



MIDWEST WIRELINE

# DUAL INDUCTION LOG

Company Griffin Management LLC  
 Well Marla 3  
 Field Lee Ranch  
 County Barber State Kansas

Location: API #: 15-007-24415-00-00  
 2060 FSL & 915 FEL  
 SEC 5 TWP 30S RGE 15W  
 Permanent Datum Ground Level Elevation 2000  
 Log Measured From Kelly Bushing  
 Drilling Measured From Kelly Bushing  
 Other Services  
 CNL/CDL  
 MEL  
 Elevation  
 K.B. 2005  
 D.F.  
 G.L. 2000

Date	4/28/2020
Run Number	One
Depth Driller	4850
Depth Logger	4851
Bottom Logged Interval	4850
Top Log Interval	250
Casing Driller	8.625 @ 260
Casing Logger	255
Bit Size	7.875
Type Fluid in Hole	Chemical
Salinity, ppm CL	5000
Density / Viscosity	9.1 48
pH / Fluid Loss	10.0 8.8
Source of Sample	FLOWLINE
Rm @ Meas. Temp	.60 @ 70
Rmt @ Meas. Temp	.45 @ 70
Rmc @ Meas. Temp	.81 @ 70
Source of Rmf / Rmc	CHARTS
Rm @ BHT	.34 @ 125
Operating Rig Time	2 Hours
Max Rec. Temp. F	125
Equipment Number	P-108
Location	HAYS
Recorded By	J. Henrickson
Witnessed By	Eli Felts

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and Midwest Wireline LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Midwest Wireline LLC will not 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.

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

Croft Kansas  
 South to 110th, 1 East, South Into

Log Measured From: Kelly Bushing 5 Ft. Above Permanent Datum

THANK YOU FOR USING MIDWEST WIRELINE LLC  
 785-625-3858

Your Midwest Wireline Crew Engineer: J. Henrickson Operator: Operator: Operator:	This Log Record Was Witnessed By Primary Witness: Eli Felts Secondary Witness: Secondary Witness: Secondary Witness:
--	--

# Log Variables

DatabaseC:\ProgramData\Warrior\Data\griffin\_marla\_3.db  
Dataset field/well/stackml/pass3.1/\_vars\_

## Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	125	5.5	0	1	2	2.71
NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	0	0	0	395	75	Off	4851

## Variable Description

A : Cement Factor (a)  
BOREID : Borehole I.D.  
BOTTEMP : Bottom Hole Temperature  
CASEOD : Casing O.D.  
CASETHCK : Casing Thickness  
FLUIDDEN : Fluid Density  
M : Cement Exp (m)  
MATRXDEN : Matrix Density

NPORSEL : Neutron Porosity Curve Select  
PERFS : Perforation Flag  
SNDERR : Deep Sonde Error Correction  
SNDERRM : Medium Sonde Error Correction  
SPSHIFT : S.P. Baseline Offset  
SRFTEMP : Surface Temperature  
SZCOR : CN Size Cor. ?  
TDEPTH : Total Depth

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.33		GR-M&W (103)	3.00	3.50	50.00
CNLSC	37.23		CNT-M&W (210)	5.00	3.50	100.00
CNSSC	36.48		CDL-M&W (303-03)	8.50	4.00	250.00
LSD	28.18		ML-PSI STKBL ML (402)	7.58	4.00	65.00
DCAL	28.17					
SSD	27.68					
MCAL	19.58		ML-PSI STKBL ML (402)	7.58	4.00	65.00
MI	19.58					
MN	19.58					
RLL3F	15.50		ML-PSI STKBL ML (402)	7.58	4.00	65.00
RLL3	15.50					

CILD 8.33

CILM 4.50

SP 0.20

DIL-M&W (504 HT)

18.25

3.50

220.00

Dataset: griffin\_marla\_3.db: field/well/stackml/pass3.1  
 Total length: 42.33 ft  
 Total weight: 685.00 lb  
 O.D.: 4.00 in



# 2" SCALE RESISTIVITY

## MAIN PASS

Database File griffin\_marla\_3.db  
 Dataset Pathname stackml/pass5.1  
 Presentation Format \_dil2in  
 Dataset Creation Thu Apr 28 09:39:14 2022  
 Charted by Depth in Feet scaled 1:600

0 Gamma Ray (GAPI) 150

1000 Conductivity (mmho/m) 0

15000 Line Tension (lb) 0

0 Shallow Resistivity (Ohm-m) 50

0 Deep Resistivity (Ohm-m) 50

Shallow Resistivity

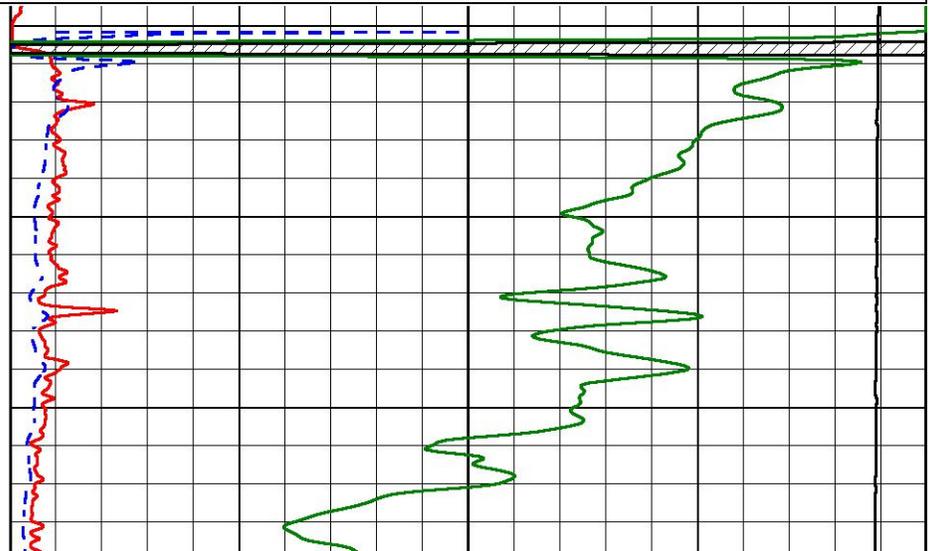
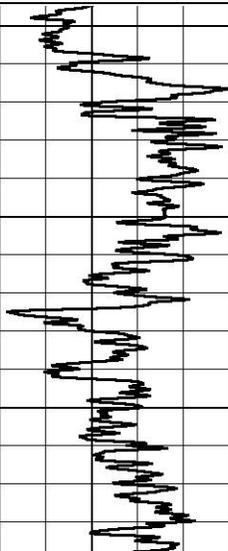
50 (Ohm-m) 200

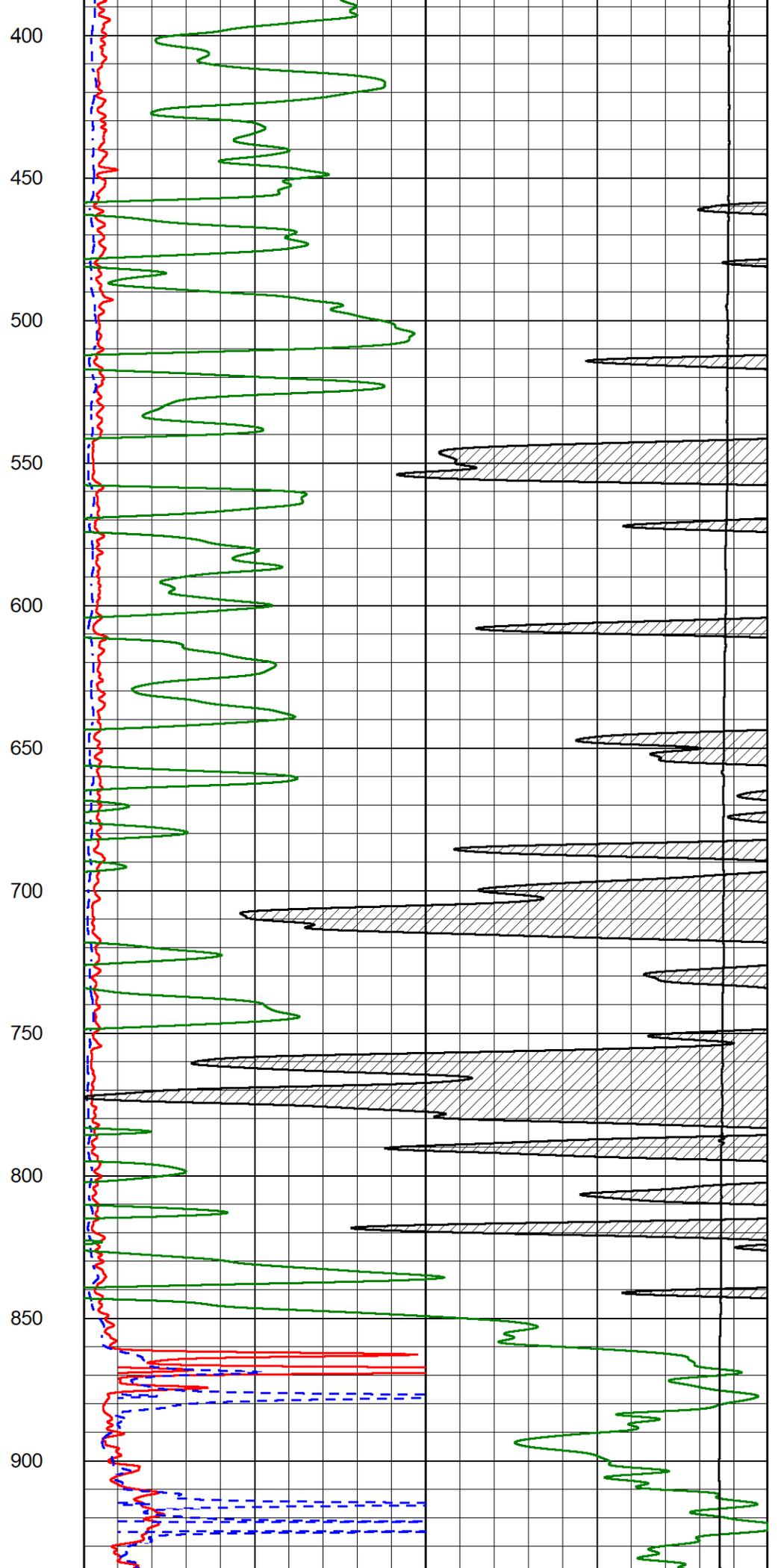
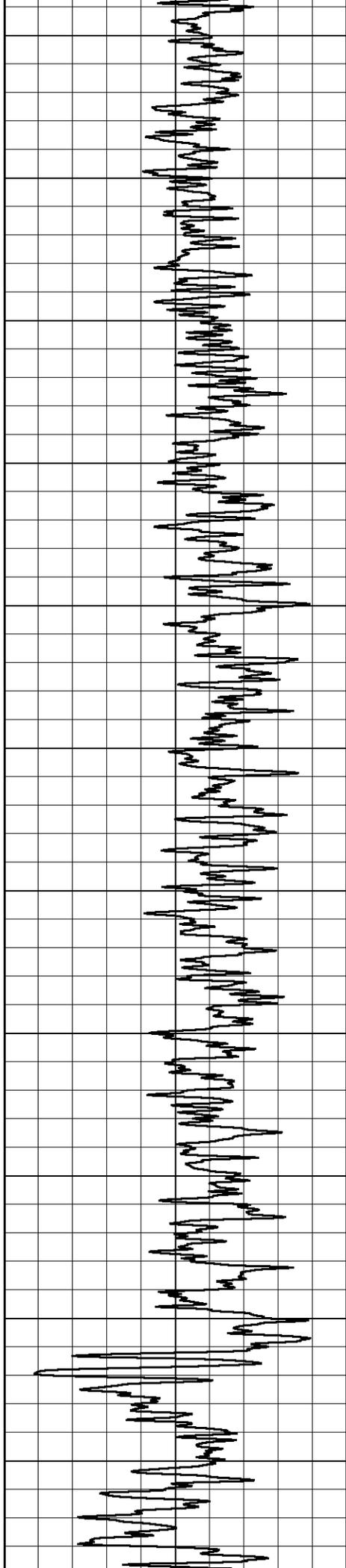
50 Deep Resistivity (Ohm-m) 200

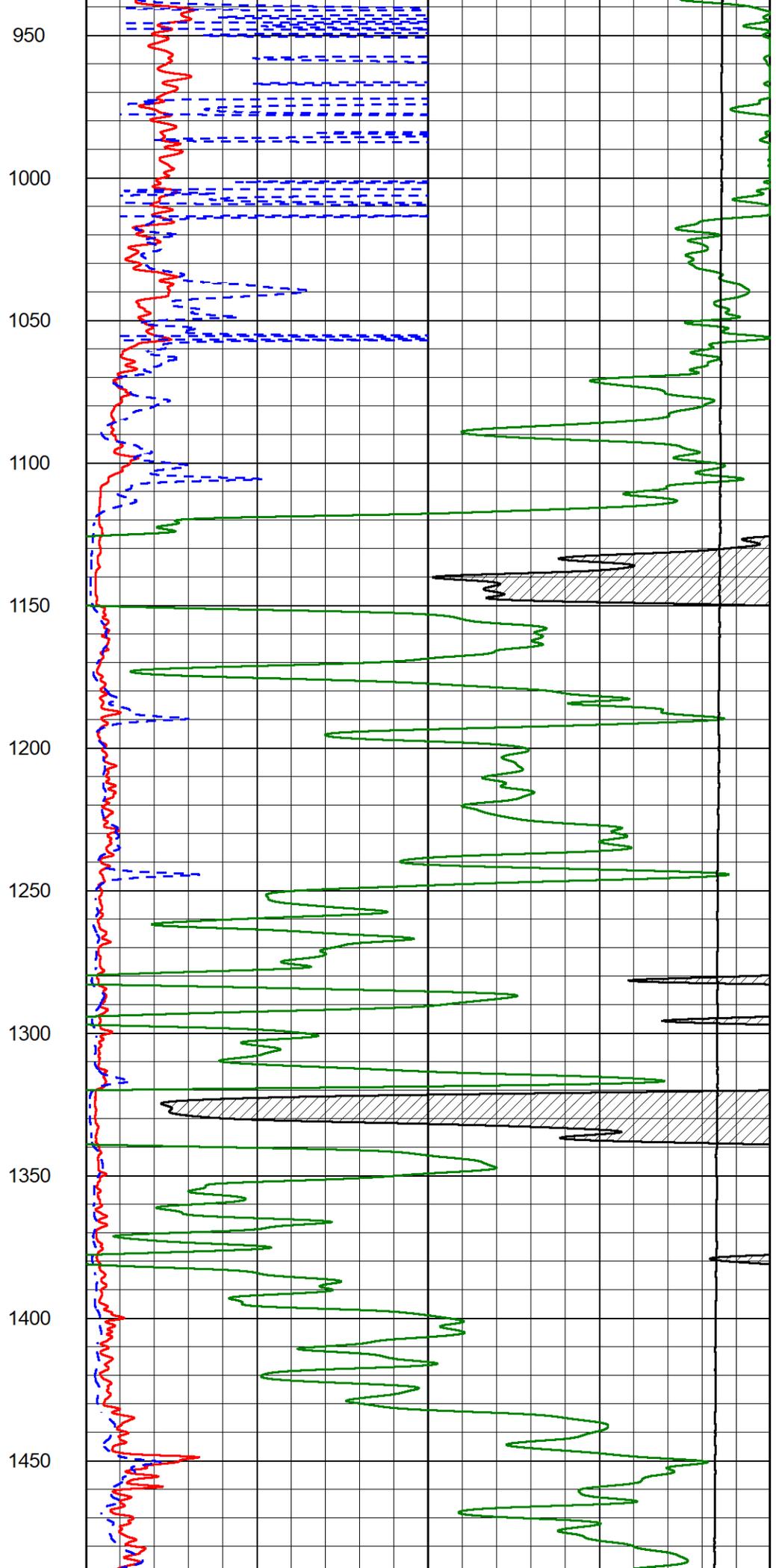
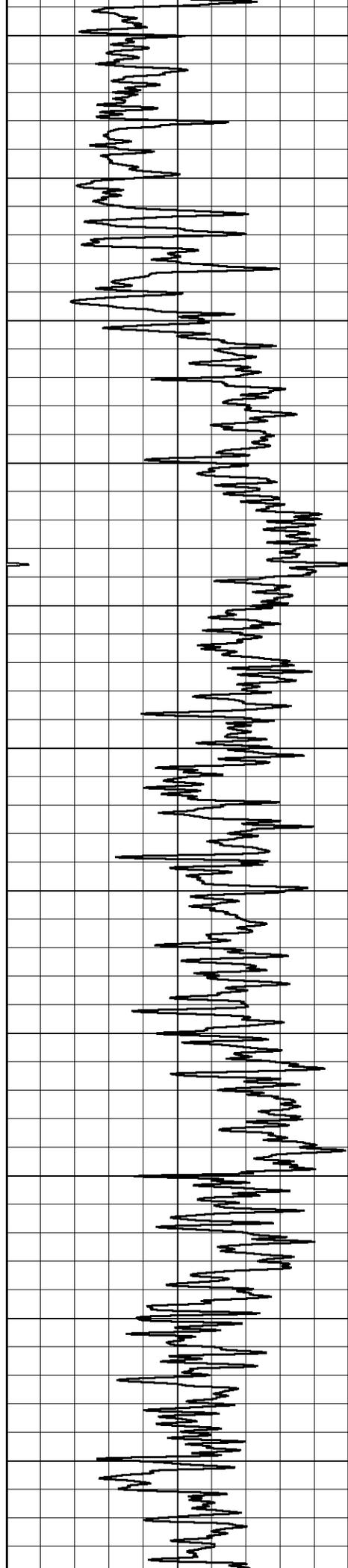
250

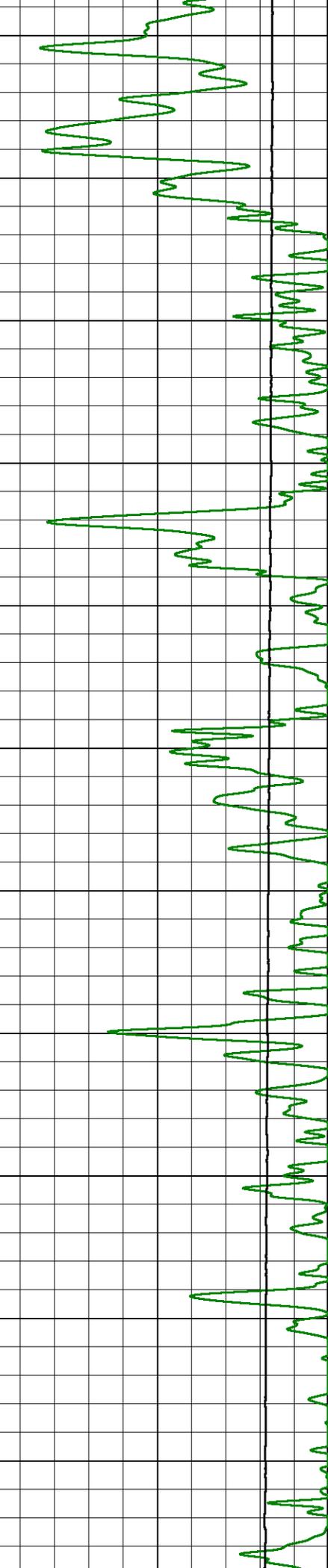
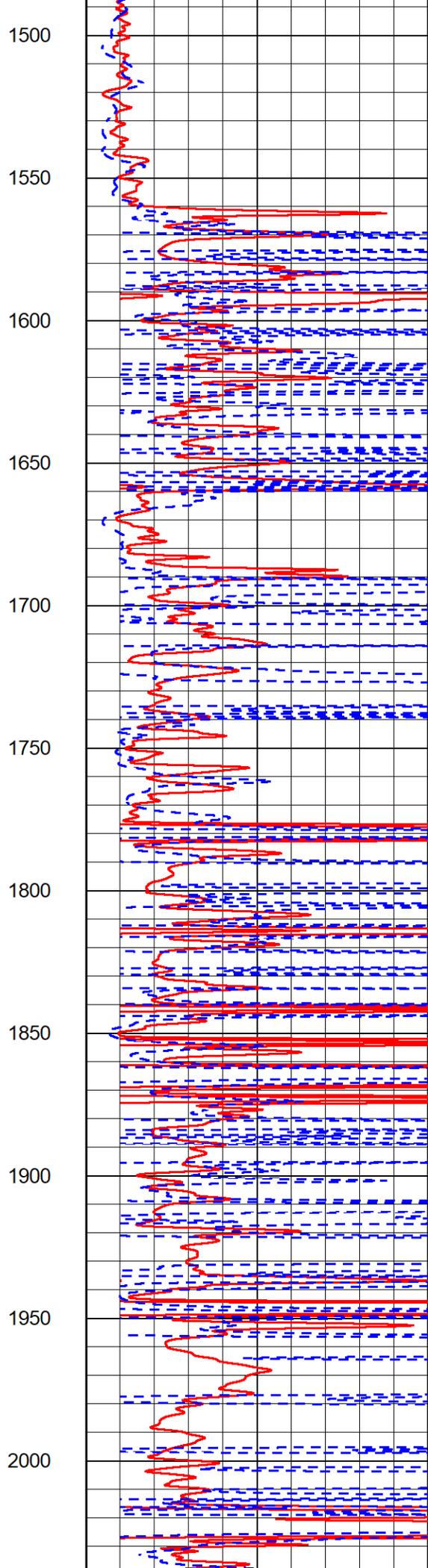
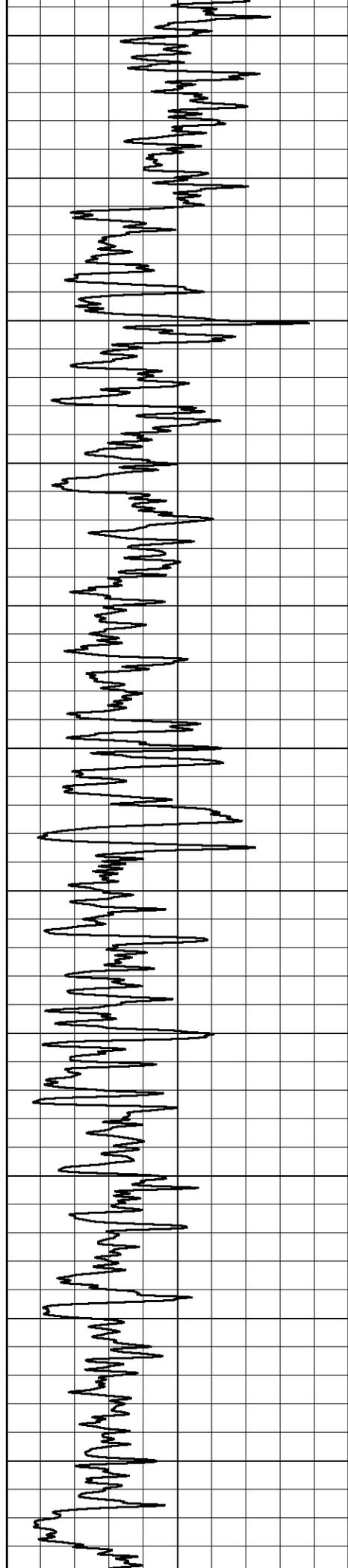
300

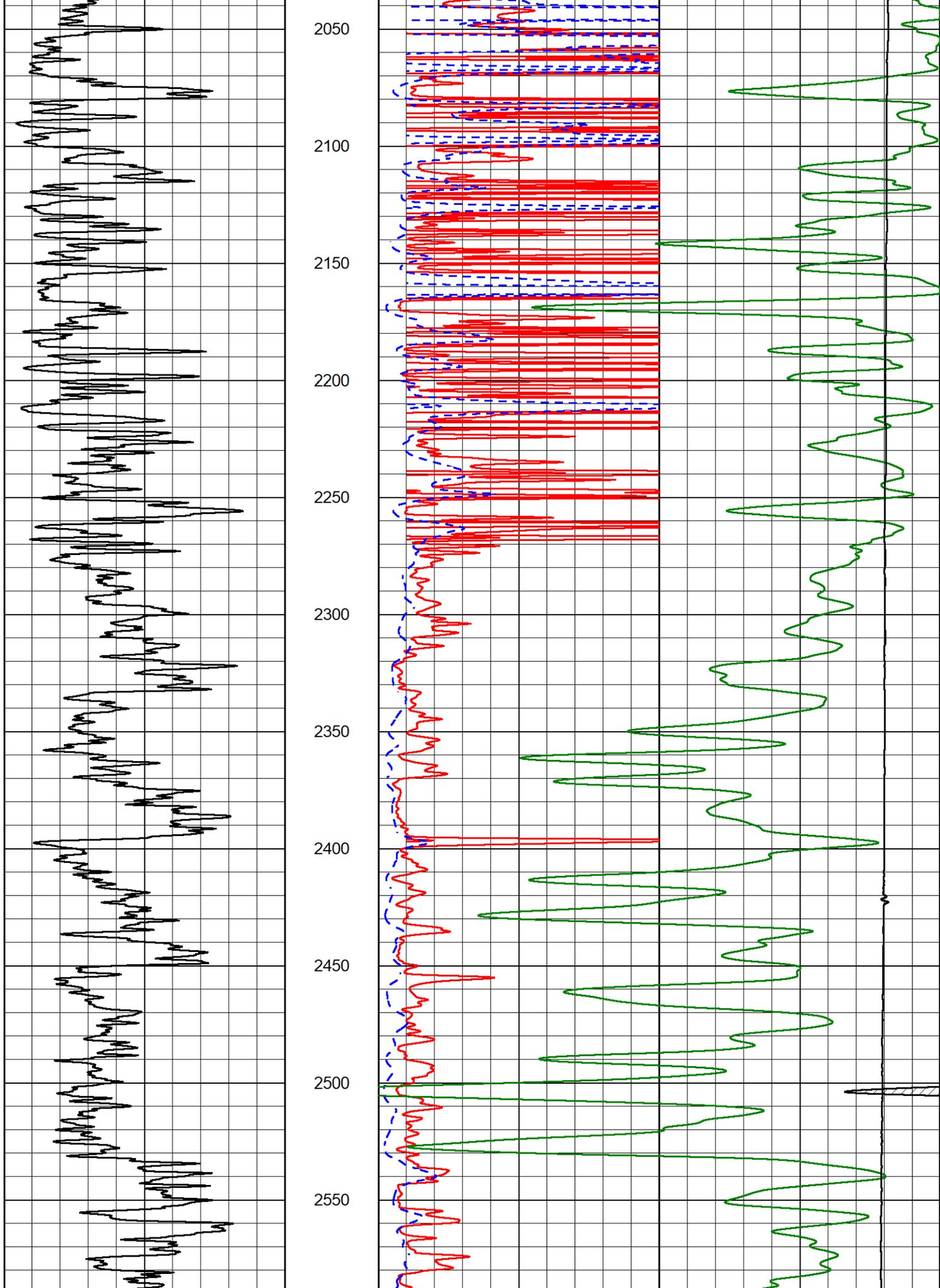
350

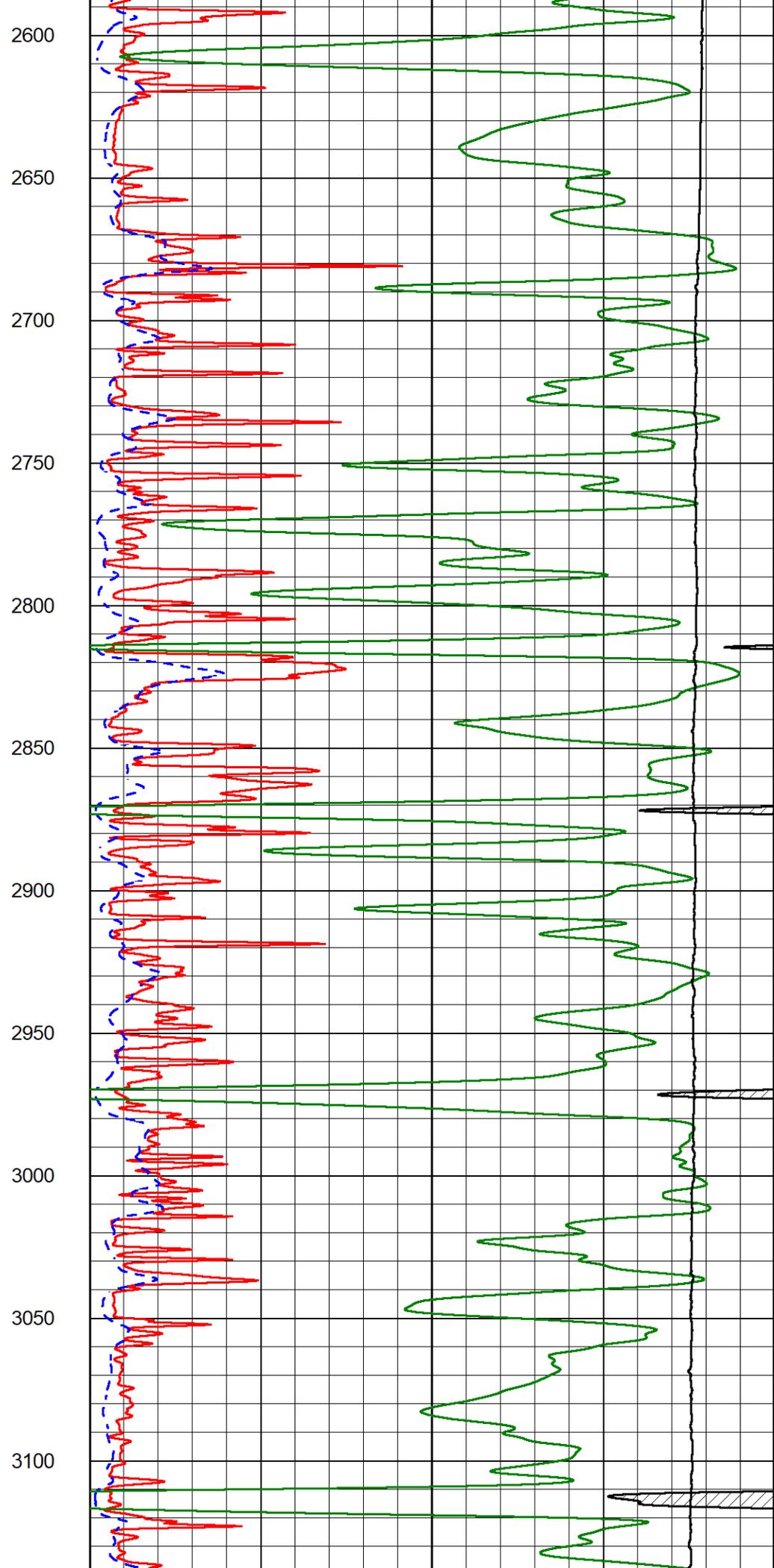
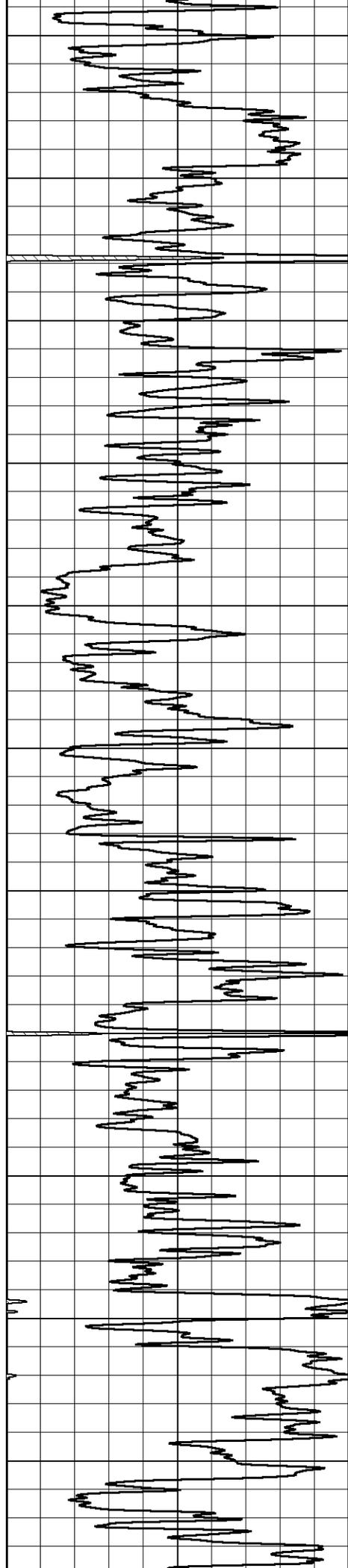


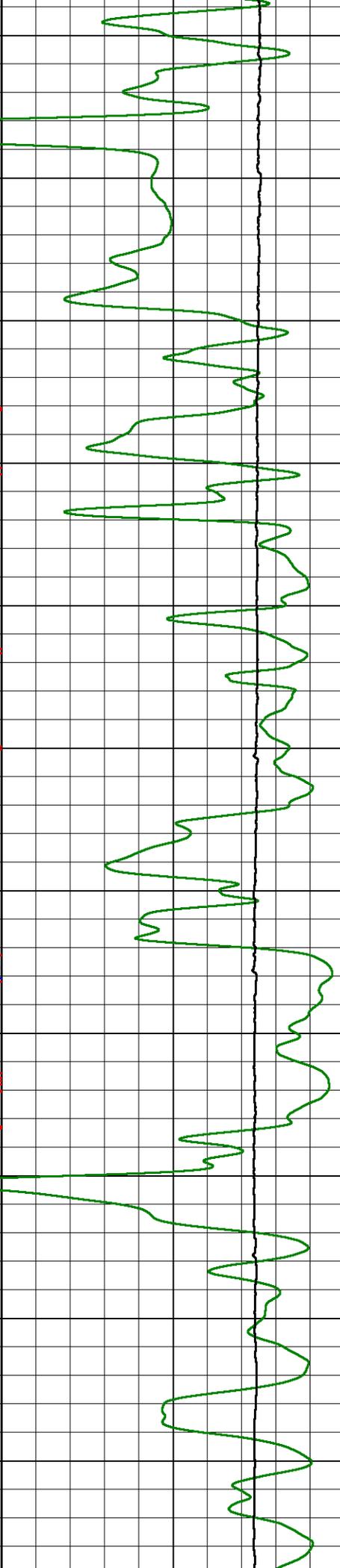
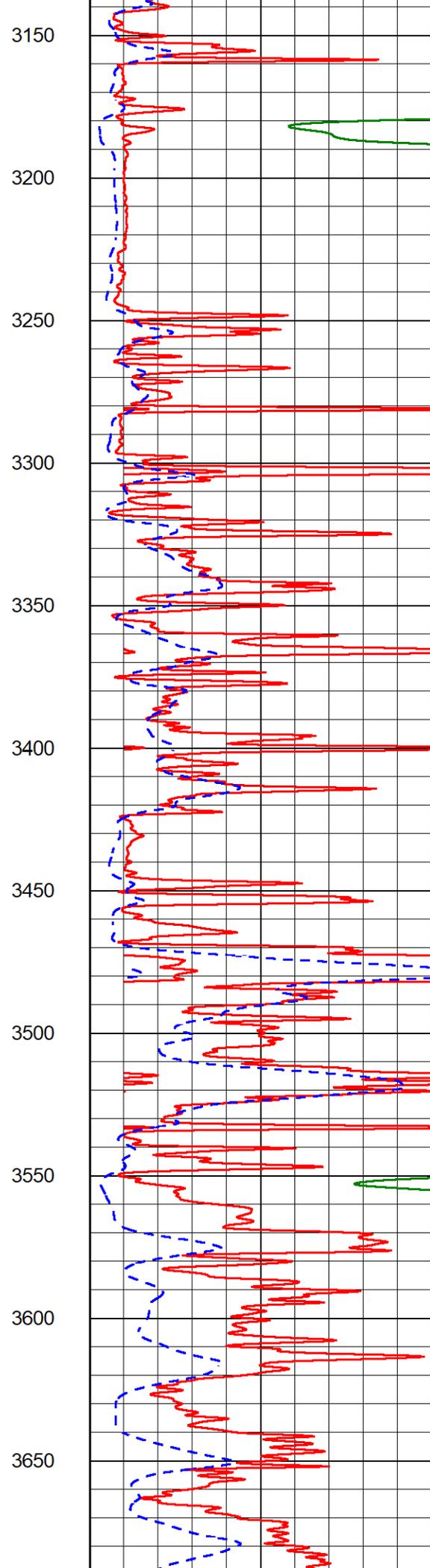
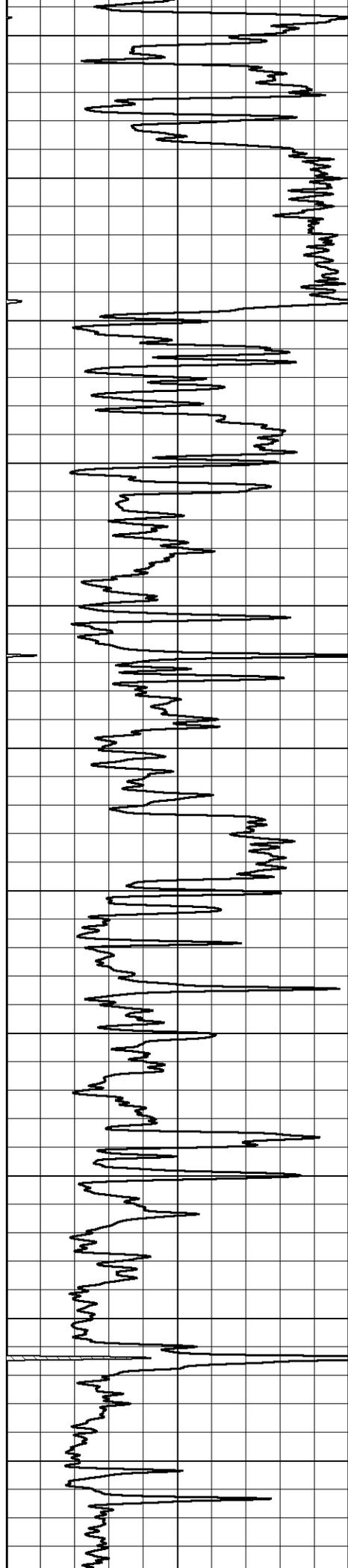


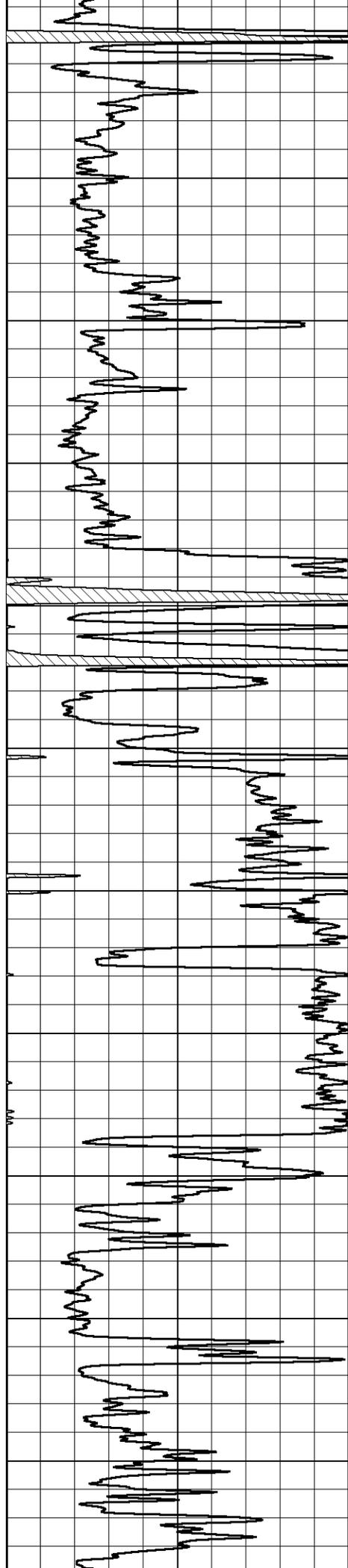












3700

3750

3800

3850

3900

3950

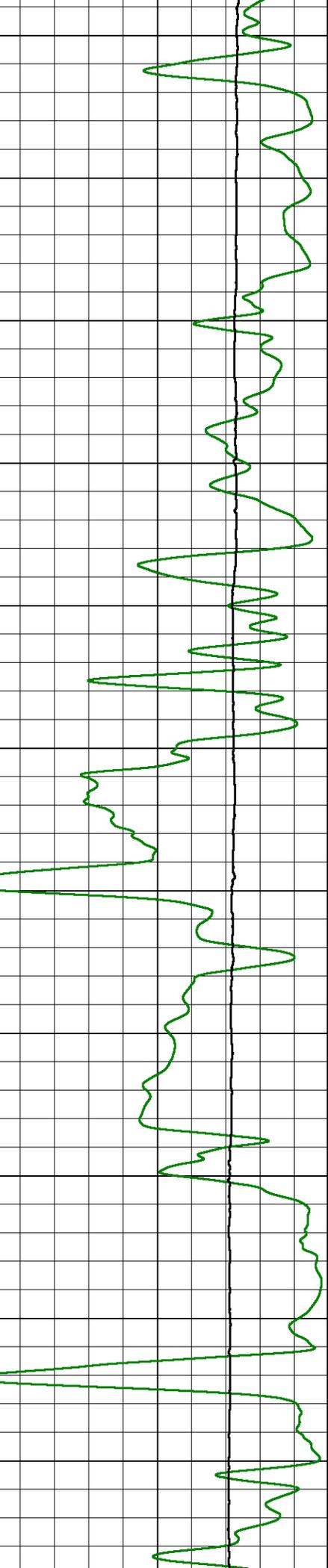
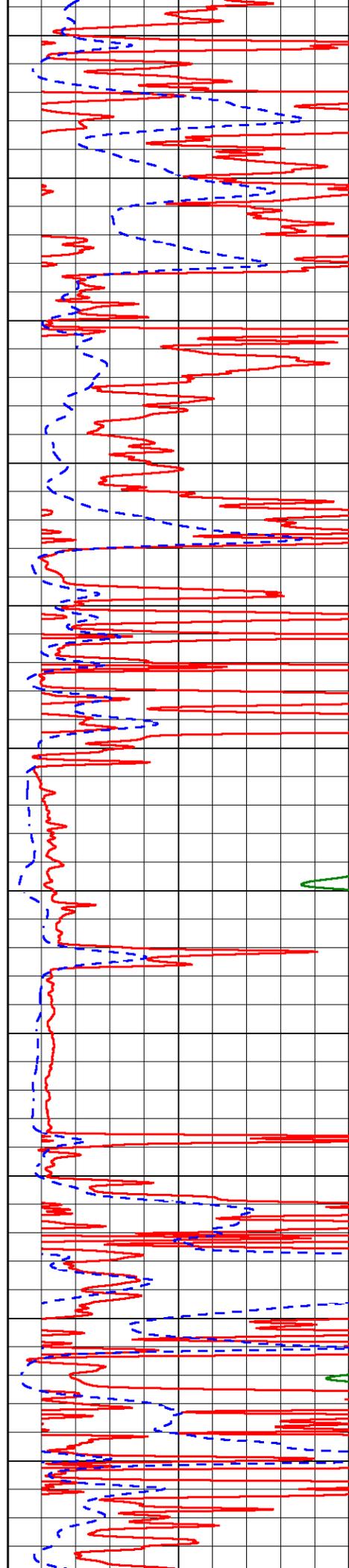
4000

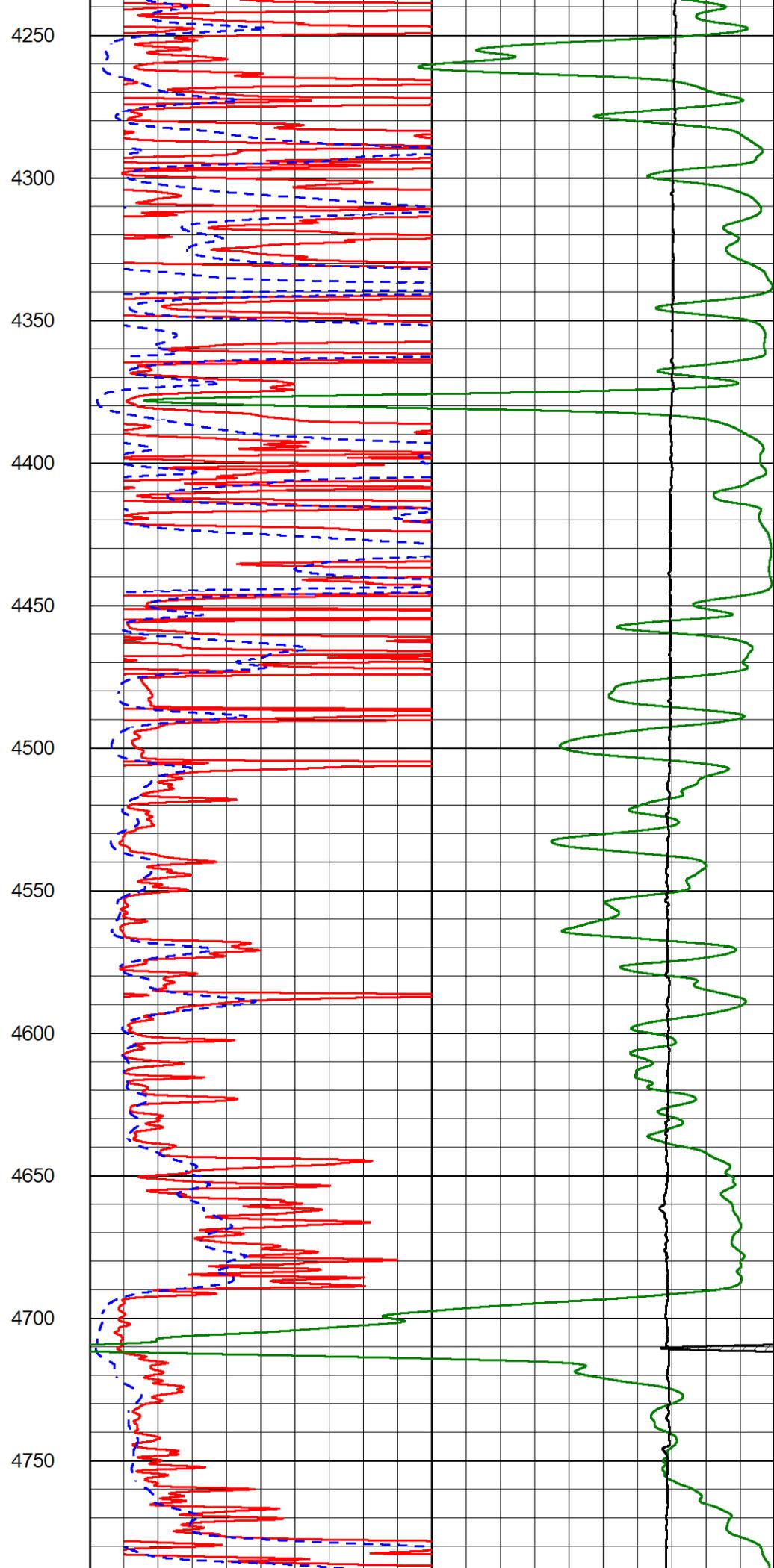
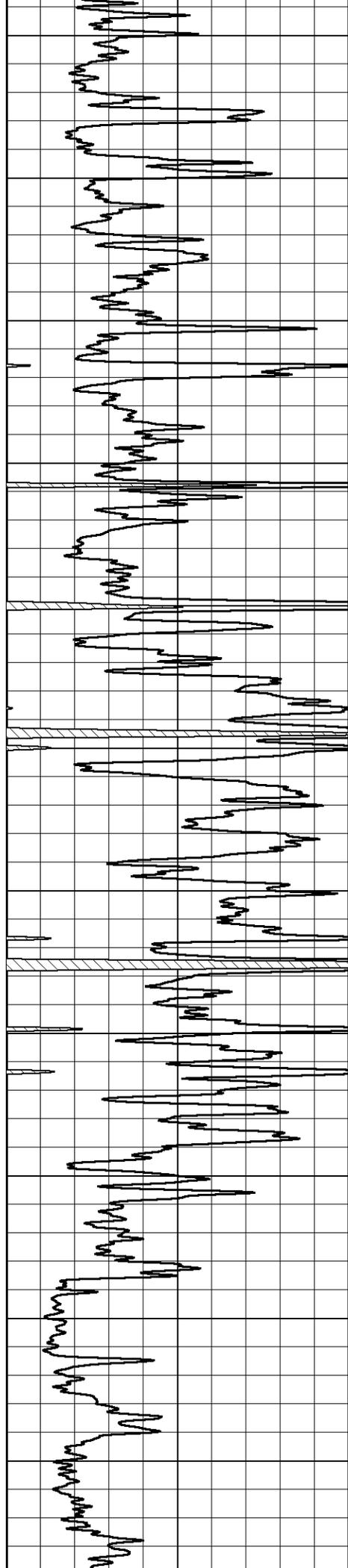
4050

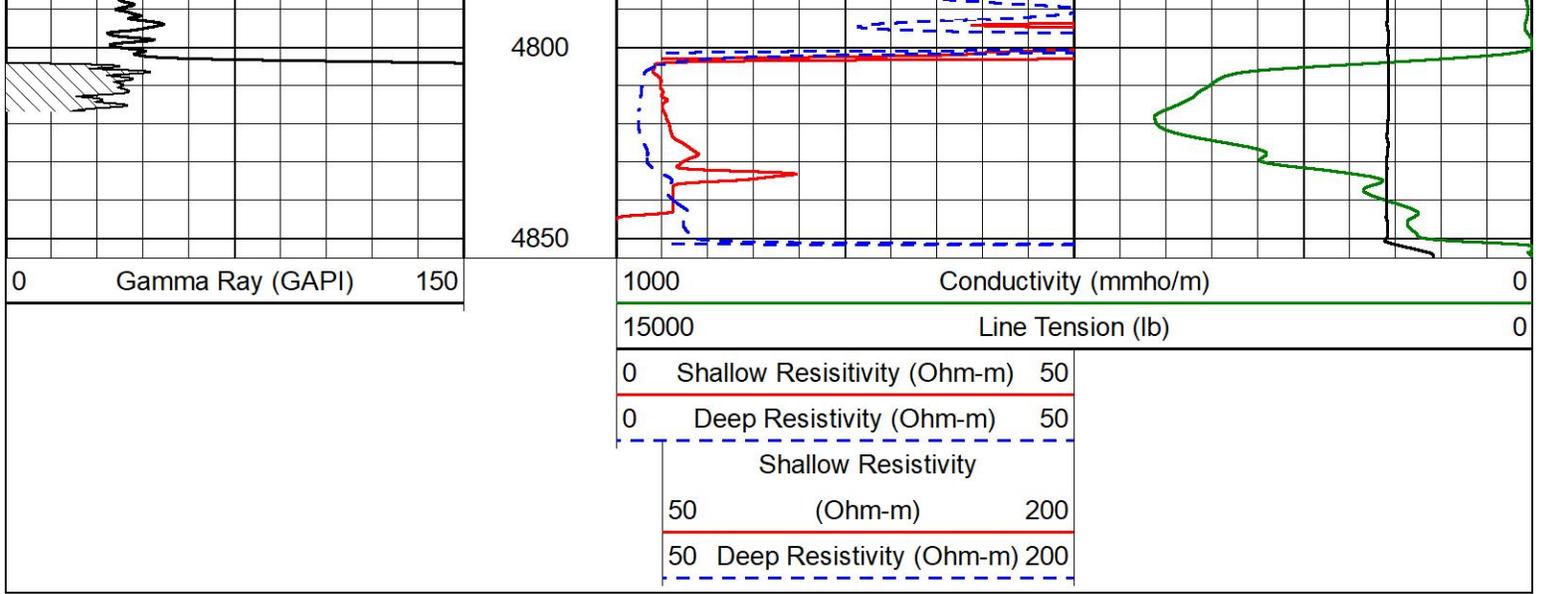
4100

4150

4200



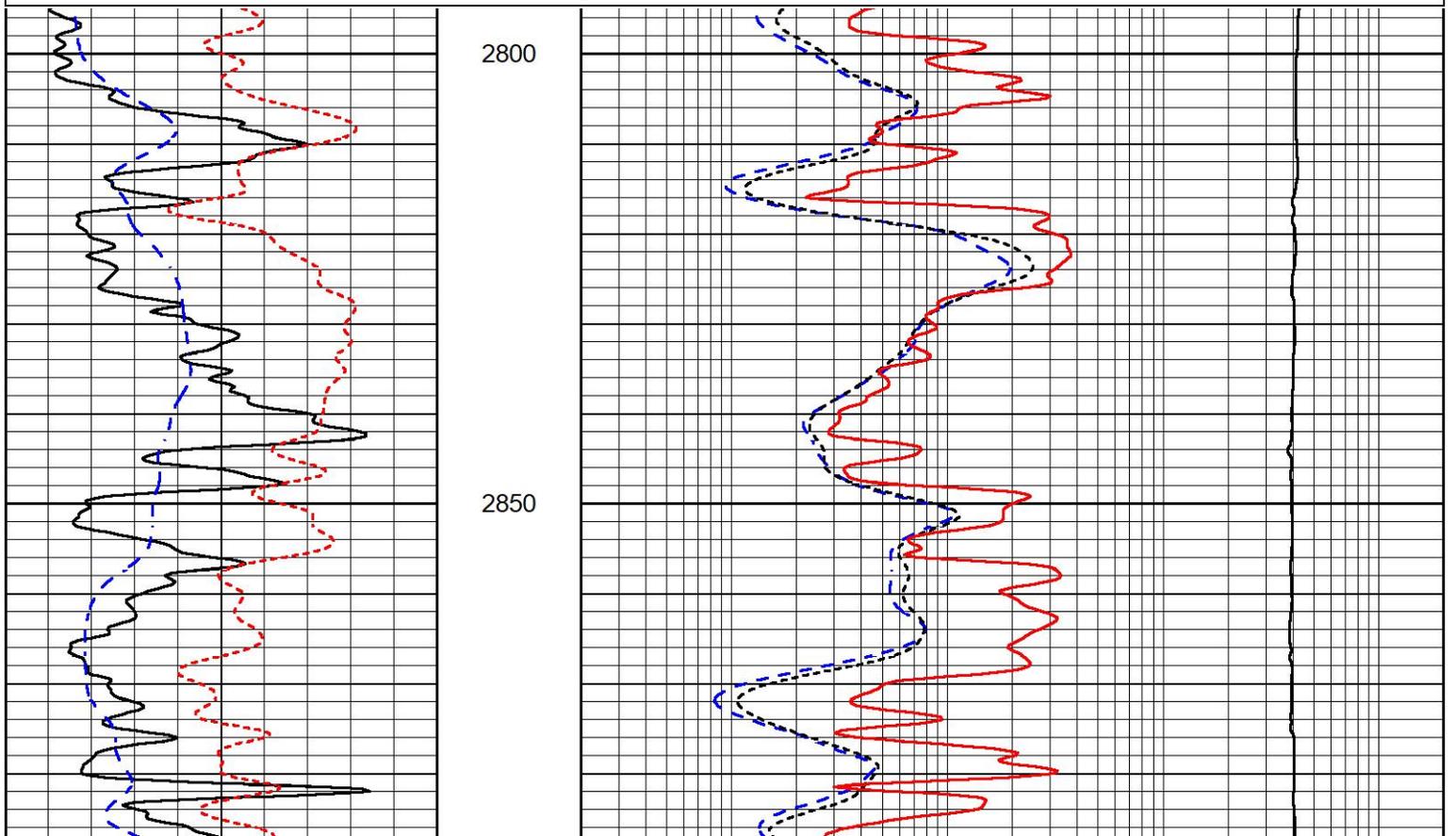
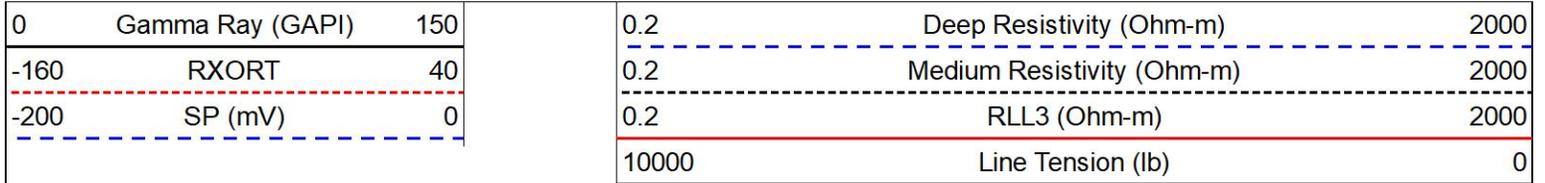


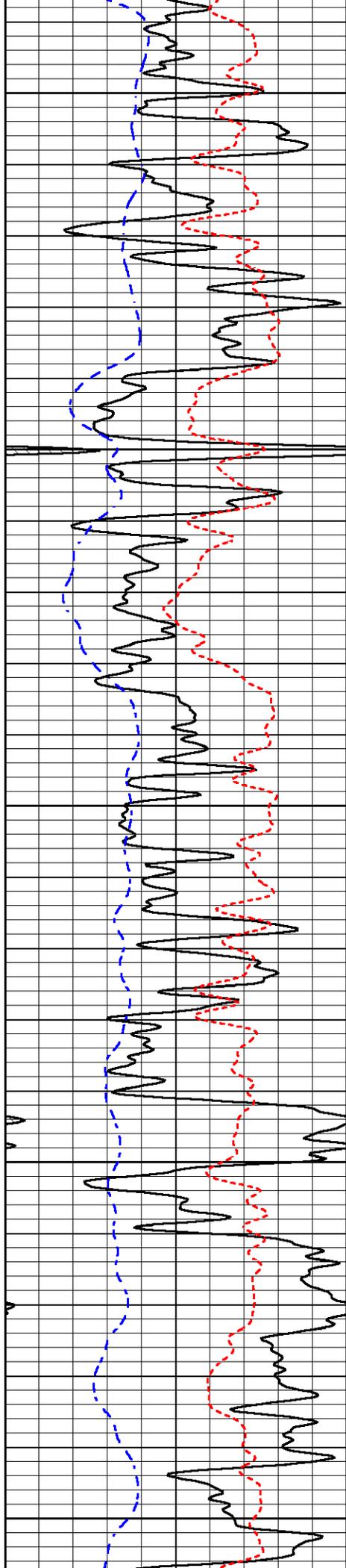


# DETAIL SECTION

## MAIN PASS

Database File griffin\_marla\_3.db  
 Dataset Pathname stackml/pass4.1  
 Presentation Format \_dil  
 Dataset Creation Thu Apr 28 09:14:33 2022  
 Charted by Depth in Feet scaled 1:240





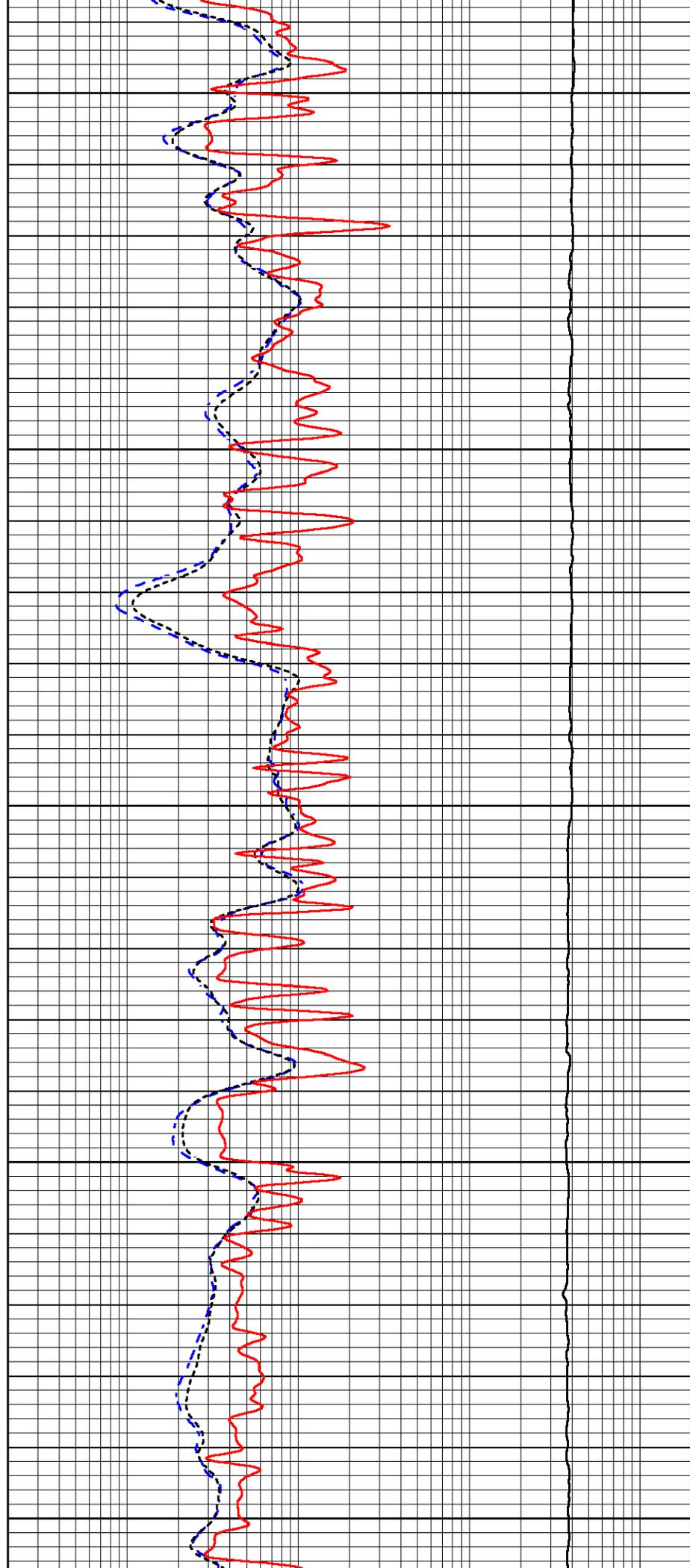
2900

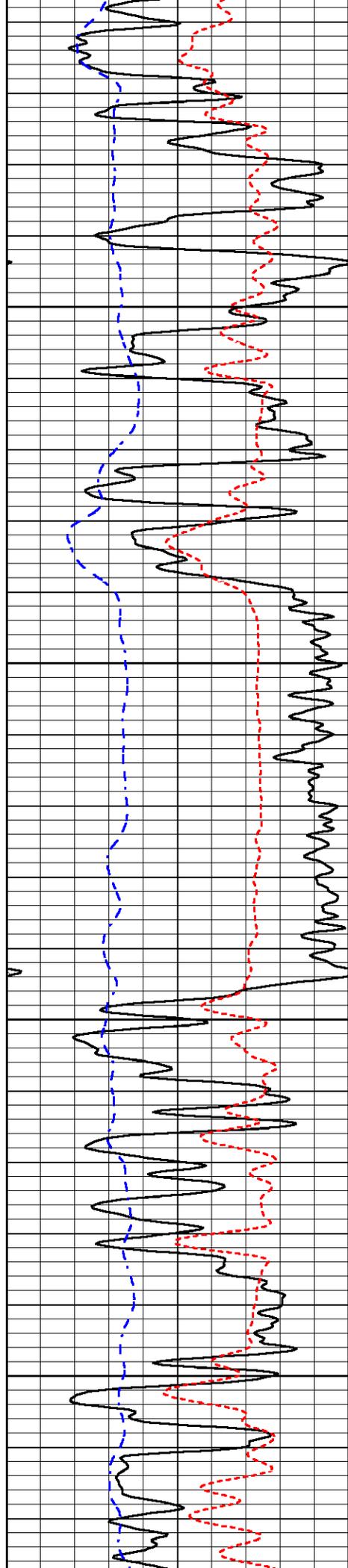
2950

3000

3050

3100



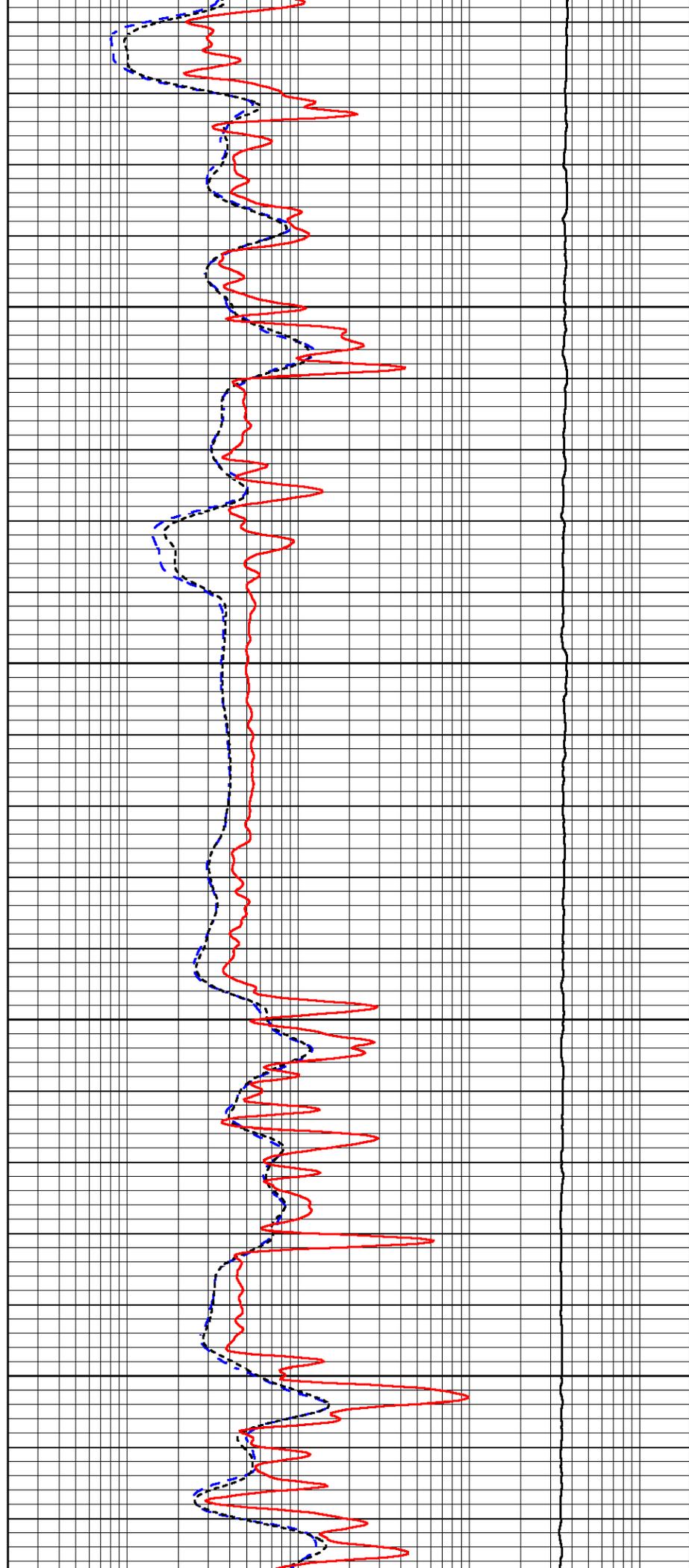


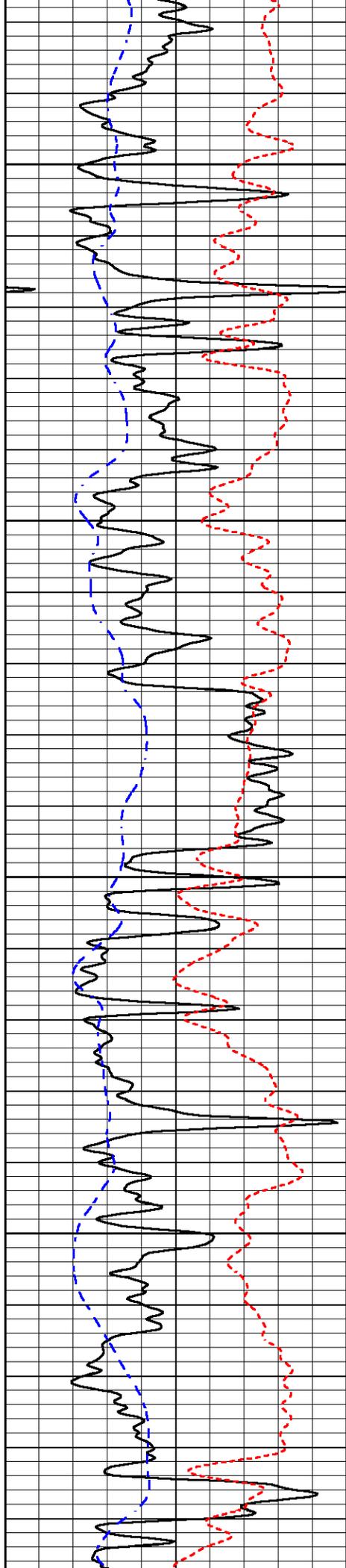
3150

3200

3250

3300



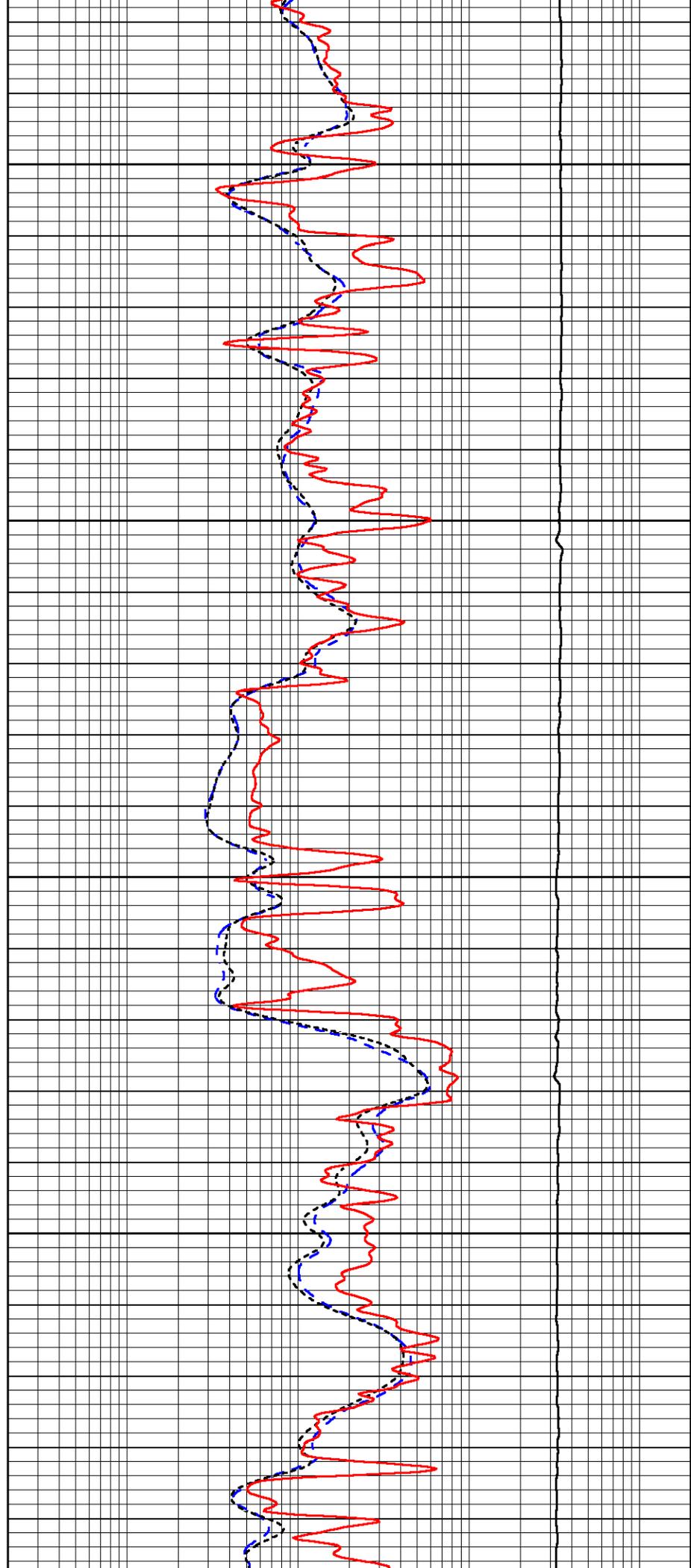


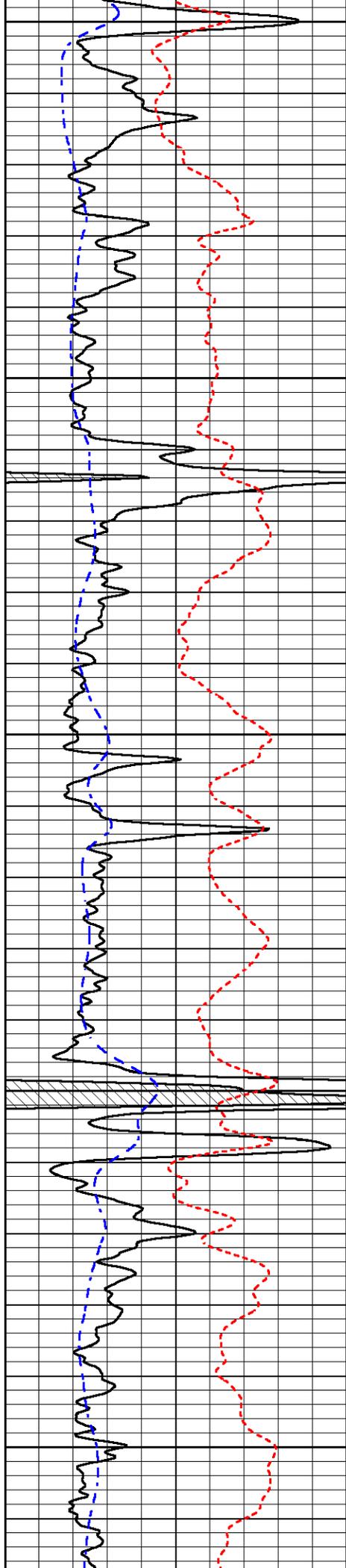
3350

3400

3450

3500





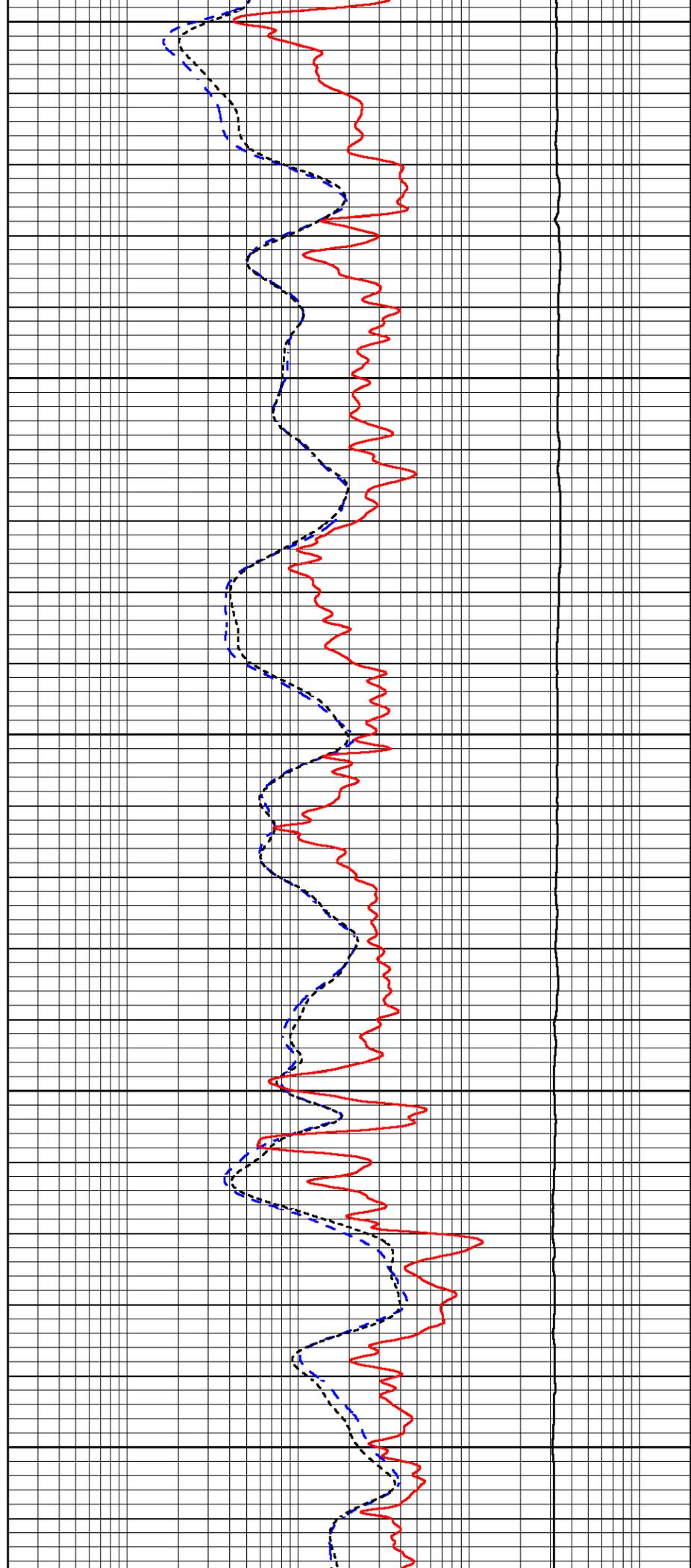
3550

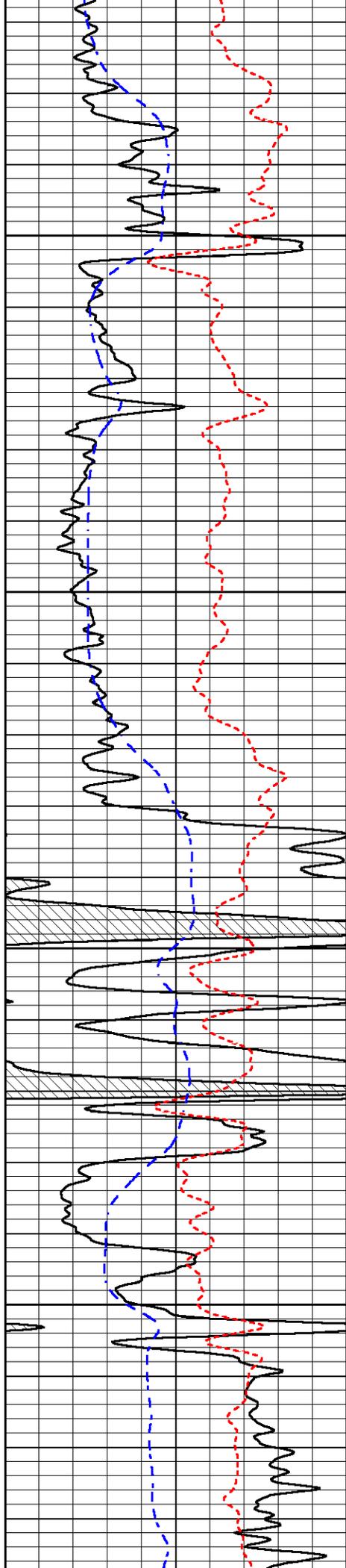
3600

3650

3700

3750



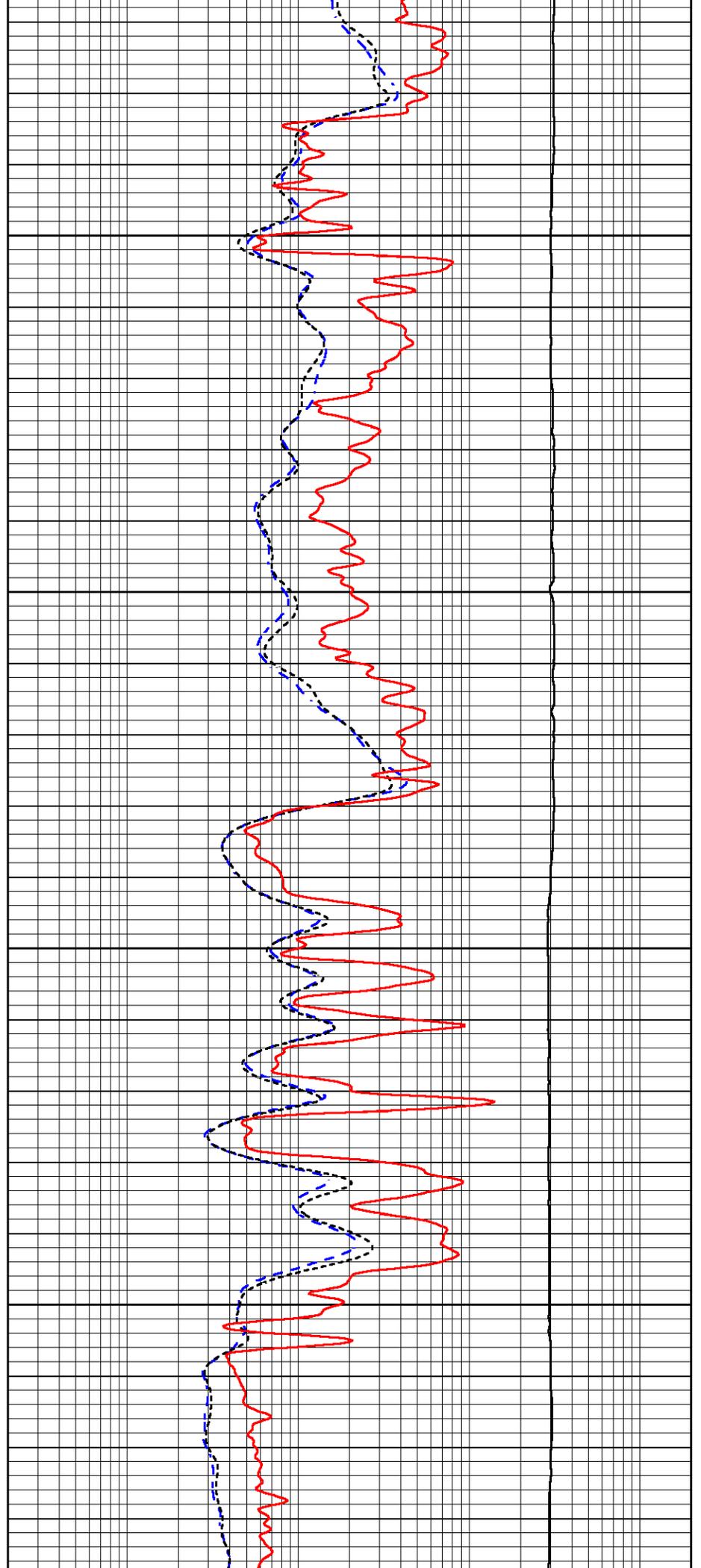


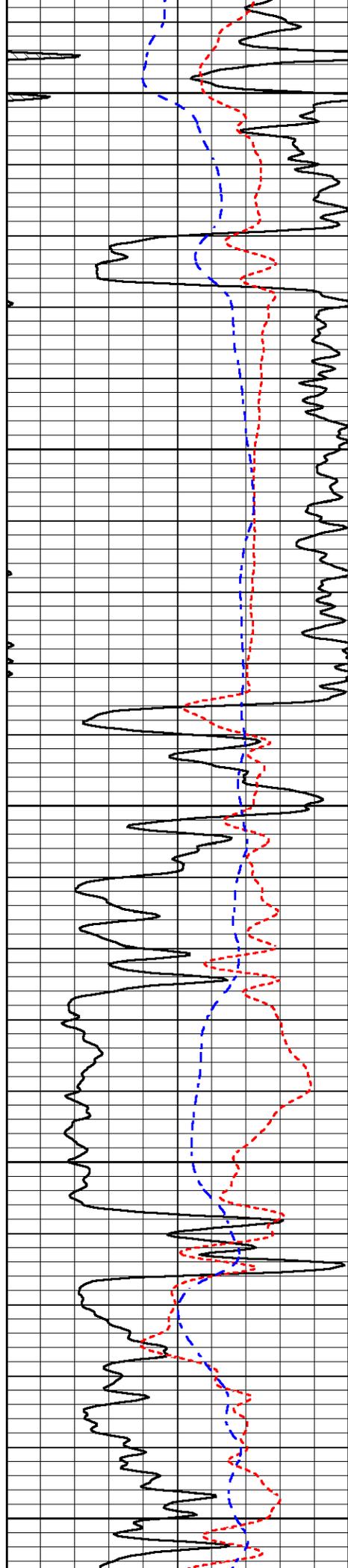
3800

3850

3900

3950





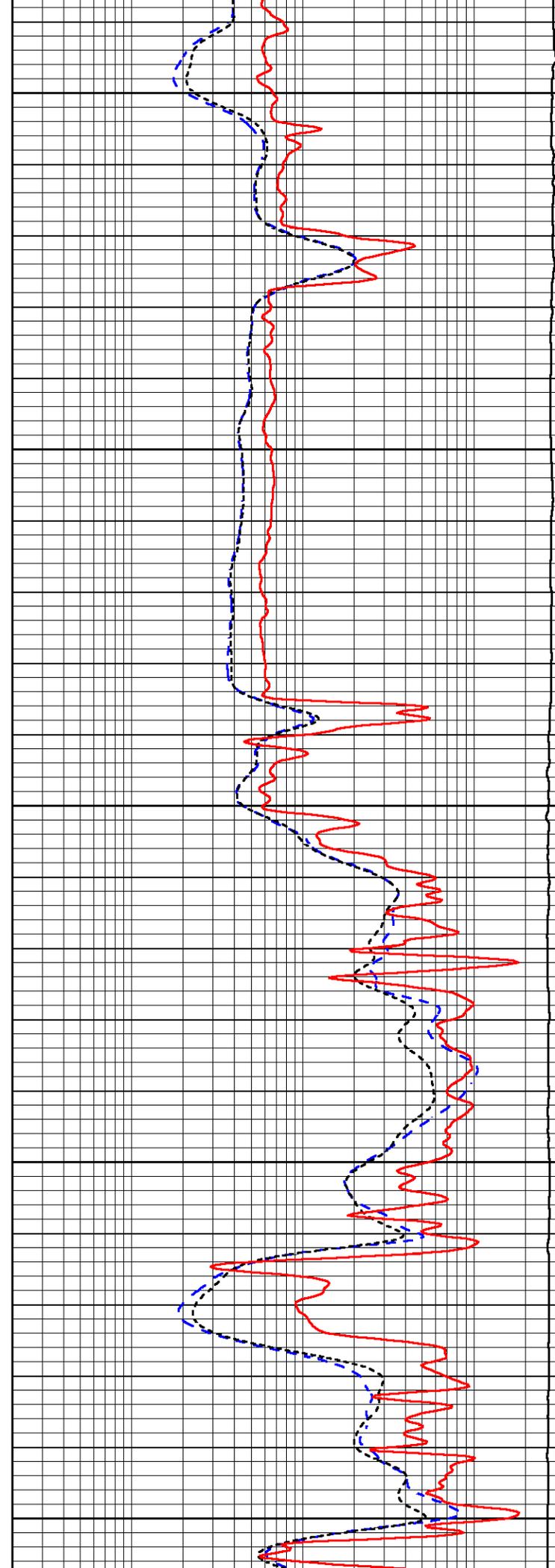
4000

4050

4100

4150

4200



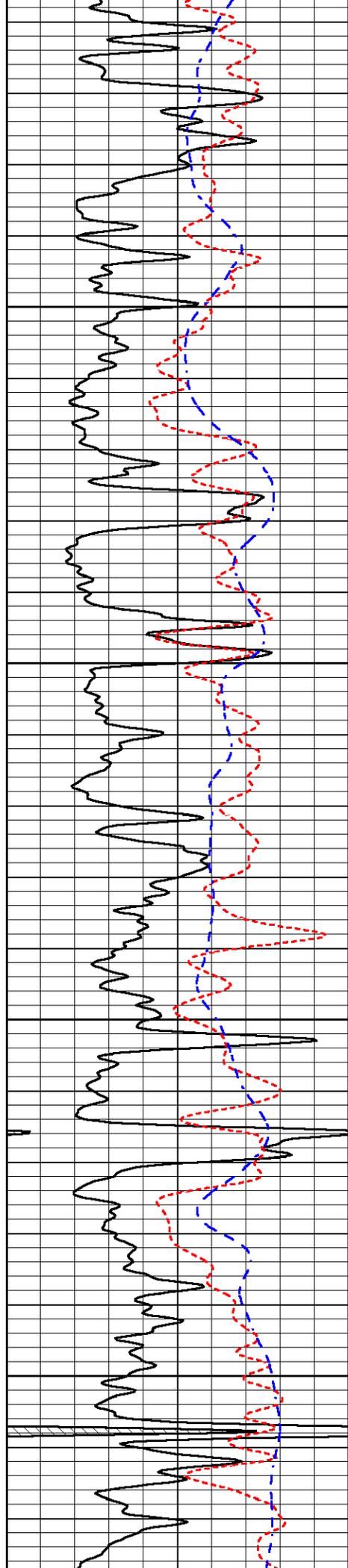
4000

4050

4100

4150

4200

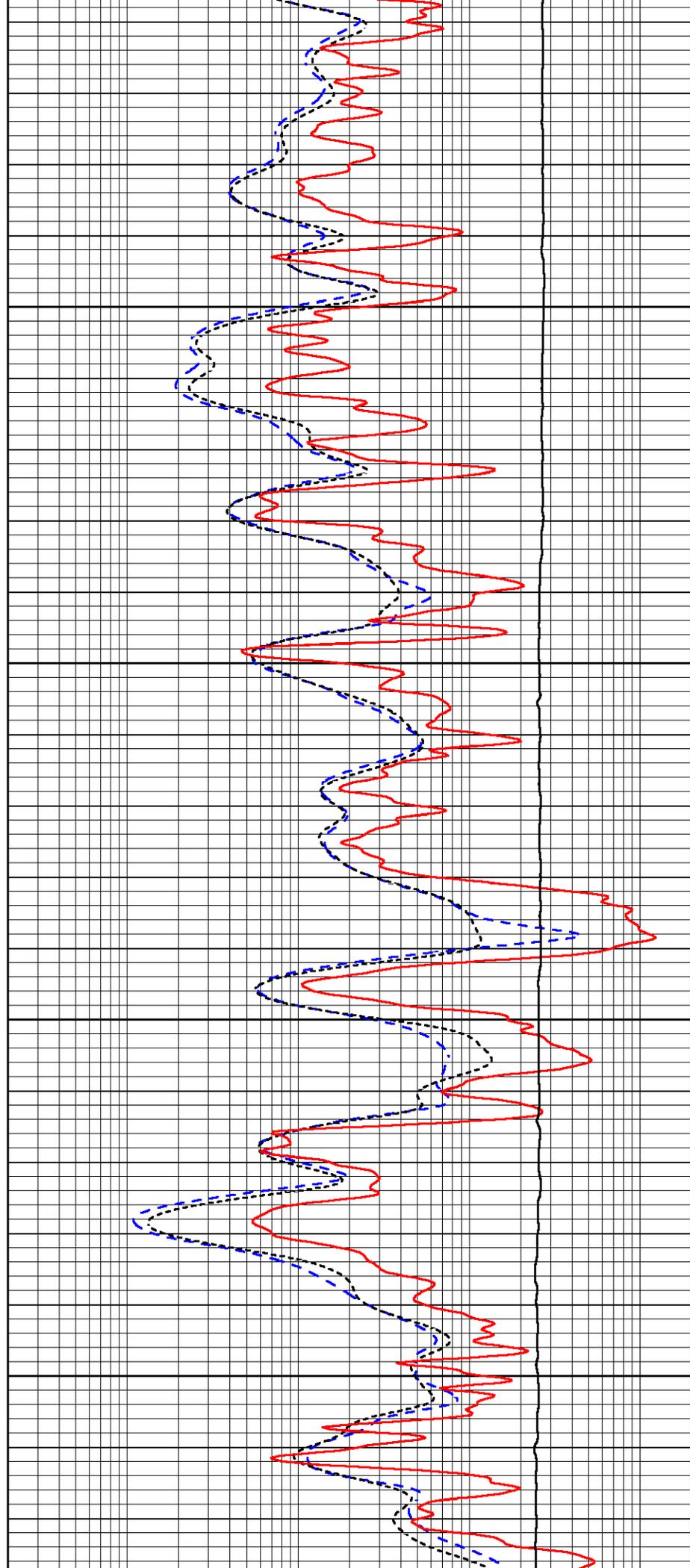


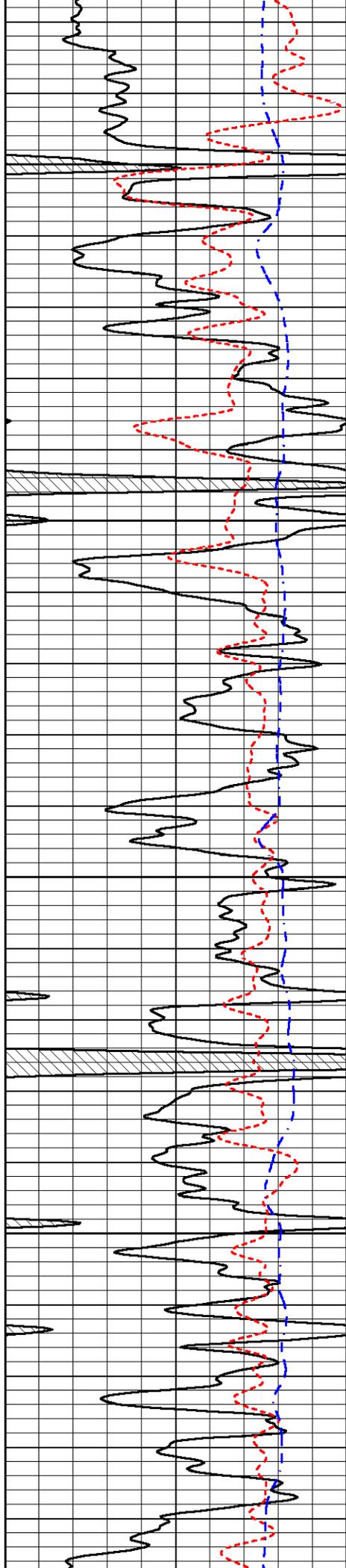
4250

4300

4350

4400



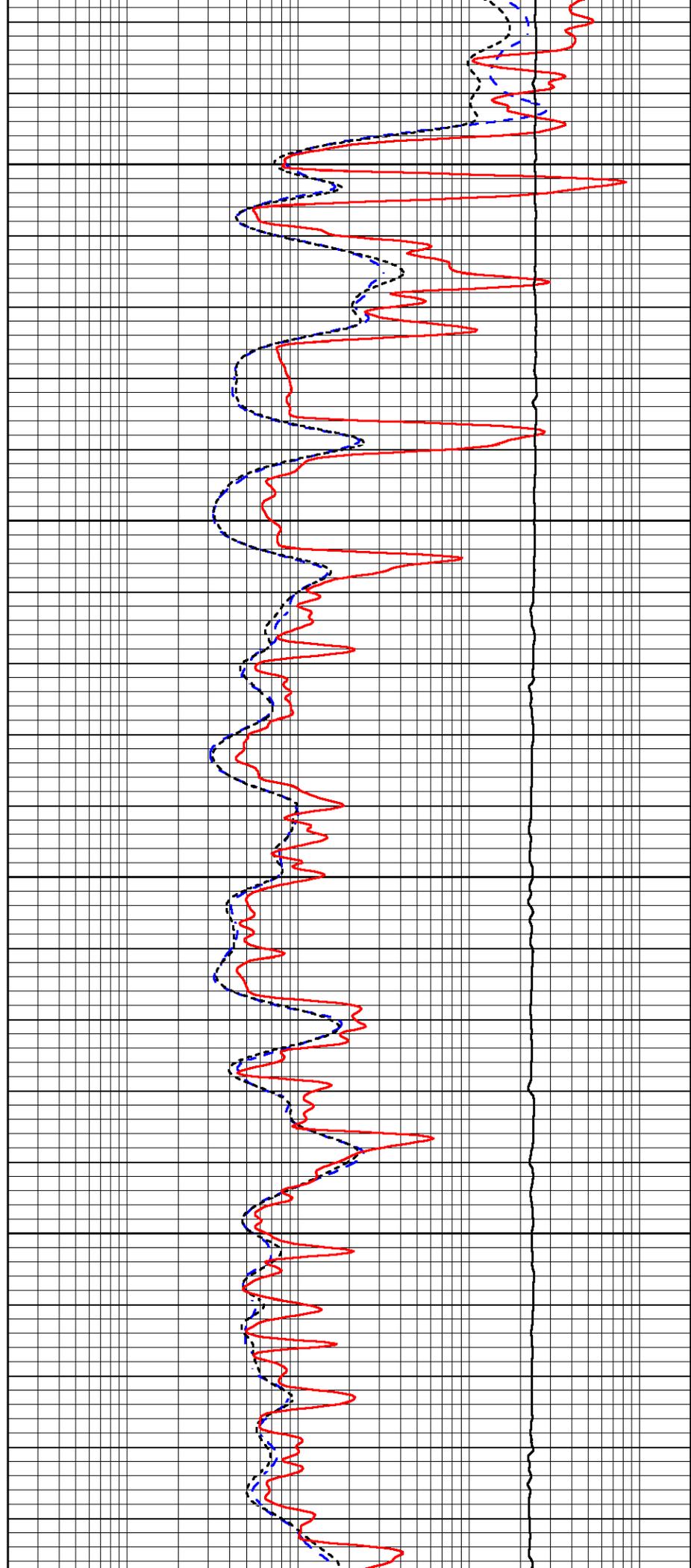


4450

4500

4550

4600

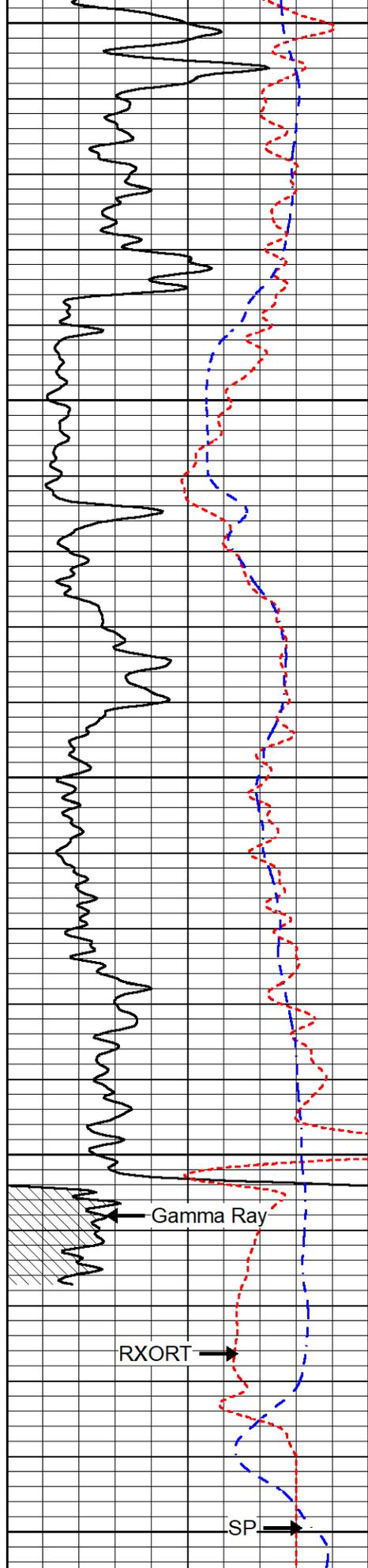


4450

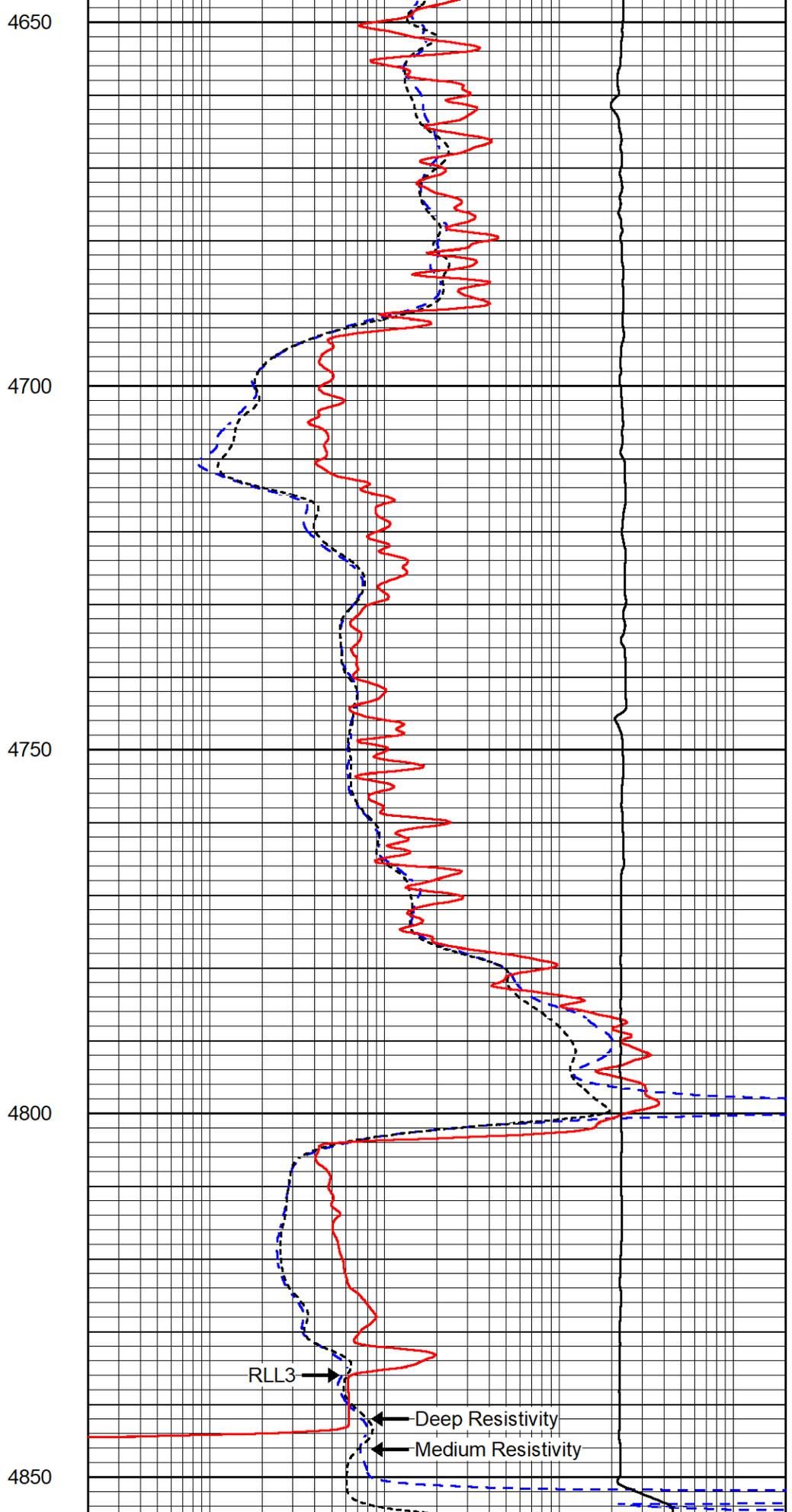
4500

4550

4600



0	Gamma Ray (GAPI)	150
-160	RXORT	40
200	SP (mV)	0



0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000

-200	SP (mV)	0
------	---------	---

0.2	RLL3 (Ohm-m)	2000
10000	Line Tension (lb)	0



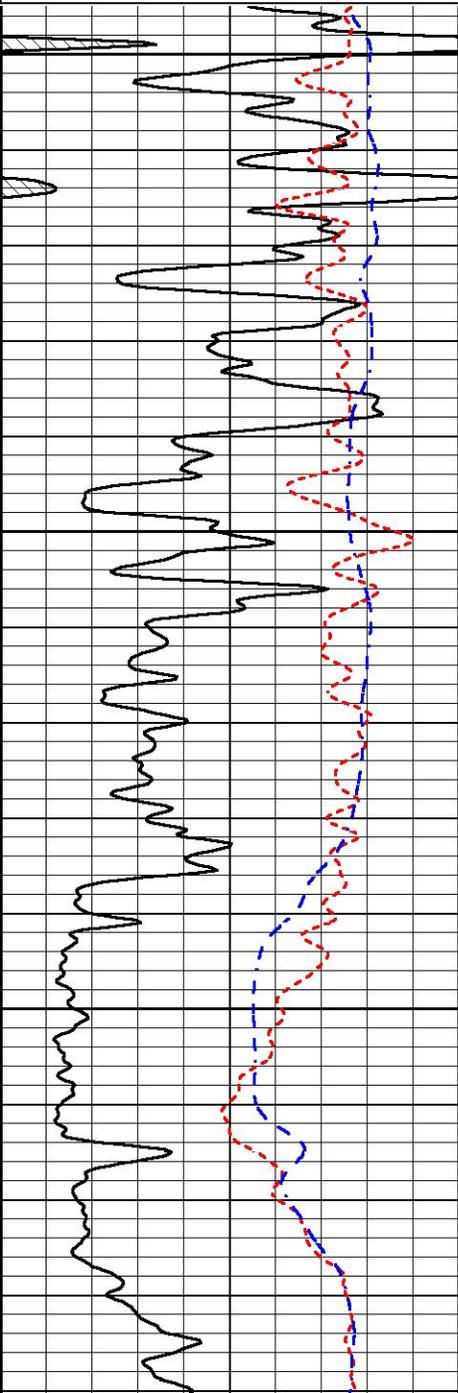
# REPEAT SECTION

## REPEAT PASS

Database File griffin\_marla\_3.db  
 Dataset Pathname stackml/pass2.1  
 Presentation Format \_dil  
 Dataset Creation Thu Apr 28 09:05:33 2022  
 Charted by Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150
-160	RXORT	40
-200	SP (mV)	0

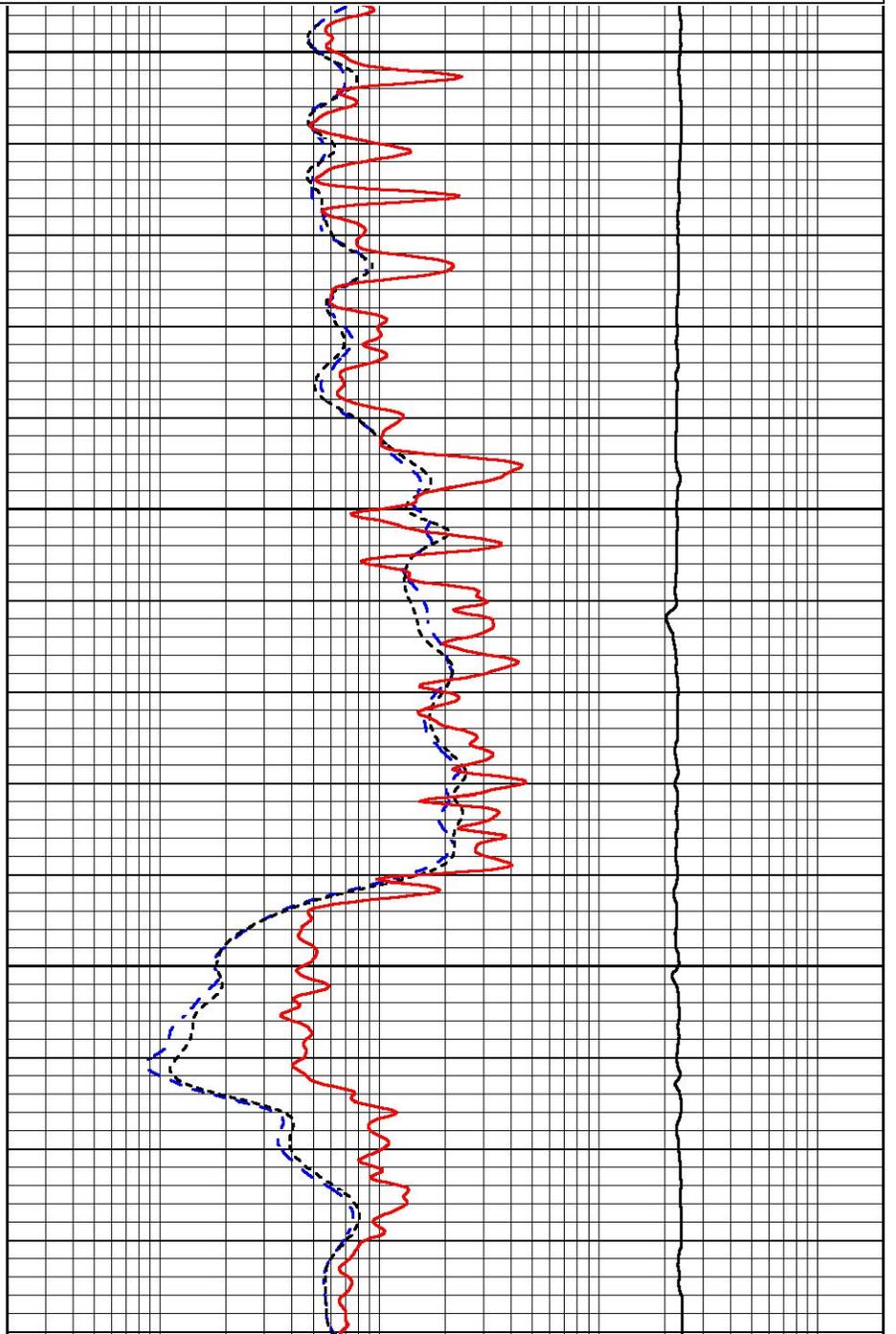
0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
10000	Line Tension (lb)	0

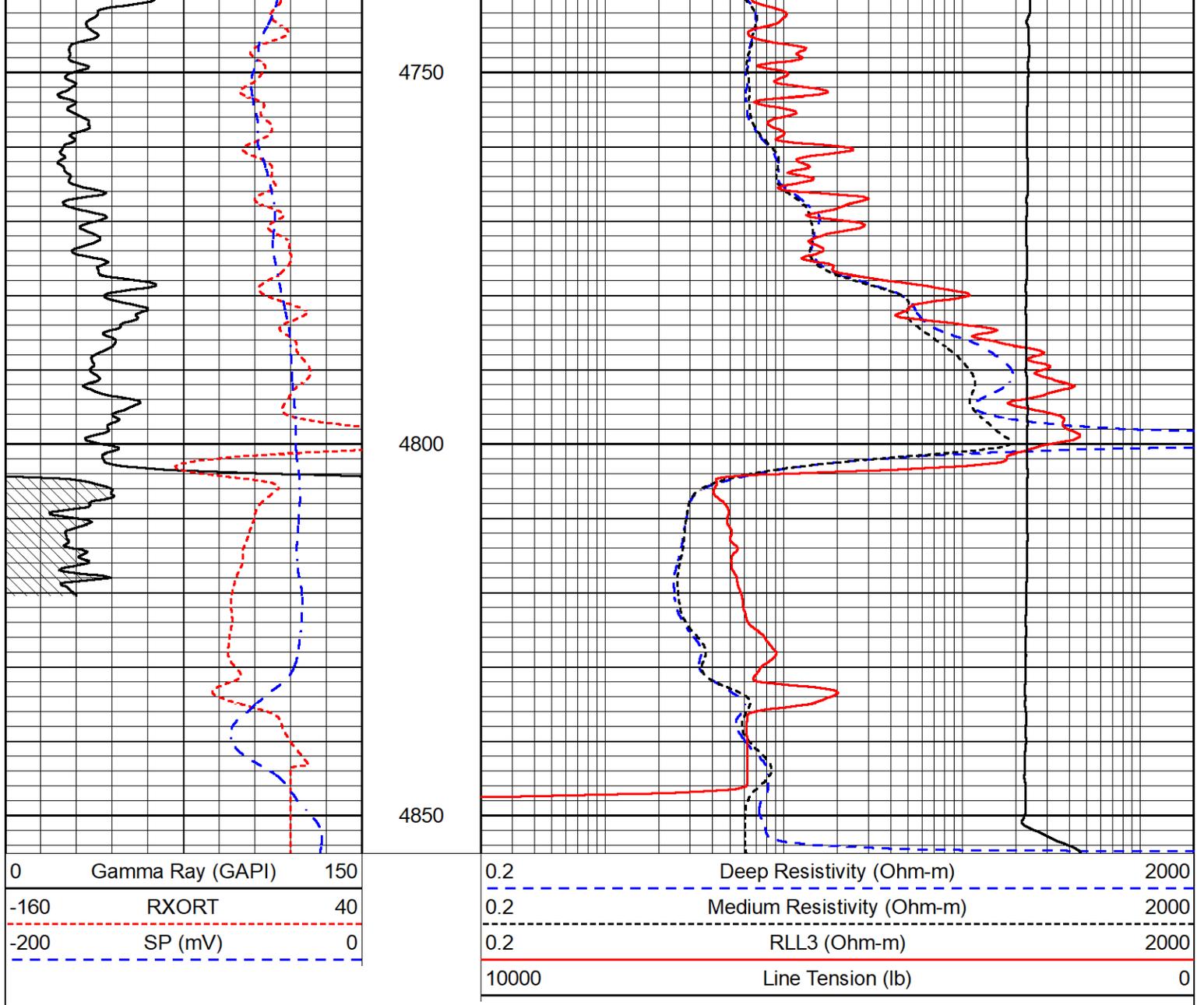


4600

4650

4700





### Calibration Report

Database File griffin\_marla\_3.db  
 Dataset Pathname stackml/pass4.1  
 Dataset Creation Thu Apr 28 09:14:33 2022

### Dual Induction Calibration Report

Serial-Model: 504 HT-M&W  
 Surface Cal Performed: Thu Dec 16 22:32:49 2021

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop	mmho/m	m	b
Deep	178.615	710.235	0.000	255.800	mmho/m	0.650	-19.000
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.450	-45.500

### Microlog Calibration Report

Serial-Model: 402-PSI STKBL ML  
 Performed: Sat Mar 19 19:10:40 2022

	Readings		References		Results		
	Zero	Cal	Zero	Cal		m	b
Normal	0.0037	0.0043	0.0000	10.0000	Ohm-m	17000.0000	-1.0000
Inverse	0.1208	0.0013	0.0000	10.0000	Ohm-m	15500.0000	0.0000
Caliper	1.0020	1.0834	5.5000	16.5000	in	135.1520	-131.2000

**Compensated Density Calibration Report**

Serial-Model: 303-03-M&W  
Source #: 21170B  
Master Calibration Performed: Thu Dec 16 23:28:34 2021

**Master Calibration**

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	3841.78	5151.73	cps
Aluminum	2.670	g/cc	700.98	3068.49	cps
Spine Angle = 73.06			Density/Spine Ratio = 0.515		
	Size		Reading		
Small Ring	4.00	in	1.17		
Large Ring	14.00	in	1.04		

**Compensated Neutron Calibration Report**

Serial-Model: 210-M&W  
Source #: N-1238  
Master Calibration Performed: Fri Dec 3 09:16:24 2021

**Master Calibration**

Detector	Readings	Target	Normalization
Short Space	6240.00 cps	1000.00 cps	1.6025
Long Space	460.00 cps	1000.00 cps	1.9500

**Gamma Ray Calibration Report**

Serial Number: 103  
Tool Model: M&W  
Performed: Fri Dec 3 12:13:24 2021

Calibrator Value: 500.0 GAPI

Background Reading: 28.0 cps  
Calibrator Reading: 986.0 cps

Sensitivity: 0.5700 GAPI/cps



Company: Griffin Management LLC  
Well: Marla 3  
Field: Lee Ranch  
County: Barber  
State: Kansas