



Dual Induction Log

Pioneer Energy Services

API No.

15-167-23,839-00-00

Company Larson Operating Company

Well Boardman No.1-23

Field Dreher

County Russell

State

Kansas

Location 2180' FSL & 1310' FWL

Sec: 23

Twp: 11S

Rge: 15W

Permanent Datum Ground Level Elevation 1848
Log Measured From Kelly Bushing 5 Ft. Above Perm. Datum
Drilling Measured From Kelly Bushing

Other Services
CNL/CDL
MEL

Elevation
K.B. 1853
D.F. 1848
G.L. 1848

Date

12/5/2012

Run Number

One

Depth Driller

3400

Depth Logger

3406

Bottom Logged Interval

3405

Top Log Interval

200

Casing Driller

8.625 @ 227

Casing Logger

227

Bit Size

7.875

Type Fluid in Hole

Chemical

Salinity,ppm CL

3,800

Density / Viscosity

9.4 42

pH / Fluid Loss

10.0 8.0

Source of Sample

Flowline

Rm @ Meas. Temp

.7 @ 46

Rmf @ Meas. Temp

.53 @ 46

Rmc @ Meas. Temp

.95 @ 46

Source of Rmf / Rmc

Charts

Rm @ BHT

.29 @ 110

Operating Rig Time

4 Hours

Max Rec. Temp. F

110

Equipment Number

17

Location

Hays

Recorded By

C. Desaire

Witnessed By

Tom Larson

<<< Fold Here >>>

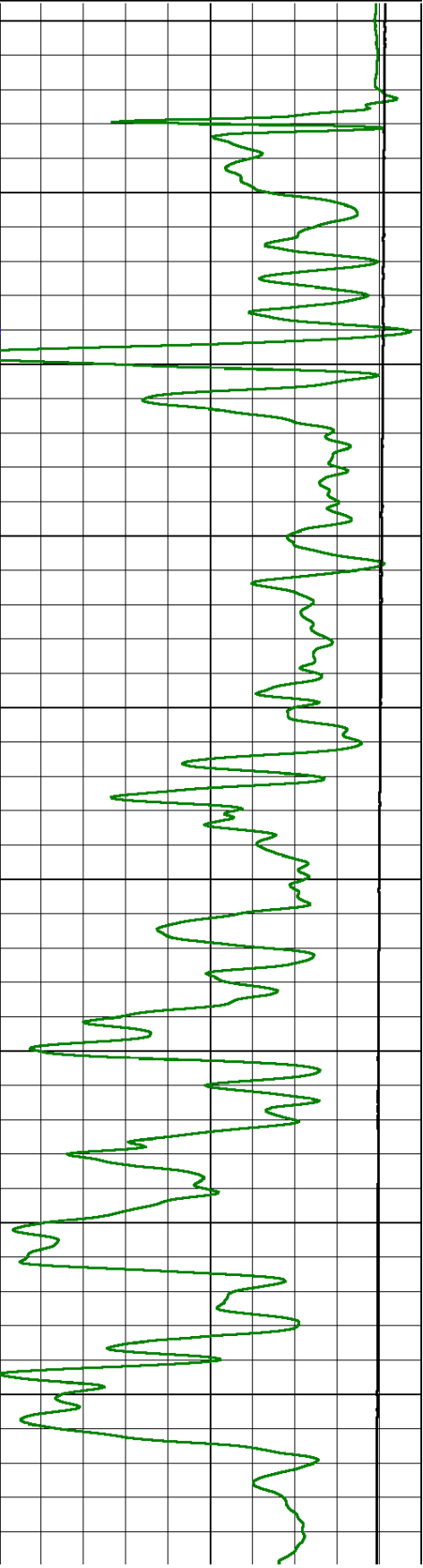
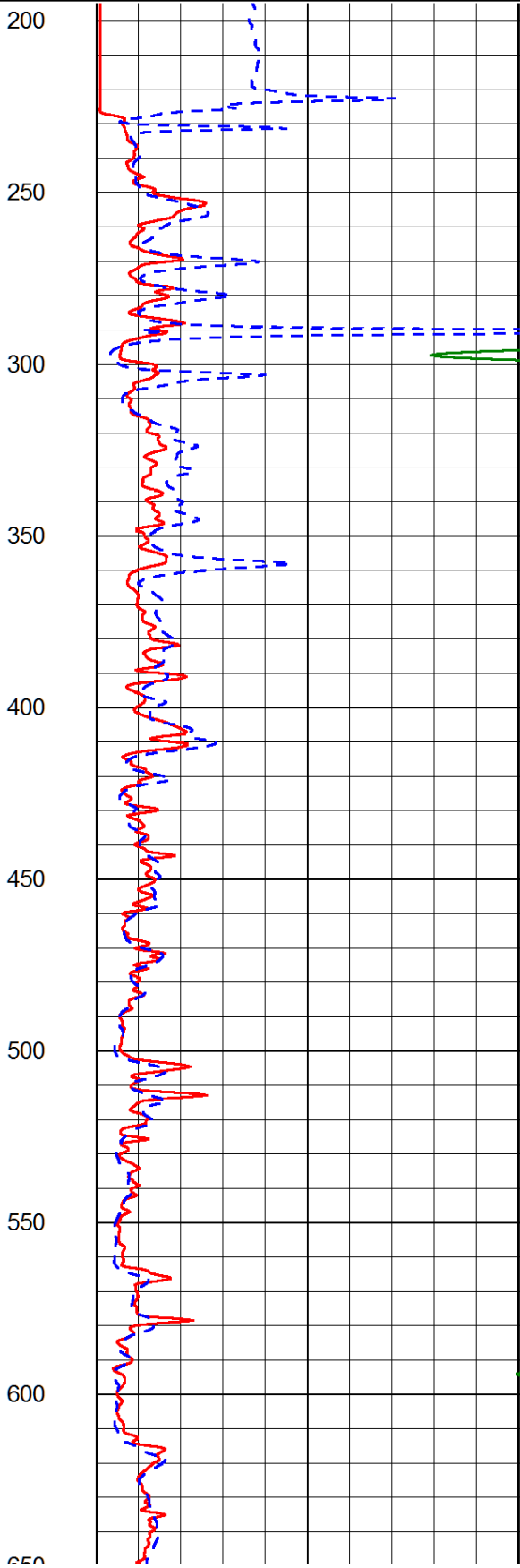
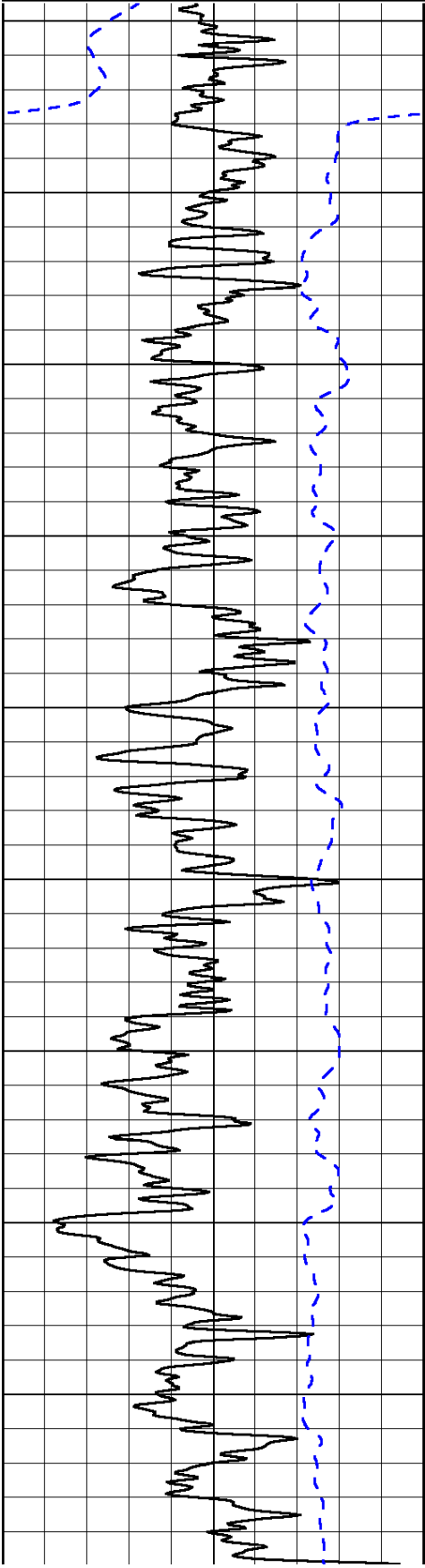
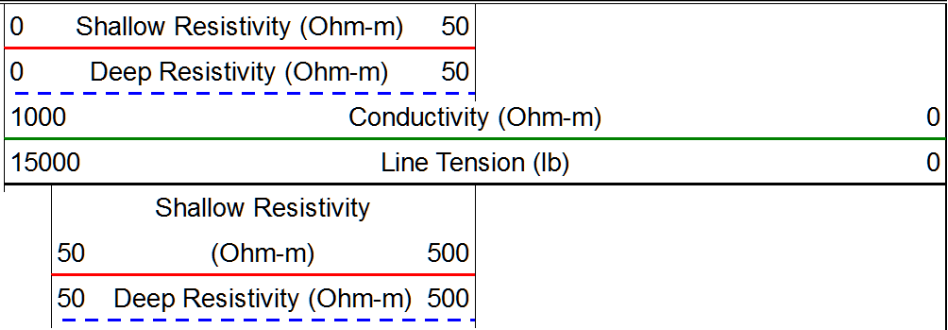
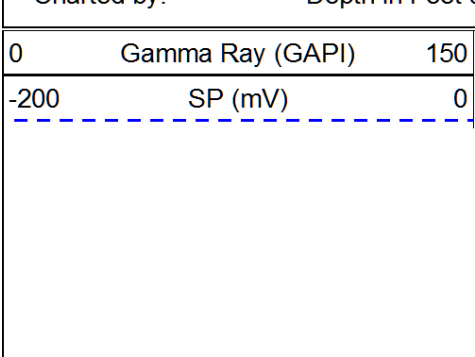
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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.

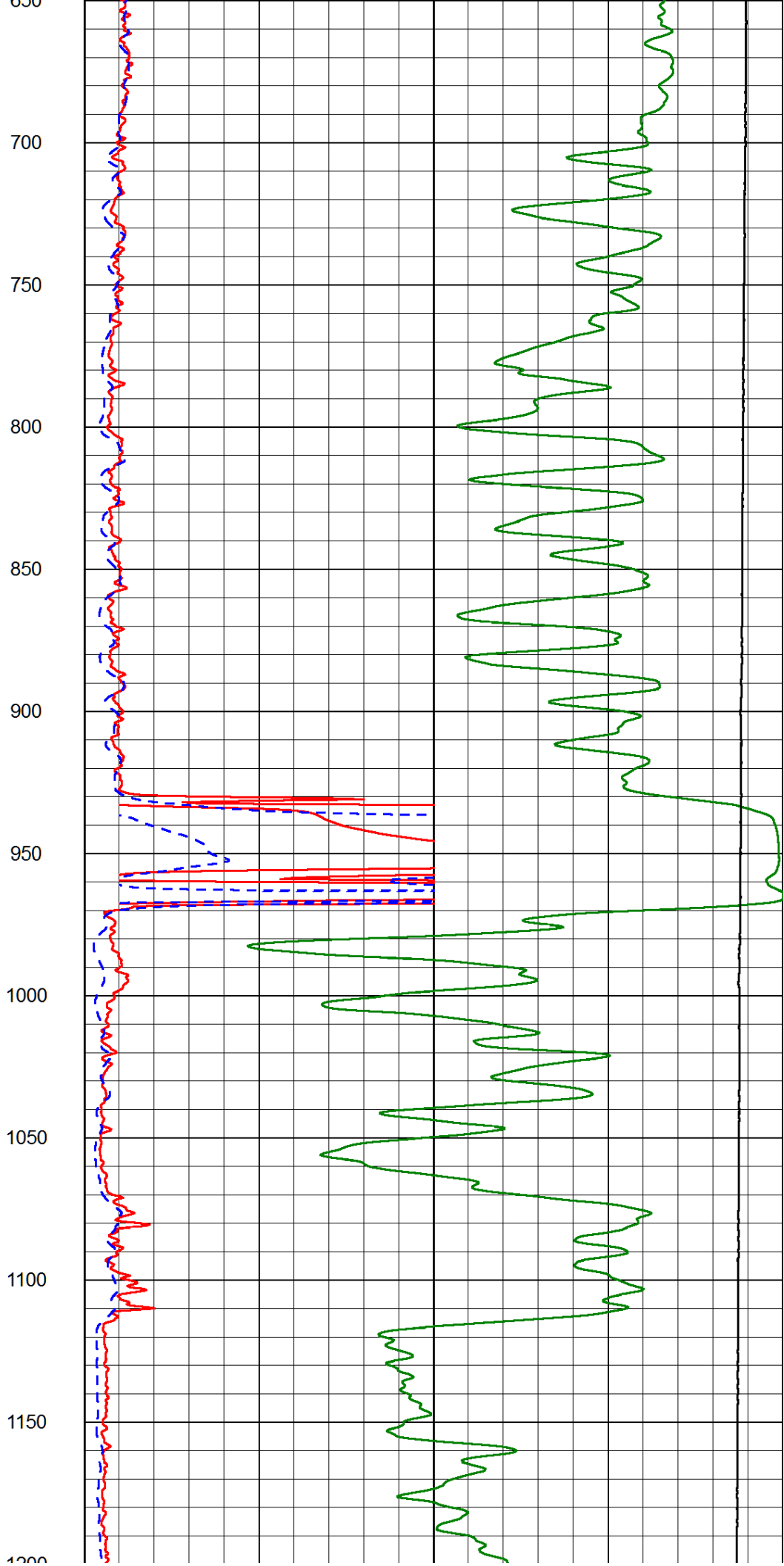
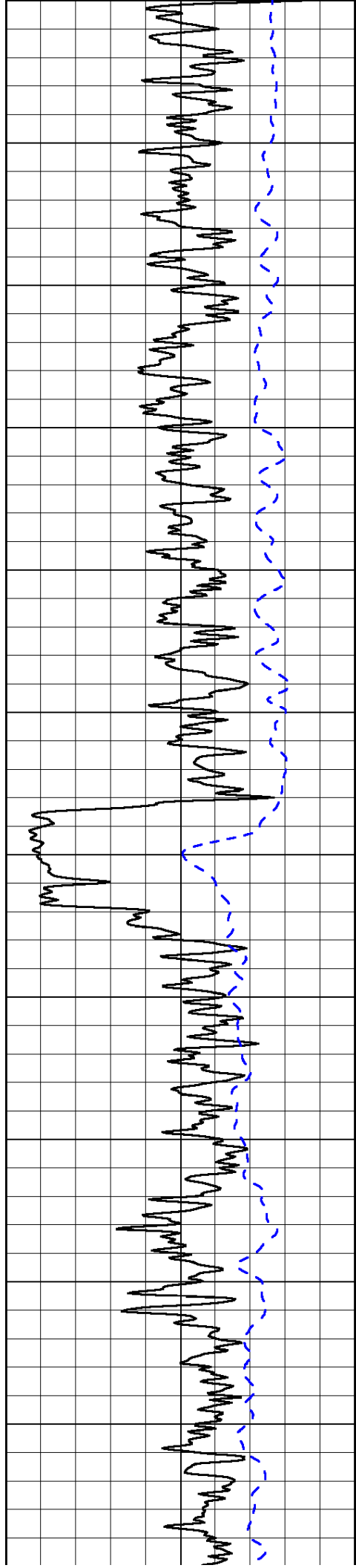
Comments

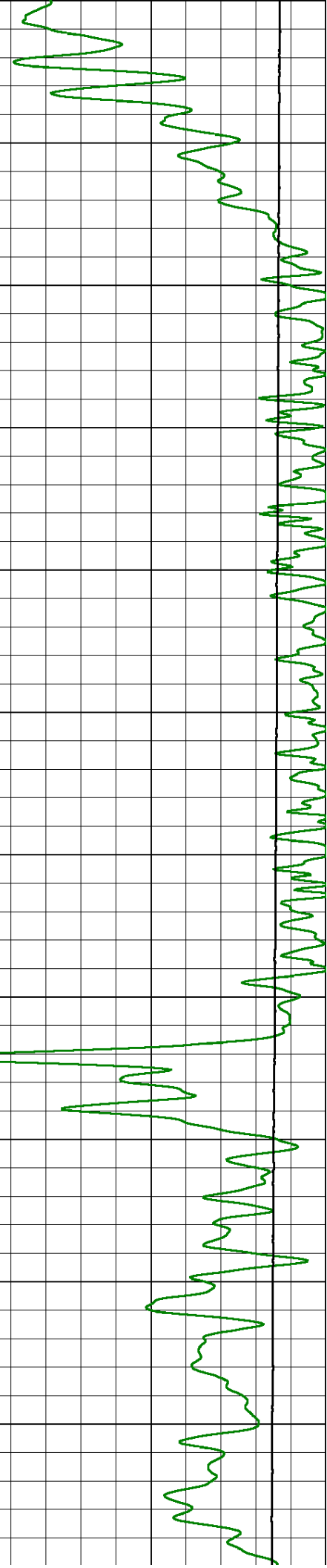
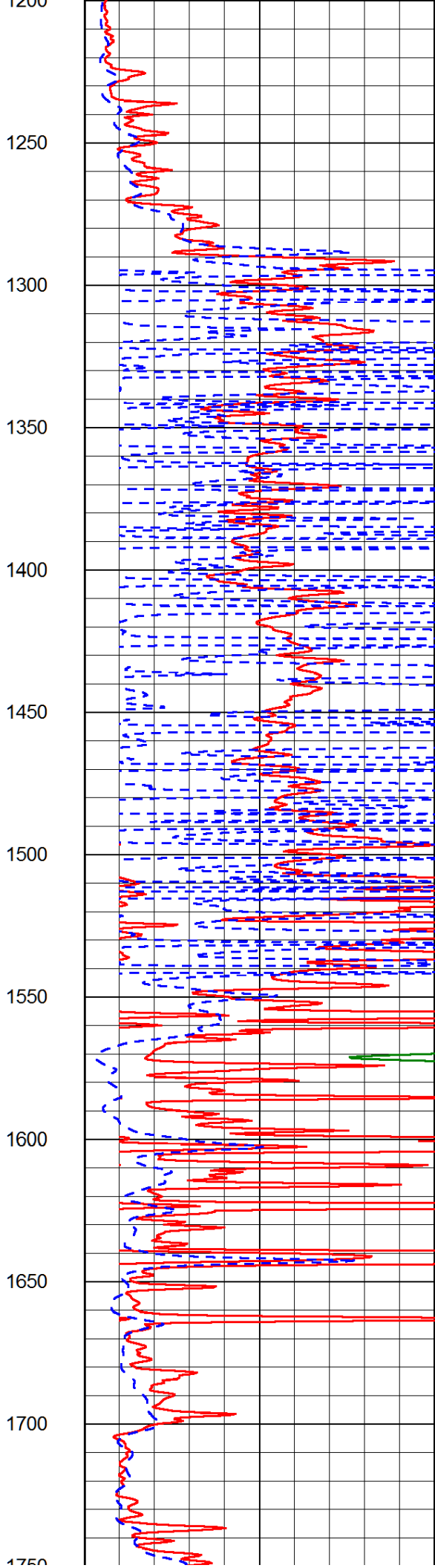
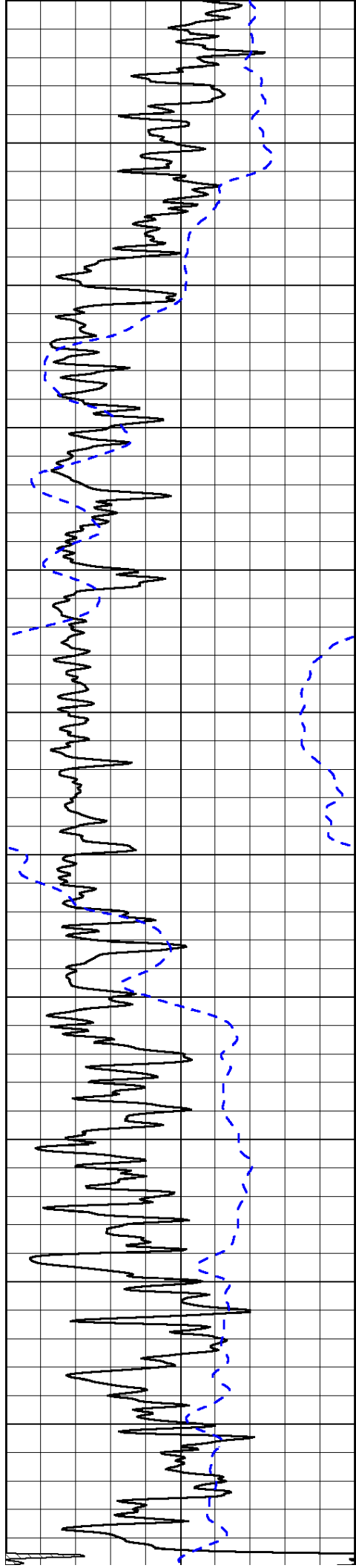
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(785) 625-3858

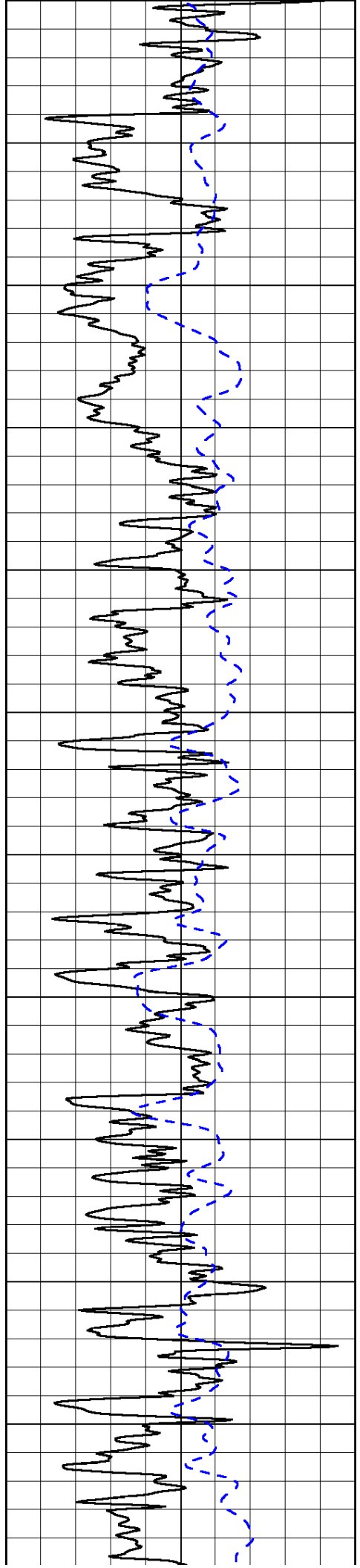
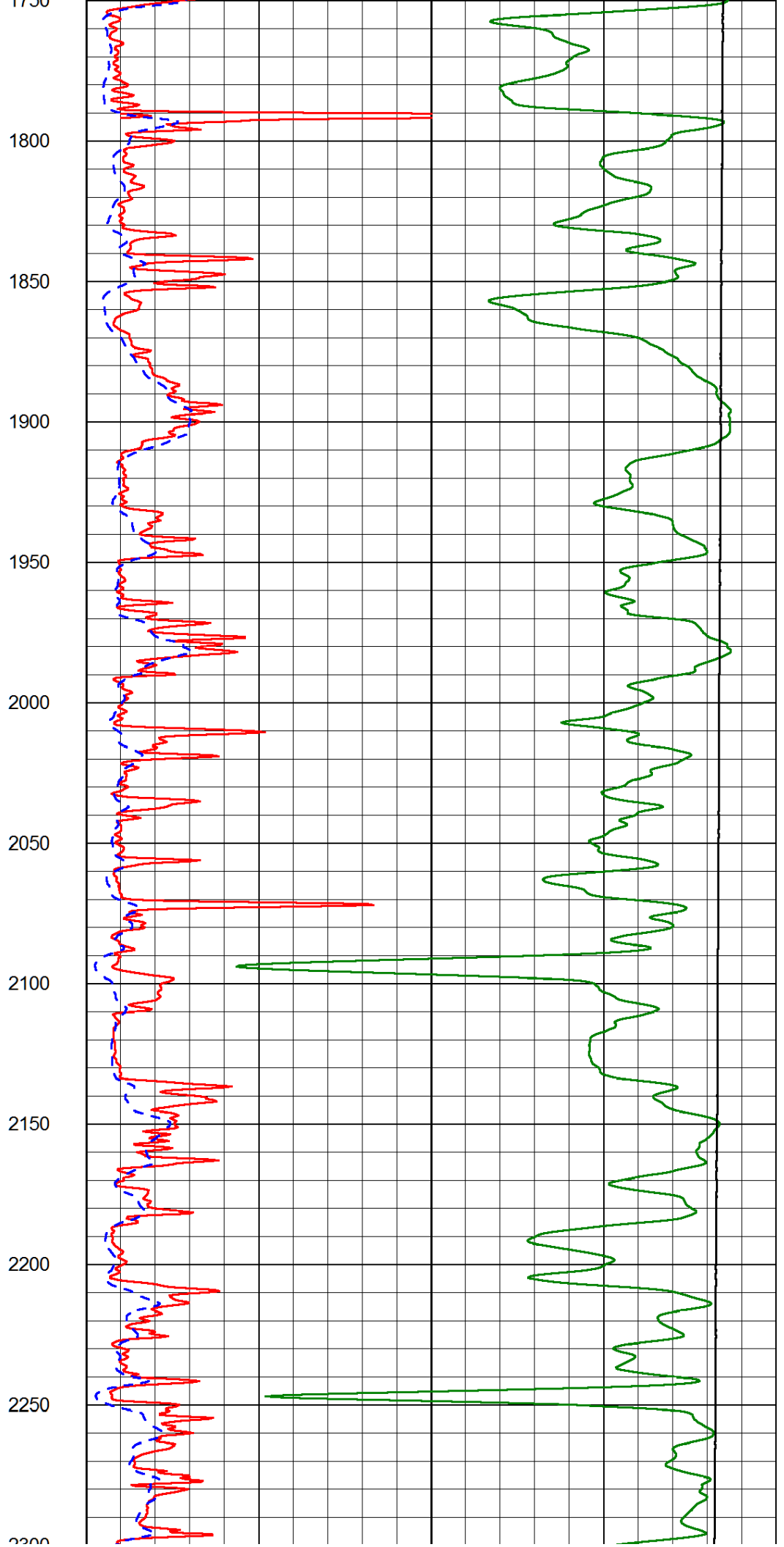
Paradise KS, 2 S on Main St through the curves to Paradise Rd,
2 W to 1799 Rd, 1/2 S, E Into

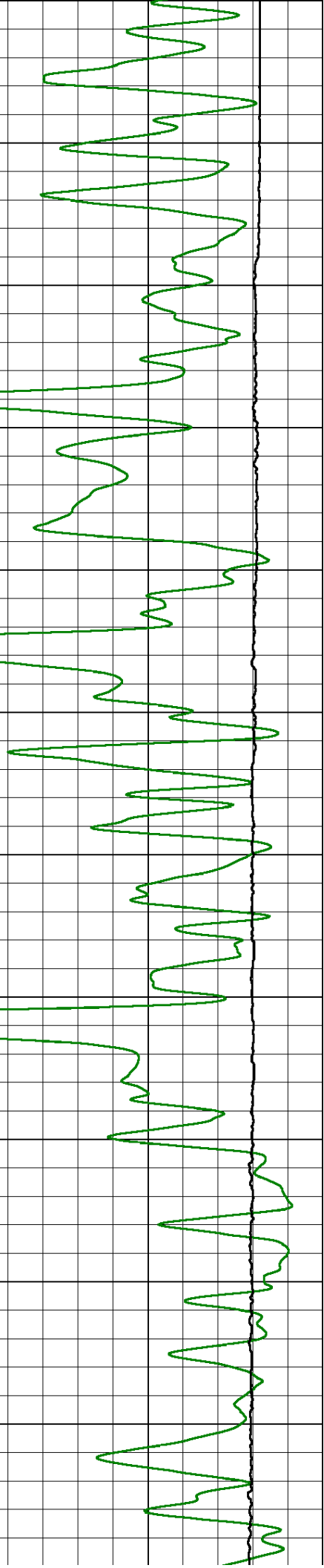
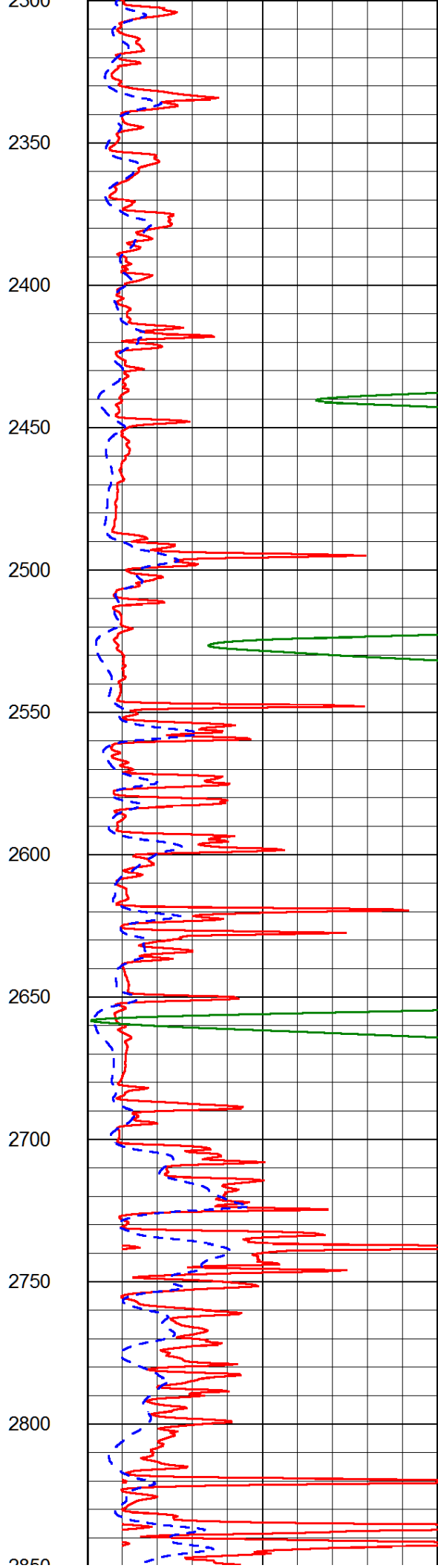
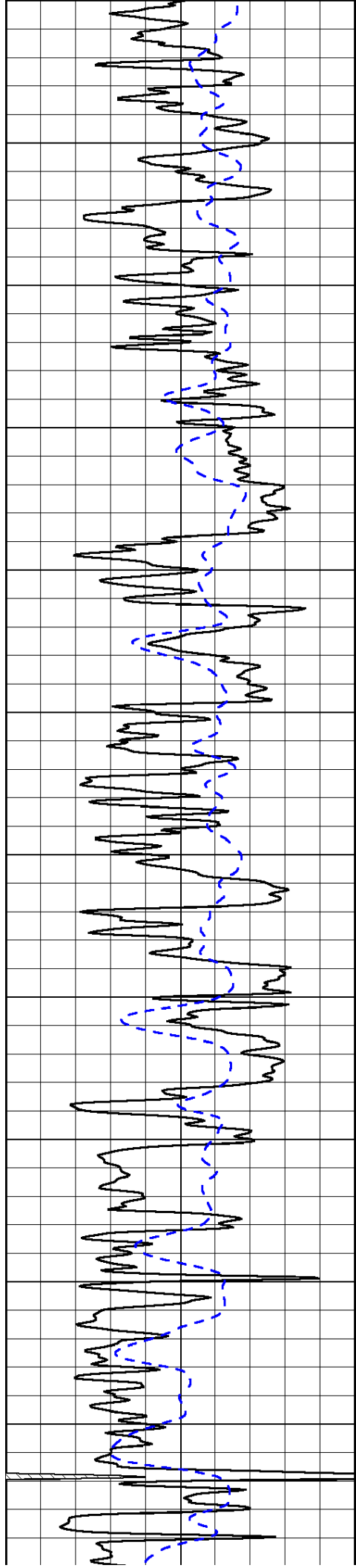
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Presentation Format: dil2in
Dataset Creation: Wed Dec 05 07:45:41 2012
Charted by: Depth in Feet scaled 1:600

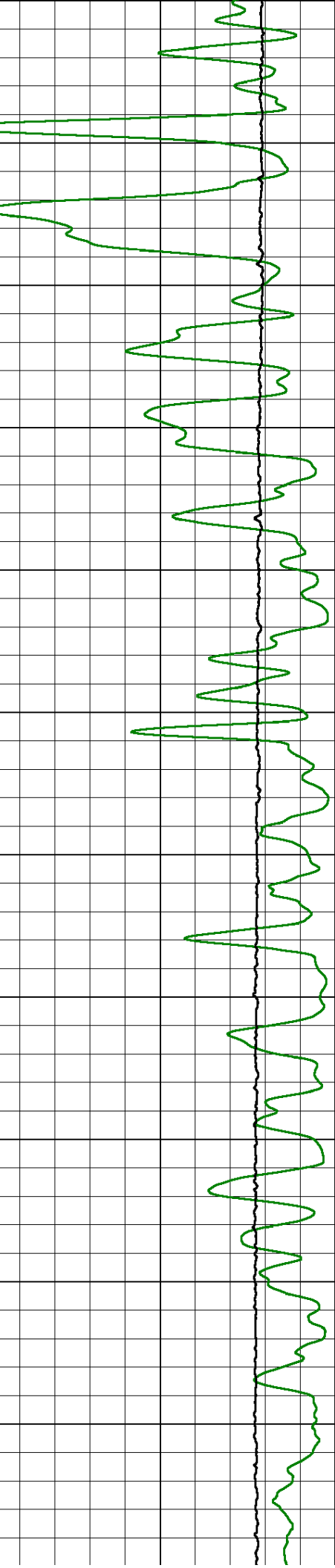
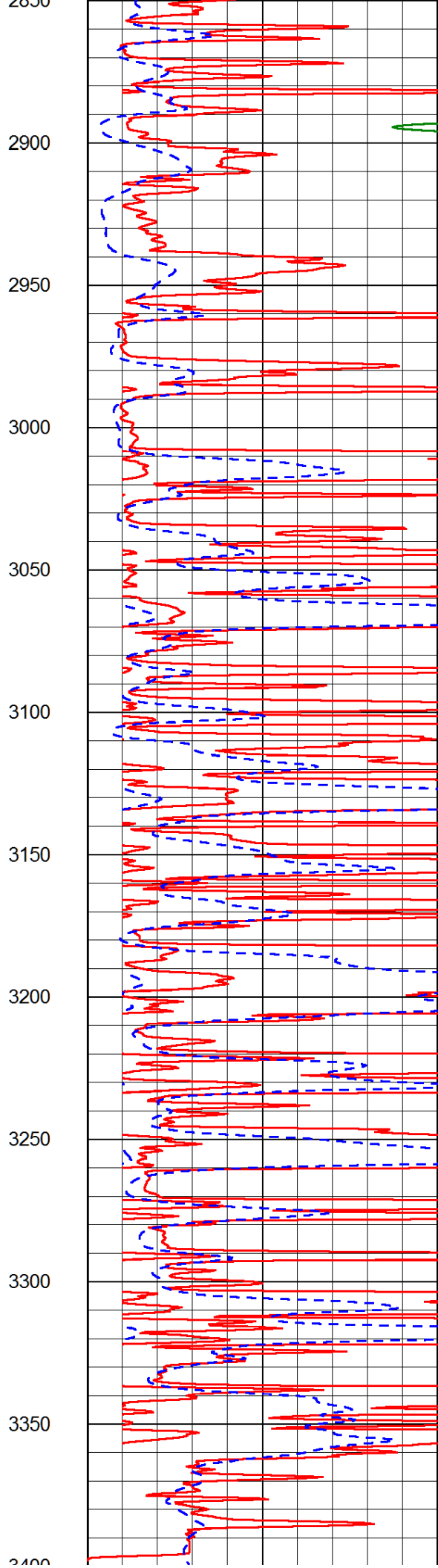
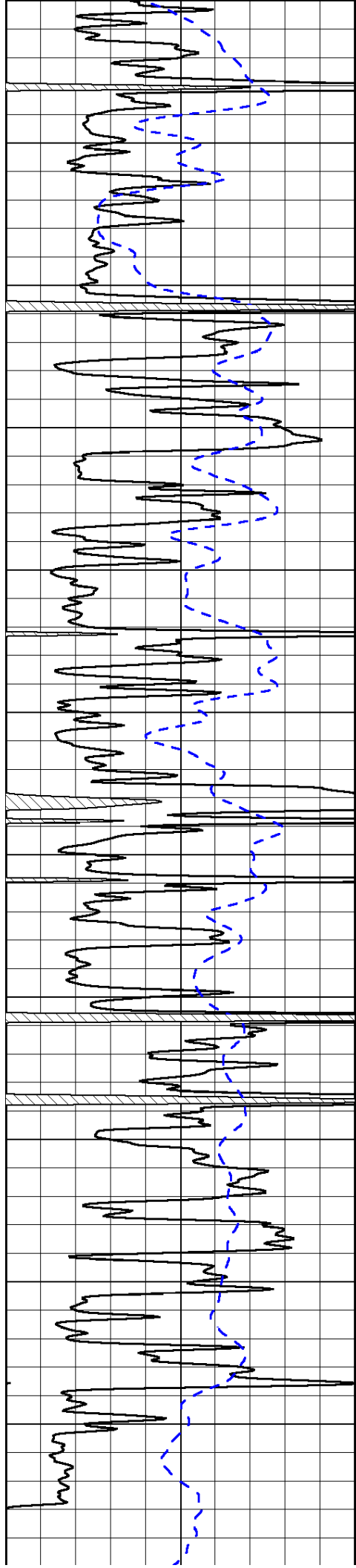


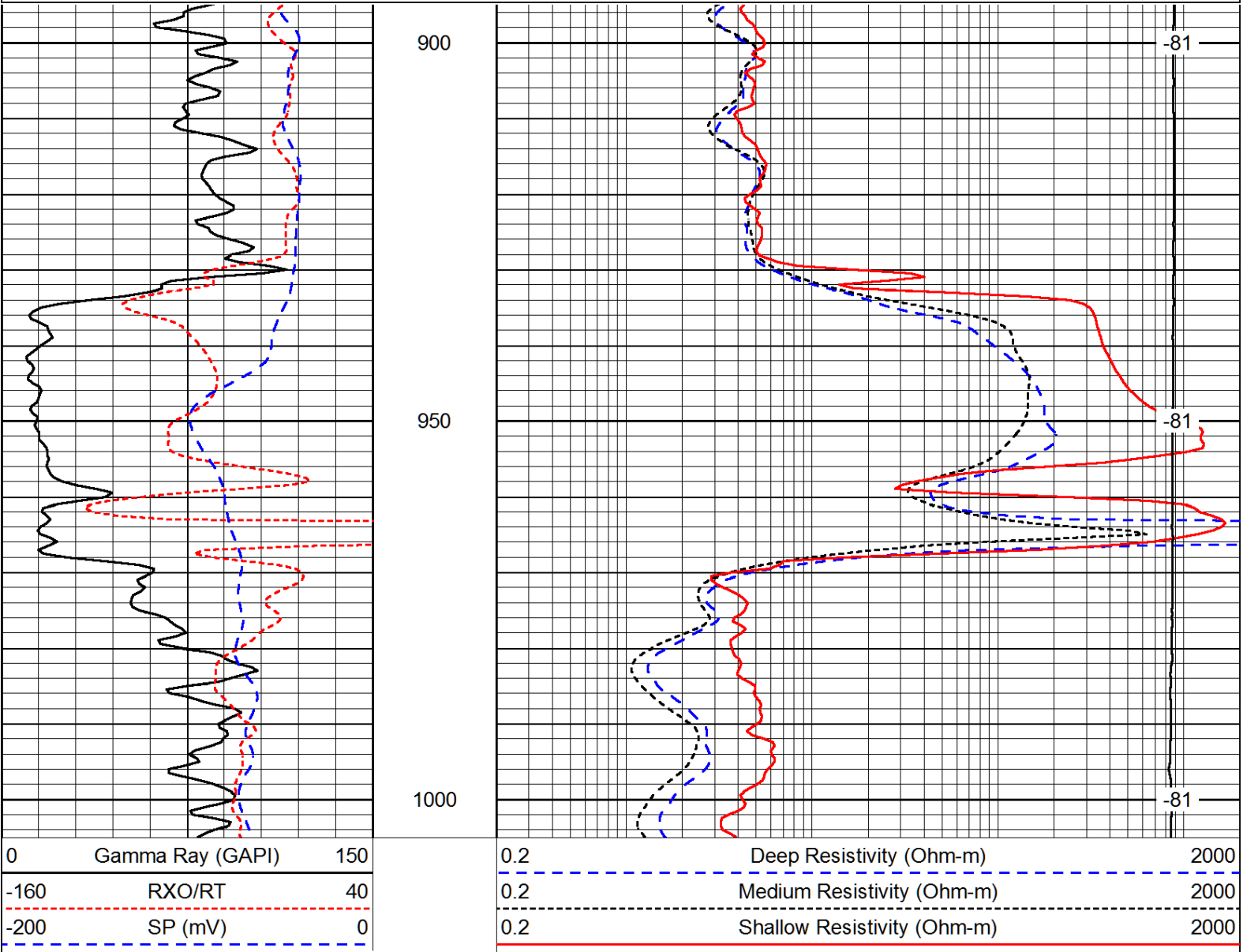
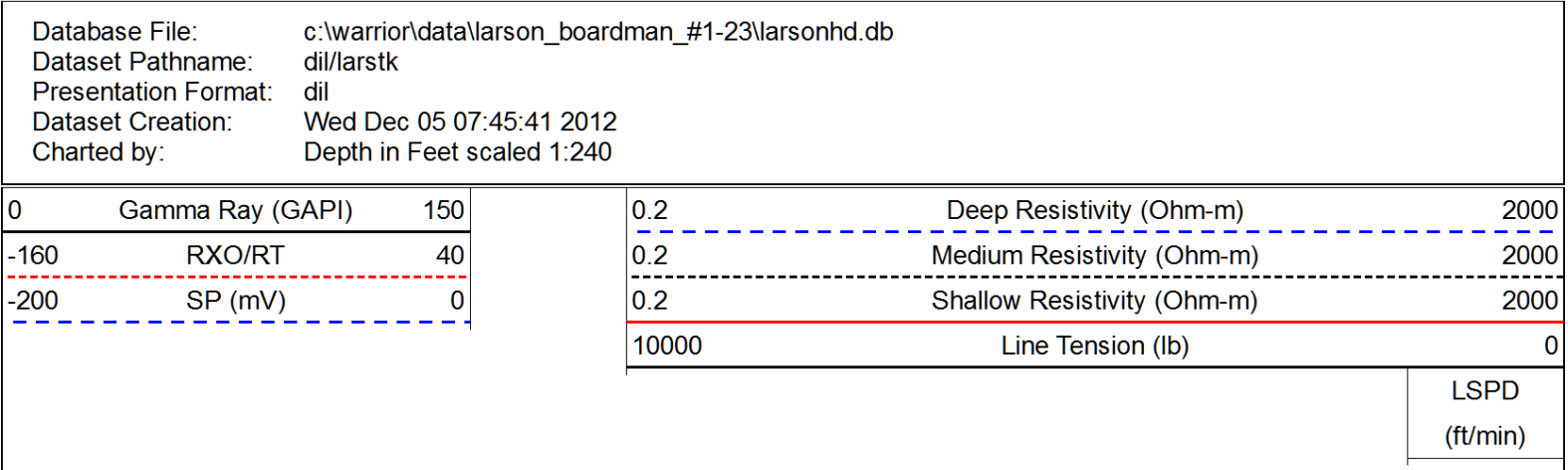
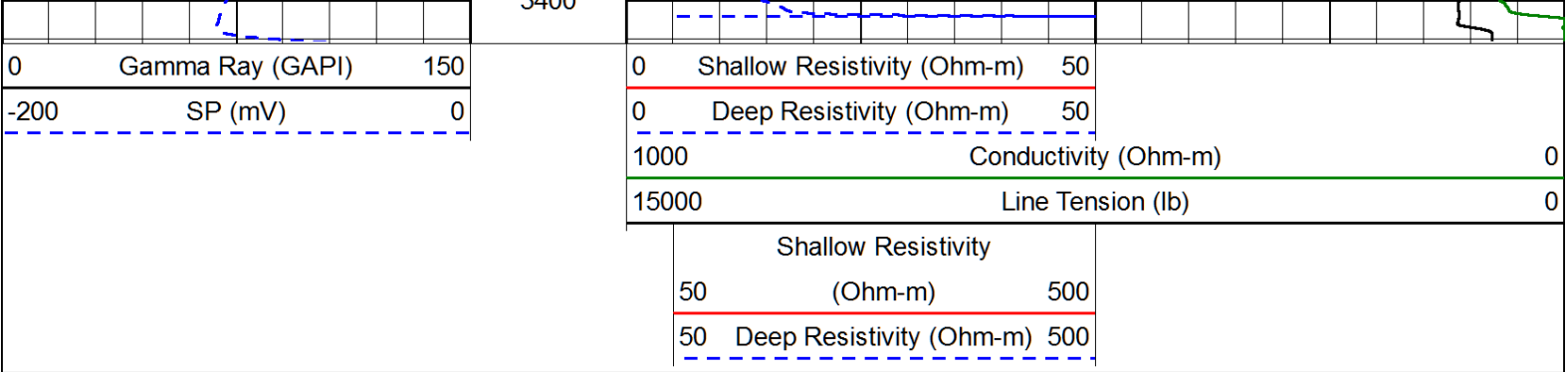






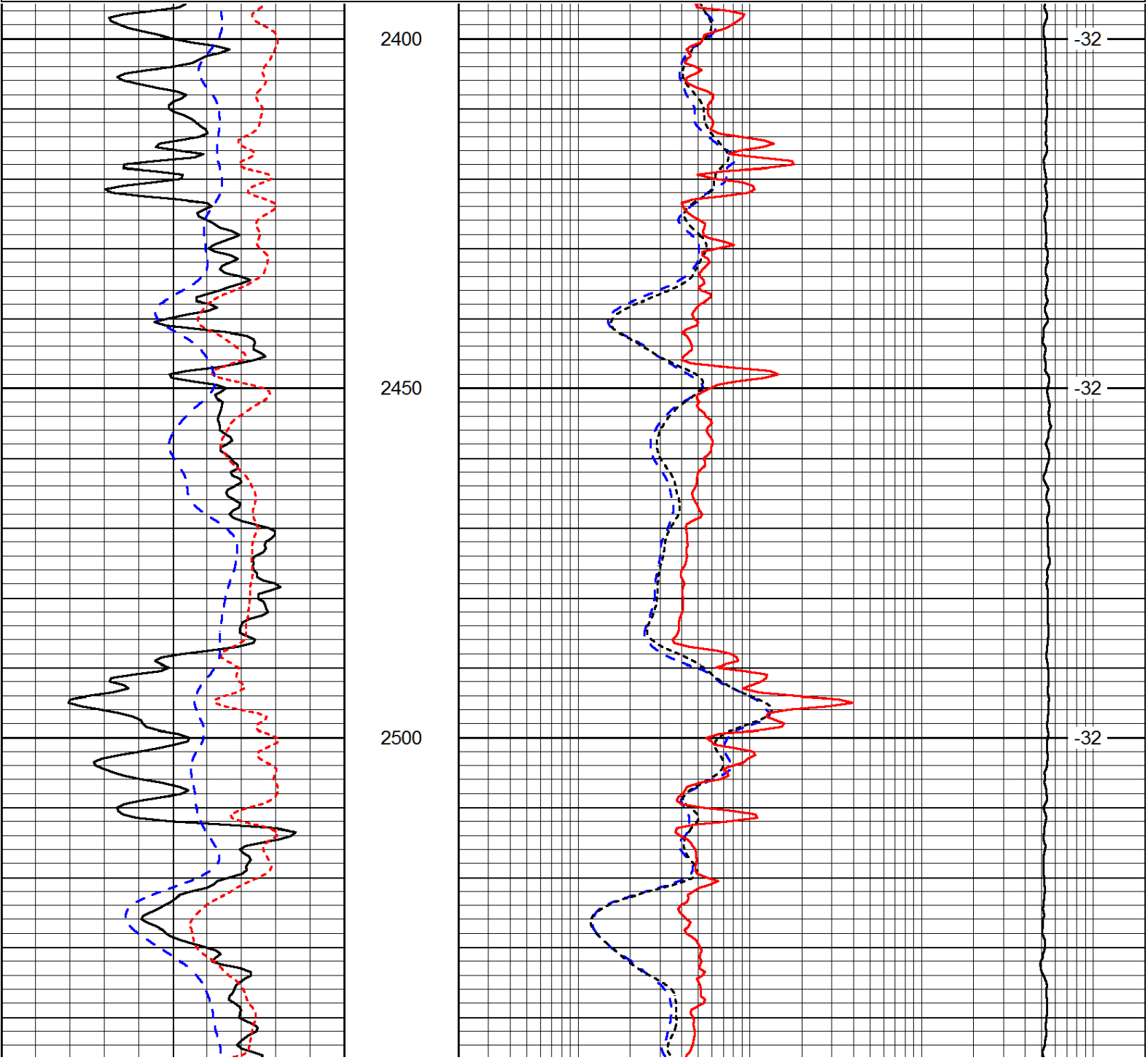


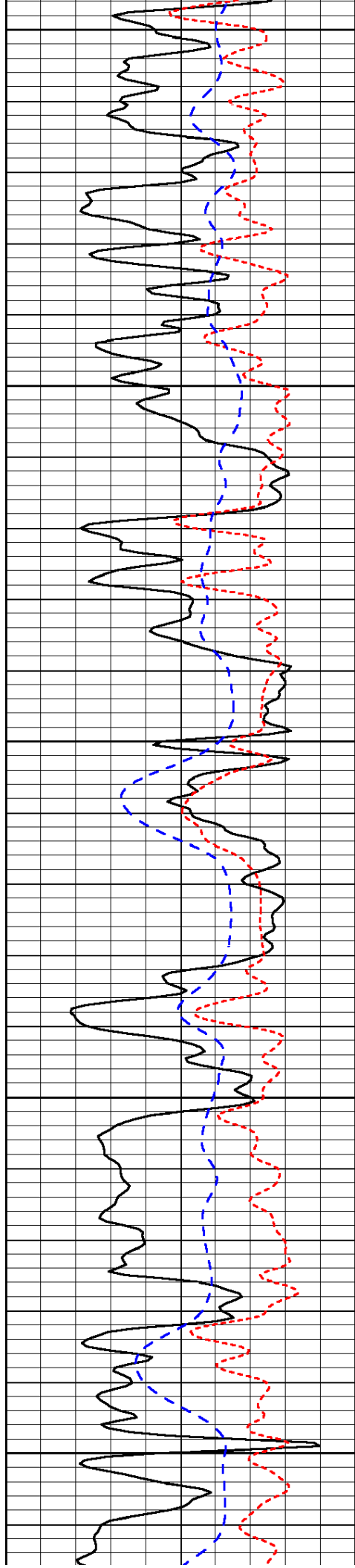




10000	Line Tension (lb)	0
		LSPD (ft/min)

Database File: c:\warrior\data\larson_boardman_#1-23\larsonhd.db		
Dataset Pathname: dil\larstk		
Presentation Format: dil		
Dataset Creation: Wed Dec 05 07:45:41 2012		
Charted by: Depth in Feet scaled 1:240		
0	Gamma Ray (GAPI)	150
-160	RXO/RT	40
-200	SP (mV)	0
0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000
10000	Line Tension (lb)	0
		LSPD (ft/min)





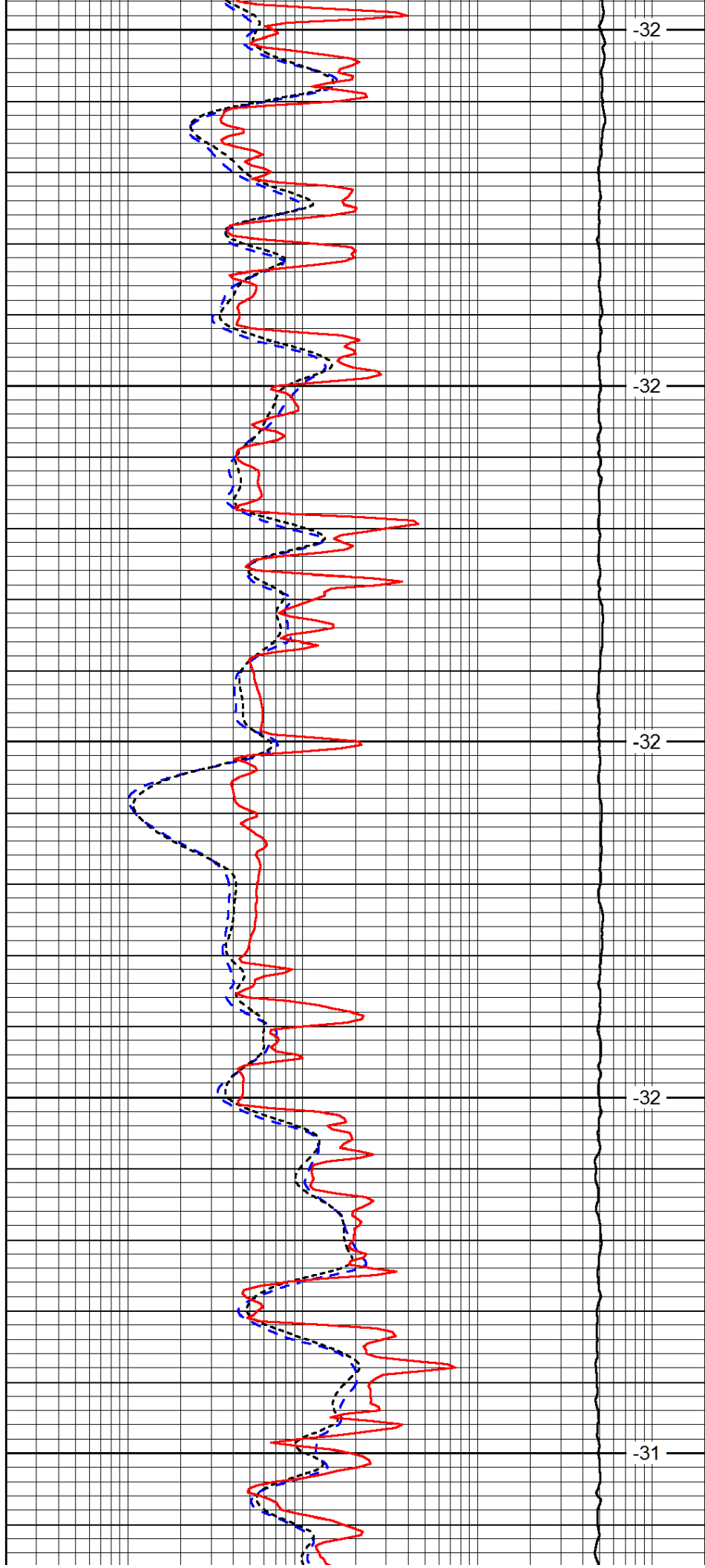
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2600

2650

2700

2750



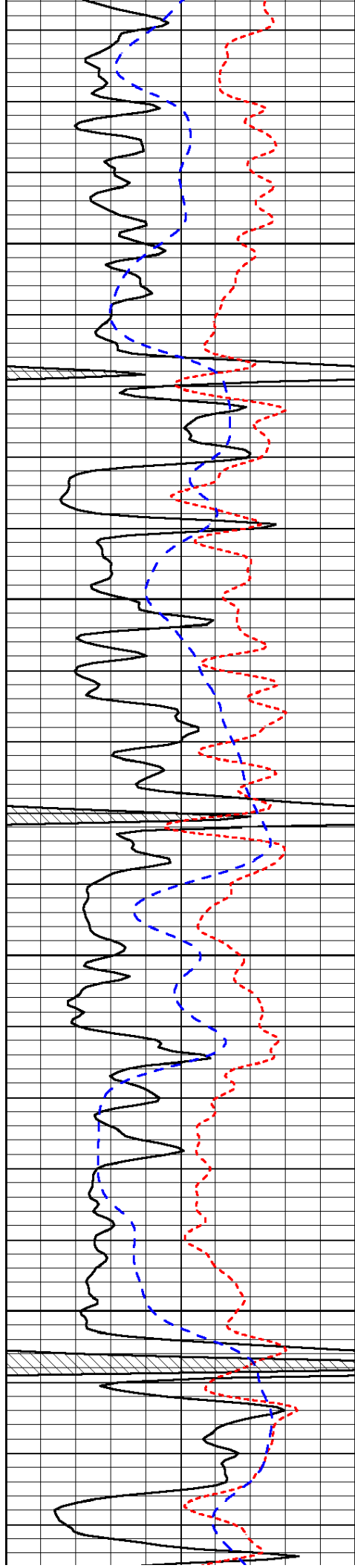
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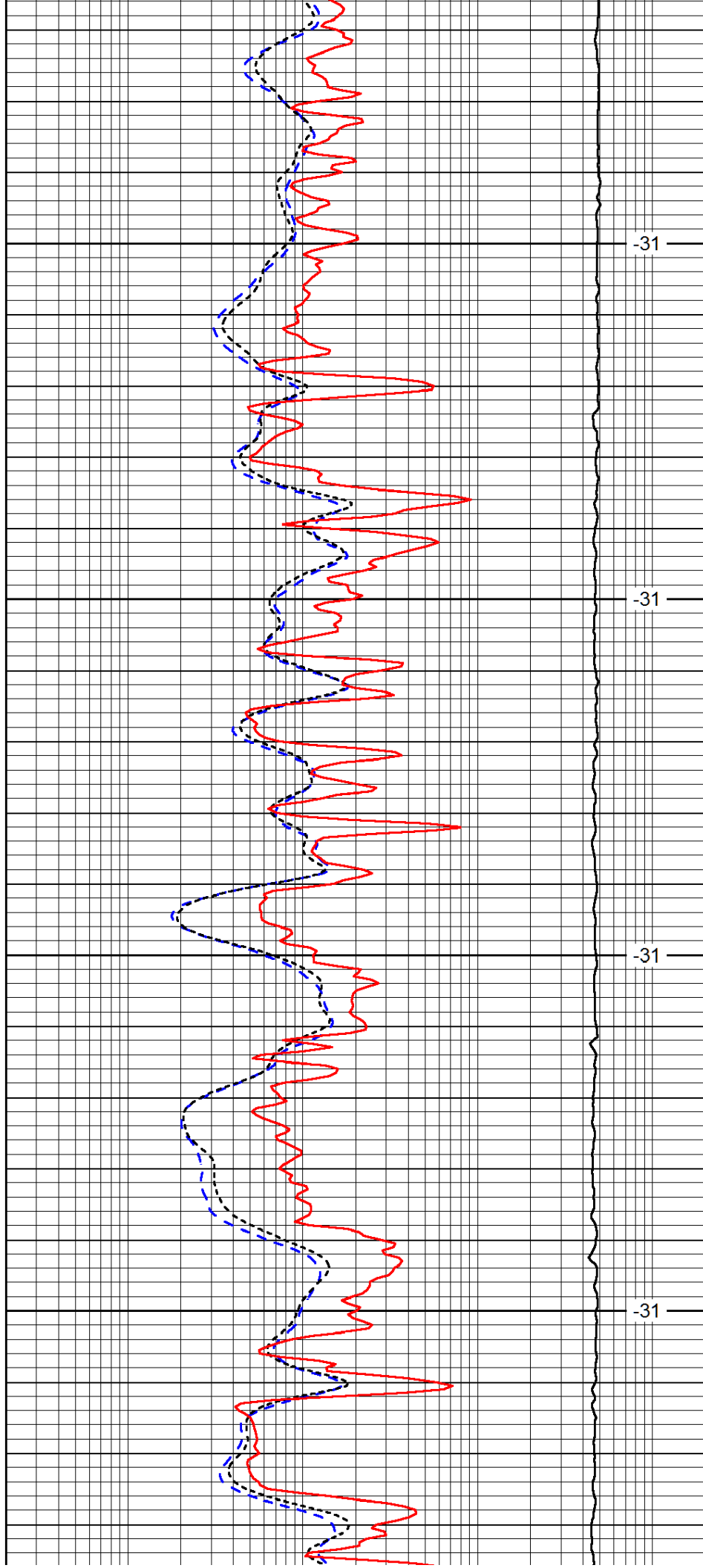


2800

2850

2900

2950

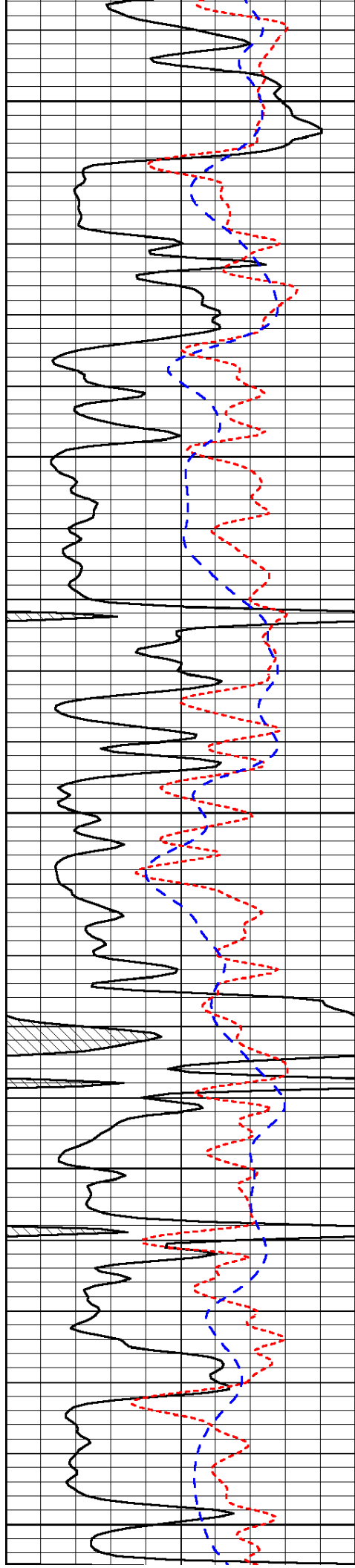


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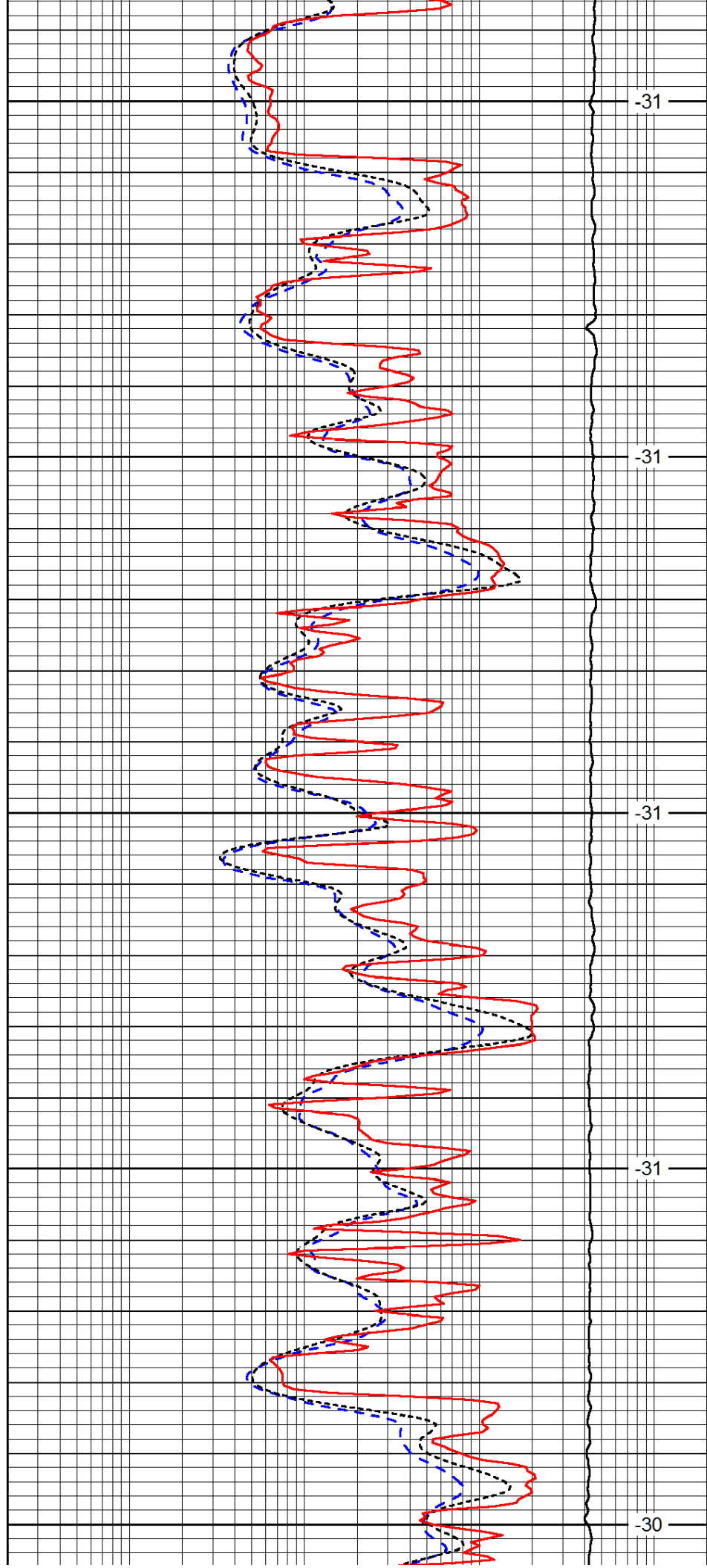
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3050

3100

3150

3200



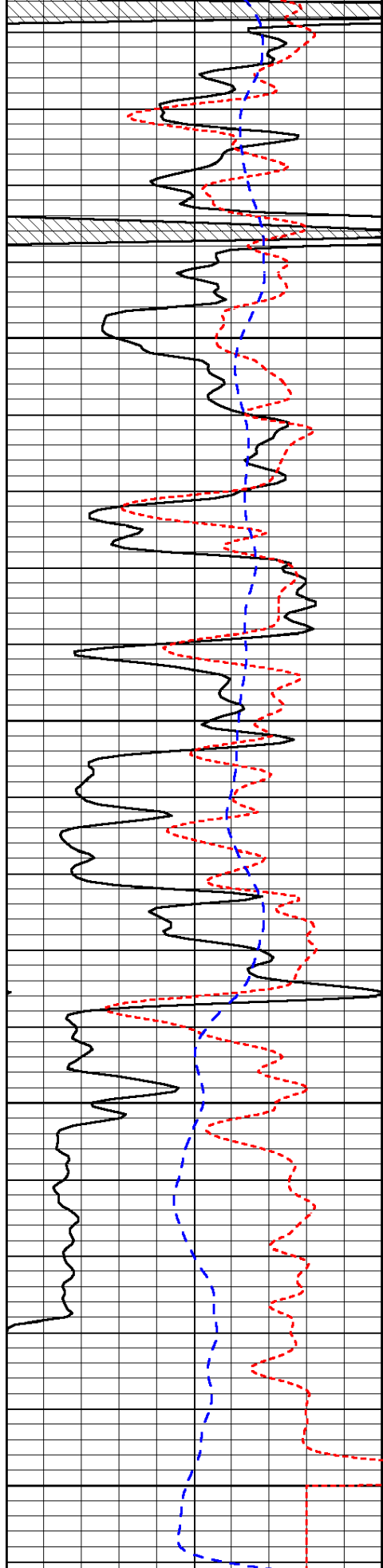
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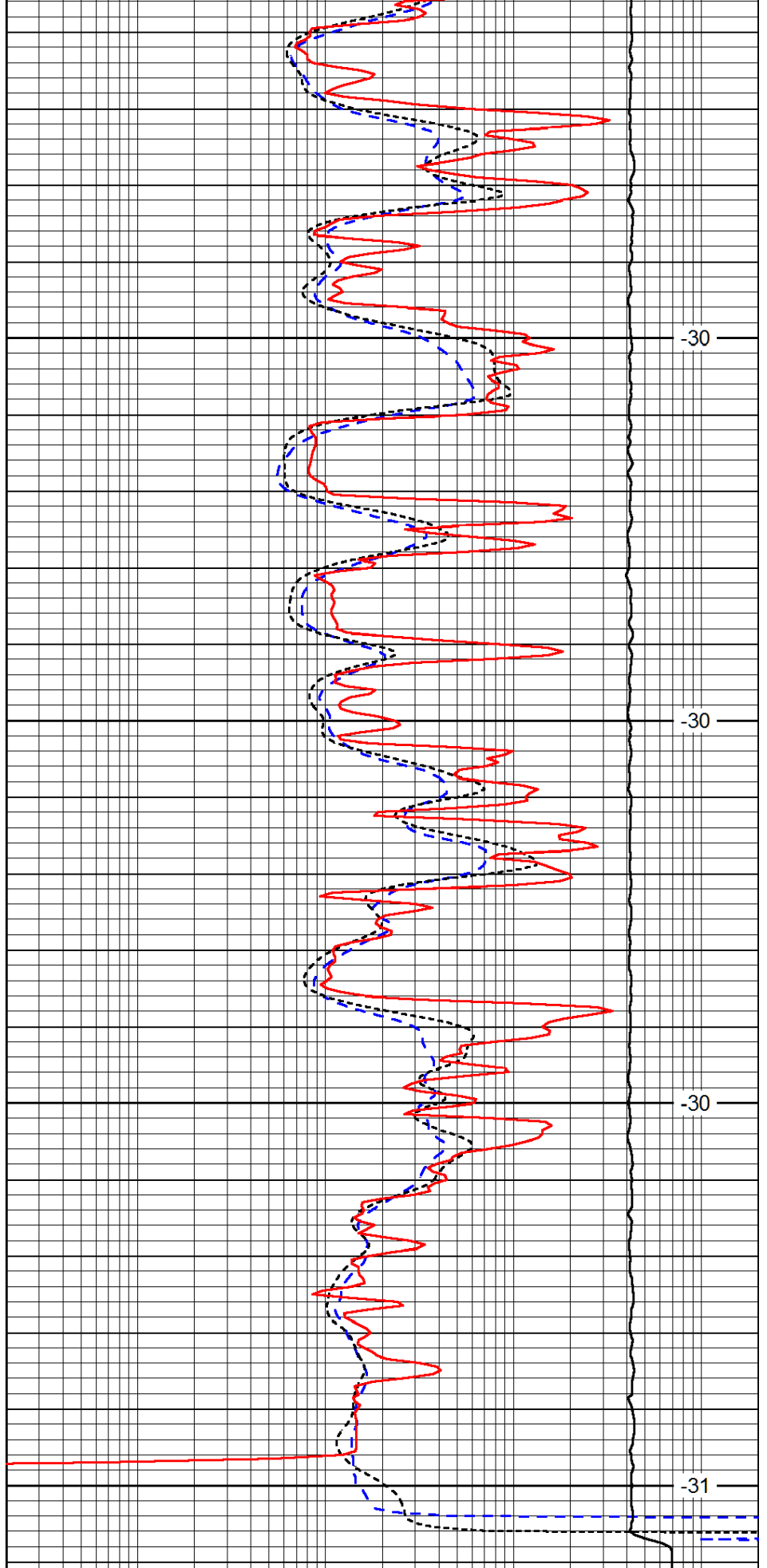
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-160	RXO/RT	40
-200	SP (mV)	0

3250

3300

3350

3400



0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000

	10000	Line Tension (lb)	0
			LSPD (ft/min)