



MIDWEST WIRELINE

**DUAL COMPENSATED
POROSITY /
MICRO LOG**

Company Murfin Drilling Company, Inc.
Well C-W Unit #1-14
Field
County Cheyenne
State Kansas

Company Murfin Drilling Company, Inc.
Well C-W Unit #1-14
Field
County Cheyenne State Kansas
Location: API #: 15-023-21601-00-00
1200 FSL & 1320 FEL
SEC 14 TWP 1S RGE 40W
Permanent Datum Ground Level Elevation 3367
Log Measured From Kelly Bushing
Drilling Measured From Kelly Bushing

Other Services
DIL/BHCS
Elevation
K.B. 3372
D.F.
G.L. 3367

Date	2/21/2023						
Run Number	One						
Type Log	CNL / CDL / ML						
Depth Driller	5160						
Depth Logger	5162						
Bottom Logged Interval	5133						
Top Logged Interval	3550						
Type Fluid In Hole	Chemical						
Salinity, PPM CL	1500						
Density	9.3						
Level	Full						
Max. Rec. Temp. F	128						
Operating Rig Time	6 Hours						
Equipment -- Location	P-108 HAYS						
Recorded By	D. Schmidt						
Witnessed By	Saman Sharifaie						
Borehole Record							
Run No.	Bit	From	To	Size	Wgt.	From	To
One	12.25	0	217	8.625	23	0	217
Two	7.875	217	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.

St Francis,
North on Rd 14, turns into Rd 15,
North to BB Rd, 3/4 East,
North and 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

Engineer: D. Schmidt
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: Saman Sharifaie
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 (210)	5.00	3.50	100.00
LSD DCAL SSD	28.18 28.17 27.68		CDL-M&W (306-06)	8.50	4.00	250.00
ML-PSI STKBL ML (402)			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 (504 HT)			DIL-M&W (504 HT)	18.25	3.50	220.00
CILD	8.33					
CILM	4.50					
SP	0.20					

Dataset: murfin_cw unit 1-14.db: field/well/stkml/pass3.15
 Total length: 42.33 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in

Log Variables

DatabaseC:\ProgramData\Warrior\Data\murfin_cw unit 1-14.db
 Dataset field/well/stkml/pass3.15/_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	600	50	Off	5162

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



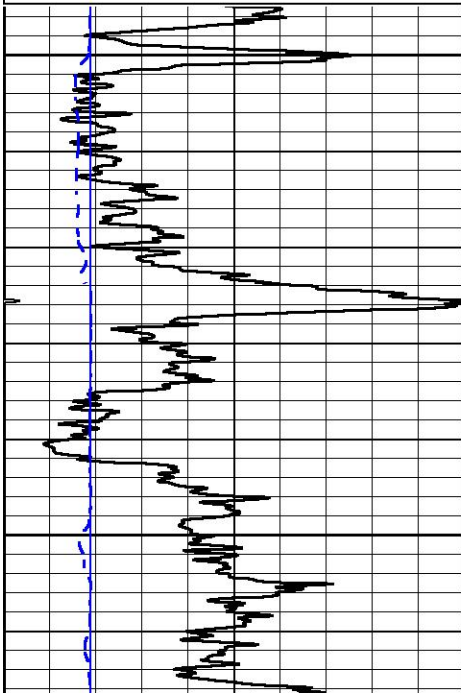
2" SCALE BULK DENSITY

MAIN PASS

Database File murfin_cw unit 1-14.db
 Dataset Pathname stkml/pass3.2
 Presentation Format _cdl
 Dataset Creation Tue Feb 21 16:27:31 2023
 Charted by Depth in Feet scaled 1:240

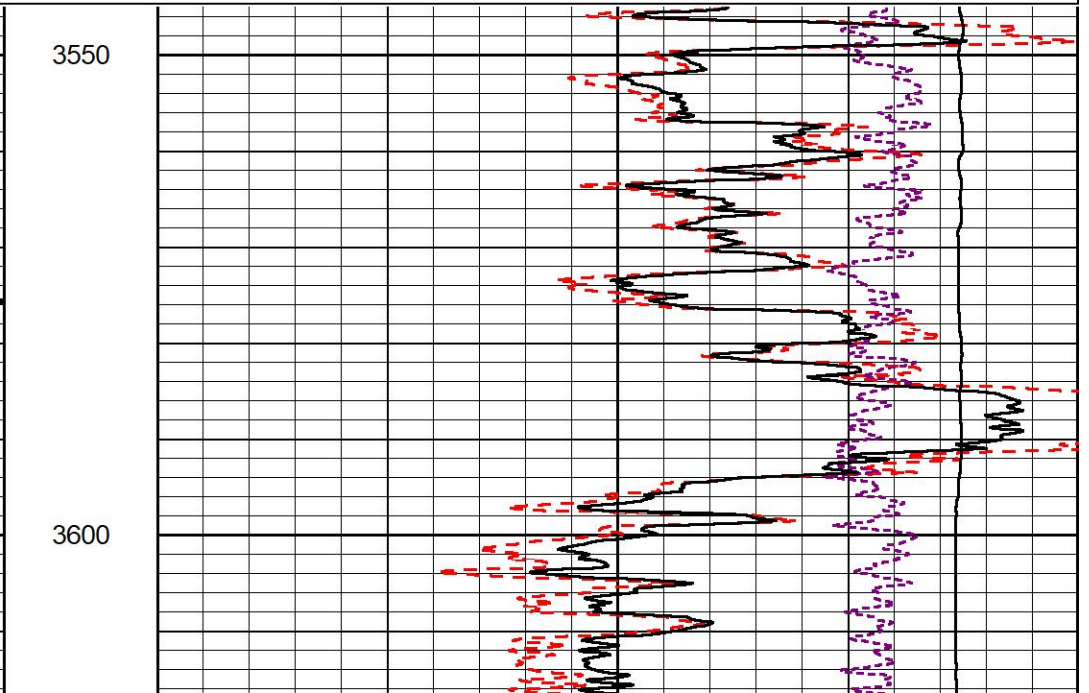
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6	Caliper (in)	16

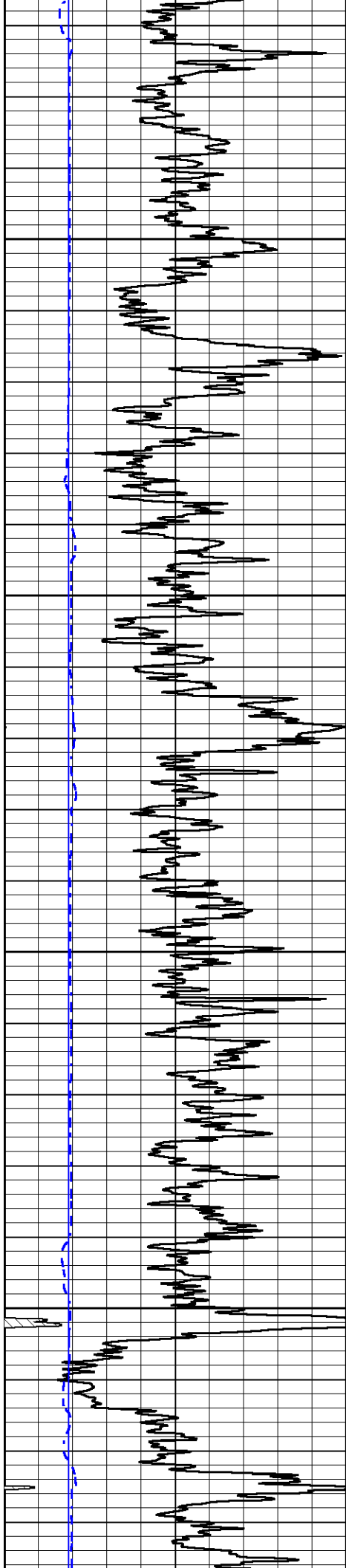
30	Compensated Density (pu)	-10
2	Bulk Density (g/cc)	3
15000	Line Tension (lb)	0
-0.25	Correction (g/cc)	0.25



3550

3600



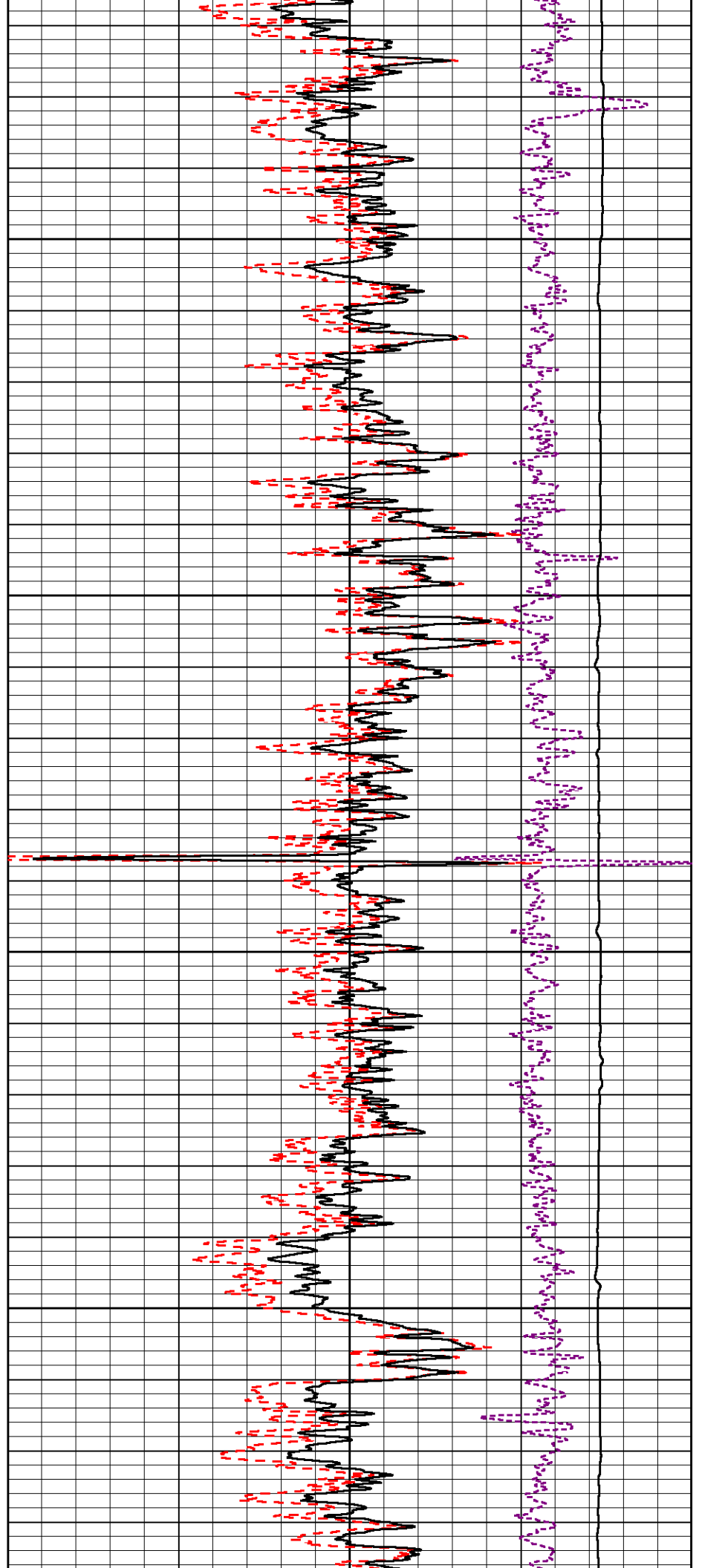


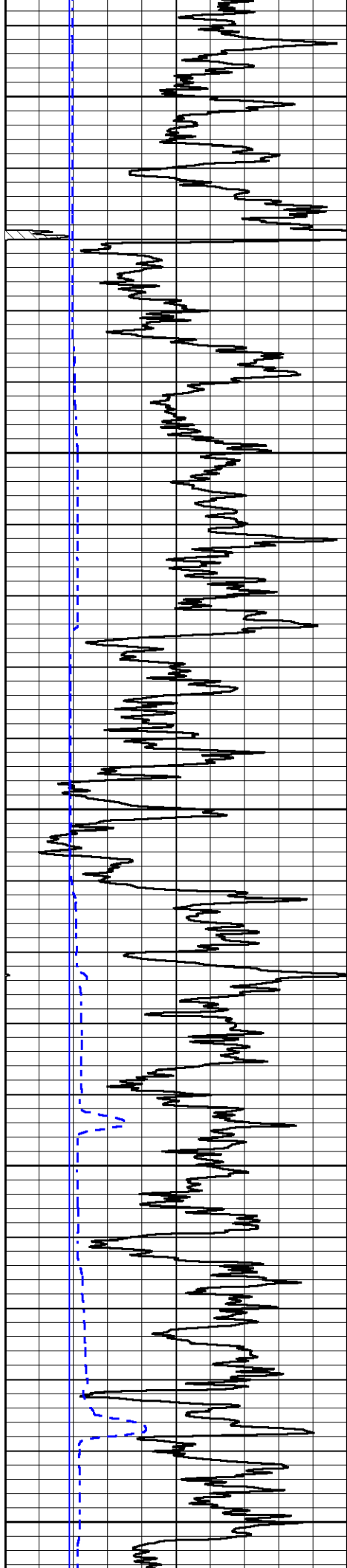
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3700

3750

3800





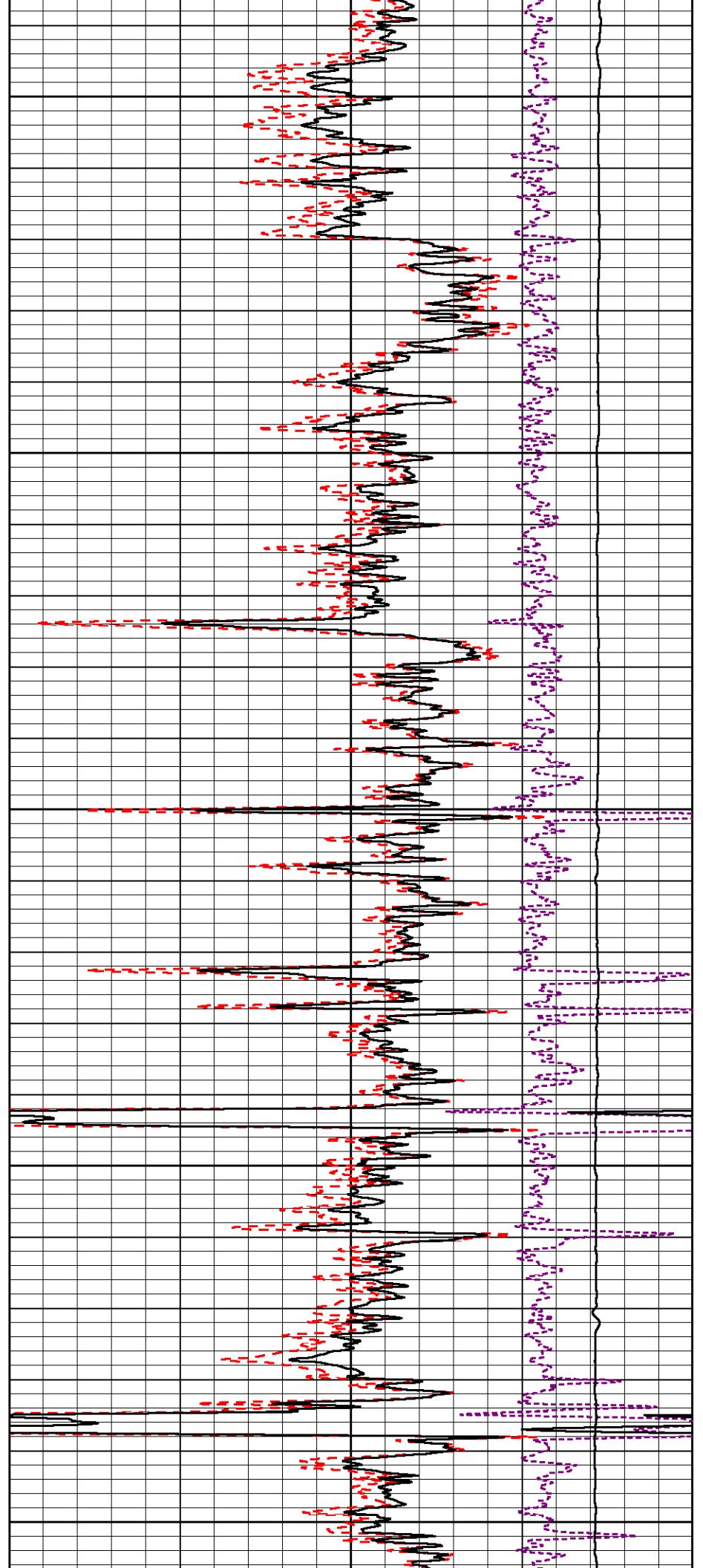
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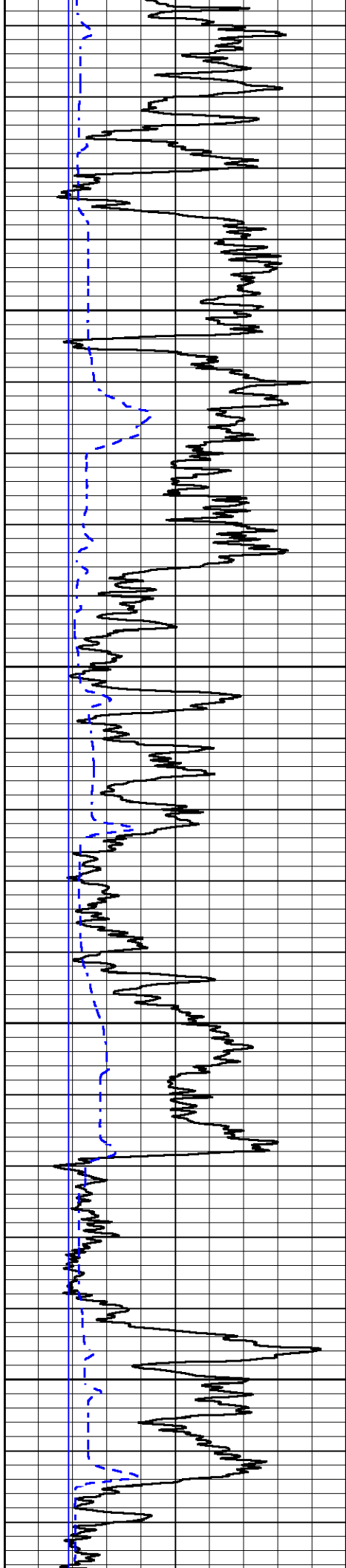
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3950

4000

4050



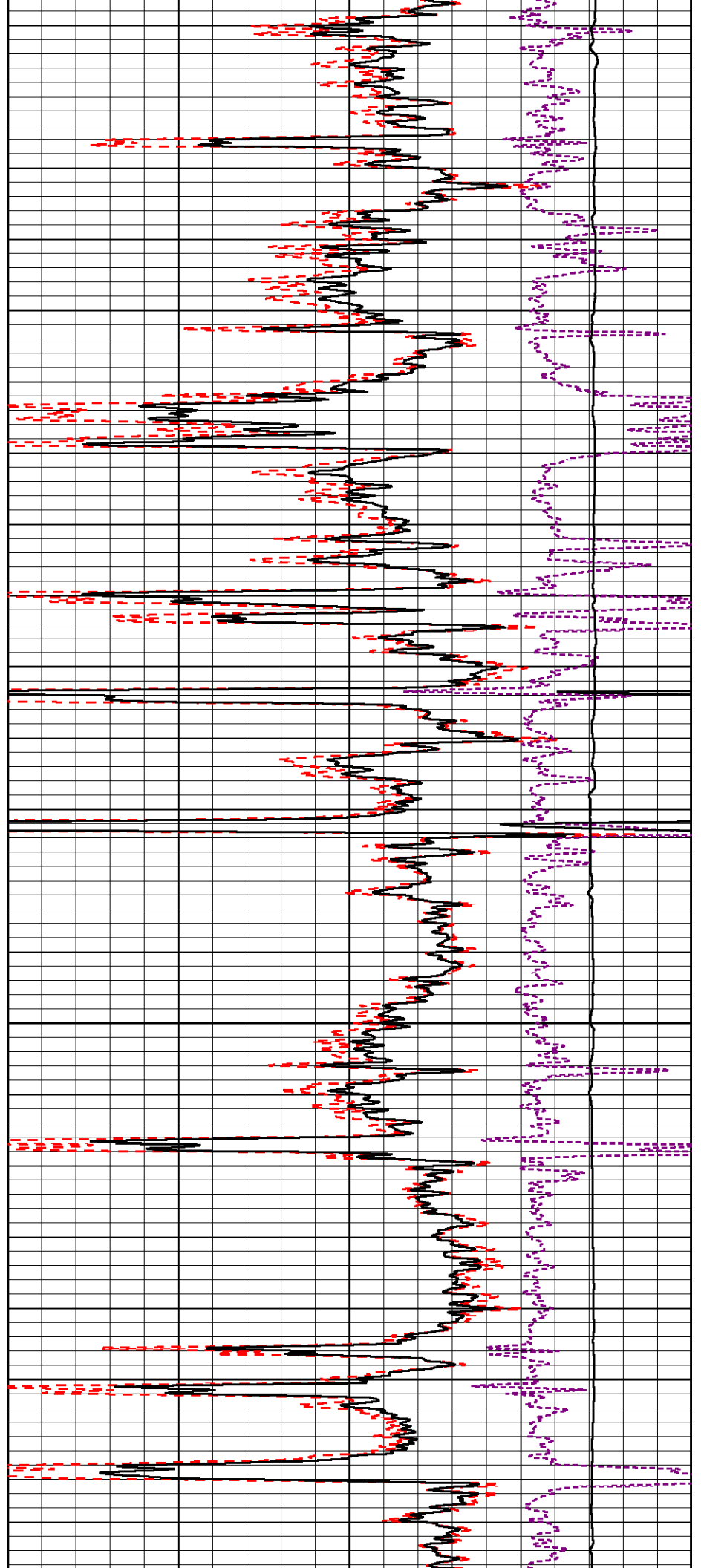


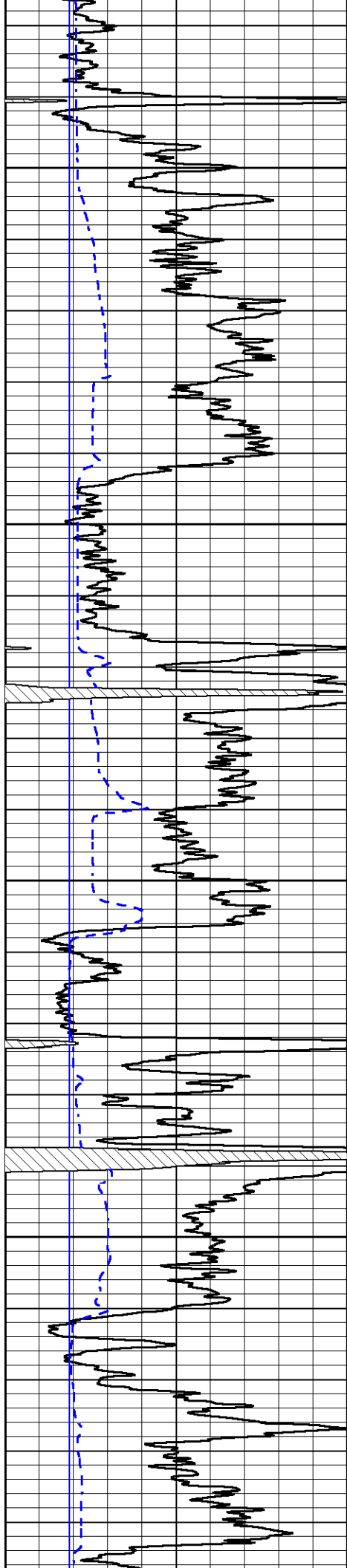
4100

4150

4200

4250



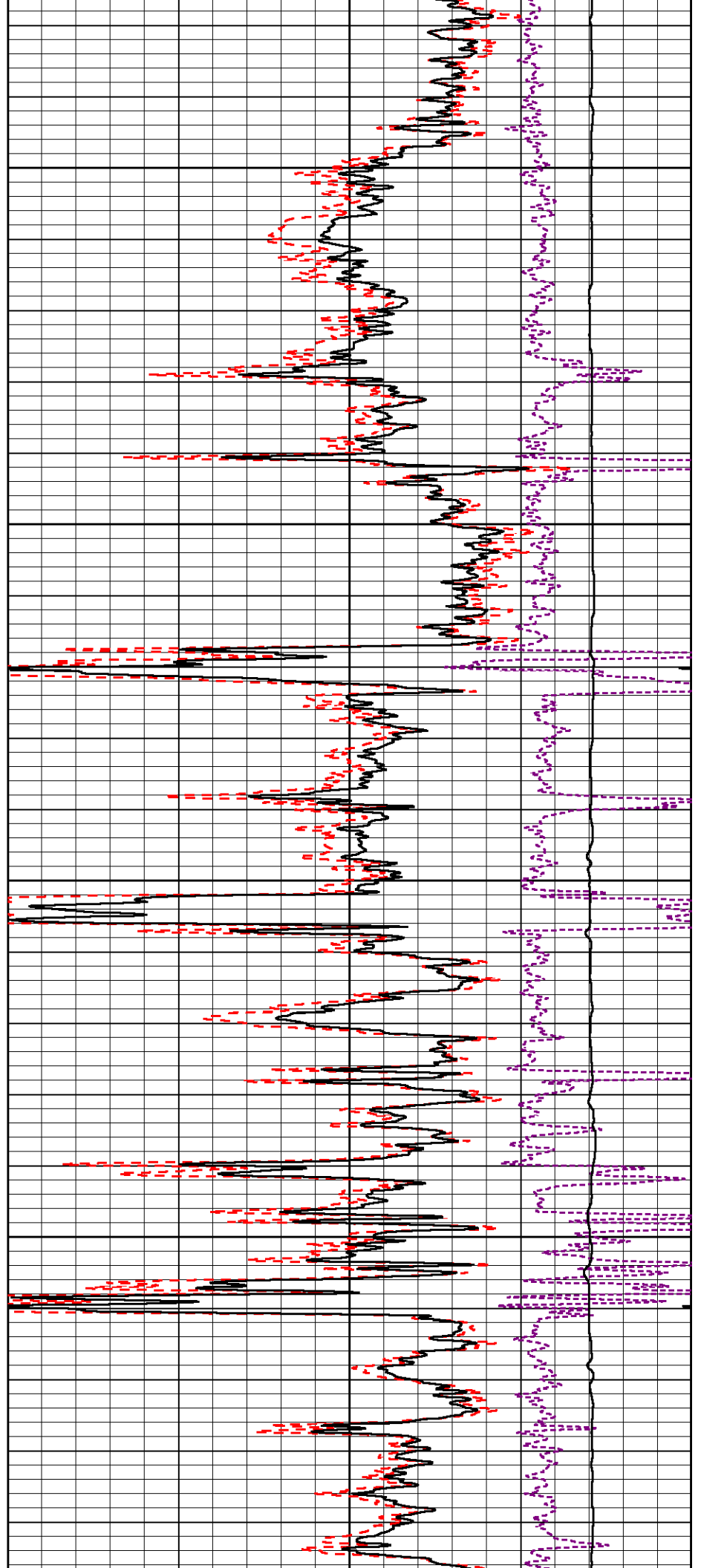


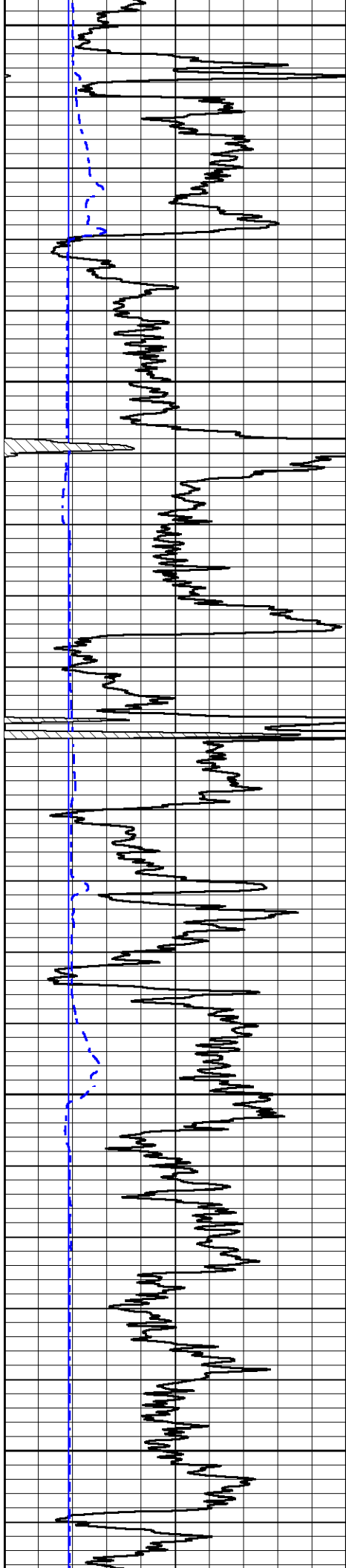
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4350

4400

4450





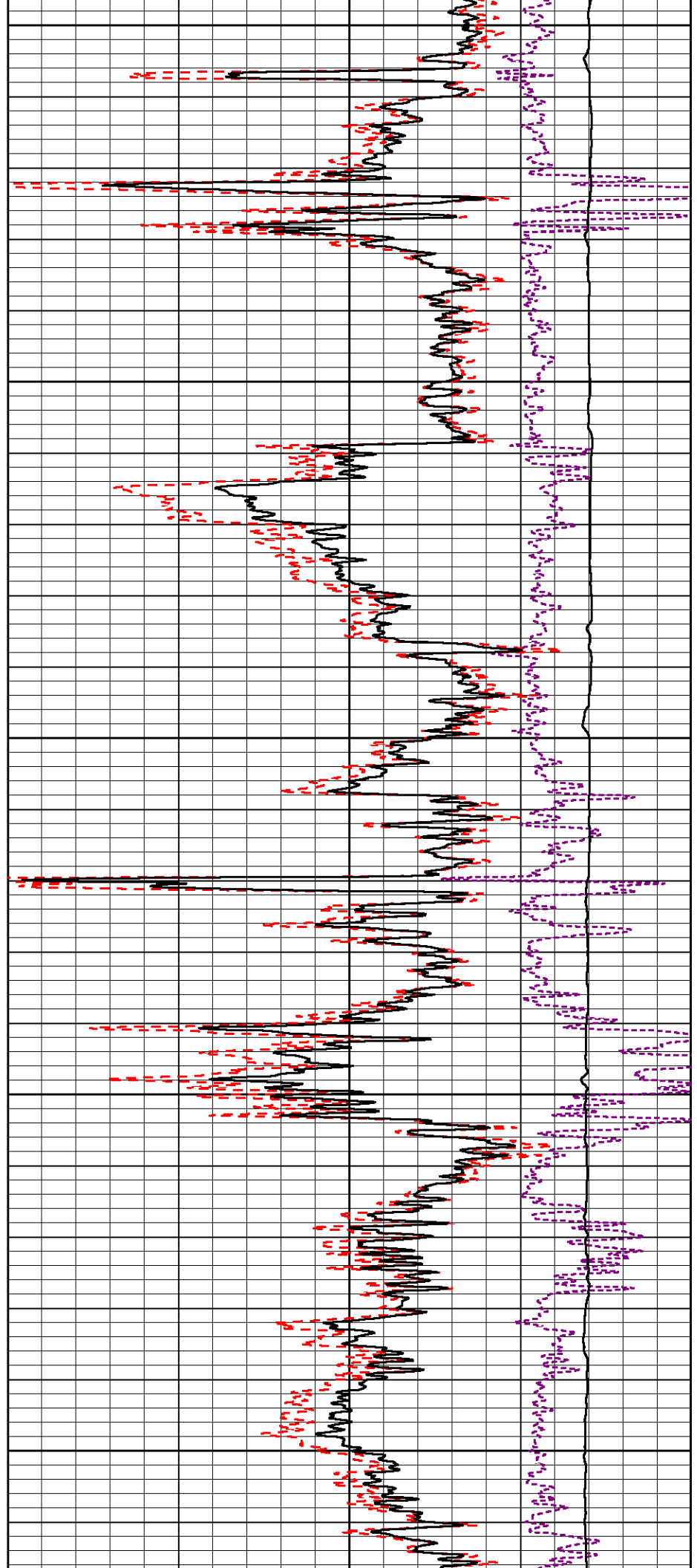
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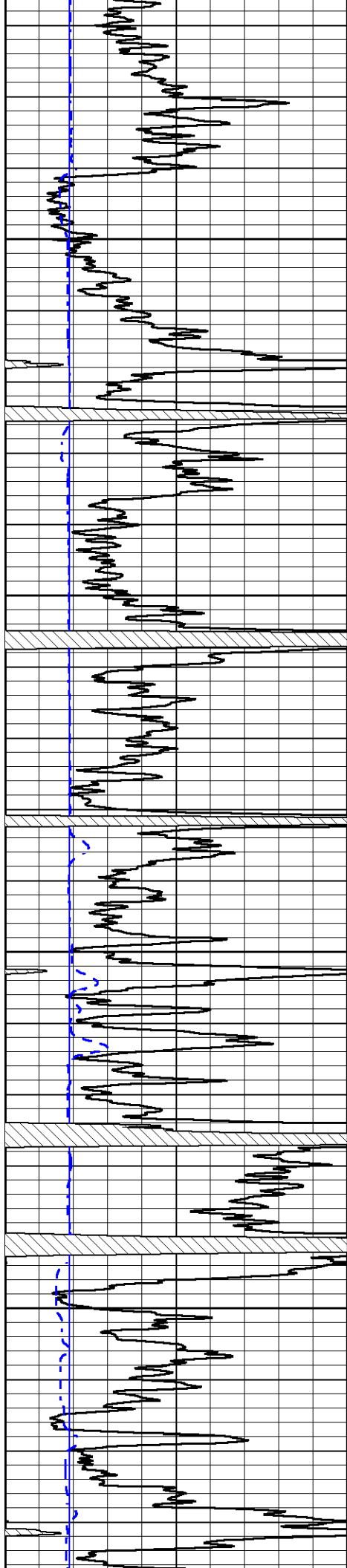
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4600

4650

4700



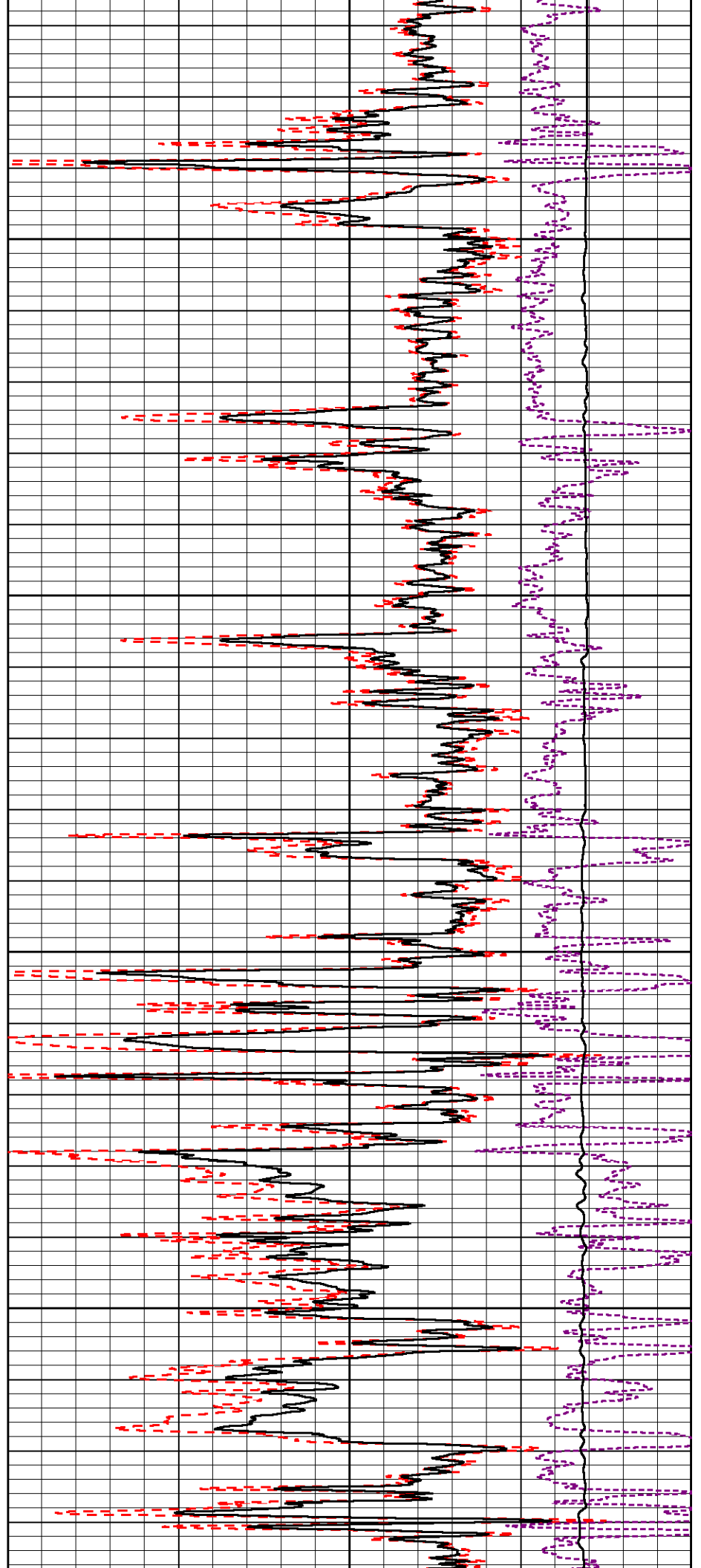


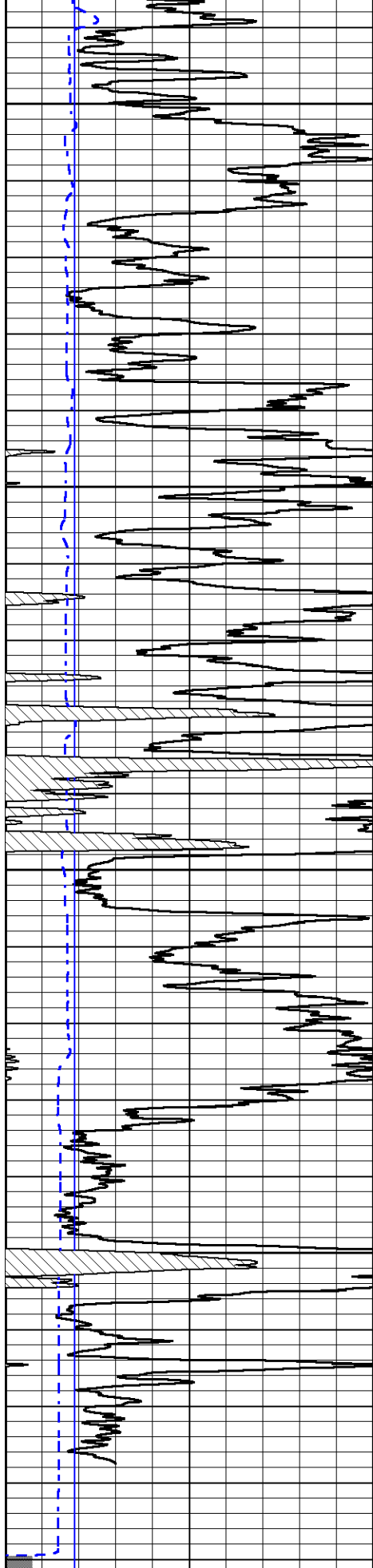
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4800

4850

4900





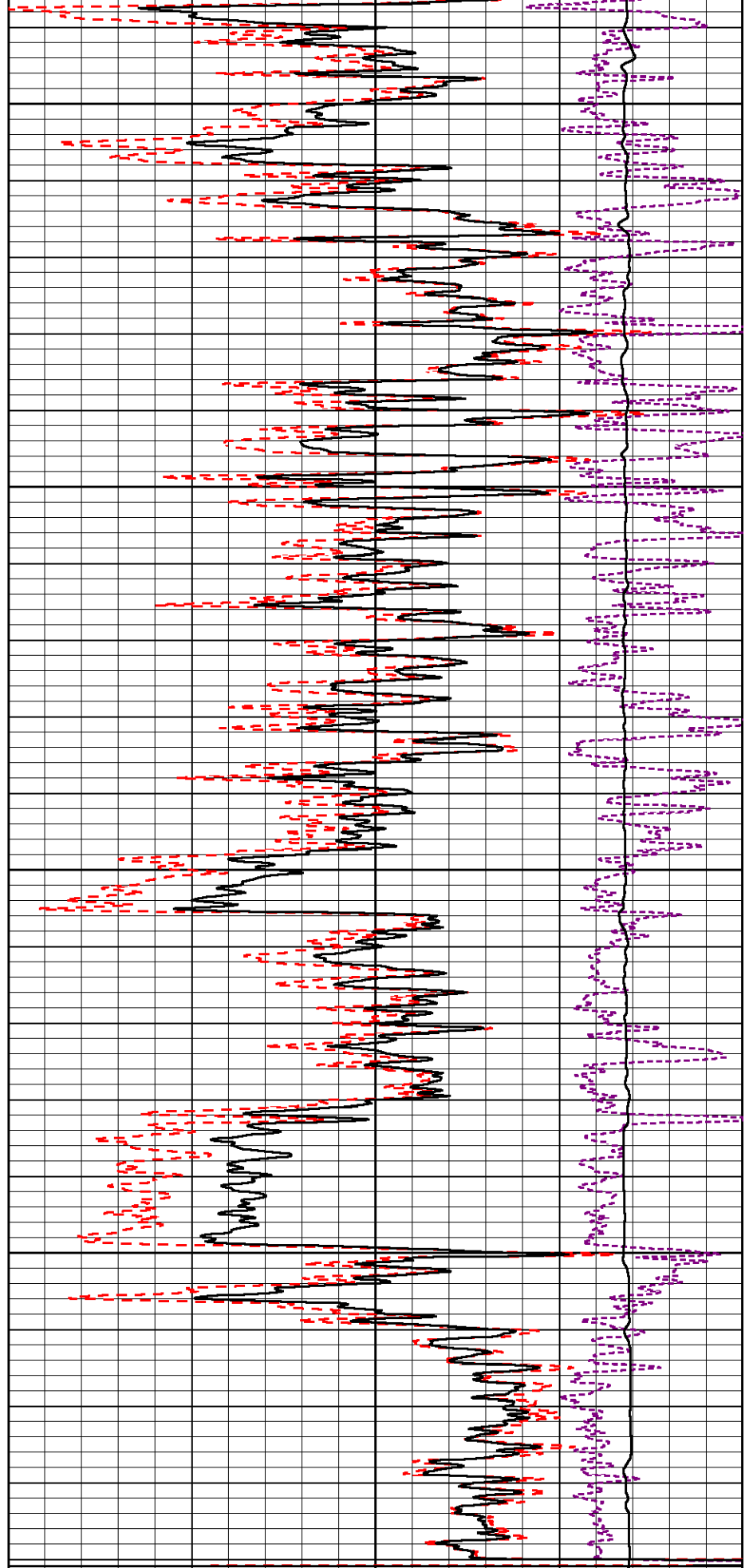
4950

5000

5050

5100

5150



0	Gamma Ray (GAPI)	150	30	Compensated Density (pu)	-10	
6	Caliper (in)	16	2	Bulk Density (g/cc)	3	
			15000	Line Tension (lb)	0	
				-0.25	Correction (g/cc)	0.25



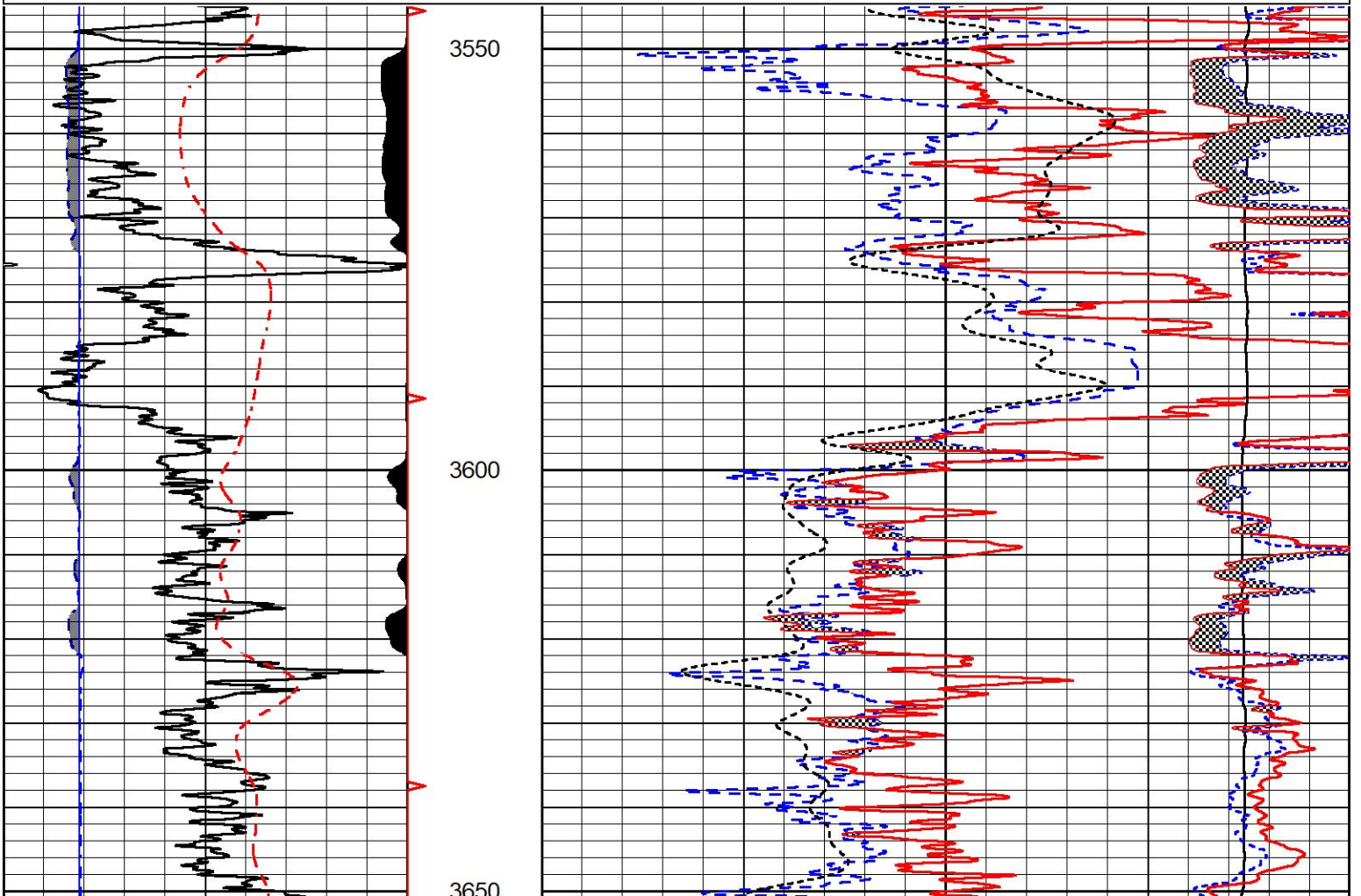
DETAIL SECTION

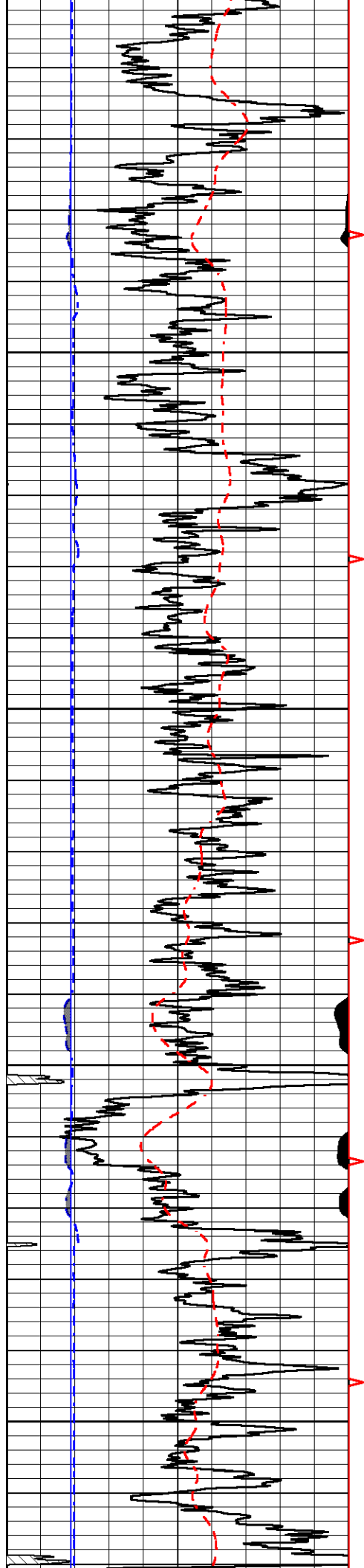
MAIN PASS

Database File murfin_cw unit 1-14.db
 Dataset Pathname stkml/pass3.1
 Presentation Format _CNDLS~2
 Dataset Creation Tue Feb 21 16:22:14 2023
 Charted by Depth in Feet scaled 1:240

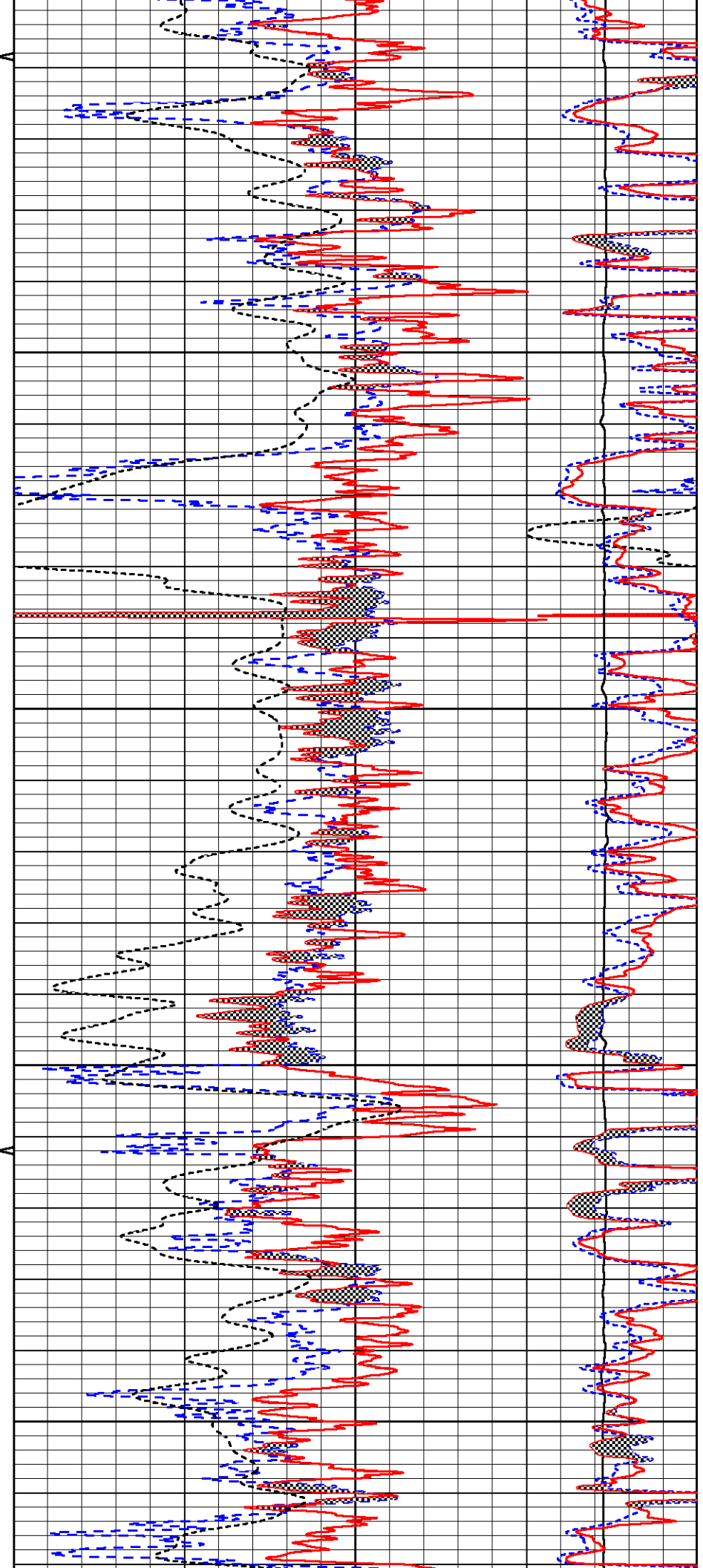
0	Gamma Ray (GAPI)	150	30	Compensated Neutron (pu)	-10
6	Caliper (in)	16	30	Compensated Density (pu)	-10
-200	SP (mV)	0	30	SPOR (pu)	-10
			15000	Line Tension (lb)	0

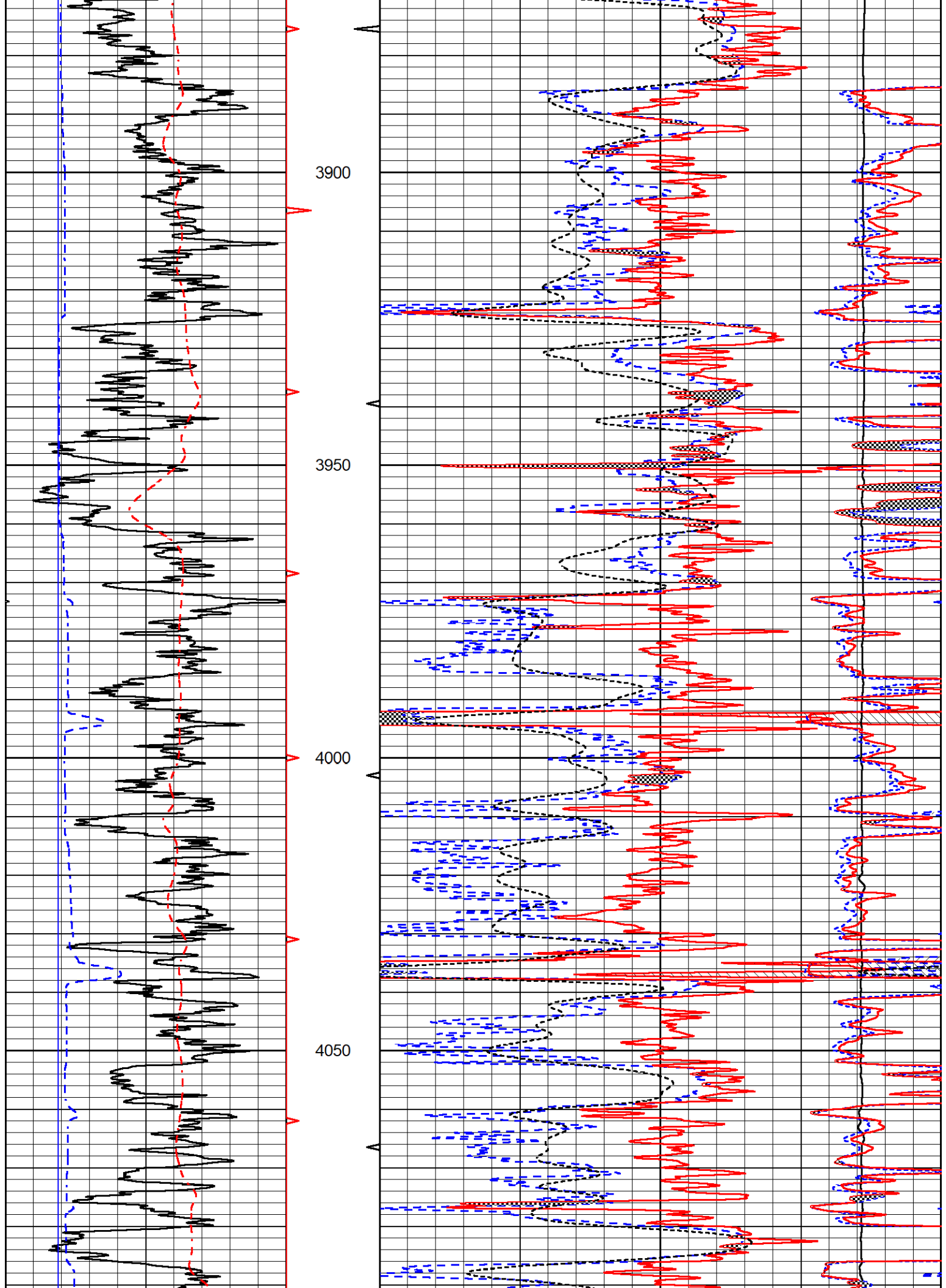
Micro Normal	
0	(Ohm-m) 20
Micro Inverse	
0	(Ohm-m) 20

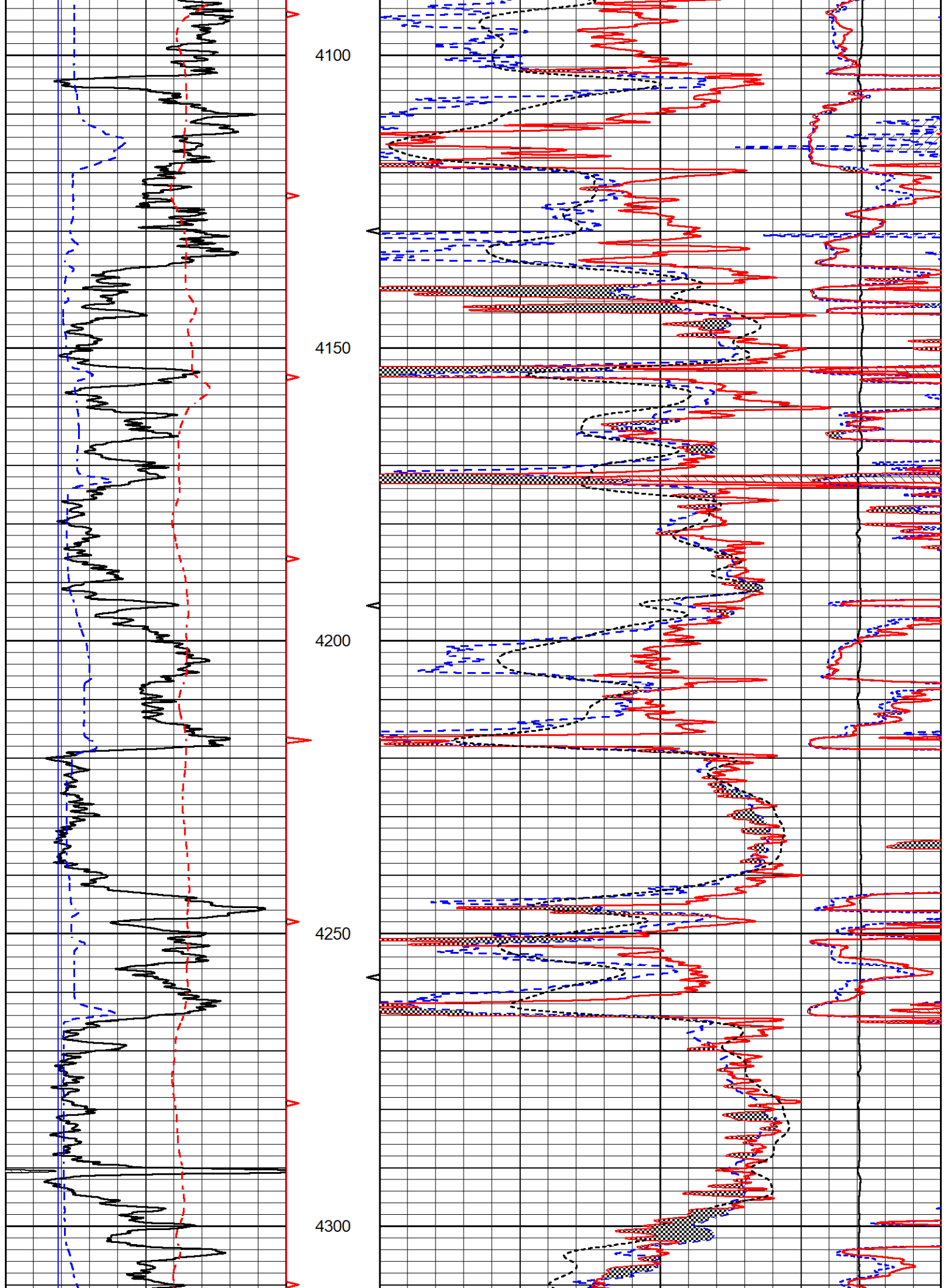


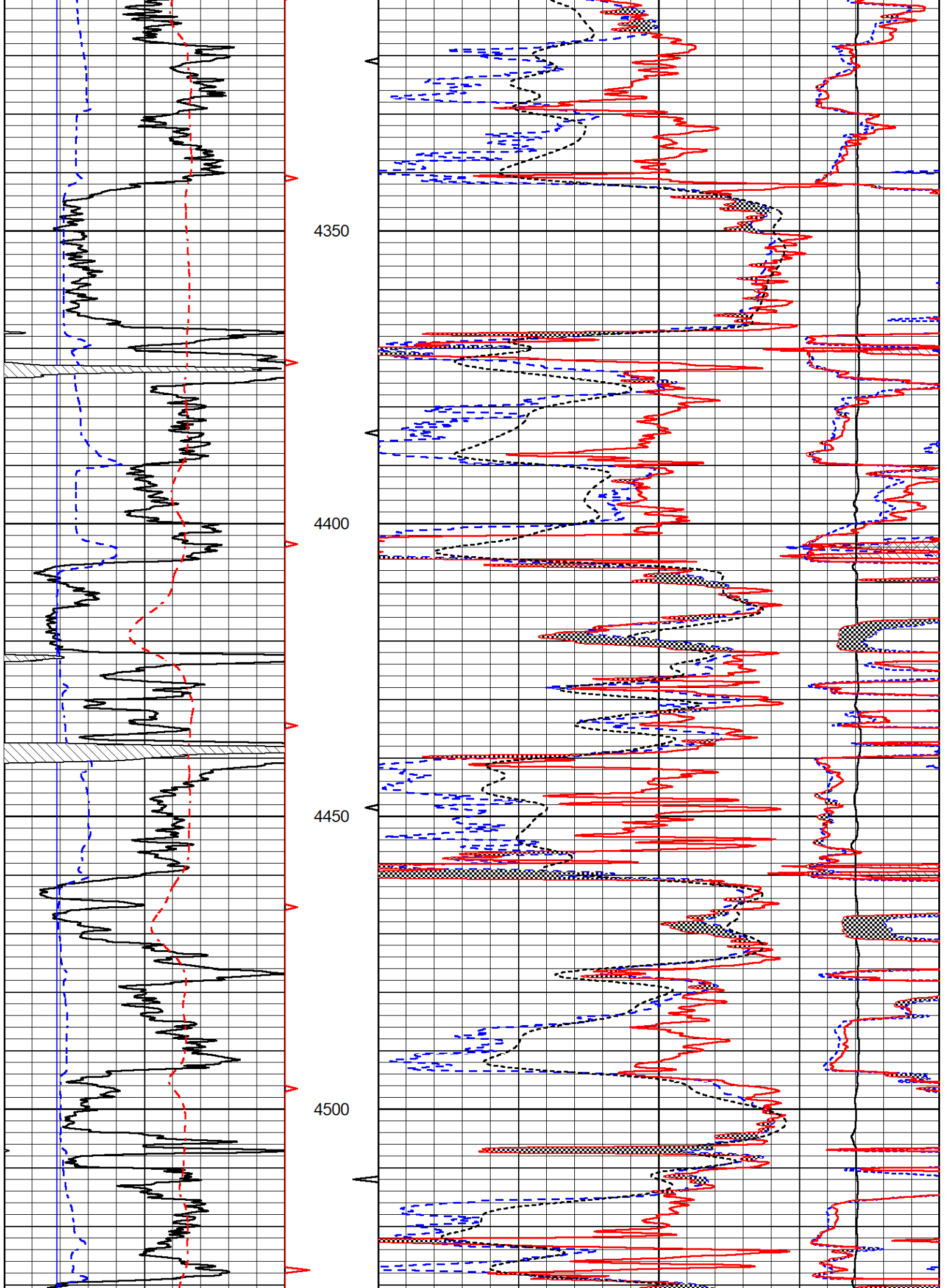


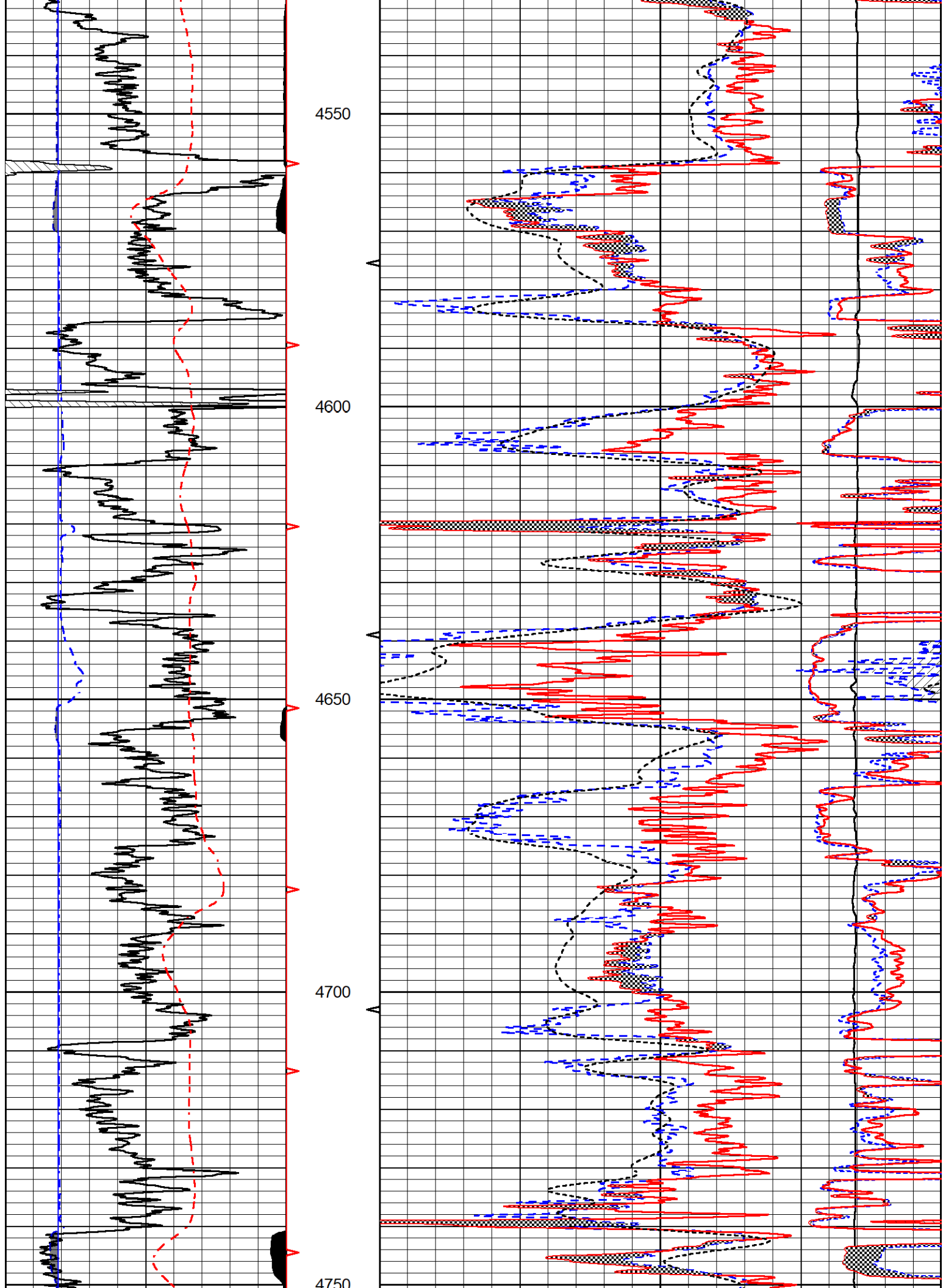
3880
3700
3750
3800
3850

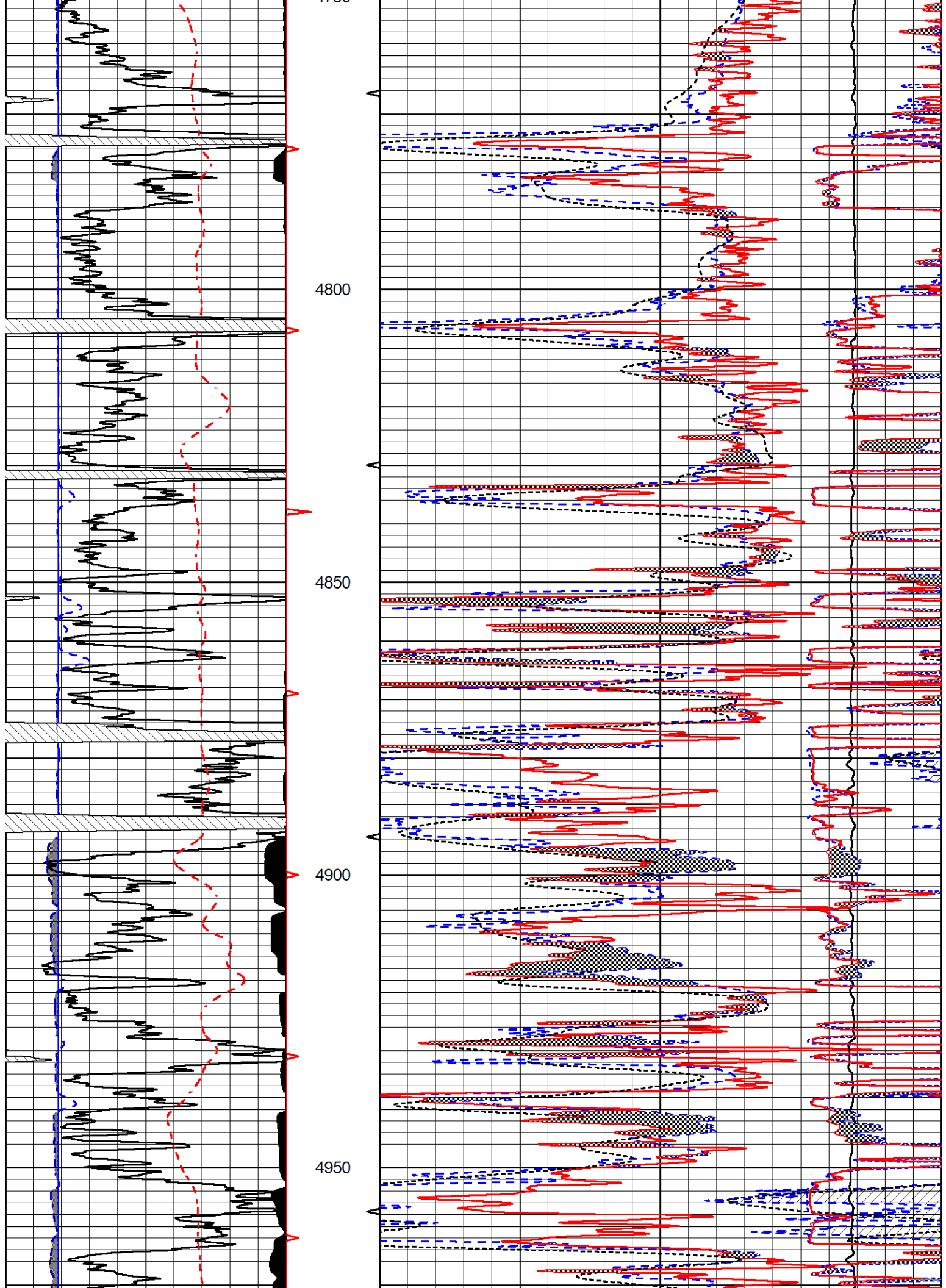


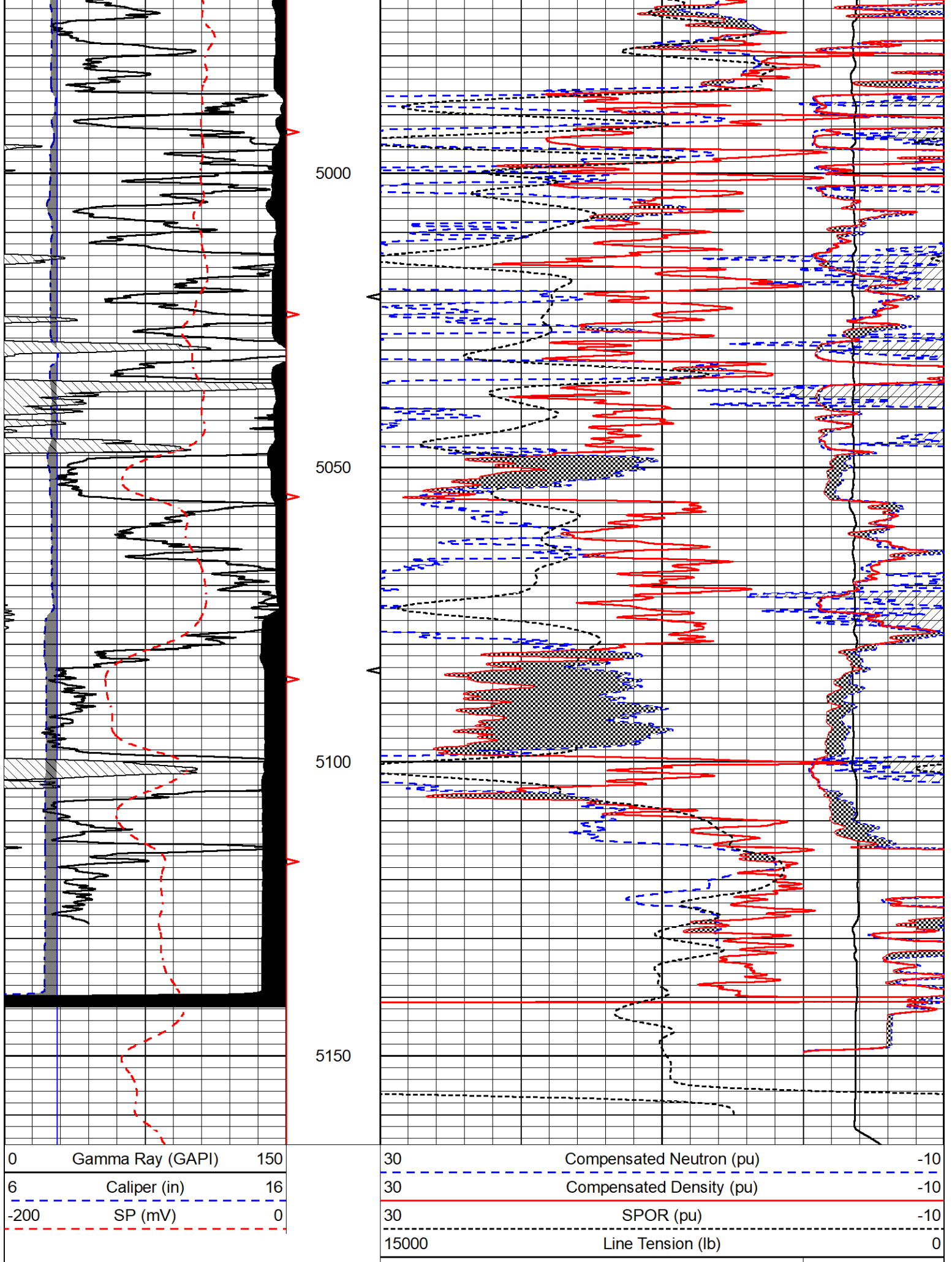












Micro Normal

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



REPEAT SECTION

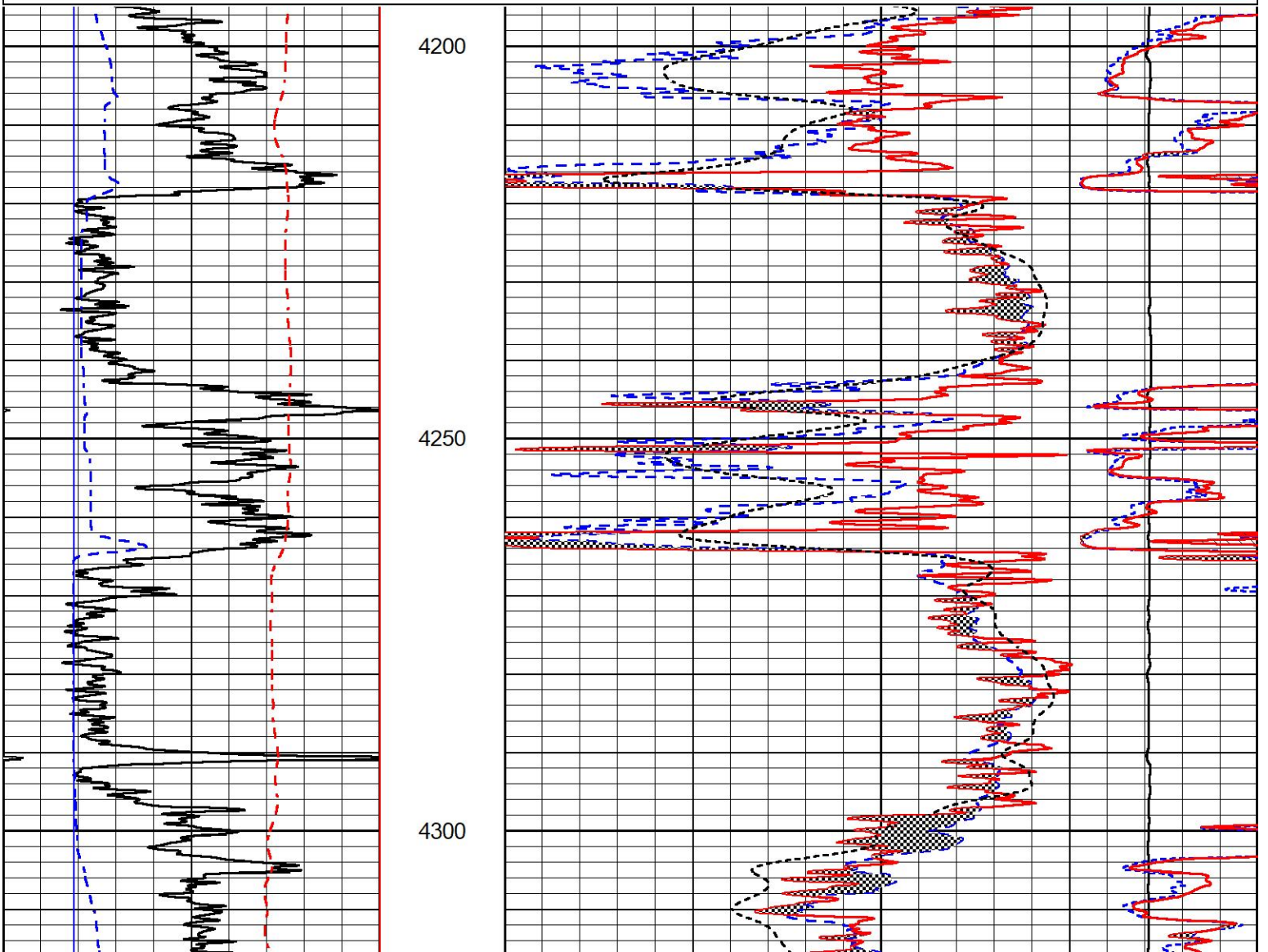
REPEAT PASS

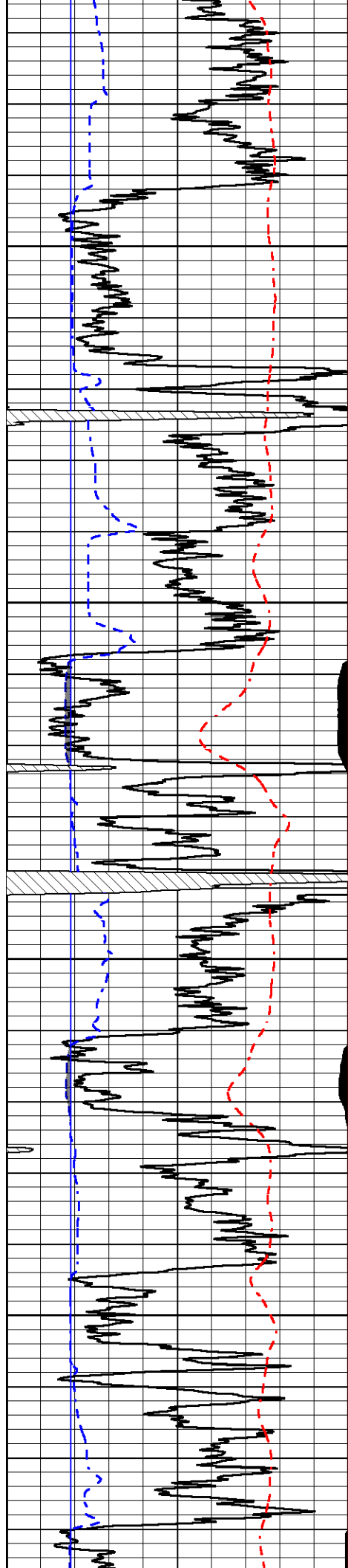
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 Dataset Pathname stkml/pass2.1
 Presentation Format _CNDLS~2
 Dataset Creation Tue Feb 21 15:33:35 2023
 Charted by Depth in Feet scaled 1:240

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

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

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



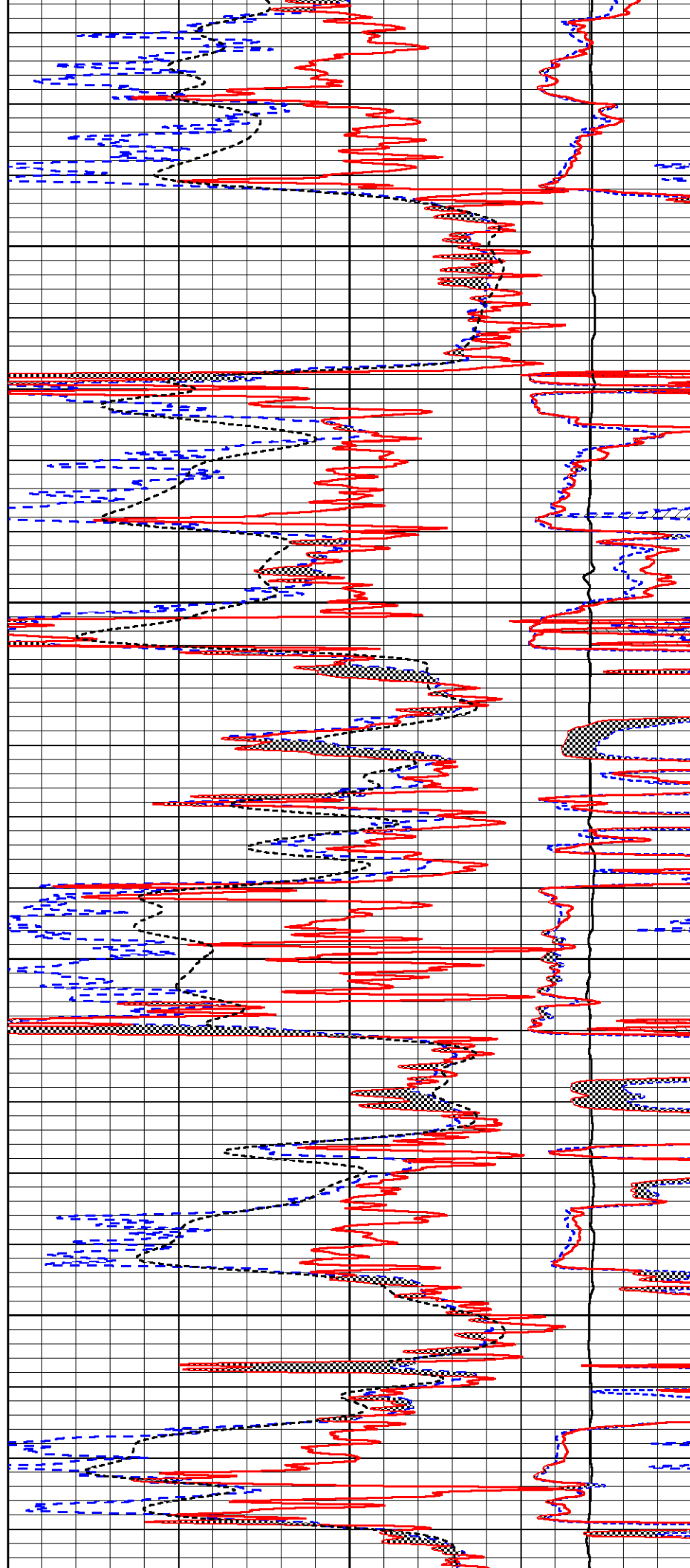


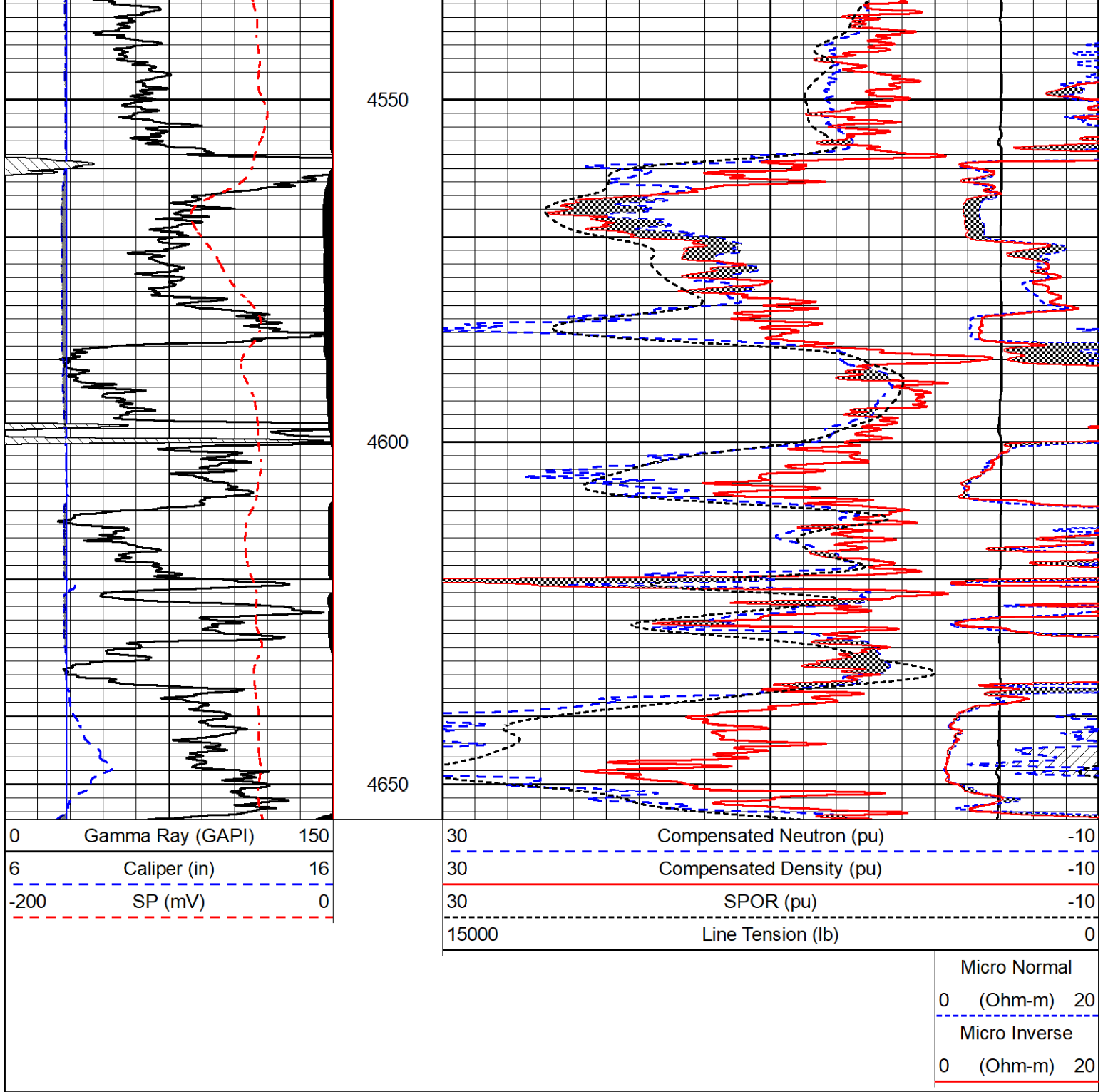
4350

4400

4450

4500





Calibration Report

Database File: murfin_cw unit 1-14.db
 Dataset Pathname: stkml/pass3.15
 Dataset Creation: Tue Feb 21 15:28:59 2023

Dual Induction Calibration Report

Serial-Model: 504 HT-M&W
 Surface Cal Performed: Wed Jan 25 21:25:46 2023

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop	mmho/m	m	b
Deep	178.615	710.235	0.000	255.800	mmho/m	0.580	-21.000
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.400	-42.000

Microlog Calibration Report

Serial-Model: 402-PSI STKBL ML
 Performed: Wed Jan 25 21:26:04 2023

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0037	0.0043	0.0000	10.0000	Ohm-m	24000.0000	-0.9000
Inverse	0.1208	0.0013	0.0000	10.0000	Ohm-m	21000.0000	0.0000
Caliper	1.0046	1.1419	5.5000	20.0000	in	50.0000	-44.4250

Compensated Density Calibration Report

Serial-Model: 306-06-M&W
 Source #: 21170B
 Master Calibration Performed: Tue Dec 14 14:05:52 2021

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	5193.26	4968.12	cps
Aluminum	2.650	g/cc	962.25	3144.87	cps
Spine Angle = 74.82		Density/Spine Ratio = 0.512			
	Size		Reading		
Small Ring	4.00	in	1.01		
Large Ring	14.00	in	1.15		

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: Wed Jan 25 21:25:33 2023

Calibrator Value: 500.0 GAPI

Background Reading: 28.0 cps
 Calibrator Reading: 986.0 cps

Sensitivity: 0.5700 GAPI/cps





Well	C-W Unit #1-14
Field	
County	Cheyenne
State	Kansas