



Pioneer Energy Services

# Radiation Guard Log

15-065-23,888-00-00

API No.

**Company** Cobalt Energy, LLC  
**Well** Critchfield "A" #1-32  
**Field**

**County** Graham **State** Kansas

**Location** 1980' FSL & 335' FEL

**Sec:** 32 **Twp:** 9S **Rge:** 24W

Other Services  
NONE

Elevation

K.B. 2531  
D.F.  
G.L. 2526

**Permanent Datum** Ground Level Elevation 2526  
**Log Measured From** Kelly Bushing 5 Ft. Above Perm. Datum  
**Drilling Measured From** Kelly Bushing

**Date** 1/28/2013

**Run Number** One

**Depth Driller** 4135

**Depth Logger** 4135

**Bottom Logged Interval** 4134

**Top Log Interval** 200

**Casing Driller** 8.625 @ 218

**Casing Logger** 218

**Bit Size** 7.875

**Type Fluid in Hole** Chemical

**Salinity, ppm CL** 2,800

**Density / Viscosity** 9.2 58

**pH / Fluid Loss** 10.0 8.0

**Source of Sample** Flowline

**Rm @ Meas. Temp** .82 @ 57

**Rmf @ Meas. Temp** .62 @ 57

**Rmc @ Meas. Temp** 1.11 @ 57

**Source of Rmf / Rmc** Charts

**Rm @ BHT** .4 @ 117

**Operating Rig Time** 2 Hours

**Max Rec. Temp. F** 117

**Equipment Number** 17

**Location** Hays

**Recorded By** C. Desaire

**Witnessed By** Rocky Milford

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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.pioneerenergy.com](http://www.pioneerenergy.com)  
 785 625 3858

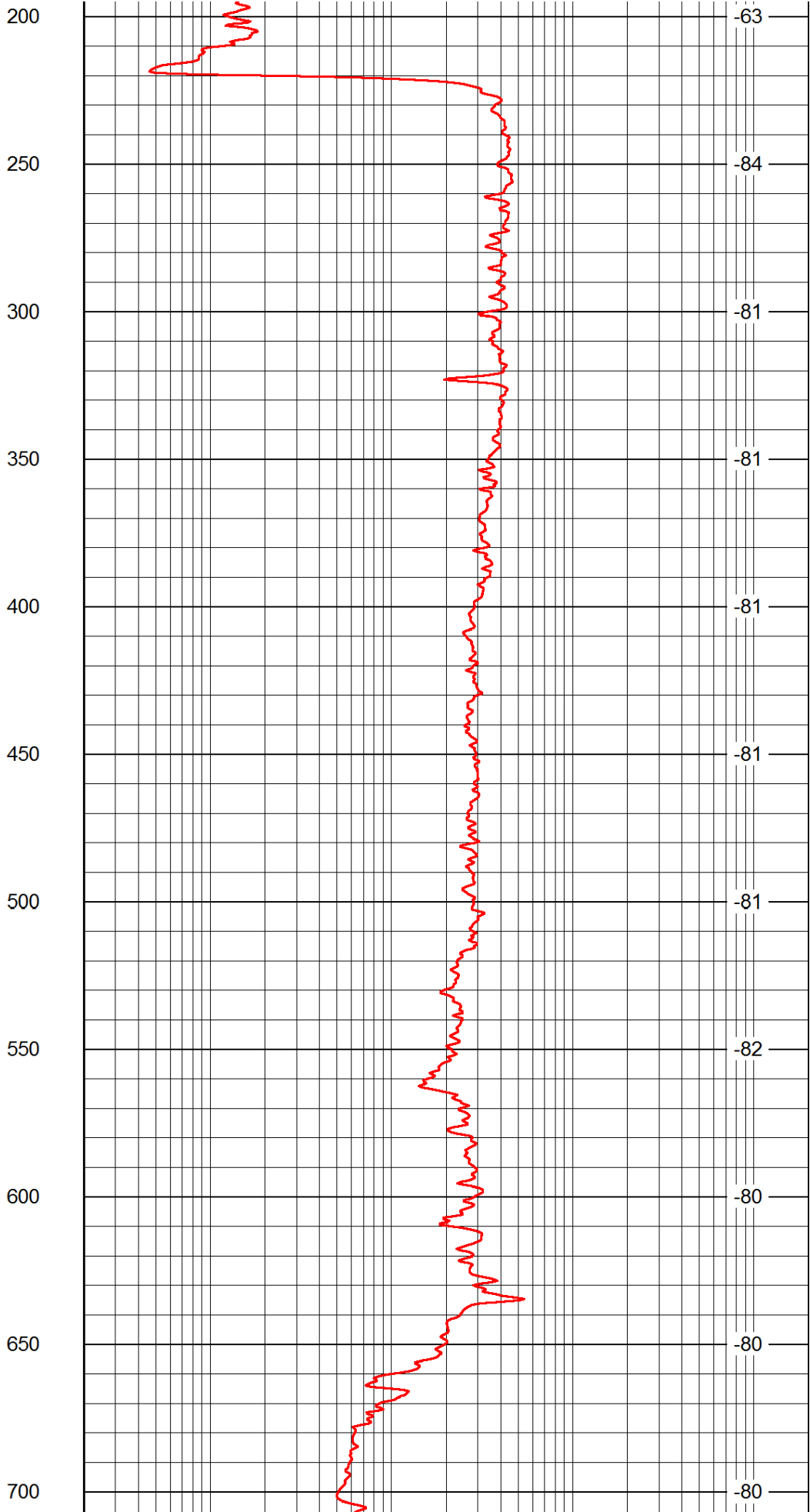
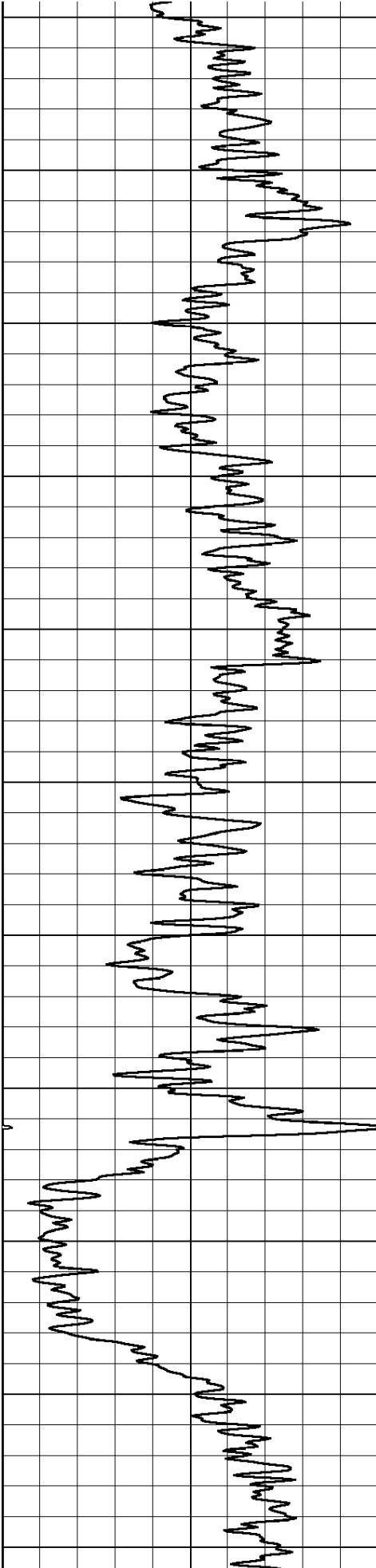
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 1/4 S, W Into

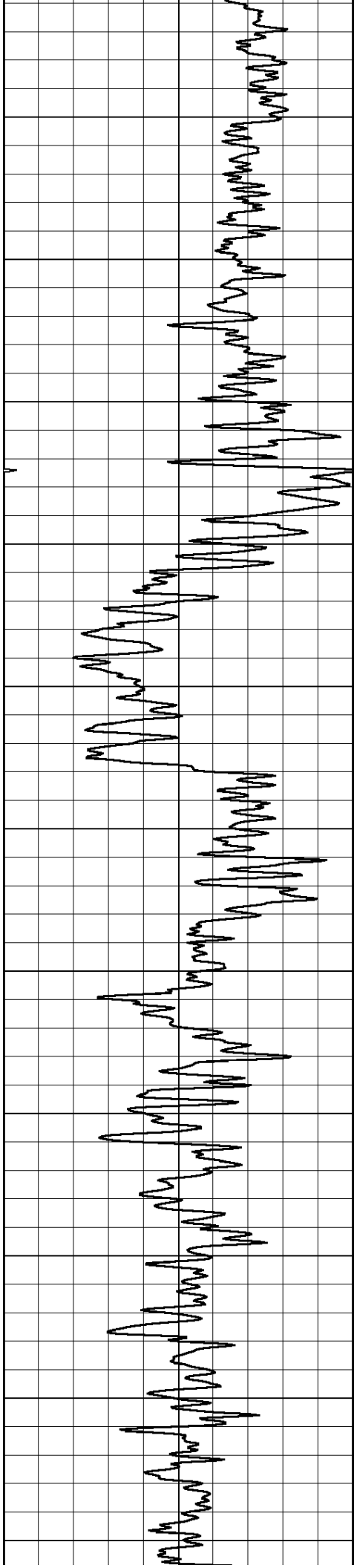
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 Dataset Creation: Mon Jan 28 03:45:06 2013  
 Charted by: Depth in Feet scaled 1:600

0 Gamma Ray 150

0.2 lgrd 2000

LSPD





750

800

850

900

950

1000

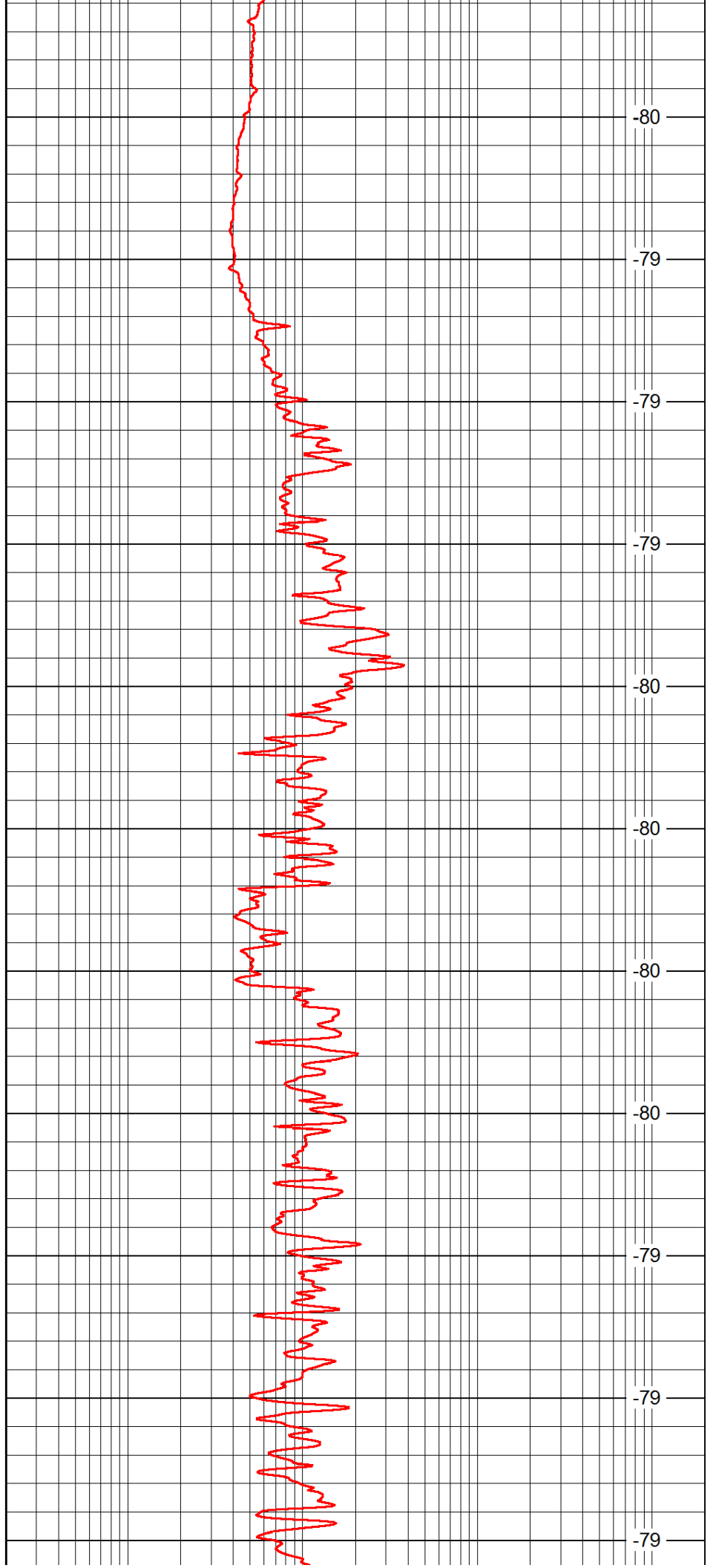
1050

1100

1150

1200

1250



-80

-79

-79

-79

-80

-80

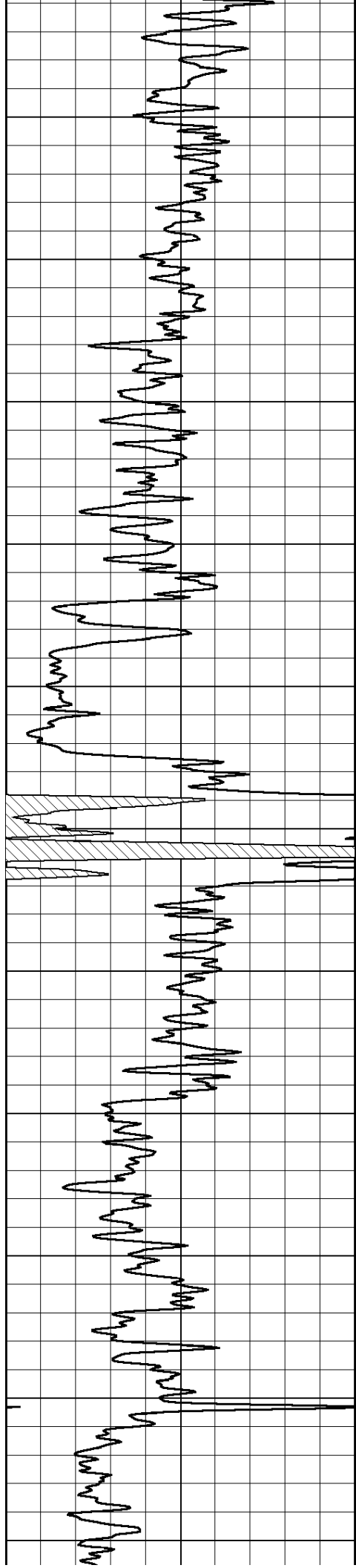
-80

-80

-79

-79

-79



1300

1350

1400

1450

1500

1550

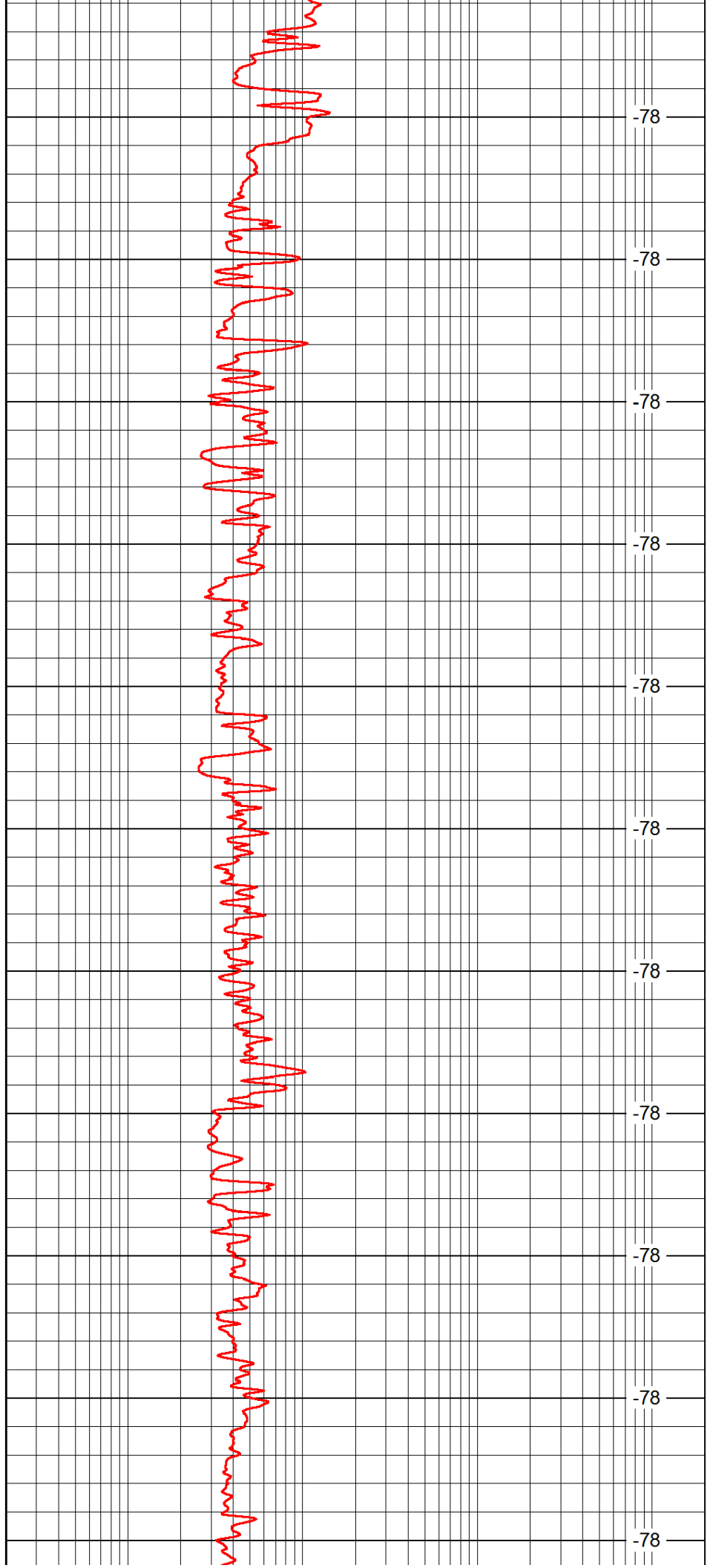
1600

1650

1700

1750

1800



-78

-78

-78

-78

-78

-78

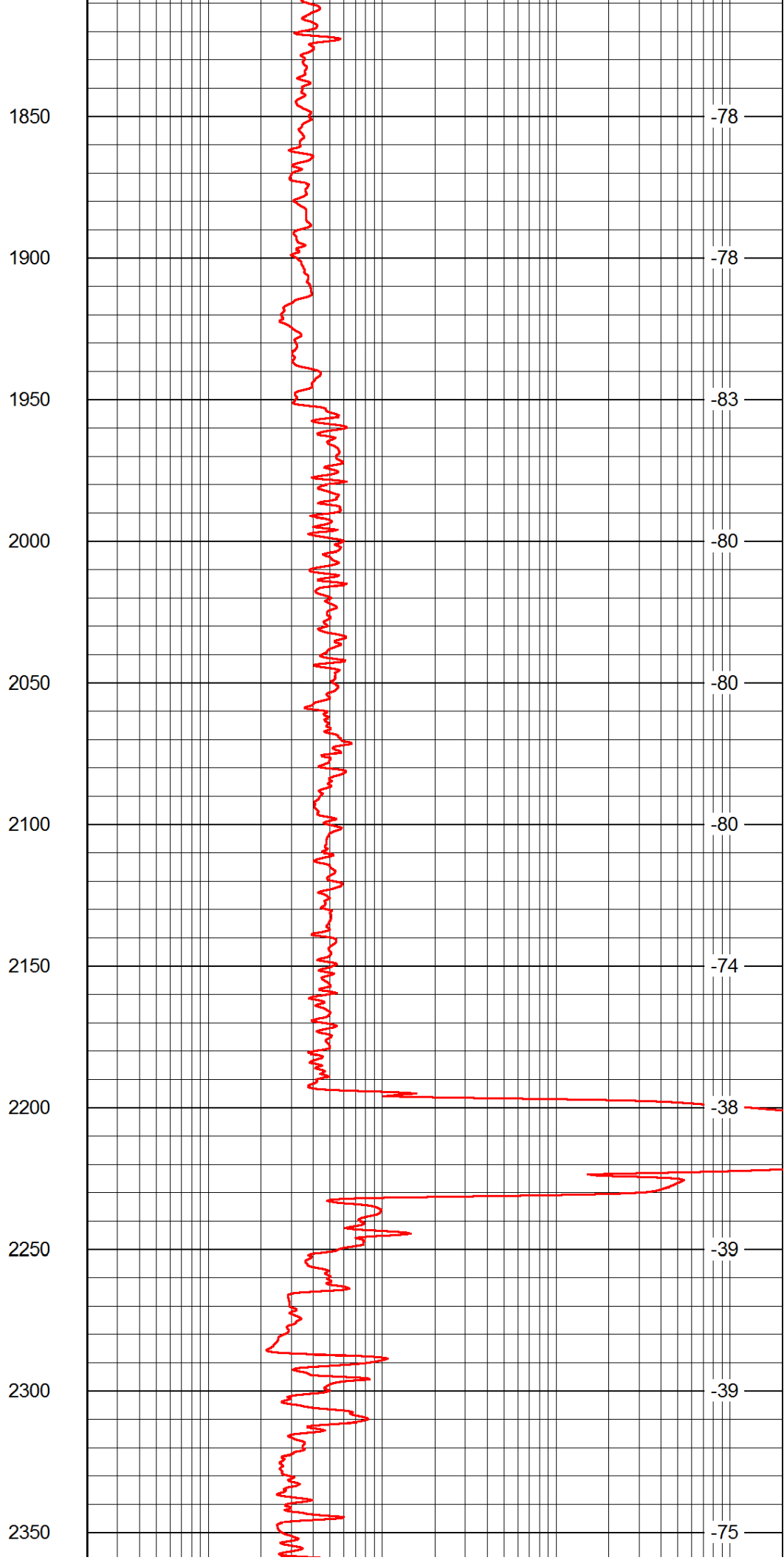
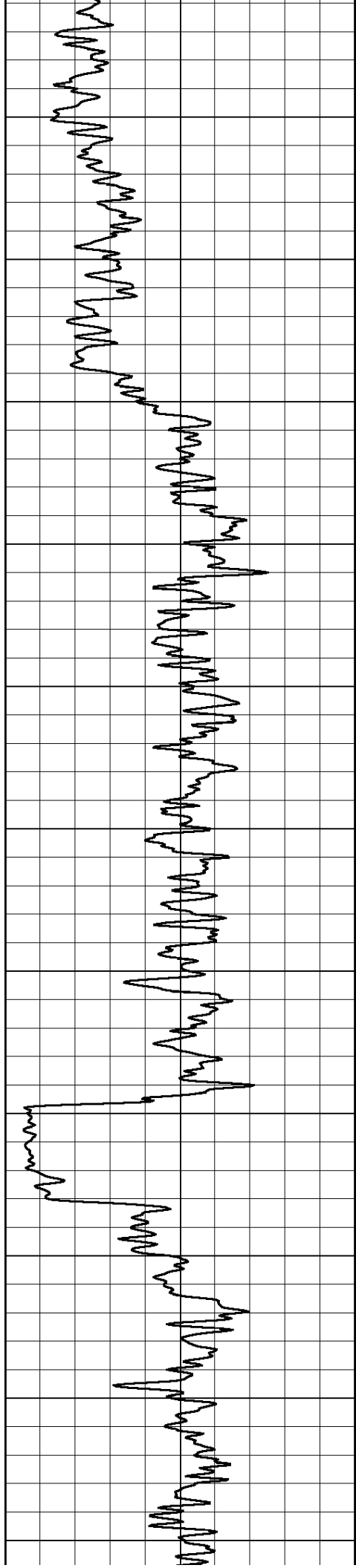
-78

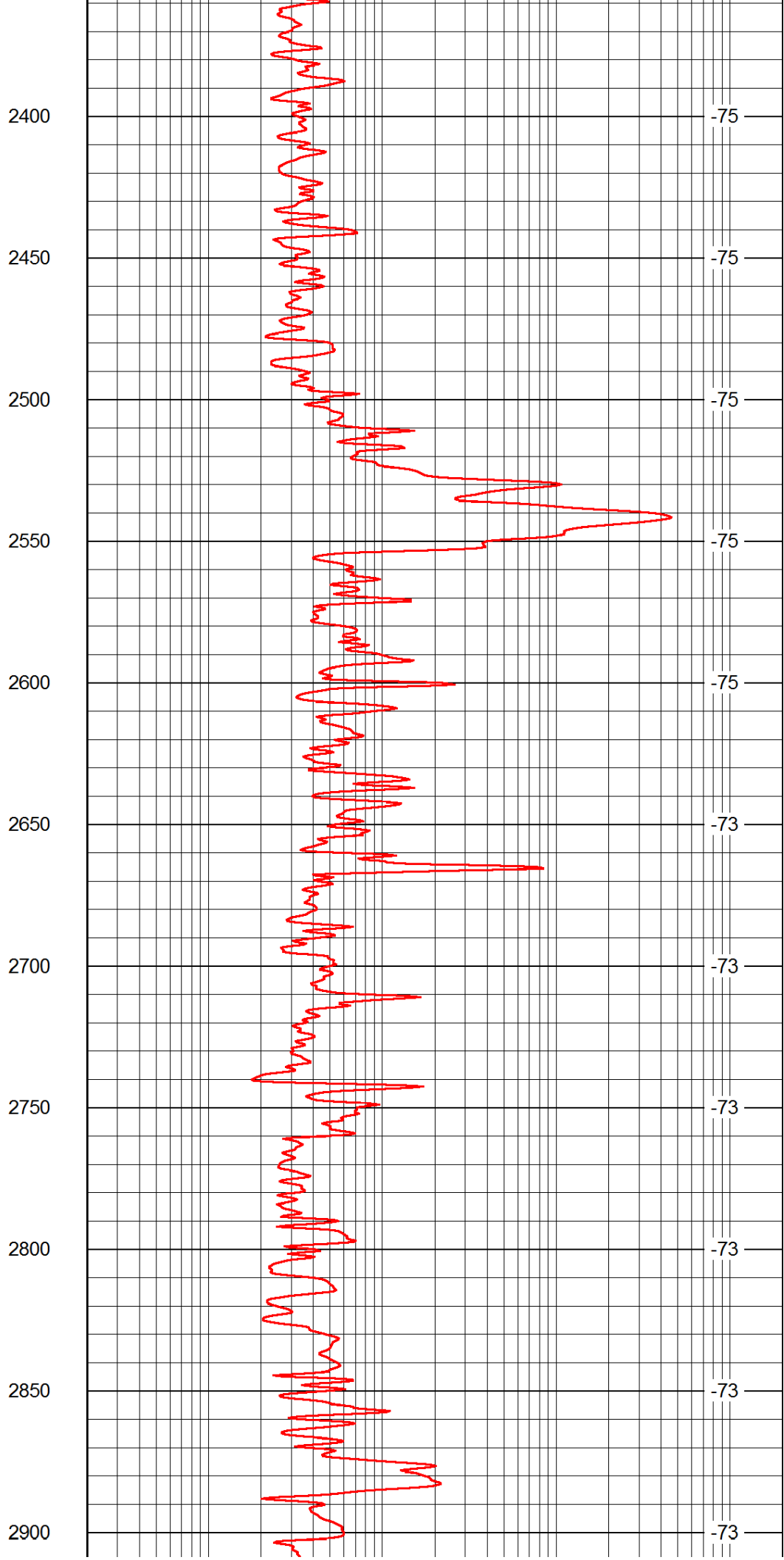
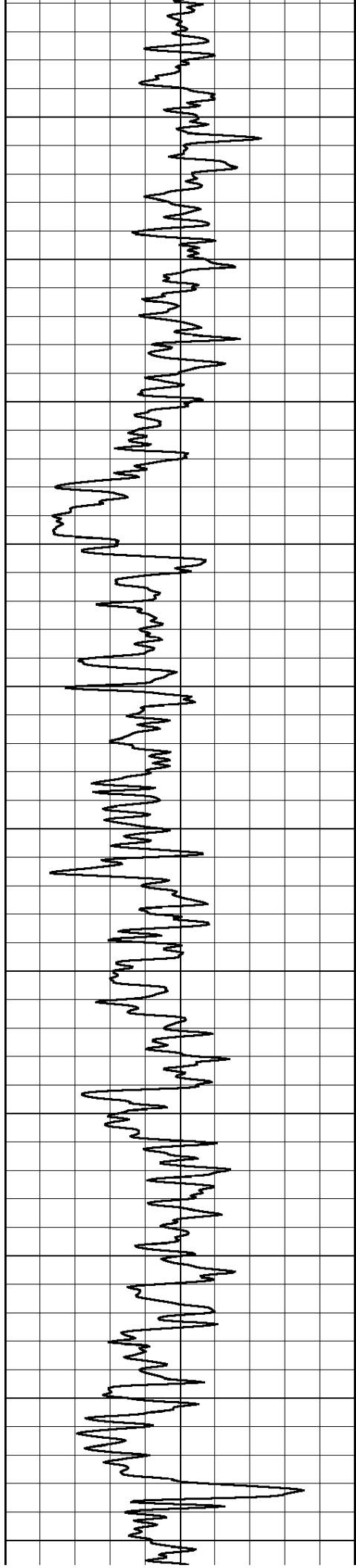
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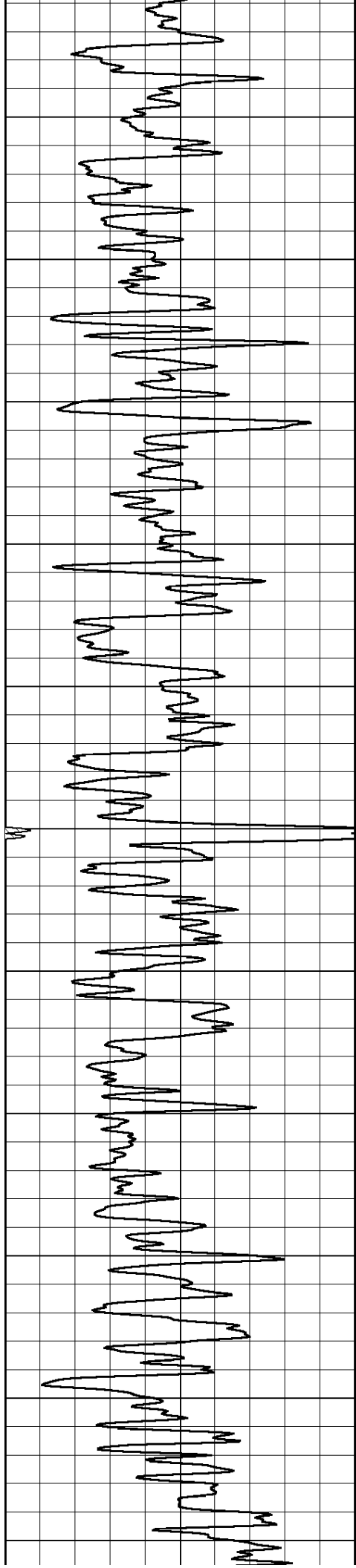
-78

-78

-78







2950

3000

3050

3100

3150

3200

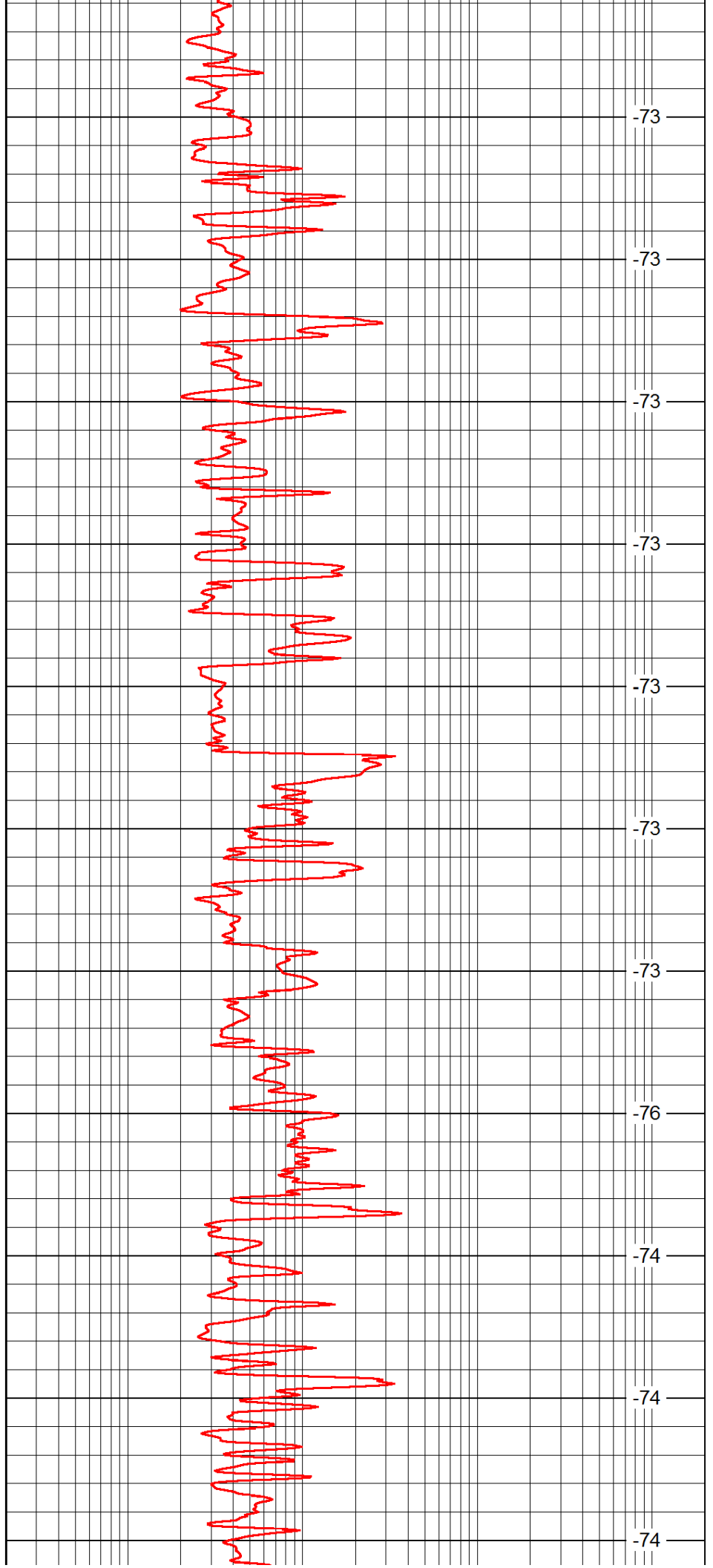
3250

3300

3350

3400

3450



-73

-73

-73

-73

-73

-73

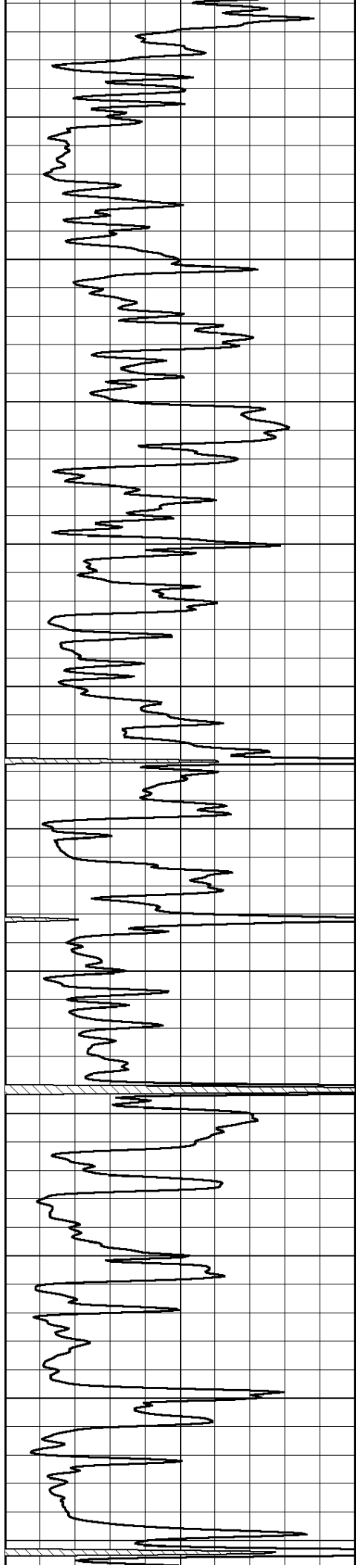
-73

-76

-74

-74

-74



3500

3550

3600

3650

3700

3750

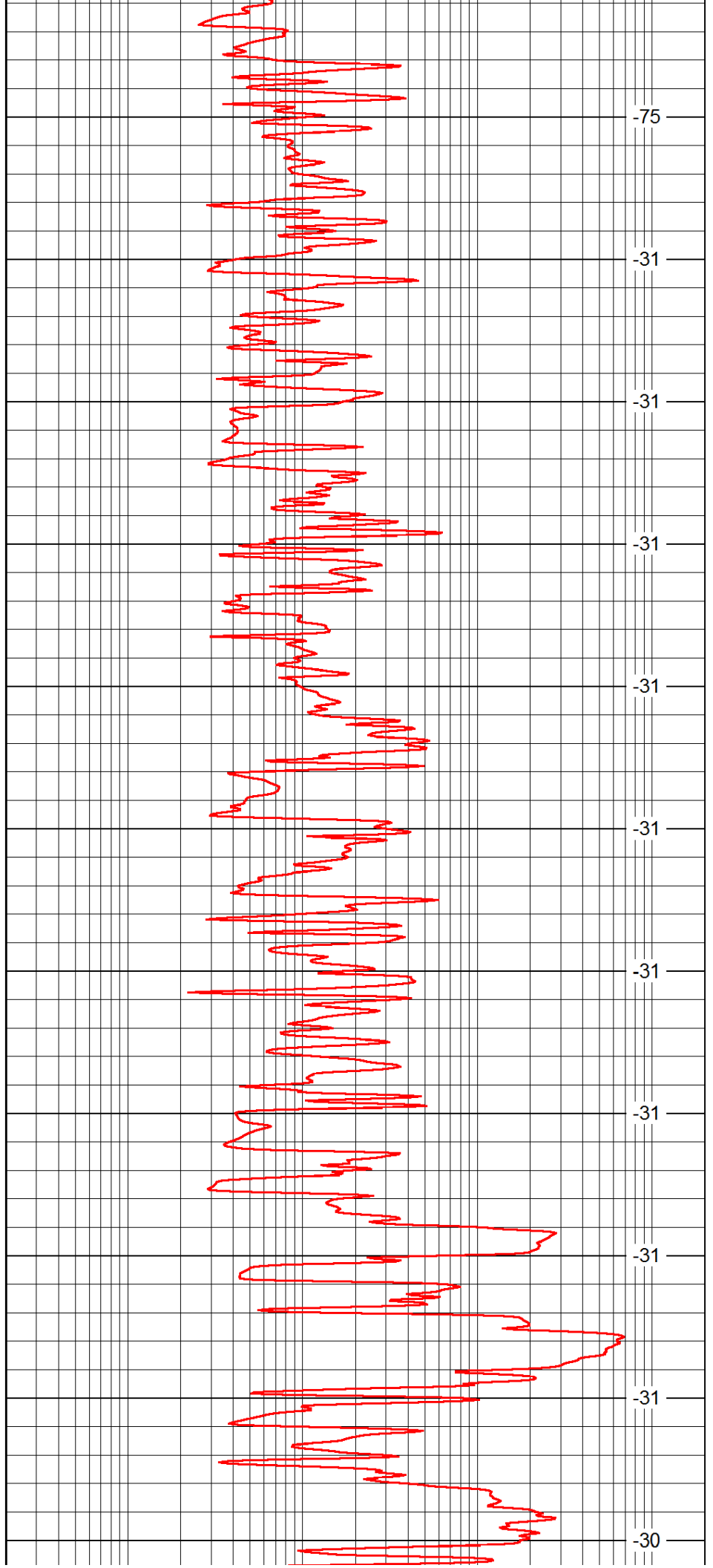
3800

3850

3900

3950

4000



-75

-31

-31

-31

-31

-31

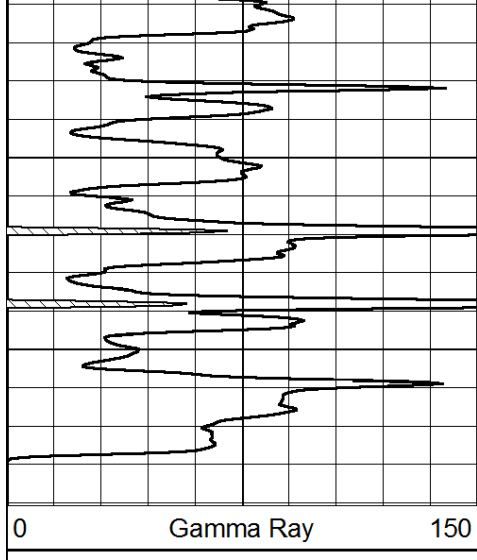
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-31

-31

-31

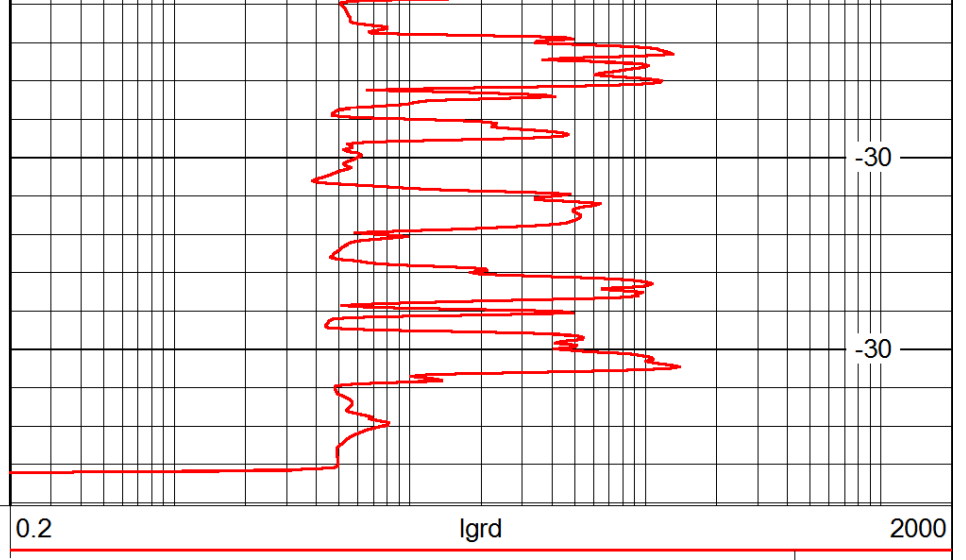
-30



4050

4100

0 Gamma Ray 150



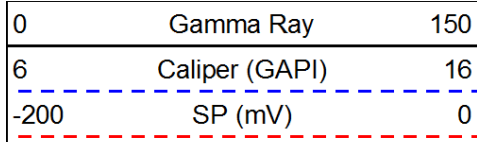
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-30

0.2 lgrd 2000

LSPD

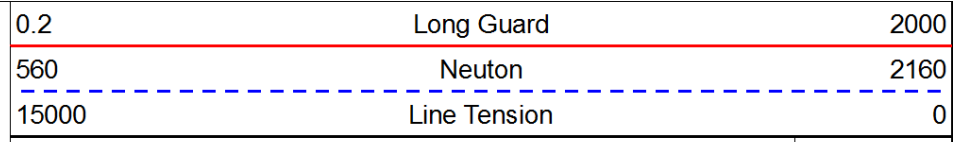
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 Presentation Format: rag  
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 Charted by: Depth in Feet scaled 1:240



0 Gamma Ray 150

6 Caliper (GAPI) 16

-200 SP (mV) 0

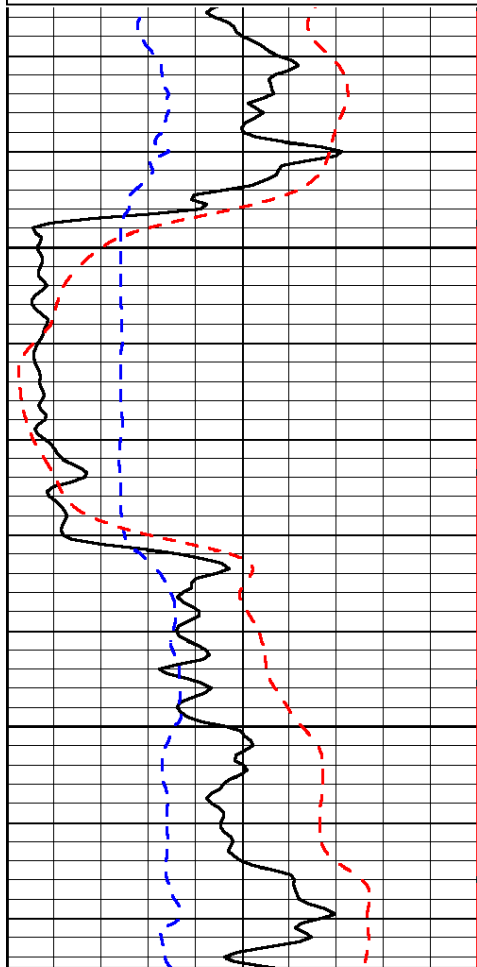


0.2 Long Guard 2000

560 Neutron 2160

15000 Line Tension 0

LSPD

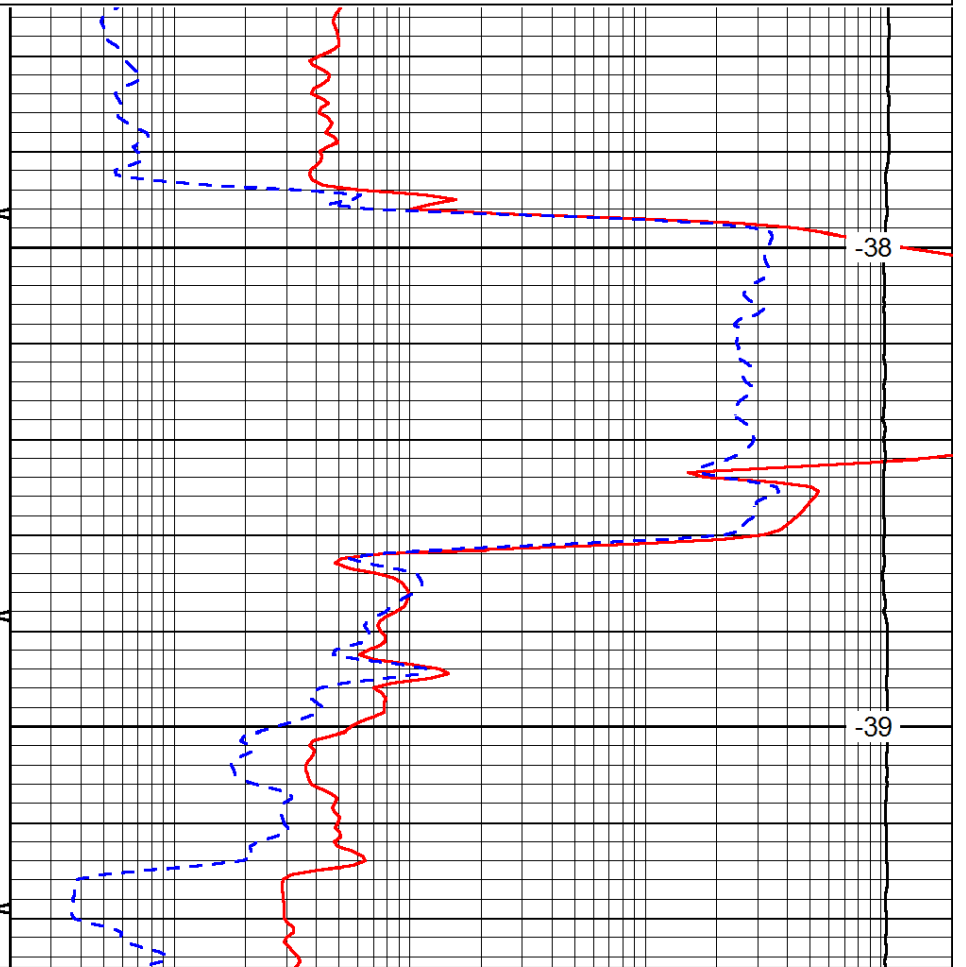


2200

2250

0 Gamma Ray 150

6 Caliper (GAPI) 16



-38

-39

0.2 Long Guard 2000

560 Neutron 2160

LSPD

-200 SP (mV) 0

15000 Line Tension 0

LSPD

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LSPD

