



**DUAL  
INDUCTION  
LOG**

Company **RAYMOND OIL COMPANY, INC.**  
 Well **KNEBEL-SHOPE #19-1**  
 Field **WILDCAT**  
 County **BUTLER** State **KANSAS**

Location: **API #: 15-015-24105-0000**  
**1980' FNL & 1350' FWL**  
 SEC 19 TWP 24S RGE 8E  
 Permanent Datum **GROUND LEVEL Elevation 1514**  
 Log Measured From **KELLY BUSHING 6' A.G.L**  
 Drilling Measured From **KELLY BUSHING**  
 Other Services **CDL/CNL MEL**  
 Elevation **K.B. 1520 D.F. 1518 G.L. 1514**

Date	8/28/18
Run Number	ONE
Depth Driller	2790
Depth Logger	2790
Bottom Logged Interval	2788
Top Log Interval	00
Casing Driller	8 5/8" @ 253
Casing Logger	258
Bit Size	7 7/8
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.5/44
PH / Fluid Loss	9.5/8.4
Source of Sample	FLOWLINE
Rm @ Meas. Temp	1.2 @ 94F
Rmt @ Meas. Temp	.90 @ 94F
Rmc @ Meas. Temp	1.4 @ 94F
Source of Rmf / Rmc	MEASUREMENT
Rm @ BHT	1.0 @ 106F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	////
Maximum Recorded Temperature	105F
Equipment Number	3802
Location	HAYS, KANSAS
Recorded By	JASON CAPPELLUCCI
Witnessed By	ROBERT TURNER

<<< Fold Here >>>

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 interpretation, and we shall not, except in the case of gross or willful 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 set out in our current Price Schedule.

**Comments**

THANK YOU FOR USING ELI WIRELINE SERVICES, HAYS, KS. ( 785 ) 628-6395  
 DIRECTIONS  
 CASSODAY, KS. - 5 SOUTH TO JOG EAST 1 MILE - 2 SOUTH - EAST INTO

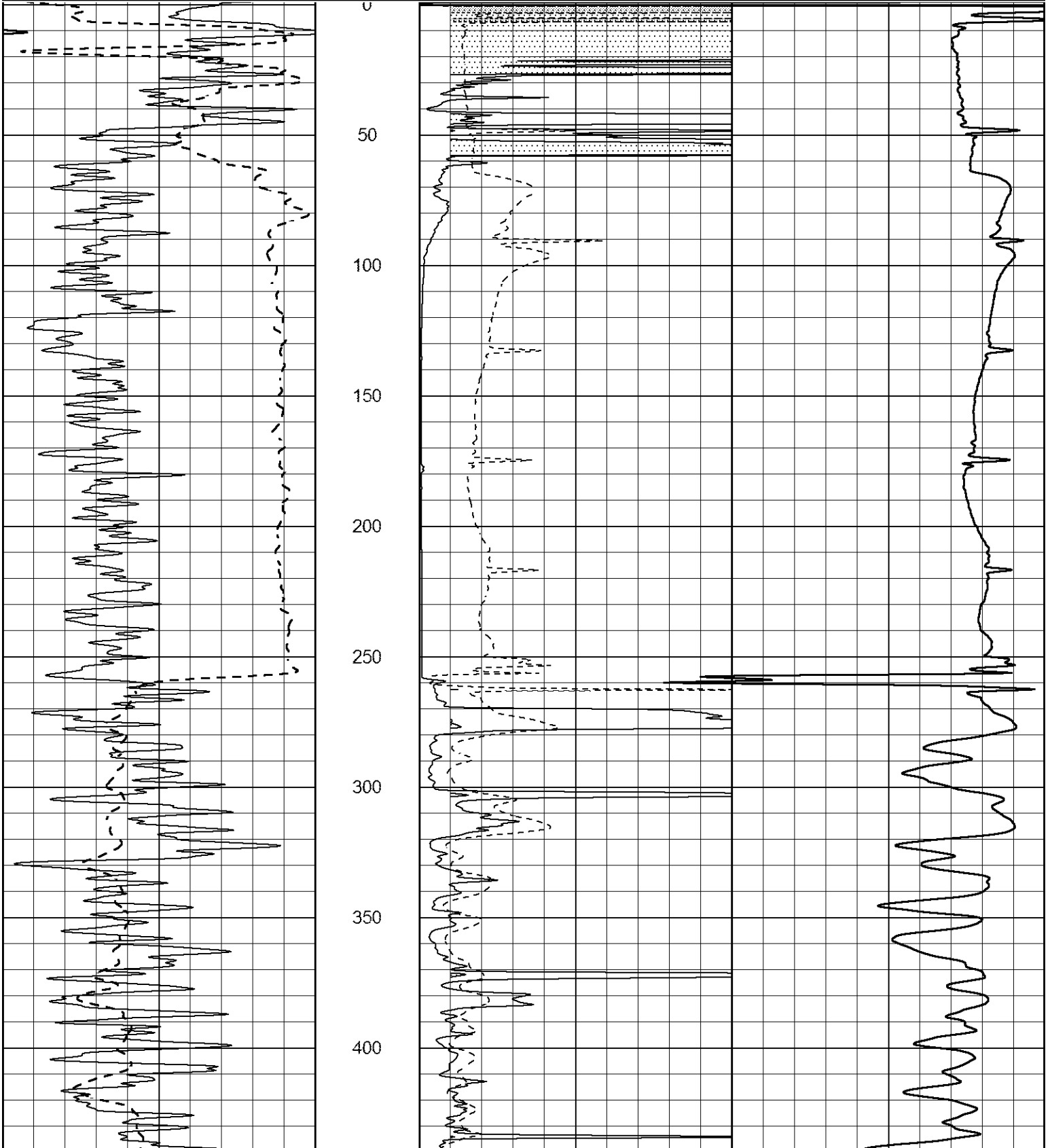


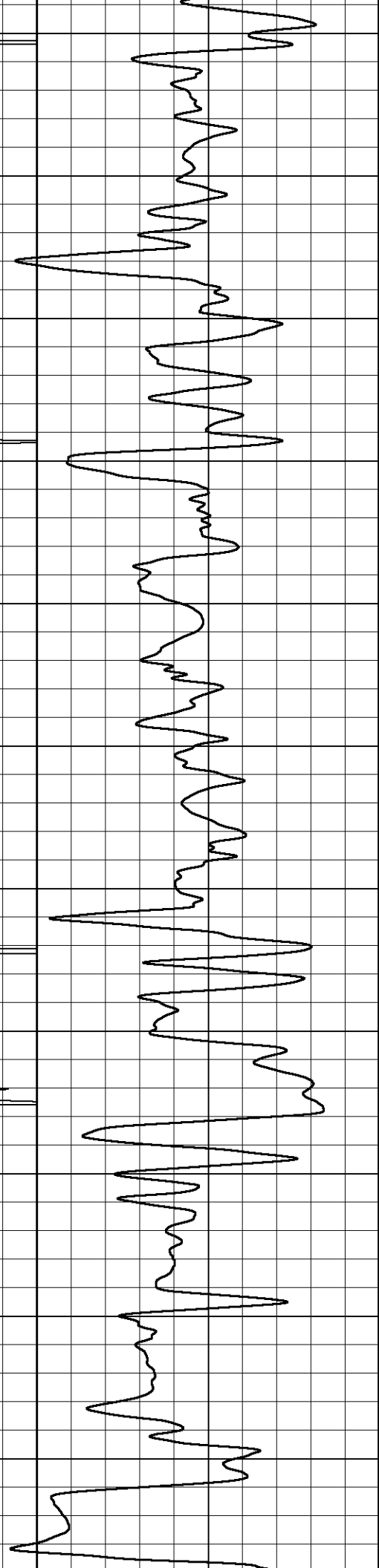
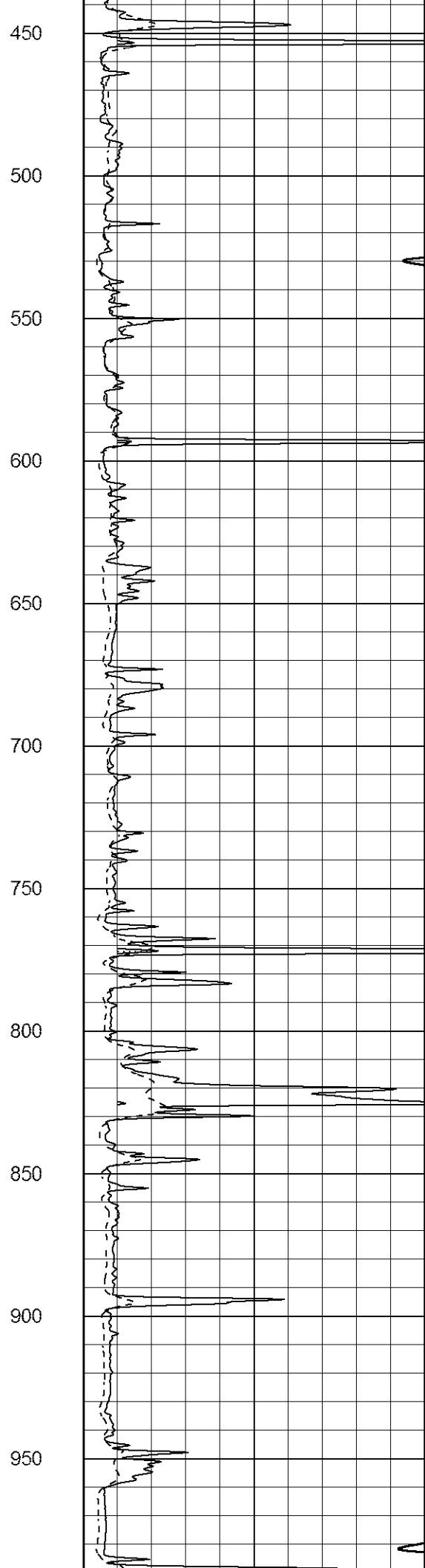
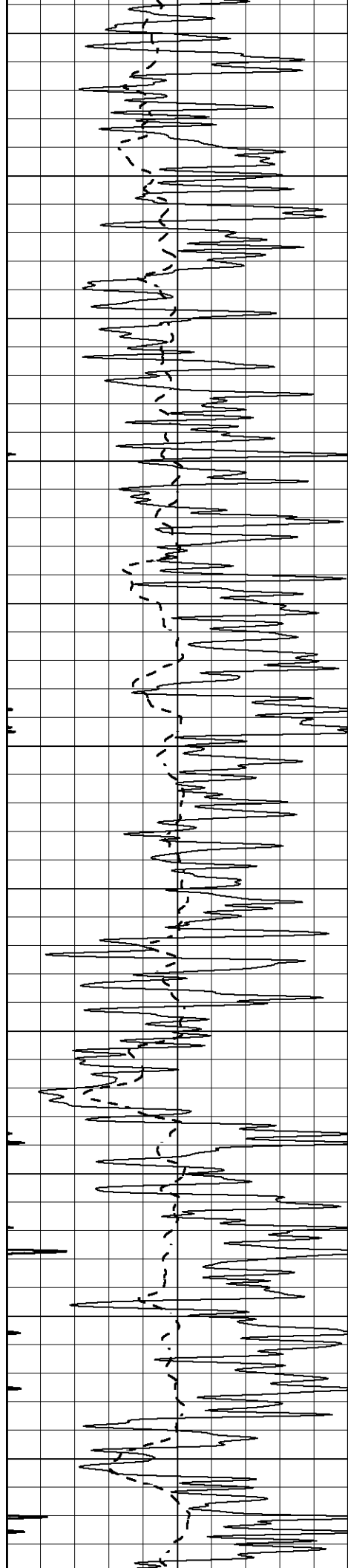
**MAIN SECTION**

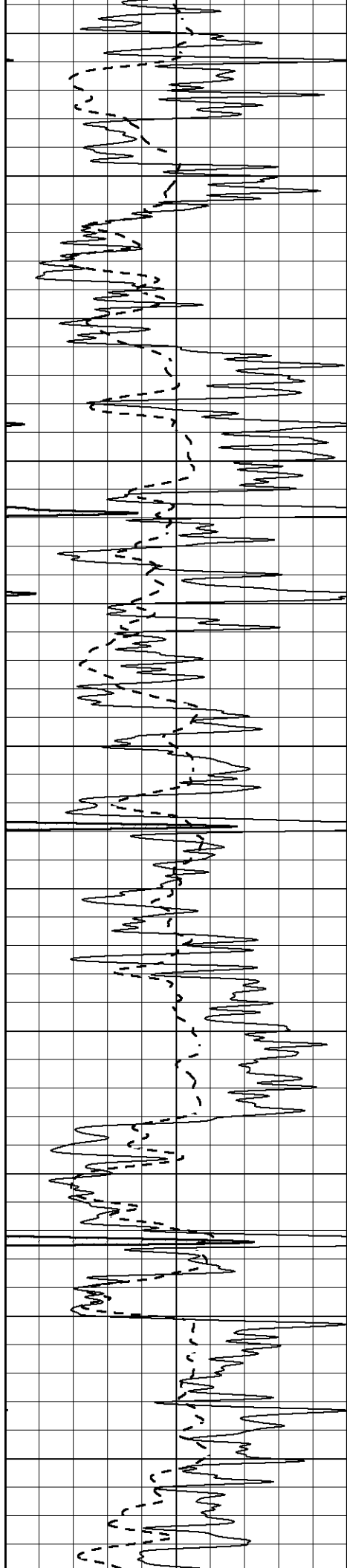
Database File 3001ddn8.db  
 Dataset Pathname pass3.2  
 Presentation Format \_dil2  
 Dataset Creation Tue Aug 28 15:16:36 2018  
 Charted by Depth in Feet scaled 1:600

0 Gamma Ray (GAPI) 150  
 -100 SP (mV) 100

1000 CILD (mmho/m) 0  
 0 RLL3 (Ohm-m) 50  
 0 Deep Induction (Ohm-m) 50  
 50 RILD X10 (Ohm-m) 500  
 50 RLL3 X10 (Ohm-m) 500







1000

1050

1100

1150

1200

1250

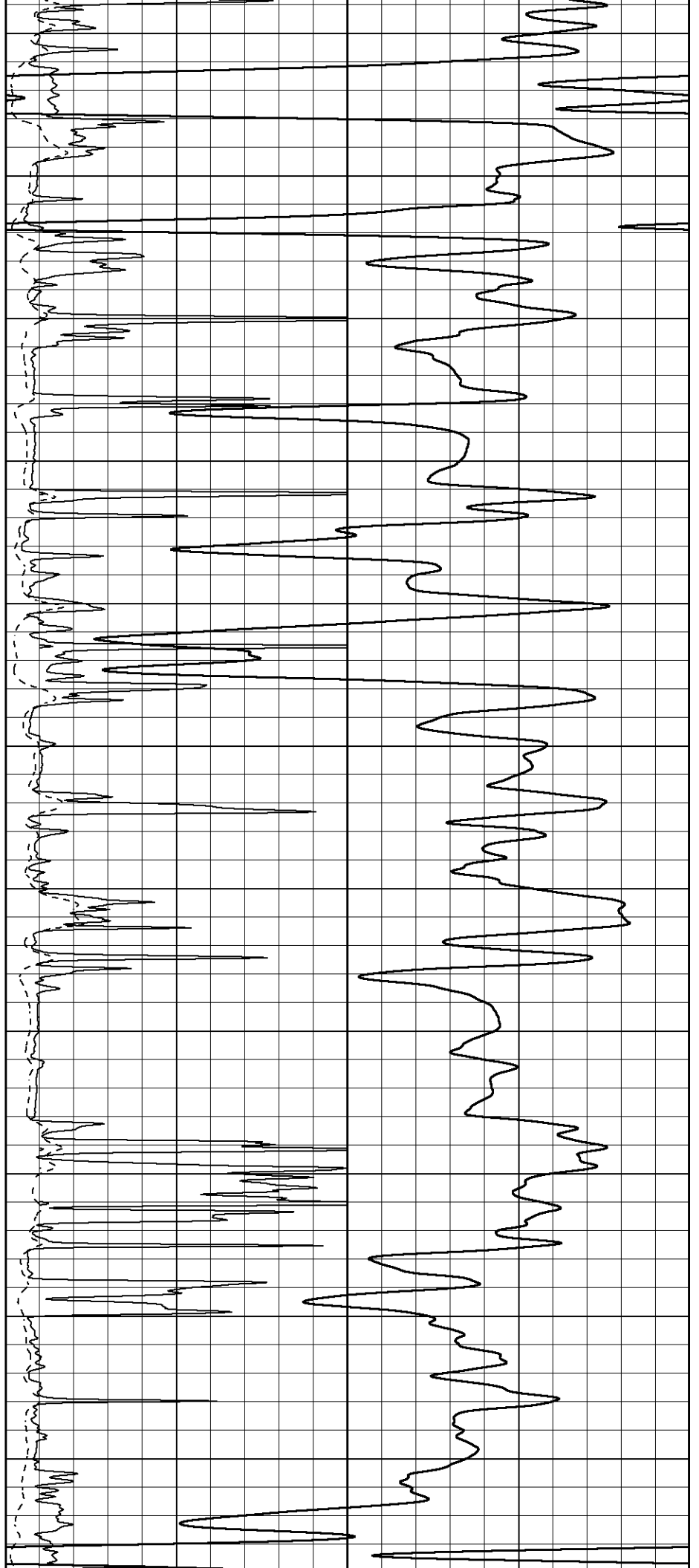
1300

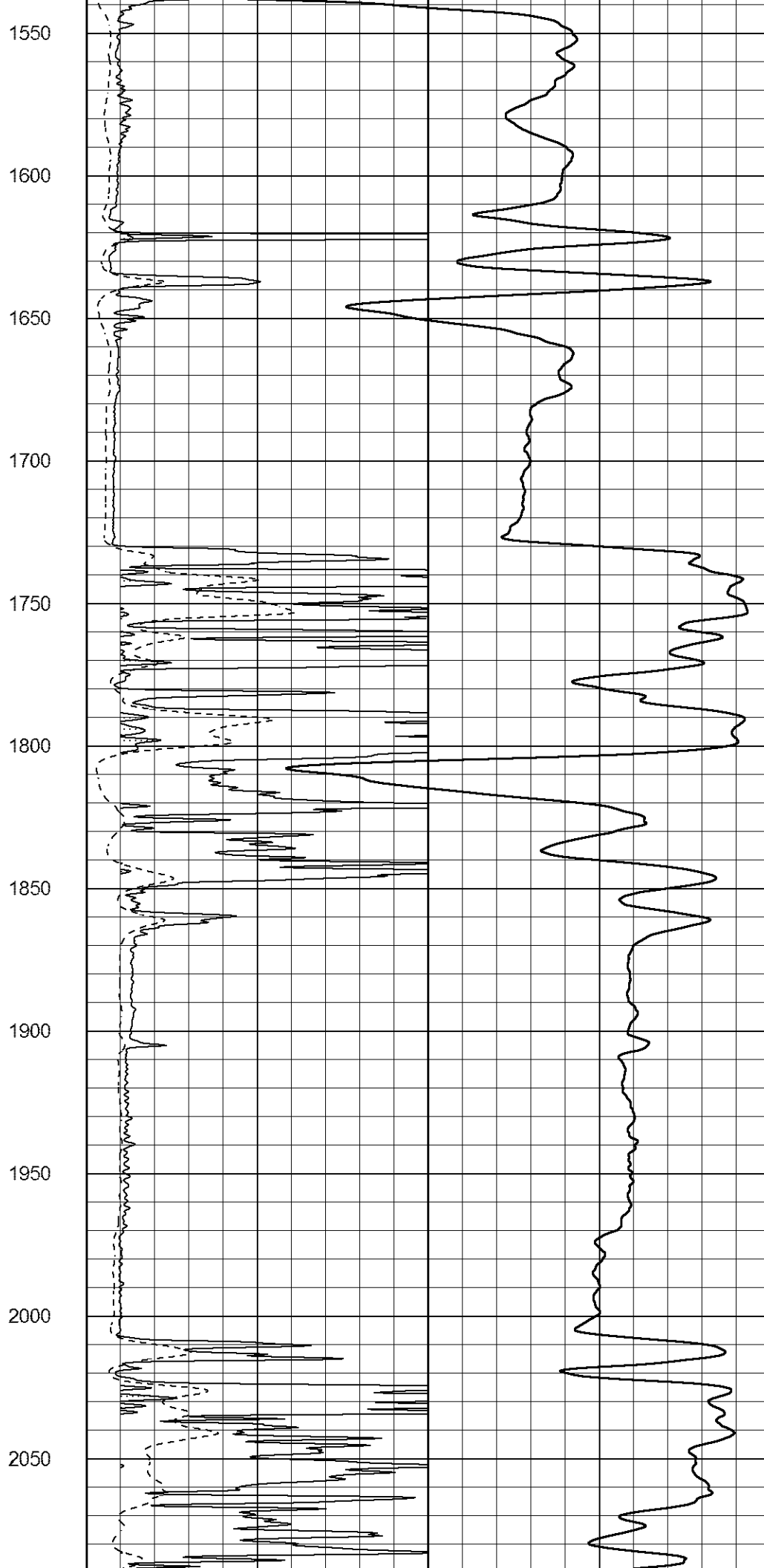
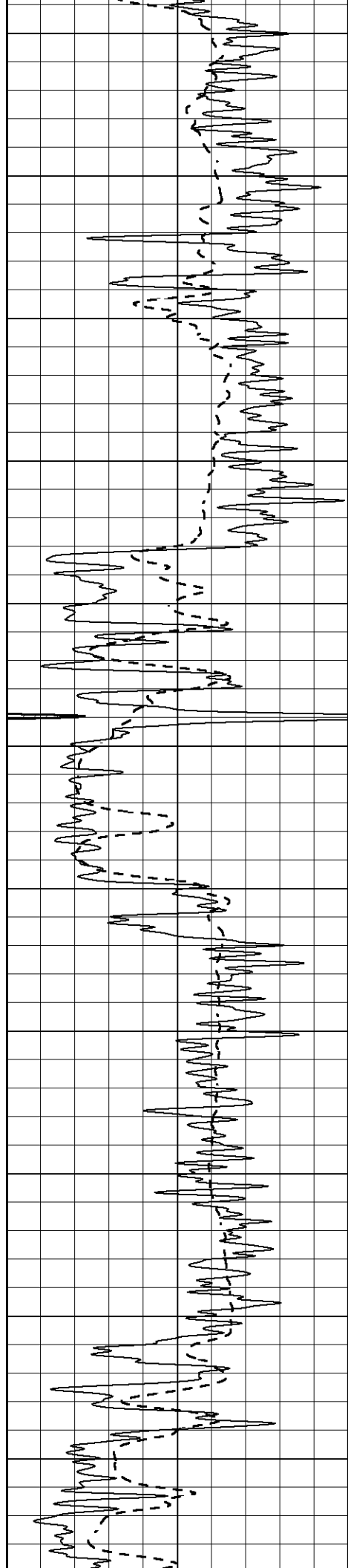
1350

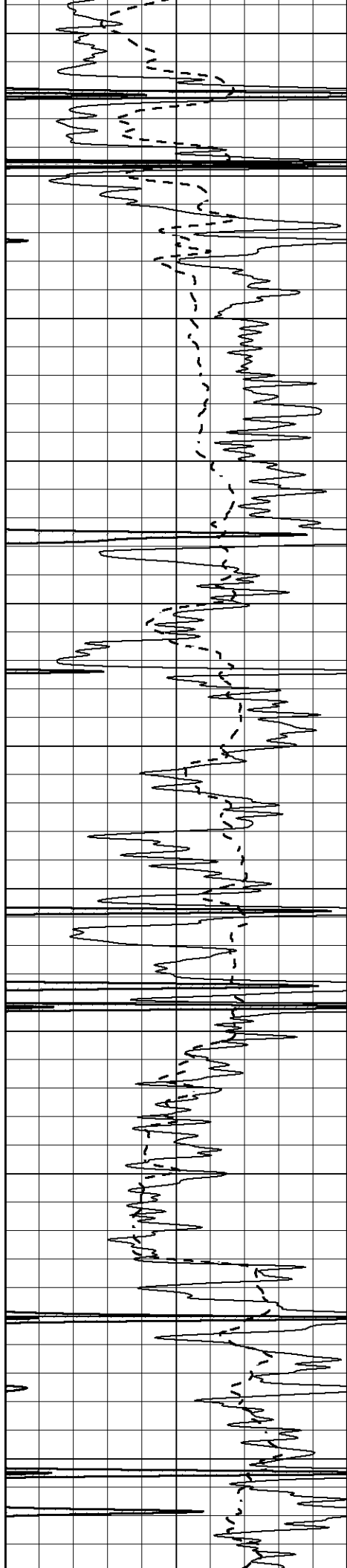
1400

1450

1500







2100

2150

2200

2250

2300

2350

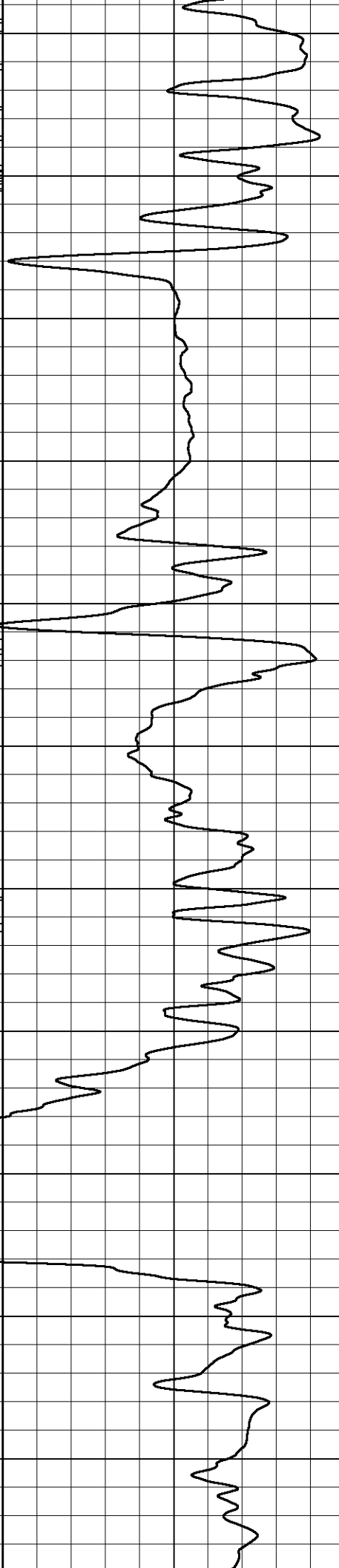
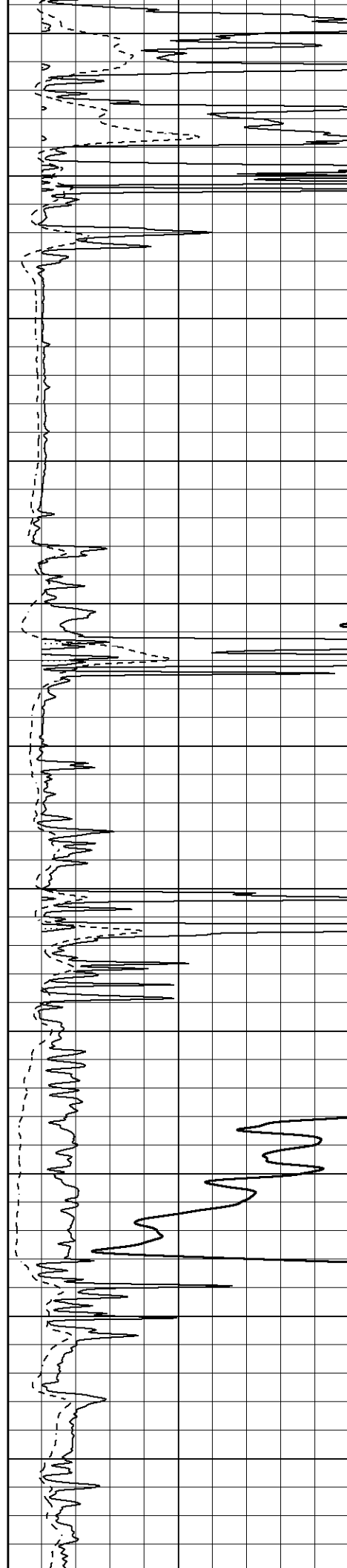
2400

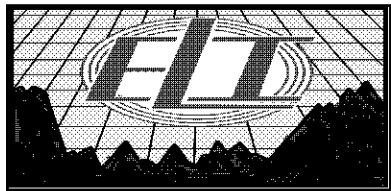
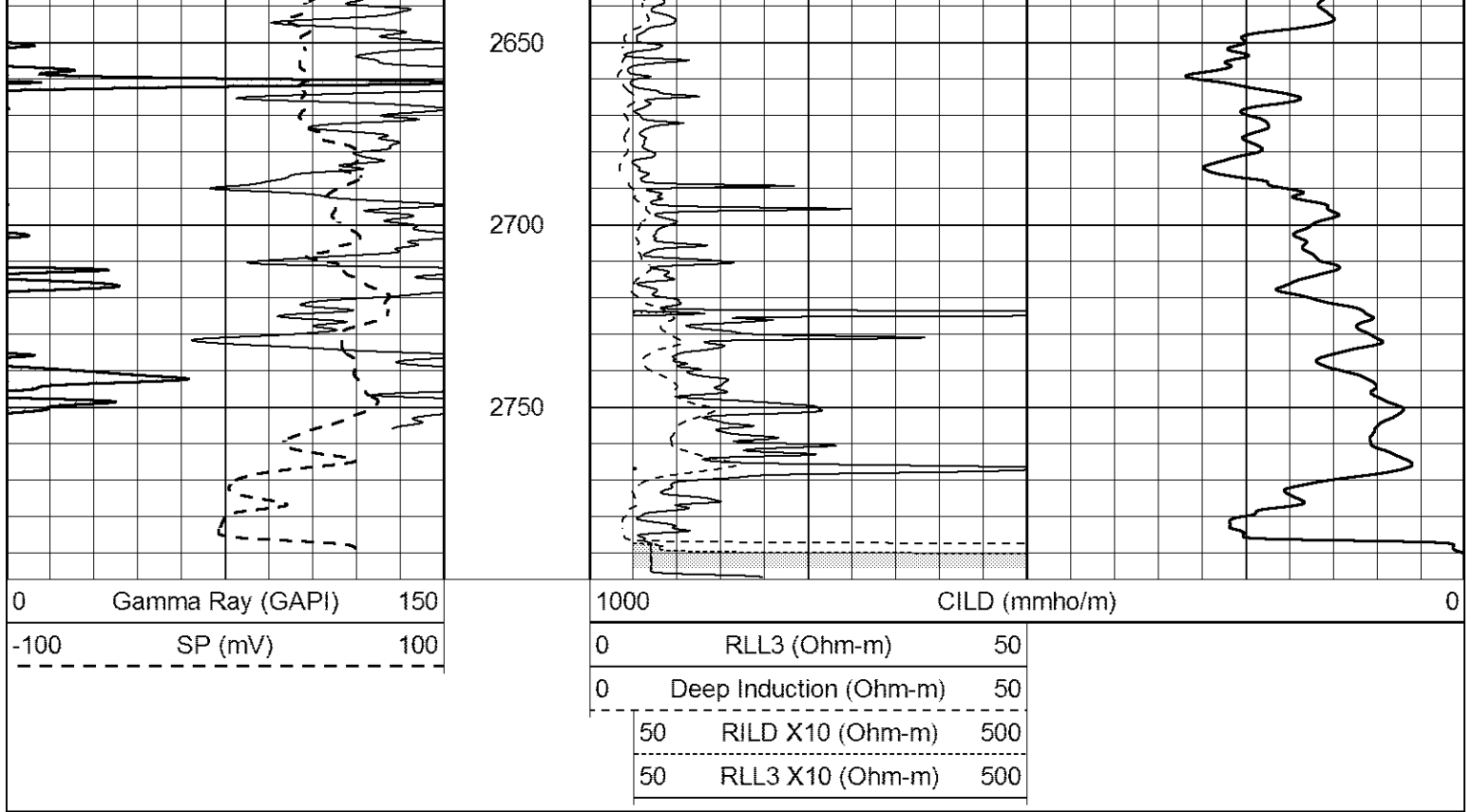
2450

2500

2550

2600

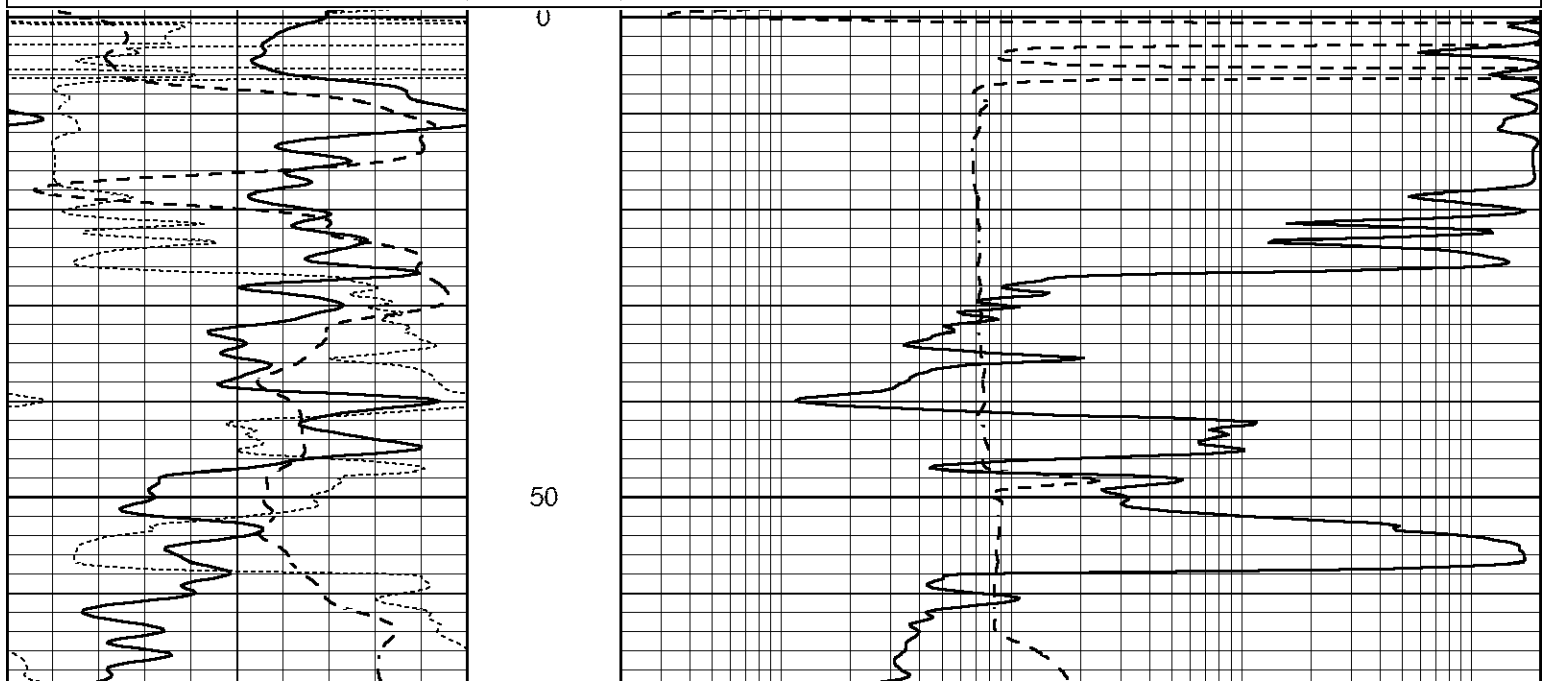




# MAIN SECTION

Database File 3001ddn8.db  
 Dataset Pathname pass3.2  
 Presentation Format \_dil  
 Dataset Creation Tue Aug 28 15:16:36 2018  
 Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	0.2	SHALLOW GUARD (Ohm-m)	2000
-100	SP (mV)	100	0.2	MEDIUM INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	DEEP INDUCTION (Ohm-m)	2000



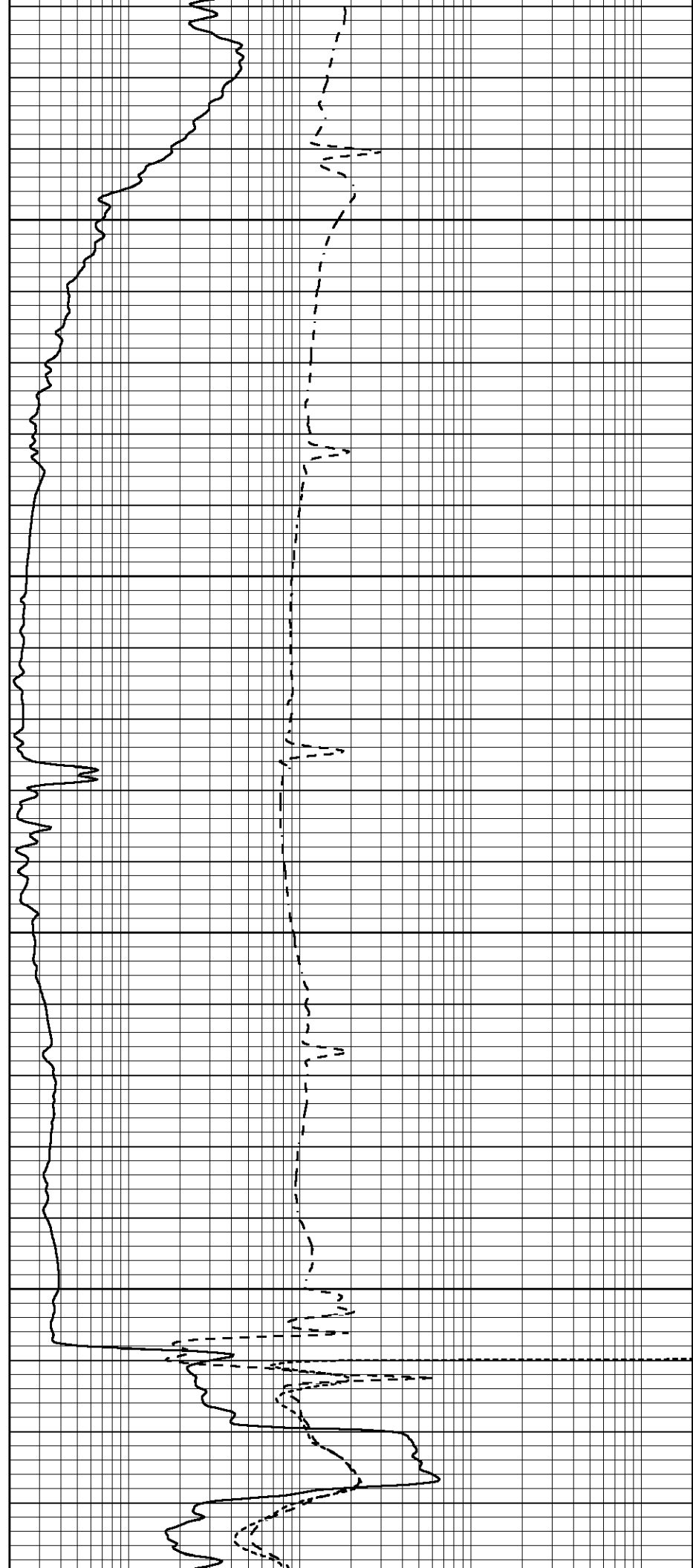


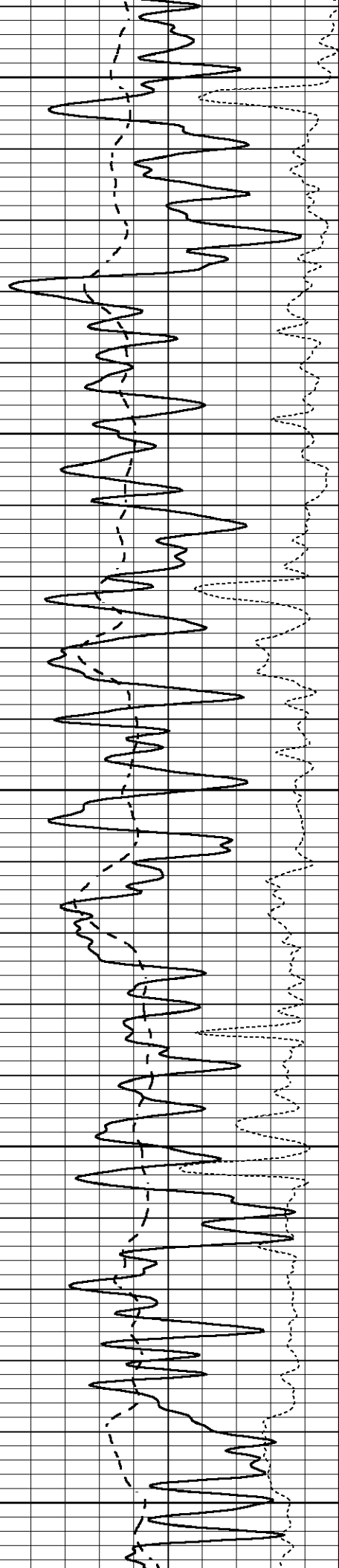
100

150

200

250





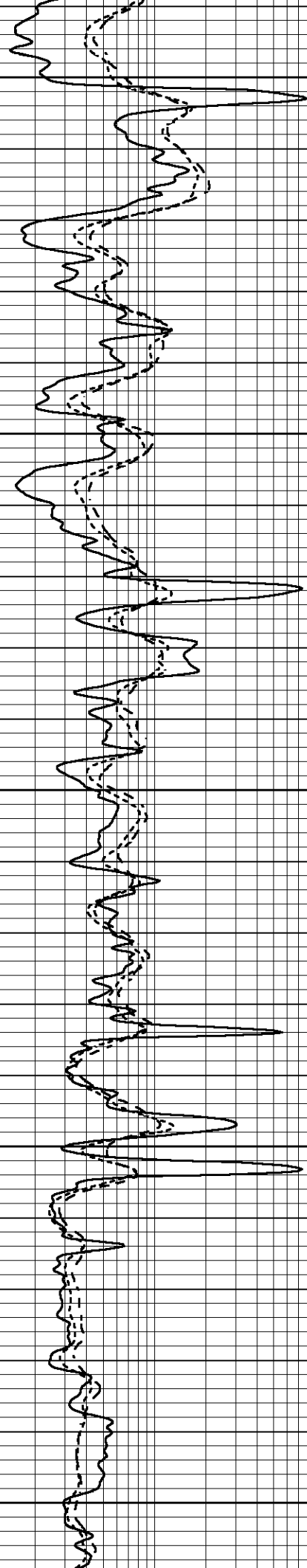
300

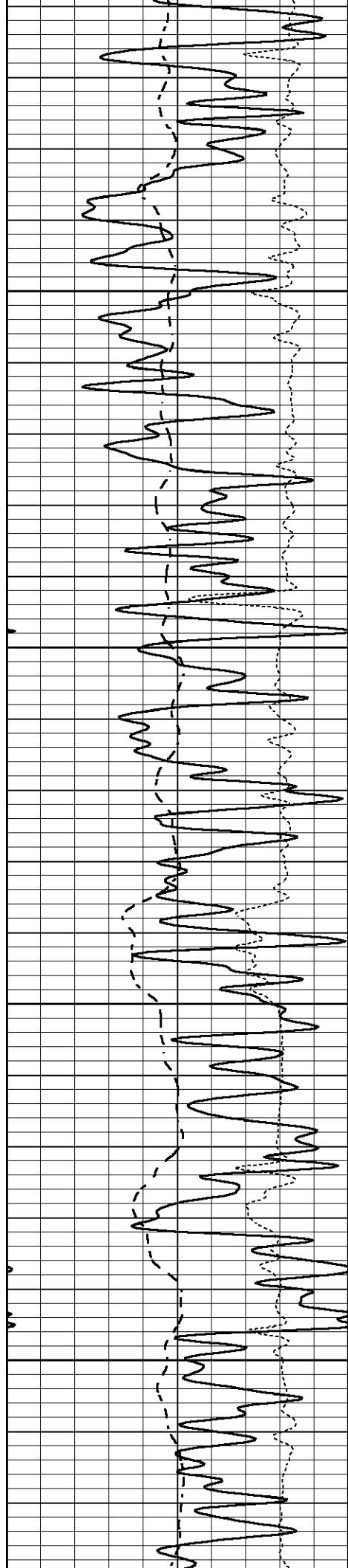
350

400

450

500



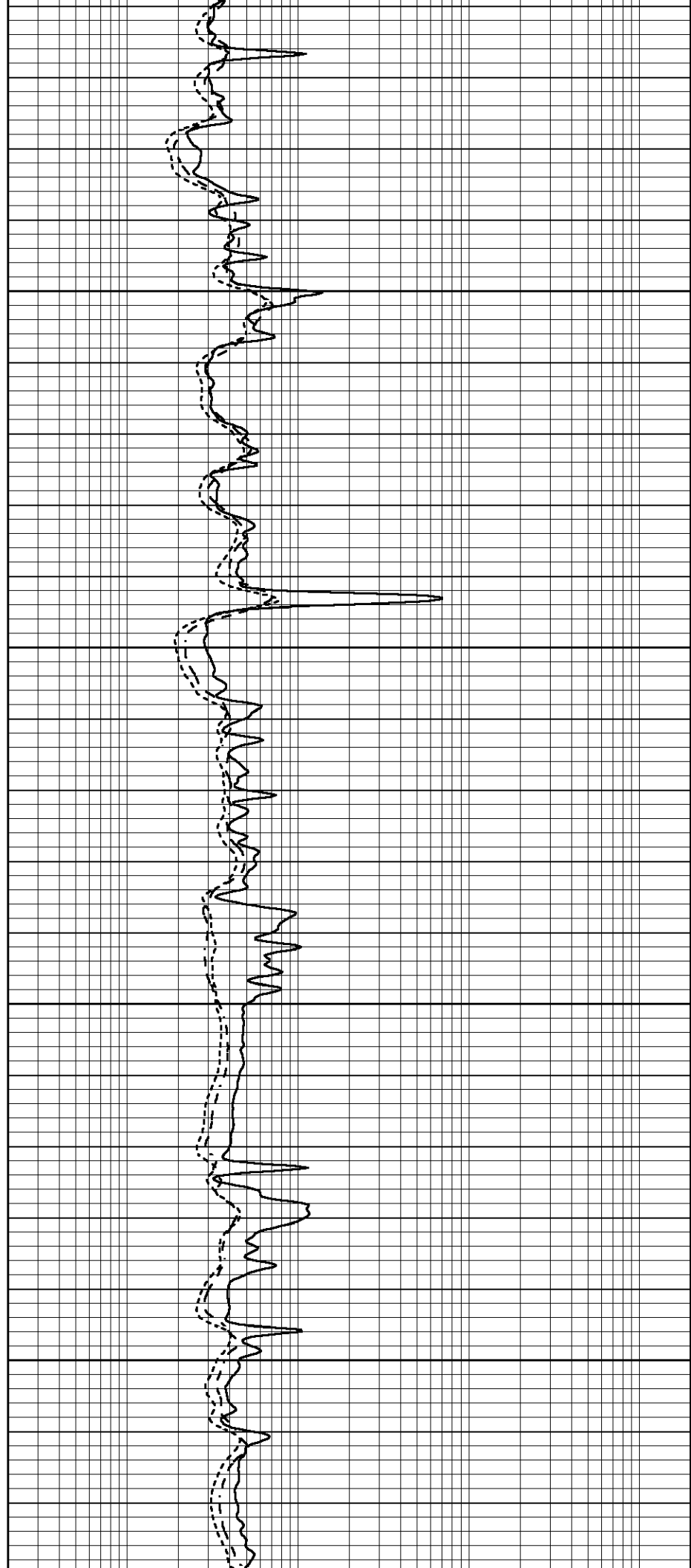


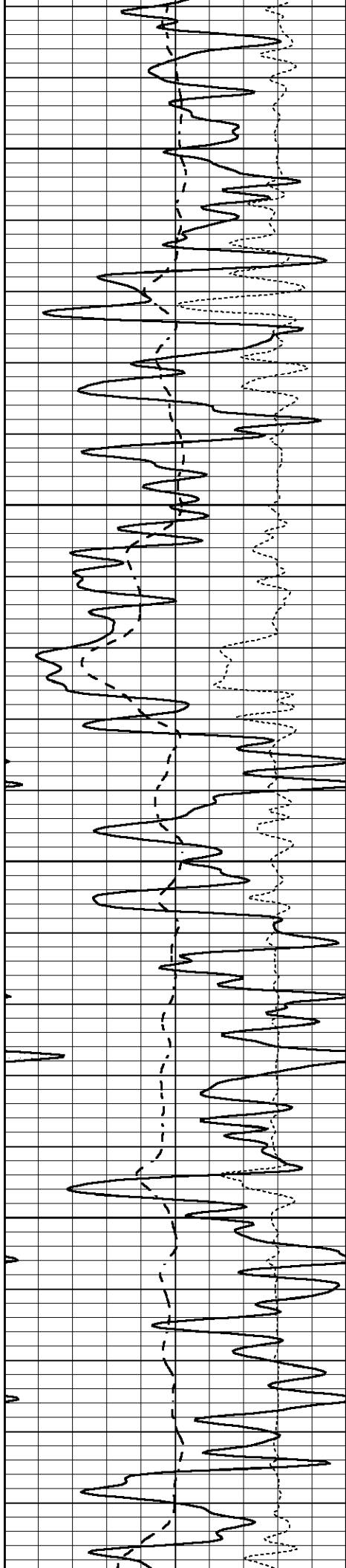
550

600

650

700



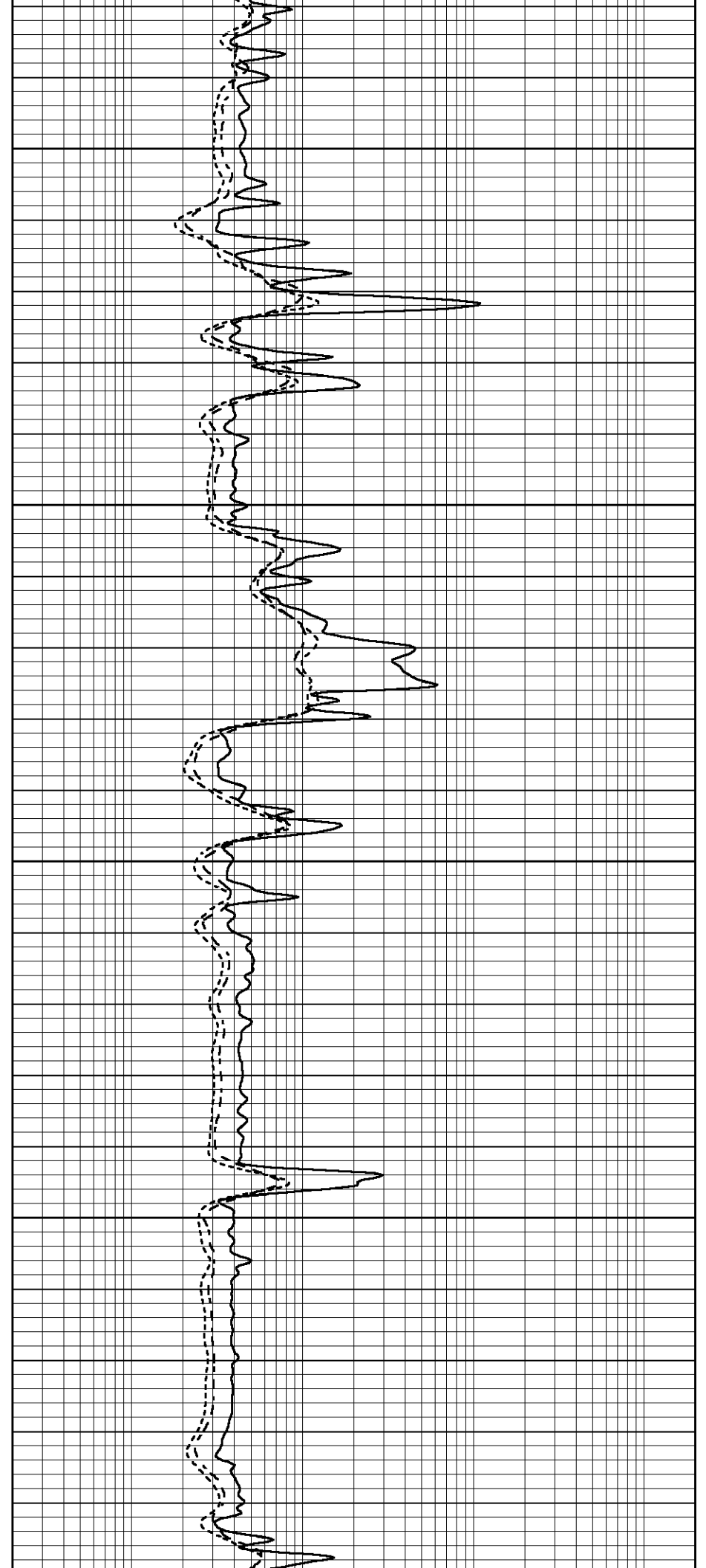


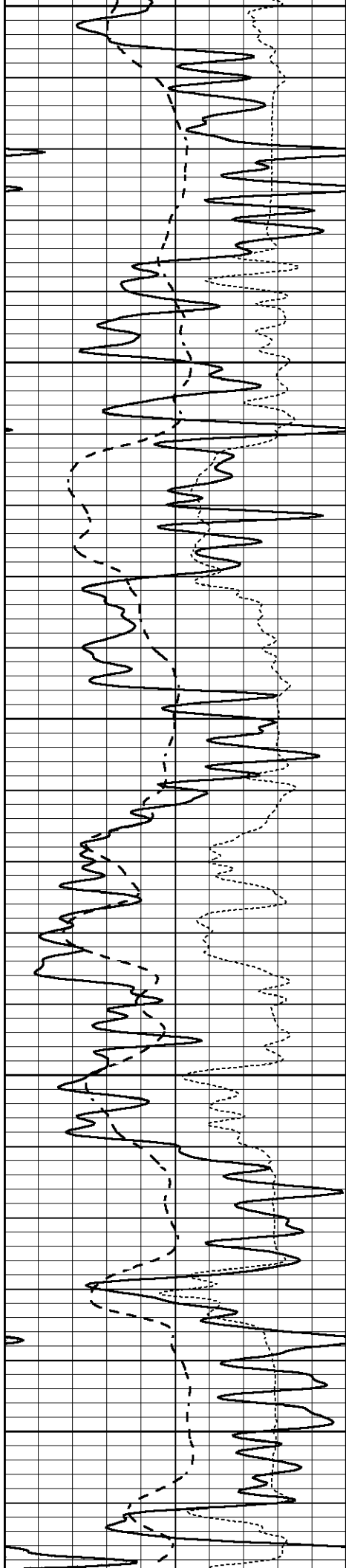
750

800

850

900





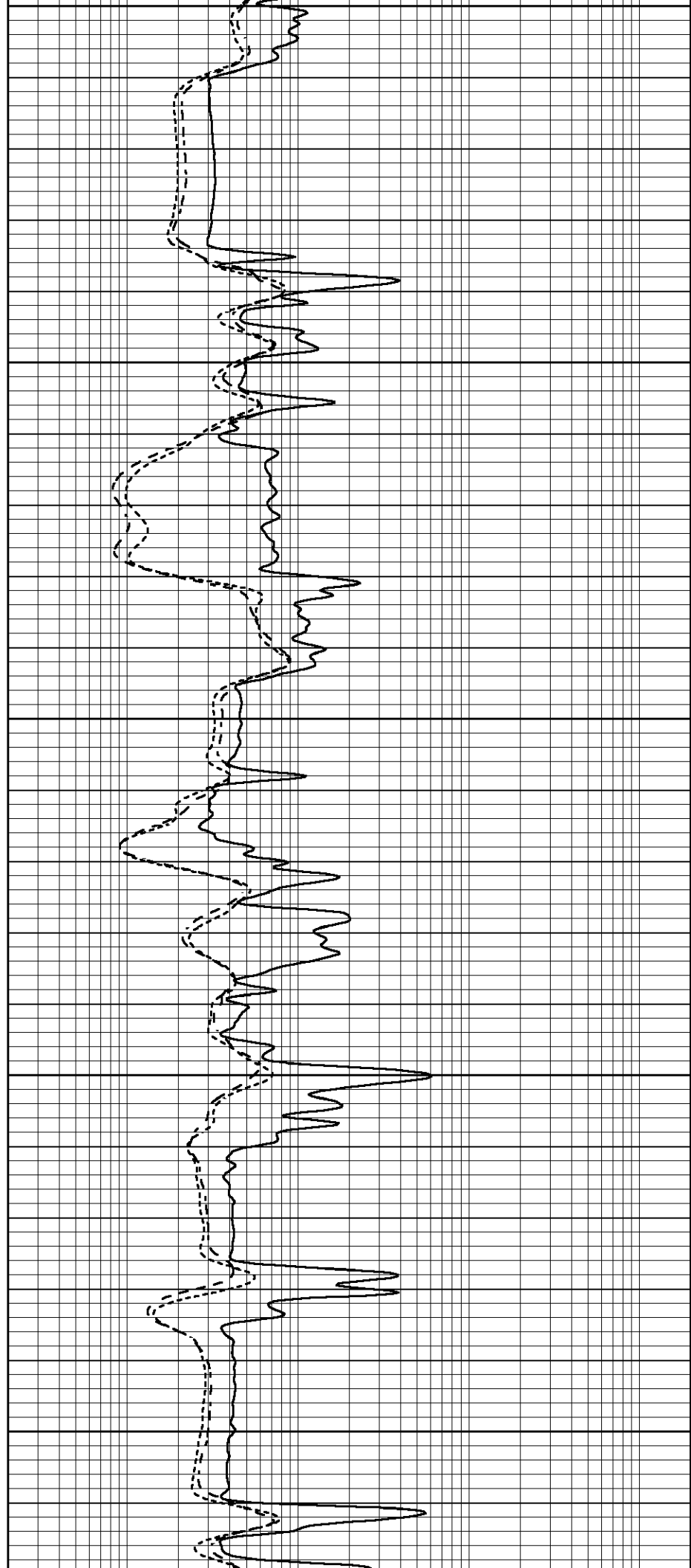
950

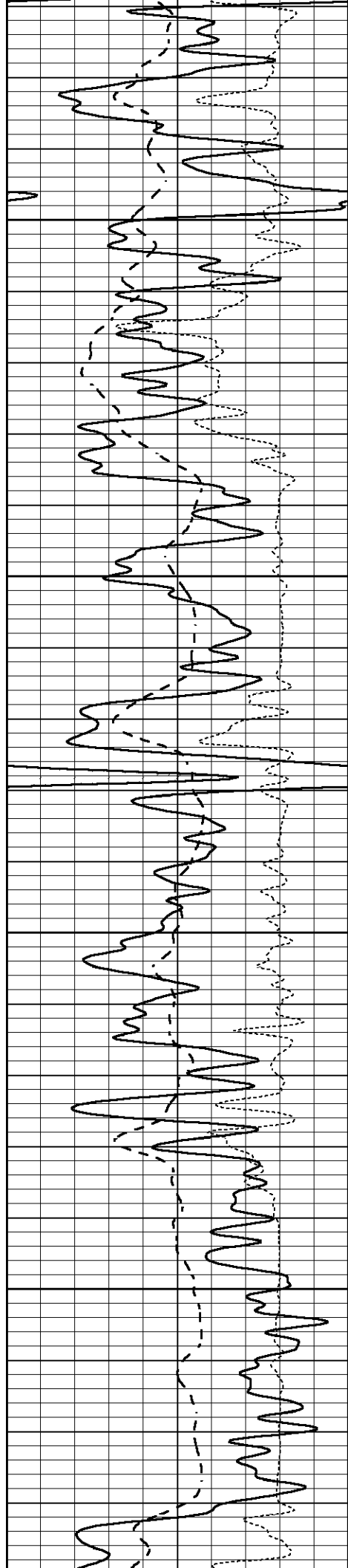
1000

1050

1100

1150



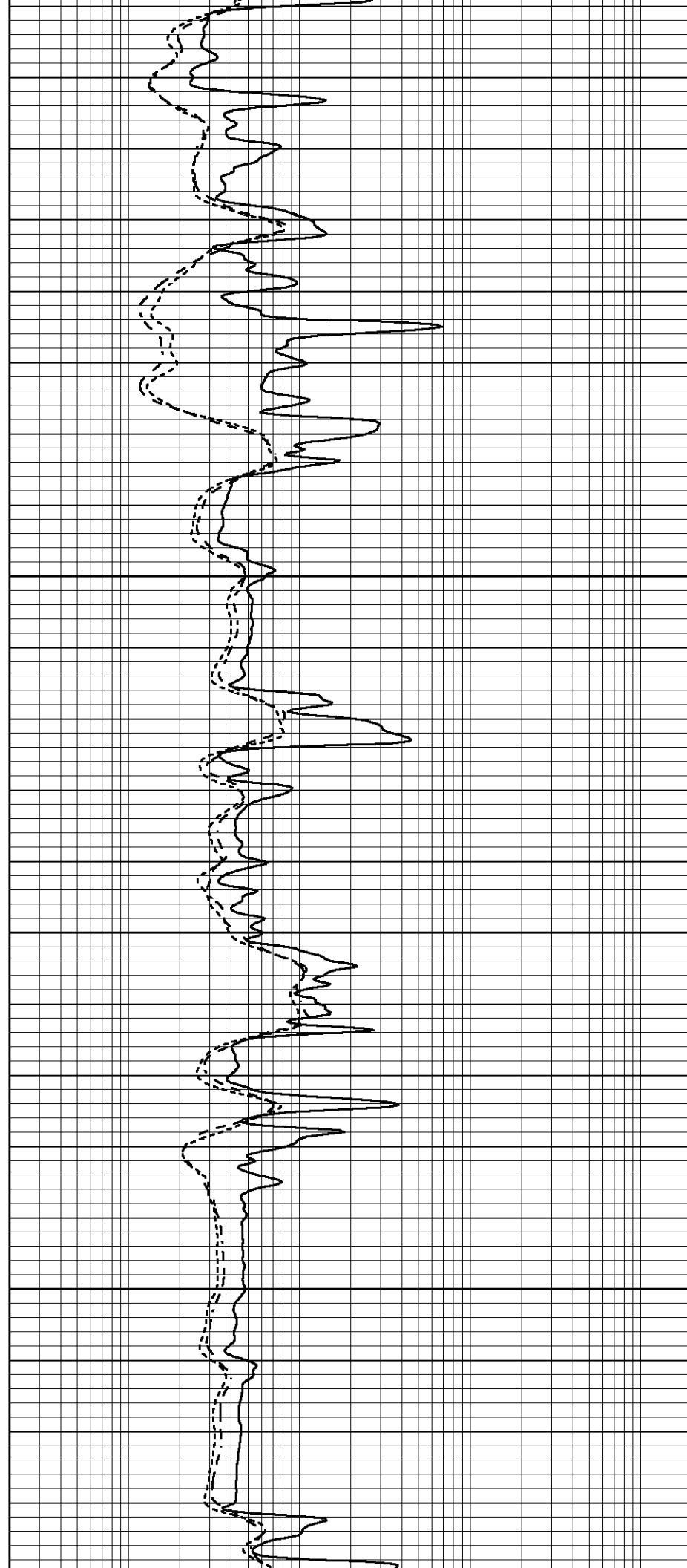


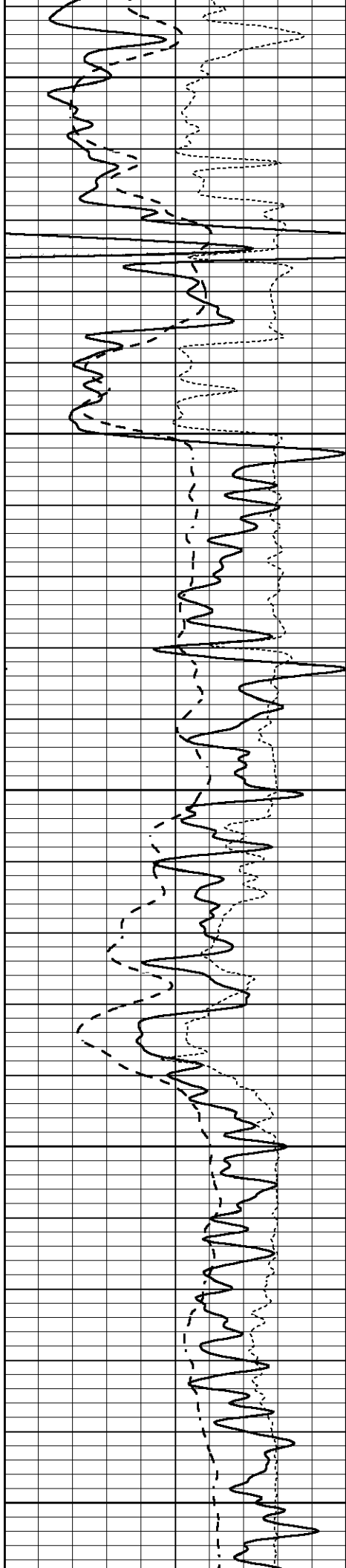
1200

1250

1300

1350





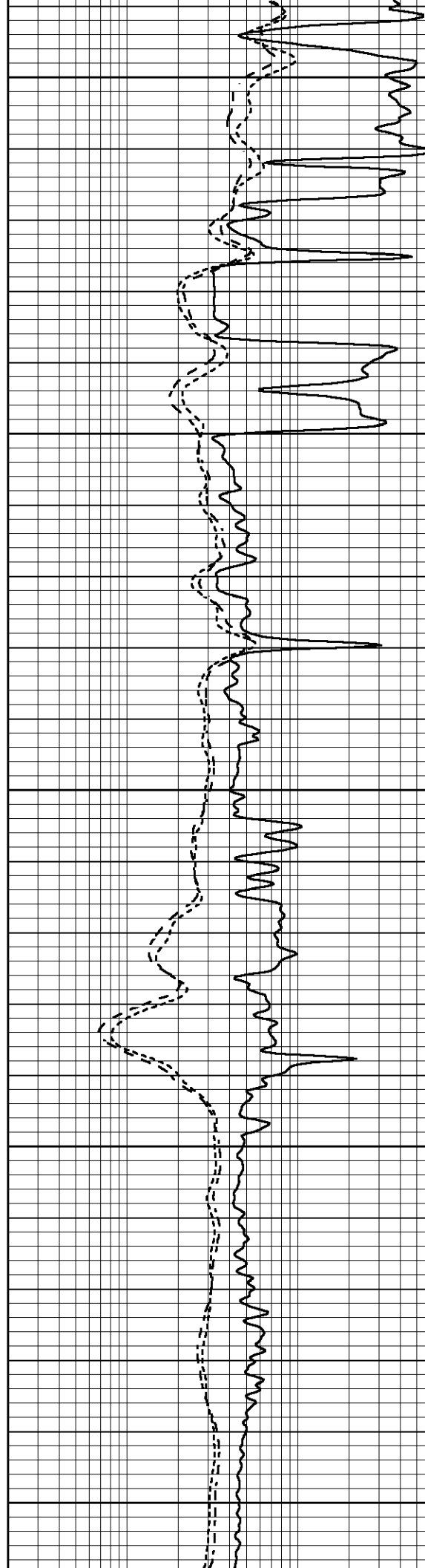
1400

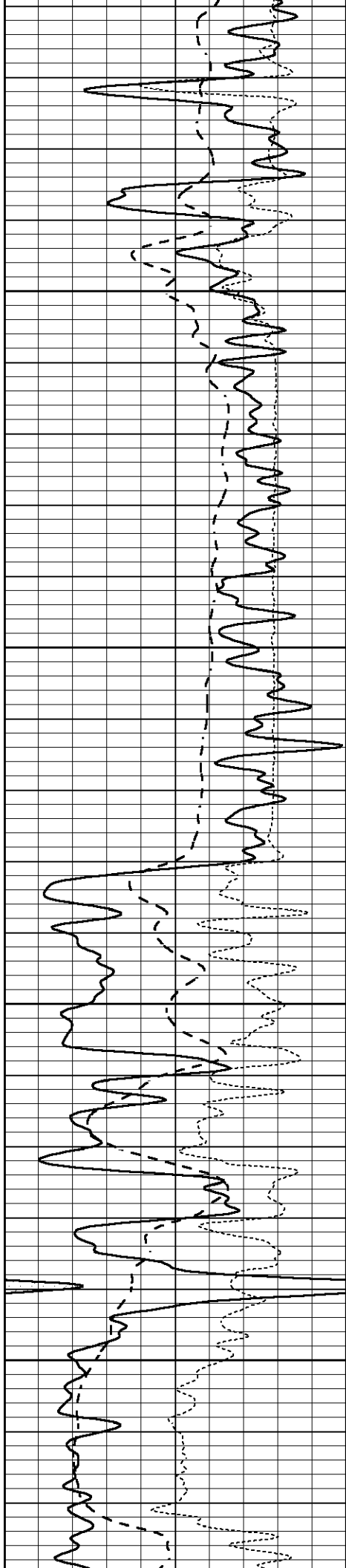
1450

1500

1550

1600



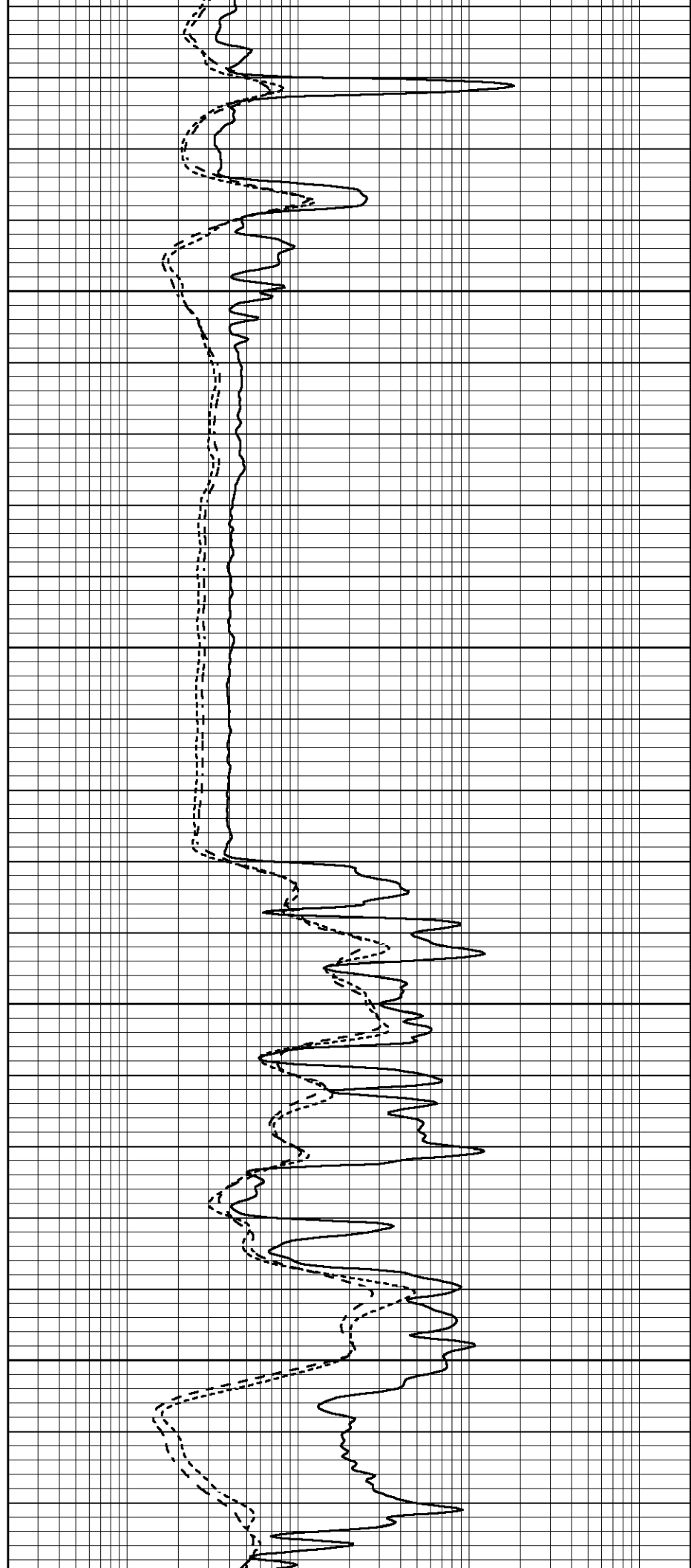


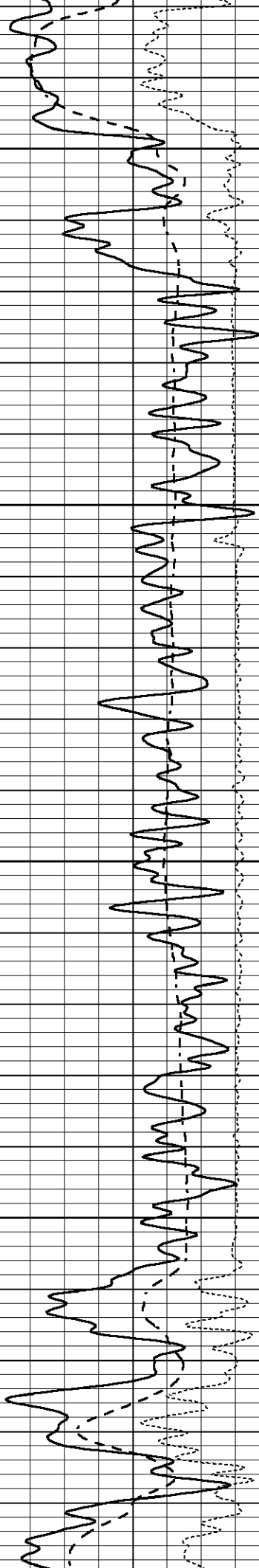
1650

1700

1750

1800



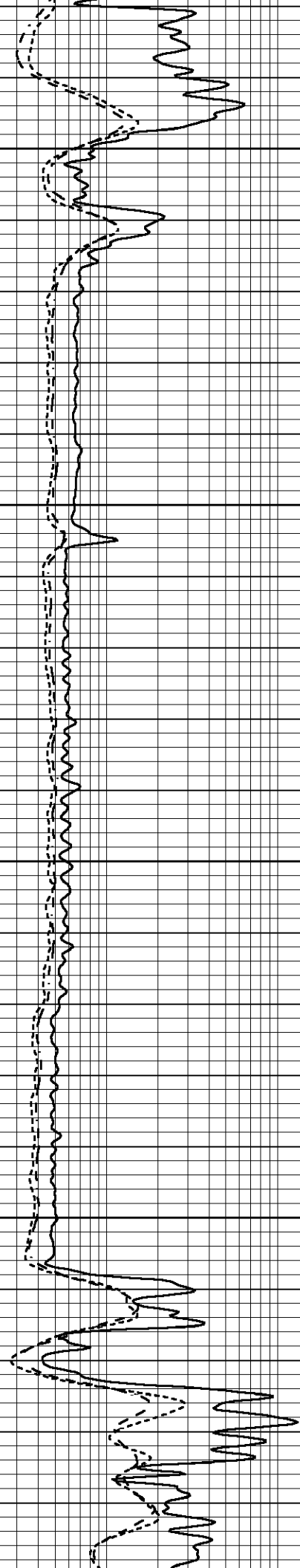


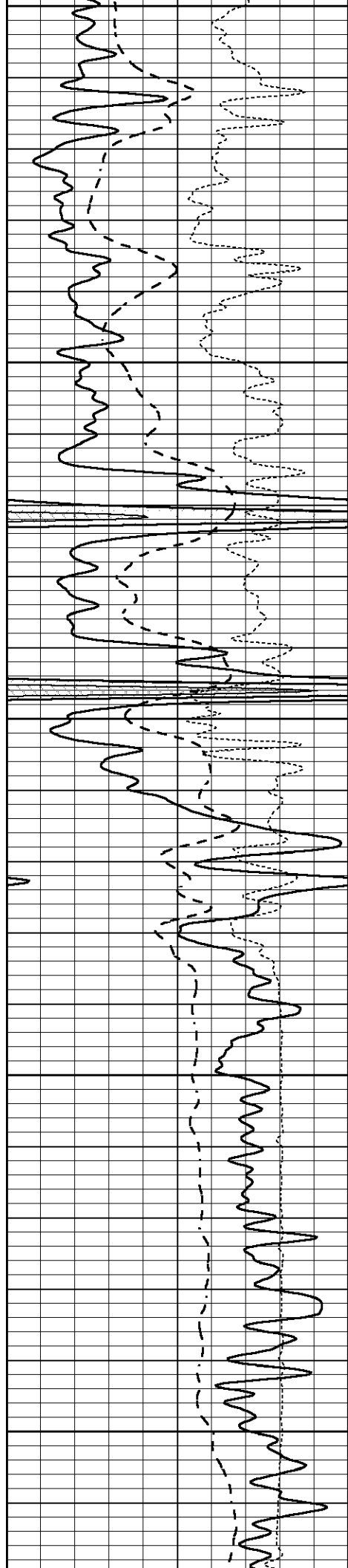
1850

1900

1950

2000





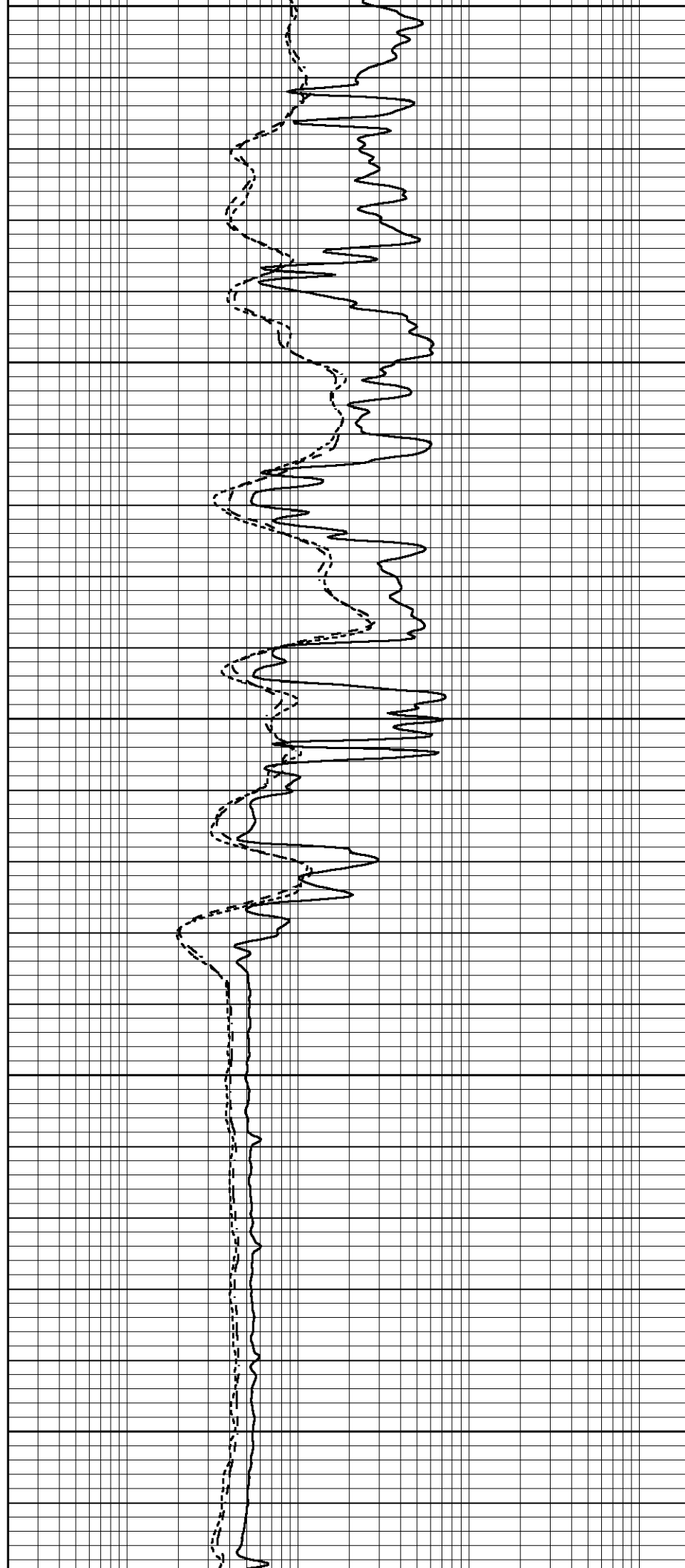
2050

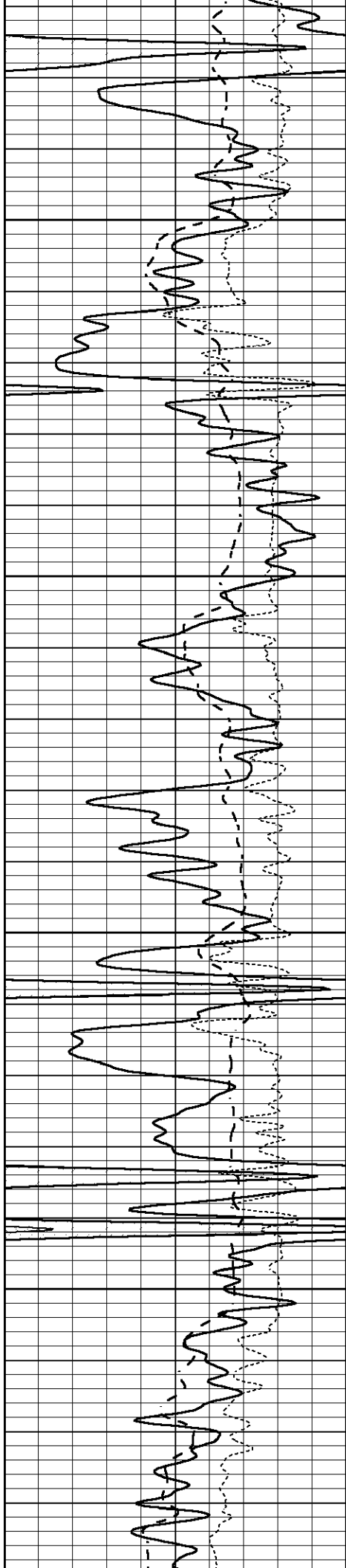
2100

2150

2200

2250



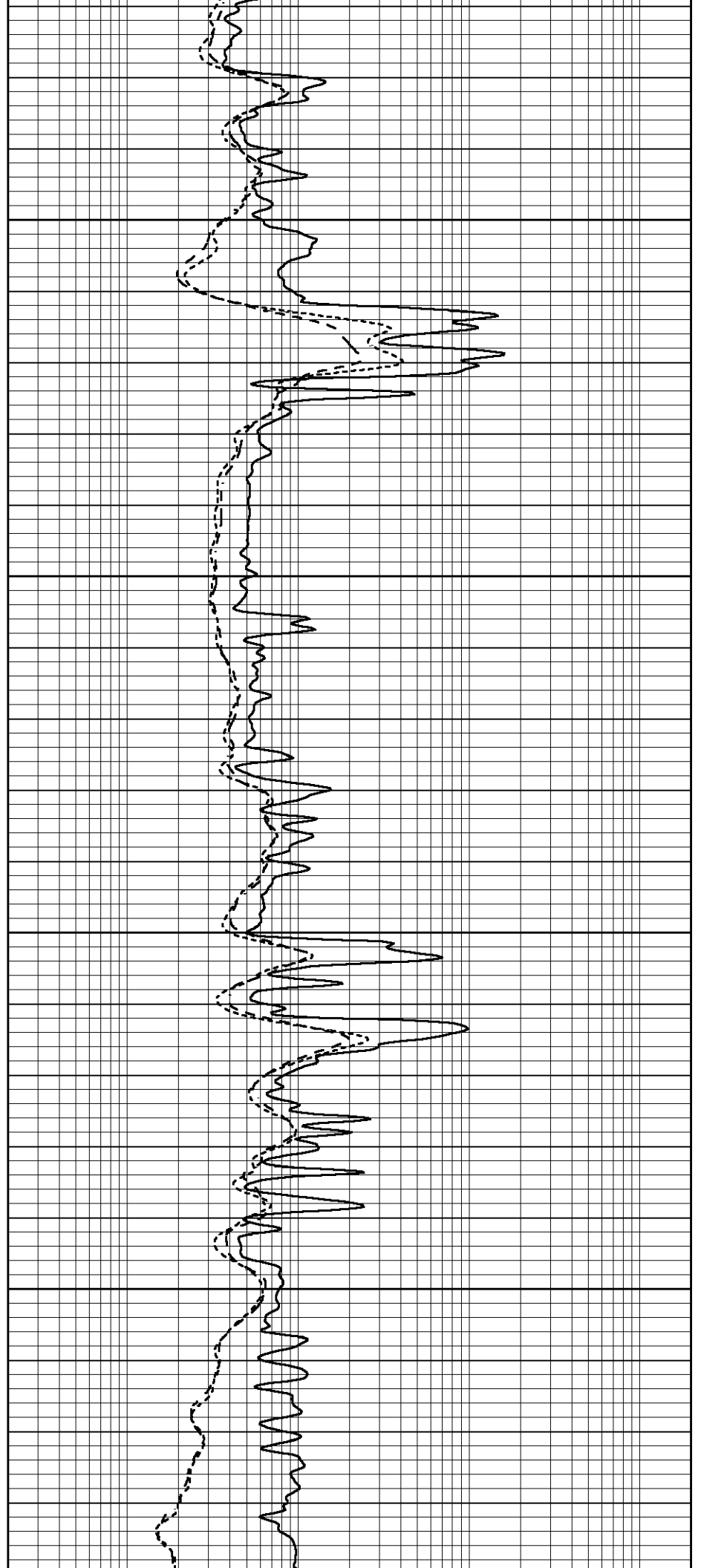


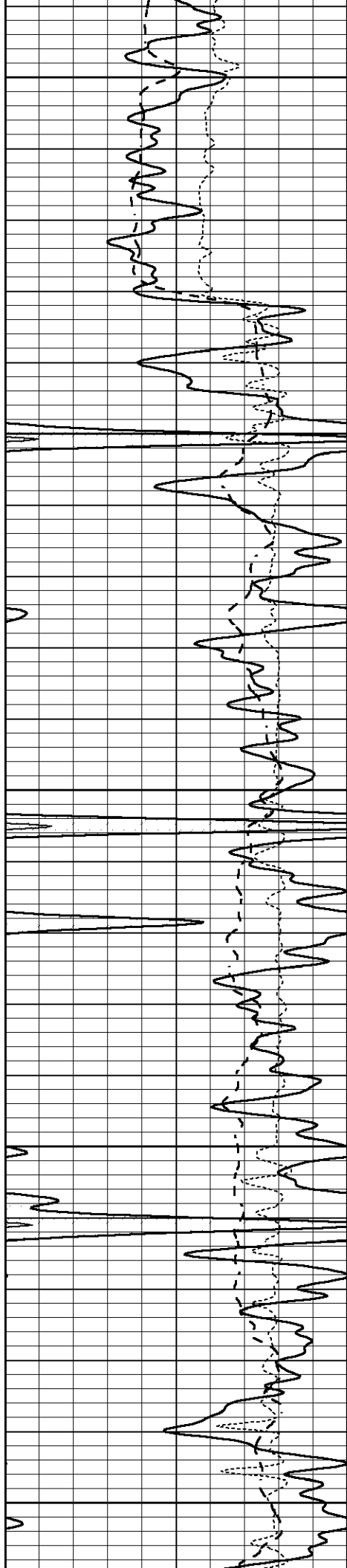
2300

2350

2400

2450





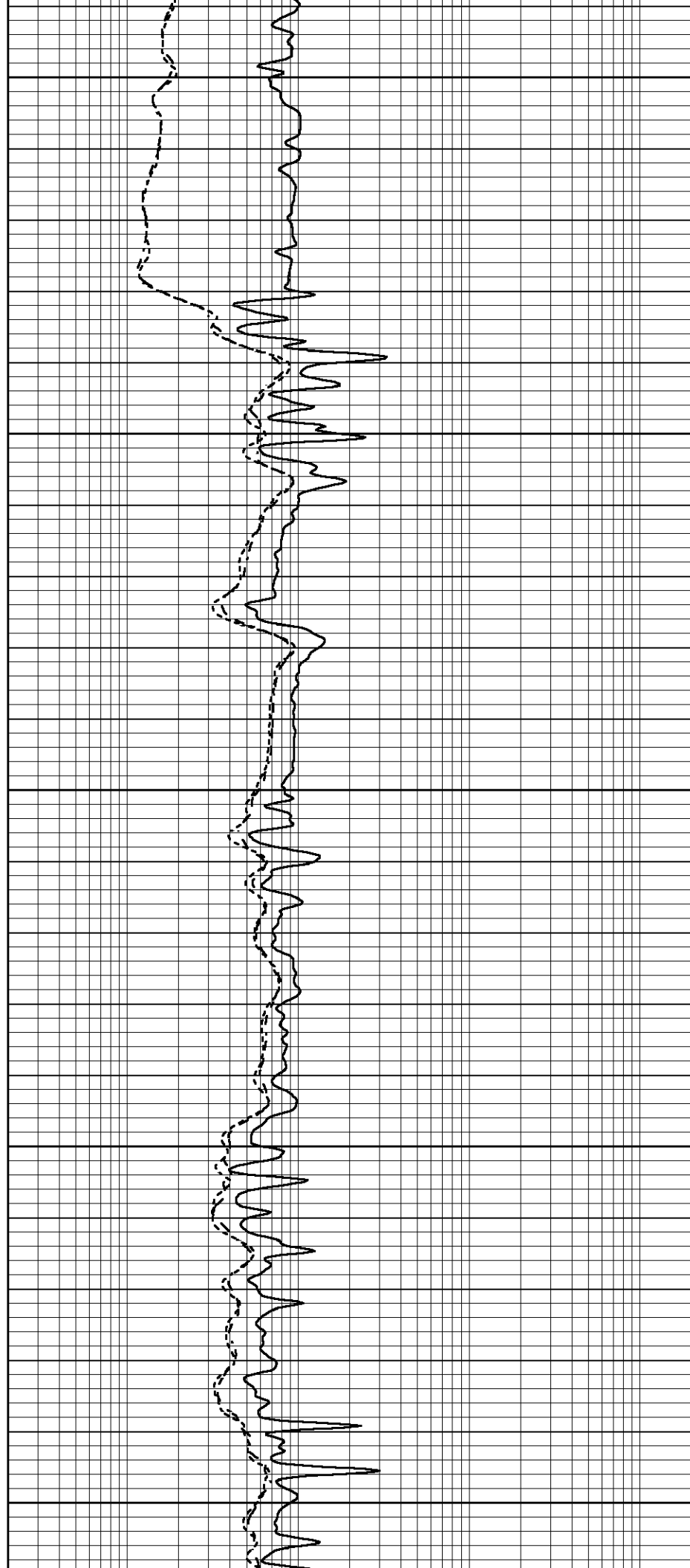
2500

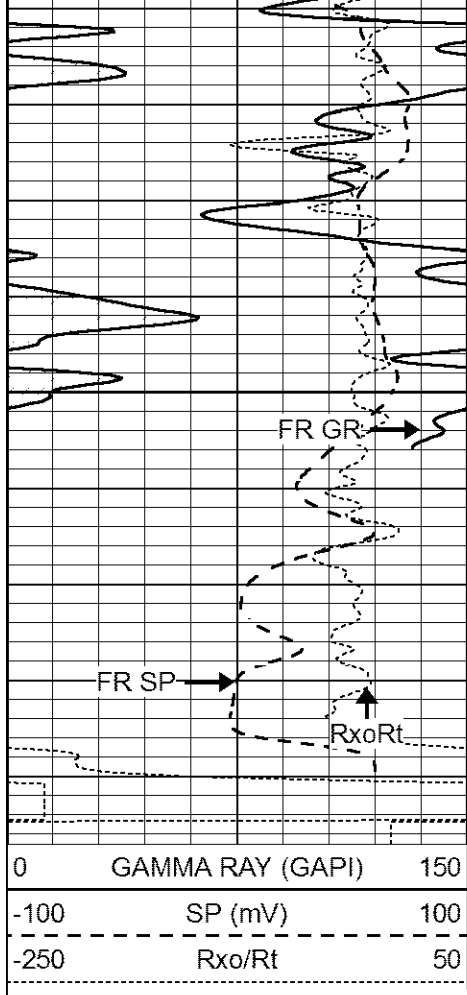
2550

2600

2650

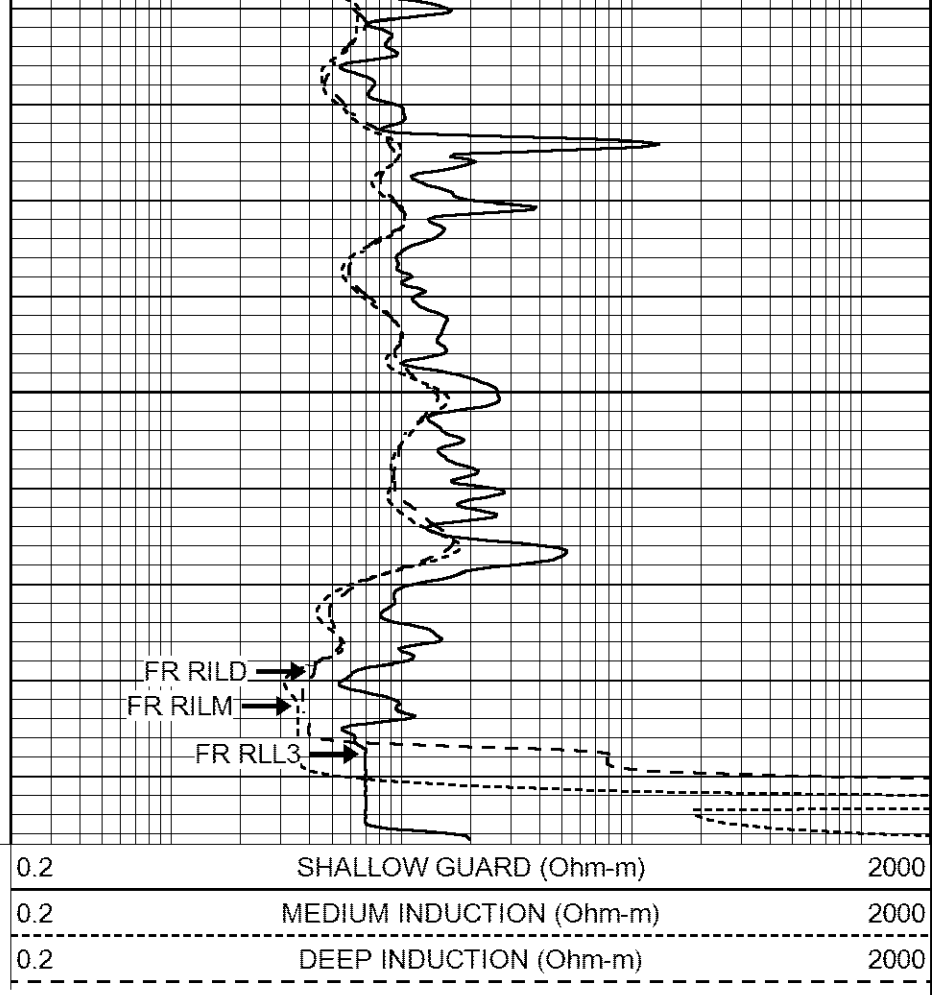
2700





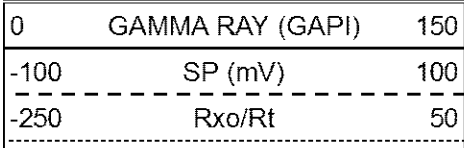
2750

LTD 2790

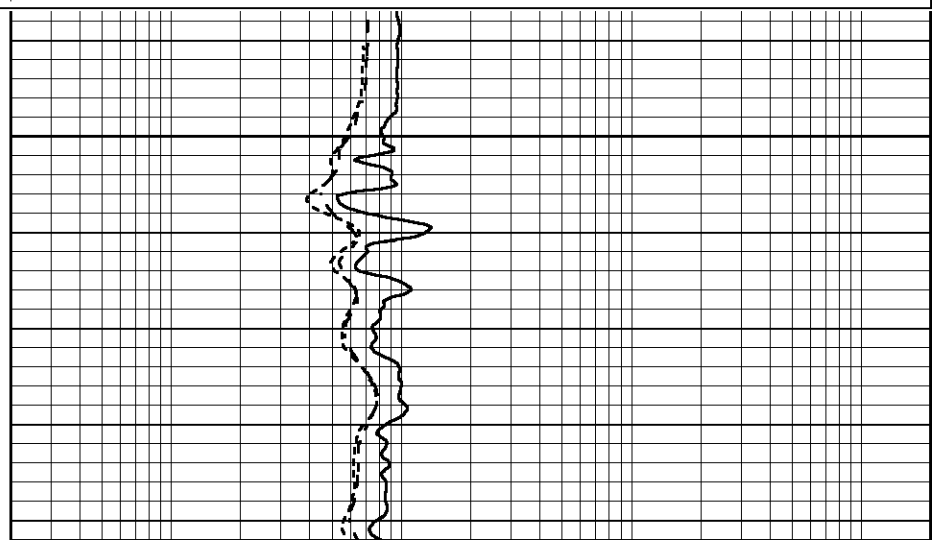
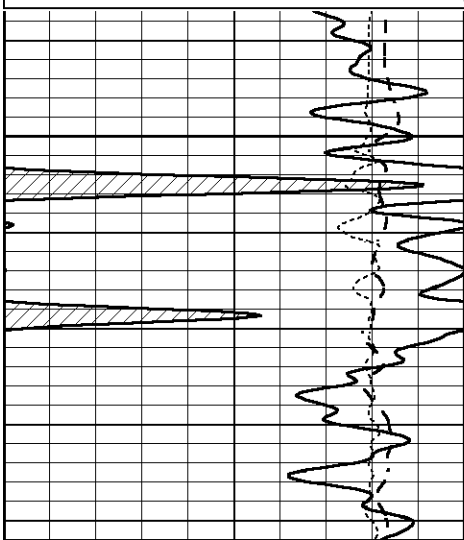
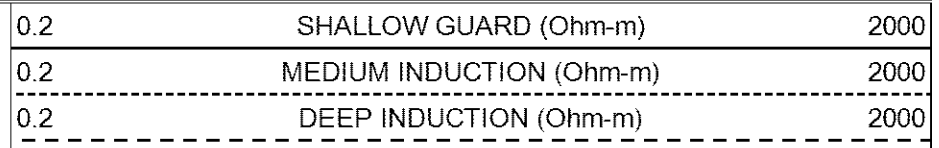


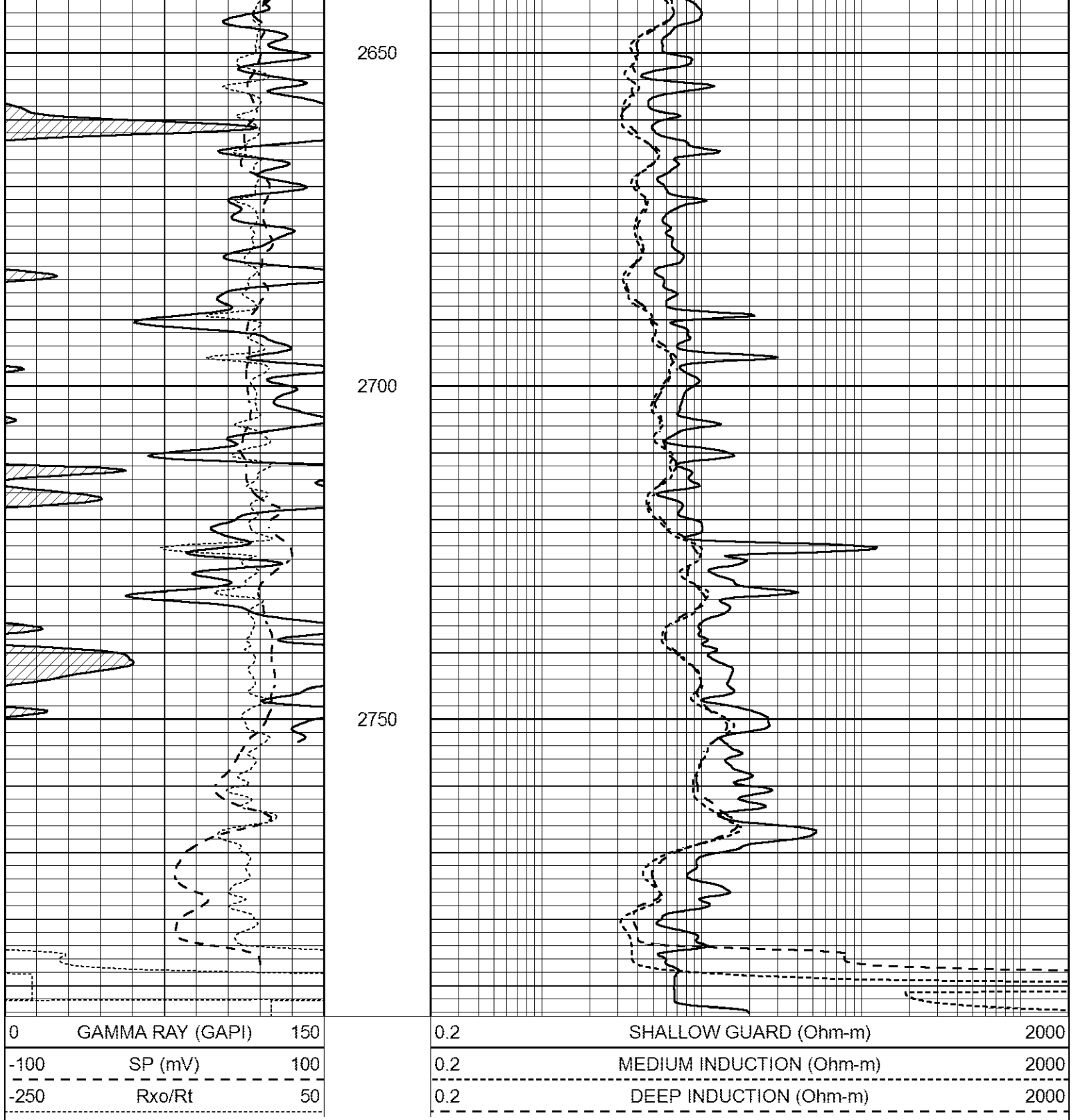
# REPEAT SECTION

Database File 3001ddn8.db  
 Dataset Pathname pass2.1  
 Presentation Format \_dil  
 Dataset Creation Tue Aug 28 14:21:45 2018  
 Charted by Depth in Feet scaled 1:240



2600





### Calibration Report

Database File 3001ddn8.db  
 Dataset Pathname pass2.1  
 Dataset Creation Tue Aug 28 14:21:45 2018

### Dual Induction Calibration Report

Serial-Model: FW1410-55-Probe  
 Surface Cal Performed: Mon May 22 14:23:32 2017  
 Downhole Cal Performed: Thu Mar 12 09:29:20 2015  
 After Survey Verification Performed: Thu Mar 12 09:29:20 2015

Surface Calibration

Readings

References

Results

Loop:	Air	Loop		Air	Loop		m	b
Deep	0.011	0.656	V	1.000	400.000	mmho/m	618.595	-5.524
Medium	-0.000	0.731	V	1.000	464.000	mmho/m	632.856	1.197
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.007	0.649	V	0.000	400.000	mmho/m	623.784	-4.595
Medium	0.004	0.743	V	0.000	464.000	mmho/m	627.284	-2.251

Downhole Calibration								
	Readings			References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	-0.824	395.917	mmho/m	-0.976	397.550	mmho/m	1.004	-0.149
Medium	3.565	471.327	mmho/m	3.468	471.590	mmho/m	1.001	-0.099
LL3		7.503	V		1500.000	Ohm-m		
		0.001	V		20.000	Ohm-m		
		-7.481	V		3745.000	mmho-m		

After Survey Verification								
	Readings			Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	-0.824	395.917	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	3.565	471.327	mmho/m	1.000	0.000
LL3		0.000	Ohm-m		1500.000	Ohm-m		
		0.000	Ohm-m		20.000	Ohm-m		
		0.000	mmho-m		3745.000	mmho-m		

**Compensated Neutron Calibration Report**

Serial Number: 080621PMC  
Tool Model: NABORS

PRE-SURVEY VERIFICATION				
Detector	Readings	Measured	Target	
Short Space	cps			
Long Space	cps	pu	pu	

POST-SURVEY VERIFICATION				
Detector	Readings	Measured	Target	
Short Space	cps			
Long Space	cps	pu	pu	

**Gamma Ray Calibration Report**

Serial Number: 7  
Tool Model: Probe1  
Performed: Wed Jun 29 11:10:58 2016

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps  
Calibrator Reading: 1.0 cps

Sensitivity: 0.4300 GAPI/cps