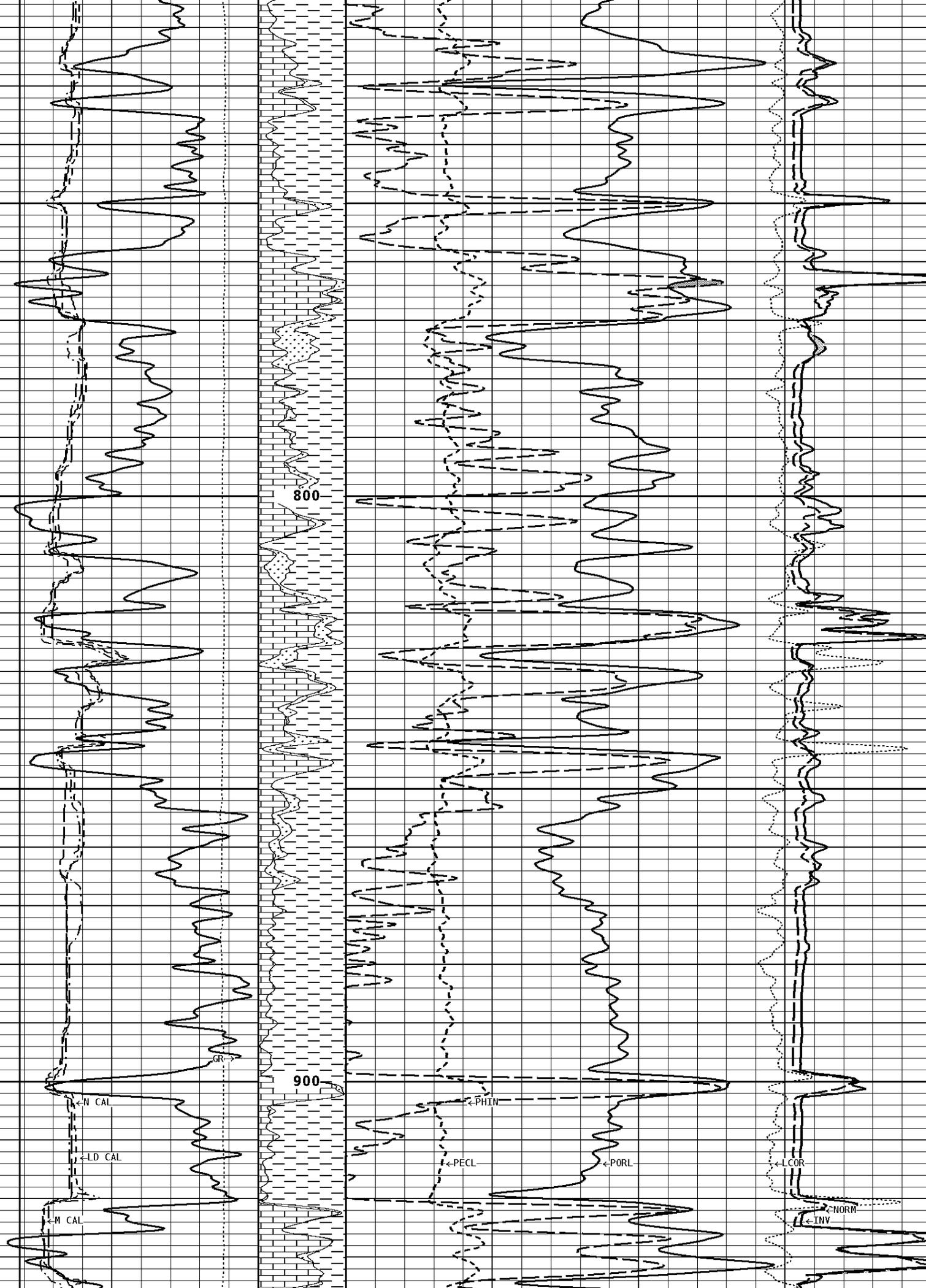
-10

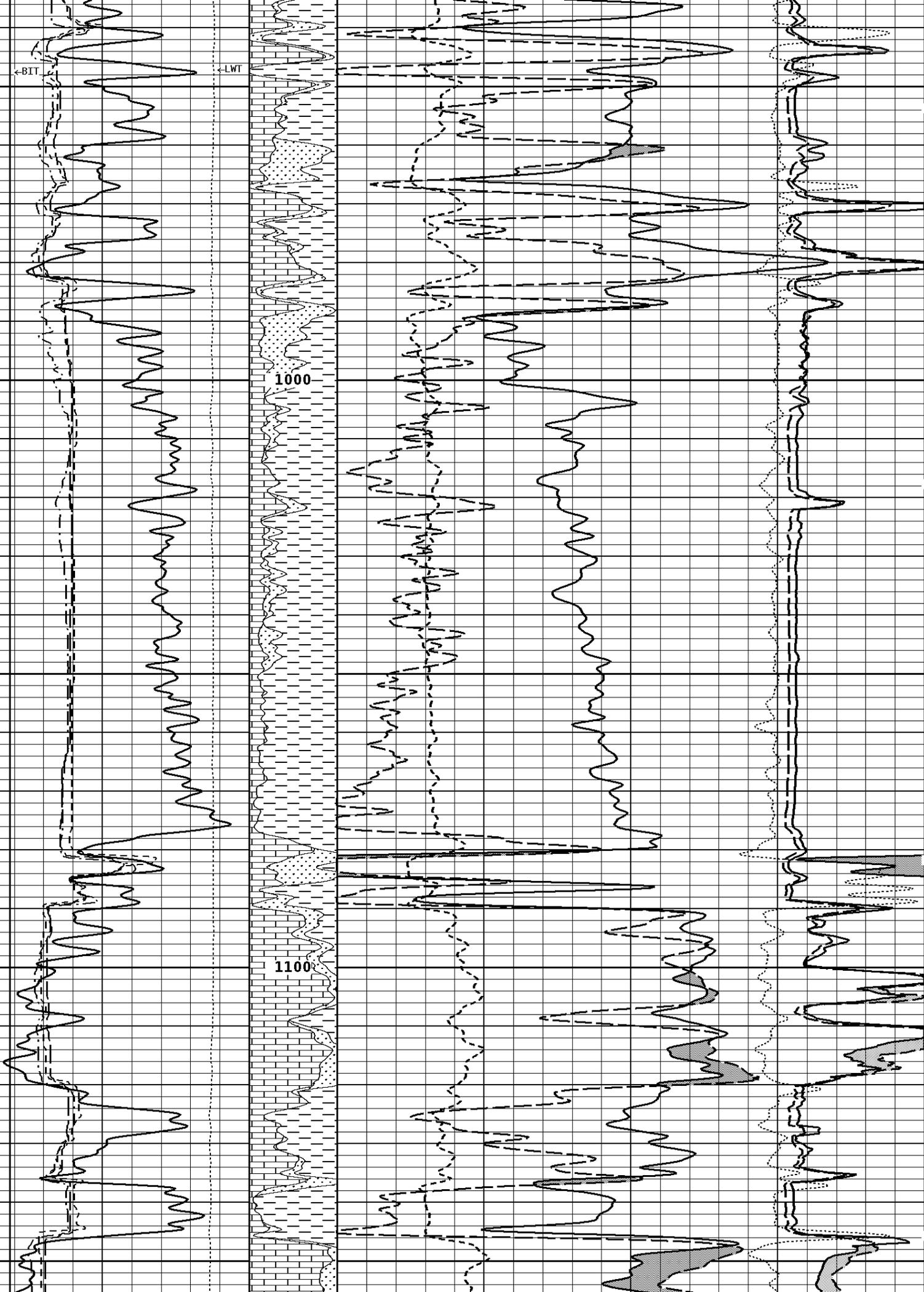
1:240 MAIN SECTION

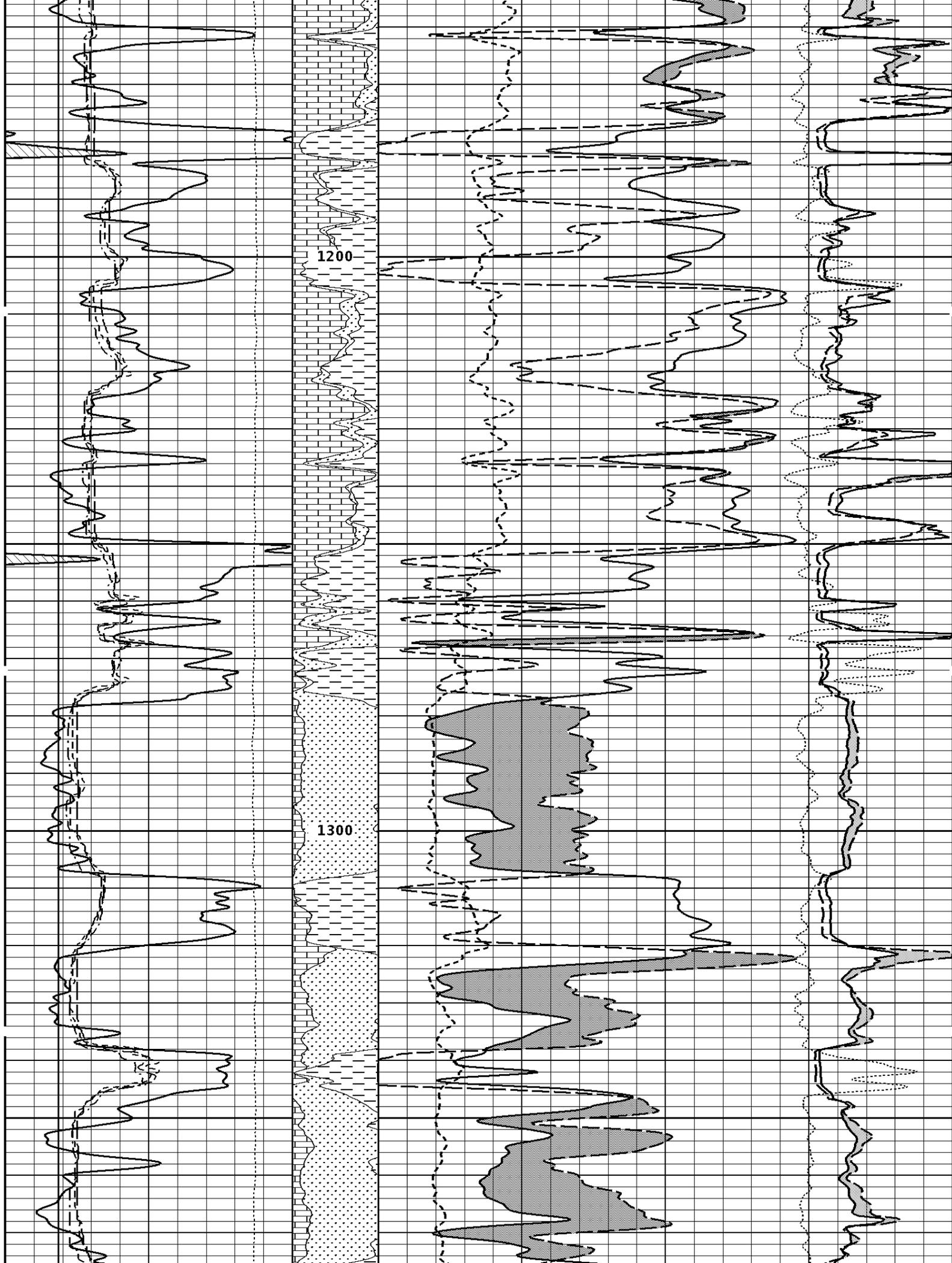


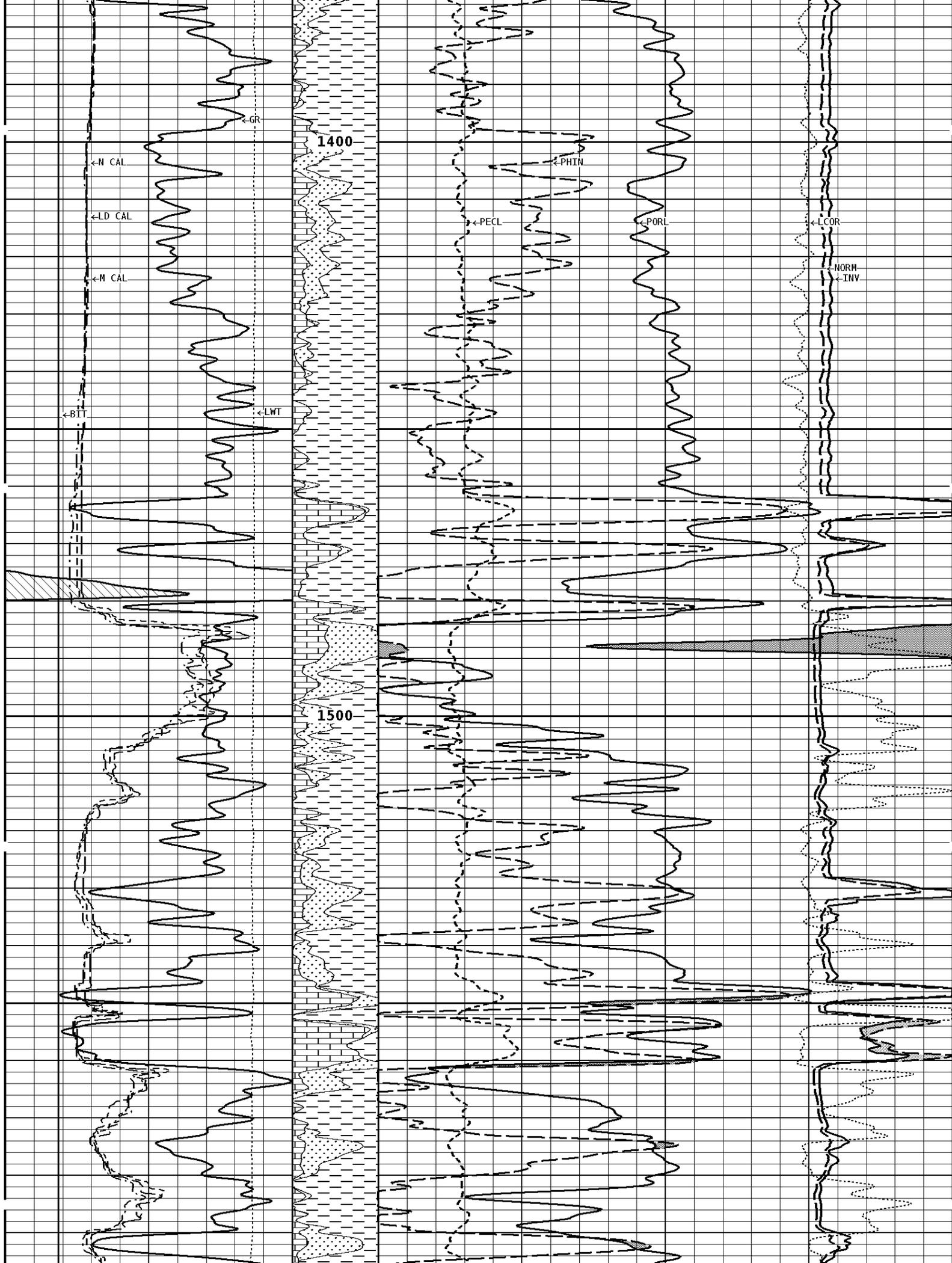


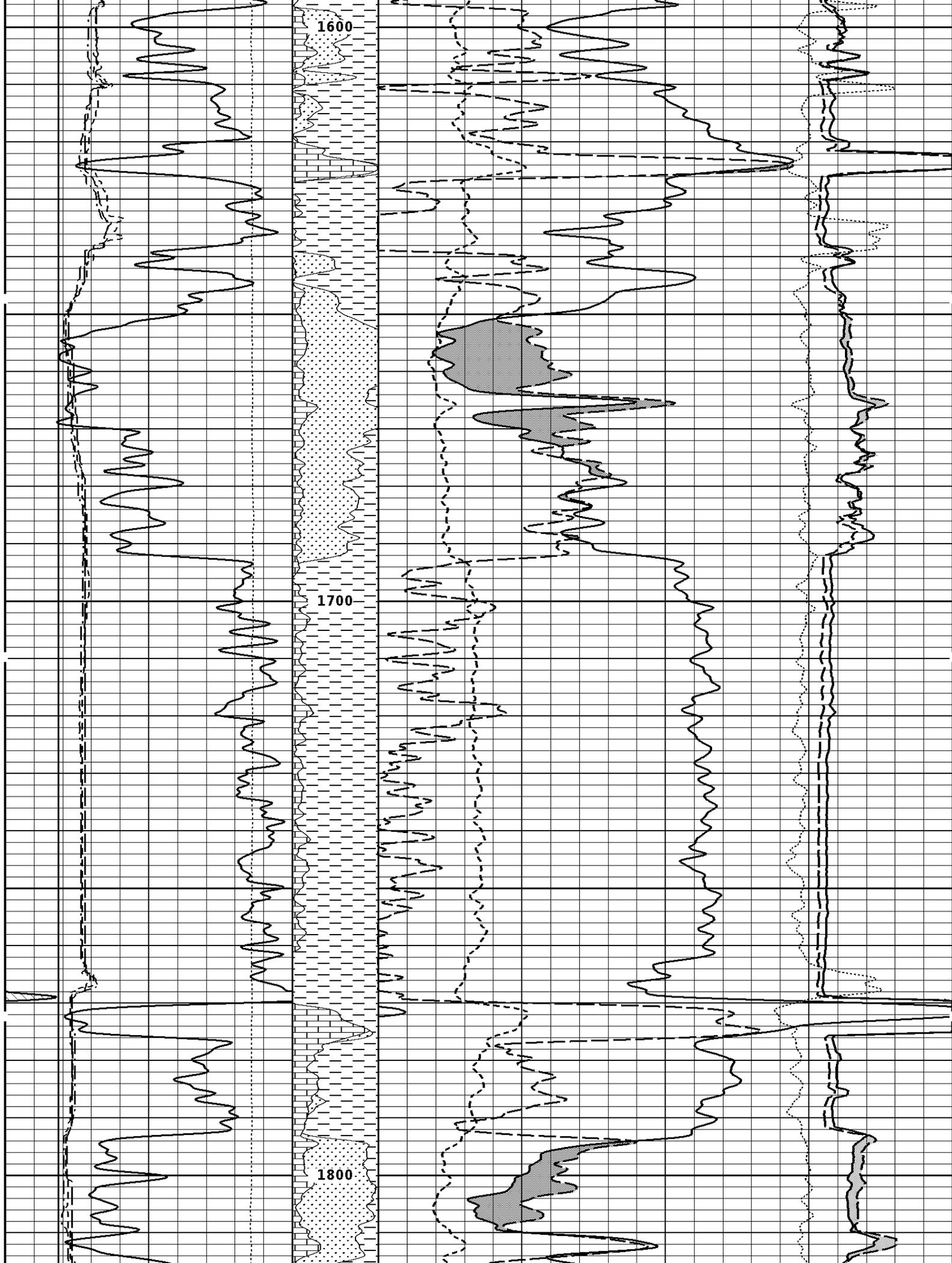


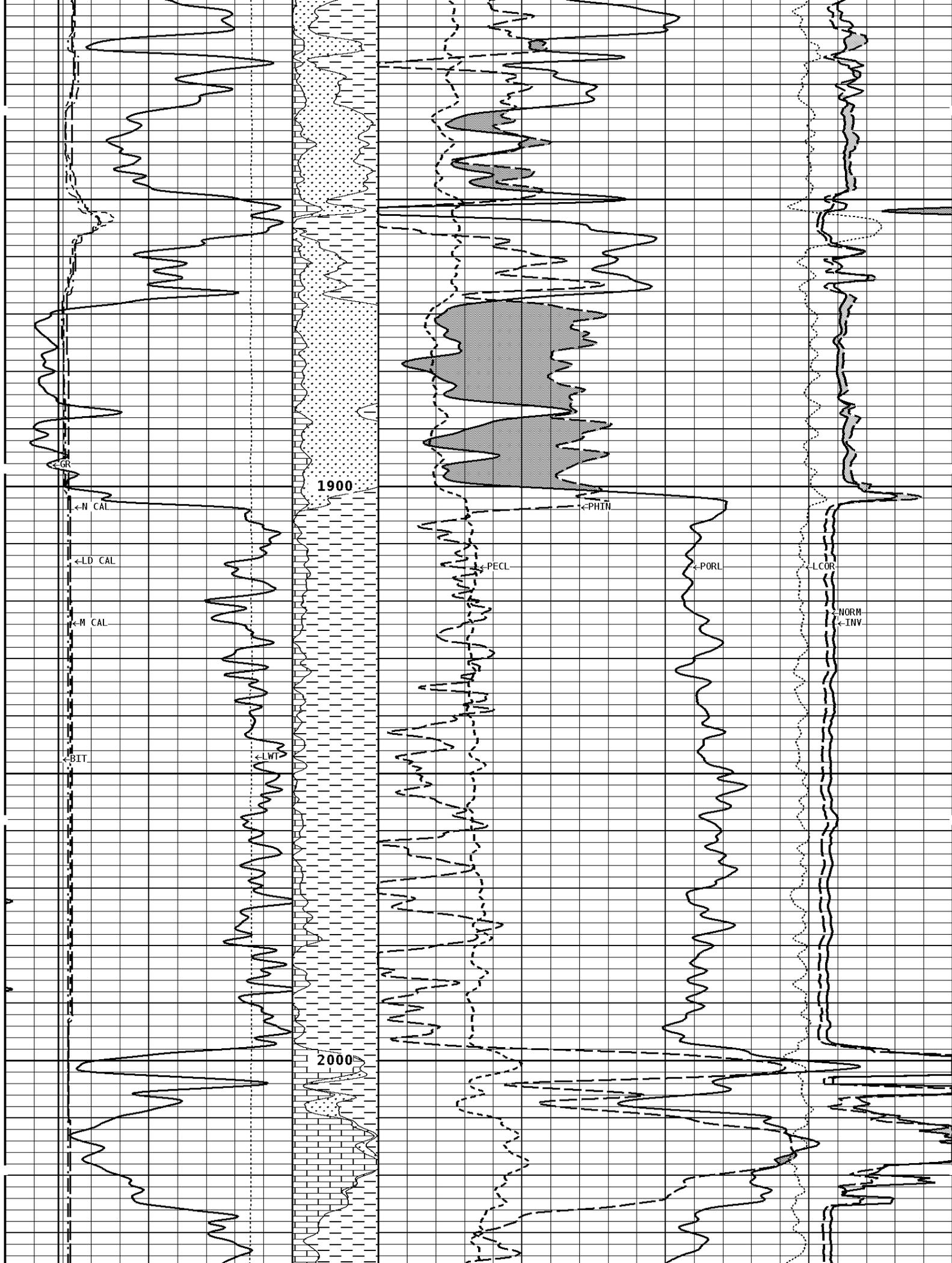


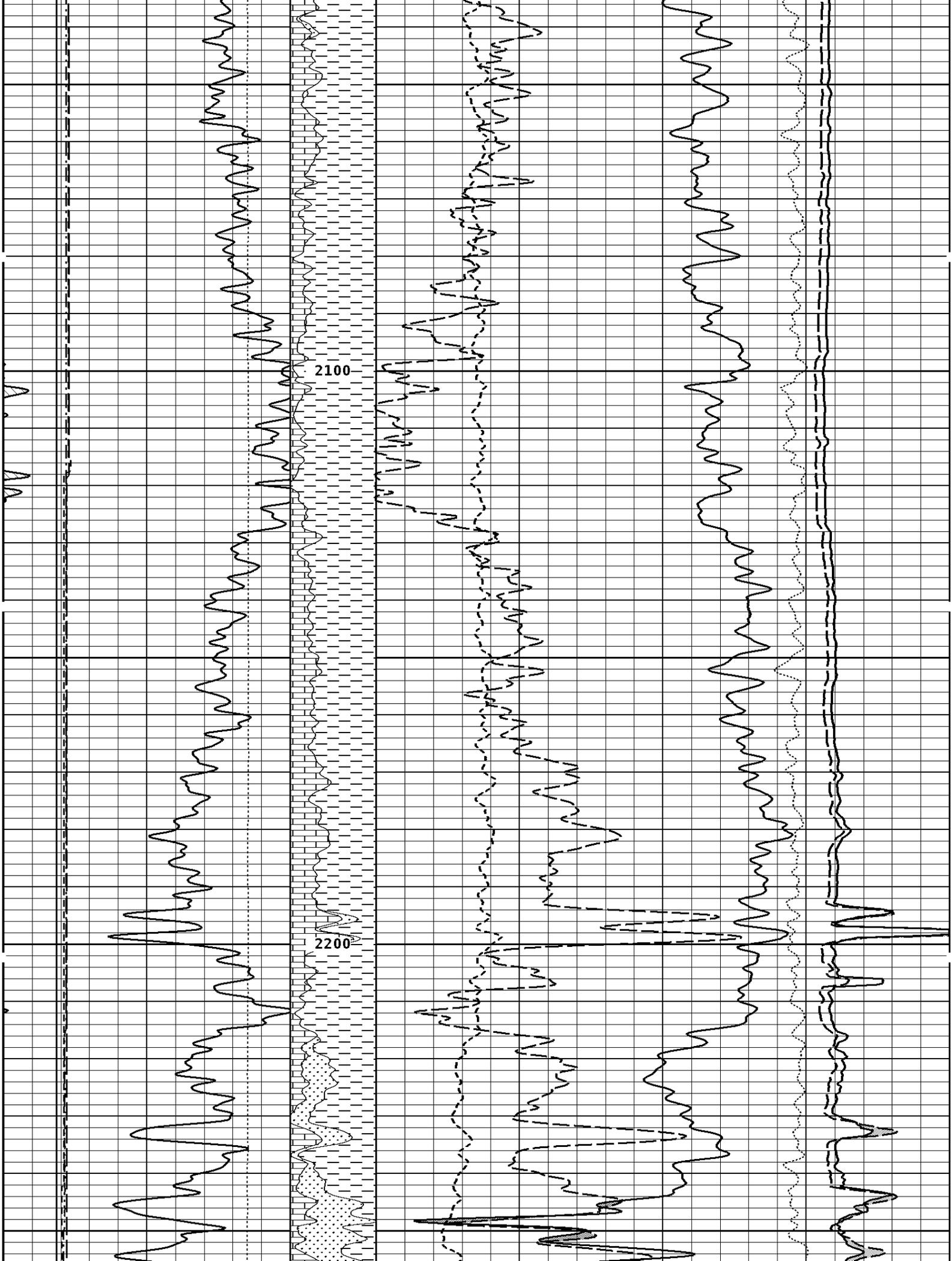


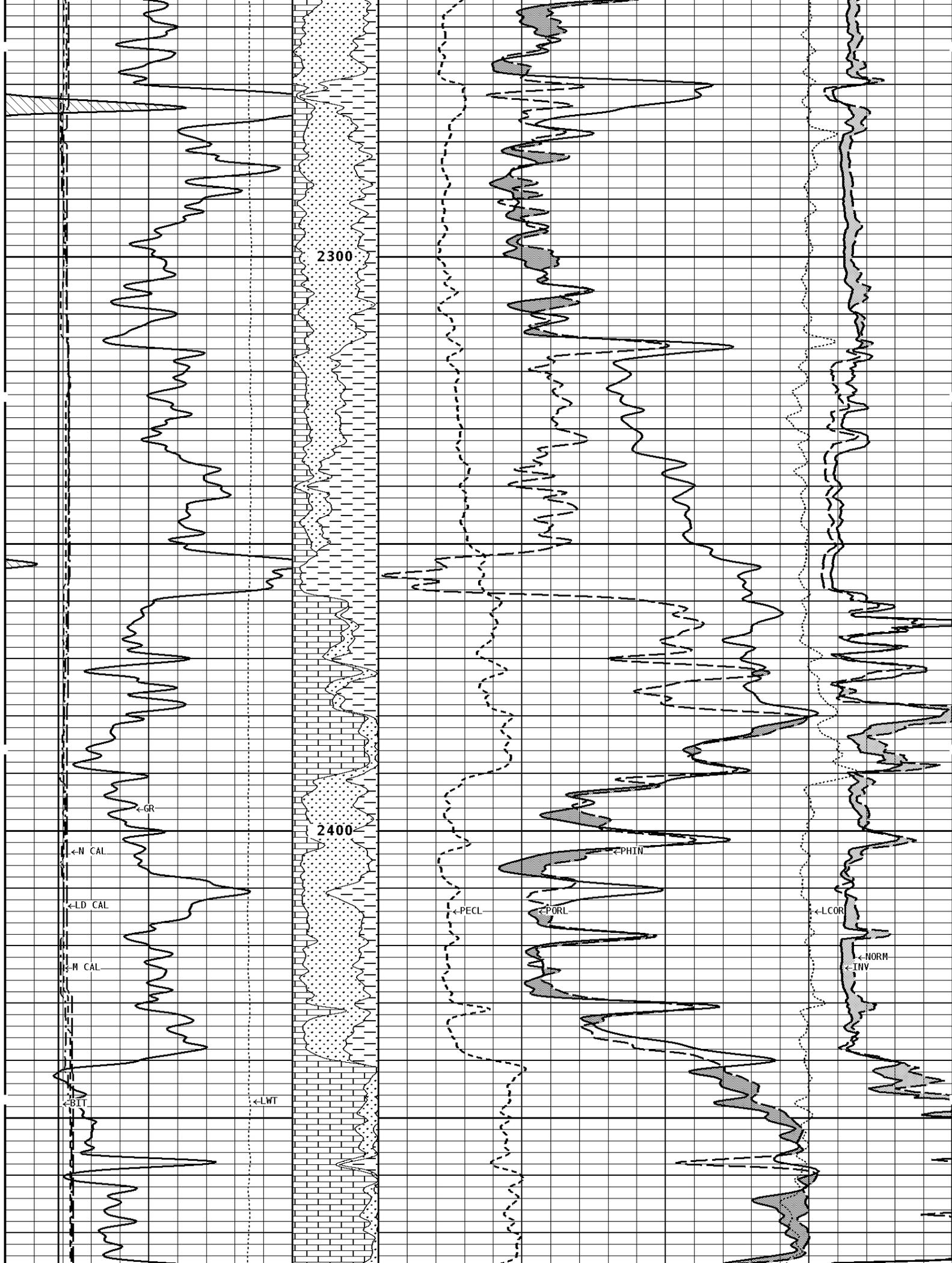


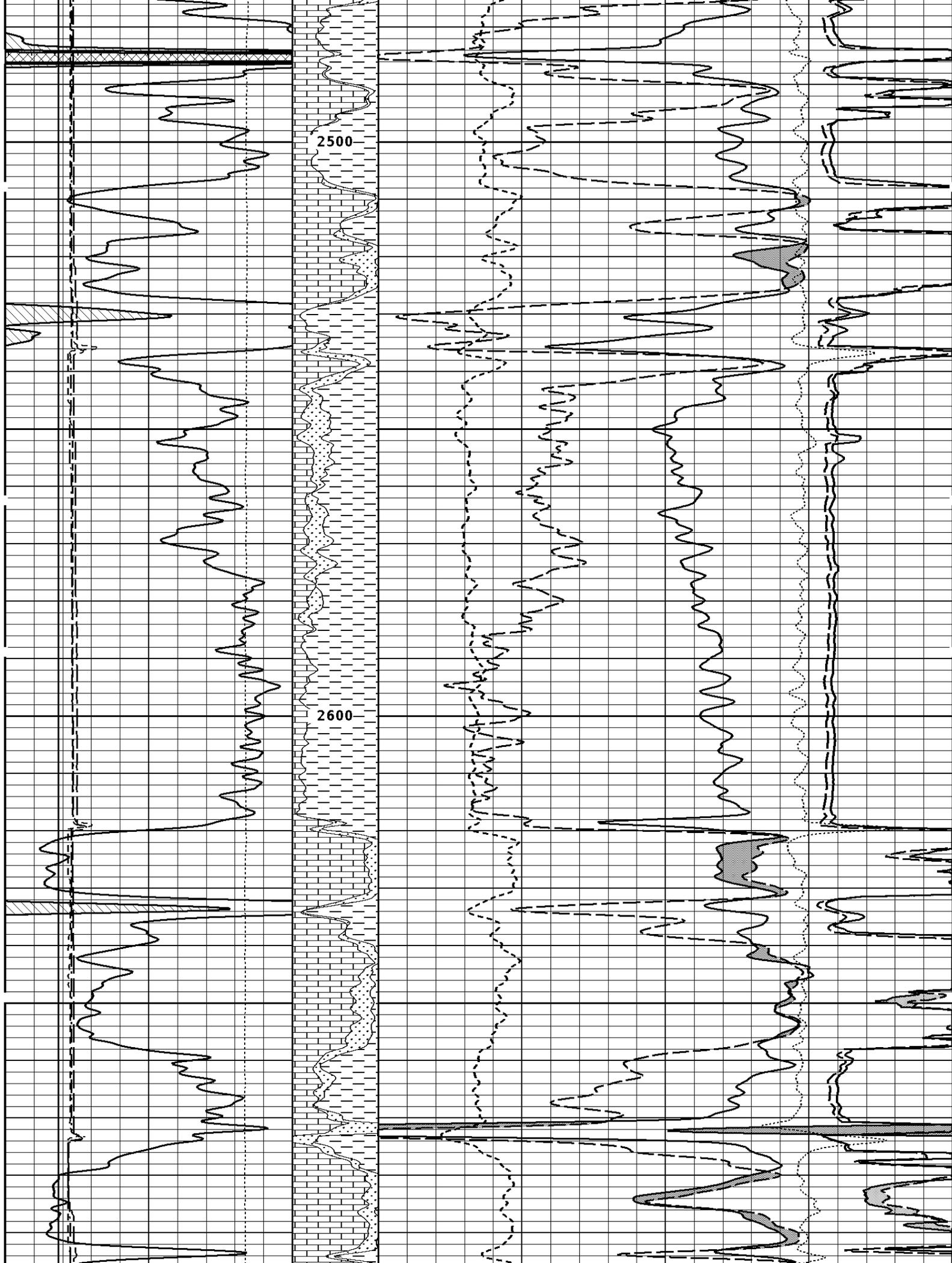


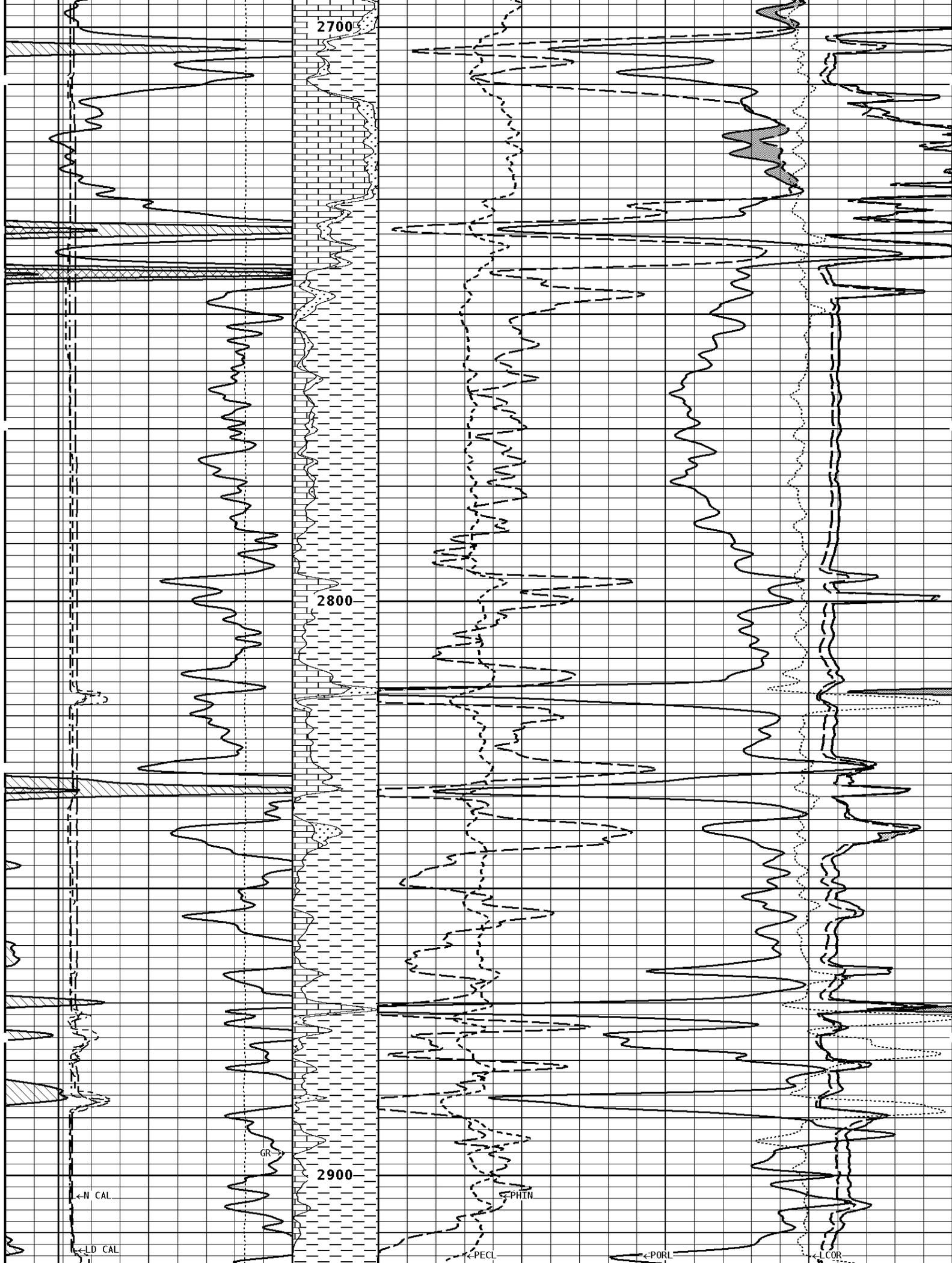












2700

2800

2900

GR

←N CAL

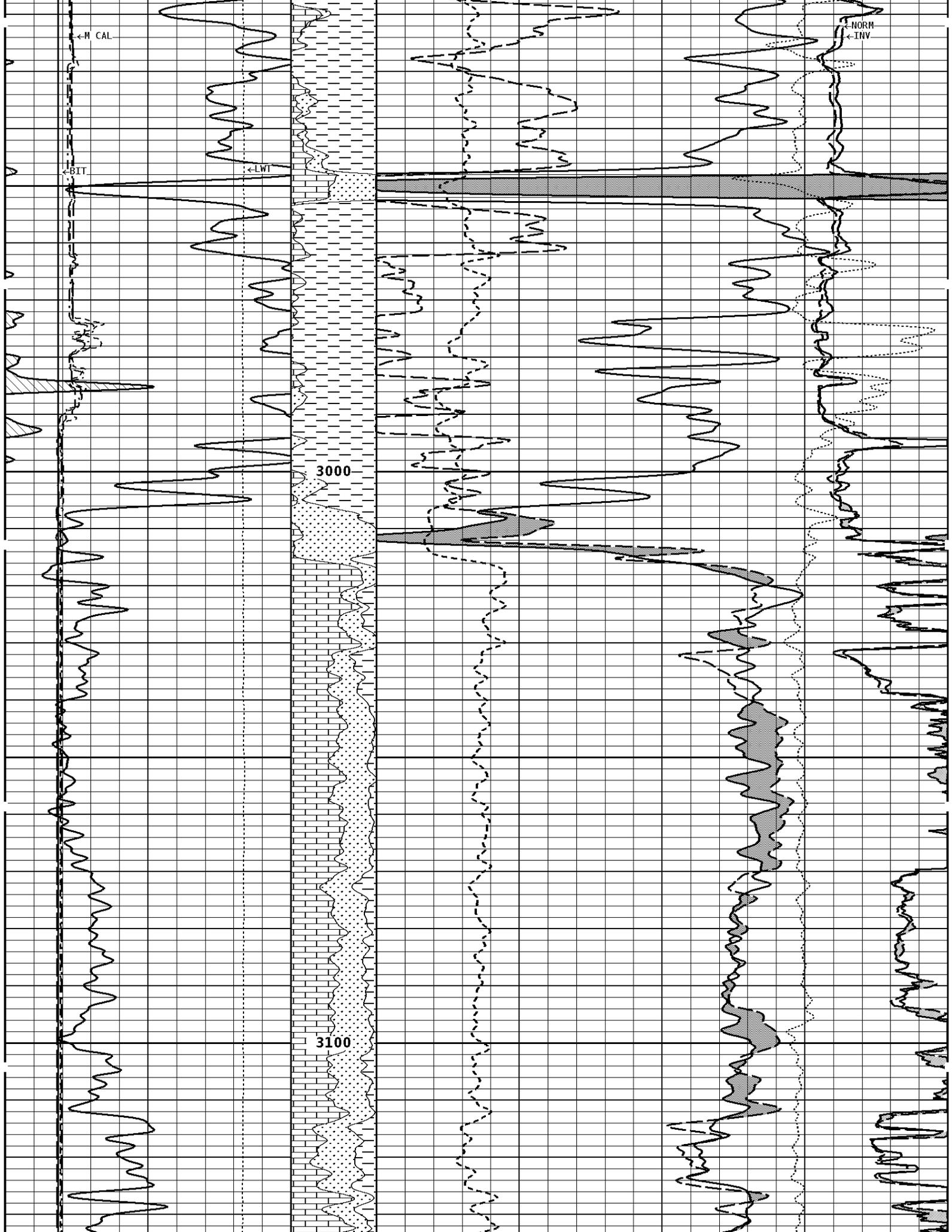
←LD CAL

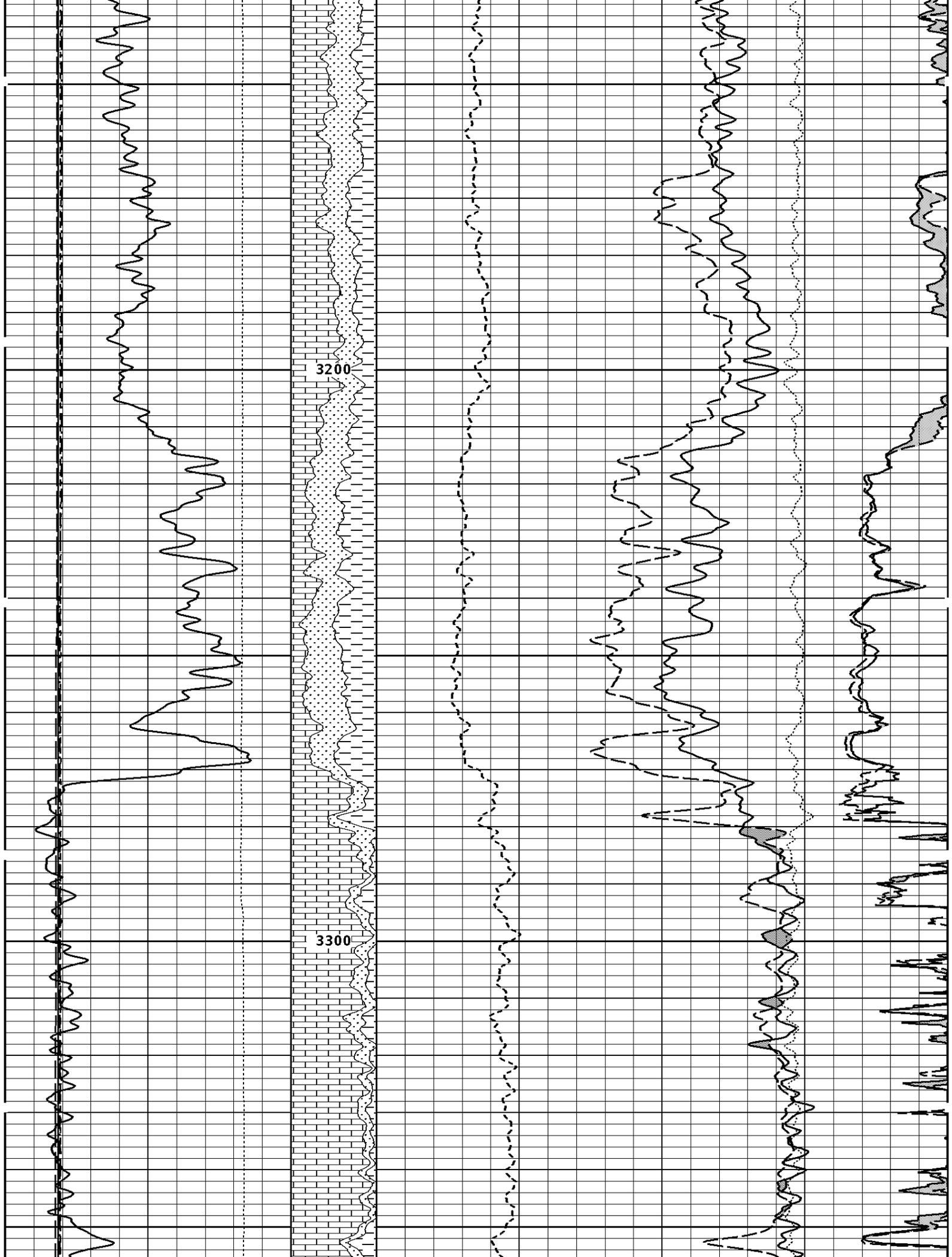
←PHTM

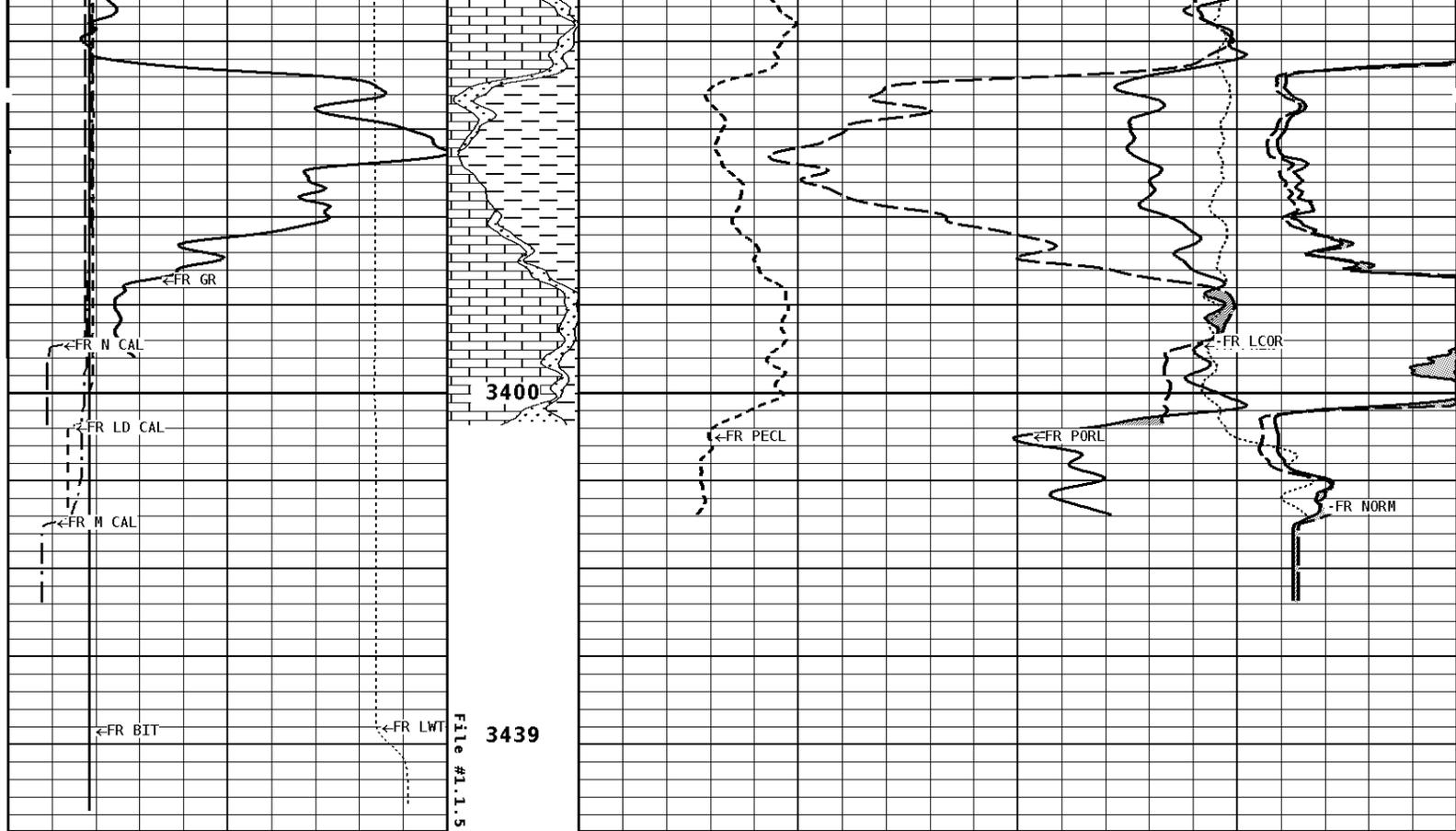
←PECL

←PORL

←LCOR







1:240 MAIN SECTION

GAMMA RAY API UNITS 150 0 300 150		Volume Dolo/Shale 30	NEUTRON POROSITY (LIMESTONE) PERCENT -10	
TENSION LBS 10000 0		Volume Calcite 70 30 -10	DENSITY POROSITY (2.71g/cc) PERCENT 30 -10 -50	
DENSITY (X) CALIPER INCHES (IN) 16 6 26 16		Volume Quartz 0	PE CROSS-SECTION BARNS/ELECTRON 10	DENSITY CORRECTION G/CC -0.25 0.25
NEUTRON (Y) CALIPER INCHES (IN) 16 6 26 16				INVERSE OHM 0 40
BIT SIZE INCHES (IN) 6 16				NORMAL OHM 0 40
CALIPER MICRO INCHES (IN) 16 6 26 16				

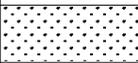
*** Borehole Zone Factors ***

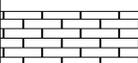
Zone 1 99999.0 to 0.0 Feet		
Matrix Density	2.71	g/cc
Fluid Density	1.00	g/cc

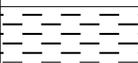
Formation Matrix	Limestone
Drill Bit Size	7.875 in
Casing Diameter	5.500 in
Casing Thickness	0.250 in
Casing Correction (PHI N)	Disable

Well File: VAL ENERGY ANDES 2-36 JUNE30 MSTK Scale: 1:240 Format: NLD-240
 Segment: V1.D1.S3 Reprocess of repeat Acquired: 2019-06/30 18:56 3.4.1-13968
 Reference: 0 Processed: 2019-06/30 20:10 3.4.1-13968

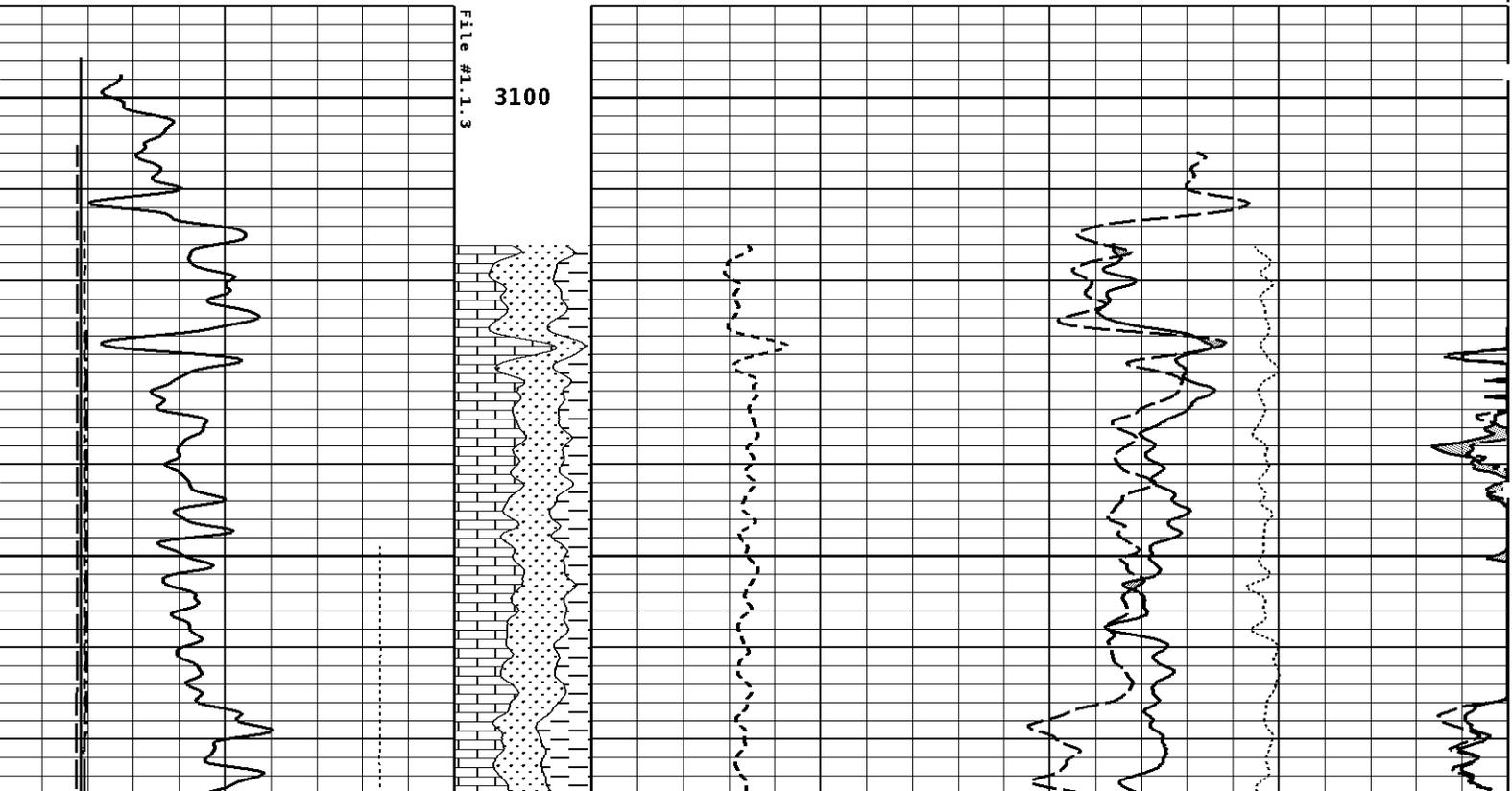
CALIPER MICRO INCHES (IN)							
16	26						
6	16						

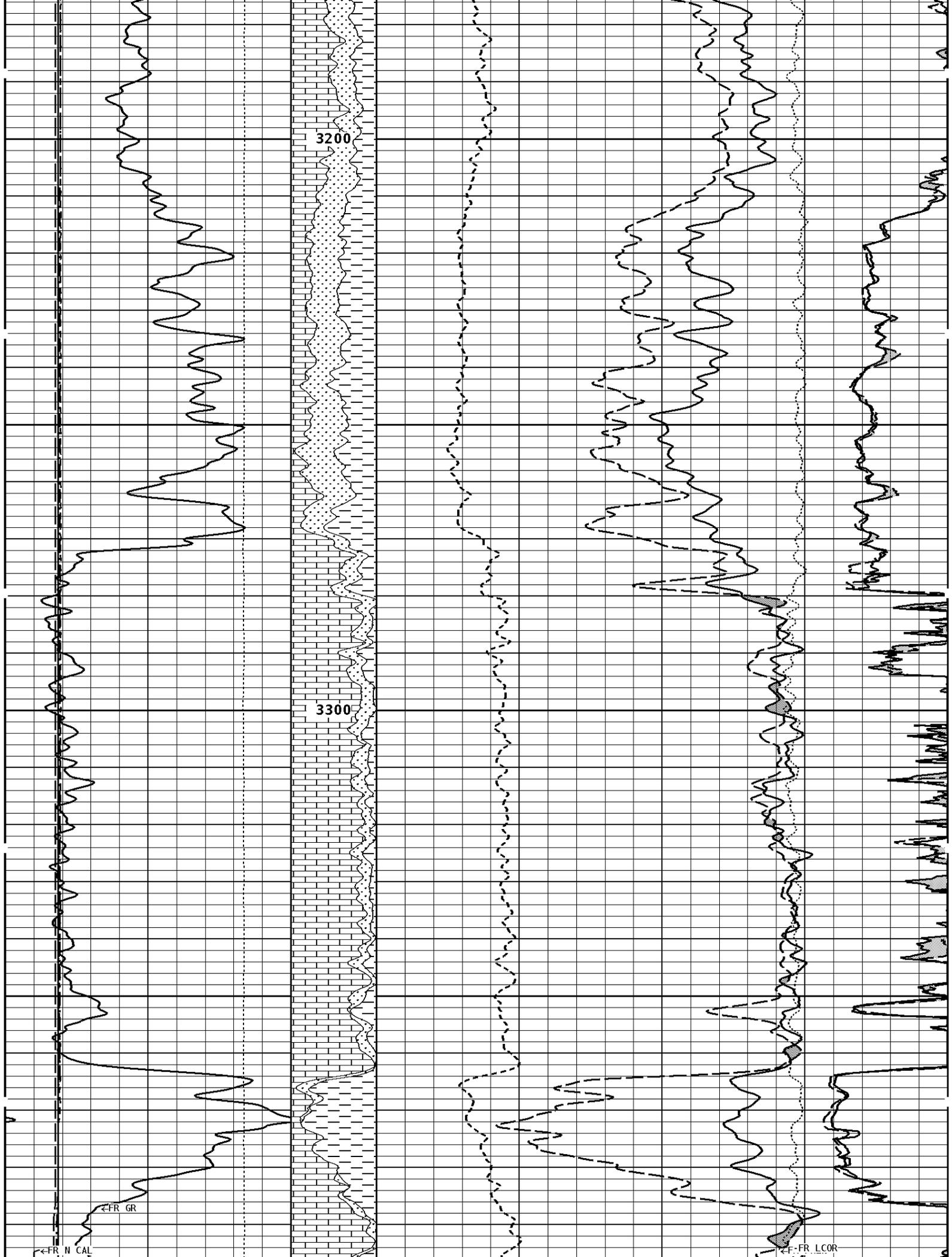
BIT SIZE INCHES (IN)						NORMAL OHM	
6	16					0 ----- 40	
-----						-----	
NEUTRON (Y) CALIPER INCHES (IN)						INVERSE OHM	
16	26					0 ----- 40	
6	16					-----	
-----						-----	
DENSITY (X) CALIPER INCHES (IN)		Volume Quartz	PE CROSS-SECTION BARNS/ELECTRON		DENSITY CORRECTION G/CC		
16	26						
6	16						
-----			0	10	-0.25	0.25	

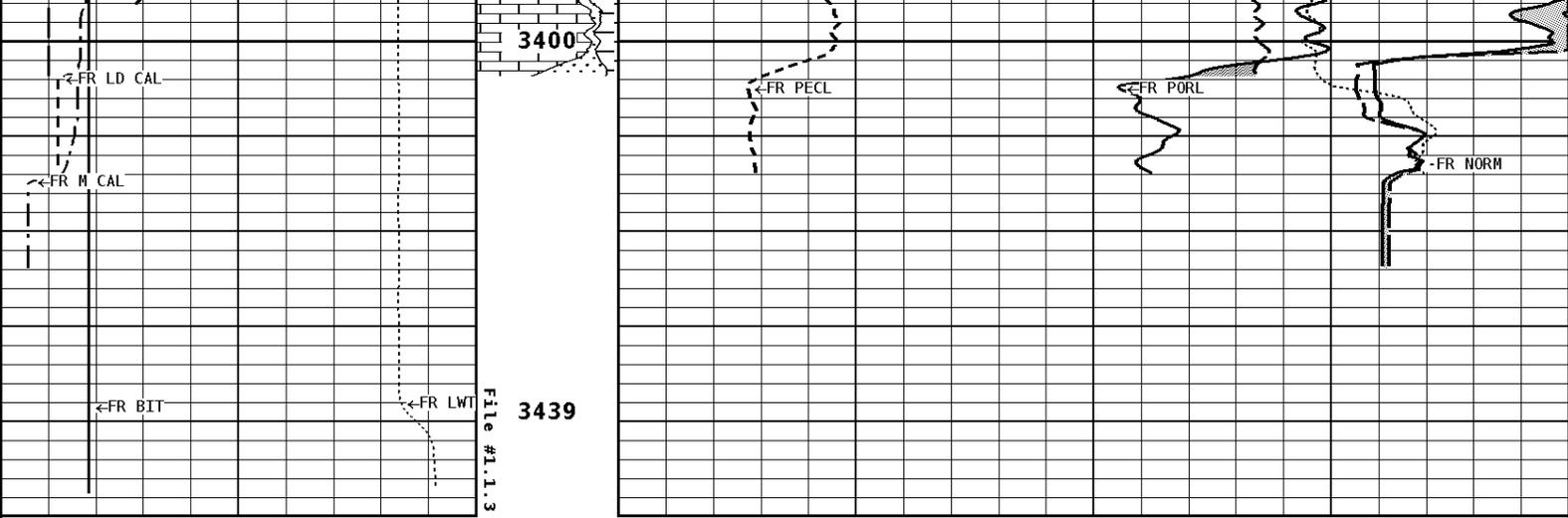
TENSION LBS		Volume Calcite	DENSITY POROSITY (2.71g/cc) PERCENT				
10000	0		70	30			
-----			30	-10			
-----			-10	-50			

GAMMA RAY API UNITS		Volume Dolo/Shale	NEUTRON POROSITY (LIMESTONE) PERCENT				
150	300						
0	150		30	-10			
-----			-----				

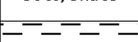
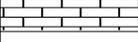
1:240 REPEAT SECTION







1:240 REPEAT SECTION

GAMMA RAY API UNITS 150  300 0 150		Volume Dolo/Shale  30	NEUTRON POROSITY (LIMESTONE) PERCENT ----- -10	
TENSION LBS 10000 0		Volume Calcite  70  30 -10	DENSITY POROSITY (2.71g/cc) PERCENT ----- 30 ----- -10 ----- -50	
DENSITY (X) CALIPER INCHES (IN) 16 26 6 16		Volume Quartz  0	PE CROSS-SECTION BARN/ELECTRON ----- 10	DENSITY CORRECTION G/CC ----- -0.25 ----- 0.25
NEUTRON (Y) CALIPER INCHES (IN) 16 26 6 16				INVERSE OHMH 0 40
BIT SIZE INCHES (IN) 6 16				NORMAL OHMH 0 40
CALIPER MICRO INCHES (IN) 16 26 6 16				

*** Borehole Zone Factors ***

Zone 1 99999.0 to 0.0 Feet		
Matrix Density	_____	2.71 g/cc
Fluid Density	_____	1.00 g/cc
Formation Matrix	_____	Limestone
Drill Bit Size	_____	7.875 in
Casing Diameter	_____	5.500 in
Casing Thickness	_____	0.250 in
Casing Correction (PHI N)	_____	Disable

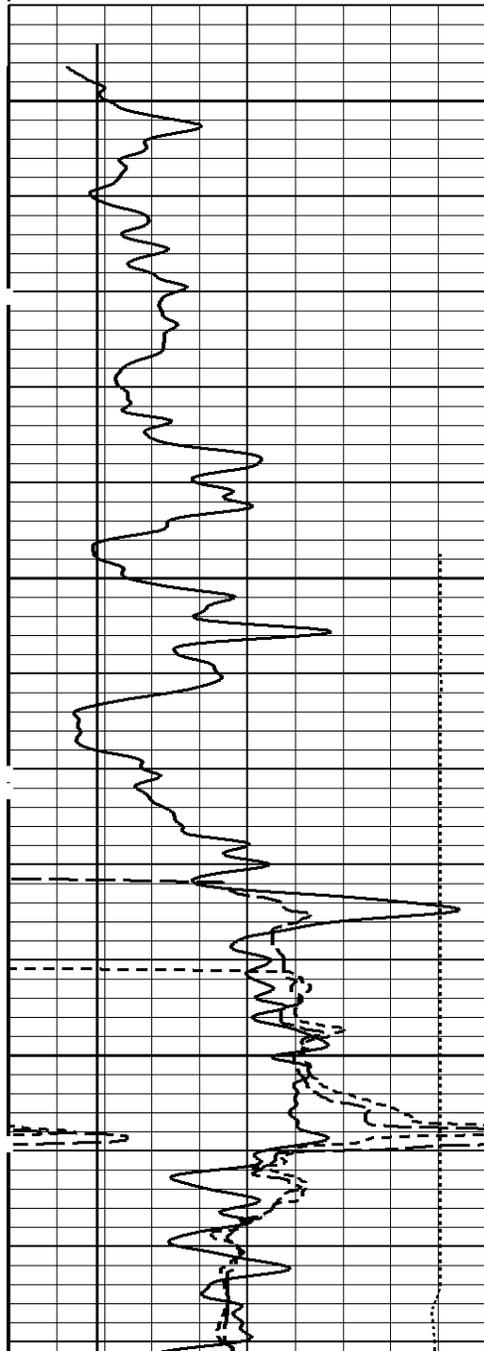
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 Segment: V1.D1.S5 Reprocess of MAIN Acquired: 2019-06/30 19:09 3.4.1-13968
 Reference: 0 Processed: 2019-06/30 20:09 3.4.1-13968

BIT SIZE INCHES (IN)	
6	16

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

PE CROSS-SECTION BARN/ELECTRON	DENSITY CORRECTION G/CC
0	10 -0.25 0.25
COMPENSATED BULK DENSITY G/CC	
3.0	4.0
2.0	3.0
1.0	2.0
DENSITY POROSITY (2.71g/cc) PERCENT	
70	30
30	-10
-10	-50

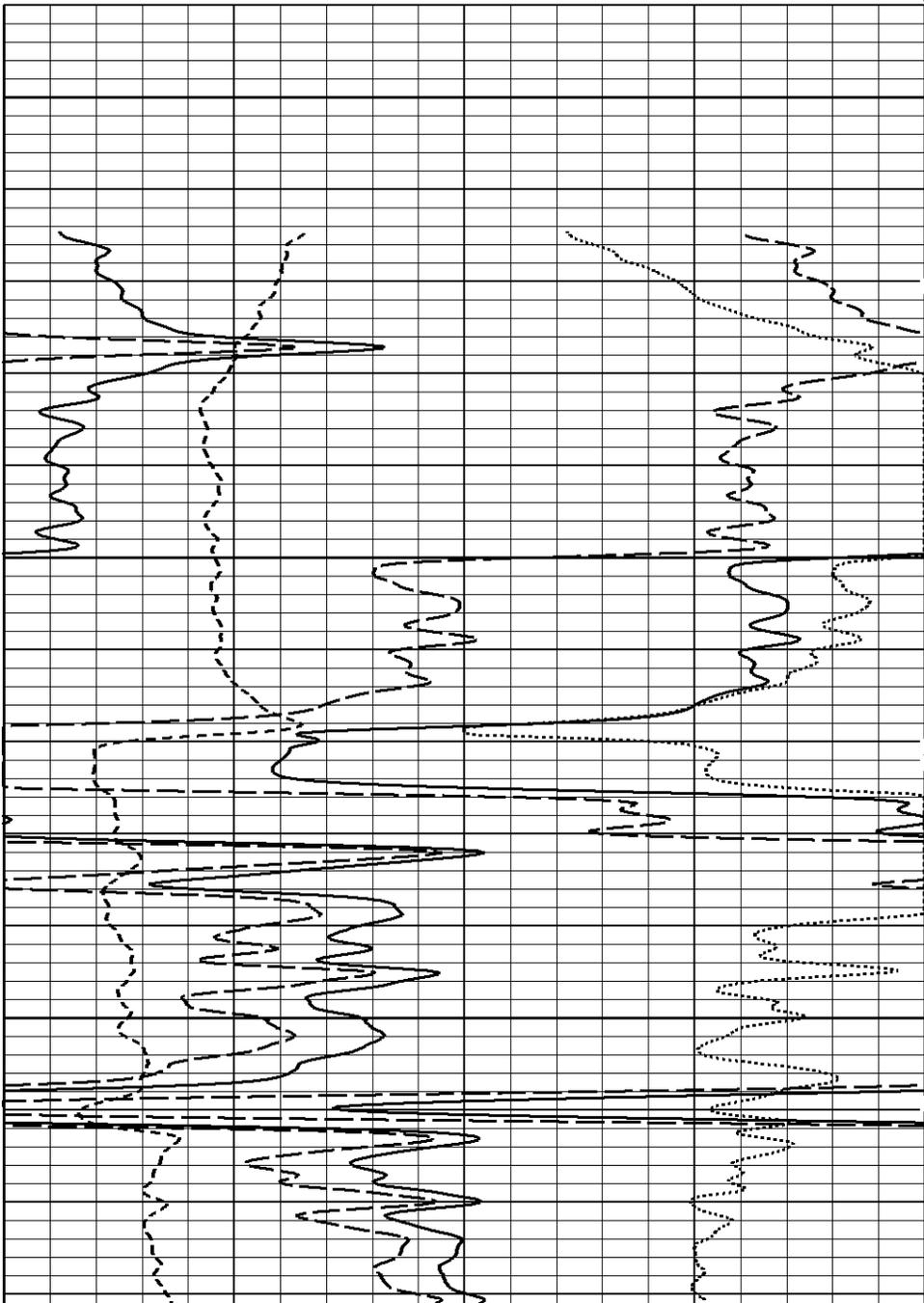
1:240 MAIN SECTION
BULK DENSITY

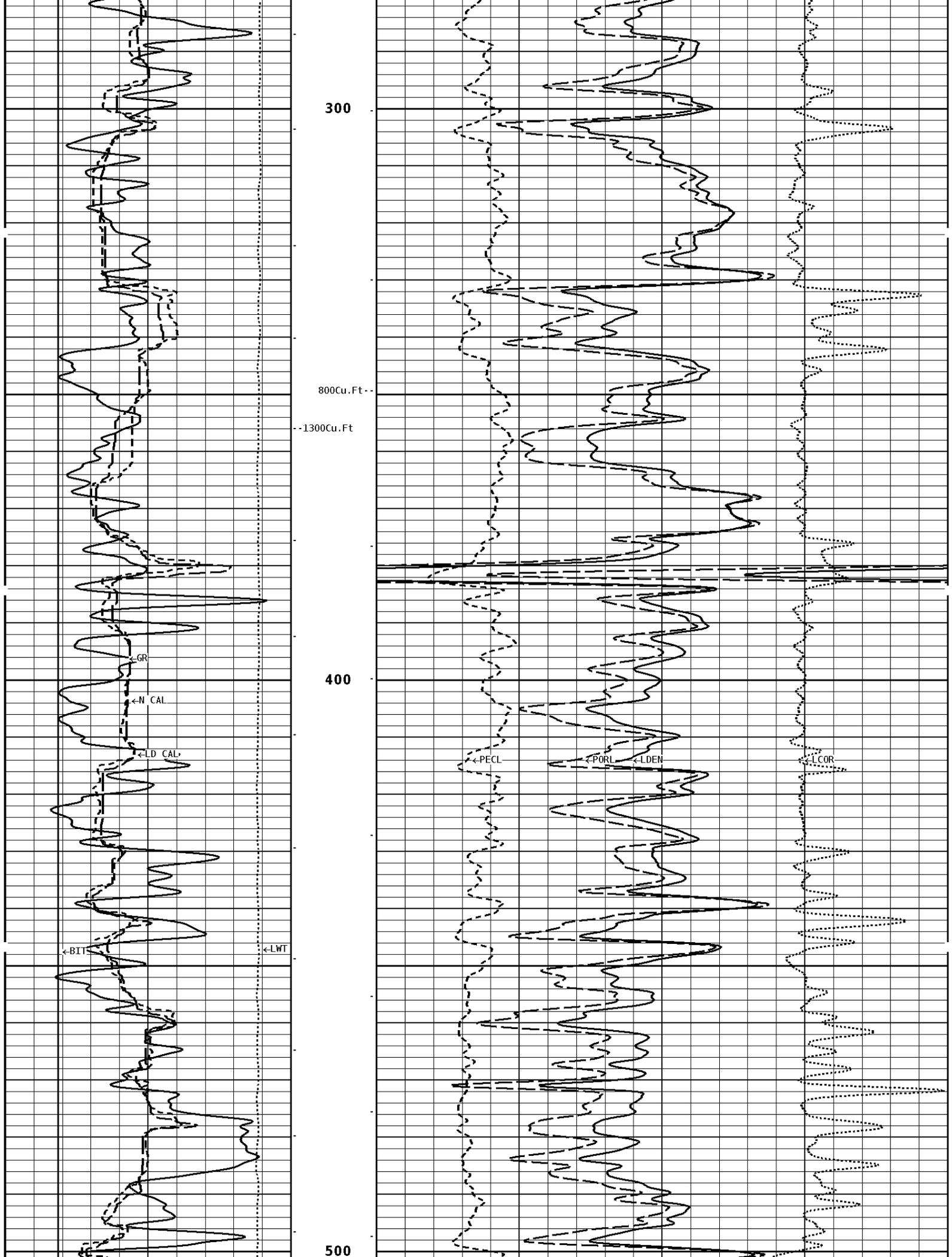


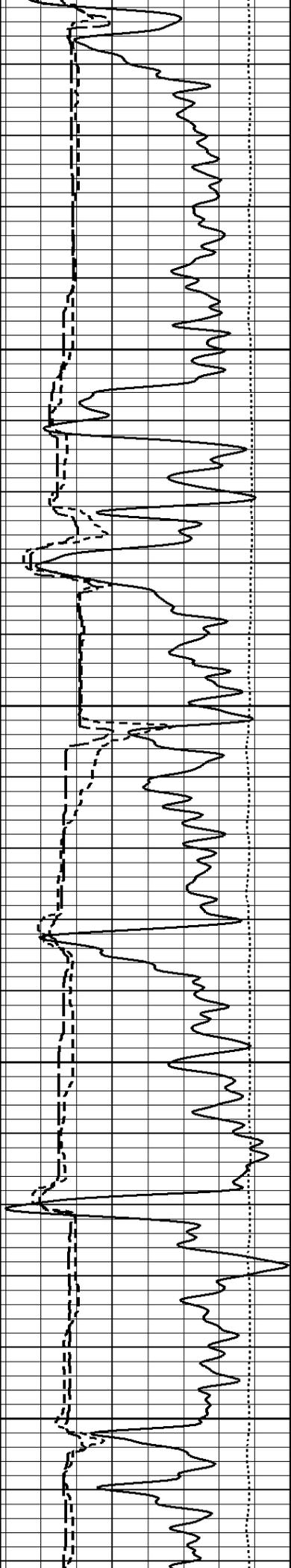
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--1400Cu.Ft

200





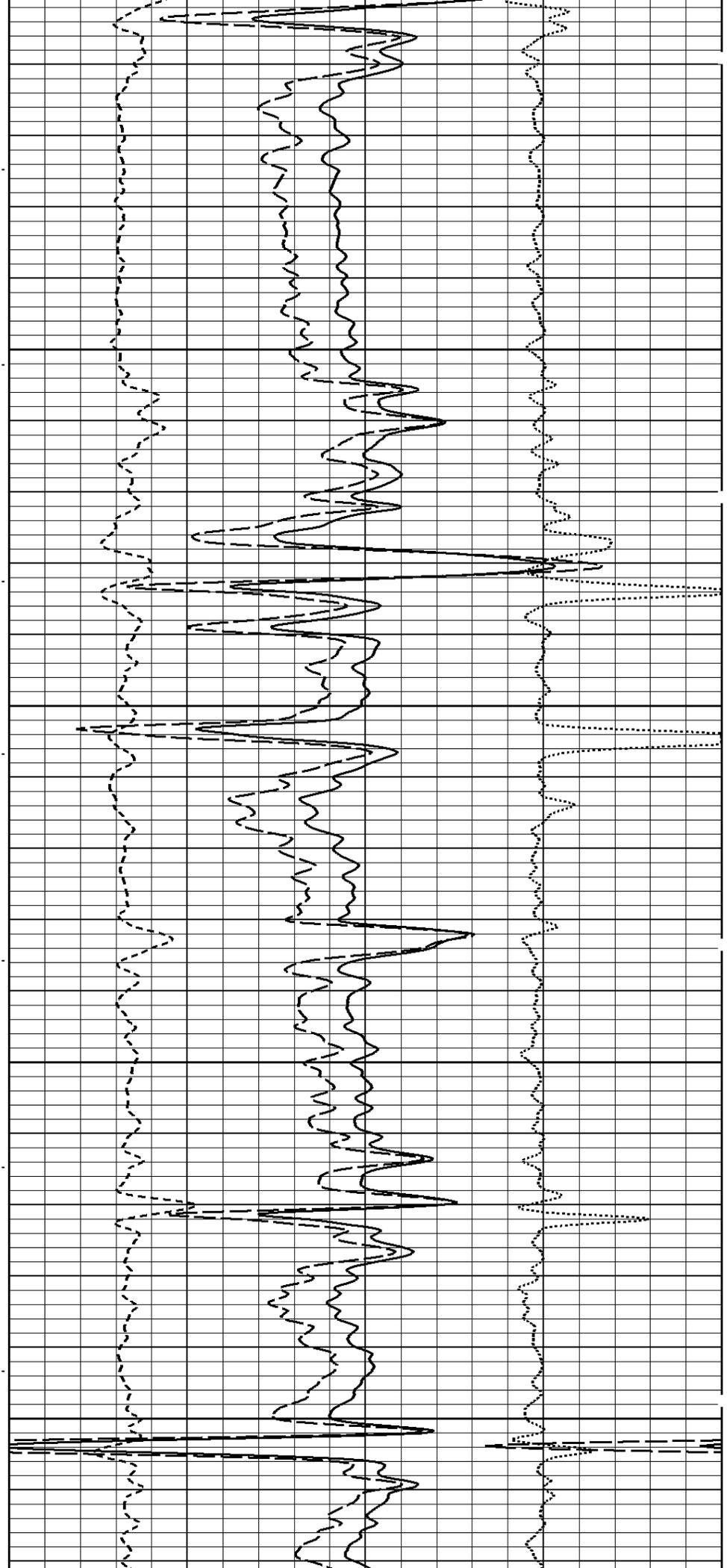


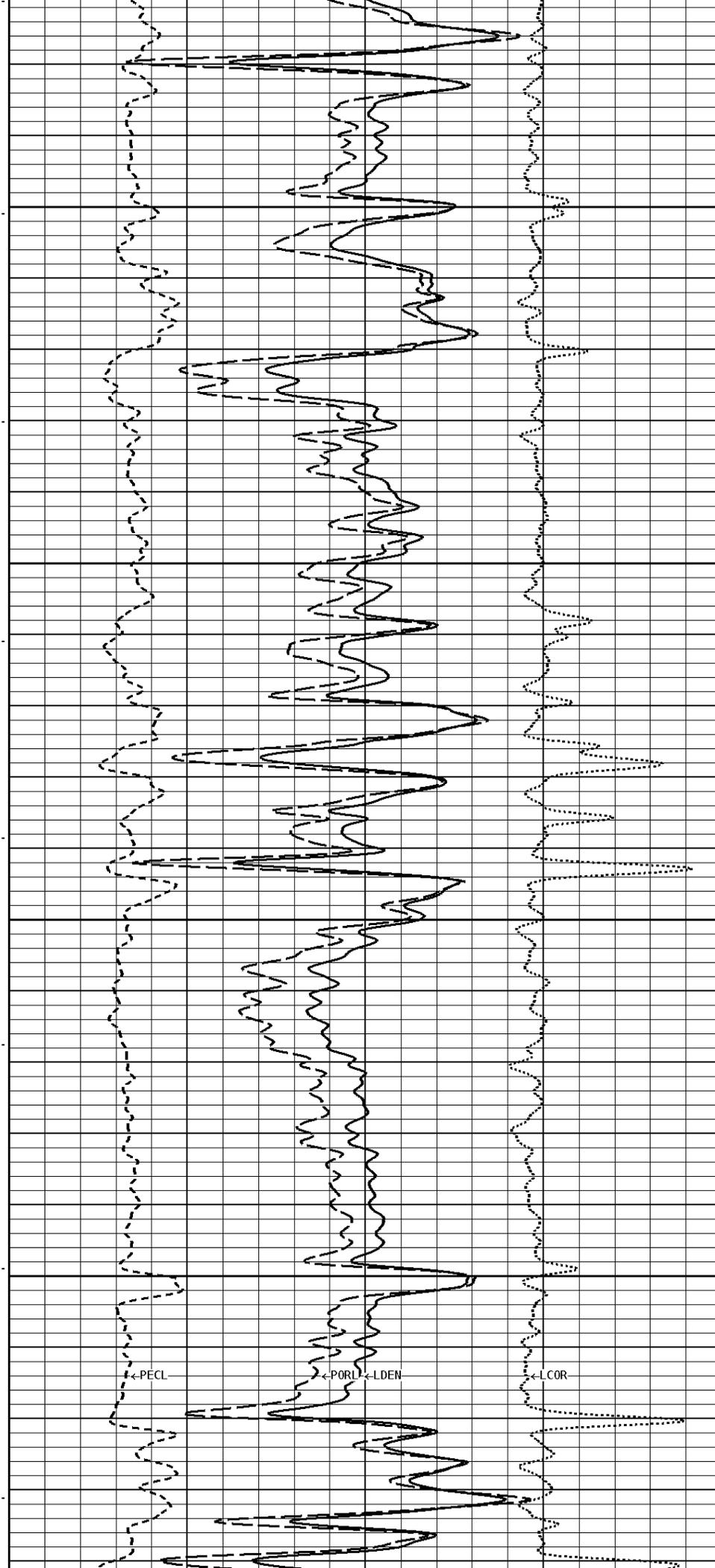
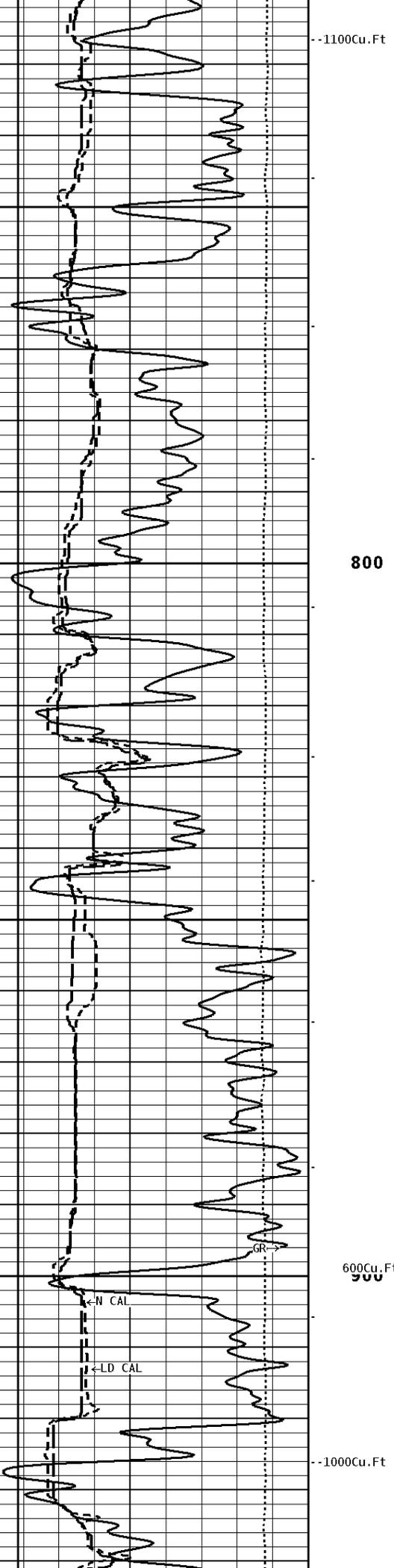
1200Cu.Ft

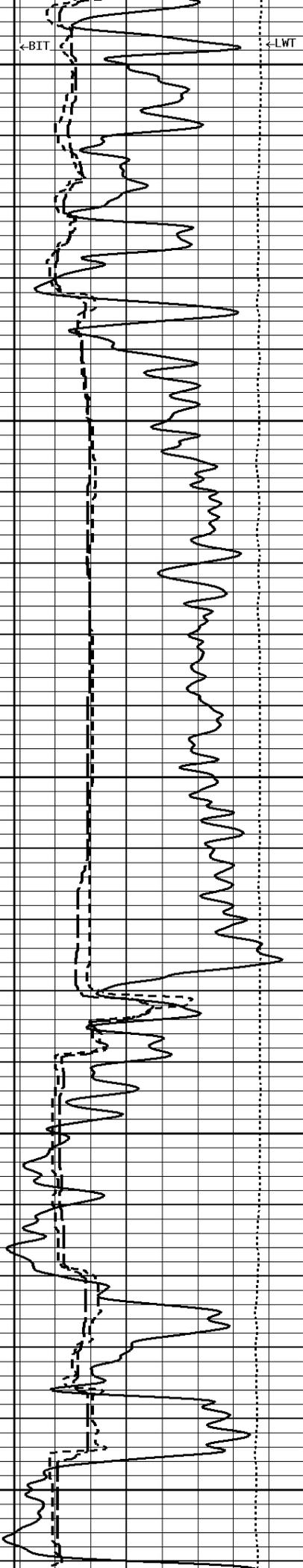
600

700Cu.Ft

700



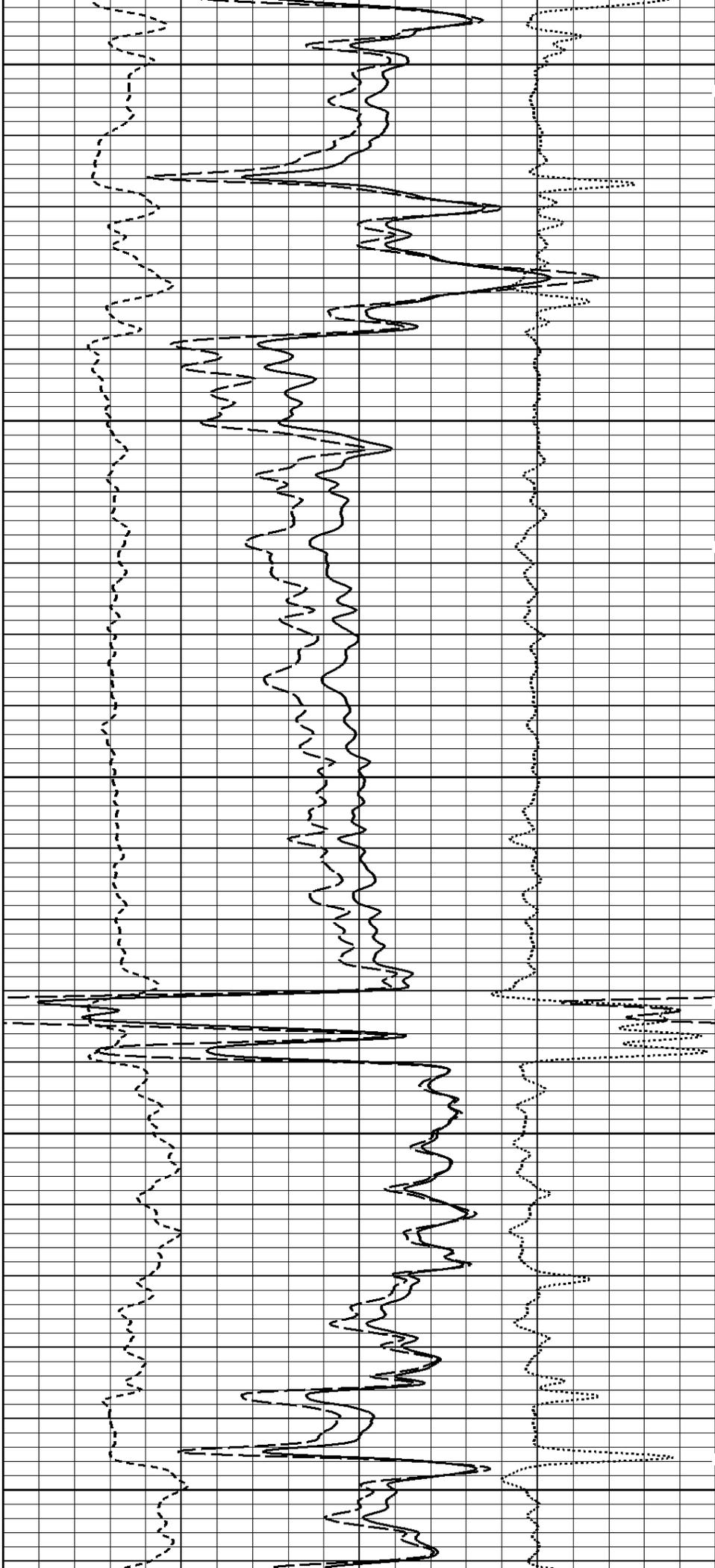


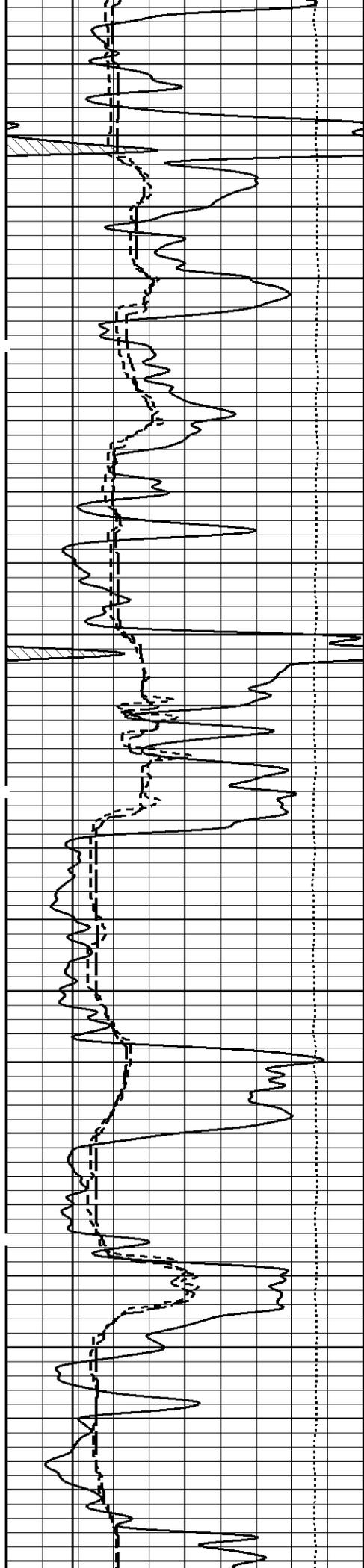


1000

1100

900Cu.Ft

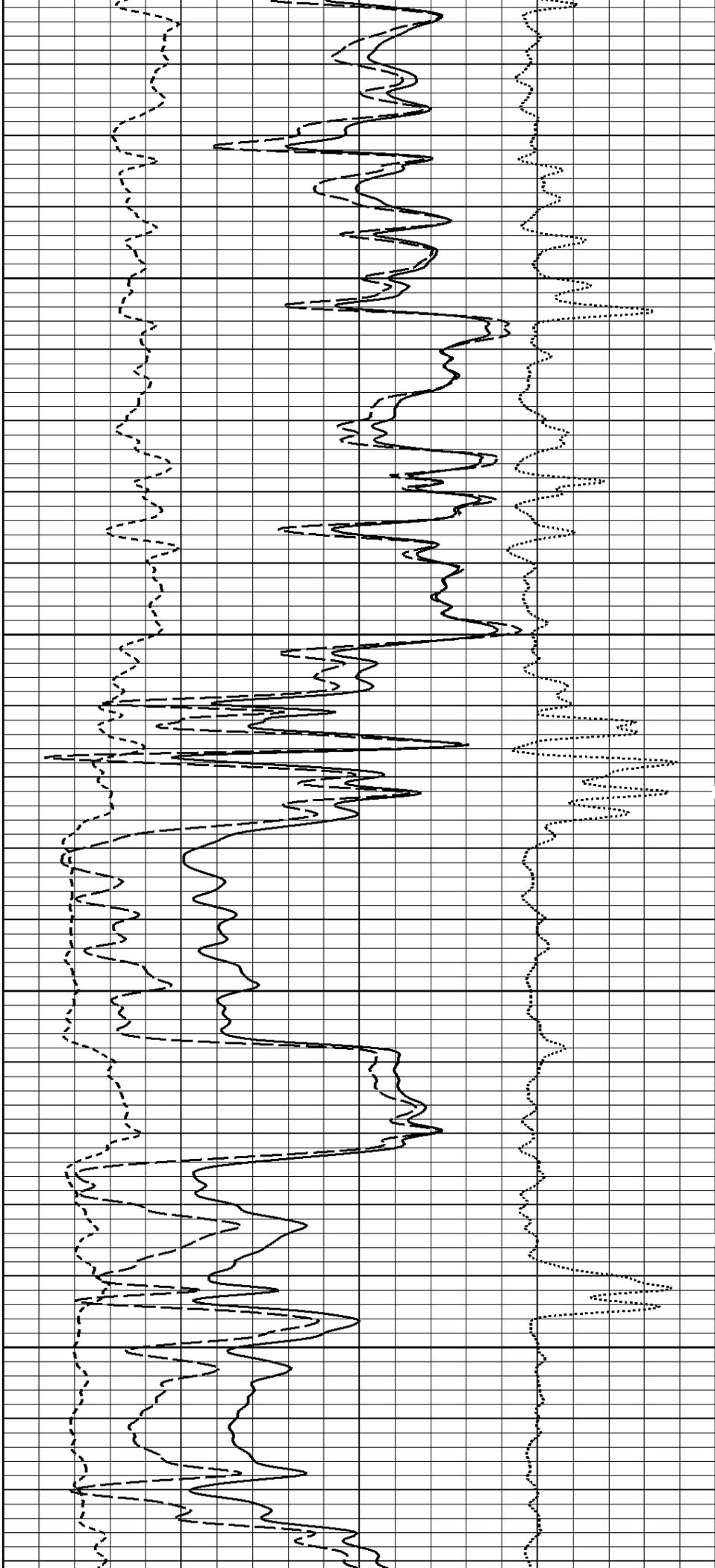


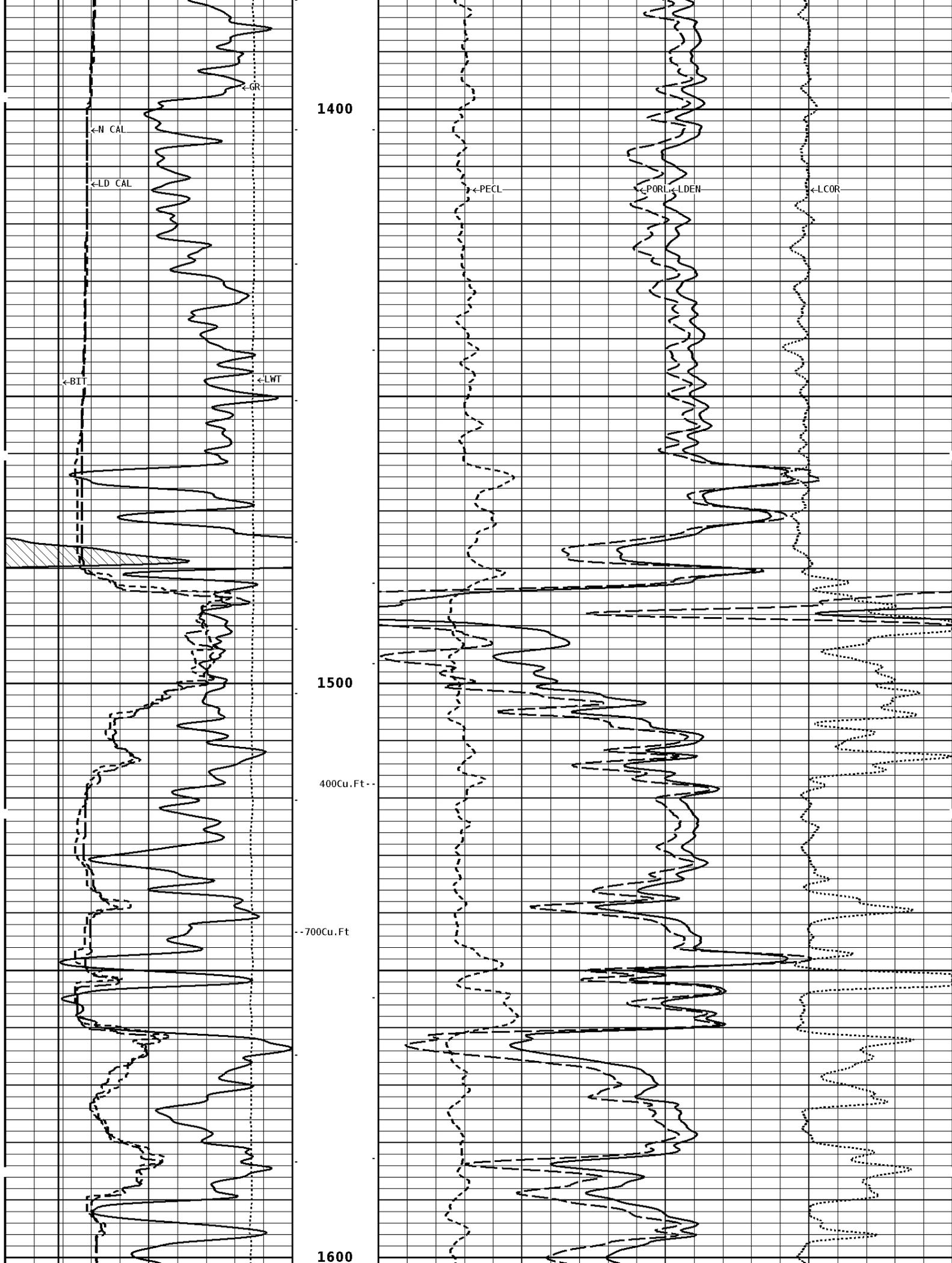


500Cu.Ft.
1200

1300

-800Cu.Ft





1400

1500

1600

←N CAL

←LD CAL

←GR

←PECL

←PORL ←LDEN

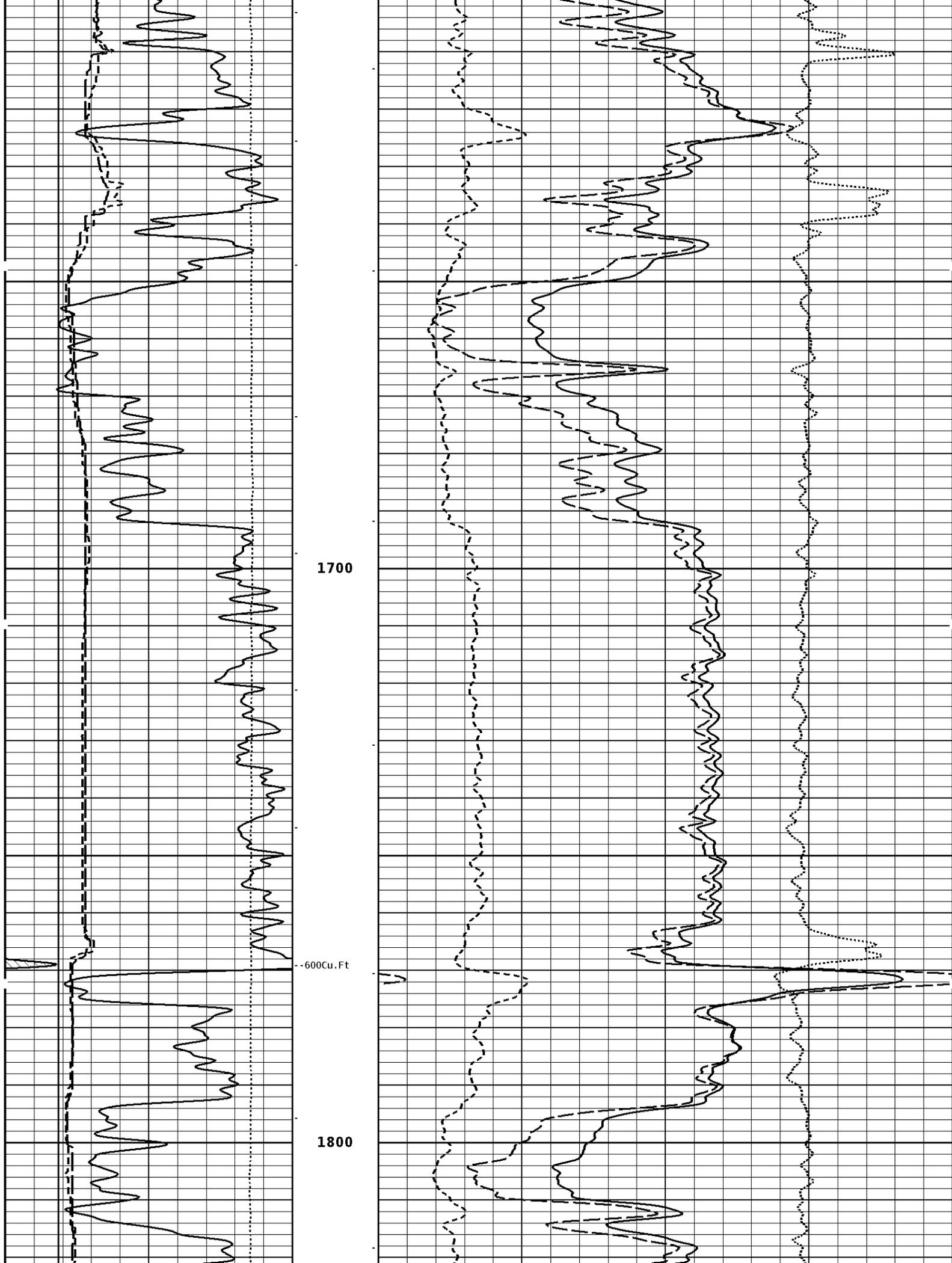
←LCOR

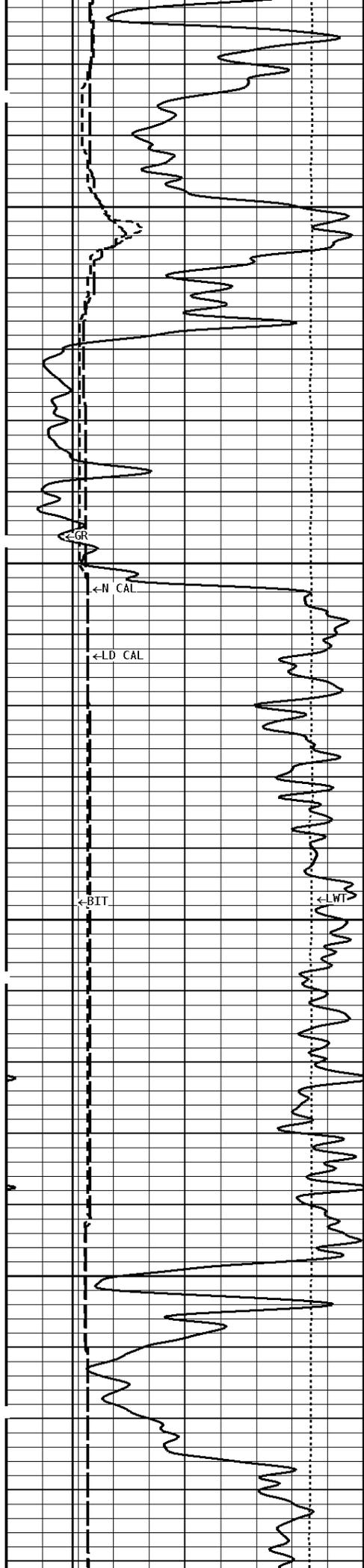
←BIT

←LWT

400Cu.Ft.

700Cu.Ft.



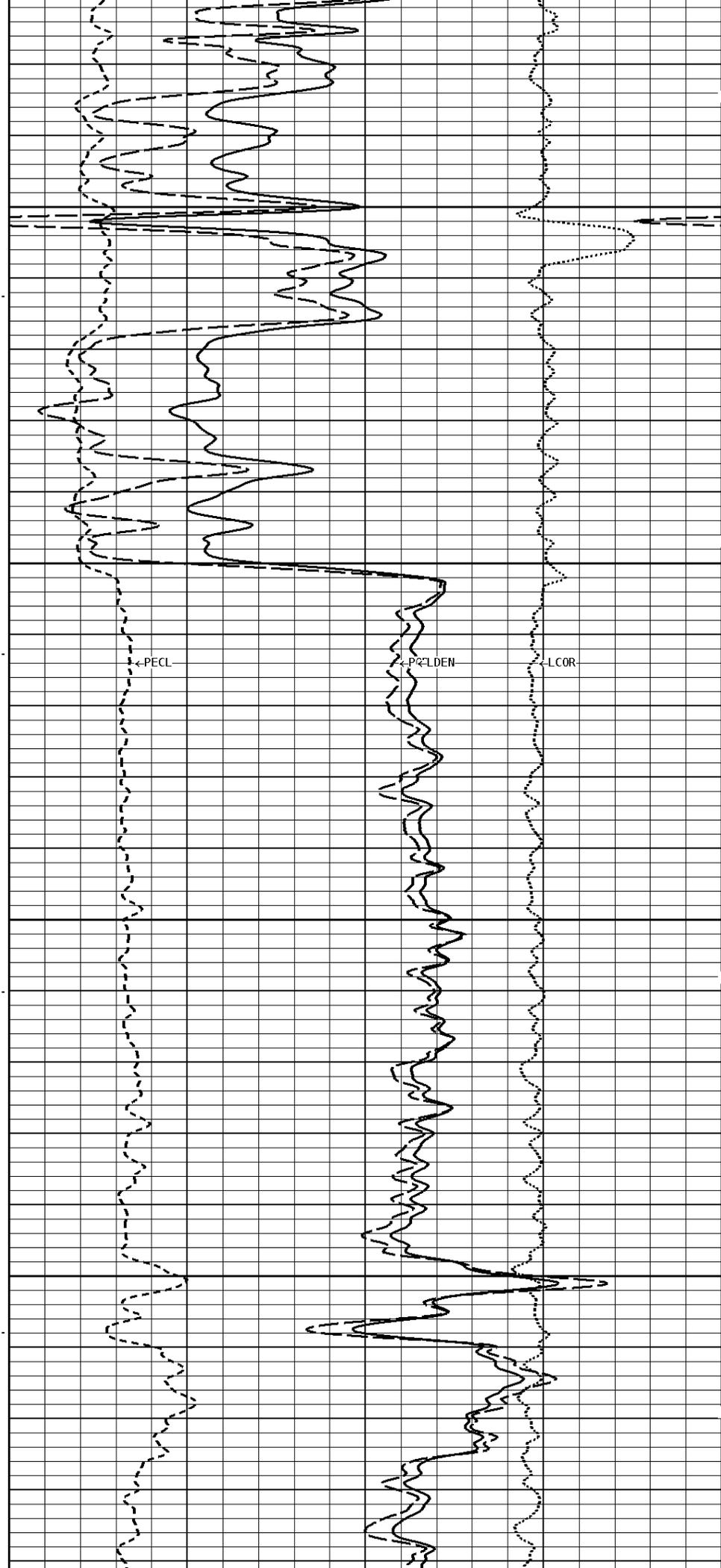


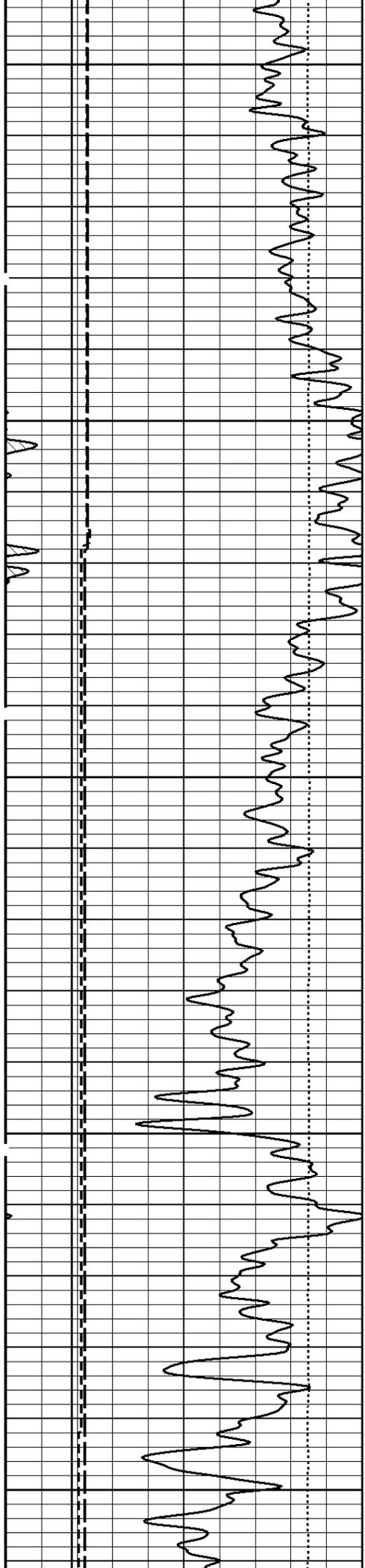
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300Cu.Ft.

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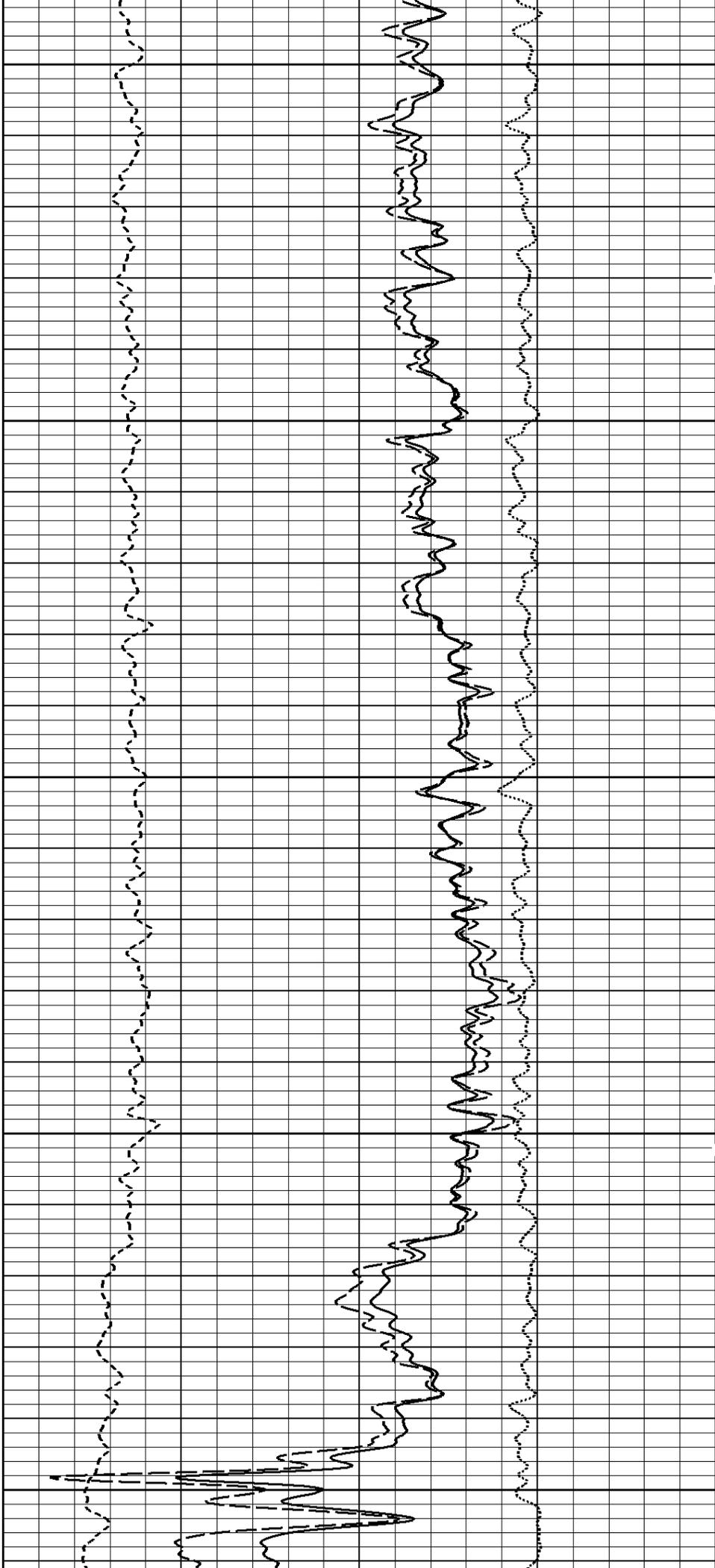
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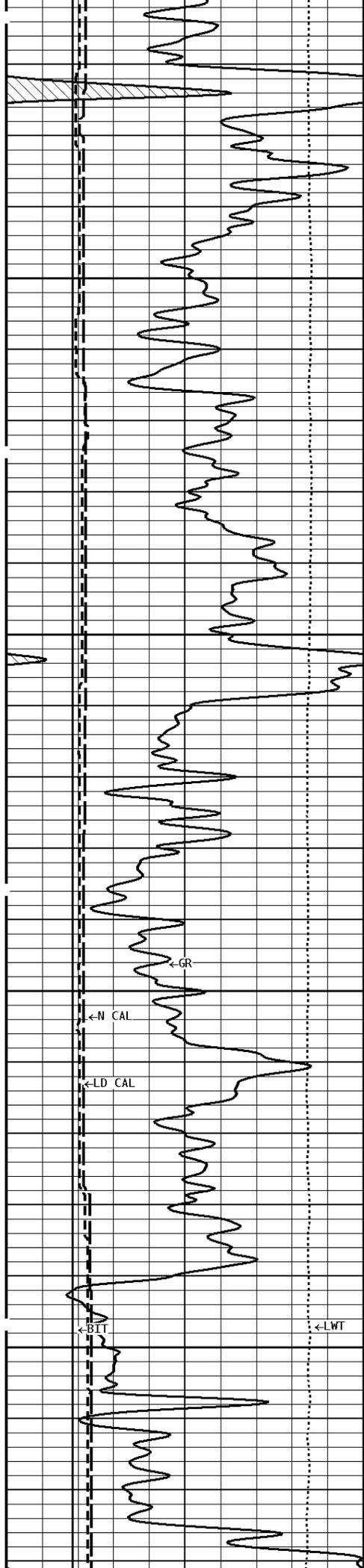




2100

2200





2300

-400Cu.Ft

2400

200Cu.Ft

← GR

← N CAL

← LD CAL

← BT

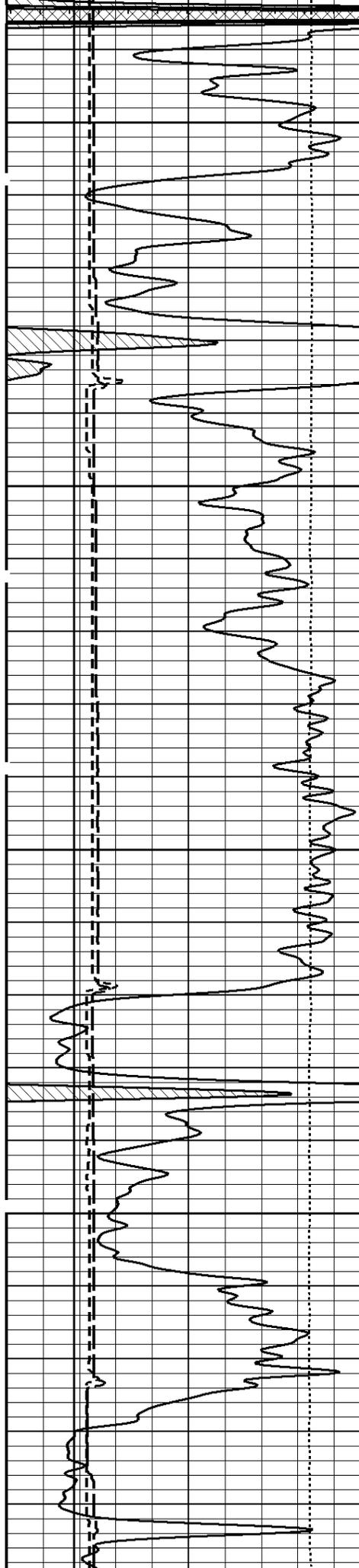
← LWT

← PECL

← PORL

← LDEN

← L COR

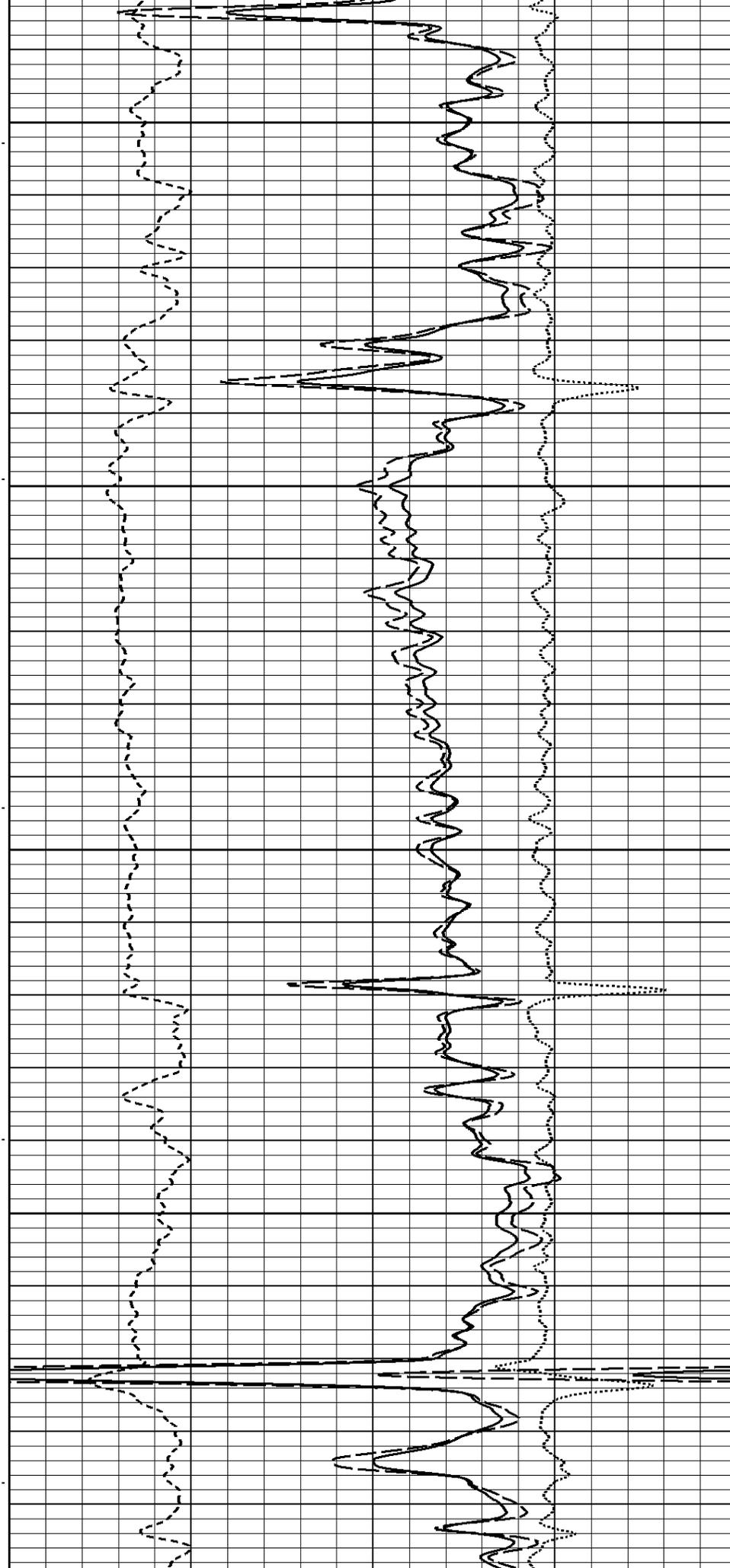


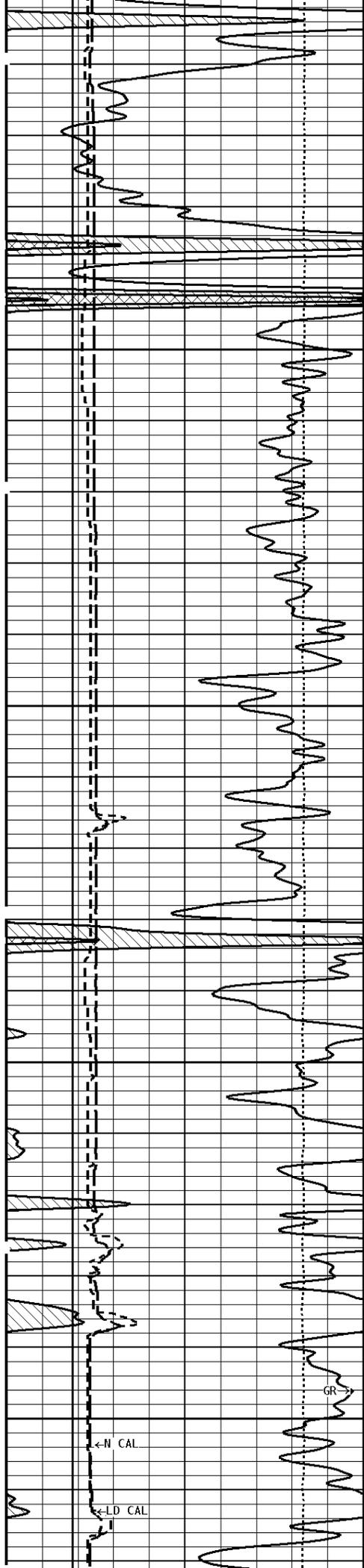
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--300Cu.Ft

2600

2700



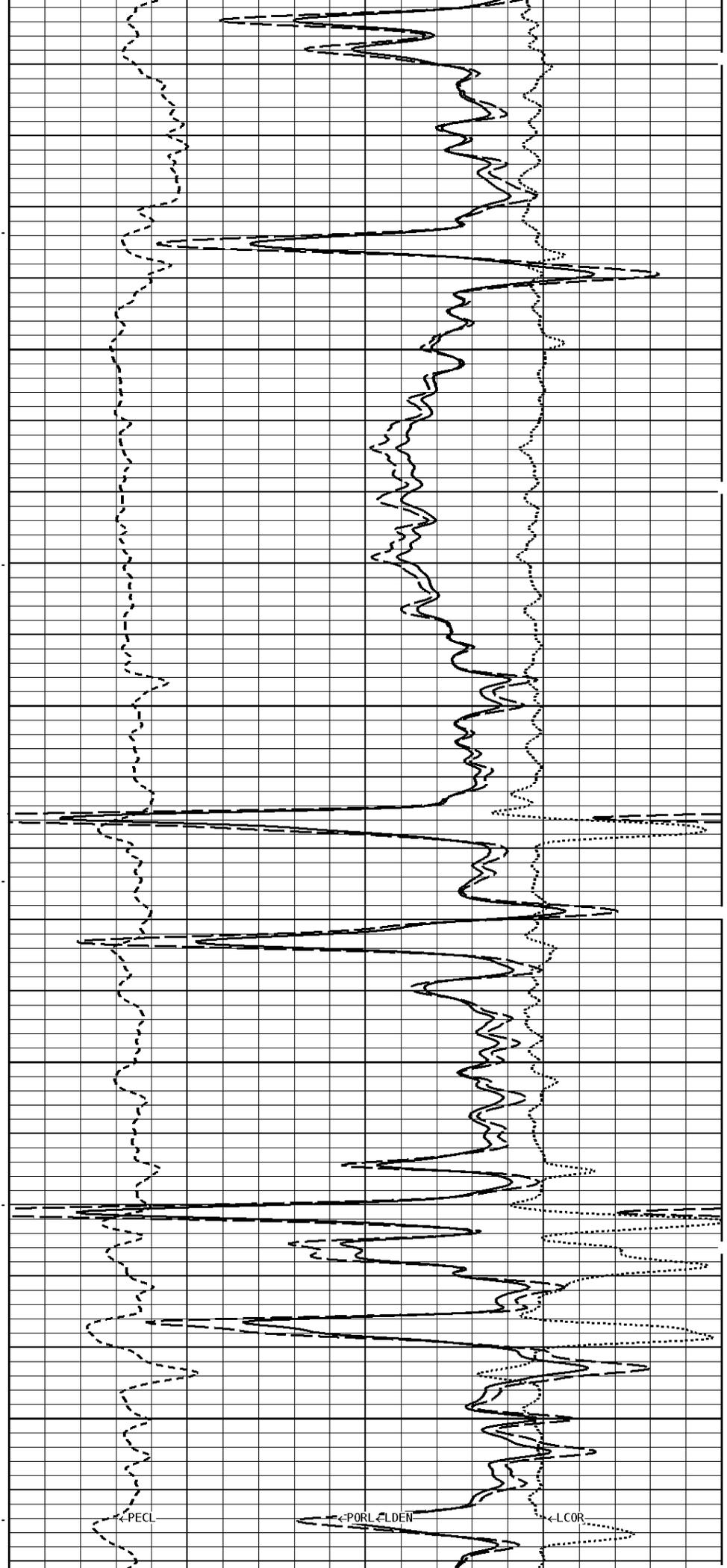


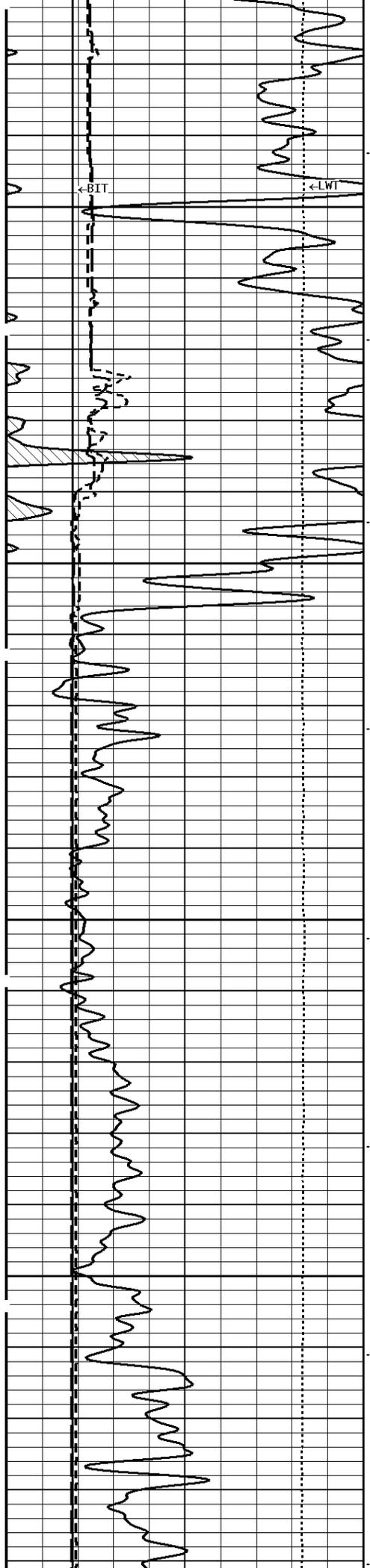
2800

--200Cu.Ft--

100Cu.Ft--

2900

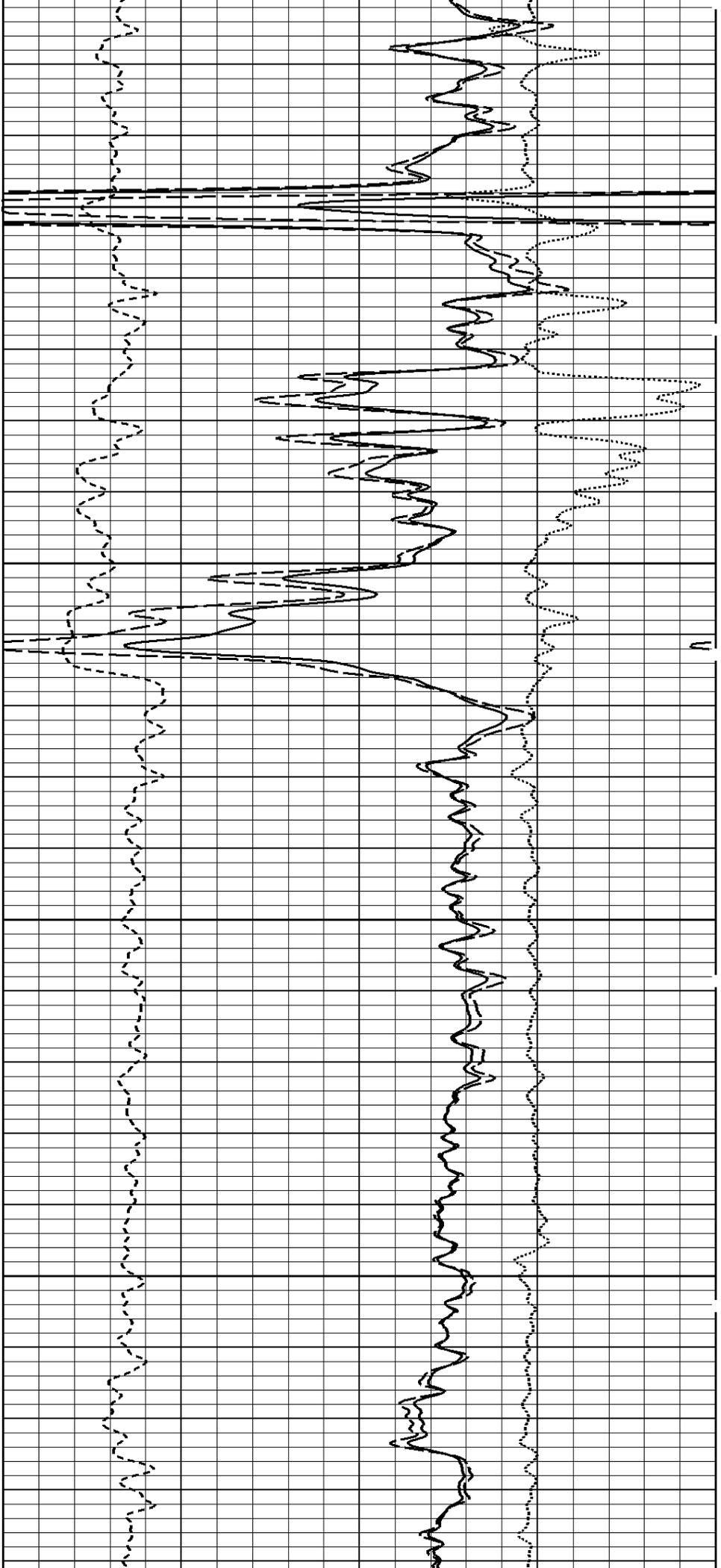


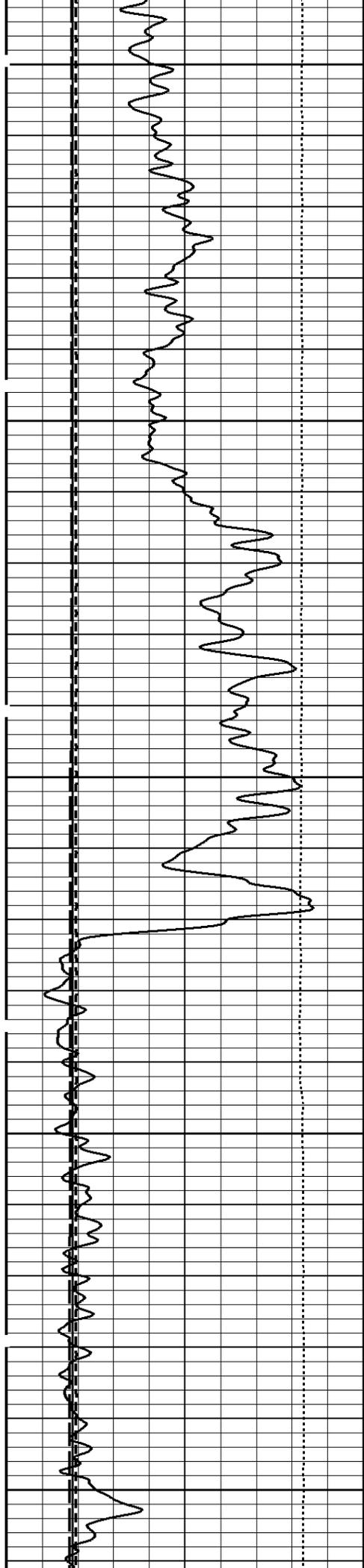


3000

3100

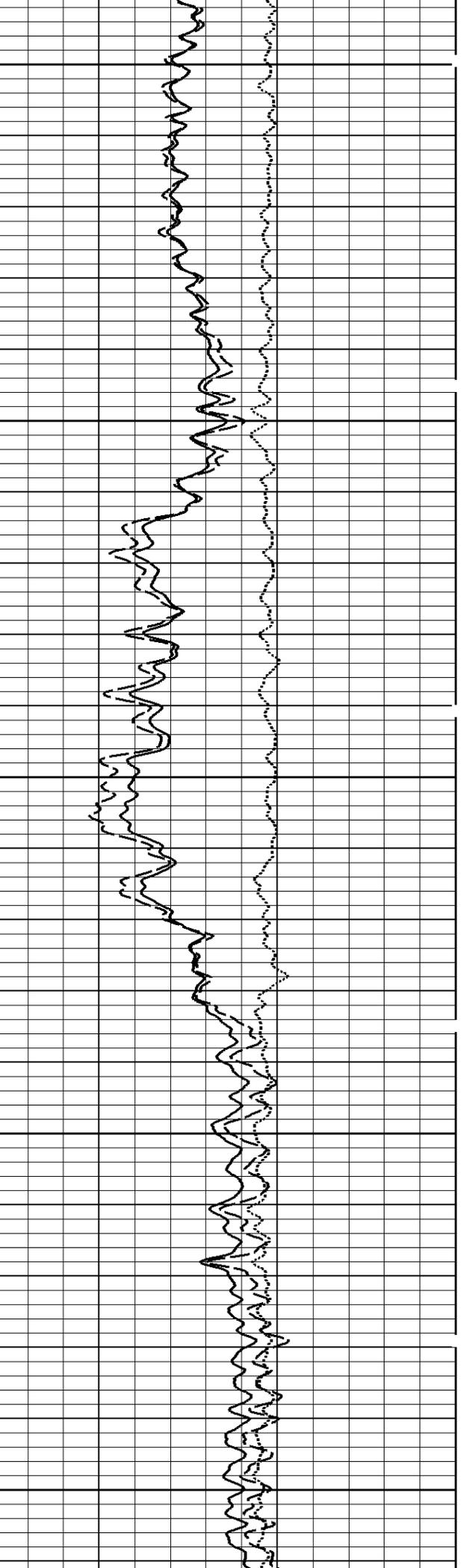
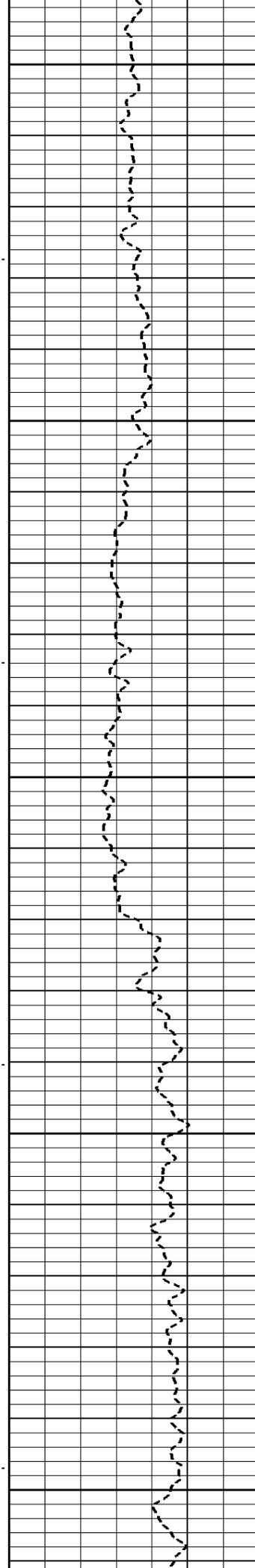
-100Cu.Ft

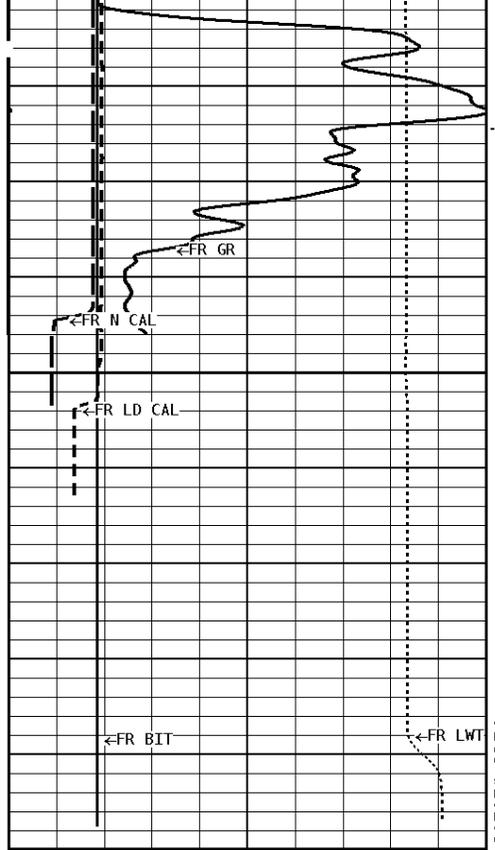




3200

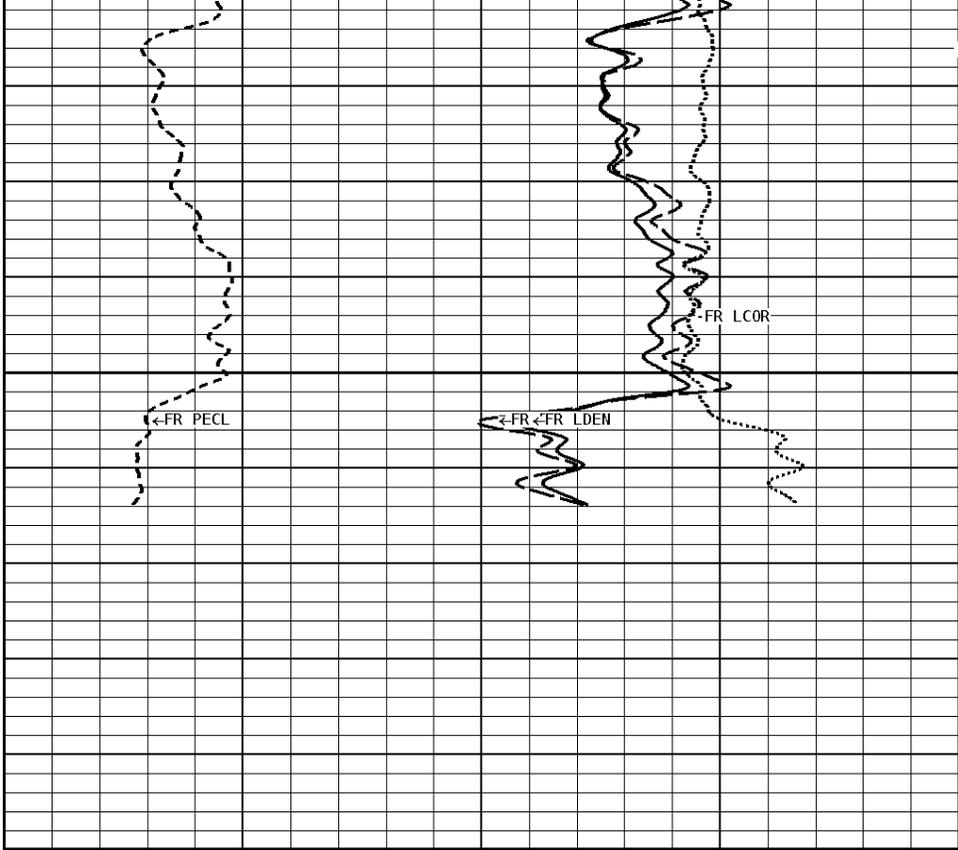
3300





3400

3439



1:240 MAIN SECTION
BULK DENSITY

GAMMA RAY API UNITS 150 0 300 150	- BHV AHV - CU. FT	DENSITY POROSITY (2.71g/cc) PERCENT 70 30 -10 30 -10 -50	
TENSION LBS 10000 0		COMPENSATED BULK DENSITY G/CC 3.0 4.0 2.0 3.0 1.0 2.0	
DENSITY (X) CALIPER INCHES (IN) 16 26 6 16		PE CROSS-SECTION BARNS/ELECTRON 0 10	DENSITY CORRECTION G/CC -0.25 0.25
NEUTRON (Y) CALIPER INCHES (IN) 16 26 6 16			
BIT SIZE INCHES (IN) 6 16			

*** Borehole Zone Factors ***

Zone 1 99999.0 to 0.0 Feet		
Matrix Density _____	2.71	g/cc
Fluid Density _____	1.00	g/cc
Formation Matrix _____	Limestone	
Drill Bit Size _____	7.875	in
Casing Diameter _____	5.500	in
Casing Correction (PHI N) _____	Disable	

*** Calibration Summary ***

Shop Calibration GRT-B						
Performed : 16-May-2019			Time : 10:26			
Sensor Suite : GR-GR5			ID : GRT-BA-14			
	Background	Measured	Units	Calibrated	Units	
GR	64	Jig 323	CPS	Jig 160	GRAPI	

Shop Calibration CNT-AA						
Performed : 27-JUN-2019			Time : 10:17			
Sensor Suite : CALI-BCN			ID : NDT-BB-033			
	Jig - Measured	Units		Jig - Calibrated	Units	
CL # 1	Ring#1 Ring#2	6.0	12.0	6.0	12.0	IN.

Shop Calibration LDT-DA						
Performed : 27-Jun-2019			Time : 10:23			
Sensor Suite : BHC NEUT			ID : CNP-AA-121			
Source ID : N-1044						
	Tank	Measured	Calibrated	Verification	Units	
N/F		3.9648	3.6893	Jig 3.6888		
Porosity		24.9	20.5	20.5	%	

Shop Calibration LDT-DA						
Performed : 27-JUN-2019			Time : 09:45			
Sensor Suite : CALI-LTH			ID : PDT-GA-426			
	Jig - Measured	Units		Jig - Calibrated	Units	
CL # 1	Ring#1 Ring#2	6.0	12.0	6.0	12.0	IN.

Shop Calibration MST-DA						
Performed : 27-Jun-2019			Time : 10:01			
Sensor Suite : BHCPENLNG			ID : LDP-DA-75			
Source ID : 63558B						
Short Space						
	BKGD	Al	Mg	Al+Fe	Units	
LSW1	53	1182	1909	754	CPS	
LSW2	53	1418	2251	1001	CPS	
LSW3	203	3216	5208	2698	CPS	
LSW4	253	2763	4005	2418	CPS	
LSW5	24	47	56	45	CPS	
LSW6	69	72	71	72	CPS	
LSW7	42	48	46	47	CPS	
LSW8	2	4	5	3	CPS	
QS	0.250	0.204	0.211	0.216		
PES			2.778	5.967		
SSDN		2.600	1.680		G/CC	
Long Space						
	BKGD	Al	Mg	Al+Fe	Units	
LLW1	81	1224	4997	729	CPS	
LLW2	91	2364	9269	1682	CPS	
LLW3	344	4431	16903	3777	CPS	
LLW4	446	2002	6683	1801	CPS	
LLW5	50	62	127	59	CPS	
LLW6	139	136	130	137	CPS	
LLW7	90	87	83	87	CPS	
LLW8	3	6	17	6	CPS	
QL	0.212	0.220	0.219	0.223		
PEL			2.697	5.458		
LSDN		2.600	1.680		G/CC	

Shop Calibration MST-DA						
Performed : 15-MAY-2019			Time : 10:36			
Sensor Suite : CALI-MSN			ID : MST-DA-024			
	Jig - Measured	Units		Jig - Calibrated	Units	
CL # 1	Ring#1 Ring#2	6.0	12.0	6.0	12.0	IN.

Shop Calibration MST-DA						
Performed : 15-MAY-2019			Time : 10:37			
Sensor Suite : MSTDA-NI			ID : MST-DA-024			
Internal						
	Measured	Units	Calibrated	Units		
Zero	Reference		Zero	Reference		
0.0	2853.4		0.00	1546.00	Mg	

INV-V	0.0	29855.4	0.00	1546.00	MV
NOR-V	0.0	29711.1	0.00	1646.00	MV
IN-C	0.0	58914.6	0.00	15.46	UA
INV-R				32.34	OHMM
NOR-R				58.67	OHMM
Performed : 15-MAY-2019			Time : 10:37		
Sensor Suite : MSTDAMSF			ID : MST-DA-024		
			Internal		
	Zero	Measured Reference	Units	Zero Reference	Units
MSFC	14.5	59121.5		0.00 1522.00	UA
MSFB	32755.1	32817.1		0.00 1522.00	MA
MOM1	1.0	62358.8		0.00 1522.00	MV
MSFRA				43.30	OHMM



Company: VAL ENERGY, INC.
 Well: ANDES #2-36
 Location: 1650' FSL & 1980' FEL
 Logged: 06-30-2019
 K.B. Elev: 1223.0 Ft