



Pioneer Energy Services

Microresistivity Log

API No. 15-047-21,629-00-00

Company **Toto Energy, LLC**
 Well **Norwegian Wood No.1**
 Field **Wil**
 County **Edwards** State **Kansas**

Location **660' FSL & 660' FWL**

Sec: 15 Twp: 26S Rge: 16W

Other Services
 CNL/CDL
 DIL

Permanent Datum	Ground Level	Elevation 2097	K.B. 2107 D.F. 2097 G.L. 2097
Log Measured From	Kelly Bushing	10 Ft. Above Perm. Datum	
Drilling Measured From	Kelly Bushing		
Date	1/13/14		
Run Number	Two		
Depth Driller	4700		
Depth Logger	4698		
Bottom Logged Interval	4697		
Top Log Interval	3600		
Casing Driller	8.625 @ 368		
Casing Logger	366		
Bit Size	7.875		
Type Fluid in Hole	Chemical		
Salinity, ppm CL	5,000		
Density / Viscosity	9.2 43		
pH / Fluid Loss	10.5 9.2		
Source of Sample	Flowline		
Rm @ Meas. Temp	.50 @ 52		
Rmf @ Meas. Temp	.38 @ 52		
Rmc @ Meas. Temp	.58 @ 52		
Source of Rmf / Rmc	Charts		
Rm @ BHT	.21 @ 123		
Operating Rig Time	4 Hours		
Max Rec. Temp. F	123		
Equipment Number	17		
Location	Hays		
Recorded By	J. Henrickson		
Witnessed By	Harley Sayles		

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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

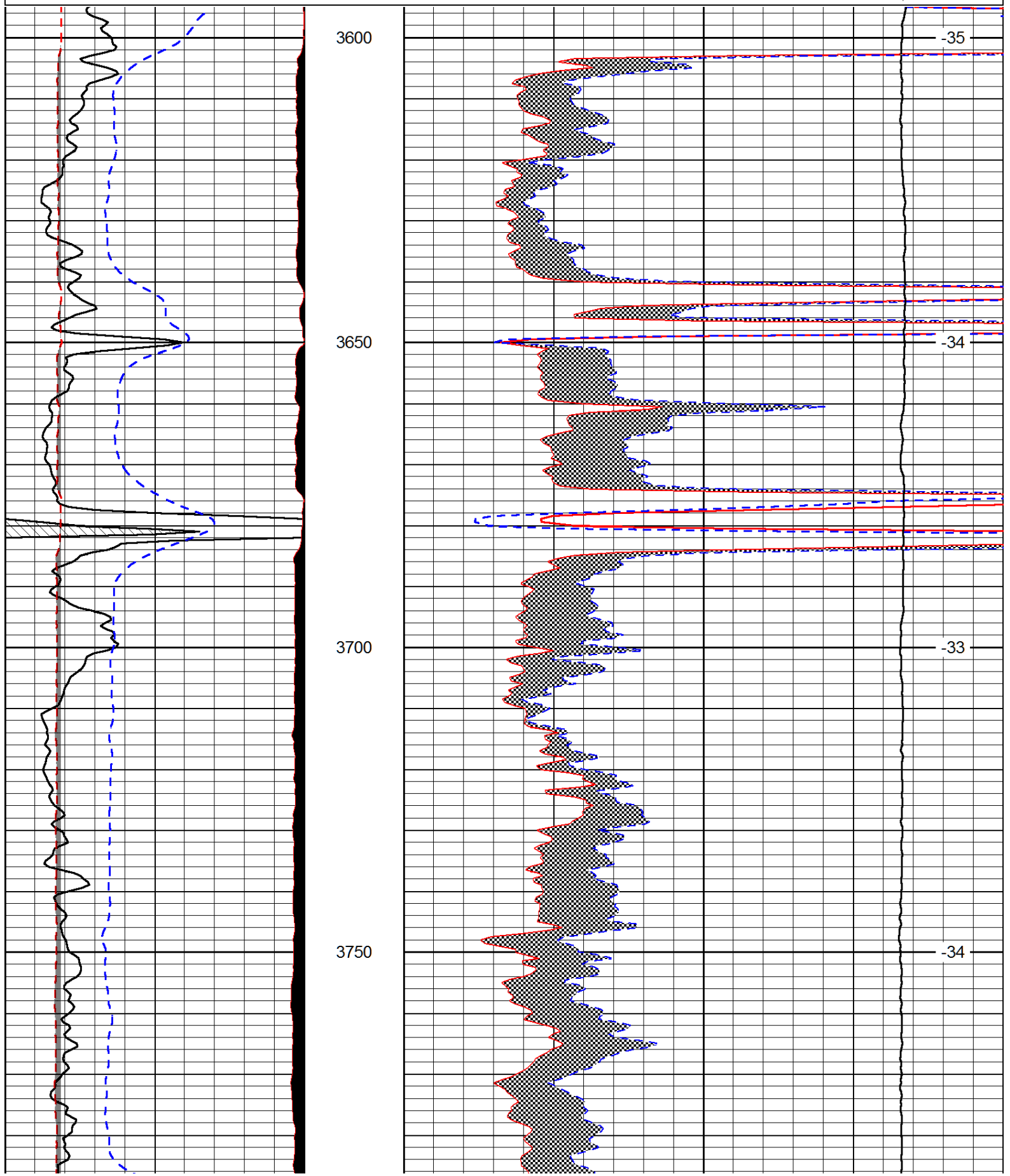
Belpre Kansas
 South to T, 1/2 West, 2 South, 2 1/2 East, South Into(South to Tree Row then West)

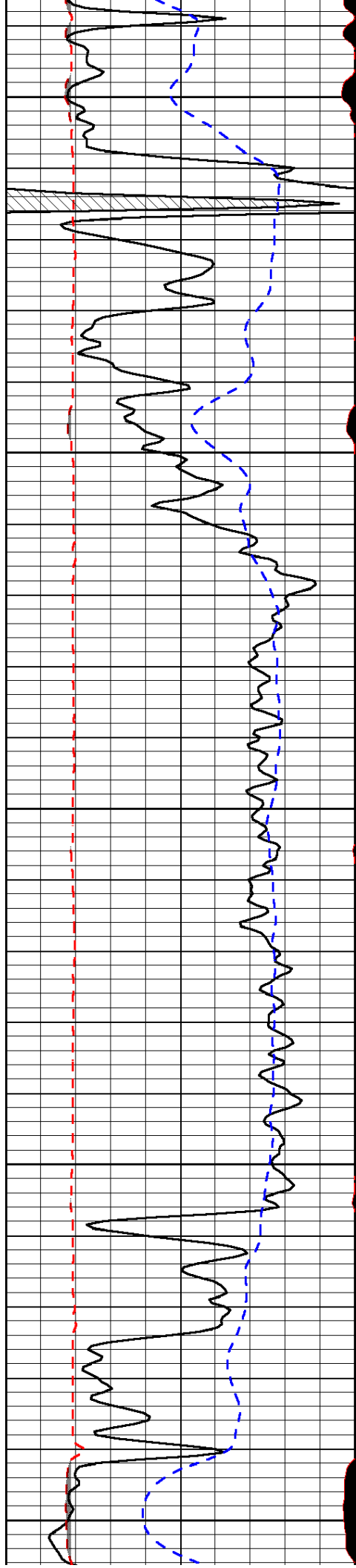
Database File: toto_norwegian_wood_1hd.db
 Dataset Pathname: DIL/totostk
 Presentation Format: micro
 Dataset Creation: Mon Jan 13 16:14:16 2014
 Charted by: Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150
6	MCAL (in)	16
2.875	Mud Cake (in)	7.875
-200	SP (mV)	0

0	Micro Inverse 1 X 1 (Ohm-m)	40
0	Micro Normal 2" (Ohm-m)	40
10000	Line Weight (lb)	0

LSPD
(ft/min)





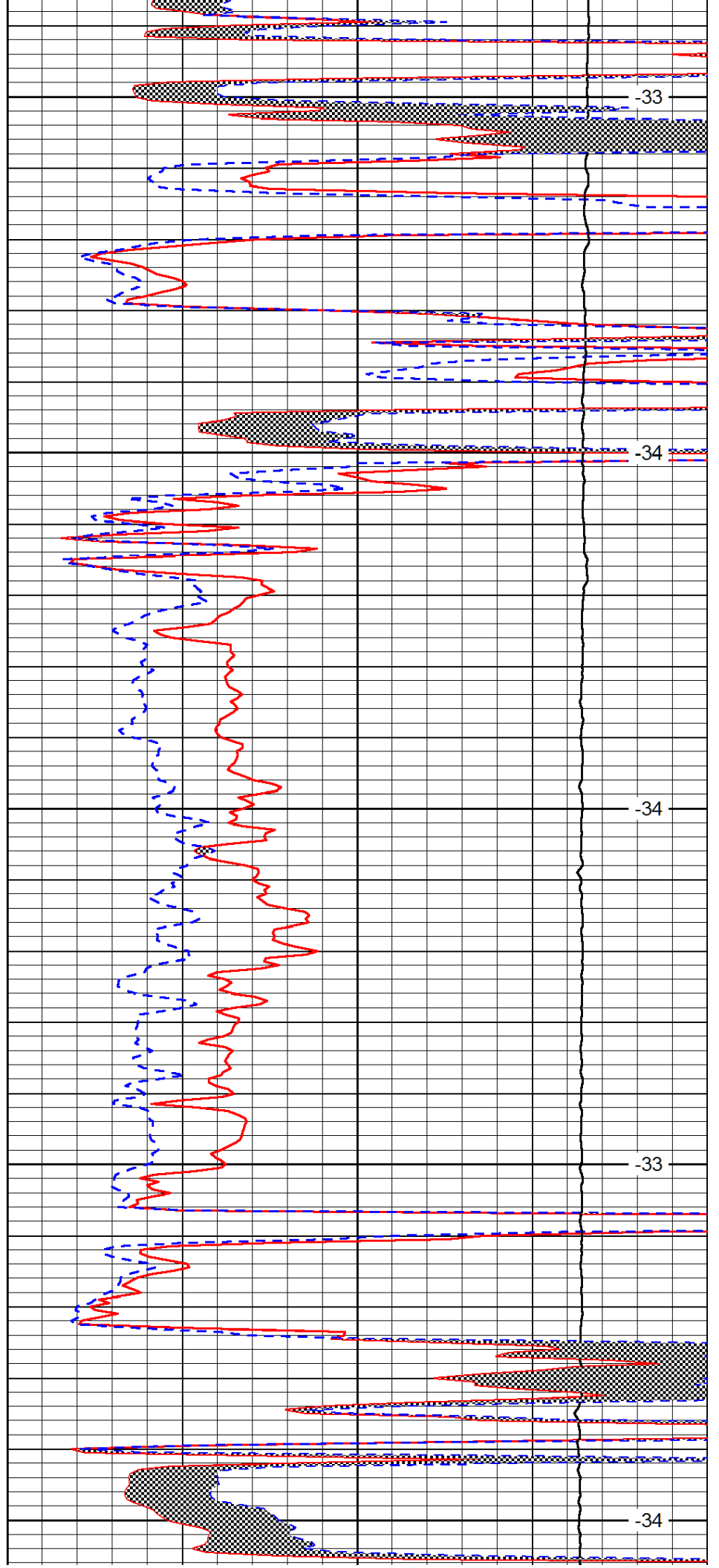
3800

3850

3900

3950

4000



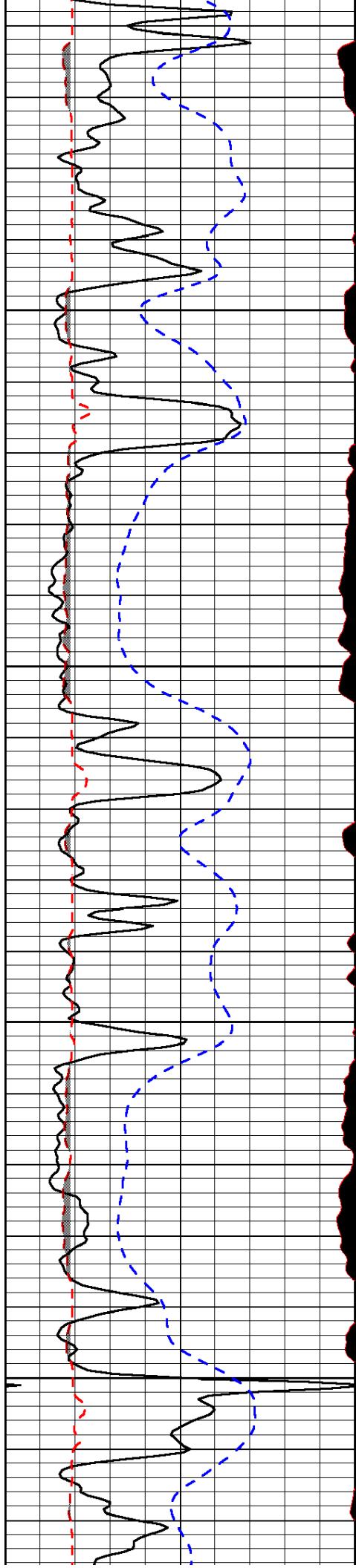
-33

-34

-34

-33

-34

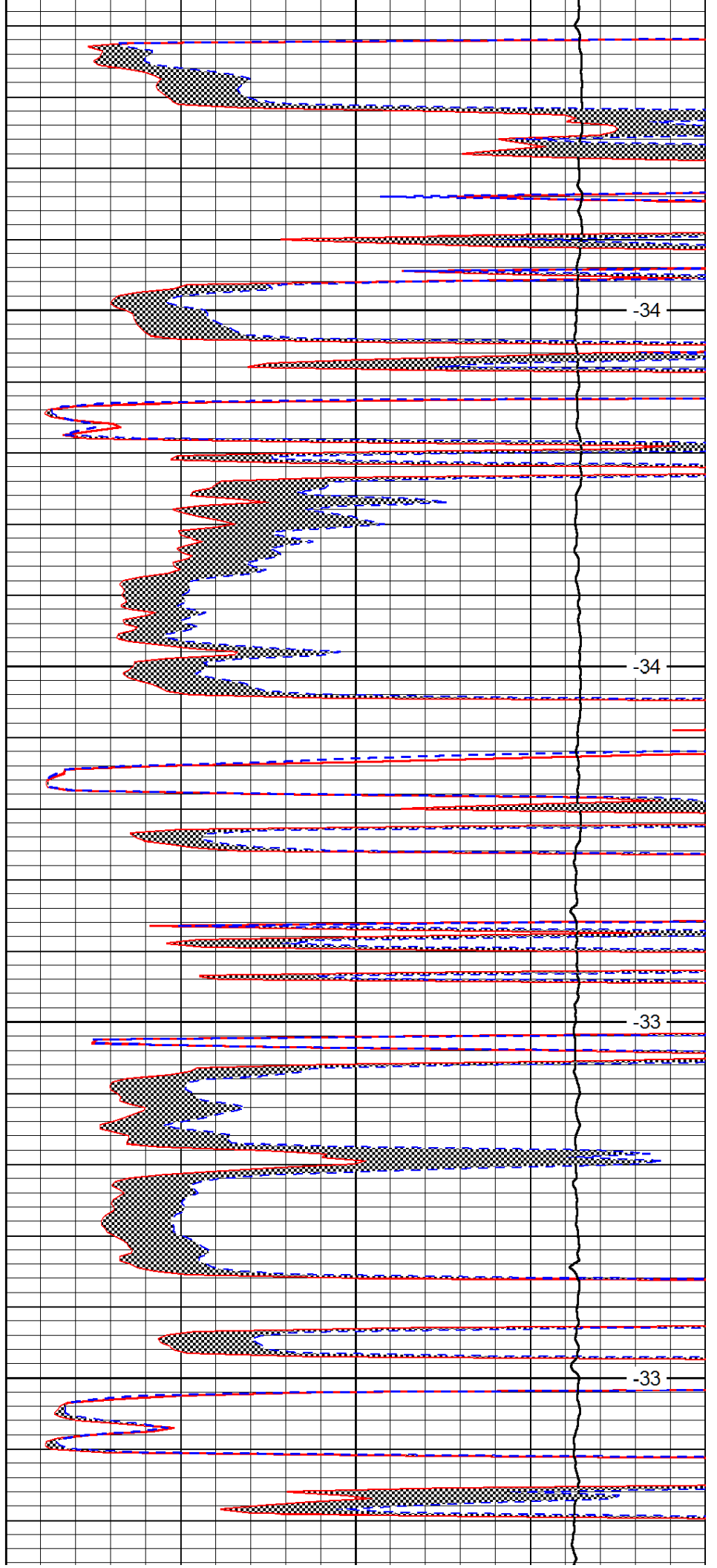


4050

4100

4150

4200

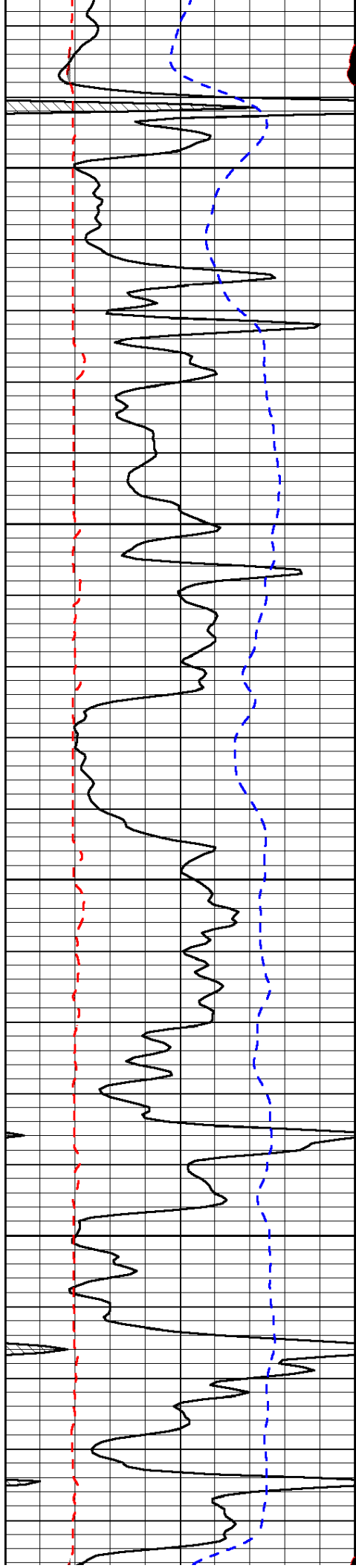


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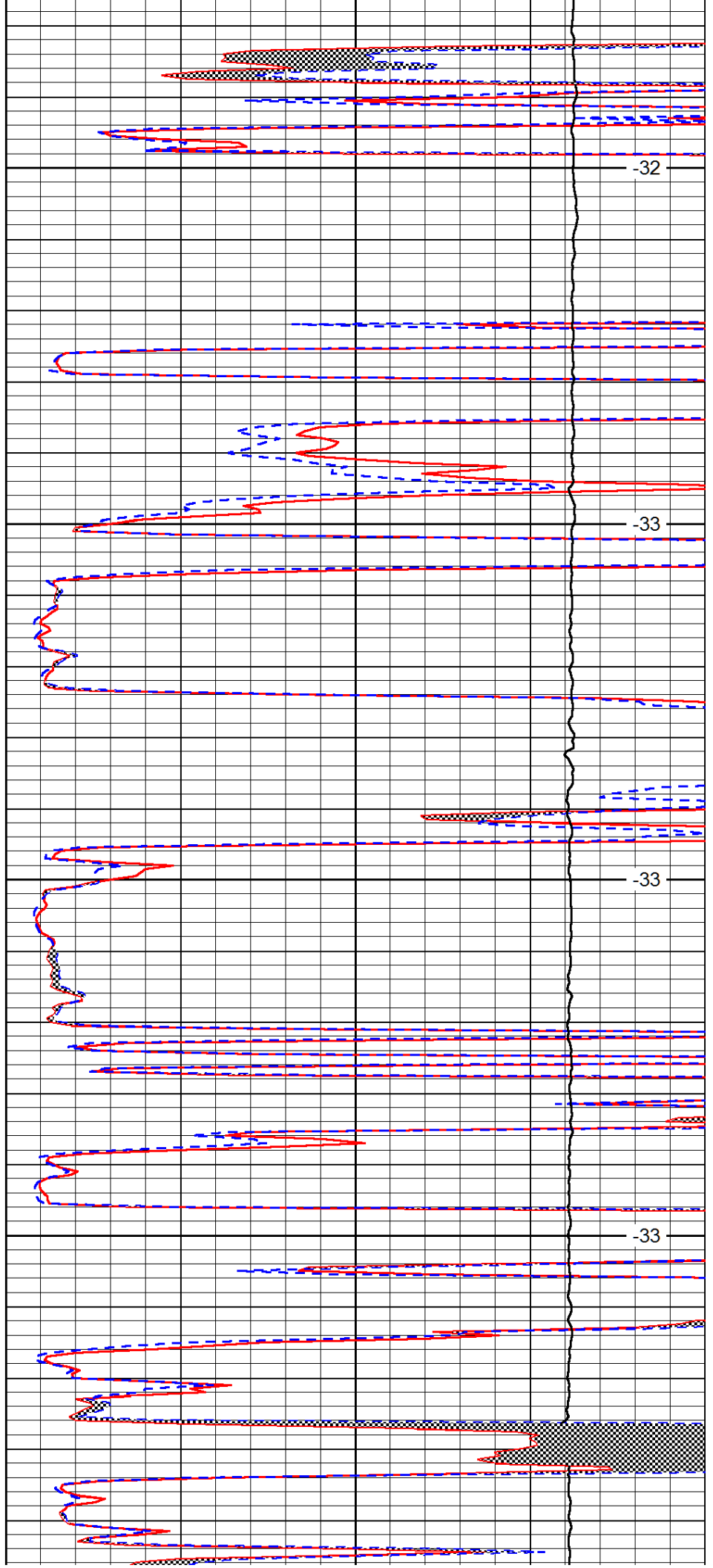


4250

4300

4350

4400

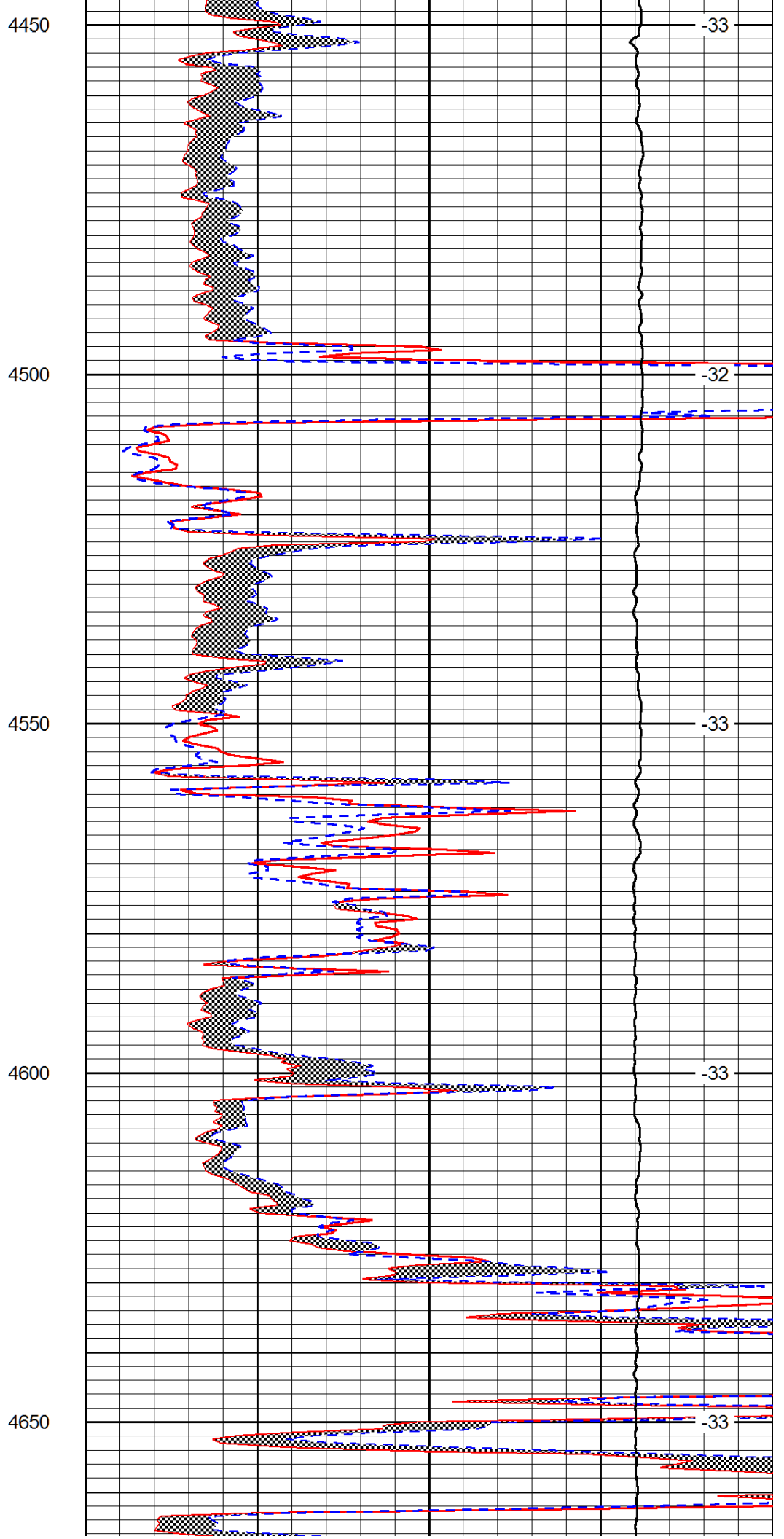
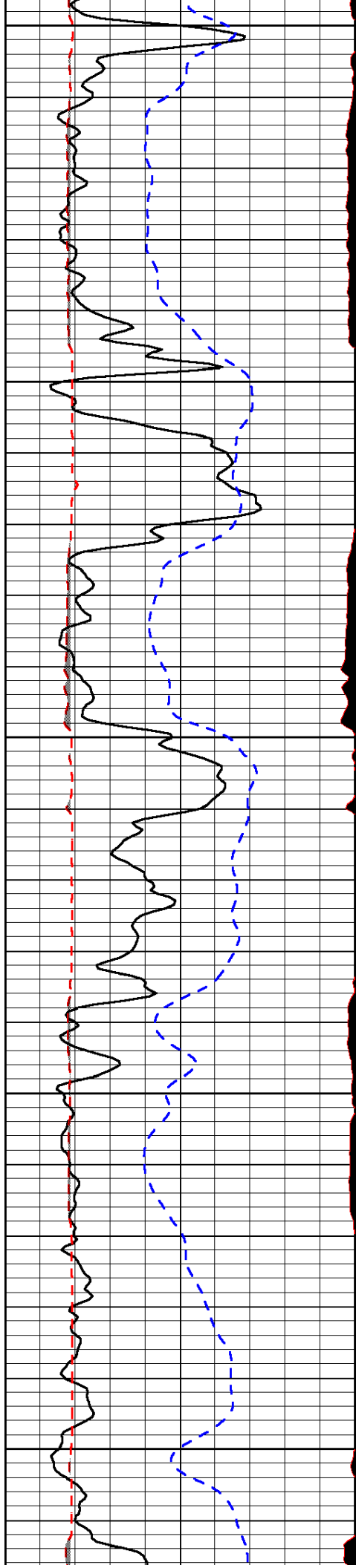


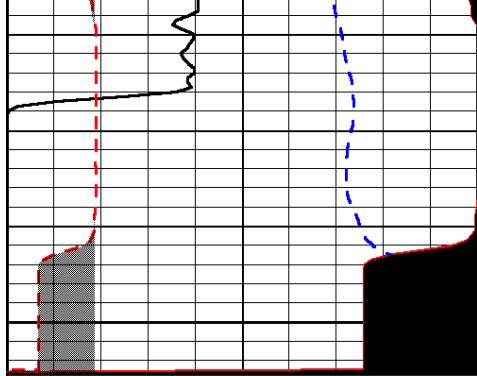
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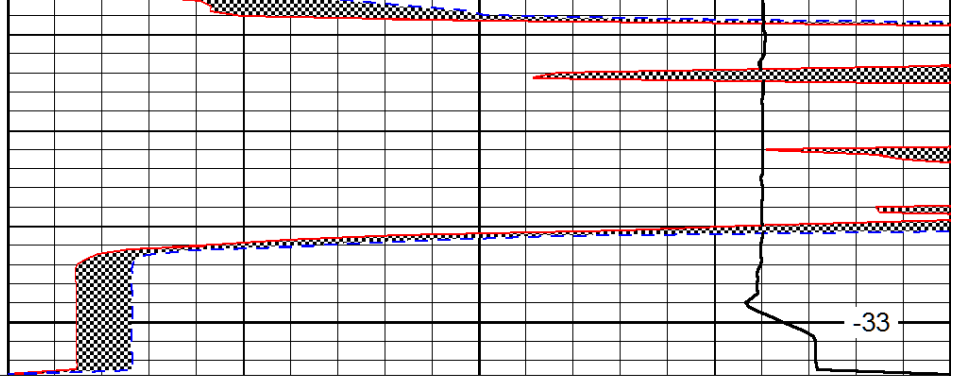
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