

Reeves

DUAL LATEROLOG - GR

DENSITY - NEUTRON

1:200 MD

COMPANY				ESSO AUSTRALIA PTY. LTD.			
WELL				FLOUNDER A12a			
FIELD				GIPPSLAND BASIN			
PROVINCE/COUNTY				BASS STRAIT			
COUNTRY/STATE				AUSTRALIA			
LOCATION				5758709.11 m N, 625849.47 m E 38°18'39.173" S, 148°26'21.833" E			
LSD	SEC	TWP	RGE	Other Services COMPENSATED SONIC			
API Number							
Permit Number							
Permanent Datum MSL				, Elevation 0		metres	
Log Measured From RT				@33.85 metres		above Permanent Datum	
Drilling Measured From RT							
Date	12-APR-2003					Elevations: KB DF GL	
Run Number	1					metres	
Depth Driller	2920.00			metres			
Depth Logger	2921.00			metres			
First Reading	2920.50			metres			
Last Reading	1250.00			metres			
Casing Driller	856.25			metres			
Casing Logger	856.00			metres			
Bit Size	8.50			inches			
Hole Fluid Type	KC/PHPA/GLY						
Density / Viscosity	9.90 lb/USg			68.00 sec/cst			
PH / Fluid Loss	9.40			2.50 ml/30Min			
Sample Source	FLOWLINE						
Rm @ Measured Temp	0.124 @ 25.0			ohm-m			
Rmf @ Measured Temp	0.113 @ 25.0			ohm-m			
Rmc @ Measured Temp	0.179 @ 25.0			ohm-m			
Source Rmf / Rmc	PRESS			PRESS			
Rm @ BHT	0.048 @ 100.0			ohm-m			
Time Since Circulation	17:45 HRS						
Max Recorded Temp	100.00			deg C			
Equipment Name	COMPACT						
Equipment / Base	1						
Recorded By	M.Barnes, R.Tench			G.McManus			
Witnessed By	E.Espiritu						
Circ. Stopped	08:00 11-APR						

BOREHOLE RECORD

Bit Size inches	Depth From metres	Depth To metres
8.500	0.00	2920.00

CASING RECORD

Type	Size inches	Depth From metres	Shoe Depth metres	Weight pounds/ft
K-55	10.750	0.00	856.25	40.50

REMARKS

DRILLING RIG: NABORS (ISDL) 453.

TOP OF WINDOW: 856.25m

TOP OF WHIPSTOCK: 856.75m

BTTM OF WINDOW: 863.25m

REEVES COMPACT WIRELINE TOOLS RUN ON SCHLUMBERGER UNIT.

MPD CALIPER AND MMR CALIPER ARE INDEPENDENT OF EACH OTHER, DUE TO SWIVALS ABOVE AND BELOW DENSITY/NEUTRON SECTION.

SPIKES IN DEEP LATEROLOG @ 2094m MD AND 2113m MD ARE INVALID.

HTHP: 11.2 ml/30 min @ Deg 121 deg C.

MAX DEVIATION: 53.8 DEGREES AT 2137.0 m.

DOGLEG AT 892 M, WITH DLS > 6.0 DEGREES/30 m.

REEVES CREW: M.BARNES, R.TENCH, G.MCMANUS.

SCHLUMBERGER CREW: B.GLOVER, B.TAYLOR, J.LIGHT, R.DEGROOT.

AFTER SURVEY CALIBRATION

C:\Fla a12a\MAIN LOG A DSC.dta

Gamma Check MCG 076

Field Calibration on 7-APR-2003,14:34
After Survey Check on 12-APR-2003,07:31

	Before (API)	After (API)
Background	10	6
Calibrator (Gross)	919	915
Calibrator (Net)	909	909

Neutron Check MDN 069

Before Survey Check on 7-APR-2003 14:52
After Survey Check on 12-APR-2003,07:35

Near (cps)		Far (cps)	
Before	After	Before	After
1846	1818	2708	2648
Ratio			
Before	After		
0.682	0.687		

Photo Density Check MPD 067

Before Survey Check on 7-APR-2003 14:40
After Survey Check on 12-APR-2003,07:40

Density Check

Near		Far	
Before	After	Before	After
957.7	954.7	1152.3	1153.1

PE Check

	Before	After
WS	180.1	179.6
WH	831.6	828.5

Laterolog Check MLE 015

Before Survey Check on 12-APR-2003,01:32
After Survey Check on 12-APR-2003,06:46

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

Micro Laterolog Check MMR 005

Before Survey Check on 12-APR-2003,01:31
After Survey Check on 12-APR-2003,06:47

Before Survey (ohm-m)	After Survey (ohm-m)
8.0	8.0

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 B 1:200

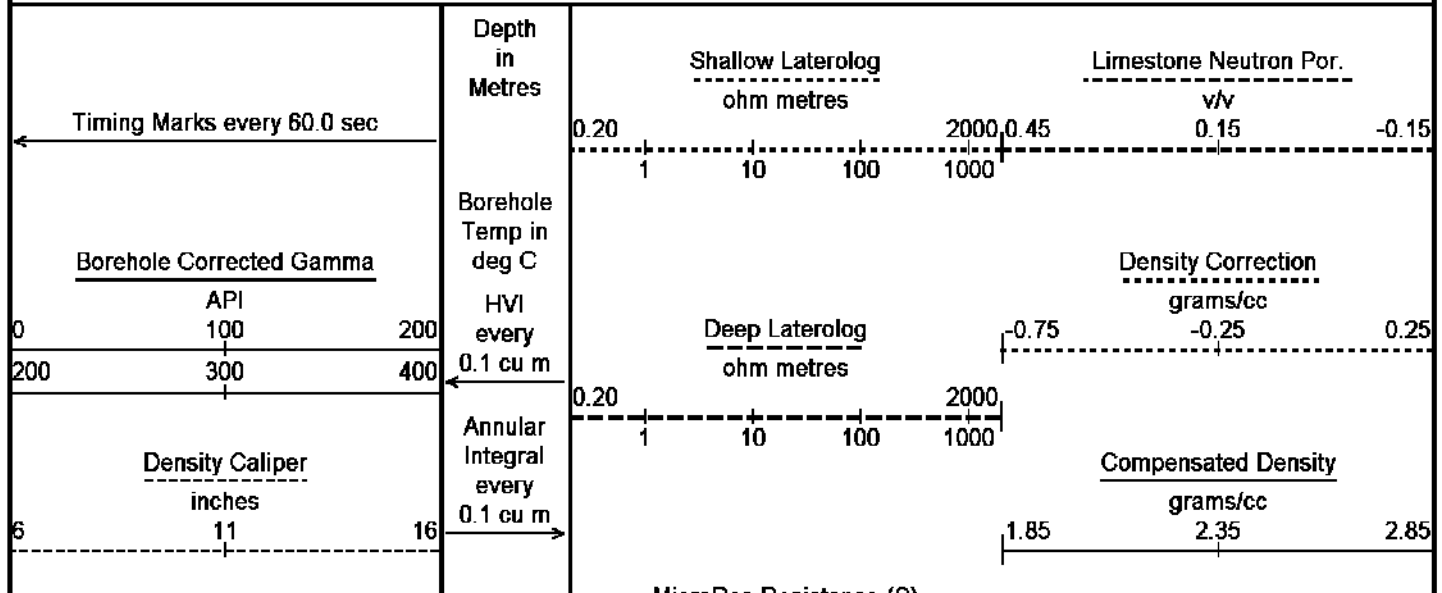
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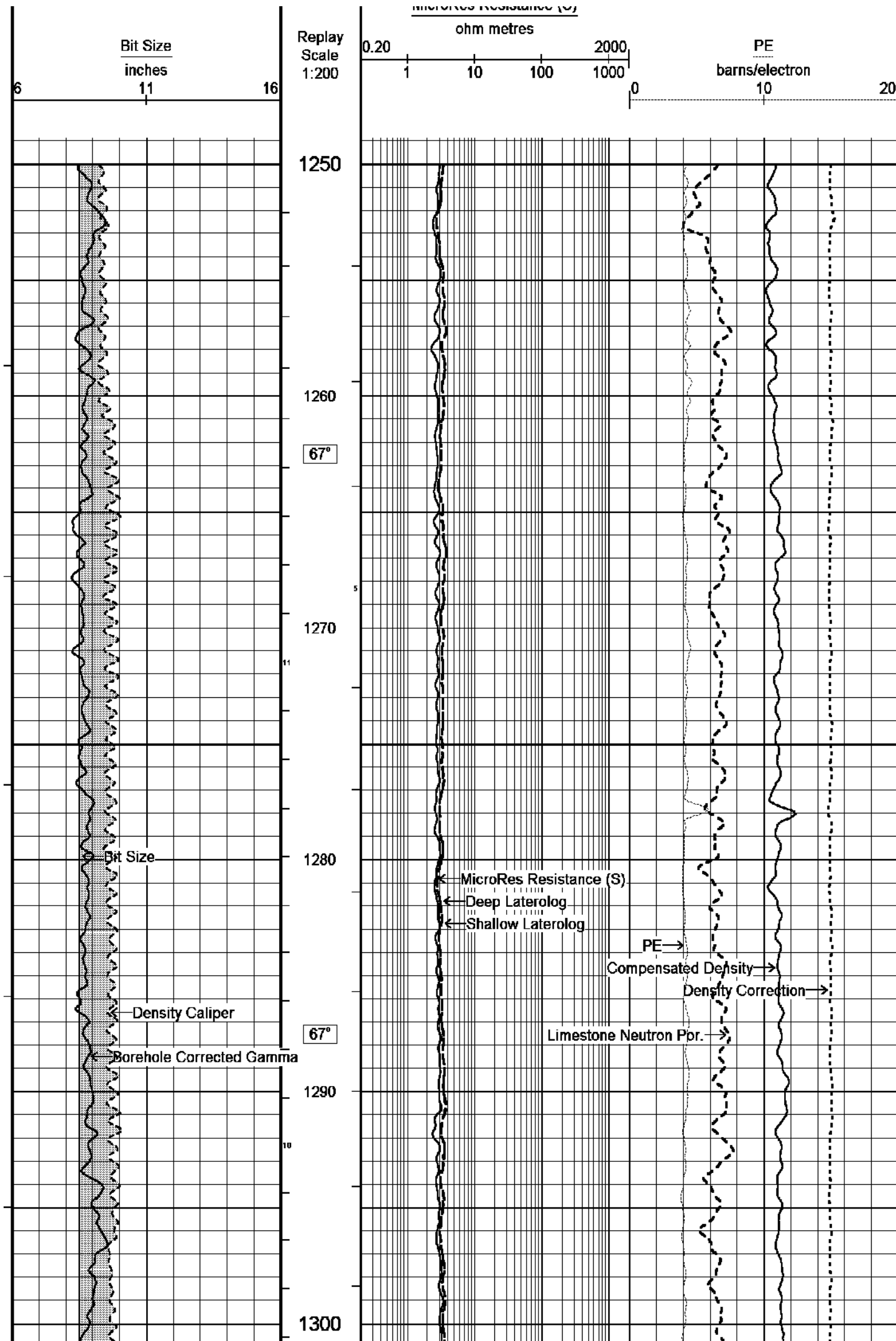
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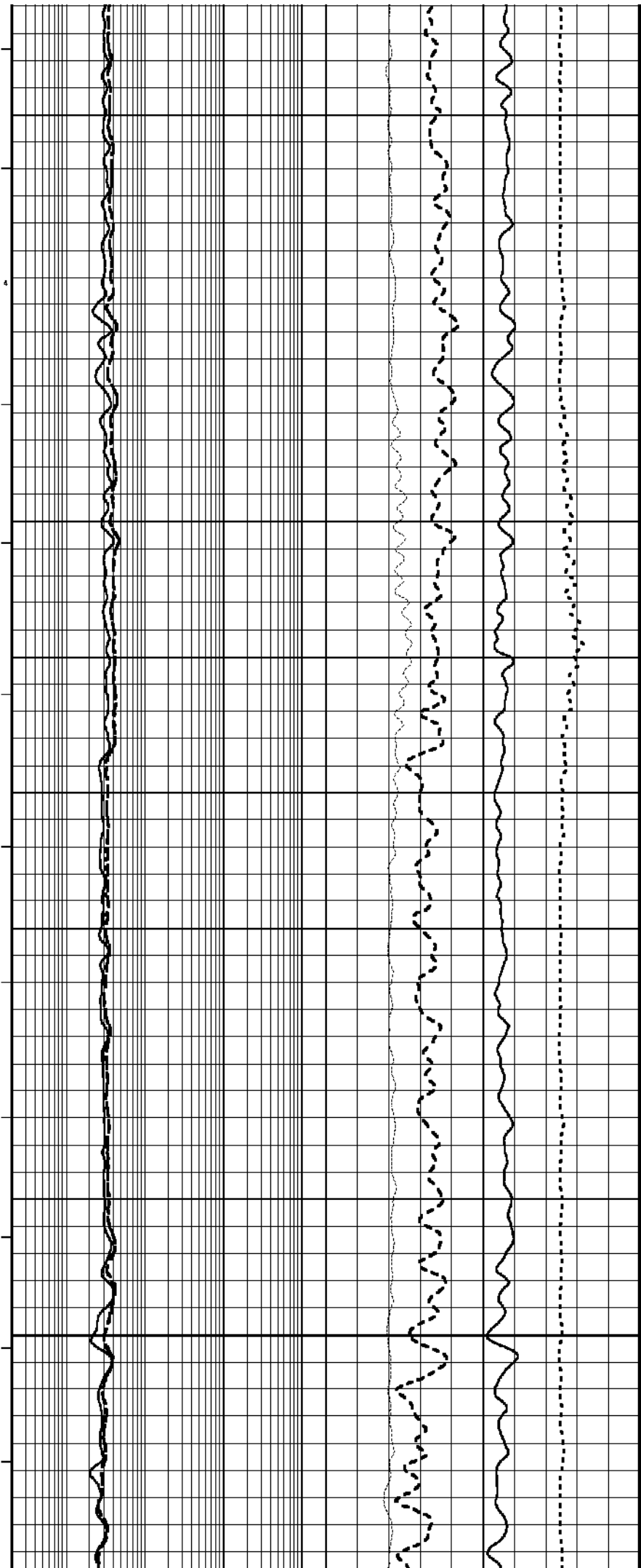
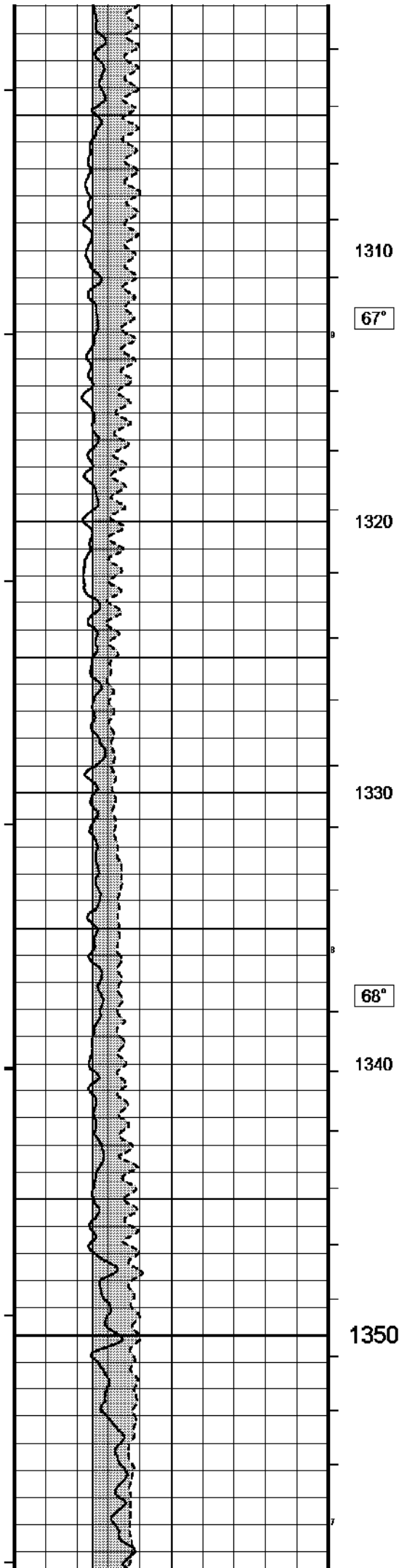
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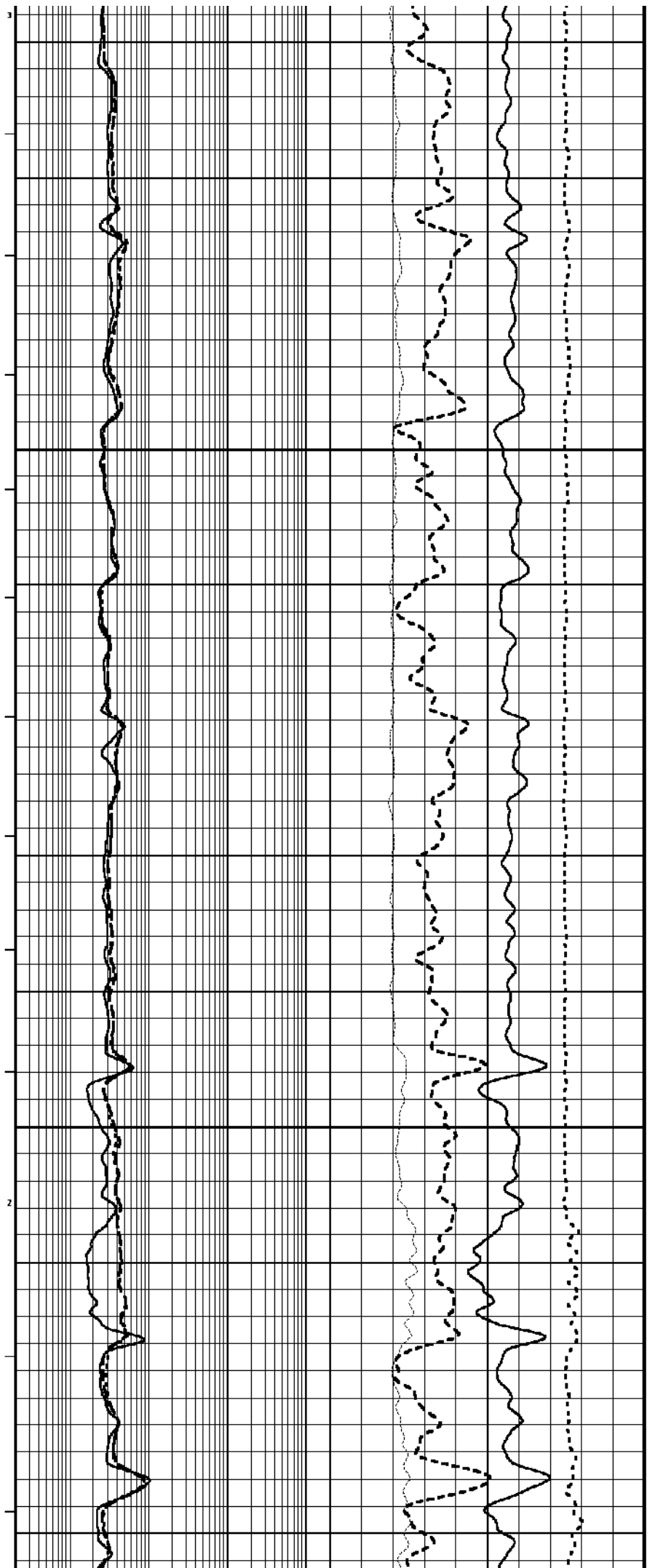
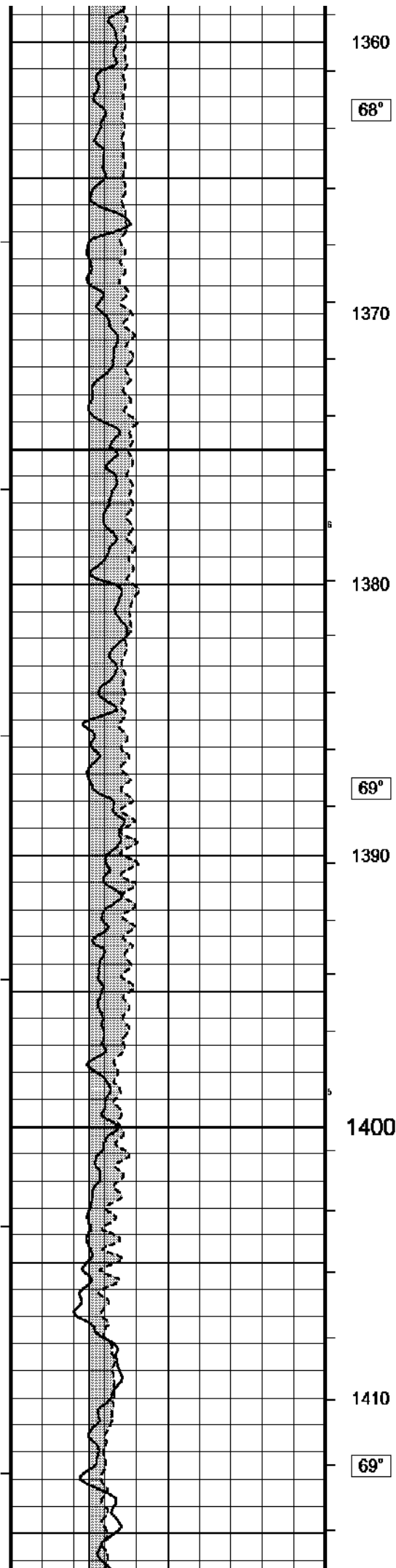
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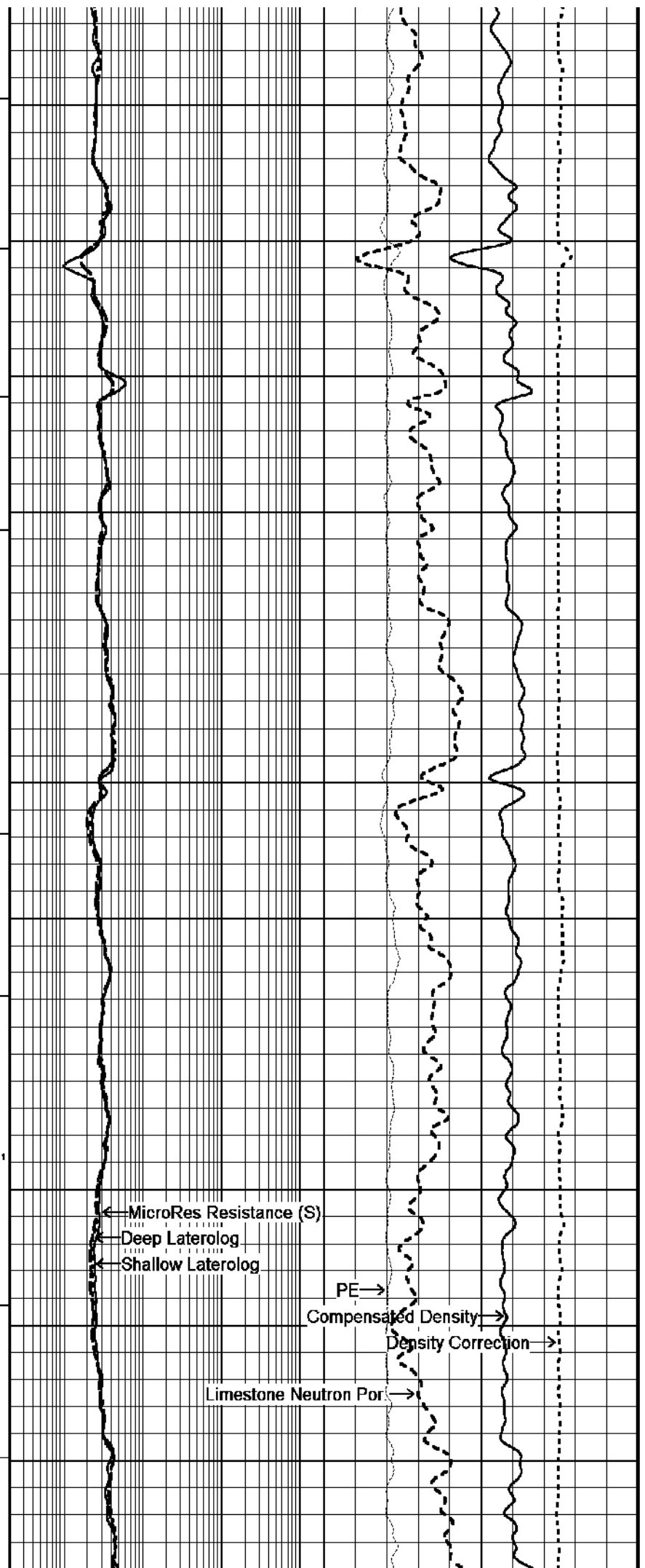
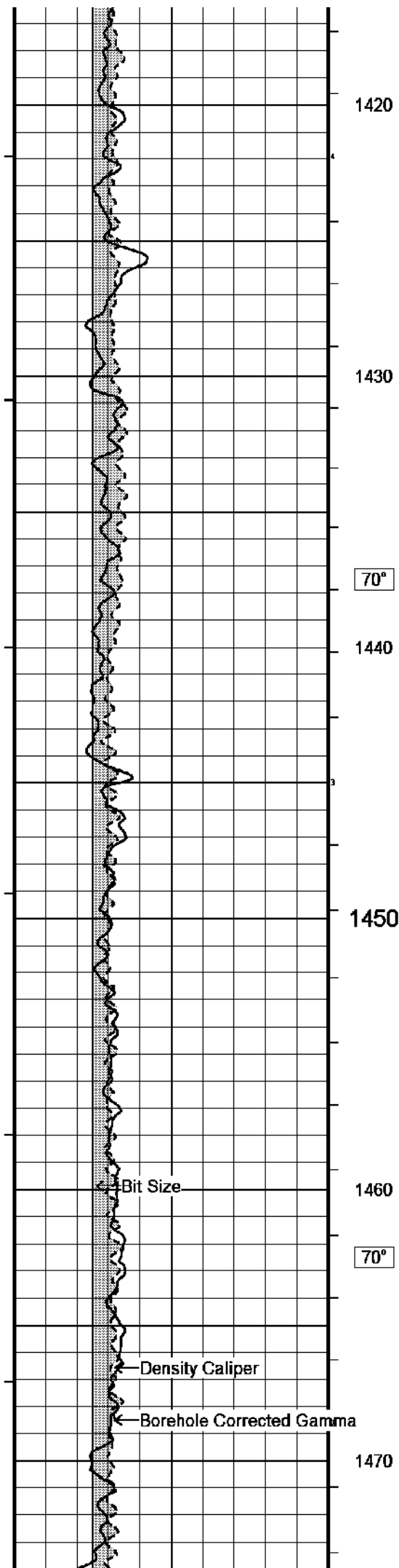
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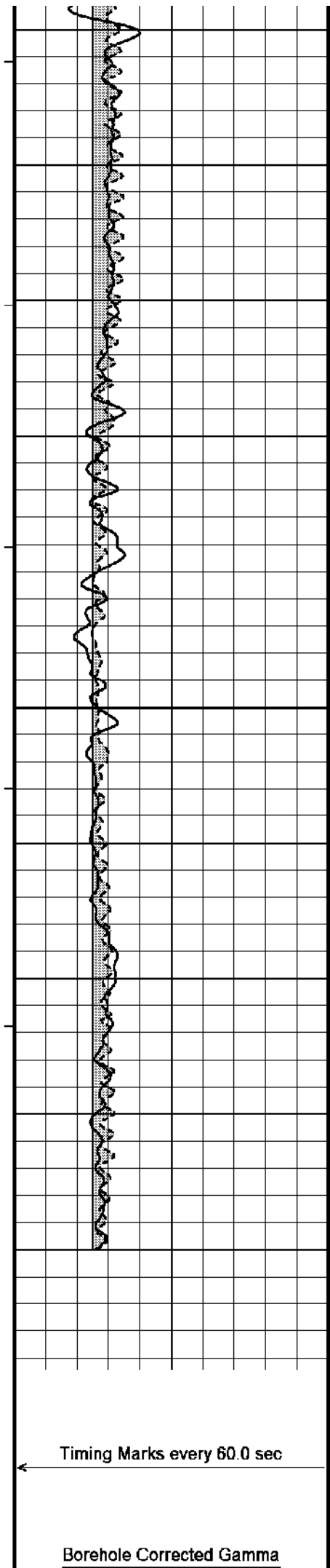












71°

1480

1490

1500

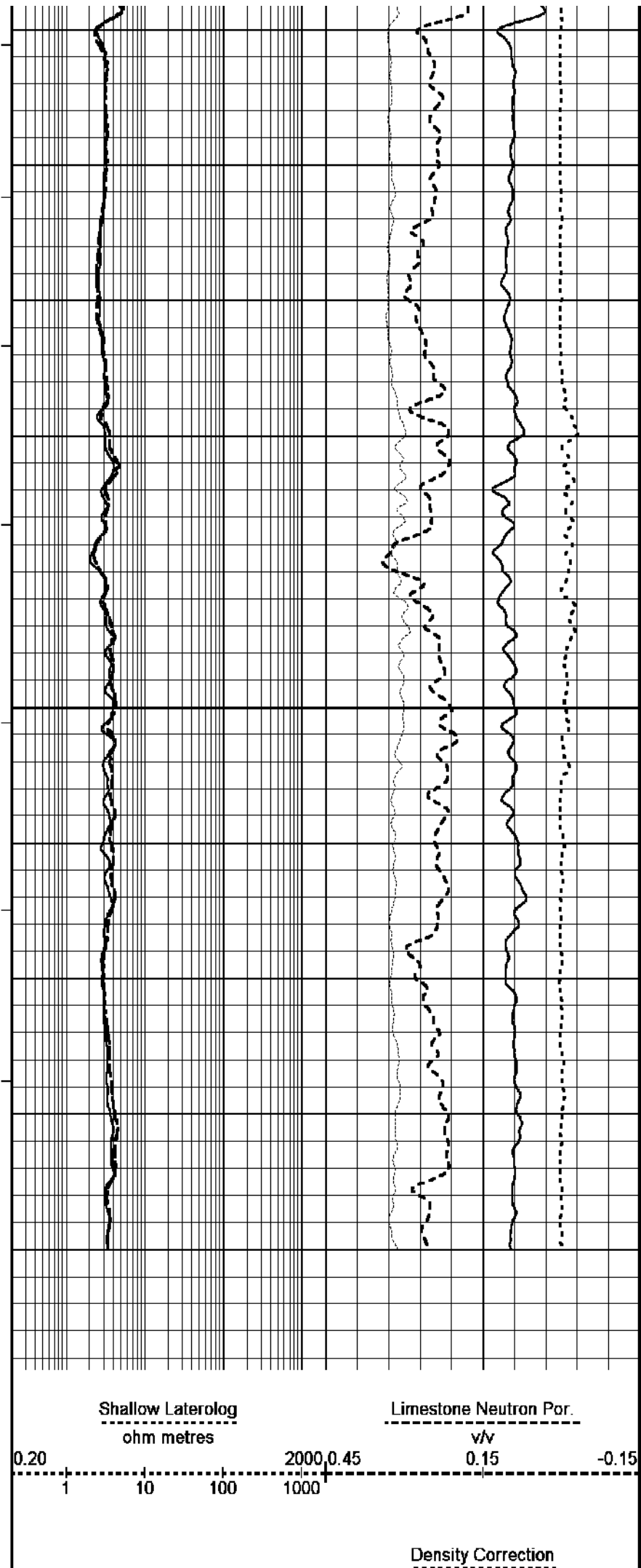
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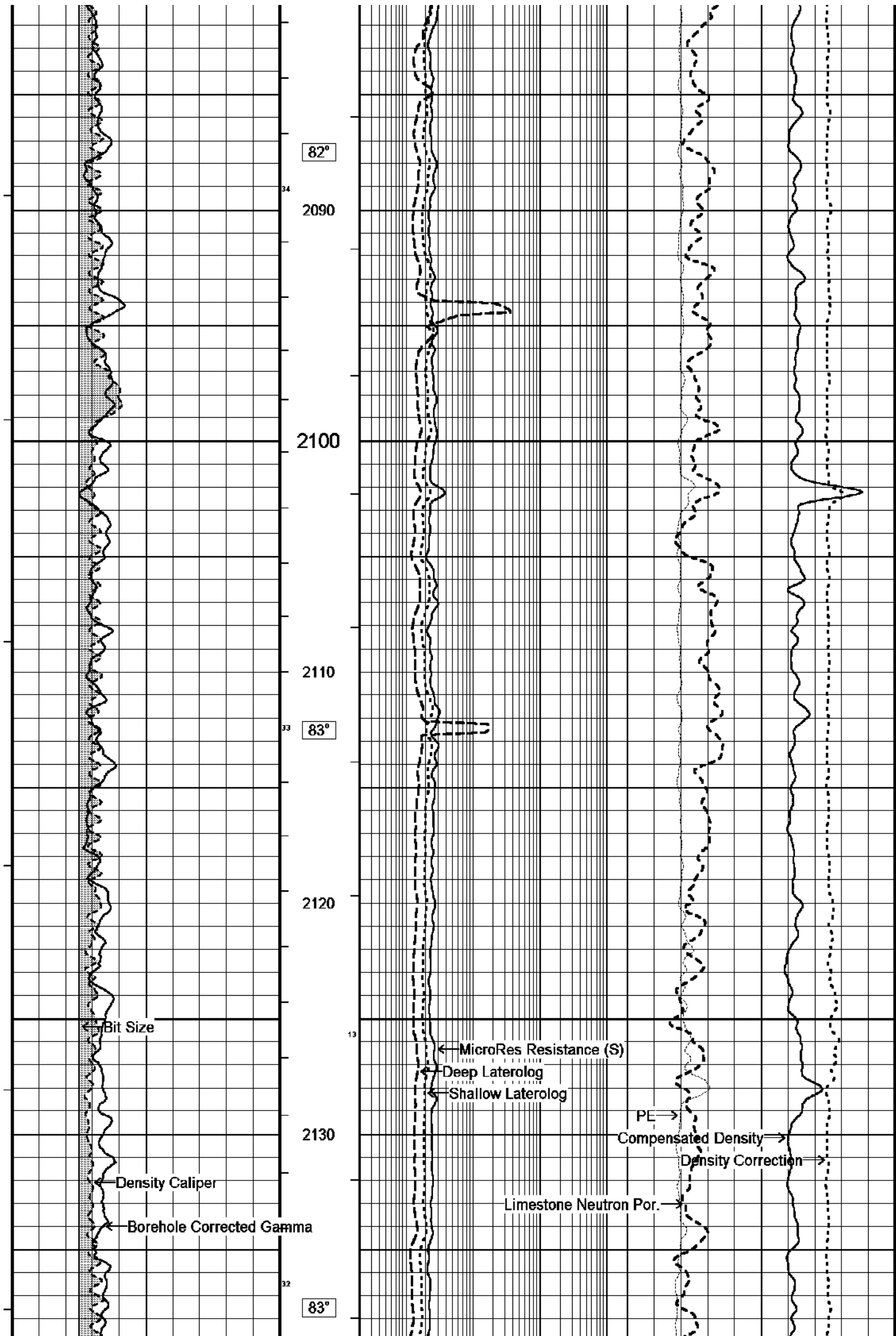
71°

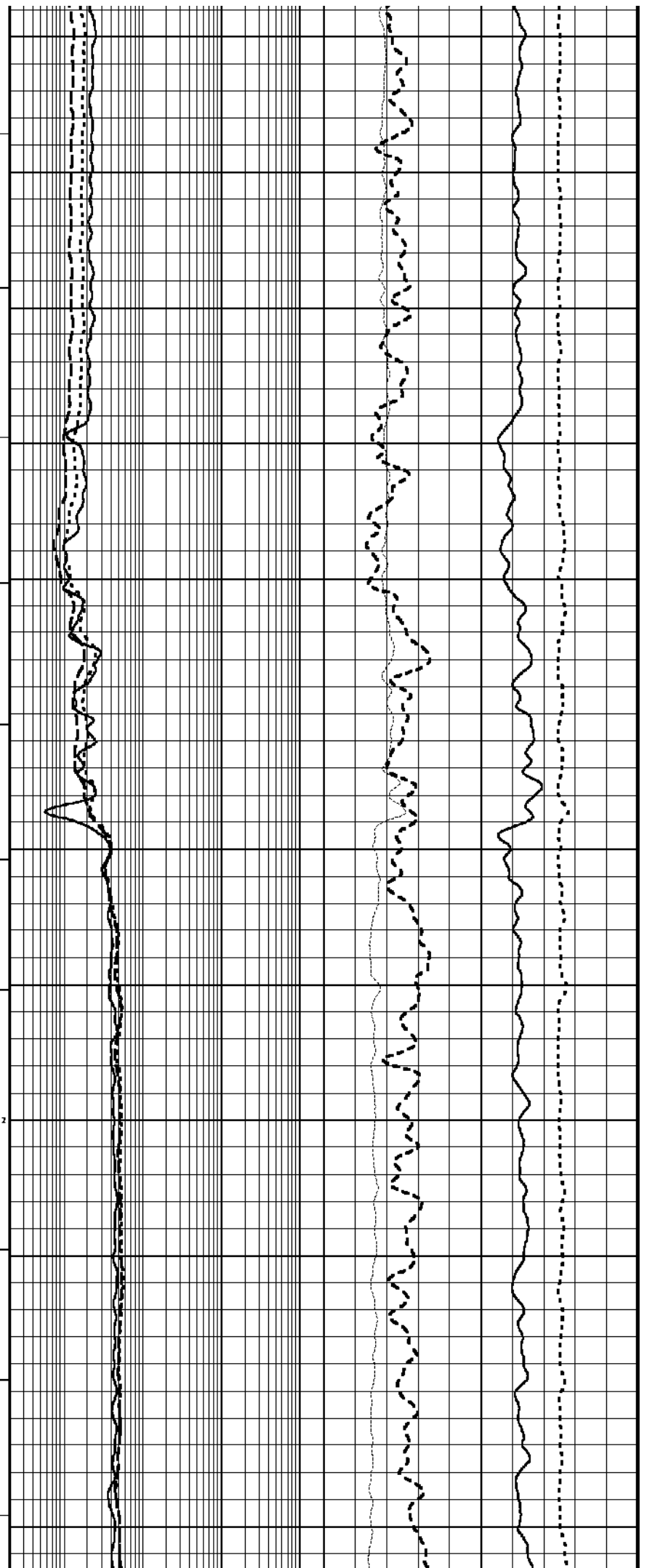
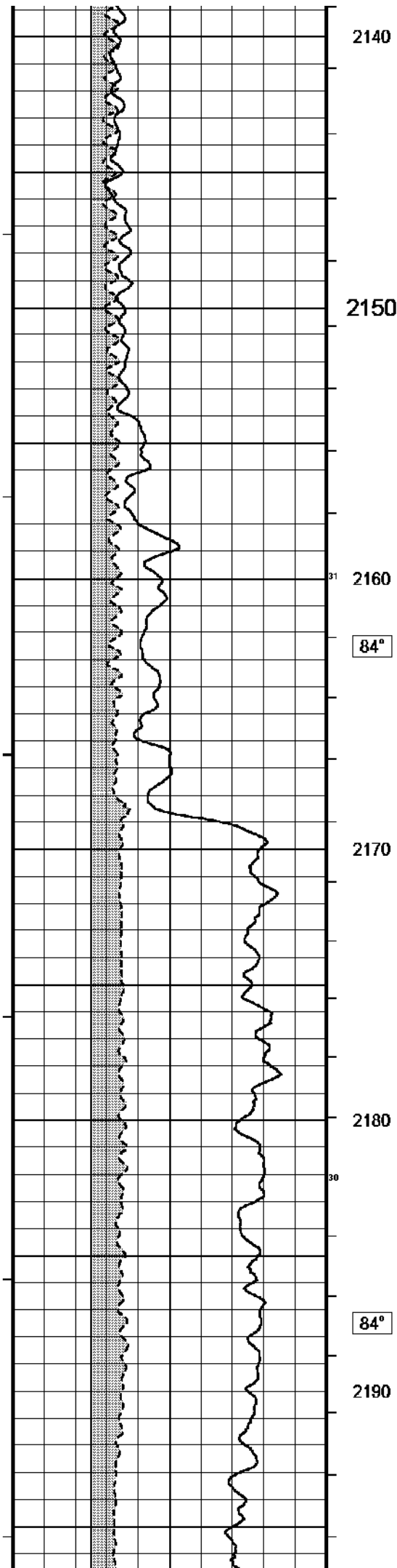
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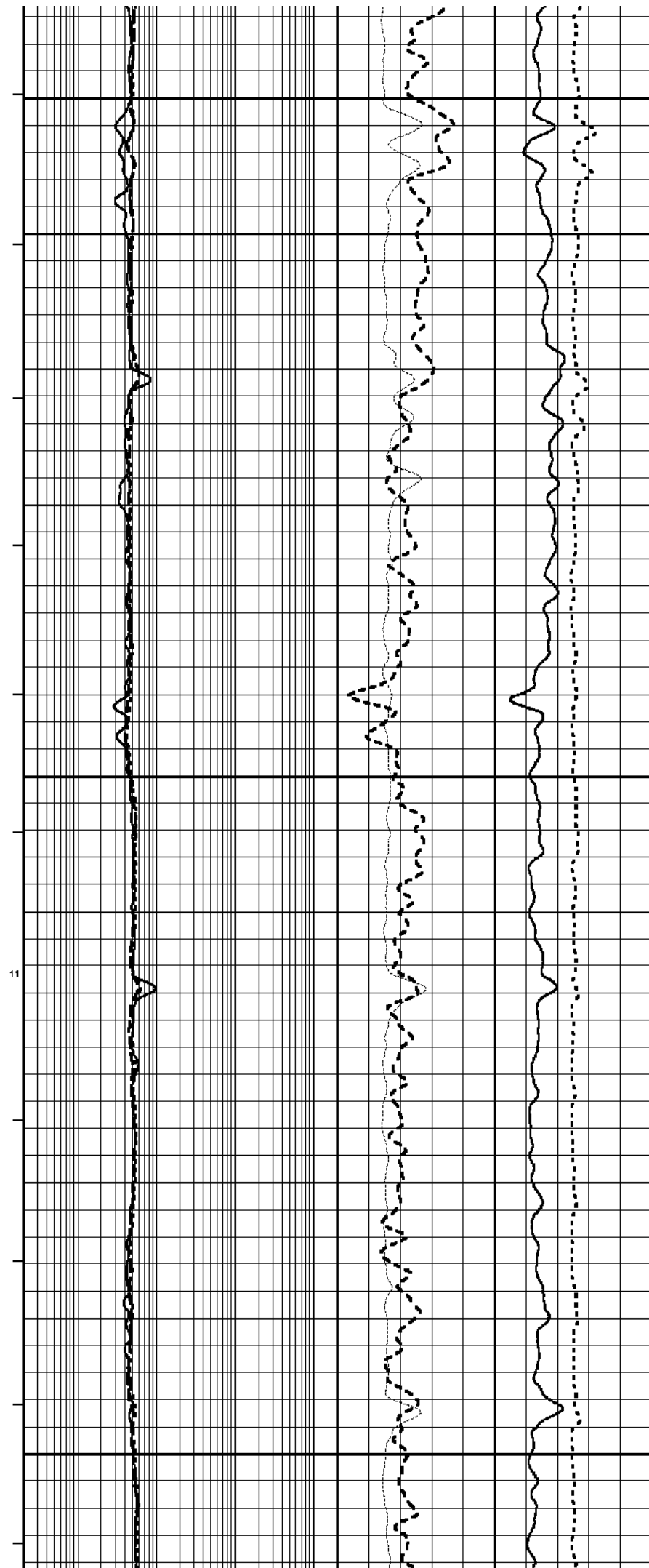
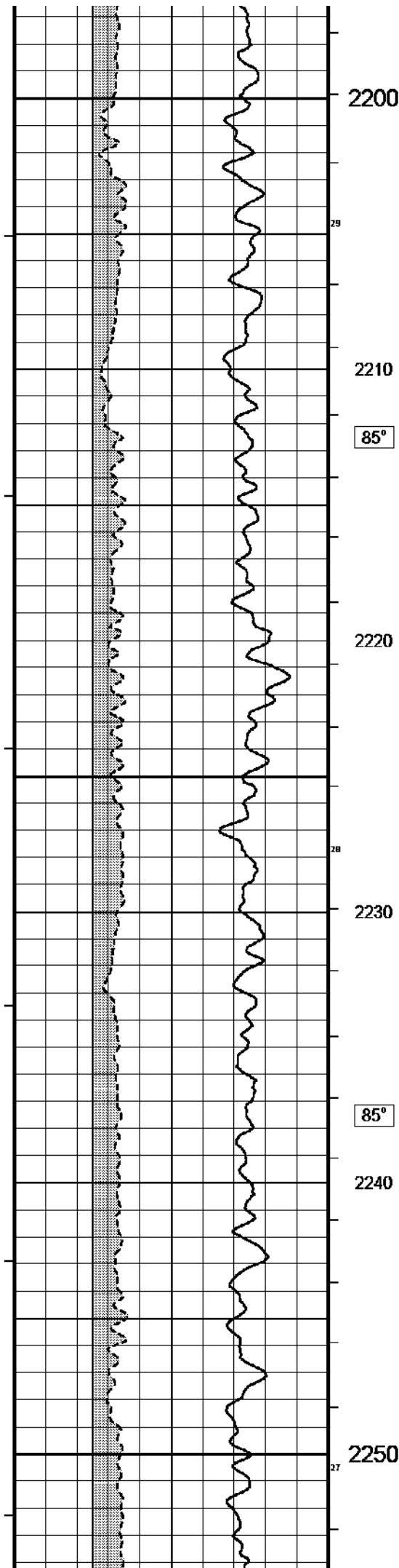
Depth in Metres

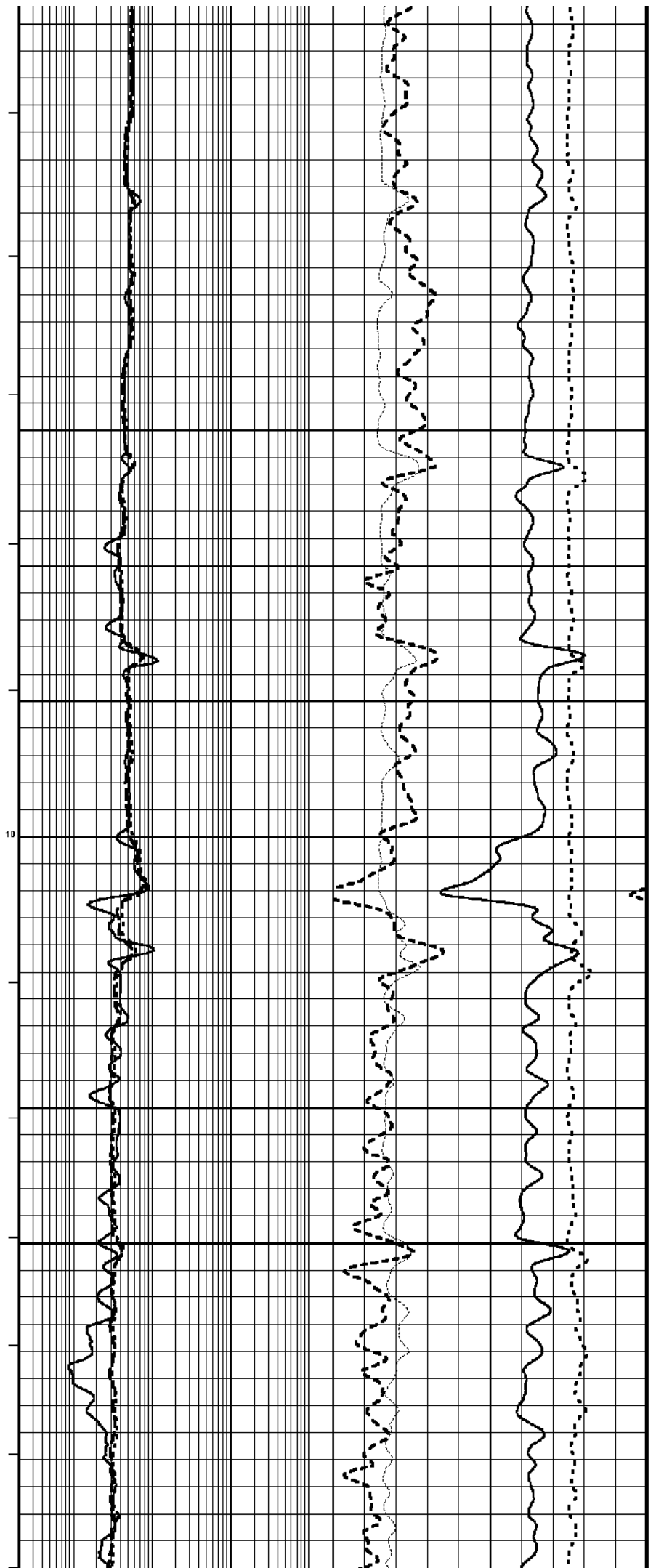
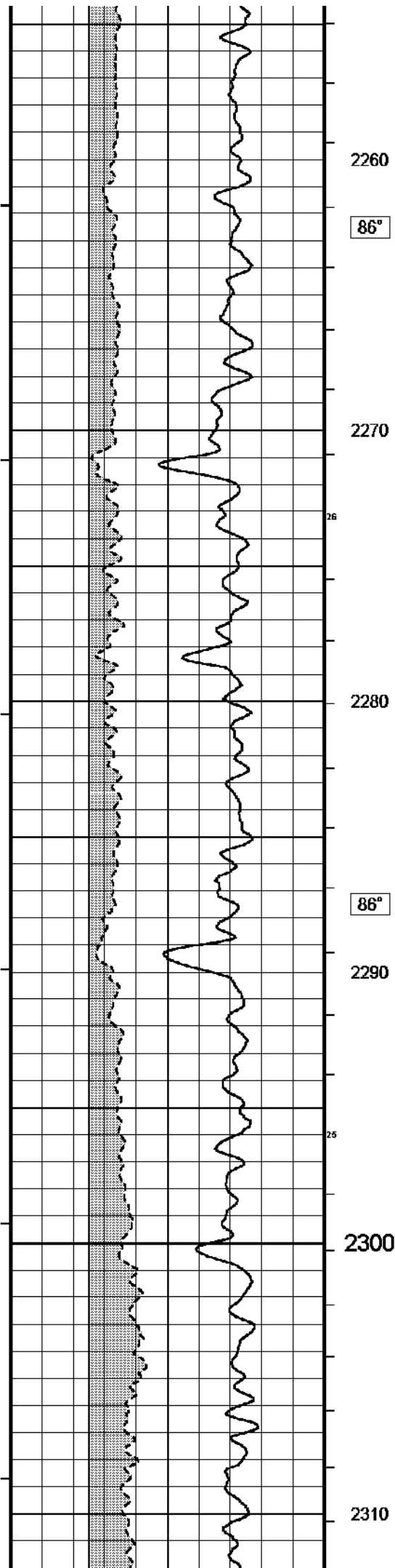
Borehole Temp in deg C

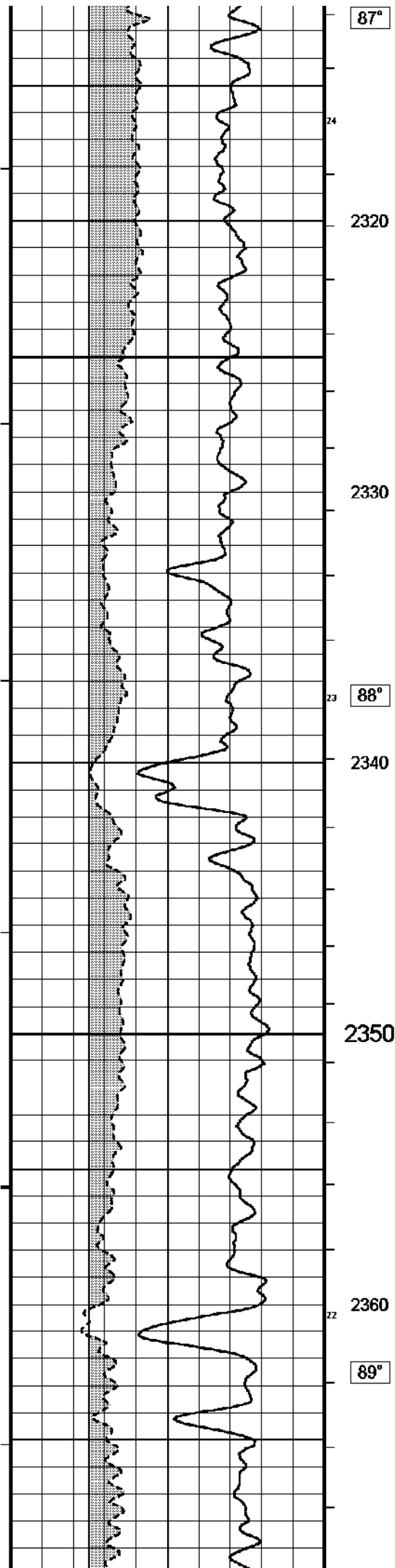


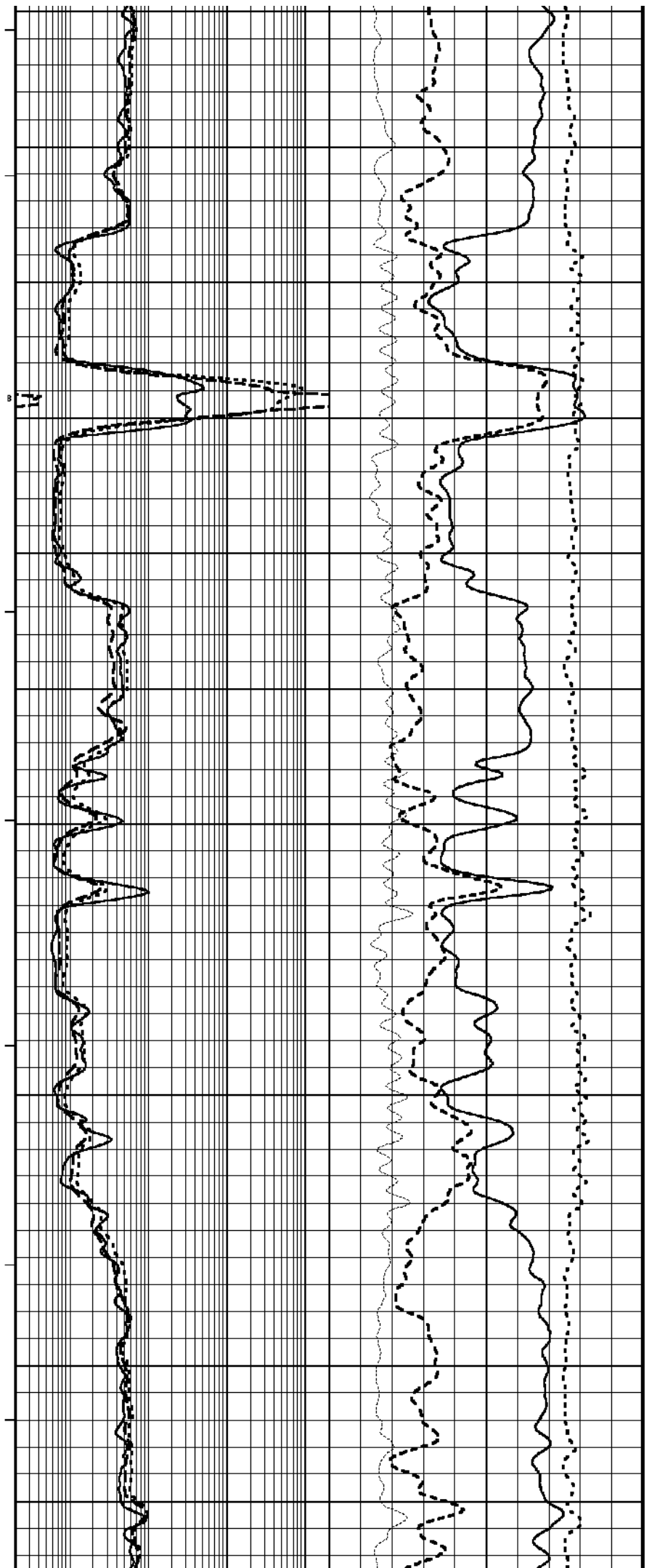
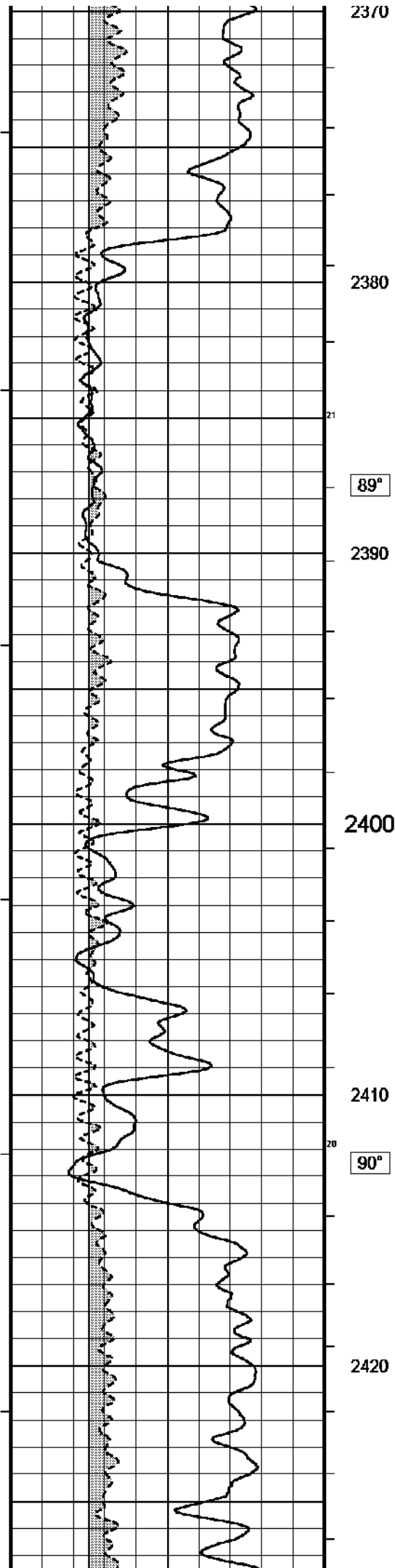


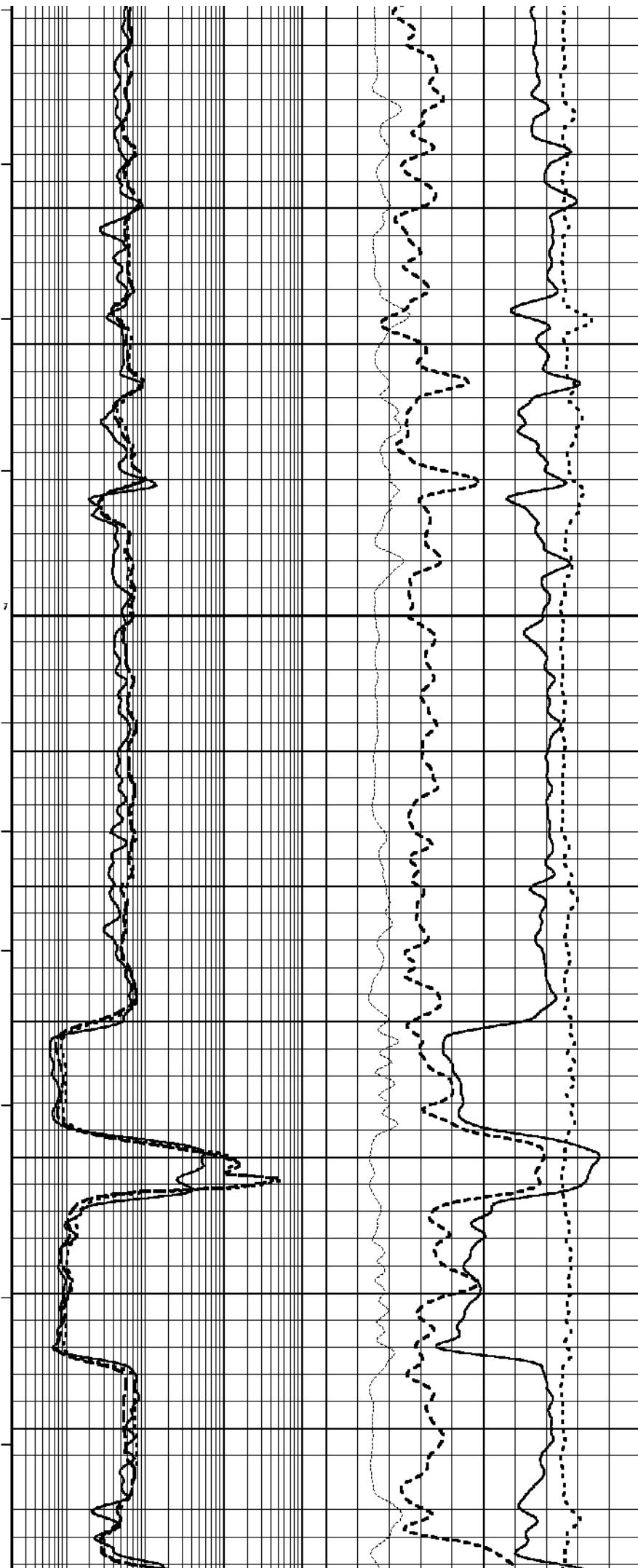
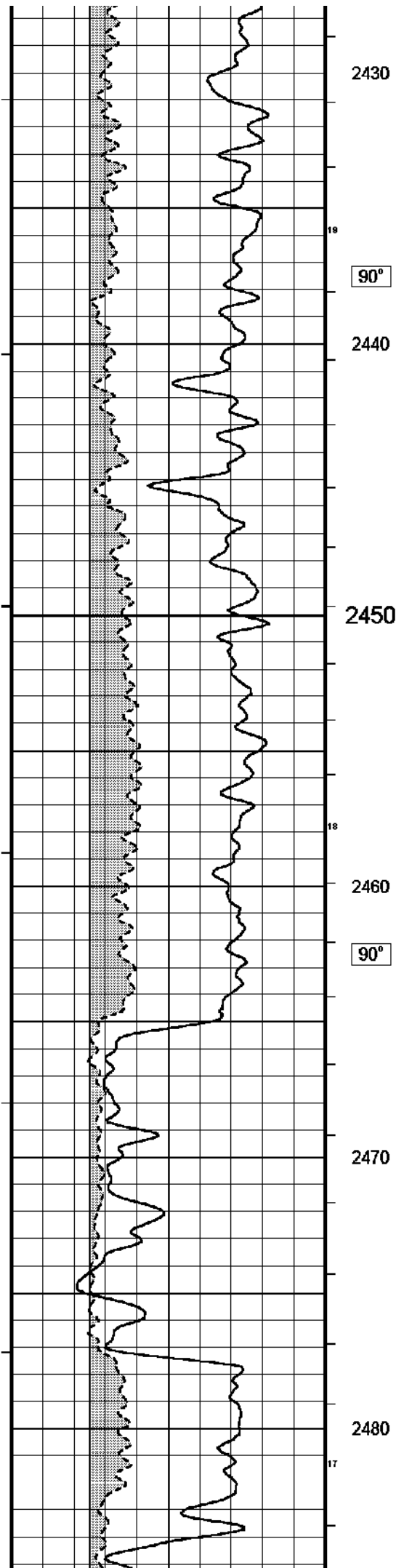


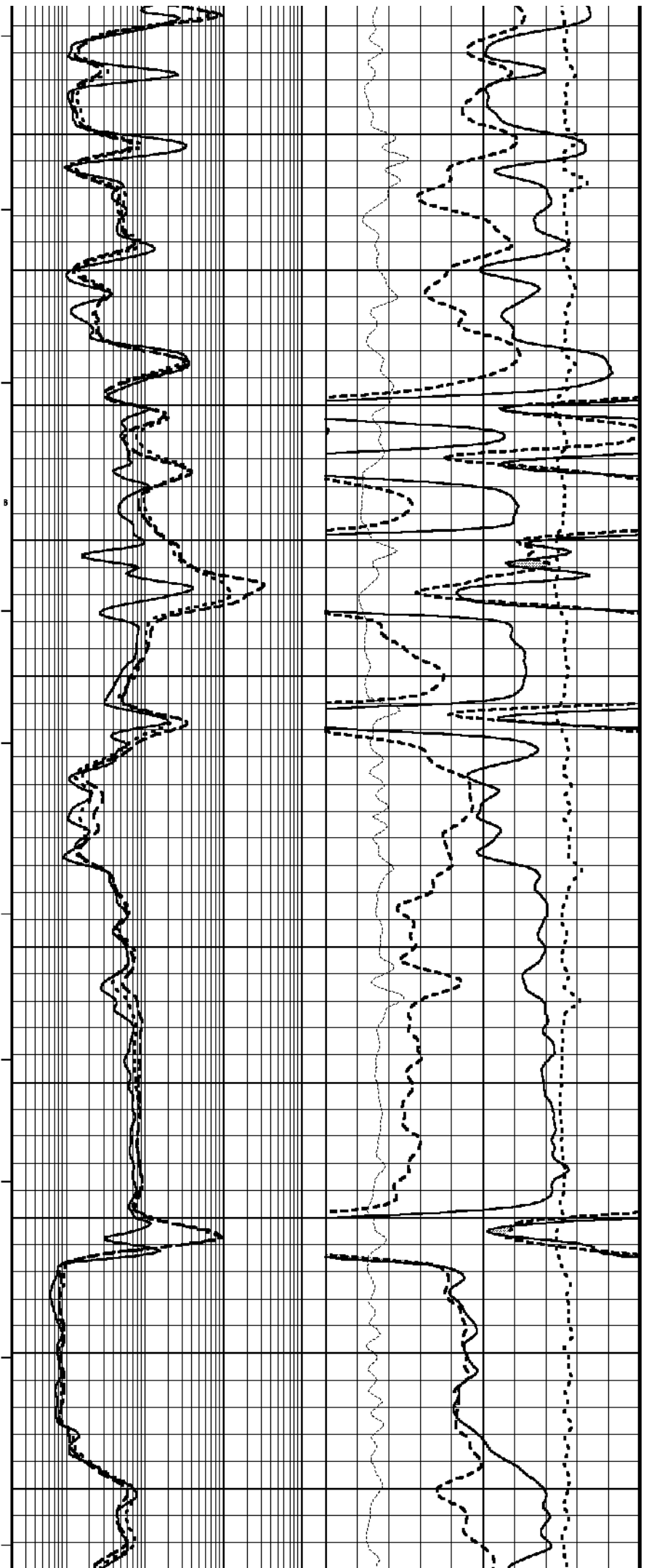
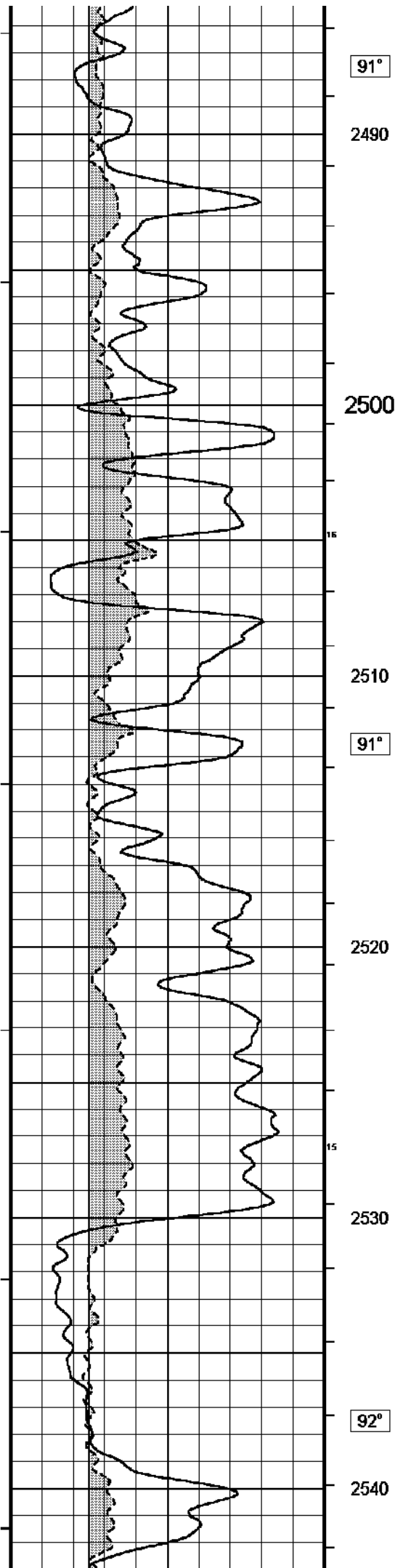


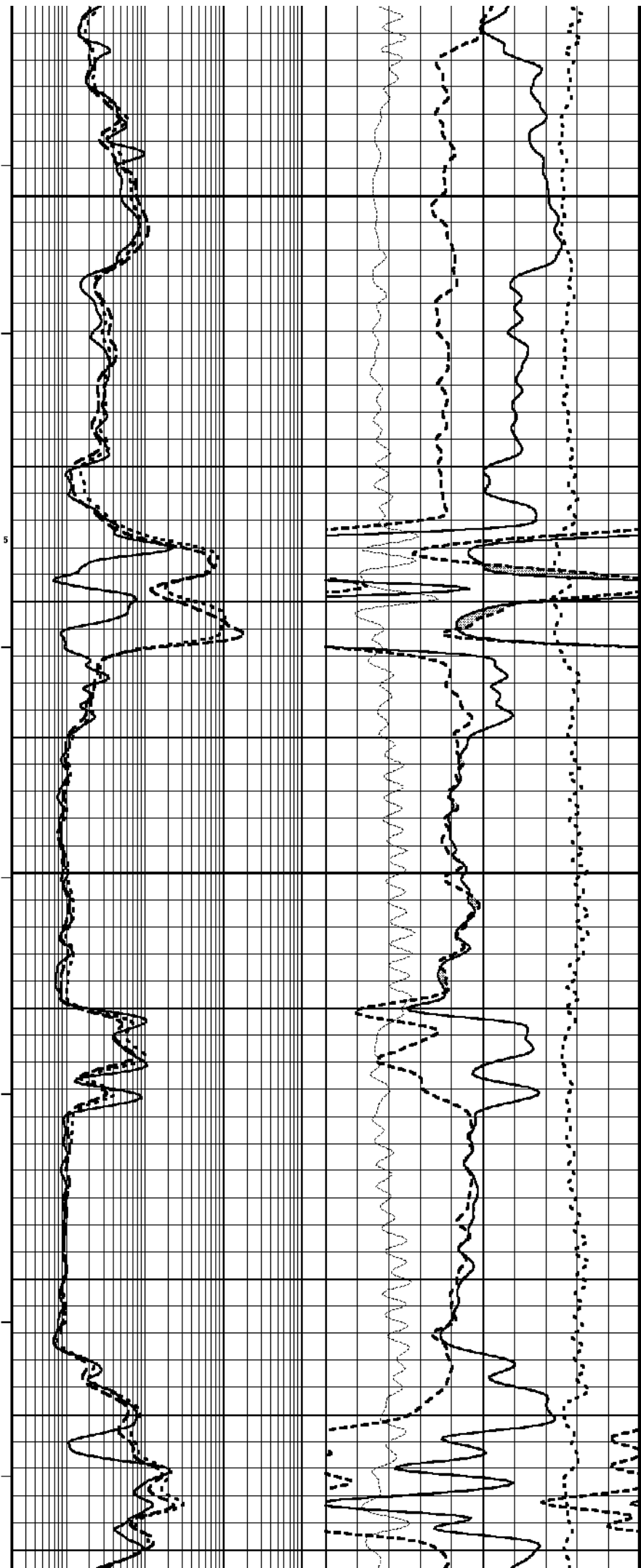
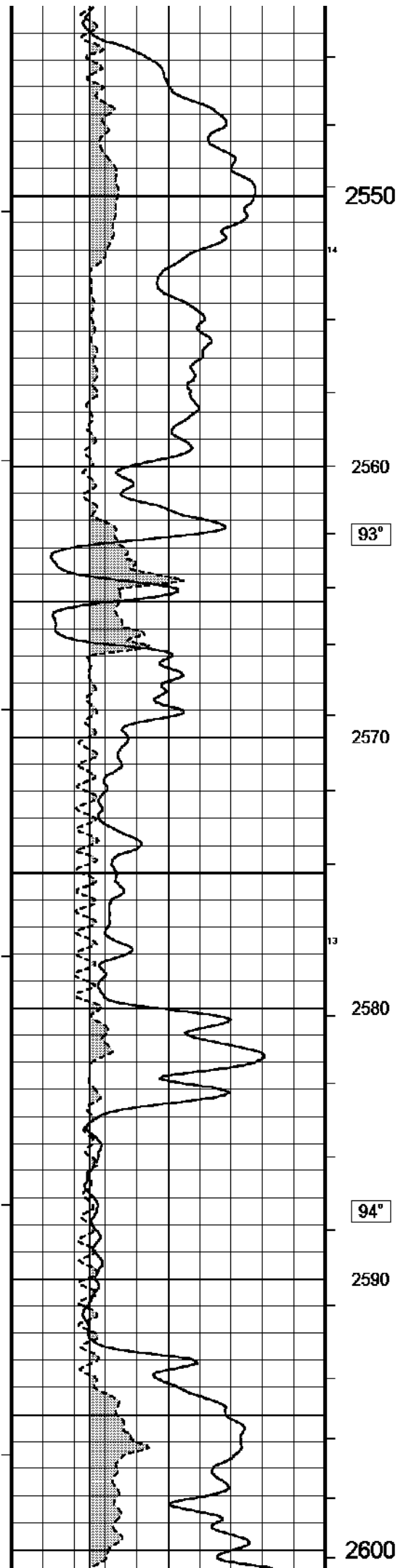


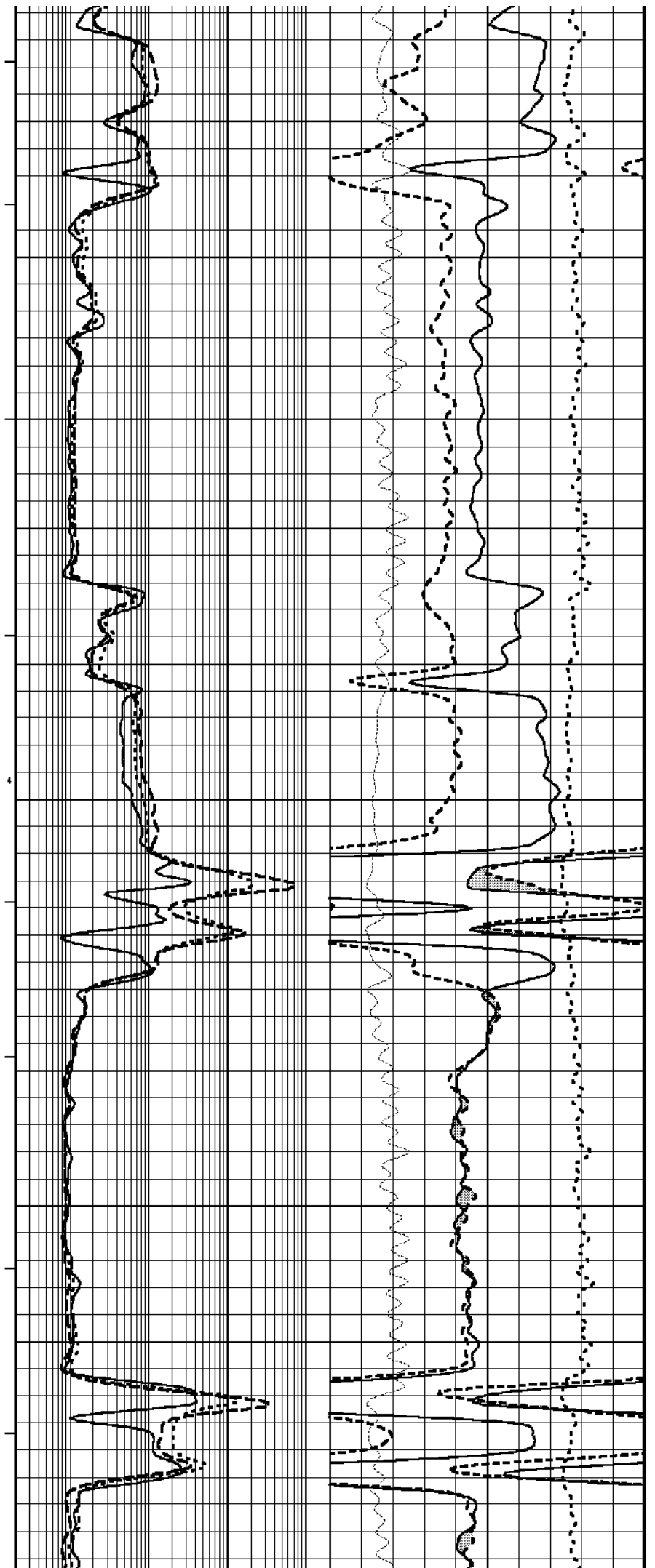
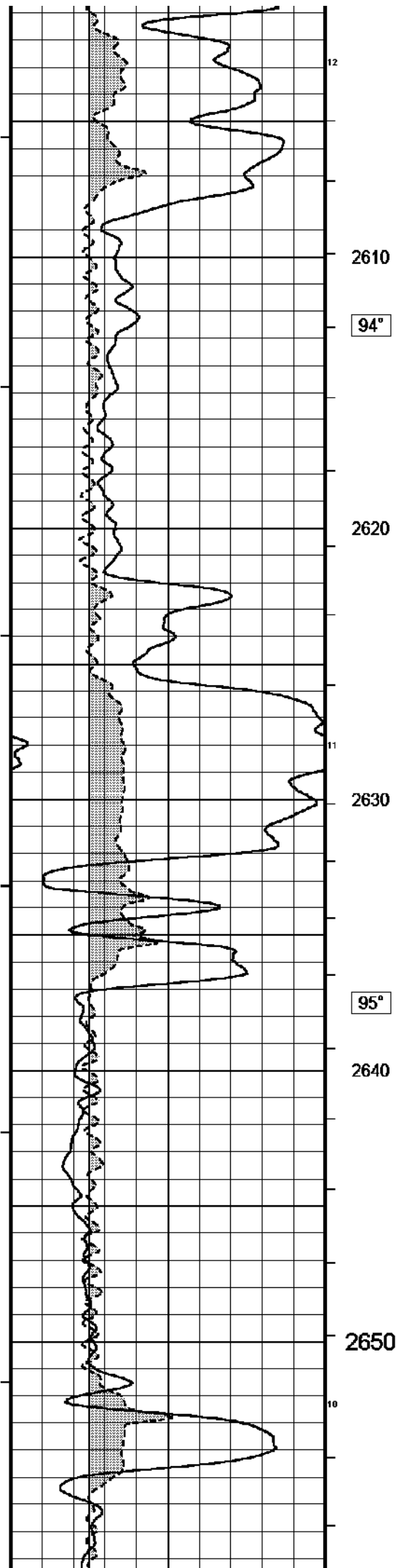


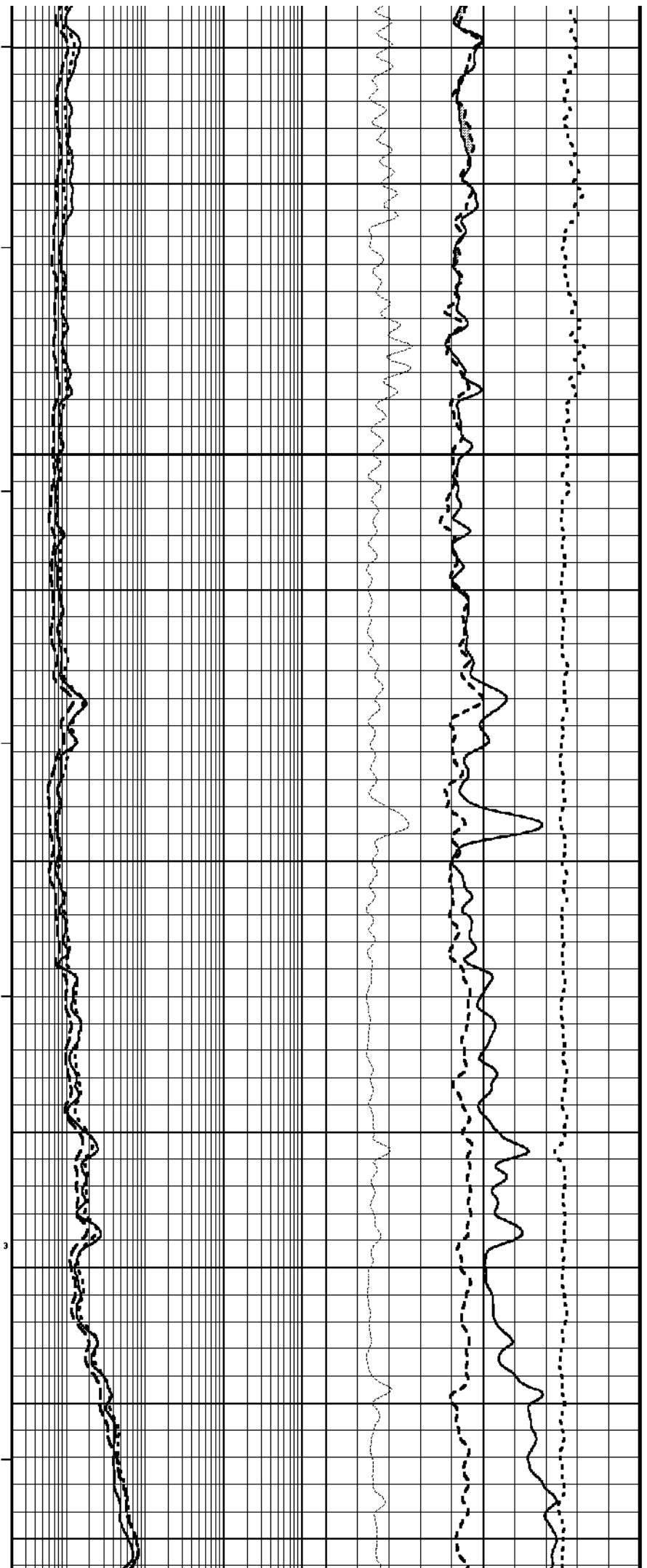
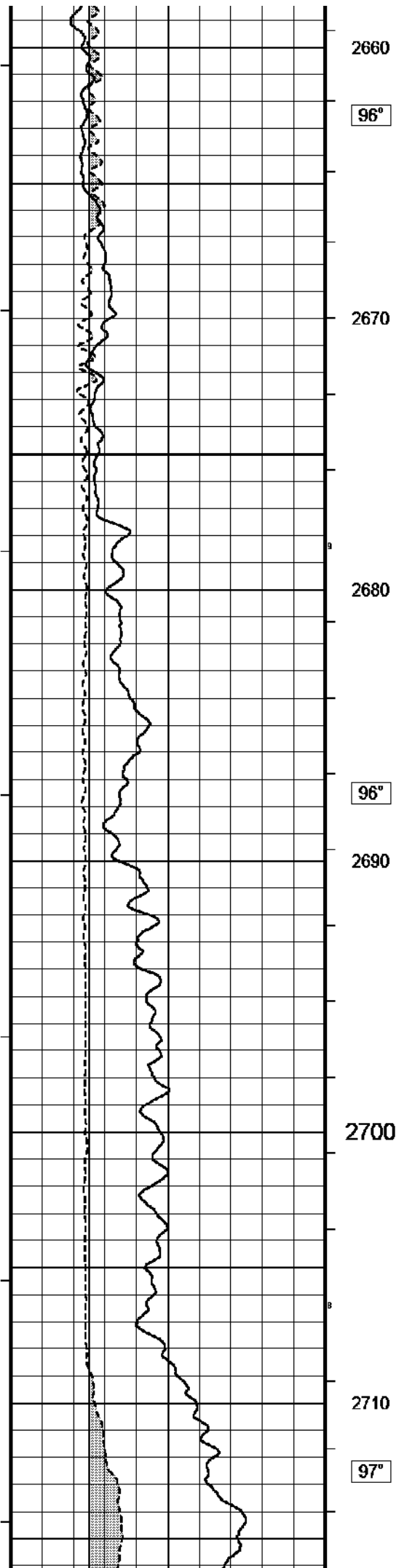


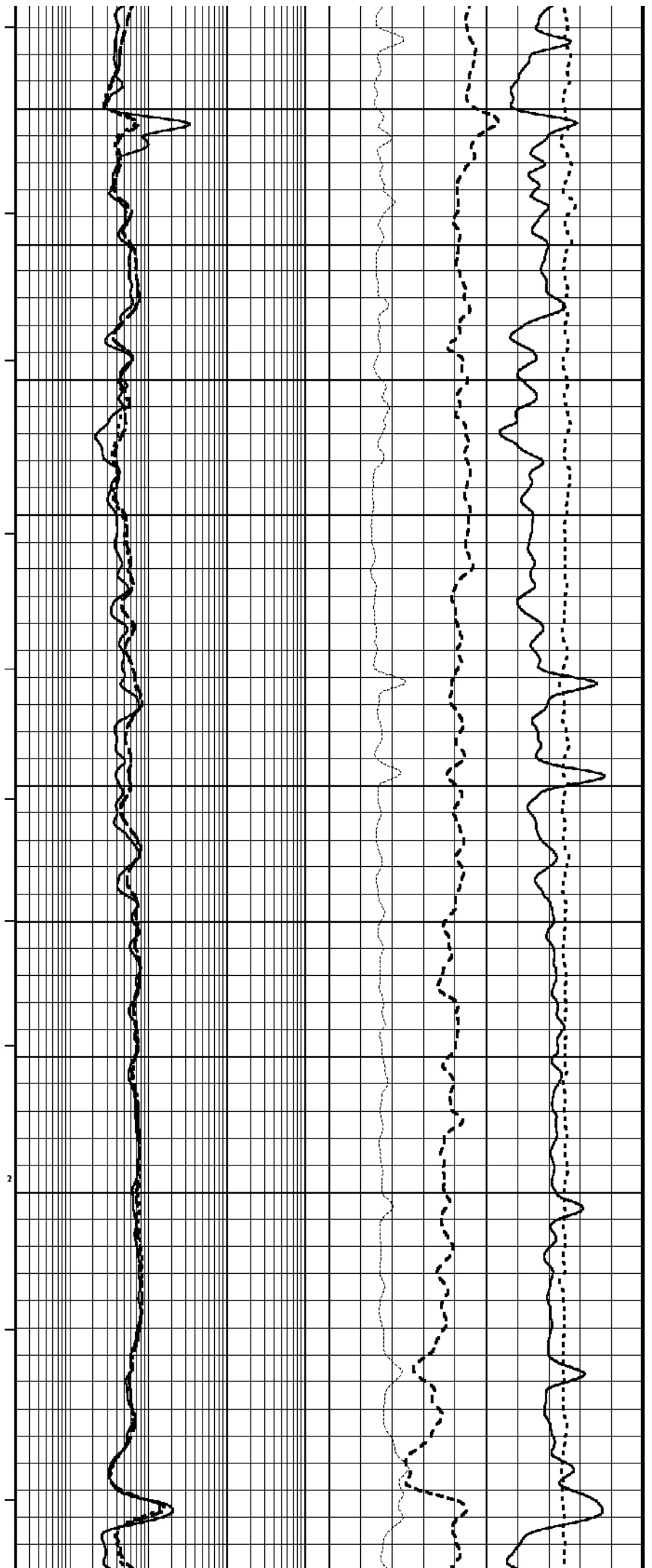
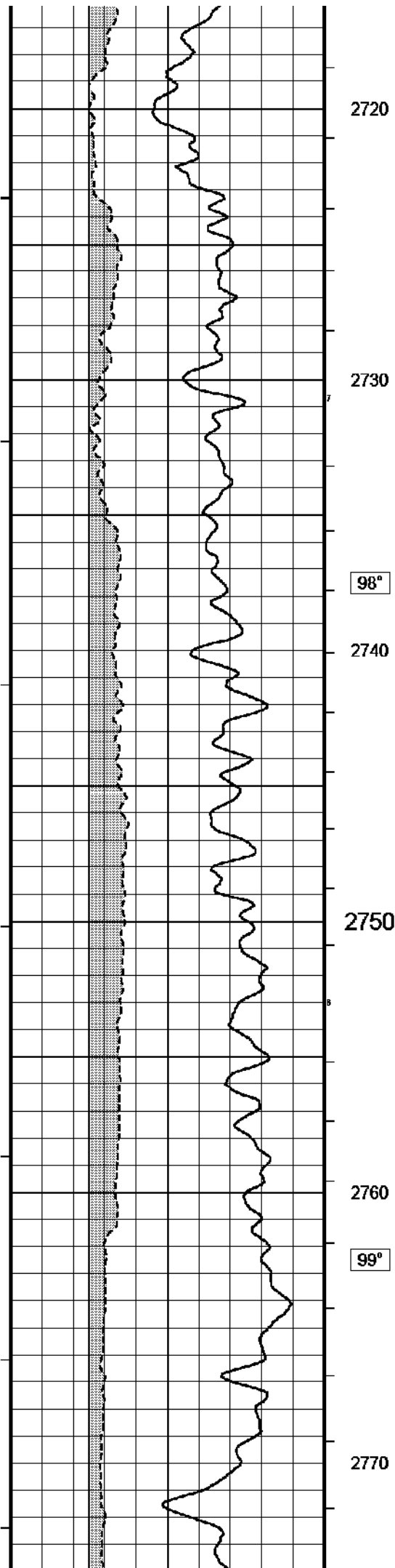


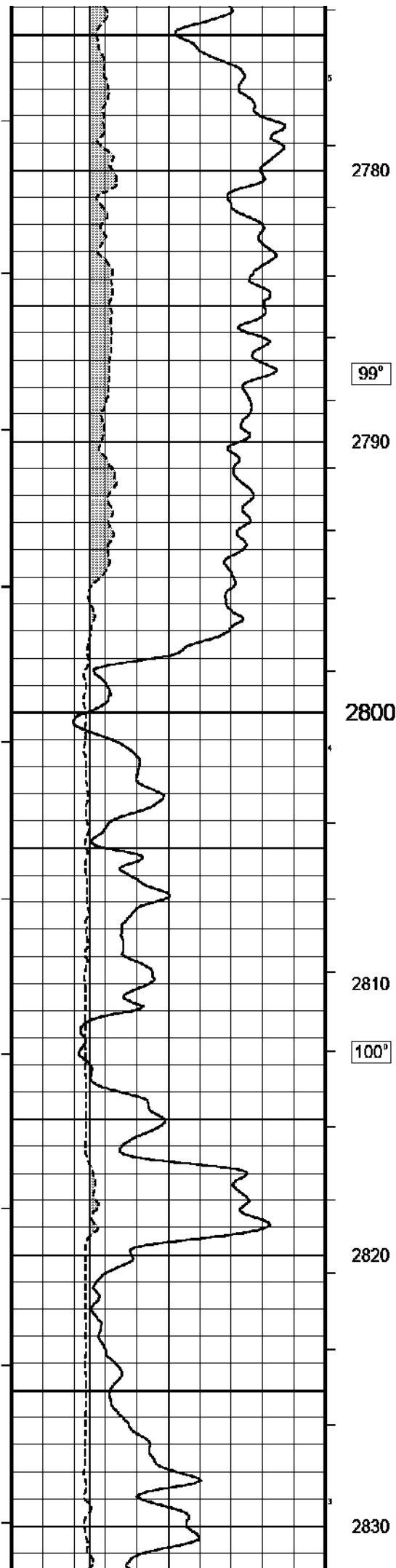












2780

99°

2790

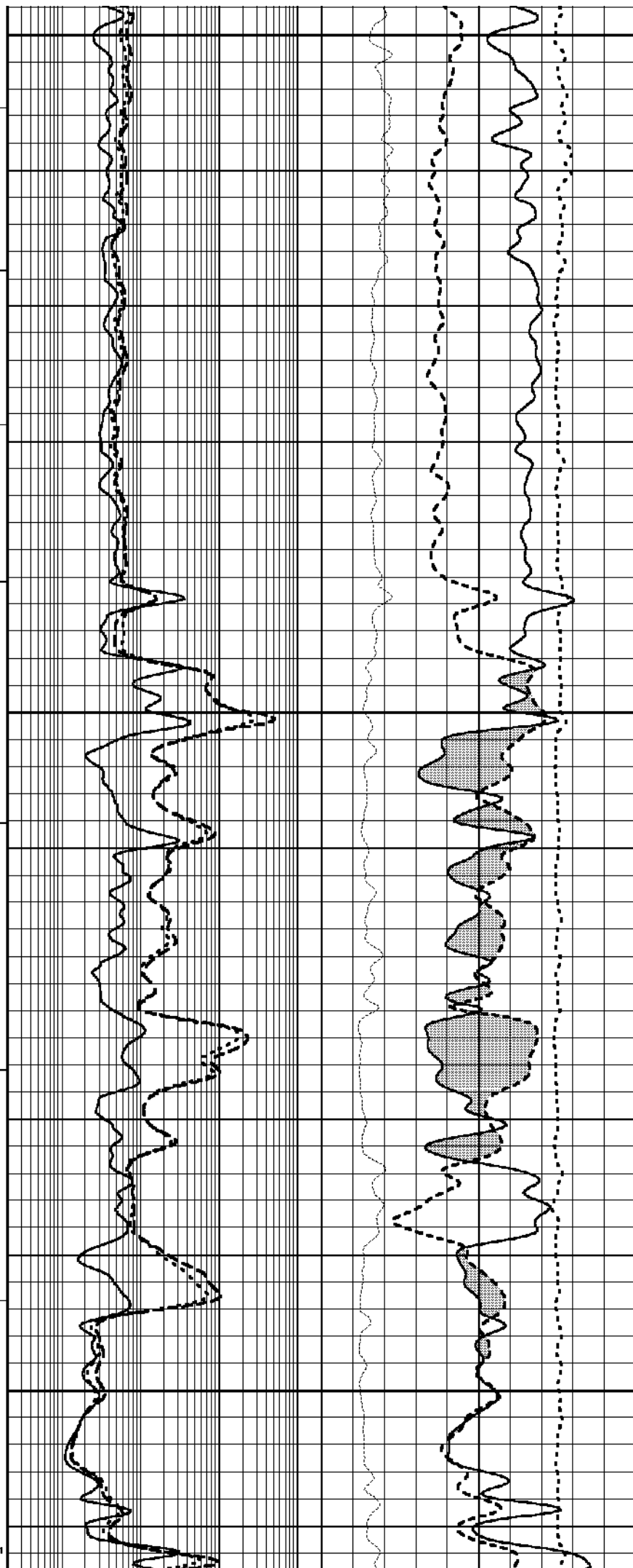
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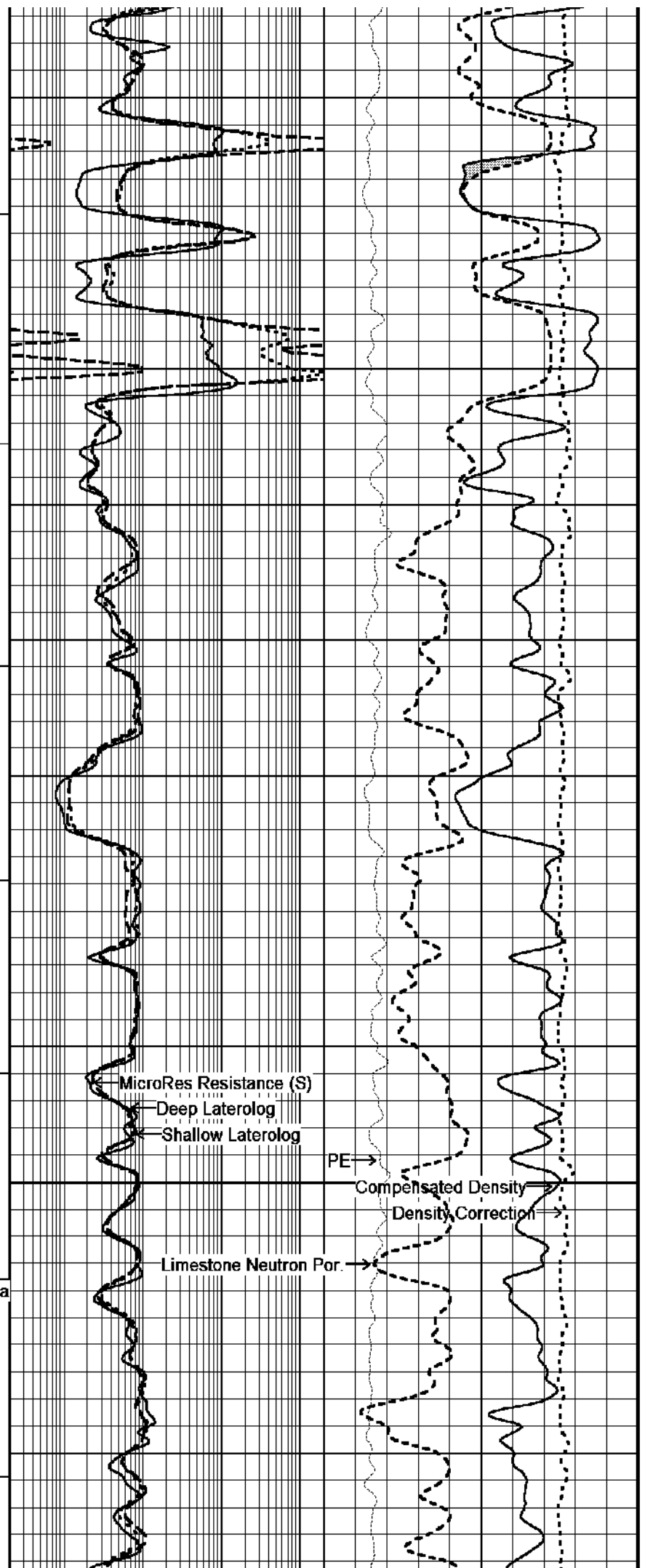
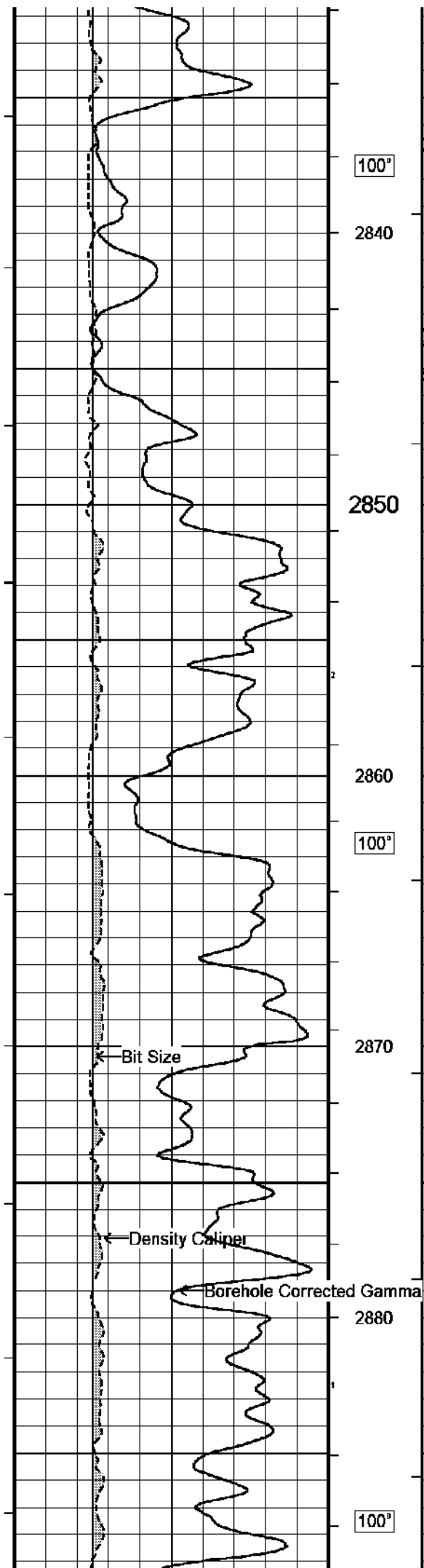
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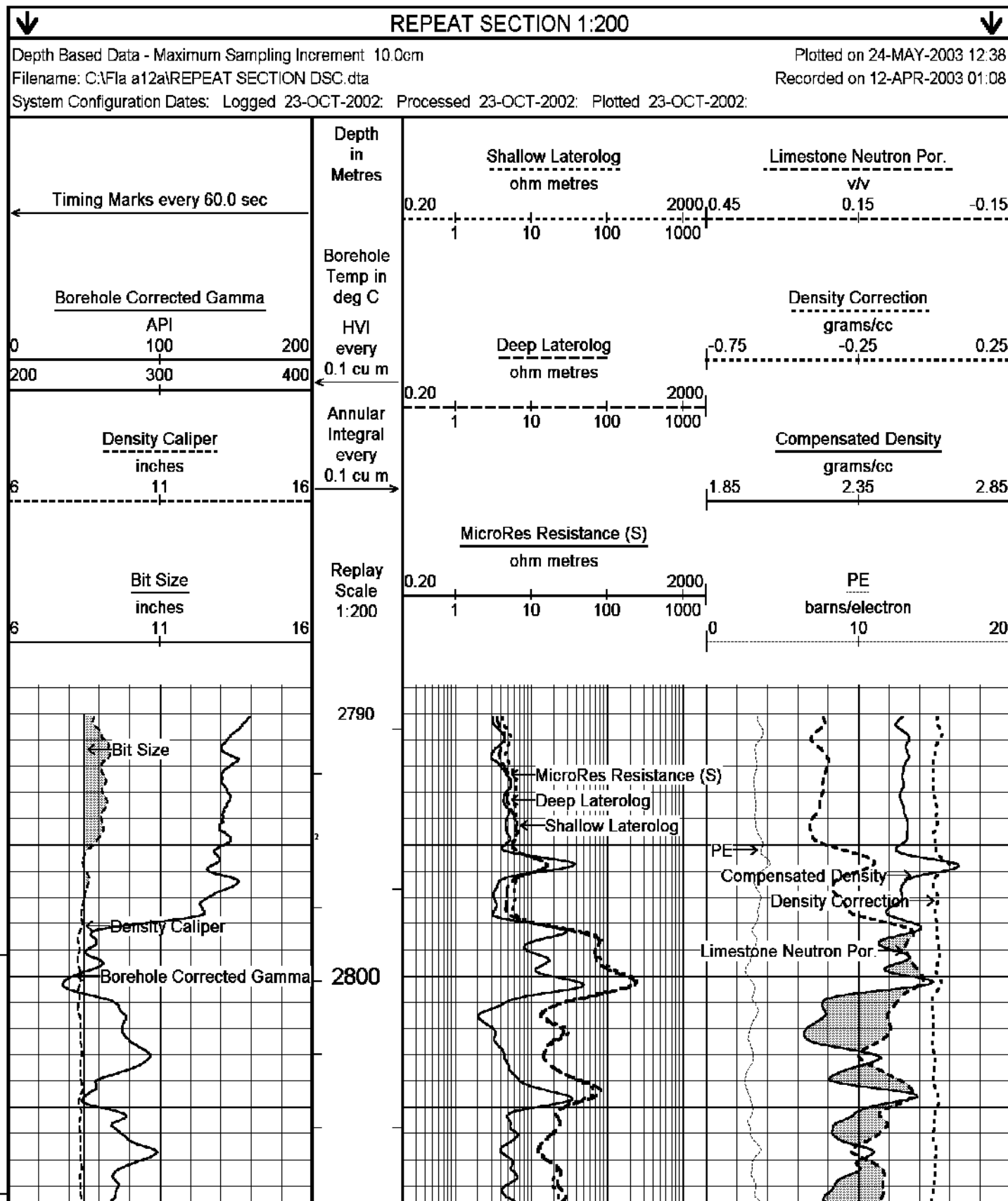
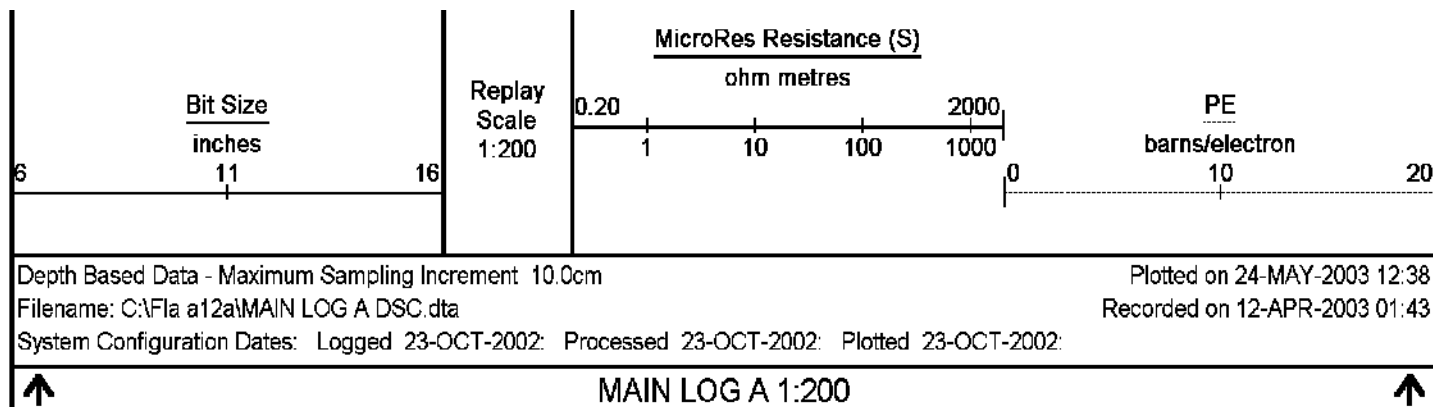
100°

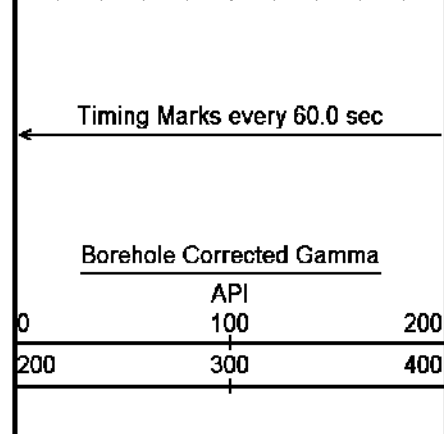
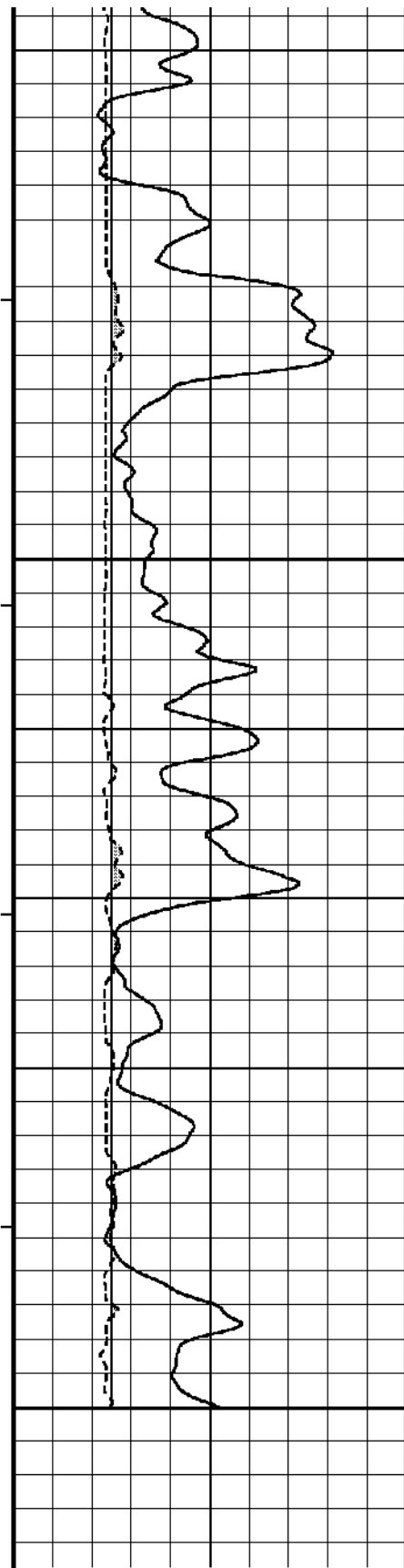
2820

2830









2810

97°

2820

2830

97°

2840

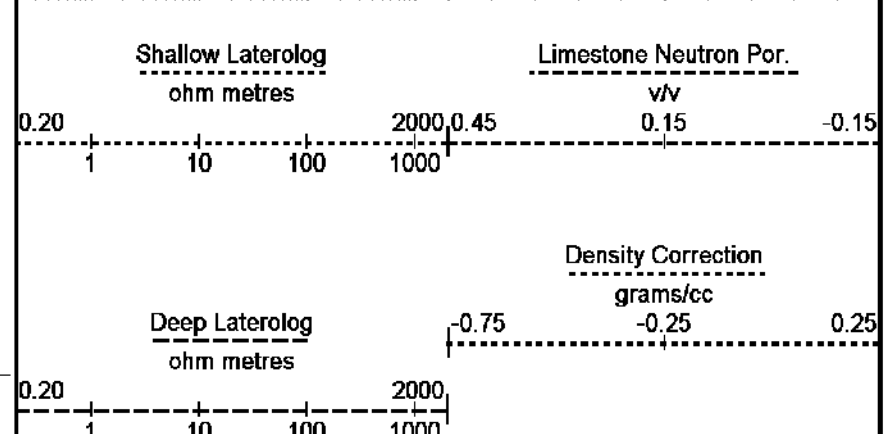
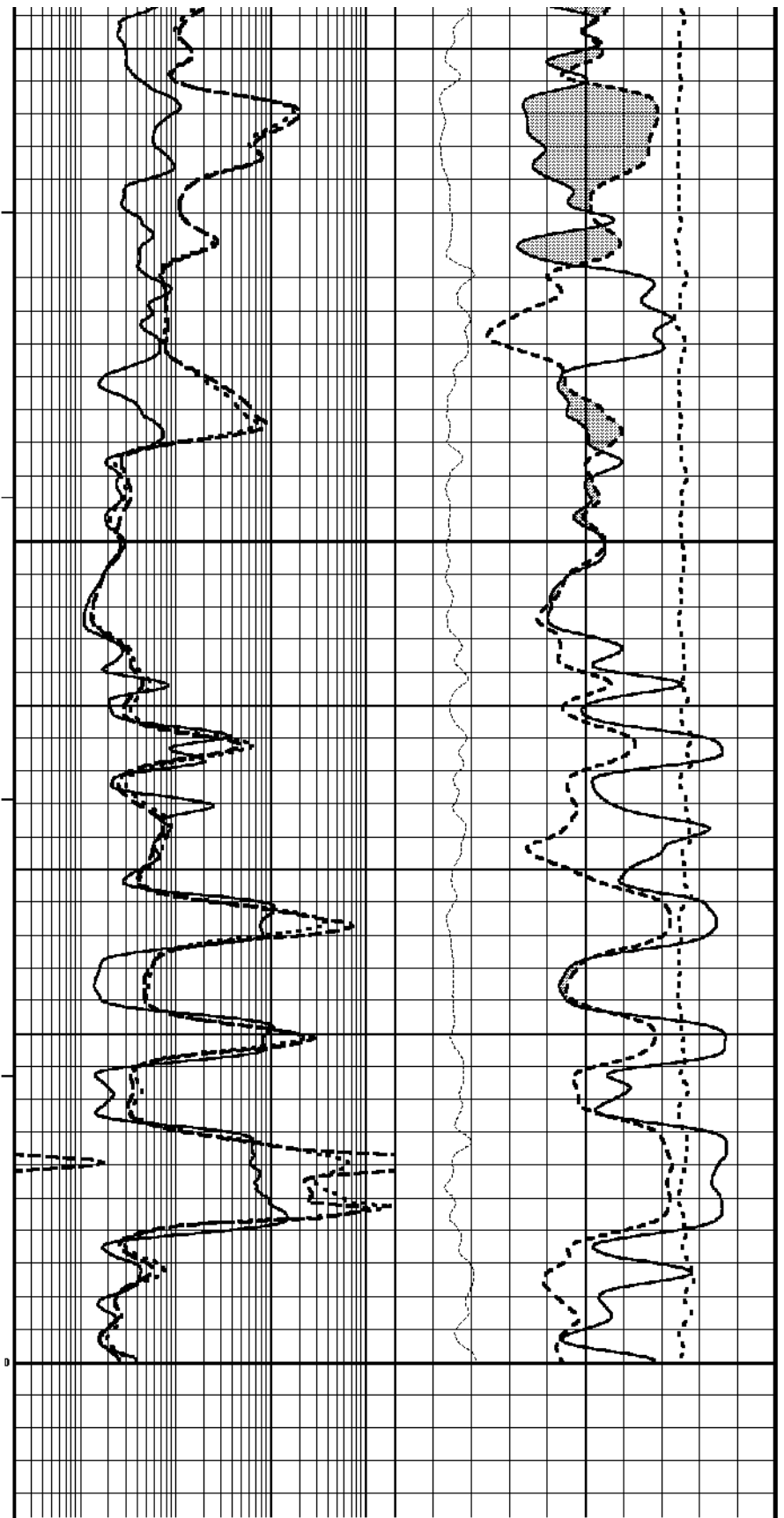
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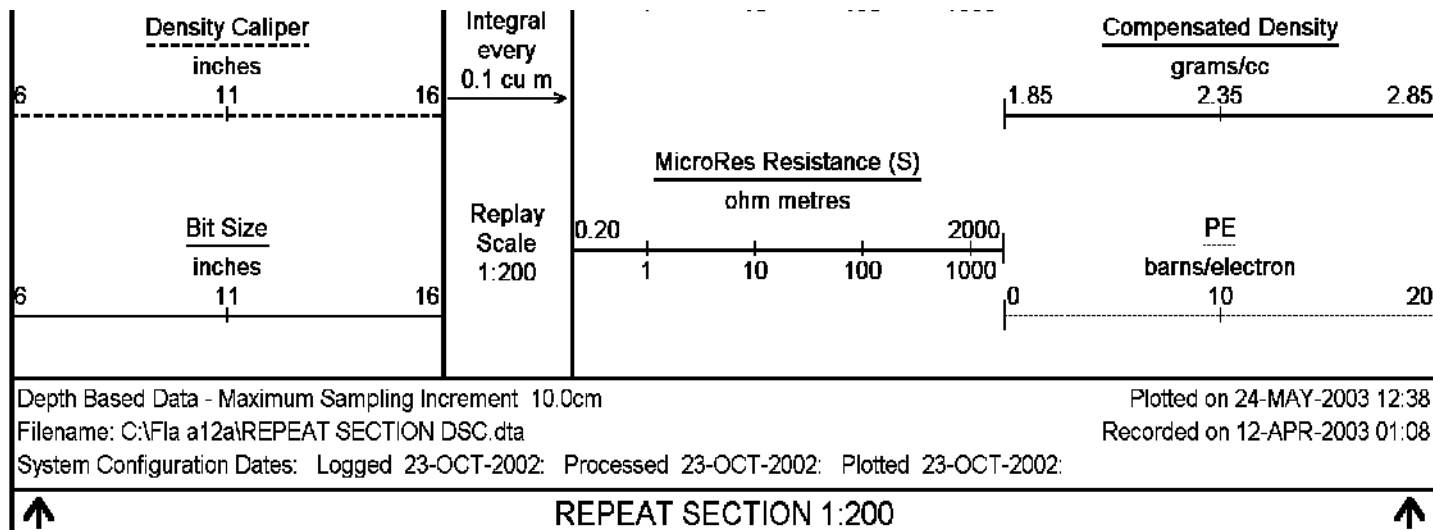
Depth in Metres

Borehole Temp in deg C

HVI every 0.1 cu m

Annular





BEFORE SURVEY CALIBRATION

C:\Fla a12a\MAIN LOG A DSC.dta

General Constants All 000

General Parameters

Mud Resistivity	0.05	ohm-metres
Mud Resistivity Temperature	100.00	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	Density Caliper	
Annular Volume Diameter	7.00	inches
Caliper for Differential Caliper	Density Caliper	

Rwa Parameters

Porosity used	Limestone Sonic Porosity
Resistivity used	Deep Laterolog
RWA Constant A	0.61
RWA Constant M	2.15

Gamma Calibration MCG 076

Field Calibration on 7-APR-2003,14:34

	Measured	Calibrated (API)
Background	16	10
Calibrator (Gross)	1432	919
Calibrator (Net)	1416	909

Gamma Constants MCG 076

Gamma Calibrator Number	60	
Mud Density	1.19	gm/cc
Caliper Source for Processing	Density Caliper	
Tool Position	Eccentred	
Concentration of KCl	0.00	kppm

High Resolution Temperature Calibration MCG 076

Field Calibration on 19-FEB-2003,09:40

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

High Resolution Temperature Constants MCG 076

Pre-filter Length	11
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Neutron Calibration MDN 069

Base Calibration on 17-JAN-2003 16:36

Field Check on 7-APR-2003 14:52

Base Calibration

	Measured		Calibrated (cps)	
	Near	Far	Near	Far
	2851	89	3714	110
Ratio	31.978		33.764	

Field Calibrator at Base	Calibrated (cps)	
	1871	2717
Ratio	0.689	
Field Check	Calibrated (cps)	
	1846	2708
Ratio	0.682	
Neutron Constants MDN 069		
Neutron Source Id	724	
Neutron Jig Number	52	
Epithermal Neutron	No	
Caliper Source for Processing	Density Caliper	
Stand-off	0.00	inches
Mud Density	1.19	gm/cc
Limestone Sigma	7.10	cu
Sandstone Sigma	4.26	cu
Dolomite Sigma	4.70	cu
Formation Pressure Source	Constant Value	
Formation Pressure	0.00	kpsi
Temperature Source	MCG External Temperature	
Temperature	N/A	degrees C
Mud Salinity	53.00	kppm
Formation Fluid Salinity Source	None	
Formation Fluid Salinity	N/A	kppm
Barite Mud Correction	Not Applied	
Caliper Calibration MPD 067		Base Calibration on 12-APR-2003,03:34 Field Calibration on
Base Calibration		
Reading No	Measured	Calibrator Size (in)
1	14809	4.61
2	24384	6.59
3	34304	8.58
4	44327	10.54
5	55504	12.61
6	N/A	N/A
Field Calibration		
	0	0
	0.00	0.00
Photo Density Calibration MPD 067		Base Calibration on 19-JAN-2003 12:40 Field Check on 7-APR-2003 14:40
Density Calibration		
Base Calibration		
	Near	Far
Reference 1	58595	20350
Reference 2	27401	2638
Field Check at Base		
	960.1	1164.2
Field Check		
	957.7	1152.3
PE Calibration		
Base Calibration		
	WS	WH
Background	180	835
Reference 1	18645	58403
Reference 2	7313	27257
Field Check at Base		
	179.8	835.5
Field Check		
	180.1	831.6
Density Constants MPD 067		
Density Source Id	226	
Mud Calibrator Number	517	

Nylon Calibrator Number	517	
Aluminium/Fe Calibrator Number	517	
Density Shoe Profile	4 inch	
Caliper Source for Processing	Density Caliper	
PE Correction to Density	Not Applied	
Mud Density	1.19	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	0.00

Laterolog Calibration MLE 015

Base Calibration on 7-APR-2003,15:42
Field Check on 12-APR-2003,01:32

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

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	

Micro Laterolog Calibration MMR 005

Base Calibration on 1-APR-2003,17:03
Field Check on 12-APR-2003,01:31

Base Calibration

	Measured	Calibrated (ohm-m)
	Ref 1 Ref 2	Ref 1 Ref 2
	0.0 9843.5	0.0 196.0
Base Check (ohm-m)	8.0	Field Check (ohm-m)
		8.0

Micro Laterolog Constants MMR 005

Micro Laterolog K Factor	0.0196	
Standoff Offset	N/A	inches

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



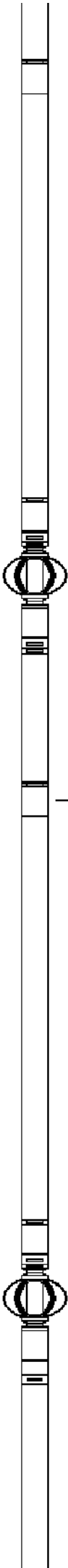
Compact Inline Standoff B
MIS 77 Length: 0.65 m Weight: 15.43 lb

Compact Stiff Bridle Electrode Sub.
MBE 5 Length: 3.76 m Weight: 94.80 lb

31.84 m SPDL - Spontaneous Potential

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

Compact Gamma
MCG 76 Length: 2.65 m Weight: 63.93 lb



Compact Knuckle Joint
SKJ 46 Length: 0.66 m Weight: 24.25 lb

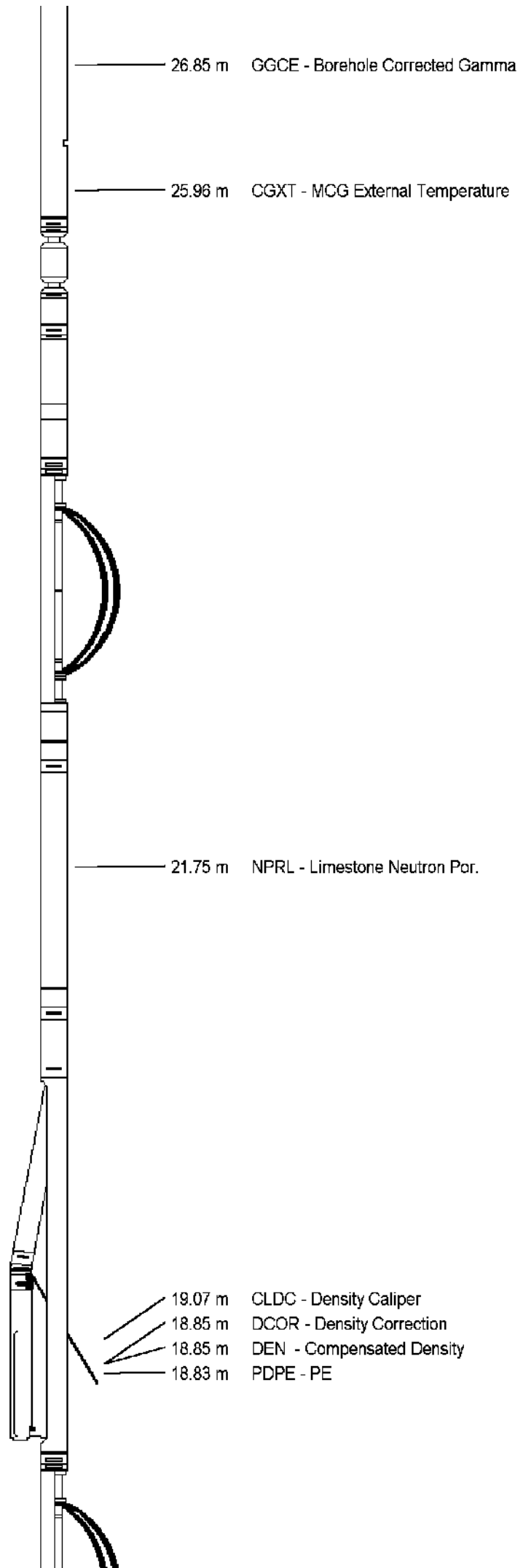
Compact Swivel Head Adaptor
SHA 27 Length: 0.83 m Weight: 26.46 lb

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

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

Compact Inline Bowspring A
MIS 25 Length: 1.74 m Weight: 33.07 lb



Compact Swivel Head Adaptor
SHA 28 Length: 0.83 m Weight: 26.46 lb

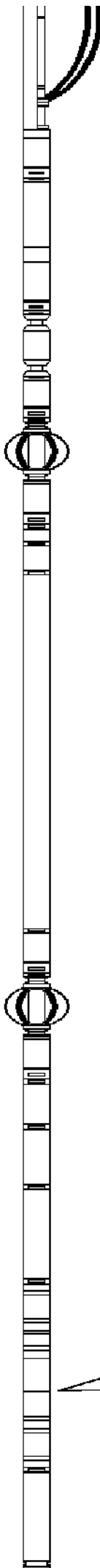
Compact Knuckle Joint
SKJ 45 Length: 0.66 m Weight: 24.25 lb

Compact Inline Standoff B
MIS 53 Length: 0.65 m Weight: 15.43 lb

Compact Upper Guard Sub.
MUG 17 Length: 2.74 m Weight: 68.34 lb

Compact Inline Standoff B
MIS 49 Length: 0.65 m Weight: 15.43 lb

Compact Laterolog Electrode Sub.
MLE 15 Length: 3.76 m Weight: 92.59 lb



8.93 m

DSL - Shallow Laterolog

8.93 m

DGL - Deep Laterolog

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

Compact Micro-Resistivity
MMR 5 Length: 2.62 m Weight: 81.57 lb

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

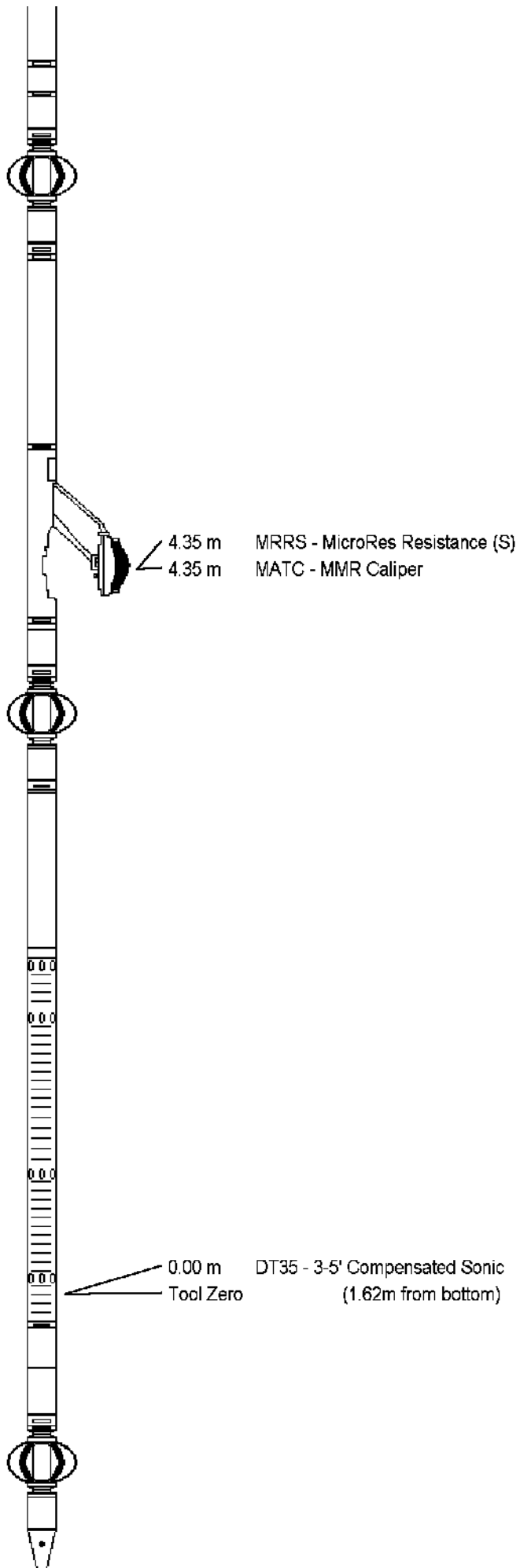
Compact Sonic
MSS 28 Length: 3.82 m Weight: 72.75 lb

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

Pressure Bung + Hole Finder
HFS 3 Length: 0.28 m Weight: 6.61 lb

Total Length: 39.51 m

Total Weight: 1007.51 lb



COMPANY	ESSO AUSTRALIA P.T.Y. LTD.
WELL	FLOUNDER A12a
FIELD	GIPPSLAND BASIN
PROVINCE/COUNTY	BASS STRAIT
COUNTRY/STATE	AUSTRALIA

Elevation Kelly Bushing		metres	First Reading	2920.50	metres
Elevation Drill Floor	33.85	metres	Depth Driller	2920.00	metres
Elevation Ground Level	-93.00	metres	Depth Logger	2921.00	metres

<div> <div>Reeves</div> </div>	DUAL LATEROLOG - GR DENSITY - NEUTRON 1:200 MD
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