



Pioneer Energy Services

Dual Induction Log

API No.	15-065-23,866-00-00		
Company	H&C Oil Operating, Inc.		
Well	Workman Trust No. 13-1		
Field	Wildcat		
County	Graham	State	Kansas
Location	990' FNL & 2,310' FEL		
Sec:	13	Twp:	6S Rge: 24W
Permanent Datum	Ground Level	Elevation	2459
Log Measured From	Kelly Bushing	5 Ft. Above Perm. Datum	
Drilling Measured From	Kelly Bushing		
		Other Services	CNL/CDL MEL
		Elevation	K.B. 2464 D.F. 2459 G.L. 2459

Date	10/28/2012
Run Number	One
Depth Driller	3950
Depth Logger	3949
Bottom Logged Interval	3948
Top Log Interval	250
Casing Driller	8.625 @ 280
Casing Logger	277
Bit Size	7.875
Type Fluid in Hole	Chemical
Salinity, ppm CL	2000
Density / Viscosity	9.2 71
pH / Fluid Loss	10.0 7.6
Source of Sample	Flowline
Rm @ Meas. Temp	.88 @ 62
Rmf @ Meas. Temp	.66 @ 62
Rmc @ Meas. Temp	1.19 @ 62
Source of Rmf / Rmc	Charts
Rm @ BHT	.47 @ 116
Operating Rig Time	4 Hours
Max Rec. Temp. F	116
Equipment Number	108
Location	Hays
Recorded By	J. Long
Witnessed By	Marc Downing

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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, 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. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

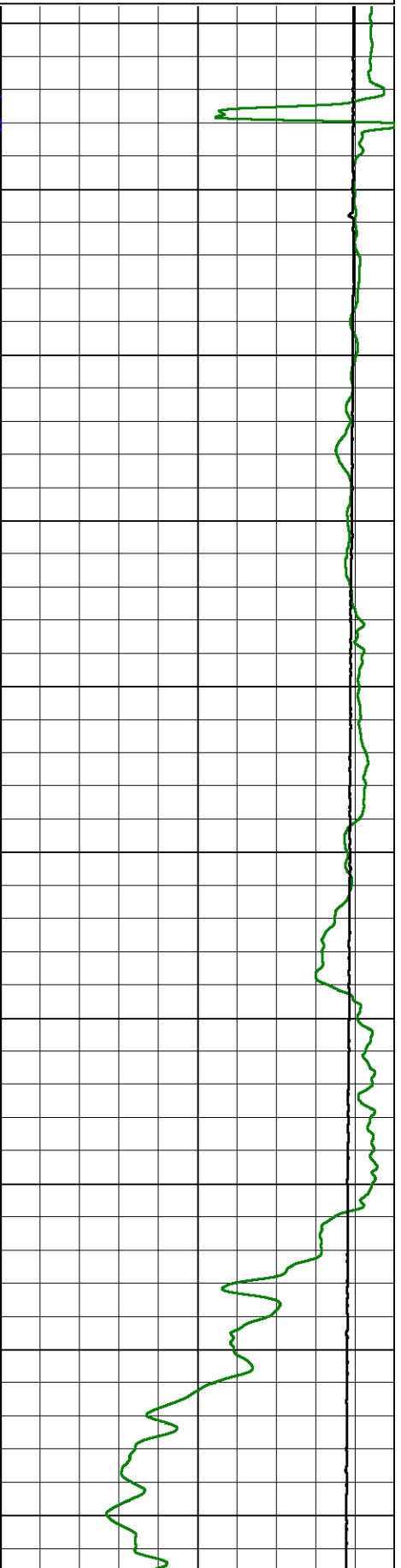
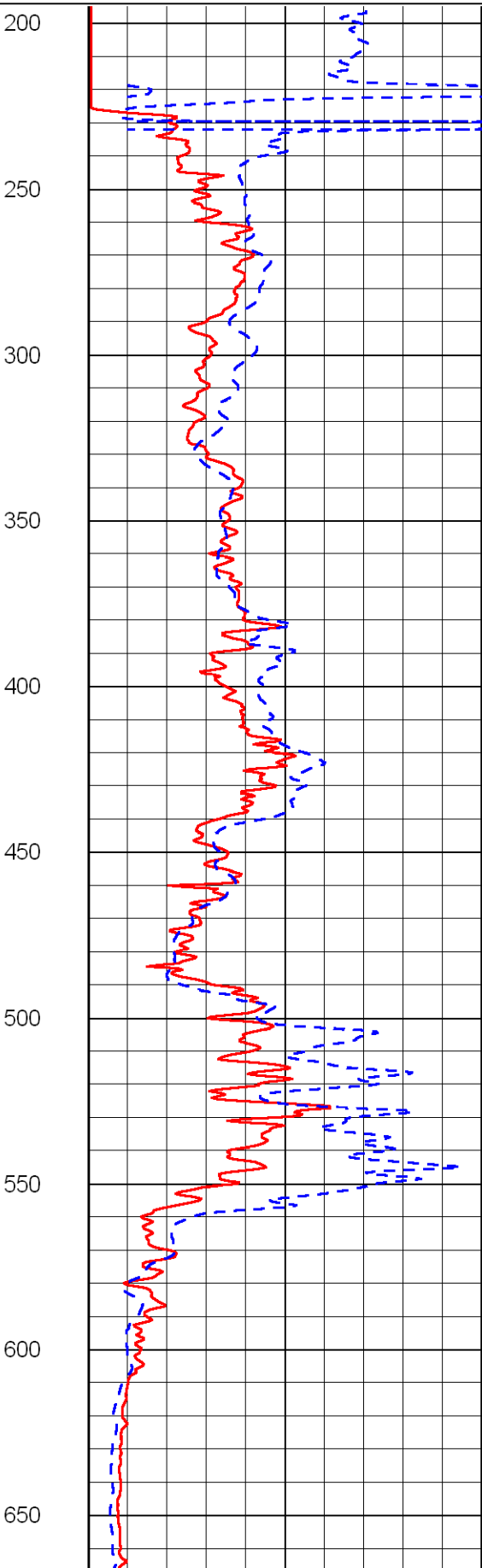
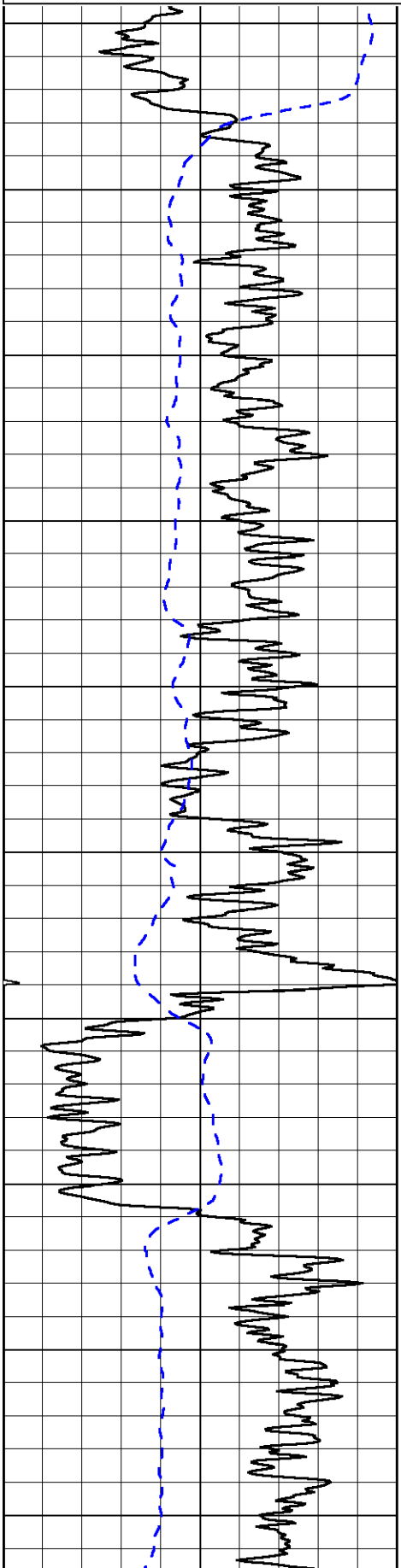
Thank you for using Log-Tech, Inc.
(785) 625-3858

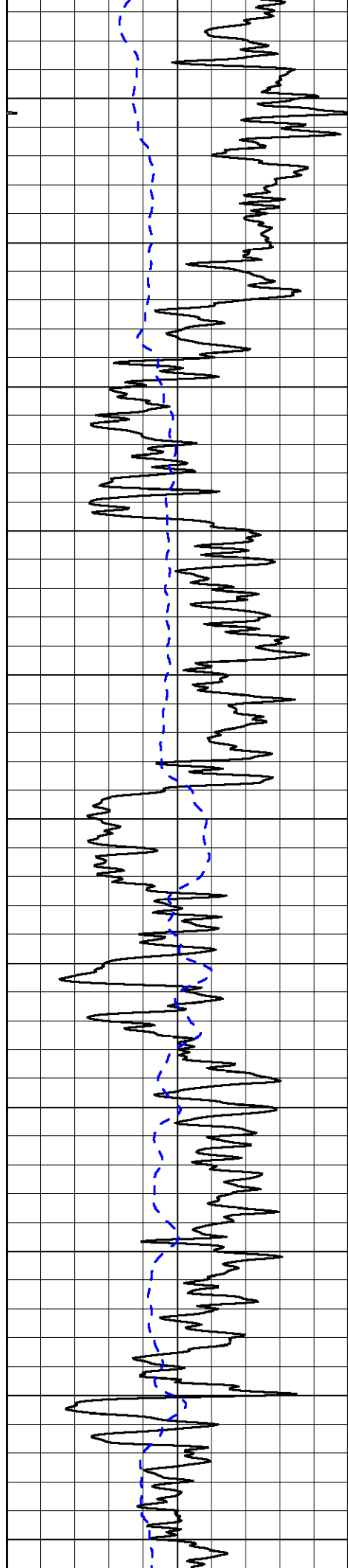
Hill City, 12 North to CC Road, 5 1/2 West, South Into

Database File: landmarkhd.db
 Dataset Pathname: dil/lndmain
 Presentation Format: dil2in
 Dataset Creation: Sun Oct 28 04:14:32 2012
 Charted by: Depth in Feet scaled 1:600

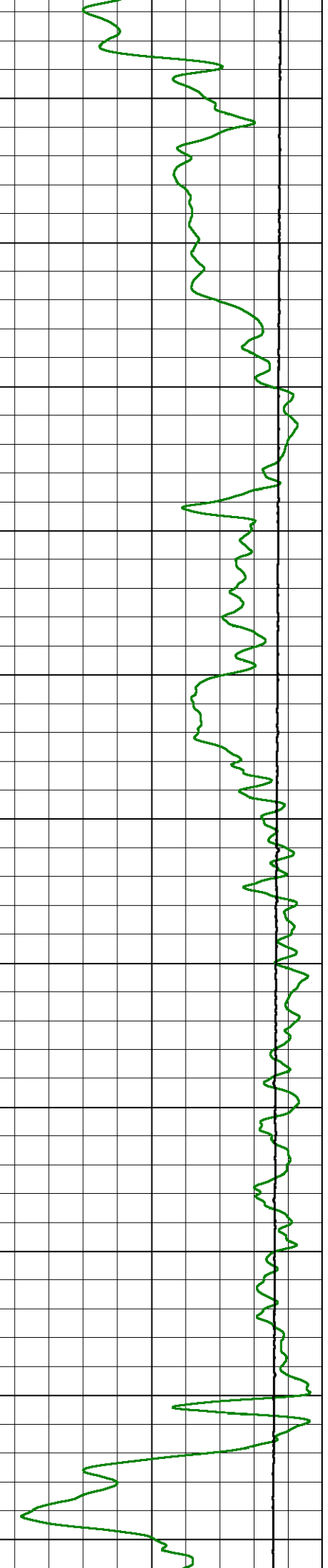
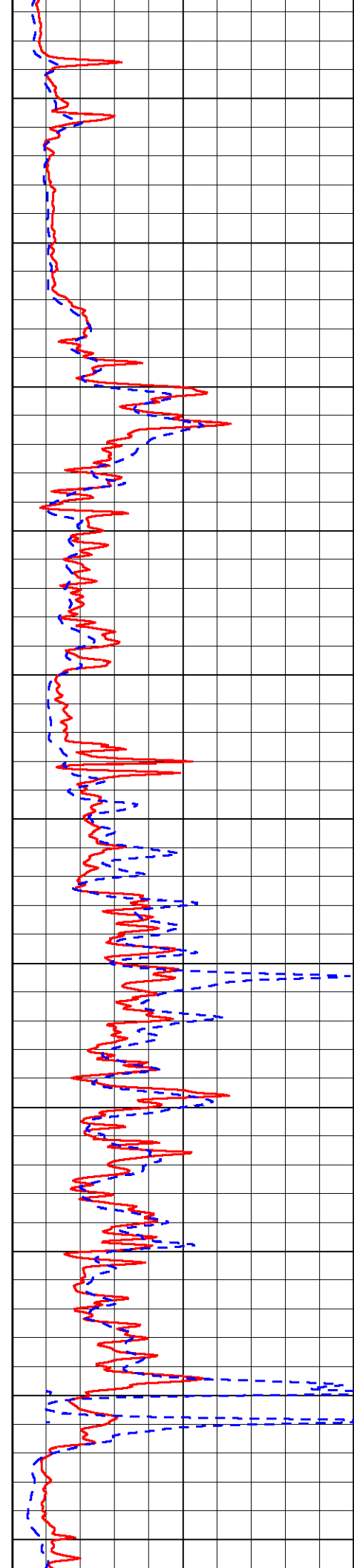
0 Gamma Ray 150
-200 SP 0

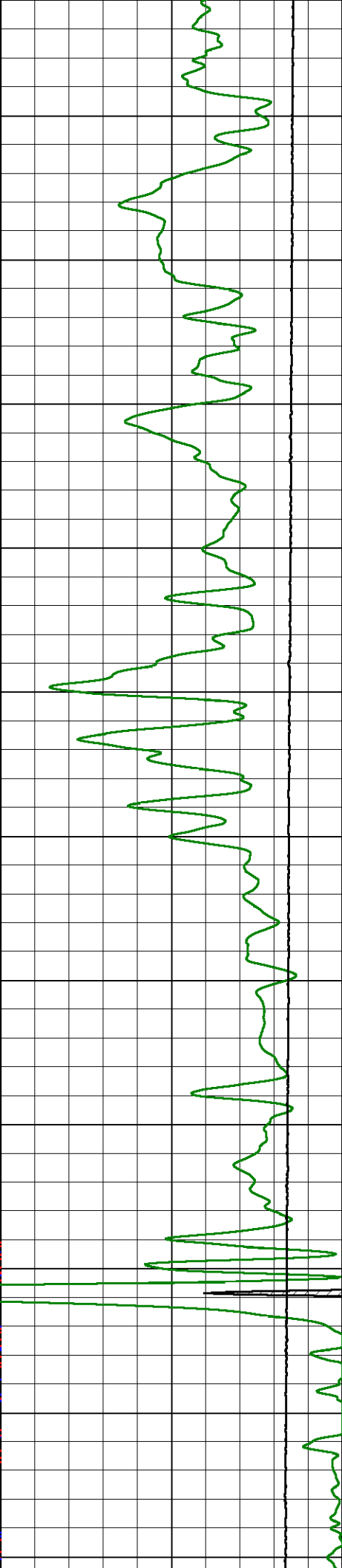
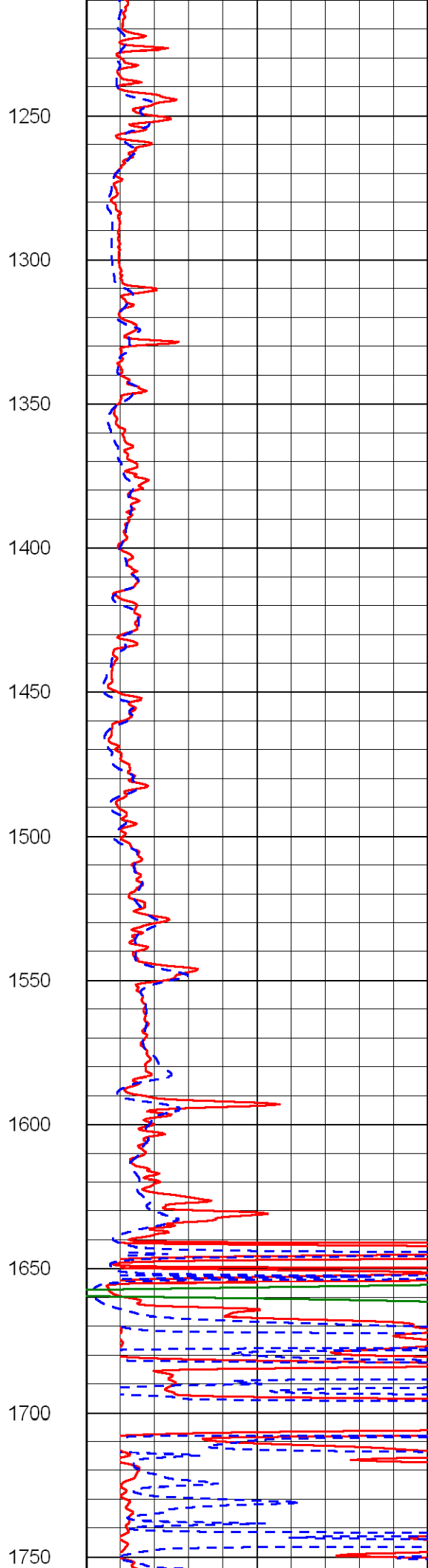
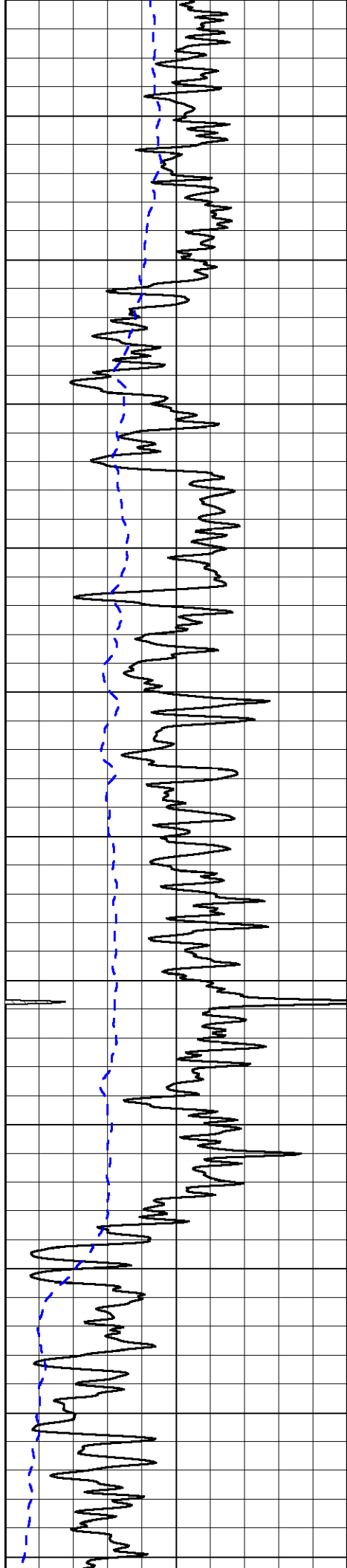
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0 Deep Resistivity 50
1000 Conductivity 0
15000 Line Tension 0
50 Shallow Resistivity 50
50 Deep Resistivity 50

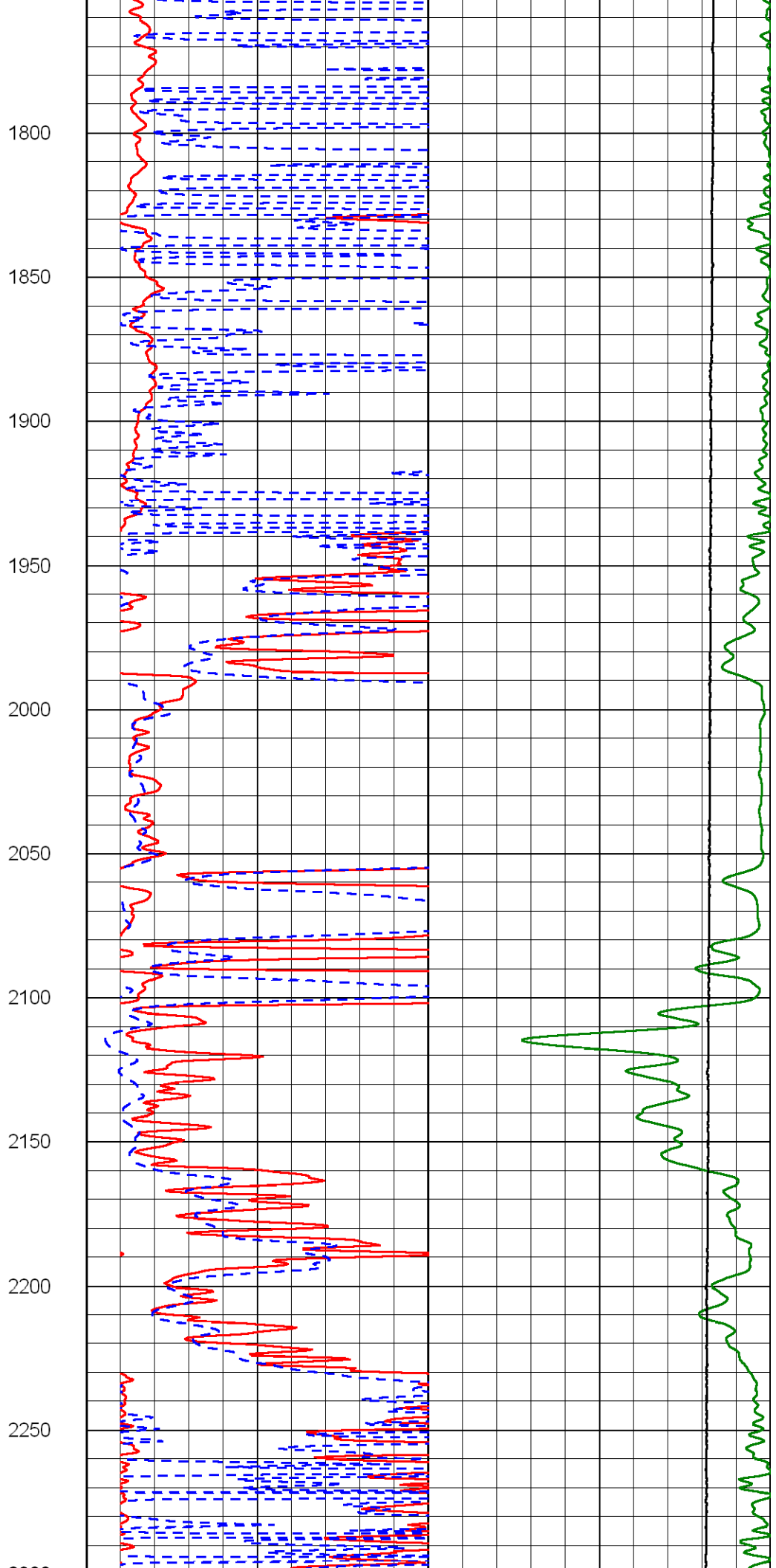
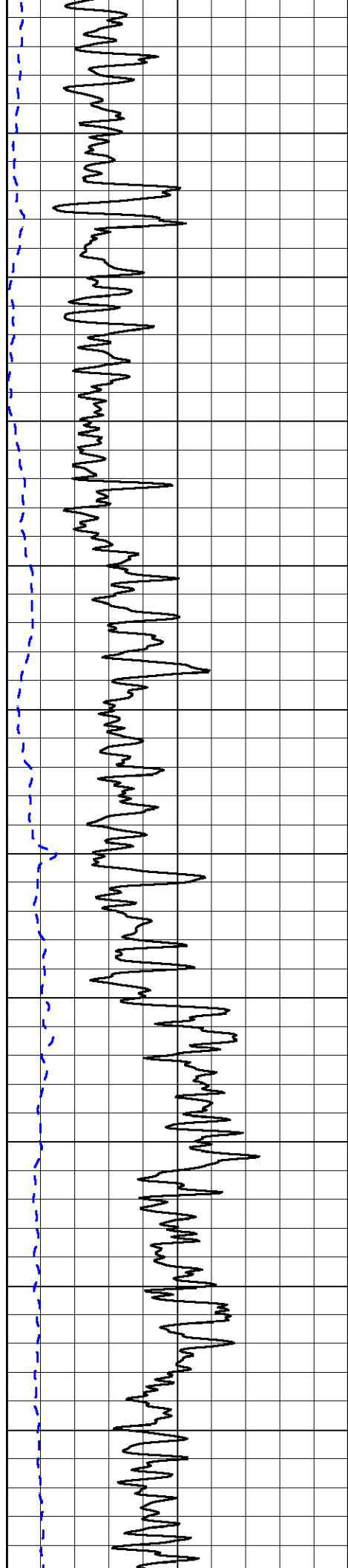


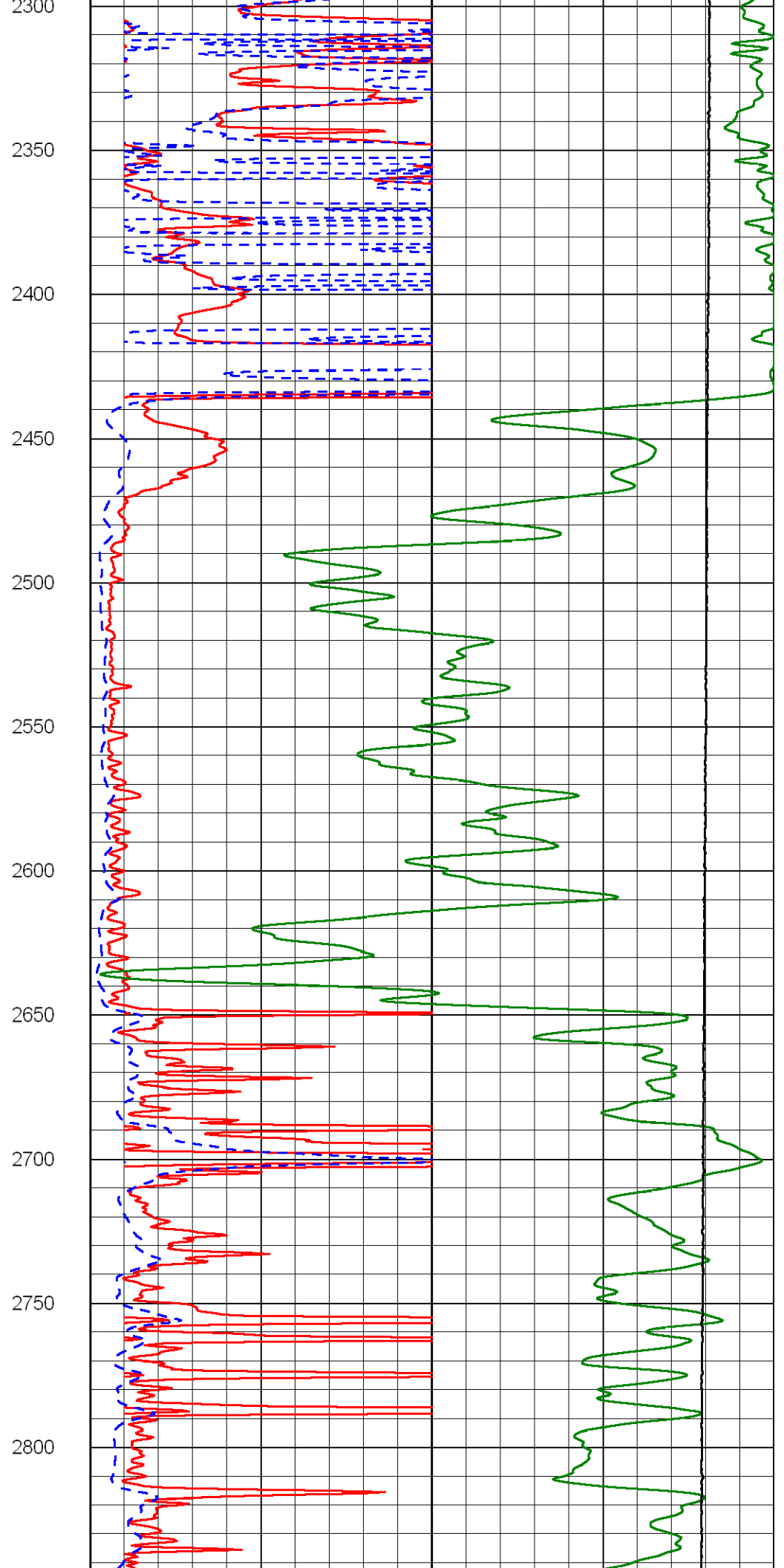
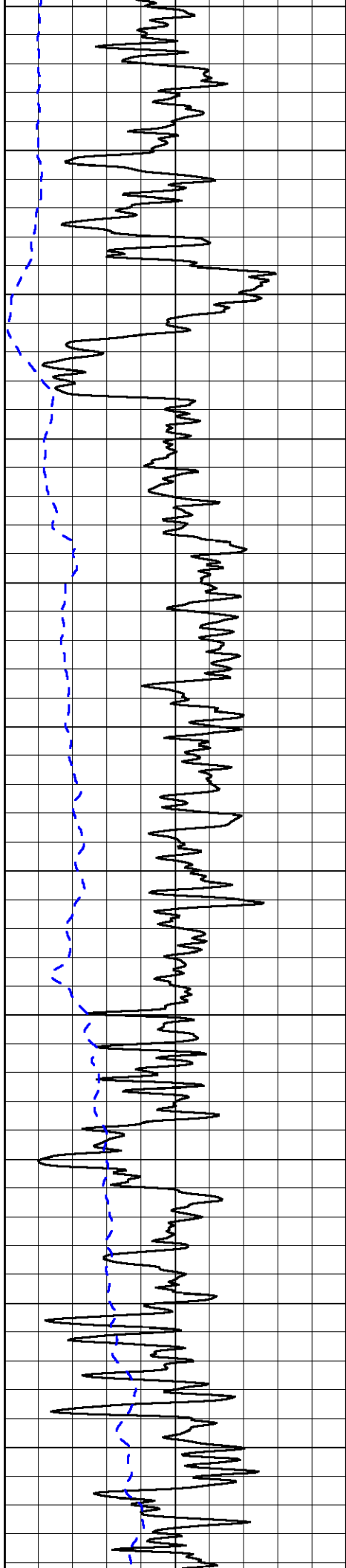


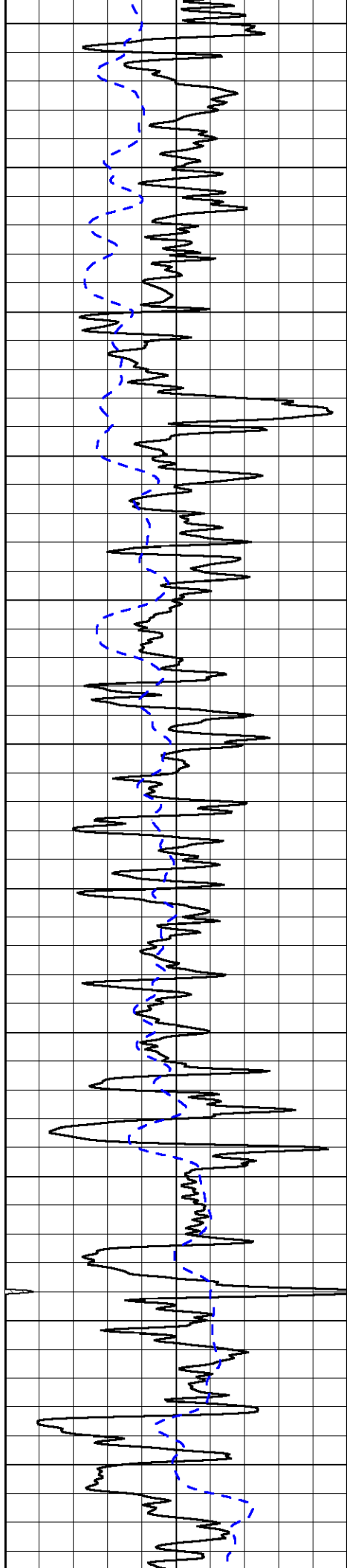
700
750
800
850
900
950
1000
1050
1100
1150
1200



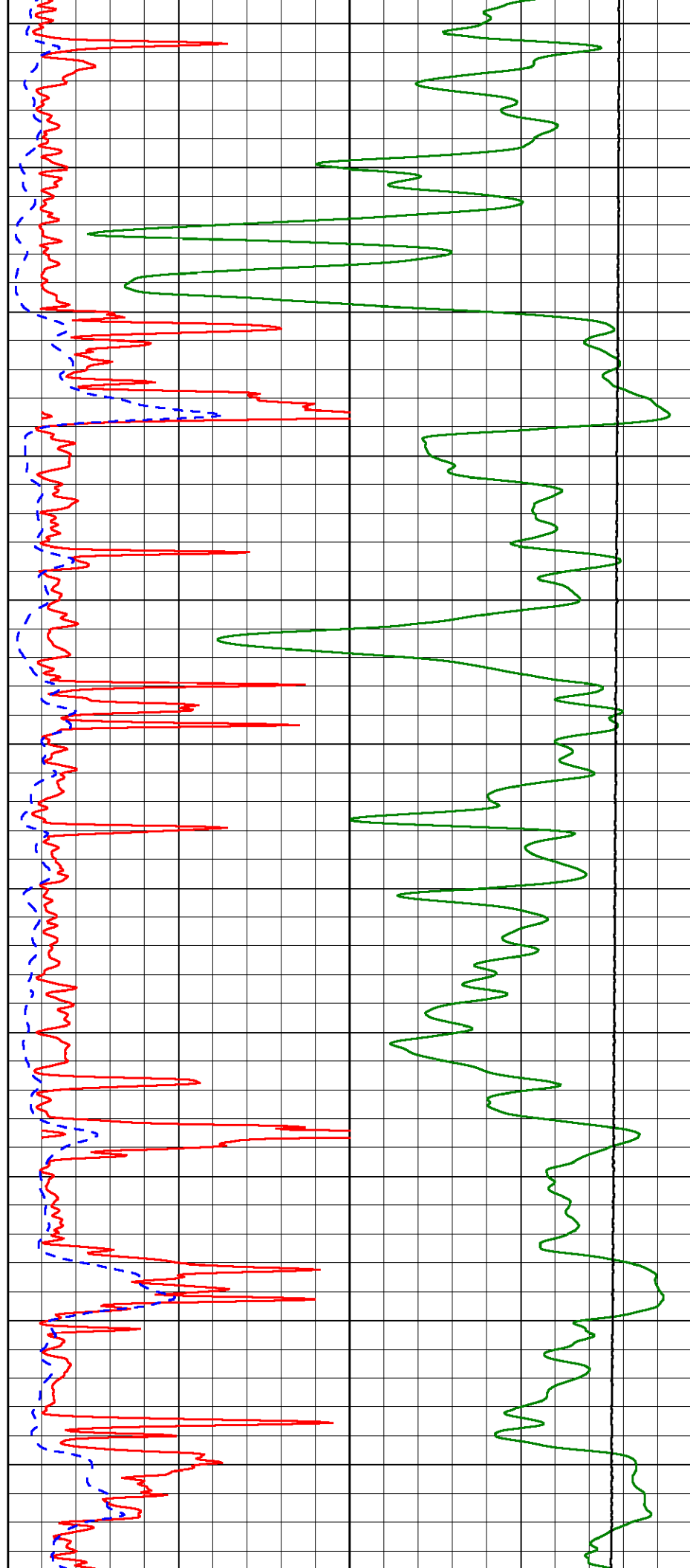


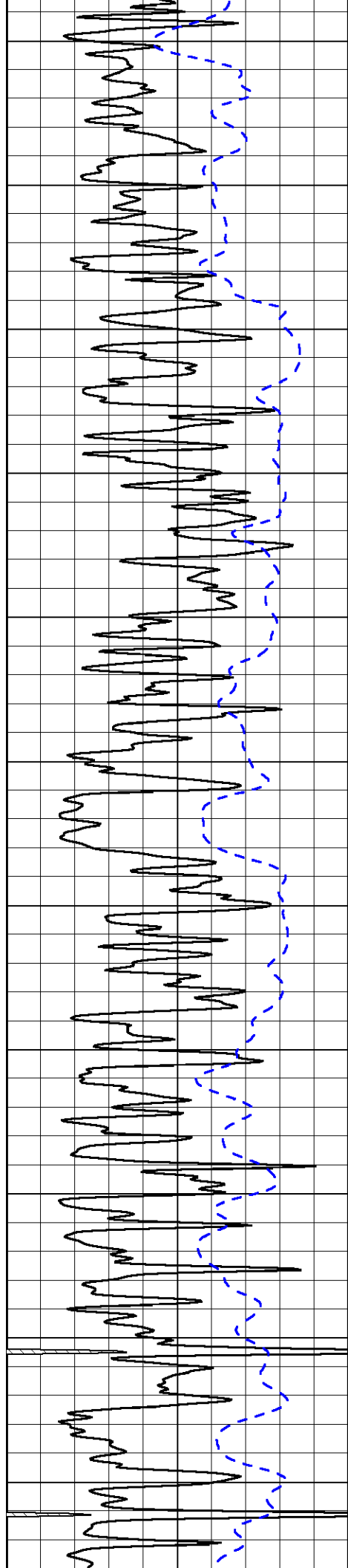






2850
2900
2950
3000
3050
3100
3150
3200
3250
3300
3350





3400

3450

3500

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3650

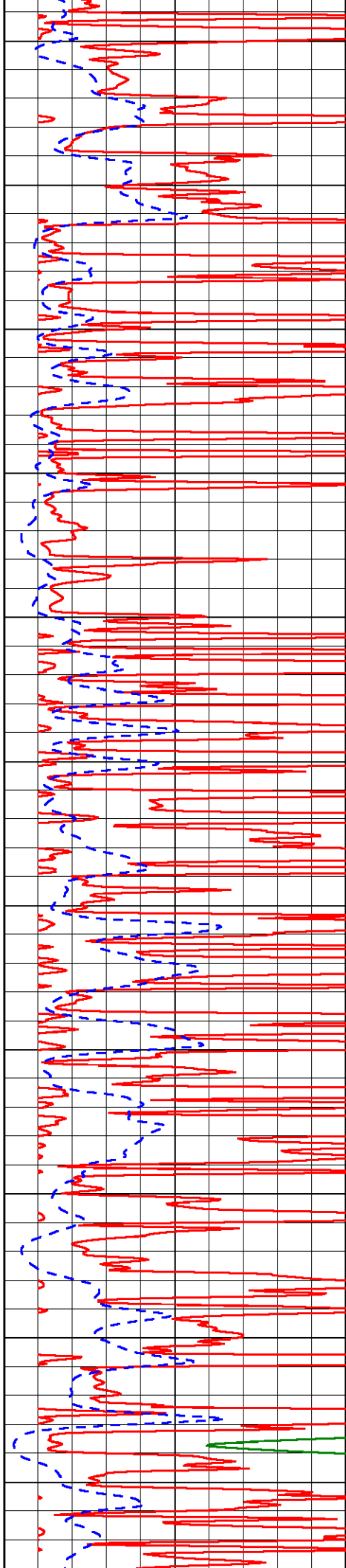
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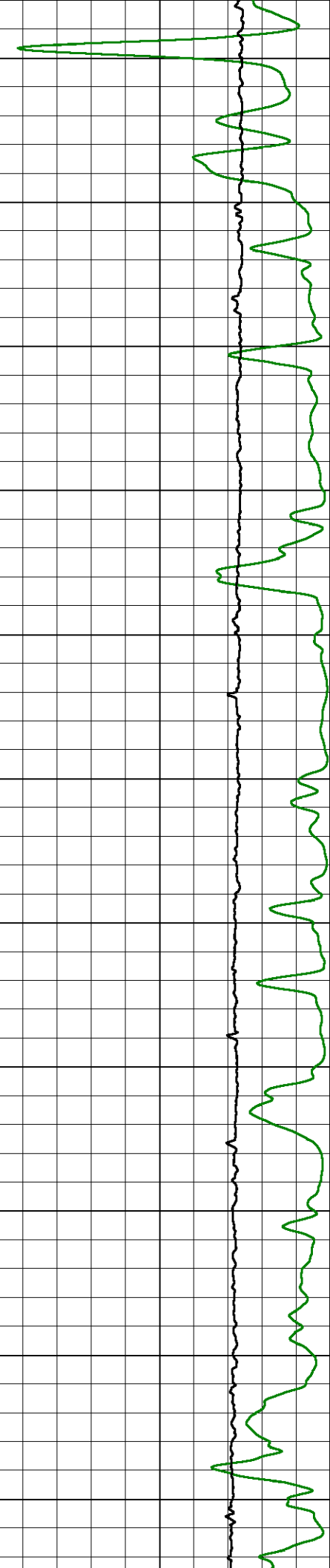
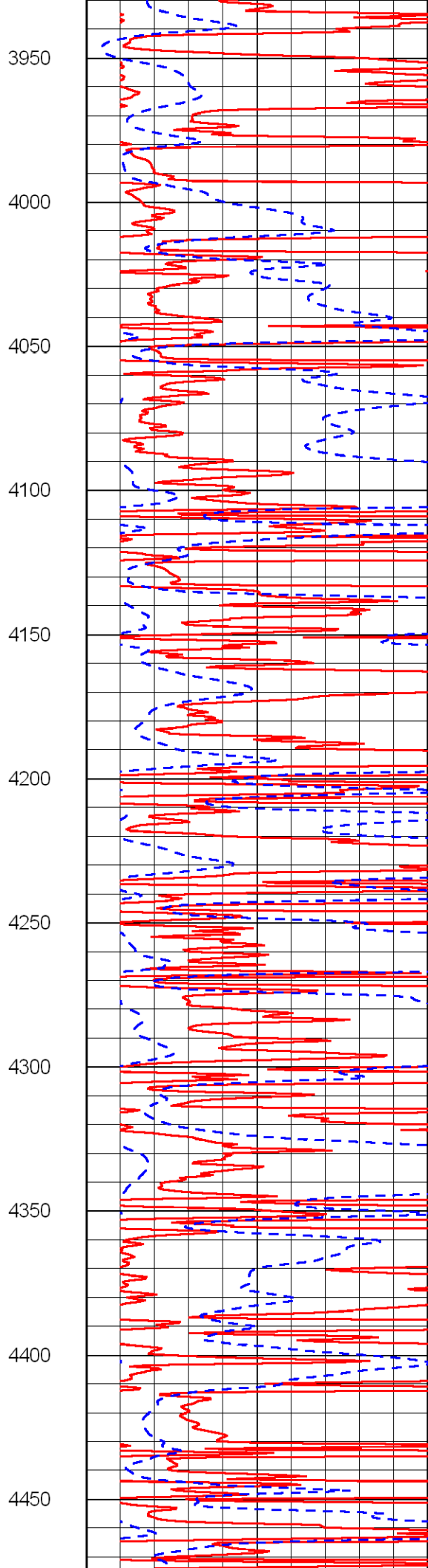
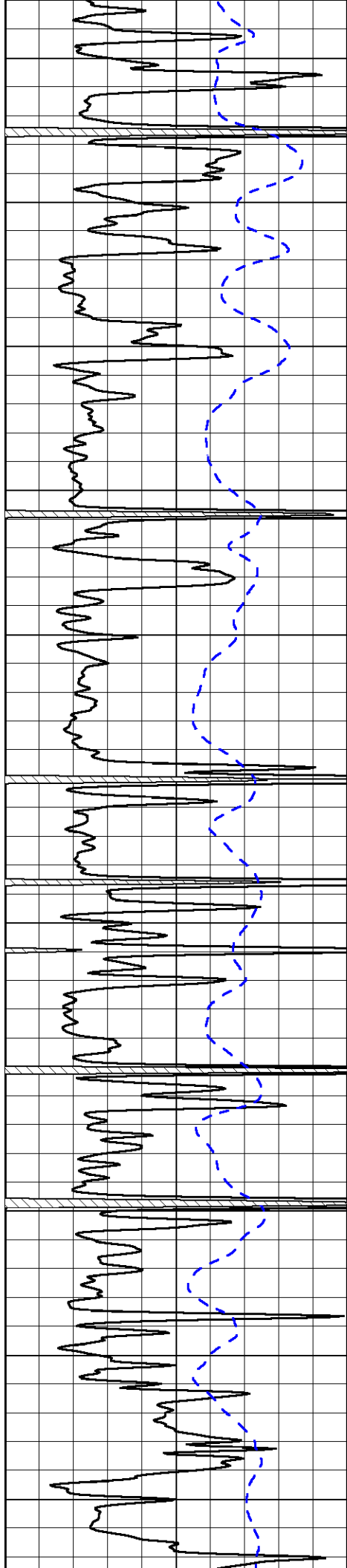
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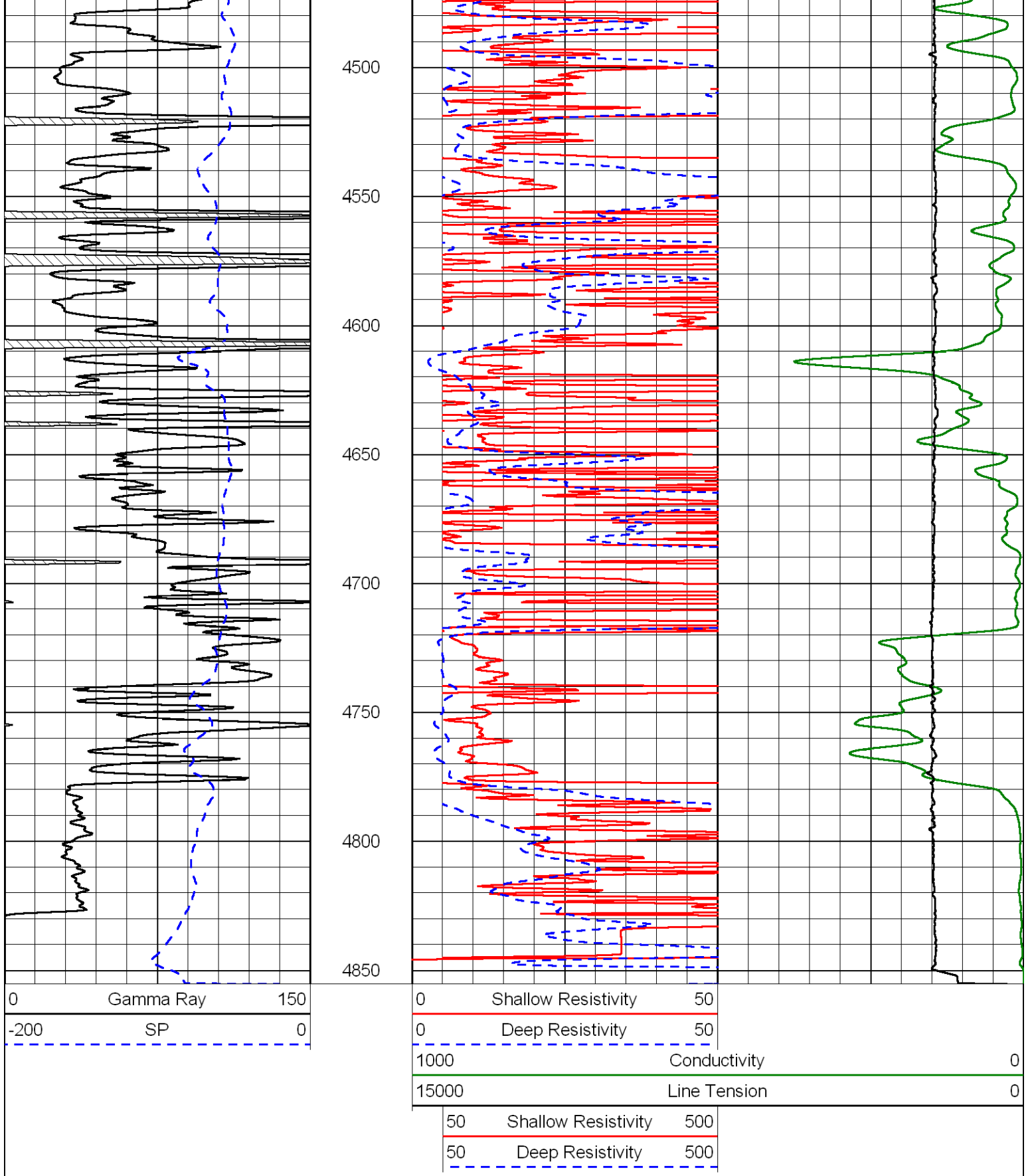
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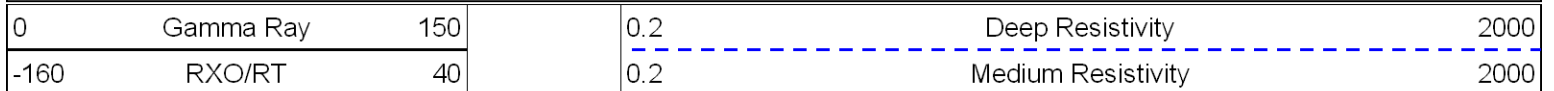
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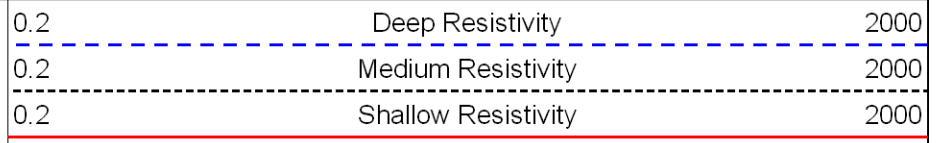
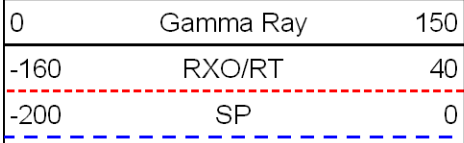
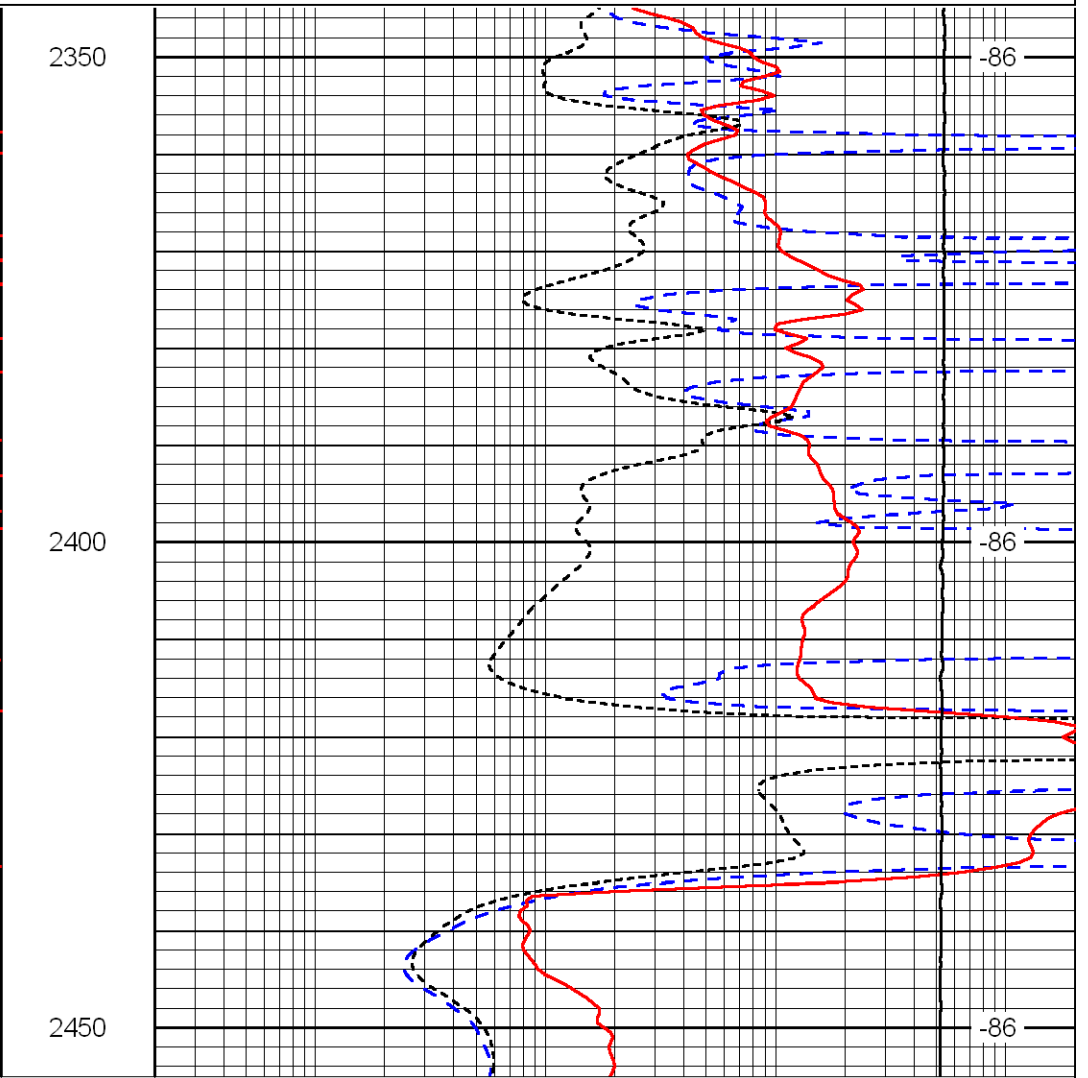
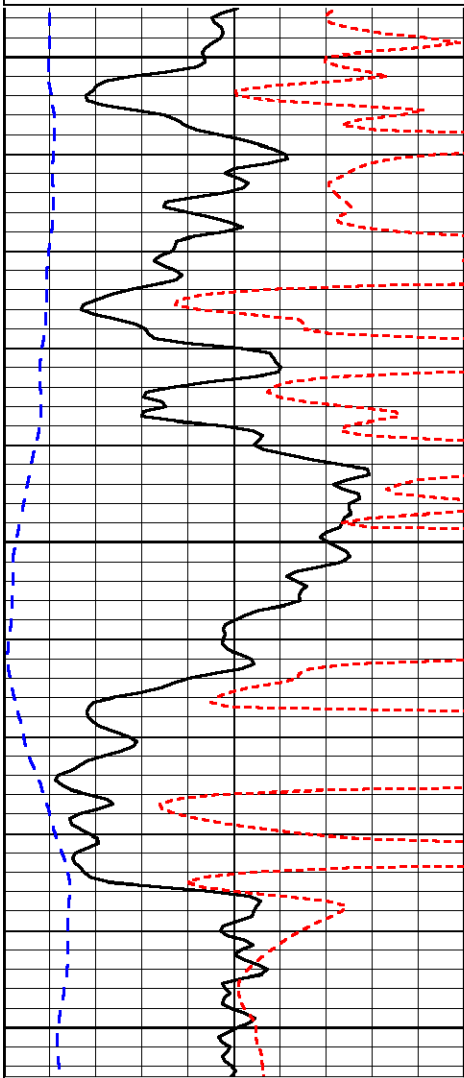
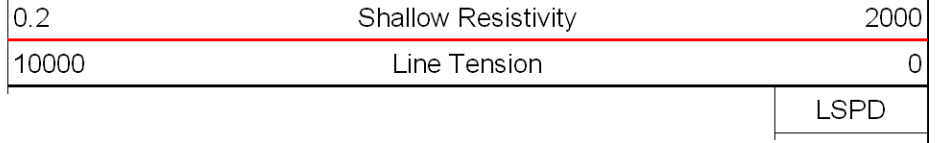
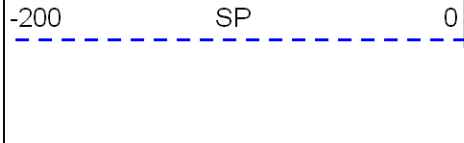




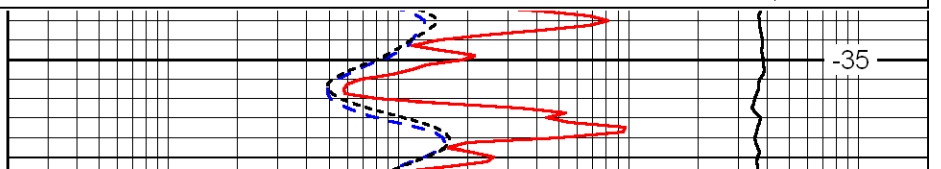
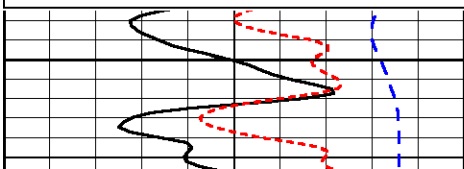
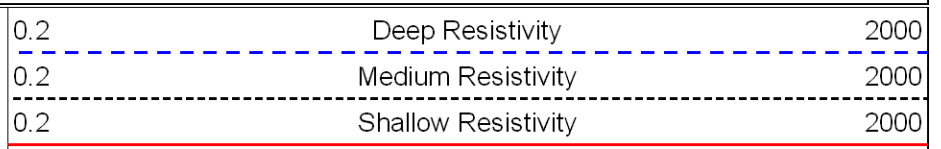
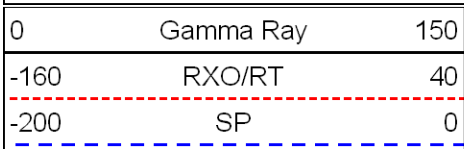


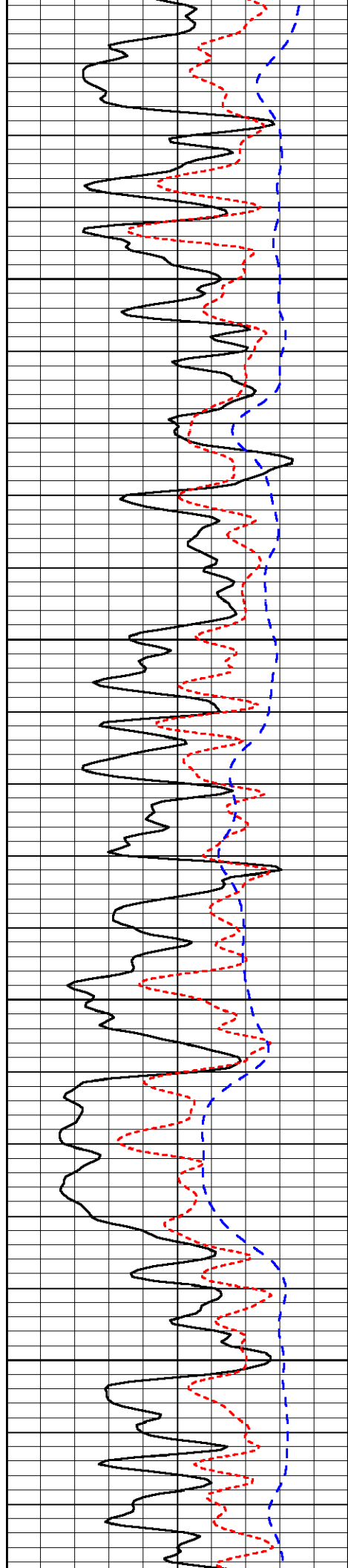
Database File: landmarkhd.db
 Dataset Pathname: dil/Indmain
 Presentation Format: dil
 Dataset Creation: Sun Oct 28 04:14:32 2012
 Charted by: Depth in Feet scaled 1:240





Database File: landmarkhd.db
 Dataset Pathname: dil/Indmain
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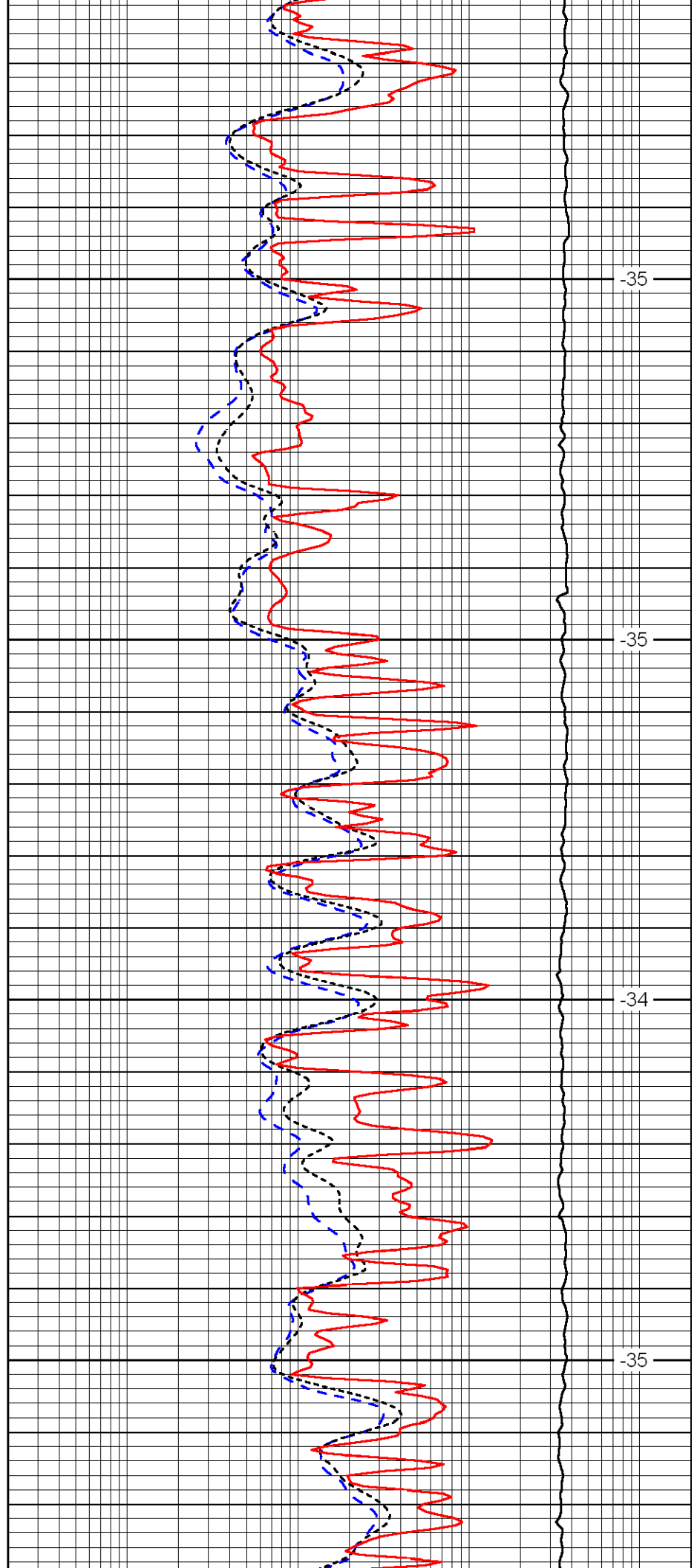


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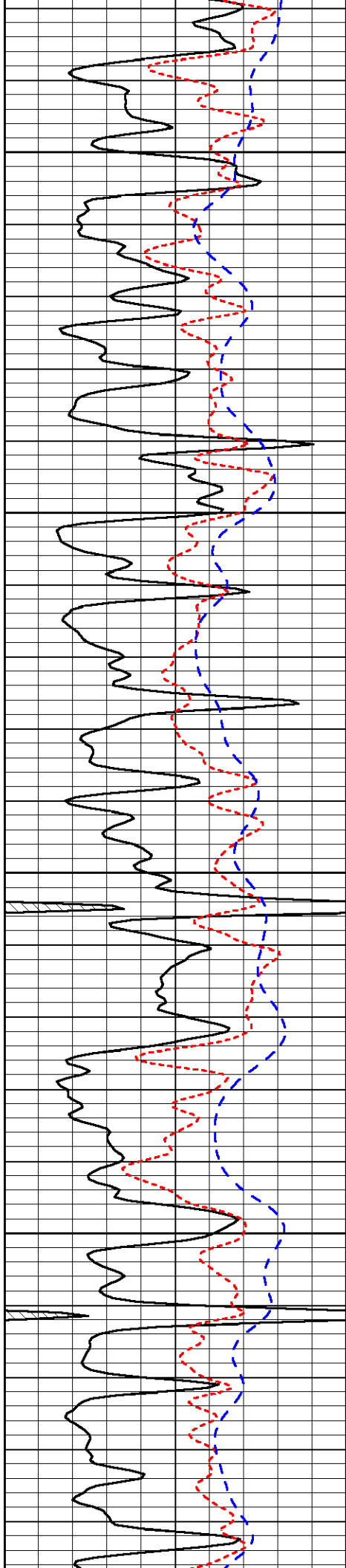


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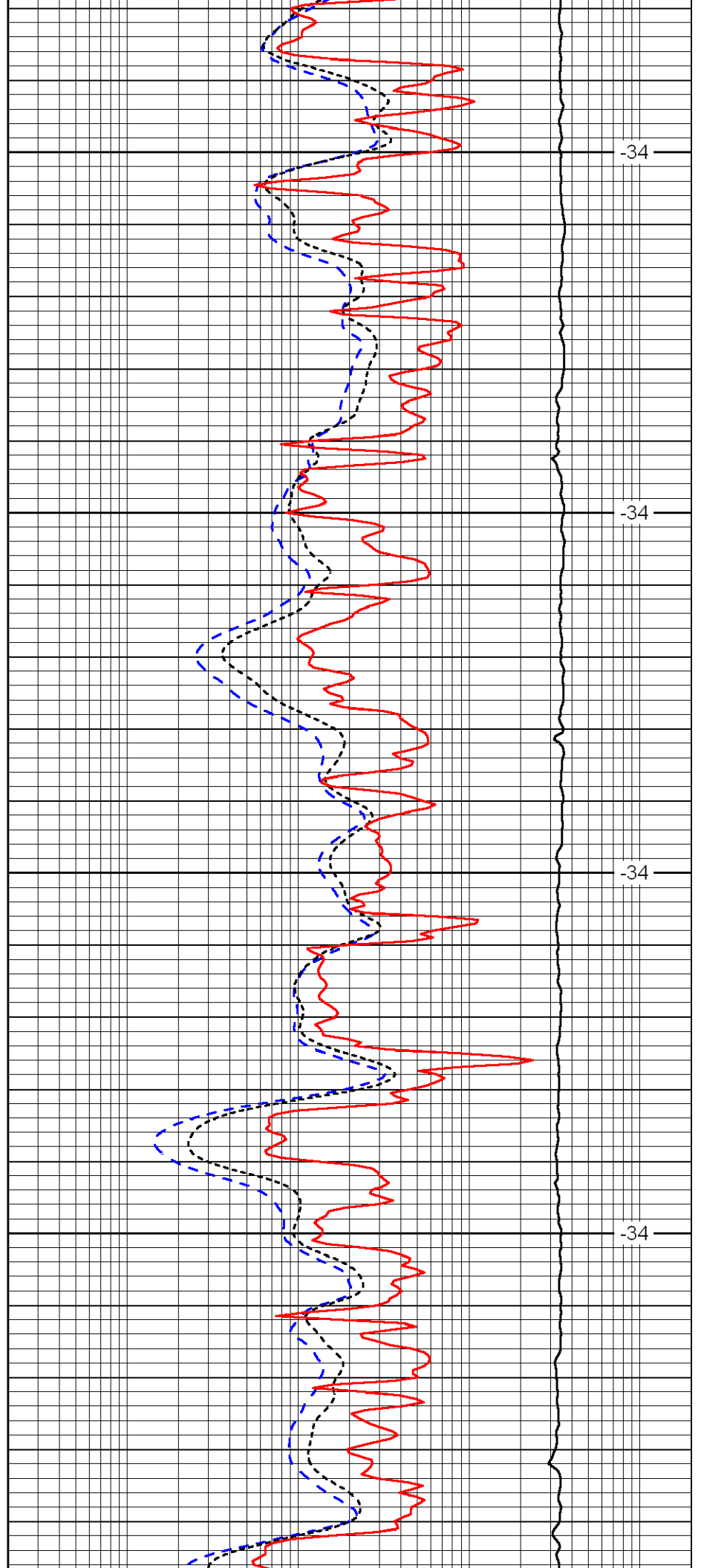


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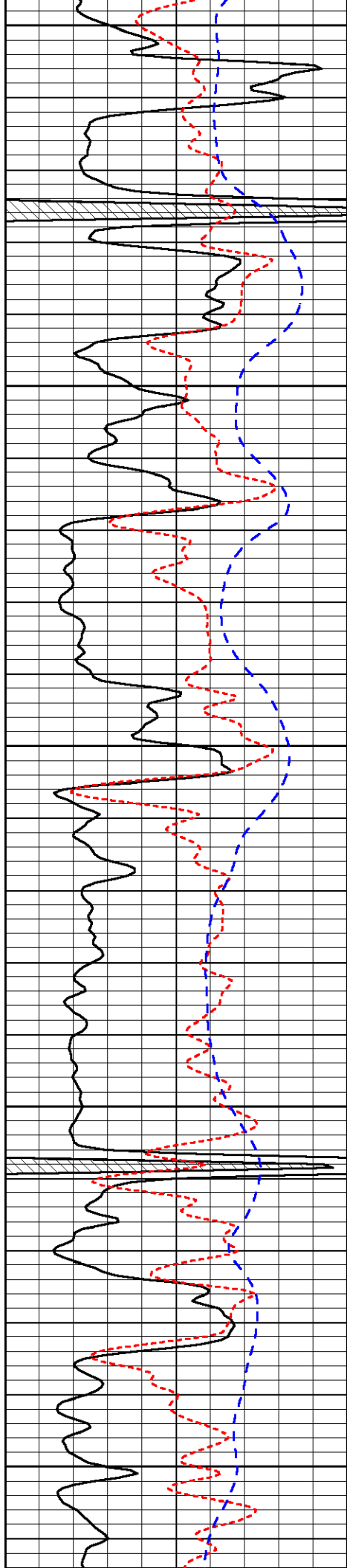


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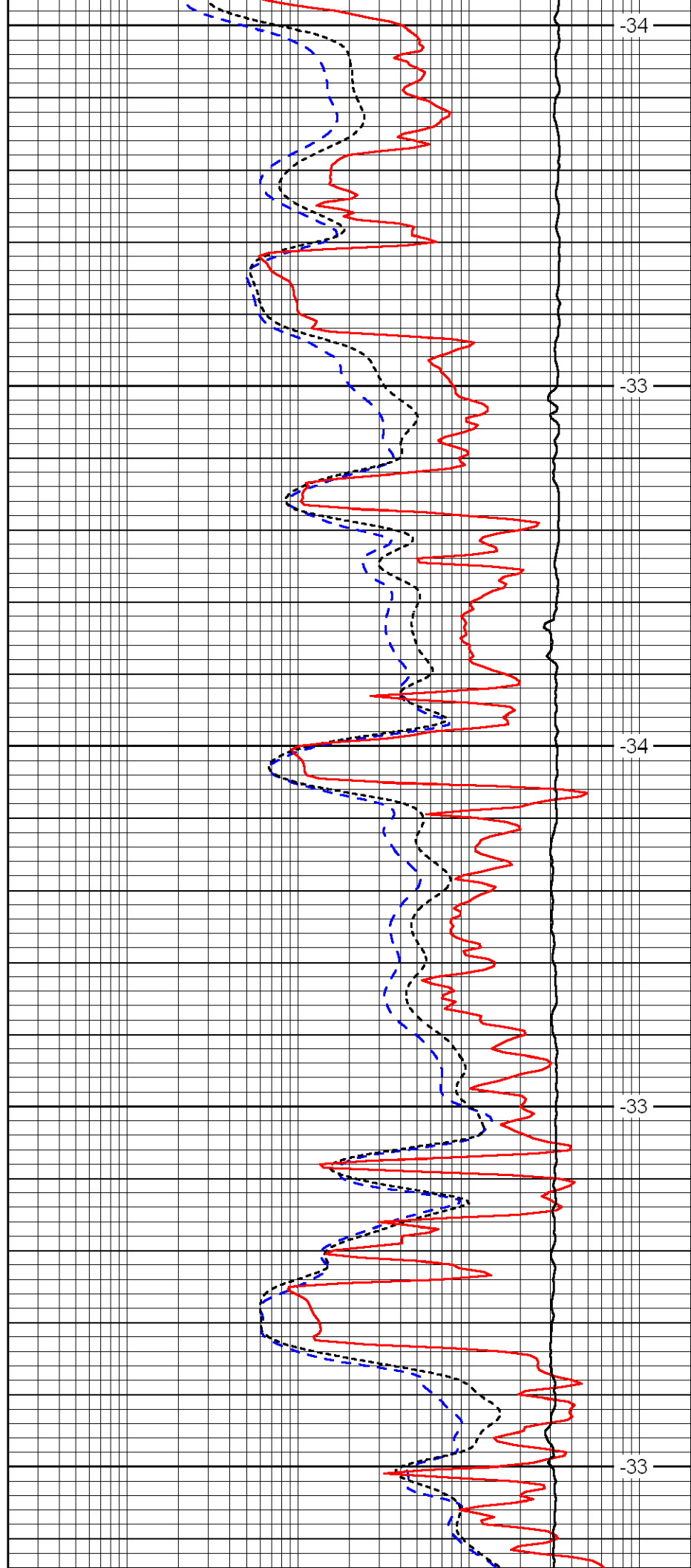
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4100

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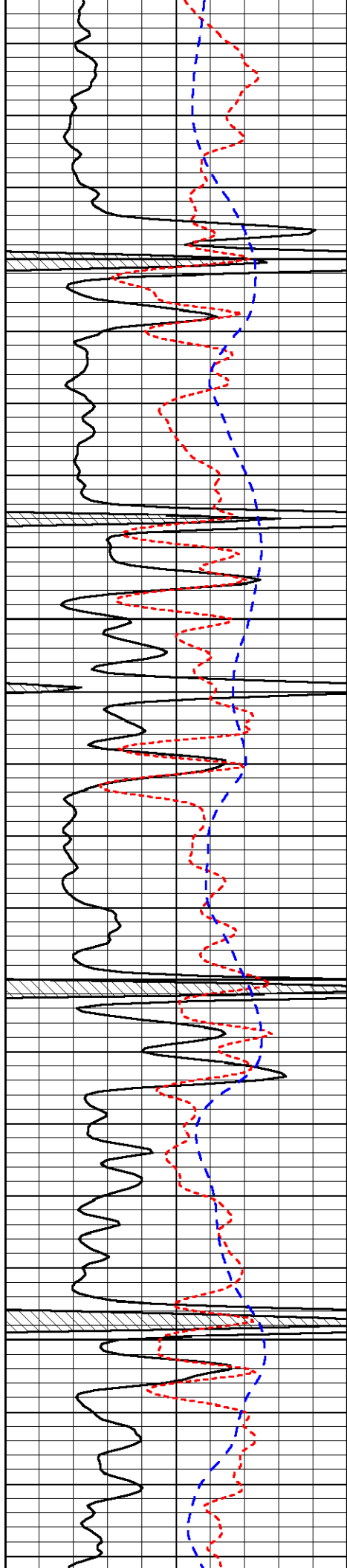
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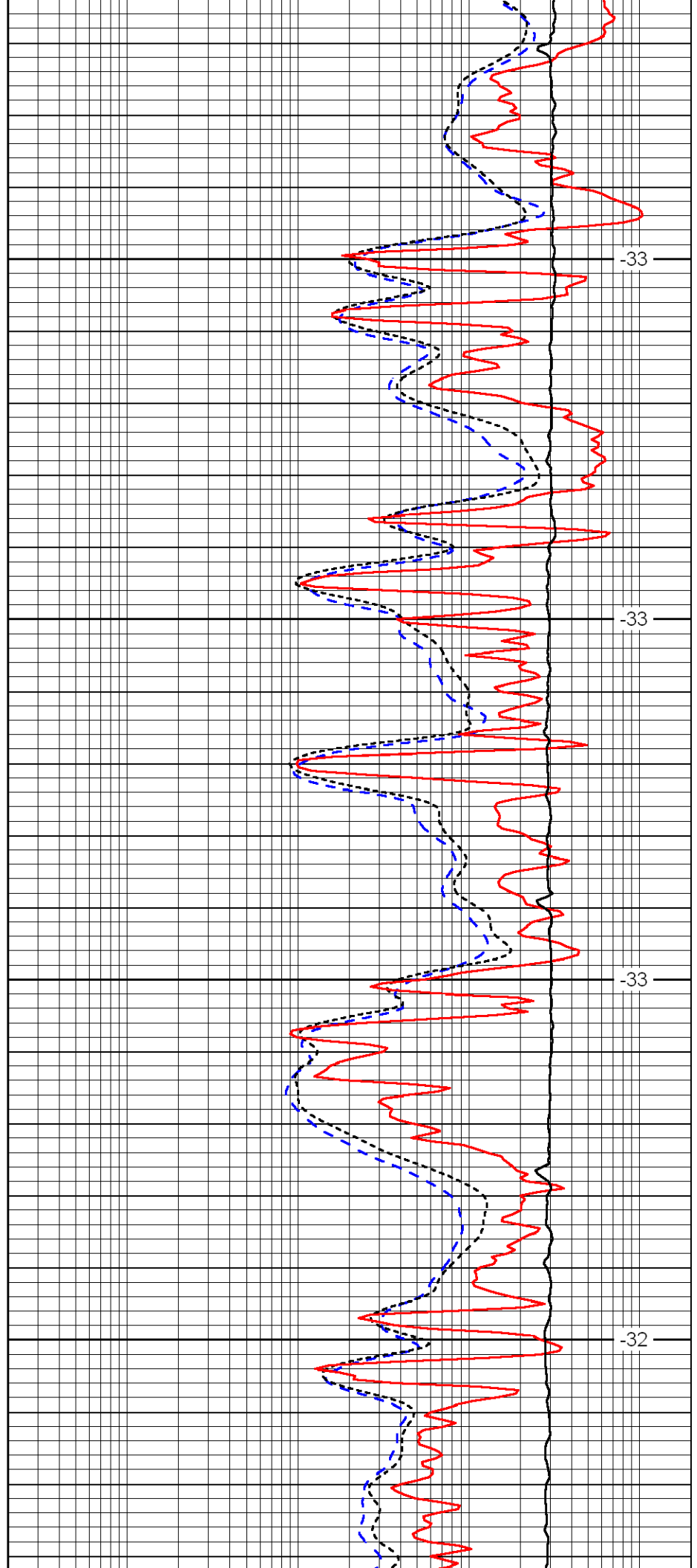


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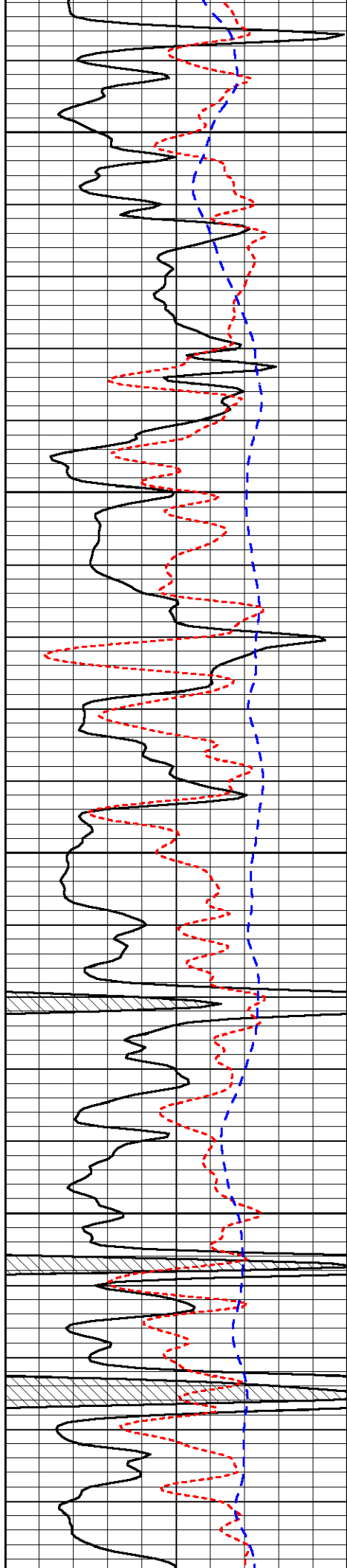


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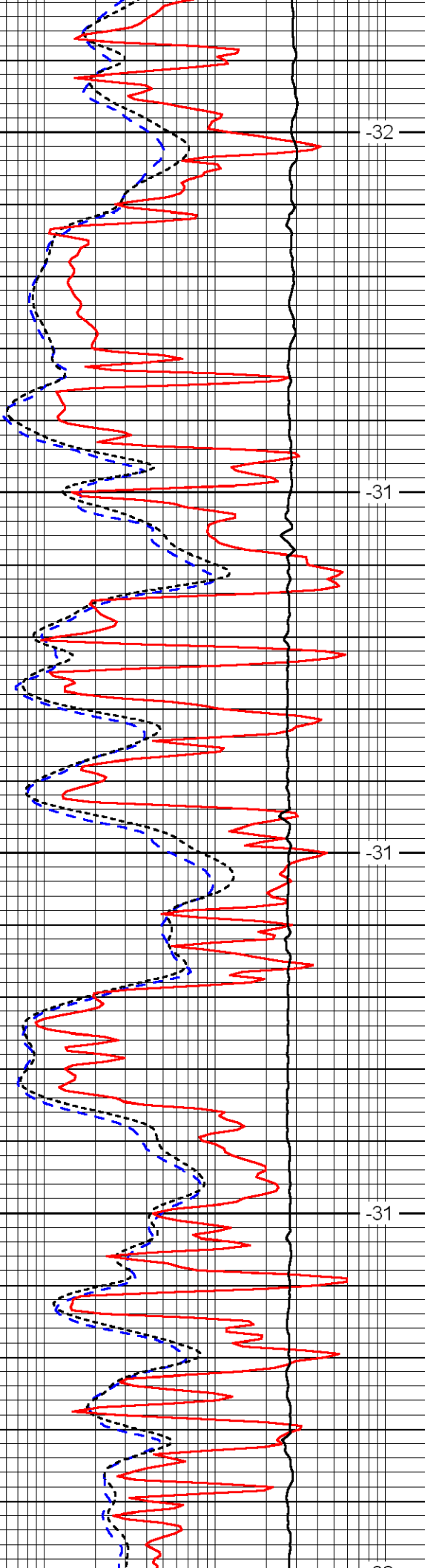
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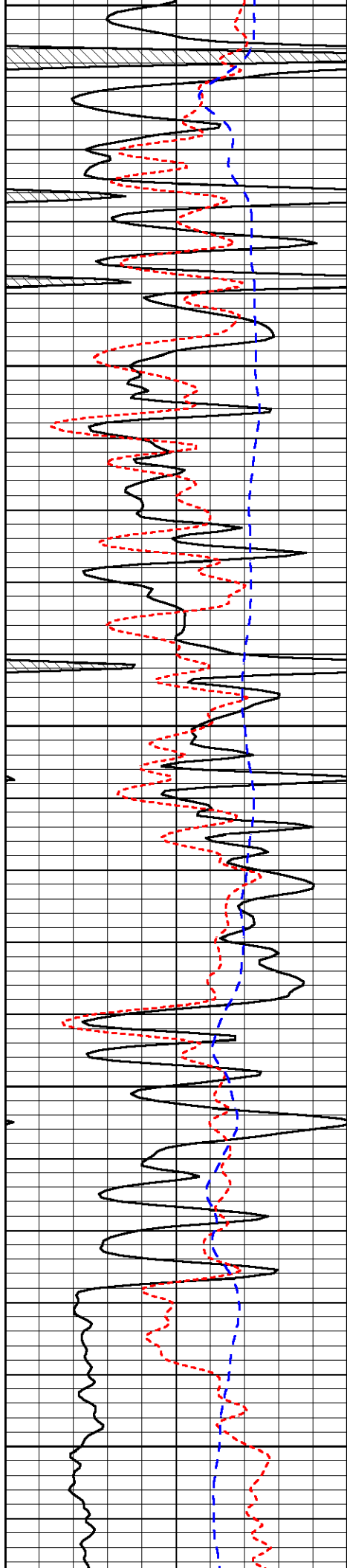
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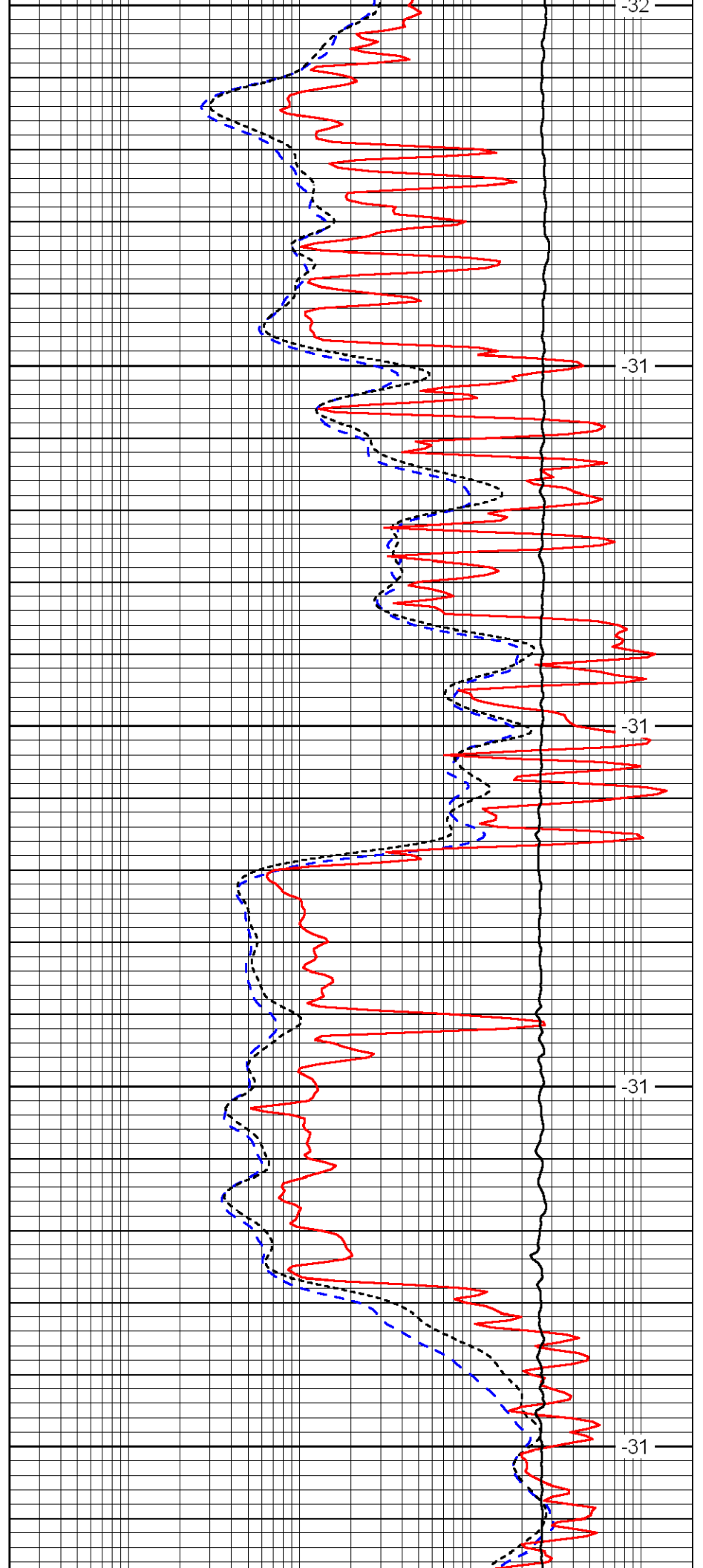
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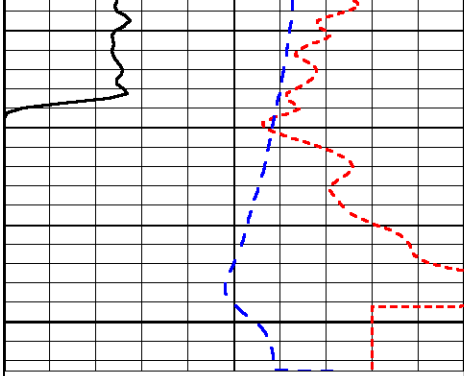
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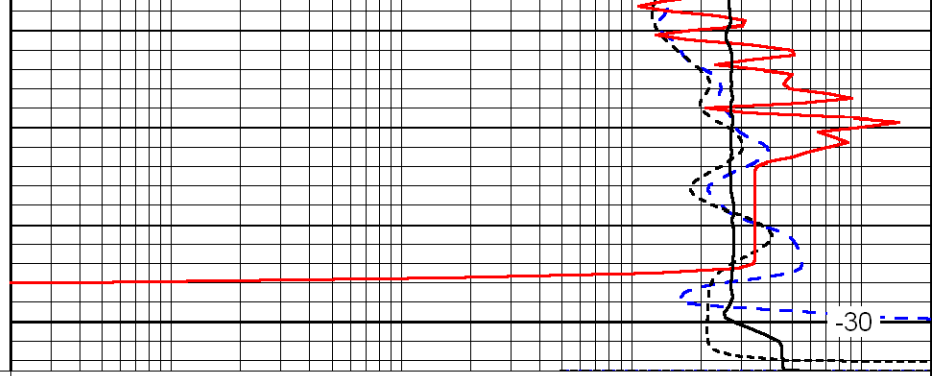
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-31



4850

0	Gamma Ray	150
-160	RXO/RT	40
-200	SP	0



-30

0.2	Deep Resistivity	2000
0.2	Medium Resistivity	2000
0.2	Shallow Resistivity	2000
10000	Line Tension	0

LSPD