



Pioneer Energy Services

Dual Induction Log

API No.

15-069-20440-00-00

Company American Warrior, Inc.

Well Kramer #2-31

Field Wildcat

County Gray State

Kansas

Location

1016' FSL / 1229' FWL

Sec: 31 Twp: 24S Rge: 29W

Permanent Datum Ground Level Elevation 2824
Log Measured From Kelly Bushing 11 Ft. Above Perm. Datum
Drilling Measured From Kelly Bushing

Other Services
CNL / CDL
MEL

Elevation
K.B. 2835
D.F. 2824
G.L. 2824

Date 8/17/2013

Run Number One

Depth Driller 5050

Depth Logger 5050

Bottom Logged Interval 5049

Top Log Interval 500

Casing Driller 8.625 @ 524

Casing Logger 520

Bit Size 7.875

Type Fluid in Hole Chemical

Salinity, ppm CL 2200

Density / Viscosity 9.4 49

pH / Fluid Loss 10.0 9.2

Source of Sample Flowline

Rm @ Meas. Temp 0.50 @ 75

Rmf @ Meas. Temp 0.38 @ 75

Rmc @ Meas. Temp 0.68 @ 75

Source of Rmf / Rmc Charts

Rm @ BHT 0.30 @ 127

Operating Rig Time 5 Hours

Max Rec. Temp. F 127

Equipment Number 15

Location Hays

Recorded By R. Barnhart

Witnessed By Kevin Timson

<<< Fold Here >>>

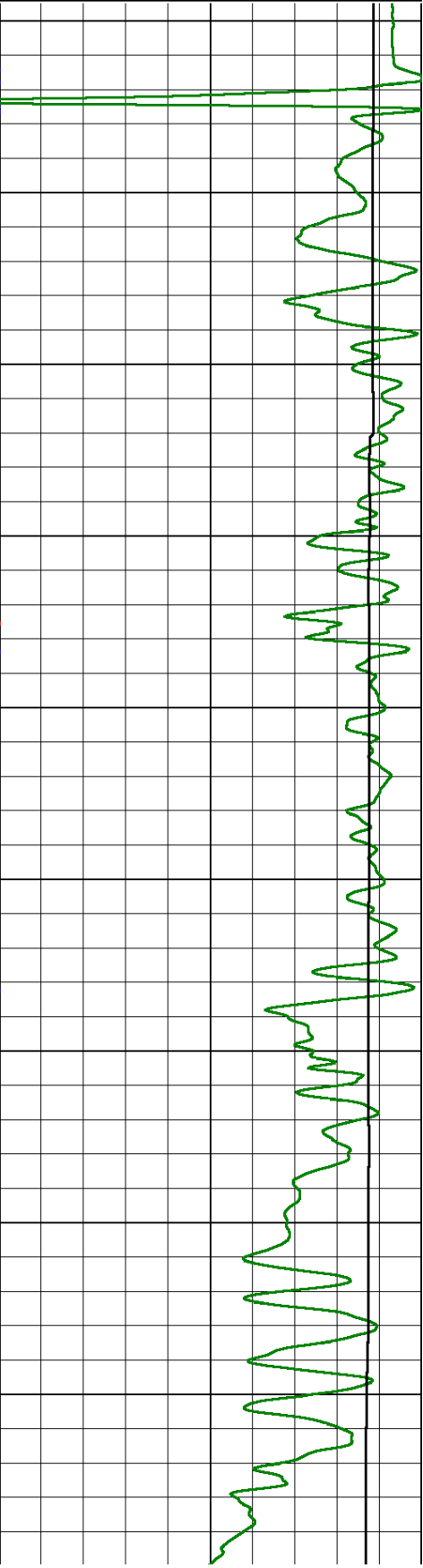
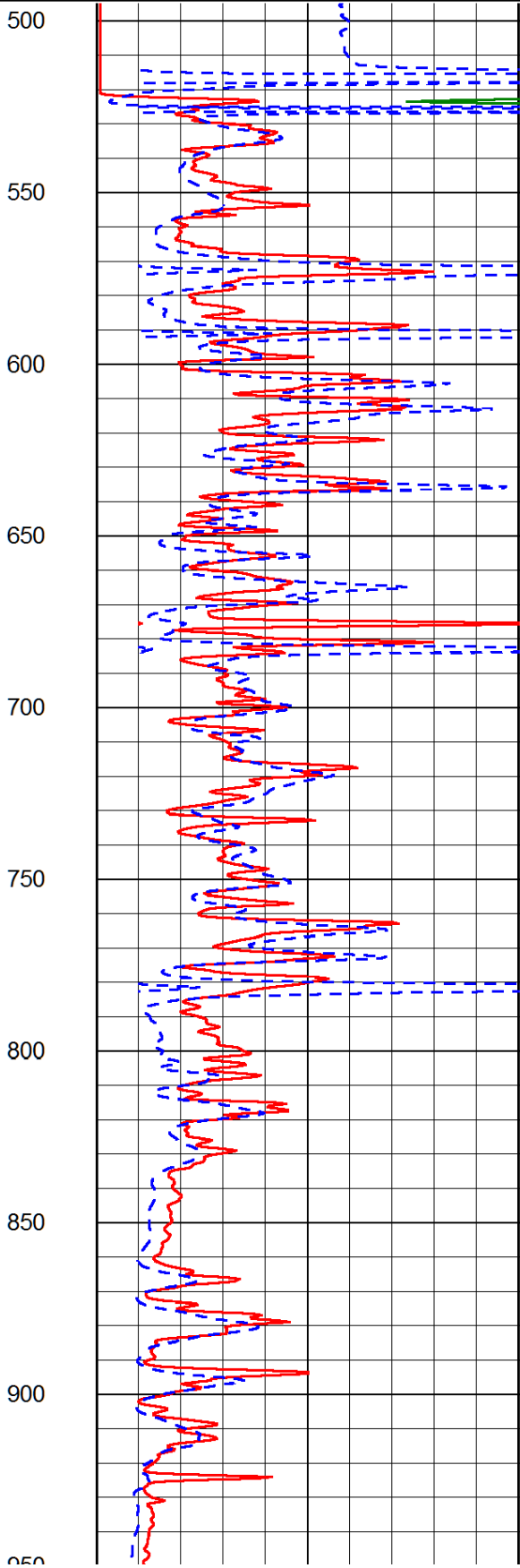
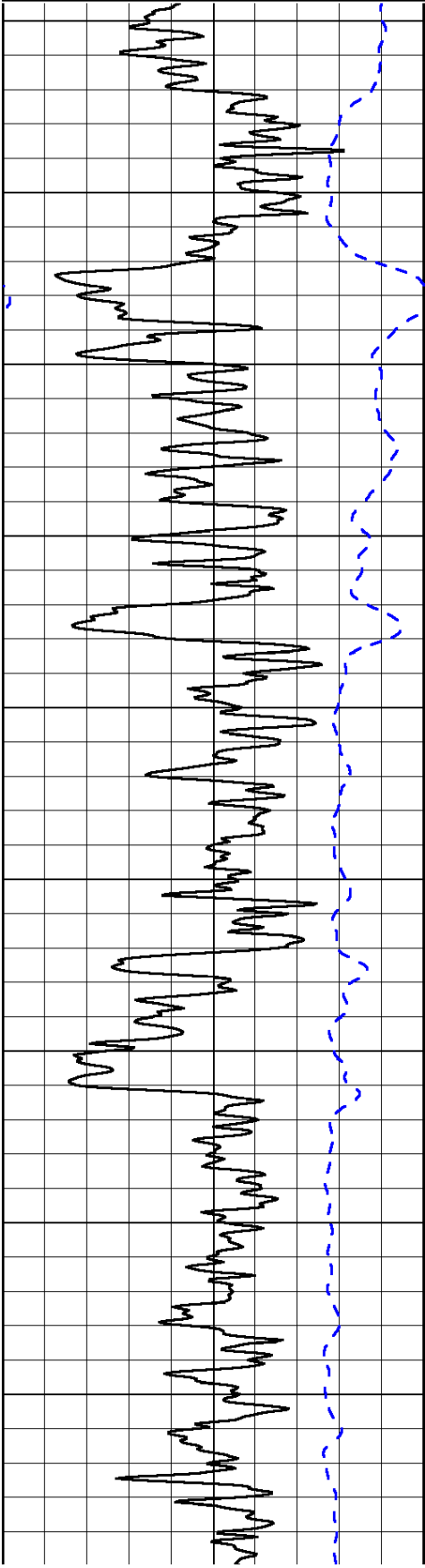
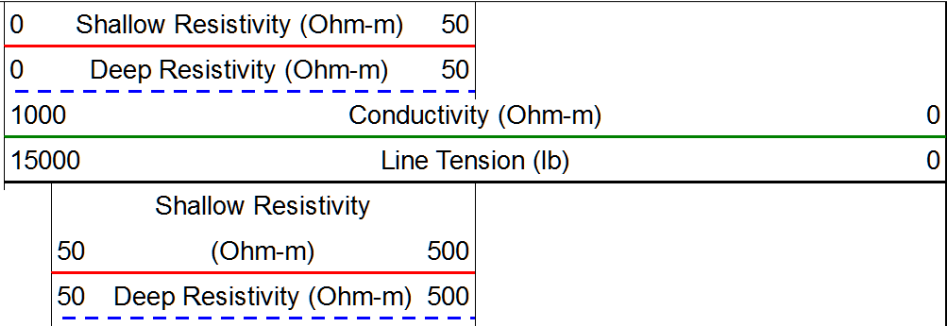
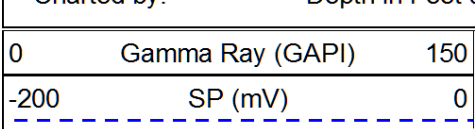
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

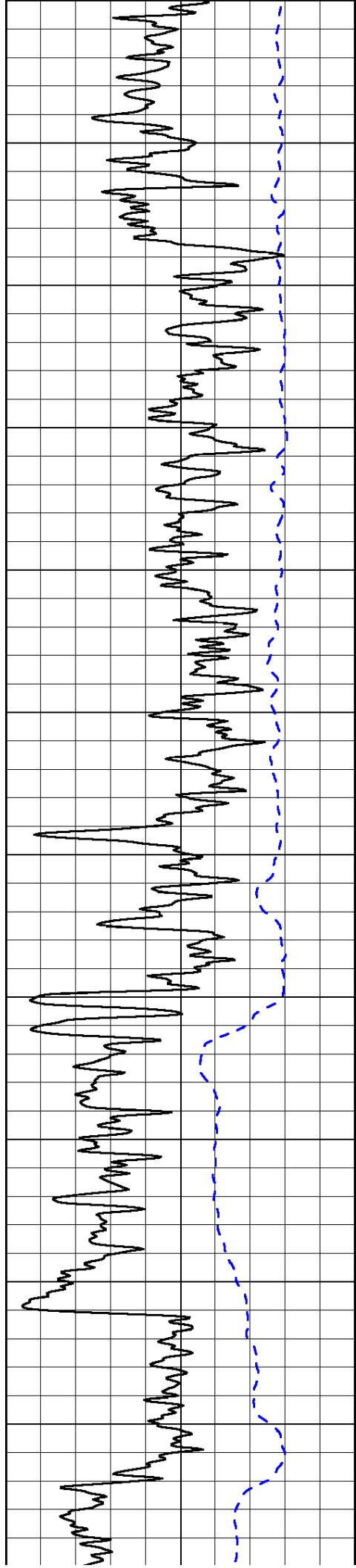
Comments

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

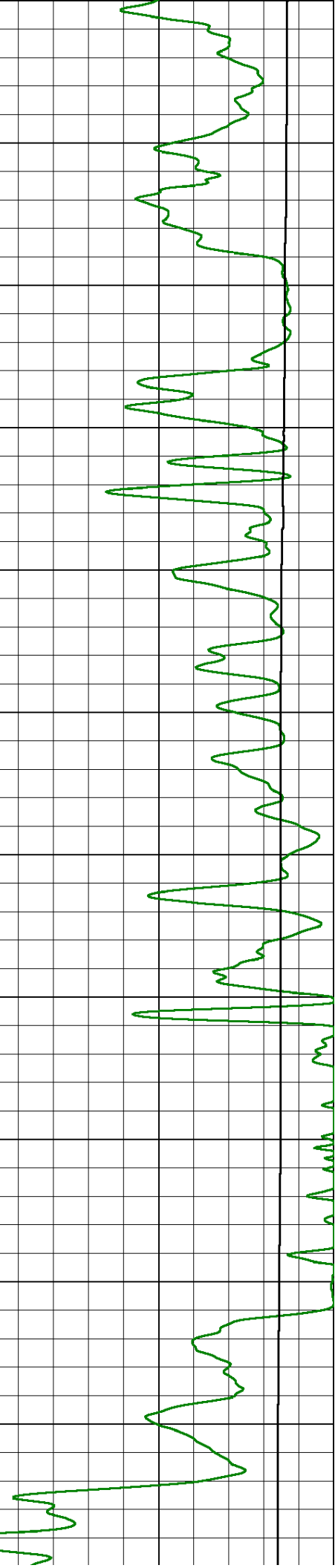
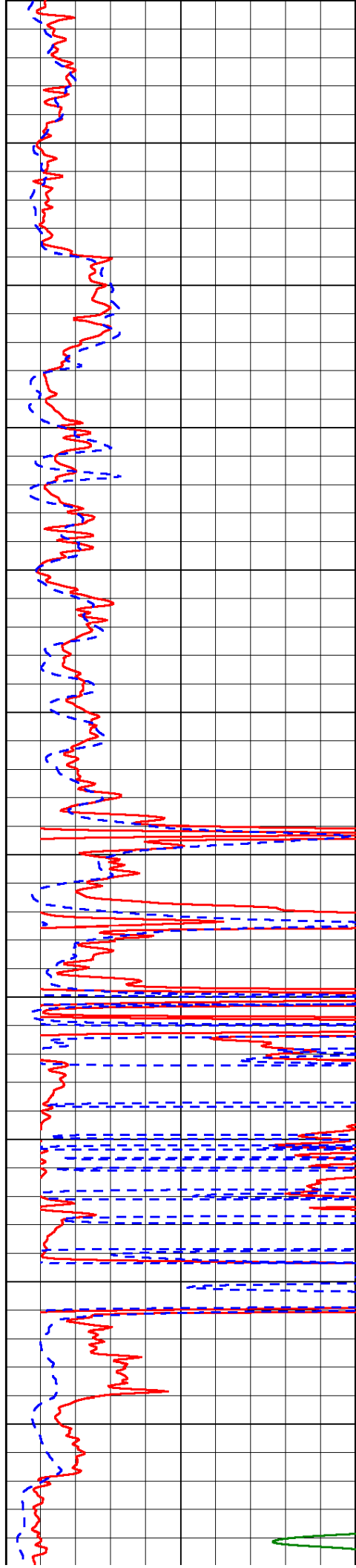
Kalvesta, KS:
14 1/2W, 10S, 1/4E, N into

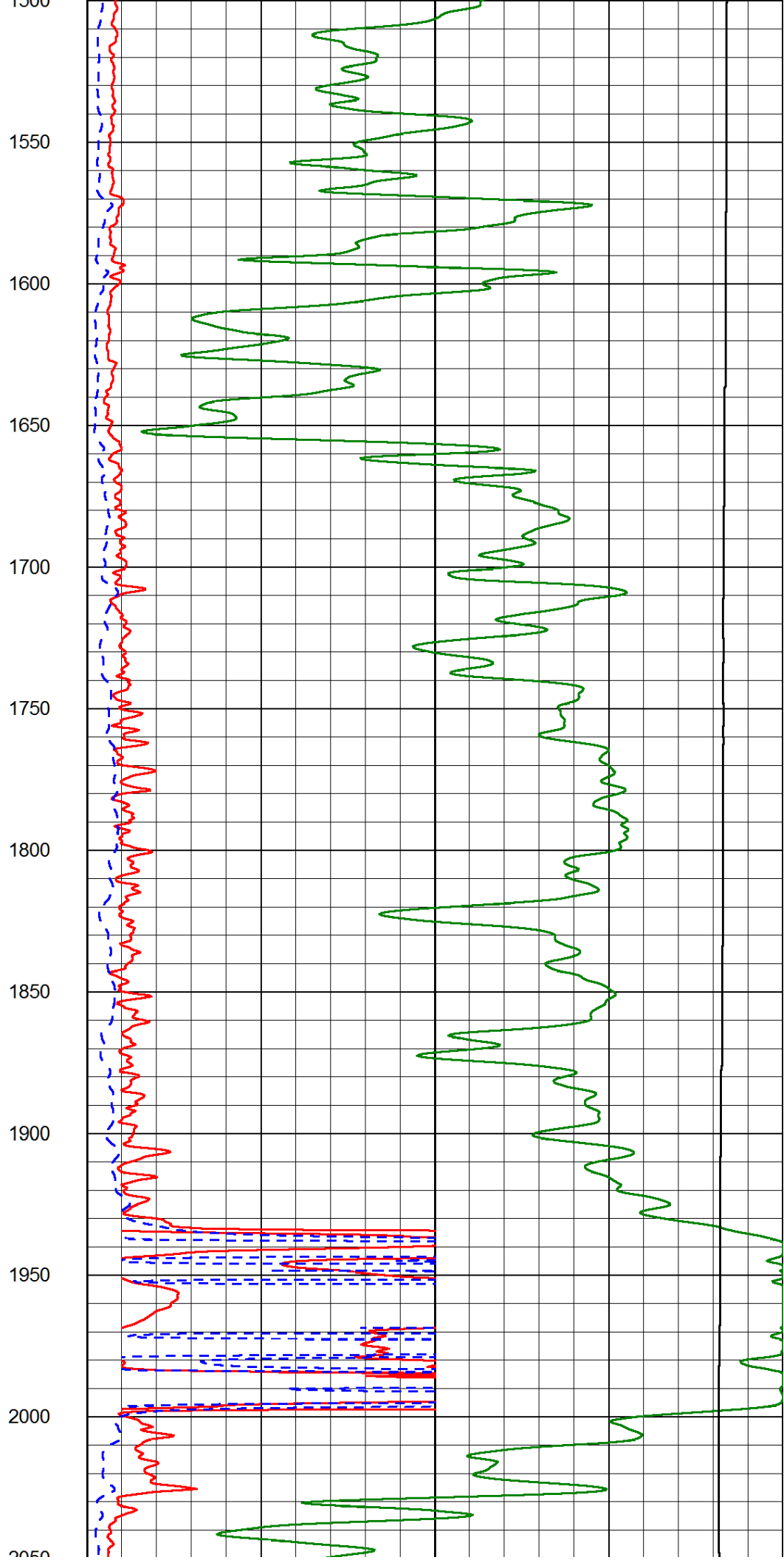
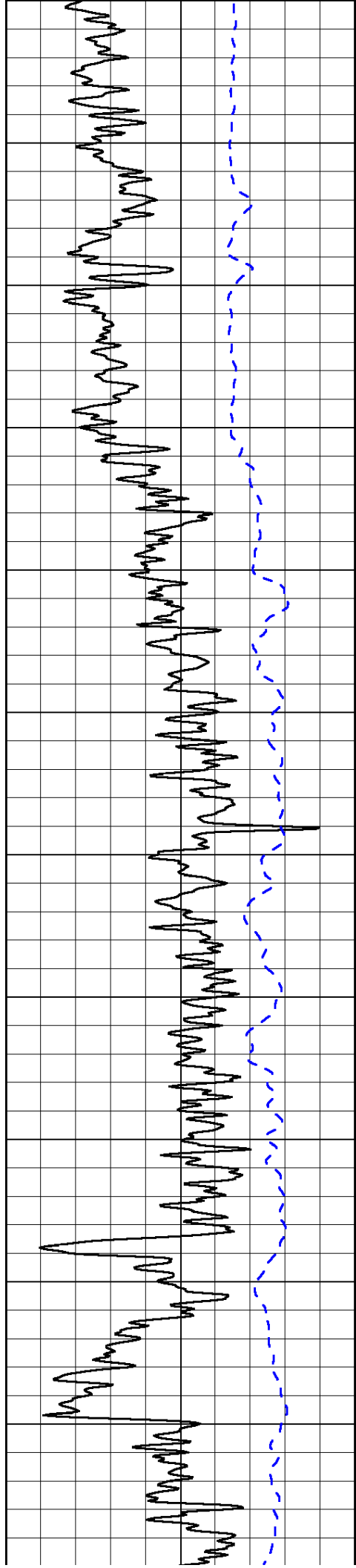
Database File: amwar_hd.db
Dataset Pathname: dil/amwmain
Presentation Format: dil2in
Dataset Creation: Sat Aug 17 10:32:18 2013
Charted by: Depth in Feet scaled 1:600

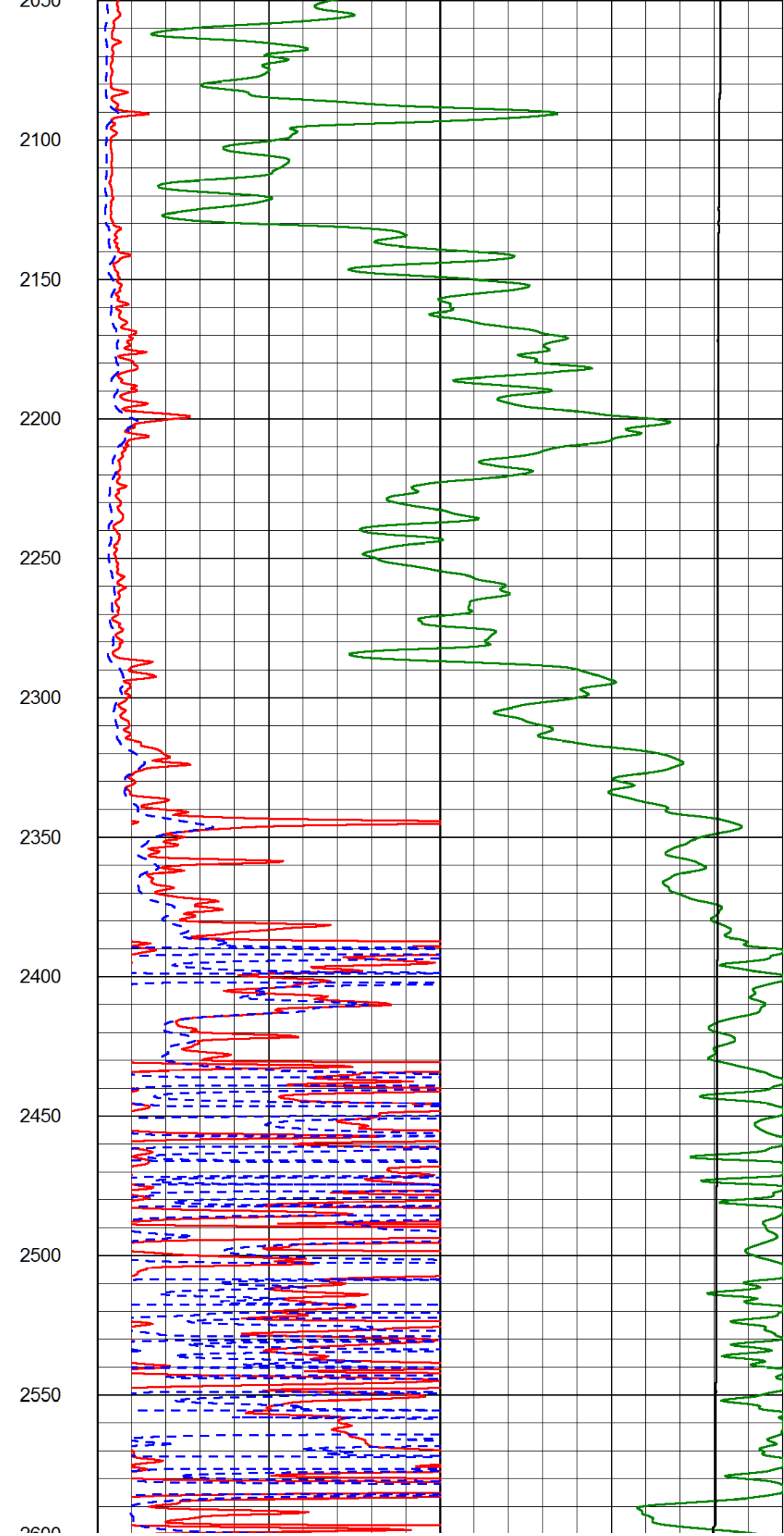
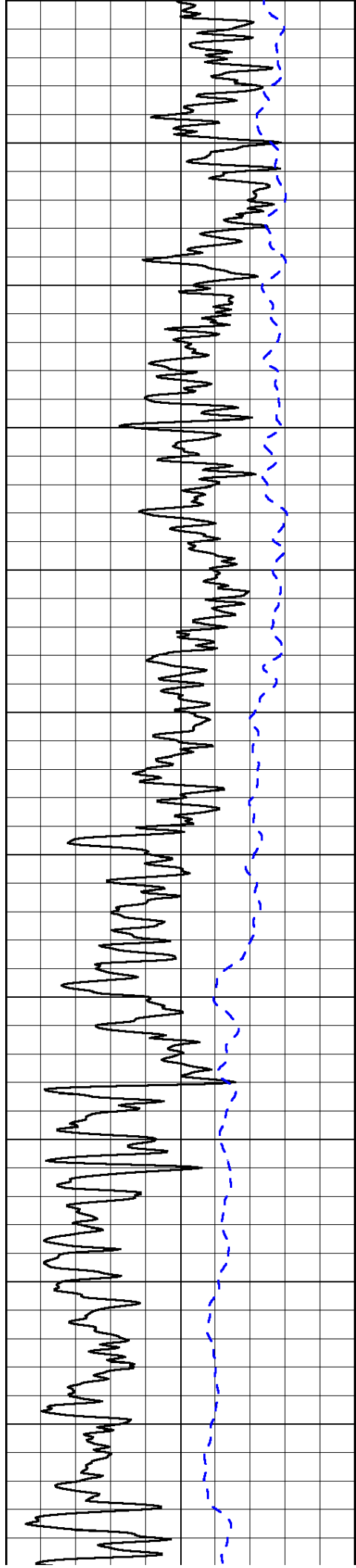


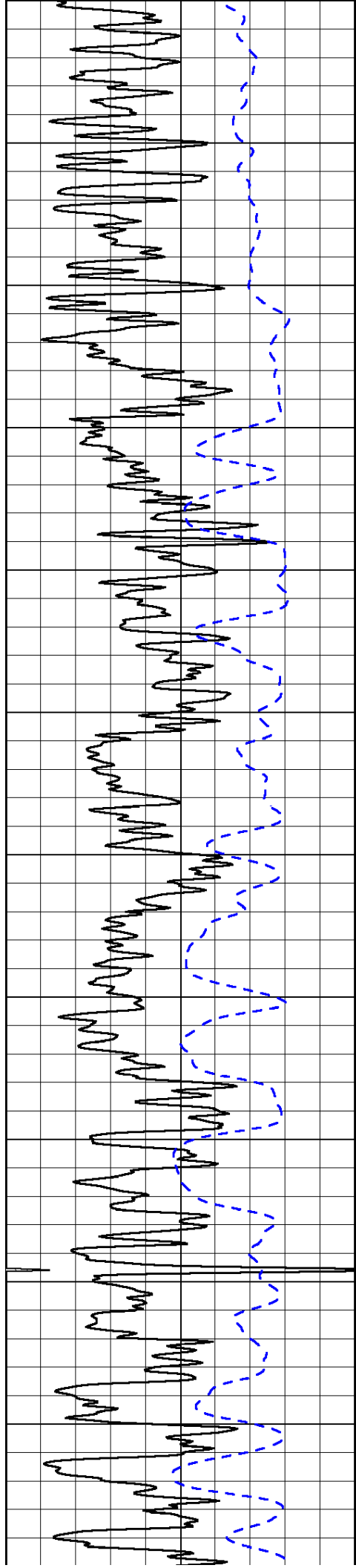


950
1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500

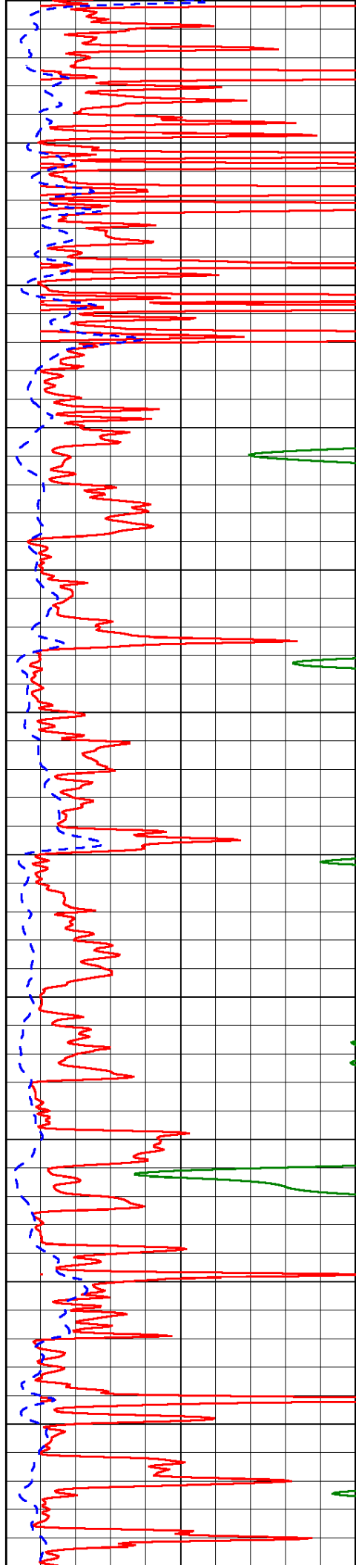


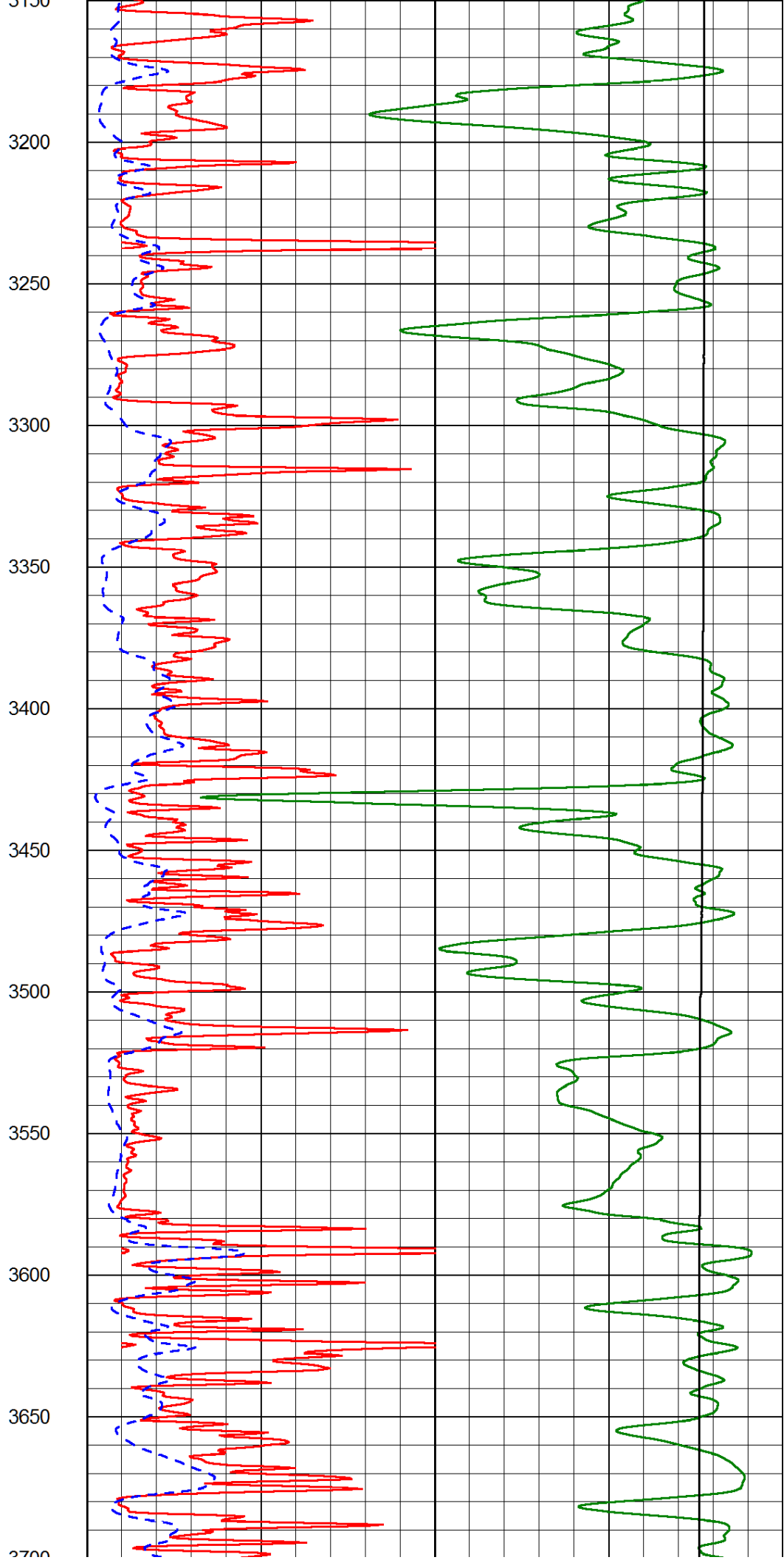
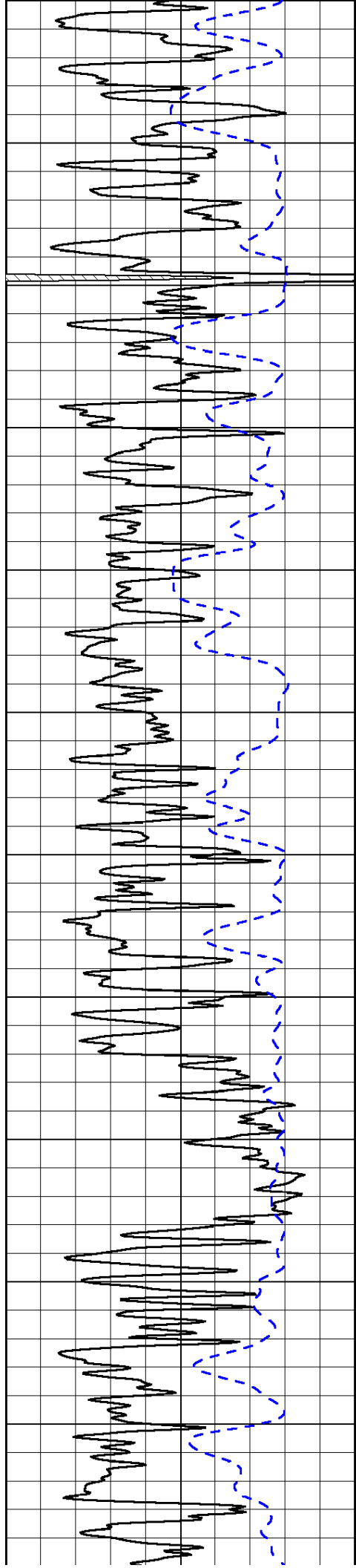


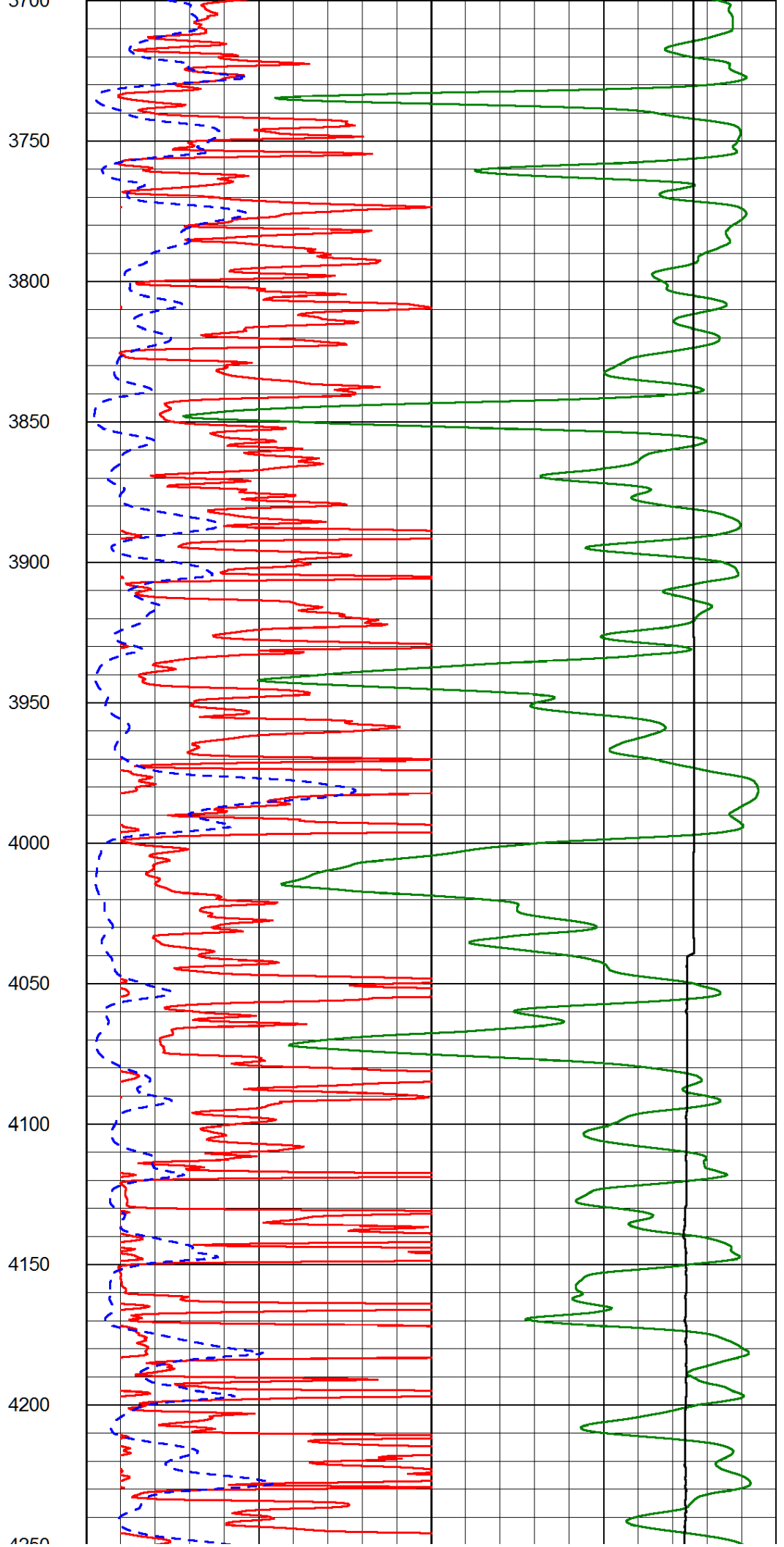
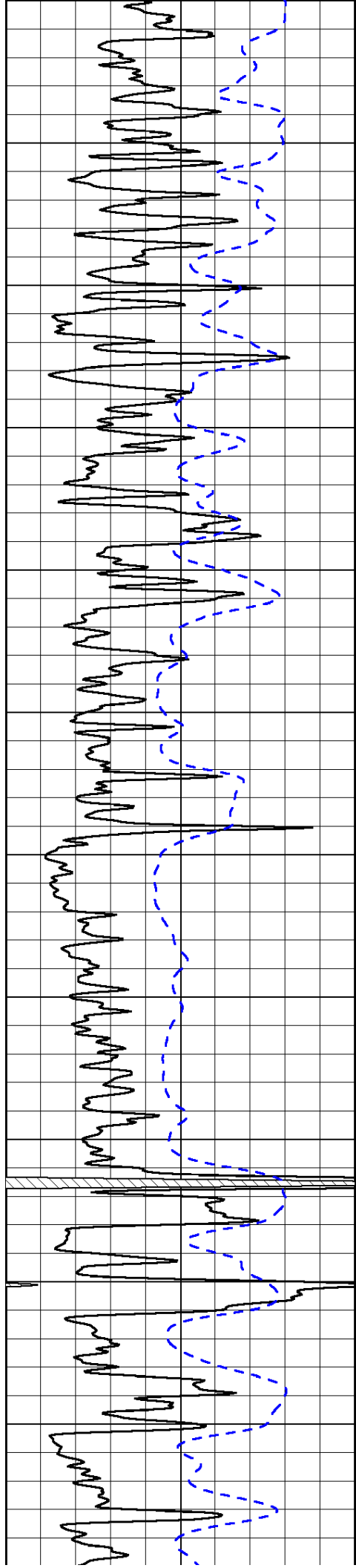


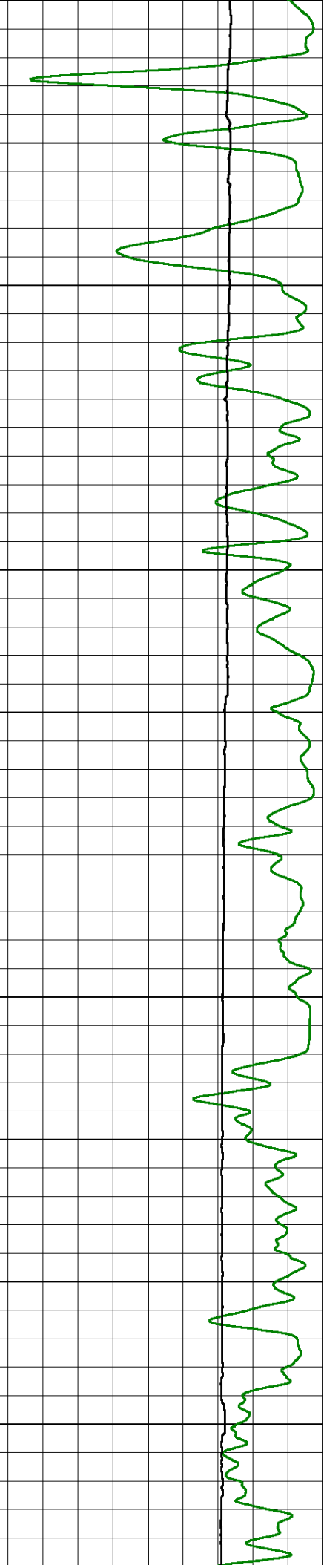
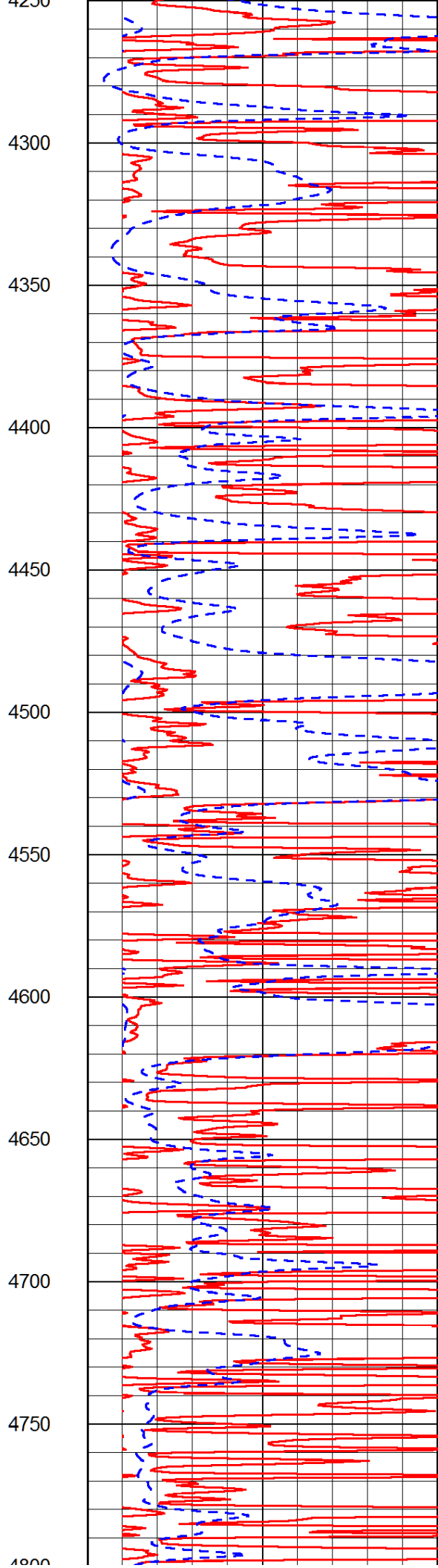
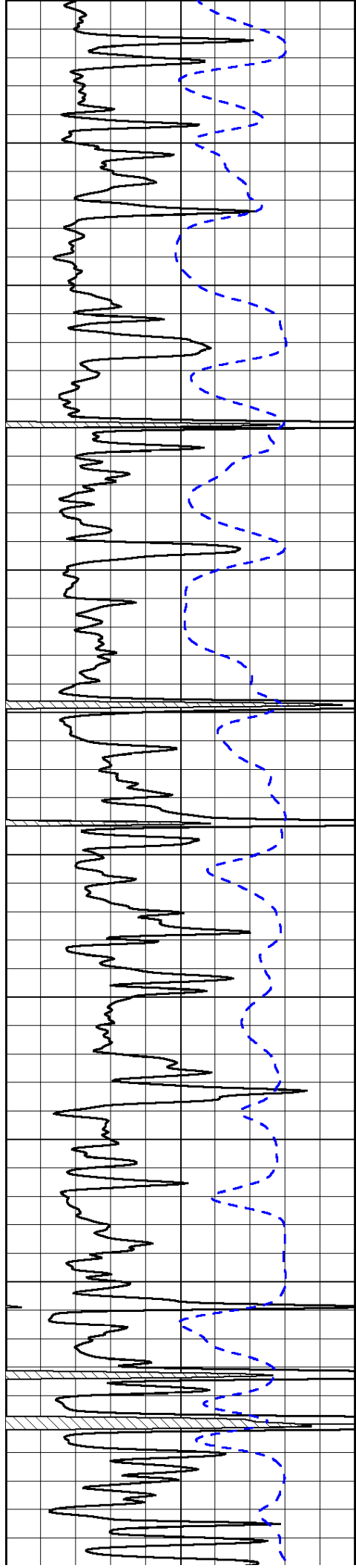


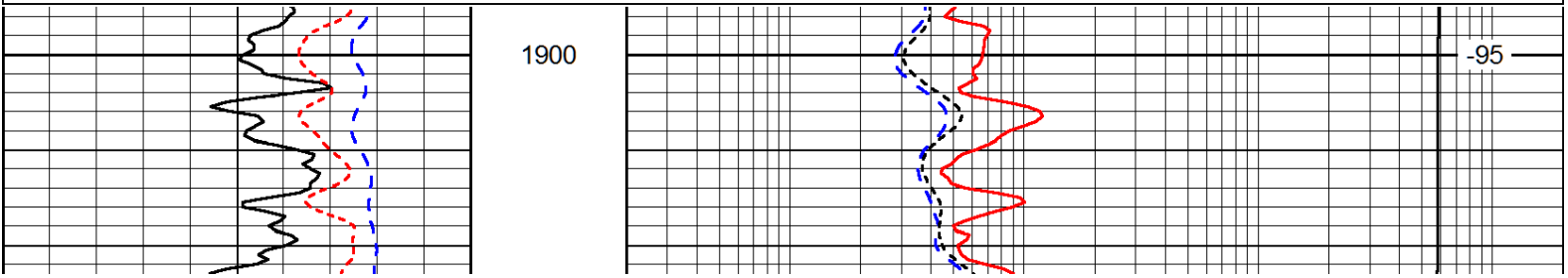
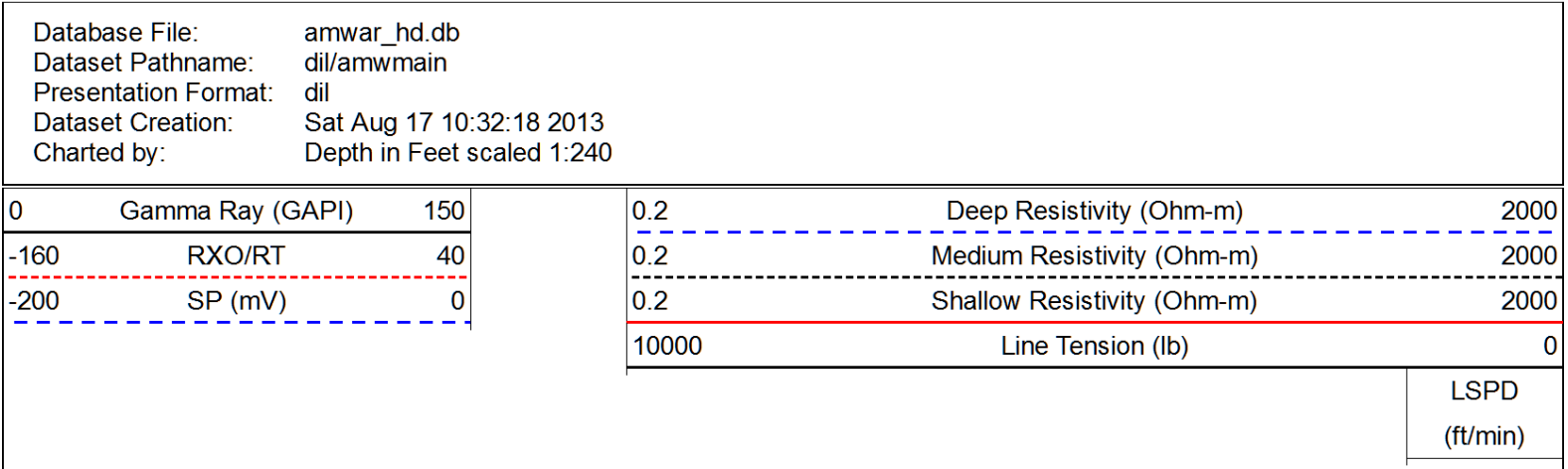
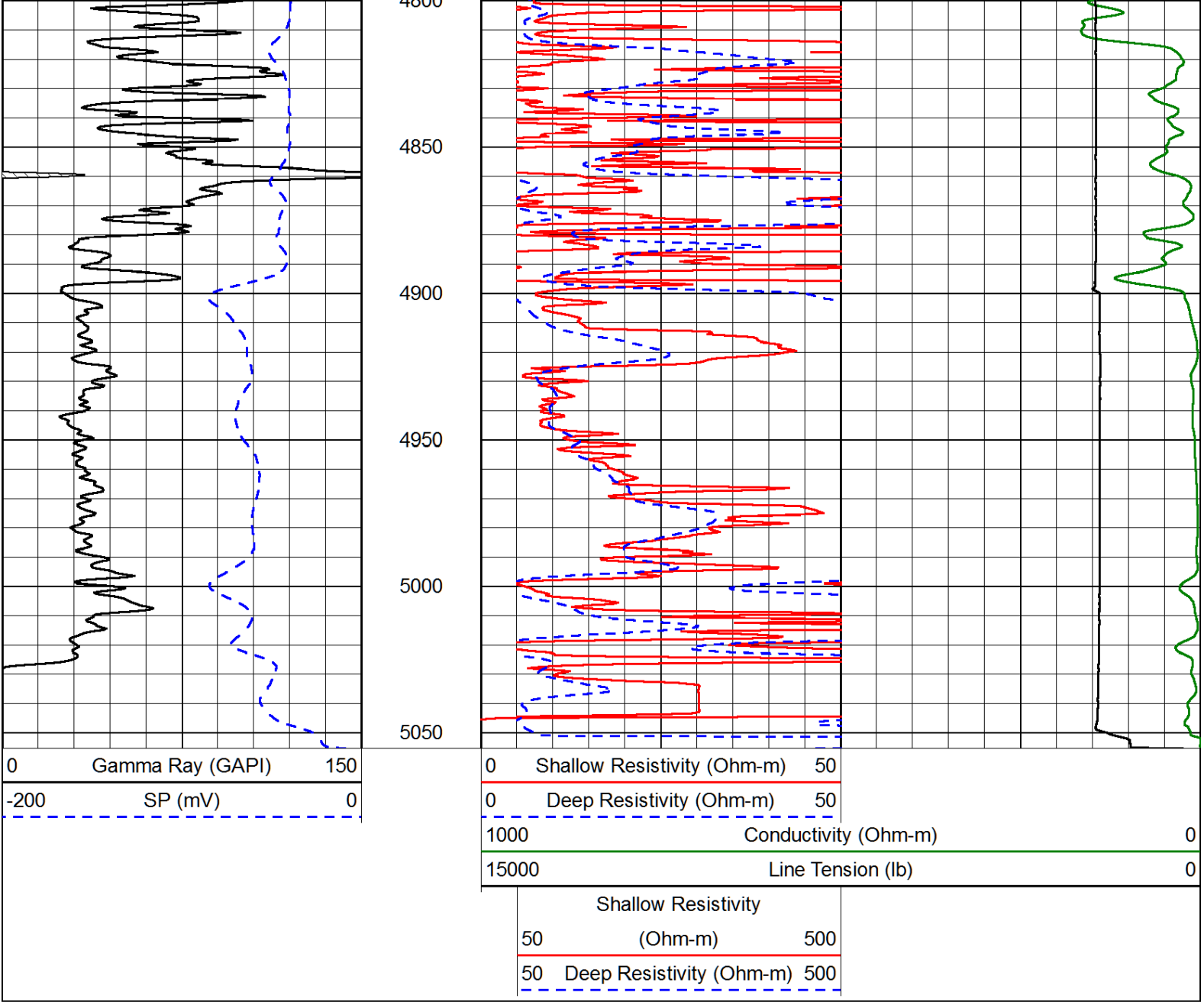
2600
2650
2700
2750
2800
2850
2900
2950
3000
3050
3100
3150

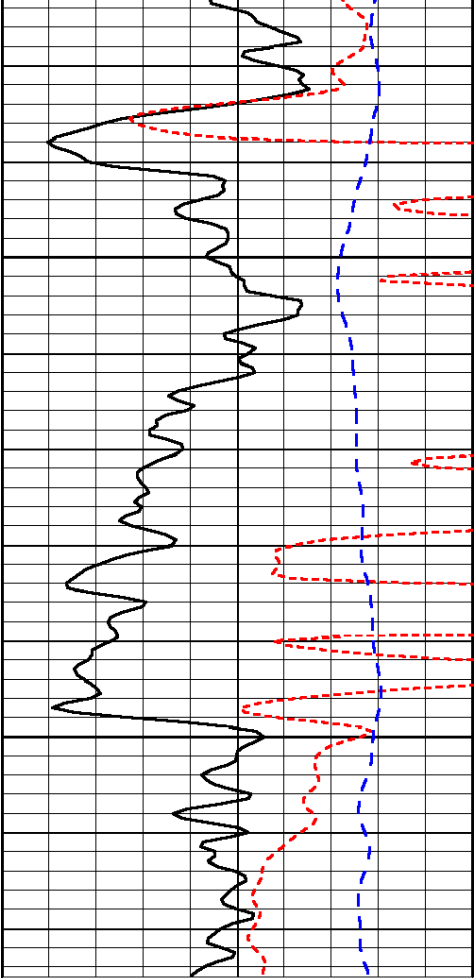








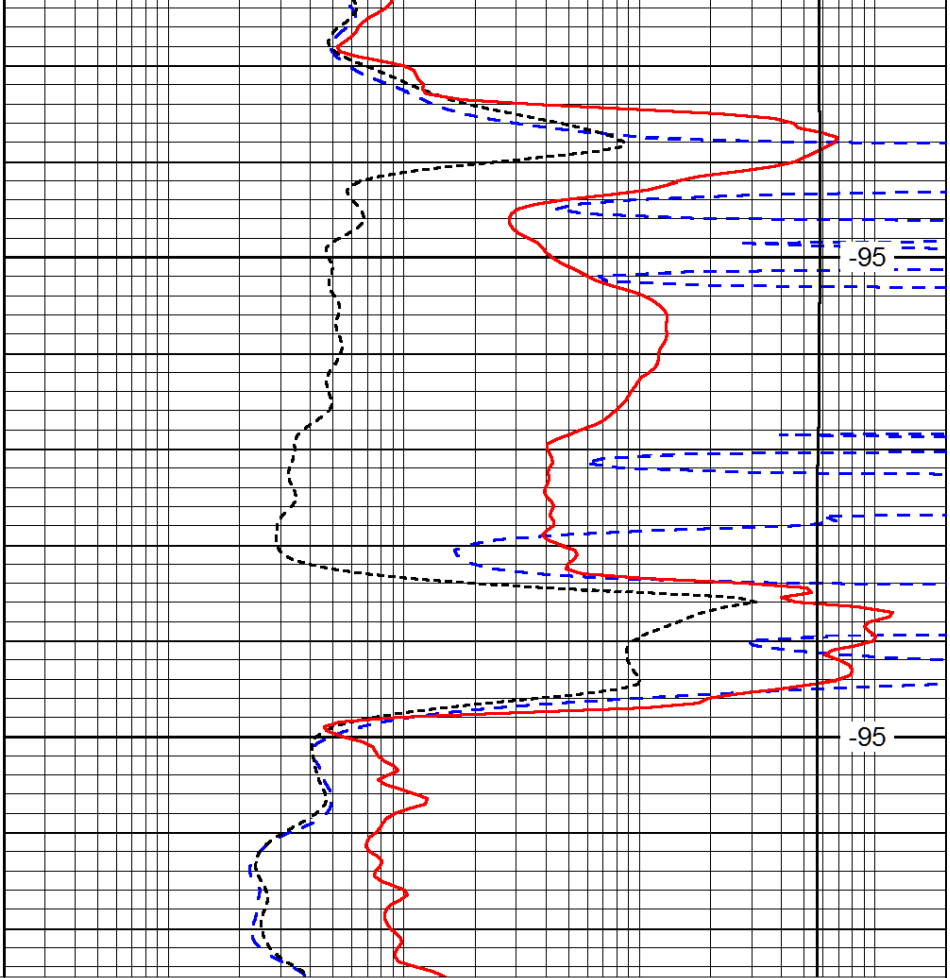




0	Gamma Ray (GAPI)	150
-160	RXO/RT	40
-200	SP (mV)	0

1950

2000



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

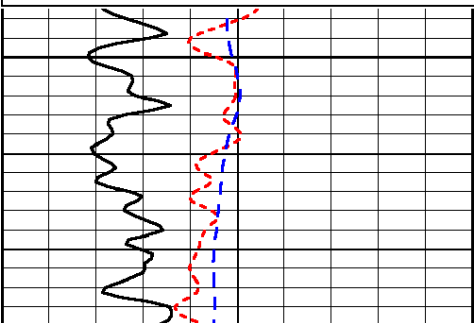
LSPD
(ft/min)

Database File: amwar_hd.db
Dataset Pathname: dil/amwmain
Presentation Format: dil
Dataset Creation: Sat Aug 17 10:32:18 2013
Charted by: Depth in Feet scaled 1:240

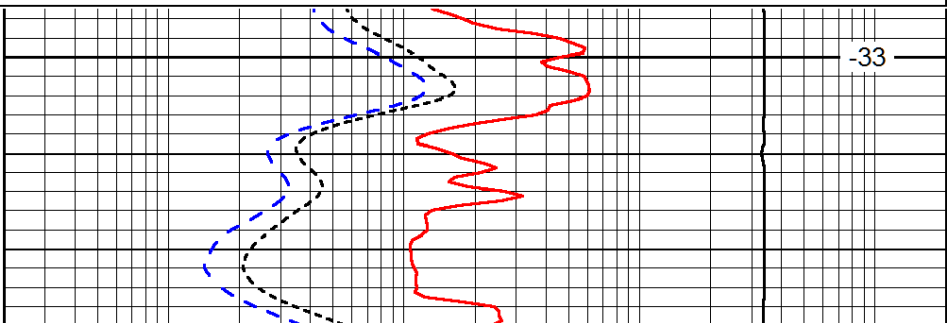
0	Gamma Ray (GAPI)	150
-160	RXO/RT	40
-200	SP (mV)	0

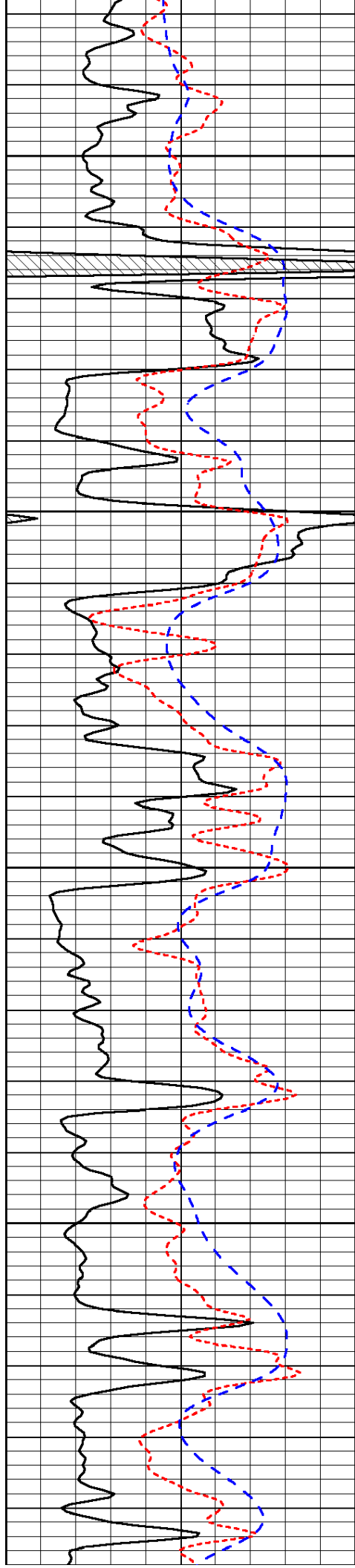
0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000
10000	Line Tension (lb)	0

LSPD
(ft/min)



4050



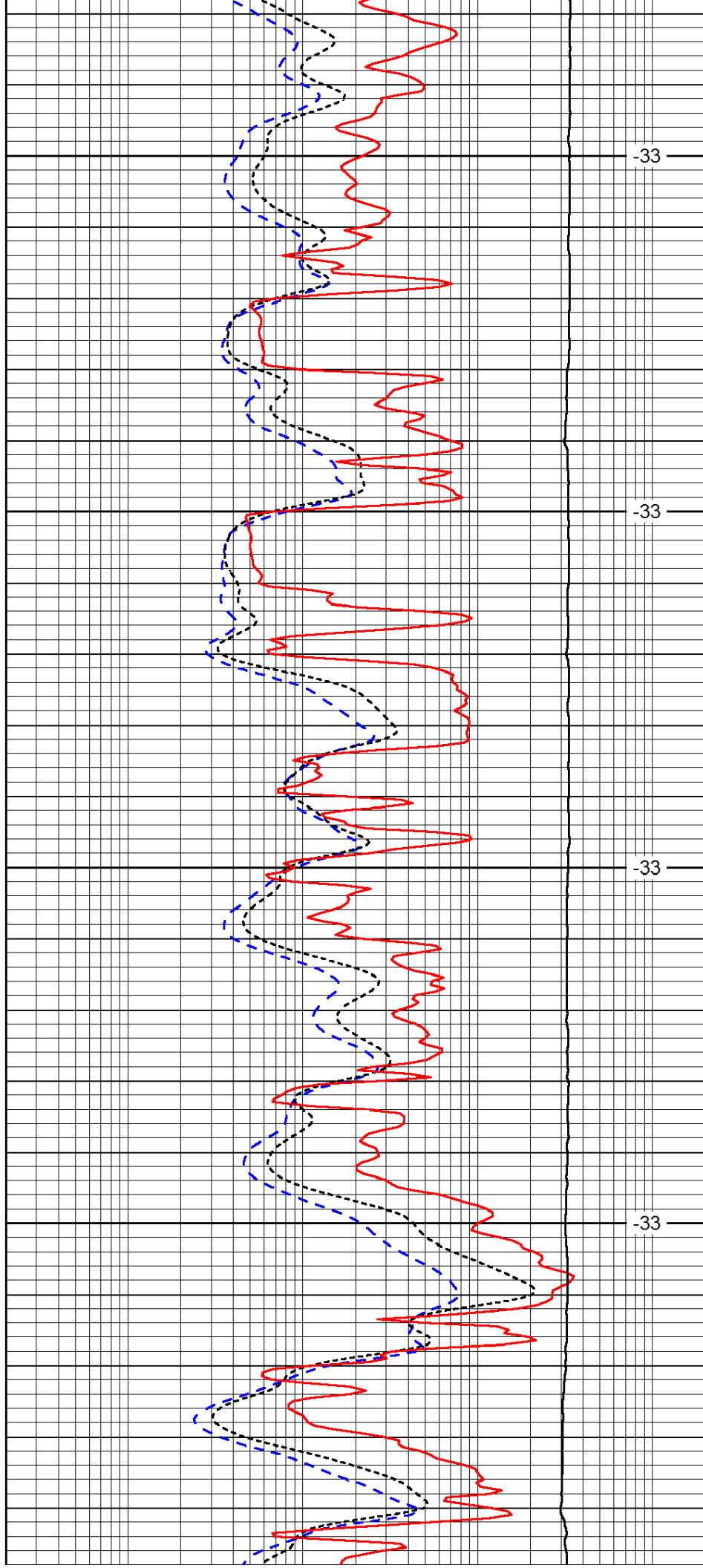


4100

4150

4200

4250

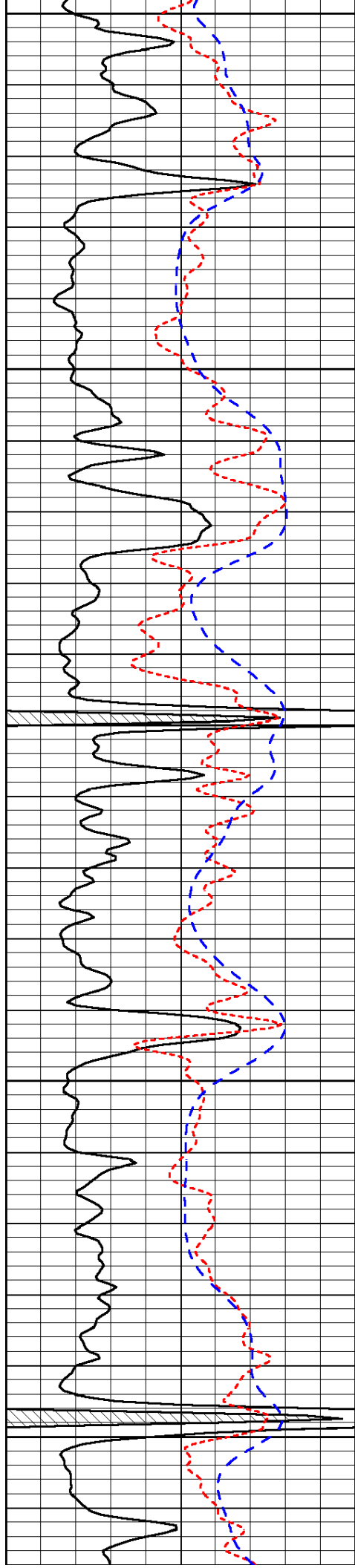


-33

-33

-33

-33



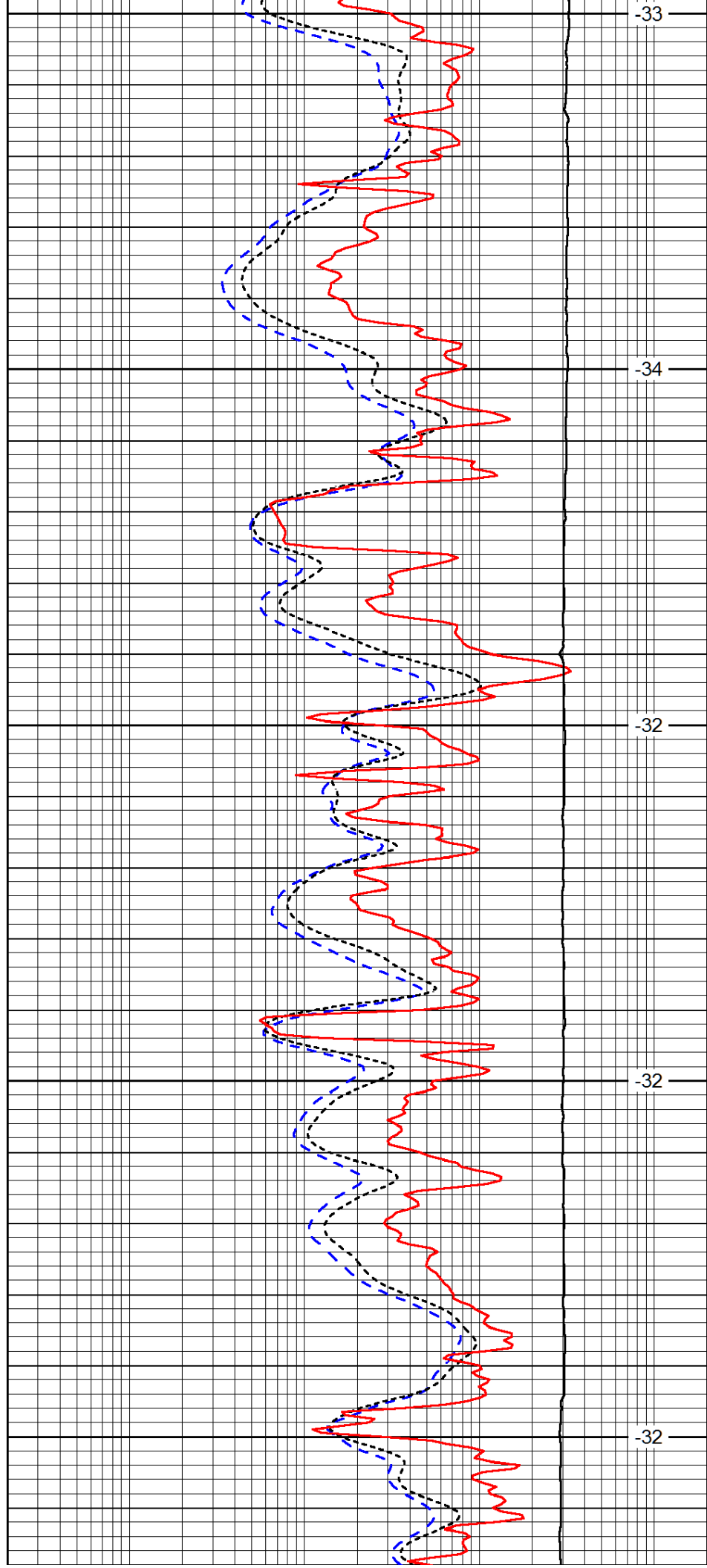
4300

4350

4400

4450

4500



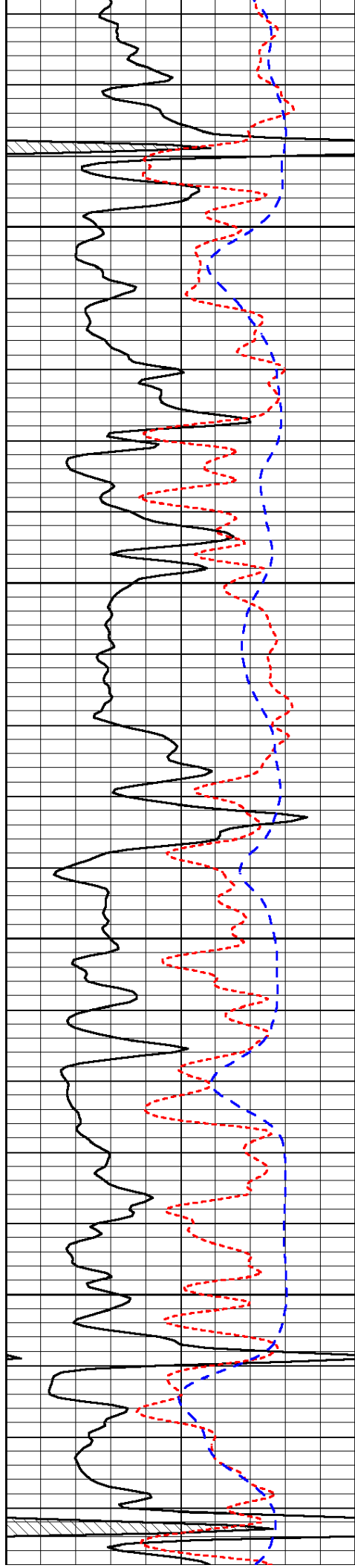
-33

-34

-32

-32

-32

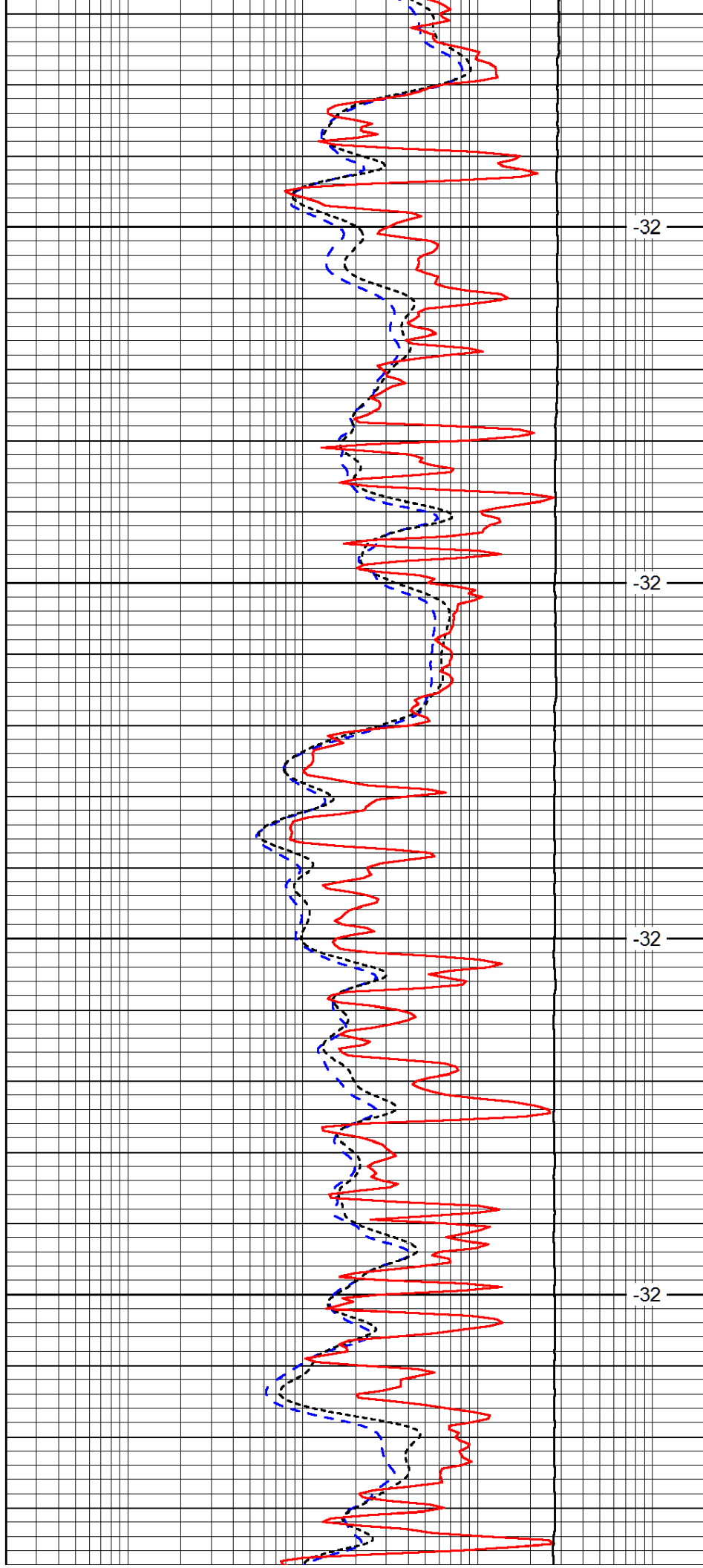


4550

4600

4650

4700

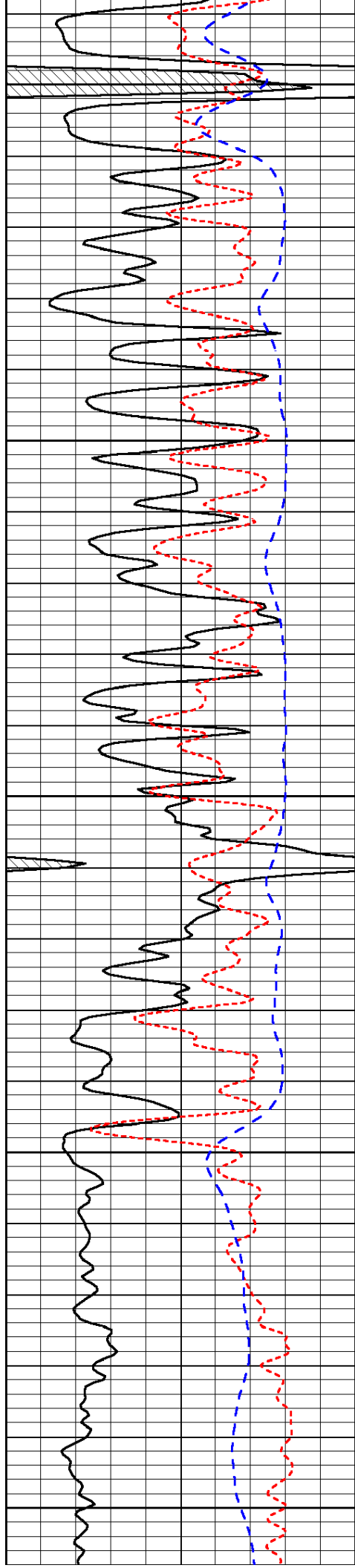


-32

-32

-32

-32



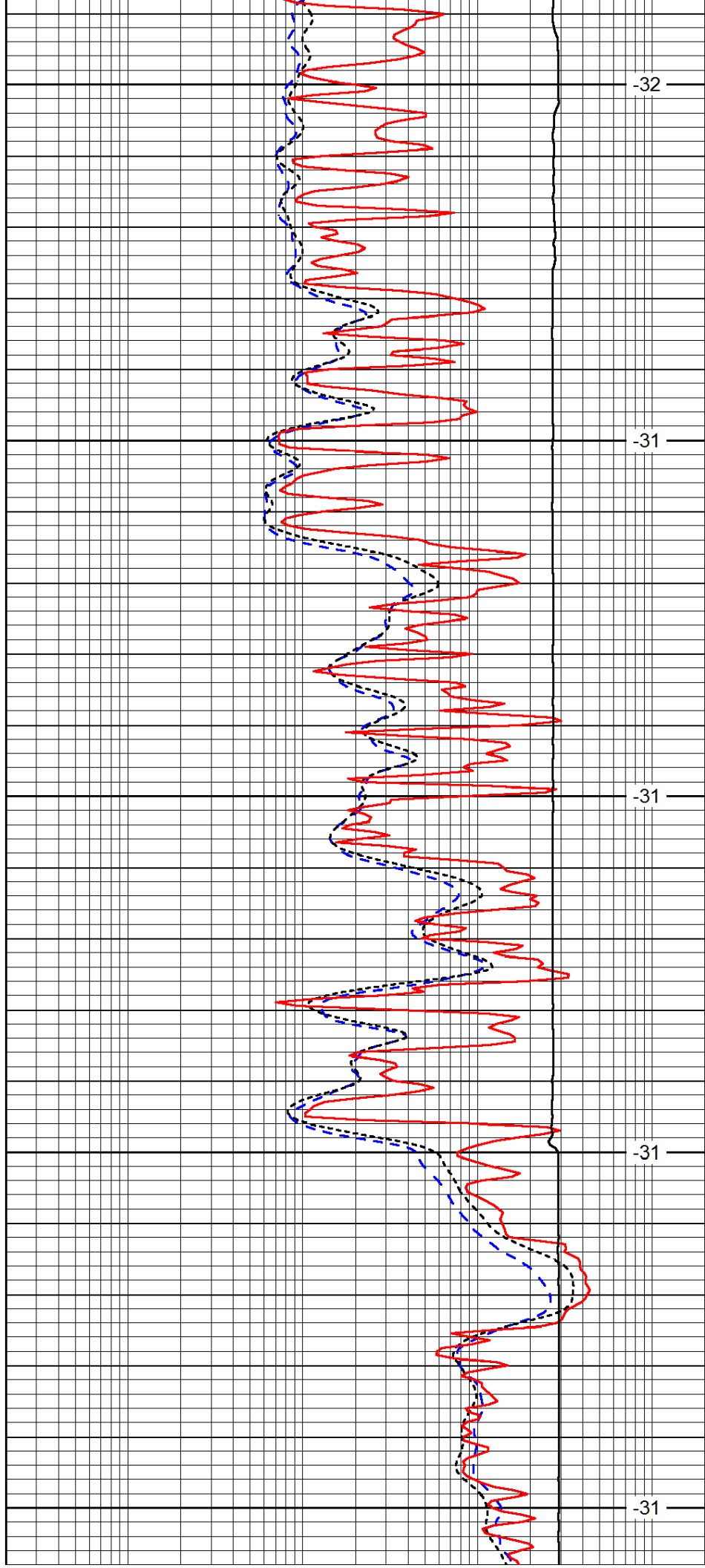
4750

4800

4850

4900

4950



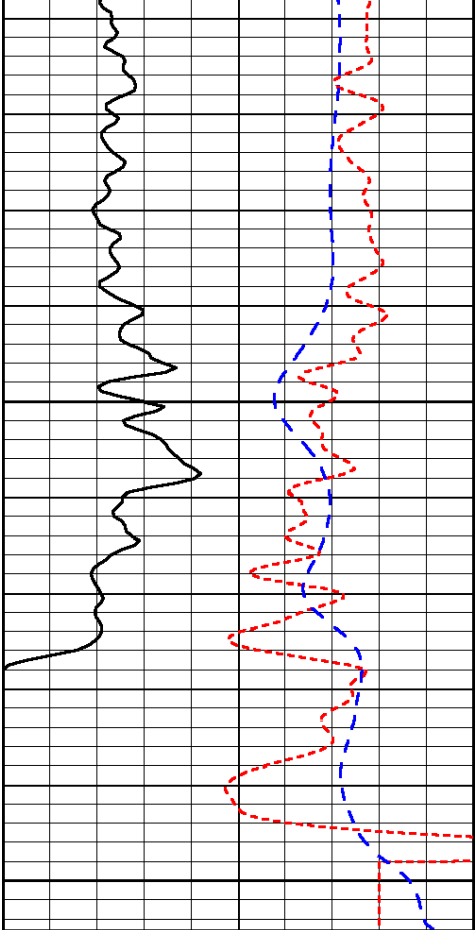
-32

-31

-31

-31

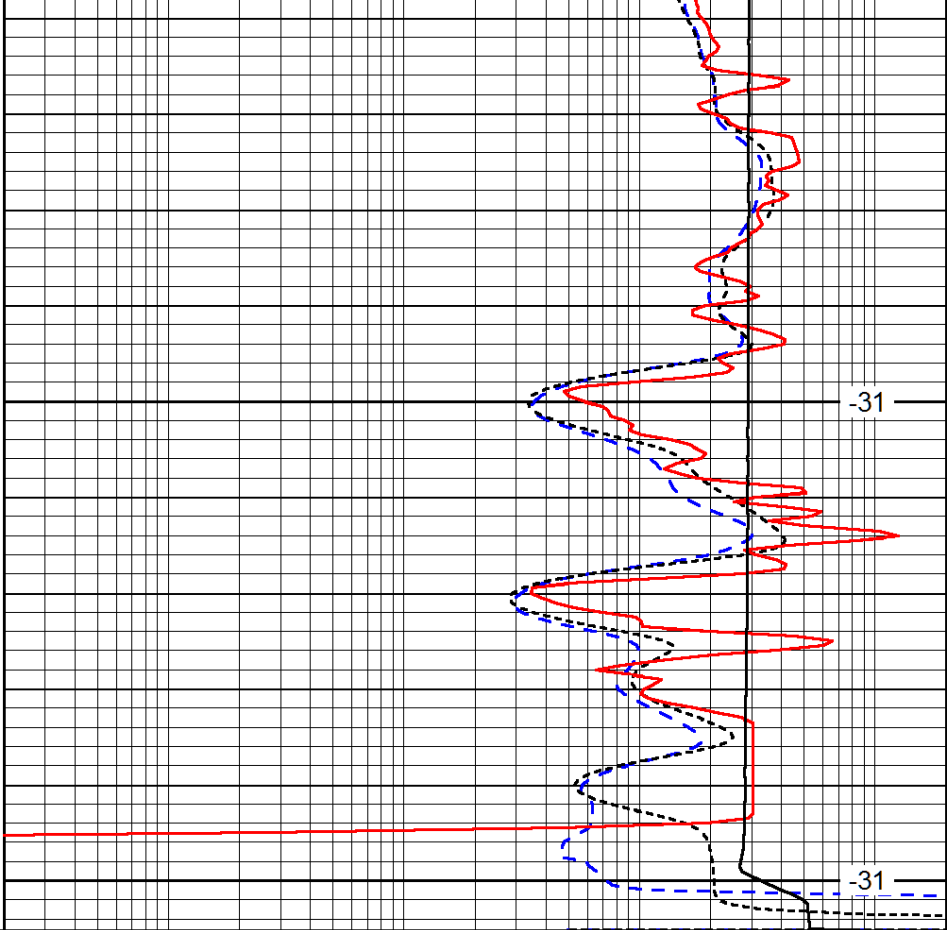
-31



0	Gamma Ray (GAPI)	150
-160	RXO/RT	40
-200	SP (mV)	0

5000

5050



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

-31

-31

LSPD
(ft/min)