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DUAL INDUCTION LOG

Company ALTON OIL, LLC
Well JACK NO.2
Field NAUMAN NORTHEAST
County COWLEY State KANSAS

Location: API # : 15-035-24674-00-00
1650' FNL & 990' FWL
SEC 21 TWP 30S RGE 5E

Other Services: CNL/CDL, MEL

Permanent Datum: GROUND LEVEL Elevation 1338'
Log Measured From: KELLY BUSHING
Drilling Measured From: KELLY BUSHING

Elevation: K.B. 1347', D.F. N/A, G.L. 1338'

Company ALTON OIL, LLC
Well JACK NO.2
Field NAUMAN NORTHEAST
County COWLEY
State KANSAS

Date	6/2/17			
Run Number	ONE			
Depth Driller	3230'			
Depth Logger	3234'			
Bottom Logged Interval	3233'			
Top Log Interval	200'			
Casing Driller	8.625" @ 205'			
Casing Logger	215'			
Bit Size	7.875"			
Type Fluid in Hole	CHEMICAL			
Salinity,ppm CL	900			
Density / Viscosity	9.3 | 48			
pH / Fluid Loss	9.0 | 9.2			
Source of Sample	FLOWLINE			
Rm @ Meas. Temp	1.30 @ 76			
Rmf @ Meas. Temp	.98 @ 76			
Rmc @ Meas. Temp	1.76 @ 76			
Source of Rmf / Rmc	CHARTS			
Rm @ BHT	.91 @ 108			
Operating Rig Time	2 HOURS			
Max Rec. Temp. F	108 DEG/F			
Equipment Number	108			
Location	HAYS			
Recorded By	J. HENRICKSON			
Witnessed By	MIKE PRESSNALL			

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All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, 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.

ROCK KANSAS
6 1/2 EAST, SOUTH INTO AT TANK BATTERY

Log Measured From: KELLY BUSHING 9 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: MIKE PRESSNALL
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Log Variables

DatabaseC:\ProgramData\Warrior\Data\alton_jack_2.db
Dataset field/well/run1/pass3.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	108	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	-240	68	Off	3234

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	40.58					
CNLSC	37.48		CNT-M&W (tk10-MW)	5.50	3.50	100.00
CNSSC	36.73					
			CDL-M&W (168-986)	8.50	4.00	250.00
LSD	28.43					
DCAL	28.42					
SSD	27.93					
			ML-PSI STKBL ML (PSI-01) Stackable Microlog Tools	7.58	4.00	65.00
MCAL	19.83					
MI	19.83					
MN	19.83					
RLL3	15.80					
RLL3F	15.79					
			DIL-M&W (1987)	18.50	3.50	220.00
CILD	8.00					

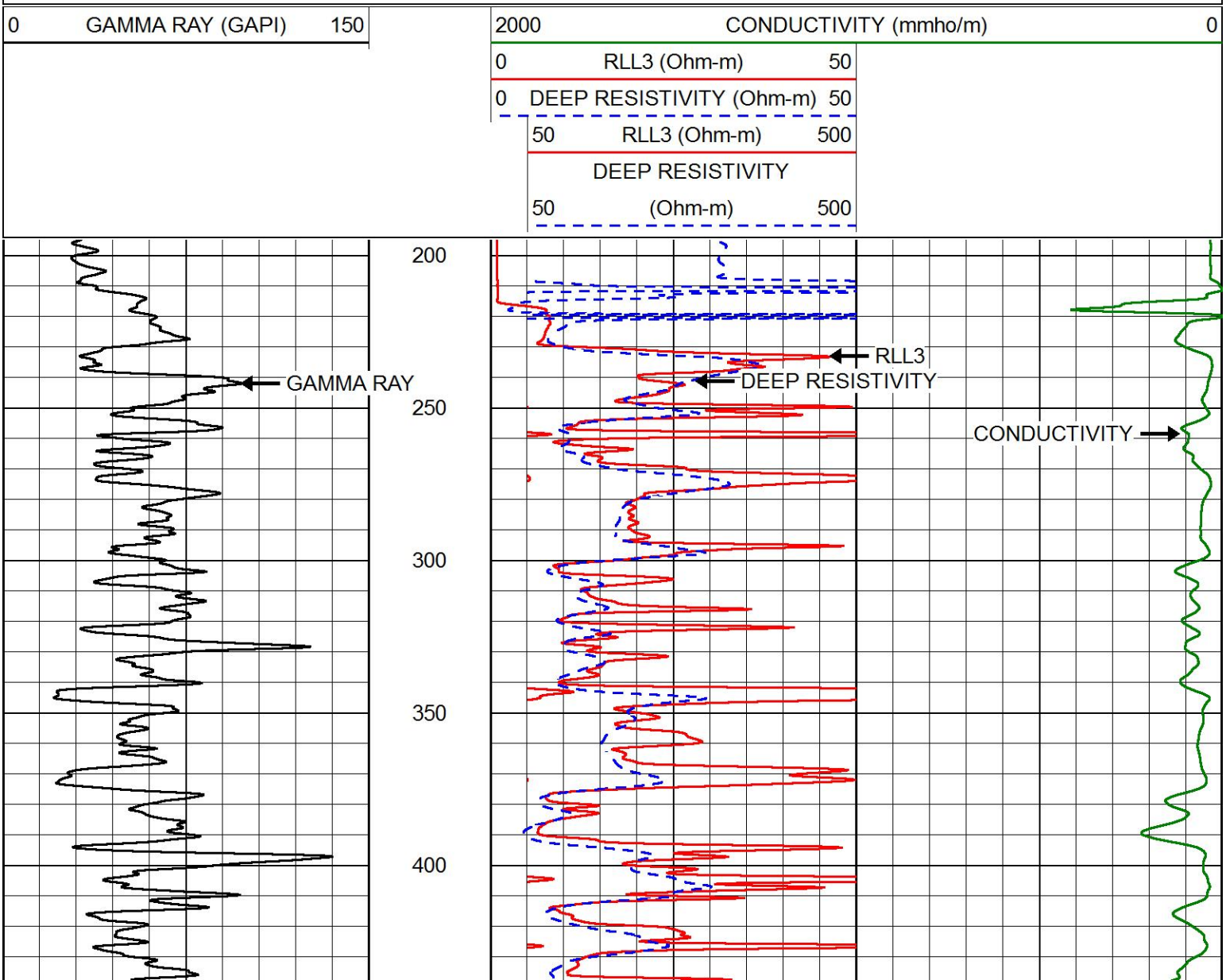
CILM	4.70	
SP	0.20	

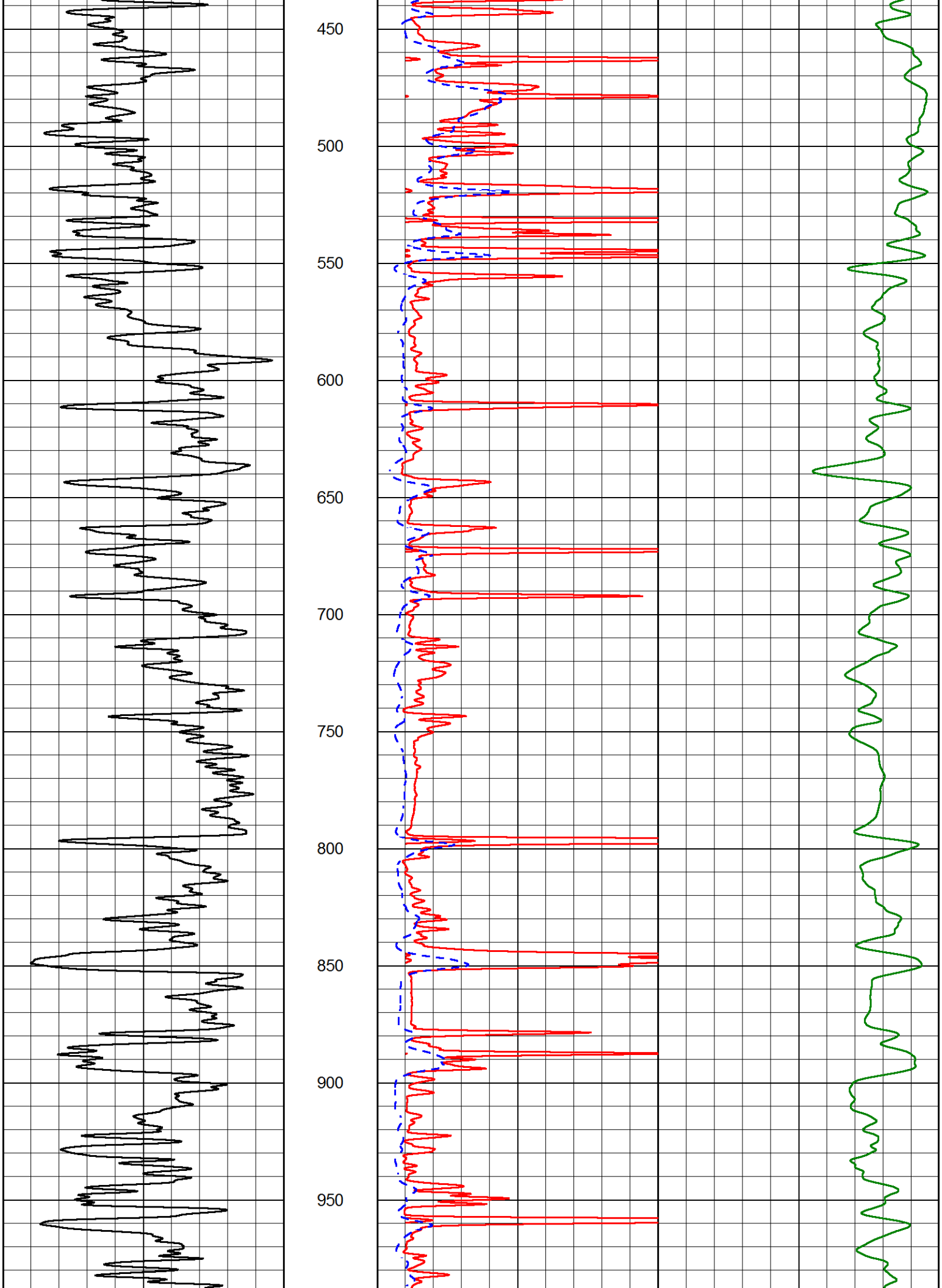
Dataset: alton_jack_2.db: field/well/run1/pass3.1
Total length: 43.08 ft
Total weight: 685.00 lb
O.D.: 4.00 in

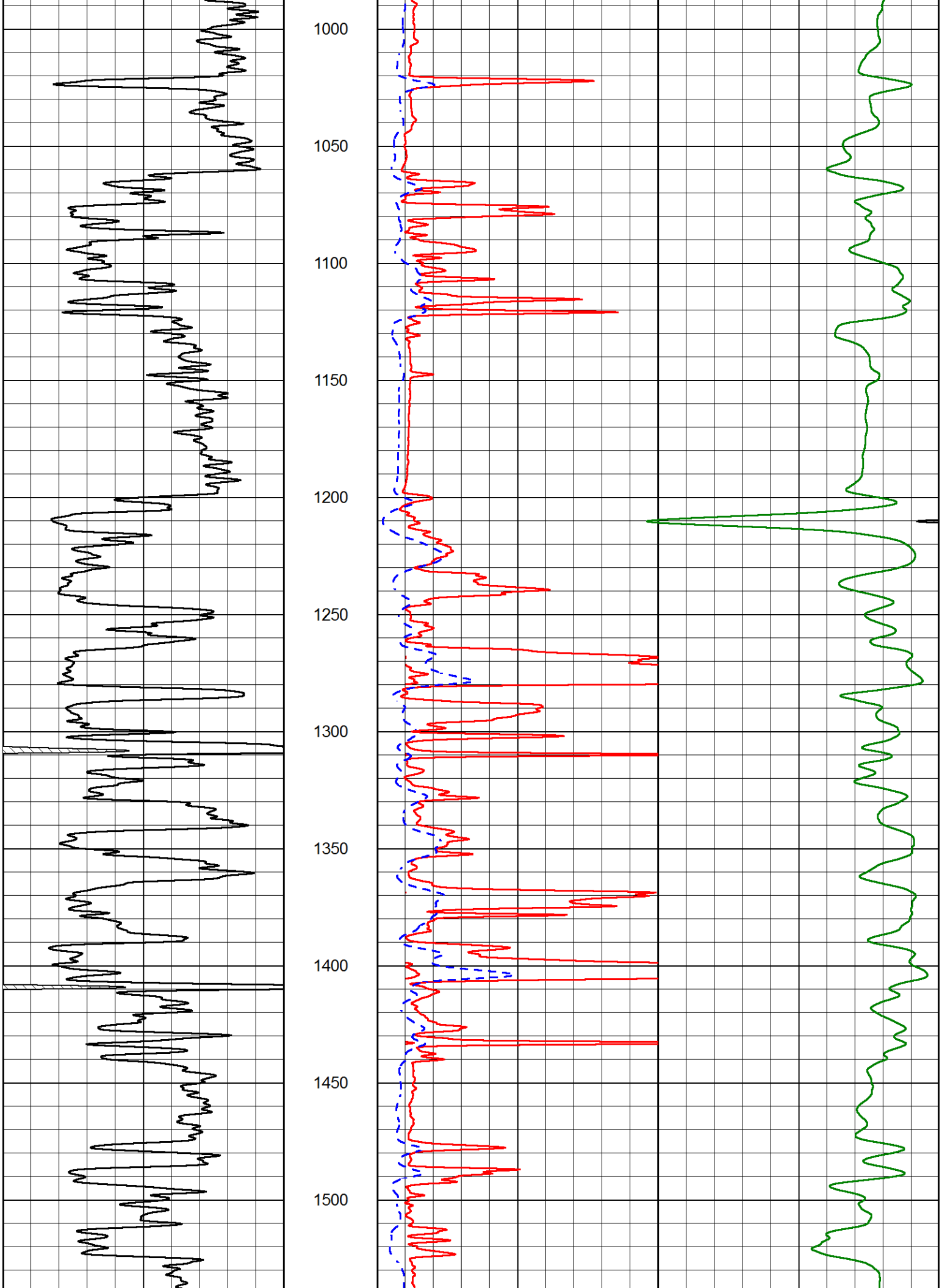
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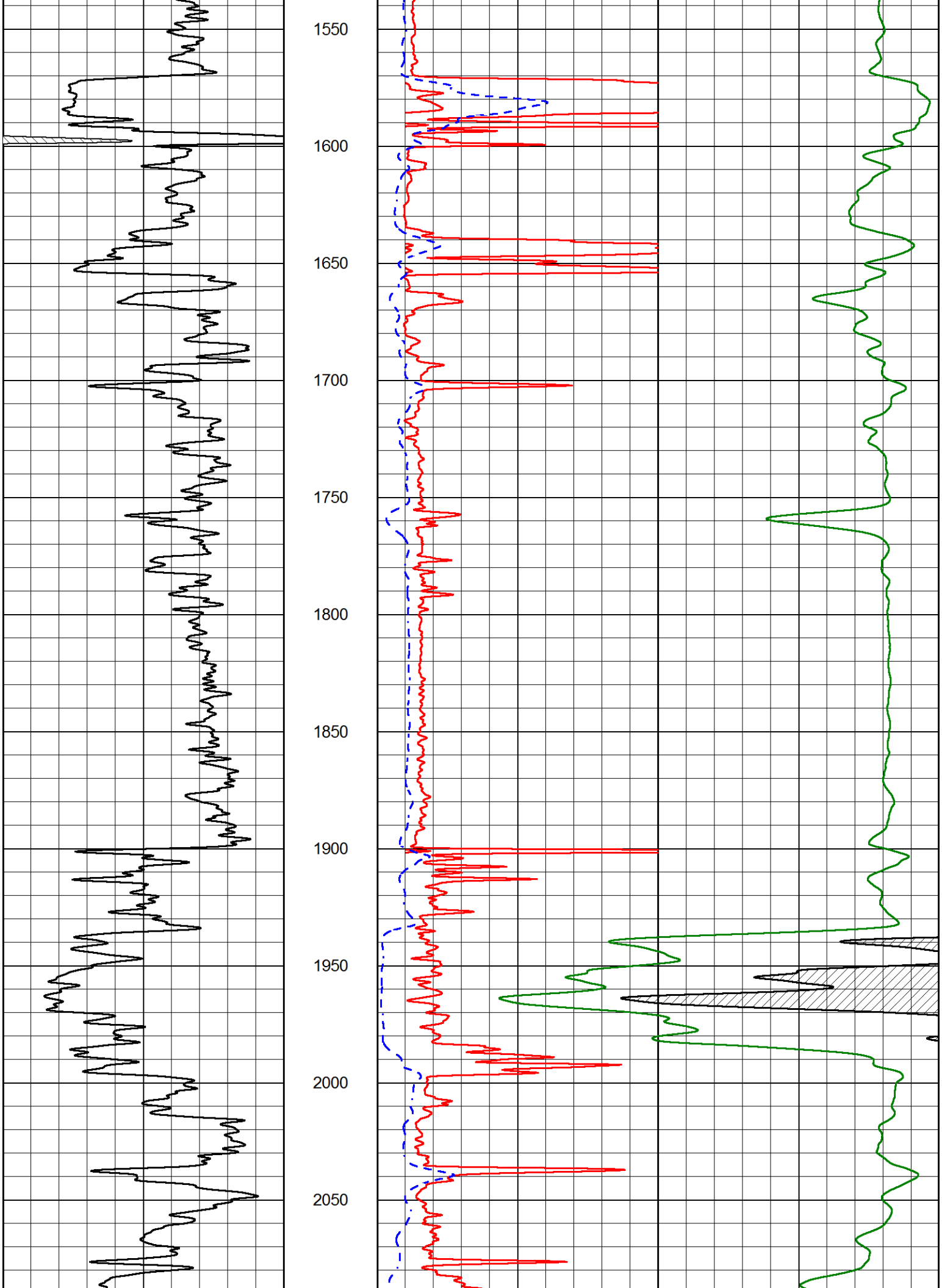
MAIN PASS

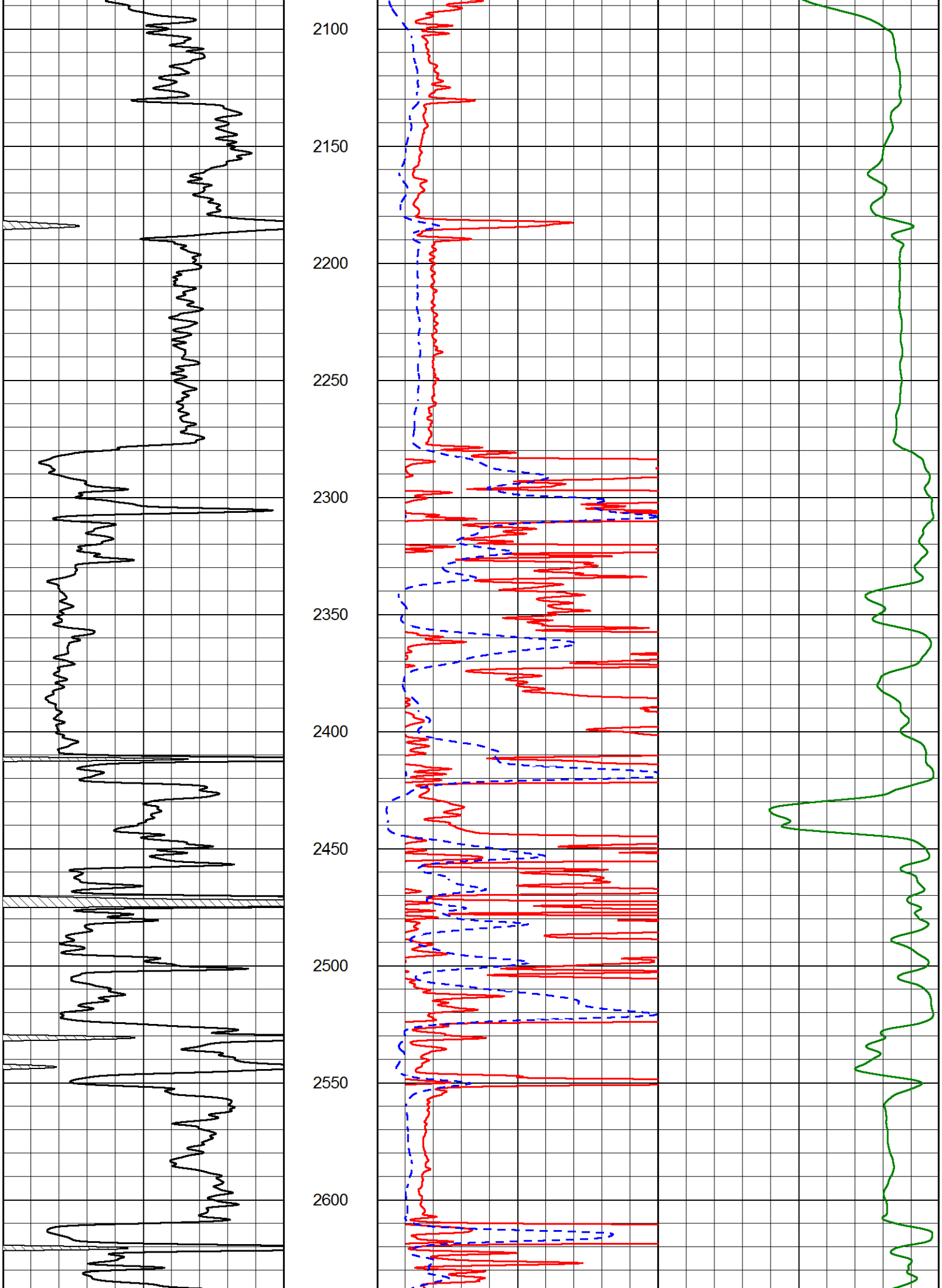
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Presentation Format	dil2in
Dataset Creation	Fri Jun 02 15:04:46 2017
Charted by	Depth in Feet scaled 1:600

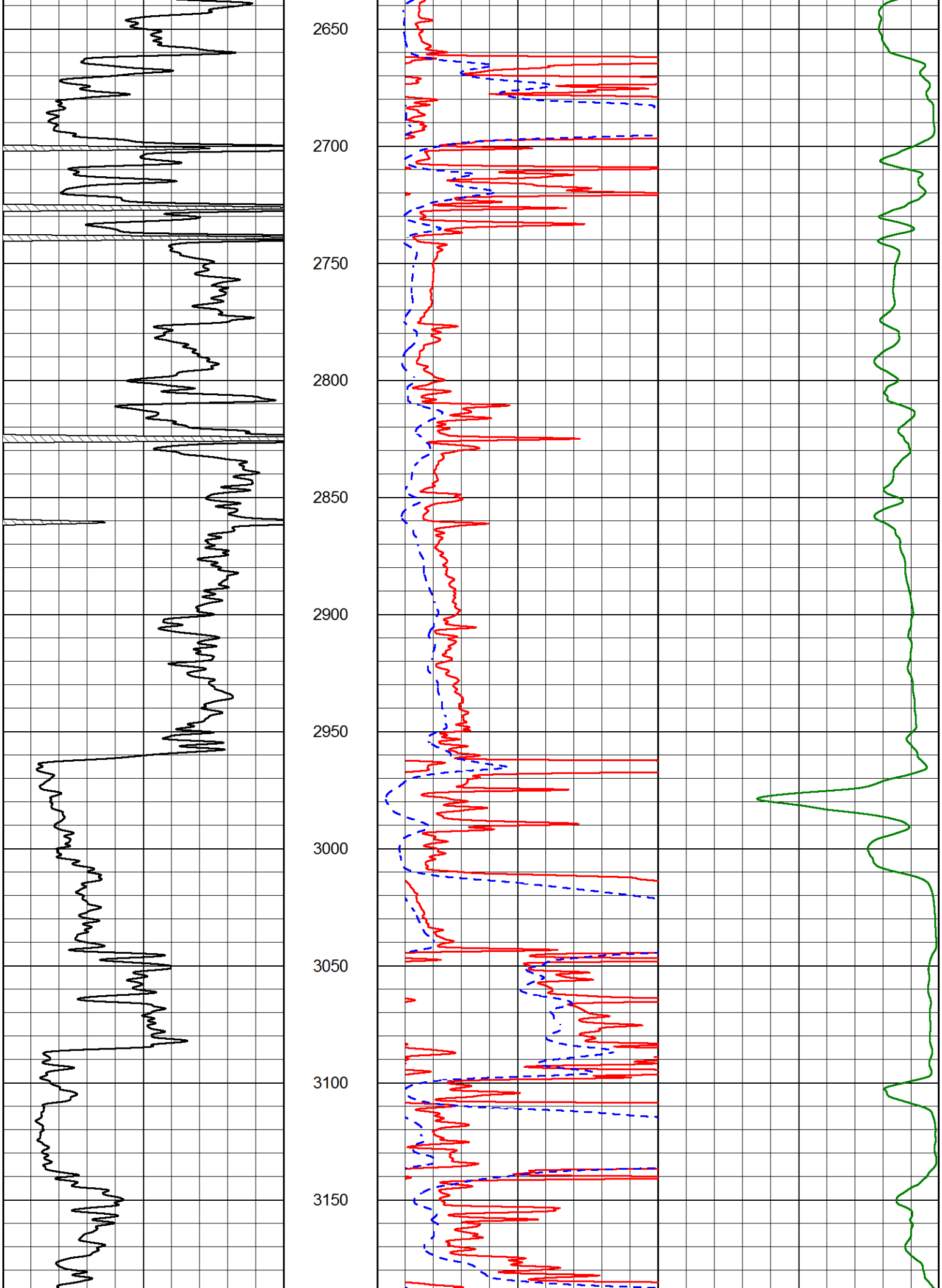


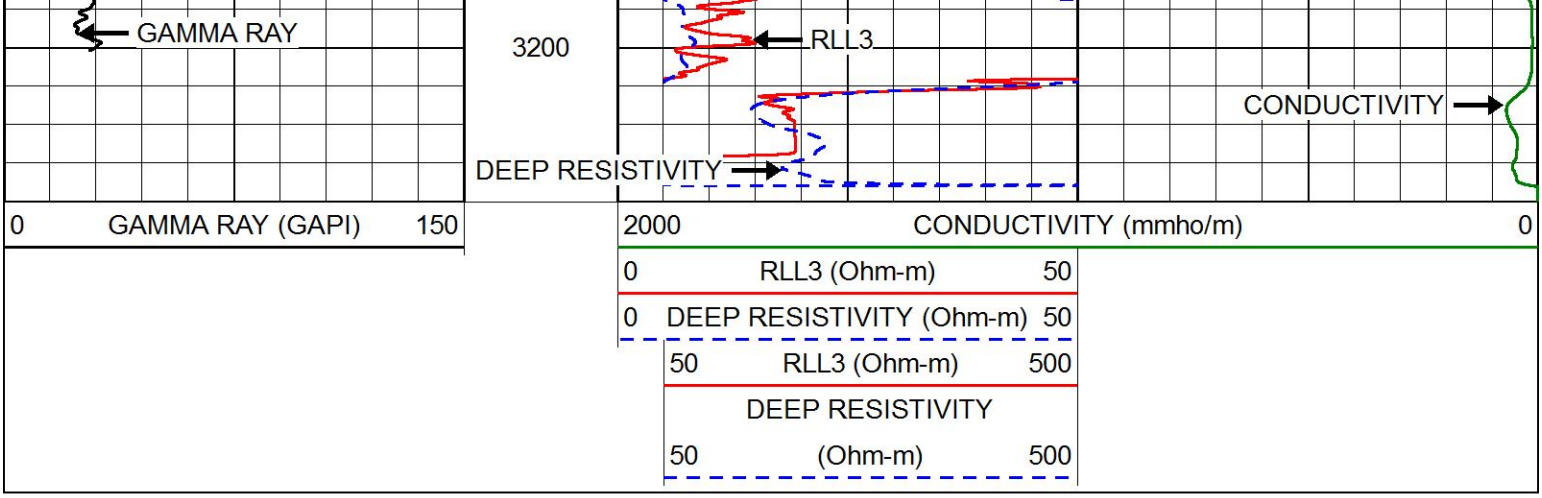

450
500
550
600
650
700
750
800
850
900
950


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

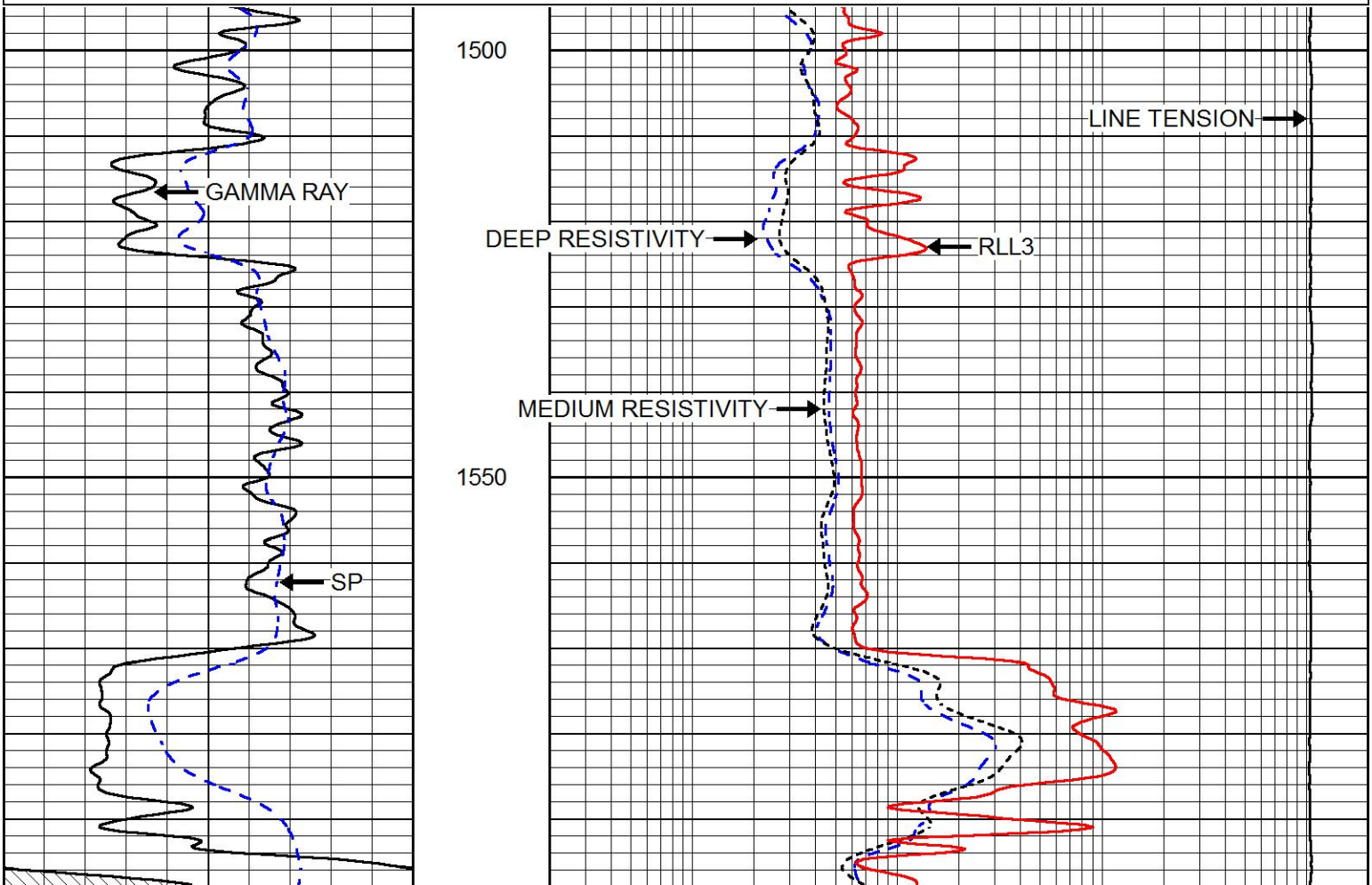

2650
2700
2750
2800
2850
2900
2950
3000
3050
3100
3150

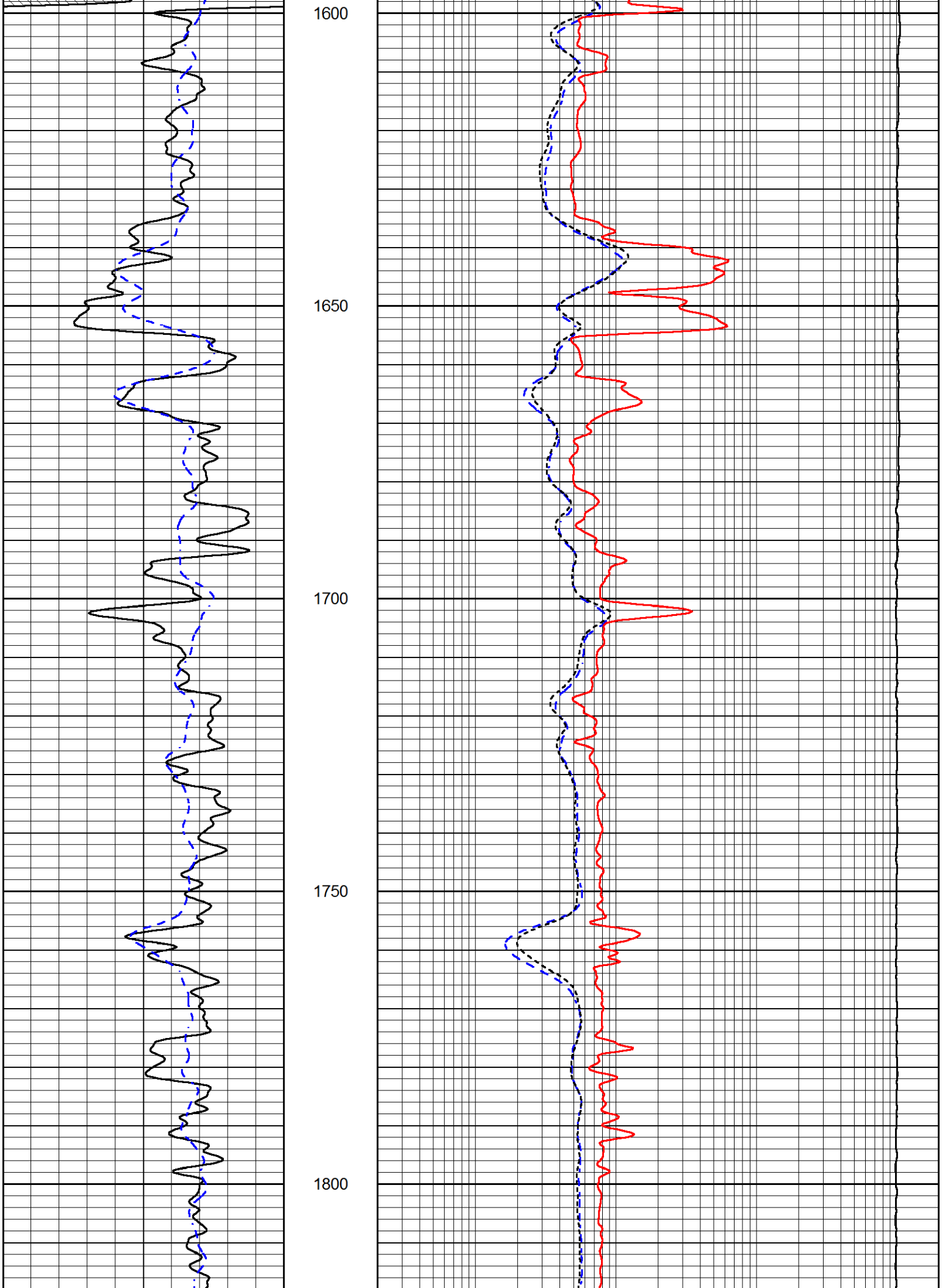


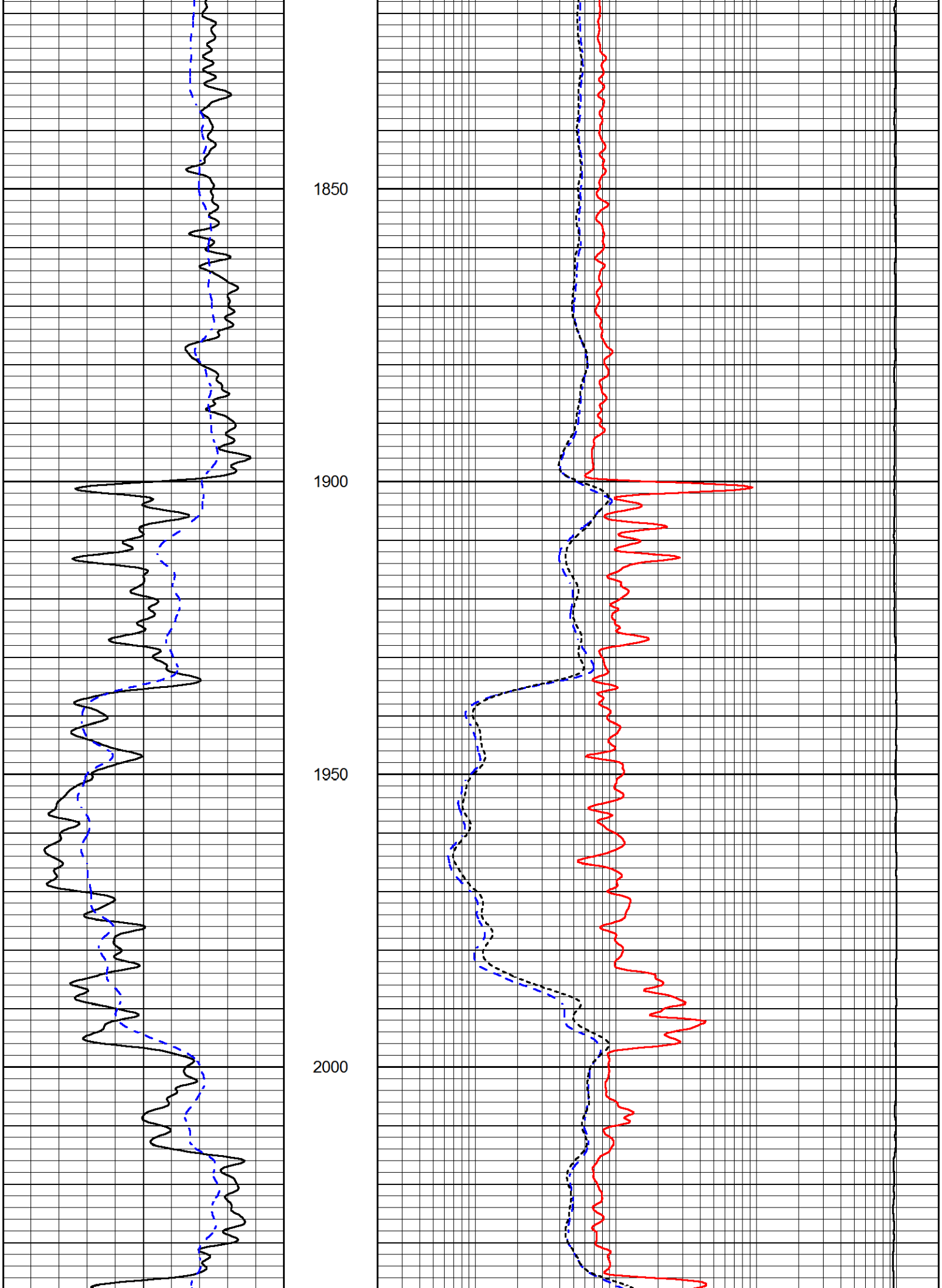
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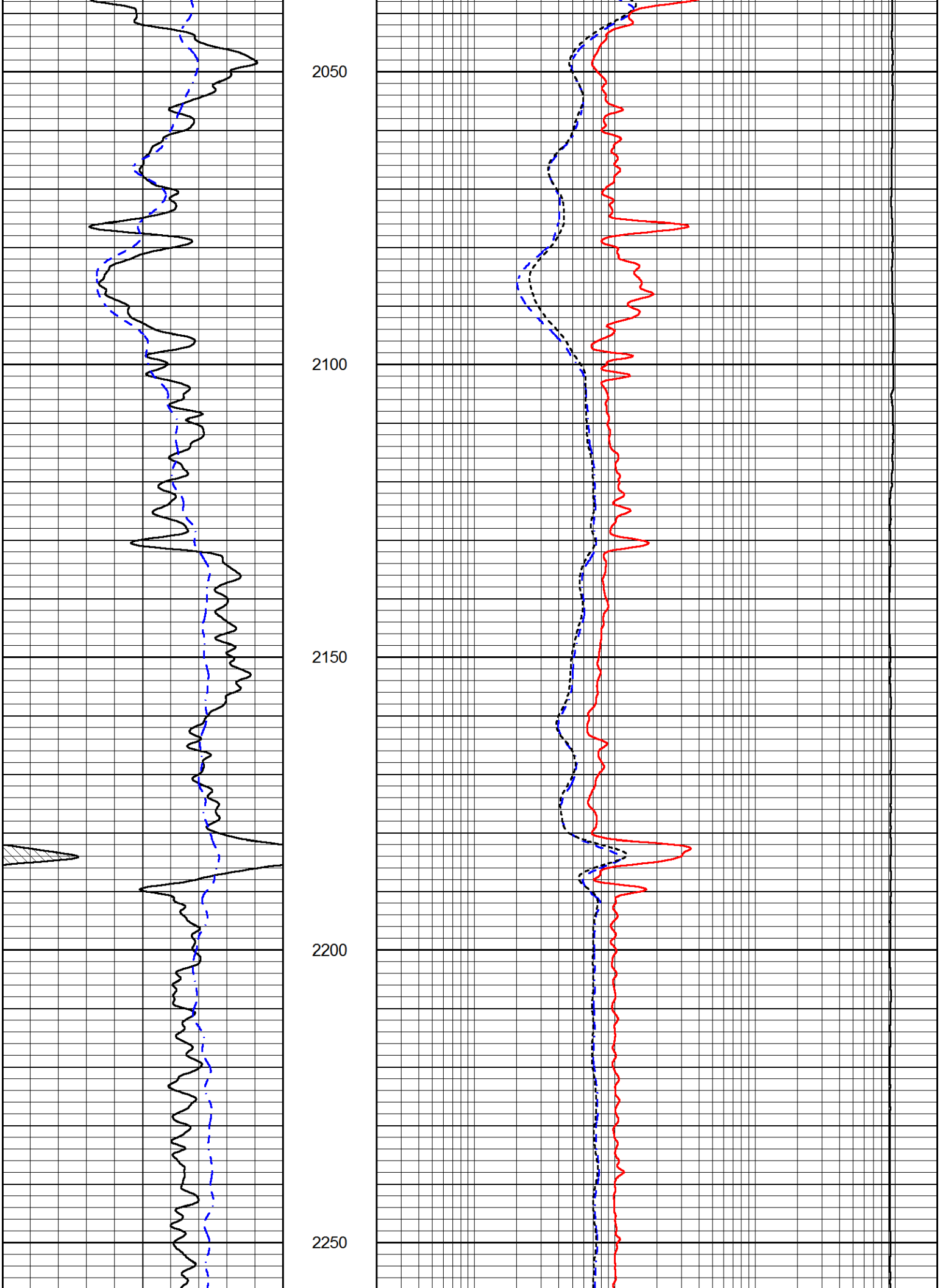
MAIN PASS

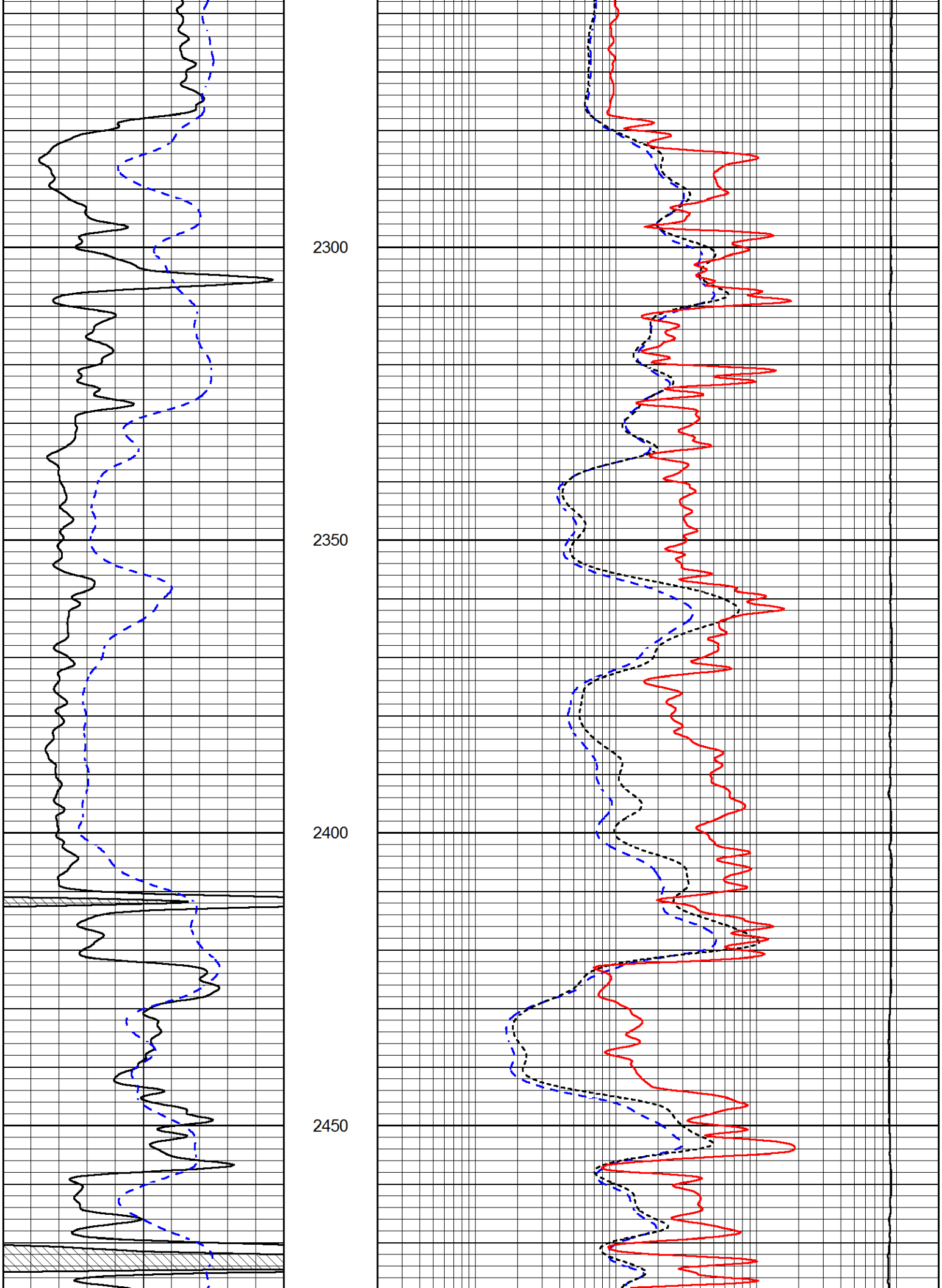
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Dataset Pathname	pass3.1
Presentation Format	dil
Dataset Creation	Fri Jun 02 15:04:46 2017
Charted by	Depth in Feet scaled 1:240

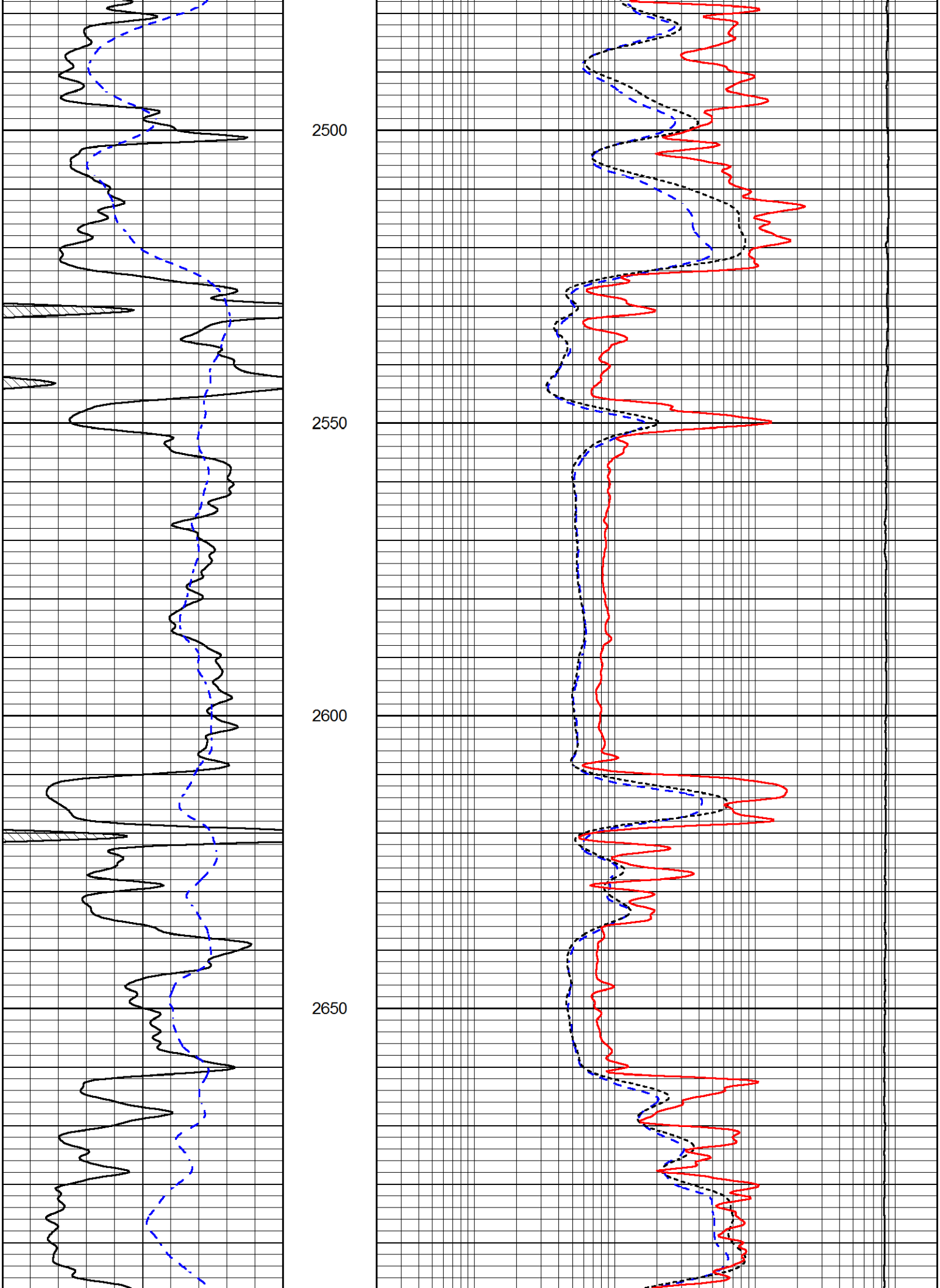


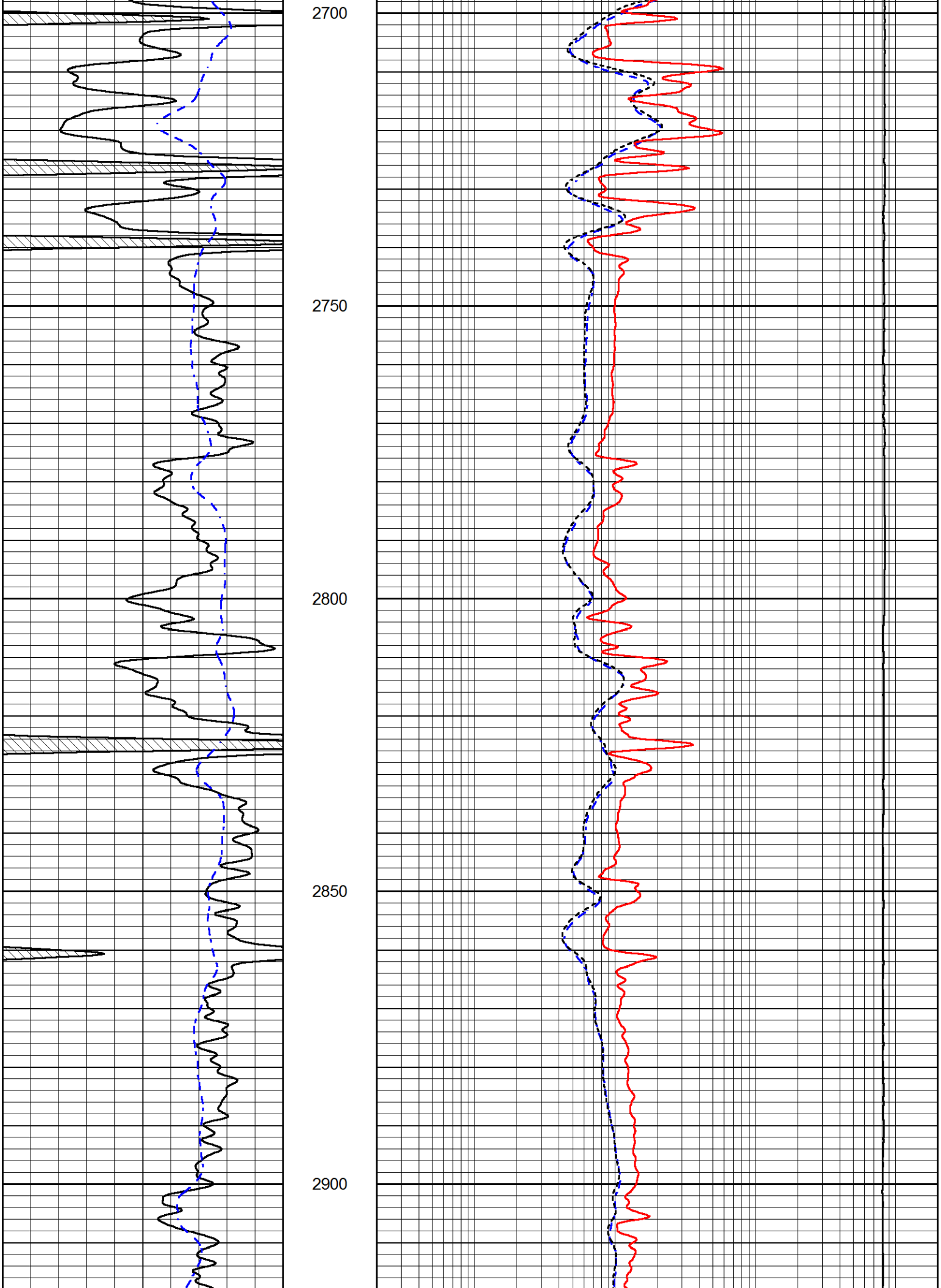

1600
1650
1700
1750
1800

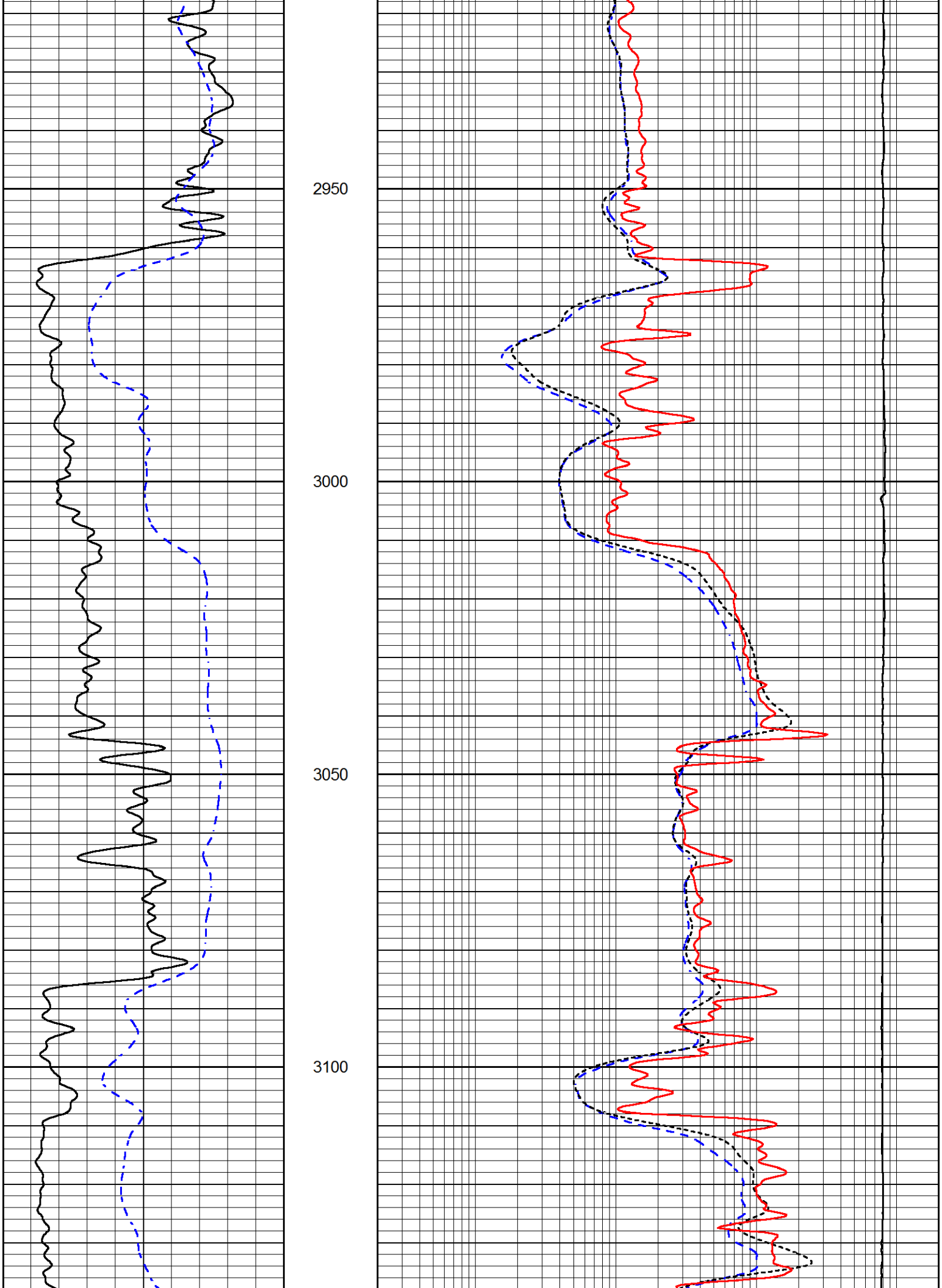

1850
1900
1950
2000

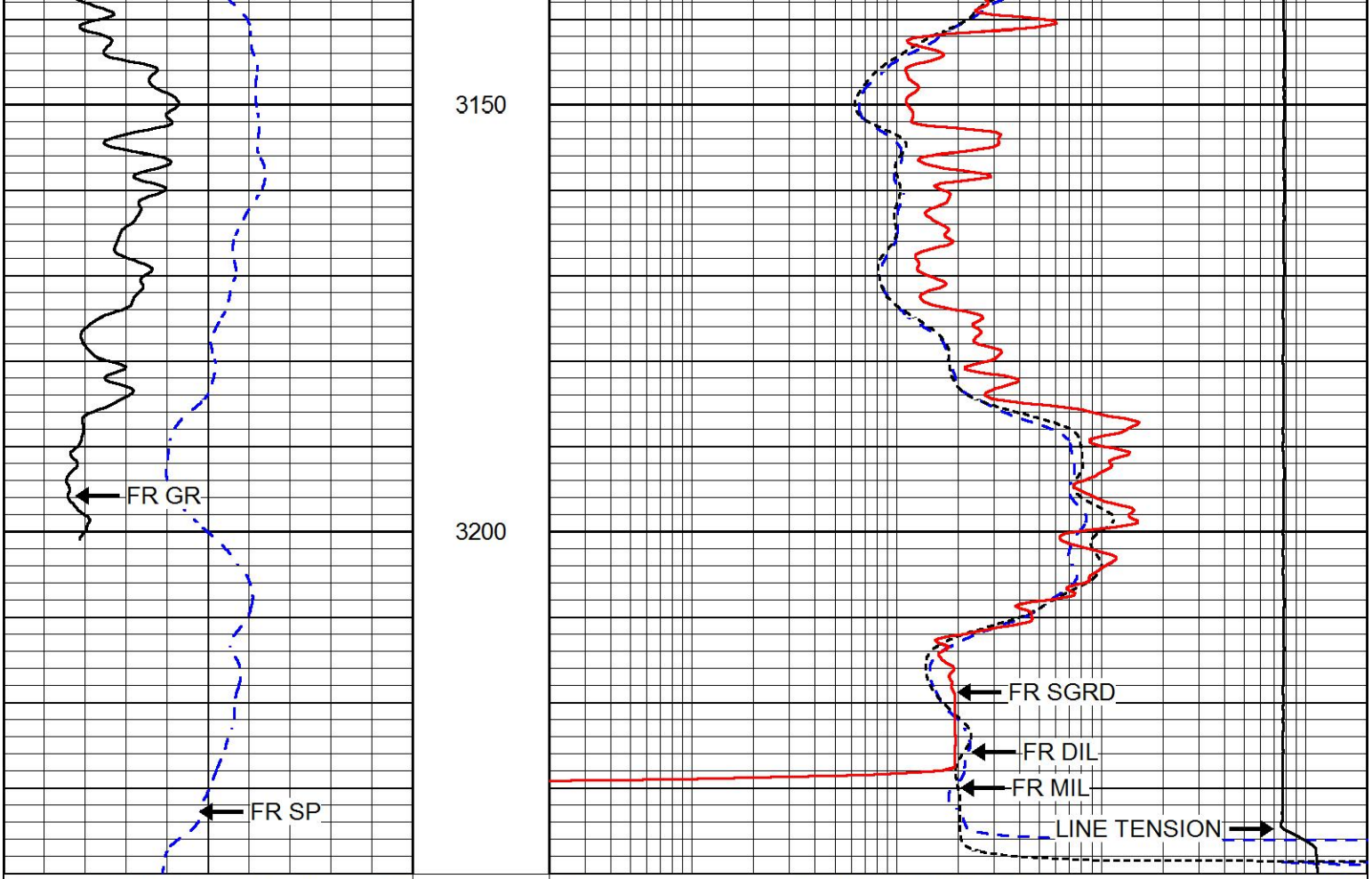

2050
2100
2150
2200
2250


2300
2350
2400
2450


2500
2550
2600
2650


2700
2750
2800
2850
2900


2950
3000
3050
3100



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

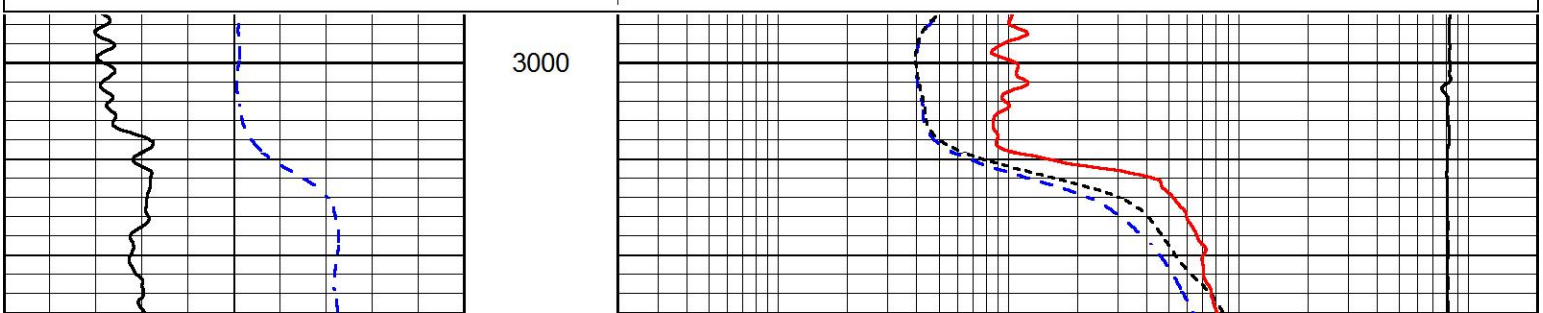
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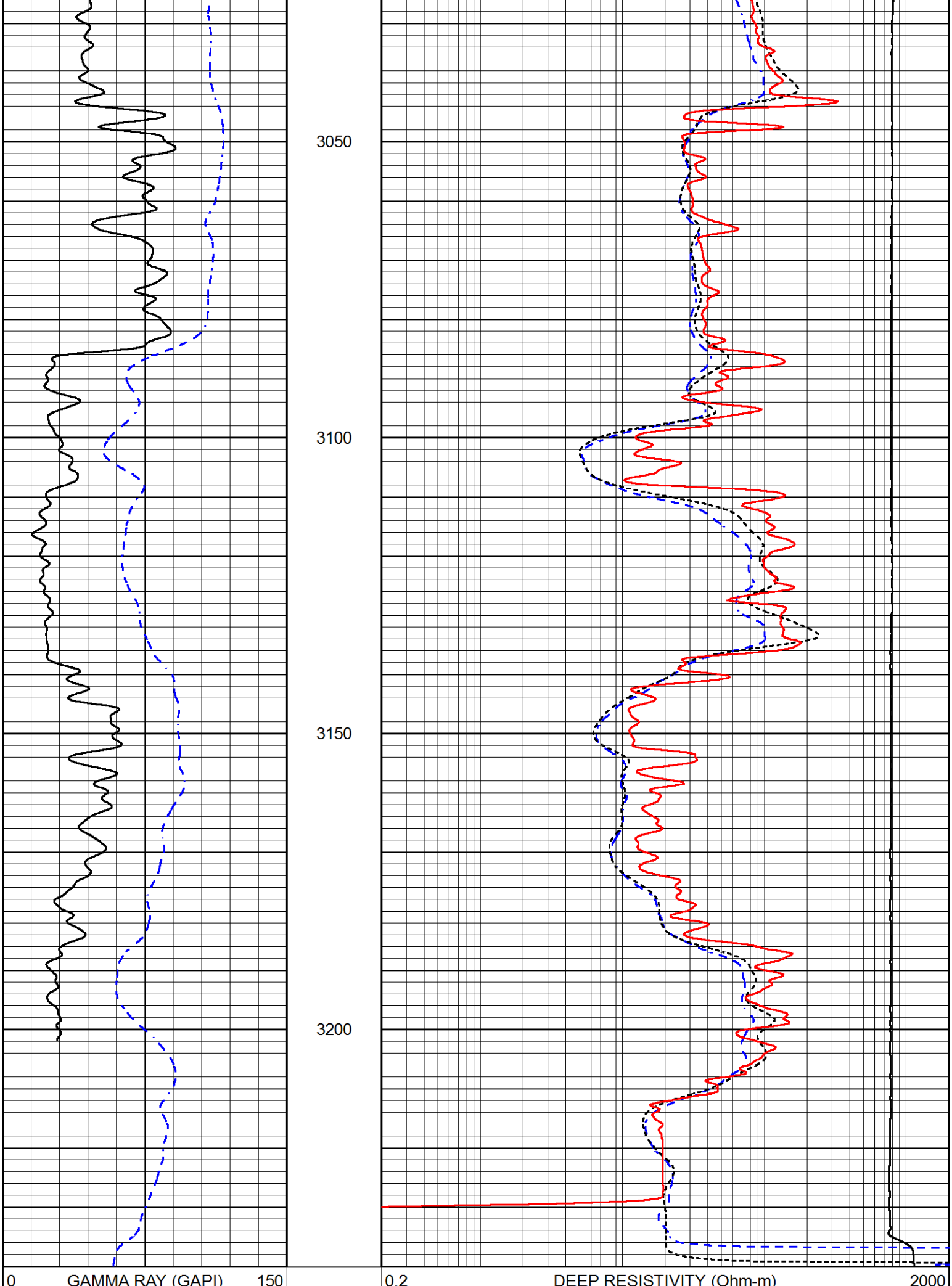
REPEAT SECTION

Database File	alton_jack_2.db
Dataset Pathname	pass2.1
Presentation Format	dil
Dataset Creation	Fri Jun 02 14:44:25 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




3050
3100
3150
3200
0
GAMMA RAY (GAPI)
150
0.2
DEEP RESISTIVITY (Ohm-m)
2000

-200	SP (mV)	0
0.2	MEDIUM RESISTIVITY (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
15000	LINE TENSION (lb)	0

Calibration Report

Database File alton_jack_2.db
Dataset Pathname pass3.1
Dataset Creation Fri Jun 02 15:04:46 2017

Dual Induction Calibration Report

Serial-Model: 1987-M&W
Calibration Performed: Tue Apr 11 16:07:38 2017

	Readings		References			Results	
Loop:	Air	Loop	Air	Loop		Gain	Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.530	-36.500
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.440	-110.500

Microlog Calibration Report

Serial-Model: PSI-01-PSI STKBL ML
Performed: Thu Mar 31 17:14:32 2016

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	17500.0000	-1.0000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	18500.0000	-1.0000
Caliper	1.0001	1.1397	6.5000	18.5000	in	86.0000	-82.4800

Compensated Density Calibration Report

Serial-Model: 168-986-M&W
Source / Verifier: /
Master Calibration Performed: Tue Apr 11 16:07:47 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 16:08:01 2017	
Calibrator Value:	1000.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	6.2	cps
Sensitivity:	0.5200	GAPI/cps

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Company	ALTON OIL, LLC
Well	JACK NO.2
Field	NAUMAN NORTHEAST
County	COWLEY
State	KANSAS