MIDWEST WIRELINE

DUAL INDUCTION LOG

Company Griffin Management, LLC
Well Anna #1
Field Moffett
County Barber
State Kansas

Location: API # : 15-007-24480-00-00
660 FSL & 660 FWL
SEC 10 TWP 30S RGE 15W

Other Services
CNL/CDL
MEL

Elevation
K.B. 1925
D.F.
G.L. 1920

Permanent Datum Ground Level Elevation 1920
Log Measured From Kelly Bushing
Drilling Measured From Kelly Bushing

Date	10/2/2023		
Run Number	One		
Depth Driller	4805		
Depth Logger	4795		
Bottom Logged Interval	4794		
Top Log Interval	950		
Casing Driller	8.625 @ 976		
Casing Logger	975		
Bit Size	7.875		
Type Fluid in Hole	Chemical		
Salinity,ppm CL	4500		
Density / Viscosity	9.3 / 72		
pH / Fluid Loss	11.5 / 80		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.45 @ 85		
Rmf @ Meas. Temp	0.34 @ 85		
Rmc @ Meas. Temp	0.61 @ 85		
Source of Rmf / Rmc	CHARTS		
Rm @ BHT	0.31 @ 124		
Operating Rig Time	3 Hours		
Max Rec. Temp. F	124		
Equipment Number	P-108		
Location	HAYS		
Recorded By	D. Schmidt		
Witnessed By	Charles Griffin		

<<< Fold Here >>>

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.

Croft,
South to 110,
East to 130, South and West to location

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: Charles Griffin
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	40.23		GR-M&W (105)	3.00	3.50	50.00
CNLSC	37.13		CNT-M&W (210)	5.00	3.50	100.00
CNSSC	36.38					
			MWLith-STEP LITHO Short (701-01)	8.40	5.00	250.00
LCAL	28.21					
LLW8N	28.21					
LLW7N	28.21					
LLW6N	28.21					
LLW5N	28.21					
LLW4N	28.21					
LLW3N	28.21					
LLW2N	28.21		ML-PSI STKBL ML (402)	7.58	4.00	65.00
LLW1N	28.21					
LSLOCK	27.96					
LLLOCK	27.96					
PELTMPR	27.96					
LSHVNG	27.96					
LLHVNG	27.96					
LSW8N	27.71					
LSW7N	27.71					
LSW6N	27.71					
LSW5N	27.71					
LSW4N	27.71					
LSW3N	27.71					
LSW2N	27.71					
LSW1N	27.71					
MCAL	19.58		DIL-M&W (505 HT)	18.25	3.50	220.00
MI	19.58					
MN	19.58					
RLL3F	15.50					
RLL3	15.50					
CILD	8.33					
CILM	4.50					
SP	0.20					

Dataset: griffin_anna 1.db: field/well/stkml/pass3.5
Total length: 42.23 ft
Total weight: 685.00 lb
O.D.: 5.00 in

Log Variables

DatabaseC:\ProgramData\Warrior\Data\griffin_anna 1.db
Dataset field/well/stkml/pass3.5/_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	No	-13	-17	345	70	Off	4795

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

Database File	griffin_anna 1.db
Dataset Pathname	stkml/pass3.3
Presentation Format	_dil2in
Dataset Creation	Tue Oct 03 01:52:39 2023
Charted by	Depth in Feet scaled 1:600

0 Gamma Ray (GAPI) 300

1000 Conductivity (mmho/m) 0

15000 Line Tension (lb) 0

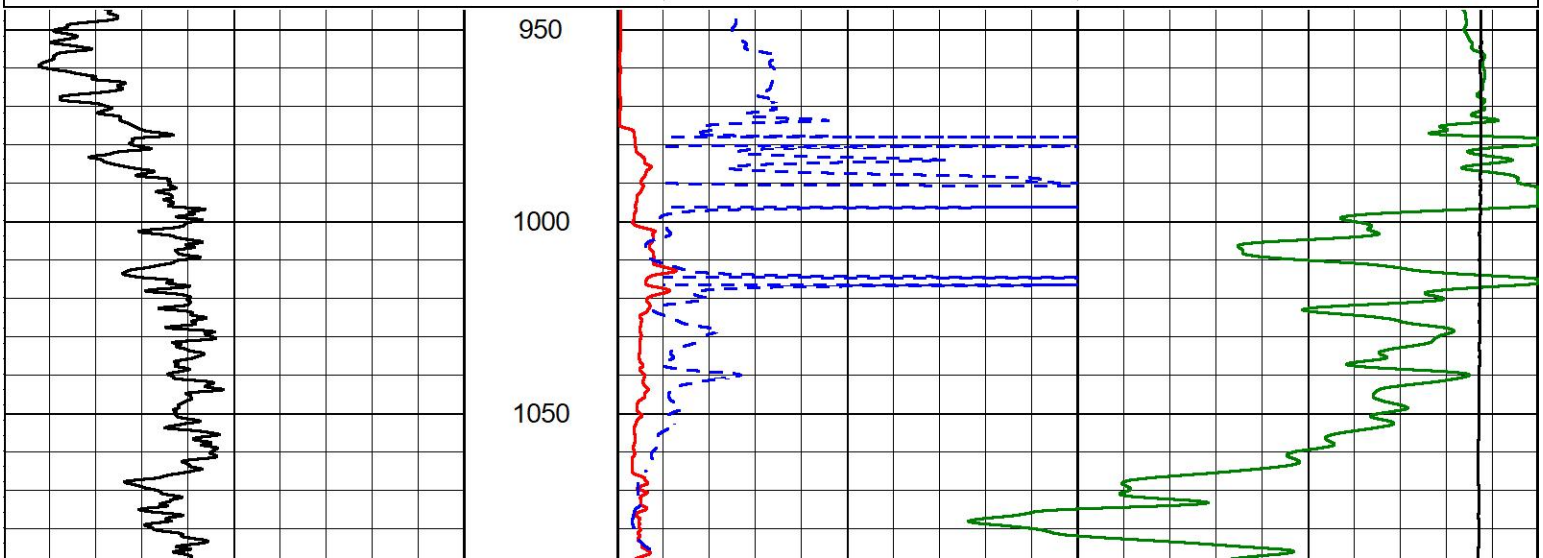
0 Shallow Resisitivity (Ohm-m) 50

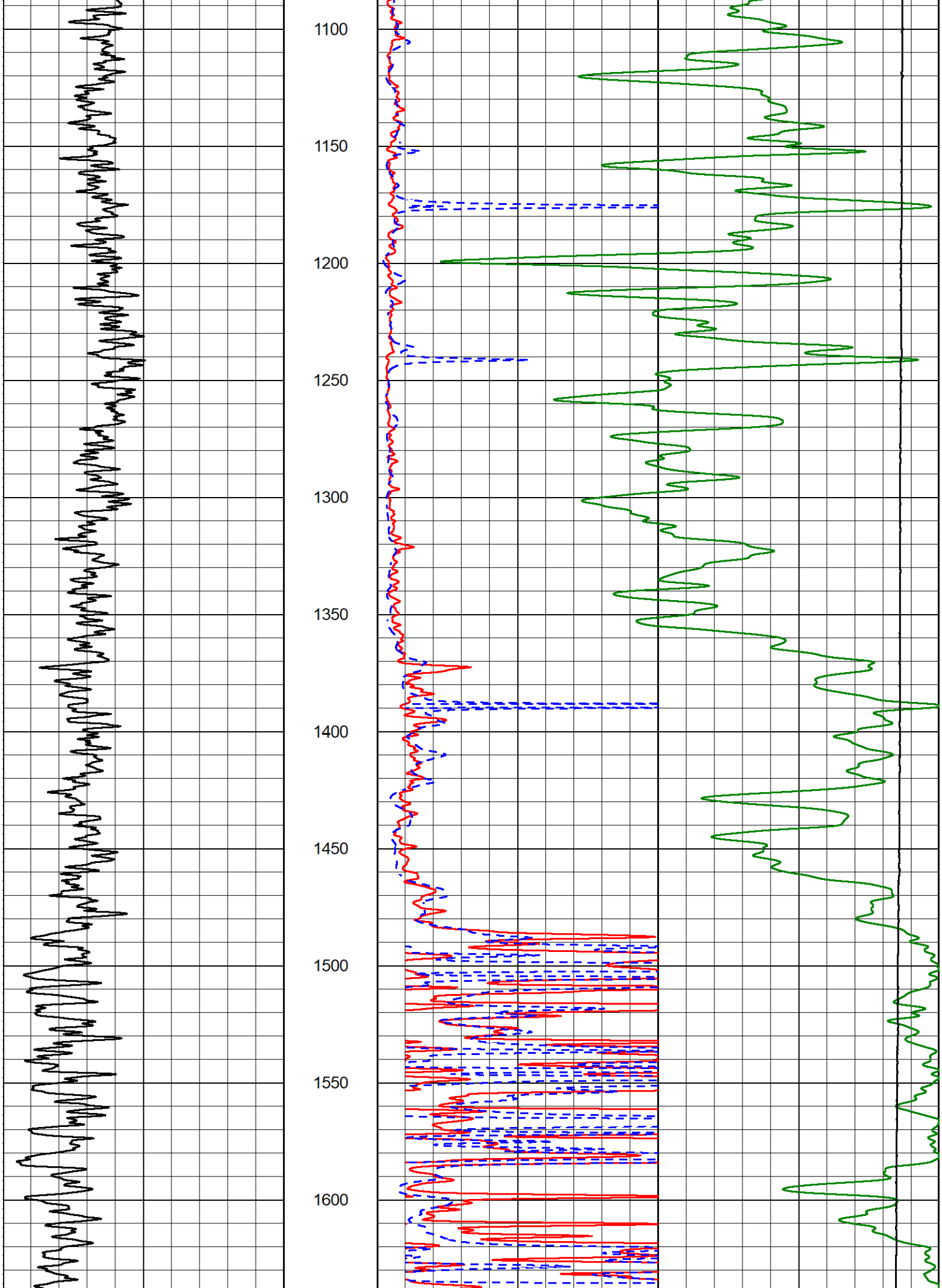
0 Deep Resistivity (Ohm-m) 50

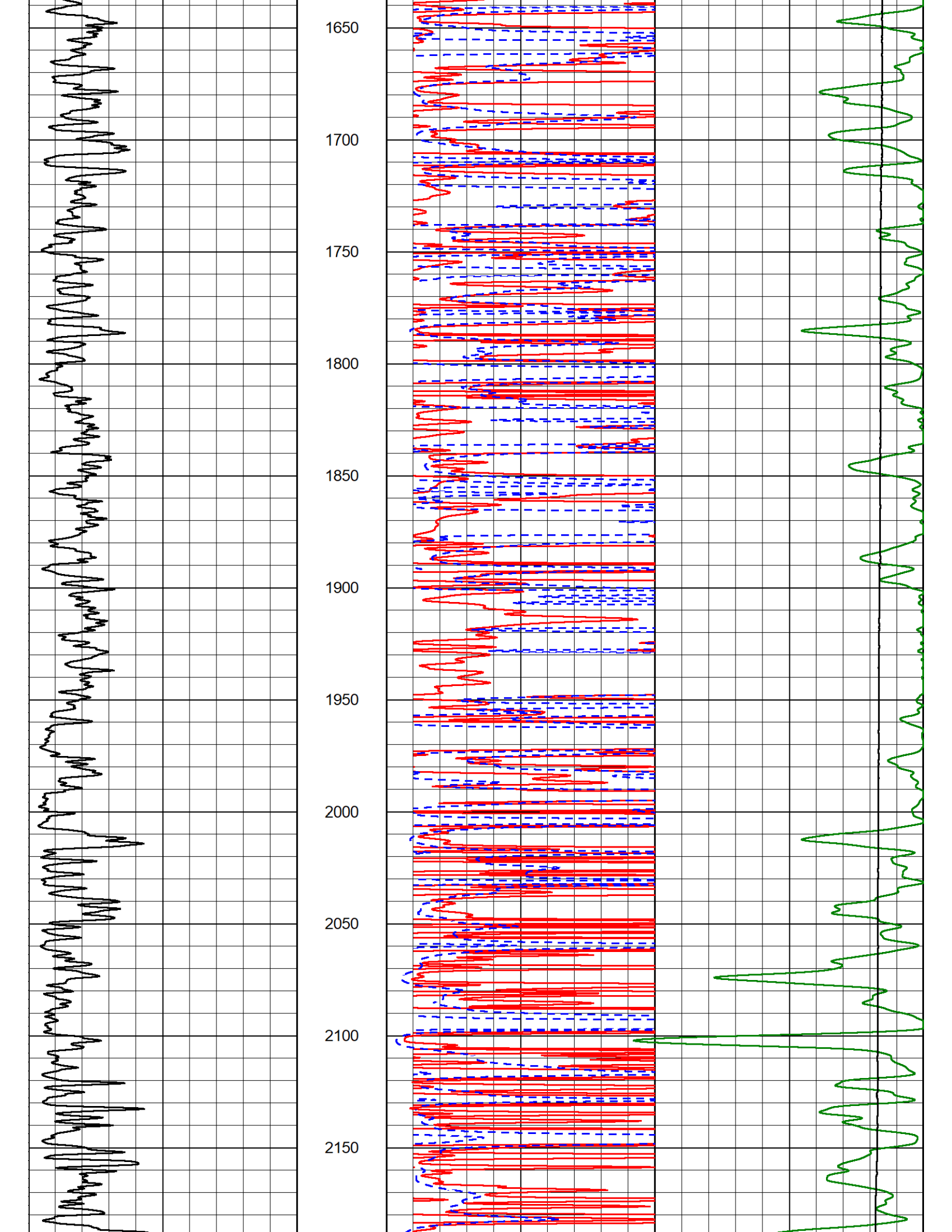
Shallow Resistivity

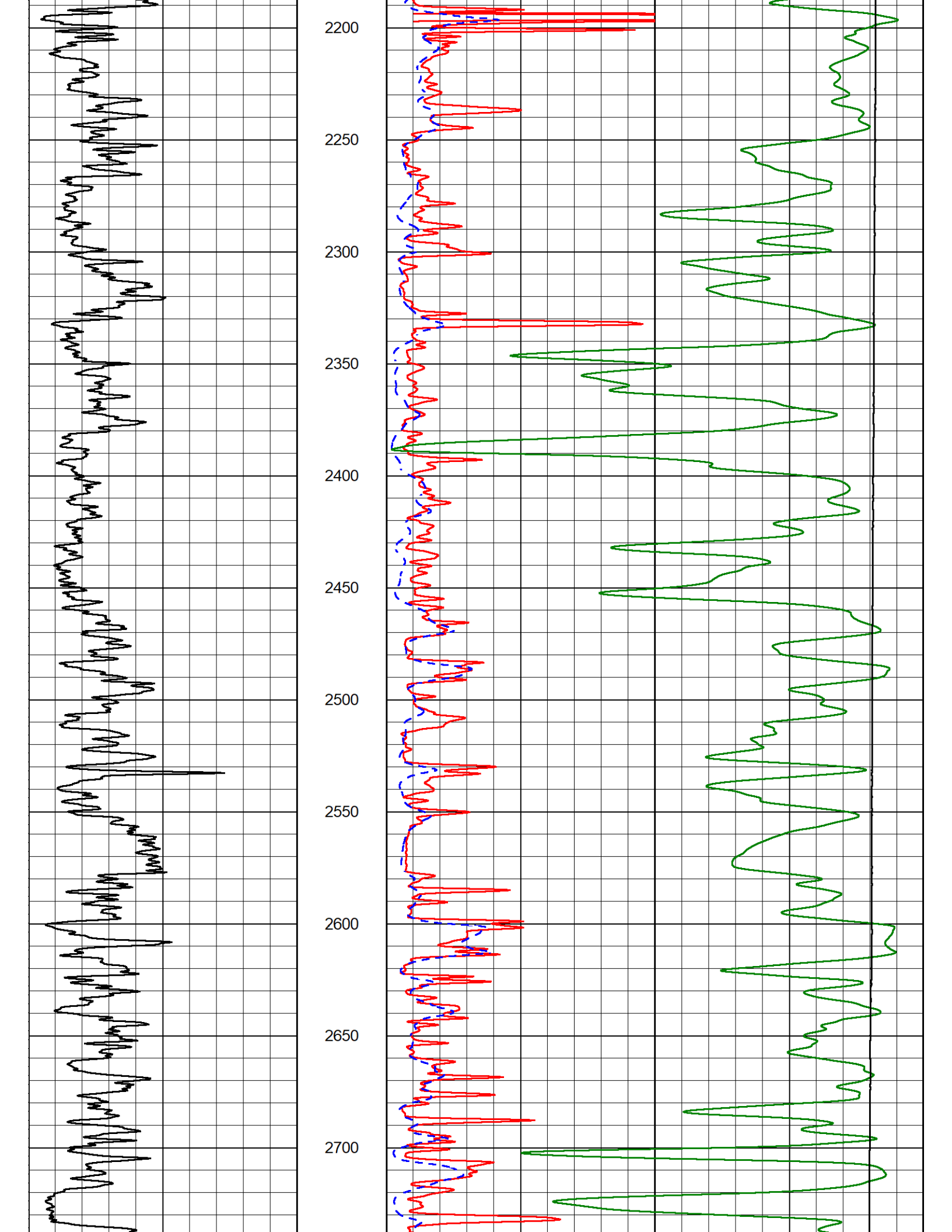
50 (Ohm-m) 200

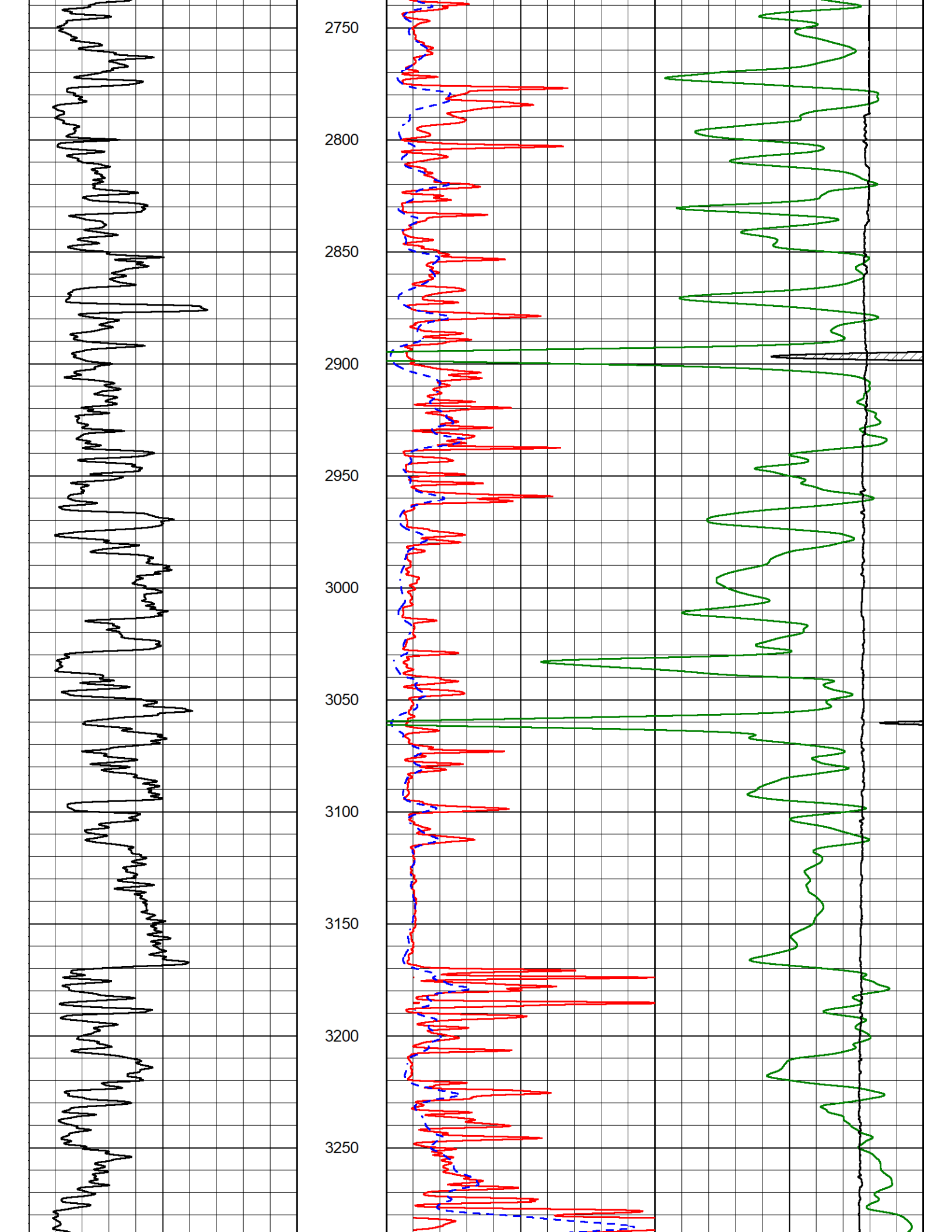
50 Deep Resistivity (Ohm-m) 200

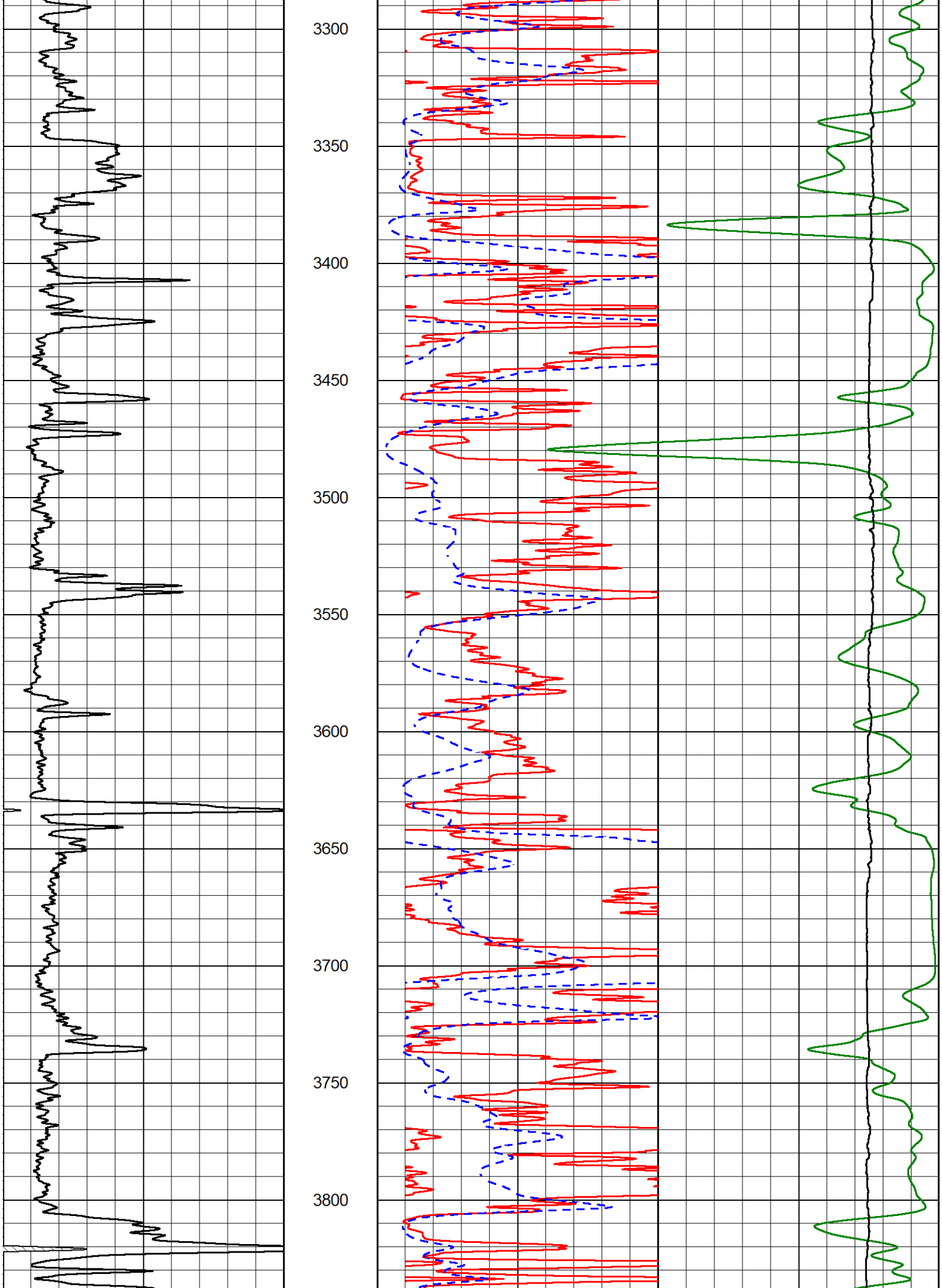


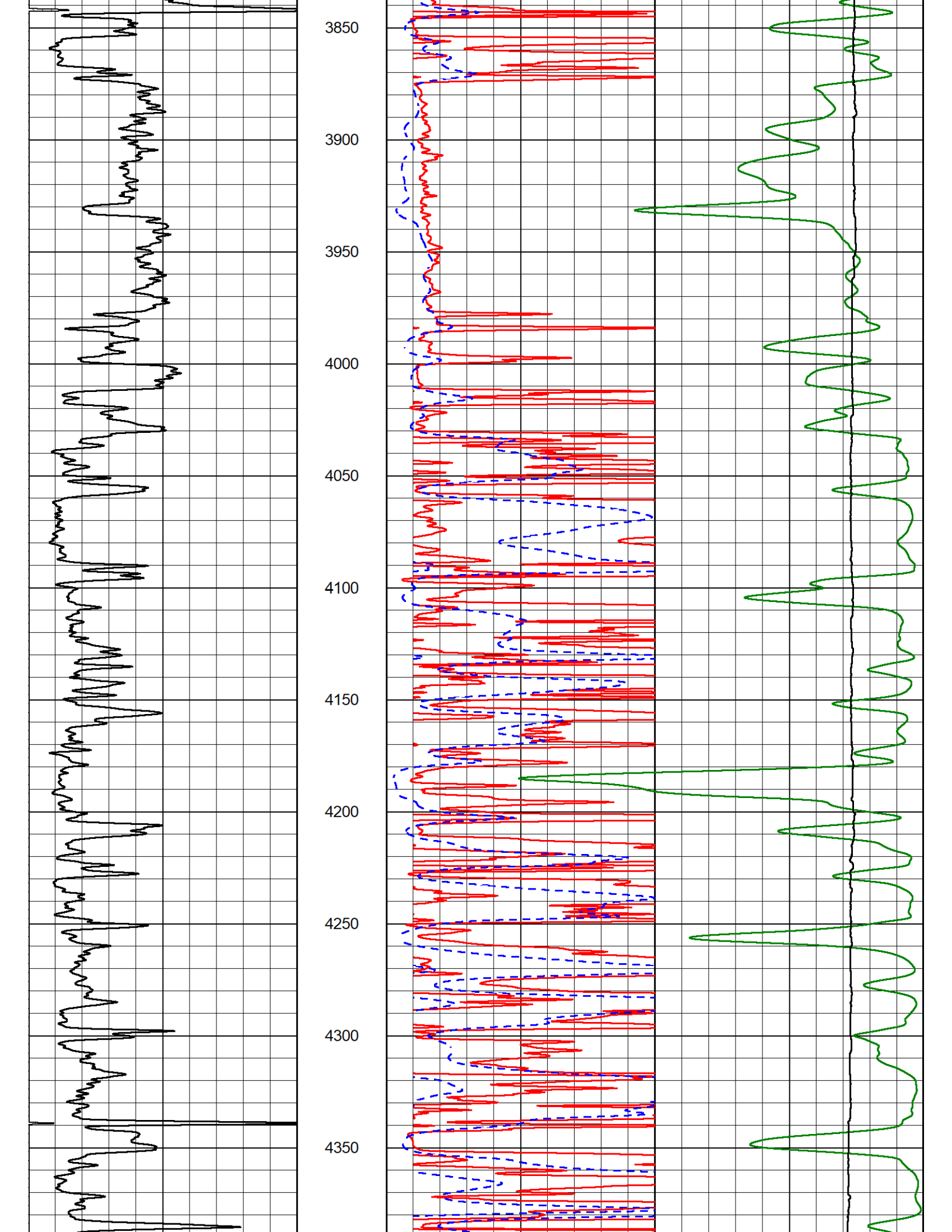

1100
1150
1200
1250
1300
1350
1400
1450
1500
1550
1600

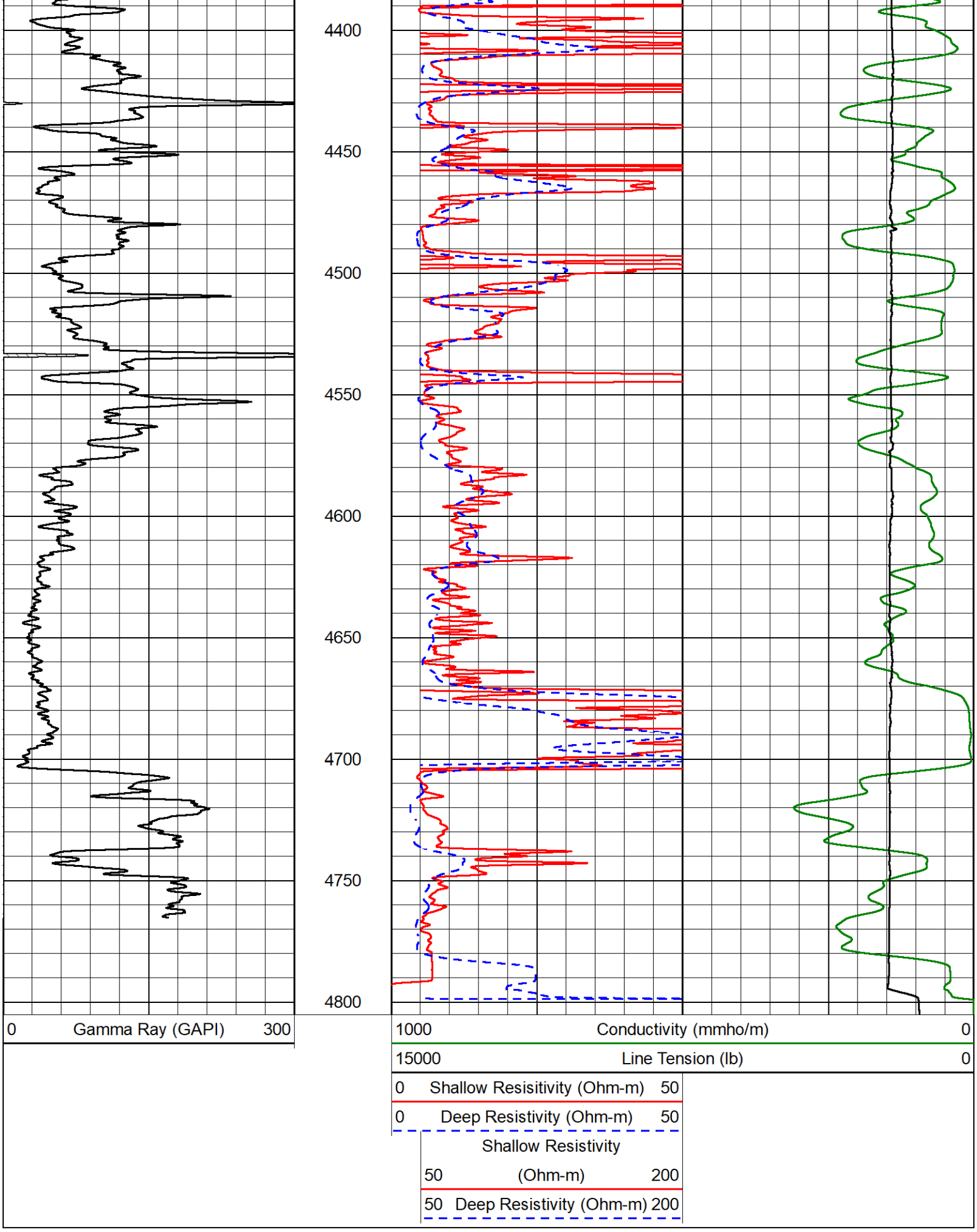

1650
1700
1750
1800
1850
1900
1950
2000
2050
2100
2150


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
3450
3500
3550
3600
3650
3700
3750
3800


3850
3900
3950
4000
4050
4100
4150
4200
4250
4300
4350



DETAIL SECTION

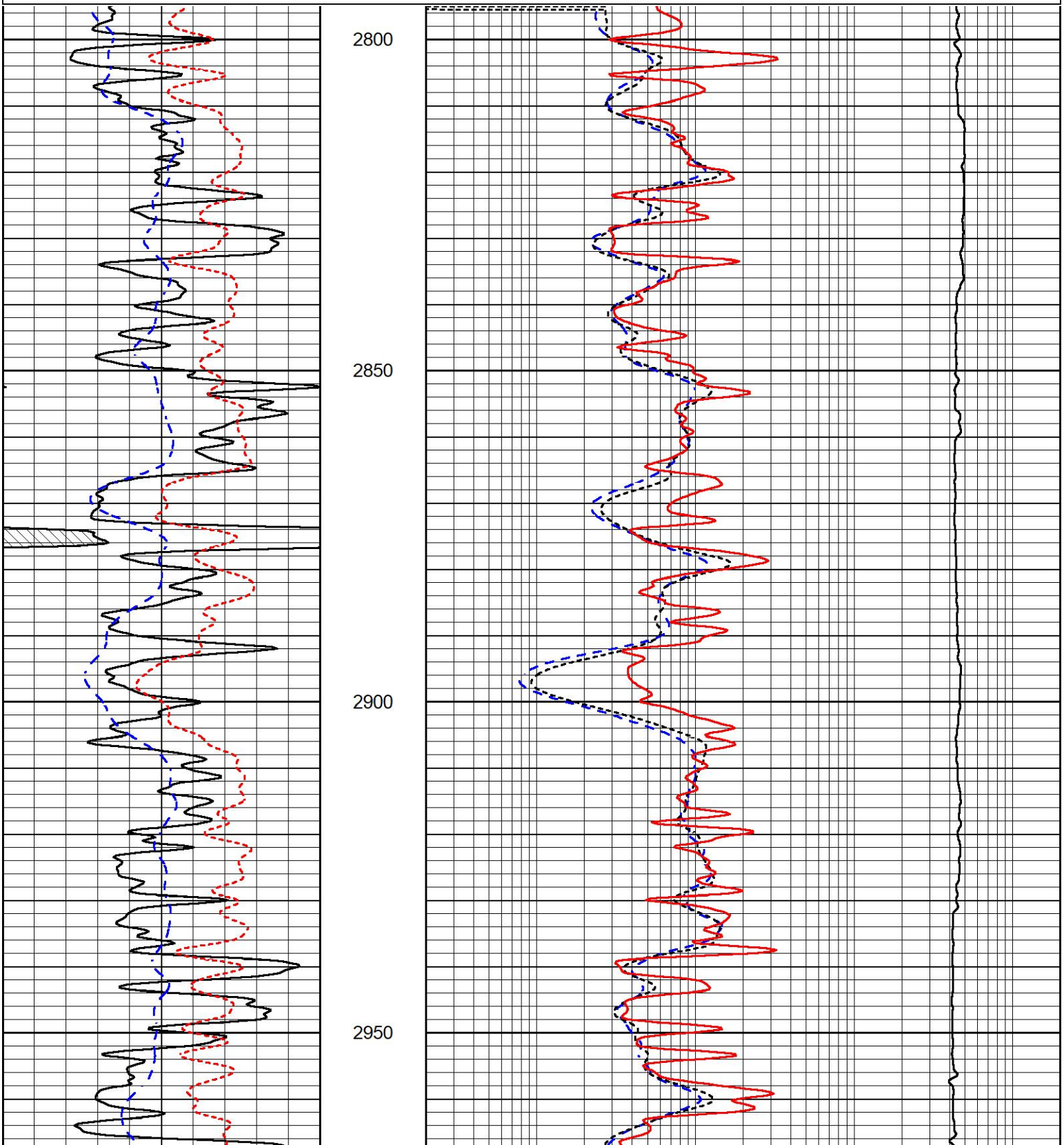
MIDWEST WIRELINE

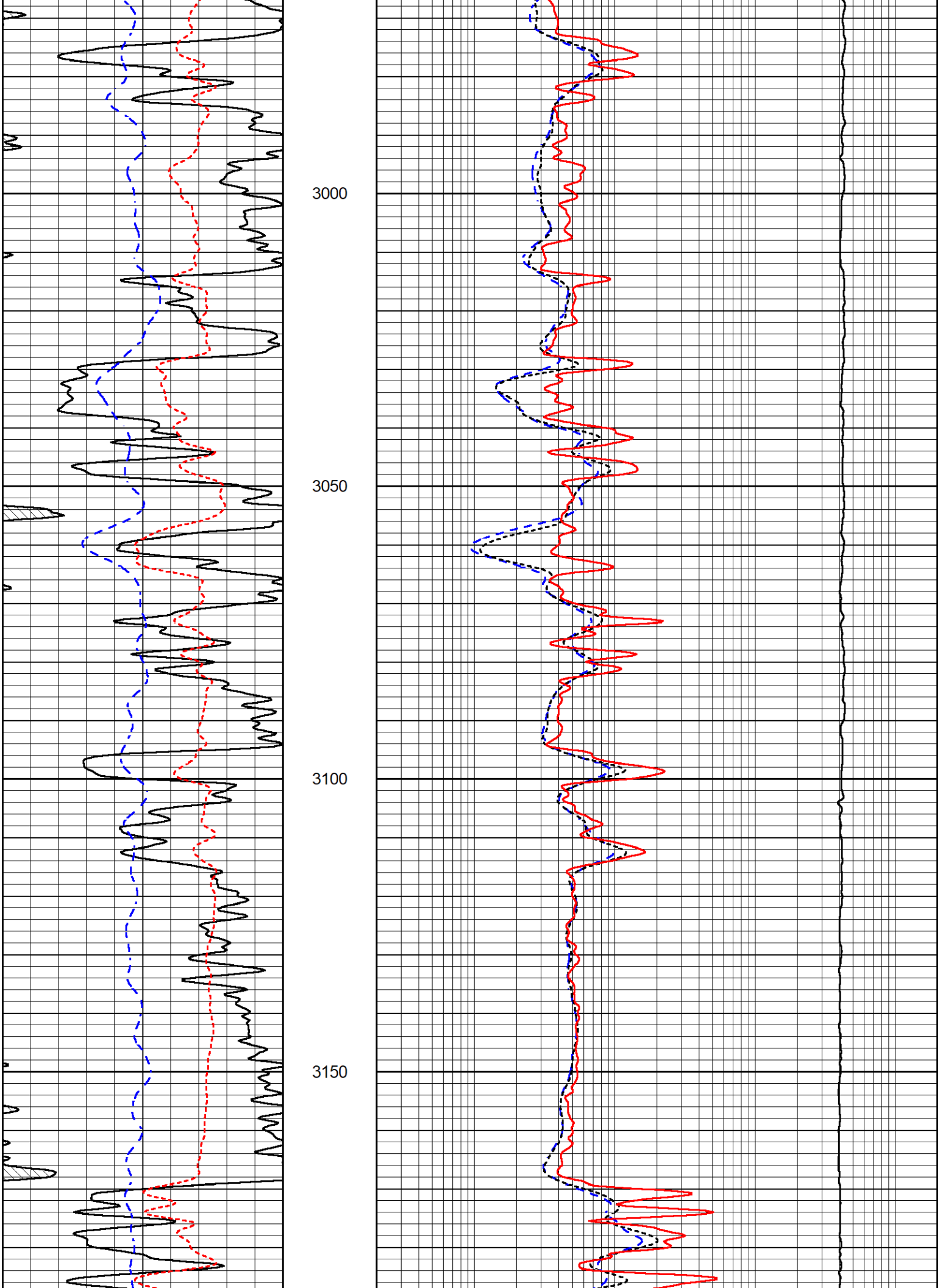
MAIN PASS

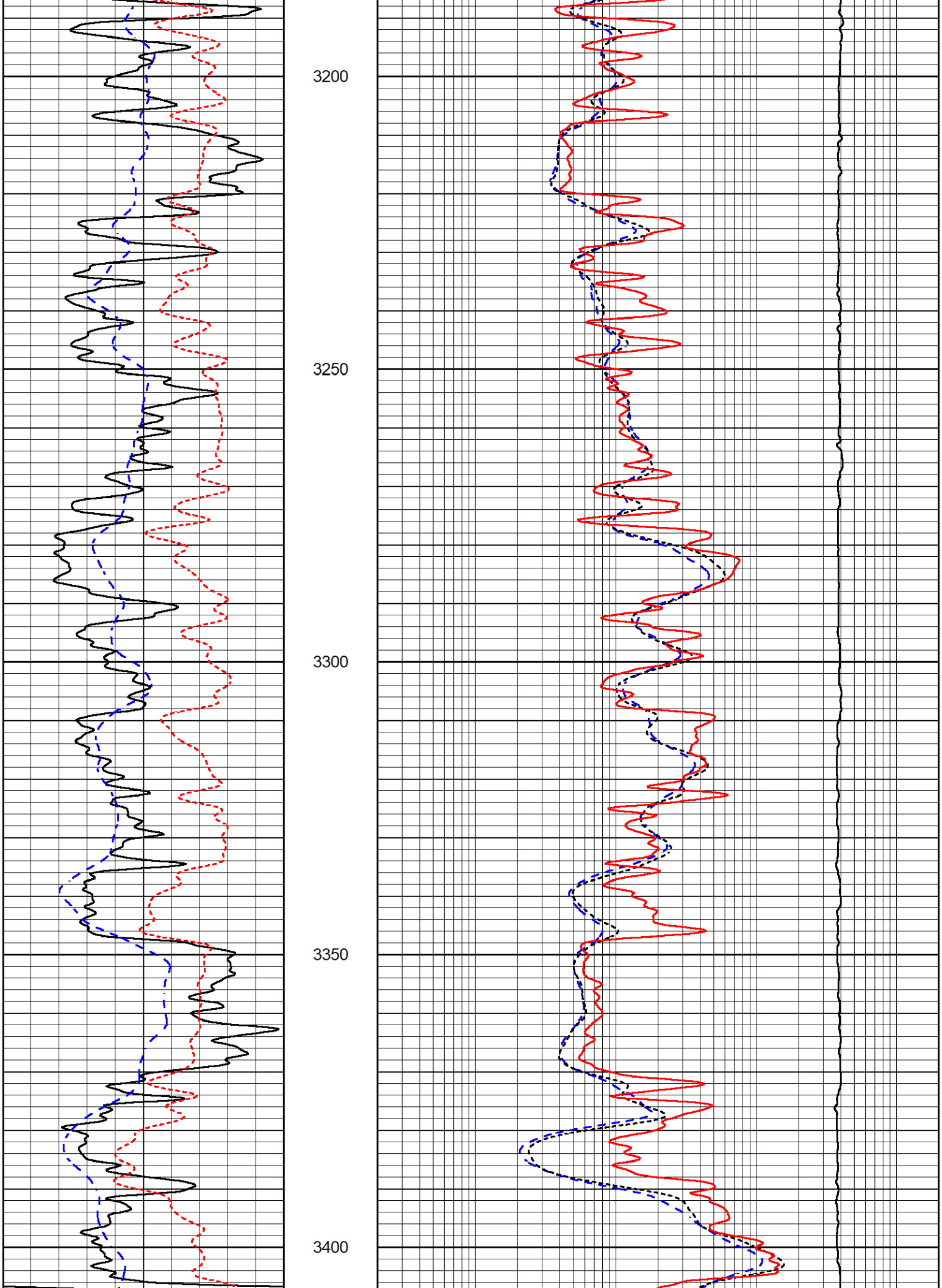
Database File	griffin_anna 1.db
Dataset Pathname	stkml/pass3.1
Presentation Format	_dil
Dataset Creation	Tue Oct 03 01:54:09 2023
Charted by	Depth in Feet scaled 1:240

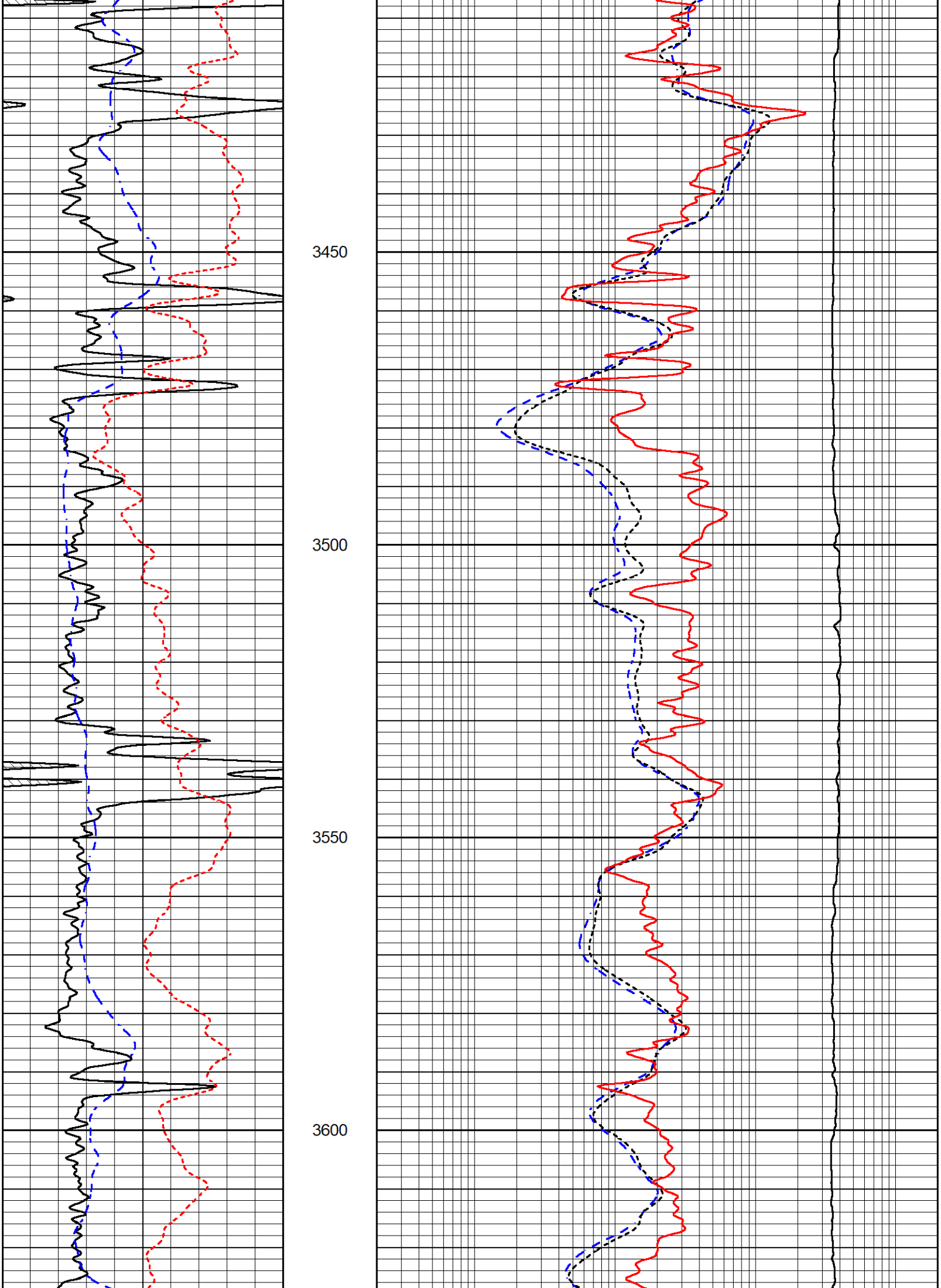
0	Gamma Ray (GAPI)	150
50	RXORT	250
-200	SP (mV)	0

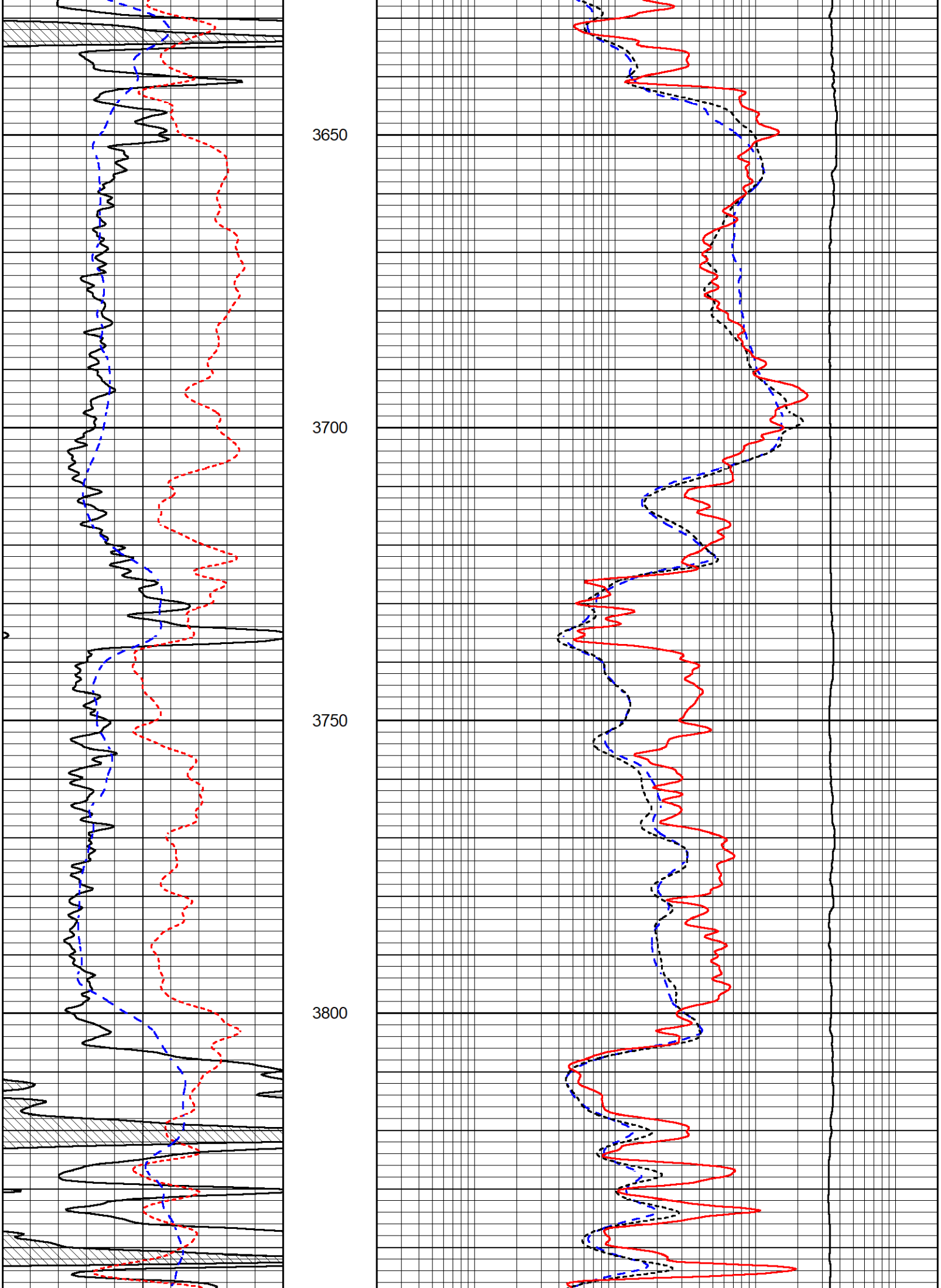
0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000
10000	Line Tension (lb)	0

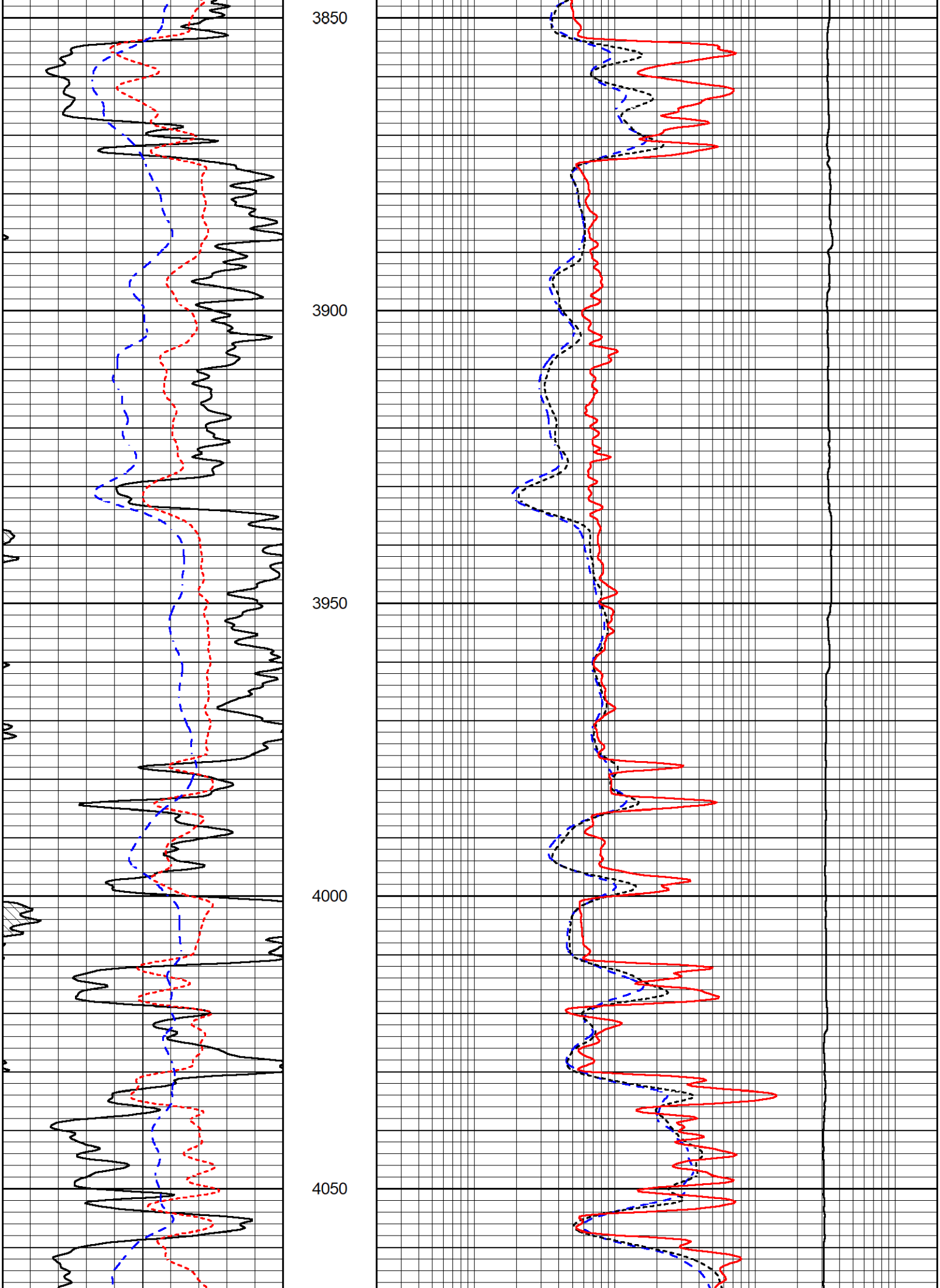


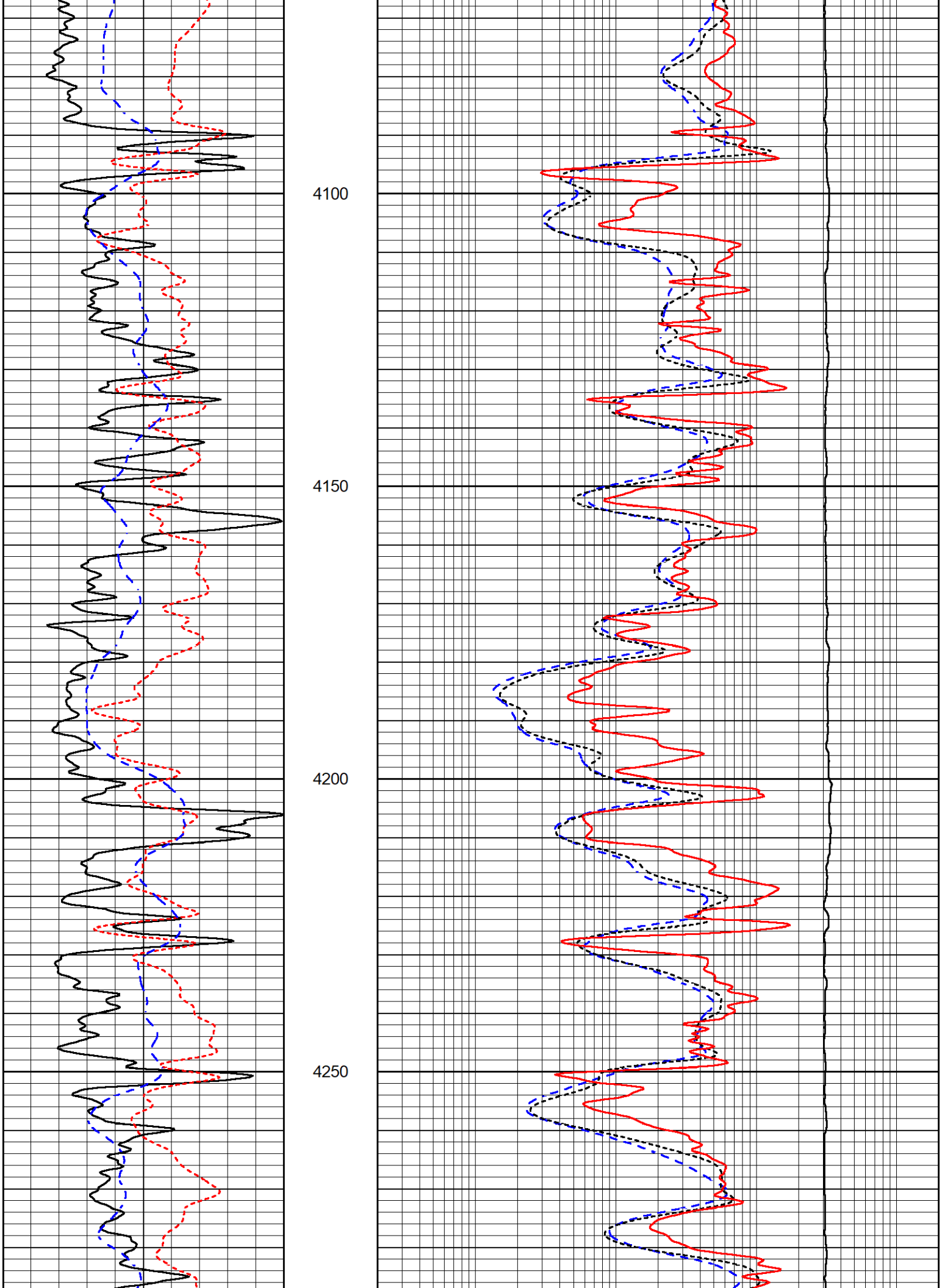

3000
3050
3100
3150

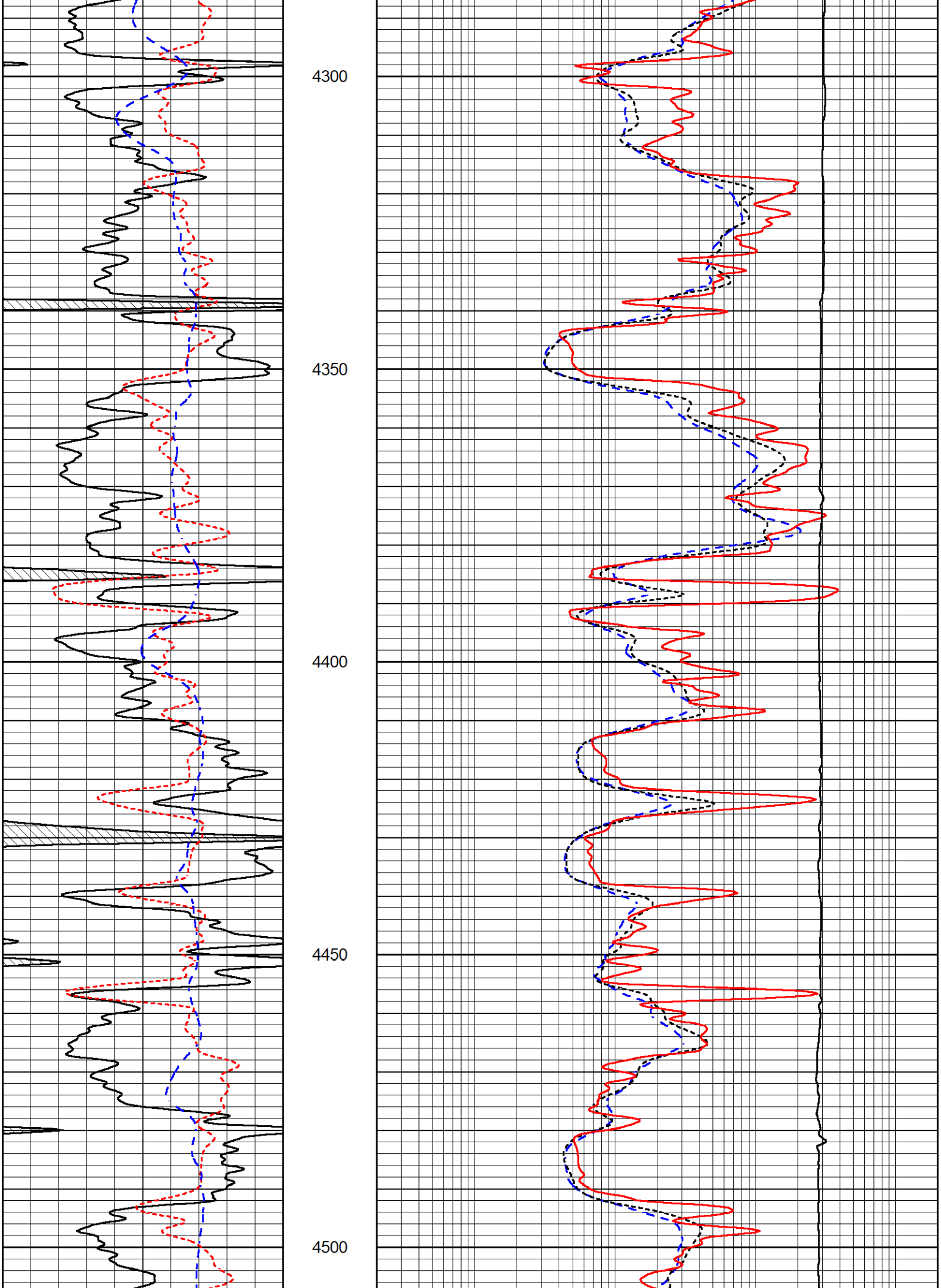

3200
3250
3300
3350
3400

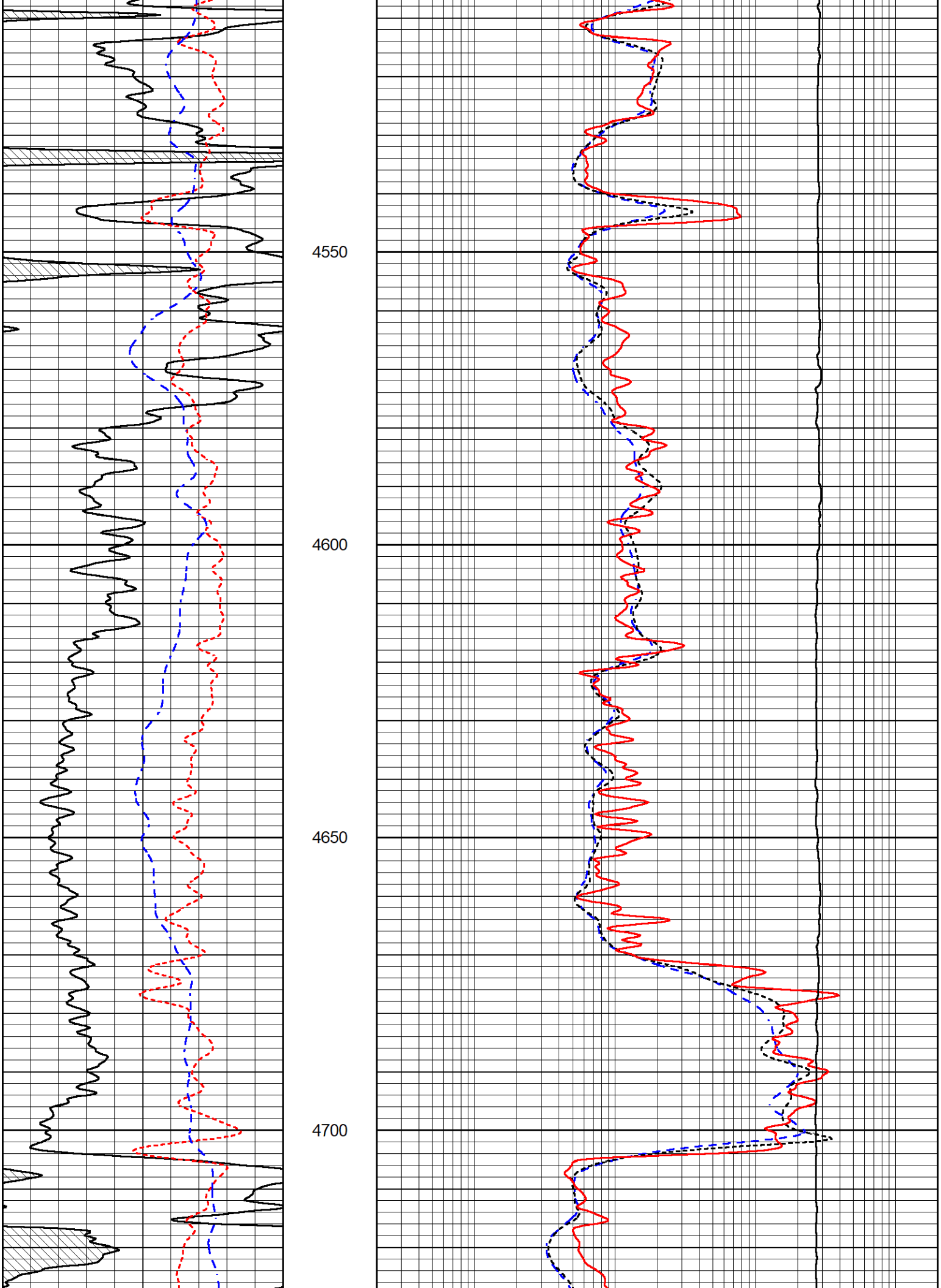

3450
3500
3550
3600

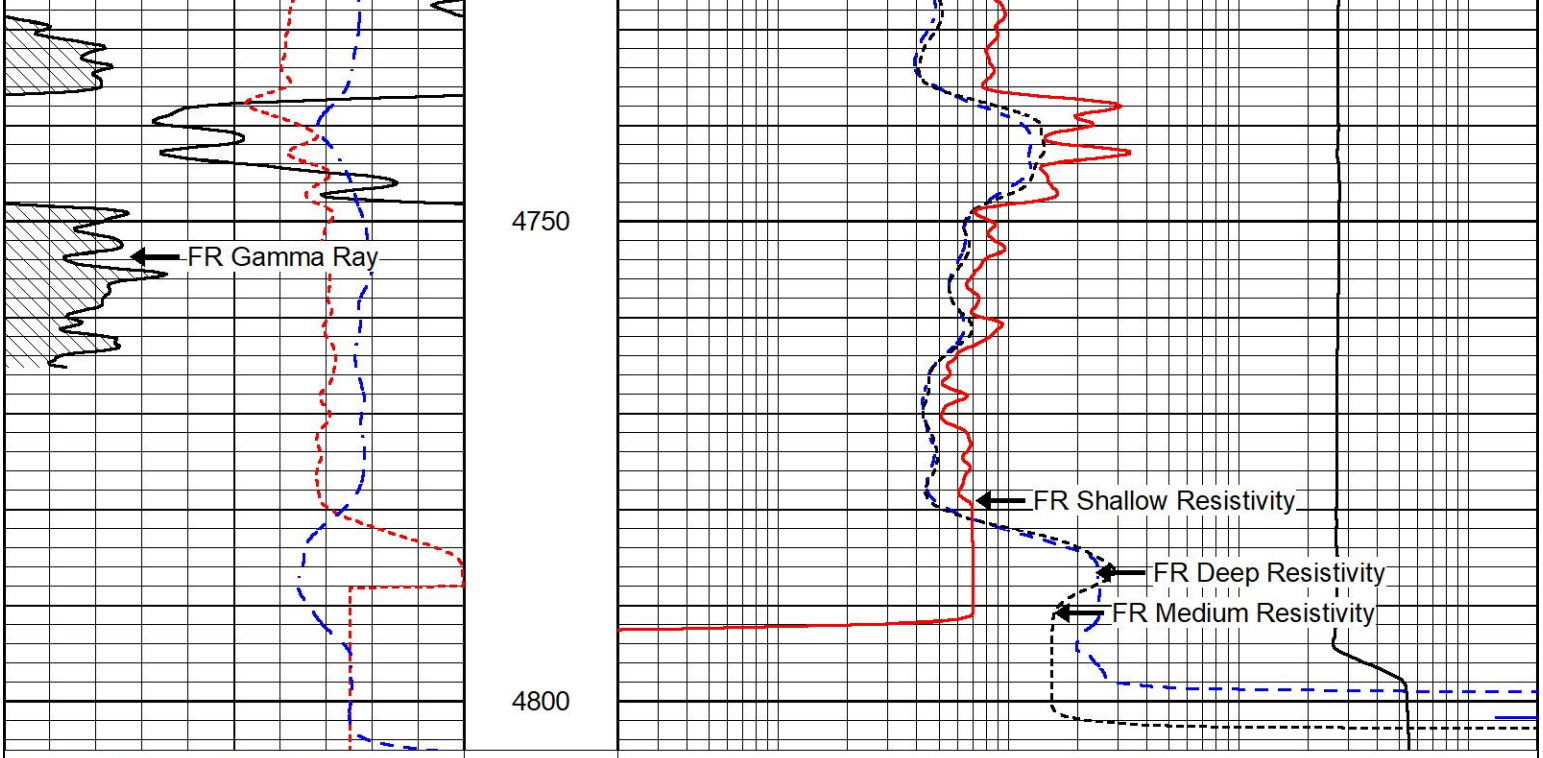

3650
3700
3750
3800


3850
3900
3950
4000
4050


4100
4150
4200
4250


4300
4350
4400
4450
4500


4550
4600
4650
4700



0	Gamma Ray (GAPI)	150
50	RXORT	250
-200	SP (mV)	0

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

MIDWEST WIRELINE

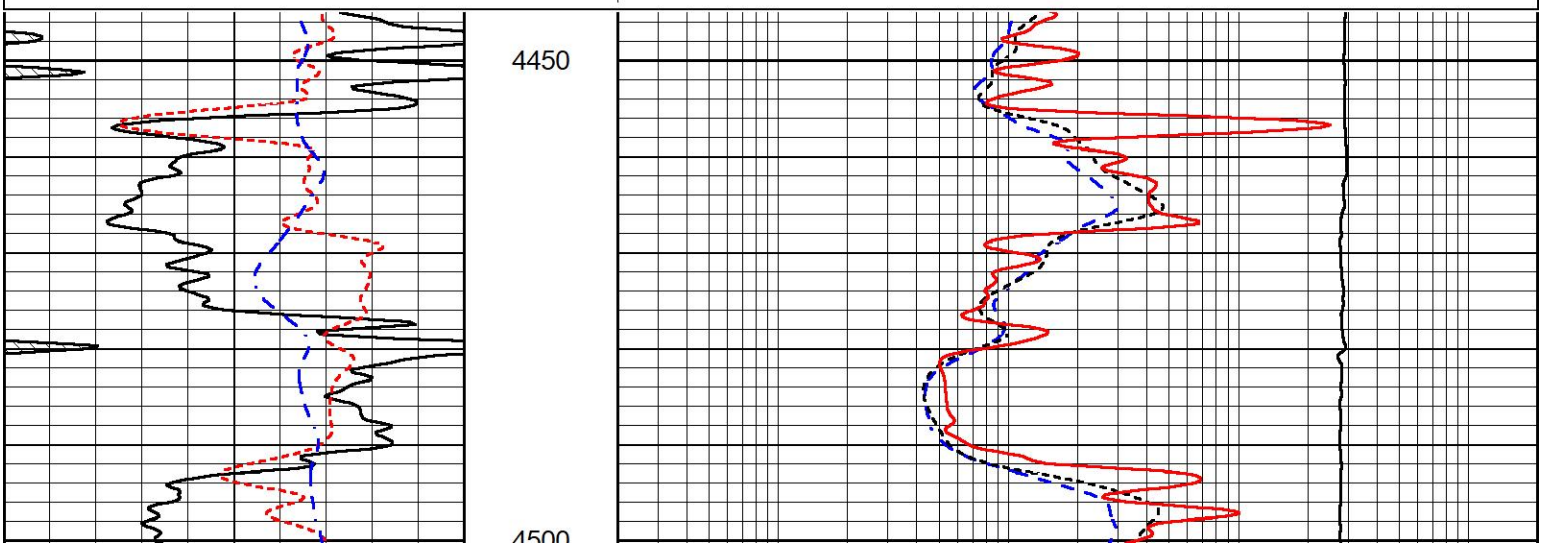
REPEAT SECTION

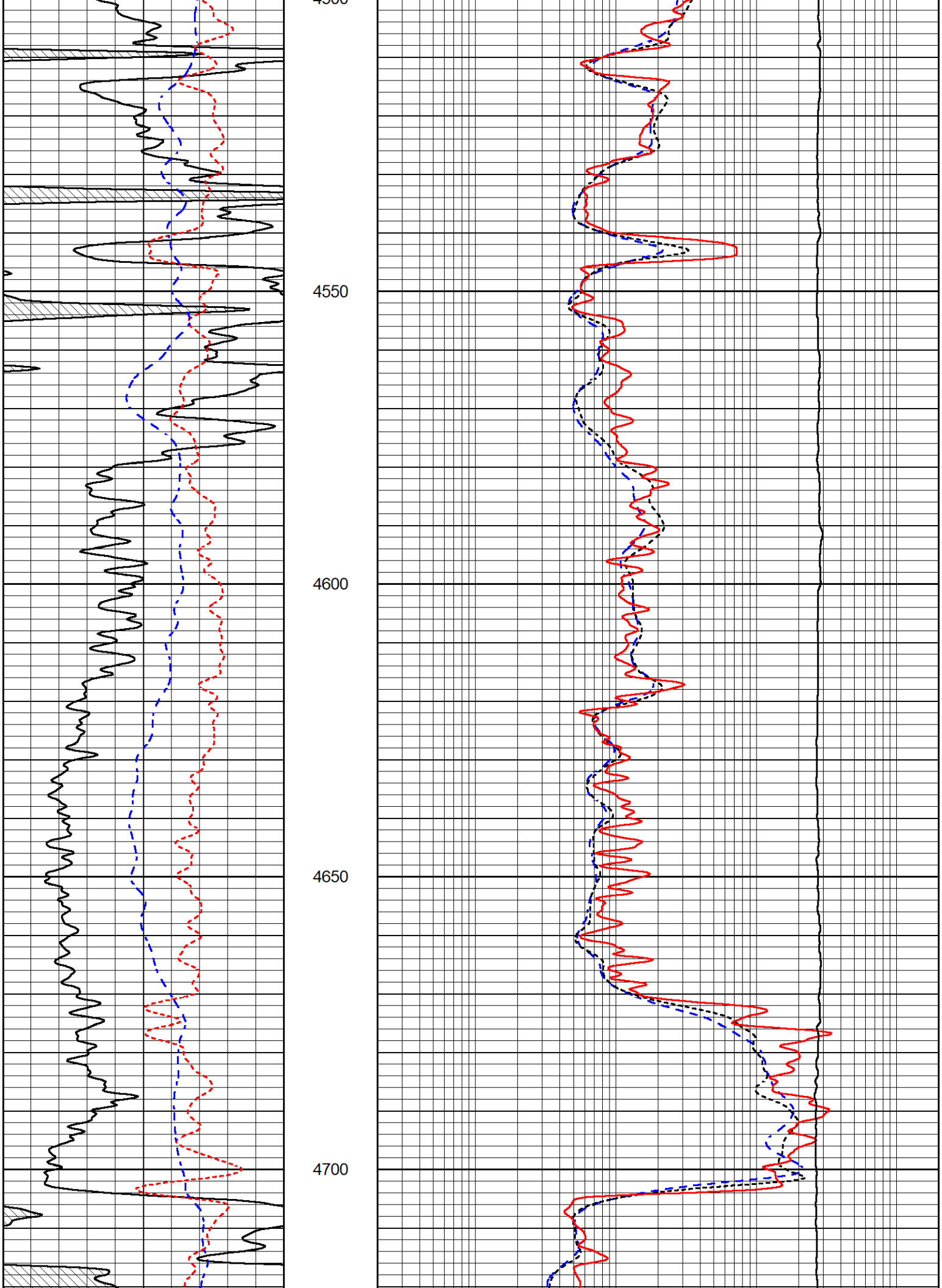
REPEAT PASS

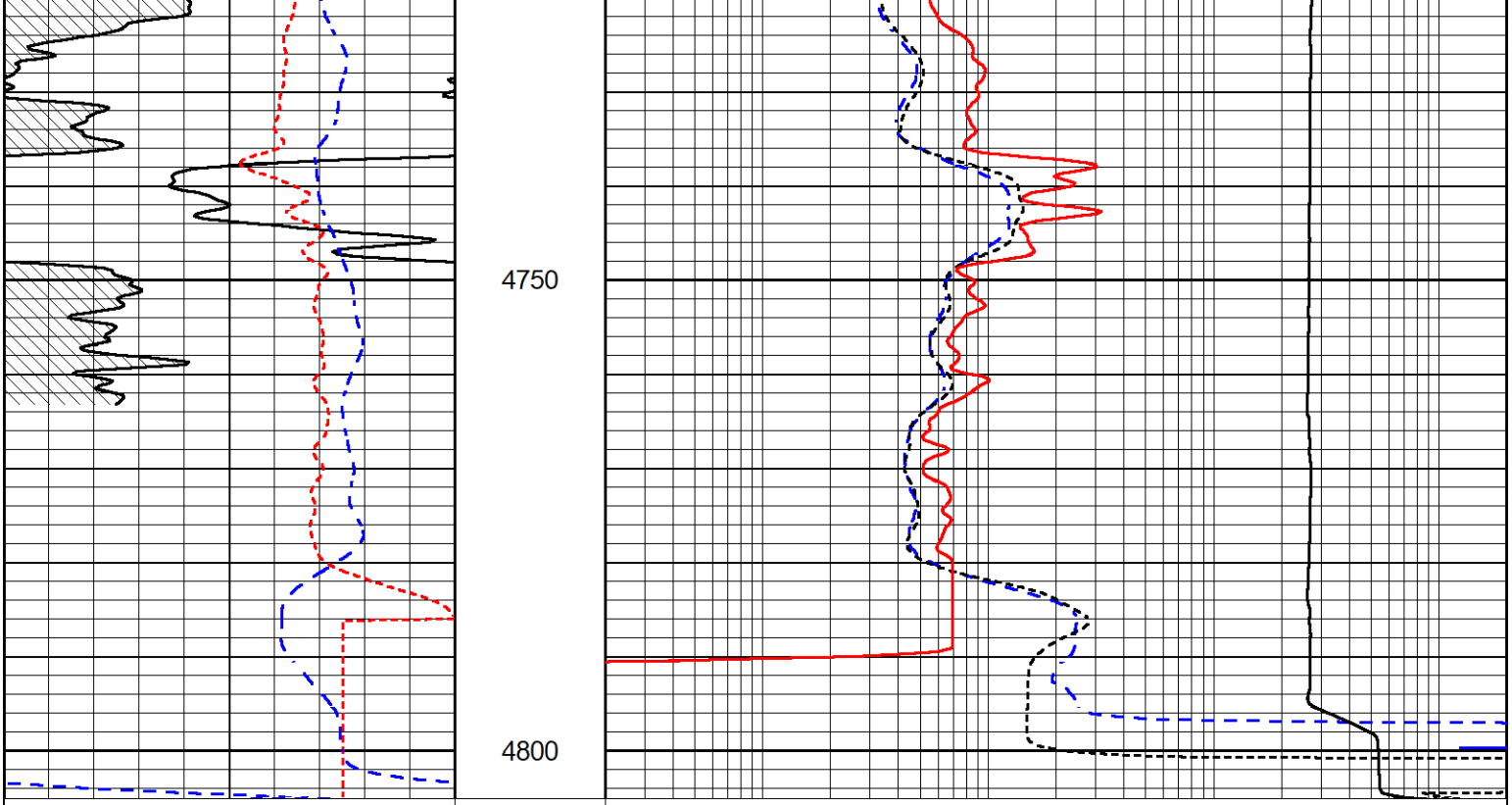
Database File	griffin_anna 1.db
Dataset Pathname	stkml/pass2.1
Presentation Format	_dil
Dataset Creation	Tue Oct 03 00:45:04 2023
Charted by	Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150
50	RXORT	250
-200	SP (mV)	0

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




4500
4550
4600
4650
4700



Calibration Report

Database File	griffin_anna 1.db
Dataset Pathname	stkml/pass3.5
Dataset Creation	Tue Oct 03 01:32:48 2023

Dual Induction Calibration Report

Serial-Model:	505 HT-M&W
Surface Cal Performed:	Fri Aug 11 21:22:17 2023

	Readings		References			Results	
Loop:	Air	Loop	Air	Loop		m	b
Deep	167.000	835.000	0.000	255.800	mmho/m	0.480	-42.000
Medium	1348.000	1348.000	0.000	255.800	mmho/m	0.390	-39.000

Microlog Calibration Report

Serial-Model:	402-PSI STKBL ML
Performed:	Sat Sep 23 14:09:43 2023

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0037	0.0043	0.0000	10.0000	Ohm-m	23500.0000	-1.0000
Inverse	0.1208	0.0013	0.0000	10.0000	Ohm-m	20000.0000	-0.3000
Caliper	1.0046	1.1419	5.5000	20.0000	in	50.0000	-44.4500

LITHODENSITY Calibration Report

Serial Number: 701-01
Tool Model: STEP LITHO Short
Performed: Wed Aug 16 15:02:56 2023

Source:

	Win1	Win2	Win3	Win4	Win5	Win6	Win7	Win8	
Background:									
SS:	52	53	205	255	24	69	44	1	cps
LS:	81	85	334	425	46	135	88	2	cps
Aluminum:									
SS:	774	936	2171	1967	43	73	44	2	cps
LS:	847	1595	3011	1457	56	137	87	5	cps
Magnesium:									
SS:	1271	1508	3520	2831	46	71	45	3	cps
LS:	3600	6590	11760	4608	88	128	83	13	cps
Aluminum+Iron:									
SS:	492	651	1805	1706	40	72	44	2	cps
LS:	499	1107	2530	1299	53	134	86	4	cps

	Density Actual	Calibrated		PE Actual	Calibrated	Quality
Background:						
SS:						0.222
LS:						0.212
Aluminum:						
SS:	2.6000	2.6000	g/cc			0.248
LS:	2.6000	2.6000	g/cc			0.220
Magnesium:						
SS:	1.6800	1.6800	g/cc	2.5700	2.5700	0.222
LS:	1.6800	1.6800	g/cc	2.5700	2.5700	0.213
Aluminum+Iron:						
SS:					6.1800	0.239
LS:					6.1800	0.214

Caliper:	Reference:		Reading:
Small Ring:	6.0	in	100.0
Large Ring:	16.0	in	400.0
Gain:	18.000		
Offset:	0.125		

Compensated Neutron Calibration Report

Serial Number: 210
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

Gamma Ray Calibration Report

Serial Number: 105
Tool Model: M&W
Performed: Wed Aug 30 12:31:03 2023

Calibrator Value: 500.0 GAPI

Background Reading: 24.0 cps
Calibrator Reading: 637.0 cps

Sensitivity:	0.6500	GAPI/cps

MIDWEST WIRELINE

Company	Griffin Management, LLC
Well	Anna #1
Field	Moffett
County	Barber
State	Kansas