



MIDWEST WIRELINE

DUAL INDUCTION LOG

Company **Murfin Drilling Company, Inc.**
 Well **Rusco-Davis #7-36**
 Field **Star West**
 County **Ellis** State **Kansas**

Company **Murfin Drilling Company, Inc.**
 Well **Rusco-Davis #7-36**
 Field **Star West**
 County **Ellis**
 State **Kansas**

Location: **API #: 15-051-27023-00-00**
NE NE NW SE
2430 FSL & 1330 FEL
SEC 36 TWP 11S RGE 20W
 Permanent Datum **Ground Level** Elevation **2017**
 Log Measured From **Kelly Bushing**
 Drilling Measured From **Kelly Bushing**
 Other Services **CNL/CDL MEL/BHCS**
 Elevation **K.B. 2022 D.F. G.L. 2017**

Date	1/30/2022
Run Number	One
Depth Driller	3701
Depth Logger	3700
Bottom Logged Interval	3699
Top Log Interval	00
Casing Driller	8.625 @ 265
Casing Logger	262
Bit Size	7.875
Type Fluid in Hole	Chemical
Salinity, ppm CL	5200
Density / Viscosity	9.0 58
pH / Fluid Loss	10.0 6.8
Source of Sample	FLOWLINE
Rm @ Meas. Temp	0.75 @ 70
Rmt @ Meas. Temp	0.56 @ 70
Rmc @ Meas. Temp	1.01 @ 70
Source of Rmf / Rmc	CHARTS
Rm @ BHT	0.46 @ 113
Operating Rig Time	5 Hours
Max Rec. Temp. F	113
Equipment Number	P-24
Location	Hays
Recorded By	T. Martin
Witnessed By	Kent Matson

<<< 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.

**Yocemento, N to Homestead Rd,
3 W, N 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: T. Martin
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: Kent Matson
Secondary Witness:
Secondary Witness:
Secondary Witness:

Course	Offset (ft)	Substrate	Description	Length (ft)	O.D. (in)	Weight (lb)
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Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	32.75		GR-M&W (101)	3.00	3.50	50.00
CNLSC CNSSC	29.65 28.90		CNT-M&W (207-MW)	5.00	3.50	100.00
LSD DCAL SSD	20.60 20.58 20.10		CDL-M&W (305-05)	8.50	4.00	250.00
RLL3F RLL3	15.50 15.50		DIL-M&W (501 HT)	18.25	3.50	220.00
CILD	8.33					
CILM	4.50					
SP	0.20					

Dataset: murfin_rusco-davis #7-36.db: field/well/Stack/pass3.1
 Total length: 34.75 ft
 Total weight: 620.00 lb
 O.D.: 4.00 in

Log Variables

DatabaseC:\ProgramData\Warrior\Data\murfin_rusco-davis #7-36.db
 Dataset field/well/Stack/pass3.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	113	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	385	50	Off	3700

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

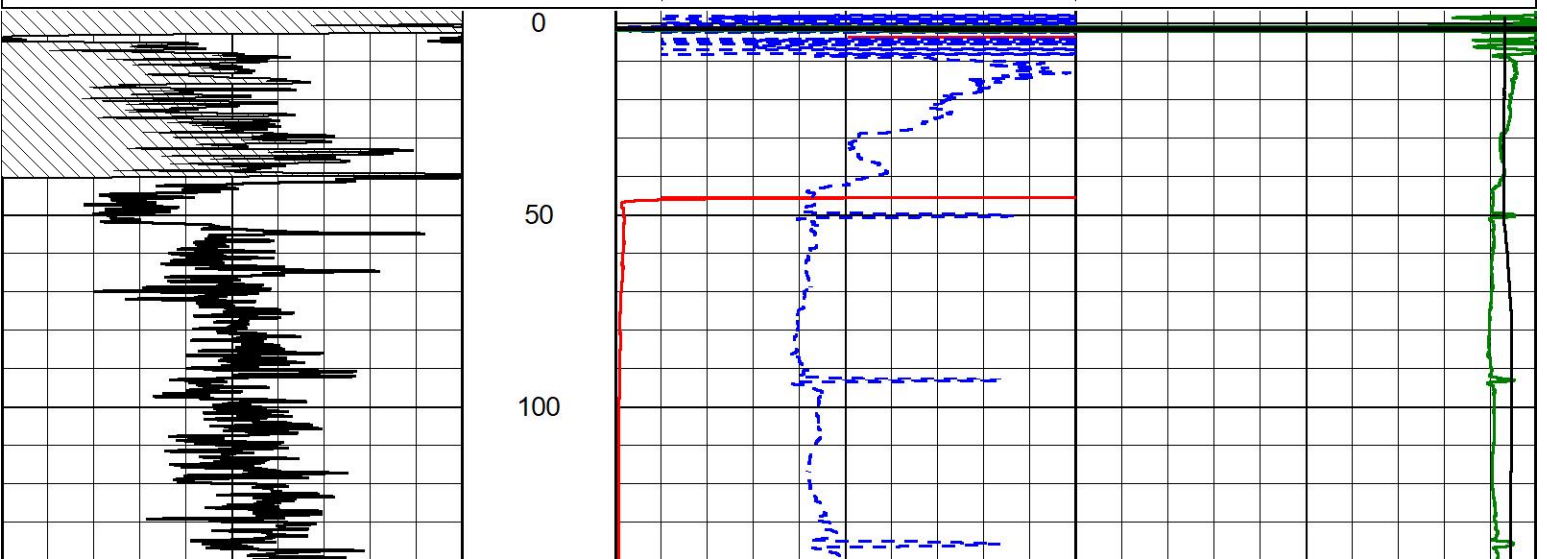


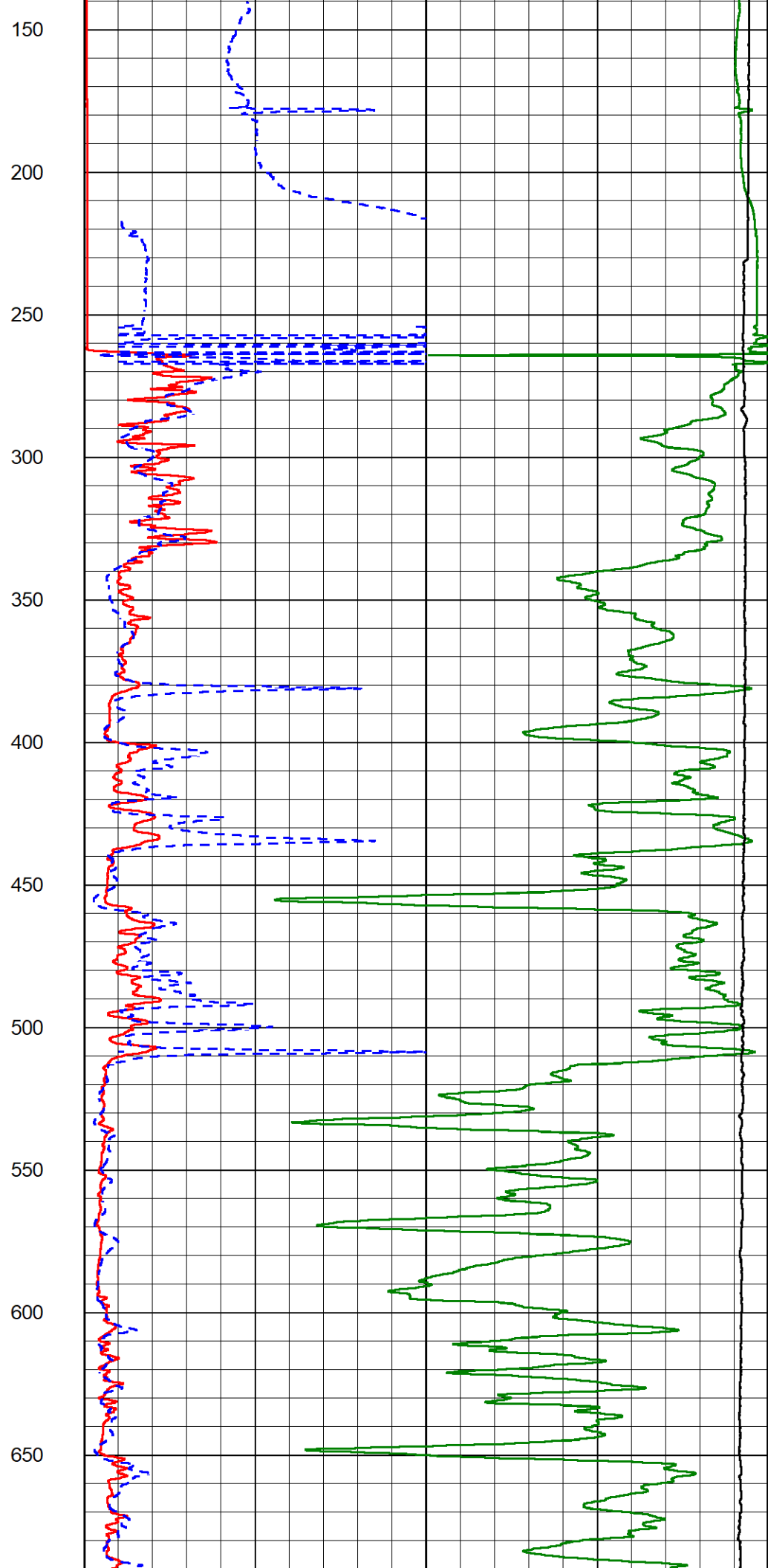
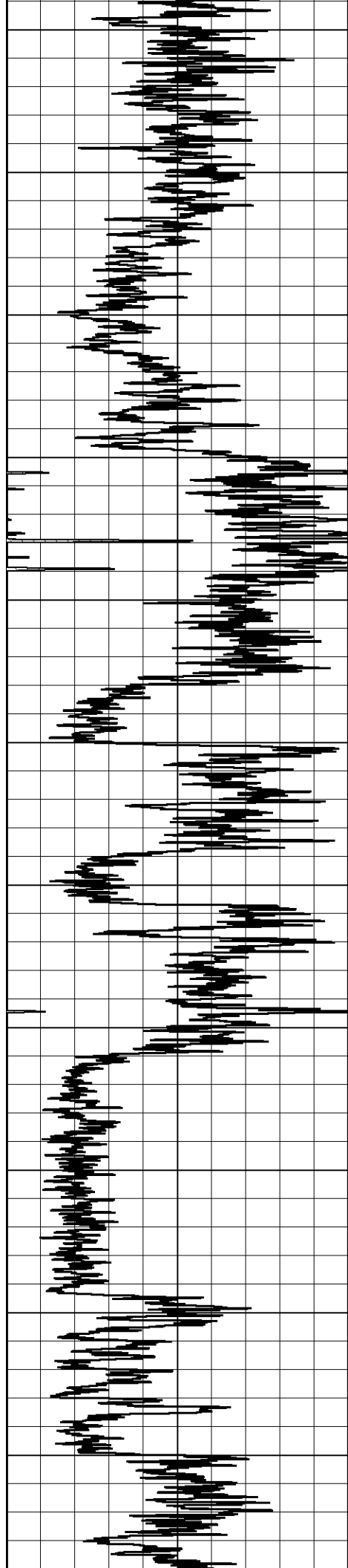
2" SCALE RESISTIVITY

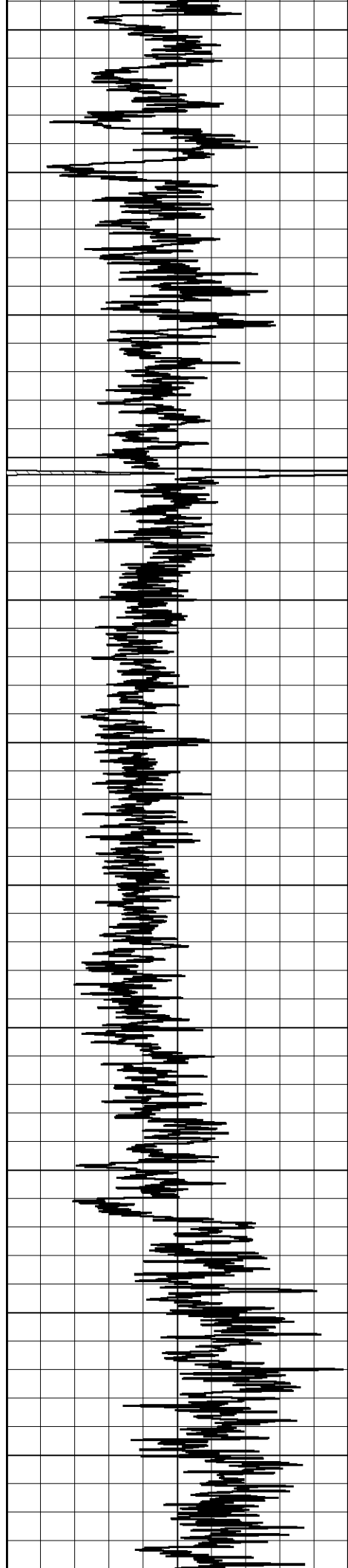
MAIN PASS

Database File murfin_rusco-davis #7-36.db
 Dataset Pathname Stack/pass3.2
 Presentation Format _dil2in
 Dataset Creation Sun Jan 30 23:56:57 2022
 Charted by Depth in Feet scaled 1:600

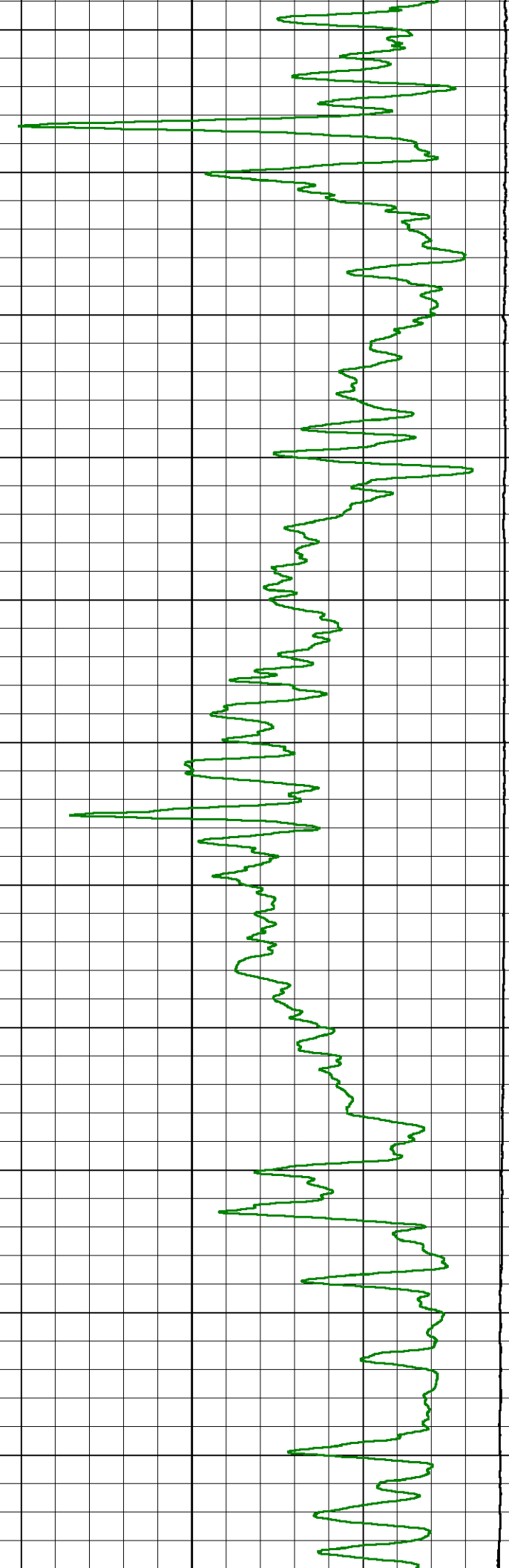
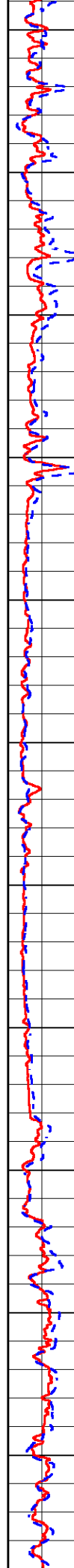
0	Gamma Ray (GAPI)	150	1000	Conductivity (mmho/m)	0
			15000	Line Tension (lb)	0
0	Shallow Resistivity (Ohm-m)	50			
0	Deep Resistivity (Ohm-m)	50			
	Shallow Resistivity				
50	(Ohm-m)	200			
50	Deep Resistivity (Ohm-m)	200			

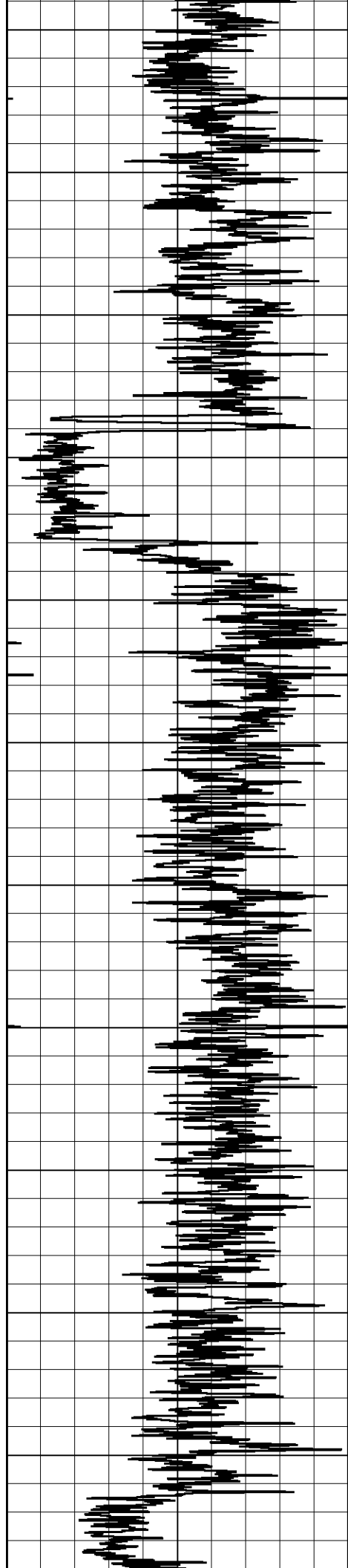




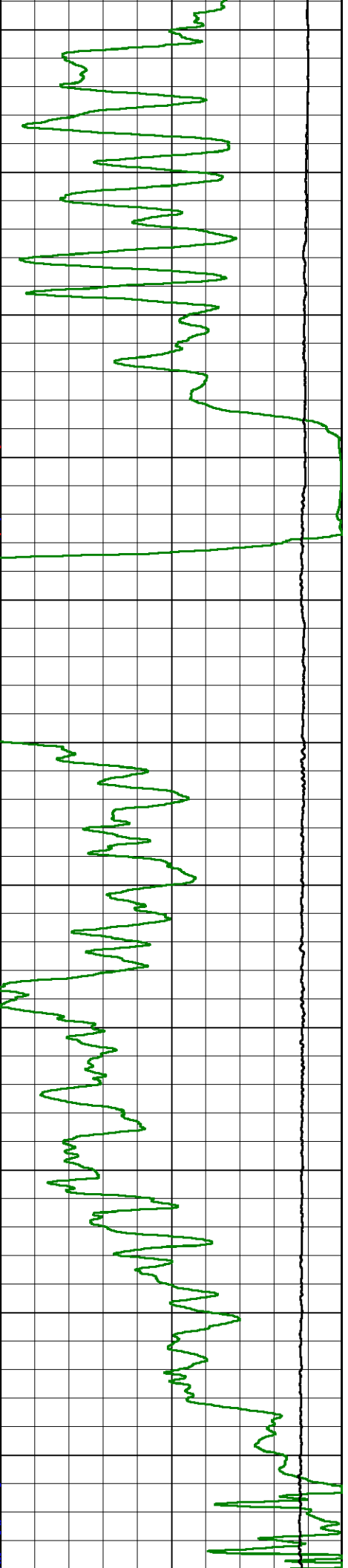
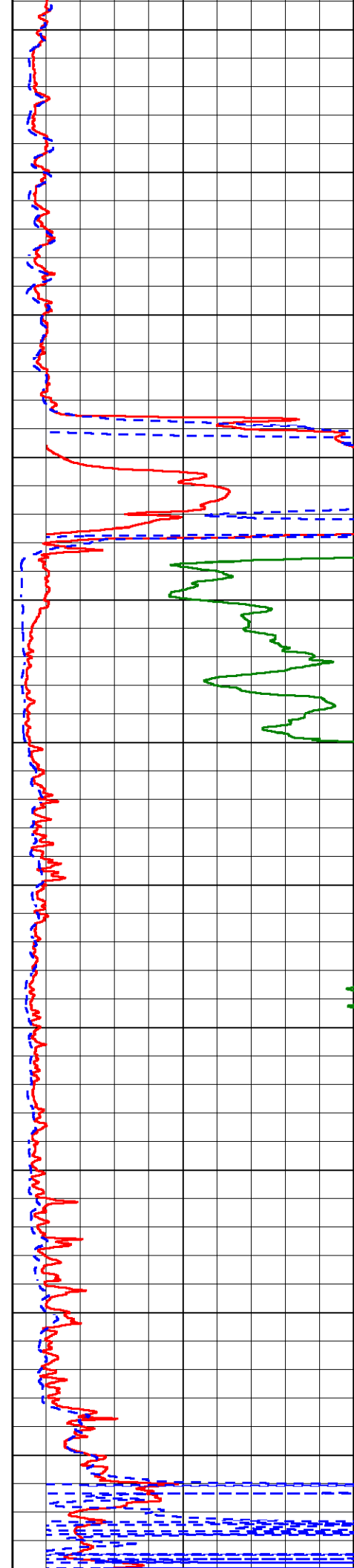


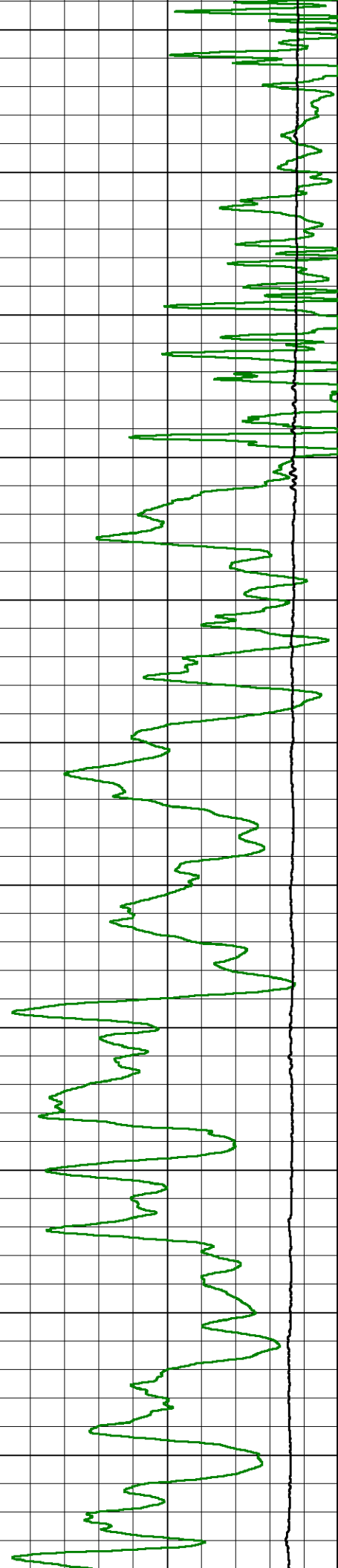
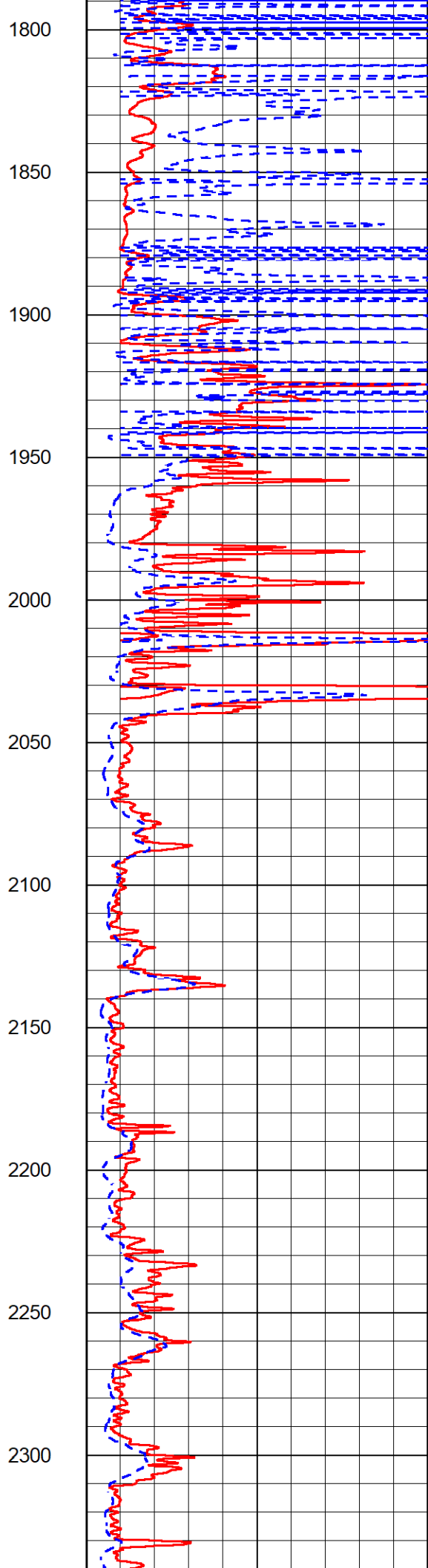
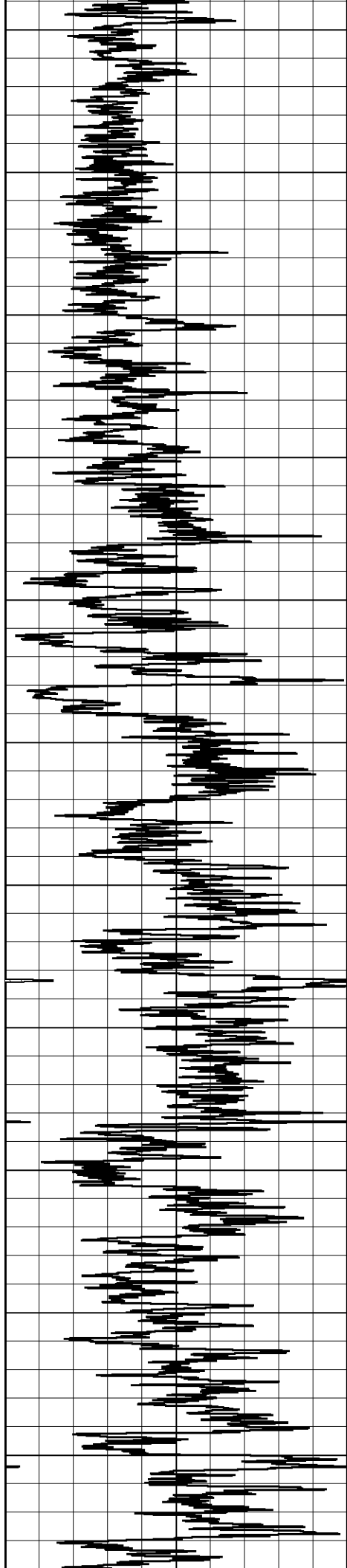
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900
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1000
1050
1100
1150
1200

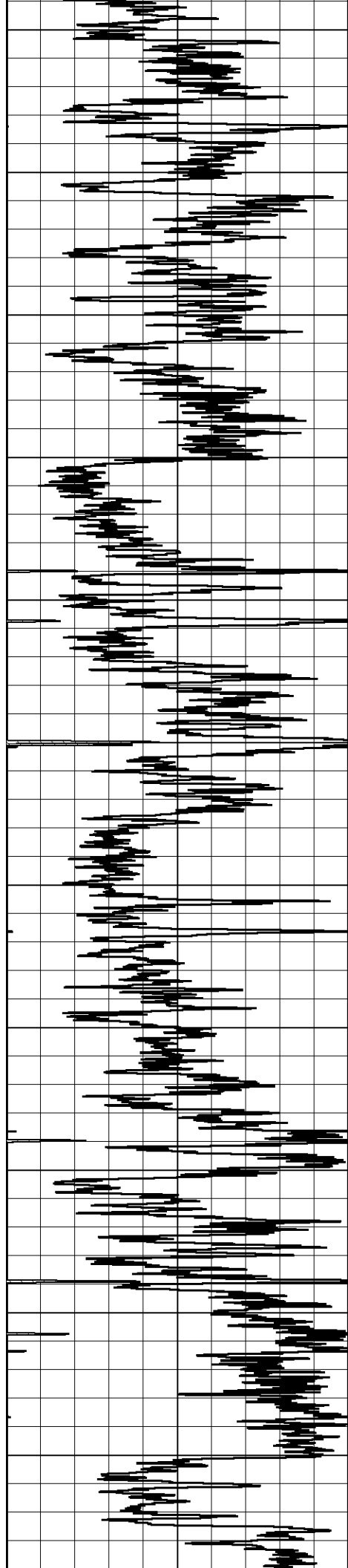




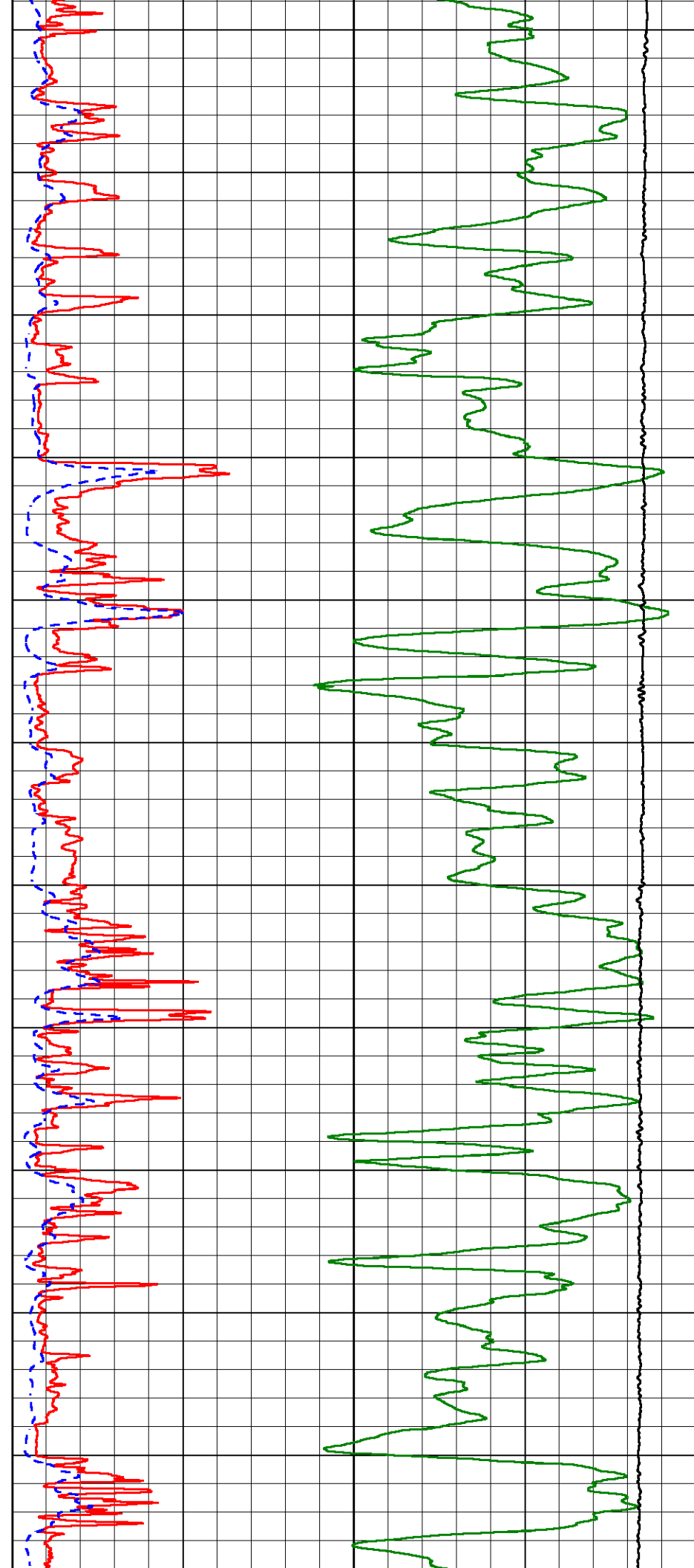
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1700
1750

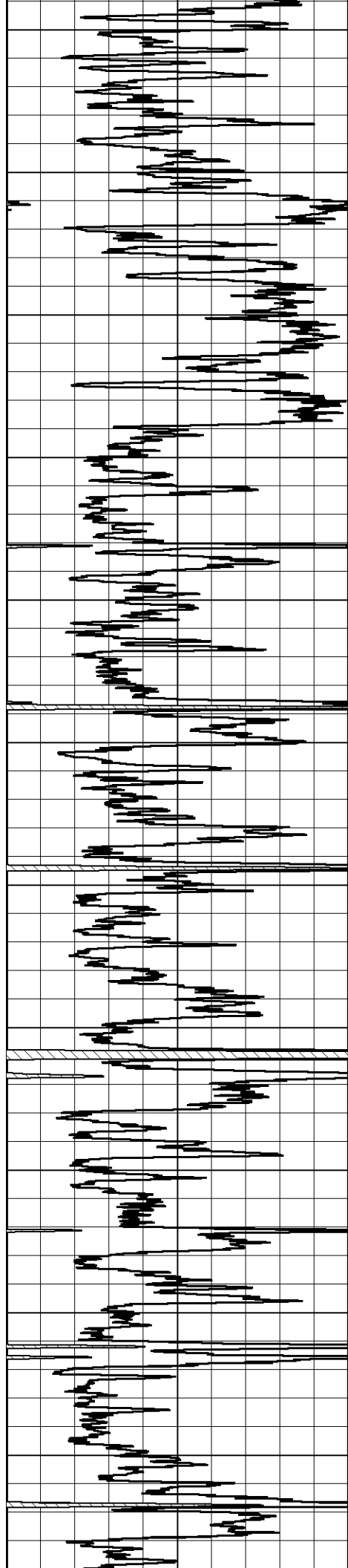




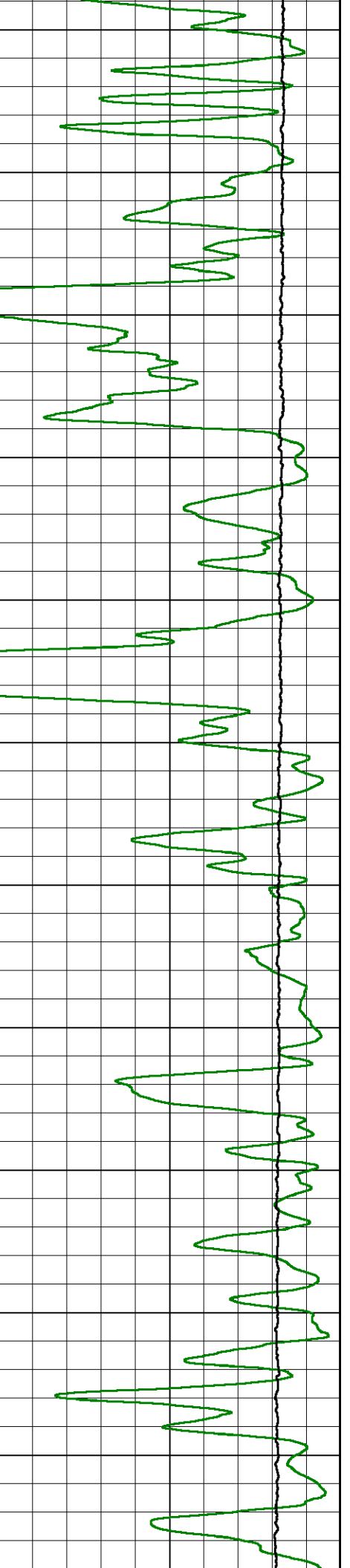
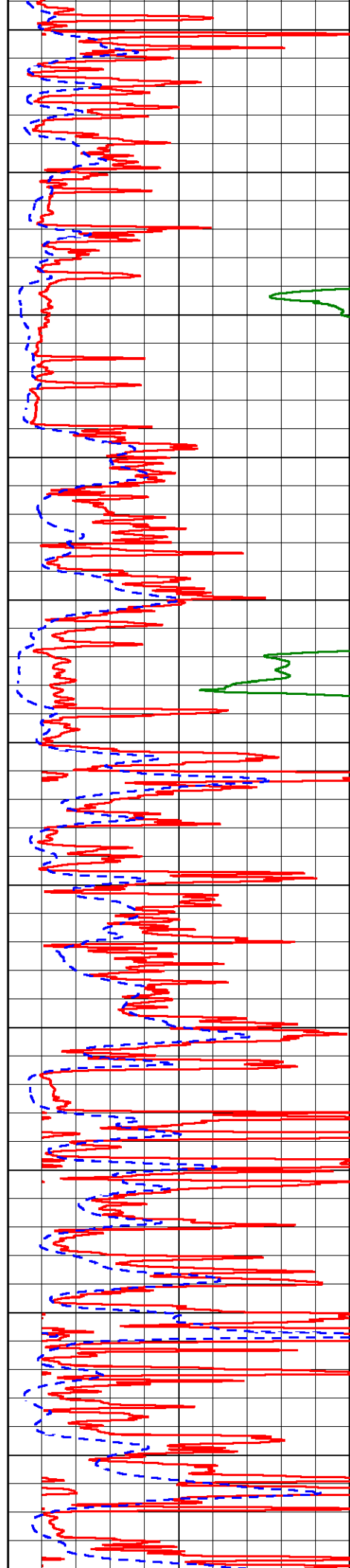


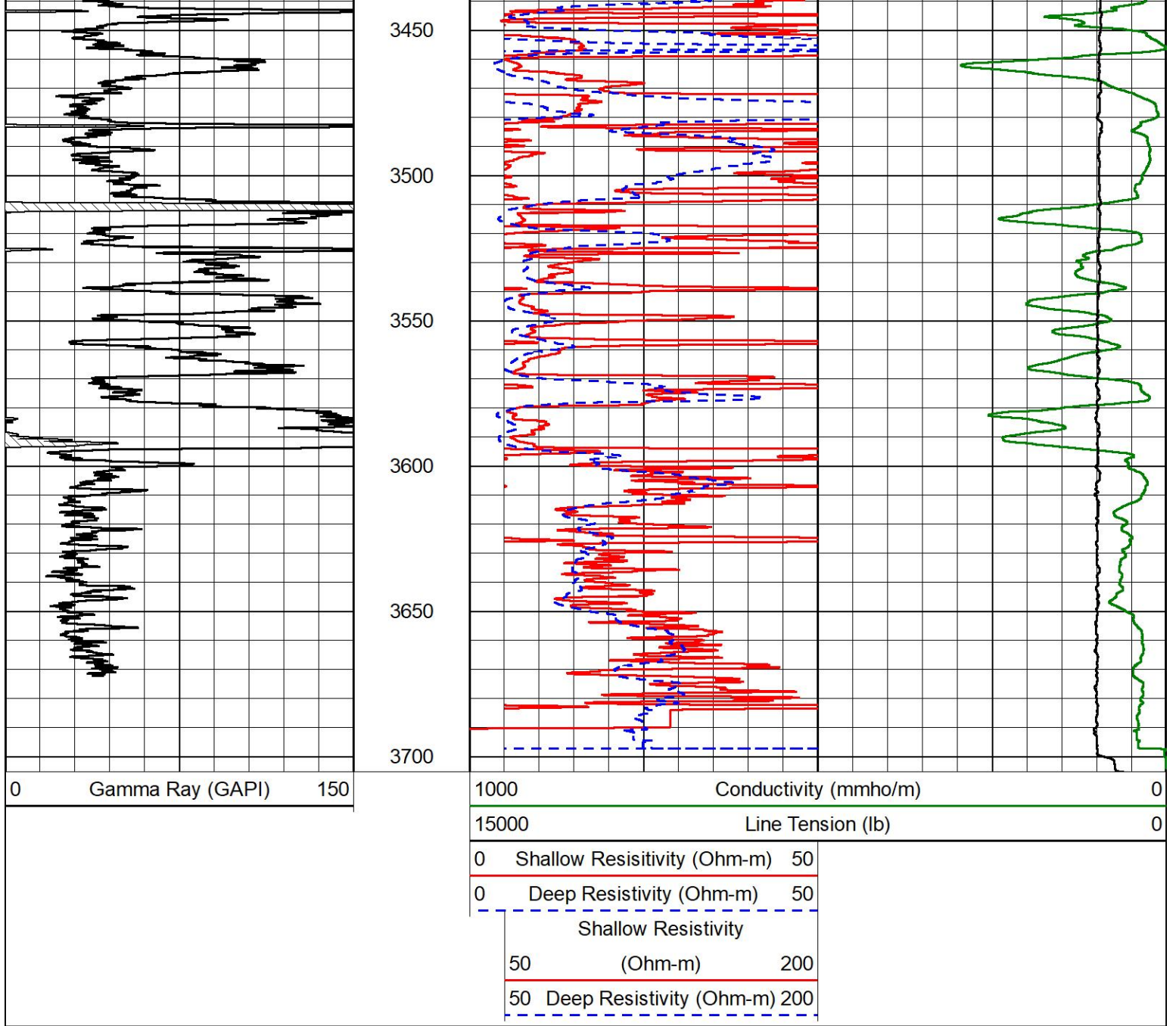
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3350
3400



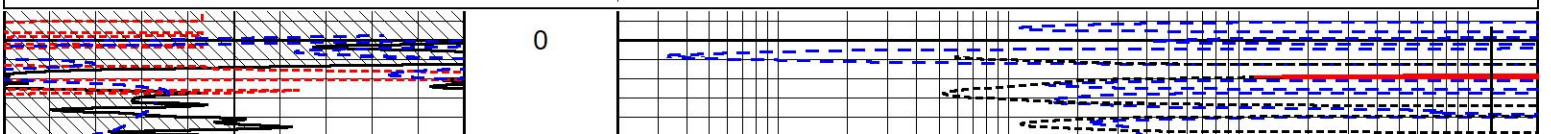


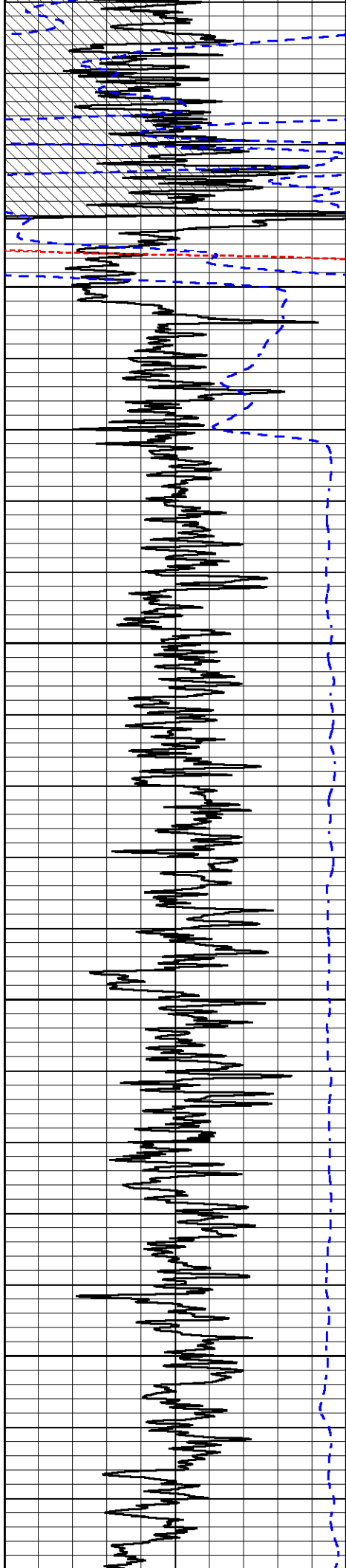
DETAIL SECTION

MAIN PASS

Database File murfin_rusco-davis #7-36.db
 Dataset Pathname Stack/pass3.1
 Presentation Format _dil
 Dataset Creation Sun Jan 30 23:57:16 2022
 Charted by Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150	0.2	Deep Resistivity (Ohm-m)	2000
-160	RXORT	40	0.2	Medium Resistivity (Ohm-m)	2000
-200	SP (mV)	0	0.2	Shallow Resistivity (Ohm-m)	2000
			10000	Line Tension (lb)	0



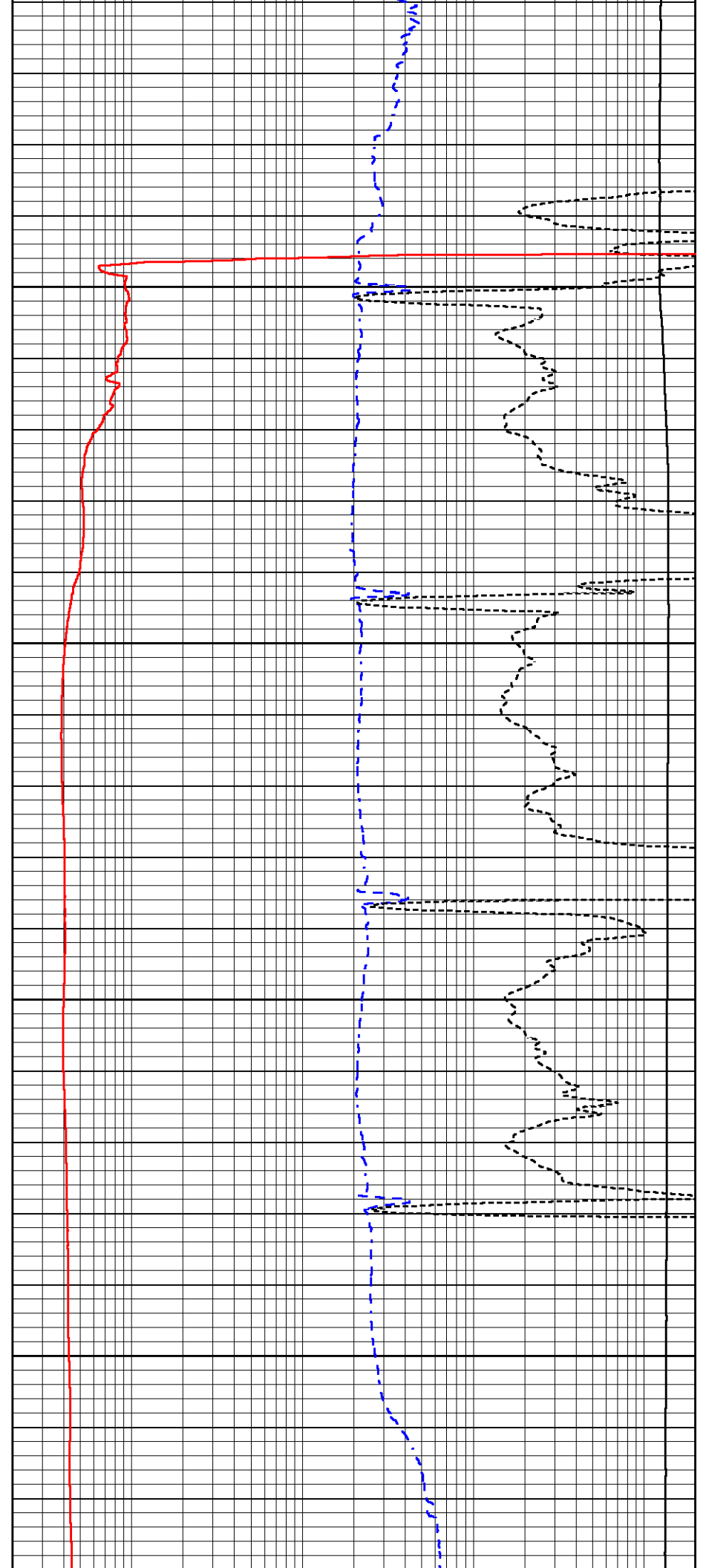


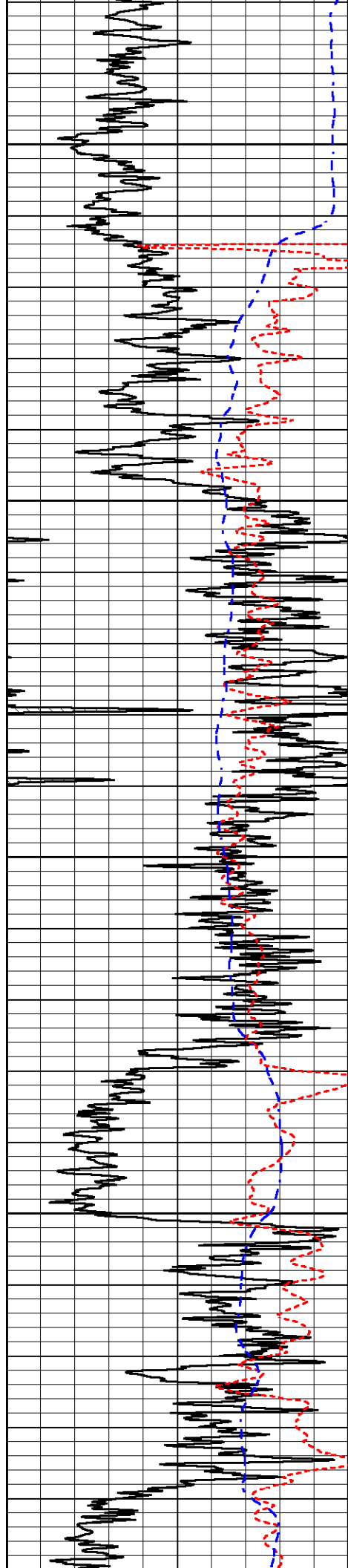
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100

150

200





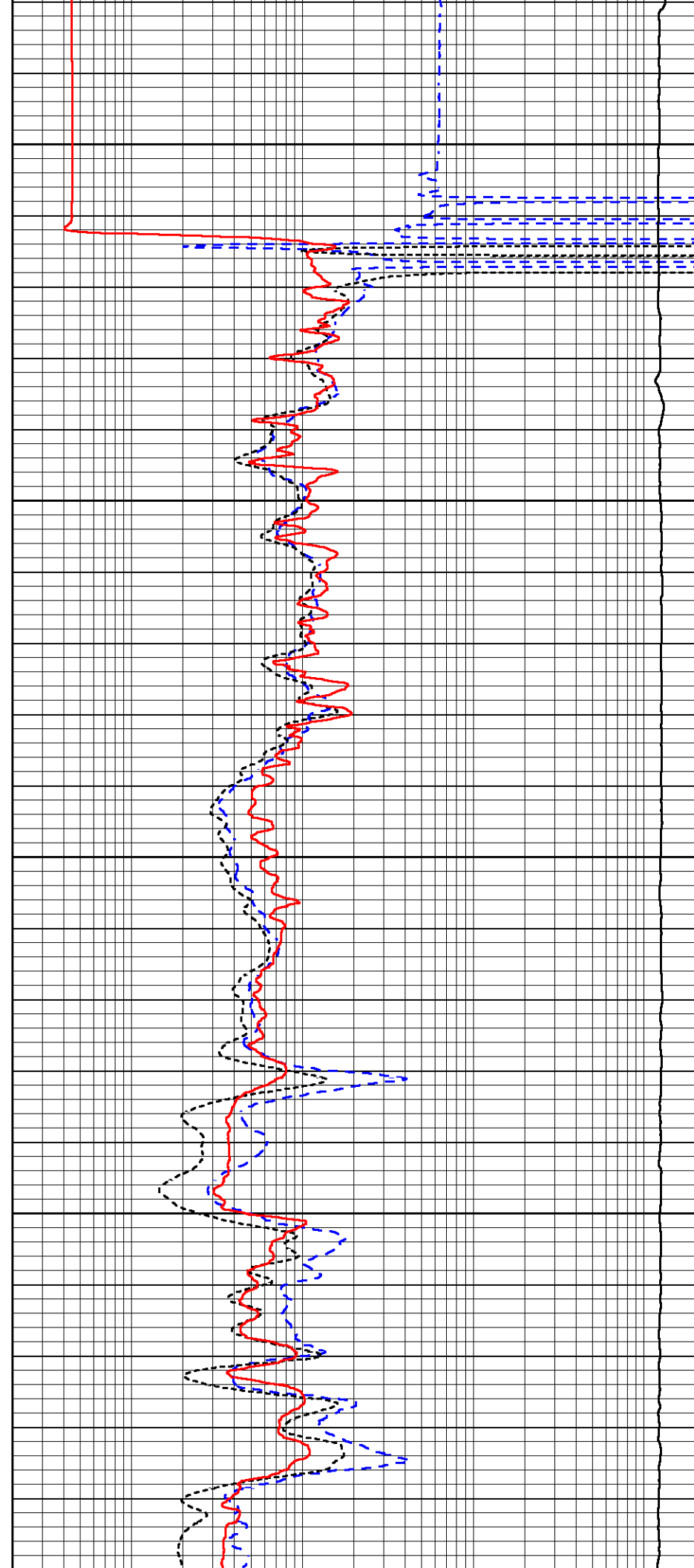
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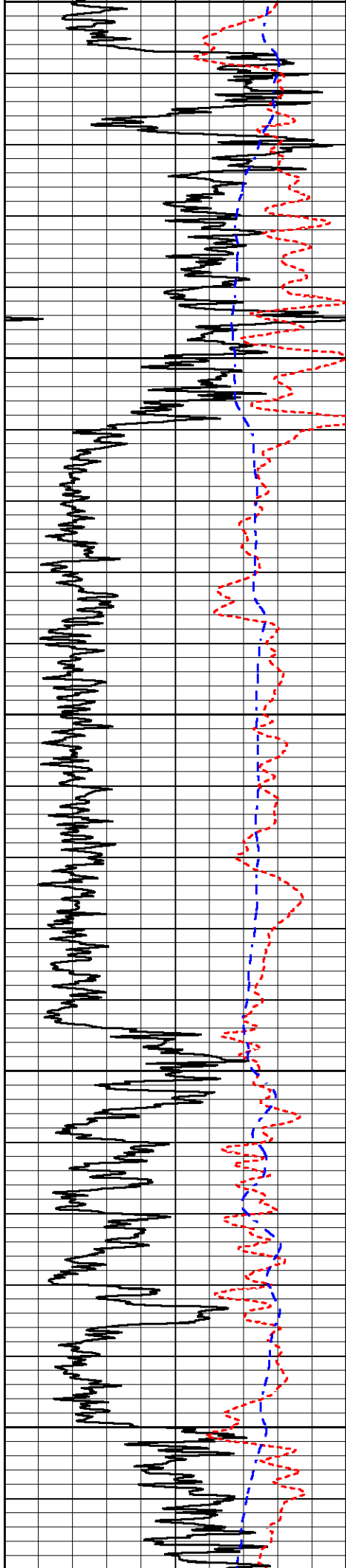
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350

400

450





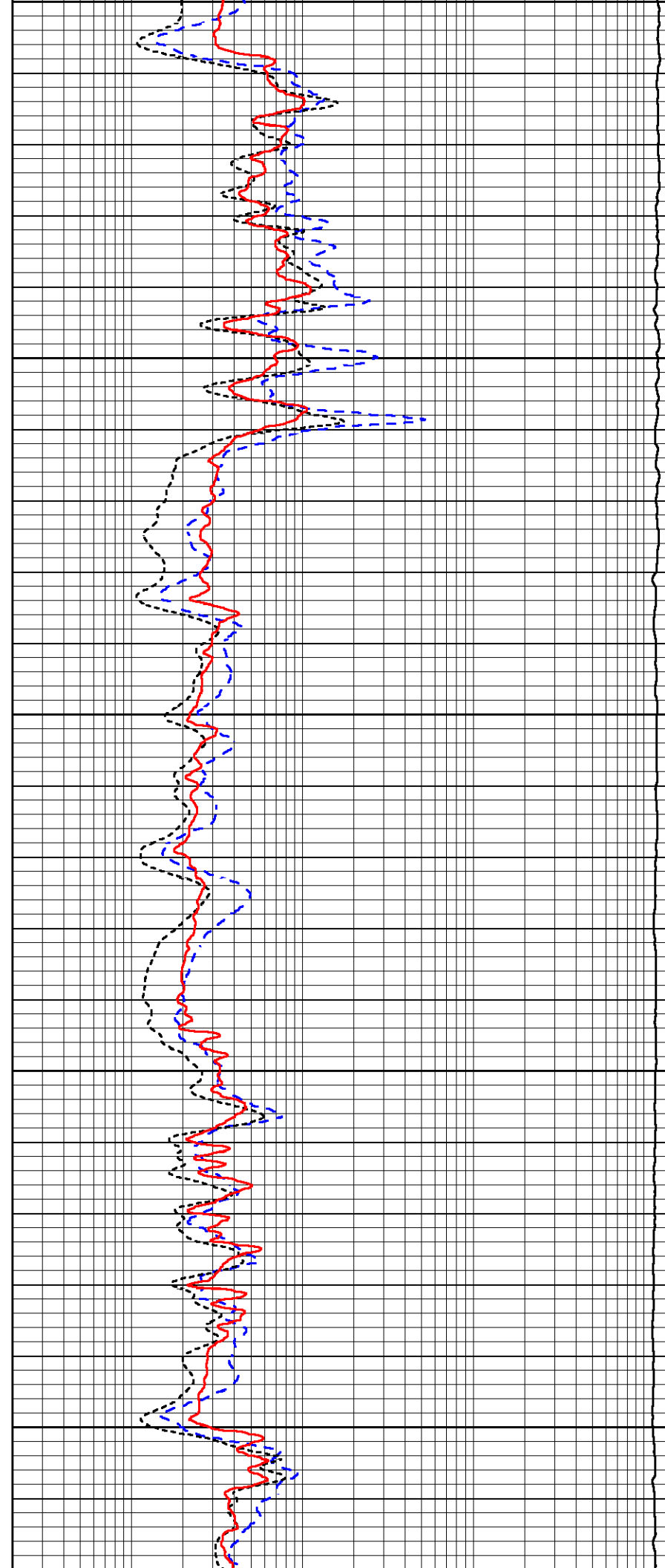
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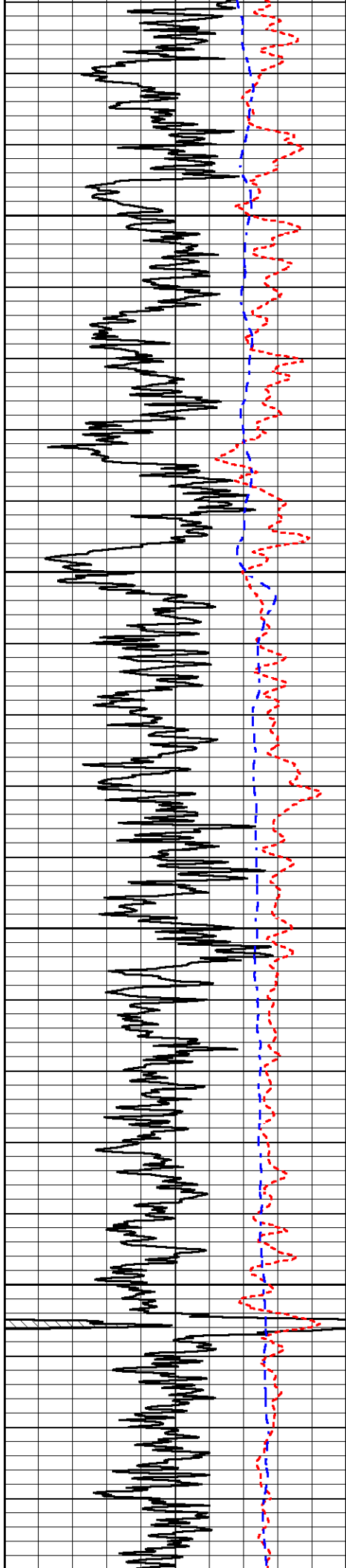
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600

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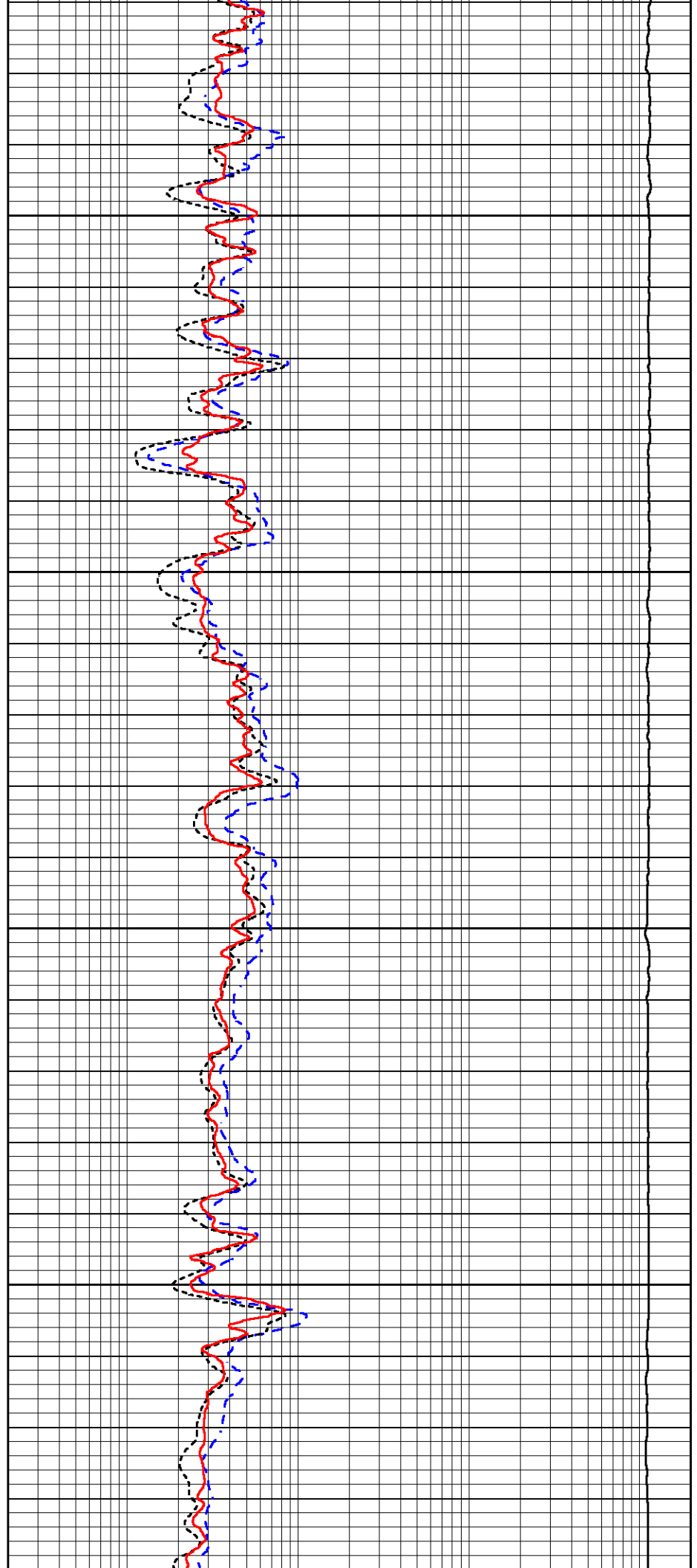


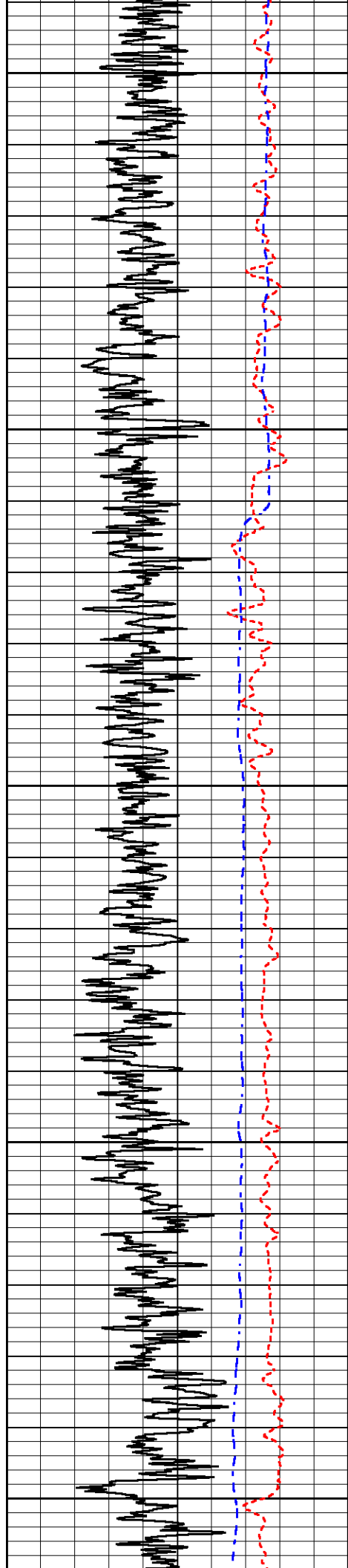
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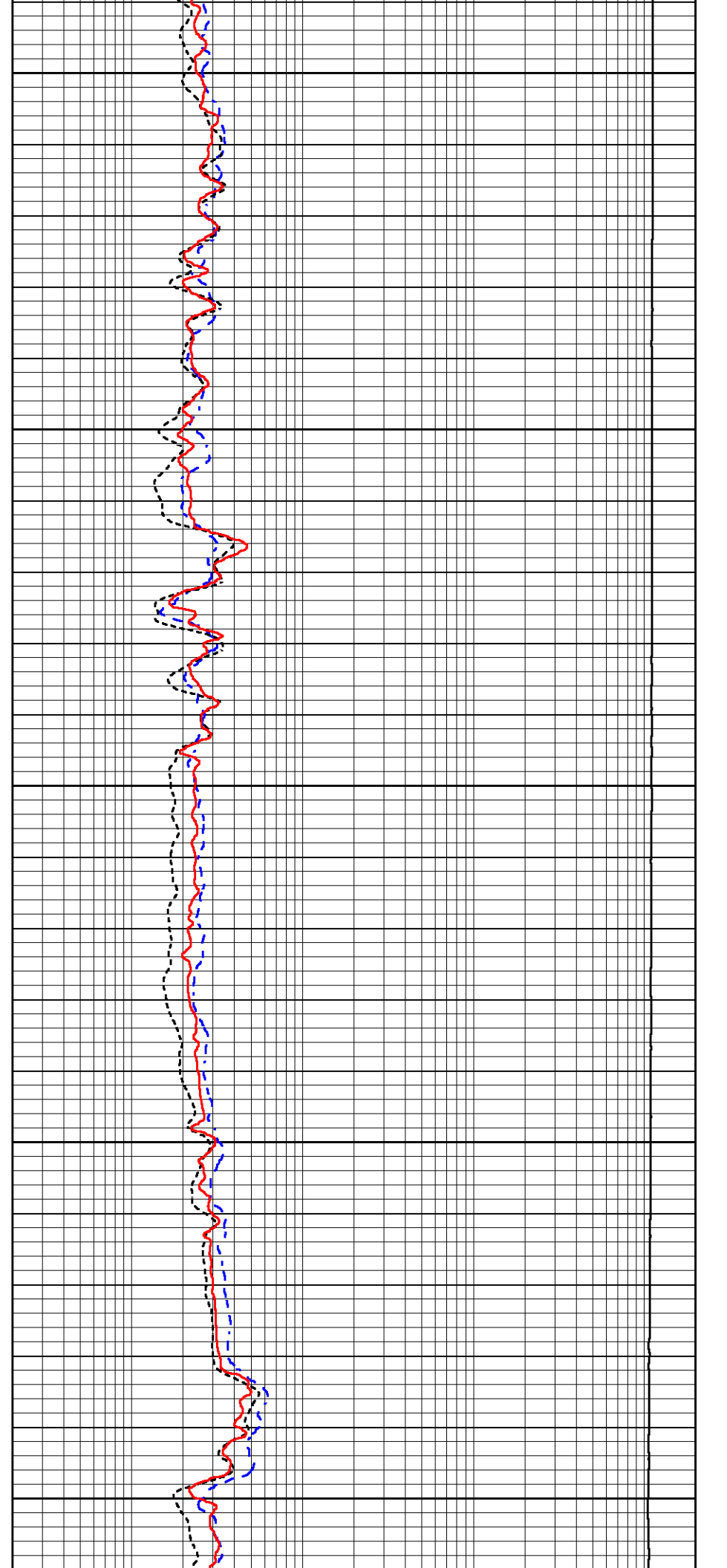
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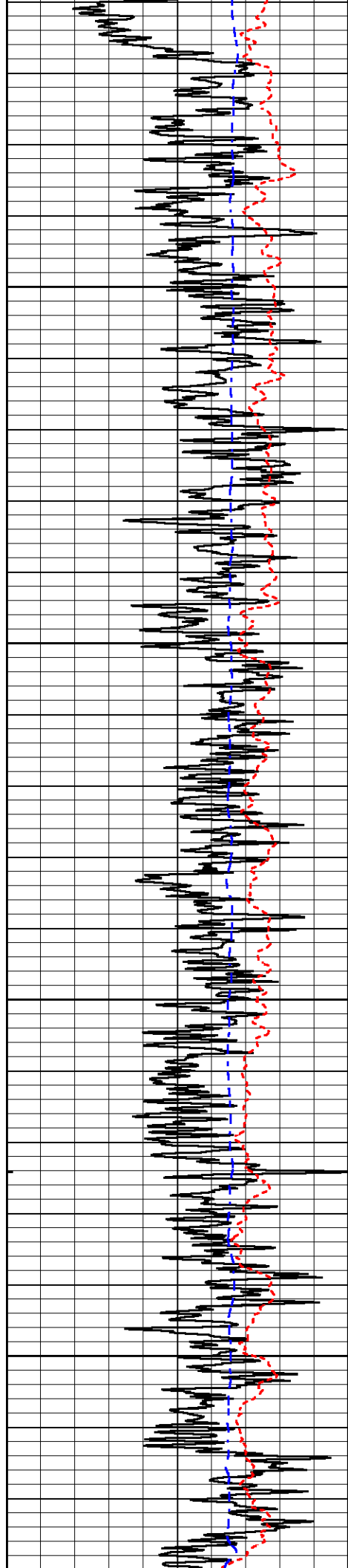
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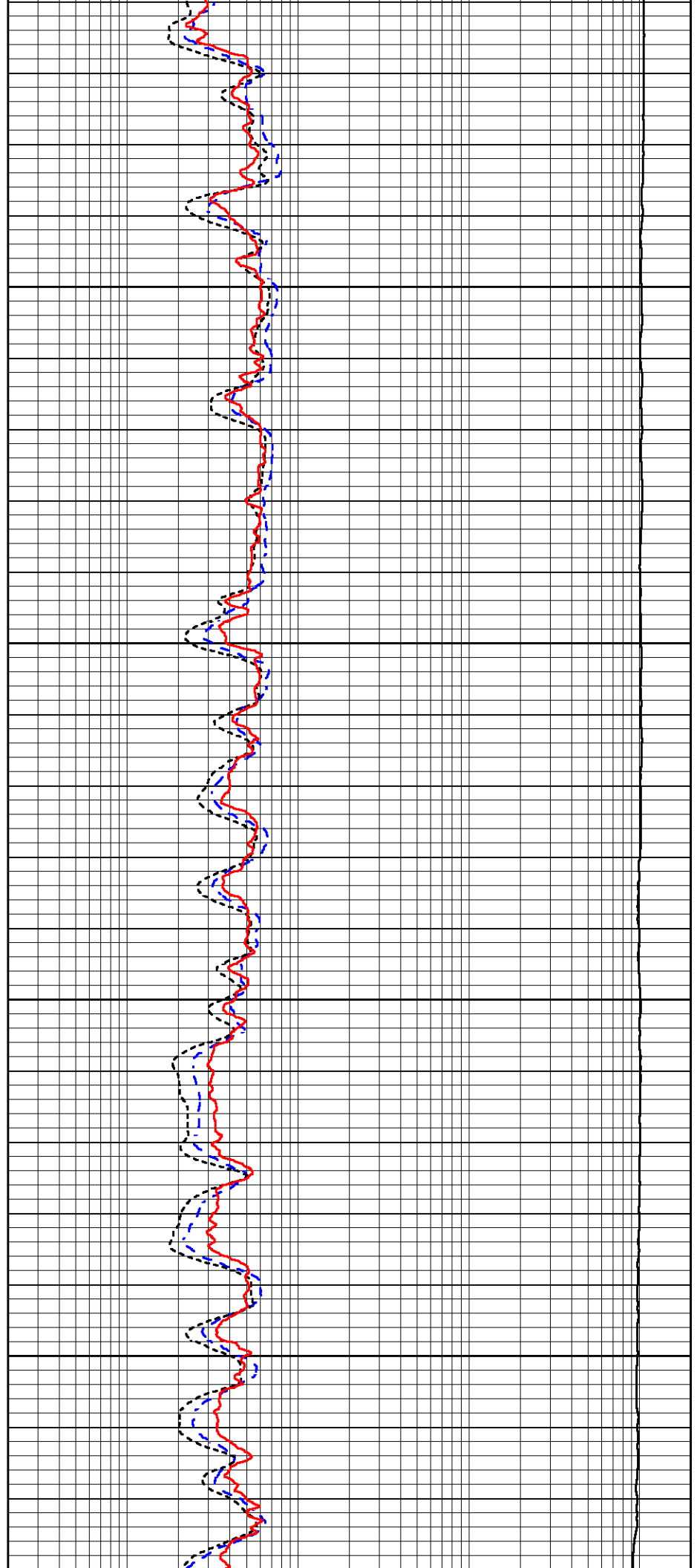


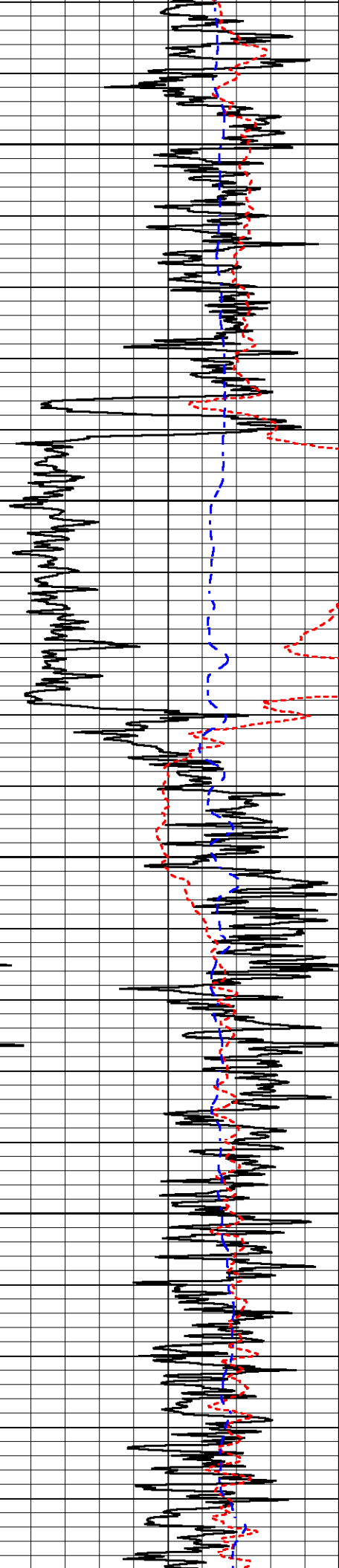
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1200

1250

1300





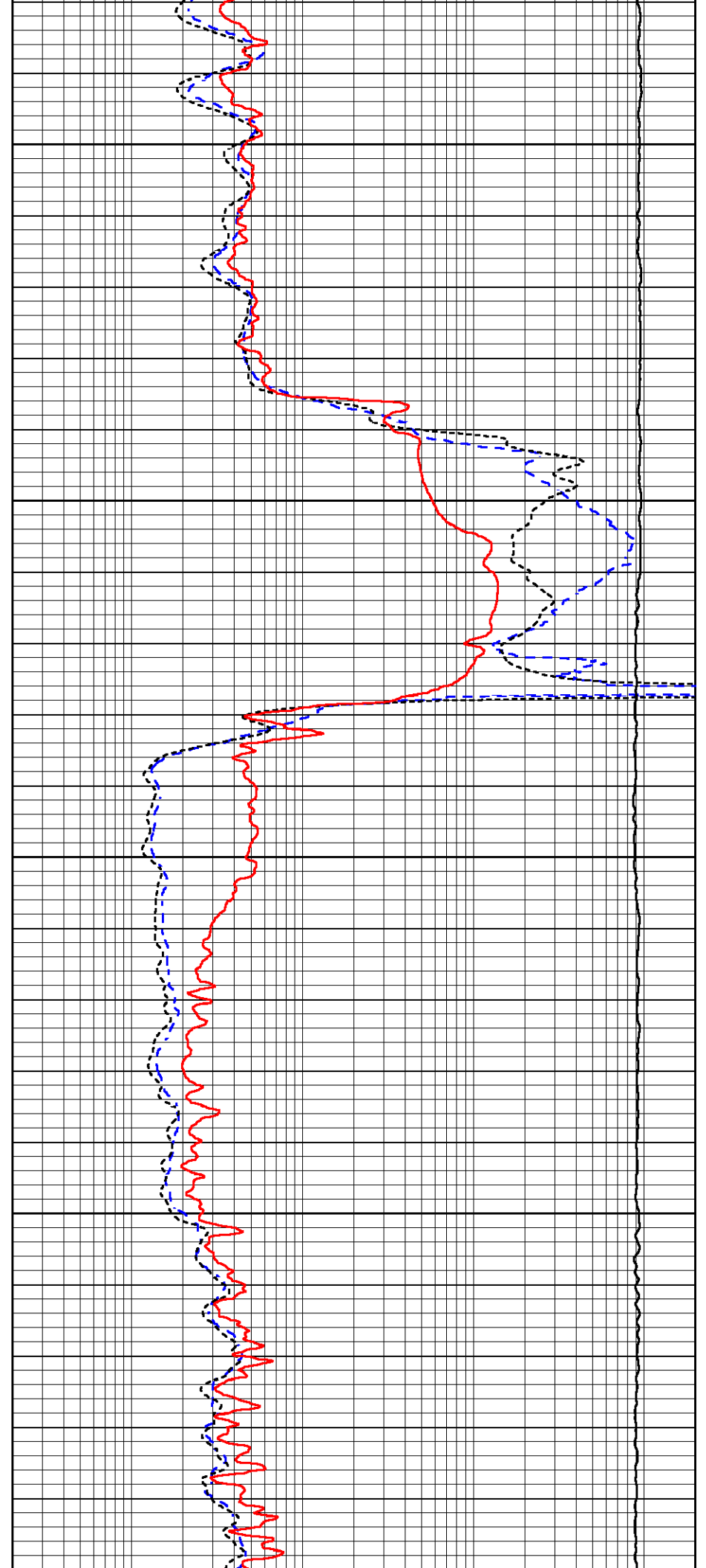
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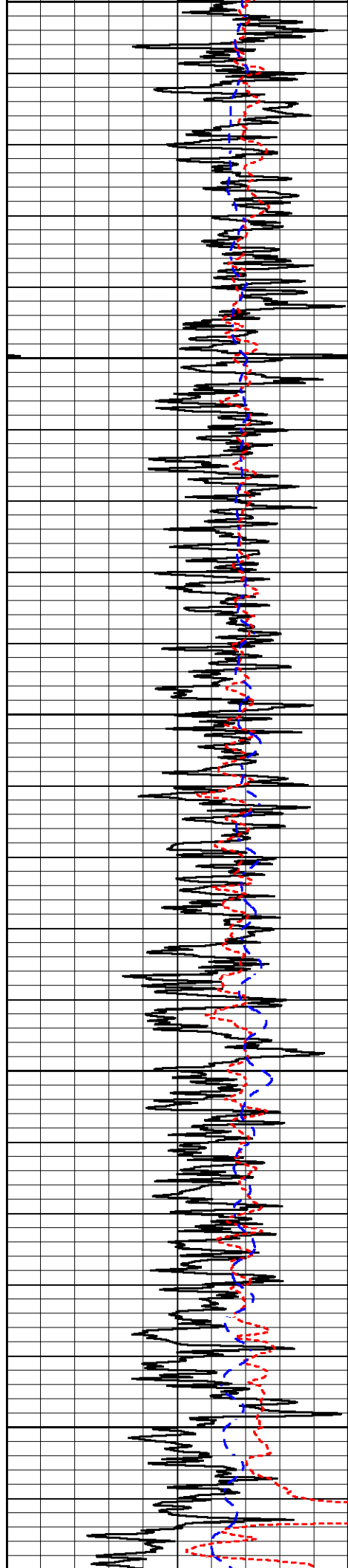
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1500

1550





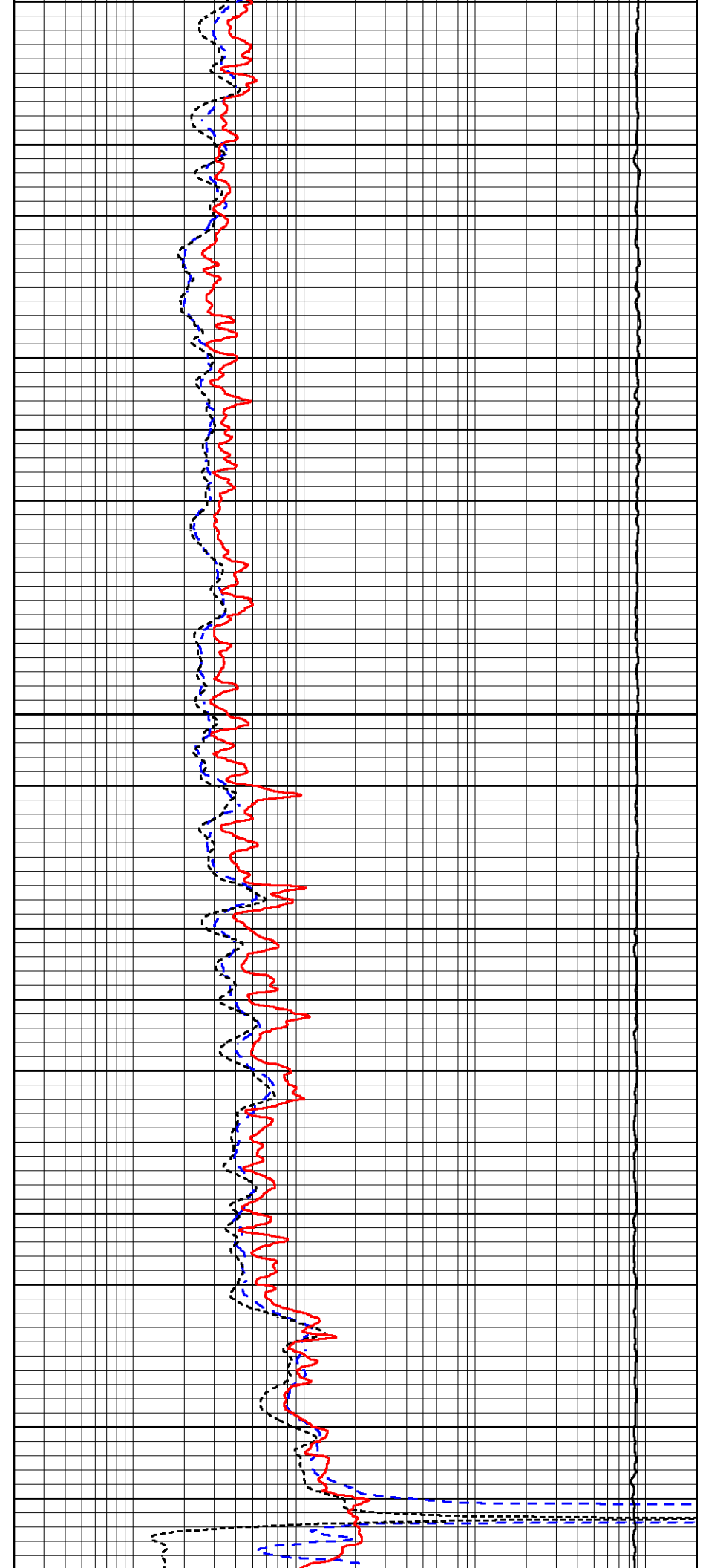
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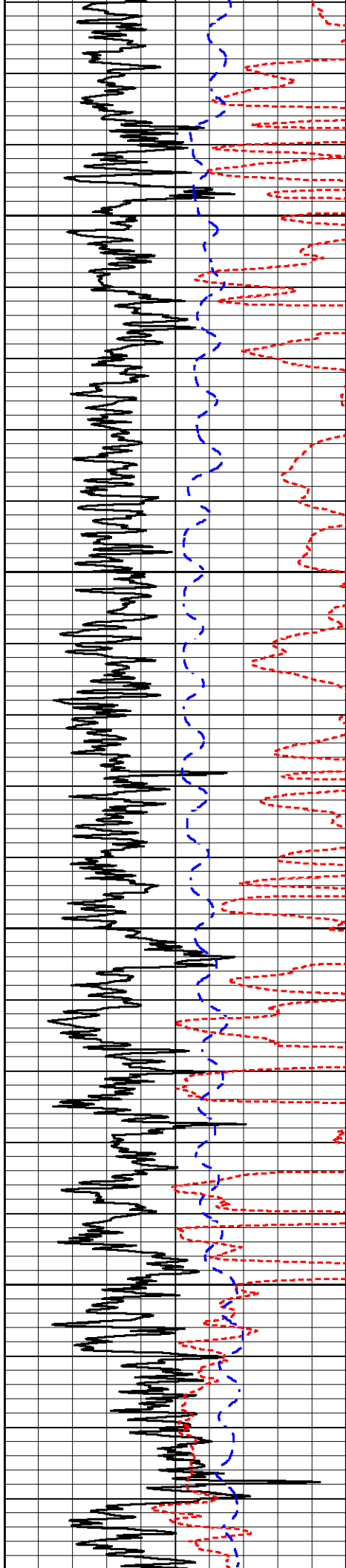
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1750



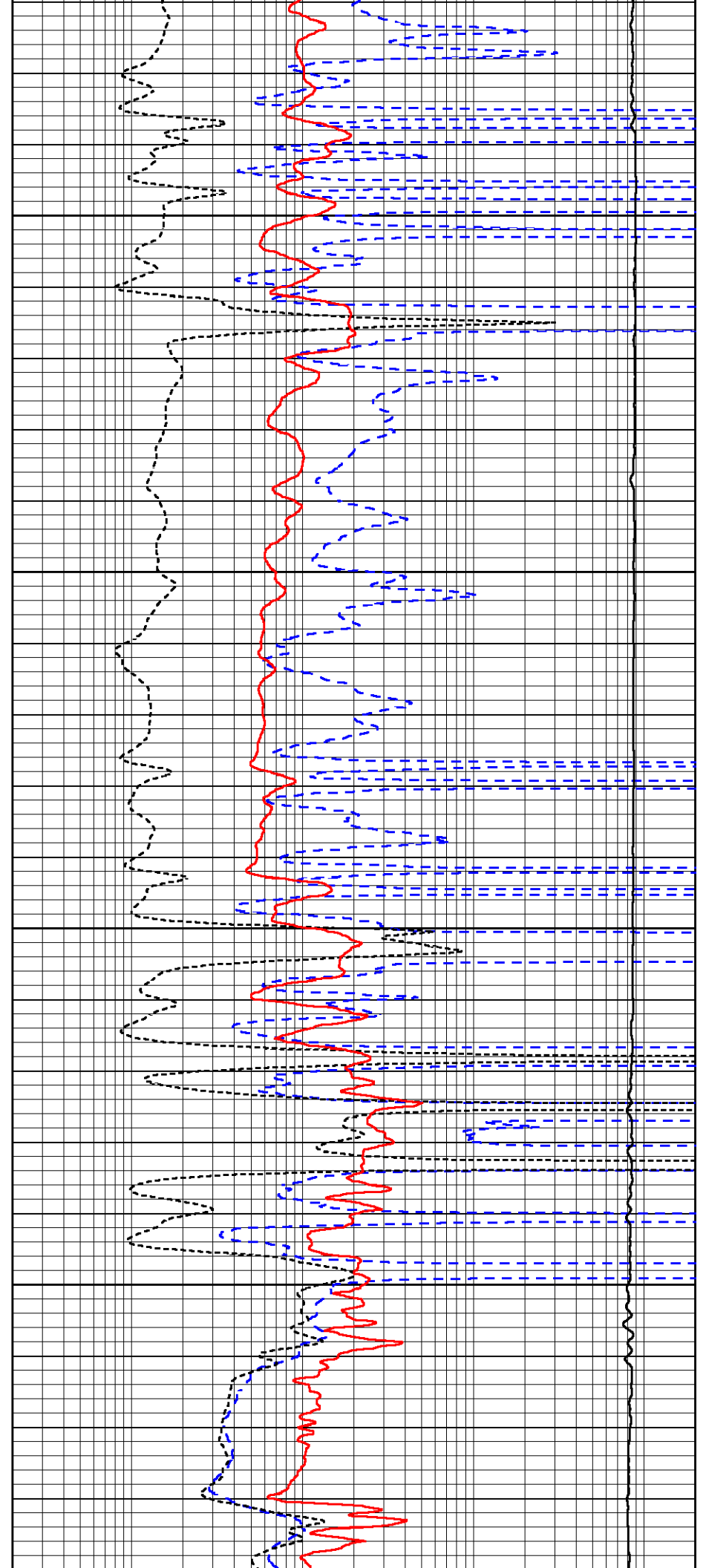


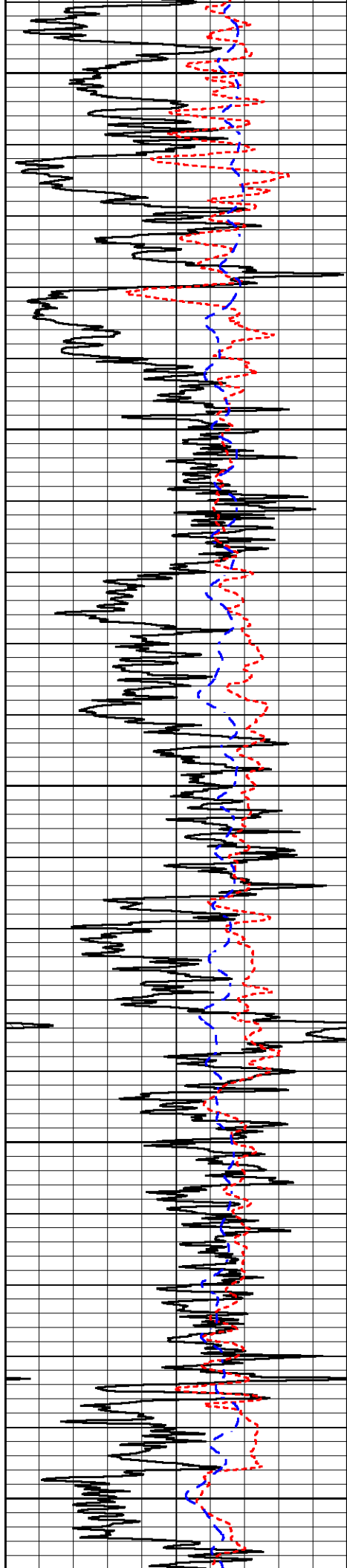
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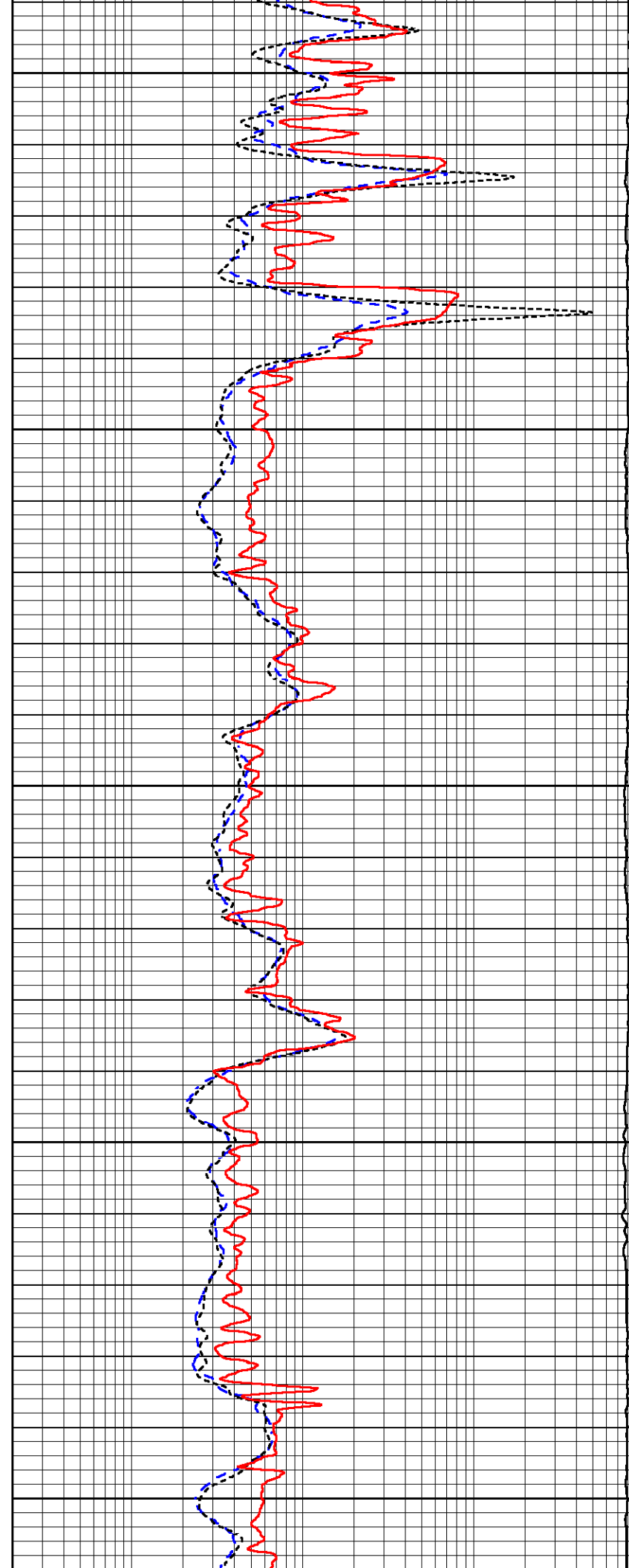
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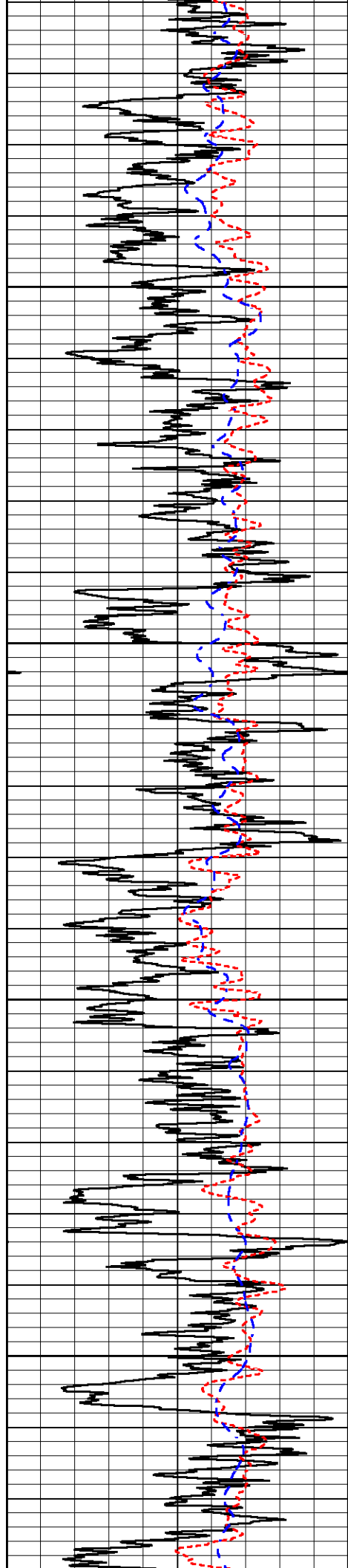
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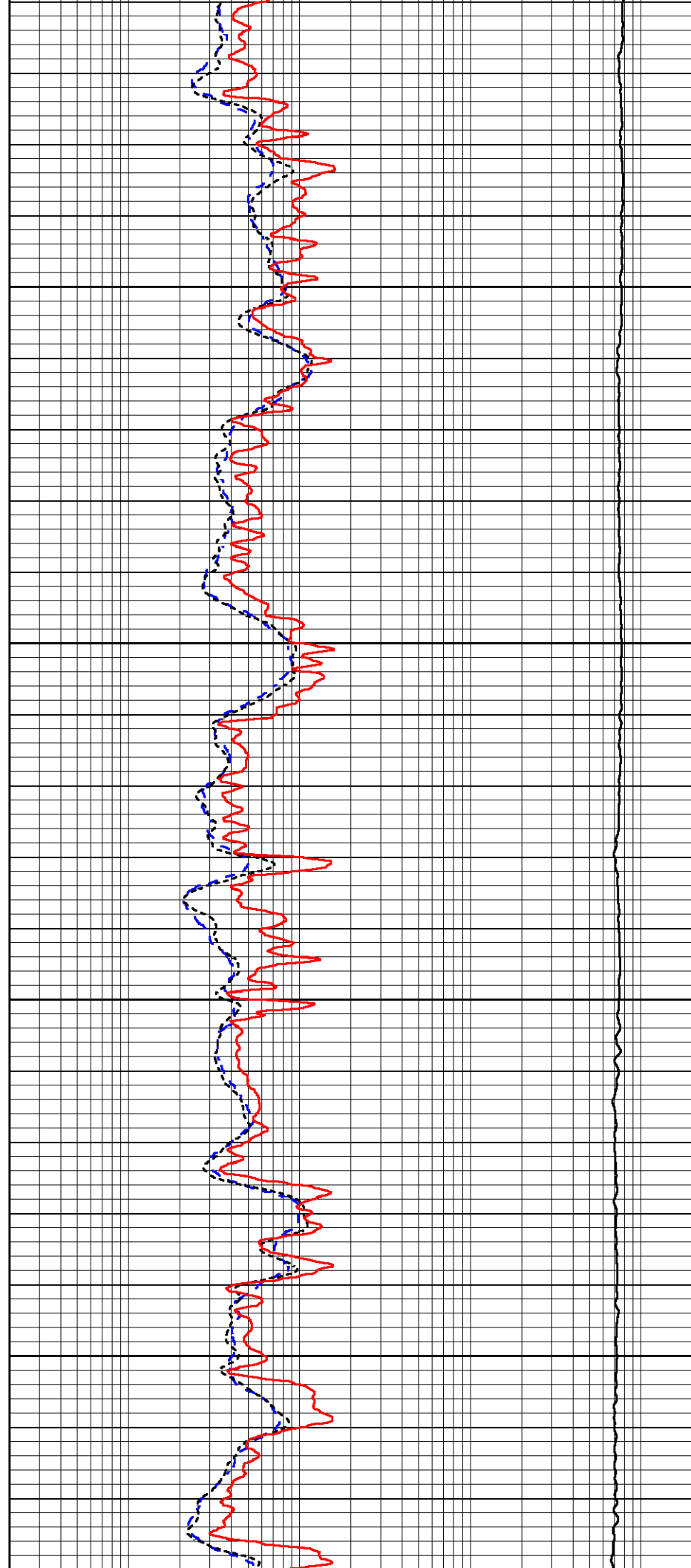


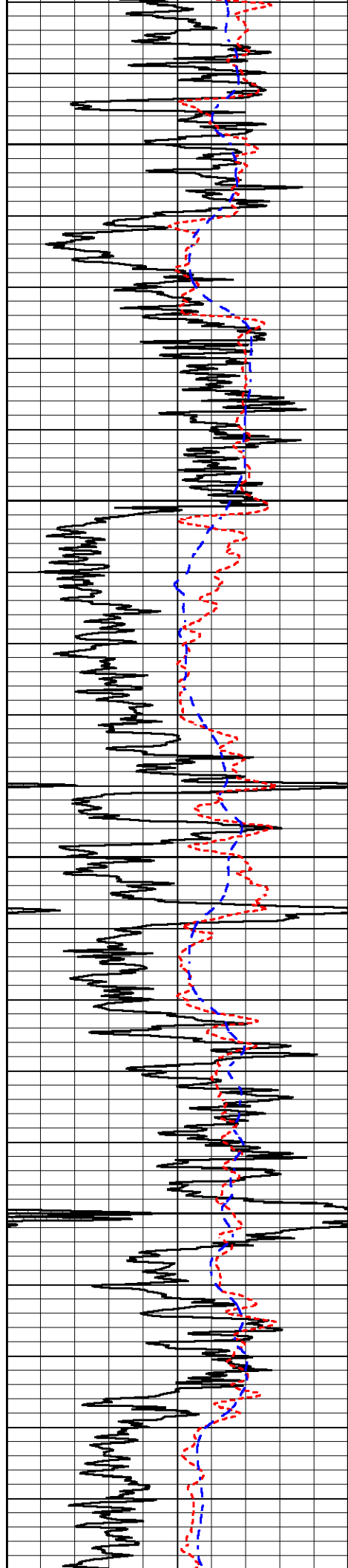
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2400





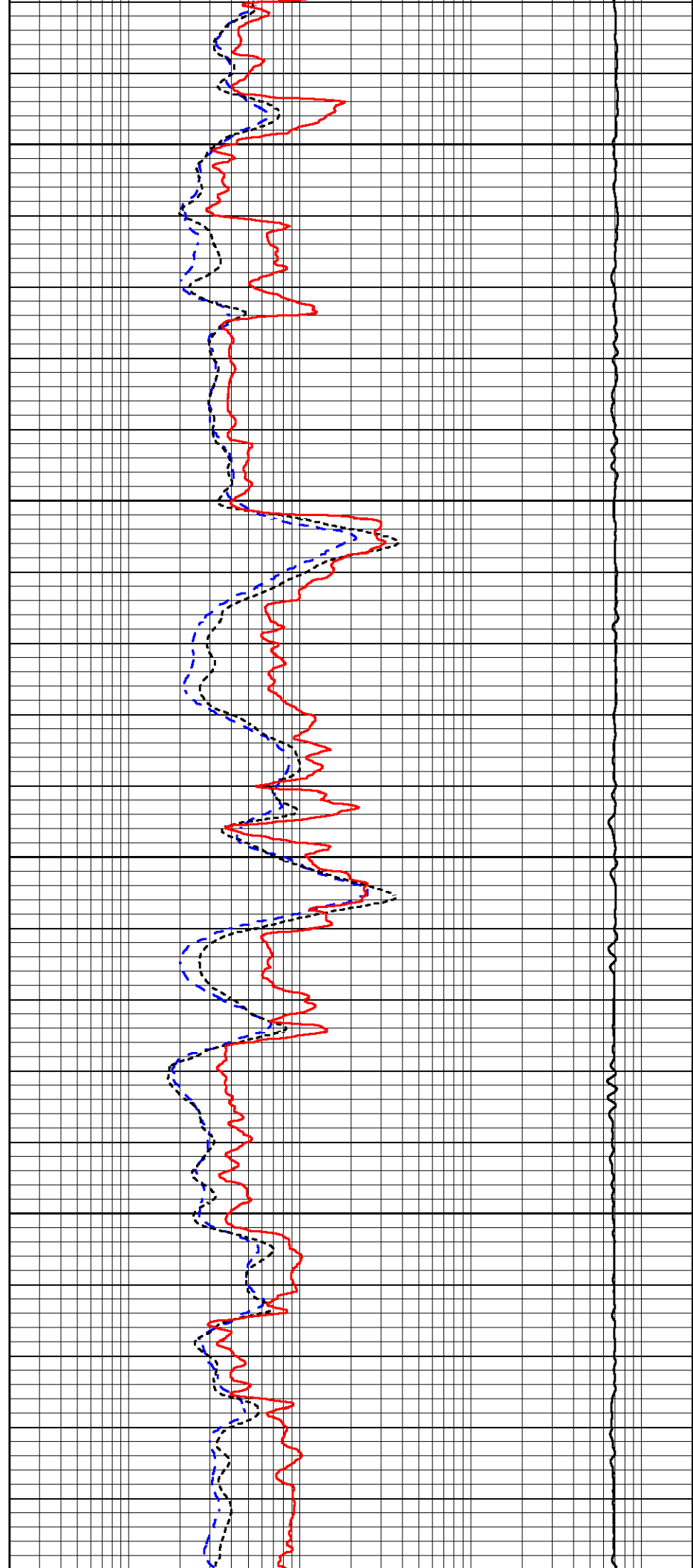
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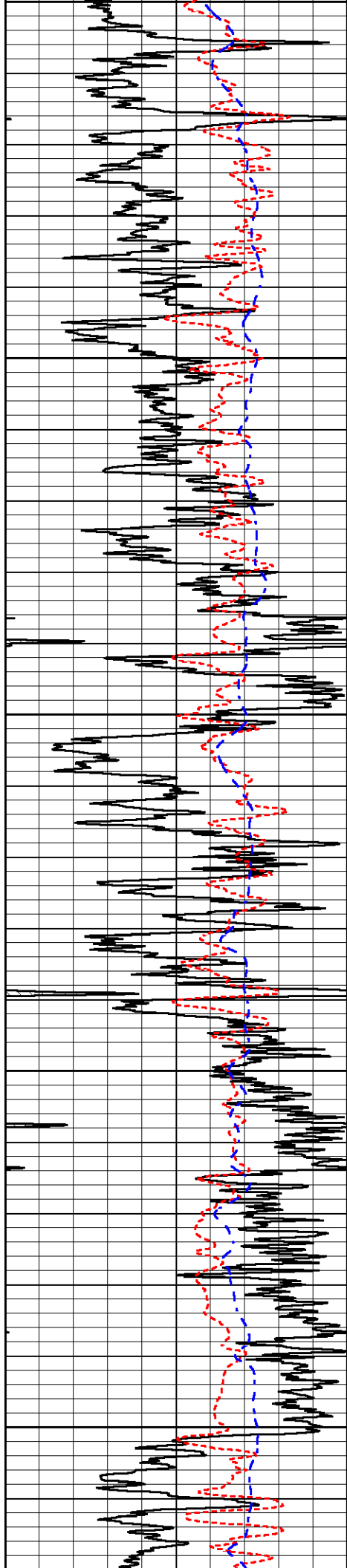
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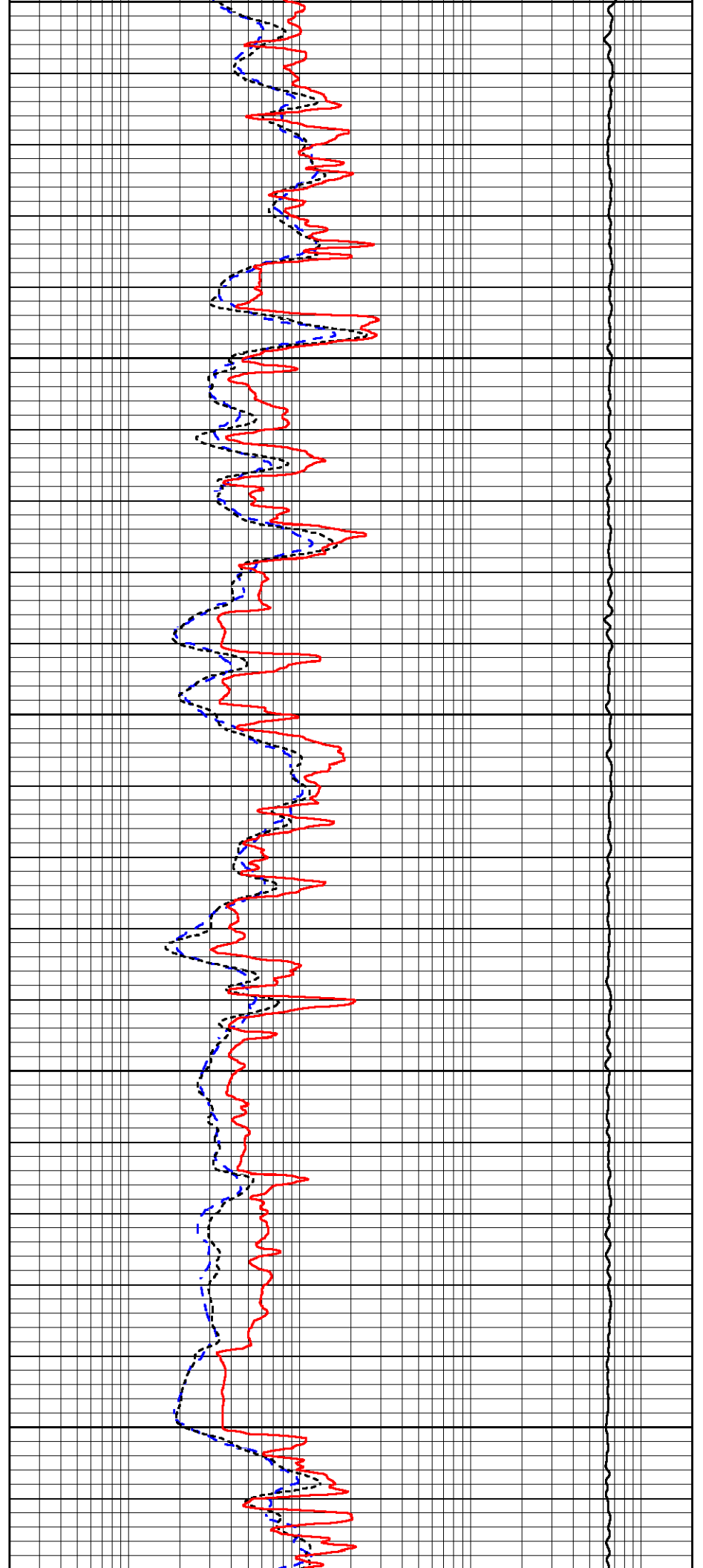
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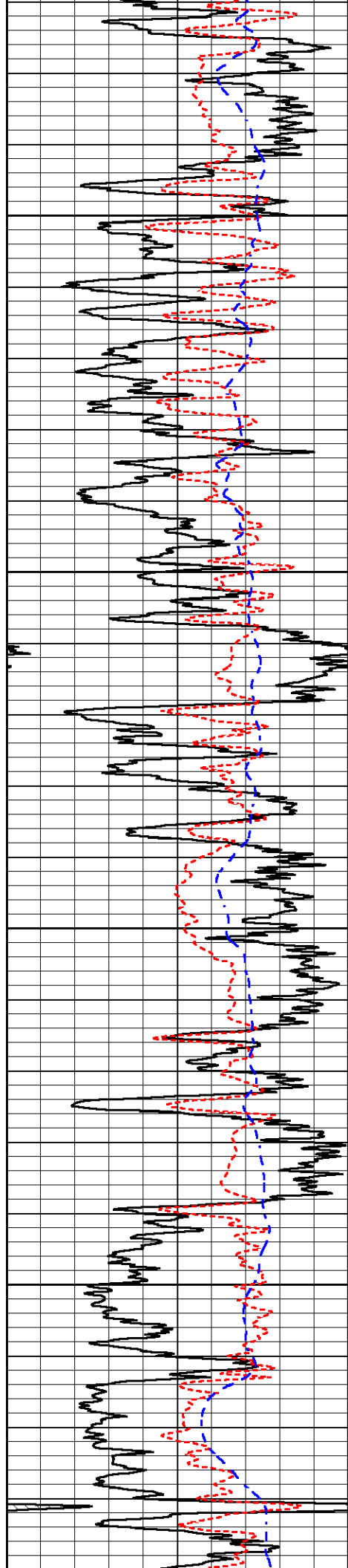
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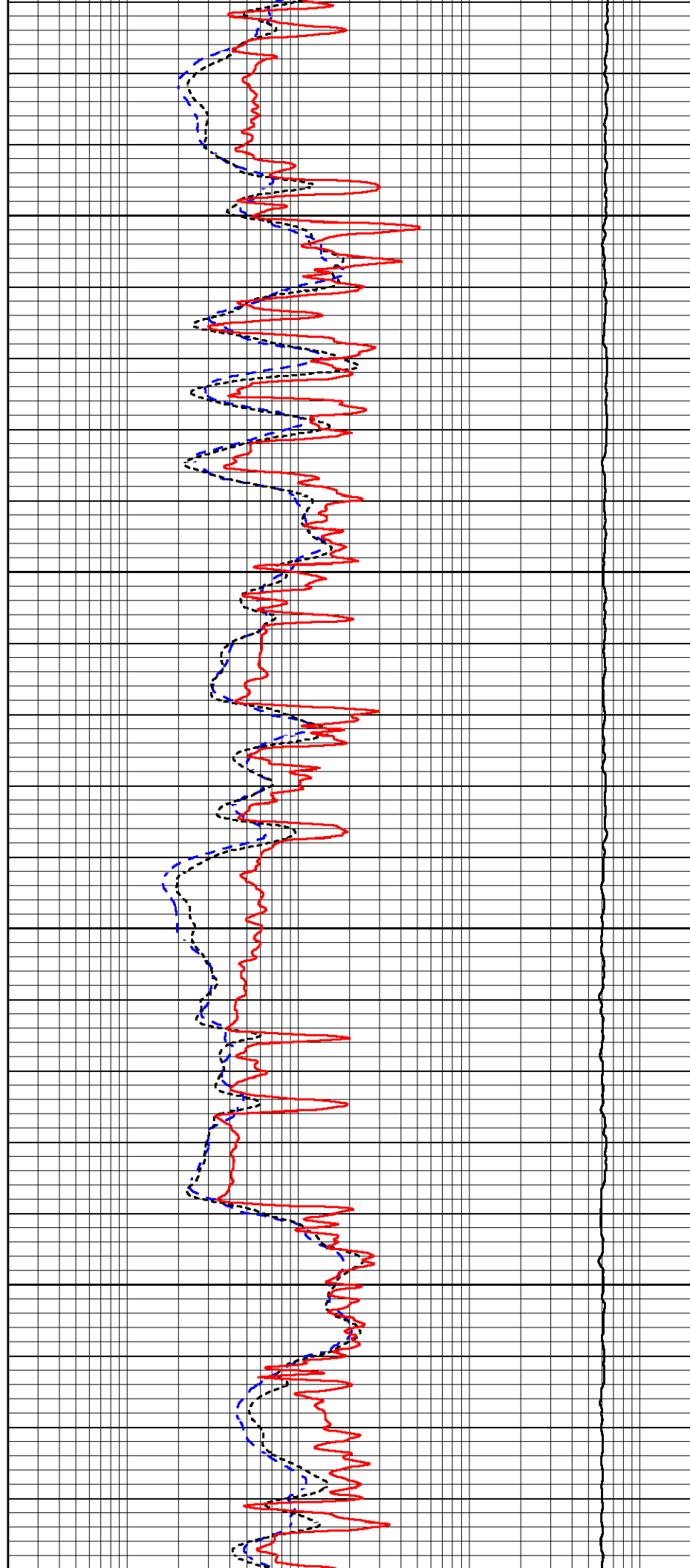


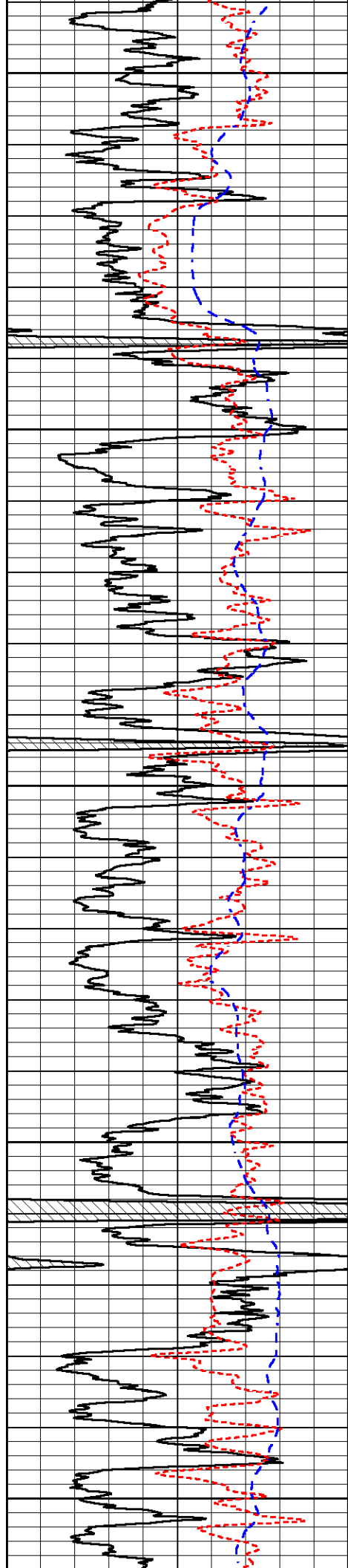
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3050





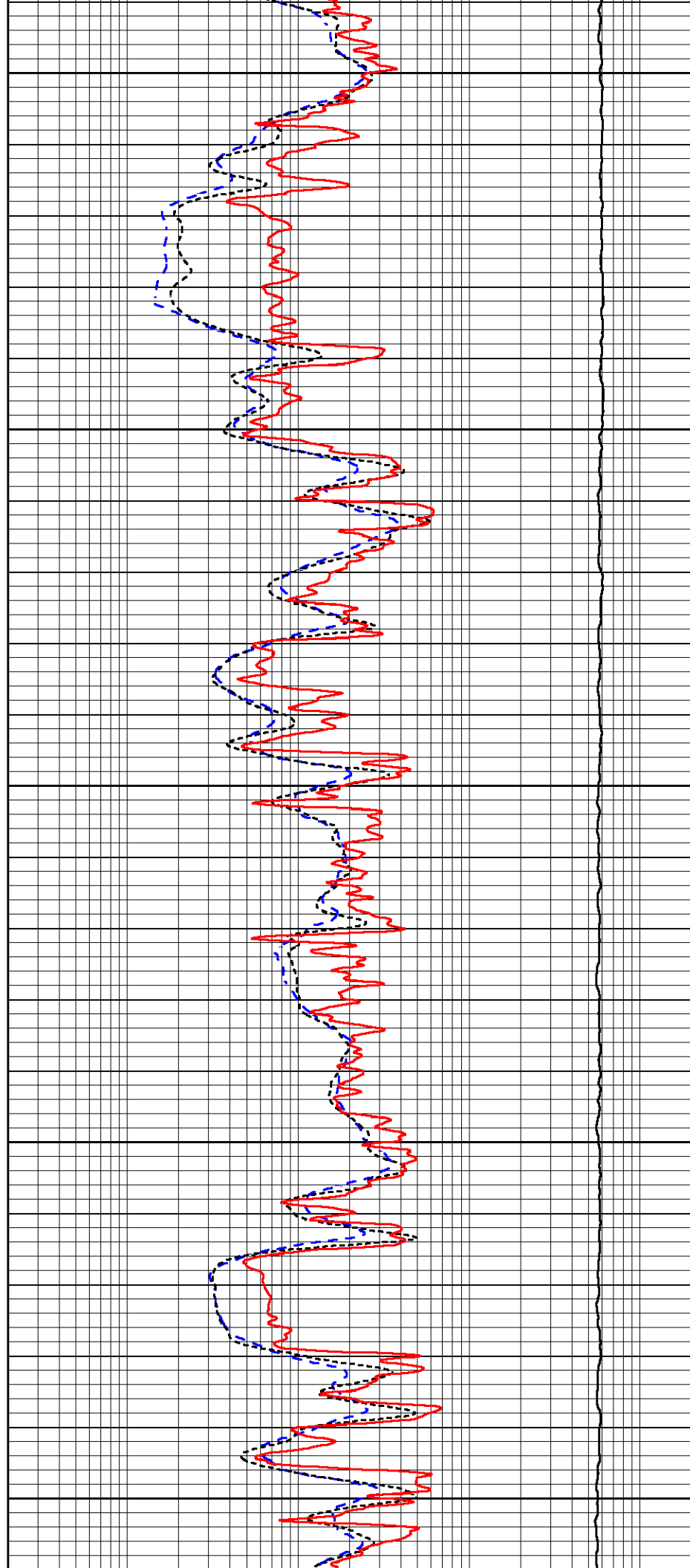
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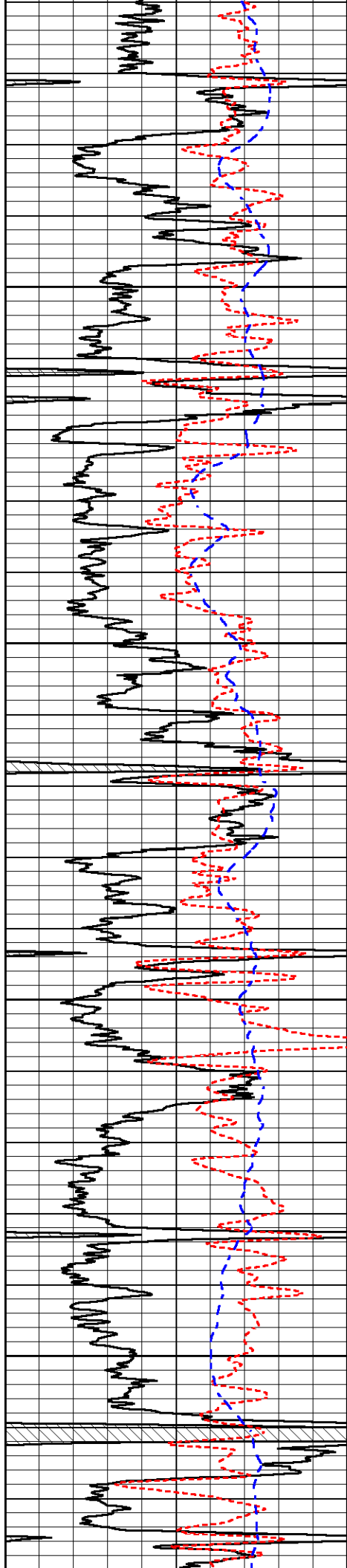
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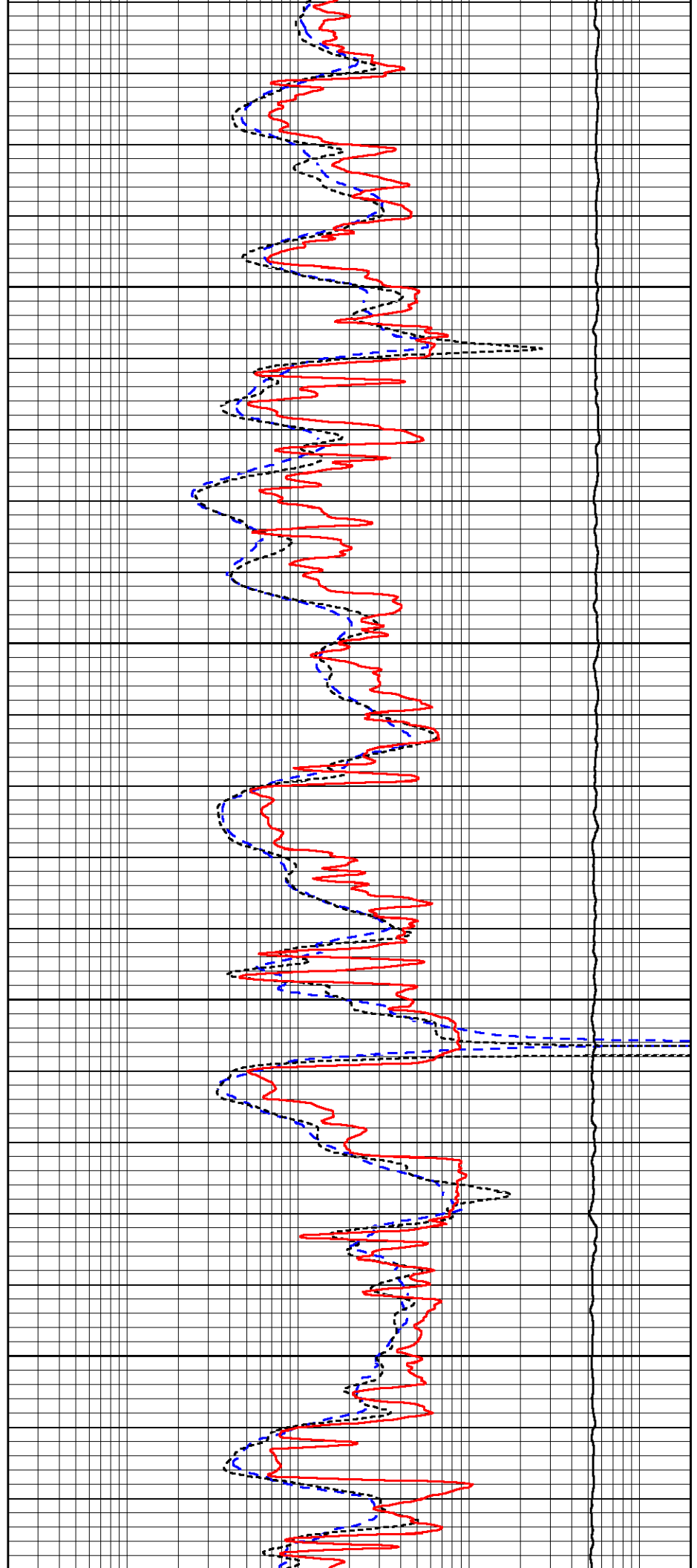


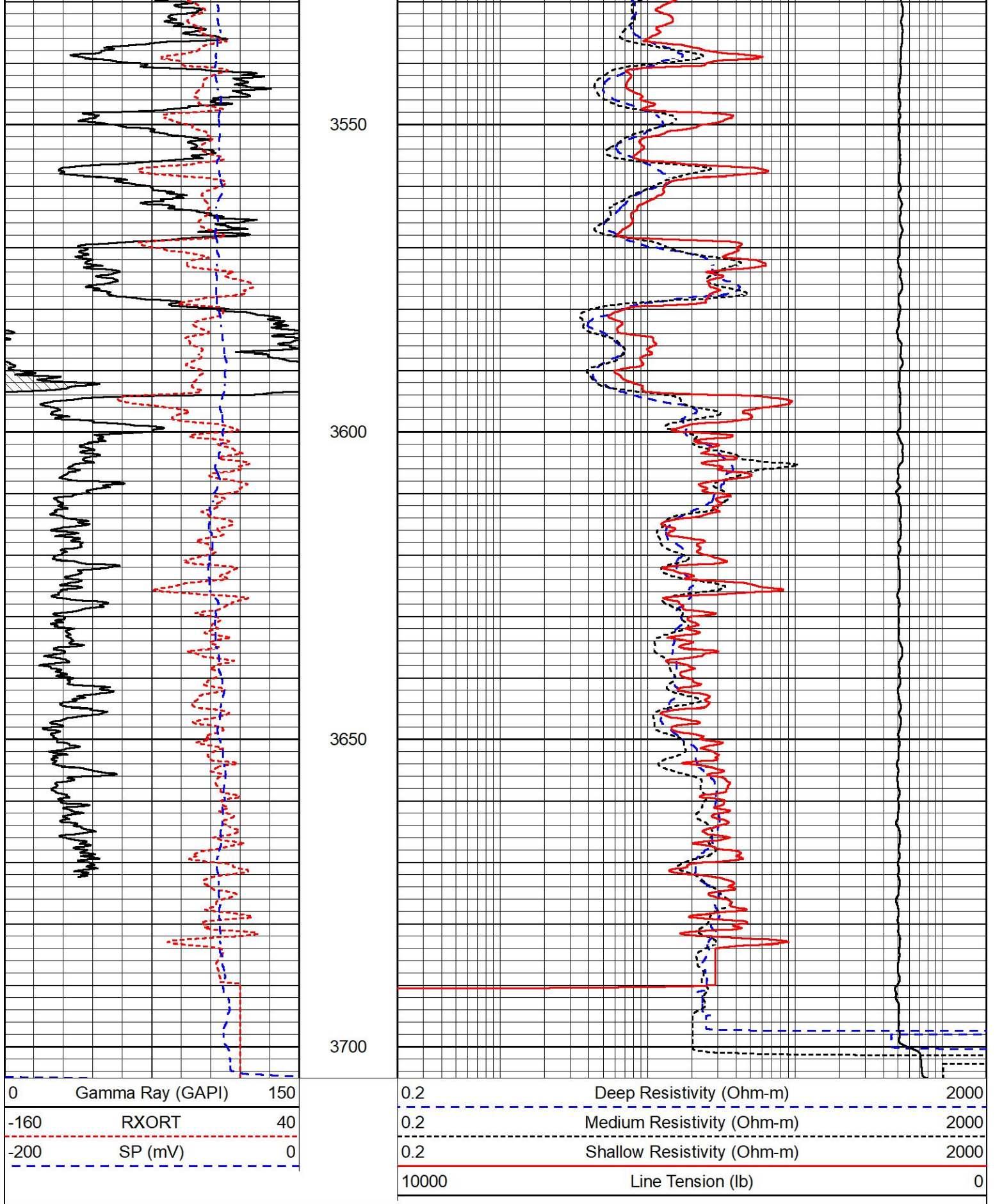
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3500





REPEAT SECTION

REPEAT PASS

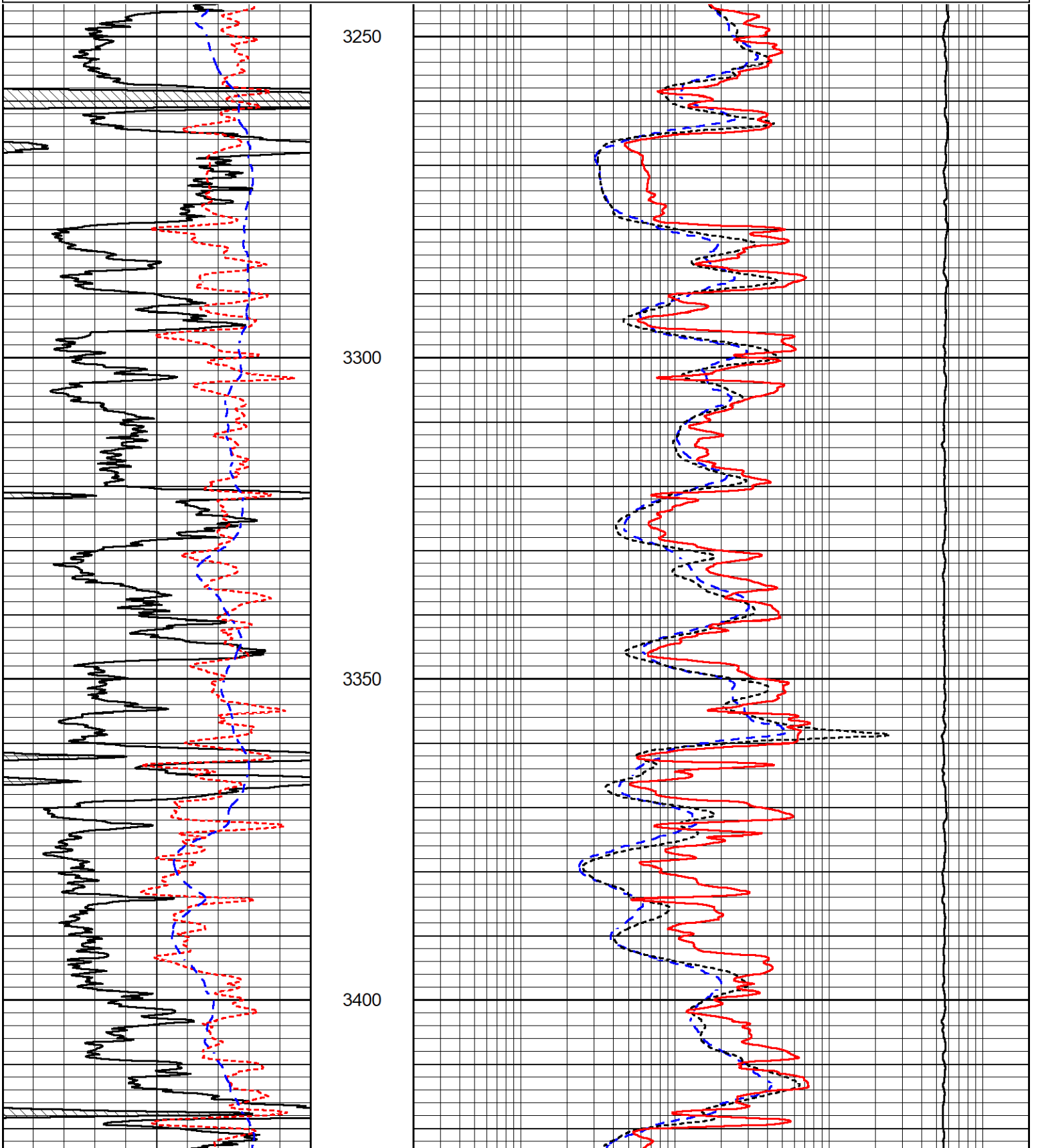


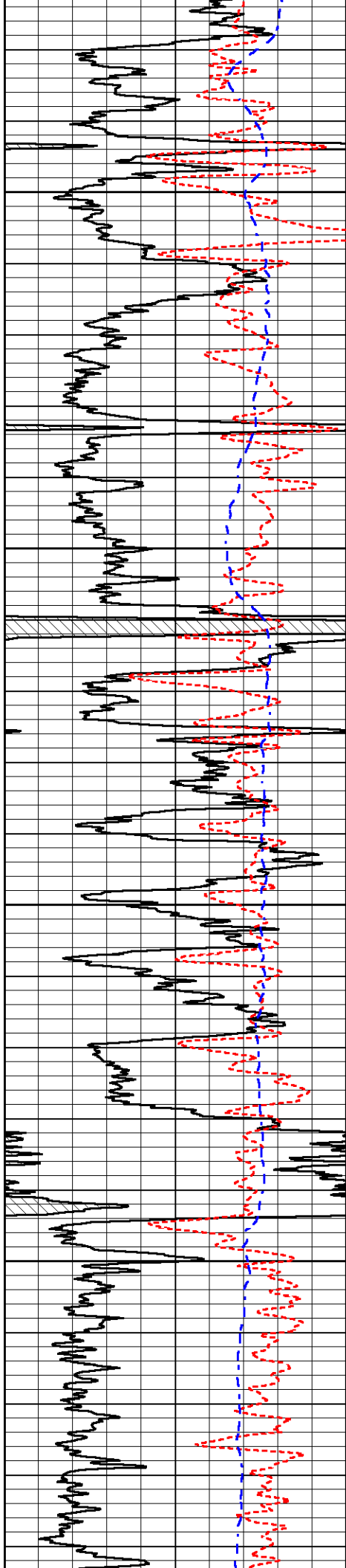
MIDWEST WIRELINE

Database File murfin_rusco-davis #7-36.db
 Dataset Pathname Stack/pass2.1
 Presentation Format _dil
 Dataset Creation Sun Jan 30 23:20:44 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	Shallow Resistivity (Ohm-m)	2000
10000	Line Tension (lb)	0



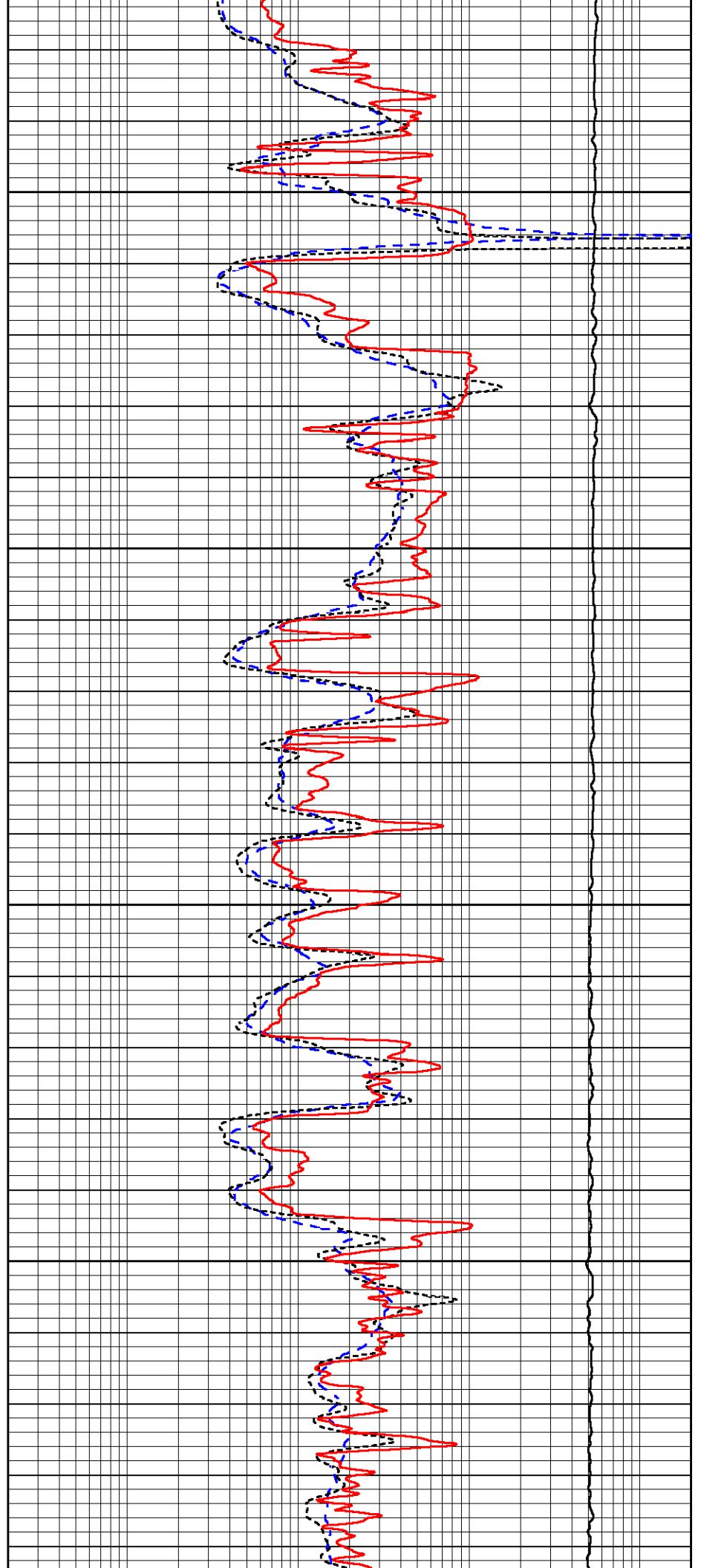


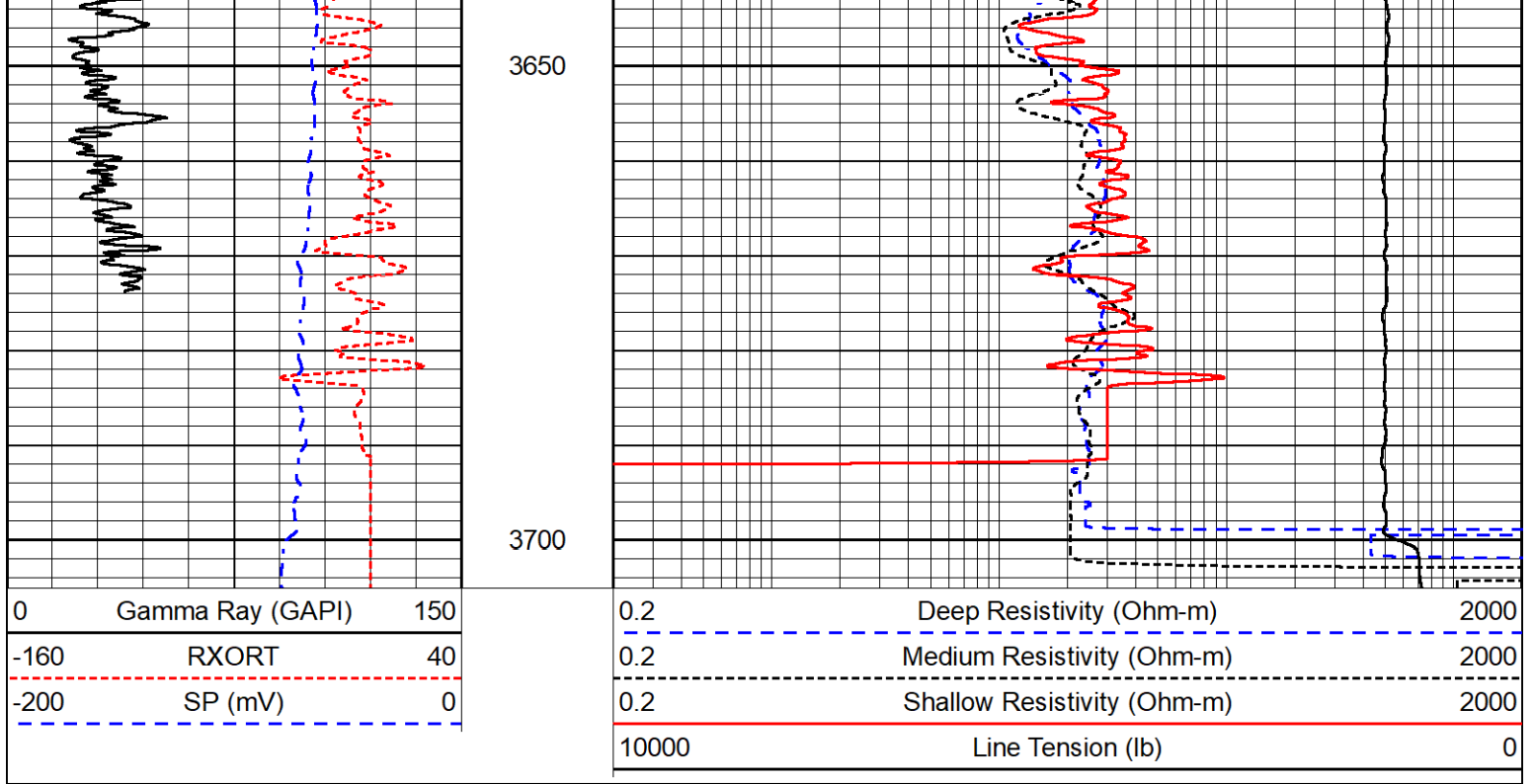
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3500

3550

3600





Calibration Report

Database File murfin_rusco-davis #7-36.db
 Dataset Pathname Stack/pass3.1
 Dataset Creation Sun Jan 30 23:57:16 2022

Dual Induction Calibration Report

Serial-Model: 501 HT-M&W
 Surface Cal Performed: Mon Jan 24 19:13:55 2022

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop	mmho/m	m	b
Deep	83.639	487.104	0.000	183.000	mmho/m	0.420	-31.500
Medium	113.335	1585.690	0.000	442.000	mmho/m	0.300	-27.000

Compensated Density Calibration Report

Serial-Model: 305-05-M&W
 Source #: 20762B
 Master Calibration Performed: Mon Jan 24 19:14:33 2022

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	8758.11	9709.36	cps
Aluminum	2.630	g/cc	1513.14	5652.54	cps
Spine Angle = 72.88			Density/Spine Ratio = 0.476		
	Size		Reading		
Small Ring	4.00	in	1.75		
Large Ring	14.00	in	1.38		

Compensated Neutron Calibration Report

Serial-Model: 207-MW-M&W
Source #: 100046B
Master Calibration Performed: Mon Nov 29 15:06:24 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: 101
Tool Model: M&W
Performed: Mon Jan 24 19:14:46 2022

Calibrator Value: 500.0 GAPI

Background Reading: 24.0 cps
Calibrator Reading: 637.0 cps

Sensitivity: 0.5500 GAPI/cps



Company Murfin Drilling Company, Inc.
Well Rusco-Davis #7-36
Field Star West
County Ellis
State Kansas