



MIDWEST WIRELINE

MICRORESISTIVITY LOG

Company Murfin Drilling Company, Inc.

Well Brubaker #1-12

Field

County Cheyenne State Kansas

Location: API #: 15-023-21589-00-00

990 FNL & 550 FEL

SEC 12 TWP 4S RGE 39W

CNL/CDL
DIL/BHCS

Other Services

Company	Murfin Drilling Company, Inc.
Well	Brubaker #1-12
Field	
County	Cheyenne
State	Kansas
Location:	API #: 15-023-21589-00-00
	990 FNL & 550 FEL
	SEC 12 TWP 4S RGE 39W
Permanent Datum	Ground Level
Log Measured From	Kelly Bushing
Drilling Measured From	Kelly Bushing
	Elevation 3524
	Elevation
	K.B. 3429
	D.F. 3524
	G.L. 3524

Date	1/17/2023
Run Number	One
Depth Driller	5150
Depth Logger	5121
Bottom Logged Interval	5120
Top Log Interval	3850
Casing Driller	8:625 @ 385
Casing Logger	380
Bit Size	7.875
Type Fluid in Hole	Chemical
Salinity, ppm CL	800
Density / Viscosity	9.3 62
pH / Fluid Loss	11.0 6.4
Source of Sample	FLOWLINE
Rm @ Meas. Temp	0.80 @ 45
Rmt @ Meas. Temp	0.60 @ 45
Rmc @ Meas. Temp	1.08 @ 45
Source of Rmf / Rmc	CHARTS
Rm @ BHT	1.08 @ 45
Operating Rig Time	5 Hours
Max Rec. Temp. F	128
Equipment Number	P-108
Location	HAYS
Recorded By	D. Schmidt
Witnessed By	Rod Andersen

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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.

Wheeler,
Hwy 27 & Hwy 36, 4 East to Rd 23, 2 1/2 South,
West 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		This Log Record Was Witnessed By	
Engineer:	D. Schmidt	Primary Witness:	Rod Andersen
Operator:		Secondary Witness:	
Operator:		Secondary Witness:	
Operator:		Secondary Witness:	

Core	Offset (ft)	Depth	Description	Length (ft)	O.D. (in)	Weight (lb)
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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 (210)	5.00	3.50	100.00
LSD DCAL SSD	28.18 28.17 27.68		CDL-M&W (303-03)	8.50	4.00	250.00
MCAL MI MN	19.58 19.58 19.58		ML-PSI STKBL ML (402)	7.58	4.00	65.00
RLL3F RLL3	15.50 15.50					
CILD	8.33		DIL-M&W (505 HT)	18.25	3.50	220.00
CILM	4.50					
SP	0.20					

Dataset: murfin_brubaker 1-12.db: field/well/stkml/pass4.13
 Total length: 42.33 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in

Log Variables

DatabaseC:\ProgramData\Warrior\Data\murfin_brubaker 1-12.db
 Dataset field/well/stkml/pass4.13/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	128	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	428	30	Off	5121

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



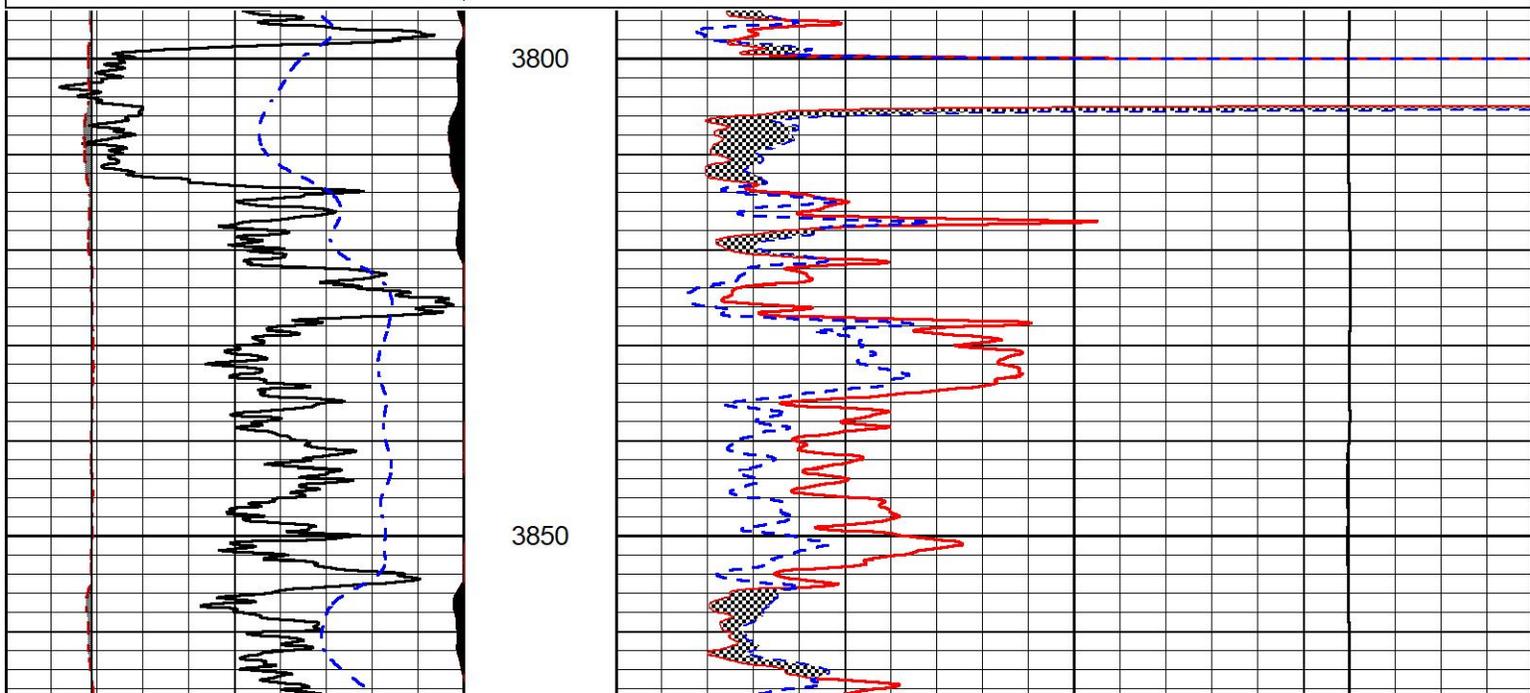
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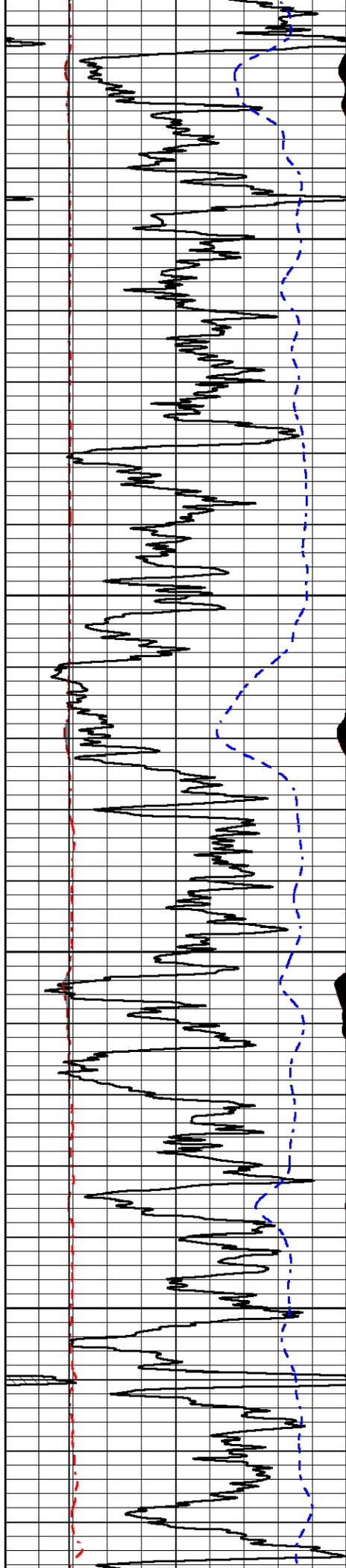
MAIN PASS

Database File murfin_brubaker 1-12.db
 Dataset Pathname stkml/pass4.1
 Presentation Format _micro
 Dataset Creation Tue Jan 17 16:06:19 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



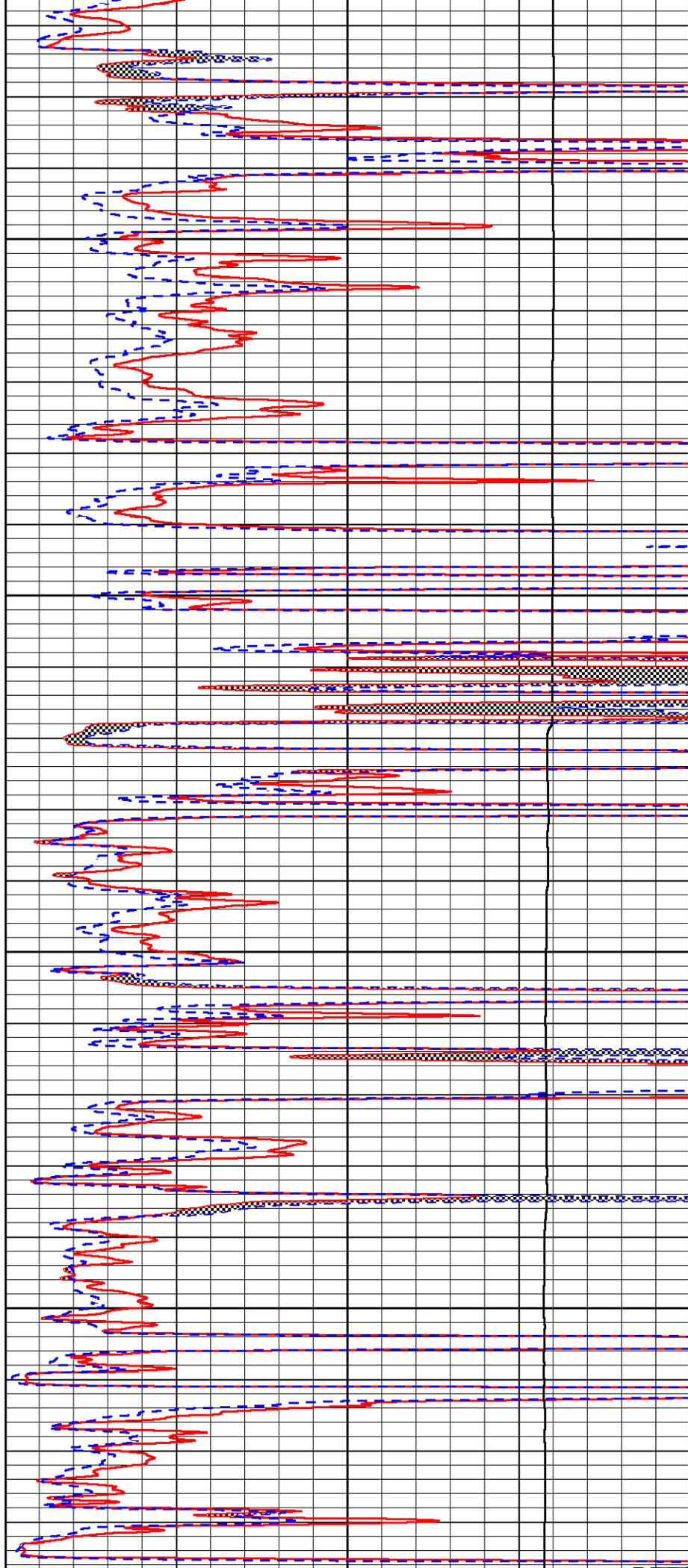


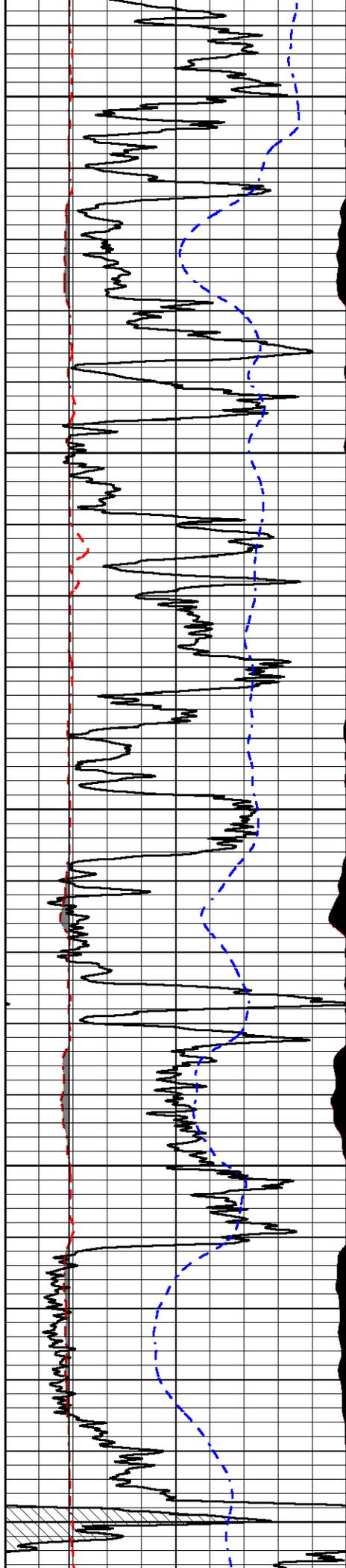
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3950

4000

4050





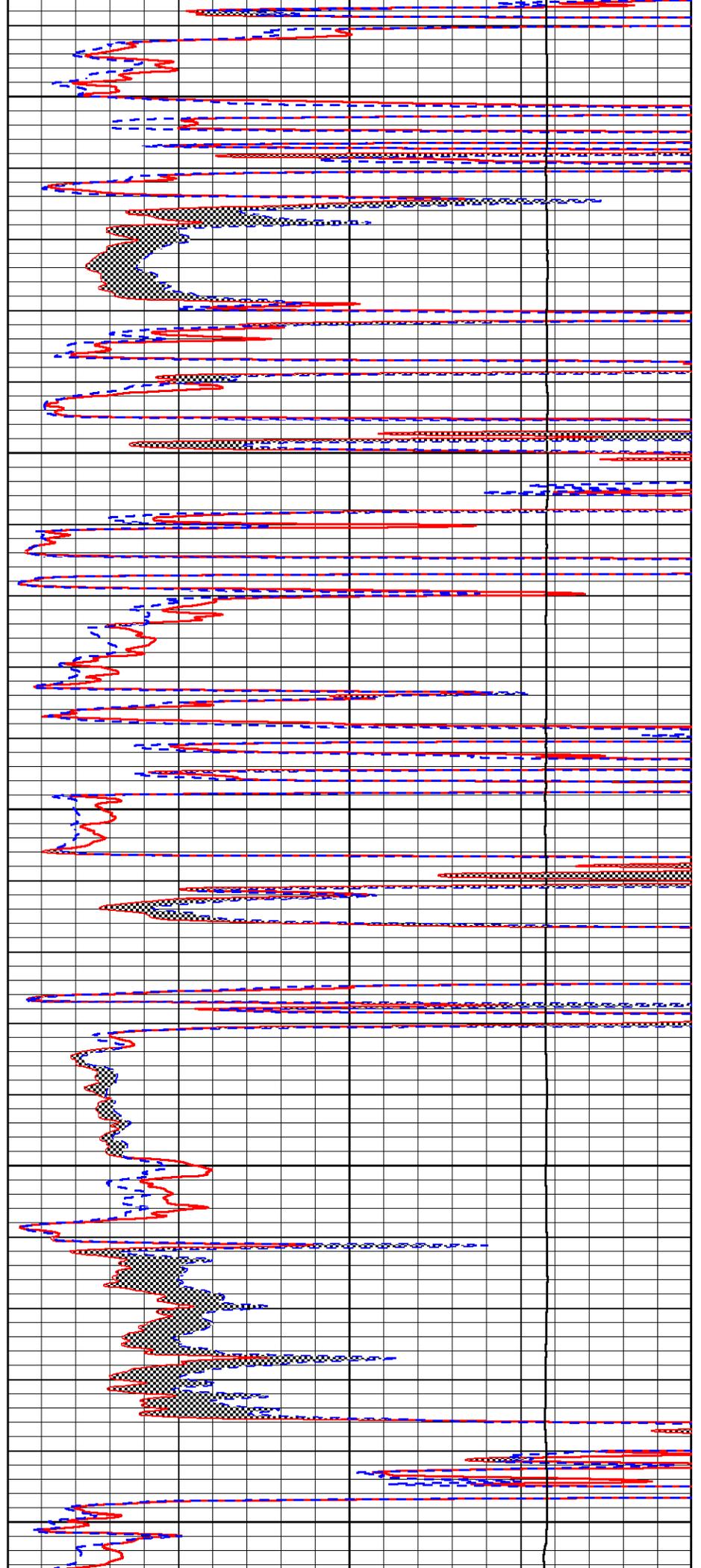
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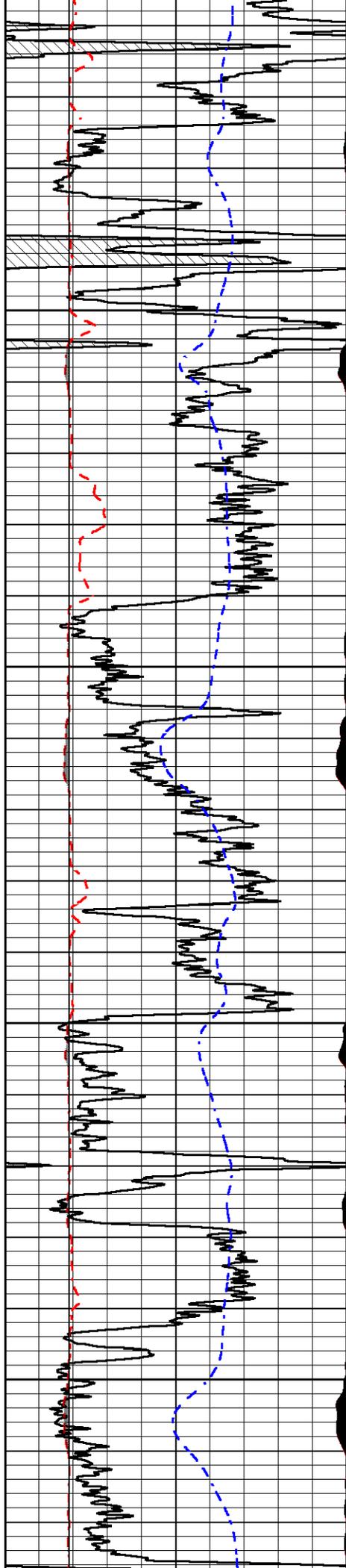
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4200

4250

4300



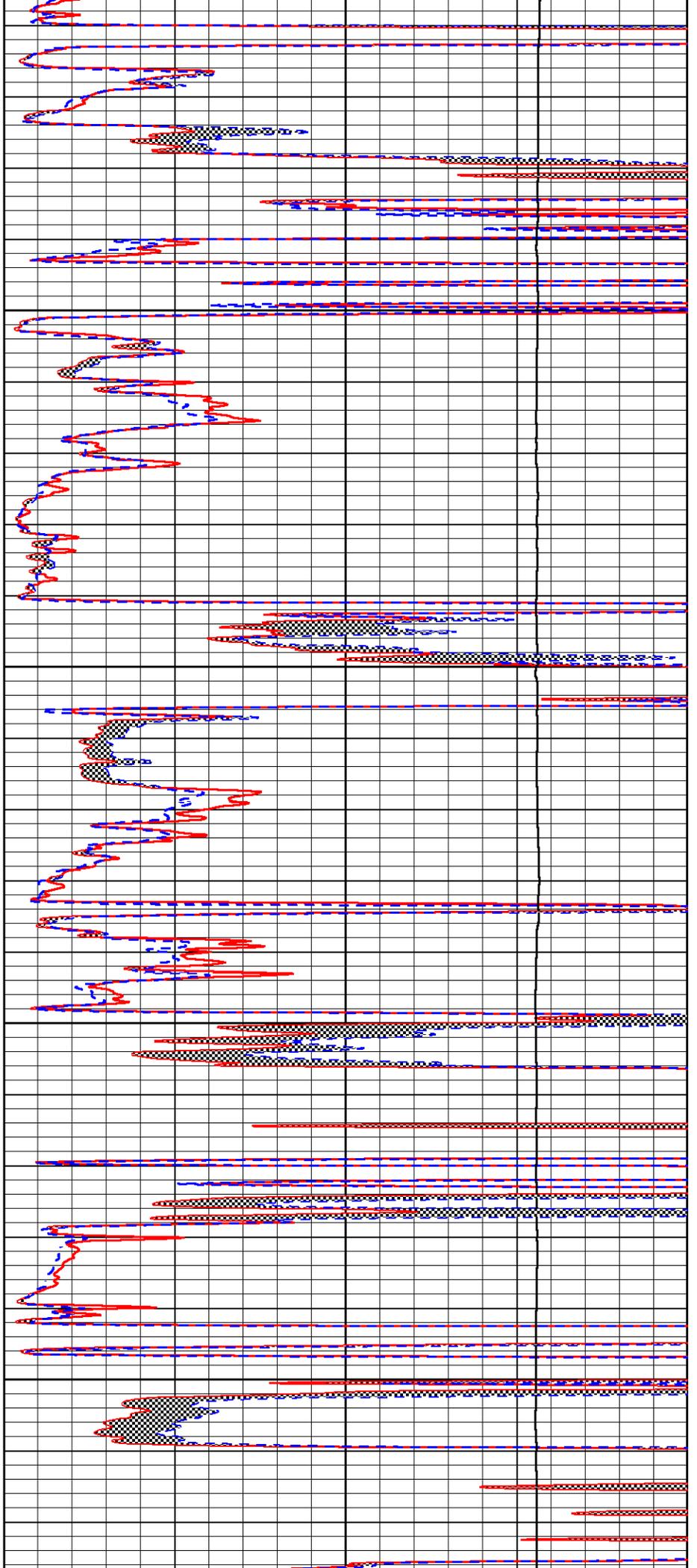


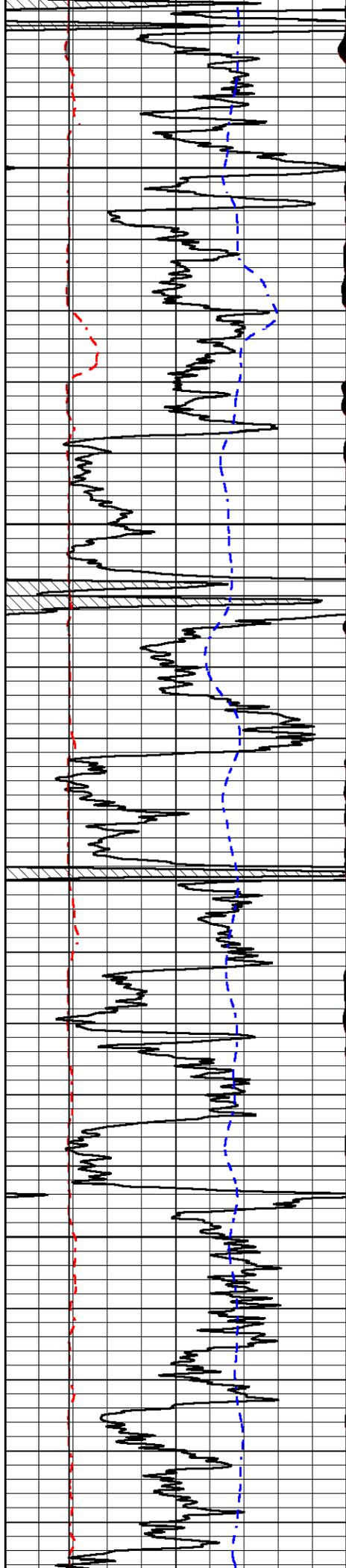
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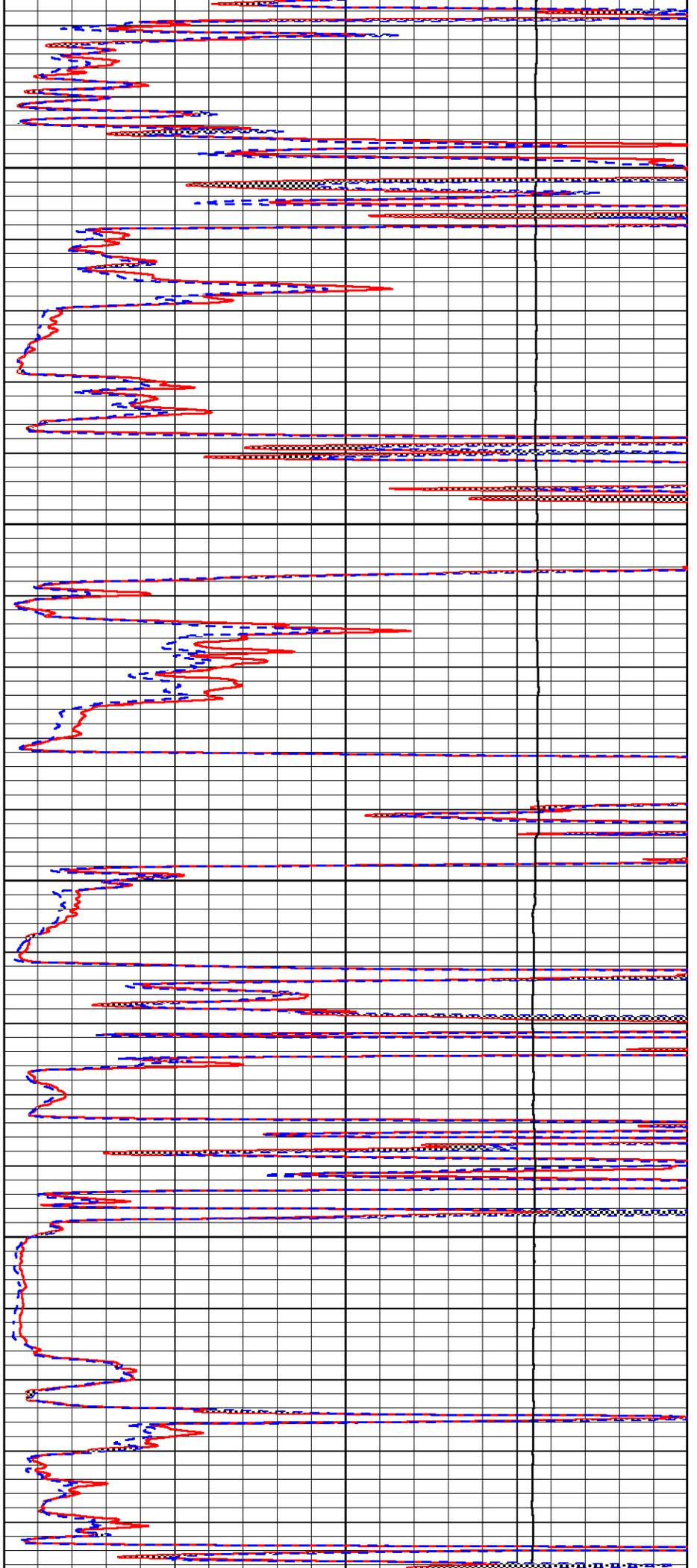


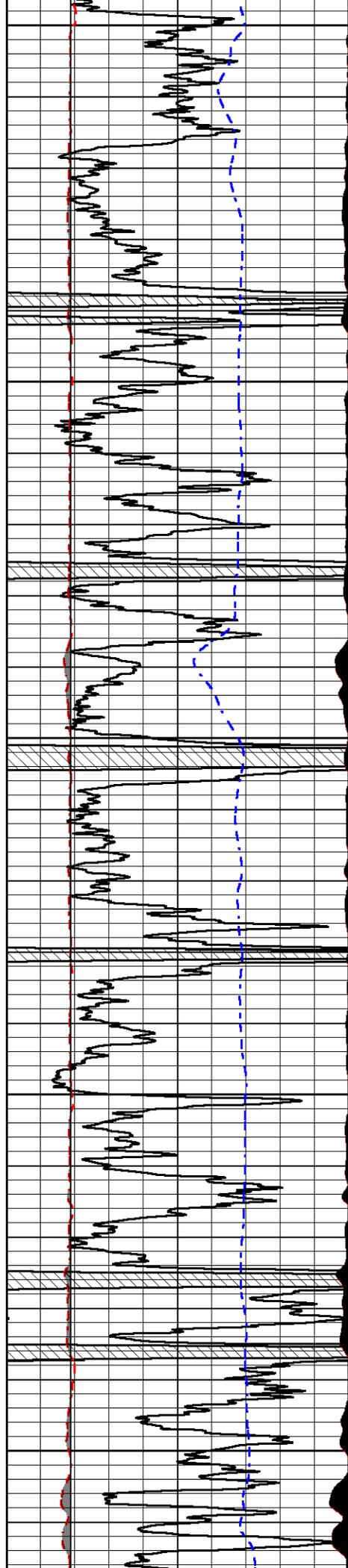
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4700





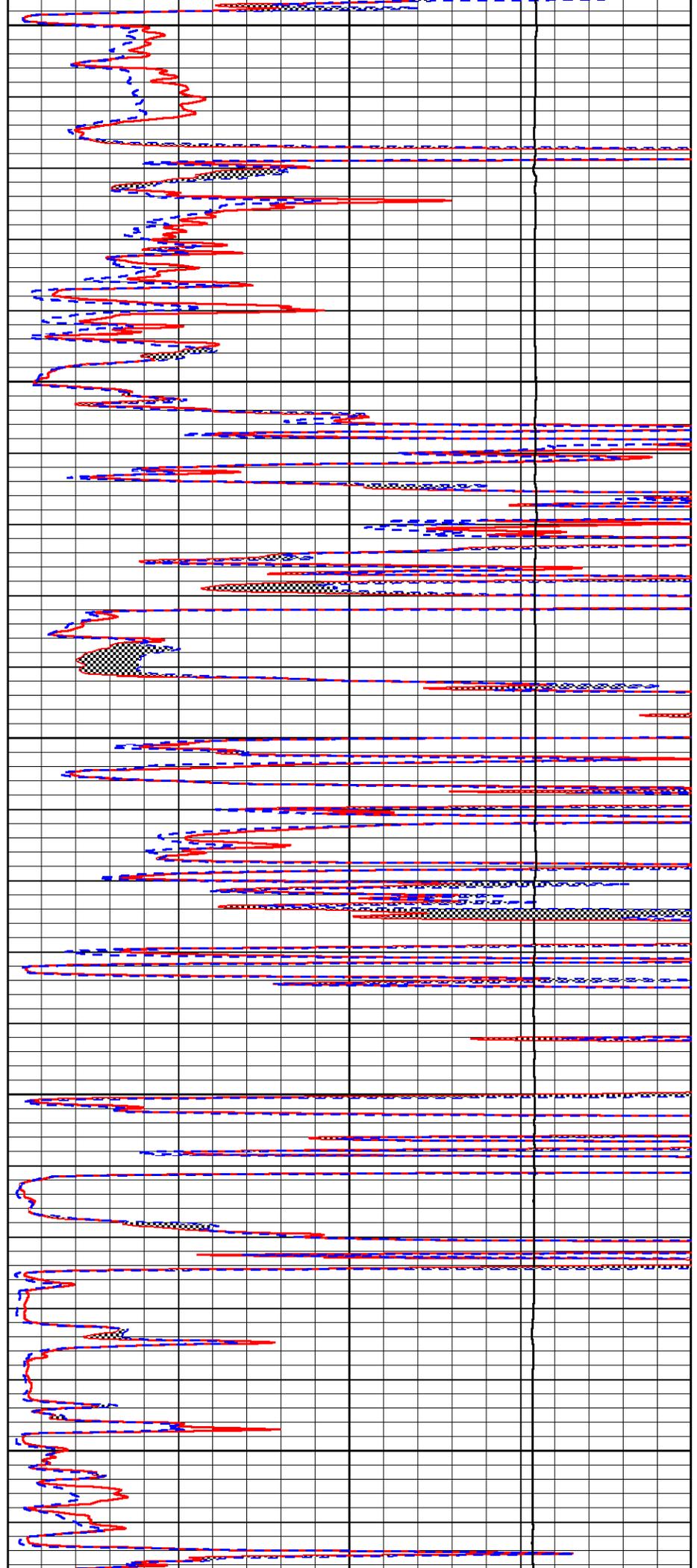
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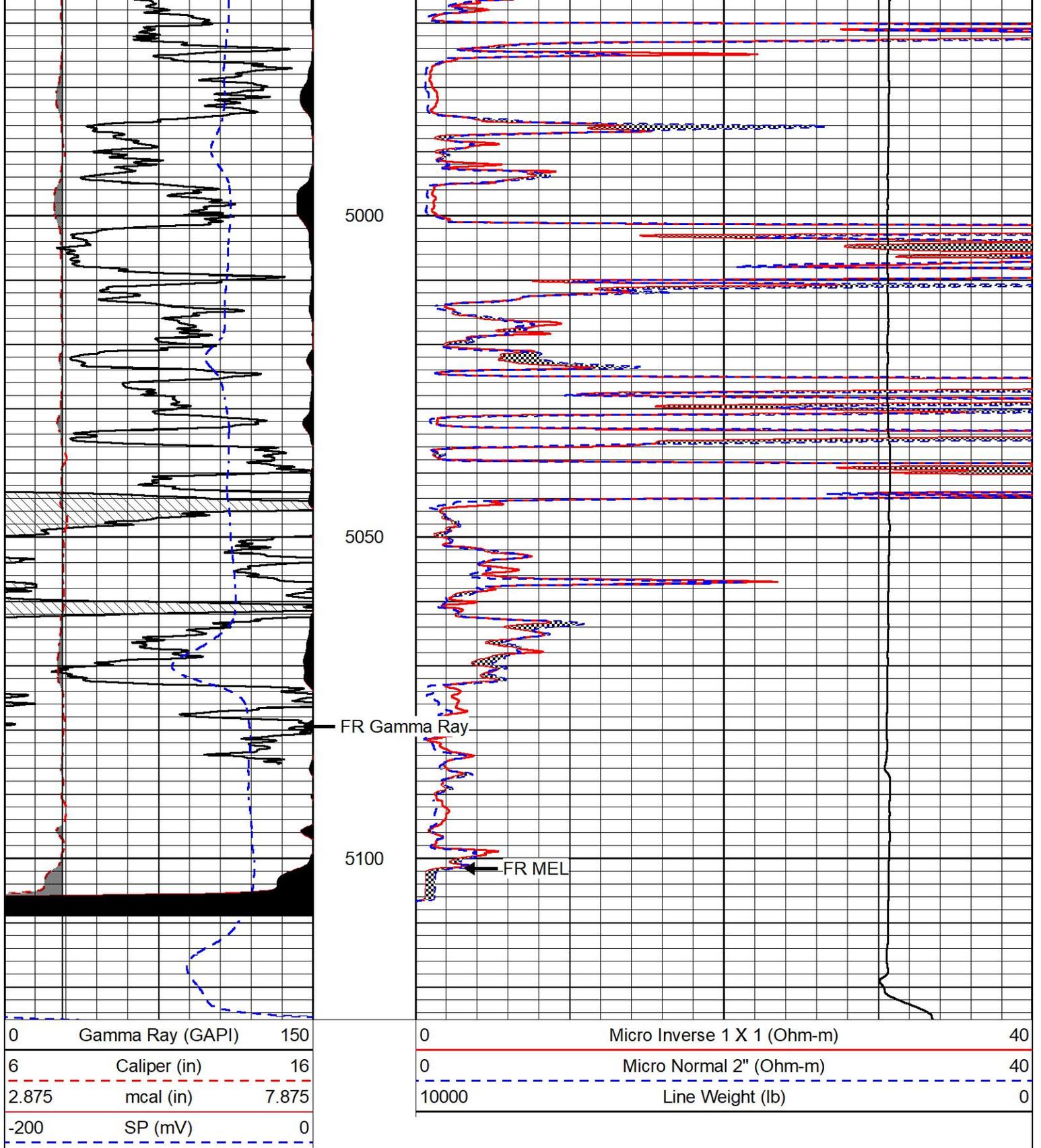
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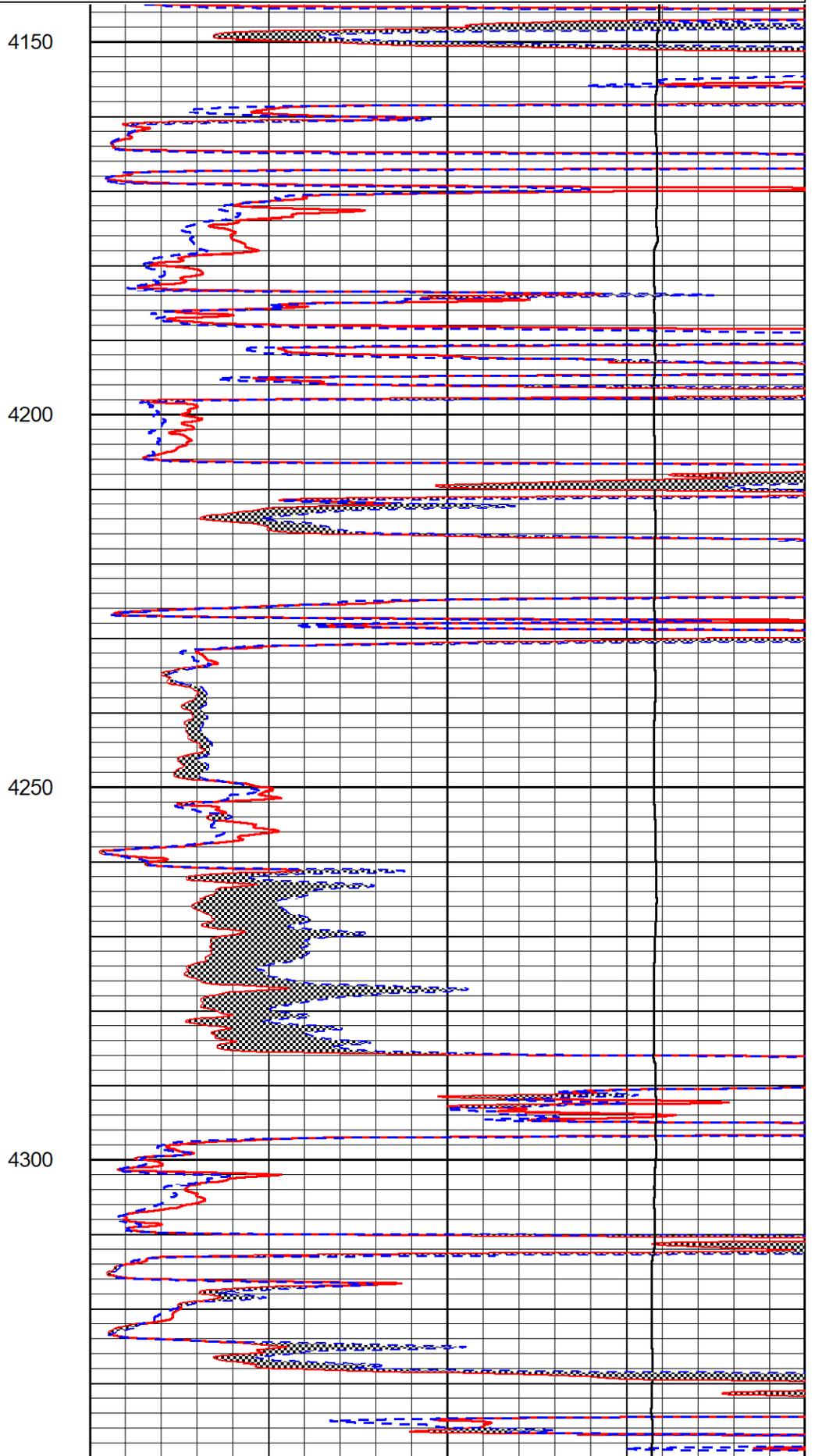
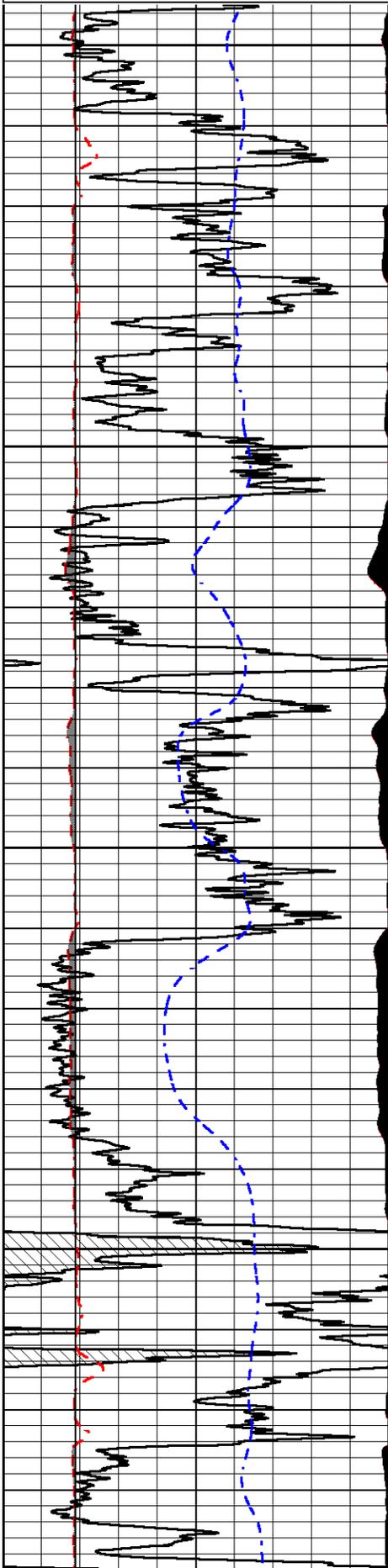
REPEAT SECTION

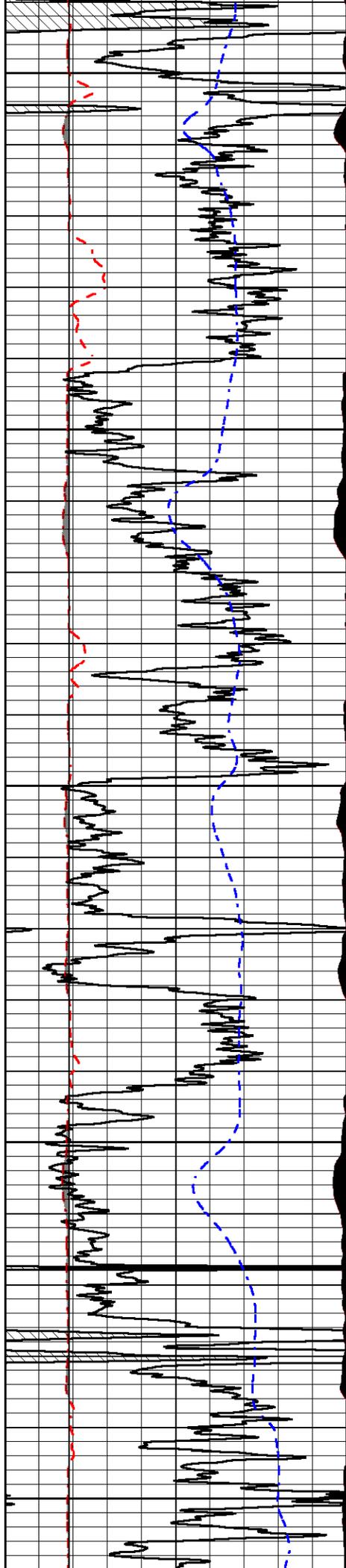
REPEAT PASS

Database File murfin_brubaker 1-12.db
 Dataset Pathname stkml/pass2.1
 Presentation Format _micro
 Dataset Creation Tue Jan 17 15:05:19 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





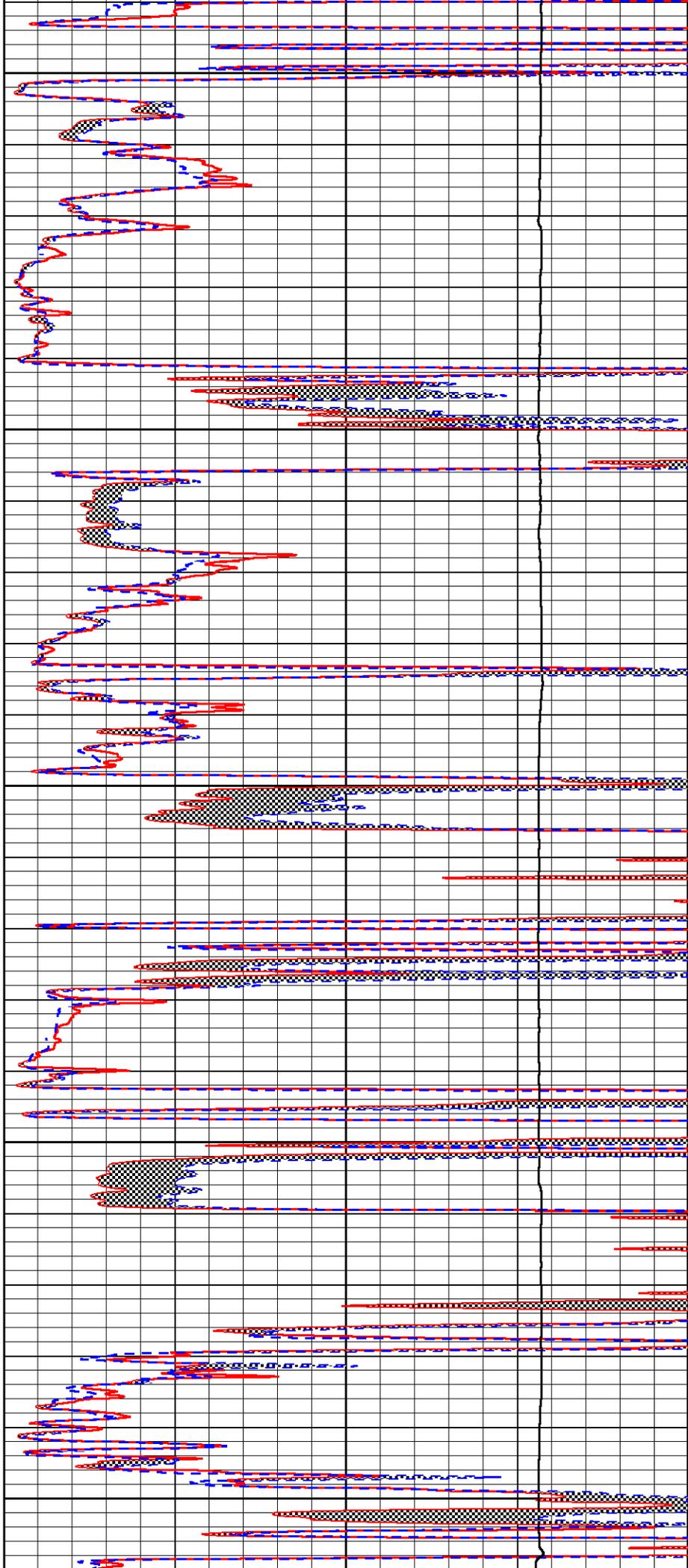
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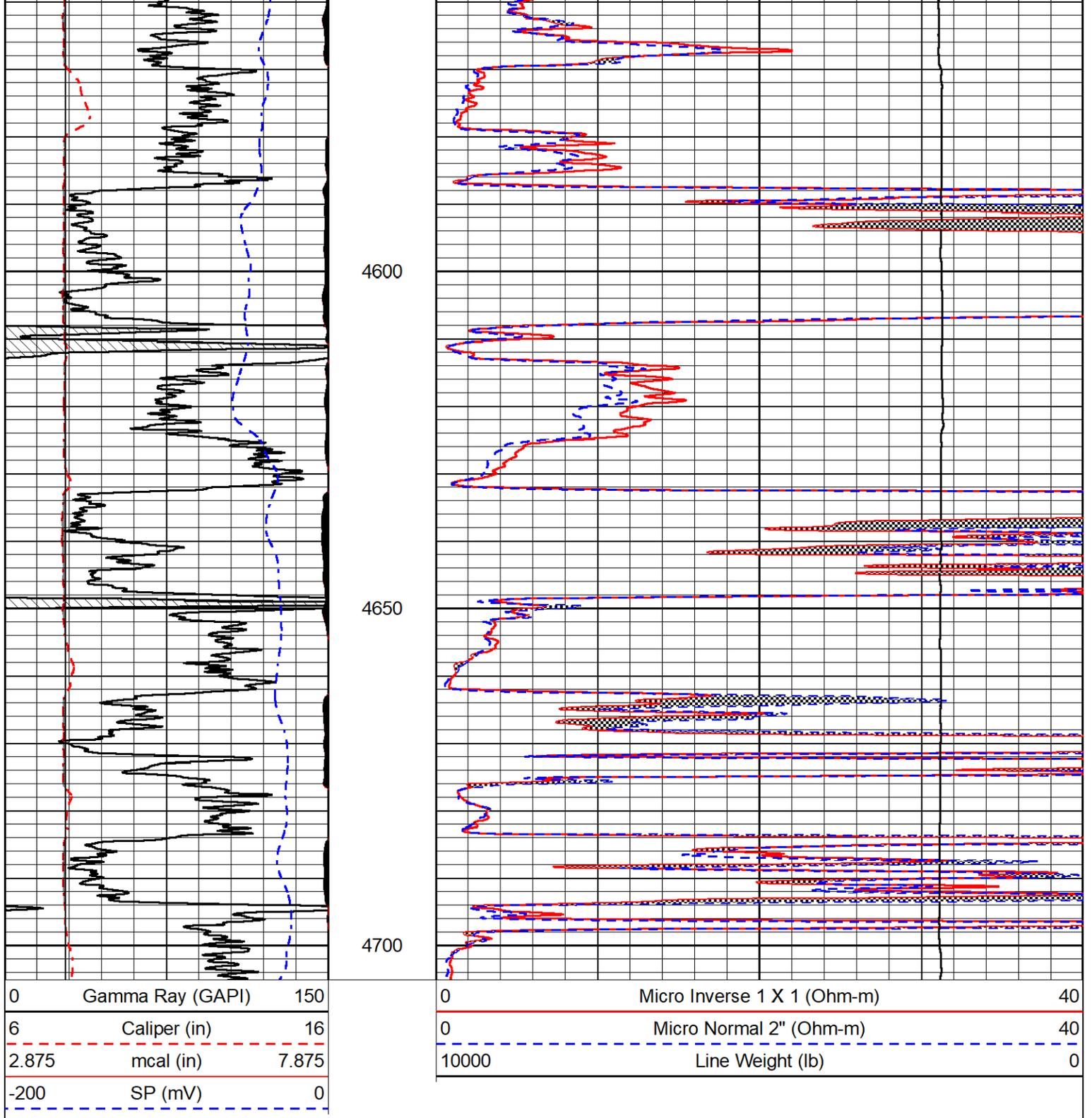
4400

4450

4500

4550





Calibration Report

Database File: murfin_brubaker 1-12.db
 Dataset Pathname: stkml/pass4.13
 Dataset Creation: Tue Jan 17 15:18:49 2023

Dual Induction Calibration Report

Serial-Model: 505 HT-M&W
 Surface Cal Performed: Mon Nov 14 06:05:40 2022

Readings		References		Results		
Loop:	Air	Loop	Air	Loop	m	b

Deep	167.000	835.000	0.000	255.800	mmho/m	0.480	-59.000
Medium	1348.000	1348.000	0.000	255.800	mmho/m	0.390	-56.000

Microlog Calibration Report

Serial-Model:	402-PSI STKBL ML
Performed:	Tue Jan 3 20:52:47 2023

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0037	0.0043	0.0000	10.0000	Ohm-m	18000.0000	-1.0000
Inverse	0.1208	0.0013	0.0000	10.0000	Ohm-m	19000.0000	-0.5000
Caliper	1.0046	1.1419	5.5000	20.0000	in	50.0000	-44.5200

Compensated Density Calibration Report

Serial-Model:	303-03-M&W
Source #:	21170B
Master Calibration Performed:	Mon Jan 2 03:21:14 2023

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	3841.78	5151.73	cps
Aluminum	2.640	g/cc	700.98	3068.49	cps
Spine Angle = 73.06		Density/Spine Ratio = 0.498			
	Size		Reading		
Small Ring	4.00	in	1.17		
Large Ring	14.00	in	1.04		

Compensated Neutron Calibration Report

Serial-Model:	210-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:	103
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	Murfin Drilling Company, Inc.
Well	Brubaker #1-12
Field	
County	Cheyenne
State	Kansas