PRECISION ENERGY SERVICES

Compact

DUAL LATEROLOG - GR
DENSITY - NEUTRON
1:200 MD

COMPANY	ESSO AUSTRALIA PTY LTD
WELL	BREAM A19A
FIELD	BREAM
PROVINCE/COUNTY	BASS STRAIT
COUNTRY/STATE	AUSTRALIA
LOCATION	S 38 29 58.893, E 147 46 19.968
	N 5738458.220 m, E 567336.120 m

FIELD PRINT

LSD	SEC	TWP	RGE	Other Services
				COMPENSATED SONIC

API Number
Permit Number

Permanent Datum MSL , Elevation 0.0 metres
Log Measured From RT @ 32.82 M above Permanent Datum
Drilling Measured From RT

Elevations:
KB metres
DF 32.82 metres
GL -59.40 metres

Date	30-Nov-2005			
Run Number	ONE			
Depth Driller	2804.00	metres		
Depth Logger	2801.00	metres		
First Reading	2787.60	metres		
Last Reading	1434.00	metres		
Casing Driller	1434.00	metres		
Casing Logger	1434.00	metres		
Bit Size	8.50	inches		
Hole Fluid Type	KCL/GYL/POLY			
Density / Viscosity	10.15 lb/USg	62.00 CP		
PH / Fluid Loss	9.00	2.60		
Sample Source	FLOWLINE			
Rm @ Measured Temp	0.228 @ 25.0	ohm-m		
Rmf @ Measured Temp	0.091 @ 25.0	ohm-m		
Rmc @ Measured Temp	0.359 @ 25.0	ohm-m		
Source Rmf / Rmc	PRESS	PRESS		
Rm @ BHT	0.119 @ 67.5	ohm-m		
Time Since Circulation	27.5 HOURS			
Max Recorded Temp	70.60	deg C		
Equipment Name	5" CWS/CML			
Equipment / Base	1	SALE		
Recorded By	R. TENCH, B.MOSS			
Witnessed By	TREVOR LOBO			
CIRC STOPPED	00:15 29/NOV			

BOREHOLE RECORD

Bit Size inches	Depth From metres	Depth To metres
8.500	1434.00	2804.00

CASING RECORD

Type	Size inches	Depth From metres	Shoe Depth metres	Weight pounds/ft
K-55	10.750	0.00	1434.00	40.50

REMARKS

RIG: NABORS 453

5" SHUTTLE/MEMORY COMPACT OPERATION.
CREW: R TENCH , B MOSS , B GOODWIN, M KOLCZE.

FIELD FINAL LOGS TO BE CORRELATED TO ANADRILL GAMMA LOG.
FIELD FINALS REQUIRE CORRECTION TO TIME DEPTH CORRELATION ABOVE 1800mMD.

BRIDGED OF AT 2786mMD ON TRIP IN, REQUIRED 60RPM AND 10BBL/MIN TO ALLOW PIPE TO BE WASHED TO TD.

MAX. TEMPERATURE: 70.6 DEG C AT 2379m MD
MAX. INCLINATION: 60.56 DEG AT 1478.37m MD
MAX. DOGLEG SERVERITY: 6.78DEG/30m AT 1478.37m MD
DEPLOYMENT ANGLE: 32.90DEG

HVOL: 2524 FT^3
AVOL: 1346 FT^3

employees. These interpretations are also subject to our general terms and conditions in our price schedule.

MAIN LOG 1:200

Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 30-NOV-2005 22:02
Filename: C:\logs\BMA_A19A\FIELD DATA\BMA_A19A_TRIPLE_COMBO.dta — Recorded on 30-NOV-2005 14:16
System Configuration Dates: Logged 17-JUN-2004: Processed 17-JUN-2004: Plotted 17-JUN-2004:

Timing Marks
every 60.0 sec

Borehole Corrected Gamma
API
0 100 200
200 300 400

Density Caliper
inches
6 11 16

Bit Size
inches
6 11 16

DSC
in
Metres

Borehole
Temp in
deg C

HVI
every
10 cu ft

Annular
Integral
every
10 cu ft

Replay
Scale
1:200

Shallow Laterolog
ohm metres
0.20 2000
1 10 100 1000

Deep Laterolog
ohm metres
0.20 2000
1 10 100 1000

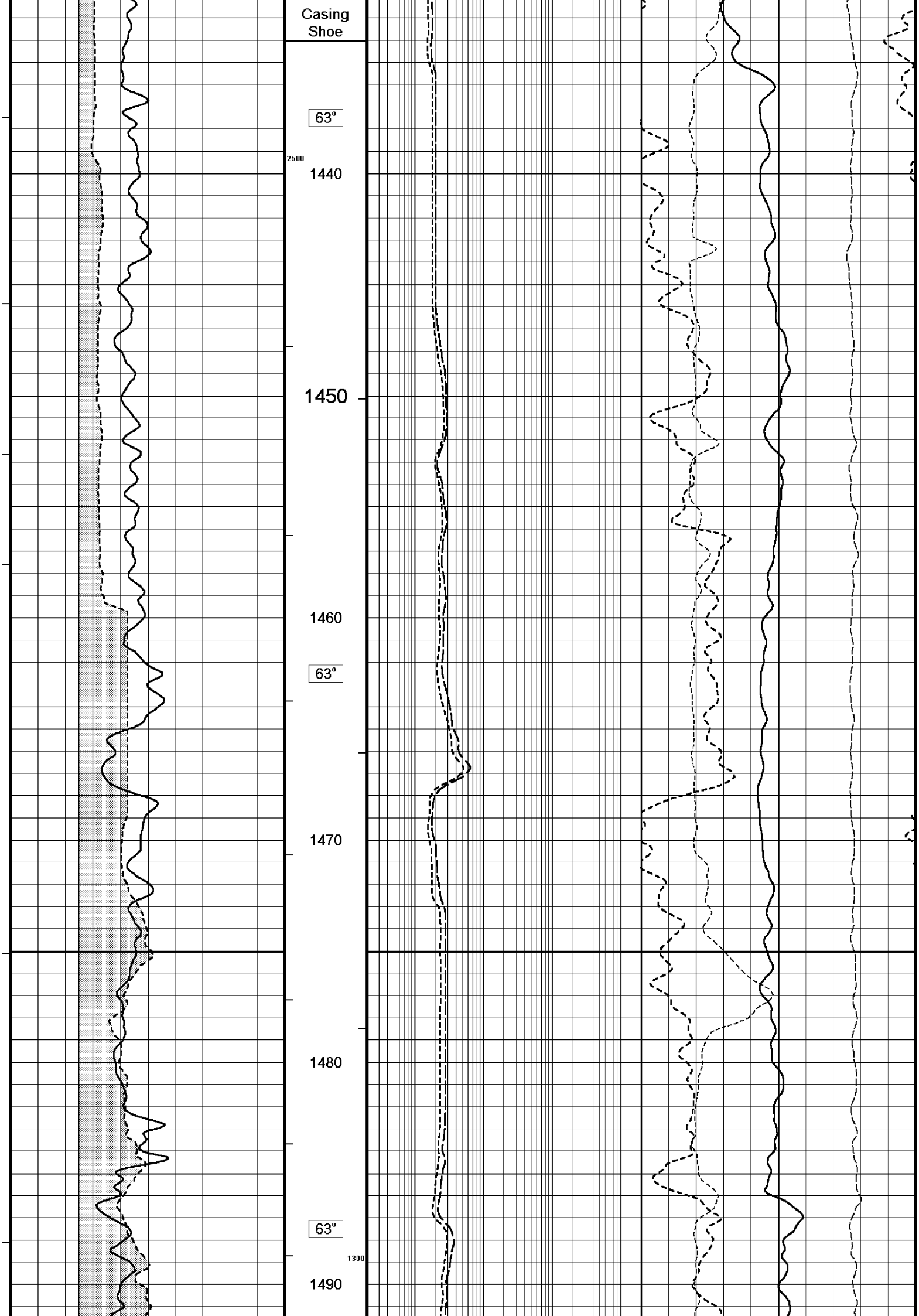
Limestone Neutron Por.
CPS
0.45 0.15 -0.15

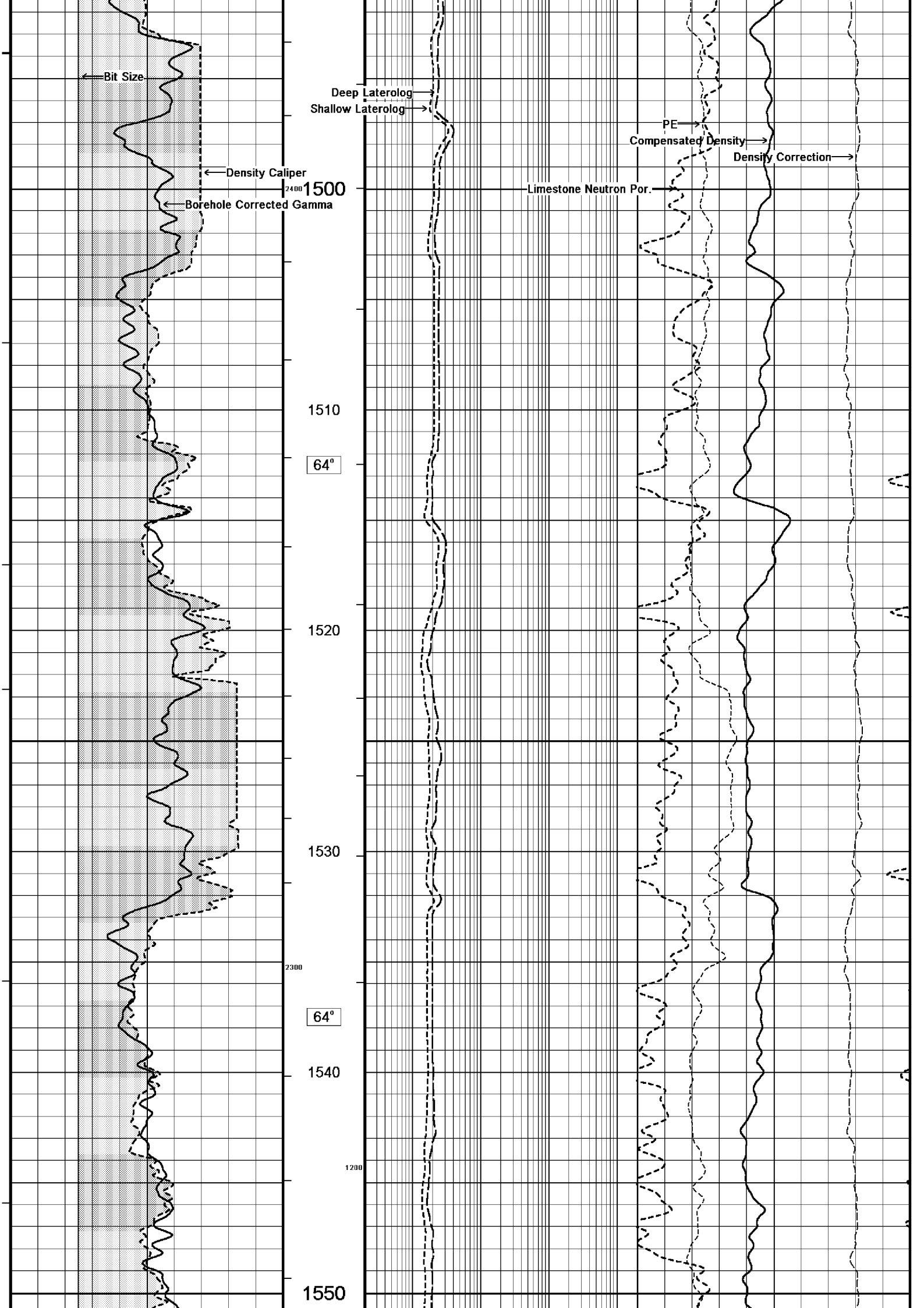
Density Correction
grams/cc
-0.75 -0.25 0.25

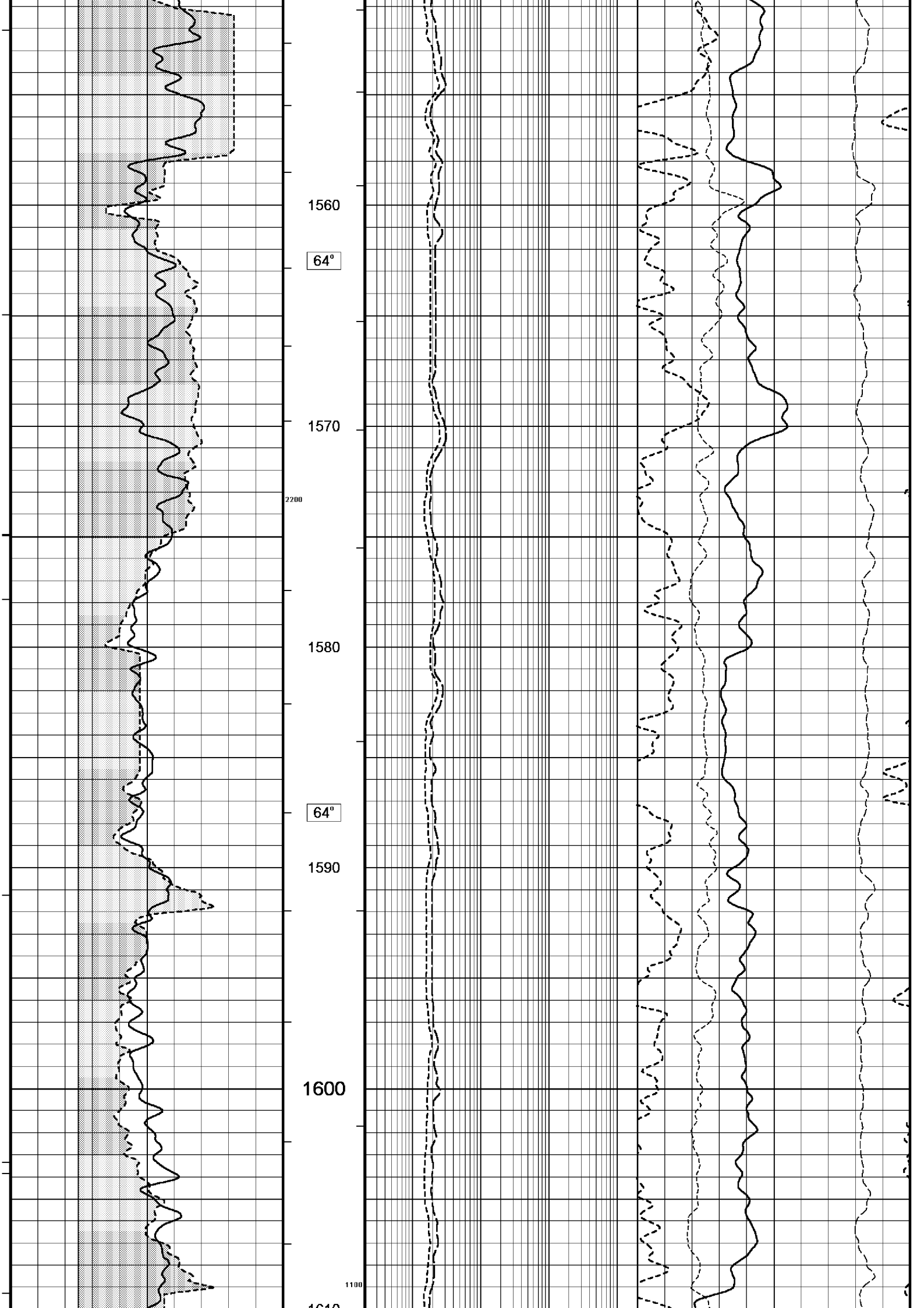
Compensated Density
grams/cc
1.85 2.35 2.85

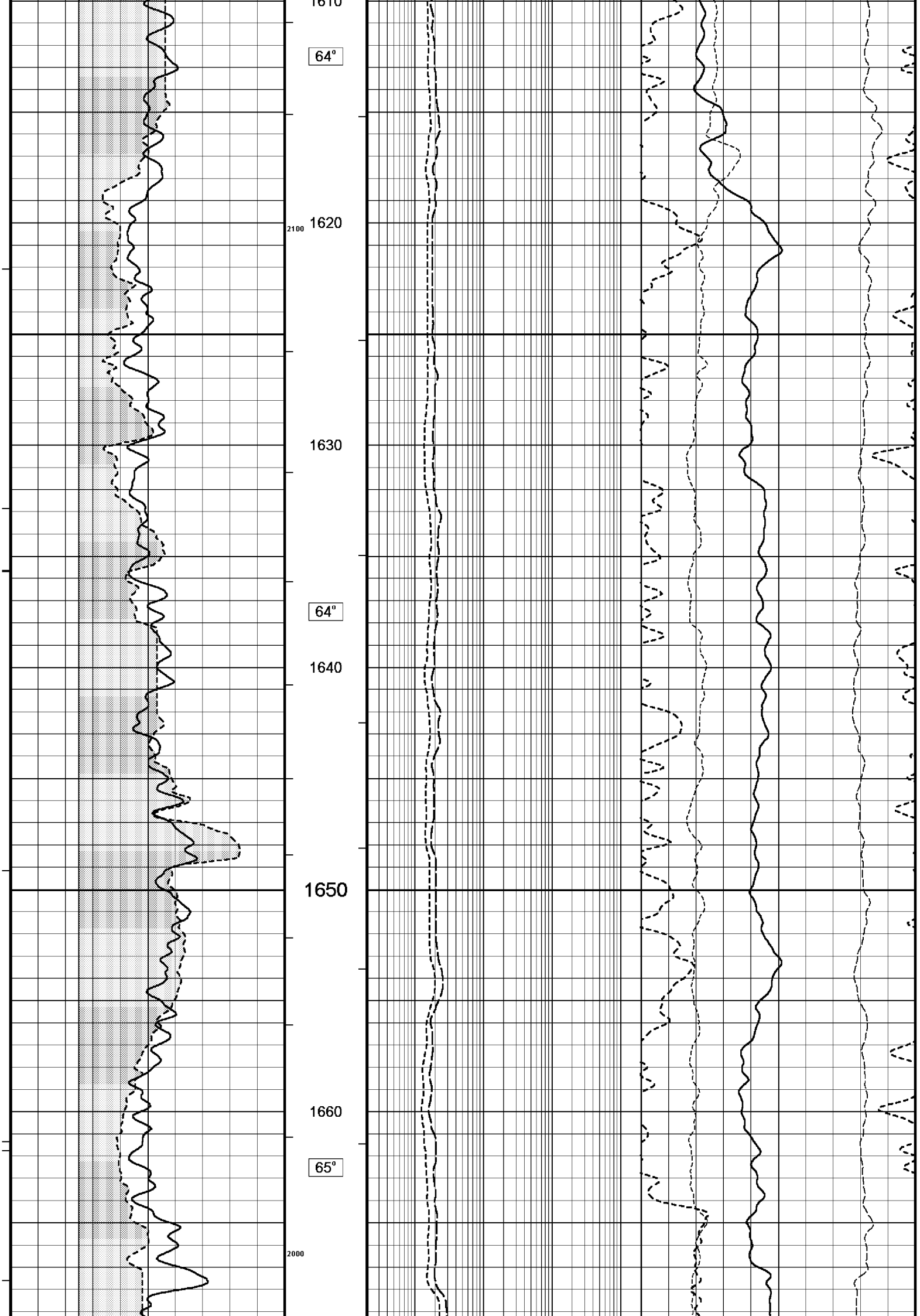
PE
barns/electron
0 10 20

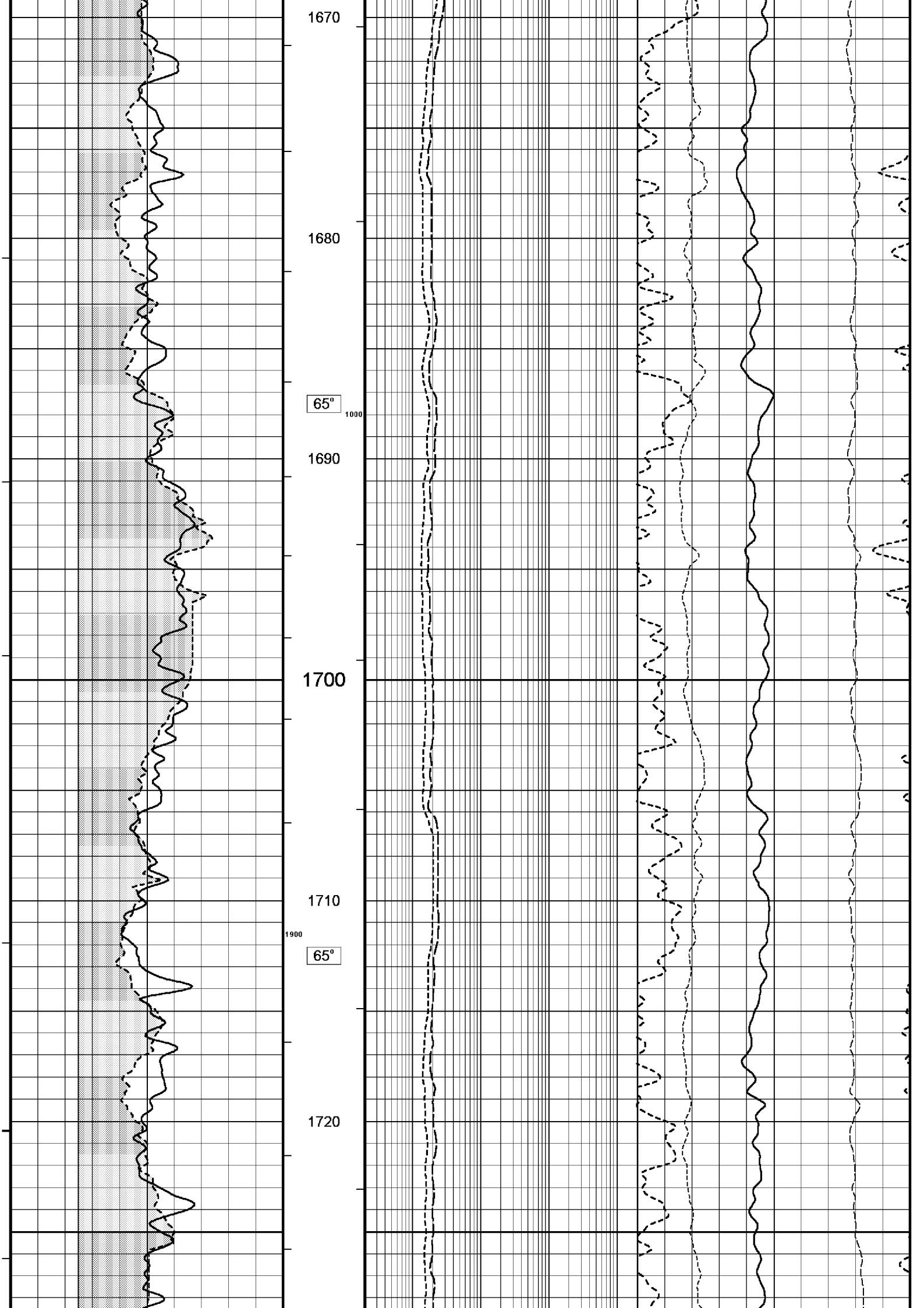
1400
1410
63°
1420
1430

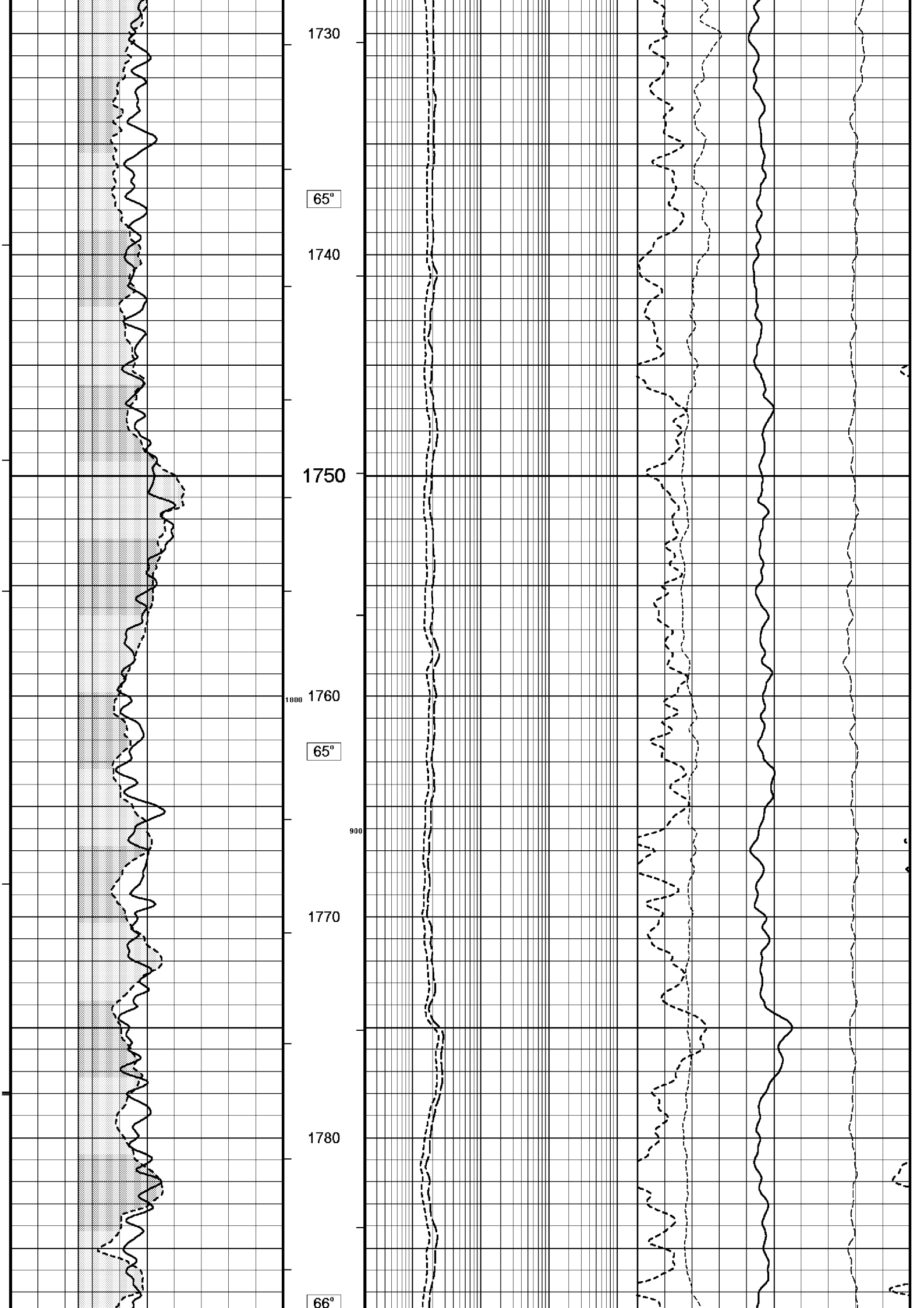

Casing
Shoe
63°
2500
1440
1450
1460
63°
1470
1480
63°
1300
1490

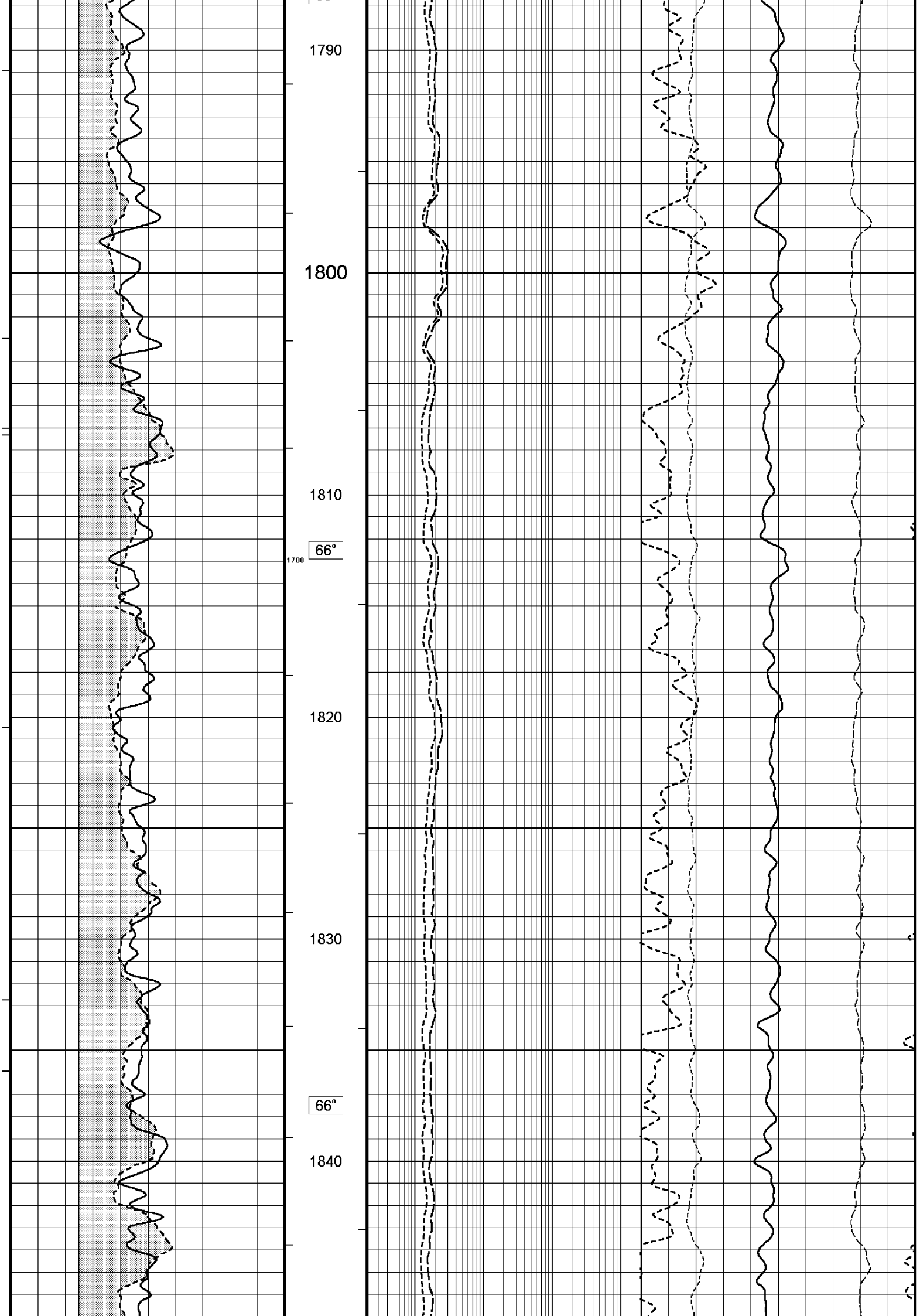

Bit Size
Density Caliper
Borehole Corrected Gamma
Deep Laterolog
Shallow Laterolog
PE
Compensated Density
Density Correction
Limestone Neutron Por.
2400
1500
1510
64°
1520
1530
2300
64°
1540
1200
1550

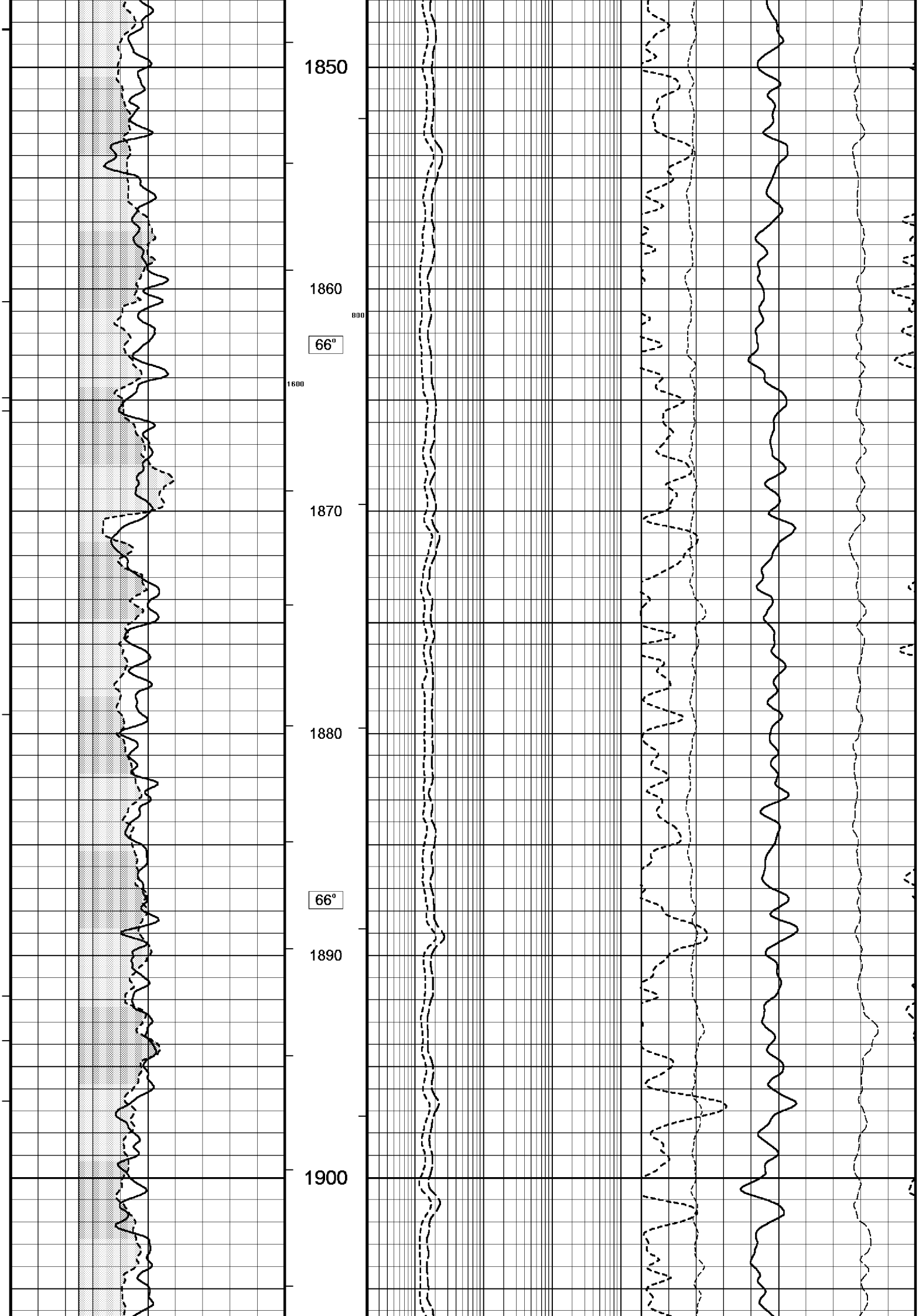

1560
64°
1570
2200
1580
64°
1590
1600
1100

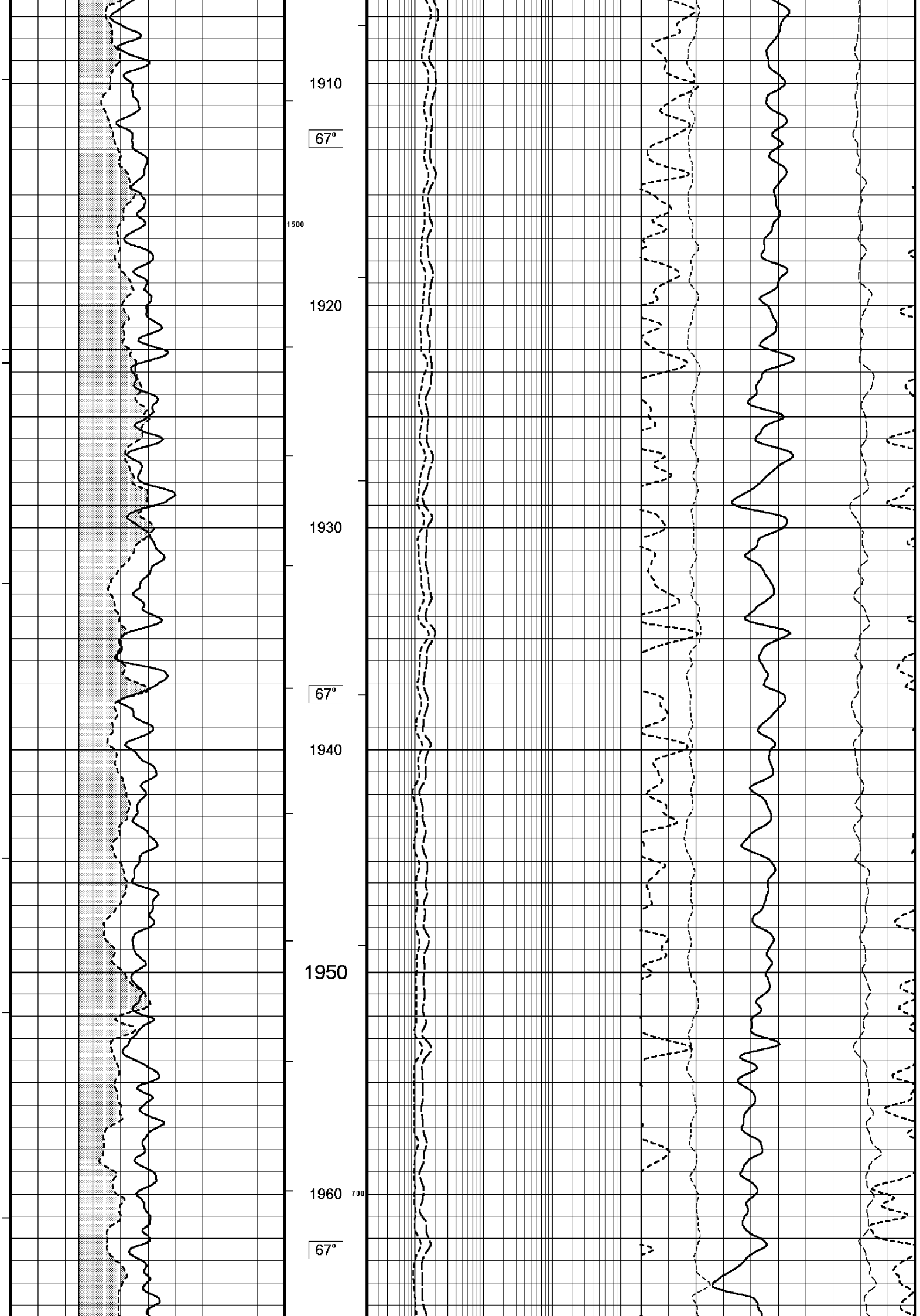

1610
64°
2100
1620
1630
64°
1640
1650
1660
65°
2000

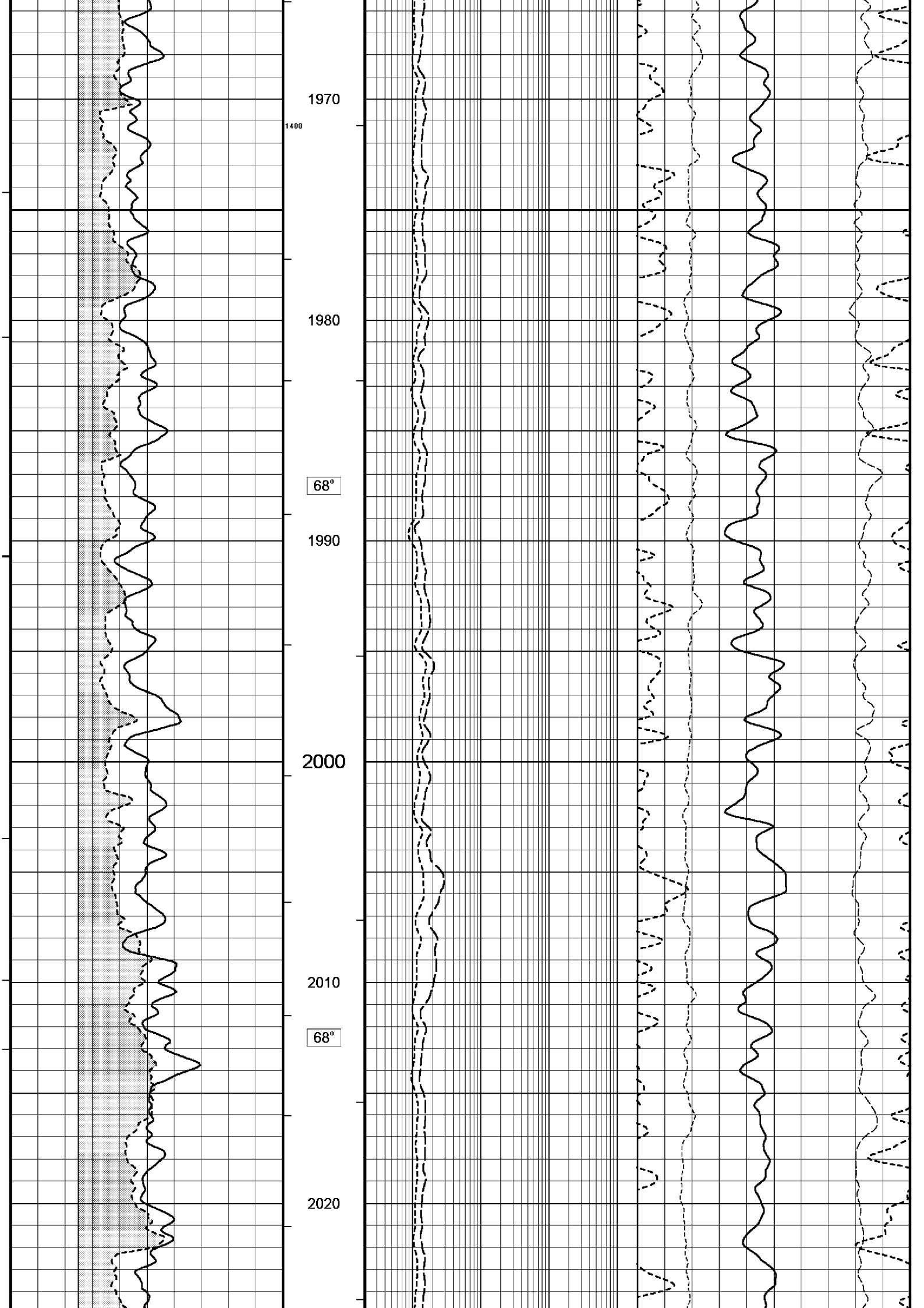

1670
1680
65°
1000
1690
1700
1710
1900
65°
1720

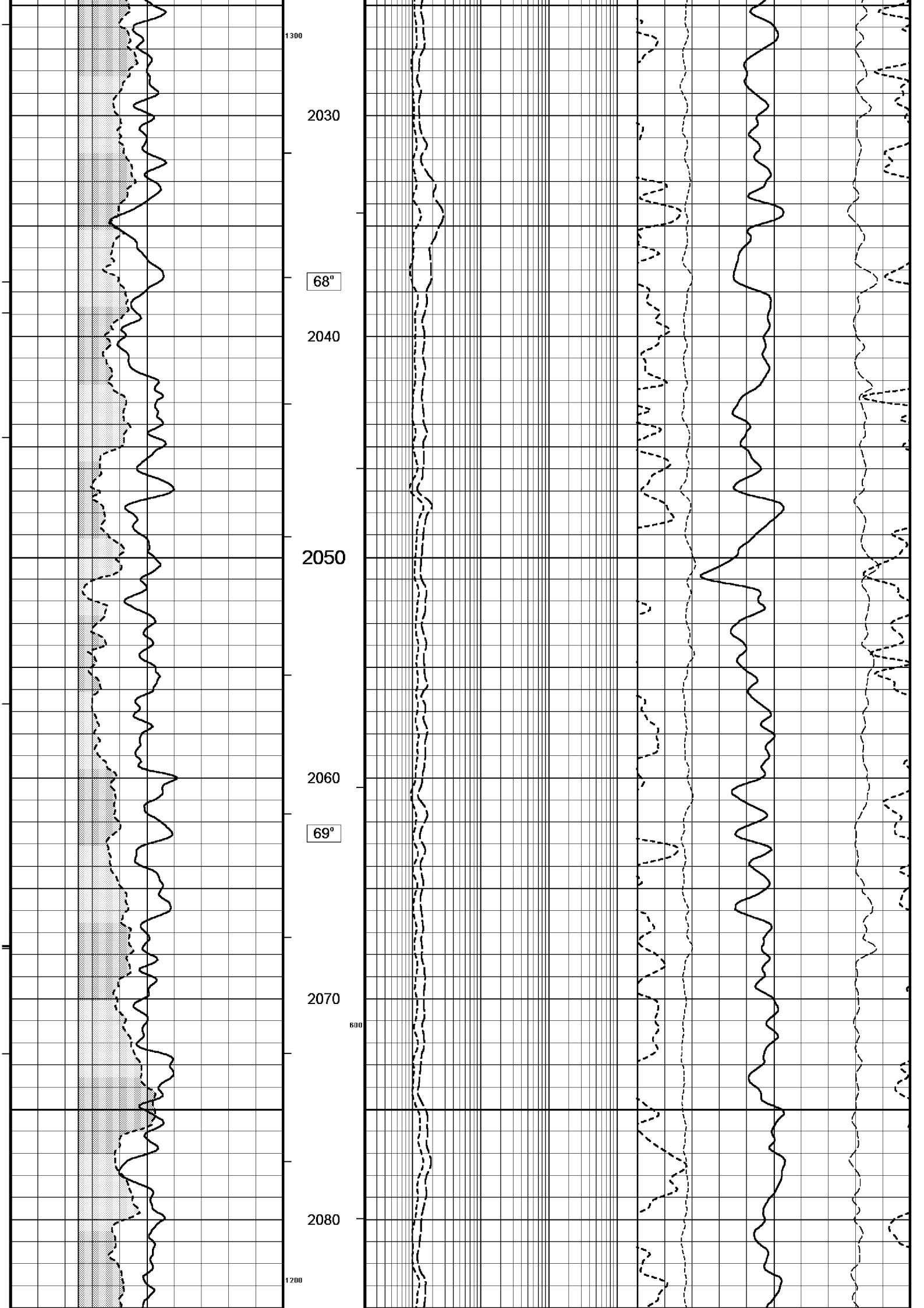

1730
65°
1740
1750
1800
1760
65°
900
1770
1780
66°

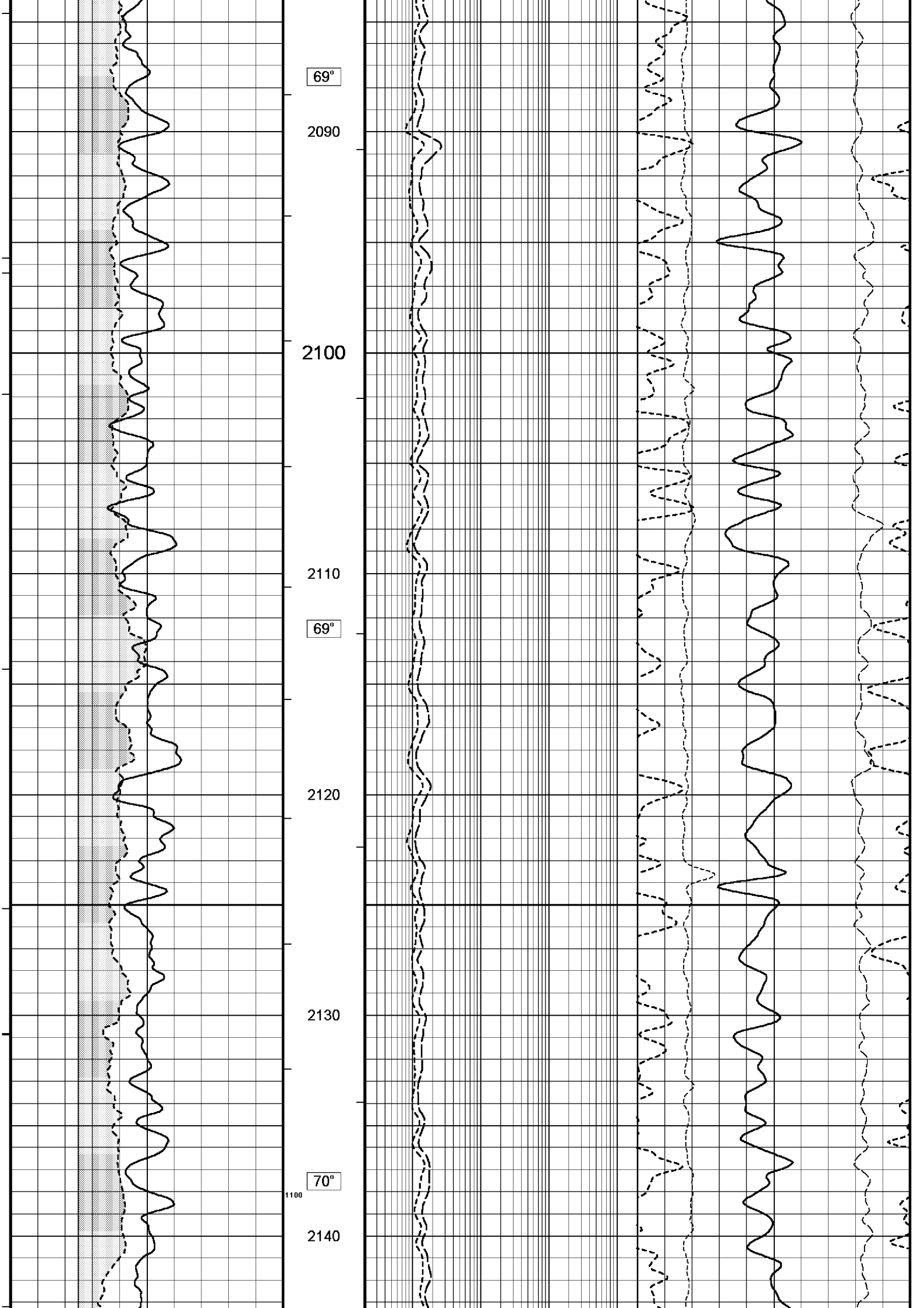

1790
1800
1810
66°
1700
1820
1830
66°
1840

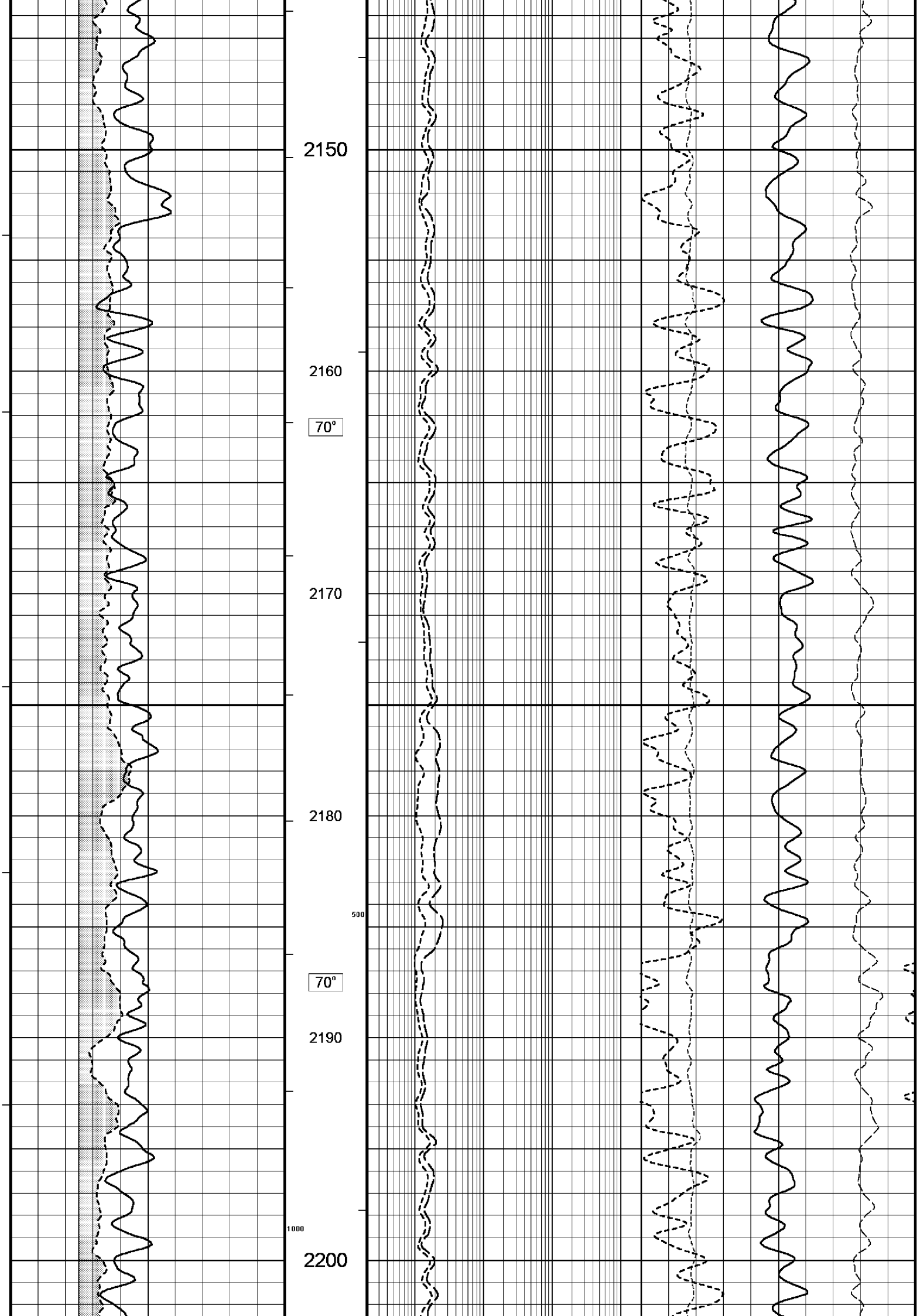

1850
1860
66°
1600
800
1870
1880
66°
1890
1900

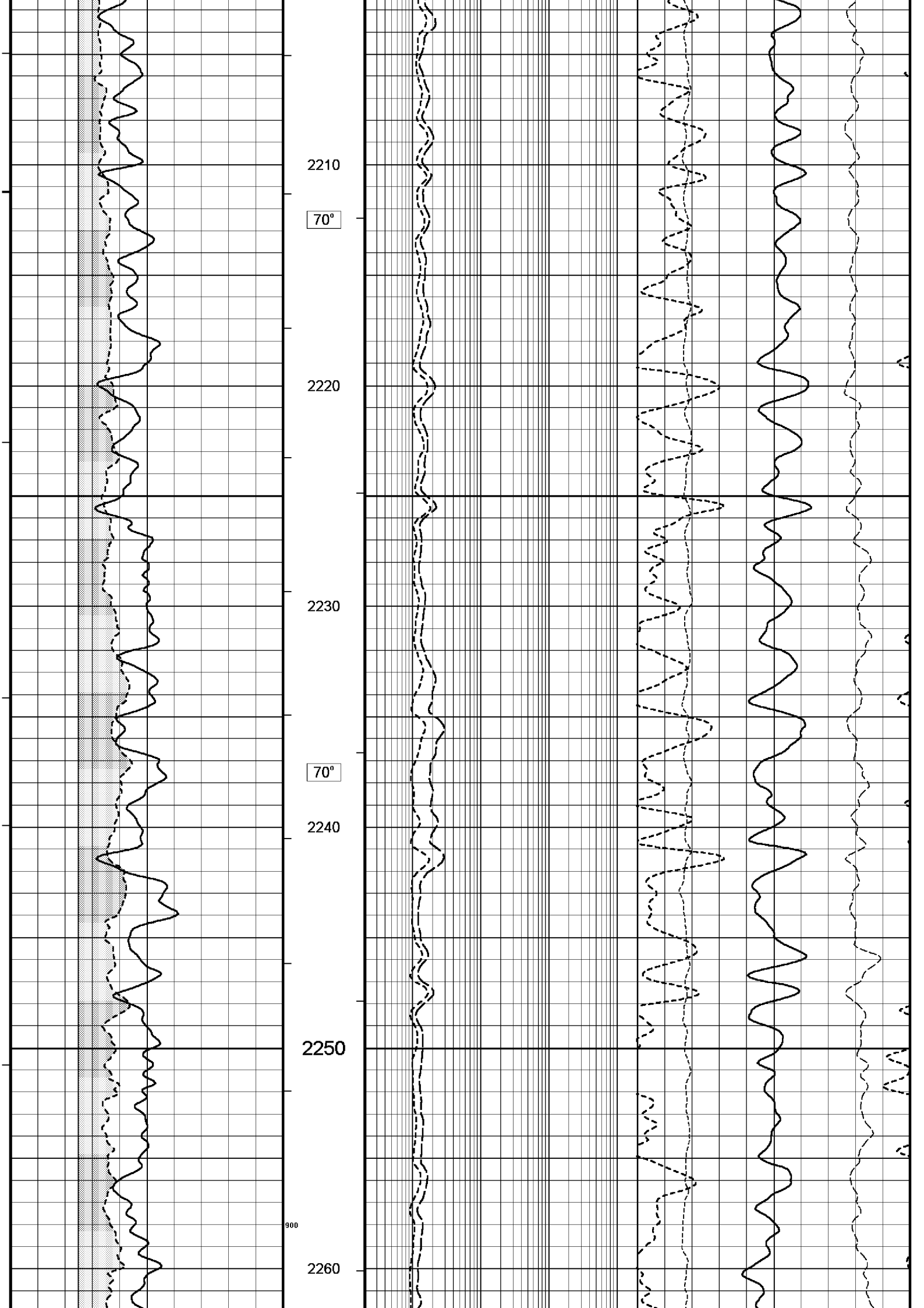

1910
67°
1500
1920
1930
67°
1940
1950
1960
700
67°

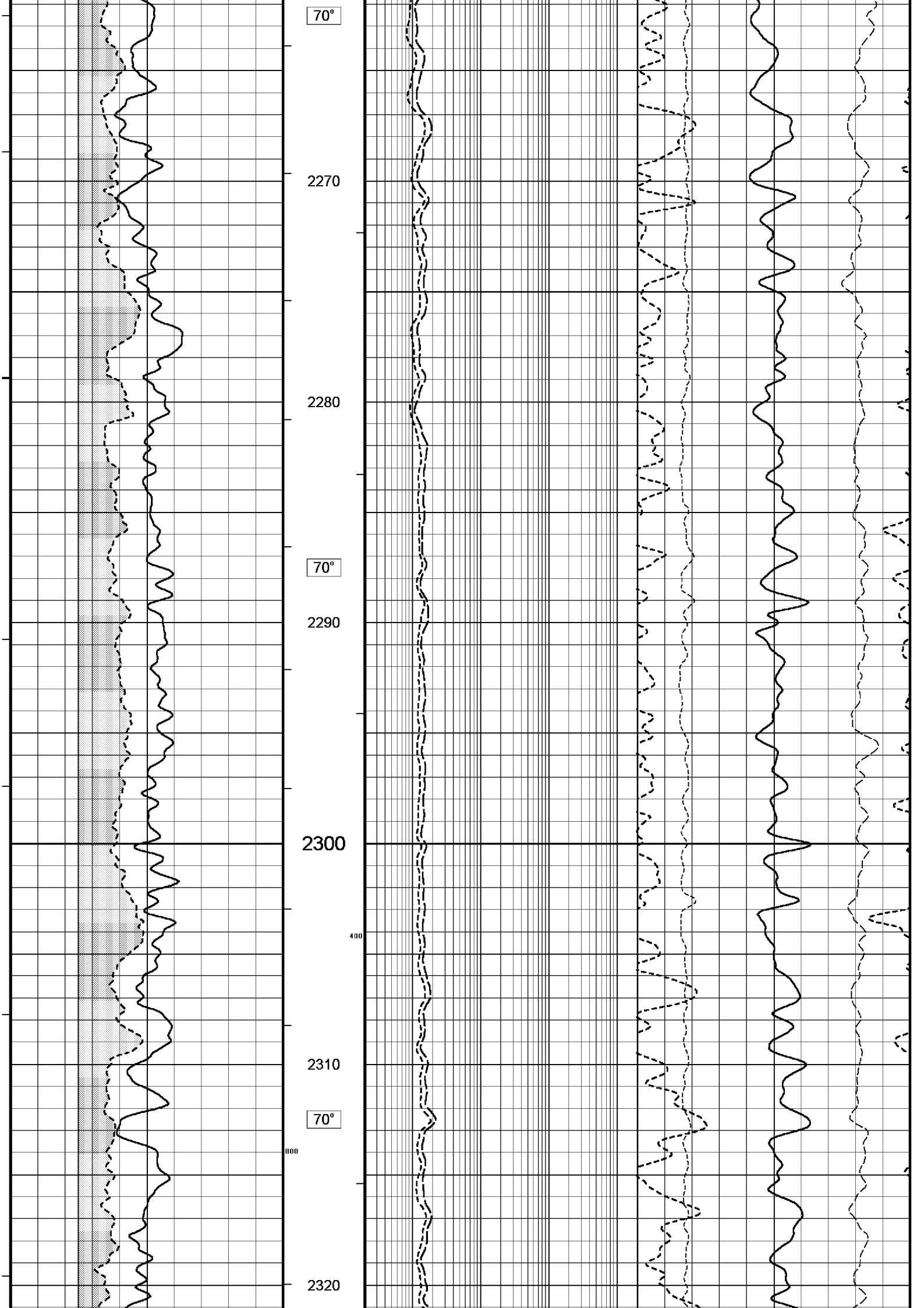

1970
1400
1980
68°
1990
2000
2010
68°
2020

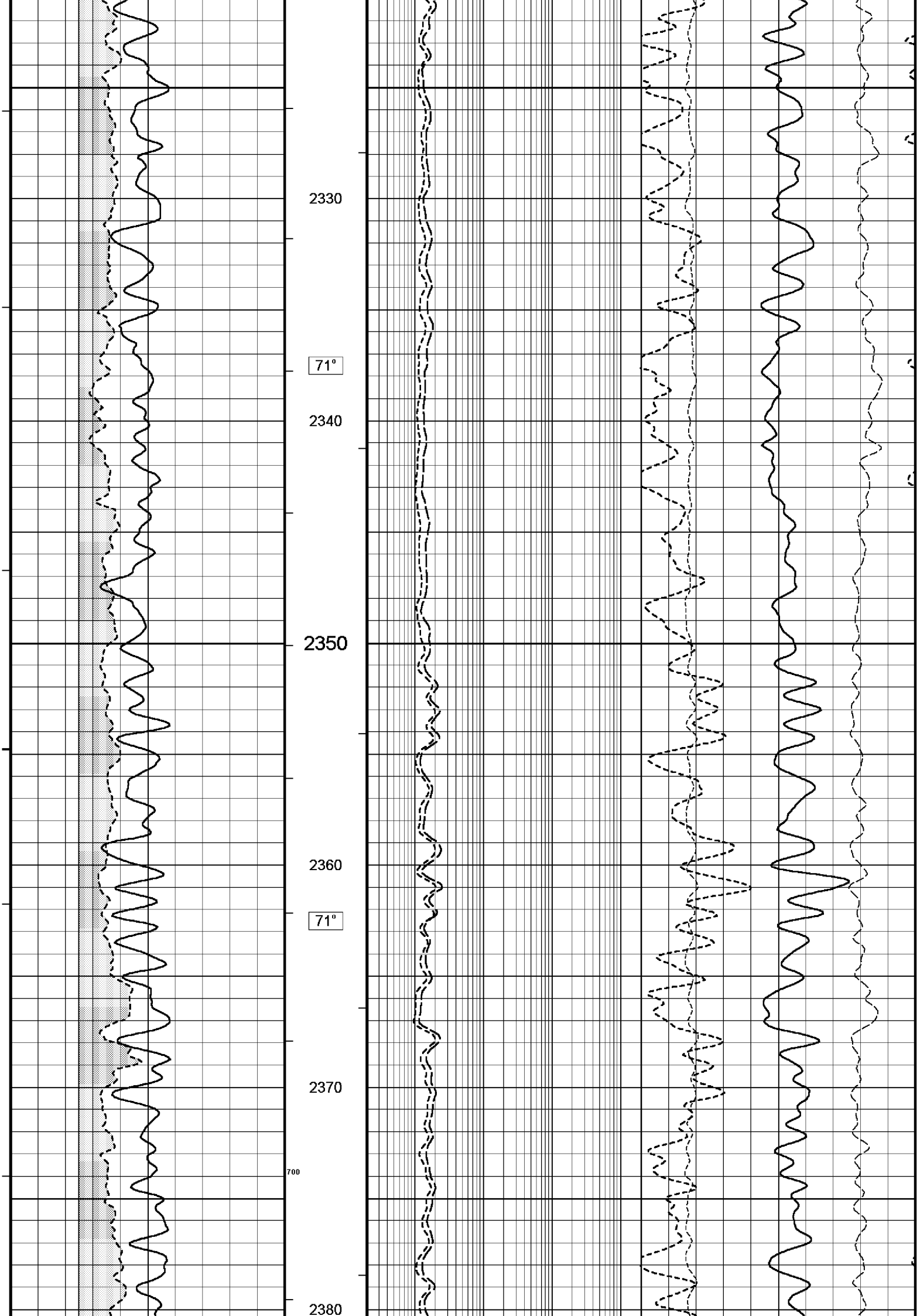

1300
2030
68°
2040
2050
2060
69°
2070
600
2080
1200

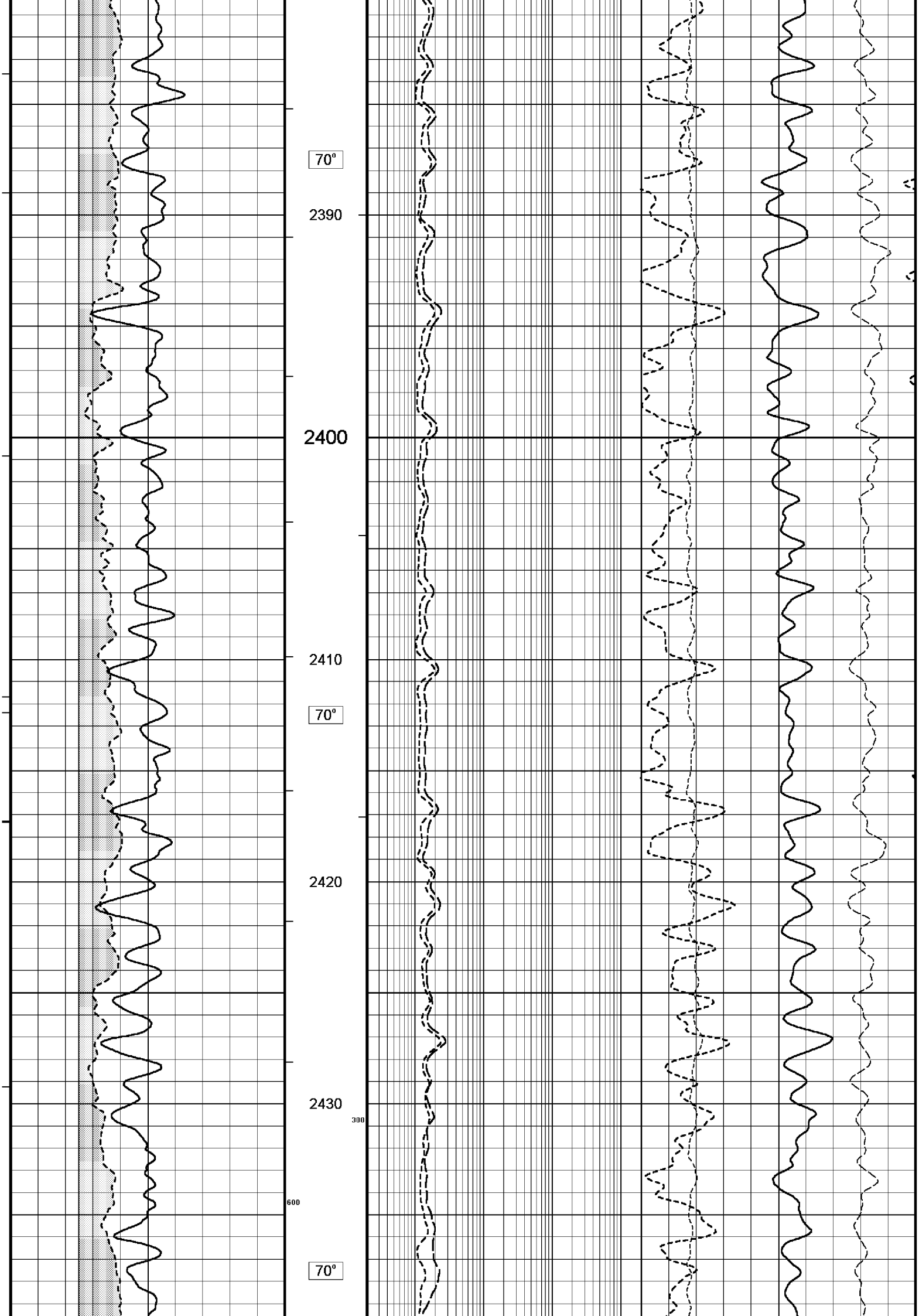

69°
2090
2100
2110
69°
2120
2130
70°
1100
2140

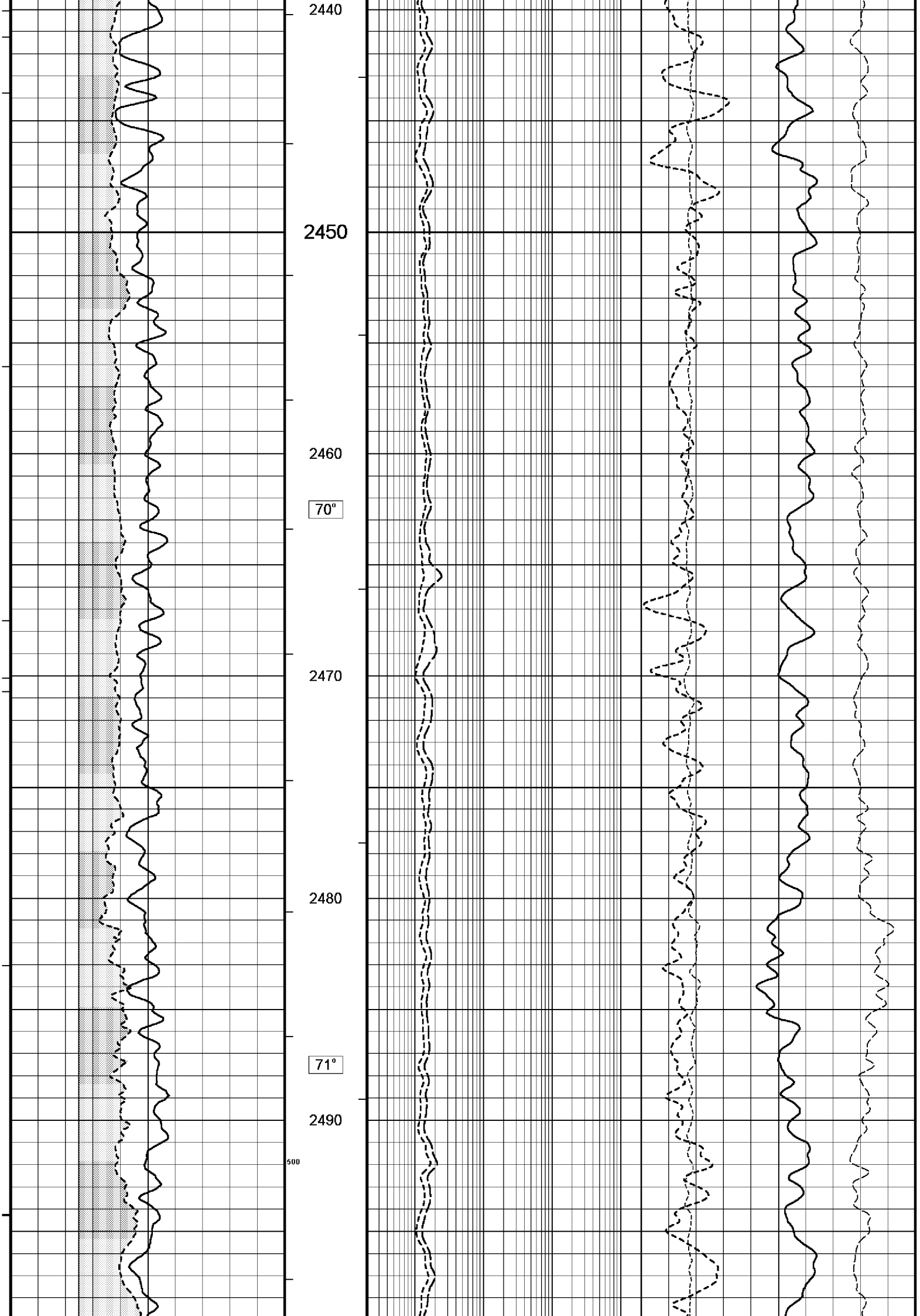

2150
2160
70°
2170
2180
500
70°
2190
1000
2200

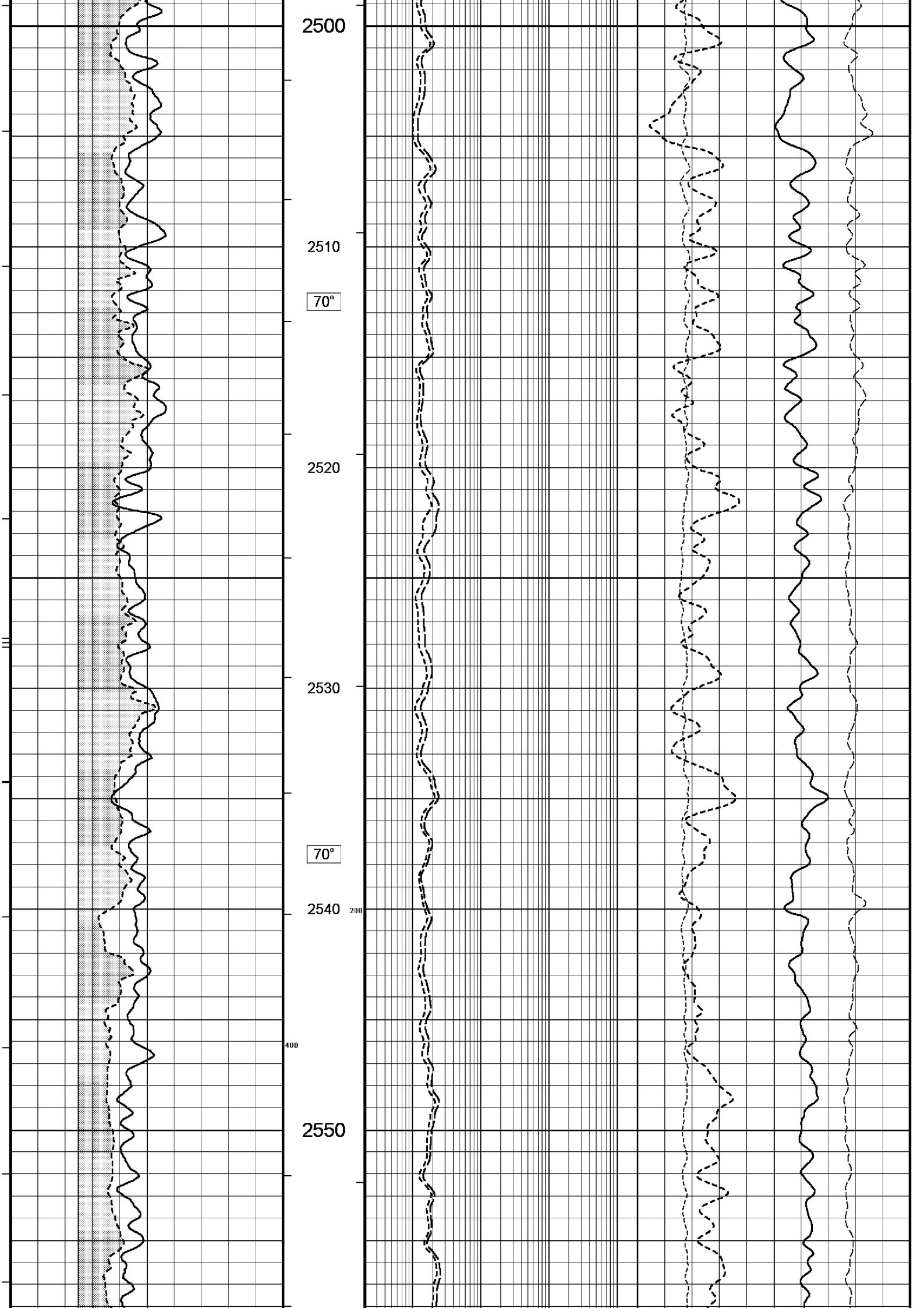

2210
70°
2220
2230
70°
2240
2250
900
2260

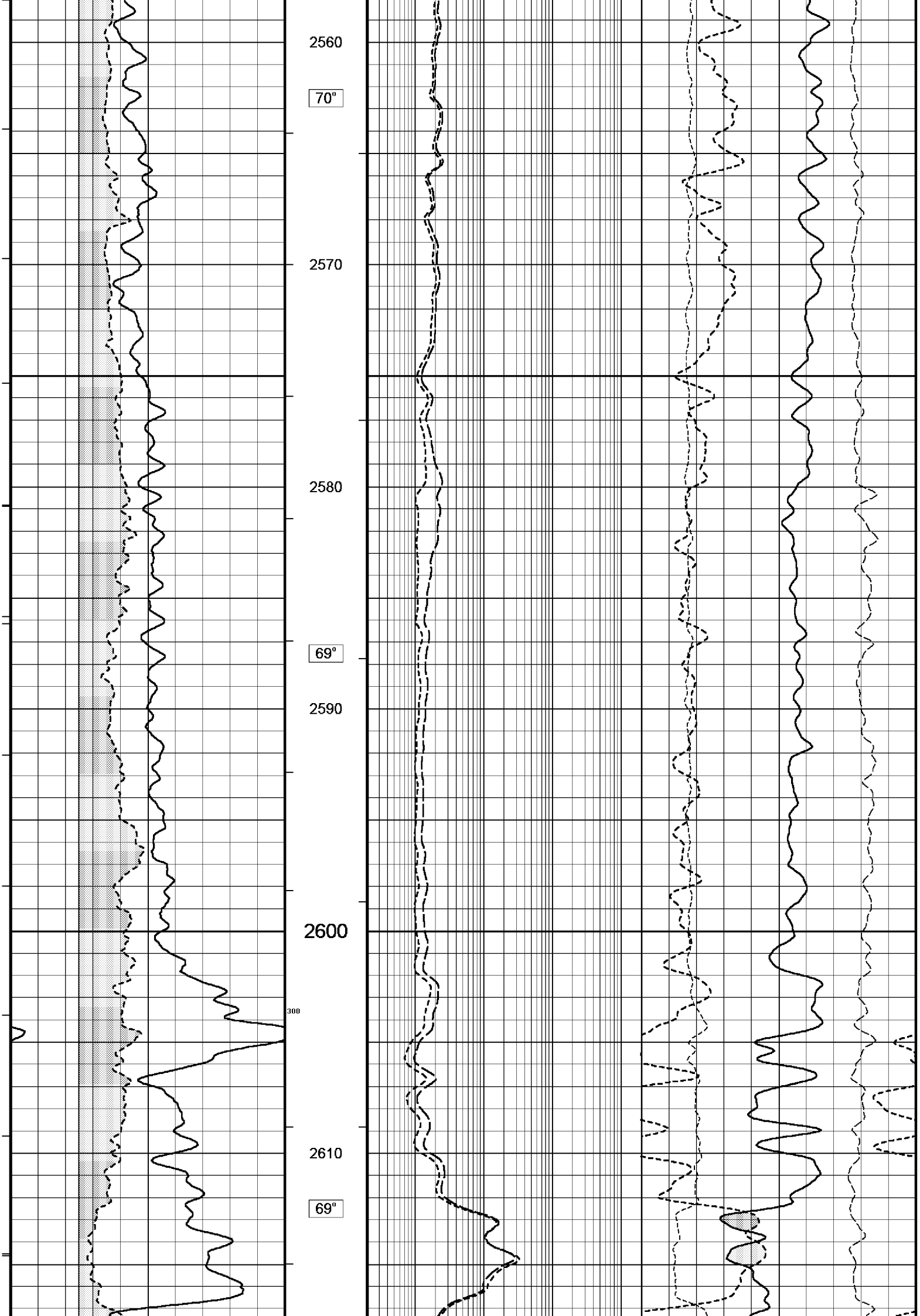

70°
2270
2280
70°
2290
2300
400
2310
70°
800
2320

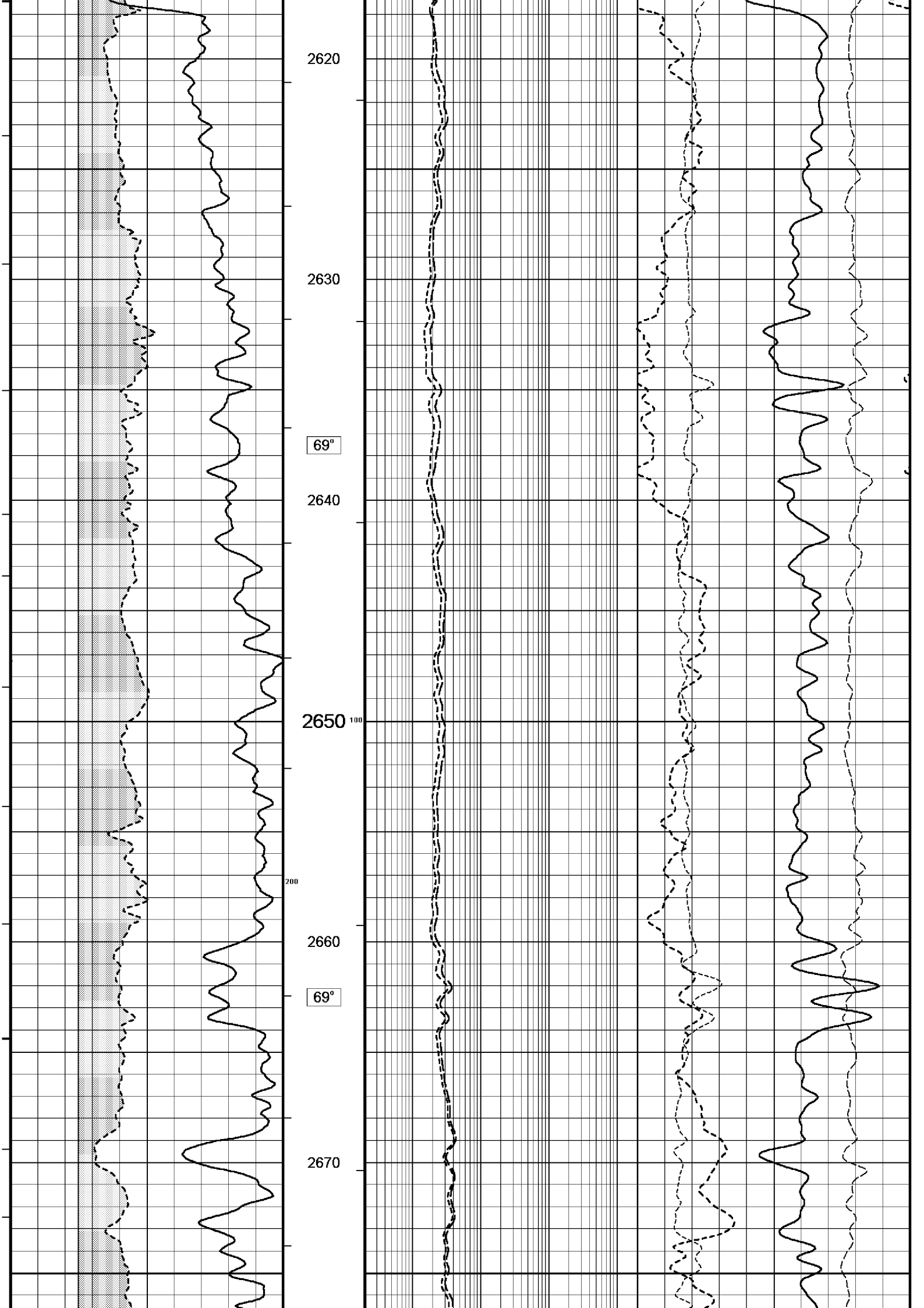

2330
71°
2340
2350
2360
71°
2370
700
2380

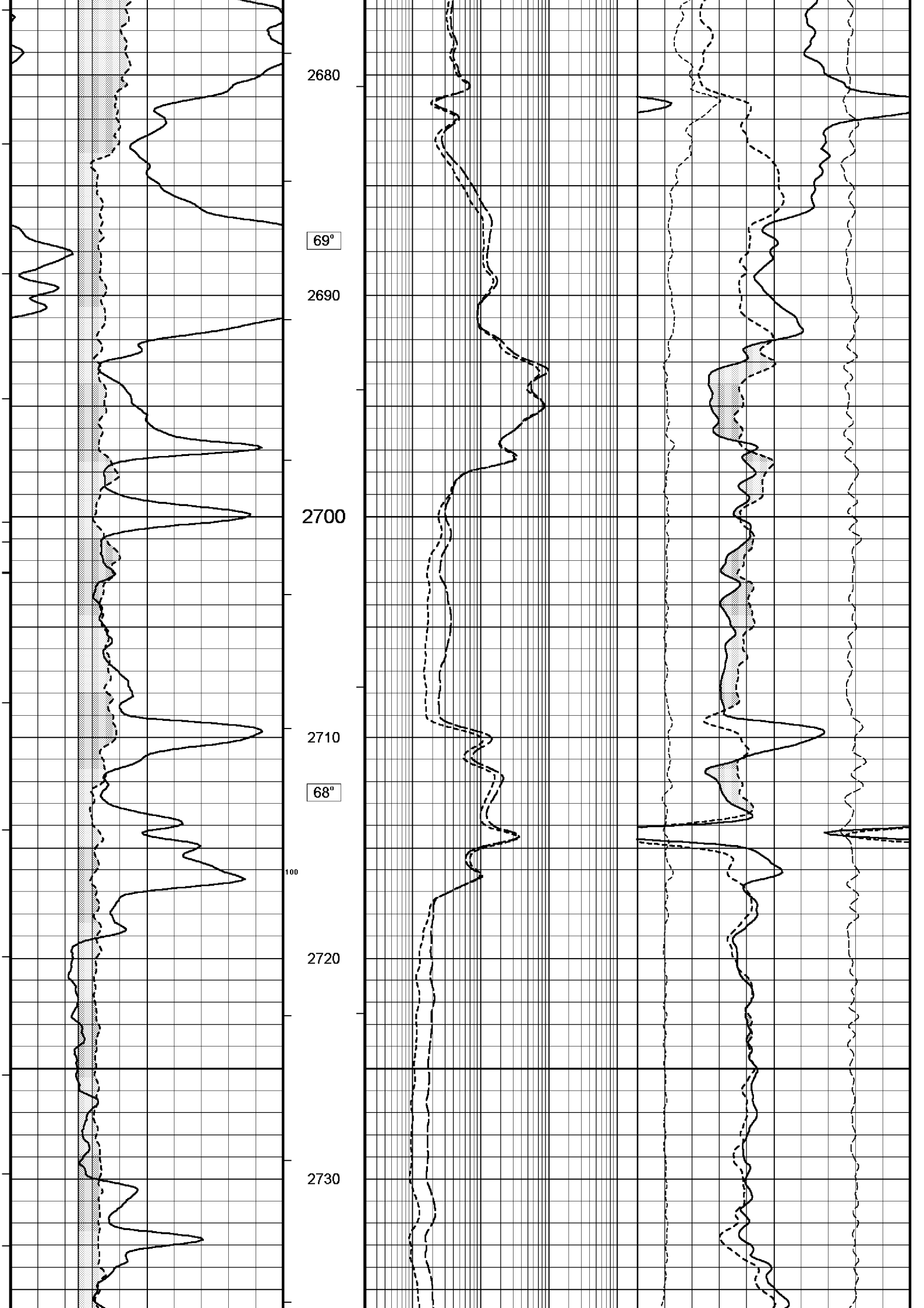

70°
2390
2400
2410
70°
2420
2430
300
600
70°

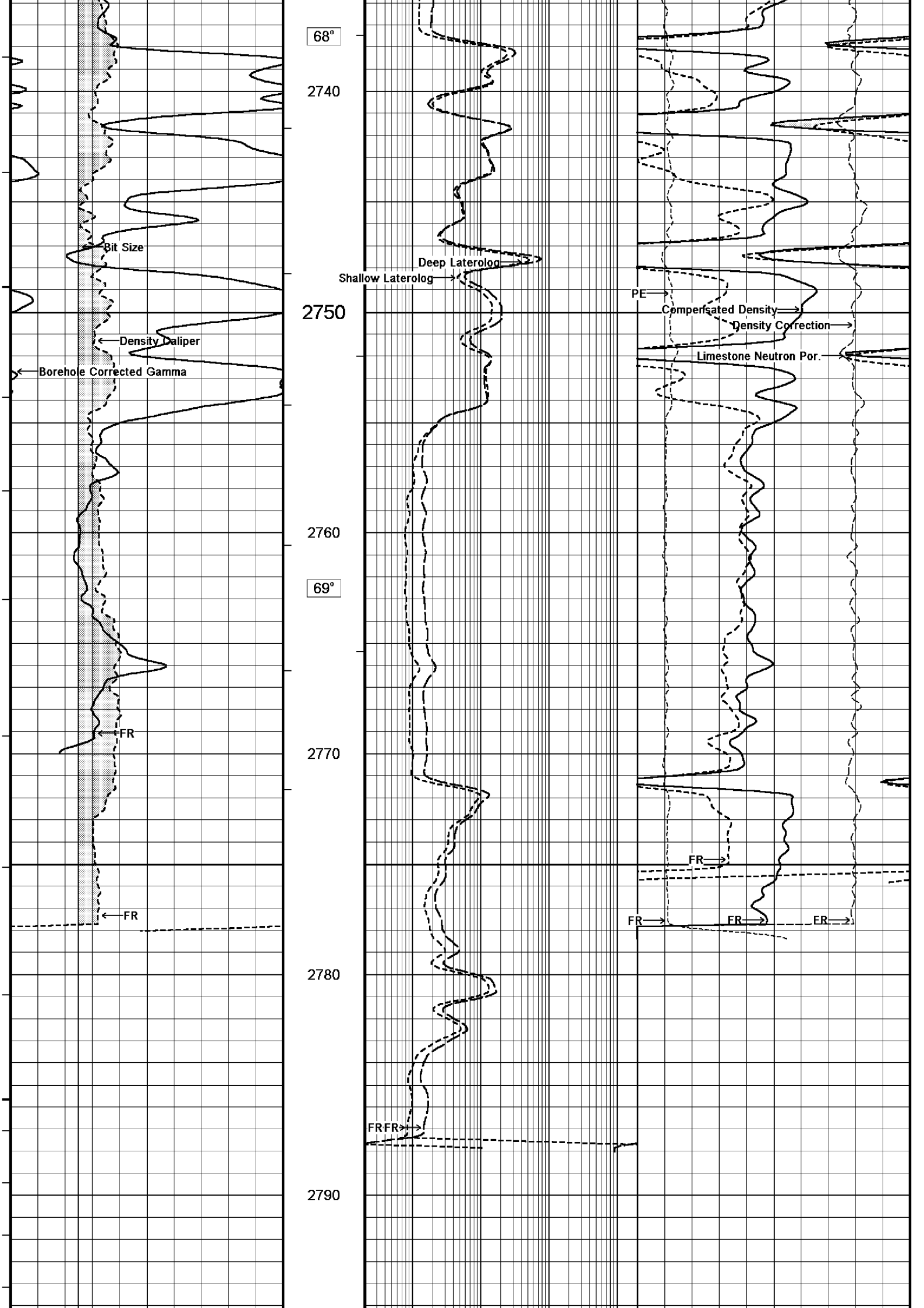

2440
2450
2460
70°
2470
2480
71°
2490
500

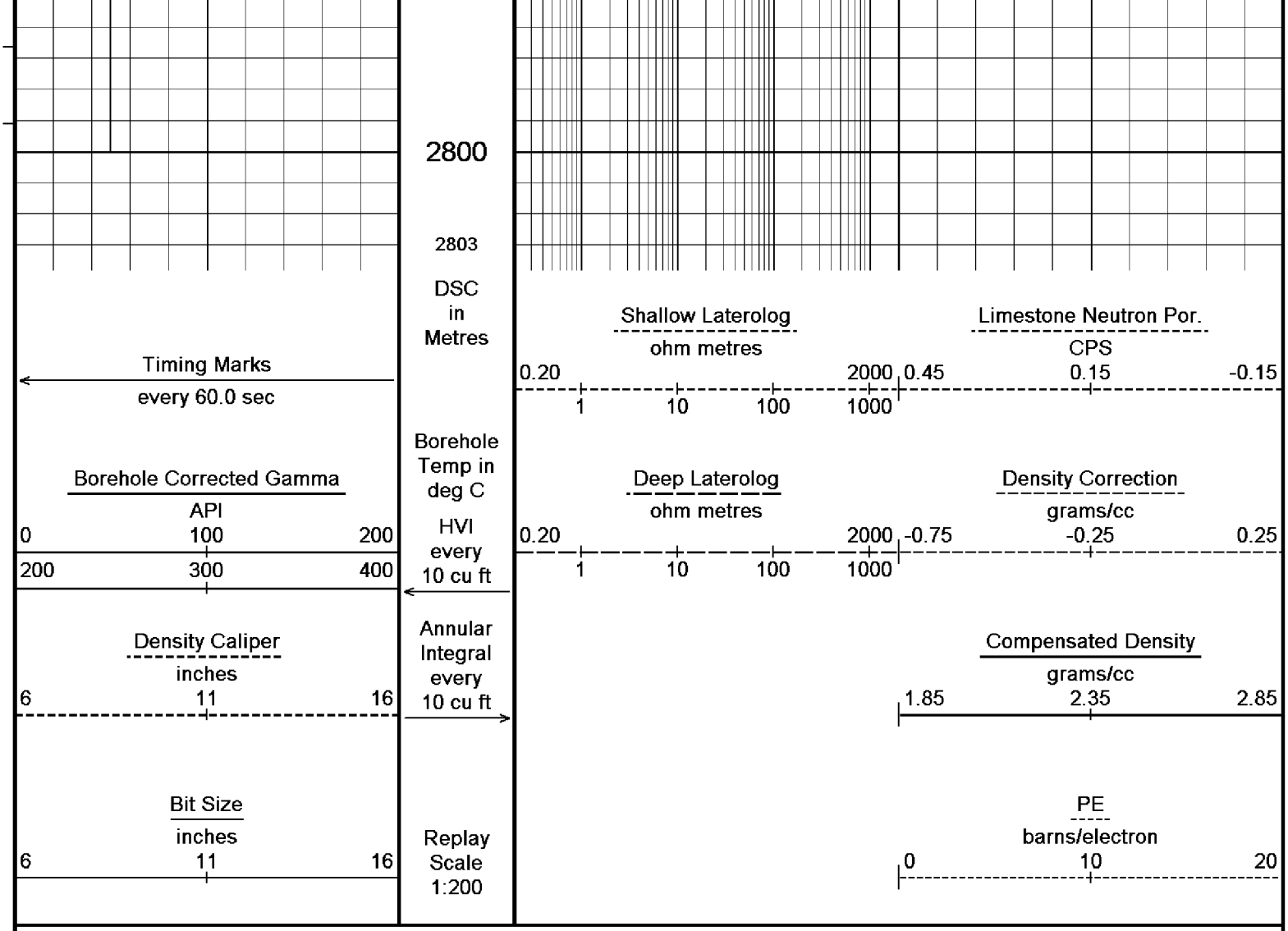

2500
2510
70°
2520
2530
70°
2540
200
400
2550


2560
70°
2570
2580
69°
2590
2600
300
2610
69°


2620
2630
69°
2640
2650
100
200
2660
69°
2670


2680
69°
2690
2700
2710
68°
100
2720
2730


68°
2740
Bit Size
Deep Laterolog
Shallow Laterolog
PE
Compensated Density
Density Correction
2750
Density Caliper
Limestone Neutron Por.
Borehole Corrected Gamma
2760
69°
FR
2770
FR
FR
FR
FR
2780
FR FR
2790



Depth Based Data - Maximum Sampling Increment 10.0cm — Plotted on 30-NOV-2005 22:03
Filename: C:\logs\BMA_A19A\FIELD DATA\BMA_A19A_TRIPLE_COMBO.dta — Recorded on 30-NOV-2005 14:16
System Configuration Dates: Logged 17-JUN-2004: Processed 17-JUN-2004: Plotted 17-JUN-2004:

MAIN LOG 1:200

BEFORE SURVEY CALIBRATION

C:\logs\BMA_A19A\FIELD DATA\BMA_A19A_TRIPLE_COMBO.dta

General Constants All 000

General Parameters		
Mud Resistivity	0.113	ohm-metres
Mud Resistivity Temperature	25.000	degrees C
Water Level	0.000	metres
Density/Neutron Processing	Wet Hole	
Hole/Annular Volume and Differential Caliper Parameters		
HVOL Caliper 1	Density Caliper	
HVOL Caliper 2	Density Caliper	
Annular Volume Diameter	7.000	inches
Caliper for Differential Caliper	None	
Rwa Parameters		
Porosity used	Limestone Sonic Porosity	
Resistivity used	Deep Induction	
RWA Constant A	0.610	
RWA Constant M	2.150	

High Resolution Temperature Calibration MCG 142

Field Calibration on 7-NOV-2005,03:12

	Measured	Calibrated(Deg C)
Lower	0.00	0.00
Upper	100.00	100.00

High Resolution Temperature Constants MCG 142

High Resolution Temperature Constants MCG 142

Pre-filter Length	11

Gamma Calibration MCG 142

Field Calibration on 7-NOV-2005 03:17

	Measured	Calibrated (API)
Background	21	14
Calibrator (Gross)	1367	923
Calibrator (Net)	1346	909

Gamma Constants MCG 142

Gamma Calibrator Number	060	
Mud Density	1.21	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Centred	
Concentration of KCl	0.00	kppm

Neutron Calibration MDN 085

Base Calibration on 28-OCT-2005 16:16
Field Check on 7-NOV-2005 03:32

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	3202	100	3714	110
Ratio	32.170		33.764	

Field Calibrator at Base

	Calibrated (cps)	
	1608	2344
Ratio	0.686	

Field Check

	Calibrated (cps)	
	1577	2339
Ratio	0.674	

Neutron Constants MDN 085

Neutron Source Id	NSN-E-729	
Neutron Jig Number	NEC-C-052	
Epithermal Neutron	No	
Caliper Source for Processing	Bit Size	
Stand-off	0.00	inches
Mud Density	1.21	gm/cc
Limestone Sigma	7.10	cu
Sandstone Sigma	4.26	cu
Dolomite Sigma	4.70	cu
Formation Pressure Source	None	
Formation Pressure	N/A	kpsi
Temperature Source	MCG External Temperature	
Temperature	N/A	degrees C
Mud Salinity	59.40	kppm
Formation Fluid Salinity Source	None	
Formation Fluid Salinity	N/A	kppm
Barite Mud Correction	Not Applied	

Caliper Calibration MPD 083

Base Calibration on 28-OCT-2005 18:13
Field Calibration on 7-NOV-2005 03:20

Base Calibration

Reading No	Measured	Calibrator Size (in)
1	13616	4.01
2	21847	5.99
3	30336	7.98
4	38762	9.94
5	47872	12.01
6	N/A	N/A

Field Calibration

Measured Caliper (in)	Actual Caliper (in)
7.94	7.98

Photo Density Calibration MPD 083

Base Calibration on 28-OCT-2005 18:32
Field Check on 7-NOV-2005 03:25

Density Calibration

Base Calibration

	Measured		Calibrated (sdu)	
	Near	Far	Near	Far
Reference 1	54504	18779	53111	19310
Reference 2	25530	2542	24951	2530

Field Check at Base

949.8 1099.0

Field Check

950.3 1097.1

PE Calibration

Base Calibration

	WS	Measured WH	Ratio	Calibrated Ratio
Background	181	815		
Reference 1	17171	54310	0.318	0.320
Reference 2	6840	25386	0.271	0.273

Field Check at Base

181.2 815.4

Field Check

181.0 813.6

Density Constants MPD 083

Density Source Id	NSD-L-242	
Nylon Calibrator Number	DNC-D-536	
Aluminium/Fe Calibrator Number	DNC-D-536	
Density Shoe Profile	4 inch	
Caliper Source for Processing	Density Caliper	
PE Correction to Density	Not Applied	
Mud Density	1.21	gm/cc
Mud Density Z/A Correction	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

Matrix Density (gm/cc)	Depth (m)
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

Laterolog Constants MLE 031

Squasher Start	40000	ohm-m
Shallow Laterolog K Factor	1.3210	
Deep Laterolog K Factor	0.7550	
Groningen Laterolog K Factor	0.8540	
Interference Rejection	50 Hz	
SP Connection	SP Bridle Electrode	
Groningen Connection	Groningen Electrode	

DOWNHOLE EQUIPMENT

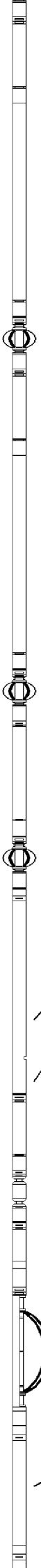
C:\logs\BMA_A19A\FIELD DATA\BMA_A19A_TRIPLE_COMBO.dta

Compact Swivel Head Adaptor F
SHA 71 Length: 0.83 m Weight: 26.5 lb

Compact Knuckle Joint
SKJ 100 Length: 0.66 m Weight: 24.3 lb

Compact Battery Sub.
MBS 99 Length: 4.41 m Weight: 44.1 lb

Compact Inline Standoff B
MIS 73 Length: 0.65 m Weight: 15.4 lb



Compact Stiff Bridle Electrode Sub.
MBE 18 Length: 3.76 m Weight: 94.8 lb

Compact Inline Standoff B
MIS 138 Length: 0.65 m Weight: 15.4 lb

Compact Stiff Bridle Electrode Sub.
MBE 19 Length: 3.76 m Weight: 94.8 lb

Compact Inline Standoff B
MIS 136 Length: 0.65 m Weight: 15.4 lb

MBE21 - THIRD BRIDLE
MLK 111 Length: 3.76 m Weight: 30.9 lb

Compact Inline Standoff B
MIS 133 Length: 0.65 m Weight: 15.4 lb

Compact Gamma
MCG 142 Length: 2.65 m Weight: 63.9 lb

32.22 m GGCE - Borehole Corrected Gamma
31.33 m CGXT - MCG External Temperature

Compact Memory Sub A.C
MMS 38 Length: 0.95 m Weight: 30.9 lb

Compact Knuckle Joint
SKJ 45 Length: 0.66 m Weight: 24.3 lb

Compact Swivel Head Adaptor F
SHA 64 Length: 0.83 m Weight: 26.5 lb

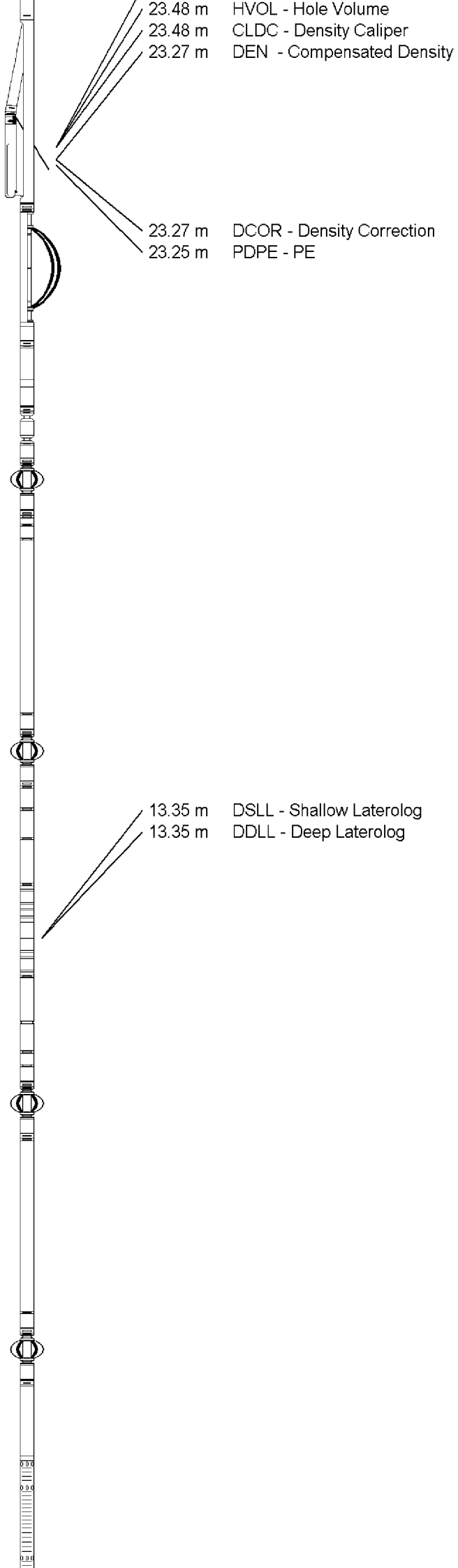
Compact Inline Bowspring A
MIS 94 Length: 1.74 m Weight: 33.1 lb

Compact Neutron
MDN 85 Length: 1.53 m Weight: 50.7 lb

26.17 m NPRL - Limestone Neutron Por.

Compact Density/Caliper

23.48 m AVOL - Annular Volume



MPD 83 Length: 2.92 m Weight: 90.4 lb

Compact Inline Bowspring A
MIS 24 Length: 1.74 m Weight: 33.1 lb

Compact Swivel Head Adaptor
SHA 28 Length: 0.83 m Weight: 26.5 lb

Compact Knuckle Joint
SKJ 110 Length: 0.66 m Weight: 24.3 lb

Compact Inline Standoff B
MIS 72 Length: 0.65 m Weight: 15.4 lb

Compact Upper Guard Sub.
MUG 30 Length: 2.74 m Weight: 68.3 lb

Compact Inline Standoff B
MIS 141 Length: 0.65 m Weight: 15.4 lb

Compact Laterolog Electrode Sub.
MLE 31 Length: 3.76 m Weight: 92.6 lb

Compact Inline Standoff B
MIS 127 Length: 0.65 m Weight: 15.4 lb

Compact Lower Guard Sub.
MLG 7 Length: 2.44 m Weight: 55.1 lb

Compact Inline Standoff B
MIS 129 Length: 0.65 m Weight: 15.4 lb

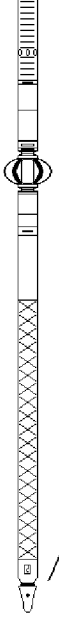
Compact Sonic
MSS 66 Length: 3.82 m Weight: 72.8 lb

Compact Inline Standoff B
MIS 126 Length: 0.65 m Weight: 15.4 lb

Compact Induction
MAI 39 Length: 3.29 m Weight: 48.5 lb

Pressure Bung + Hole Finder
HFS 4 Length: 0.40 m Weight: 6.6 lb

Total Length: 54.01 m Weight: 1201.5 lb



Tool Zero (0.44m from bottom)

All measurements relative to tool zero.

COMPANY	ESSO AUSTRALIA PTY LTD
WELL	BREAM A19A
FIELD	BREAM
PROVINCE/COUNTY	BASS STRAIT
COUNTRY/STATE	AUSTRALIA

Elevation Kelly Bushing		metres	First Reading	2787.60	metres
Elevation Drill Floor	32.82	metres	Depth Driller	2804.00	metres
Elevation Ground Level	-59.40	metres	Depth Logger	2801.00	metres

PRECISION ENERGY SERVICES

Compact

DUAL LATEROLOG - GR

DENSITY - NEUTRON

1:200 MD