



MIDWEST WIRELINE

MICRORESISTIVITY LOG

Company IGWT, Inc.

Well S&W #1

Field

County Butler

State Kansas

Location:

API #: 15-015-24201-00-00
 NW NW
 660 FNL & 660 FWL
 SEC 31 TWP 23S RGE 4E

Other Services
 CNL/CDL
 DIL

Permanent Datum Ground Level Elevation 1367
 Log Measured From Kelly Bushing
 Drilling Measured From Kelly Bushing

Elevation
 K.B. 1376
 D.F.
 G.L. 1367

Date	4/7/2023
Run Number	One
Depth Driller	2520
Depth Logger	2522
Bottom Logged Interval	2521
Top Log Interval	225
Casing Driller	8.625 @ 224
Casing Logger	2.19
Bit Size	7.875
Type Fluid in Hole	Chemical
Salinity, ppm CL	1100
Density / Viscosity	9.4 47
pH / Fluid Loss	10.0 10.2
Source of Sample	Flowline
Rm @ Meas. Temp	0.8 @ 72
Rmt @ Meas. Temp	0.6 @ 72
Rmc @ Meas. Temp	1.08 @ 72
Source of Rmf / Rmc	Charts
Rm @ BHT	0.57 @ 101
Operating Rig Time	2 Hours
Max Rec. Temp. F	101
Equipment Number	P-24
Location	Hays
Recorded By	T. Martin
Witnessed By	Bill Stout

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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, E 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:
 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 (207-MW)	5.00	3.50	100.00
LSD DCAL SSD	28.18 28.17 27.68		CDL-M&W (307-08)	8.50	4.00	250.00
MCAL MI MN	19.58 19.58 19.58		ML-PSIML (401)	7.58	4.00	65.00
RLL3F RLL3	15.50 15.50					
CILD	8.33		DIL-M&W (507)	18.25	3.50	220.00
CILM	4.50					
SP	0.20					

Dataset: igwt_s&w #1.db: field/well/StkMI/pass3.1
 Total length: 42.33 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in

Log Variables

DatabaseC:\ProgramData\Warrior\Data\igwt_s&w #1.db
 Dataset field/well/StkMI/pass3.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	101	5.5	0	1	2	2.71
NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	No	0	0	460	30	Off	2522

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



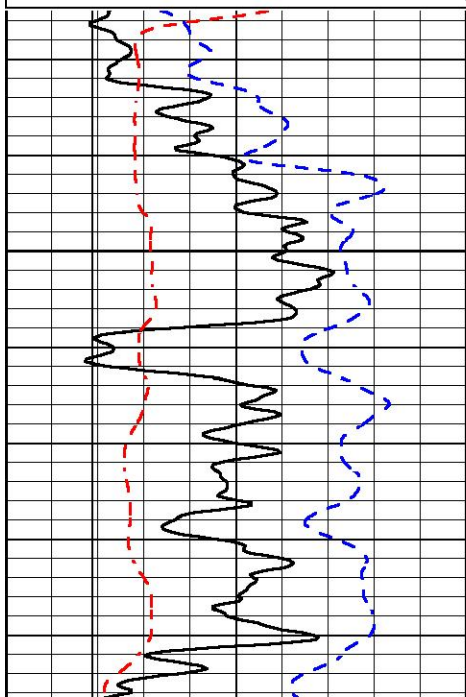
DETAIL SECTION

MAIN PASS

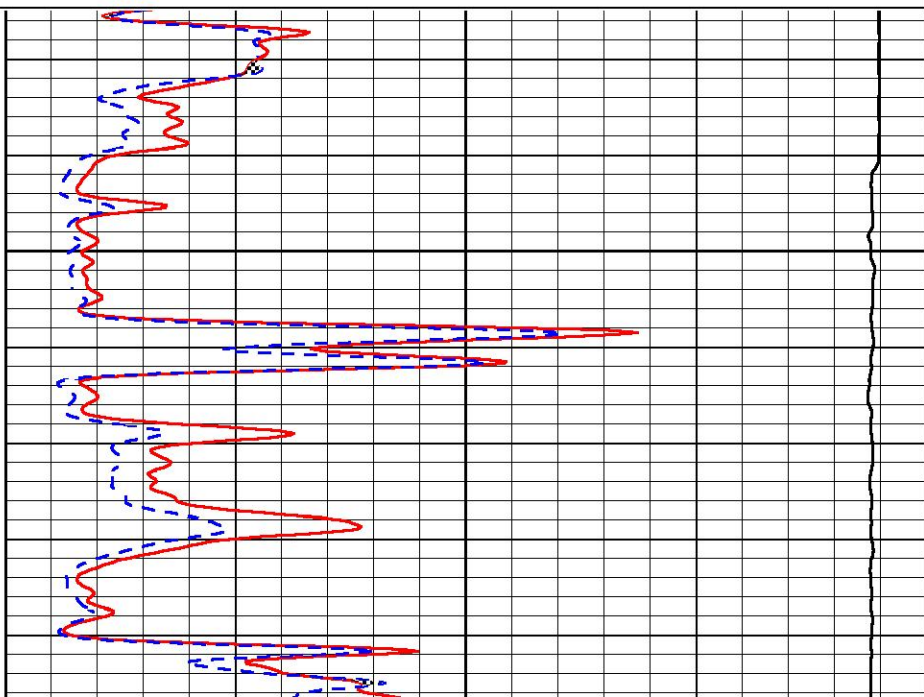
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 Presentation Format _micro
 Dataset Creation Fri Apr 07 05:26:55 2023
 Charted by Depth in Feet scaled 1:240

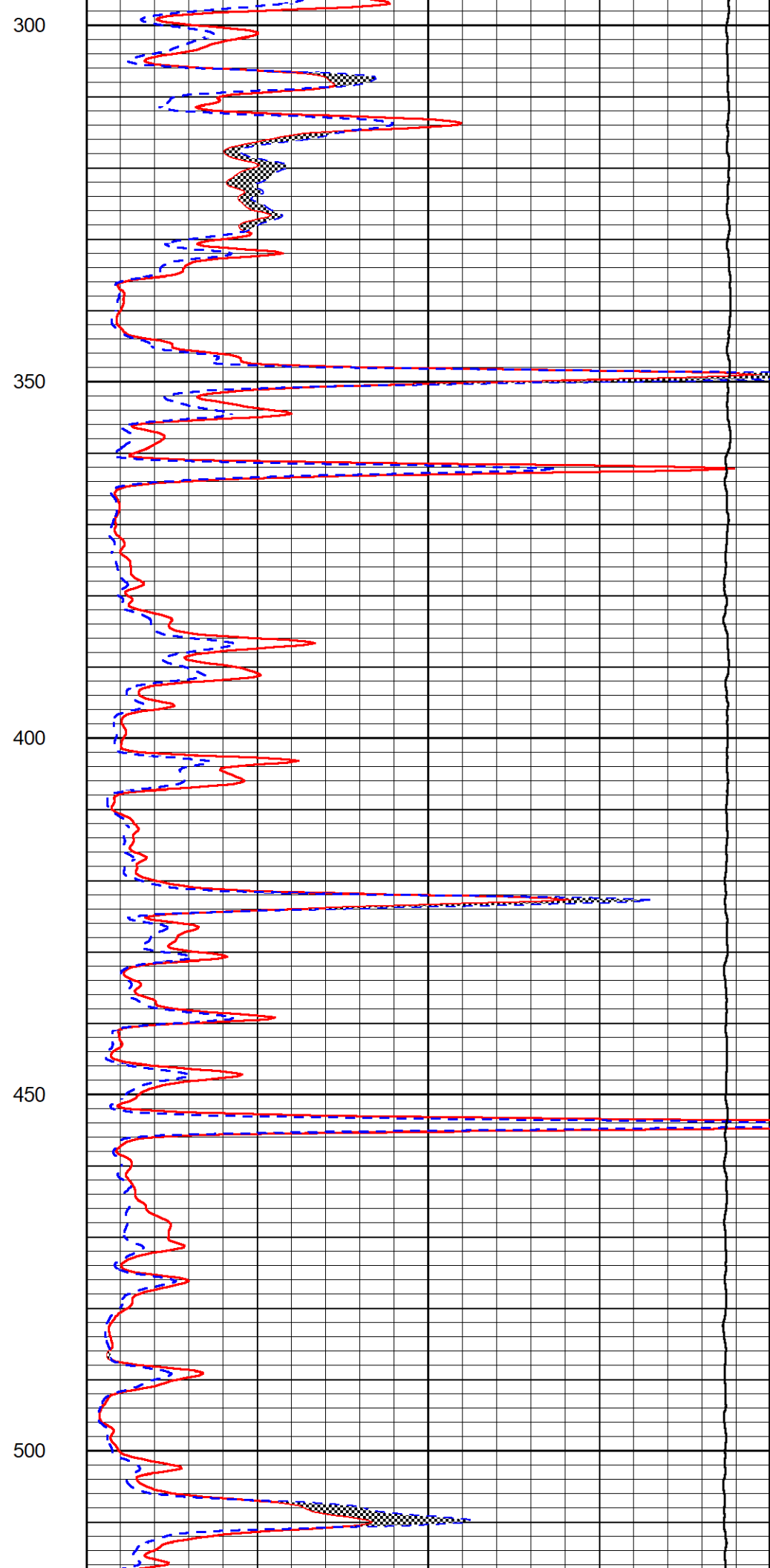
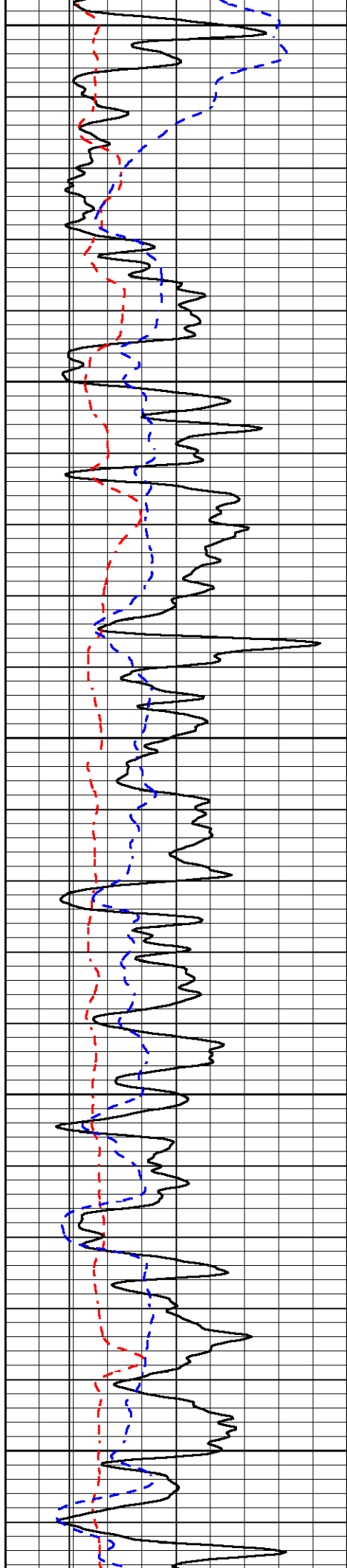
0	Gamma Ray (GAPI)	150
6	Caliper (in)	16
2.875	mcal (in)	7.875
-200	sp (mV)	0

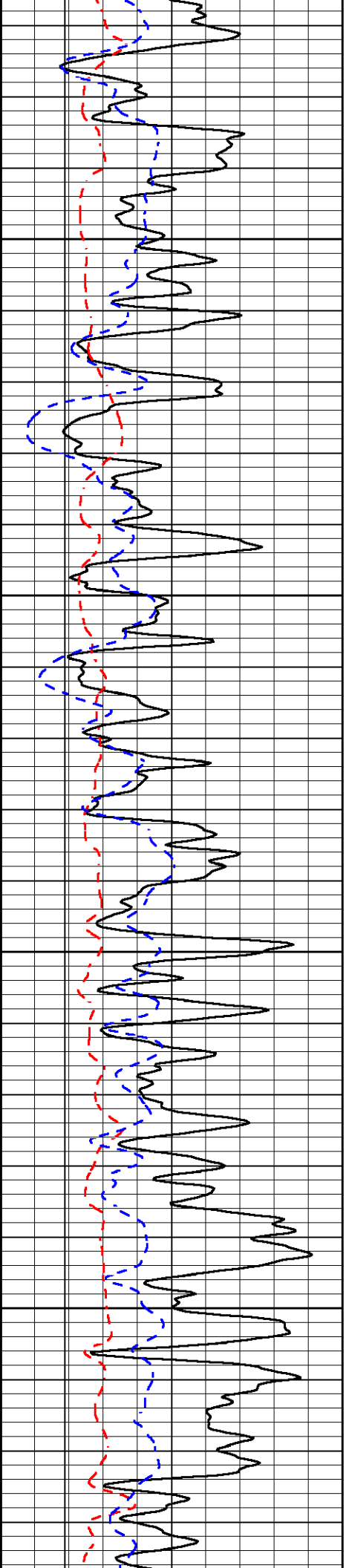
0	Micro Inverse 1 X 1 (Ohm-m)	40
0	Micro Normal 2" (Ohm-m)	40
10000	Line Weight (lb)	0



250





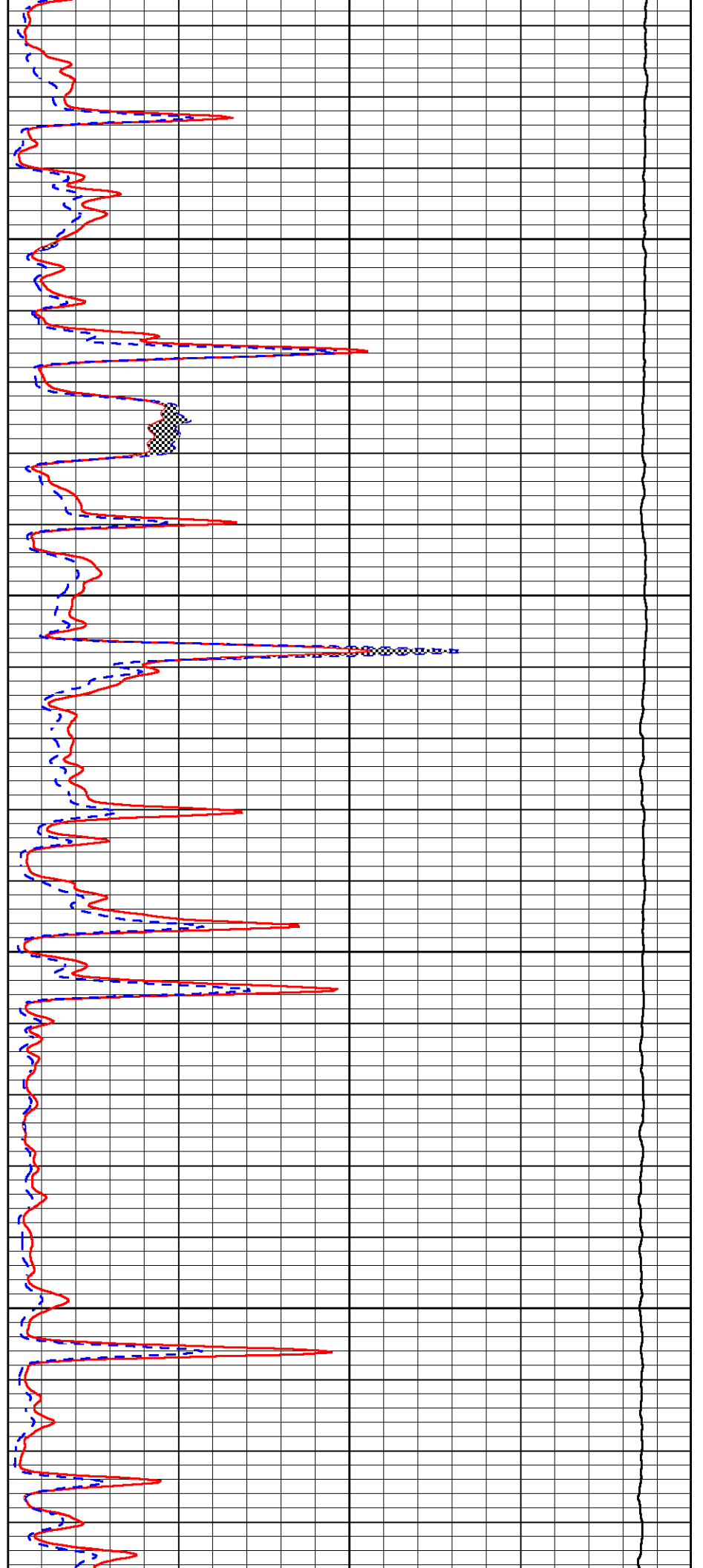


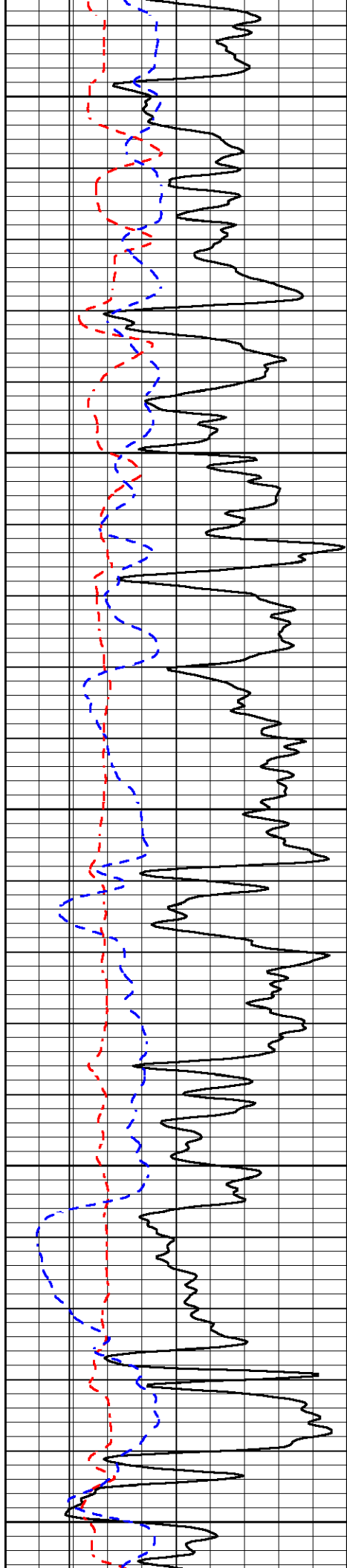
550

600

650

700





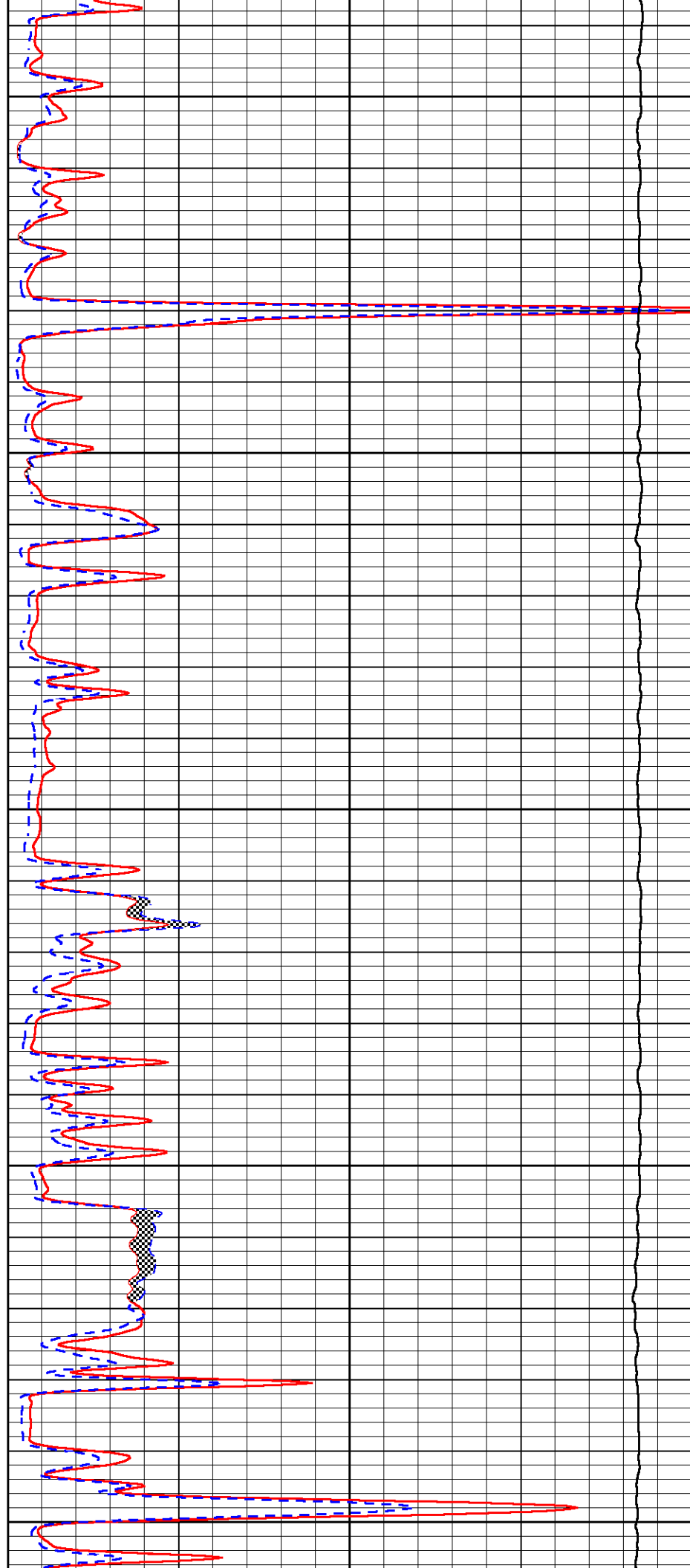
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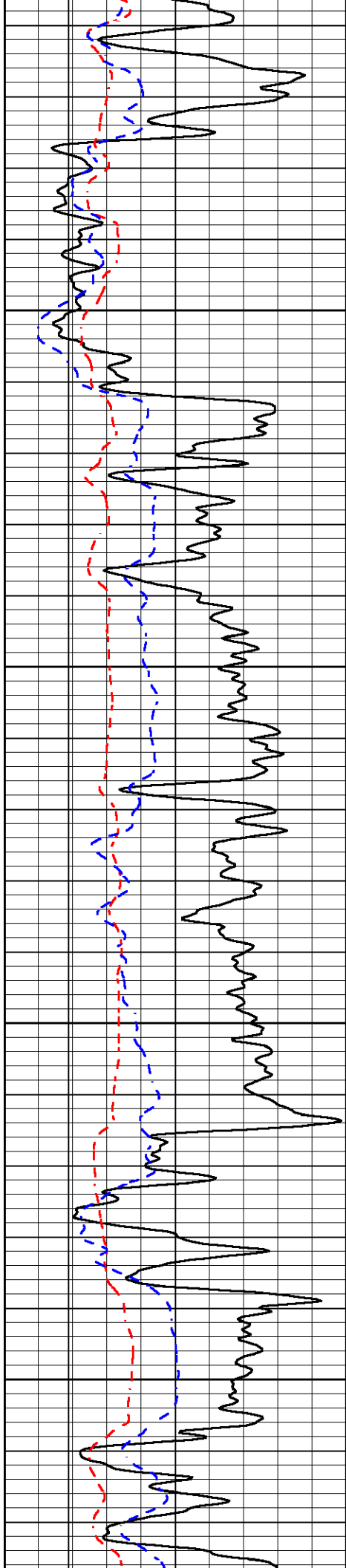
800

850

900

950



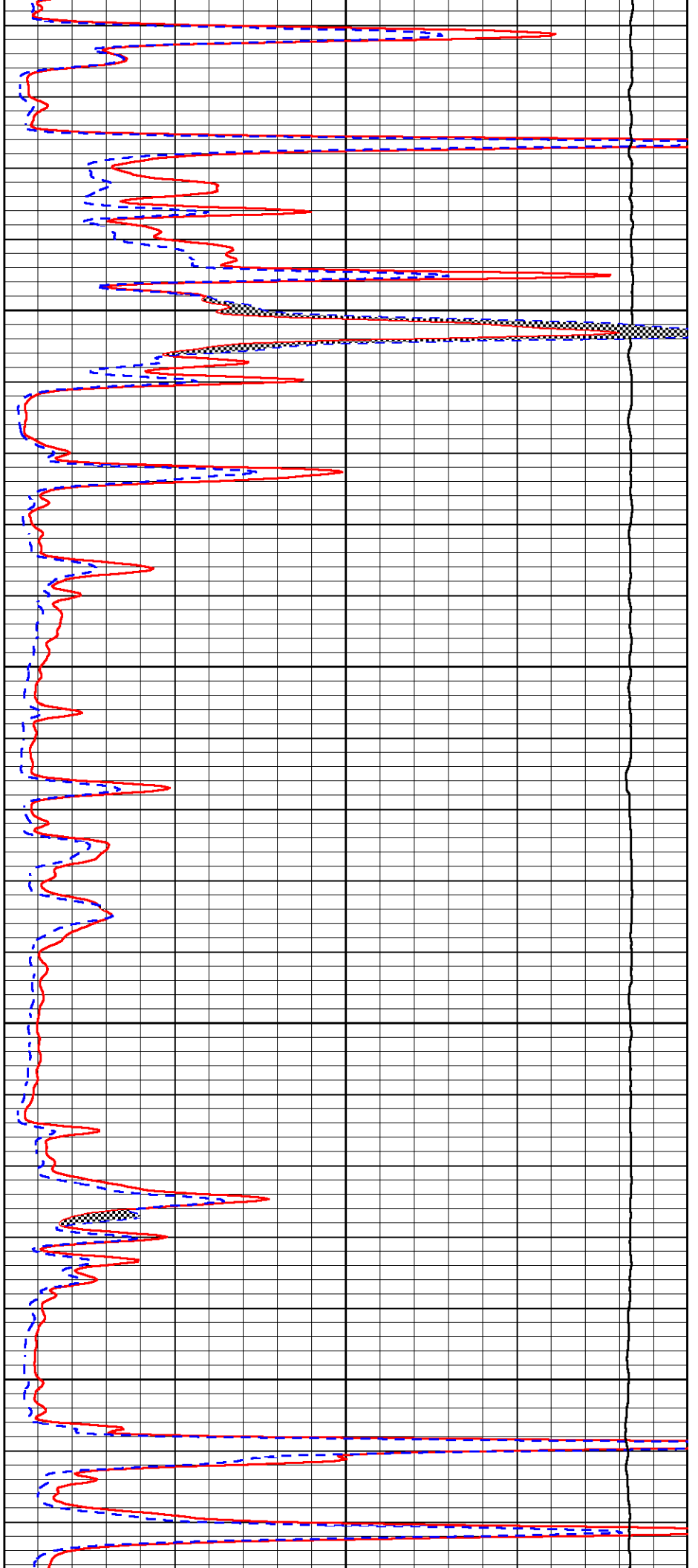


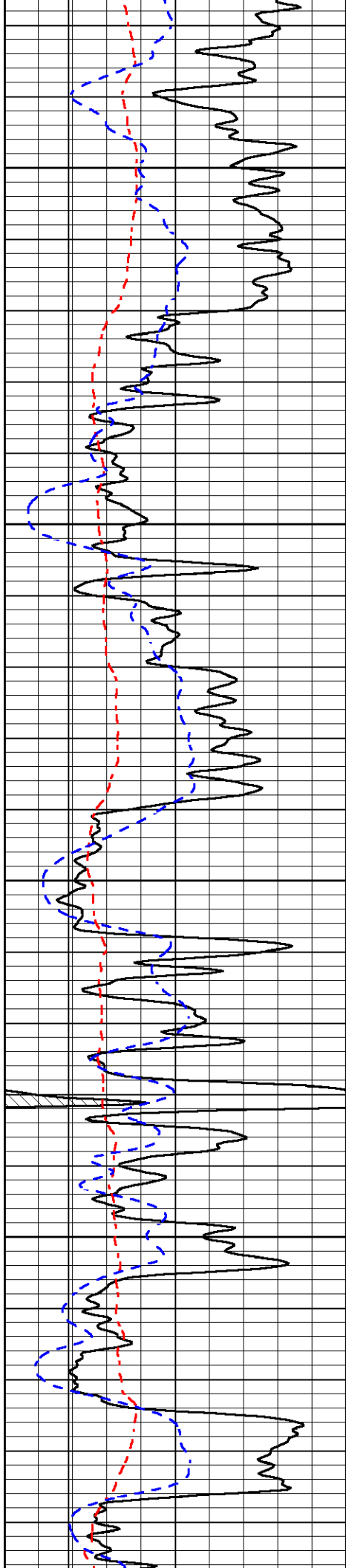
1000

1050

1100

1150



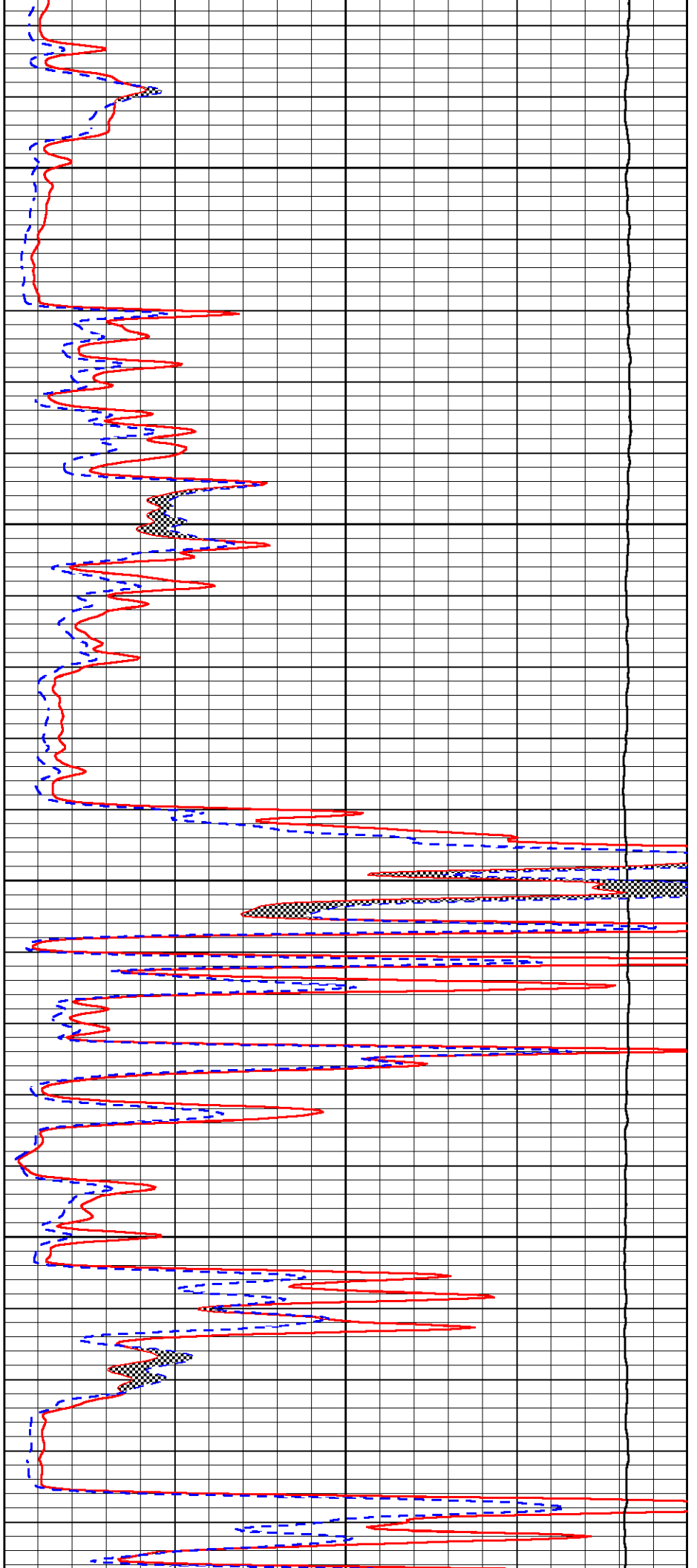


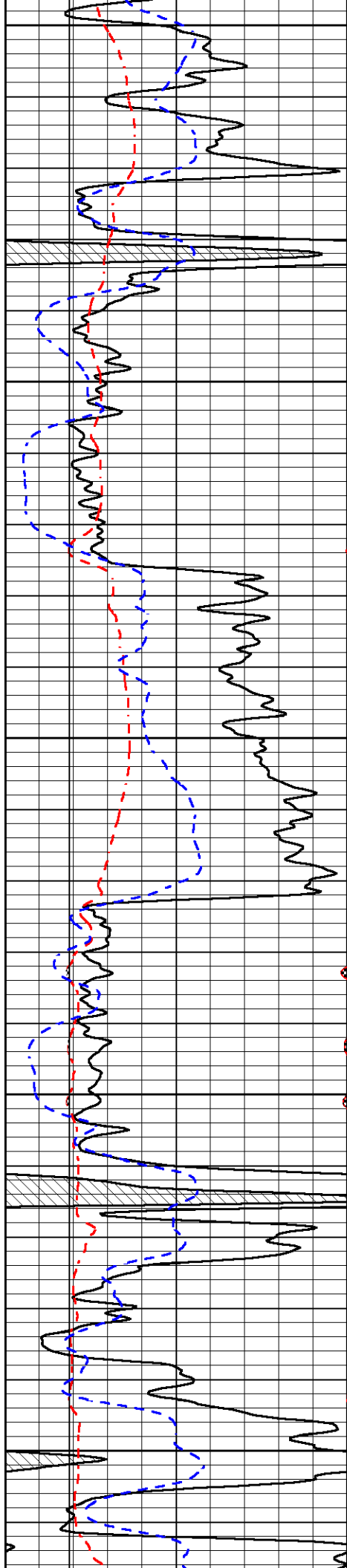
1200

1250

1300

1350





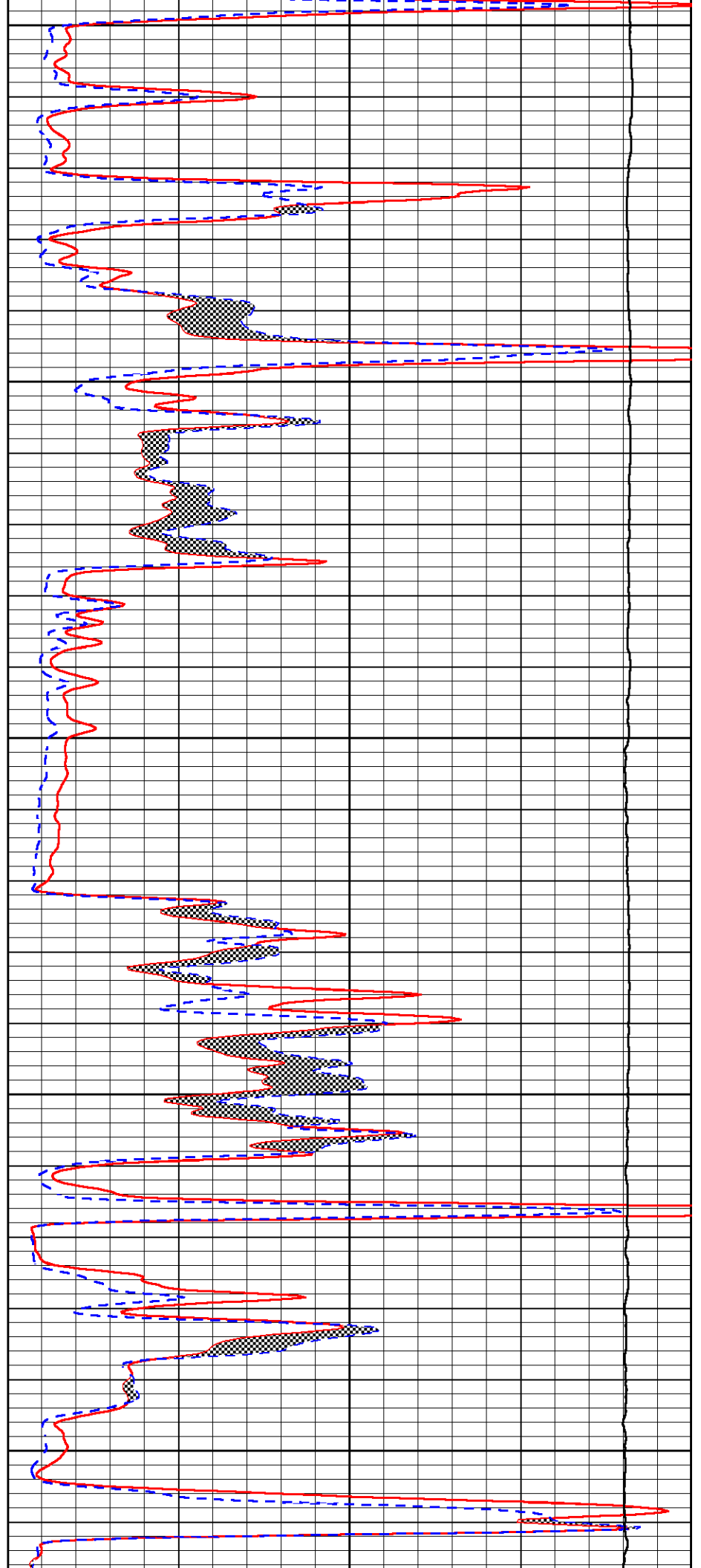
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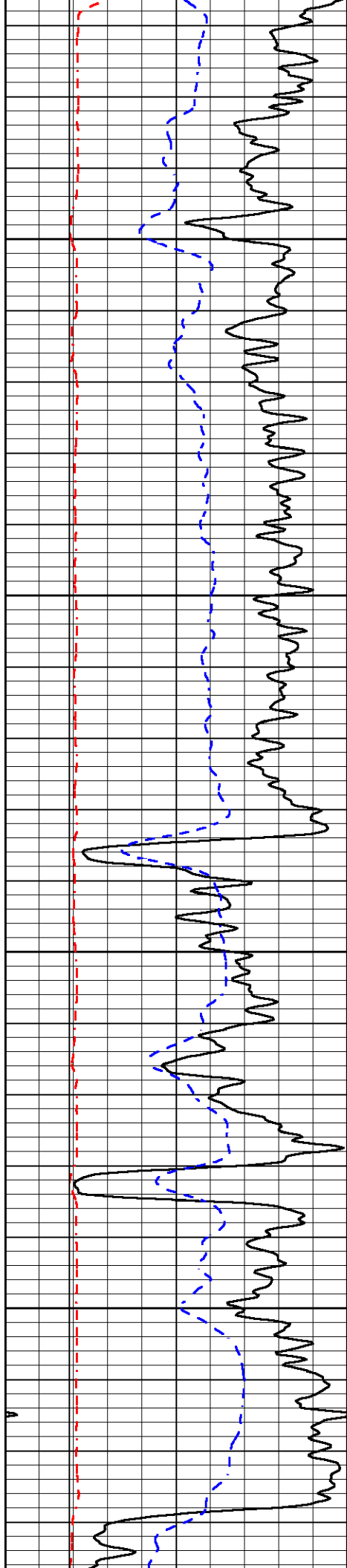
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1500

1550

1600



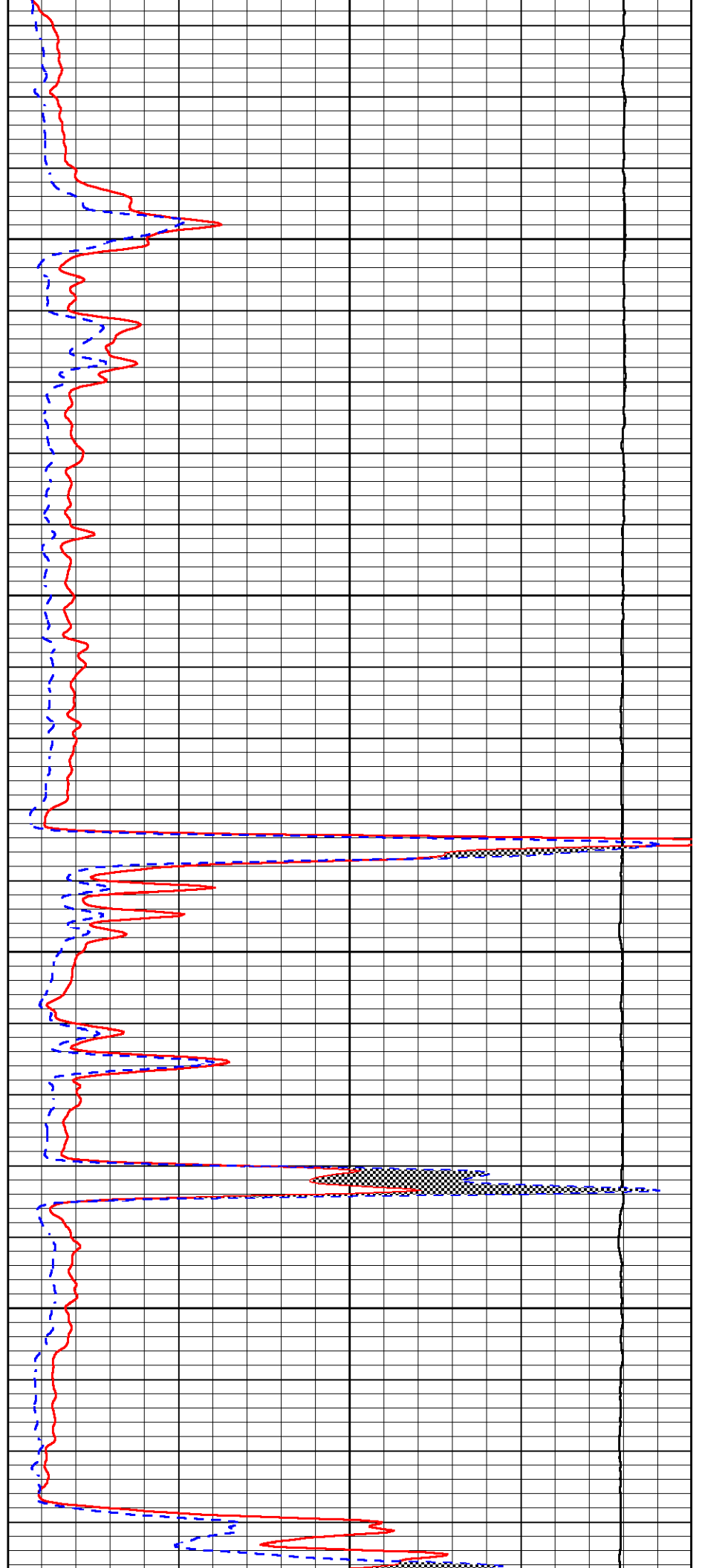


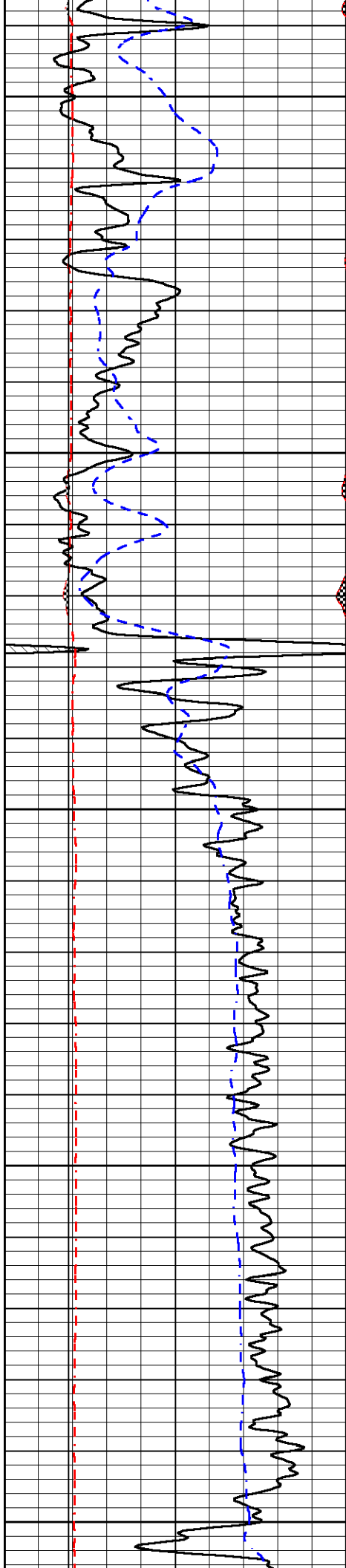
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1700

1750

1800





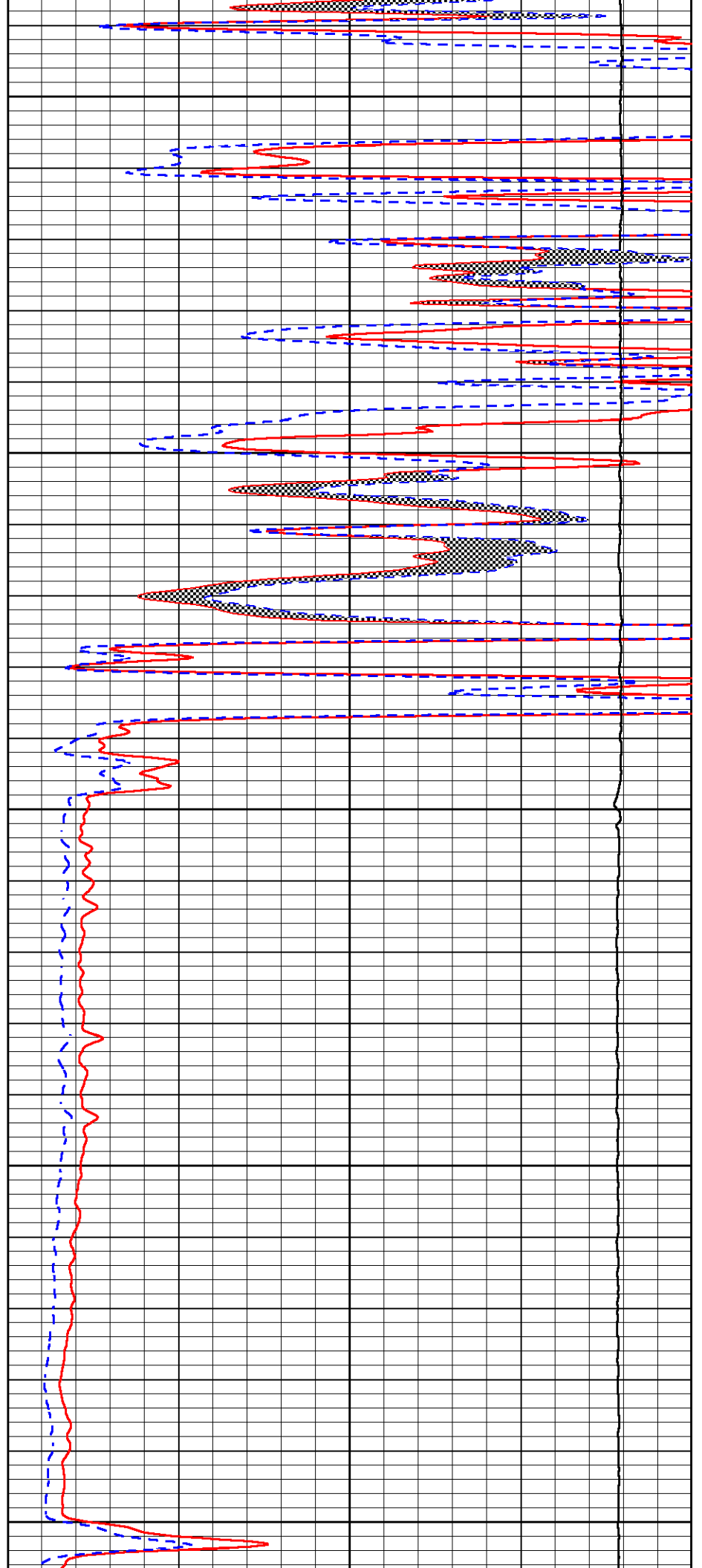
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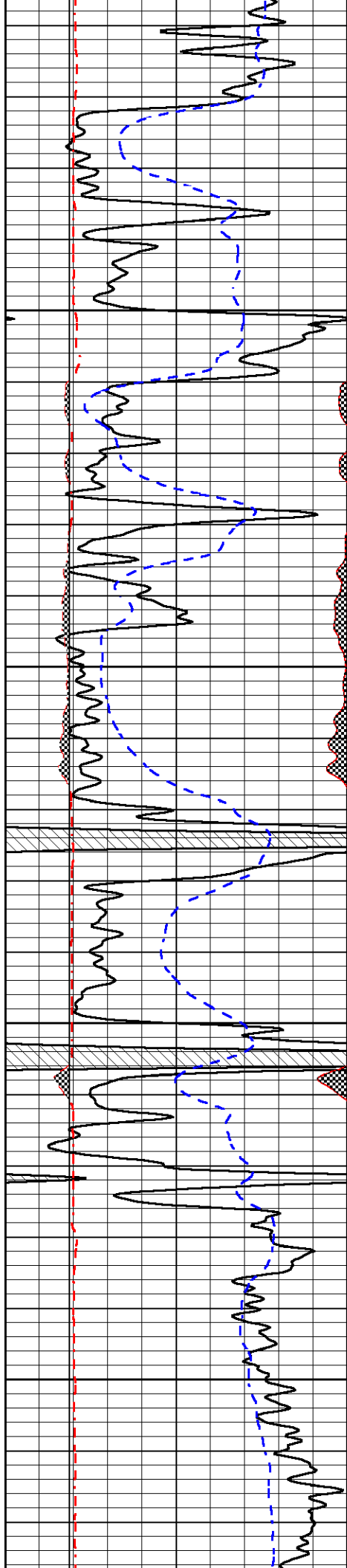
1900

1950

2000

2050



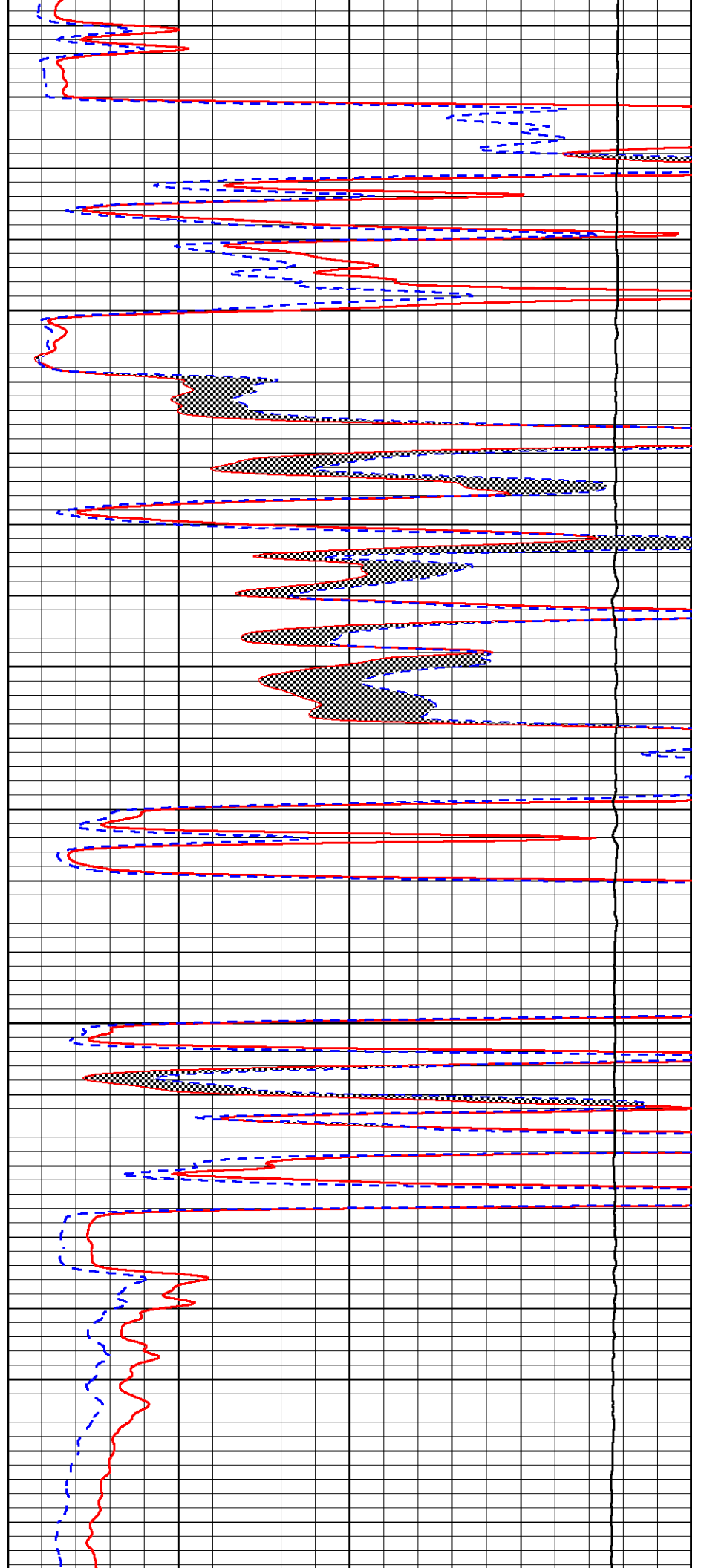


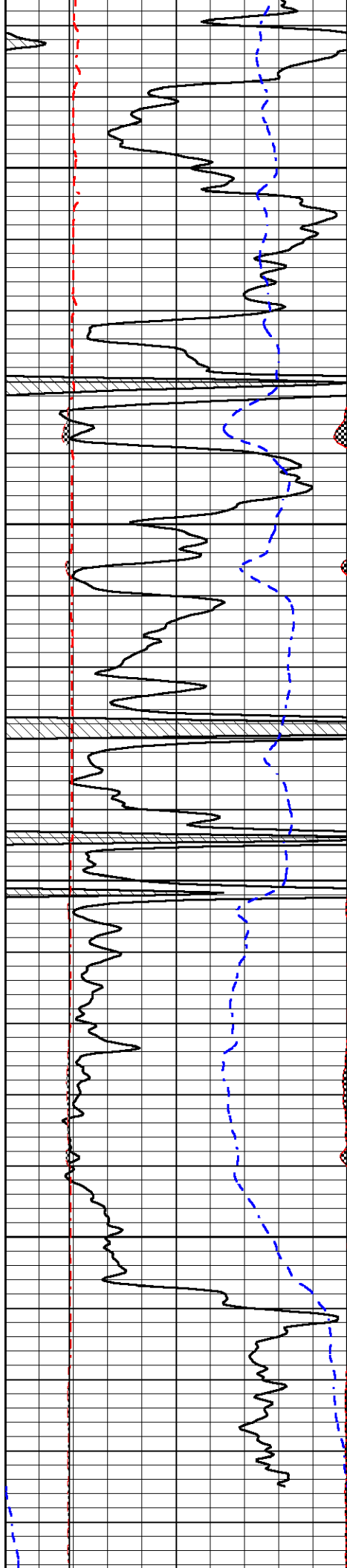
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2150

2200

2250



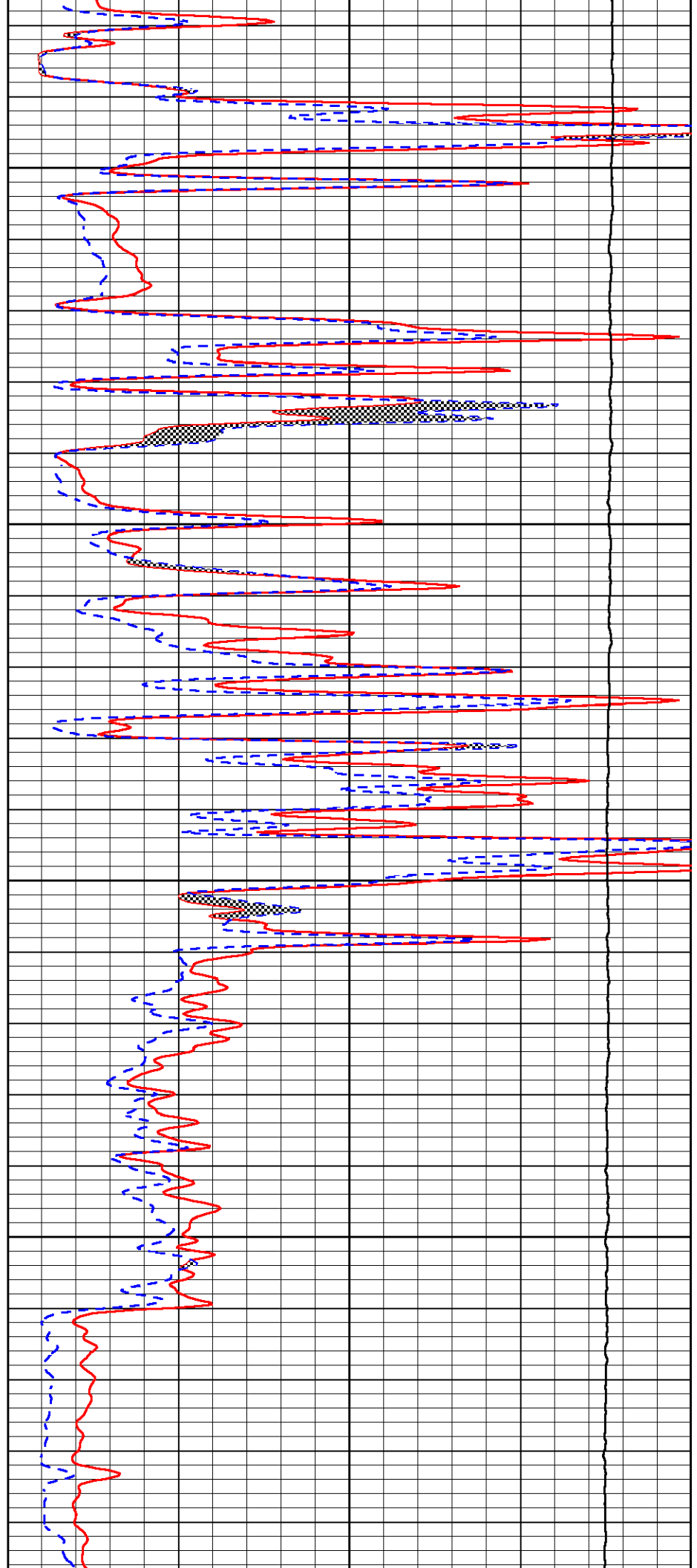


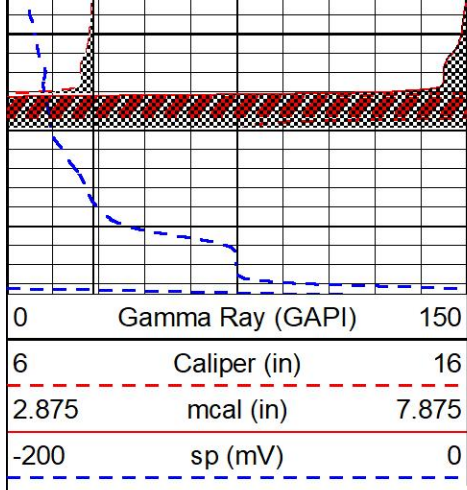
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2350

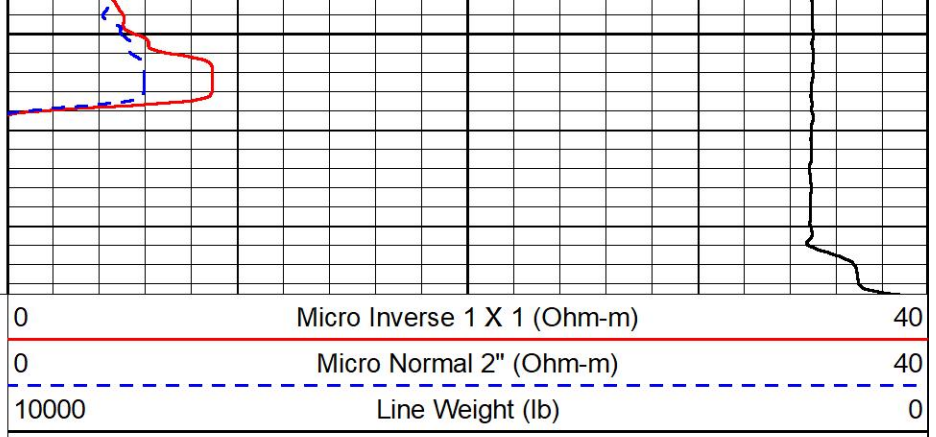
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2450





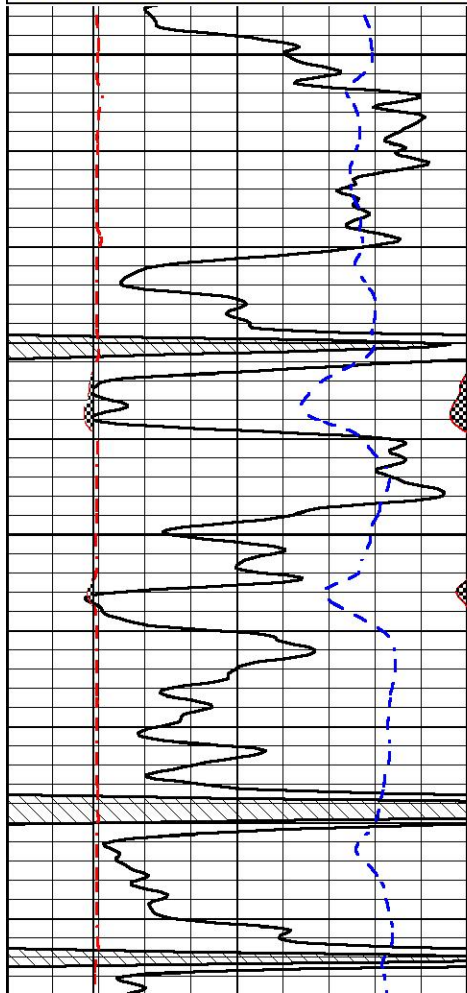
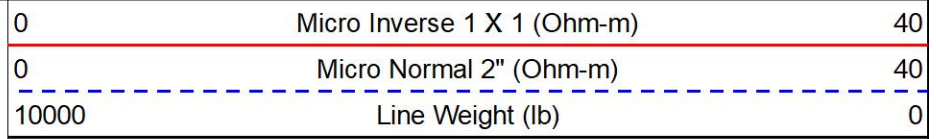
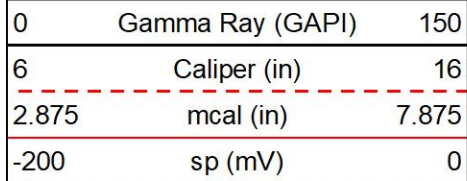
2500



REPEAT SECTION

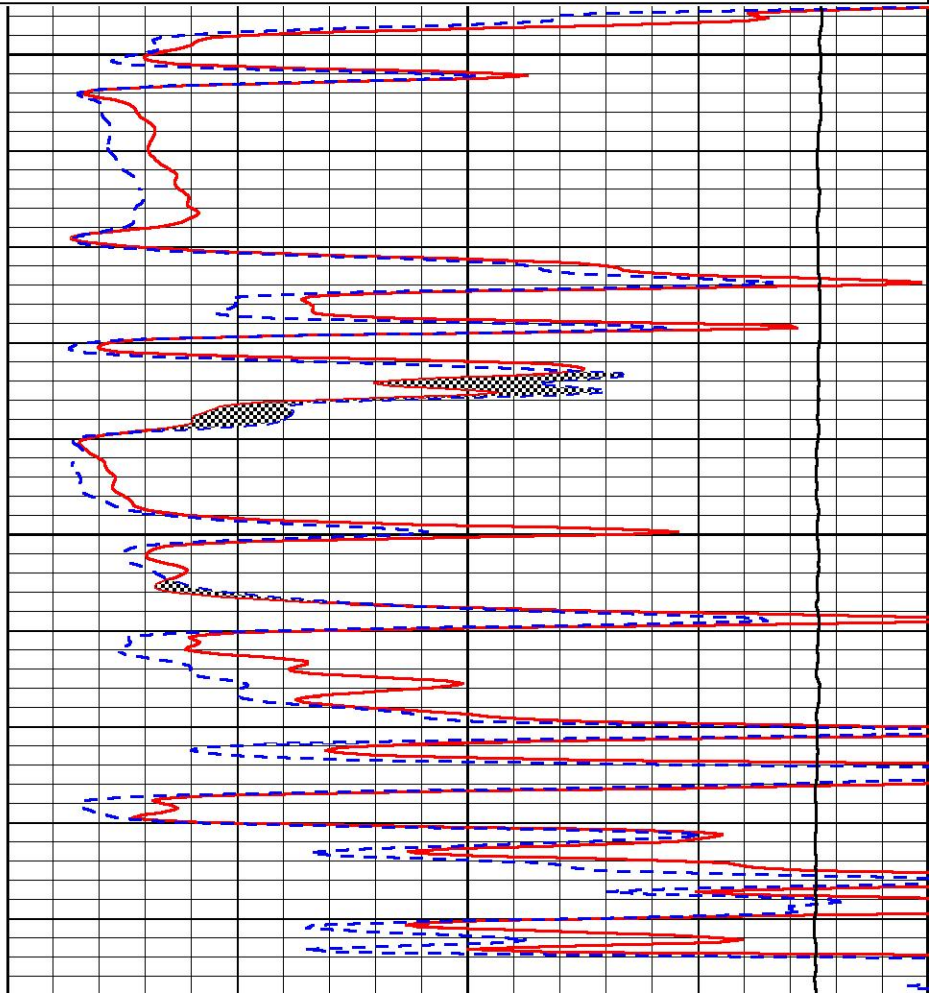
REPEAT PASS

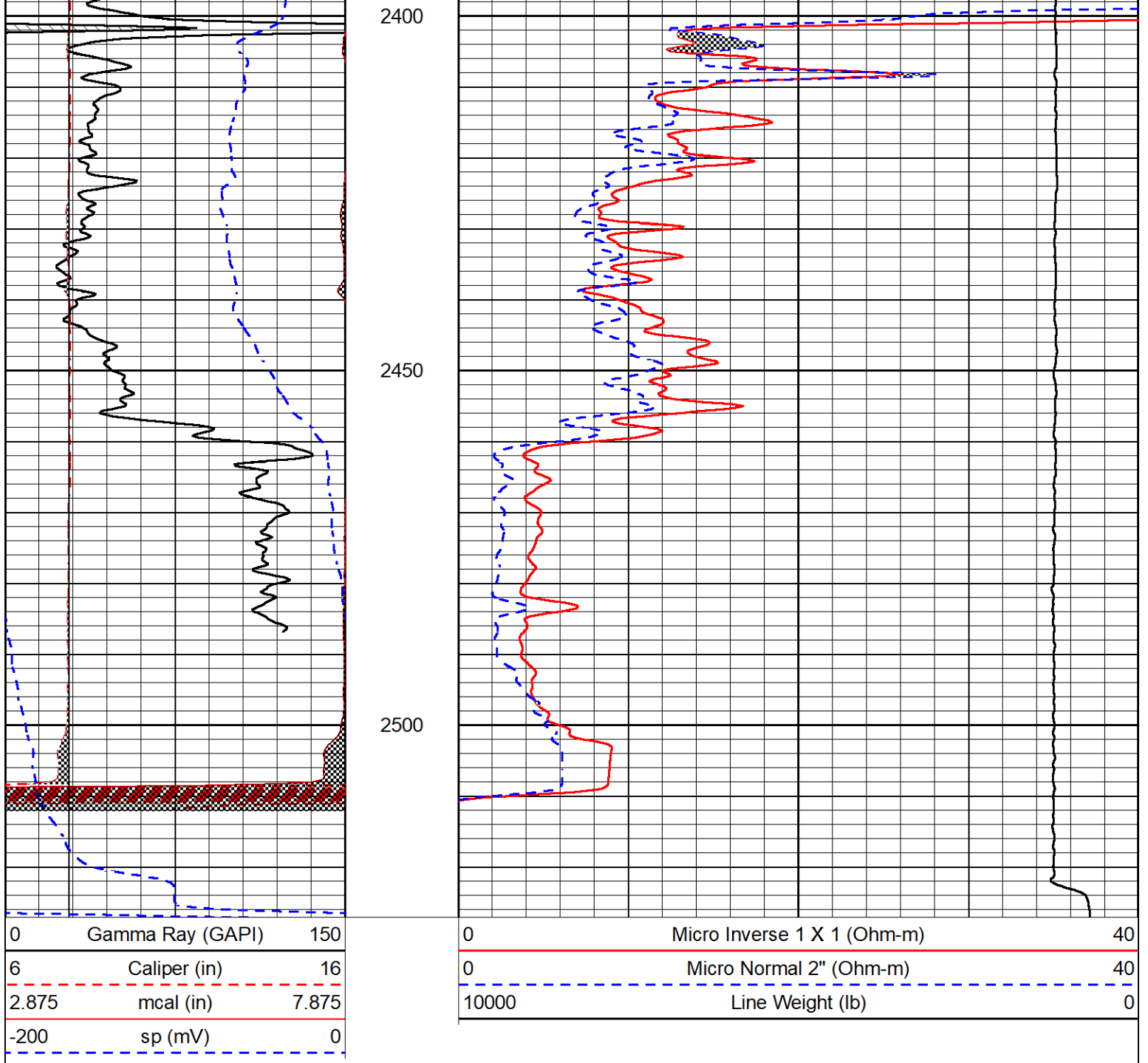
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 Charted by Depth in Feet scaled 1:240



2300

2350





Calibration Report

Database File igwt_s&w #1.db
 Dataset Pathname StkMI/pass3.1
 Dataset Creation Fri Apr 07 05:26:55 2023

Dual Induction Calibration Report

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

Loop:	Readings		References		Results		
	Air	Loop	Air	Loop	m	b	
Deep	67.445	566.296	0.000	255.800	mmho/m	0.450	-35.000
Medium	192.026	839.715	0.000	255.800	mmho/m	0.420	-85.000

Serial-Model:
Performed:401-PSIML
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	9000.0000	-0.5000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	9000.0000	-0.5000
Caliper	1.0052	1.0858	5.0000	16.5000	in	142.7190	-138.9000

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

Compensated Neutron Calibration Report

Serial Number:
Tool Model:207-MW
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:	103		
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	

 <p>MIDWEST WIRELINE</p>	Company	IGWT, Inc.
	Well	S&W #1
	Field	
	County	Butler
	State	Kansas