

DUAL INDUCTION LOG

Company	PETROLEUM DEVELOPMENT CO.	Company	PETROLEUM DEVELOPMENT COMPANY
Well	WLSR #1-13	Well	WLSR #1-13
Field	CONVICTION	Field	CONVICTION
County	KEARNY	County	KEARNY
State	KANSAS	State	KANSAS
Location:	API # : 15-093-21991-0000 1732' FNL & 412' FWL SE - NW - SW - NW	Other Services CDL/CNL/PE MEL/SONIC	
Permanent Datum	GROUND LEVEL	Elevation	3017
Log Measured From	KELLY BUSHING 8' A.G.L.	K.B. 3025 D.F. 3023 G.L. 3017	
Drilling Measured From	KELLY BUSHING		
Date	9/16/21		
Run Number	ONE		
Depth Driller	4980		
Depth Logger	4976		
Bottom Logged Interval	4974		
Top Log Interval	00		
Casing Driller	8 5/8"@1847'		
Casing Logger	1842		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 4,800 PPM	
Density / Viscosity	9.3/50		
pH / Fluid Loss	9.0/8.8		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.550@80F		
Rmf @ Meas. Temp	.413@80F		
Rmc @ Meas. Temp	.660@80F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.352@125F		
Time Circulation Stopped	2.5 HOURS		
Time Logger on Bottom	4.45 A.M.		
Maximum Recorded Temperature	125F		
Equipment Number	922339		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	KEN LeBLANC	COLE HINDS	

<<< 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.

15-093-21991-0000

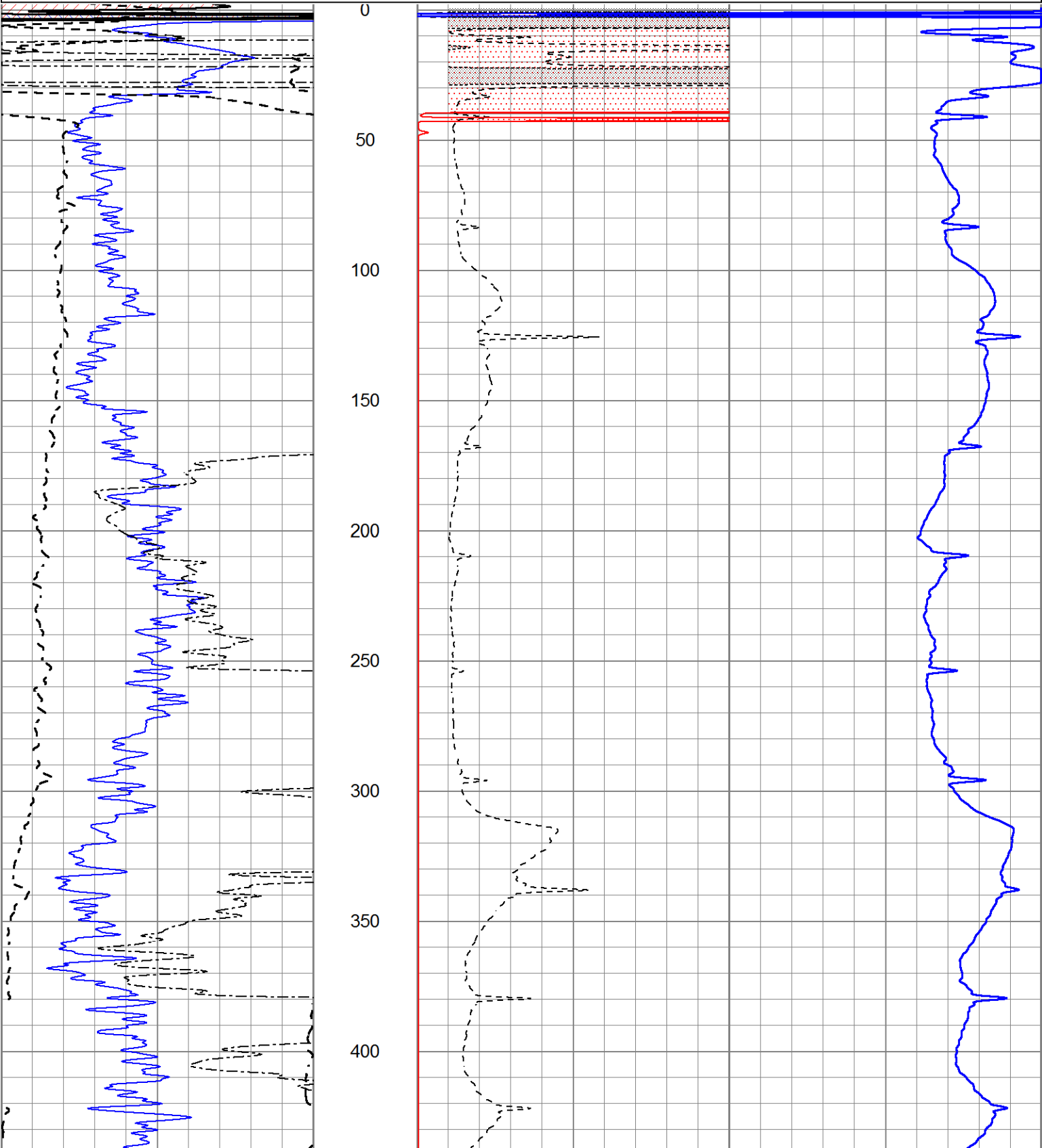
Comments

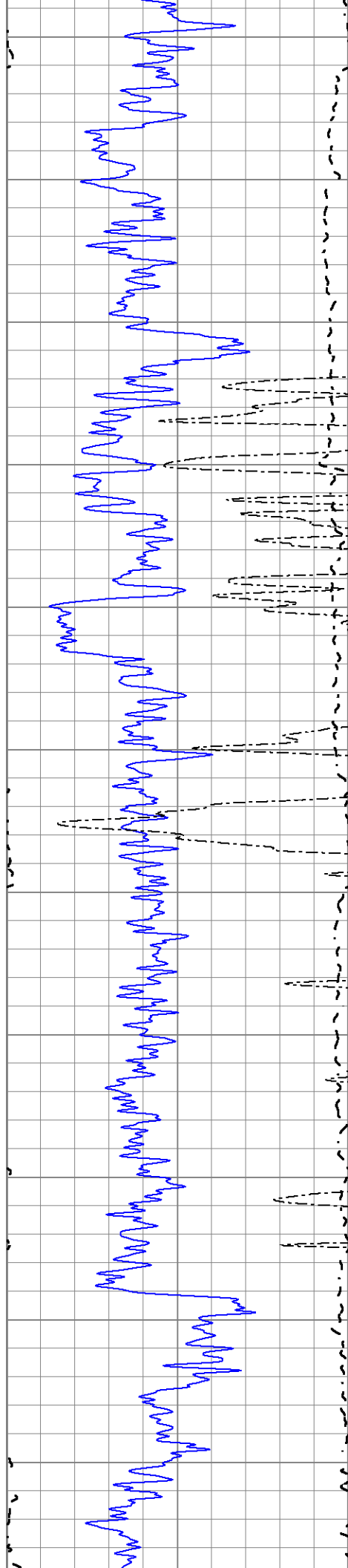
THANK YOU FOR USING E.L.I. WIRELINE SERVICES HAYS, KANSAS (785)628-6395
DIRECTIONS
DEERFIELD, KS., W. ON HWY 50 TO 1 MILE W. OF (FINNEY/KEARNY CO. LINE) 8N. ON BLKTOP, E. I



MAIN SECTION

0	Gamma Ray (GAPI)	150	1000	CILD (mmho/m)	0
-100	SP (mV)	100	0	RLL3 (Ohm-m)	50
0	RWA (Ohm-m)	1	0	RILD (Ohm-m)	50
			50	RILD X10 (Ohm-m)	500
			50	RLL3 X10 (Ohm-m)	500





450

500

550

600

650

700

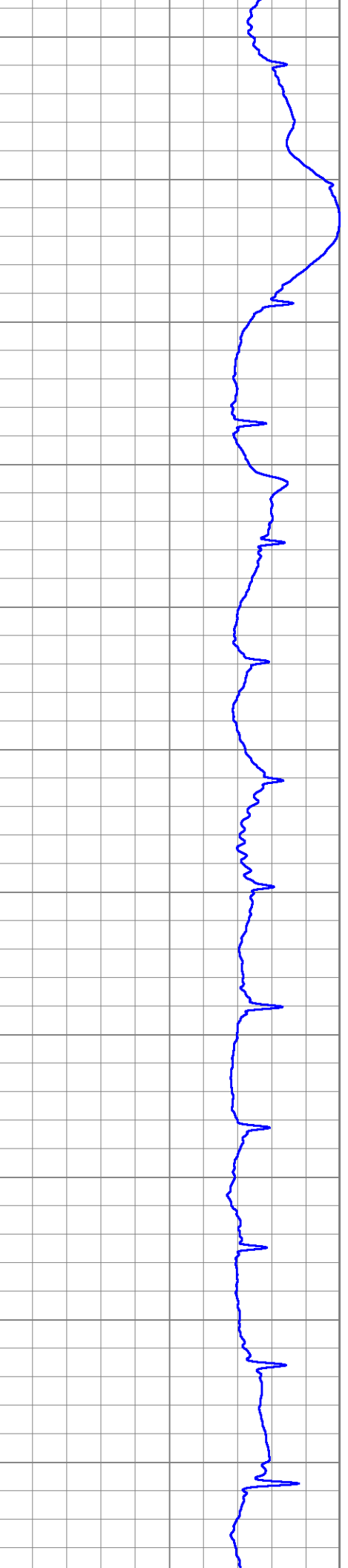
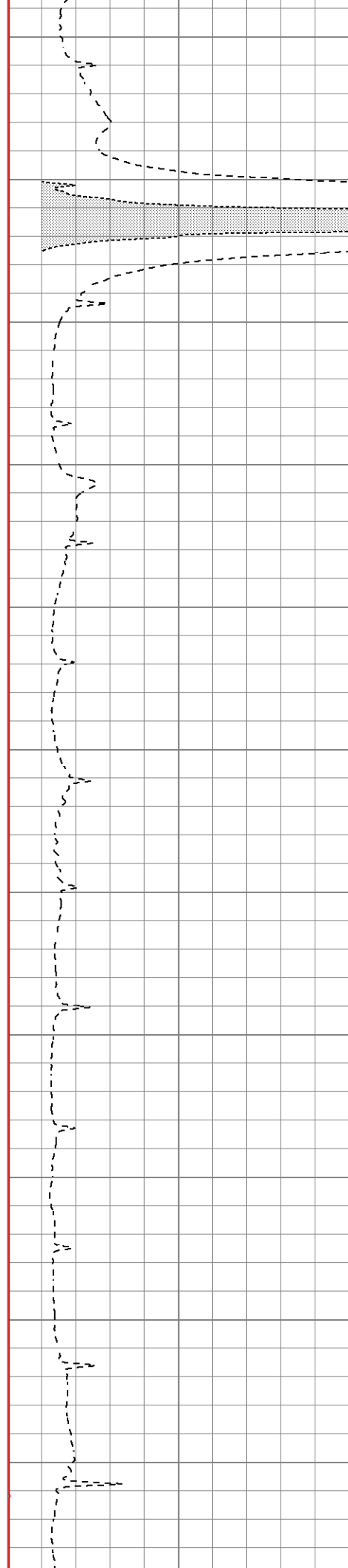
750

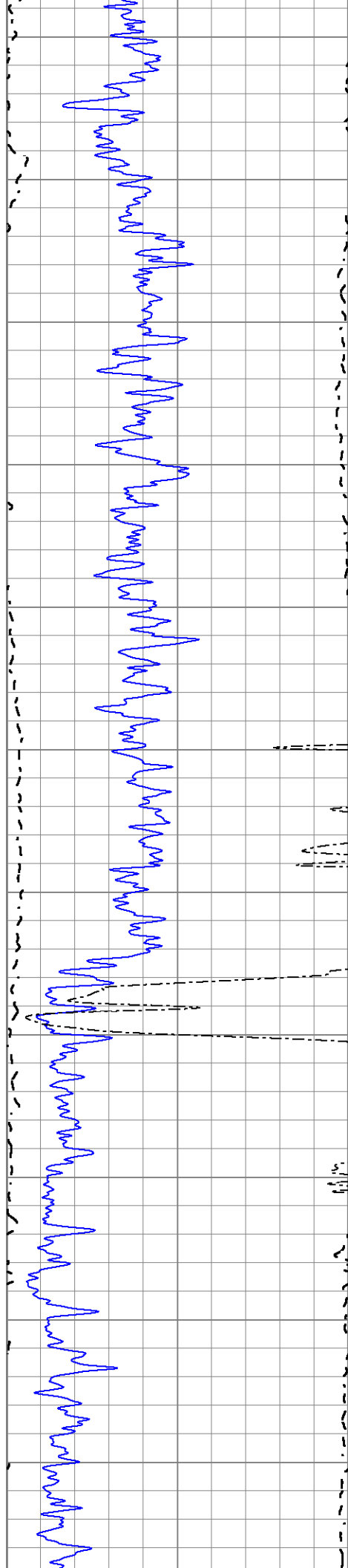
800

850

900

950





1000

1050

1100

1150

1200

1250

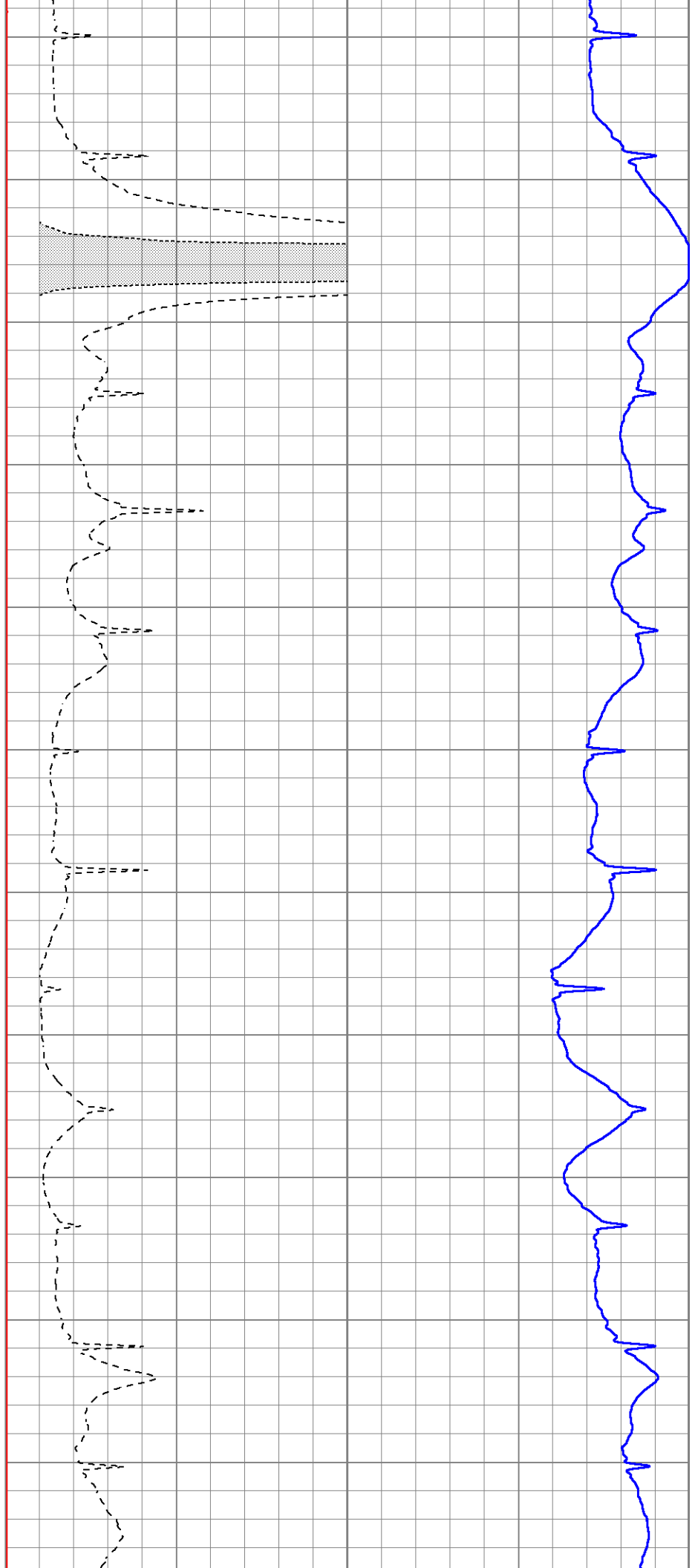
1300

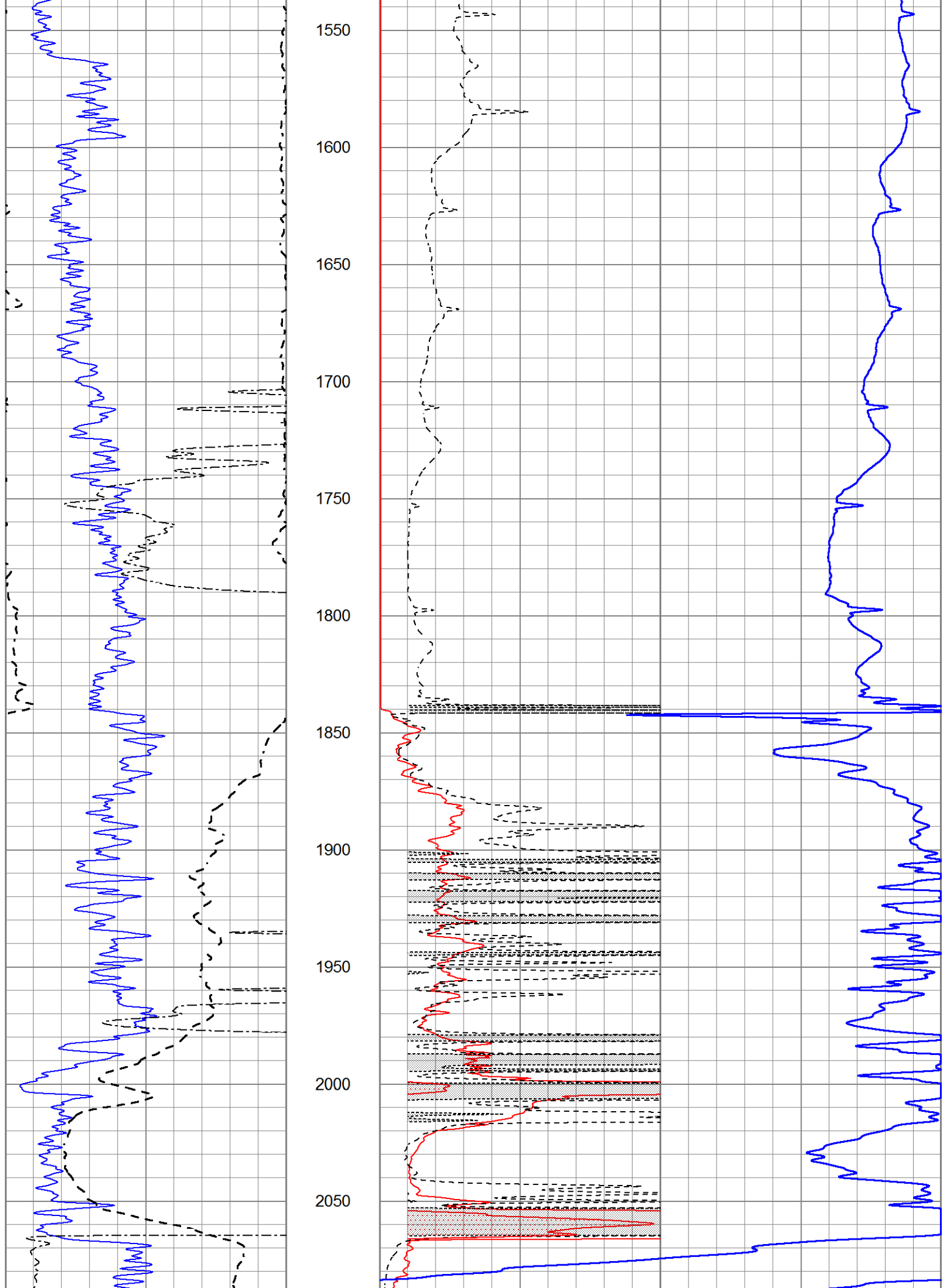
1350

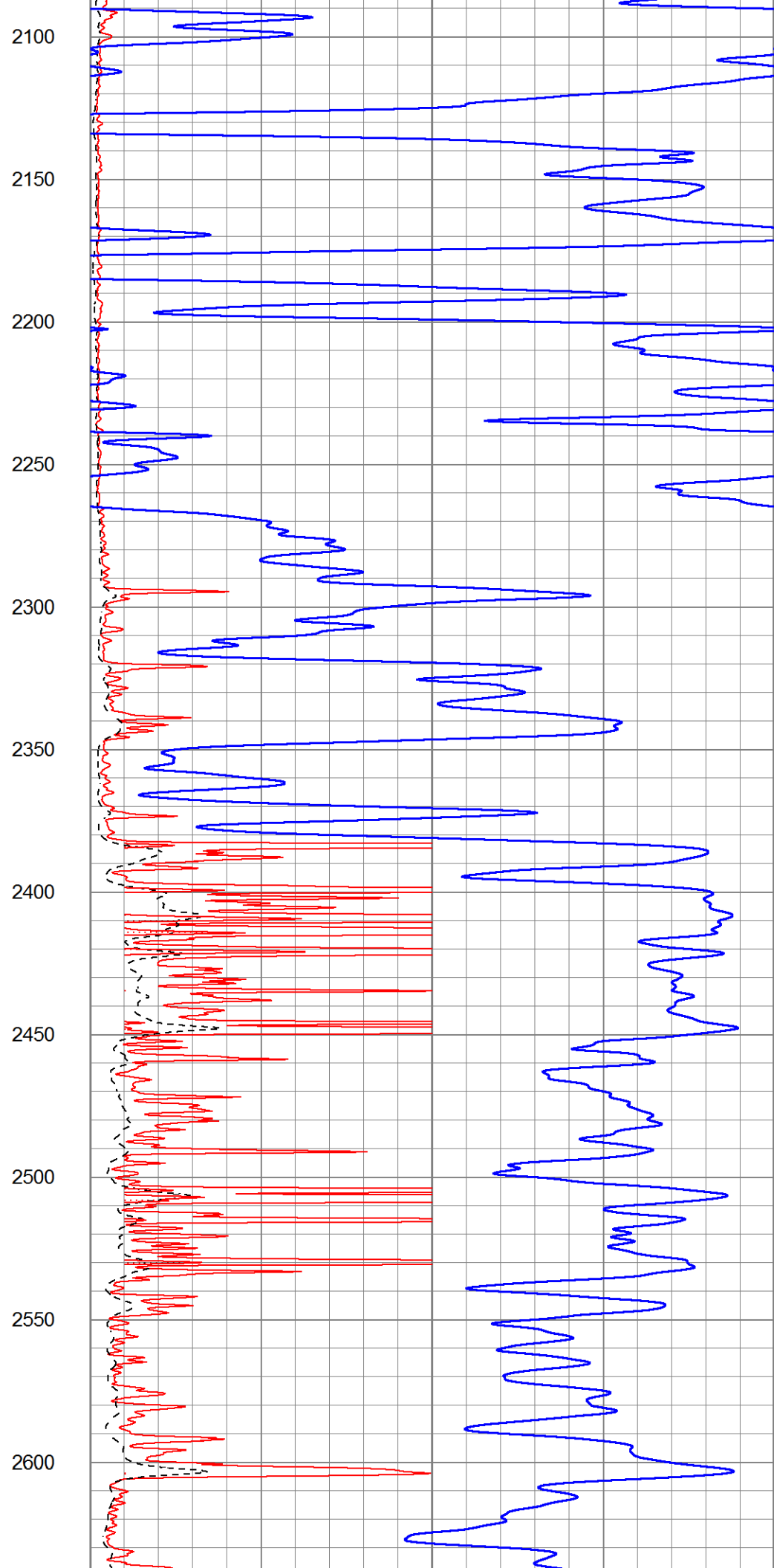
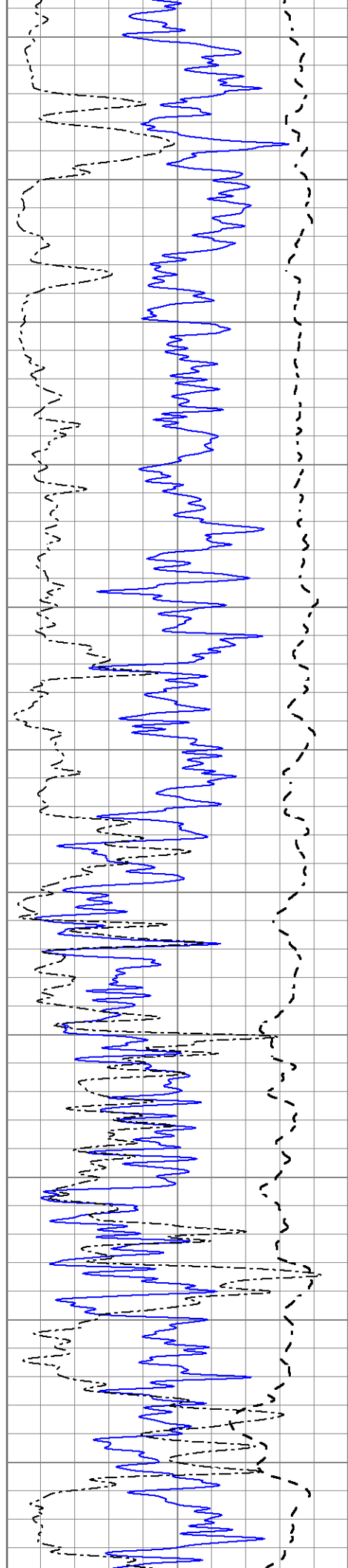
1400

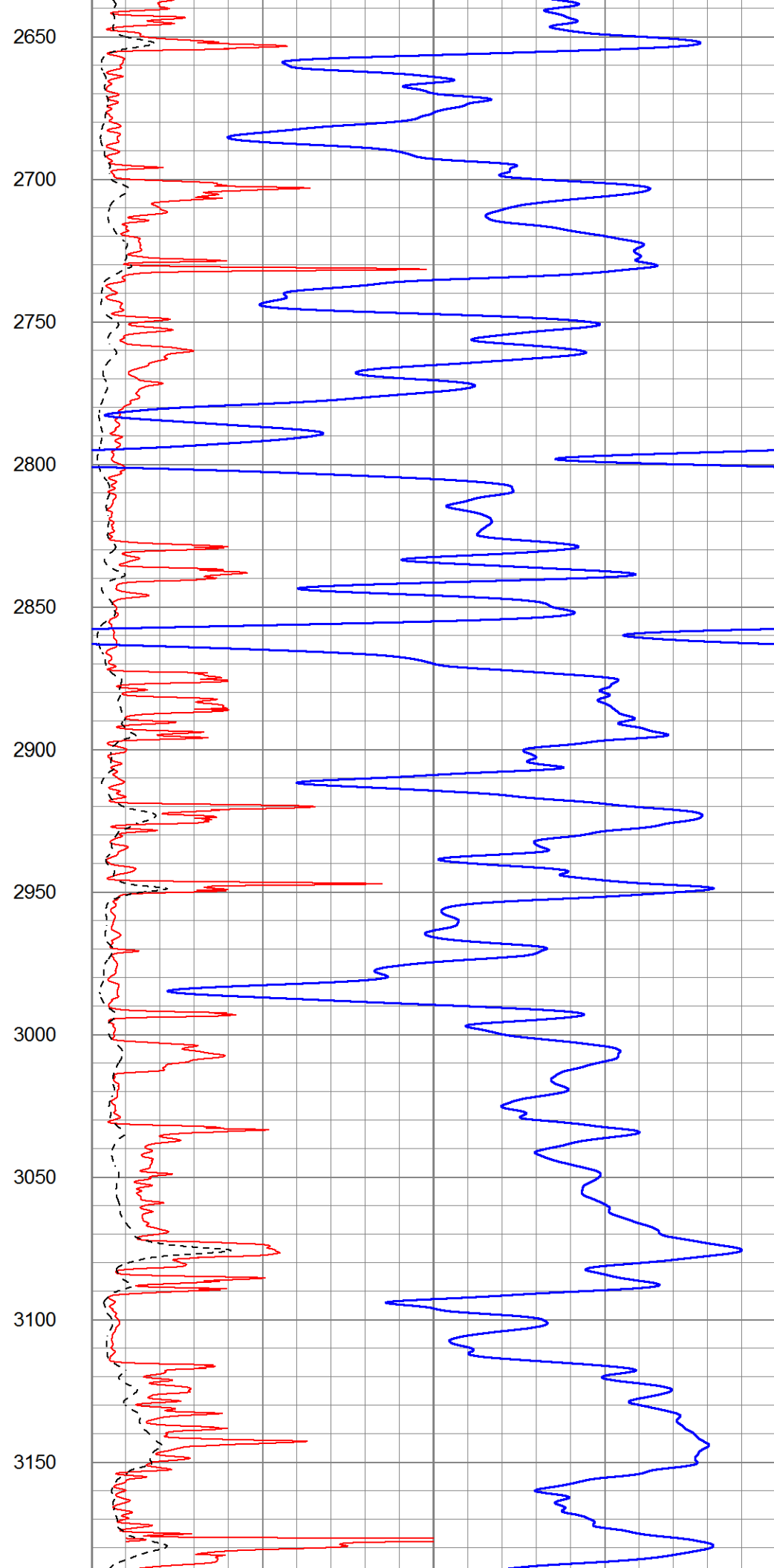
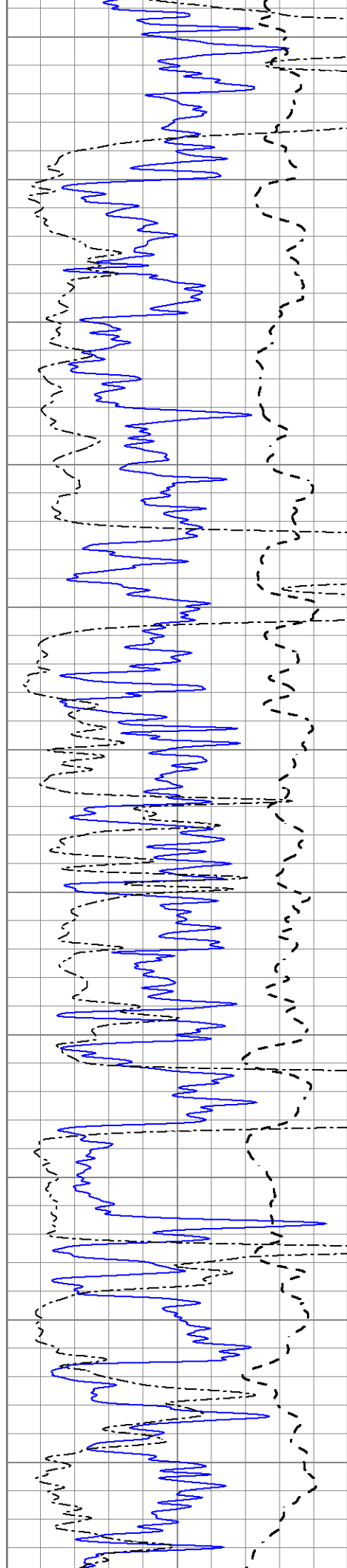
1450

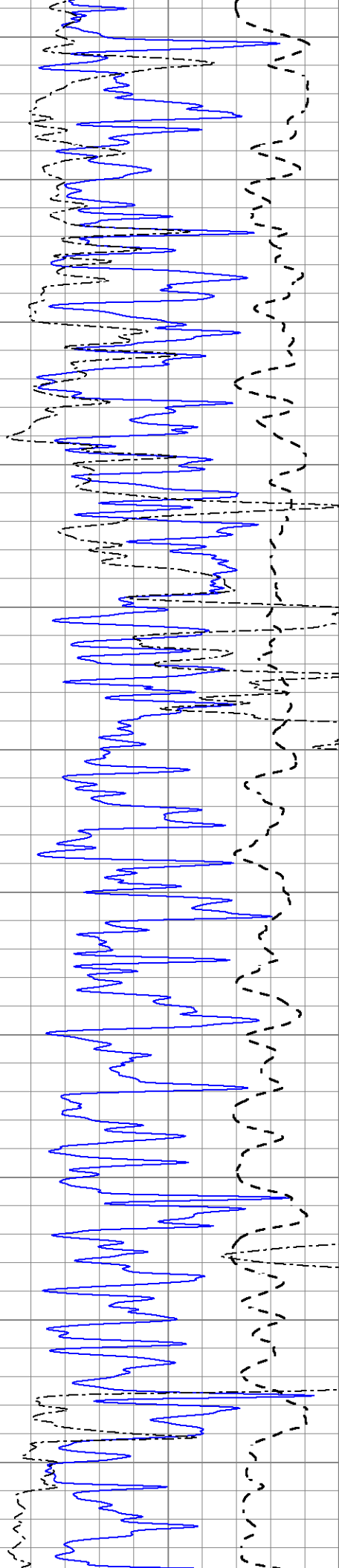
1500











3200

3250

3300

3350

3400

3450

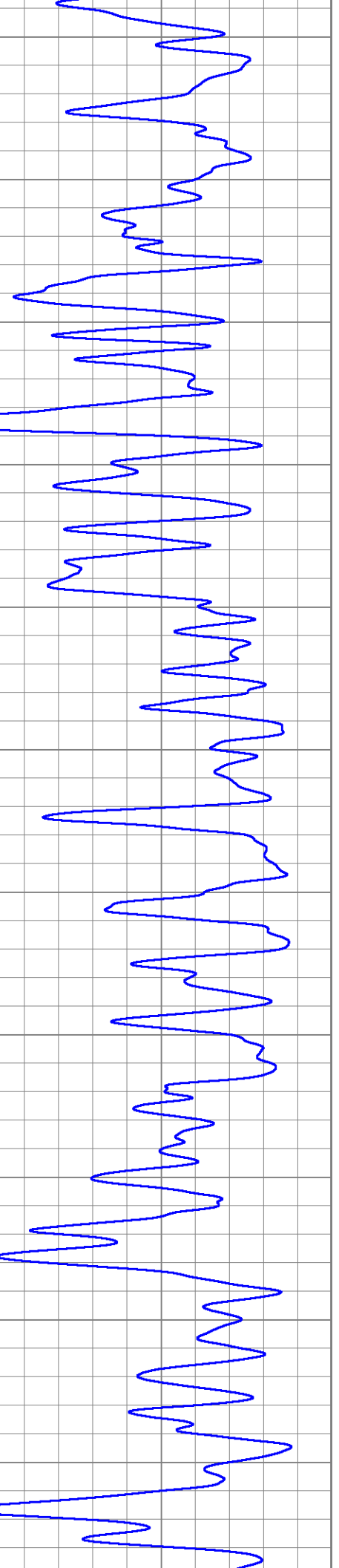
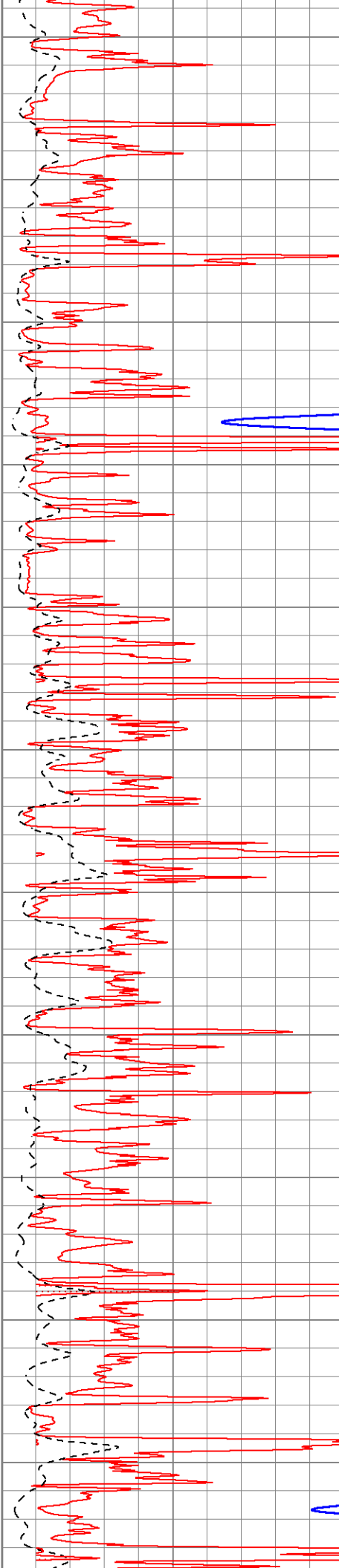
3500

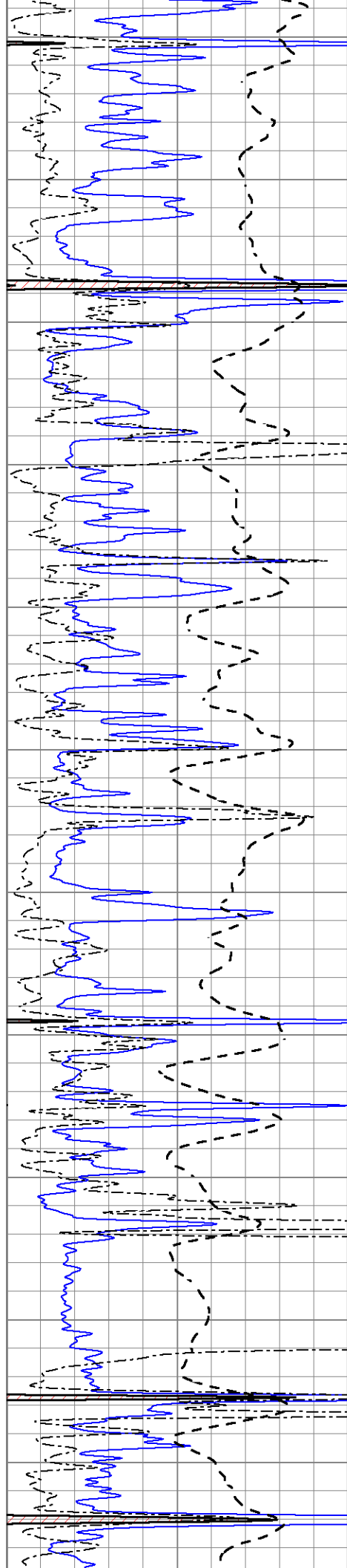
3550

3600

3650

3700





3750

3800

3850

3900

3950

4000

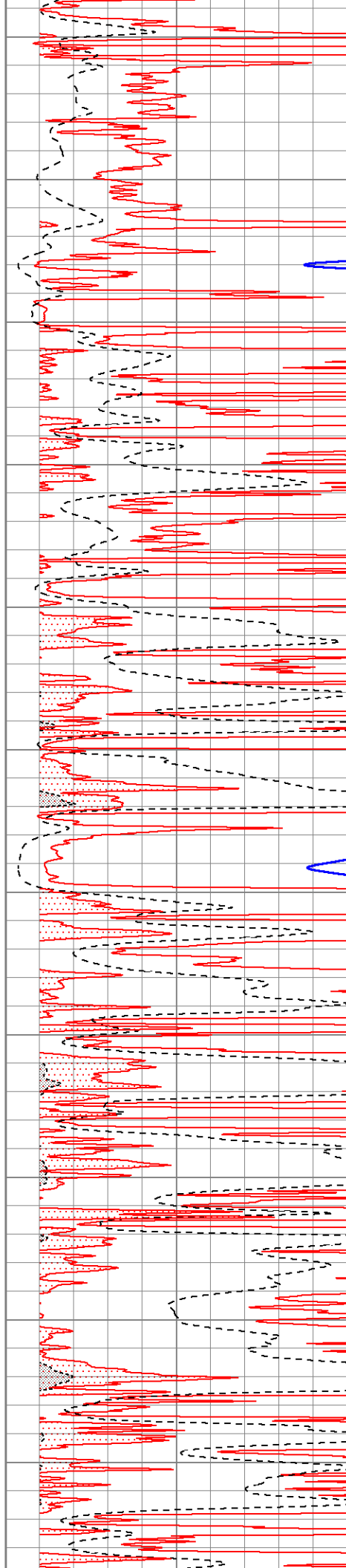
4050

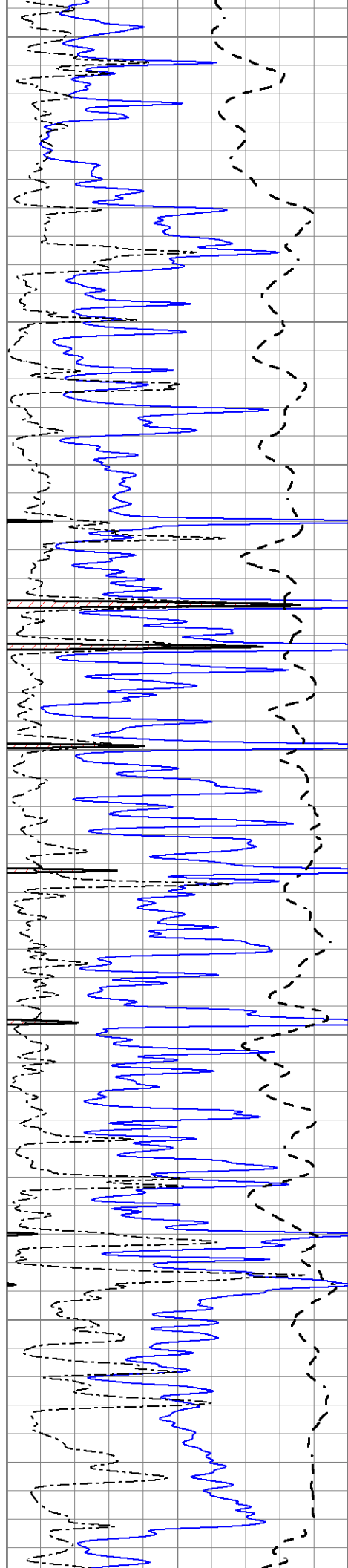
4100

4150

4200

4250





4300

4350

4400

4450

4500

4550

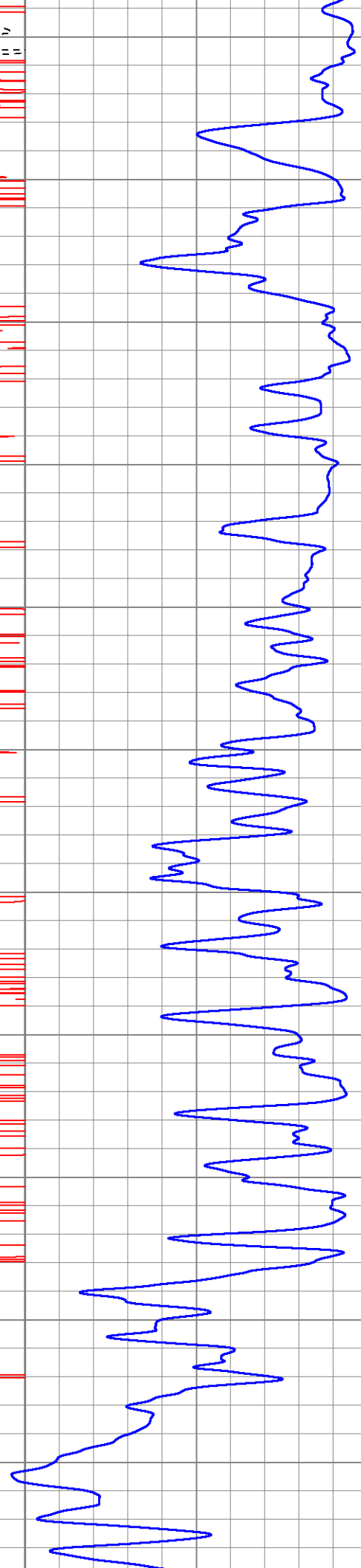
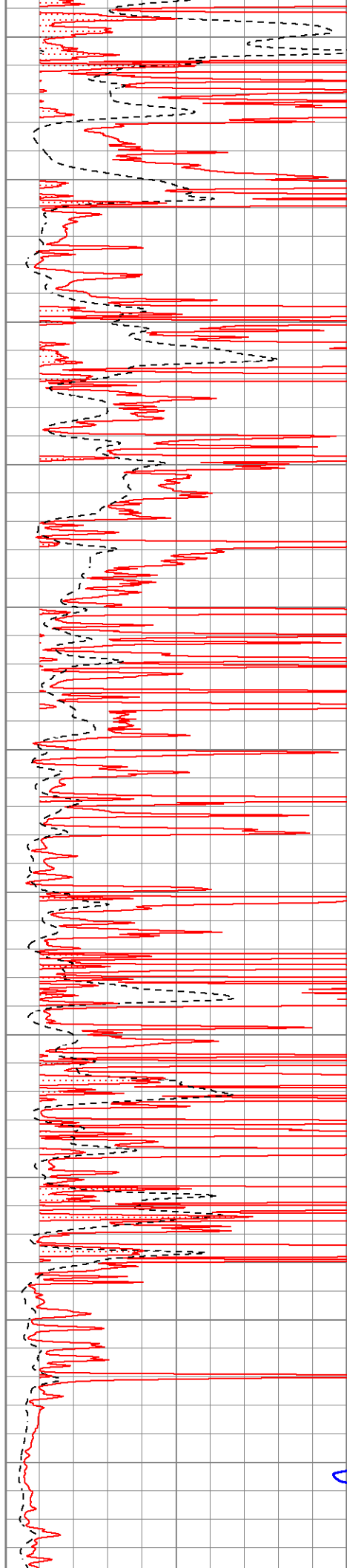
4600

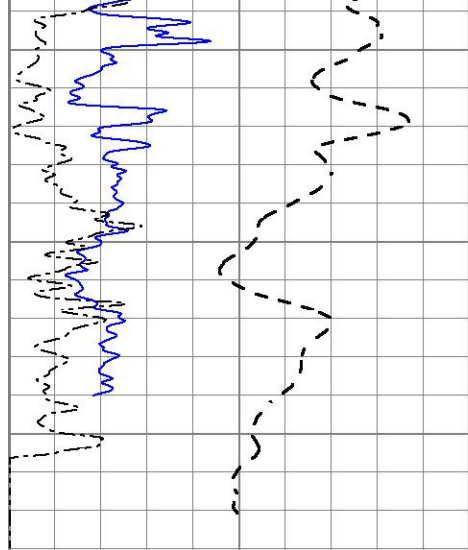
4650

4700

4750

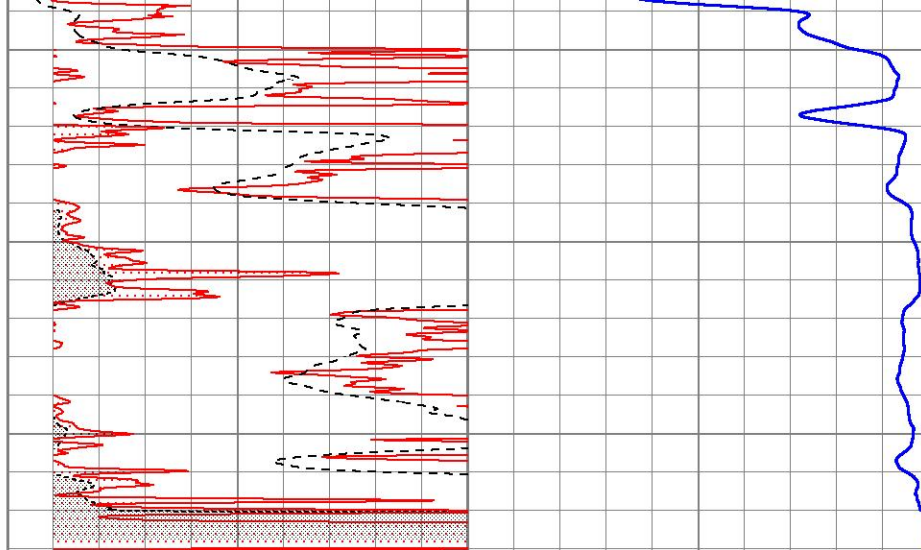
4800





0	Gamma Ray (GAPI)	150
-100	SP (mV)	100
0	RWA (Ohm-m)	1

4850
4900
4950



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

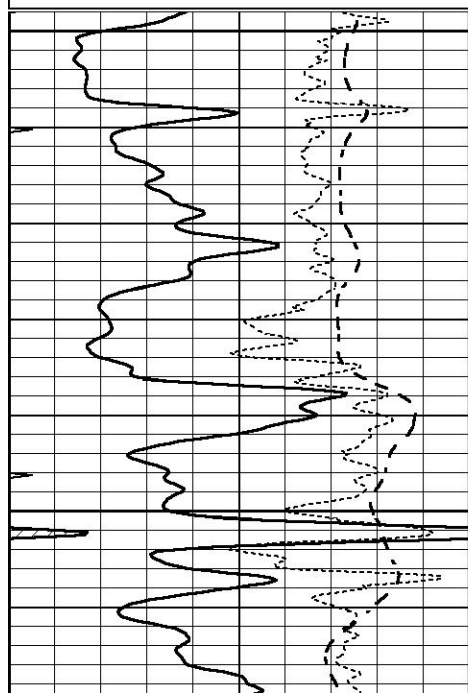


MAIN SECTION

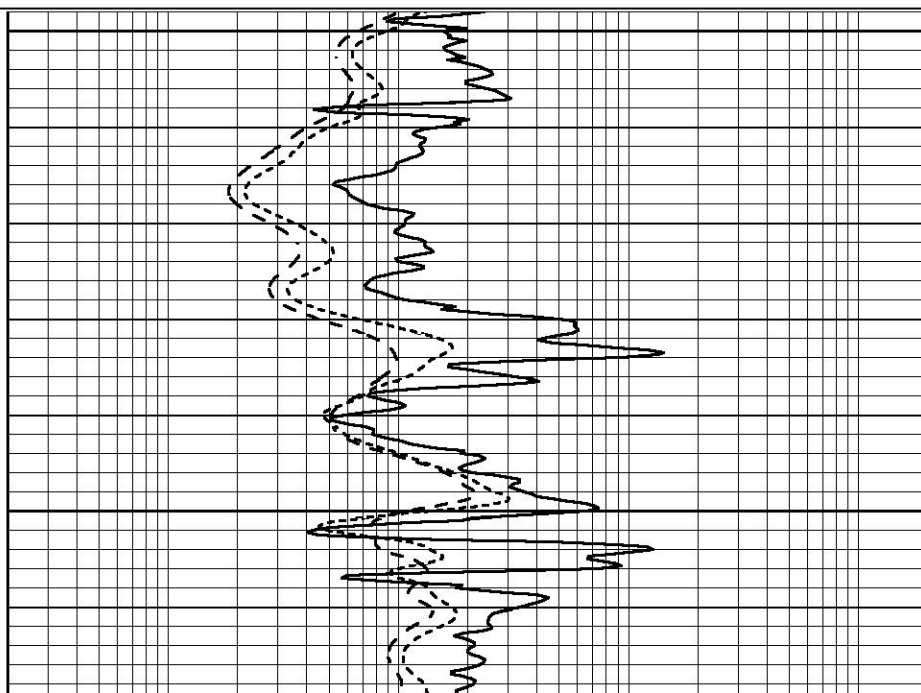
Database File 5657pe.db
Dataset Pathname pass3.2M
Presentation Format _dil
Dataset Creation Thu Sep 16 06:38:55 2021
Charted by Depth in Feet scaled 1:240

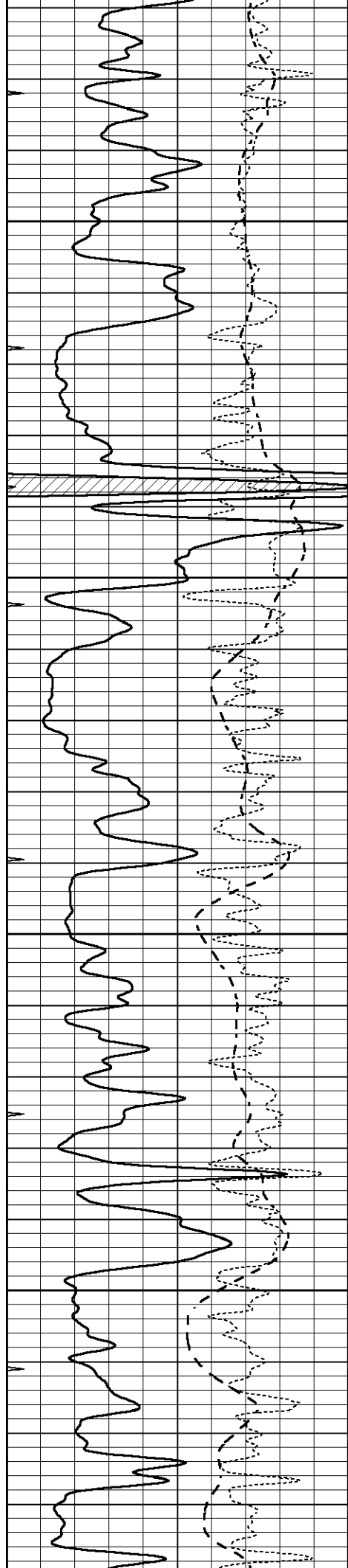
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



3700
3750



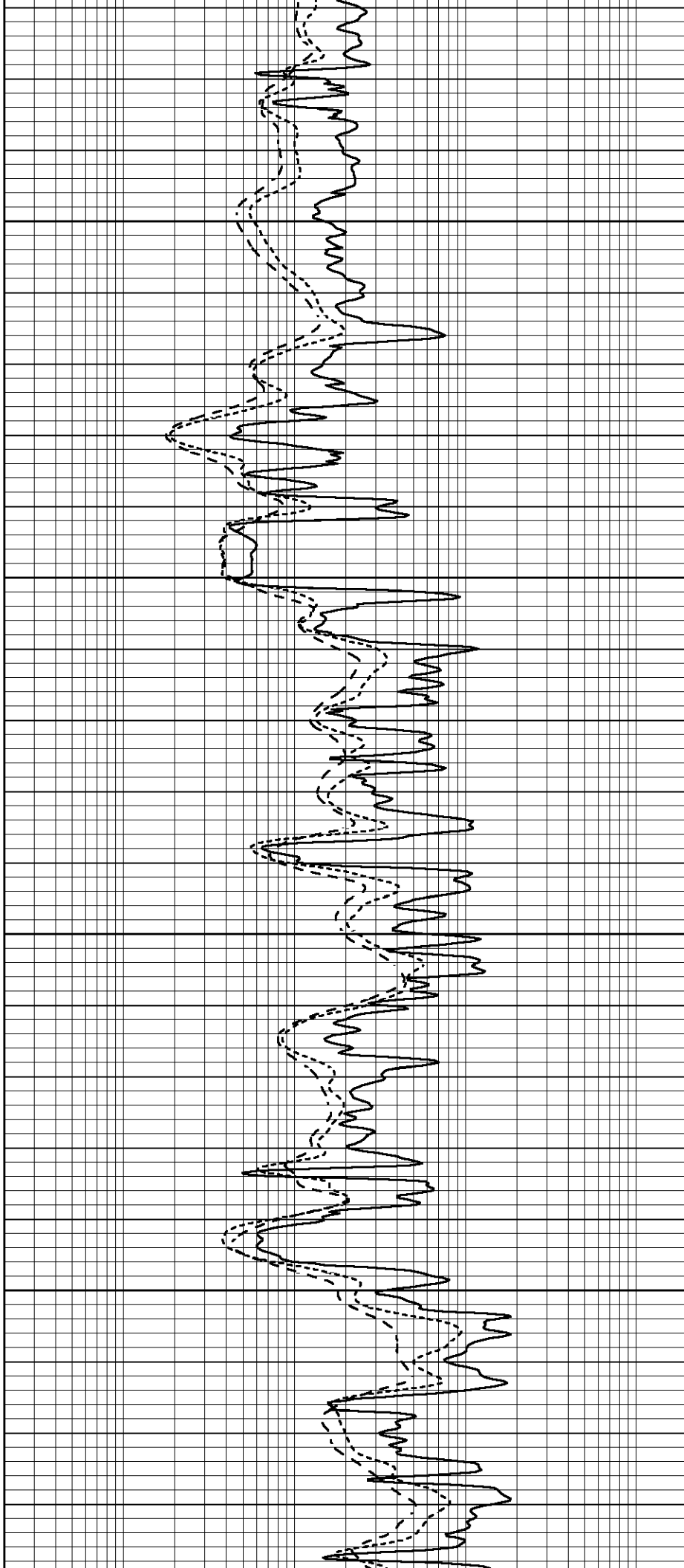


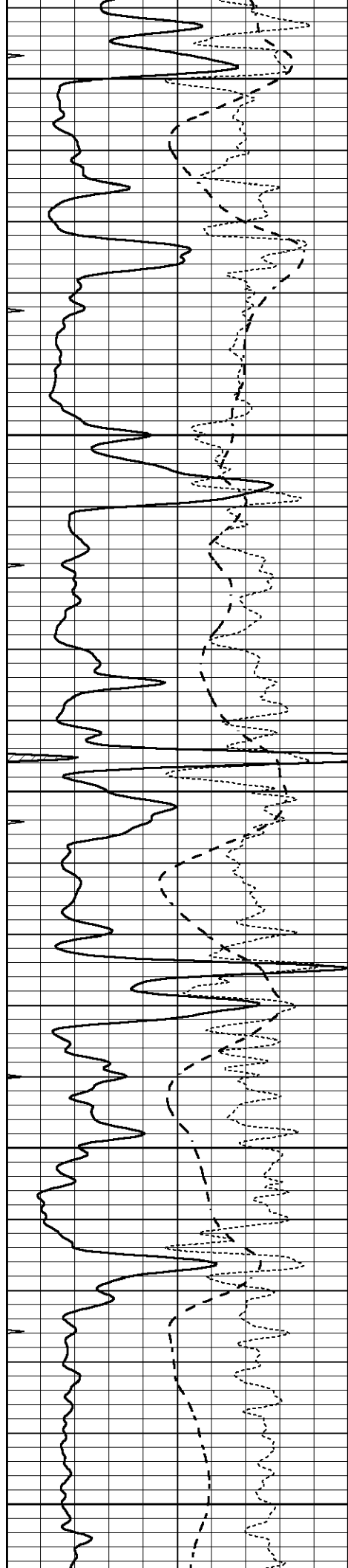
3800

3850

3900

3950





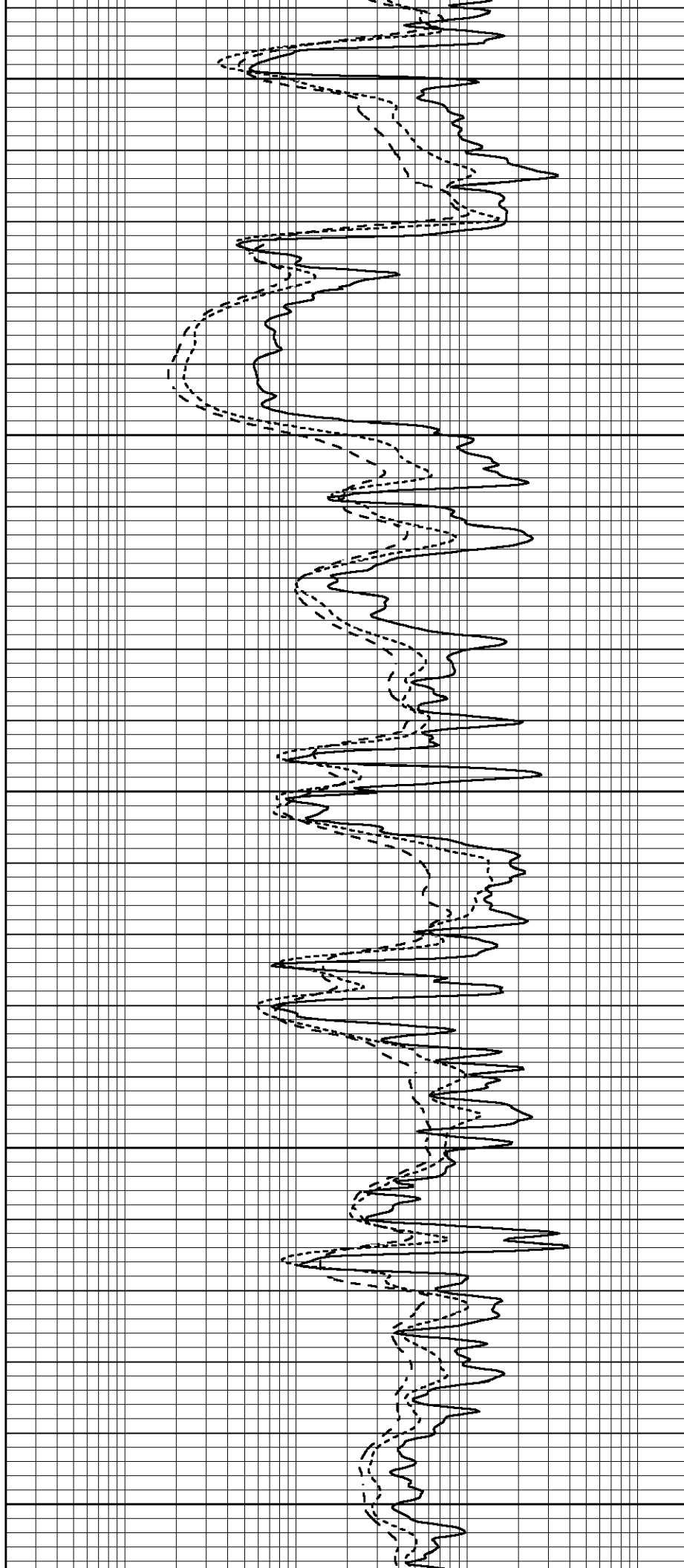
4000

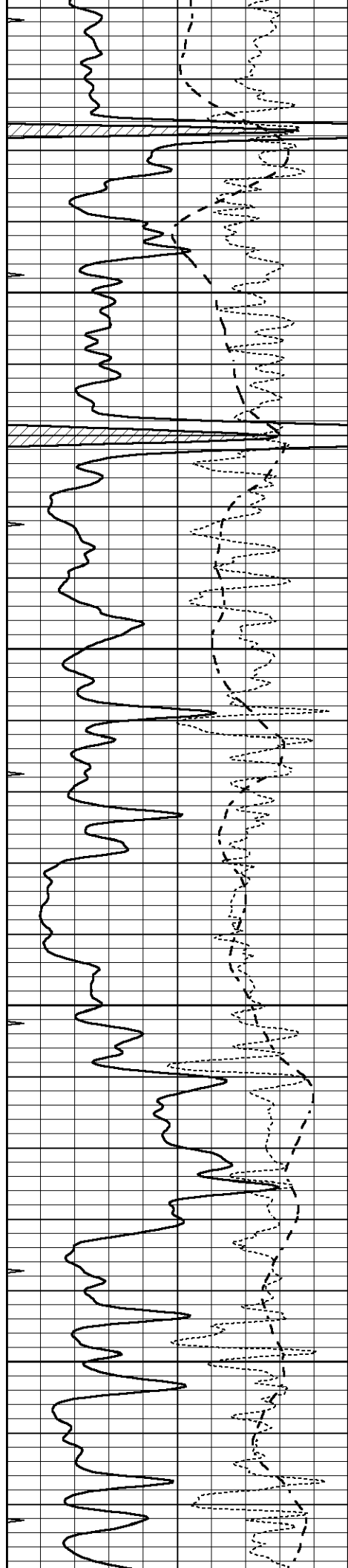
4050

4100

4150

4200



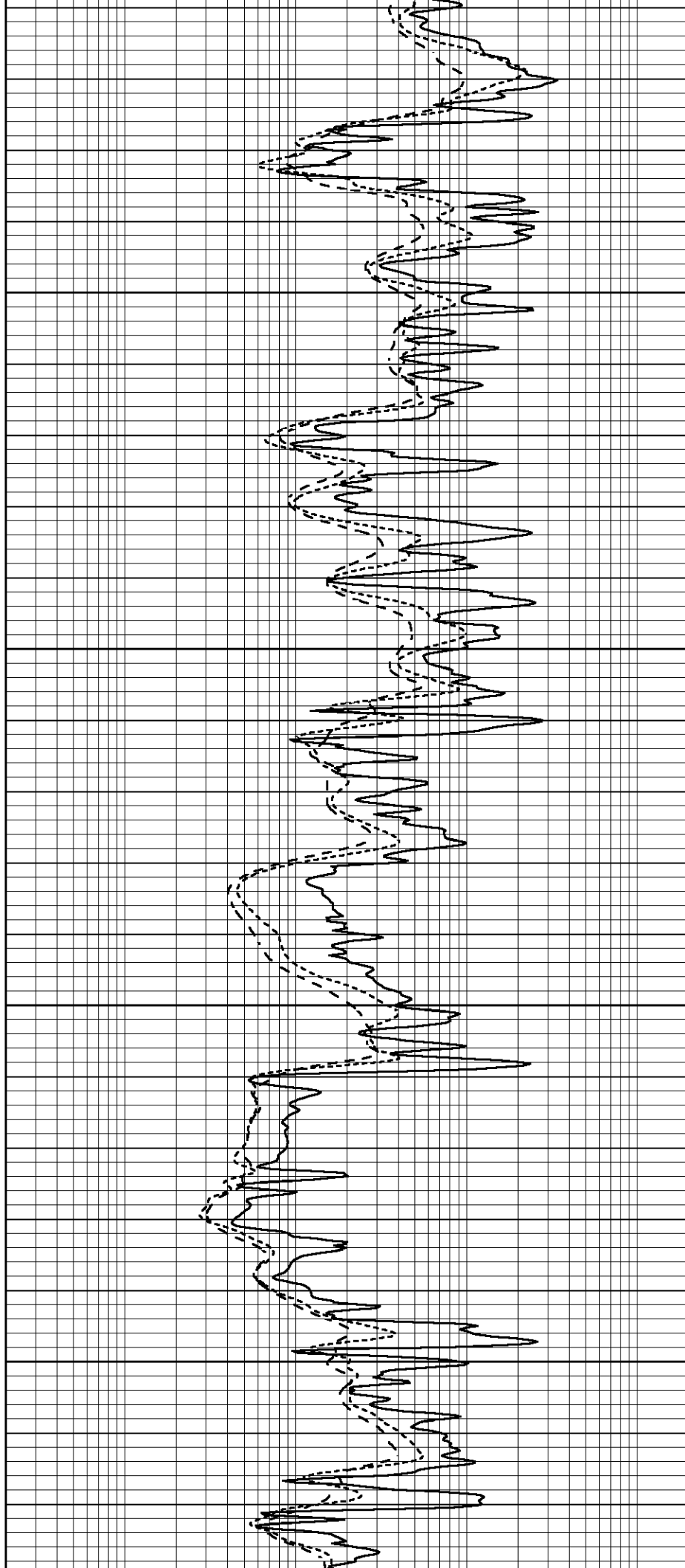


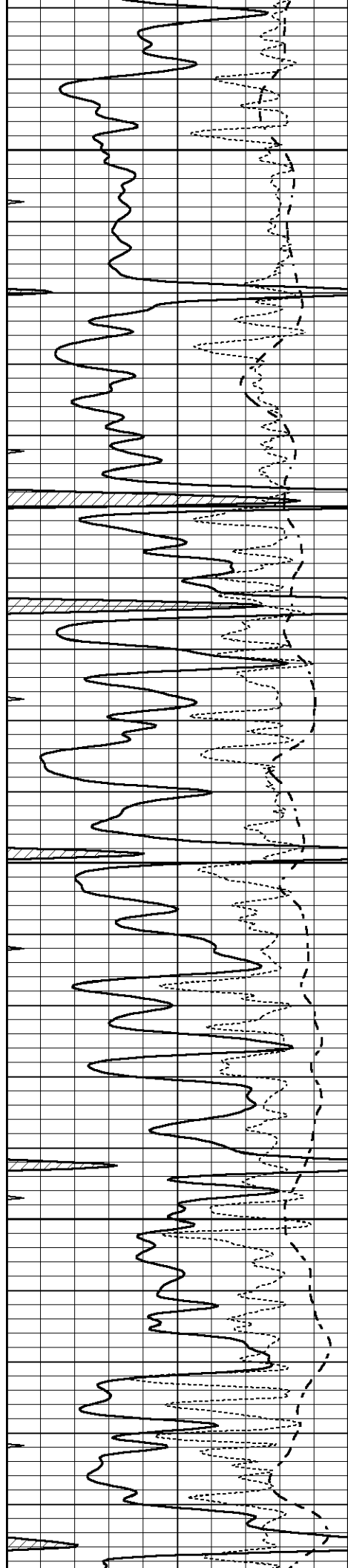
4250

4300

4350

4400



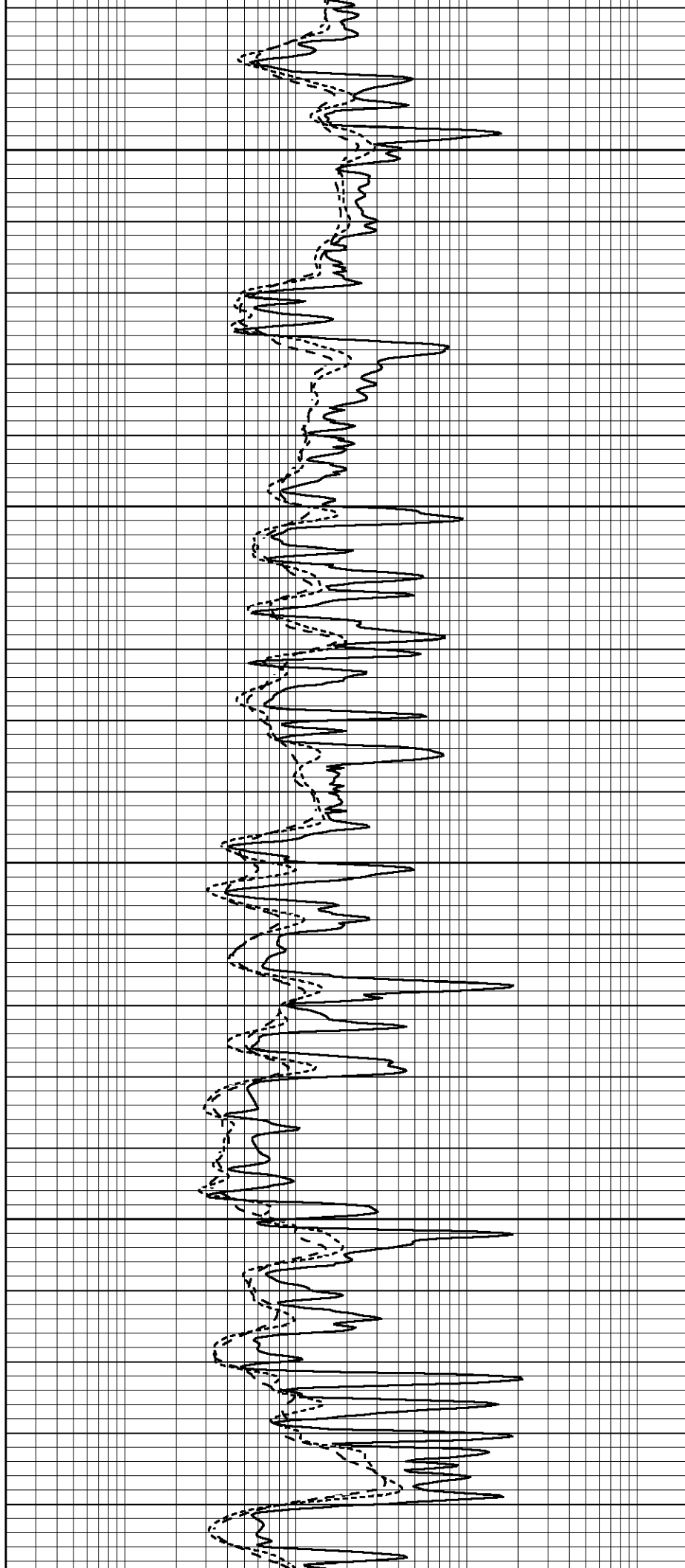


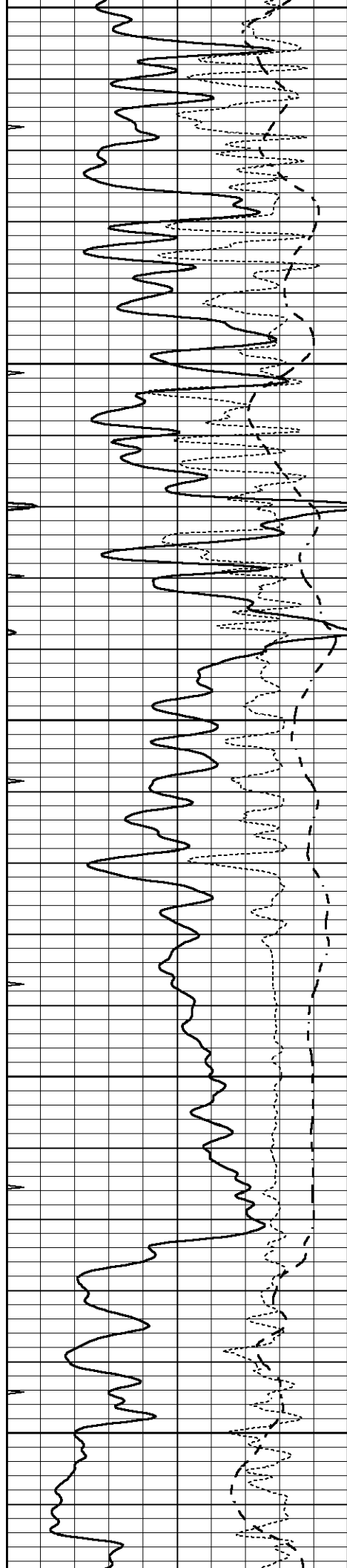
4450

4500

4550

4600





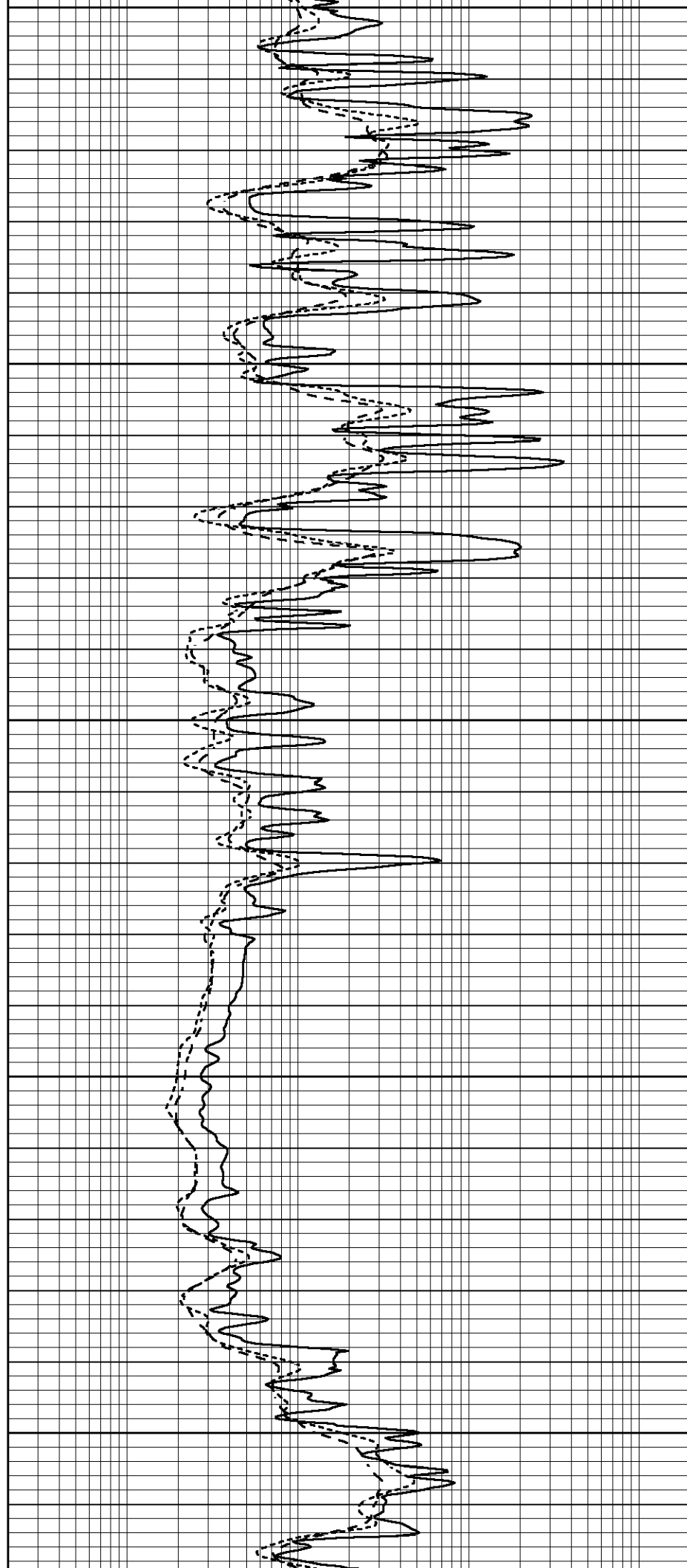
4650

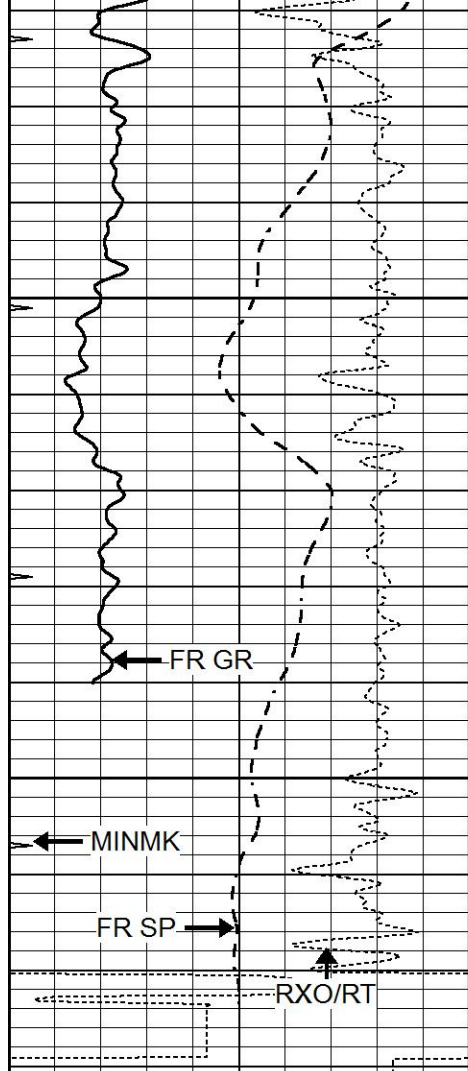
4700

4750

4800

4850



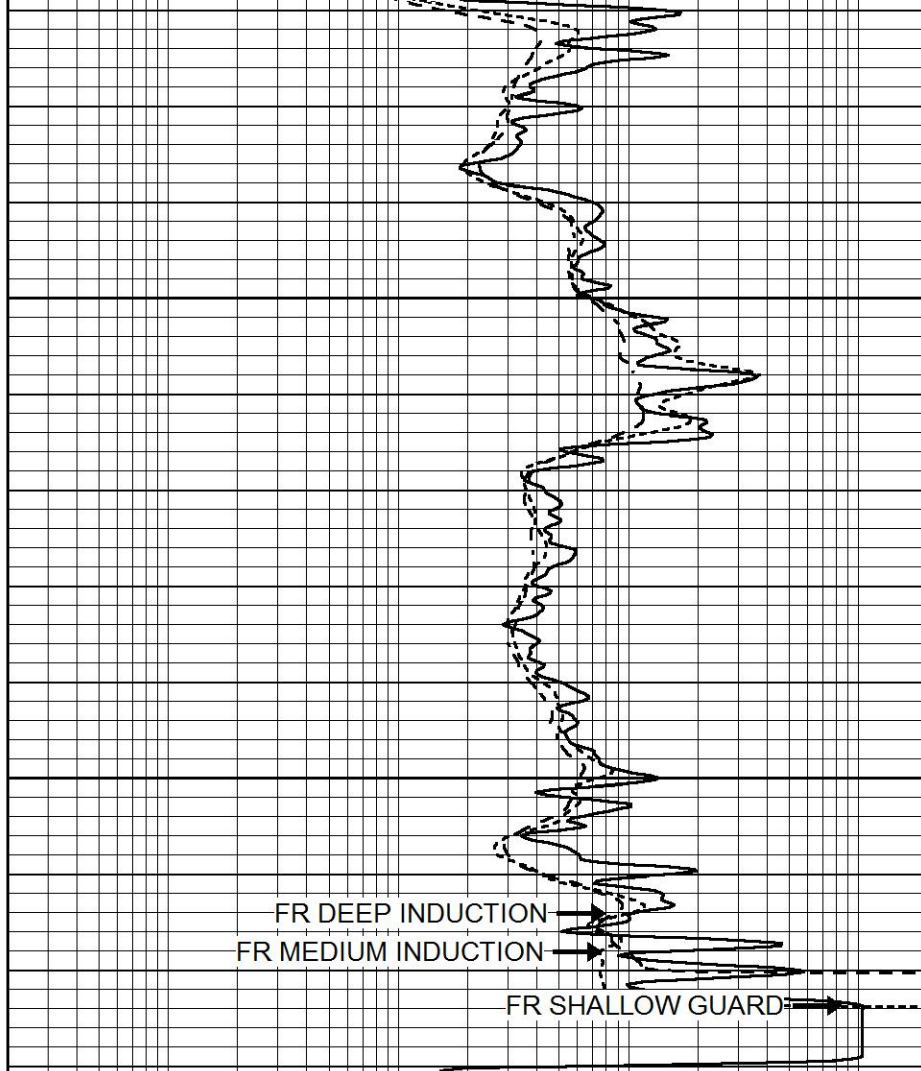


0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

4900

4950

LTD 4976



0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

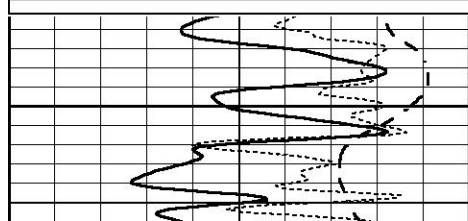


REPEAT SECTION

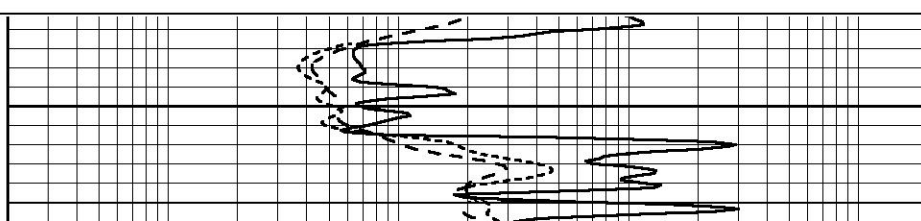
Database File 5657pe.db
 Dataset Pathname pass2.3R
 Presentation Format _dil
 Dataset Creation Thu Sep 16 06:36:54 2021
 Charted by Depth in Feet scaled 1:240

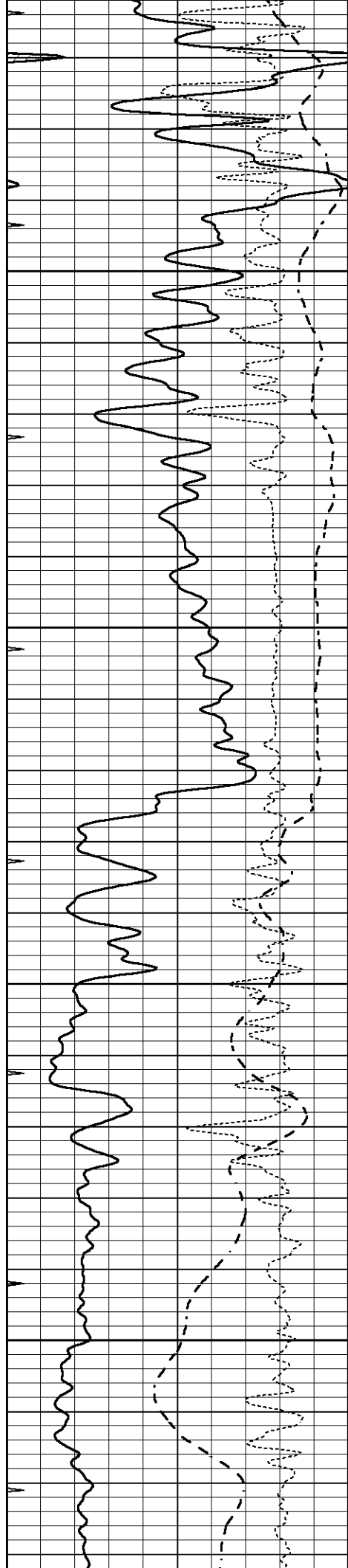
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



4700



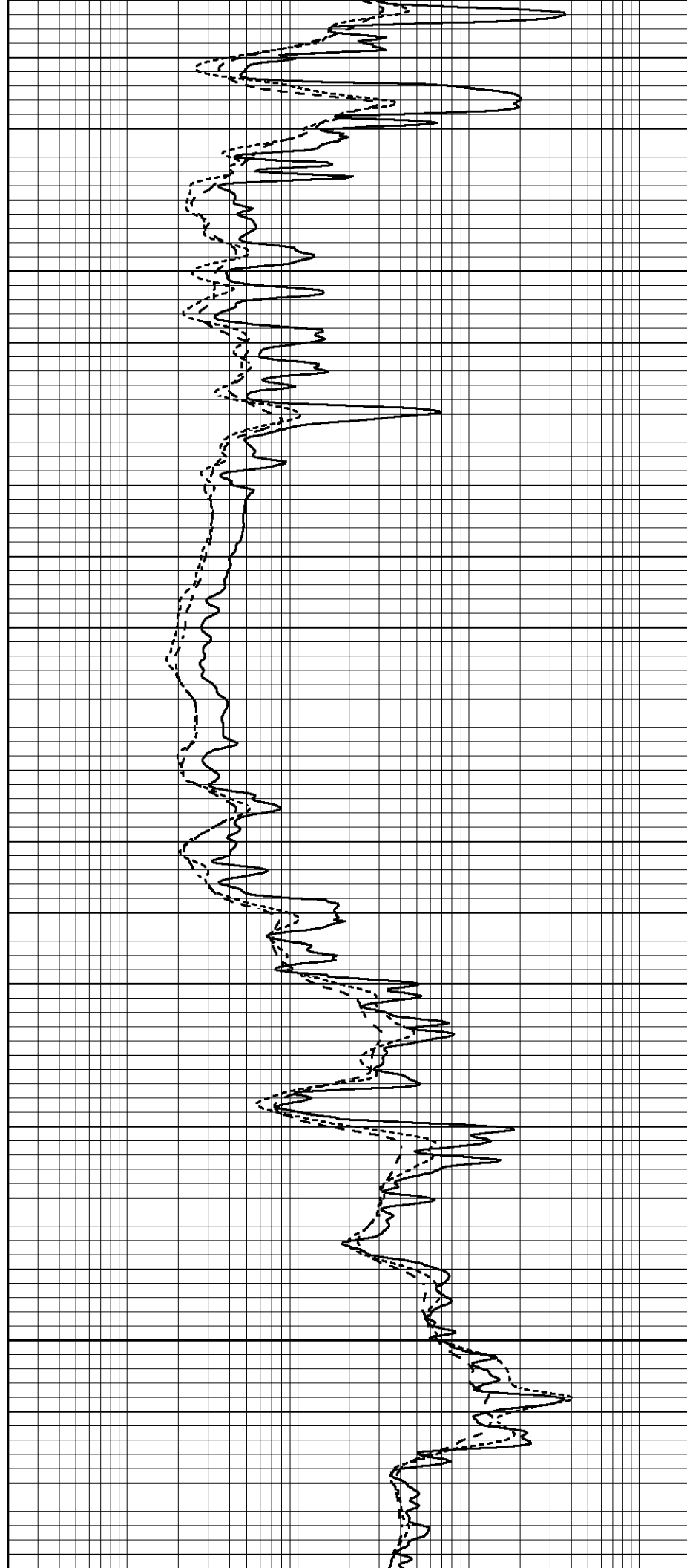


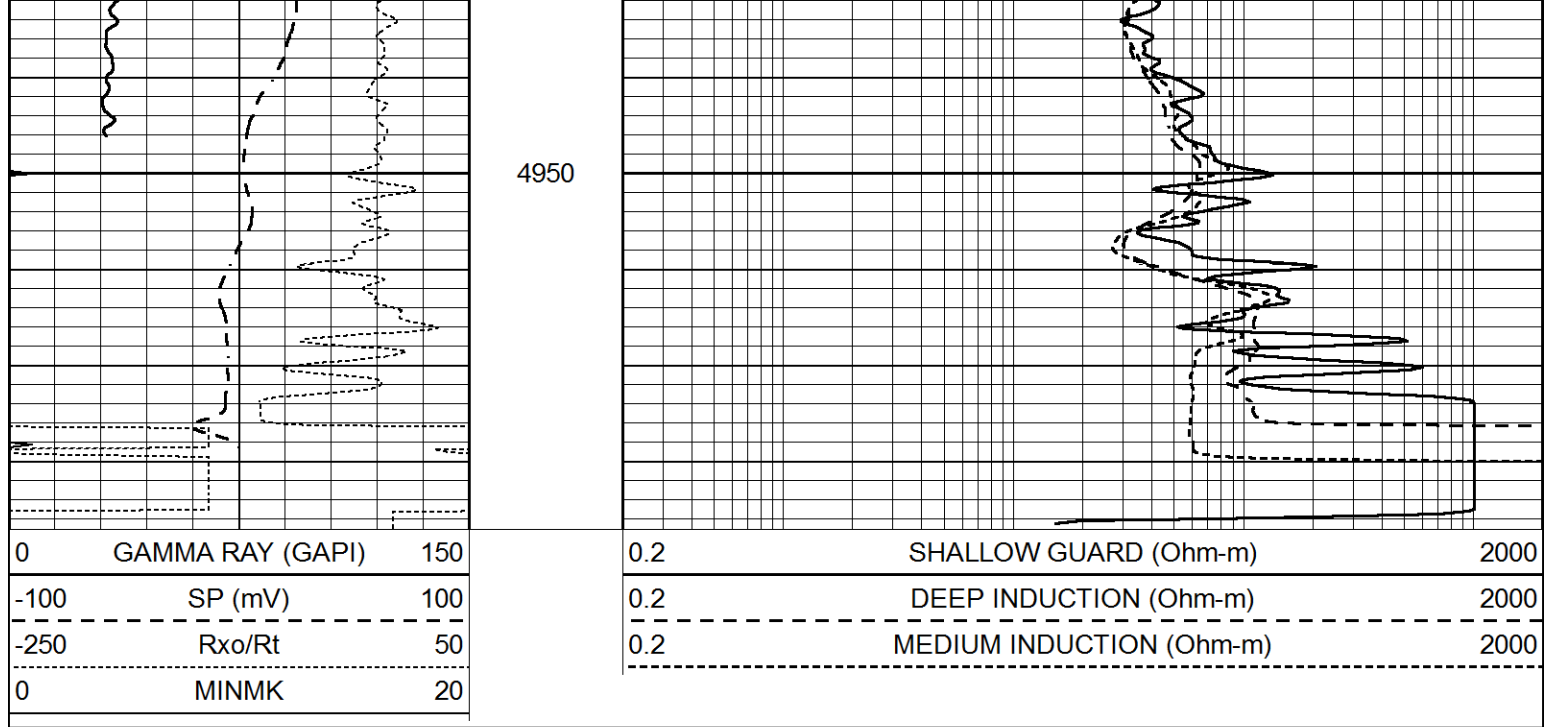
4750

4800

4850

4900





Calibration Report								
Database File	5657pe.db							
Dataset Pathname	pass3.2M							
Dataset Creation	Thu Sep 16 06:38:55 2021							
Dual Induction Calibration Report								
Serial-Model:			PROBE9-DILG					
Surface Cal Performed:			Thu Sep 16 05:42:50 2021					
Downhole Cal Performed:			Wed Mar 11 11:31:19 2020					
After Survey Verification Performed:			Wed Mar 11 11:31:22 2020					
Surface Calibration								
Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	-0.014	0.629	V	0.000	400.000	mmho/m	720.000	-16.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	720.000	-24.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.011	0.610	V	0.000	400.000	mmho/m	667.135	-7.256
Medium	0.005	0.712	V	0.000	464.000	mmho/m	655.677	-3.102
Downhole Calibration								
Readings				References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	14.508	388.384	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	166.367	504.400	mmho/m	1.000	0.000
LL3		7.500	V		1400.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		4000.000	mmho-m		
After Survey Verification								
Readings				Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
Medium	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000

LL3	1.000	Ohm-m	1.000	Ohm-m
	0.000	Ohm-m	0.000	Ohm-m
	1.000	mmho-m	1.000	mmho-m

Litho Density Calibration Report

Serial: 003 Model: PRB

Master Calibration		Performed Fri Mar 05 10:51:07 2021			
	Background	Magnesium	Aluminum	Aluminum+Fe	
Window 1	1570.6	10682.1	3457.0	3096.9	cps
Window 2	1451.7	9432.7	3101.4	2816.5	cps
Window 3	1334.0	7160.6	2532.0	2369.3	cps
Window 4	370.4	373.1	366.4	370.9	cps
Long Space	0.0	7981.0	1649.7	1364.8	cps
Short Space	2.8	3522.0	2211.0	1823.6	cps
Rho		1.7100	2.5900	0.0000	g/cc
Pe		2.0000	2.7500	5.7900	
Rib Angle	: 43.5	Rib Slope	: 0.951	Density/Spine Ratio	: 0.535
Spine Angle	: 73.5	Spine Slope	: 3.386	Spine Intercept	: -18.7

Before Survey Verification		Performed Wed Dec 31 18:00:00 1969			
Window 1	0.0	0.0	0.0	0.0	cps
Window 2	0.0	0.0	0.0	0.0	cps
Window 3	0.0	0.0	0.0	0.0	cps
Window 4	0.0	0.0	0.0	0.0	cps
Long Space	0.0	0.0	0.0	0.0	cps
Short Space	0.0	0.0	0.0	0.0	cps
Measured Rho		0.0000	0.0000	0.0000	g/cc
Measured Correction		0.0000	0.0000	0.0000	g/cc
Measured Pe			0.0000	0.0000	

After Survey Verification		Performed Wed Dec 31 18:00:00 1969			
Window 1	0.0	0.0	0.0	0.0	cps
Window 2	0.0	0.0	0.0	0.0	cps
Window 3	0.0	0.0	0.0	0.0	cps
Window 4	0.0	0.0	0.0	0.0	cps
Long Space	0.0	0.0	0.0	0.0	cps
Short Space	0.0	0.0	0.0	0.0	cps
Measured Rho		0.0000	0.0000	0.0000	g/cc
Measured Correction		0.0000	0.0000	0.0000	g/cc
Measured Pe			0.0000	0.0000	

Compensated Neutron Calibration Report

Serial Number:	070808PMC
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:	070558		
Tool Model:	OPEN_GR		
Performed:	Fri Sep 03 05:25:49 2021		
Calibrator Value:	1.0	GAPI	
Background Reading:	0.0	cps	
Calibrator Reading:	1.0	cps	
Sensitivity:	0.2800	GAPI/cps	