



PRECISION
ENERGY SERVICES

DUAL LATEROLOG - GR
DENSITY - NEUTRON

Compact

1:200 TVD

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							
Date						30-Nov-2005	
Run Number	ONE						
Depth Driller	2020.90		metres				
Depth Logger	2017.60		metres				
First Reading	2007.20		metres				
Last Reading	973.00		metres				
Casing Driller	973.00		metres				
Casing Logger	973.00		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						

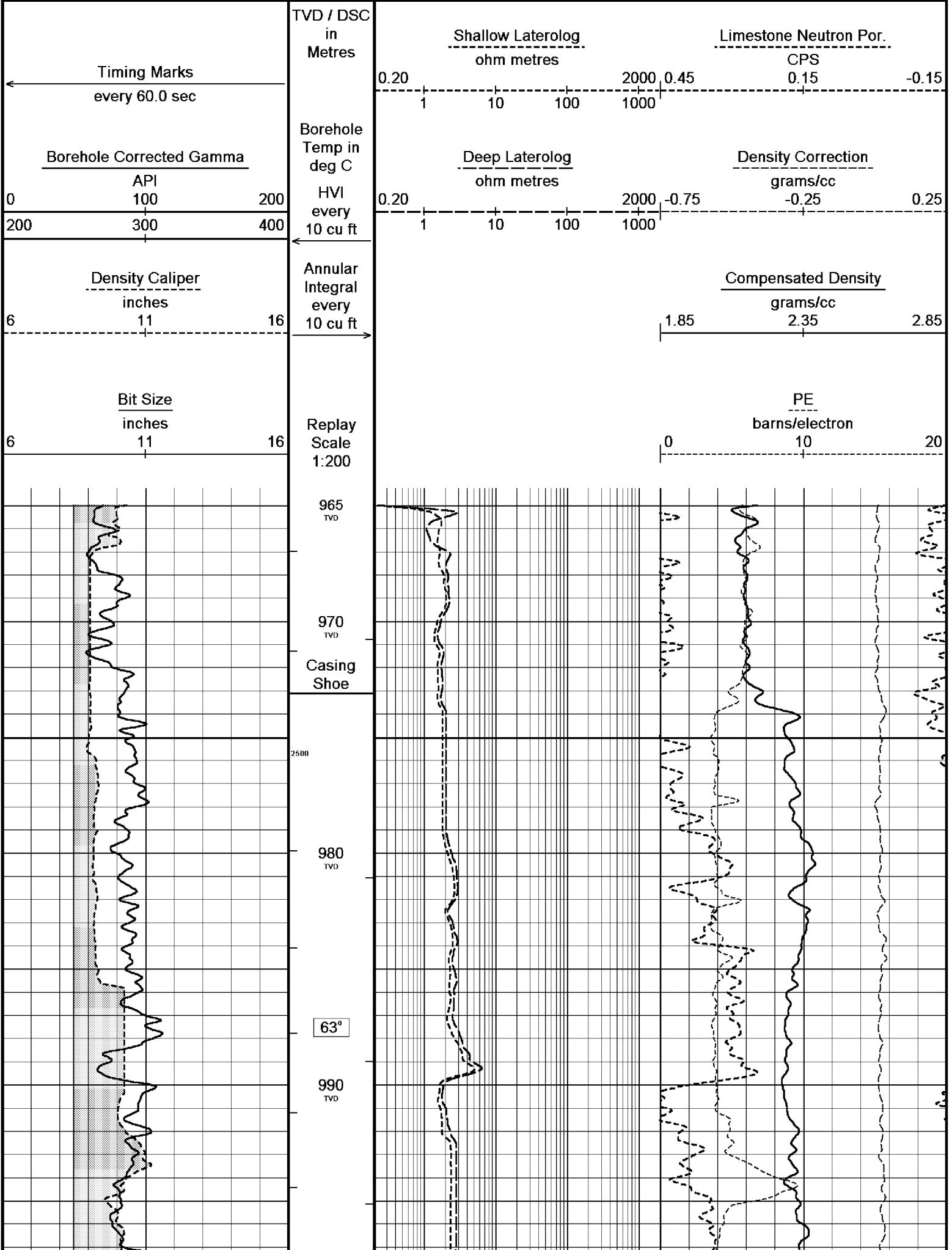
BOREHOLE RECORD				
Bit Size inches		Depth From metres		Depth To metres
8.500		1434.00		2804.00
CASING RECORD				
Type	Size inches	Depth From metres	Shoe Depth metres	Weight pounds/ft
K-55	10.750	0.00	1434.00	40.50

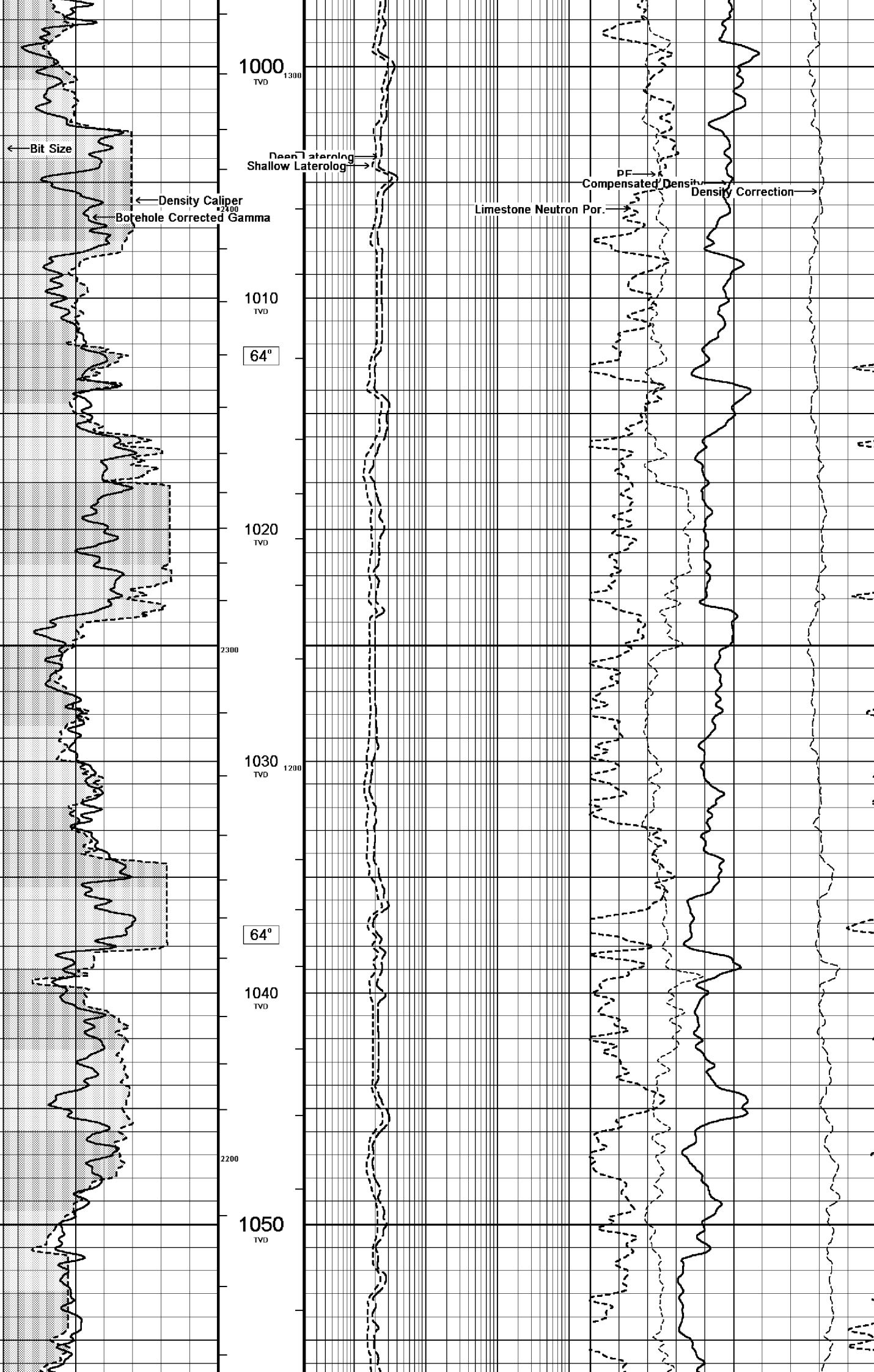
REMARKS
RIG: NABORS 453
5" SHUTTLE/MEMORY COMPACT OPERATION. CREW: R TENCH , B MOSS , B GOODWIN, M KOLCZE.
FIELD FINAL LOGS TO BE CORRELATED TO ANADRILL GAMMA LOG. FIELD FINALS REQUIRE CORRECTION TO TIME DEPTH CORRELATION ABOVE 1800mMD.
BRIDGED OF AT 2786mMD ON TRIP IN, REQUIRED 60RPM AND 10BBL/MIN TO 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

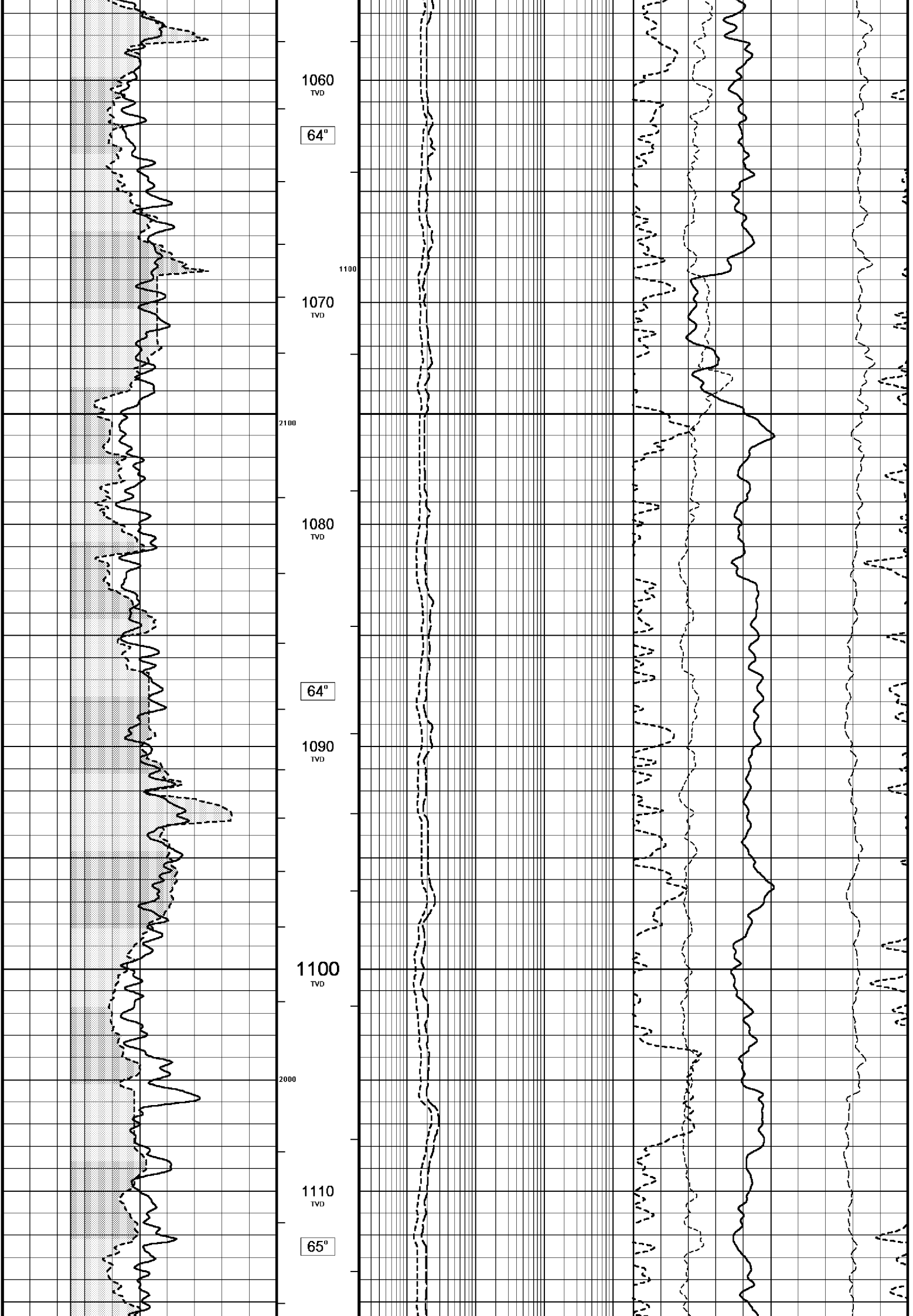
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions in our price schedule.

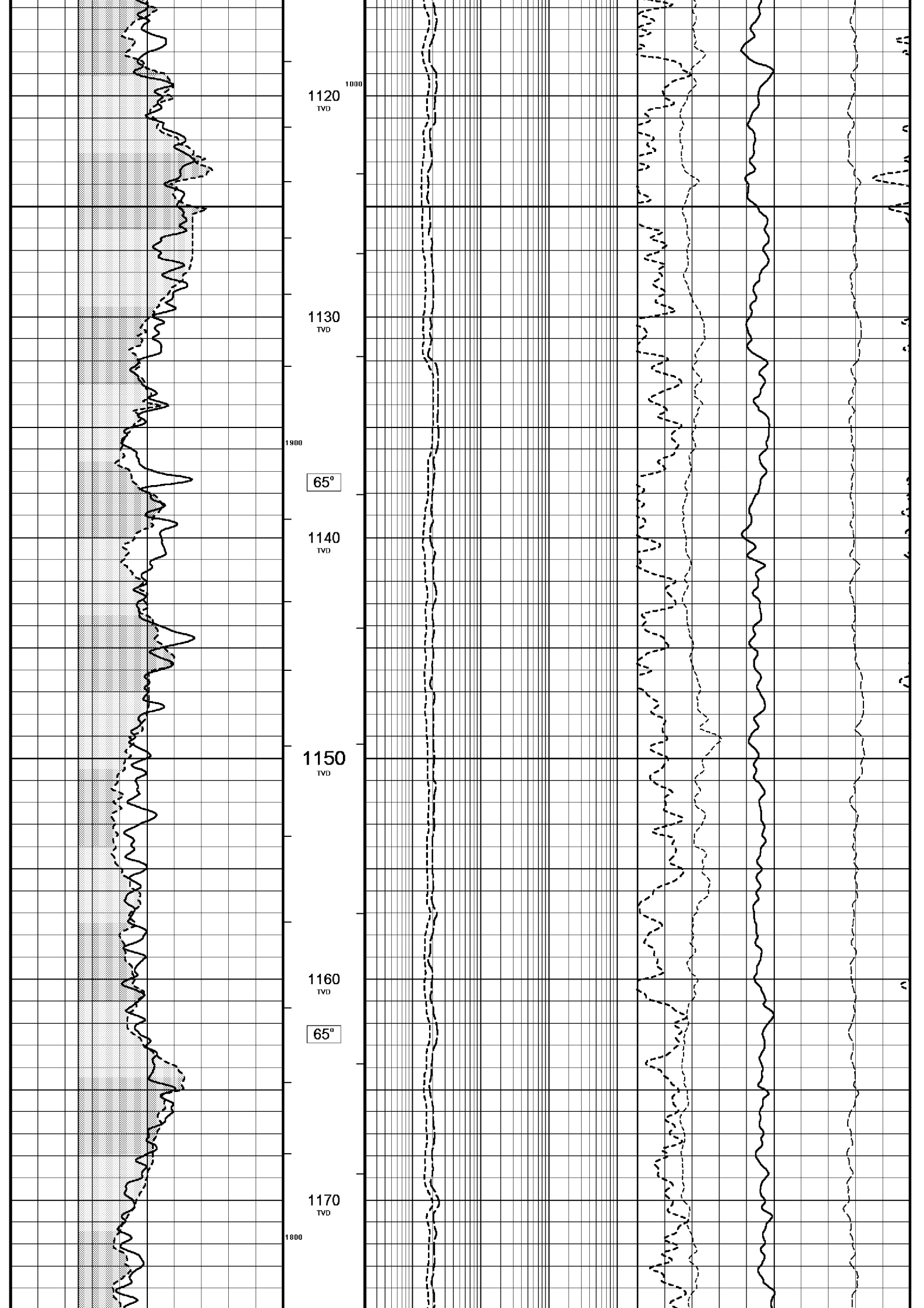
Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\logs\BMA_A19A\FIELD DATA\BMA_A19A_TRIPLE_COMBO.dta
System Configuration Dates: Logged 17-JUN-2004: Processed 17-JUN-2004: Plotted 17-JUN-2004:

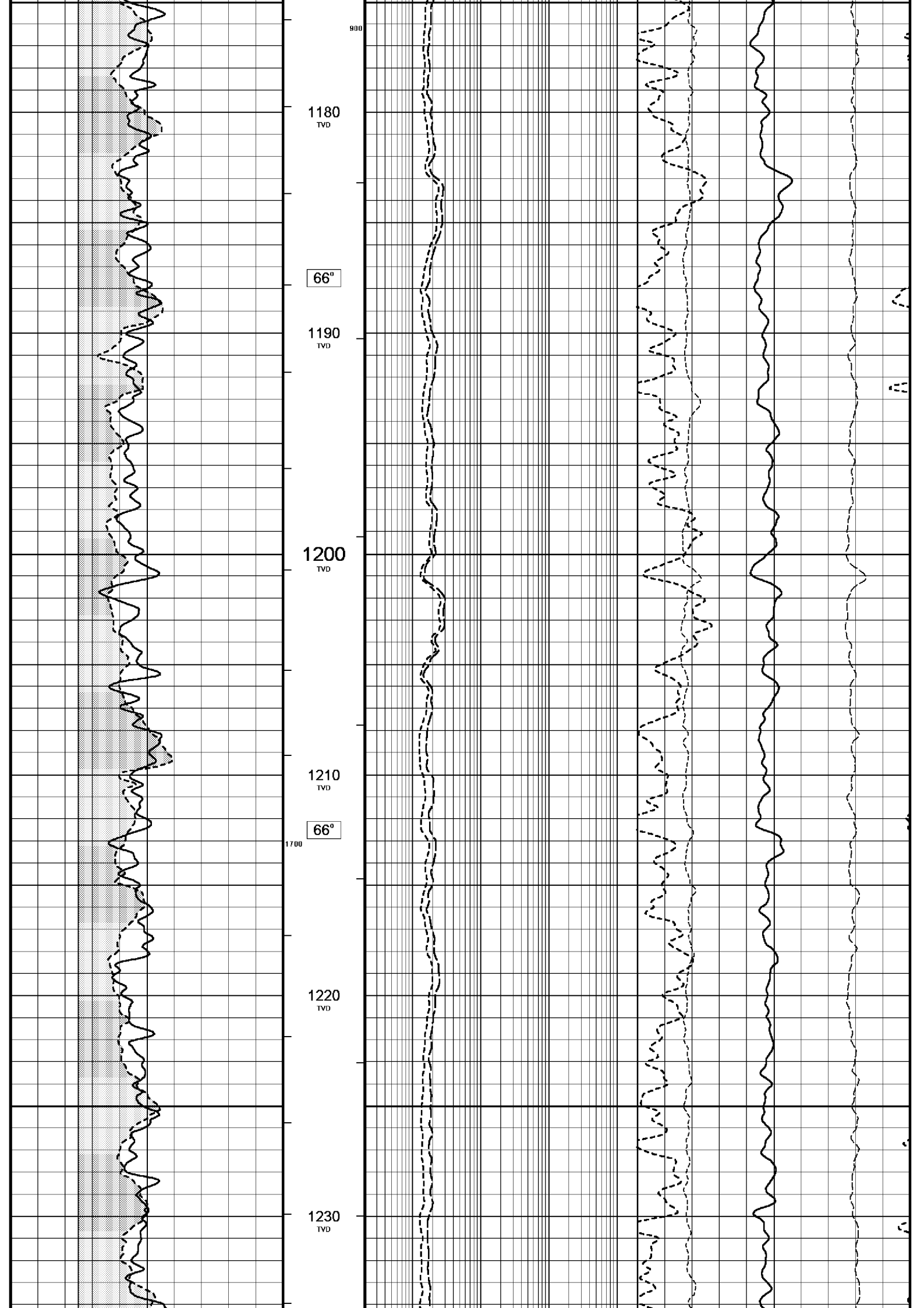
Plotted on 30-NOV-2005 22:08
Recorded on 30-NOV-2005 14:16

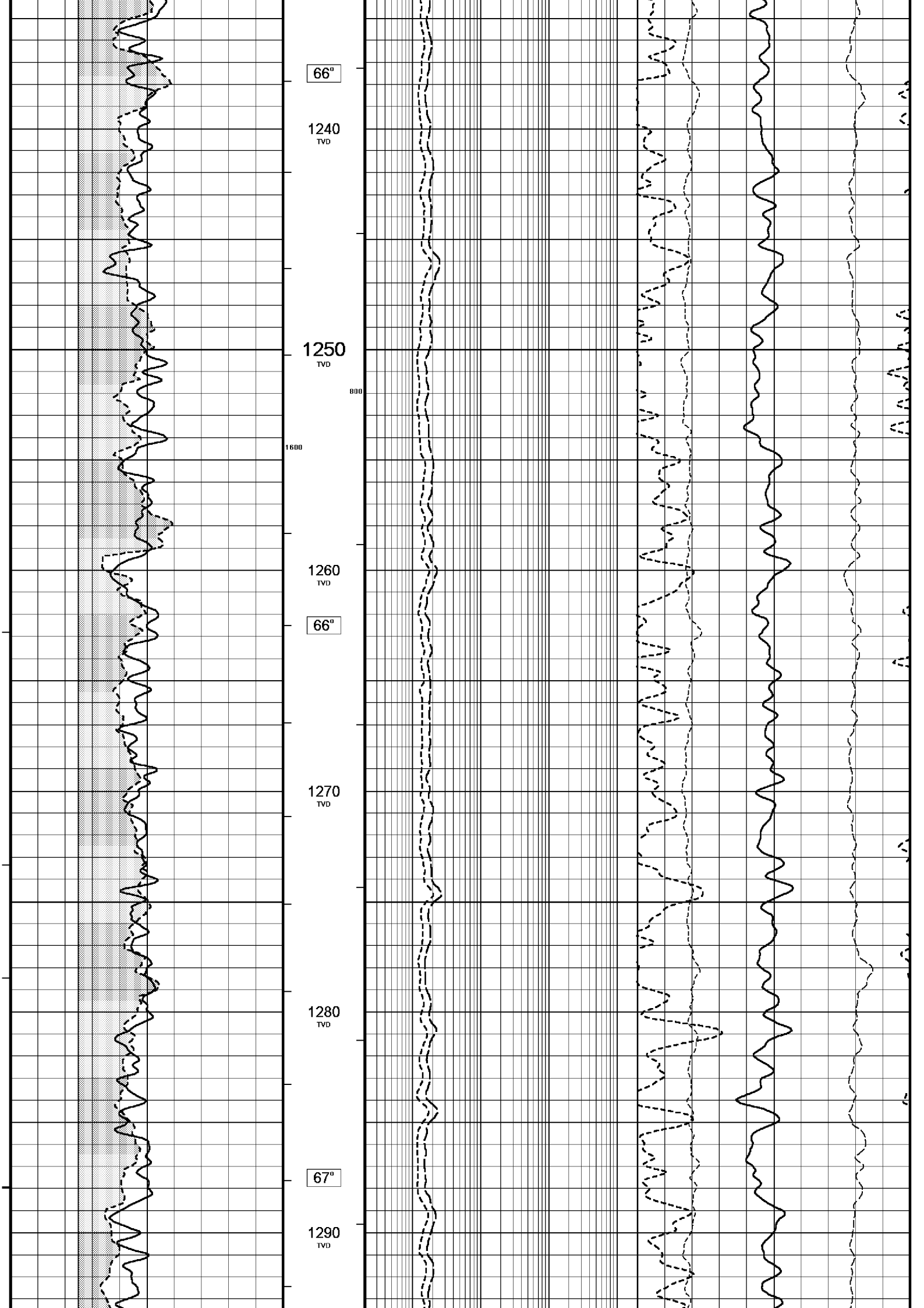


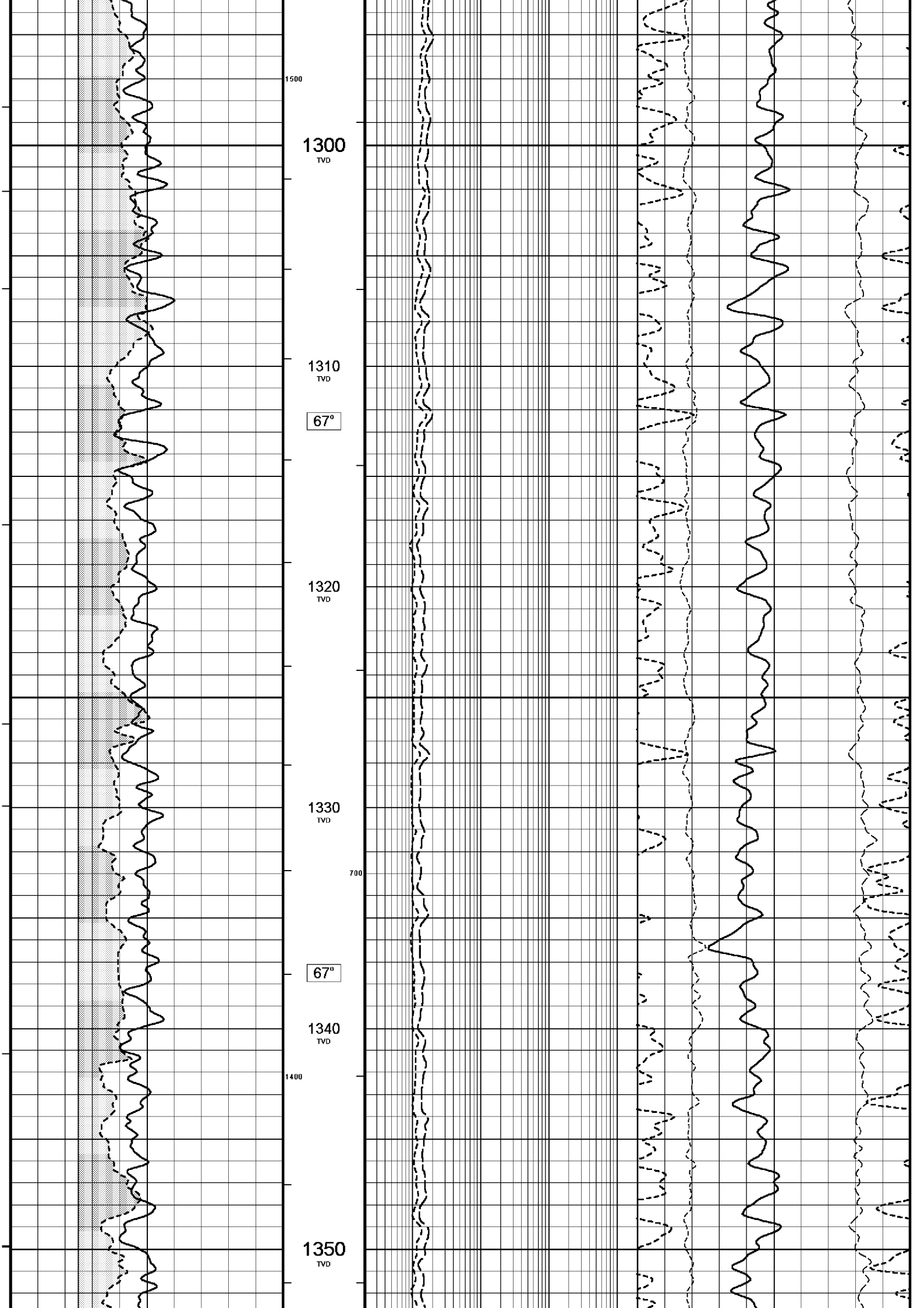


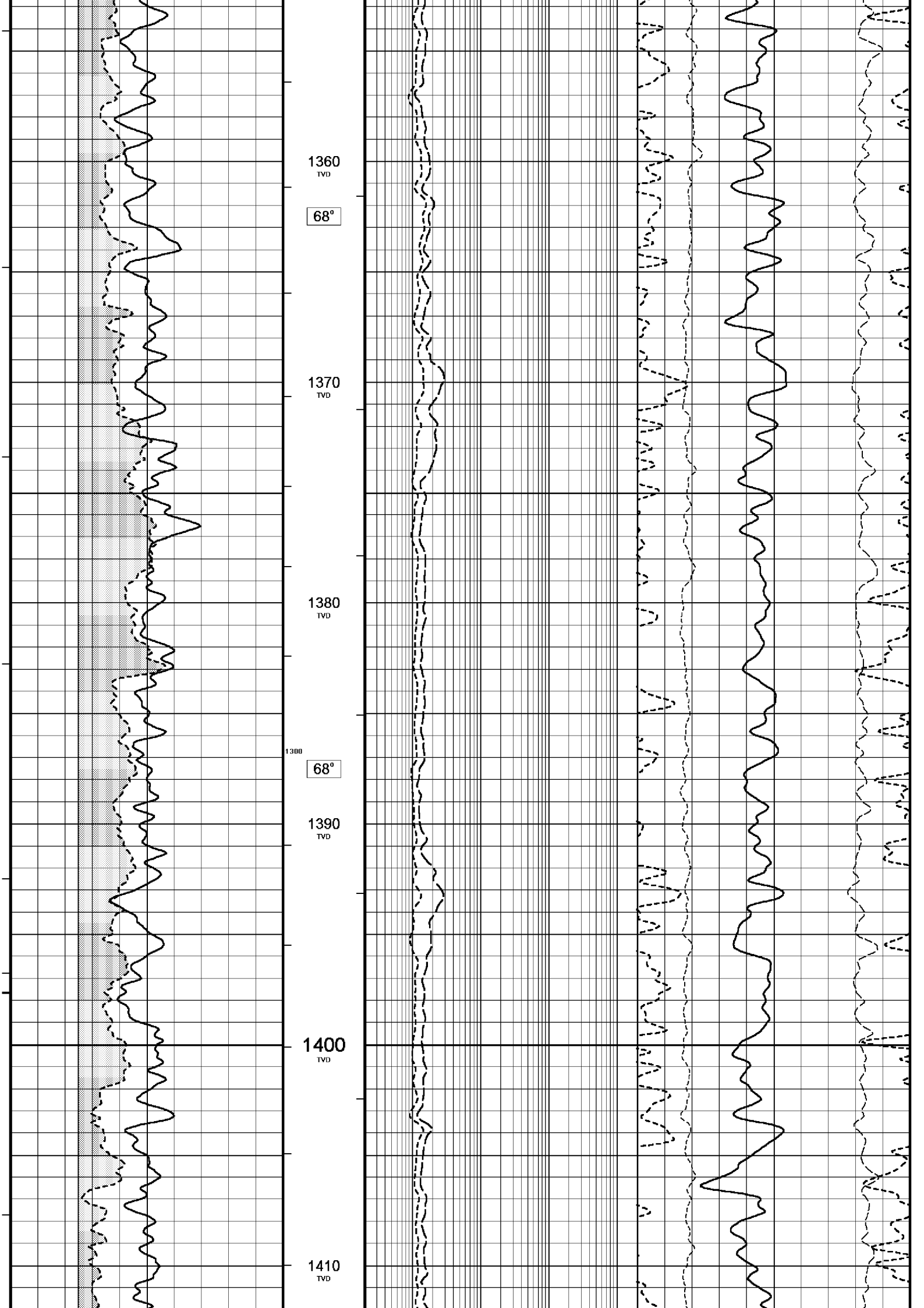


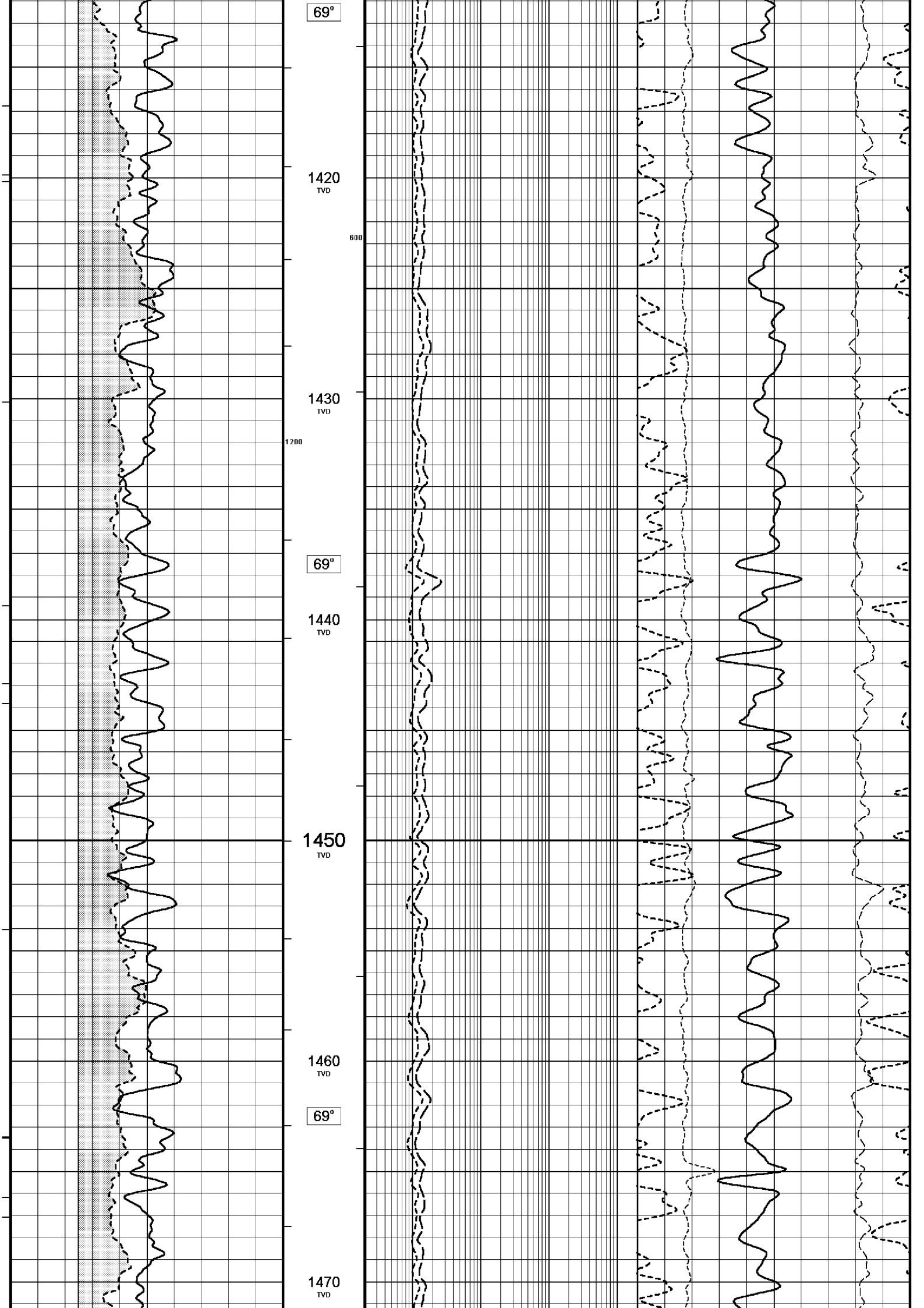


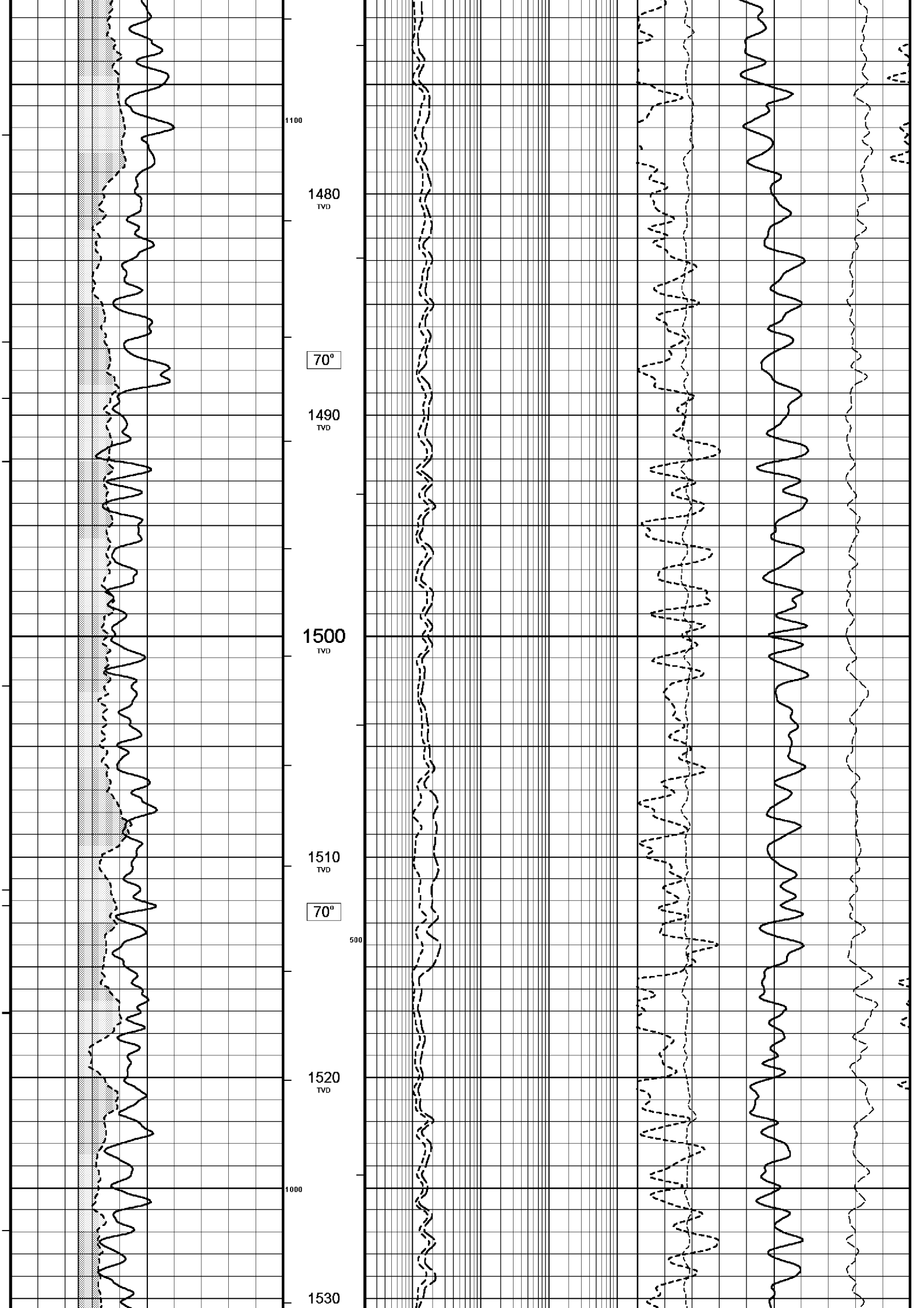


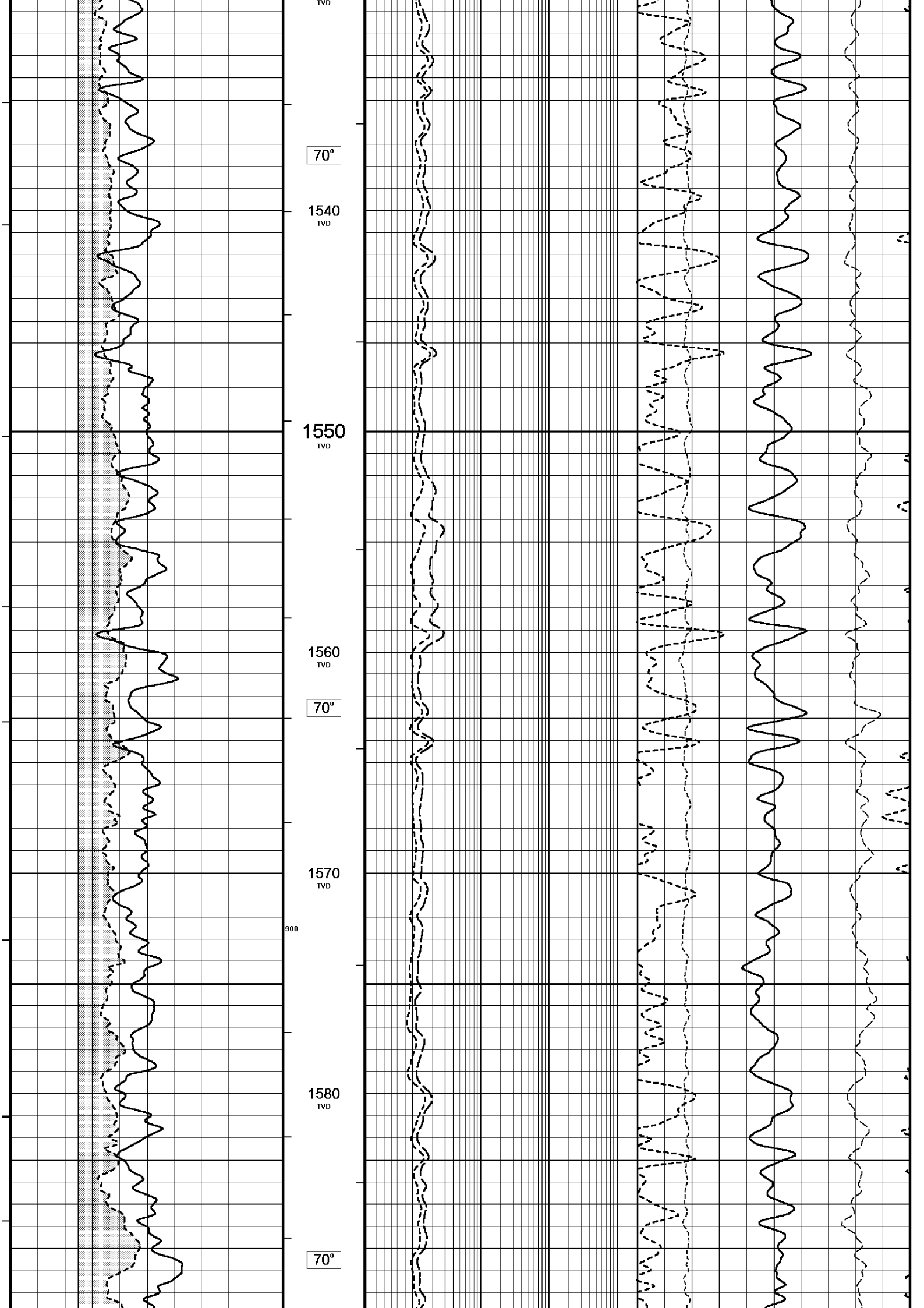


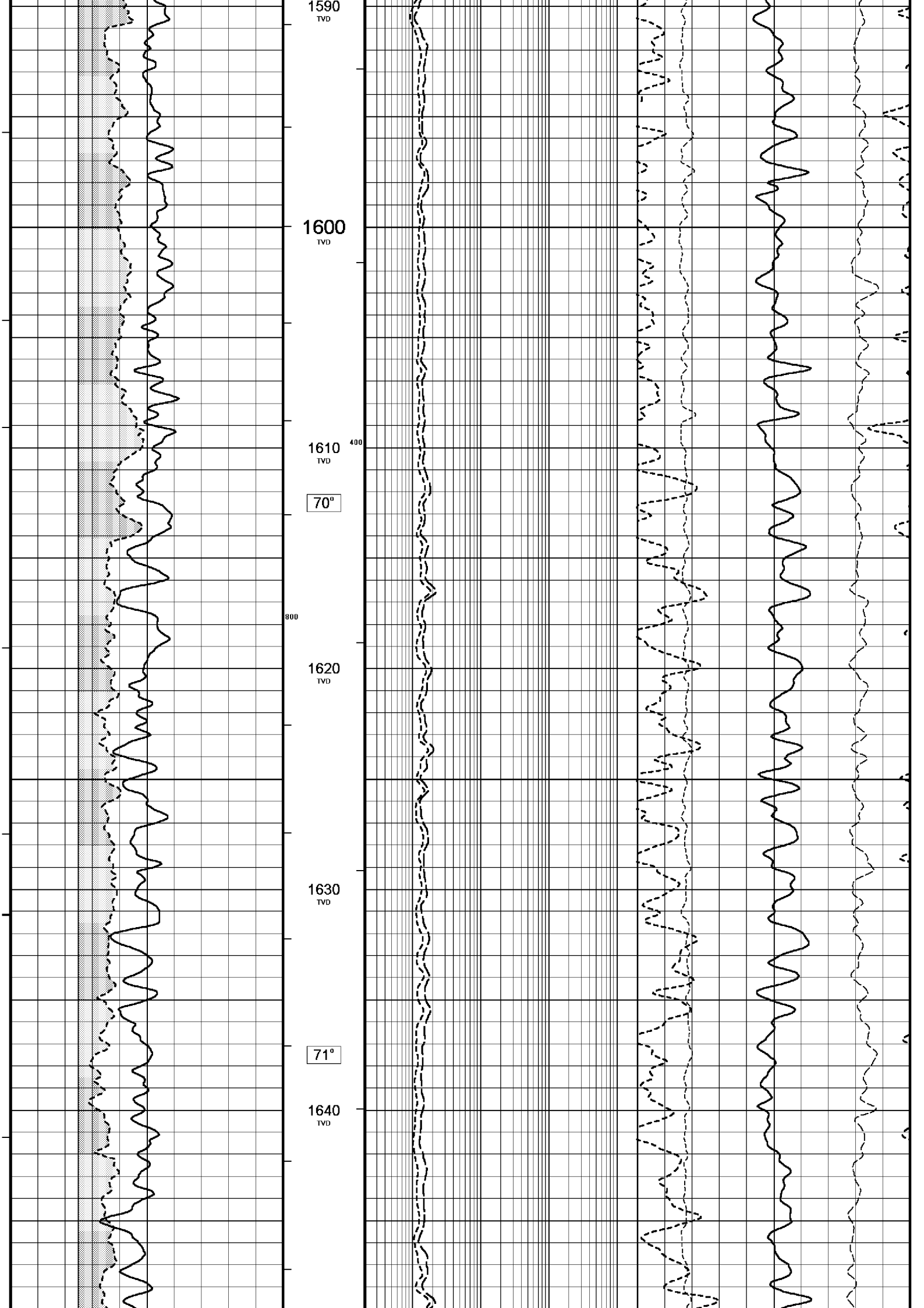


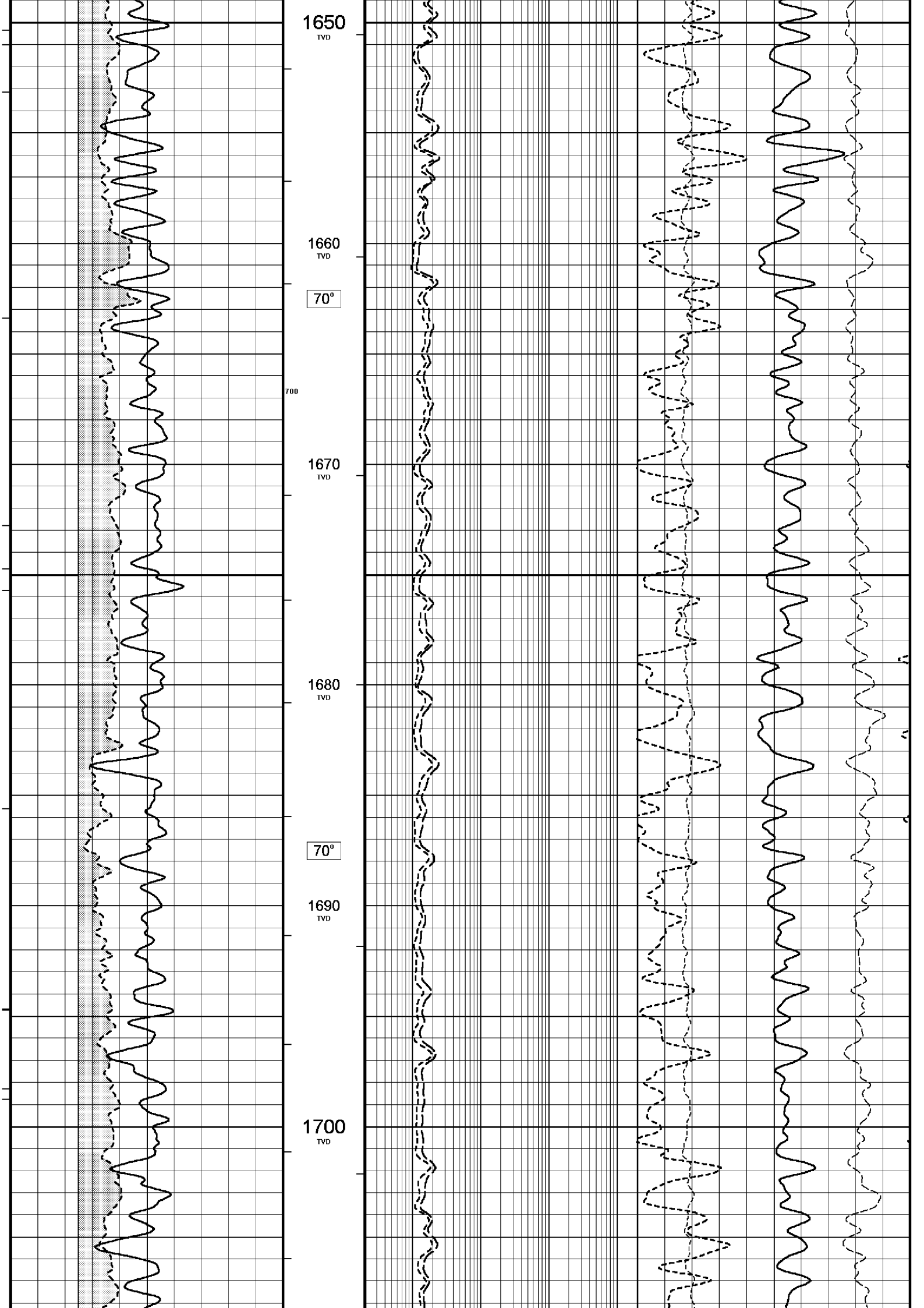


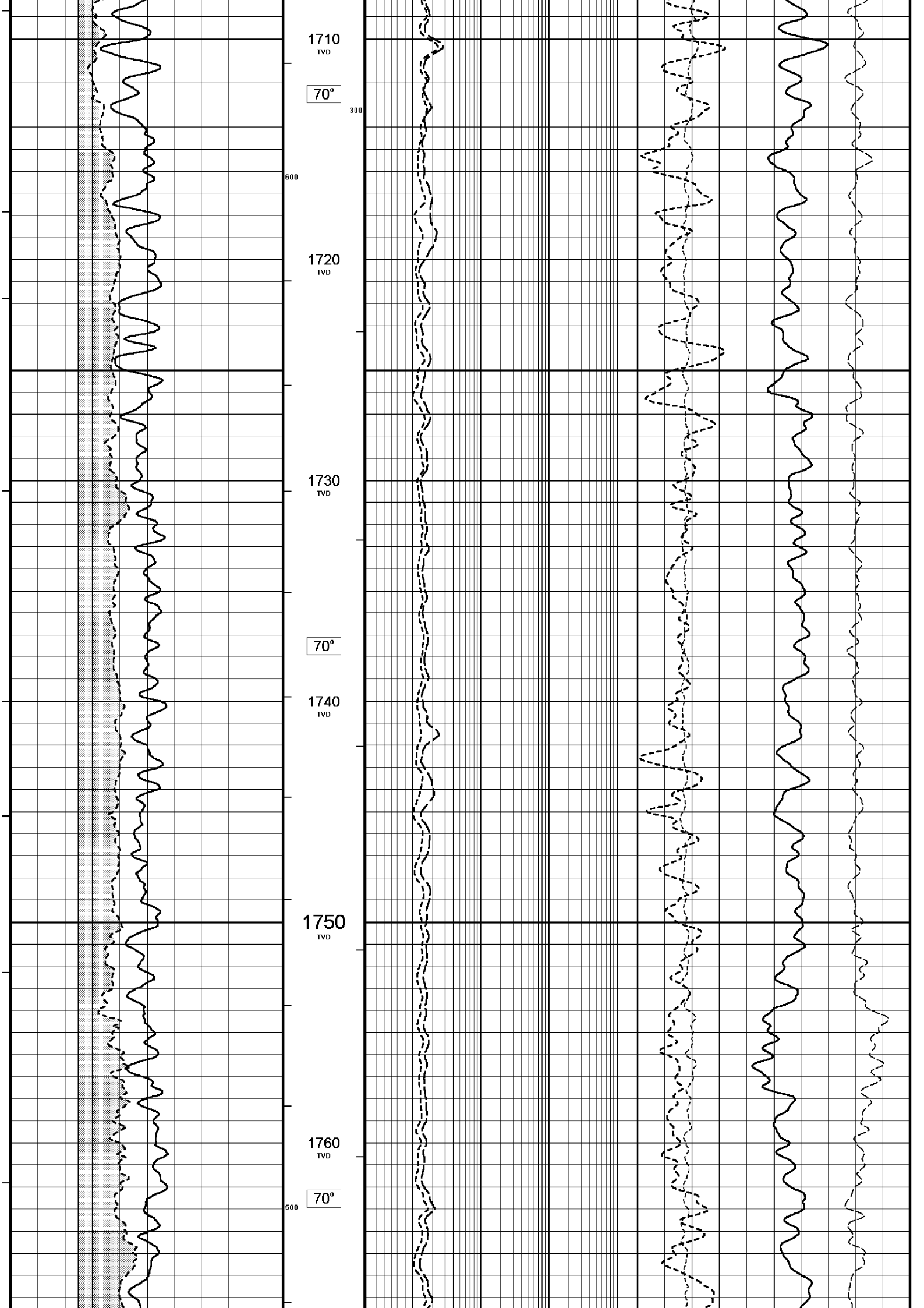


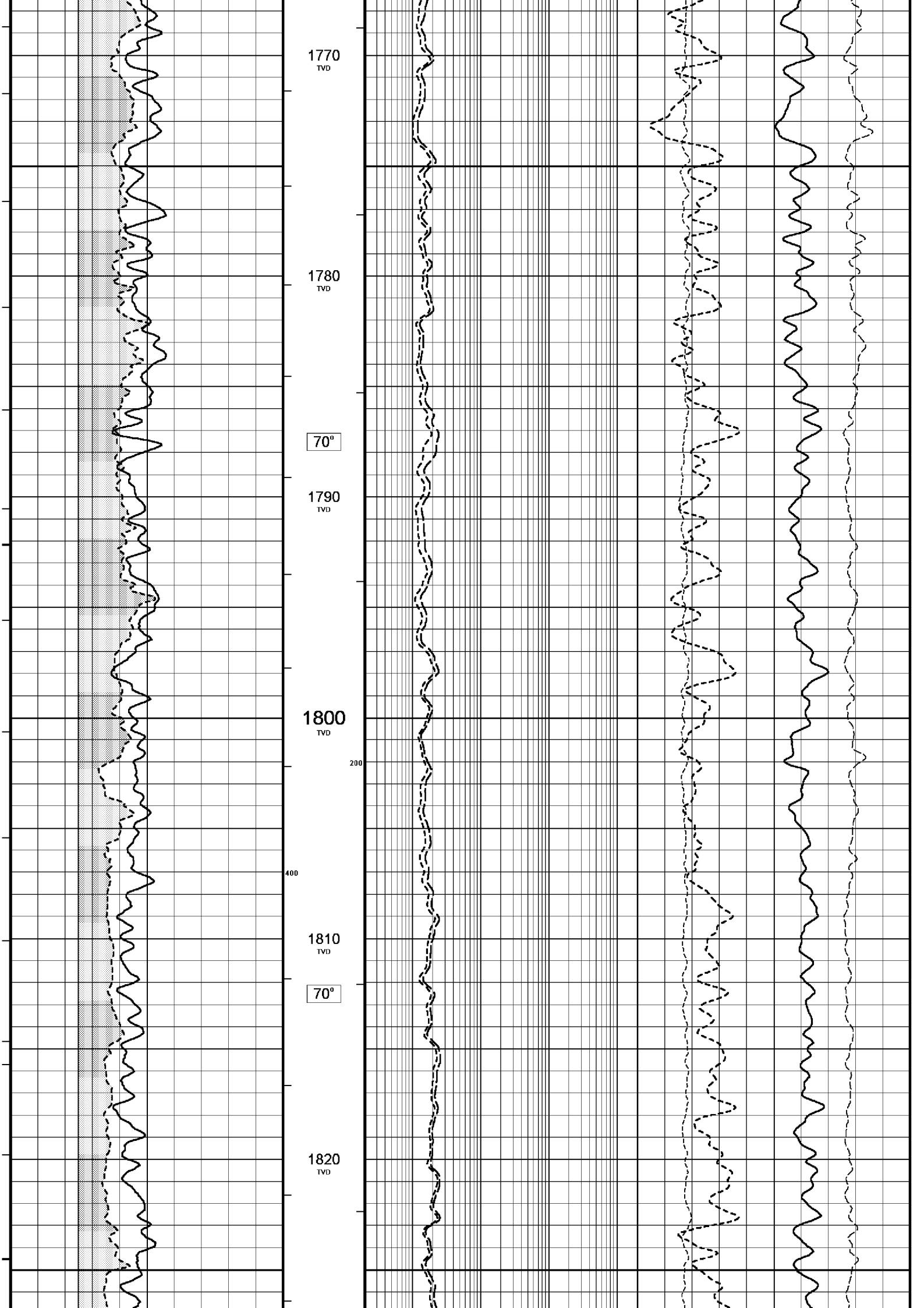


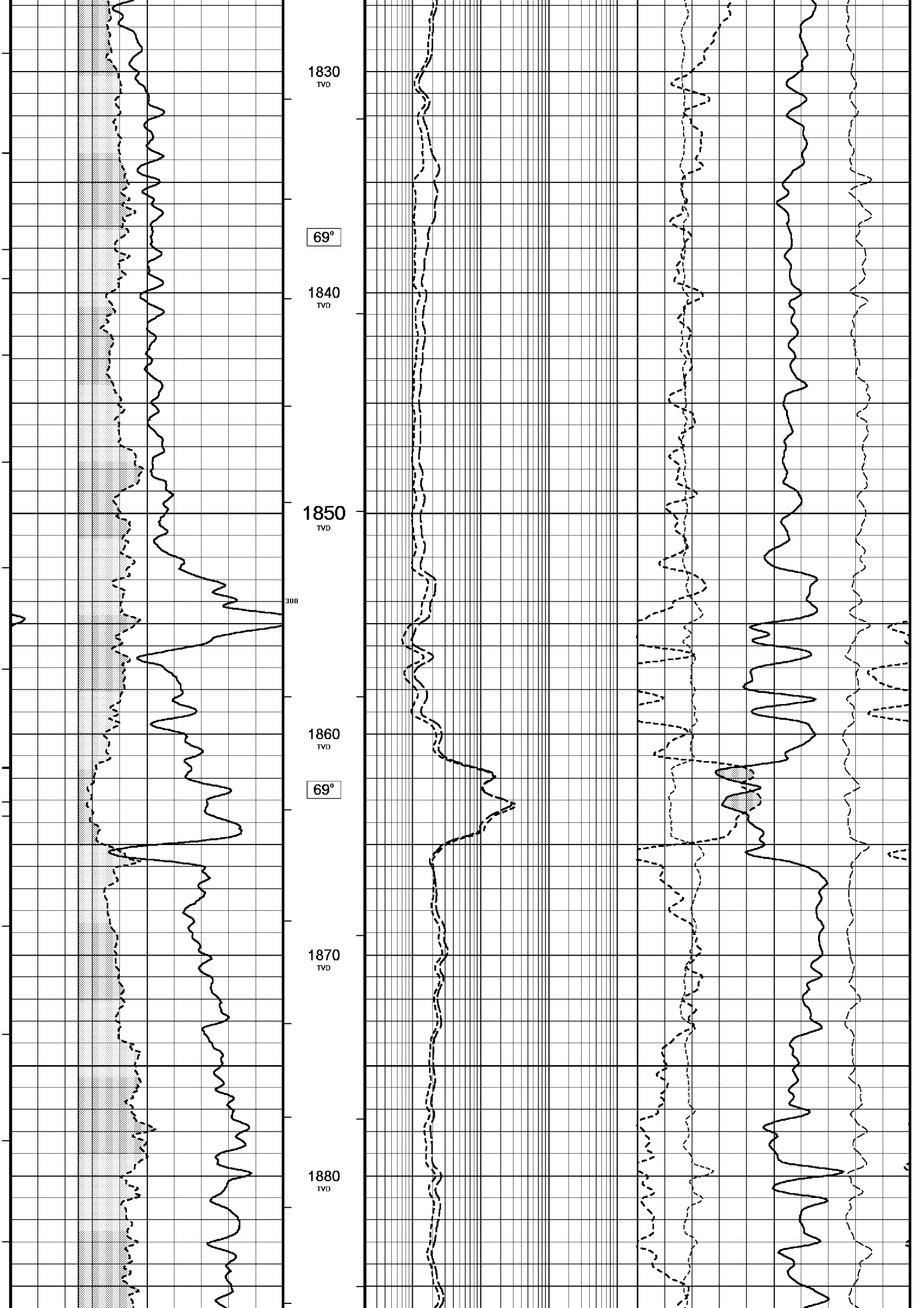


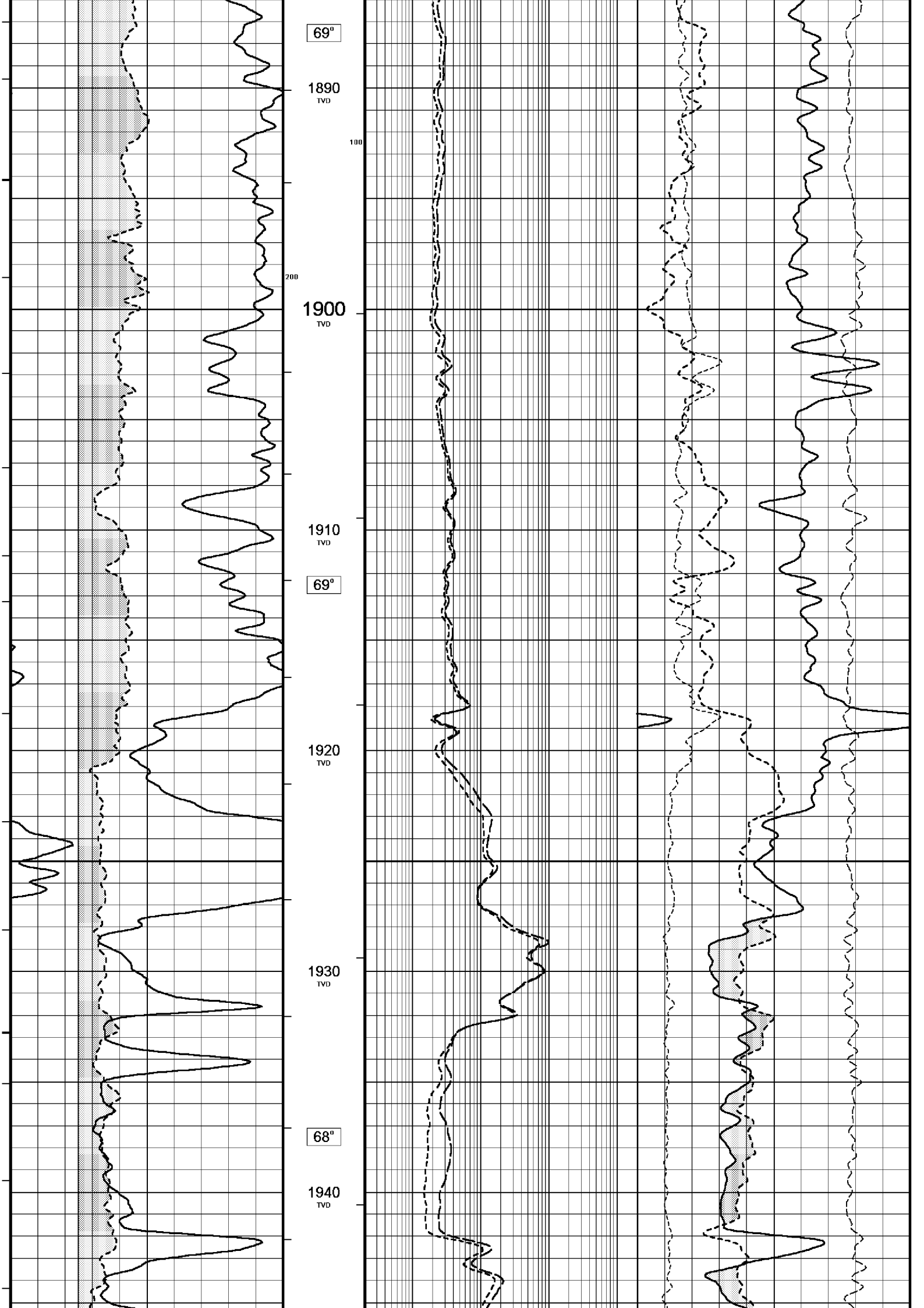


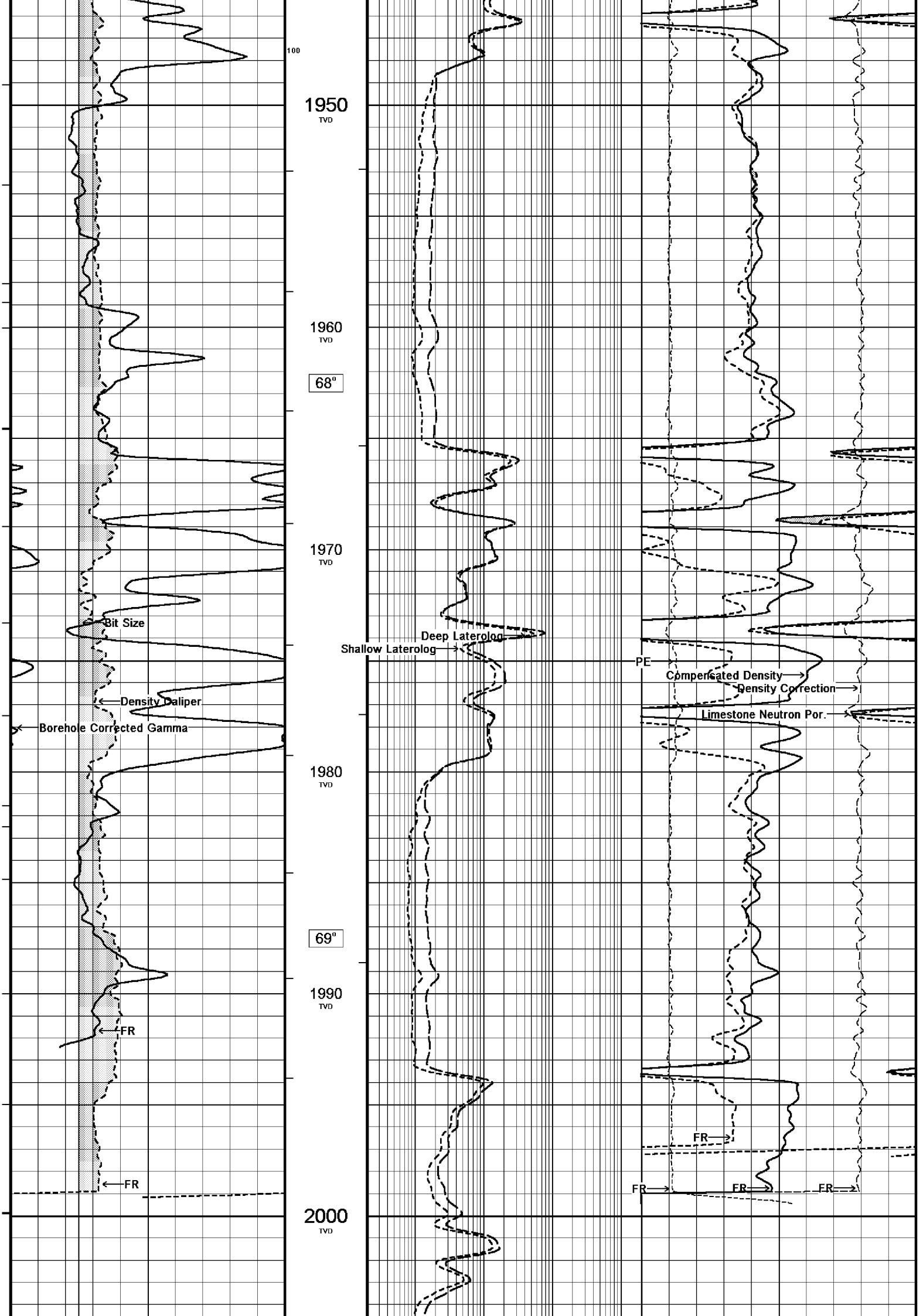


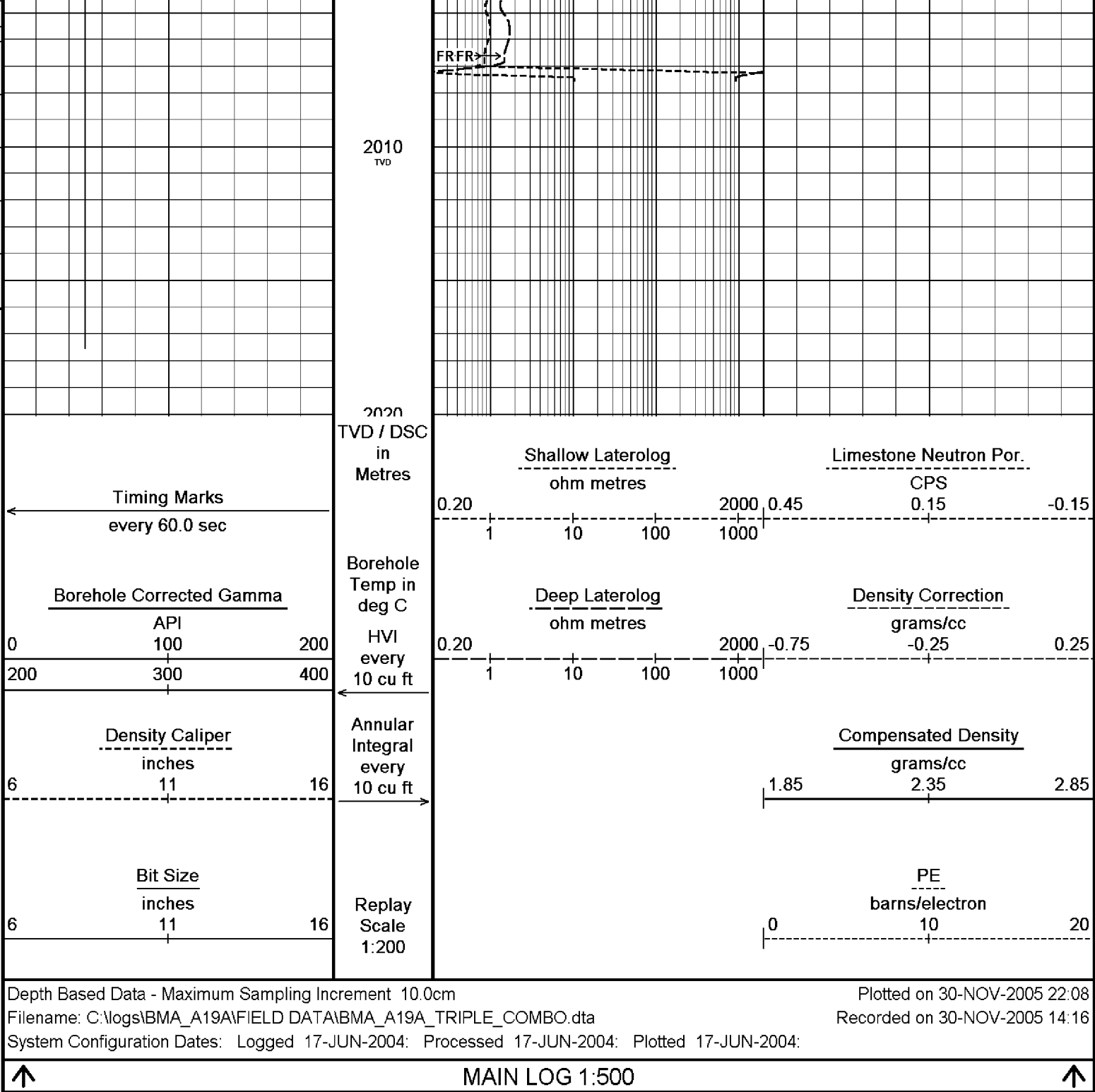












BEFORE SURVEY CALIBRATION			
C:\logs\BMA_A19A\FIELD DATA\BMA_A19A_TRIPLE_COMBO.dta			
General Constants All 000			
General Parameters			
Mud Resistivity	0.113	ohm-metres	
Mud Resistivity Temperature	25.000	degrees C	
Water Level	0.000	metres	
Density/Neutron Processing	Wet Hole		
Hole/Annular Volume 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		
EMA Coefficient	0.010		

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			
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	

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		Calibrated Ratio
		WH	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

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



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

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

Compact Density/Caliper
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

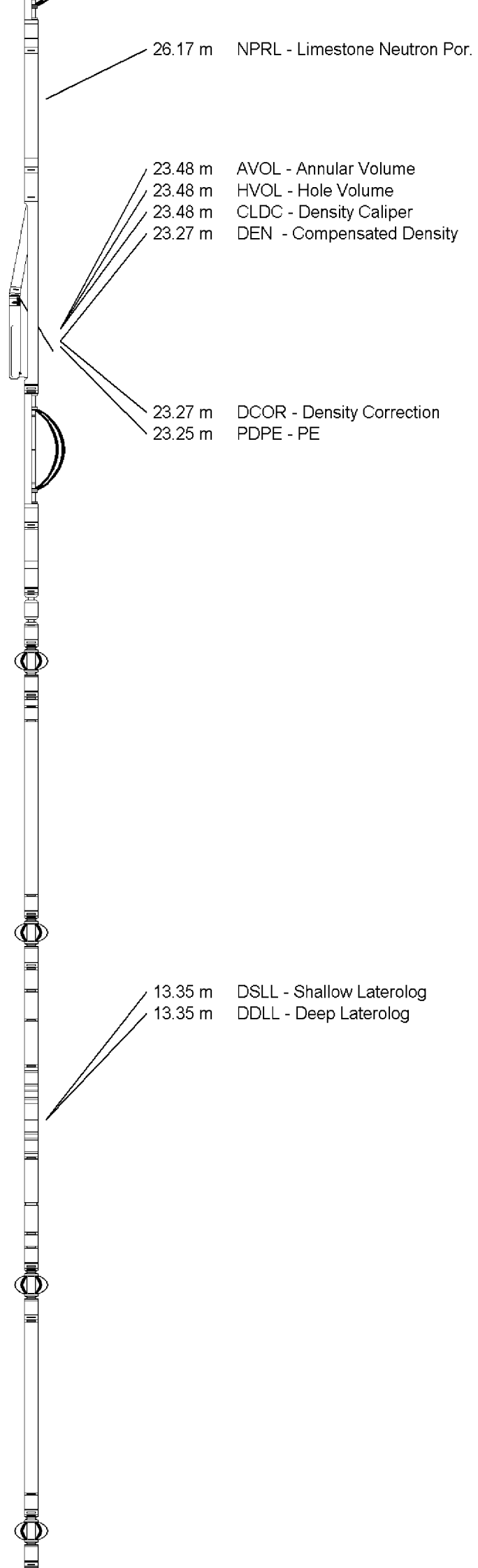
Compact Inline Standoff B
MIS 141 Length: 0.65 m Weight: 15.4 lb

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	2007.20	metres
Elevation Drill Floor 32.82	metres	Depth Driller	2020.90	metres
Elevation Ground Level -59.40	metres	Depth Logger	2017.60	metres



DUAL LATEROLOG - GR
DENSITY - NEUTRON
1:200 TVD