



Pioneer Energy Services

Radiation Guard Log

15-065-23,958-00-00

API No.

Company **Spiral Energy Corp.**

Well **Kuehnl No. 1**

Field **Cooper**

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

Location **660' FSL & 2310' FWL**

Sec: **34** Twp: **9 S** Rge: **21 W**

Other Services
MEL

Elevation

Permanent Datum **Ground Level** Elevation **2324**
 Log Measured From **Kelly Bushing** **8** Ft. Above Perm. Datum
 Drilling Measured From **Kelly Bushing**

K.B. 2332
 D.F. 2324
 G.L. 2324

Date	7/20/2013	
Run Number	One	
Depth Driller	3946	
Depth Logger	3945	
Bottom Logged Interval	3944	
Top Log Interval	250	
Casing Driller	8.625 @ 266	
Casing Logger	263	
Bit Size	7.875	
Type Fluid in Hole	Chemical	
Salinity, ppm CL	3700	
Density / Viscosity	9.35 65	
pH / Fluid Loss	10.0 6.0	
Source of Sample	Flowline	
Rm @ Meas. Temp	.34 @ 88	
Rmf @ Meas. Temp	.26 @ 88	
Rmc @ Meas. Temp	.46 @ 88	
Source of Rmf / Rmc	Charts	
Rm @ BHT	.26 @ 115	
Operating Rig Time	3 Hours	
Max Rec. Temp. F	115	
Equipment Number	108	
Location	Hays	
Recorded By	D. Martin	
Witnessed By	Bill Robinson	Rodney Cox

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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

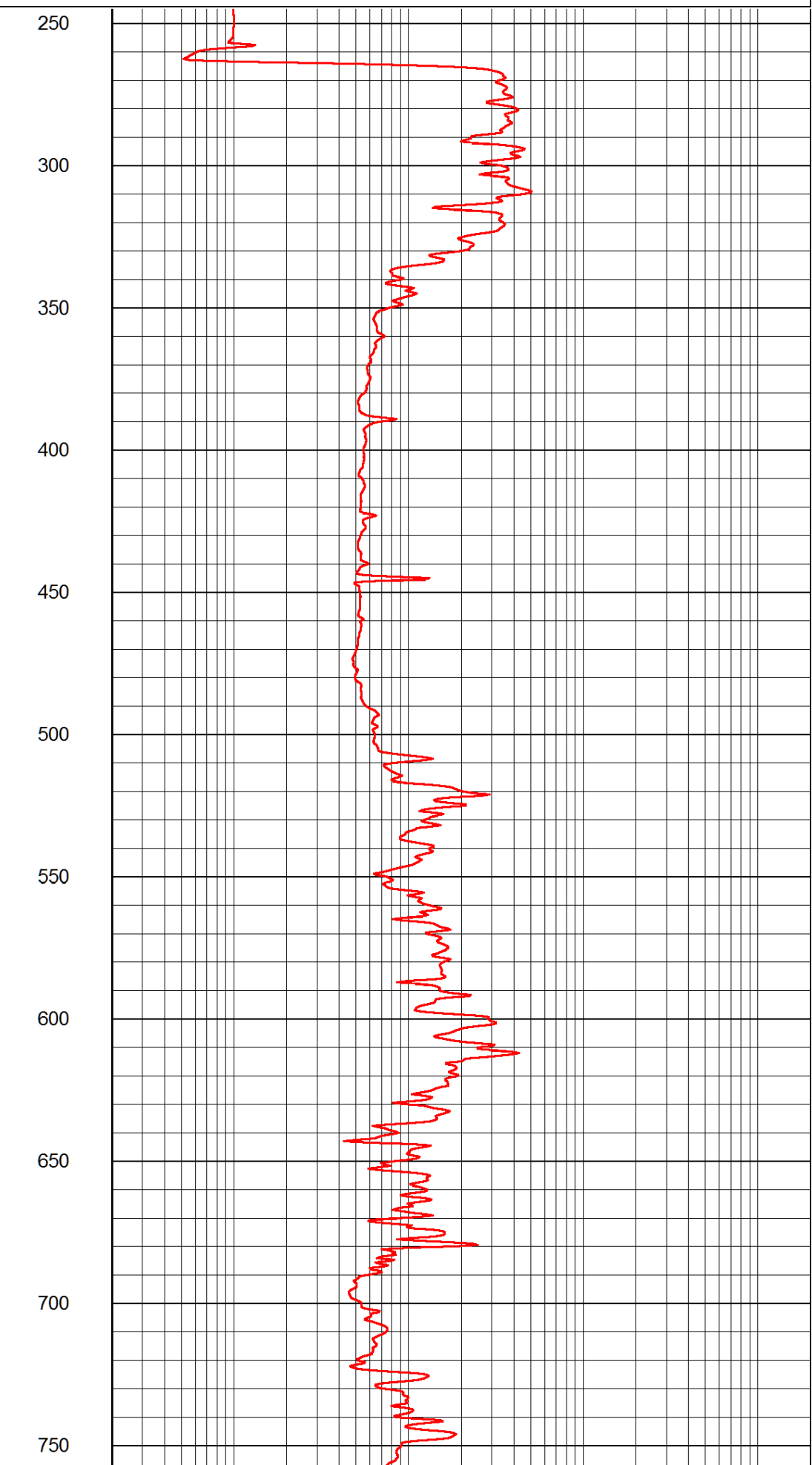
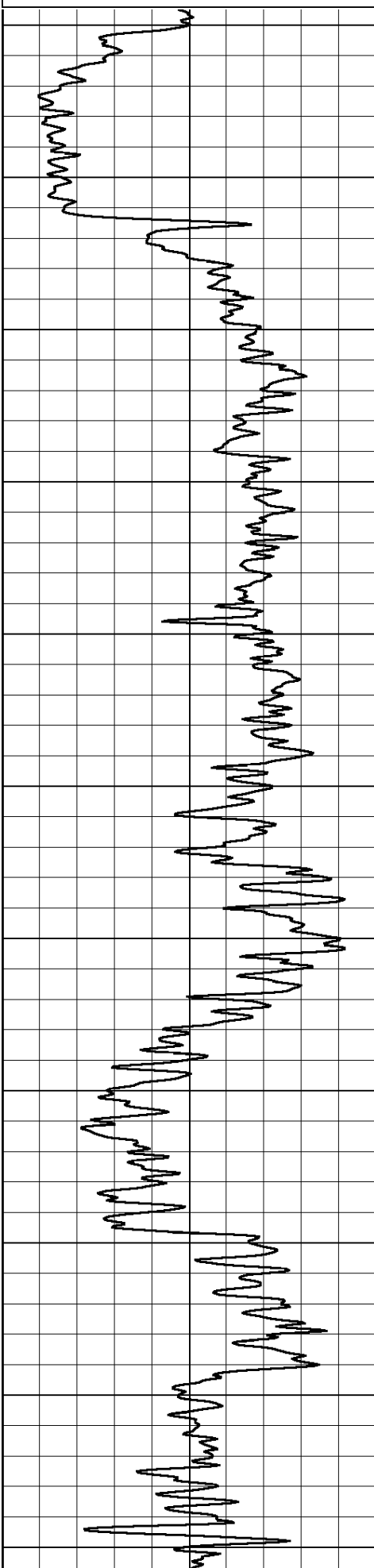
Thank you for using Log-Tech, Inc.
 (785) 625-3858

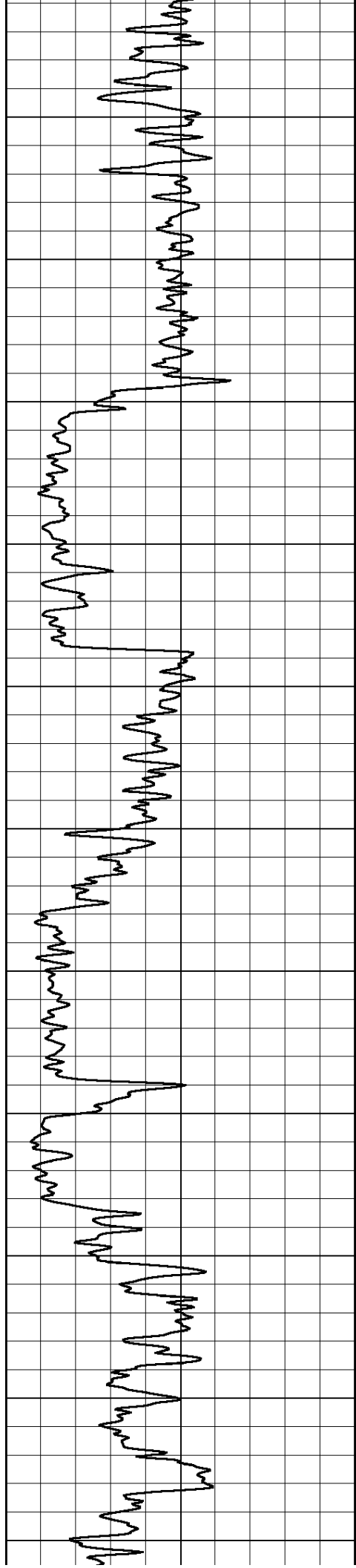
Palco, KS
 2 S to Y Rd., 4 1/2 W, N Into

Database File: spiral_kuehnl_1hd.db
 Dataset Pathname: rag/spirag
 Presentation Format: rag2in
 Dataset Creation: Sat Jul 20 19:28:20 2013
 Charted by: Depth in Feet scaled 1:600

0 Gamma Ray (GAPI) 150

0.2 Igrd (Ohm-m) 2000





800

850

900

950

1000

1050

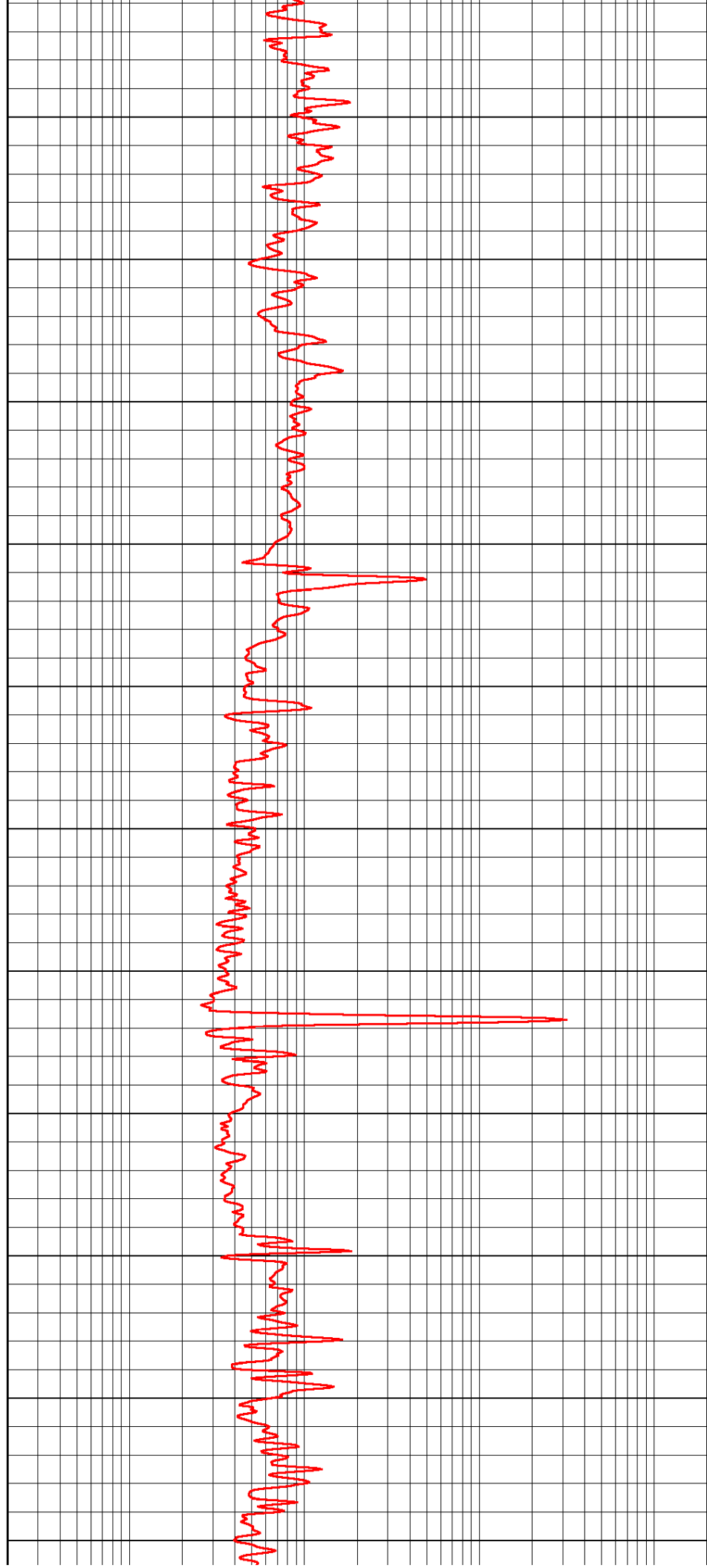
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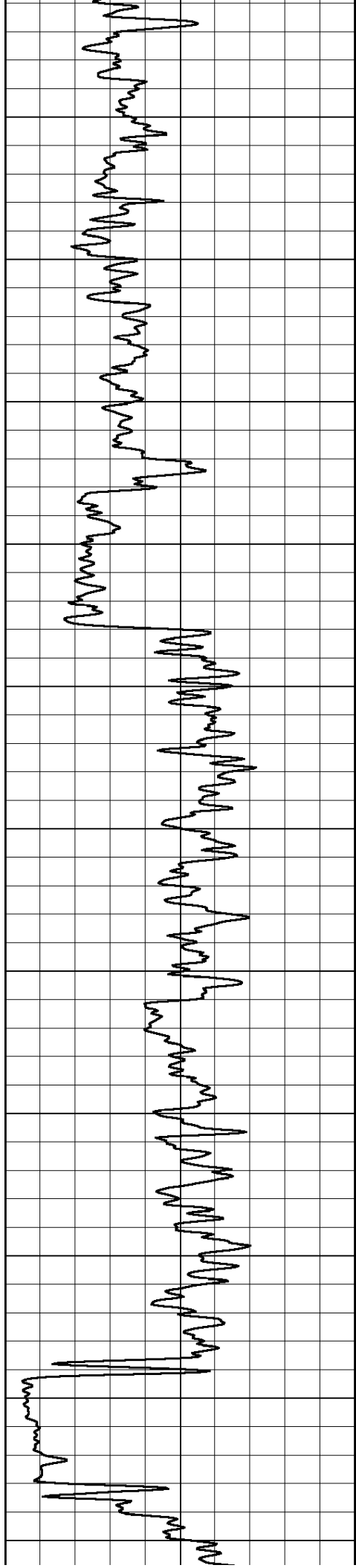
1150

1200

1250

1300





1350

1400

1450

1500

1550

1600

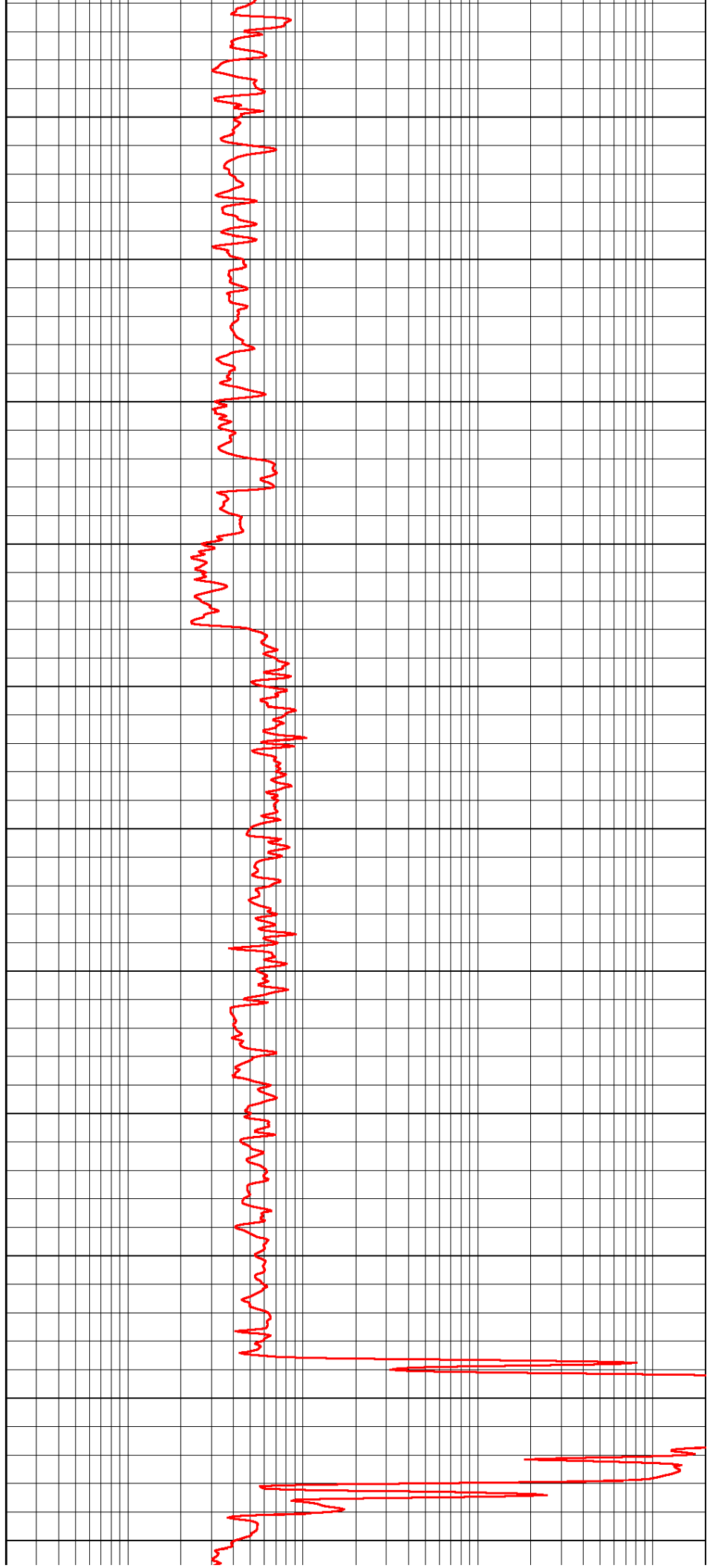
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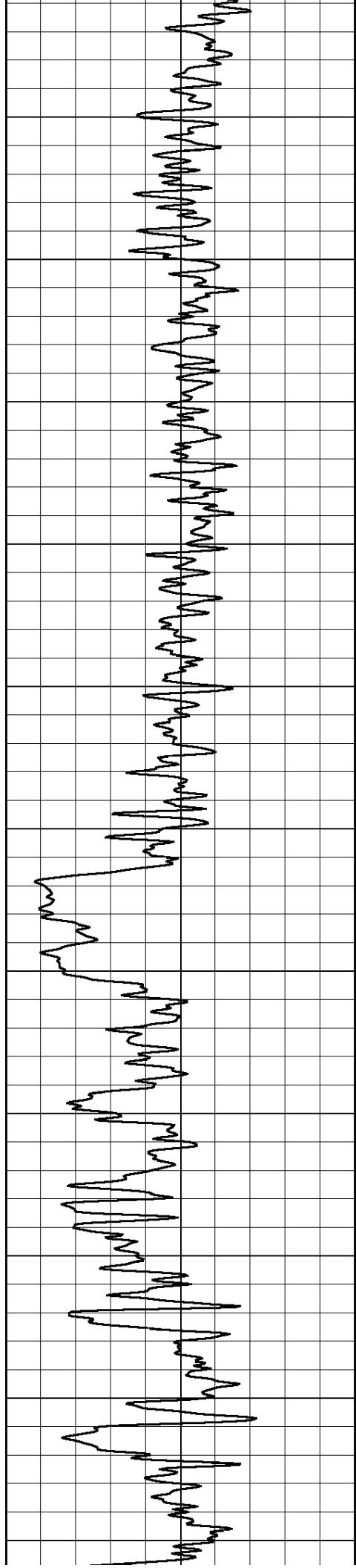
1700

1750

1800

1850





1900

1950

2000

2050

2100

2150

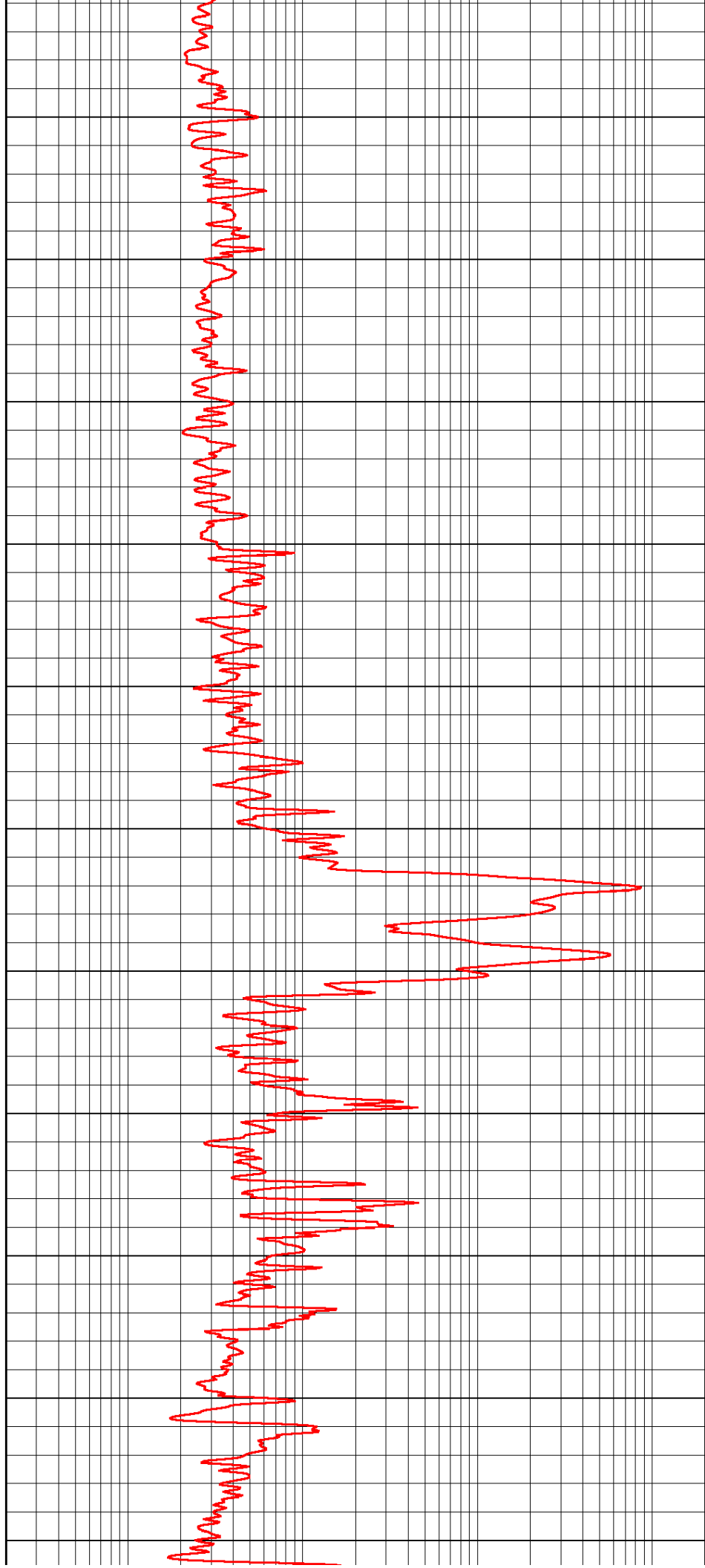
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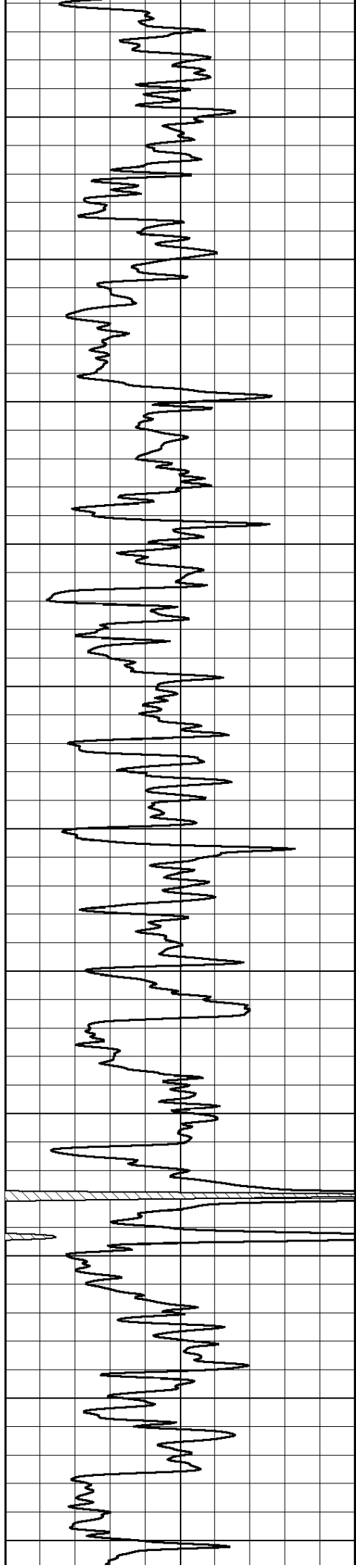
2250

2300

2350

2400





2450

2500

2550

2600

2650

2700

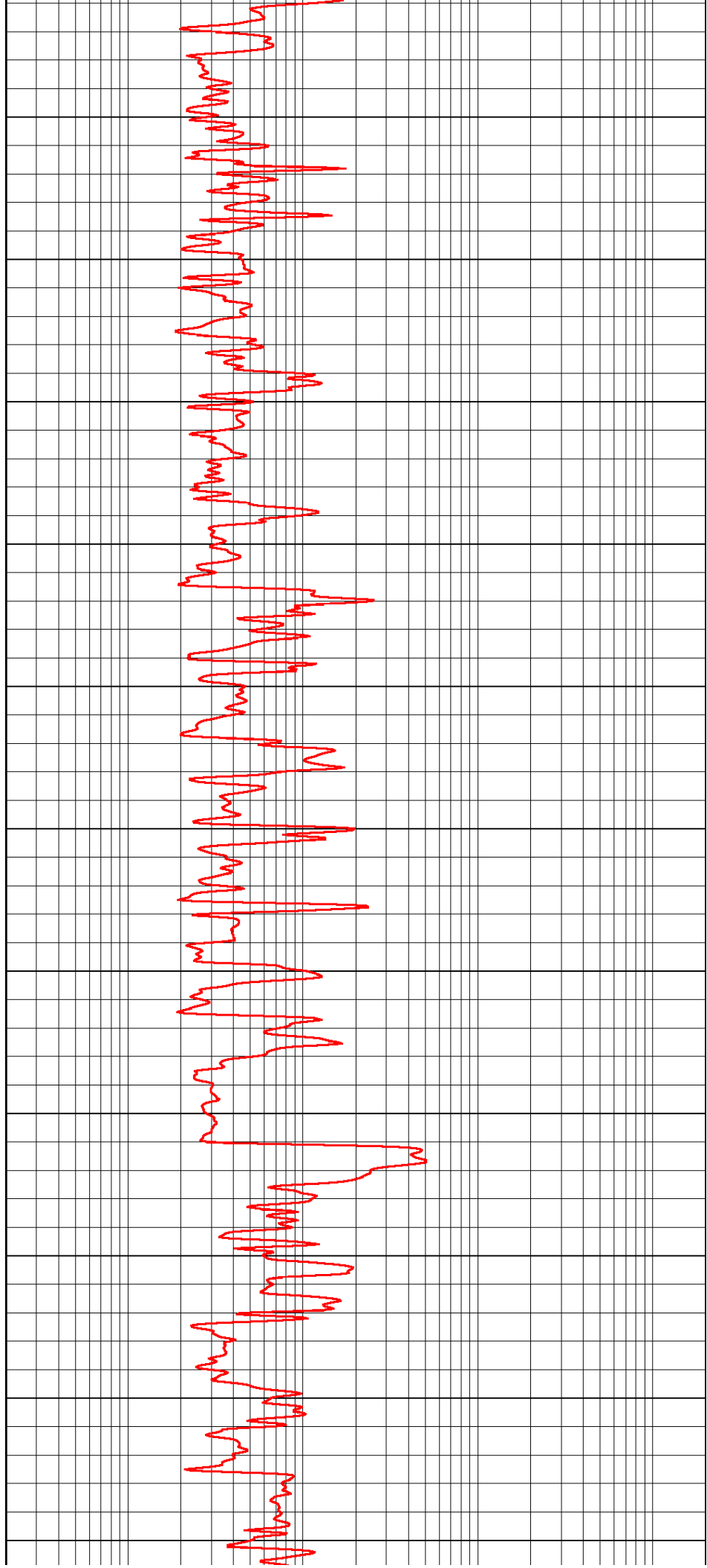
2750

2800

2850

2900

2950



2450

2500

2550

2600

2650

2700

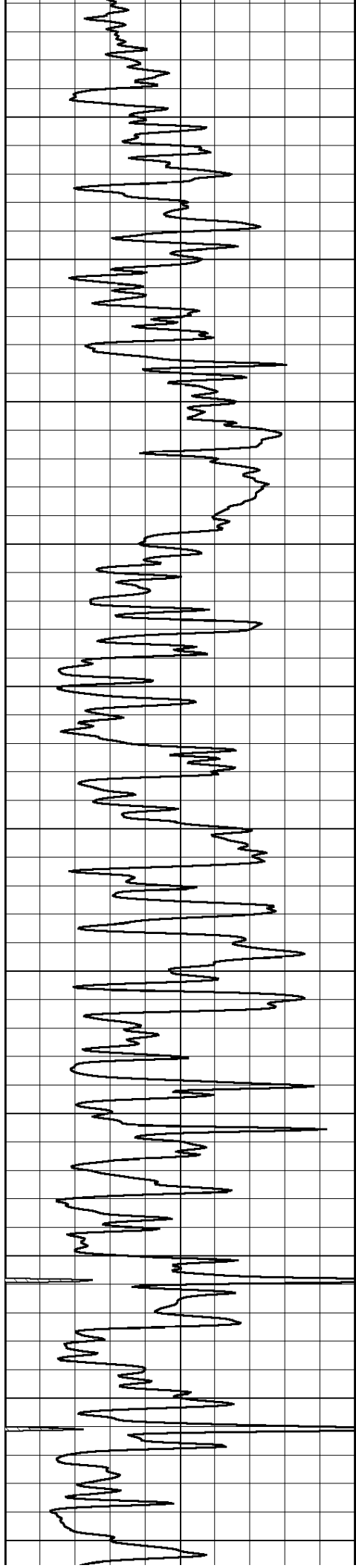
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2800

2850

2900

2950



3000

3050

3100

3150

3200

3250

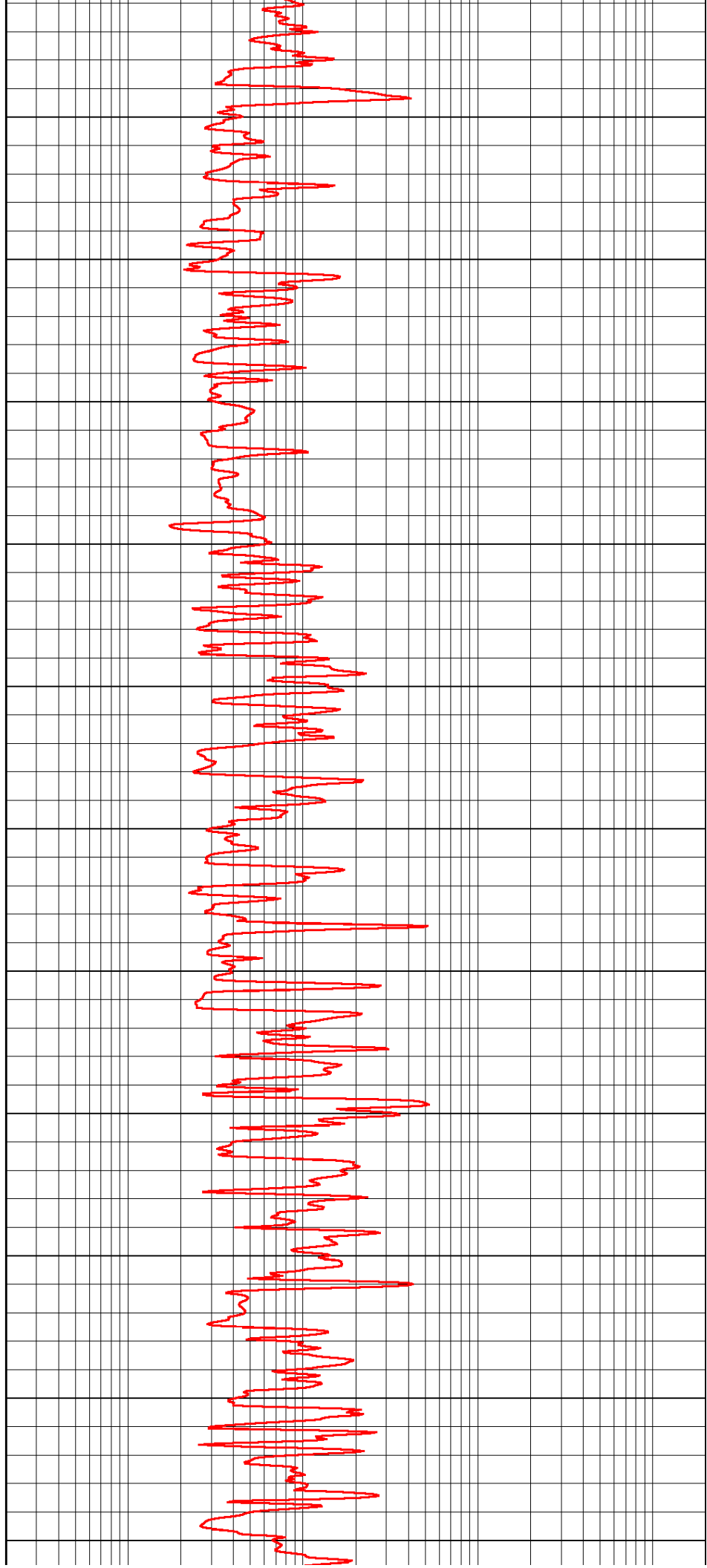
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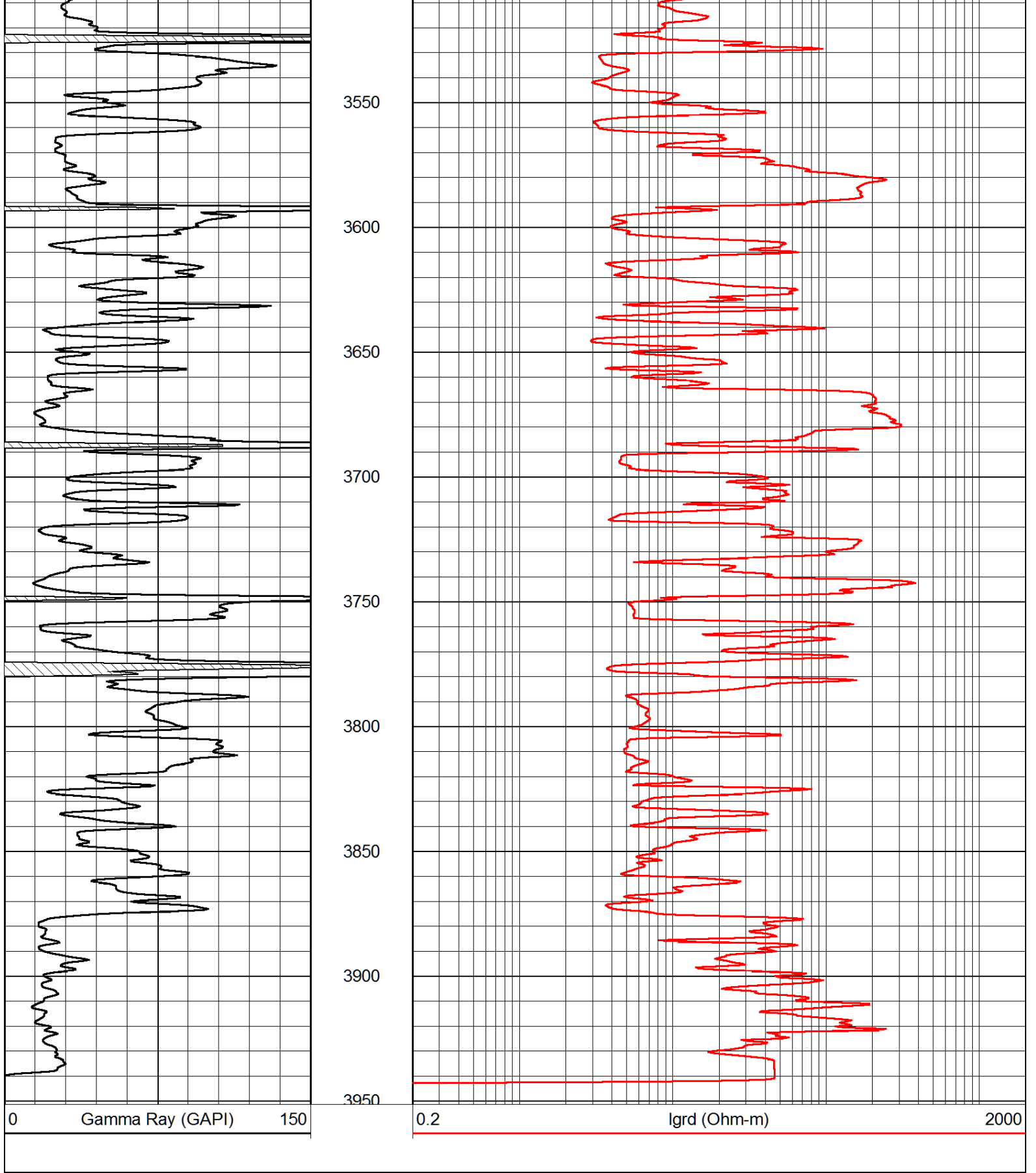
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3400

3450

3500



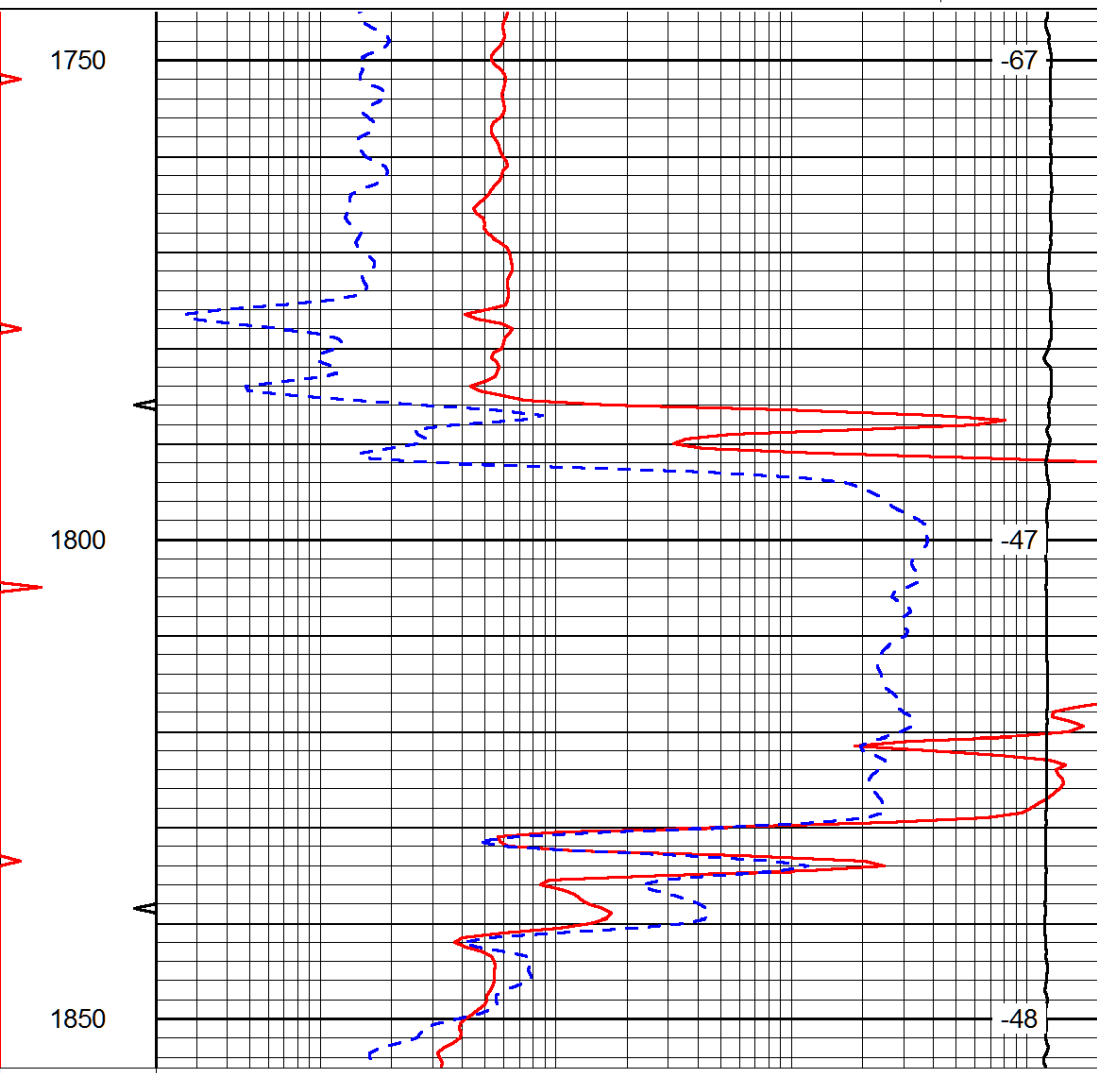
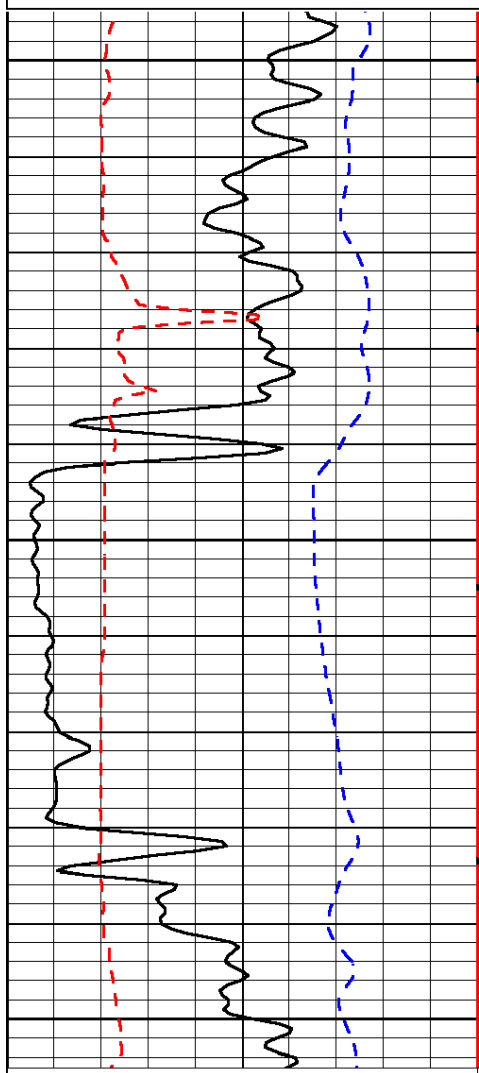


Database File: spiral_kuehnl_1hd.db
 Dataset Pathname: rag/spirag
 Presentation Format: rag
 Dataset Creation: Sat Jul 20 19:28:20 2013
 Charted by: Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150	0.2	LGRD (Ohm-m)	2000
6	SCALE (in)	16	560	SWING (NAPI)	2160

SCAL (in)	10	
-200	sp (mV)	0
0	RWA (Ohm-m)	0.5

500	SWNC (NAPI)	2100
15000	Line Tension (lb)	0
		LSPD (ft/min)



0	Gamma Ray (GAPI)	150
6	SCAL (in)	16
-200	sp (mV)	0
0	RWA (Ohm-m)	0.5

0.2	LGRD (Ohm-m)	2000
500	SWNC (NAPI)	2160
15000	Line Tension (lb)	0

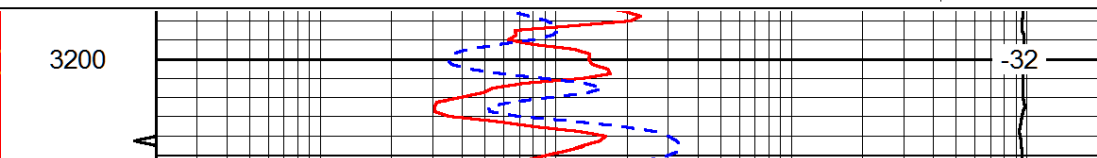
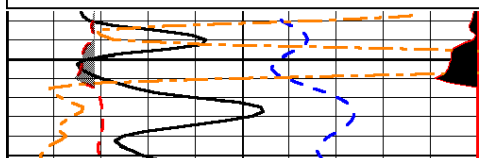
LSPD (ft/min)

Database File: spiral_kuehnl_1hd.db
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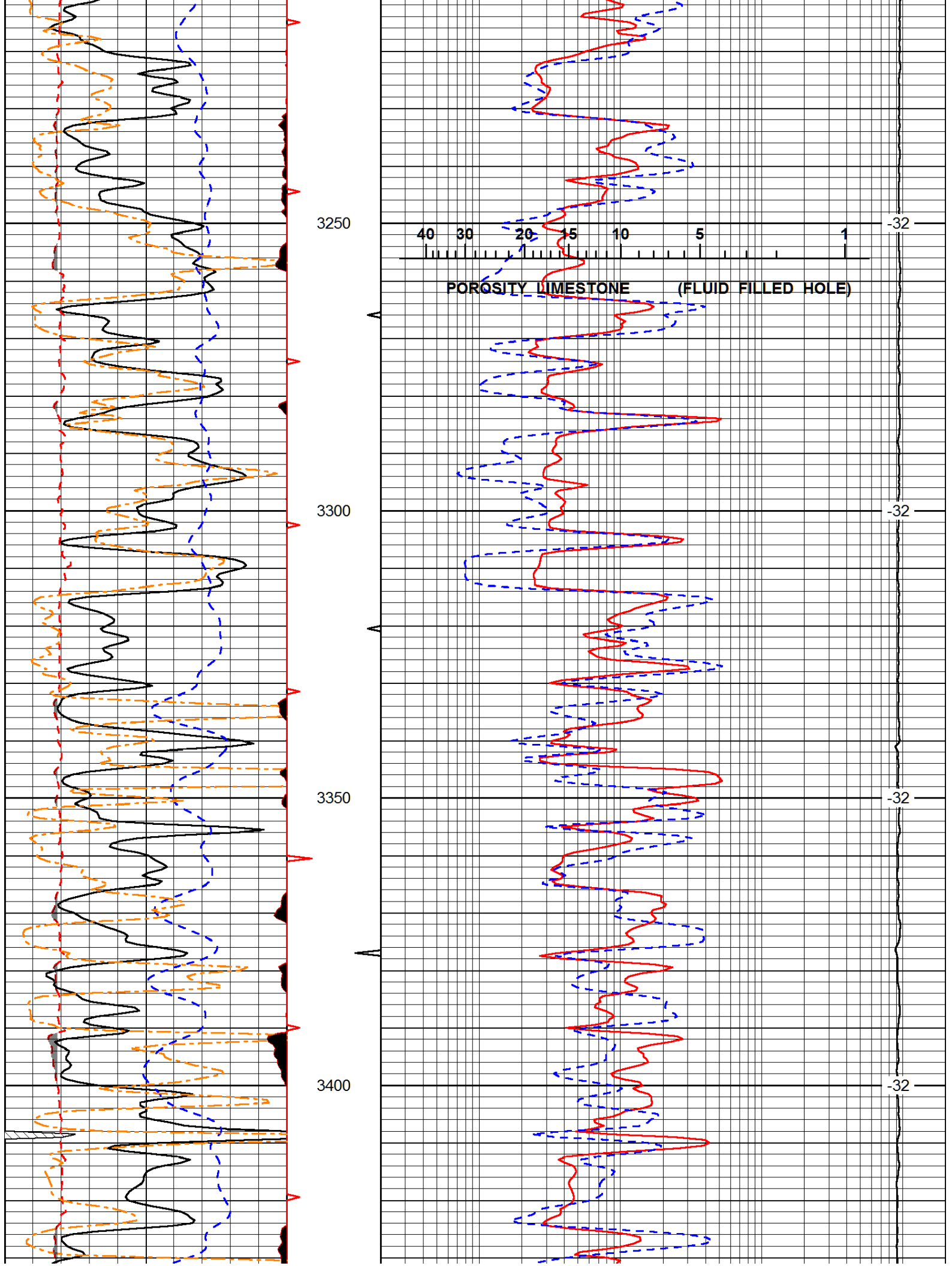
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-200	sp (mV)	0
0	RWA (Ohm-m)	0.5

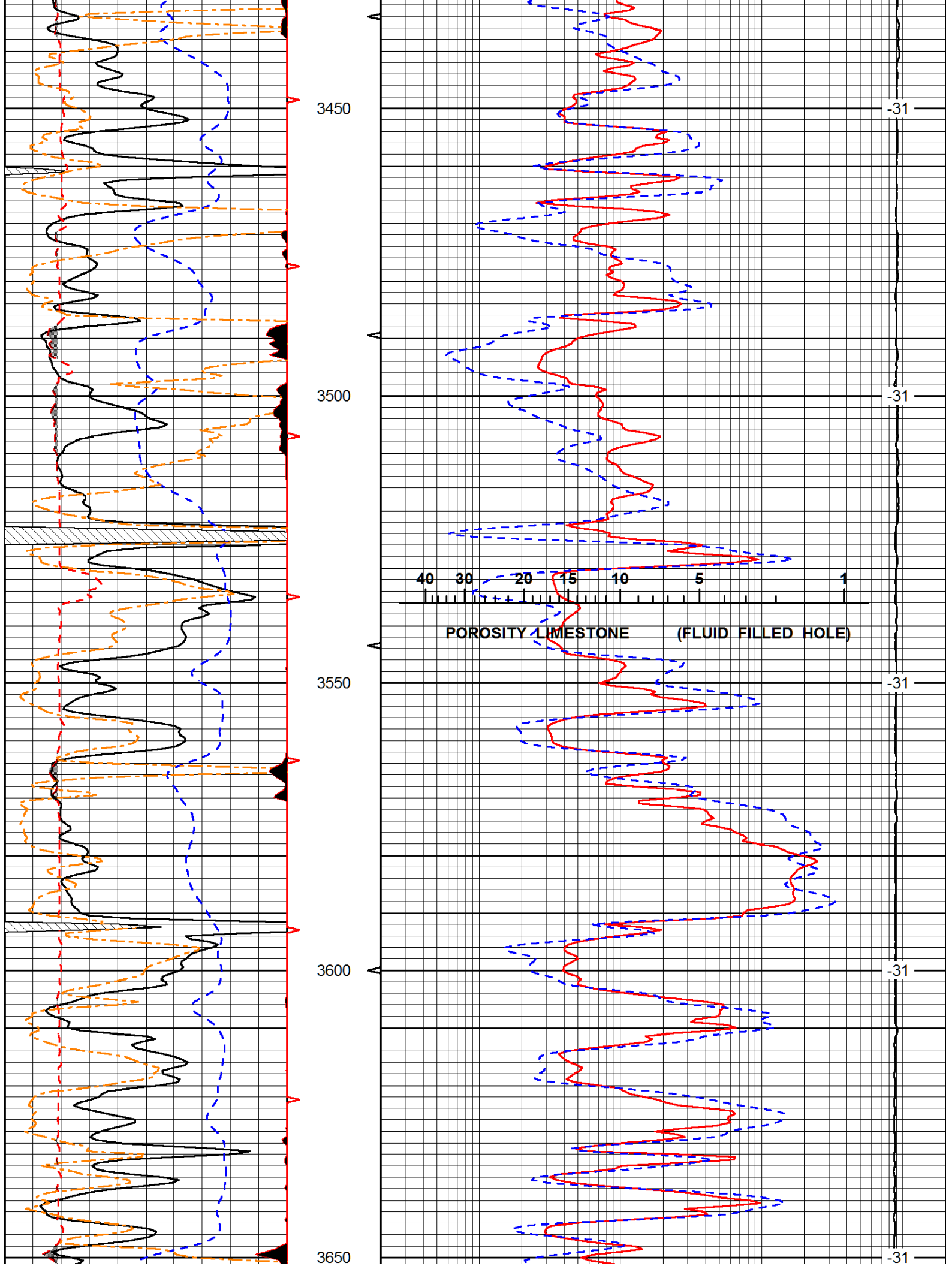
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500	SWNC (NAPI)	2160
15000	Line Tension (lb)	0

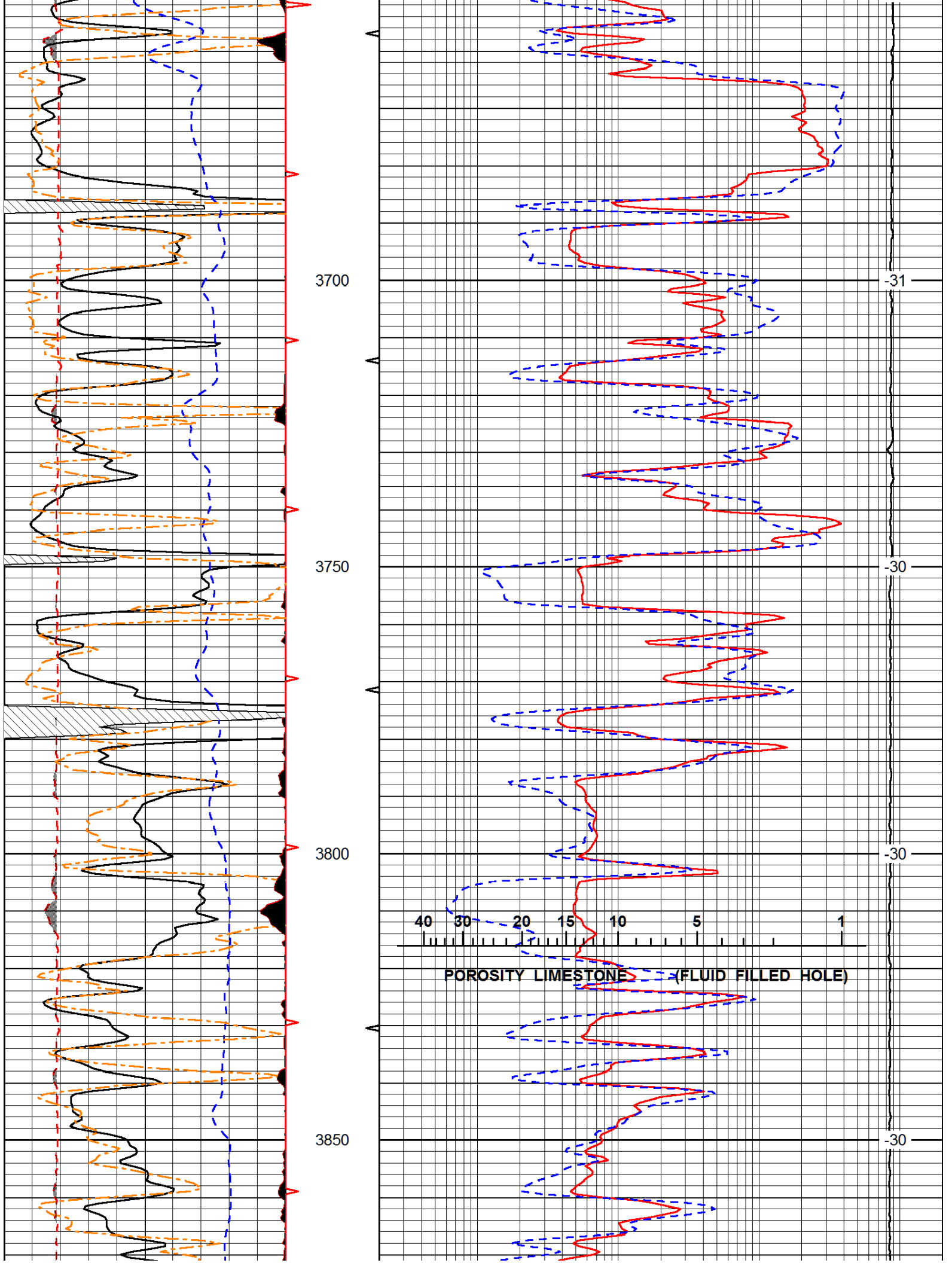
LSPD (ft/min)

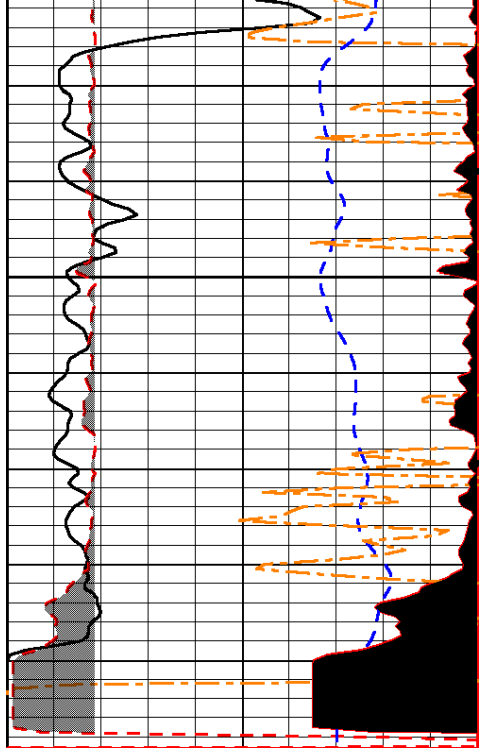


-32





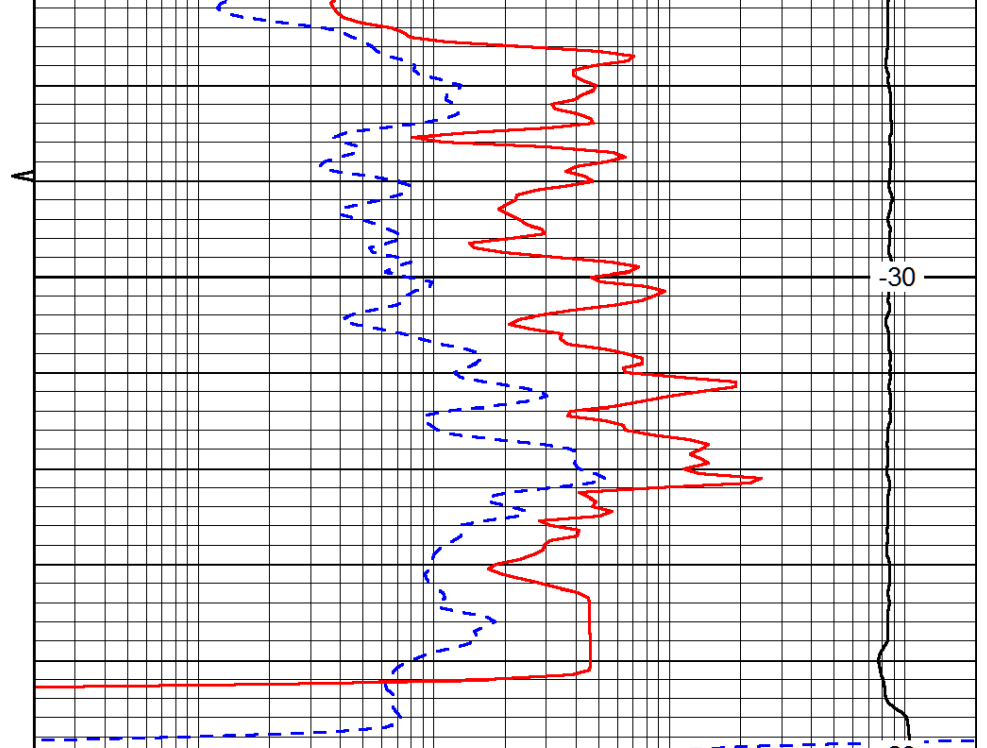




0	Gamma Ray (GAPI)	150
6	SCAL (in)	16
-200	sp (mV)	0
0	RWA (Ohm-m)	0.5

3900

3950



0.2	LGRD (Ohm-m)	2000
560	SWNC (NAPI)	2160
15000	Line Tension (lb)	0

LSPD
(ft/min)

-30

-28