



MIDWEST WIRELINE

**DUAL COMPENSATED
POROSITY /
MICRO LOG**

Company Murfin Drilling Company, Inc.
Well Brubaker #1-12
Field
County Cheyenne
State Kansas

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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 Elevation 3524
Log Measured From Kelly Bushing
Drilling Measured From Kelly Bushing
Other Services
DIL/BHCS
K.B. 3529
D.F.
G.L. 3524

Date	1/17/2023						
Run Number	One						
Type Log	CNL / CDL / ML						
Depth Driller	5150						
Depth Logger	5121						
Bottom Logged Interval	5092						
Top Logged Interval	3850						
Type Fluid In Hole	Chemical						
Salinity, PPM CL	800						
Density	9.3						
Level	Full						
Max. Rec. Temp. F	128						
Operating Rig Time	5 Hours						
Equipment -- Location	P-108 HAYS						
Recorded By	D. Schmidt						
Witnessed By	Rod Andersen						
Borehole Record							
Run No.	Bit	From	To	Size	Wgt.	From	To
One	12.25	0	385	8.625	23	0	385
Two	7.875	385	TD				
Casing Record							

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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.

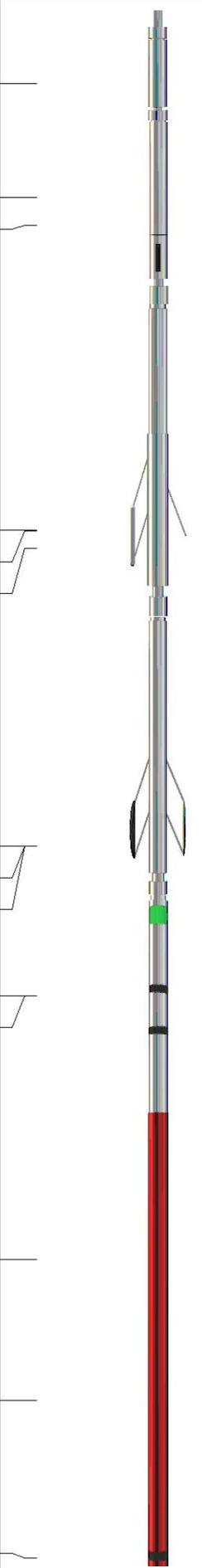
Wheeler,
Hwy 27 & Hwy 36, 4 East to Rd 23, 2 1/2 South,
West into

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	Operator:	Primary Witness: Rod Andersen	Secondary Witness:
Operator:	Operator:	Secondary Witness:	Secondary Witness:
Operator:		Secondary Witness:	

Operator	Offset (ft)	Schematic	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
ML-PSI STKBL ML (402)			7.58	4.00	65.00	
MCAL MI MN	19.58 19.58 19.58					
RLL3F RLL3	15.50 15.50					
DIL-M&W (505 HT)			18.25	3.50	220.00	
CILD	8.33					
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



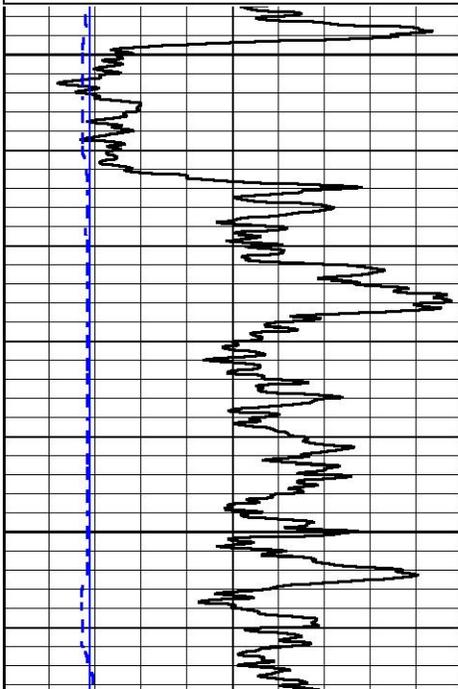
5" SCALE BULK DENSITY

MAIN PASS

Database File murfin_brubaker 1-12.db
 Dataset Pathname stkml/pass4.2
 Presentation Format _cdl
 Dataset Creation Tue Jan 17 15:32:23 2023
 Charted by Depth in Feet scaled 1:240

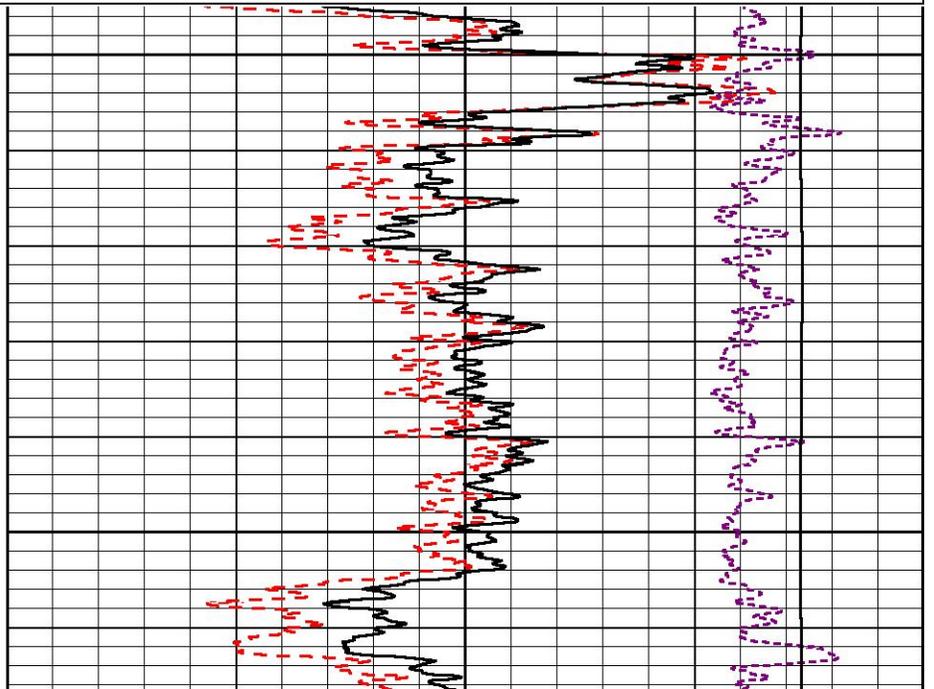
0	Gamma Ray (GAPI)	150
6	Caliper (in)	16

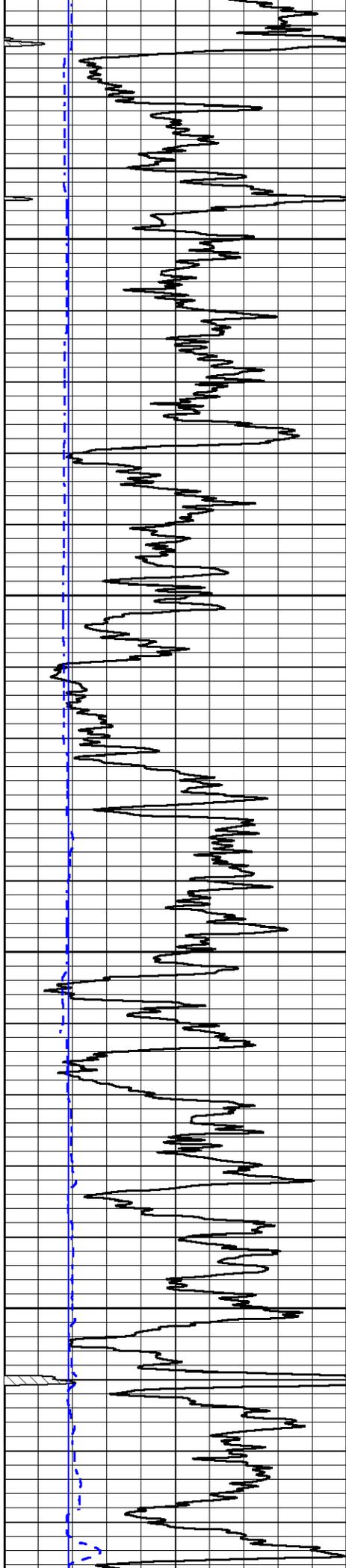
30	Compensated Density (pu)	-10
2	Bulk Density (g/cc)	3
15000	Line Tension (lb)	0
-0.25	Correction (g/cc)	0.25



3800

3850



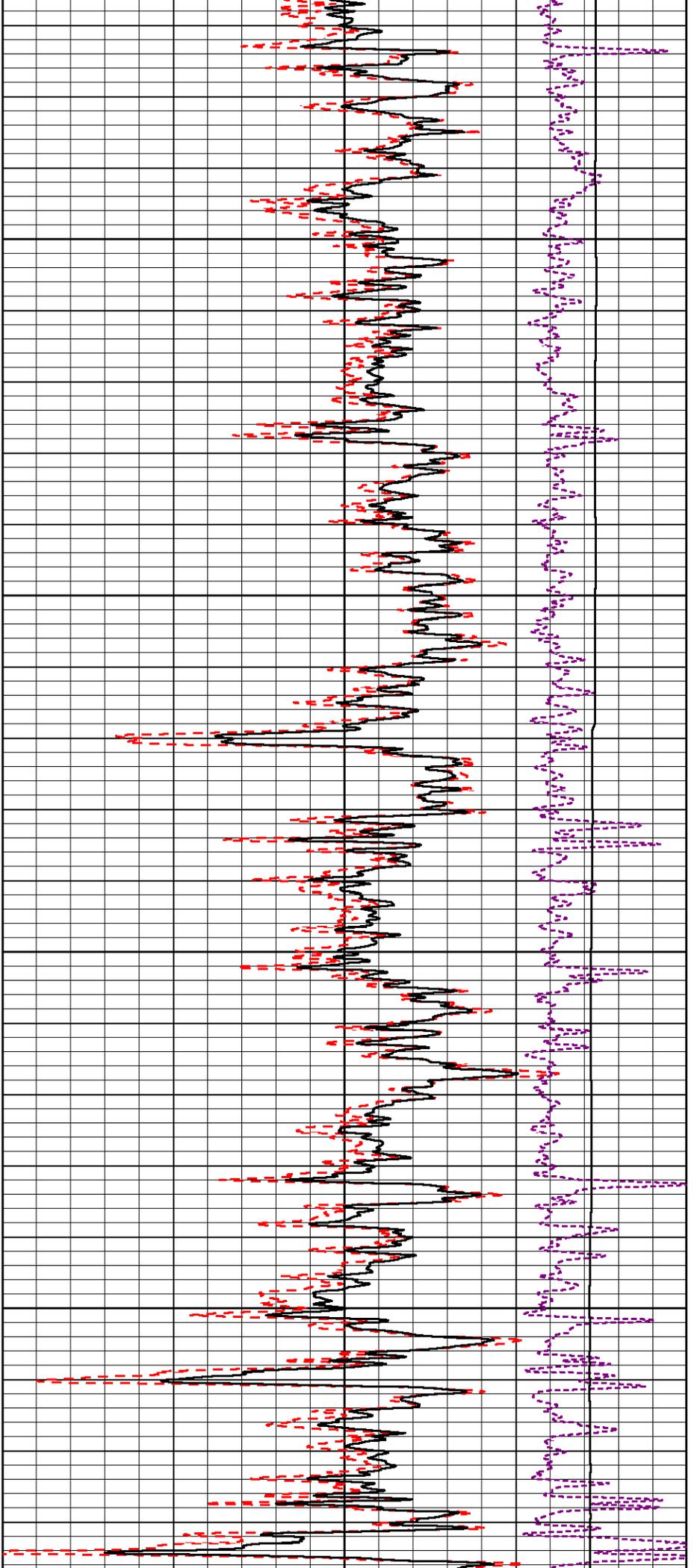


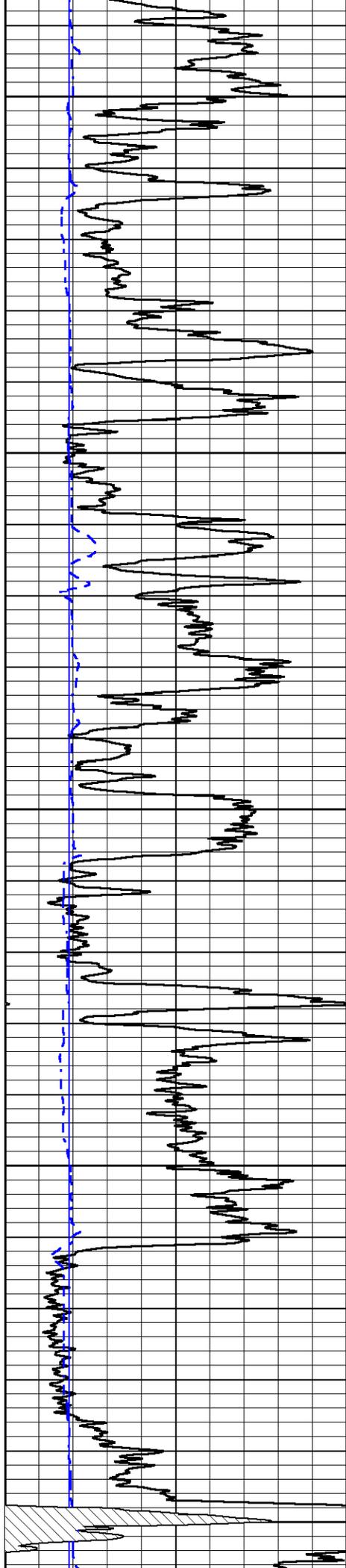
3900

3950

4000

4050





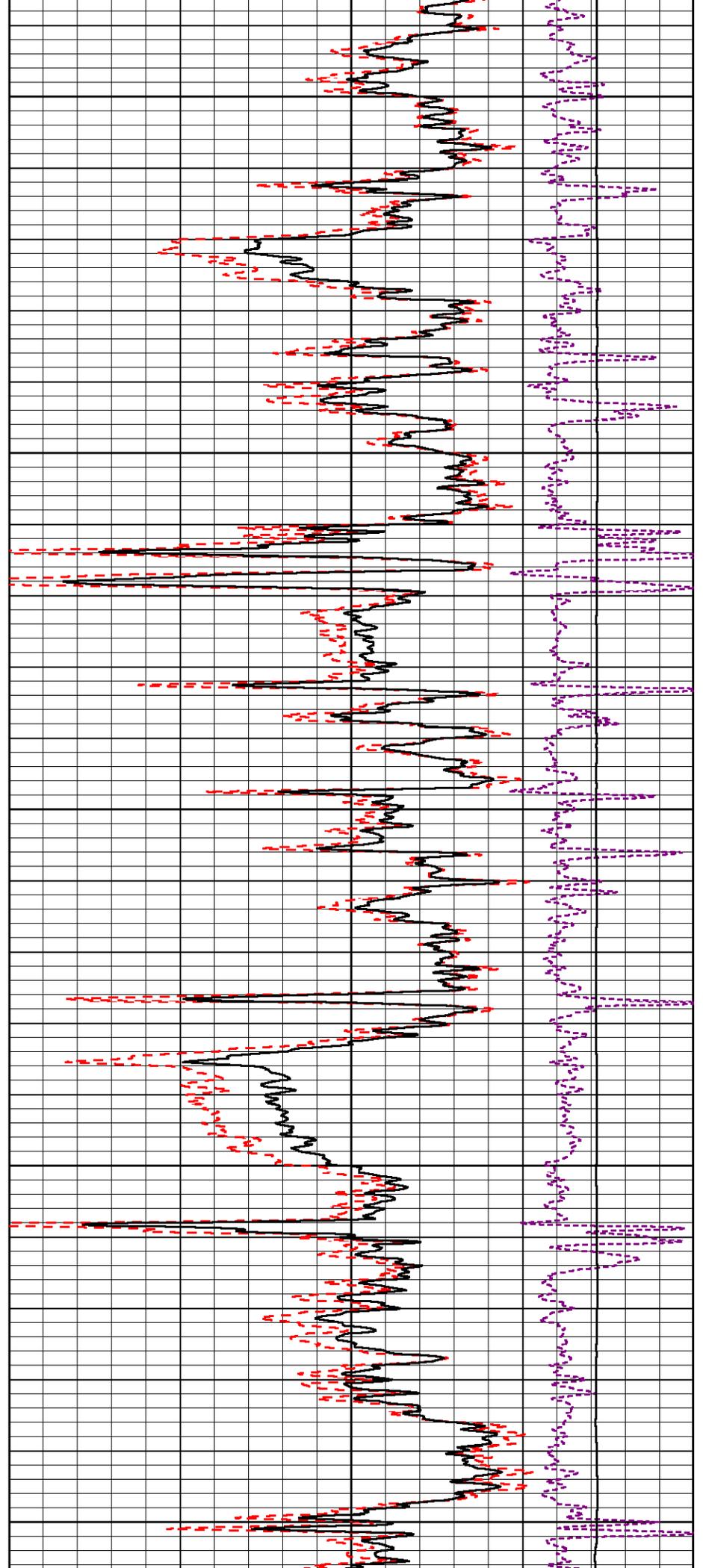
4100

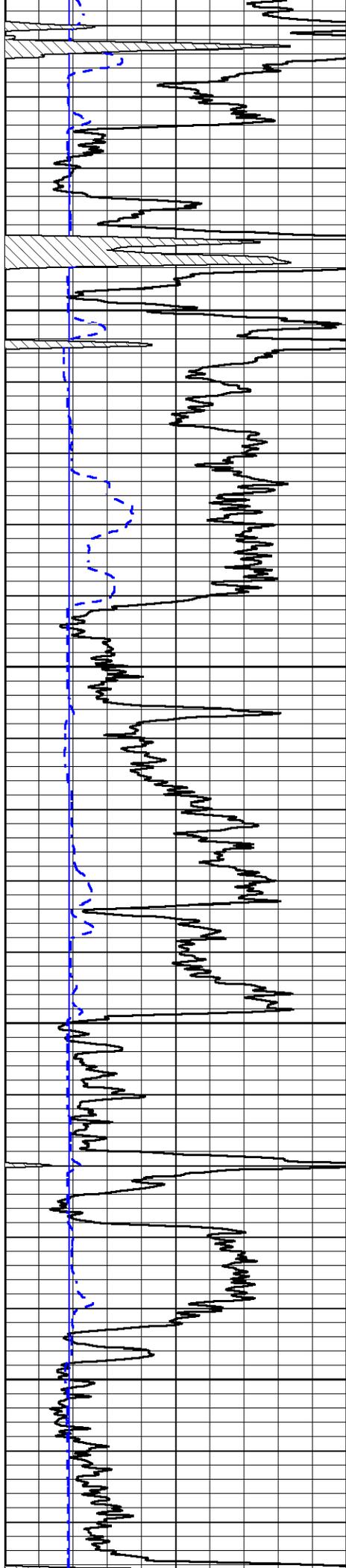
4150

4200

4250

4300



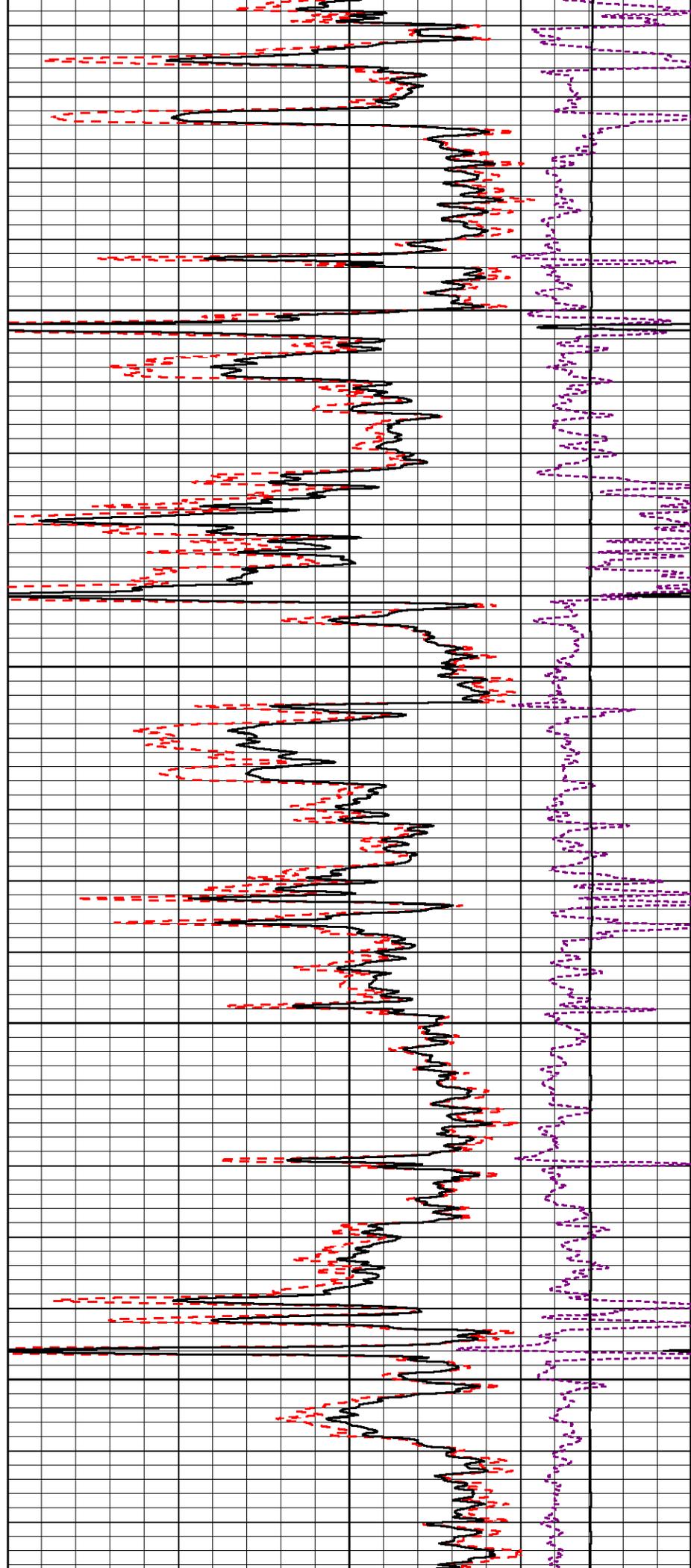


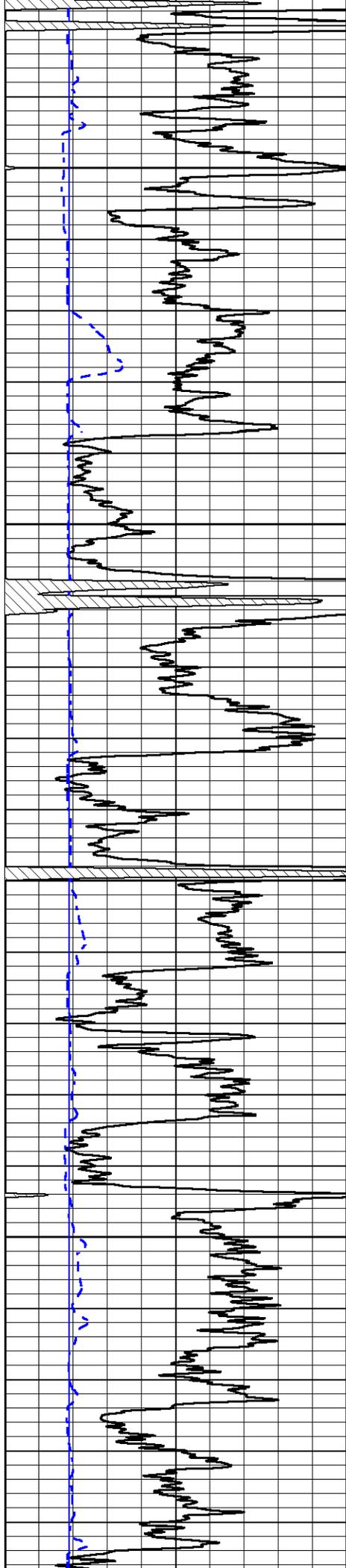
4350

4400

4450

4500



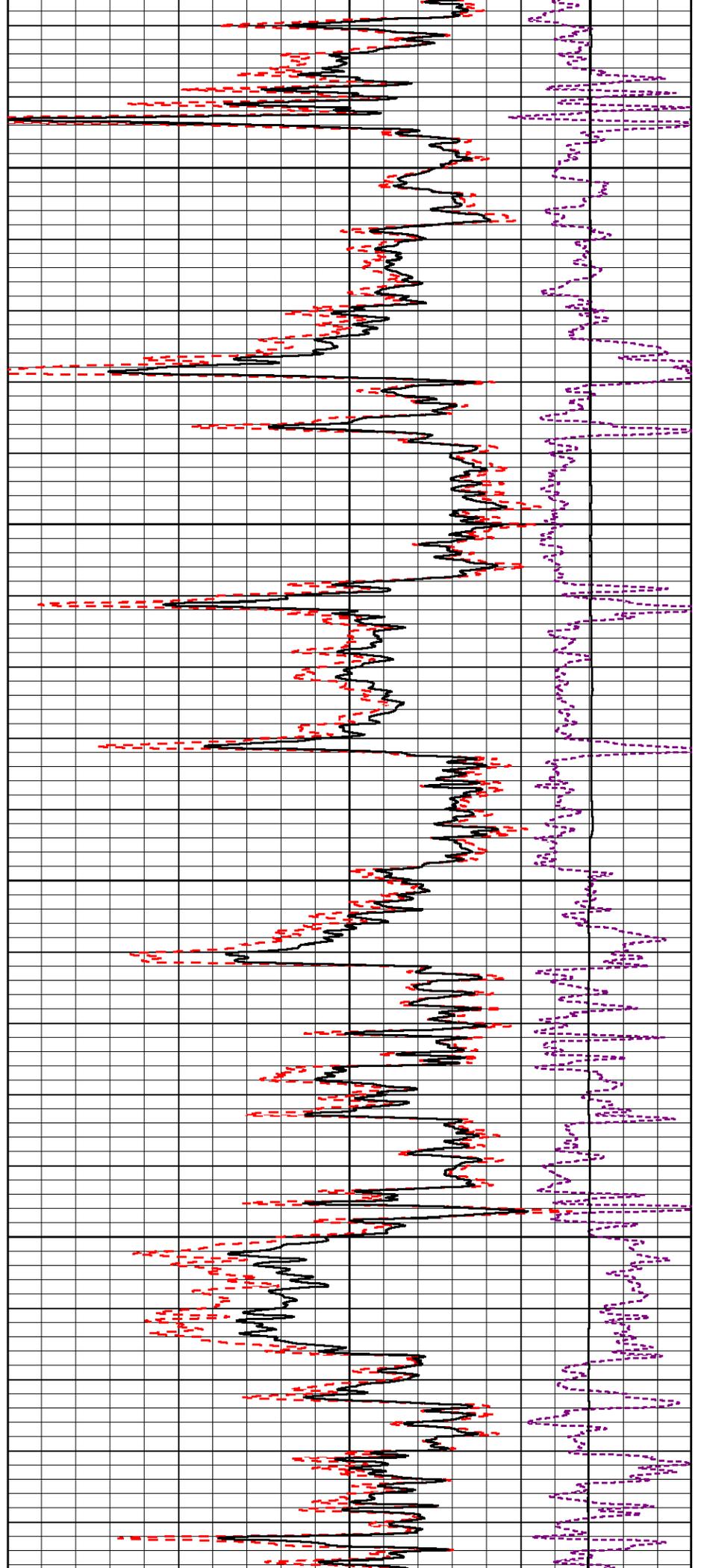


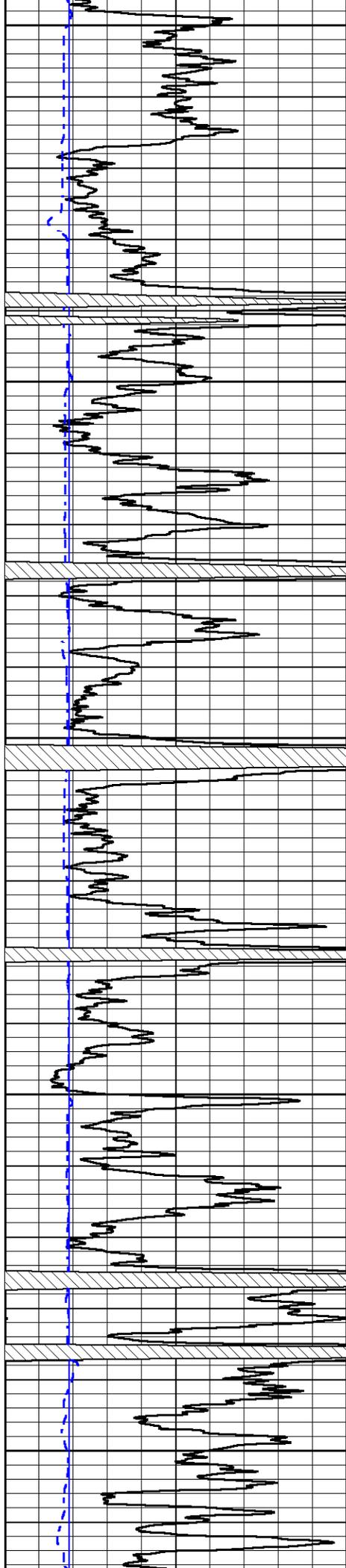
4550

4600

4650

4700





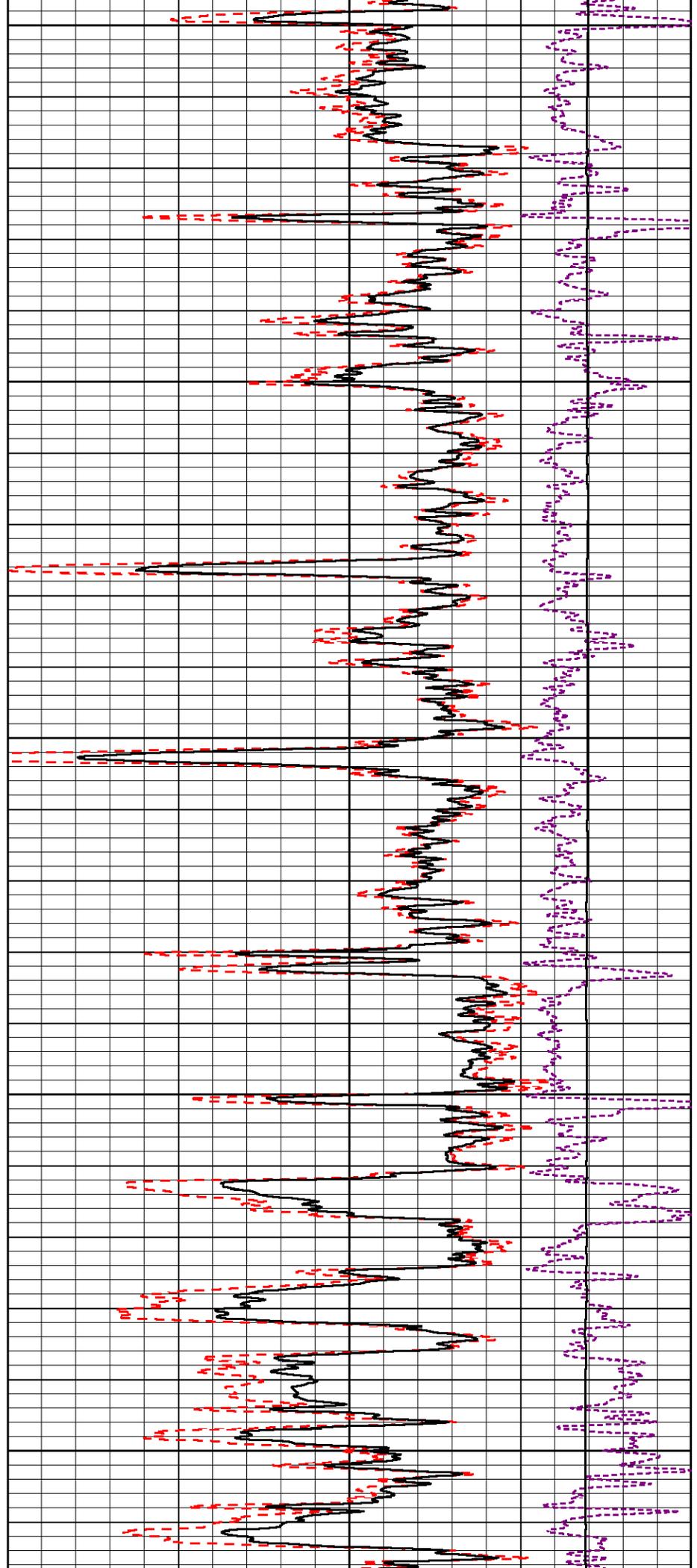
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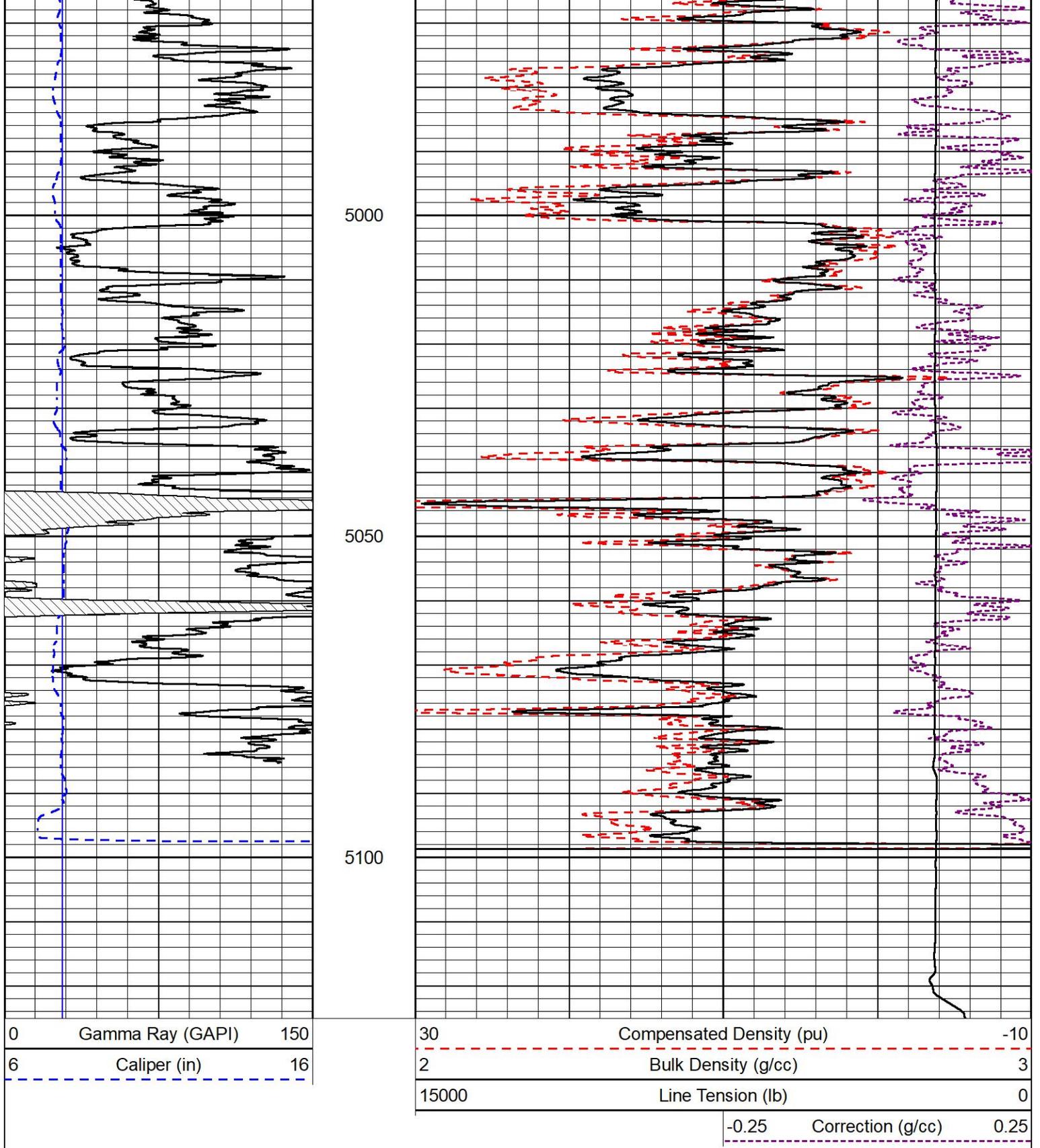
4800

4850

4900

4950





DETAIL SECTION

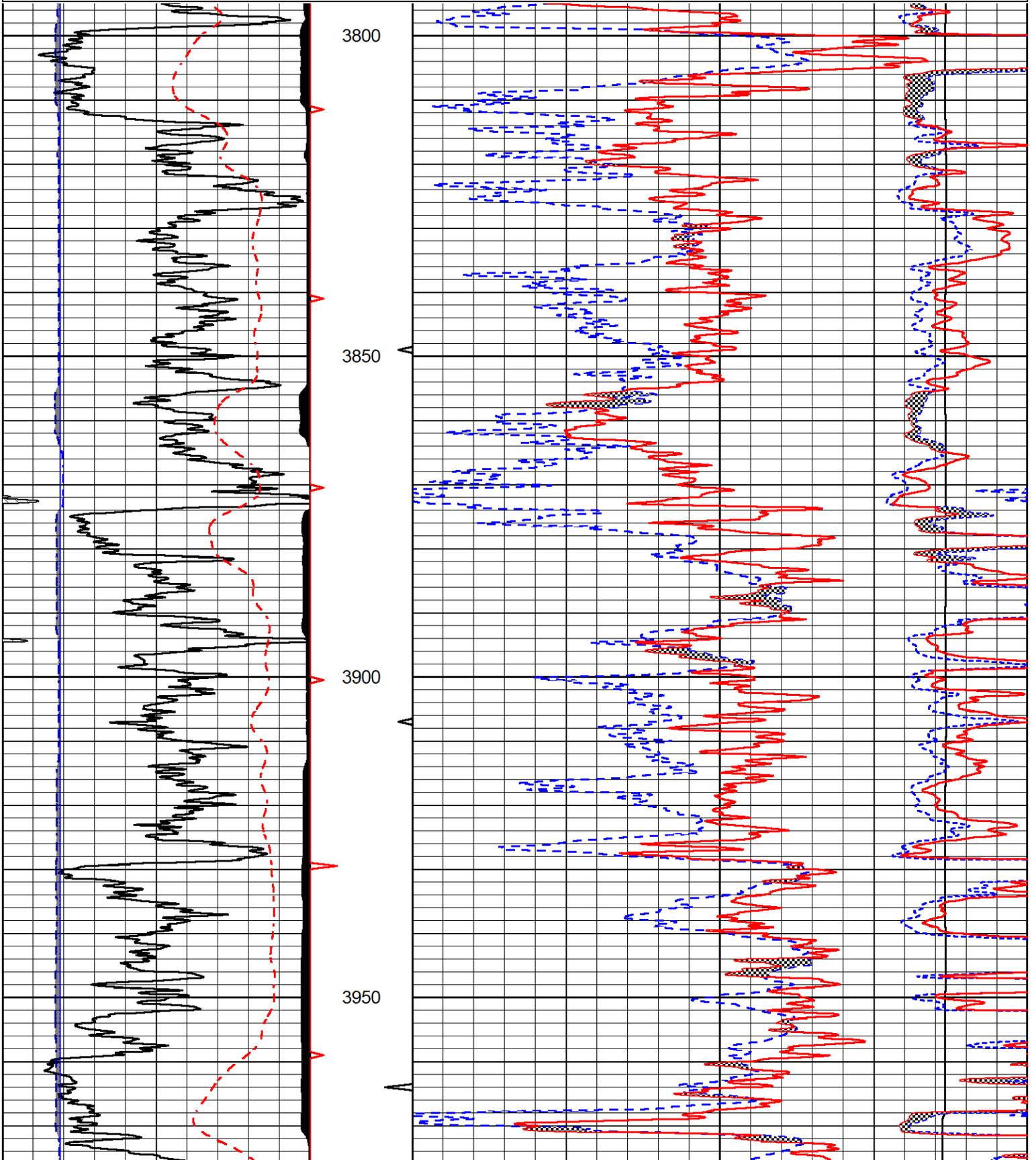
MAIN PASS

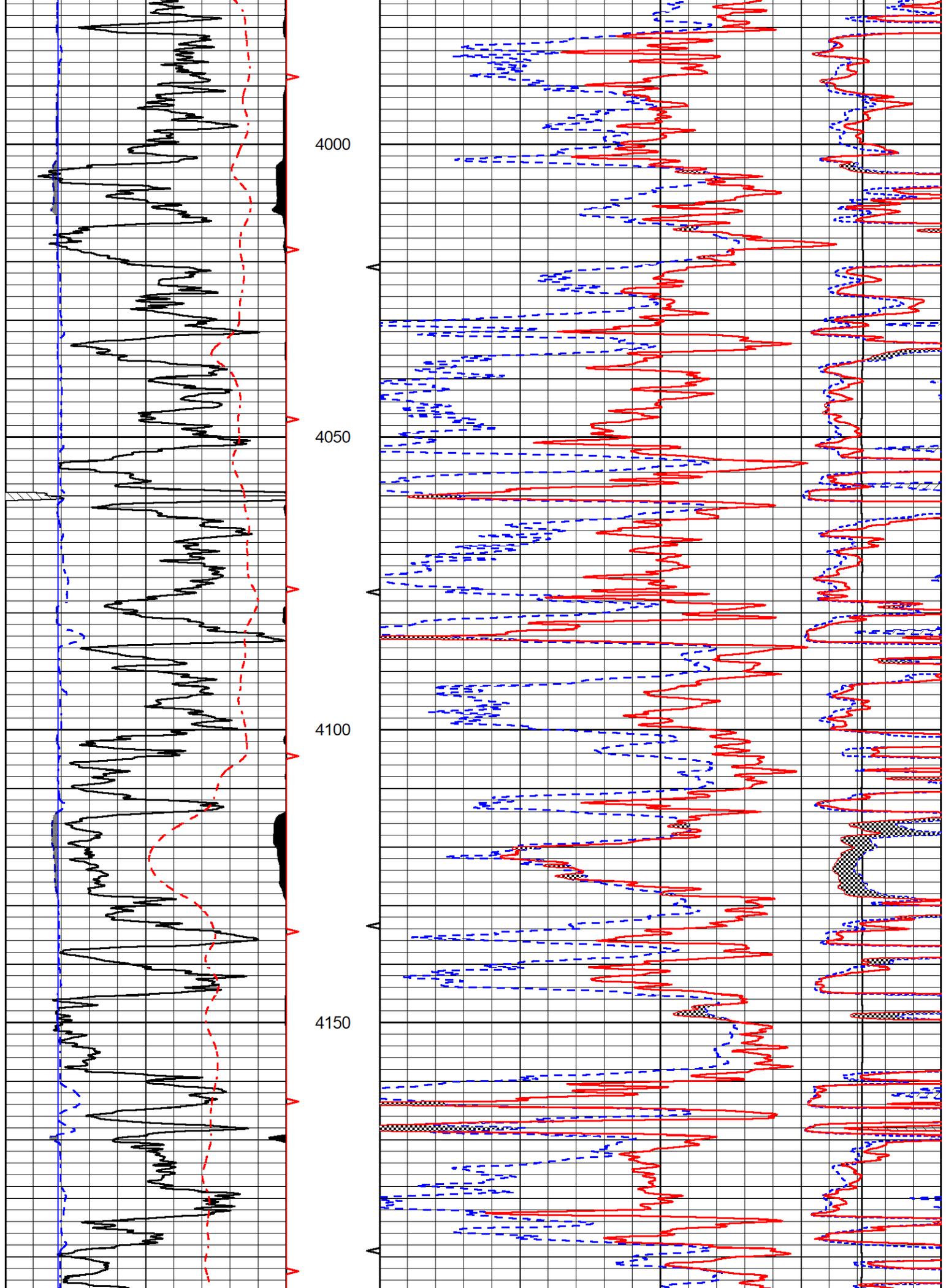
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 Presentation Format _CNDLS~2
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 Charted by Depth in Feet scaled 1:240

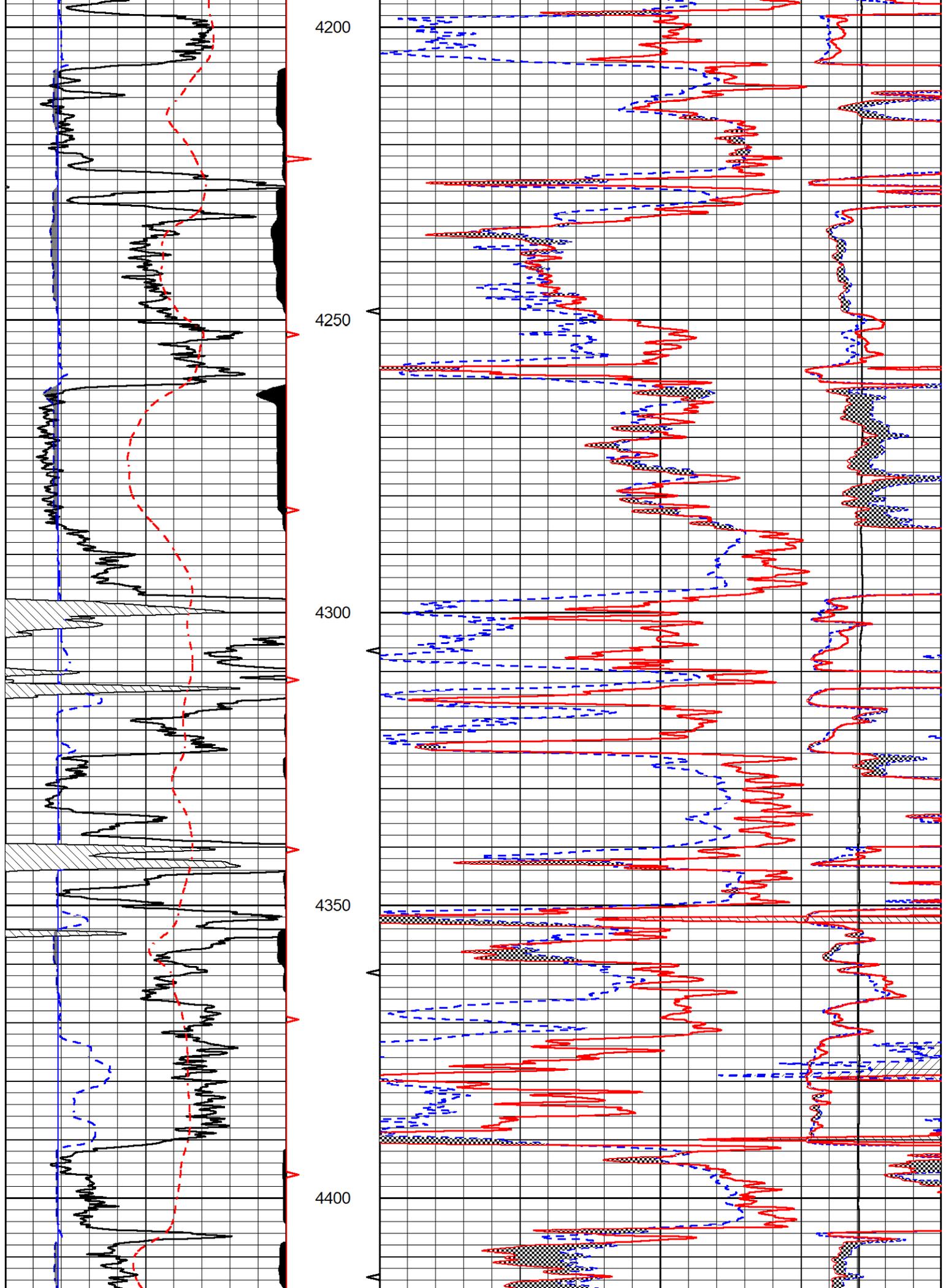
0	Gamma Ray (GAPI)	150
6	Caliper (in)	16
-200	SP (mV)	0

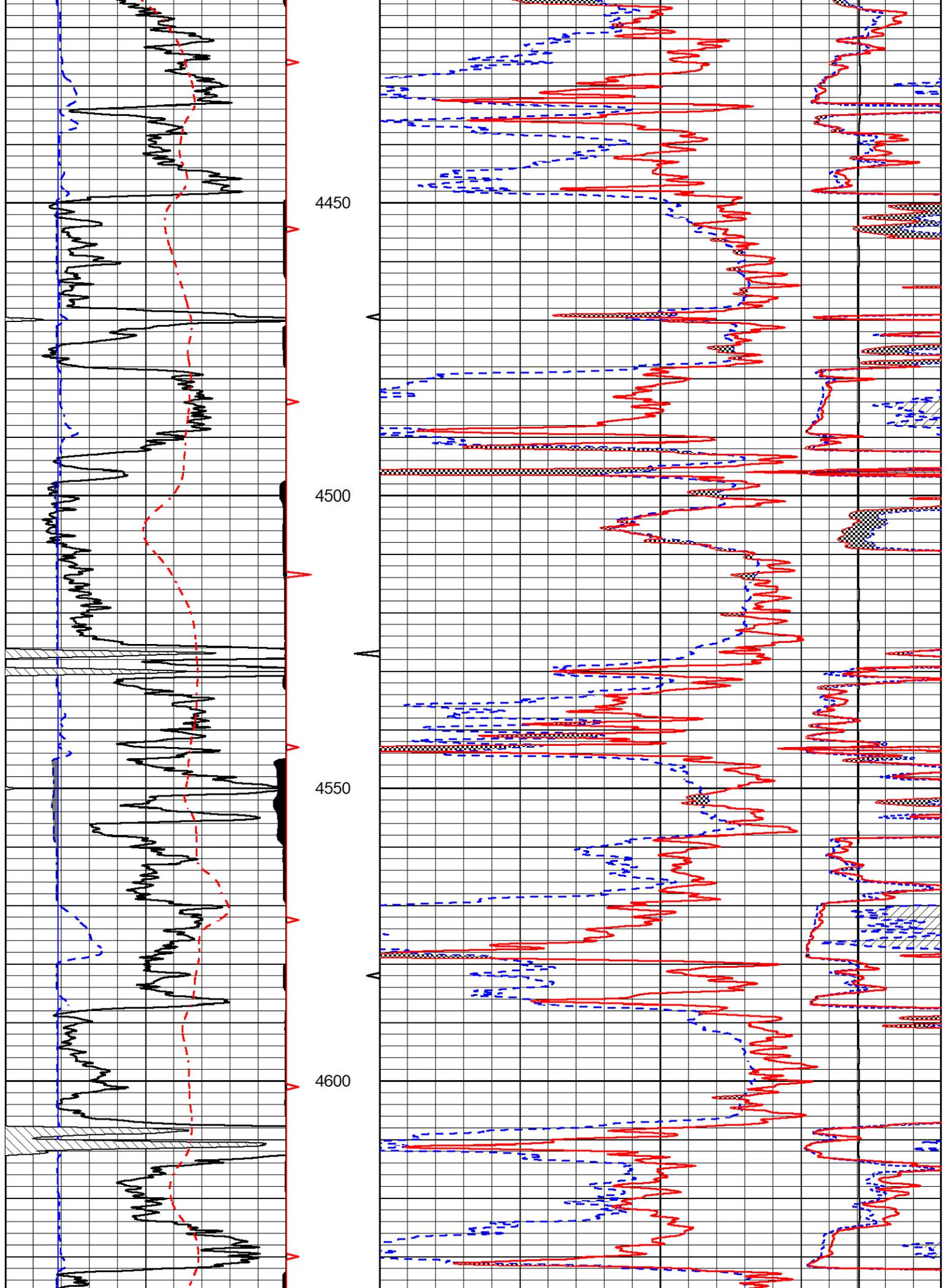
30	Compensated Neutron (pu)	-10
30	Compensated Density (pu)	-10
15000	Line Tension (lb)	0

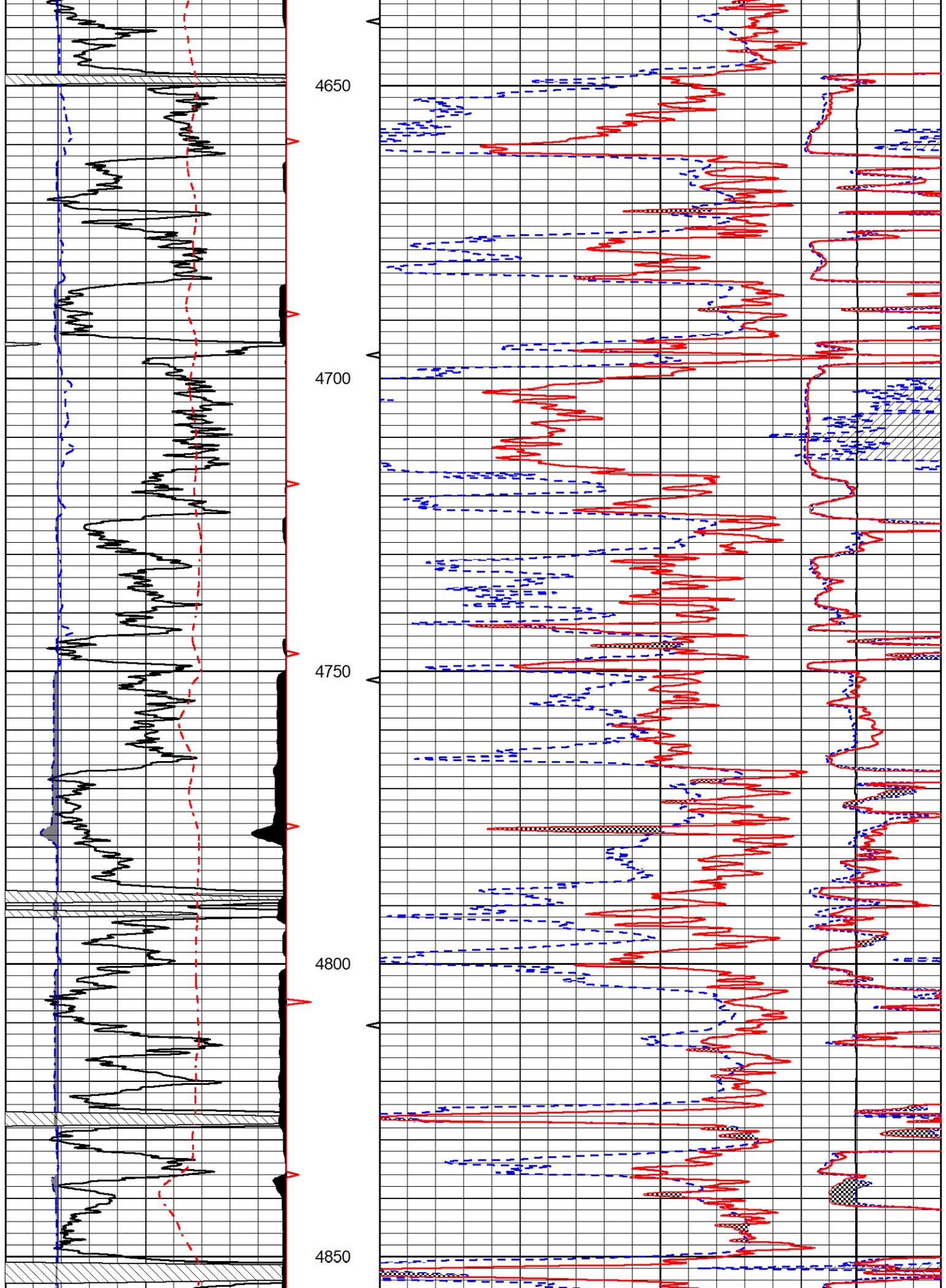
	Micro Normal	
0	(Ohm-m)	20
	Micro Inverse	
0	(Ohm-m)	20

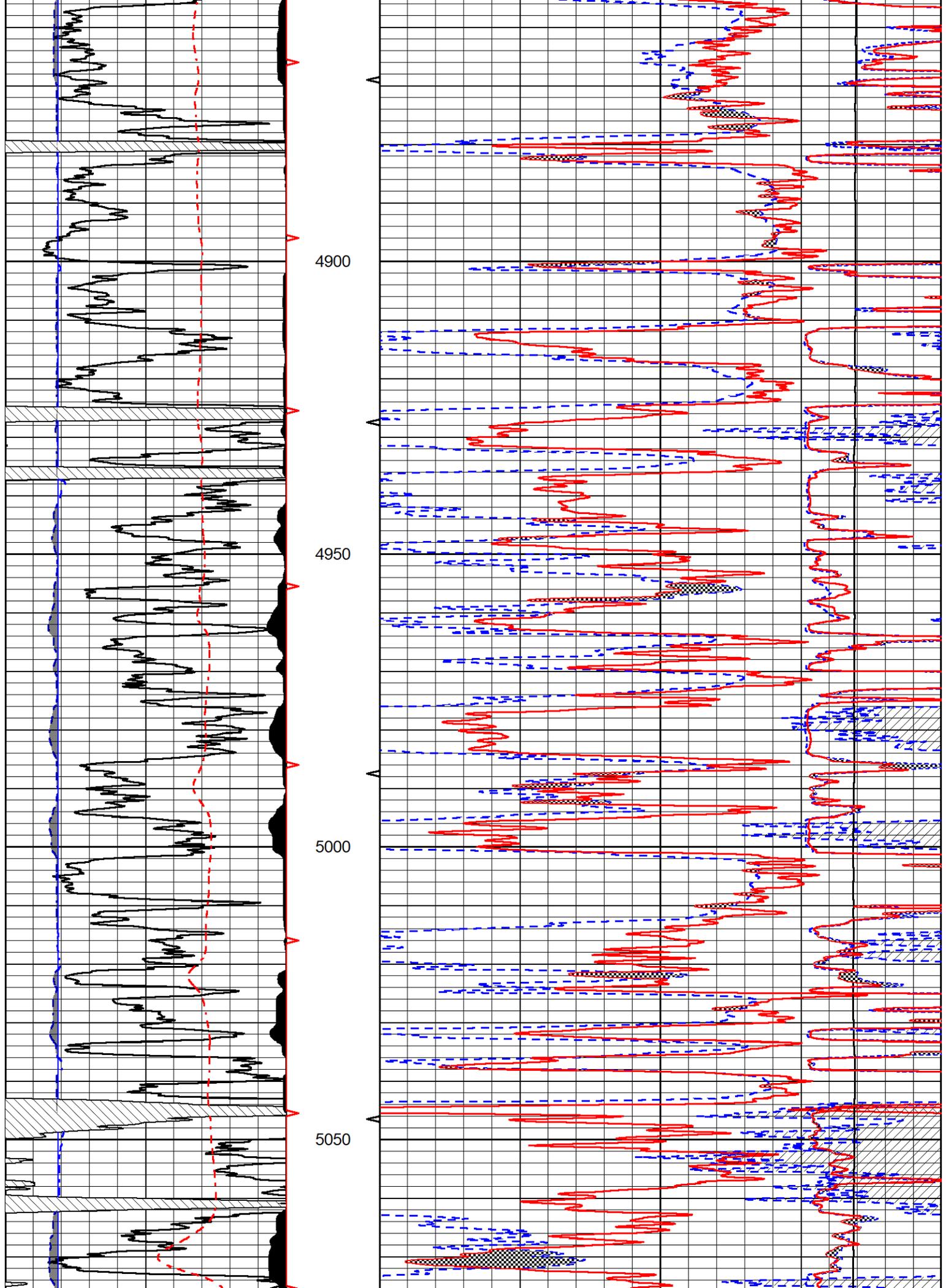


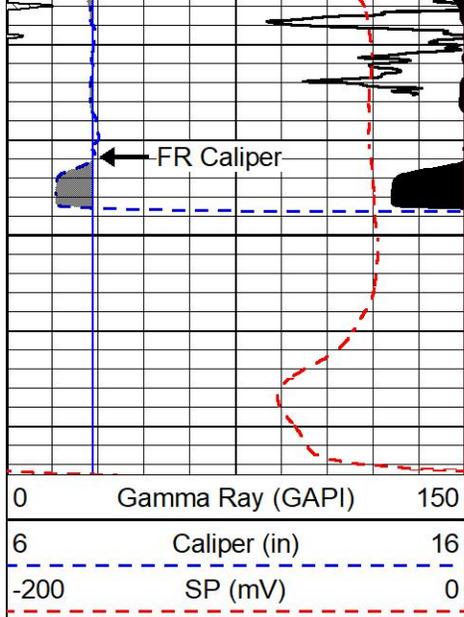






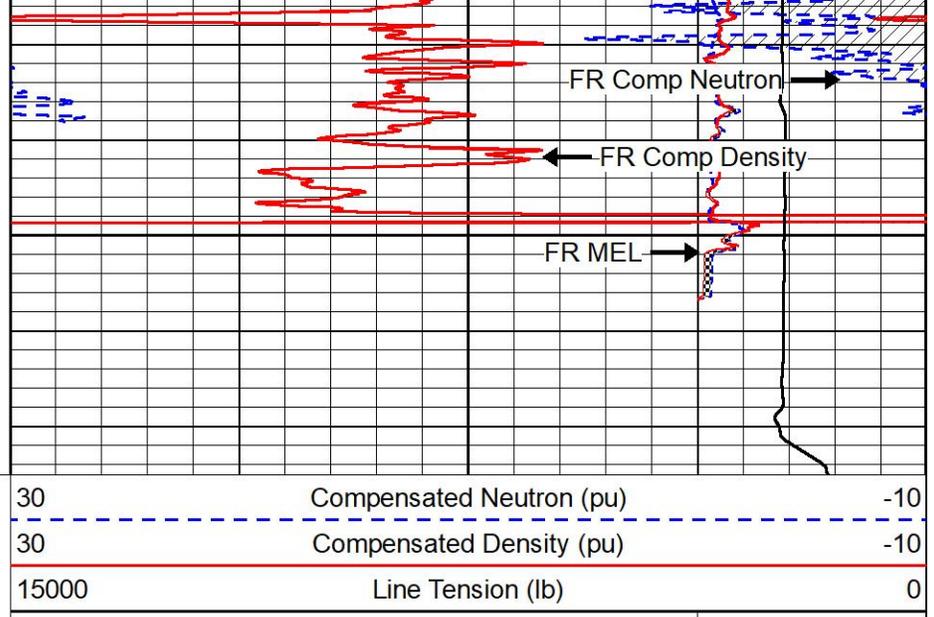






5100

0	Gamma Ray (GAPI)	150
6	Caliper (in)	16
-200	SP (mV)	0



30	Compensated Neutron (pu)	-10
30	Compensated Density (pu)	-10
15000	Line Tension (lb)	0

Micro Normal	
0 (Ohm-m)	20
Micro Inverse	
0 (Ohm-m)	20



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REPEAT SECTION

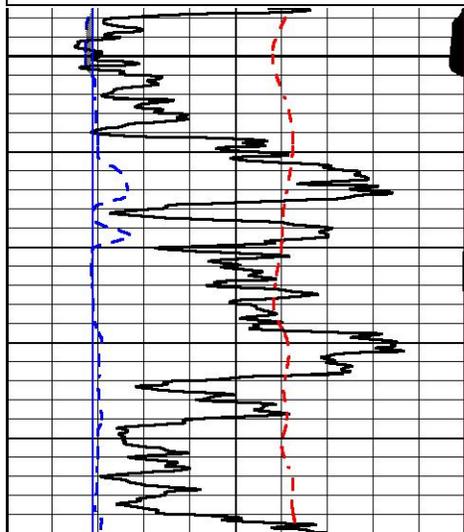
REPEAT PASS

Database File murfin_brubaker 1-12.db
 Dataset Pathname stkml/pass2.1
 Presentation Format _CNDLS~2
 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
-200	SP (mV)	0

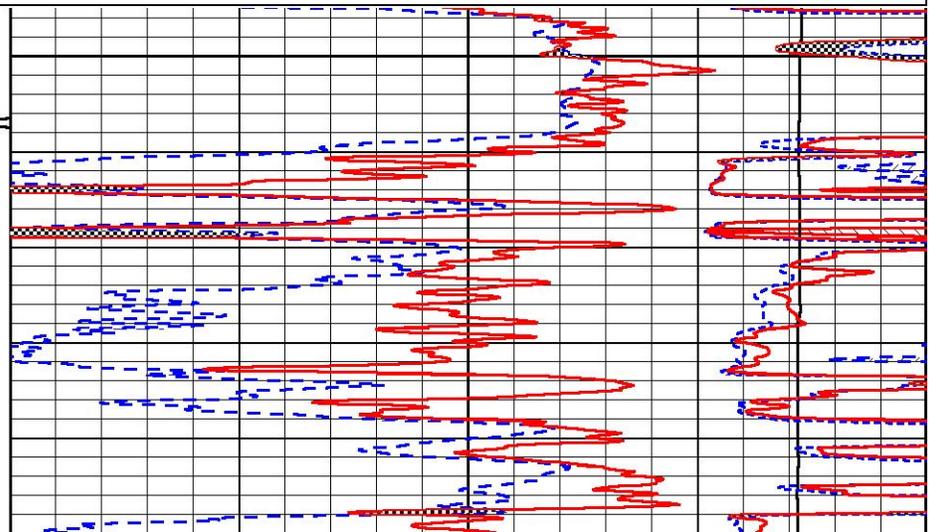
30	Compensated Neutron (pu)	-10
30	Compensated Density (pu)	-10
15000	Line Tension (lb)	0

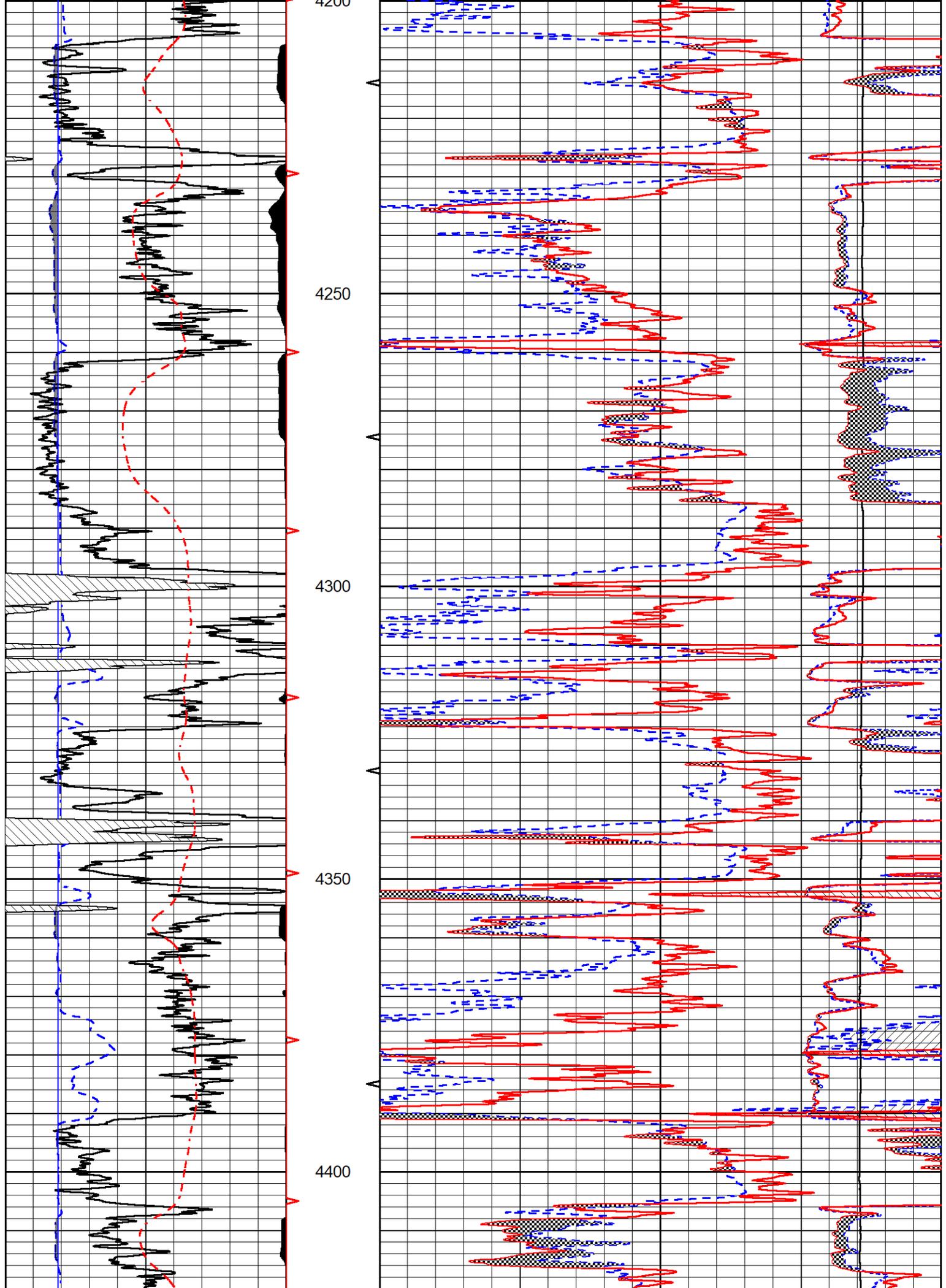
Micro Normal	
0 (Ohm-m)	20
Micro Inverse	
0 (Ohm-m)	20

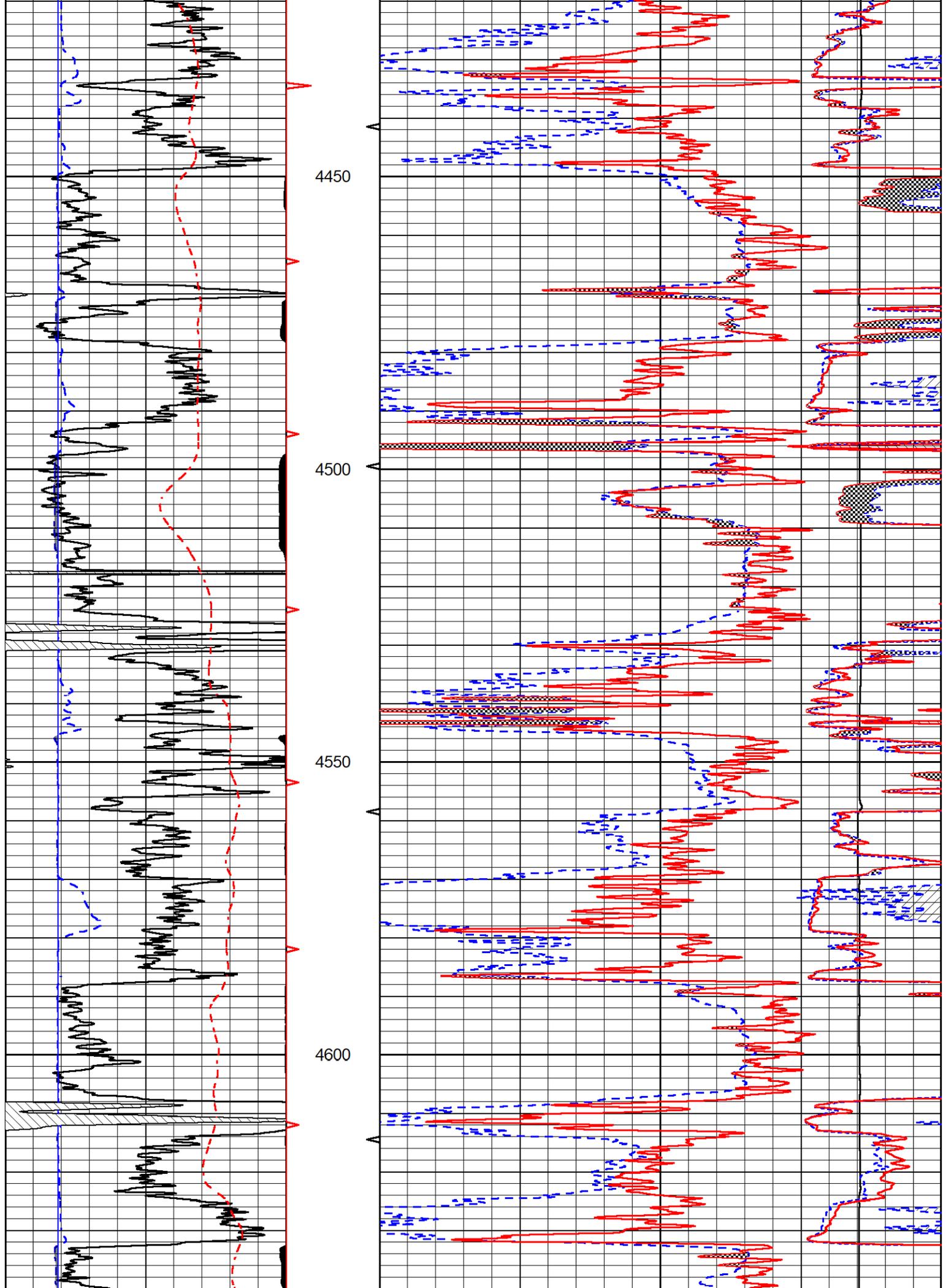


4150

4200







Source #:
Master Calibration Performed:

21170B
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



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