MIDWEST WIRELINE

DUAL INDUCTION LOG

Company Curts Oil Operations LLC
Well 5-H #1
Field Beaver South
County Barton
State Kansas

Company Curts Oil Operations LLC
Well 5-H #1
Field Beaver South
County Barton State Kansas

Location: API #: 15-009-26316-00-00
1993 FNL & 1840 FEL
SEC 29 TWP 16S RGE 12W

Other Services
CNL/CDL
MEL/BHCS

Permanent Datum Ground Level Elevation 1899
Log Measured From Kelly Bushing
Drilling Measured From Kelly Bushing

Elevation
K.B. 1907
D.F.
G.L. 1899

Date	12/6/2021		
Run Number	One		
Depth Driller	3470		
Depth Logger	3474		
Bottom Logged Interval	3473		
Top Log Interval	00		
Casing Driller	8.625 @ 401		
Casing Logger	399		
Bit Size	7.875		
Type Fluid in Hole	Chemical		
Salinity,ppm CL	6200		
Density / Viscosity	9.2 51		
pH / Fluid Loss	10.5 5.8		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.35 @ 71		
Rmf @ Meas. Temp	.26 @ 71		
Rmc @ Meas. Temp	.47 @ 71		
Source of Rmf / Rmc	CHARTS		
Rm @ BHT	.22 @ 111		
Operating Rig Time	4 Hours		
Max Rec. Temp. F	111		
Equipment Number	P-108		
Location	HAYS		
Recorded By	J. Henrickson		
Witnessed By	Clayton Camozzi		

<<< Fold Here >>>

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

Beaver Kansas
South Into Across from Elevator

Log Measured From: Kelly Bushing 8 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: J. Henrickson	Primary Witness: Clayton Camozzi
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Log Variables

DatabaseC:\ProgramData\Warrior\Data\curts_oil_5h_1.db
Dataset field/well/stackml/pass3.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	111	5.5	0	1	2	2.71

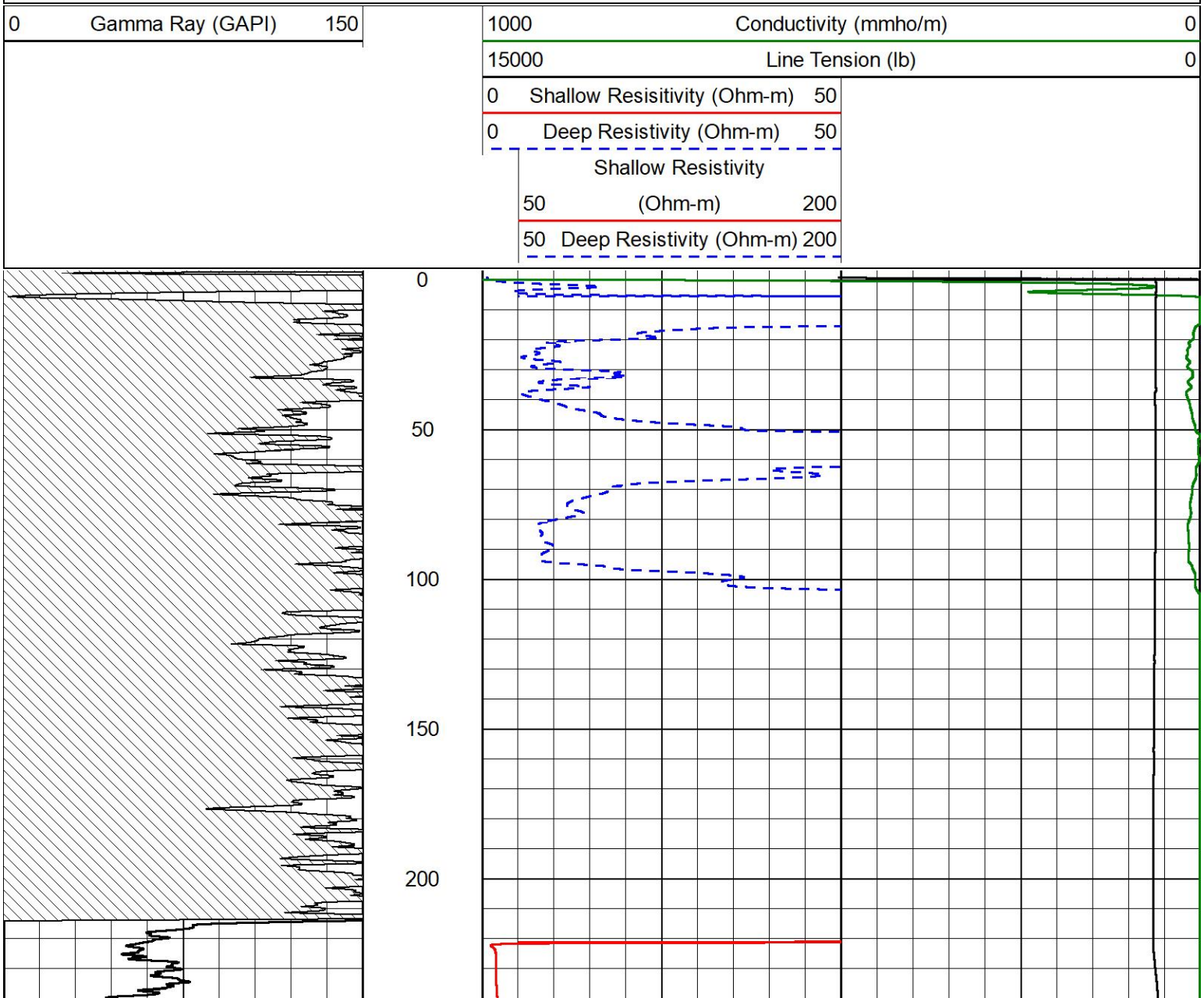
NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	0	0	0	1010	50	Off	3474

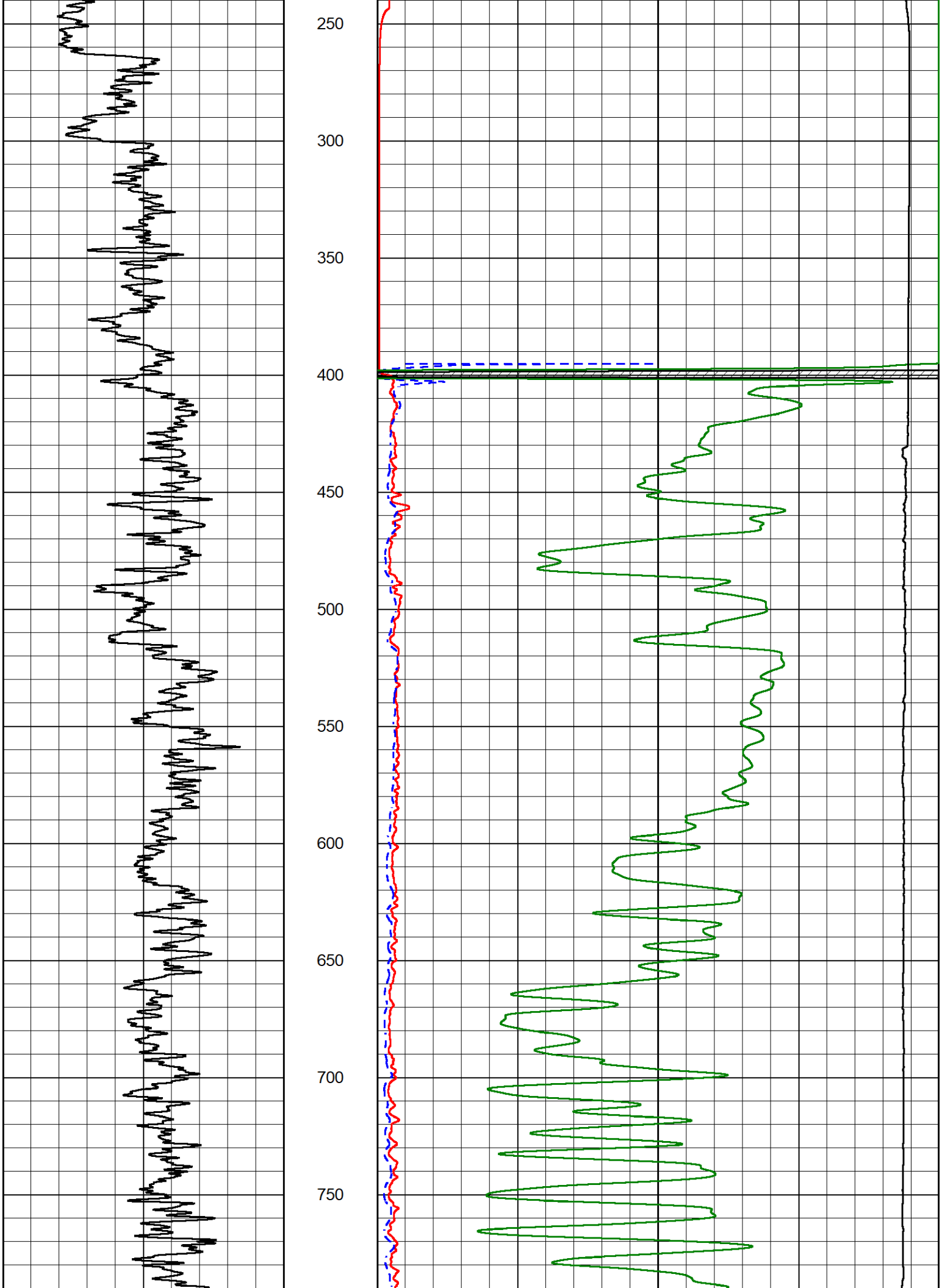
MIDWEST WIRELINE

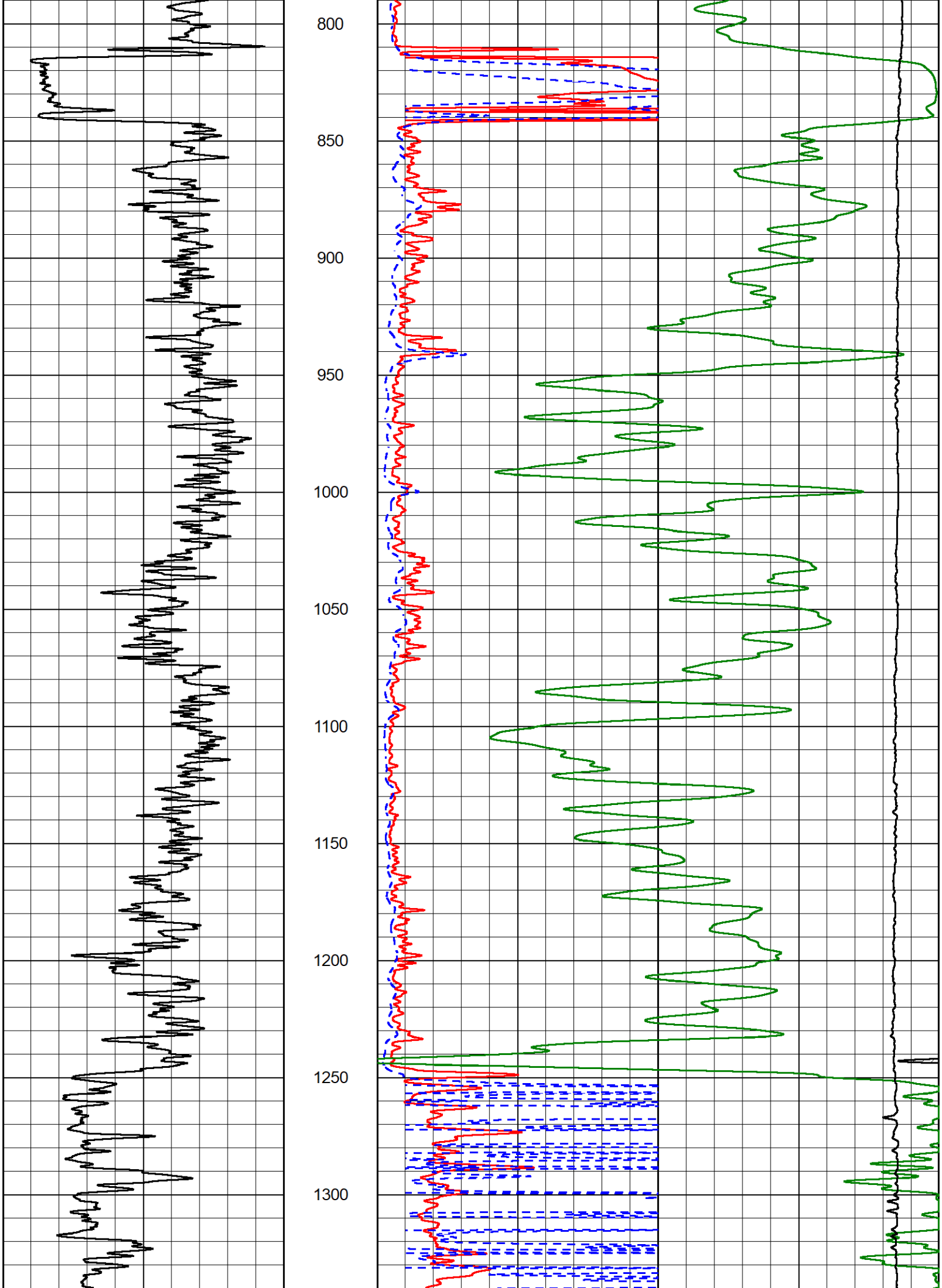
2" SCALE RESISTIVITY

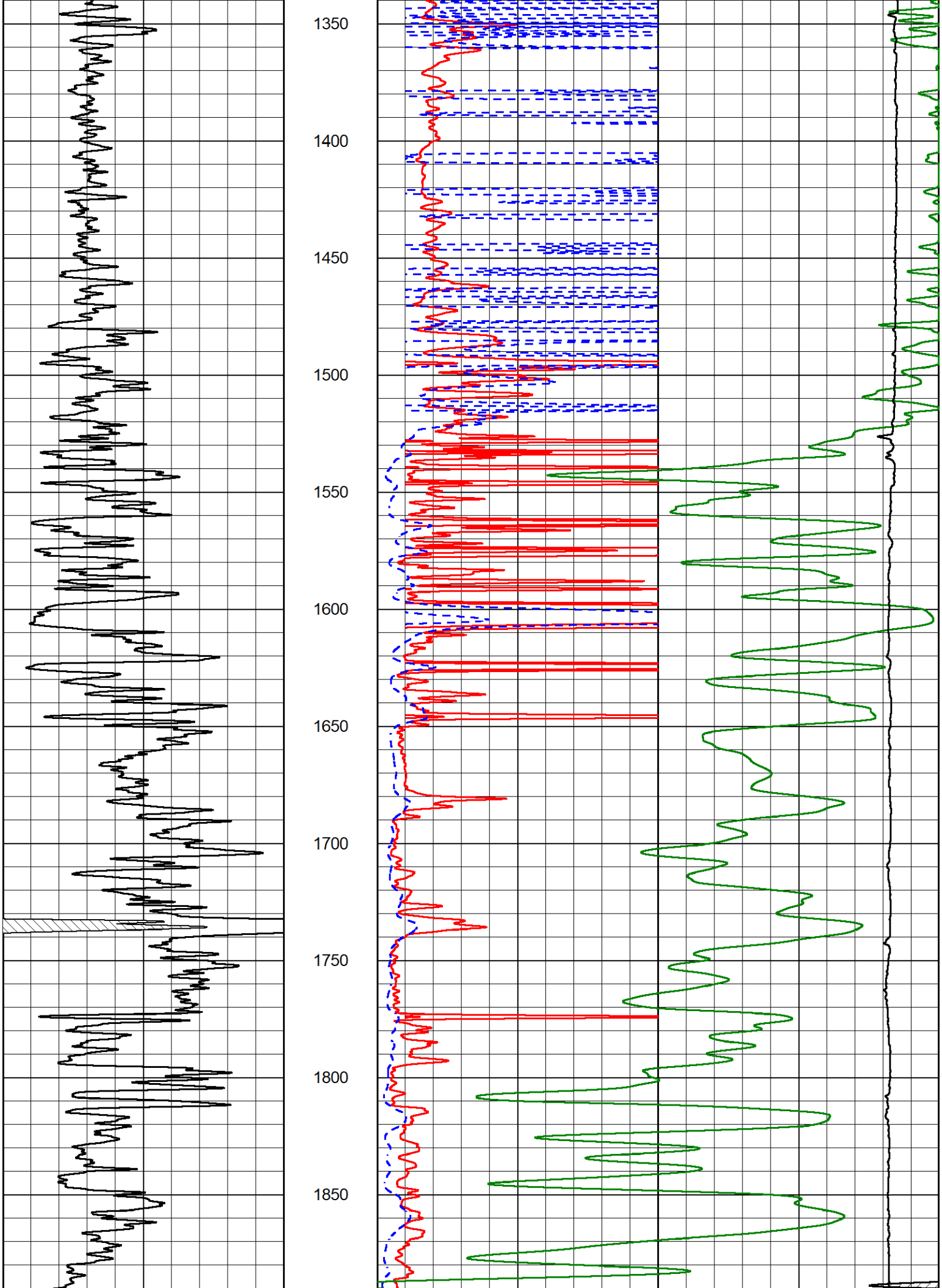
MAIN PASS

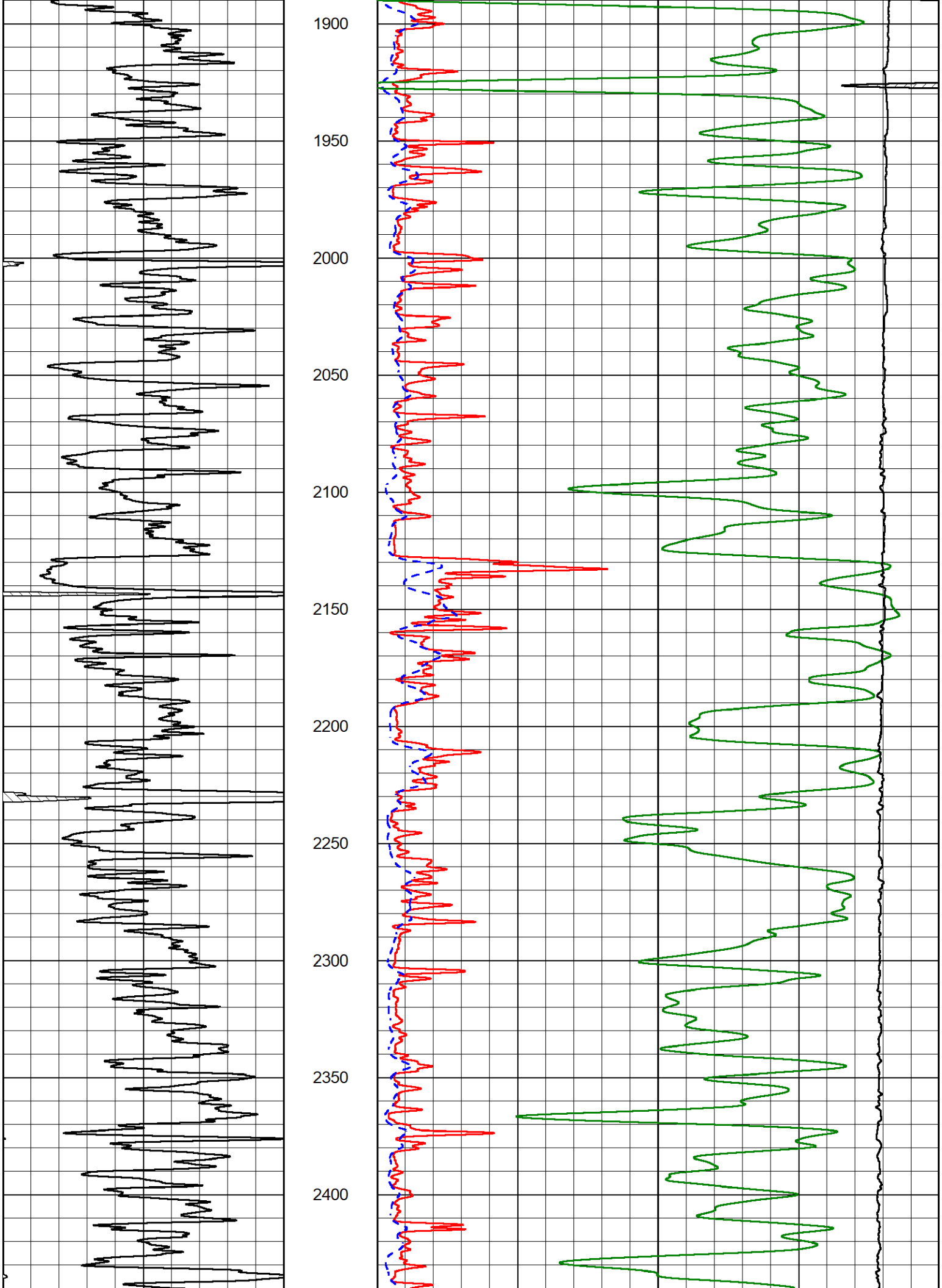
Database File	curts_oil_5h_1.db
Dataset Pathname	stackml/pass6.1
Presentation Format	_dil2in
Dataset Creation	Mon Dec 06 16:43:14 2021
Charted by	Depth in Feet scaled 1:600

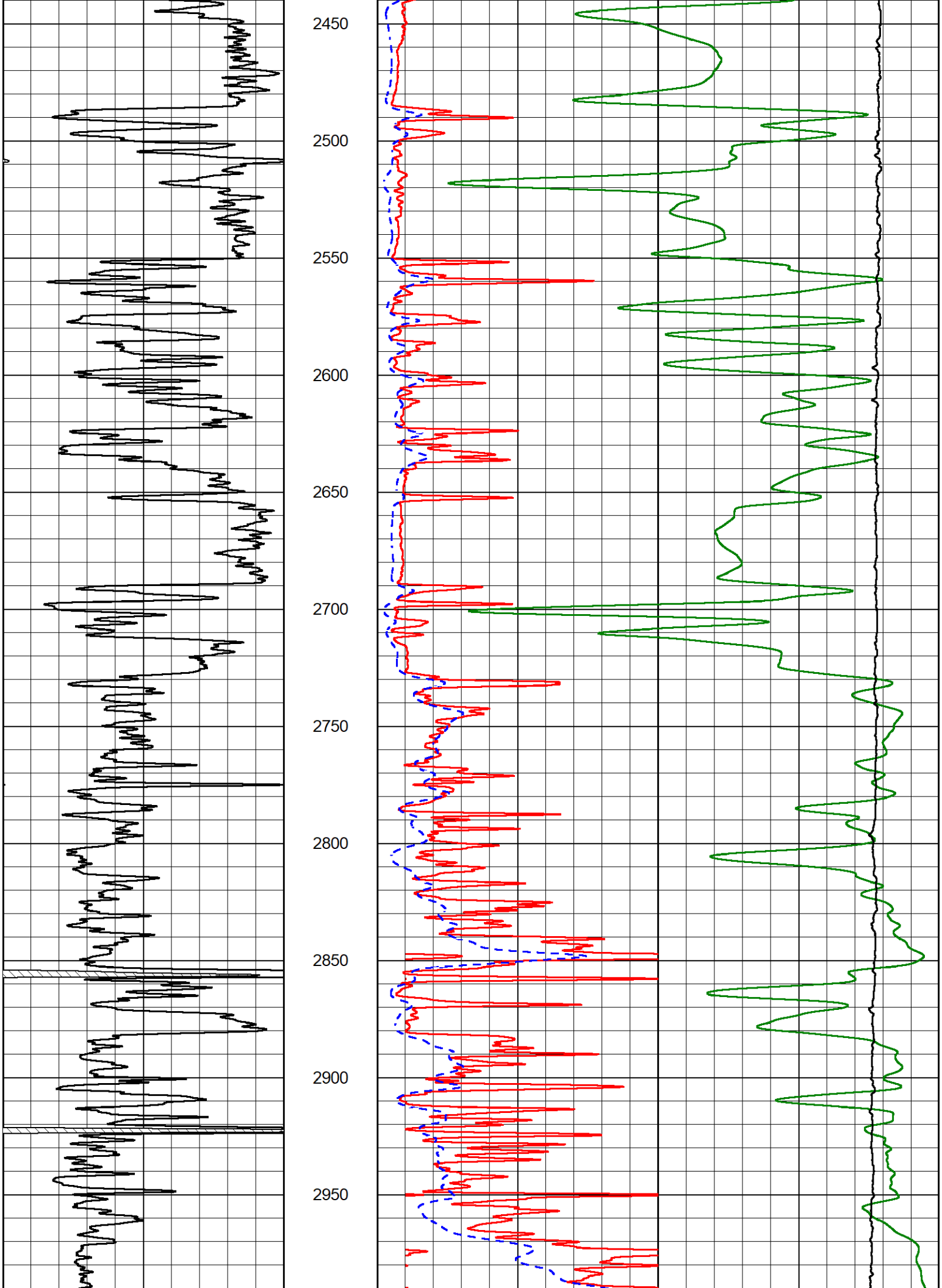


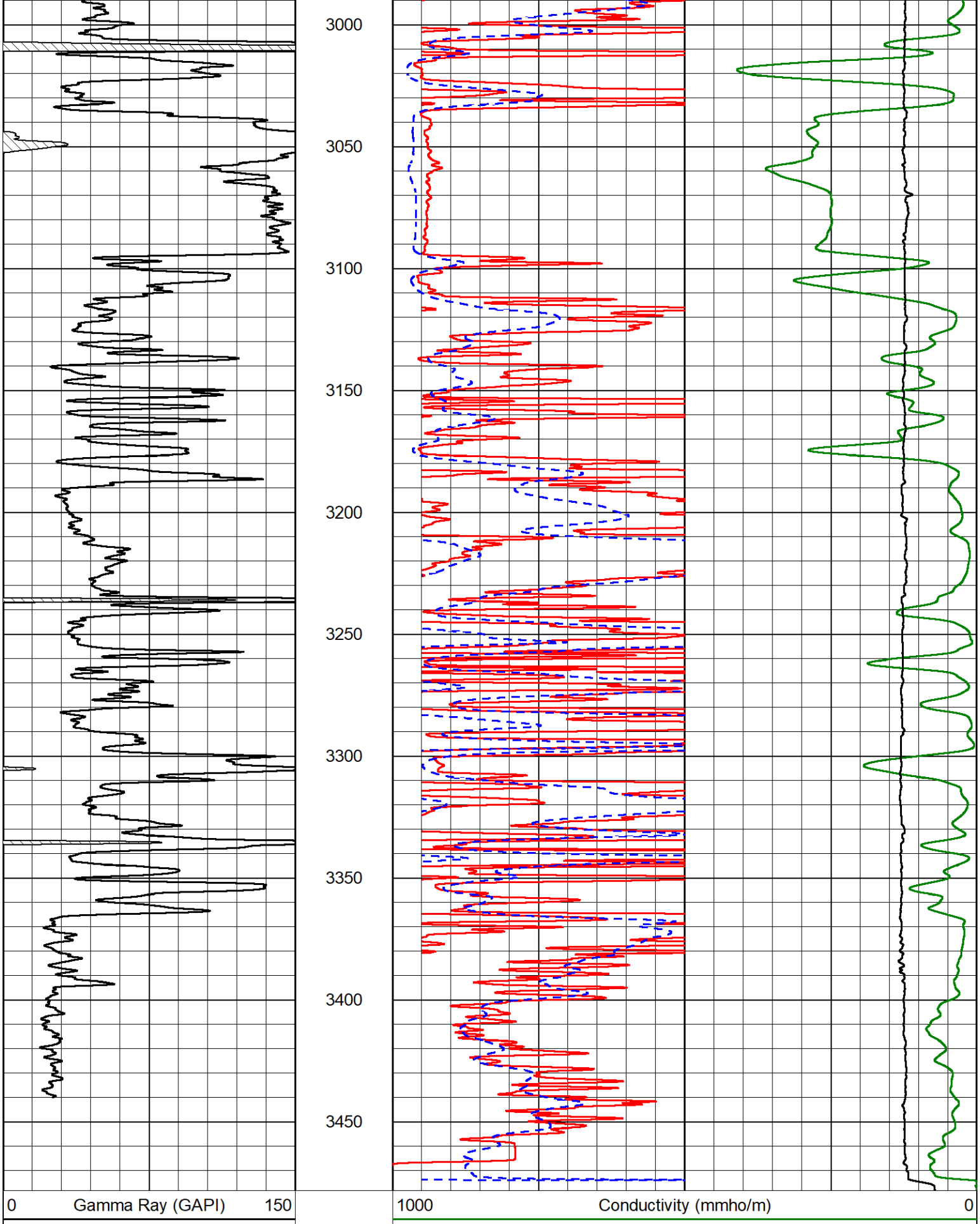

250
300
350
400
450
500
550
600
650
700
750


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
3200
3250
3300
3350
3400
3450
0
Gamma Ray (GAPI)
150
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

MIDWEST WIRELINE

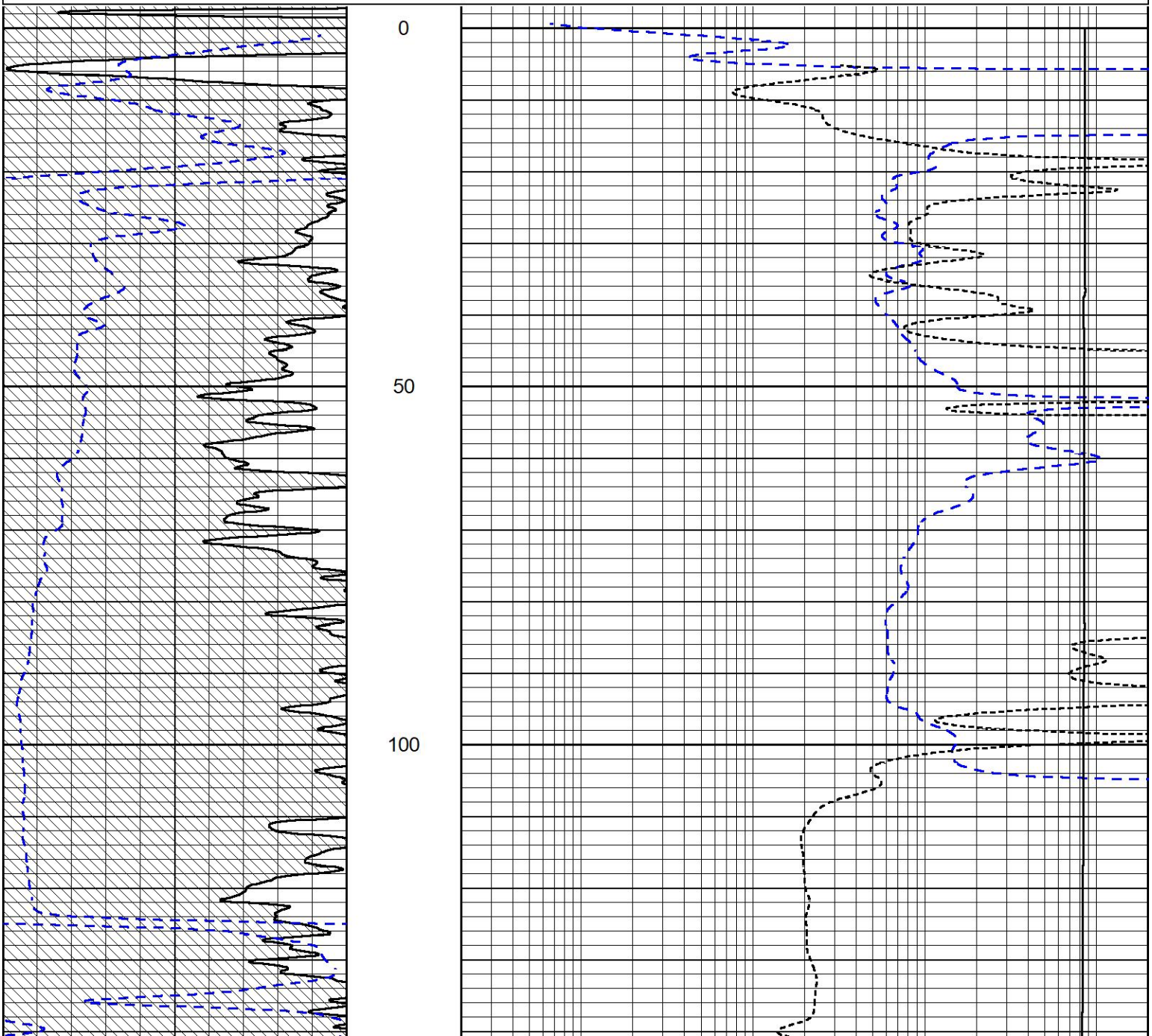
DETAIL SECTION

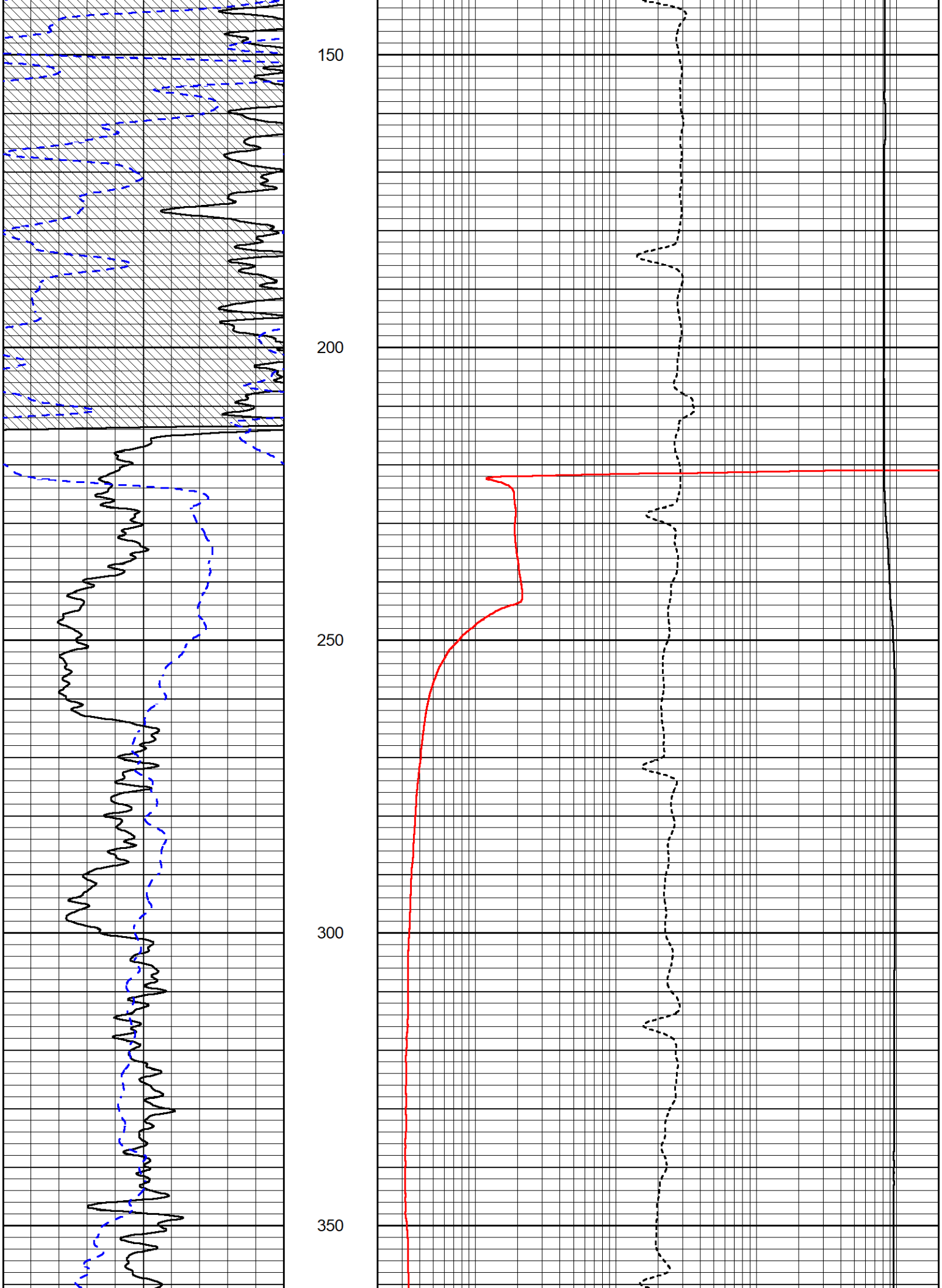
MAIN PASS

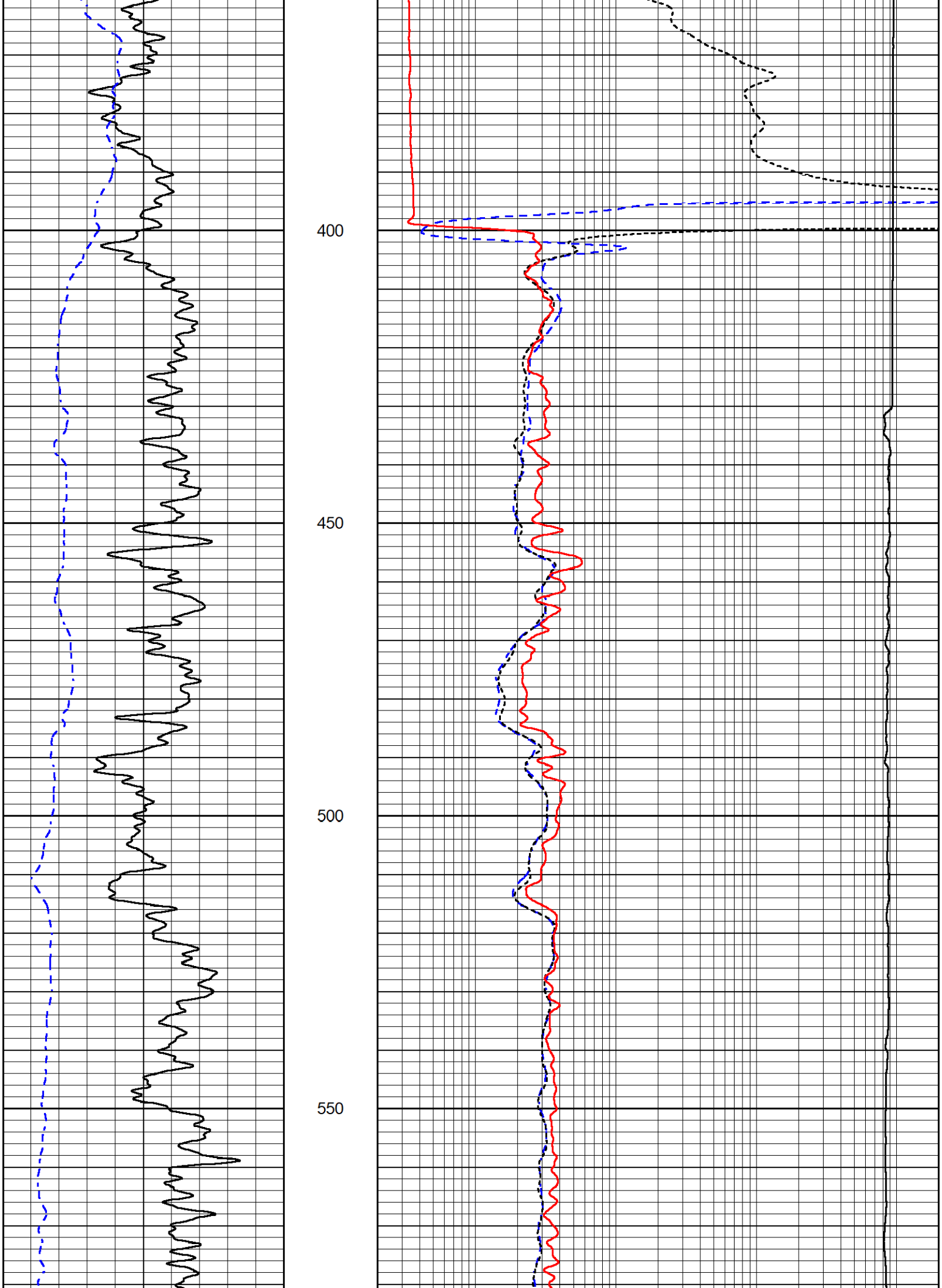
Database File	curts_oil_5h_1.db
Dataset Pathname	stackml/pass4.1
Presentation Format	_dil
Dataset Creation	Mon Dec 06 16:42:05 2021
Charted by	Depth in Feet scaled 1:240

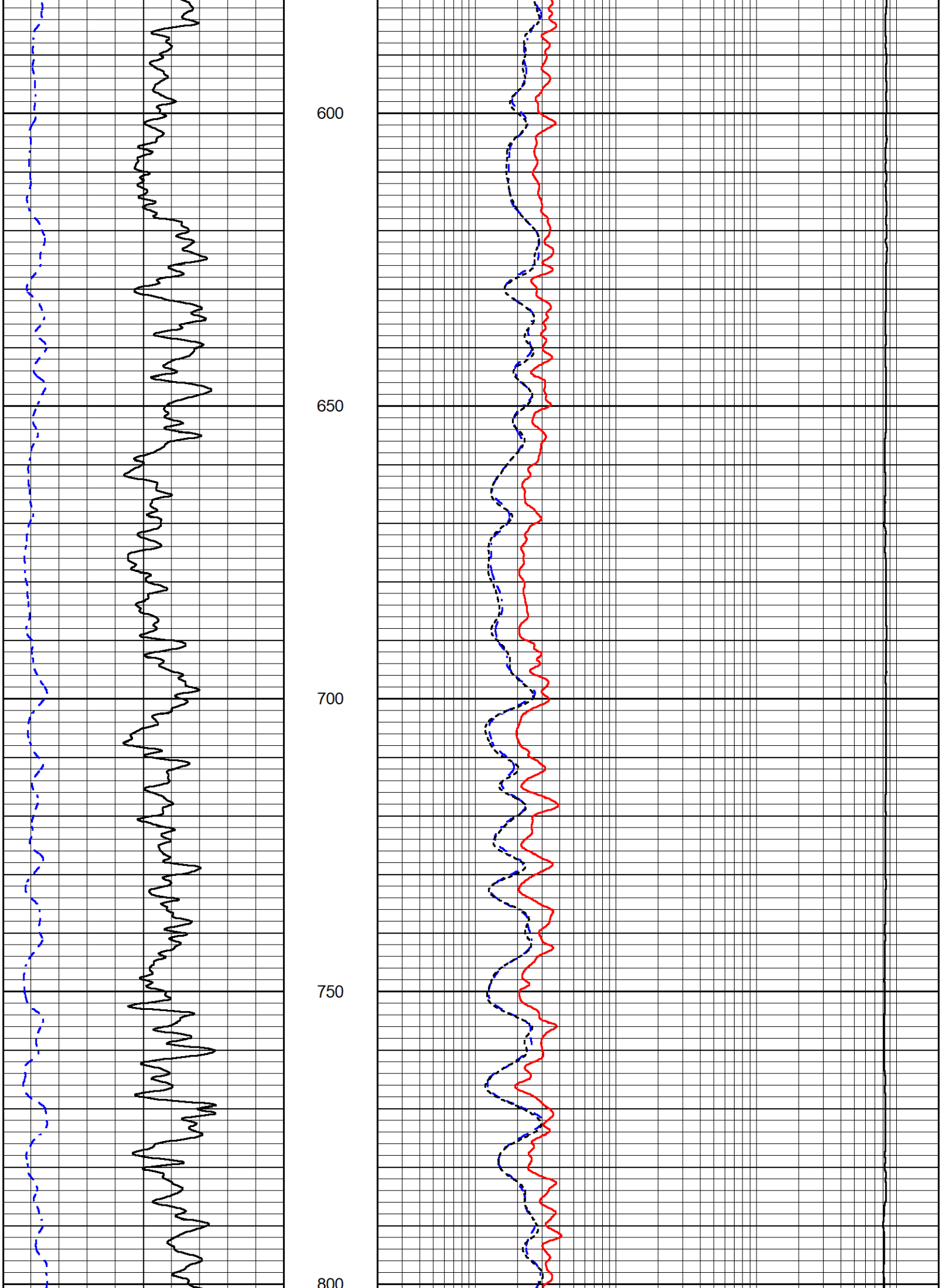
0	Gamma Ray (GAPI)	150
-200	SP (mV)	0

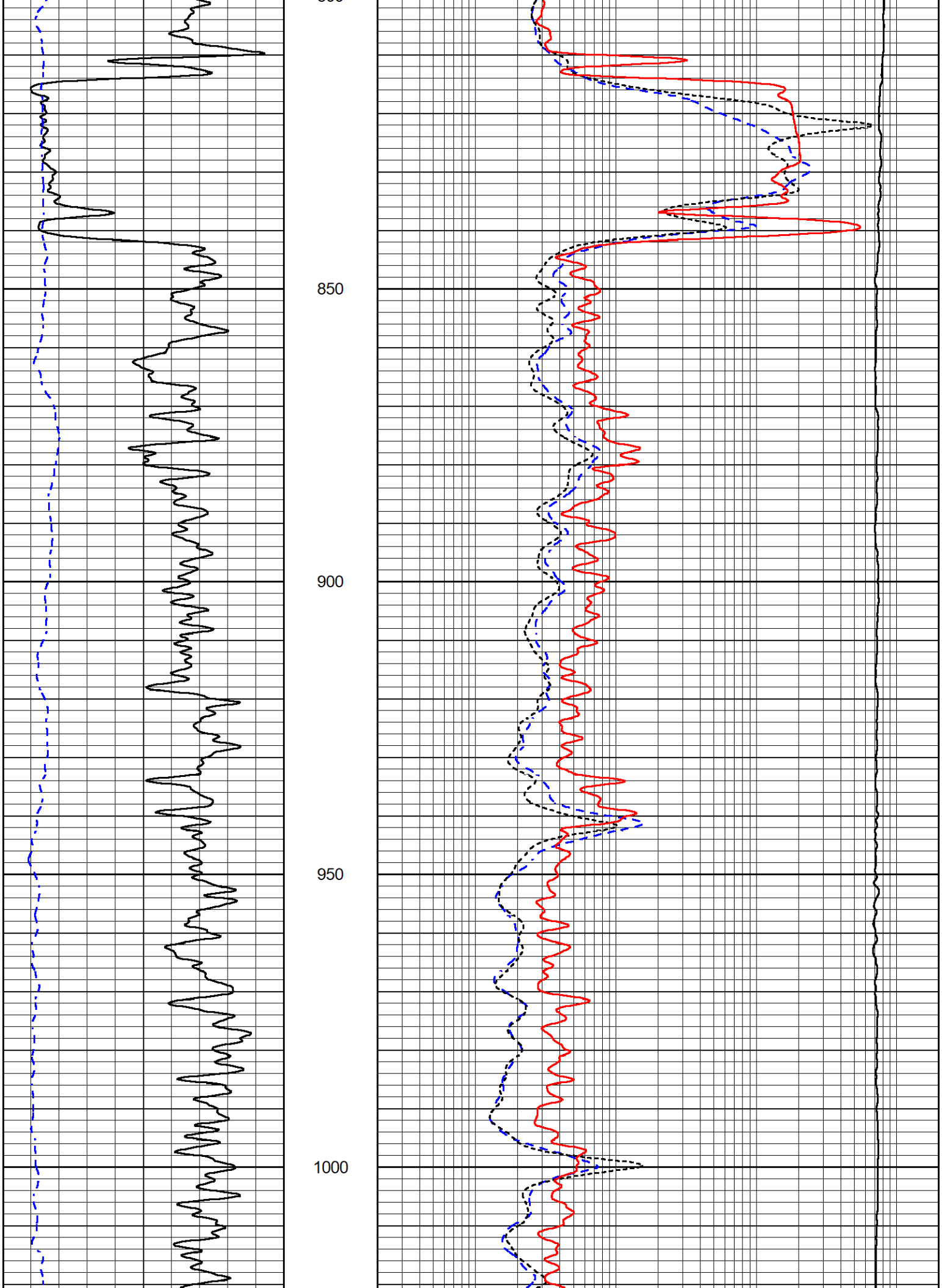
0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000
10000	Line Tension (lb)	0

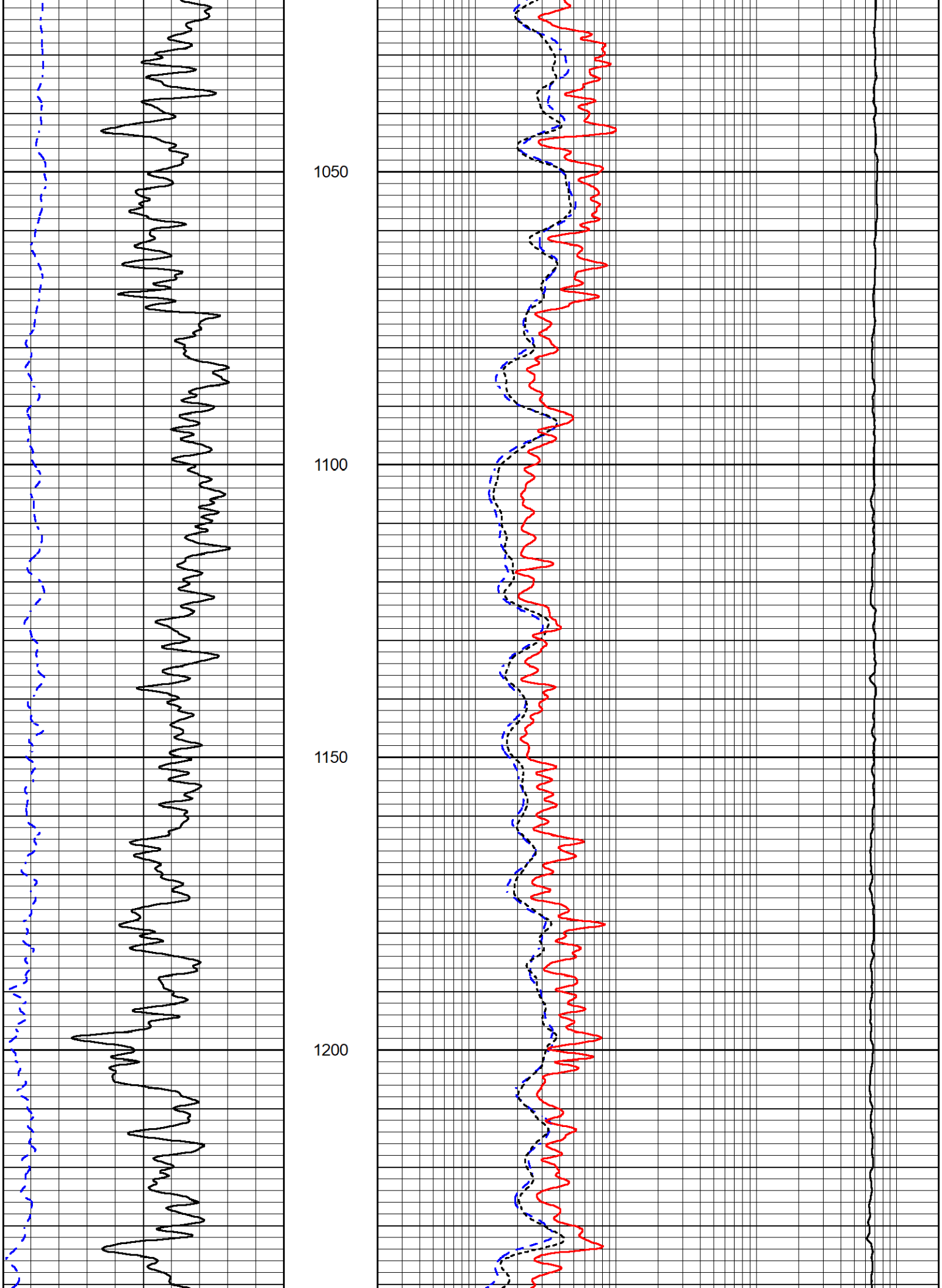


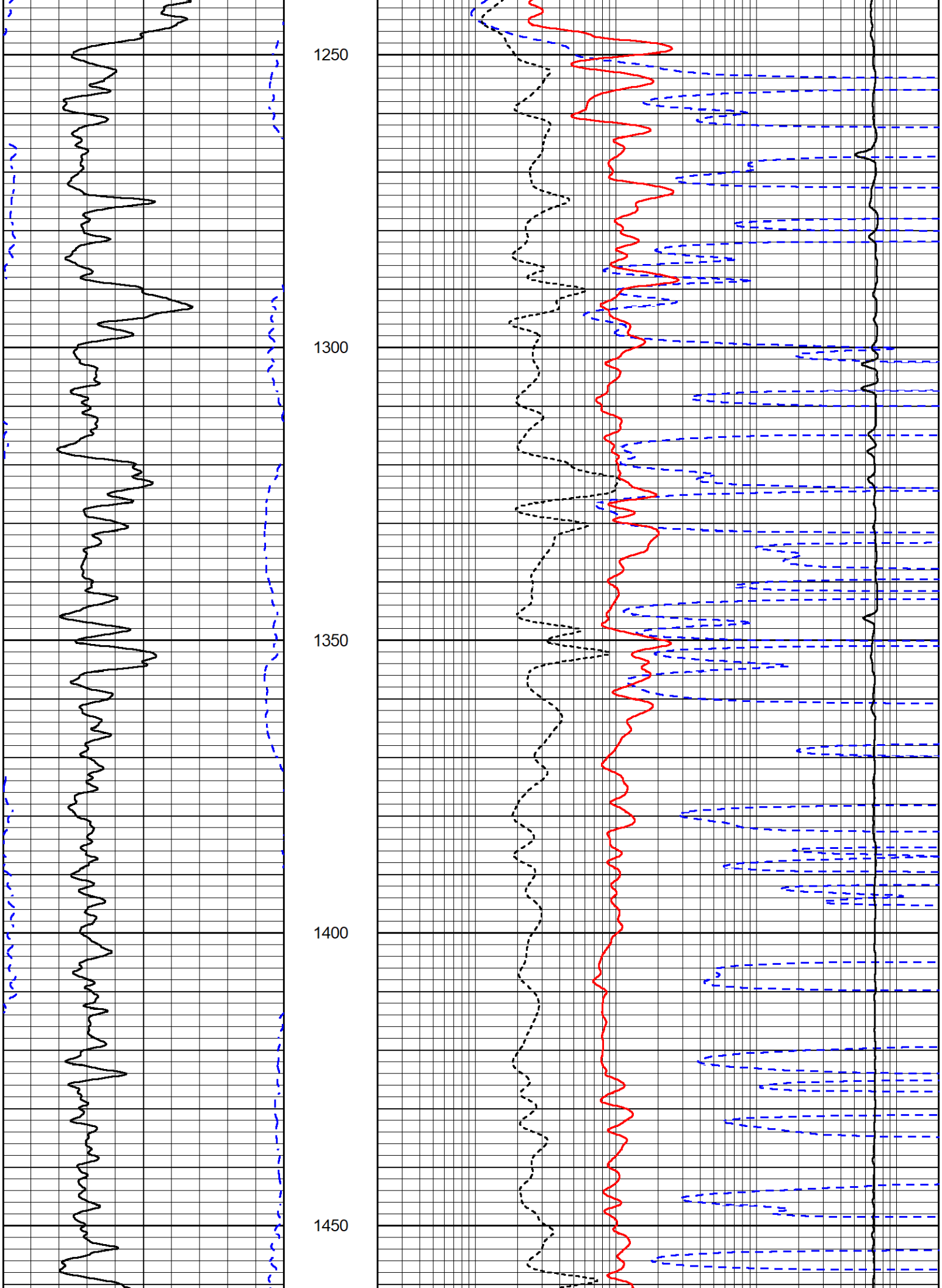

150
200
250
300
350

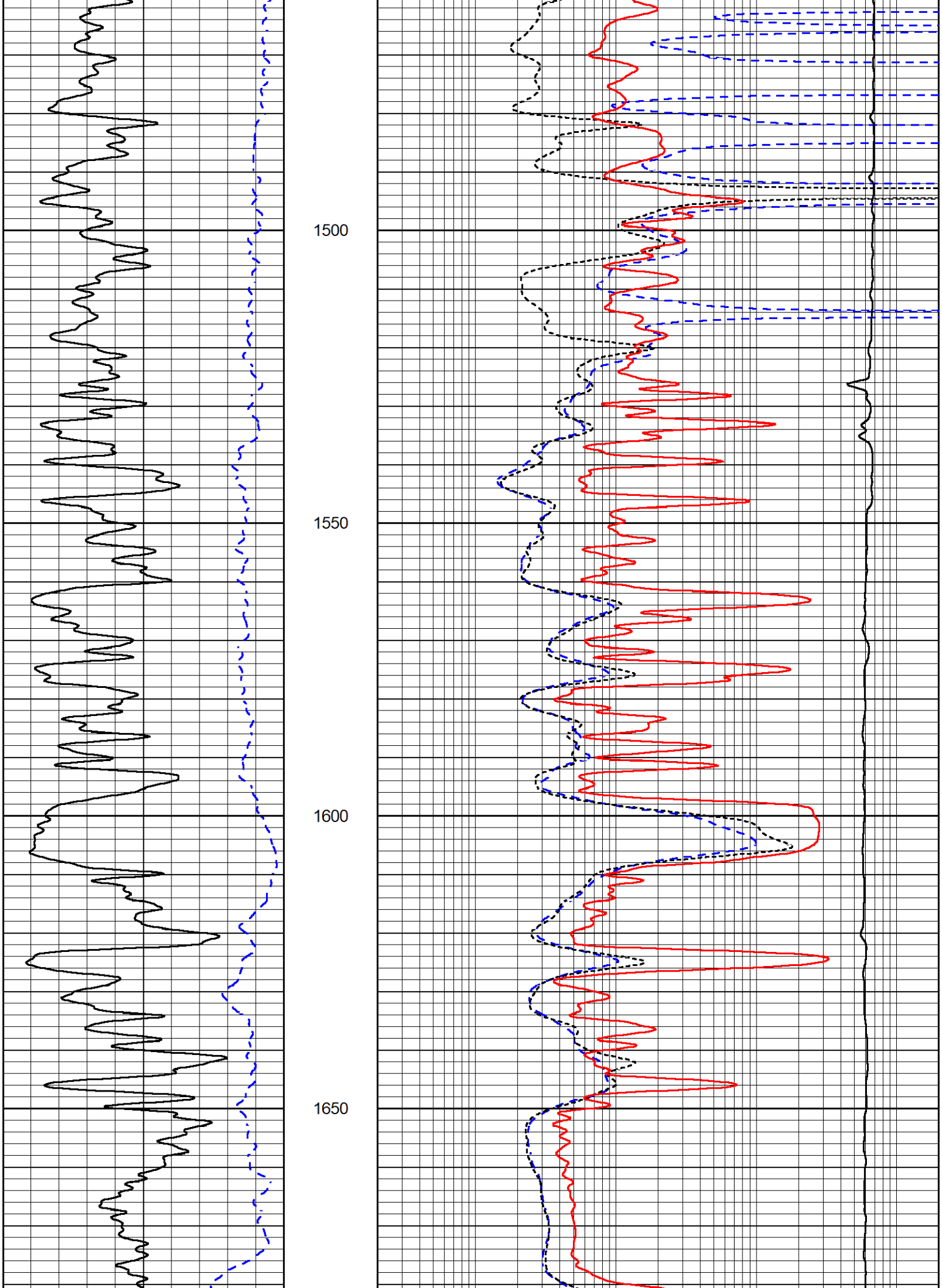

400
450
500
550

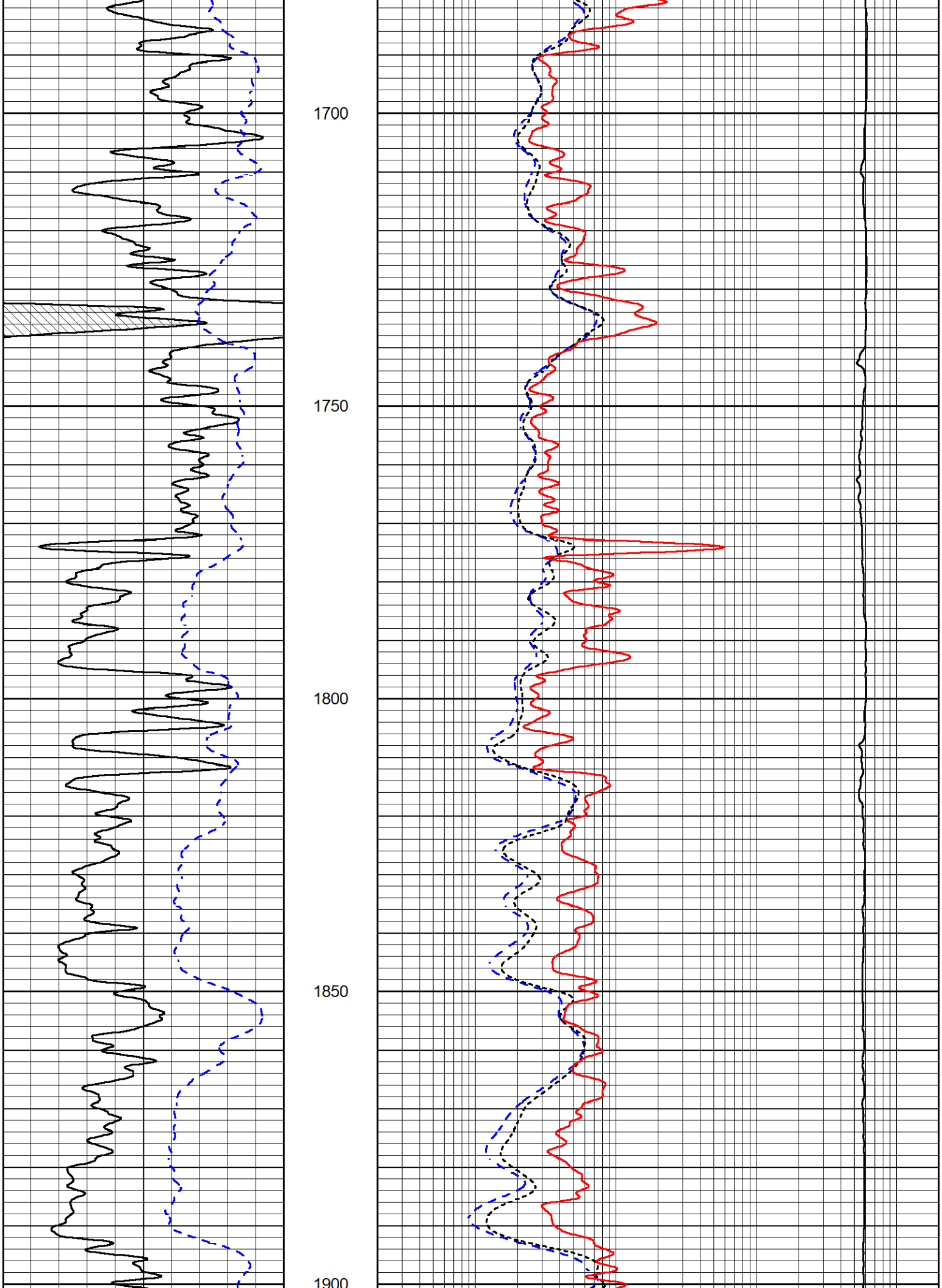

600
650
700
750
800

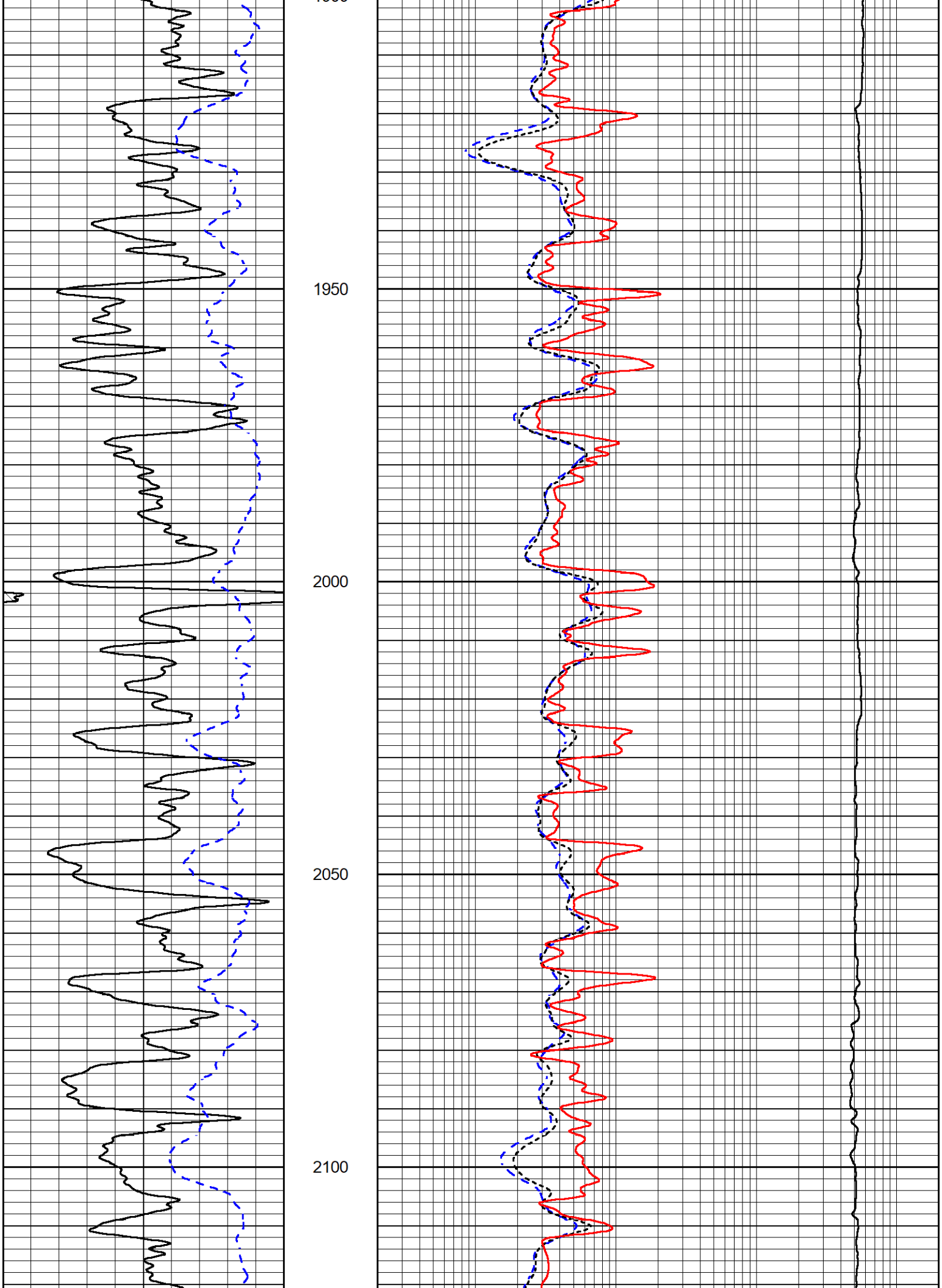

850
900
950
1000

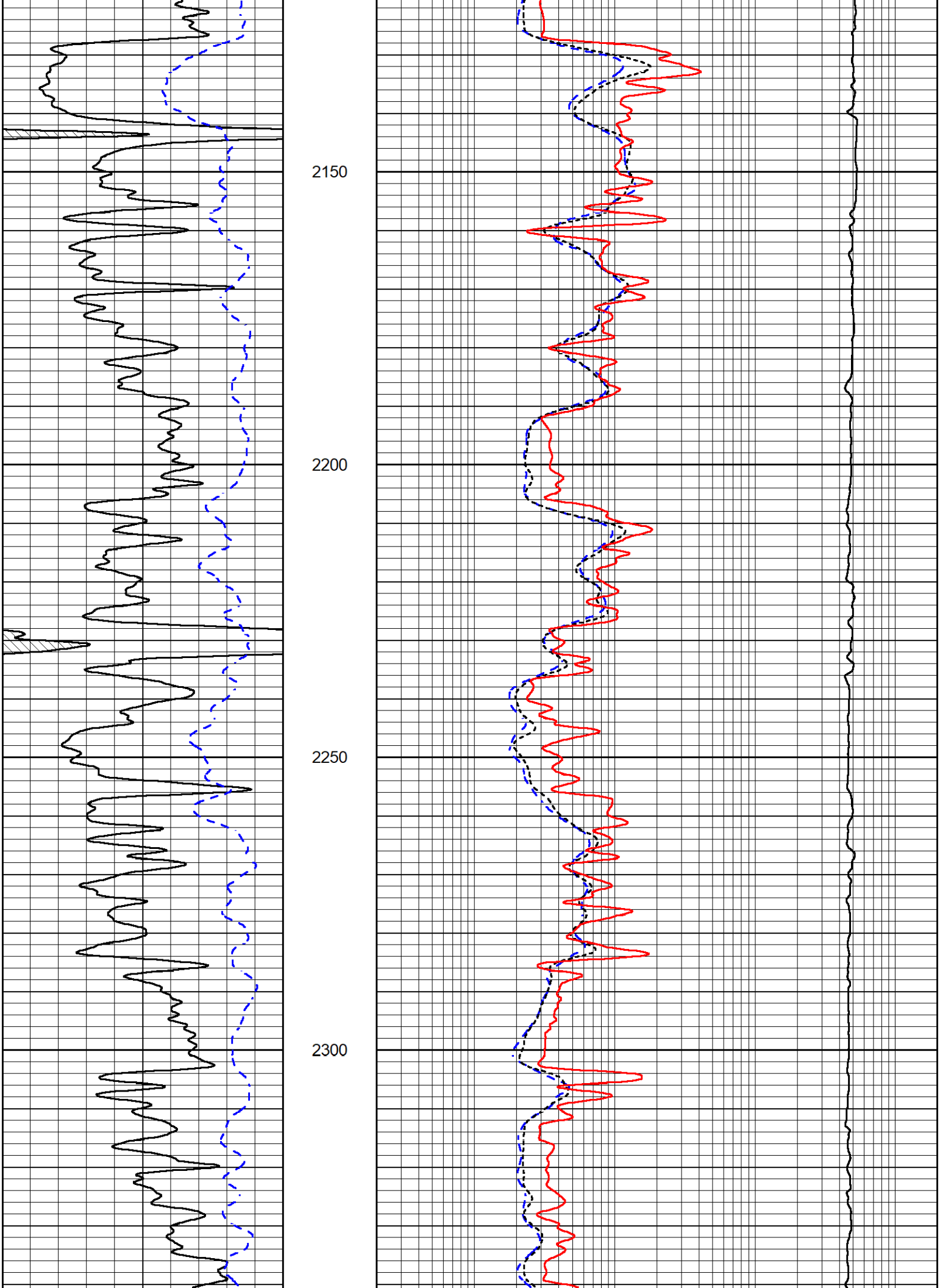

1050
1100
1150
1200

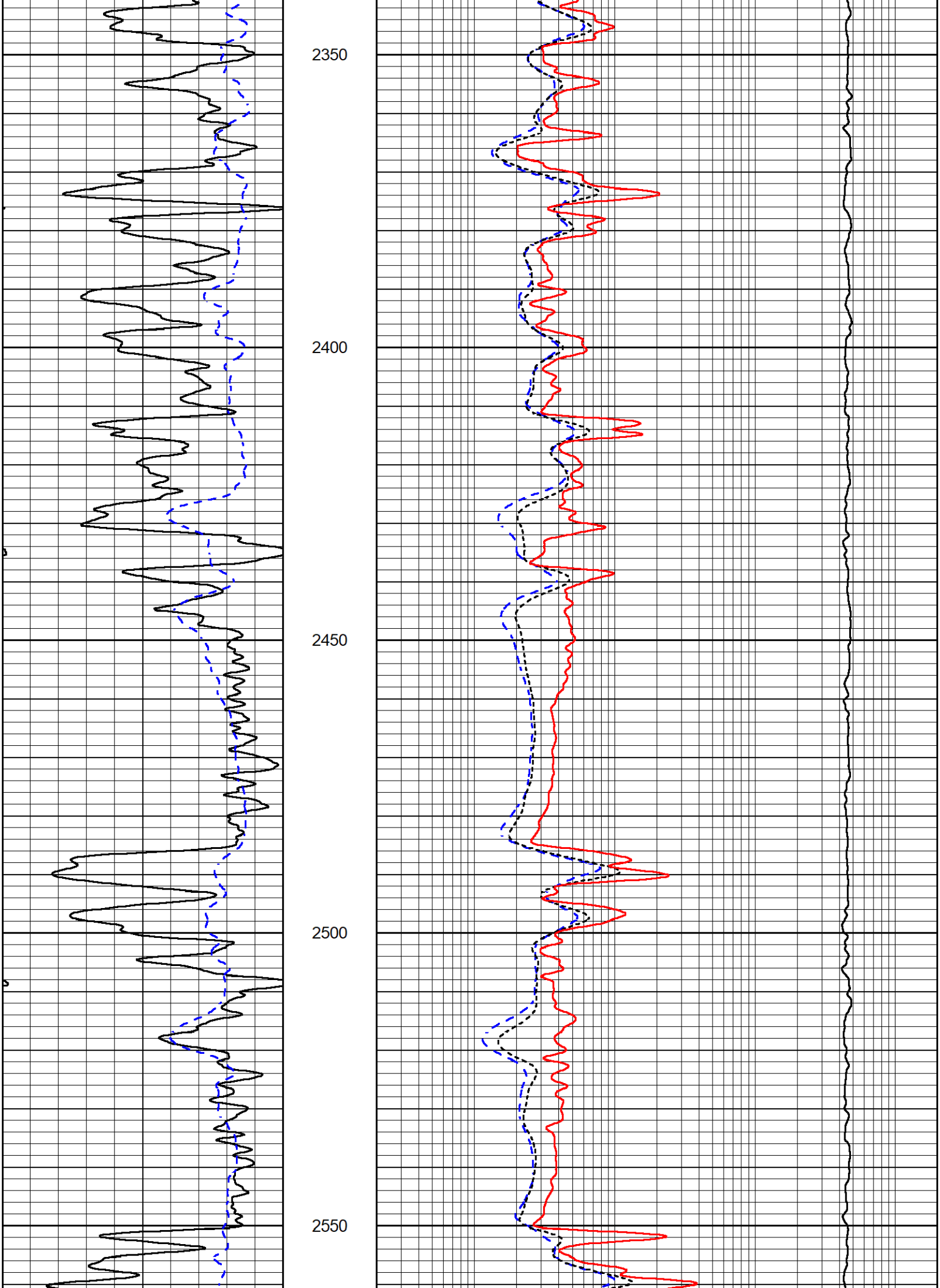

1250
1300
1350
1400
1450

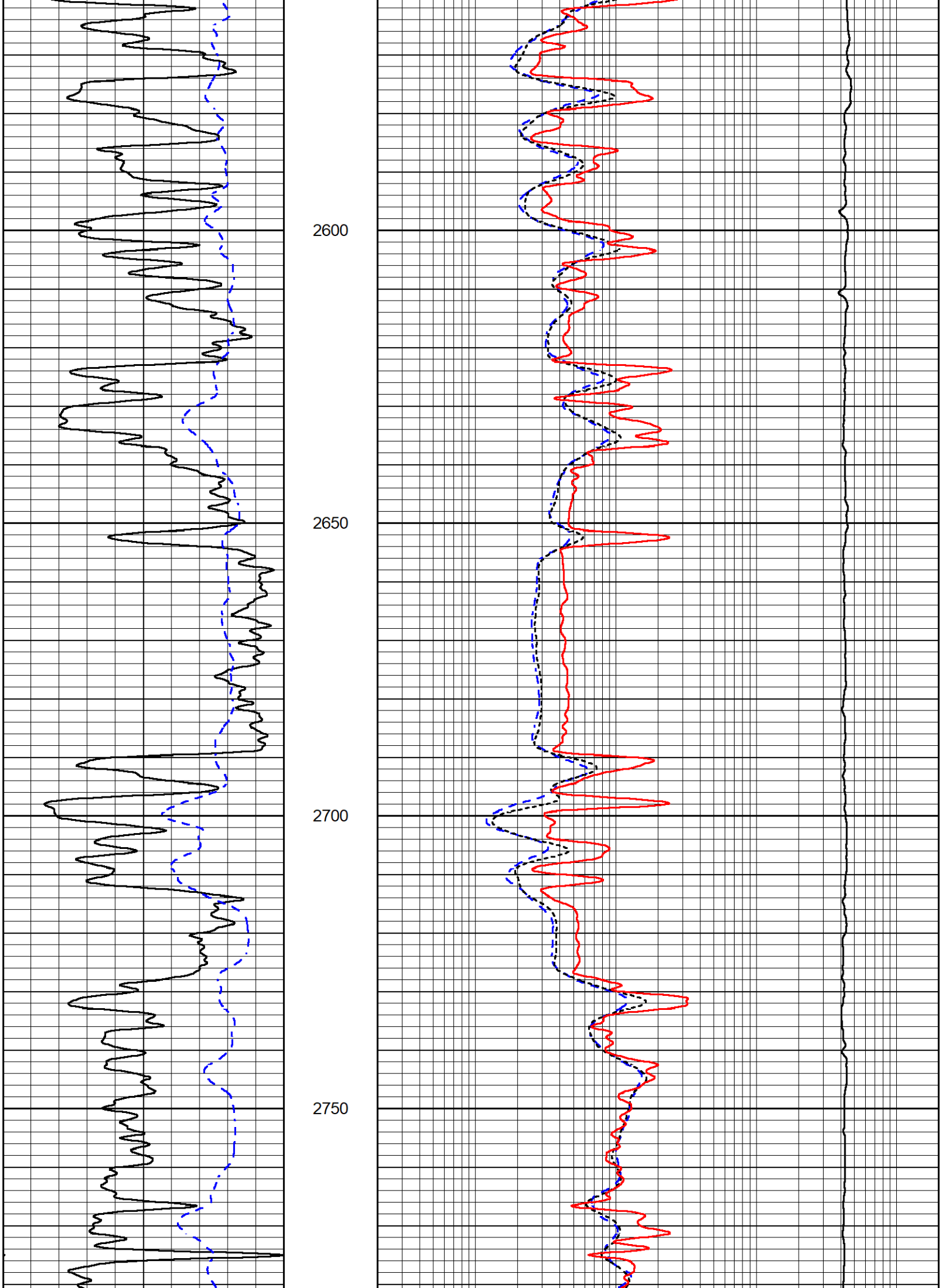

1500
1550
1600
1650

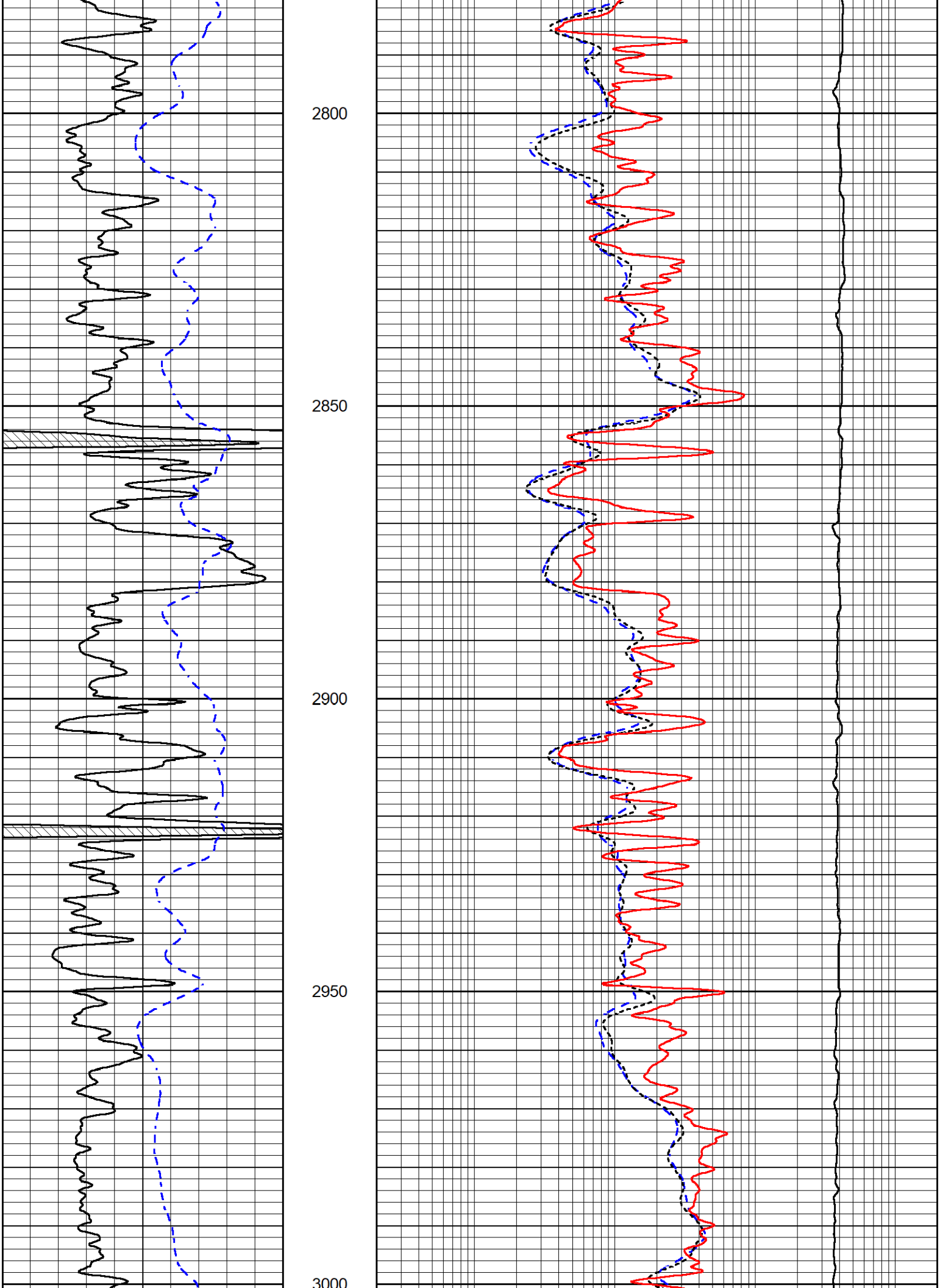

1700
1750
1800
1850
1900

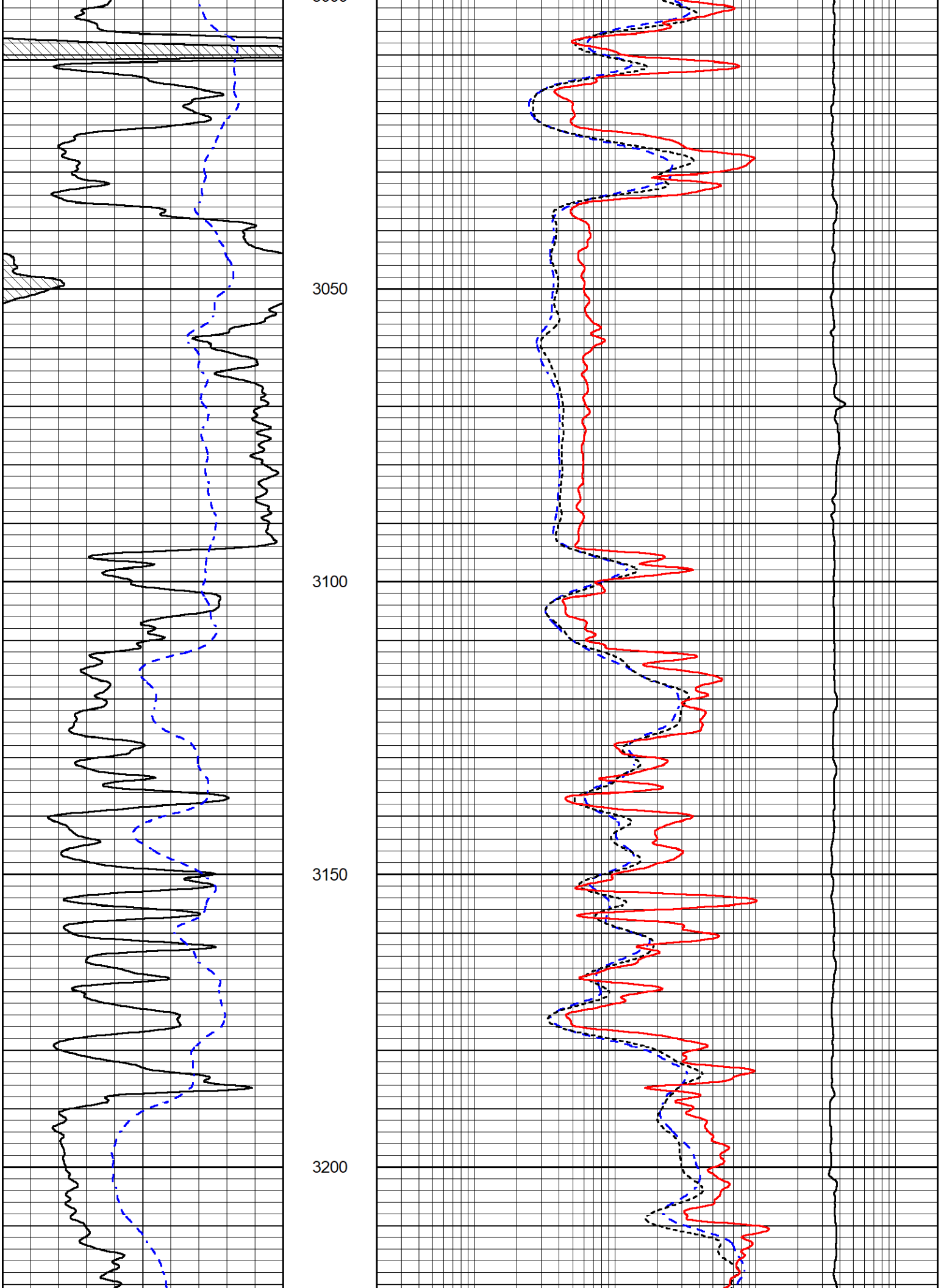

1950
2000
2050
2100

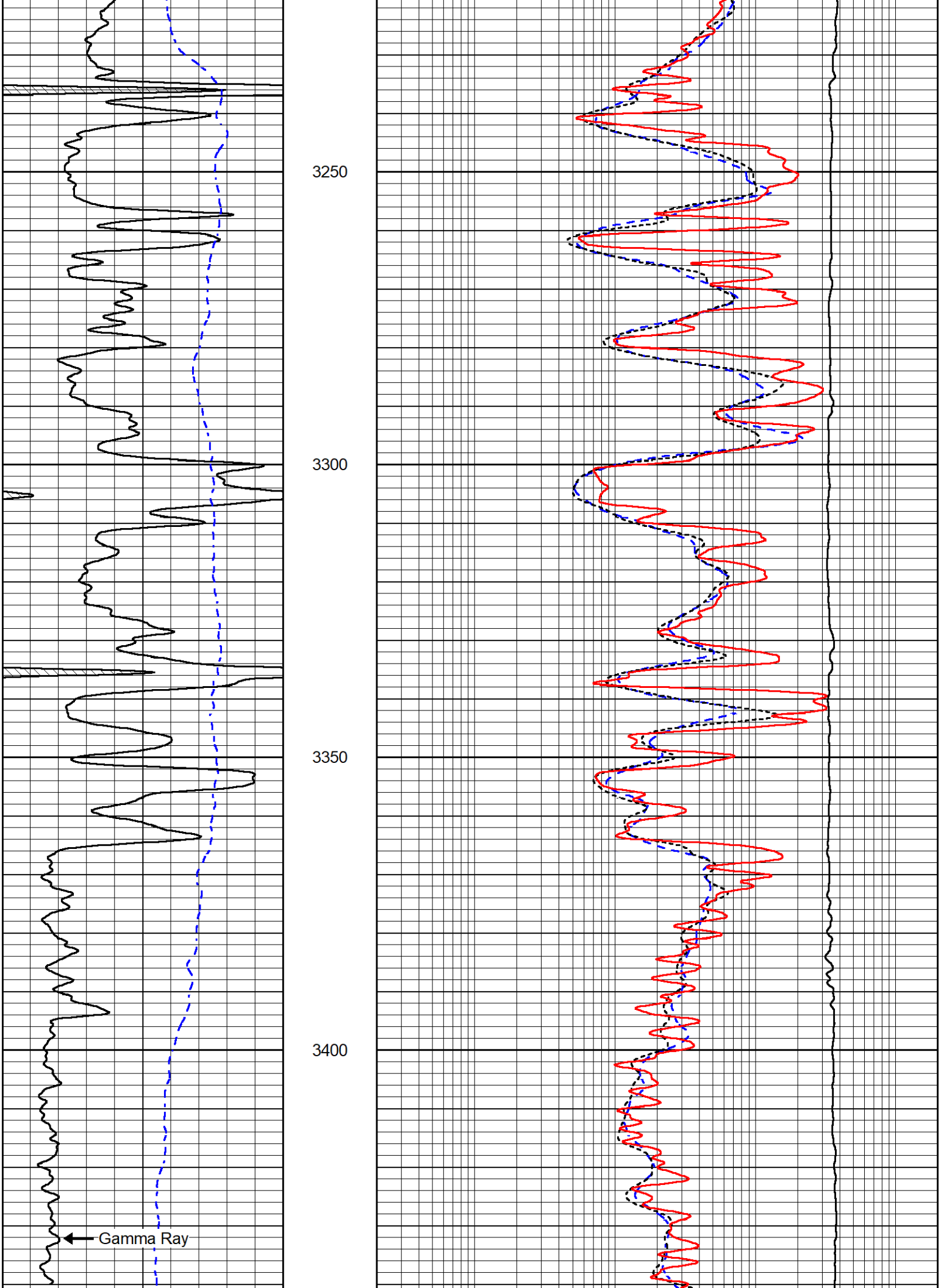

2150
2200
2250
2300

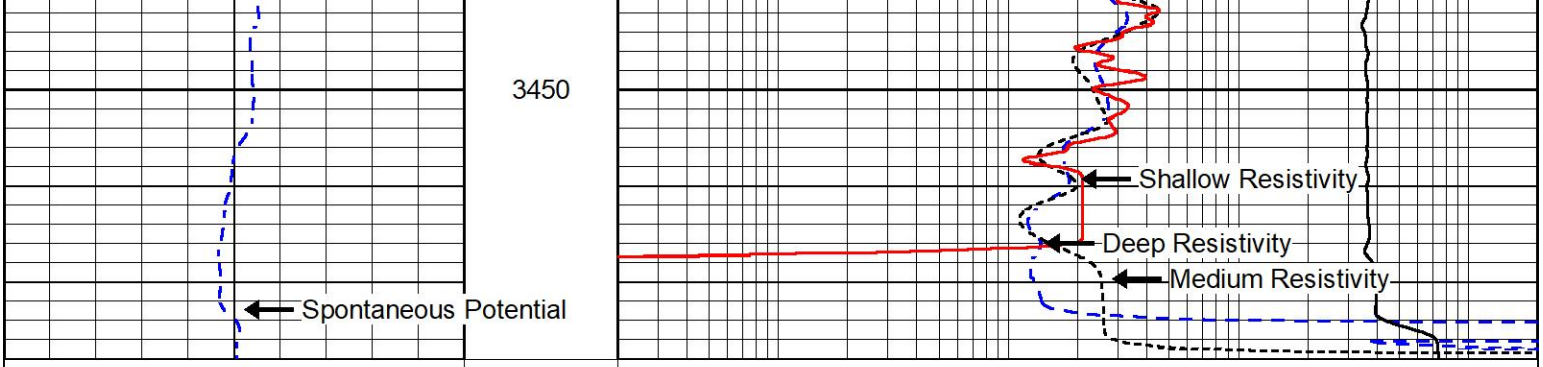

2350
2400
2450
2500
2550


2600
2650
2700
2750


2800
2850
2900
2950
3000


3050
3100
3150
3200


3250
3300
3350
3400
Gamma Ray



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

MIDWEST WIRELINE

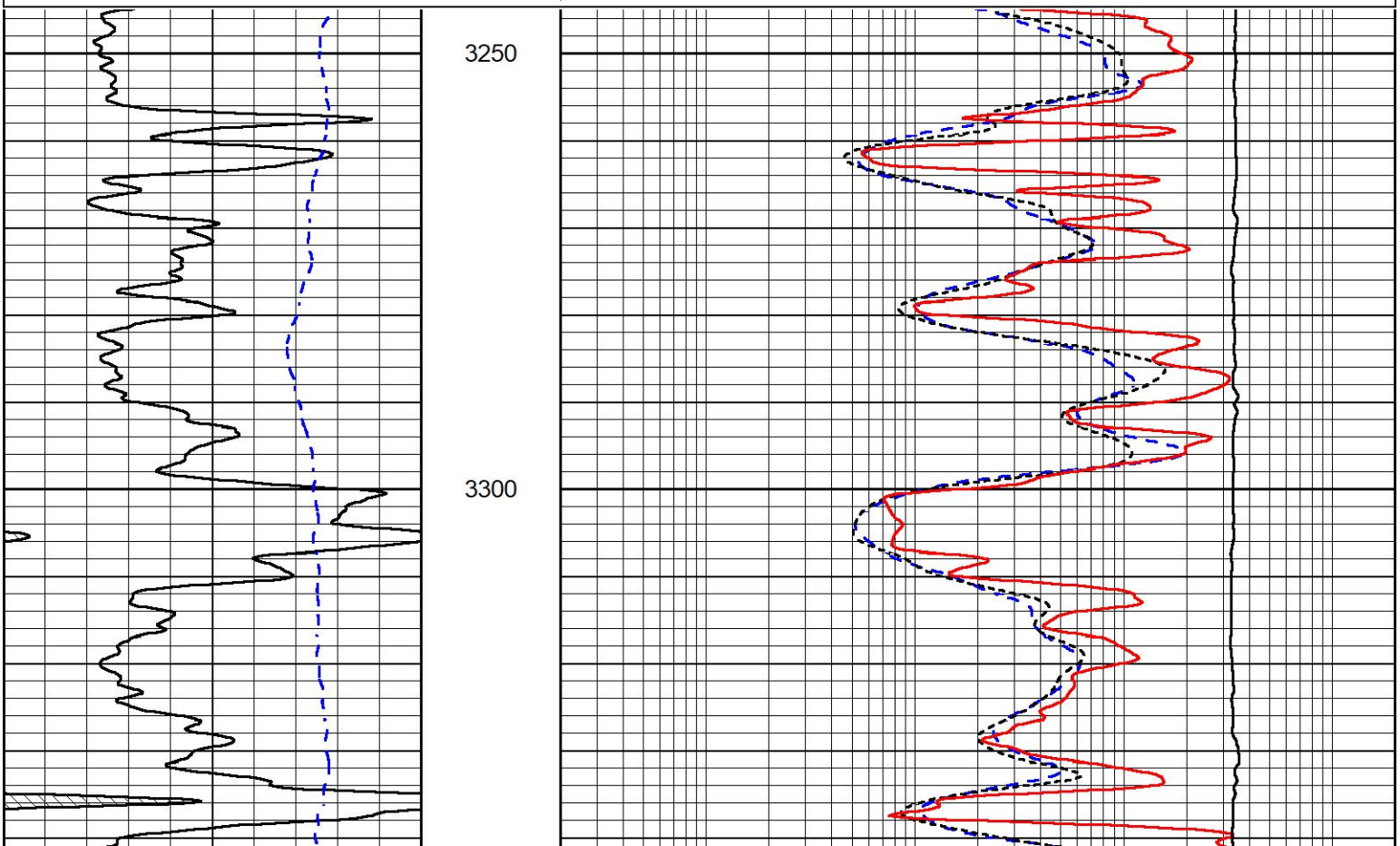
REPEAT SECTION

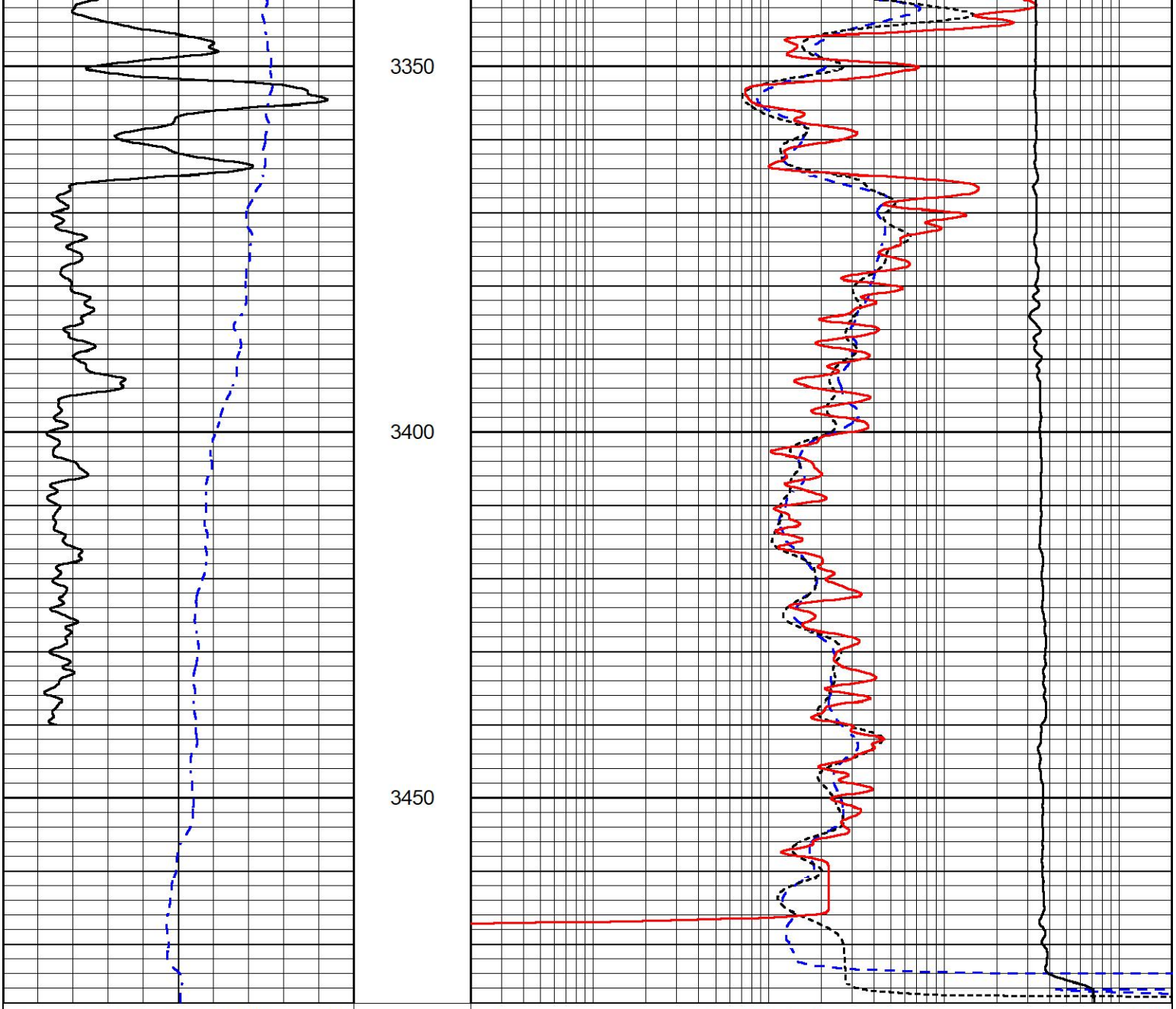
REPEAT PASS

Database File	curts_oil_5h_1.db
Dataset Pathname	stackml/pass2.1
Presentation Format	_dil
Dataset Creation	Mon Dec 06 16:08:19 2021
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	Shallow Resistivity (Ohm-m)	2000
10000	Line Tension (lb)	0





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

MIDWEST WIRELINE

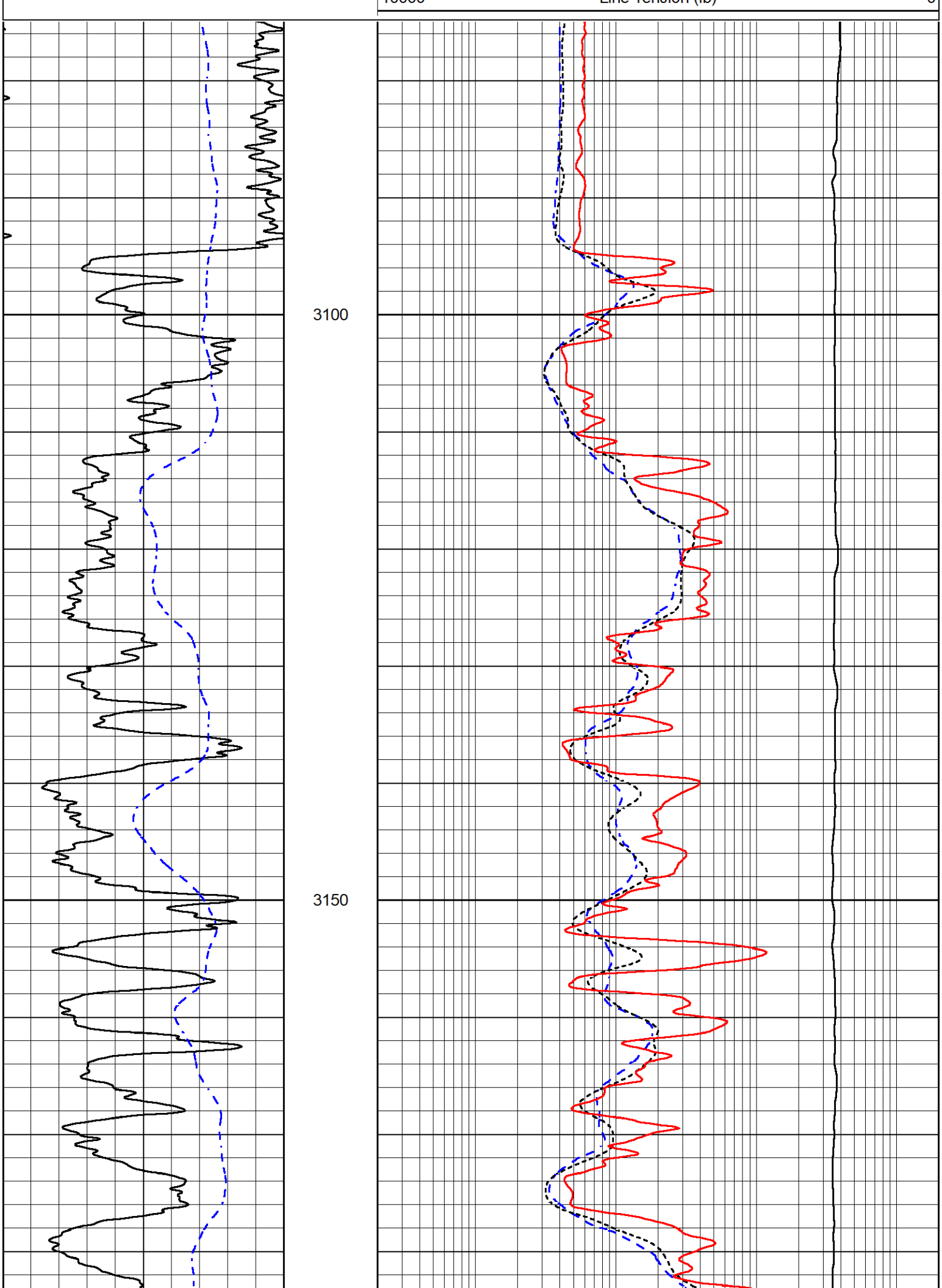
Hi Resolution

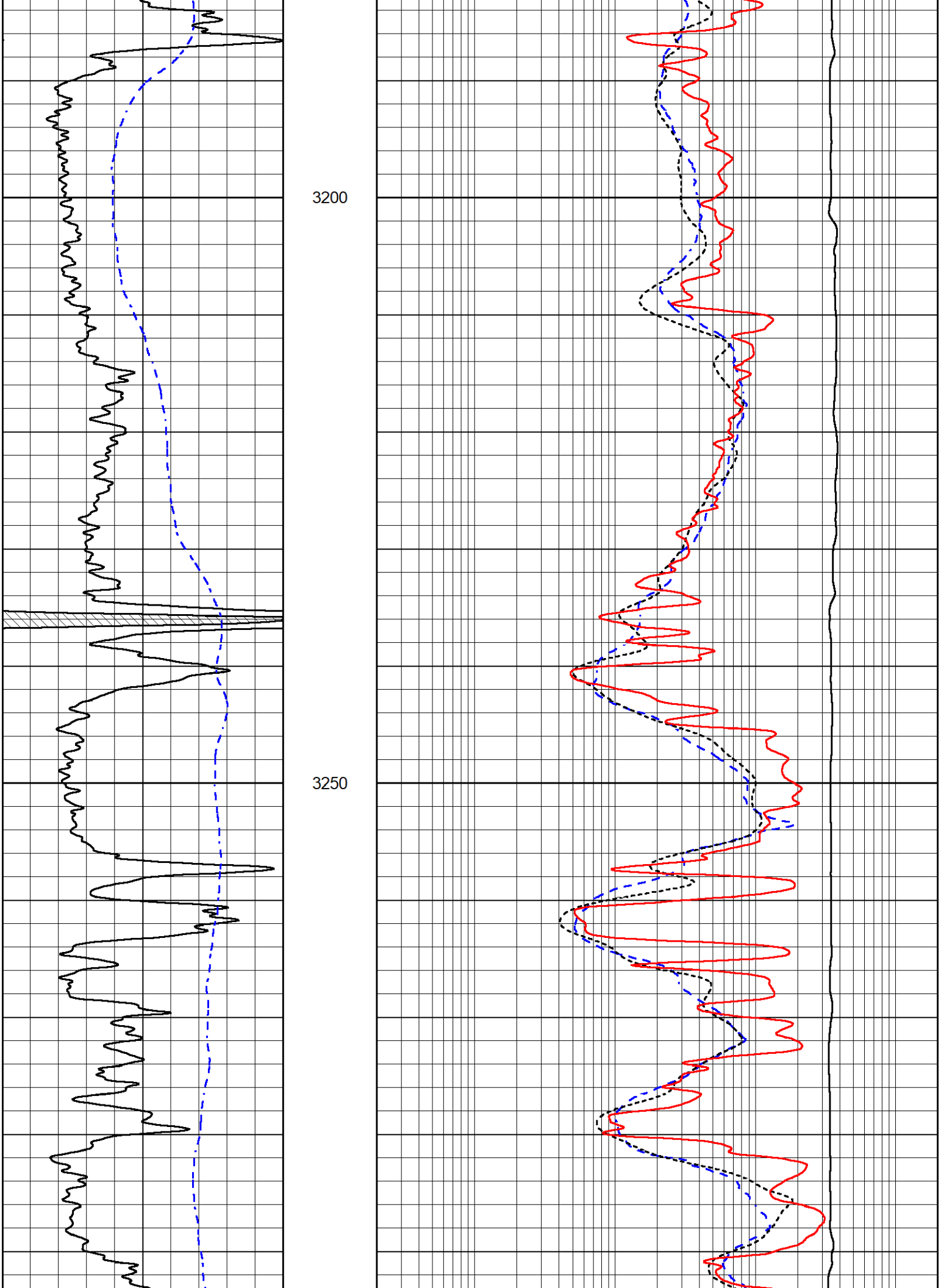
Main Pass

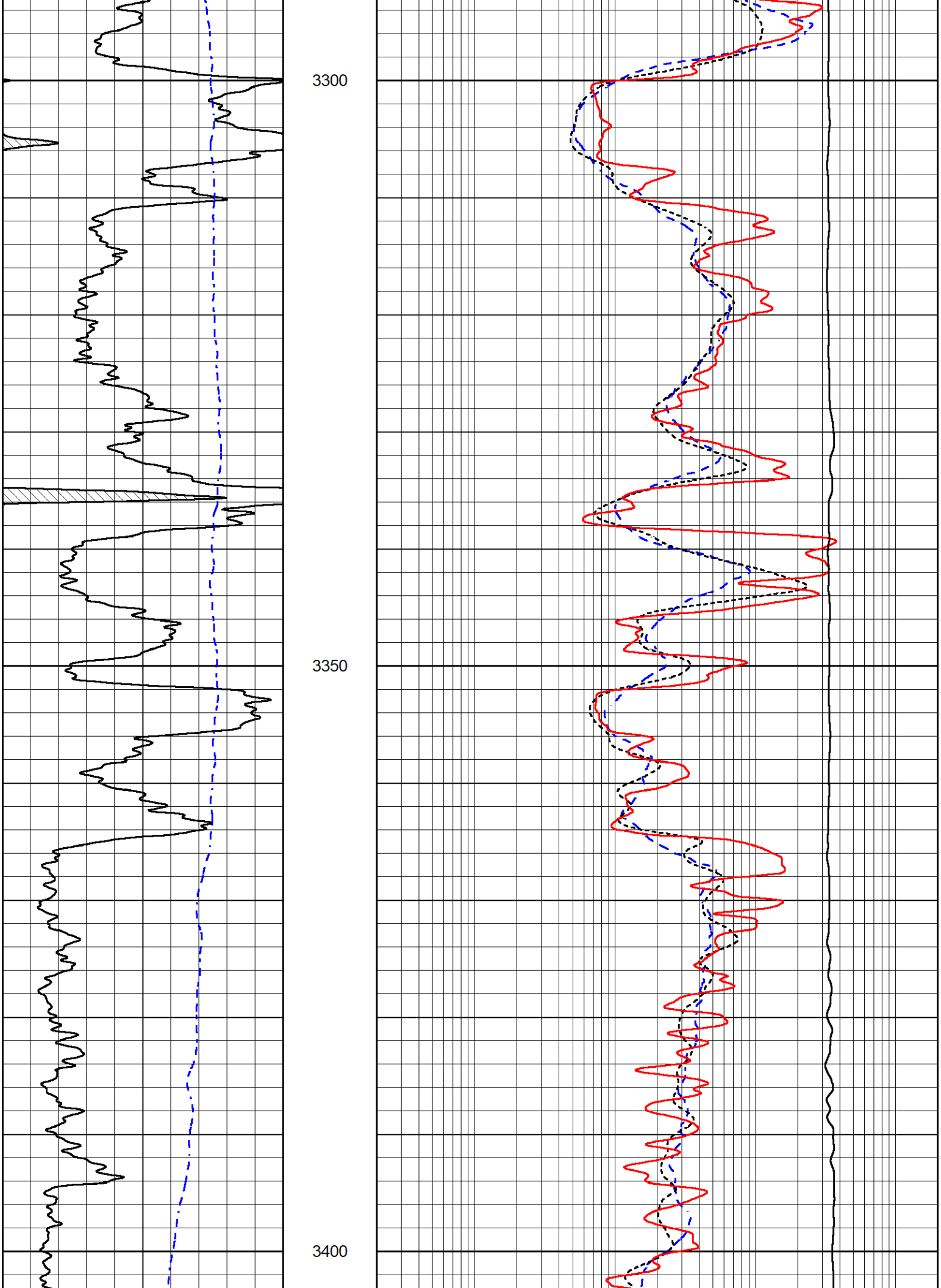
Database File	curts_oil_5h_1.db
Dataset Pathname	stackml/pass10.1
Presentation Format	_dil
Dataset Creation	Mon Dec 06 16:10:33 2021
Charted by	Depth in Feet scaled 1:120

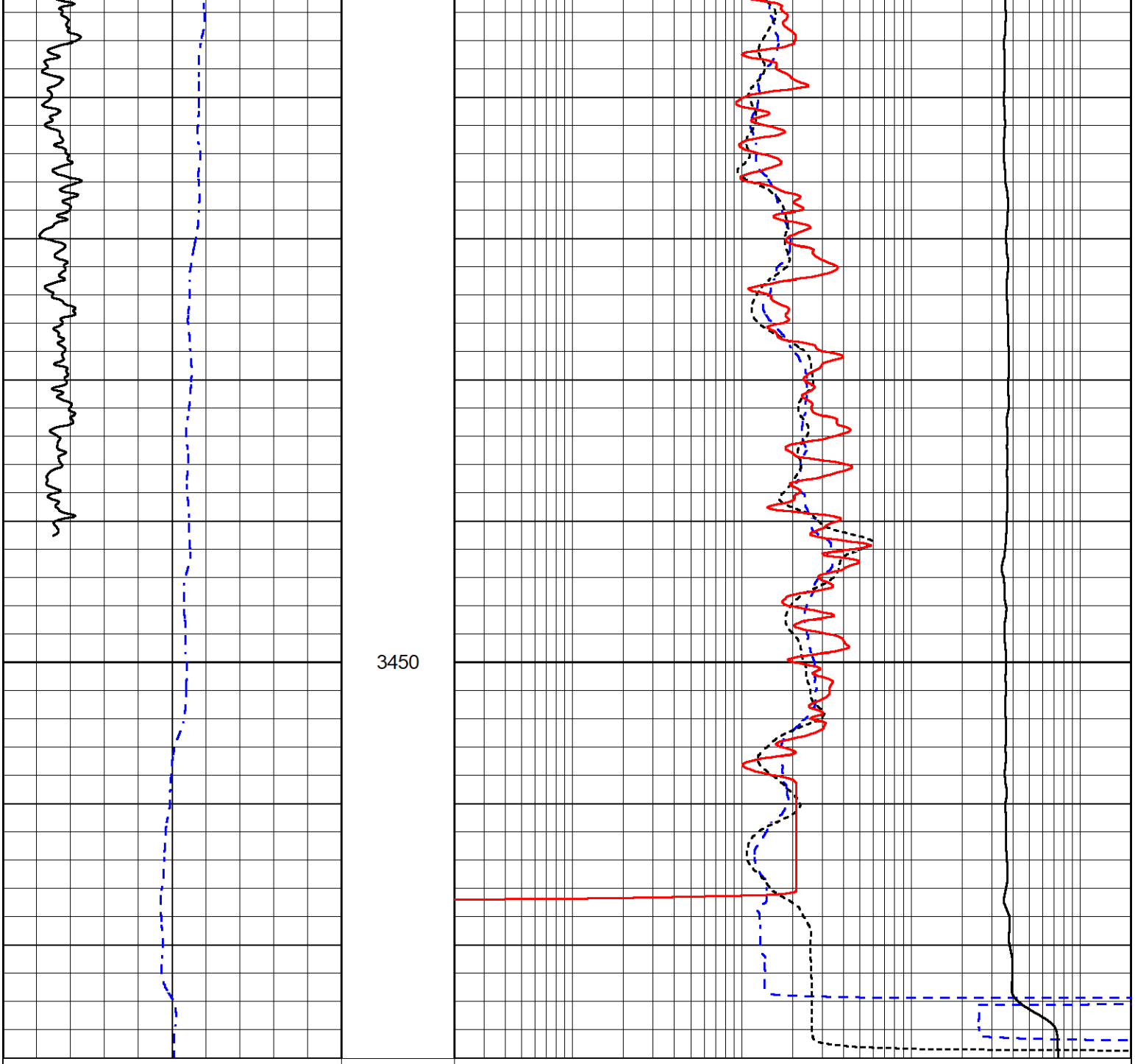
0	Gamma Ray (GAPI)	150
-200	SP (mV)	0

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

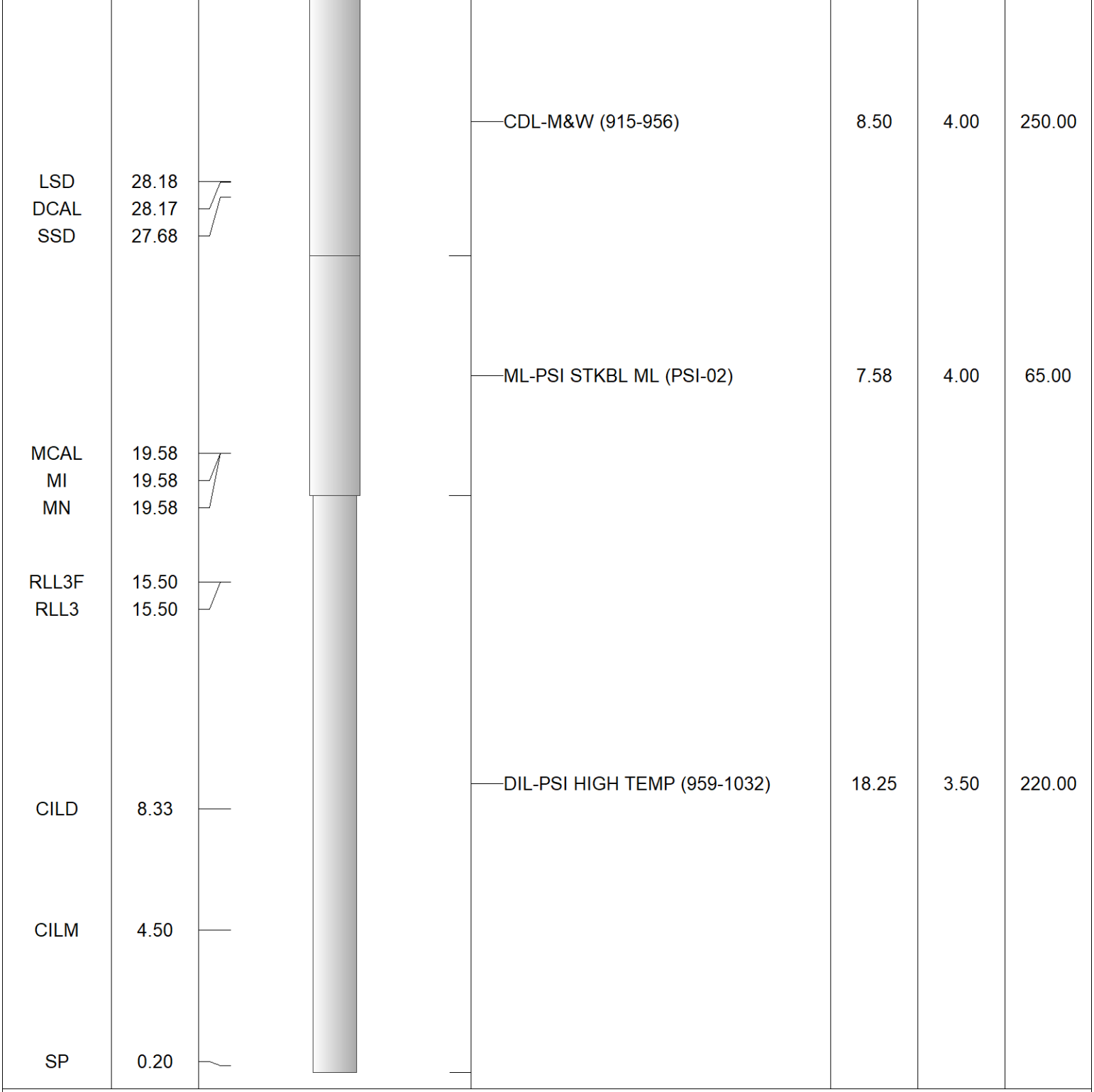

Line Tension (lb)
3100
3150


3200
3250


3300
3350
3400



Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
GR	40.33		GR-M&W (89-M&W)	3.00	3.50	50.00
CNLSC CNSSC	37.23 36.48		CNT-M&W (tk10-MW)	5.00	3.50	100.00



Dataset:	curts_oil_5h_1.db: field/well/stackml/pass3.1
Total length:	42.33 ft
Total weight:	685.00 lb
O.D.:	4.00 in

Calibration Report

Database File	curts_oil_5h_1.db
Dataset Pathname	stackml/pass4.1
Dataset Creation	Mon Dec 06 16:42:05 2021

Dual Induction Calibration Report

Serial-Model:	959-1032-PSI HIGH TEMP
Surface Cal Performed:	Mon Oct 25 13:13:32 2021

Readings	References	Results

Loop:	Readings Air	Readings Loop	References Air	References Loop		Results m	Results b
Deep	178.615	710.235	0.000	255.800	mmho/m	0.650	-19.000
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.450	-45.500

Microlog Calibration Report

Serial-Model: PSI-02-PSI STKBL ML
Performed: Sat Apr 7 11:01:20 2018

	Readings Zero	Readings Cal	References Zero	References Cal		Results m	Results b
Normal	0.0031	0.0043	0.0000	10.0000	Ohm-m	21000.0000	-0.7000
Inverse	0.0000	0.0013	0.0000	10.0000	Ohm-m	22000.0000	0.0000
Caliper	1.0020	1.0834	5.5000	16.5000	in	135.1560	-134.8000

Compensated Density Calibration Report

Serial-Model: 915-956-M&W
Source #: 21170B
Master Calibration Performed: Fri Dec 3 11:22:35 2021

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	3668.53	4669.61	cps
Aluminum	2.675	g/cc	710.88	3056.05	cps

Spine Angle = 75.51
Density/Spine Ratio = 0.543

	Size		Reading
Small Ring	4.00	in	1.17
Large Ring	14.00	in	1.05

Compensated Neutron Calibration Report

Serial-Model: tk10-MW-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: 89-M&W
Tool Model: M&W
Performed: Fri Dec 3 12:13:24 2021

Calibrator Value: 500.0 GAPI

Background Reading: 28.0 cps
Calibrator Reading: 986.0 cps

Sensitivity:	0.5700	GAPI/cps

MIDWEST WIRELINE

Company	Curts Oil Operations LLC
Well	5-H #1
Field	Beaver South
County	Barton
State	Kansas