



MIDWEST WIRELINE

DUAL INDUCTION LOG

Company Murfin Drilling Company, Inc.

Well Kaus #1-21

Field

County Cheyenne State Kansas

Location: API #: 15-023-21576-00-00

SEC 21 TWP 3S RGE 37W

Permanent Datum Ground Level Elevation 3423

Log Measured From Kelly Bushing

Drilling Measured From Kelly Bushing

Other Services

CNL/CDL
MEL/BHCS

Elevation
K.B. 3428
D.F.
G.L. 3423

Date	8/14/2022
Run Number	One
Depth Driller	5191
Depth Logger	5163
Bottom Logged Interval	5162
Top Log Interval	0
Casing Driller	8:625 @ 388
Casing Logger	387
Bit Size	7.875
Type Fluid in Hole	Chemical
Salinity, ppm CL	1000
Density / Viscosity	9.0 76
pH / Fluid Loss	11.5 7.2
Source of Sample	FLOWLINE
Rm @ Meas. Temp	0.80 @ 80
Rmt @ Meas. Temp	0.60 @ 80
Rmc @ Meas. Temp	1.08 @ 80
Source of Rmf / Rmc	CHARTS
Rm @ BHT	0.50 @ 128
Operating Rig Time	5 Hours
Max Rec. Temp. F	128
Equipment Number	P-108
Location	HAYS
Recorded By	D. Schmidt
Witnessed By	Curtis Covey

<<< 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.

Bird City,
East to Rd 32, 3/4 North,
West 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: D. Schmidt
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: Curtis Covey
Secondary Witness:
Secondary Witness:
Secondary Witness:

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 CNSSC	37.23 36.48		CNT-M&W (210)	5.00	3.50	100.00
LSD DCAL SSD	28.18 28.17 27.68		CDL-M&W (304-04)	8.50	4.00	250.00
MCAL MI MN	19.58 19.58 19.58		ML-PSI STKBL ML (401)	7.58	4.00	65.00
RLL3F RLL3	15.50 15.50					
CILD	8.33		DIL-M&W (505 HT)	18.25	3.50	220.00
CILM	4.50					
SP	0.20					

Dataset: murfin_kaus 1-21.db: field/well/stkml/pass4.16
 Total length: 42.33 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in

Log Variables

DatabaseC:\ProgramData\Warrior\Data\murfin_kaus 1-21.db
 Dataset field/well/stkml/pass4.17/_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	0	0	375	80	Off	5162

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

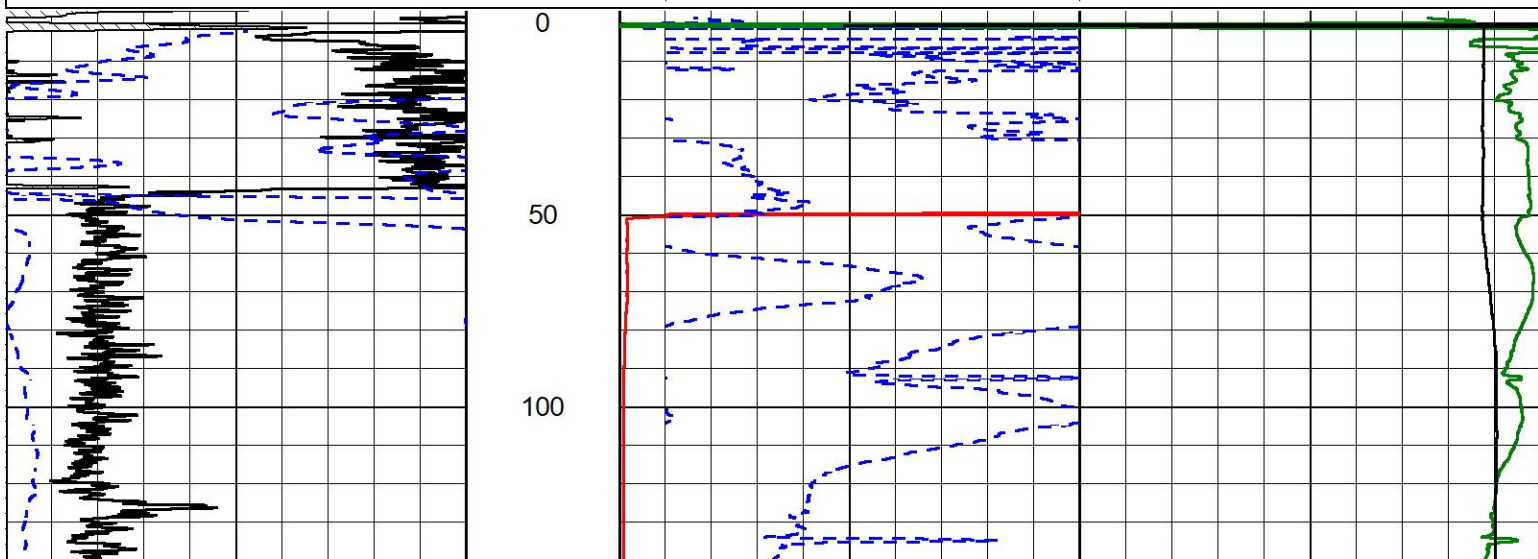


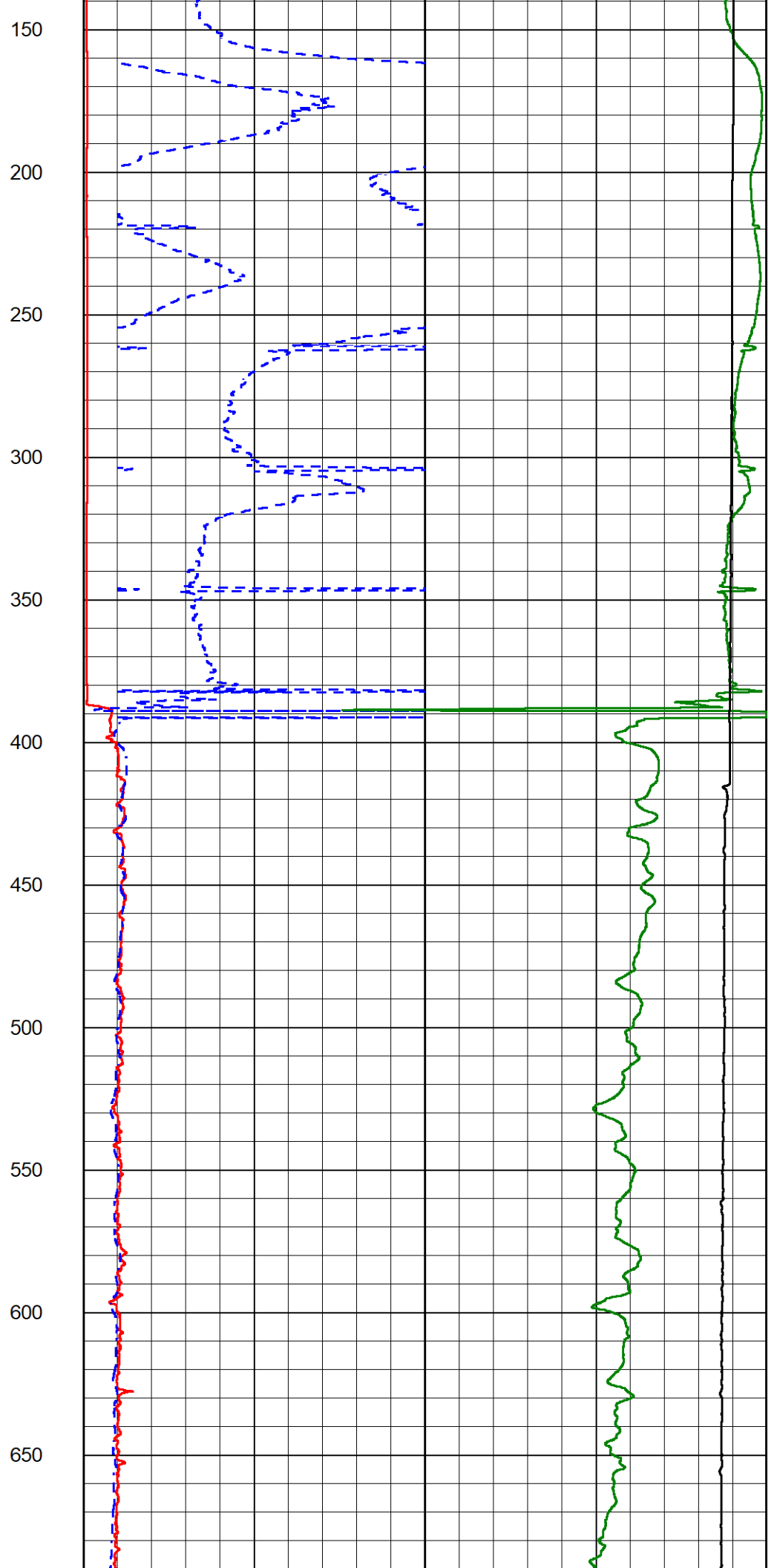
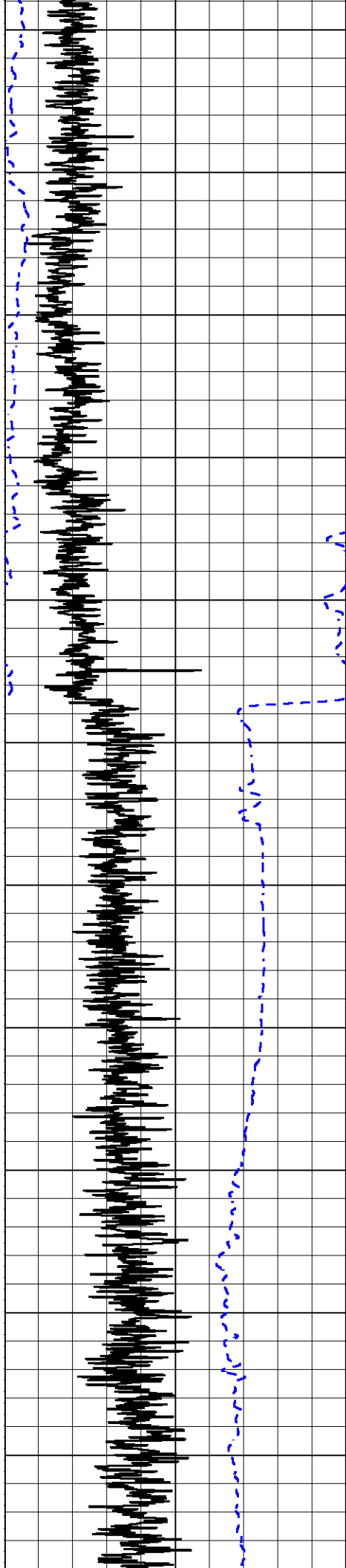
2" SCALE RESISTIVITY

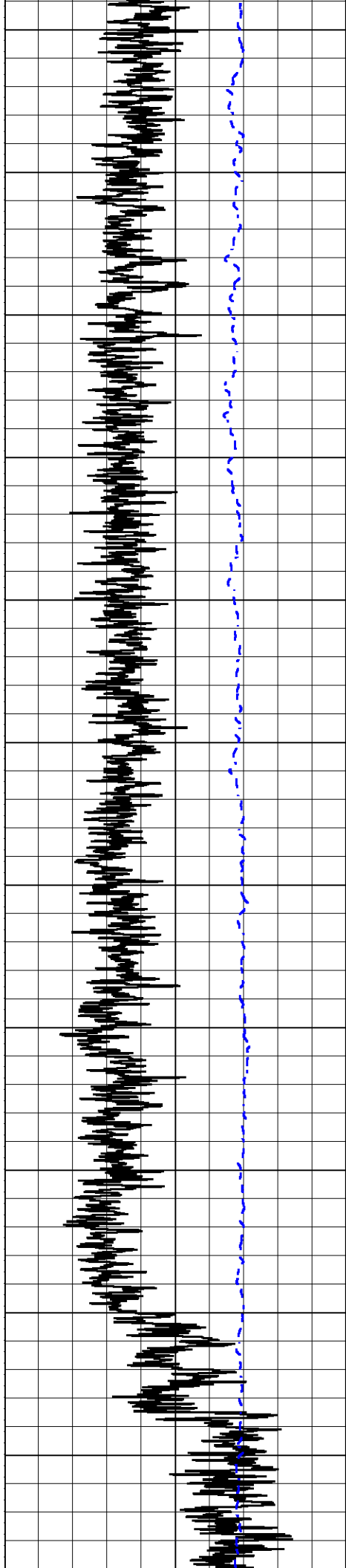
MAIN PASS

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 Presentation Format _dil2in
 Dataset Creation Sun Aug 14 22:35:38 2022
 Charted by Depth in Feet scaled 1:600

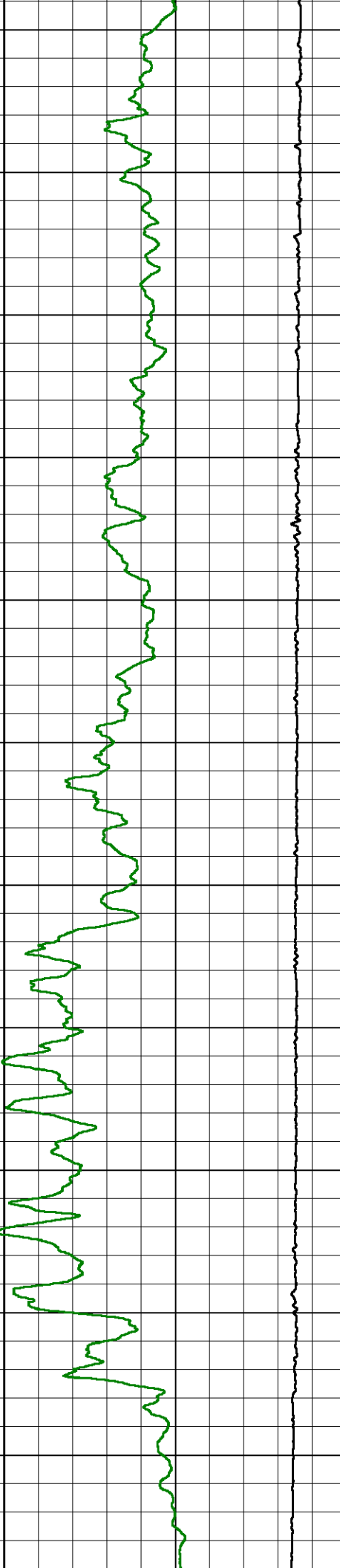
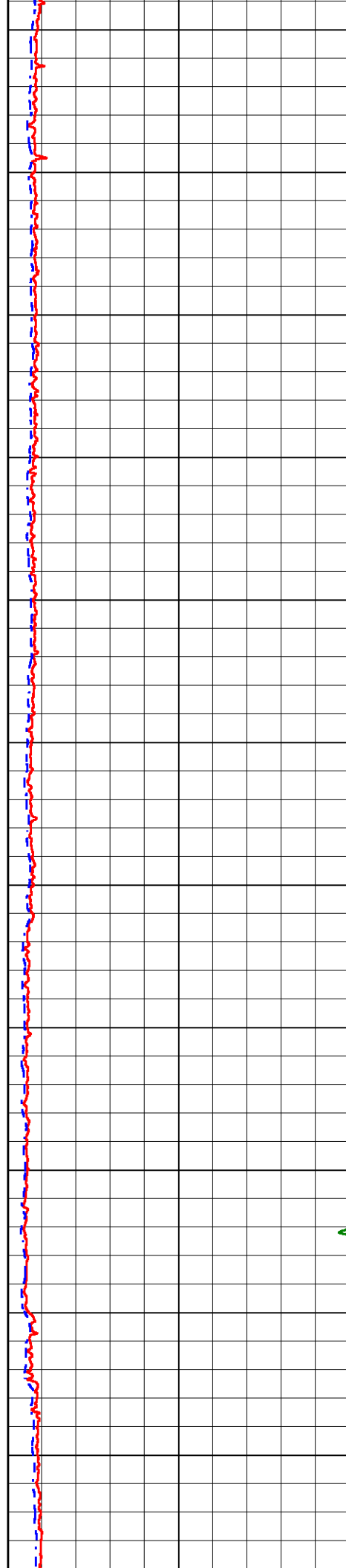
0	Gamma Ray (GAPI)	300	1000	Conductivity (mmho/m)	0
-200	SP (mV)	0	15000	Line Tension (lb)	0
			0	Shallow Resistivity (Ohm-m)	50
			0	Deep Resistivity (Ohm-m)	50
			Shallow Resistivity		
			50	(Ohm-m)	200
			50	Deep Resistivity (Ohm-m)	200

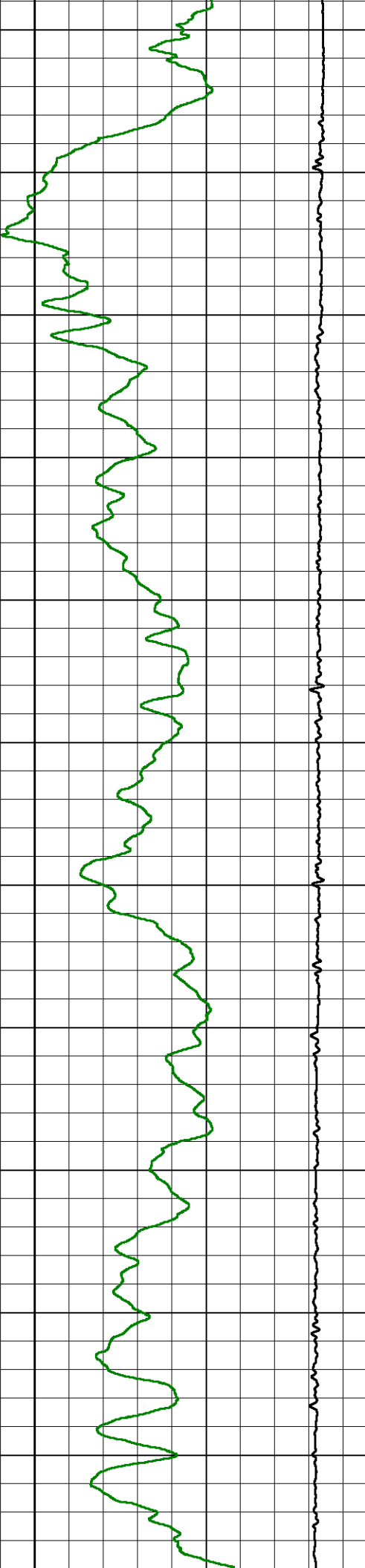
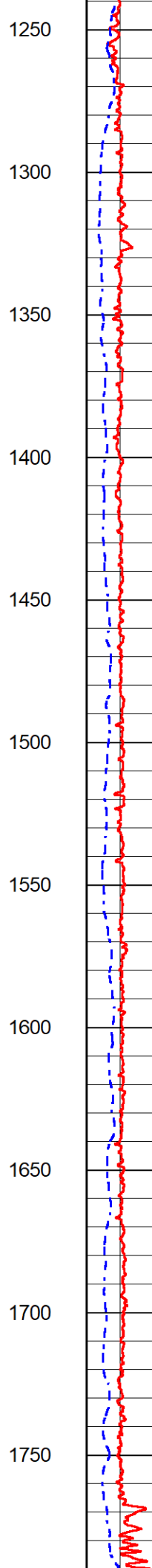
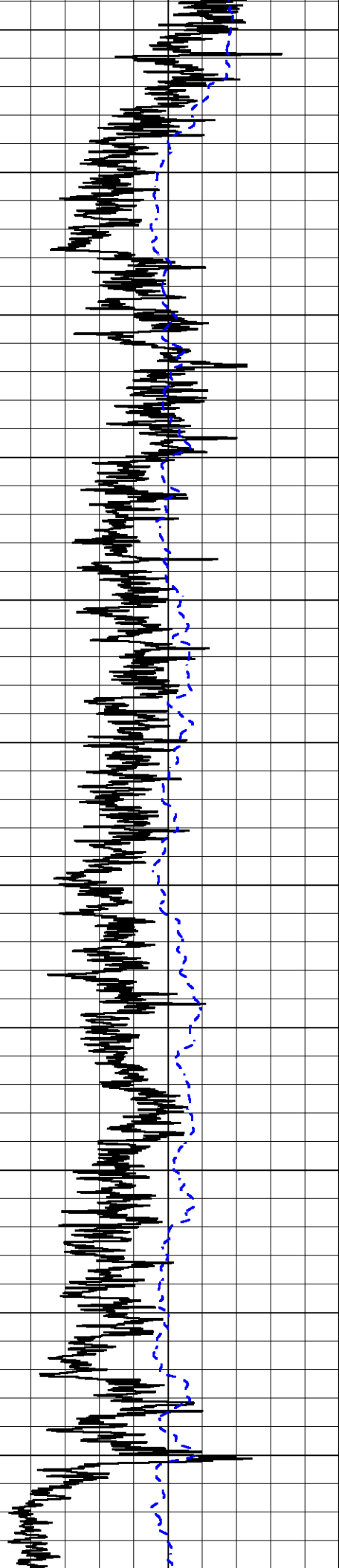


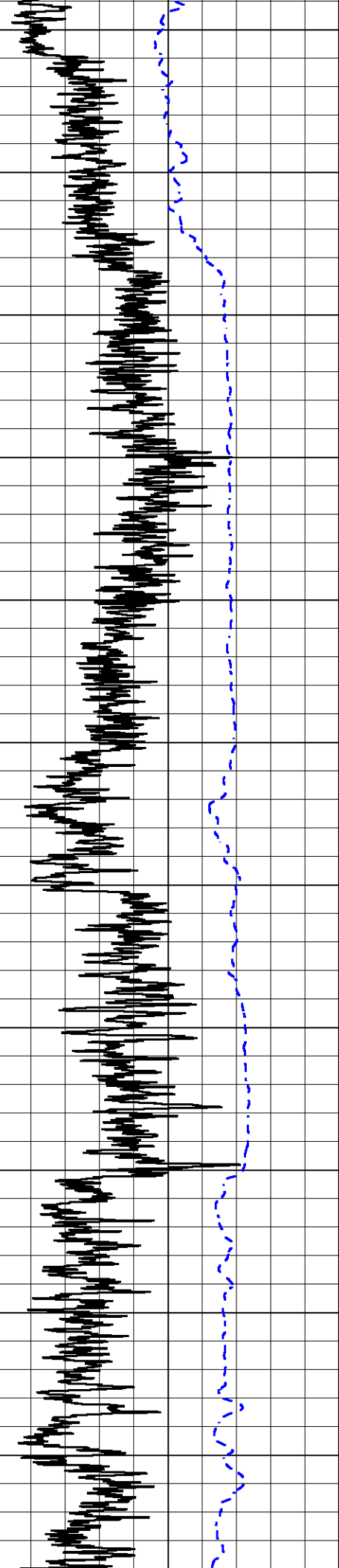




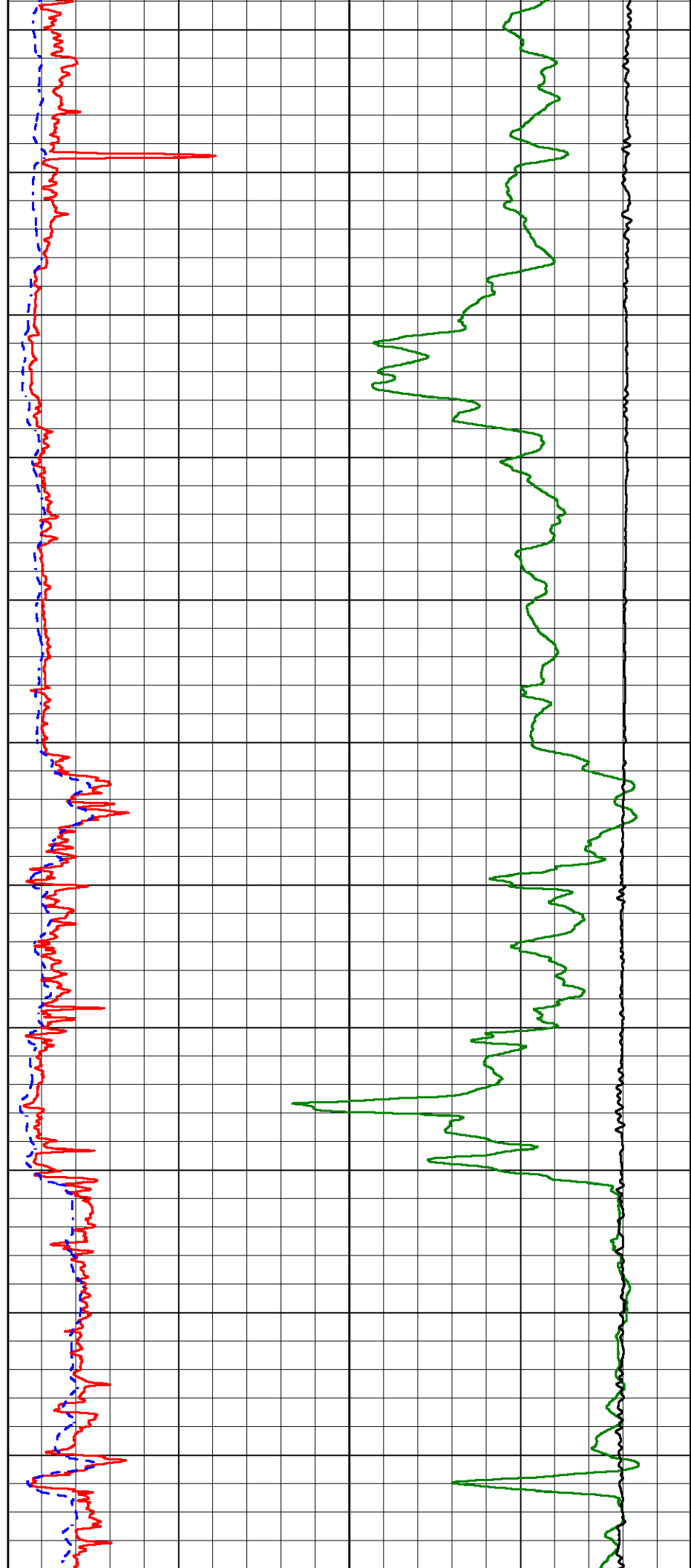
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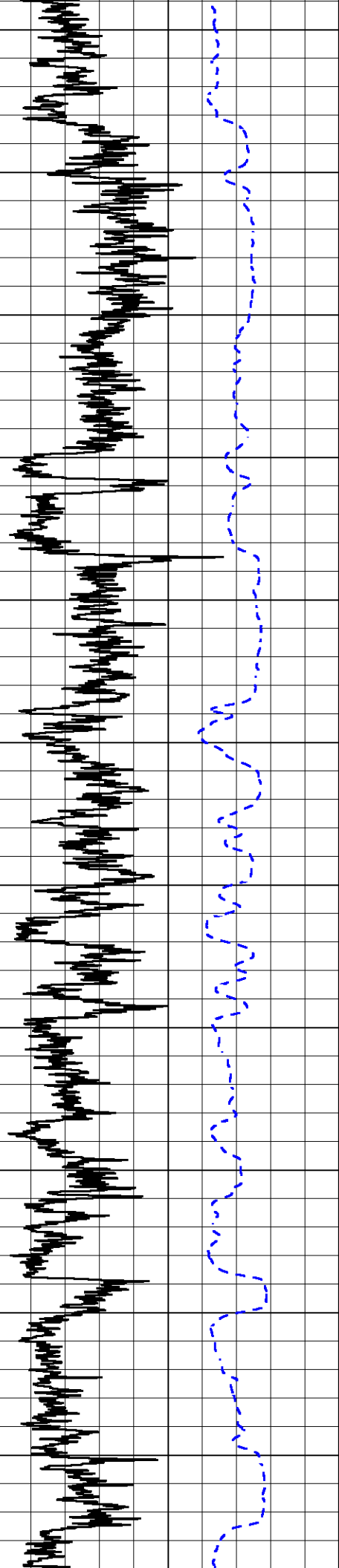






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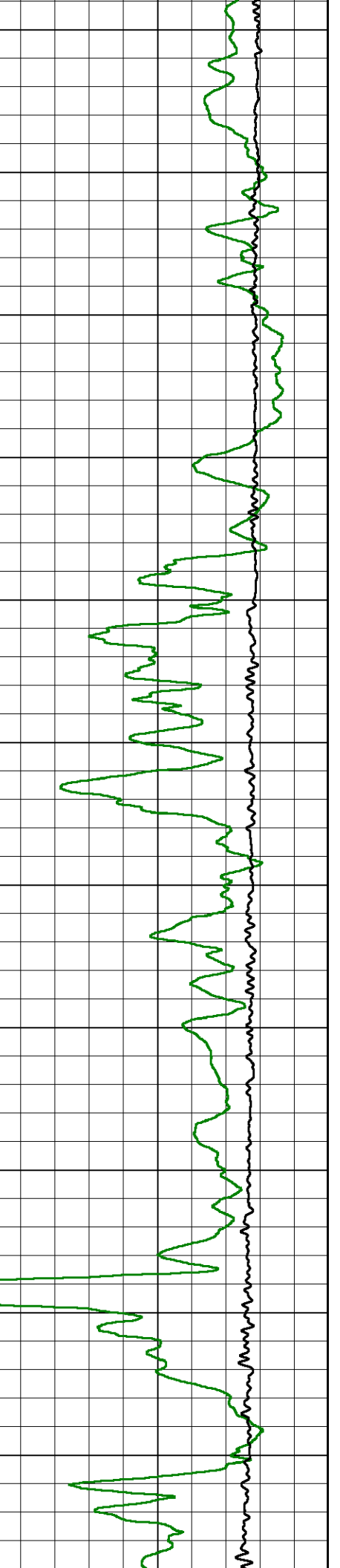
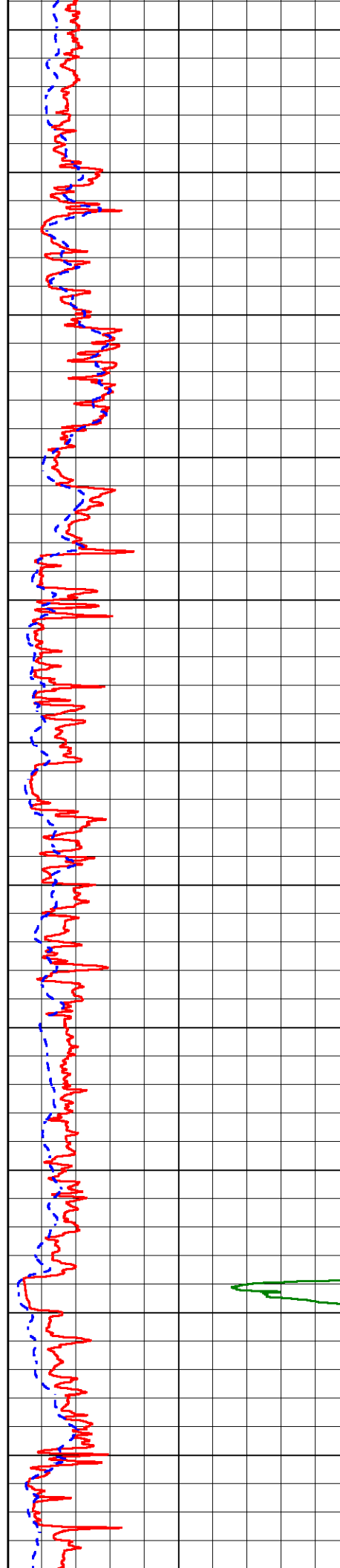
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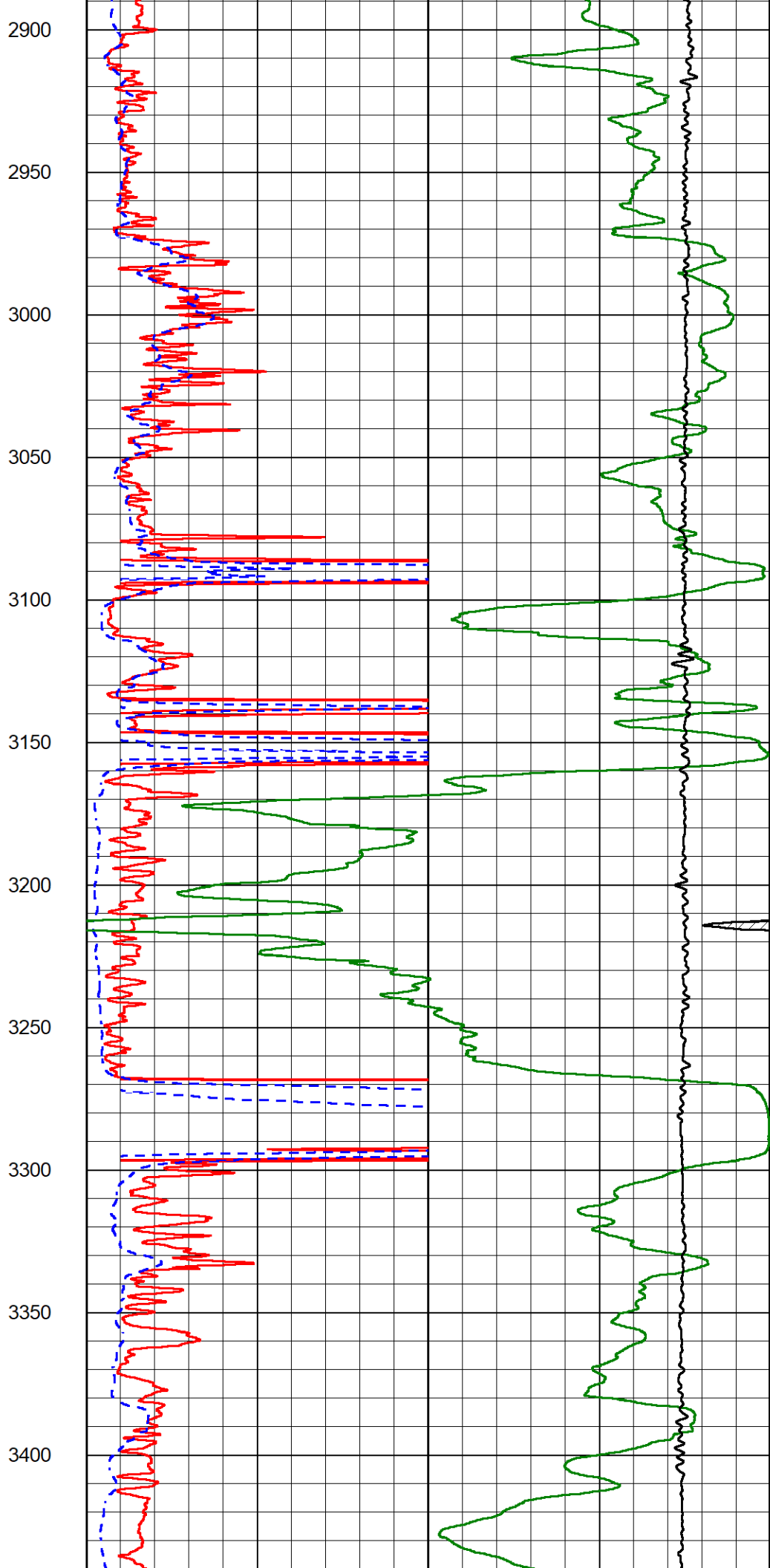
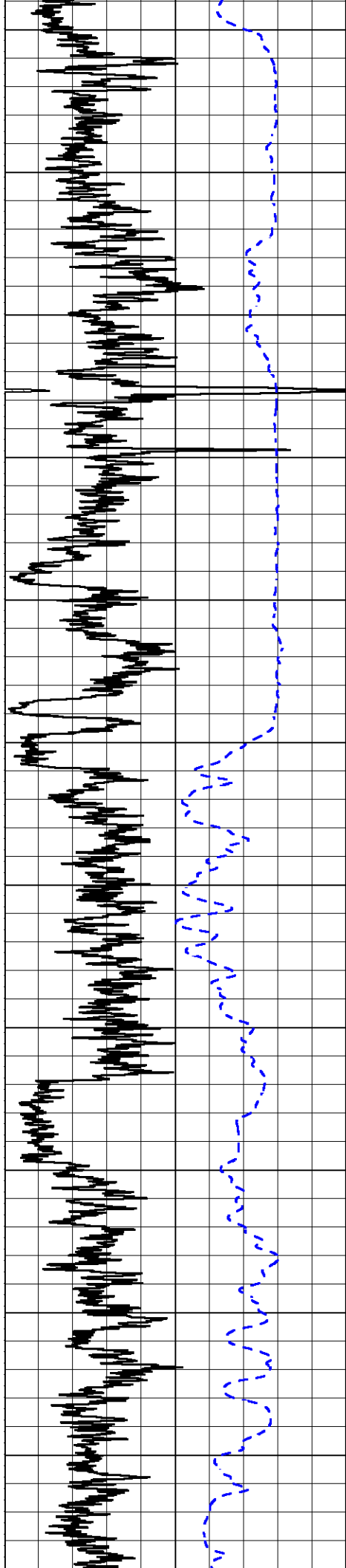
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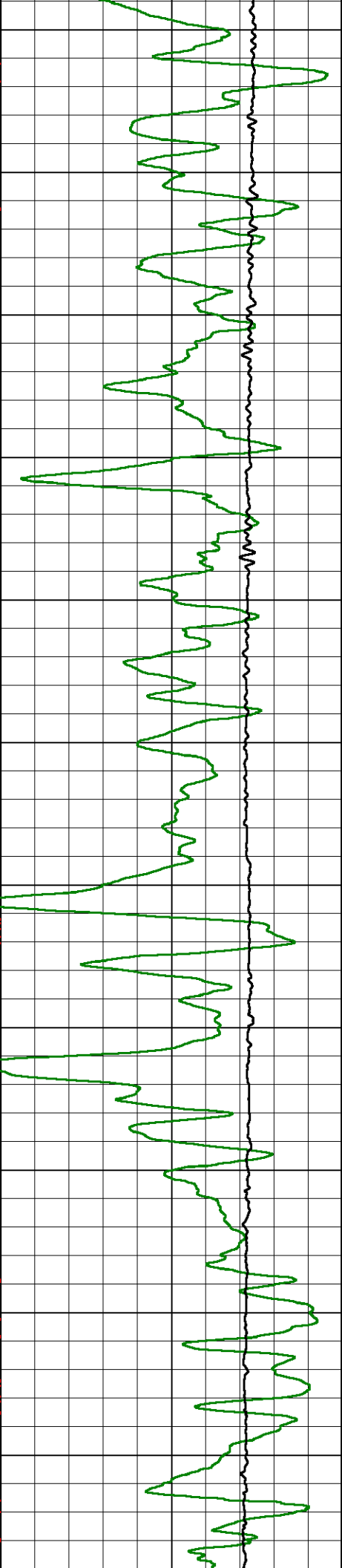
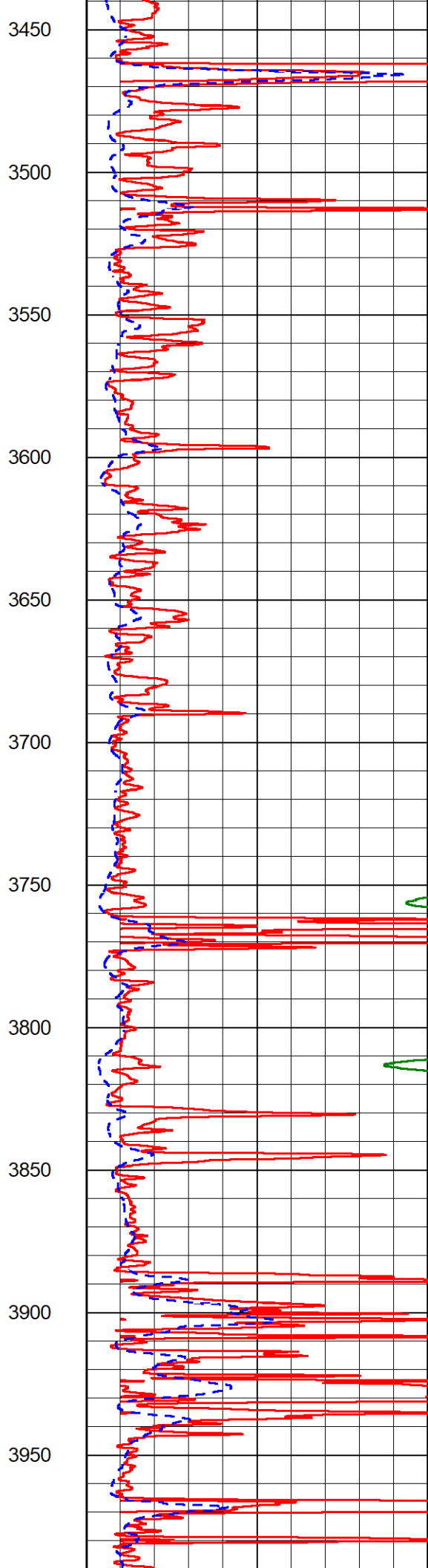
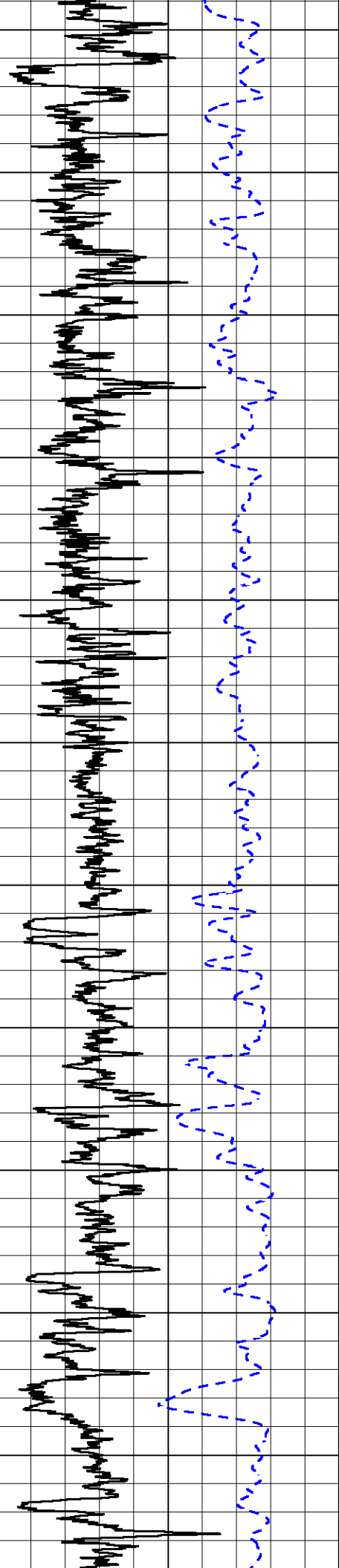
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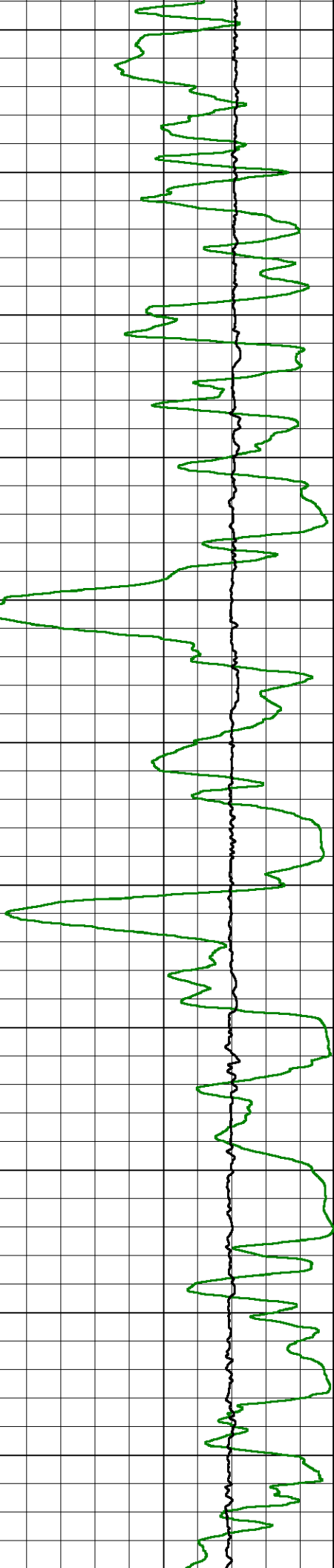
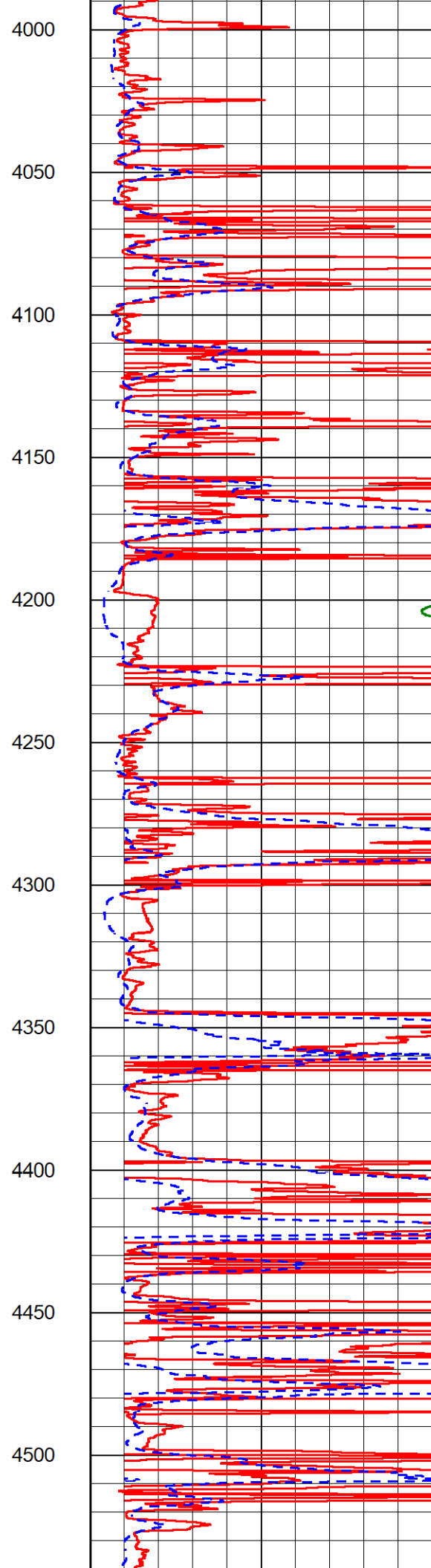
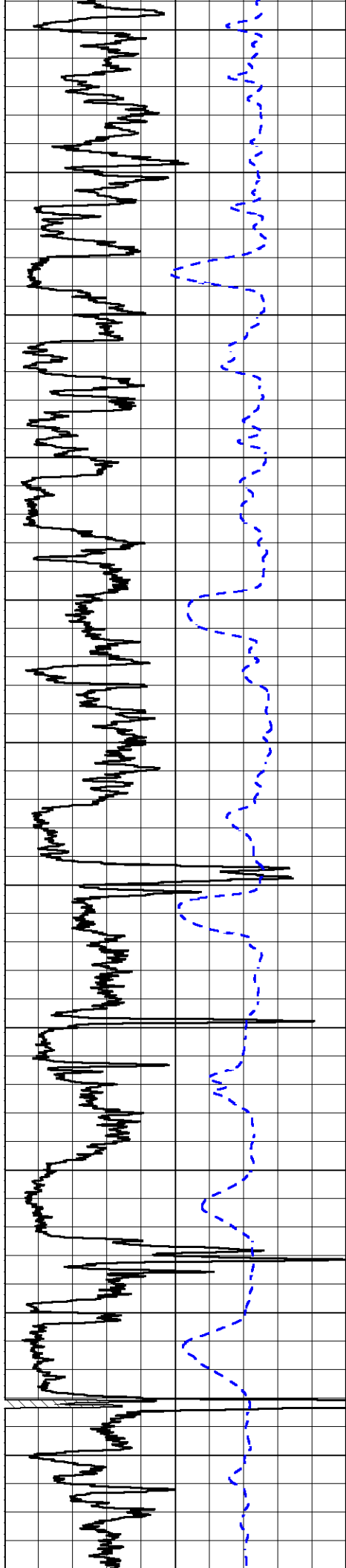
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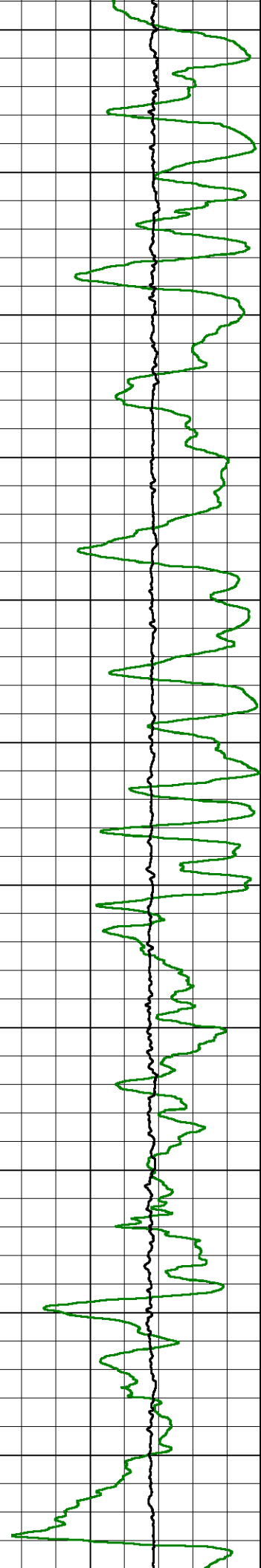
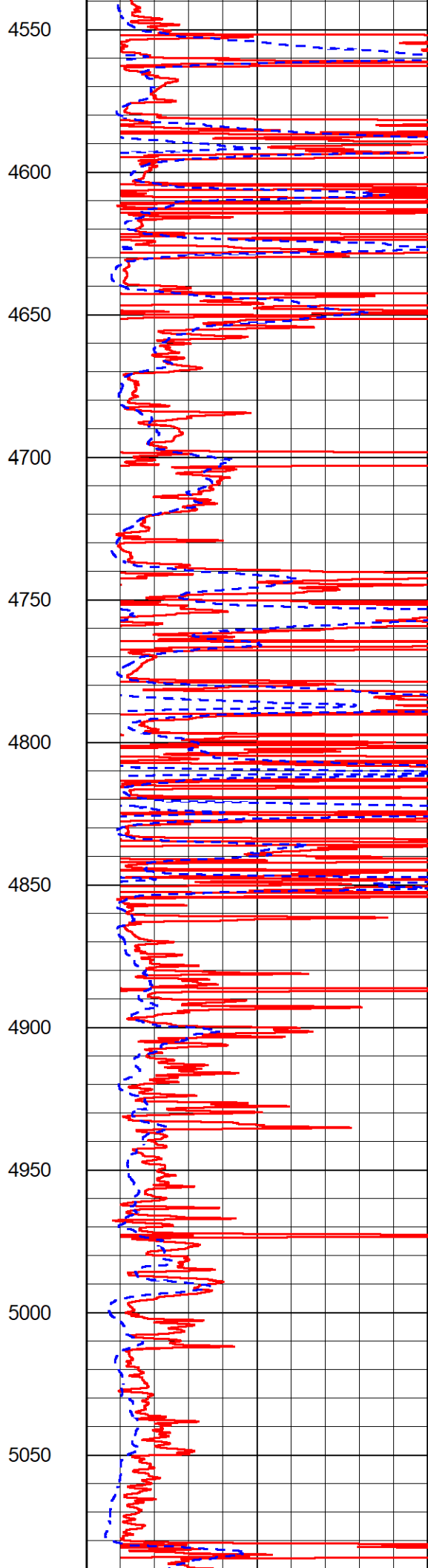
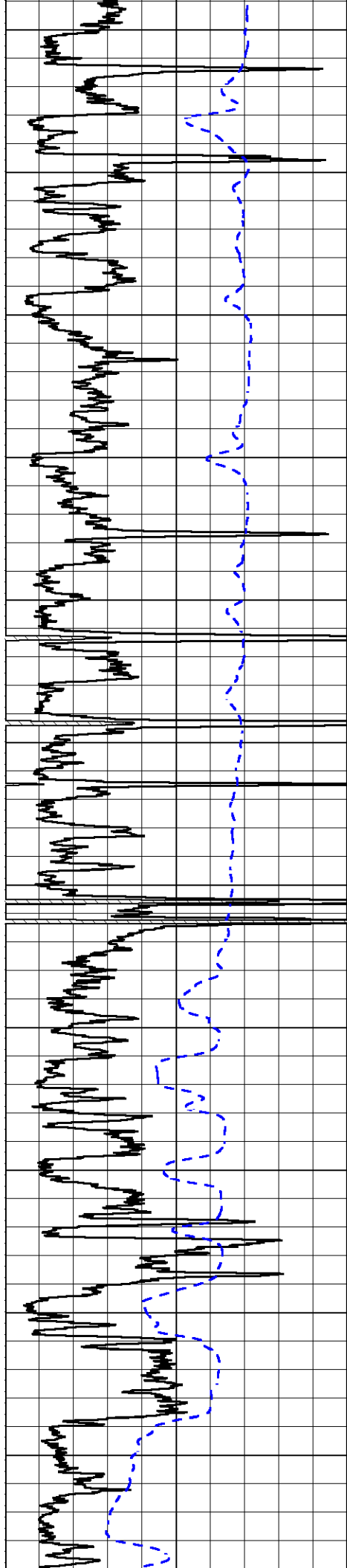
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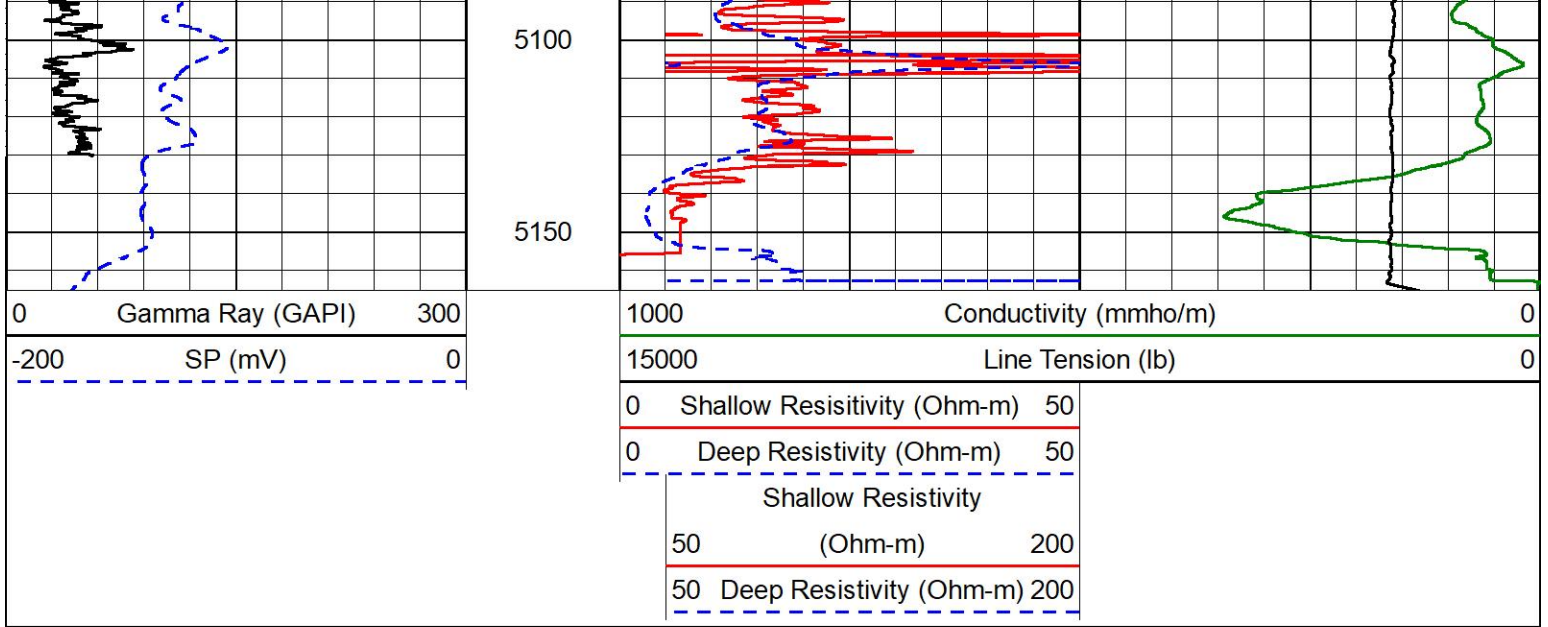










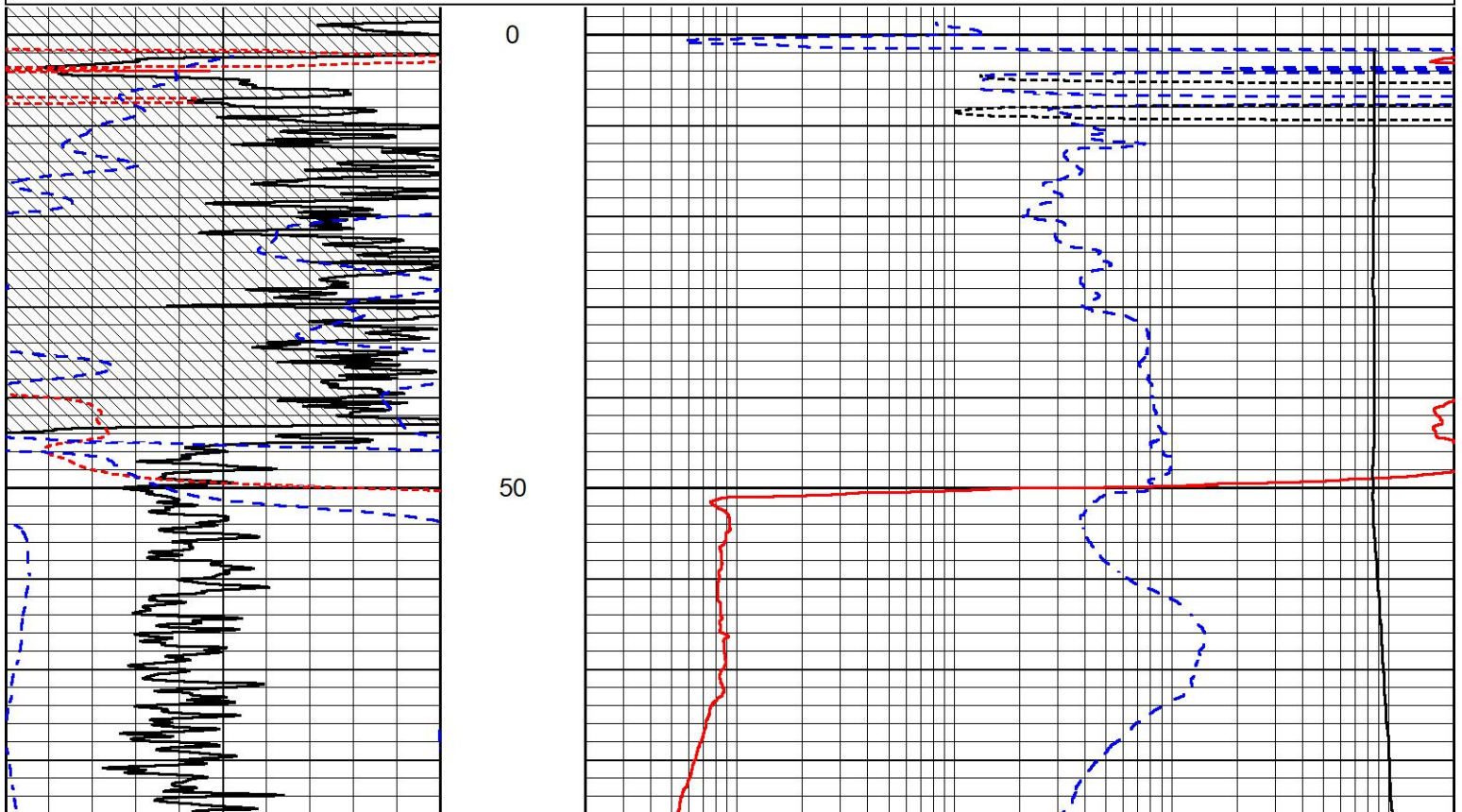
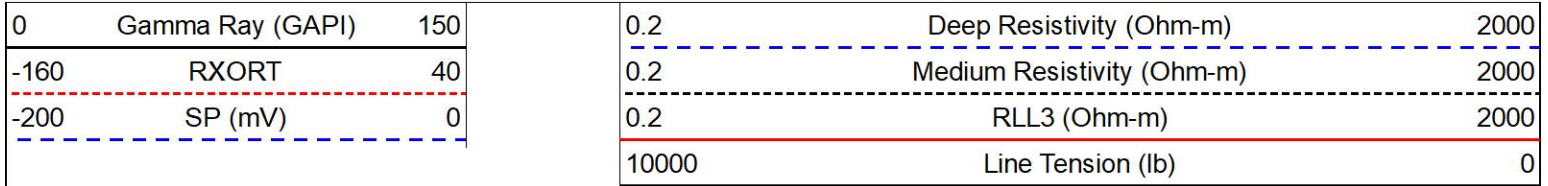


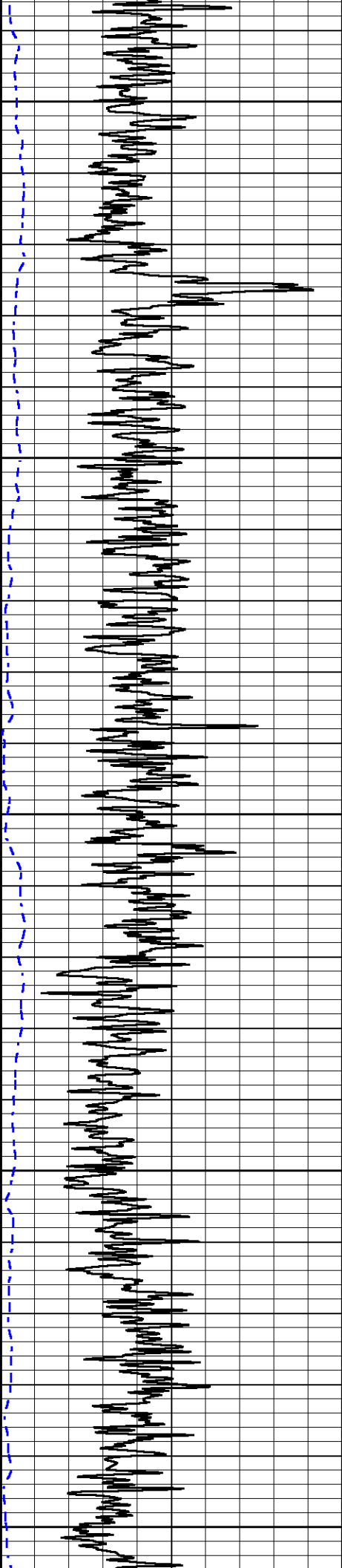
MIDWEST WIRELINE

DETAIL SECTION

MAIN PASS

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 Presentation Format _dil
 Dataset Creation Sun Aug 14 22:29:22 2022
 Charted by Depth in Feet scaled 1:240





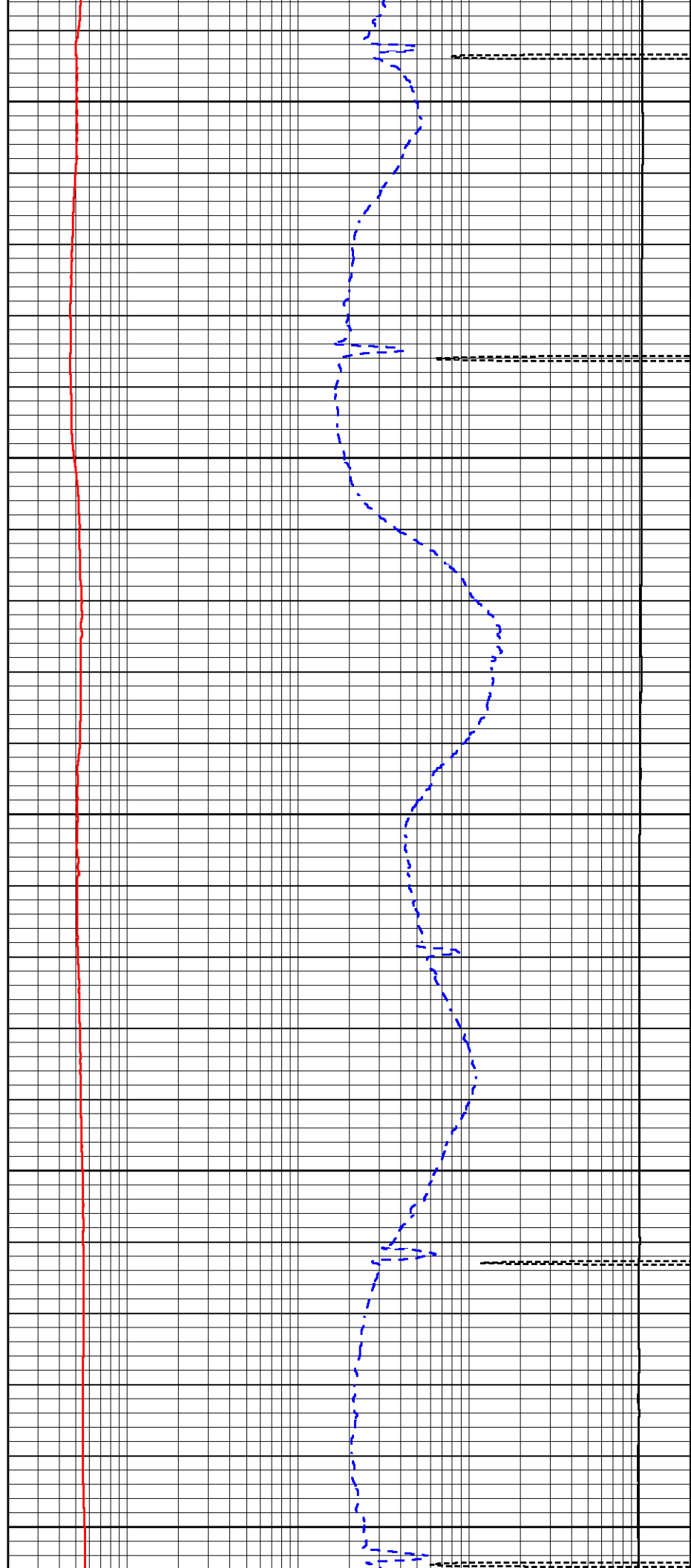
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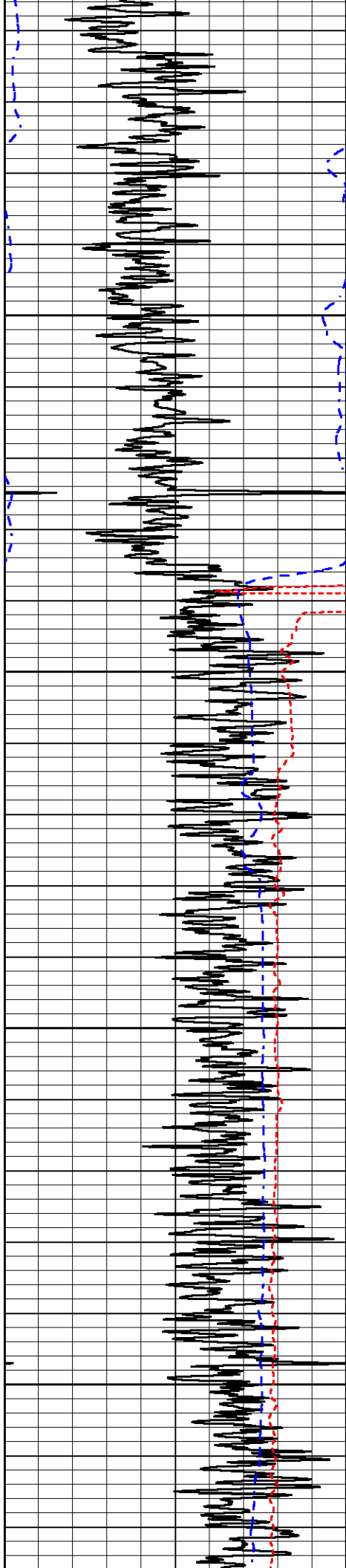
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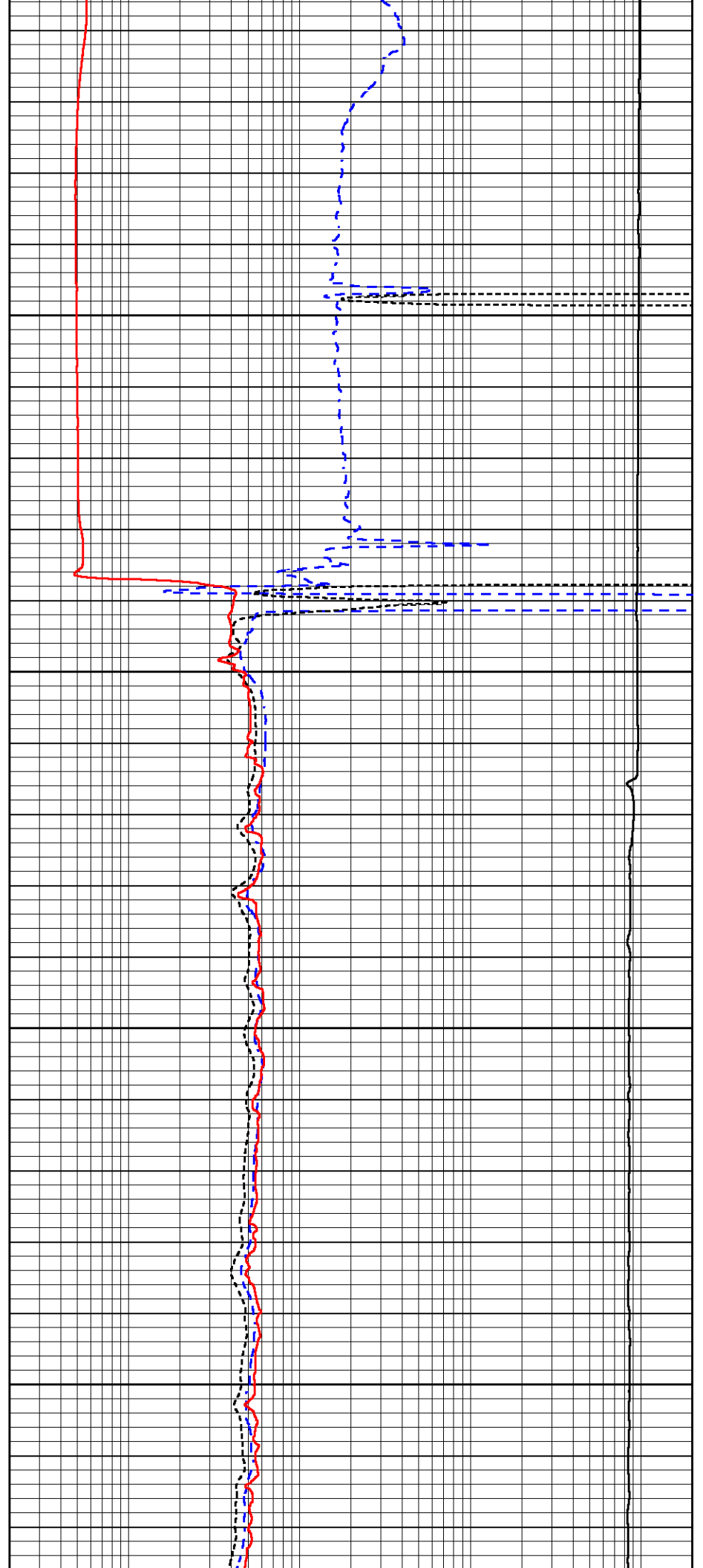


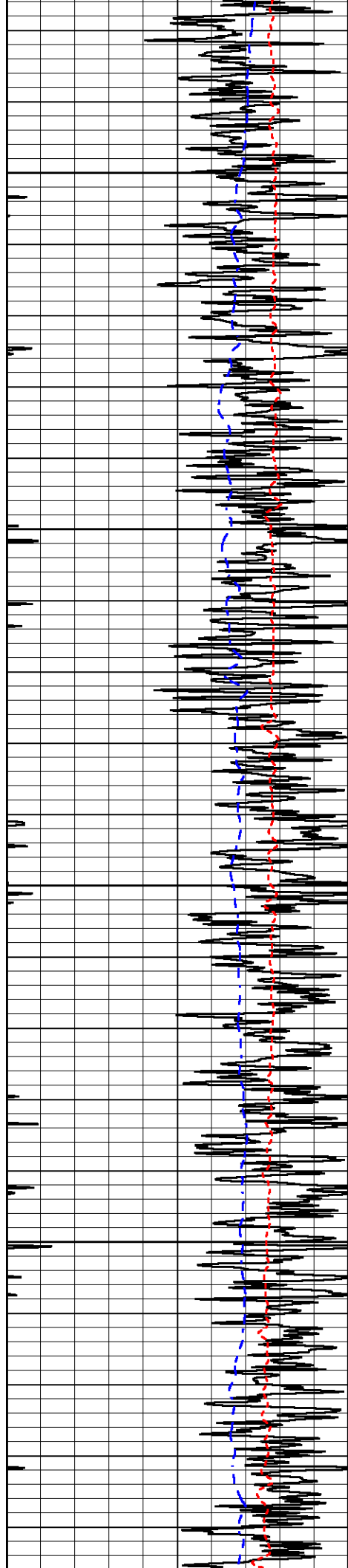
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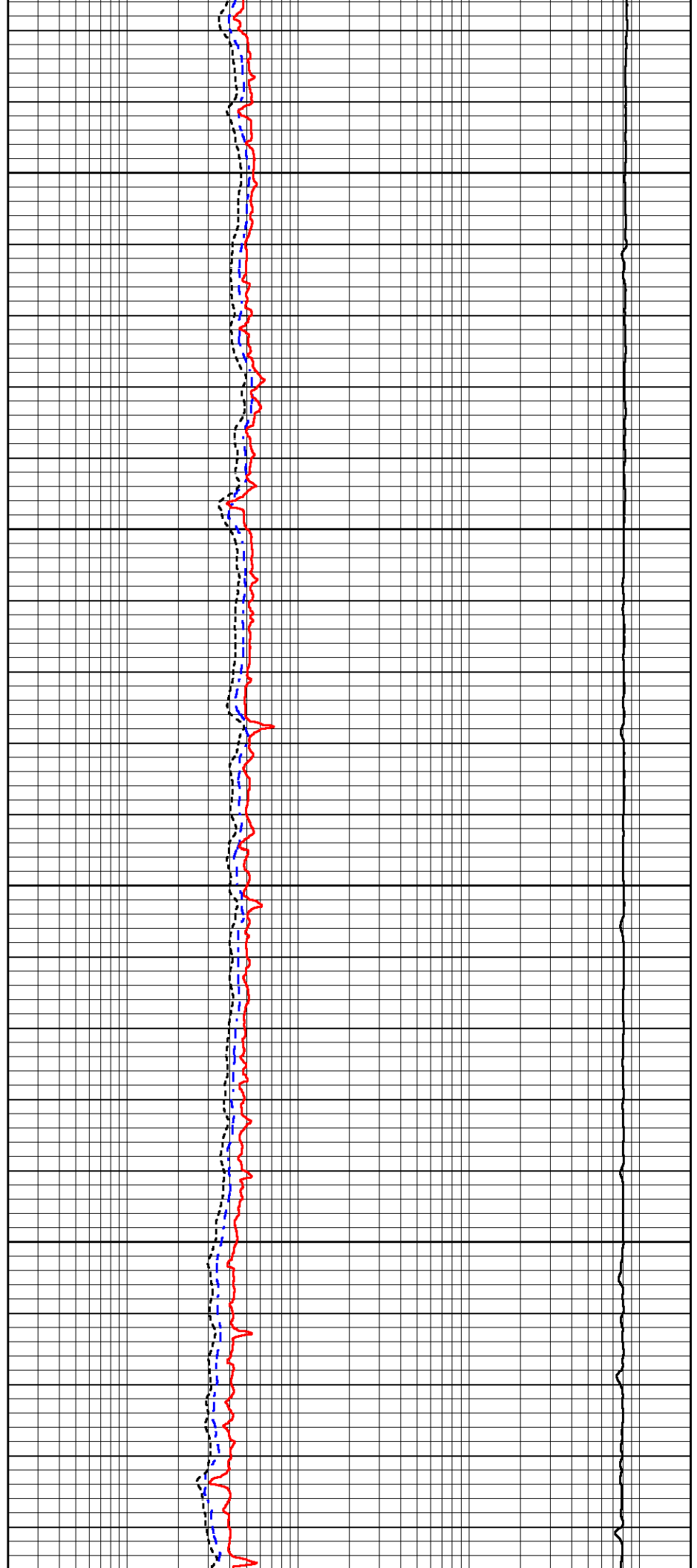


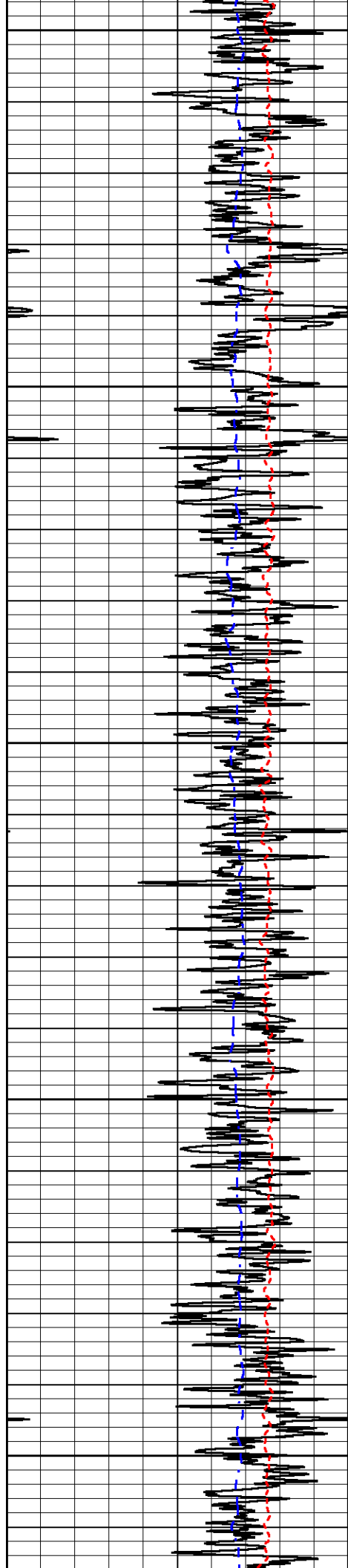
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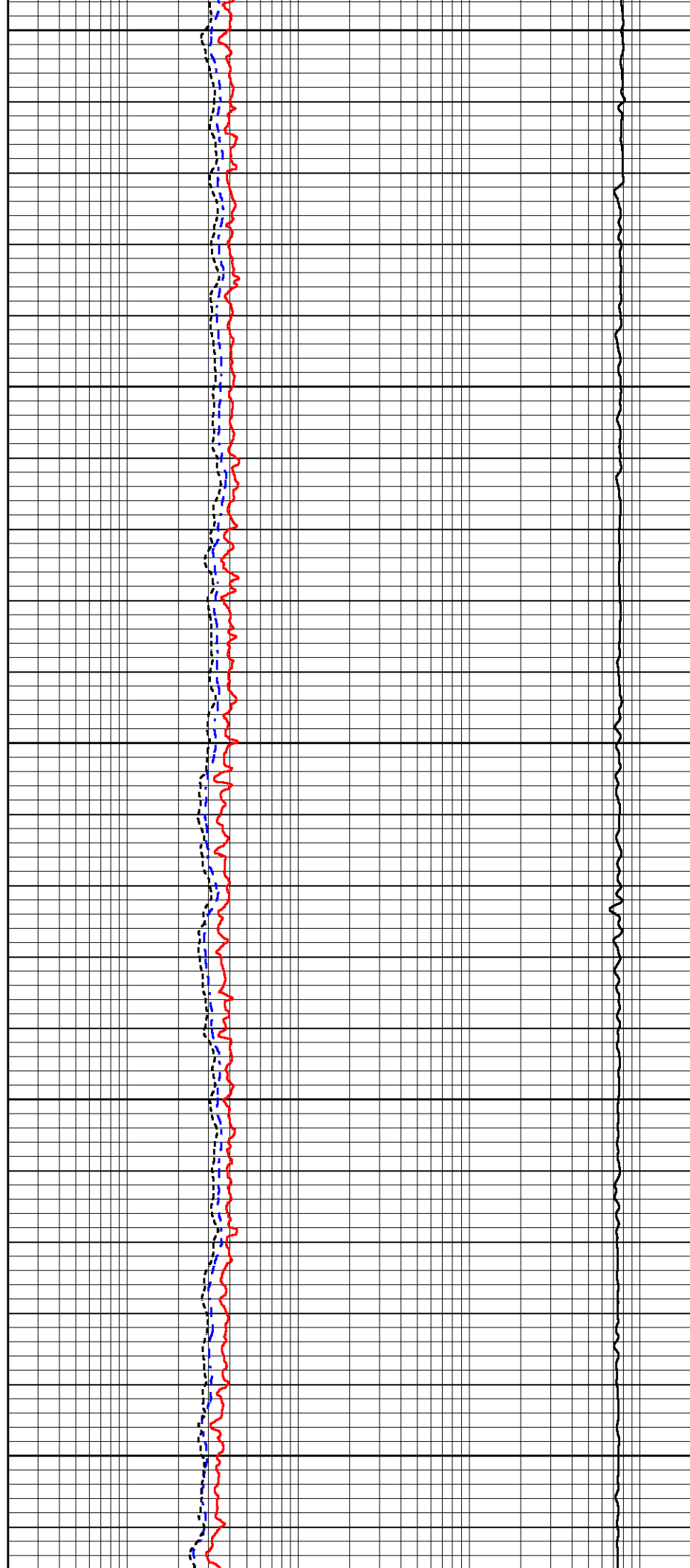
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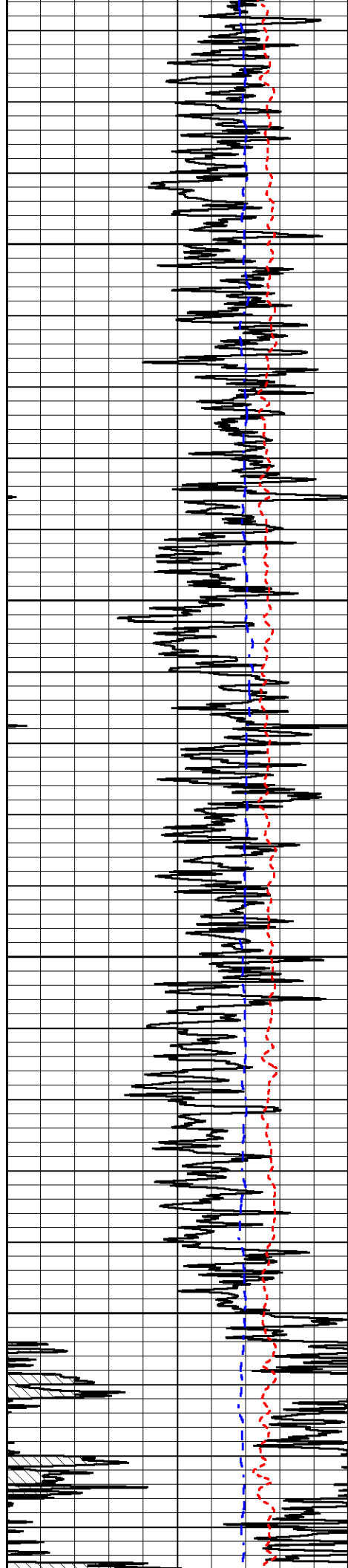
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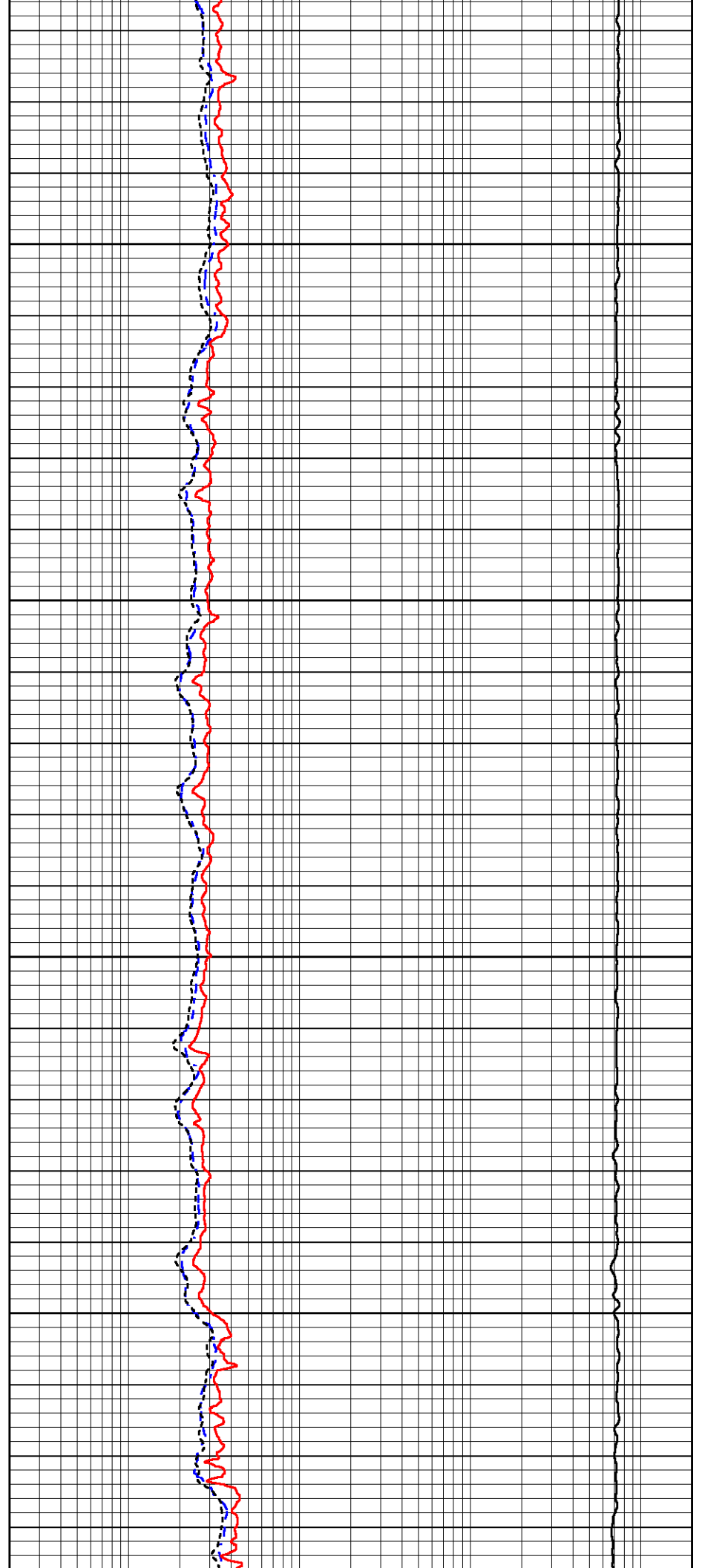


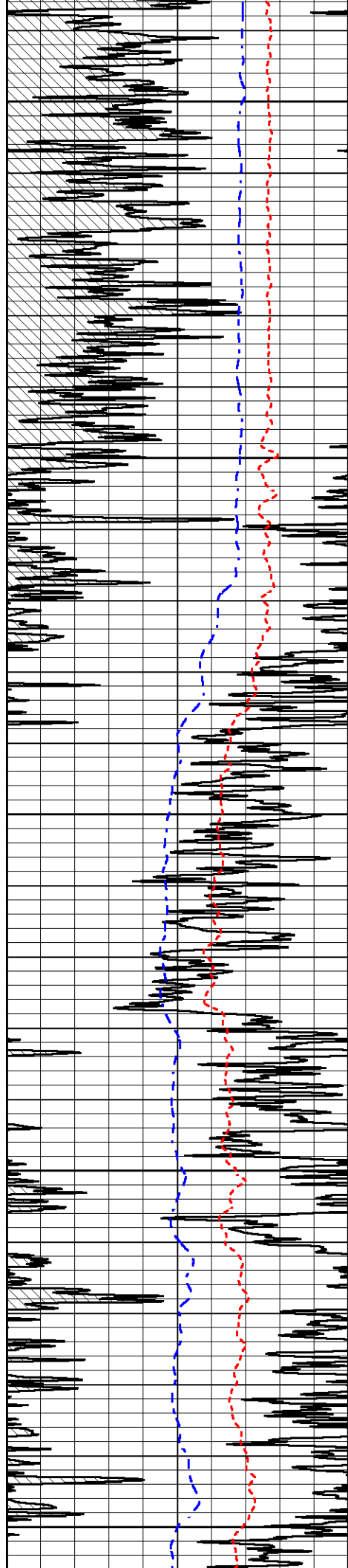
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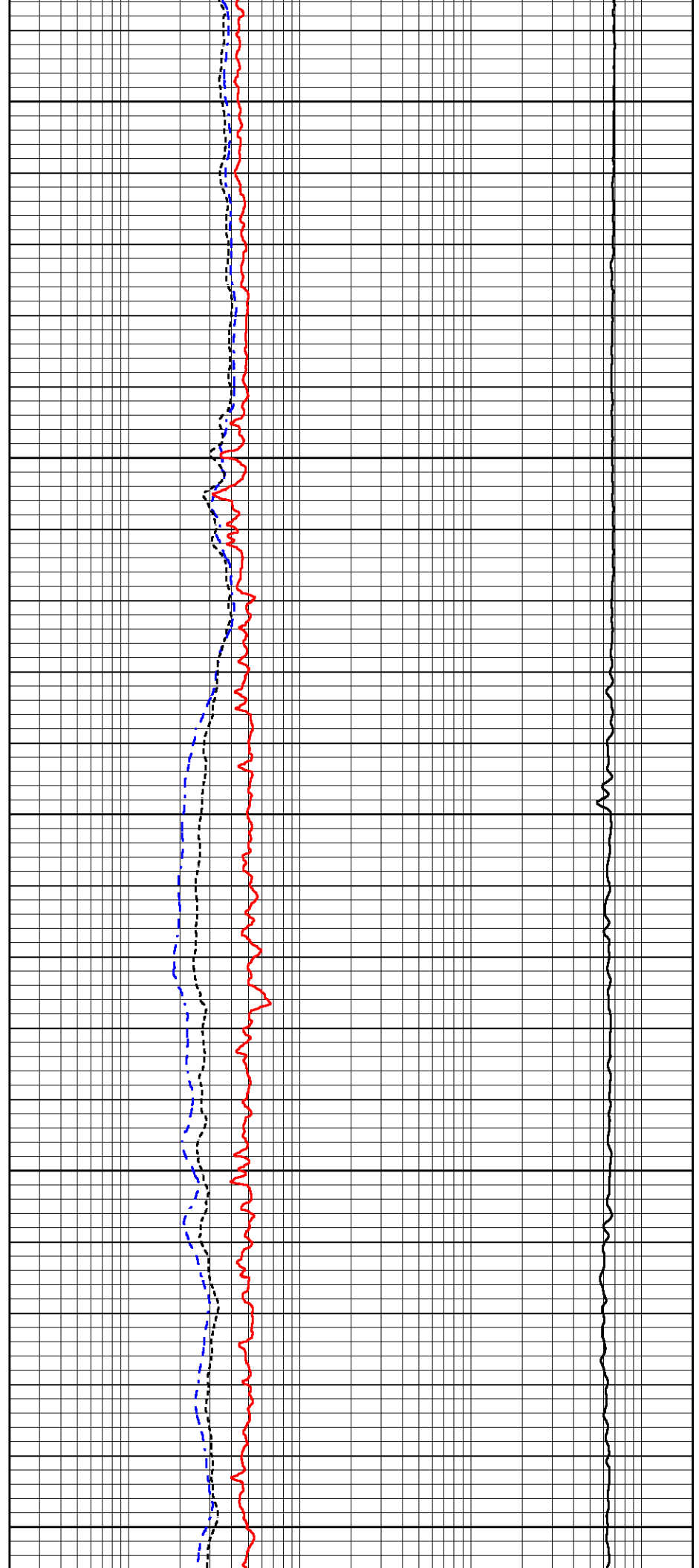
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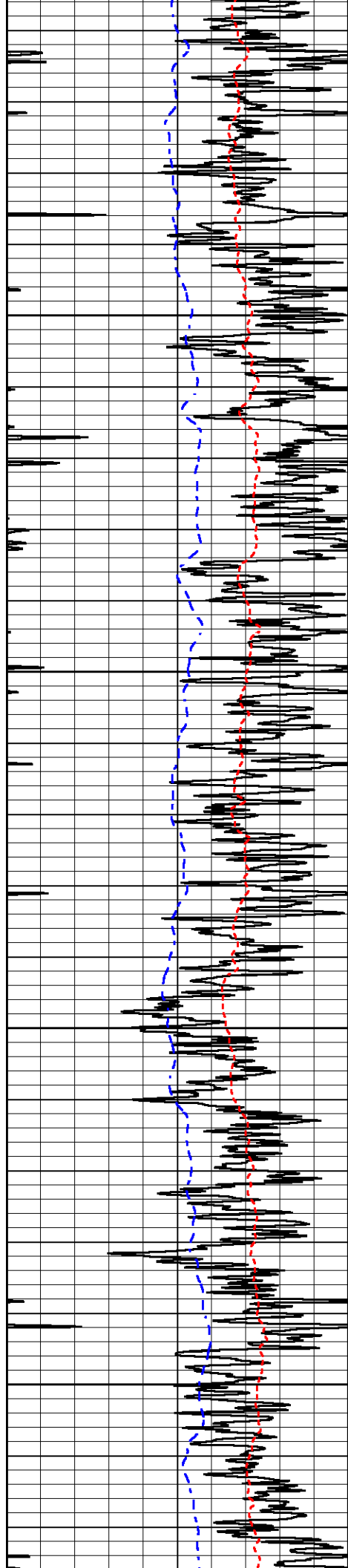
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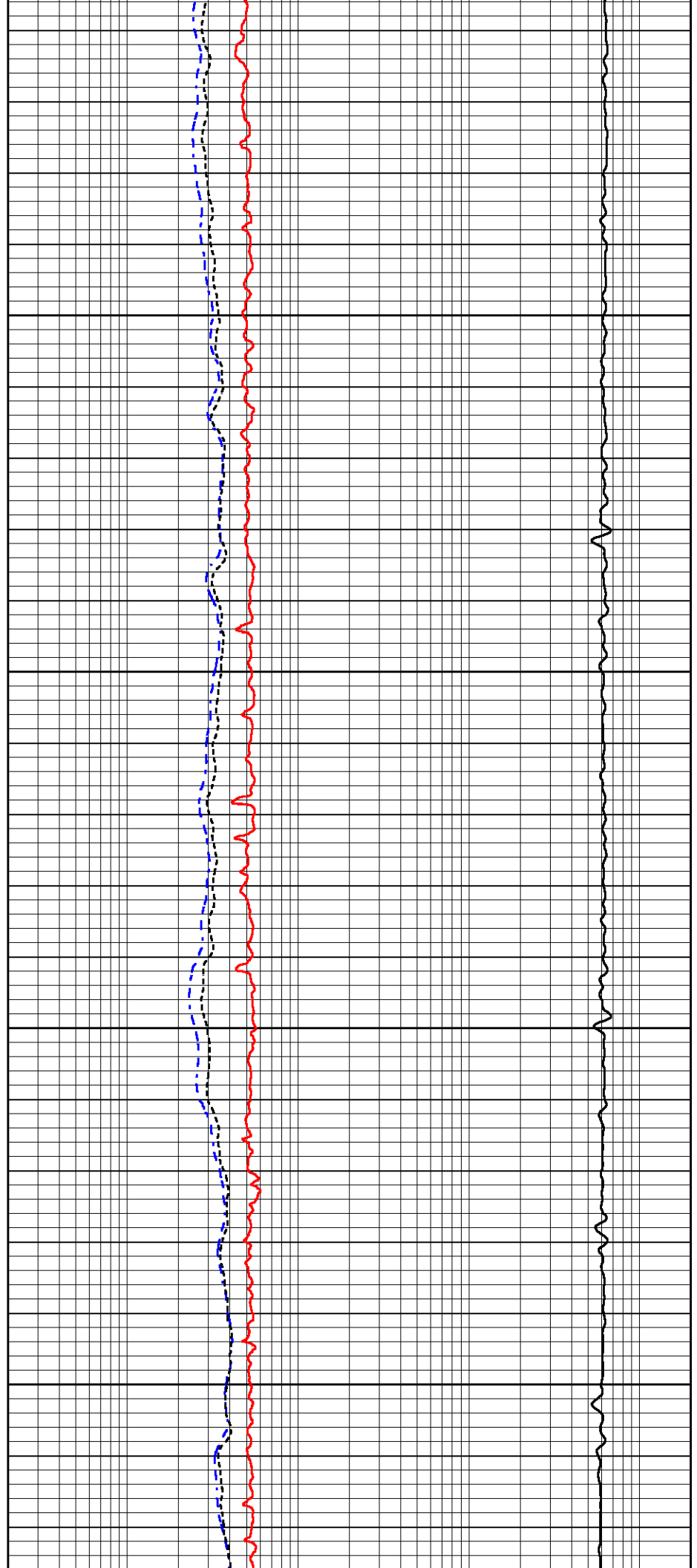


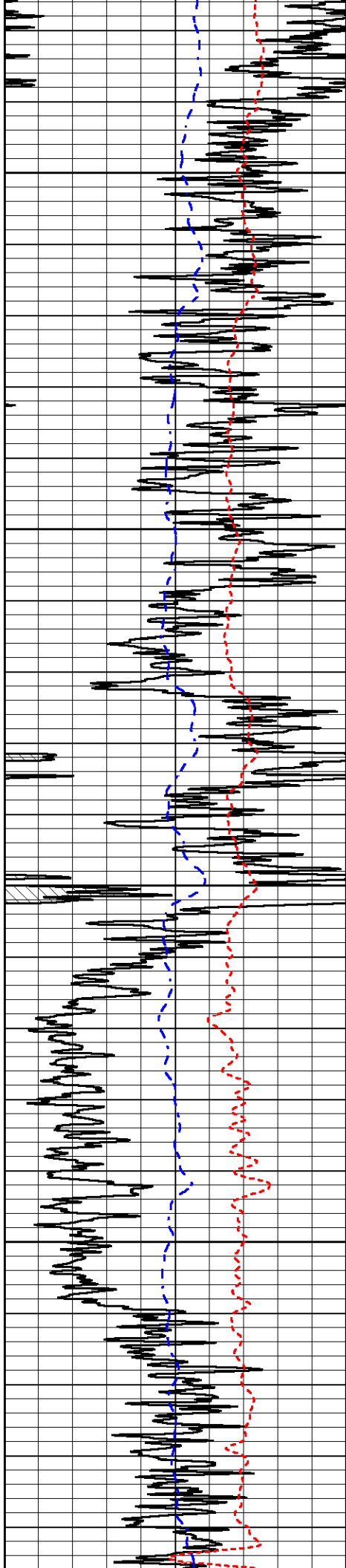
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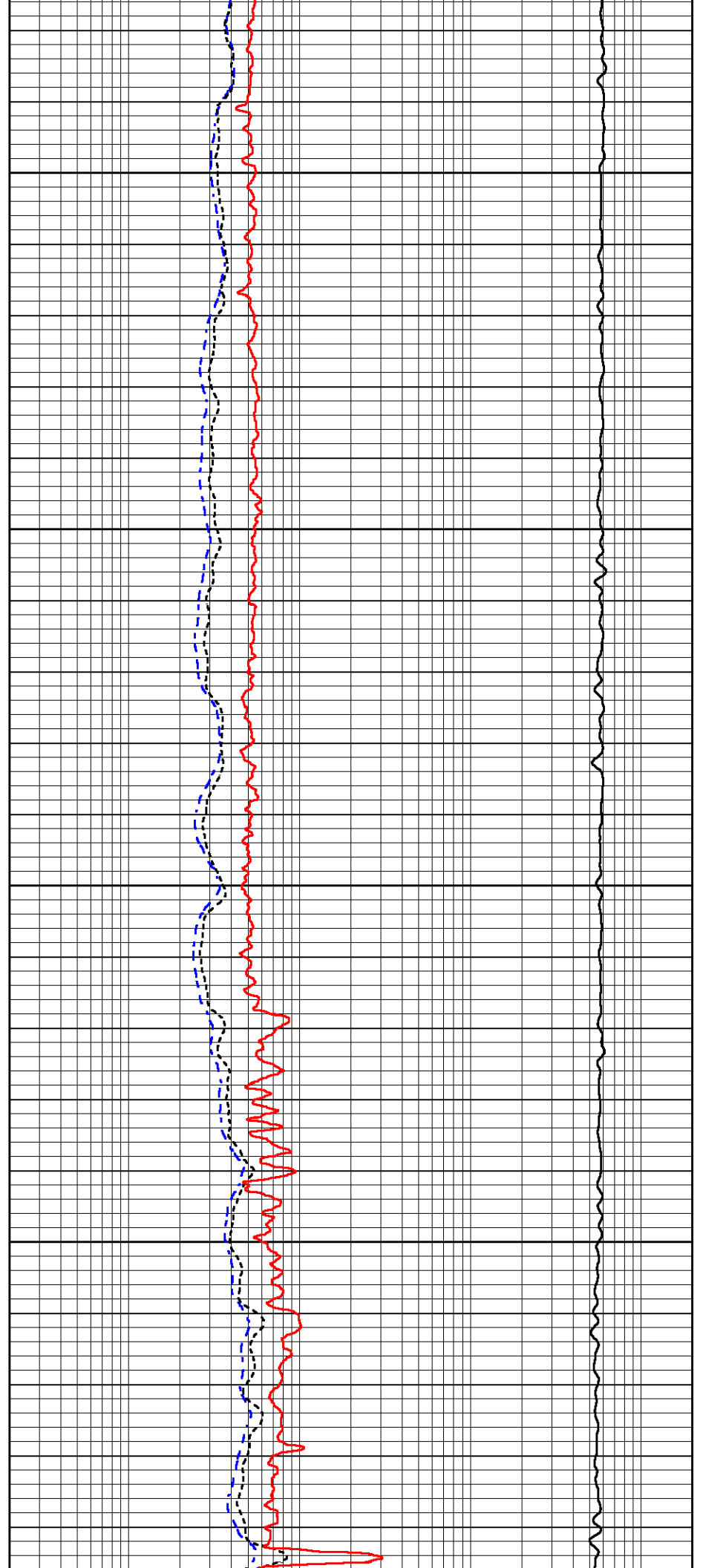


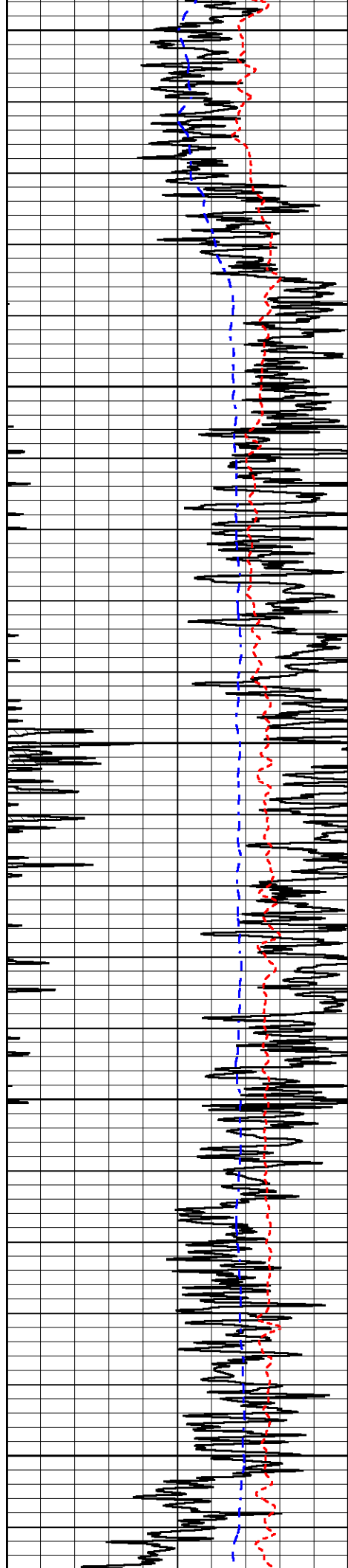
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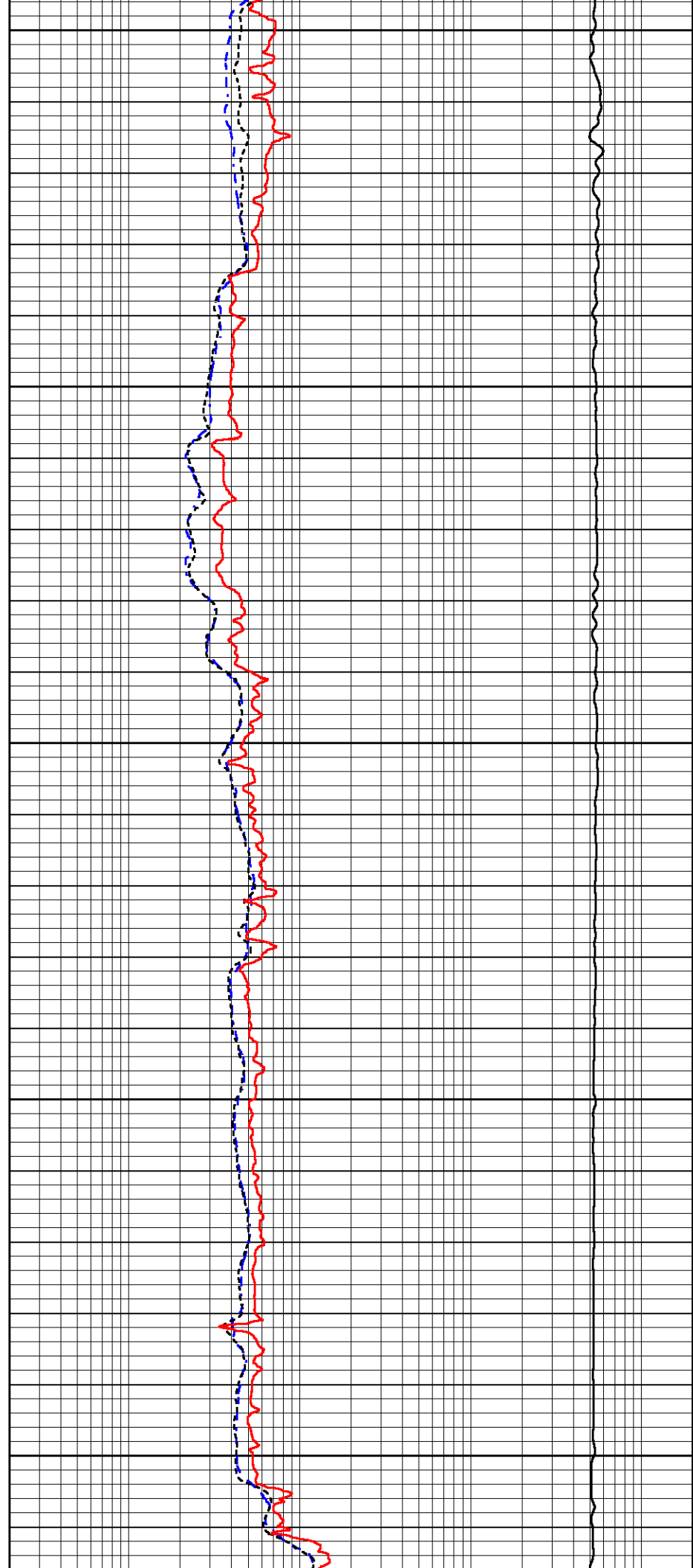
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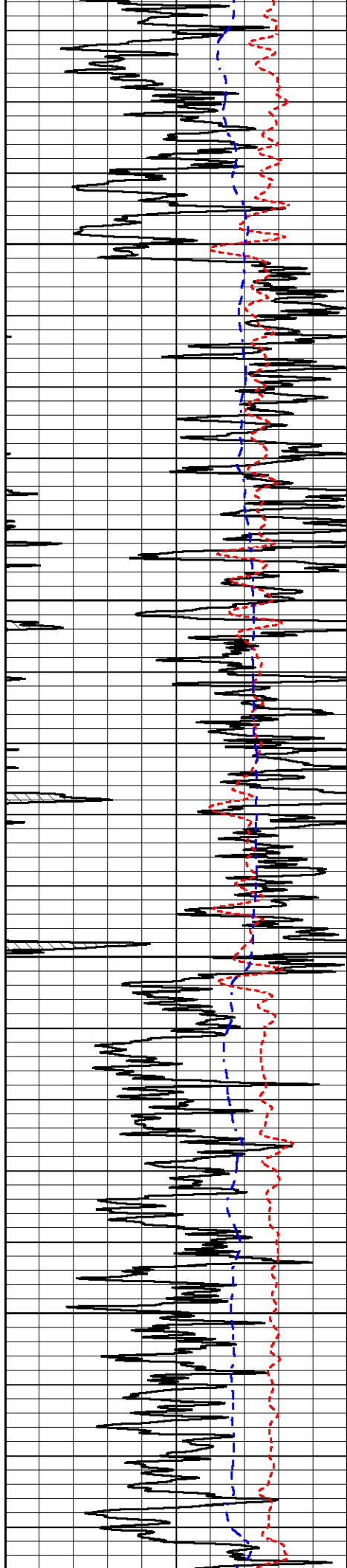
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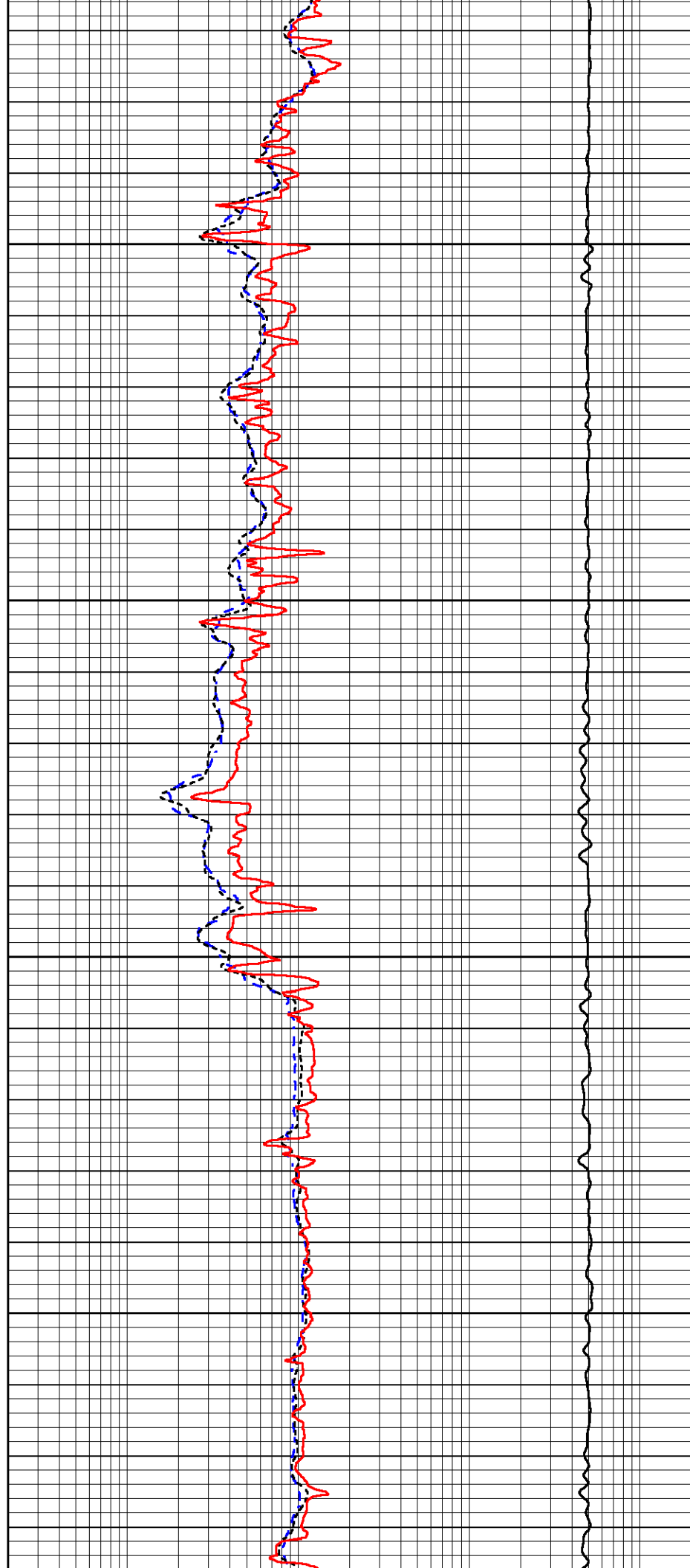


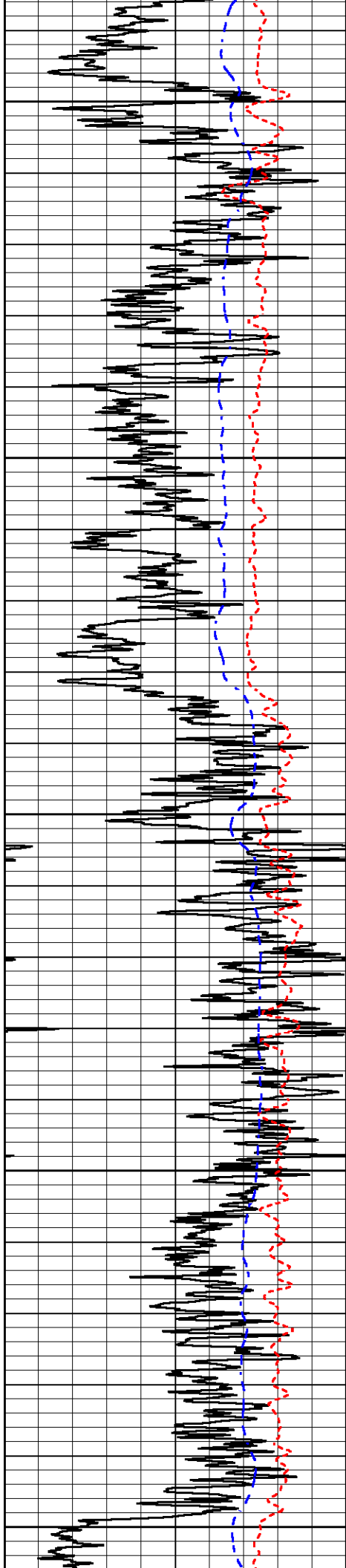
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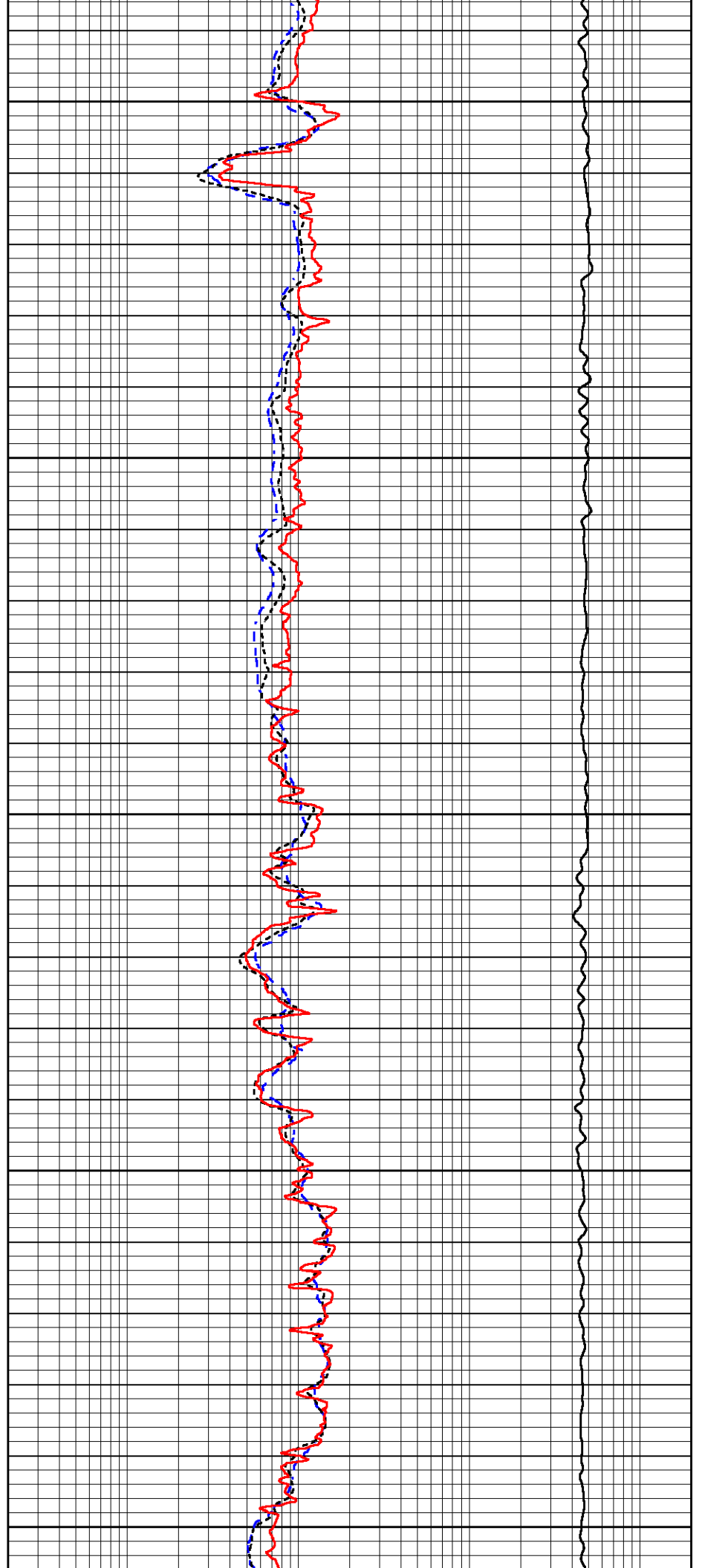
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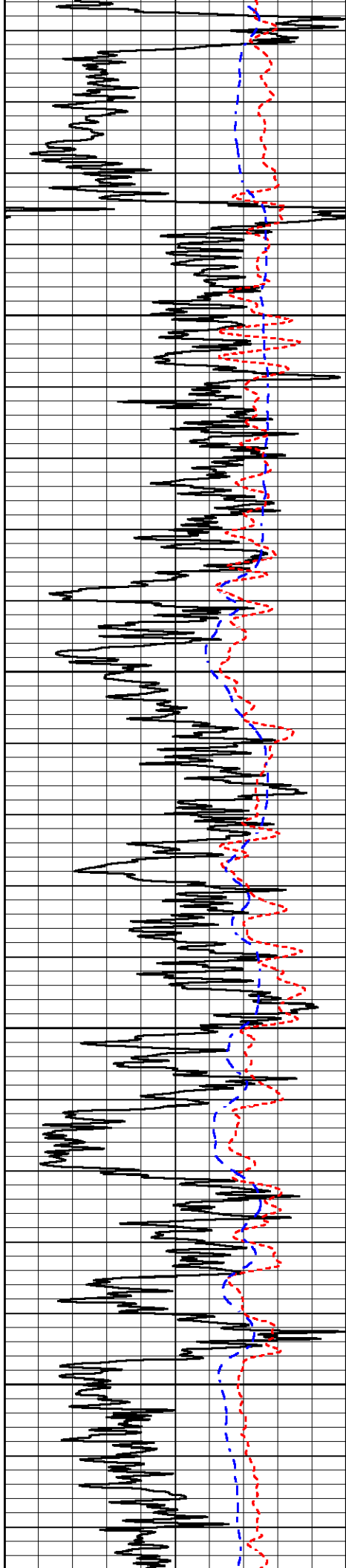
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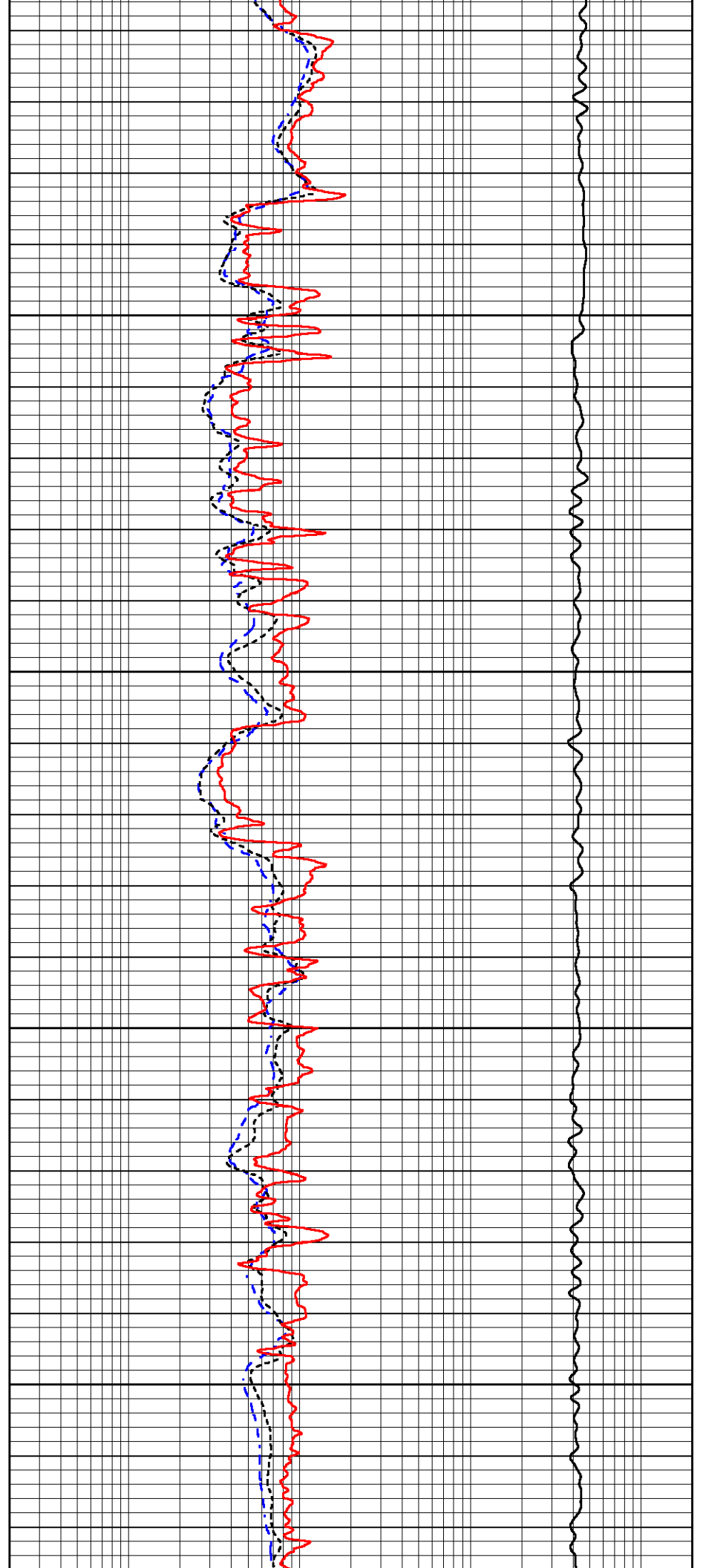


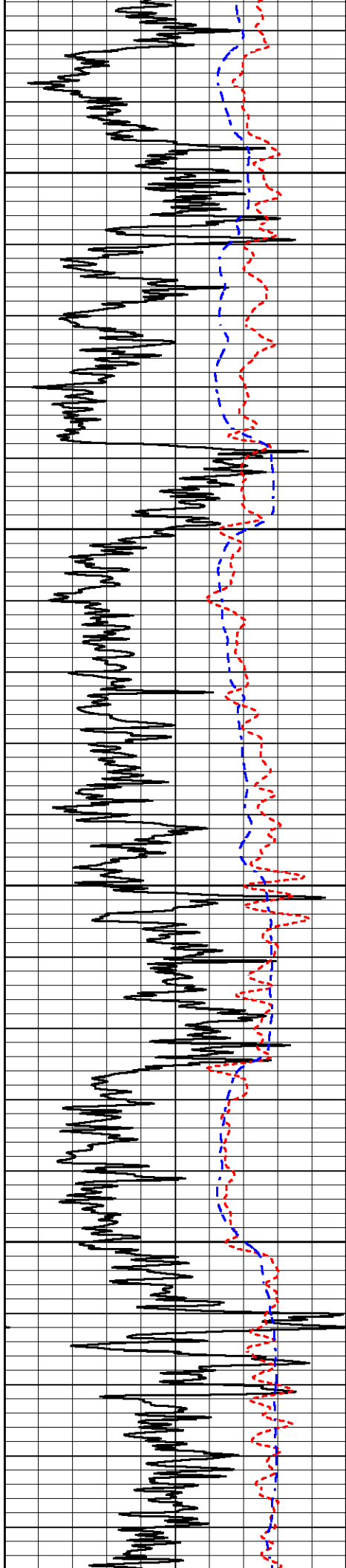
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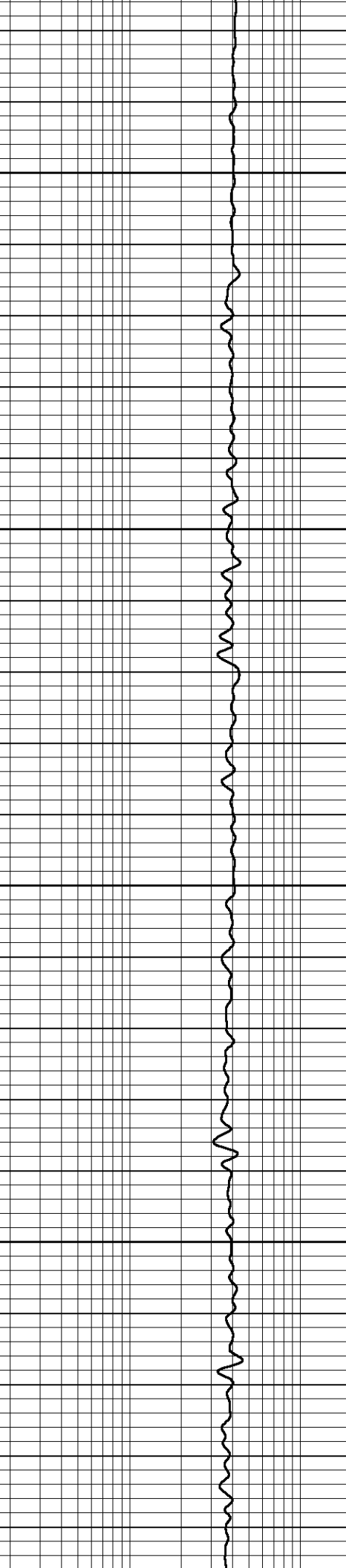
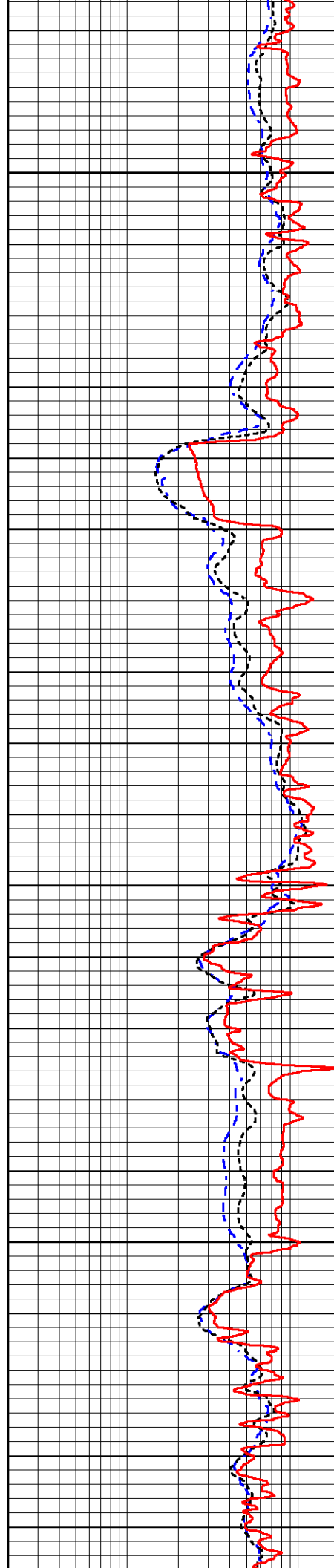


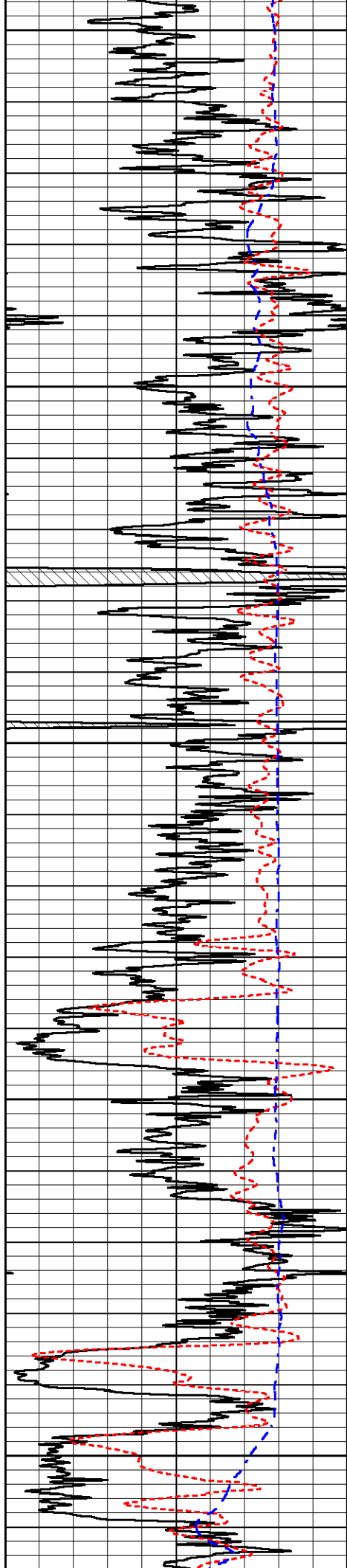
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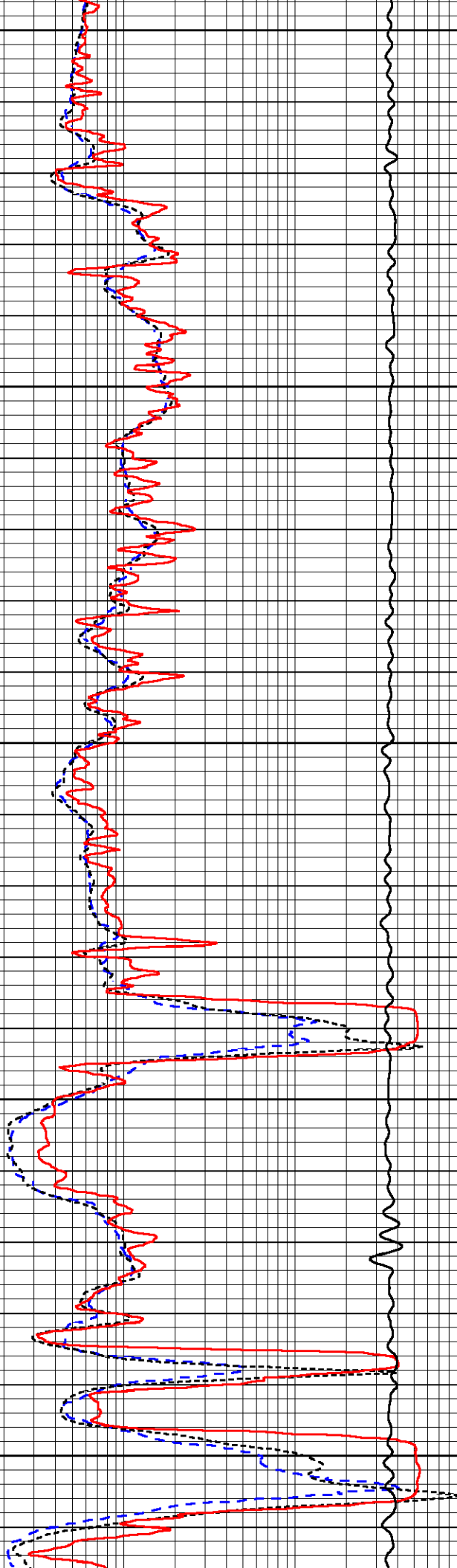
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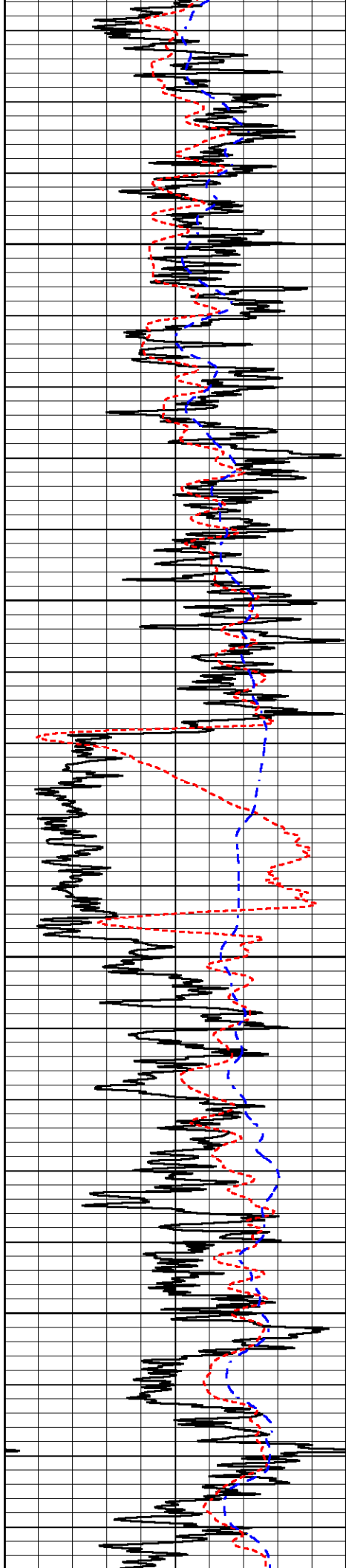
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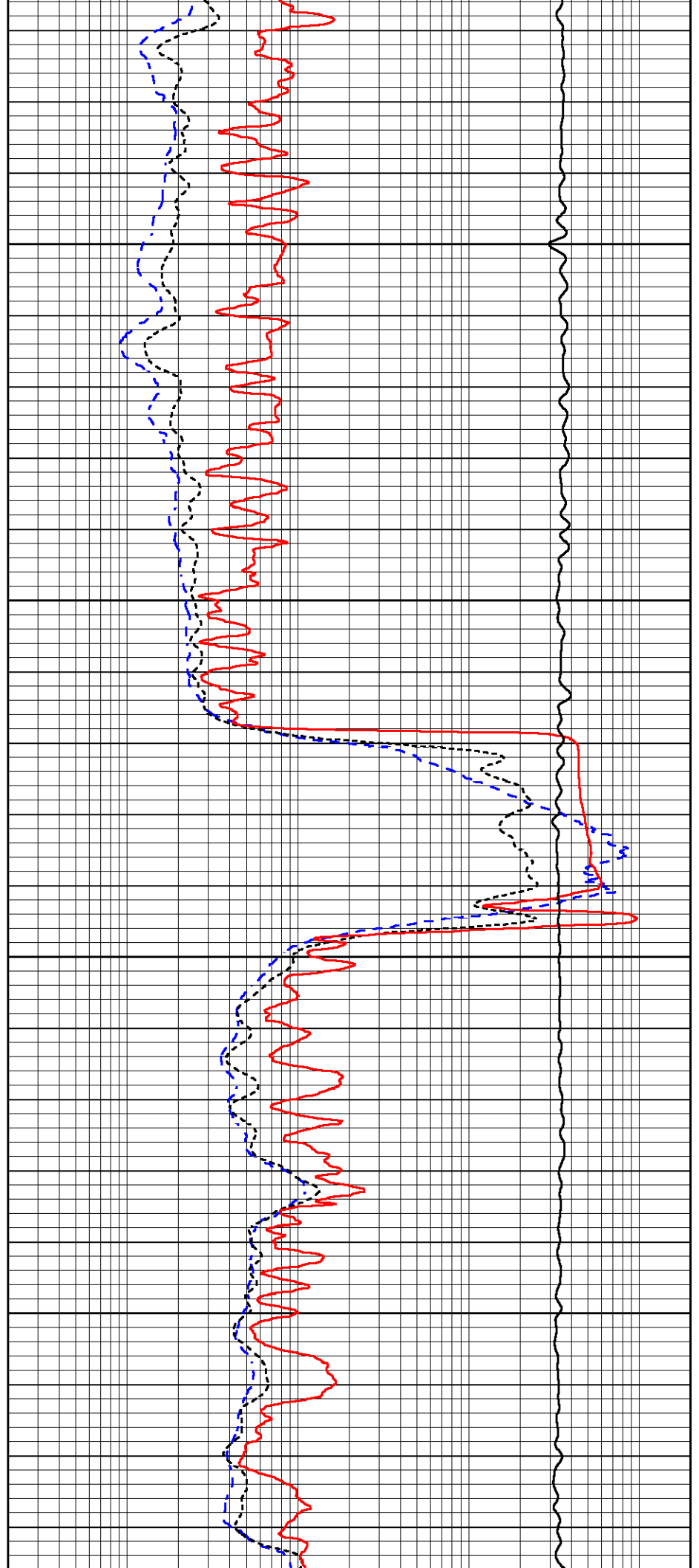


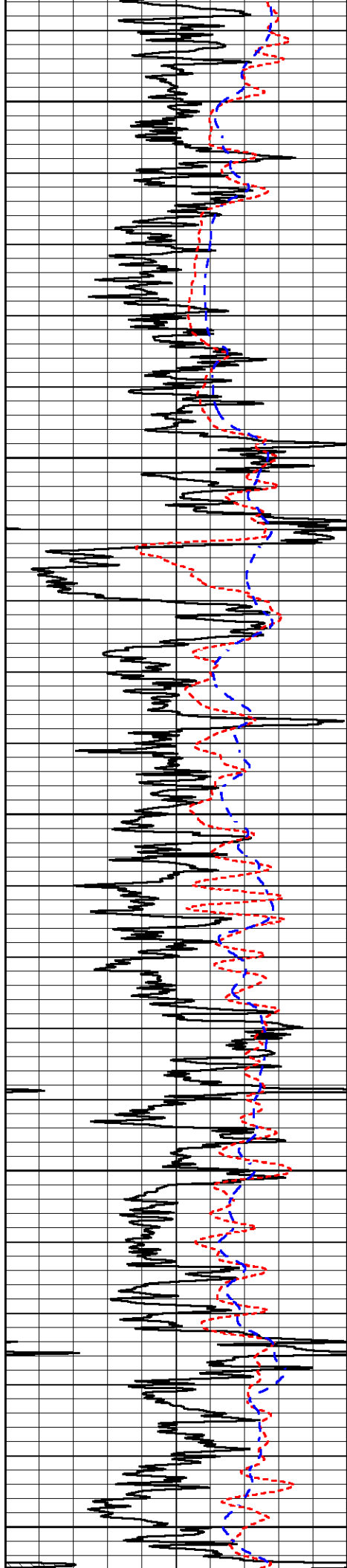
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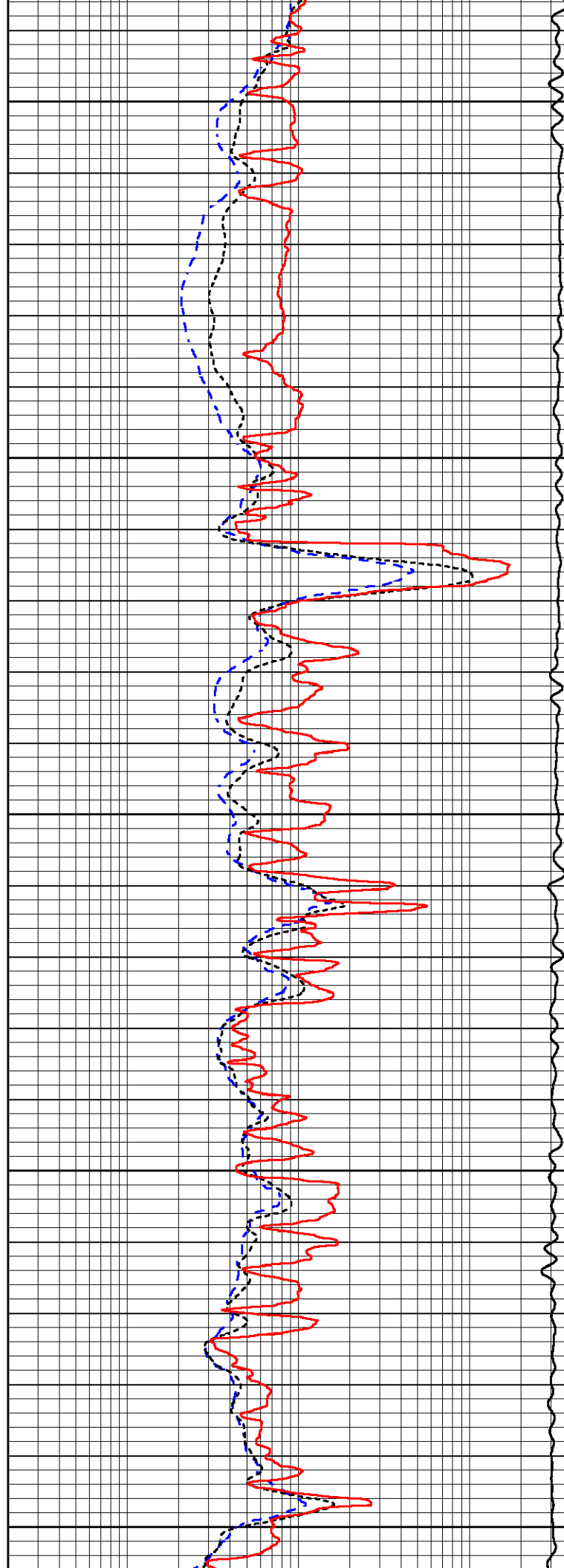
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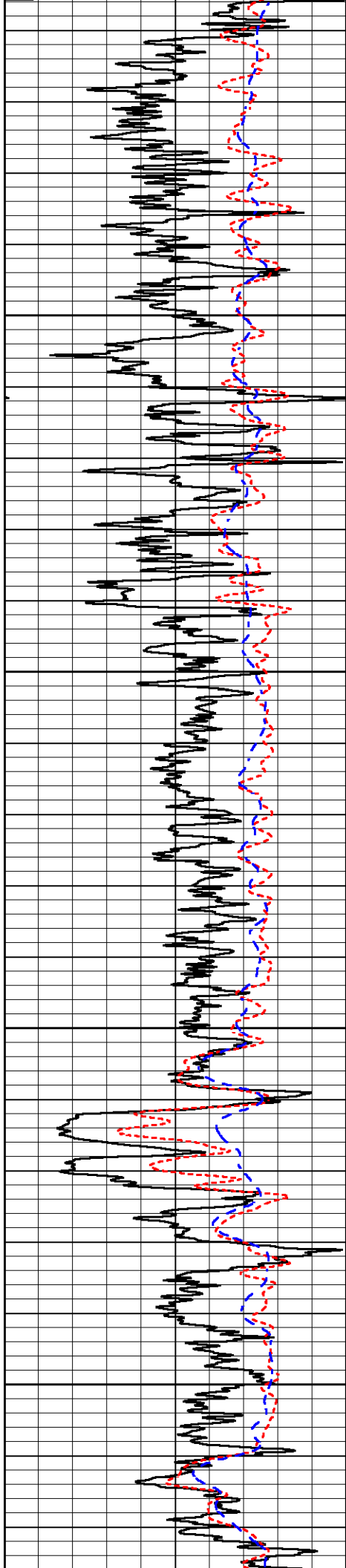
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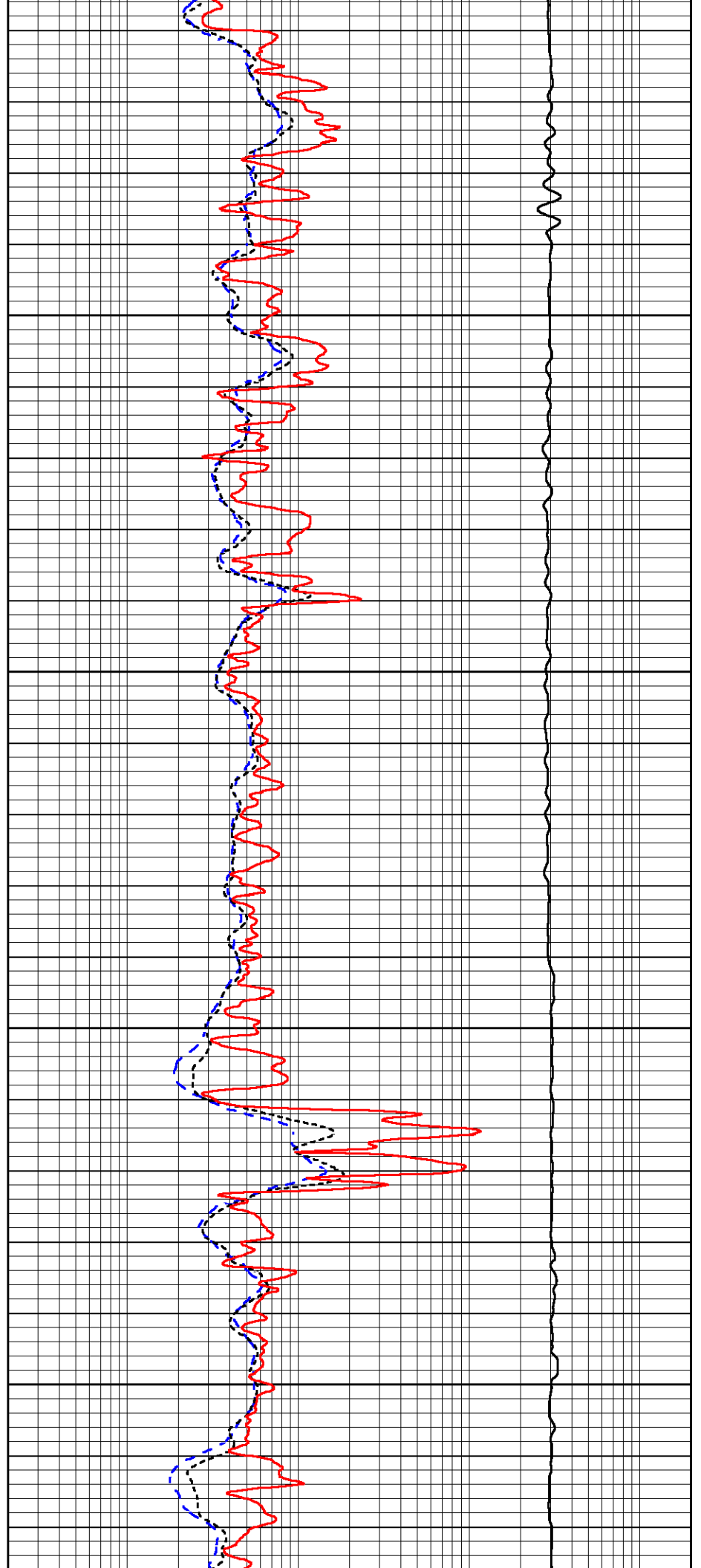


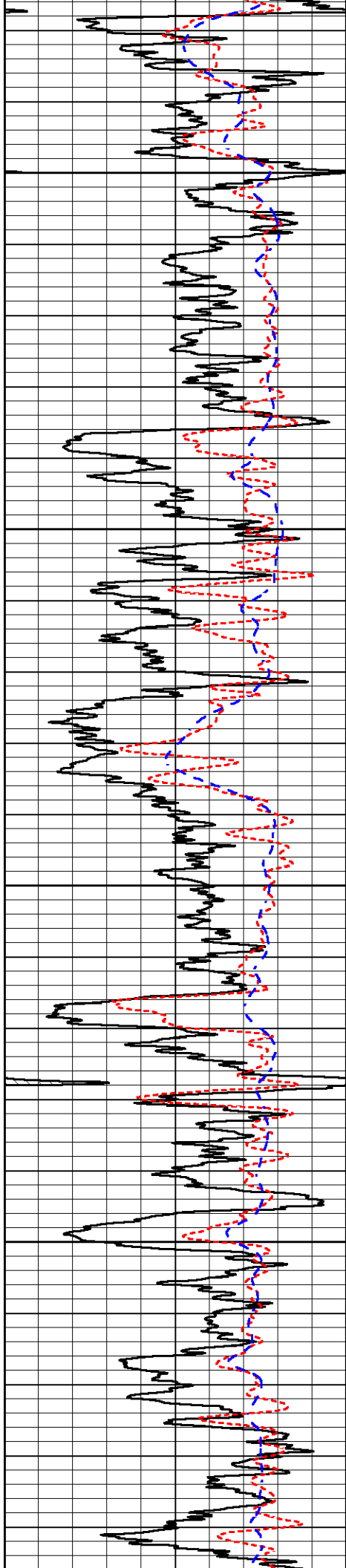
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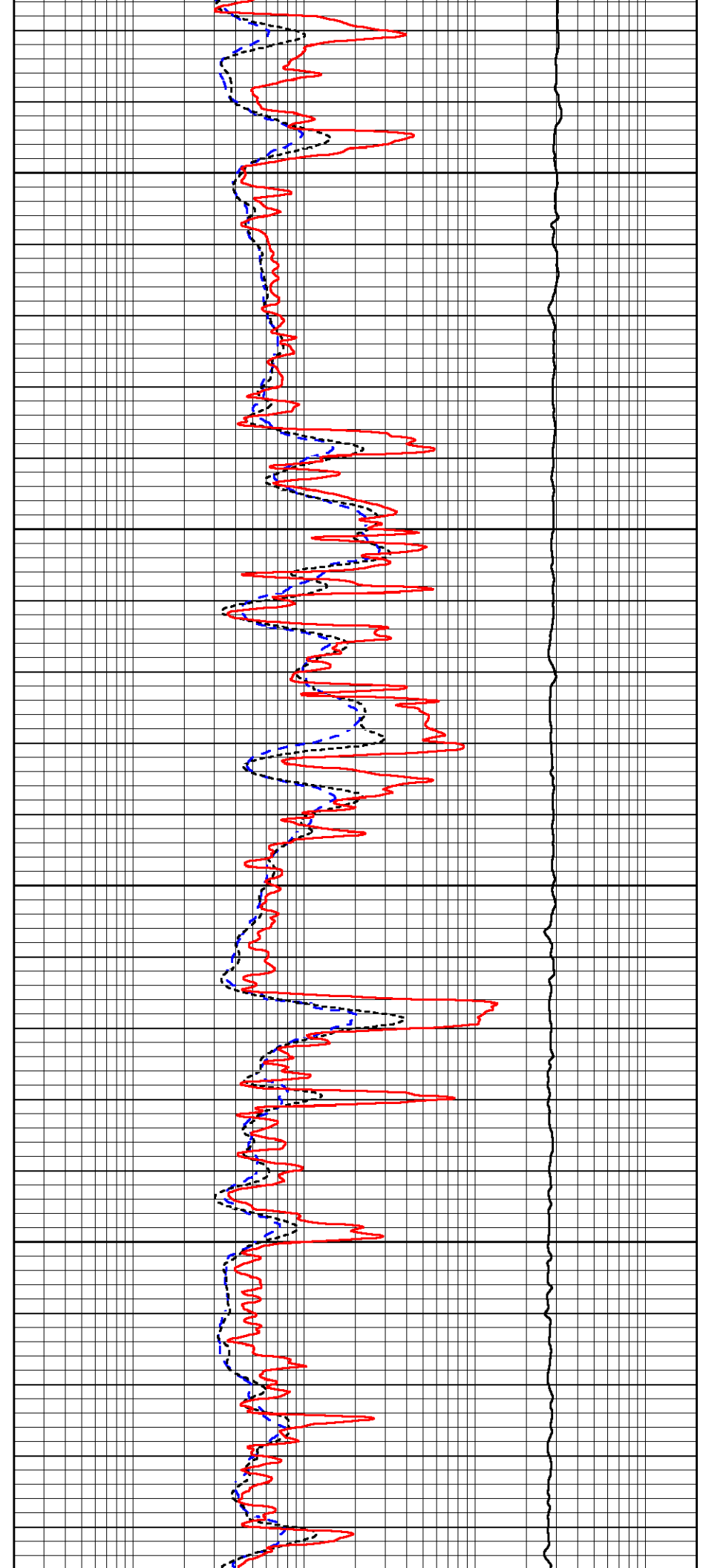


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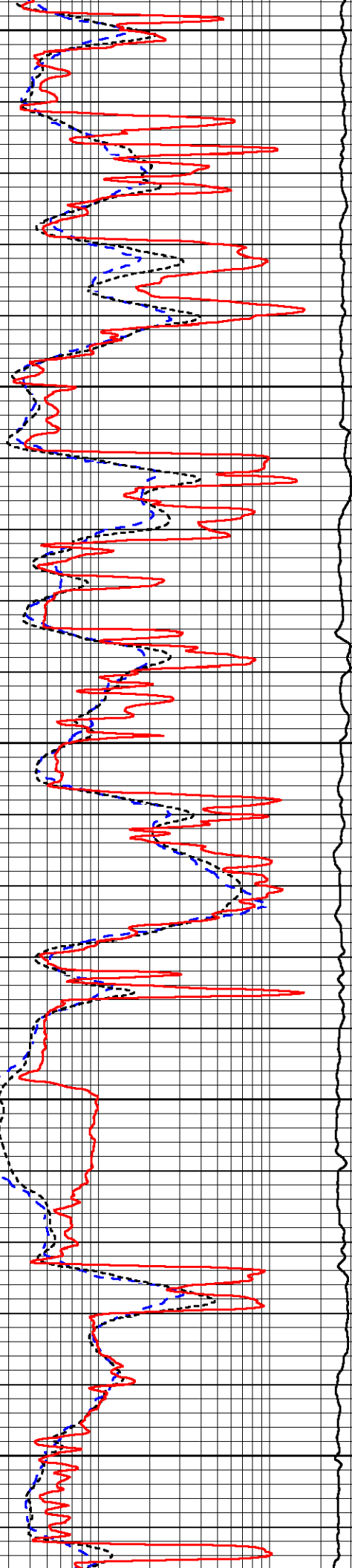
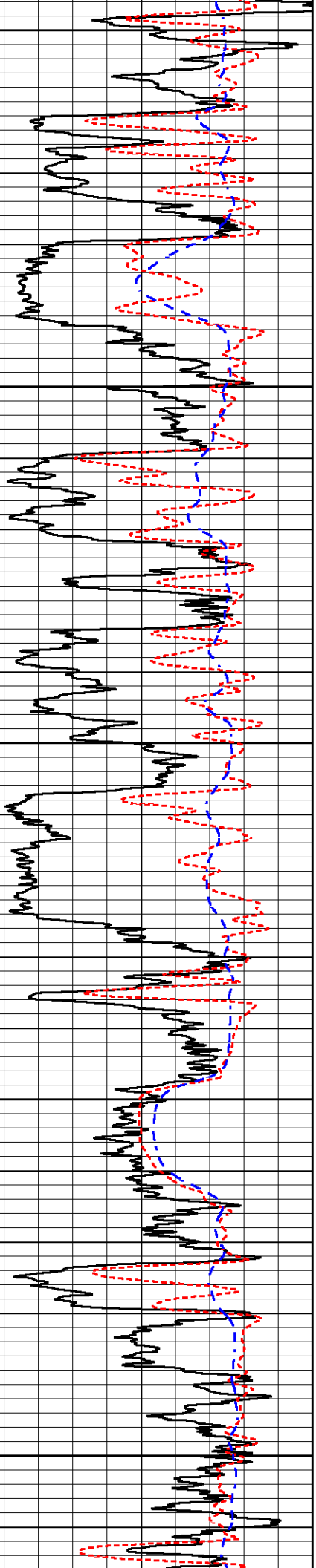
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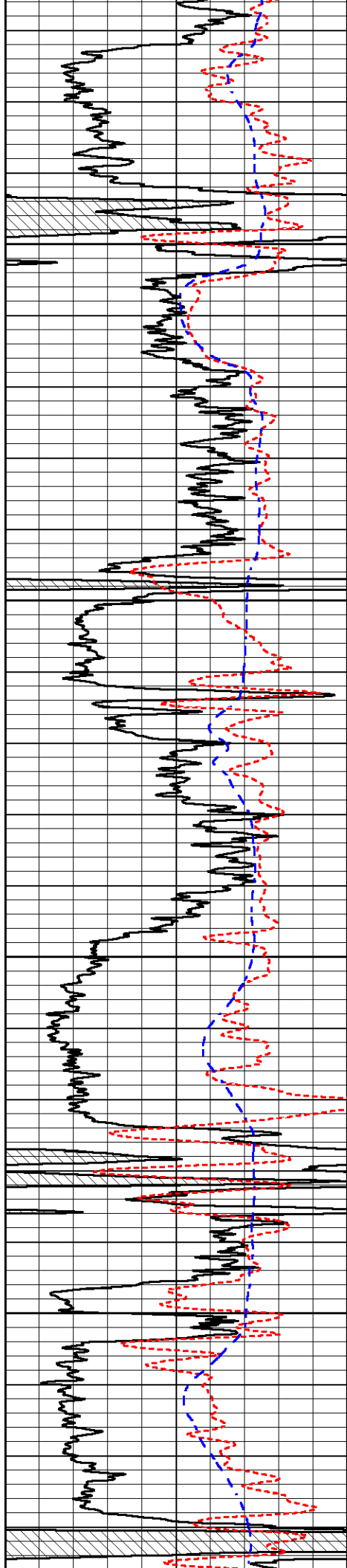
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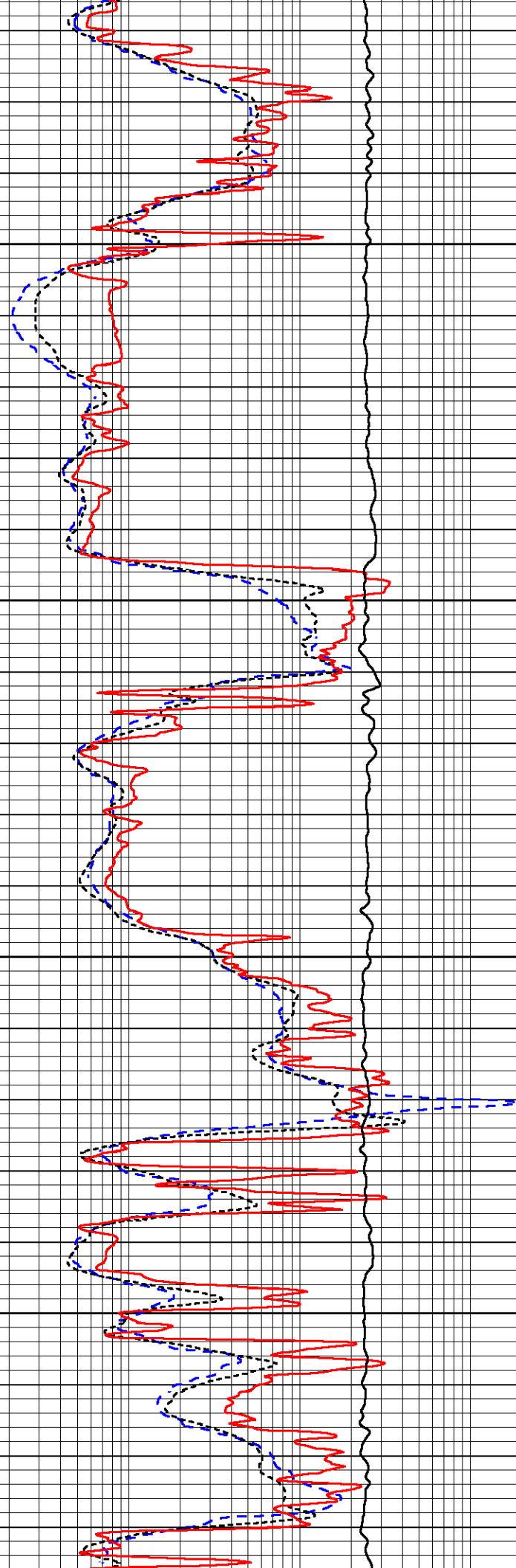


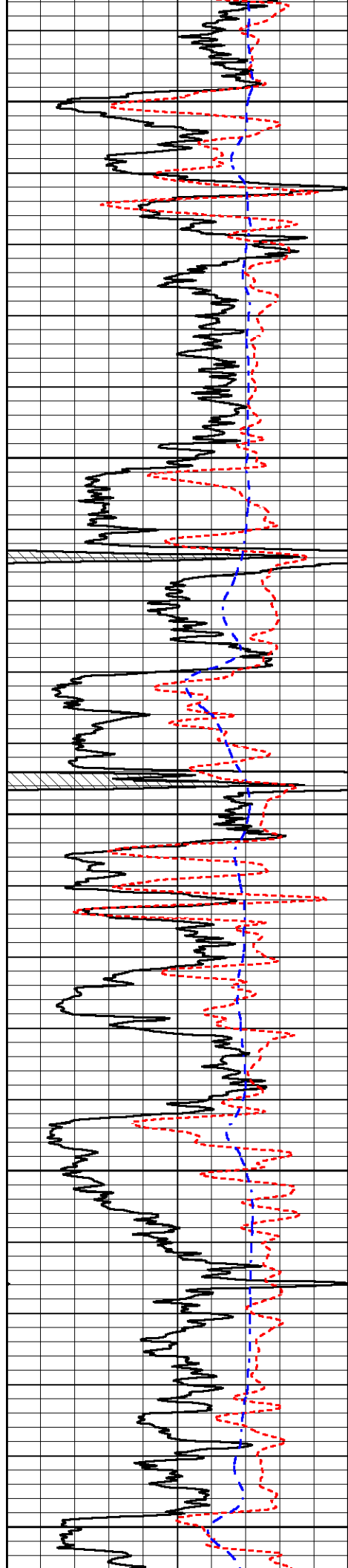
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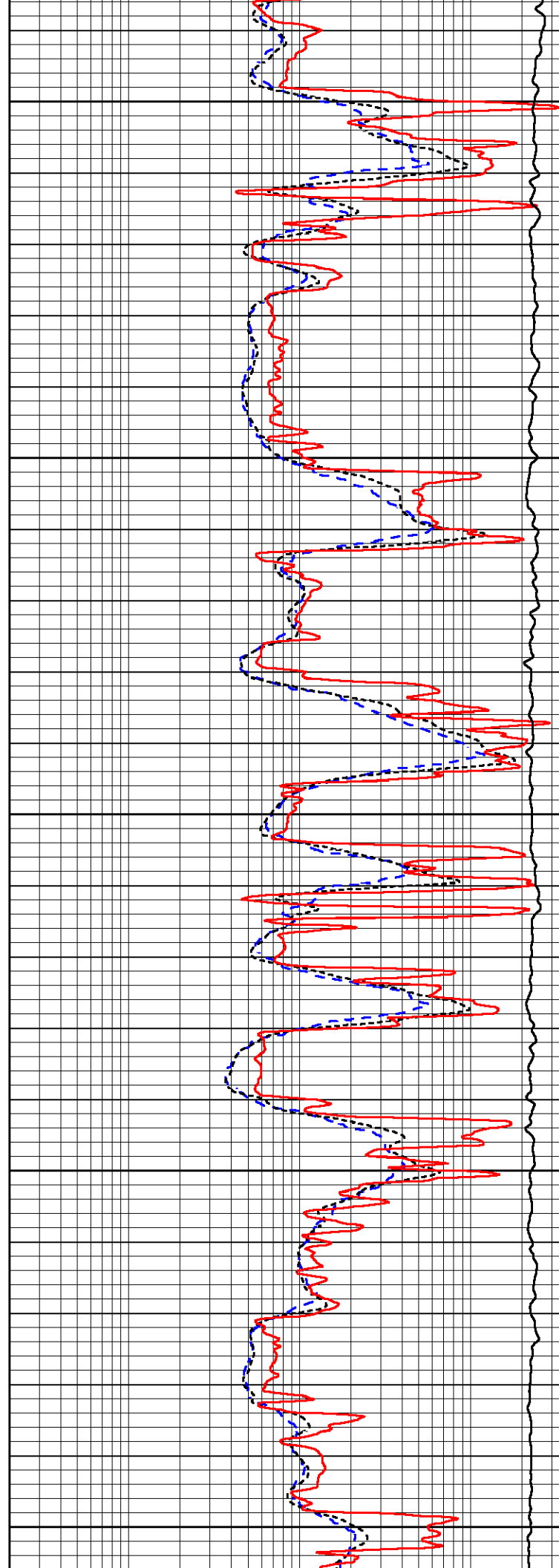
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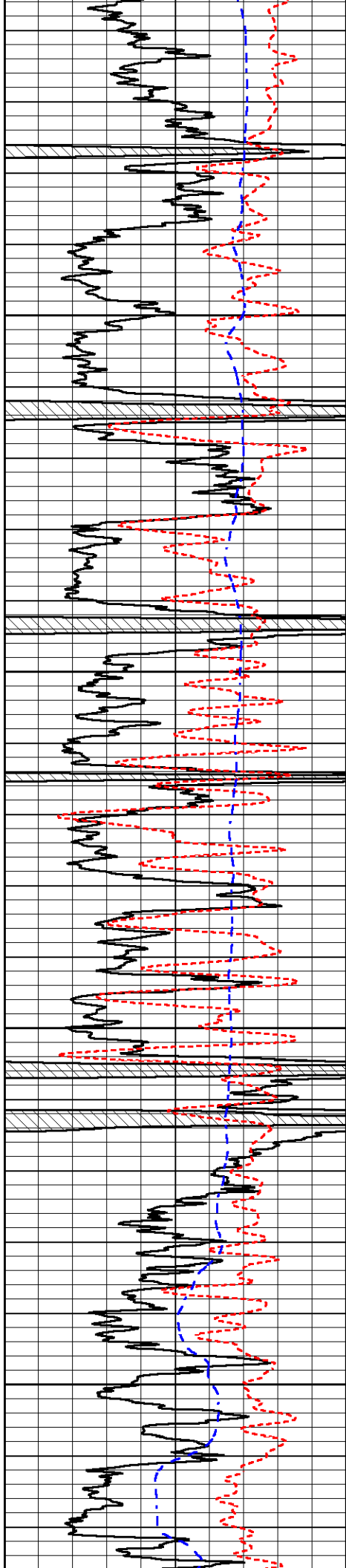
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4600

4650

4700



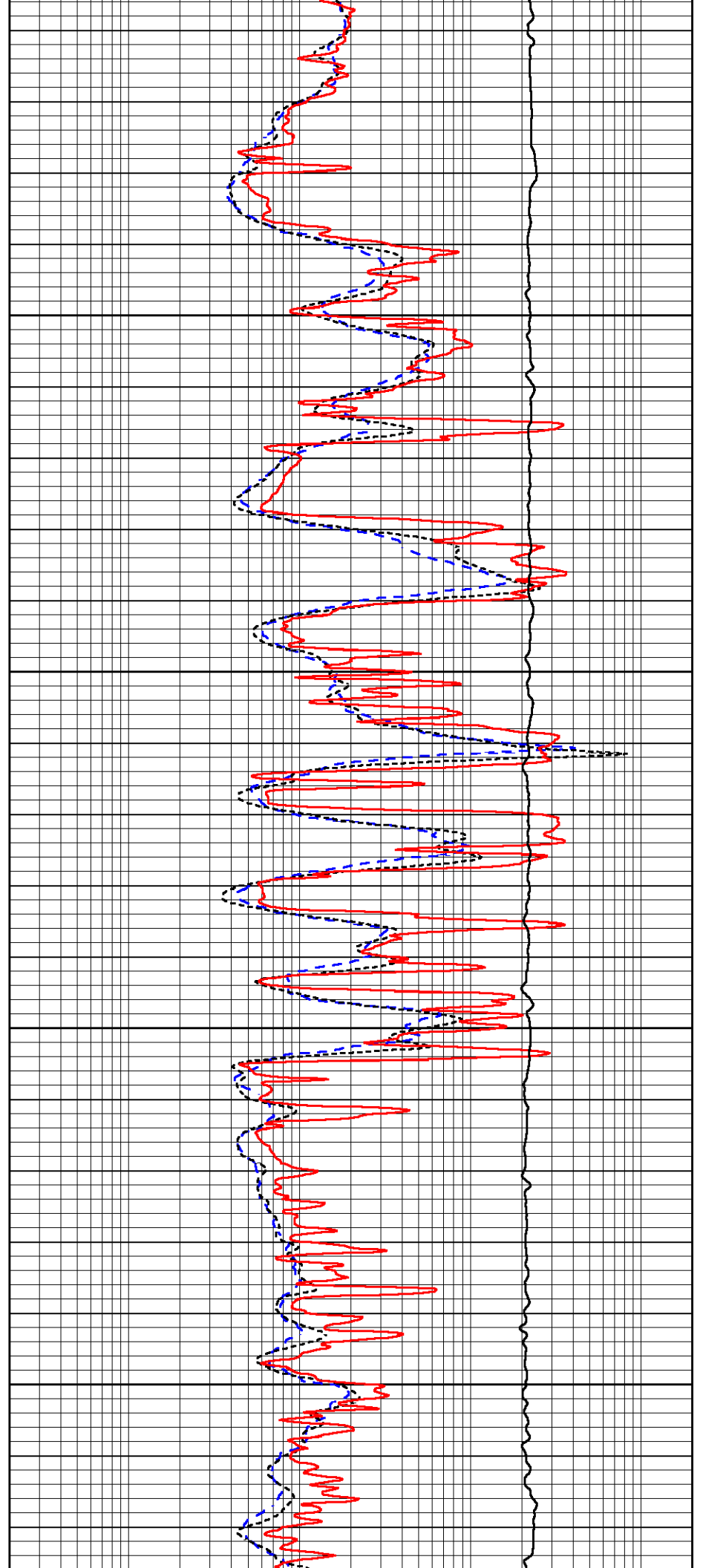


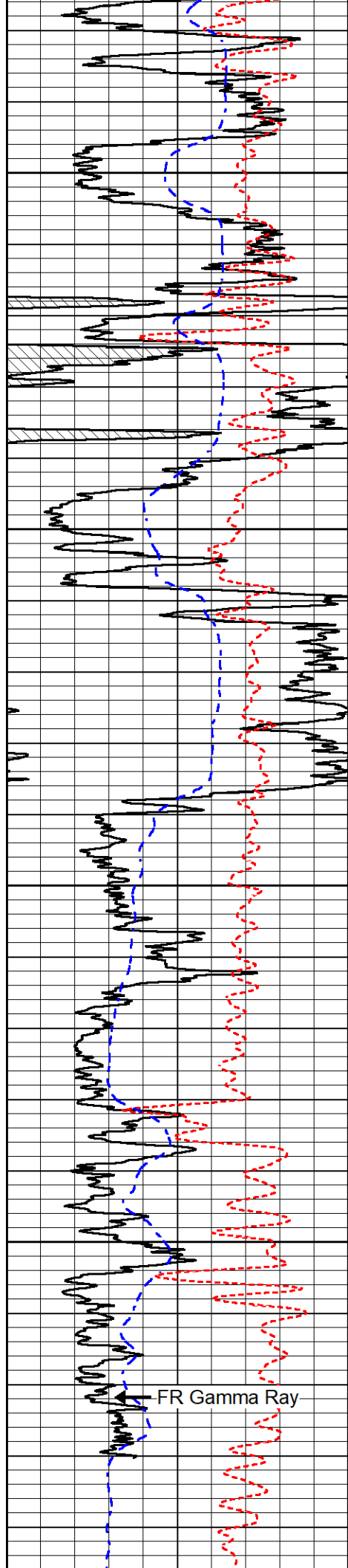
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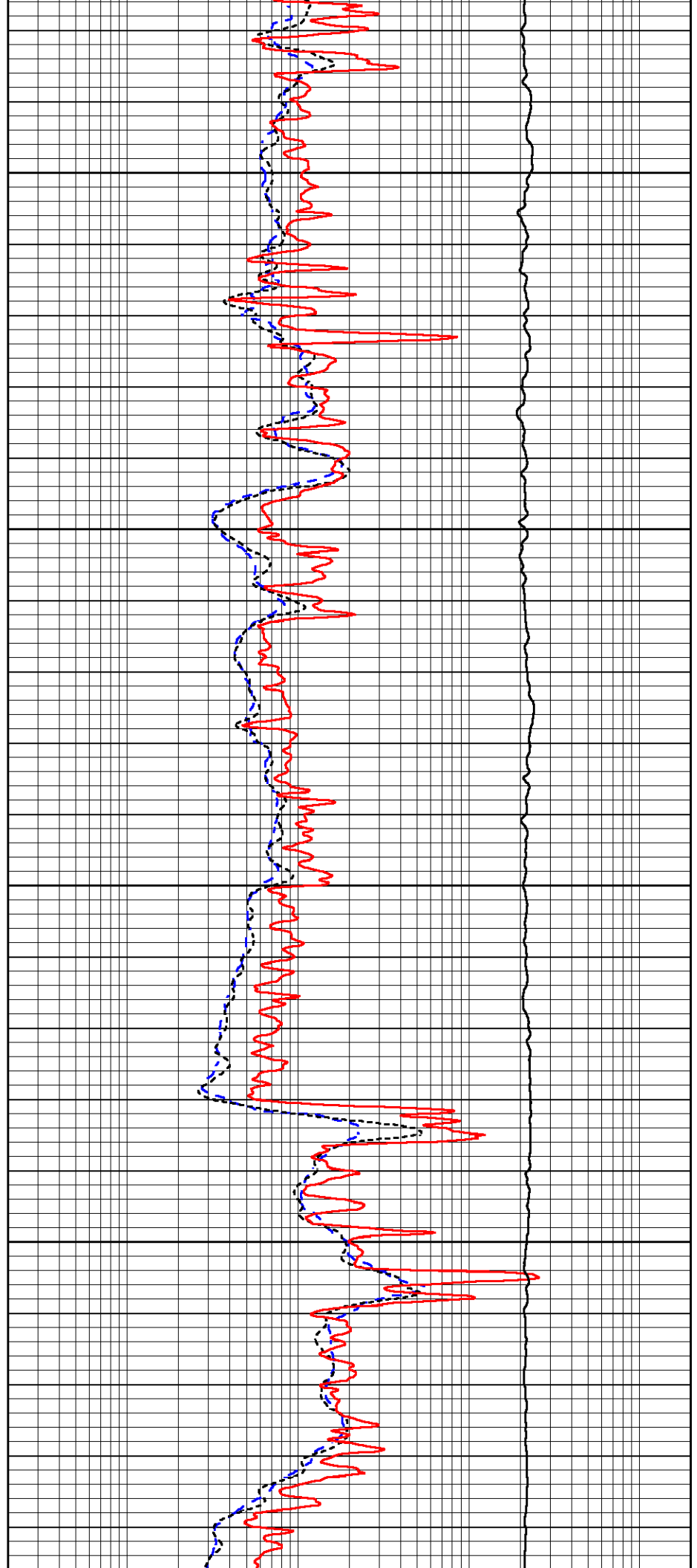
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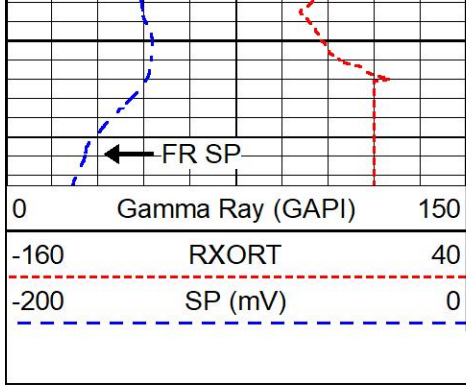
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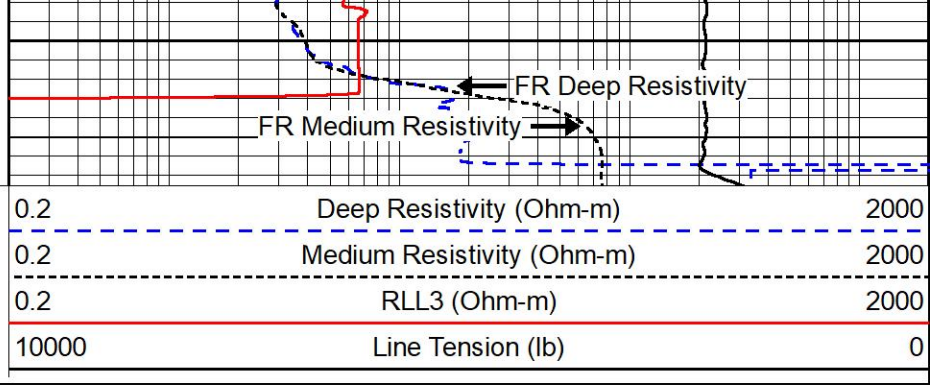
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FR Gamma Ray





5150

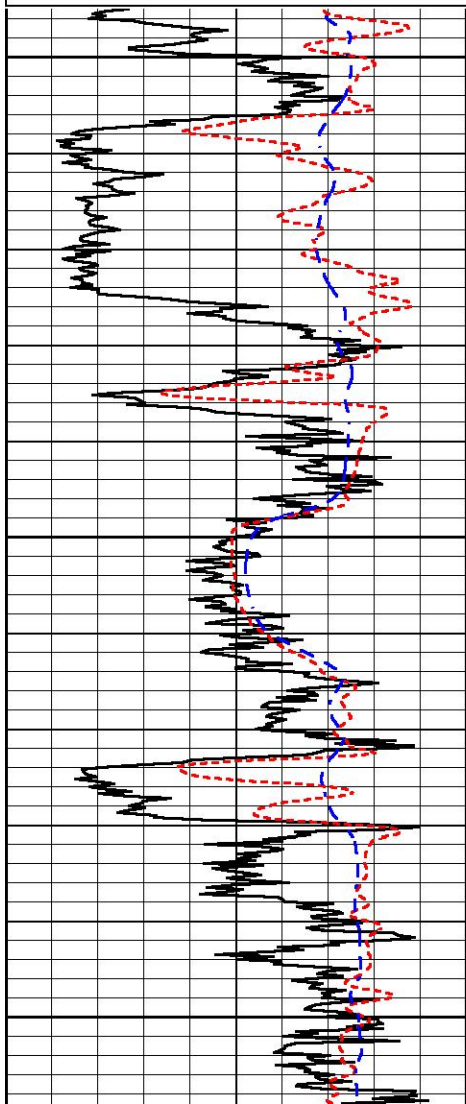
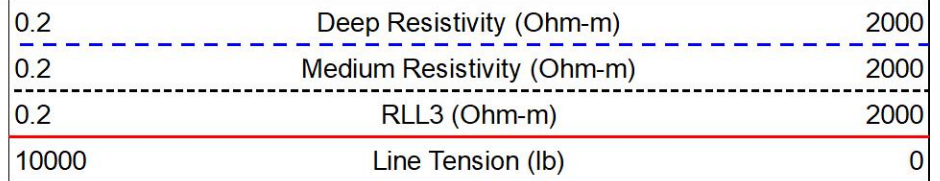
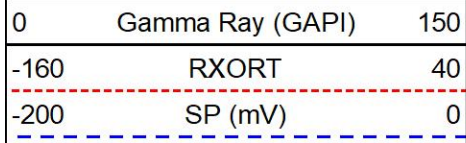


MIDWEST WIRELINE

REPEAT SECTION

REPEAT PASS

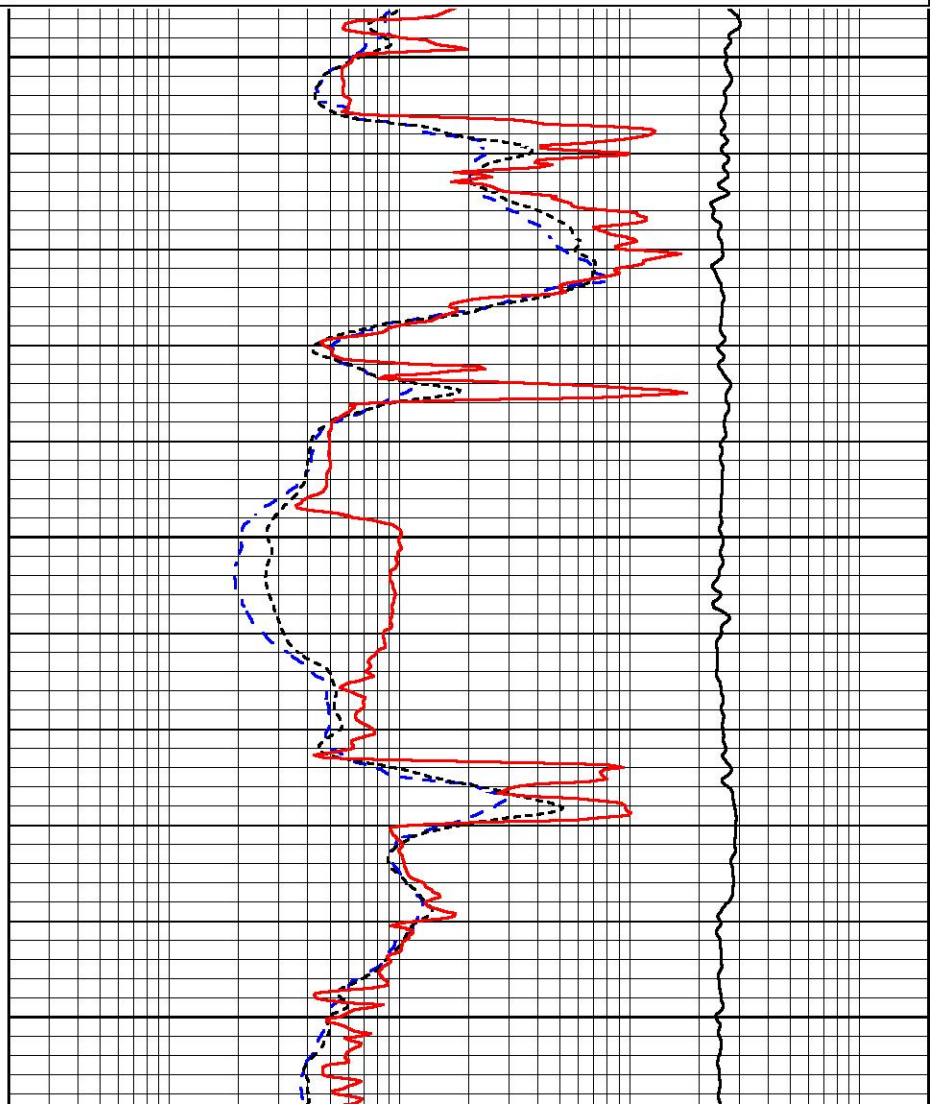
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 Dataset Pathname stkml/pass2.1
 Presentation Format _dil
 Dataset Creation Sun Aug 14 21:38:15 2022
 Charted by Depth in Feet scaled 1:240

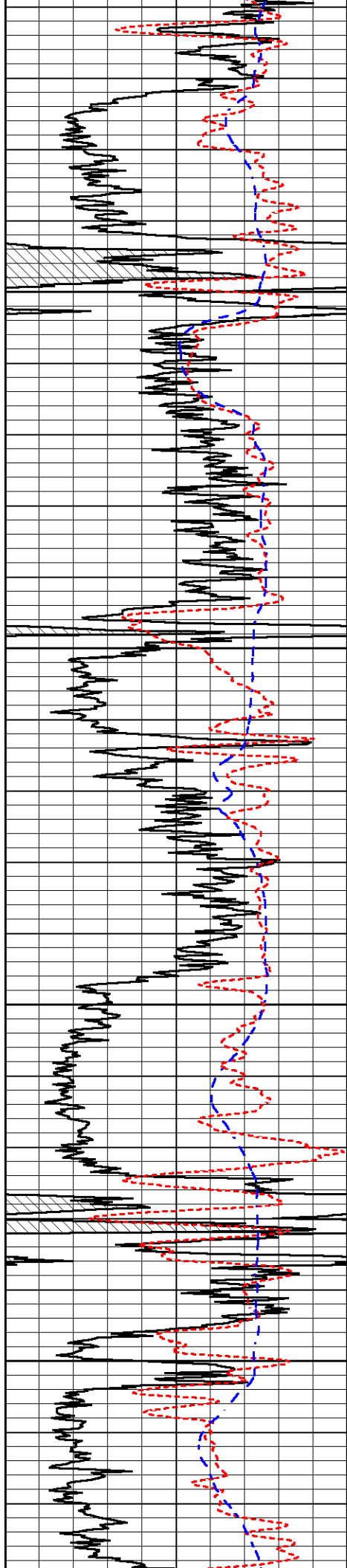


4150

4200

4250



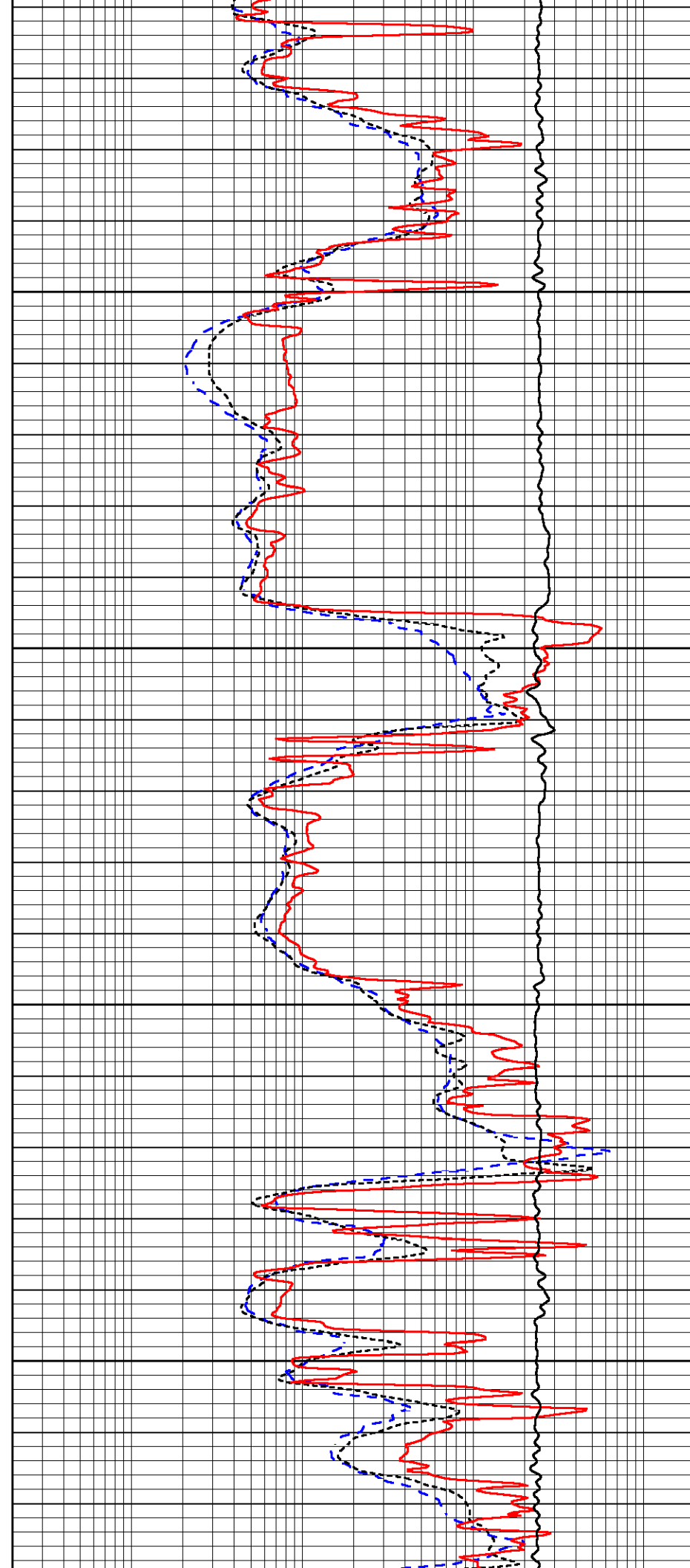


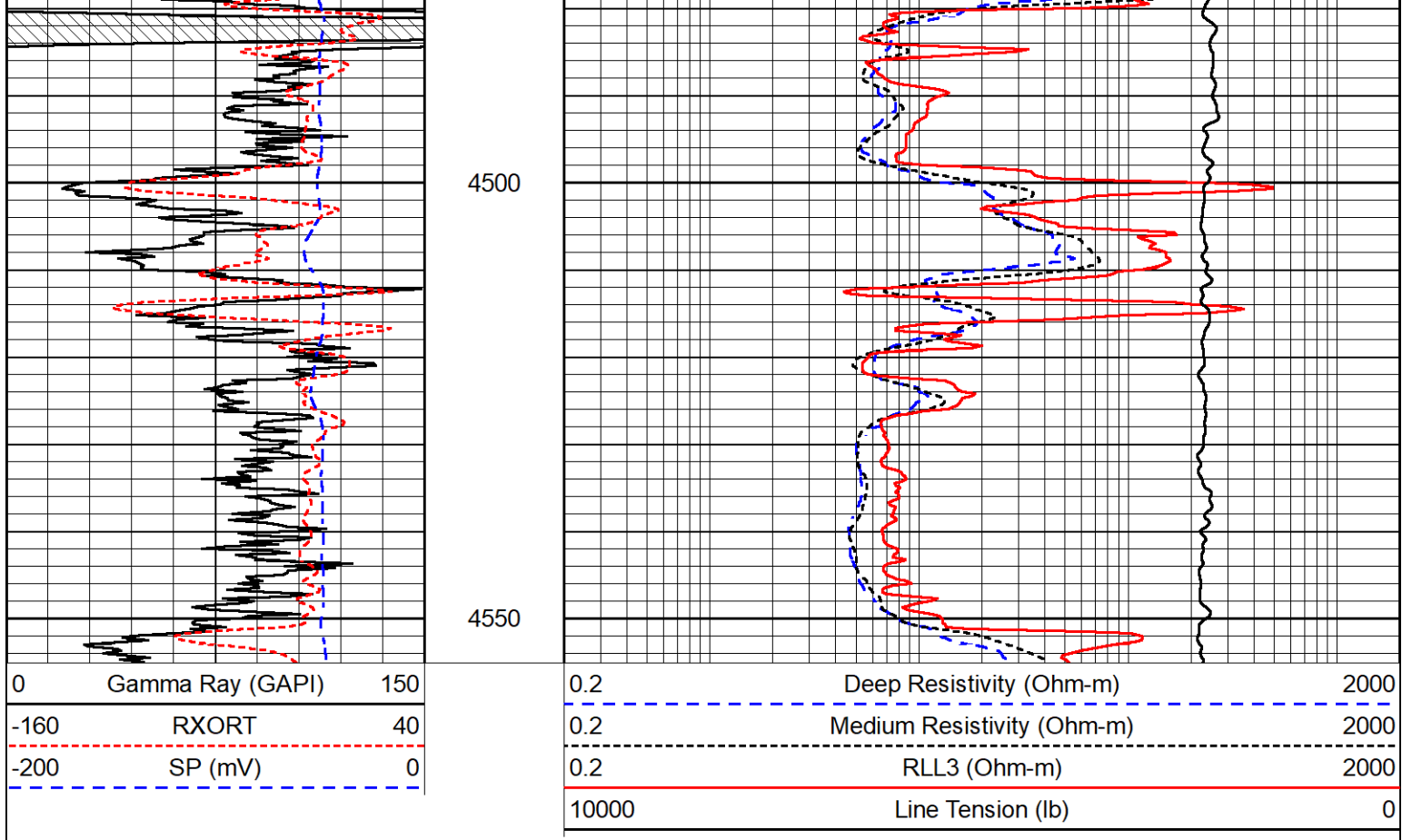
4300

4350

4400

4450





Calibration Report

Database File murfin_kaus 1-21.db
 Dataset Pathname stkml/pass4.17
 Dataset Creation Sun Aug 14 21:42:13 2022

Dual Induction Calibration Report

Serial-Model: 505 HT-M&W
 Surface Cal Performed: Wed Feb 2 12:55:14 2022

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		m	b
Deep	167.000	835.000	0.000	255.800	mmho/m	0.480	-62.000
Medium	1348.000	1348.000	0.000	255.800	mmho/m	0.390	-59.000

Microlog Calibration Report

Serial-Model: 401-PSI STKBL ML
 Performed: Mon Aug 1 06:22:24 2022

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0037	0.0043	0.0000	10.0000	Ohm-m	16000.0000	-2.0000
Inverse	0.1208	0.0013	0.0000	10.0000	Ohm-m	13700.0000	-0.8000
Caliper	1.0049	1.0846	5.5000	20.0000	in	135.0000	-131.3000

Compensated Density Calibration Report

Serial-Model: 304-04-M&W
 Source #: 21170B

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	6392.84	8538.69	cps
Aluminum	2.685	g/cc	1184.69	5433.63	cps
Spine Angle = 74.99			Density/Spine Ratio = 0.533		
	Size		Reading		
Small Ring	4.00	in	1.15		
Large Ring	14.00	in	1.02		

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 Murfin Drilling Company, Inc.
 Well Kaus #1-21
 Field
 County Cheyenne
 State Kansas