PRECISION ENERGY SERVICES

Compact

DUAL LATEROLOG - GR
DENSITY - NEUTRON
1:200 TVD

COMPANY	ESSO AUSTRALIA PTY LTD
WELL	BREAM A1A
FIELD	BREAM
PROVINCE/COUNTY	BASS STRAIT
COUNTRY/STATE	AUSTRALIA
LOCATION	S 38 29 58.755, E 147 46 19.983
	N 5738462.460 m, E 567336.500 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	08-Nov-2005			
Run Number	ONE			
Depth Driller	2032.00	metres		
Depth Logger	2031.01	metres		
First Reading	2018.23	metres		
Last Reading	1280.89	metres		
Casing Driller	1285.33	metres		
Casing Logger	1285.33	metres		
Bit Size	8.50	inches		
Hole Fluid Type	KCL/GYL/POLY			
Density / Viscosity	10.10 lb/USg	69.00 CP		
PH / Fluid Loss	9.00	3.00		
Sample Source	FLOWLINE			
Rm @ Measured Temp	0.113 @ 25.0	ohm-m		
Rmf @ Measured Temp	0.088 @ 25.0	ohm-m		
Rmc @ Measured Temp	0.168 @ 25.0	ohm-m		
Source Rmf / Rmc	PRESS	PRESS		
Rm @ BHT	0.053 @ 79.0	ohm-m		
Time Since Circulation	22 Hours			
Max Recorded Temp	82.00	deg C		
Equipment Name	5" CWS/CML			
Equipment / Base	1	SALE		
Recorded By	R. TENCH, B.MOSS			
Witnessed By	TREVOR LOBO			
CIRC STOPPED	15:30 7-NOV			

BOREHOLE RECORD

Bit Size inches	Depth From metres	Depth To metres
8.500	1496.00	2294.00

CASING RECORD

Type	Size inches	Depth From metres	Shoe Depth metres	Weight pounds/ft
K-55	13.375	0.00	853.00	54.50
L-80	9.625	0.00	1496.00	47.00

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.

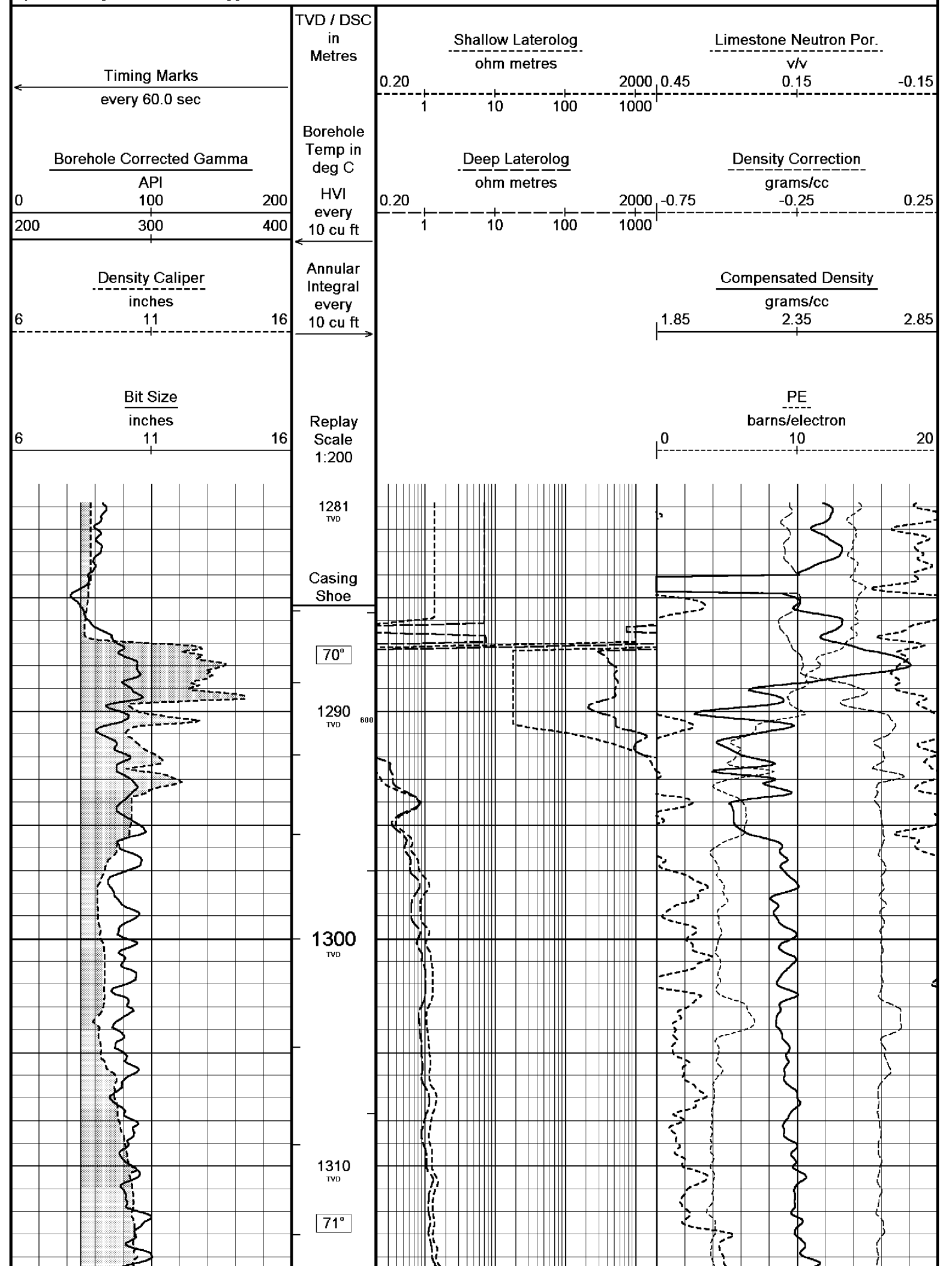
MAX. TEMPERATURE: 82DEG C AT 2249 m MD
MAX. INCLINATION: 43.98 DEG AT 1500m MD
MAX. DOGLEG SERVERITY: 7.58DEG/30m AT 1561.54 m MD
DEPLOYMENT ANGLE: 14.45 DEG

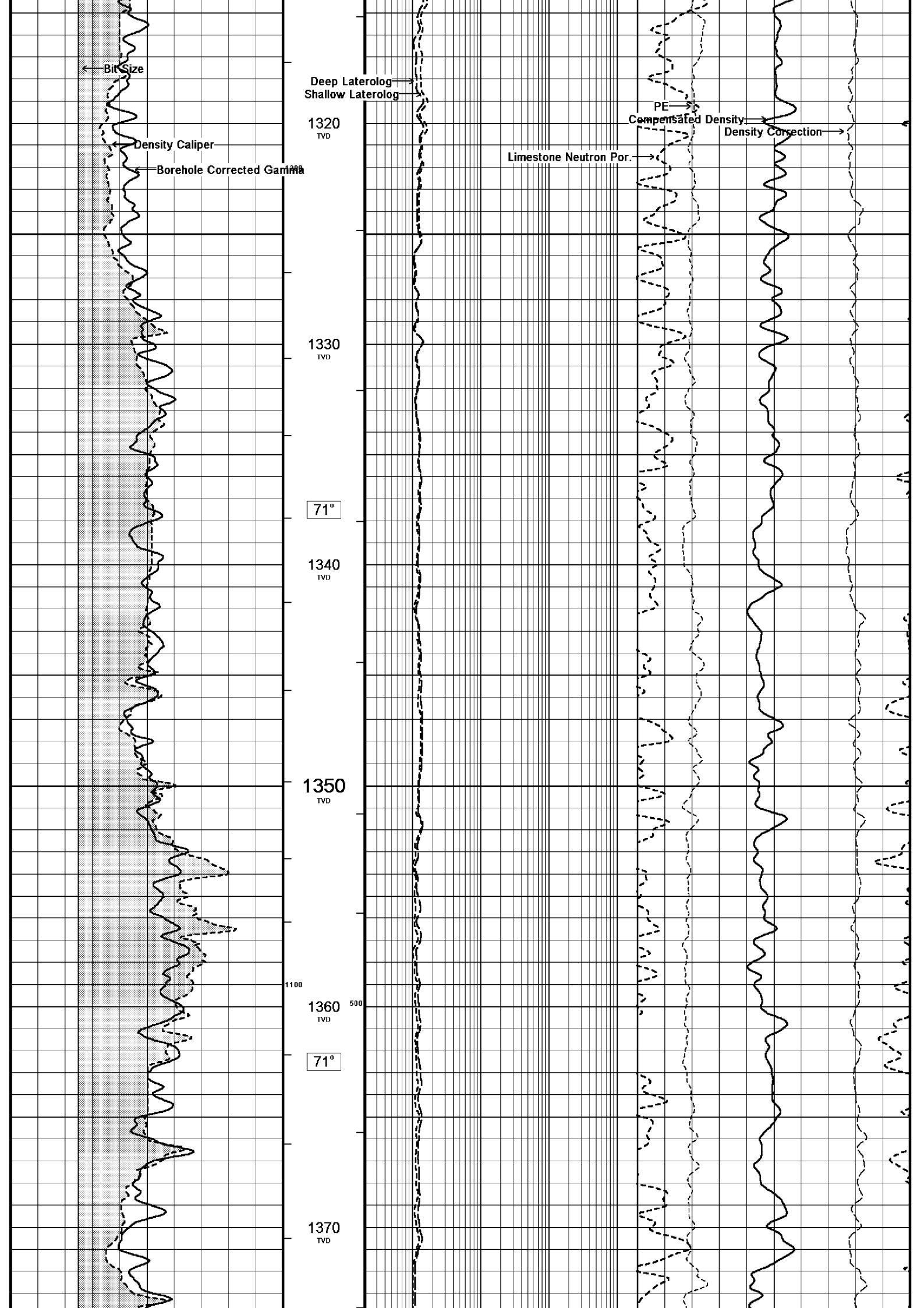
HVOL: 1290 FT^3
AVOL: 610 FT^3

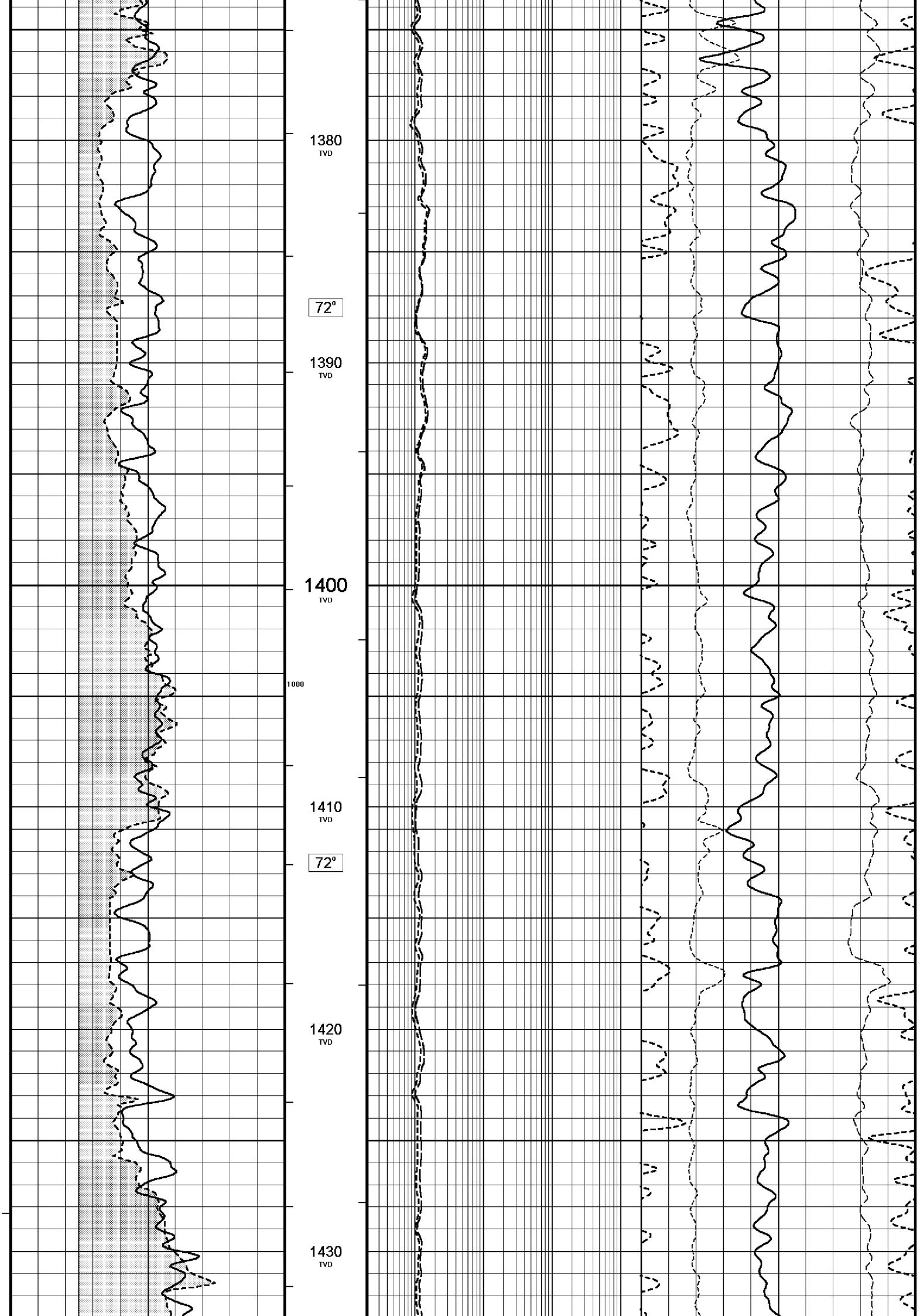
MAIN LOG 1:200

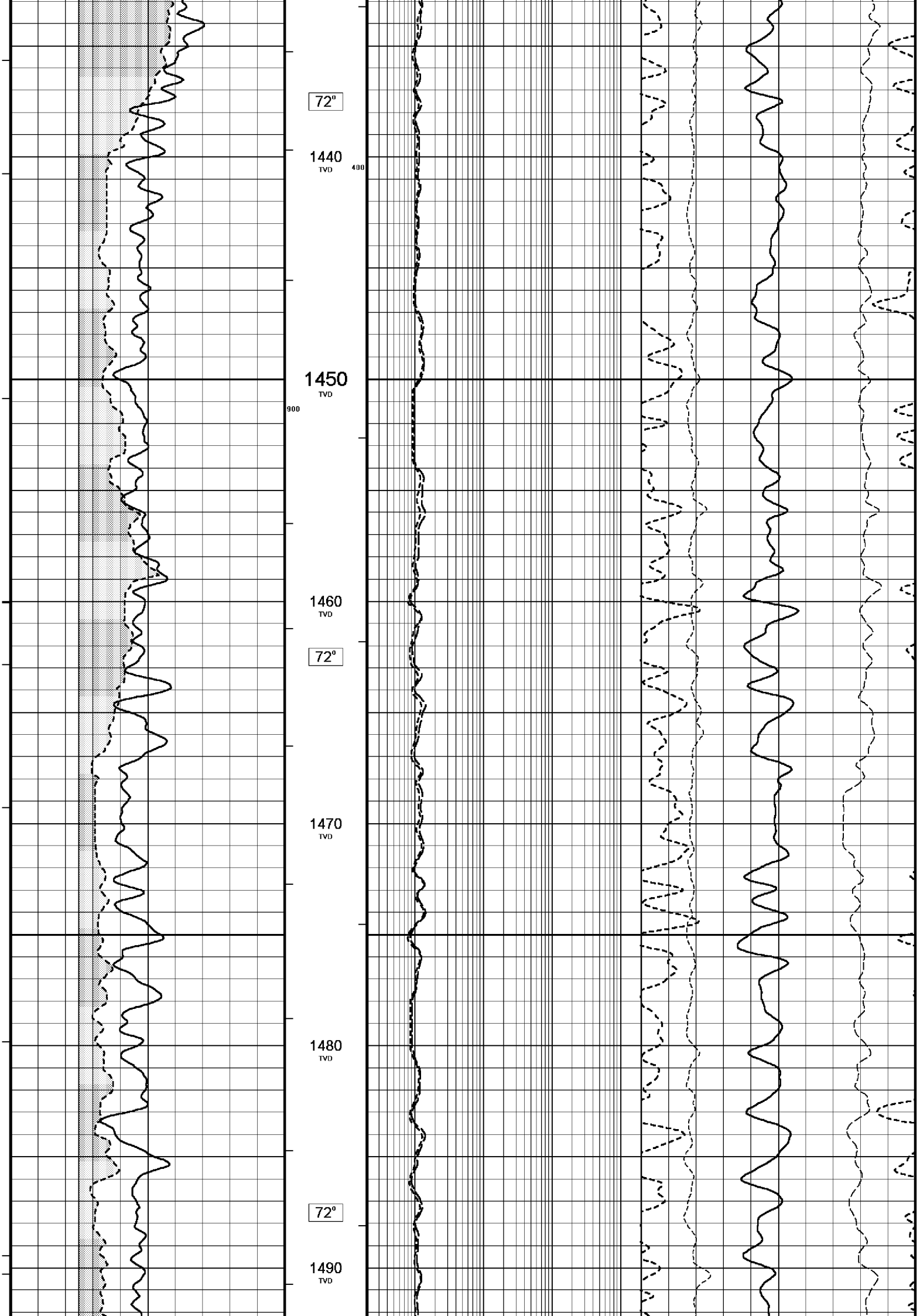
Depth Based Data - Maximum Sampling Increment 10.0cm
Filename: C:\logs\BMA_A1A\BMA_A1A_TC_200.dta
System Configuration Dates: Logged 17-JUN-2004: Processed 17-JUN-2004: Plotted 17-JUN-2004:

Plotted on 09-NOV-2005 04:25
Recorded on 08-NOV-2005 21:51

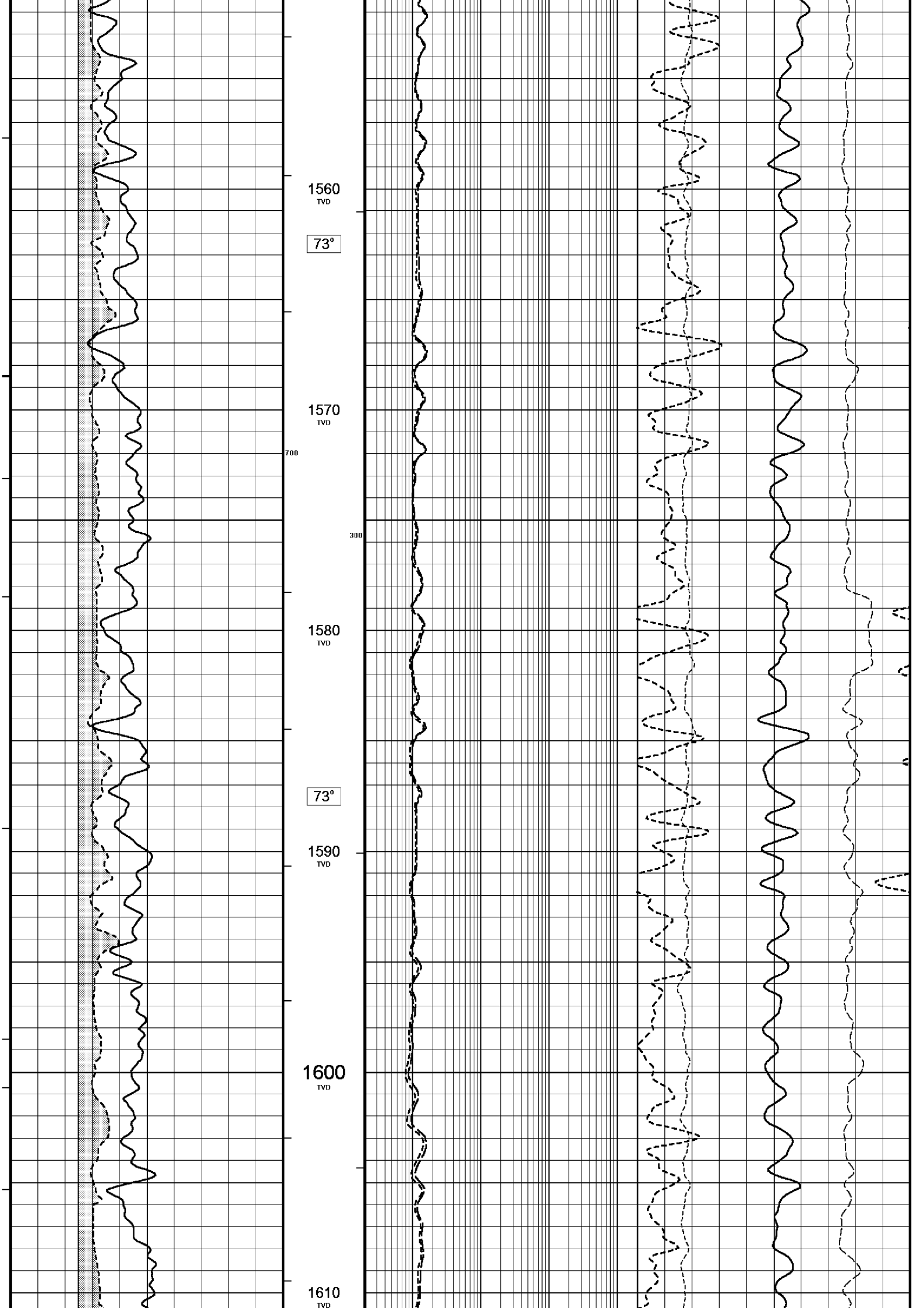


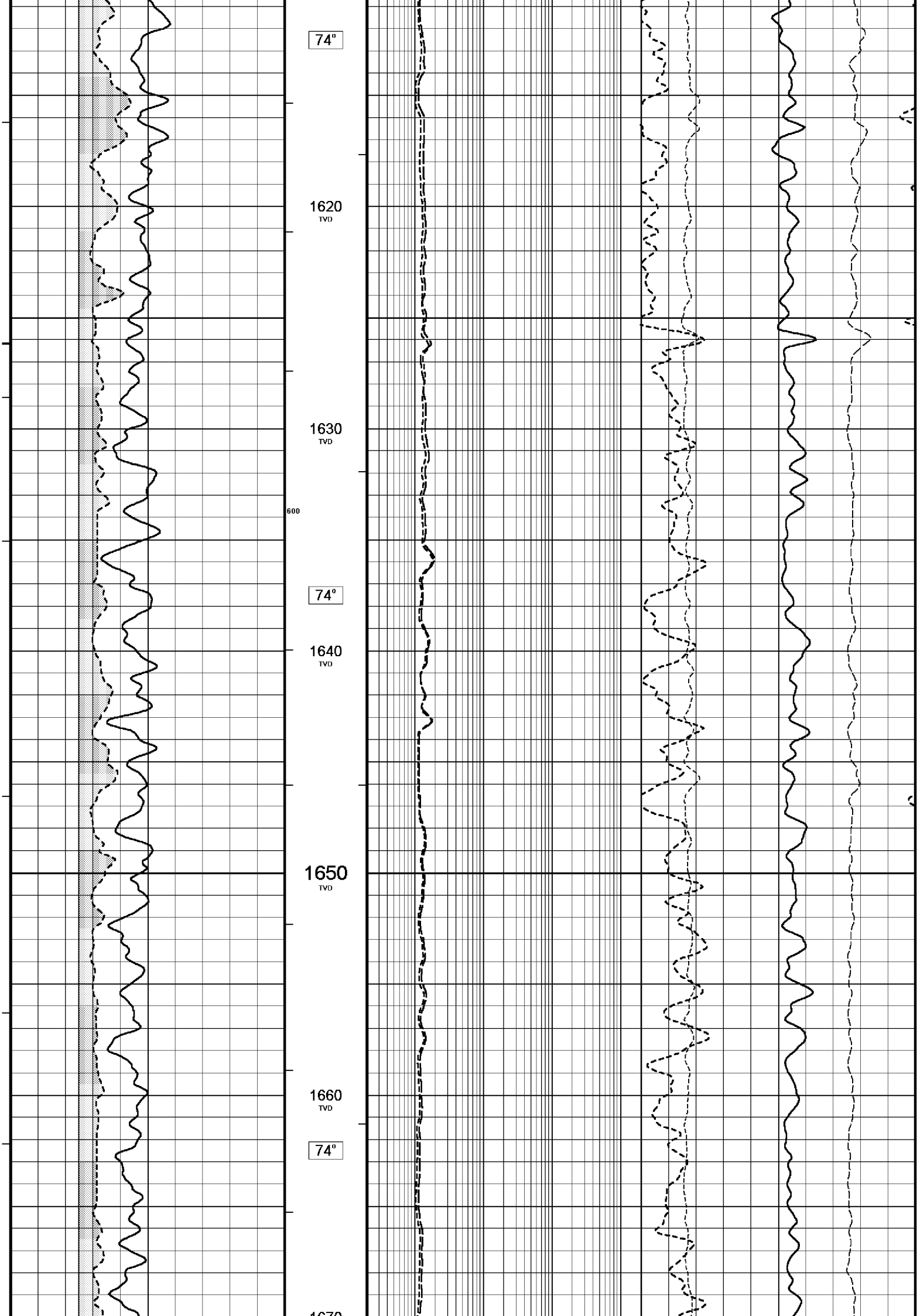

Bit Size
Density Caliper
Borehole Corrected Gamma
Deep Laterolog
Shallow Laterolog
PE
Compensated Density
Density Correction
Limestone Neutron Por.
1320
TVD
1330
TVD
71°
1340
TVD
1350
TVD
1100
500
1360
TVD
71°
1370
TVD

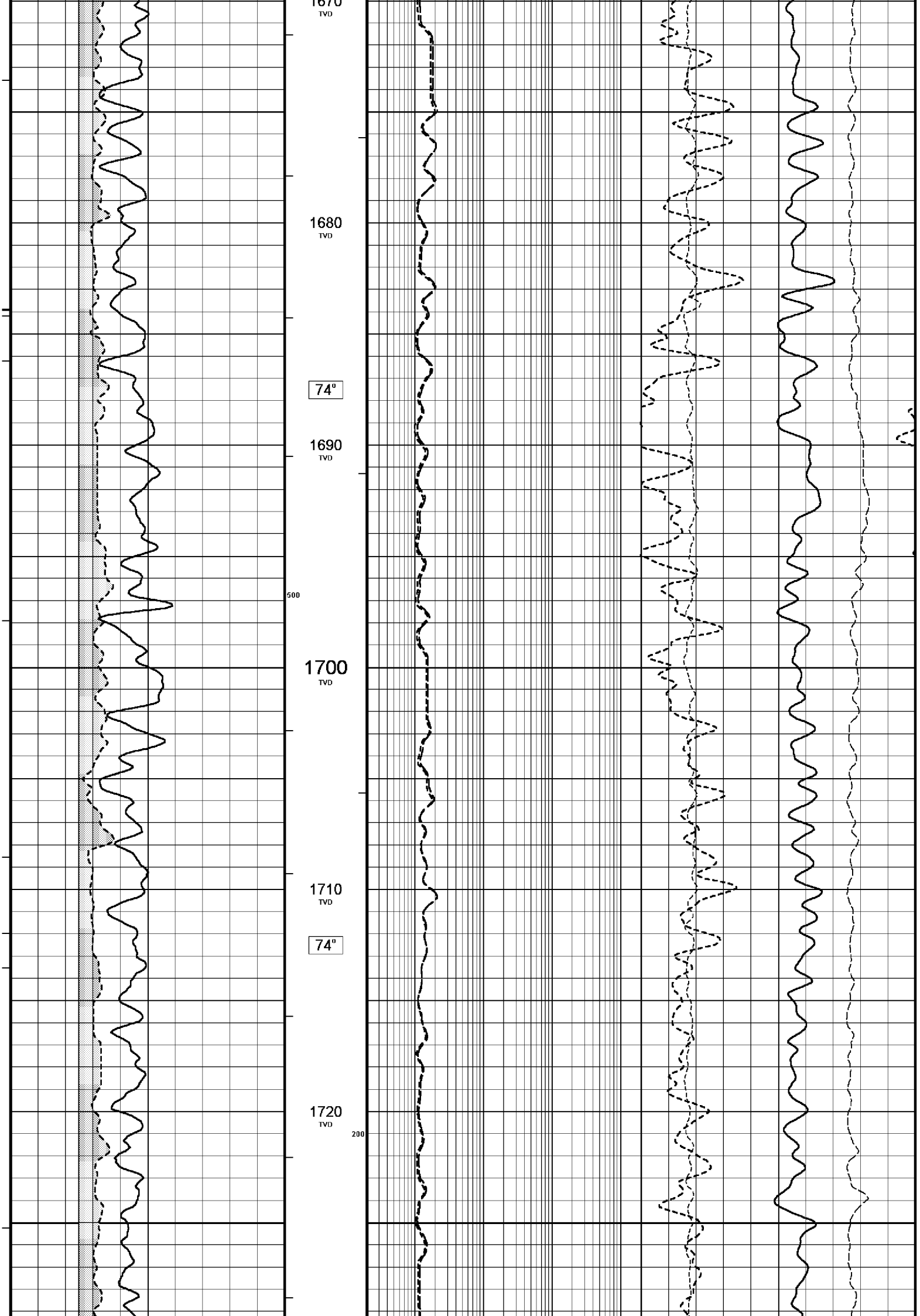

1380
TVD
72°
1390
TVD
1400
TVD
1000
1410
TVD
72°
1420
TVD
1430
TVD

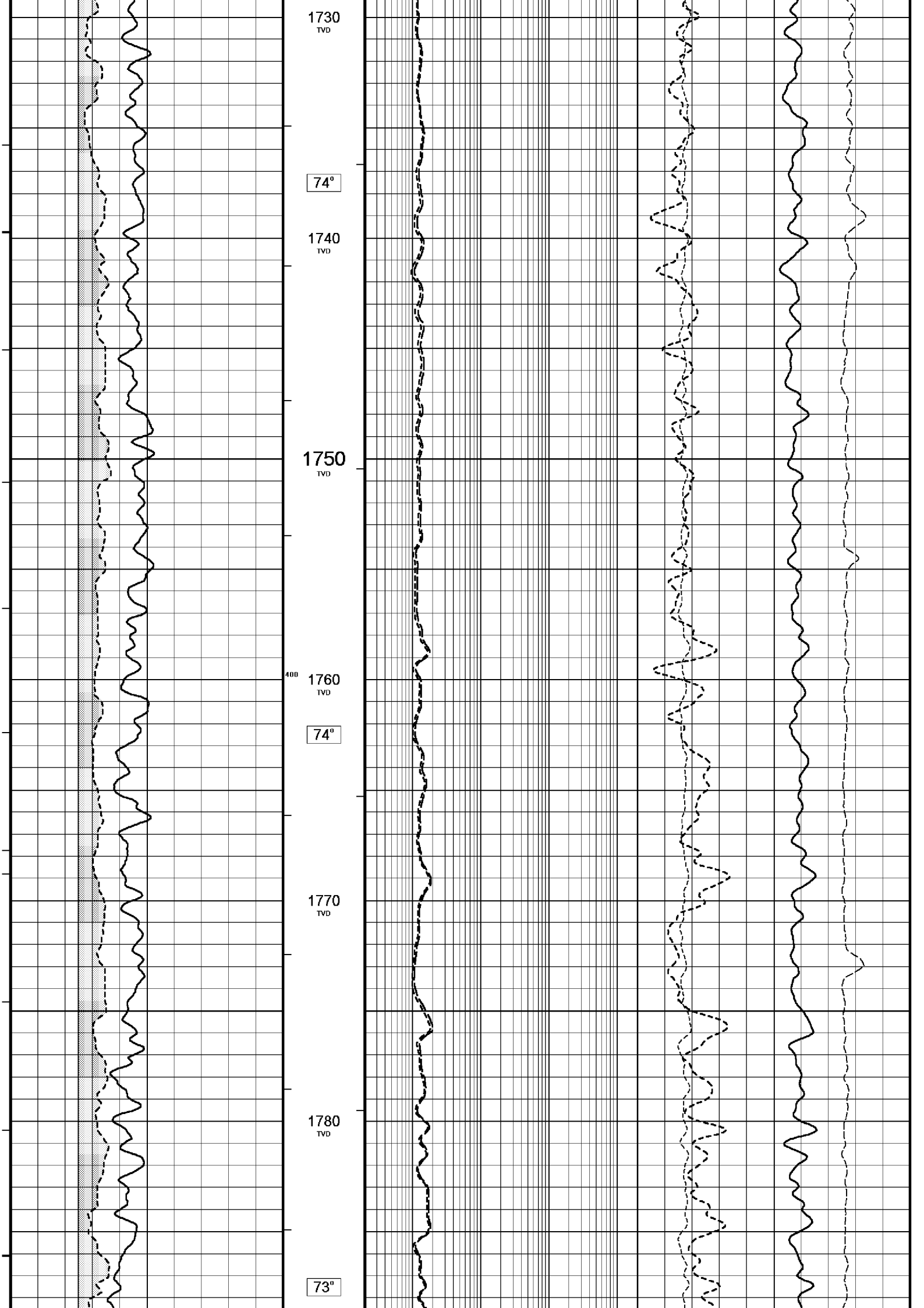

72°
1440
TVD
400
1450
TVD
900
1460
TVD
72°
1470
TVD
1480
TVD
72°
1490
TVD

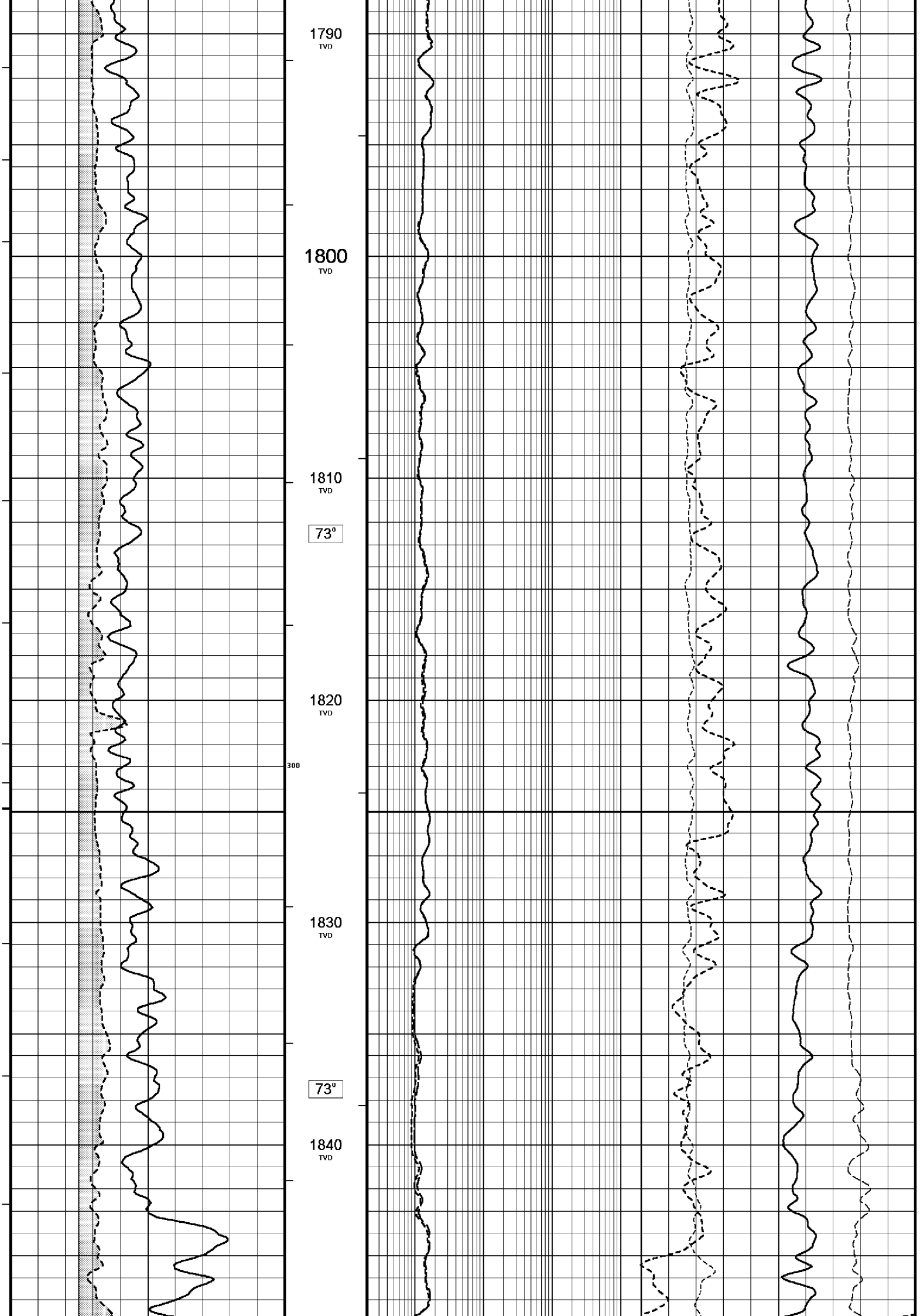

1500
TVD
800
1510
TVD
73°
1520
TVD
1530
TVD
73°
1540
TVD
1550
TVD

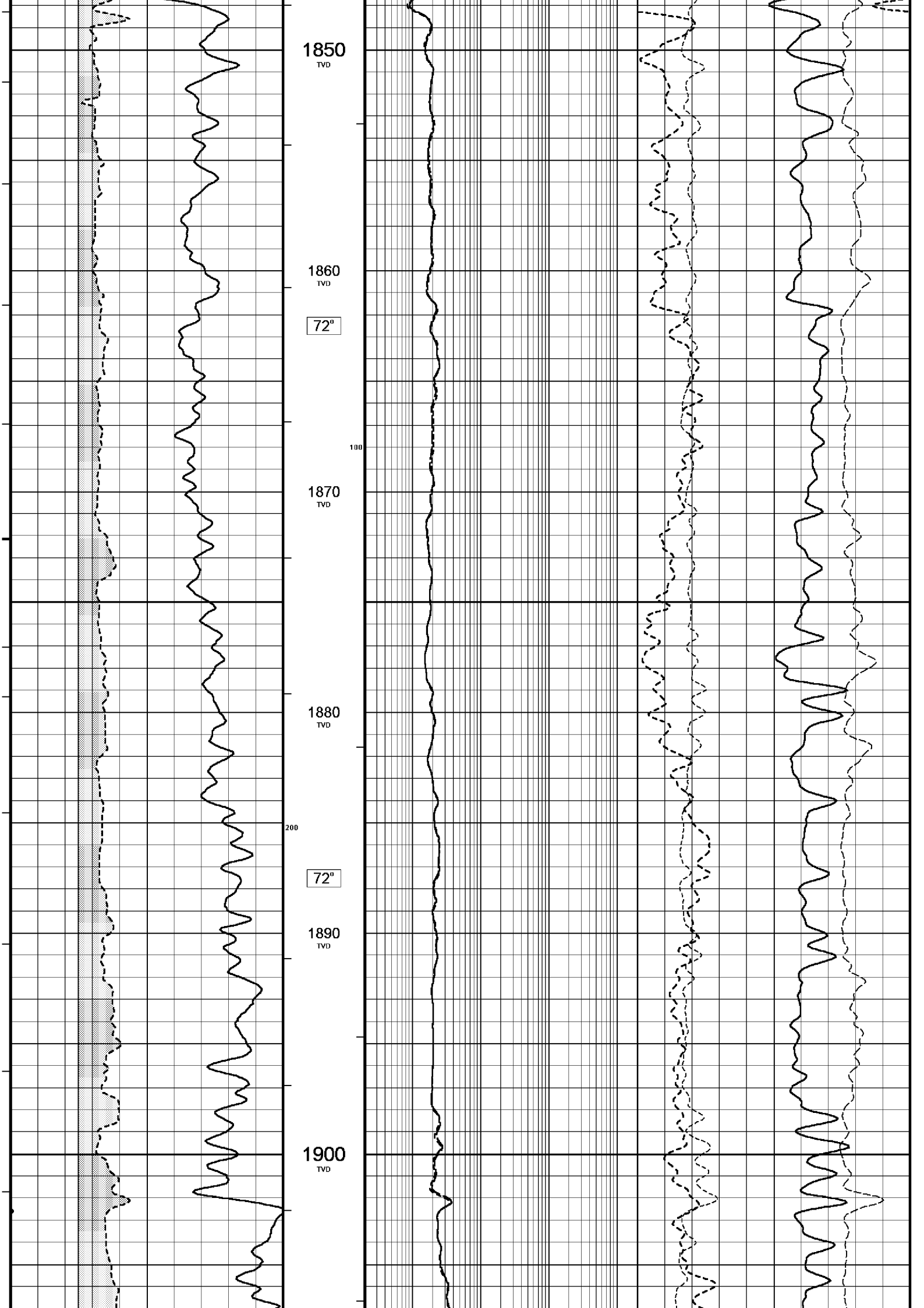

1560
TVD
73°
1570
TVD
700
300
1580
TVD
73°
1590
TVD
1600
TVD
1610
TVD

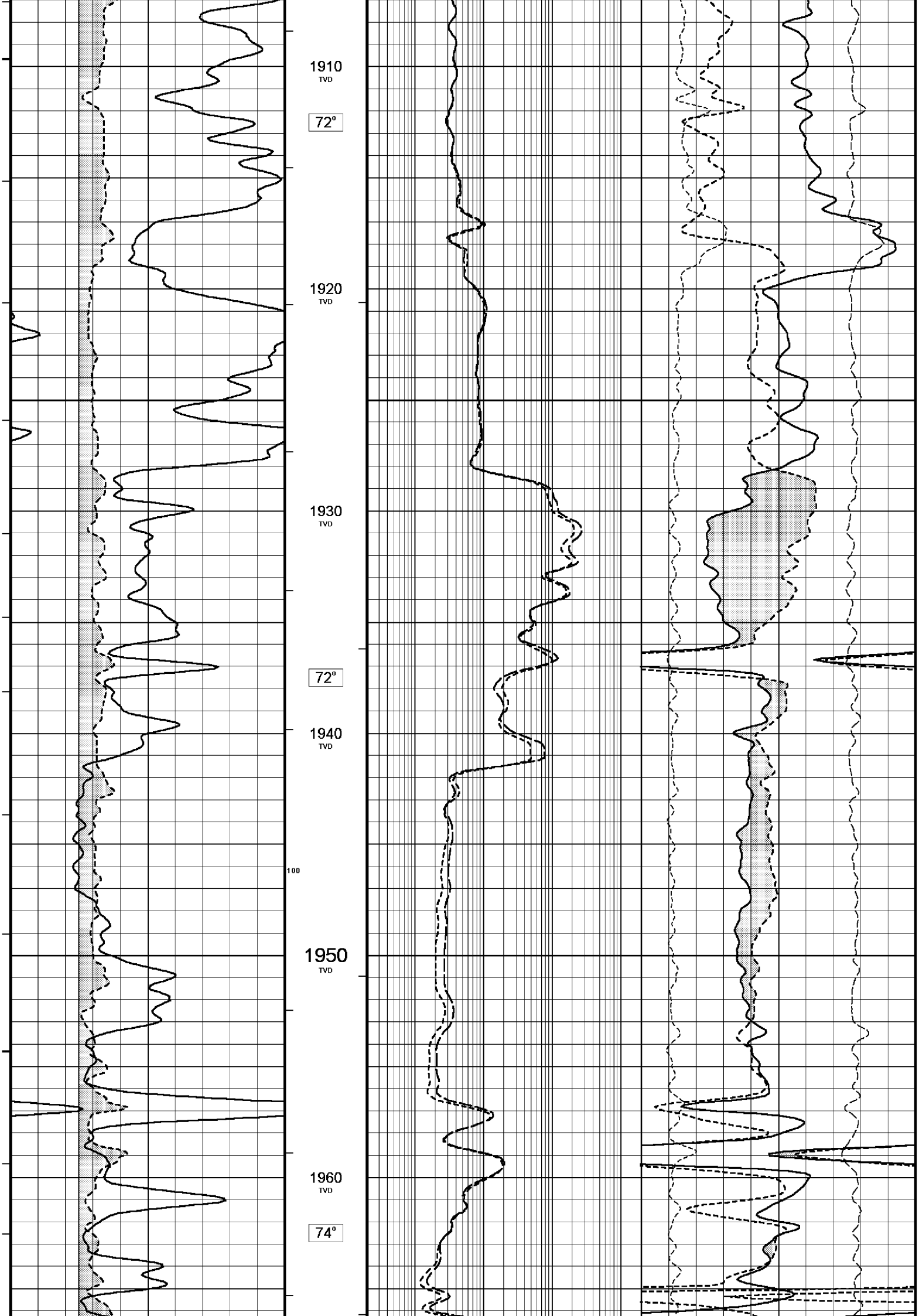

74°
1620
TVD
1630
TVD
600
74°
1640
TVD
1650
TVD
1660
TVD
74°

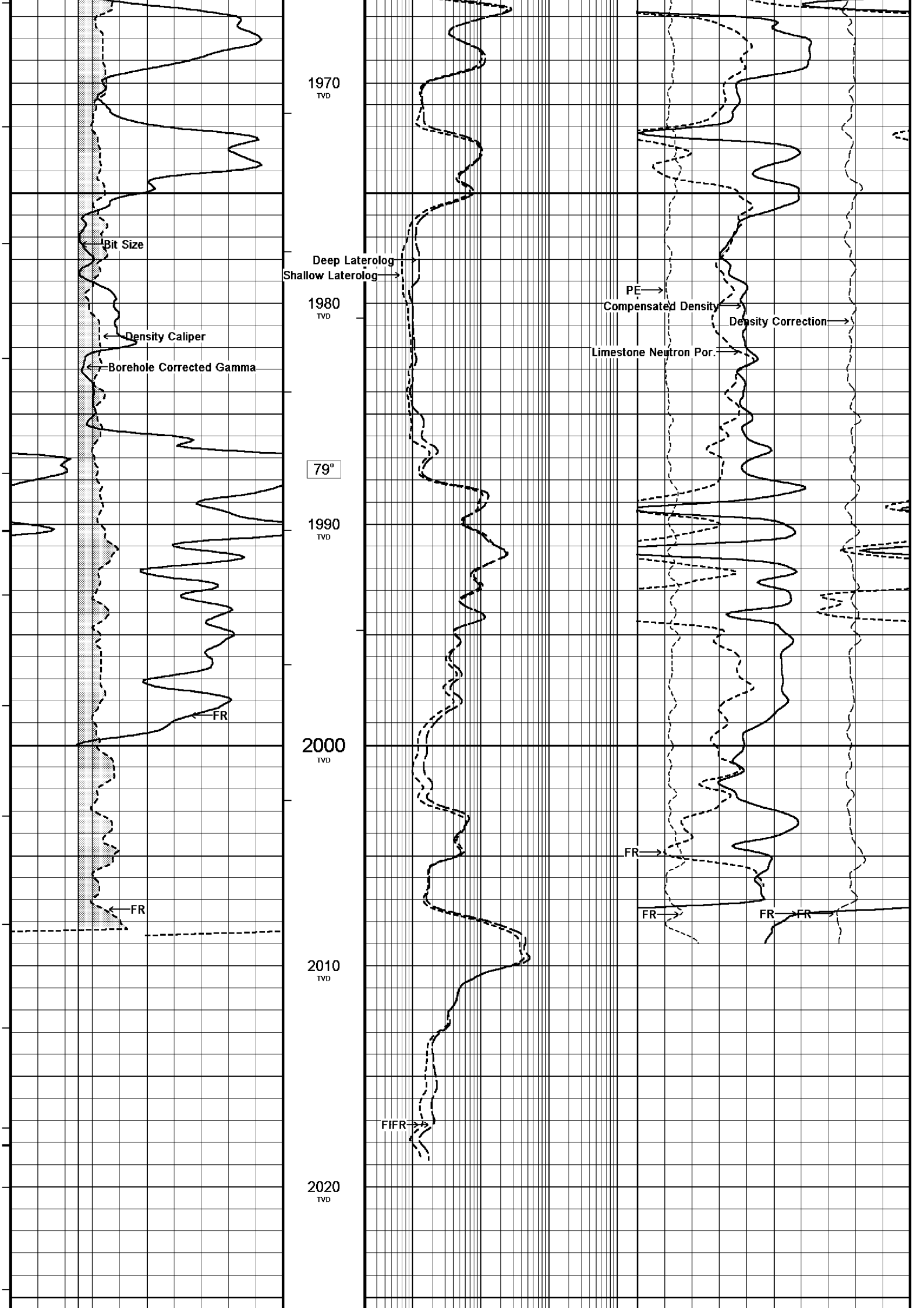

1670
TVD
1680
TVD
74°
1690
TVD
500
1700
TVD
1710
TVD
74°
1720
TVD
200

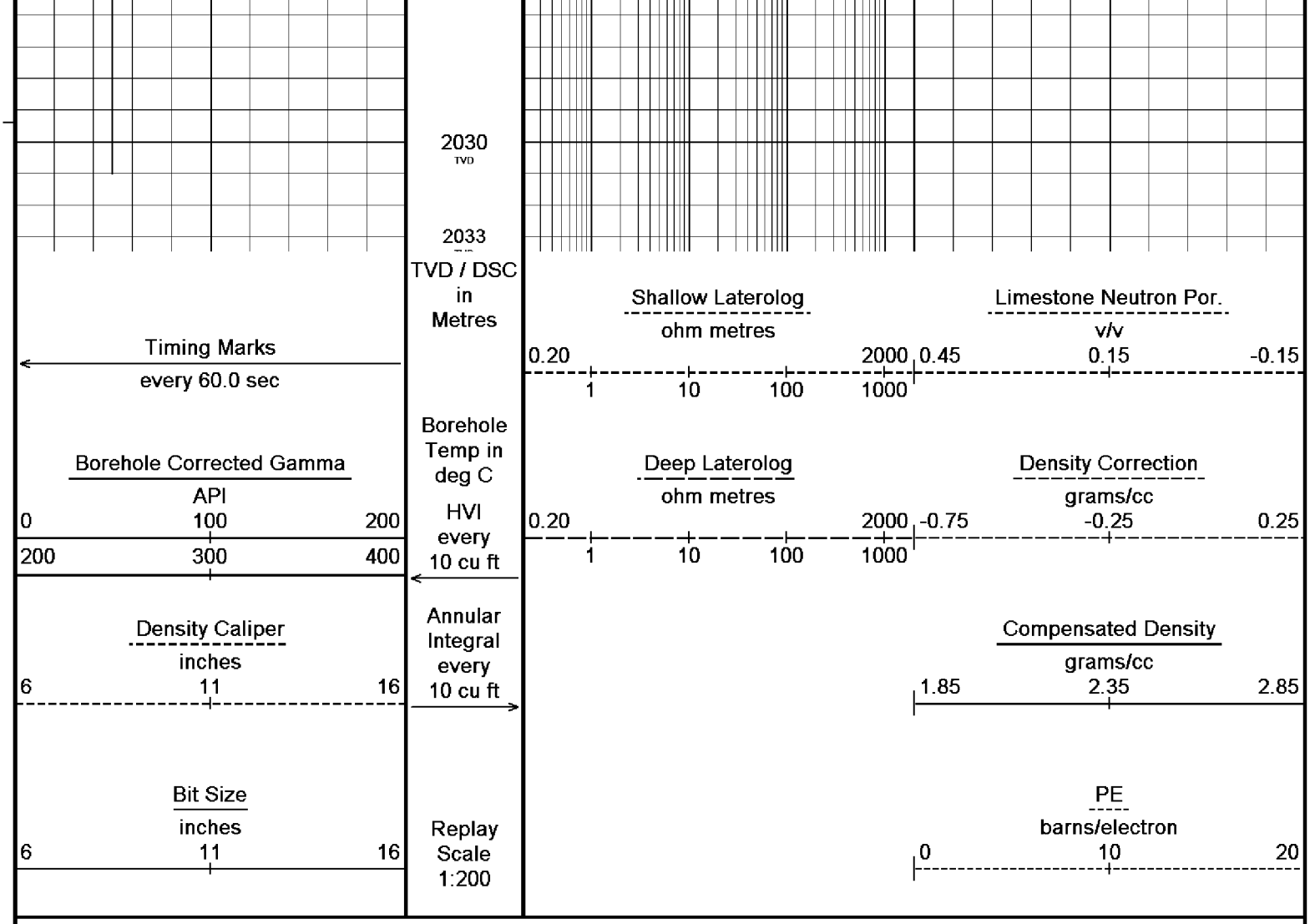

1730
TVD
74°
1740
TVD
1750
TVD
400
1760
TVD
74°
1770
TVD
1780
TVD
73"


1790
TVD
1800
TVD
1810
TVD
73°
1820
TVD
300
1830
TVD
73°
1840
TVD


1850
TVD
1860
TVD
72°
100
1870
TVD
1880
TVD
200
72°
1890
TVD
1900
TVD


1910
TVD
72°
1920
TVD
1930
TVD
72°
1940
TVD
100
1950
TVD
1960
TVD
74°


1970
TVD
1980
TVD
1990
TVD
2000
TVD
2010
TVD
2020
TVD
Bit Size
Density Caliper
Borehole Corrected Gamma
FR
FR
Deep Laterolog
Shallow Laterolog
FIFR
79"
PE
Compensated Density
Density Correction
Limestone Neutron Por.
FR
FR
FR
FR



BEFORE SURVEY CALIBRATION

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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

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

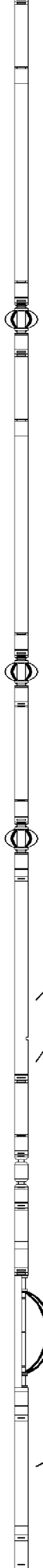
C:\logs\BMA_A1A\BMA_A1A_TC_200.dta

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

32.63 m GGCE - Borehole Corrected Gamma
31.75 m CGXT - MCG External Temperature

Compact Memory Sub A.C
MMS 38 Length: 1.37 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

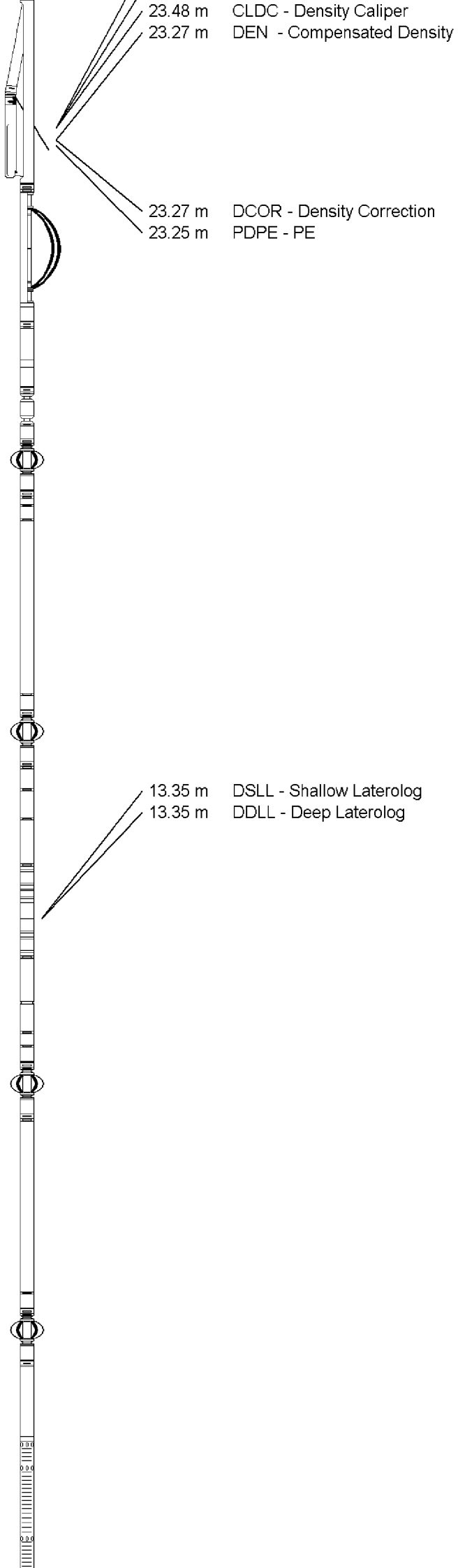
Compact Inline Bowspring A
MIS 94 Length: 1.74 m Weight: 33.1 lb

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

26.17 m NPRL - Limestone Neutron Por.

Compact Density/Caliper
MPD 83 Length: 2.92 m Weight: 90.4 lb

23.48 m AVOL - Annular Volume
23.48 m HVOL - Hole Volume



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

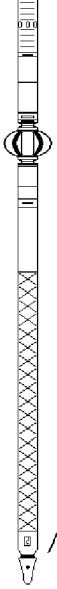
Compact Inline Standoff B
MIS 127 Length: 0.65 m Weight: 15.4 lb

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: 54.43 m	Weight: 1201.5 lb



Tool Zero (0.44m from bottom)

All measurements relative to tool zero.

COMPANY	ESSO AUSTRALIA PTY LTD
WELL	BREAM A1A
FIELD	BREAM
PROVINCE/COUNTY	BASS STRAIT
COUNTRY/STATE	AUSTRALIA

Elevation Kelly Bushing		metres	First Reading	2018.23	metres
Elevation Drill Floor	32.82	metres	Depth Driller	2032.00	metres
Elevation Ground Level	-59.40	metres	Depth Logger	2031.01	metres

PRECISION ENERGY SERVICES

Compact

DUAL LATEROLOG - GR

DENSITY - NEUTRON

1:200 TVD