



MIDWEST WIRELINE

DUAL INDUCTION LOG

Company **Murfin Drilling Company, Inc.**
 Well **KB # 1-2**
 Field **Wildcat**
 County **Greeley** State **Kansas**

Company **Murfin Drilling Company, Inc.**
 Well **KB # 1-2**
 Field **Wildcat**
 County **Greeley**
 State **Kansas**

Location: **API #: 15-071-20876-00-01**
808' FNL & 445' FWL
 SEC 2 TWP 17S RGE 43W
 Permanent Datum **Ground Level** Elevation **3904'**
 Log Measured From **Kelly Bushing**
 Drilling Measured From **Kelly Bushing**
 Other Services **CNL/CDL**
 Elevation **3912'**
 K.B. **N/A**
 D.F. **N/A**
 G.L. **3904'**

Date	6/12/2021
Run Number	One
Depth Driller	5235'
Depth Logger	5240'
Bottom Logged Interval	5239'
Top Log Interval	00
Casing Driller	8.625" @ 307'
Casing Logger	301'
Bit Size	7.875"
Type Fluid in Hole	Chemical
Salinity, ppm CL	3800
Density / Viscosity	8.7 63
pH / Fluid Loss	11.5 8.0
Source of Sample	FLOWLINE
Rm @ Meas. Temp	.74 @ 63
Rmt @ Meas. Temp	.56 @ 63
Rmc @ Meas. Temp	1.0 @ 63
Source of Rmf / Rmc	CHARTS
Rm @ BHT	.36 @ 128
Operating Rig Time	3 Hours
Max Rec. Temp. F	128 Deg/F
Equipment Number	P-108
Location	HAYS
Recorded By	J. Henrickson
Witnessed By	Paco

<<< 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.

Sharon Springs Kansas
 South to D Rd, West to 2 Rd, 3 South, 1.8 West
 South Into

Log Measured From: Kelly Bushing 8 Ft. Above Permanent Datum

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


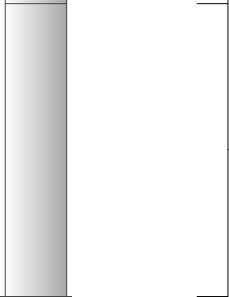
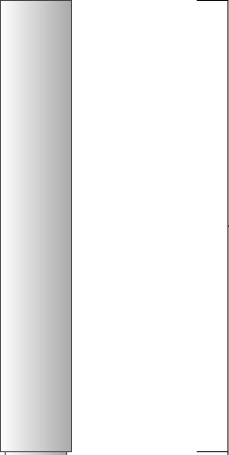

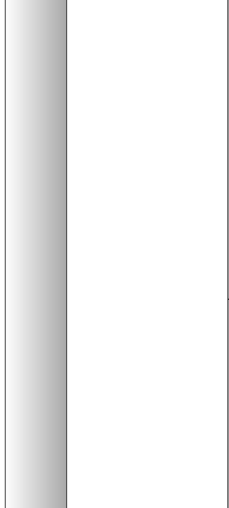
Your Midwest Wireline Crew Engineer: J. Henrickson Operator: Operator: Operator:	This Log Record Was Witnessed By Primary Witness: Paco Secondary Witness: Secondary Witness: Secondary Witness:
---	--

Log Variables

DatabaseC:\ProgramData\Warrior\Data\murfin_kb_1_2.db
 Dataset field/well/stack/pass5.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	128	5.5	0	1	2	2.71
NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	0	3	0	670	72	Off	5240

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	33.00		GR-M&W (89-M&W)	3.00	3.50	50.00
CNLSC CNSSC	29.90 29.15		CNT-M&W (tk10-MW)	5.50	3.50	100.00
LSD DCAL SSD	20.85 20.83 20.35		CDL-M&W (915-956)	8.50	4.00	250.00
RLL3F RLL3	15.80 15.80					
CILD	8.00		DIL-PSI HIGH TEMP (952-828)	18.50	3.50	220.00

CILM 4.70

SP 0.20

Dataset: murfin_kb_1_2.db: field/well/stack/pass5.1
 Total length: 35.50 ft
 Total weight: 620.00 lb
 O.D.: 4.00 in



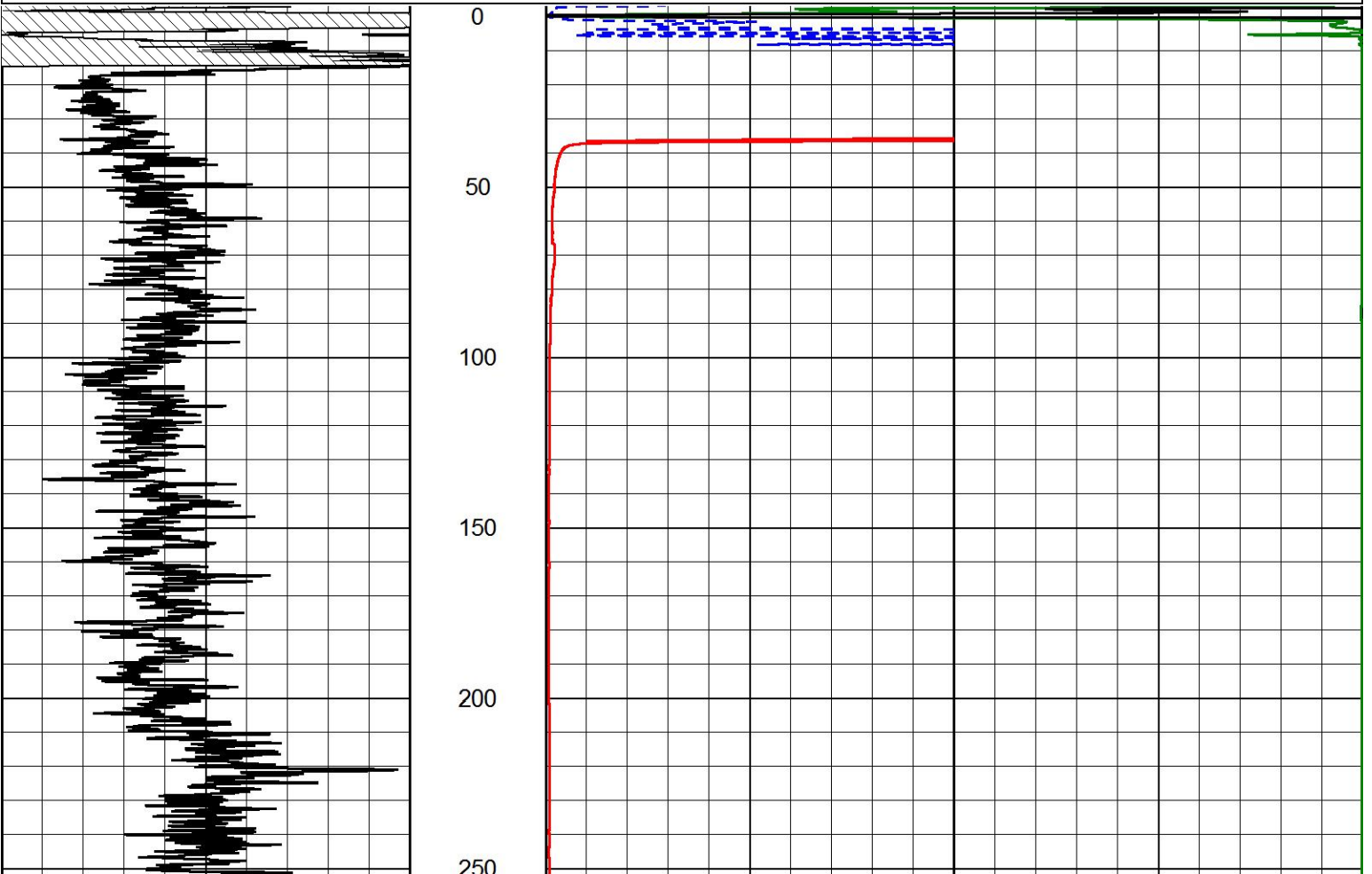
MIDWEST WIRELINE

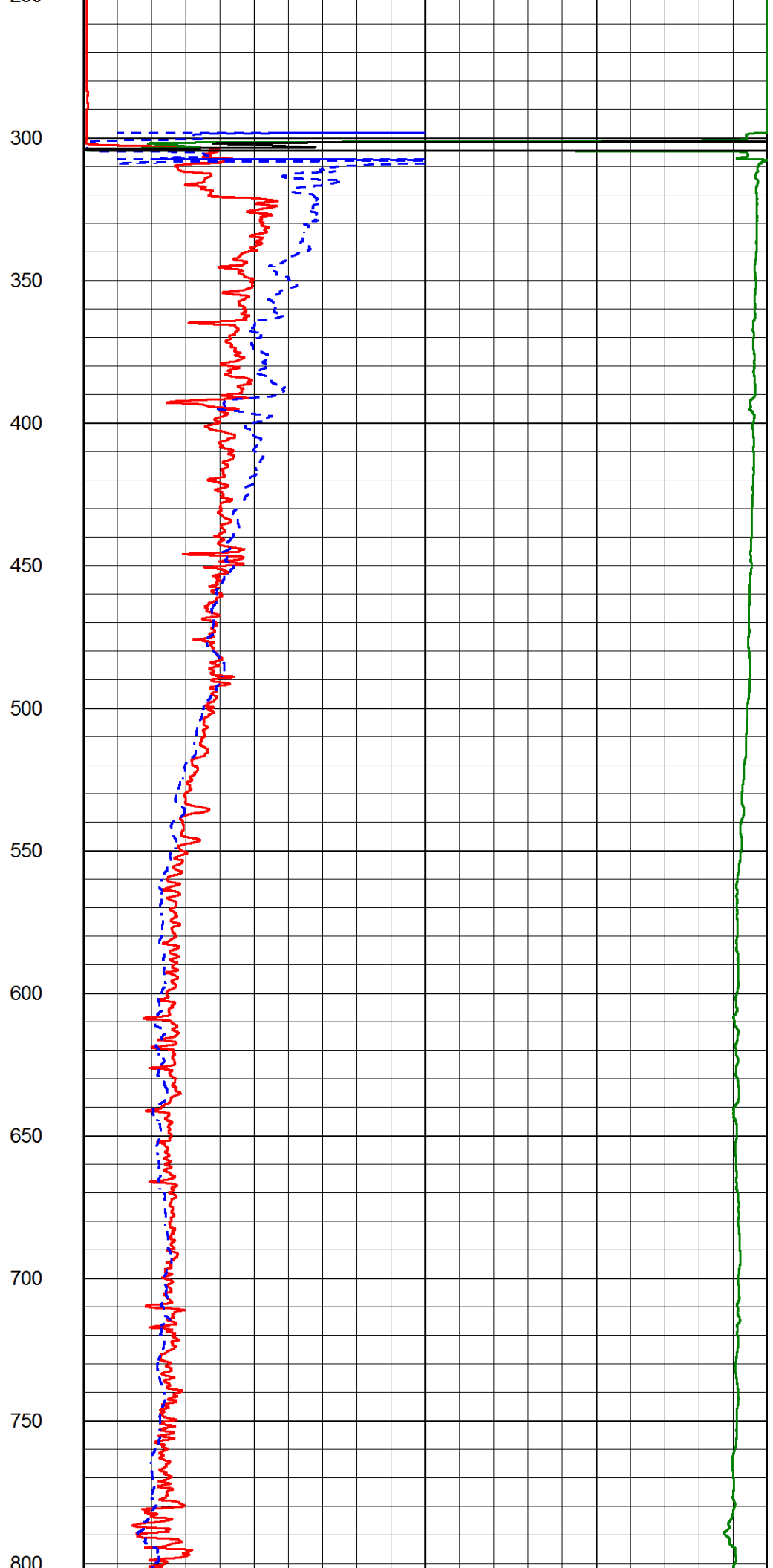
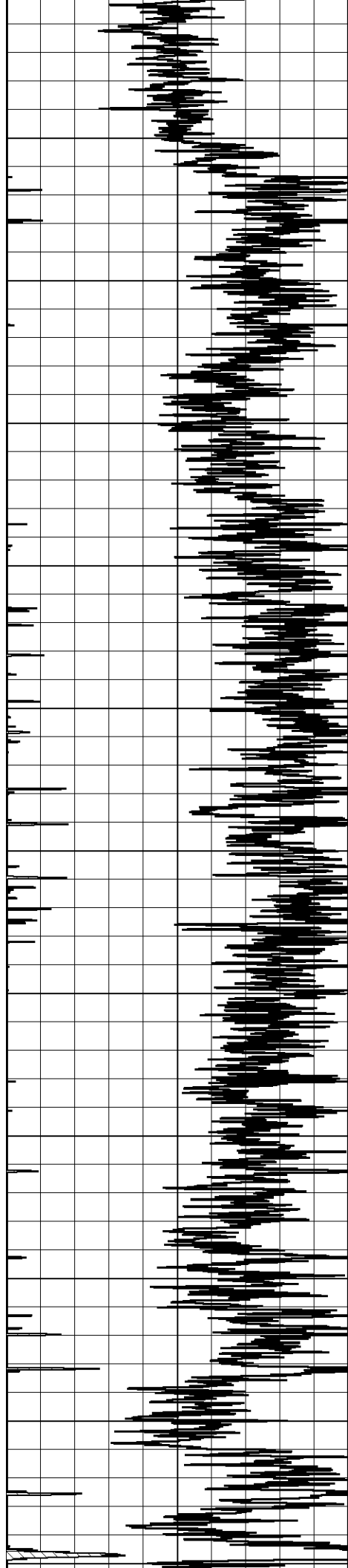
2" SCALE RESISTIVITY

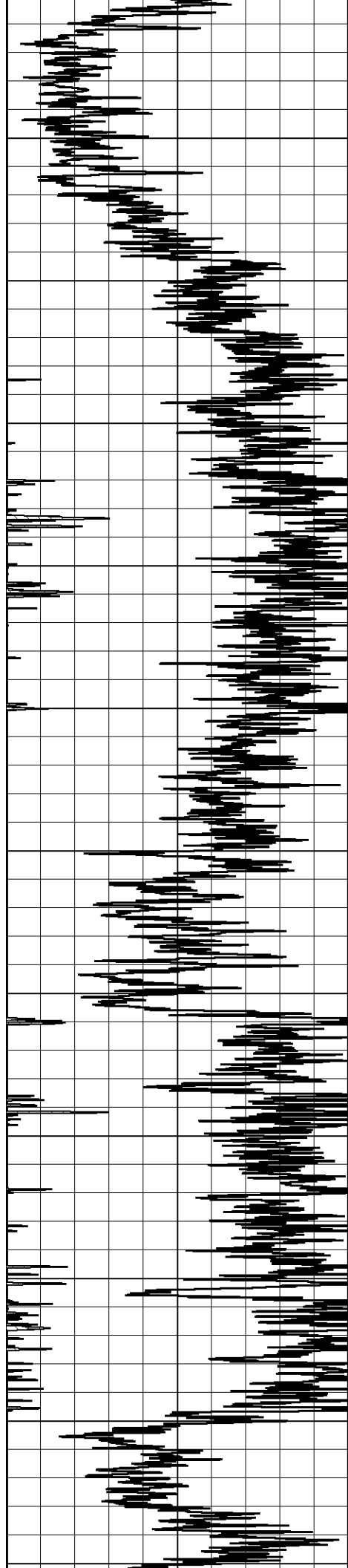
MAIN PASS

Database File murfin_kb_1_2.db
 Dataset Pathname stack/pass6.1
 Presentation Format dil2in
 Dataset Creation Sun Jun 13 11:15:11 2021
 Charted by Depth in Feet scaled 1:600

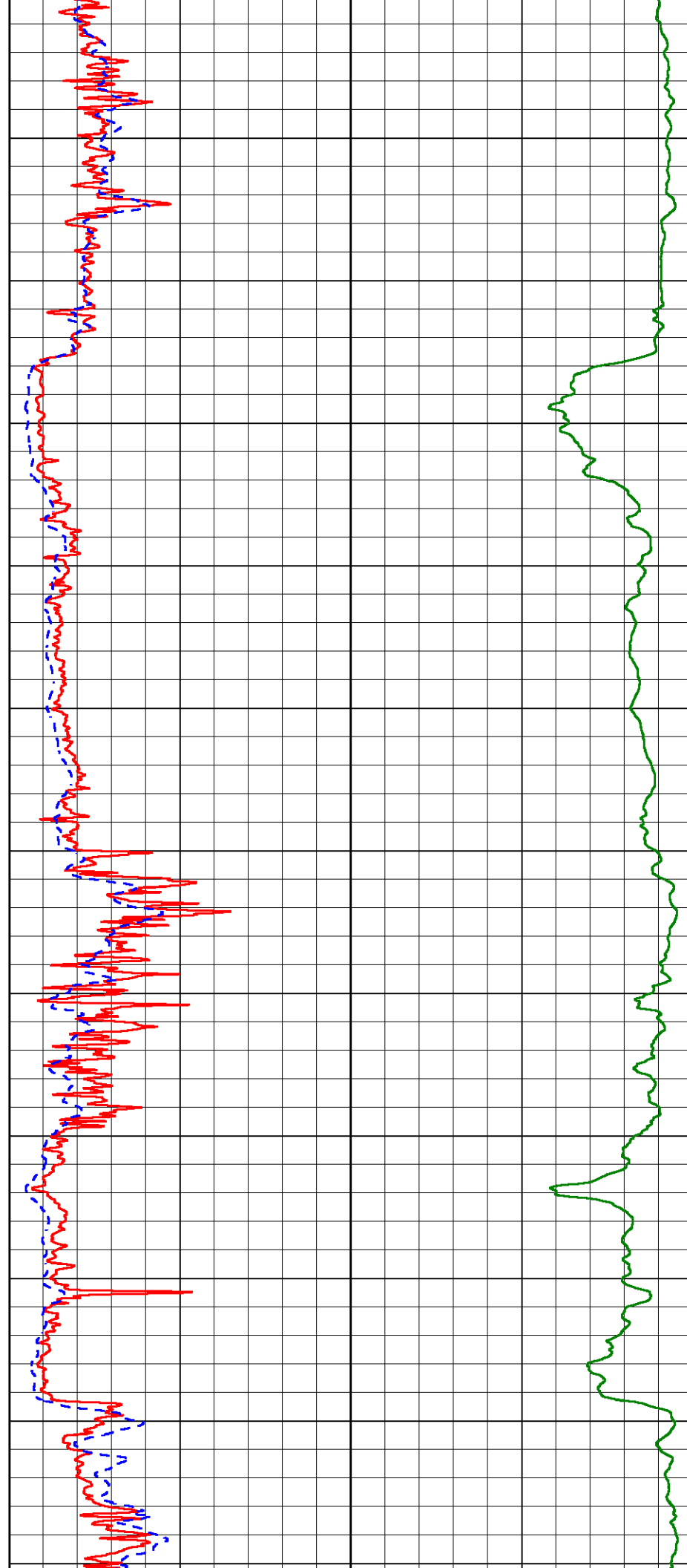
0	GAMMA RAY (GAPI)	150	2000	CILD (mmho/m)	0
0	RLL3 (Ohm-m)	50	0	DEEP RESISTIVITY (Ohm-m)	50
50	RLL3 (Ohm-m)	200	50	RILD (Ohm-m)	200

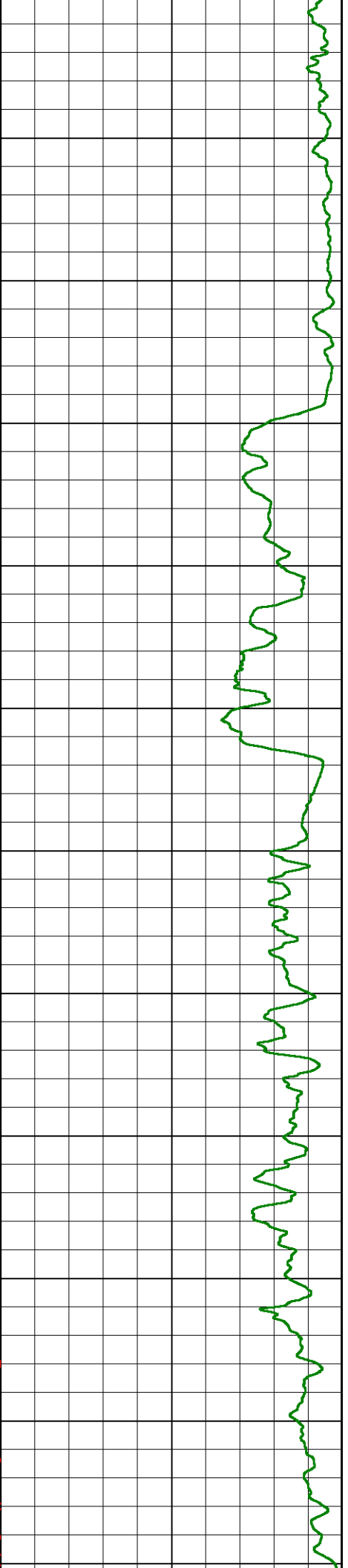
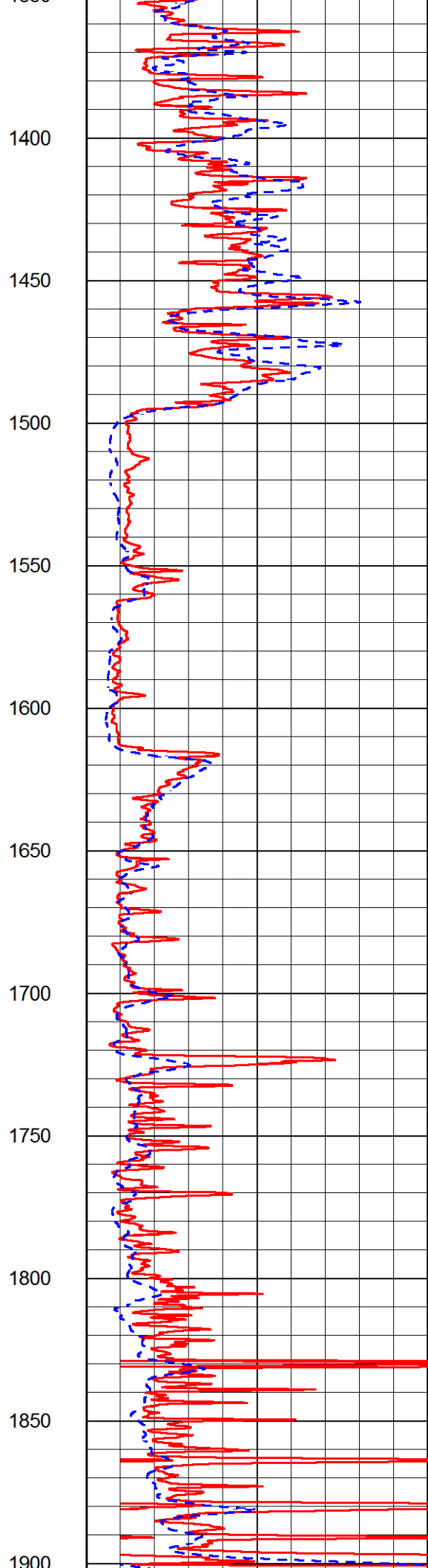
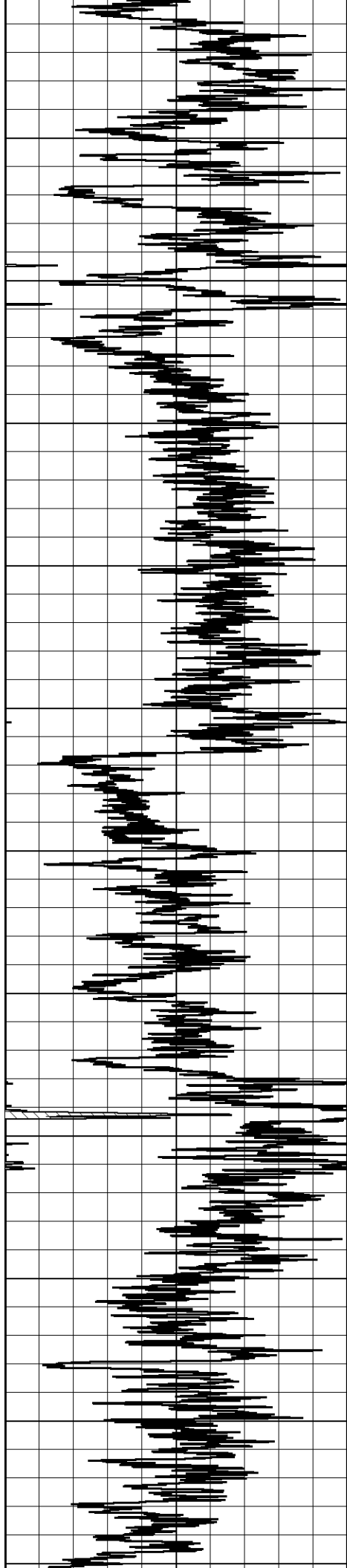


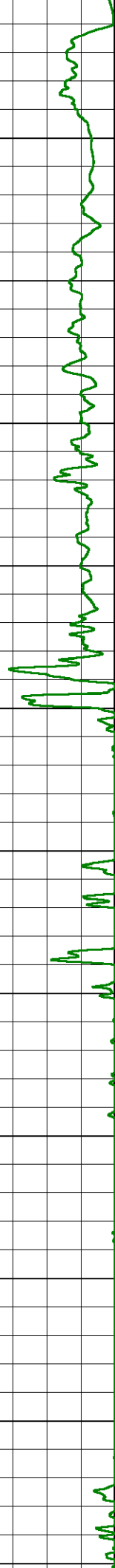
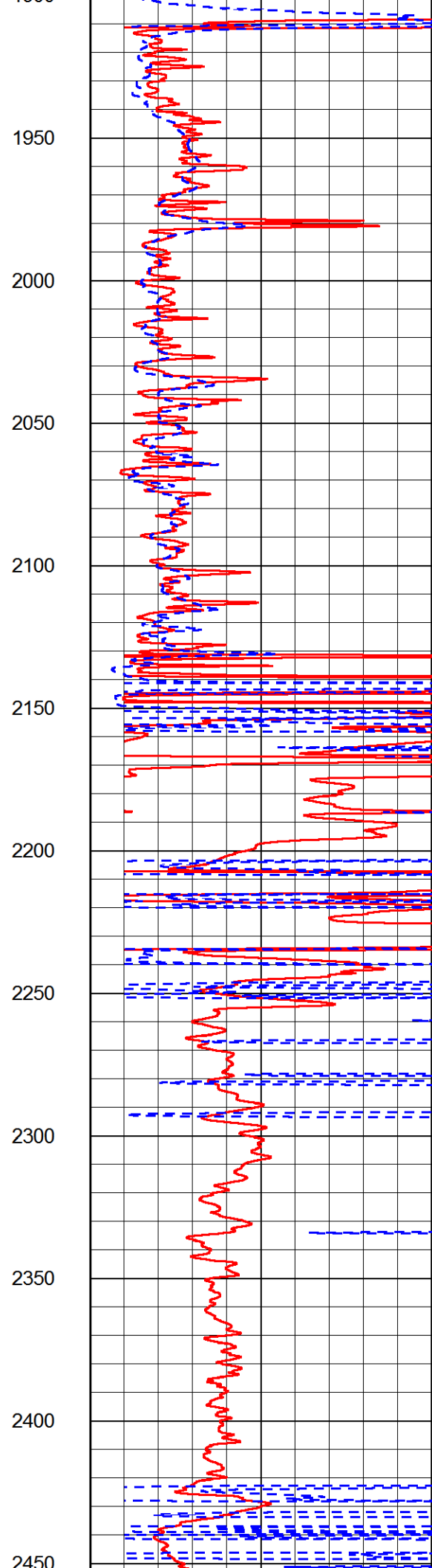
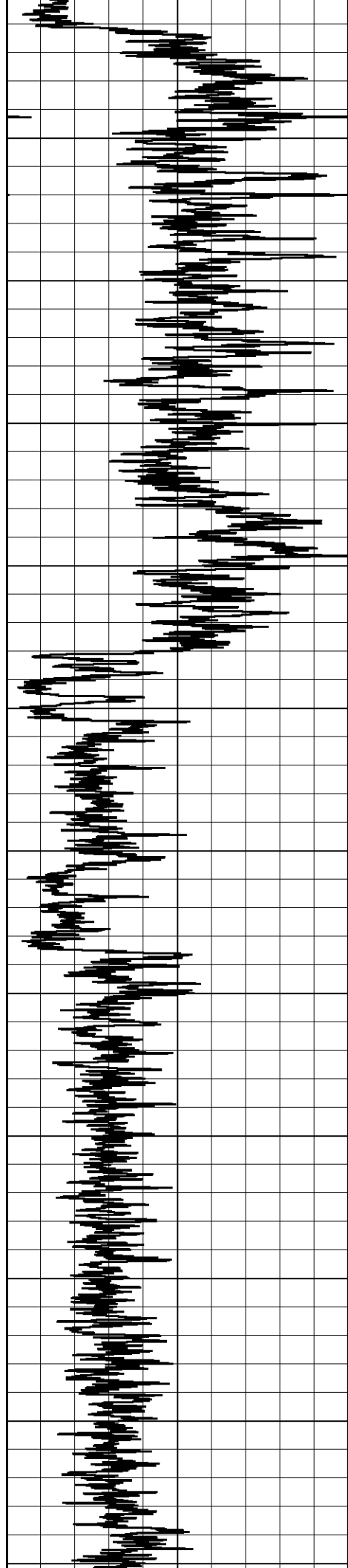


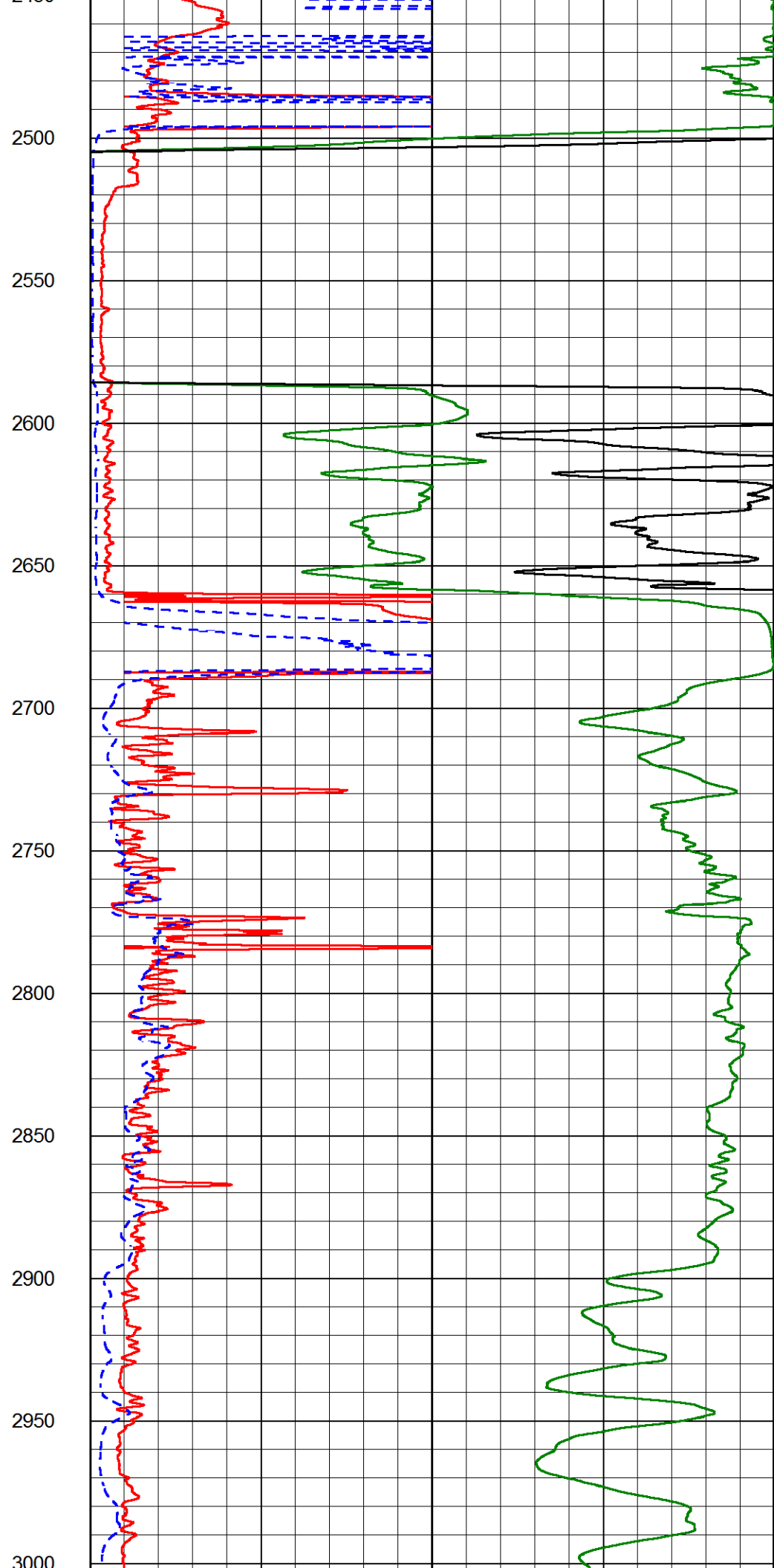
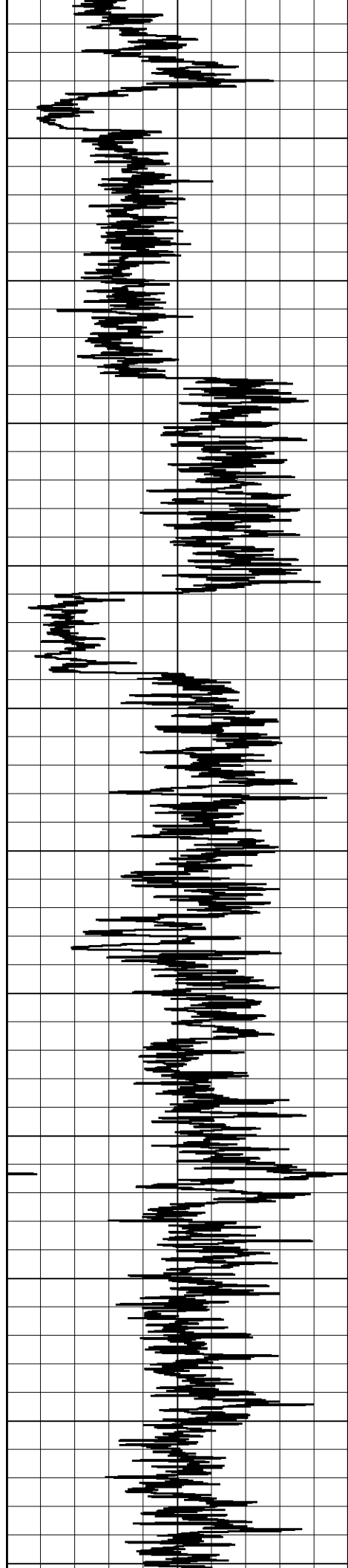


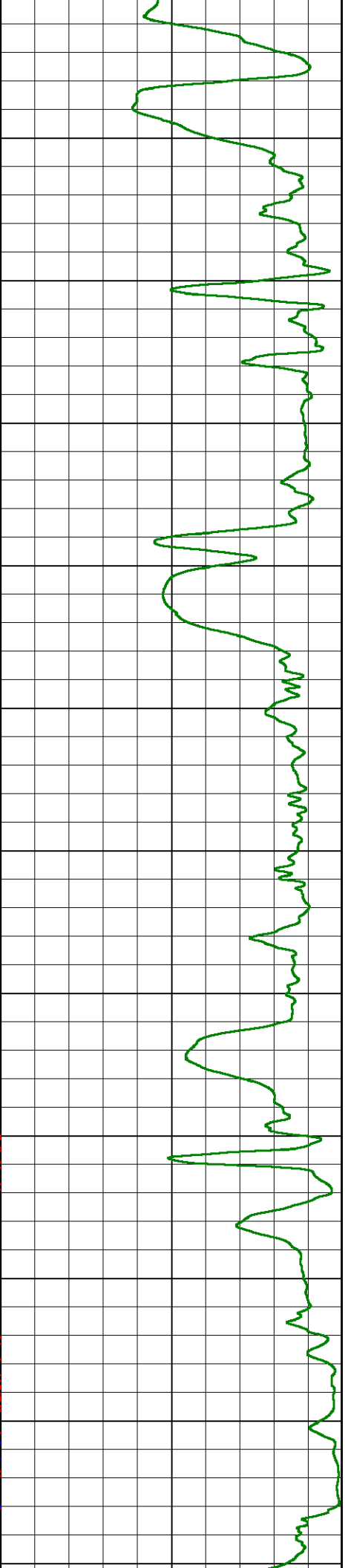
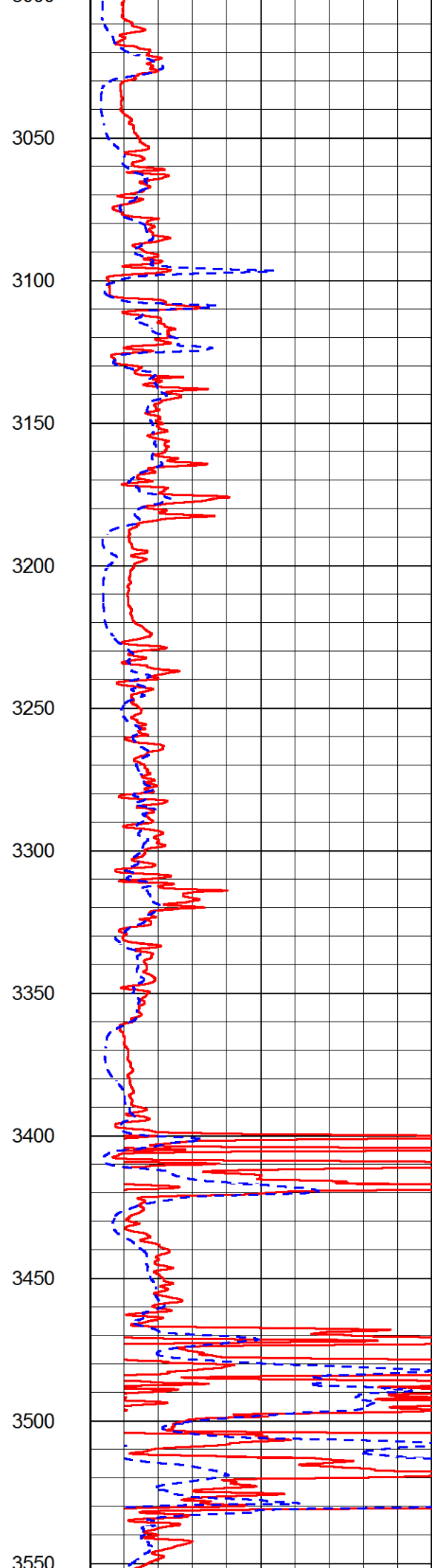
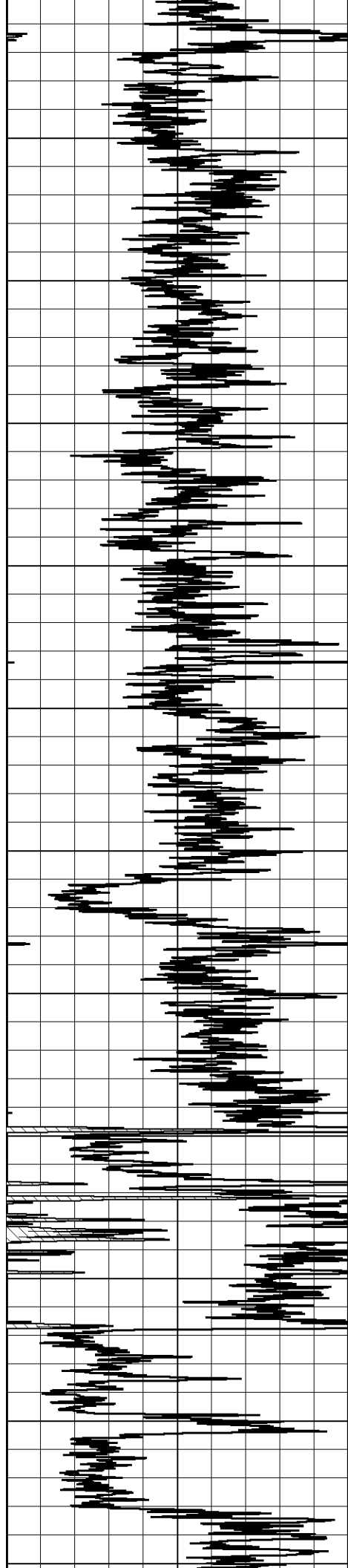
880
850
900
950
1000
1050
1100
1150
1200
1250
1300
1350

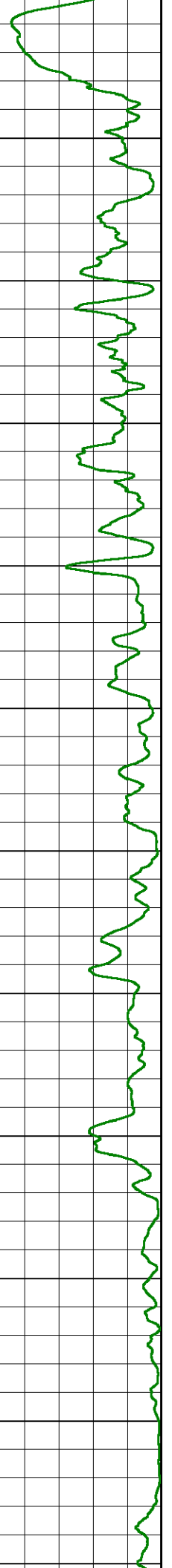
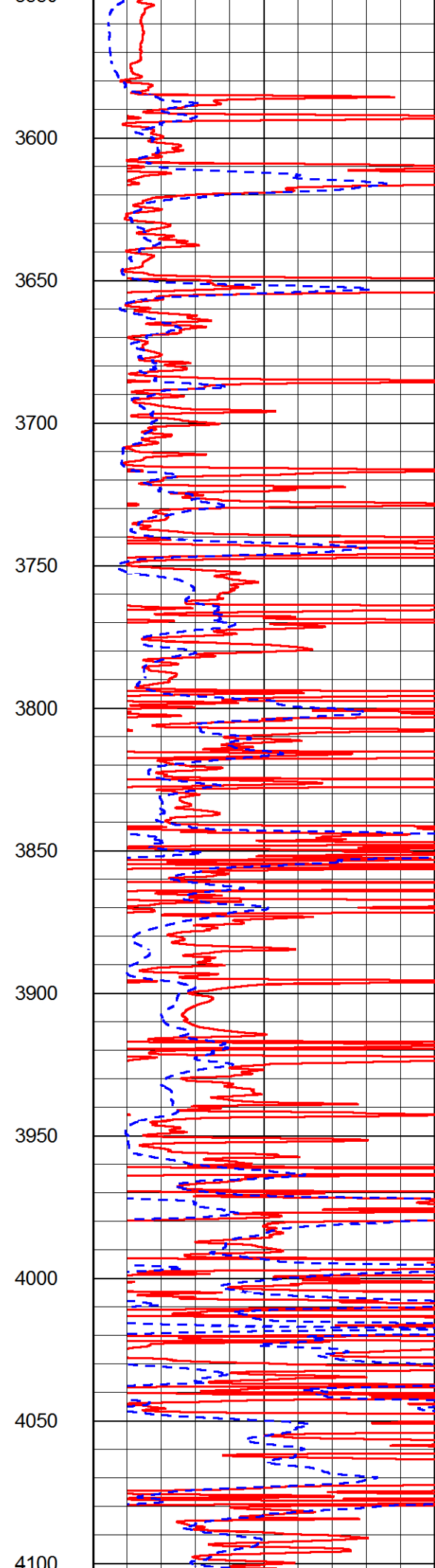
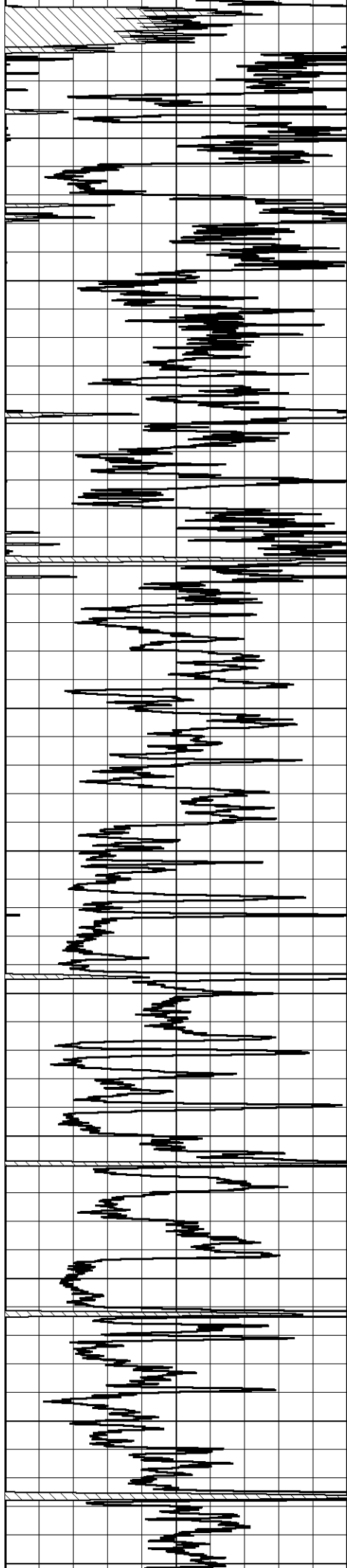


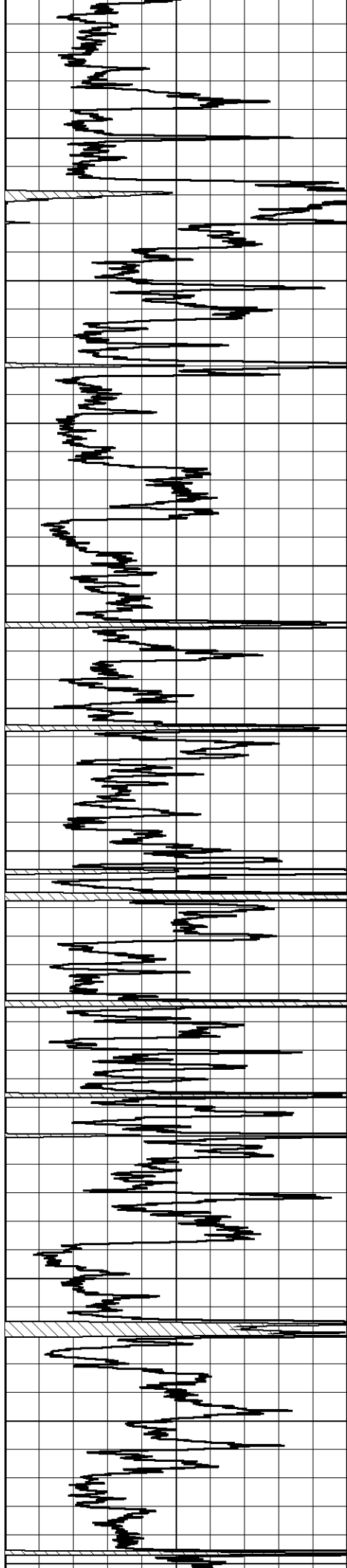




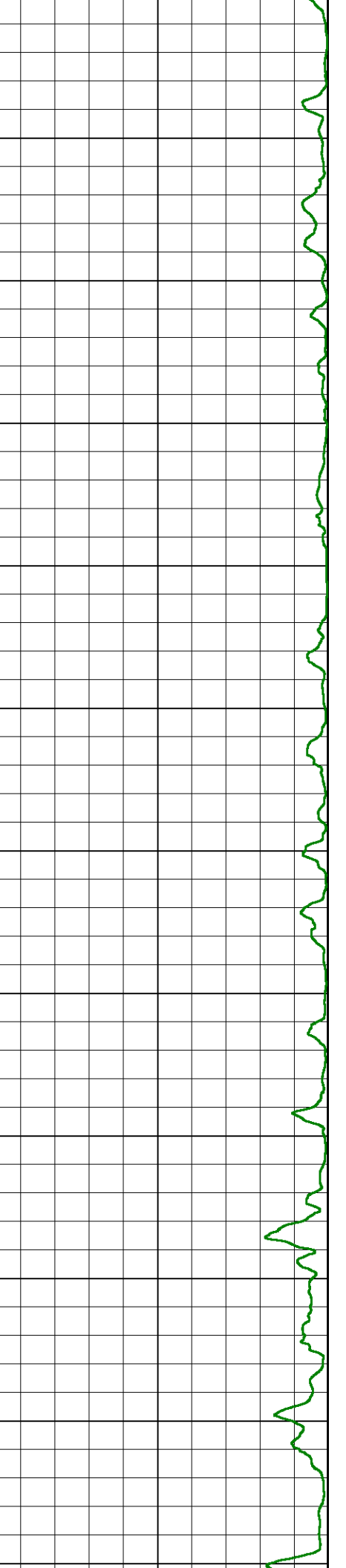
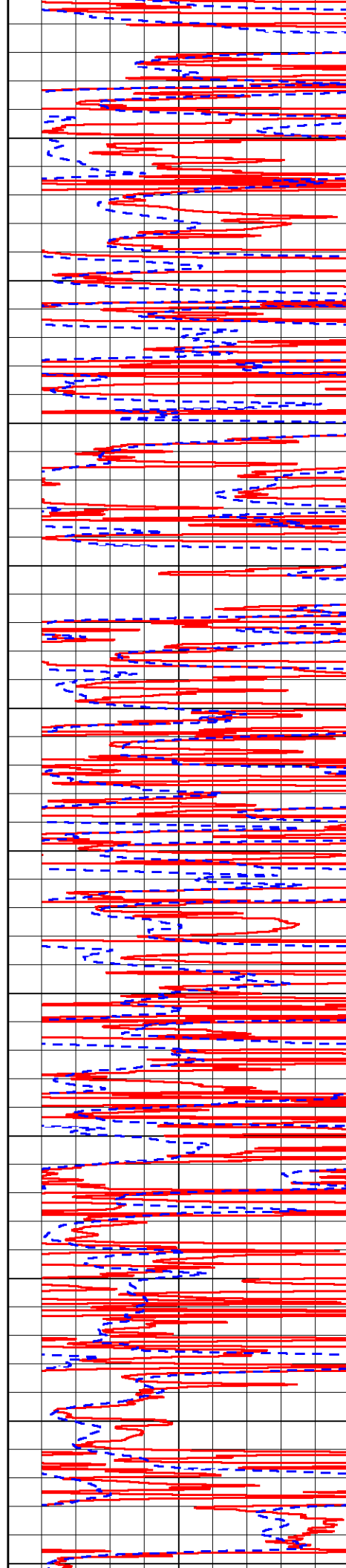


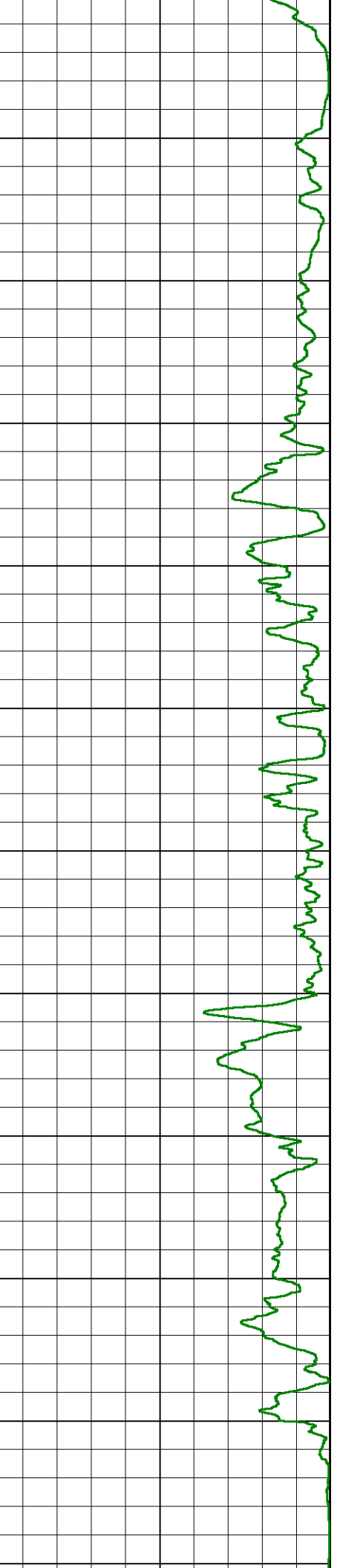
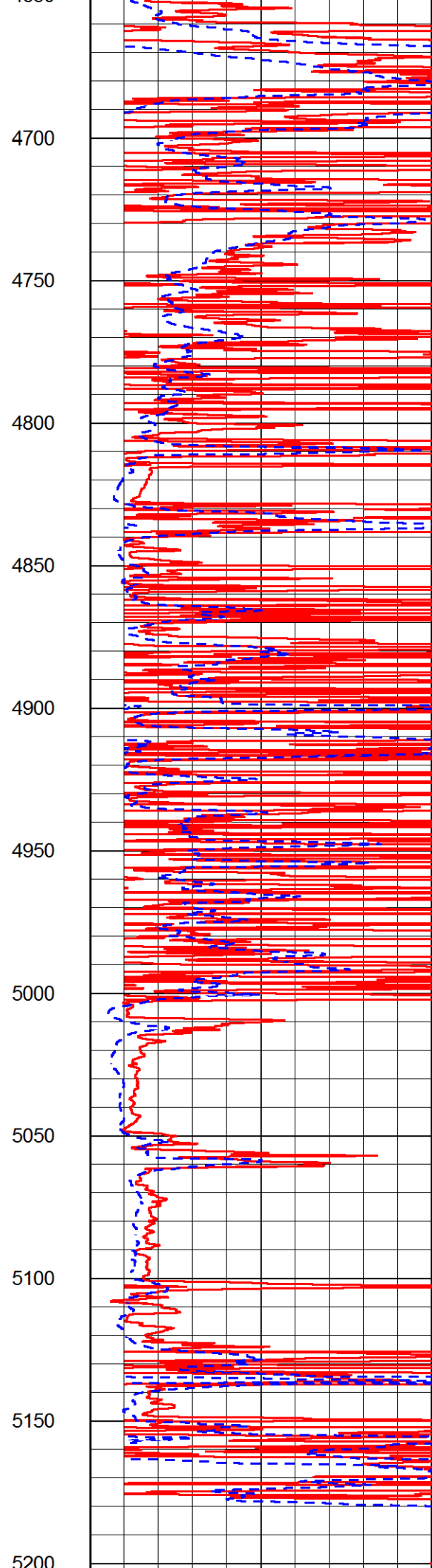
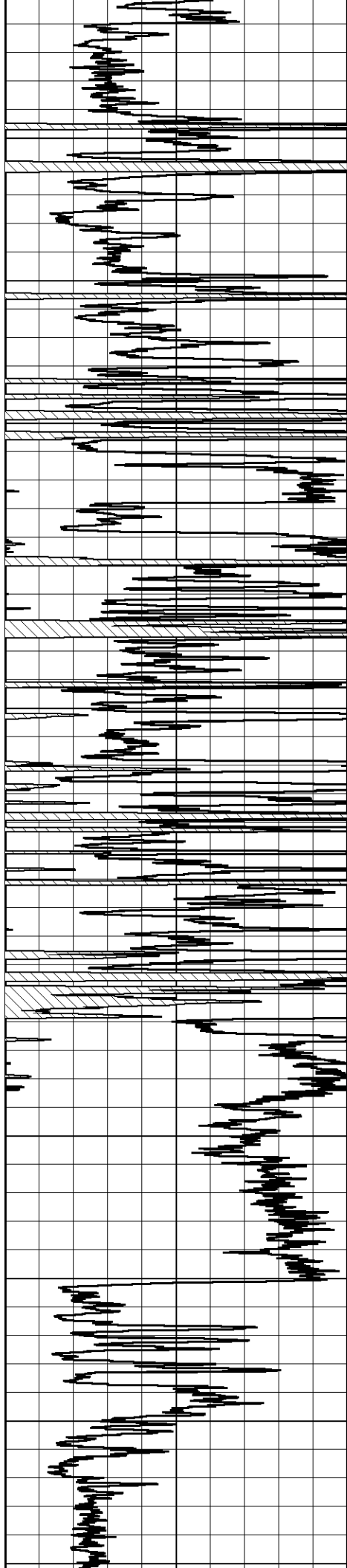


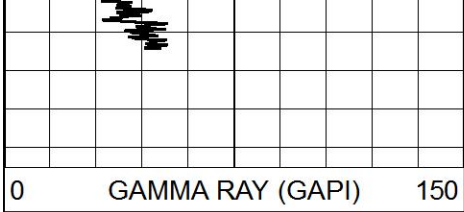




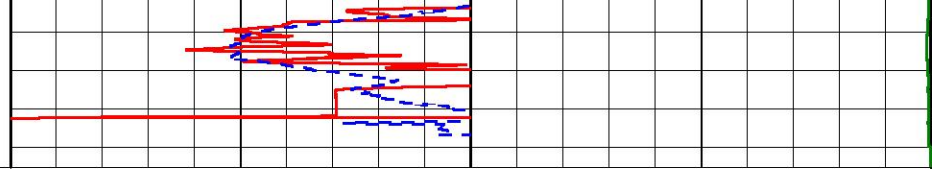
4150
4200
4250
4300
4350
4400
4450
4500
4550
4600
4650







0 GAMMA RAY (GAPI) 150



2000 CILD (mmho/m) 0

0	RLL3 (Ohm-m)	50
0	DEEP RESISTIVITY (Ohm-m)	50
50	RLL3 (Ohm-m)	200
50	RILD (Ohm-m)	200



MIDWEST WIRELINE

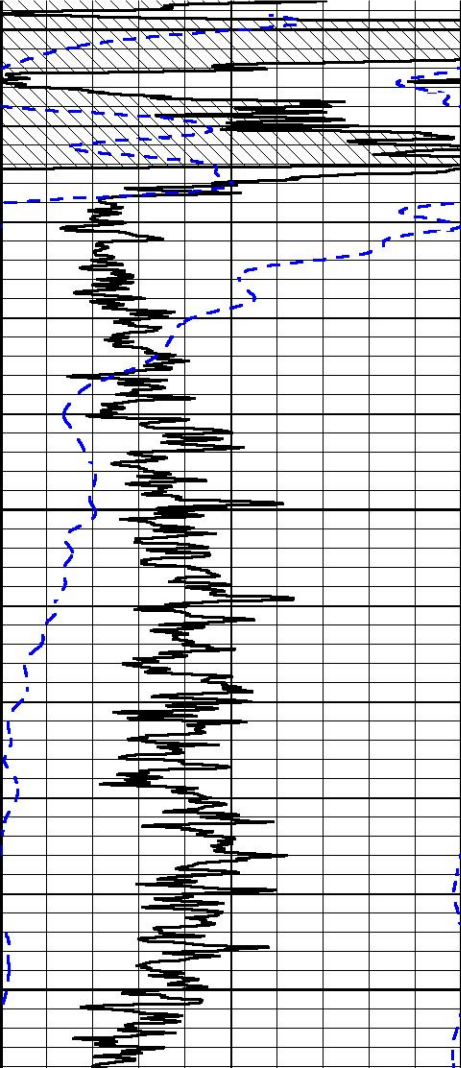
DETAIL SECTION

MAIN PASS

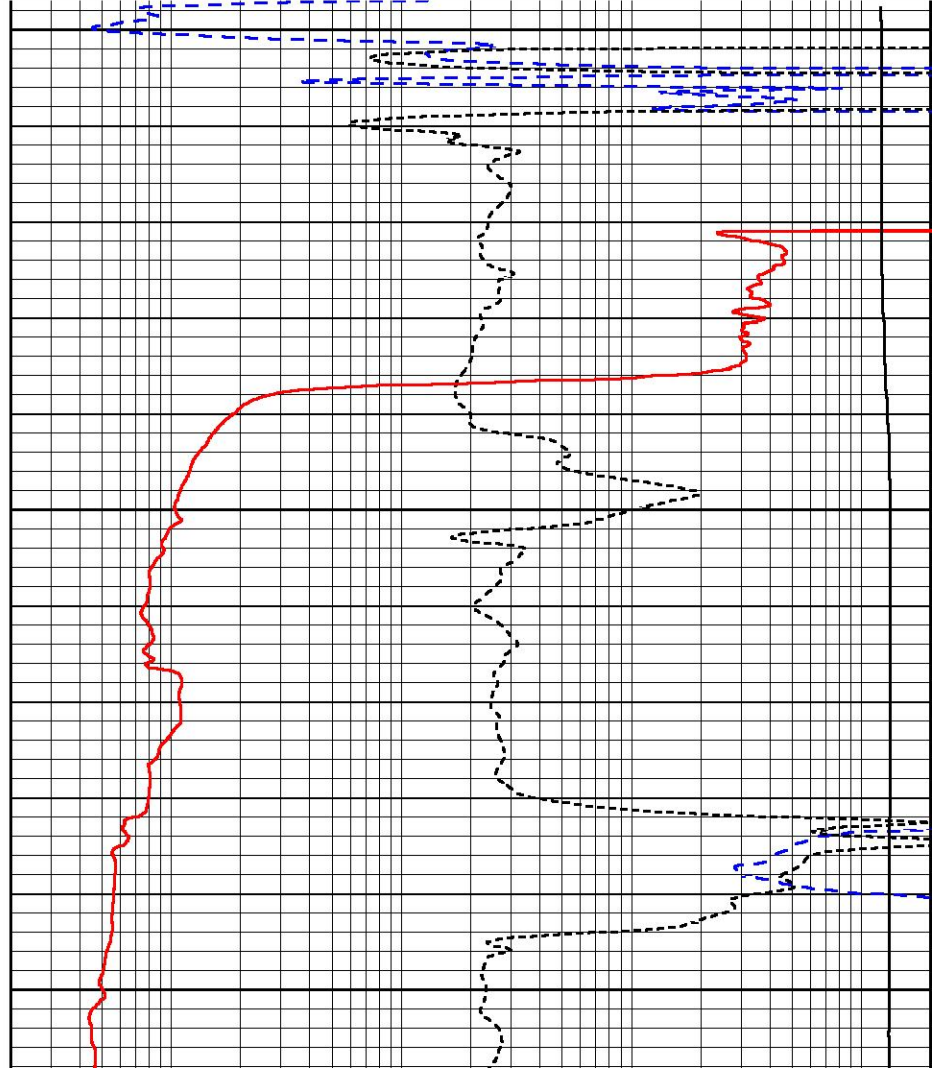
Database File murfin_kb_1_2.db
 Dataset Pathname stack/pass7.1
 Presentation Format dil
 Dataset Creation Sun Jun 13 11:15:29 2021
 Charted by Depth in Feet scaled 1:240

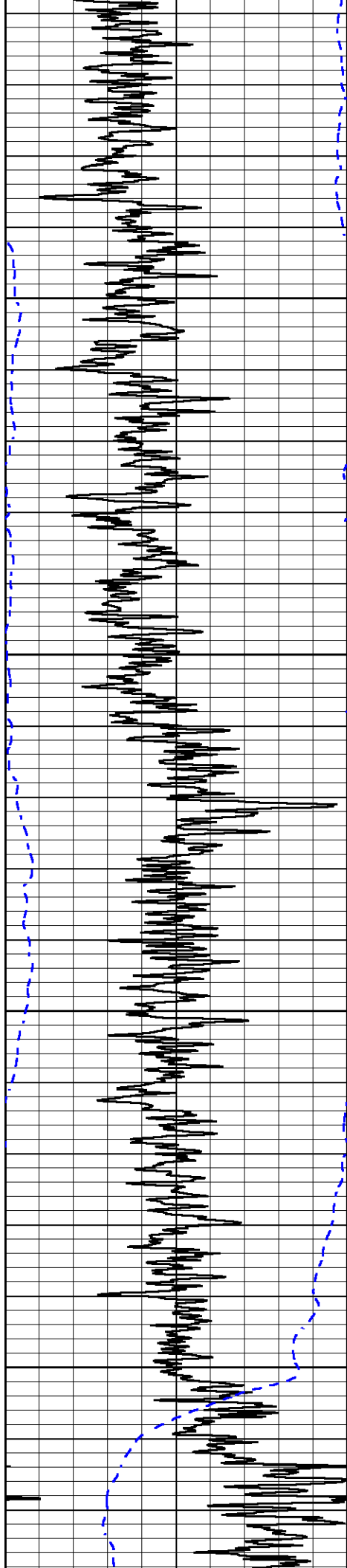
0	GAMMA RAY (GAPI)	150
-200	SP (mV)	0

0.2	DEEP RESISTIVITY (Ohm-m)	2000
0.2	MEDIUM RESISTIVITY (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
15000	LINE TENSION (lb)	0



0
50
100



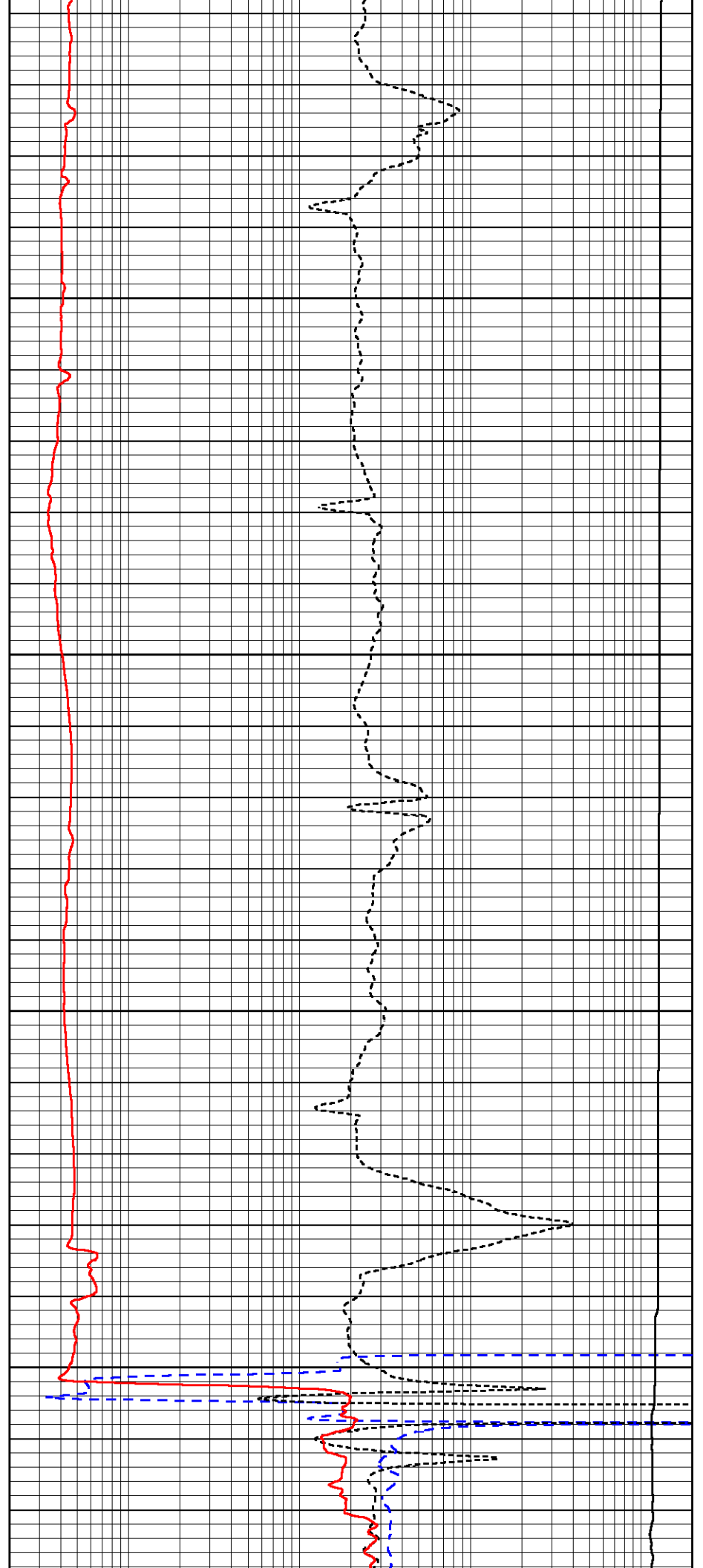


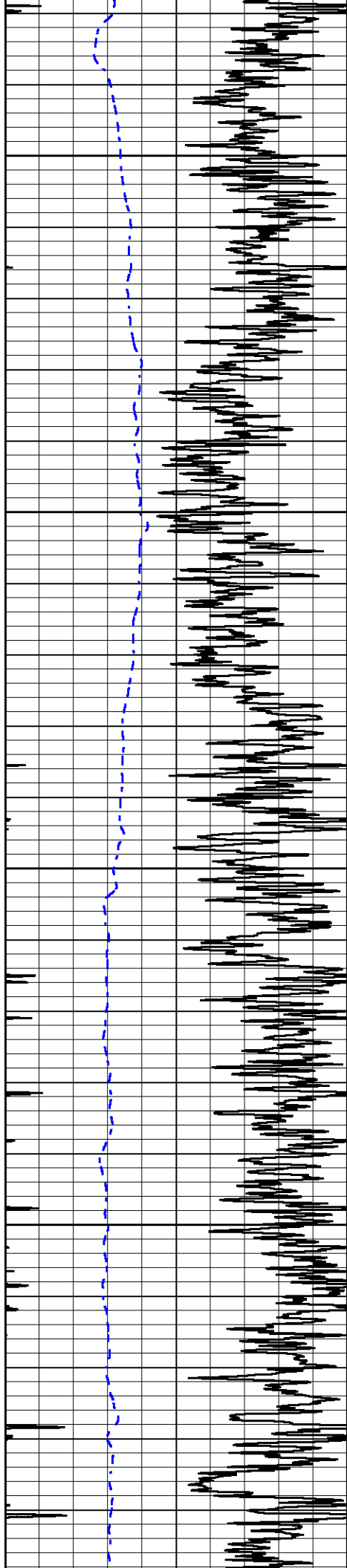
150

200

250

300



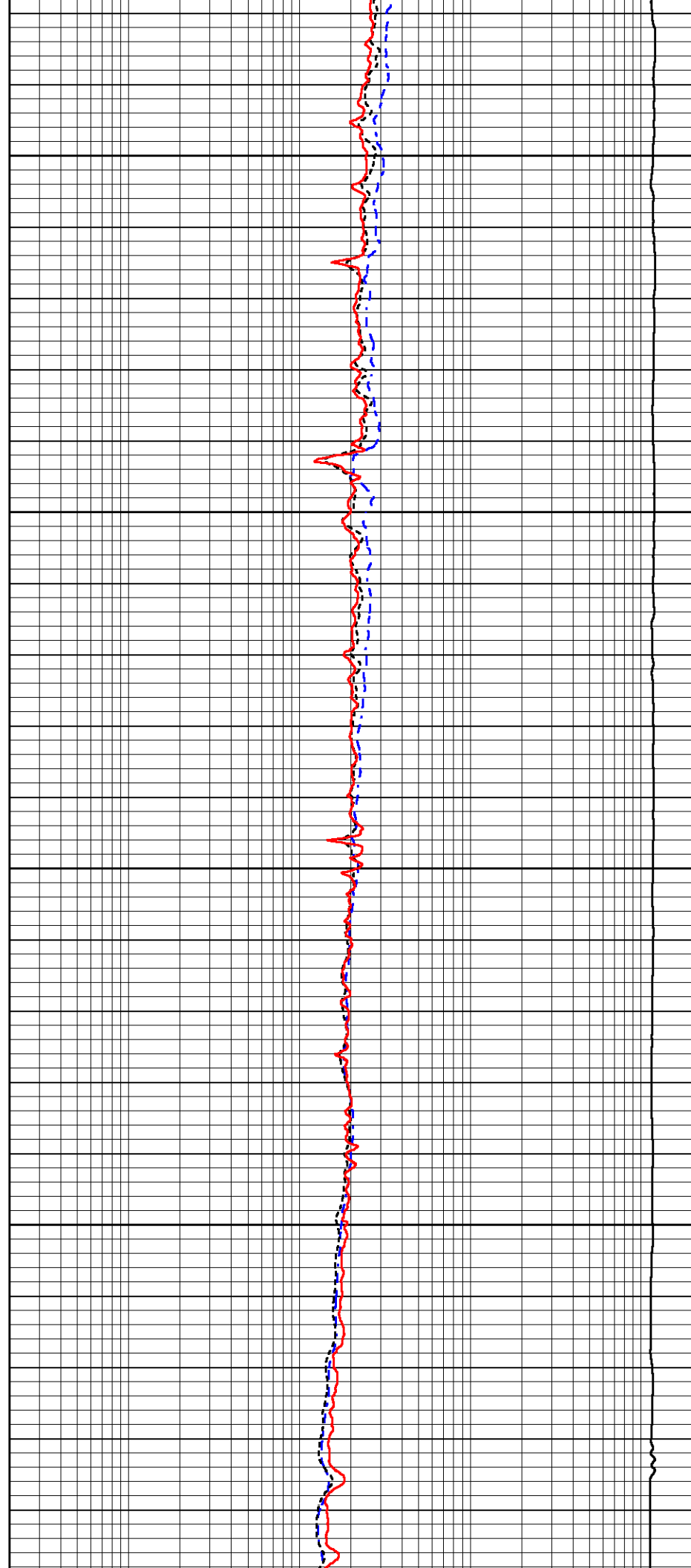


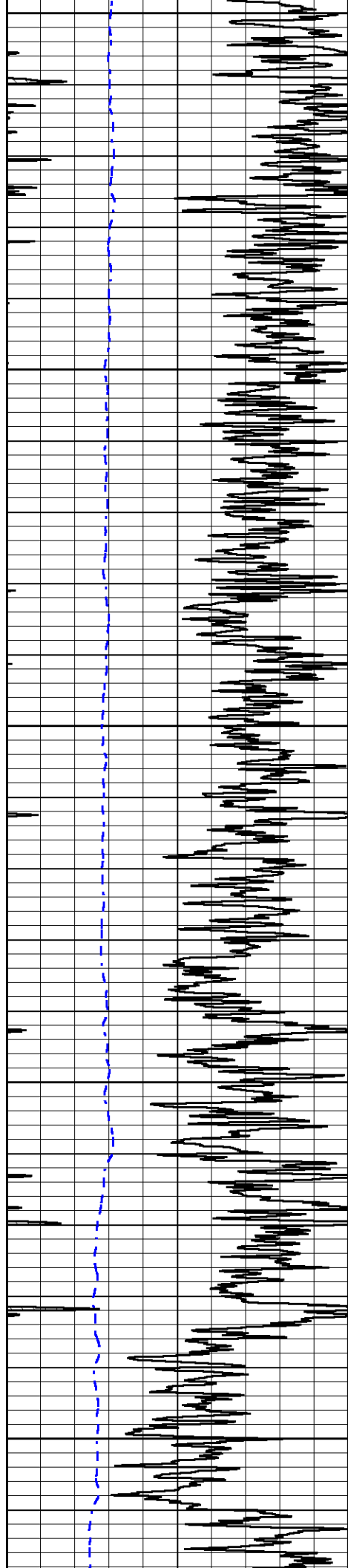
350

400

450

500





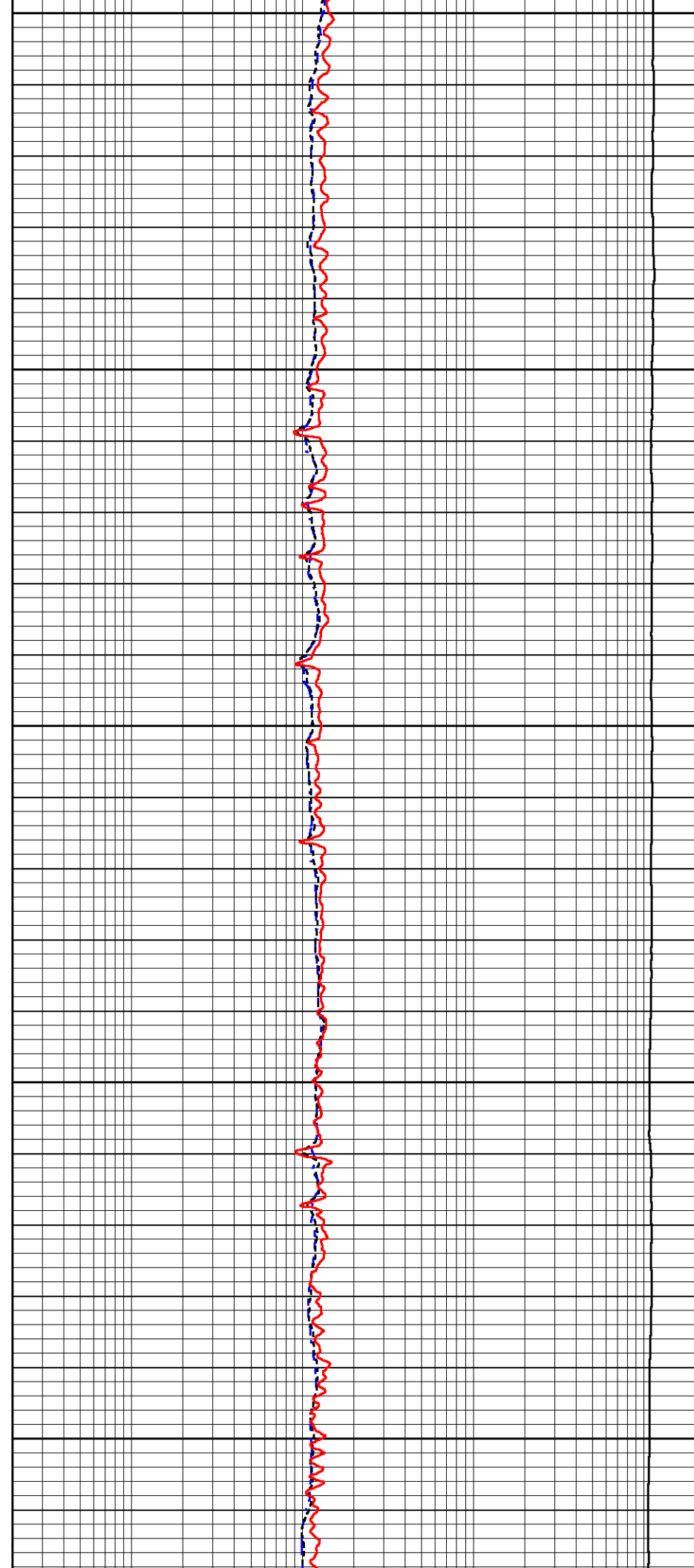
550

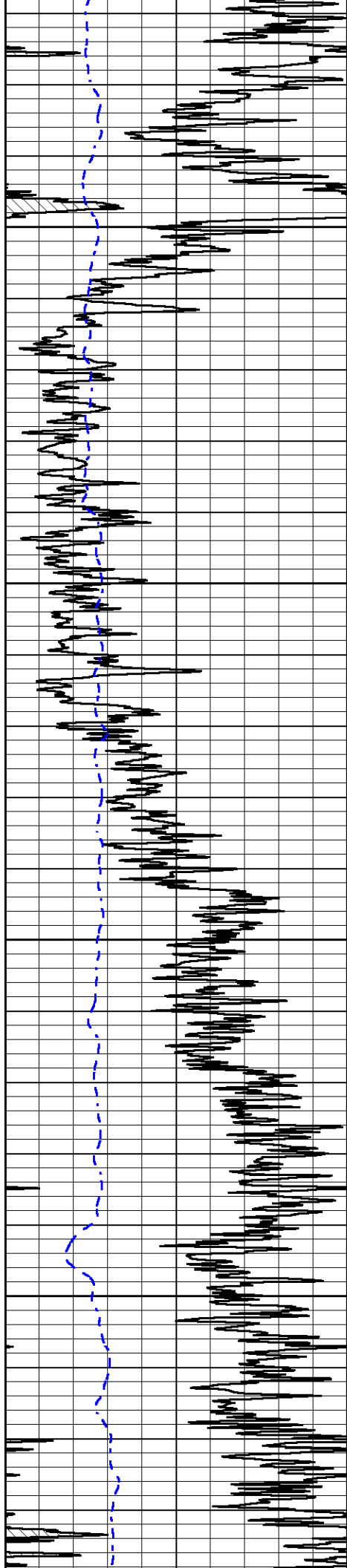
600

650

700

750



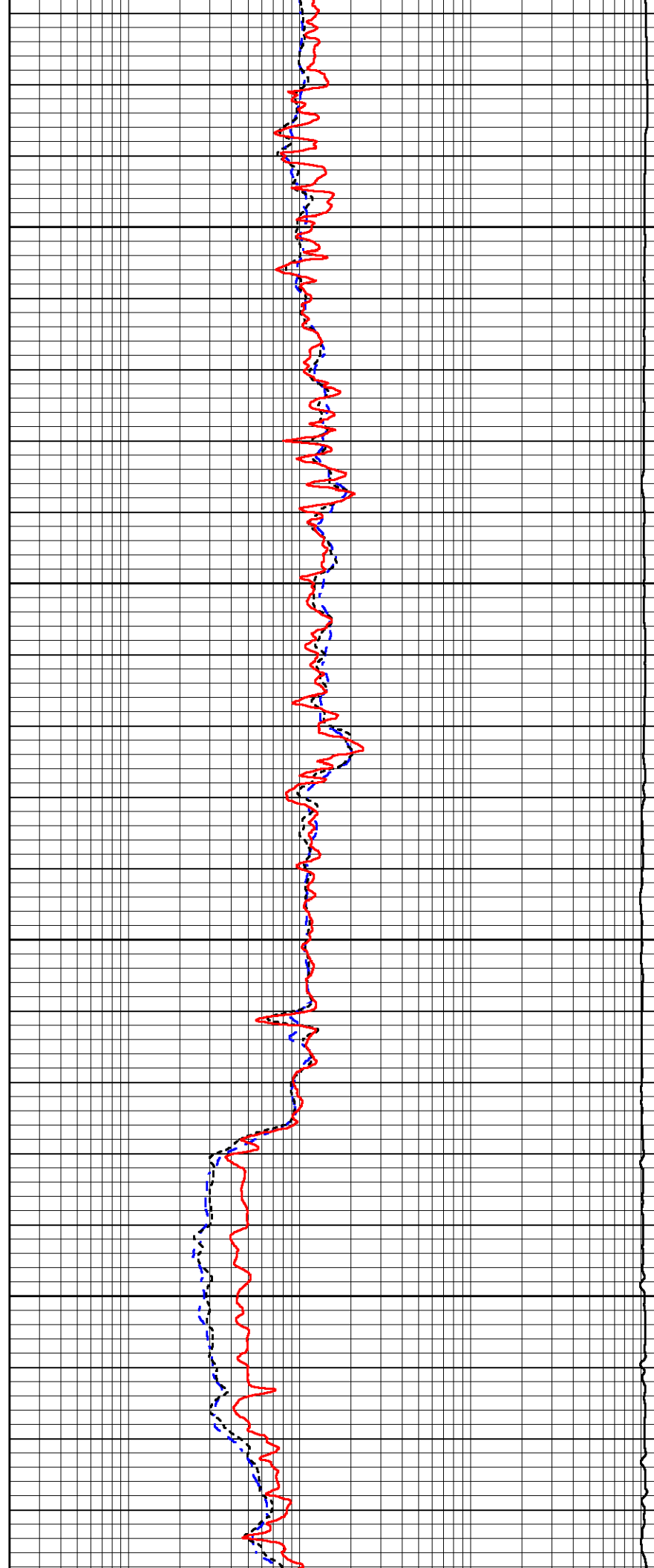


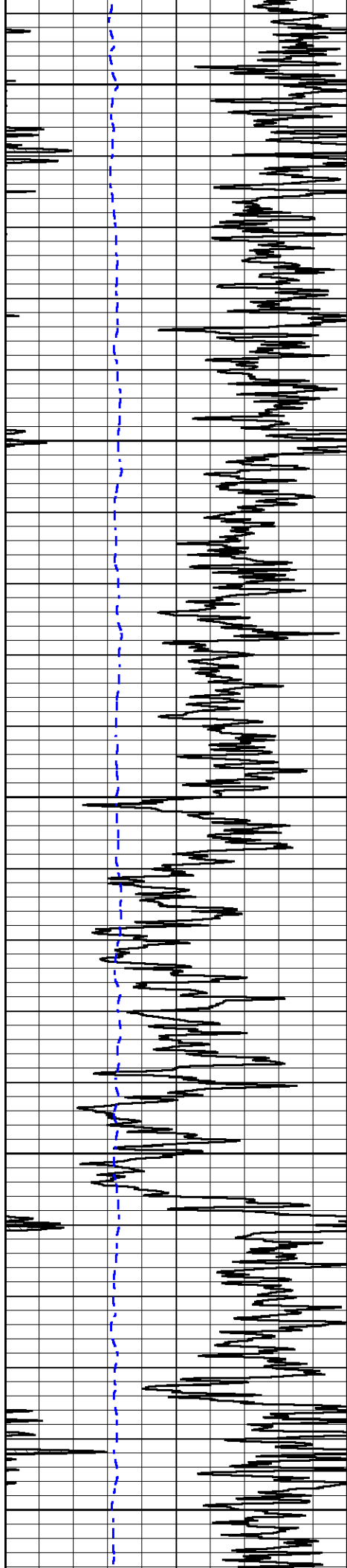
800

850

900

950





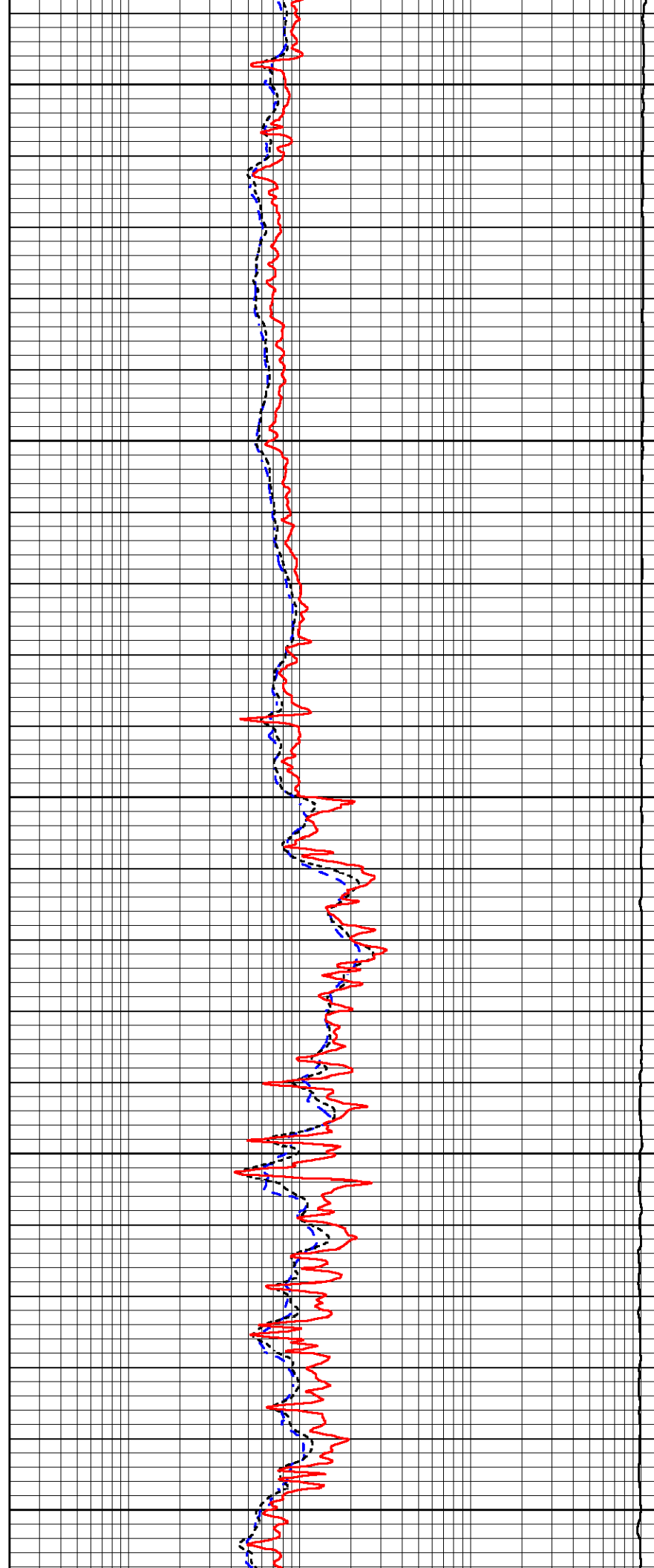
1000

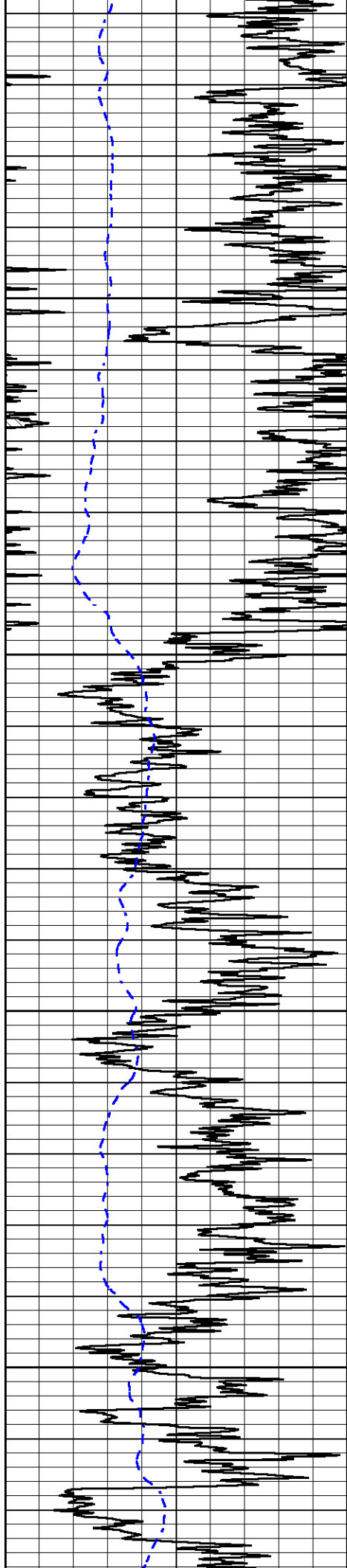
1050

1100

1150

1200



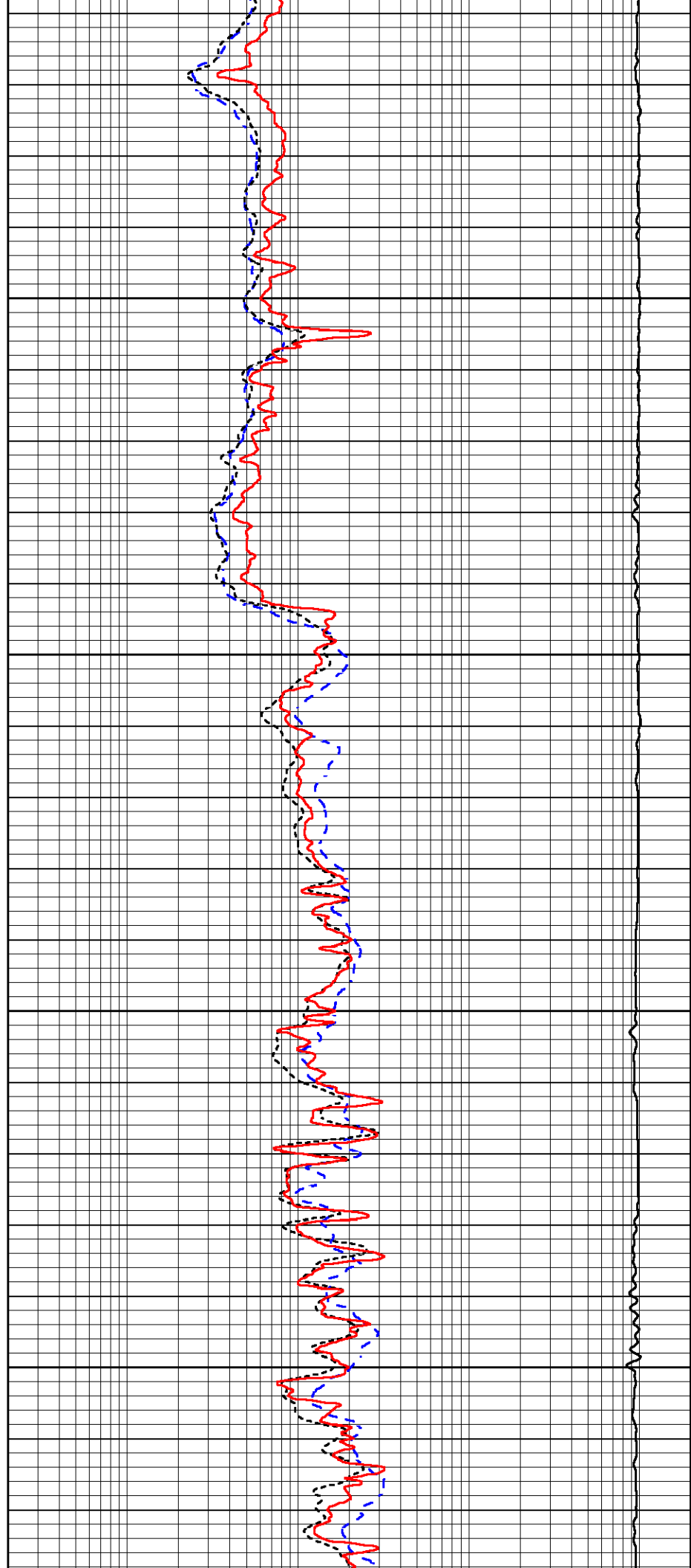


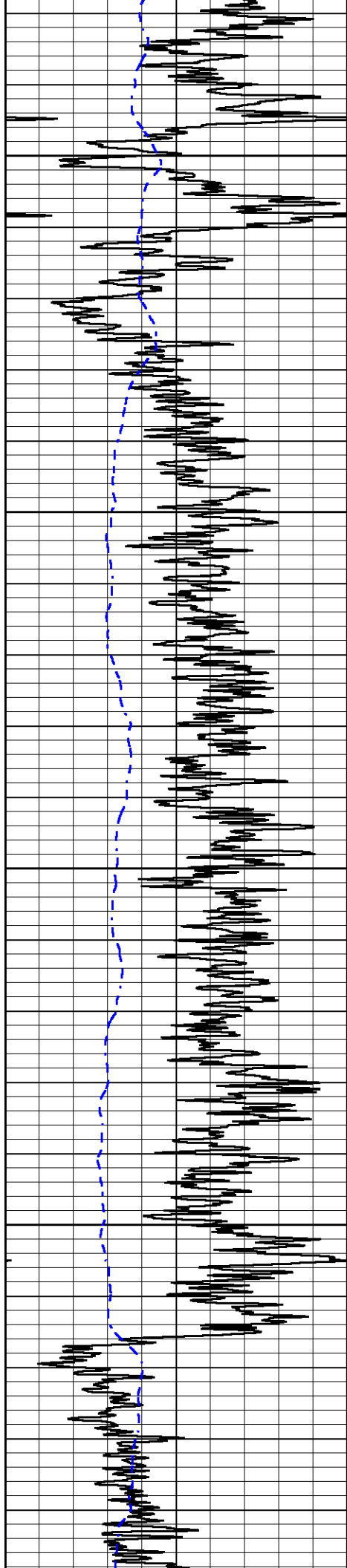
1250

1300

1350

1400



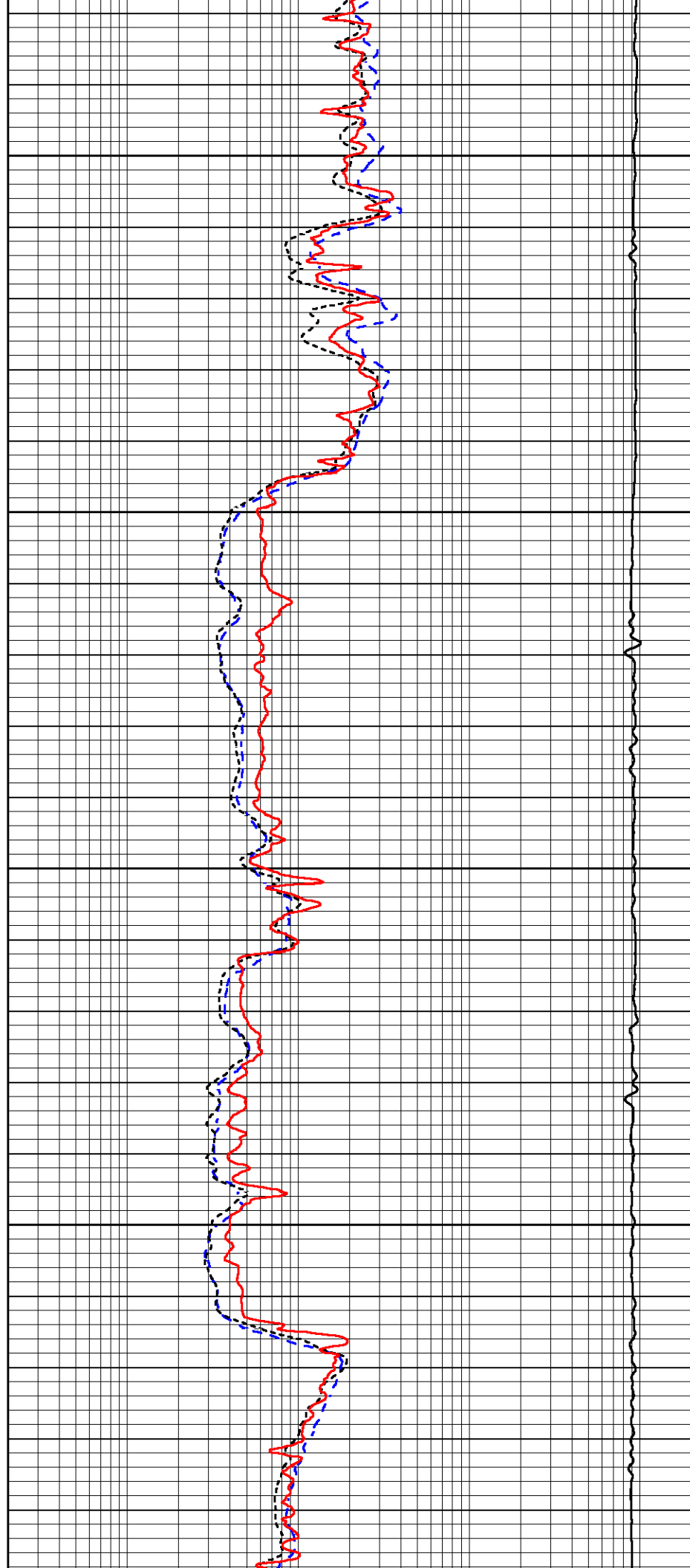


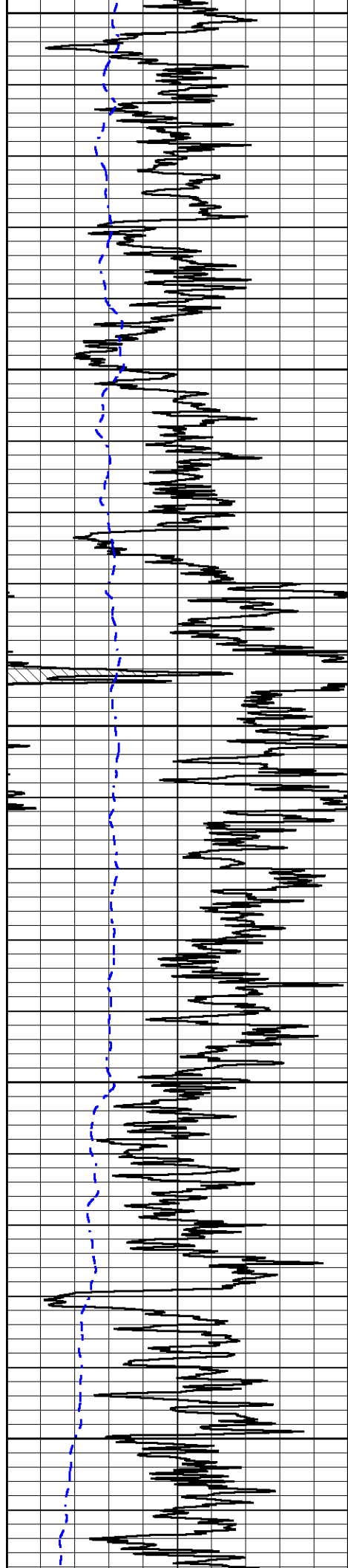
1450

1500

1550

1600





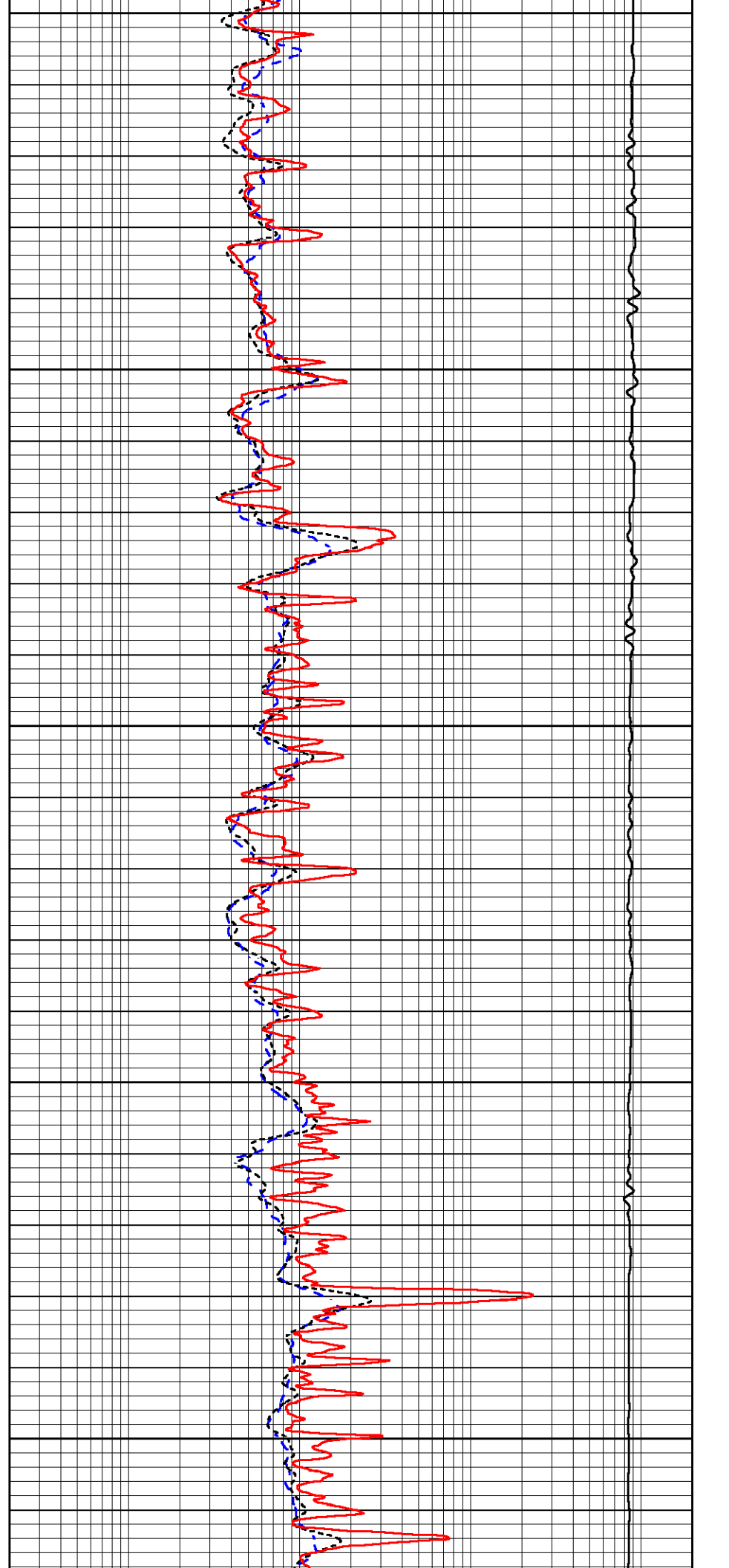
1650

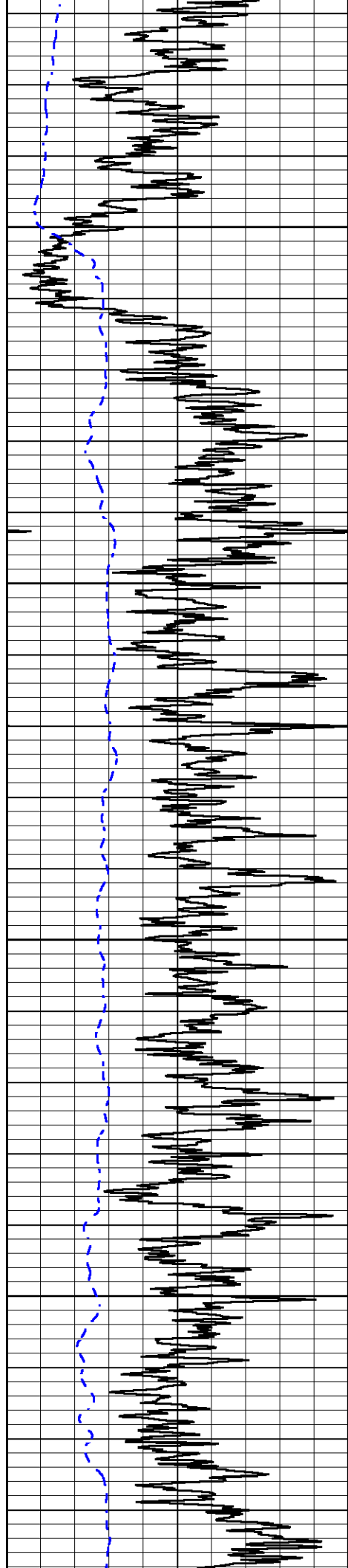
1700

1750

1800

1850



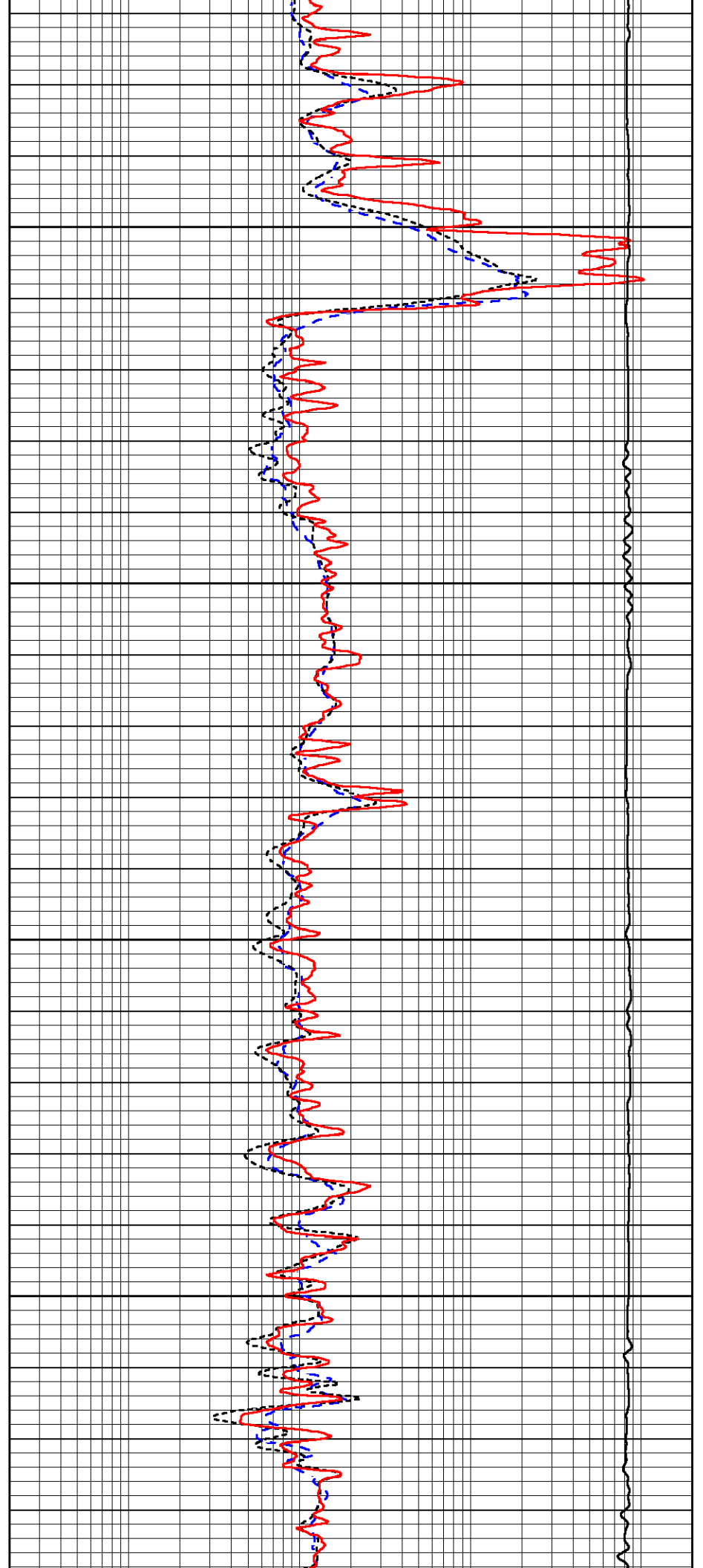


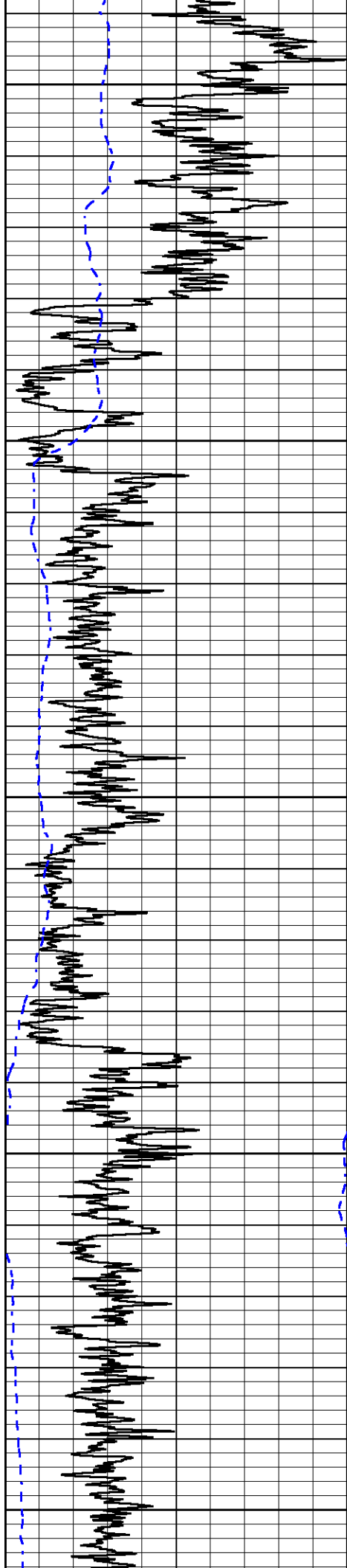
1900

1950

2000

2050





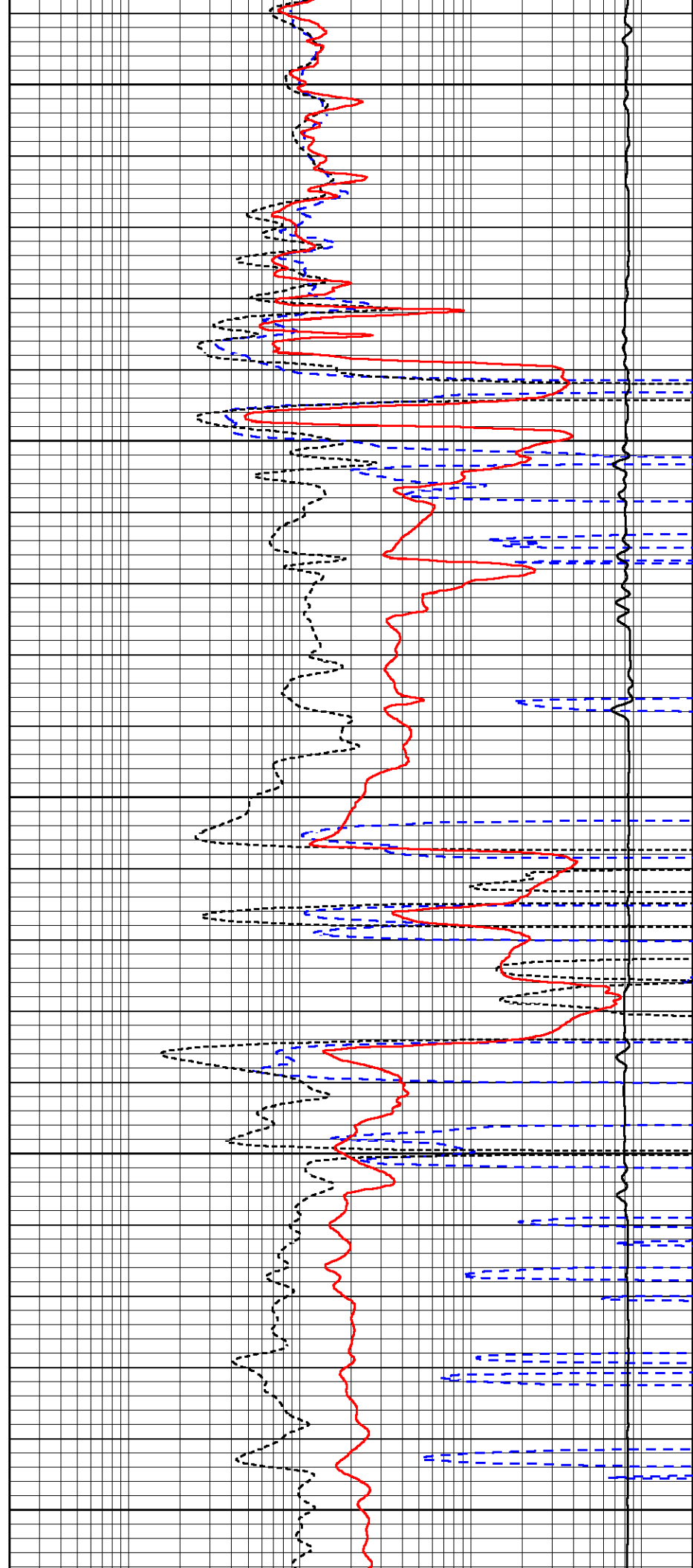
2100

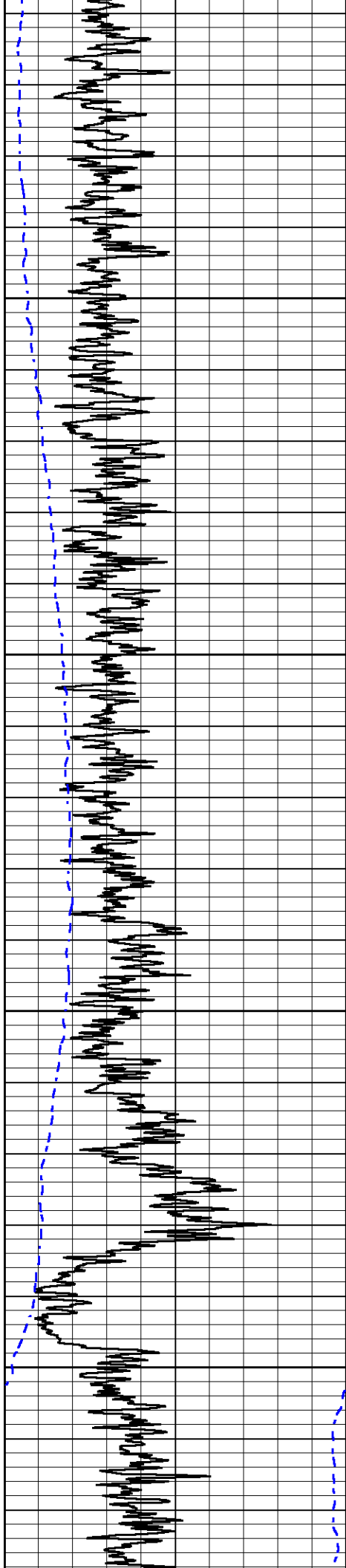
2150

2200

2250

3000



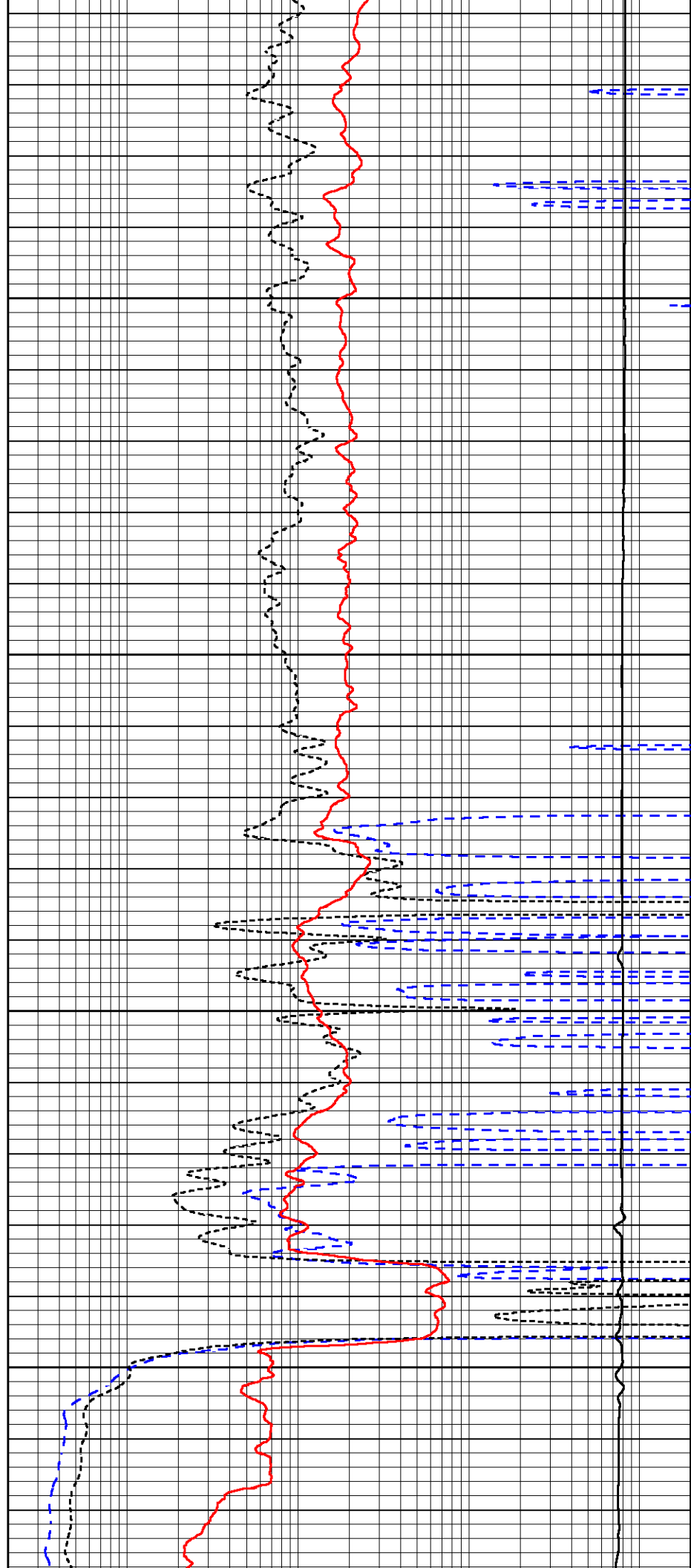


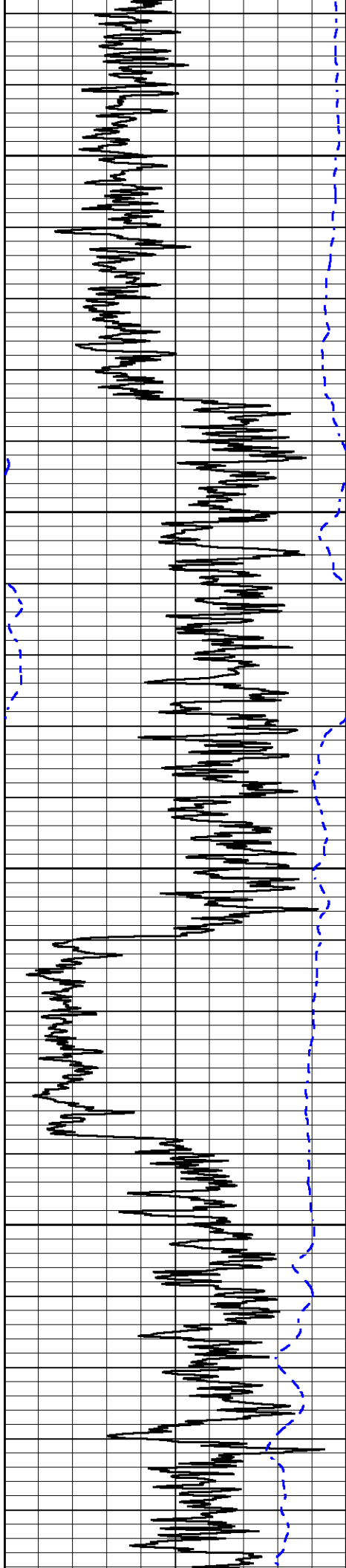
2350

2400

2450

2500



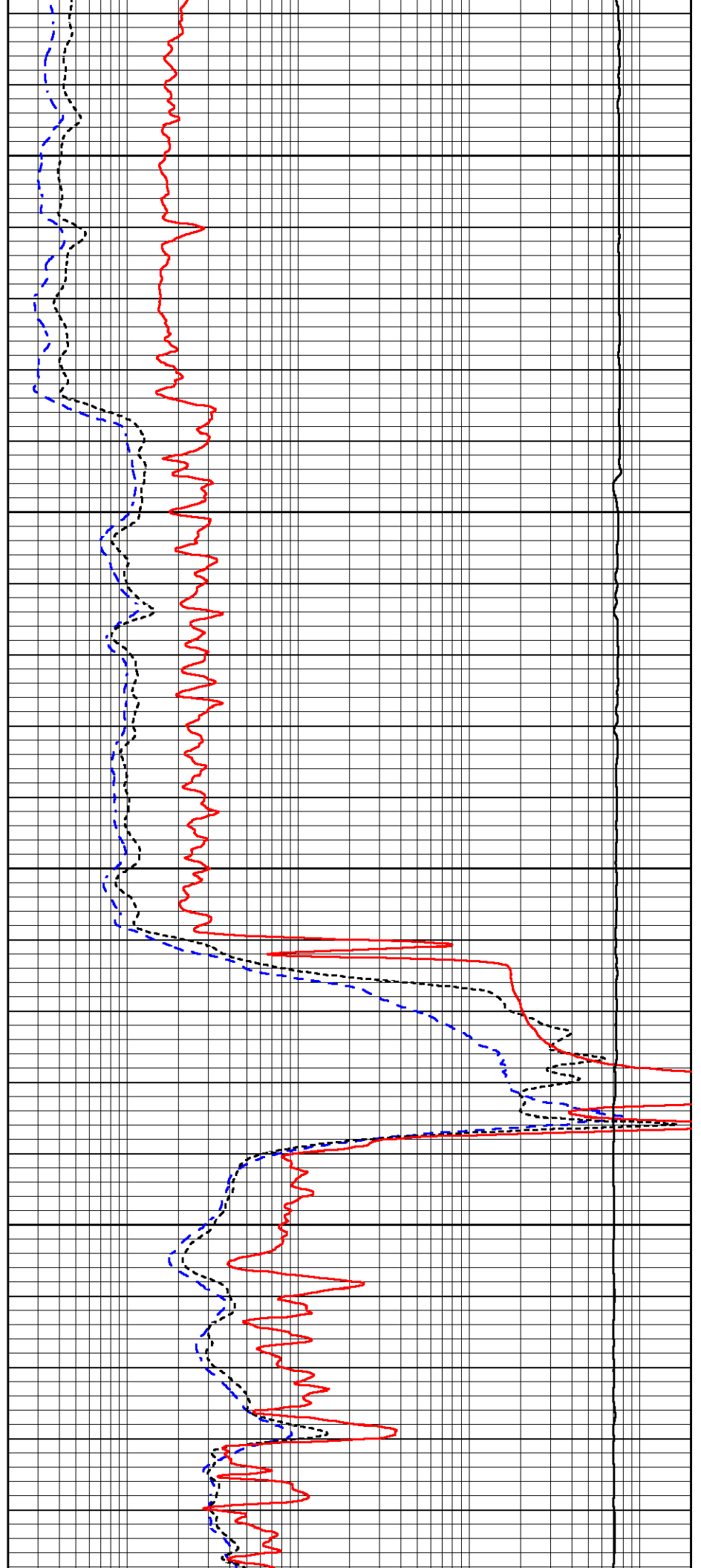


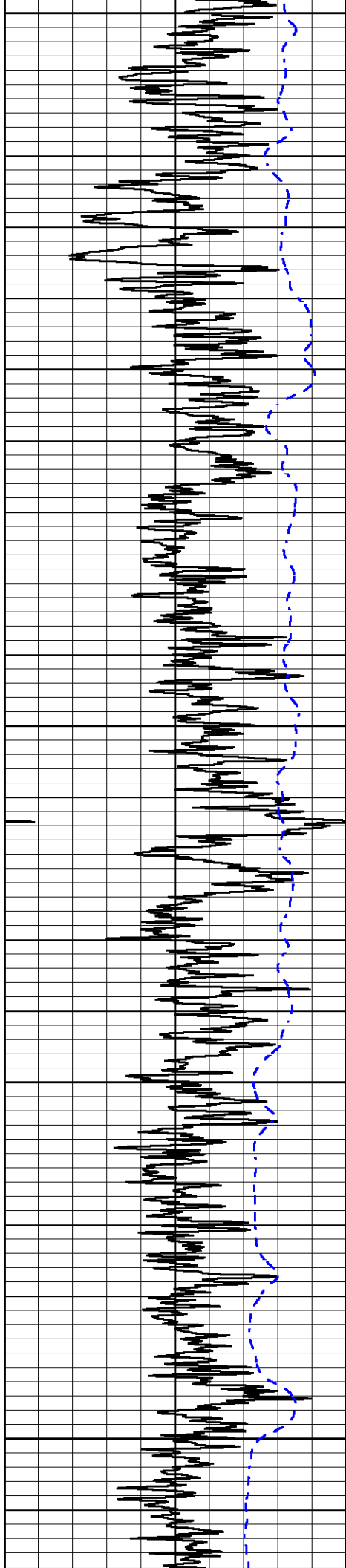
2550

2600

2650

2700





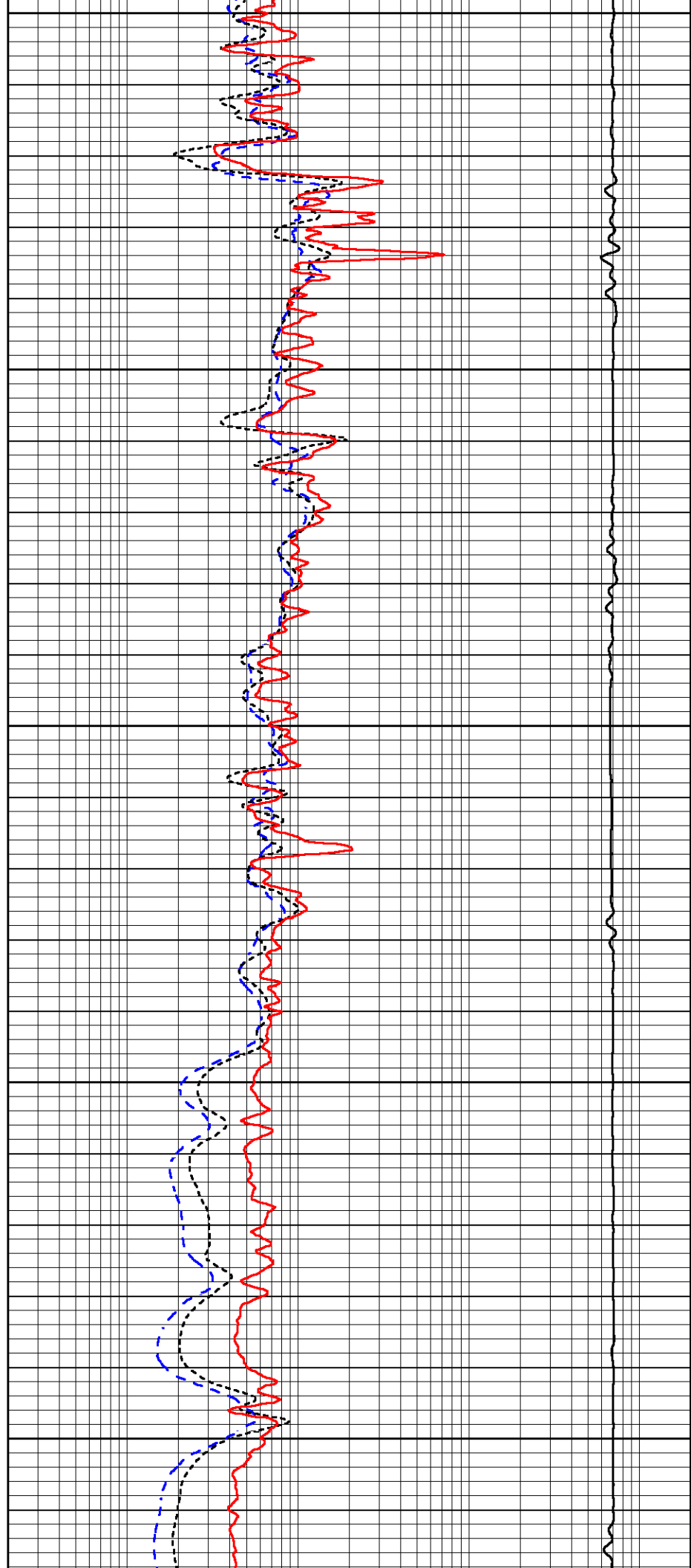
2750

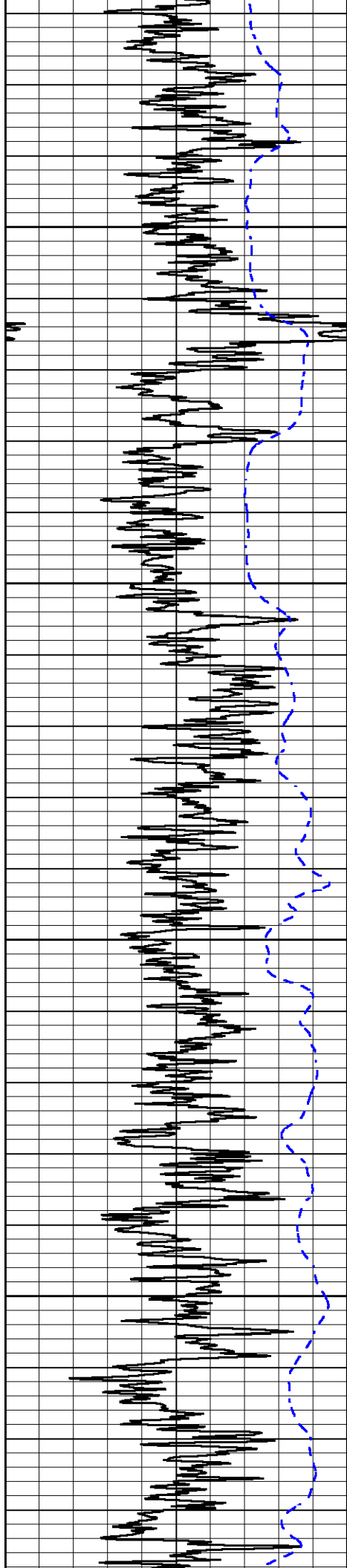
2800

2850

2900

2950



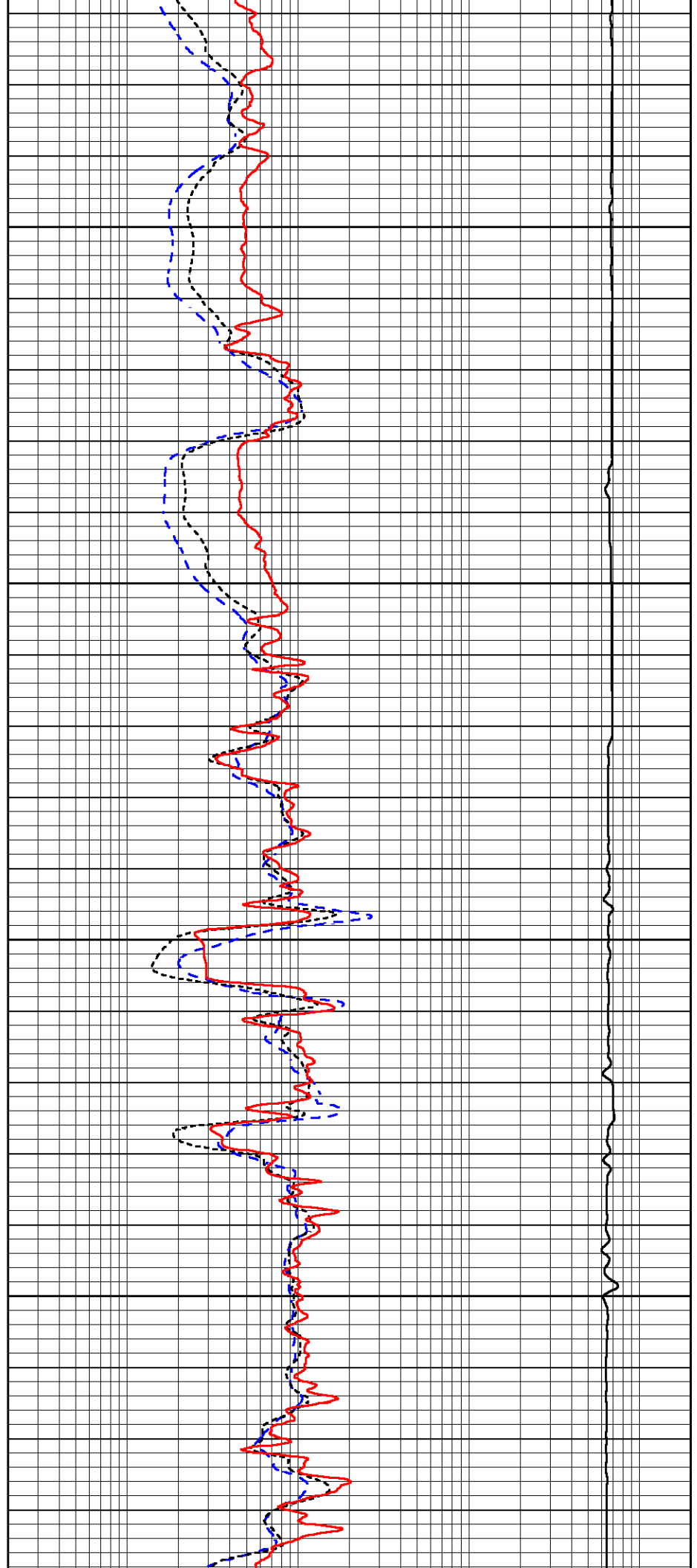


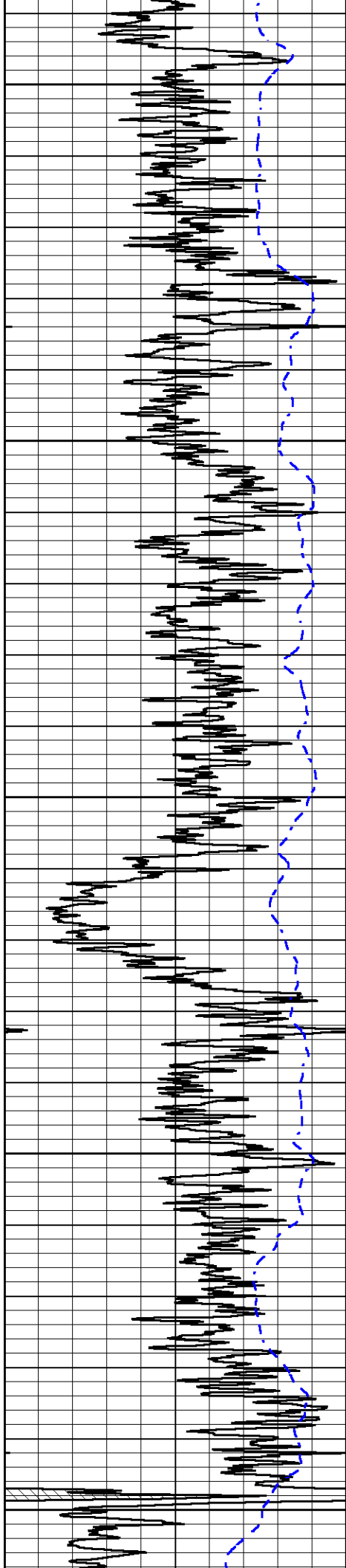
3000

3050

3100

3150





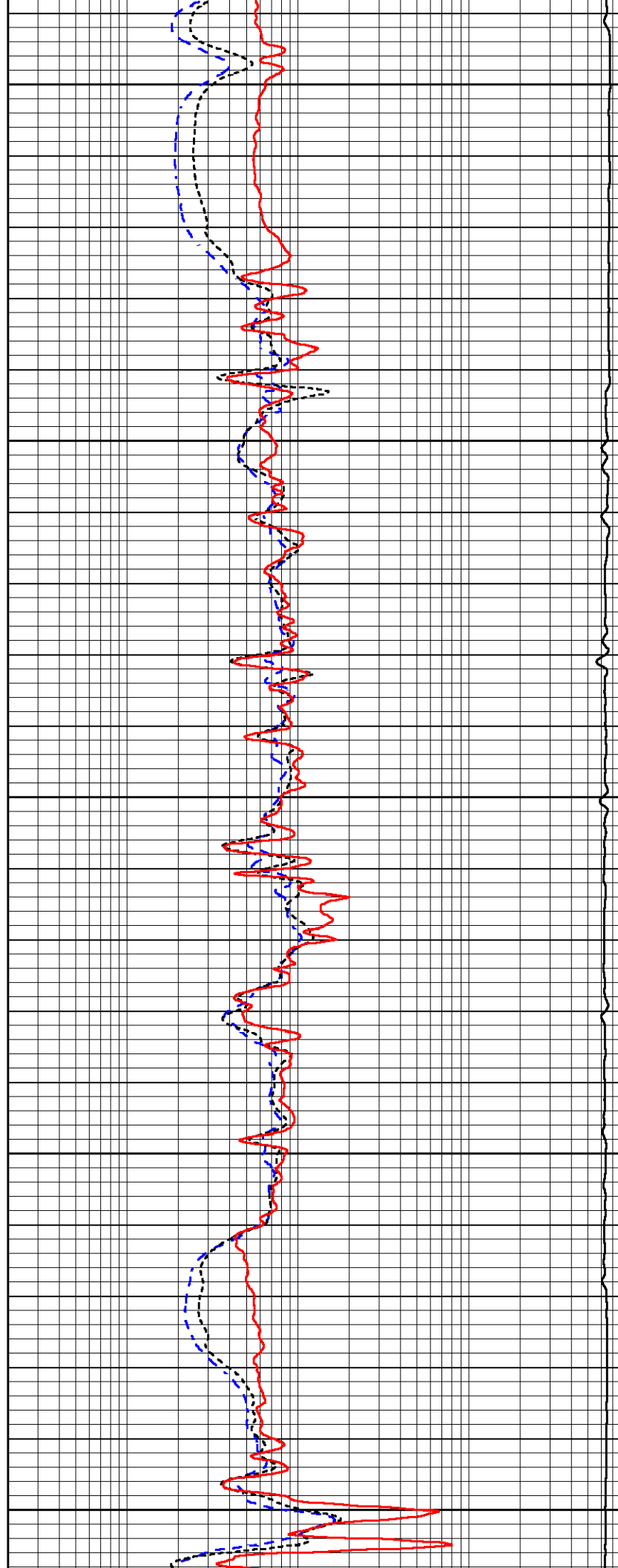
3200

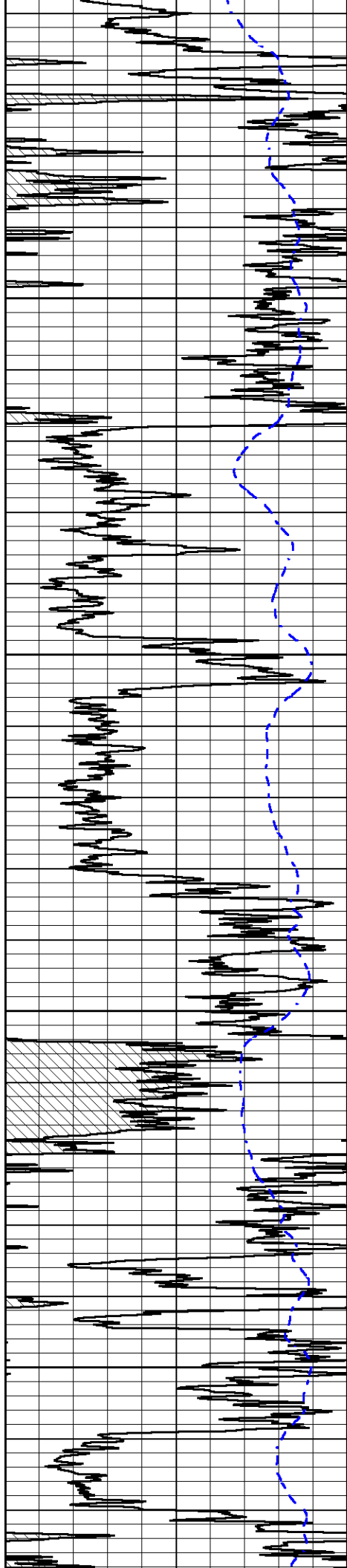
3250

3300

3350

3400



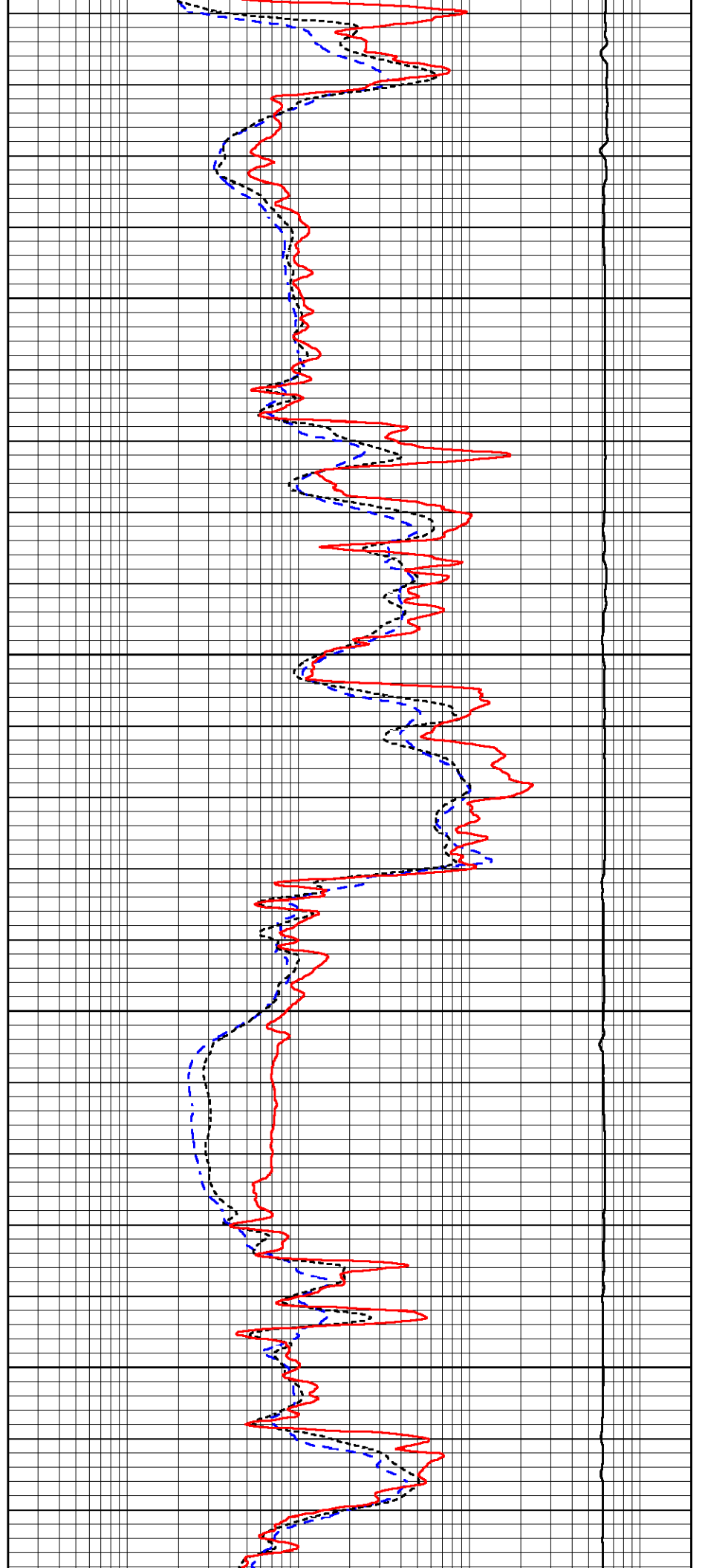


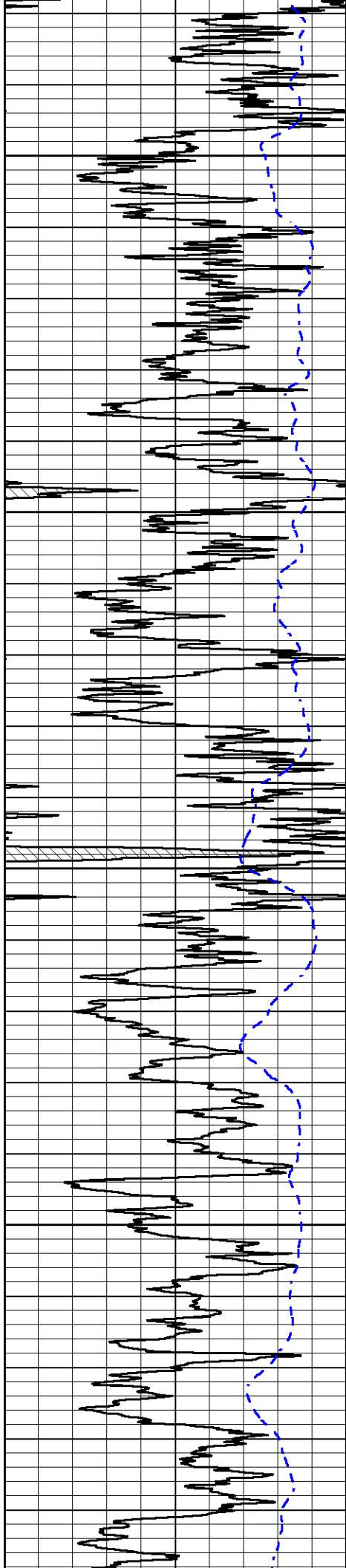
3450

3500

3550

3600



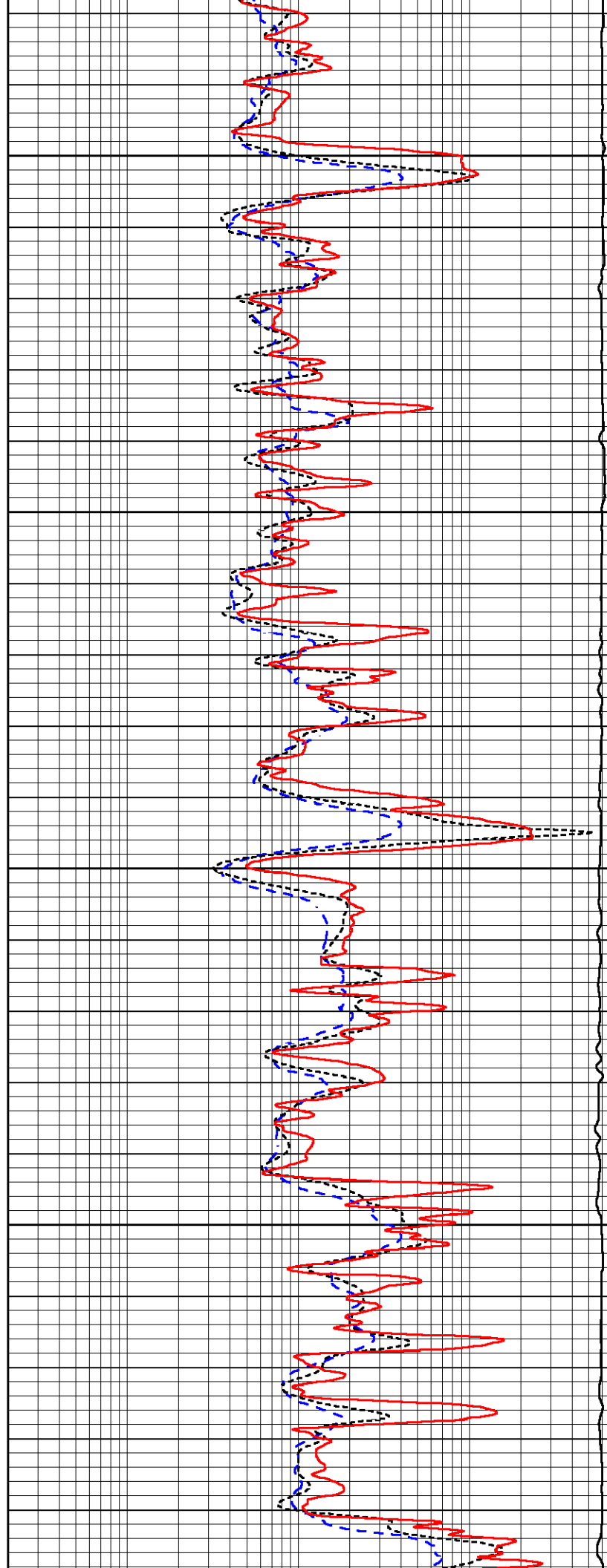


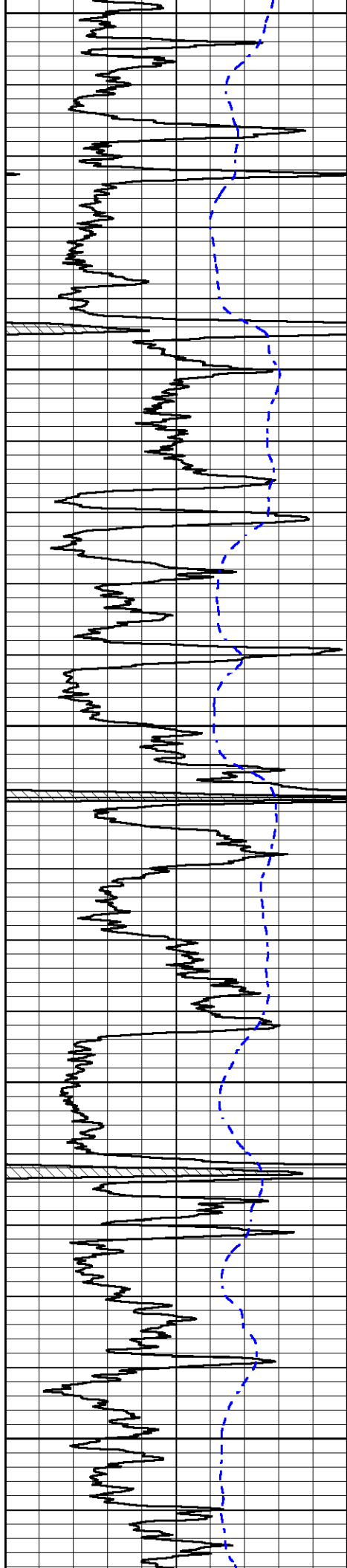
3650

3700

3750

3800





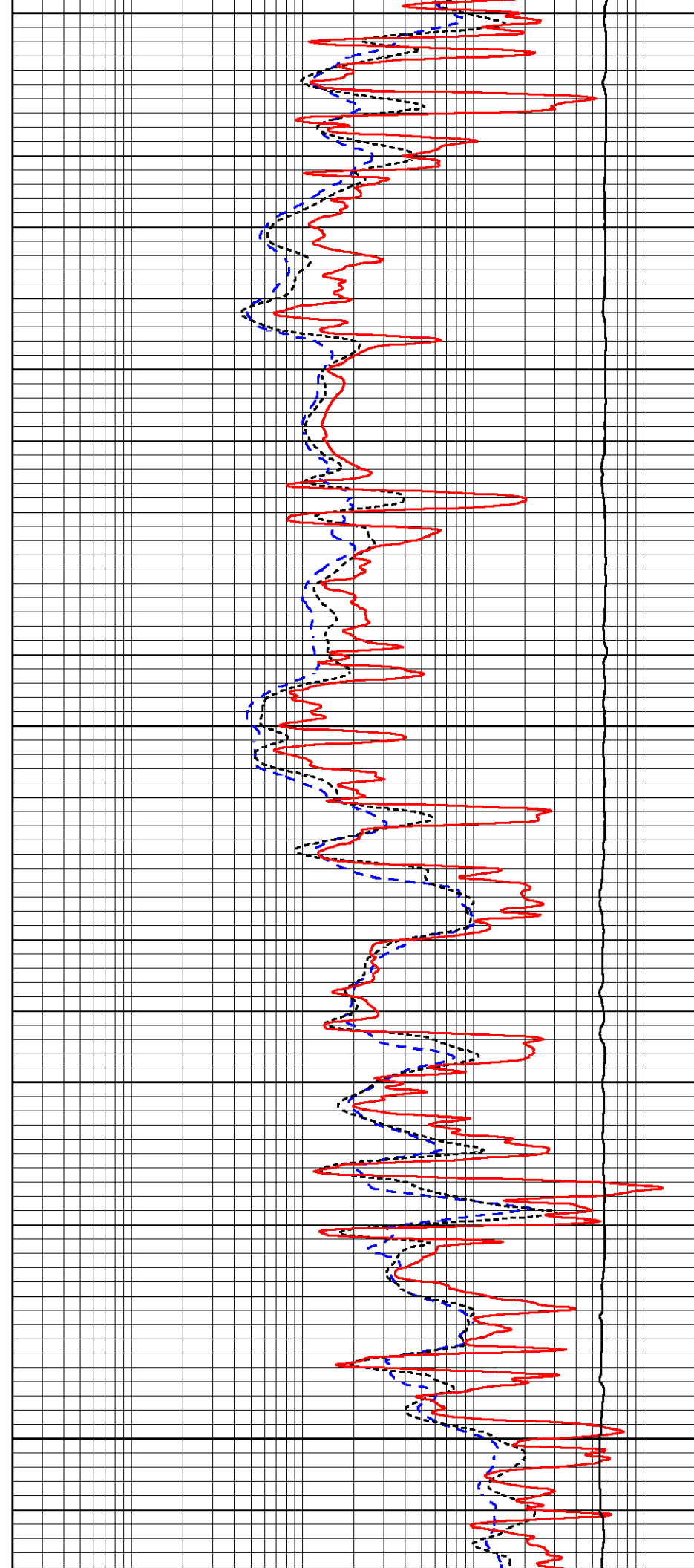
3850

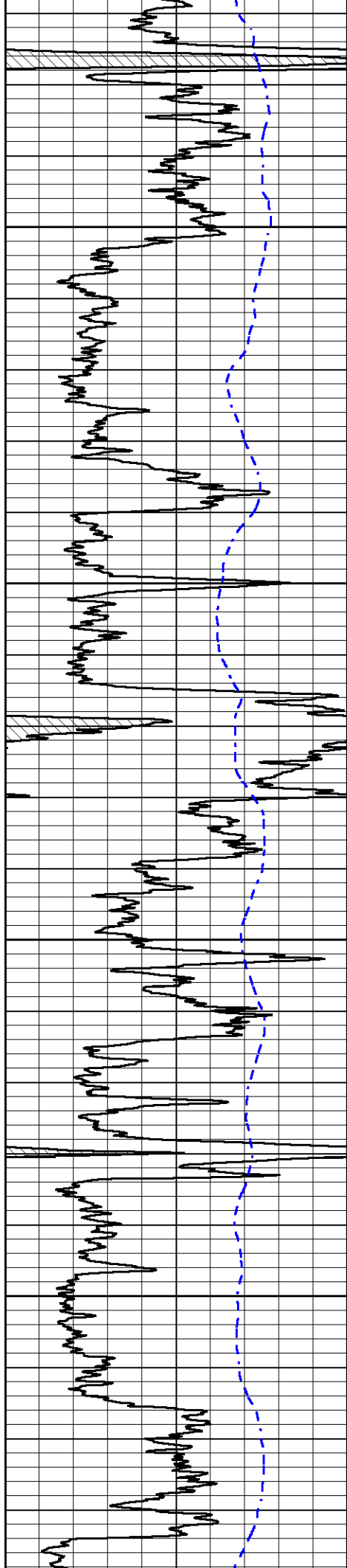
3900

3950

4000

4050



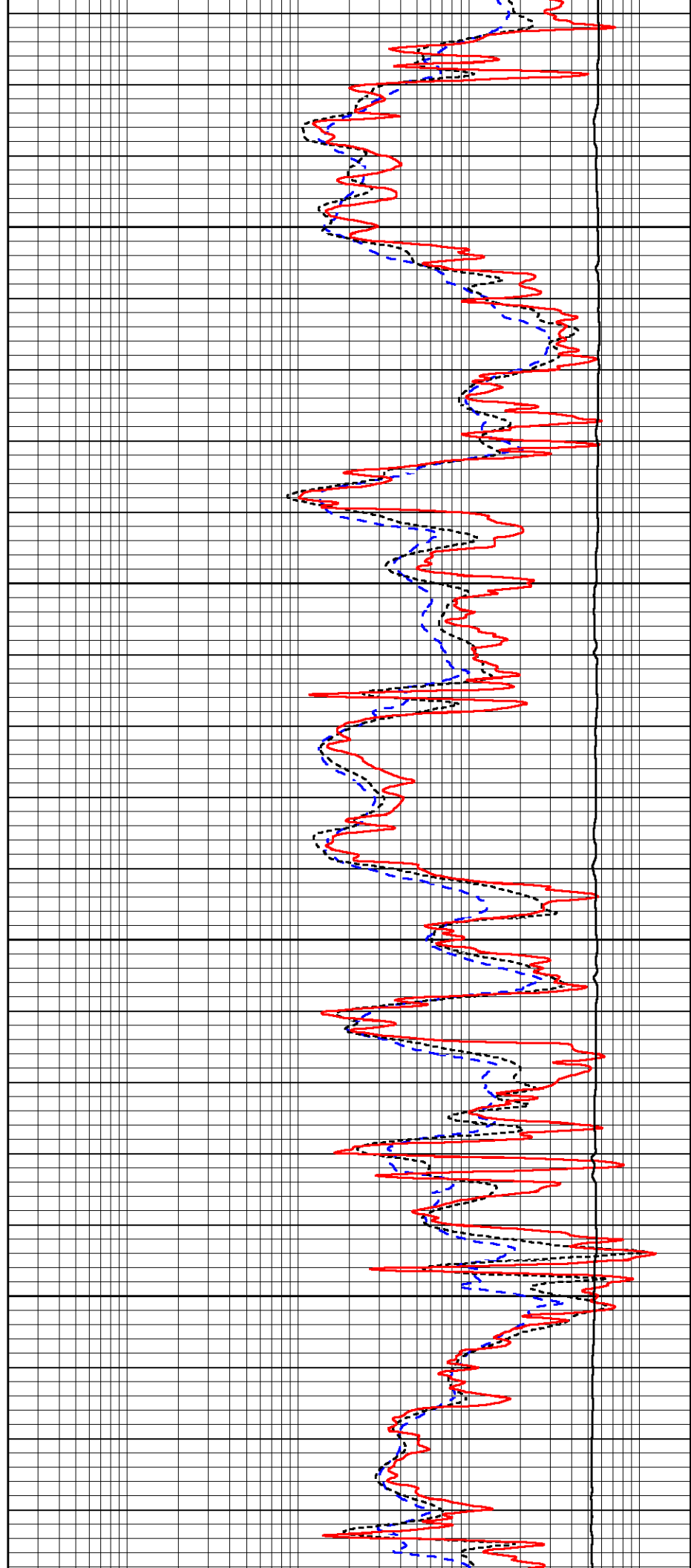


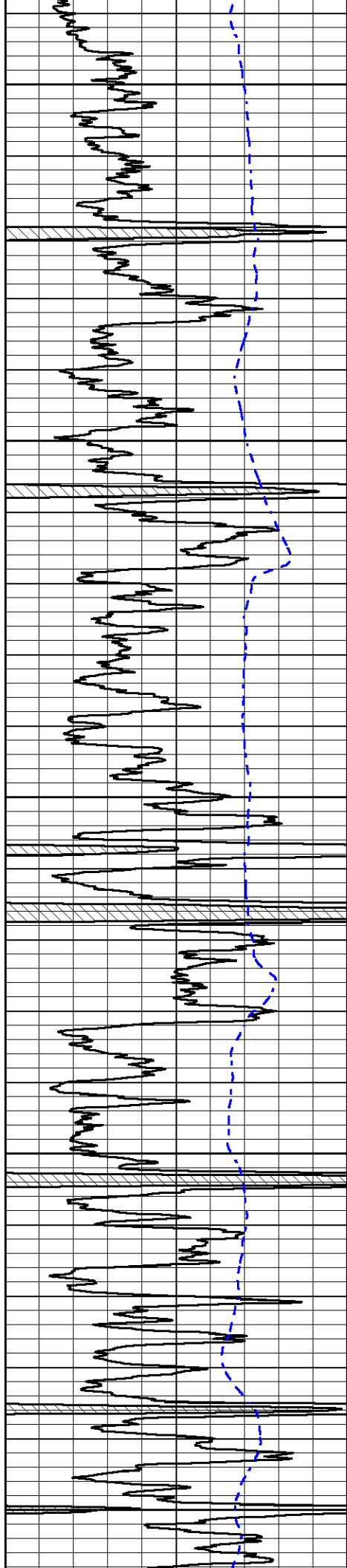
4100

4150

4200

4250





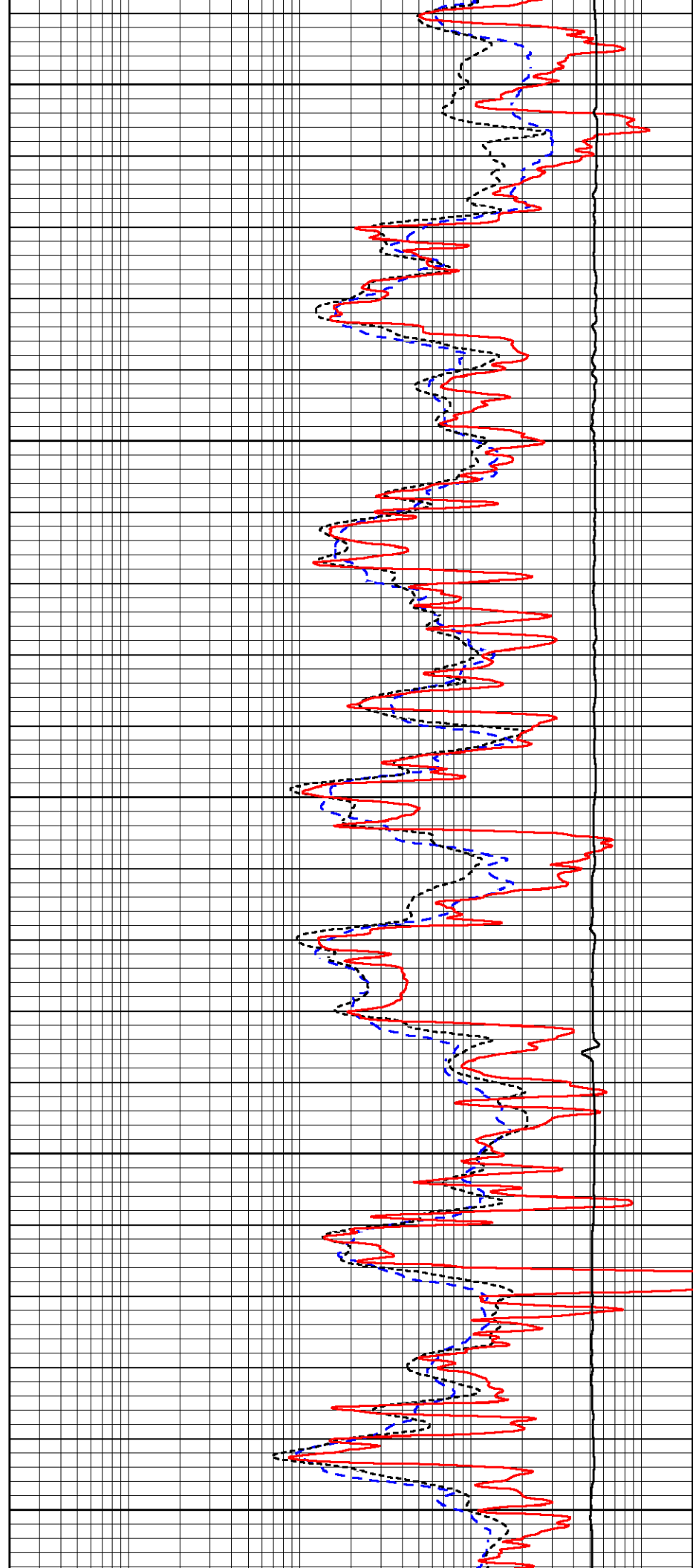
4300

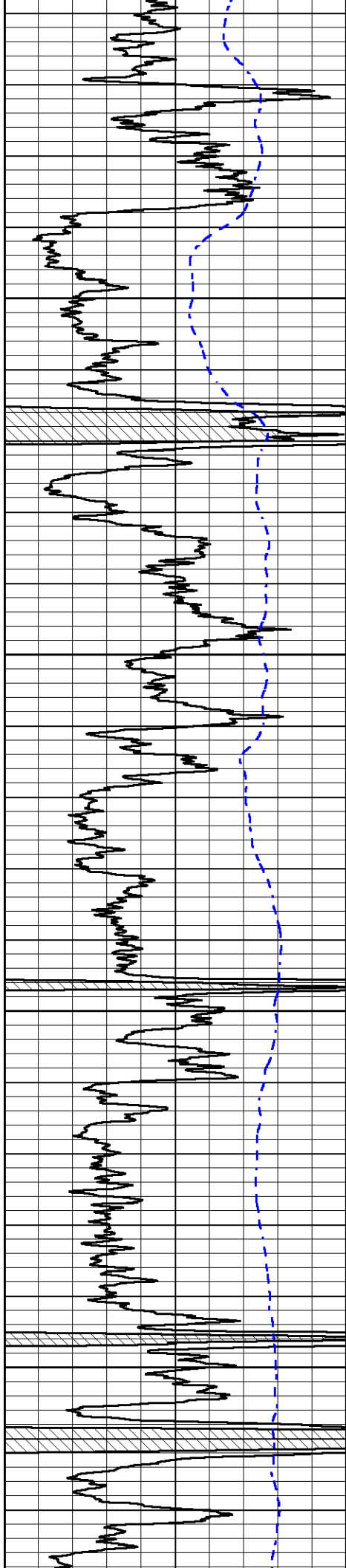
4350

4400

4450

4500



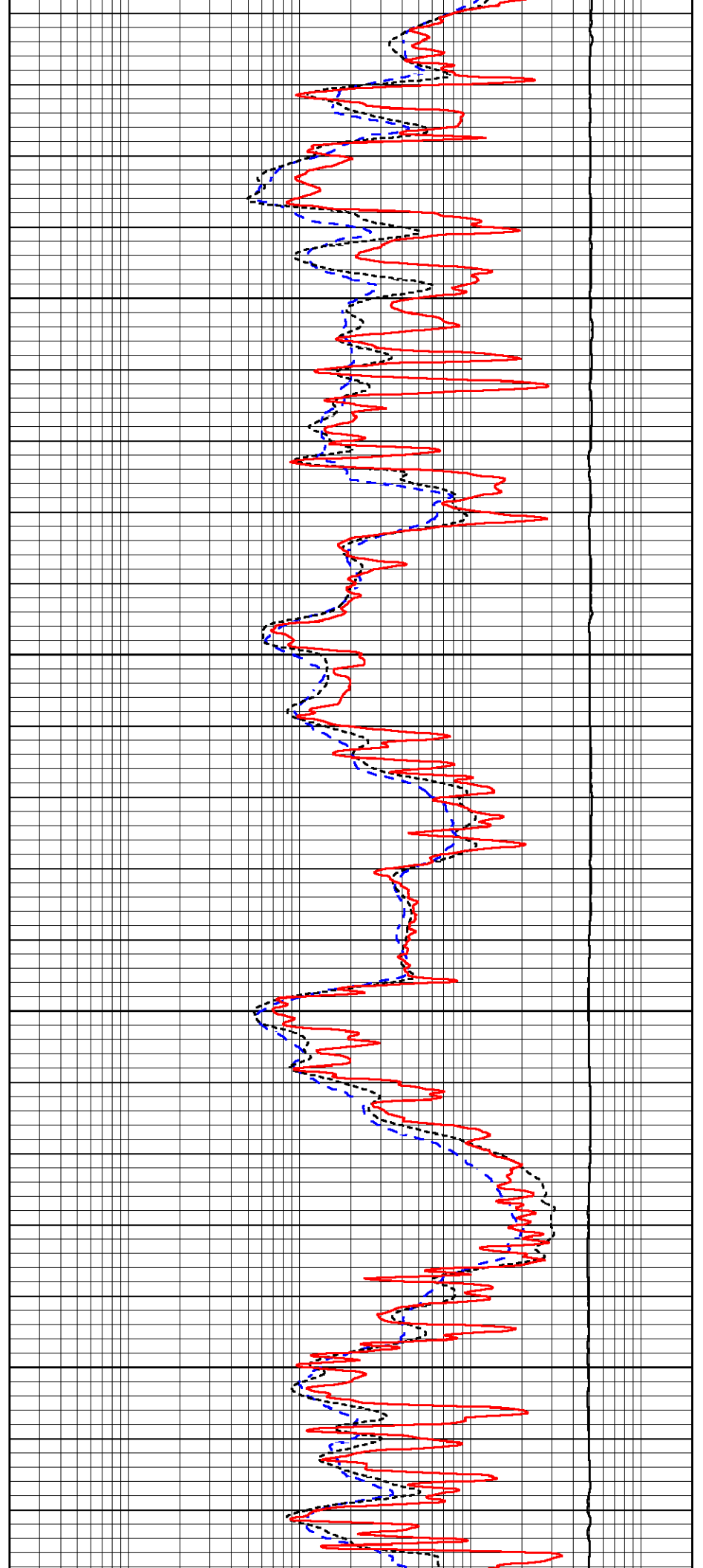


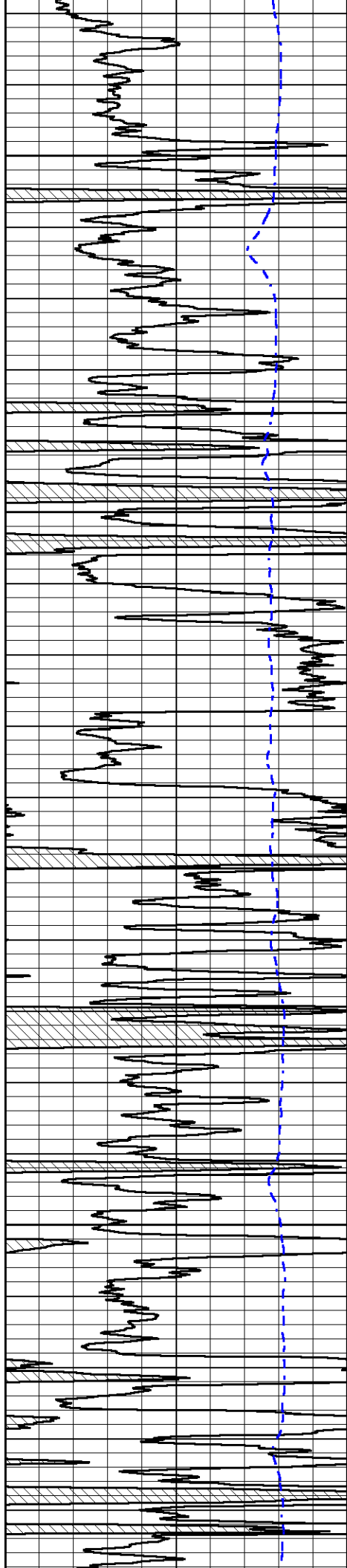
4550

4600

4650

4700



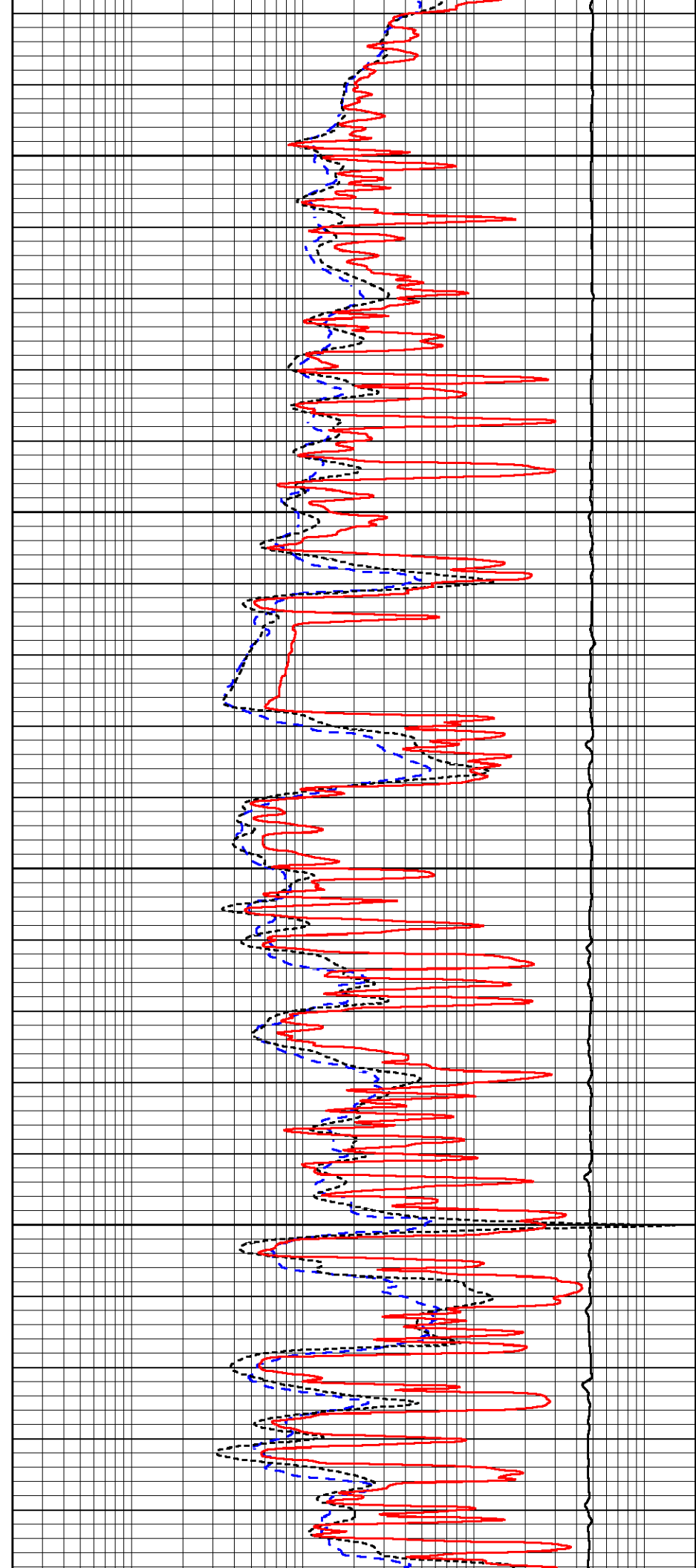


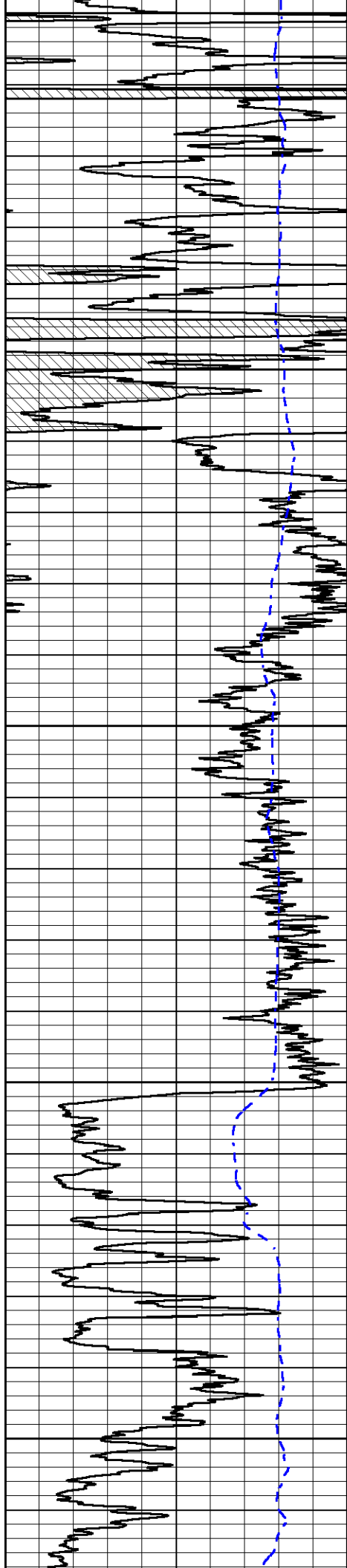
4750

4800

4850

4900





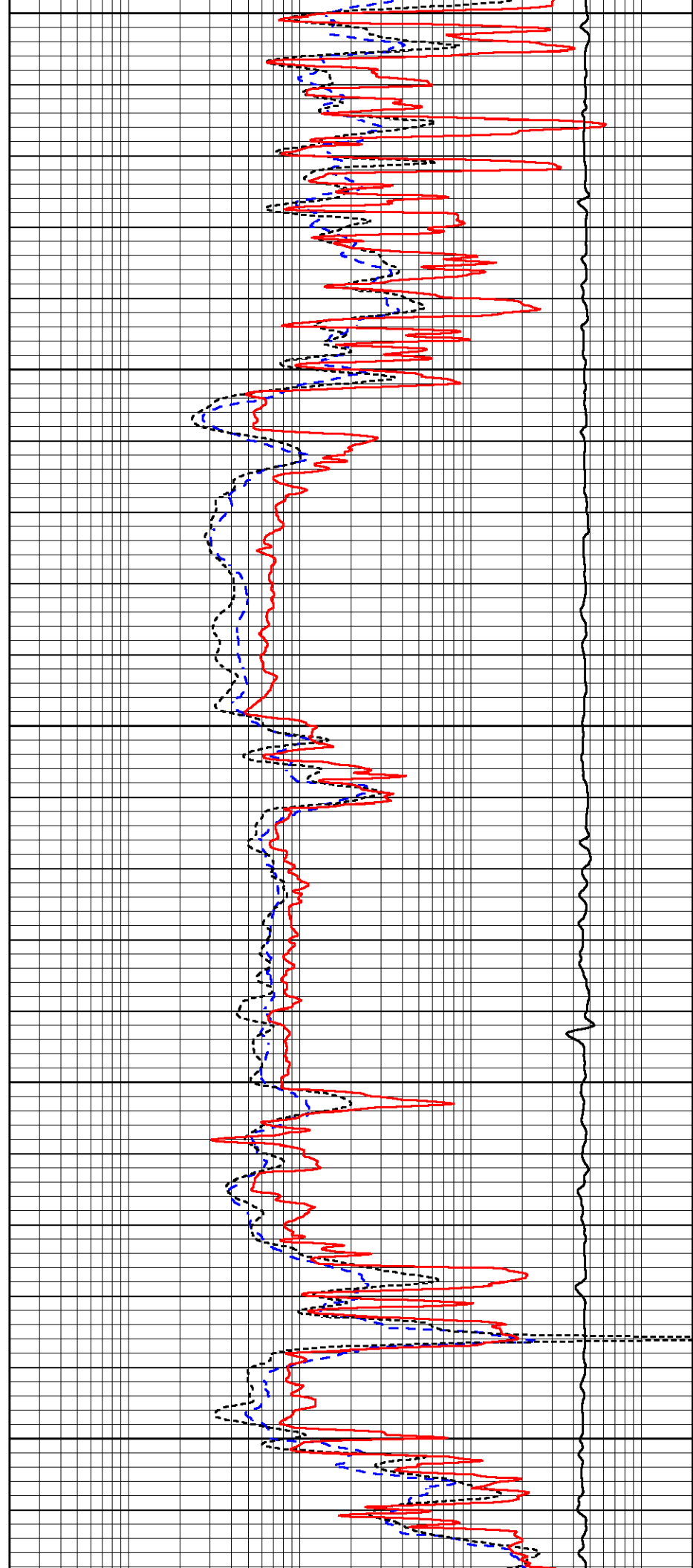
4950

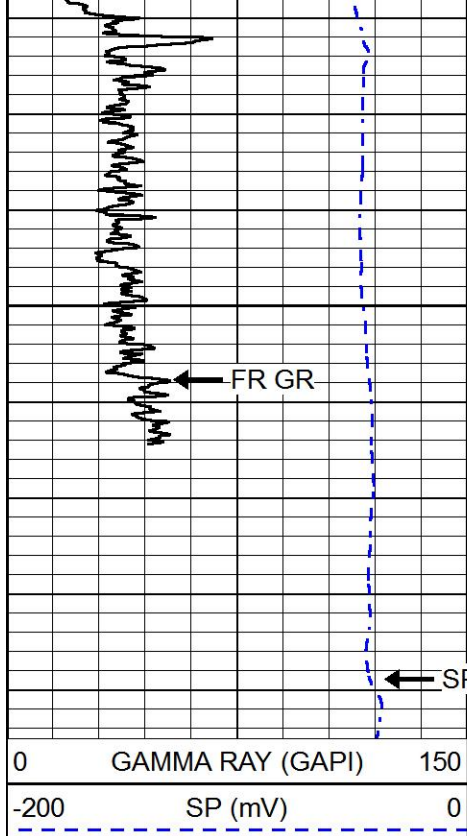
5000

5050

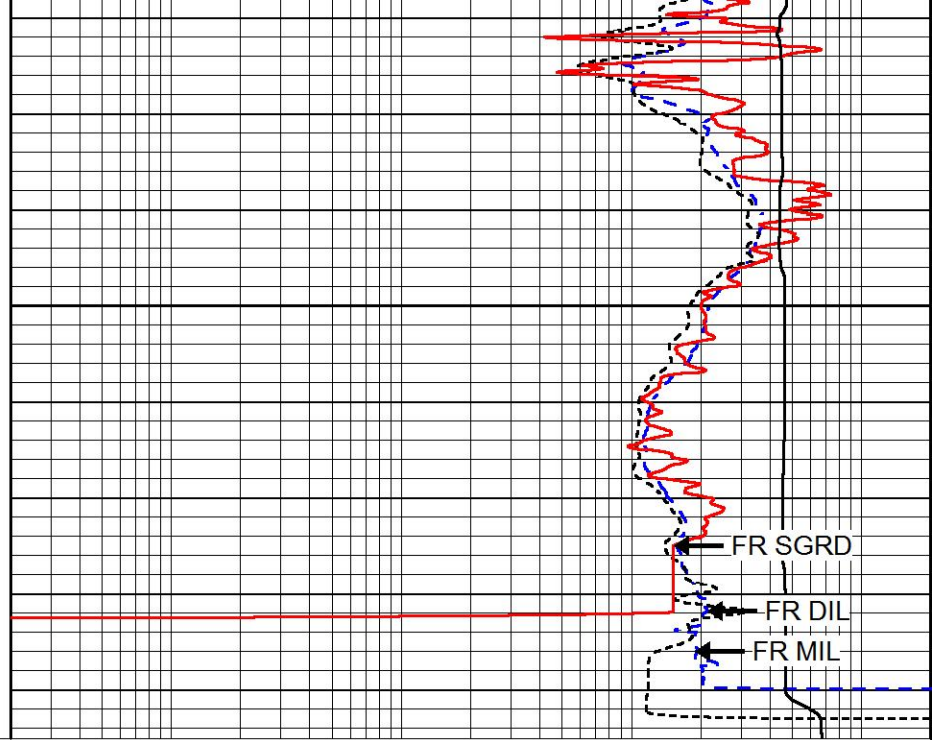
5100

5150





5200



0.2	DEEP RESISTIVITY (Ohm-m)	2000
0.2	MEDIUM RESISTIVITY (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
15000	LINE TENSION (lb)	0

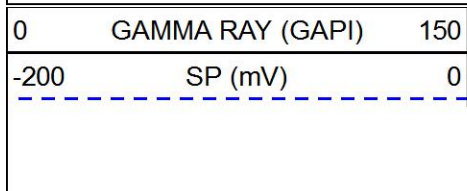


MIDWEST WIRELINE

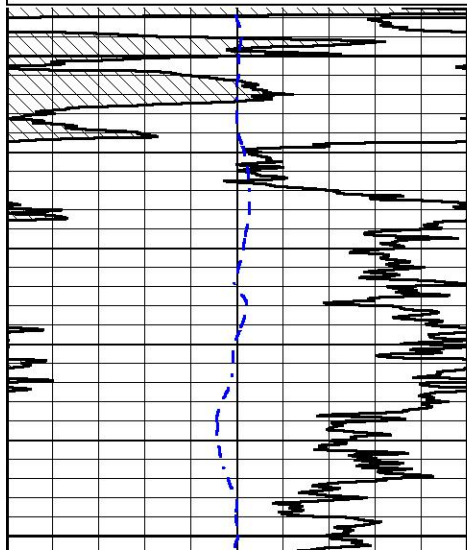
REPEAT SECTION

REPEAT PASS

Database File murfin_kb_1_2.db
 Dataset Pathname stack/pass3.1
 Presentation Format dil
 Dataset Creation Sun Jun 13 10:01:18 2021
 Charted by Depth in Feet scaled 1:240

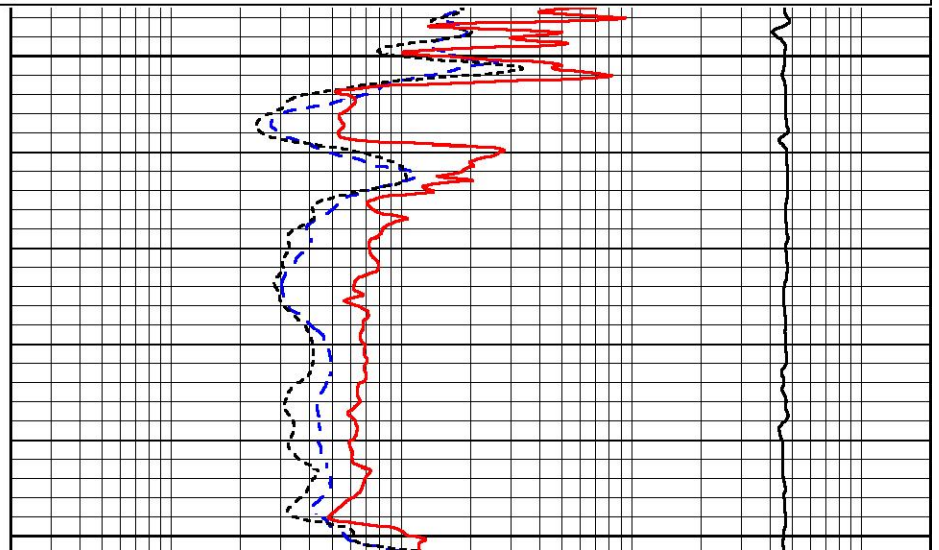


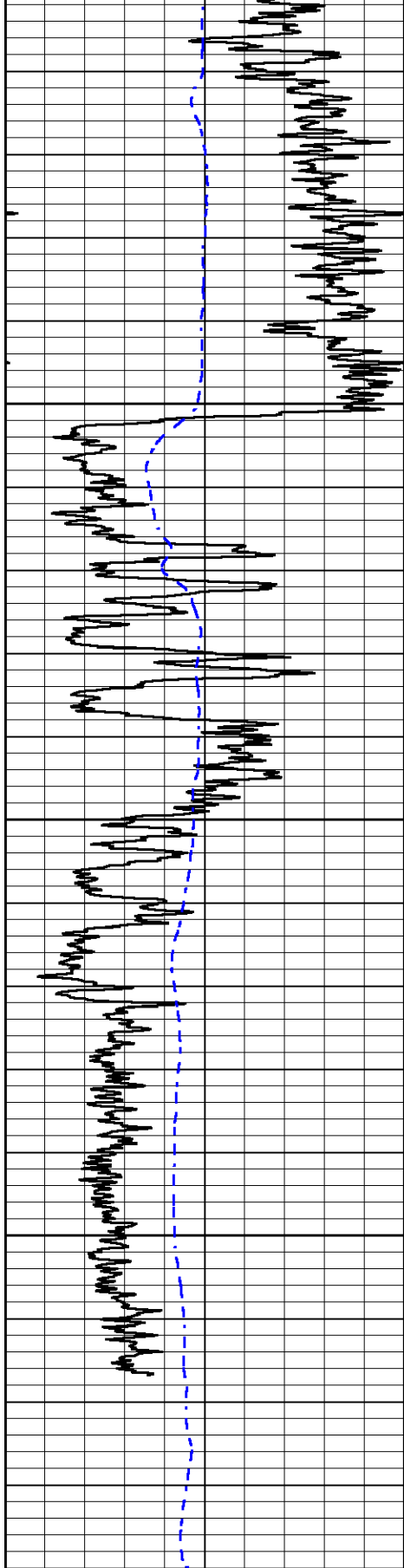
0.2	DEEP RESISTIVITY (Ohm-m)	2000
0.2	MEDIUM RESISTIVITY (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
15000	LINE TENSION (lb)	0



5000

5050



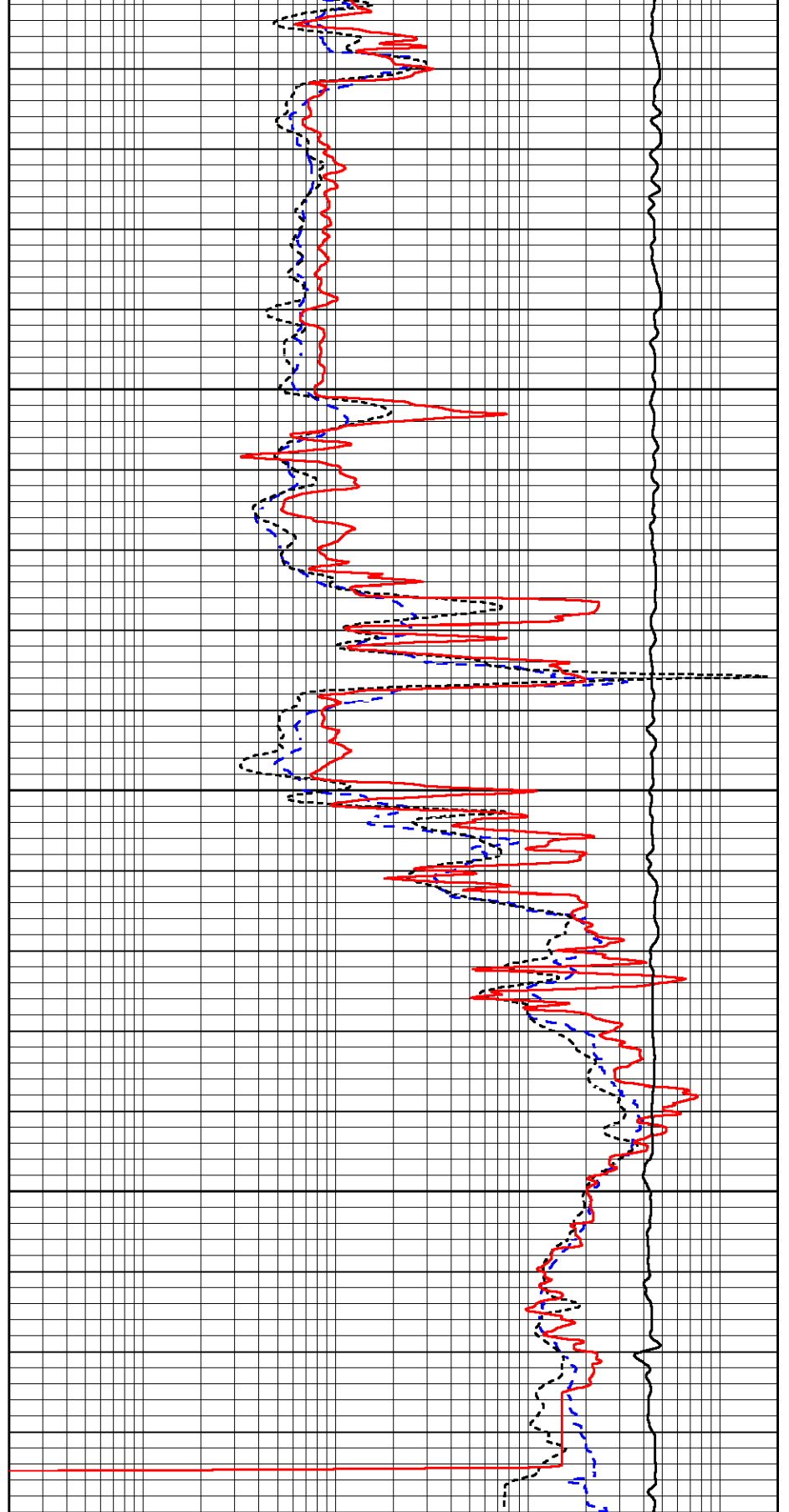


5100

5150

5200

0 GAMMA RAY (GAPI) 150
 -200 SP (mV) 0



0.2 DEEP RESISTIVITY (Ohm-m) 2000
 0.2 MEDIUM RESISTIVITY (Ohm-m) 2000
 0.2 RLL3 (Ohm-m) 2000
 15000 LINE TENSION (lb) 0

Database File murfin_kb_1_2.db
 Dataset Pathname stack/pass5.1
 Dataset Creation Sun Jun 13 10:27:13 2021

Dual Induction Calibration Report

Serial-Model: 952-828-PSI HIGH TEMP
 Calibration Performed: Tue May 25 16:09:11 2021

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	167.000	835.000	0.000	255.000	mmho/m	0.500	-15.000
Medium	0.000	1348.000	142.000	255.000	mmho/m	0.335	-34.000

Compensated Density Calibration Report

Serial-Model: 915-956-M&W
 Source / Verifier: /
 Master Calibration Performed: Mon May 10 06:44:16 2021

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	3668.53	4669.61	cps
Aluminum	2.675	g/cc	710.88	3056.05	cps
Spine Angle = 75.51			Density/Spine Ratio = 0.543		
	Size		Reading		
Small Ring	4.00	in	1.17		
Large Ring	14.00	in	1.05		

Compensated Neutron Calibration Report

Serial Number: tk10-MW
 Tool Model: M&W
 Calibration Performed: Wed Nov 16 11:21:36 2016

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: 89-M&W
 Tool Model: M&W
 Calibration Performed: Mon May 10 06:44:25 2021

Calibrator Value: 1000.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 6.2 cps

Sensitivity: 0.5200 GAPI/cps