



PIONEER
Pioneer Energy Services

DUAL INDUCTION LOG

Company **AMERICAN WARRIOR, INC.**

Well **HAWK #2-35**

Field **KISMET**

County **SEWARD** State **KANSAS**

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

Other Services
CNL/CDL
MEL

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'

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

Date **8/5/2016**

Run Number **ONE**

Depth Driller **6100'**

Depth Logger **6108'**

Bottom Logged Interval **6107'**

Top Log Interval **1700'**

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**

Rmt @ Meas. Temp **0.66 @ 76**

Rmc @ Meas. Temp **1.19 @ 76**

Source of Rmt / 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

This Log Record Was Witnessed By

Engineer: **T. MARTIN**

Primary Witness: **KEVIN TIMSON**

Operator:

Secondary Witness:

Operator:

Secondary Witness:

Operator:

Secondary Witness:

DatabaseC:\ProgramData\Warrior\Data\amwar_hawk_#2-35.db
Dataset field/well/stkml/pass3.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	136	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	-240	76	Off	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 CNSSC	37.48 36.73		CNT-M&W (tk10-MW)	5.50	3.50	100.00
LSD DCAL SSD	28.43 28.42 27.93		CDL-M&W (71-914)	8.50	4.00	250.00
MCAL MI MN	19.83 19.83 19.83		ML-PSI STKBL ML (PSI-02) Stackable Microlog Tools	7.58	4.00	65.00
RLL3 RLL3F	15.80 15.79					
CILD	8.00		DIL-M&W (1987)	18.50	3.50	220.00

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

**PIONEER**

Pioneer Energy Services

2" SCALE RESISTIVITY

MAIN PASS

Database File amwar_hawk_#2-35.db
Dataset Pathname stkml/pass3.2
Presentation Format dil2in
Dataset Creation Sat Aug 06 01:14:39 2016
Charted by Depth in Feet scaled 1:600

0 GAMMA RAY (GAPI) 150

1000 CONDUCTIVITY (mmho/m) 0

SHALLOW RESISTIVITY

0 (Ohm-m) 50

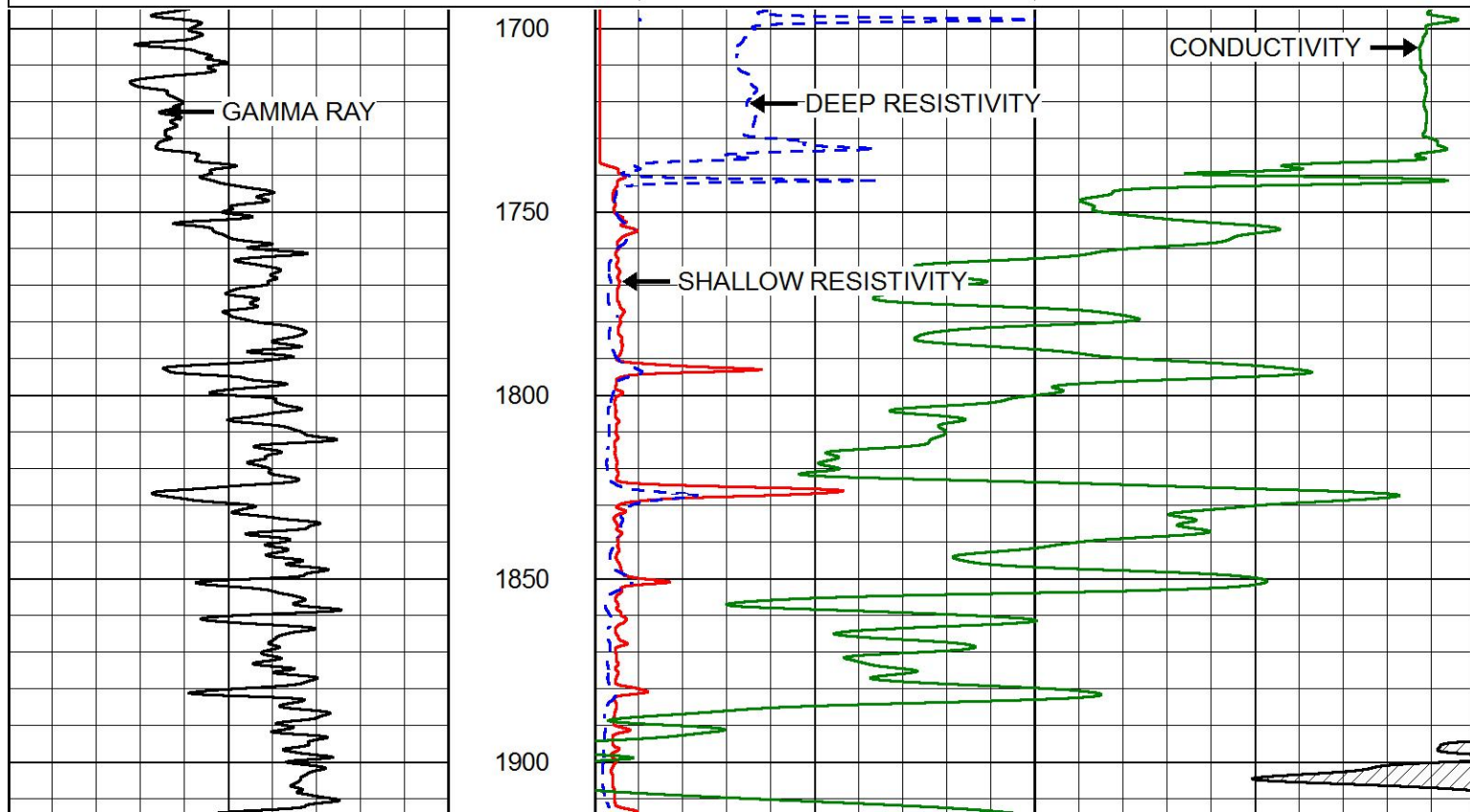
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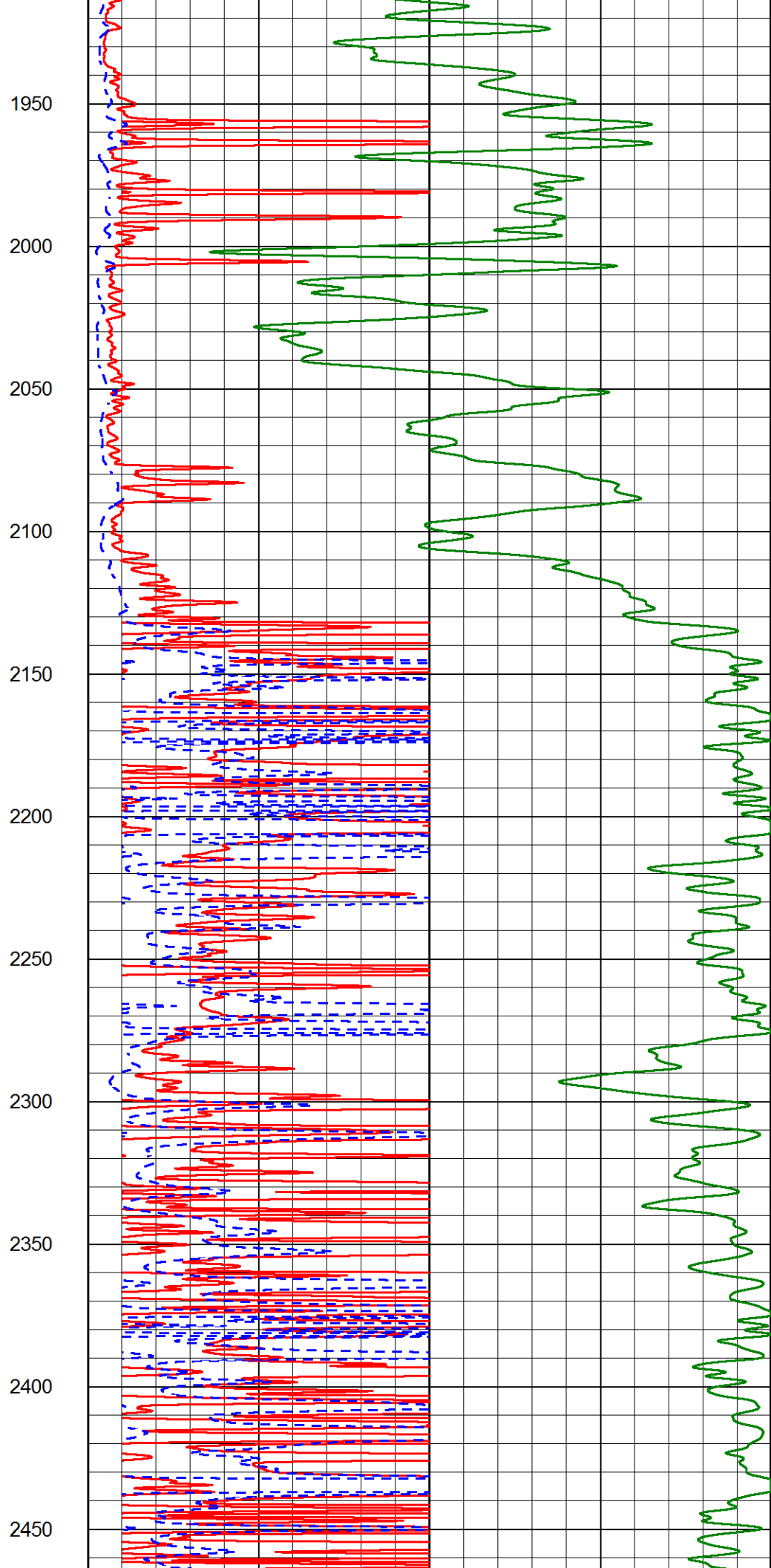
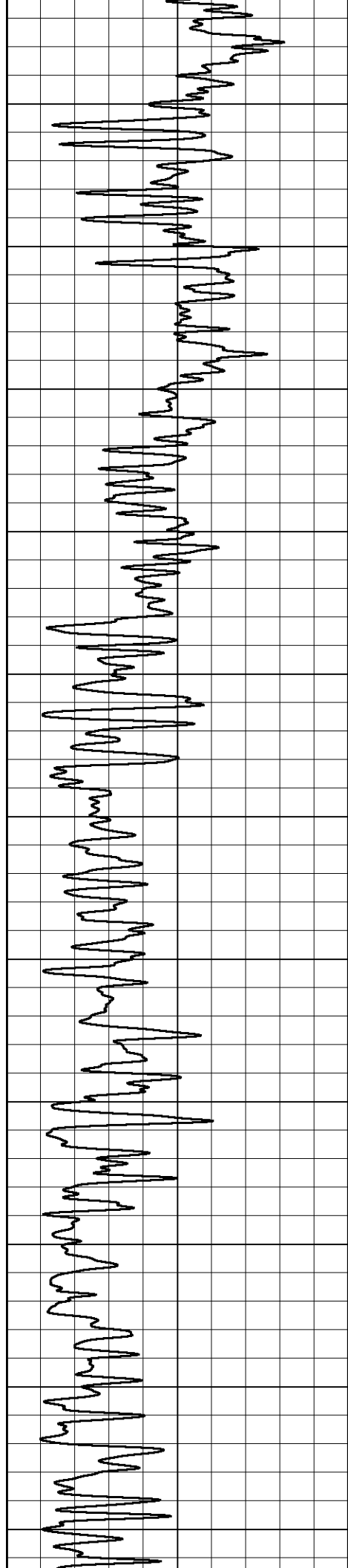
SHALLOW RESISTIVITY

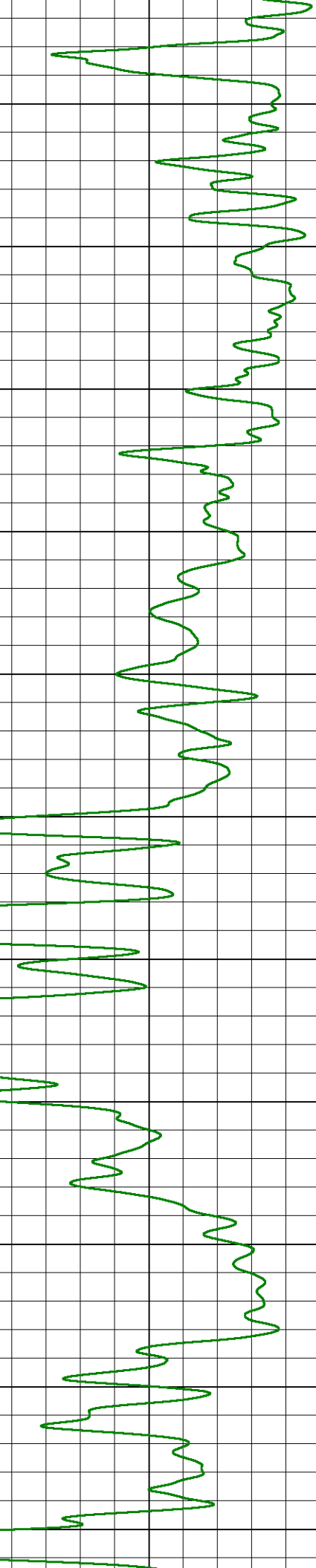
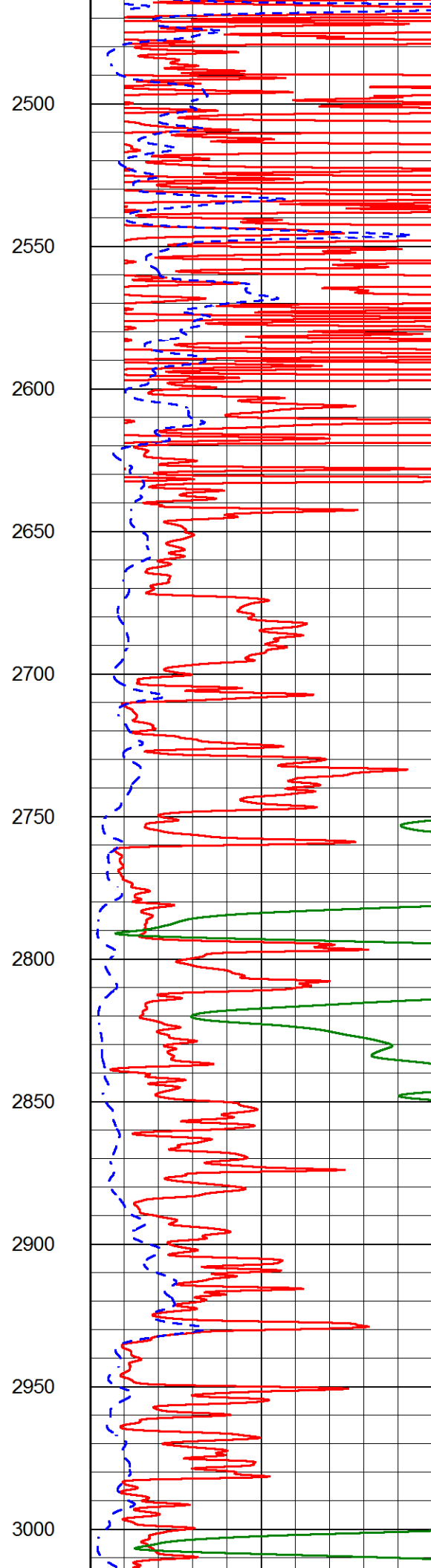
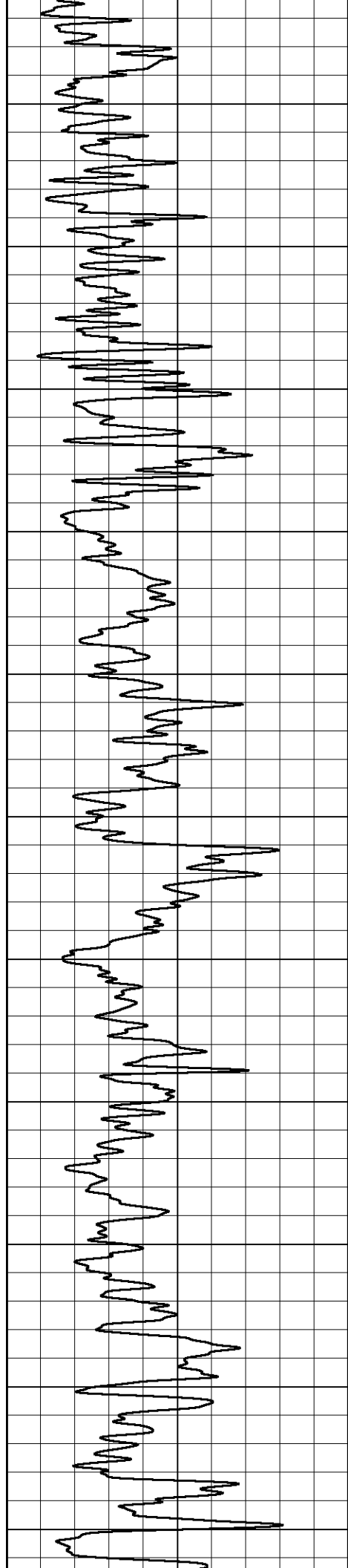
50 (Ohm-m) 500

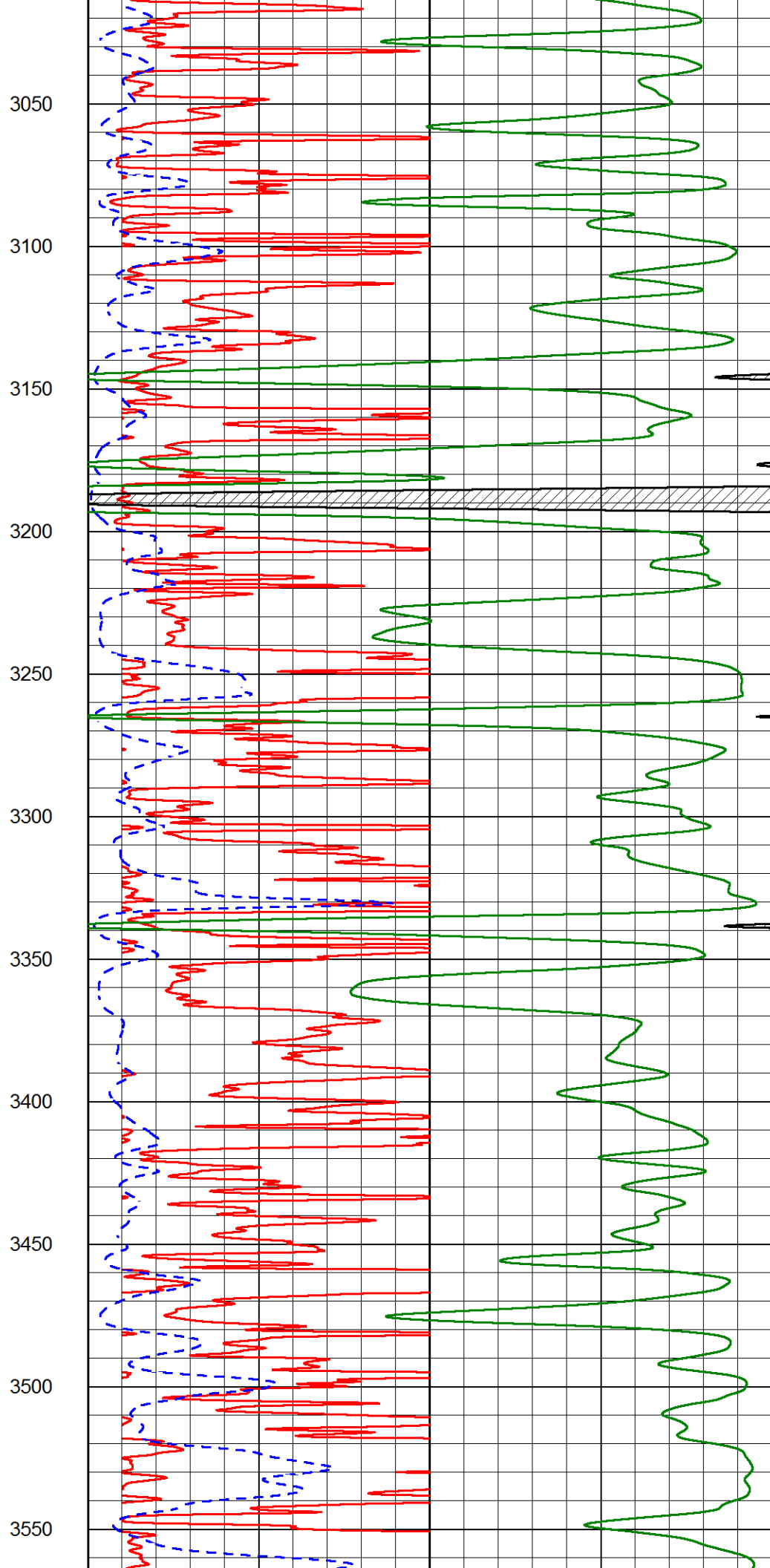
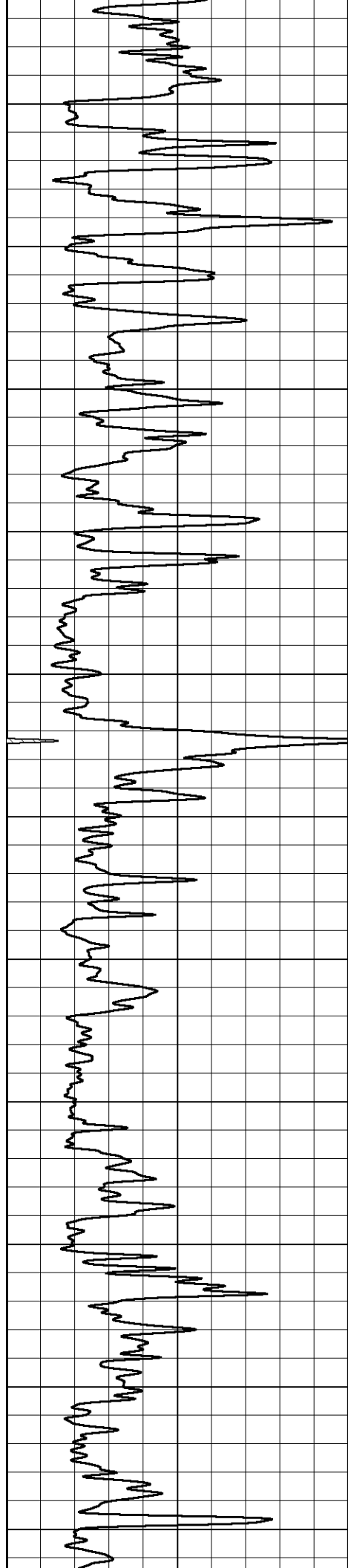
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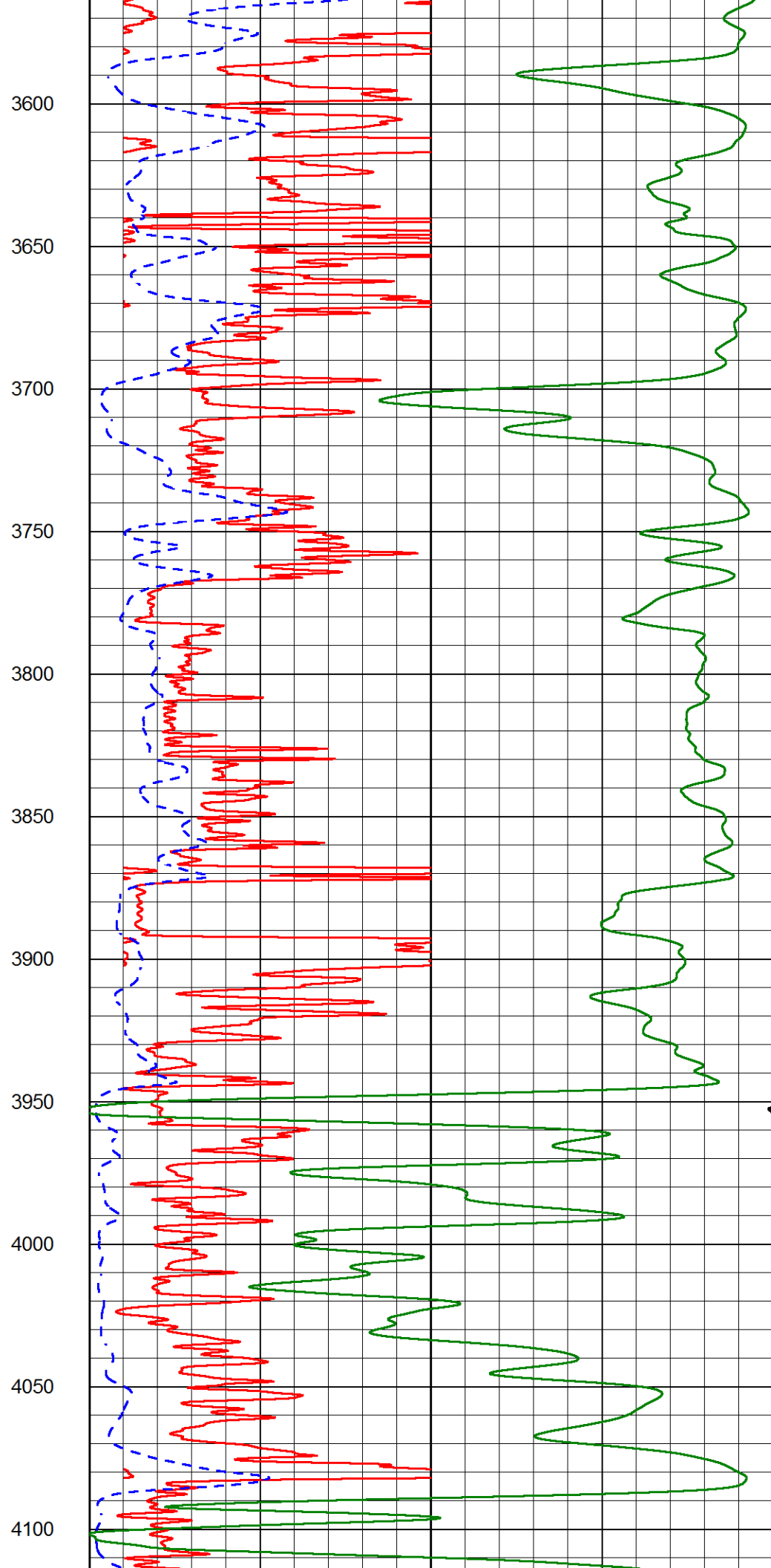
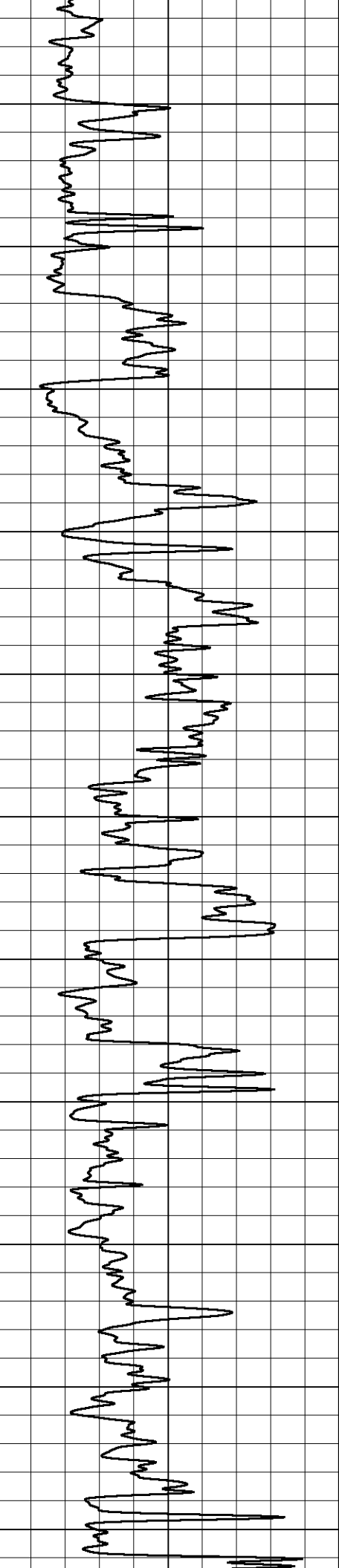
50 (Ohm-m) 500

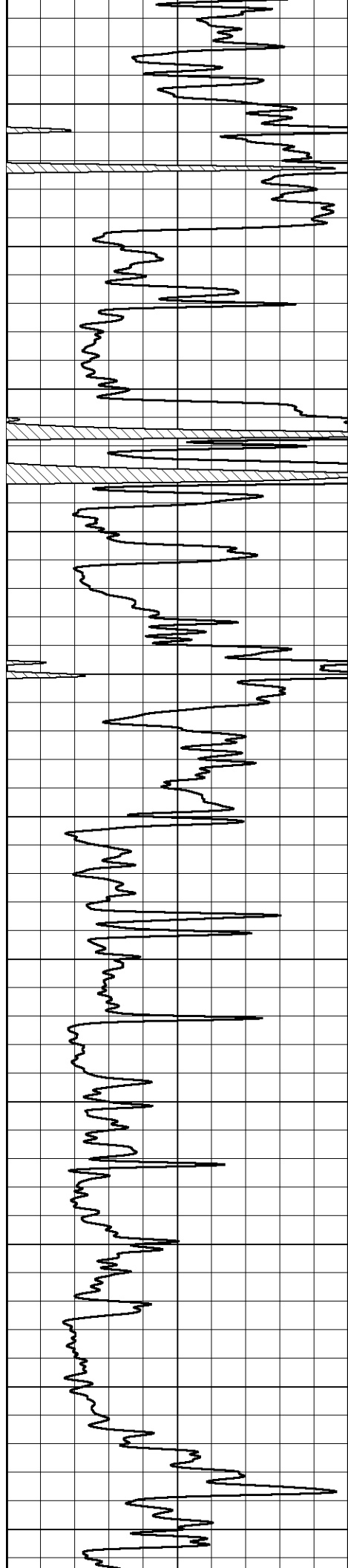












4150

4200

4250

4300

4350

4400

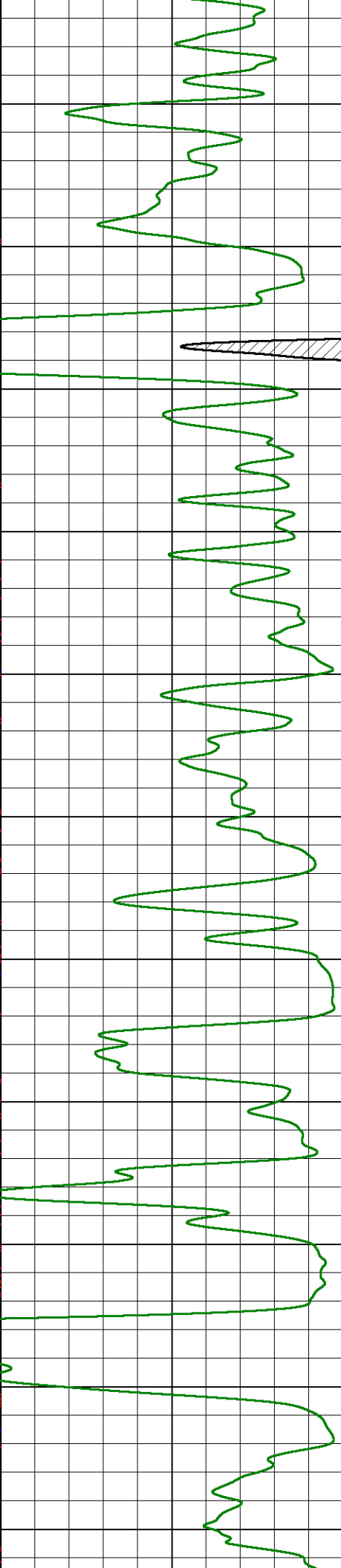
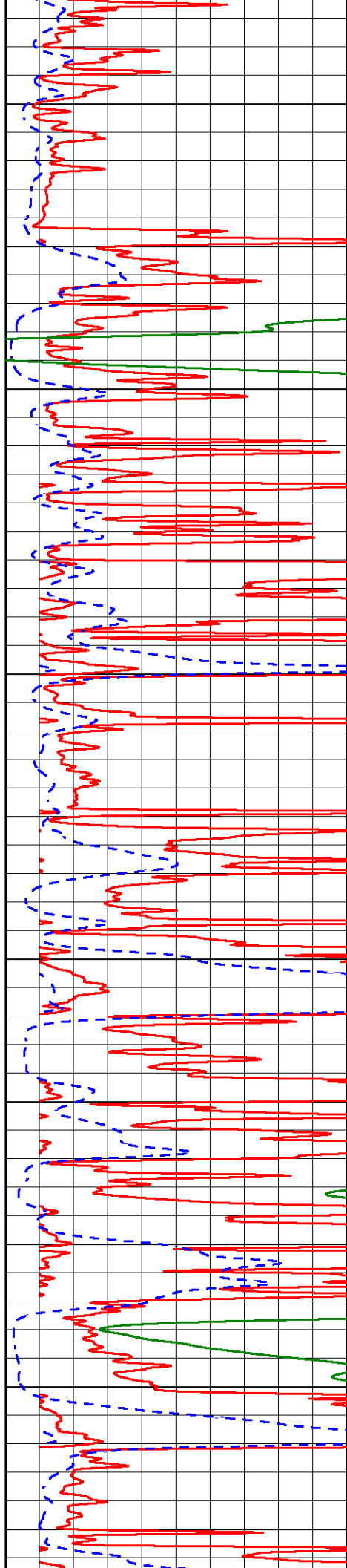
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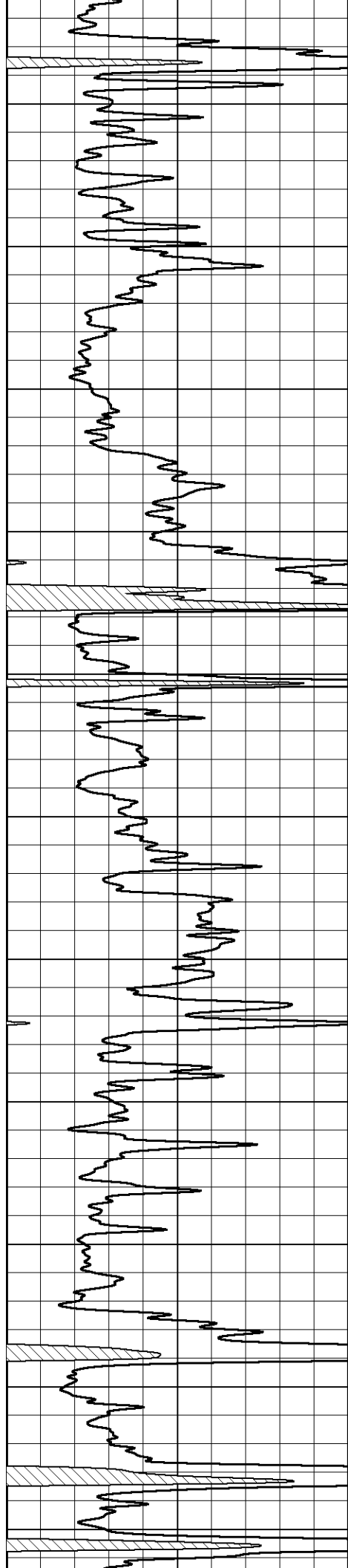
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4600

4650





4700

4750

4800

4850

4900

4950

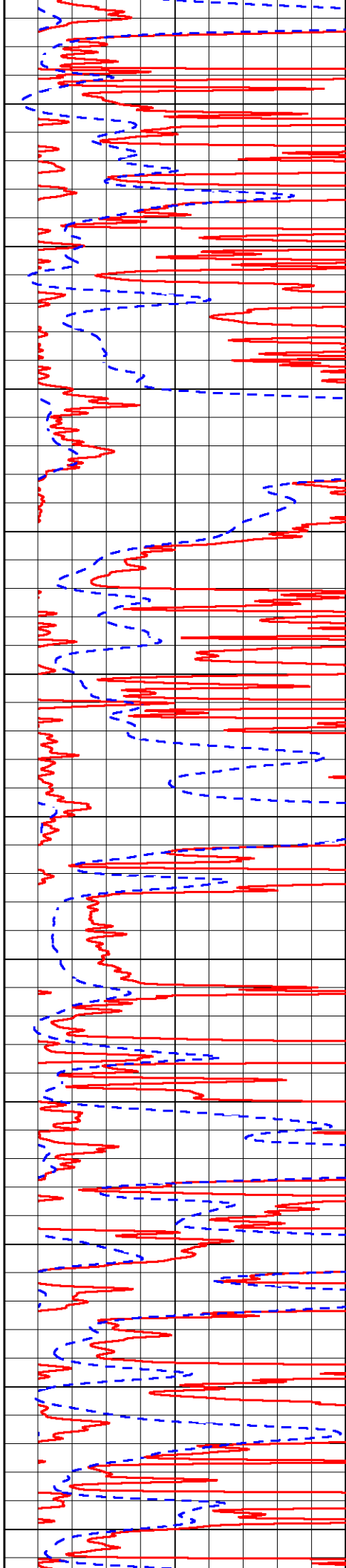
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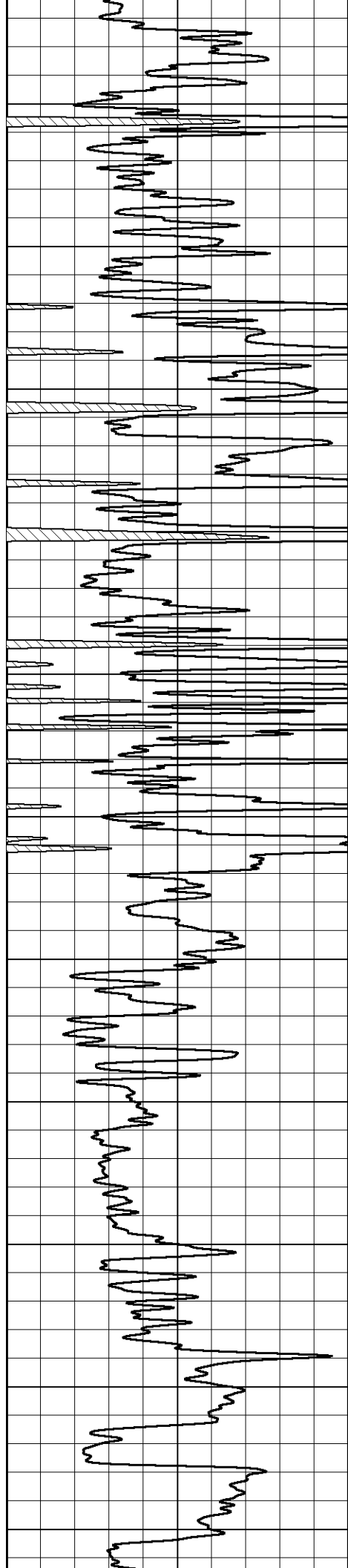
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5150

5200





5250

5300

5350

5400

5450

5500

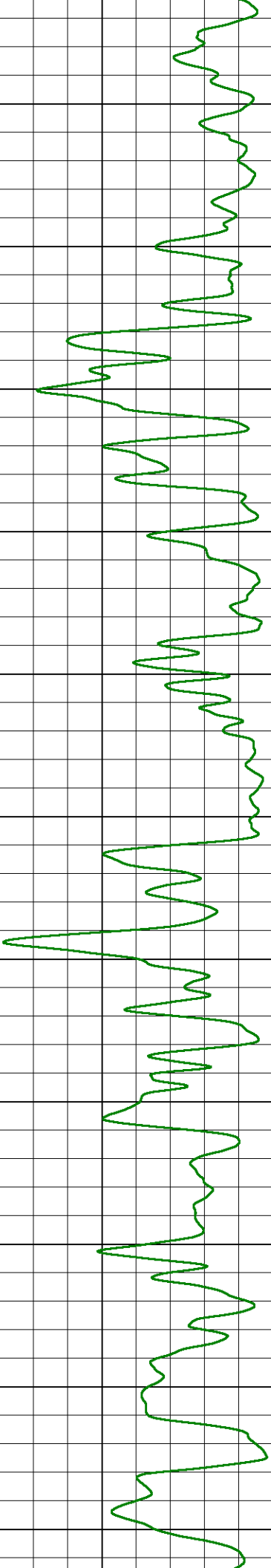
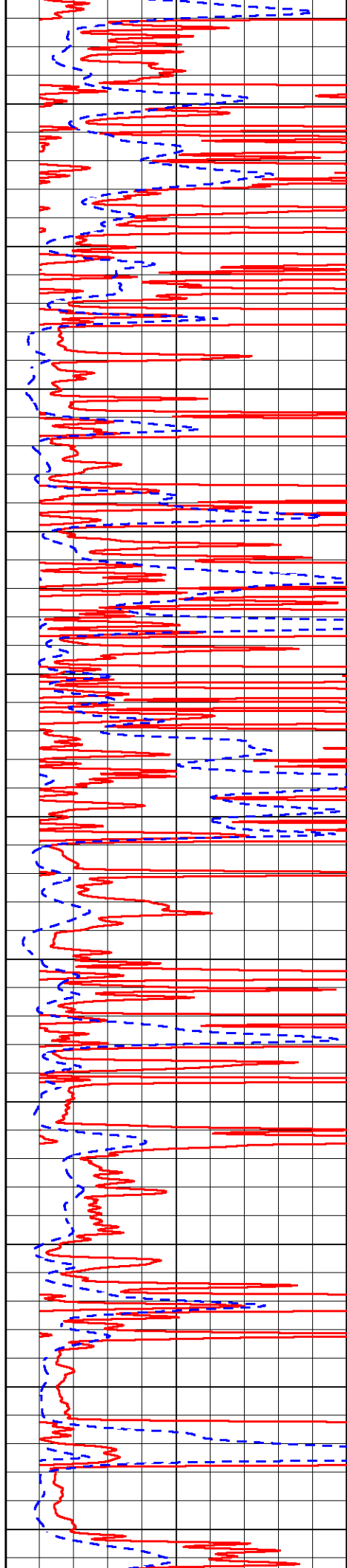
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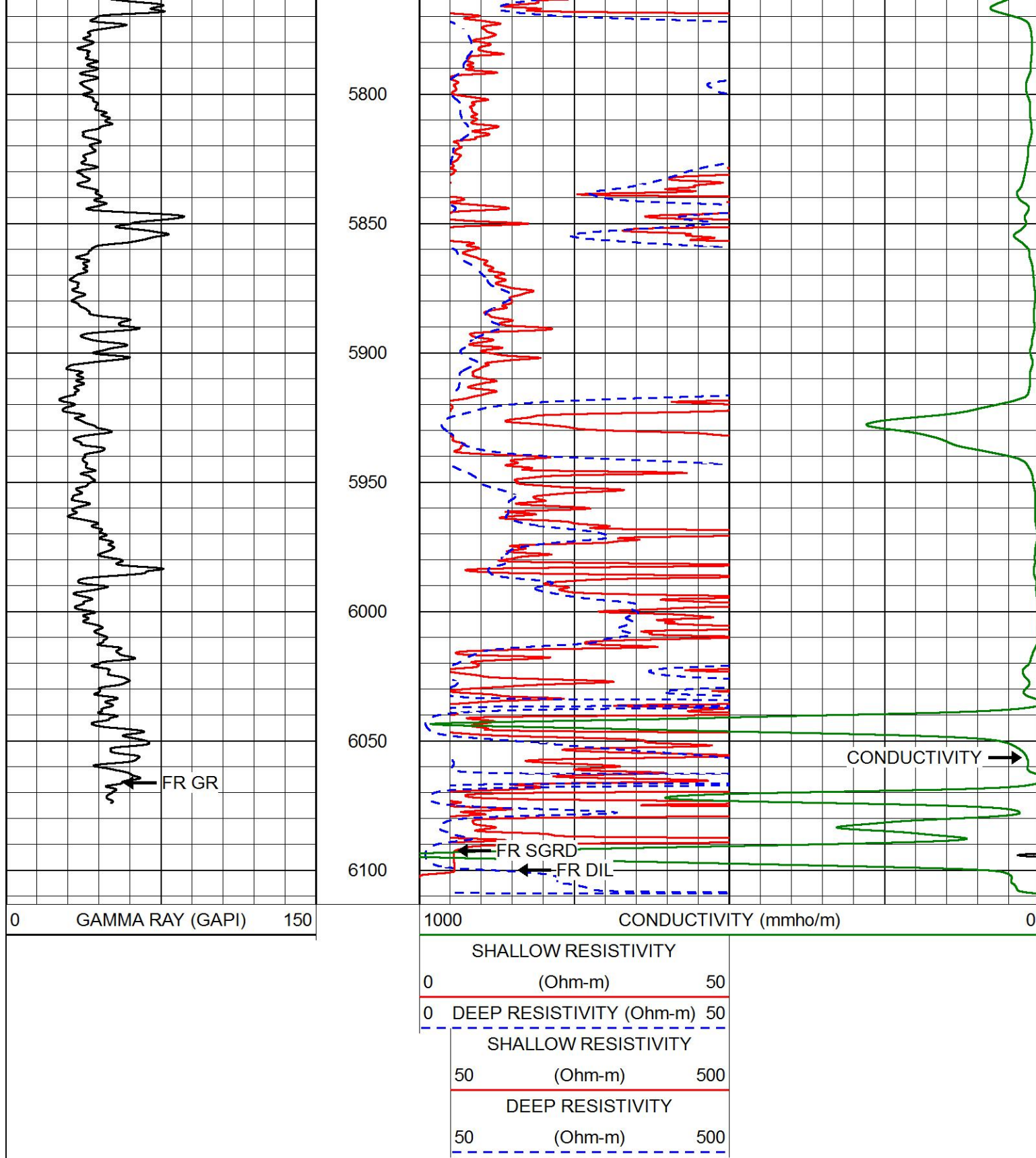
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5650

5700

5750



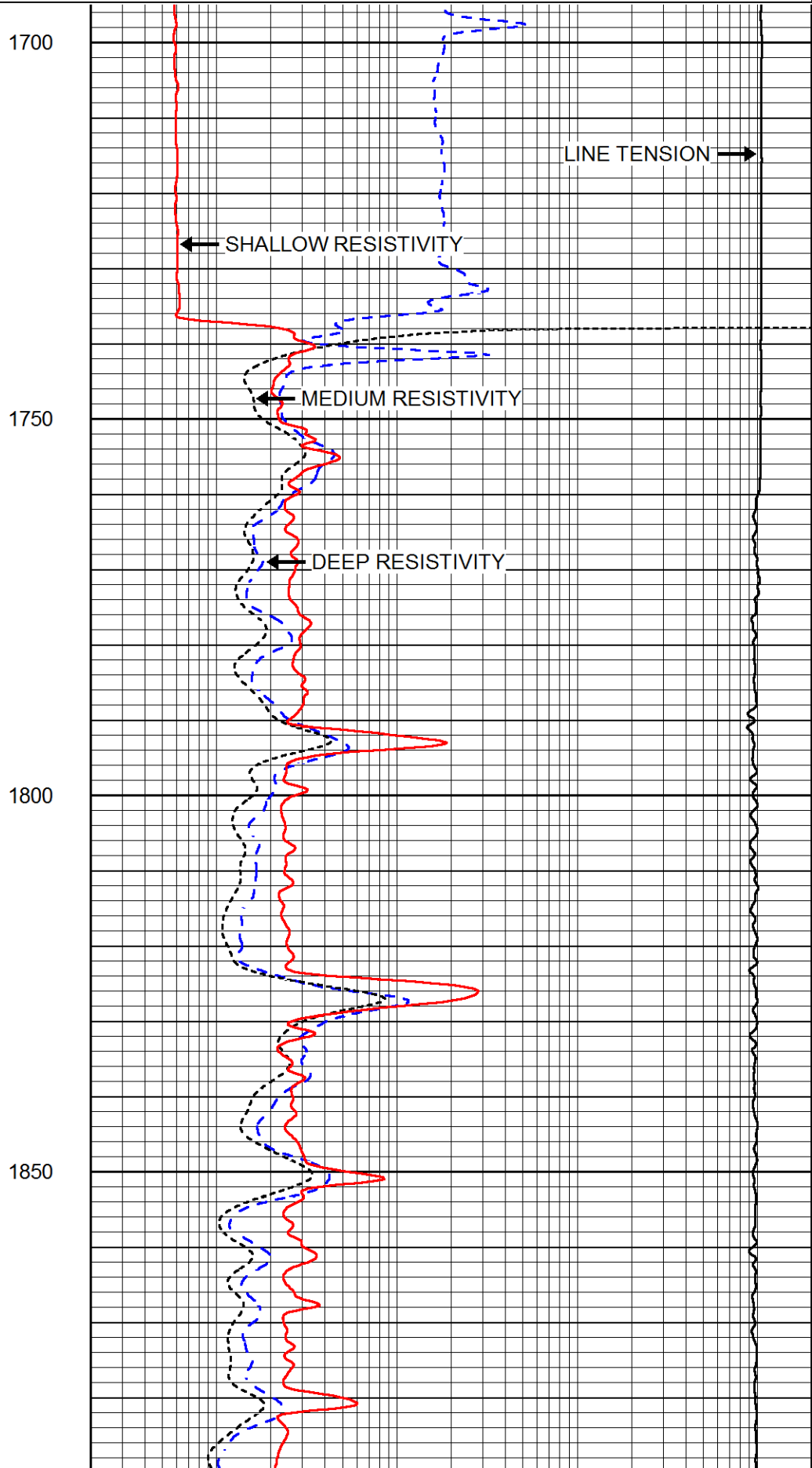
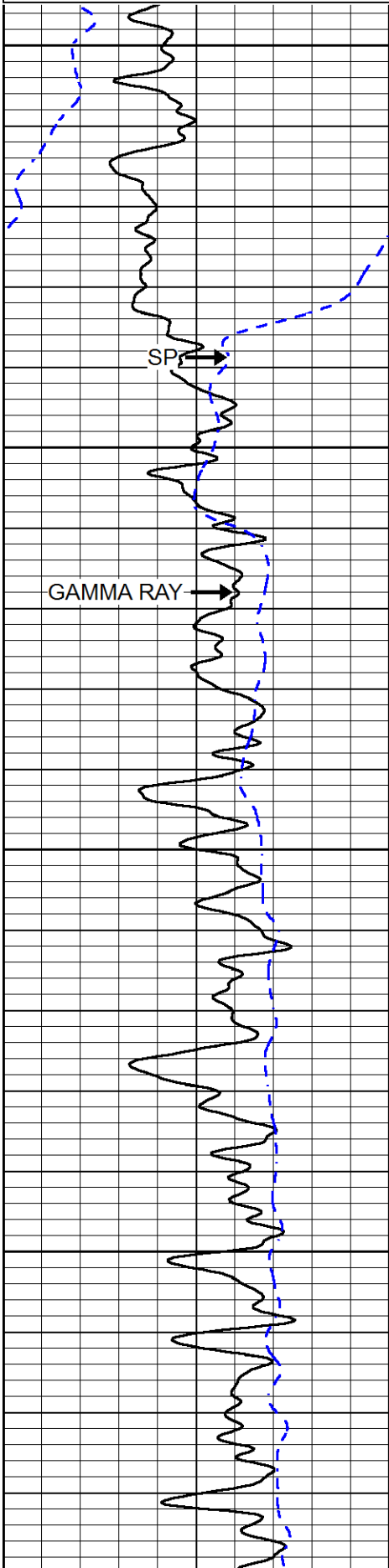


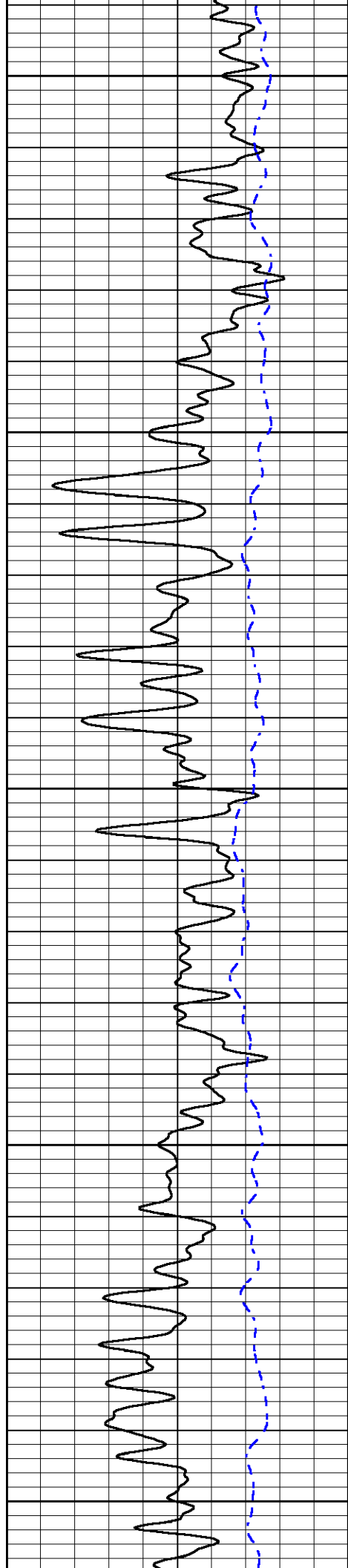
MAIN PASS

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

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	SHALLOW RESISTIVITY (Ohm-m)	2000
15000	LINE TENSION (lb)	0





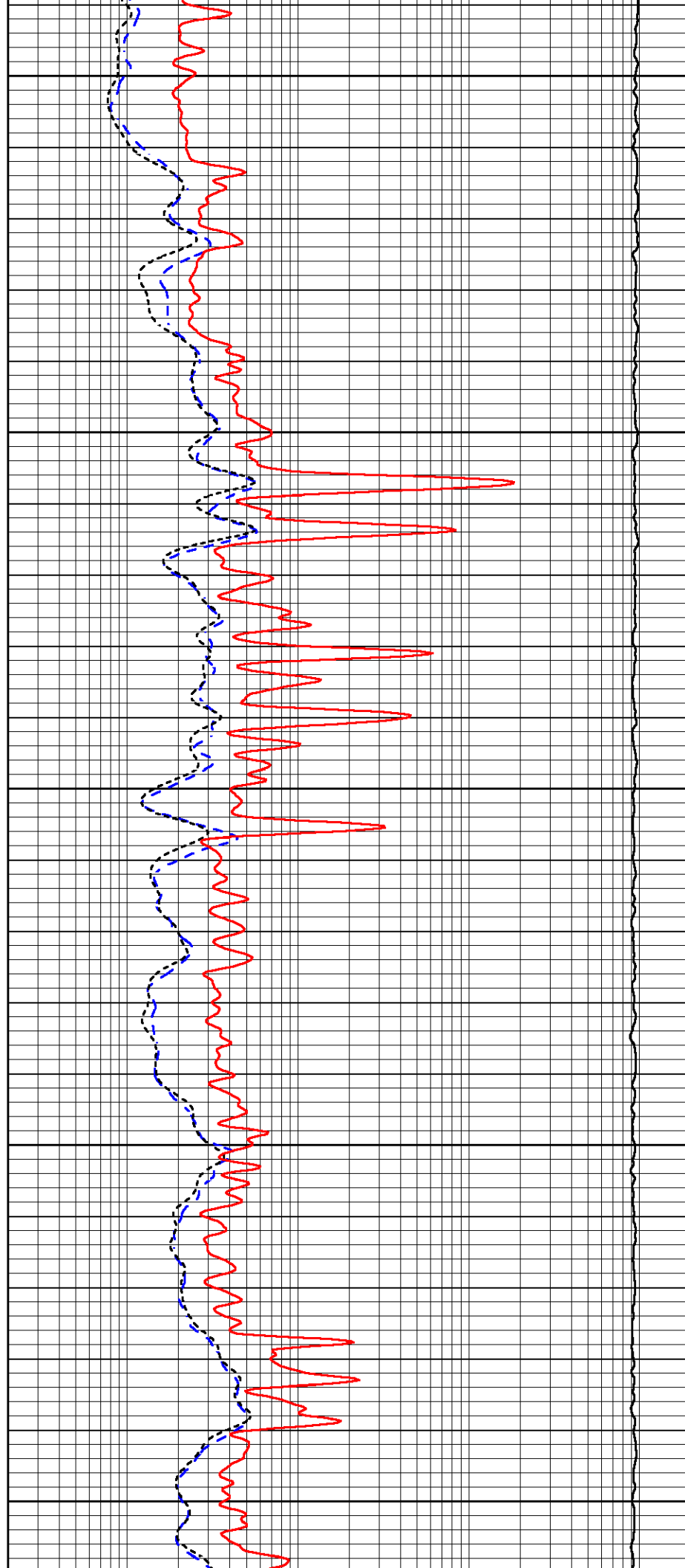
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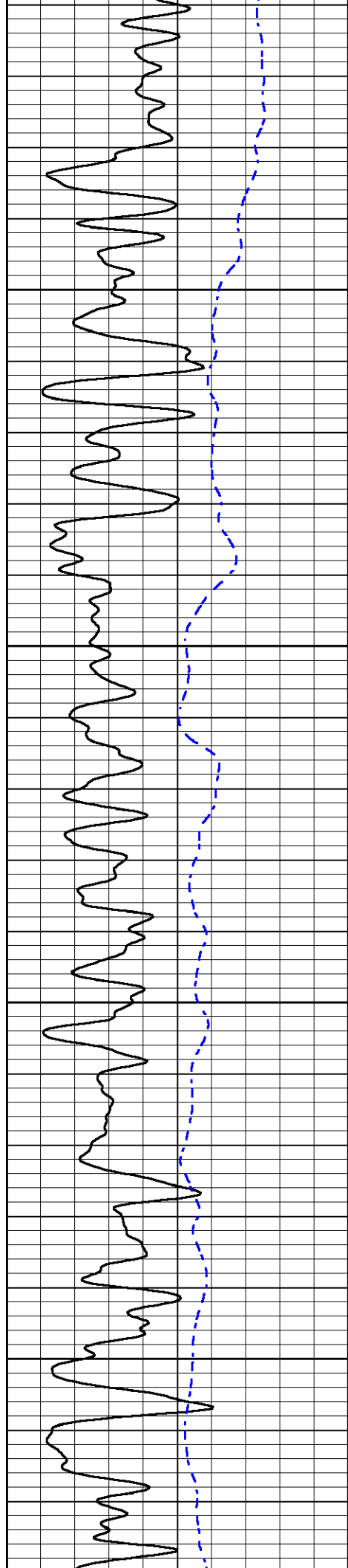
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2000

2050

2100



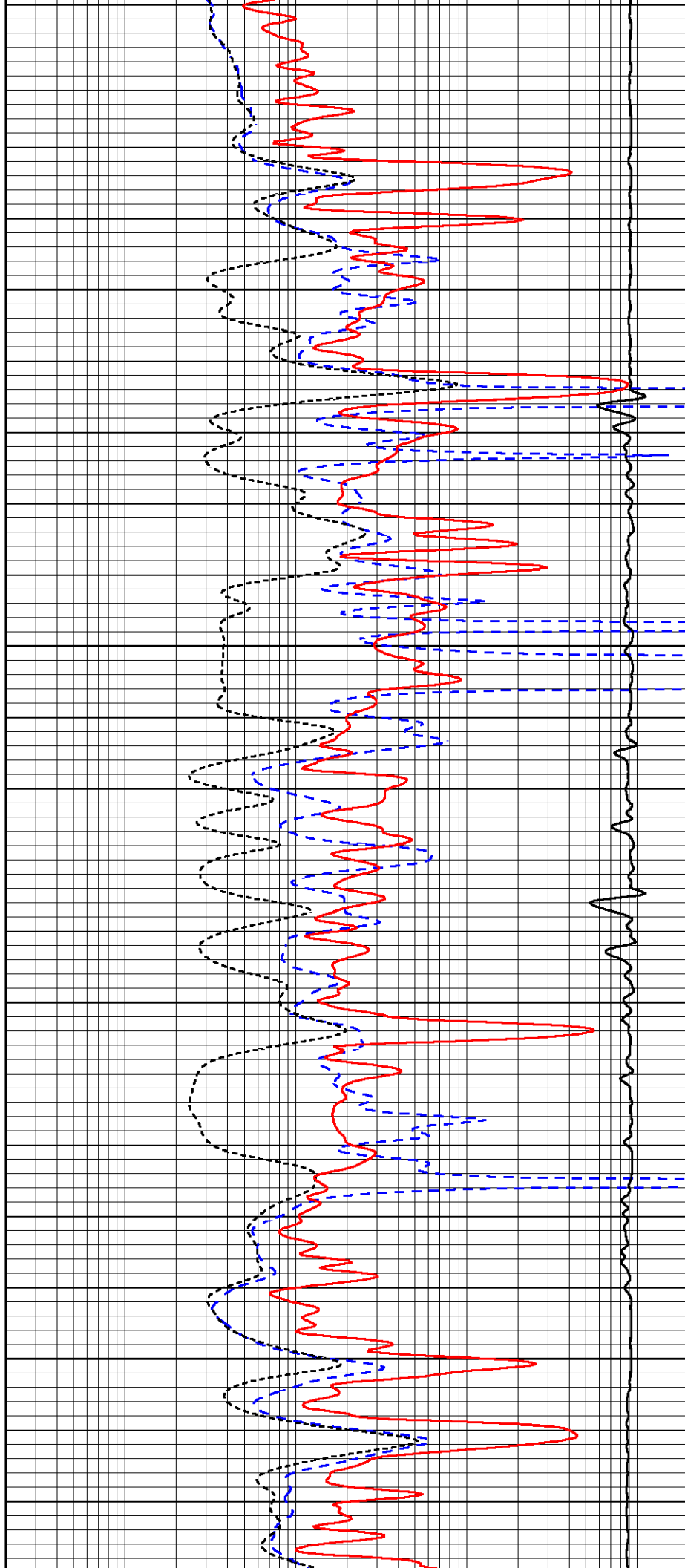


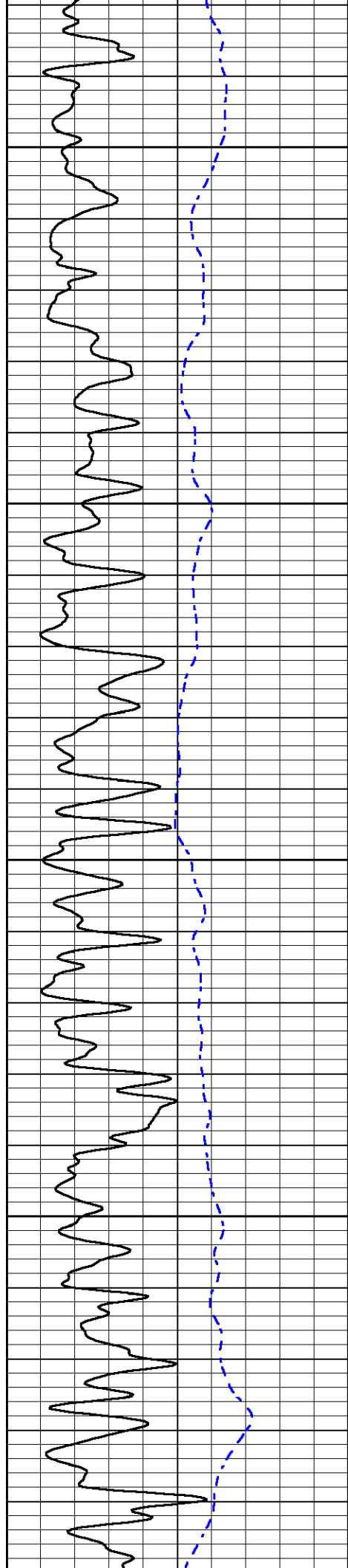
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2200

2250

2300





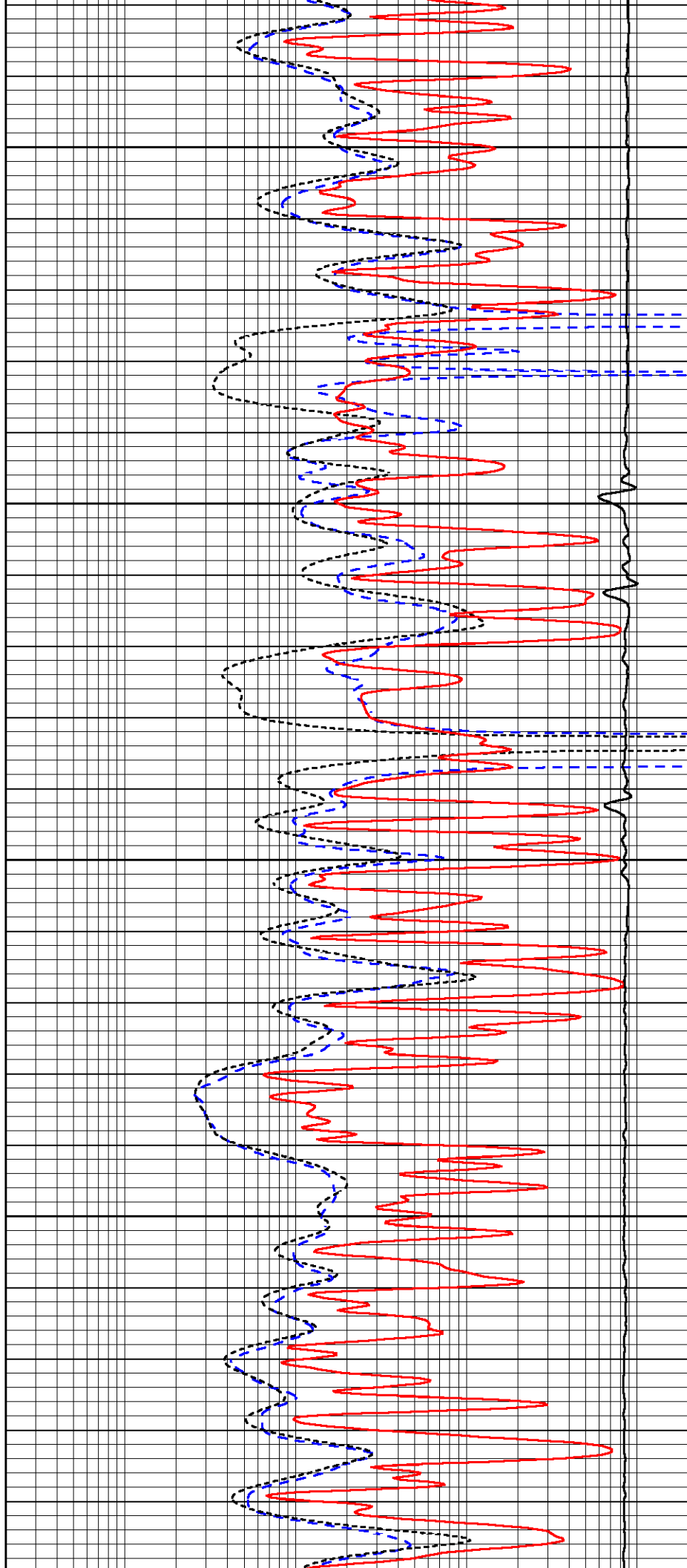
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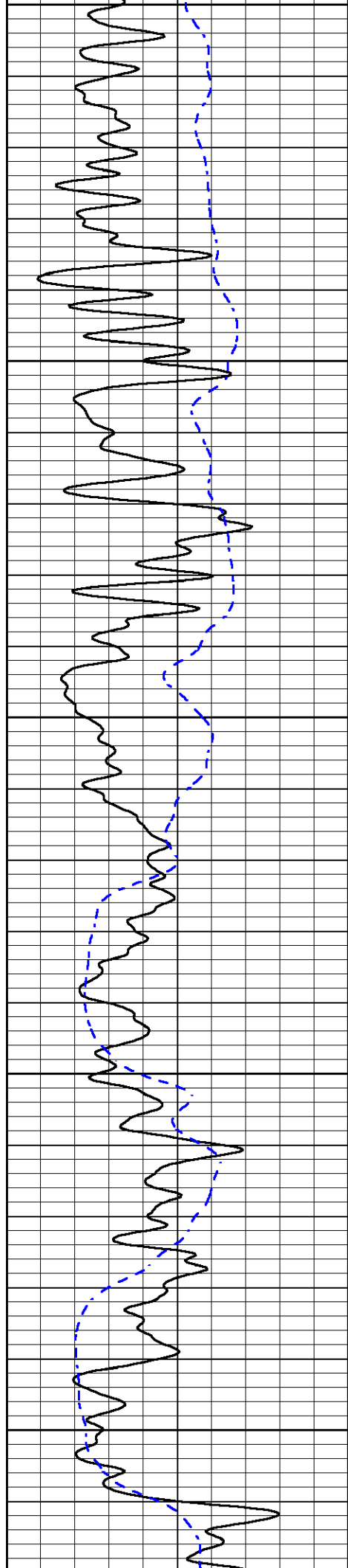
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2550





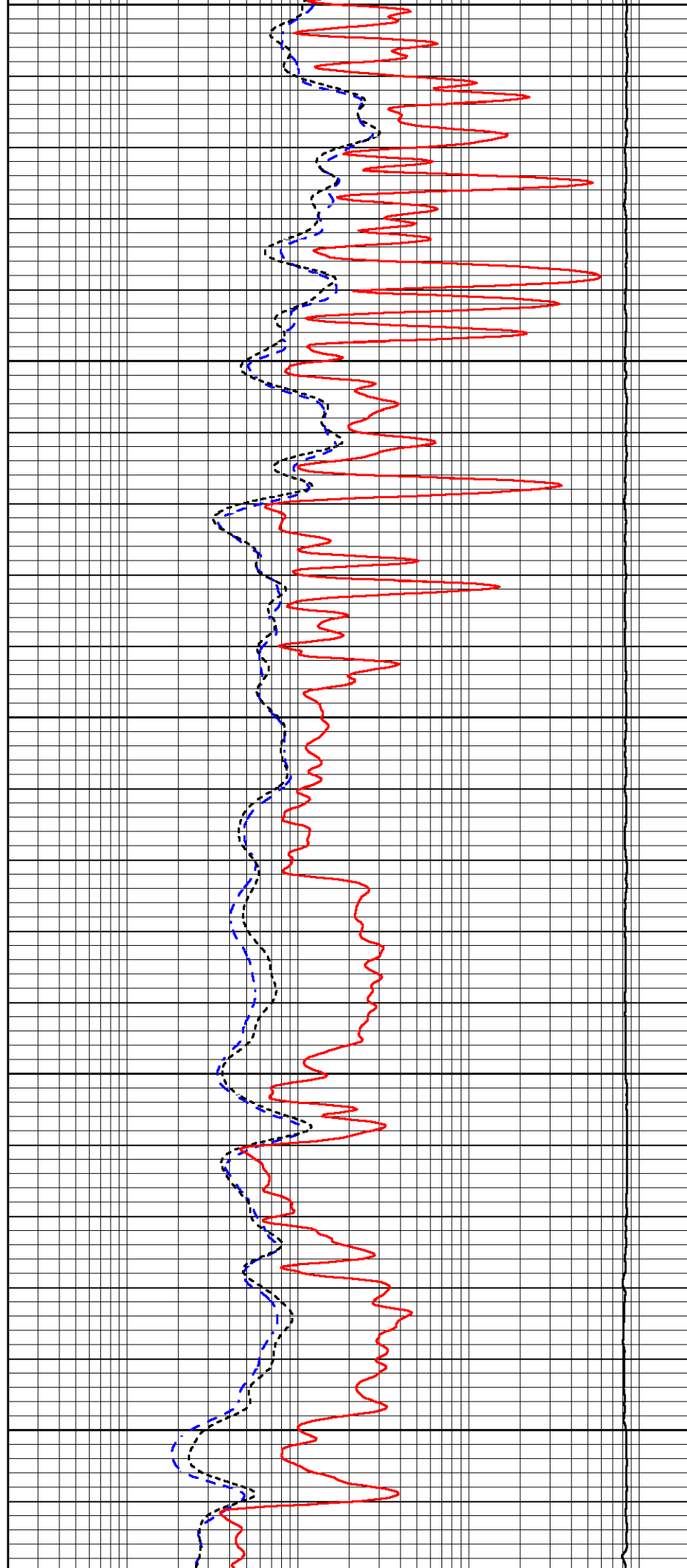
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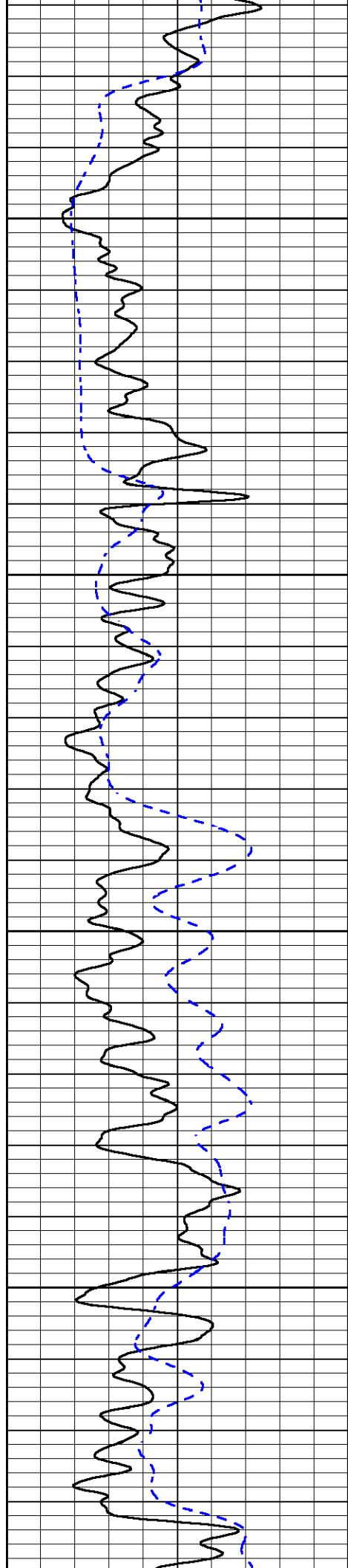
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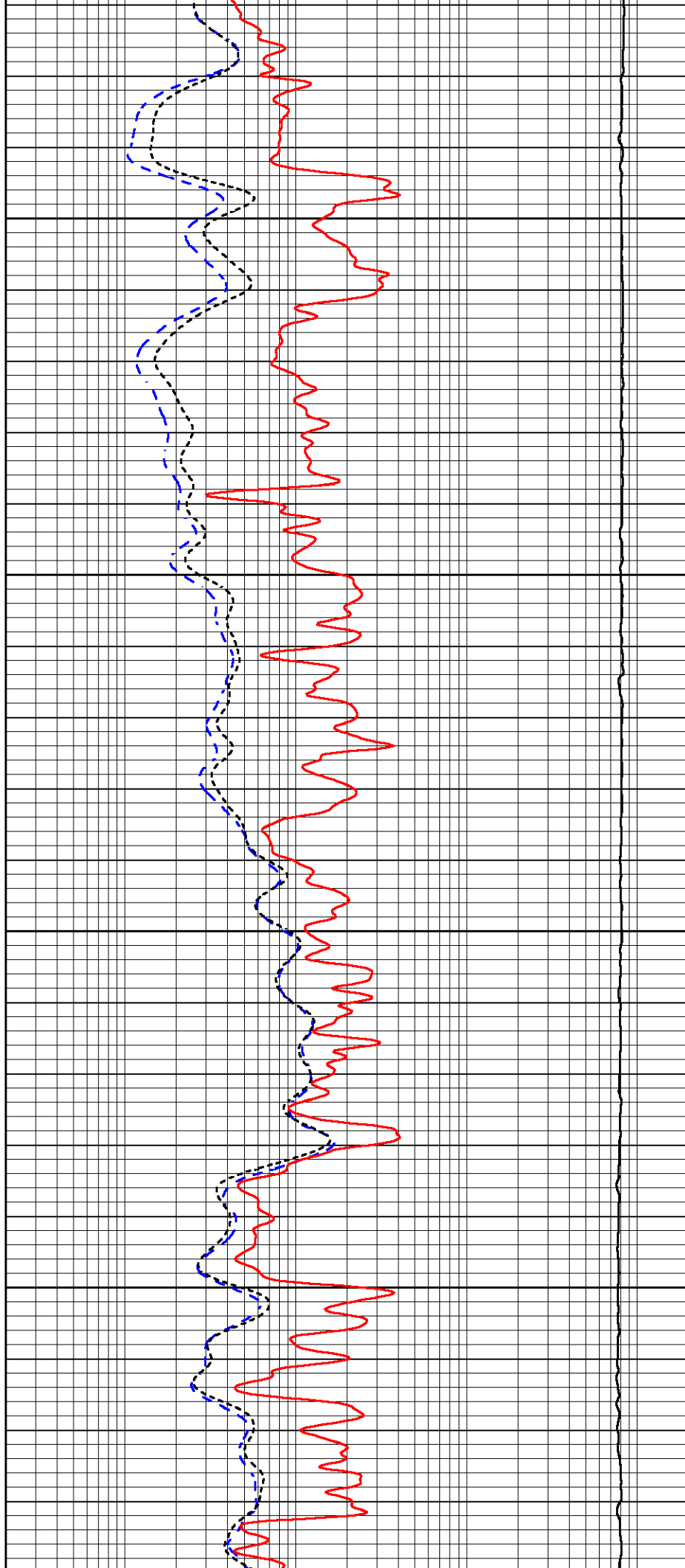


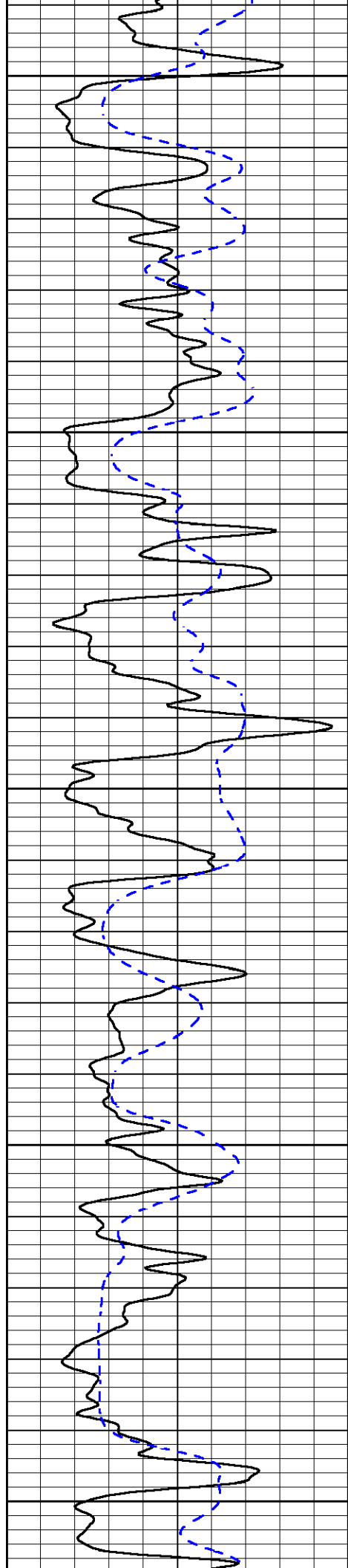
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2850

2900

2950





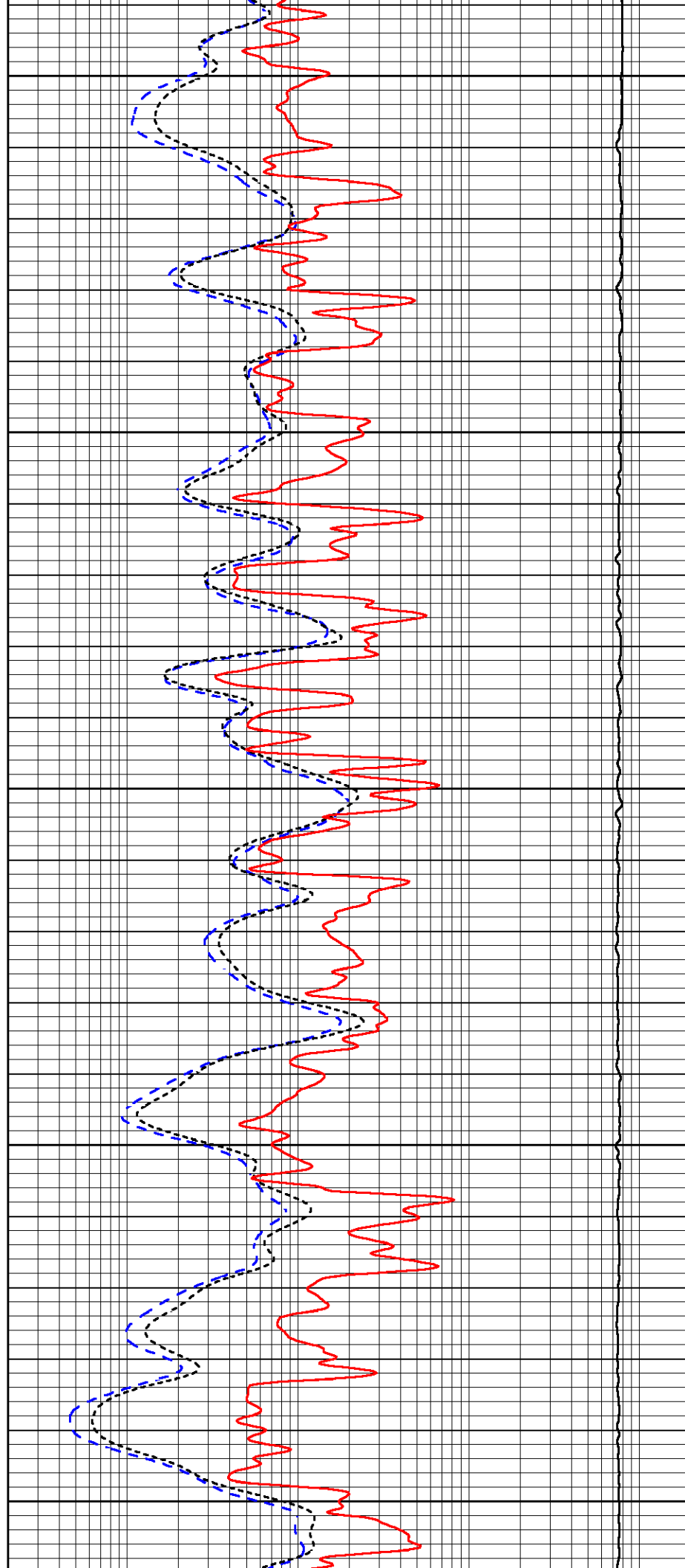
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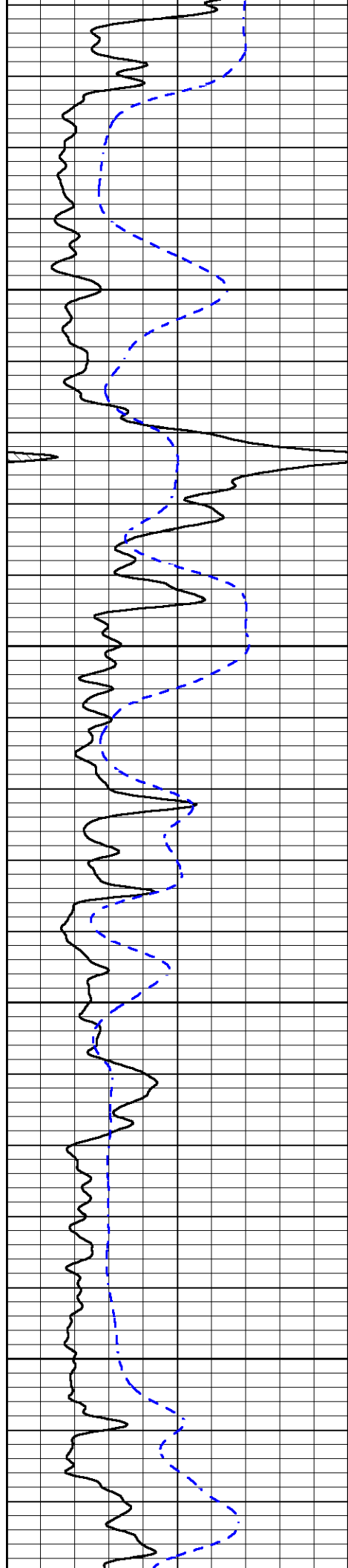
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3100

3150

3200



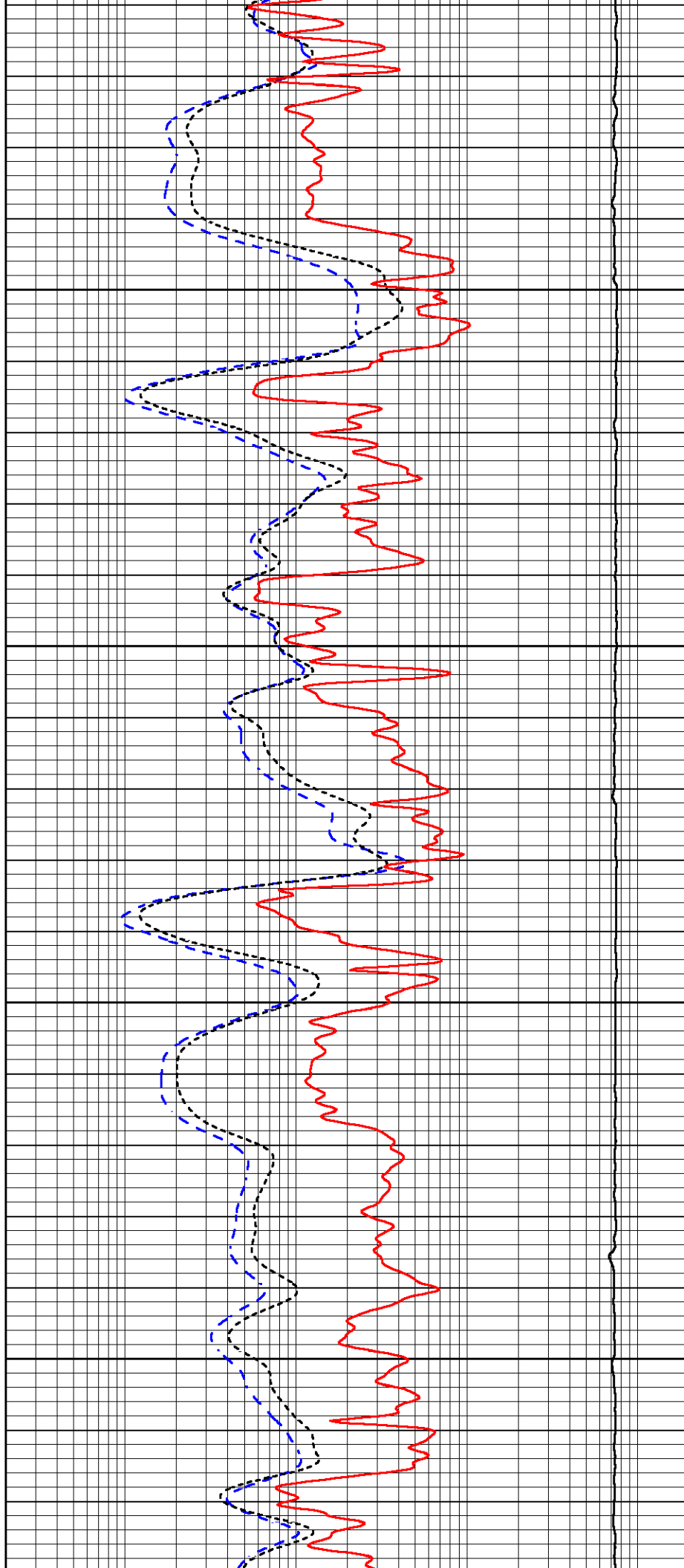


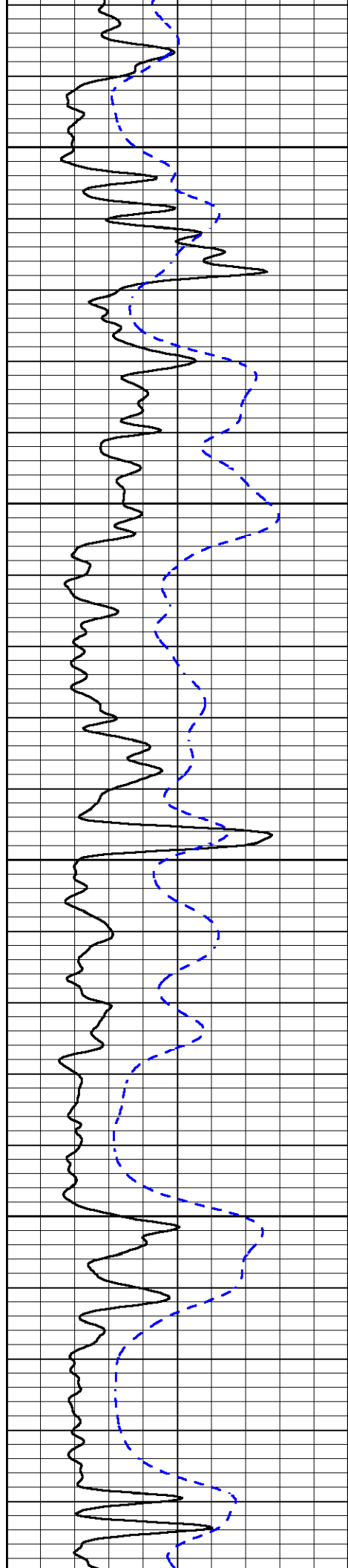
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3300

3350

3400





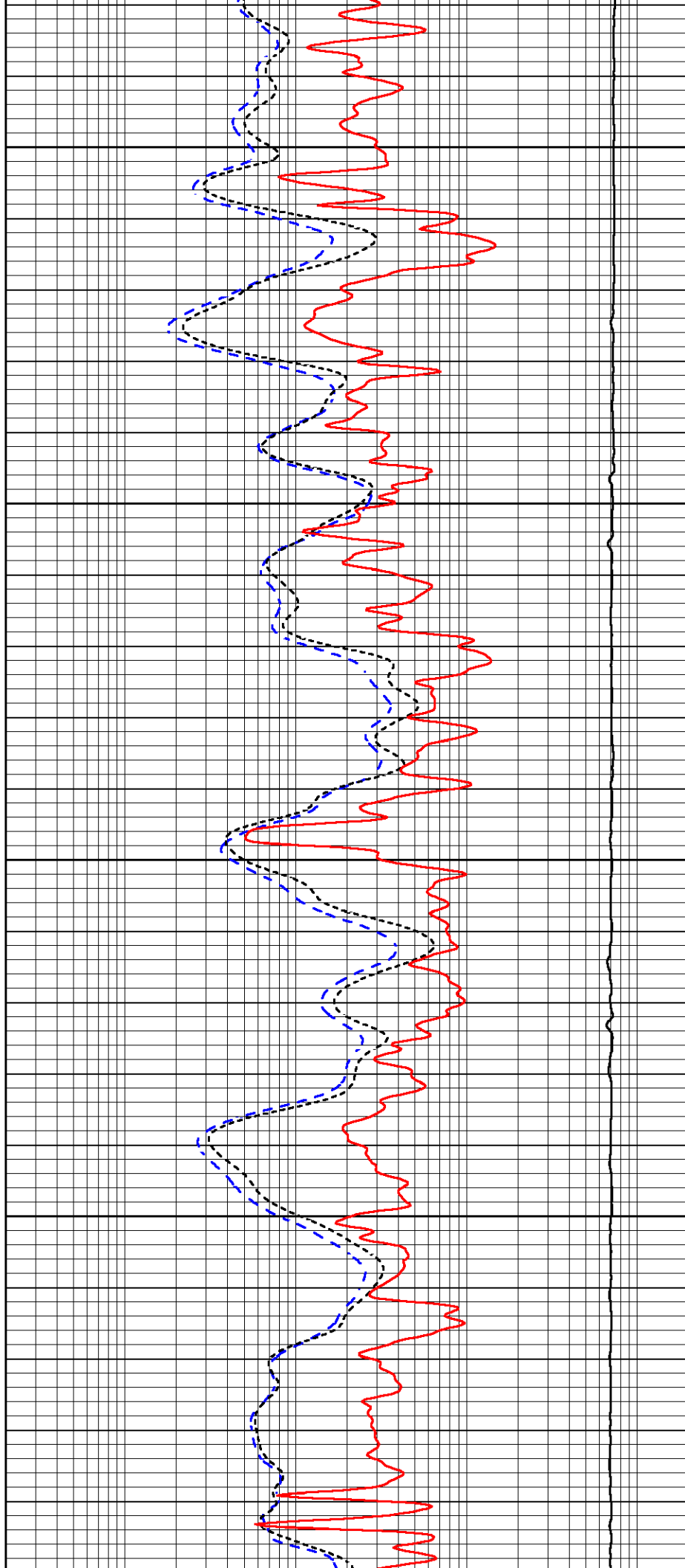
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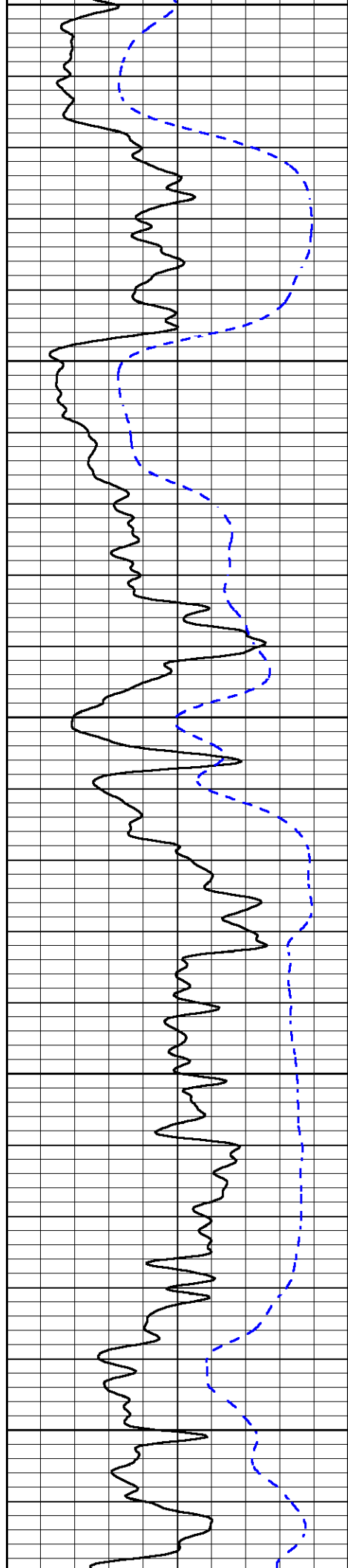
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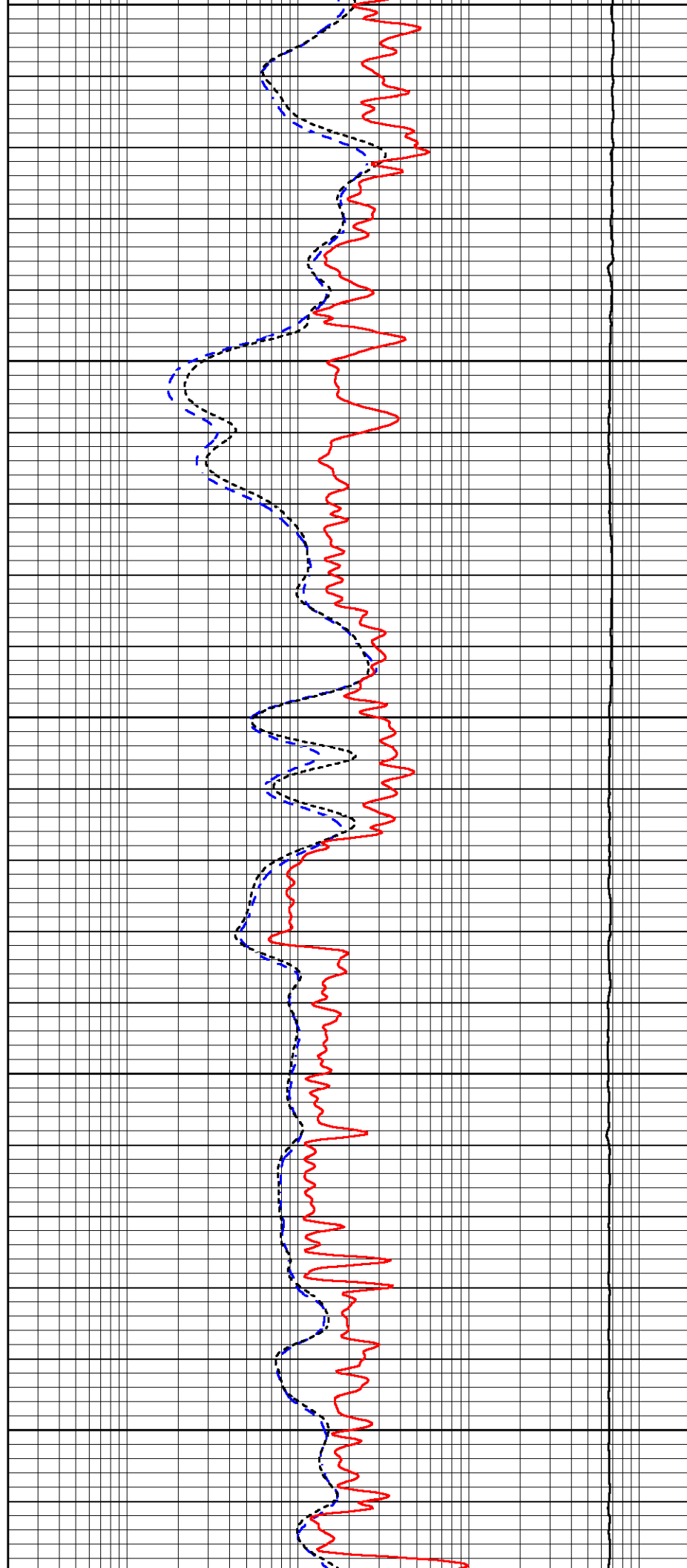
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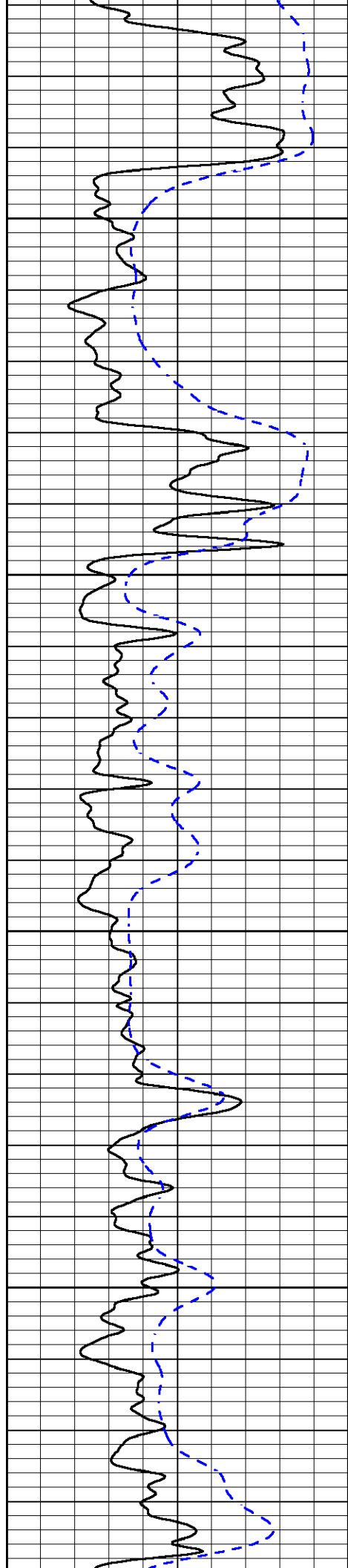
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3800

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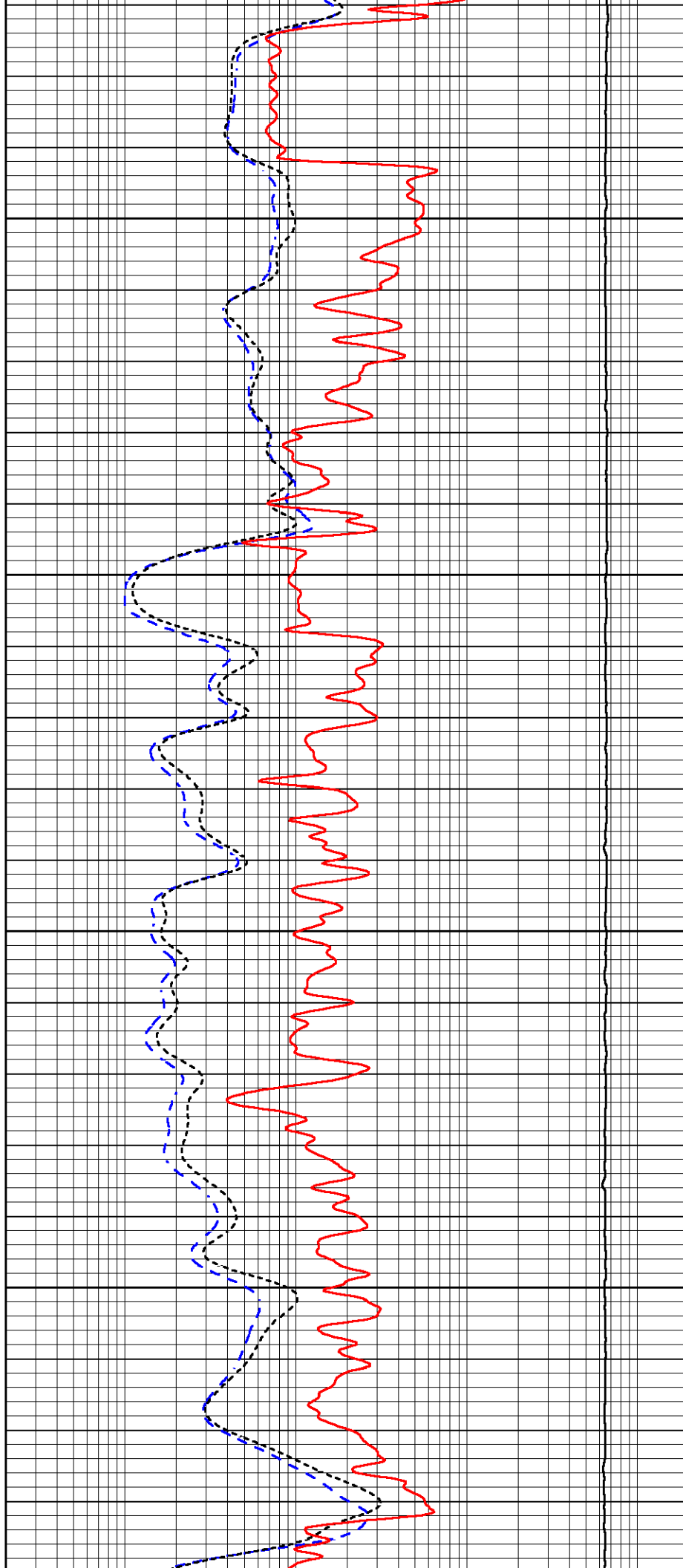


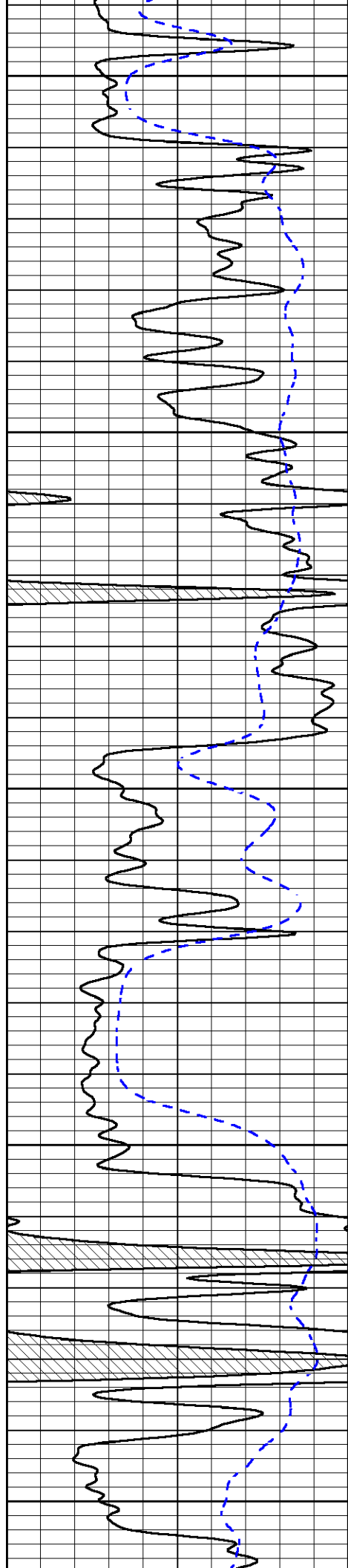
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4000

4050





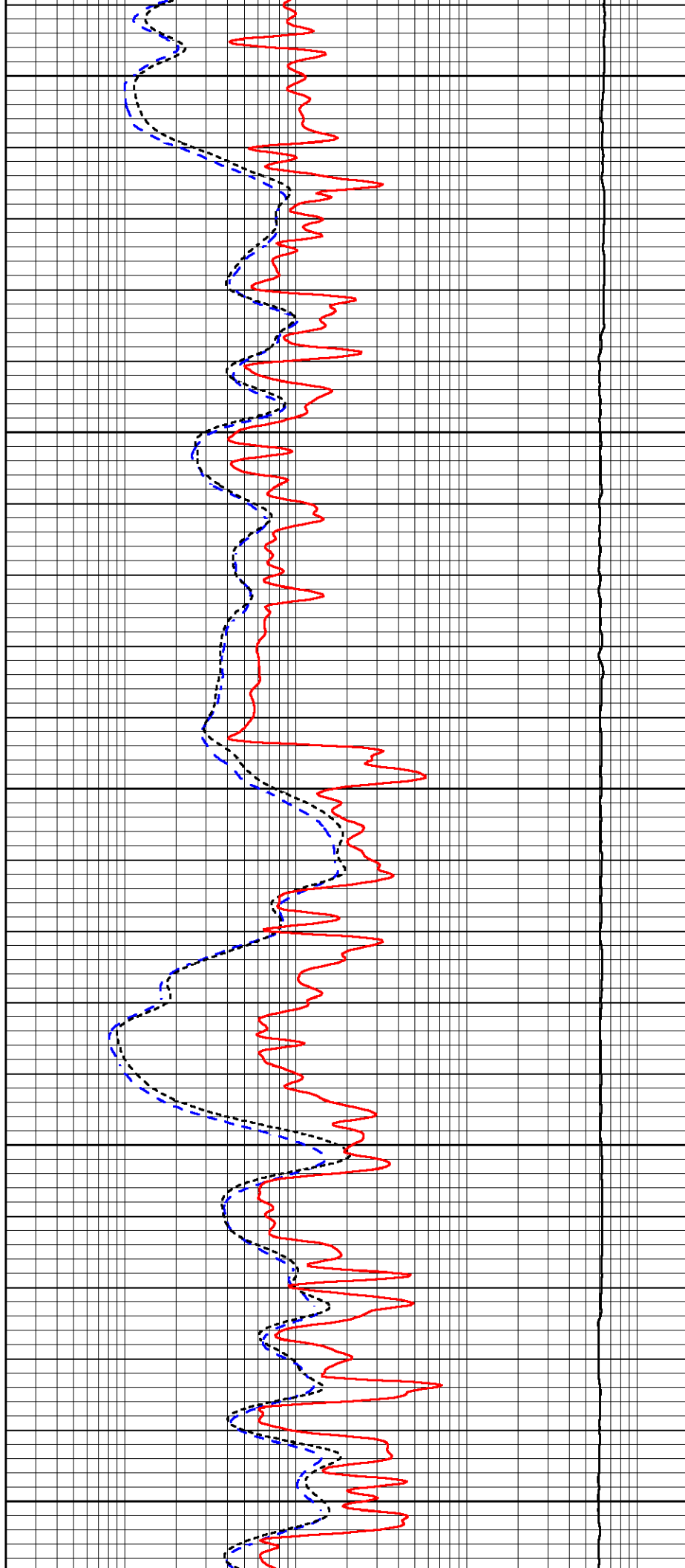
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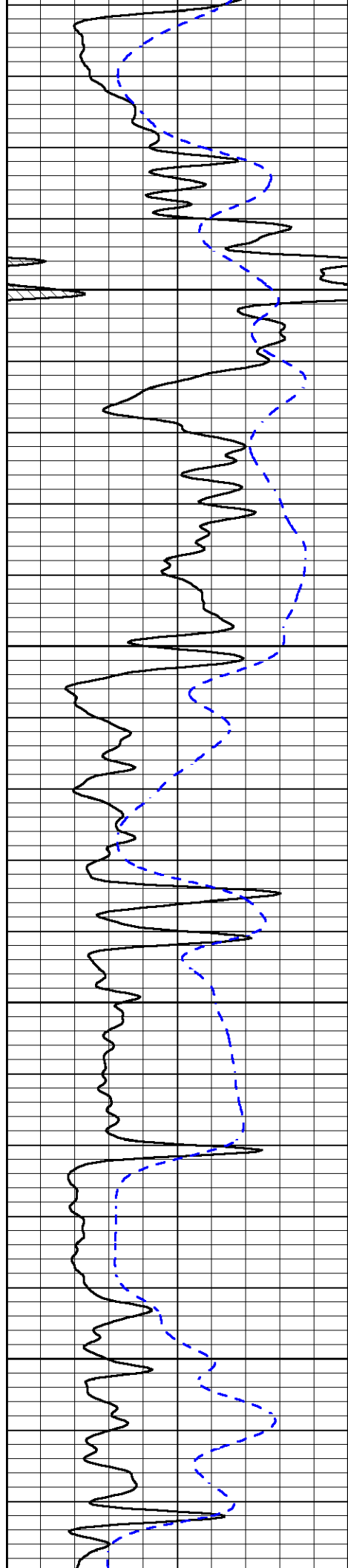
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4200

4250

4300



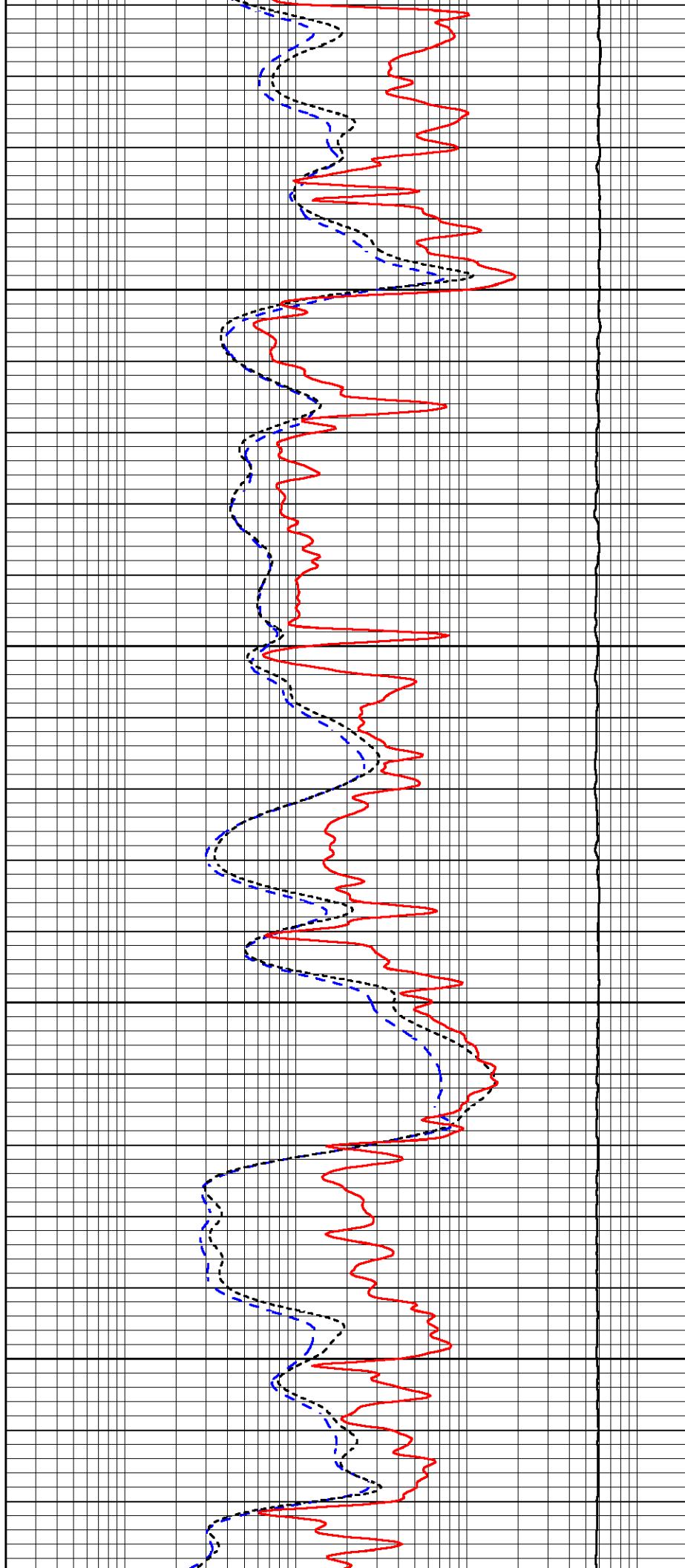


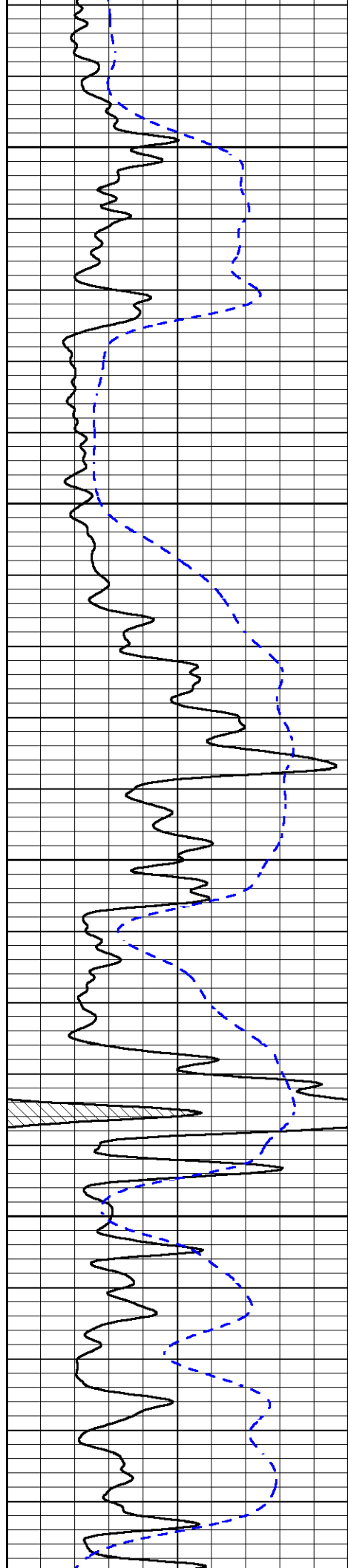
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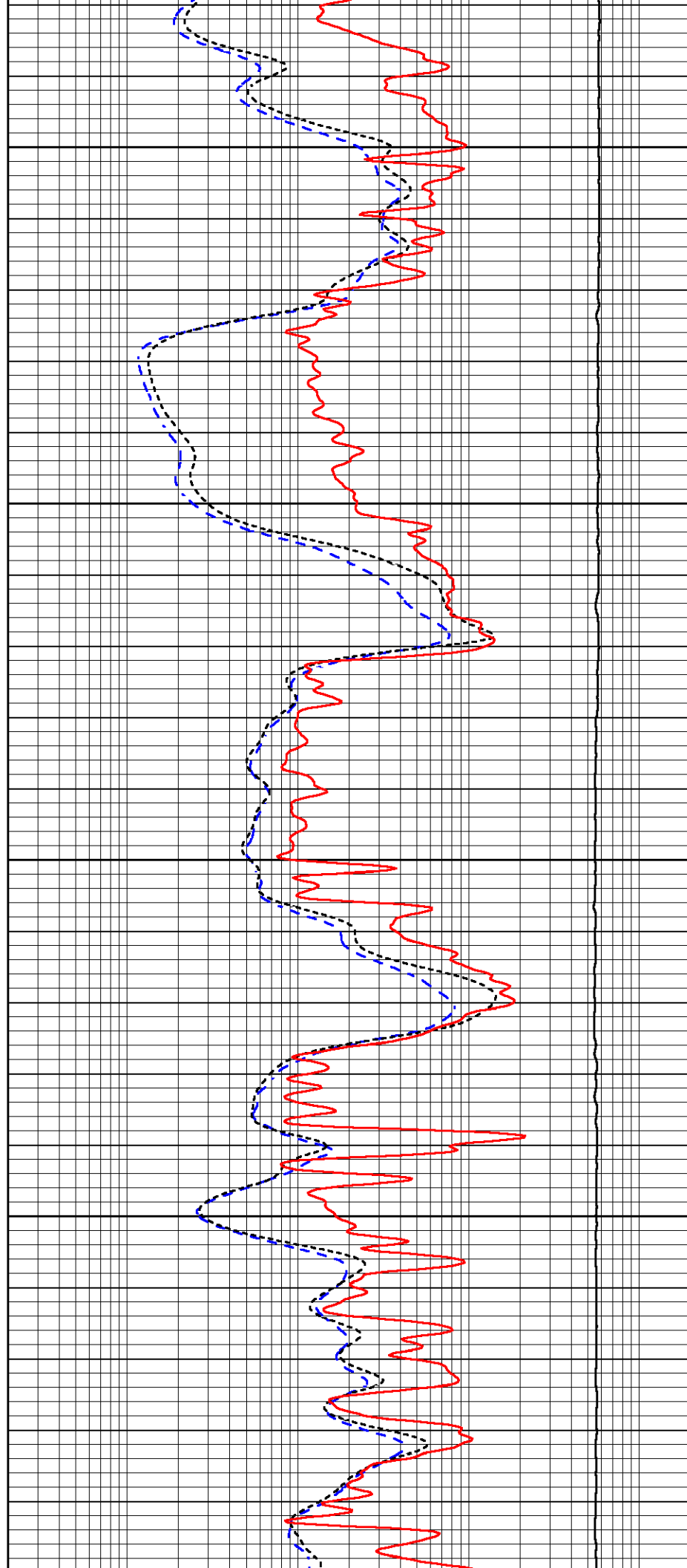
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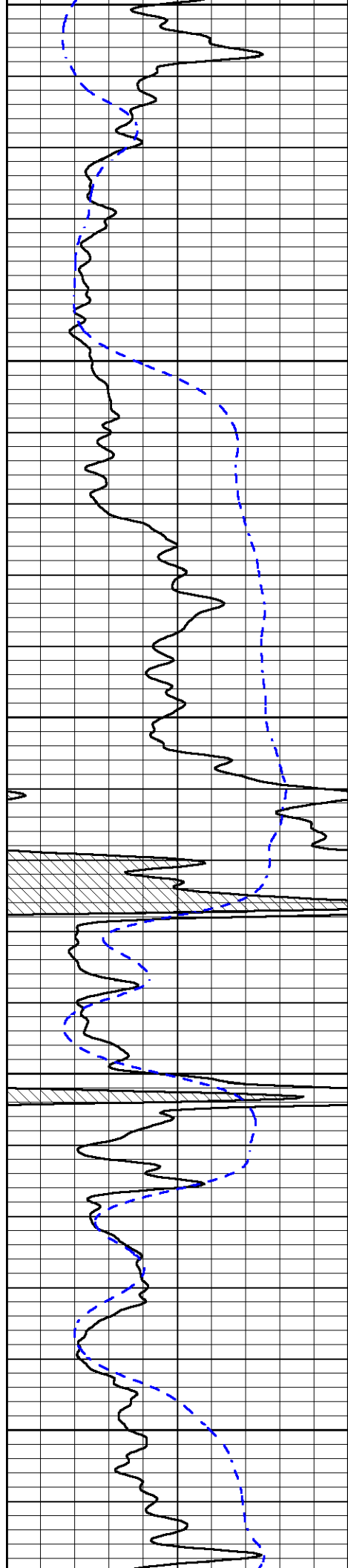
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4700

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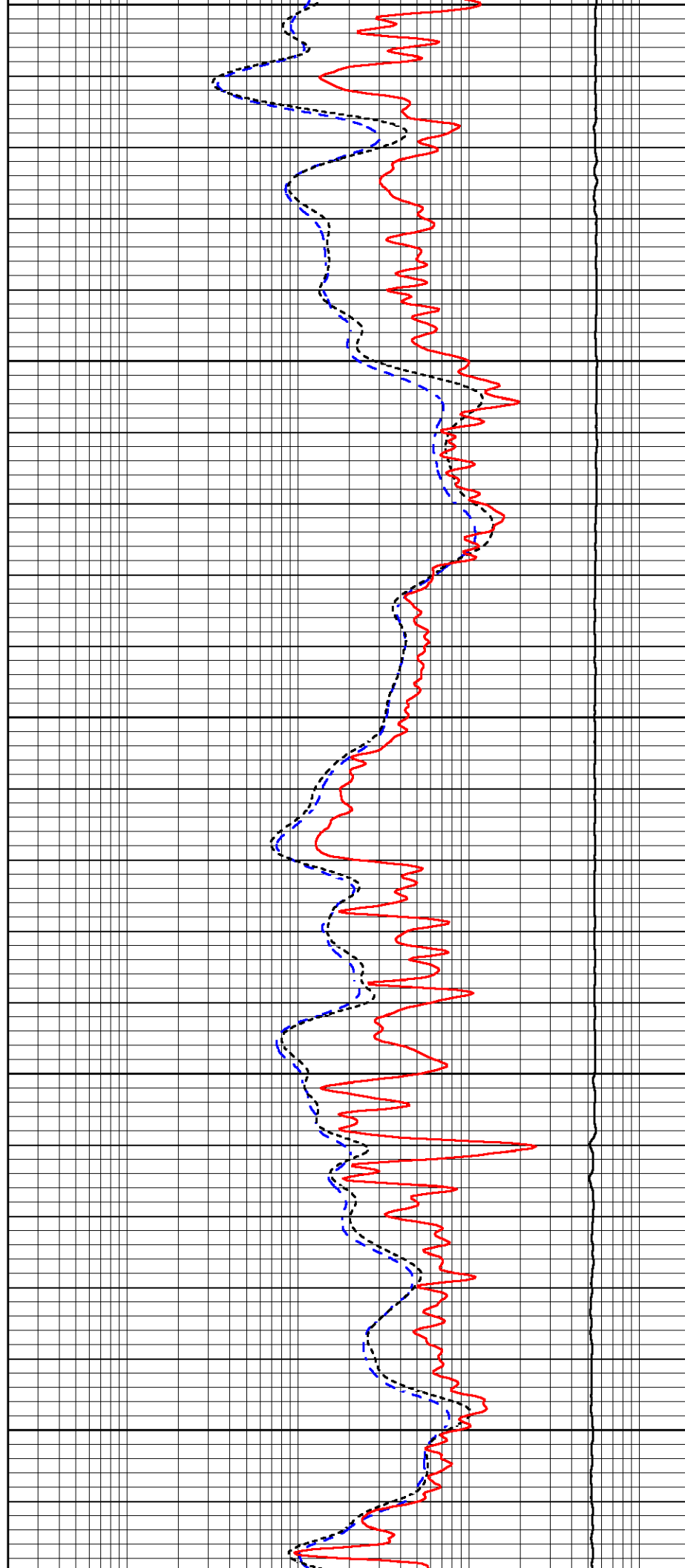
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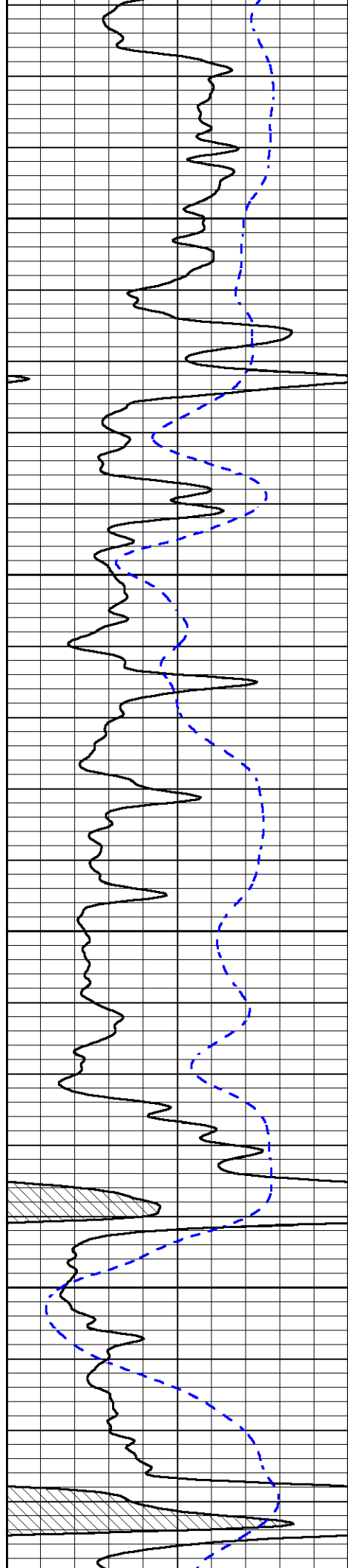
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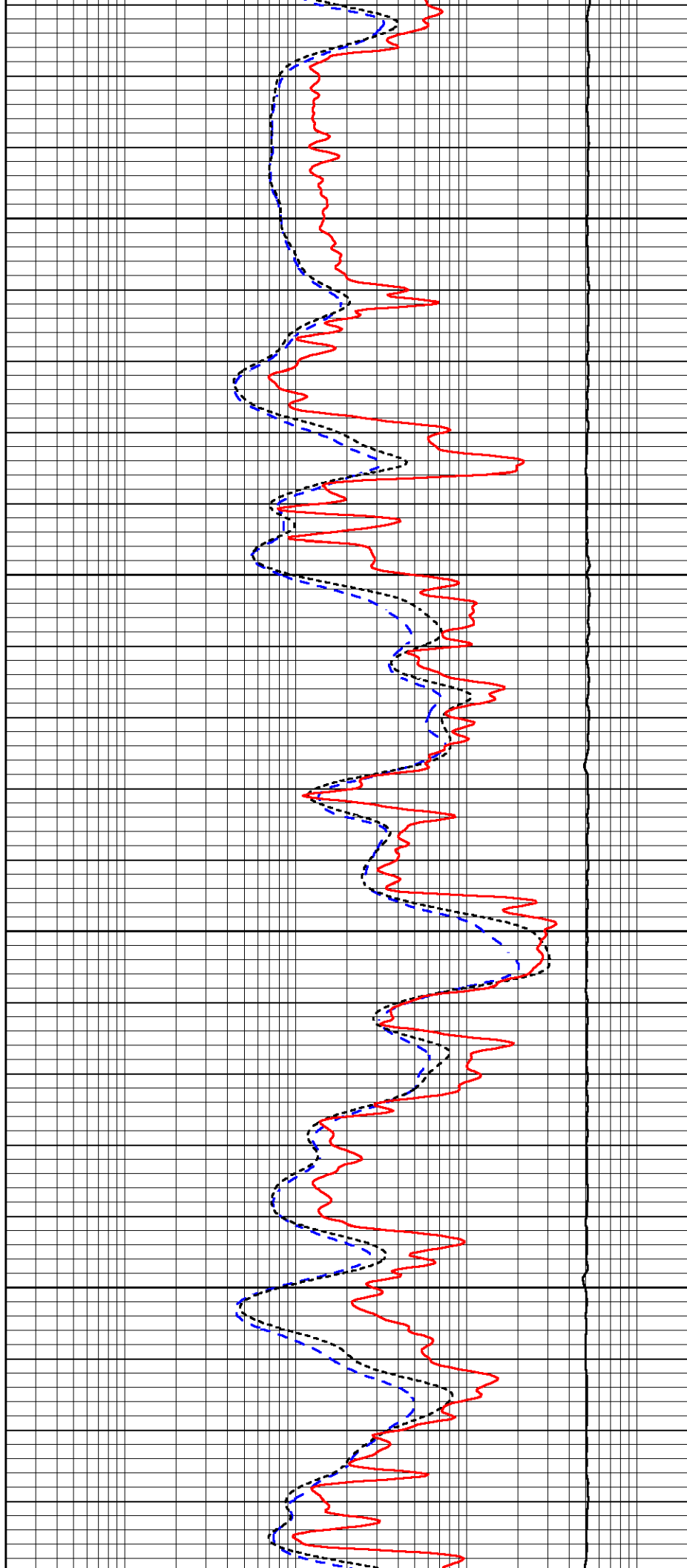


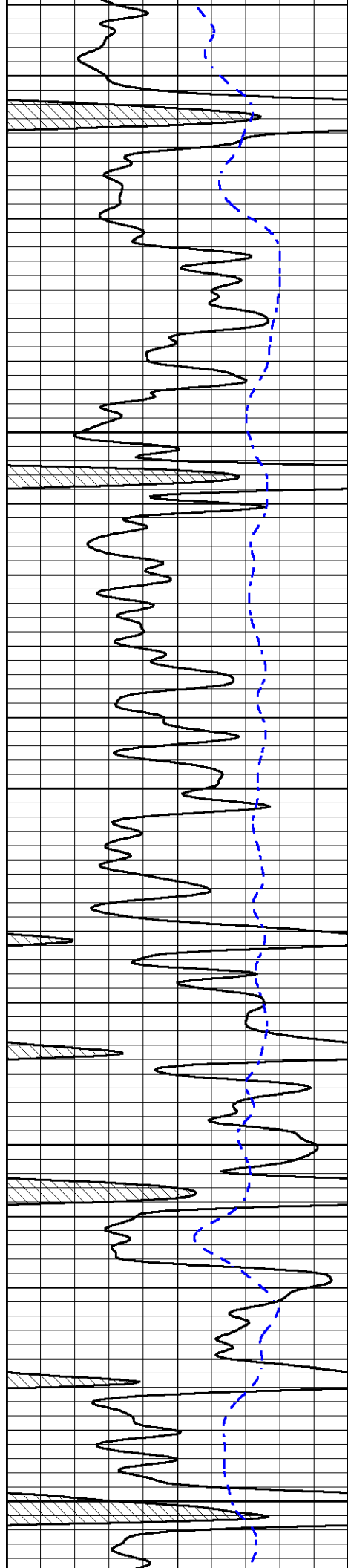
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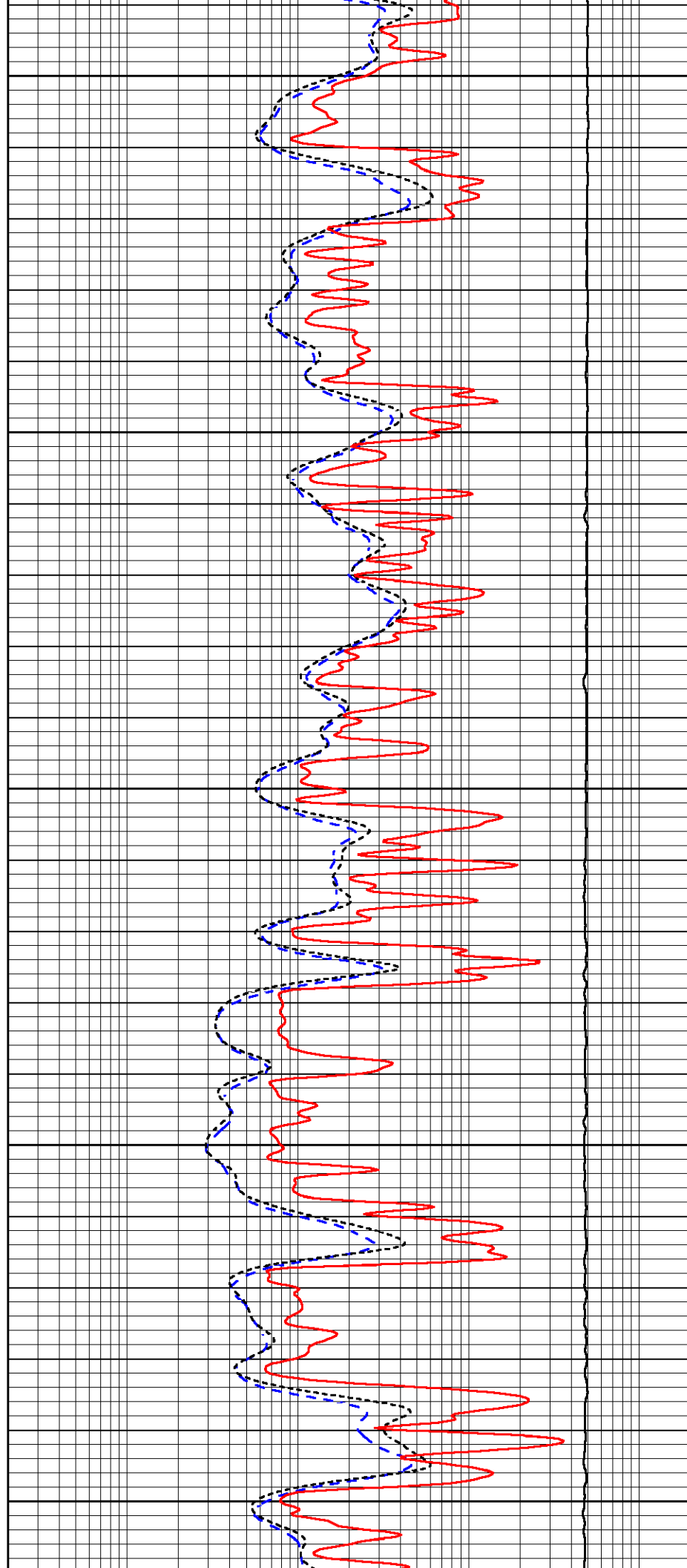
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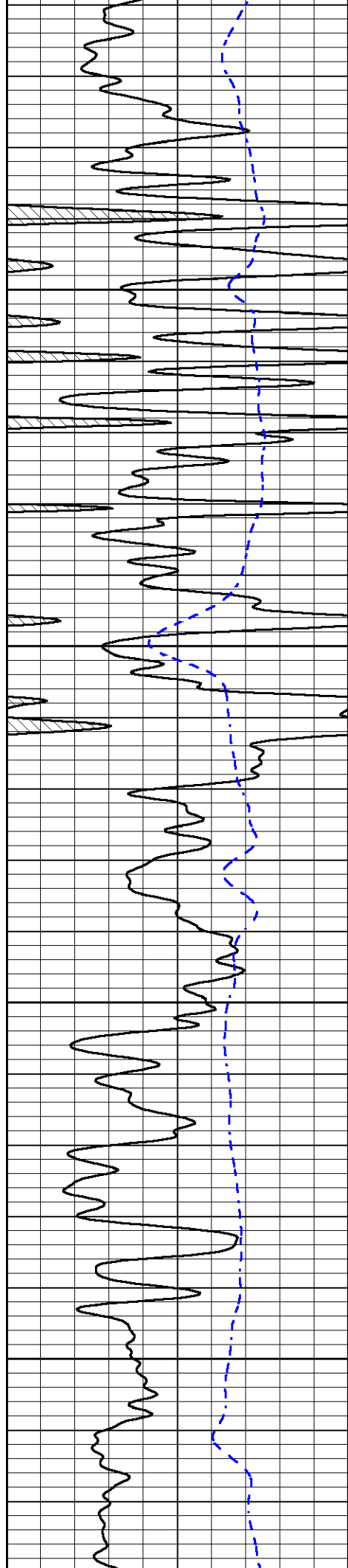
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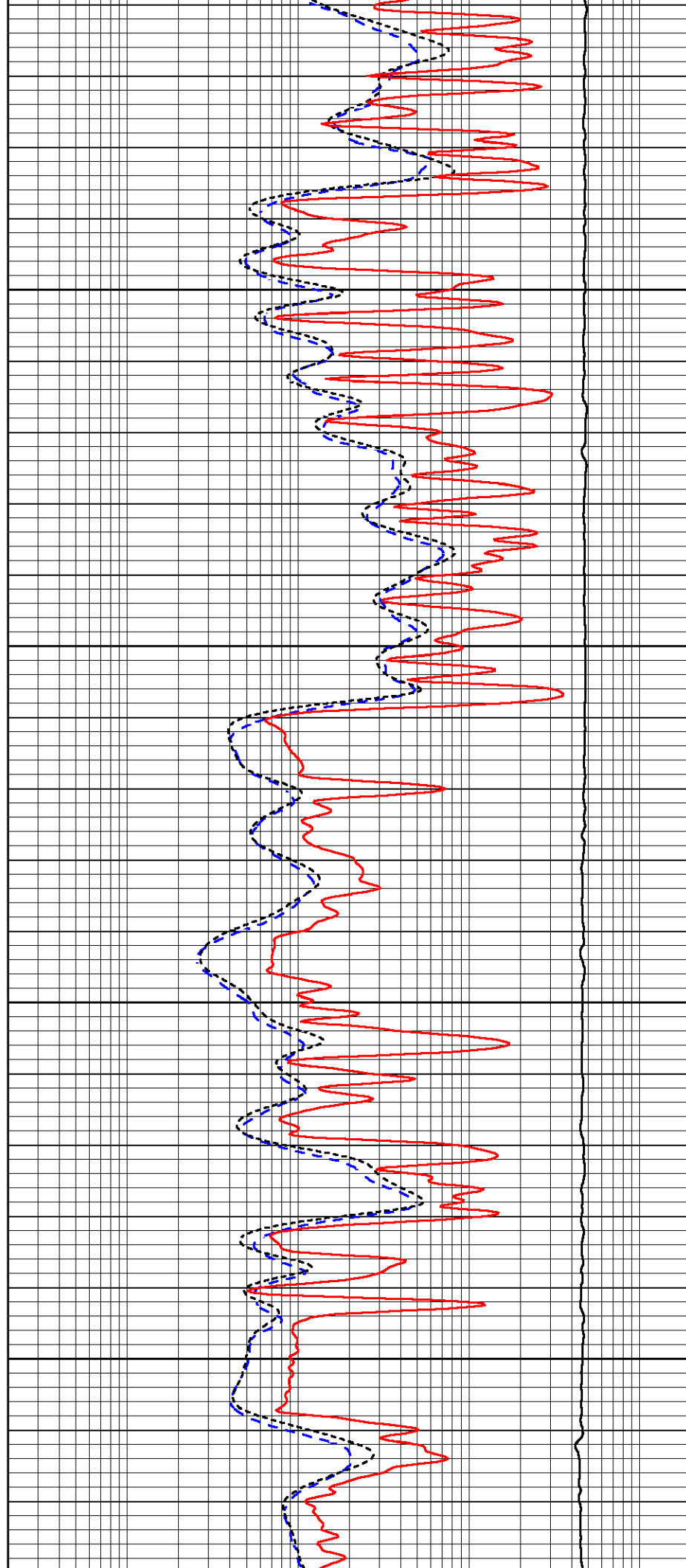


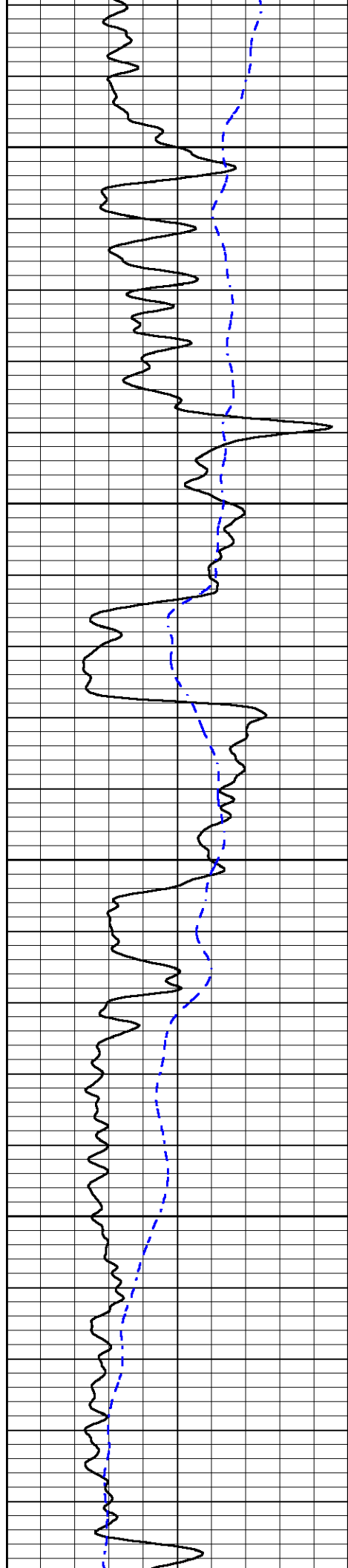
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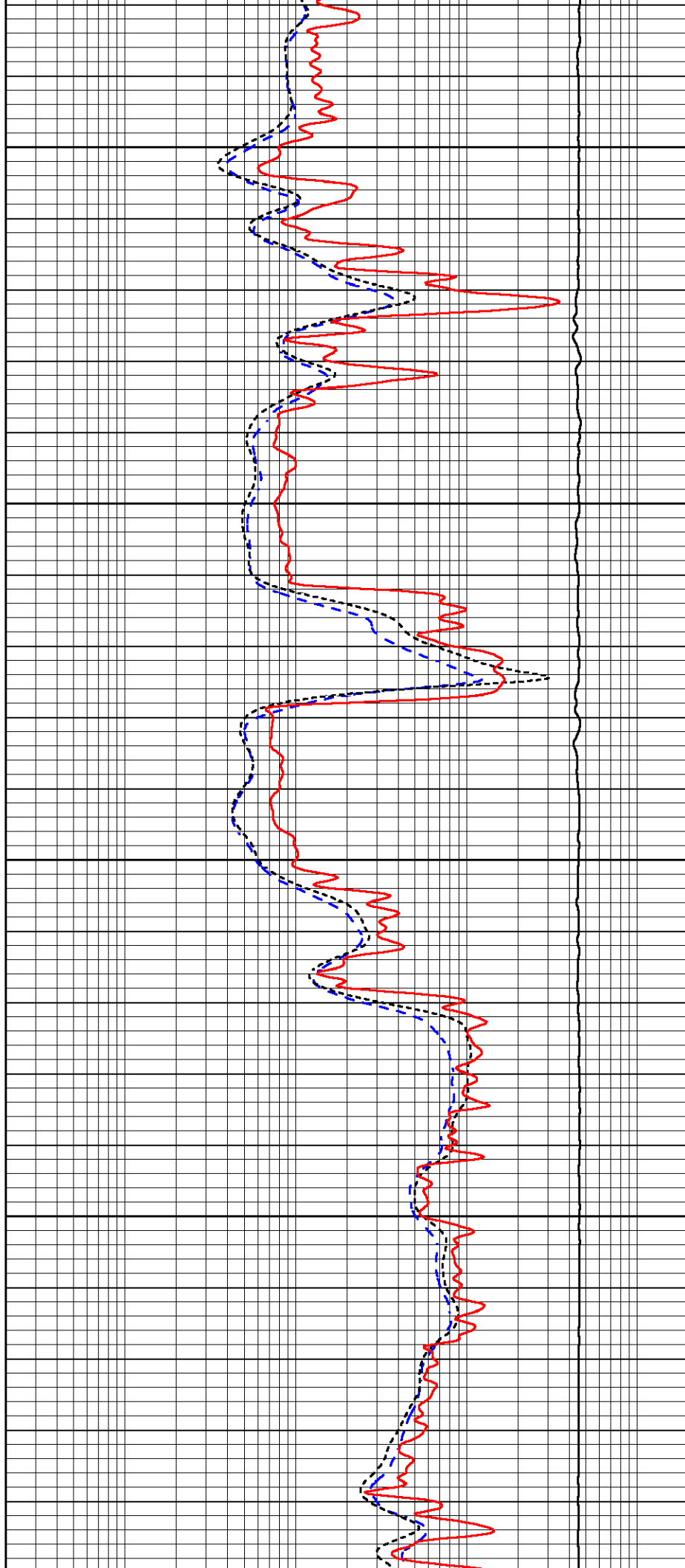
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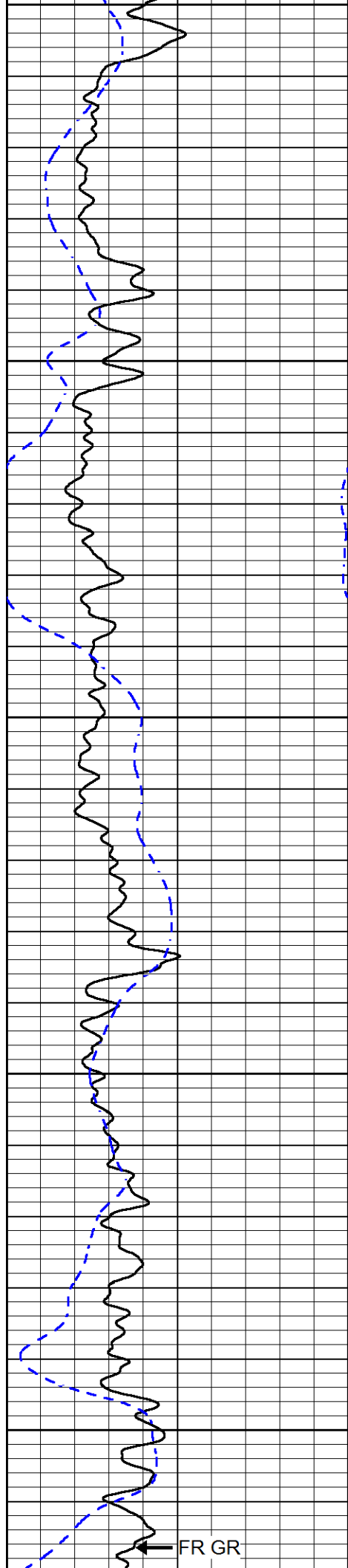
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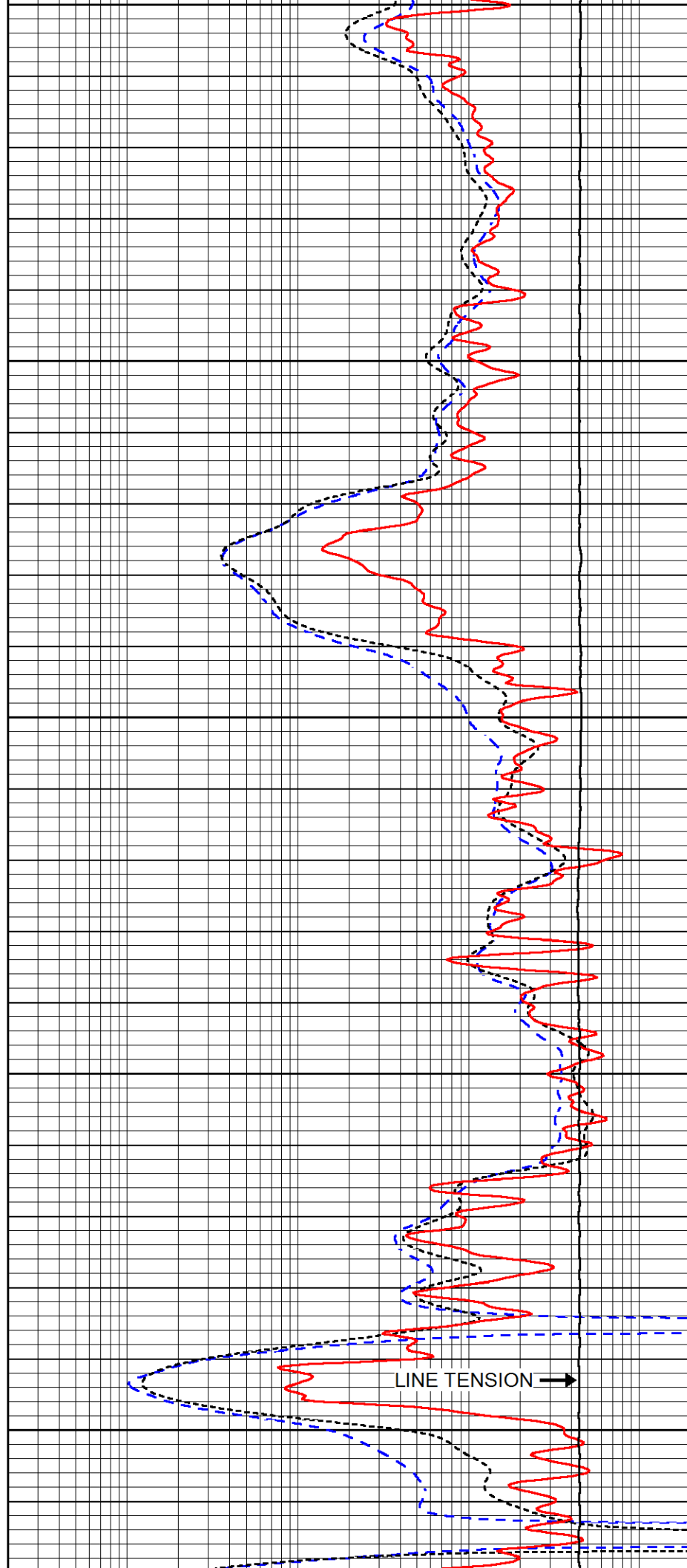
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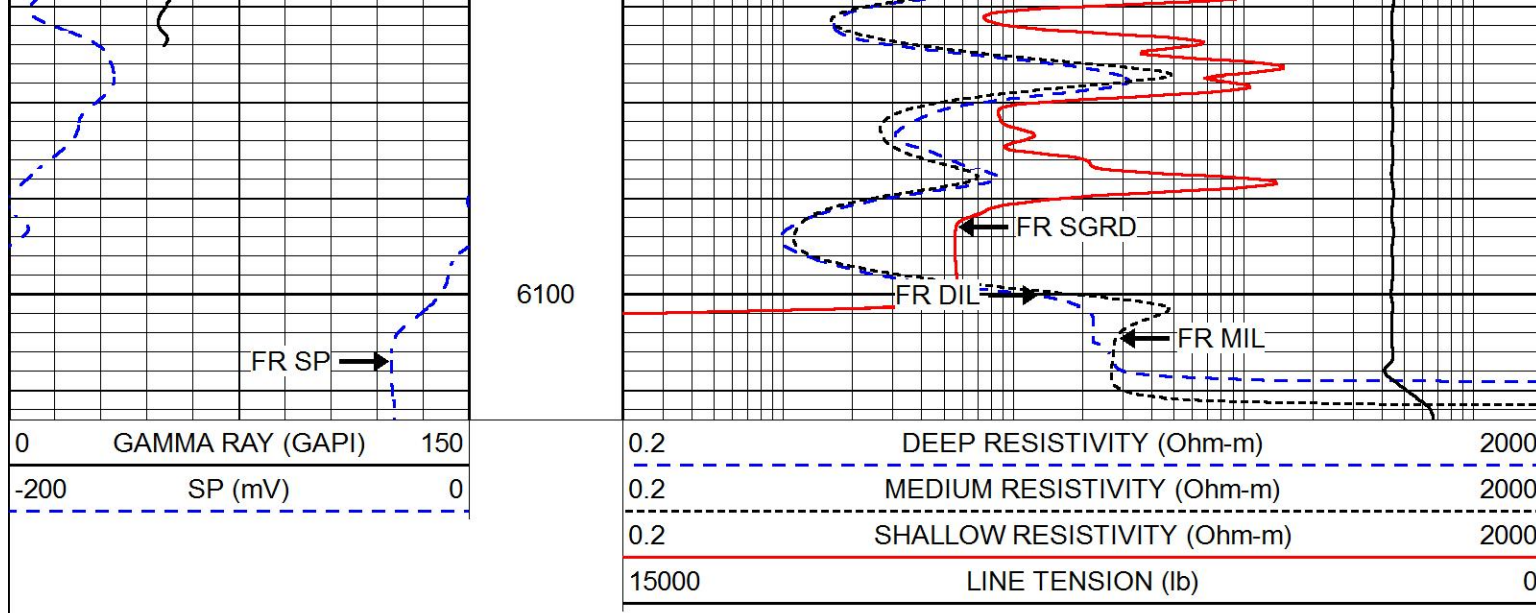
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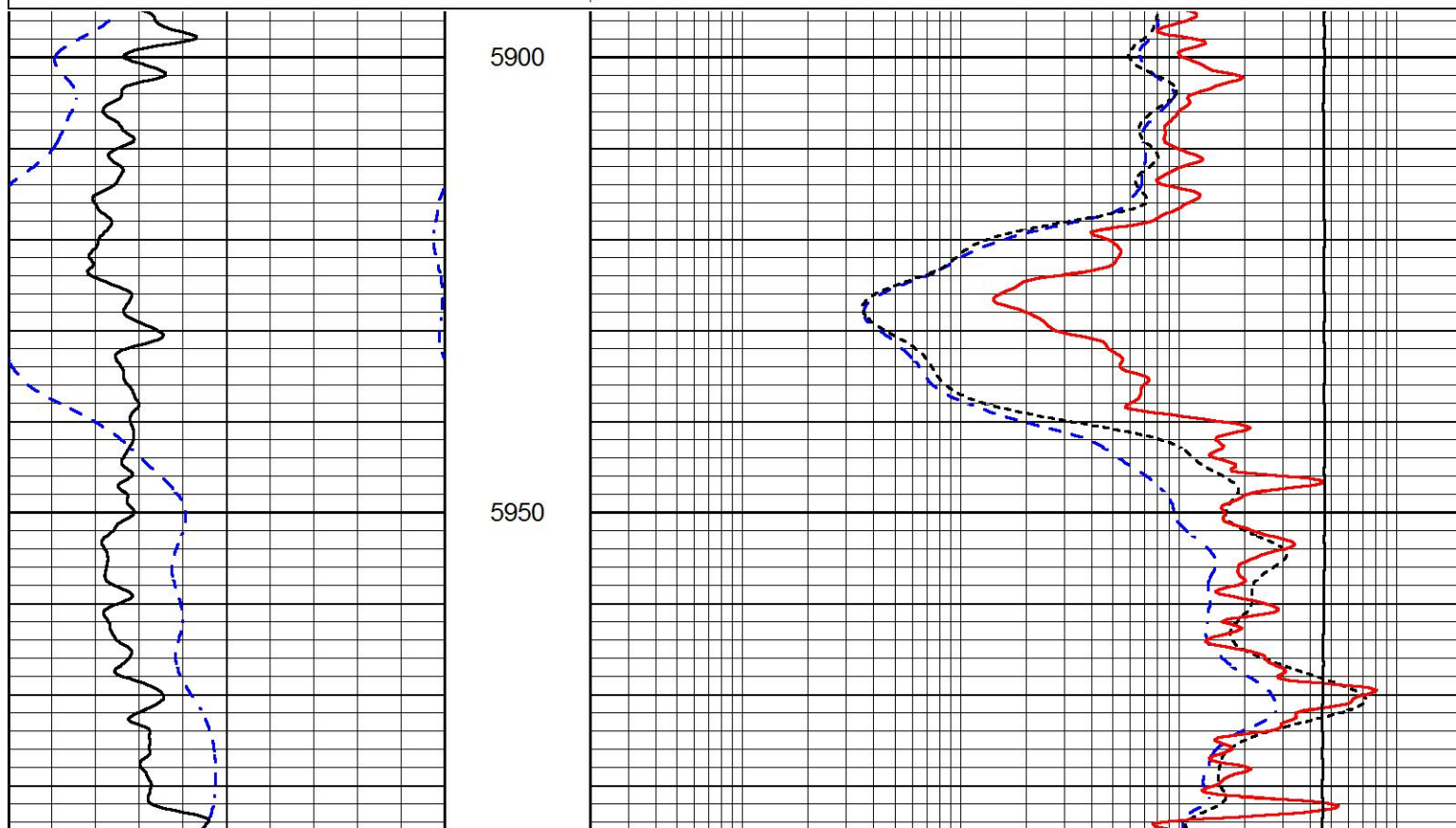
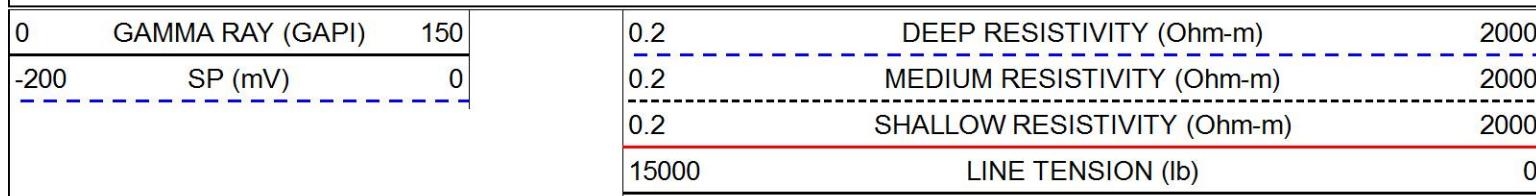
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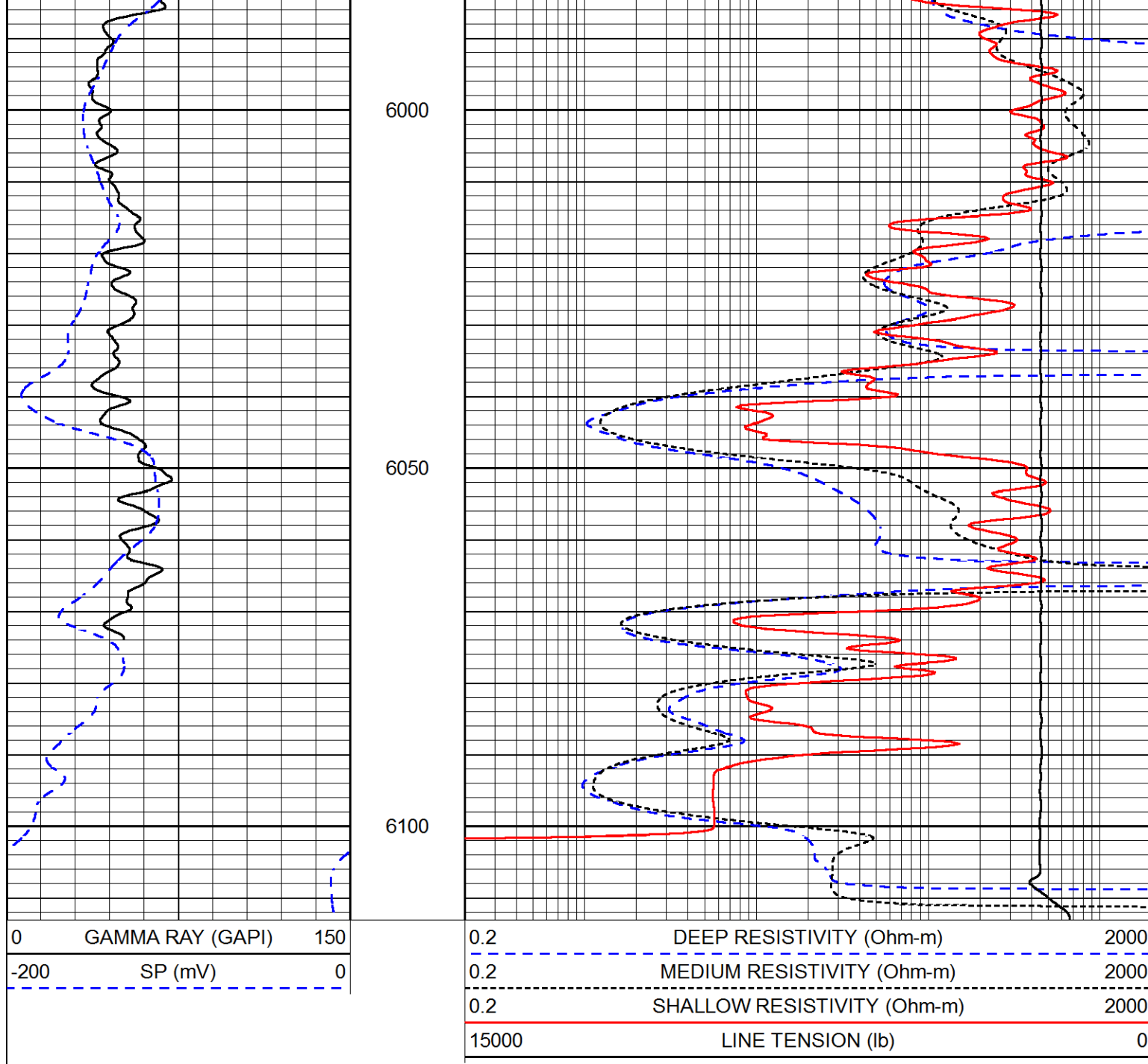




REPEAT SECTION

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





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
 Calibration Performed: Fri Jul 22 02:17:58 2016

Loop:	Readings		References			Results	
	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

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:

71-914-M&W

Source / Verifier:

/

Master Calibration Performed:

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

Calibrator Reading:

6.2

cps

Sensitivity:

0.5200

GAPI/cps



Company

AMERICAN WARRIOR, INC.

Well

HAWK #2-35

Field

KISMET

