

MIDWEST WIRELINE

MICRORESISTIVITY LOG

Company Castle Resources, Inc.

Well Hartwich #1

Field

County Wabaunsee State Kansas

Location: API #: 15-197-20323-00-00

SEC 12 TWP 11S RGE 10E

Permanent Datum Ground Level Elevation 1246

Log Measured From Kelly Bushing

Drilling Measured From Kelly Bushing

Other Services

CNL/CDL
DIL/BHCS

Elevation
K.B. 1251
D.F.
G.L. 1246

Date 1/27/2024

Run Number One

Depth Driller 2845

Depth Logger 2844

Bottom Logged Interval 2843

Top Log Interval 1000

Casing Driller 8.625 @ 307

Casing Logger 307

Bit Size 7.875

Type Fluid in Hole Chemical

Salinity, ppm CL 1000

Density / Viscosity 9.3 50

pH / Fluid Loss 11.8 8.8

Source of Sample FLOWLINE

Rm @ Meas. Temp 0.80 @ 55

Rmt @ Meas. Temp 0.60 @ 55

Rmc @ Meas. Temp 1.08 @ 55

Source of Rmt / Rmc CHARTS

Rm @ BHT 0.42 @ 104

Operating Rig Time 5 Hours

Max Rec. Temp. F 104

Equipment Number 110

Location HAYS

Recorded By D. Schmidt

Witnessed By Jerry Green

<<< 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.

I-70 & Wabaunsee Exit,
4 North to Homestead,
2 1/4 East, South and West to location

Log Measured From: Kelly Bushing

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: Jerry Green
Secondary Witness:
Secondary Witness:
Secondary Witness:

Sensor	Offset (ft)	Schematic		Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.33			GR-M&W (105)	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			CDL-M&W (303-03)	8.50	4.00	250.00
	28.17			ML-PSI STKBL ML (402)	7.58	4.00	65.00
	27.68						
MCAL MI MN	19.58						
	19.58						
	19.58						
RLL3F RLL3	15.50			DIL-M&W (504 HT)	18.25	3.50	220.00
	15.50						
CILD	8.33						
	4.50						
CILM	4.50						
SP	0.20						
Dataset: castle_hartwich 1.db: field/well/stkml/pass5.1 Total length: 42.33 ft Total weight: 685.00 lb O.D.: 4.00 in							

Log Variables

DatabaseC:\ProgramData\Warrior\Data\castle_hartwich 1.db
Dataset field/well/stkml/pass5.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	100	5.5	0	1	2	2.71
NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	No	8	-4	-185	40	Off	0

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



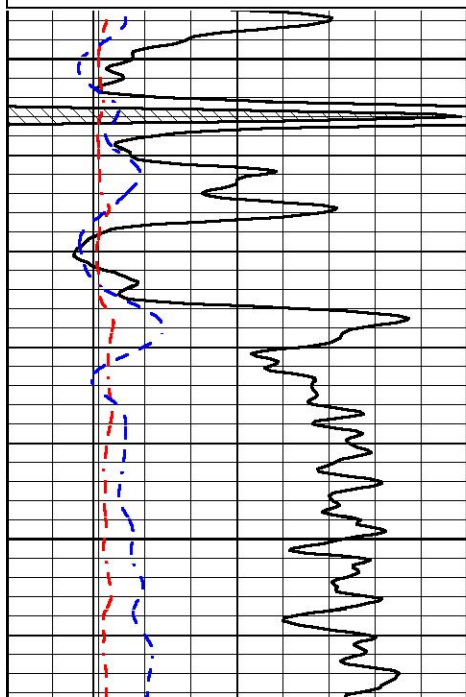
DETAIL SECTION

MAIN PASS

Database File castle_hartwich 1.db
Dataset Pathname stkml/pass5.1
Presentation Format _micro
Dataset Creation Sat Jan 27 16:30:05 2024
Charted by Depth in Feet scaled 1:240

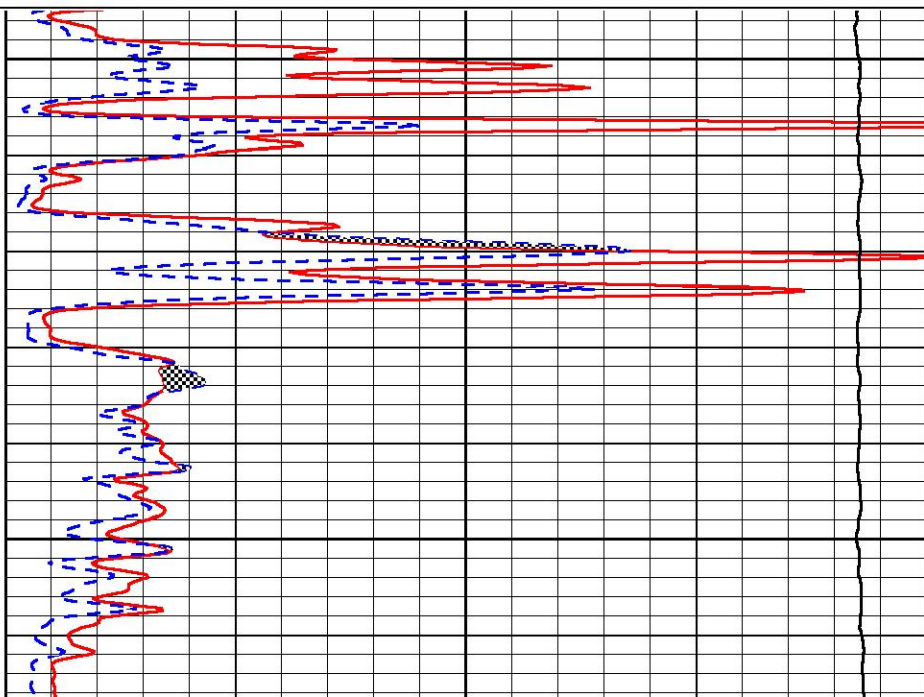
0	Gamma Ray (GAPI)	150
6	Micro Caliper (in)	16
2.875	mccl (in)	7.875
-200	SP (mV)	0

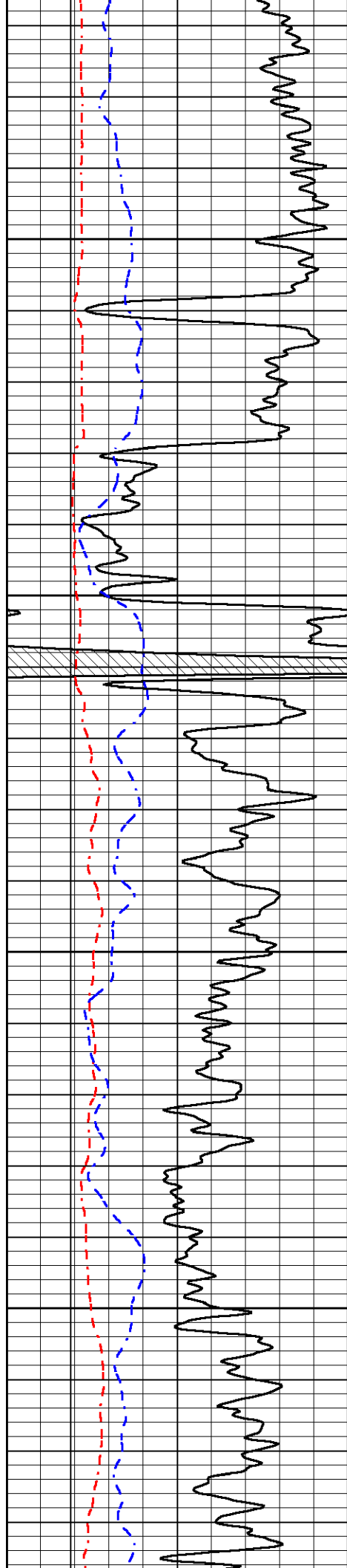
0	Micro Inverse 1 X 1 (Ohm-m)	40
0	Micro Normal 2" (Ohm-m)	40
10000	Line Weight (lb)	0



1000

1050



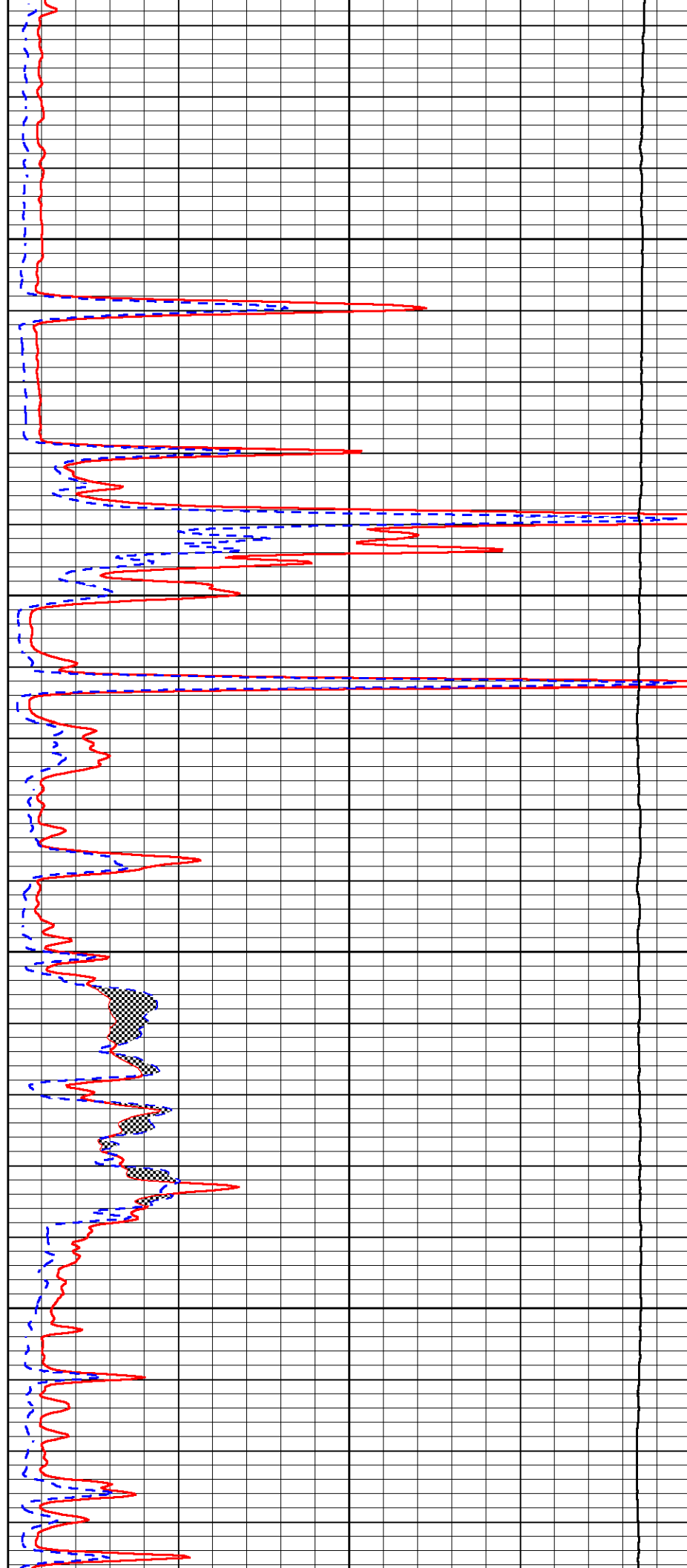


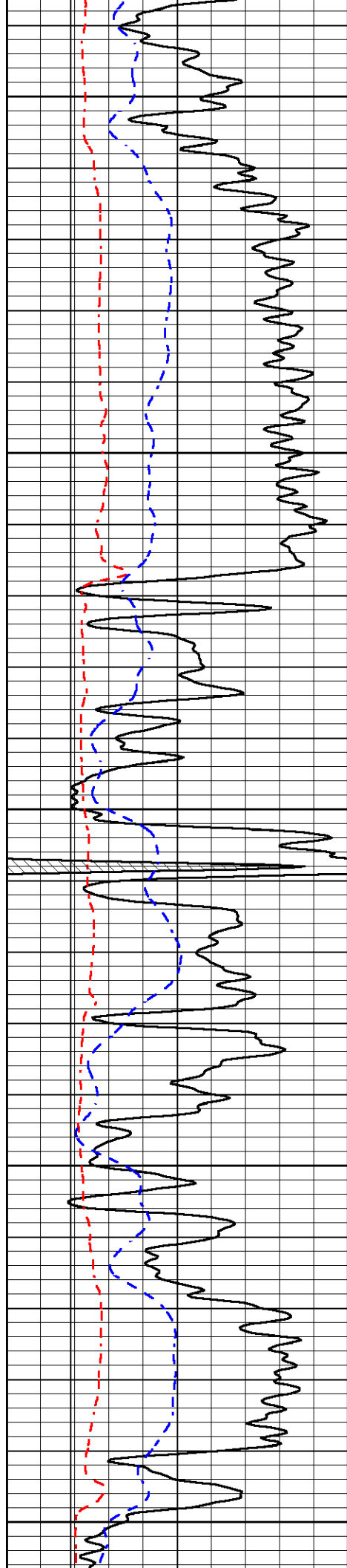
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1150

1200

1250





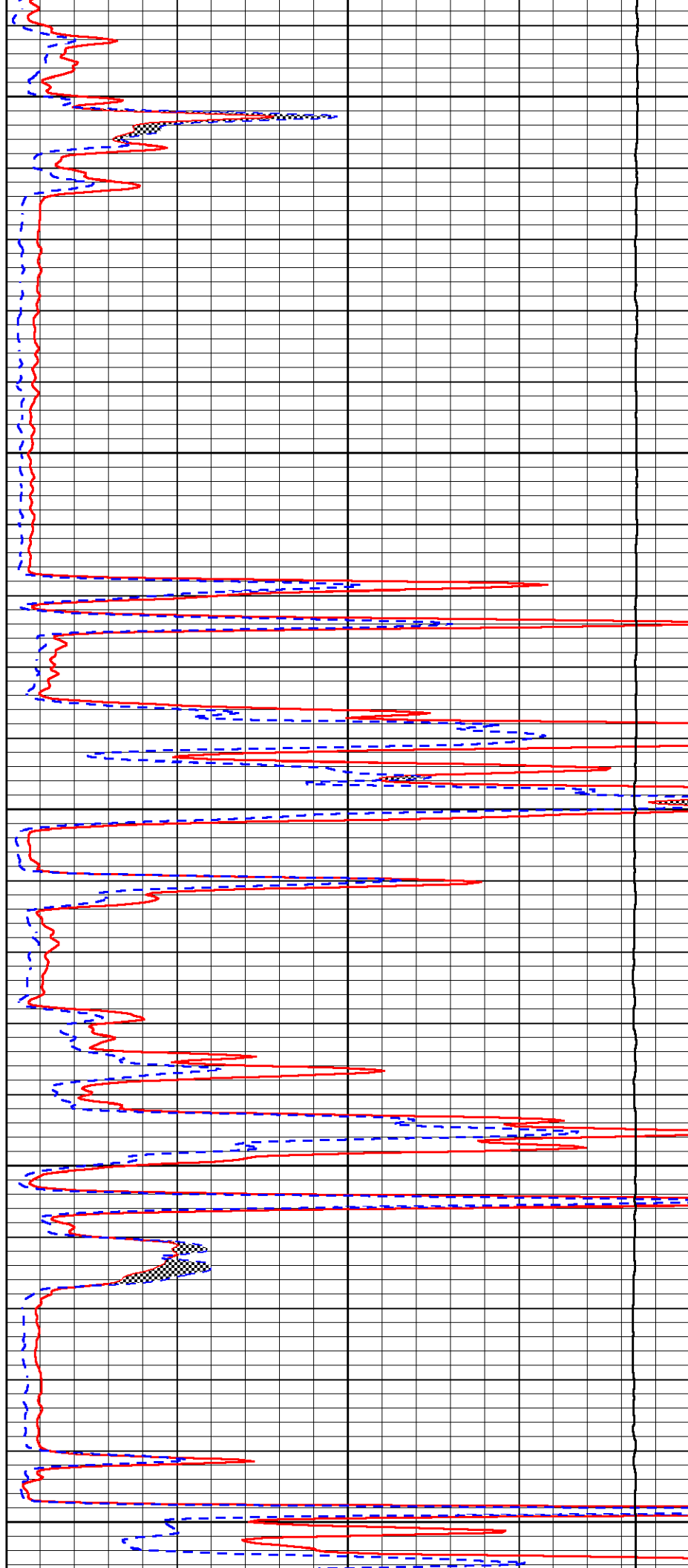
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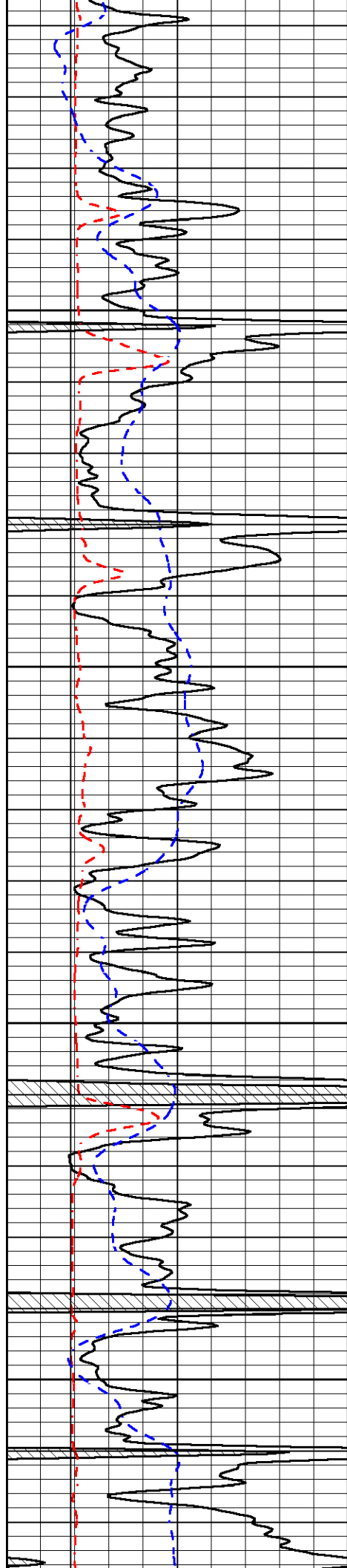
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1400

1450

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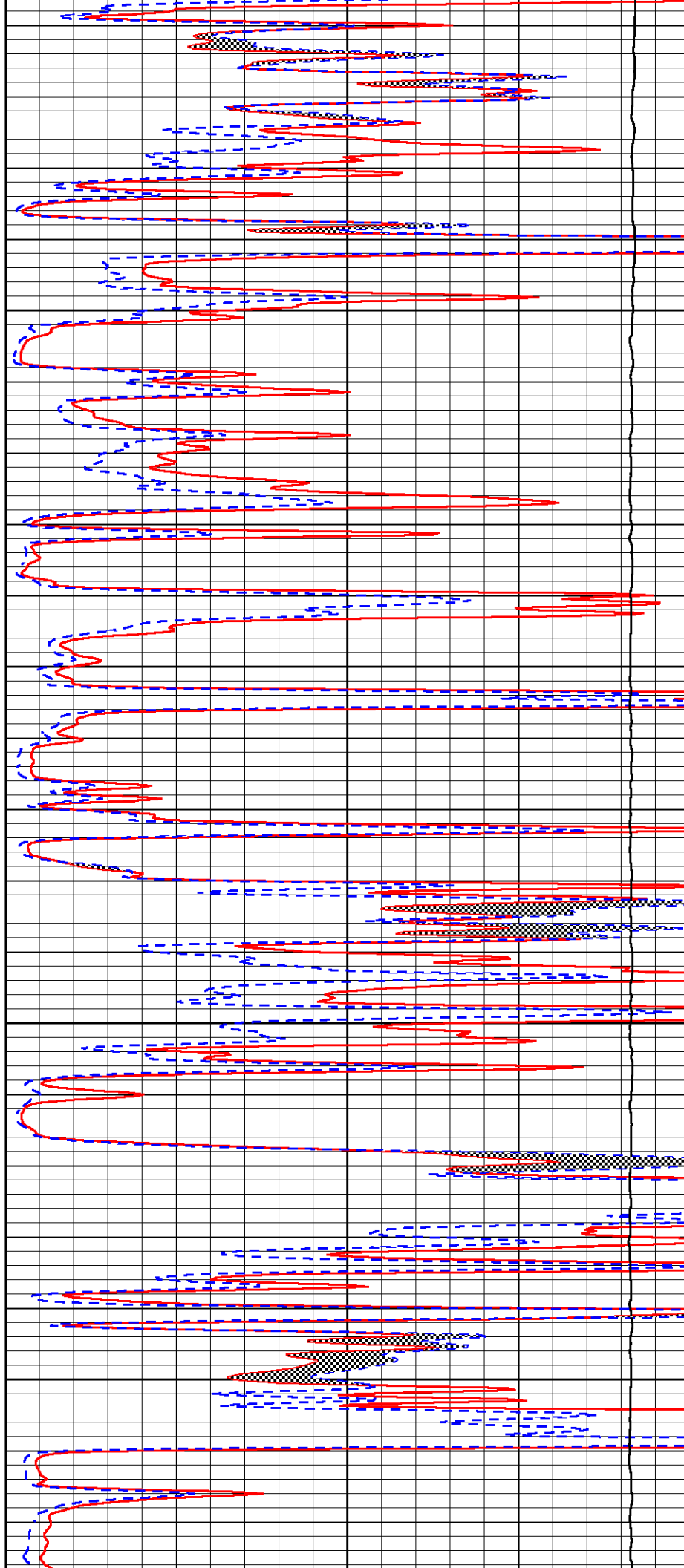


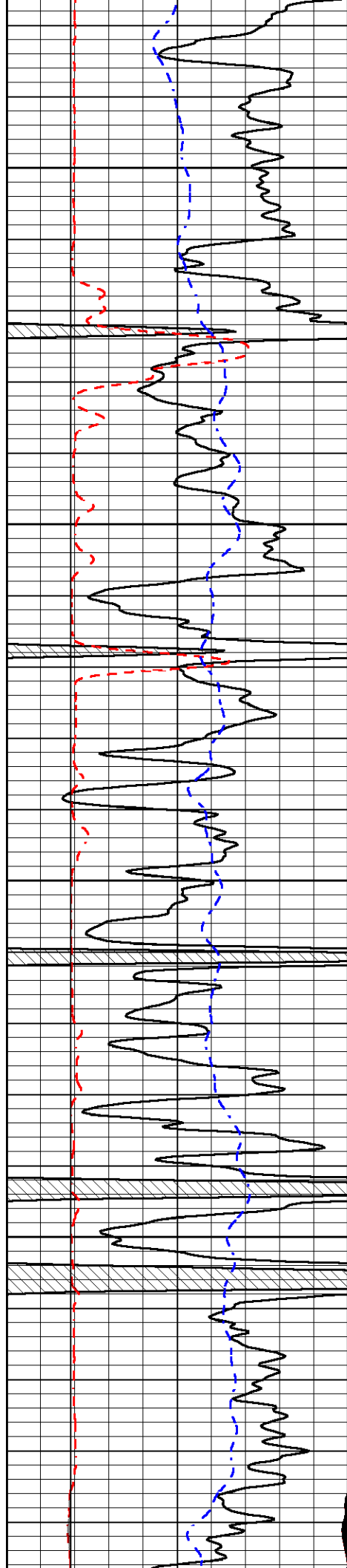
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1600

1650

1700



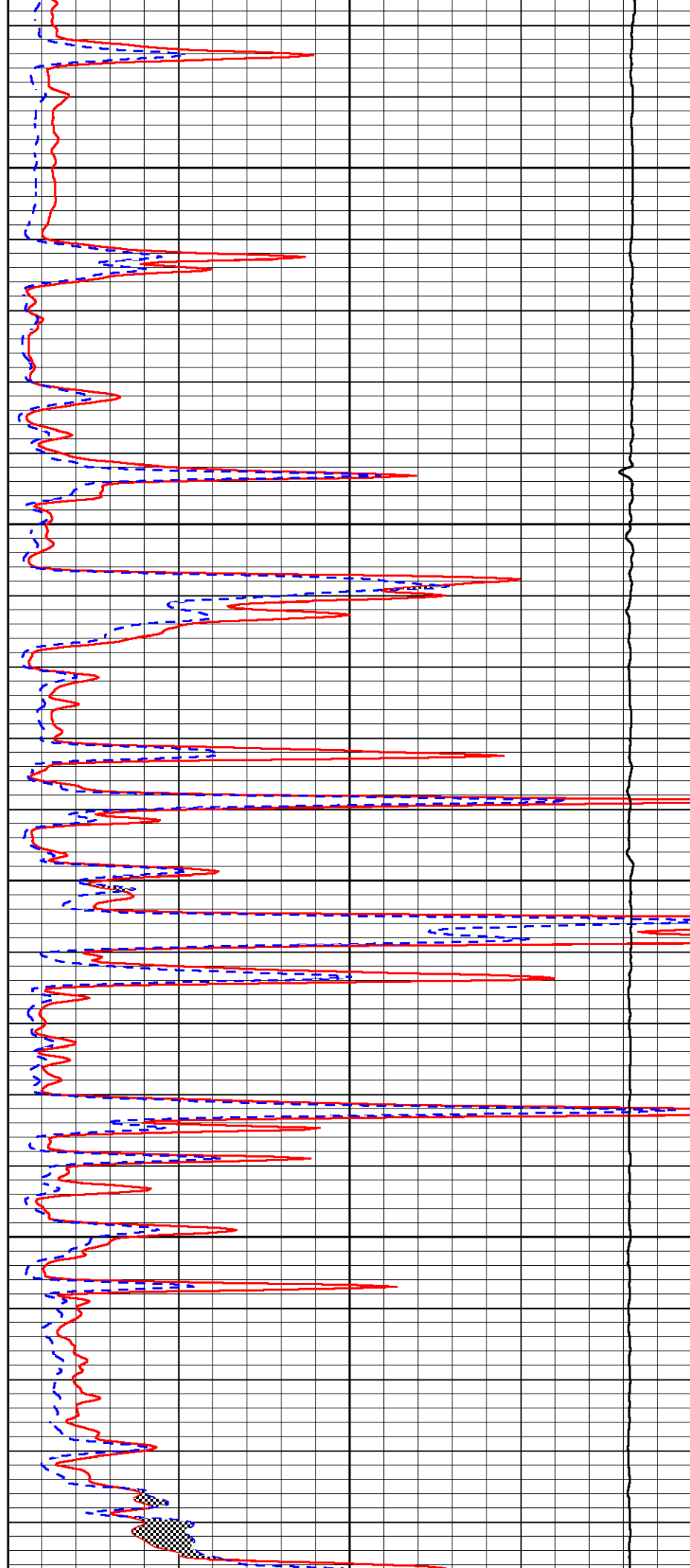


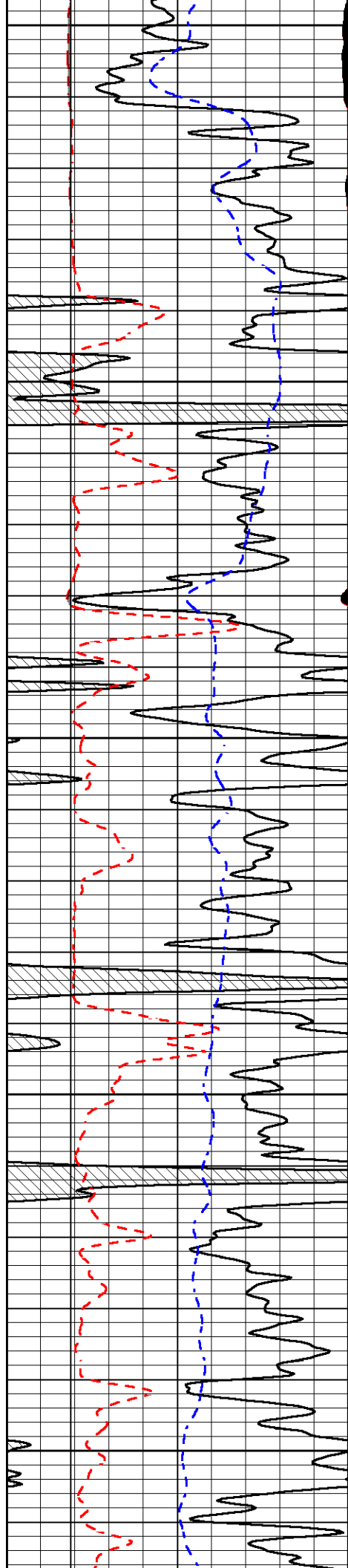
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1800

1850

1900





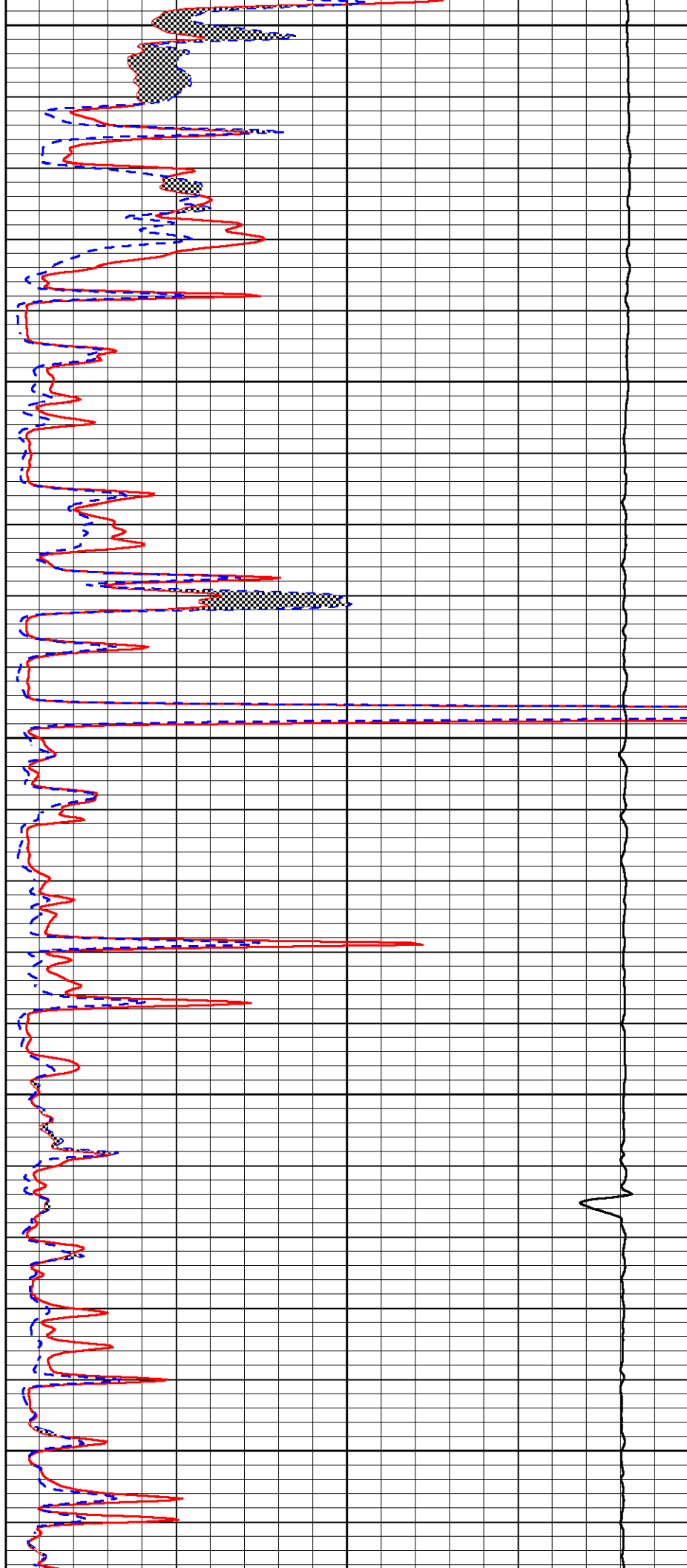
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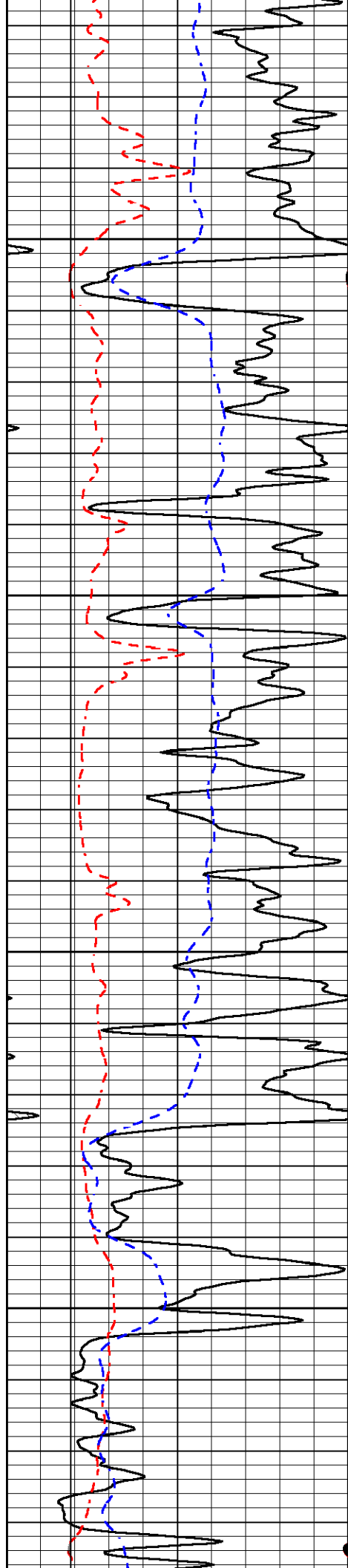
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2050

2100

2150



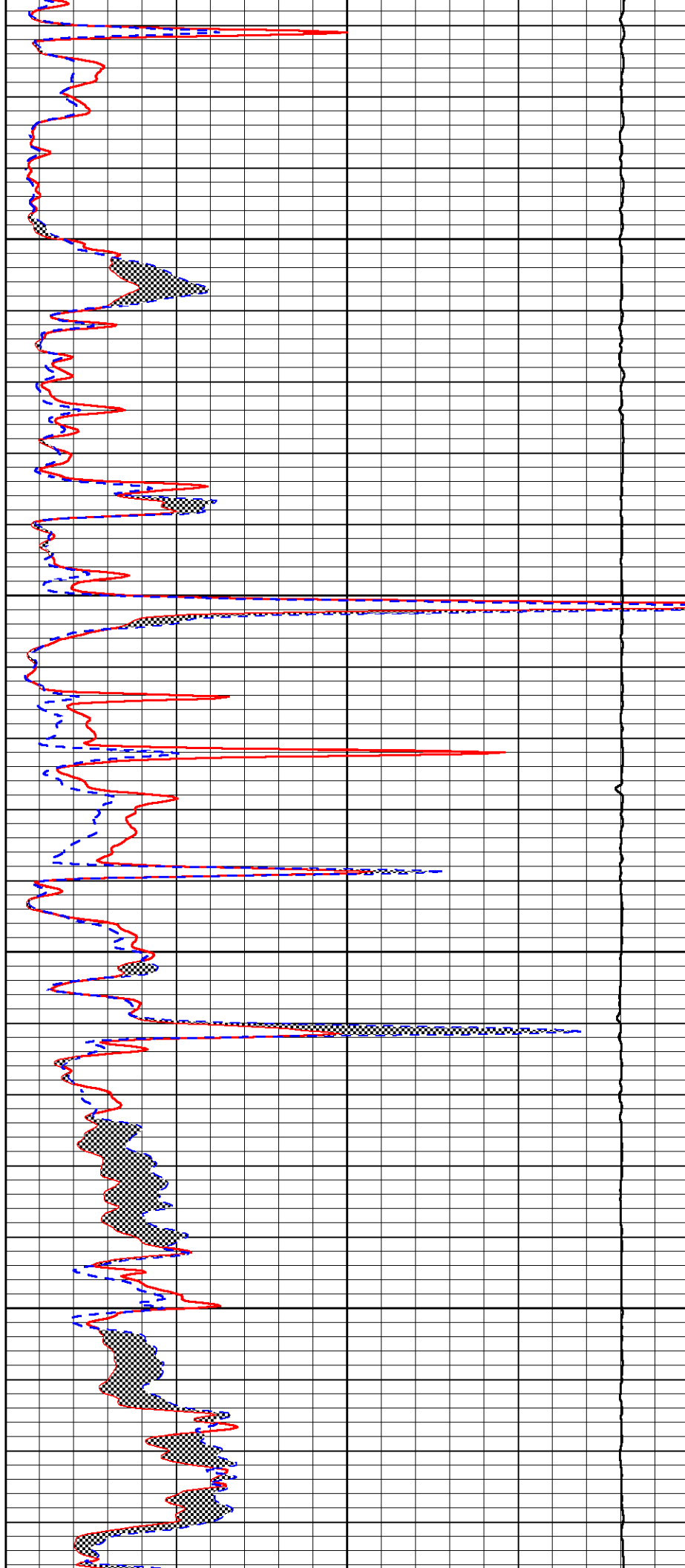


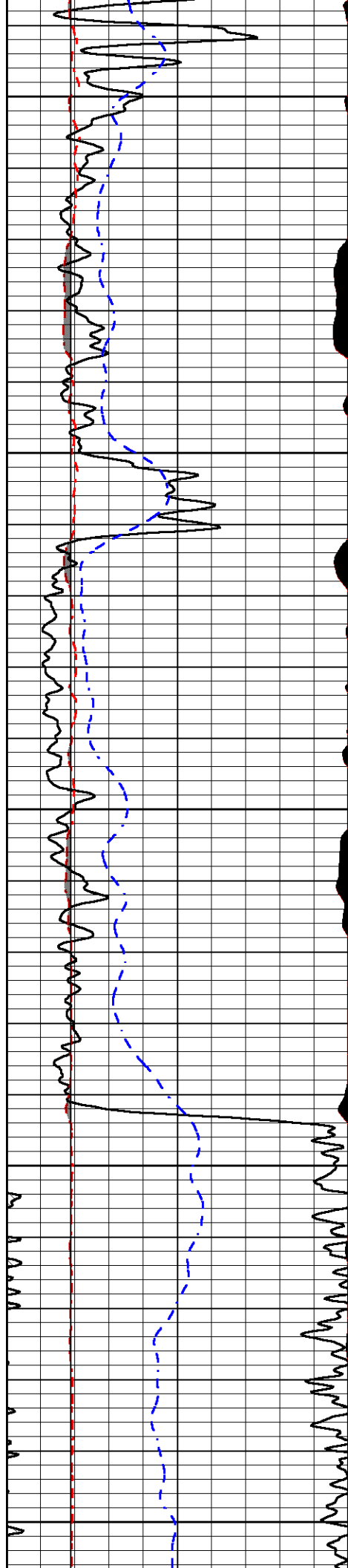
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2250

2300

2350





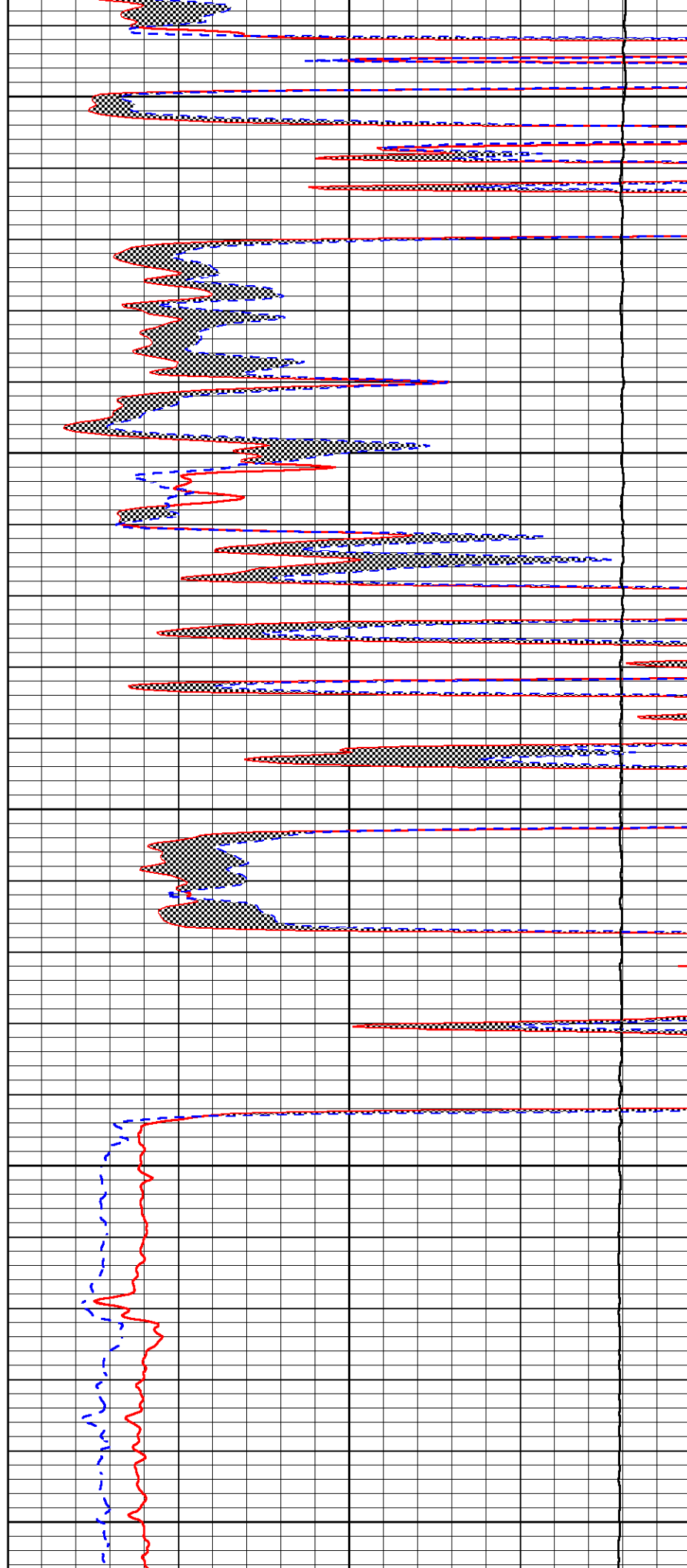
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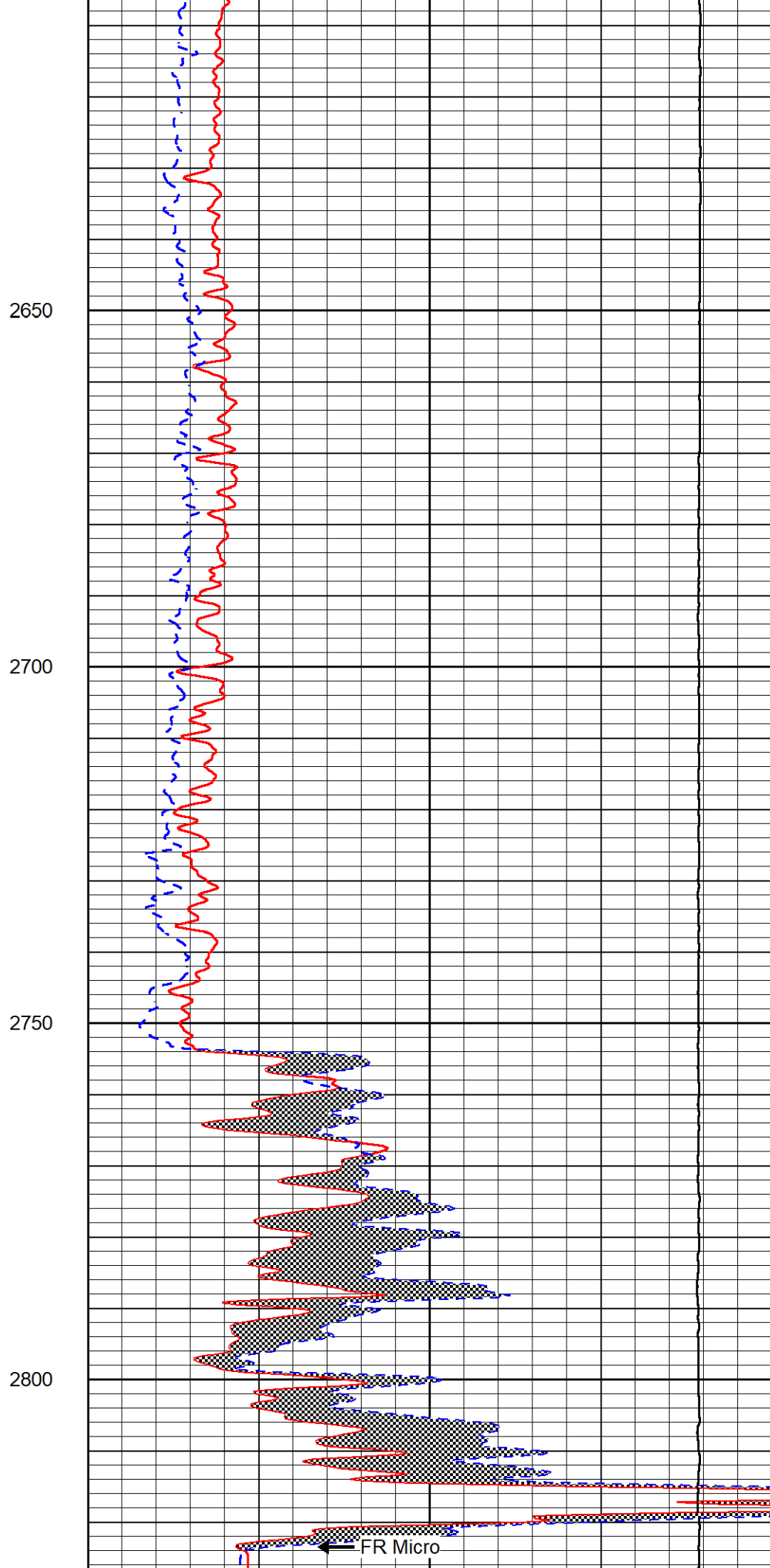
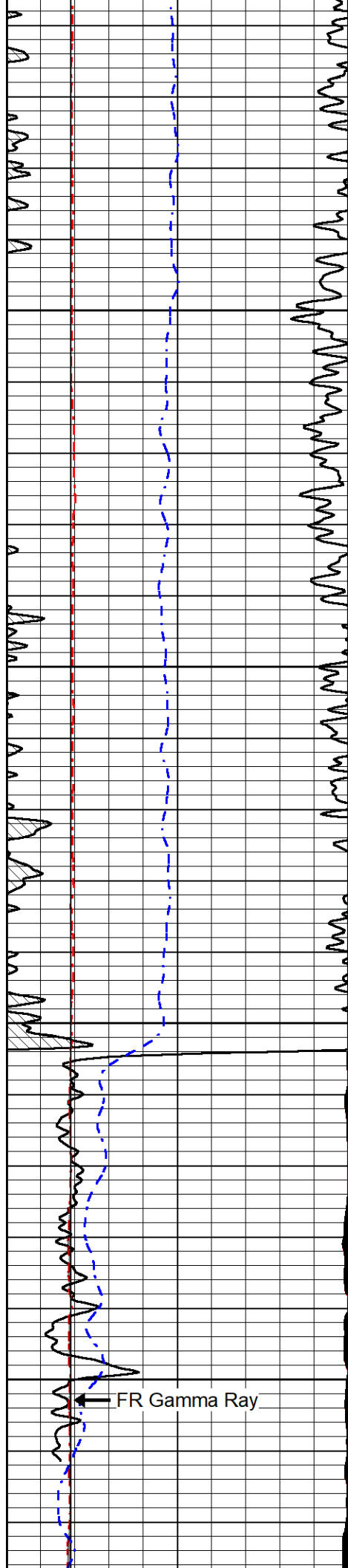
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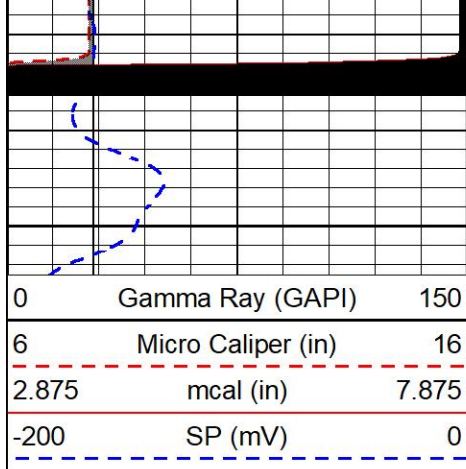
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2550

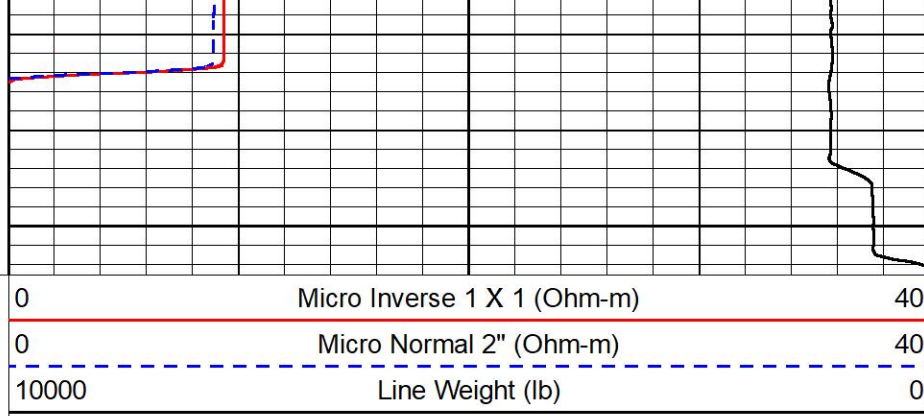
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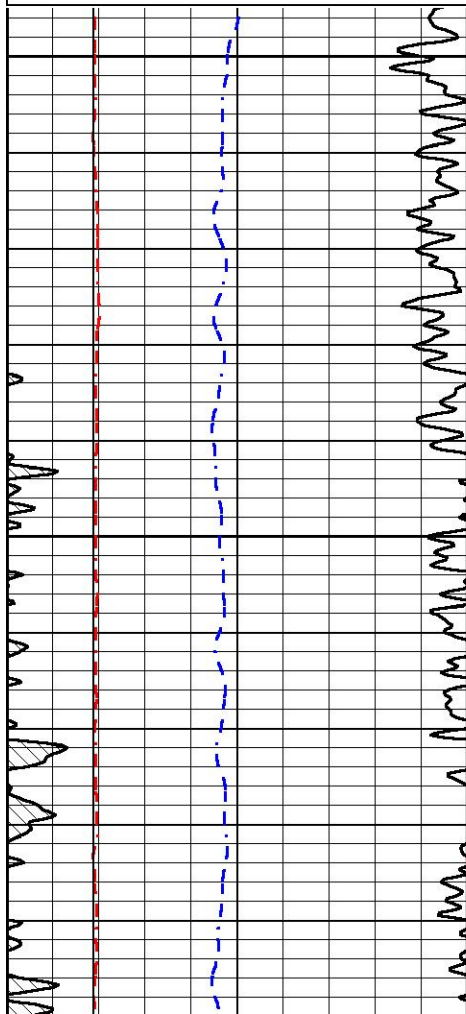
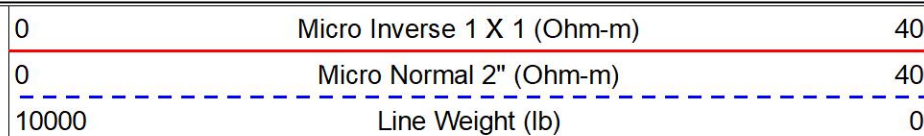
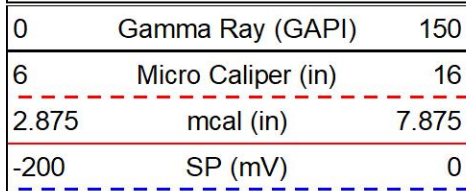
2850



REPEAT SECTION

REPEAT PASS

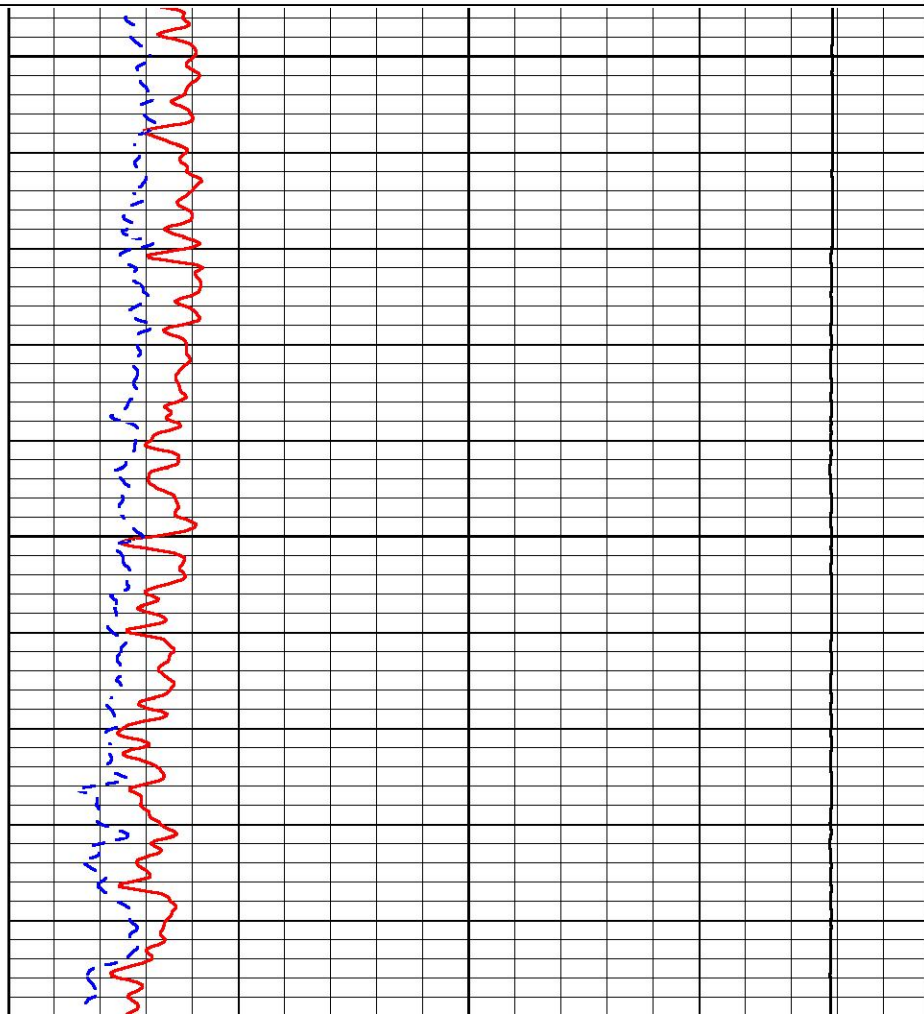
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 Dataset Pathname stkml/pass4.1
 Presentation Format _micro
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 Charted by Depth in Feet scaled 1:240

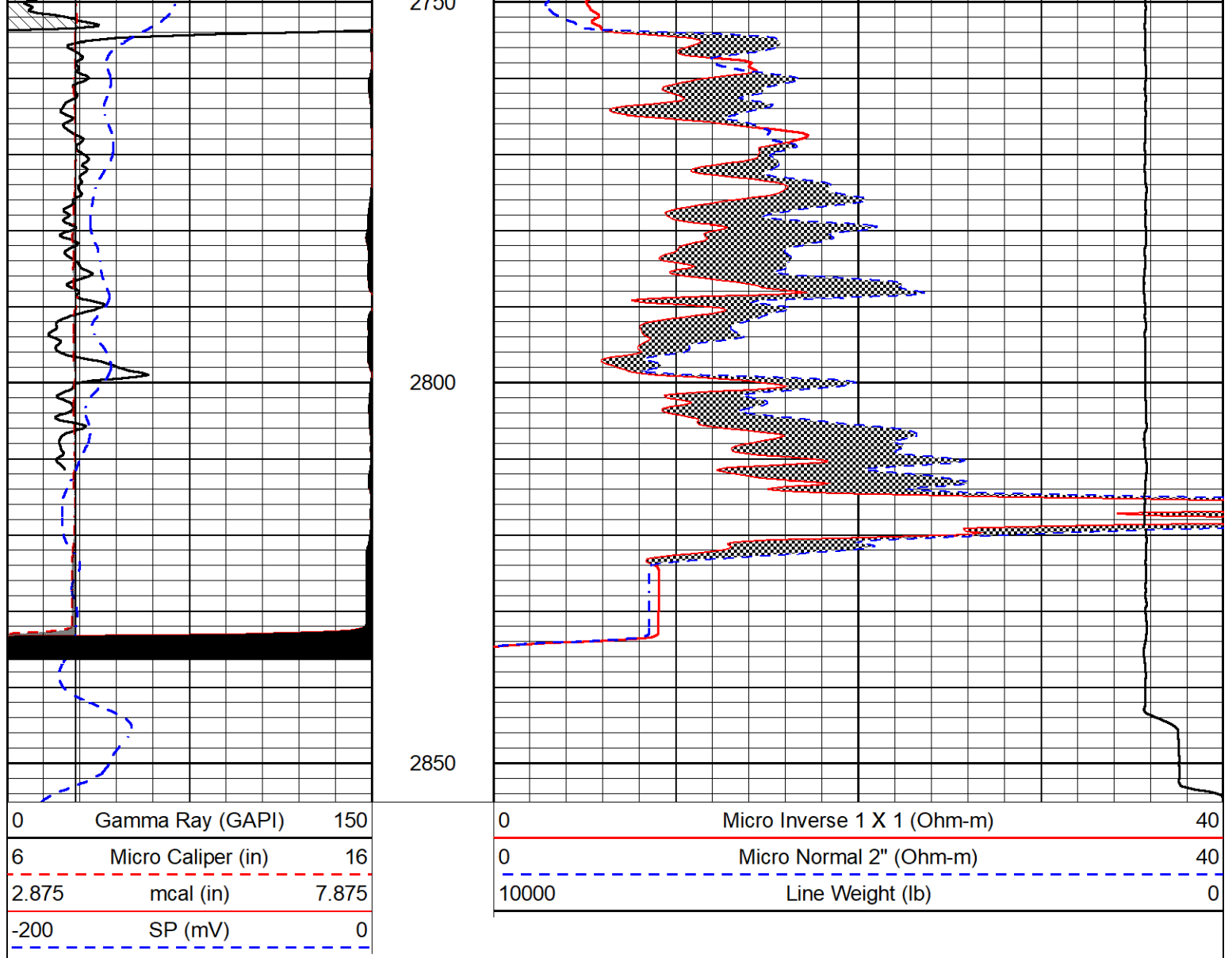


2650

2700

2750





Calibration Report								
Database File	castle_hartwich 1.db							
Dataset Pathname	stkml/pass5.1							
Dataset Creation	Sat Jan 27 16:30:05 2024							
Dual Induction Calibration Report								
Serial-Model:				504 HT-M&W				
Surface Cal Performed:				Thu Dec 21 06:11:24 2023				
		Readings		References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	178.615	710.235		0.000	255.800	mmho/m	1.300	-17.500
Medium	161.982	1441.110		0.000	255.800	mmho/m	0.950	-38.000
Microlog Calibration Report								
Serial-Model:				402-PSI STKBL ML				
Performed:				Sat Dec 2 02:32:23 2023				
		Readings		References			Results	
	Zero	Cal		Zero	Cal		m	b

Normal	0.0037	0.0043	0.0000	10.0000	Ohm-m	13000.0000	-0.7000
Inverse	0.1208	0.0013	0.0000	10.0000	Ohm-m	11000.0000	-0.1000
Caliper	1.0046	1.1419	5.5000	20.0000	in	50.0000	-44.5250

Compensated Density Calibration Report

Serial-Model: 303-03-M&W
 Source #: 21170B
 Master Calibration Performed: Fri Dec 15 14:46:43 2023

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.680	g/cc	5466.68	7555.42	cps
Aluminum	2.585	g/cc	1173.67	5050.86	cps
Spine Angle = 75.33			Density/Spine Ratio = 0.569		
	Size		Reading		
Small Ring	4.00	in	1.17		
Large Ring	14.00	in	1.07		

Compensated Neutron Calibration Report

Serial Number: 210
 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

Gamma Ray Calibration Report

Serial Number: 105
 Tool Model: M&W
 Performed: Sat Oct 21 23:48:19 2023

Calibrator Value: 500.0 GAPI

Background Reading: 24.0 cps
 Calibrator Reading: 637.0 cps

Sensitivity: 0.6000 GAPI/cps



Company Castle Resources, Inc.
 Well Hartwich #1
 Field
 County Wabaunsee
 State Kansas