



PIONEER
Pioneer Energy Services

MICRORESISTIVITY LOG

Company AMERICAN WARRIOR, INC.
Well HAWK #2-35
Field KISMET
County SEWARD
State KANSAS

Company AMERICAN WARRIOR, INC.
Well HAWK #2-35
Field KISMET
County SEWARD
State KANSAS

Location: API #: 15-175-22248-00-00

Other Services

NE SW SW NE
2208' FNL & 2121' FEL
SEC 35 TWP 32S RGE 31W

CNL/CDL
DIL

Permanent Datum GROUND LEVEL Elevation 2767'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 2779'
D.F. N/A
G.L. 2767'

Date 8/5/2016

Run Number ONE

Depth Driller 6100'

Depth Logger 6108'

Bottom Logged Interval 6107'

Top Log Interval 1750'

Casing Driller 8.625" @ 1739'

Casing Logger 1737'

Bit Size 7.875"

Type Fluid in Hole CHEMICAL

Salinity, ppm CL 3800

Density / Viscosity 9.4 54

pH / Fluid Loss 9.5 9.2

Source of Sample FLOWLINE

Rm @ Meas. Temp 0.88 @ 76

Rmf @ Meas. Temp 0.66 @ 76

Rmc @ Meas. Temp 1.19 @ 76

Source of Rmf / Rmc CHARTS

Rm @ BHT 0.49 @ 136

Operating Rig Time 3 1/2 HOURS

Max Rec. Temp. F 136

Equipment Number 108

Location COLBY

Recorded By T. MARTIN

Witnessed By KEVIN TIMSON

<<< Fold Here >>>

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

KISMET, KS, 2 MI NE ON HWY 54,
S INTO OFF HWY

Log Measured From: KELLY BUSHING

12 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES
www.pioneerenergy.com 785-625-3858

Your Pioneer Energy Services Crew

Engineer: T. MARTIN
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: KEVIN TIMSON
Secondary Witness:
Secondary Witness:
Secondary Witness:

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in 7.875	degF 136	in 5.5	in 0	g/cc 1	2	g/cc 2.71
NPORSEL	PERFS	SNDERR	SNDERRM	SPSHIFT	SRFTEMP	SZCOR	TDEPTH
Limestone	0	mmho/m 0	mmho/m 0	mV -240	degF 76	Off	ft 6108

Sensor	Offset (ft)	Schematic		Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58			GR-M&W (89-M&W)	3.00	3.50	50.00
CNLSC	37.48			CNT-M&W (tk10-MW)	5.50	3.50	100.00
CNSSC	36.73						
LSD	28.43			CDL-M&W (71-914)	8.50	4.00	250.00
DCAL	28.42			ML-PSI STKBL ML (PSI-02) Stackable Microlog Tools	7.58	4.00	65.00
SSD	27.93						
MCAL	19.83						
MI	19.83						
MN	19.83						
RLL3	15.80						
RLL3F	15.79			DIL-M&W (1987)	18.50	3.50	220.00
CILD	8.00						

CILM

4.70

SP

0.20

Dataset: amwar_hawk_#2-35.db: field/well/stkml/pass3.1
Total length: 43.08 ft
Total weight: 685.00 lb
O.D.: 4.00 in

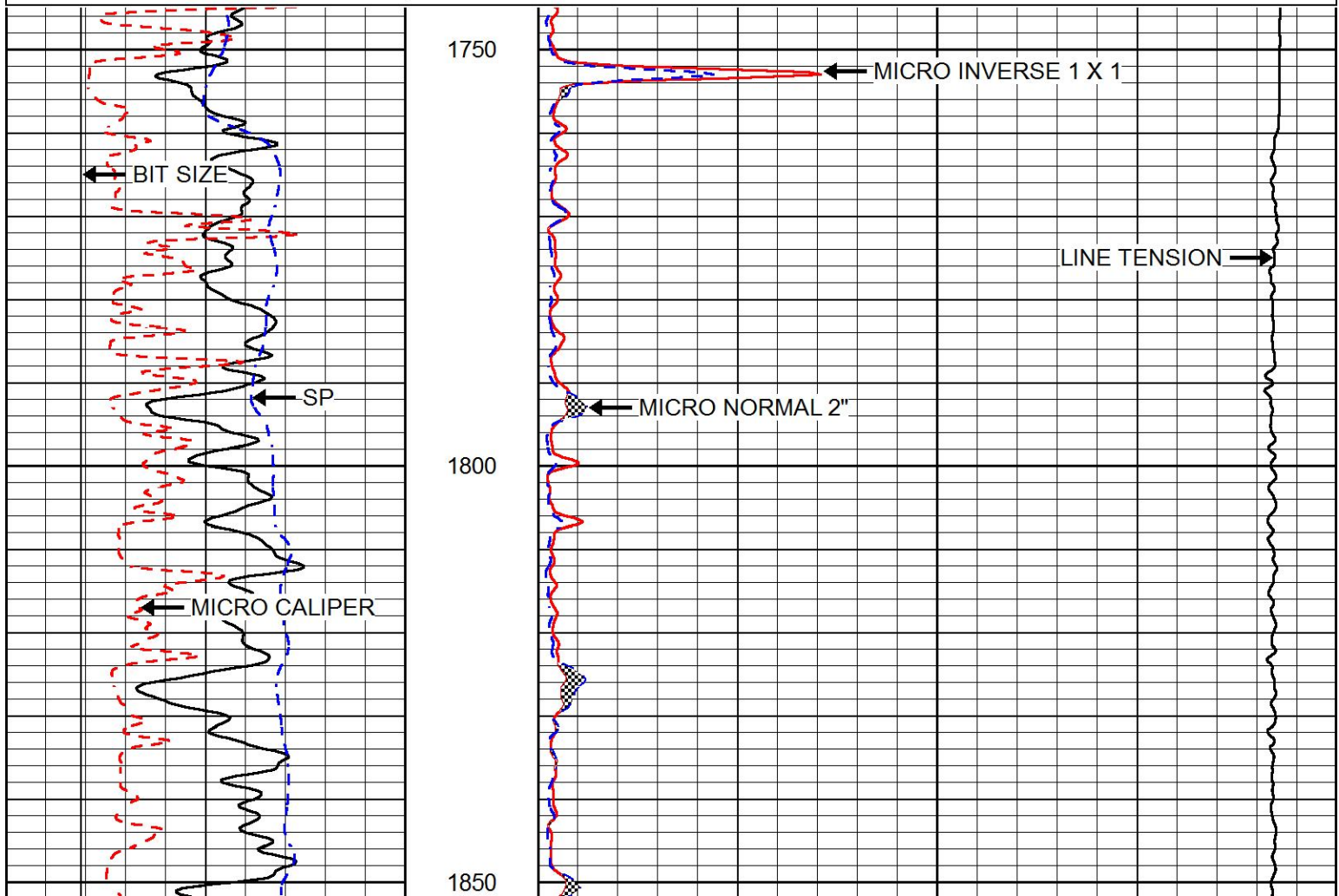


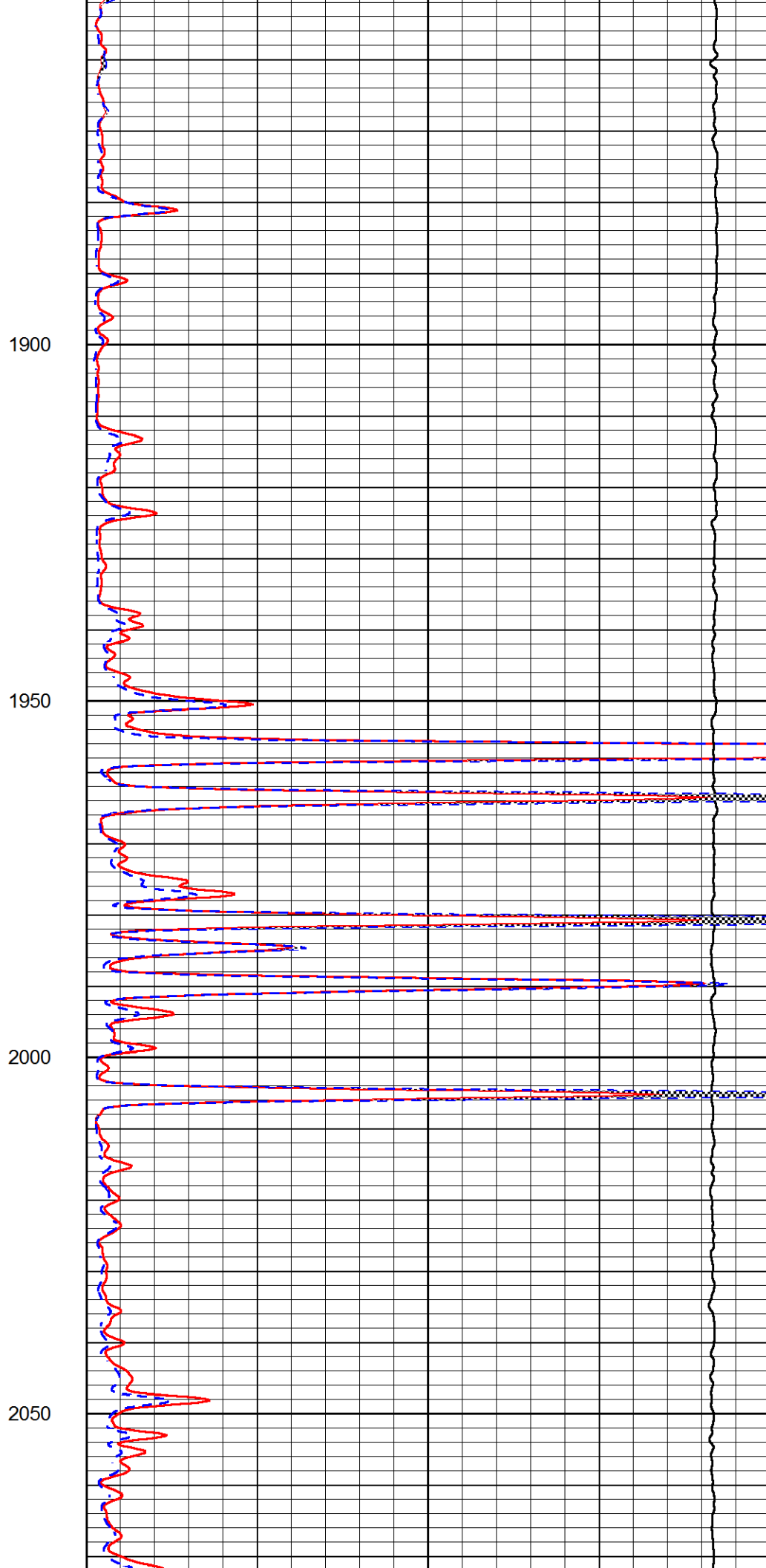
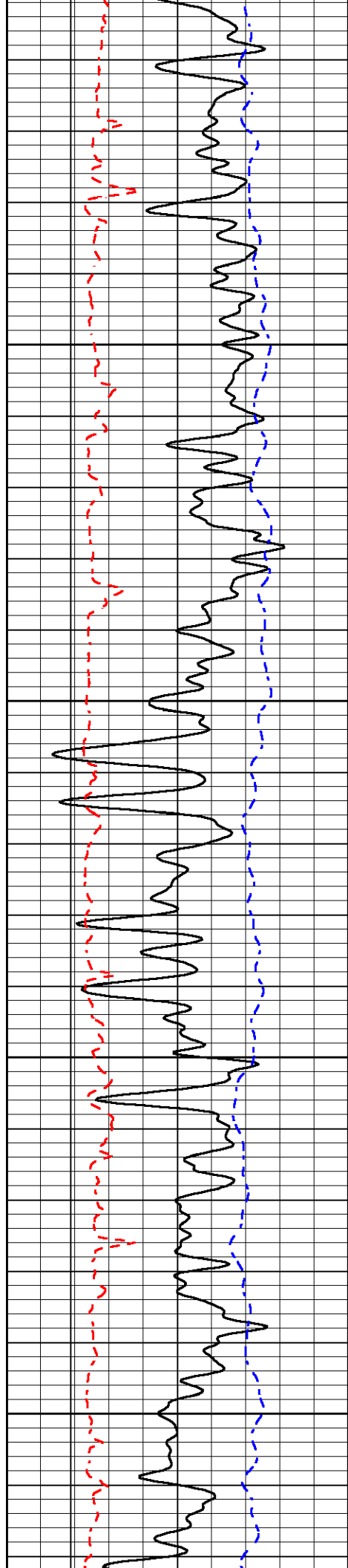
MAIN PASS

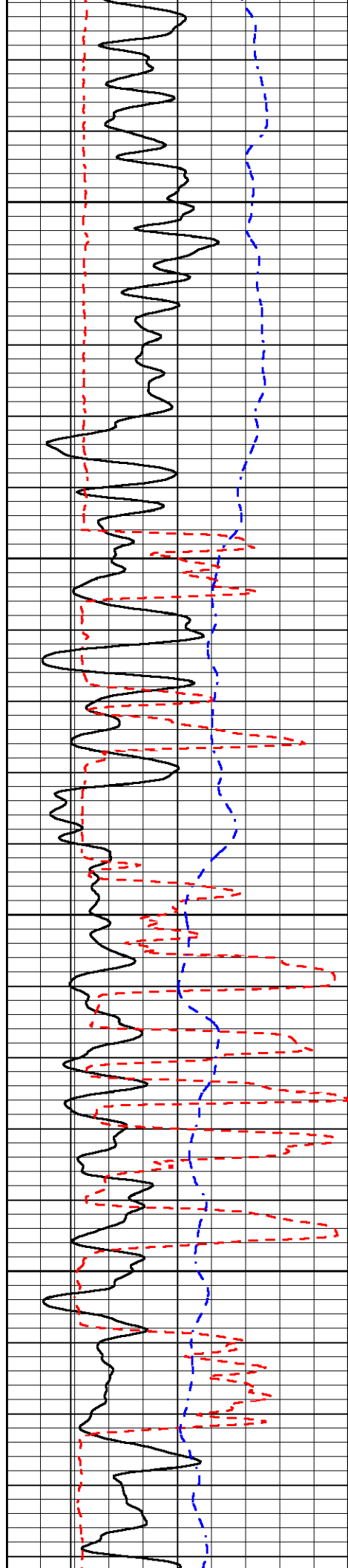
Database File amwar_hawk_#2-35.db
Dataset Pathname stkml/pass3.1
Presentation Format micro
Dataset Creation Sat Aug 06 01:14:27 2016
Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	MICRO CALIPER (in)	16
6	BIT SIZE (in)	16
-200	SP (mV)	0

0	MICRO INVERSE 1 X 1 (Ohm-m)	40
0	MICRO NORMAL 2" (Ohm-m)	40
15000	LINE TENSION (lb)	0





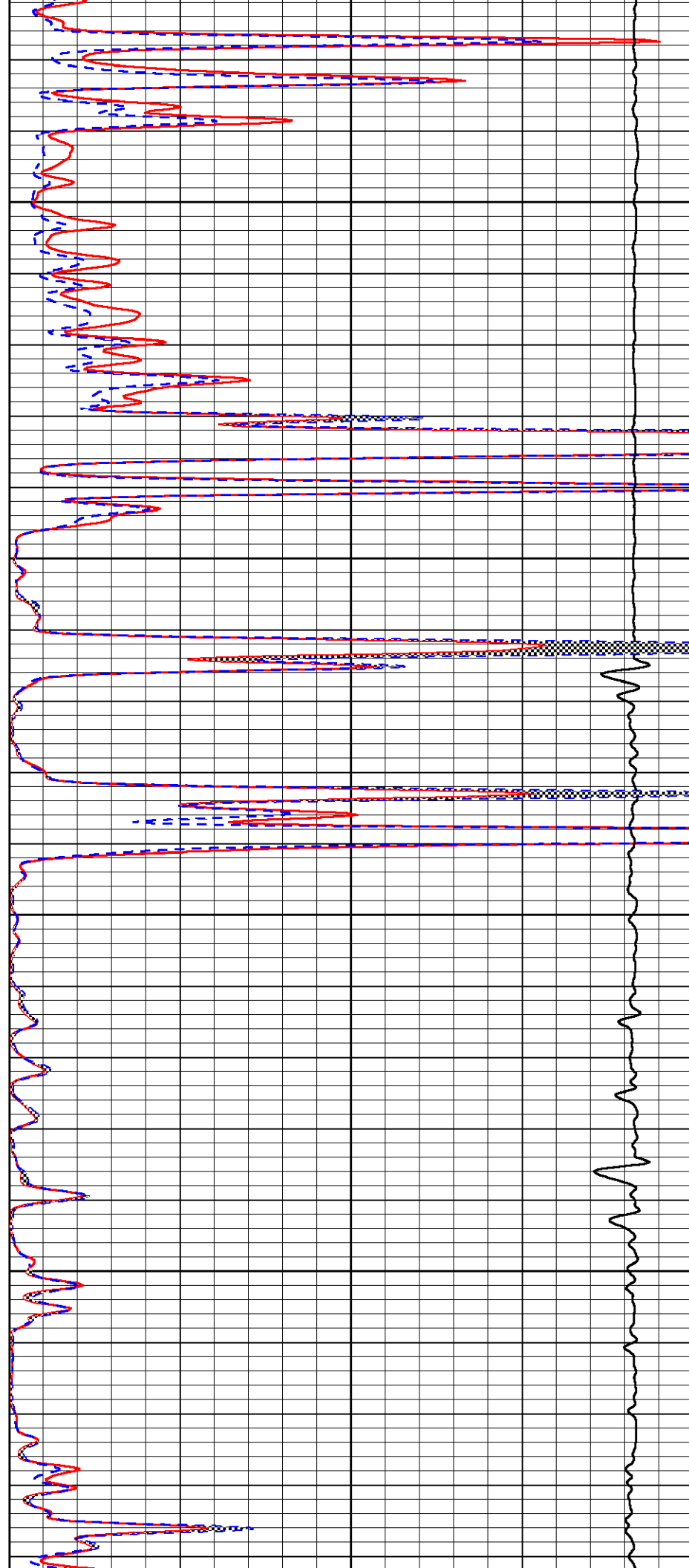


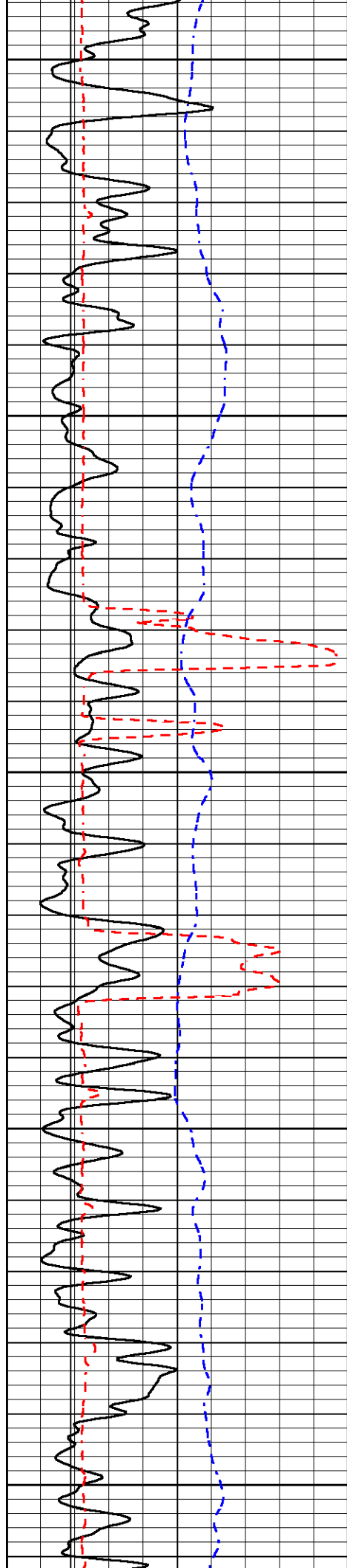
2100

2150

2200

2250





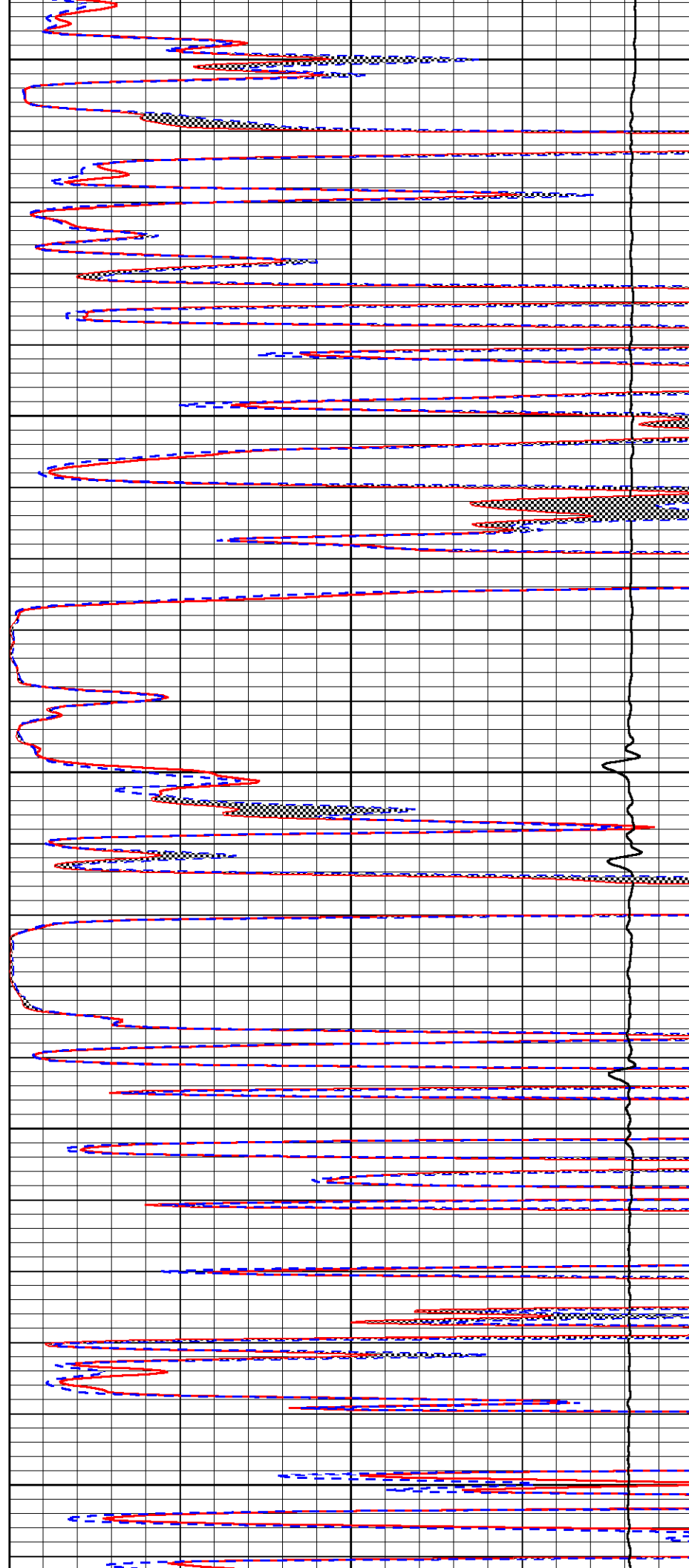
2300

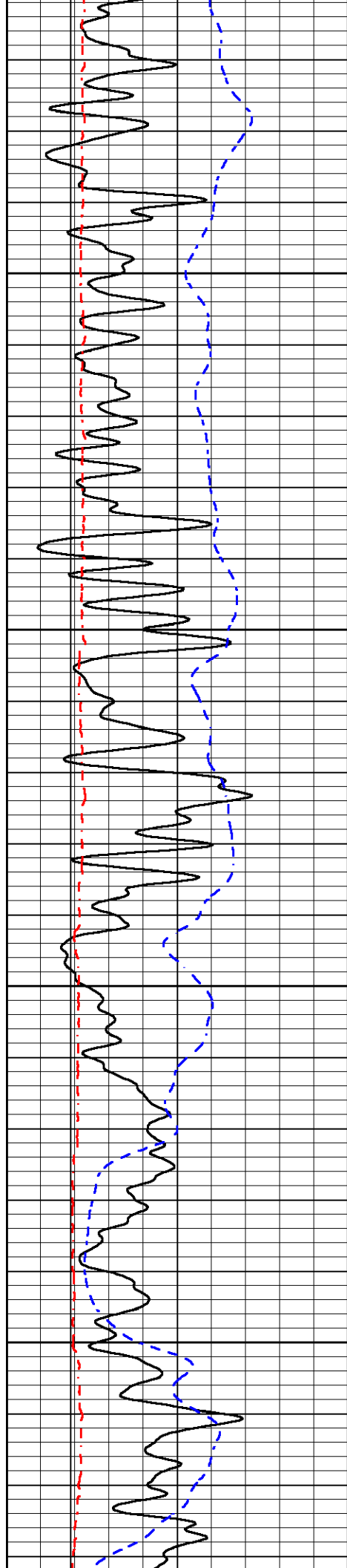
2350

2400

2450

2500



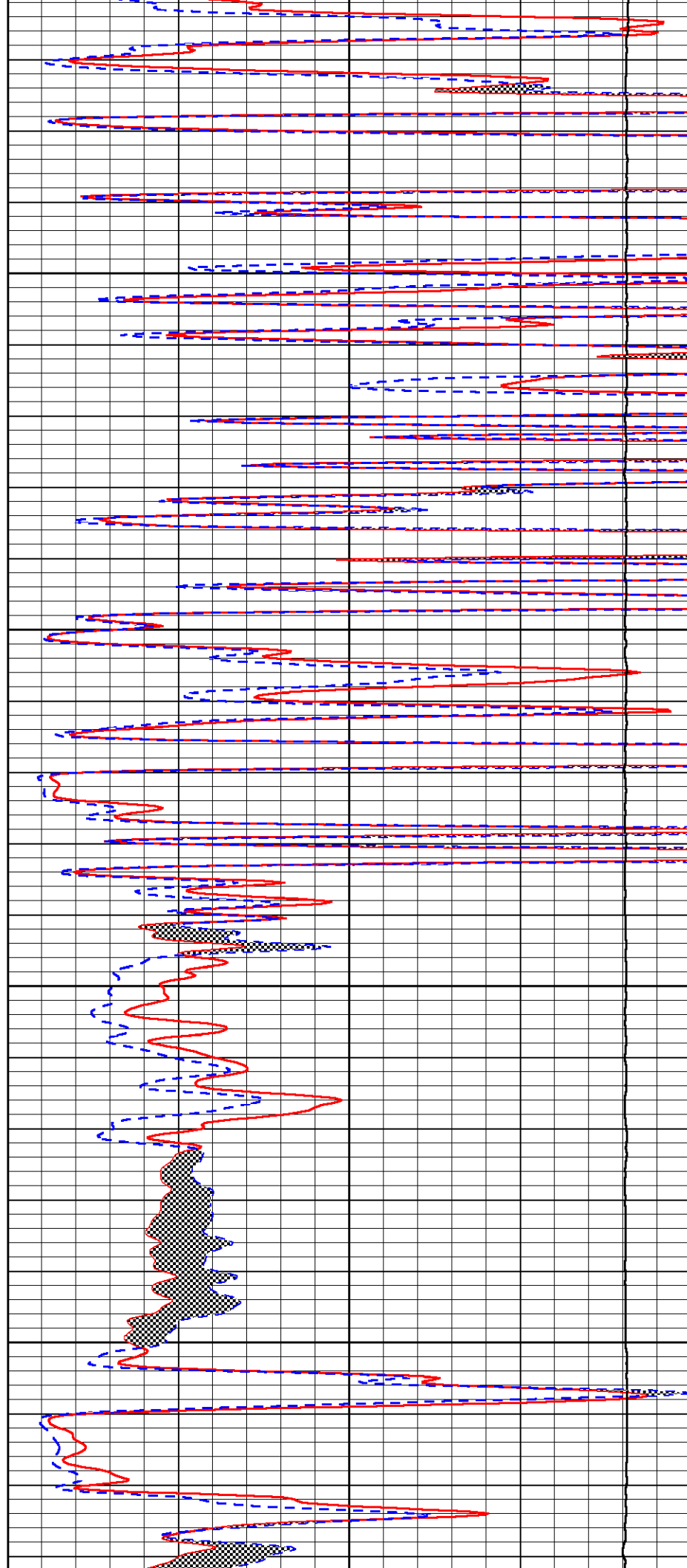


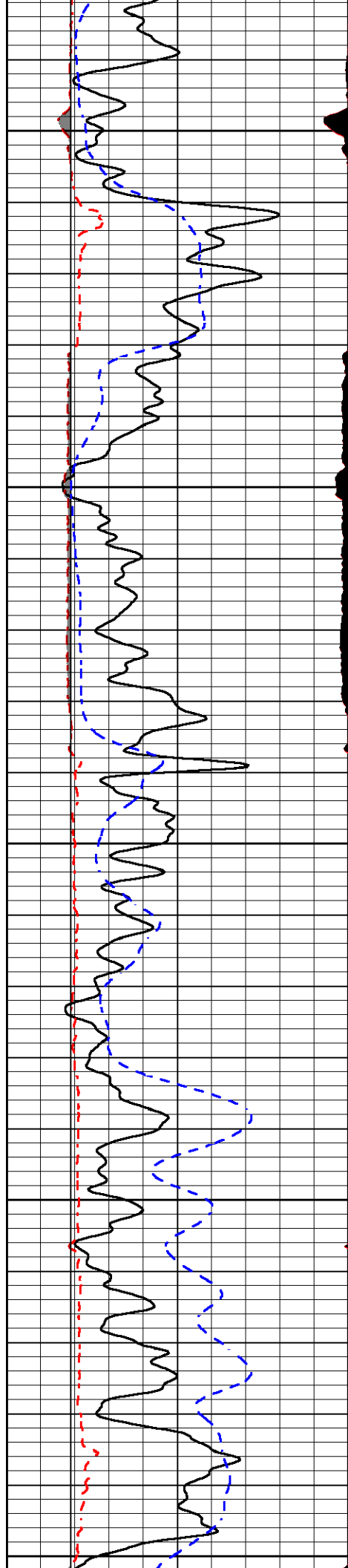
2550

2600

2650

2700





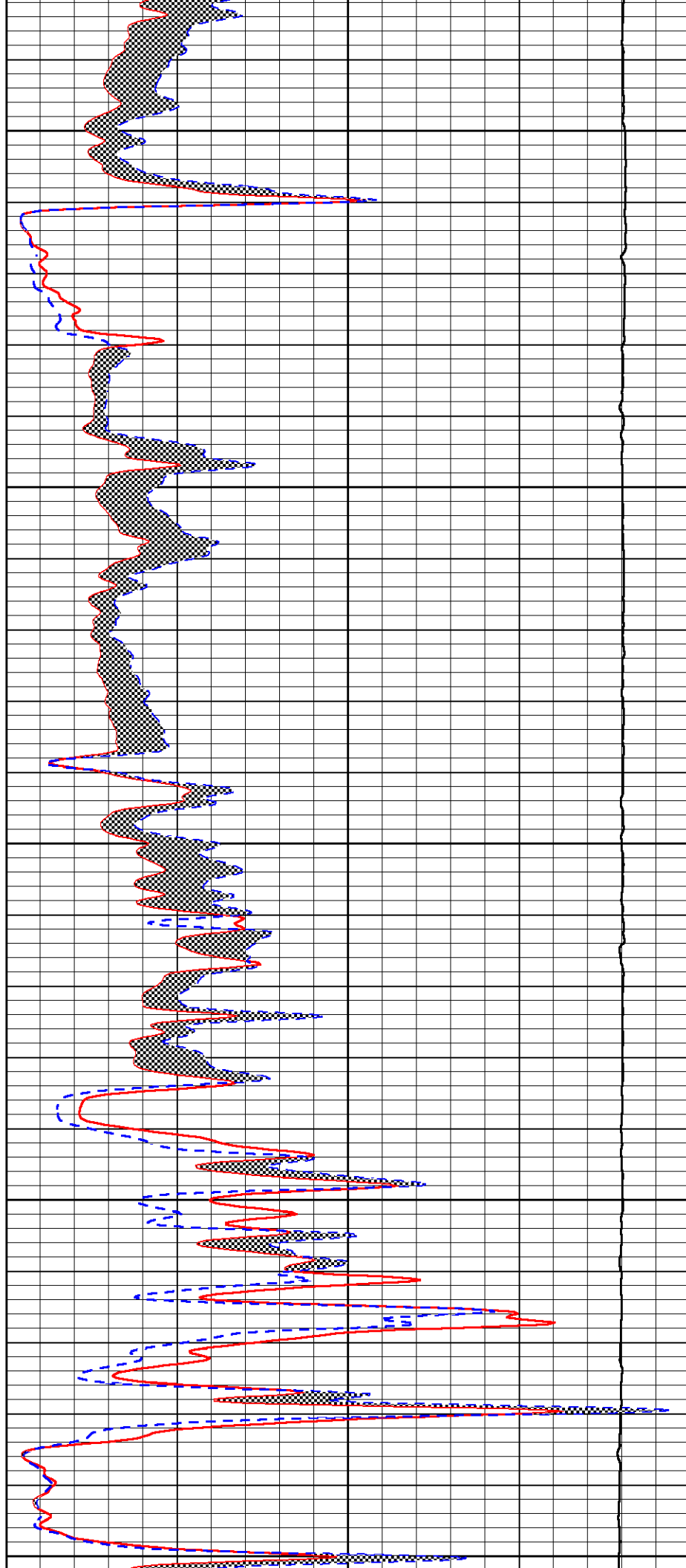
2750

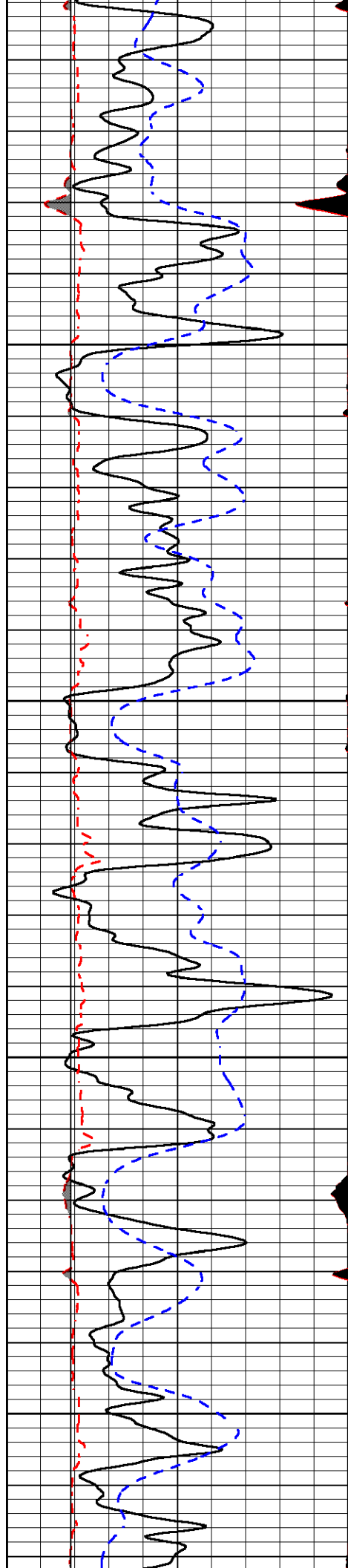
2800

2850

2900

2950



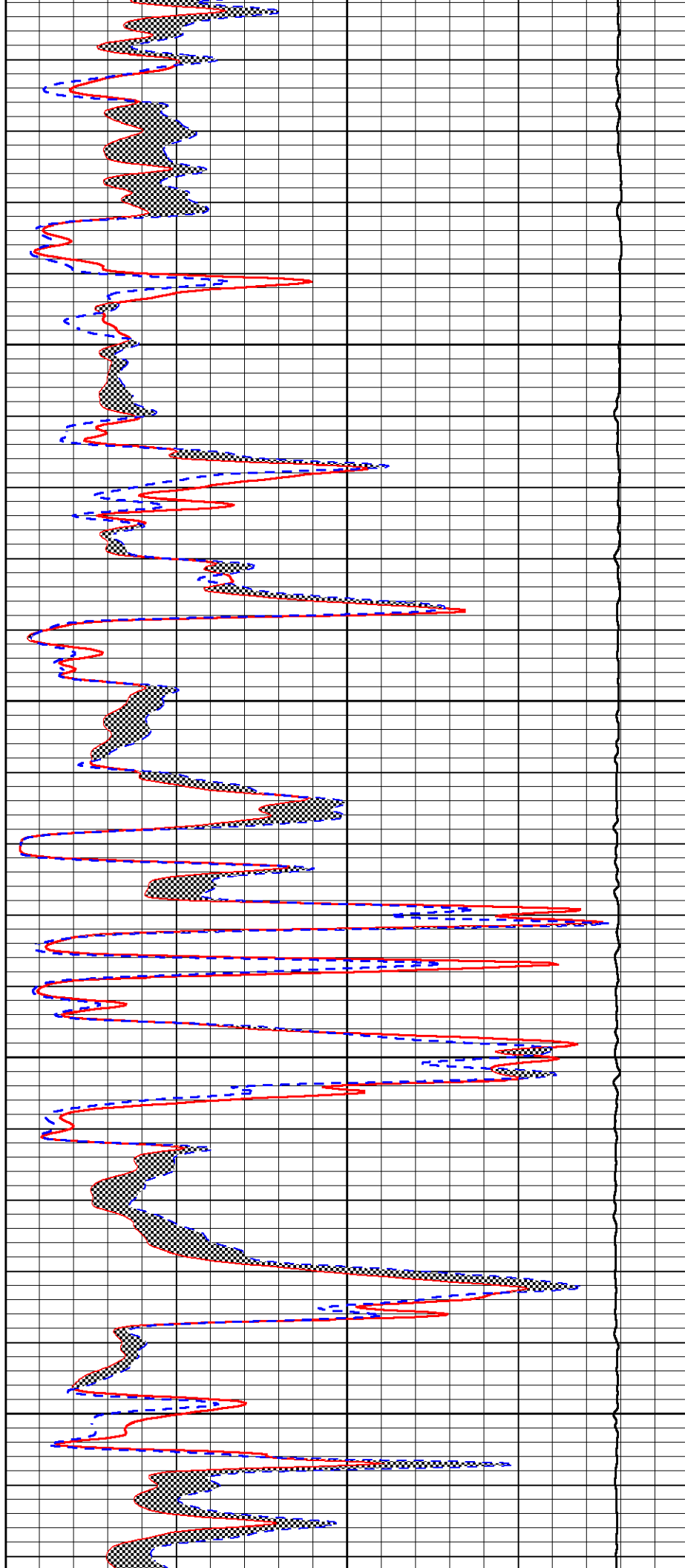


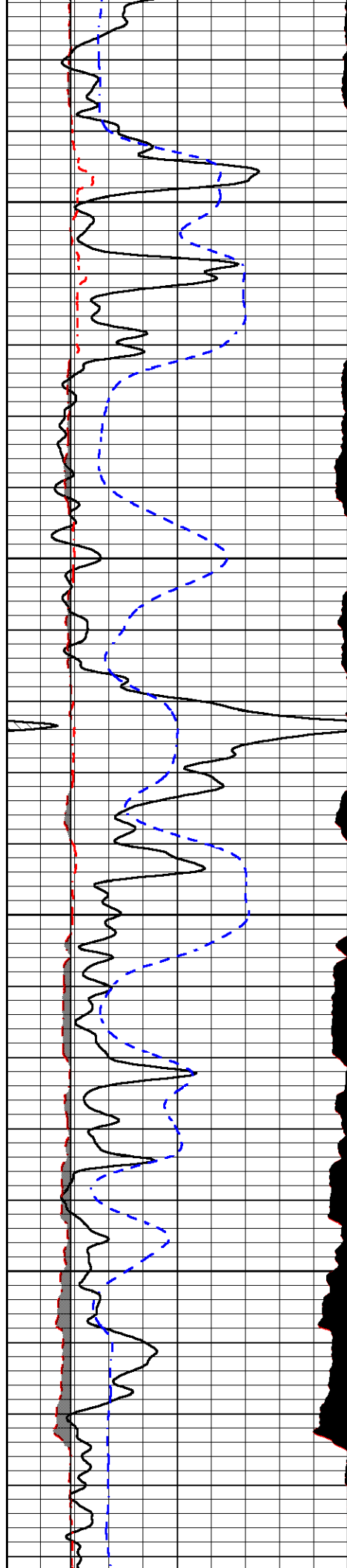
3000

3050

3100

3150



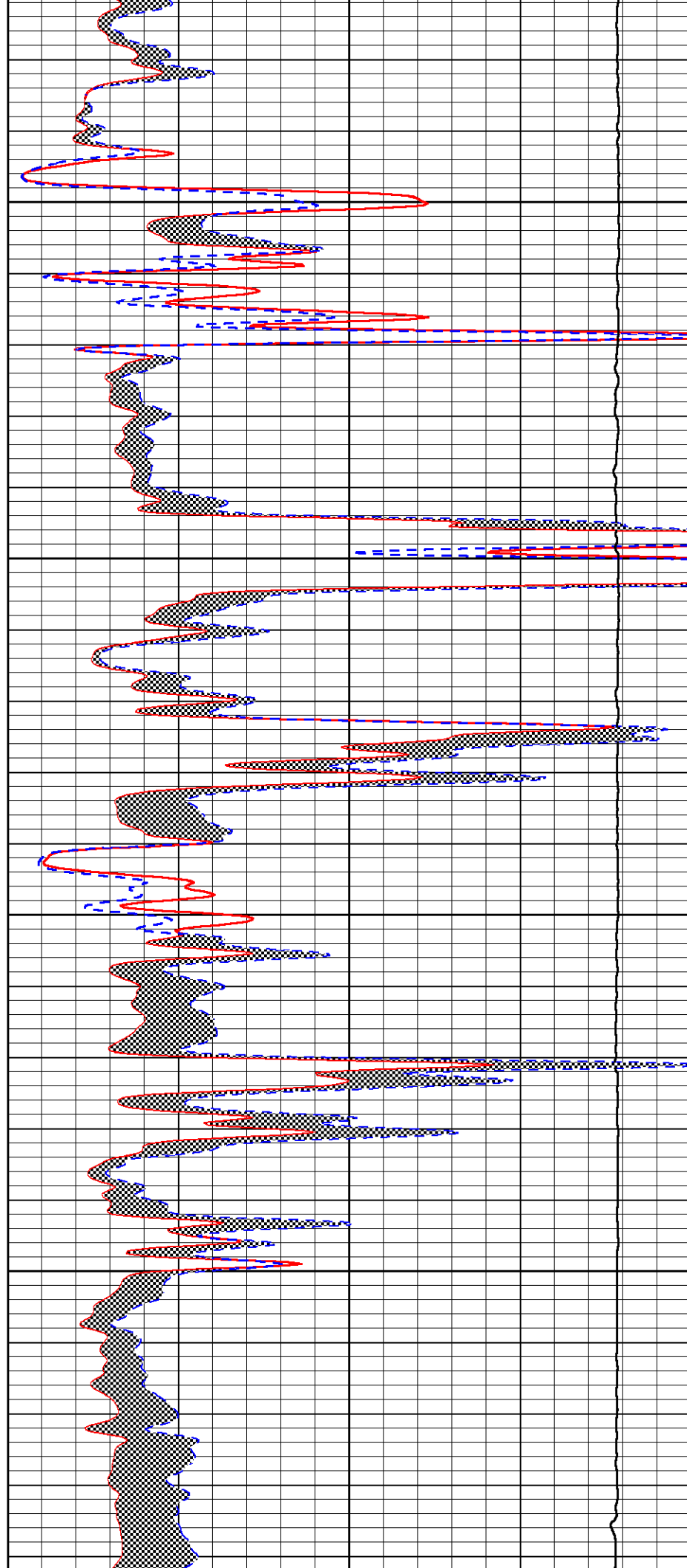


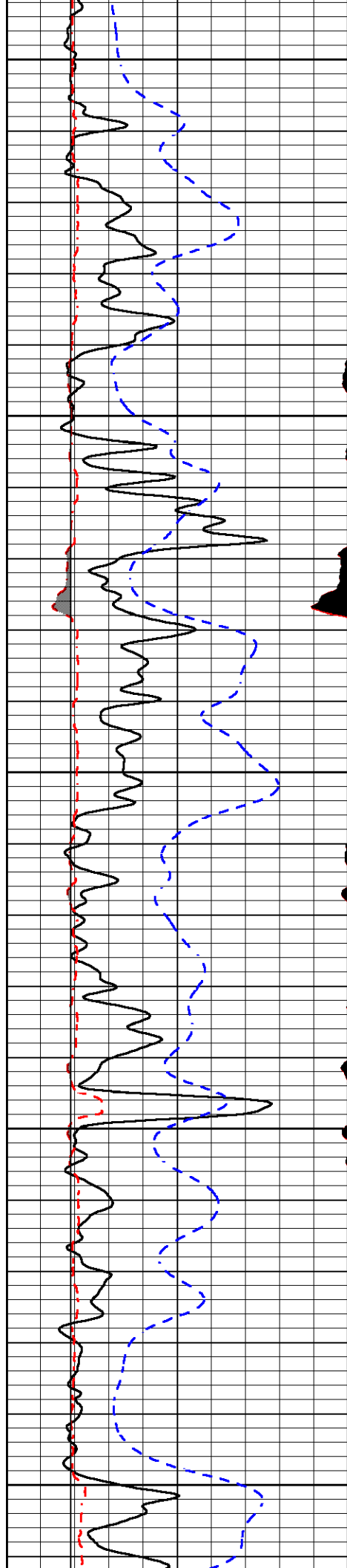
3200

3250

3300

3350





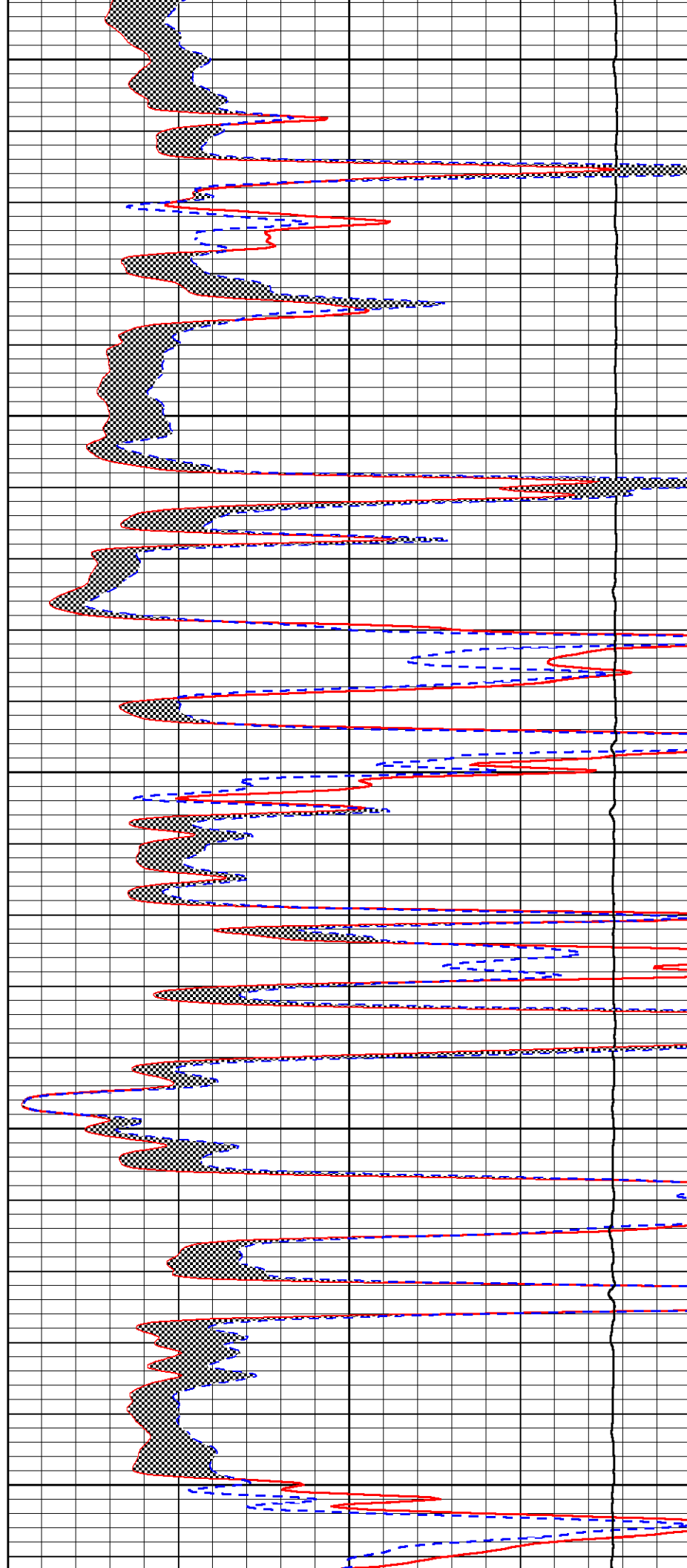
3400

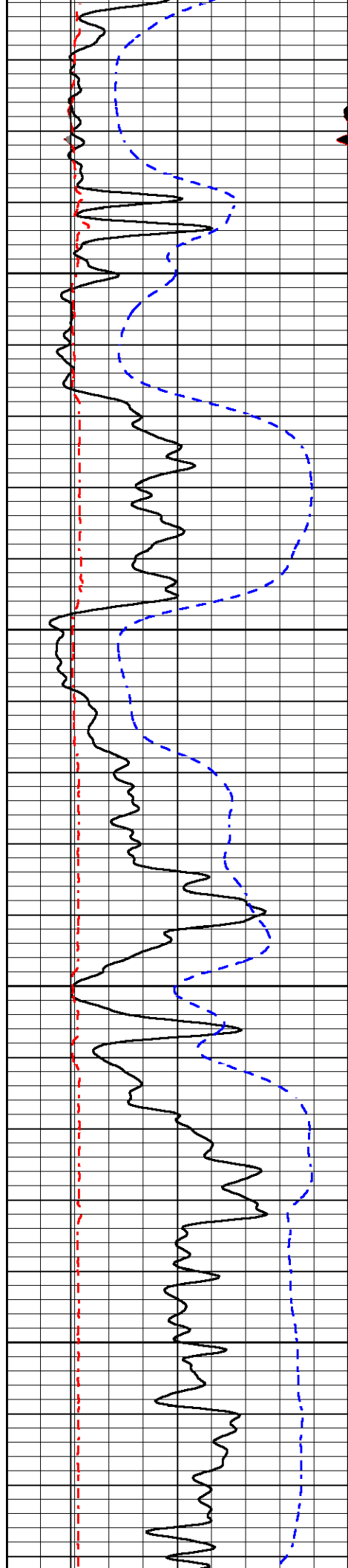
3450

3500

3550

3600



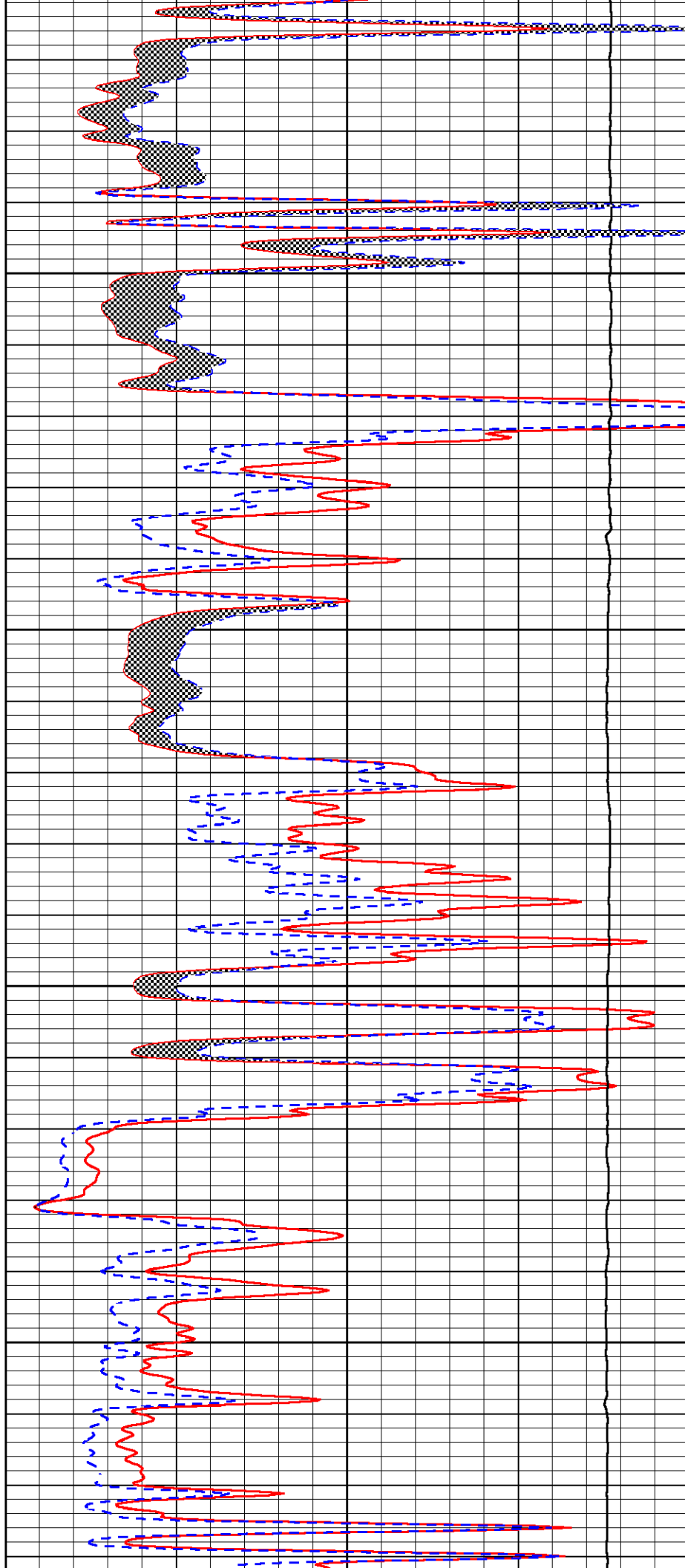


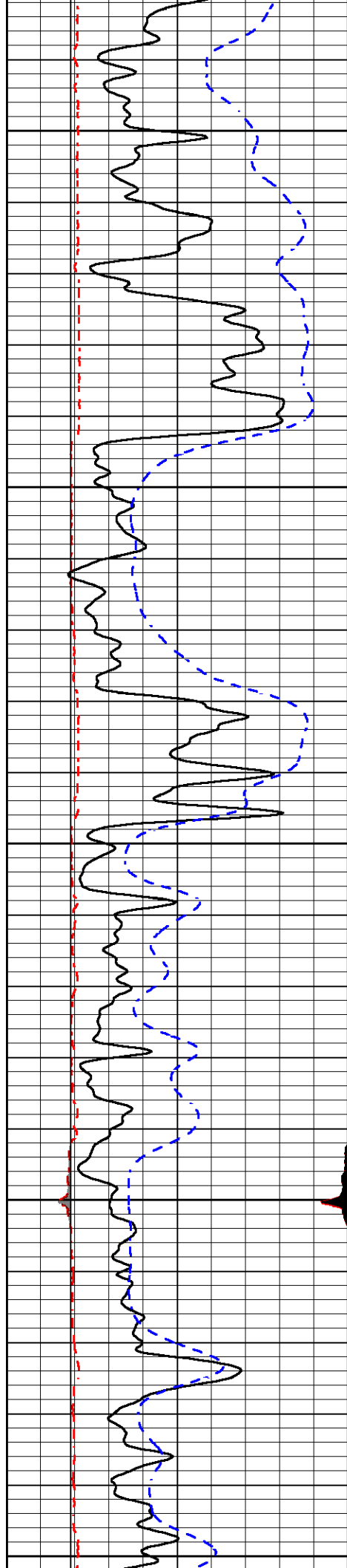
3650

3700

3750

3800





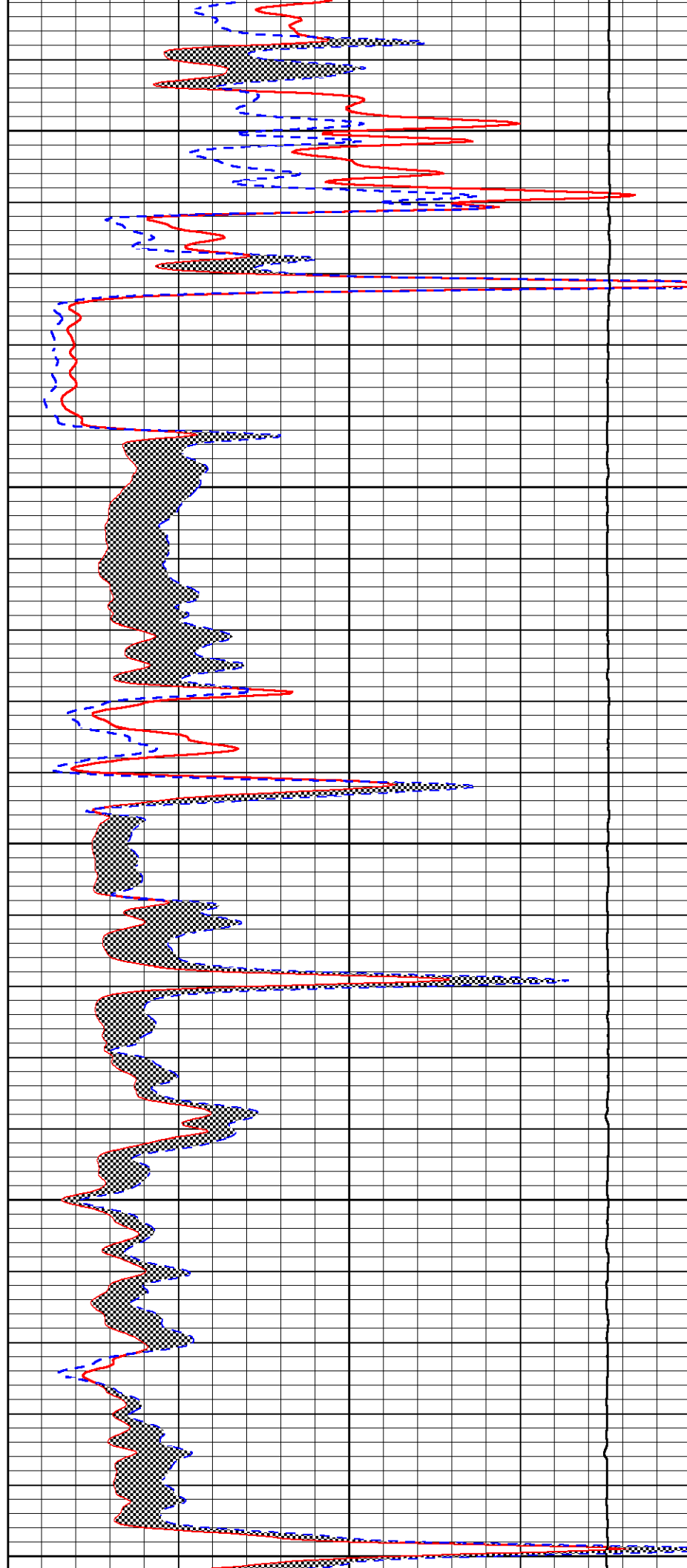
3850

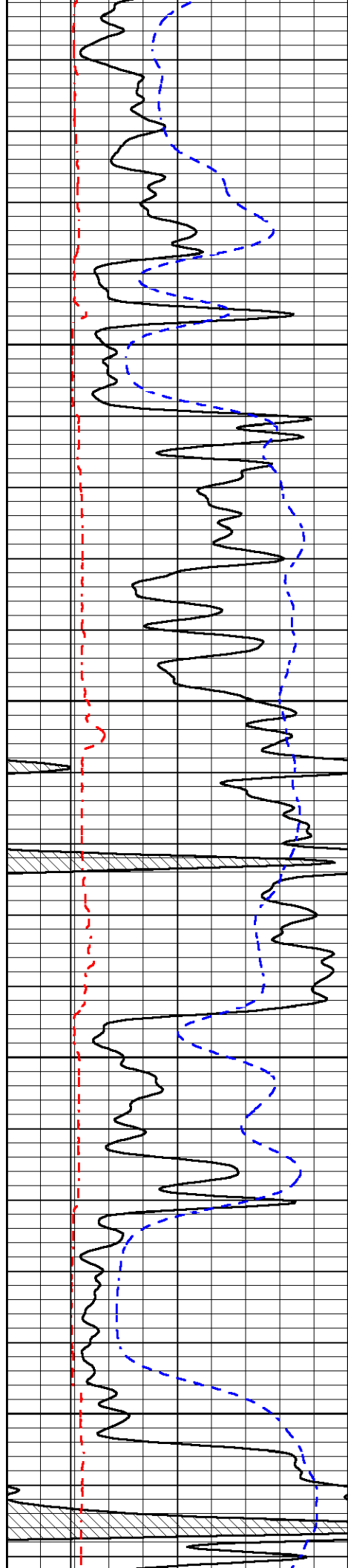
3900

3950

4000

4050



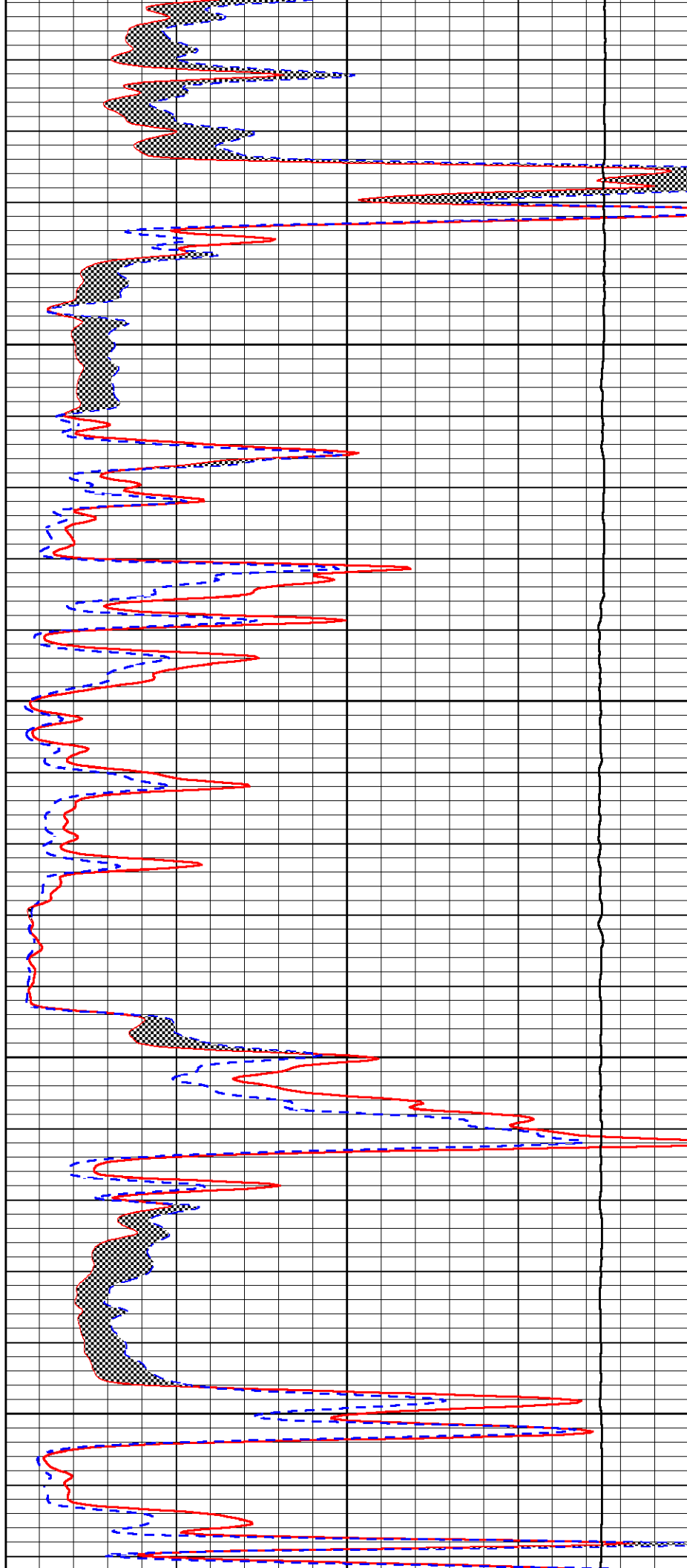


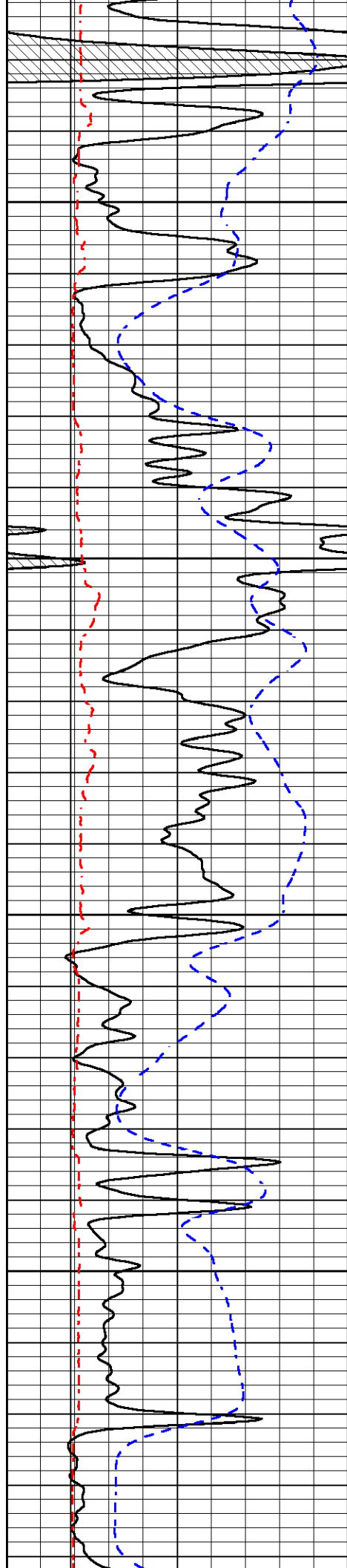
4100

4150

4200

4250



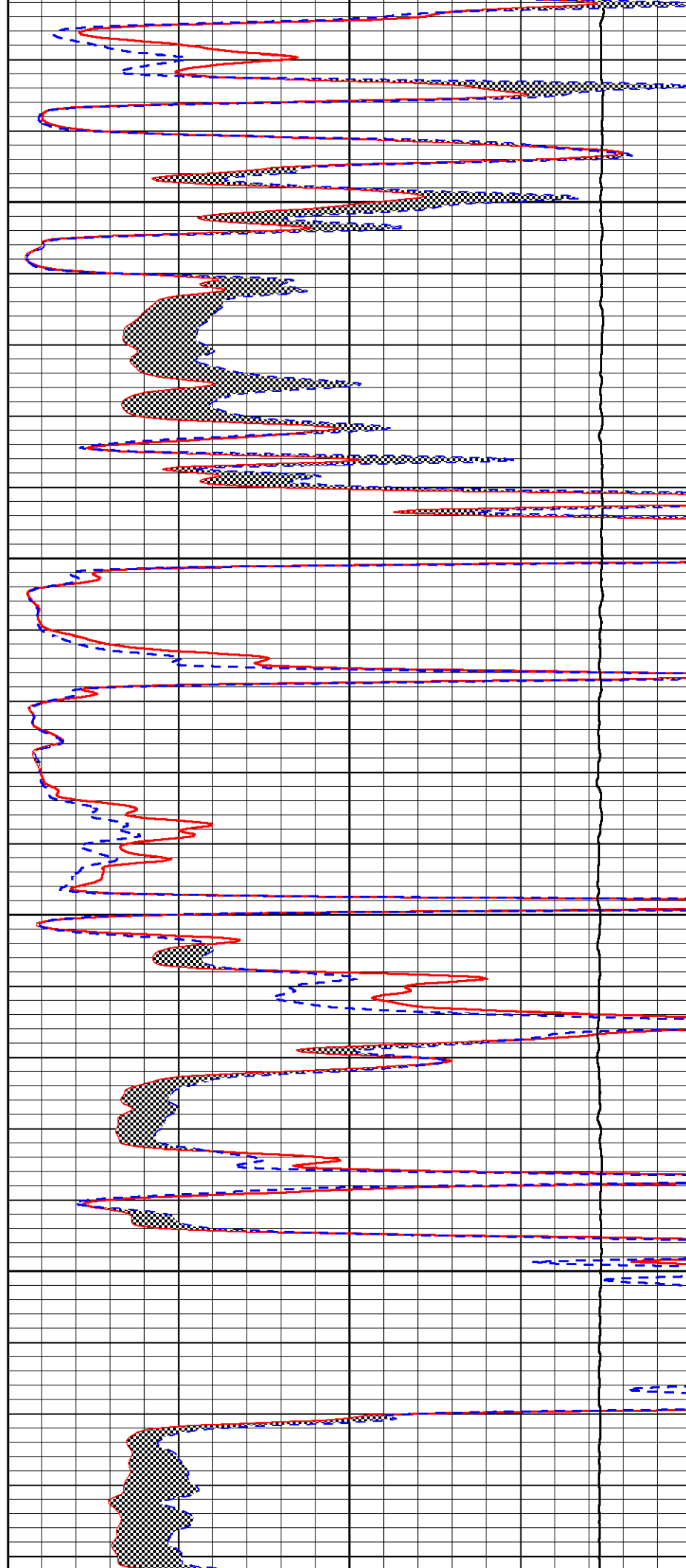


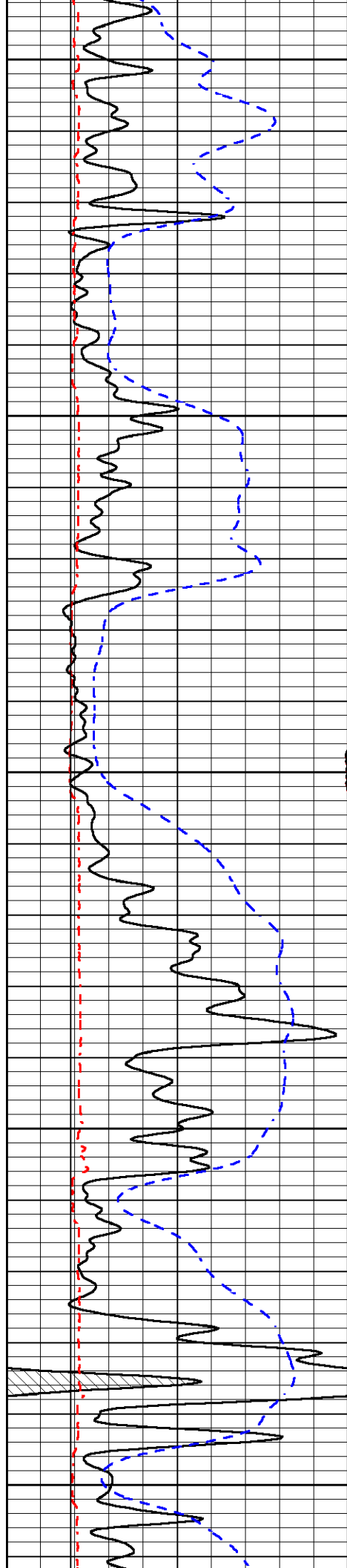
4300

4350

4400

4450





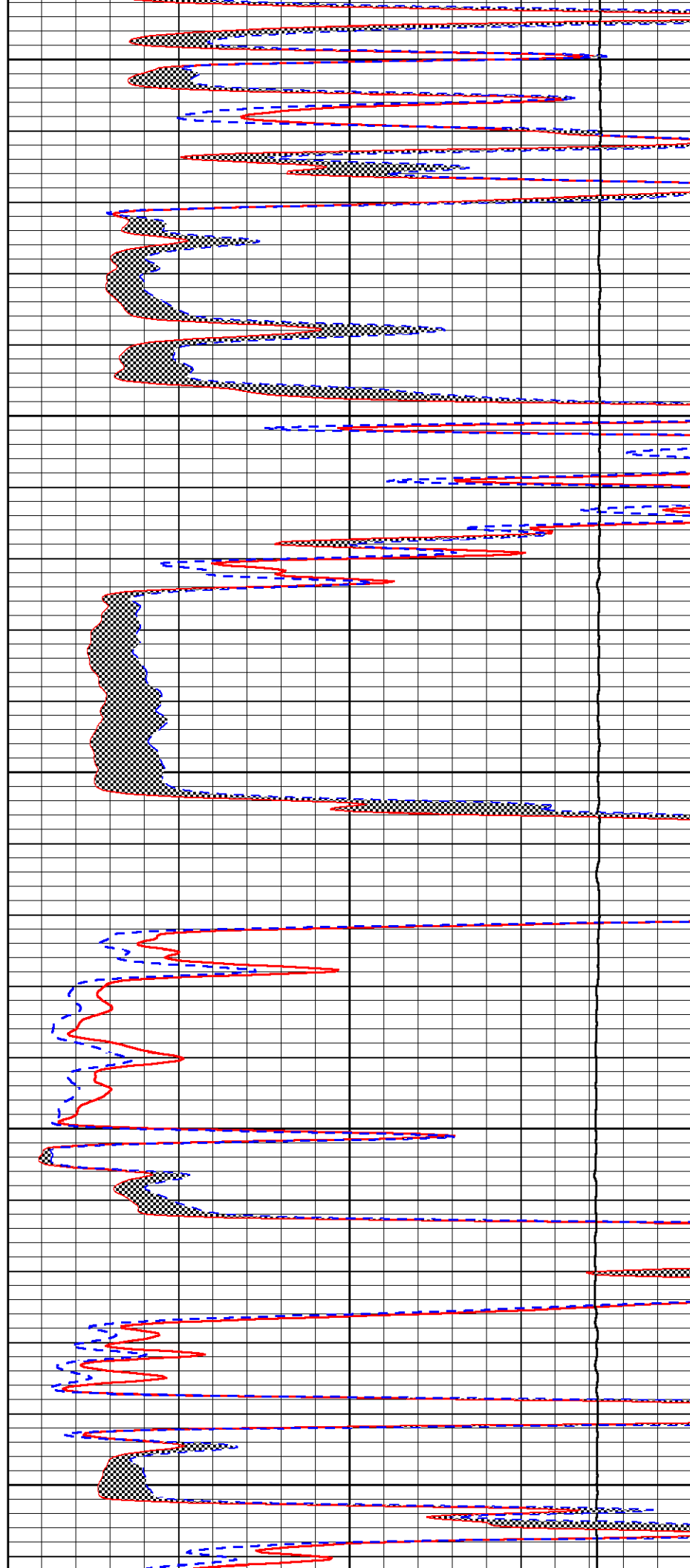
4500

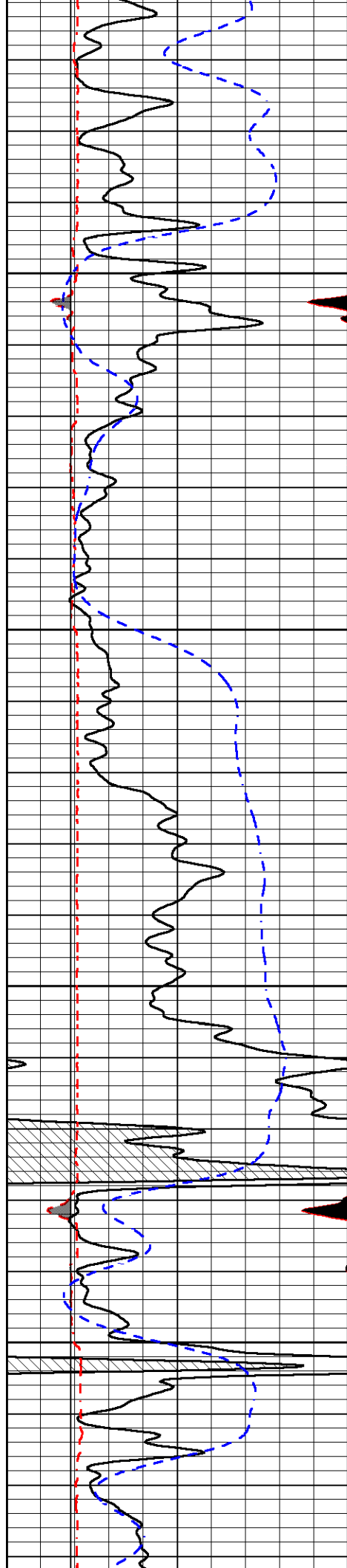
4550

4600

4650

4700



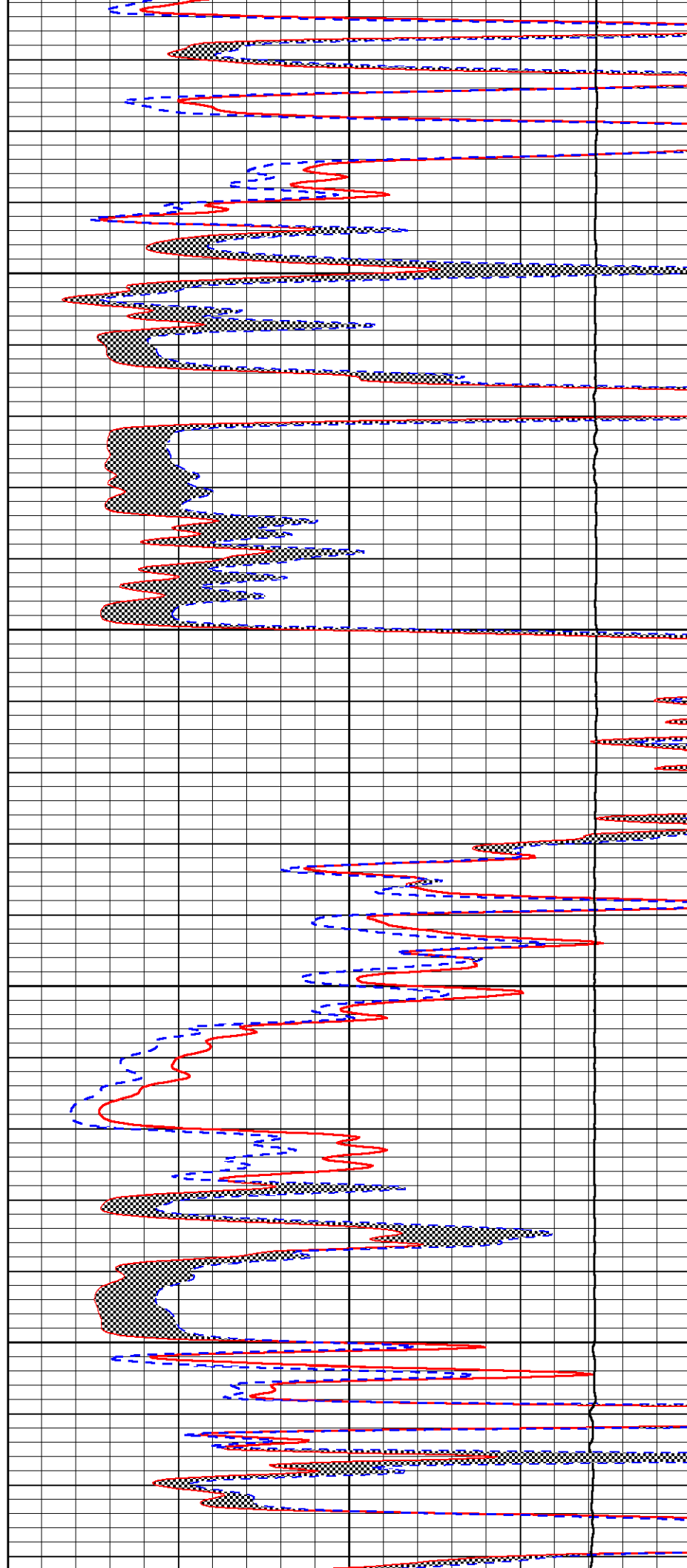


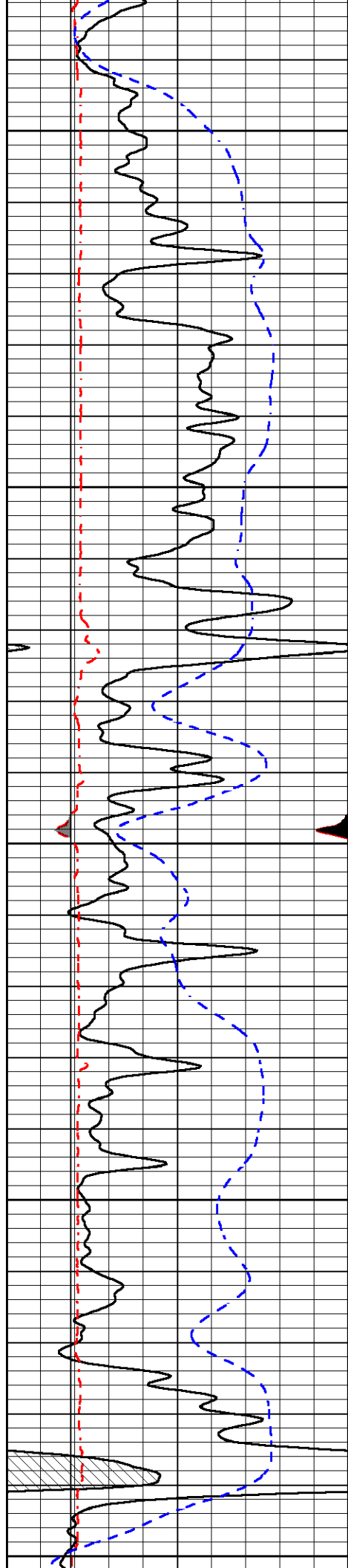
4750

4800

4850

4900





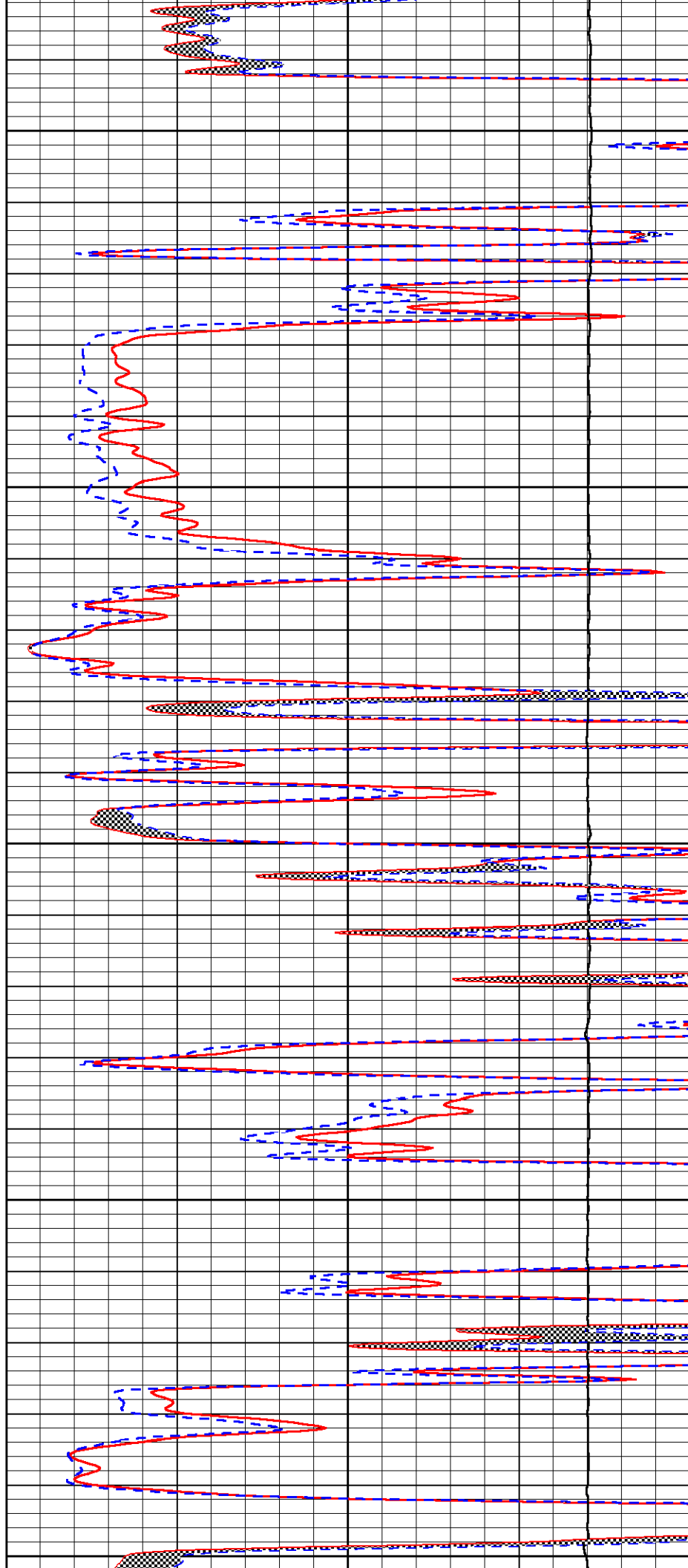
4950

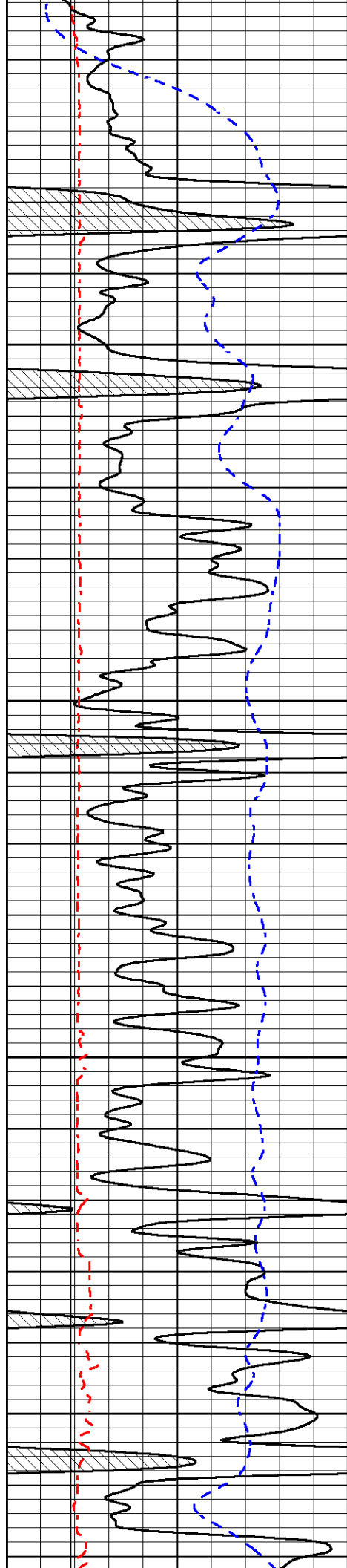
5000

5050

5100

5150



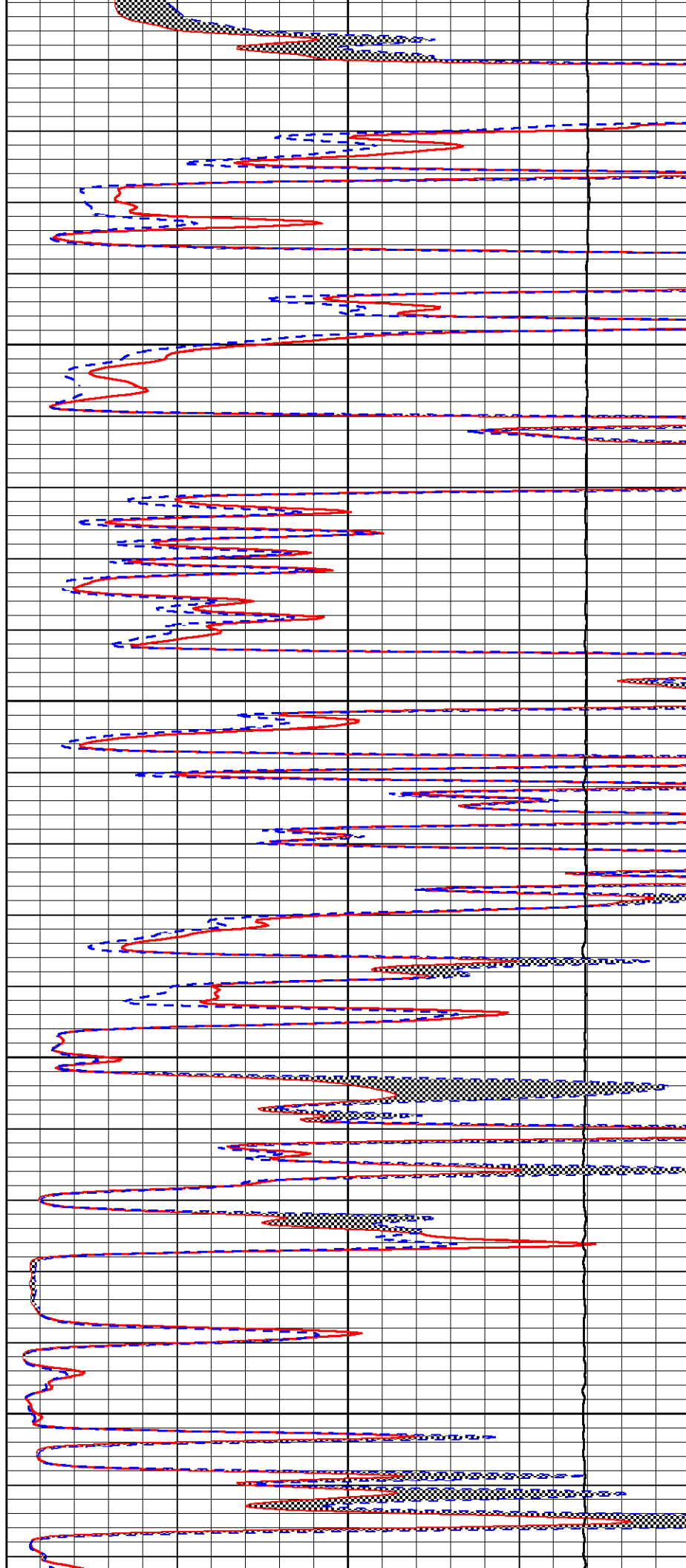


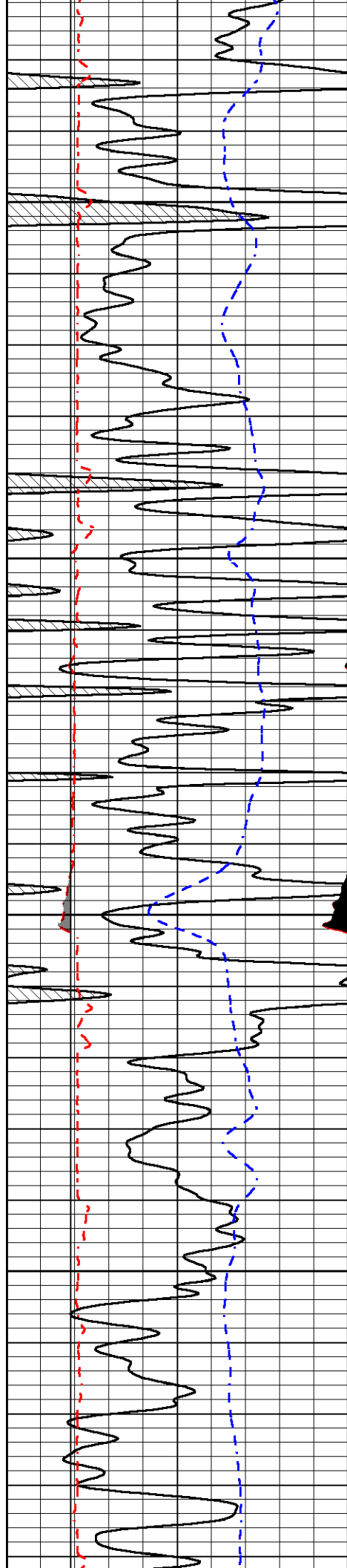
5200

5250

5300

5350



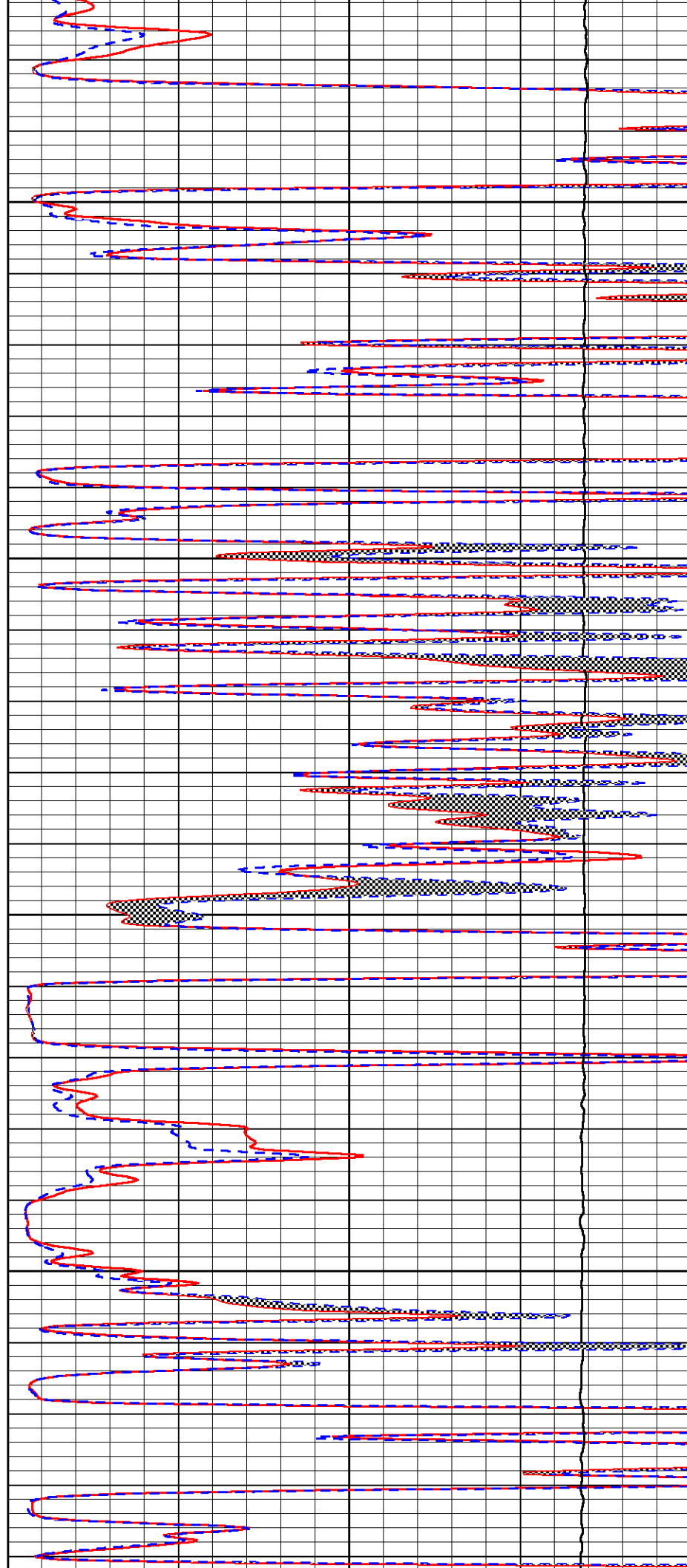


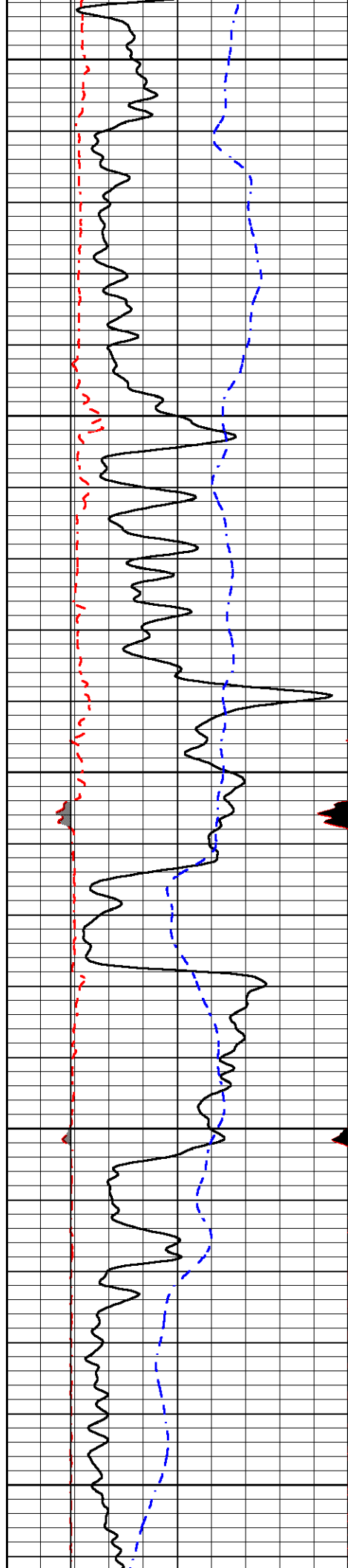
5400

5450

5500

5550





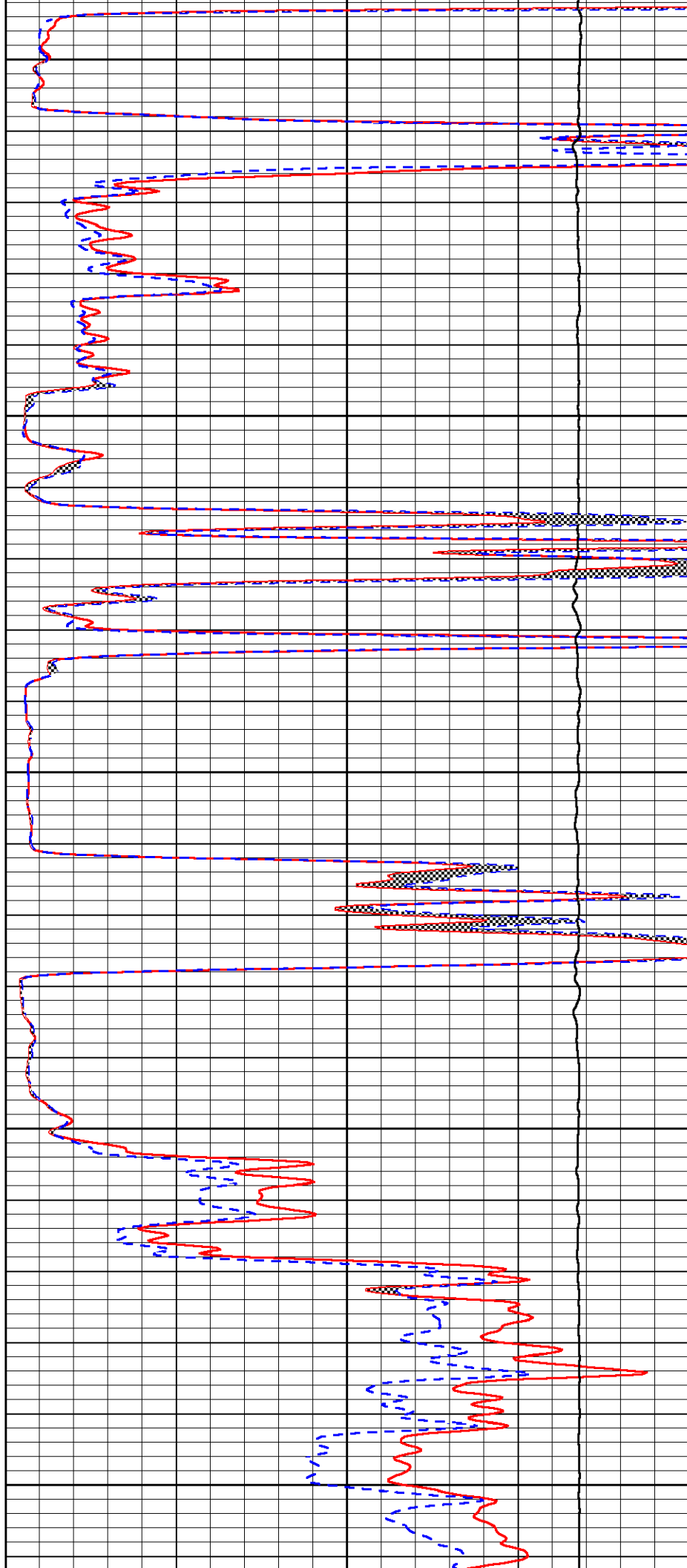
5600

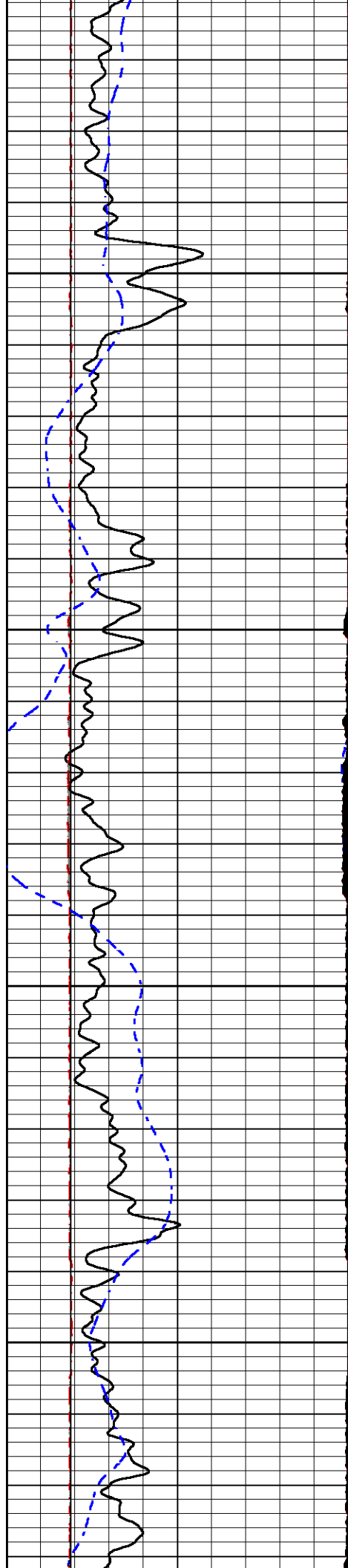
5650

5700

5750

5800



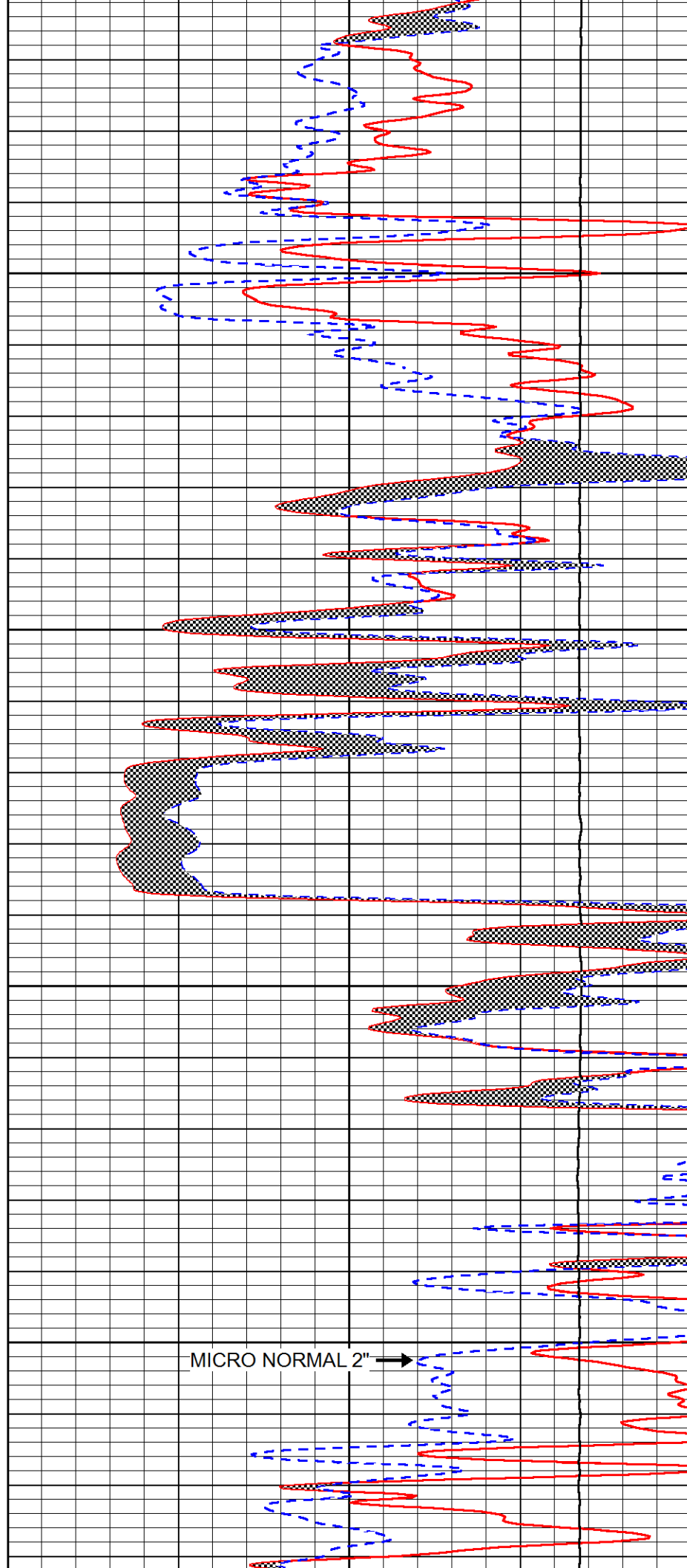


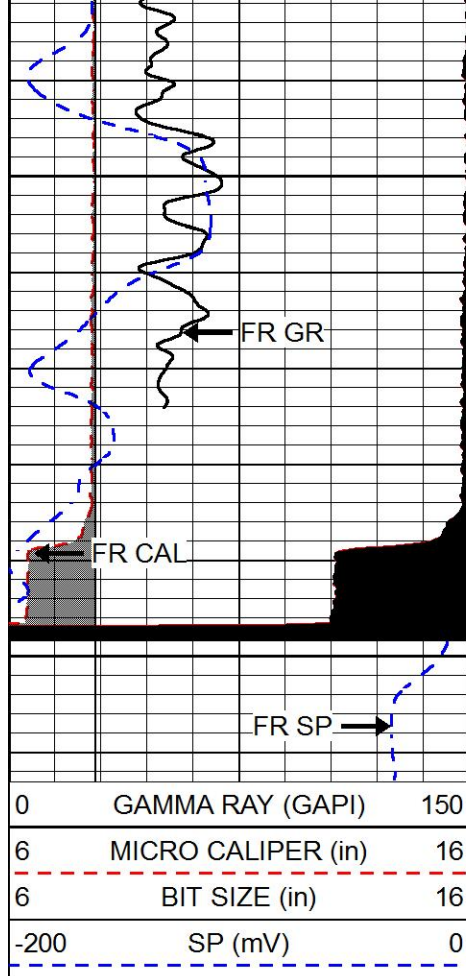
5850

5900

5950

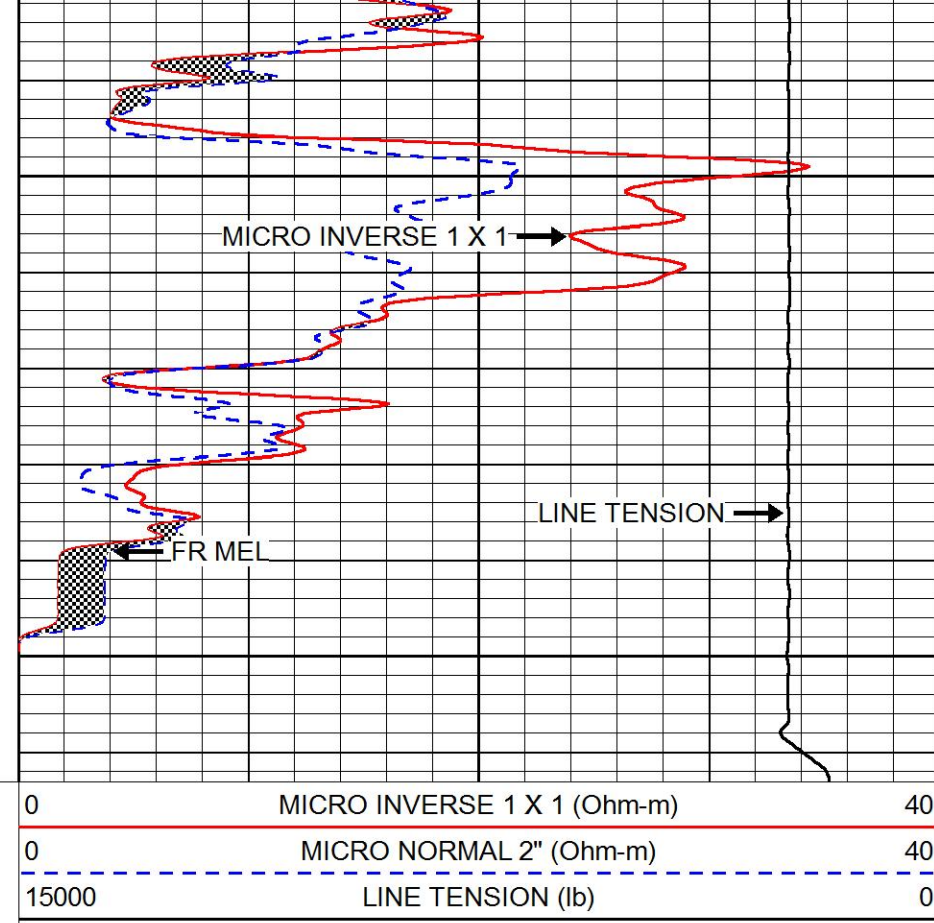
6000





6050

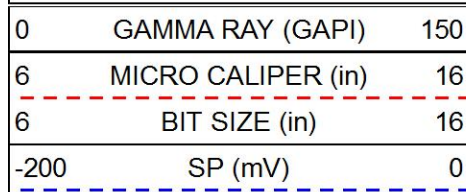
6100



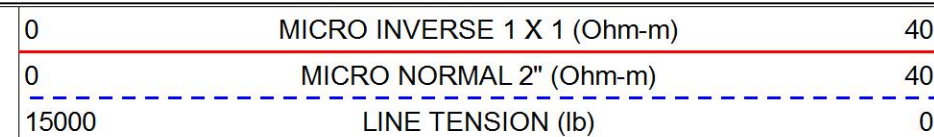
PIONEER
Pioneer Energy Services

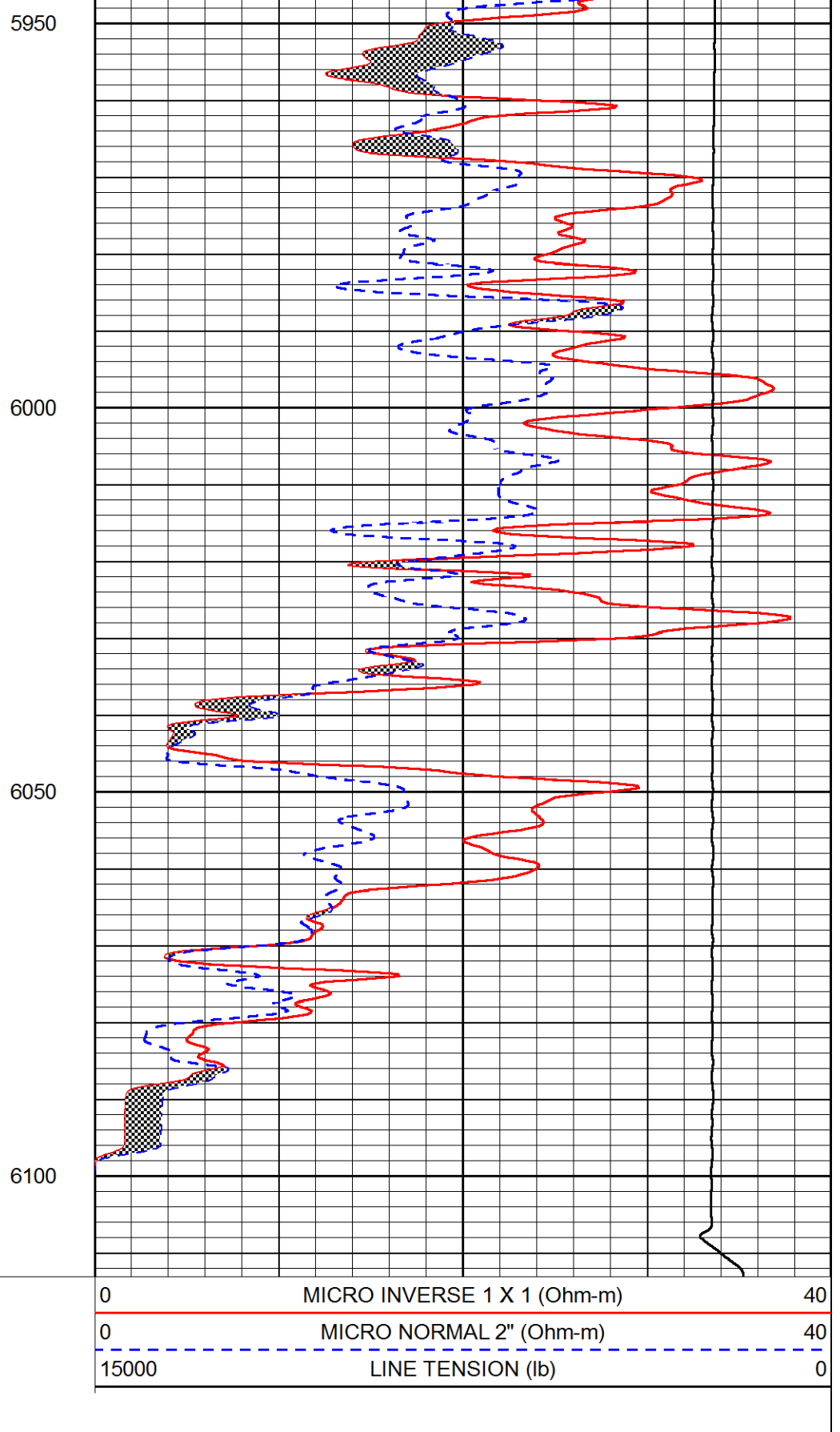
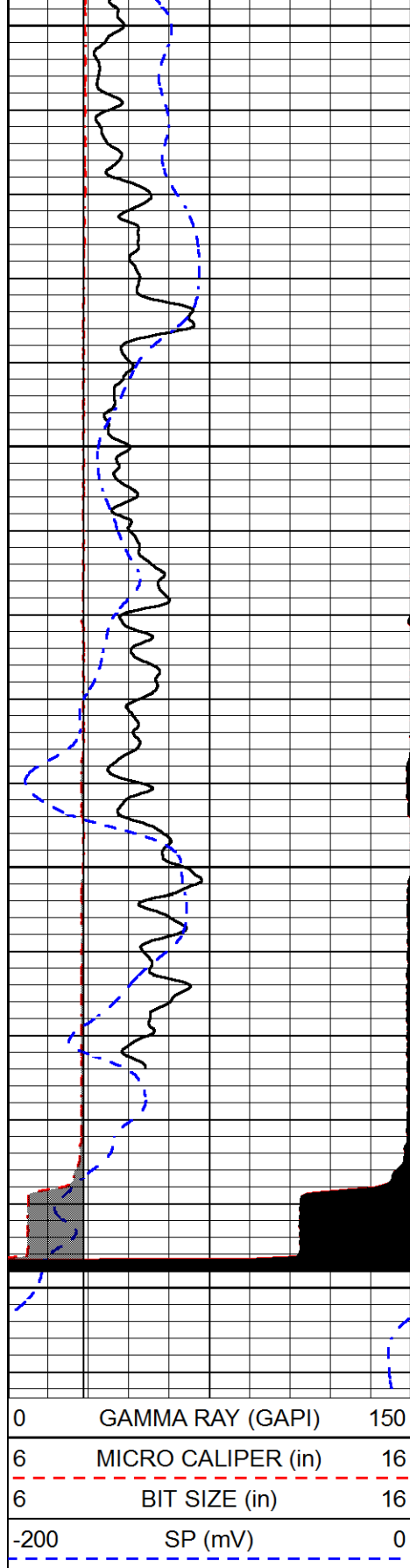
REPEAT SECTION

Database File amwar_hawk_#2-35.db
Dataset Pathname stkml/pass2.1
Presentation Format micro
Dataset Creation Sat Aug 06 00:54:06 2016
Charted by Depth in Feet scaled 1:240



5900





Calibration Report

Database File amwar_hawk_#2-35.db
 Dataset Pathname stkml/pass3.1
 Dataset Creation Sat Aug 06 01:14:27 2016

Dual Induction Calibration Report

Serial-Model:

1987-M&W

		Readings		References			Results	
Loop:	Air	Loop		Air	Loop		Gain	Offset
Deep	178.615	710.235		0.000	255.800	mmho/m	0.530	-36.500
Medium	161.982	1441.110		0.000	255.800	mmho/m	0.440	-110.500

Microlog Calibration Report

Serial-Model:
Performed:

PSI-02-PSI STKBL ML
Thu Jul 28 15:07:51 2016

		Readings		References			Results	
	Zero	Cal		Zero	Cal		m	b
Normal	0.0031	0.0043		0.0000	10.0000	Ohm-m	8308.9400	0.0000
Inverse	0.0000	0.0013		0.0000	10.0000	Ohm-m	7967.2700	-0.0096
Caliper	1.0020	1.0834		5.5000	16.5000	in	135.1560	-131.0900

Compensated Density Calibration Report

Serial-Model:
Source / Verifier:
Master Calibration Performed:

71-914-M&W
/
Thu Jul 28 15:08:02 2016

Master Calibration

	Density			Far Detector	Near Detector	
Magnesium	1.755	g/cc		4314.49	5307.52	cps
Aluminum	2.670	g/cc		822.19	3456.36	cps
Spine Angle = 75.49				Density/Spine Ratio = 0.534		
	Size			Reading		
Small Ring	4.00	in		1.16		
Large Ring	14.00	in		1.57		

Compensated Neutron Calibration Report

Serial Number: tk10-MW
Tool Model: M&W
Calibration Performed: Wed July 20 08:04:05 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: Sun Jul 17 19:05:06 2016

Calibrator Value: 1000.0 GAPI

Background Reading: 0.0 cps

Background Reading:	0.0	cps
Calibrator Reading:	6.2	cps
Sensitivity:	0.5200	GAPI/cps



Company	AMERICAN WARRIOR, INC.
Well	HAWK #2-35
Field	KISMET
County	SEWARD
State	KANSAS