Tucker ENERGY SERVICES

COMPENSATED NEUTRON

PEL DENSITY LOG

Company	STELBAR OIL CORPORATION, INC
Well	FLOYD A #34
Field	LANDON-FLOYD
County	CHAUTAUQUA
State	KANSAS
Country	USA
API No.	15-019-27251

File No : TU-58821
Company : STELBAR OIL CORPORATION, INC
Well : FLOYD A #34
Field : LANDON-FLOYD
County : CHAUTAUQUA
State : KANSAS
Country : USA
API No : 15-019-27251

Location :
2310' FSL & 2005' FWL
W/2 NE NE SW

LSD : **Sect :** 24 **Twp :** 32S **Rge :** 10E

Permanent Datum:	GL	**Elevations:**		**Services:**	
Drilling Measured From:	KB	**KB**	1136.00 Ft	GRT	PIT
Log Measured From:	KB	**DF**	1135.00 Ft	CNT	
Above Permanent Datum:	7.00 Ft	**GL**	1129.00 Ft	LDT	

Date	2012-12-13					
Run Number	1					
Depth--Driller	2075.0	Ft				
Depth--Logger	2080.0	Ft				
First Reading	2057.0	Ft				
Last Reading	135.0	Ft				
Casing--Driller	127.0	Ft				
Casing--Logger	135.0	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	8.5	52.0 SEC				
Sample Source	MEASURED					
RM@Measured Temp.	3.500	@ 60 F				
RMF@Measured Temp	3.000	@ 60 F				
RMC@Measured Temp.	4.000	@ 60 F				
Source RMF/RMC	CALCULATED	CALCULATED				
RM@BHT	2.400	@ 92 F				
Time Circulation Stopped						
Max Recorded Temp.	92	F				
Equipment/Base	TRK 123	TULSA				
Recorded By	Z. HICKMAN, R. FRANKLIN					
Witnessed By	J. BAKER					

The customer is hereby warned that by providing the log data herein, T. E. S. does not agree to provide any interpretation of log data, conversion of log data to physical rock parameters or recommendations. T. E. 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. E. 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. E. 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

Size (In)	Bottom (Ft)
7.875	2075.00

Casing Strings

Size (In)	Weight (Lbs)	Bottom (Ft)
8.625	24.00	127.00

Run Number	1
Date	2012-12-13
Date/Time On Bottom	
Depth to Fluid	0.0 Ft
Salinity	0.000 PPM
RMF@BHT	2.000 @ 92 F
RMC@BHT	2.700 @ 92 F

Run Number 1

Comments

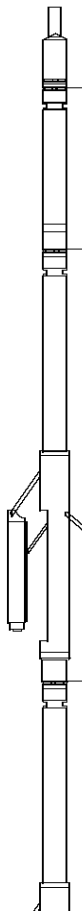
ALL PRESENTATIONS AS PER CUSTOMER REQUEST.
GRT, CNT, LDT, AND PIT RUN IN COMBINATION.
CALIPERS ORIENTED ON X-Y AXIS.
2.71 G/CC USED TO CALCULATED POROSITY.
ANNULAR HOLE VOLUME CALCULATED USING 5.50" PRODUCTION CASING.
PHIN IS CALIPER CORRECTED
HIGH RESOLUTION LOG PRESENTED FROM TOTAL DEPTH TO SURFACE CASING

GRT: GRP, GRX.
CNT: PHIN, PHIA, CLCNIN, PHXN.
LDT: PORL, PXRL, LCORN, LCORNX, PECLN, PECLNX, LDENN, LDENNX, PORLLS, CLLDIN.
PIT: ILD, ILM, SPU, SFLAEC, CIRD.

OPERATORS:
M. RUBY
D. HOPPER

Tool String Schematic

Total Tool Length - 43.91 **ft.**
Maximum Outside diameter - 4.80 **in.**
Net Weight in Air - 743.00 **lbs.**



Tool: GRT-B **Length:** 3.40 **ft.** **O.D.** 3.60 **in.**
Gamma Ray Controller
Sonde ID :GRT-BC-41

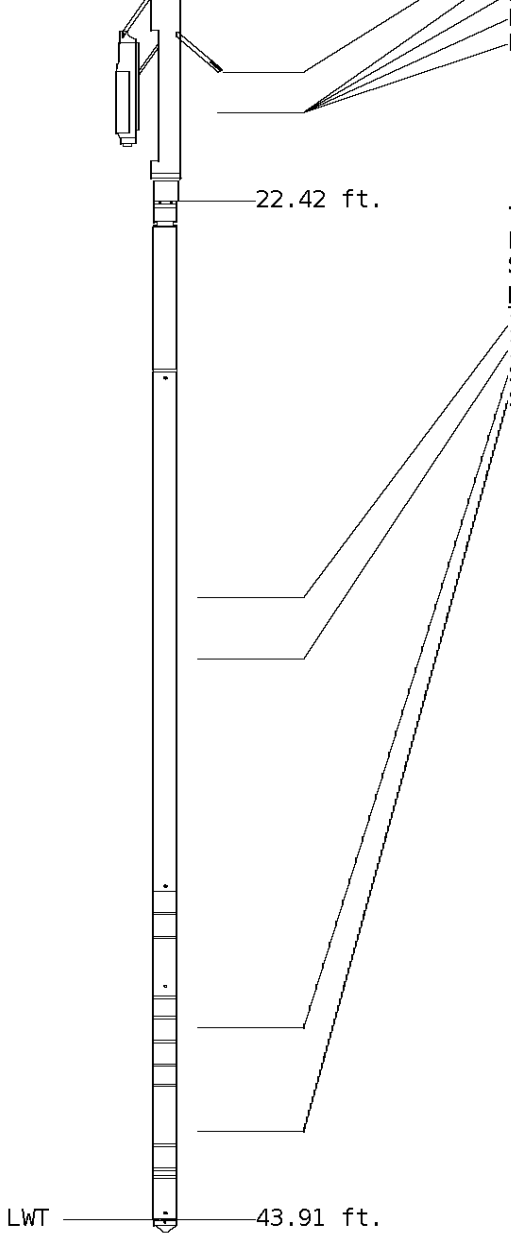
Measure Point	Tool Offset	Stack Offset	Bottom Offset
GRP	2.00	2.00	41.91

Tool: CNT-AA **Length:** 9.30 **ft.** **O.D.** 4.36 **in.**
Compensated Neutron A Pad on NDT-A
Sonde ID :NDT-BB-129
Source ID :N-1045
Pad ID :CNP-AA-112

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLCN	6.00	9.40	34.51
PHIN	6.80	10.20	33.71

Tool: LDT-DF **Length:** 9.72 **ft.** **O.D.** 4.80 **in.**
Litho Density D Pad on NDT-F
Sonde ID :PDT-GA-464
Source ID :2991GW
Pad ID :LDP-DA-065

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLLD	6.42	19.12	24.79
PEL	7.42	20.12	23.79
PES	7.82	20.52	23.39



LDEN	7.62	20.32	23.59
LCOR	7.62	20.32	23.59

Tool: PIT-CA **Length:** 21.49 **ft.** **O.D.** 3.62 **in.**
Phased Dual Induction w/ RM & D
Sonde ID :PIT-AC-22

Measure Point	Tool Offset	Stack Offset	Bottom Offset
ILD	8.92	31.34	12.56
ILM	10.10	32.52	11.39
SFLU	17.49	39.91	4.00
SP	20.60	43.02	0.88

Well File: STEL_FLOYDA_34_DEC13_STK **Scale:** 1:240
Segment: V1.D1.S12 MAIN 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 BARNS/ELECTRON
0 — 10

DENSITY CORRECTION G/CC
-0.25 — 0.25

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

Volume Calcite

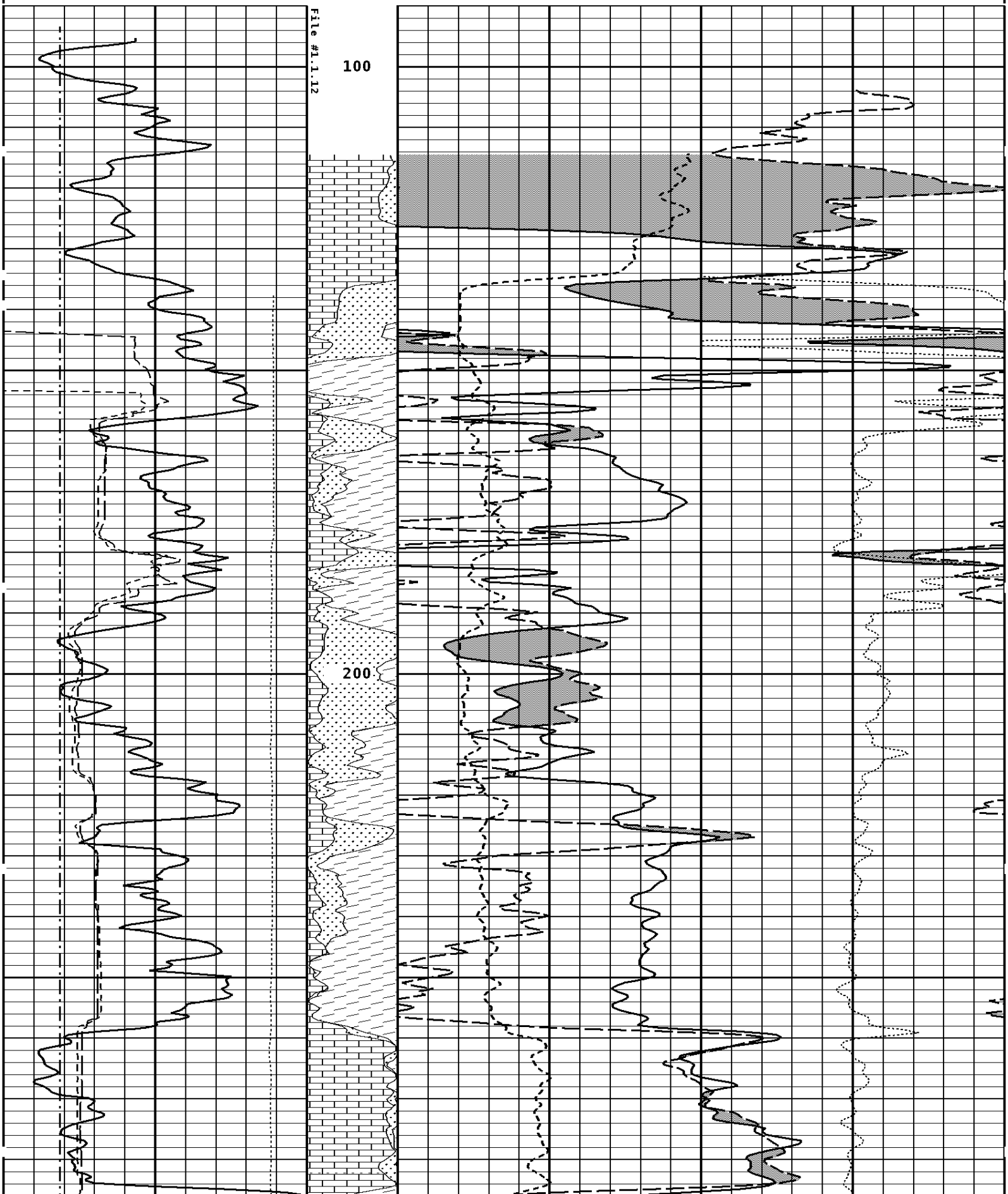
NEUTRON POROSITY PERCENT (LIMESTONE MATRIX)
70 — 30
30 — -10
-10 — -50

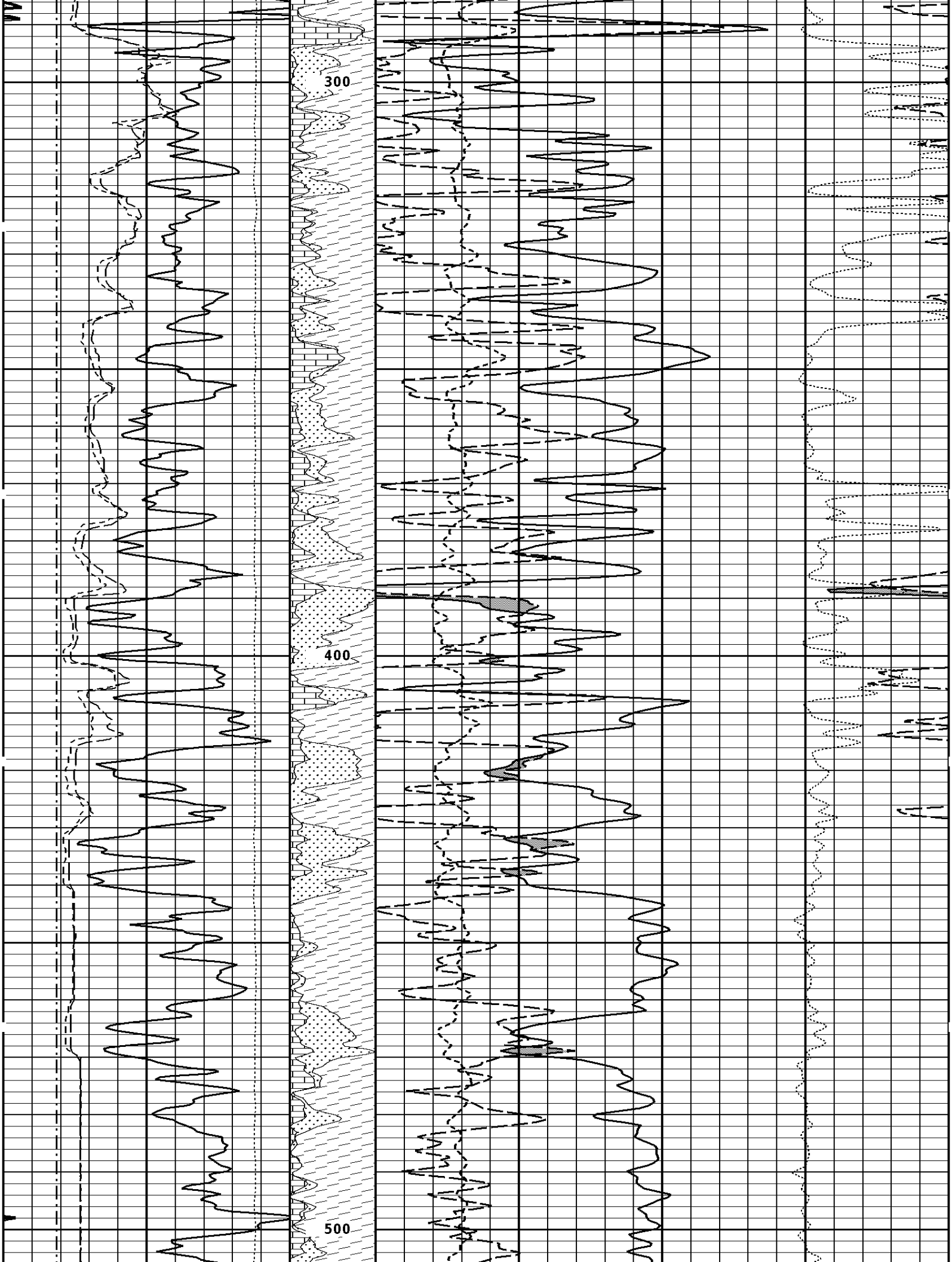
GAMMA RAY API UNITS
150 — 300
0 — 150

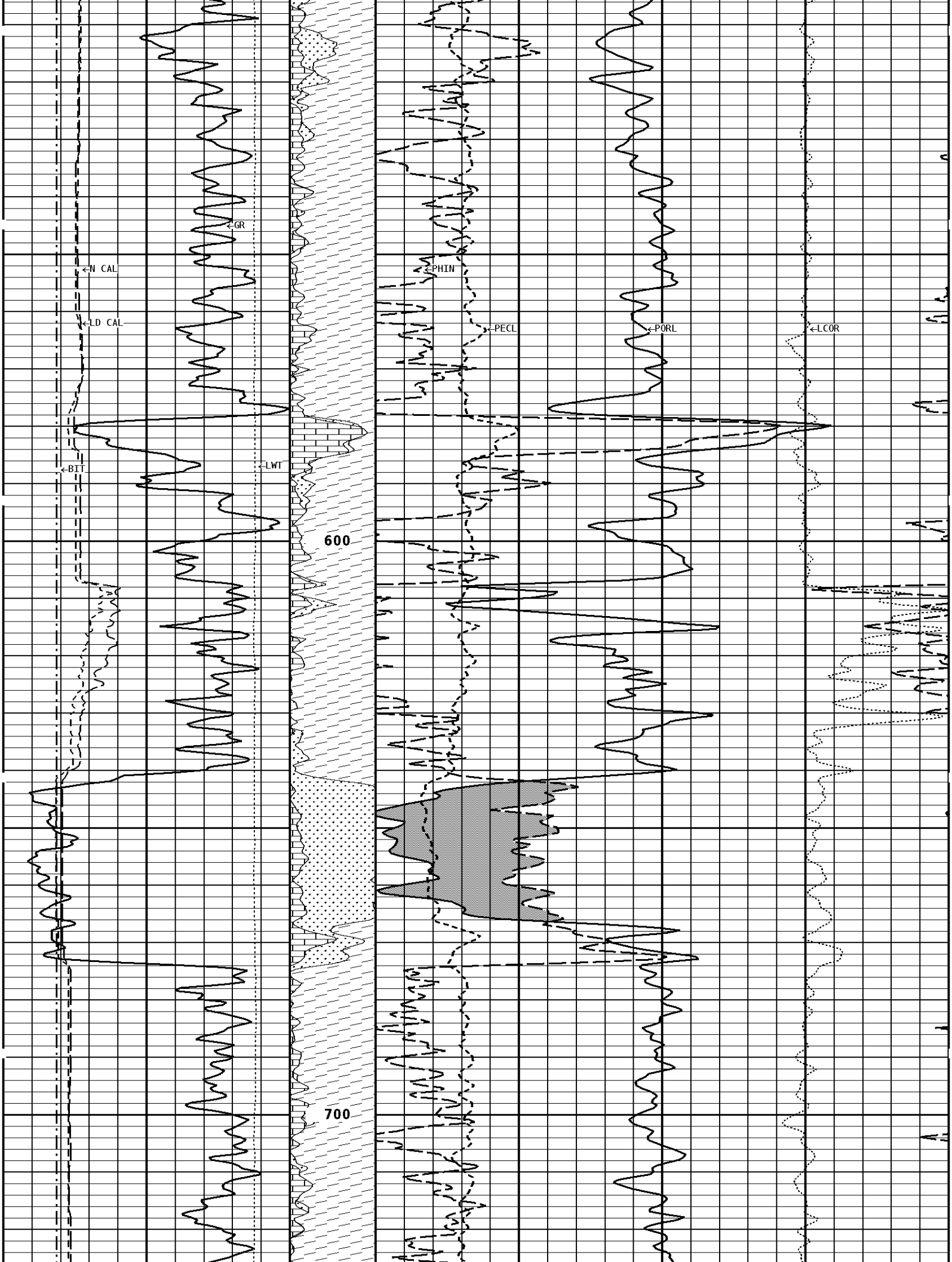
Volume Dolo/Shale

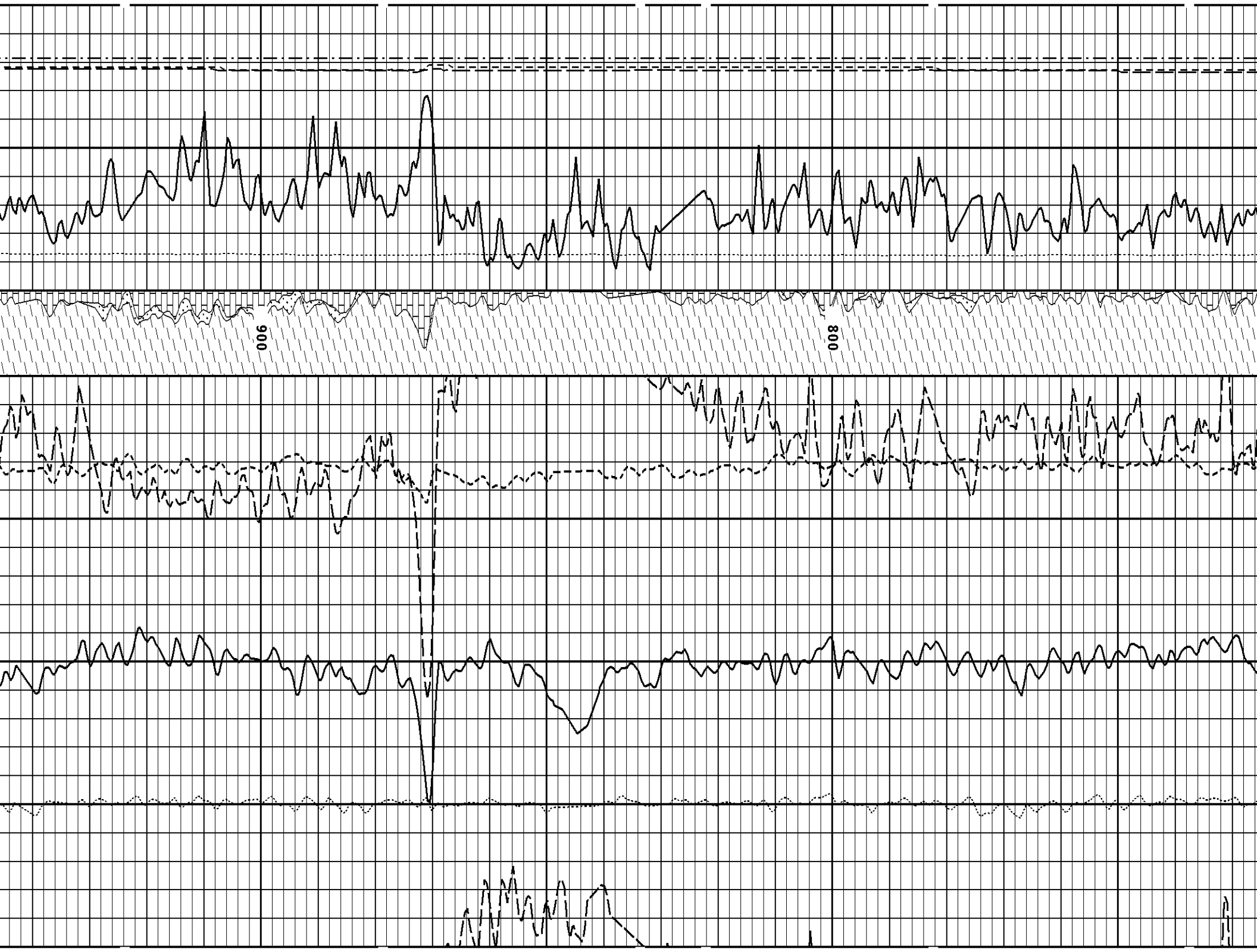
DENSITY POROSITY PERCENT (2.71 g/cc)
70 — 30
30 — -10
-10 — -50

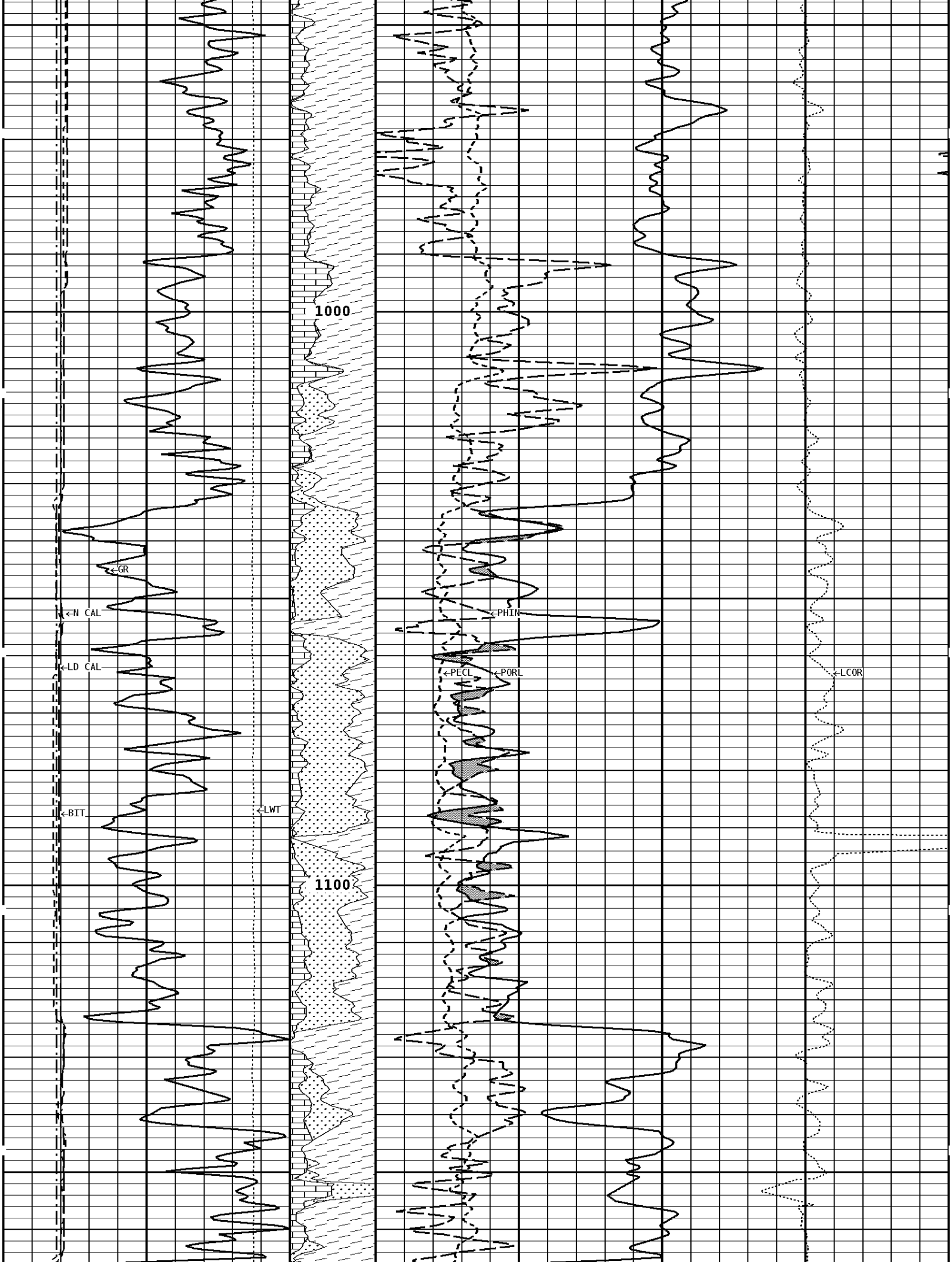
1:240 MAIN SECTION

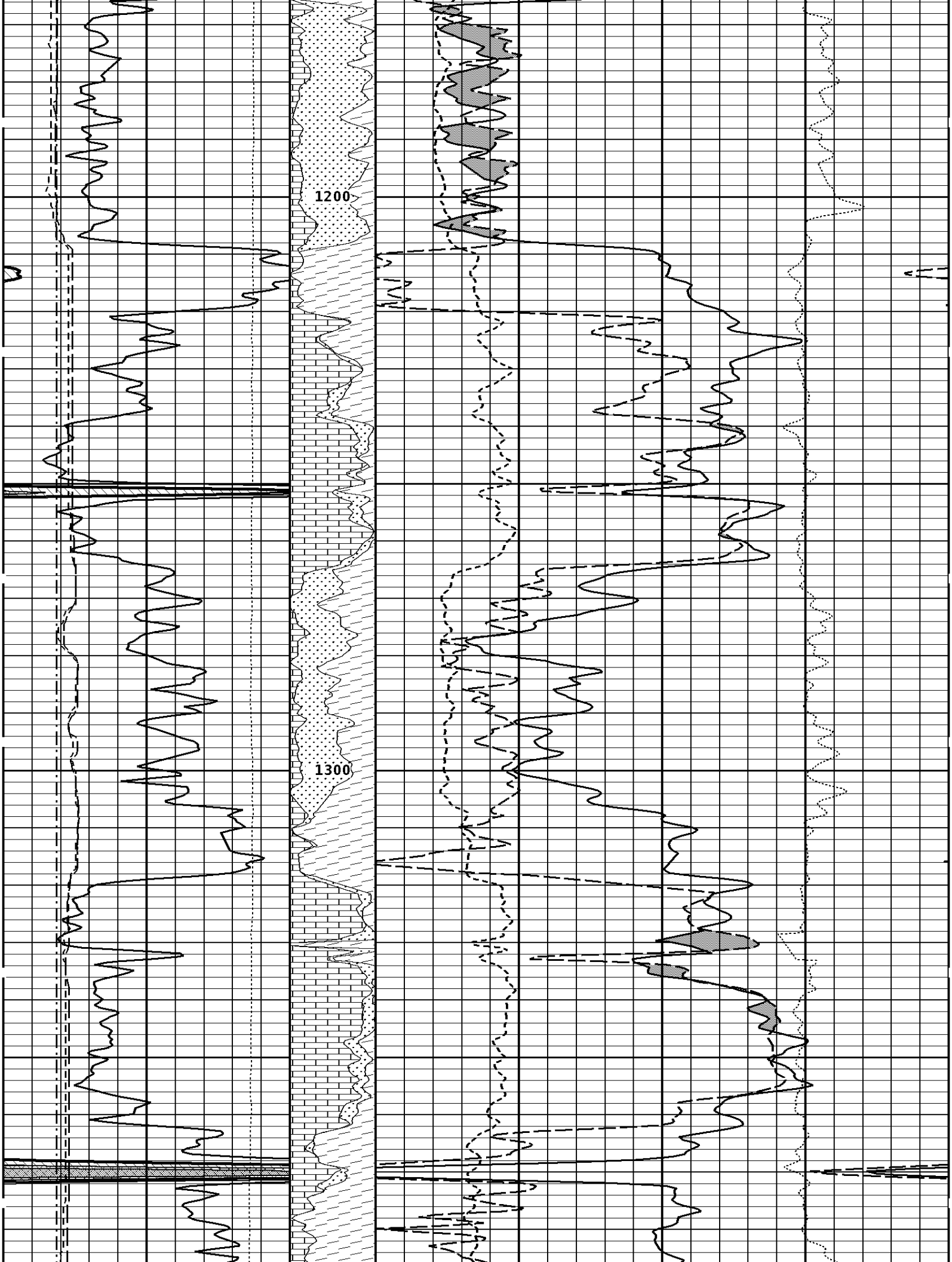


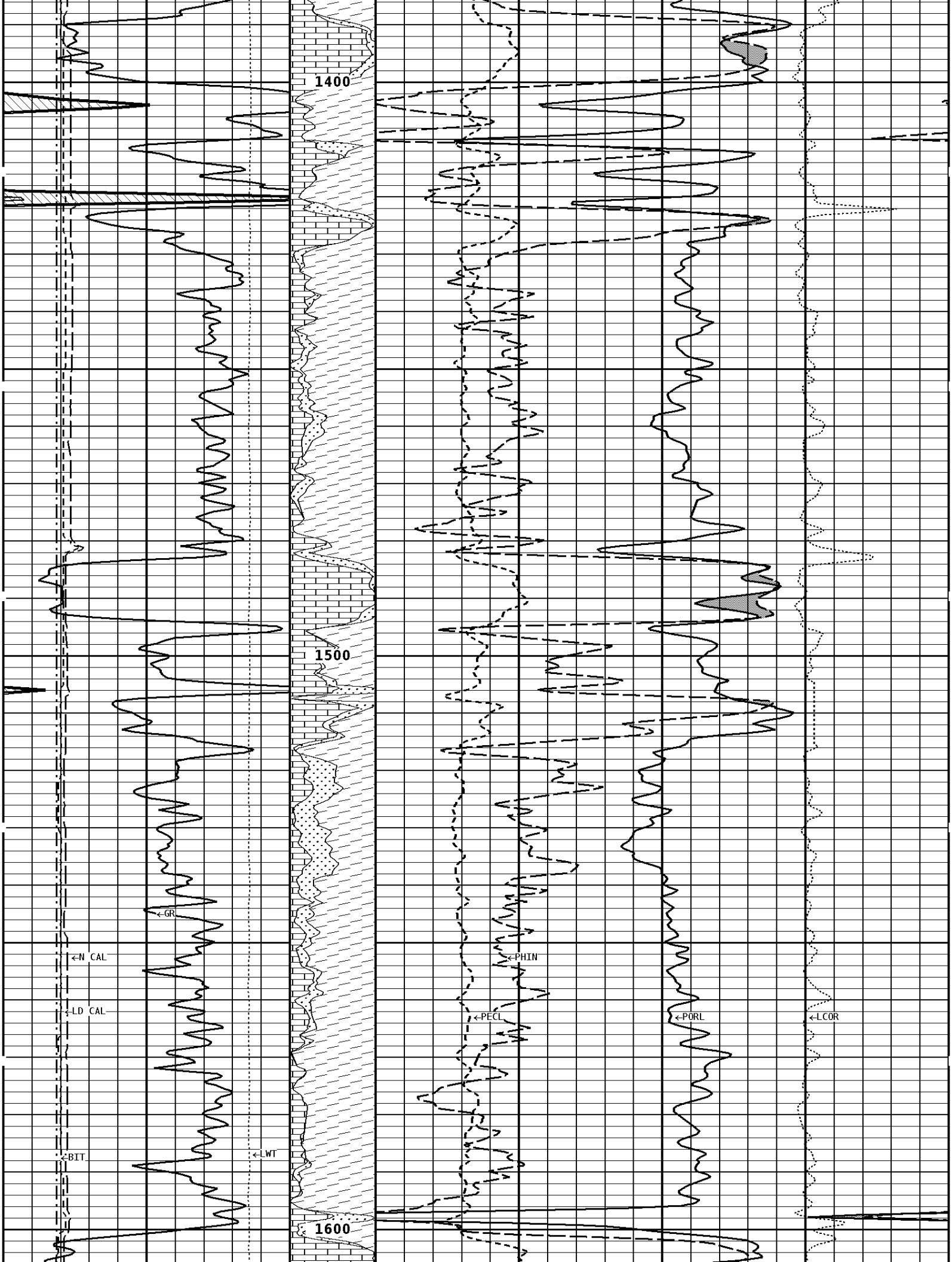

300
400
500

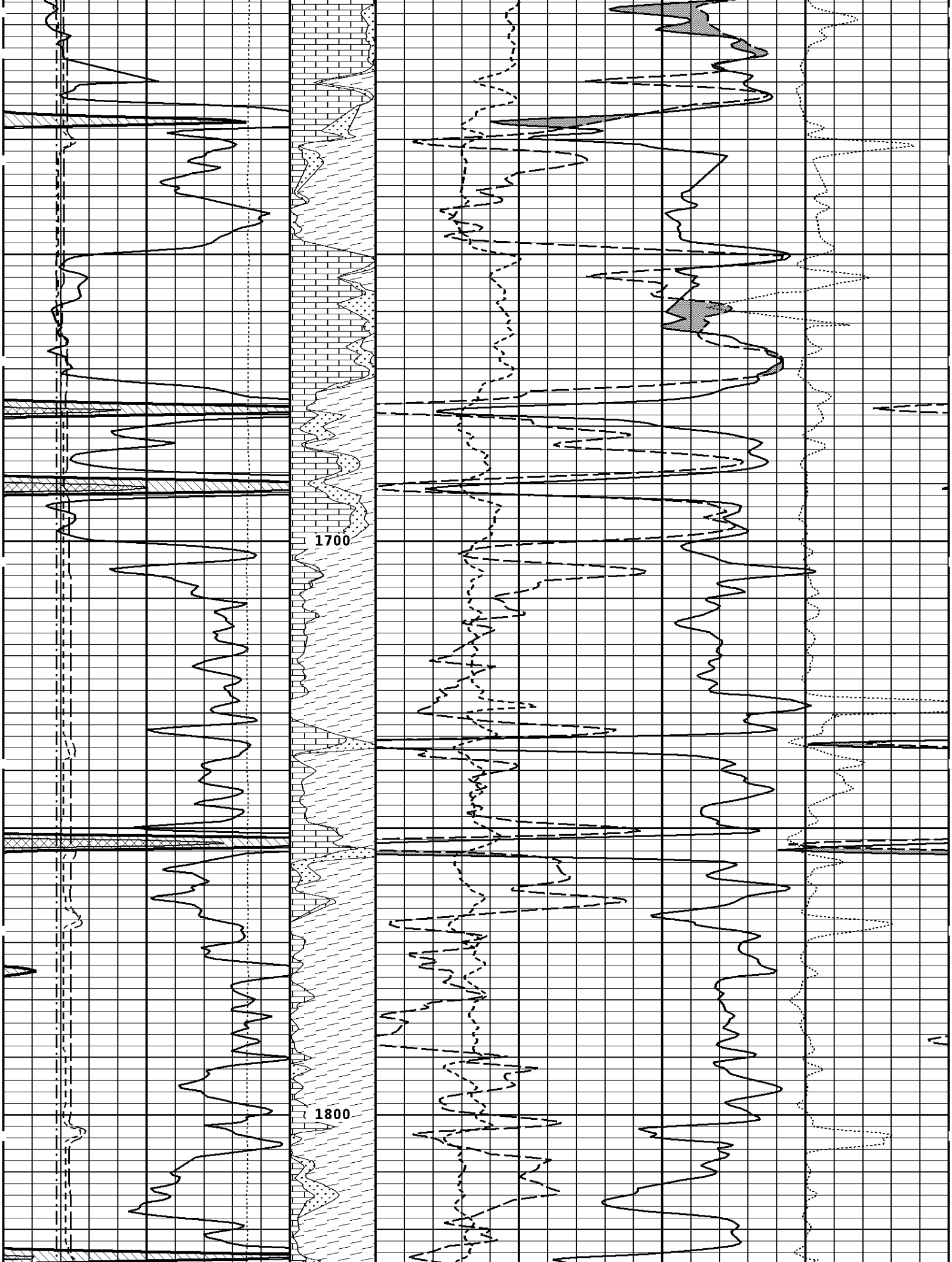

GR
N CAL
LD CAL
BIT
LWT
PHIN
PECL
PORL
LCOR
600
700

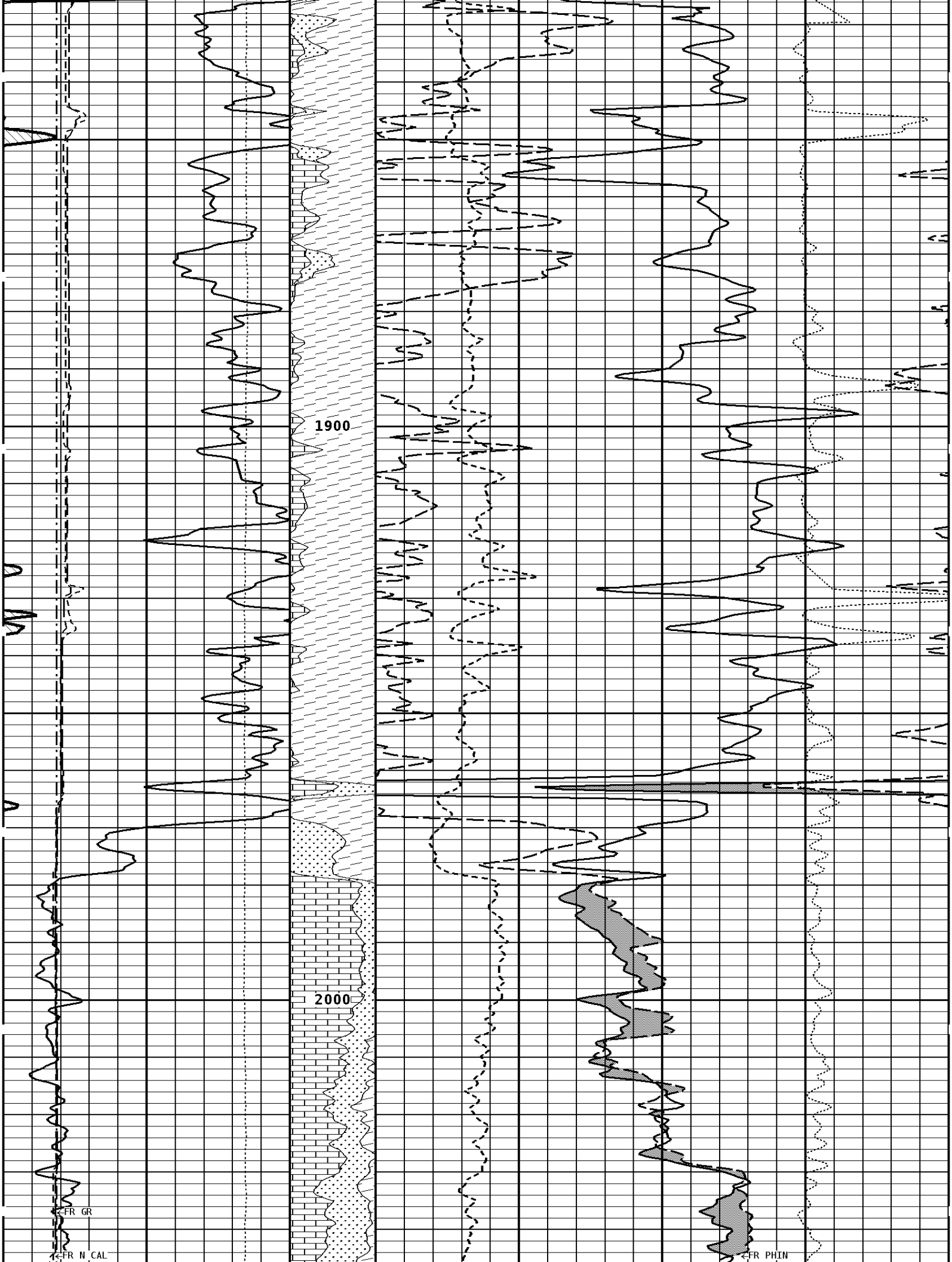

900
800

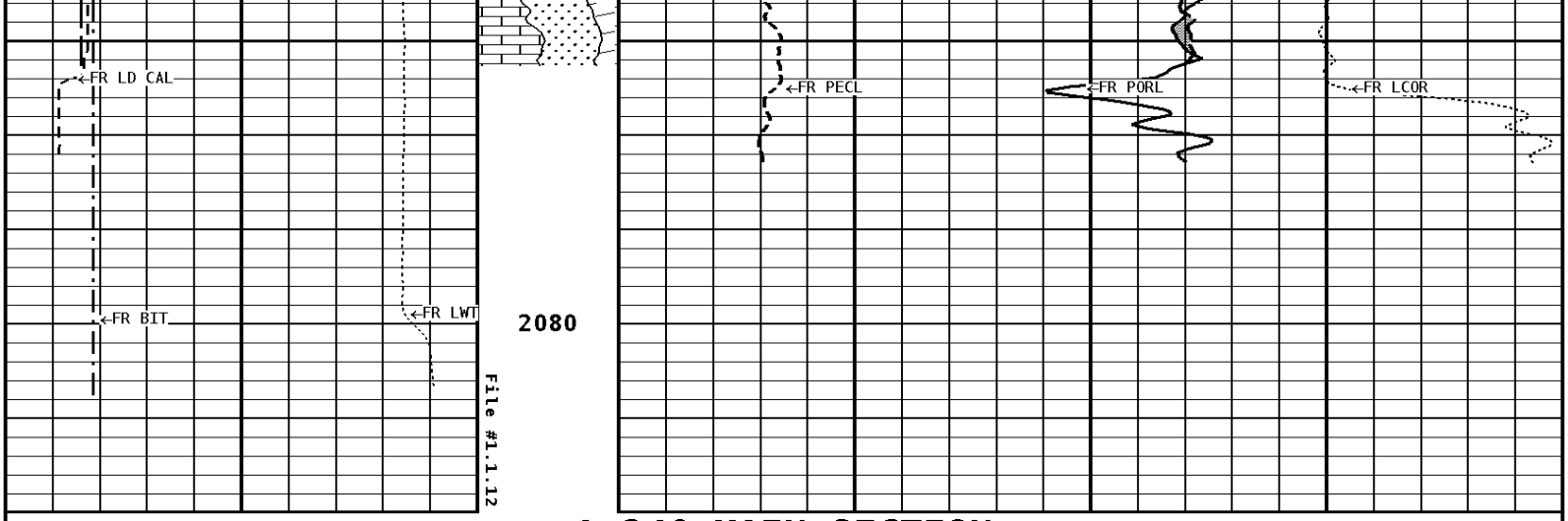

1000
1100
GR
N CAL
LD CAL
BIT
LWT
PHIN
PECL
PORL
LCOR


1200
1300


1400
1500
1600
GR
N CAL
LD CAL
BIT
LWT
PHIN
PECL
PORL
LCOR


1700
1800


1900
2000
2FR GR
1FR N CAL
FR PHIN



1:240 MAIN SECTION

GAMMA RAY API UNITS	Volume Dolo/Shale	DENSITY POROSITY PERCENT (2.71 g/cc)
150 300		70 30
0 150		30 -10
		-10 -50

NEUTRON (Y) CALIPER INCHES (IN)	Volume Calcite	NEUTRON POROSITY PERCENT (LIMESTONE MATRIX)
16 26		70 30
6 16		30 -10
		-10 -50

DENSITY (X) CALIPER INCHES (IN)	Volume Quartz	PE CROSS-SECTION BARNS/ELECTRON	DENSITY CORRECTION G/CC
16 26		0 10	-0.25 0.25
6 16			

BIT SIZE INCHES (IN)
6 16

TENSION LBS
10000 0

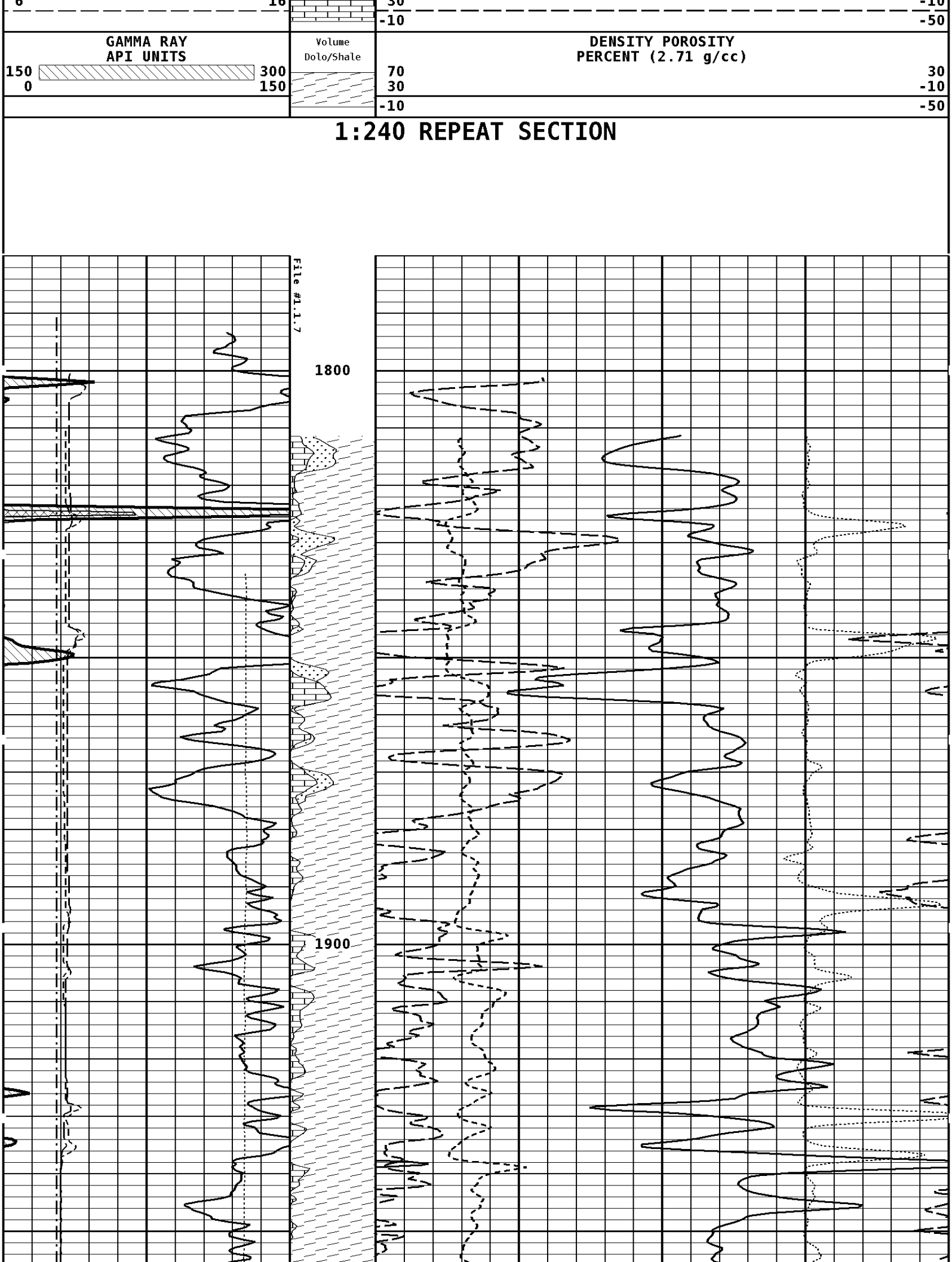
Well File: STEL_FLOYDA_34_DEC13_STK **Scale:** 1:240
Segment: V1.D1.S7 RE **Acquired:** 2012-12/13 19:35 3.2.0-11401
Reference: 0 **Processed:** 2012-12/13 21:15 3.2.0-11401

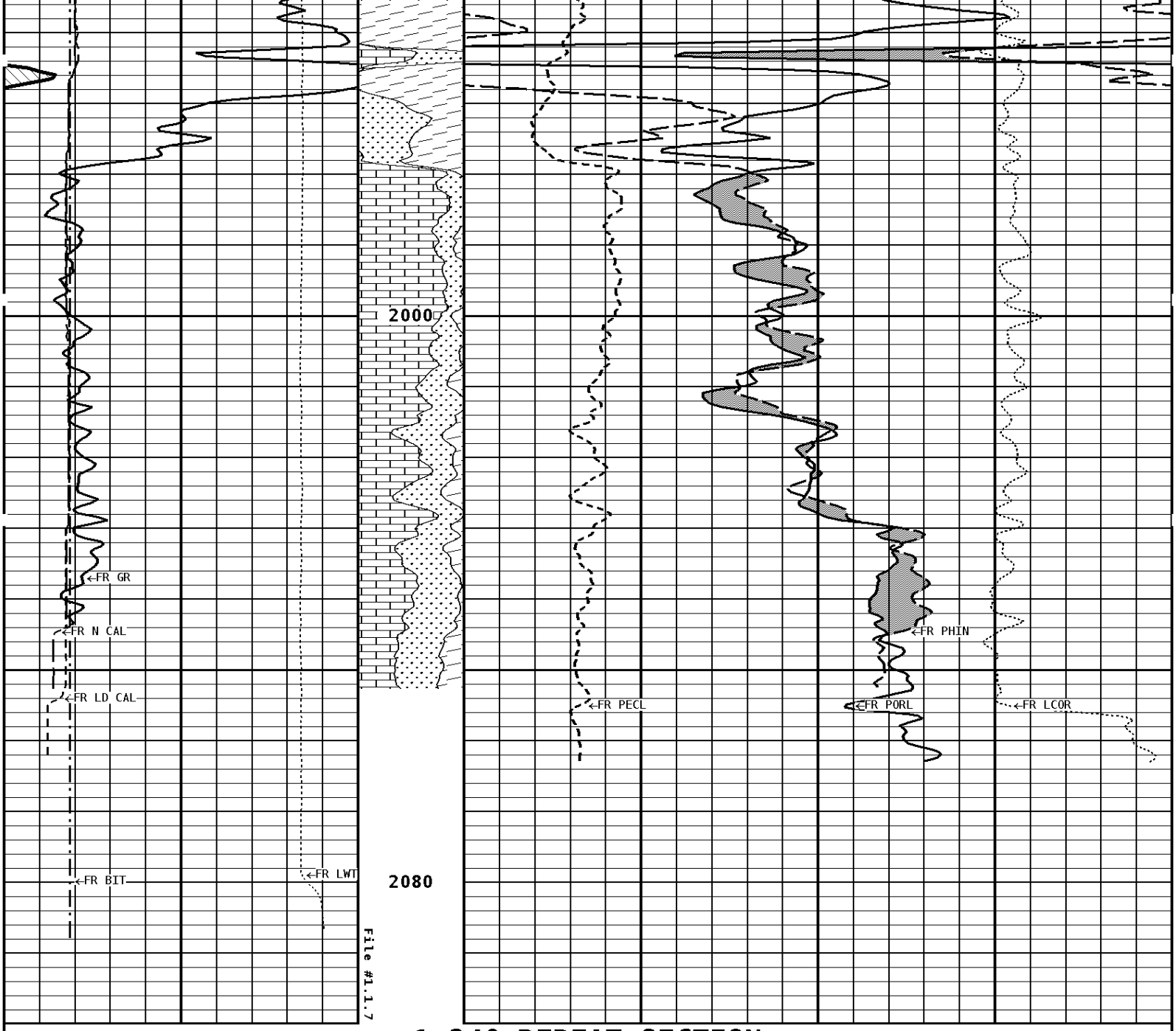
TENSION LBS
10000 0

BIT SIZE INCHES (IN)
6 16

DENSITY (X) CALIPER INCHES (IN)	Volume Quartz	PE CROSS-SECTION BARNS/ELECTRON	DENSITY CORRECTION G/CC
16 26		0 10	-0.25 0.25
6 16			

NEUTRON (Y) CALIPER INCHES (IN)	Volume Calcite	NEUTRON POROSITY PERCENT (LIMESTONE MATRIX)
16 26		70 30
6 16		30 -10


6
16
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 REPEAT SECTION
File #1.1.7
1800
1900



1:240 REPEAT SECTION

GAMMA RAY API UNITS	Volume Dolo/Shale	DENSITY POROSITY PERCENT (2.71 g/cc)
150 300		70 30
0 150		30 -10
		-10 -50

NEUTRON (Y) CALIPER INCHES (IN)	Volume Calcite	NEUTRON POROSITY PERCENT (LIMESTONE MATRIX)
16 26		70 30
6 16		30 -10
		-10 -50

DENSITY (X) CALIPER INCHES (IN)	Volume Quartz	PE CROSS-SECTION BARNS/ELECTRON	DENSITY CORRECTION G/CC
16 26		0 10	-0.25 0.25
6 16			

BIT SIZE INCHES (IN)

6 16

TENSION
LBS

10000 0

* 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	

Well File: STEL_FLOYDA_34_DEC13_STK **Scale:** 1:48
Segment: V1.D1.S12 MAIN 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

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

GAMMA RAY
API UNITS
150 300
0 150

PE CROSS-SECTION
BARNS/ELECTRON
0 10

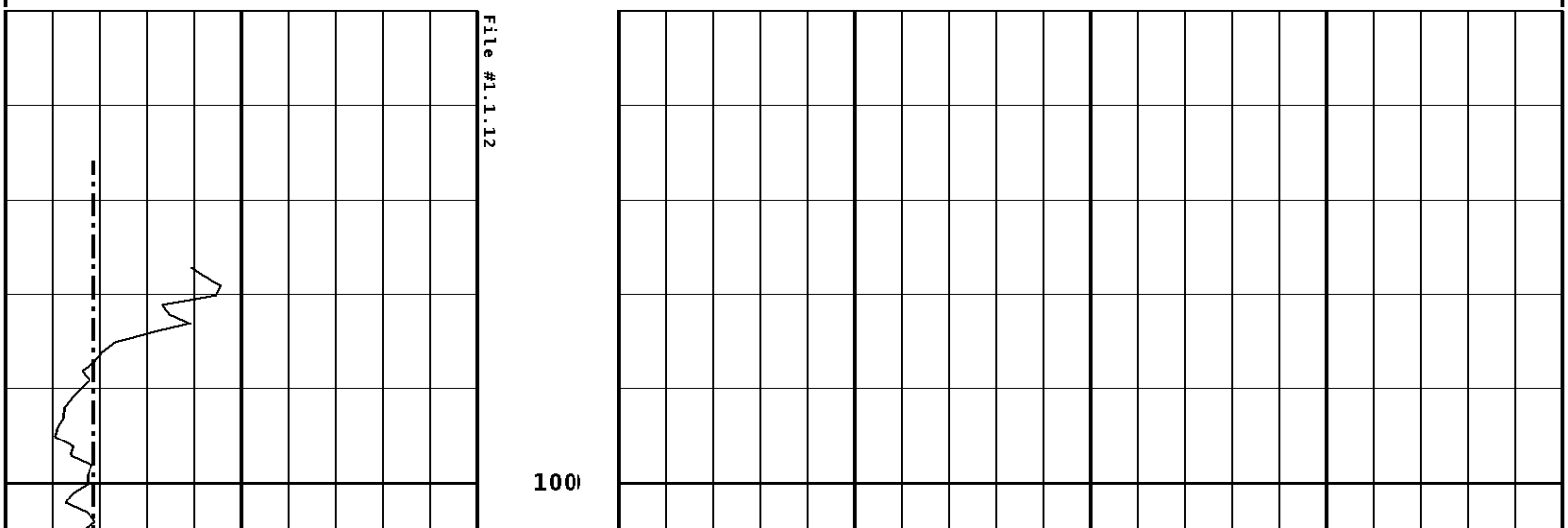
DENSITY CORRECTION
G/CC
-0.25 0.25

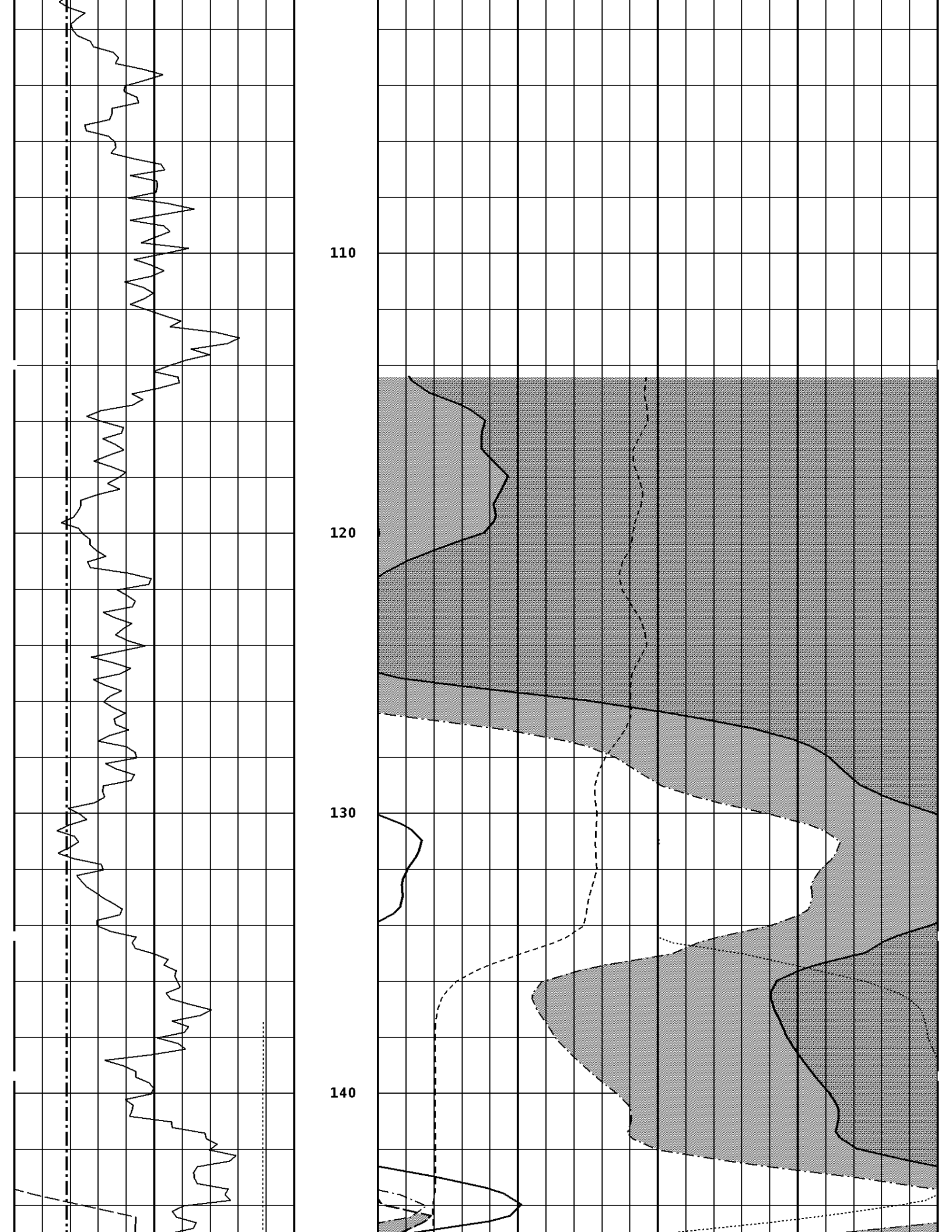
COMPENSATED BULK DENSITY
G/CC
3.0 4.0
2.0 3.0
1.0 2.0

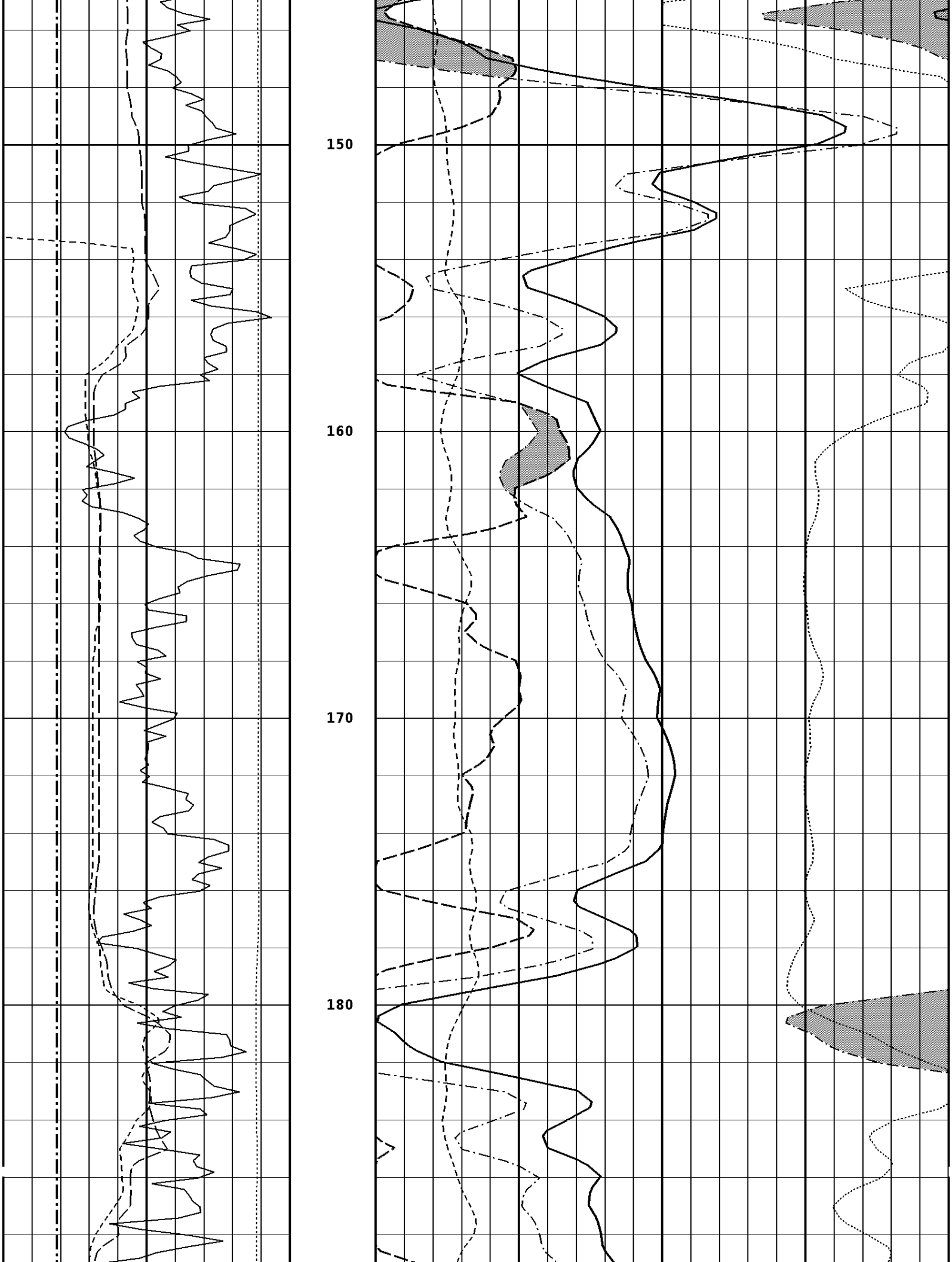
DENSITY POROSITY
PERCENT
70 30
30 -10
-10 -50

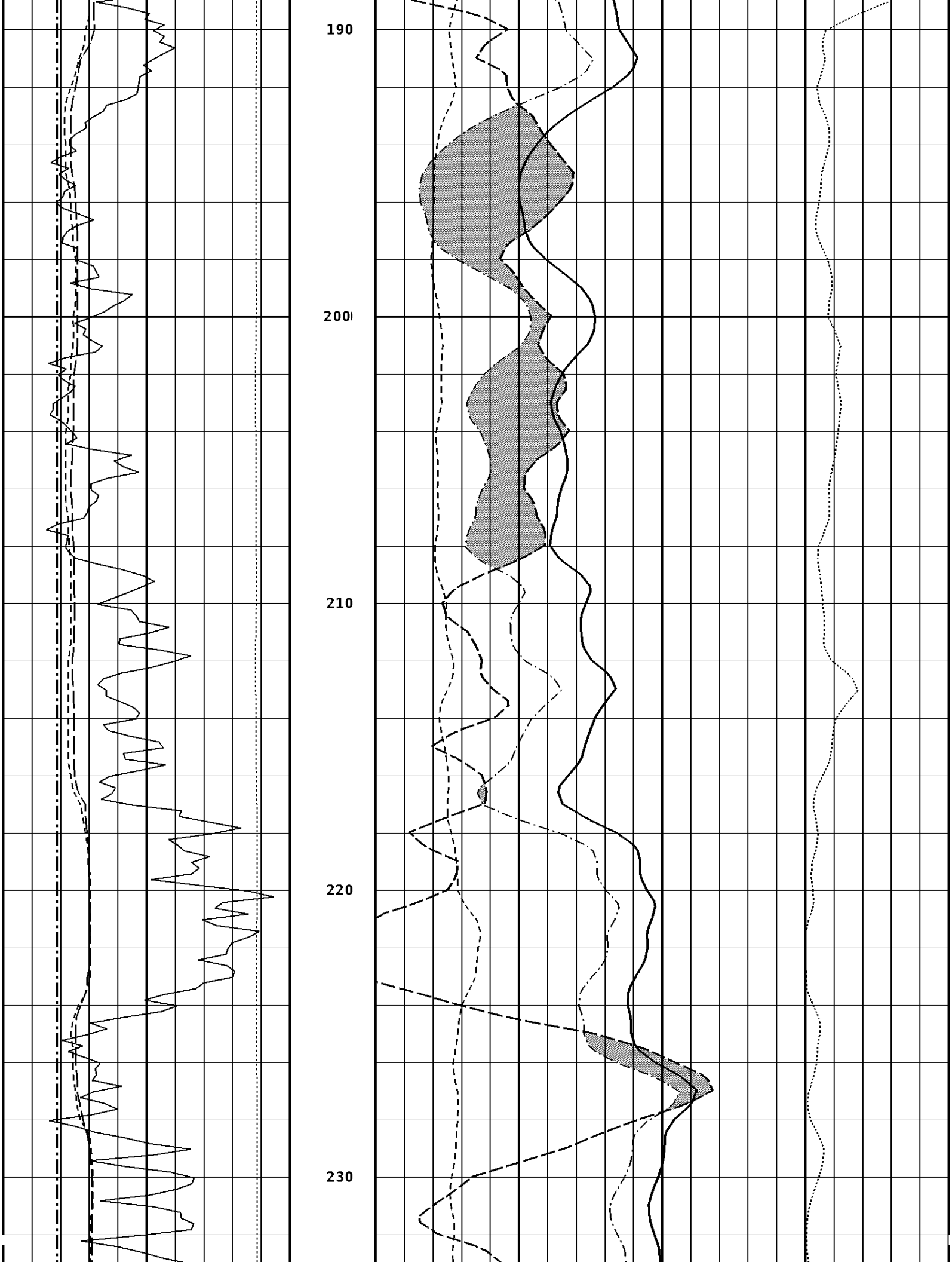
NEUTRON POROSITY
PERCENT
30 -10

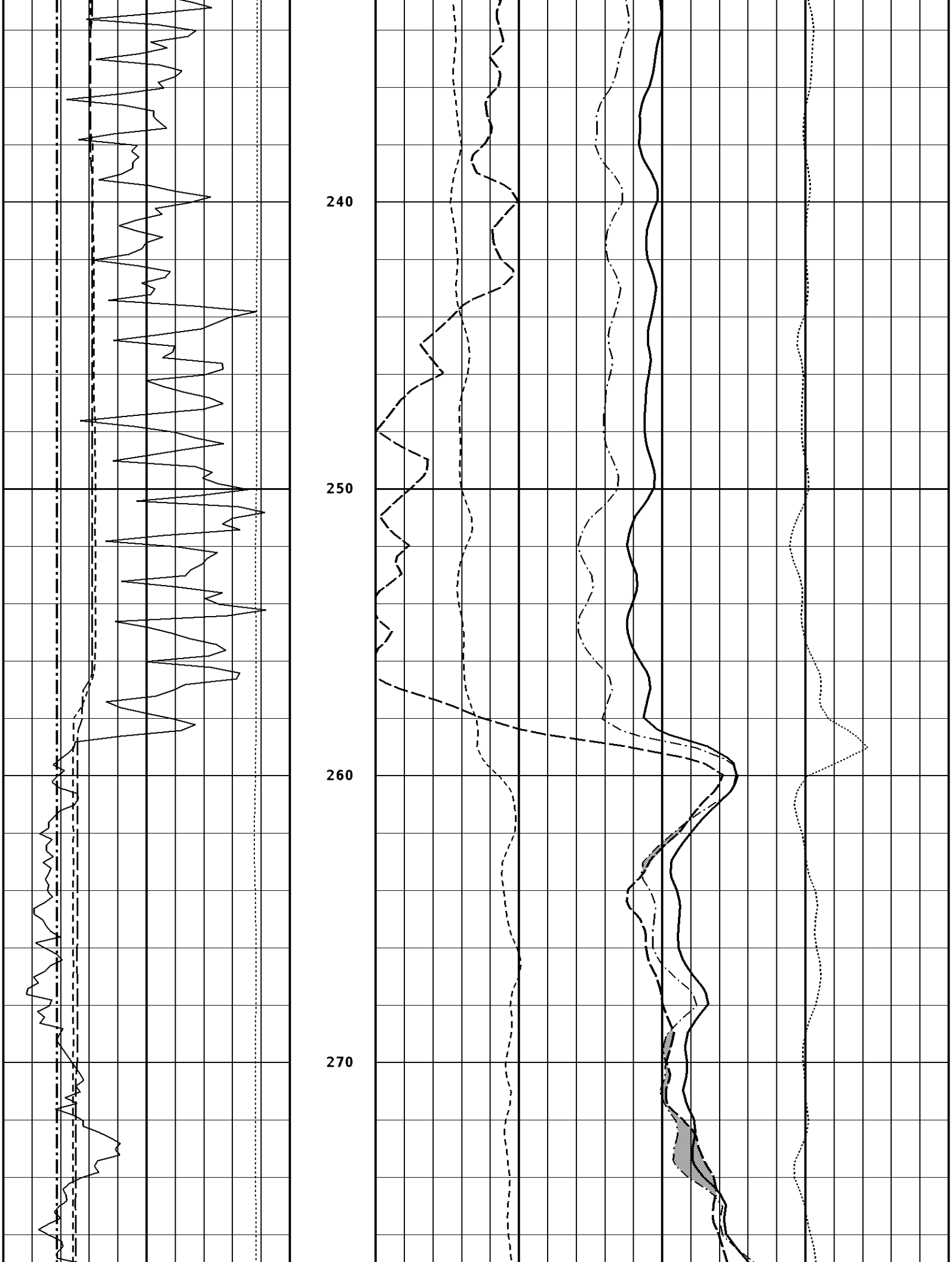
1:48 HIGH RESOLUTION

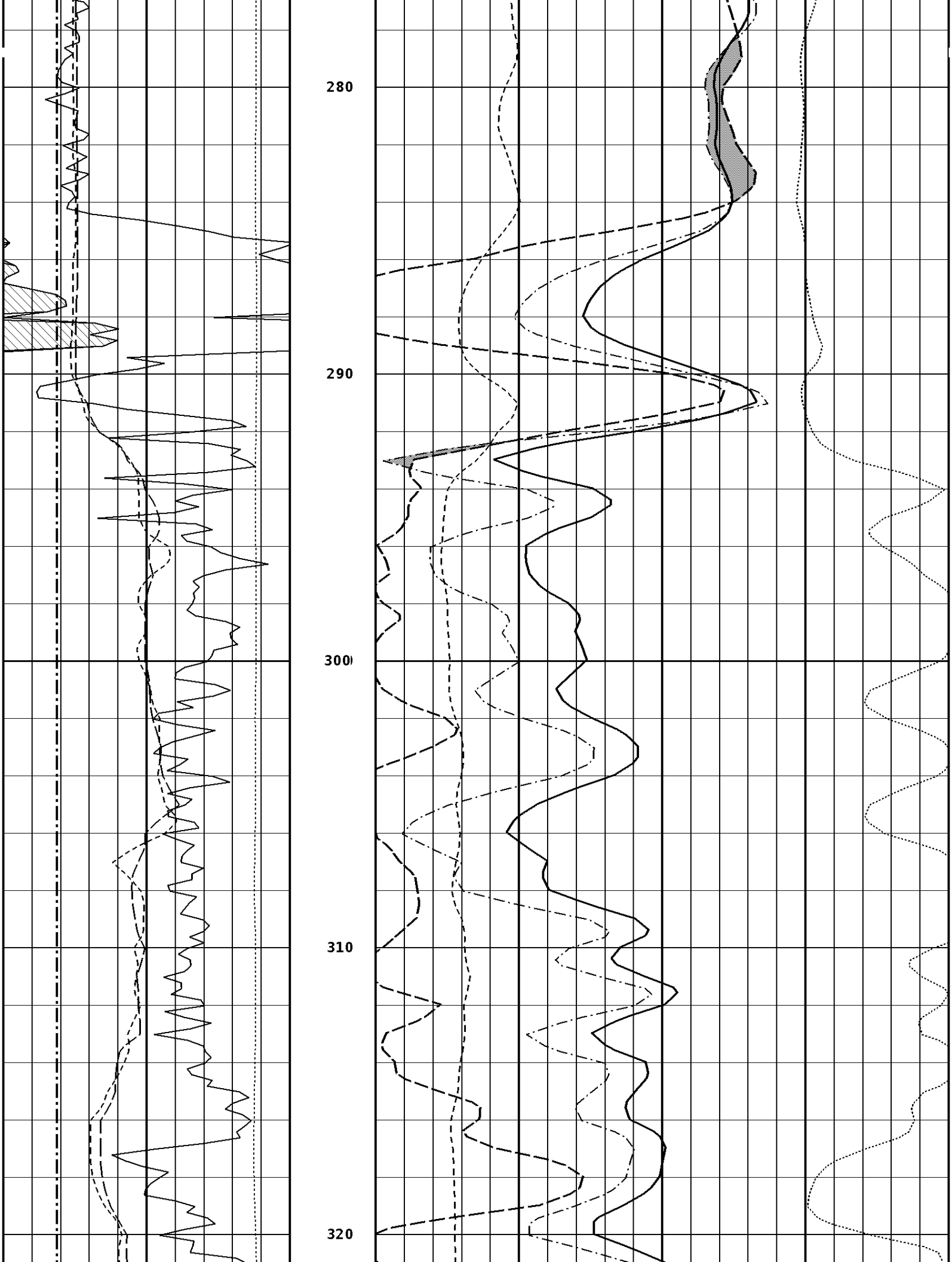


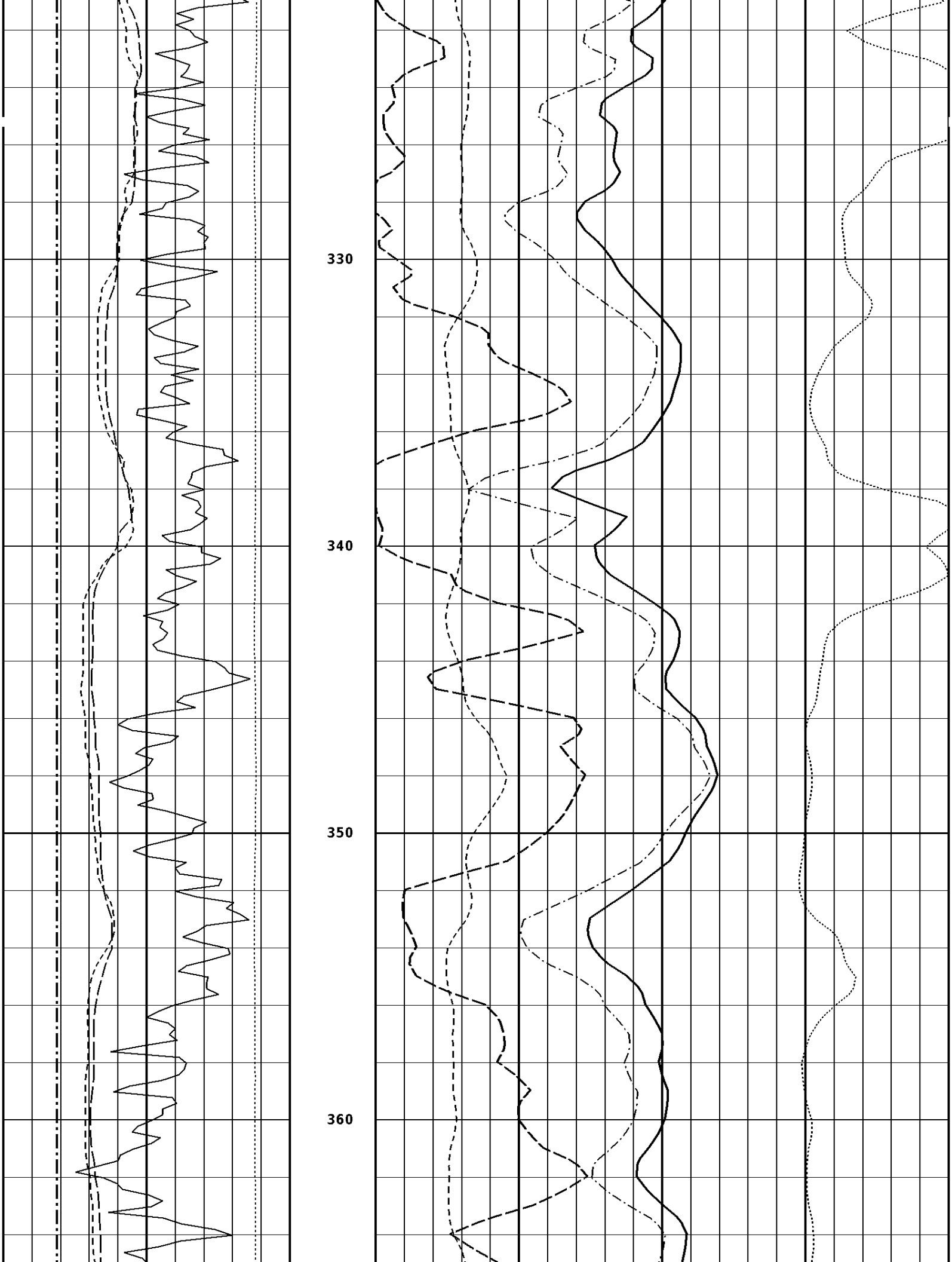

110
120
130
140

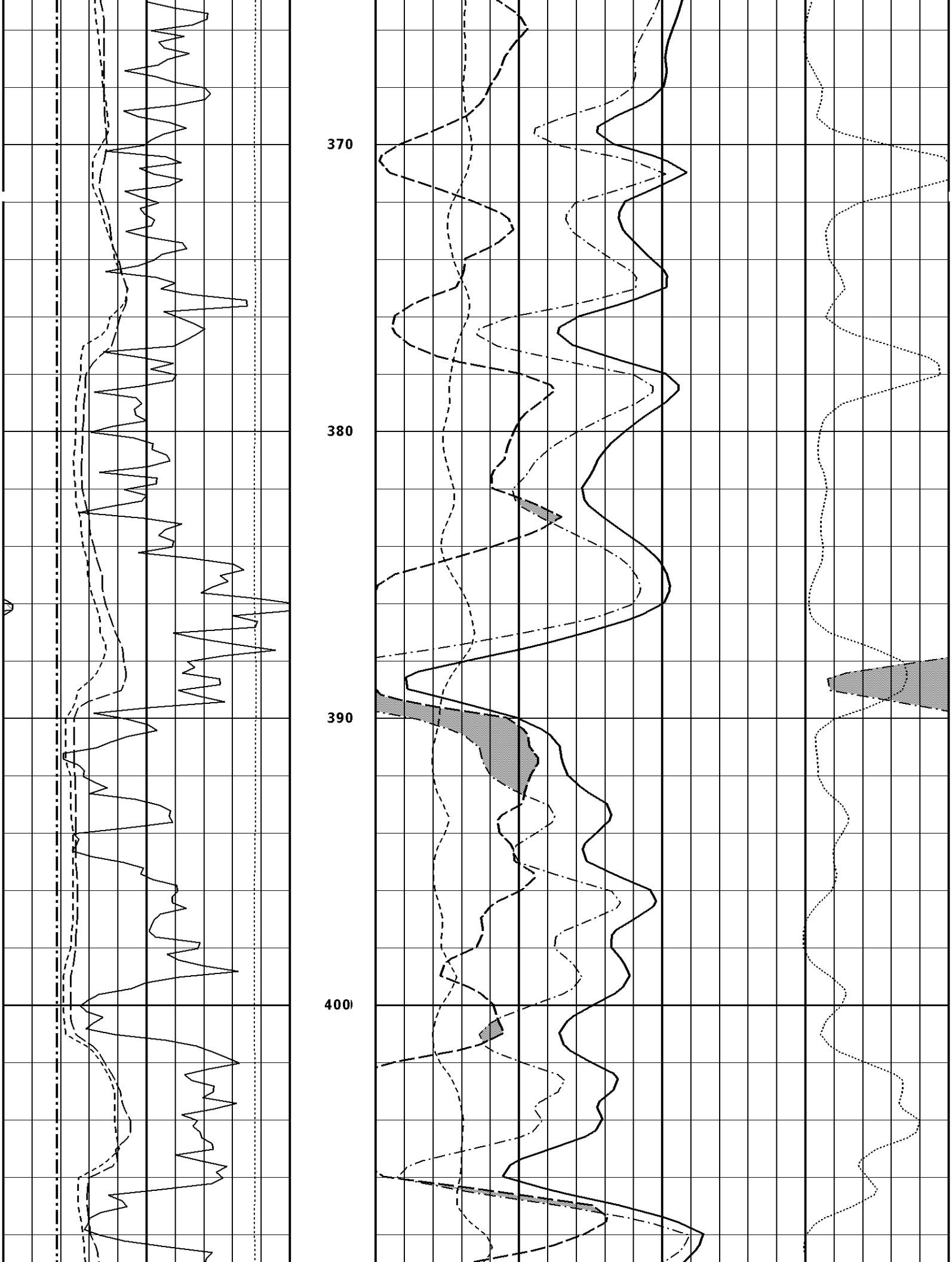

150
160
170
180

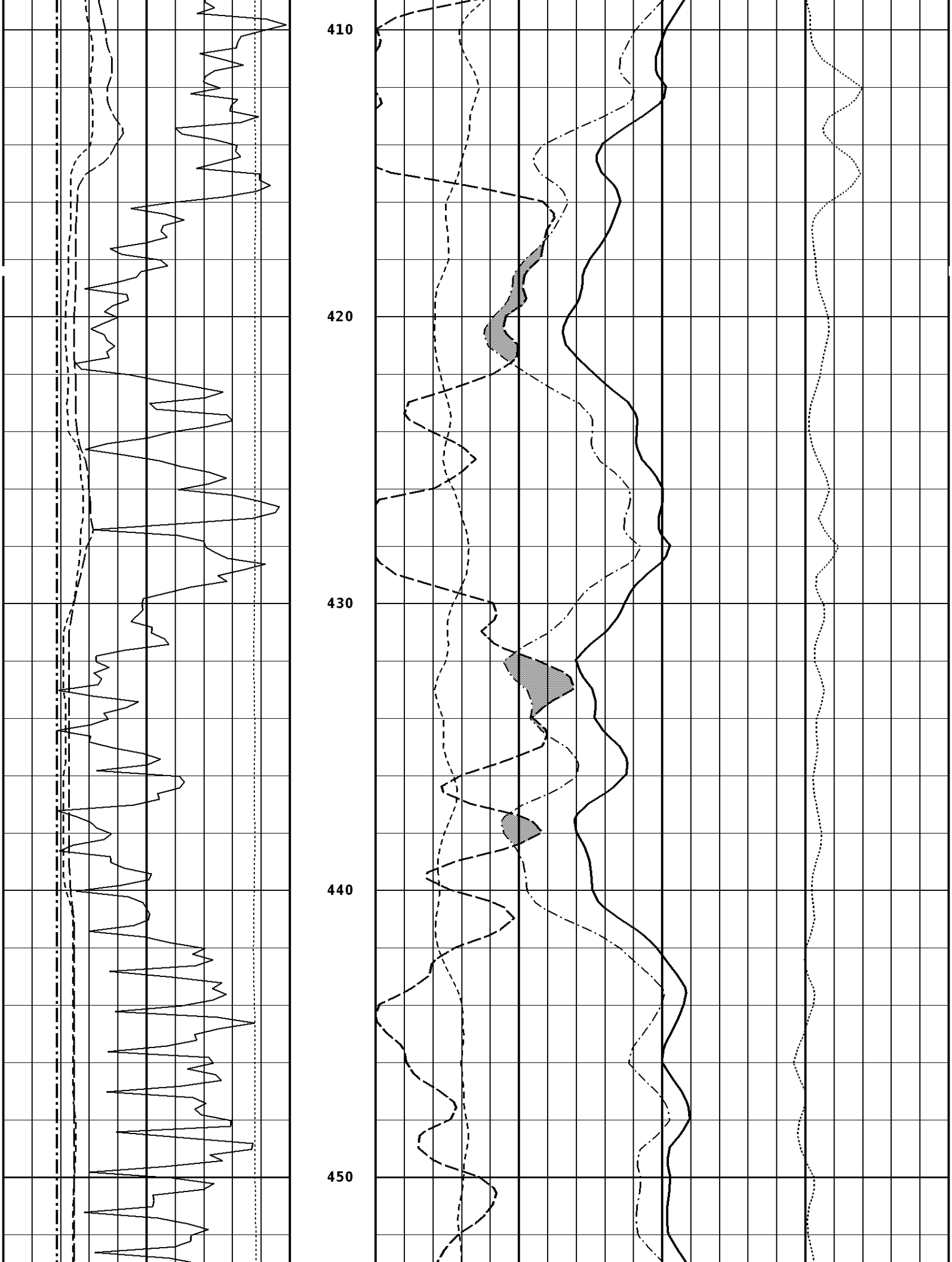

190
200
210
220
230

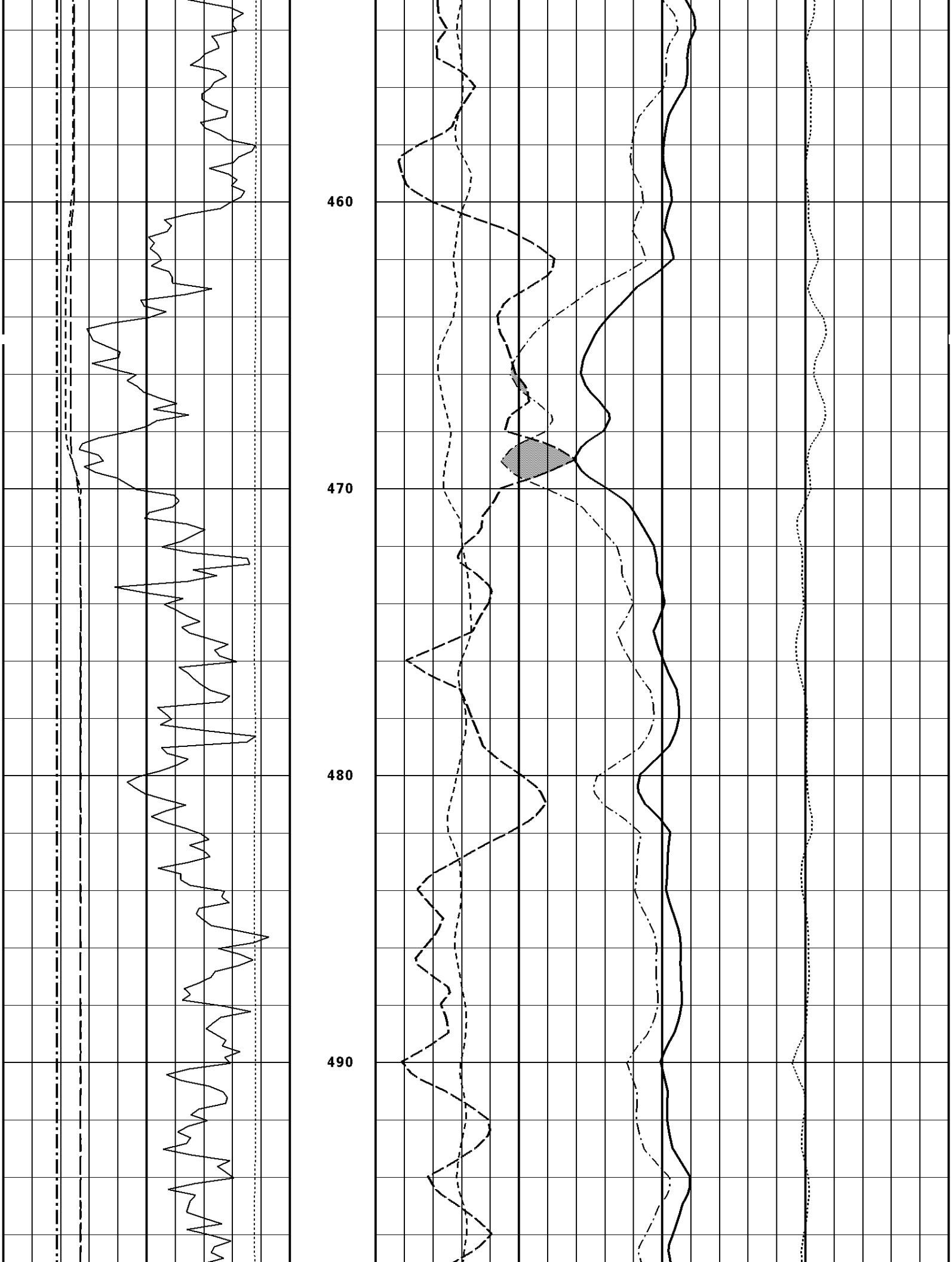

240
250
260
270

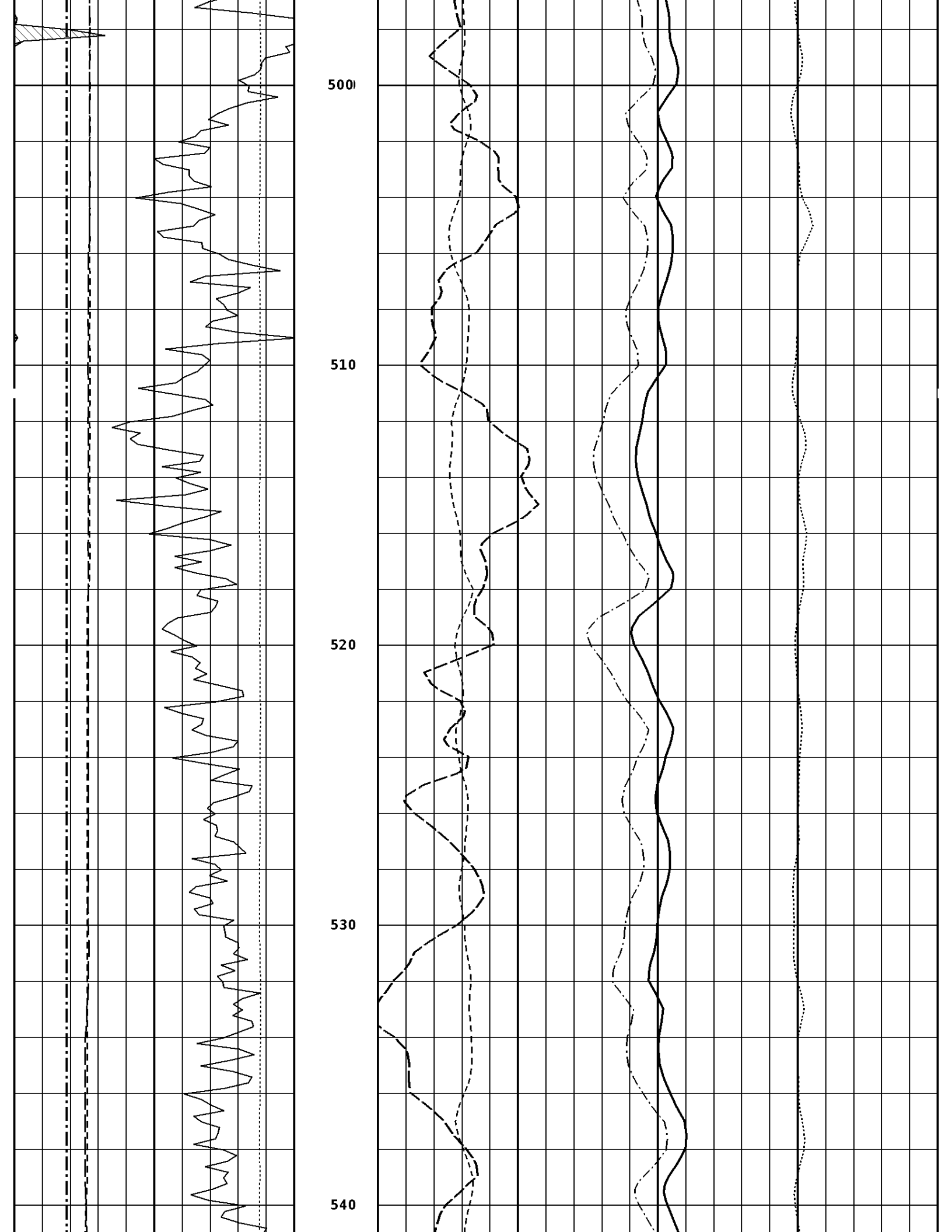

280
290
300
310
320

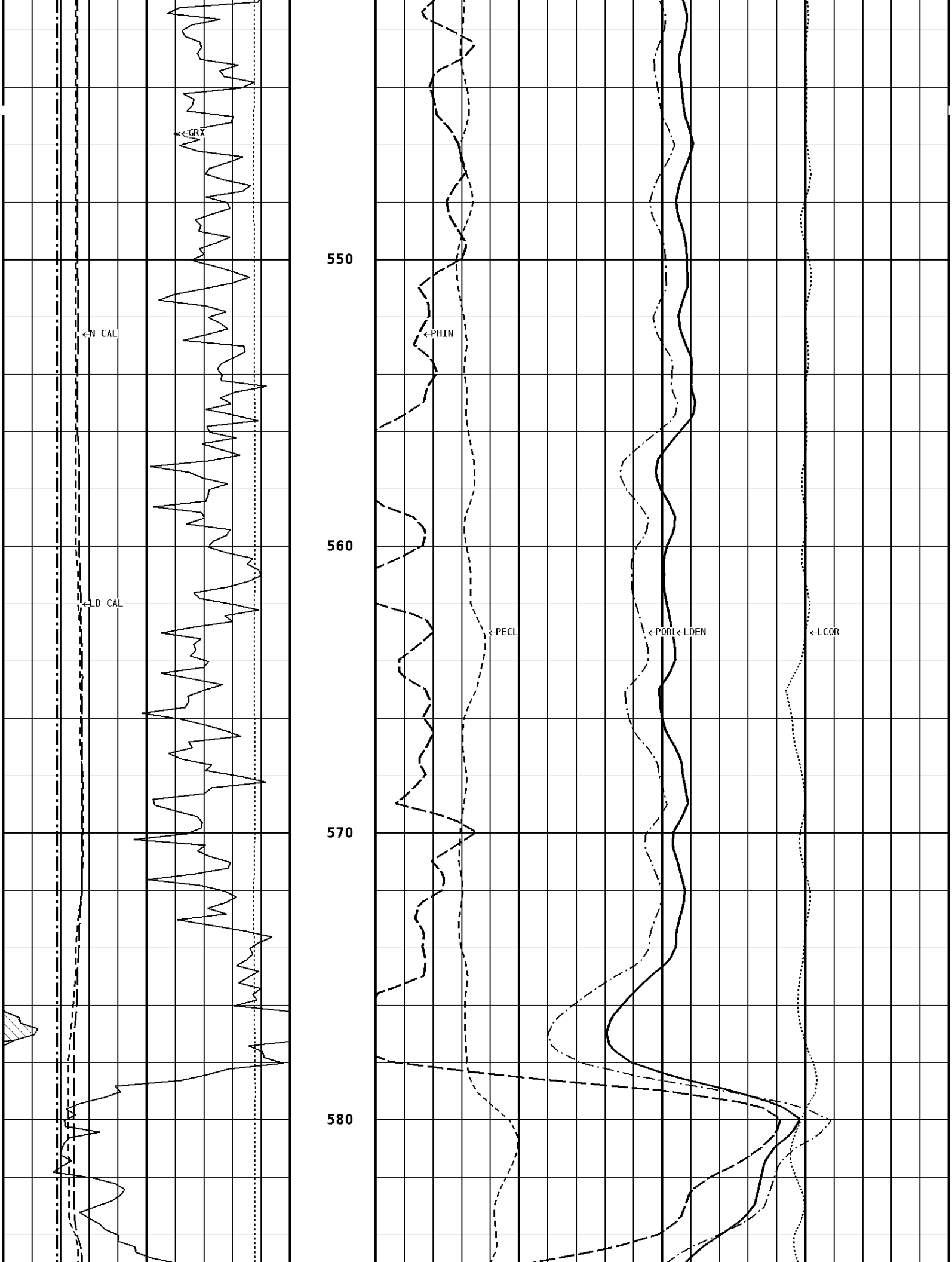

330
340
350
360

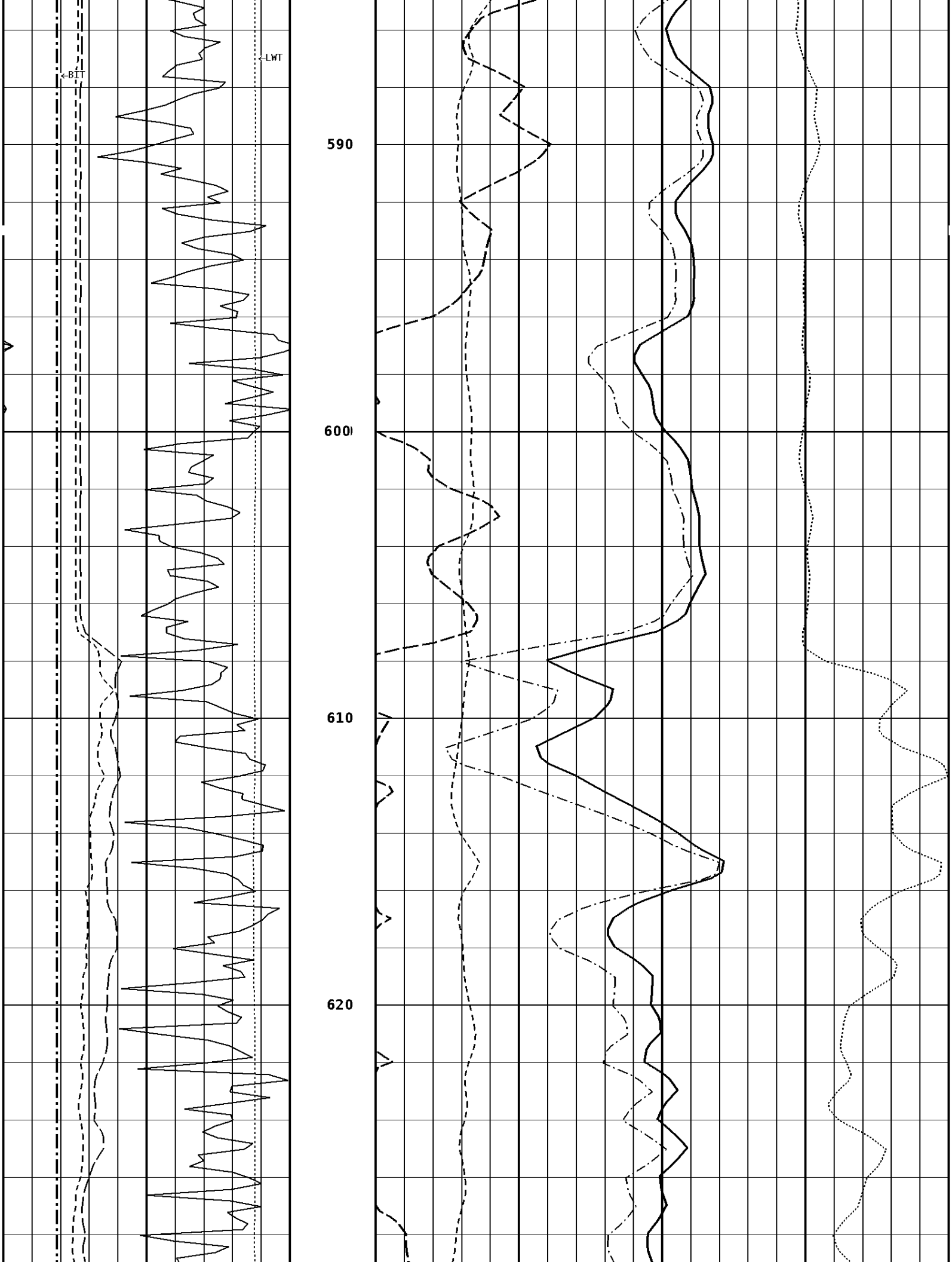

370
380
390
400

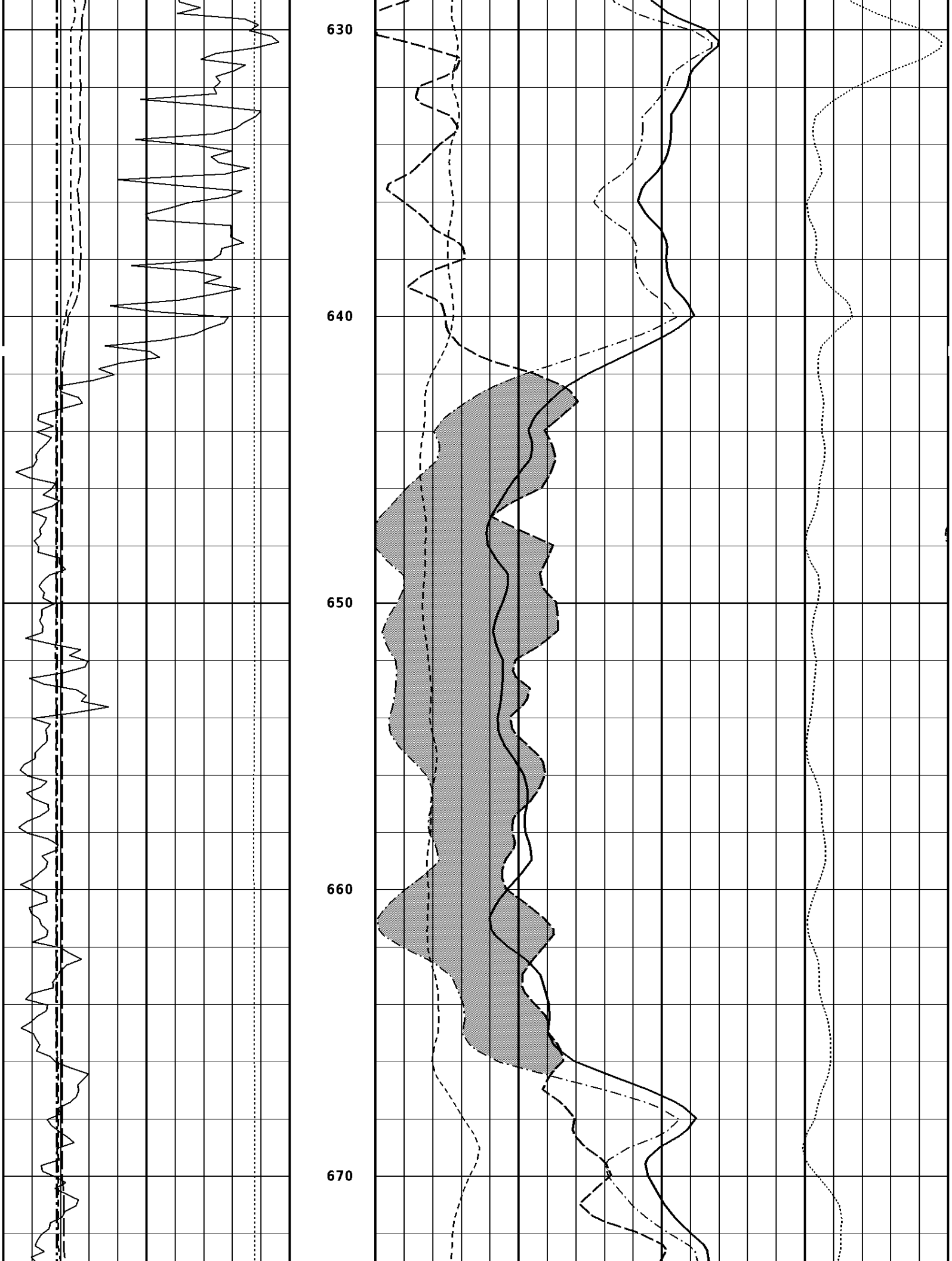

410
420
430
440
450

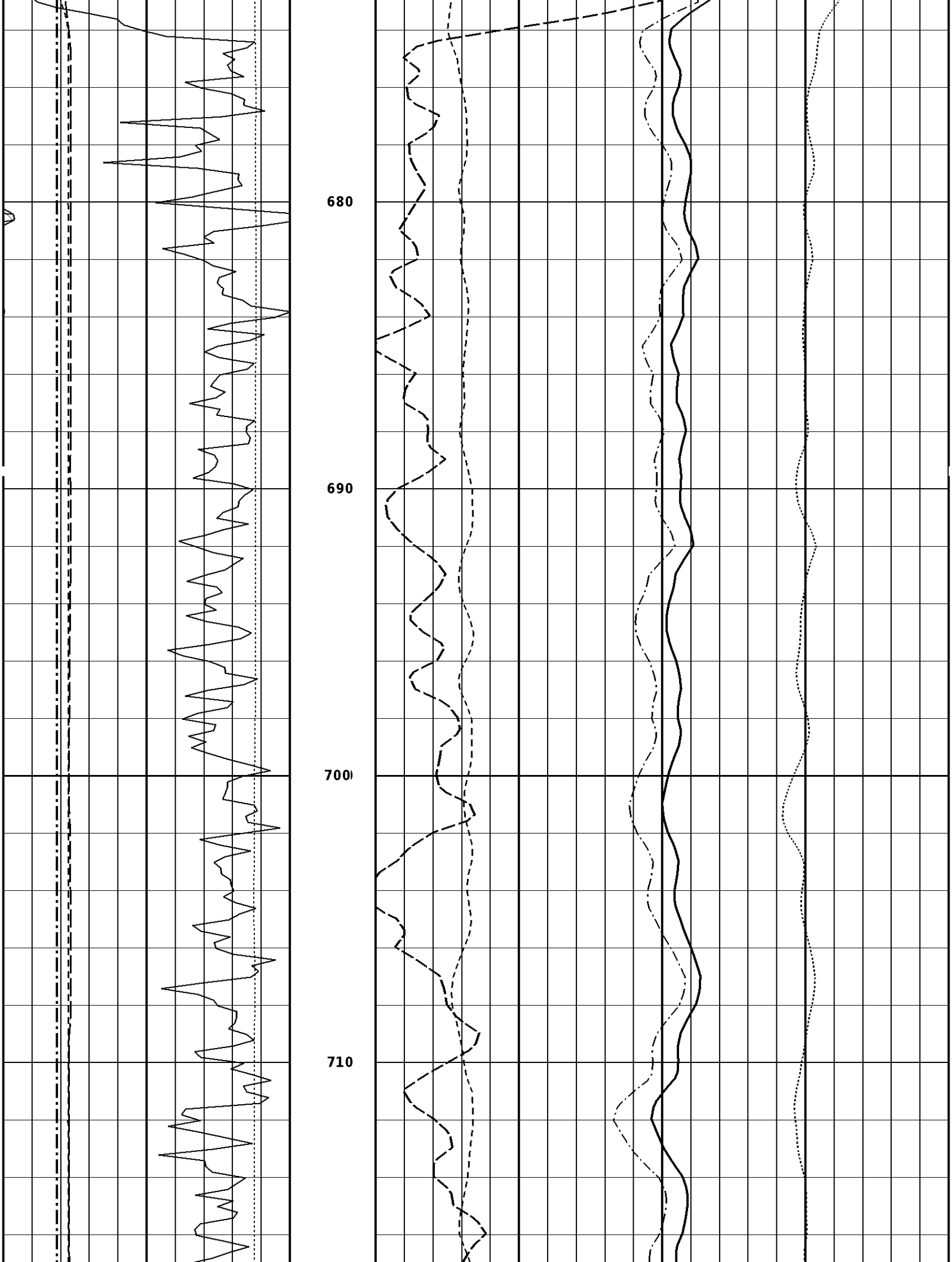

460
470
480
490

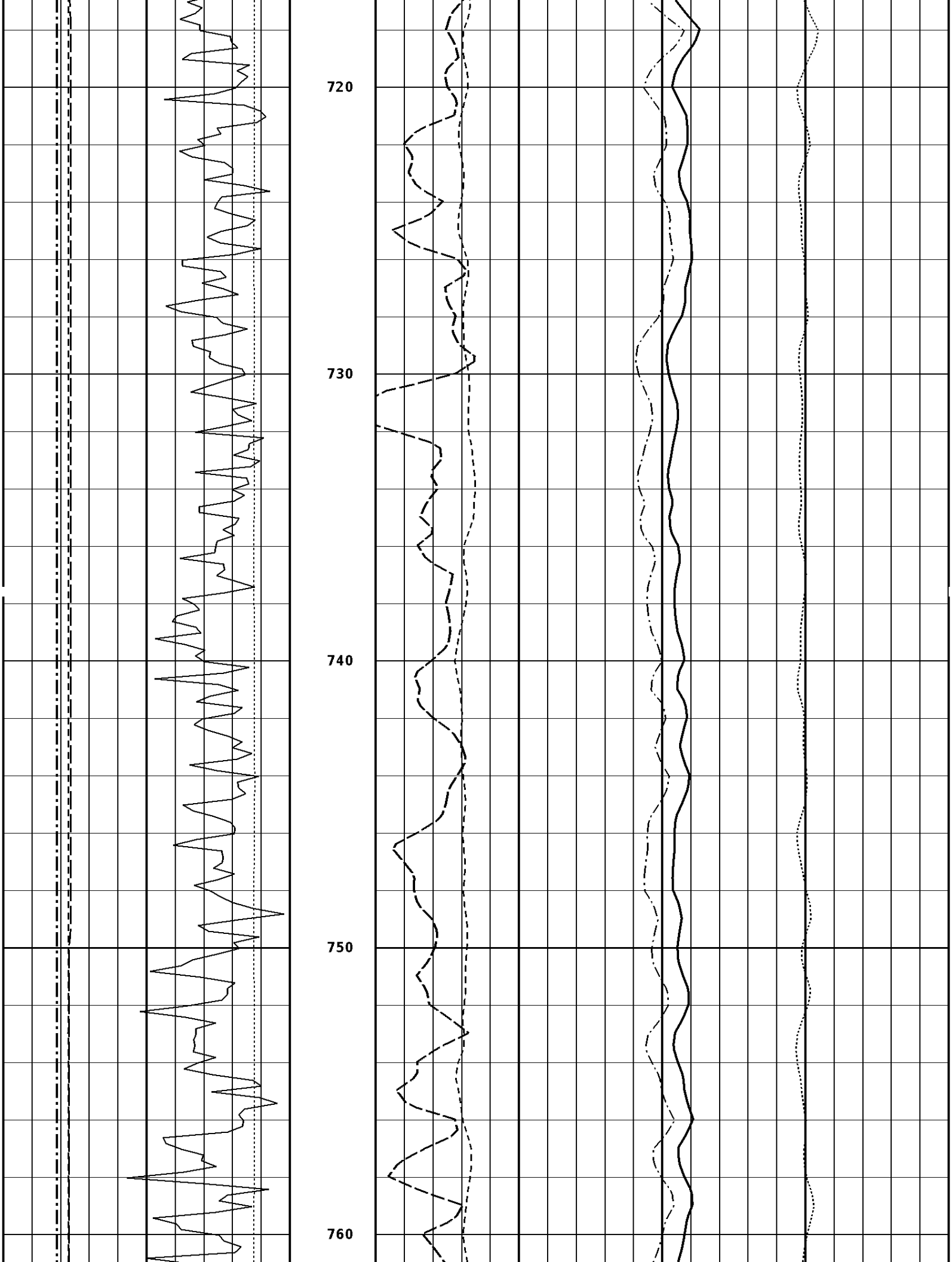

500
510
520
530
540

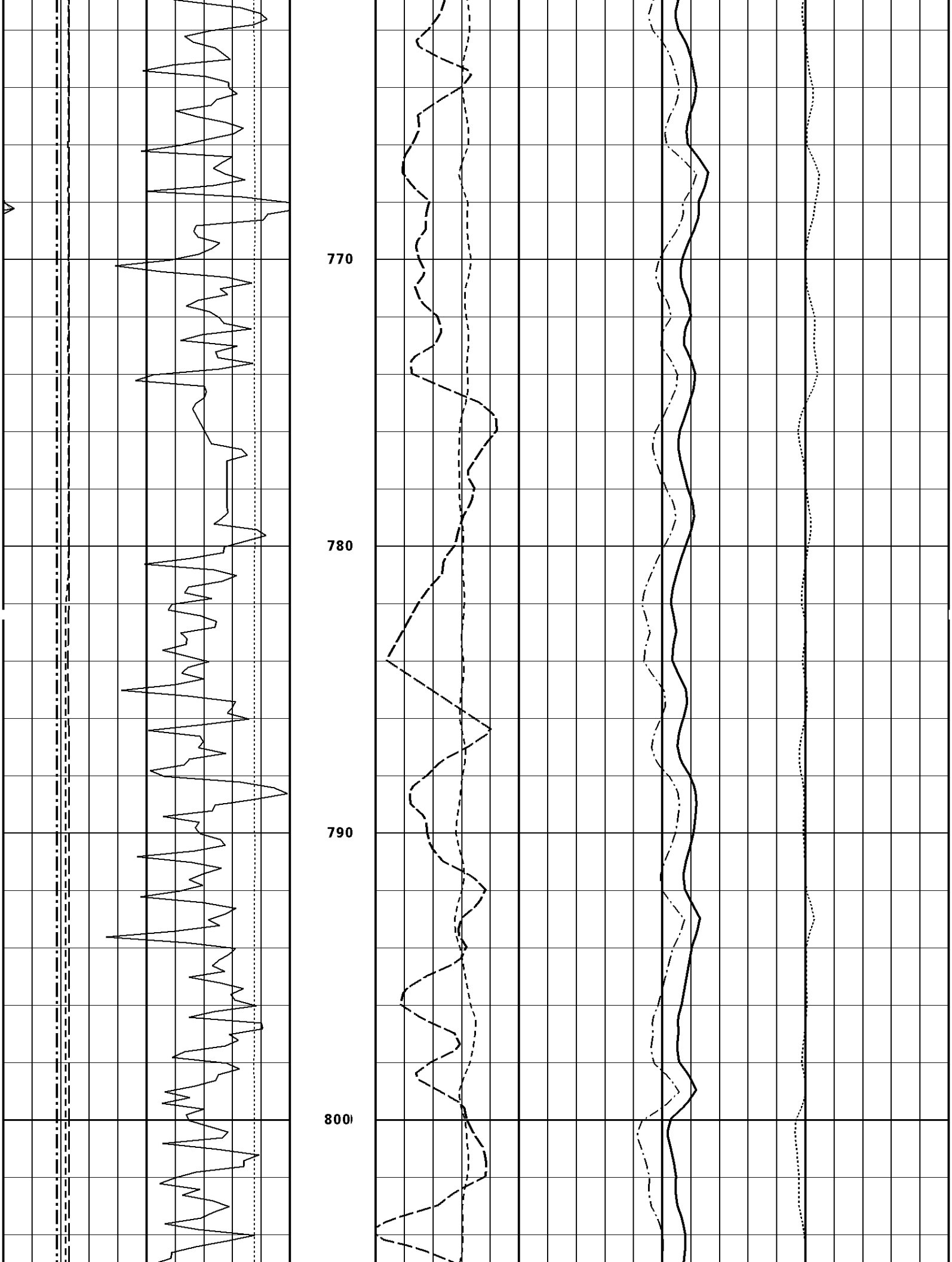

GRX
N CAL
LD CAL
550
560
570
580
PHIN
PECL
PORL
LDEN
LCOR

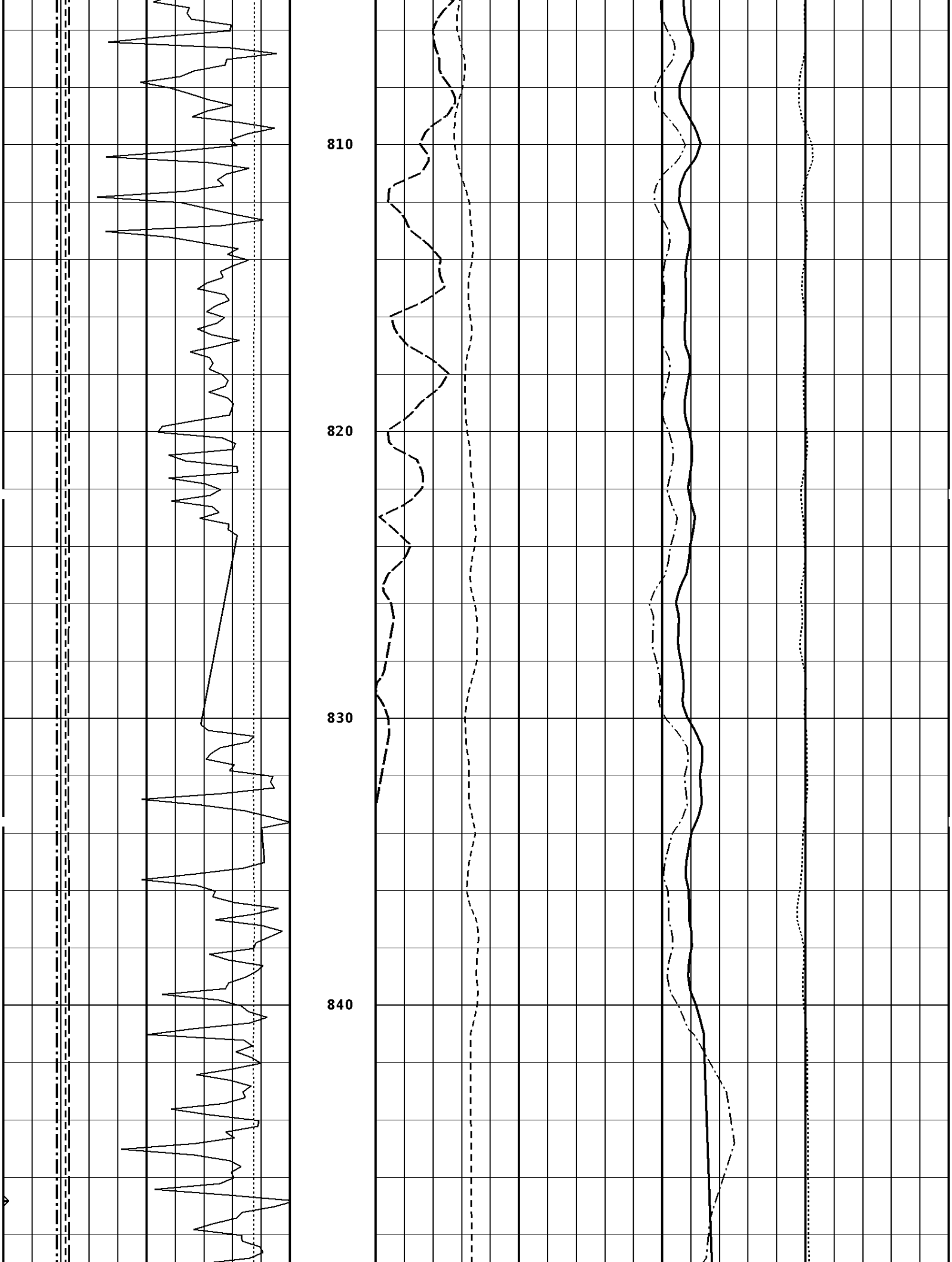

←BIT
←LWT
590
600
610
620

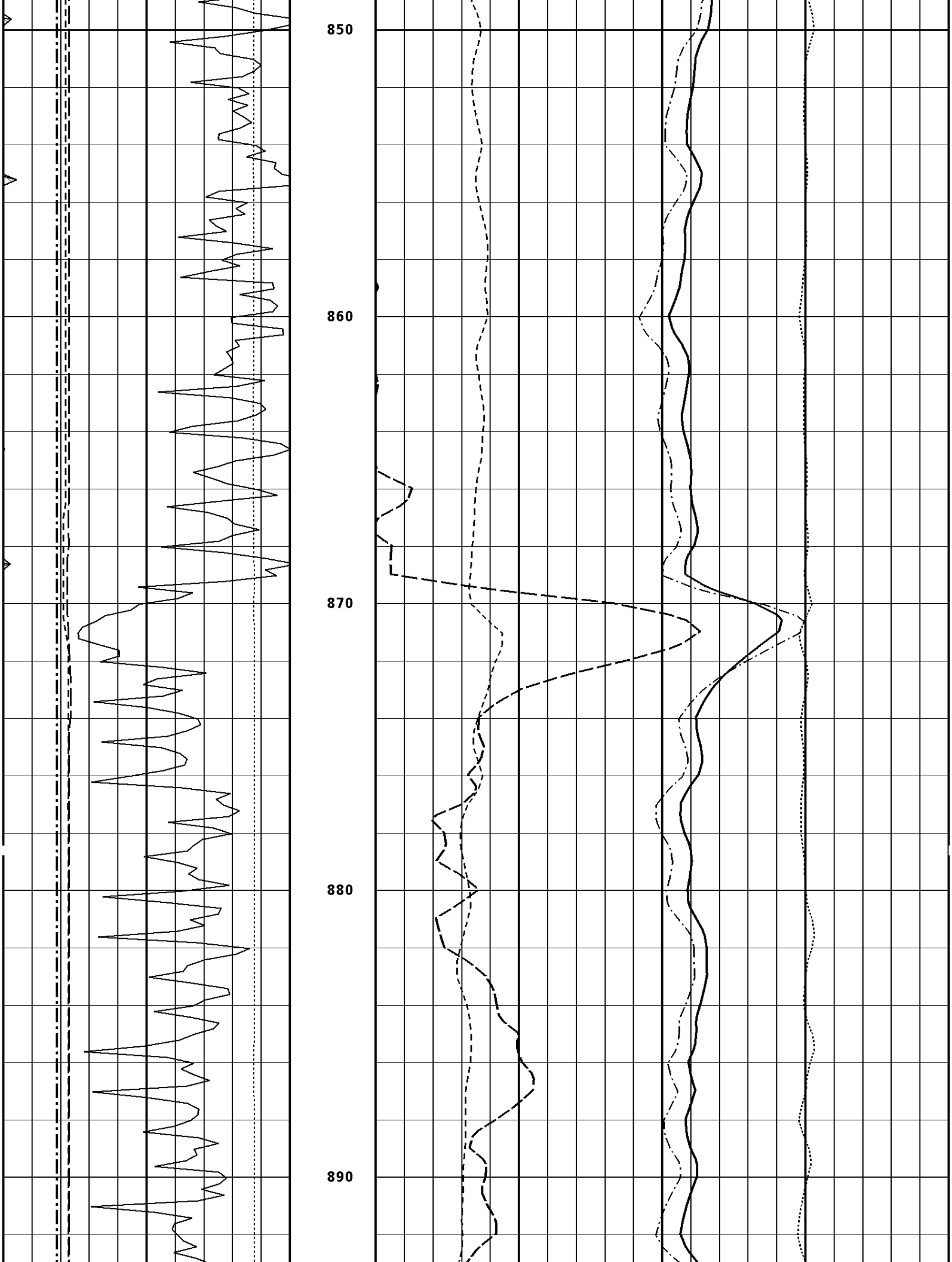

630
640
650
660
670

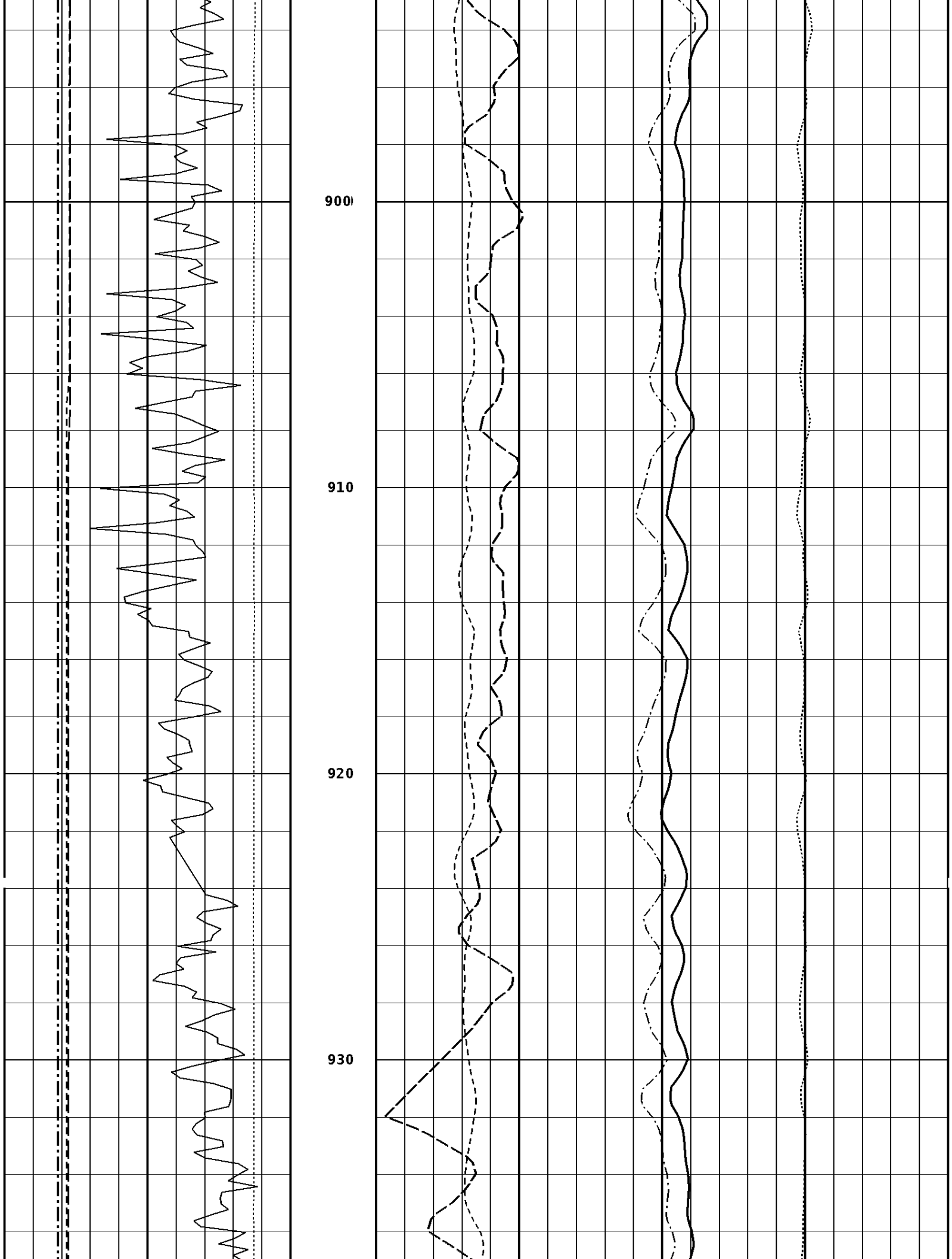

680
690
700
710

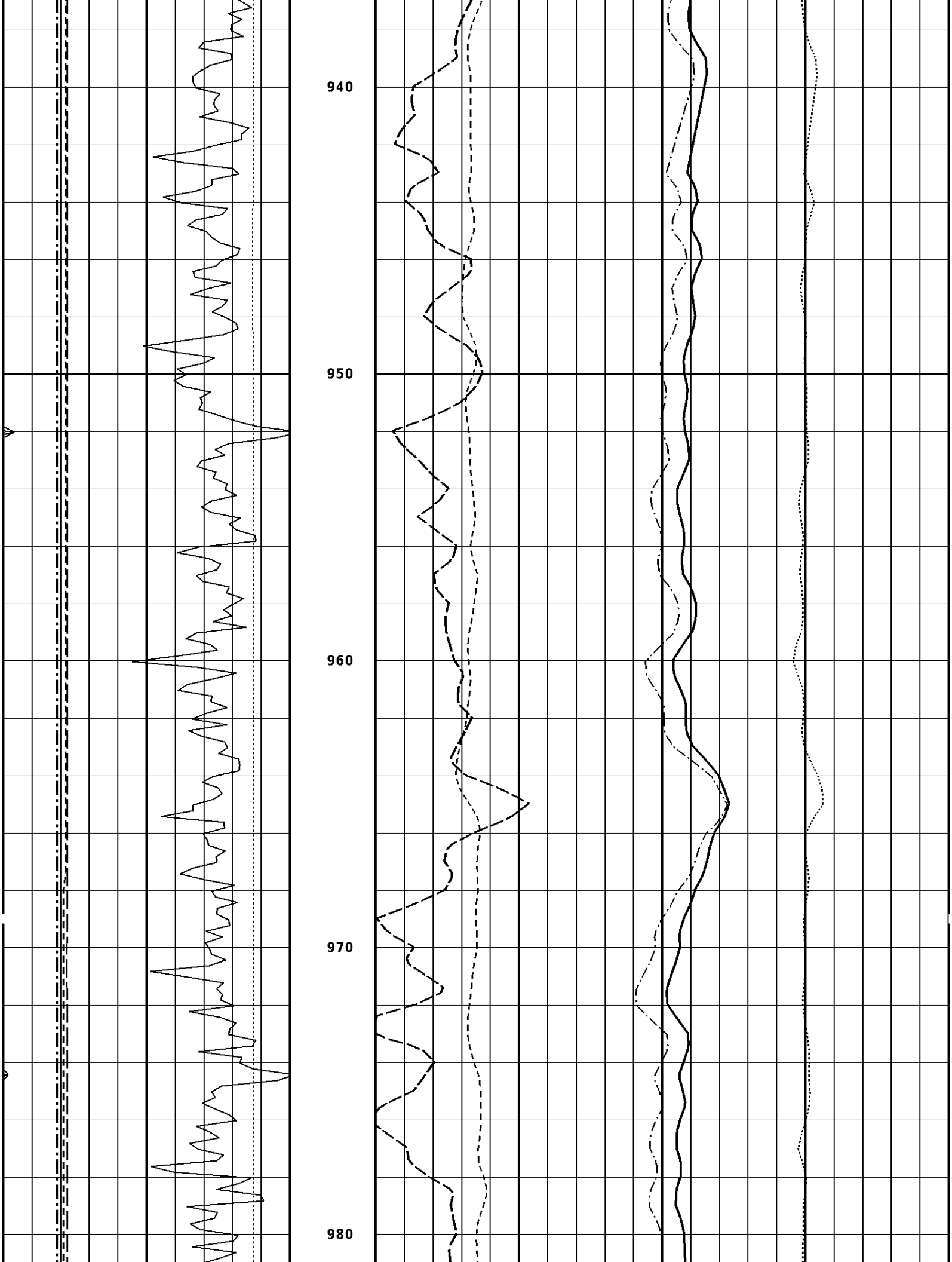

720
730
740
750
760

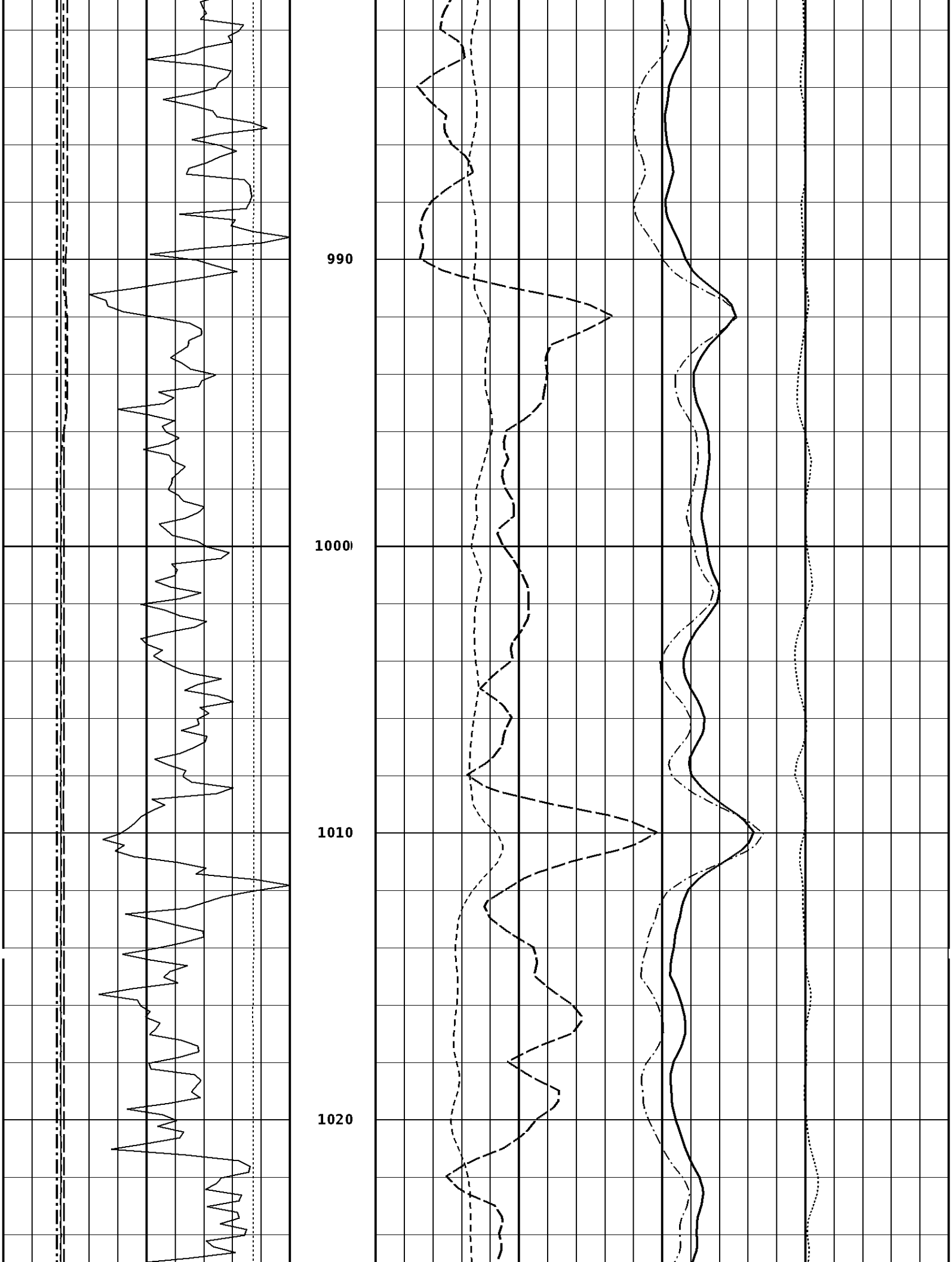

770
780
790
800

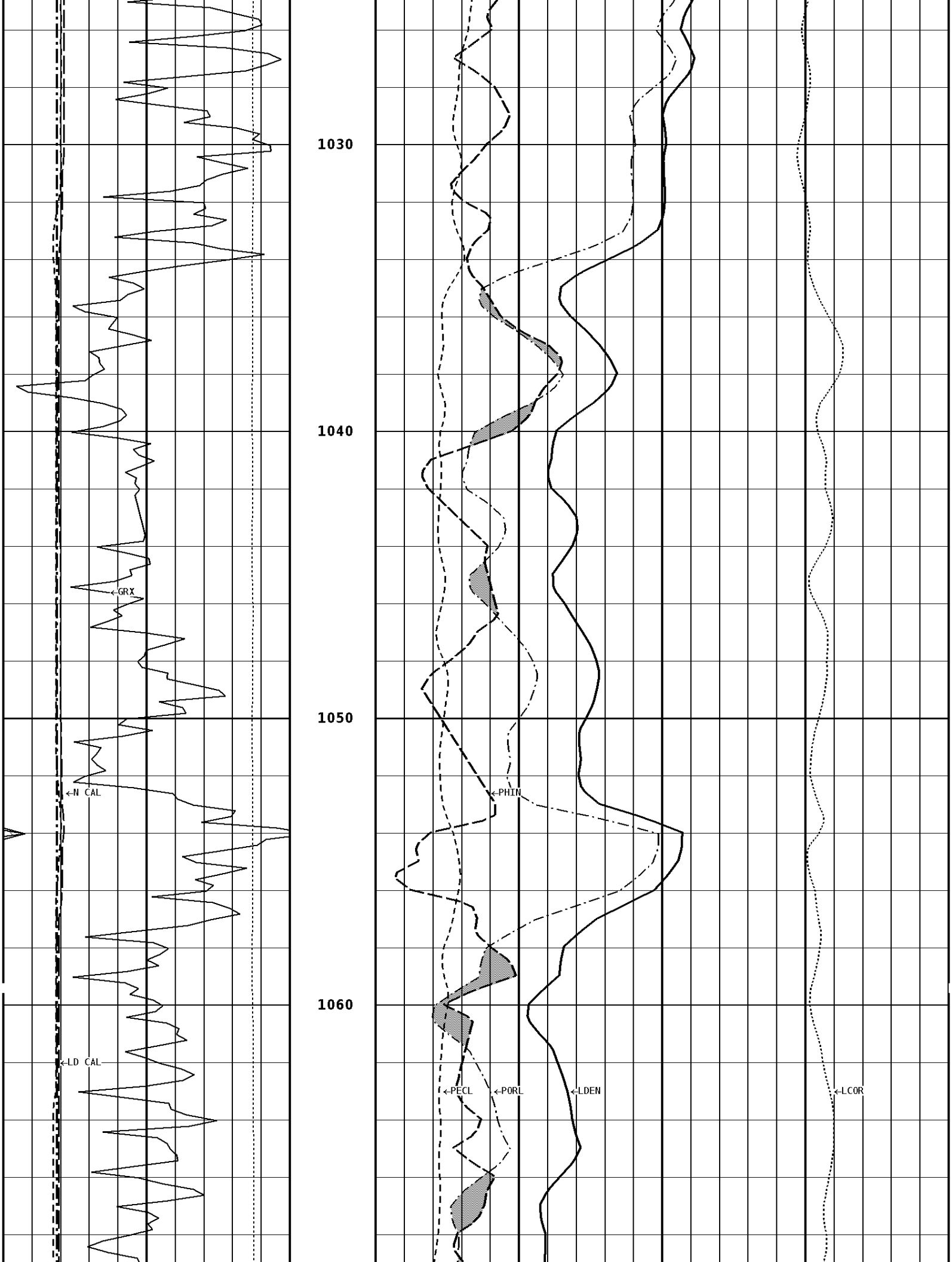

810
820
830
840

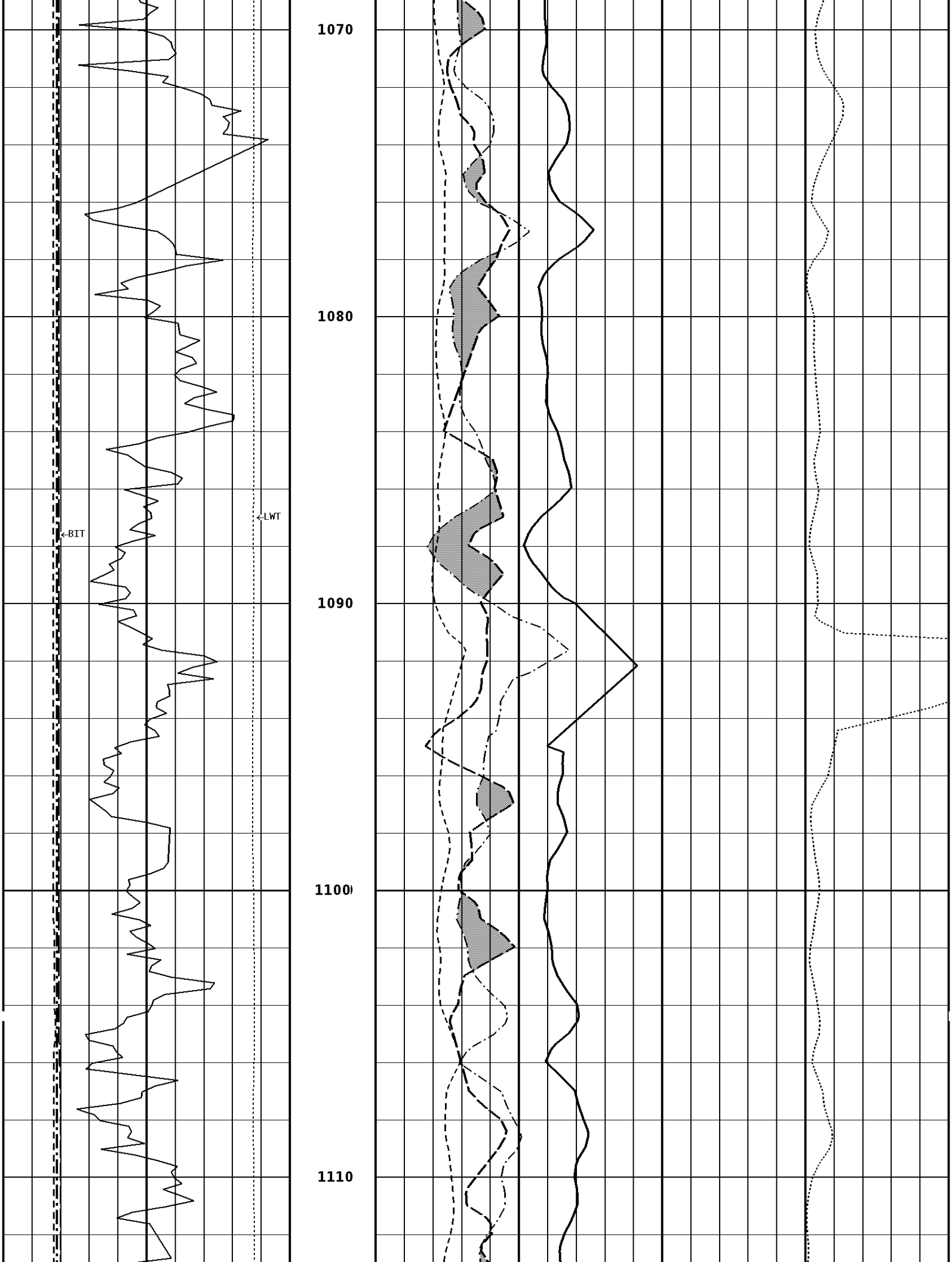

850
860
870
880
890

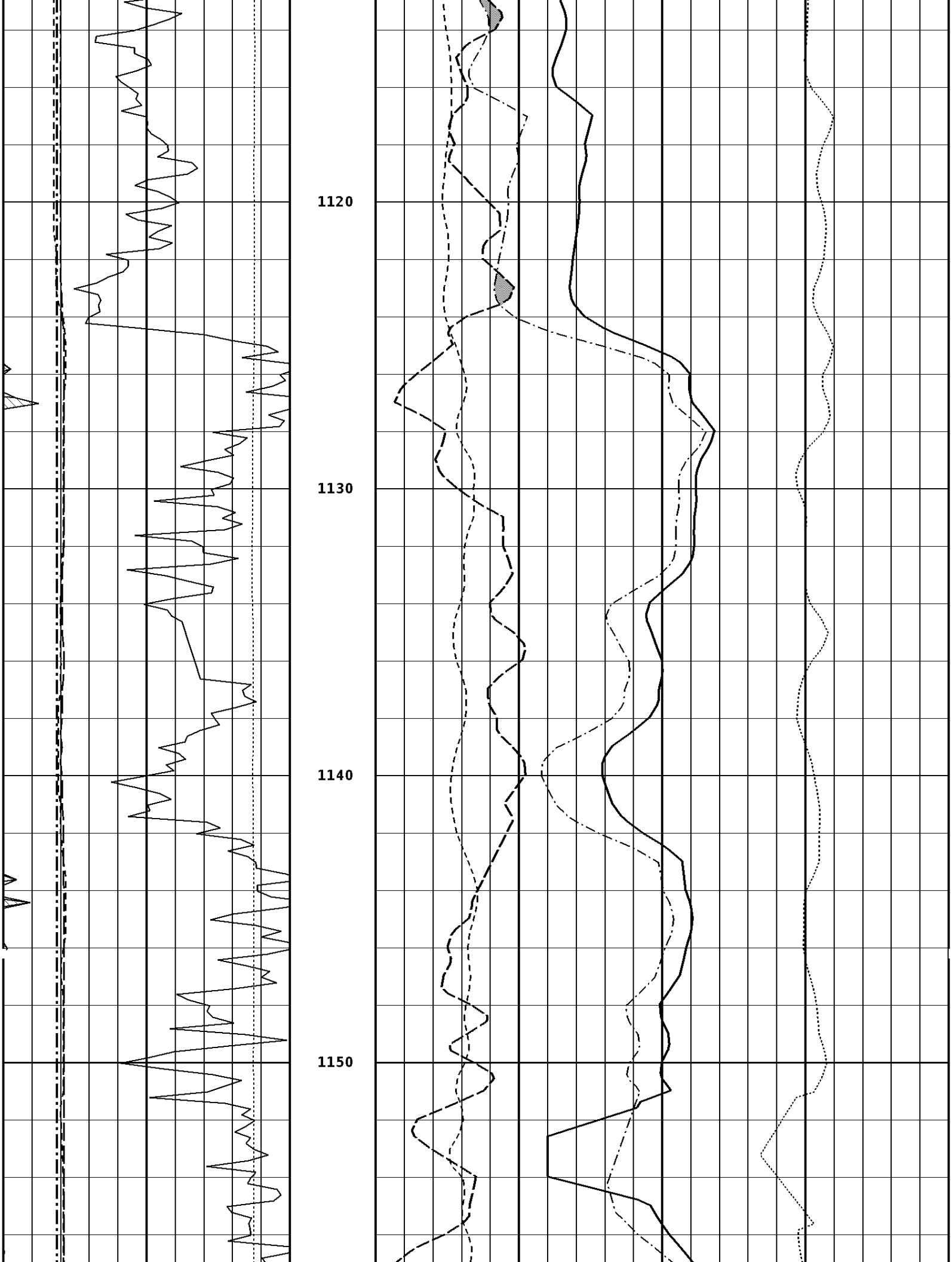

900
910
920
930

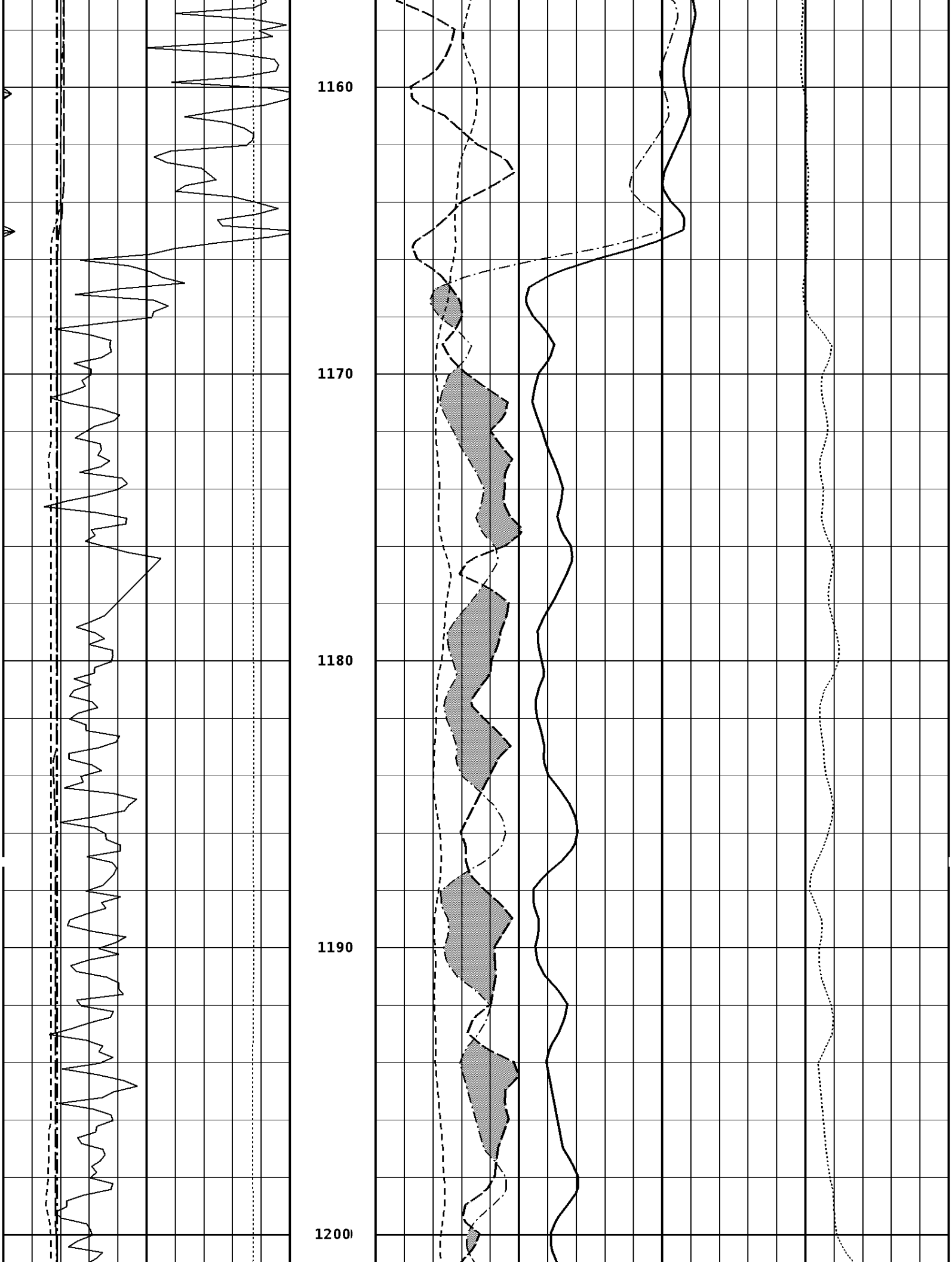

940
950
960
970
980

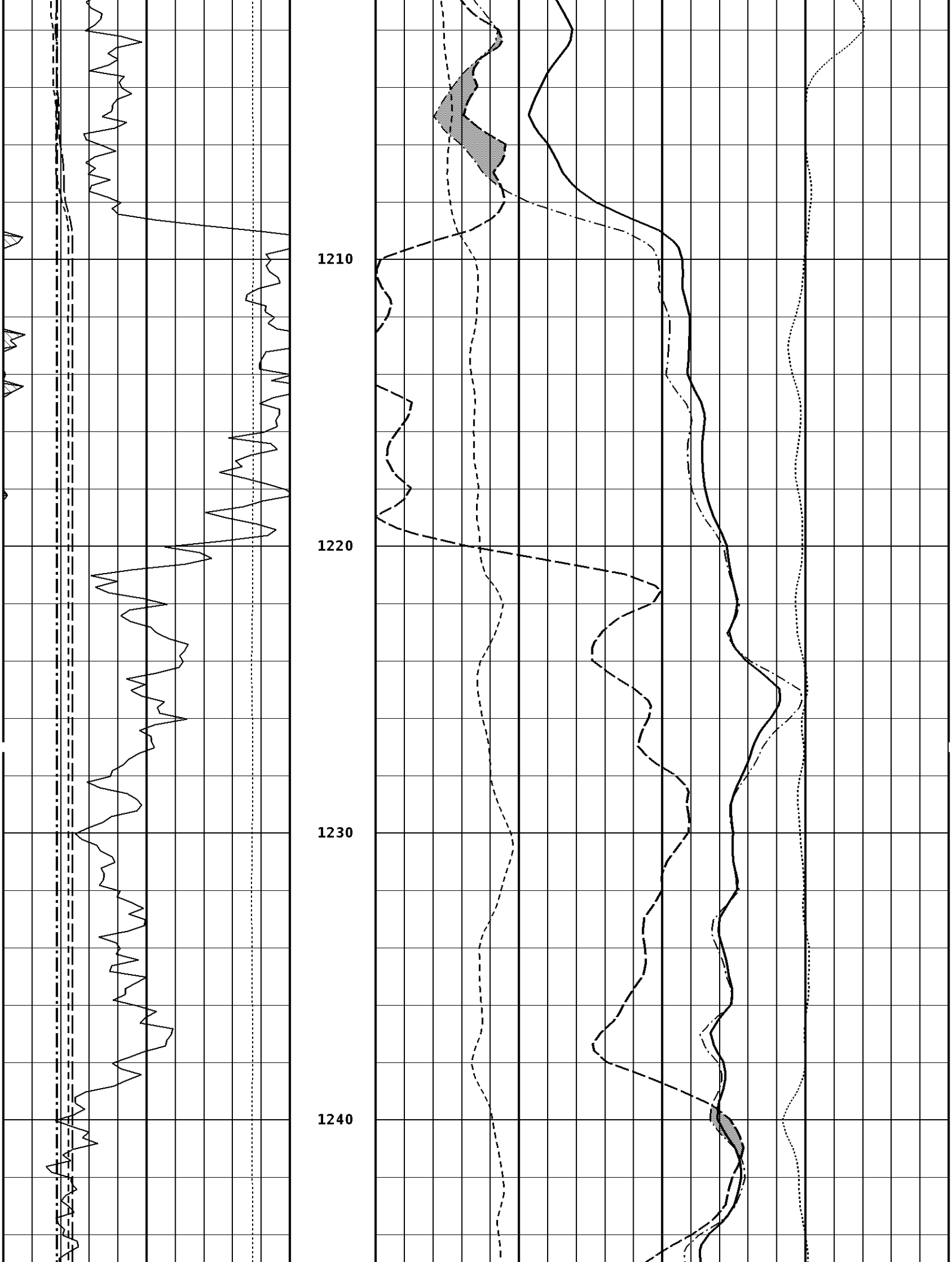

990
1000
1010
1020

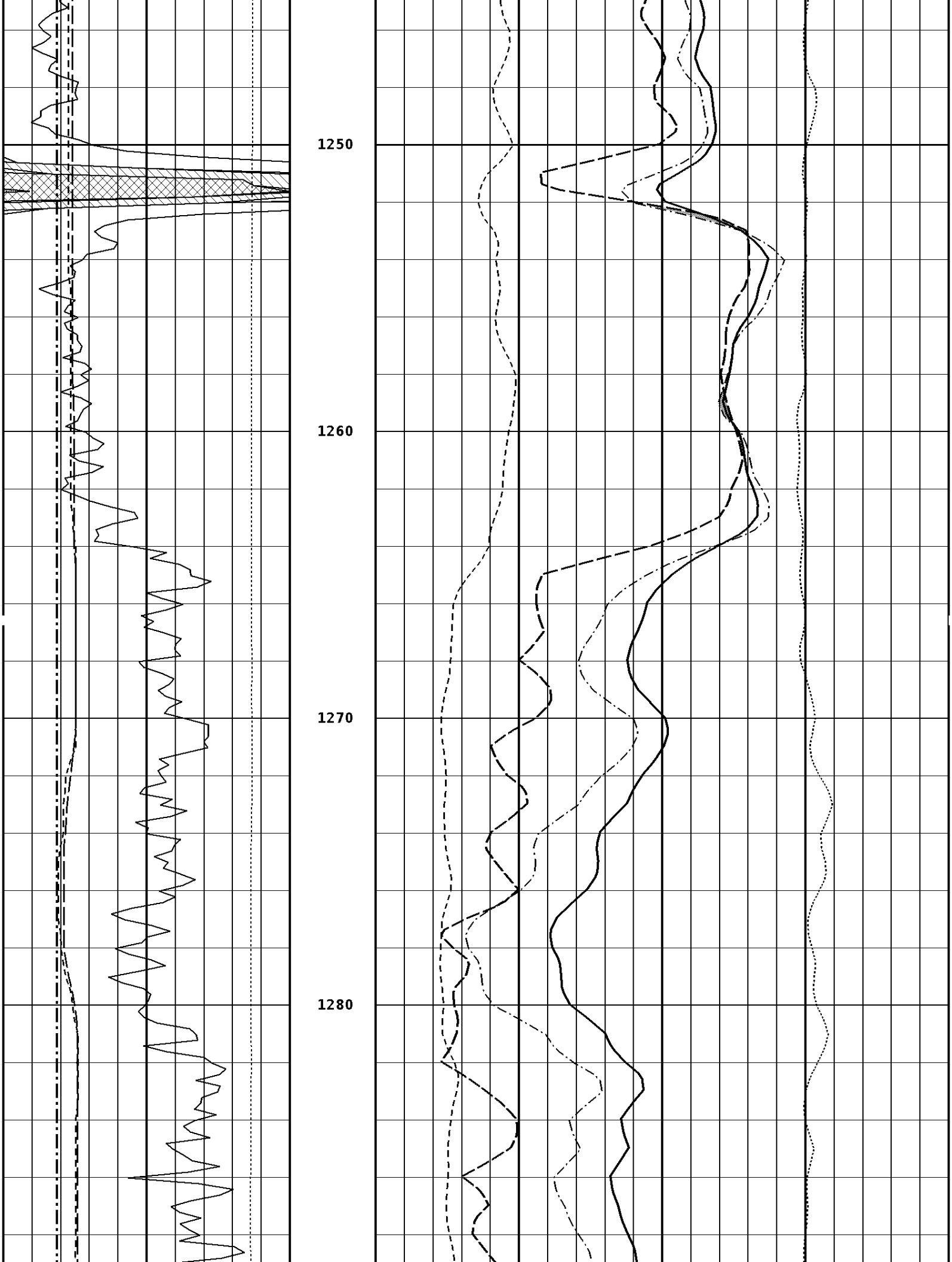

1030
1040
1050
1060
GRX
N CAL
LD CAL
PHIN
PECL
PORL
LDEN
LCOR

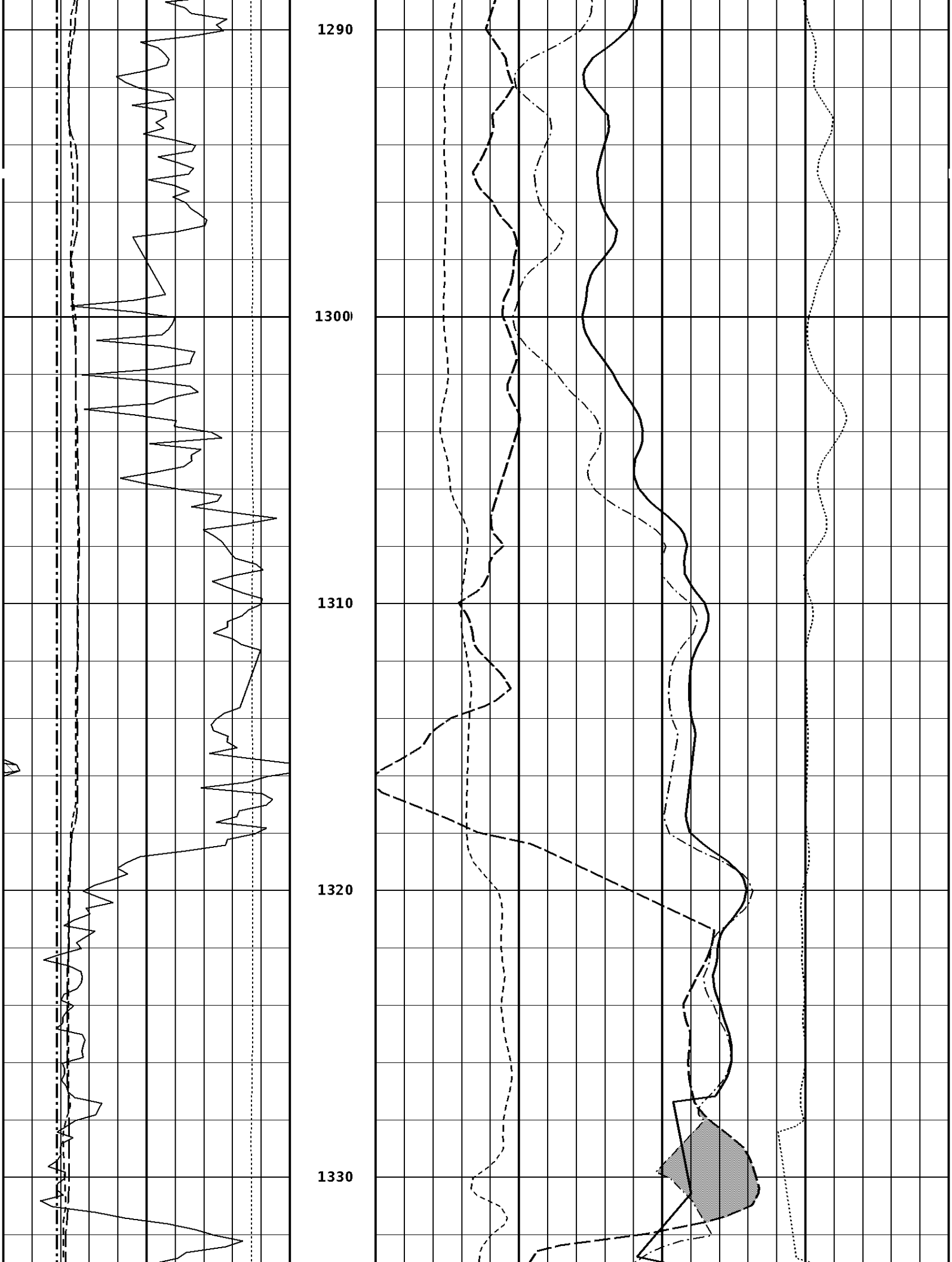

1070
1080
1090
1100
1110
←BIT
←LWT

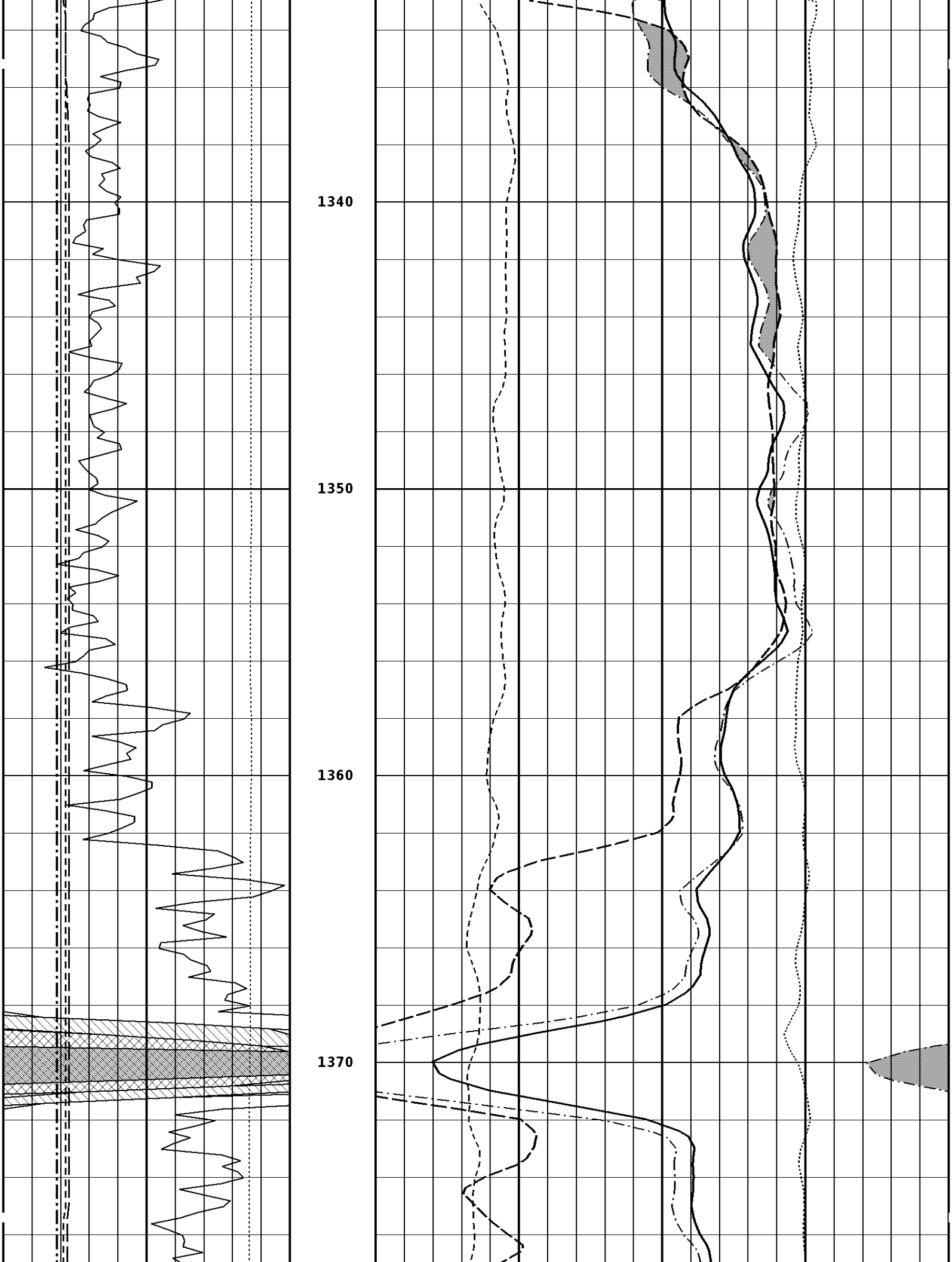

1120
1130
1140
1150

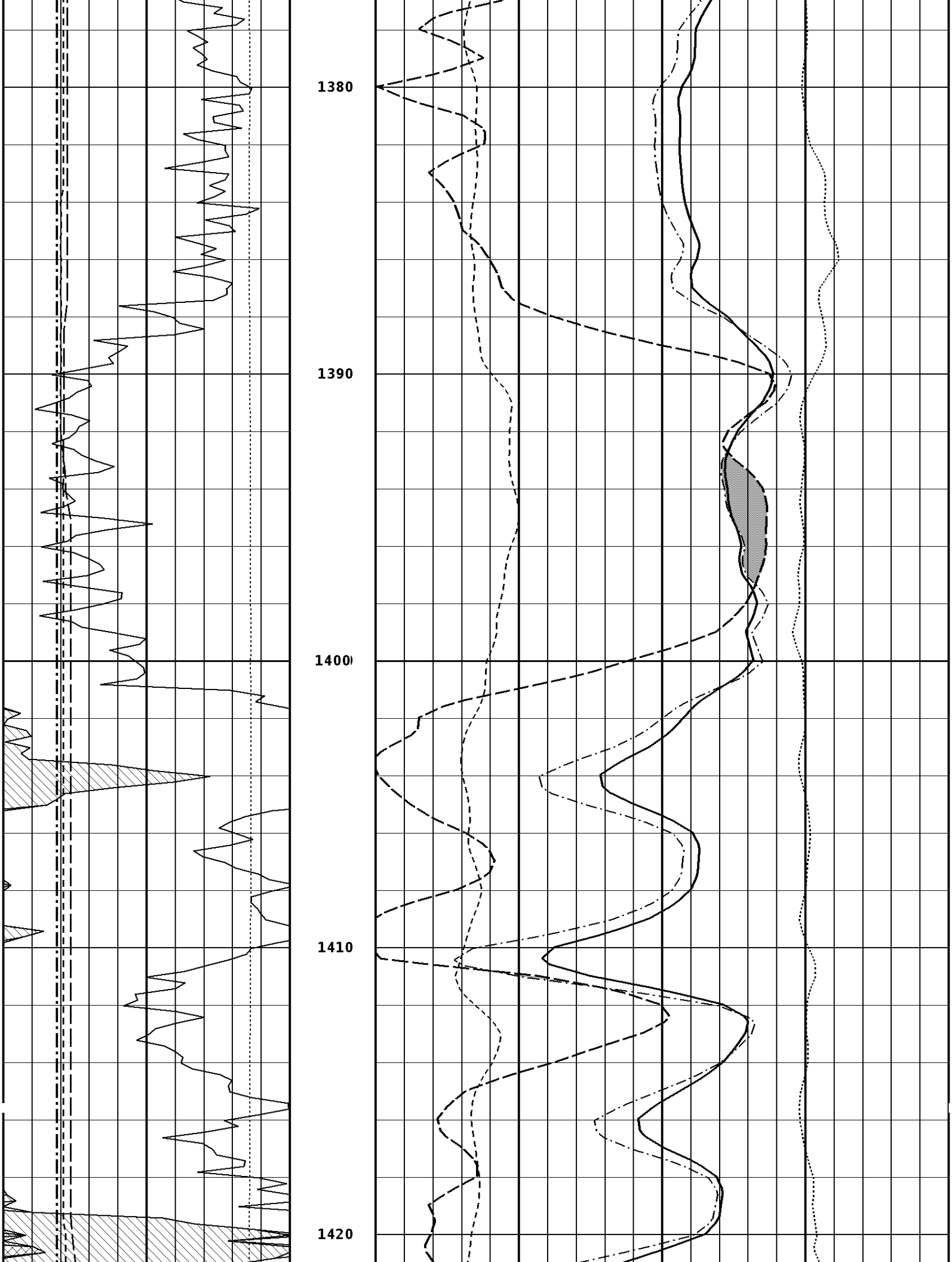

1160
1170
1180
1190
1200

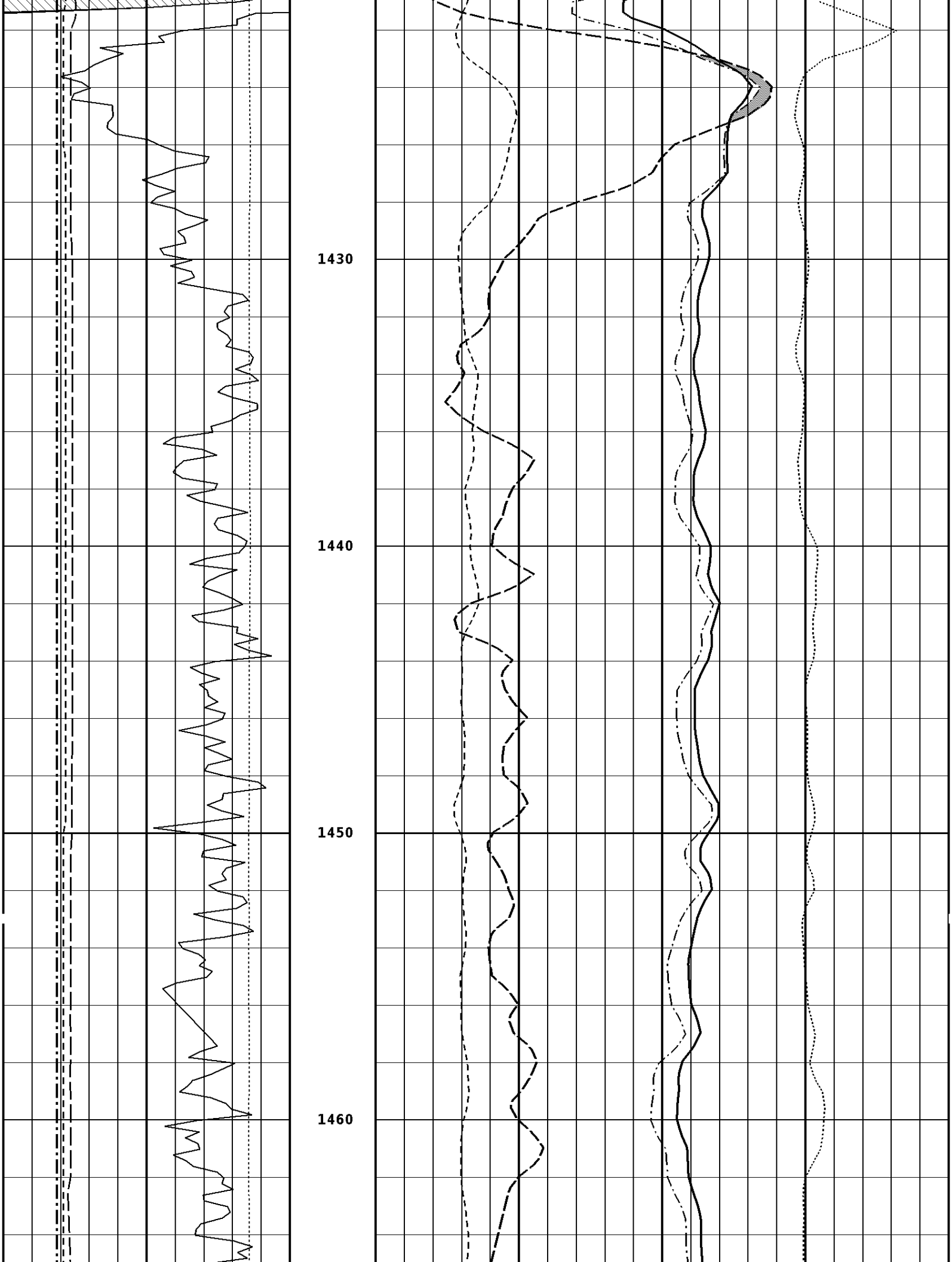

1210
1220
1230
1240

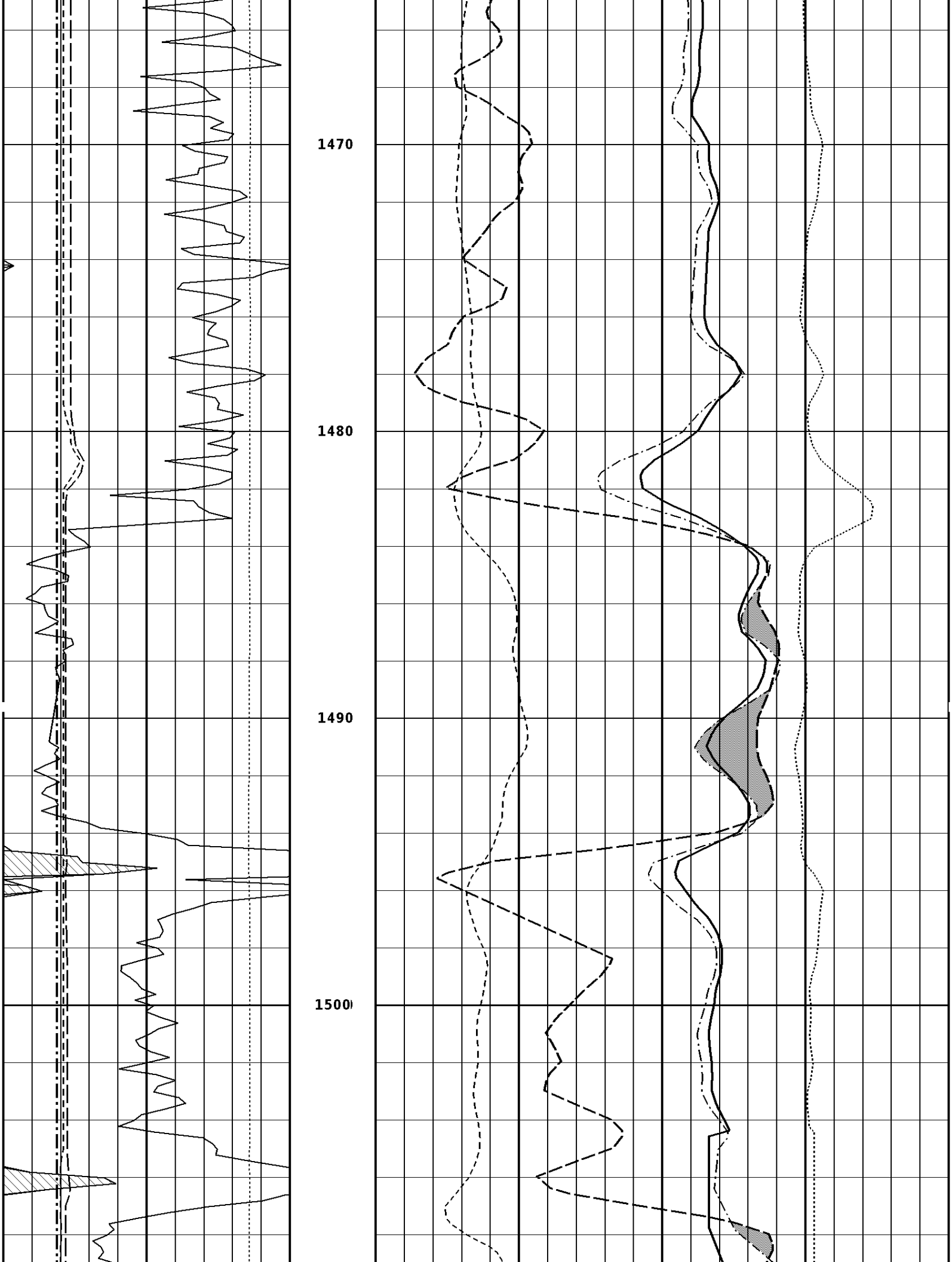

1250
1260
1270
1280

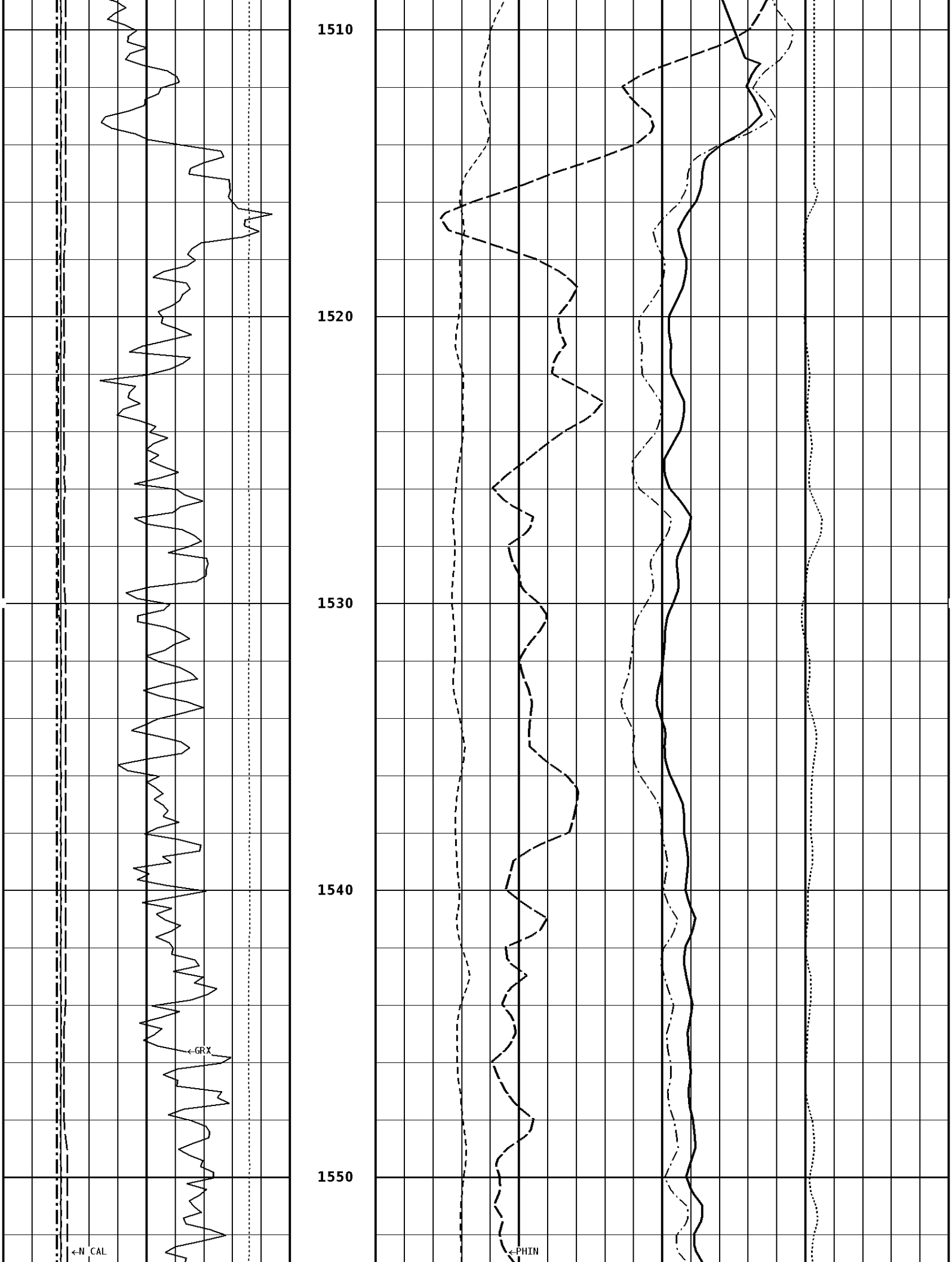

1290
1300
1310
1320
1330

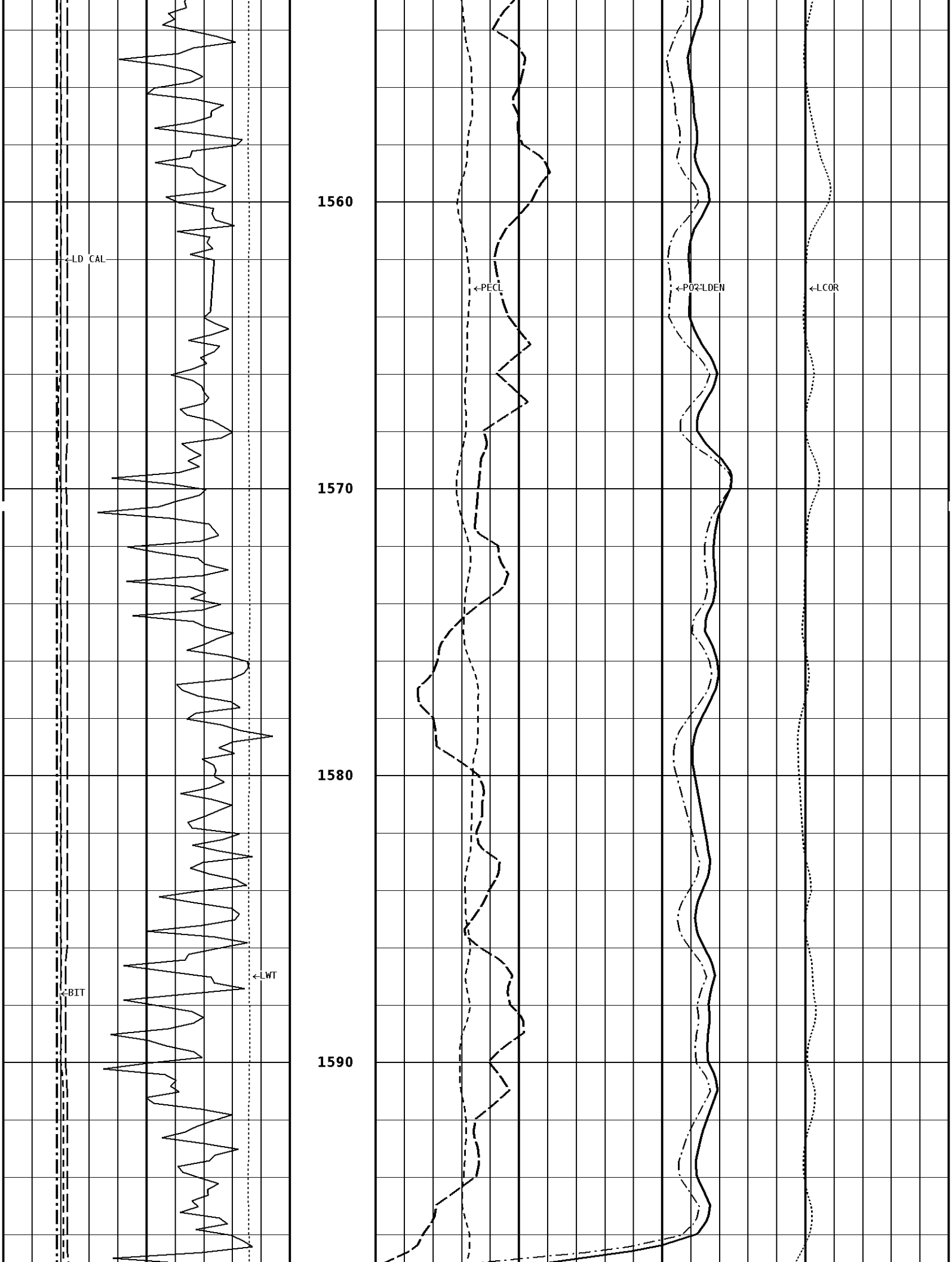

1340
1350
1360
1370

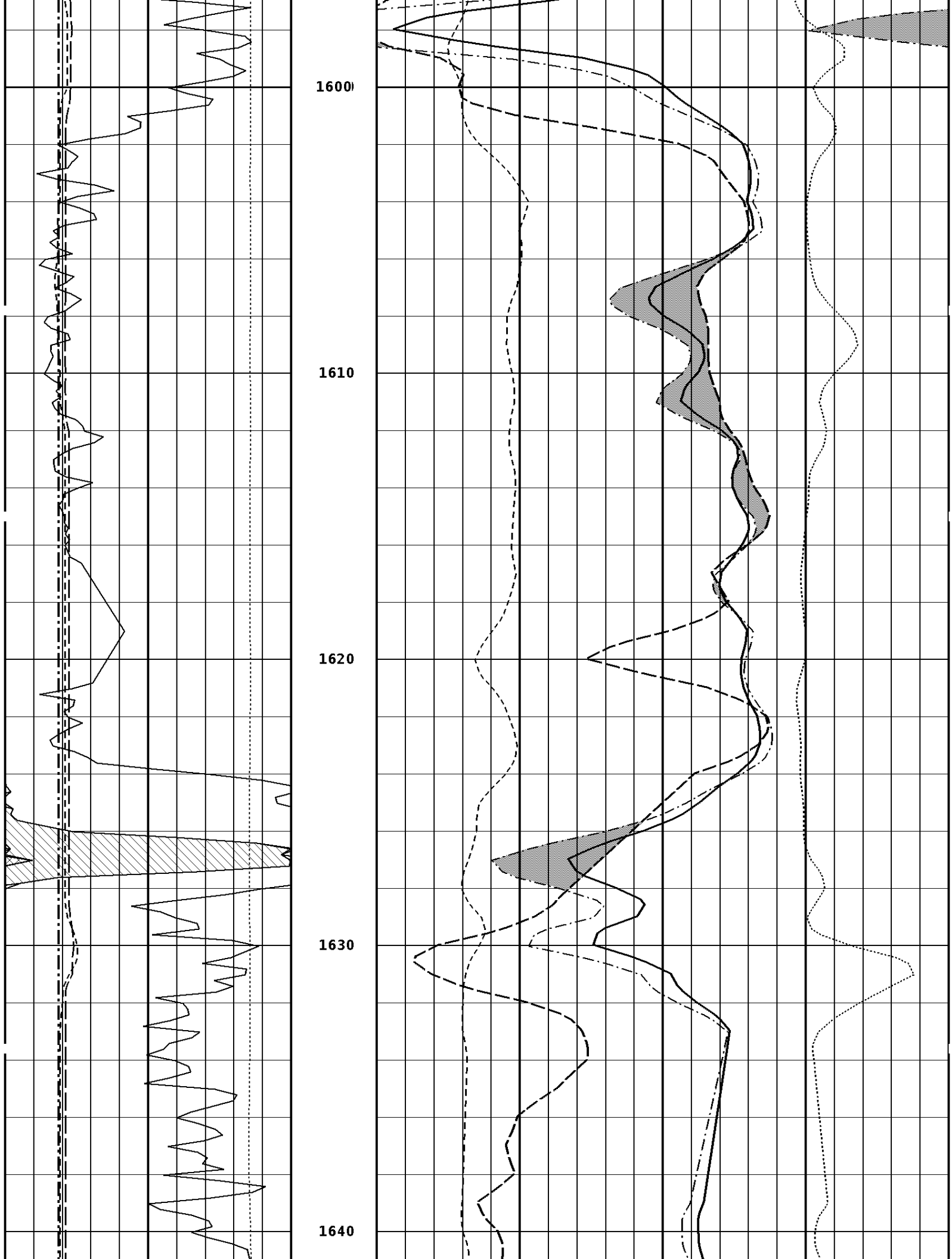

1380
1390
1400
1410
1420

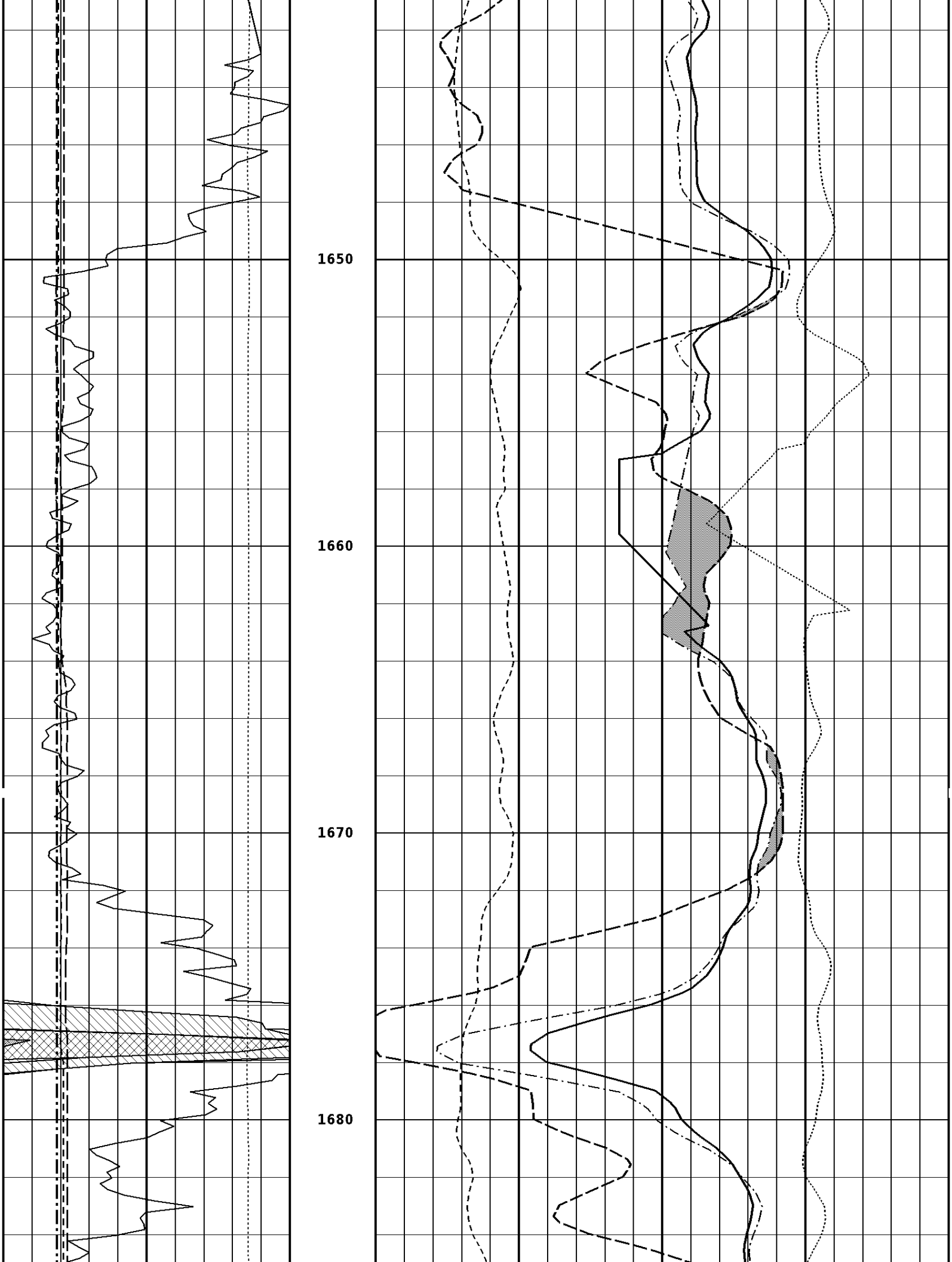

1430
1440
1450
1460

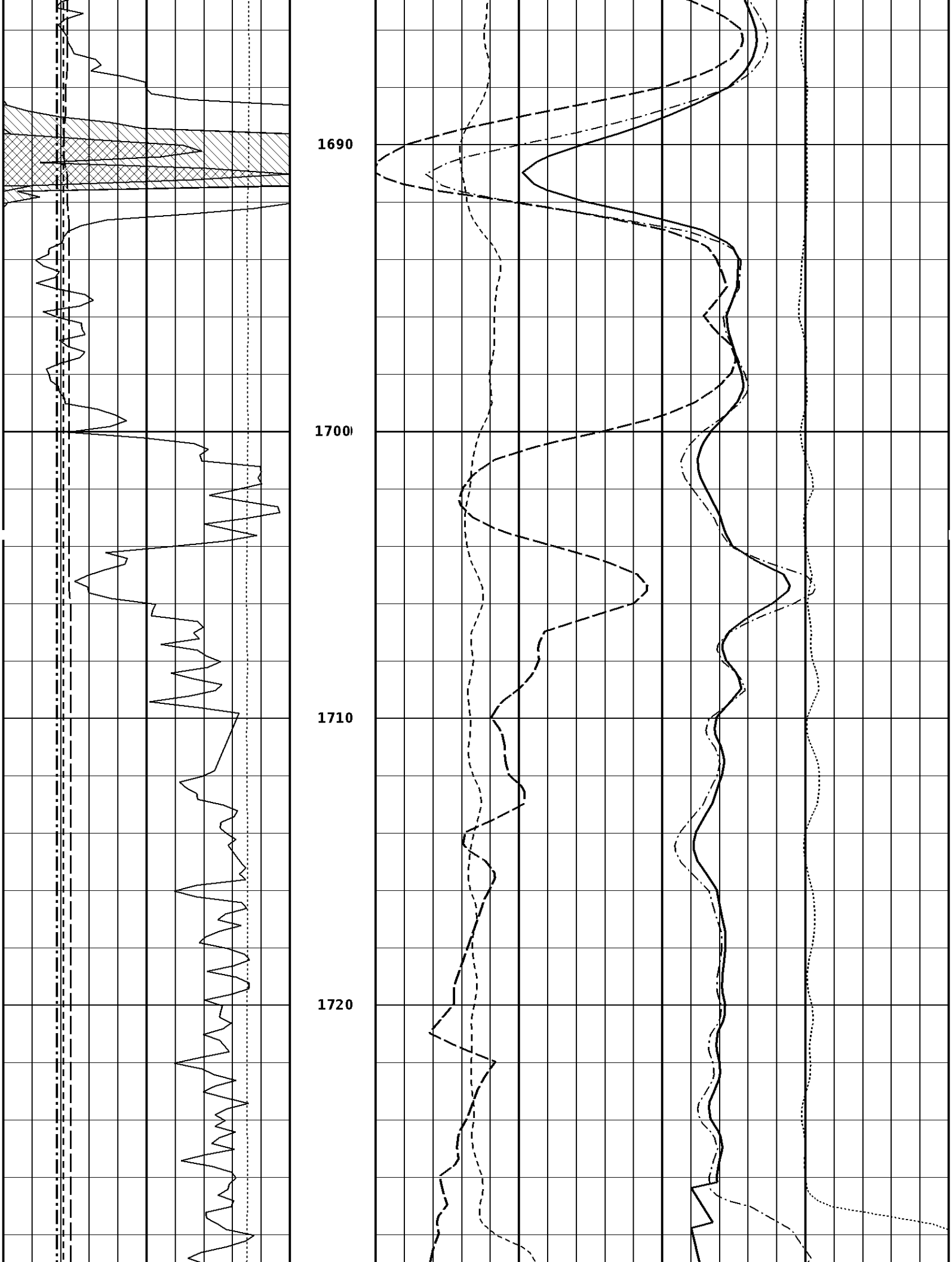

1470
1480
1490
1500

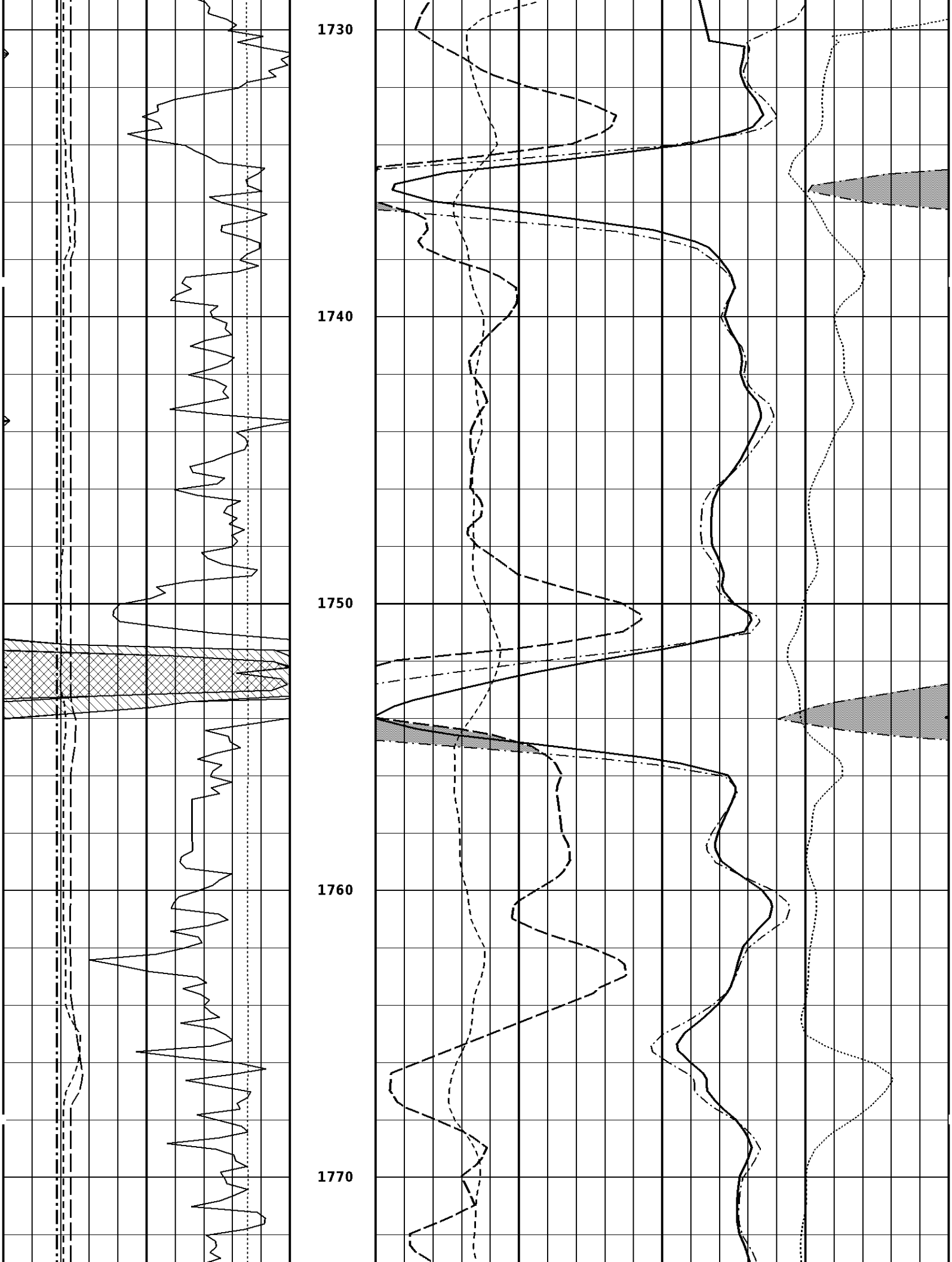

1510
1520
1530
1540
1550
GRX
N CAL
PHIN

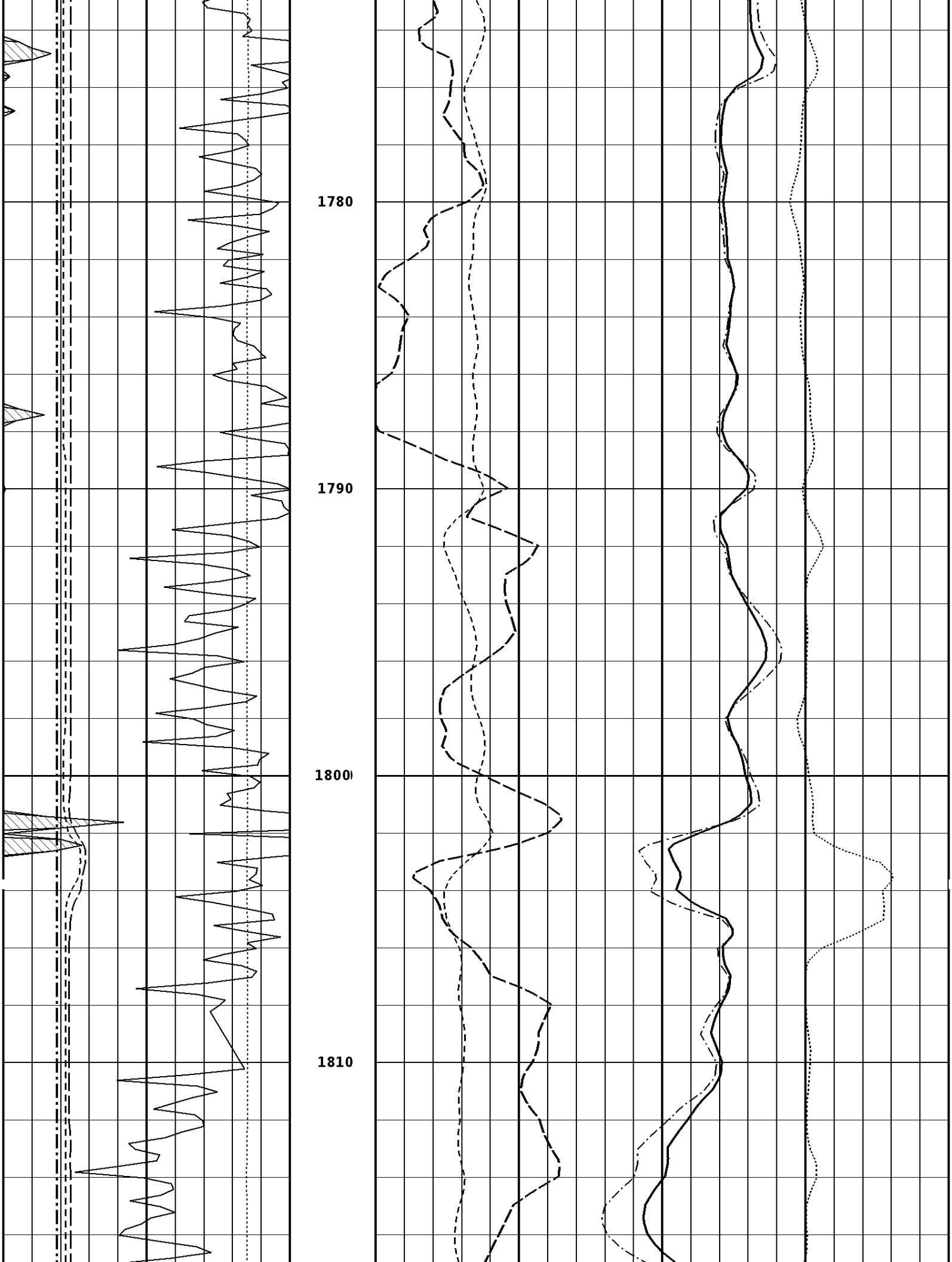

1560
1570
1580
1590
LD CAL
BIT
LWT
PECL
POR LDEN
LCOR

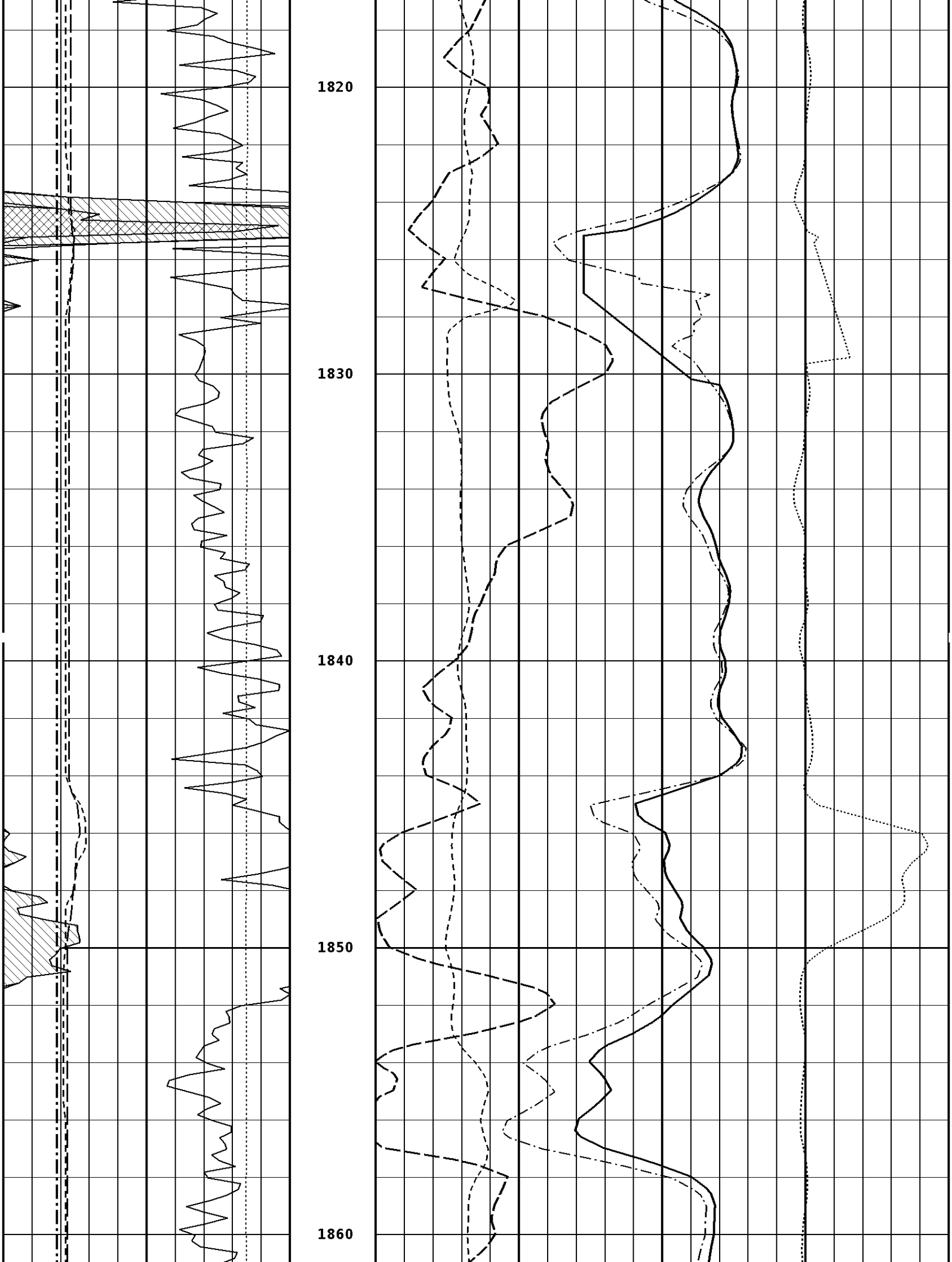

1600
1610
1620
1630
1640

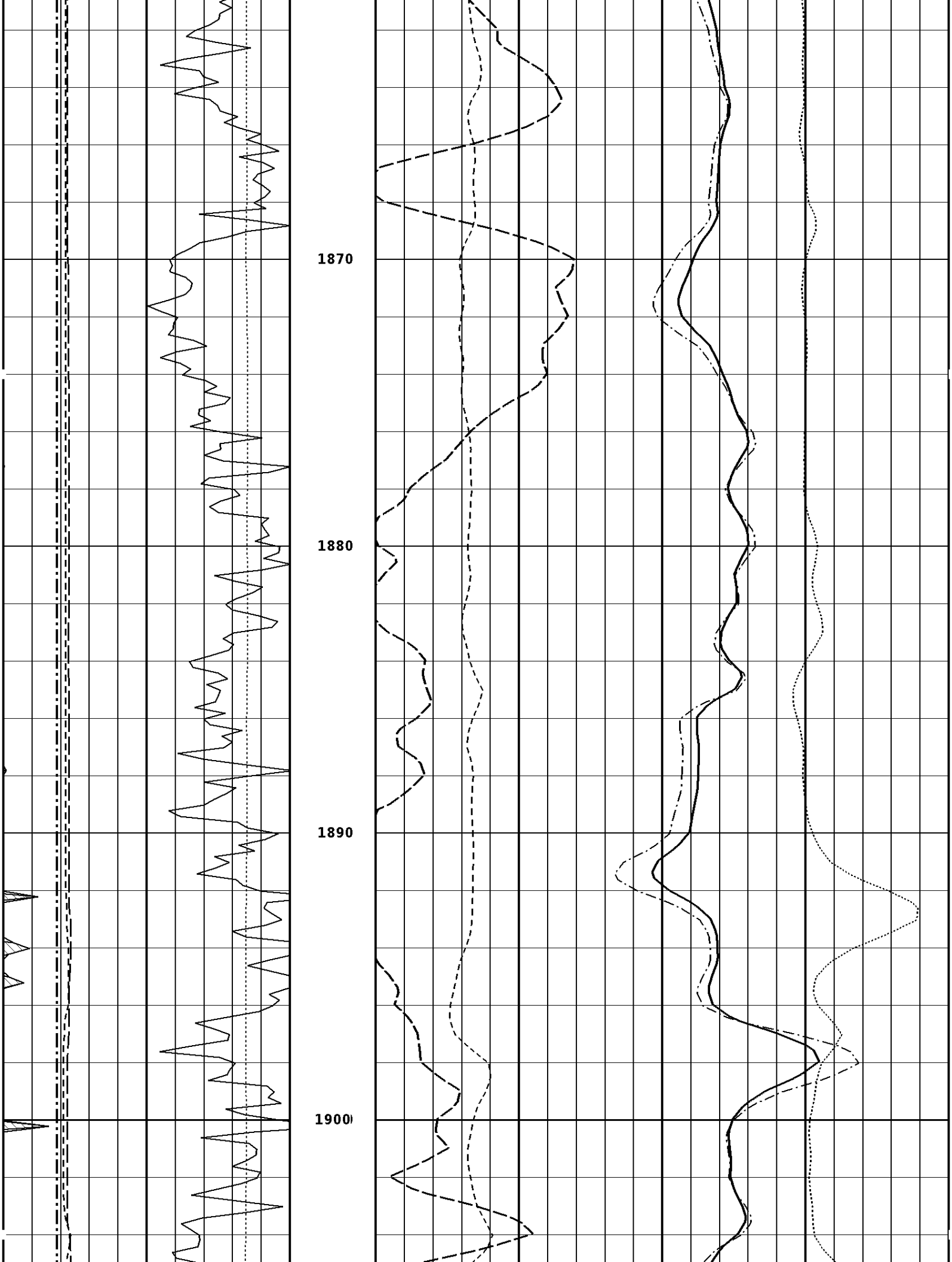

1650
1660
1670
1680

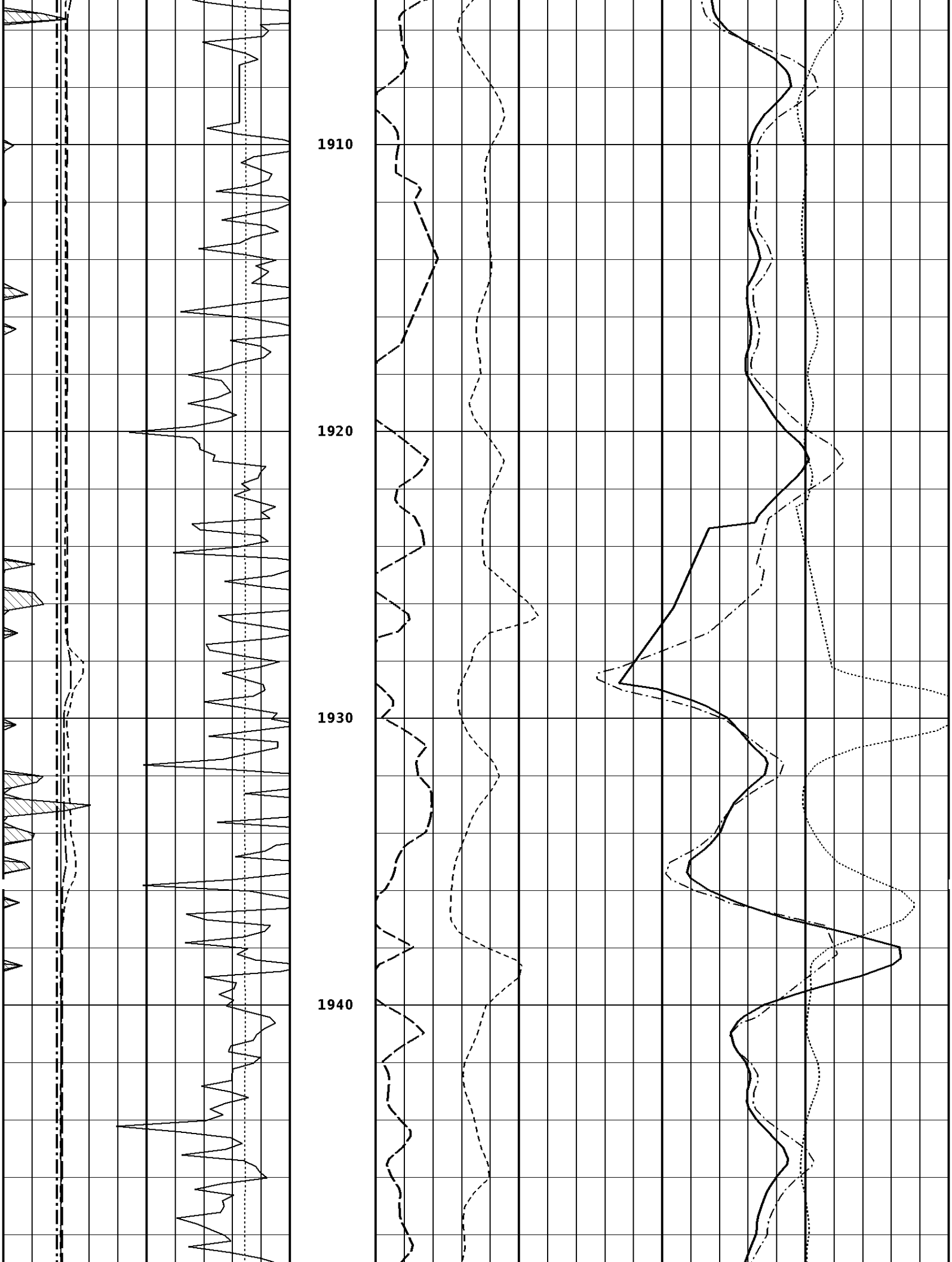

1690
1700
1710
1720

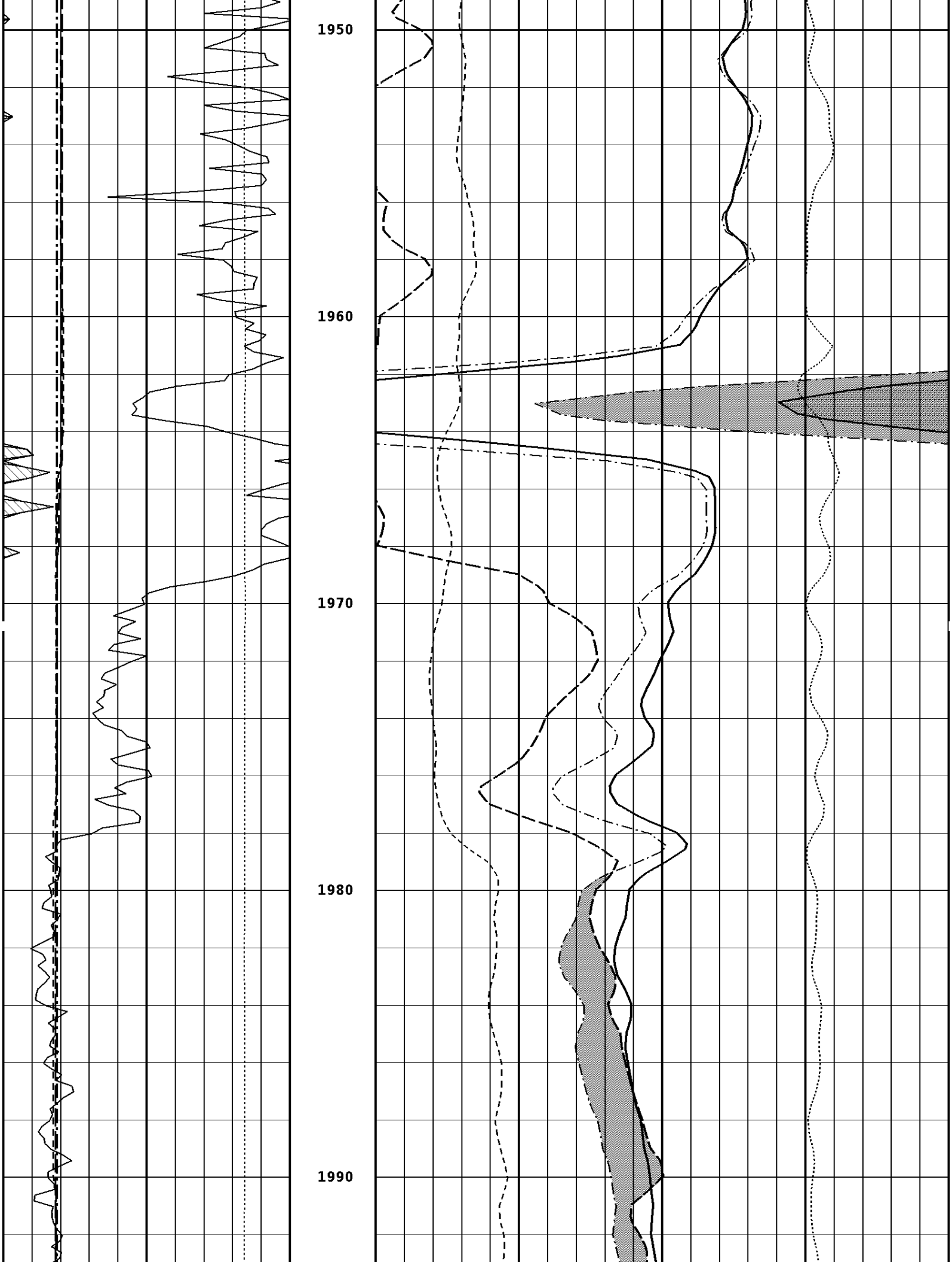

1730
1740
1750
1760
1770

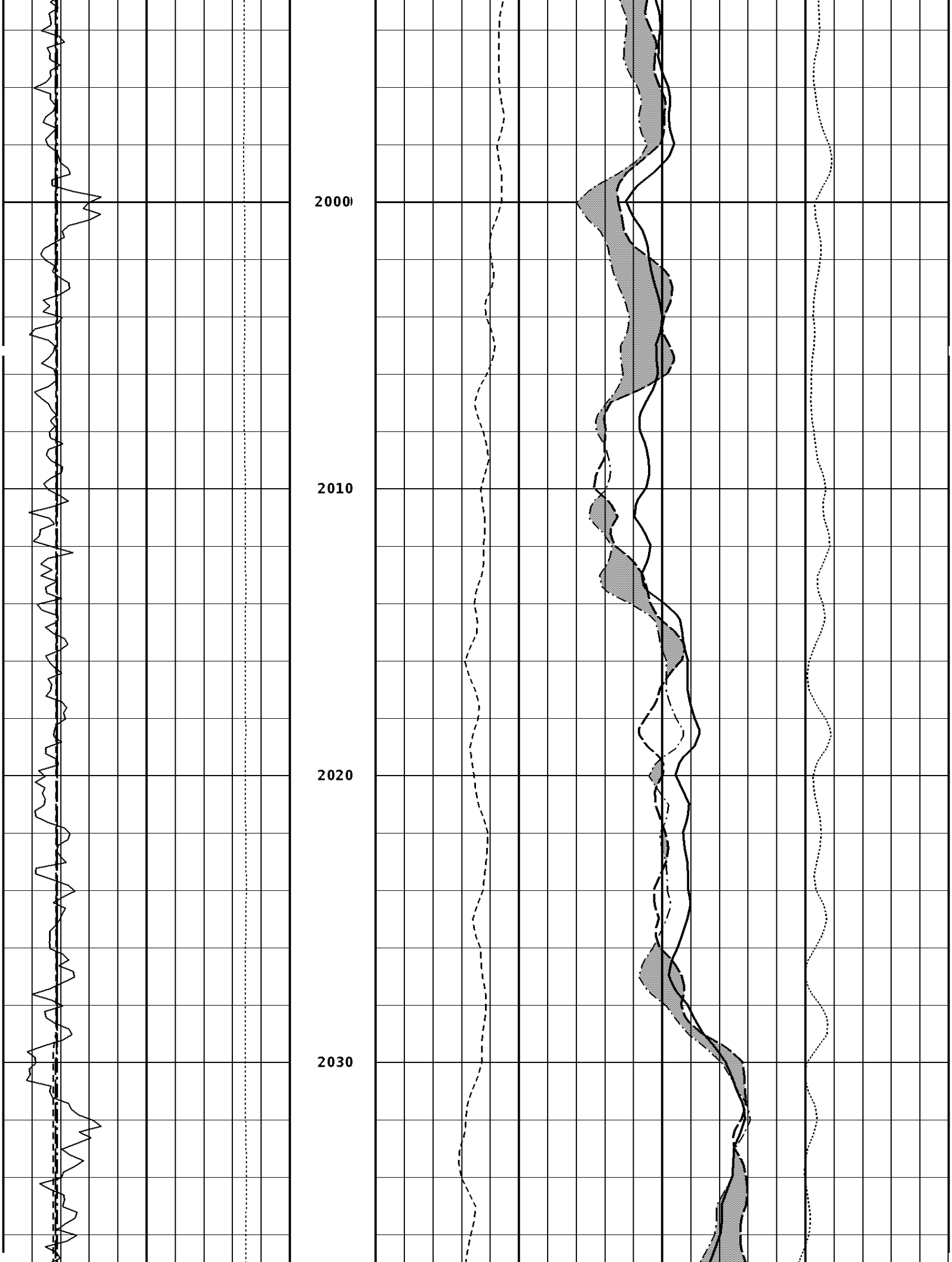

1780
1790
1800
1810

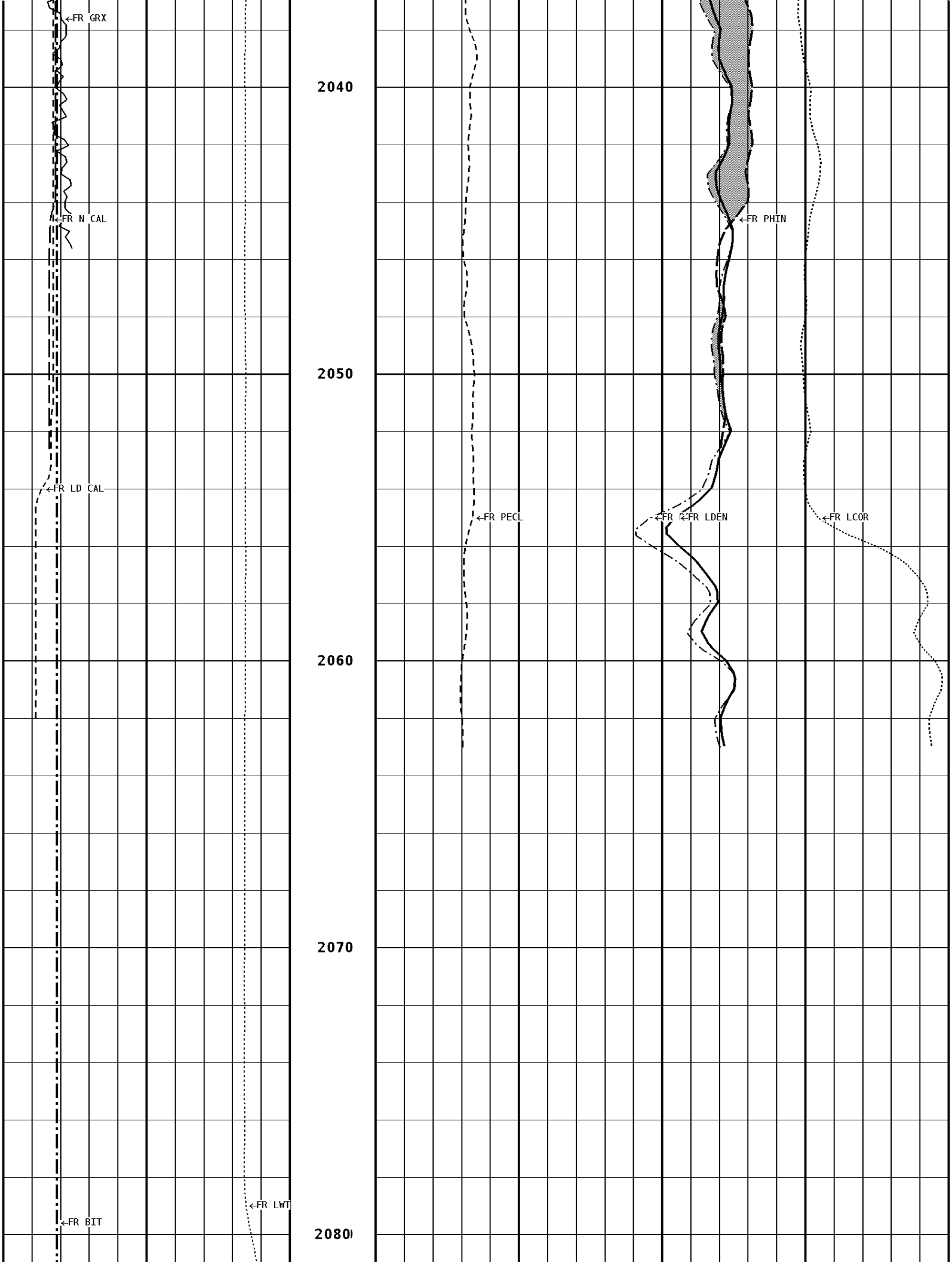

1820
1830
1840
1850
1860

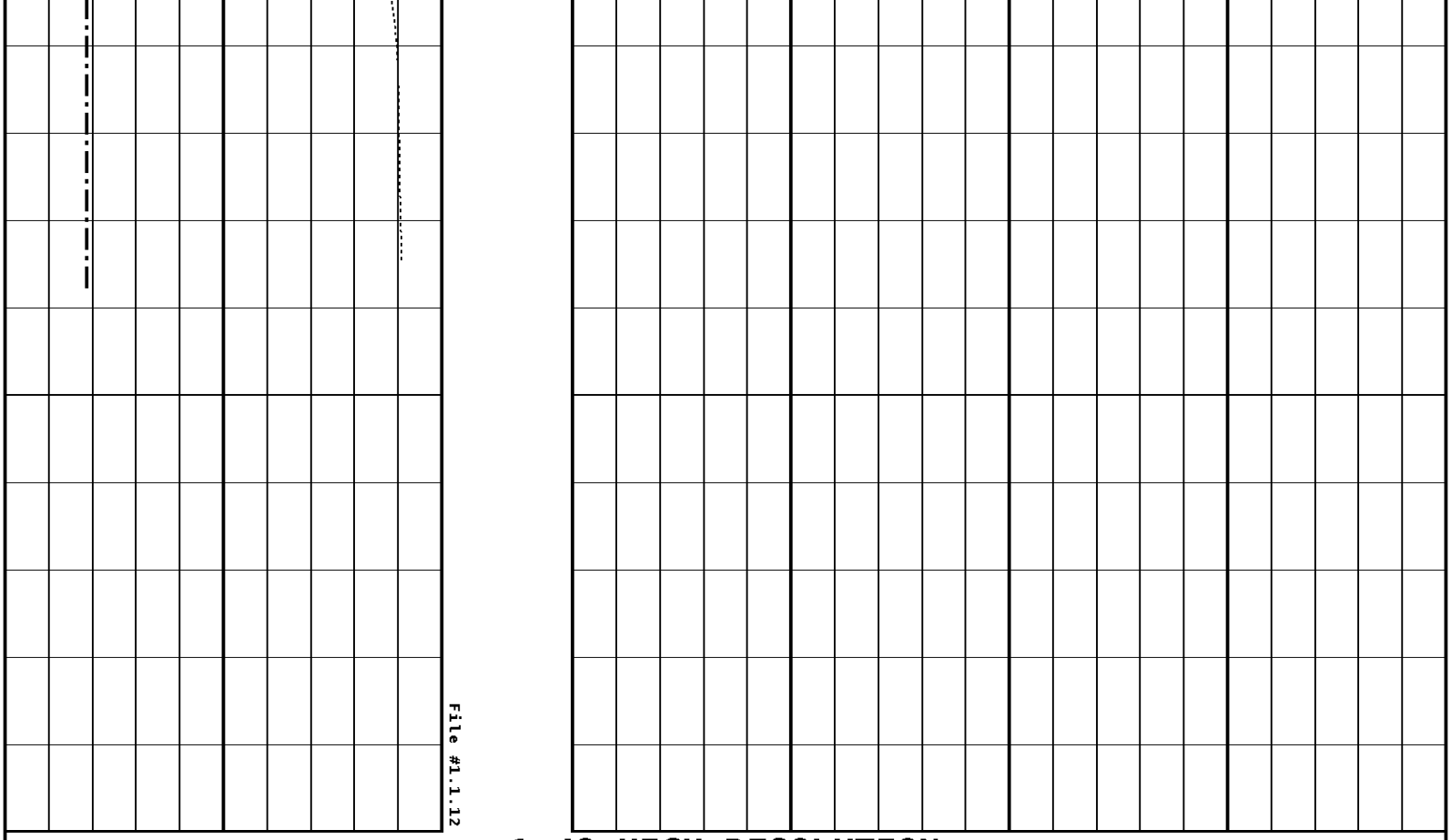

1870
1880
1890
1900


1910
1920
1930
1940


1950
1960
1970
1980
1990


2000
2010
2020
2030


←FR GRX
←FR N CAL
←FR LD CAL
←FR BIT
←FR LWT
2040
2050
2060
2070
2080
←FR PECL
←FR PHIN
←FR R←FR LDEN
←FR LCOR



1:48 HIGH RESOLUTION

GAMMA RAY
API UNITS
150 — 300
0 — 150

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

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

BIT SIZE
INCHES (IN)
6 — 16

TENSION
LBS
10000 — 0

NEUTRON POROSITY
PERCENT
30 — -10

DENSITY POROSITY
PERCENT
70 — 30
30 — -10
-10 — -50

COMPENSATED BULK DENSITY
G/CC
3.0 — 4.0
2.0 — 3.0
1.0 — 2.0

PE CROSS-SECTION
BARNS/ELECTRON
0 — 10

DENSITY CORRECTION
G/CC
-0.25 — 0.25

Well File: STEL_FLOYDA_34_DEC13_STK
Segment: V1.D1.S12 MAIN MAIN
Reference: 0

Scale: 1:240
Acquired: Not Available
Processed: Not Available

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

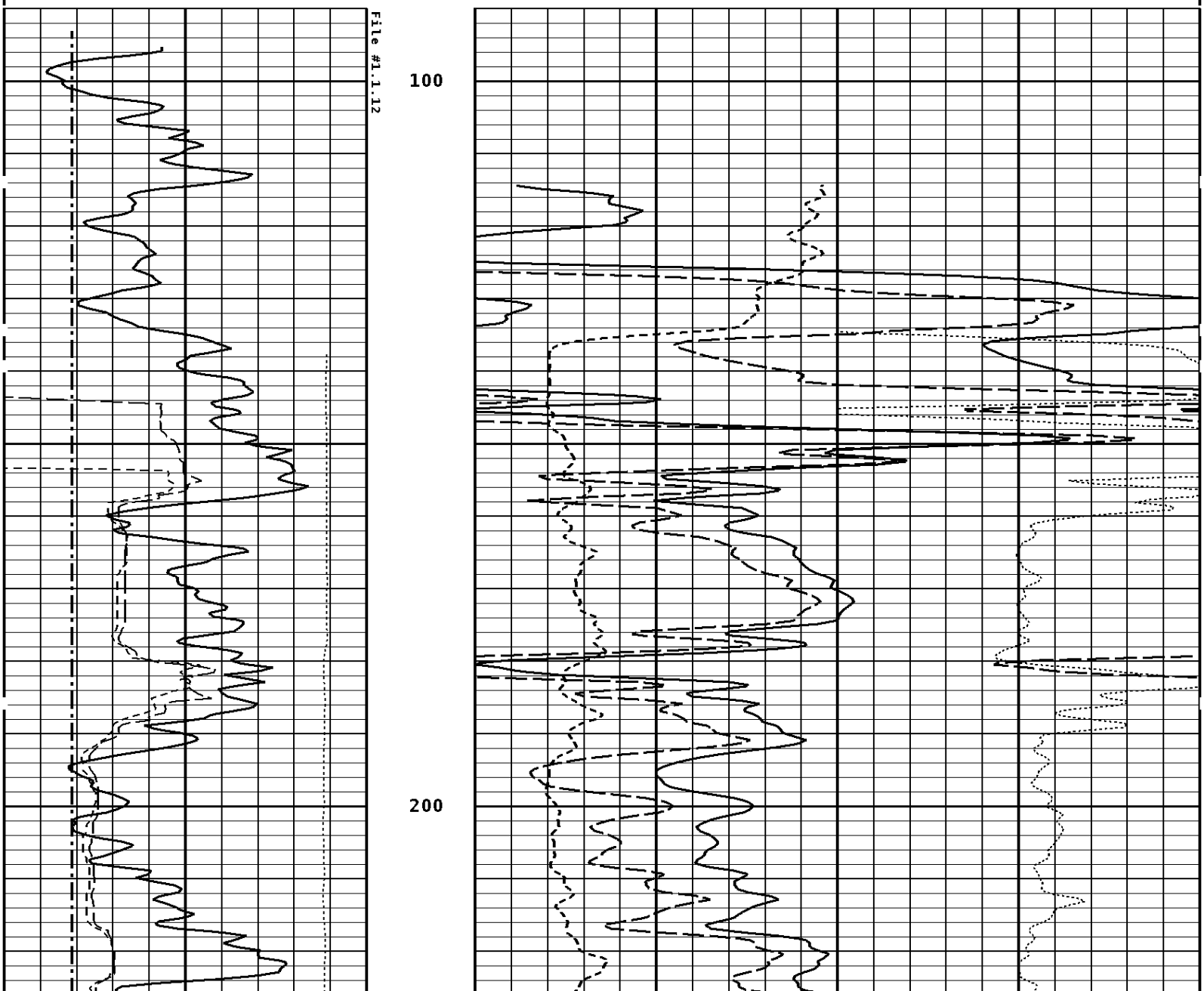
PE CROSS-SECTION
BARNS/ELECTRON
0 — 10

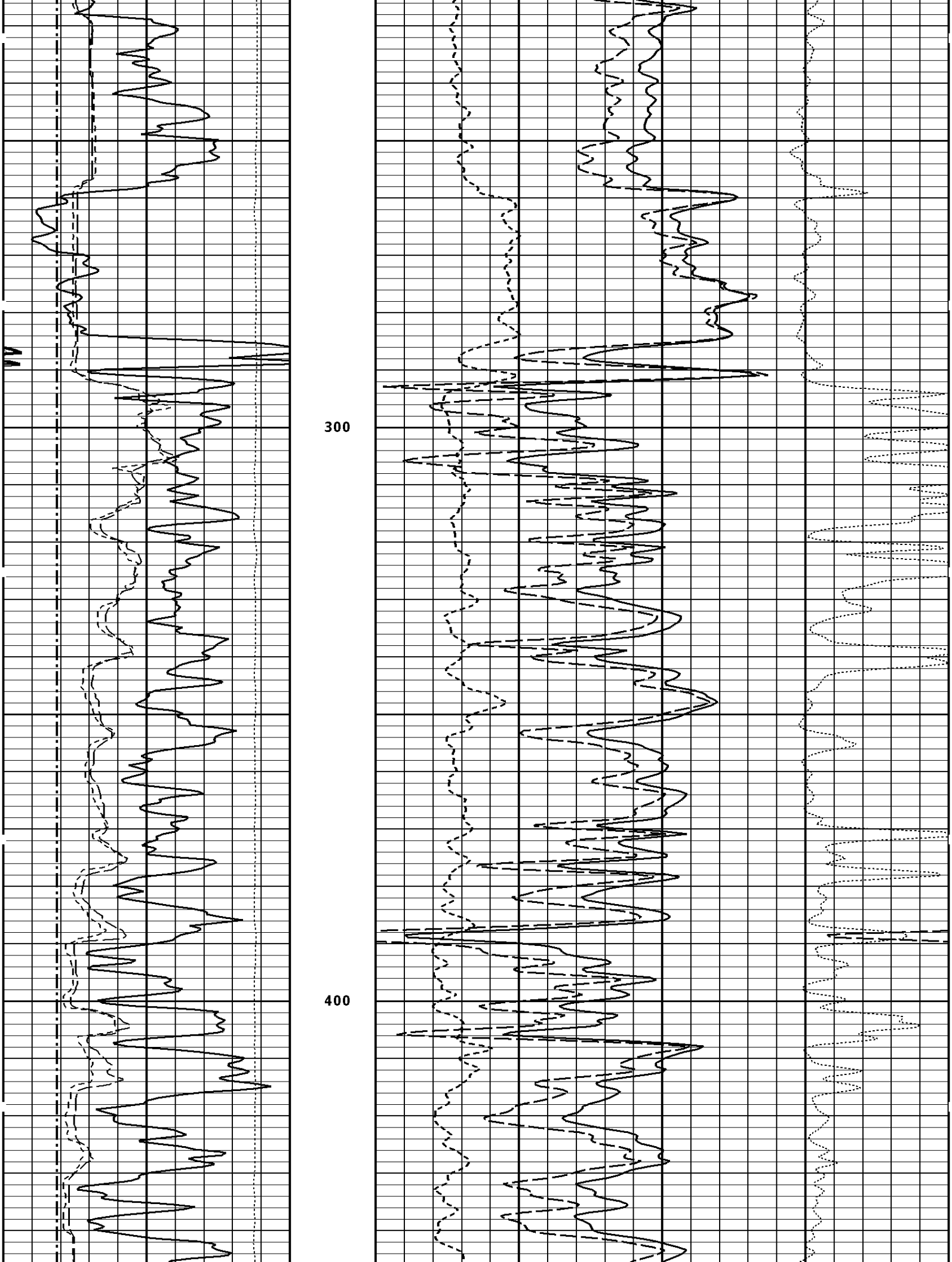
DENSITY CORRECTION
G/CC
-0.25 — 0.25

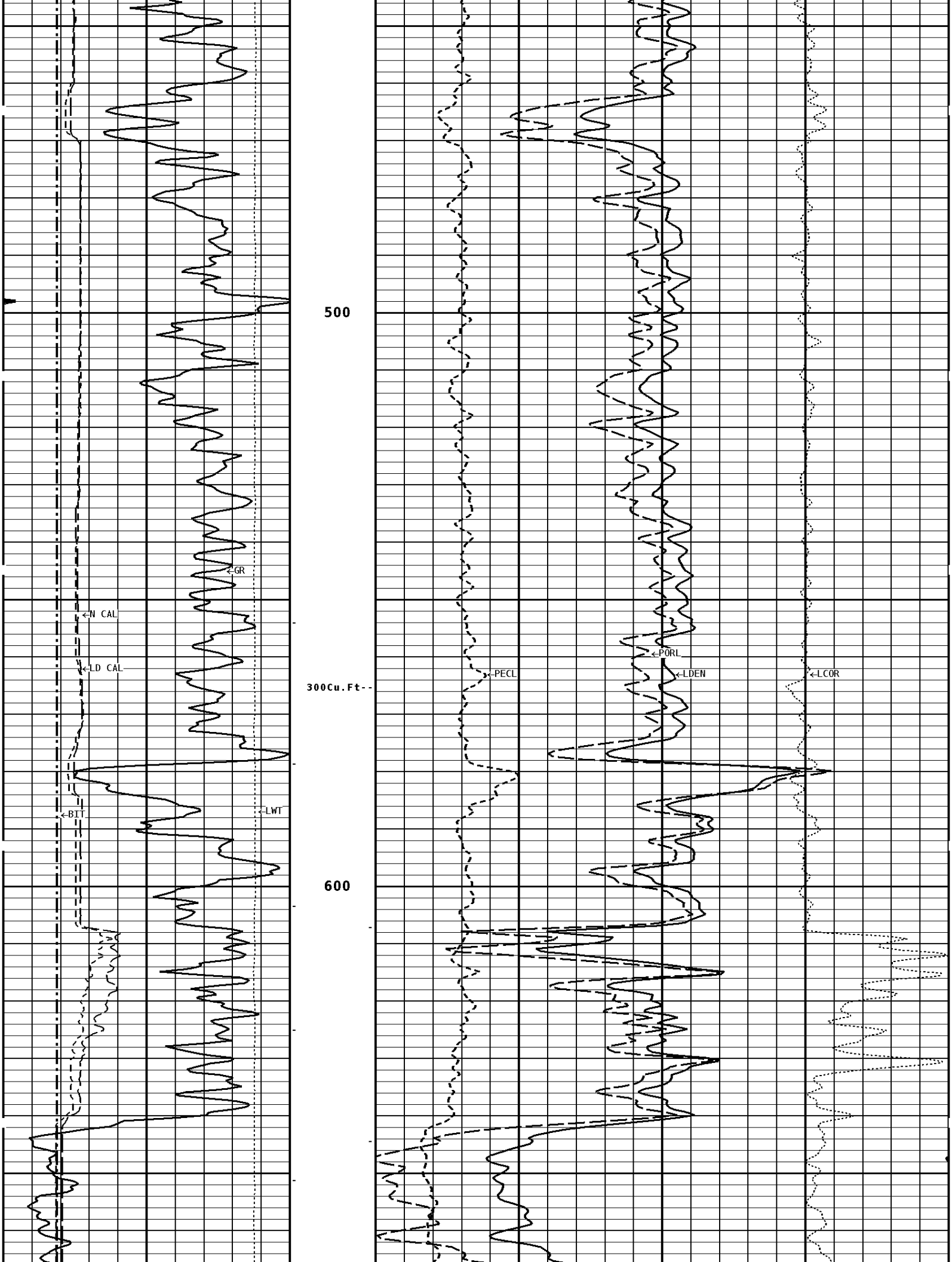
DENSITY POROSITY
PERCENT (2.71 g/cc)
70 — 30
30 — -10
-10 — -50

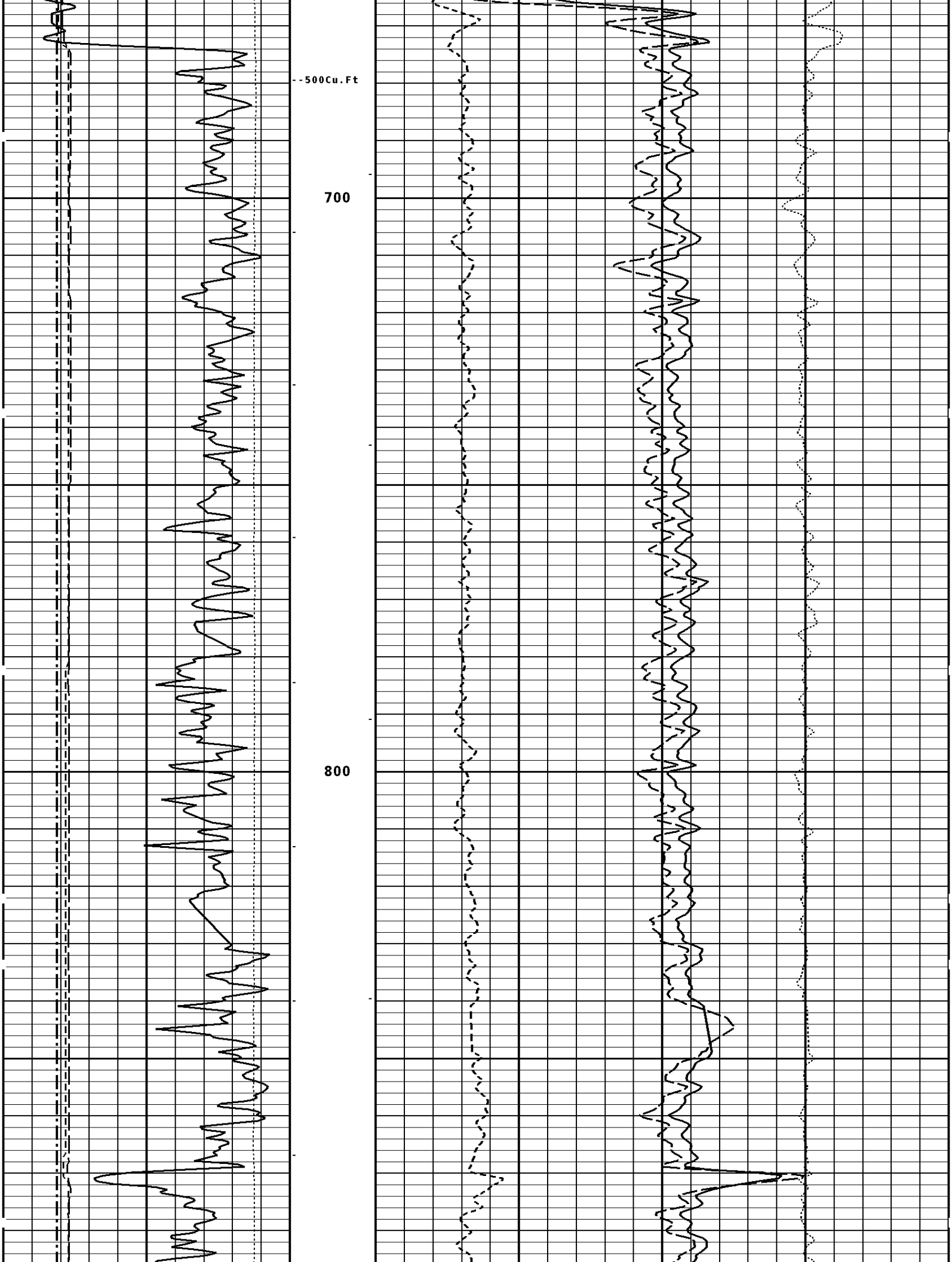
COMPENSATED BULK DENSITY
G/CC
3.0 — 4.0
2.0 — 3.0
1.0 — 2.0

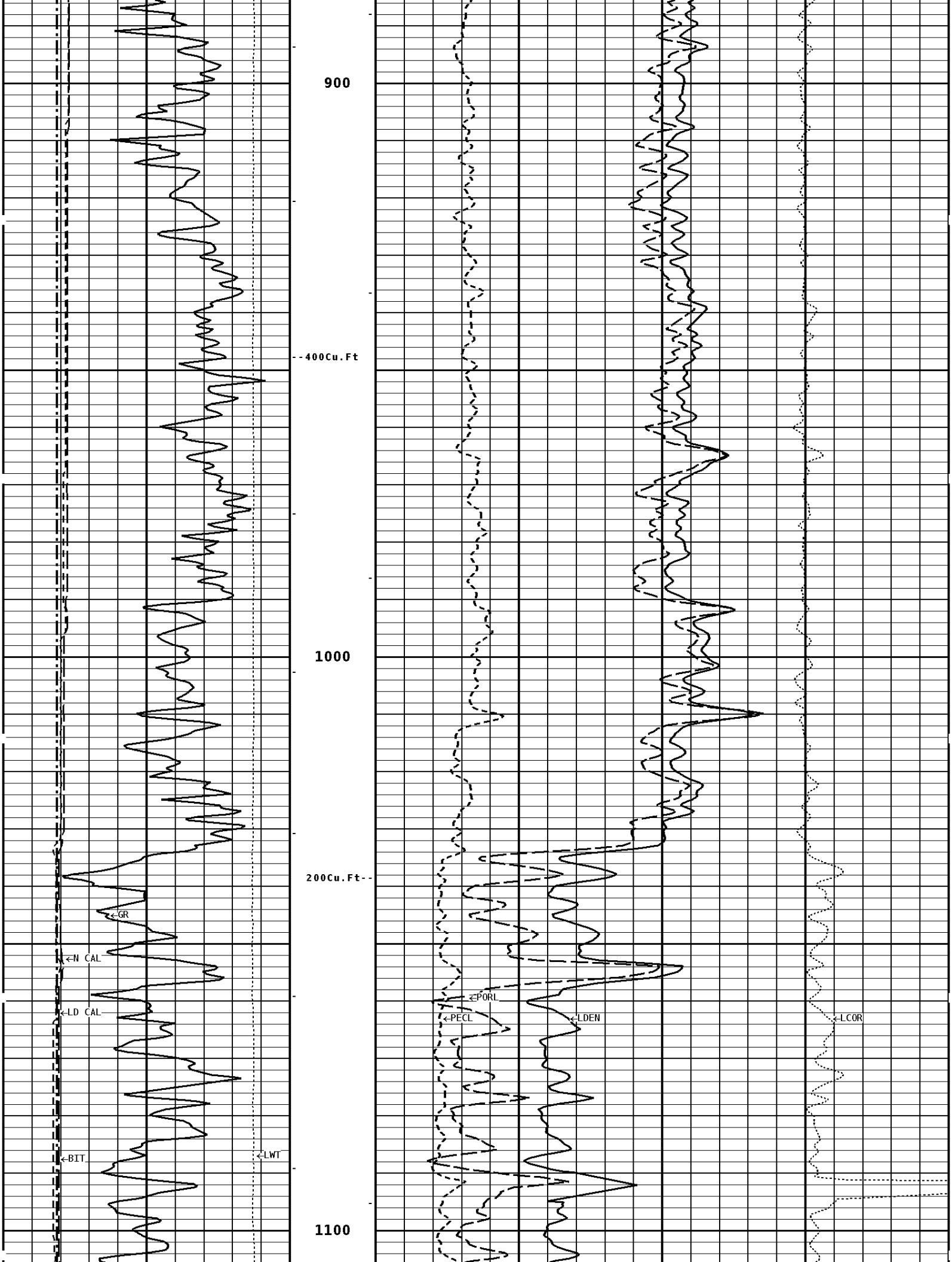
1:240 MAIN SECTION
BULK DENSITY

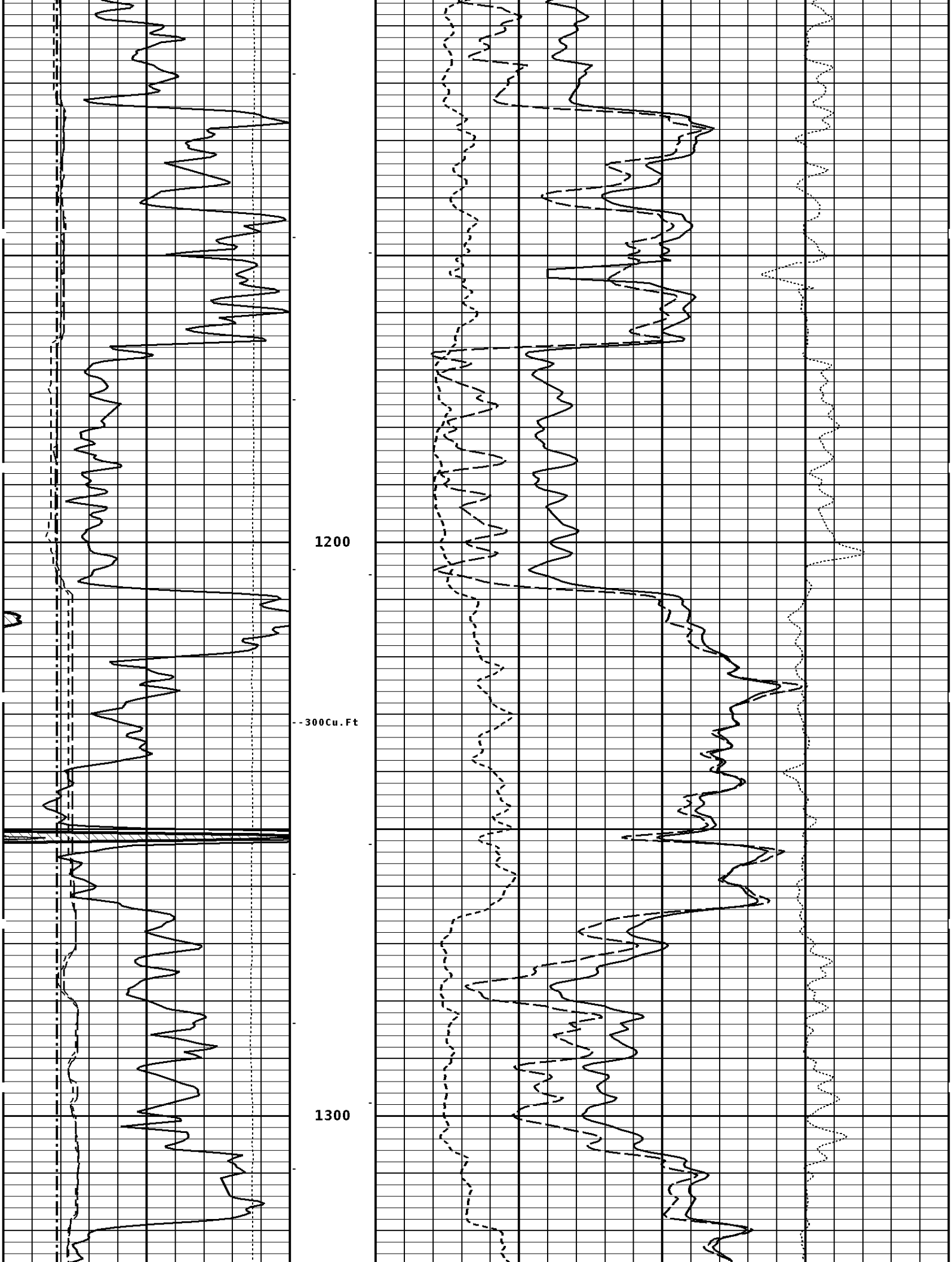


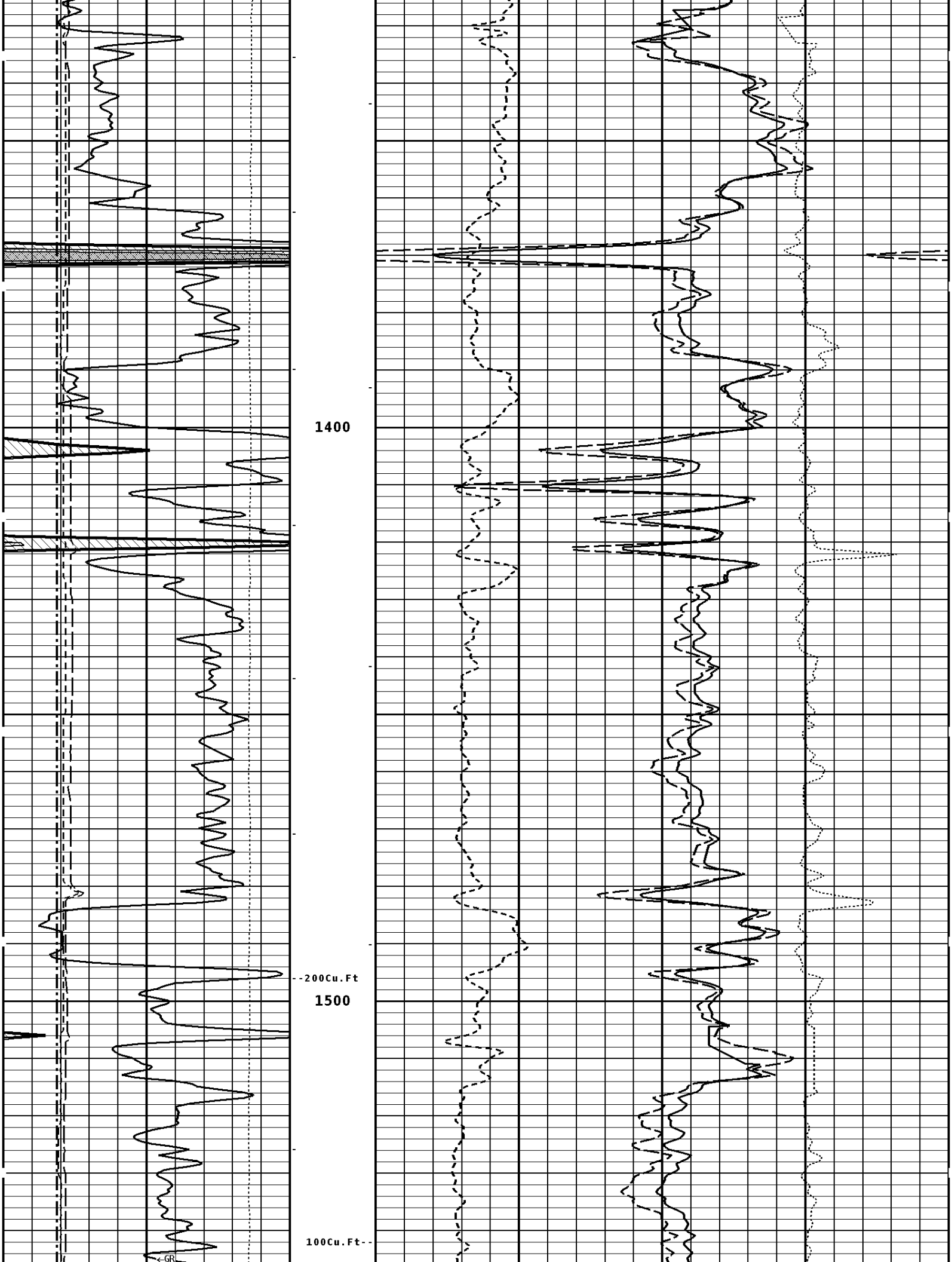

300
400

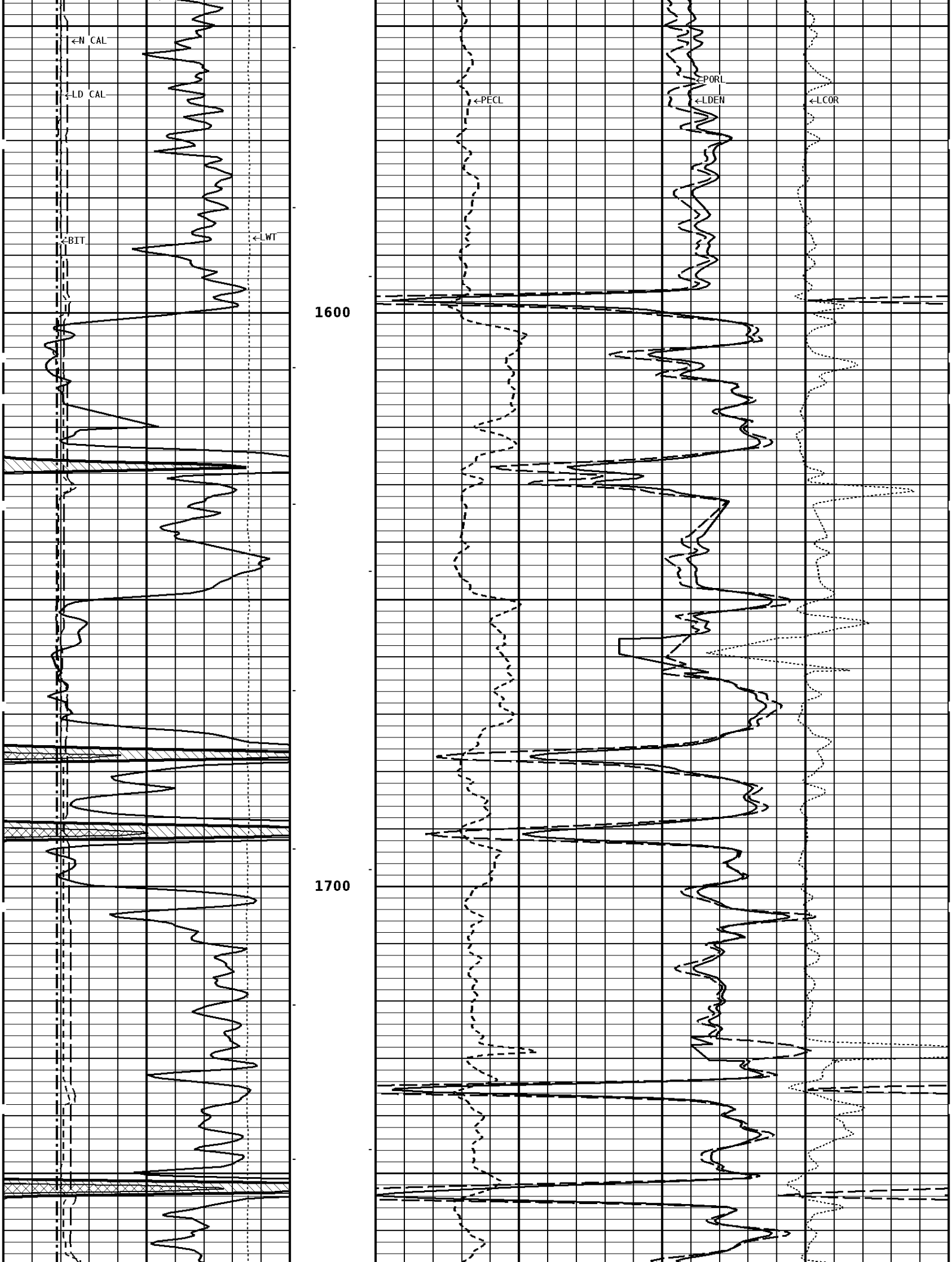

500
GR
N CAL
LD CAL
300Cu.Ft--
BIT
LWT
600
PECL
PORL
LDEN
LCOR

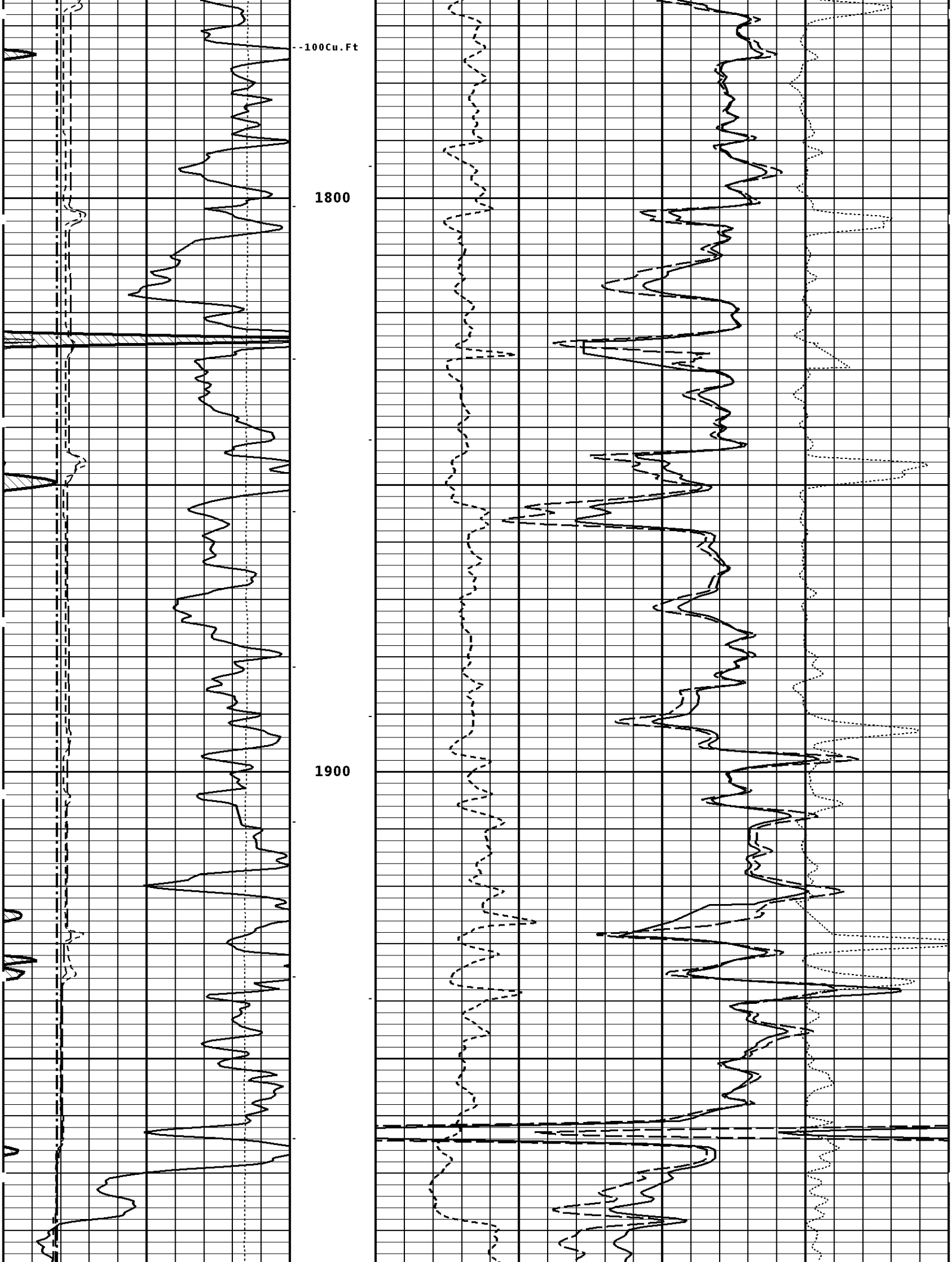

--500Cu.Ft
700
800

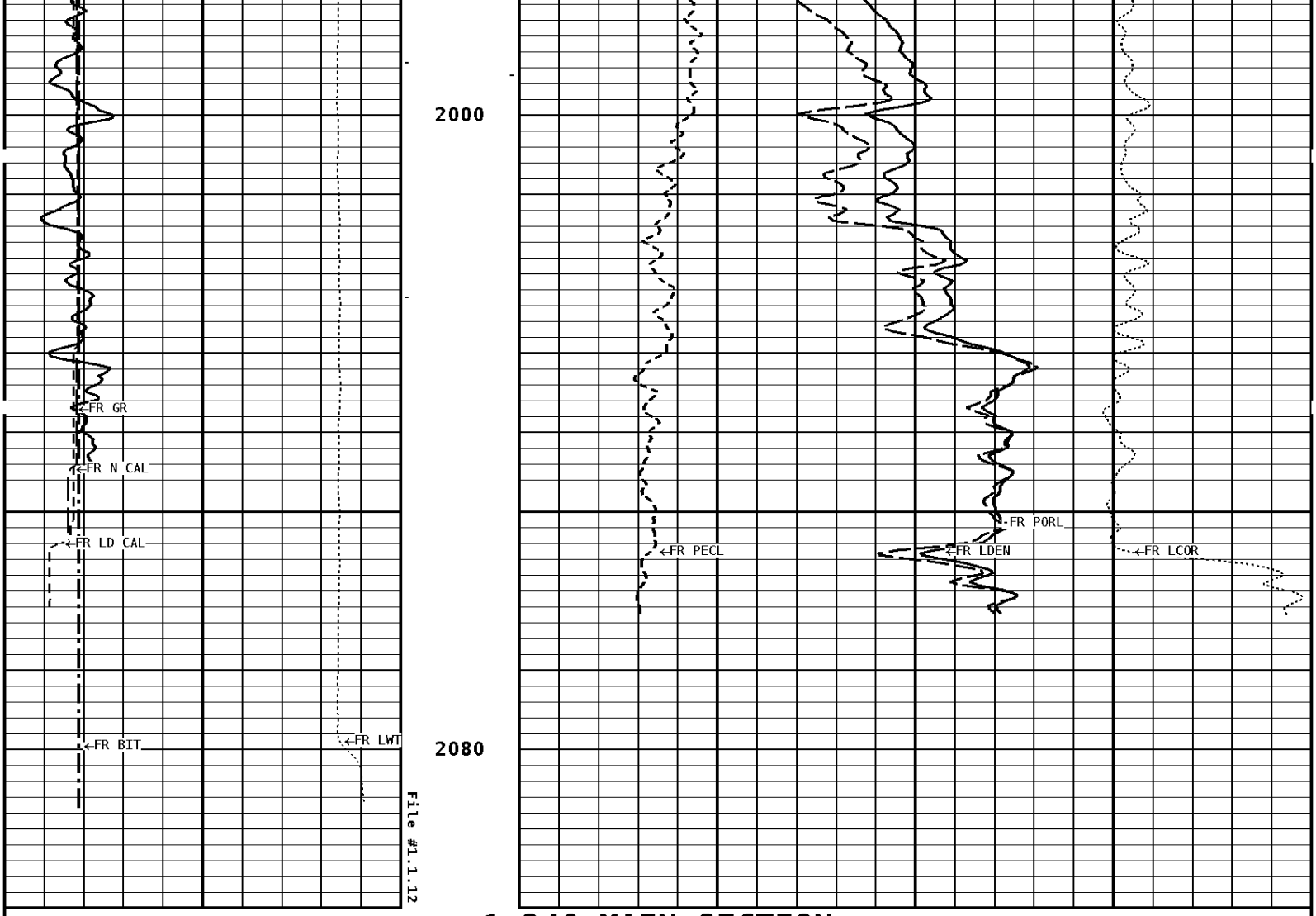

900
--400Cu.Ft
1000
200Cu.Ft--
←GR
←N CAL
←LD CAL
←BIT
←LWT
1100
←PORL
←PECL
←LDEN
←LCOR


1200
--300Cu.Ft
1300


1400
--200Cu.Ft
1500
100Cu.Ft--
←GR


←N CAL
←LD CAL
←BIT
←LWT
←PECL
←PORL
←LDEN
←LCOR
1600
1700


--100Cu.Ft
1800
1900



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	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 — 10	-0.25 — 0.25
6 — 16		

BIT SIZE INCHES (IN)
6 — 16

TENSION LBS
10000 — 0

* Calibration Summary *

Shop Calibration
GRT-B

Performed : 04-SEP-2012 Time : 19:28
Sensor Suite : GR-GR5 ID : GRT-BC-41

	Measured Background	Measured Jig	Units	Calibrated Jig	Units
GR	46	346	CPS	175	GRAPI

Shop Calibration
CNT-AA

Performed : 01-AUG-2012 Time : 10:49
Sensor Suite : CALI-BCN ID : NDT-BB-129

	Jig - Measured Ring#1	Jig - Measured Ring#2	Jig - Calibrated Ring#1	Jig - Calibrated Ring#2	Units
CL # 1	8.9	13.6	6.0	12.0	IN.

Performed : 16-Nov-2012 Time : 10:42
Sensor Suite : BHC NEUT ID : CNP-AA-112
Source ID : N-1045

	Tank Measured	Tank Calibrated	Verification Jig	Units
N/F	4.0468	3.6893	3.6967	
Porosity	26.3	20.5	20.6	%

Shop Calibration
LDT-DF

Performed : 01-AUG-2012 Time : 11:07
Sensor Suite : CALI-LTH ID : PDT-GA-464

	Jig - Measured Ring#1	Jig - Measured Ring#2	Jig - Calibrated Ring#1	Jig - Calibrated Ring#2	Units
CL # 1	7.7	11.0	6.0	12.0	IN.

Performed : 16-Nov-2012 Time : 12:04
Sensor Suite : BHCPELNG ID : LDP-DA-065
Source ID : 2991GW

Short Space

	BKGD	Al	Mg	Al+Fe	Units
LSW1	69	1130	1826	730	CPS
LSW2	72	1384	2205	977	CPS
LSW3	271	3164	5106	2659	CPS
LSW4	336	2818	4101	2452	CPS
LSW5	30	57	65	52	CPS
LSW6	91	95	95	96	CPS
LSW7	57	60	62	61	CPS
LSW8	2	4	6	4	CPS
QS	0.228	0.223	0.207	0.226	
PES			2.778	5.967	
SSDN		2.600	1.680		G/CC

Long Space

	BKGD	Al	Mg	Al+Fe	Units
LLW1	99	1278	5213	769	CPS
LLW2	106	2260	8832	1622	CPS
LLW3	412	4130	15623	3531	CPS
LLW4	529	1998	6444	1802	CPS
LLW5	62	73	138	73	CPS
LLW6	163	161	152	159	CPS
LLW7	107	104	101	108	CPS
LLW8	4	8	21	8	CPS
QL	0.206	0.216	0.200	0.193	
PEL			2.697	5.458	
LSDN		2.600	1.680		G/CC

Tucker ENERGY SERVICES

Company: STELBAR OIL CORPORATION, INC
Well: FLOYD A #34
Location: 2310' FSL & 2005' FWL
Logged: 2012-12-13
K.B. Elev: 1136.0 Ft