LOG-TECH

DIGITAL LOG (785) 625-3858

Dual Induction Log

API No. 15-093-21,870-00-00

Company PetroSantander USA, Inc.

Well Miller No. 4-13

Field Christabelle (Morrow) Unit

County Kearny State Kansas

Location NW NE NW SE
2,380' FSL & 1,900' FEL
Sec: 13 Twp: 21S Rge: 35W

Other Services
CNL/CDL
MEL

Elevation
K.B. 3075
D.F.
G.L. 3063

Permanent Datum Ground Level Elevation 3063
Log Measured From Kelly Bushing 12 Ft. Above Perm. Datum
Drilling Measured FromKelly Bushing

Date	5/30/2011			
Run Number	One			
Depth Driller	4970			
Depth Logger	4977			
Bottom Logged Interval	4976			
Top Log Interval	500			
Casing Driller	8.625 @ 522			
Casing Logger	519			
Bit Size	7.875			
Type Fluid in Hole	Chemical			
Salinity,ppm CL	2000			
Density / Viscosity	9.4 60			
pH / Fluid Loss	10.5 7.2			
Source of Sample	Flowline			
Rm @ Meas. Temp	.30 @ 83			
Rmf @ Meas. Temp	.23 @ 83			
Rmc @ Meas. Temp	.41 @ 83			
Source of Rmf / Rmc	Charts			
Rm @ BHT	.20 @ 126			
Operating Rig Time	4 Hours			
Max. Rec. Temp. F	126			
Equipment Number	10			
Location	Hays			
Recorded By	J. Long			
Witnessed By	Mikeal K. Maune			

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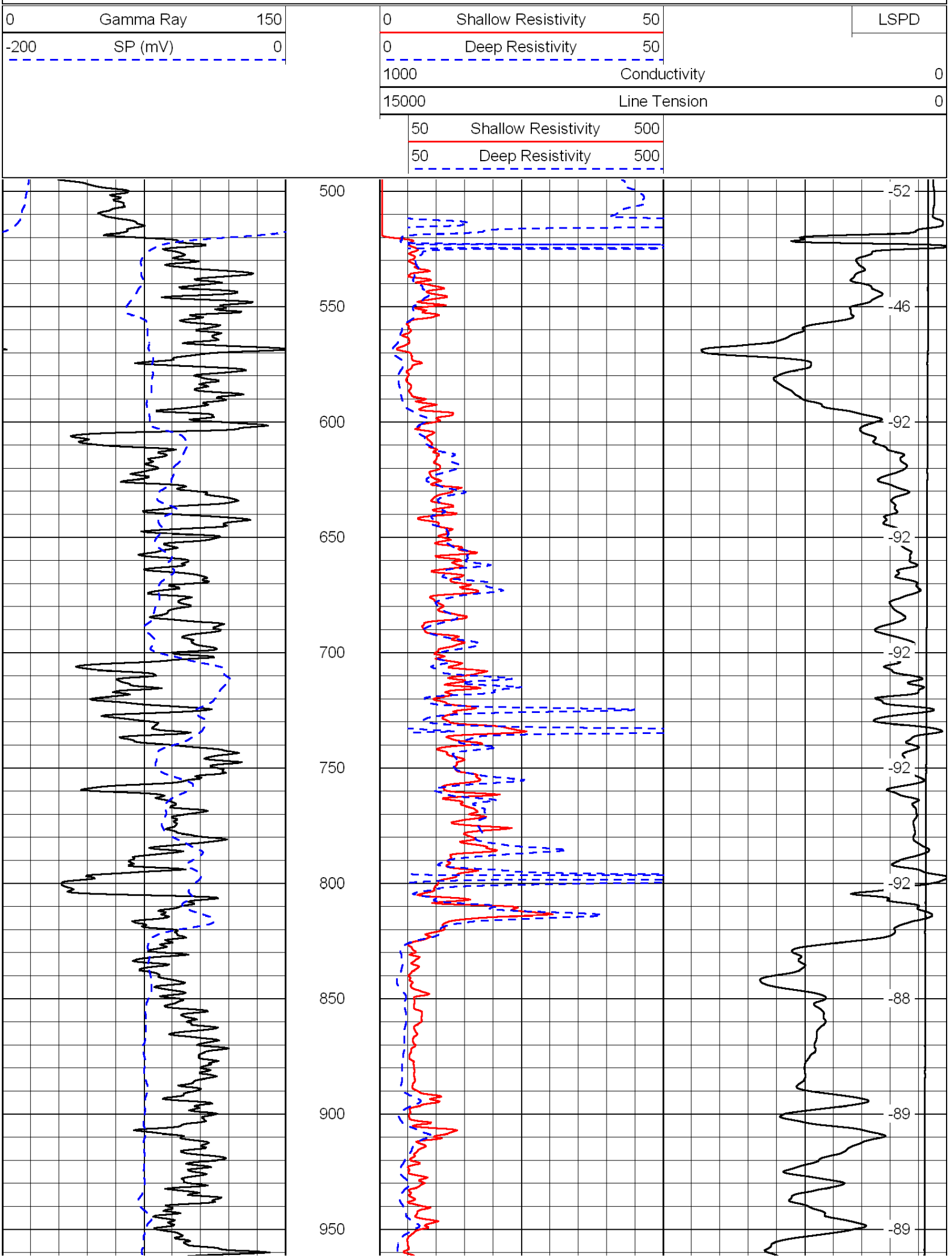
Comments

Thank you for using Log-Tech, Inc.
(785) 625-3858

Scott City, South to Finney/Scott Road, 10 West to Byrd Road, 2 South to Sondreagger Road,
1 West to BB Road, 1/2 South, West Into

Database File:	c:\warrior\data\petrosantander_miller no. 4-13\petrosantander_miller_4-13hd.db
Dataset Pathname:	dil/petrostck
Presentation Format:	dil2in
Dataset Creation:	Mon May 30 20:03:37 2011
Charted by:	Depth in Feet scaled 1:600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1000 Conductivity 0
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50 Deep Resistivity 500
LSPD
500
550
600
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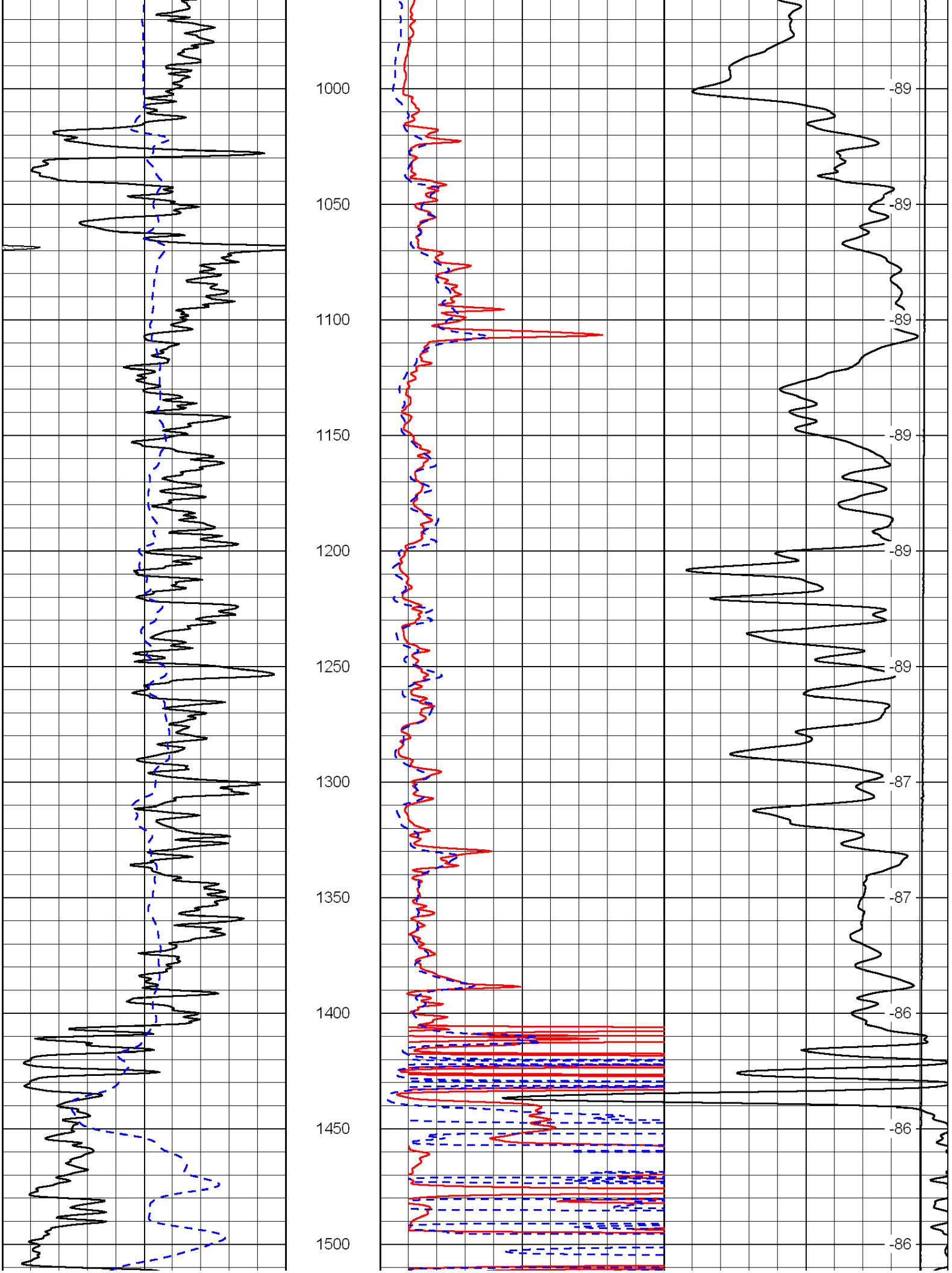
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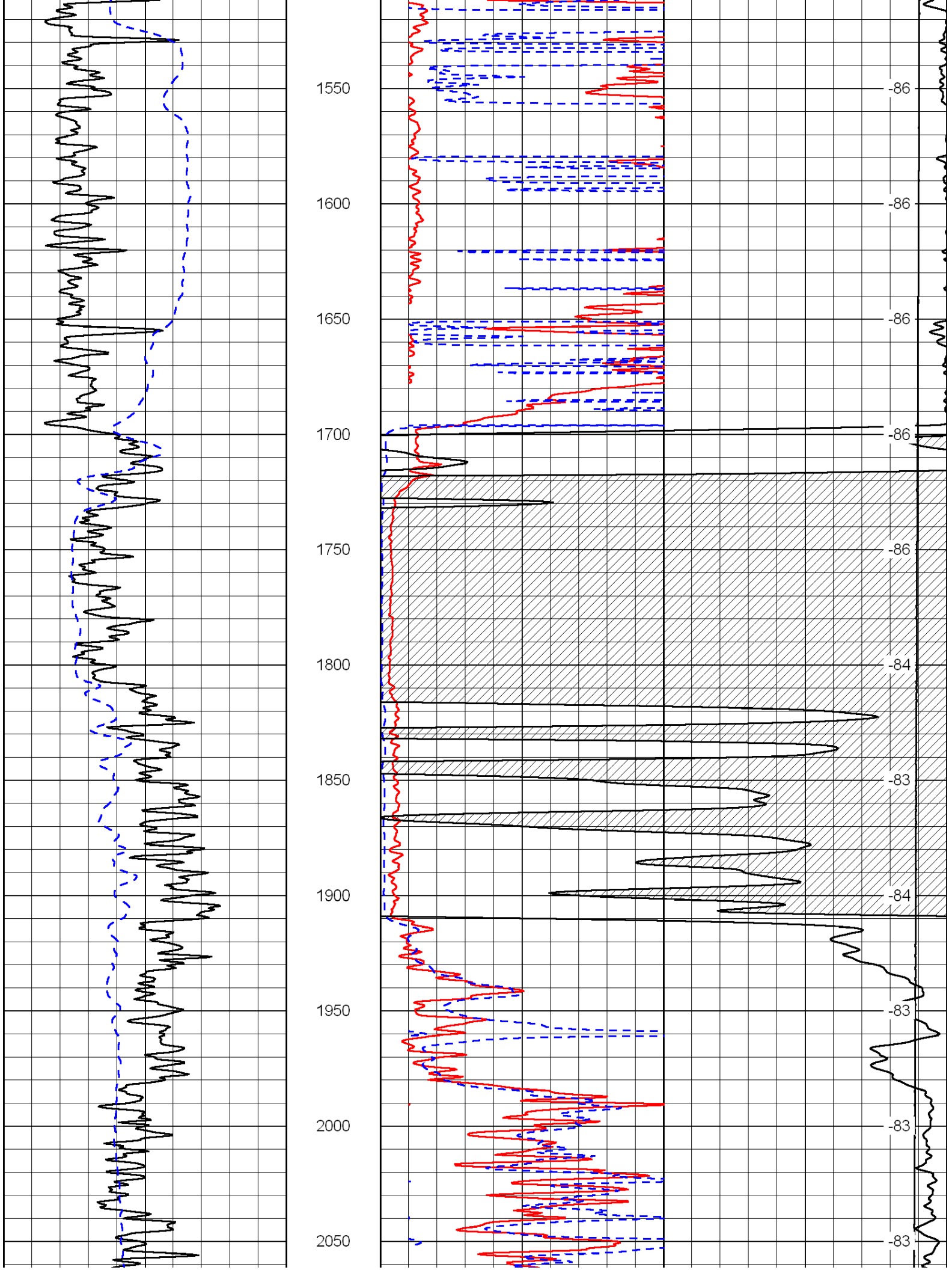
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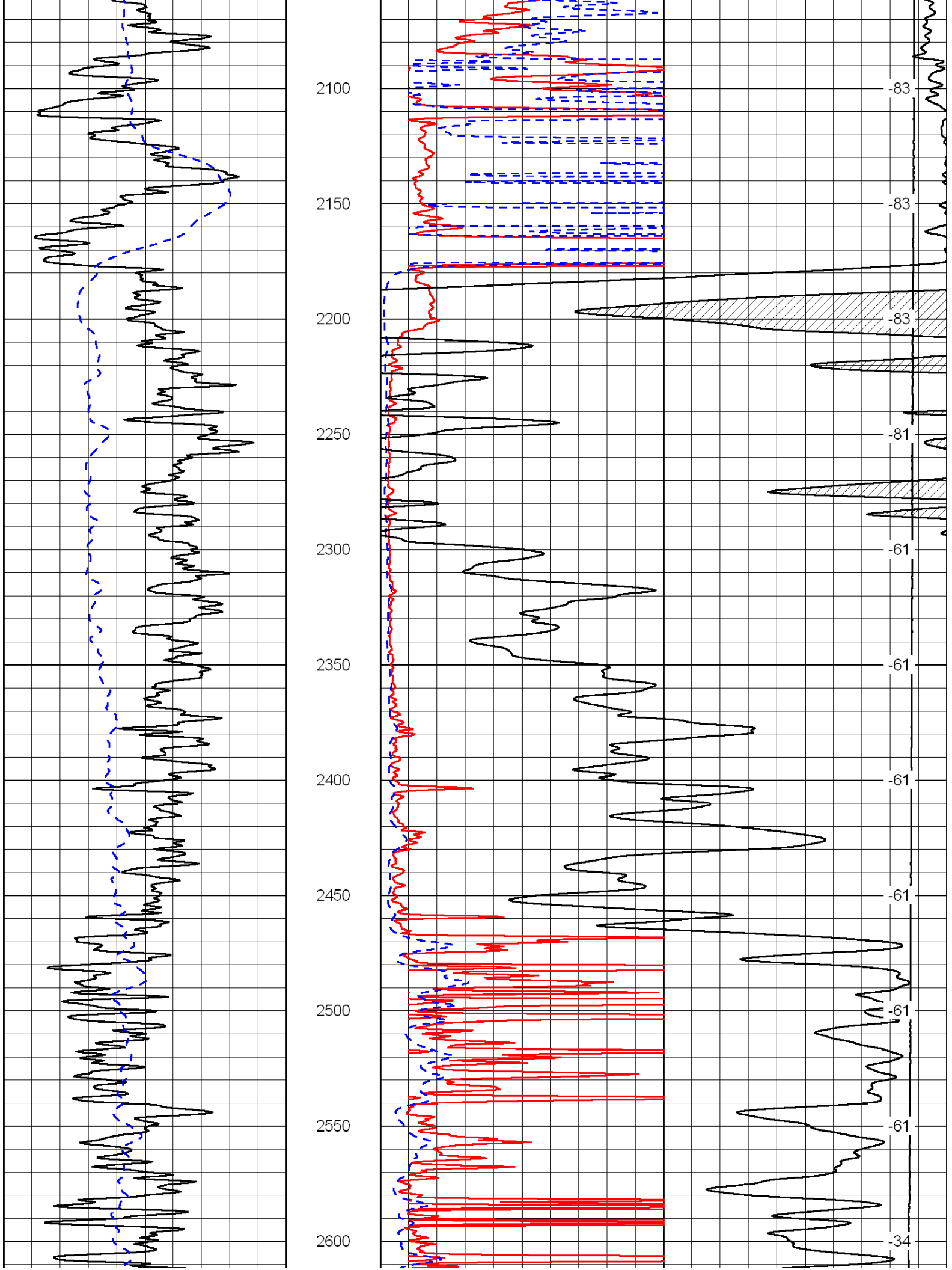
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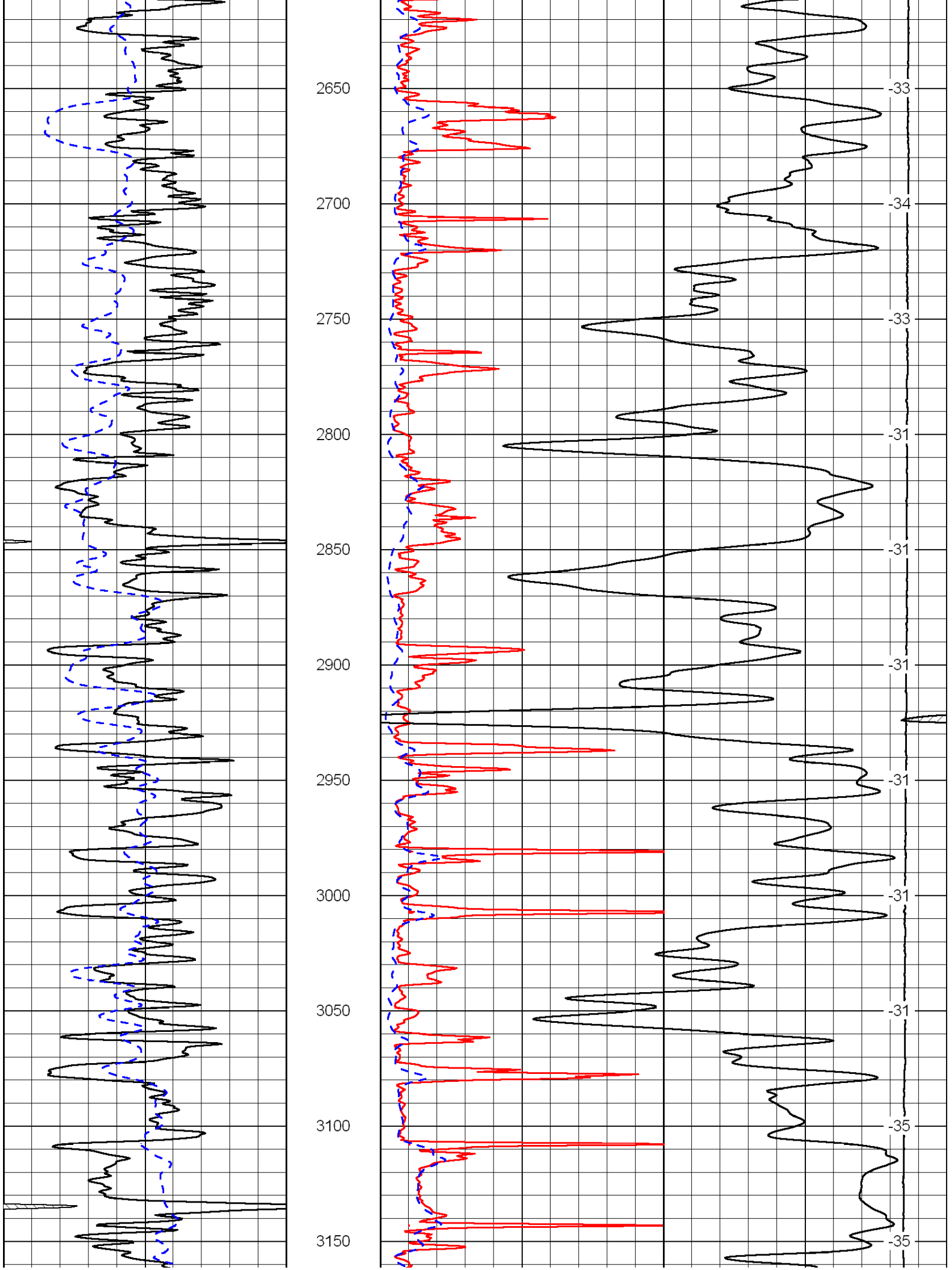
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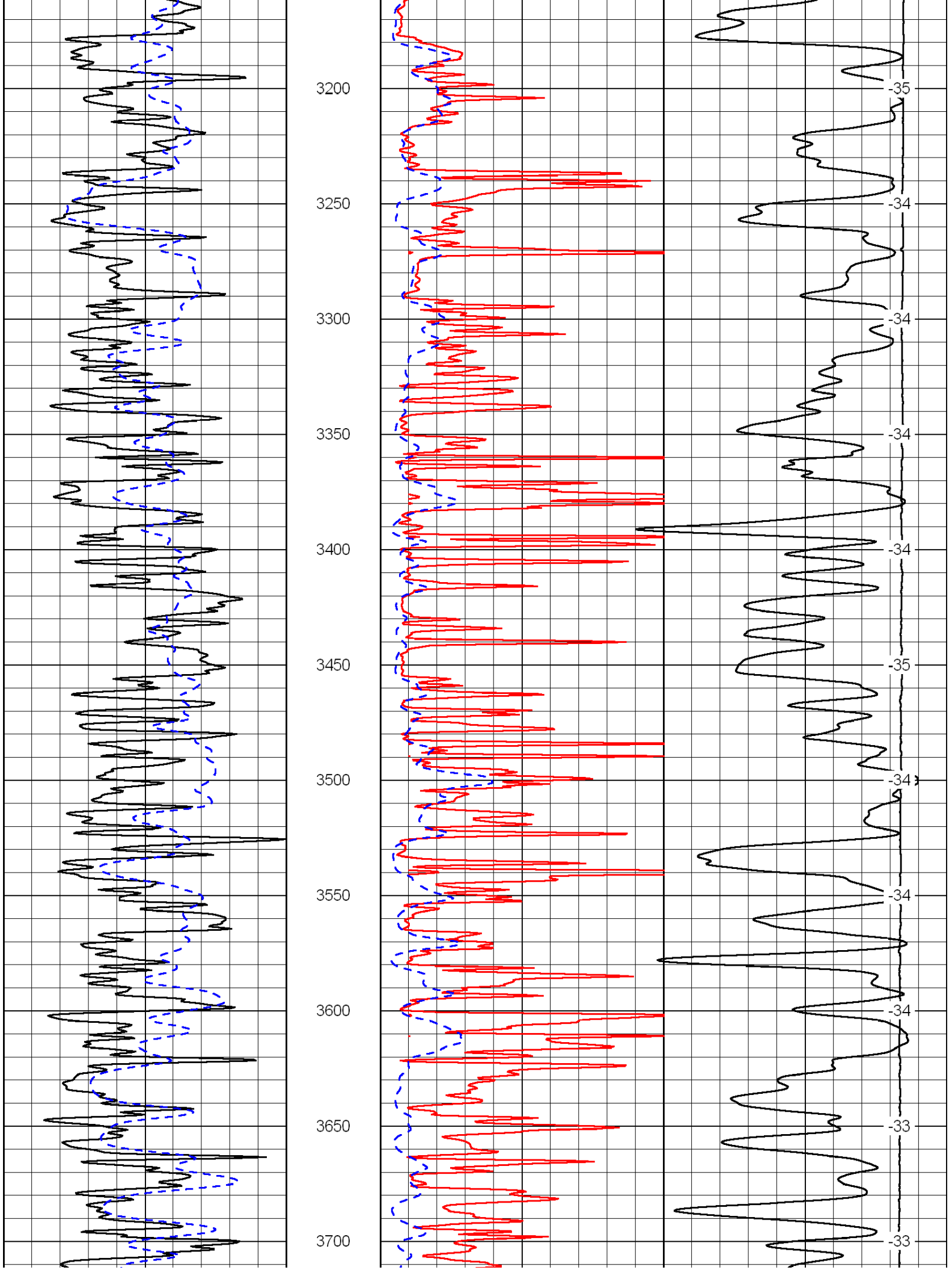
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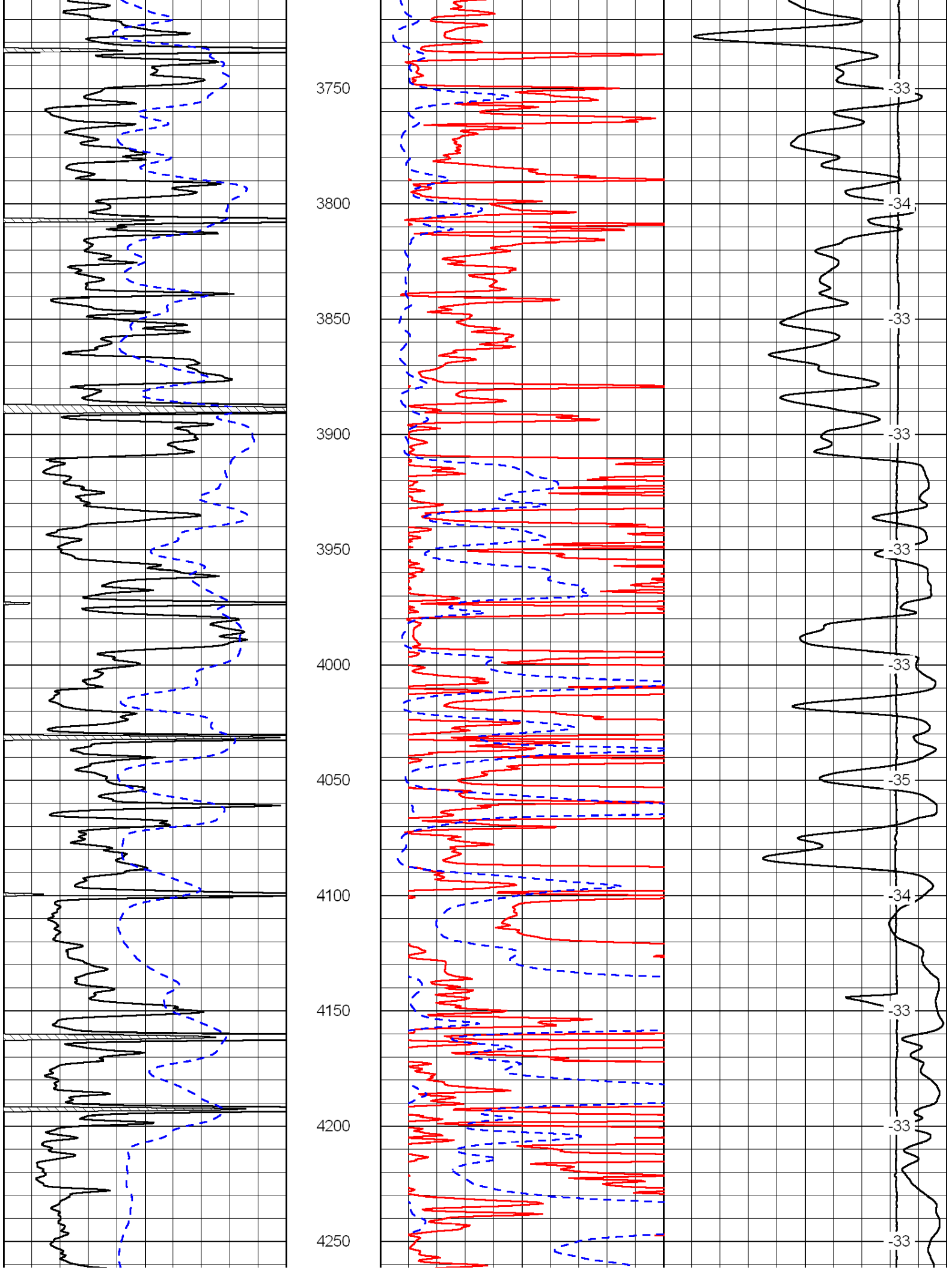
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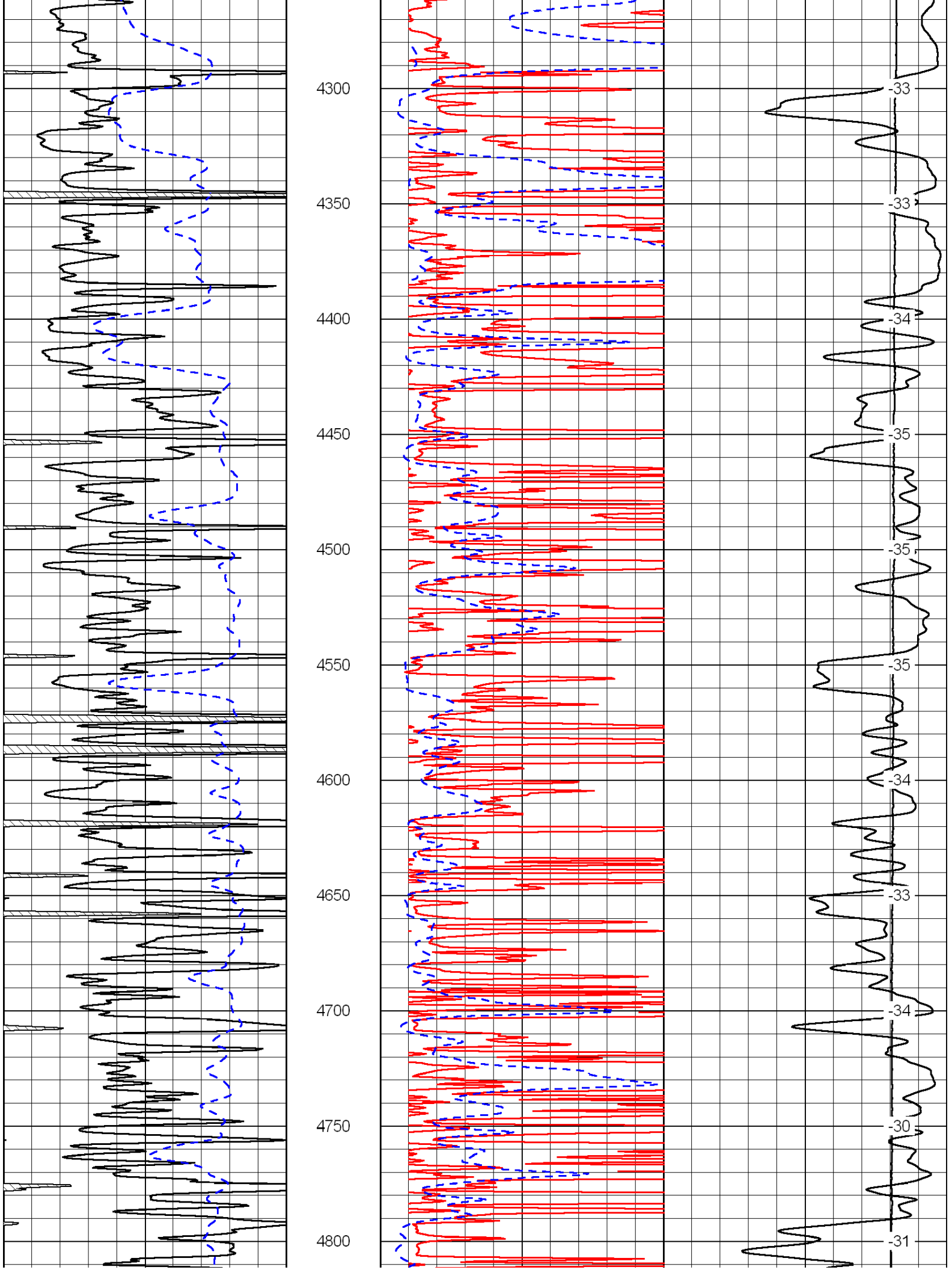
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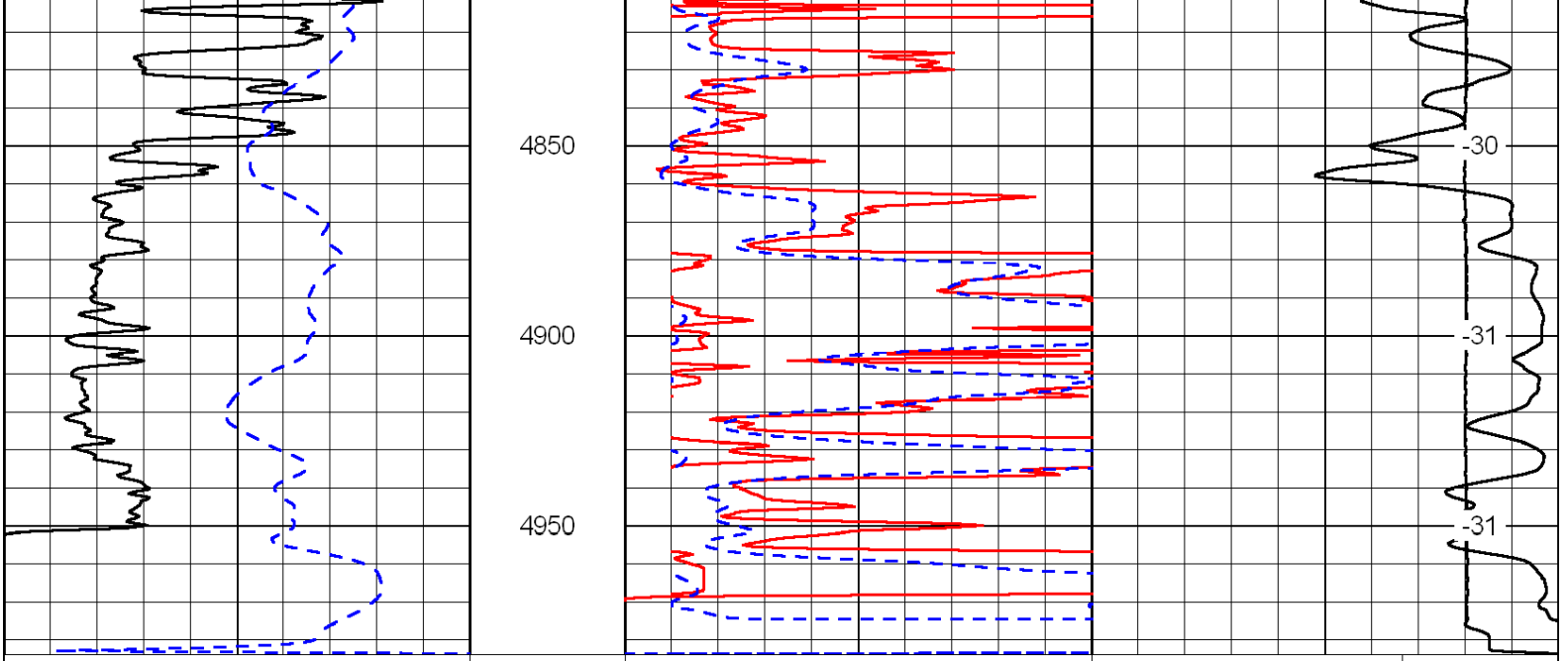

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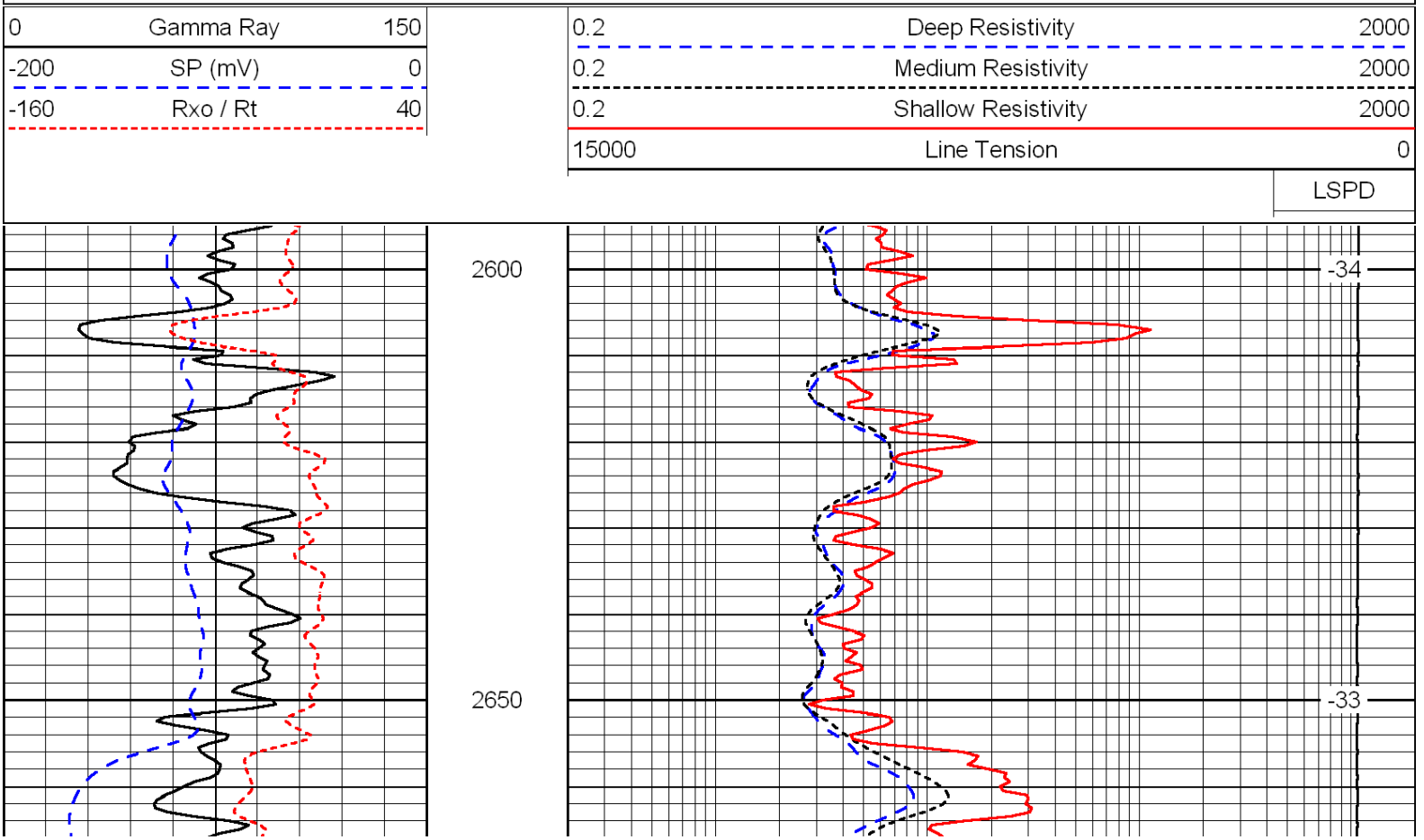
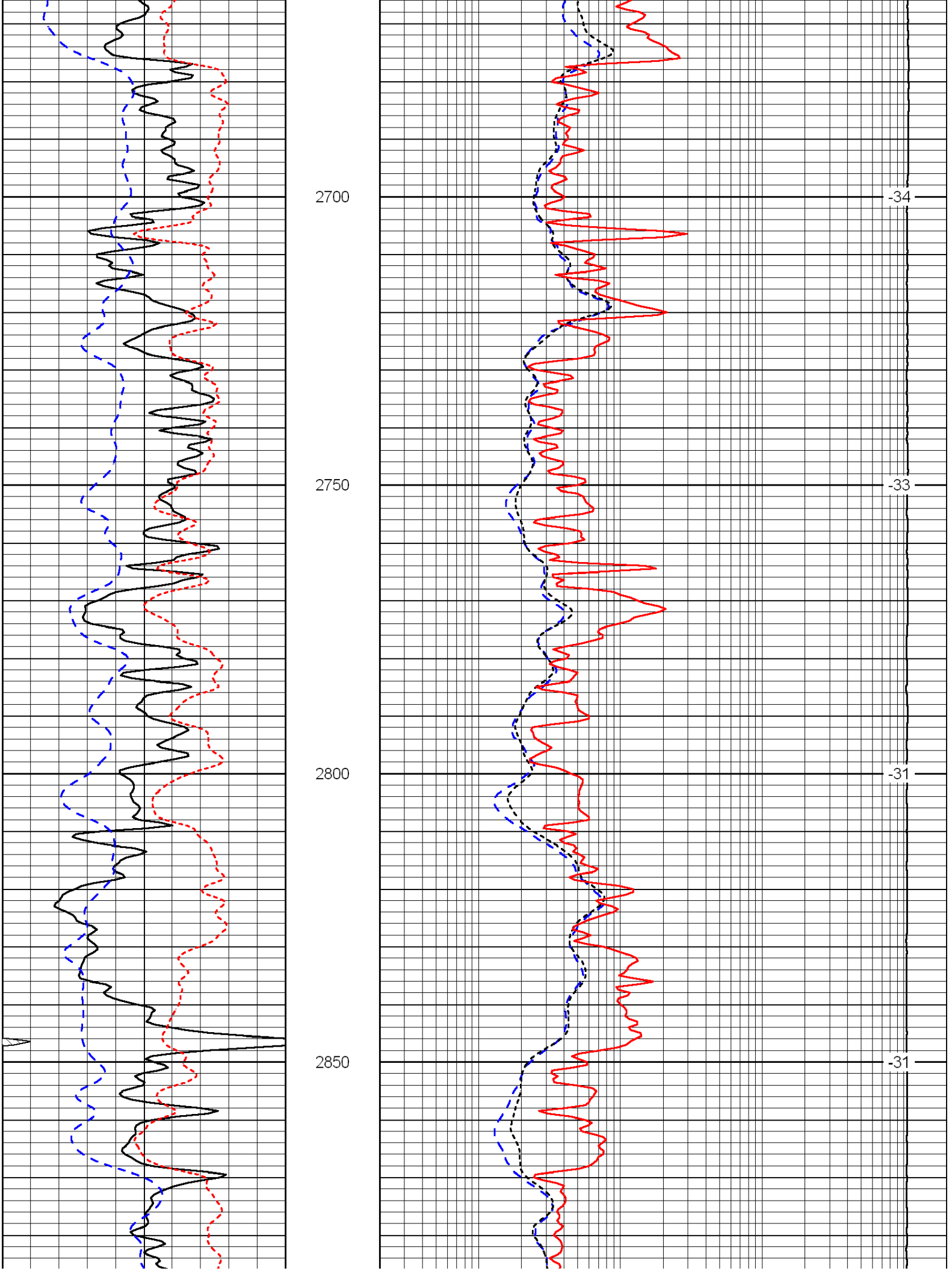
Charted by: Depth in Feet scaled 1:240

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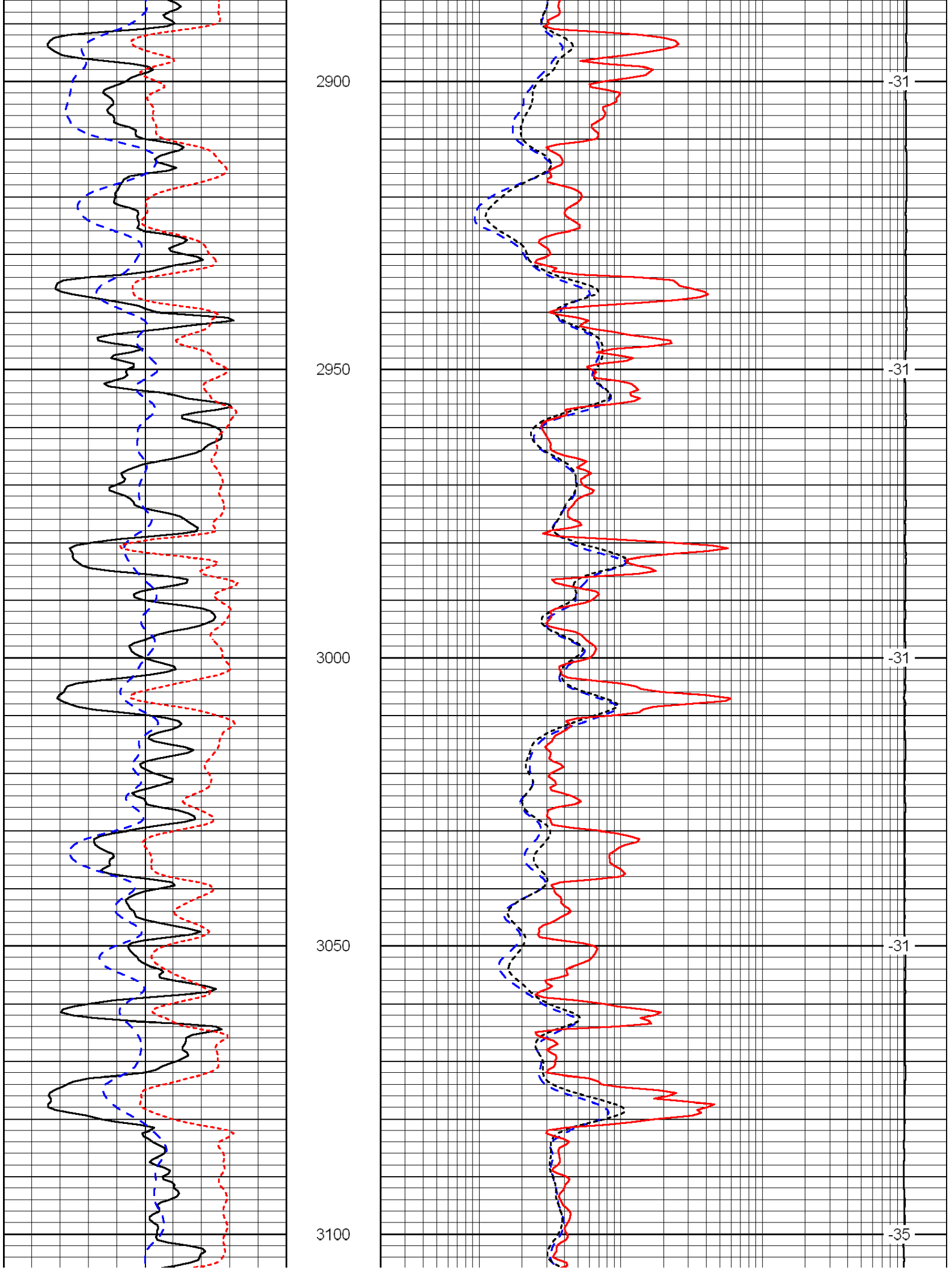
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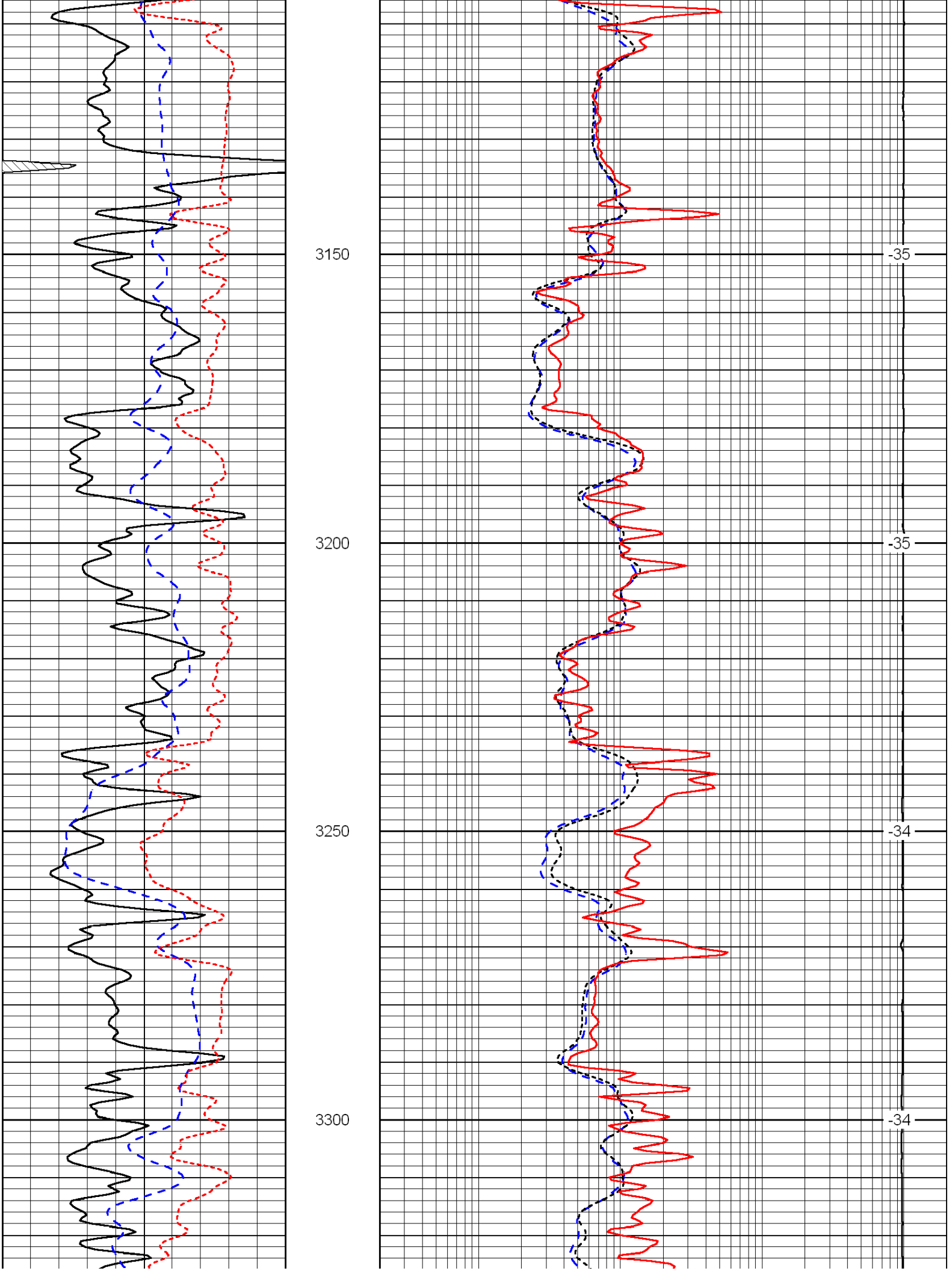
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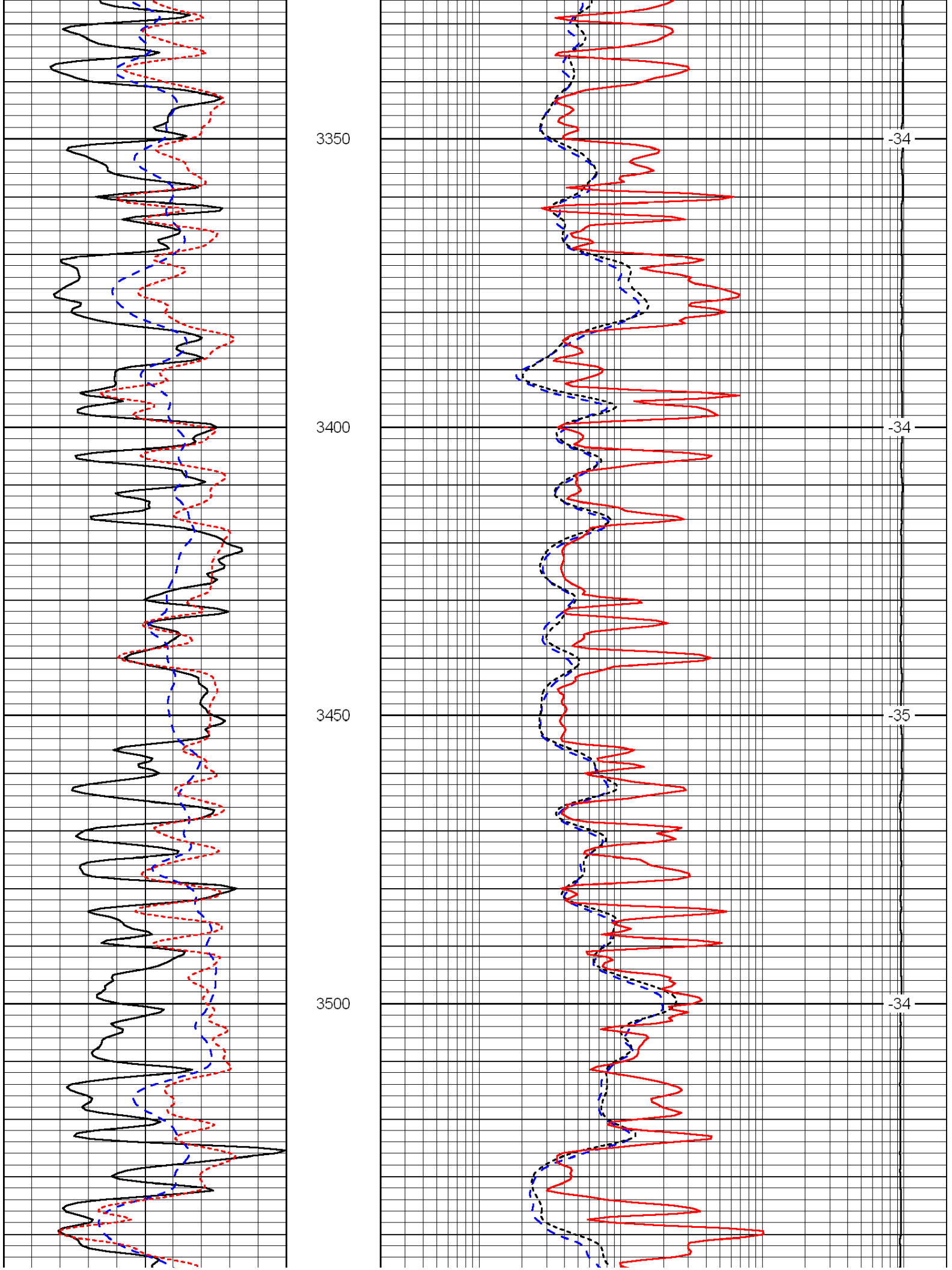
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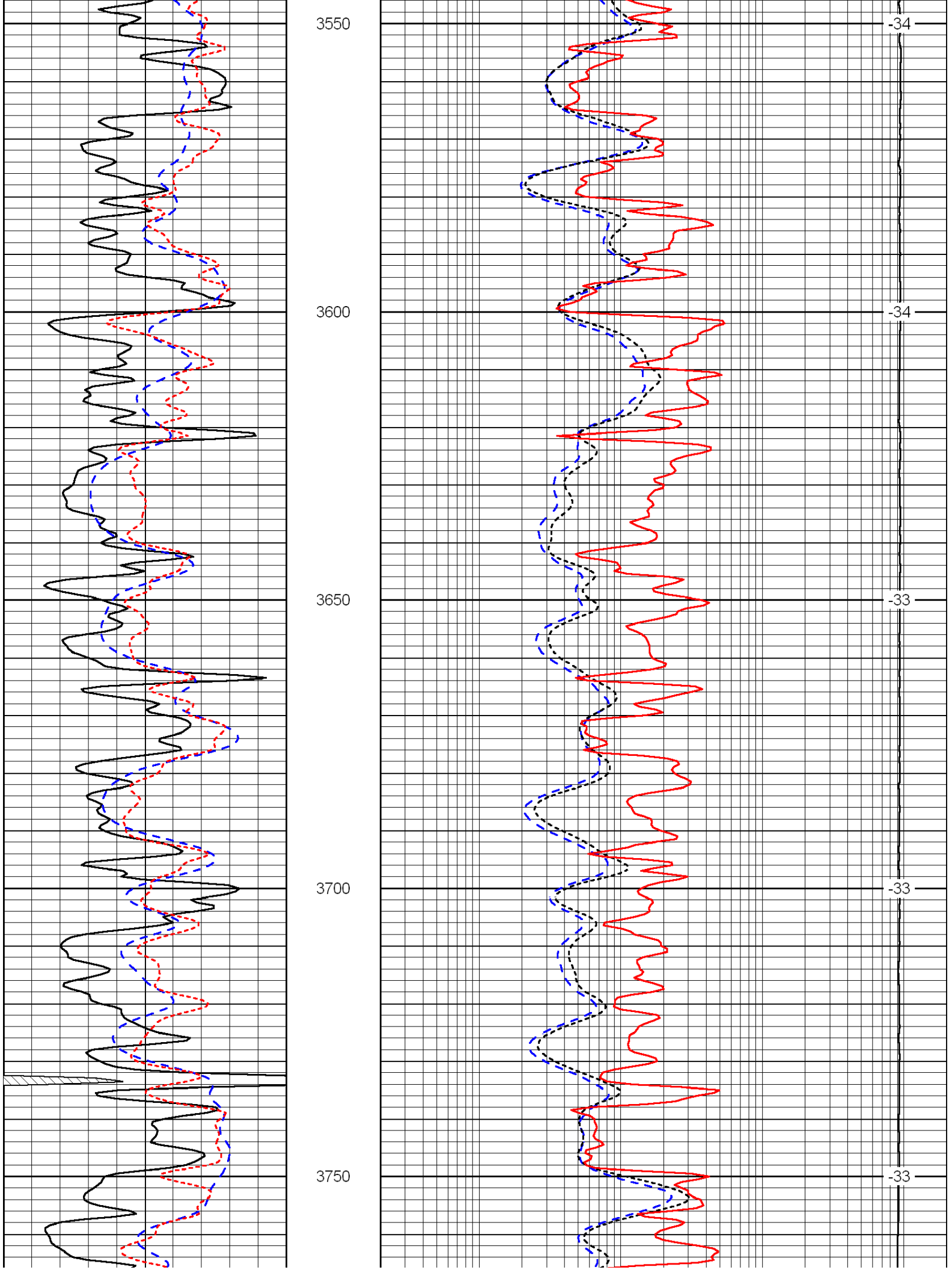
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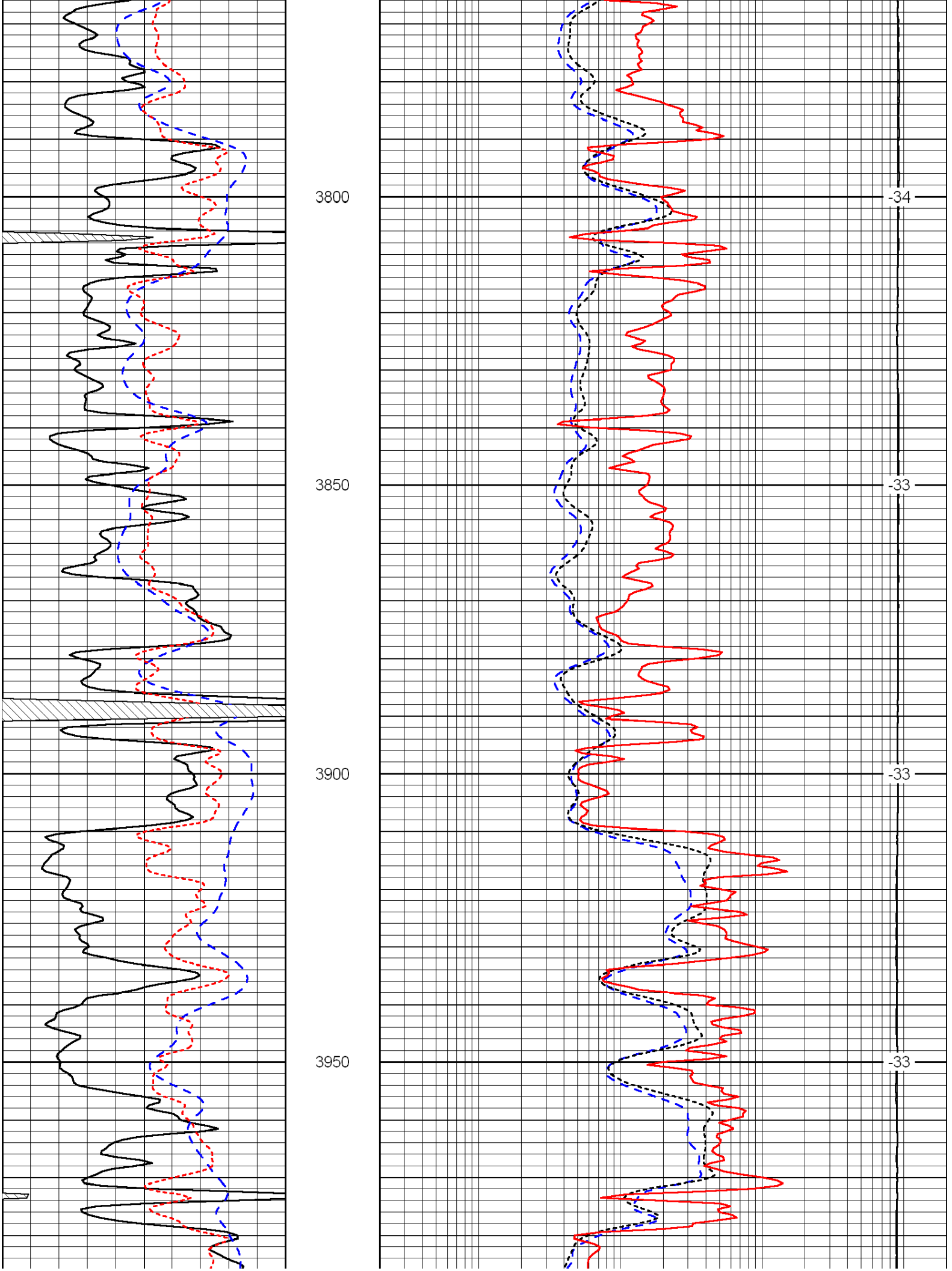
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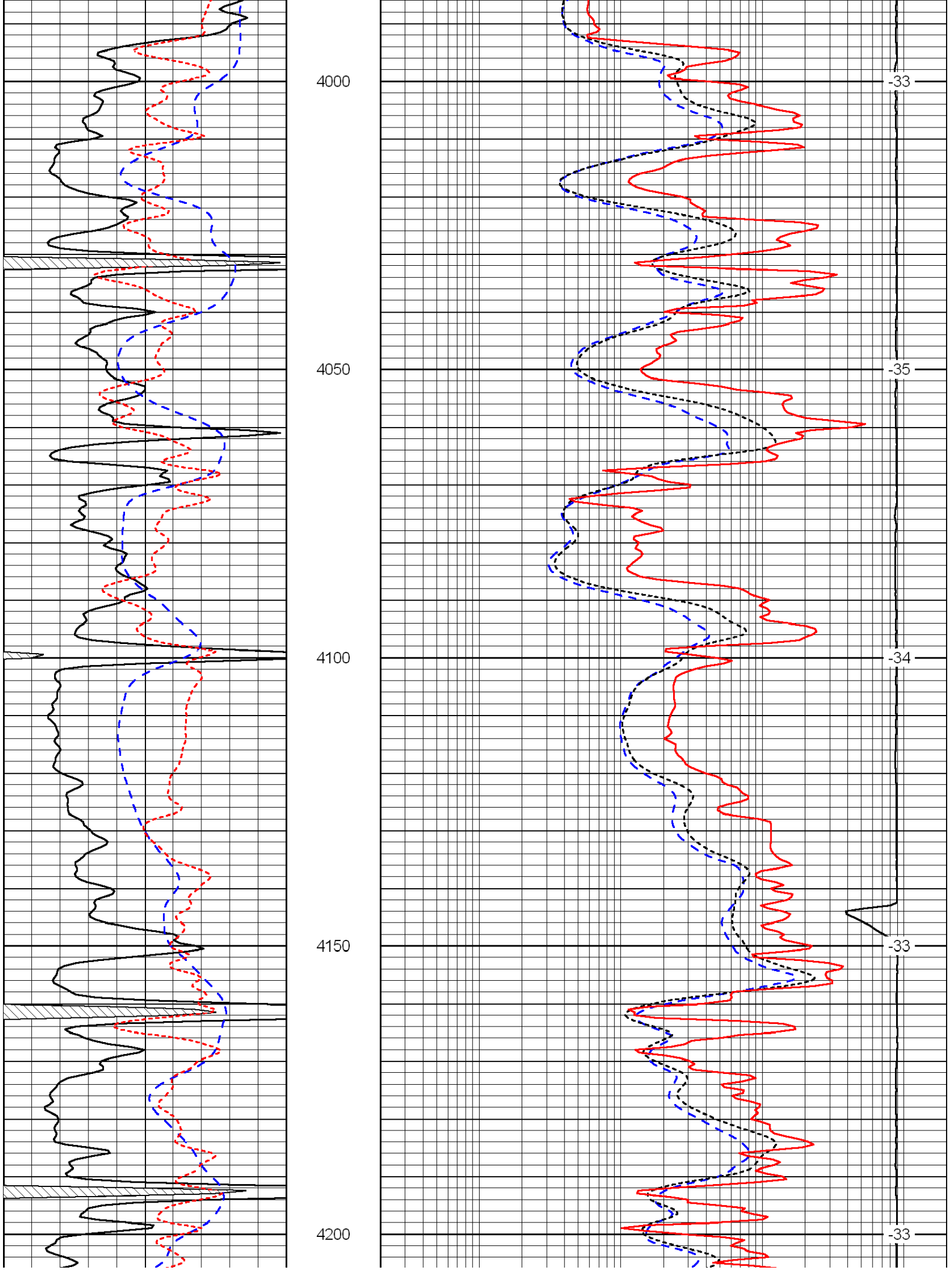
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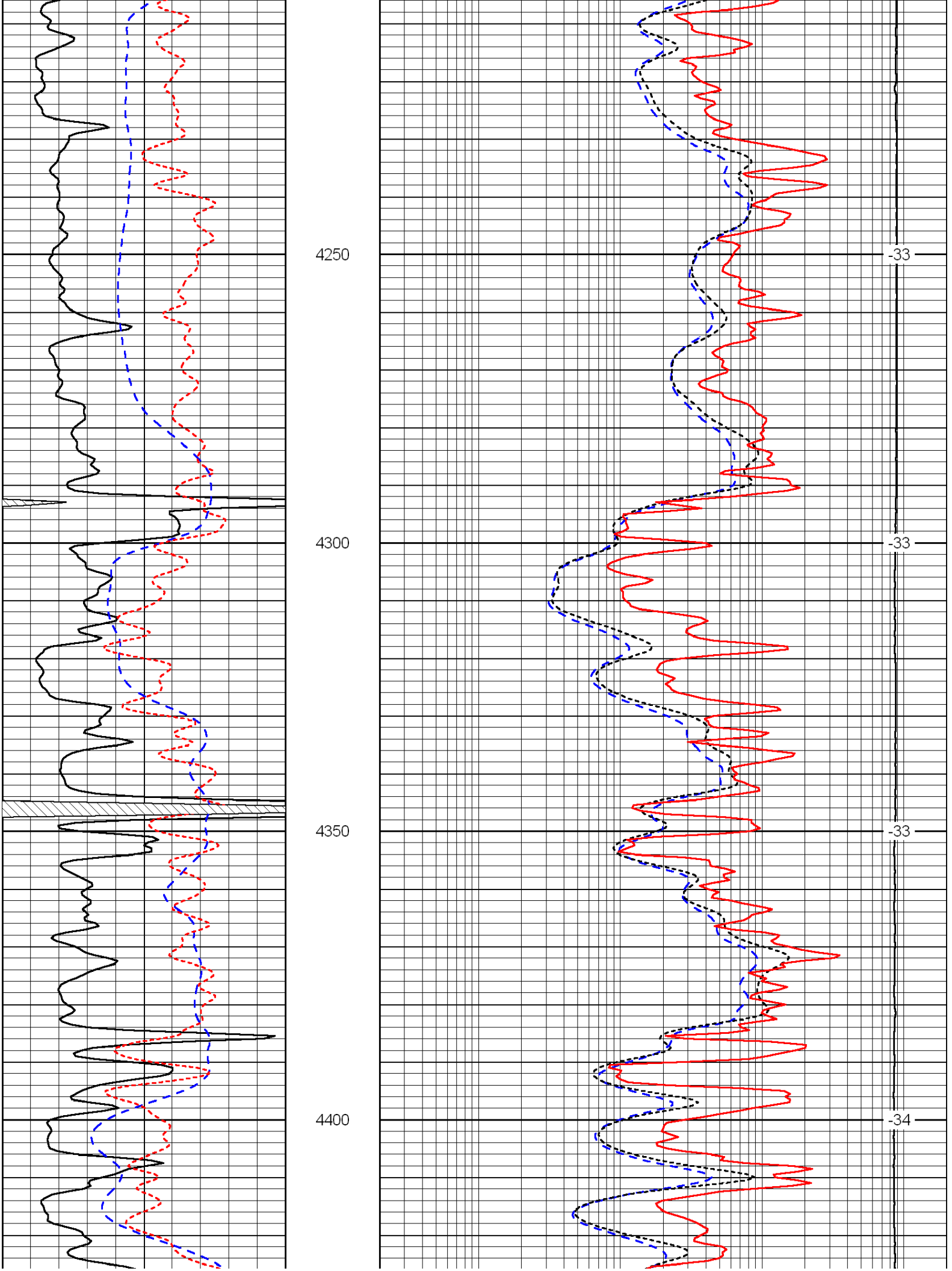
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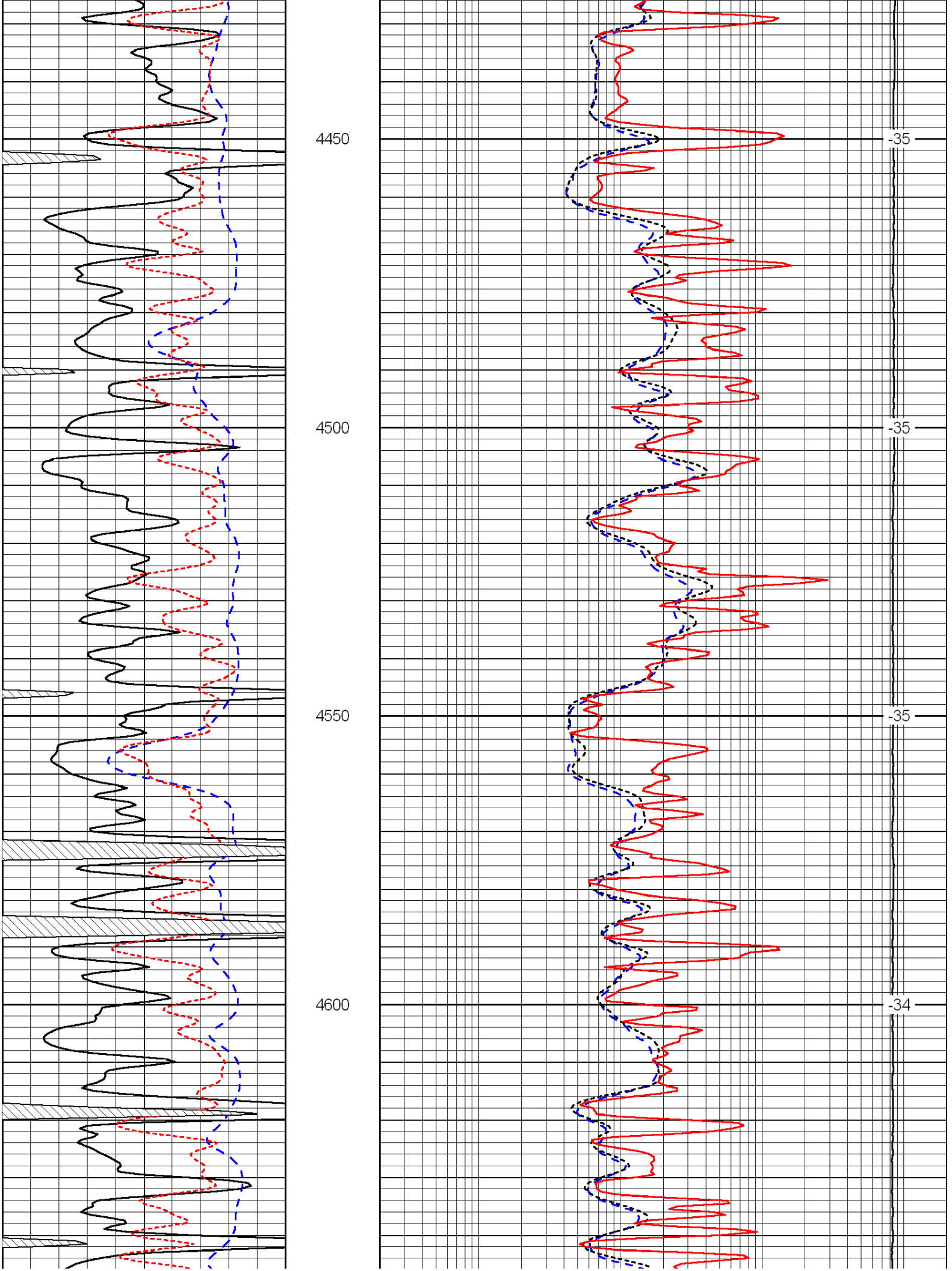
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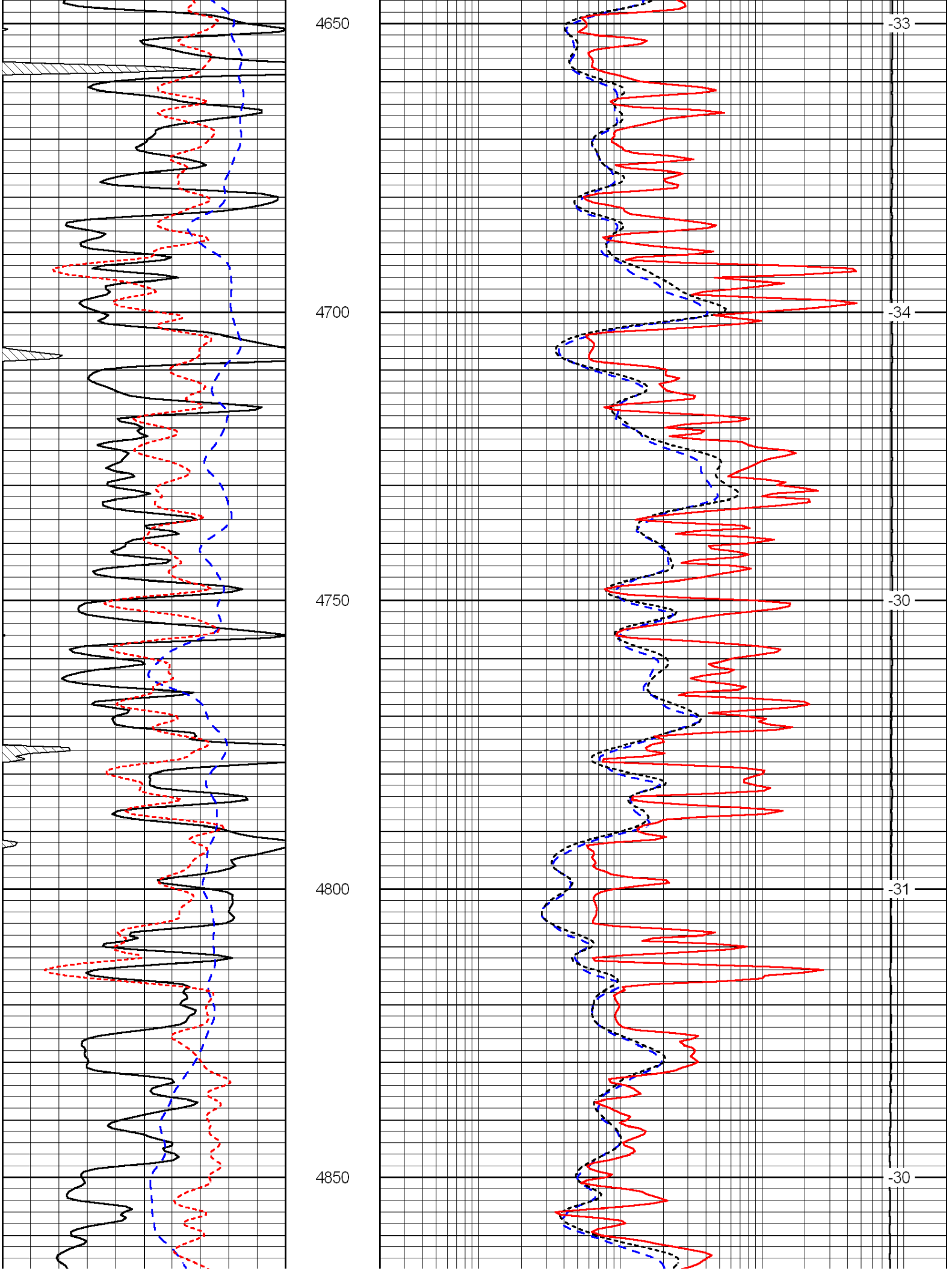
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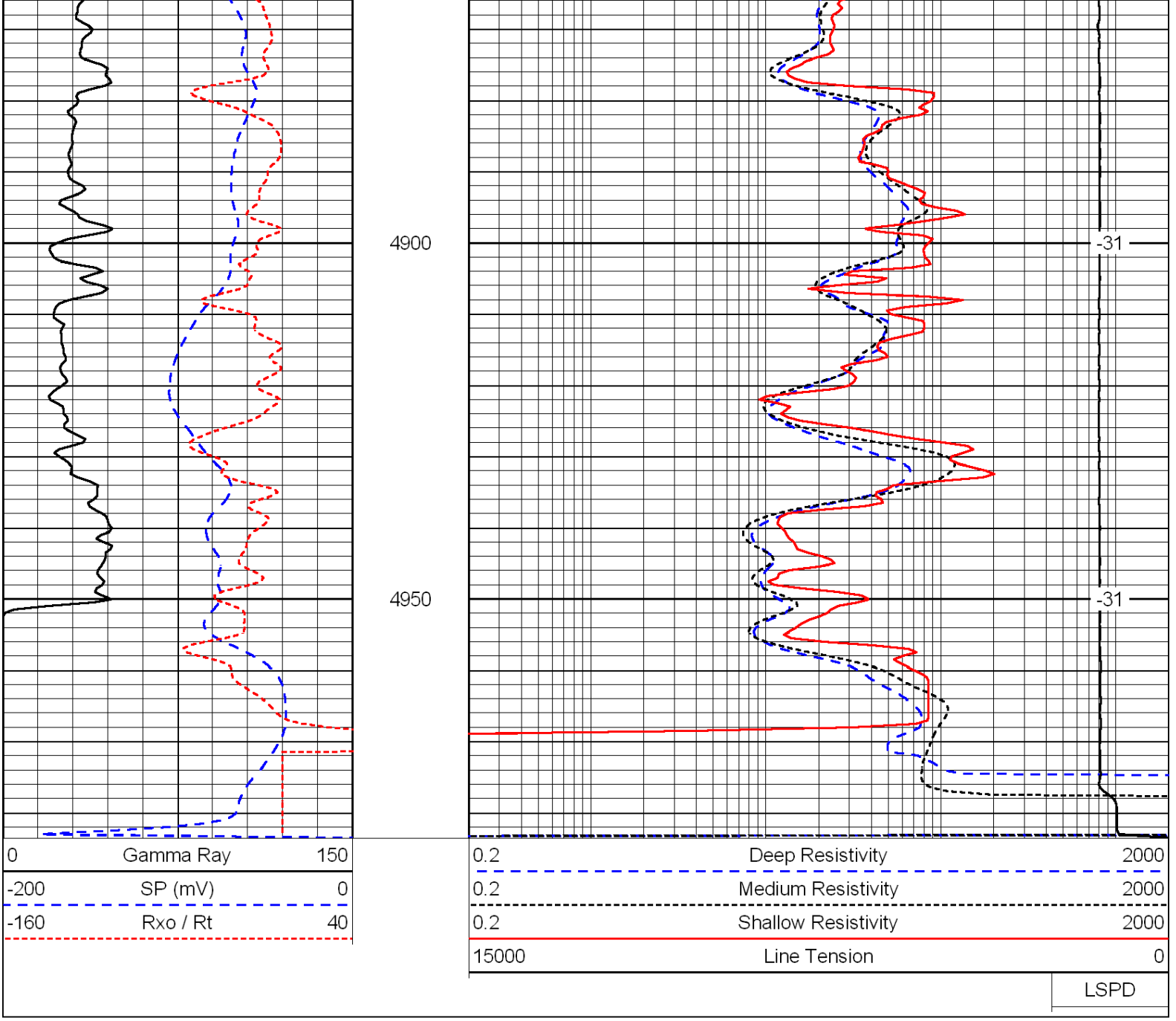
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4950
-31
-31
0
Gamma Ray
150
-200
SP (mV)
0
-160
Rxo / Rt
40
0.2
Deep Resistivity
2000
0.2
Medium Resistivity
2000
0.2
Shallow Resistivity
2000
15000
Line Tension
0
LSPD