



Pioneer Energy Services

# Microresistivity Log

15-069-20,491-00-00

API No.

Company **American Warrior, Inc.**

Well **Shadow #7-17**

Field **Shadow**

County **Gray**

State

**Kansas**

Location

**2410' FSL & 2123' FWL**

Other Services  
CNL/CDL  
DIL

Sec: **17**

Twp: **28S**

Rge: **30W**

Elevation

Permanent Datum **Ground Level** Elevation **2793**  
Log Measured From **Kelly Bushing** 13 Ft. Above Perm. Datum  
Drilling Measured From **Kelly Bushing**

K.B. 2806  
D.F. 2793  
G.L. 2793

Date **11/29/2014**

Run Number **Two**

Depth Driller **5250**

Depth Logger **5249**

Bottom Logged Interval **5248**

Top Log Interval **4050**

Casing Driller **8.625 @ 1698**

Casing Logger **1696**

Bit Size **7.875**

Type Fluid in Hole **Chemical**

Salinity, ppm CL **5.700**

Density / Viscosity **9.3 66**

pH / Fluid Loss **10.5 8.0**

Source of Sample **Flowline**

Rm @ Meas. Temp **.6 @ 55**

Rmf @ Meas. Temp **.45 @ 55**

Rmc @ Meas. Temp **.81 @ 55**

Source of Rmf / Rmc **Charts**

Rm @ BHT **.26 @ 128**

Operating Rig Time **4 1/2 Hours**

Max Rec. Temp. F **128**

Equipment Number **51**

Location **Hays**

Recorded By **C. Desaire**

Witnessed By **Kevin Timson**

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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 Pioneer Energy Services  
www.pioneeres.com  
785 625 3858

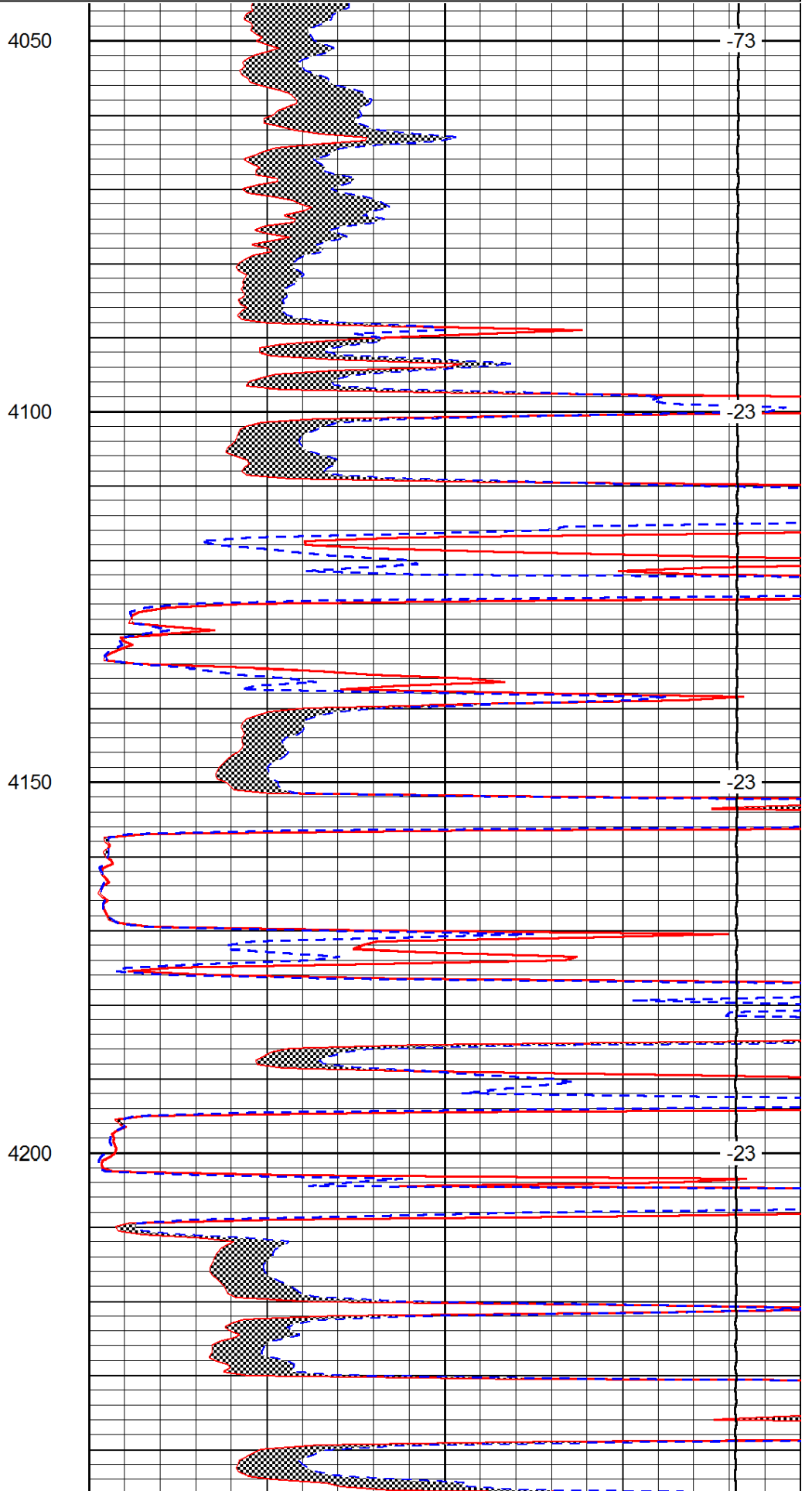
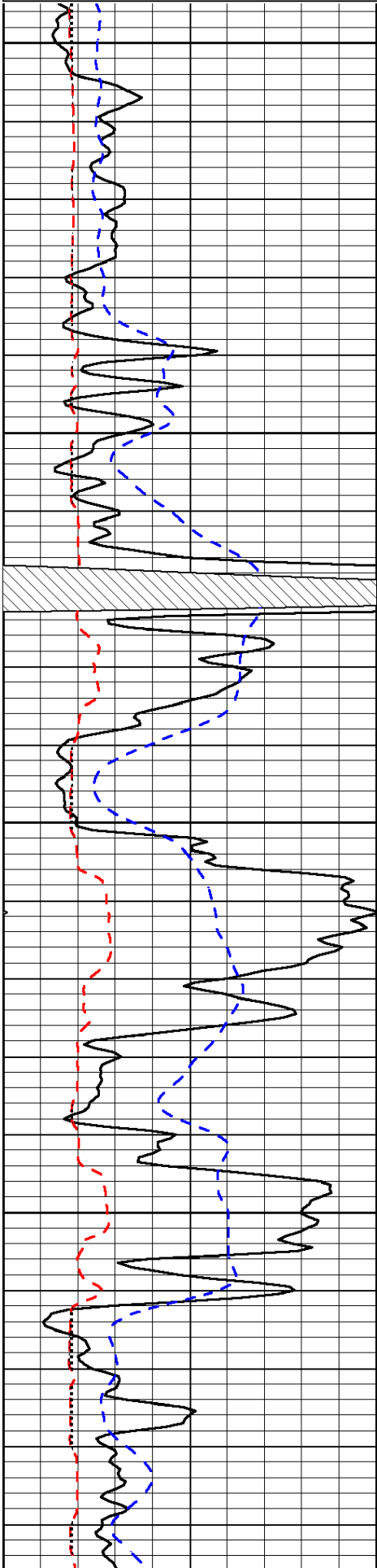
Copeland KS, N on 2 Rd, to AA Rd,  
1/2 E, 1/2 S Into

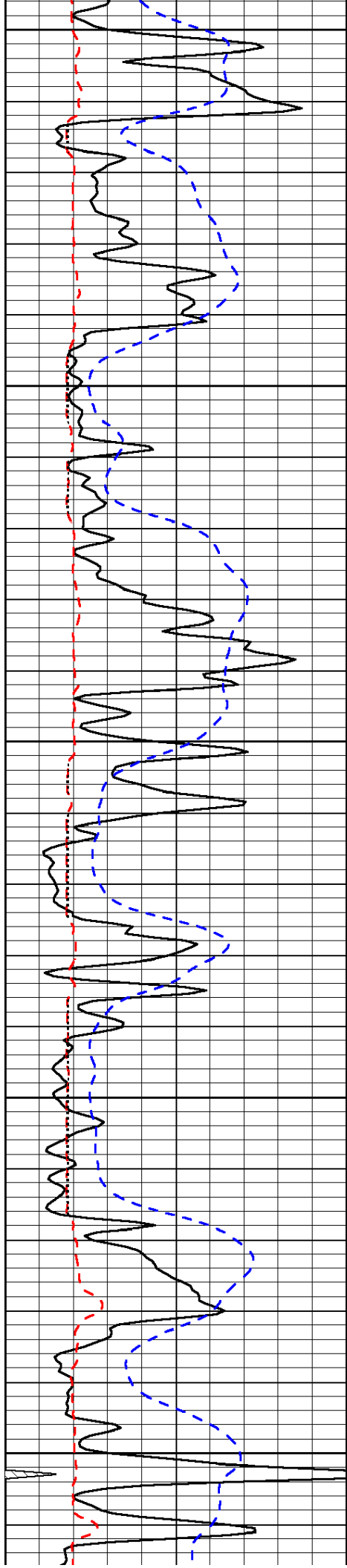
Database File: c:\warrior\data\amwar\_shadow #7-17\awhd.db  
Dataset Pathname: dil/awstk2  
Presentation Format: micro  
Dataset Creation: Sat Nov 29 23:21:47 2014  
Charted by: Depth in Feet scaled 1:240

0	Gamma Ray	150
6	MCAL (GAPI)	16
-200	SP (mV)	0

0	Micro Inverse 1 X 1	40
0	Micro Normal 2"	40
15000	Line Weight	0

LSPD





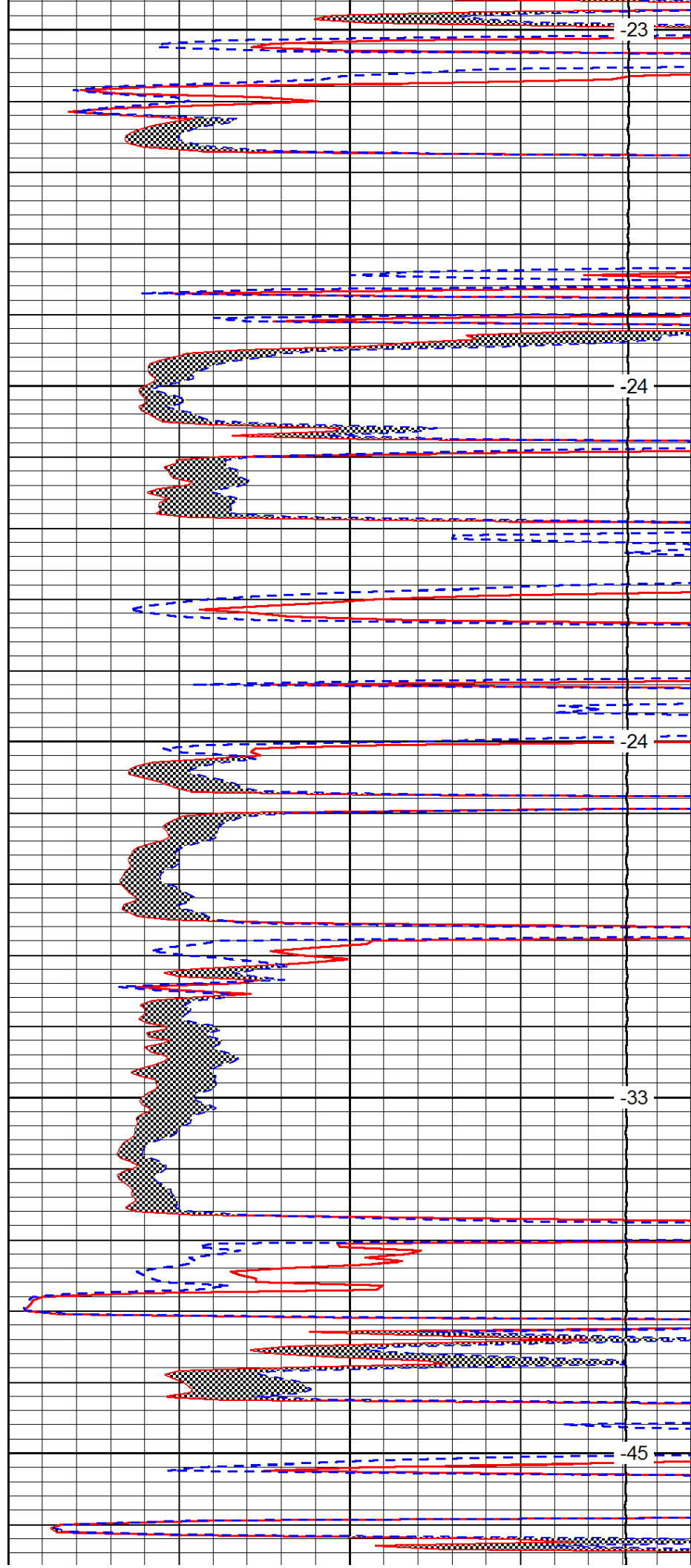
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4300

4350

4400

4450



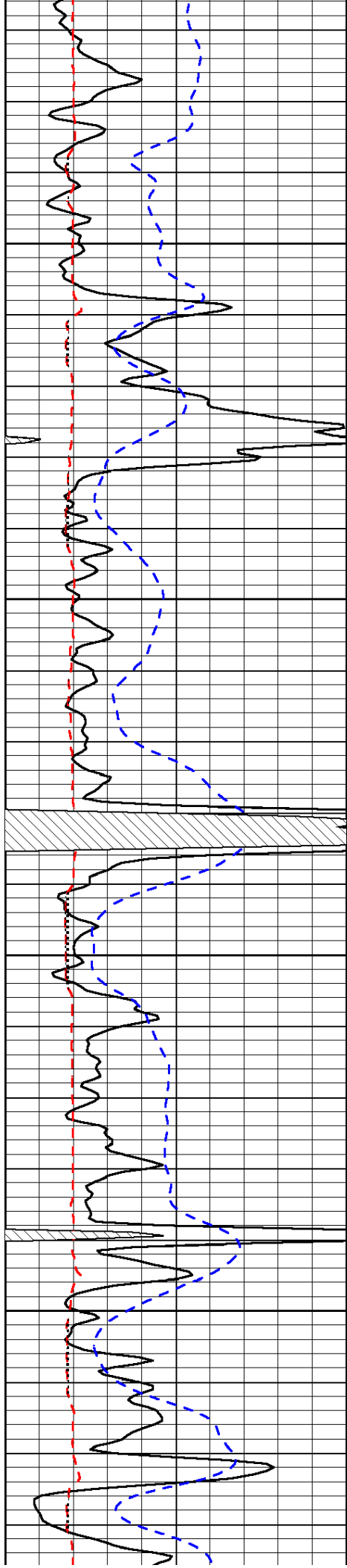
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-24

-24

-33

-45

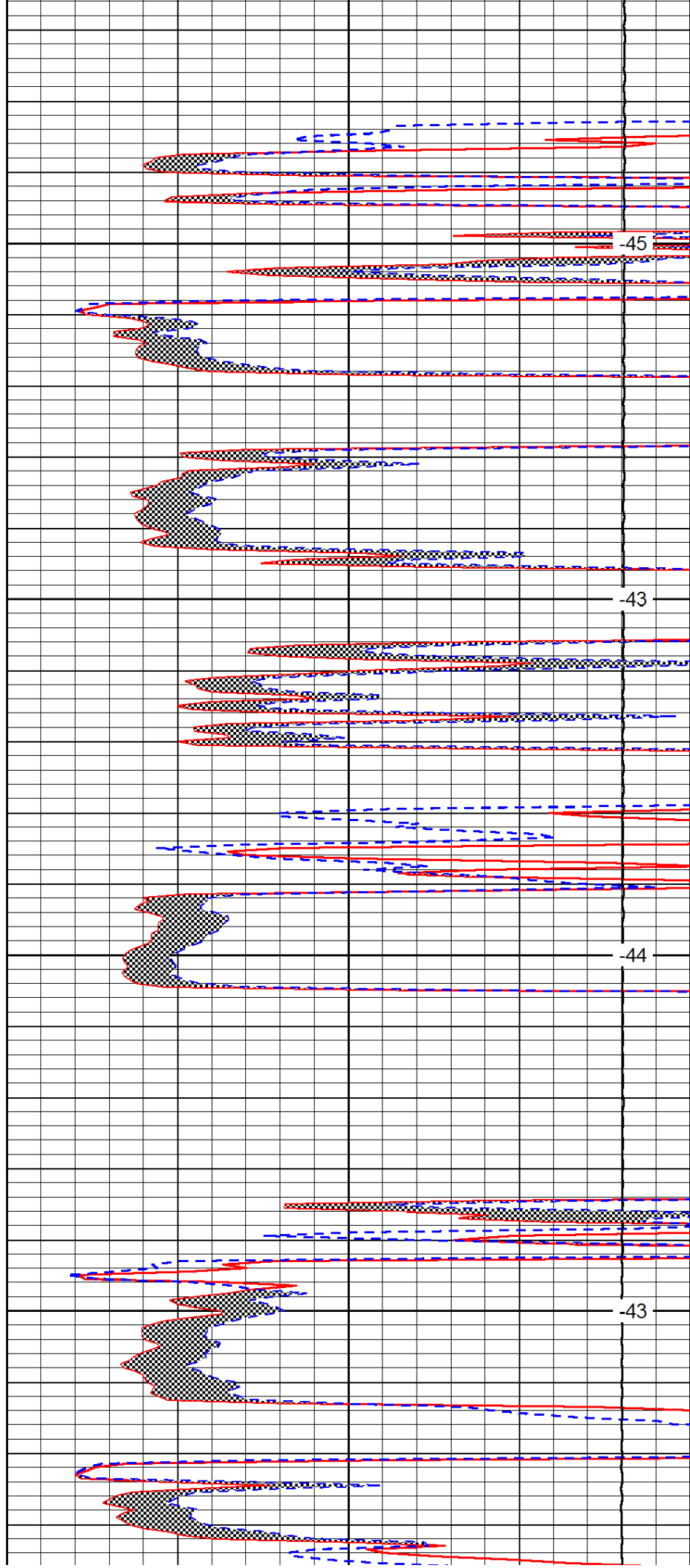


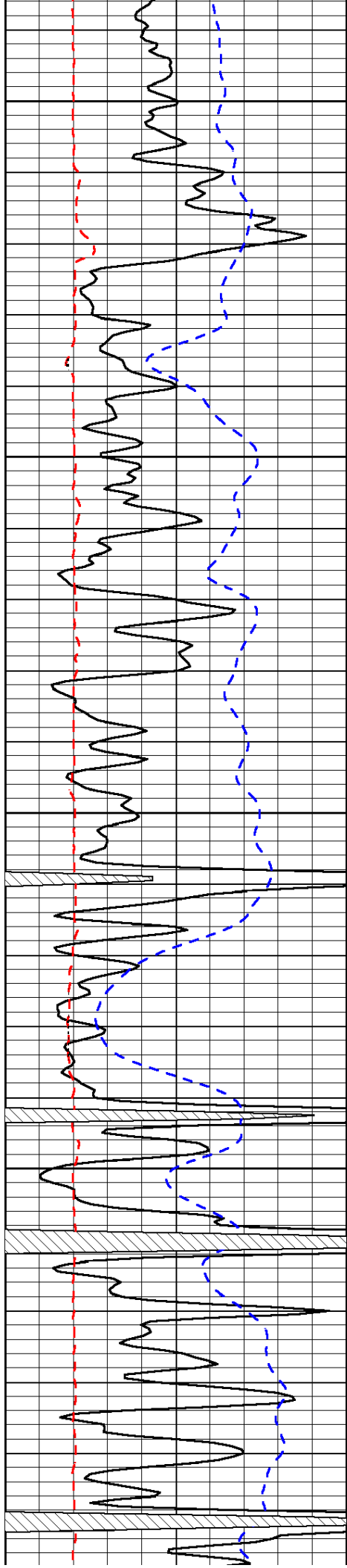
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4550

4600

4650





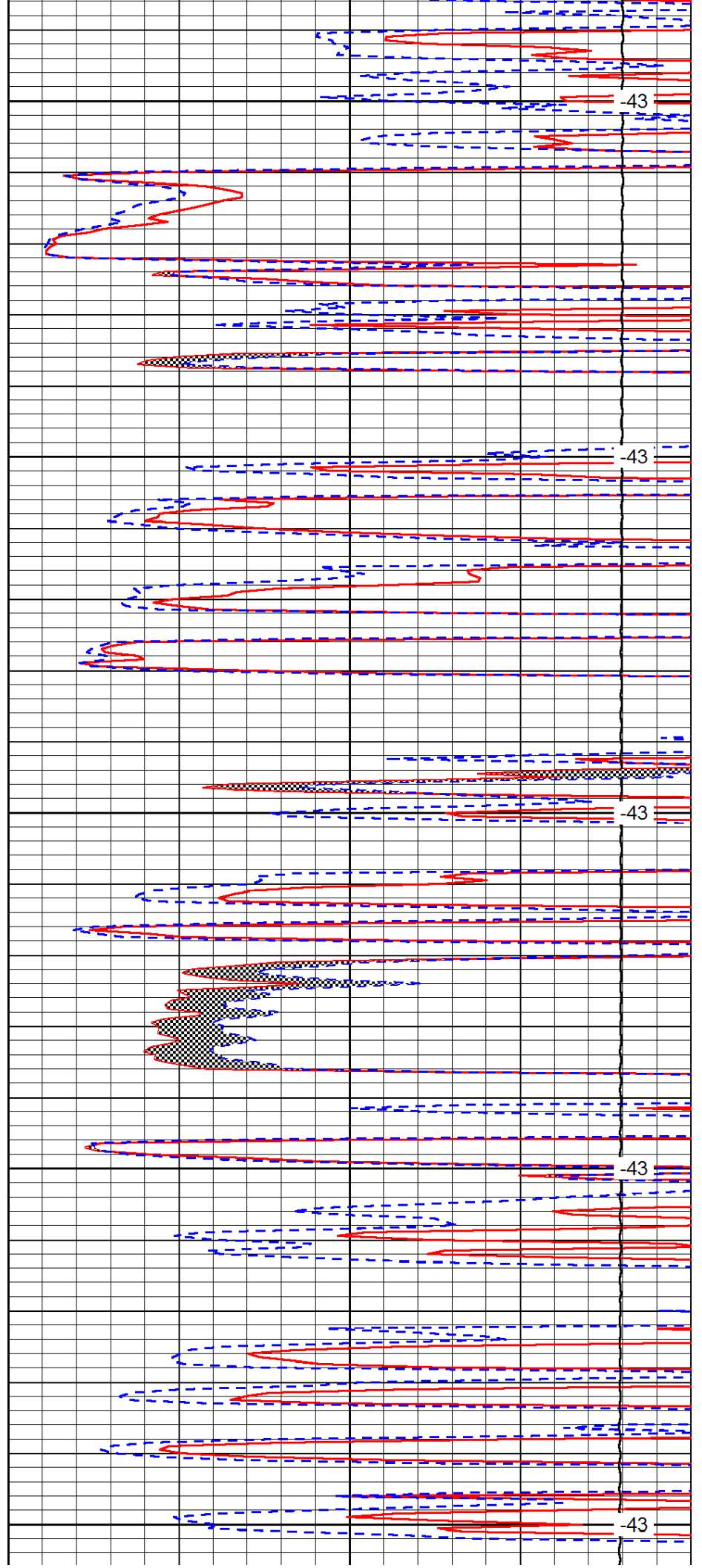
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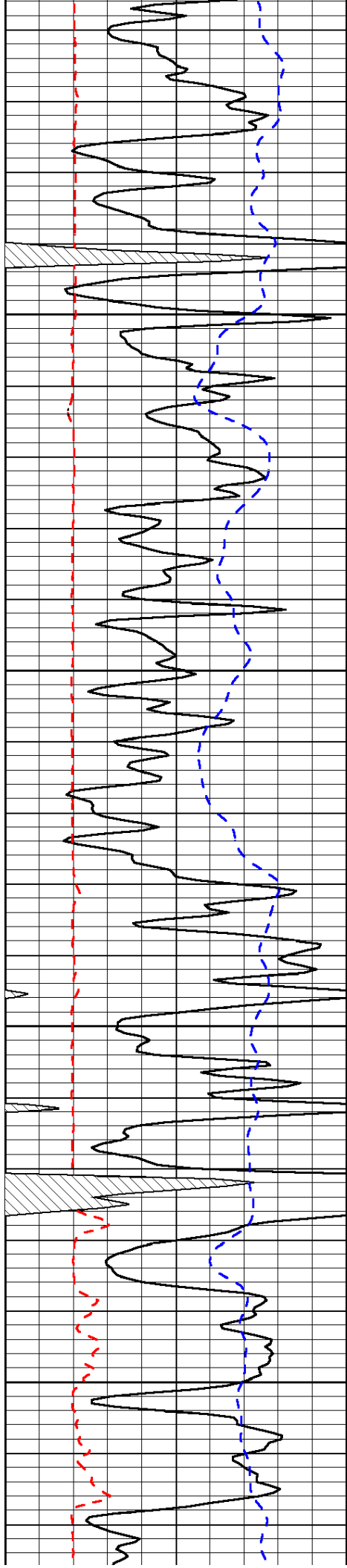
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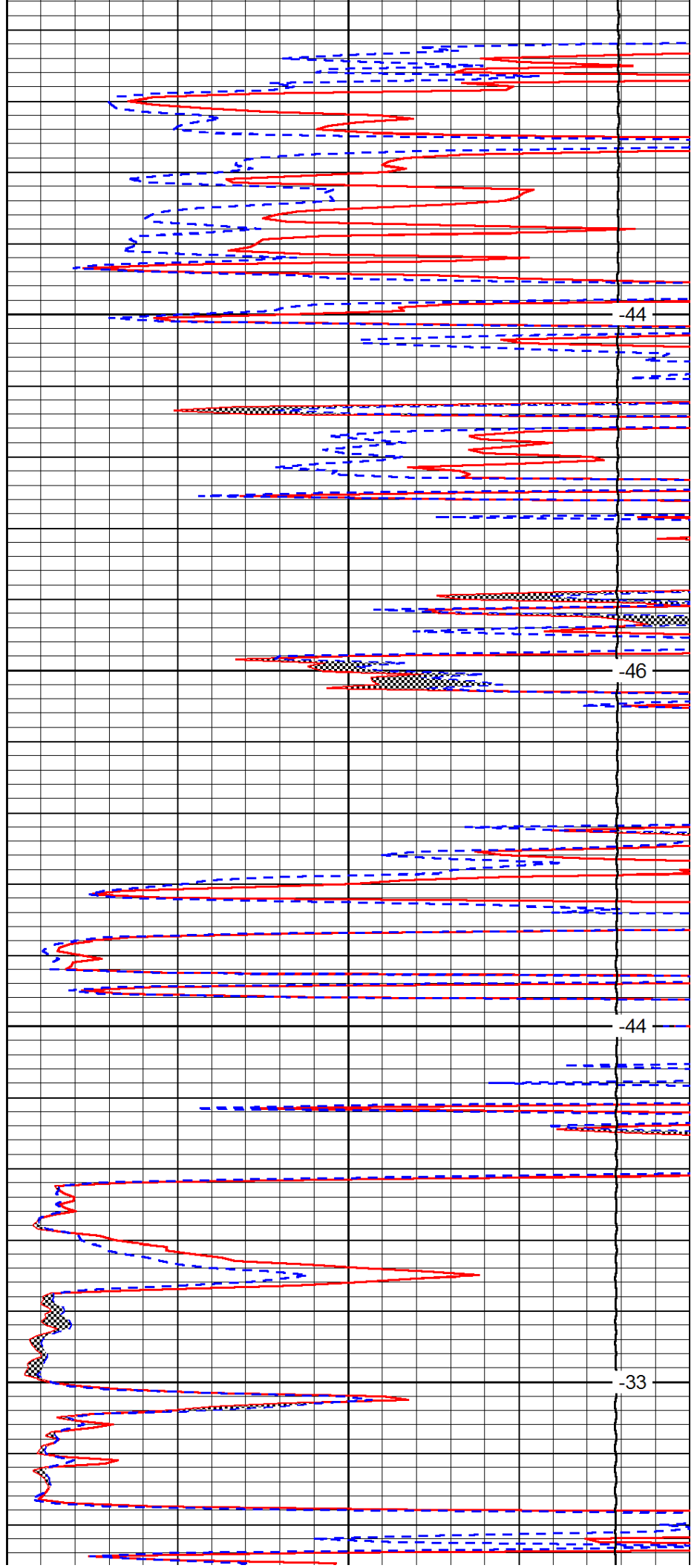


4950

5000

5050

5100

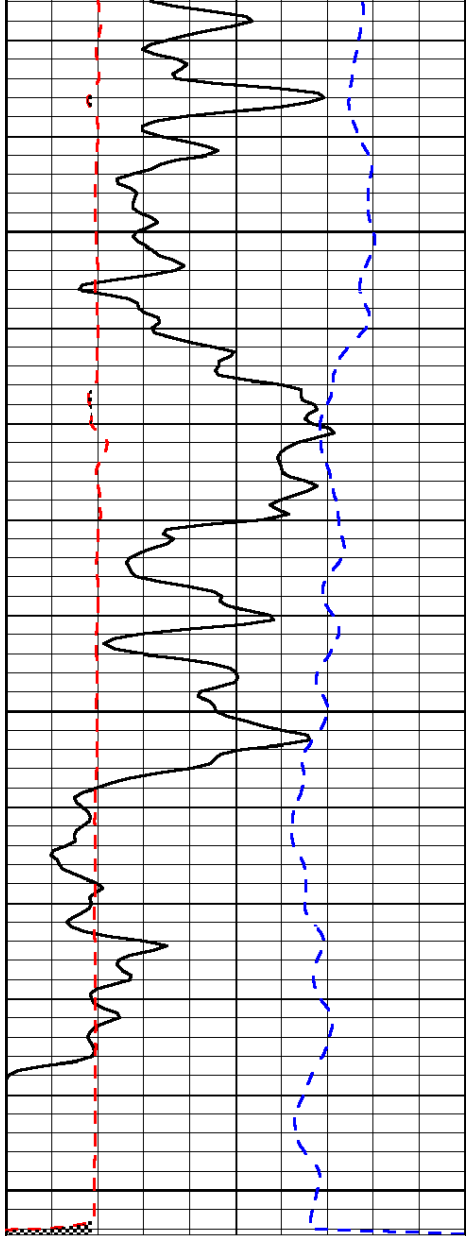


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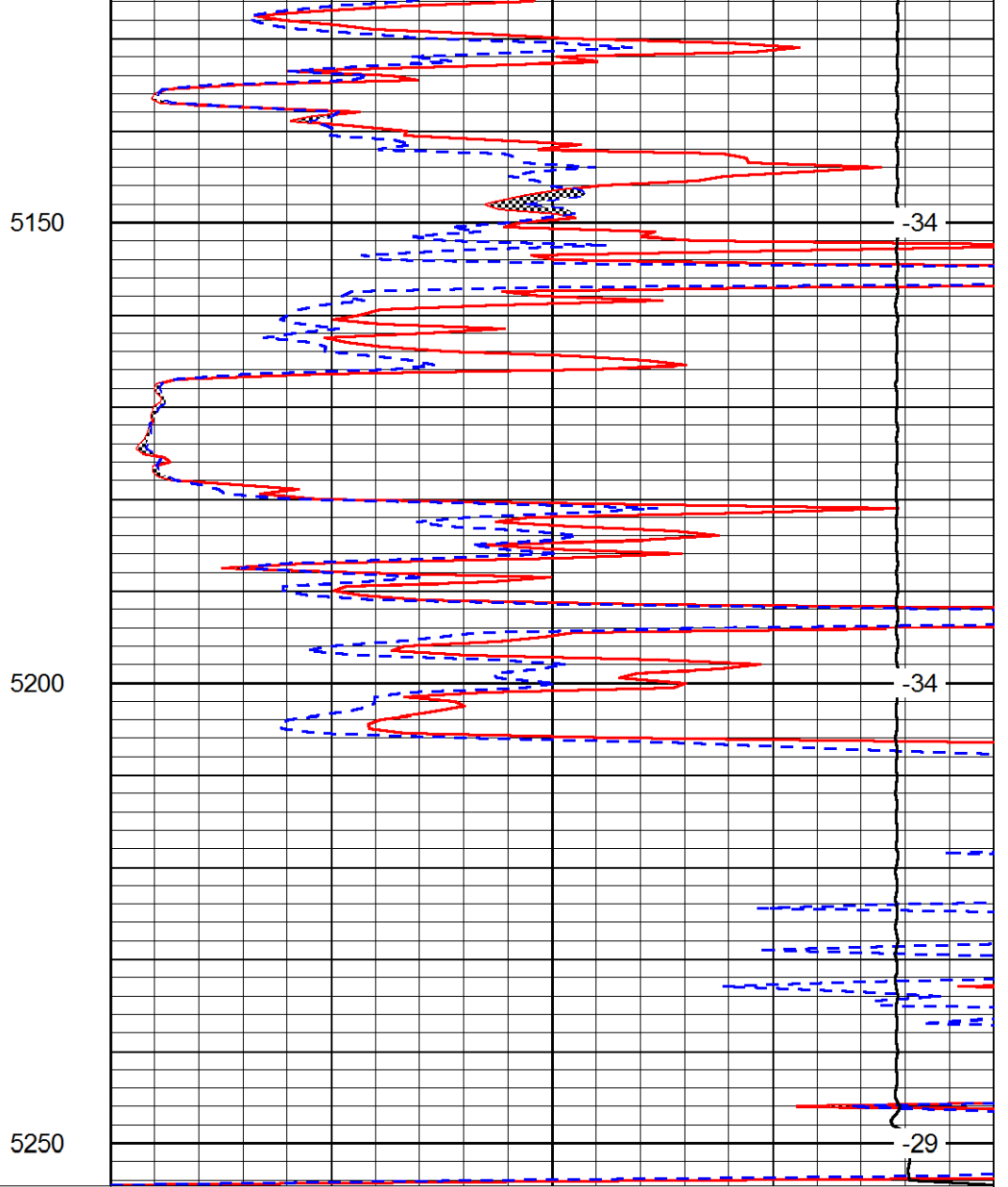
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-44

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