PIONEER
Pioneer Energy Services

DUAL INDUCTION LOG

Company R&B OIL & GAS
Well NEWMAN 'A' NO.1 SWD
Field N/A
County BARBER
State KANSAS

Location: API #: 15-007-24246-00-01
4980' FSL & 4980' FEL
SEC 27 TWP 32S RGE 11W

Other Services
CNL/CDL

Elevation
K.B. 1522'
D.F. N/A
G.L. 1517'

Permanent Datum GROUND LEVEL Elevation 1517'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Date	12/30/2017			
Run Number	ONE			
Depth Driller	5279'			
Depth Logger	5281'			
Bottom Logged Interval	5280'			
Top Log Interval	200'			
Casing Driller	8.625" @ 247'			
Casing Logger	243'			
Bit Size	7.875"			
Type Fluid in Hole	CHEMICAL			
Salinity,ppm CL	6000			
Density / Viscosity	9.0 44			
pH / Fluid Loss	12.0 10.4			
Source of Sample	FLOWLINE			
Rm @ Meas. Temp	.70 @ 46			
Rmf @ Meas. Temp	.53 @ 46			
Rmc @ Meas. Temp	.95 @ 46			
Source of Rmf / Rmc	CHARTS			
Rm @ BHT	.25 @ 129			
Operating Rig Time	3 HOURS			
Max Rec. Temp. F	129 DEG/F			
Equipment Number	108			
Location	HAYS			
Recorded By	J. HENRICKSON			
Witnessed By	TIM PIERCE			

<<< Fold Here >>>

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

MEDICINE LODGE KANSAS
5 EAST TO PIXLEY ROAD, 1.1 SOUTH EAST INTO

Log Measured From: KELLY BUSHING 5 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES
www.pioneeres.com 785-625-3858

Your Pioneer Energy Services Crew	This Log Record Was Witnessed By
Engineer: J. HENRICKSON	Primary Witness: TIM PIERCE
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Log Variables

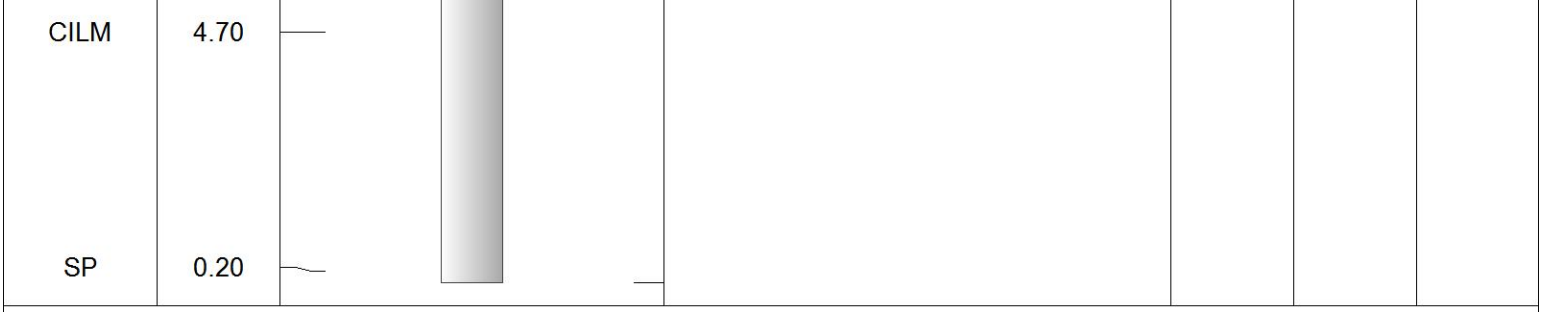
DatabaseC:\ProgramData\Warrior\Data\r&b_newman_a_1_swd.db
Dataset field/well/stack/pass3.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	129	5.5	0	1	2	2.71

NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	0	0	0	-310	18	Off	5281

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
			GR-M&W (89-M&W)	3.00	3.50	50.00
GR	33.00					
CNLSC	29.90		CNT-M&W (tk10-MW)	5.50	3.50	100.00
CNSSC	29.15					
			CDL-M&W (168-986)	8.50	4.00	250.00
LSD	20.85					
DCAL	20.83					
SSD	20.35					
RLL3	15.80					
RLL3F	15.79					
			DIL-M&W (PSI 978)	18.50	3.50	220.00
CILD	8.00					



Dataset: r&b_newman_a_1_swd.db: field/well/stack/pass3.1
Total length: 35.50 ft
Total weight: 620.00 lb
O.D.: 4.00 in

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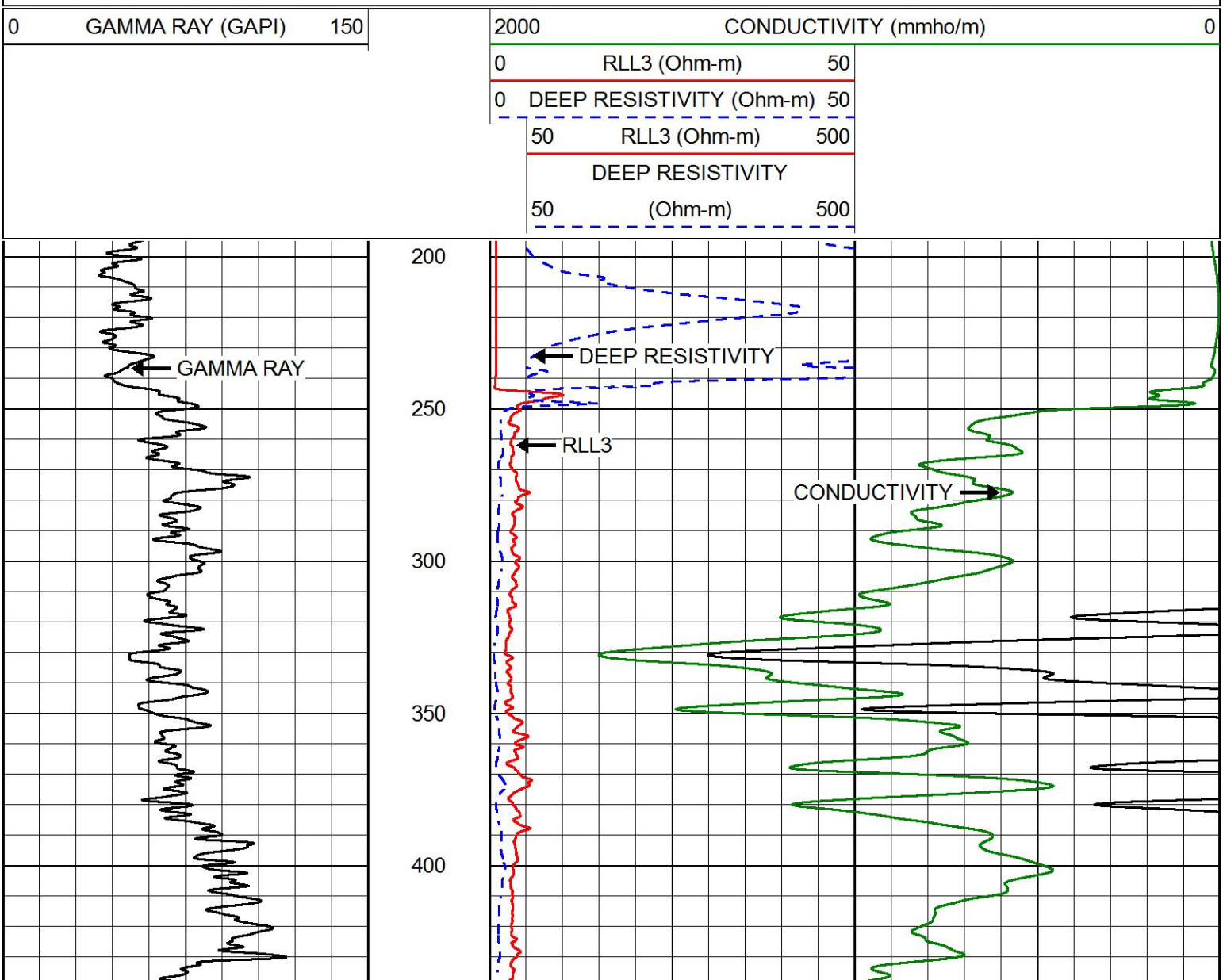
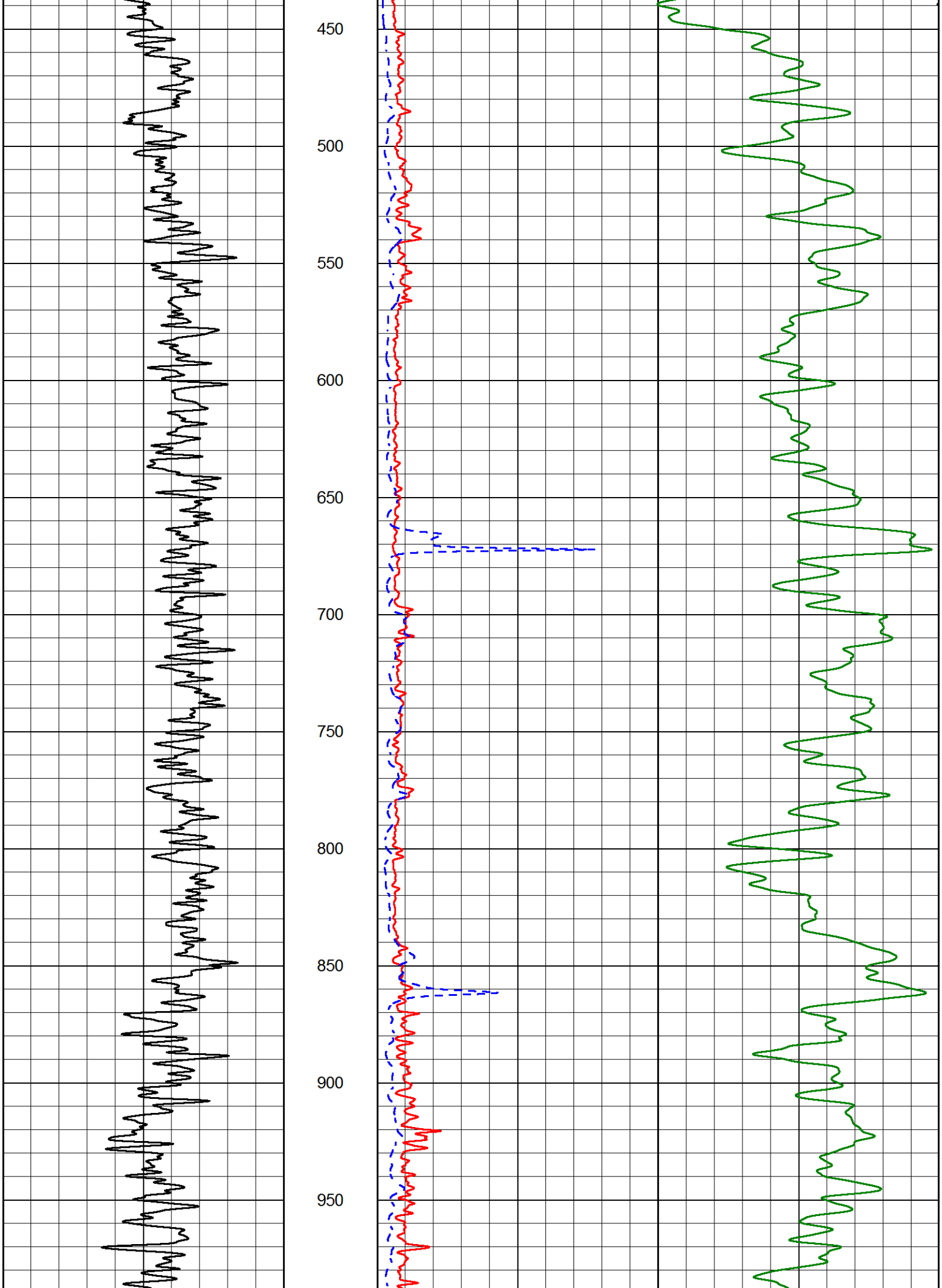
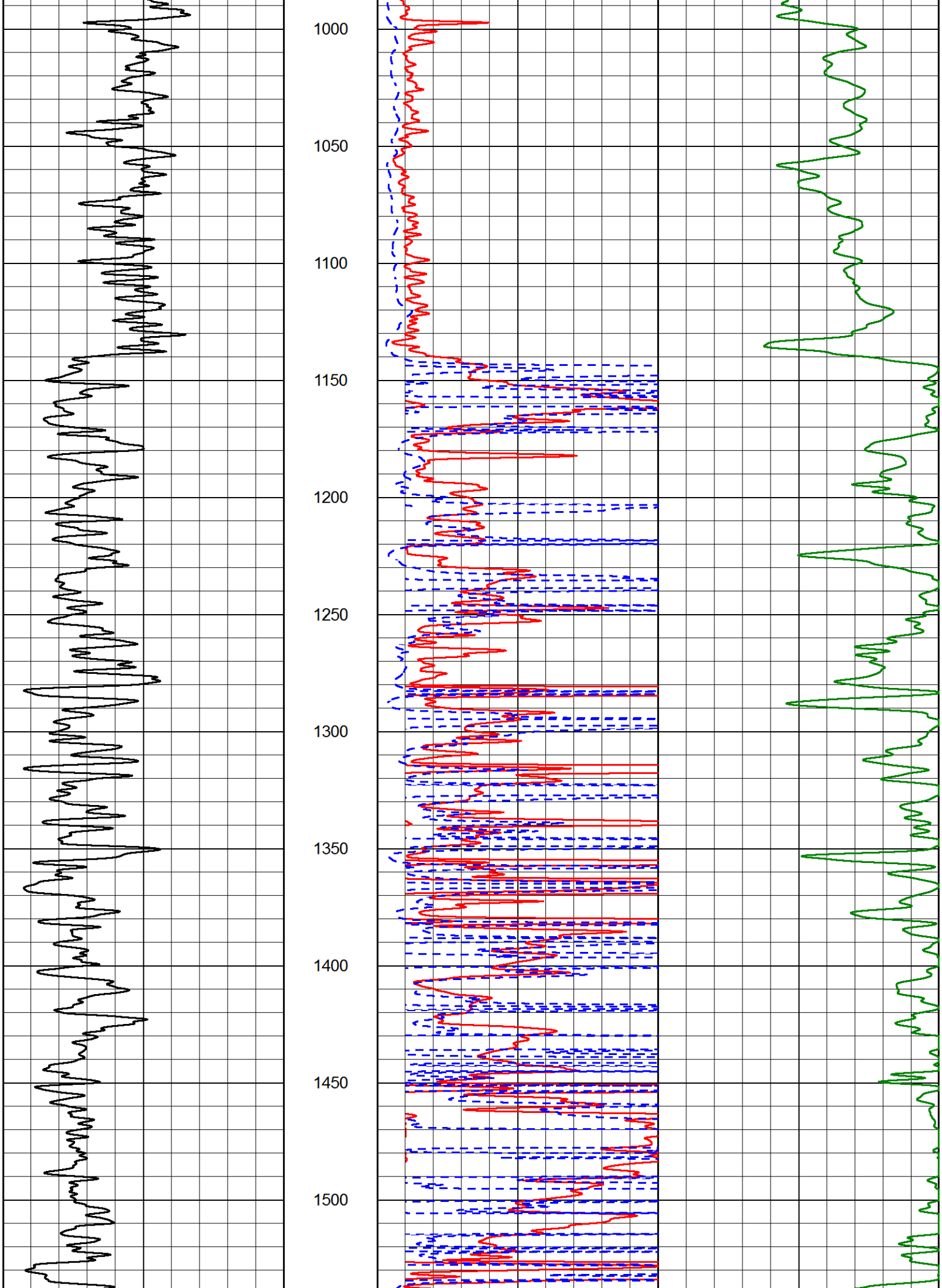
MAIN PASS

Database File	r&b_newman_a_1_swd.db
Dataset Pathname	stack/pass3.1
Presentation Format	dil2in
Dataset Creation	Sat Dec 30 10:49:37 2017
Charted by	Depth in Feet scaled 1:600




450
500
550
600
650
700
750
800
850
900
950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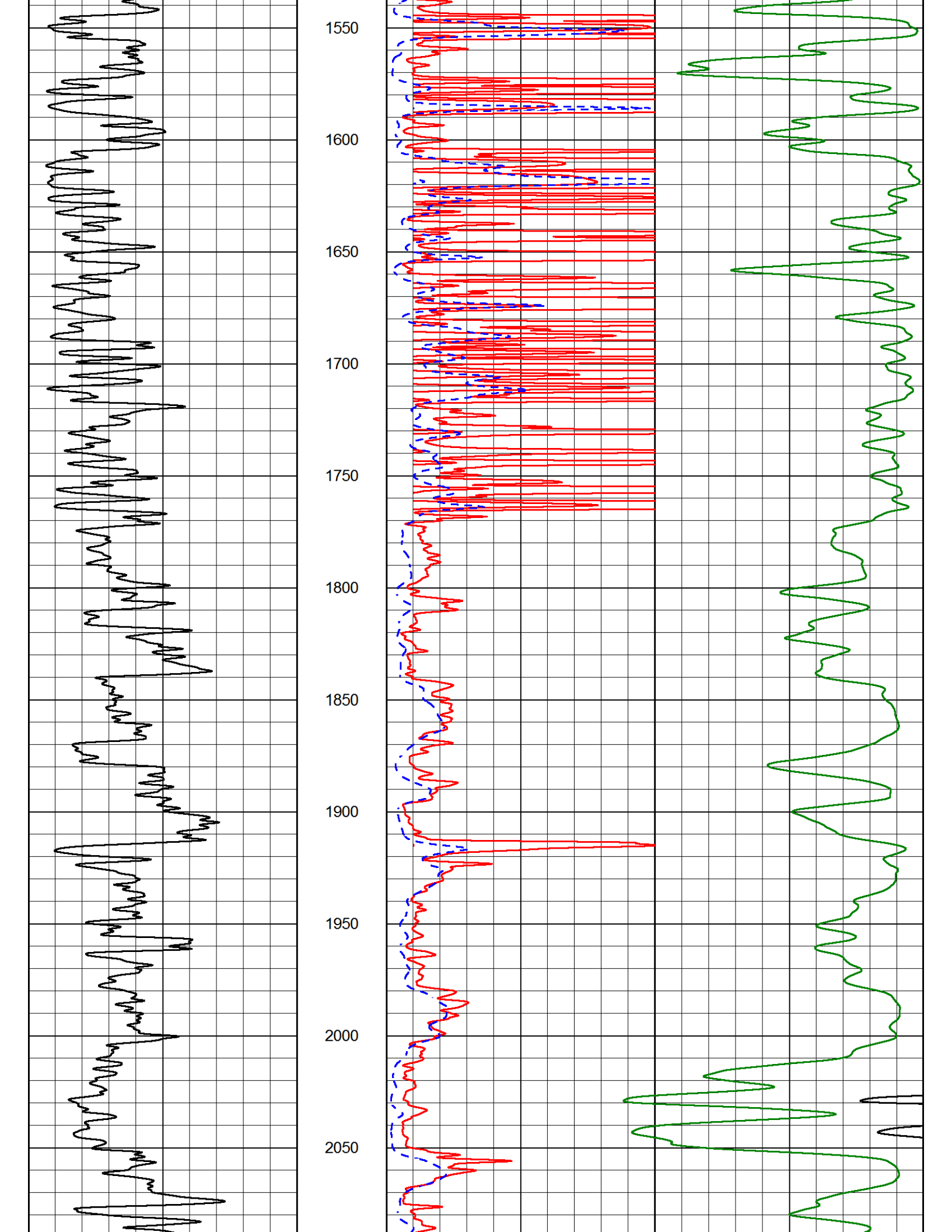
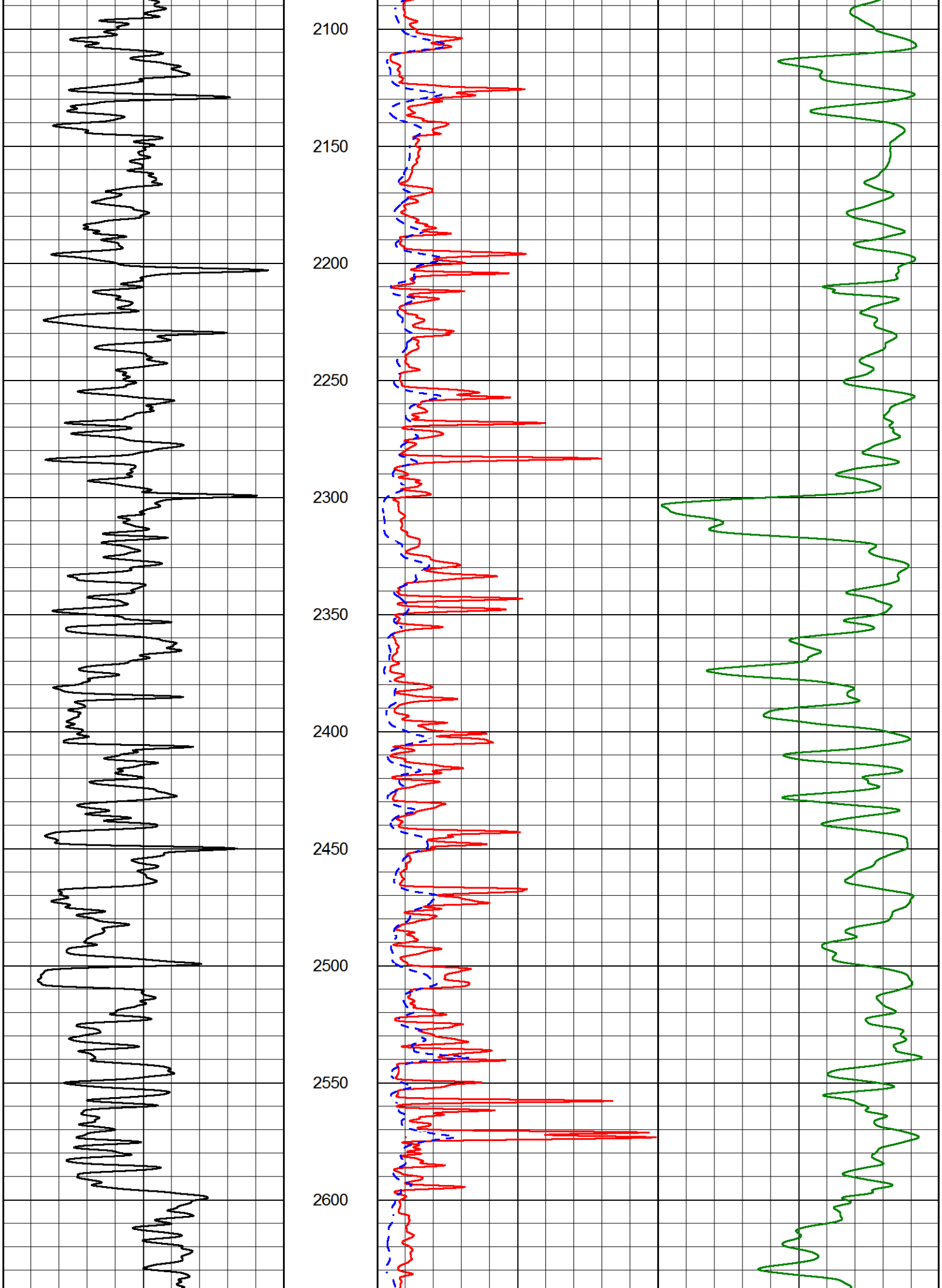
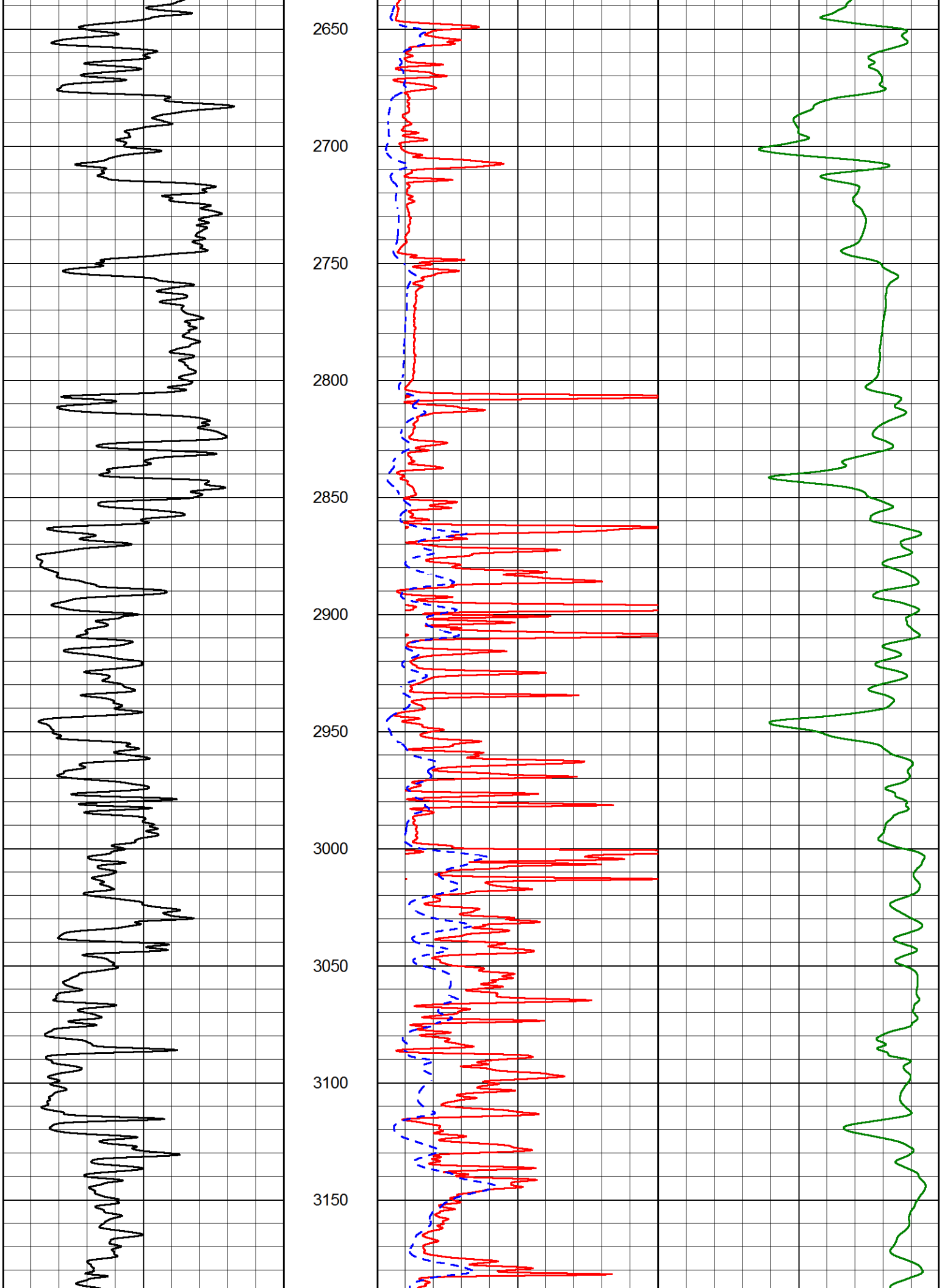
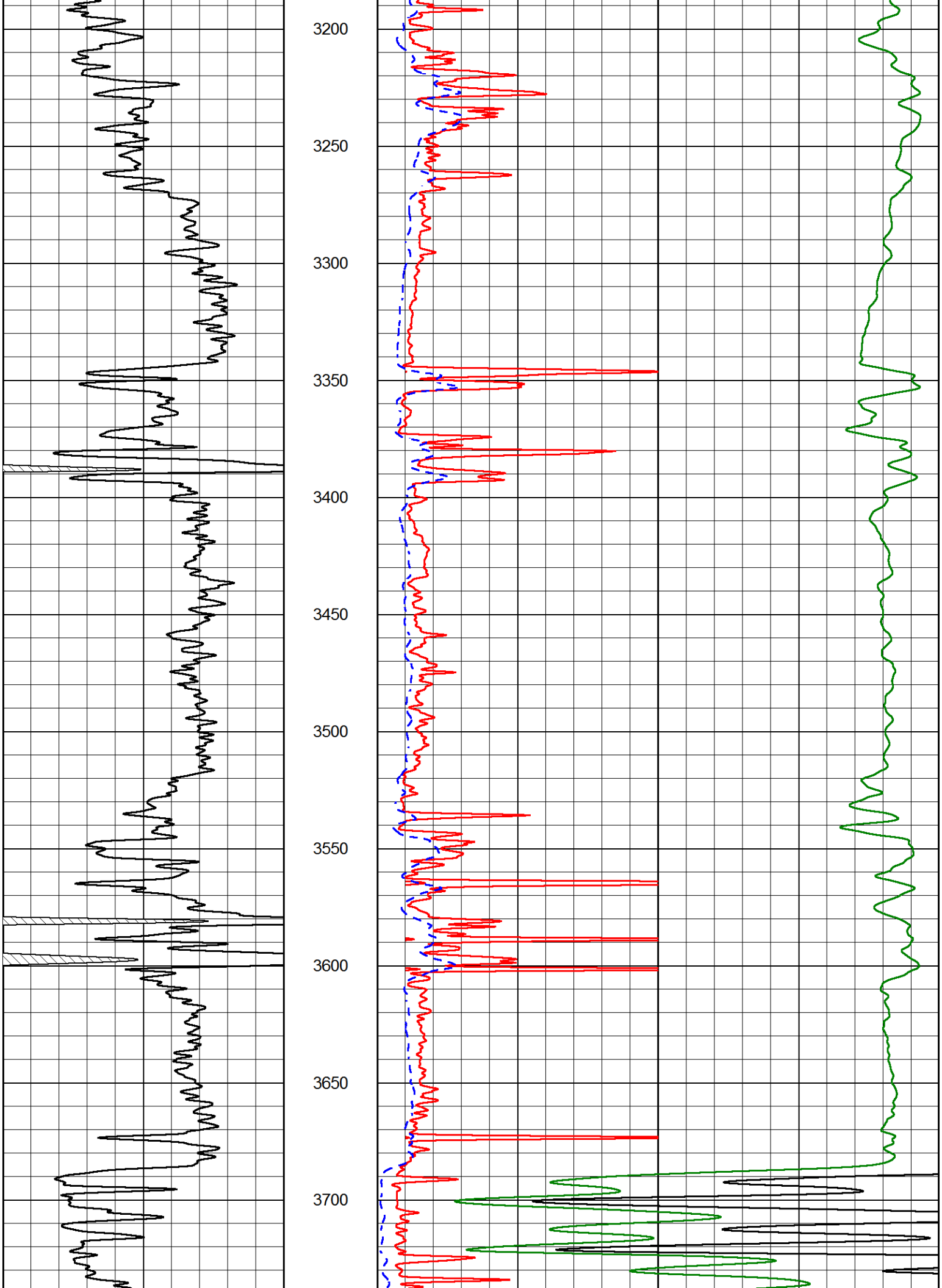
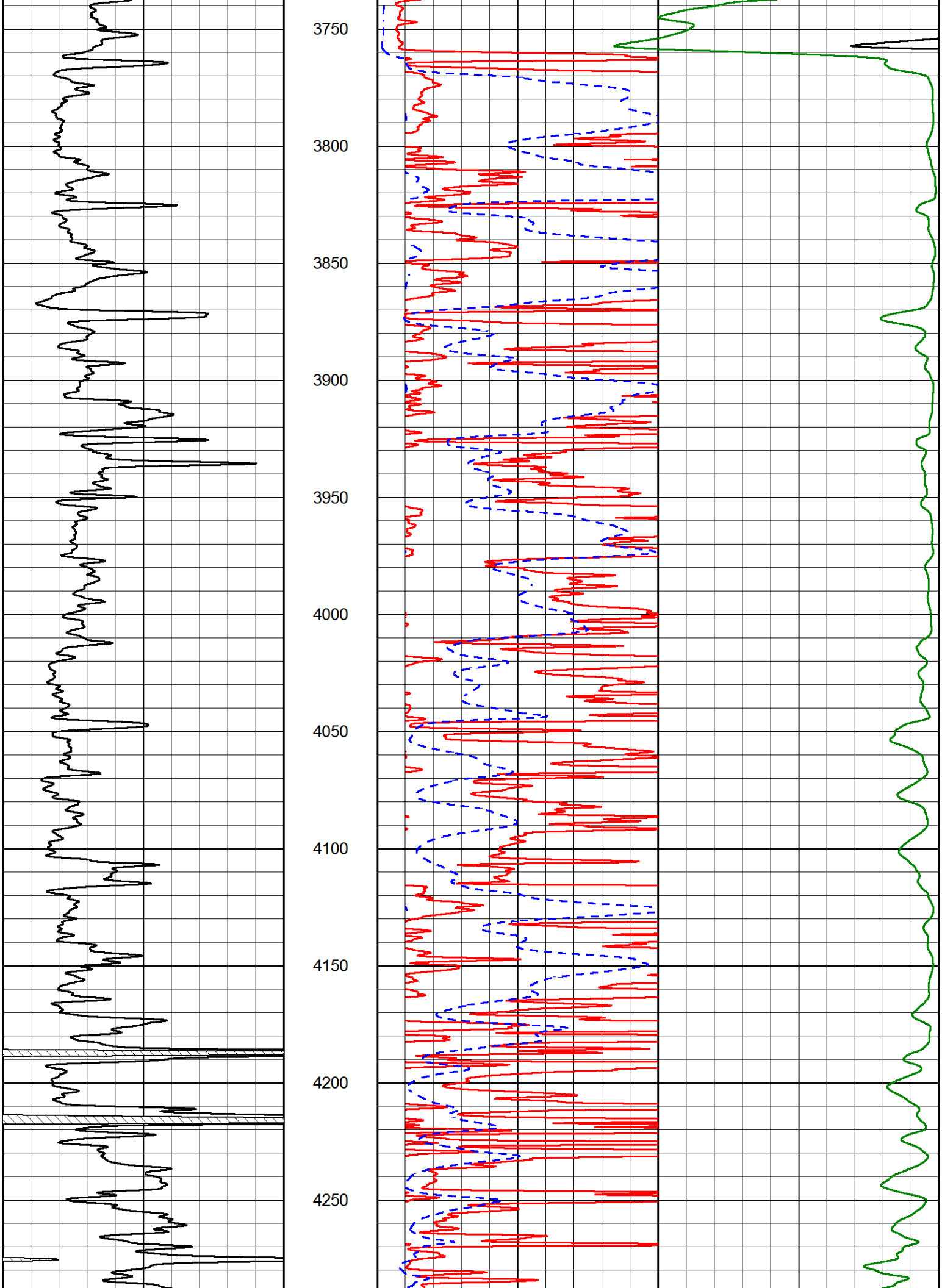
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500

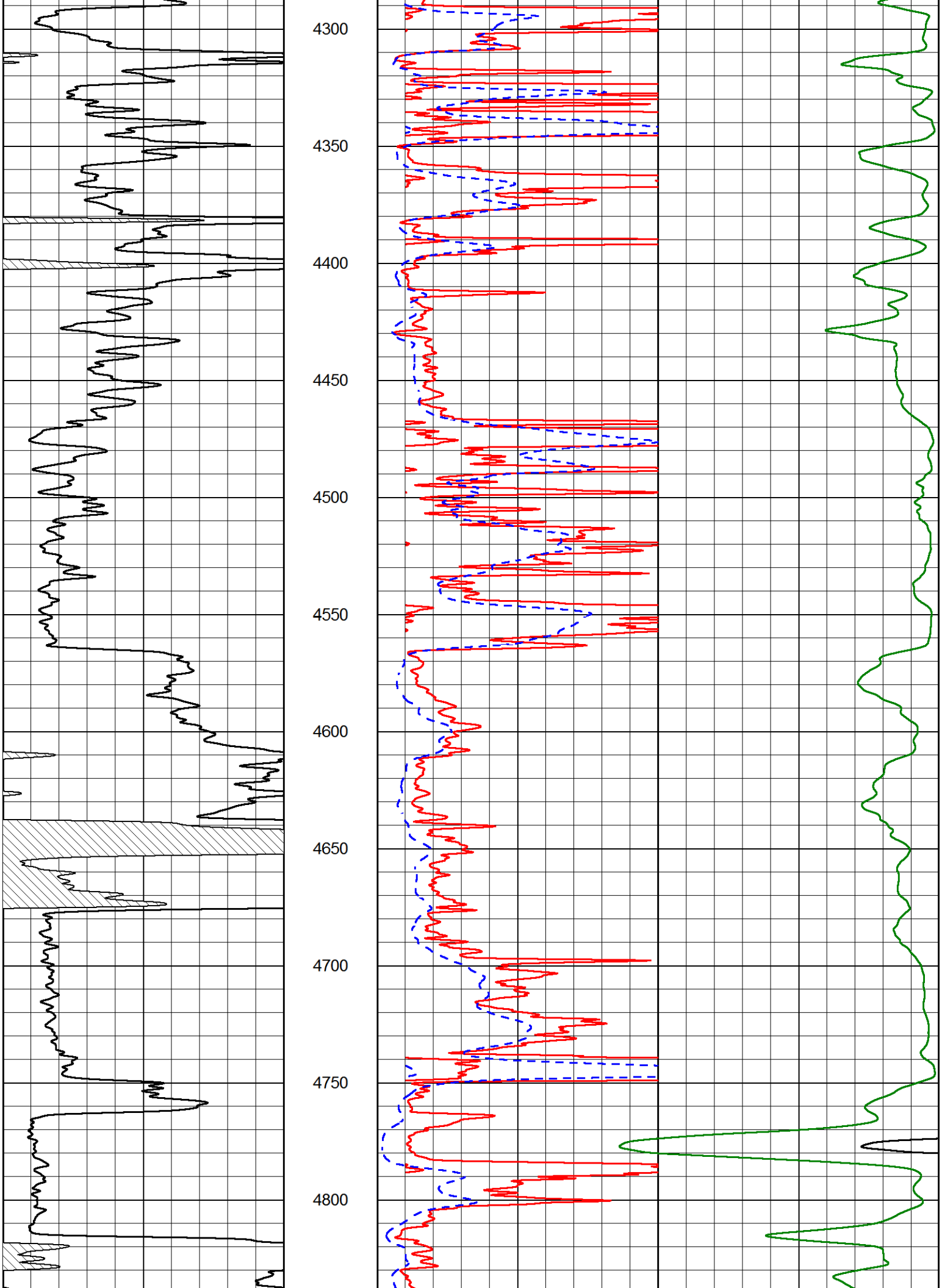

1550
1600
1650
1700
1750
1800
1850
1900
1950
2000
2050

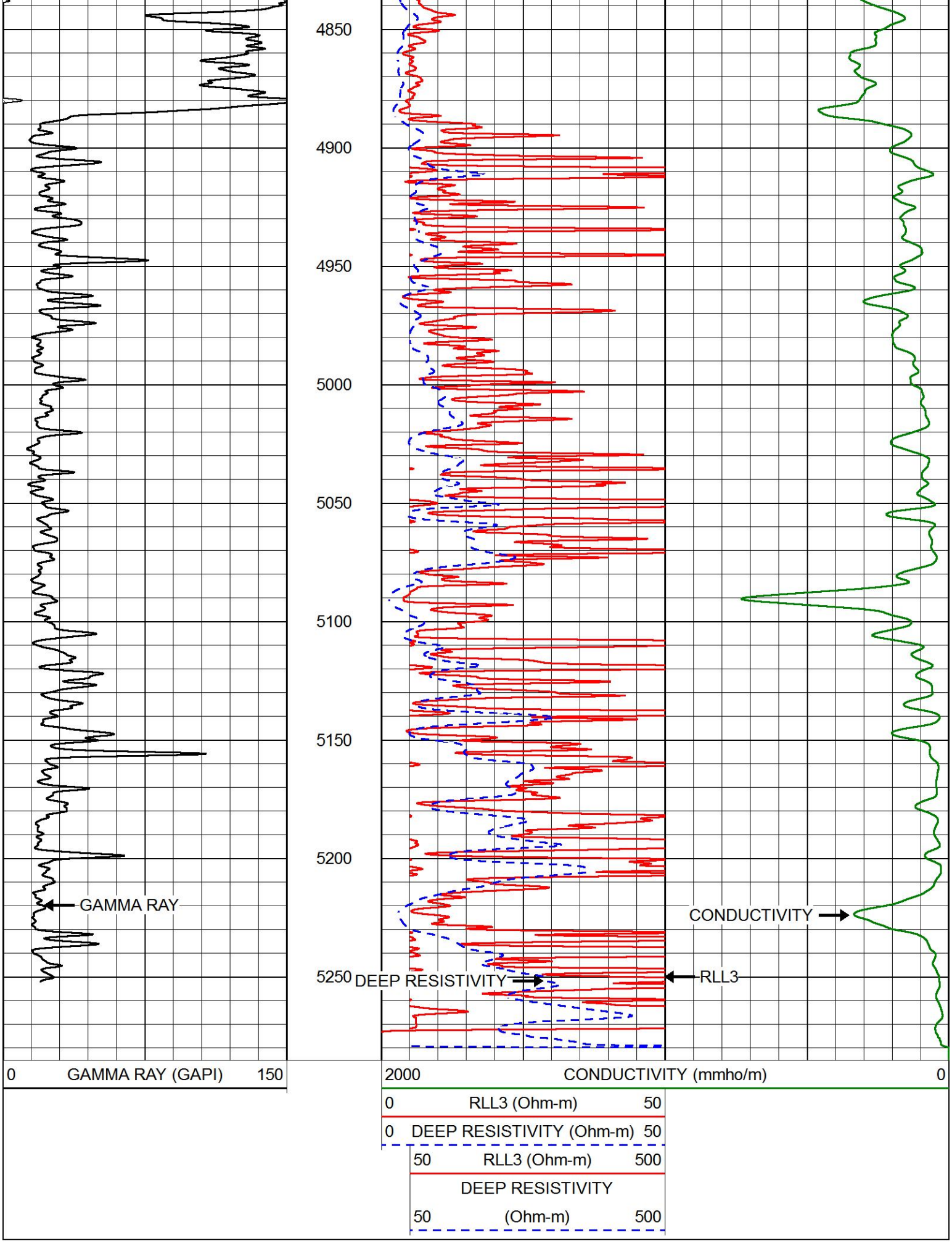

2100
2150
2200
2250
2300
2350
2400
2450
2500
2550
2600


2650
2700
2750
2800
2850
2900
2950
3000
3050
3100
3150


3200
3250
3300
3350
3400
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
4750
4800


4850
4900
4950
5000
5050
5100
5150
5200
5250
GAMMA RAY
CONDUCTIVITY
DEEP RESISTIVITY
RLL3
0
GAMMA RAY (GAPI)
150
2000
CONDUCTIVITY (mmho/m)
0
0
RLL3 (Ohm-m)
50
0
DEEP RESISTIVITY (Ohm-m)
50
50
RLL3 (Ohm-m)
500
DEEP RESISTIVITY
50
(Ohm-m)
500

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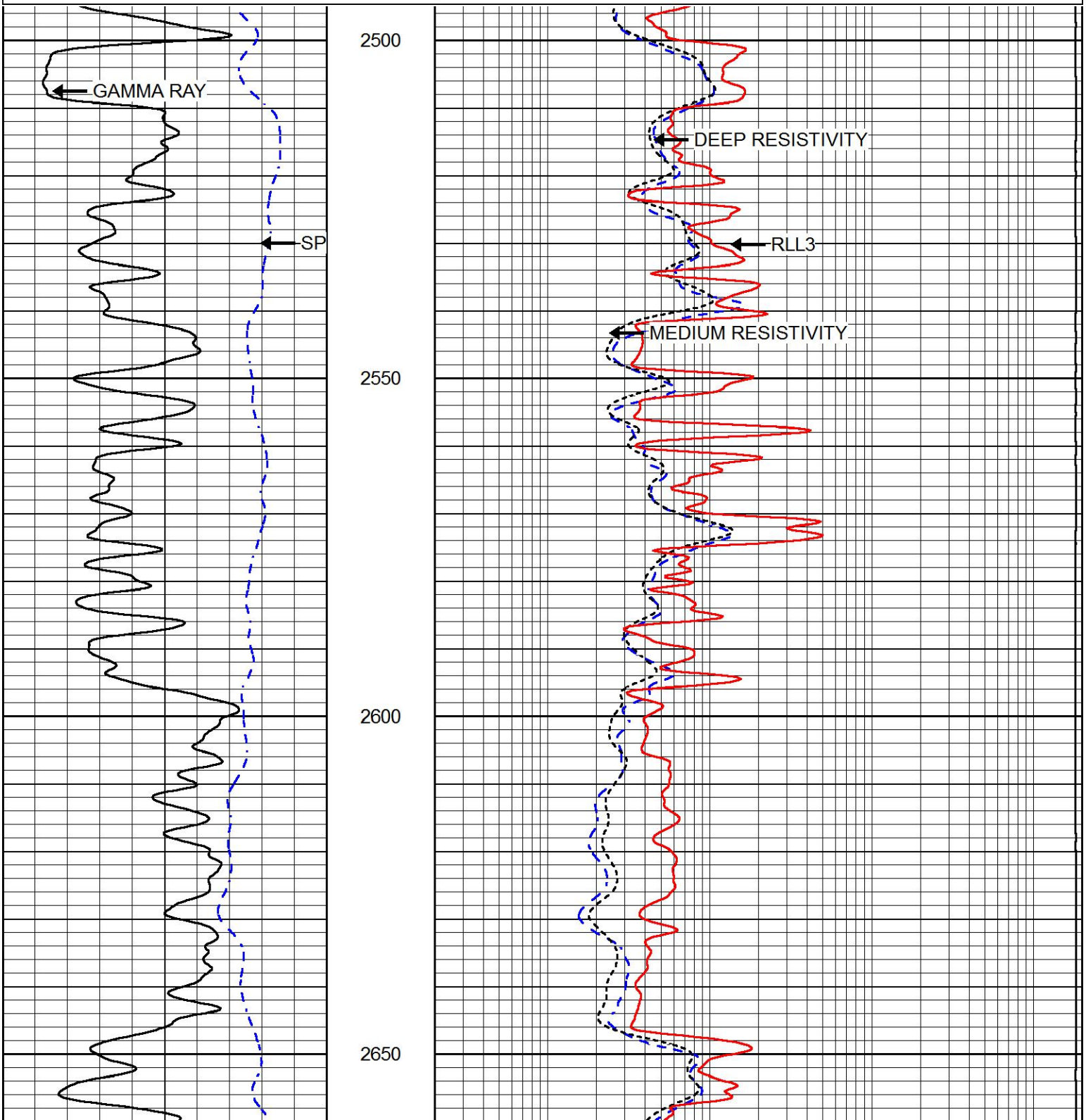
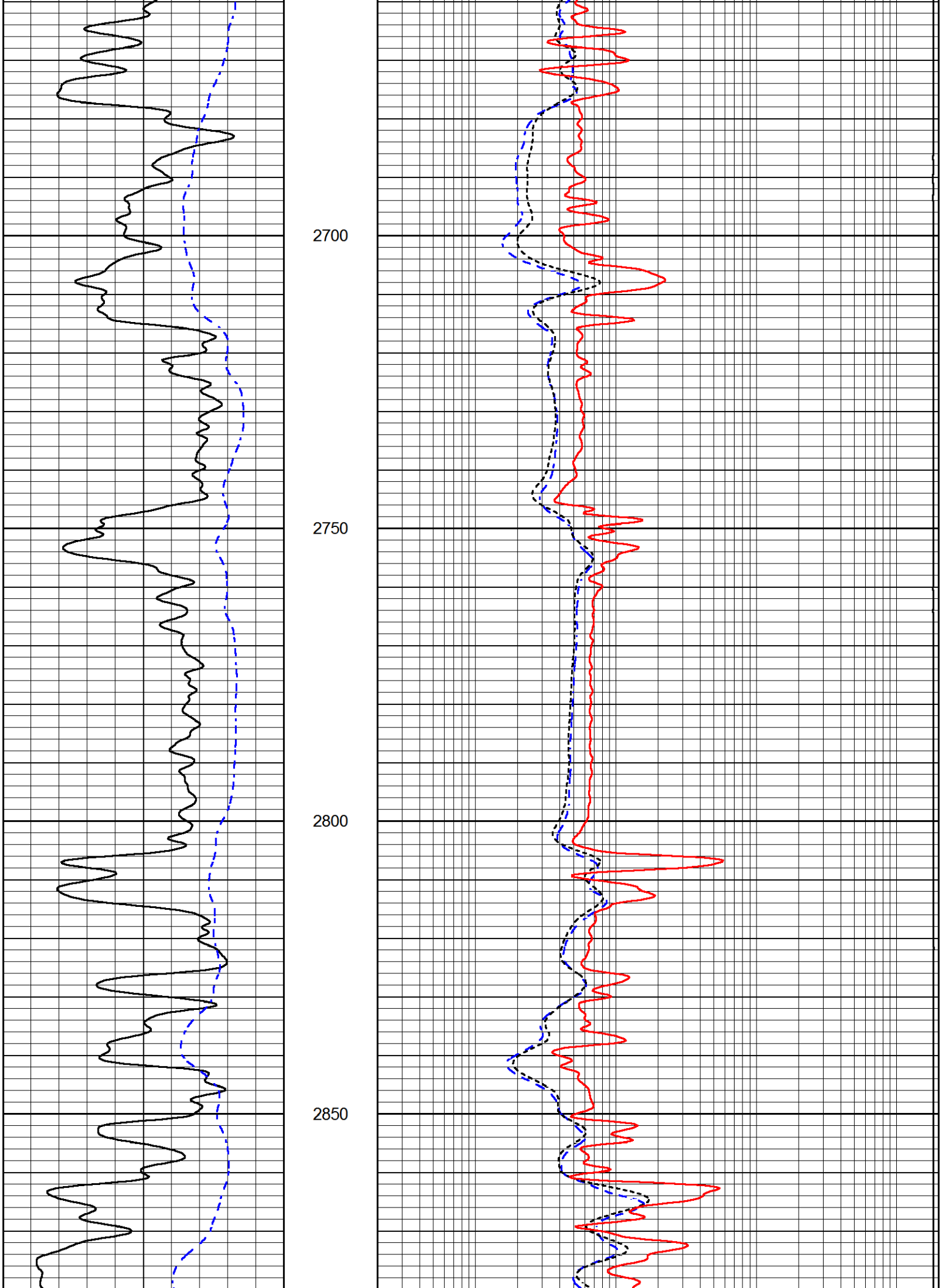
MAIN PASS

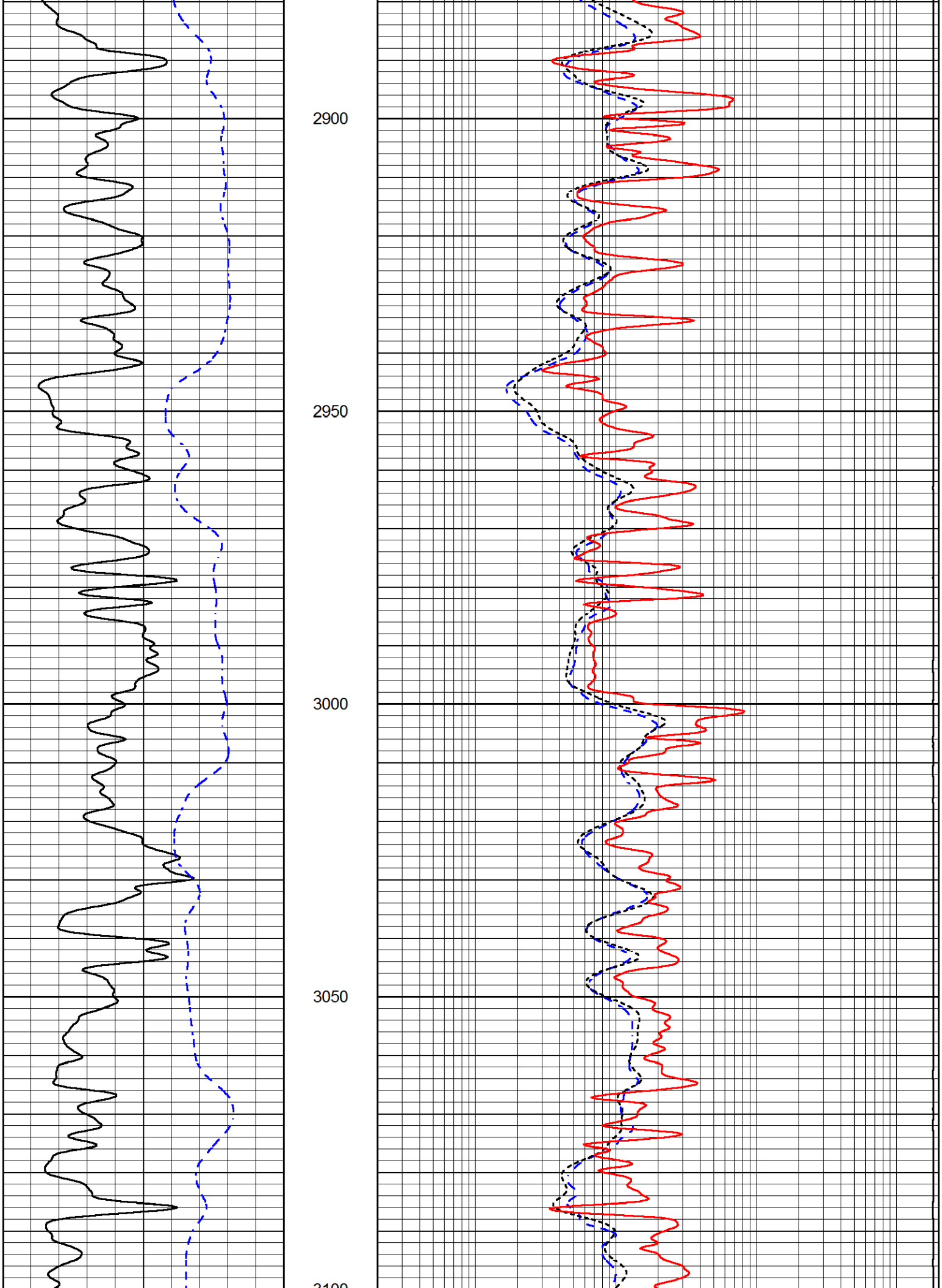
Database File	r&b_newman_a_1_swd.db
Dataset Pathname	stack/pass3.1
Presentation Format	dil
Dataset Creation	Sat Dec 30 10:49:37 2017
Charted by	Depth in Feet scaled 1:240

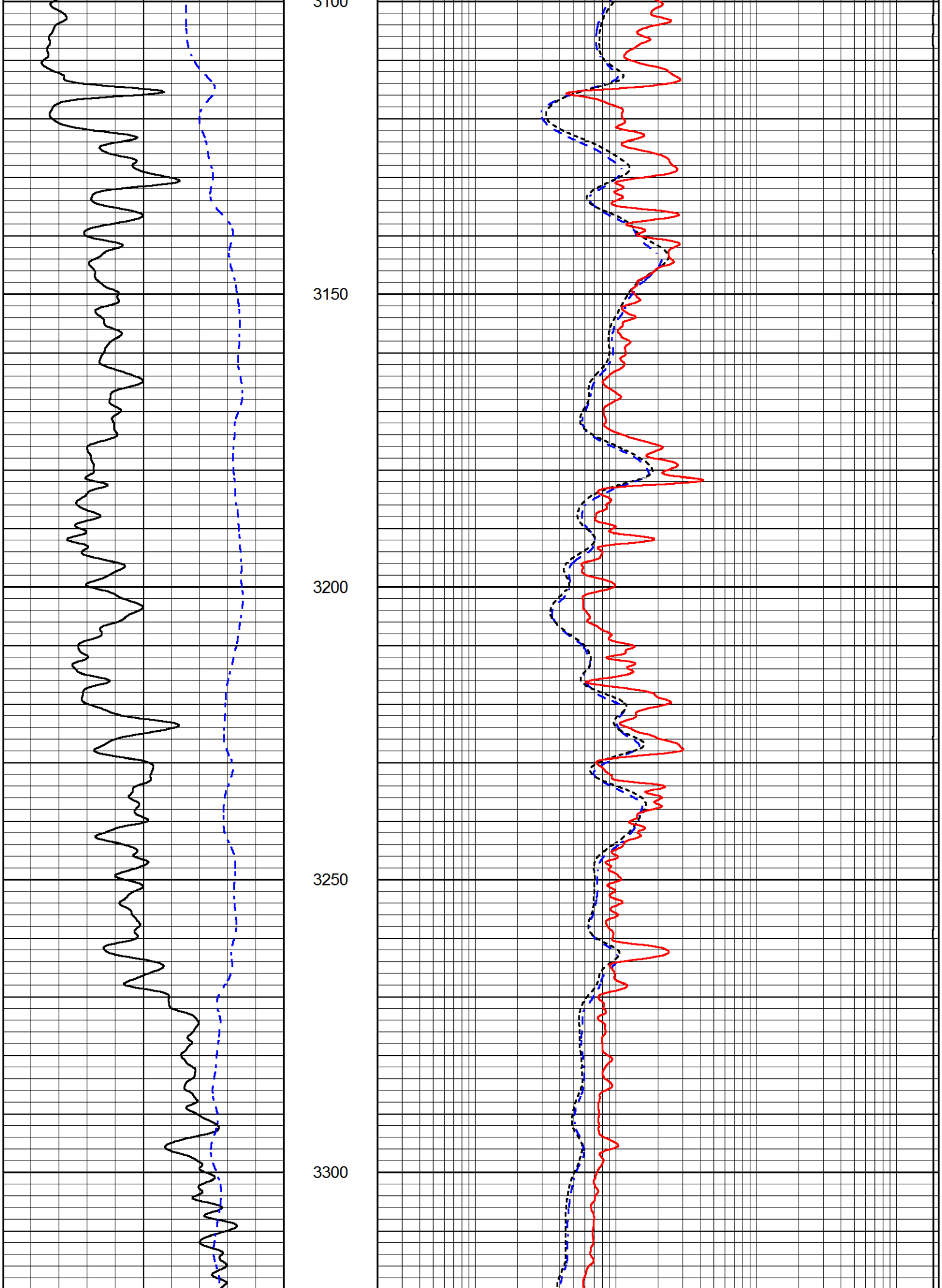
0	GAMMA RAY (GAPI)	150
-200	SP (mV)	0

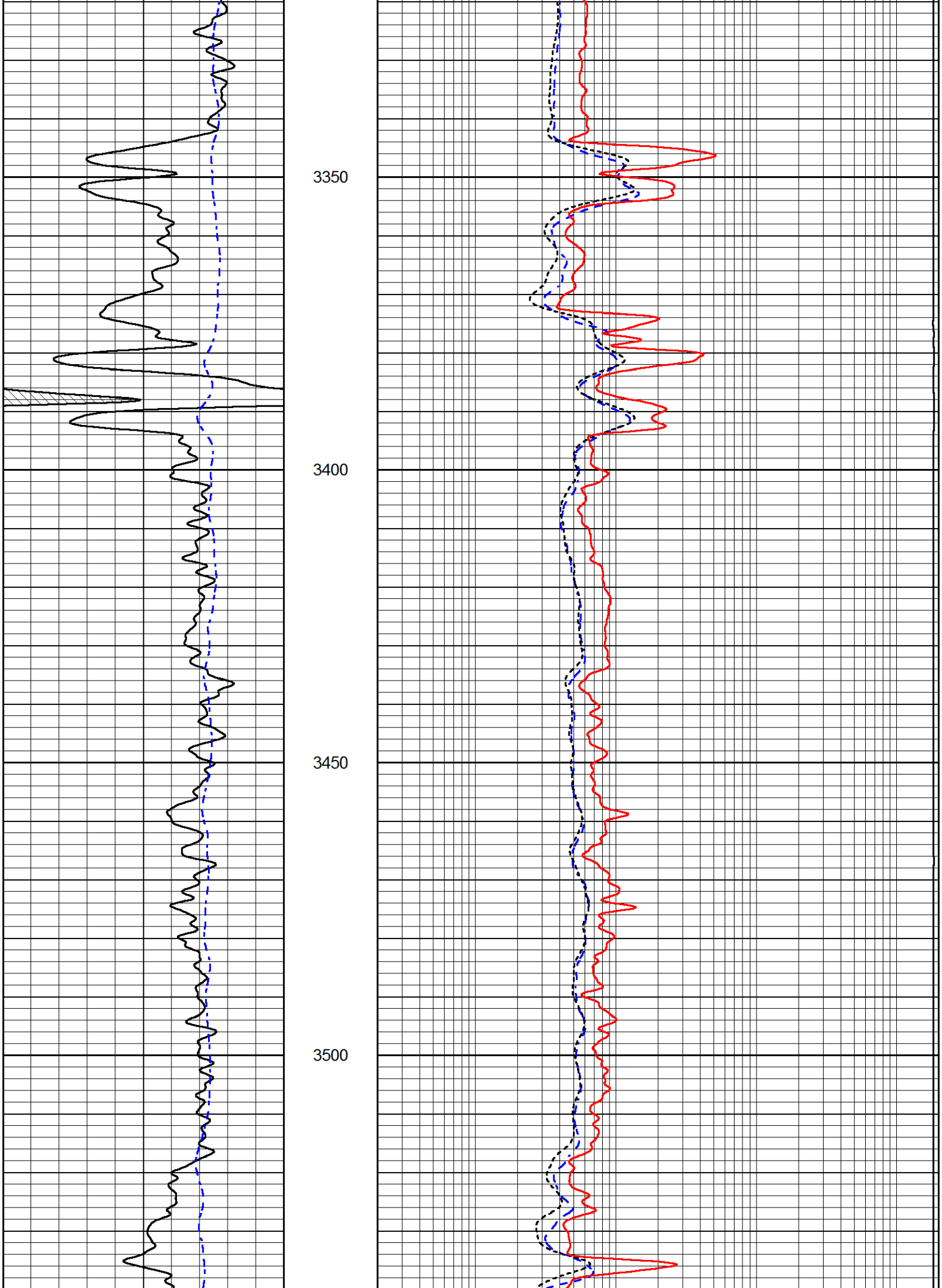
0.2	DEEP RESISTIVITY (Ohm-m)	2000
0.2	MEDIUM RESISTIVITY (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
15000	LINE TENSION (lb)	0




2700
2750
2800
2850


2900
2950
3000
3050


3100
3150
3200
3250
3300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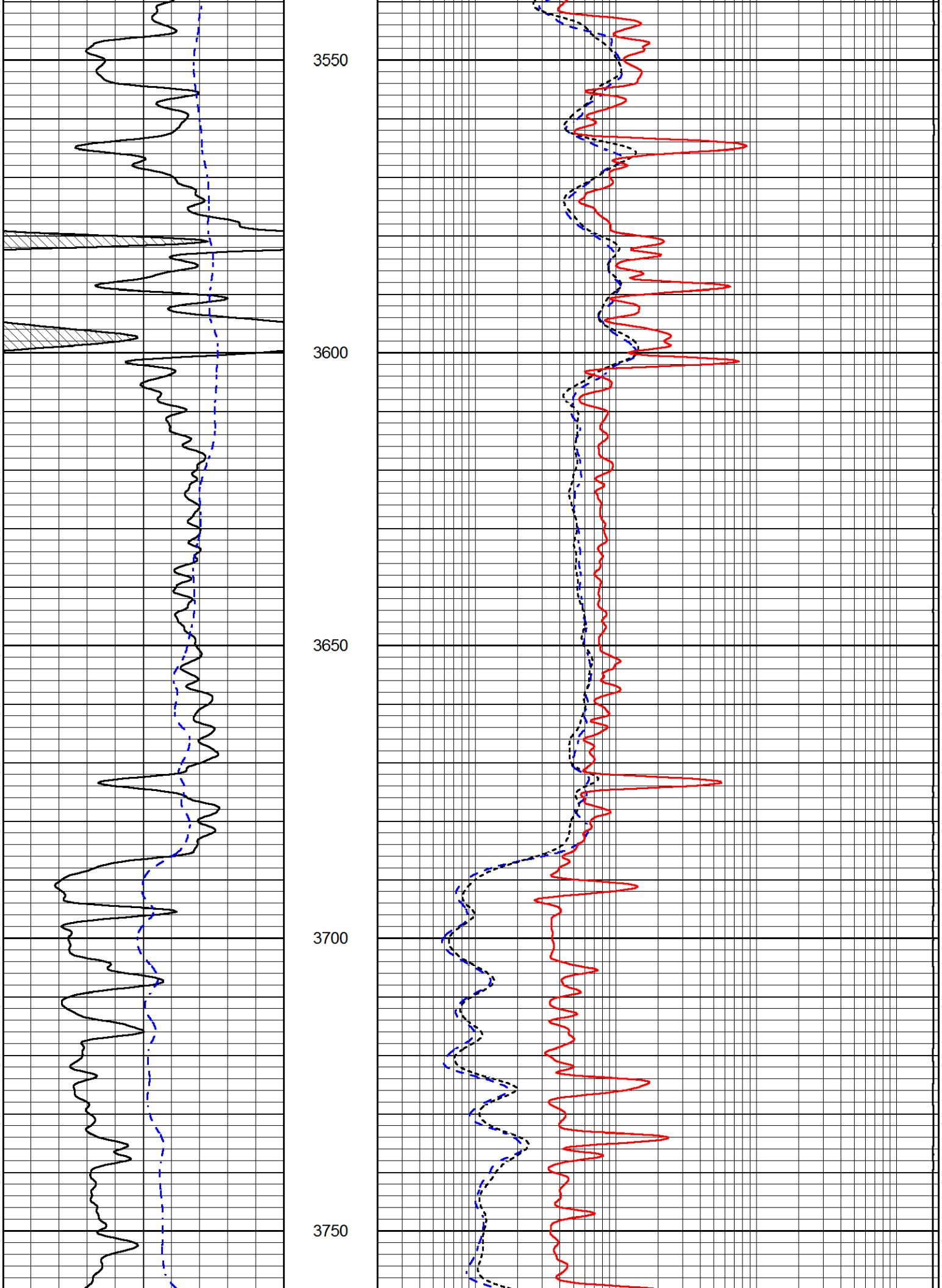
3400
3450
3500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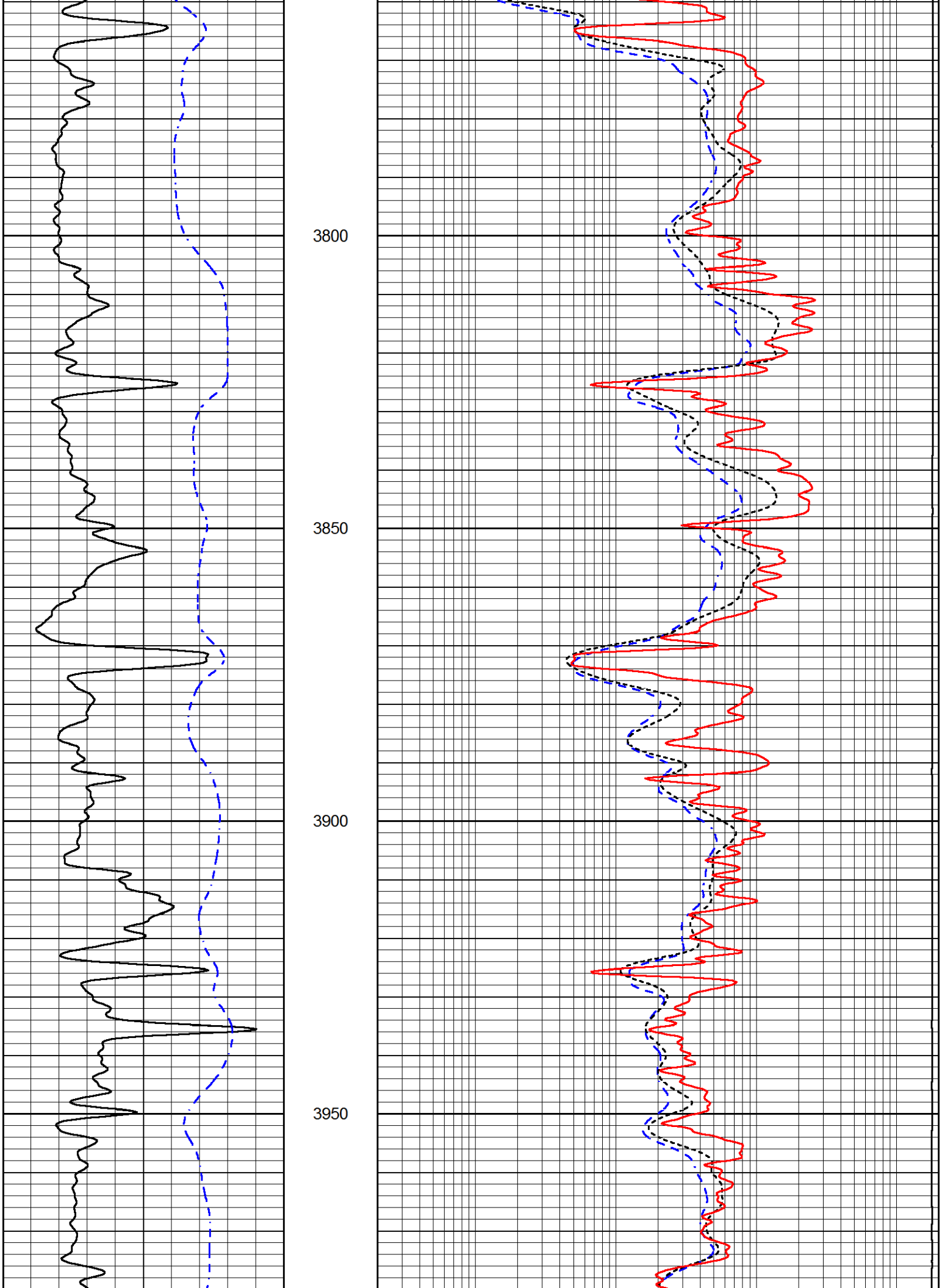
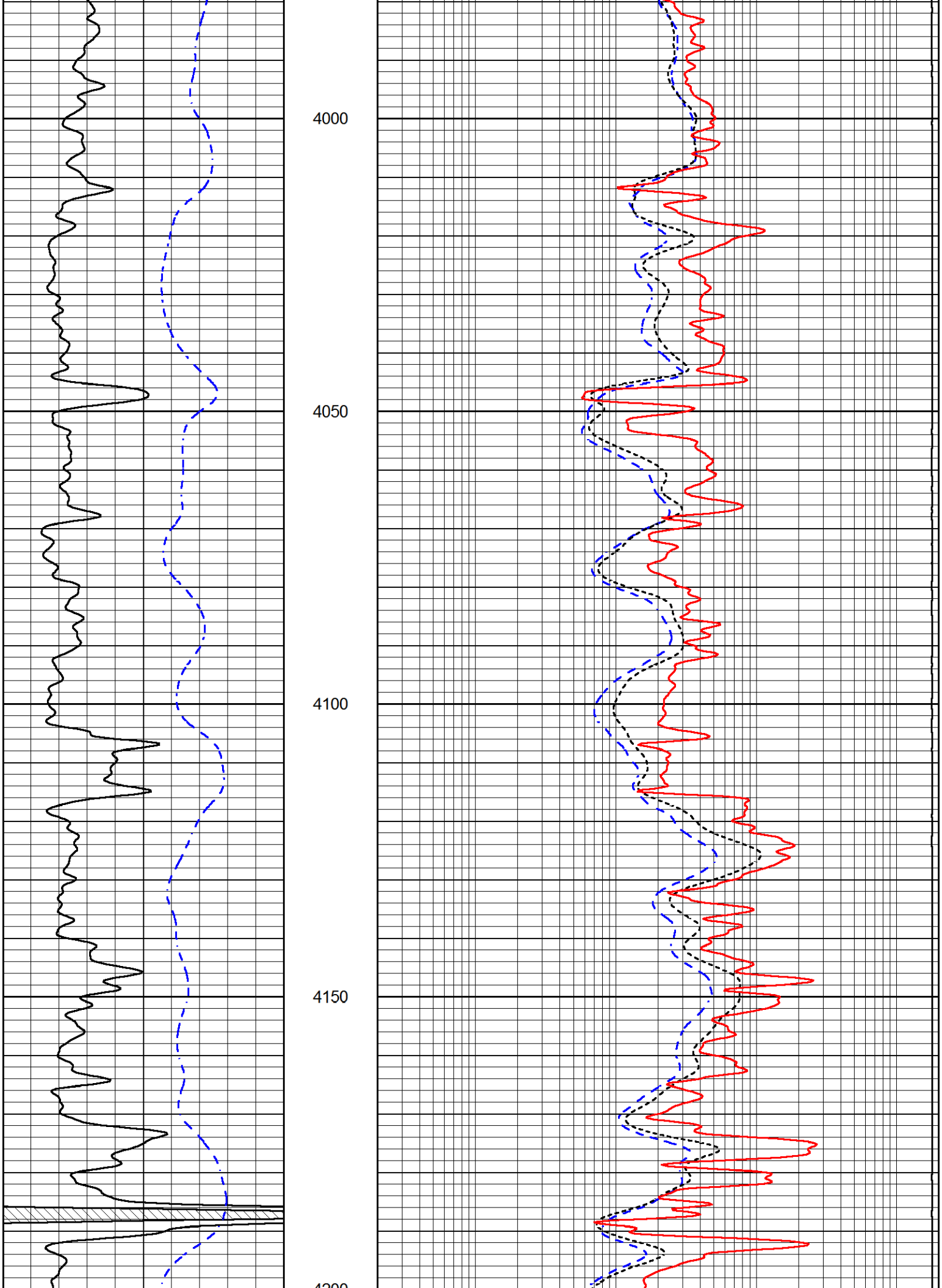
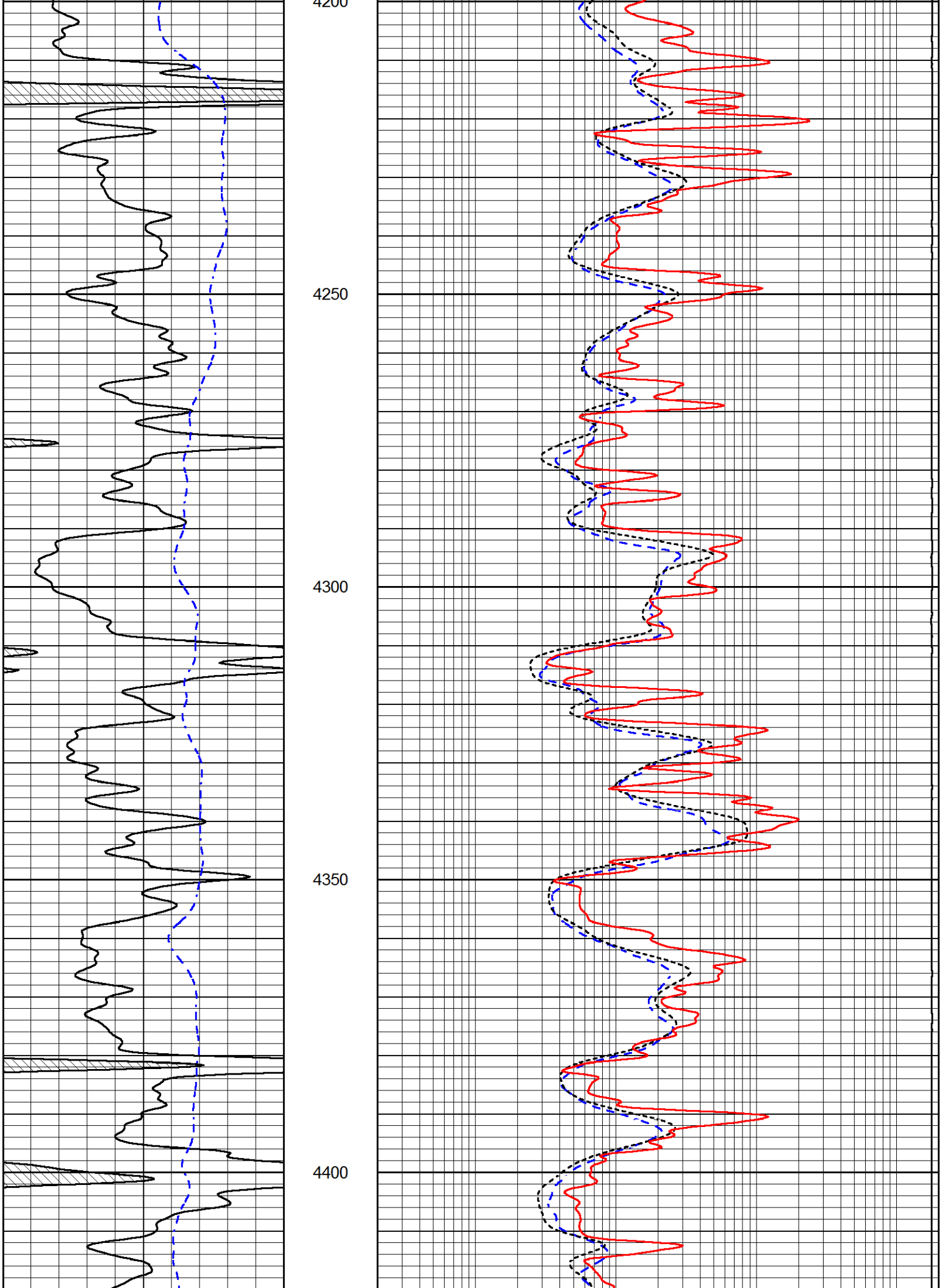
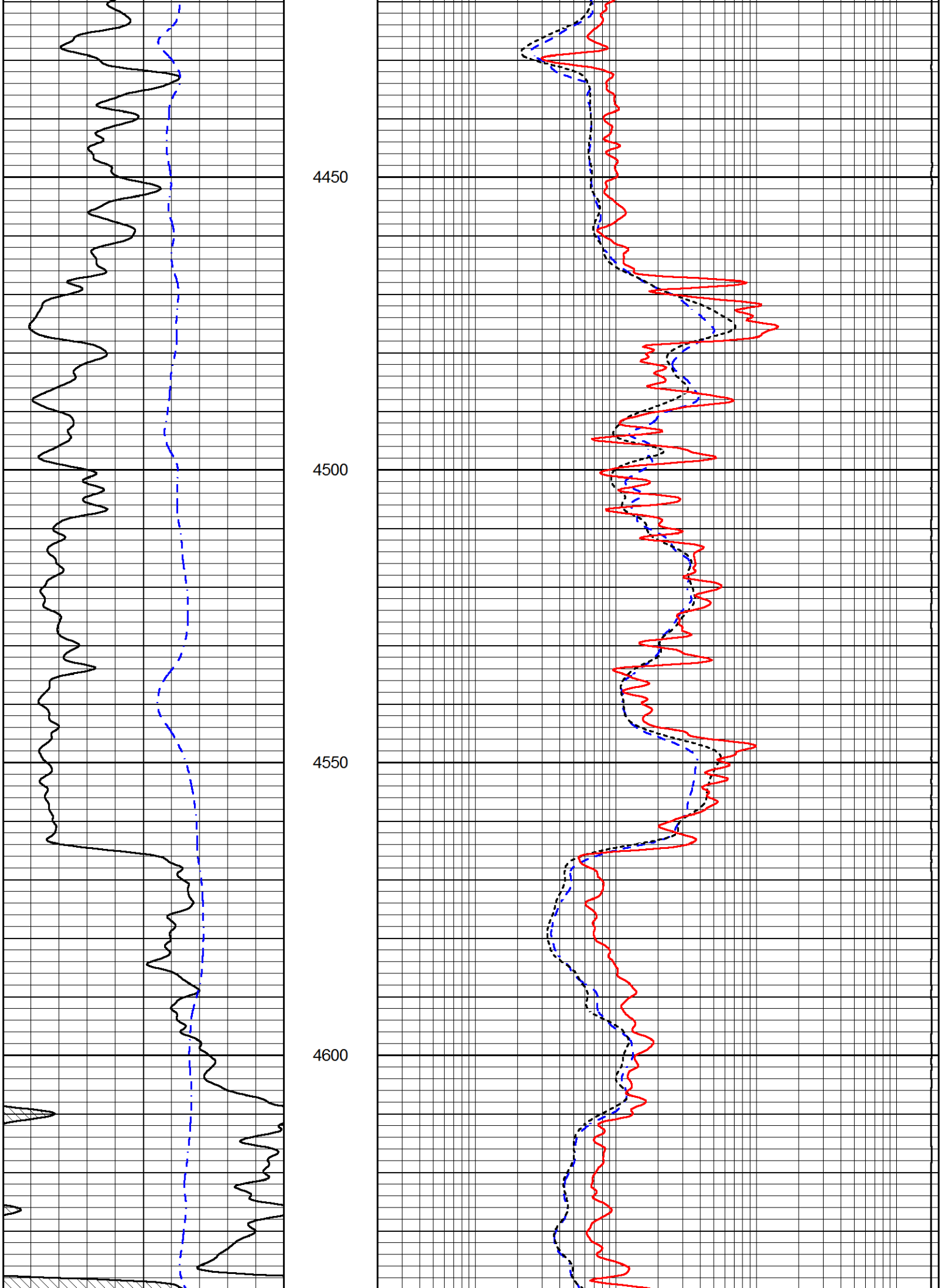
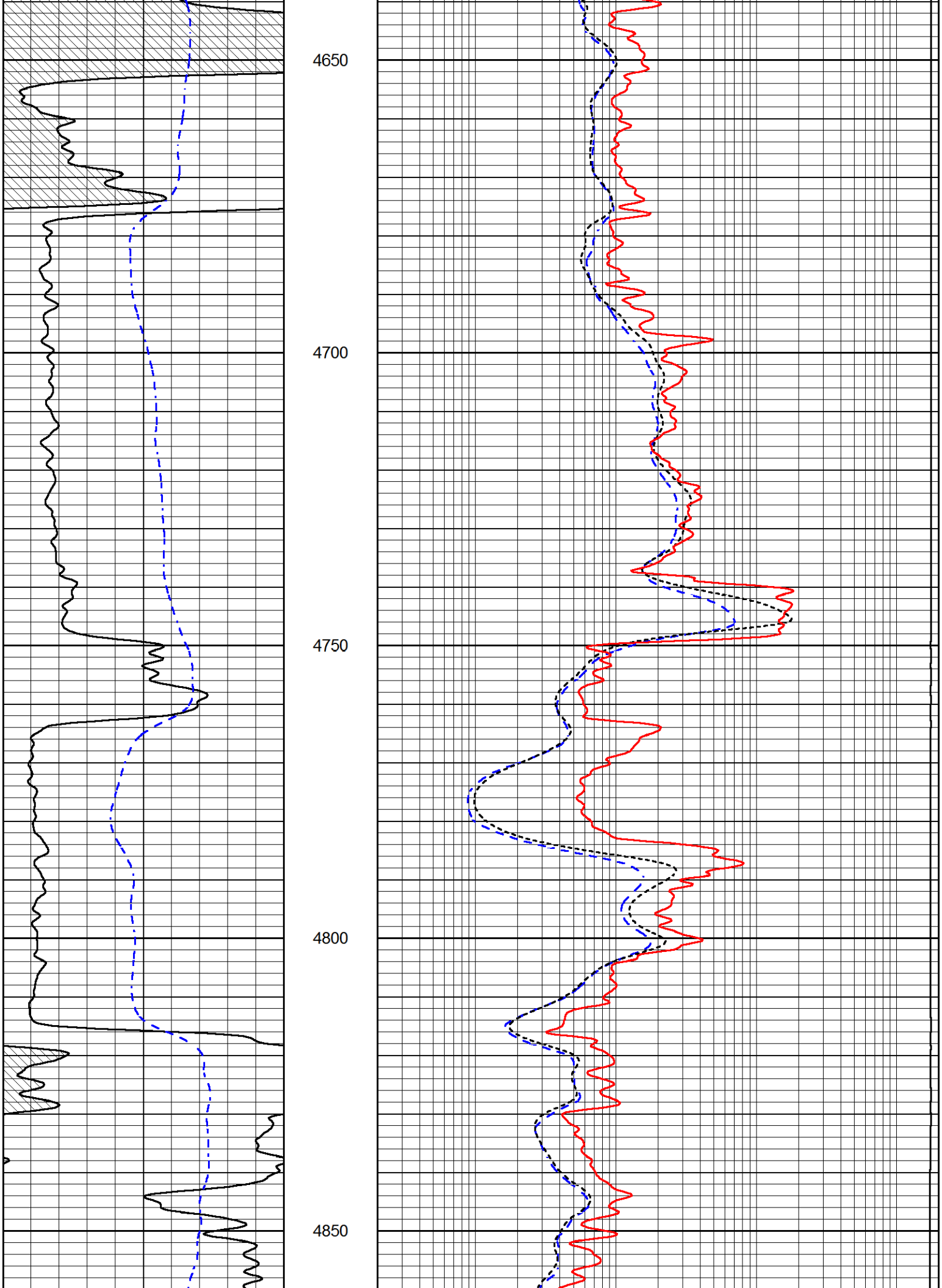
3600
3650
3700
3750

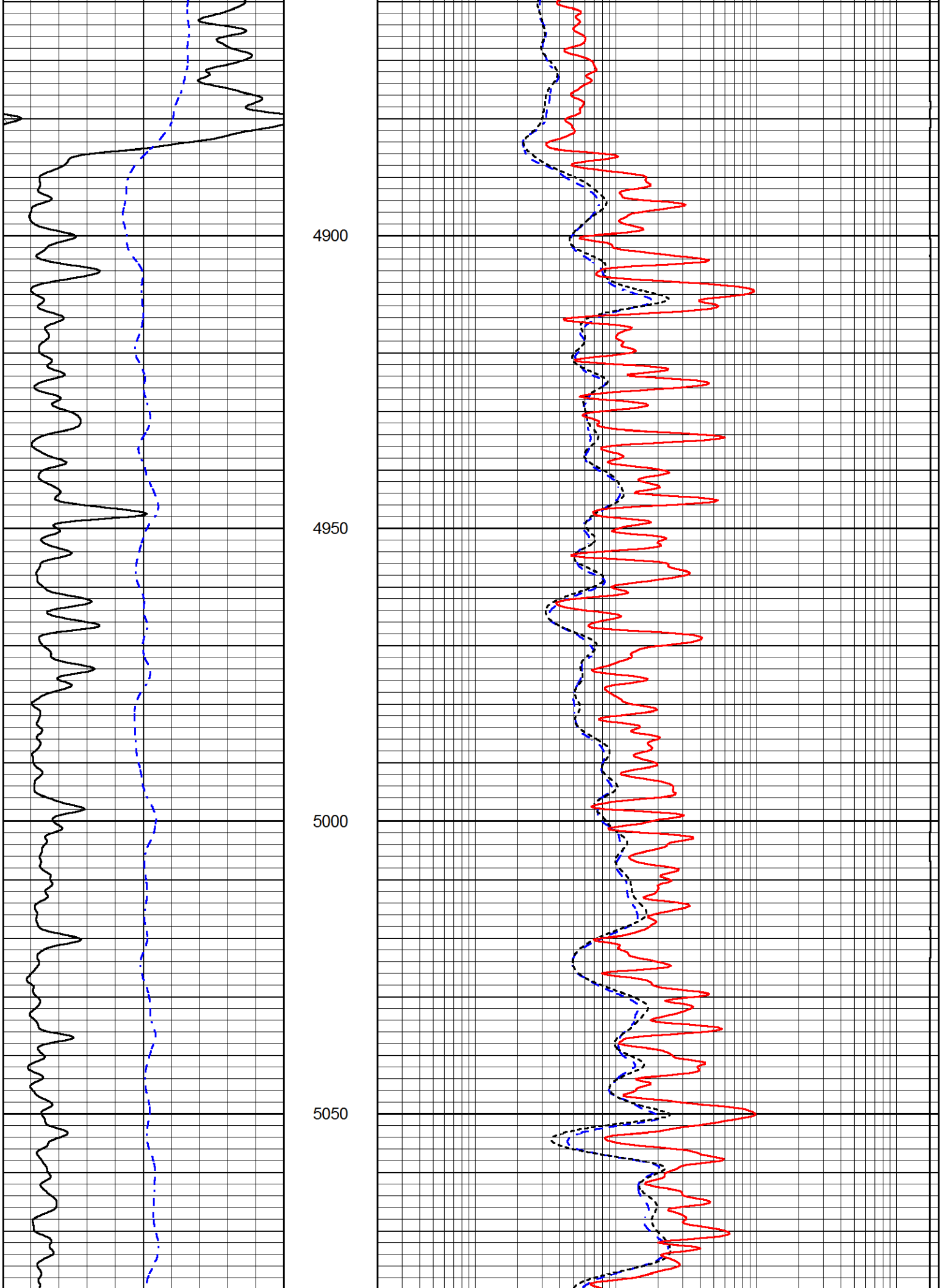

3800
3850
3900
3950


4000
4050
4100
4150


4200
4250
4300
4350
4400


4450
4500
4550
4600


4650
4700
4750
4800
4850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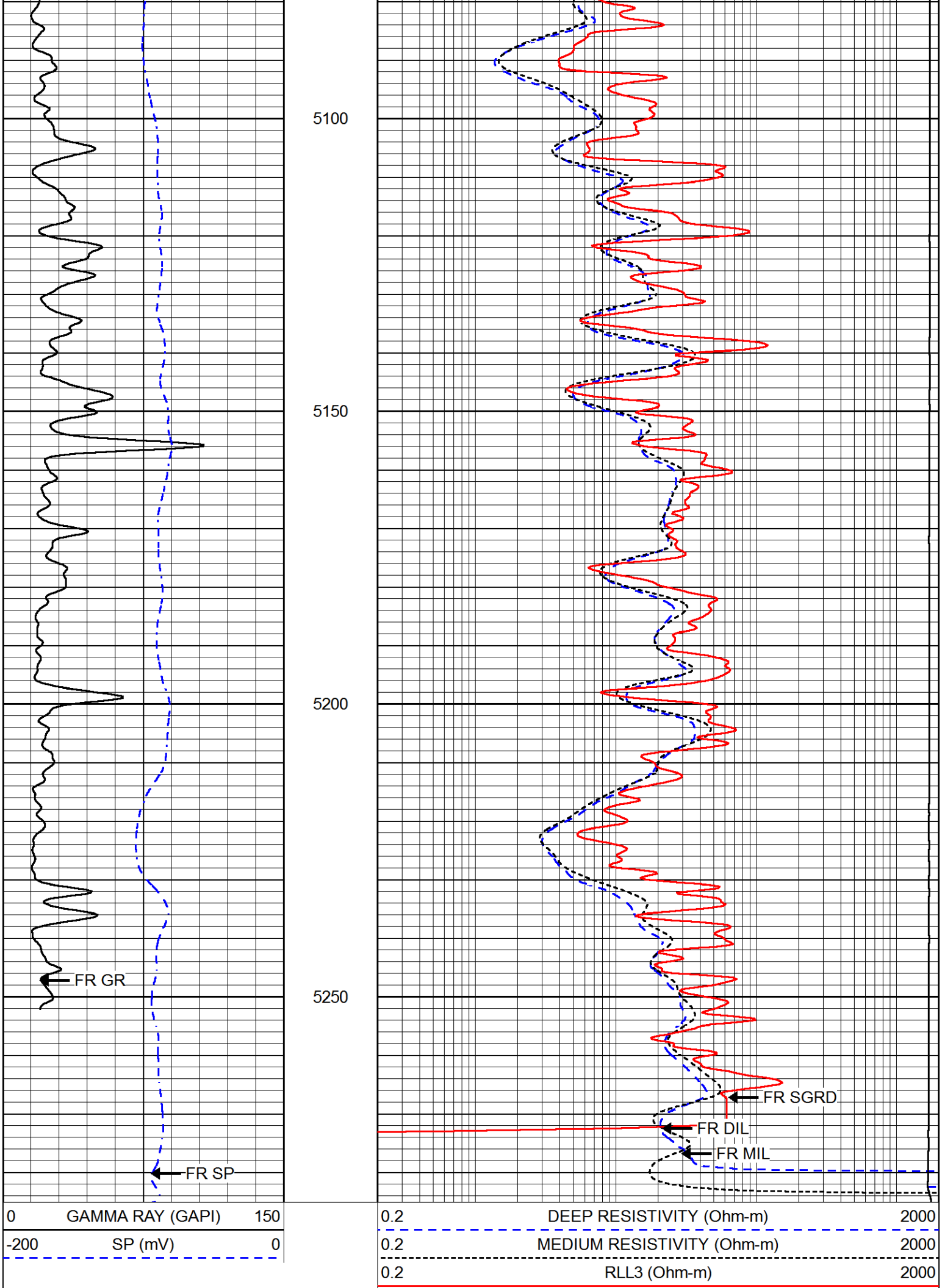
4950
5000
5050


5100
5150
5200
5250
FR GR
FR SP
FR SGRD
FR DIL
FR MIL
0
GAMMA RAY (GAPI)
150
-200
SP (mV)
0
0.2
DEEP RESISTIVITY (Ohm-m)
2000
0.2
MEDIUM RESISTIVITY (Ohm-m)
2000
0.2
RLL3 (Ohm-m)
2000

15000	LINE TENSION (lb)	0

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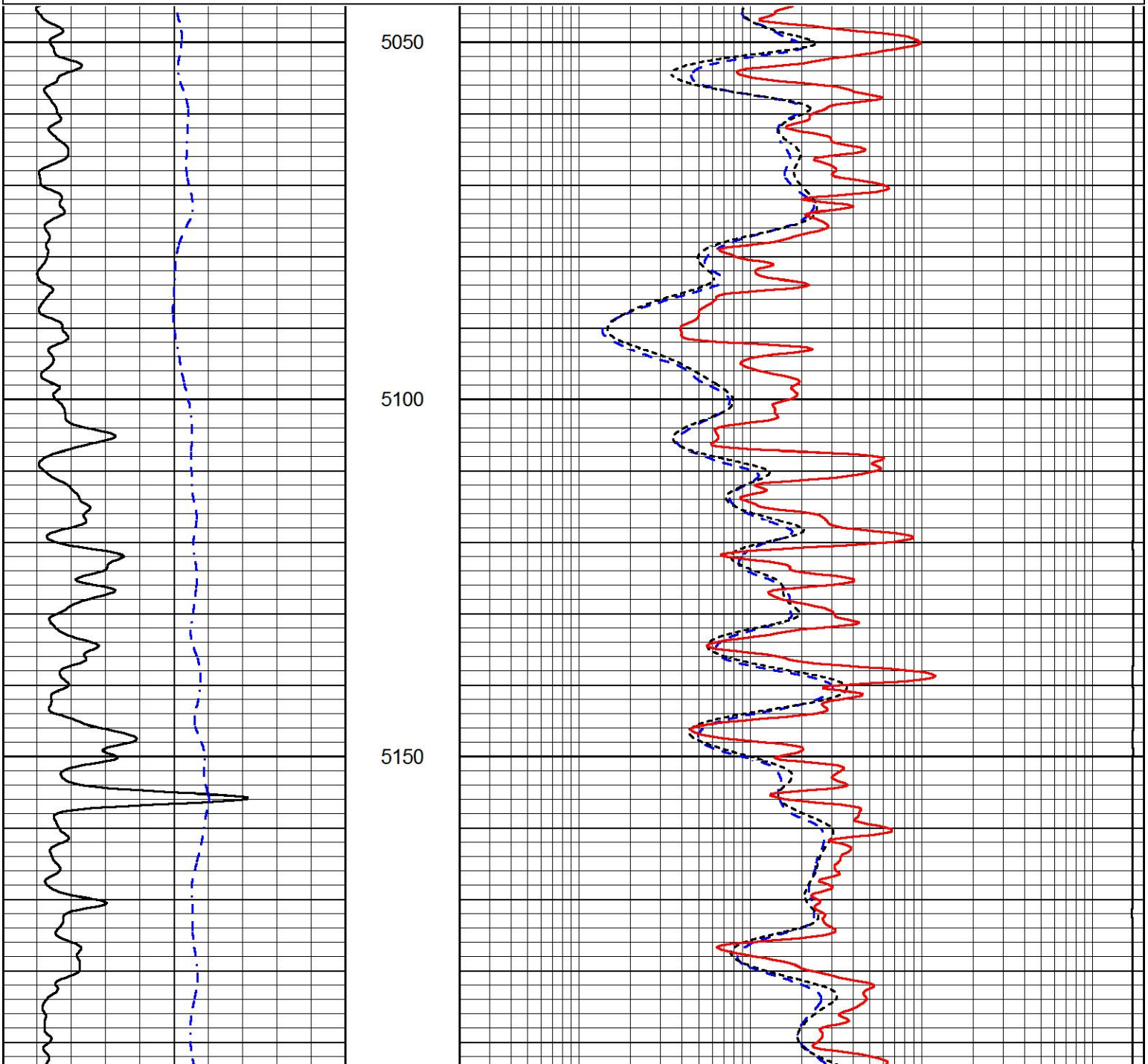
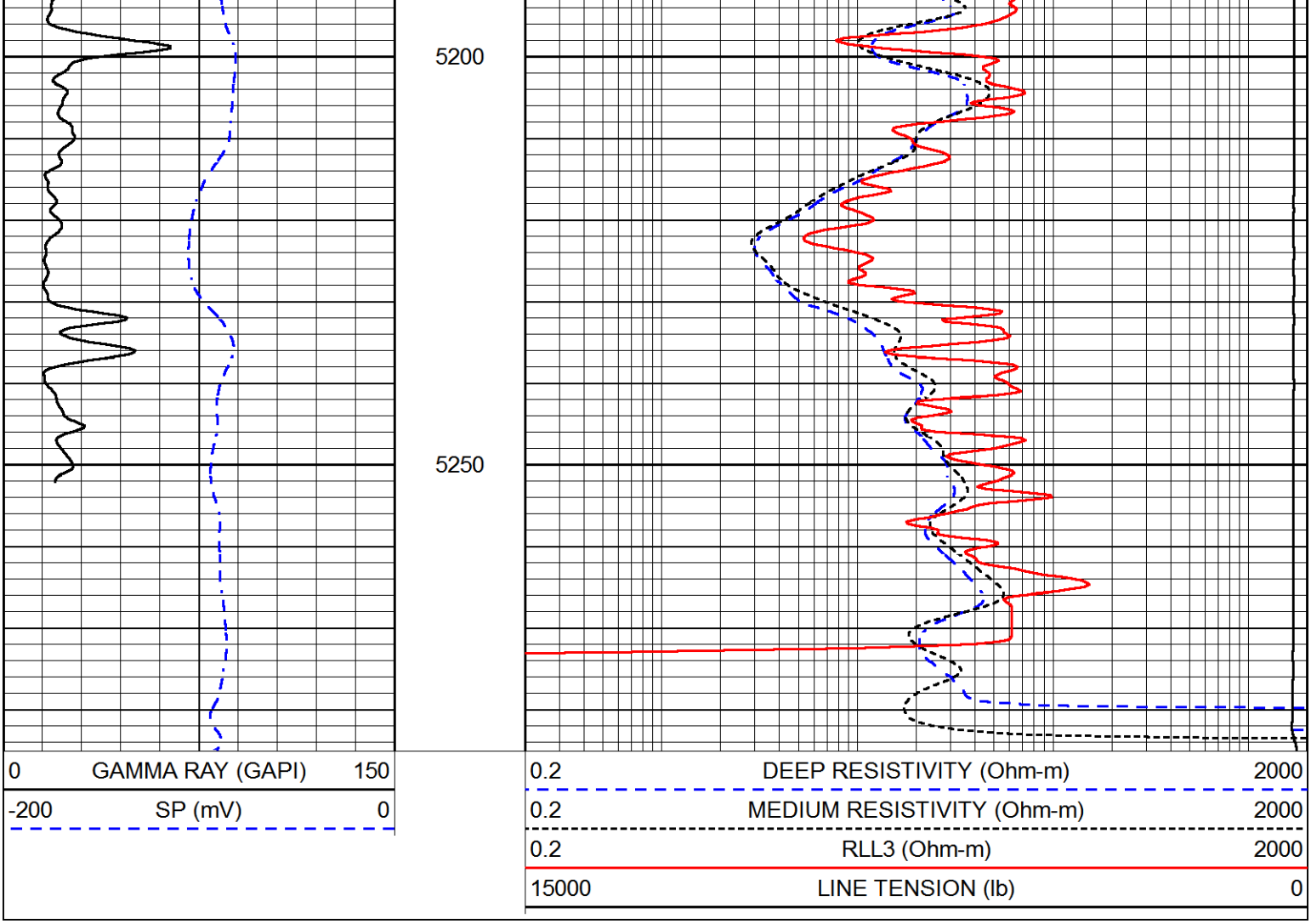
REPEAT SECTION

Database File	r&b_newman_a_1_swd.db
Dataset Pathname	stack/pass2.1
Presentation Format	dil
Dataset Creation	Sat Dec 30 10:49:49 2017
Charted by	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-200	SP (mV)	0

0.2	DEEP RESISTIVITY (Ohm-m)	2000
0.2	MEDIUM RESISTIVITY (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
15000	LINE TENSION (lb)	0





Calibration Report

Database File	r&b_newman_a_1_swd.db
Dataset Pathname	stack/pass3.1
Dataset Creation	Sat Dec 30 10:49:37 2017

Dual Induction Calibration Report

Serial-Model:	PSI 978-M&W
Calibration Performed:	Wed Dec 13 12:45:09 2017

	Readings		References			Results	
Loop:	Air	Loop	Air	Loop		Gain	Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.570	-36.500
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.420	-35.000

Compensated Density Calibration Report

Serial-Model:	168-986-M&W
Source / Verifier:	/
Master Calibration Performed:	Tue Apr 11 17:07:47 2017

Master Calibration

	Density	Far Detector	Near Detector

Magnesium	1.755	g/cc	4691.86	4818.19	cps
Aluminum	2.675	g/cc	859.57	3020.22	cps

Spine Angle = 74.61 Density/Spine Ratio = 0.523

	Size		Reading
Small Ring	4.00	in	1.03
Large Ring	14.00	in	1.23

Compensated Neutron Calibration Report

Serial Number: tk10-MW
Tool Model: M&W
Calibration Performed: Wed Nov 16 11:21:36 2016

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: 89-M&W
Tool Model: M&W
Calibration Performed: Tue Apr 11 17:08:01 2017

Calibrator Value: 1000.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 6.2 cps

Sensitivity: 0.5200 GAPI/cps

PIONEER
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Company R&B OIL & GAS
Well NEWMAN 'A' NO.1 SWD
Field N/A
County BARBER
State KANSAS