MIDWEST WIRELINE

DUAL INDUCTION LOG

Company Griffin Management LLC
Well Kamber #1
Field Lion West
County Pratt State Kansas
Location: API # : 15-151-22564-00-00
NW SW SE NE
2169 FNL & 1264 FEL
SEC 30 TWP 27S RGE 11W

Other Services
CNL/CDL
MEL

Elevation
K.B. 1762
D.F.
G.L. 1757

Permanent Datum Ground Level Elevation 1757
Log Measured From Kelly Bushing
Drilling Measured From Kelly Bushing

Company Griffin Management LLC
Well Kamber #1
Field Lion West
County Pratt
State Kansas

Date	3/7/2023			
Run Number	One			
Depth Driller	4485			
Depth Logger	4486			
Bottom Logged Interval	4485			
Top Log Interval	250			
Casing Driller	8.625 @ 260			
Casing Logger	259			
Bit Size	7.875			
Type Fluid in Hole	Chemical			
Salinity,ppm CL	5000			
Density / Viscosity	9.4 54			
pH / Fluid Loss	9.5 8.8			
Source of Sample	Flowline			
Rm @ Meas. Temp	0.85 @ 70			
Rmf @ Meas. Temp	0.64 @ 70			
Rmc @ Meas. Temp	1.15 @ 70			
Source of Rmf / Rmc	Charts			
Rm @ BHT	0.49 @ 121			
Operating Rig Time	2.5 Hours			
Max Rec. Temp. F	121			
Equipment Number	P-24			
Location	Hays			
Recorded By	T. Martin			
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.

Pratt, KS, 8.5 E to 100th Ave,
1 N, W at CG, NW to locatoin

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: T. Martin	Primary Witness: Eli Felts
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
GR	40.33		GR-M&W (106)	3.00	3.50	50.00
CNLSC	37.23		CNT-M&W (207-MW)	5.00	3.50	100.00
CNSSC	36.48					
			CDL-M&W (307-08)	8.50	4.00	250.00
LSD	28.18					
DCAL	28.17					
SSD	27.68					
			ML-PSIML (401)	7.58	4.00	65.00
MCAL	19.58					
MI	19.58					
MN	19.58					
RLL3F	15.50					
RLL3	15.50					
			DIL-M&W (501 HT)	18.25	3.50	220.00
CILD	8.33					
CILM	4.50					
SP	0.20					

Dataset:	griffin_kamber #1.db: field/well/StkMl/pass3.1
Total length:	42.33 ft
Total weight:	685.00 lb
O.D.:	4.00 in

Log Variables

DatabaseC:\ProgramData\Warrior\Data\griffin_kamber #1.db
Dataset field/well/StkMl/pass3.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	121	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	30	40	Off	4486

Variable Description

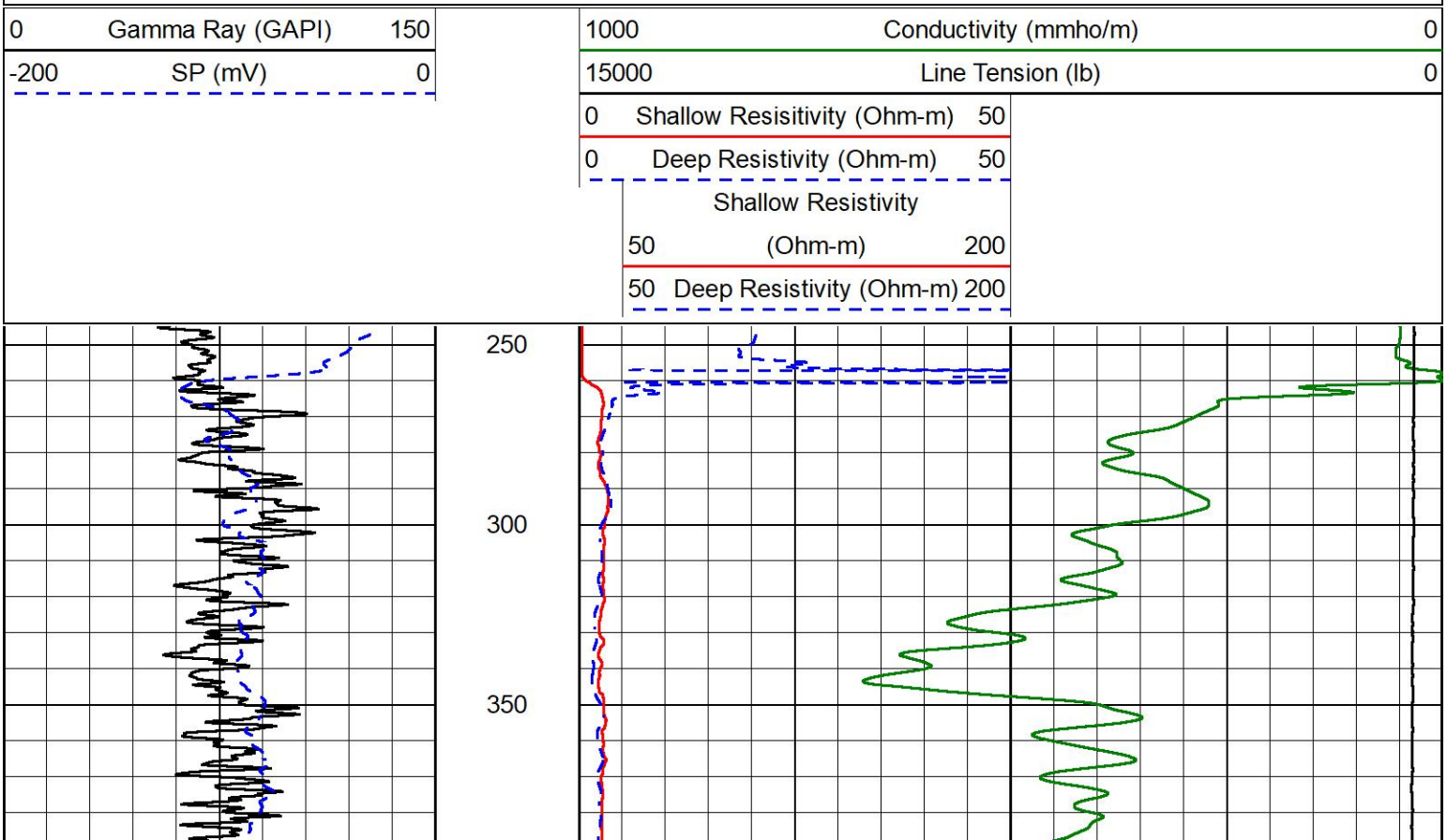
A : Cement Factor (a)
BOREID : Borehole I.D.
BOTTEMP : Bottom Hole Temperature
CASEOD : Casing O.D.
CASETHCK : Casing Thickness
FLUIDDEN : Fluid Density
M : Cement Exp (m)
MATRXDEN : Matrix Density
NPORSEL : Neutron Porosity Curve Select
PERFS : Perforation Flag
SNDERR : Deep Sonde Error Correction
SNDERRM : Medium Sonde Error Correction
SPSHIFT : S.P. Baseline Offset
SRFTEMP : Surface Temperature
SZCOR : CN Size Cor. ?
TDEPTH : Total Depth

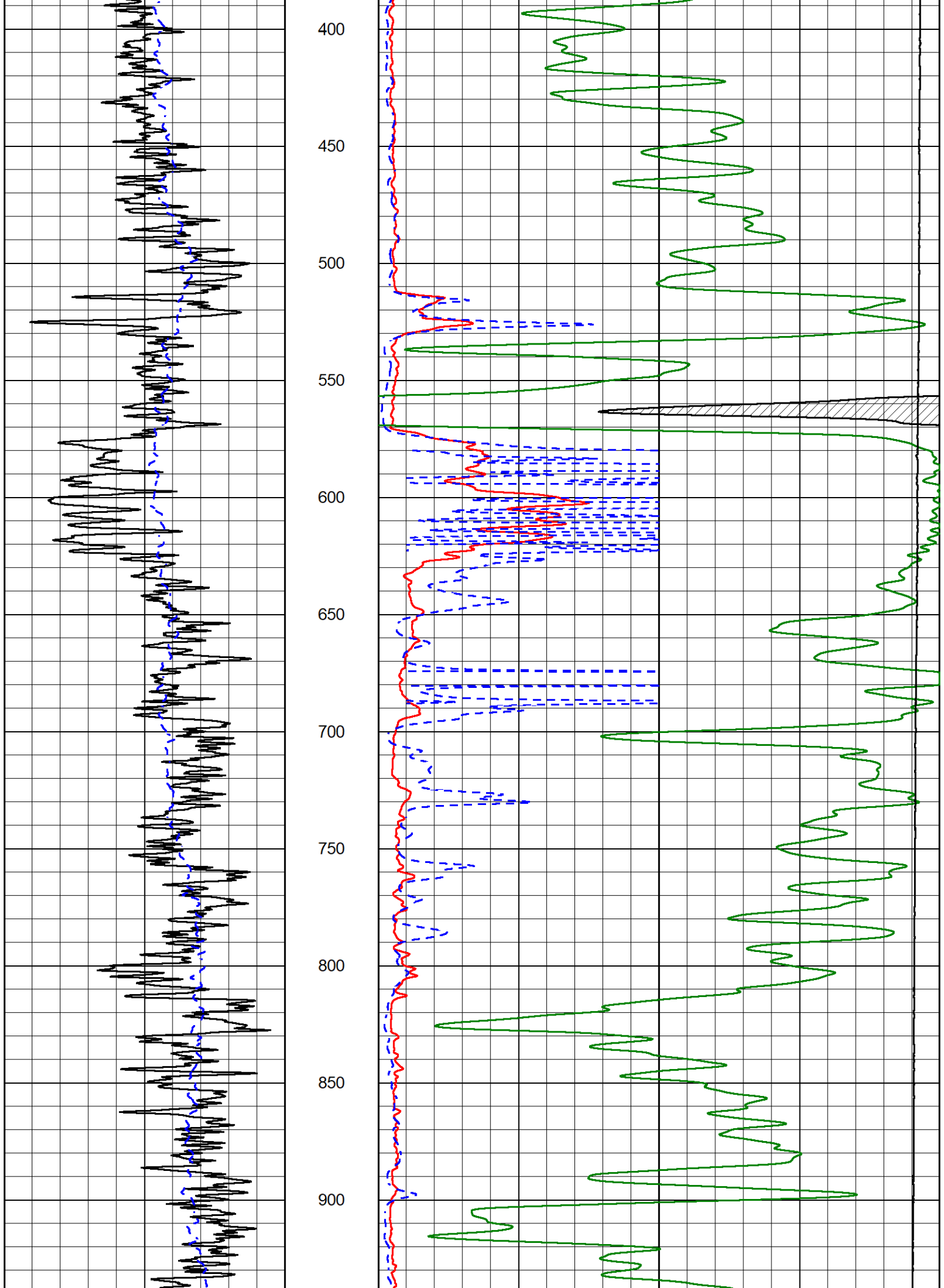
MIDWEST WIRELINE

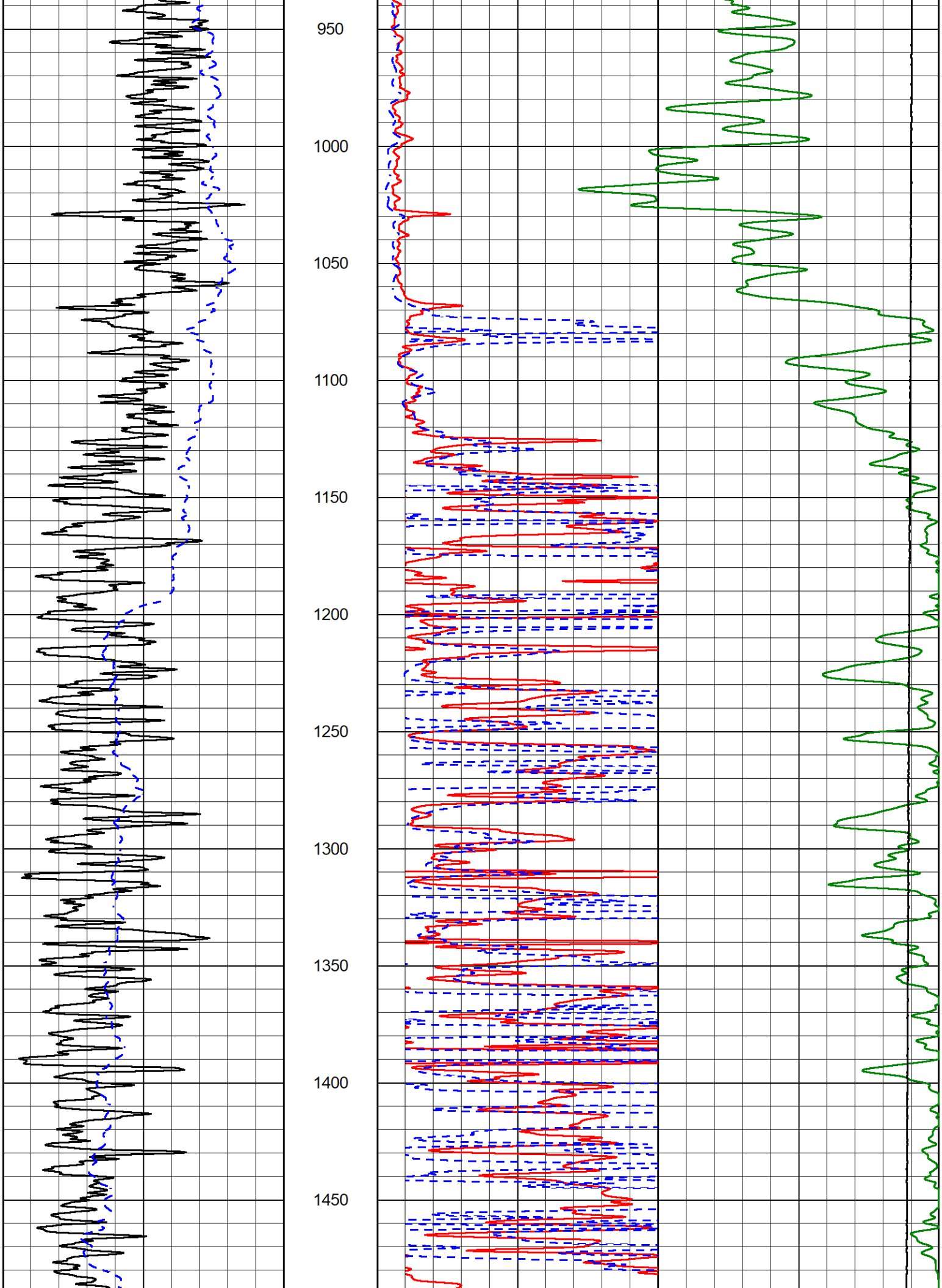
2" SCALE RESISTIVITY

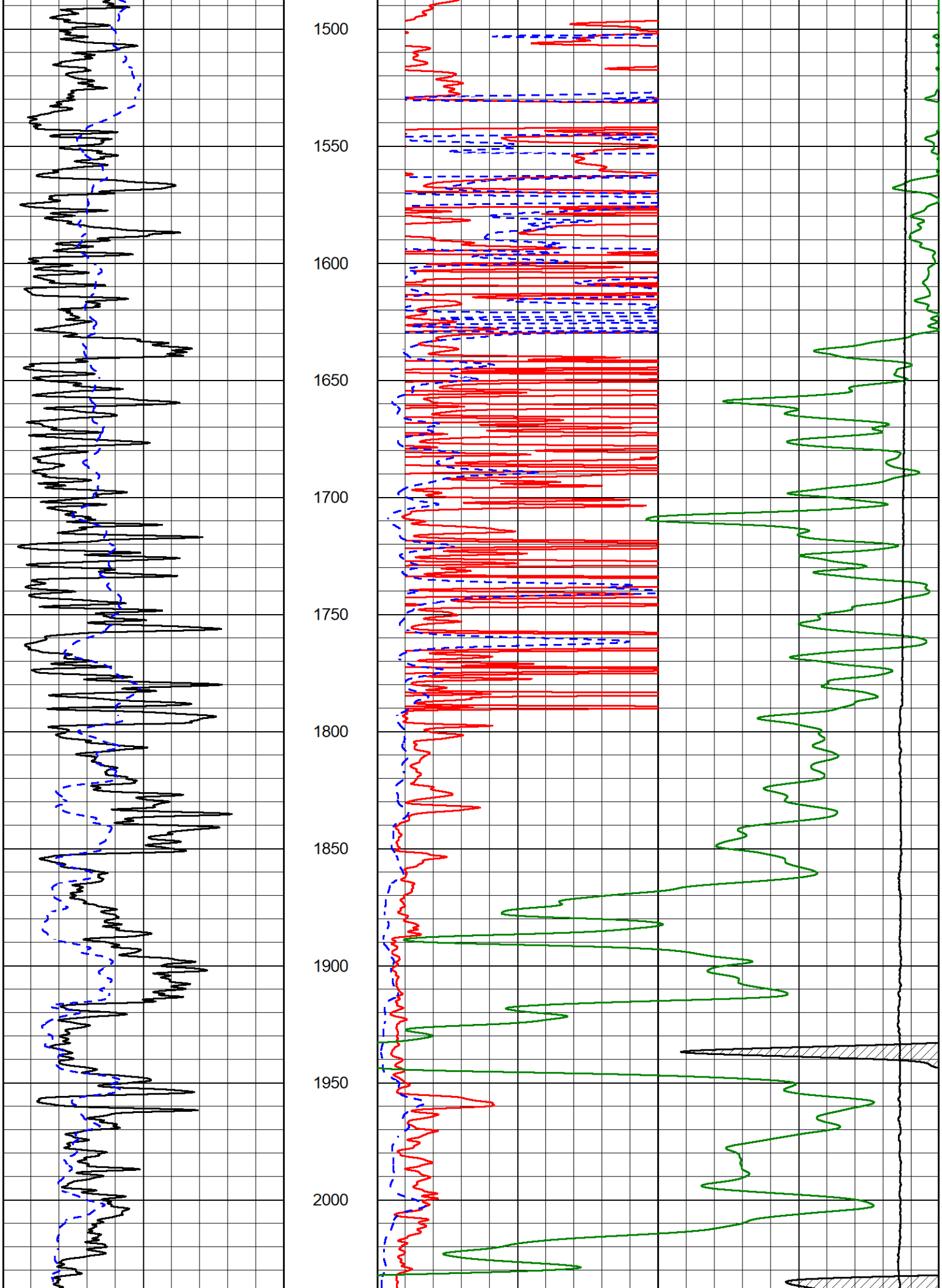
MAIN PASS

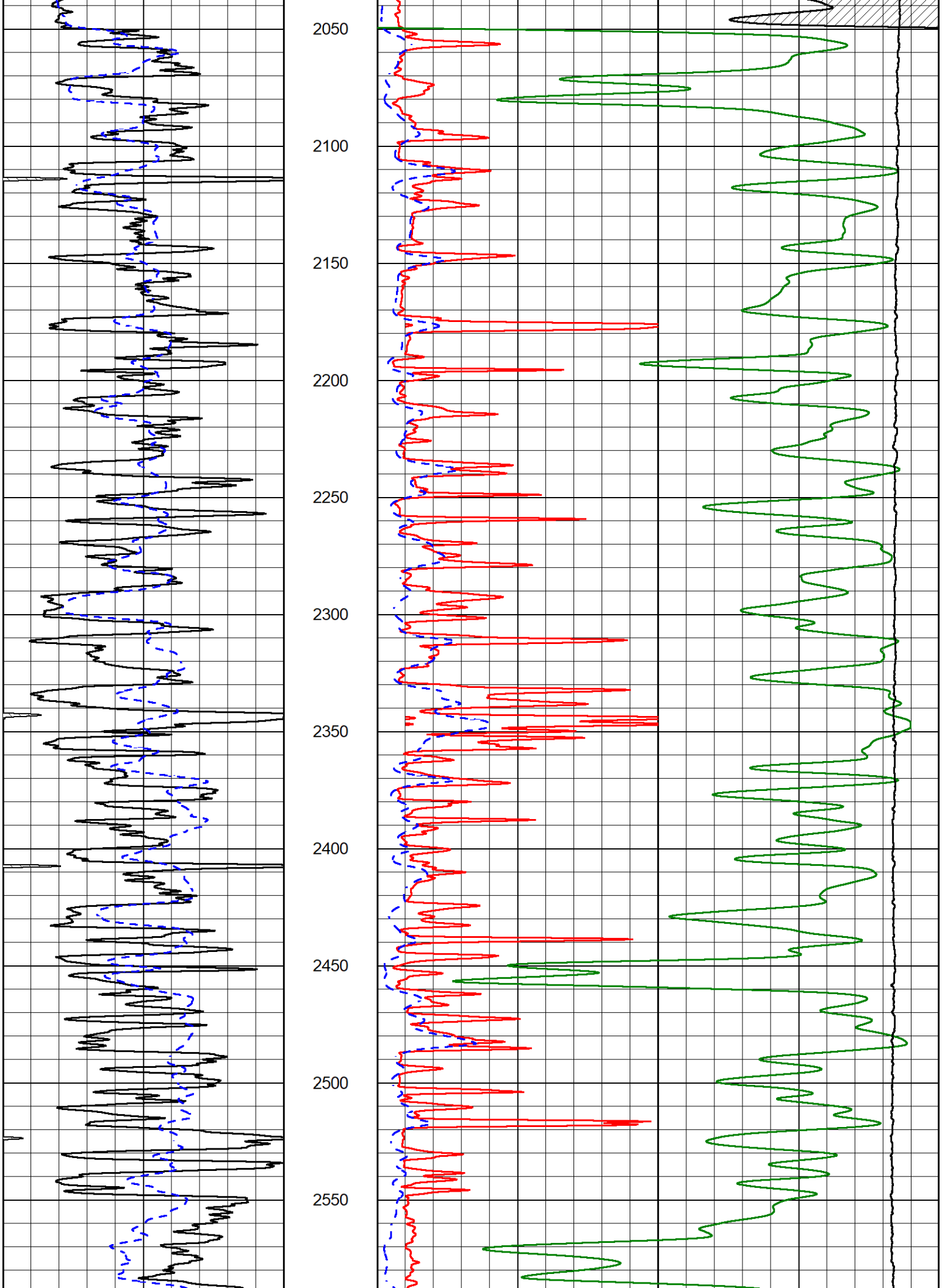
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Presentation Format	_dil2in
Dataset Creation	Tue Mar 07 19:24:31 2023
Charted by	Depth in Feet scaled 1:600

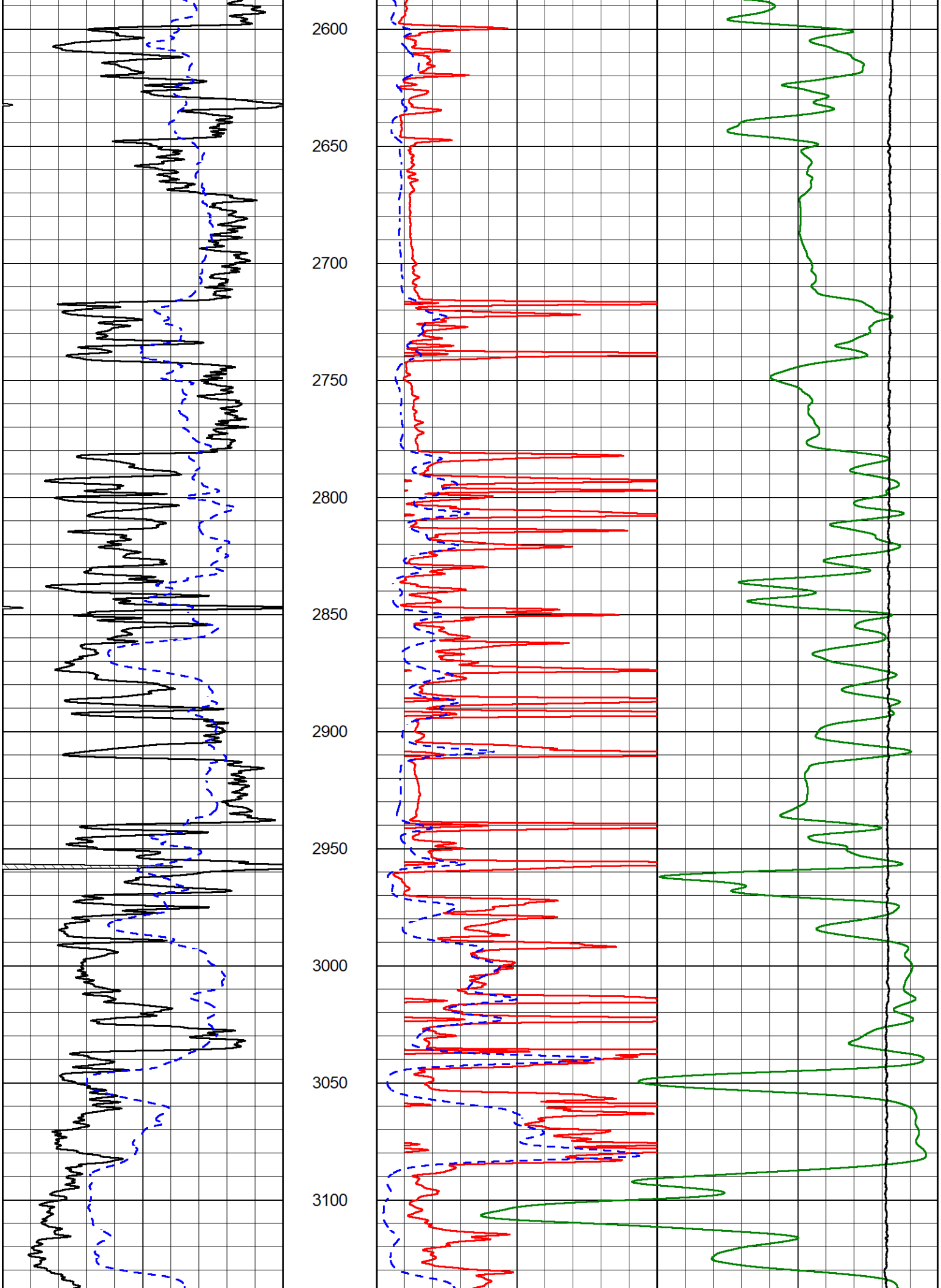


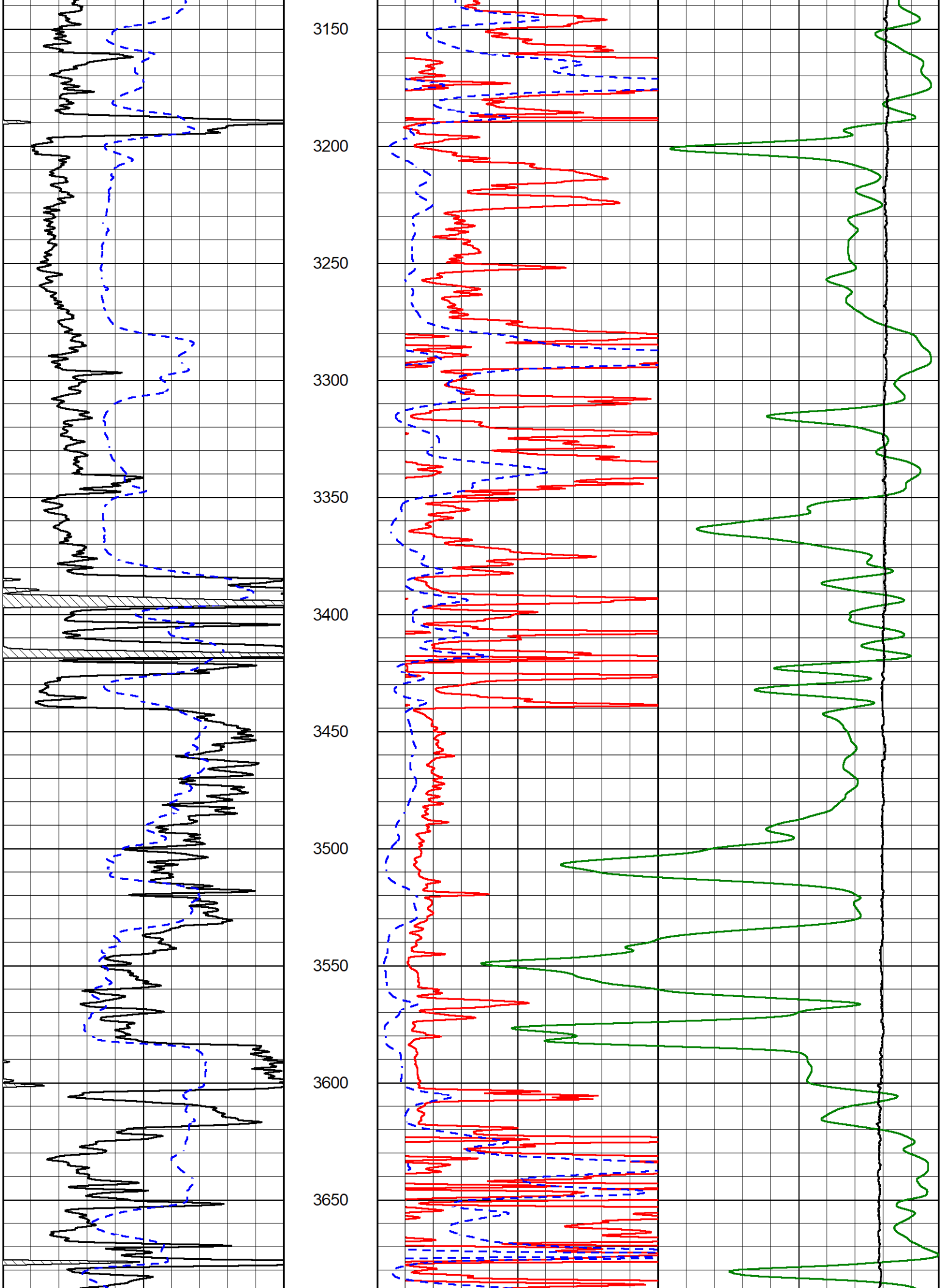

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450
500
550
600
650
700
750
800
850
900

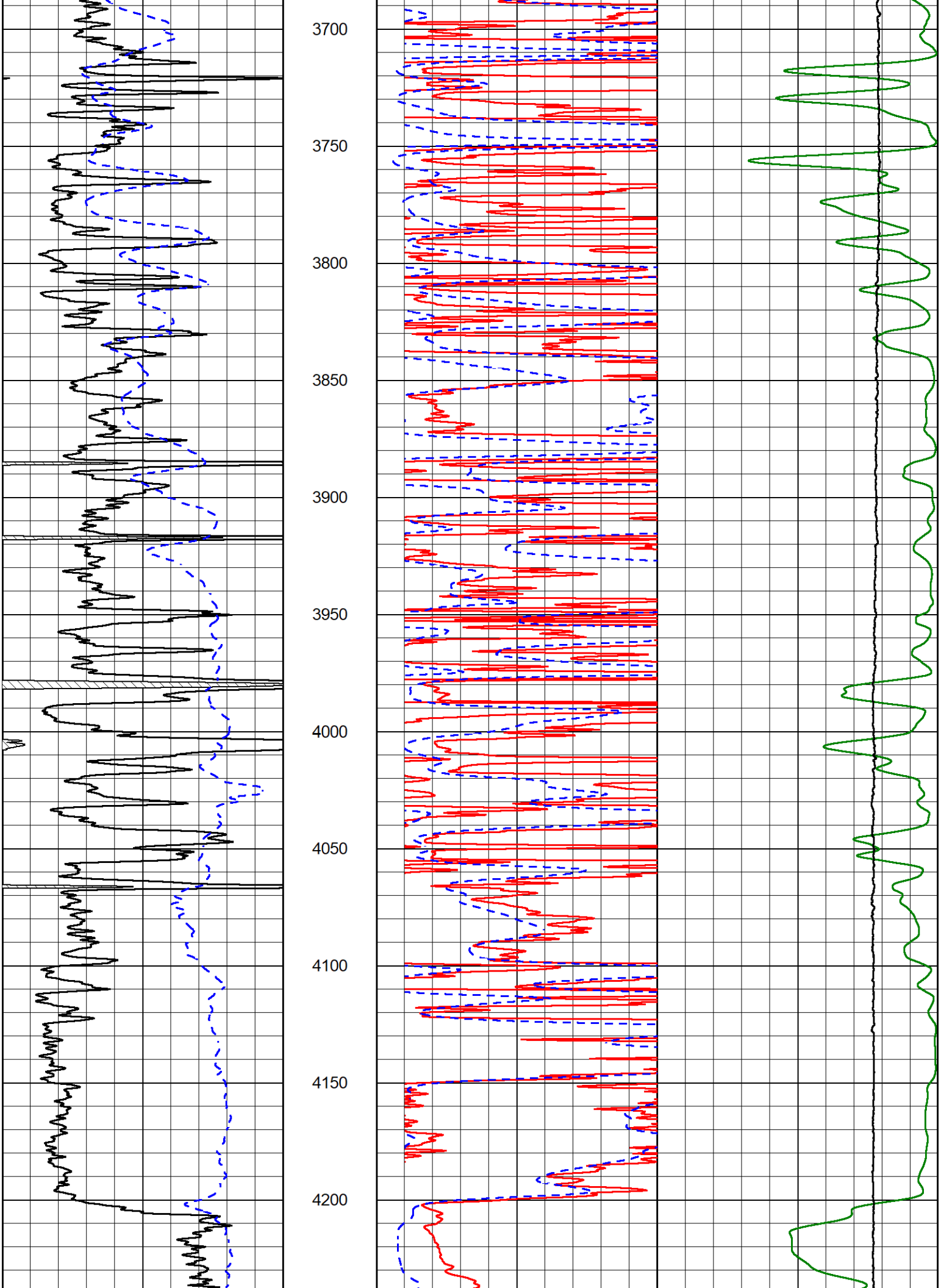

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1000
1050
1100
1150
1200
1250
1300
1350
1400
1450

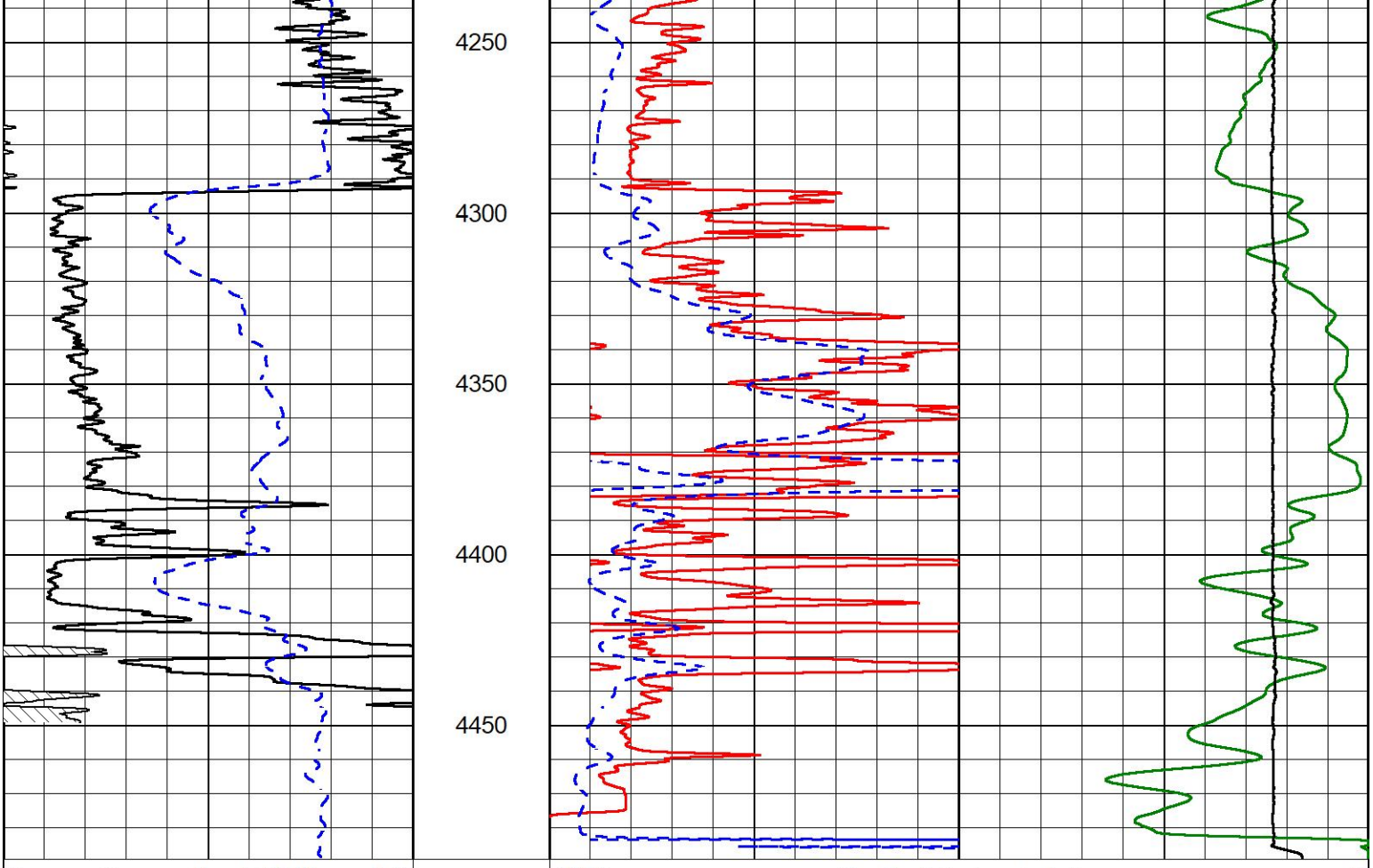

1500
1550
1600
1650
1700
1750
1800
1850
1900
1950
2000


2050
2100
2150
2200
2250
2300
2350
2400
2450
2500
2550


2600
2650
2700
2750
2800
2850
2900
2950
3000
3050
3100


3150
3200
3250
3300
3350
3400
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4000
4050
4100
4150
4200

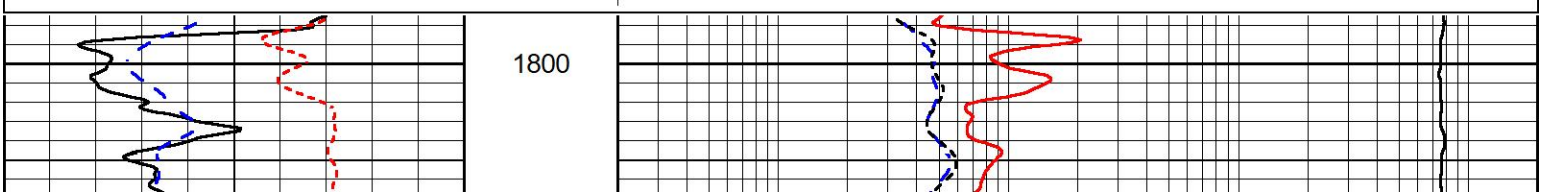


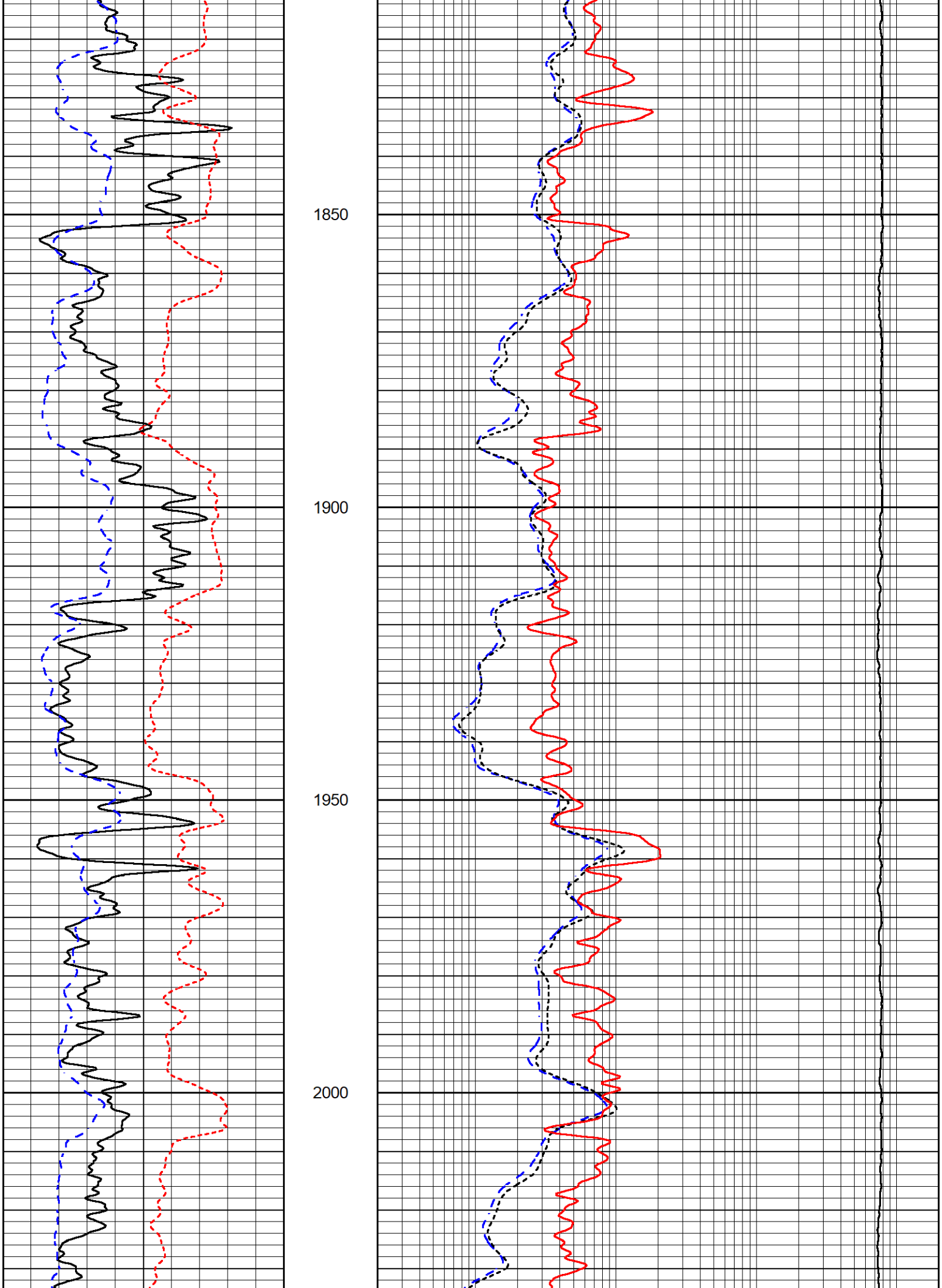
MIDWEST WIRELINE

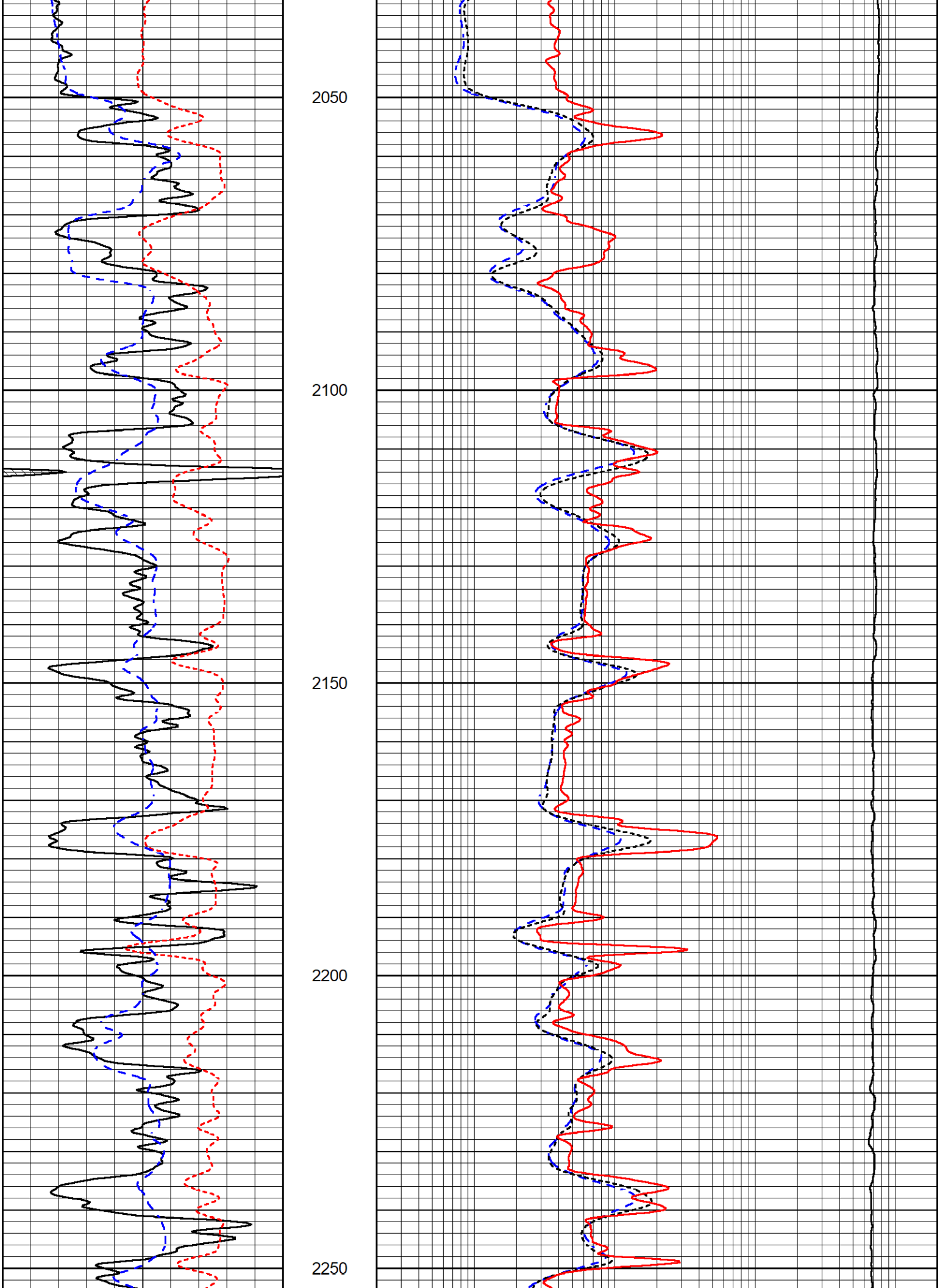
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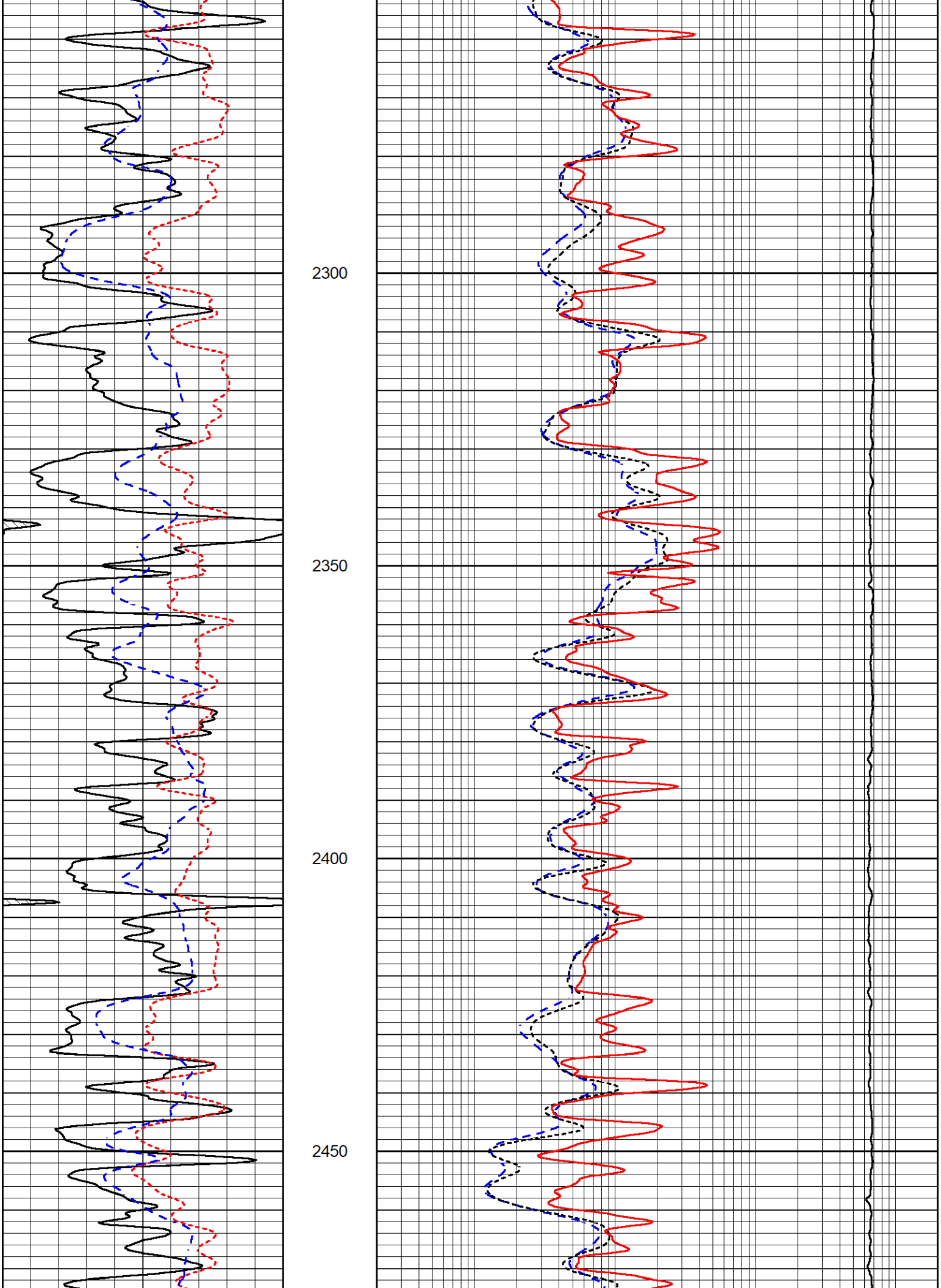
MAIN PASS

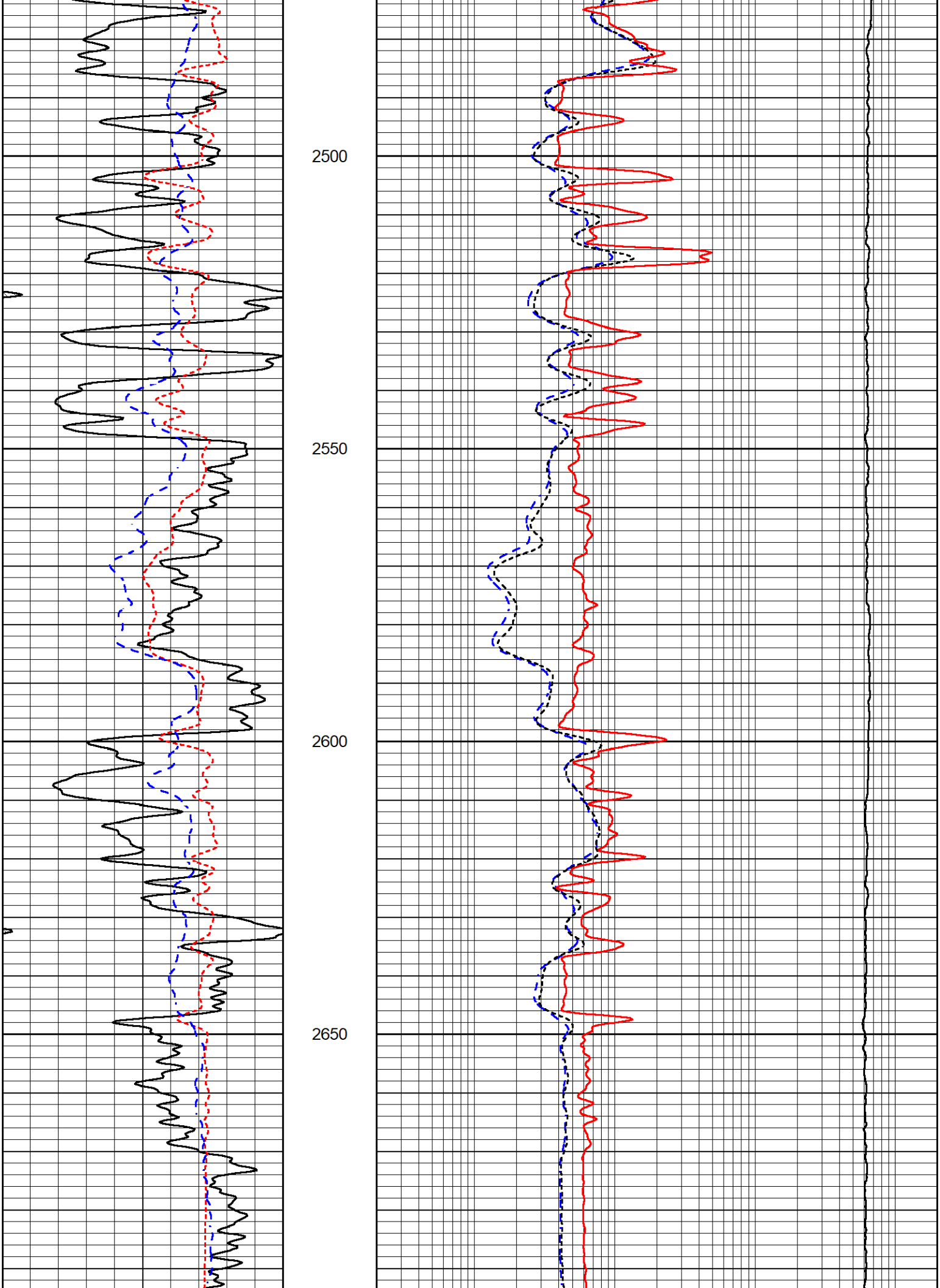
Database File	griffin_kamber #1.db
Dataset Pathname	StkMI/pass3.1
Presentation Format	_dil
Dataset Creation	Tue Mar 07 19:24:41 2023
Charted by	Depth in Feet scaled 1:240

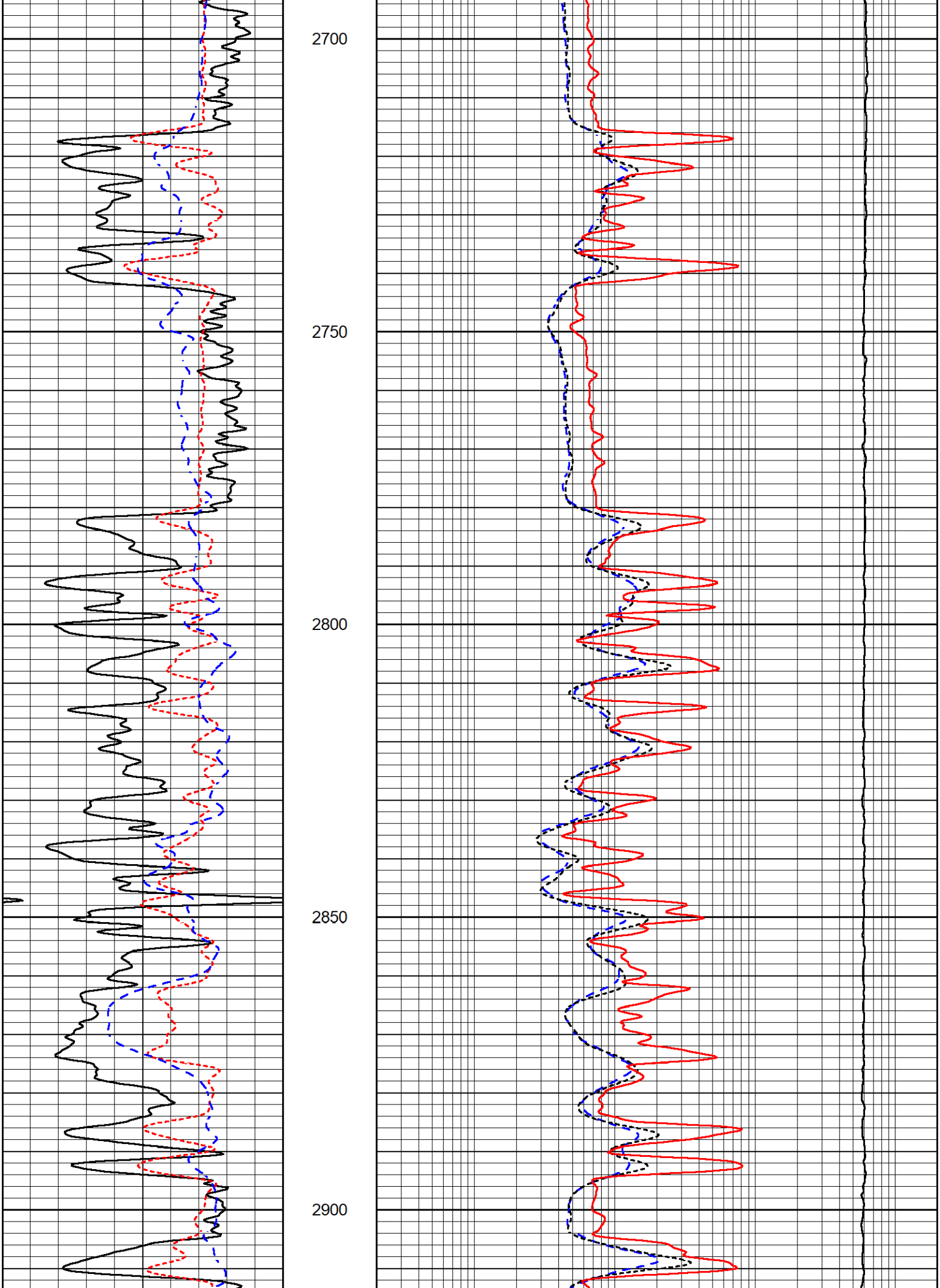


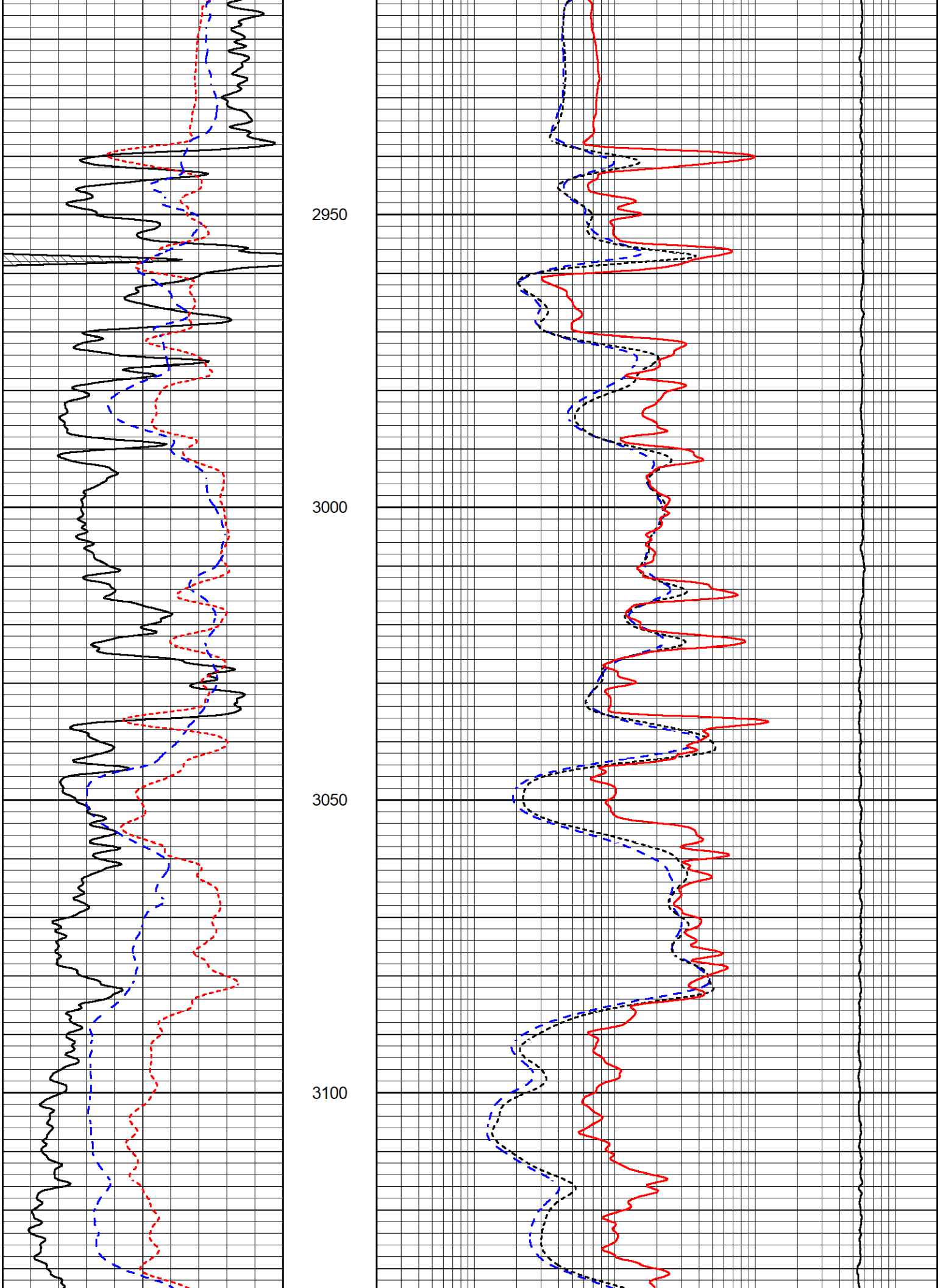

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1900
1950
2000

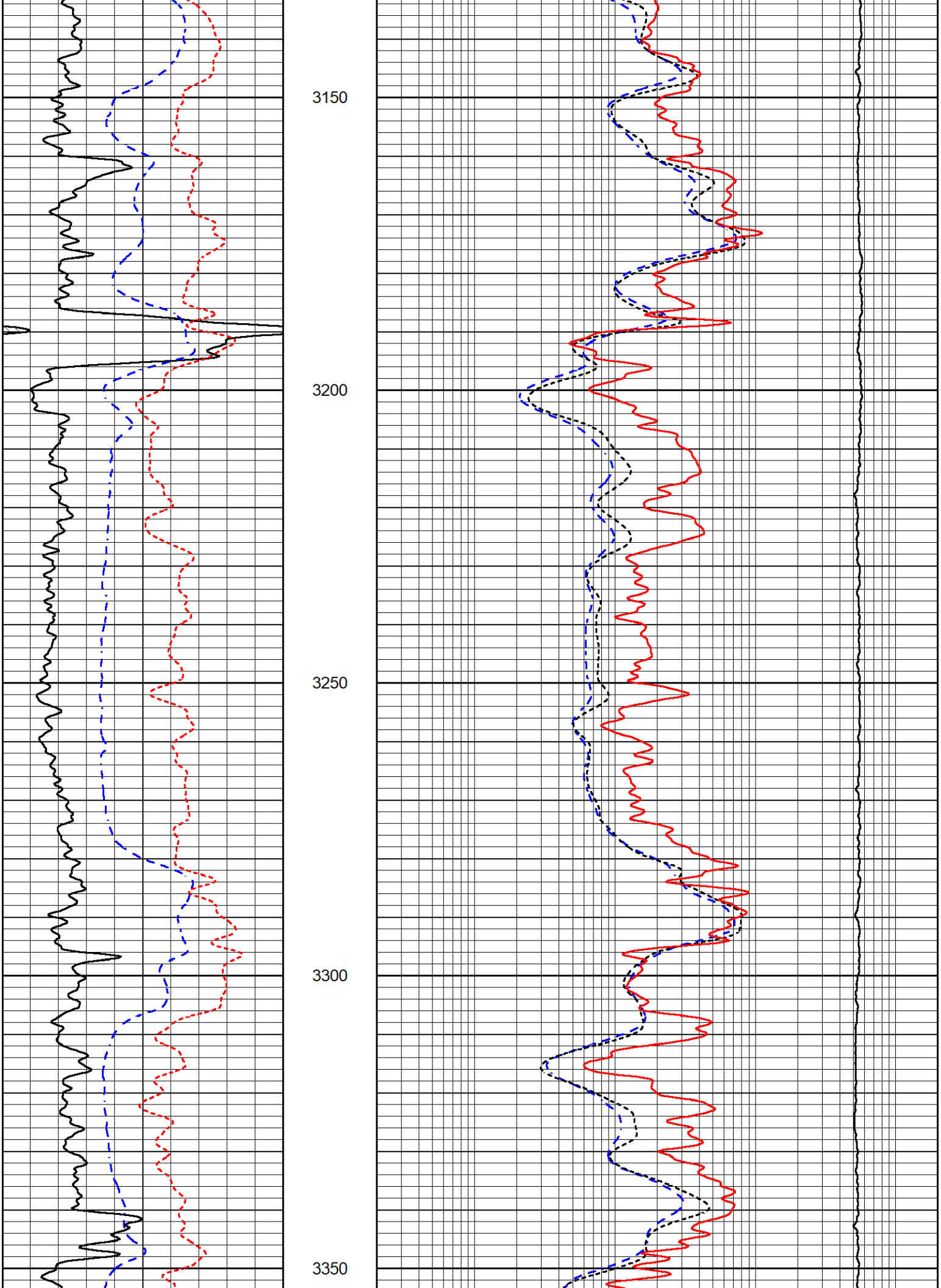

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2100
2150
2200
2250

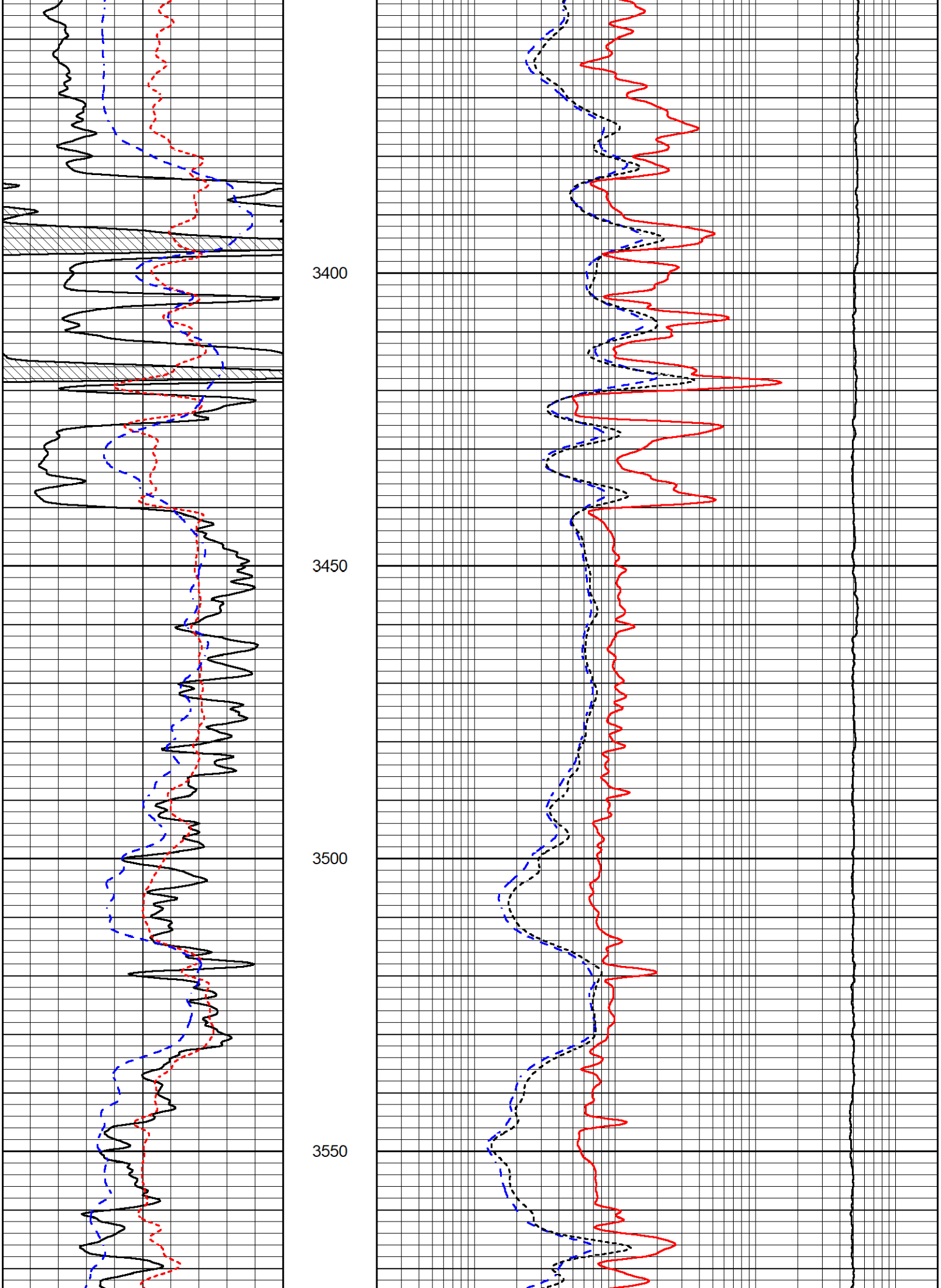

2300
2350
2400
2450

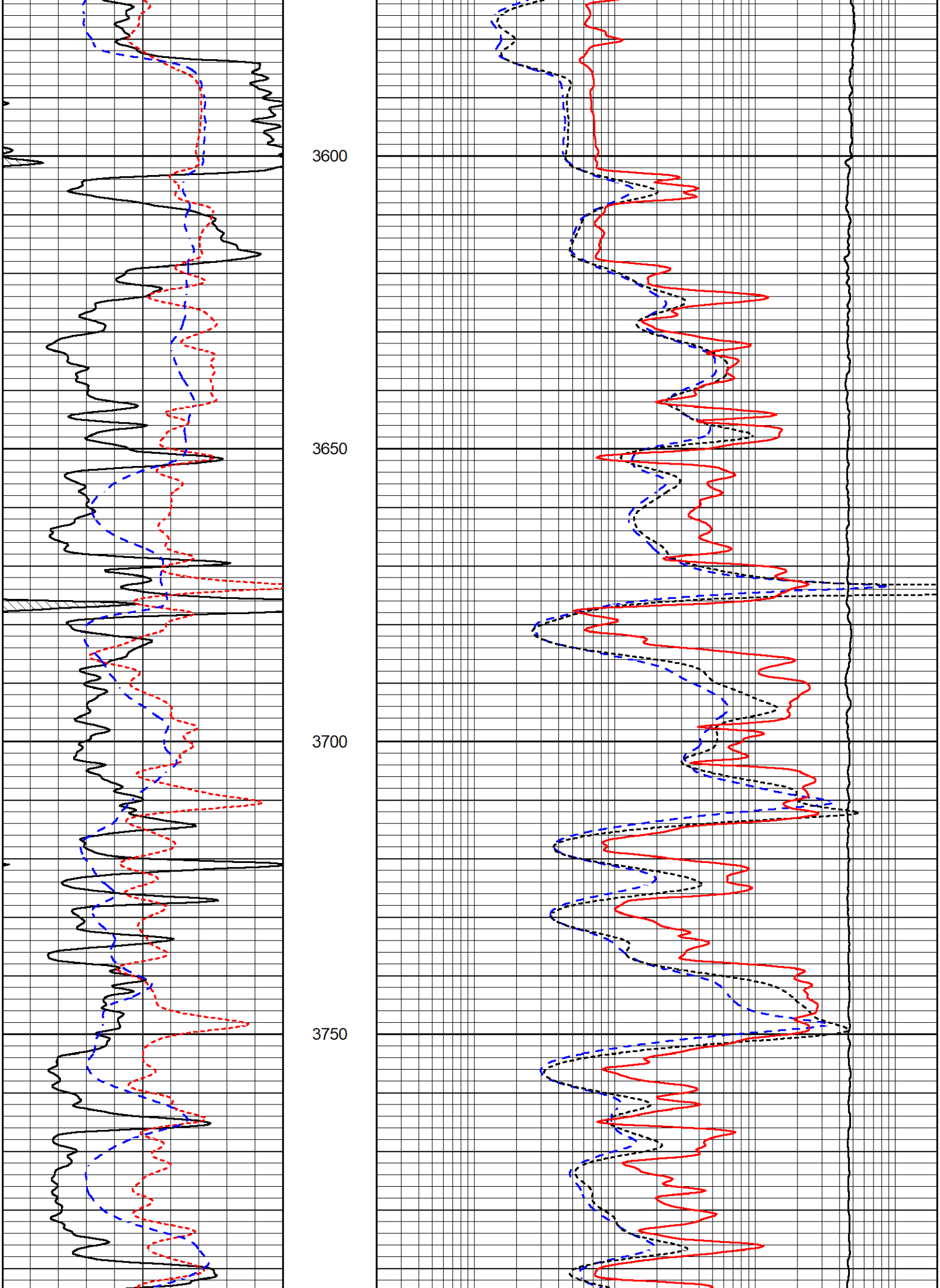

2500
2550
2600
2650

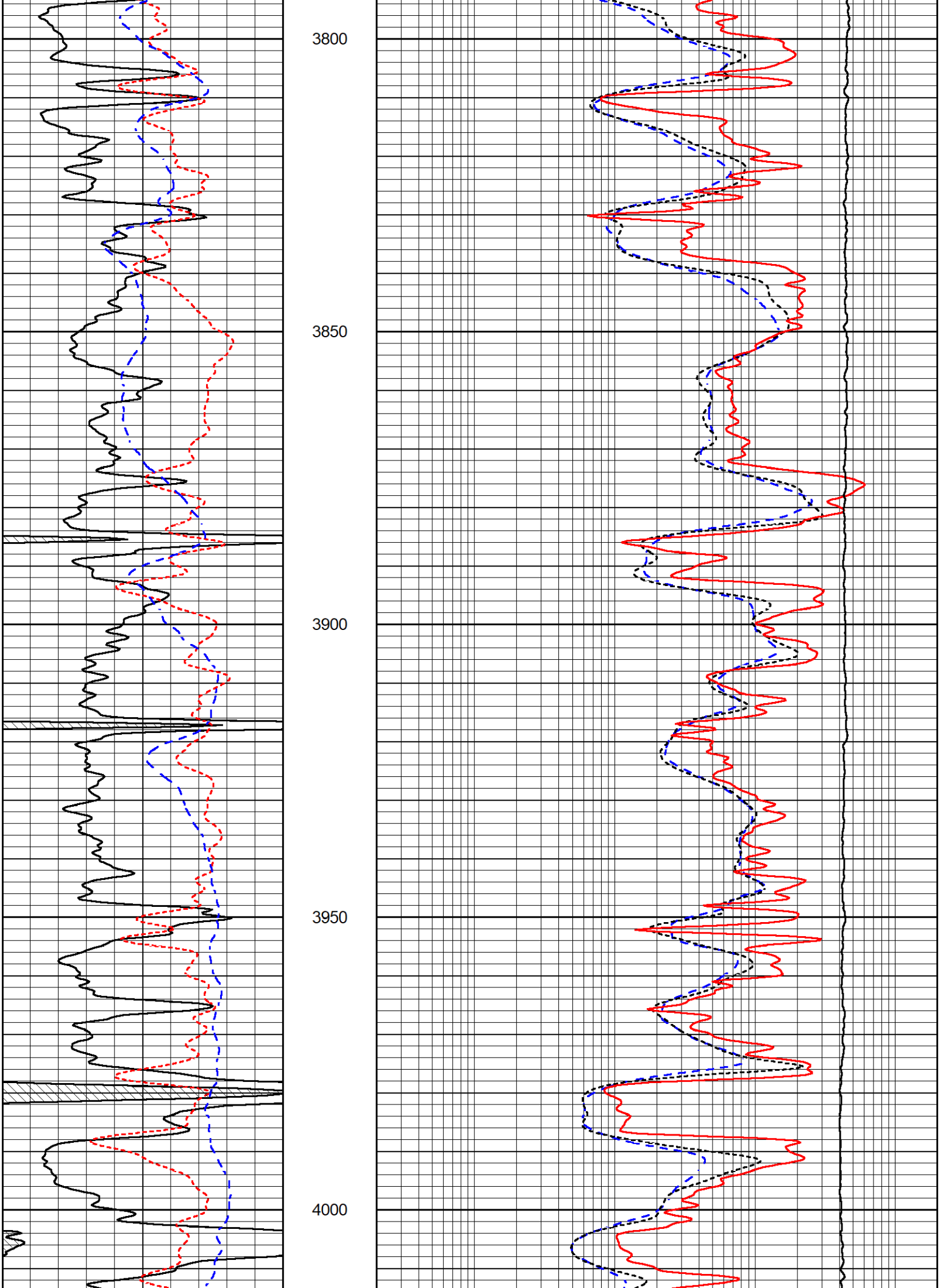

2700
2750
2800
2850
2900

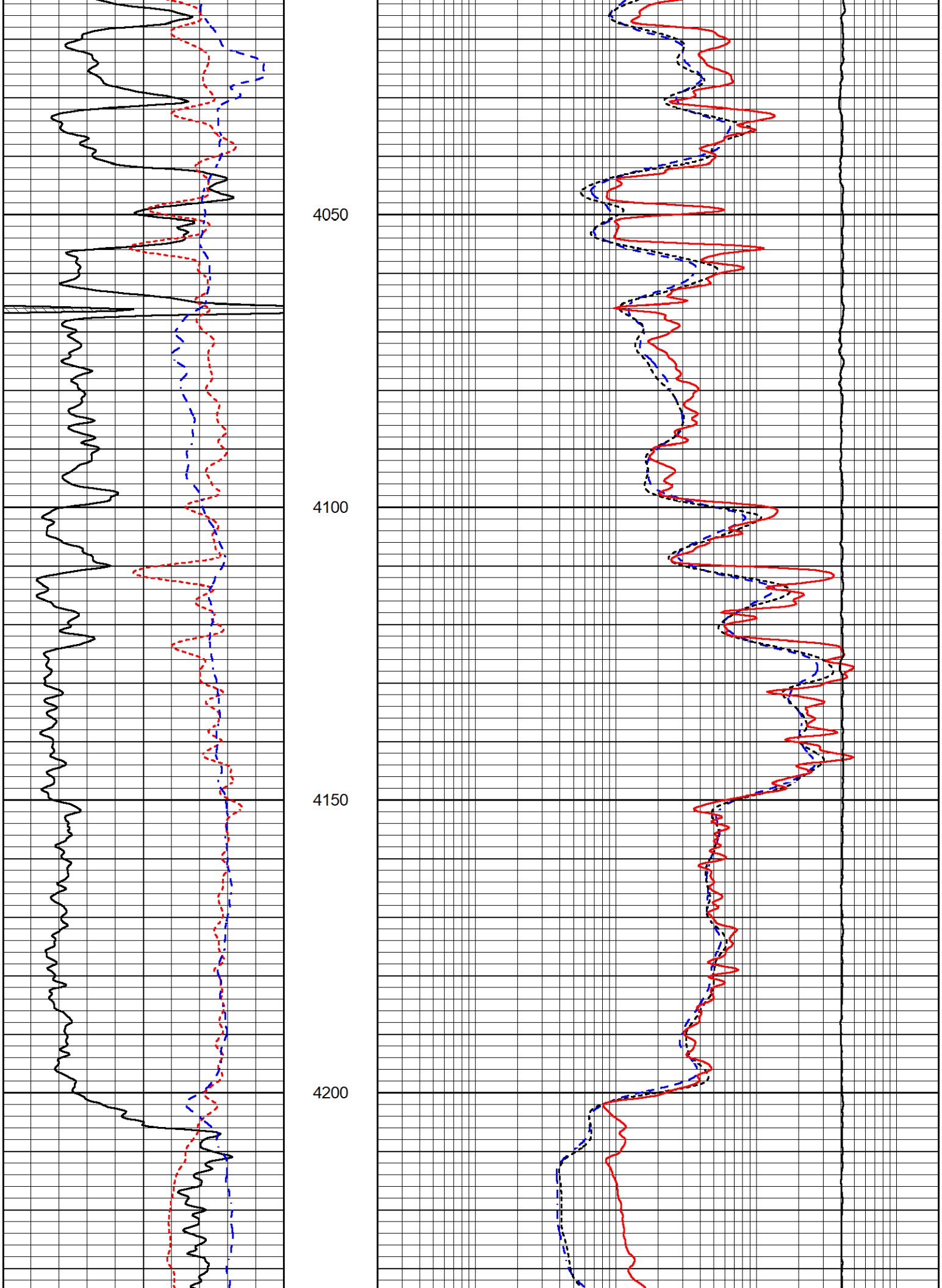

2950
3000
3050
3100

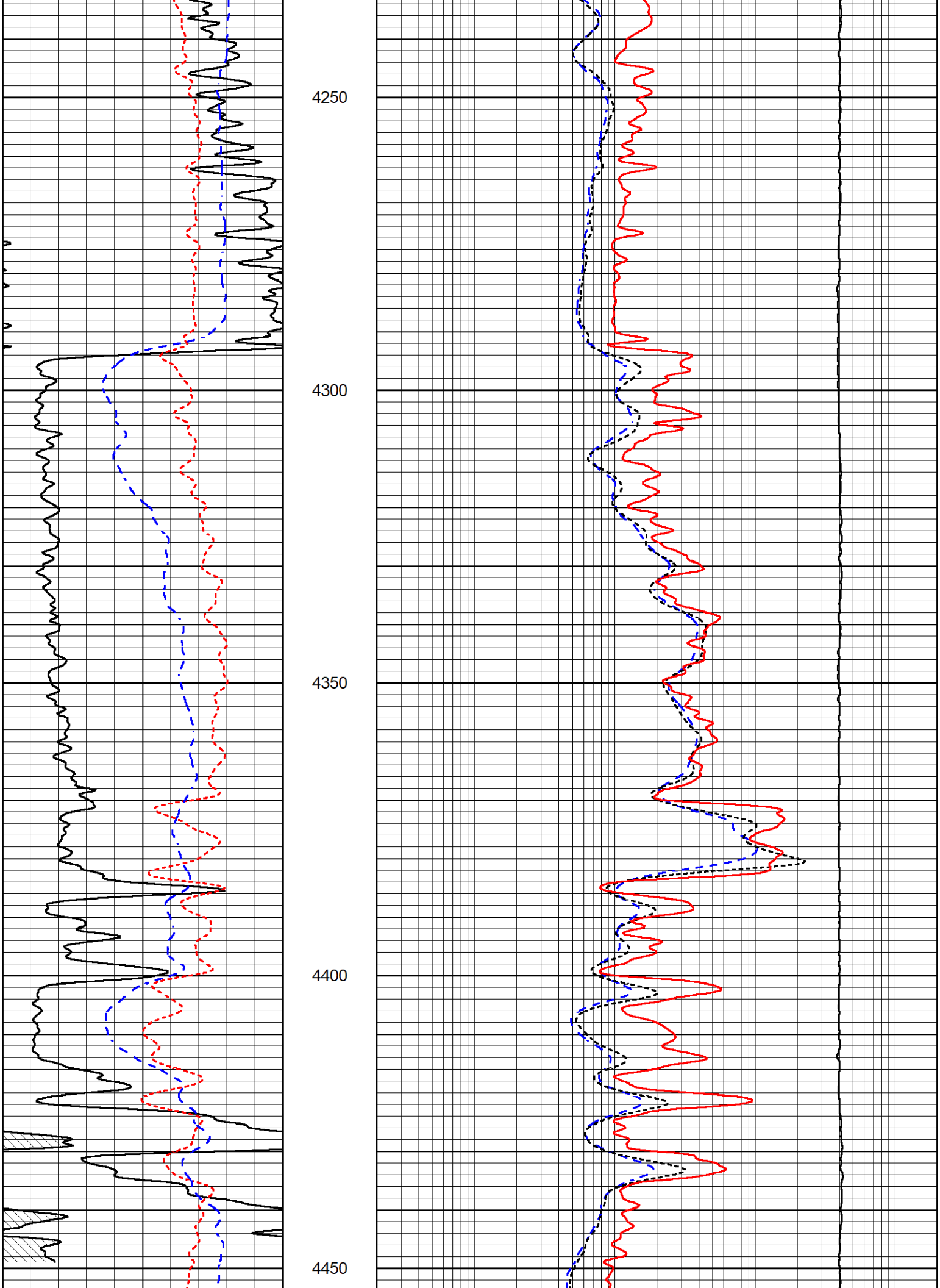

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3200
3250
3300
3350

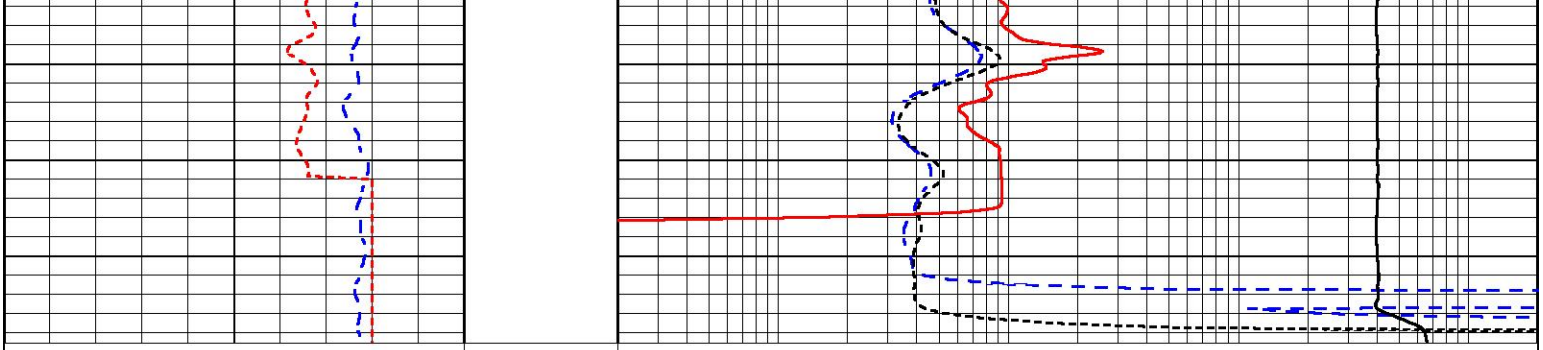

3400
3450
3500
3550


3600
3650
3700
3750


3800
3850
3900
3950
4000


4050
4100
4150
4200


4250
4300
4350
4400
4450



0	Gamma Ray (GAPI)	150
-160	RXORT	40
-200	SP (mV)	0

0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
10000	Line Tension (lb)	0

MIDWEST WIRELINE

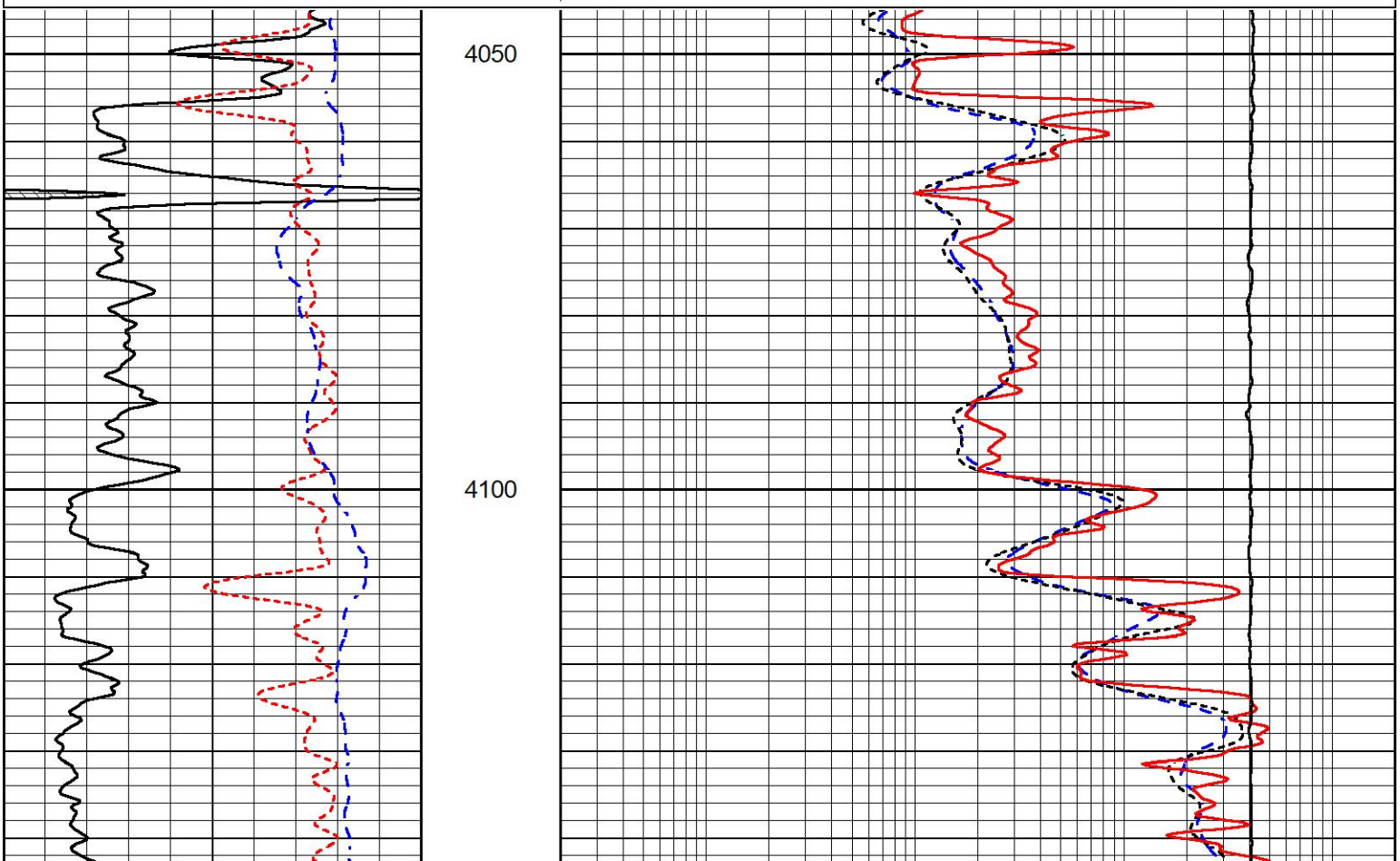
REPEAT SECTION

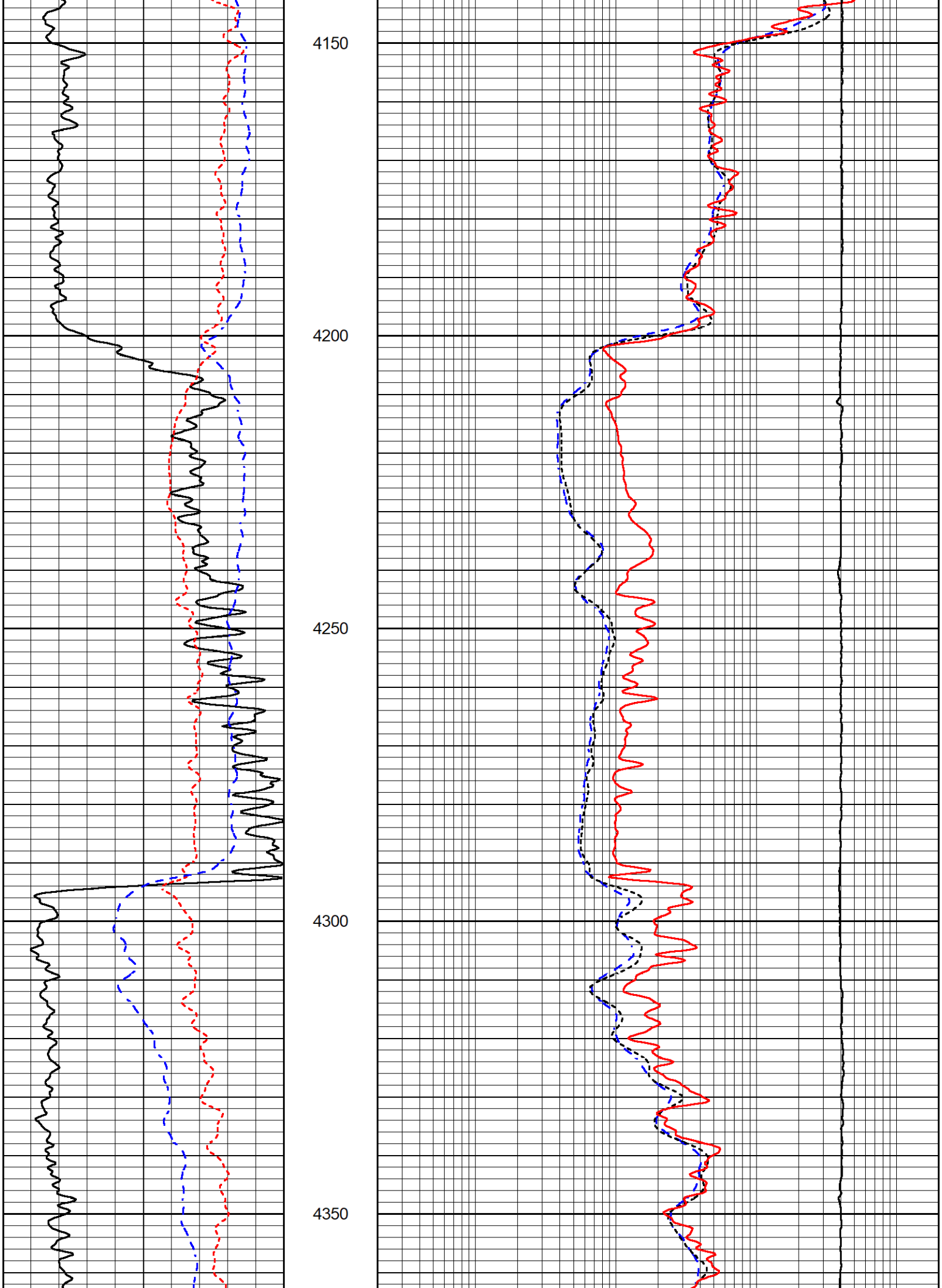
REPEAT PASS

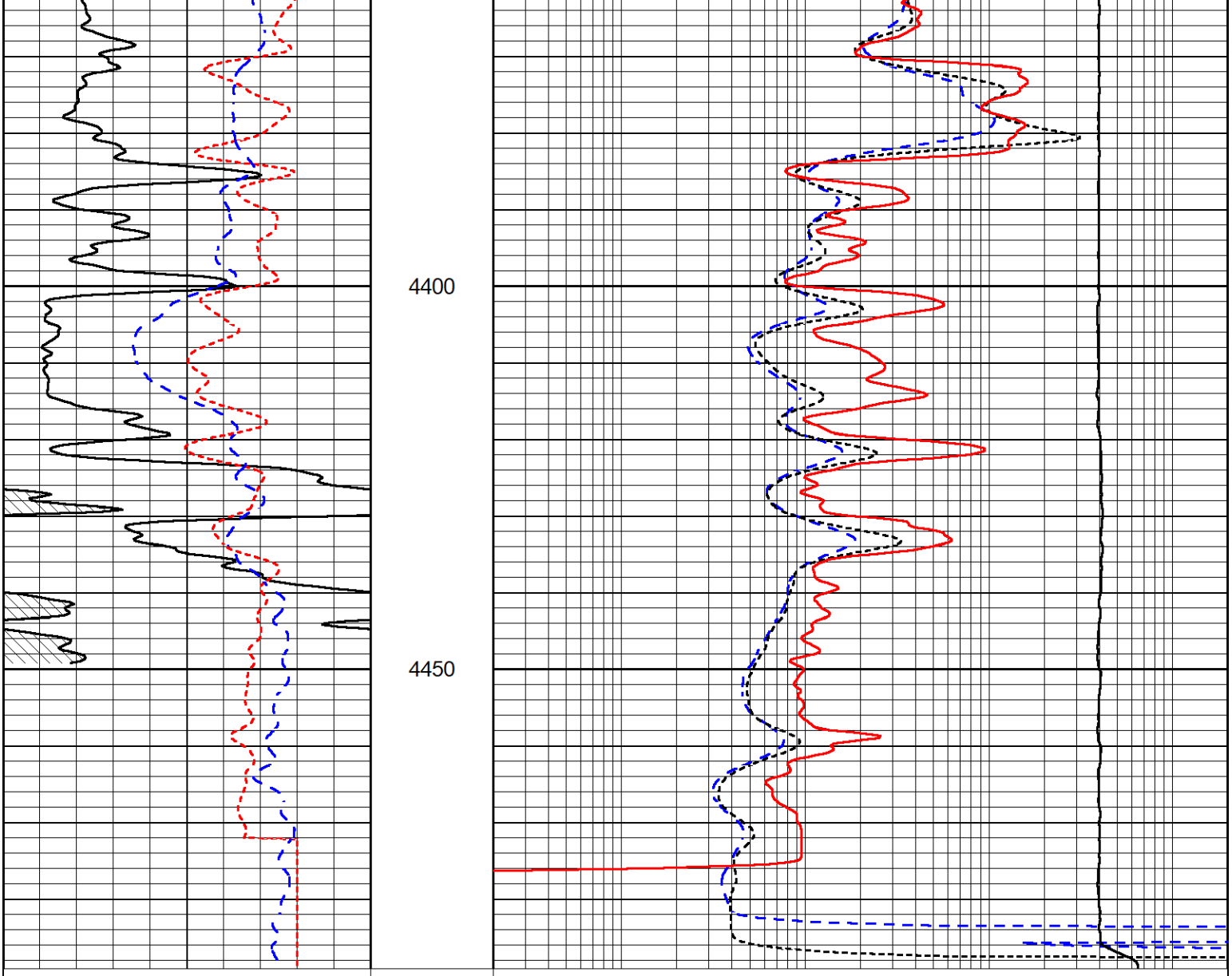
Database File	griffin_kamber #1.db
Dataset Pathname	StkMI/pass2.1
Presentation Format	_dil
Dataset Creation	Tue Mar 07 18:18:27 2023
Charted by	Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150
-160	RXORT	40
-200	SP (mV)	0

0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
10000	Line Tension (lb)	0




4150
4200
4250
4300
4350



Calibration Report

Database File	griffin_kamber #1.db
Dataset Pathname	StkMl/pass3.1
Dataset Creation	Tue Mar 07 19:24:41 2023

Dual Induction Calibration Report

Serial-Model:	501 HT-M&W
Surface Cal Performed:	Thu Jan 12 19:31:52 2023

	Readings		References			Results	
Loop:	Air	Loop	Air	Loop		m	b
Deep	83.639	487.104	0.000	183.000	mmho/m	0.455	-33.000
Medium	113.335	1585.690	0.000	442.000	mmho/m	0.305	-31.000

Microlog Calibration Report

Serial-Model: 401-PSIML
Performed: Tue Jan 31 07:24:49 2023

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	18500.0000	-1.0000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	15500.0000	-0.5000
Caliper	1.0052	1.0858	5.0000	16.5000	in	142.7190	-139.2500

Compensated Density Calibration Report

Serial-Model: 307-08-M&W
Source #: 20762B
Master Calibration Performed: Sat Feb 25 11:00:49 2023

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4131.04	5675.82	cps
Aluminum	2.635	g/cc	781.38	3576.78	cps

Spine Angle = 74.50 Density/Spine Ratio = 0.509

	Size		Reading
Small Ring	6.00	in	1.16
Large Ring	18.00	in	1.01

Compensated Neutron Calibration Report

Serial Number: 207-MW
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

PRE-SURVEY VERIFICATION

	Detector	Readings		Measured	Target
1)	Short Space		cps		
	Long Space		cps	pu	pu
2)	Short Space		cps		
	Long Space		cps	pu	
3)	Short Space		cps		
	Long Space		cps	pu	

POST-SURVEY VERIFICATION

	Detector	Readings		Measured	Target
1)	Short Space		cps		
	Long Space		cps	pu	pu
2)	Short Space		cps		
	Long Space		cps	pu	pu

3)	Short Space	cps		
	Long Space	cps	pu	pu

Gamma Ray Calibration Report

Serial Number:	106	
Tool Model:	M&W	
Performed:	Fri Dec 3 15:10:46 2021	
Calibrator Value:	500.0	GAPI
Background Reading:	24.0	cps
Calibrator Reading:	637.0	cps
Sensitivity:	0.5500	GAPI/cps

MIDWEST WIRELINE

Company	Griffin Management LLC
Well	Kamber #1
Field	Lion West
County	Pratt
State	Kansas