

DUAL INDUCTION LOG

MIDWEST WIRELINE

Company IGWT, Inc.		Company IGWT, Inc.	
Well	Remington #4	Well	Remington #4
Field	Paulson	Field	Paulson
County	Butler	County	Butler
State	Kansas	State	Kansas
Location: API #: 15-015-24199-00-00		Other Services	
SE NE 1980 FNL & 660 FEL SEC 35 TWP 23S RGE 3E		CNL/CDL MEL	
Permanent Datum	Ground Level	Elevation	1391
Log Measured From	Kelly Bushing	K.B.	1400
Drilling Measured From	Kelly Bushing	D.F.	
		G.L.	1391
Date	3/31/2023		
Run Number	One		
Depth Driller	2606		
Depth Logger	2606		
Bottom Logged Interval	2605		
Top Log Interval	200		
Casing Driller	8.625 @ 218		
Casing Logger	220		
Bit Size	7.875		
Type Fluid in Hole	Chemical		
Salinity, ppm CL	1400		
Density / Viscosity	9.3 50		
pH / Fluid Loss	10.5 7.2		
Source of Sample	Flowline		
Rm @ Meas. Temp	0.8 @ 74		
Rmt @ Meas. Temp	0.6 @ 74		
Rmc @ Meas. Temp	1.08 @ 74		
Source of Rmt / Rmc	Charts		
Rm @ BHT	0.58 @ 102		
Operating Rig Time	2 Hours		
Max Rec. Temp. F	102		
Equipment Number	P-24		
Location	Hays		
Recorded By	T. Martin		
Witnessed By	Bill Stout	Kenton Hupp	

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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.

Newton, KS, E on 1st St ~12 mi to Meadowlark Rd,
2 S, 2 E, 1/2 S, W into

Log Measured From: Kelly Bushing 9 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: Bill Stout
Secondary Witness: Kenton Hupp
Secondary Witness:
Secondary Witness:

Log Variables

DatabaseC:\ProgramData\Warrior\Data\igwt_remington #4.db
Dataset field/well/StkMI/pass3.1/_vars_

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in	degF	in	in	g/cc	2	g/cc
	7.875	102	5.5	0	1		2.71
NPORSEL	PERFS	SNDERR	SNDERRM	SPSHIFT	SRFTEMP	SZCOR	TDEPTH
Limestone	No	mmho/m	mmho/m	mV	degF	Off	ft
		0	0	-10	60		2606

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

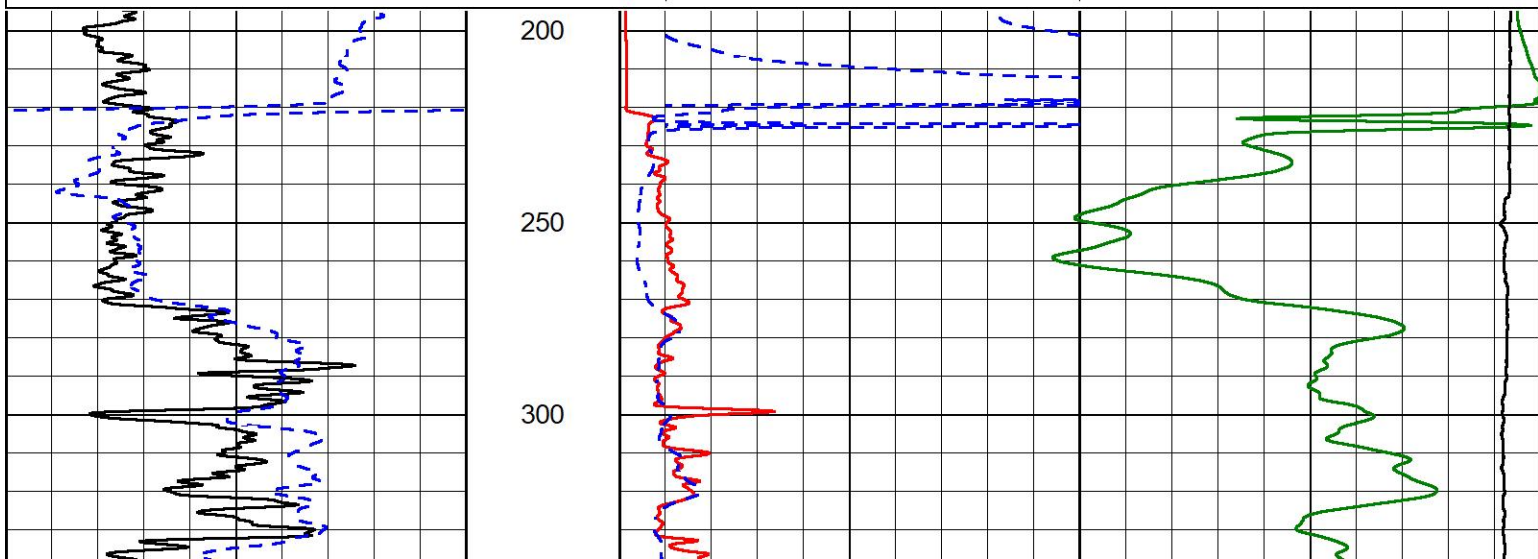


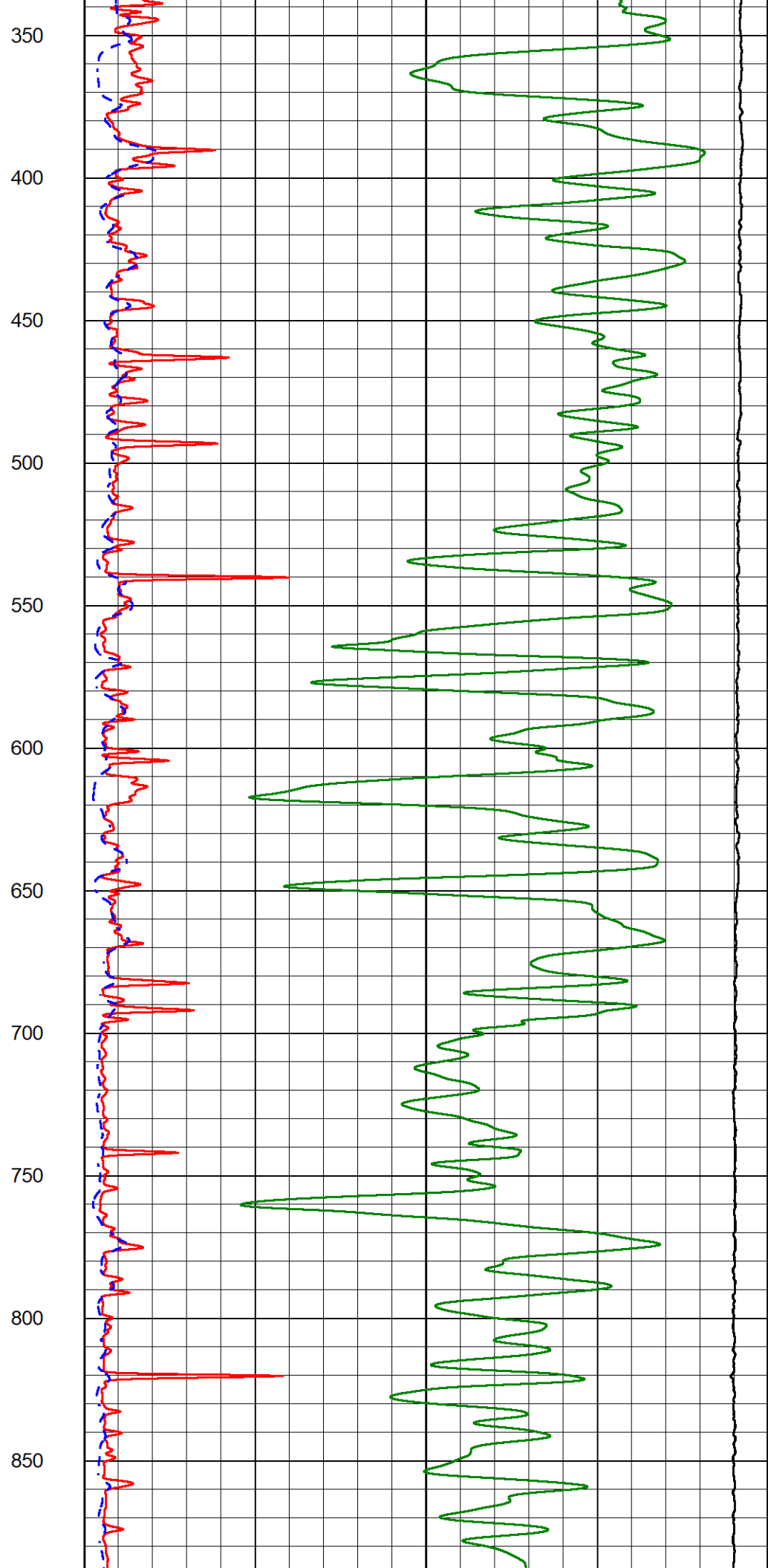
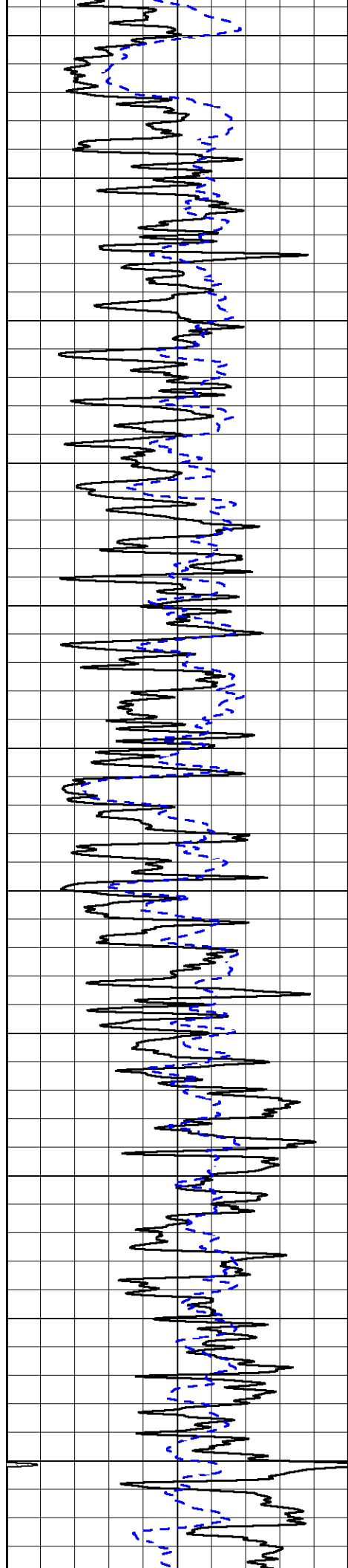
2" SCALE RESISTIVITY

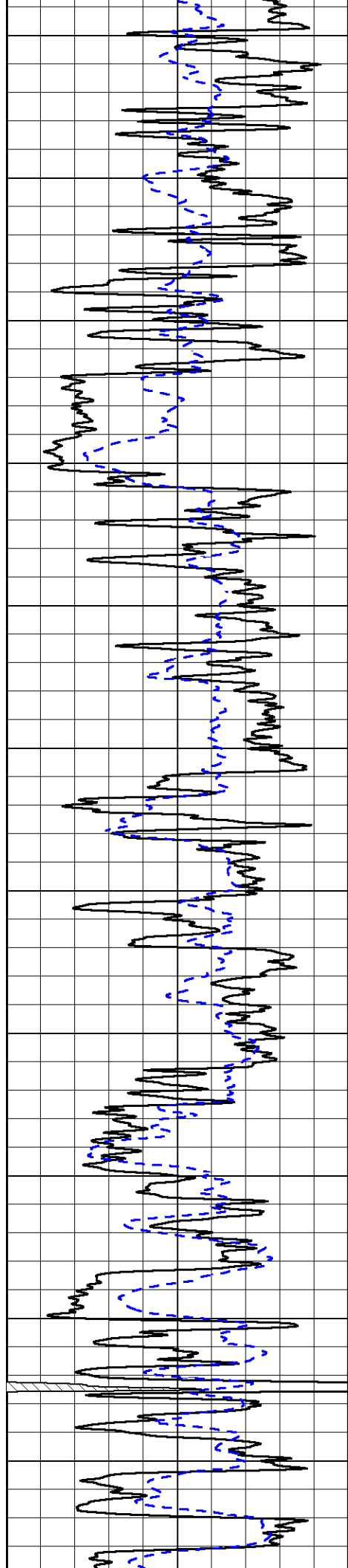
MAIN PASS

Database File igwt_remington #4.db
Dataset Pathname StkMI/pass3.2
Presentation Format _dil2in
Dataset Creation Fri Mar 31 13:12:05 2023
Charted by Depth in Feet scaled 1:600

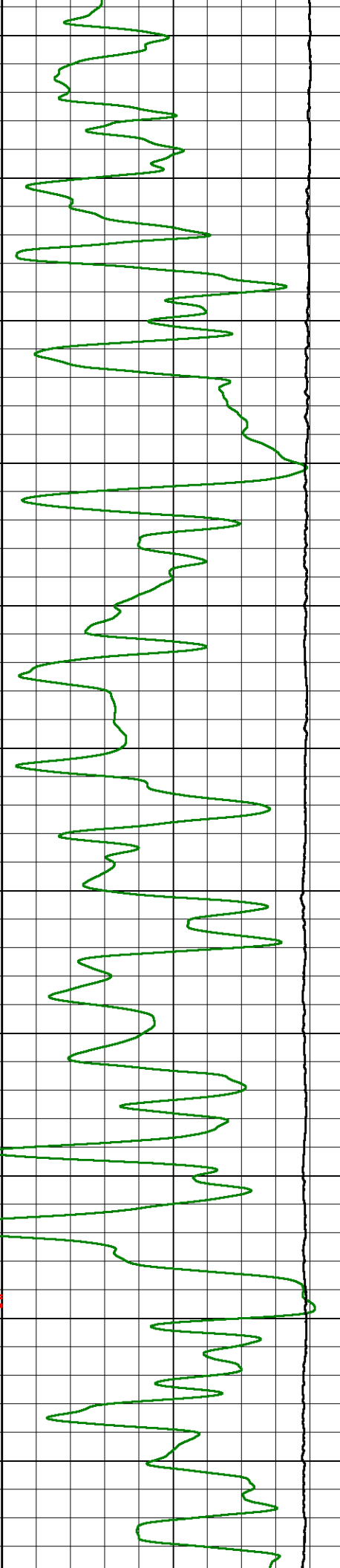
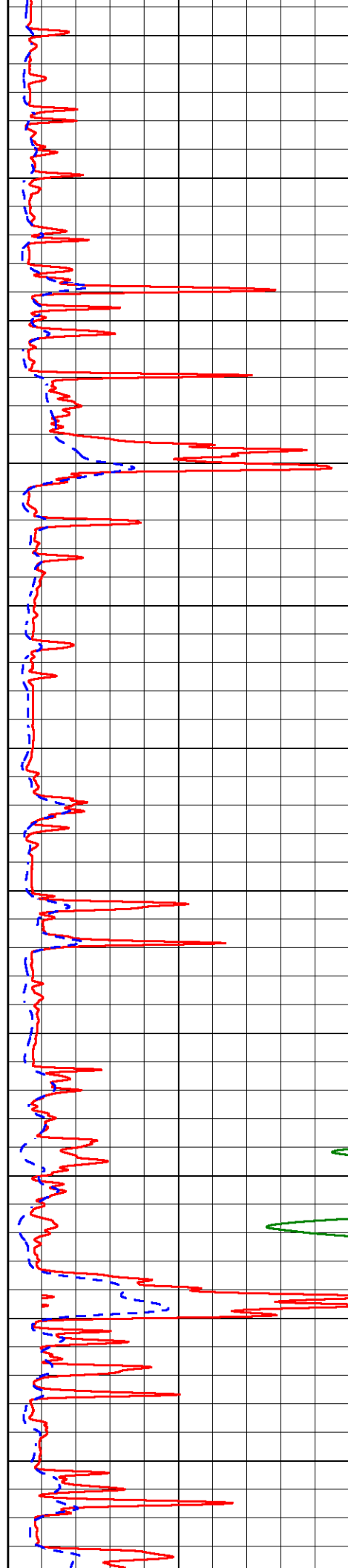
0	Gamma Ray (GAPI)	150	1000	Conductivity (mmho/m)	0
-200	SP (mV)	0	15000	Line Tension (lb)	0
			0	Shallow Resistivity (Ohm-m)	50
			0	Deep Resistivity (Ohm-m)	50
			Shallow Resistivity		
			50	(Ohm-m)	200
			50	Deep Resistivity (Ohm-m)	200

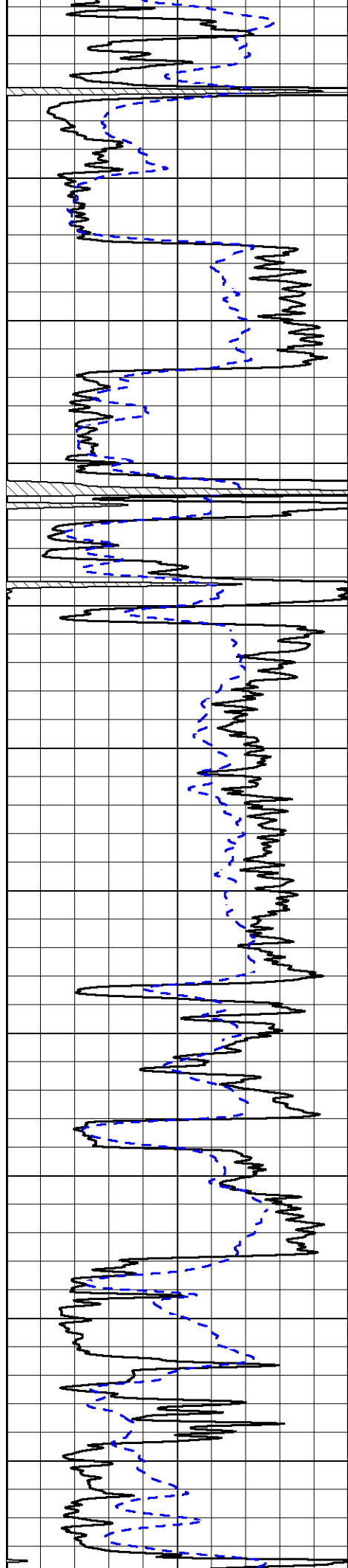






900
950
1000
1050
1100
1150
1200
1250
1300
1350
1400





1450

1500

1550

1600

1650

1700

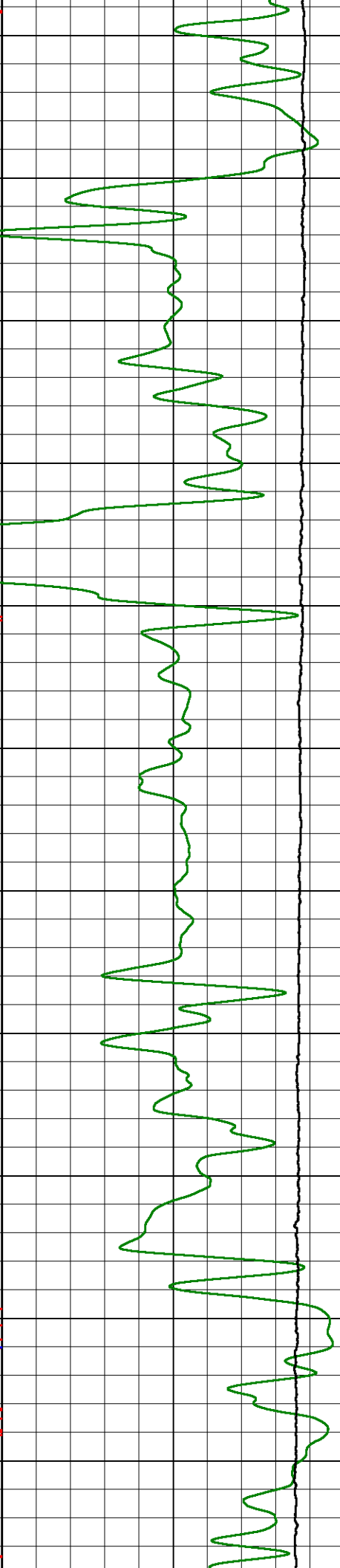
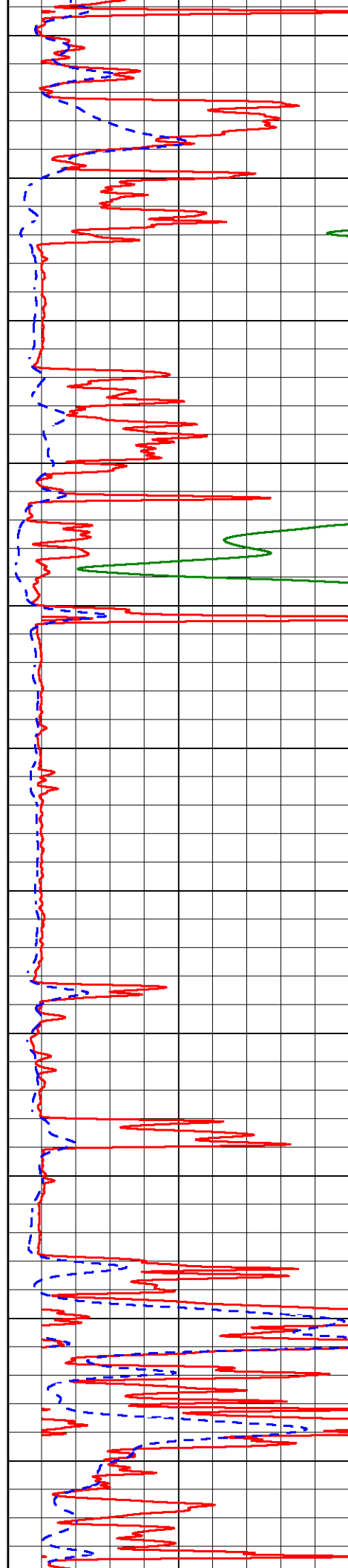
1750

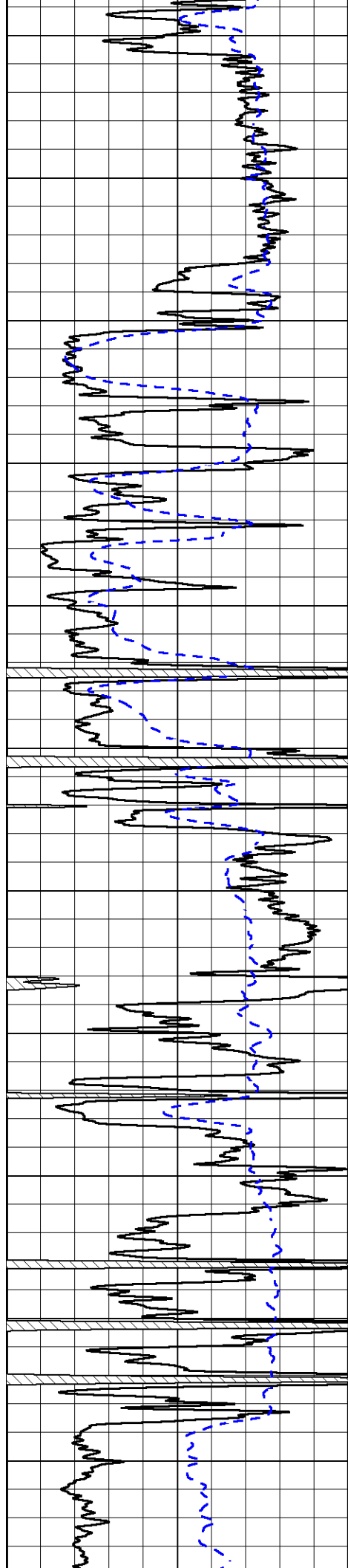
1800

1850

1900

1950





2000

2050

2100

2150

2200

2250

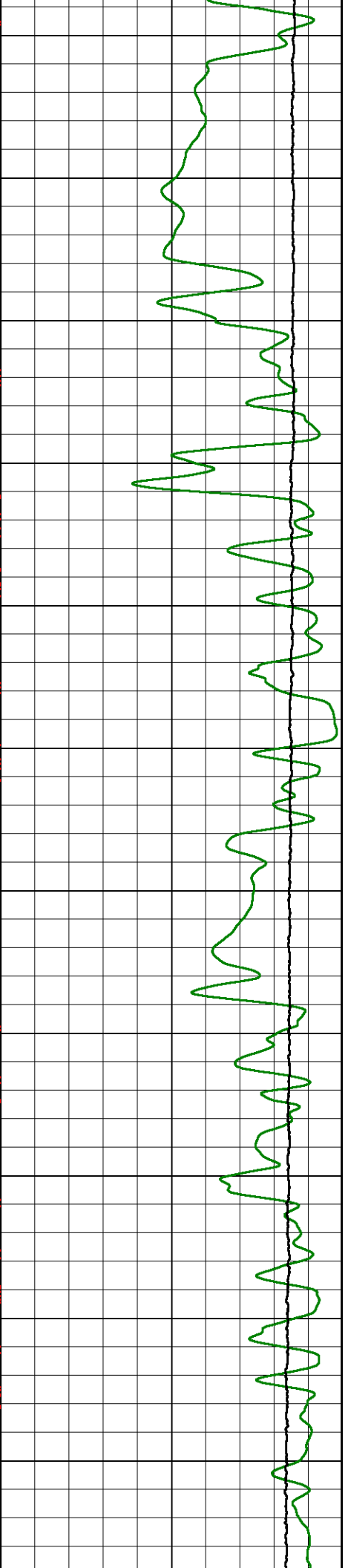
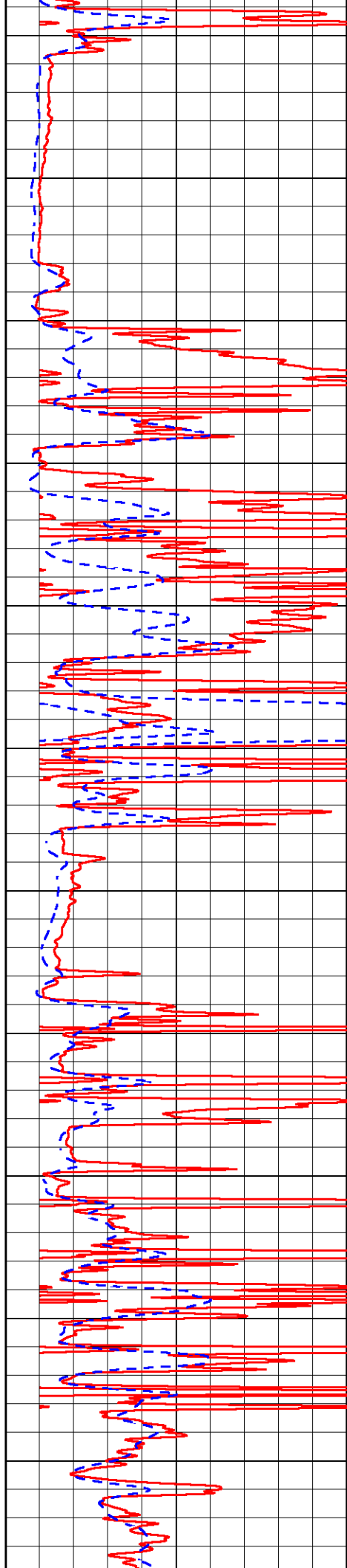
2300

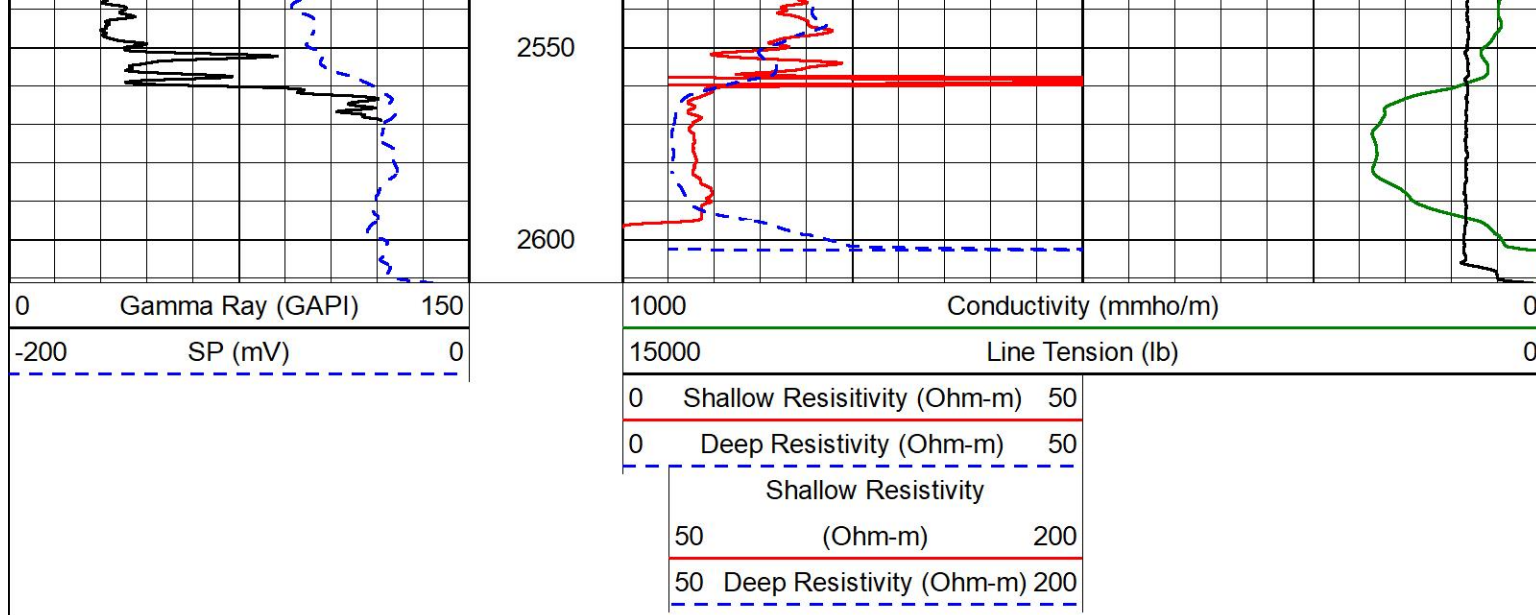
2350

2400

2450

2500



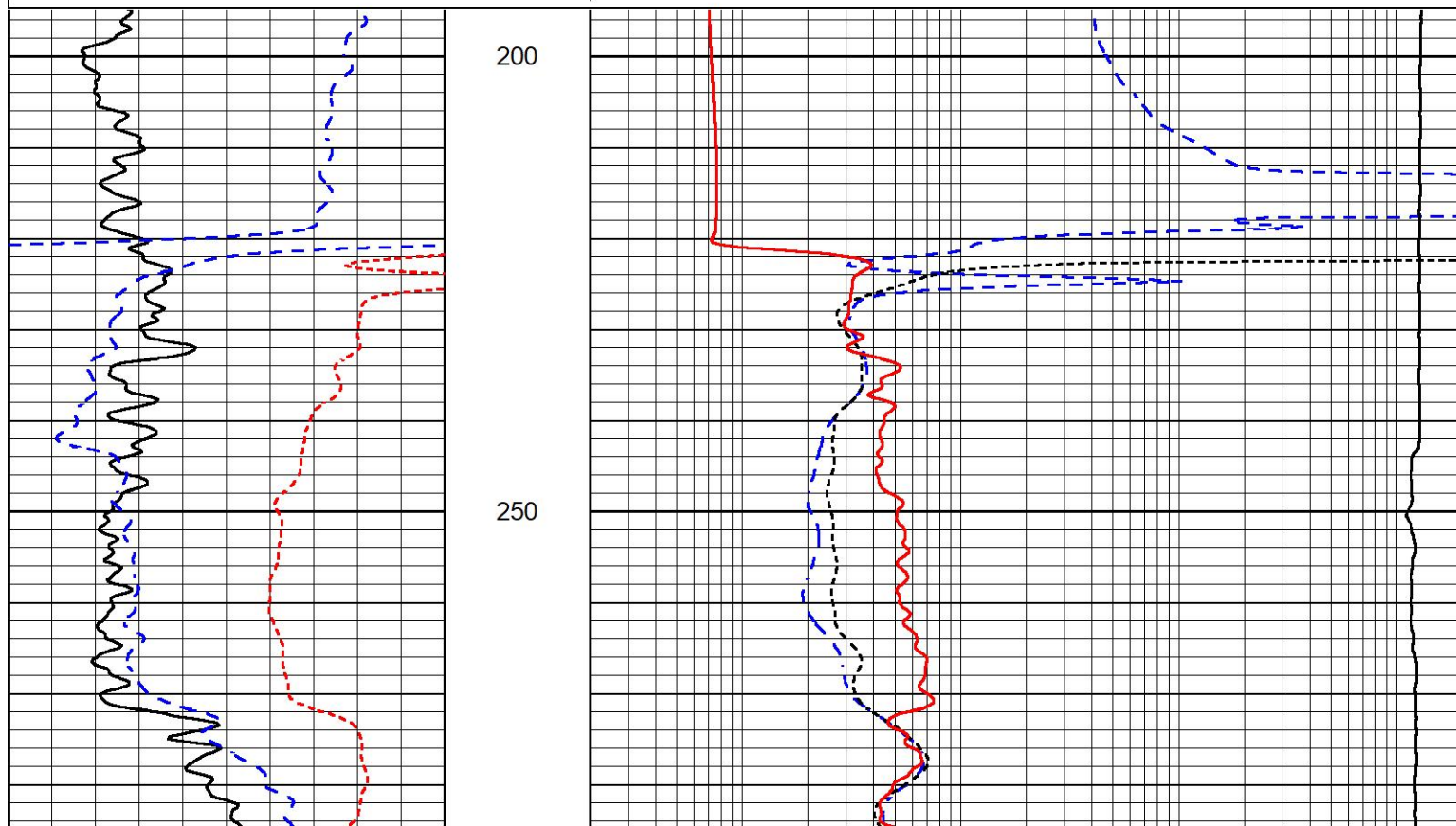
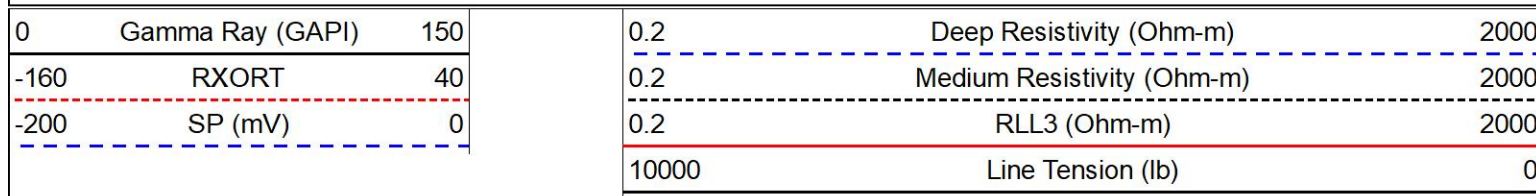


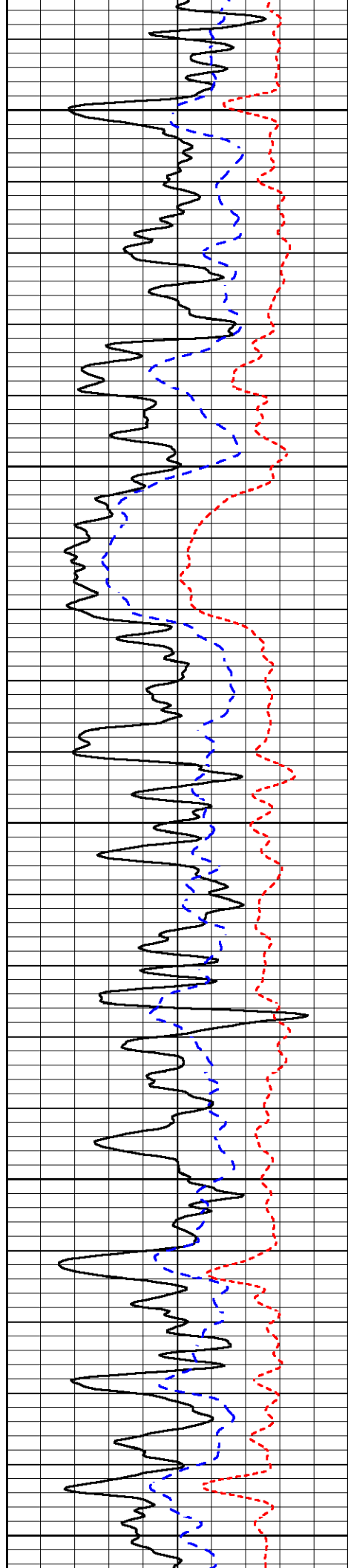
MIDWEST WIRELINE

DETAIL SECTION

MAIN PASS

Database File igwt_remington #4.db
 Dataset Pathname StkMI/pass3.1
 Presentation Format _dil
 Dataset Creation Fri Mar 31 13:12:14 2023
 Charted by Depth in Feet scaled 1:240





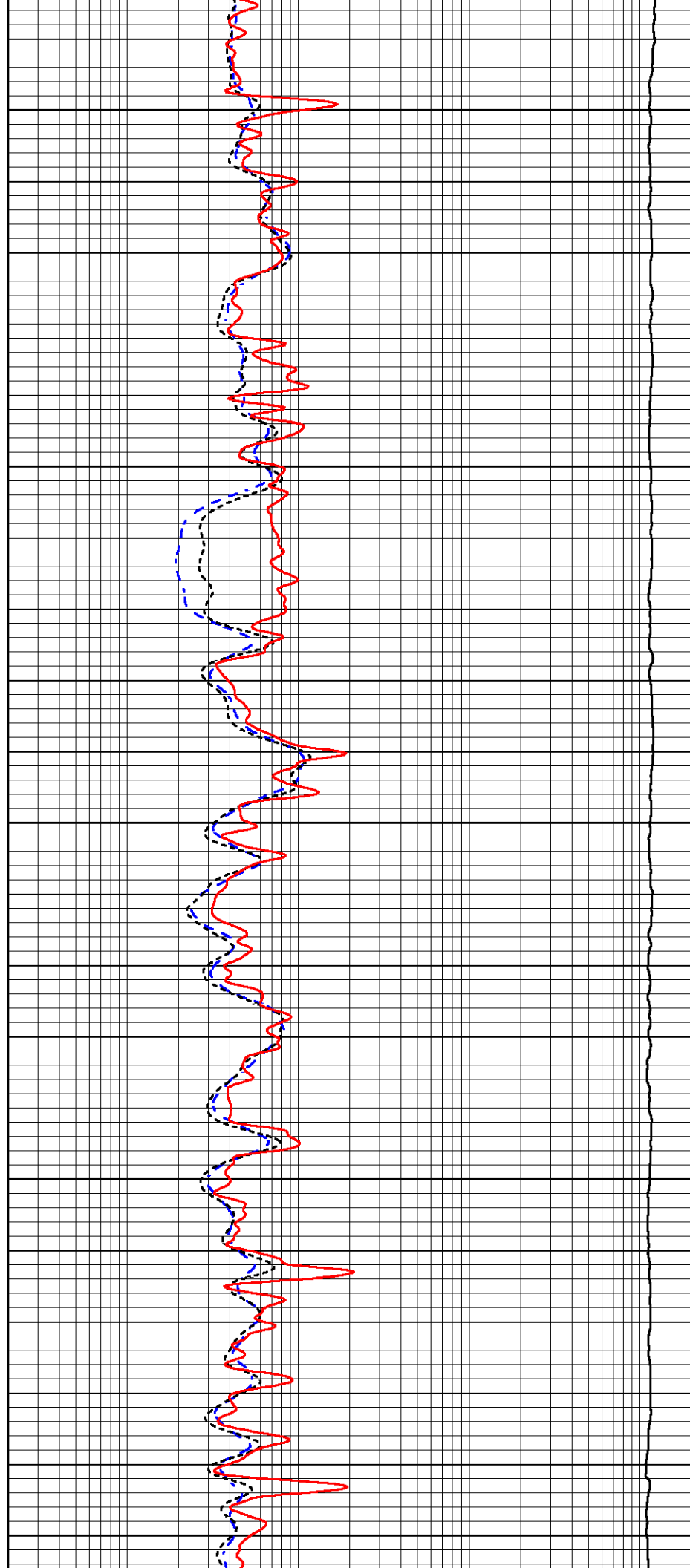
300

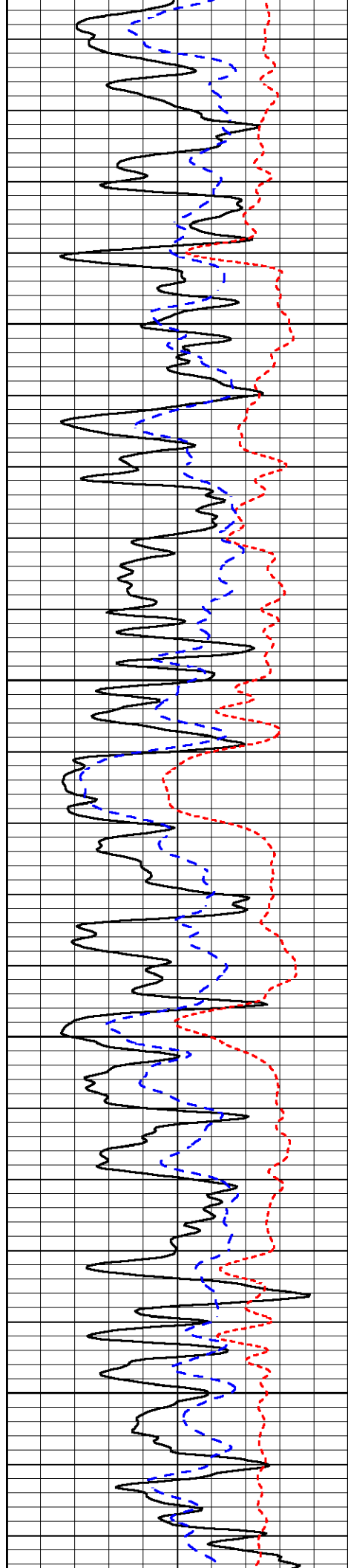
350

400

450

500



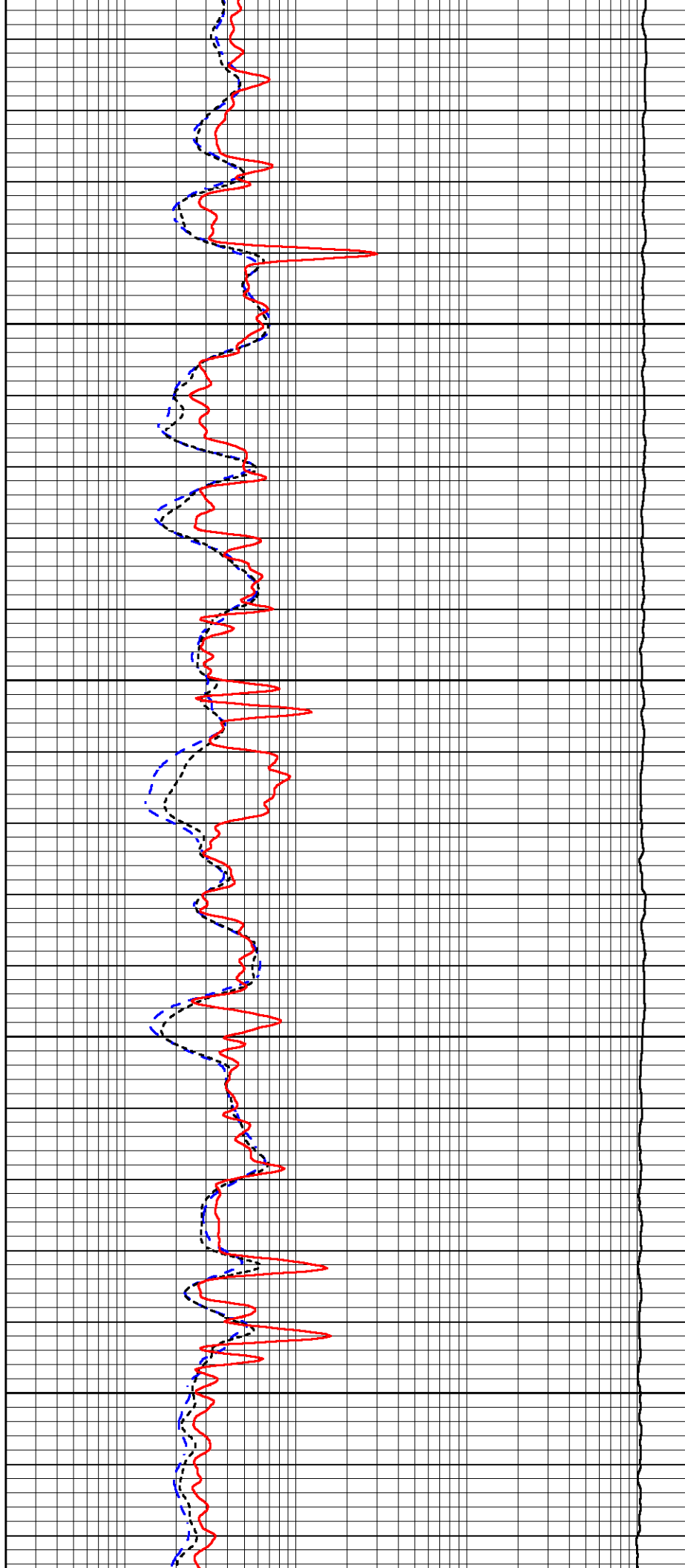


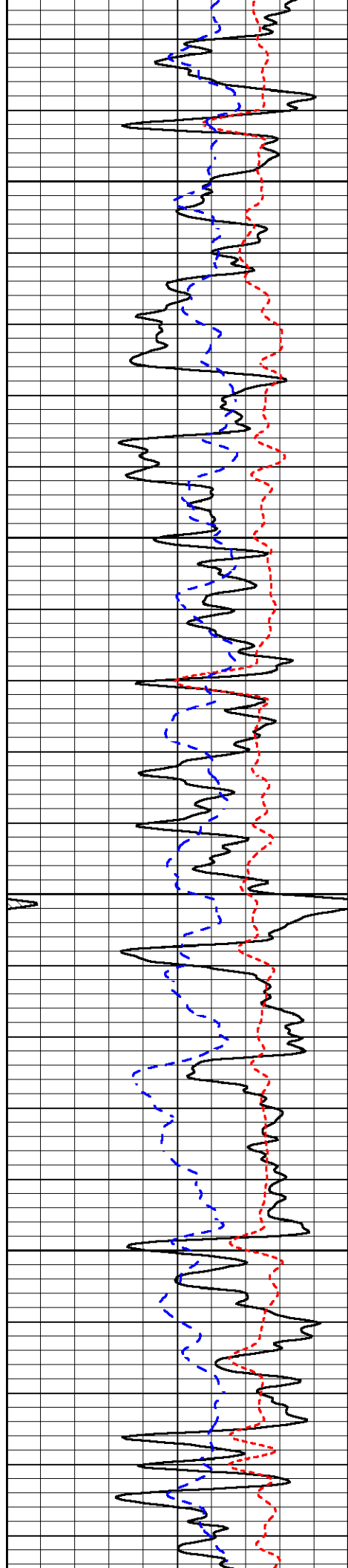
550

600

650

700



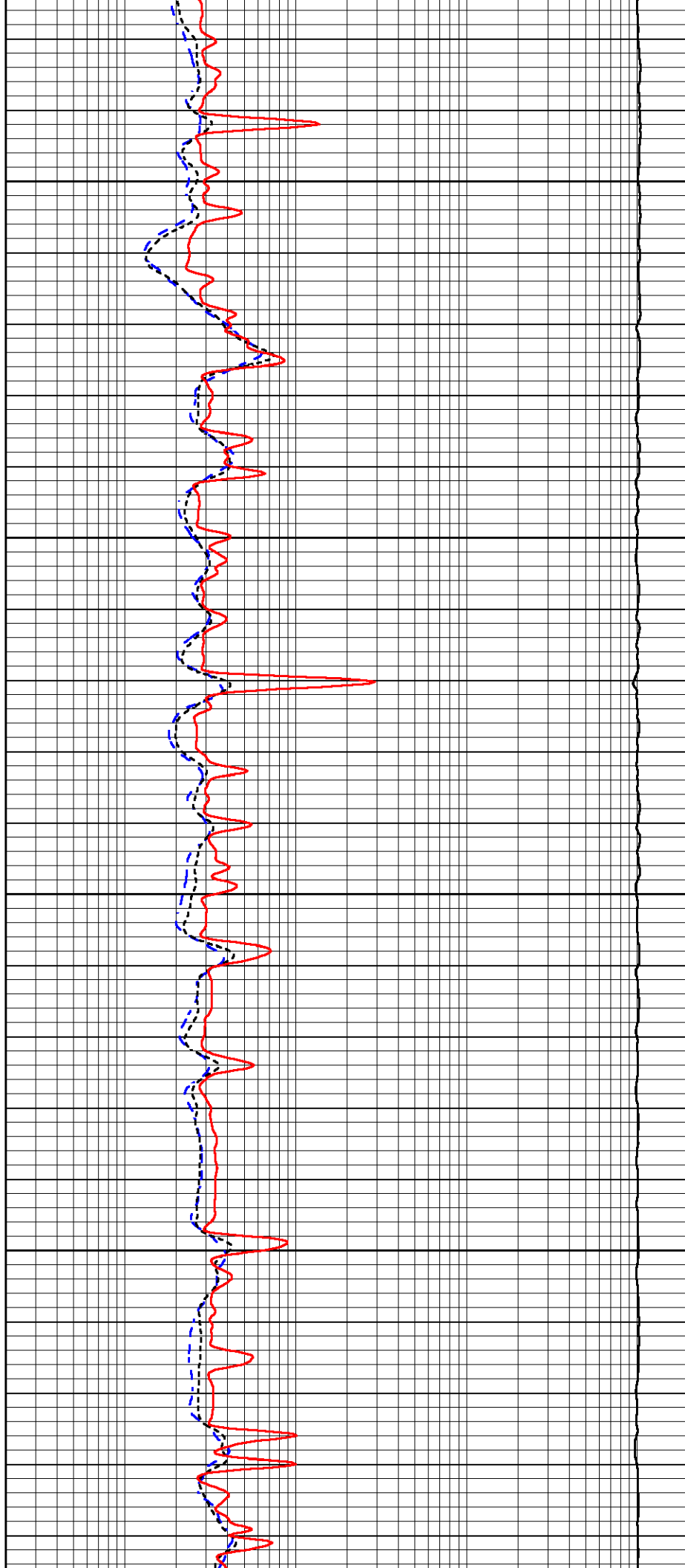


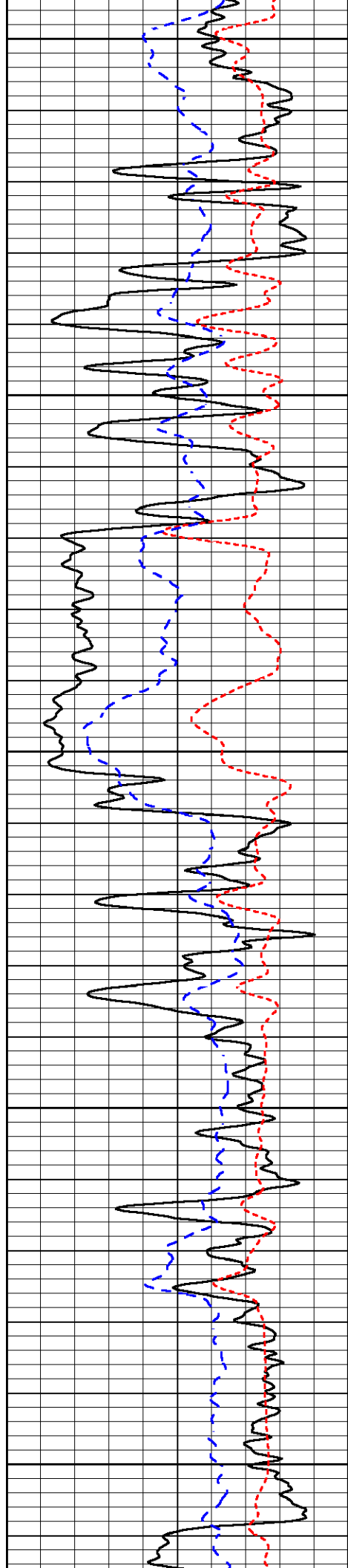
750

800

850

900





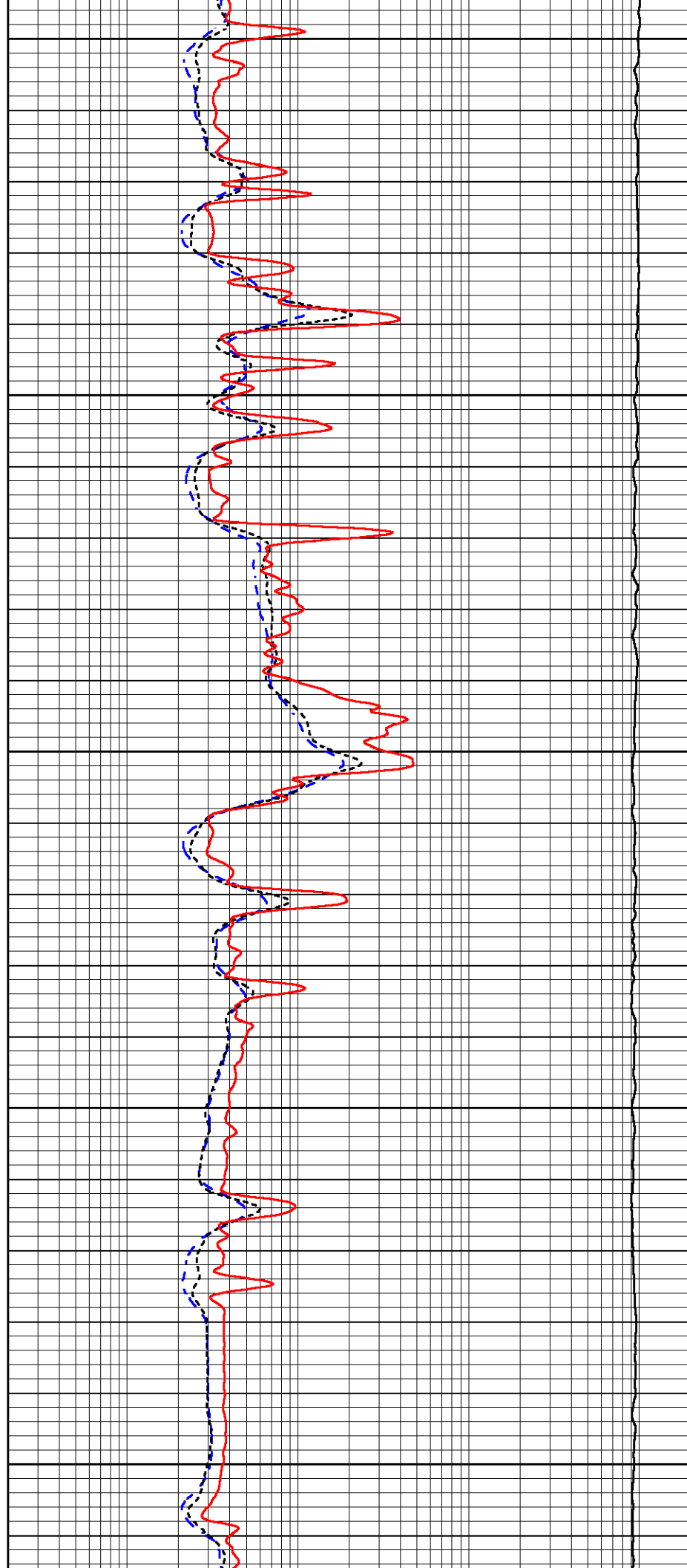
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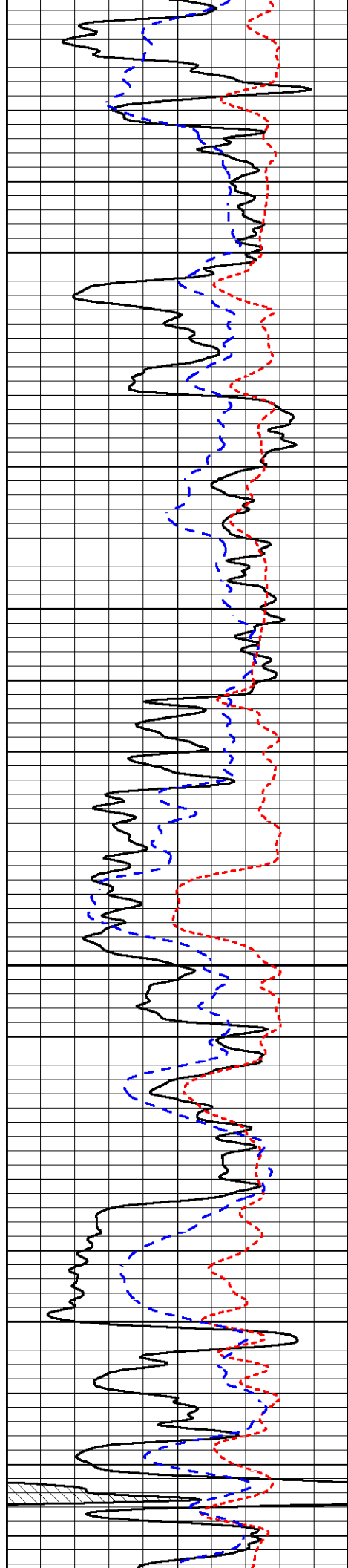
1000

1050

1100

1150



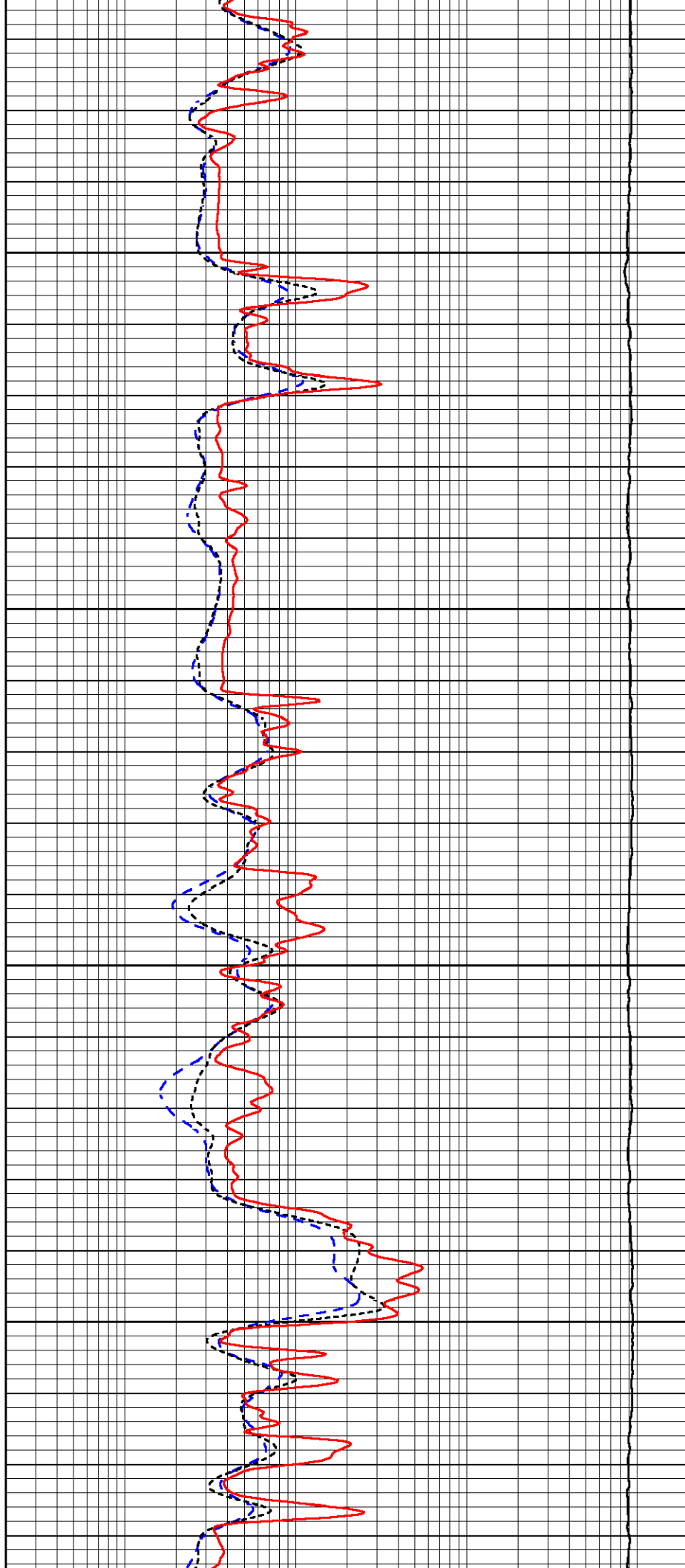


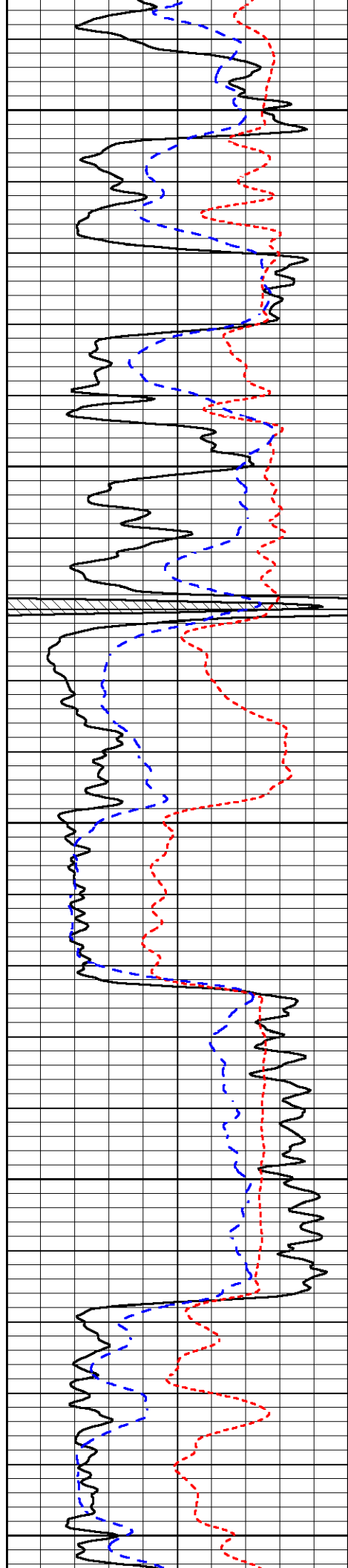
1200

1250

1300

1350





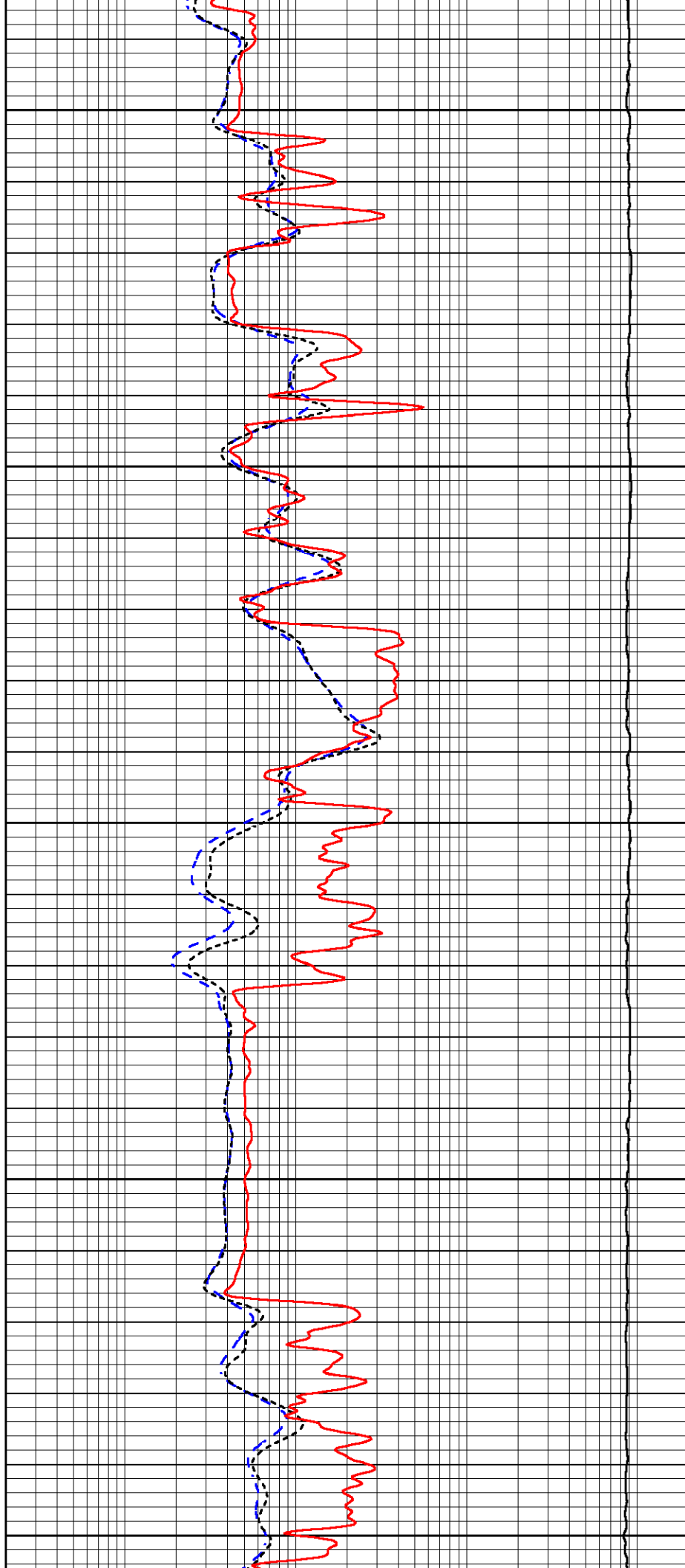
1400

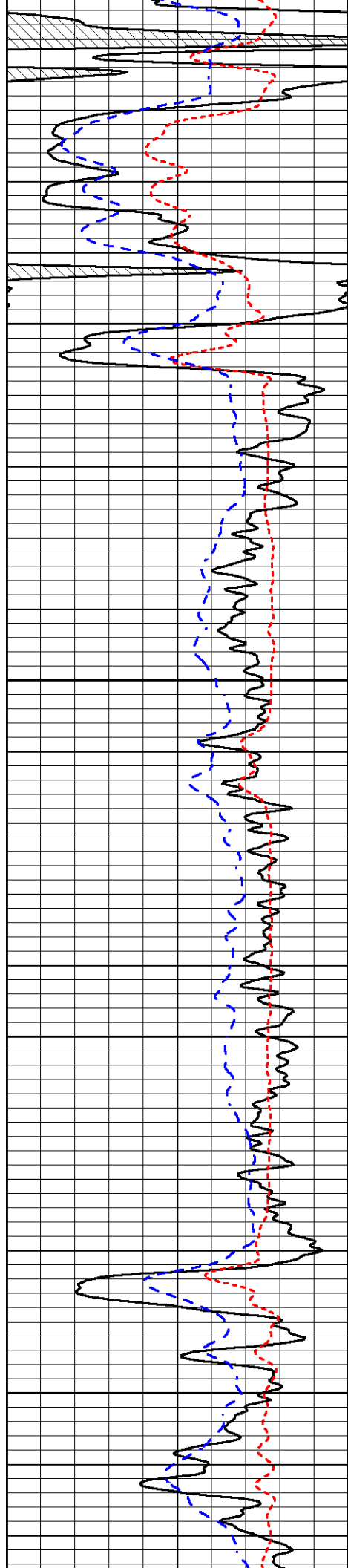
1450

1500

1550

1600



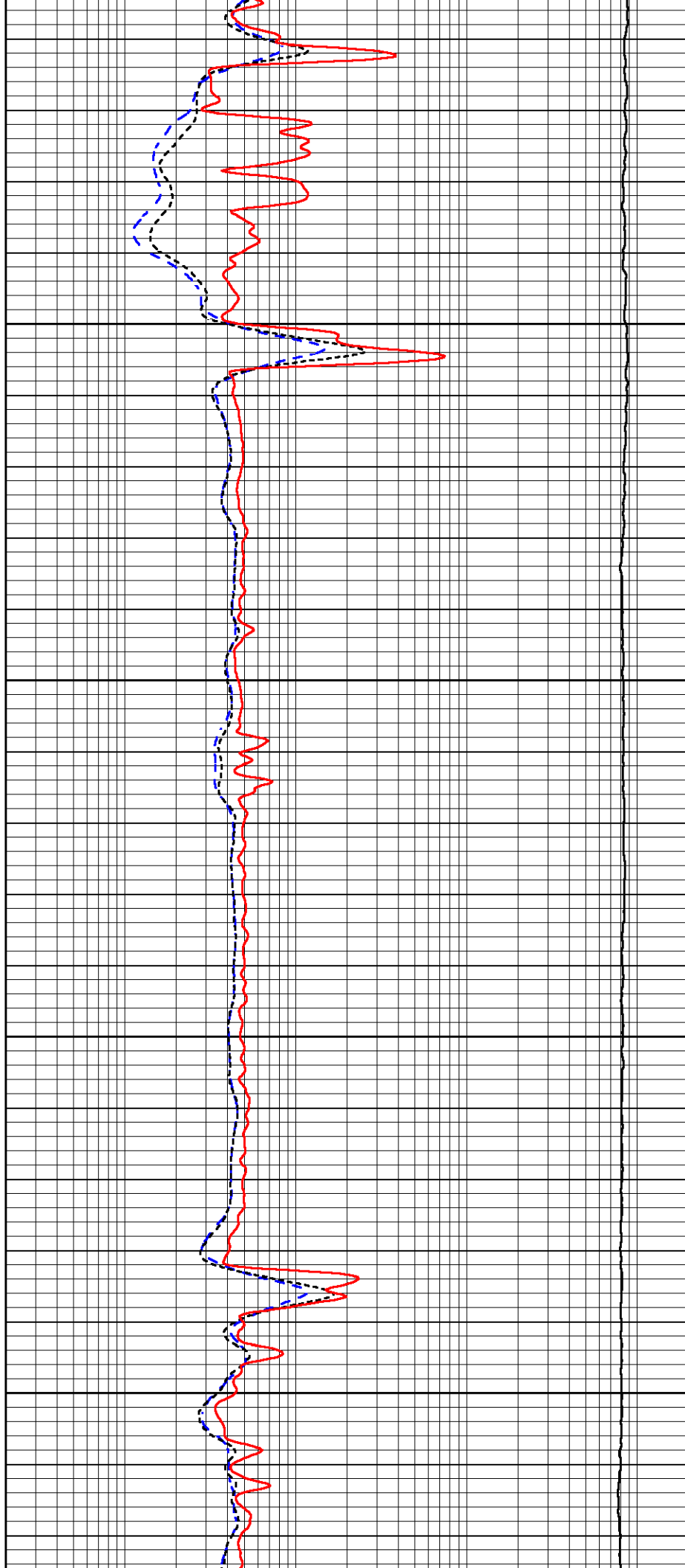


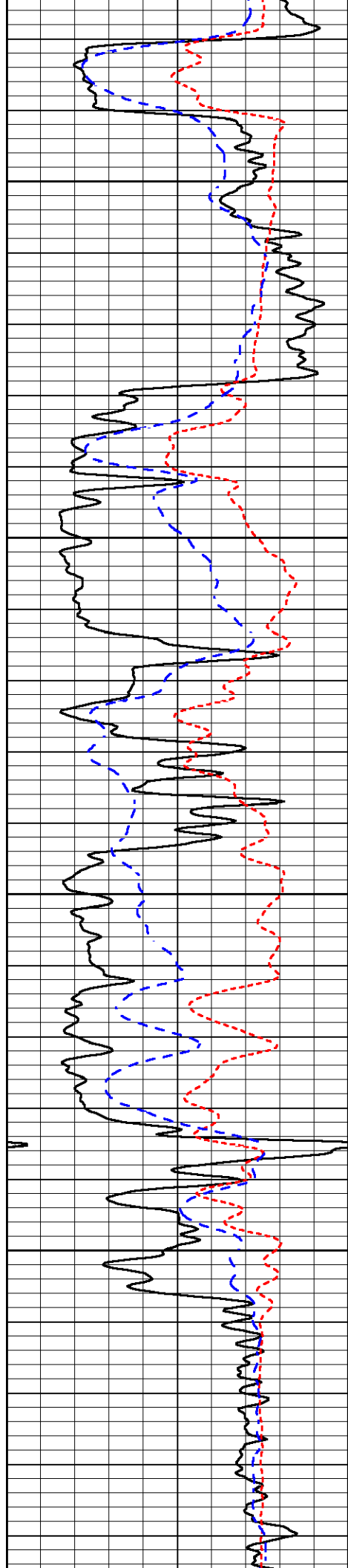
1650

1700

1750

1800



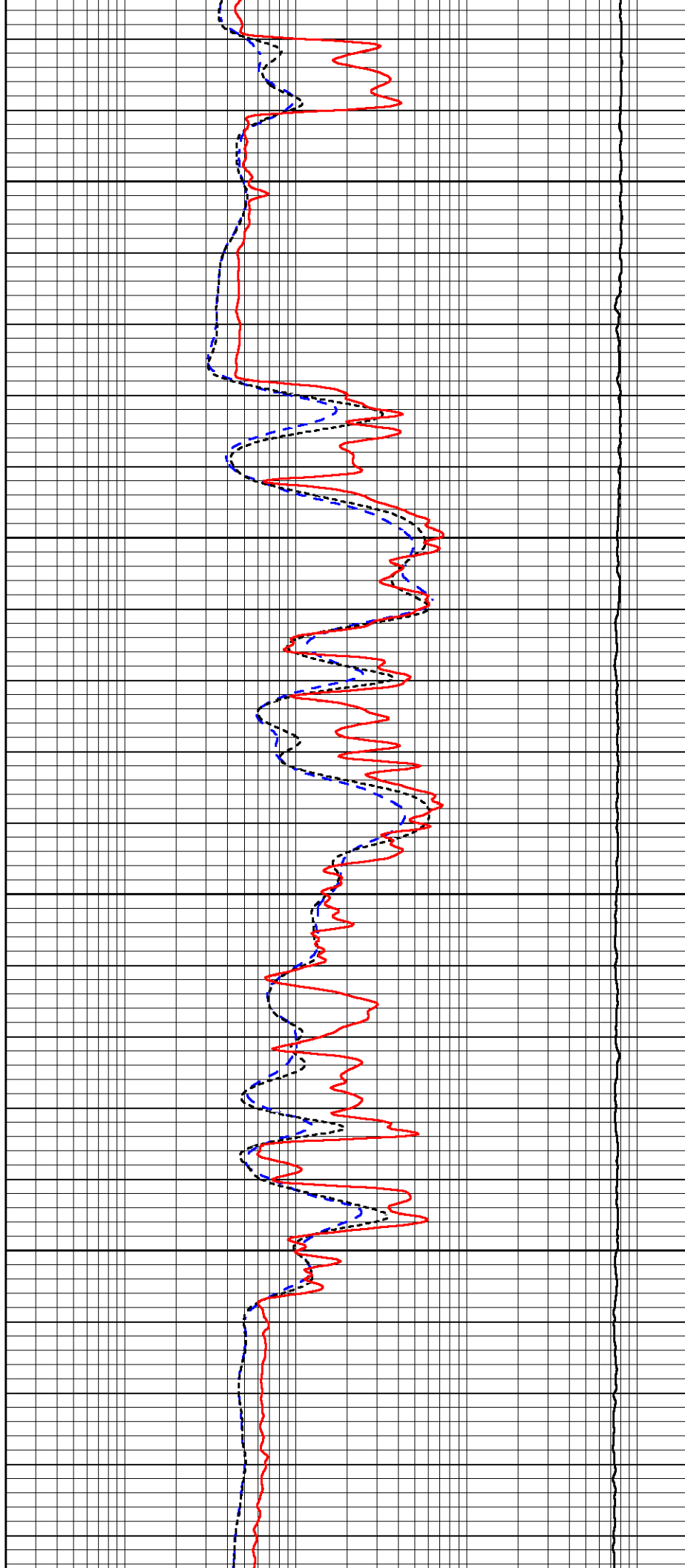


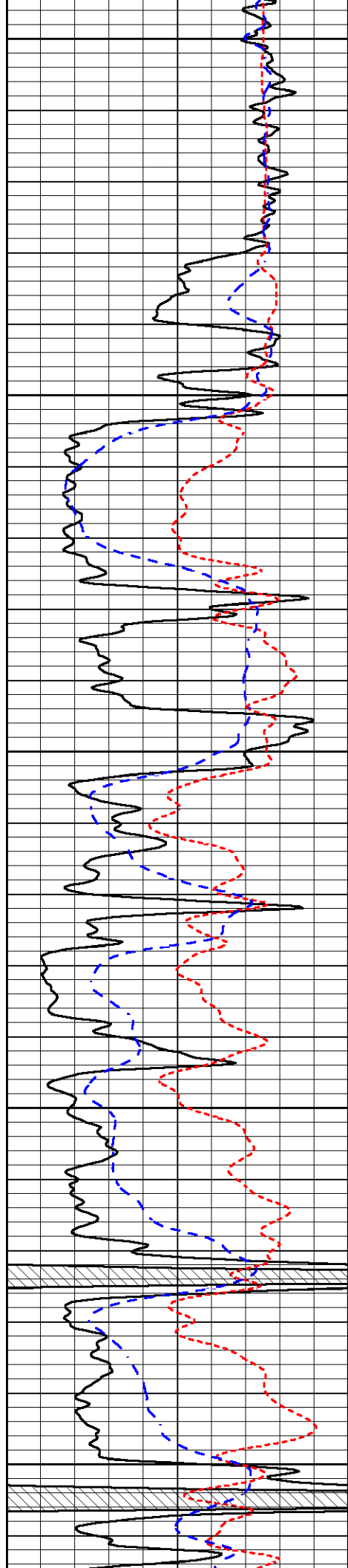
1850

1900

1950

2000





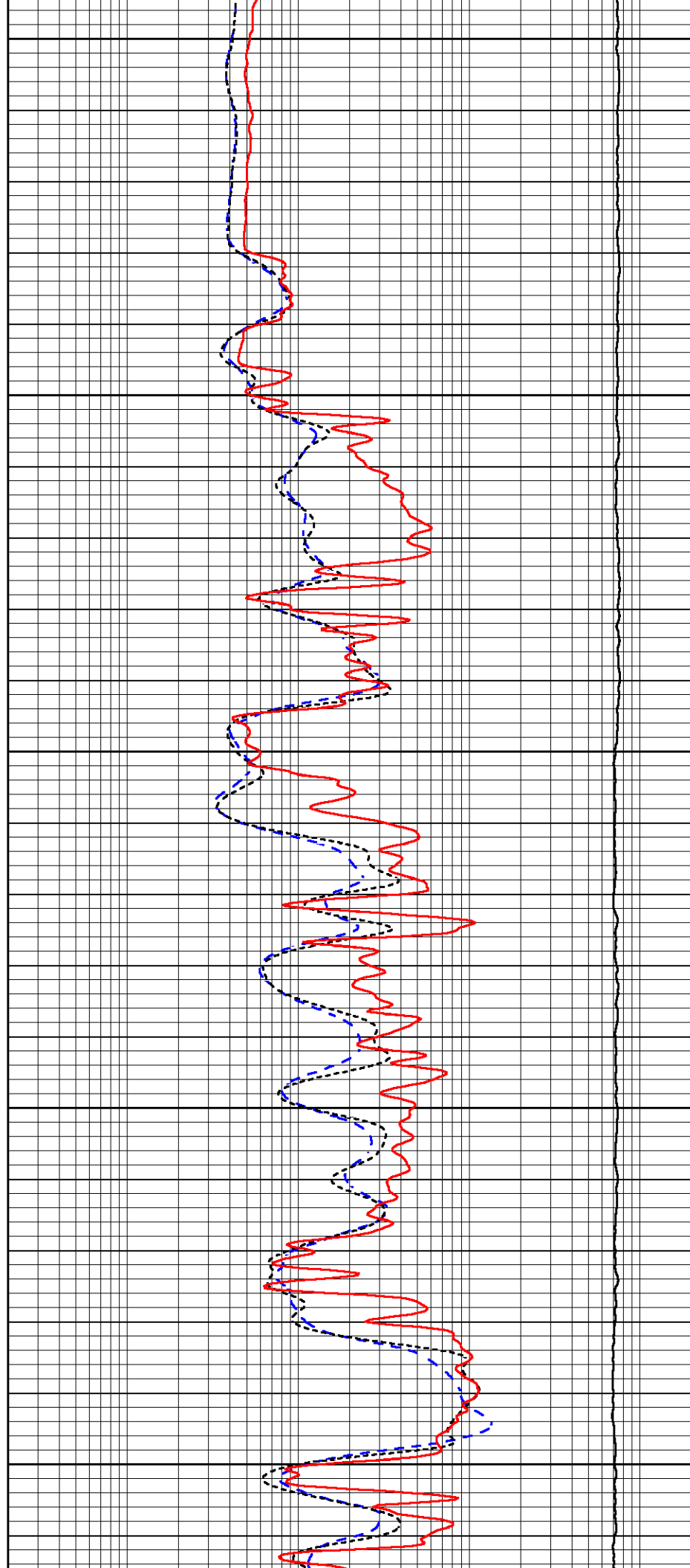
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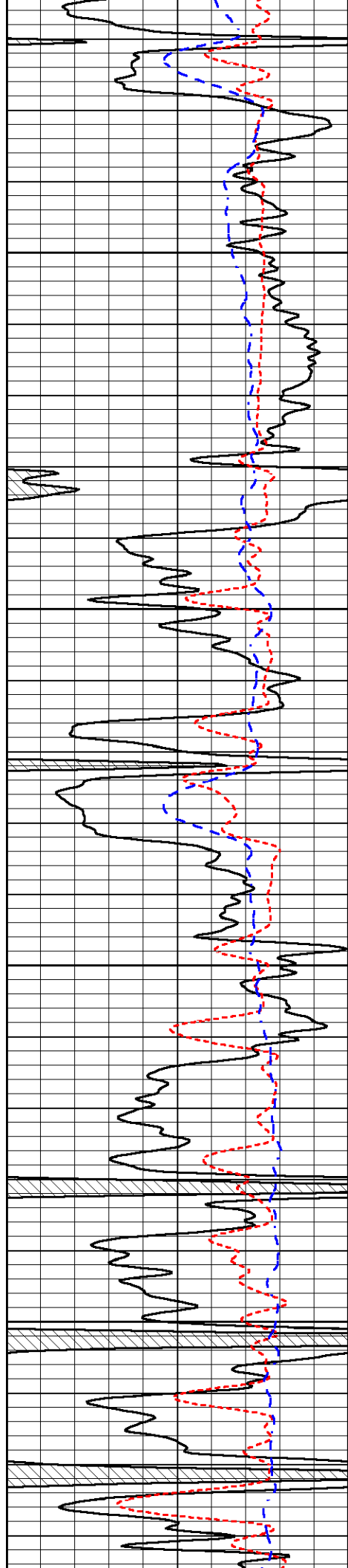
2100

2150

2200

2250



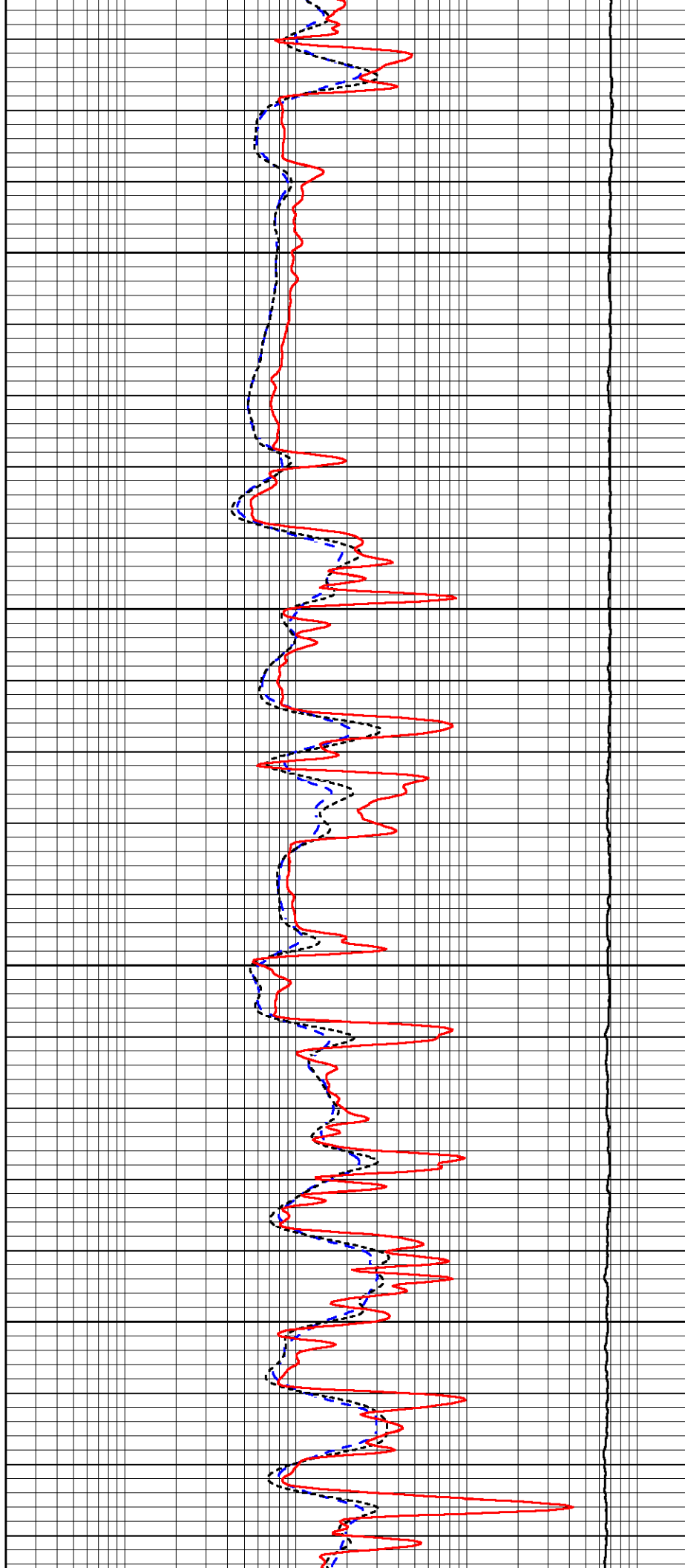


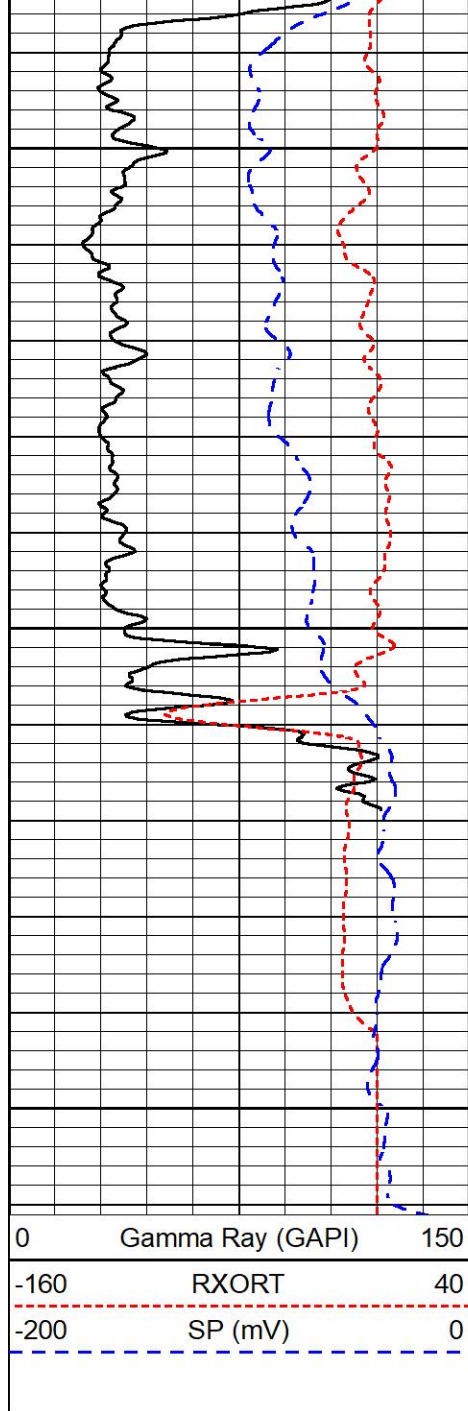
2300

2350

2400

2450

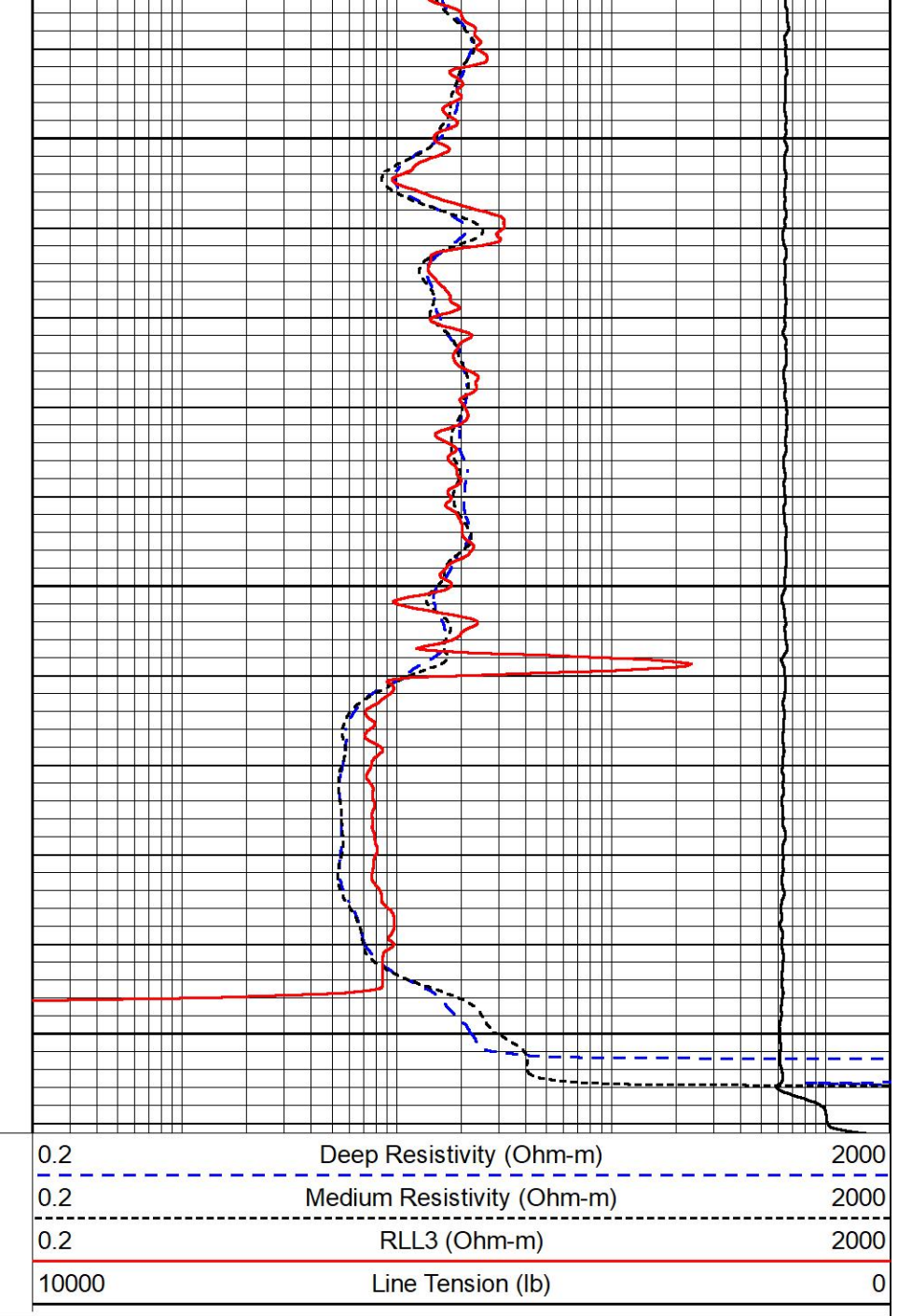




2500

2550

2600

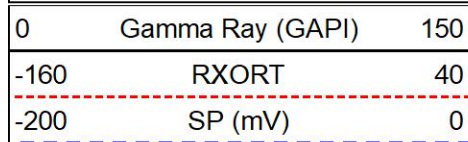


MIDWEST WIRELINE

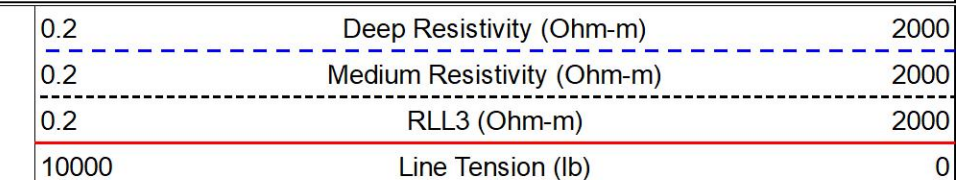
REPEAT SECTION

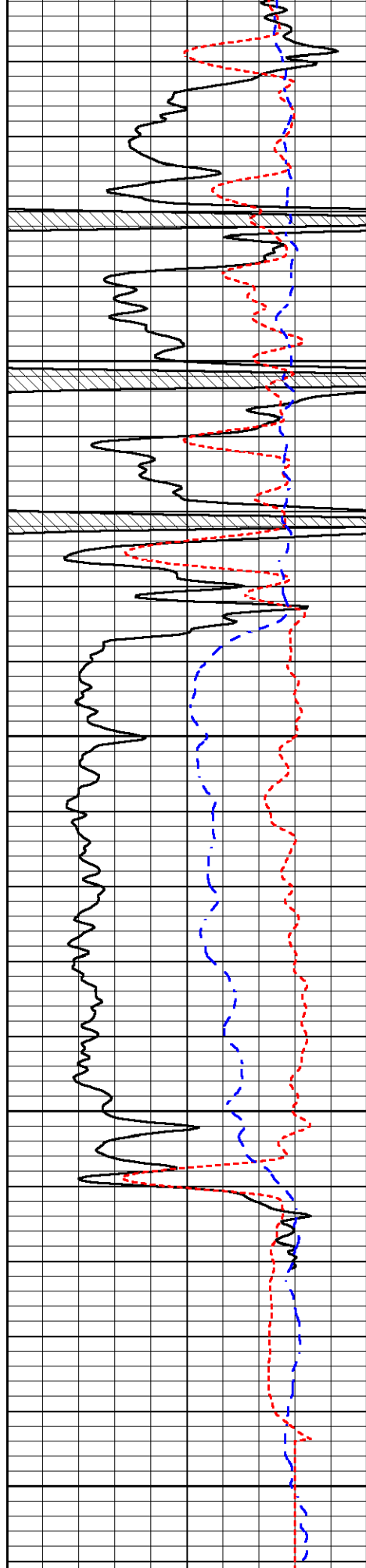
REPEAT PASS

Database File igwt_remington #4.db
 Dataset Pathname StkMI/pass2.1
 Presentation Format _dil
 Dataset Creation Fri Mar 31 12:40:50 2023
 Charted by Depth in Feet scaled 1:240



2400





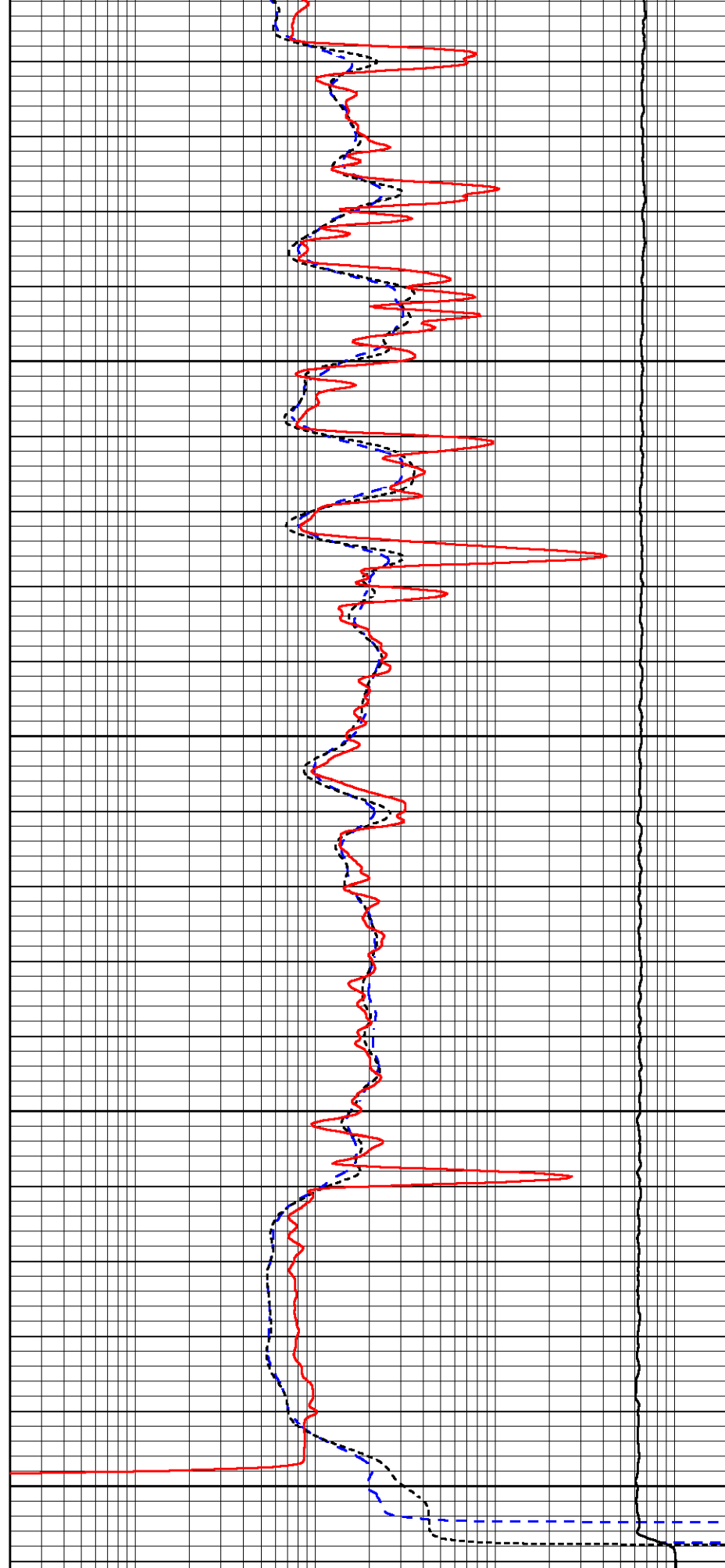
0 Gamma Ray (GAPI) 150
-160 RXORT 40

2450

2500

2550

2600



0.2 Deep Resistivity (Ohm-m) 2000
0.2 Medium Resistivity (Ohm-m) 2000

-200	SP (mV)	0	0.2	RLL3 (Ohm-m)	2000
			10000	Line Tension (lb)	0

Calibration Report	
Database File	igwt_remington #4.db
Dataset Pathname	StkMI/pass3.1
Dataset Creation	Fri Mar 31 13:12:14 2023

Dual Induction Calibration Report	
Serial-Model:	507-M&W
Surface Cal Performed:	Sun Mar 19 18:02:16 2023

		Readings		References		Results	
Loop:	Air	Loop	Air	Loop		m	b
Deep	67.445	566.296	0.000	255.800	mmho/m	0.450	-33.500
Medium	192.026	839.715	0.000	255.800	mmho/m	0.420	-85.000

Microlog Calibration Report	
Serial-Model:	401-PSIML
Performed:	Mon Mar 20 04:31:34 2023

		Readings		References		Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	8000.0000	0.2500
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	7000.0000	0.2500
Caliper	1.0052	1.0858	5.0000	16.5000	in	142.7190	-138.8500

Compensated Density Calibration Report	
Serial-Model:	307-08-M&W
Source #:	20762B
Master Calibration Performed:	Sat Feb 25 11:00:49 2023

Master Calibration	
	Density
Magnesium	1.755 g/cc
Aluminum	2.635 g/cc
	Spine Angle = 74.50
	Size
Small Ring	6.00 in
Large Ring	18.00 in
	Far Detector
	4131.04
	Near Detector
	5675.82 cps
	781.38
	3576.78 cps
	Density/Spine Ratio = 0.509
	Reading
	1.16
	1.01

Compensated Neutron Calibration Report	
Serial Number:	207-MW
Tool Model:	M&W

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
PRE-SURVEY VERIFICATION						
	Detector	Readings		Measured		Target
1)	Short Space	cps				
	Long Space	cps		pu		pu
2)	Short Space	cps				
	Long Space	cps		pu		
3)	Short Space	cps				
	Long Space	cps		pu		
POST-SURVEY VERIFICATION						
	Detector	Readings		Measured		Target
1)	Short Space	cps				
	Long Space	cps		pu		pu
2)	Short Space	cps				
	Long Space	cps		pu		pu
3)	Short Space	cps				
	Long Space	cps		pu		pu
Gamma Ray Calibration Report						
Serial Number:		106				
Tool Model:		M&W				
Performed:		Fri Dec 3 15:10:46 2021				
Calibrator Value:		500.0		GAPI		
Background Reading:		24.0		cps		
Calibrator Reading:		637.0		cps		
Sensitivity:		0.5500		GAPI/cps		

 MIDWEST WIRELINE	Company	IGWT, Inc.
	Well	Remington #4
	Field	Paulson
	County	Butler
	State	Kansas