



MIDWEST WIRELINE

# MICRORESISTIVITY LOG

Company Griffin Management LLC  
 Well Harper #2  
 Field Wildcat  
 County Barber  
 State Kansas

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 Well Harper #2  
 Field Wildcat  
 County Barber State Kansas

Location: API #: 15-007-24385-00-00  
 1320 FNL & 2589 FEL  
 SEC 4 TWP 30S RGE 15W  
 Permanent Datum Ground Level Elevation 1991  
 Log Measured From Kelly Bushing  
 Drilling Measured From Kelly Bushing  
 Other Services  
 CNL/CDL  
 MEL  
 Elevation  
 K.B. 1996  
 D.F.  
 G.L. 1991

Date	12/12/2021
Run Number	One
Depth Driller	4798
Depth Logger	4794
Bottom Logged Interval	4793
Top Log Interval	2800
Casing Driller	8.625 @ 263
Casing Logger	259
Bit Size	7.875
Type Fluid in Hole	Chemical
Salinity, ppm CL	7000
Density / Viscosity	9.4 64
pH / Fluid Loss	10.5 8.8
Source of Sample	FLOWLINE
Rm @ Meas. Temp	.55 @ 65
Rmt @ Meas. Temp	.41 @ 65
Rmc @ Meas. Temp	.74 @ 65
Source of Rmf / Rmc	CHARTS
Rm @ BHT	.29 @ 124
Operating Rig Time	2 Hours
Max Rec. Temp. F	124
Equipment Number	P-108
Location	HAYS
Recorded By	J. Henrickson
Witnessed By	Eli Felts

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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.

Haviland Kansas  
 East to 140th, 10 South to 110th, 1 East,  
 North 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: J. Henrickson  
 Operator:  
 Operator:  
 Operator:

### This Log Record Was Witnessed By

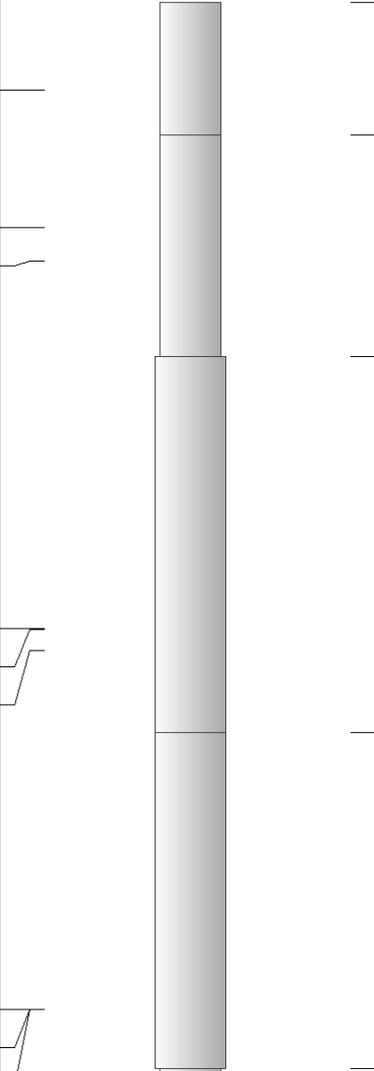
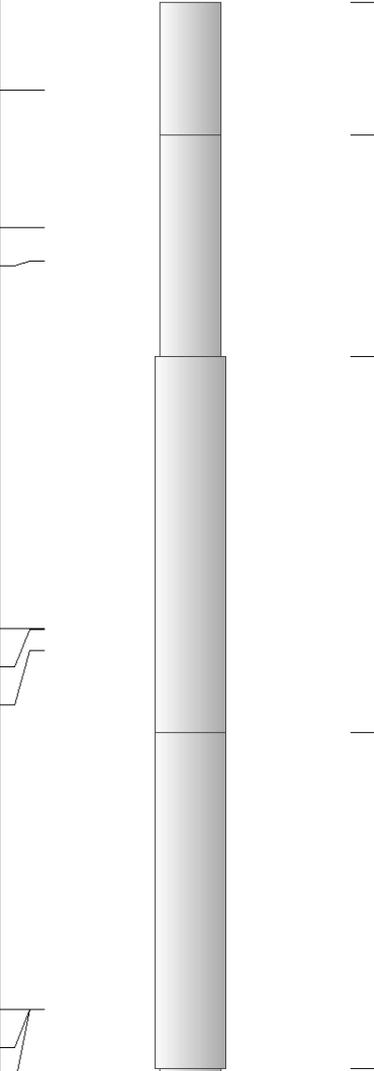
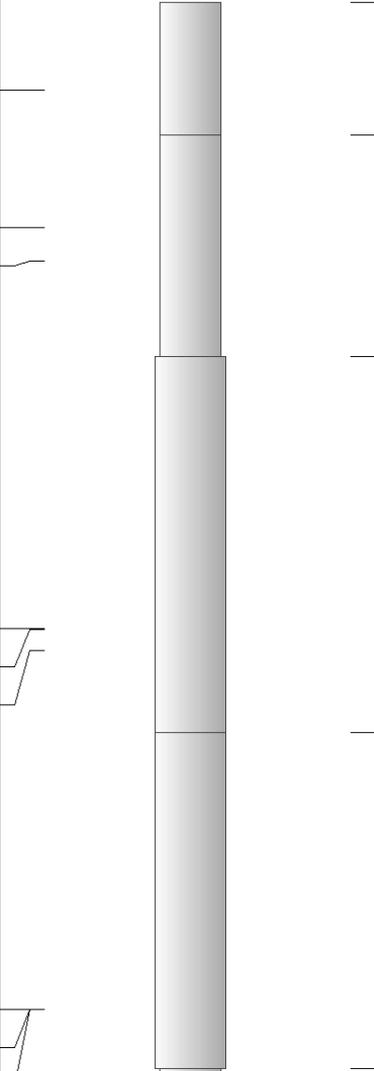
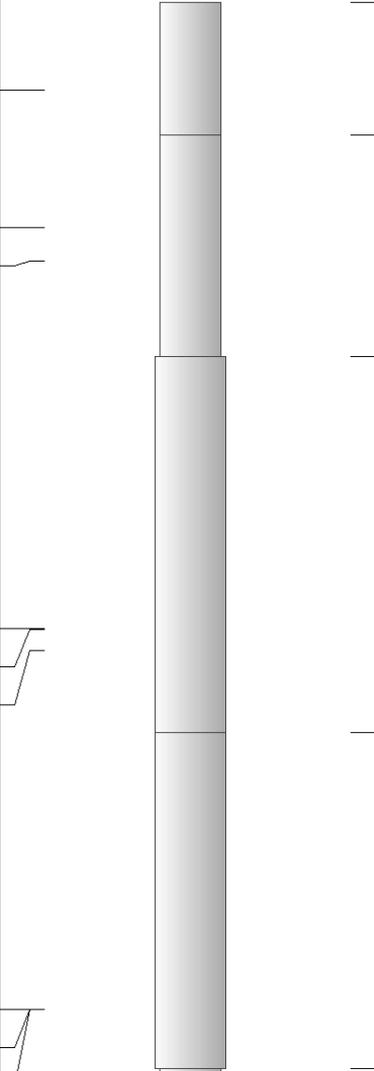
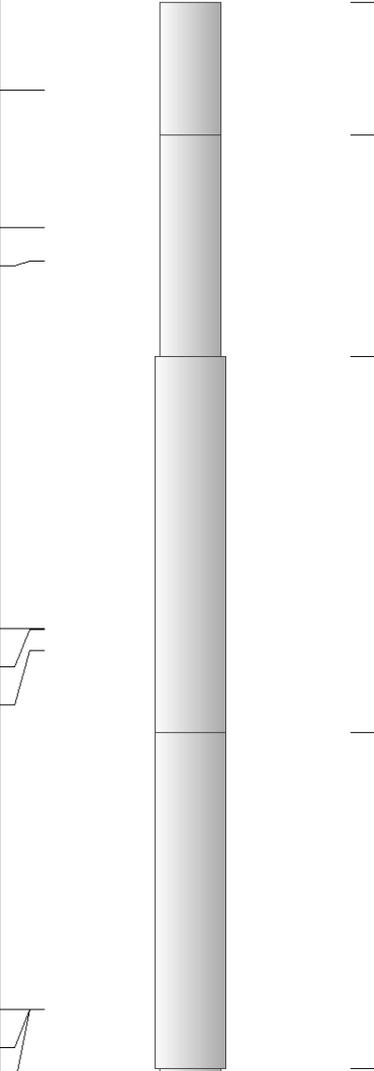
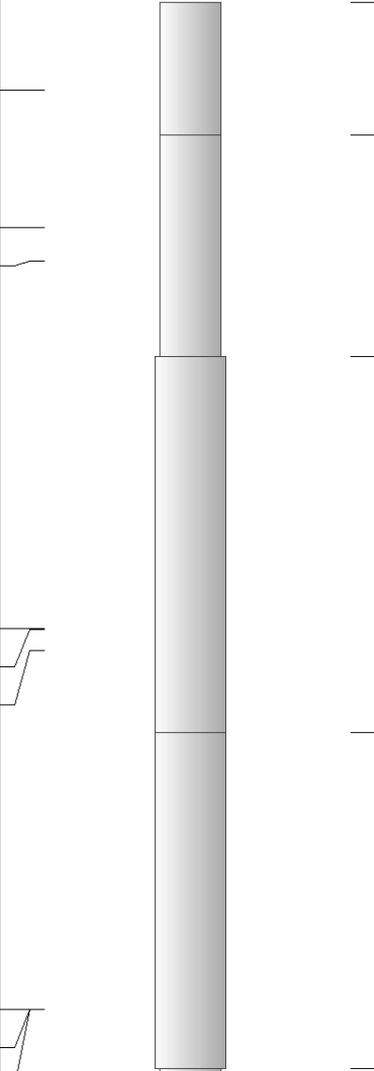
Primary Witness: Eli Felts  
 Secondary Witness:  
 Secondary Witness:  
 Secondary Witness:

# Log Variables

DatabaseC:\ProgramData\Warrior\Data\griffin\_harper\_2.db  
 Dataset field/well/stackml/pass4.1/\_vars\_

## Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	124	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	575	50	Off	4794

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.33		GR-M&W (89-M&W)	3.00	3.50	50.00
CNLSC CNSSC	37.23 36.48		CNT-M&W (tk10-MW)	5.00	3.50	100.00
LSD DCAL SSD	28.18 28.17 27.68		CDL-M&W (915-956)	8.50	4.00	250.00
MCAL MI MN	19.58 19.58 19.58		ML-PSI STKBL ML (PSI-02)	7.58	4.00	65.00
RLL3F RLL3	15.50 15.50					
CILD	8.33		DIL-PSI HIGH TEMP (959-1032)	18.25	3.50	220.00

CILM 4.50

SP 0.20

Dataset: griffin\_harper\_2.db: field/well/stackml/pass4.1  
 Total length: 42.33 ft  
 Total weight: 685.00 lb  
 O.D.: 4.00 in



MIDWEST WIRELINE

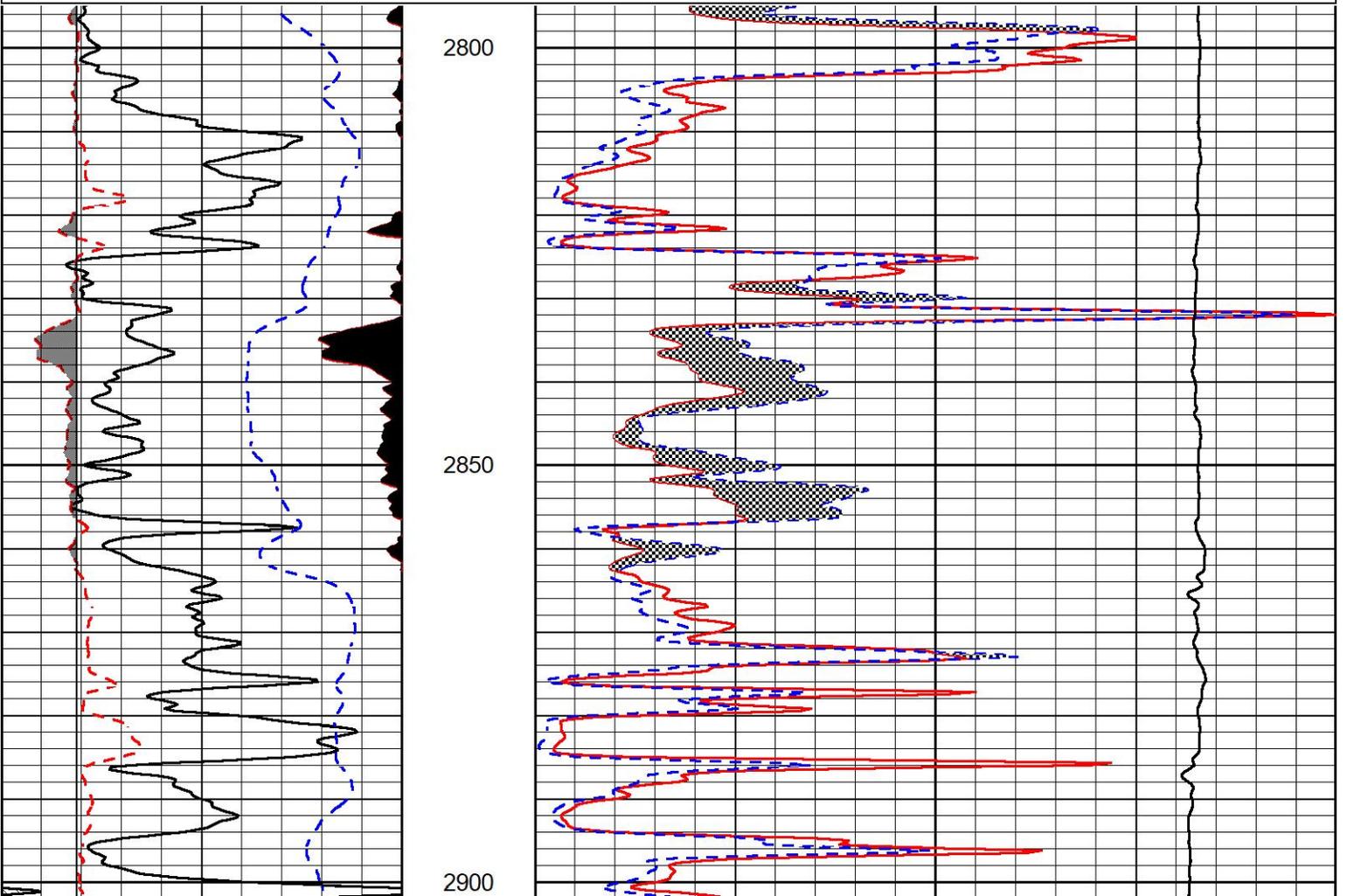
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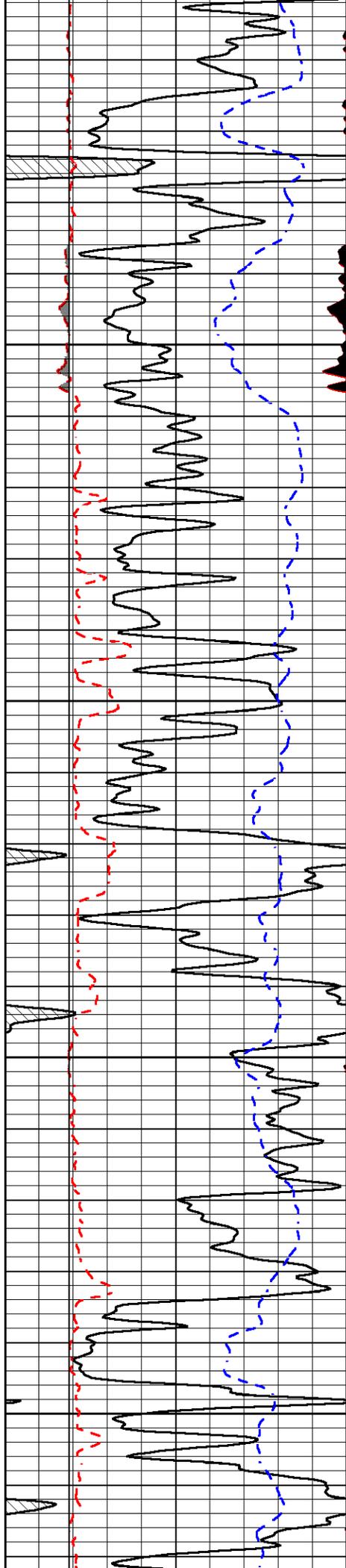
## MAIN PASS

Database File griffin\_harper\_2.db  
 Dataset Pathname stackml/pass4.1  
 Presentation Format \_micro  
 Dataset Creation Sun Dec 12 23:32:46 2021  
 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



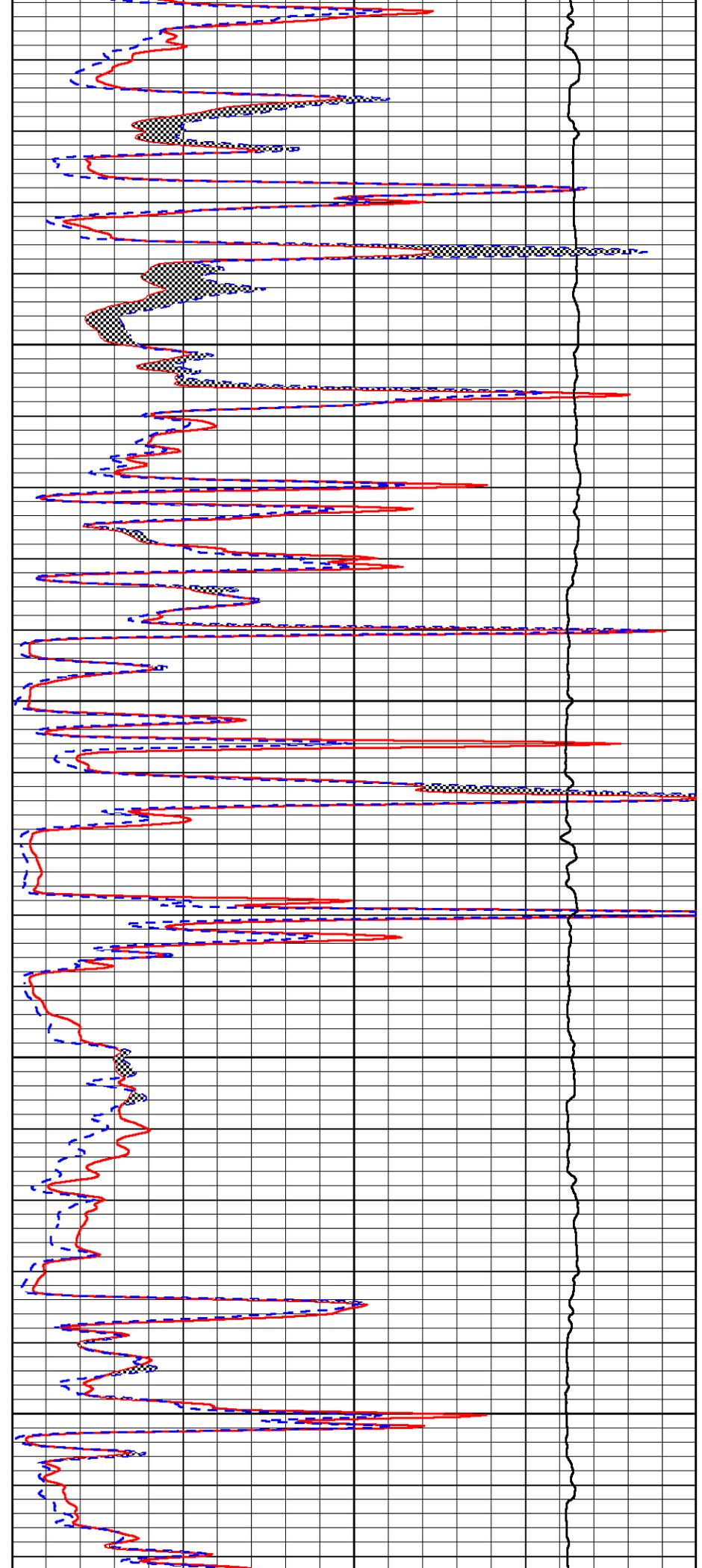


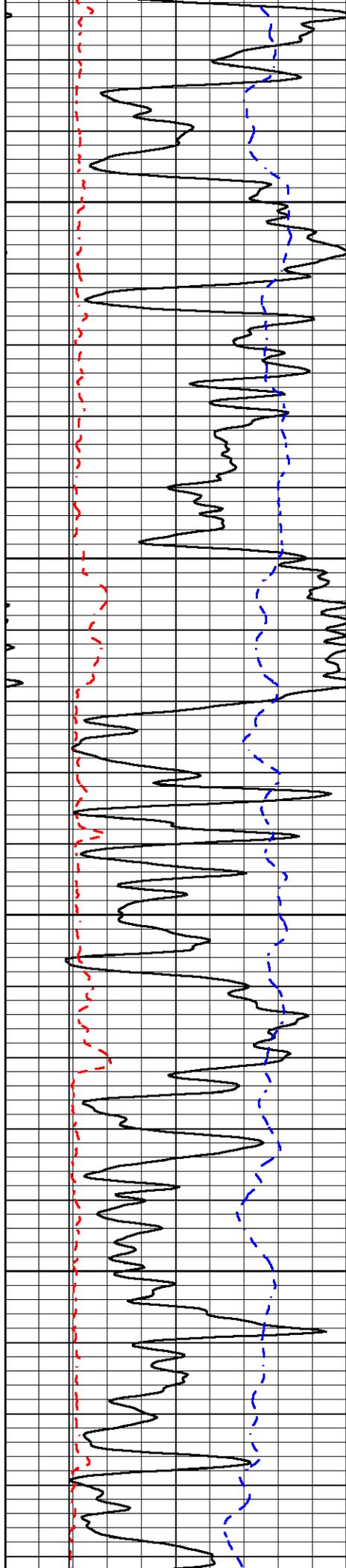
2950

3000

3050

3100



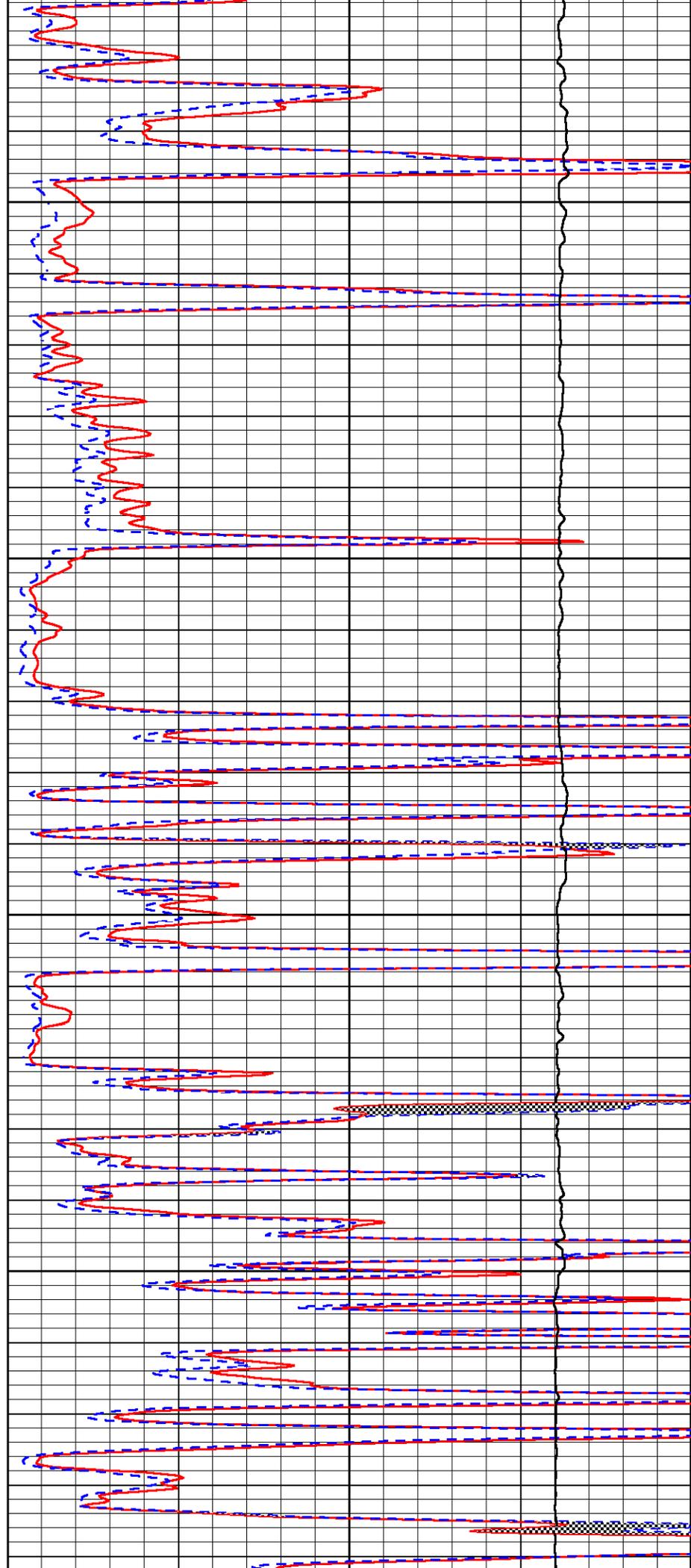


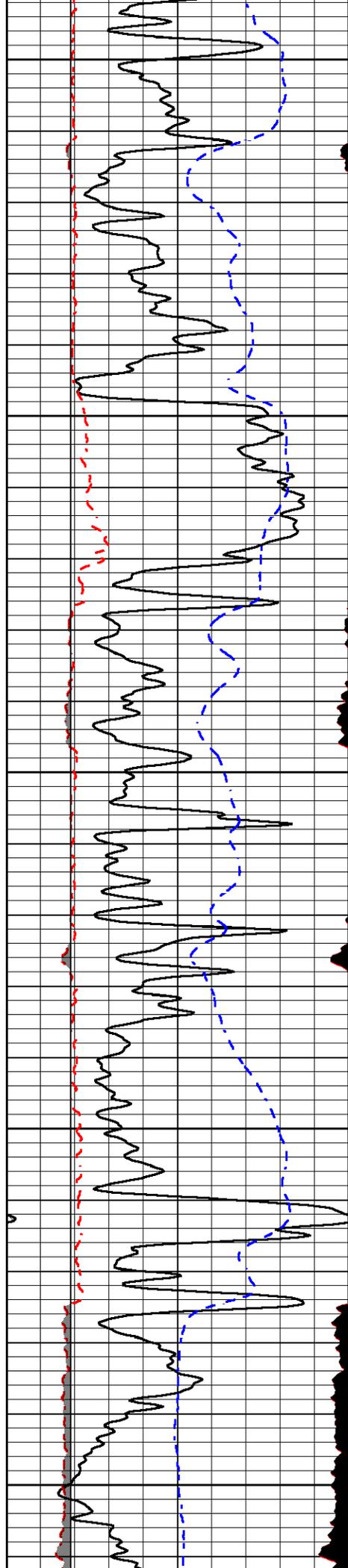
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3200

3250

3300





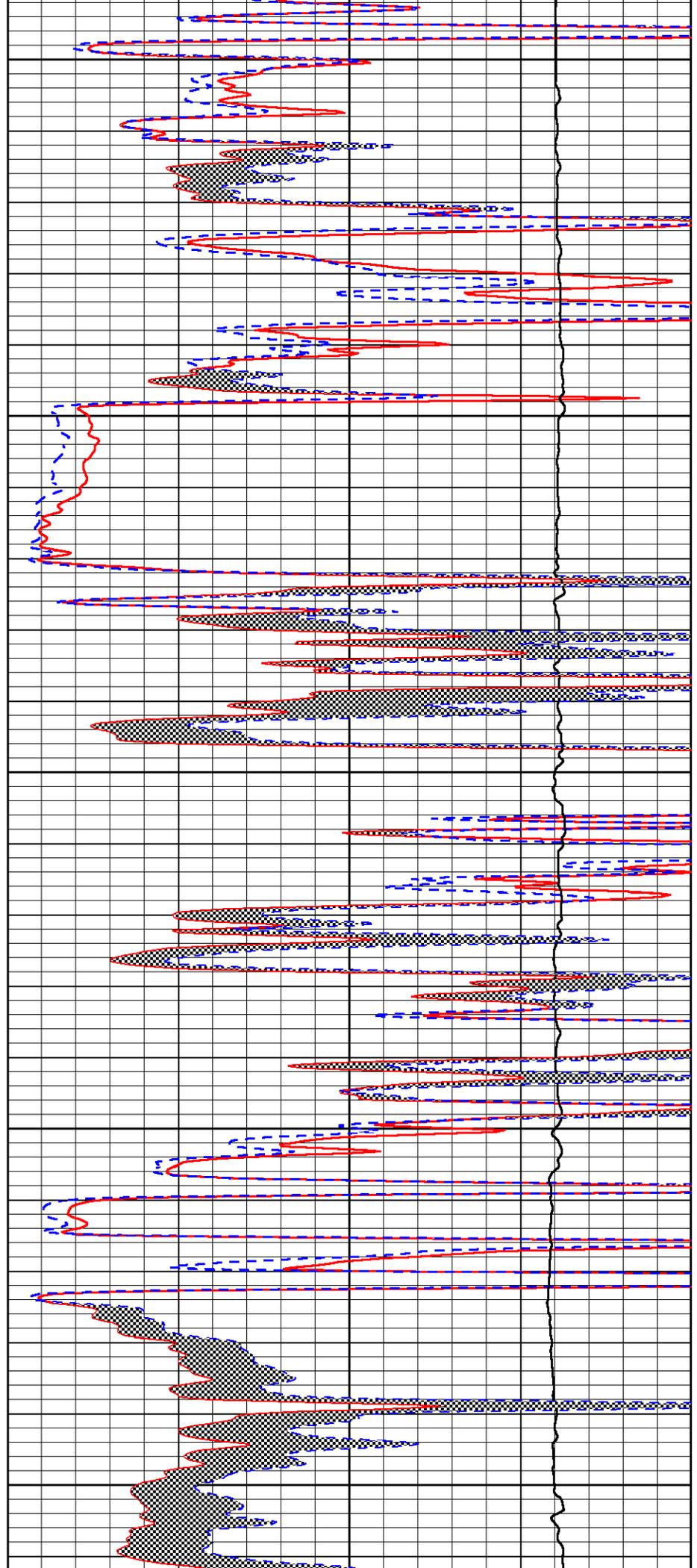
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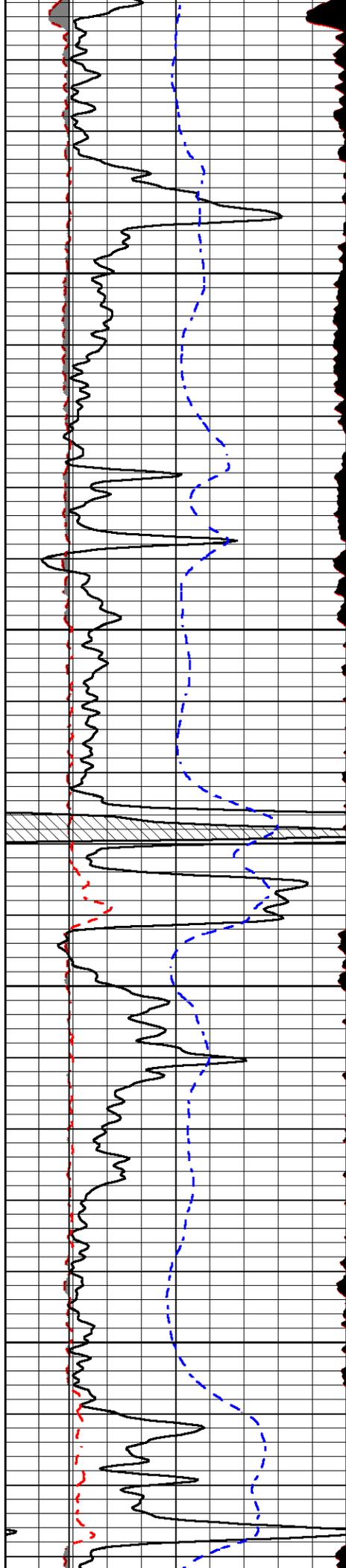
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3450

3500

3550



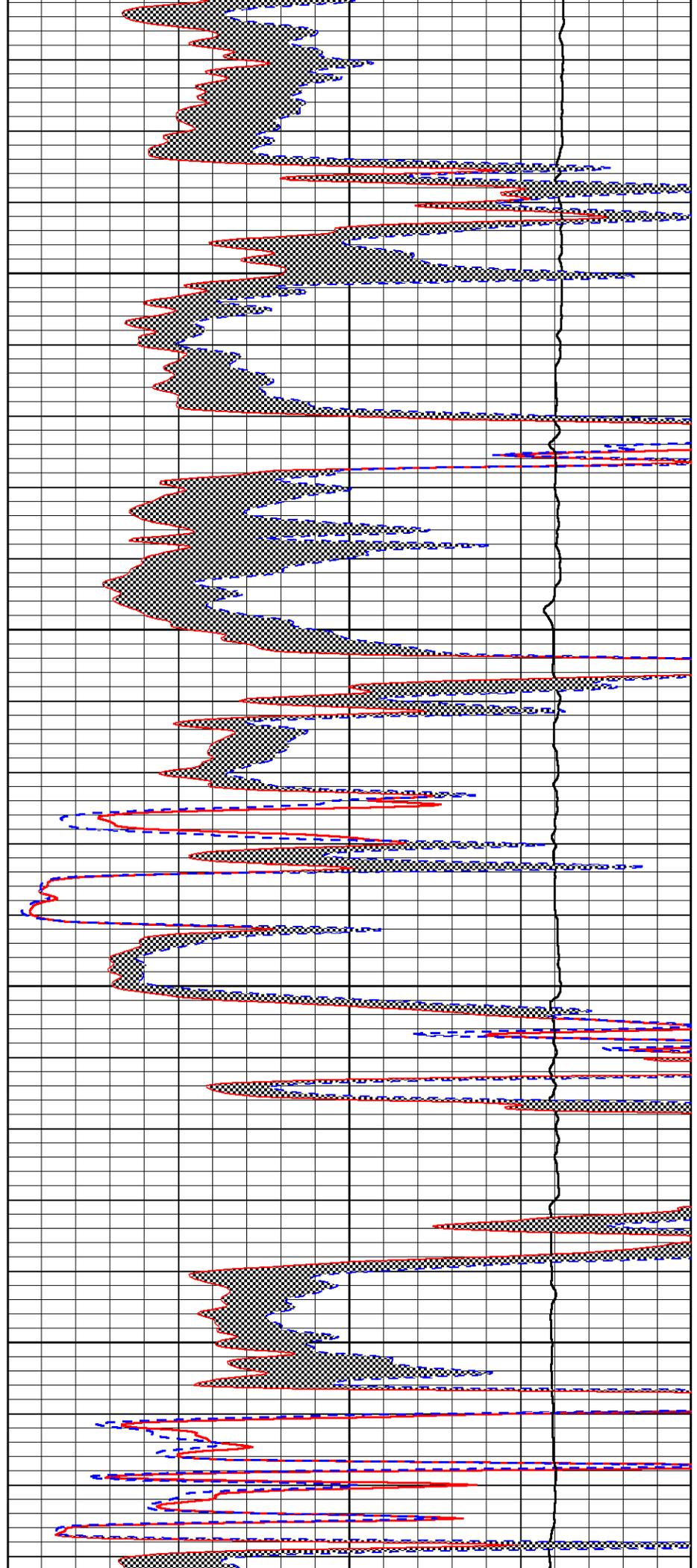


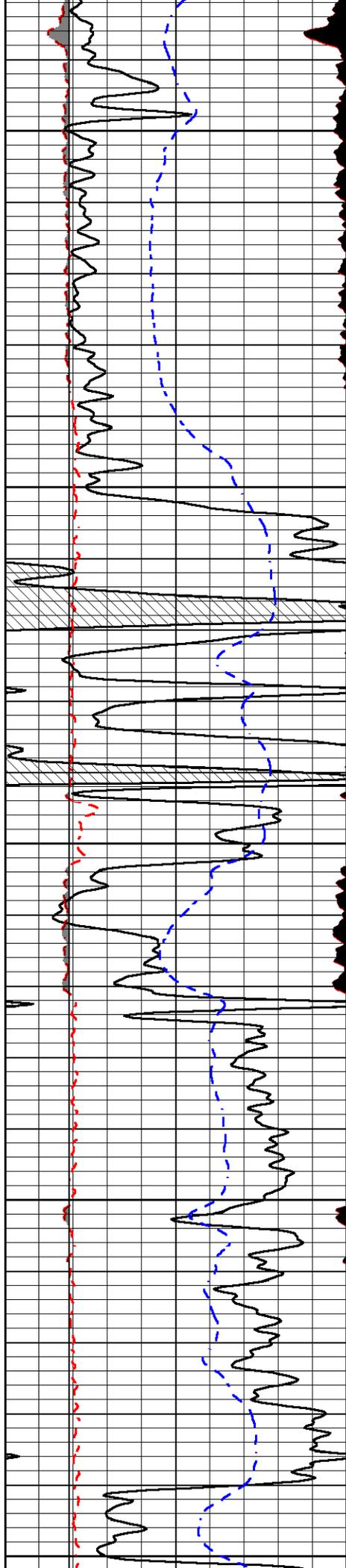
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3650

3700

3750





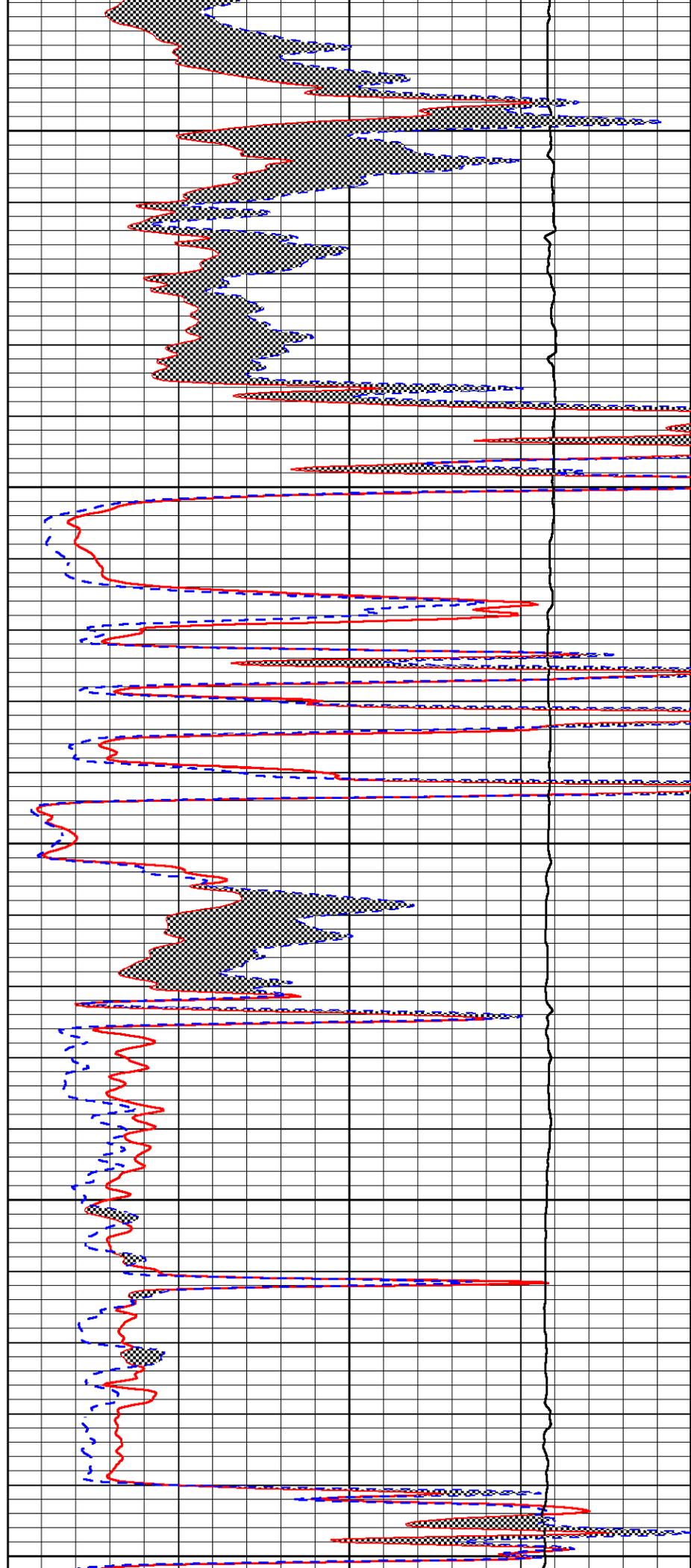
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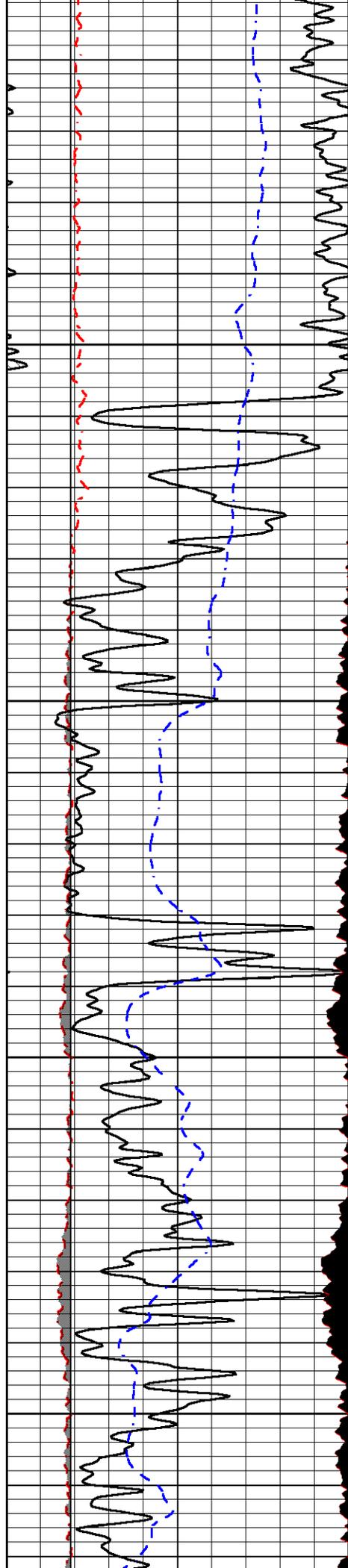
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3900

3950

4000



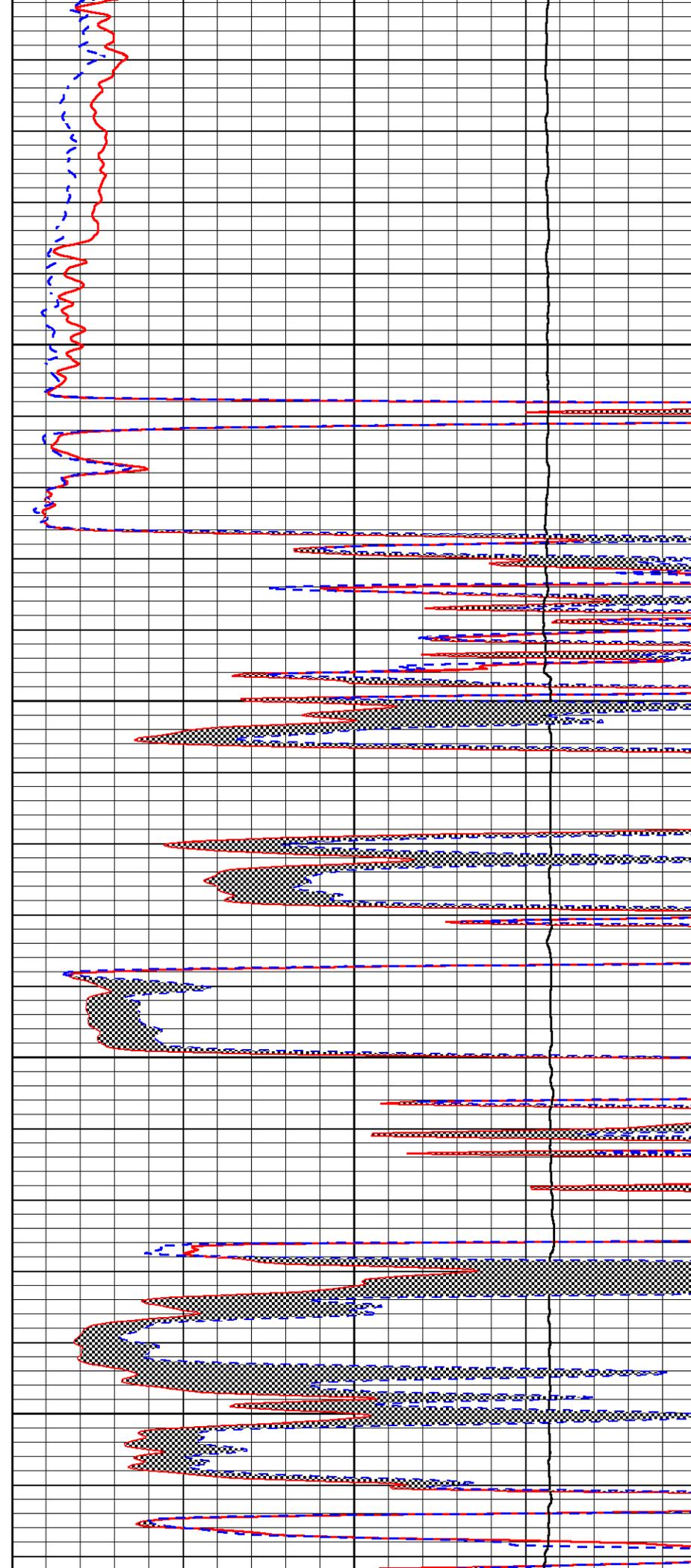


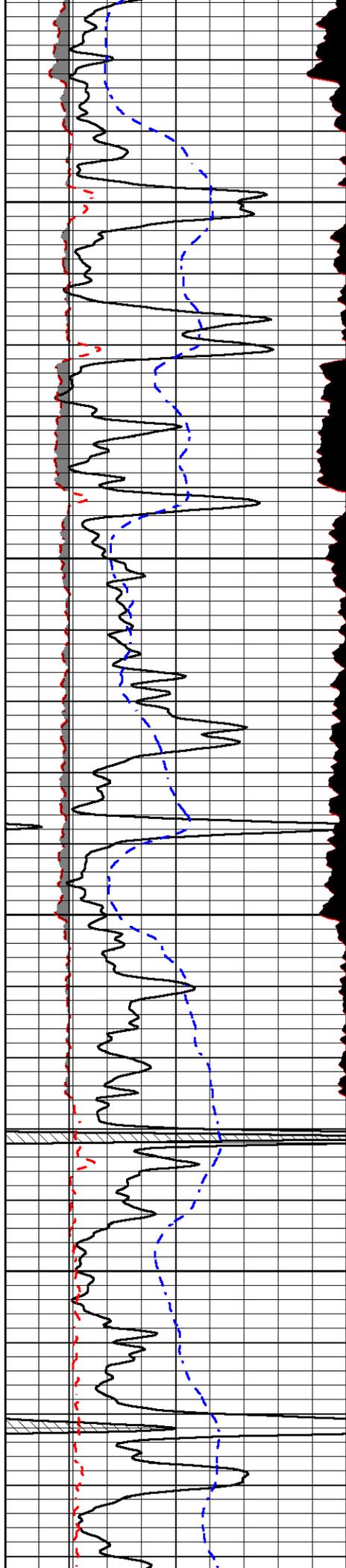
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4100

4150

4200



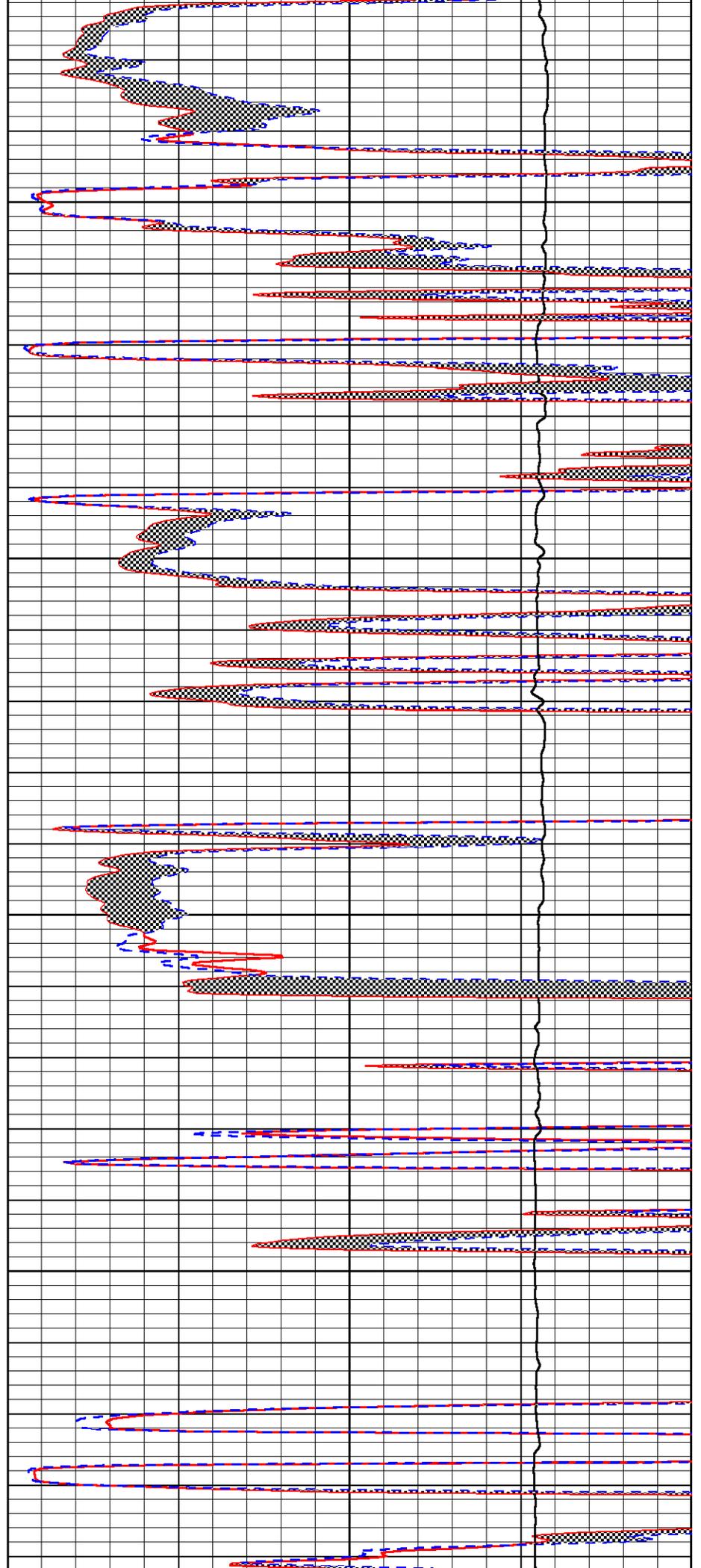


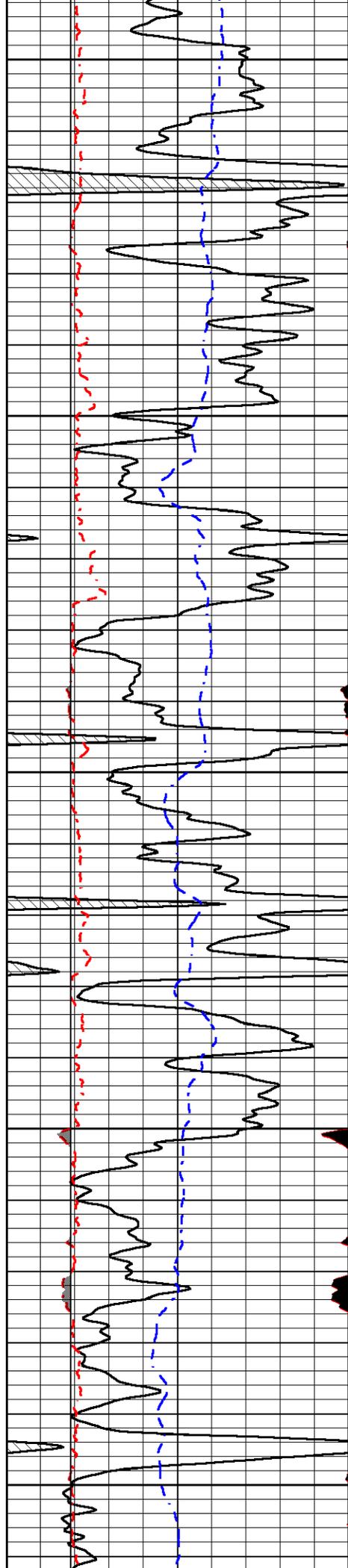
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4400





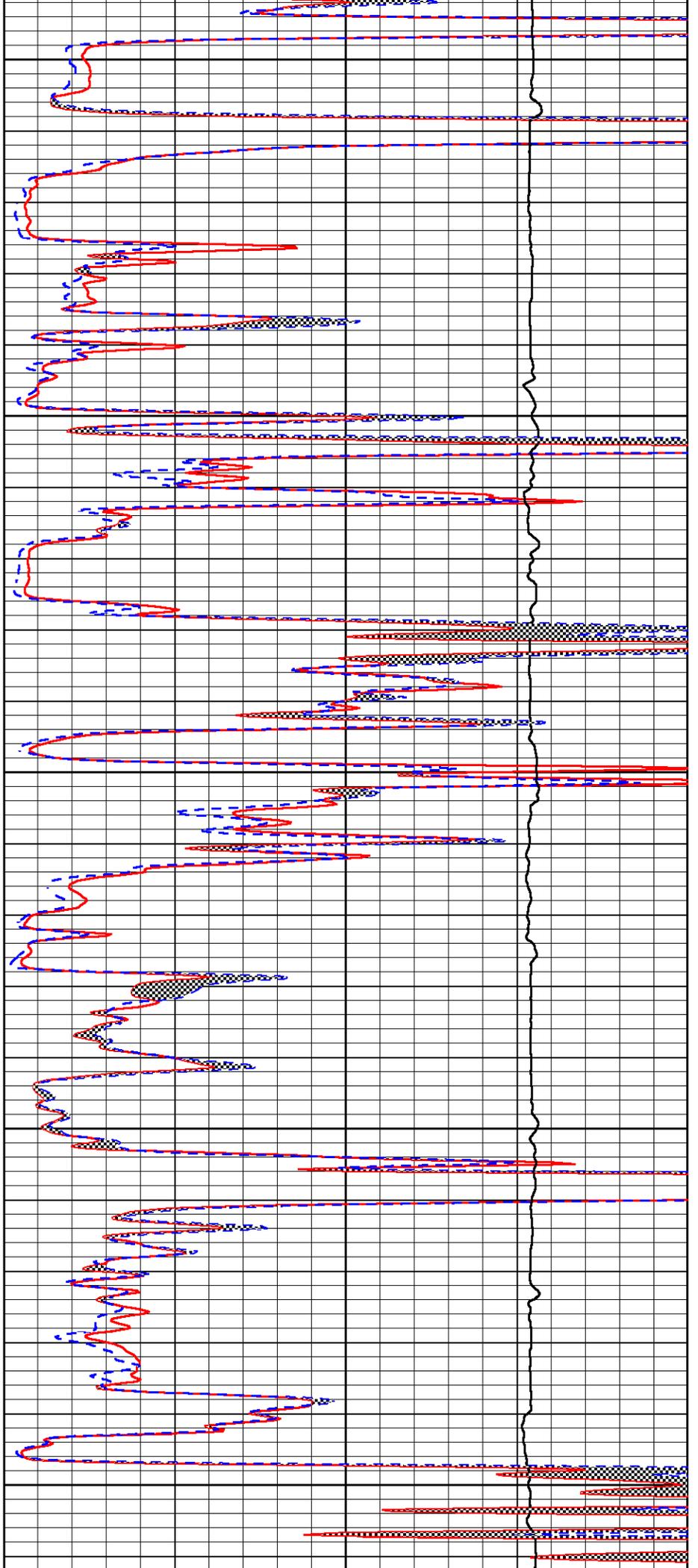
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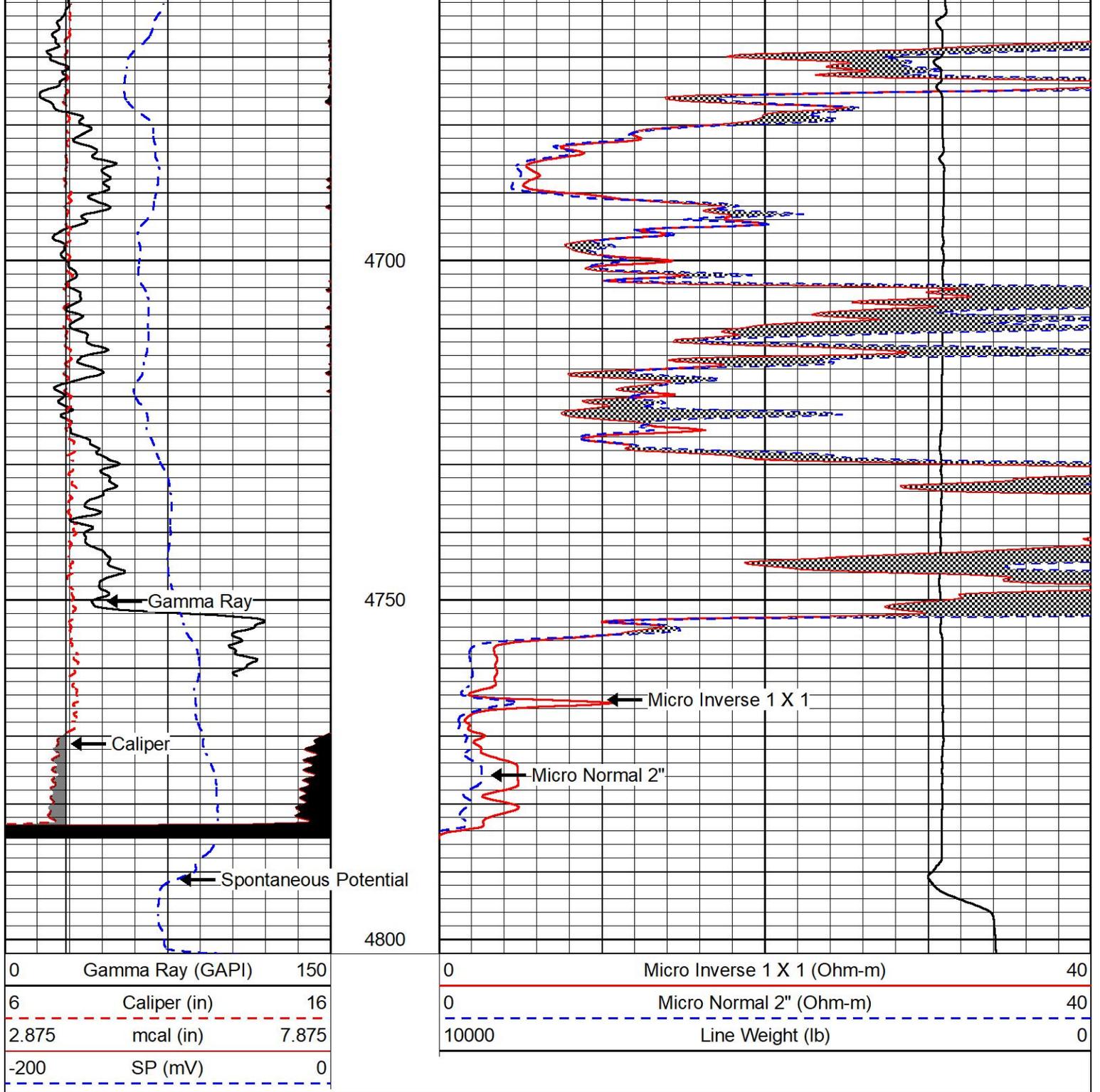
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4550

4600

4650





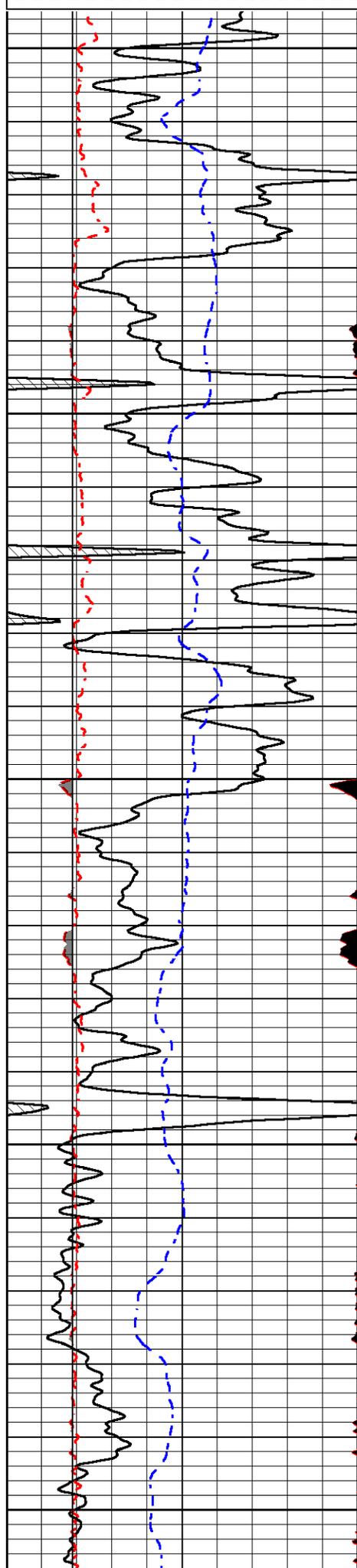
## REPEAT SECTION

### REPEAT PASS

Database File griffin\_harper\_2.db  
 Dataset Pathname stackml/pass2.1  
 Presentation Format \_micro  
 Dataset Creation Sun Dec 12 23:31:29 2021  
 Charted by Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150	0	Micro Inverse 1 X 1 (Ohm-m)	40
6	Caliper (in)	16	0	Micro Normal 2" (Ohm-m)	40
2.875	mcal (in)	7.875	10000	Line Weight (lb)	0

-200 SP (mV) 0



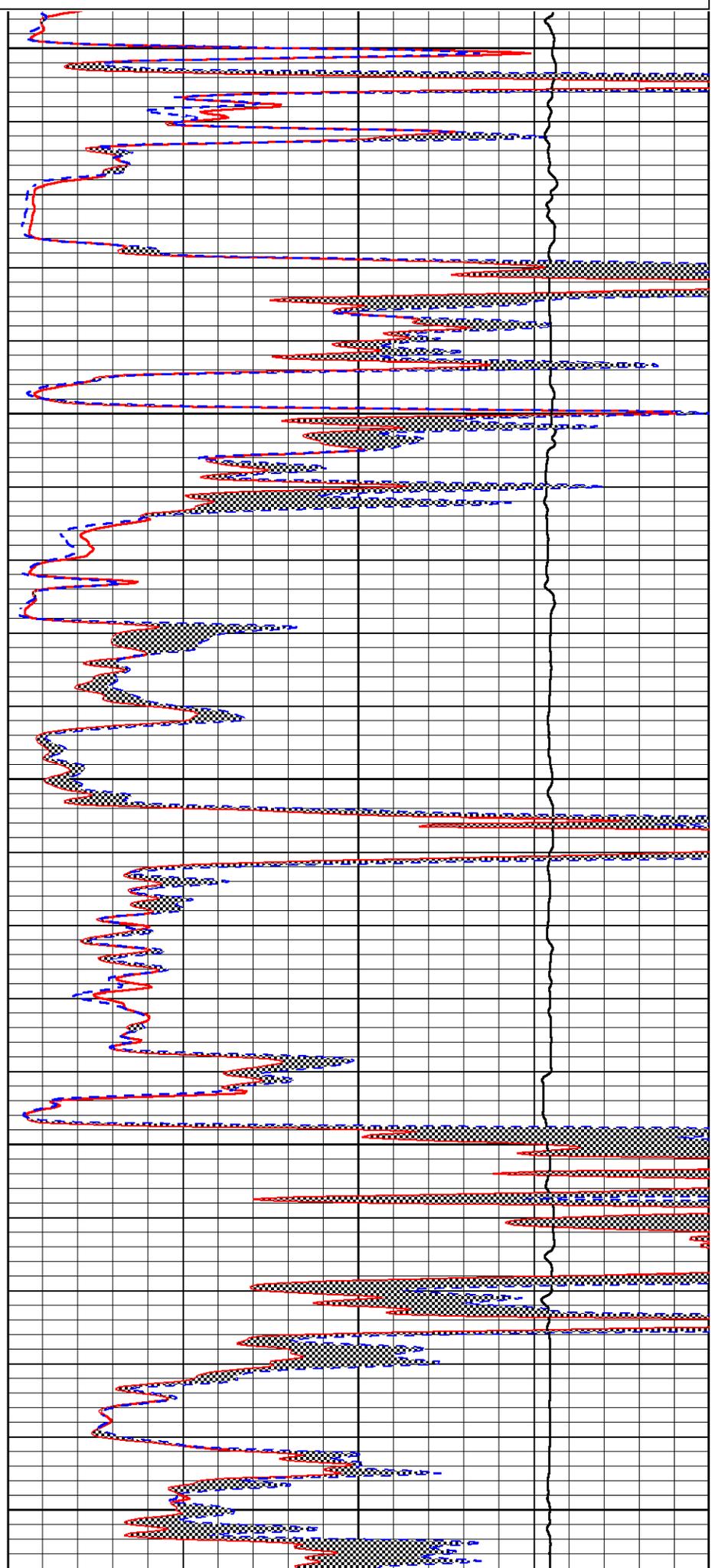
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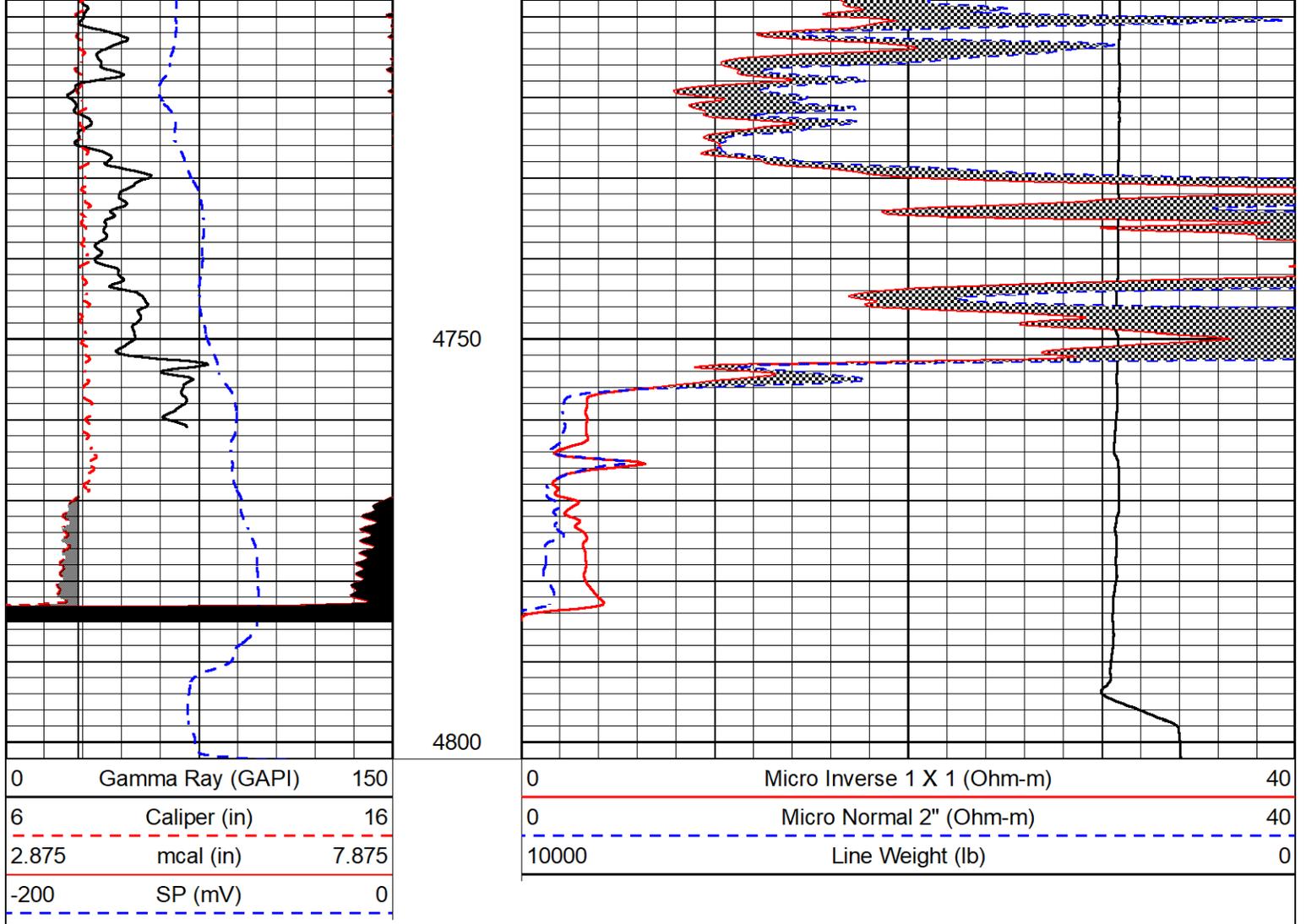
4550

4600

4650

4700





### Calibration Report

Database File griffin\_harper\_2.db  
 Dataset Pathname stackml/pass4.1  
 Dataset Creation Sun Dec 12 23:32:46 2021

### Dual Induction Calibration Report

Serial-Model: 959-1032-PSI HIGH TEMP  
 Surface Cal Performed: Mon Oct 25 13:13:32 2021

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop	mmho/m	m	b
Deep	178.615	710.235	0.000	255.800	mmho/m	0.650	-19.000
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.450	-45.500

### Microlog Calibration Report

Serial-Model: PSI-02-PSI STKBL ML  
 Performed: Sat Apr 7 11:01:20 2018

	Readings		References			Results	
	Zero	Cal	Zero	Cal	Ohm-m	m	b
Normal	0.0031	0.0043	0.0000	10.0000	Ohm-m	23000.0000	-1.0000
Inverse	0.0000	0.0013	0.0000	10.0000	Ohm-m	20000.0000	0.0000
Caliper	1.0020	1.0834	5.5000	16.5000	in	135.1560	134.8000

Compensated Density Calibration Report

Serial-Model: 915-956-M&W  
 Source #: 21170B  
 Master Calibration Performed: Fri Dec 3 11:22:35 2021

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	3668.53	4669.61	cps
Aluminum	2.670	g/cc	710.88	3056.05	cps
	Spine Angle = 75.51		Density/Spine Ratio = 0.540		
	Size		Reading		
Small Ring	4.00	in	1.17		
Large Ring	14.00	in	1.05		

Compensated Neutron Calibration Report

Serial-Model: tk10-MW-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: 89-M&W  
 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 Griffin Management LLC  
 Well Harper #2  
 Field Wildcat  
 County Barber  
 State Kansas