

# Reeves

## DUAL LATEROLOG

**GAMMA RAY**  
**1:200 TVD**

COMPANY			ESSO AUSTRALIA PTY LTD		
WELL			FLOUNDER A24A		
FIELD			GIPPSLAND BASIN		
PROVINCE/COUNTY			BASS STRAIT		
COUNTRY/STATE			AUSTRALIA		
LOCATION			5758709.11 m N, 625849.47 m E 38°18'39.233" S, 148°26'22.099" E		
LSD	SEC	TWP	RGE	Other Services	
				COMPENSATED SONIC	
API Number				PHOTO DENSITY	
Permit Number				COMPENSTAEED NEUTRON	
Permanent Datum MSL				, Elevation 0 metres	
Log Measured From RT@33.85 metres above Permanent Datum					
Drilling Measured From RT					
Date	16-MAR-2003				
Run Number	1				
Depth Driller	2626.97			metres	
Depth Logger	2628.90			metres	
First Reading	2627.30			metres	
Last Reading	1885.90			metres	
Casing Driller	597.60			metres	
Casing Logger	596.20			metres	
Bit Size	8.50			inches	
Hole Fluid Type	KC/PHPA/GLY				
Density / Viscosity	9.50 lb/USg			68.00 sec/qt	
PH / Fluid Loss	9.00			2.50 ml/30Min	
Sample Source	FLOWLINE				
Rm @ Measured Temp	0.119 @ 25.0			ohm-m	
Rmf @ Measured Temp	0.089 @ 25.0			ohm-m	
Rmc @ Measured Temp	0.119 @ 25.0			ohm-m	
Source Rmf / Rmc	PRESS			PRESS	
Rm @ BHT	0.048 @ 96.0			ohm-m	
Time Since Circulation	15hr 40min				
Max Recorded Temp	98.00			deg C	
Equipment Name	CWS/CIS				
Equipment / Base	1				
Recorded By	G. McManus, D. Woodward			W. Arnold, C. Burton	
Witnessed By	G. Smith				
Circ. Stopped	22:10 15-MAR				

BOREHOLE RECORD				
Bit Size inches		Depth From metres		Depth To metres
8.510		662.60		3193.00
CASING RECORD				
Type	Size inches	Depth From metres	Shoe Depth metres	Weight pounds/ft
Conduct.	20.000	0.00	202.65	133.00
Surface	10.750	202.65	662.60	54.50
REMARKS				
DRILLING RIG: NABORS (ISDL) 453.				
COMPACT WIRELINE TOOLS LOGGED CONVENTIONALLY VIA SCHLUMBERGER WIRELINE UNIT.				
DUAL NEUTRON / PHOTO DENSITY ECCENTRALISED				
COMPENSATED SONIC / LATEROLOG FITTED WITH 1/2" STANDOFF				
BARITE CONTENT 1.65%				

AFTER SURVEY CALIBRATION			C:\FLA A24A\FLA_A24A_Sonde_Picture.dta
Gamma Check MCG 044			Field Calibration on 14-MAR-2003 09:40 After Survey Check on 17-MAR-2003 00:08
	Before (API)	After (API)	
Background	10	13	
Calibrator (Gross)	919	922	
Calibrator (Net)	909	909	
Photo Density Check MPD 067			Before Survey Check on 14-MAR-2003 03:49 After Survey Check on 17-MAR-2003.00:13

# Density Check

	Near		Far	
	Before	After	Before	After
	959.8	957.8	1151.7	1156.6

# PE Check

	Before	After
WS	178.7	179.7
WH	833.1	834.3

# Laterolog Check MLE 015

Before Survey Check on 14-MAR-2003,03:10  
After Survey Check on 17-MAR-2003,00:56

Channel	Before Survey (ohm-m)	After Survey (ohm-m)
Shallow	49.1	49.1
Deep	31.5	31.5
Groningen	246.3	246.3

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.



# MAIN LOG 1:200



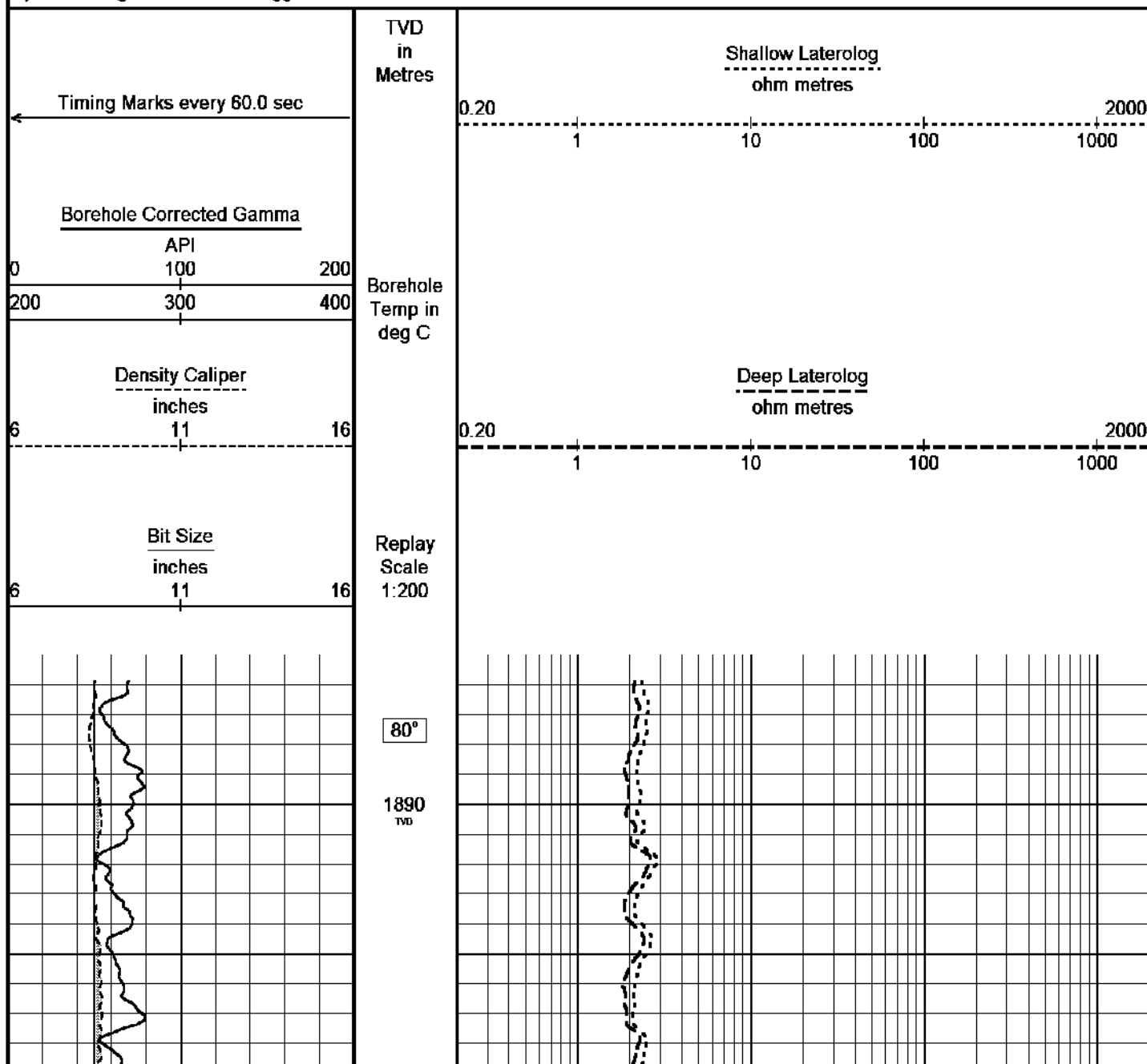
Depth Based Data - Maximum Sampling Increment 10.0cm

Plotted on 16-MAY-2003 15:17

Filename: C:\FLA A24A\FLA\_A24A\_Main\_Log.dta

Recorded on 16-MAR-2003 13:38

System Configuration Dates: Logged 23-OCT-2002: Processed 23-OCT-2002: Plotted 23-OCT-2002:



1900  
TVD

Bit Size

Density Caliper

Borehole Corrected Gamma

1910  
TVD

81°

1920  
TVD

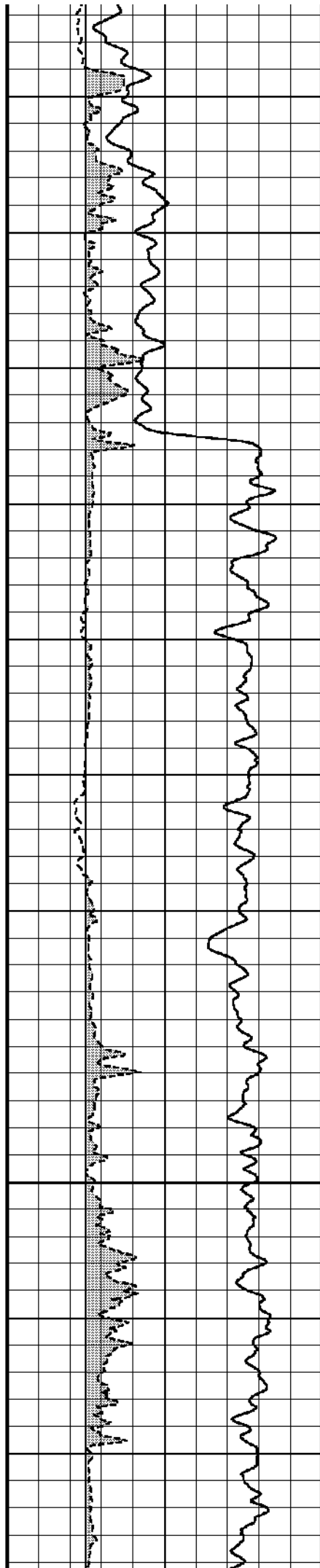
1930  
TVD

81°

1940  
TVD

1950  
TVD

Deep Laterolog  
Shallow Laterolog



1960  
TVD

82°

1970  
TVD

1980  
TVD

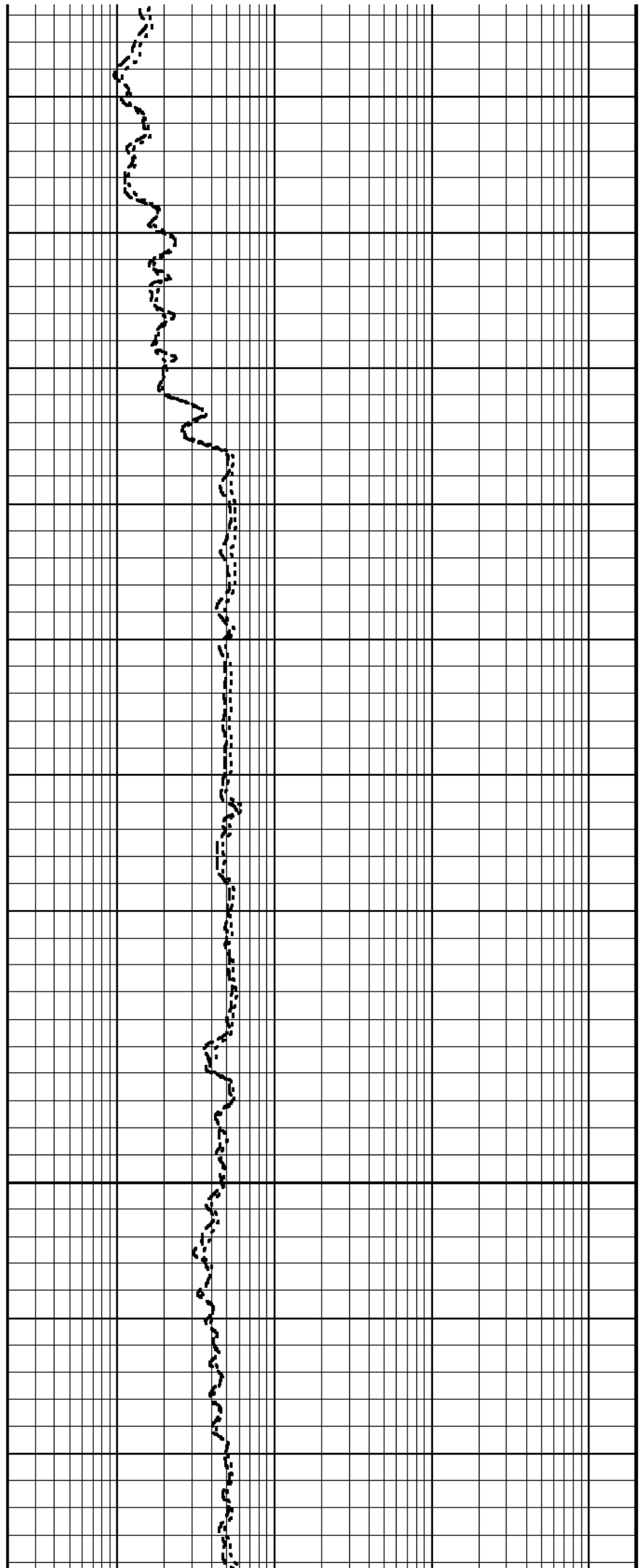
83°

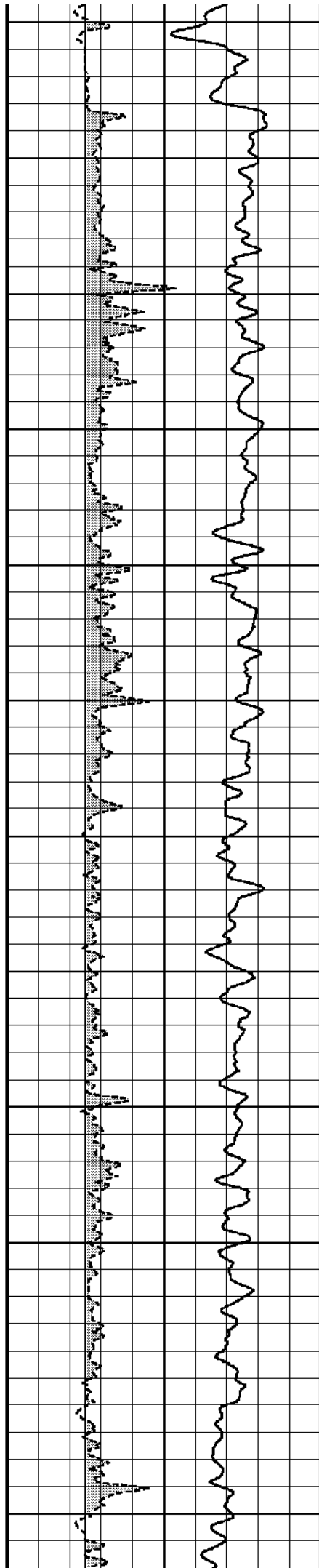
1990  
TVD

2000  
TVD

2010  
TVD

83°





2020  
TVD

2030  
TVD

83°

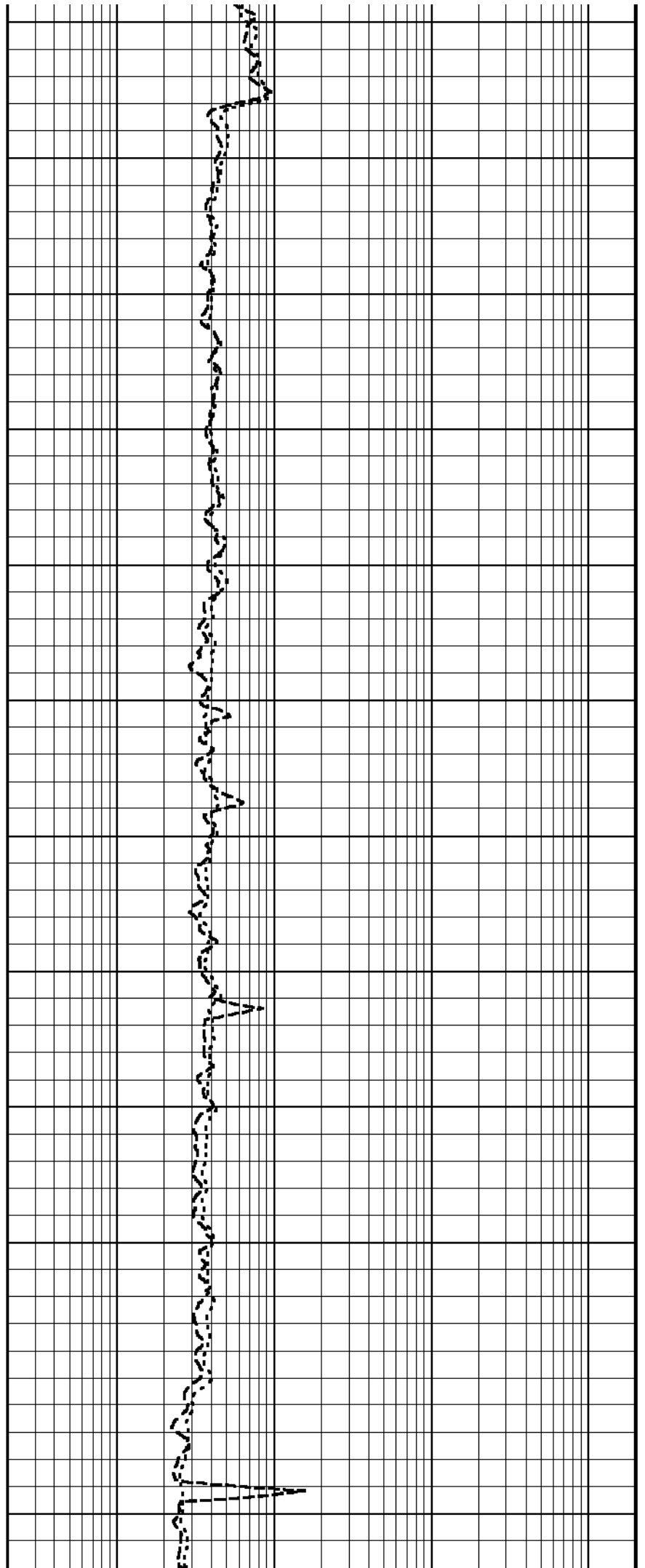
2040  
TVD

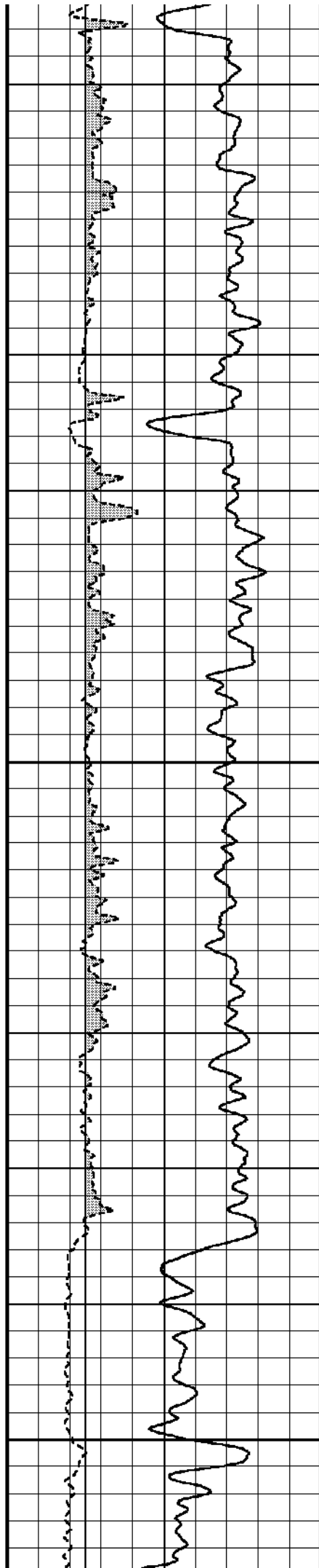
2050  
TVD

2060  
TVD

84°

2070  
TVD





2080  
TVD

85°

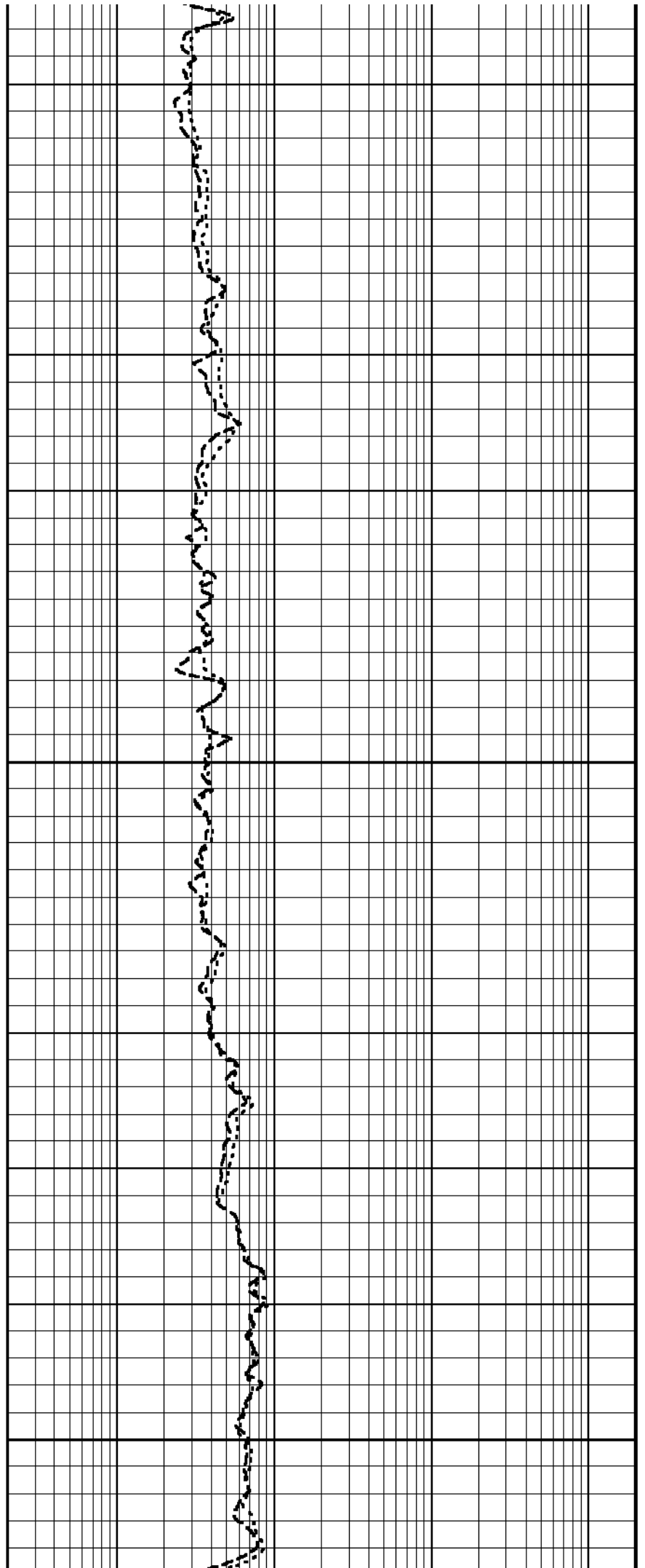
2090  
TVD

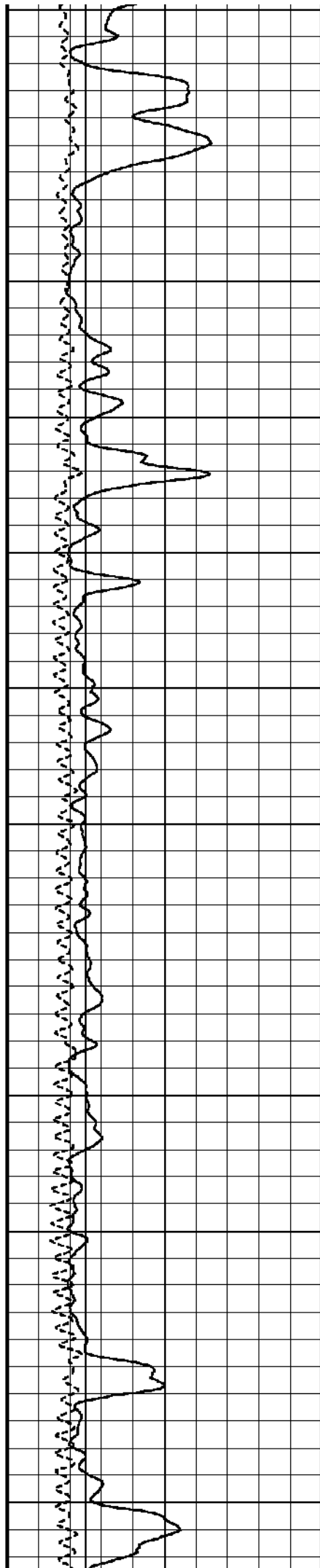
2100  
TVD

2110  
TVD

85°

2120  
TVD





2130  
TVD

86°

2140  
TVD

2150  
TVD

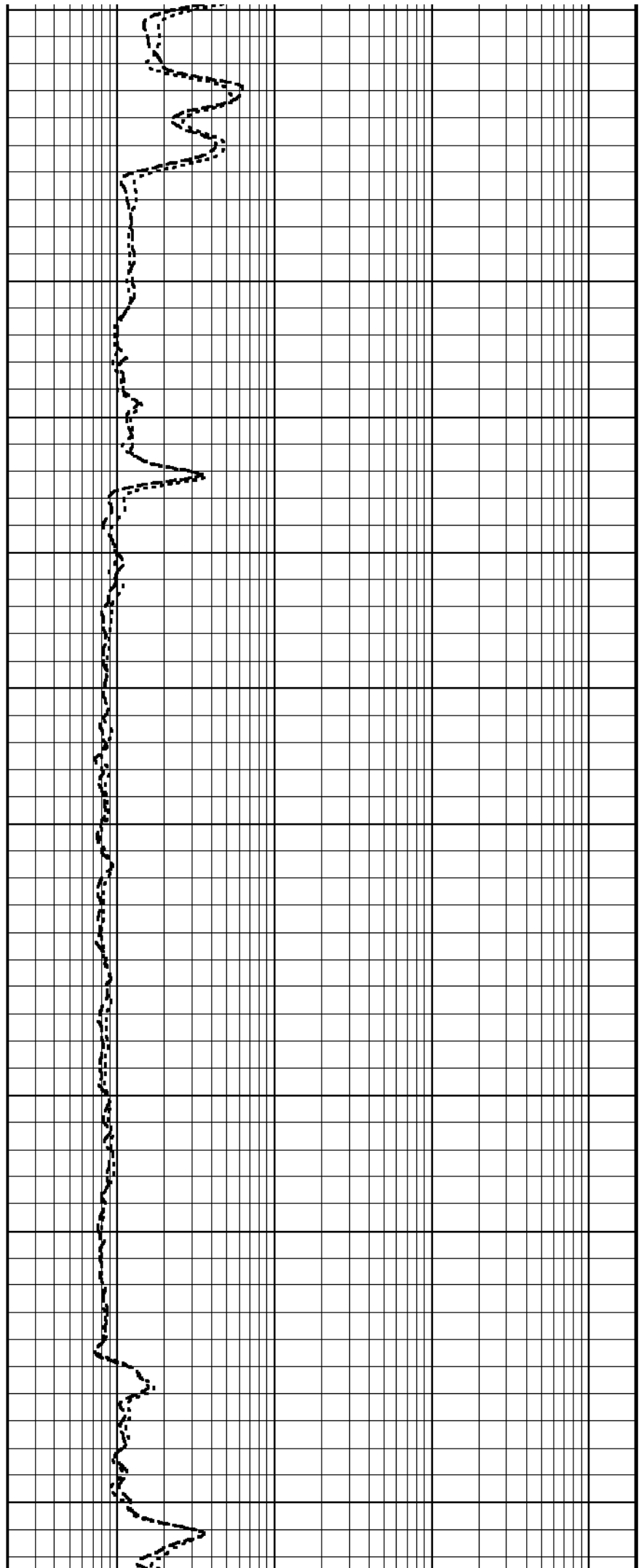
2160  
TVD

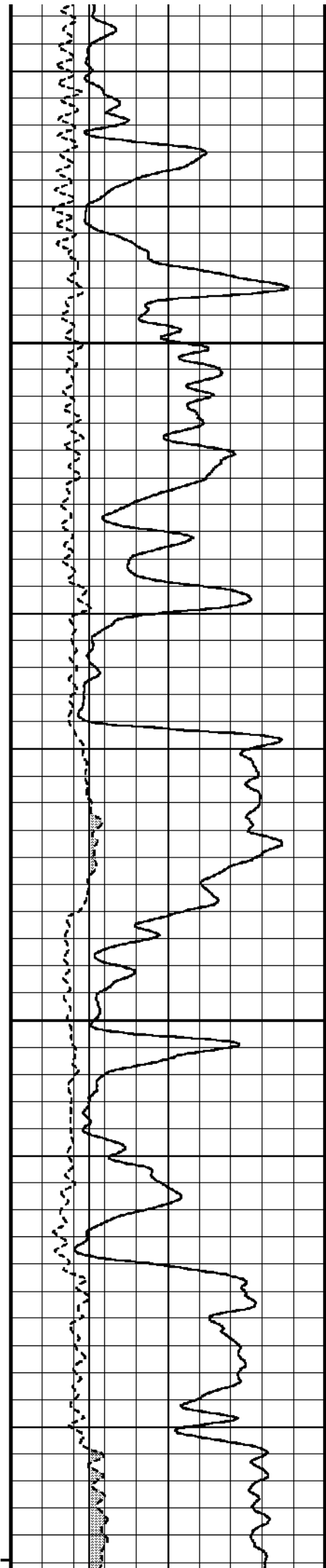
87°

2170  
TVD

2180  
TVD

00°





88

2190  
TVD

2200  
TVD

2210  
TVD

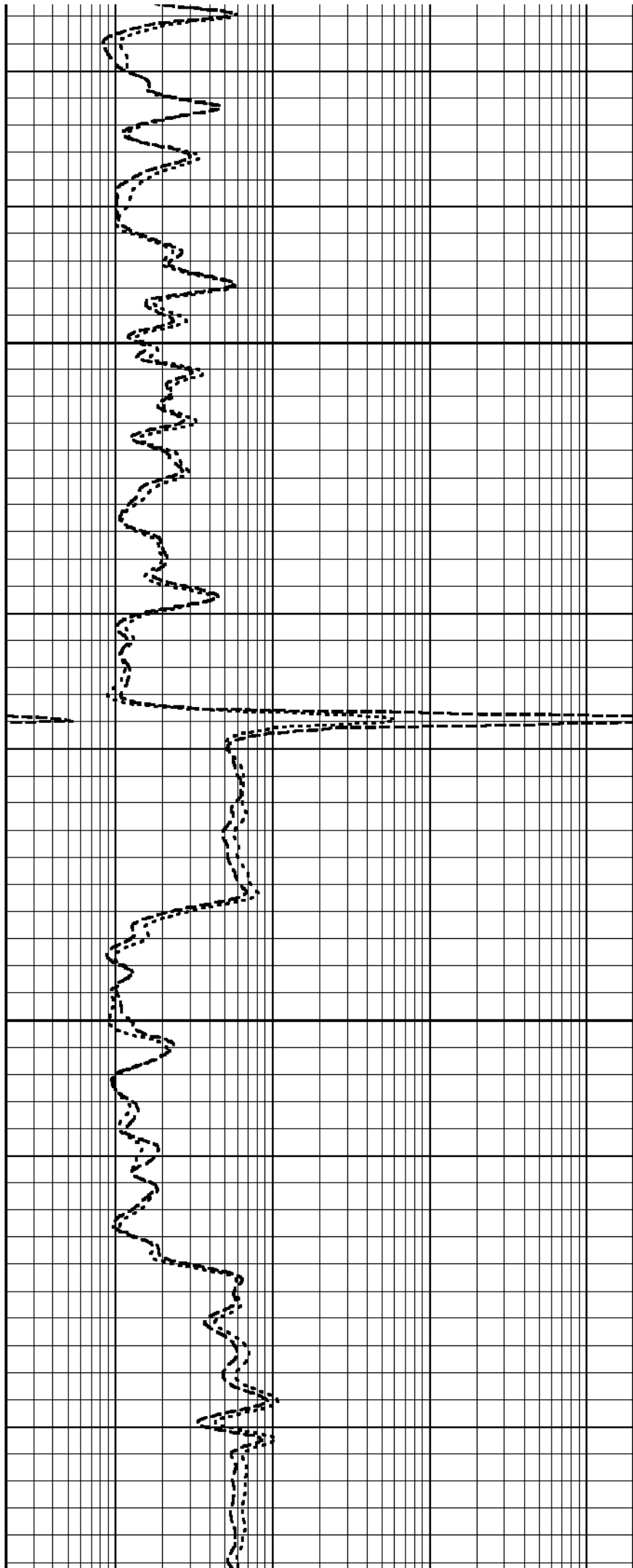
89°

2220  
TVD

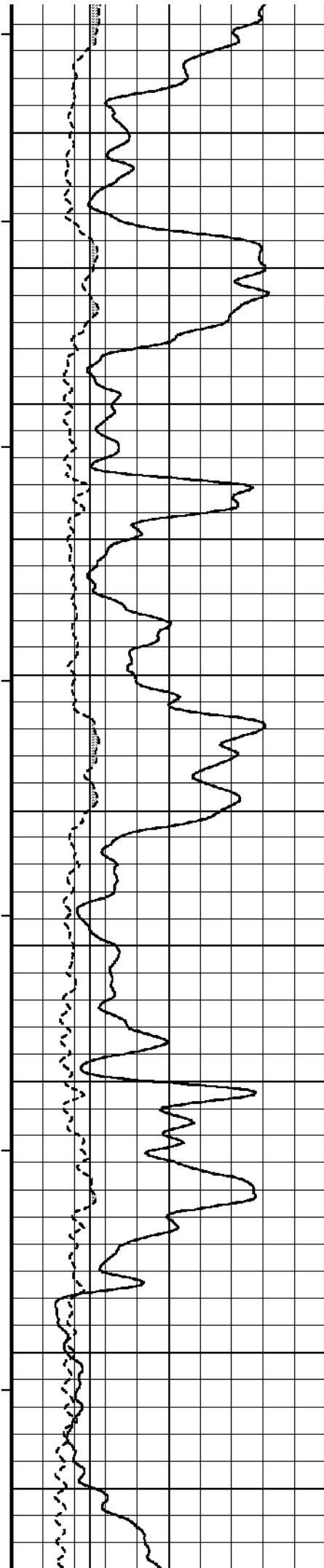
2230  
TVD

90°

2240  
TVD







2250  
TVD

2260  
TVD

91°

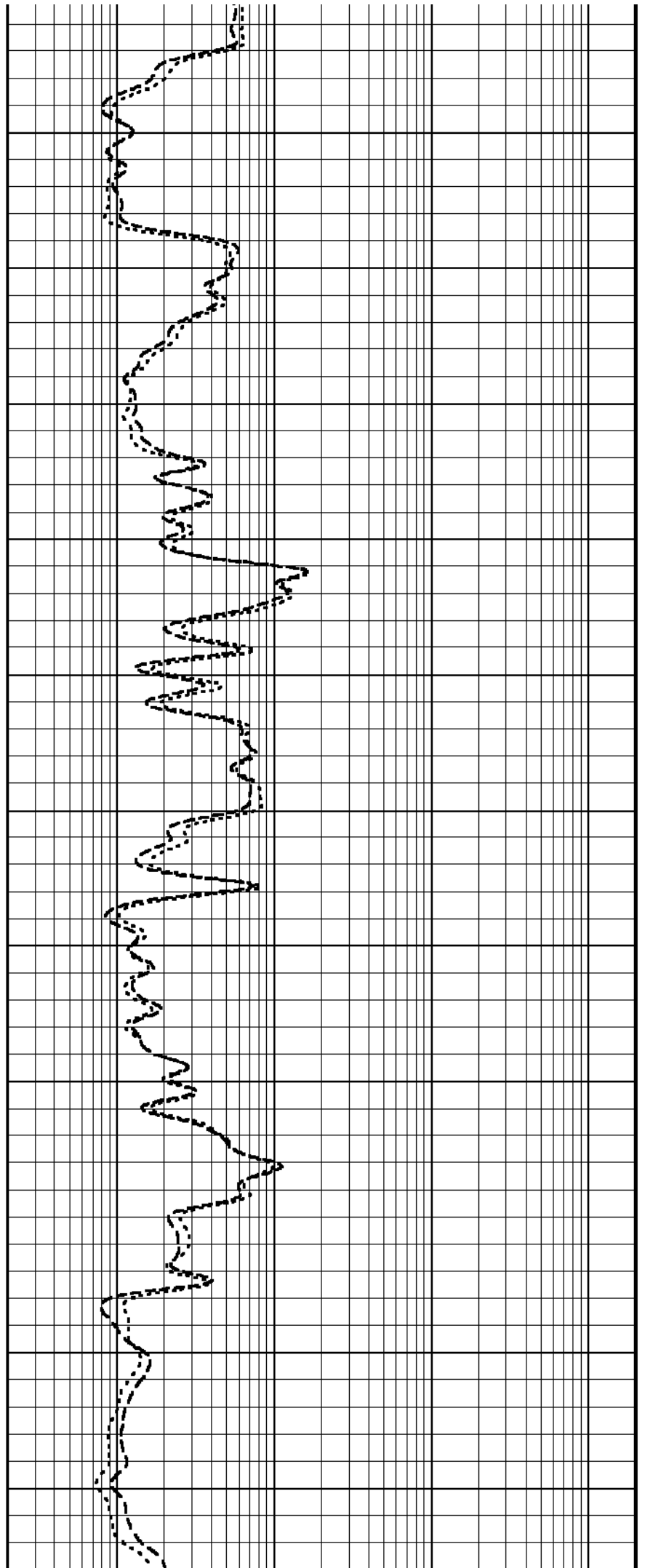
2270  
TVD

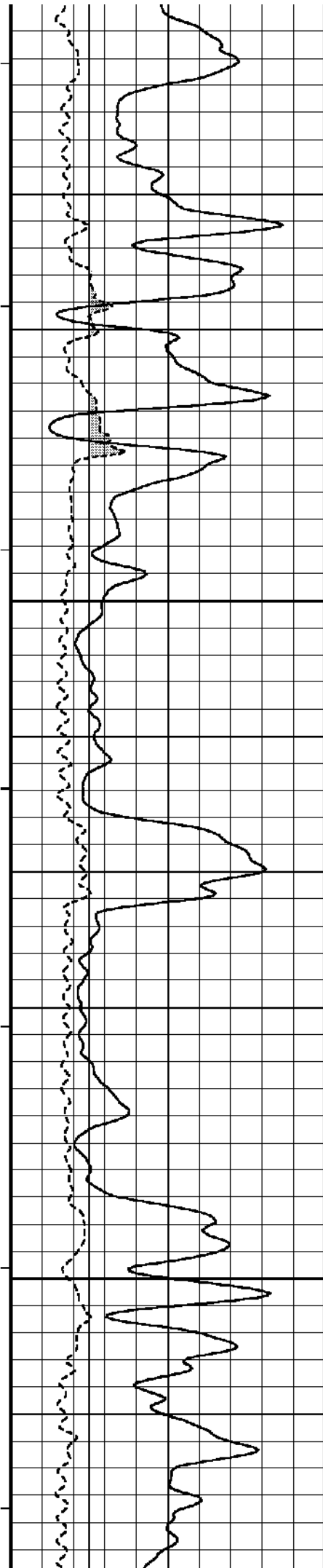
2280  
TVD

91°

2290  
TVD

2300  
TVD





2310  
TVD

92°

2320  
TVD

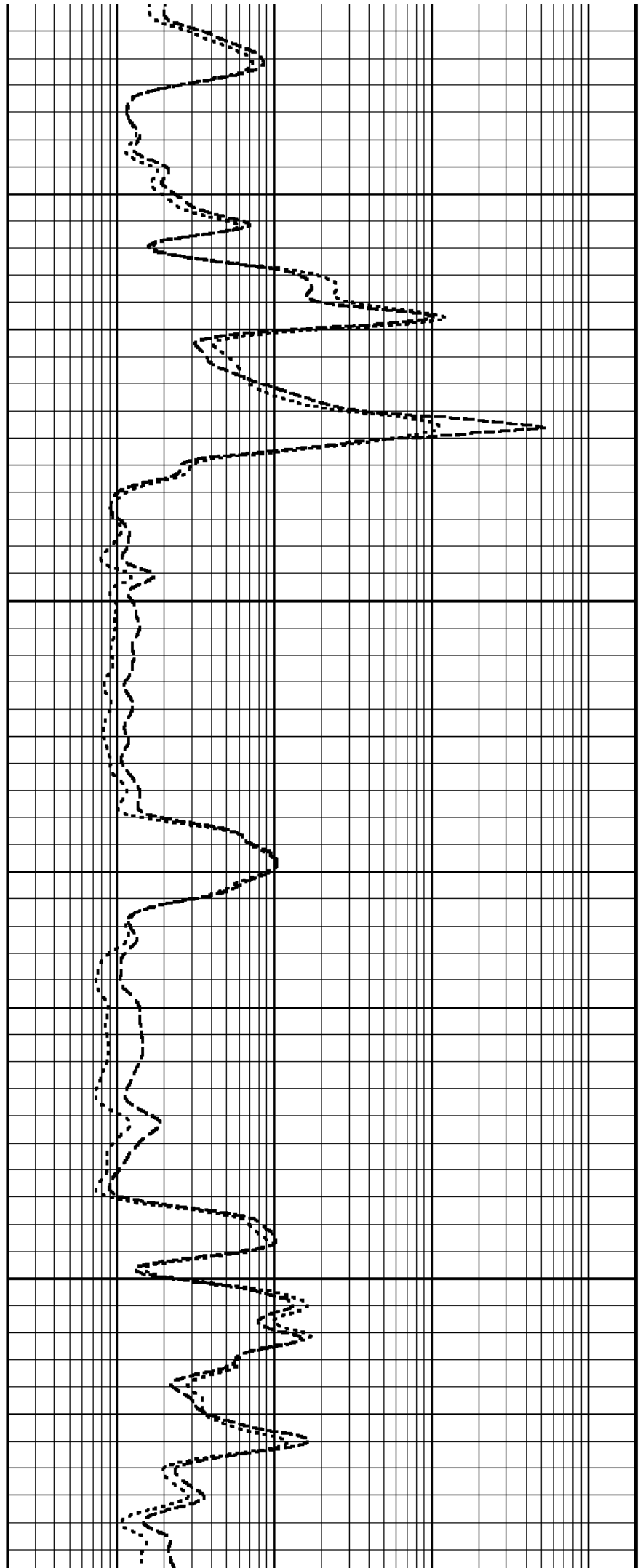
2330  
TVD

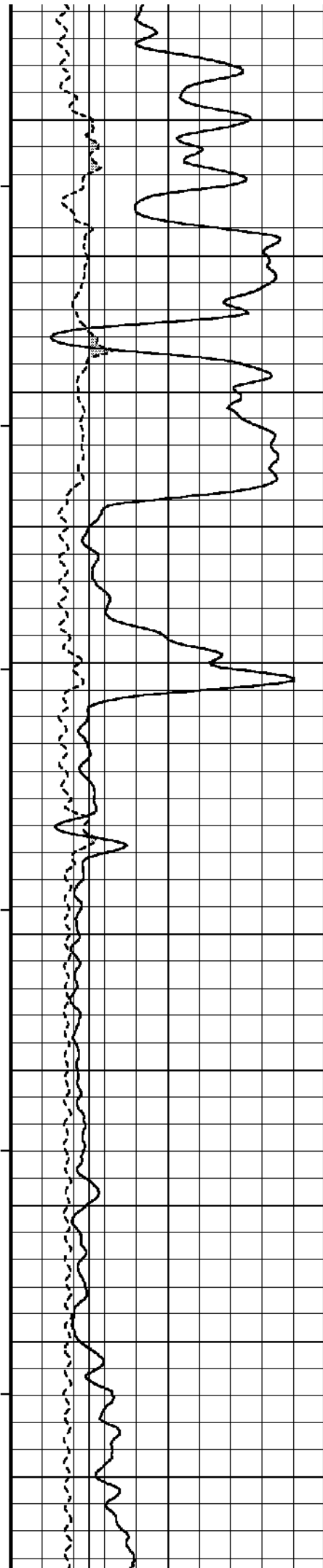
93°

2340  
TVD

2350  
TVD

2360  
TVD





94°

2370  
TVD

2380  
TVD

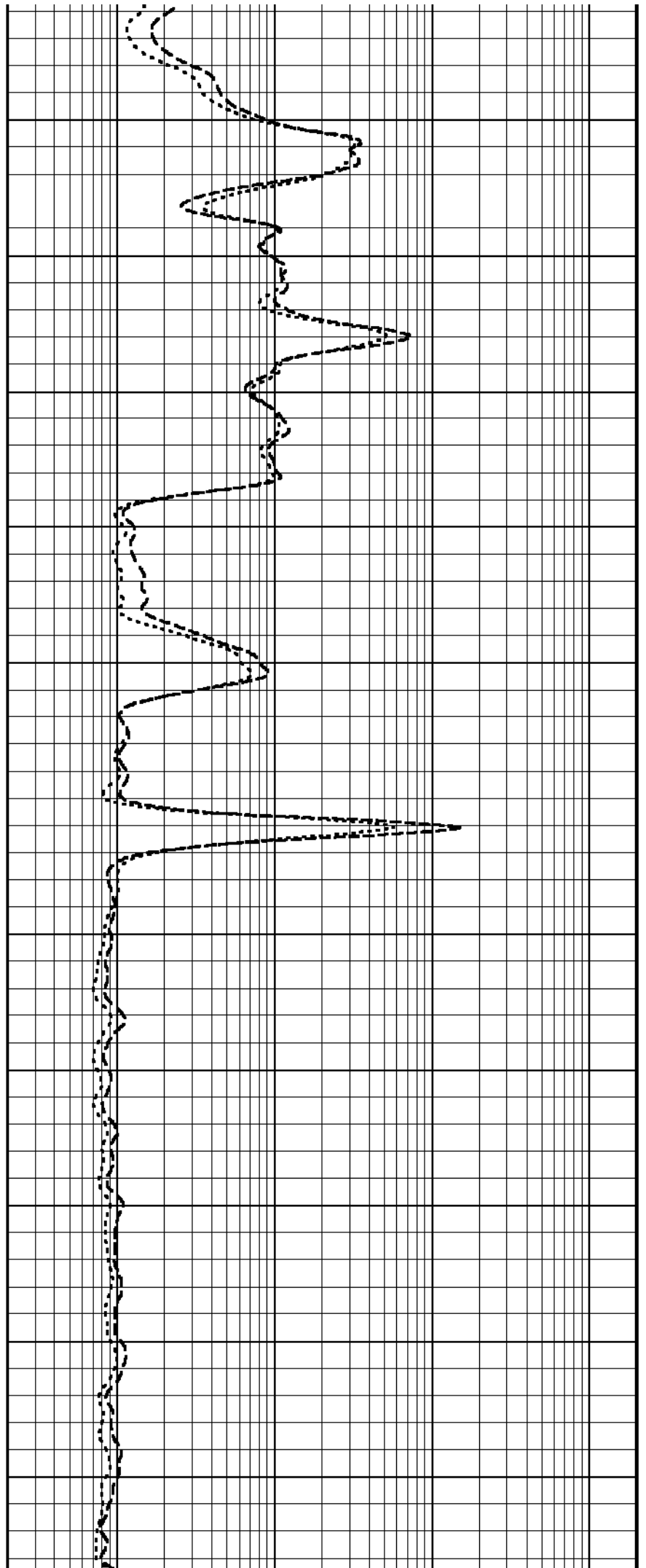
95°

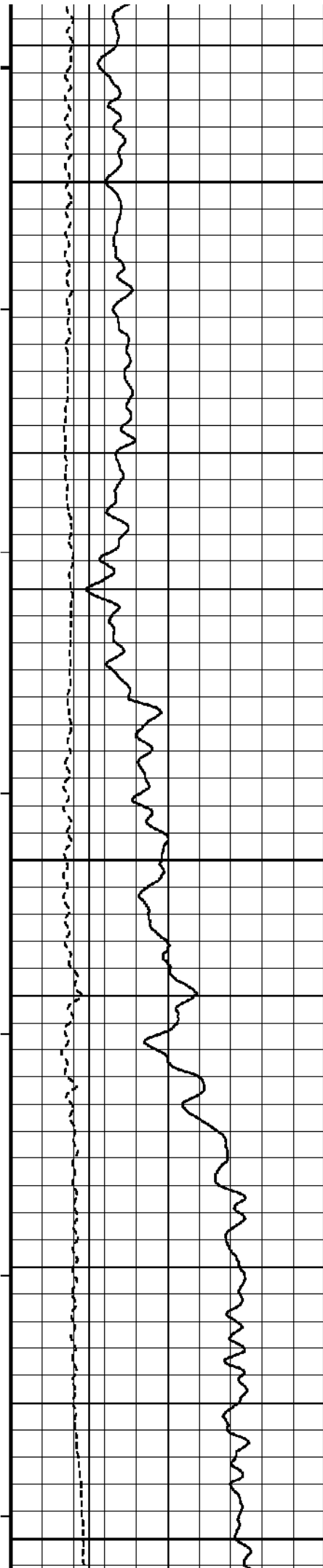
2390  
TVD

2400  
TVD

2410  
TVD

95°





2420  
TVD

2430  
TVD

96°

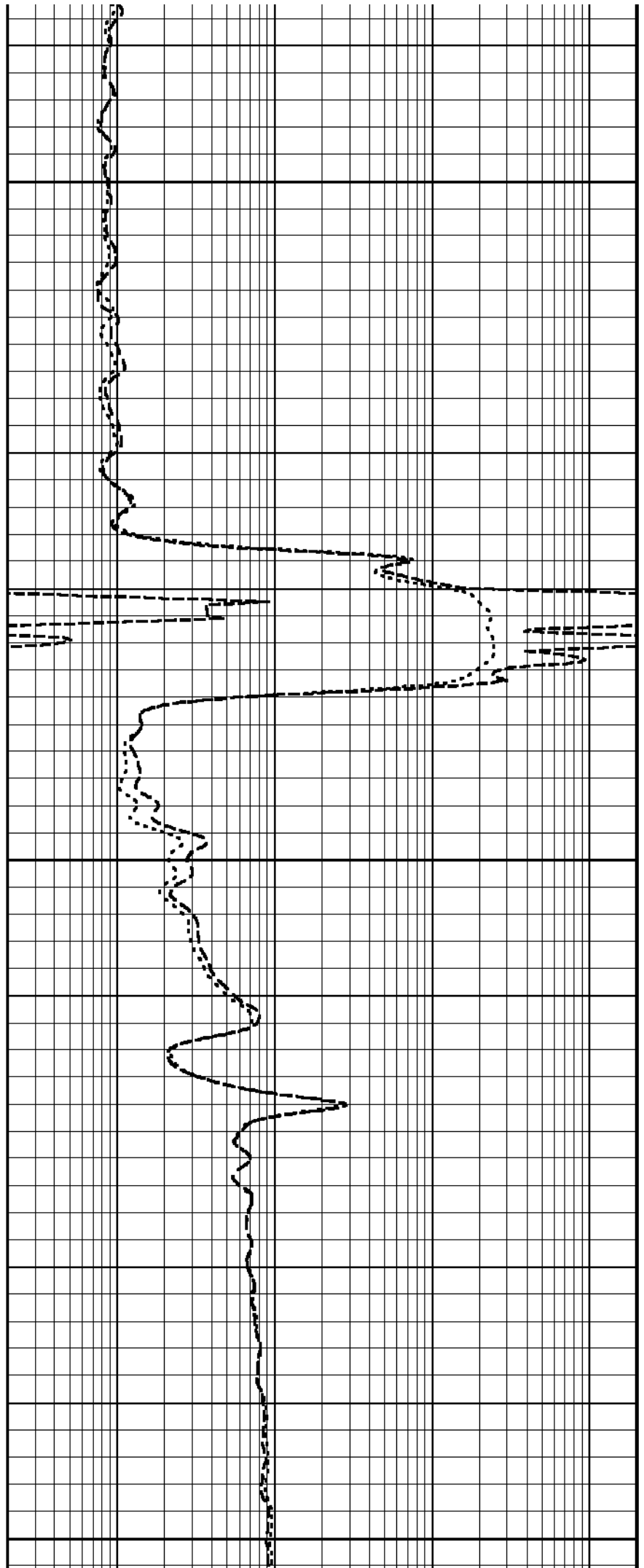
2440  
TVD

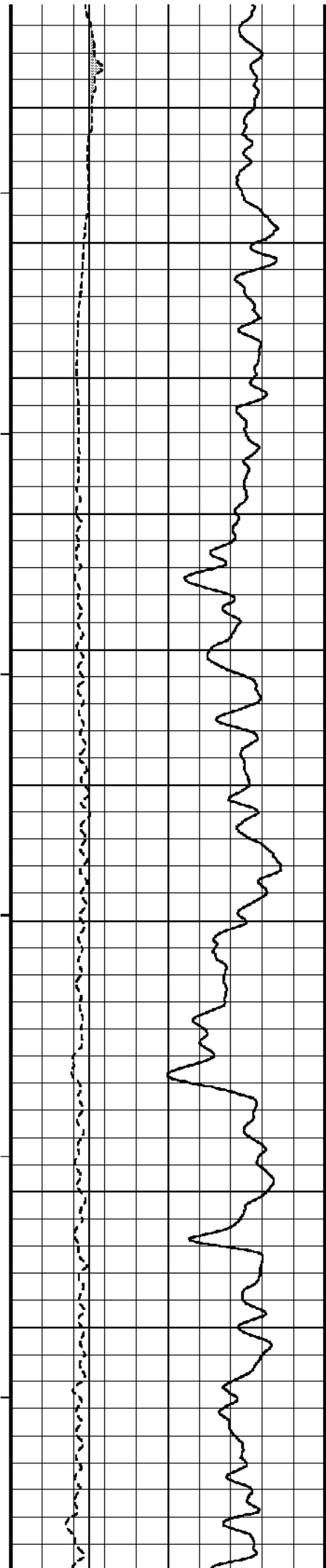
2450  
TVD

2460  
TVD

97°

2470  
TVD





2480  
TVD

97°

2490  
TVD

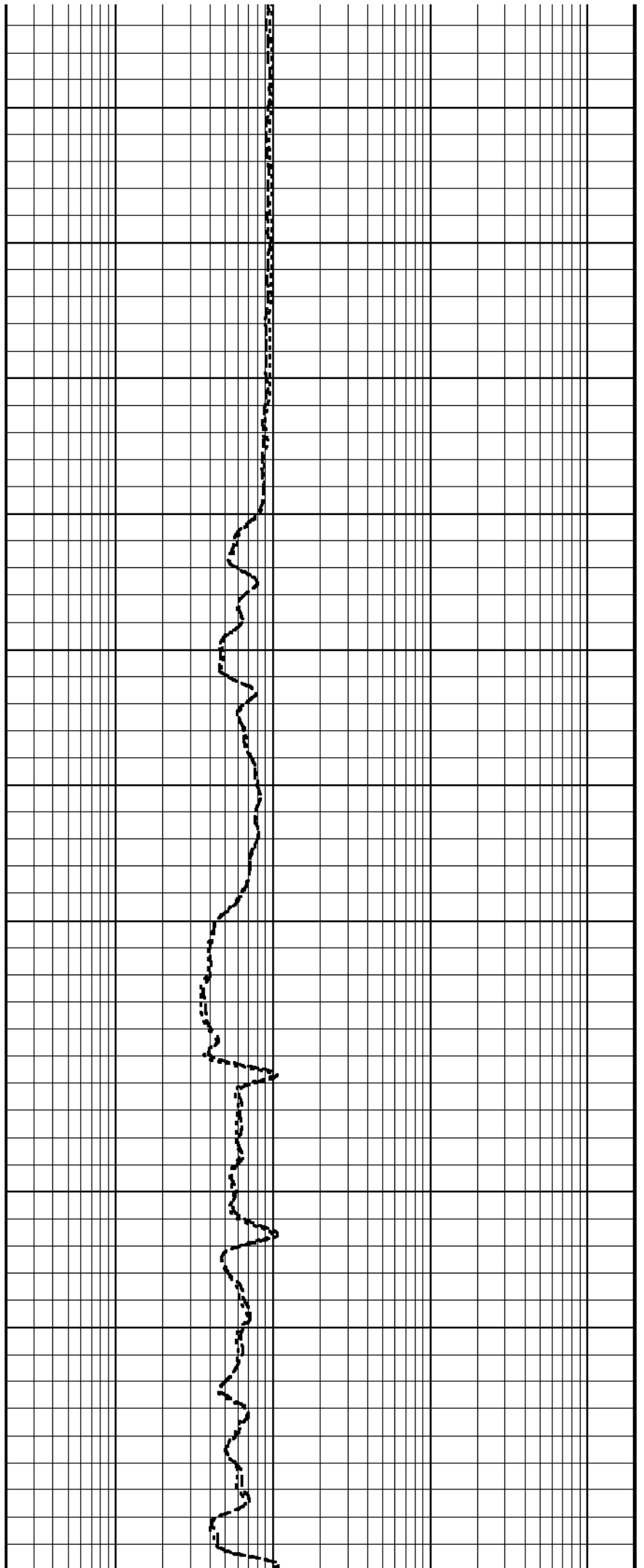
2500  
TVD

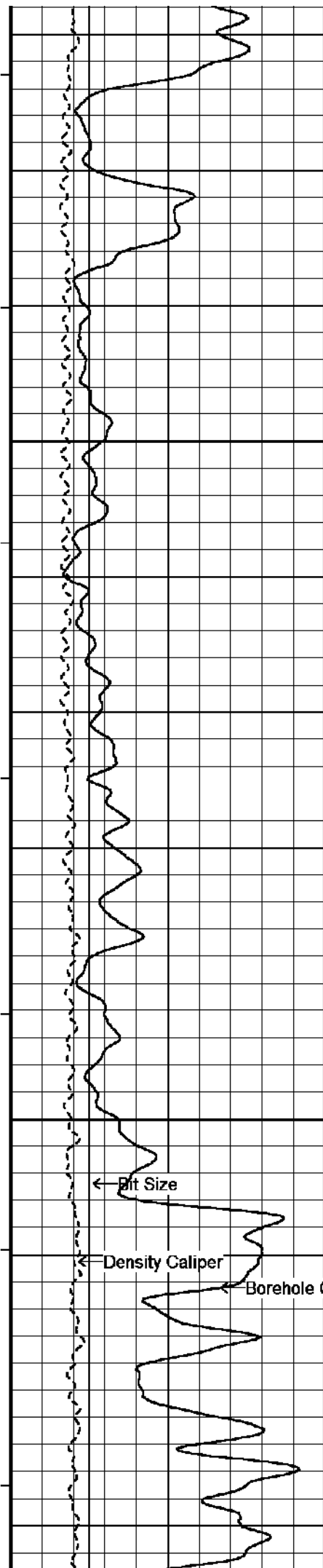
2510  
TVD

97°

2520  
TVD

2530  
TVD





98°

2540  
TVD

2550  
TVD

2560  
TVD

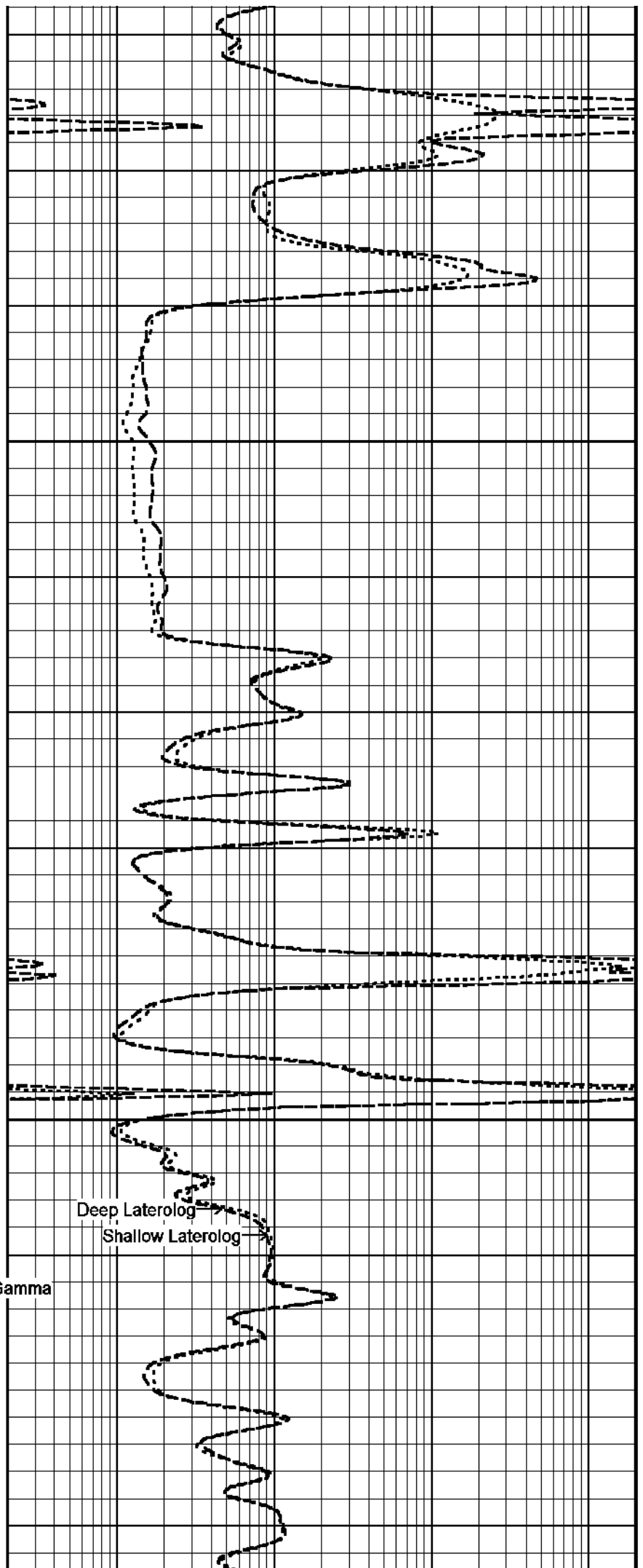
98°

2570  
TVD

2580  
TVD

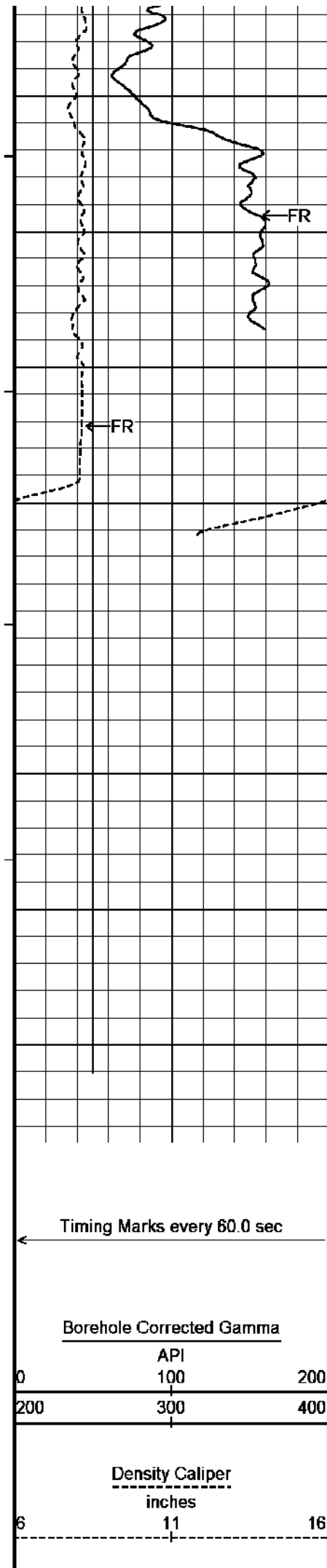
97°

2590  
TVD



Deep Laterolog

Shallow Laterolog



2600  
TVD

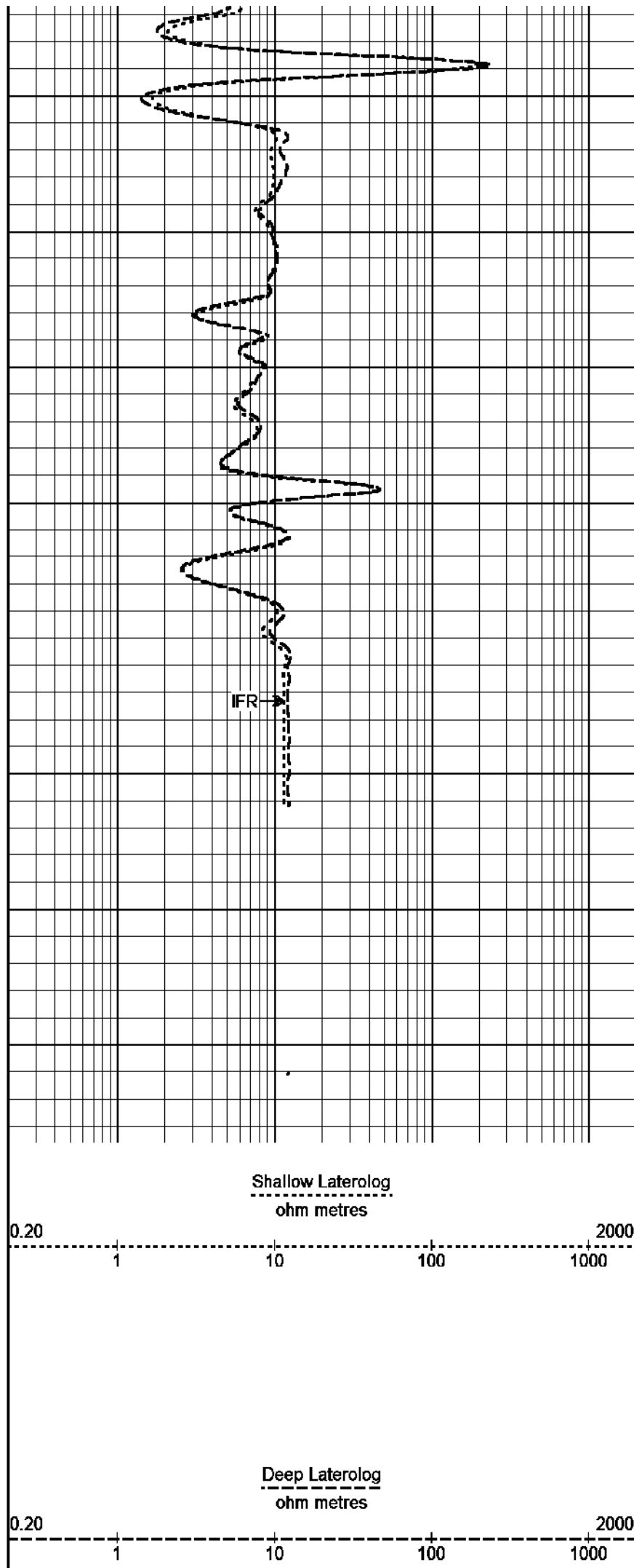
2610  
TVD

2620  
TVD

2630  
TVD

TVD  
in  
Metres

Borehole  
Temp in  
deg C



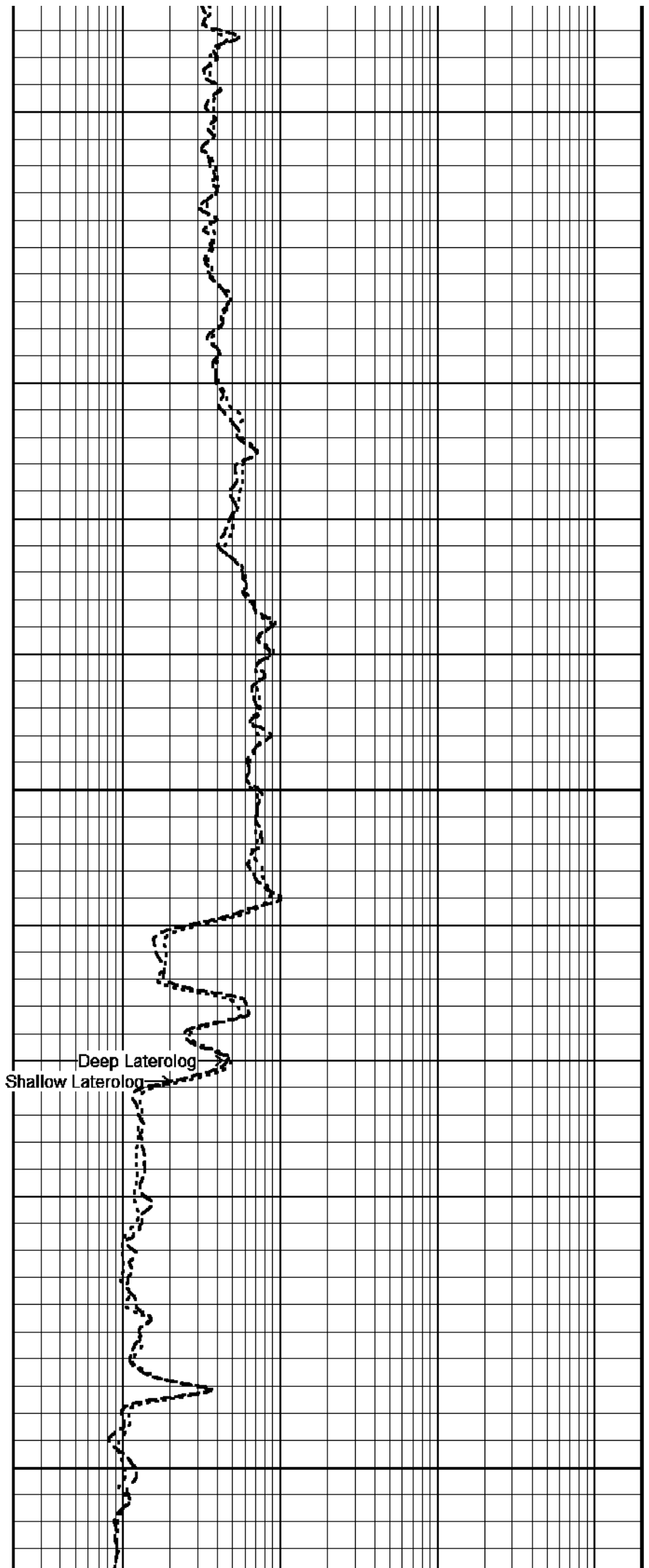
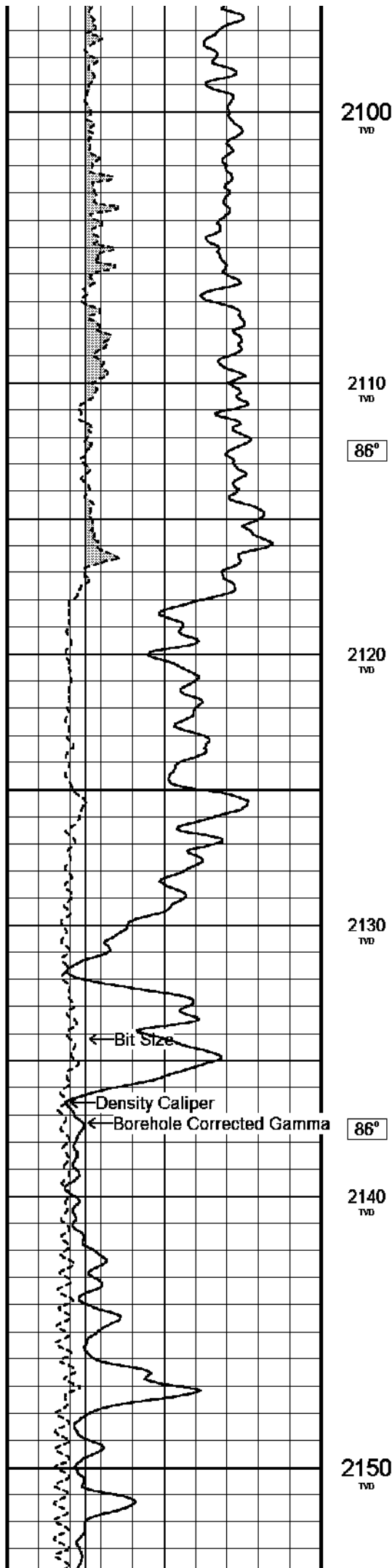
The diagram shows a horizontal line representing a log section. Above the line, the text "Bit Size" is centered, with "inches" below it. Below the line, the numbers "6", "11", and "16" are positioned at the left, center, and right respectively. To the right of the line, the text "Replay Scale" is centered, with "1:200" below it.

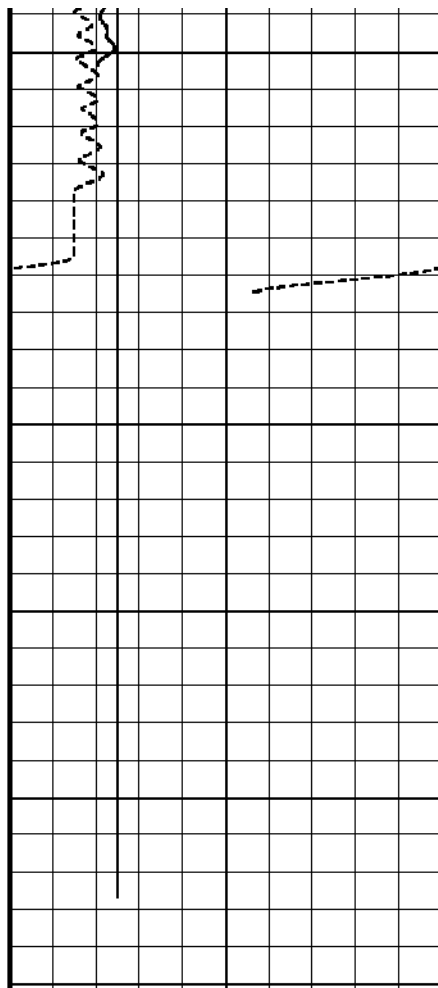
**REPEAT SECTION 1:200**

Depth Based Data - Maximum Sampling Increment 10.0cm  
 Plotted on 16-MAY-2003 15:17  
 Filename: C:\FLA A24A\FLA\_A24A\_Repeat\_Section.dta  
 Recorded on 16-MAR-2003 15:18  
 System Configuration Dates: Logged 23-OCT-2002: Plotted 23-OCT-2002:

Timing Marks every 60.0 sec	TVD in Metres	Shallow Laterolog ohm metres
Borehole Corrected Gamma		
API		
0      100      200		
200      300      400		
Density Caliper inches		
6      11      16		
Bit Size inches		
6      11      16		
Replay Scale 1:200		
2080 TVD		
85°		
2090 TVD		







2160  
TVD

2170  
TVD

2180  
TVD  
in  
Metres

← Timing Marks every 60.0 sec

Borehole Corrected Gamma

0	API	200
100		
200	300	400

Borehole  
Temp in  
deg C

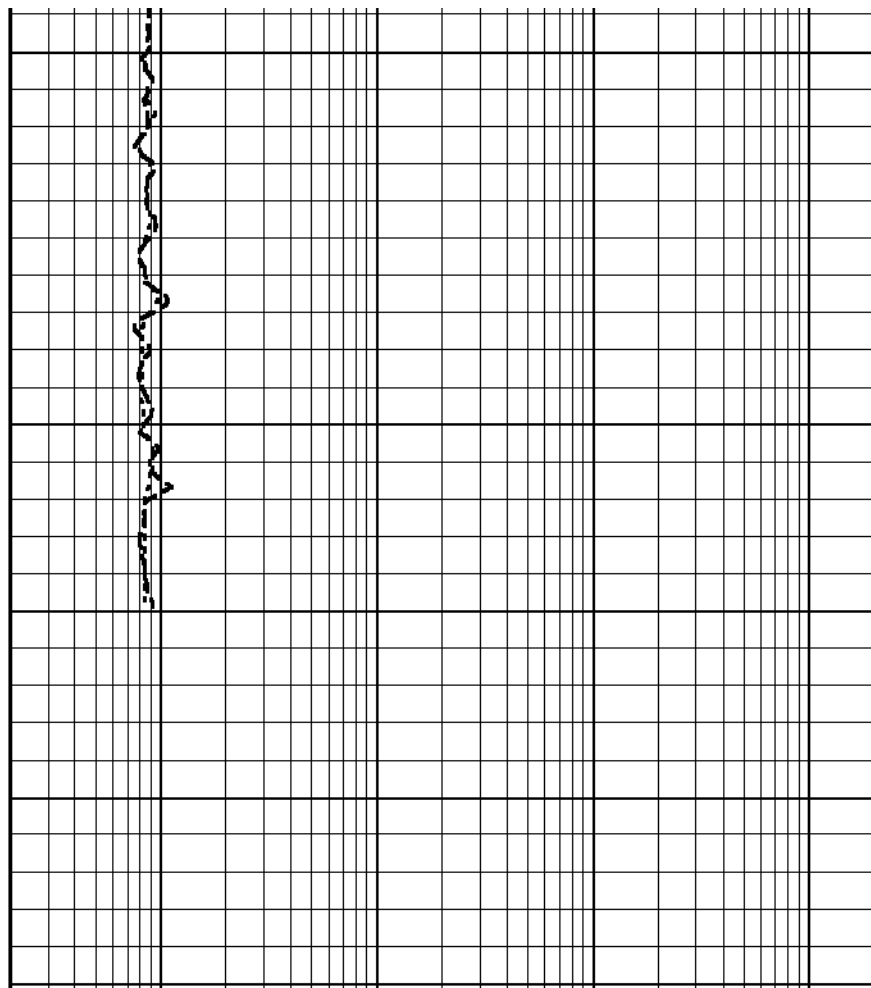
Density Caliper  
inches

6	11	16
---	----	----

Bit Size  
inches

6	11	16
---	----	----

Replay  
Scale  
1:200



Shallow Laterolog  
ohm metres

0.20	1	10	100	1000	2000
------	---	----	-----	------	------

Deep Laterolog  
ohm metres

0.20	1	10	100	1000	2000
------	---	----	-----	------	------

Depth Based Data - Maximum Sampling Increment: 10.0cm

Filename: C:\FLA A24A\FLA\_A24A\_Repeat\_Section.dta

System Configuration Dates: Logged 23-OCT-2002: Plotted 23-OCT-2002:

Plotted on 16-MAY-2003 15:17

Recorded on 16-MAR-2003 15:18



REPEAT SECTION 1:200



BEFORE SURVEY CALIBRATION

C:\FLA A24A\FLA\_A24A\_Main\_Log.dta

General Constants All 000

General Parameters				
Mud Resistivity	0.12	ohm-metres		
Mud Resistivity Temperature	25.00	degrees C		
Water Level	0.00	metres		
Density/Neutron Processing	Wet Hole			
Hole/Annular Volume and Differential Caliper Parameters				
HVOL Caliper 1	Density Caliper			
HVOL Caliper 2	None			
Annular Volume Diameter	7.00	inches		
Caliper for Differential Caliper	Density Caliper			
Rwa Parameters				
Porosity used	Base Density Porosity			
Resistivity used	Deep Laterolog			
RWA Constant A	0.61			
RWA Constant M	2.15			
Gamma Calibration MCG 044				
Field Calibration on 14-MAR-2003 09:40				
	Measured	Calibrated (API)		
Background	16	10		
Calibrator (Gross)	1435	919		
Calibrator (Net)	1419	909		
Gamma Constants MCG 044				
Gamma Calibrator Number	060			
Mud Density	1.14	gm/cc		
Caliper Source for Processing	Density Caliper			
Tool Position	Eccentred			
Concentration of KCl	0.00	kppm		
High Resolution Temperature Calibration MCG 044				
Field Calibration on 4-SEP-2002,14:58				
	Measured	Calibrated(Deg C)		
Lower	1.00	1.00		
Upper	150.00	150.00		
High Resolution Temperature Constants MCG 044				
Pre-filter Length	11			
Caliper Calibration MPD 067				
Base Calibration on 19-FEB-2003,13:48				
Field Calibration on 14-MAR-2003 03:53				
Base Calibration				
Reading No	Measured	Calibrator Size (in)		
1	14847	4.01		
2	24400	5.99		
3	34321	7.98		
4	44338	9.94		
5	55648	12.01		
6	N/A	N/A		
Field Calibration				
	Measured Caliper (in)	Actual Caliper (in)		
	7.98	7.98		
Laterolog Calibration MLE 015				
Base Calibration on 4-SEP-2002,14:40				
Field Check on 14-MAR-2003,03:10				
Base Calibration				
	Measured		Calibrated (ohm-m)	
Channel	Resistor 1	Resistor 2	Resistor 1	Resistor 2
Shallow	0.0	972.3	0.0	1327.3
Deep	0.0	972.9	0.0	852.7
Groningen	0.0	996.2	0.0	852.7
Field Check				
Channel	Base Check (ohm-m)		Field Check (ohm-m)	
Shallow	49.1		49.1	
Deep	31.5		31.5	
Groningen	246.3		246.3	
Laterolog Constants MLE 015				
Squasher Start	40000	ohm-m		
Shallow Laterolog K Factor	1.3273			

Deep Laterolog K Factor	0.8527
Groningen Laterolog K Factor	0.8527
Interference Rejection	50 Hz
SP Connection	SP Bridle Electrode
Groningen Connection	Groningen Electrode

# DOWNHOLE EQUIPMENT

All measurements relative to tool zero.

Compact Inline Standoff B

MIS 52 Length: 0.65 m

Weight: 15.43 lb

Compact Stiff Bridle Electrode Sub.

MBE 9 Length: 3.76 m

Weight: 94.80 lb

Compact Inline Standoff B

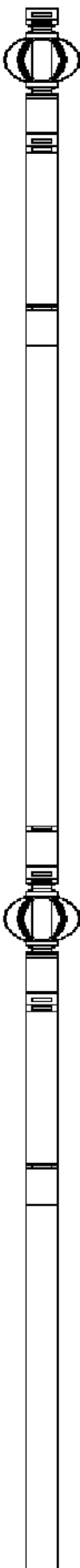
MIS 77 Length: 0.65 m

Weight: 15.43 lb

Compact Stiff Bridle Electrode Sub.

MBE 5 Length: 3.76 m

Weight: 94.80 lb



Compact Inline Standoff B  
MIS 31 Length: 0.65 m Weight: 15.43 lb

Compact Gamma  
MCG 44 Length: 2.65 m Weight: 63.93 lb

27.98 m GRGC - Gamma Ray

27.09 m CGXT - MCG External Temperature

Compact Knuckle Joint  
SKJ 48 Length: 0.66 m Weight: 24.25 lb

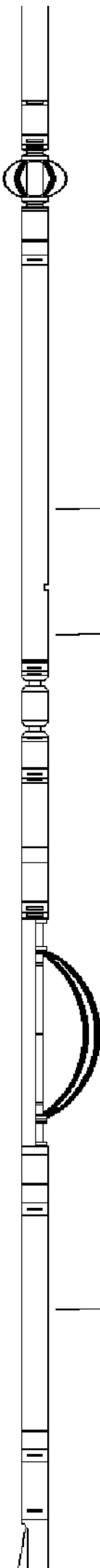
Compact Swivel Head Adaptor  
SHA 27 Length: 0.83 m Weight: 26.46 lb

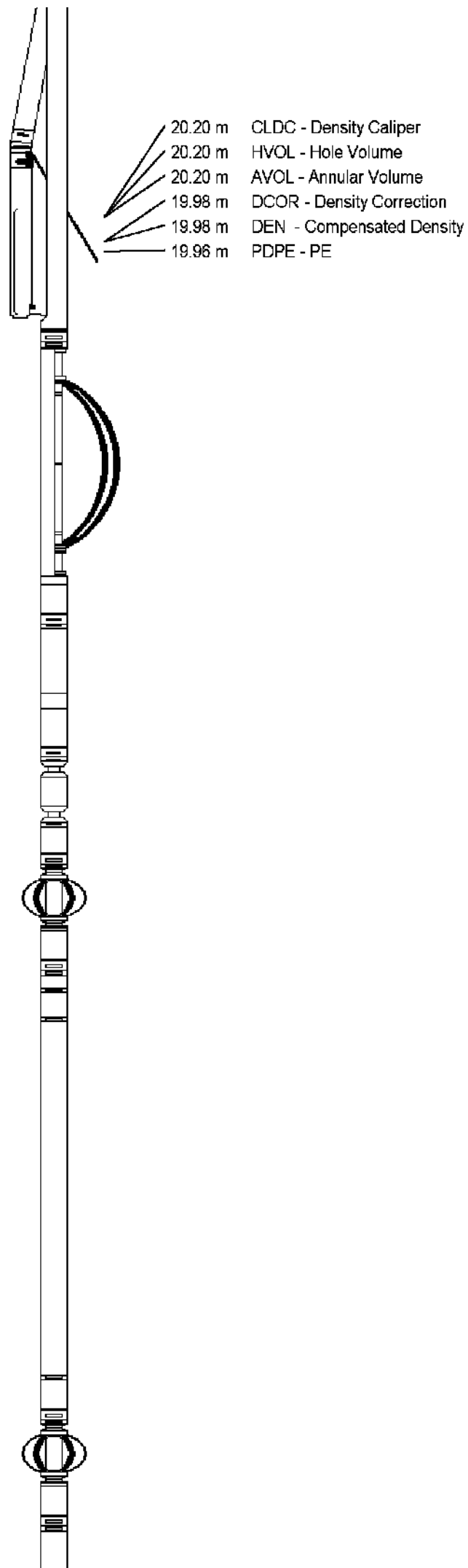
Compact Inline Bowspring A  
MIS 24 Length: 1.74 m Weight: 33.07 lb

Compact Neutron  
MDN 69 Length: 1.53 m Weight: 50.71 lb

22.88 m NPRL - Limestone Neutron Por.

Compact Density/Caliper  
MPD 67 Length: 2.92 m Weight: 90.39 lb





MLE 15    Length: 3.76 m    Weight: 92.59 lb

Compact Inline Standoff B  
MIS 76    Length: 0.65 m    Weight: 15.43 lb

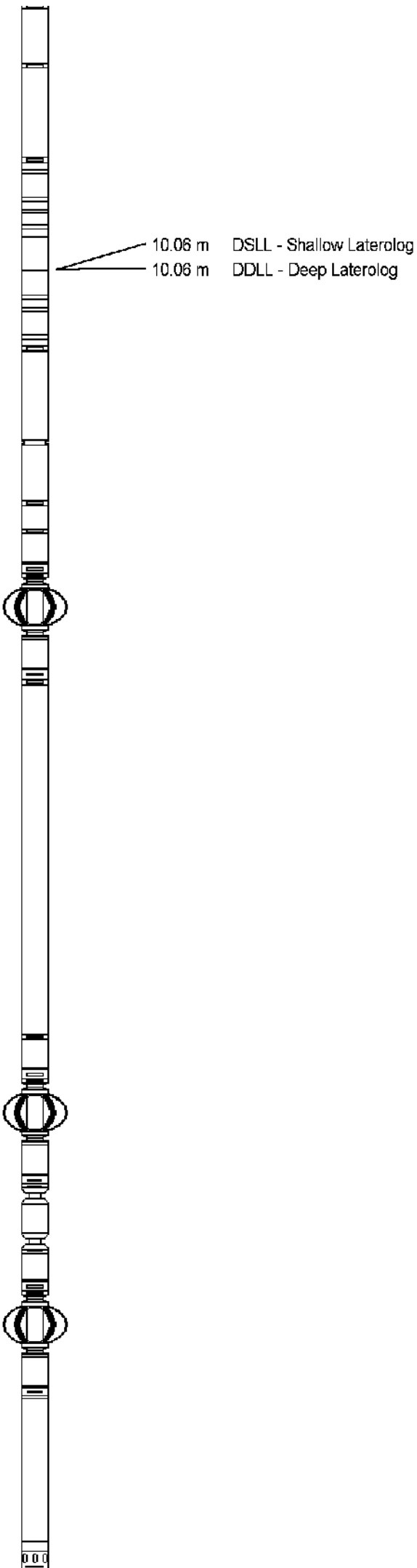
Compact Lower Guard Sub.  
MLG 7    Length: 2.44 m    Weight: 55.12 lb

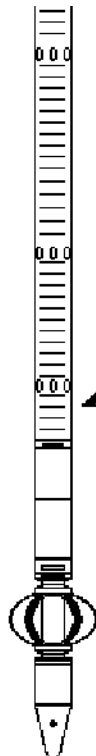
Compact Inline Standoff B  
MIS 73    Length: 0.65 m    Weight: 15.43 lb

Compact Knuckle Joint  
SKJ 48    Length: 0.66 m    Weight: 24.25 lb

Compact Inline Standoff B  
MIS 75    Length: 0.65 m    Weight: 15.43 lb

Compact Sonic  
MSS 28    Length: 3.82 m    Weight: 72.75 lb





0.00 m TR21 - 3' Transit Time  
0.00 m TR22 - 5' Transit Time  
0.00 m DT35 - 3-5' Compensated Sonic  
Tool Zero (1.58m from bottom)

Compact Inline Standoff B  
MIS 30 Length: 0.65 m Weight: 15.43 lb

Compact Hole Finder  
HFS 1 Length: 0.24 m Weight: 2.20 lb

Total Length: 40.60 m Total Weight: 1016.33 lb

COMPANY	ESSO AUSTRALIA PTY LTD
WELL	FLOUNDER A24A
FIELD	GIPPSLAND BASIN
PROVINCE/COUNTY	BASS STRAIT
COUNTRY/STATE	AUSTRALIA

Elevation Kelly Bushing	metres	First Reading	2627.30	metres	
Elevation Drill Floor	33.85	metres	Depth Driller	2626.97	metres
Elevation Ground Level	-93.00	metres	Depth Logger	2628.90	metres



DUAL LATEROLOG  
GAMMA RAY  
1:200 TVD