



PIONEER

Pioneer Energy Services

GAMMA RAY / NEUTRON LOG

Company **BRUCE OIL COMPANY, LLC**
Well **THIBAUT #3**
Field **KILL CREEK**
County **OSBORNE** State **KANSAS**

Location: API #: 15-141-20477-00-00

Other Services

SEC 22 TWP 8S RGE 14W
1585' FNL & 459' FEL

Permanent Datum **GROUND LEVEL** Elevation **1870'**
Log Measured From **KELLY BUSHING**
Drilling Measured From **KELLY BUSHING**

Elevation
K.B. 1876'
D.F. N/A
G.L. 1870'

Date **5/26/2018**

Run Number **ONE**

Type Log **GRN**

Depth Driller **2900'**

Depth Logger **2901'**

Bottom Logged Interval **2964'**

Top Logged Interval **0'**

Type Fluid In Hole **CHEMICAL**

Salinity, PPM CL **2800**

Density **9.1**

Level **FULL**

Max. Rec. Temp. F **105**

Operating Rig Time **3 HOURS**

Equipment -- Location **91 COLBY**

Recorded By **D. SCHMIDT**

Witnessed By **LONNY BRUCE**

Witnessed By **BOB PETERSEN**

Borehole Record

Casing Record

Run No. **ONE**

Bit **12.25"**

From **0'**

To **805'**

Size **8.625"**

Wgt. **23#**

From **0'**

To **805'**

<<< 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.

NATOMA,
1/2 EAST TO 657 RD, 11 NORTH TO CURVE,
1 EAST, 1 NORTH, 1 EAST TO CURVE, CONTINUE 5 EAST TO NEXT CURVE,
1 NORTH, 1 EAST, 2 SOUTH,
SOUTH INTO AT TB

Log Measured From: **KELLY BUSHING** 6 Ft. Above Permanent Datum

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

Your Pioneer Energy Services Crew

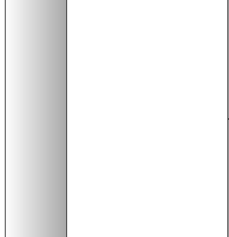
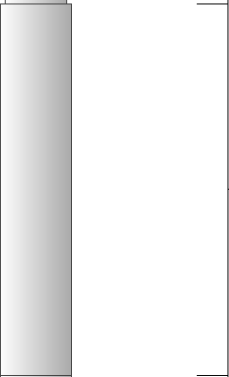
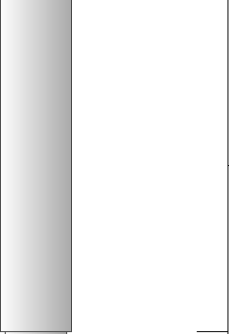
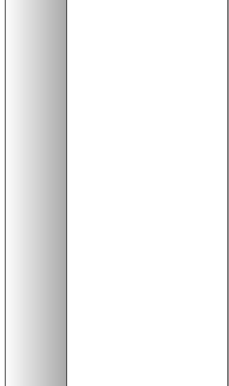
Engineer: **D. SCHMIDT**
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

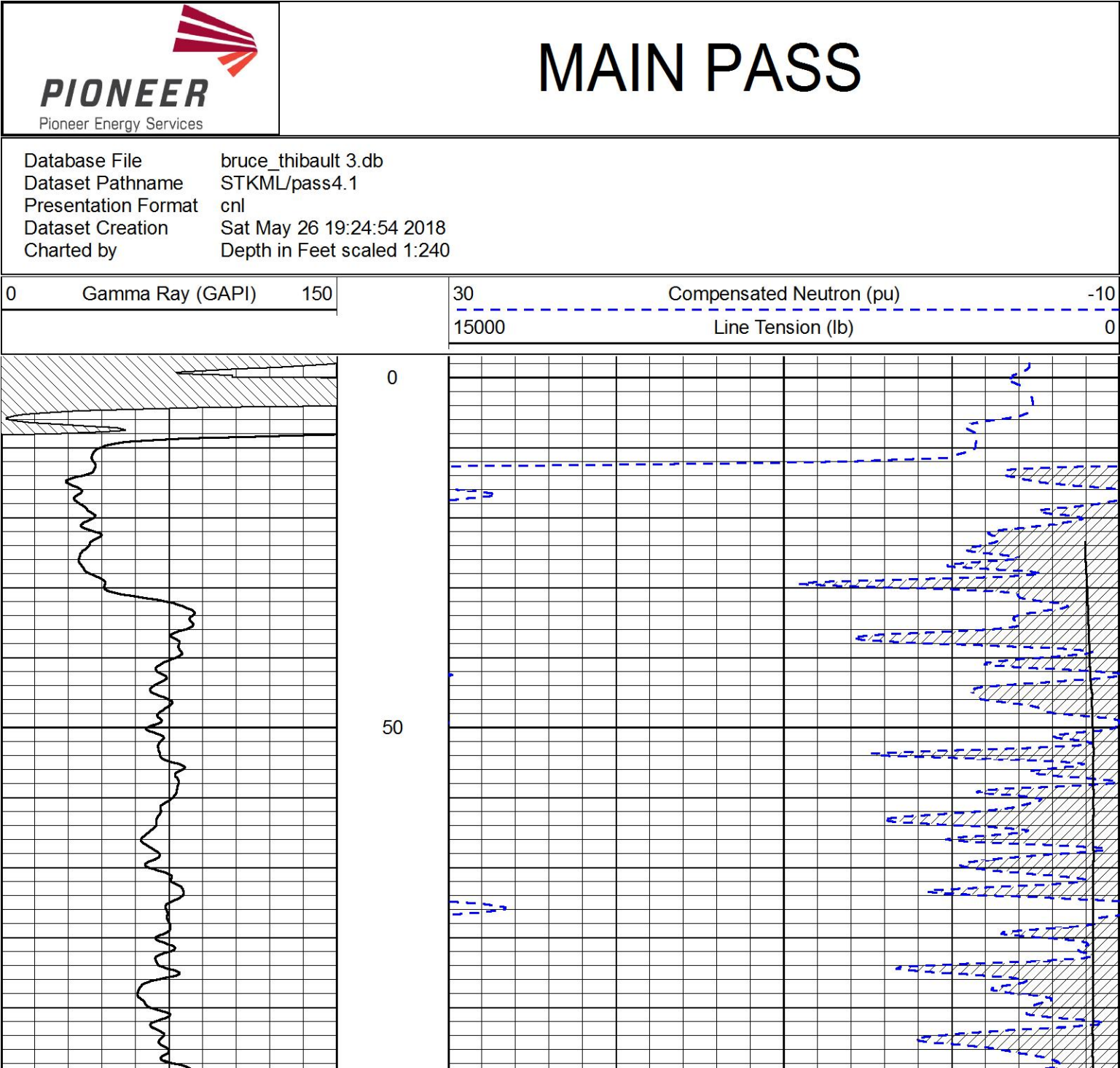
Primary Witness: **LONNY BRUCE**
Secondary Witness: **BOB PETERSEN**
Secondary Witness:
Secondary Witness:

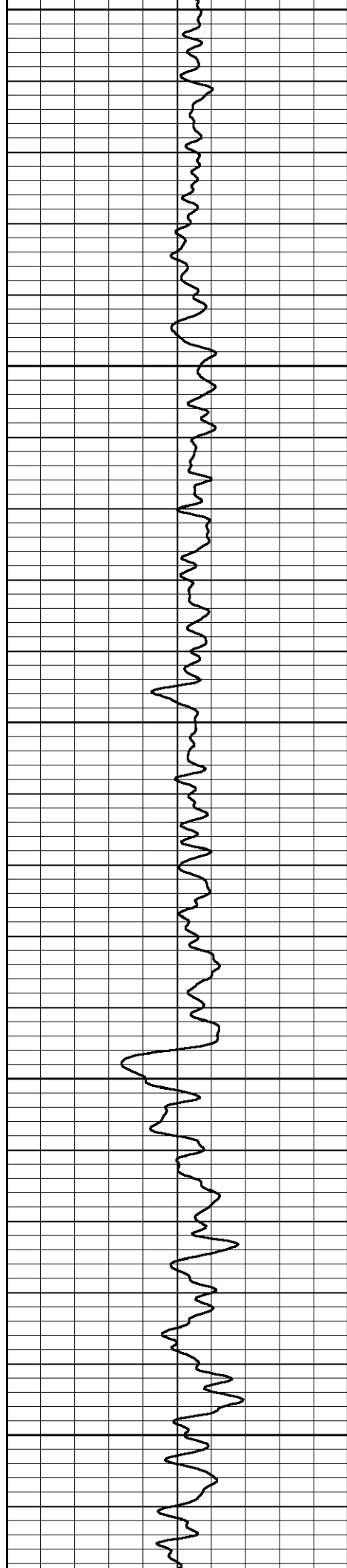
Top - Bottom

M	A	SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m
2	1	Off	Limestone	1	2.71	40	0
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
0	90	0	5.5	0	2901	105	7.875

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58		GR-M&W (89)	3.00	3.50	50.00
CNLSC CNSSC	37.48 36.73		CNT-M&W (207-MW)	5.50	3.50	100.00
LSD DCAL SSD	28.43 28.42 27.93		CDL-M&W (817-947)	8.50	4.00	250.00
MCAL MI MN	19.83 19.83 19.83		ML-PSIML (PSI-01) GO Micro log tools converted to Simplec electronics	7.58	4.00	65.00
RLL3F RLL3	15.80 15.80					

CILD	8.00		DIL-PSI HIGH TEMP (PSI 971 HT)	18.50	3.50	220.00
CILM	4.70					
SP	0.20					
Dataset: bruce_thibault 3.db: field/well/STKML/pass3.5 Total length: 43.08 ft Total weight: 685.00 lb O.D.: 4.00 in						





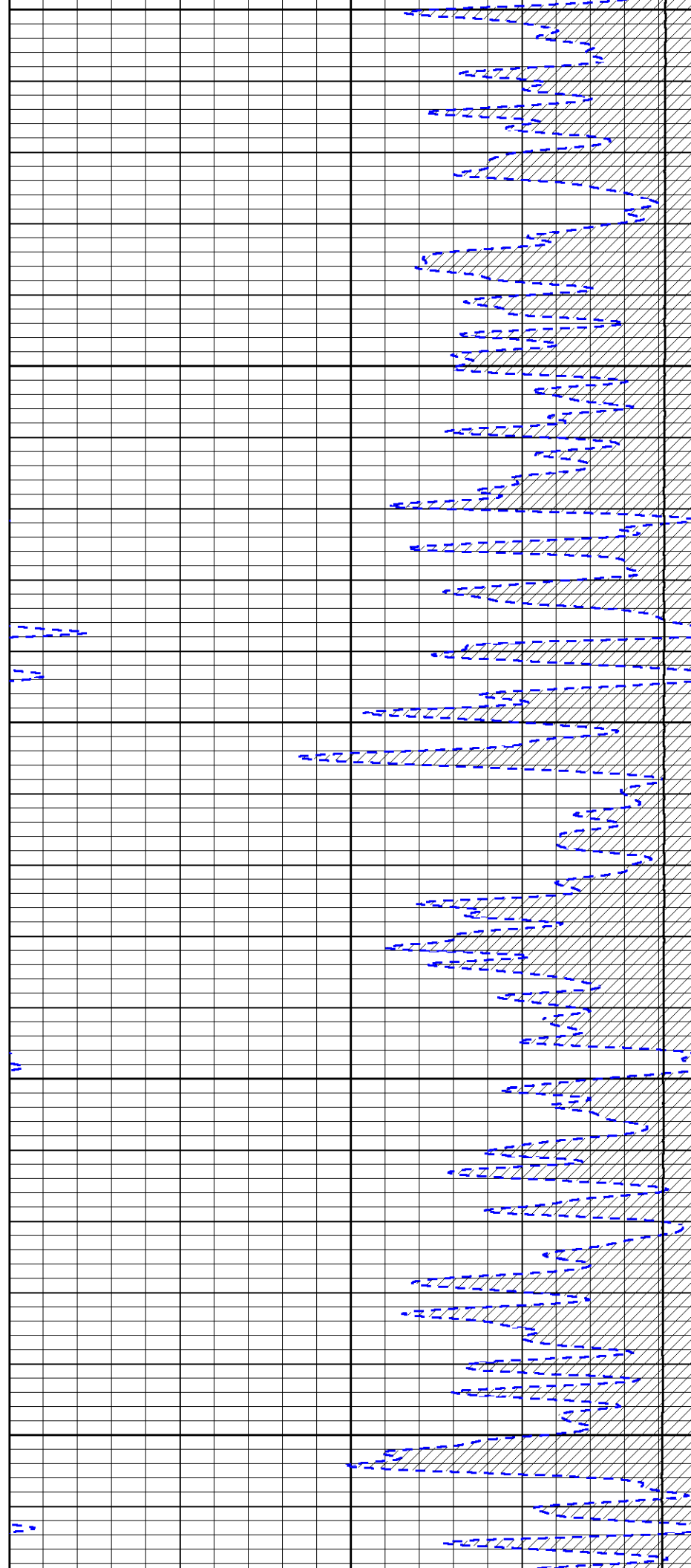
100

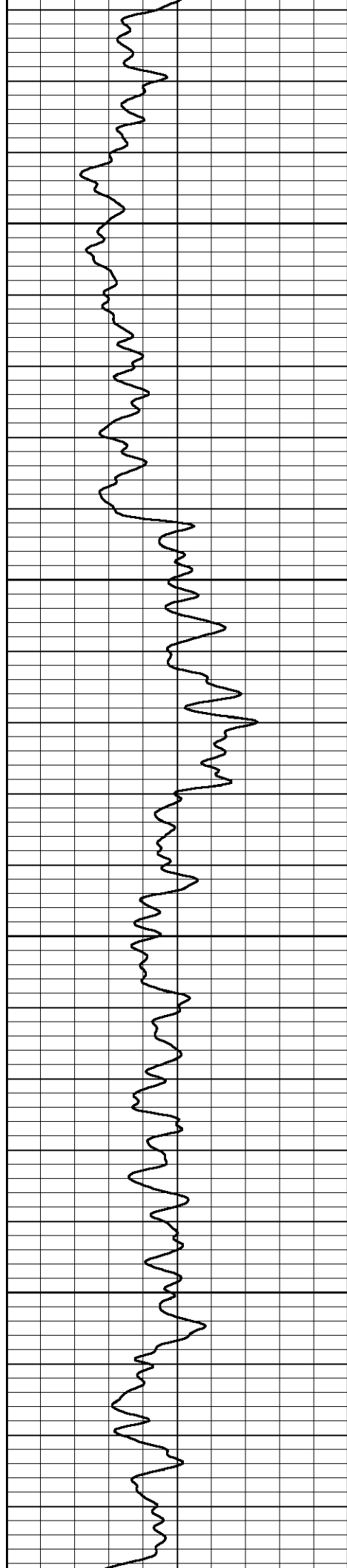
150

200

250

300



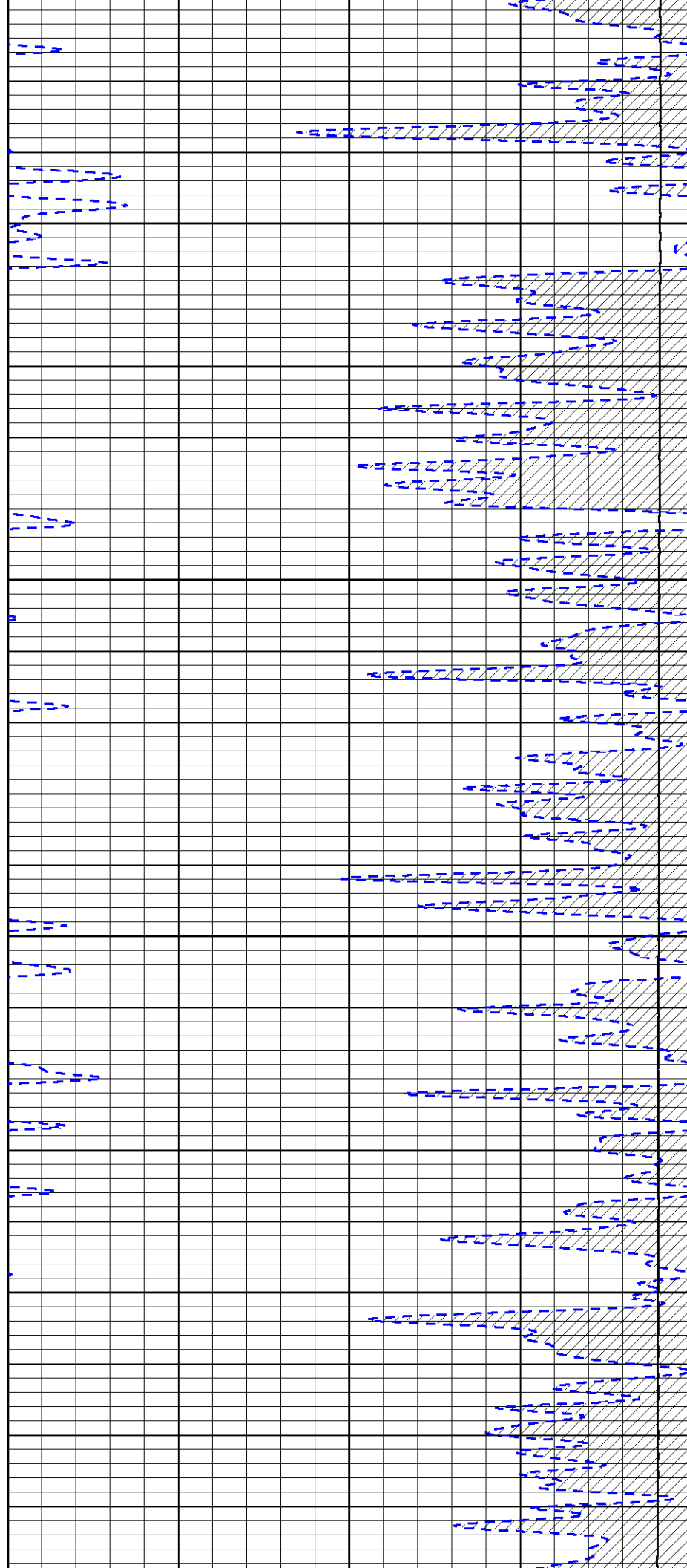


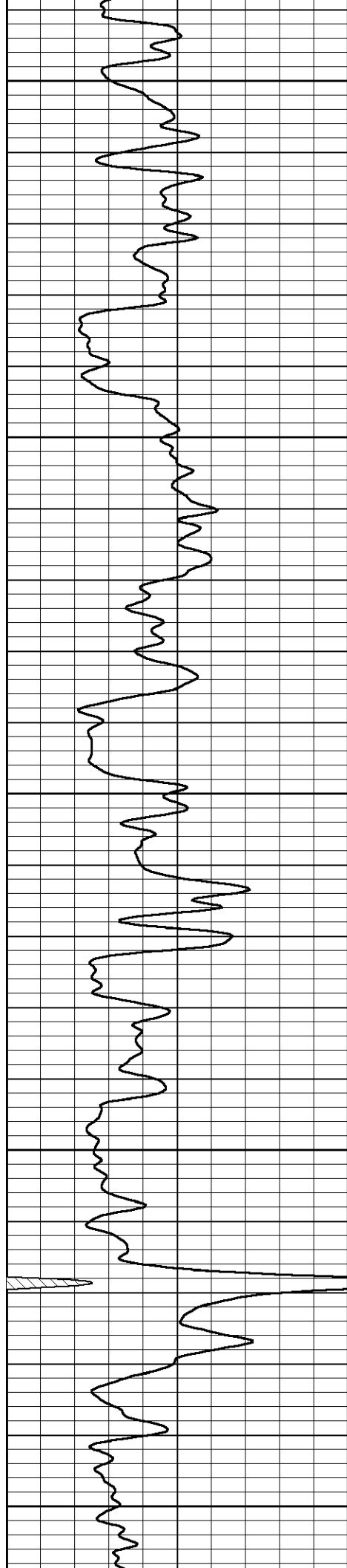
350

400

450

500





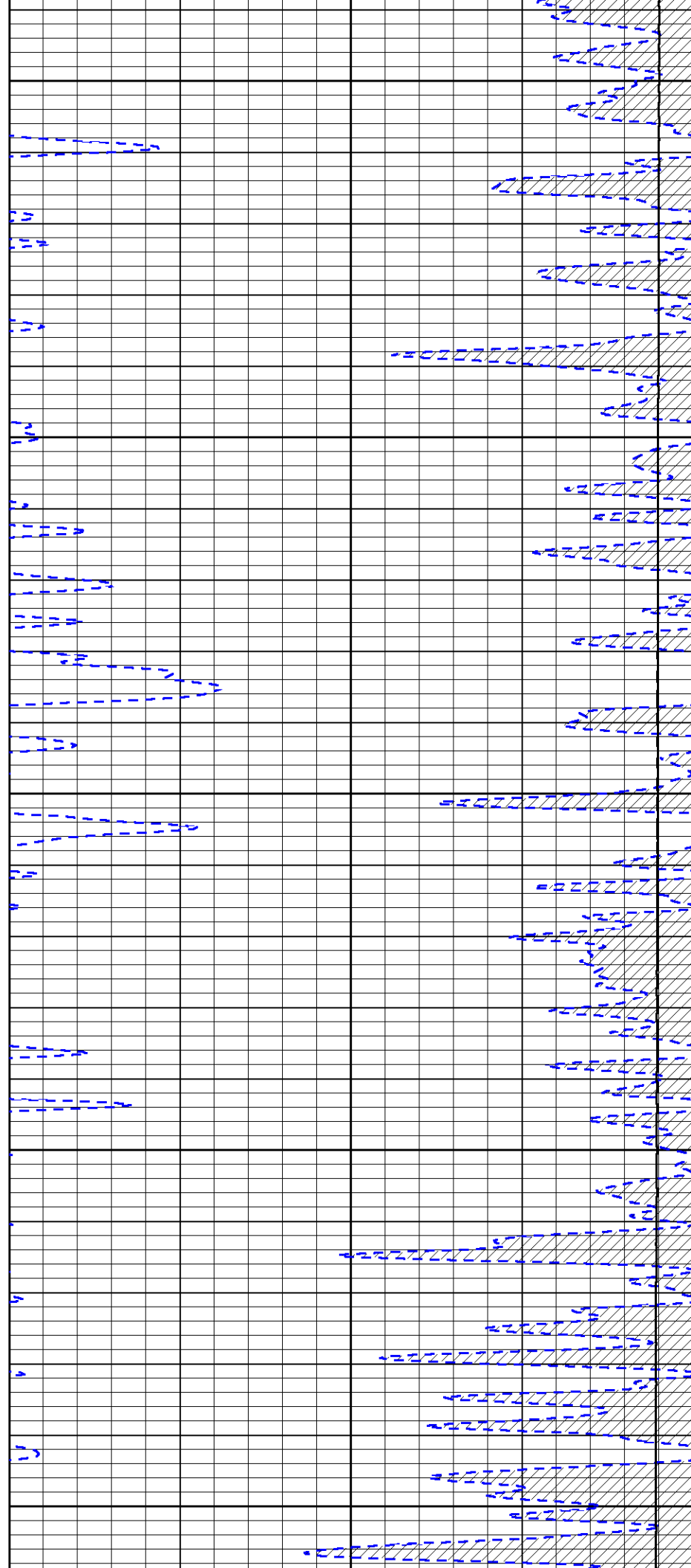
550

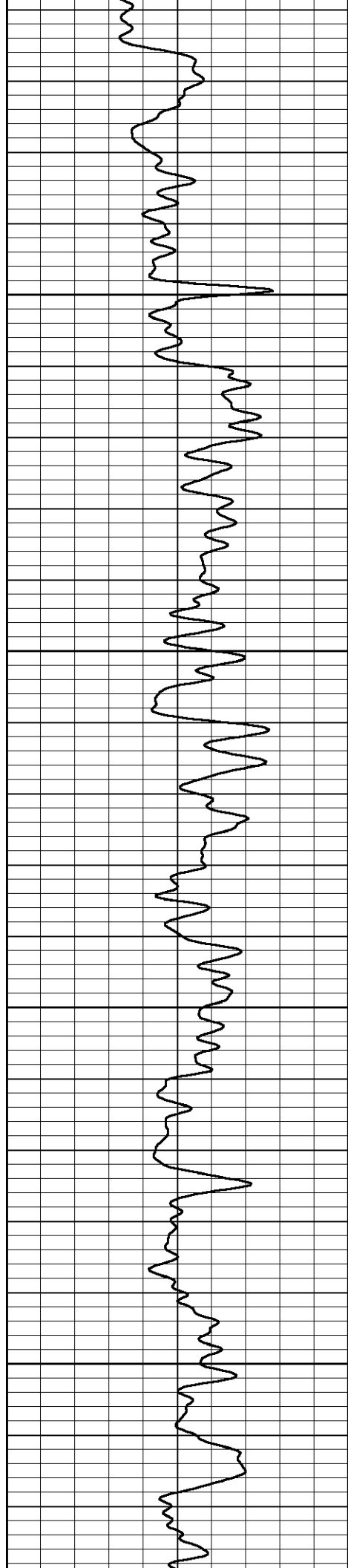
600

650

700

750



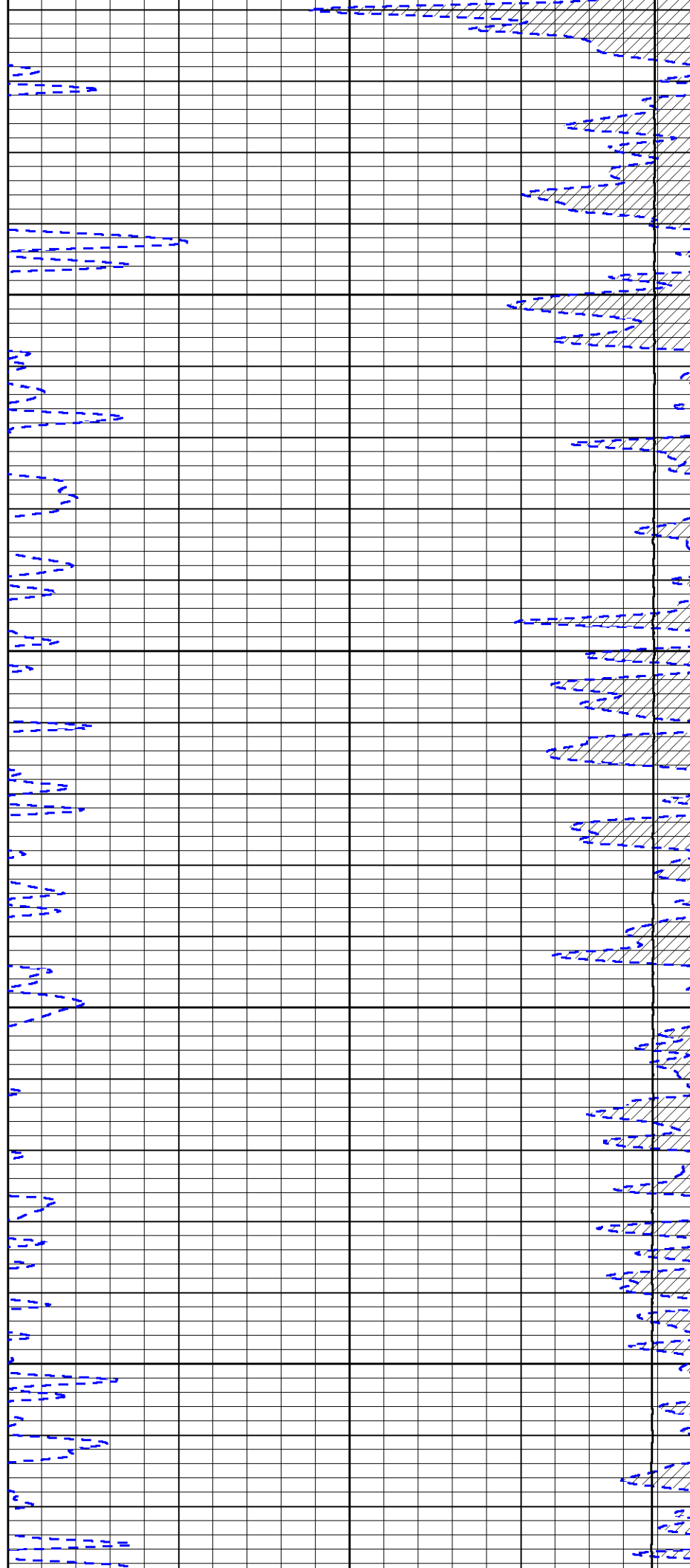


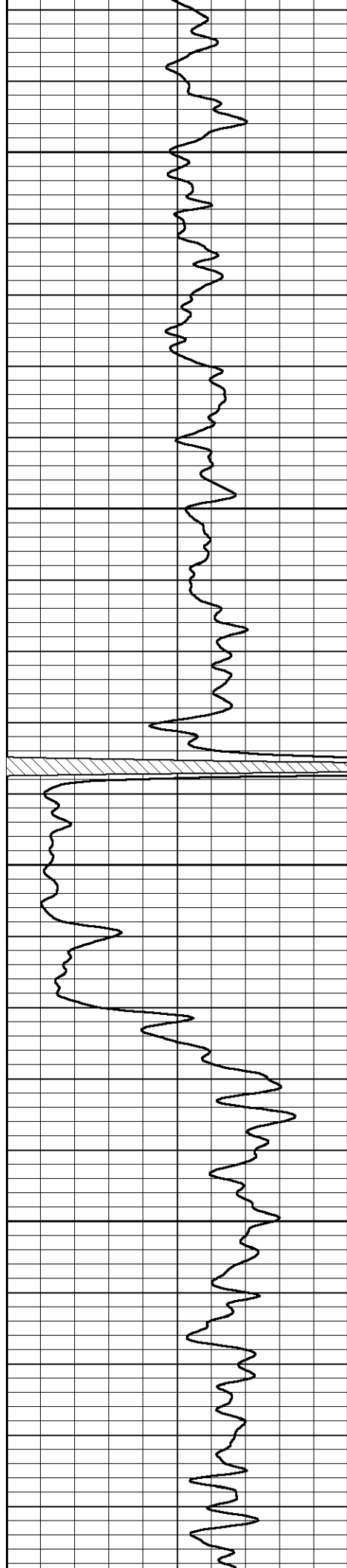
800

850

900

950



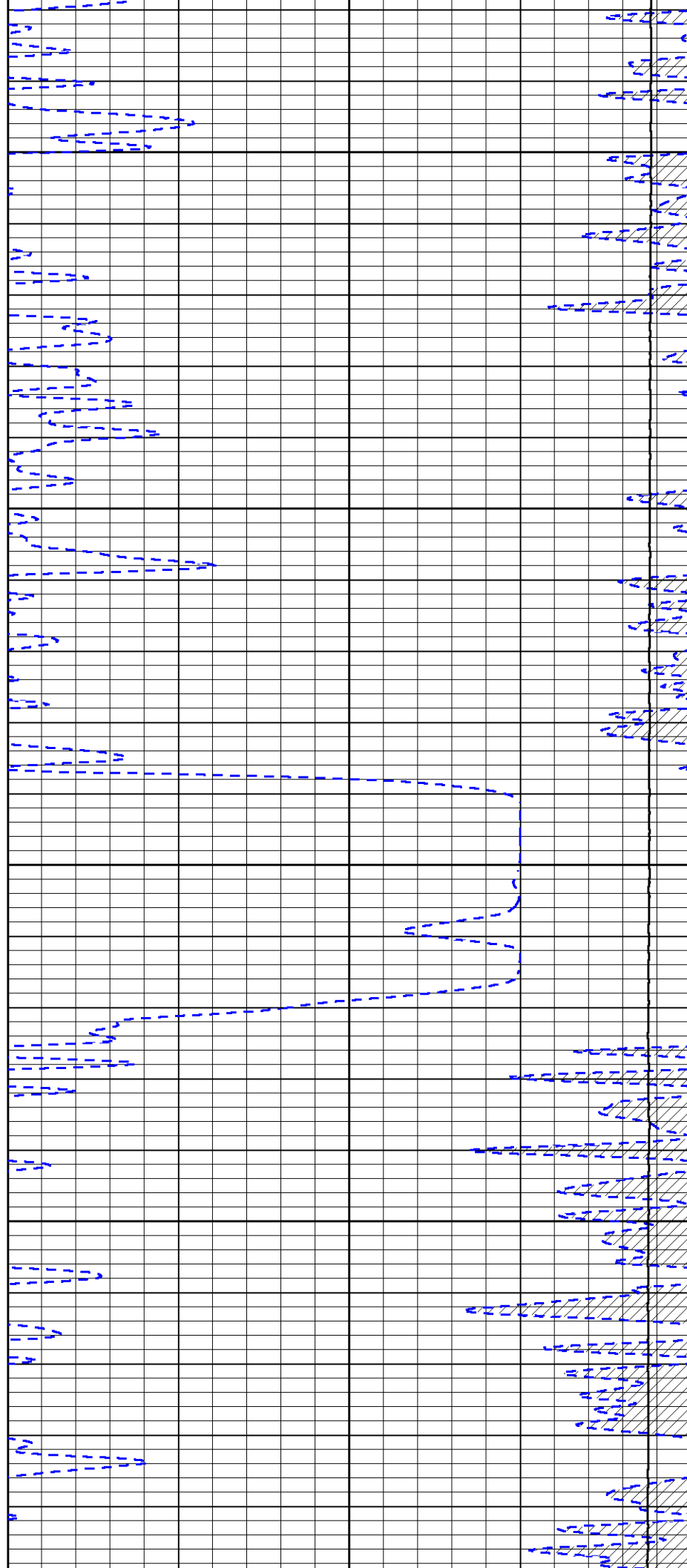


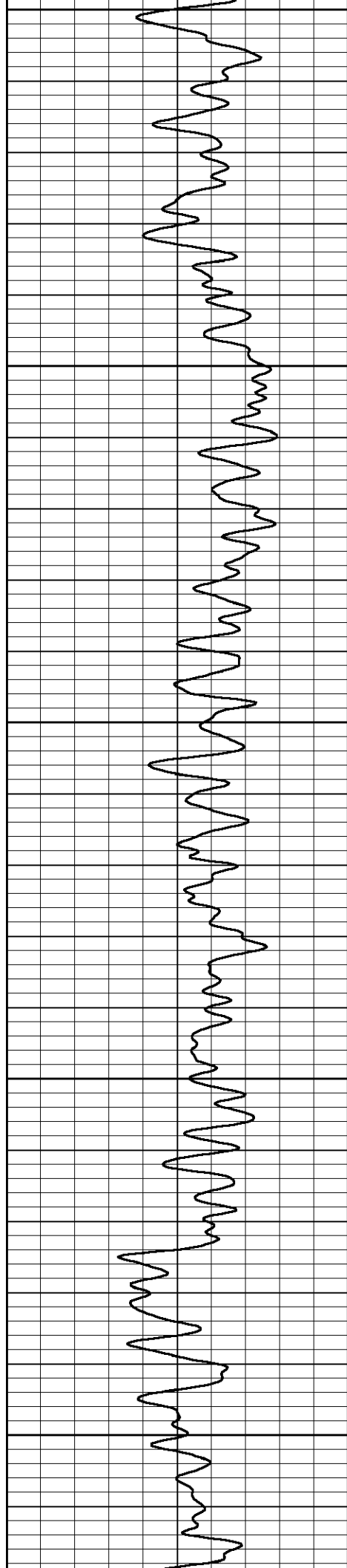
1000

1050

1100

1150





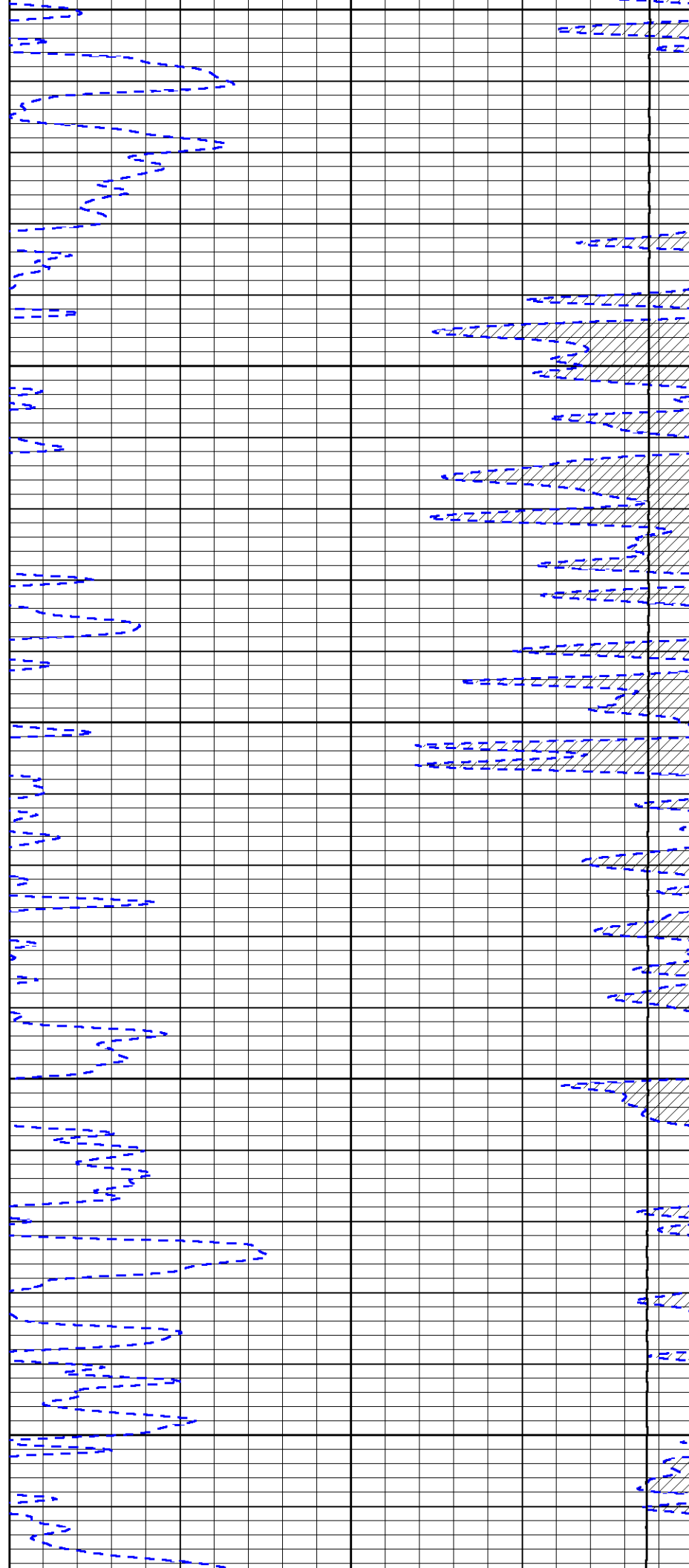
1200

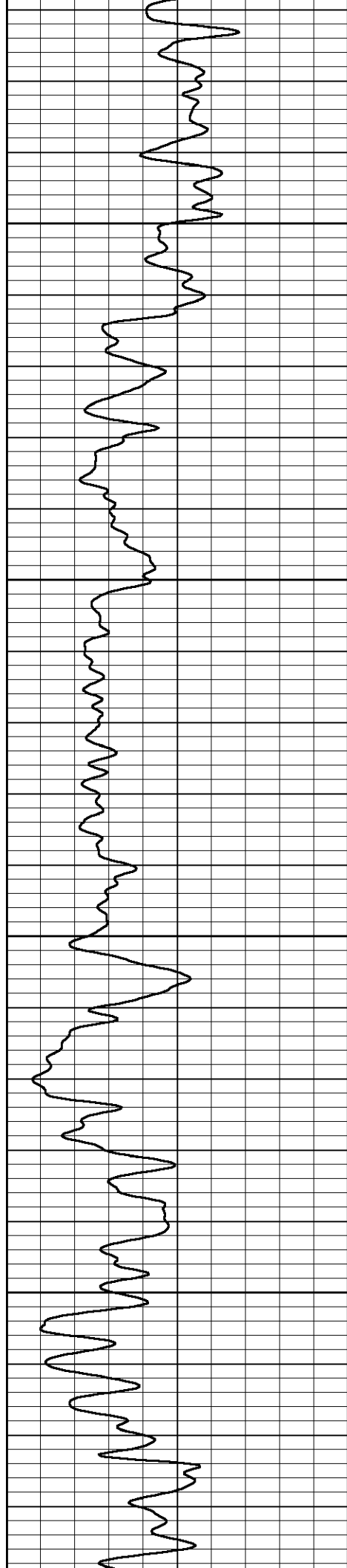
1250

1300

1350

1400



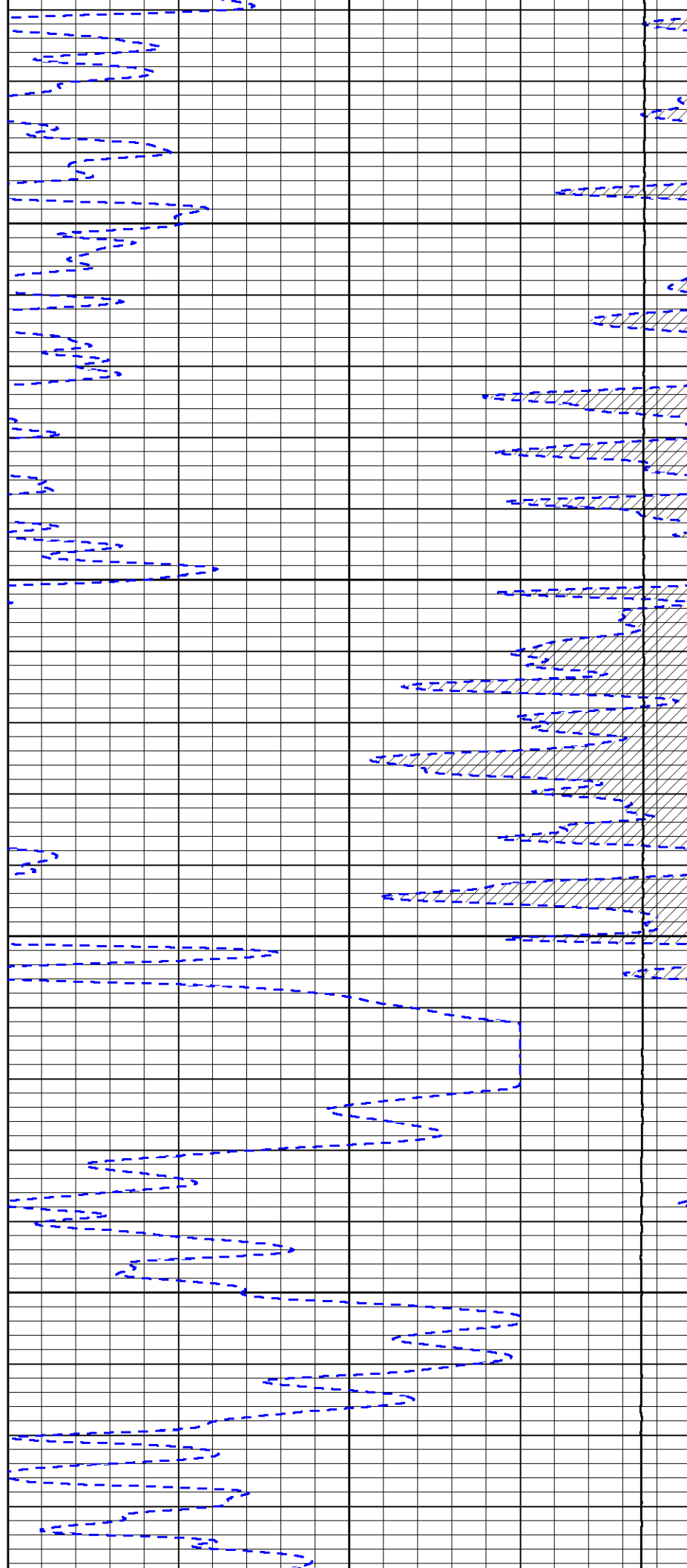


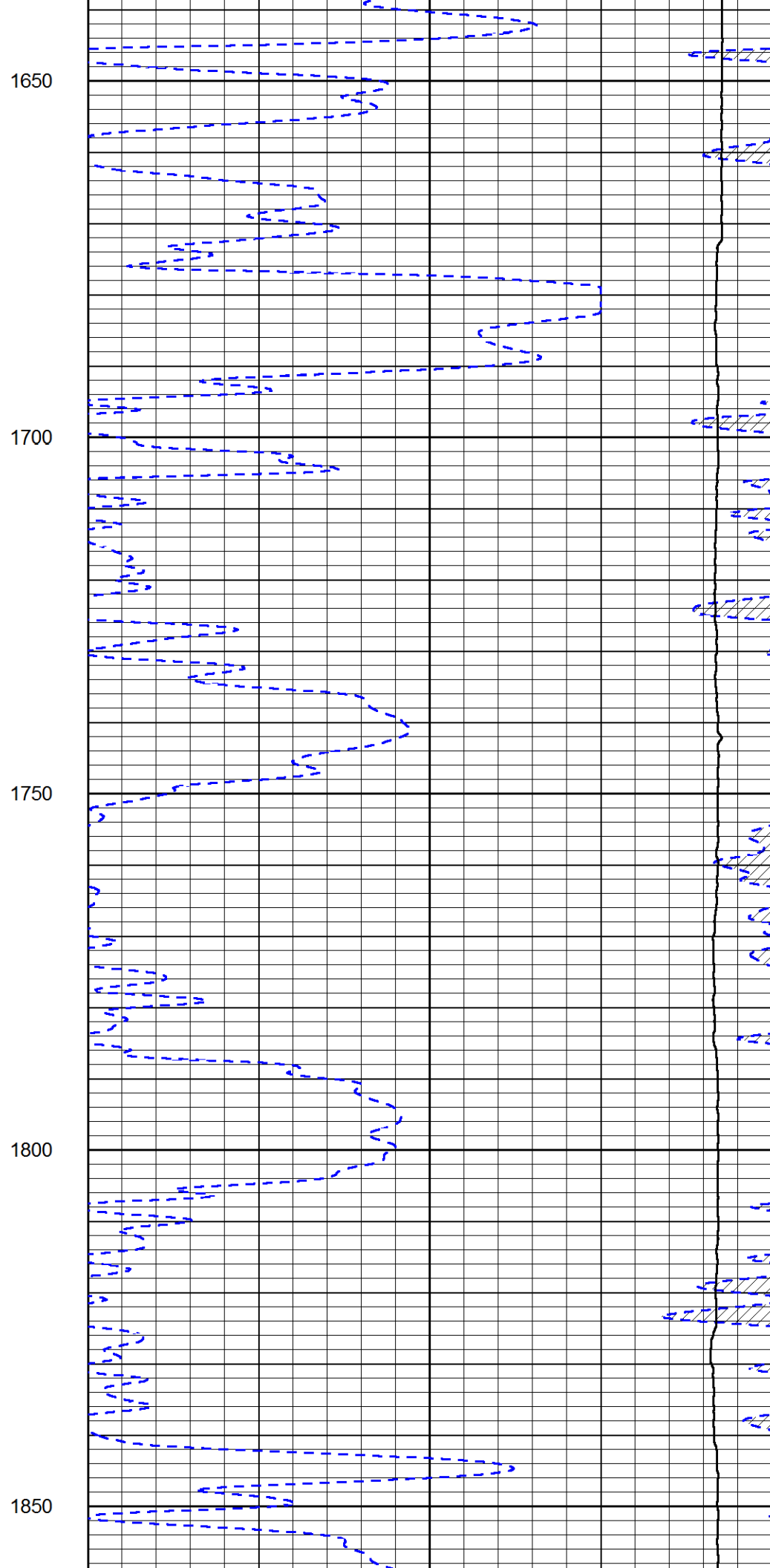
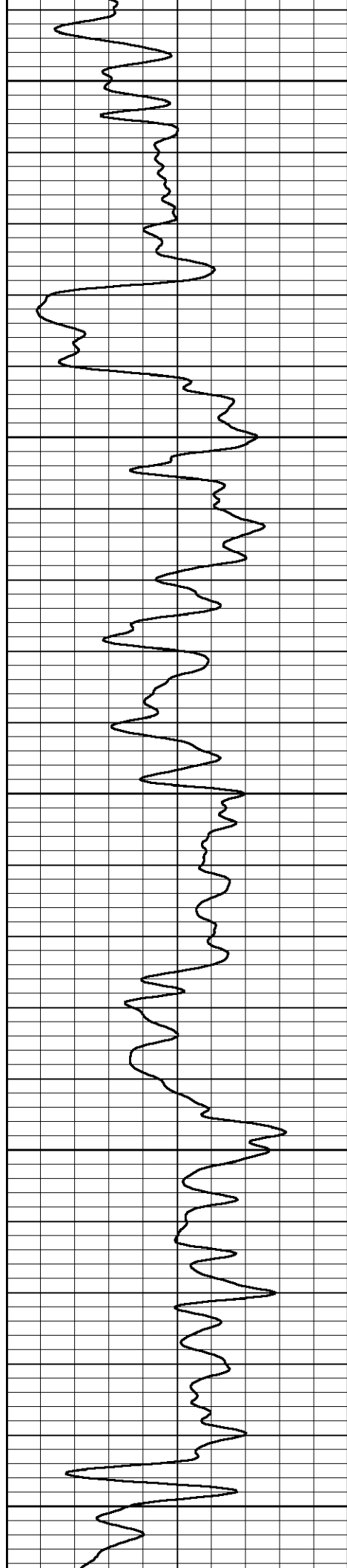
1450

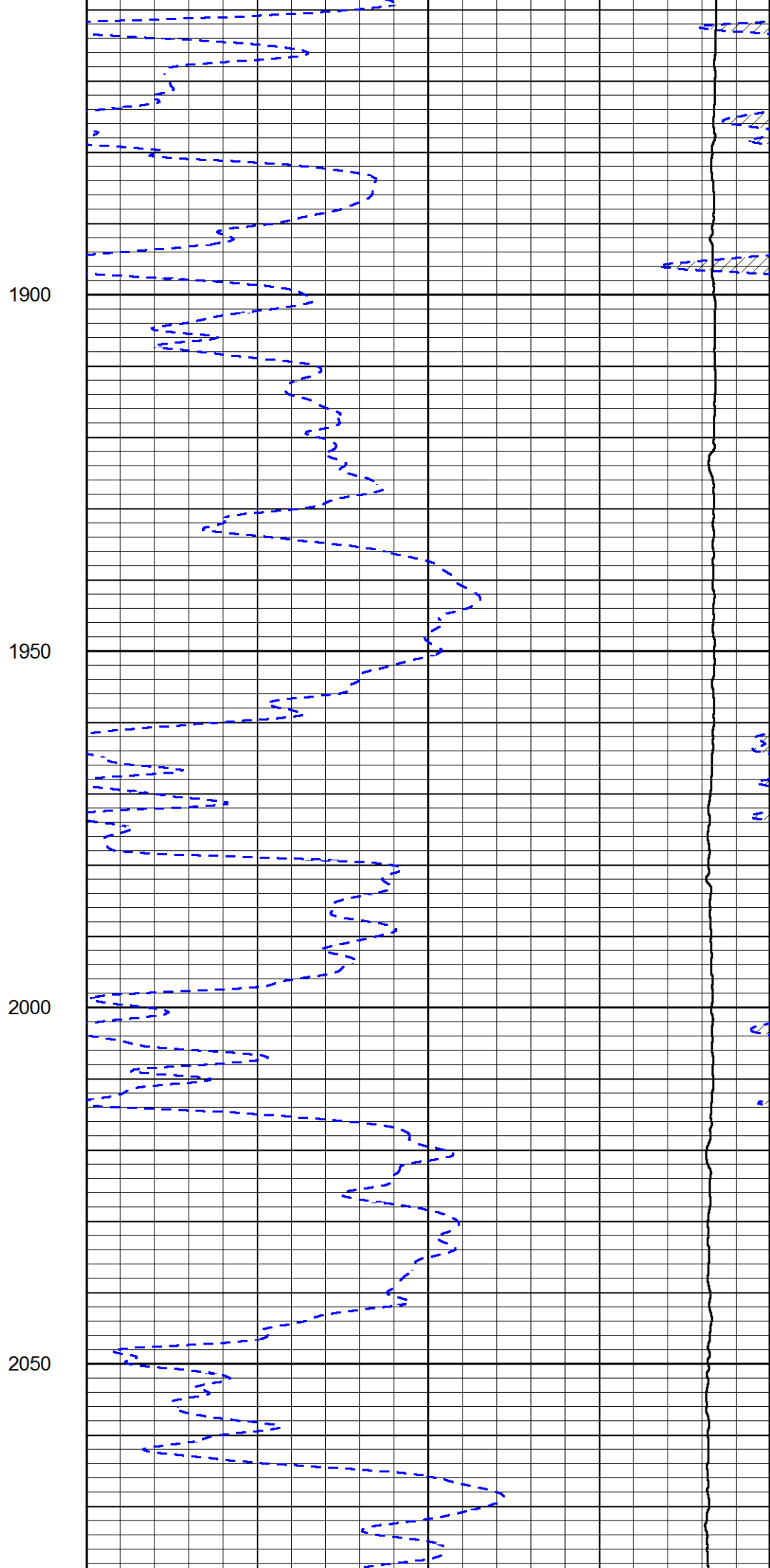
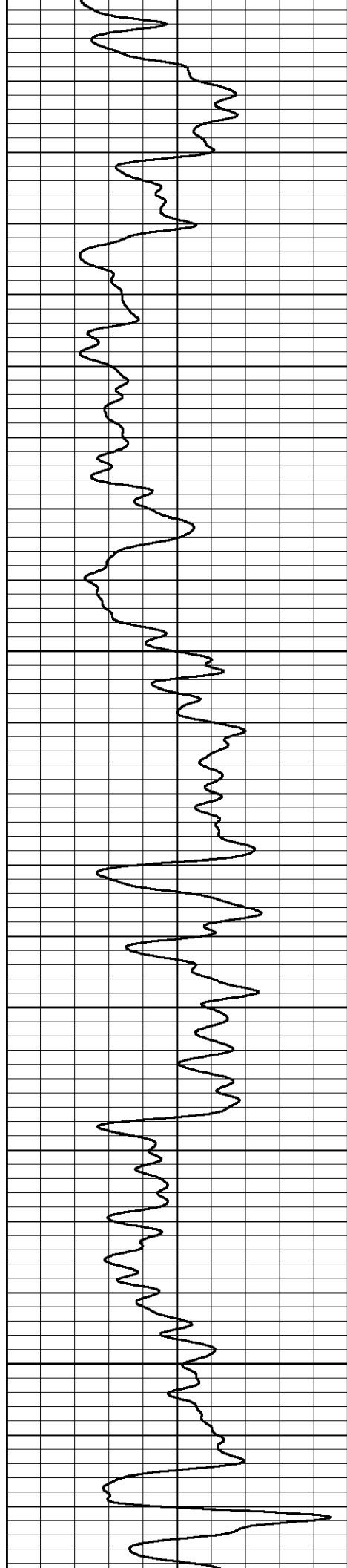
1500

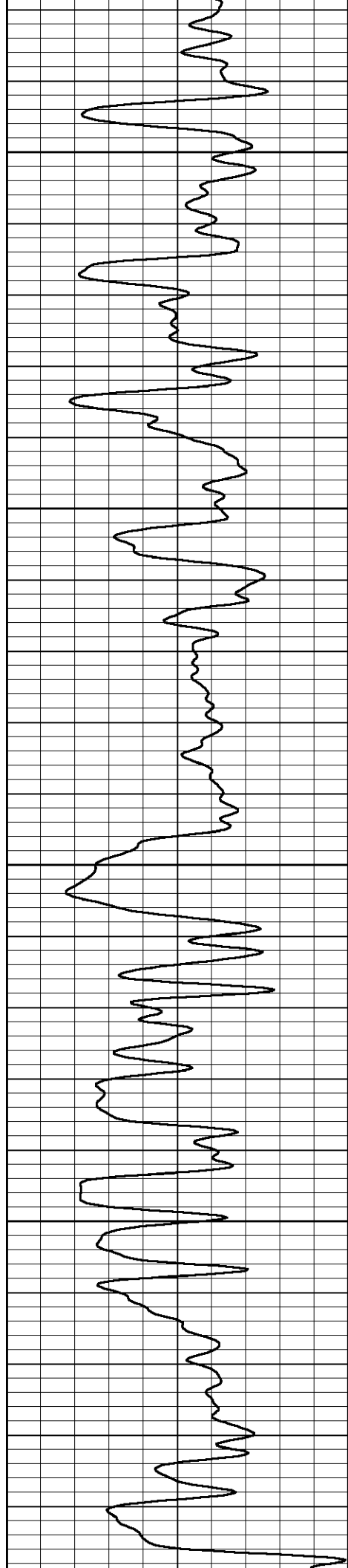
1550

1600







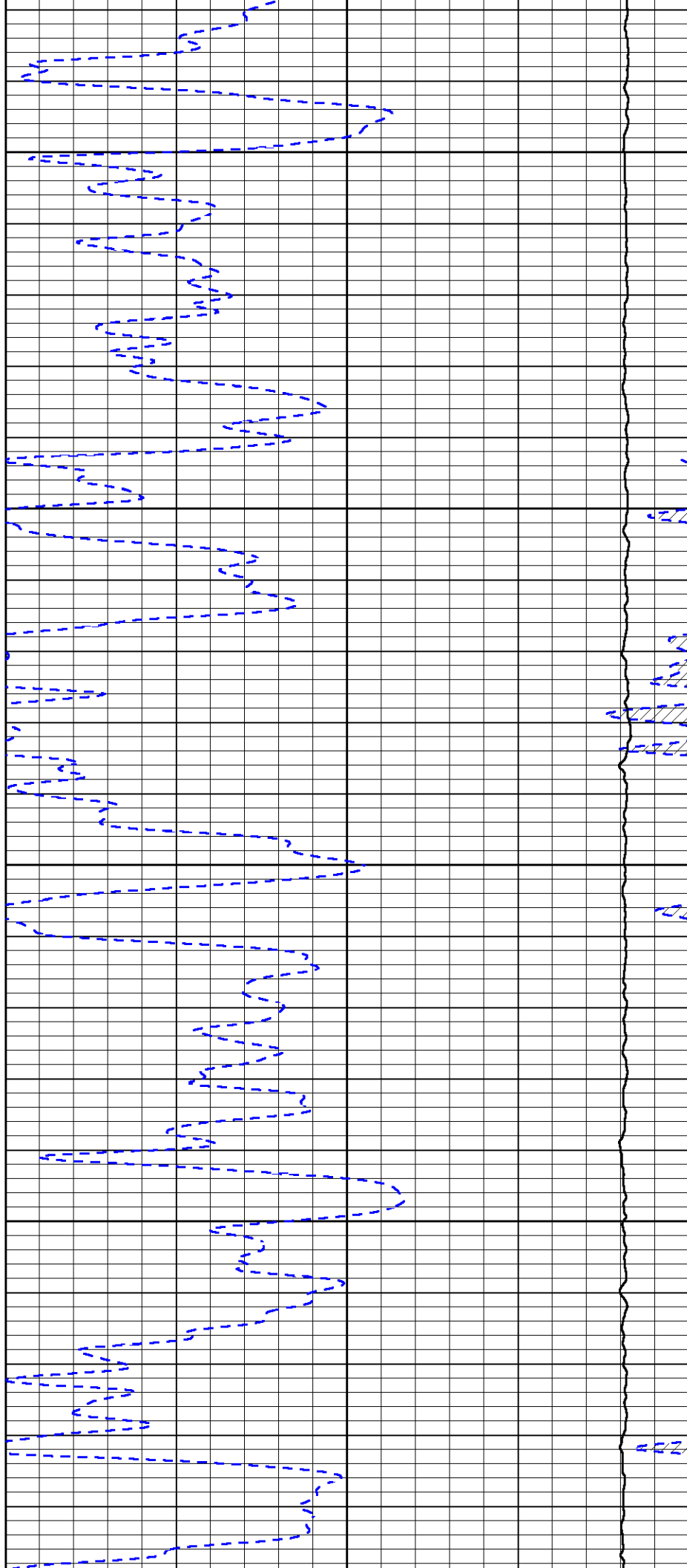


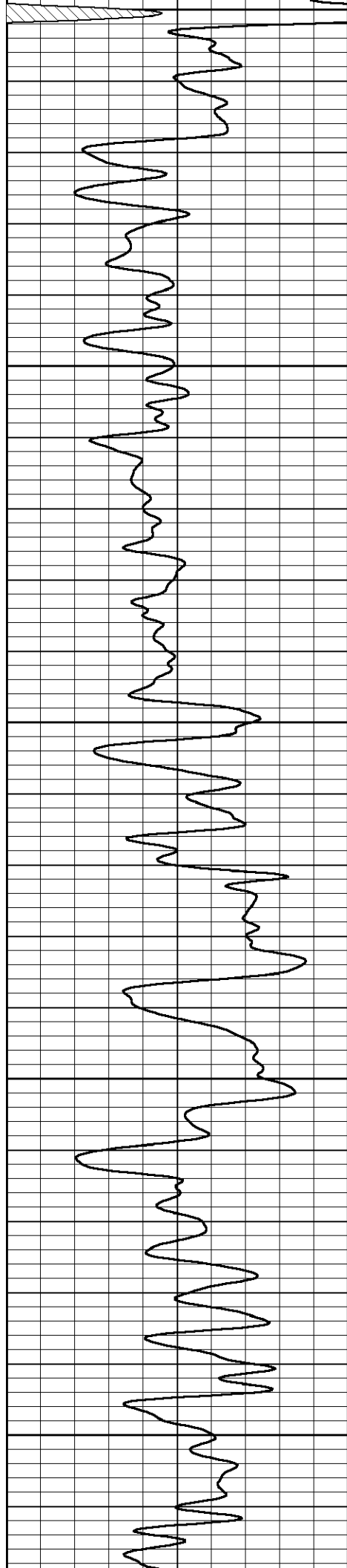
2100

2150

2200

2250





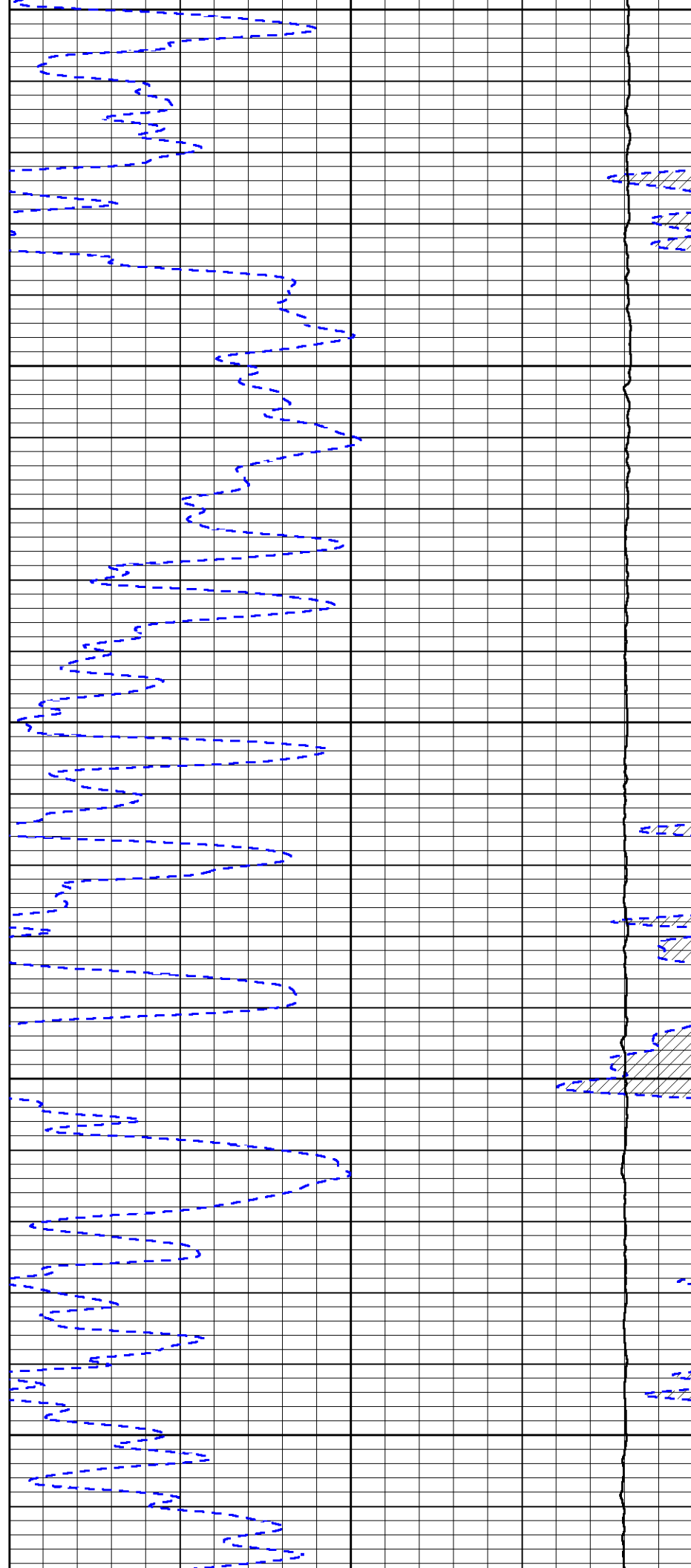
2300

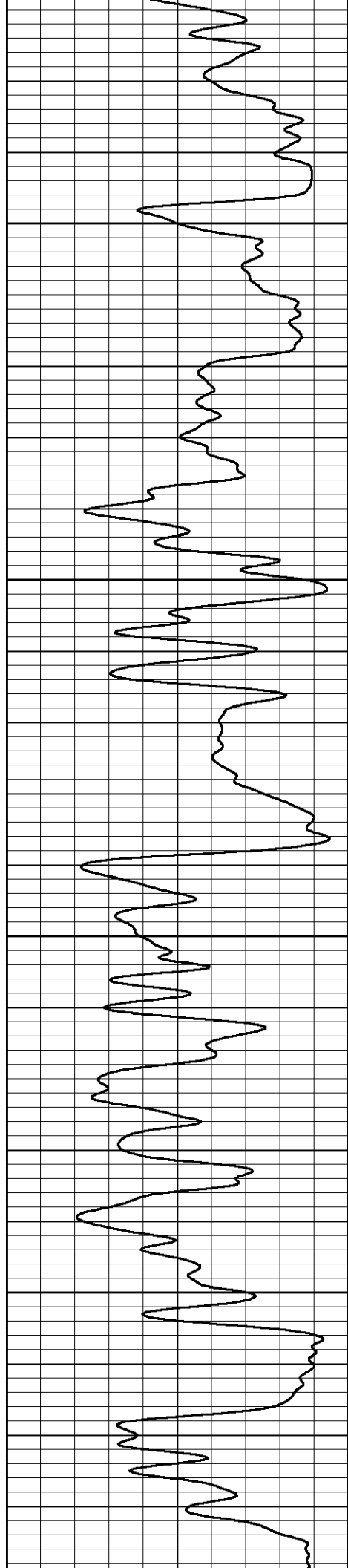
2350

2400

2450

2500



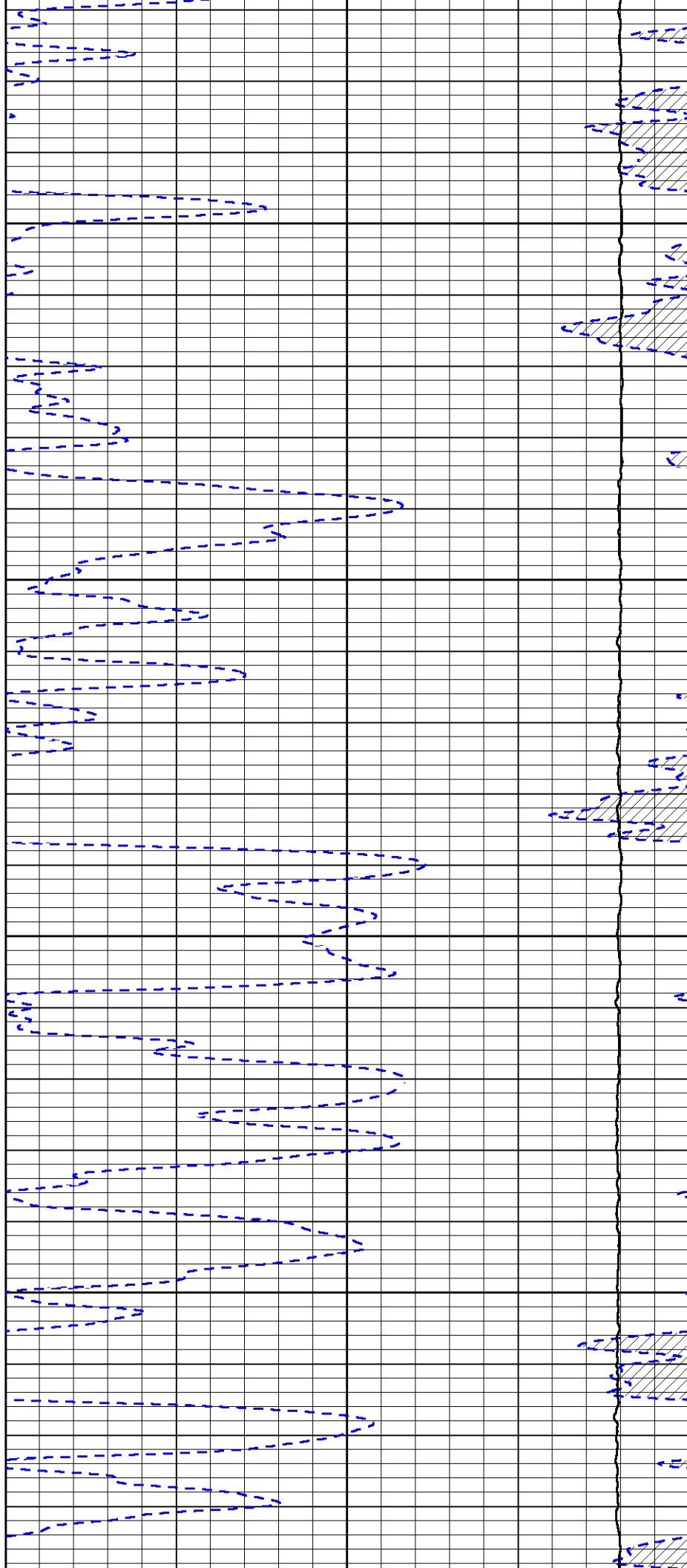


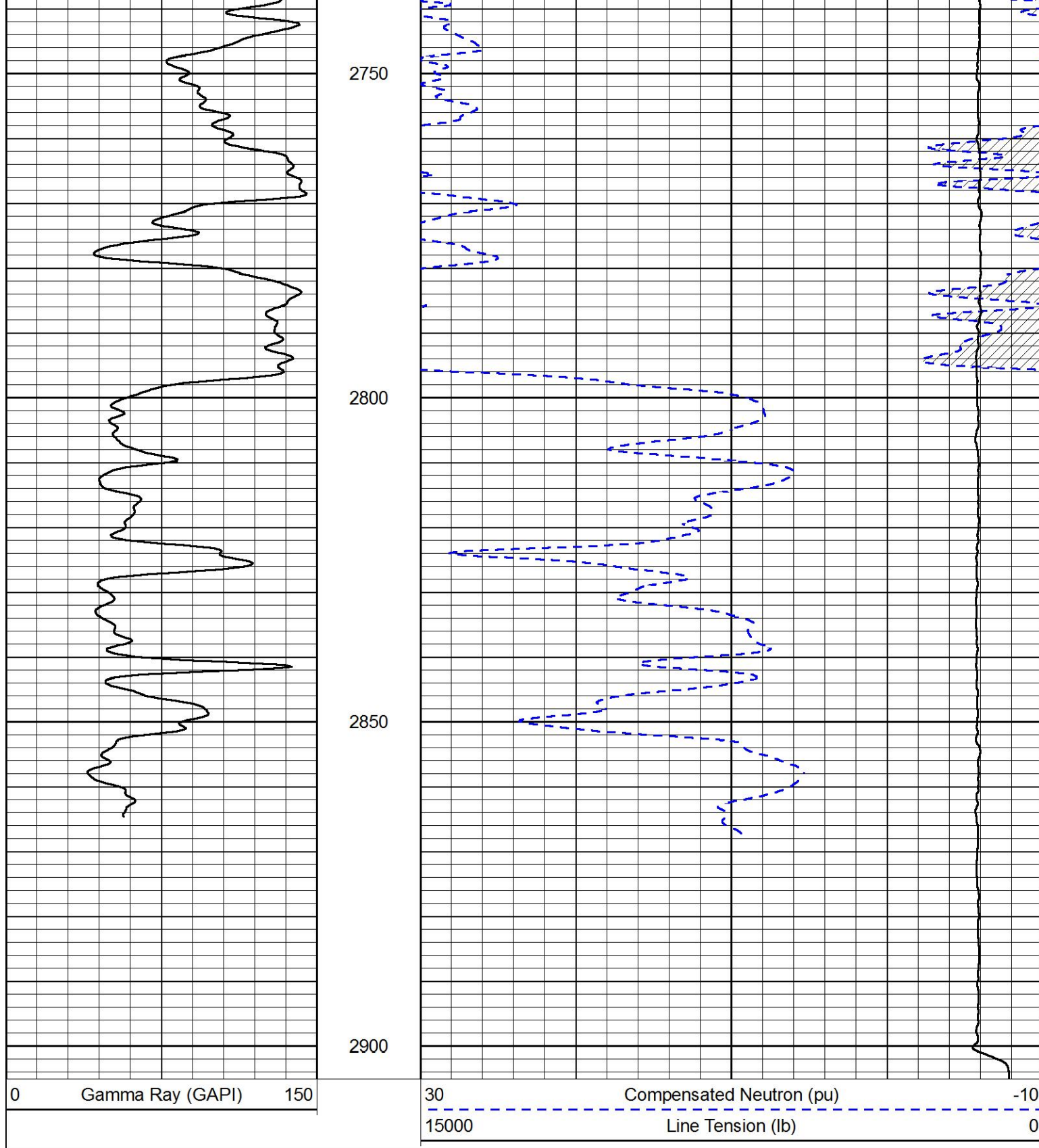
2550

2600

2650

2700





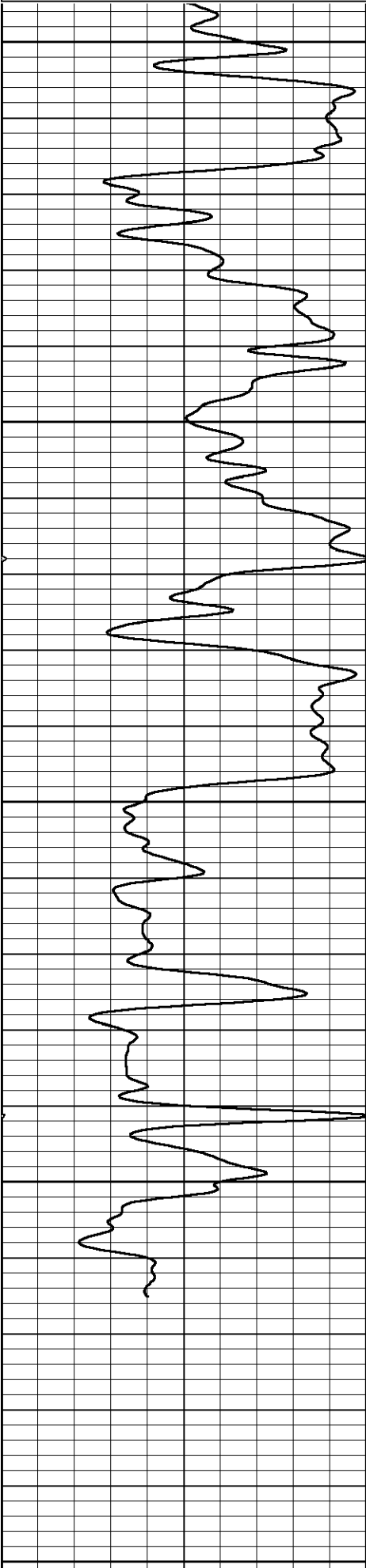
REPEAT SECTION

Database File	bruce_thibault 3.db
Dataset Pathname	STKML/pass2.1
Presentation Format	cnl
Dataset Creation	Sat May 26 18:31:52 2018
Charted by	Depth in Feet scaled 1:240

0 Gamma Ray (GAPI) 150

30 Compensated Neutron (pu) -10

15000 Line Tension (lb) 0



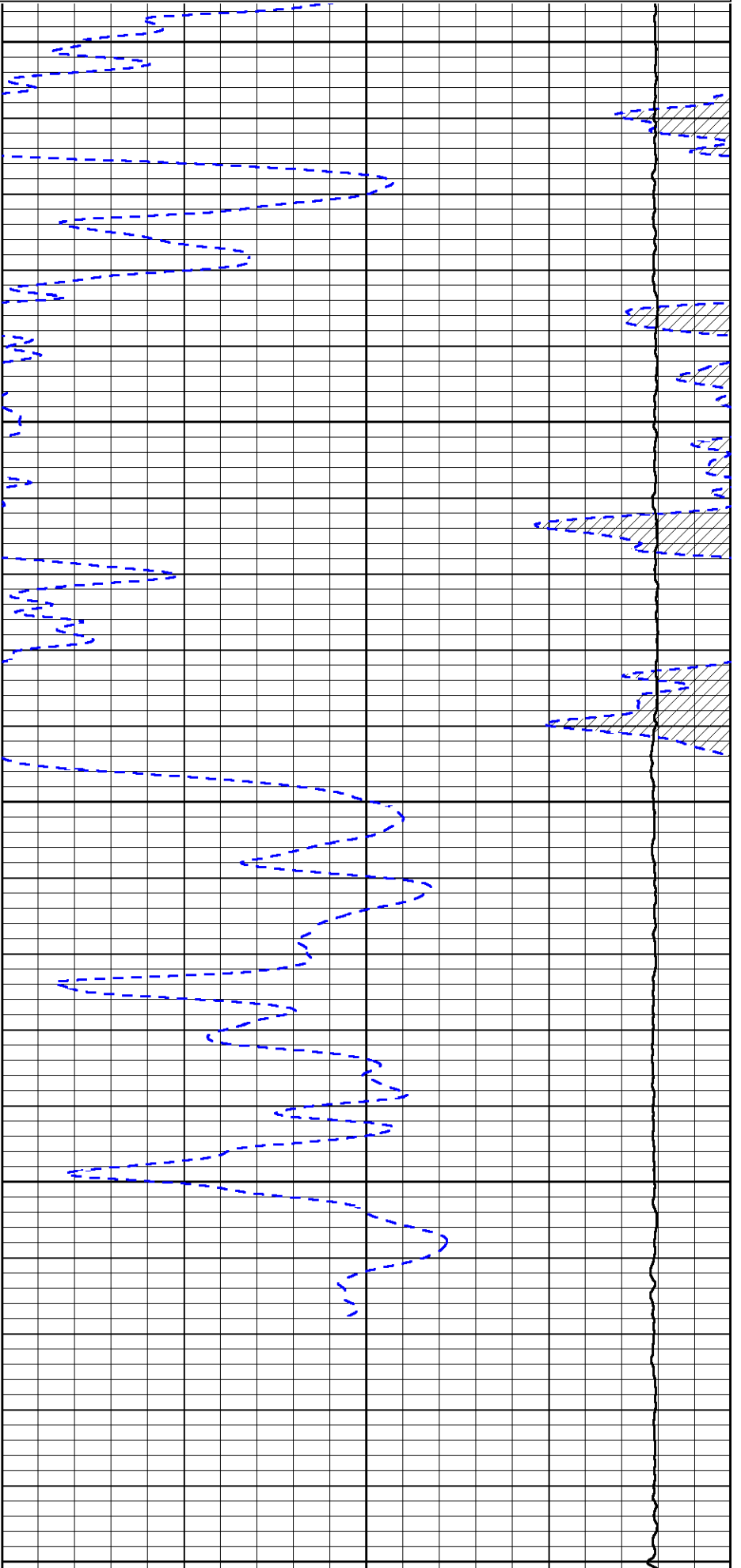
2700

2750

2800

2850

2900



0	Gamma Ray (GAPI)	150	30	Compensated Neutron (pu)	-10
			15000	Line Tension (lb)	0

Calibration Report	
Database File	bruce_thibault 3.db
Dataset Pathname	STKML/pass3.5
Dataset Creation	Sat May 26 18:26:36 2018

Dual Induction Calibration Report

Serial-Model:	PSI 971 HT-PSI HIGH TEMP
Calibration Performed:	Tue May 22 18:36:42 2018

		Readings		References		Results	
Loop:	Air	Loop	Air	Loop		Gain	Offset
Deep	167.000	835.000	0.000	255.800	mmho/m	0.425	-30.000
Medium	0.000	1348.000	142.000	255.800	mmho/m	0.370	-30.000

Microlog Calibration Report

Serial-Model:	PSI-01-PSIML
Performed:	Mon Apr 16 11:11:21 2018

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	45000.0000	-1.3000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	40000.0000	-0.6000
Caliper	1.0001	1.1397	6.5000	18.5000	in	70.0000	-65.8500

Compensated Density Calibration Report
--

Serial-Model:	817-947-M&W
Source / Verifier:	16955B / 2ci
Master Calibration Performed:	Tue May 01 14:00:17 2018

Master Calibration					
Density		Far Detector		Near Detector	
Magnesium	1.755 g/cc	6127.15	5922.31 cps		
Aluminum	2.650 g/cc	1141.85	3762.09 cps		
Spine Angle = 74.89		Density/Spine Ratio = 0.514			
Size		Reading			
Small Ring	4.50 in	1.02			
Large Ring	15.00 in	1.15			

Compensated Neutron Calibration Report
--

Serial Number:	207-MW
Tool Model:	M&W
Calibration Performed:	MON APR 16 10:30:30 2018

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	
Tool Model:	M&W	
Calibration Performed:	Mon Jan 15 11:20:44 2018	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.6000	GAPI/cps

 PIONEER Pioneer Energy Services	Company	BRUCE OIL COMPANY, LLC
	Well	THIBAUT #3
	Field	KILL CREEK
	County	OSBORNE
	State	KANSAS