



Dual Induction Log

Pioneer Energy Services

API No.

15-053-21,295-00-00

Company American Warrior, Inc.

Well Grubb No. 1-5

Field Stollenberg

County Ellsworth State

Kansas

Location NW-SE-SW-SE
335' FSL & 1652' FEL

Other Services
CNL/CDL
MEI/BHCS

Sec: 5 Twp: 16S Rge: 10W

Permanent Datum Ground Level Elevation 1820
Log Measured From Kelly Bushing 8 Ft. Above Perm. Datum
Drilling Measured From Kelly Bushing

Elevation
K.B. 1828
D.F. 1820
G.L. 1820

Date 12/8/13

Run Number One

Depth Driller 3400

Depth Logger 3402

Bottom Logged Interval 3401

Top Log Interval 350

Casing Driller 88.625 @ 376

Casing Logger 367

Bit Size 7.875

Type Fluid in Hole Chemical

Salinity, ppm CL 8,000

Density / Viscosity 9.0 50

pH / Fluid Loss 10.0 7.2

Source of Sample Flowline

Rm @ Meas. Temp .23 @ 56

Rmf @ Meas. Temp .17 @ 56

Rmc @ Meas. Temp .31 @ 56

Source of Rmf / Rmc Charts

Rm @ BHT .12 @ 110

Operating Rig Time 4 Hours

Max Rec. Temp. F 110

Equipment Number 108

Location Hays

Recorded By J. Henrickson

Witnessed By Kurt Talbott

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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

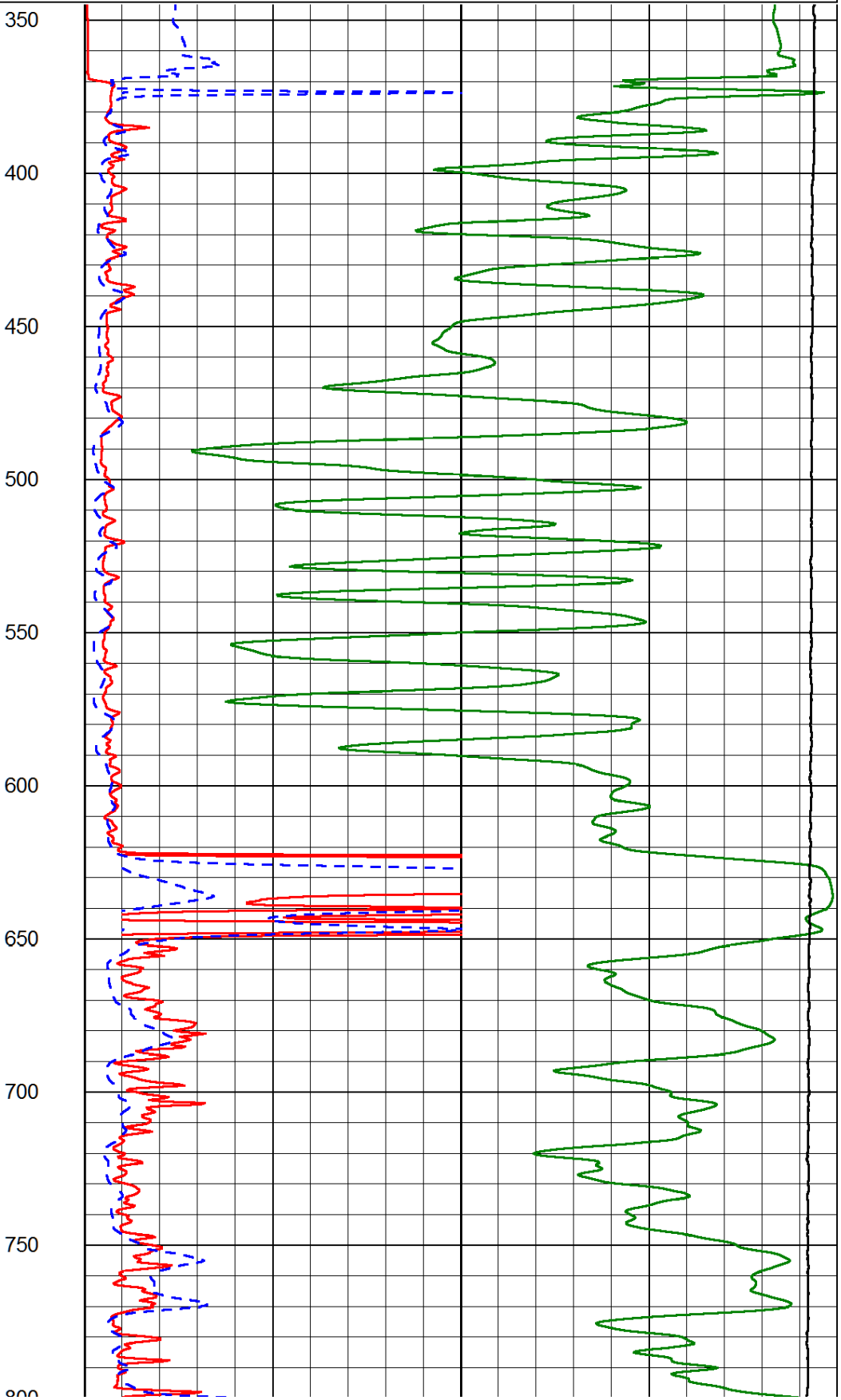
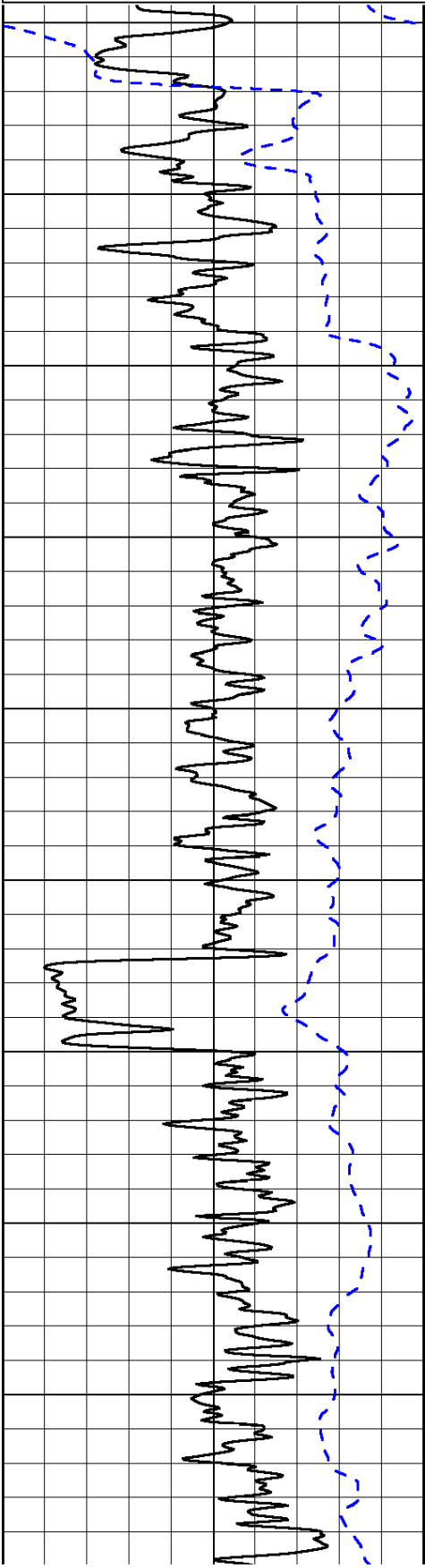
Thank you for using Log-Tech, Inc.
(785) 625-3858

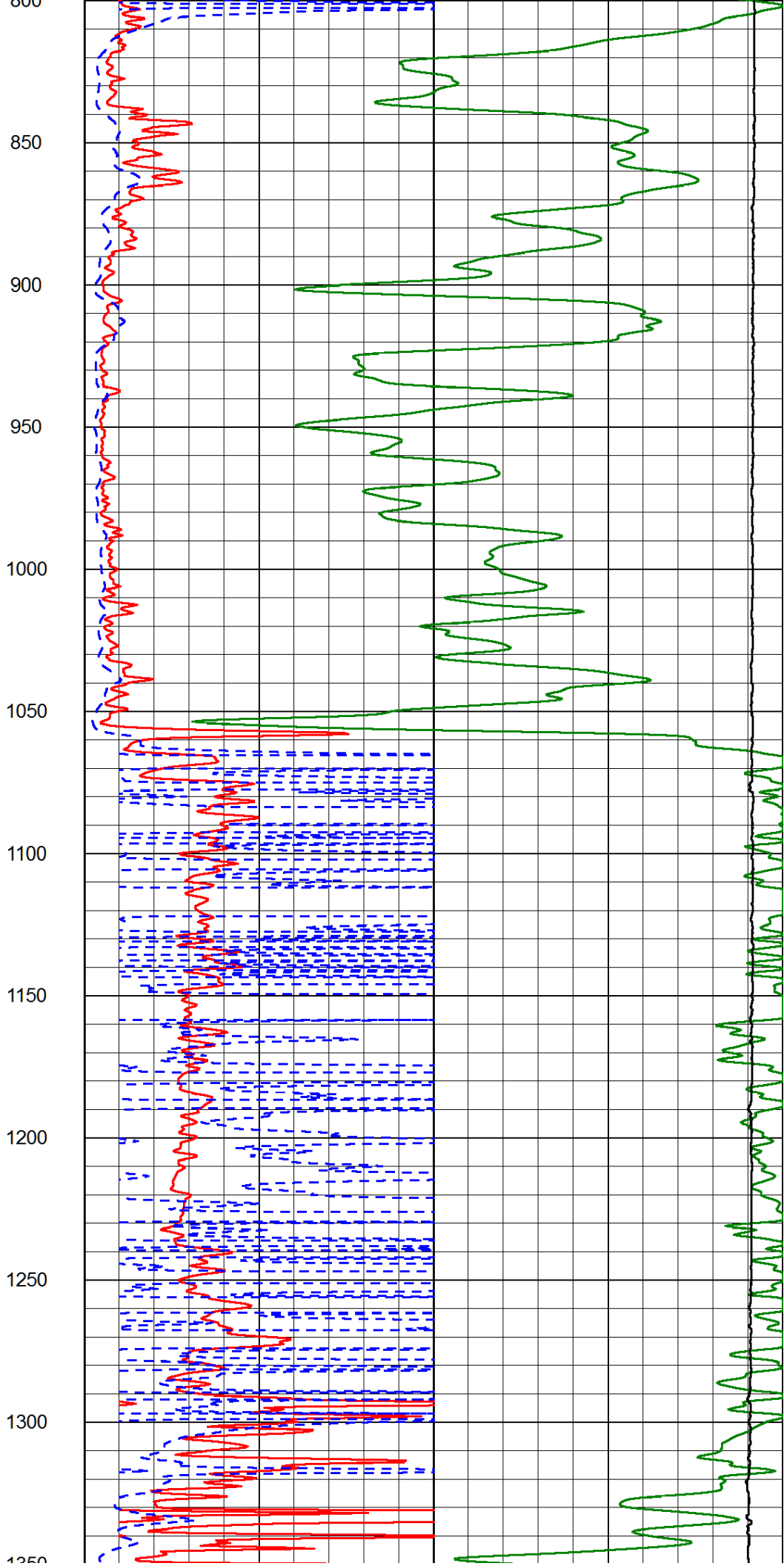
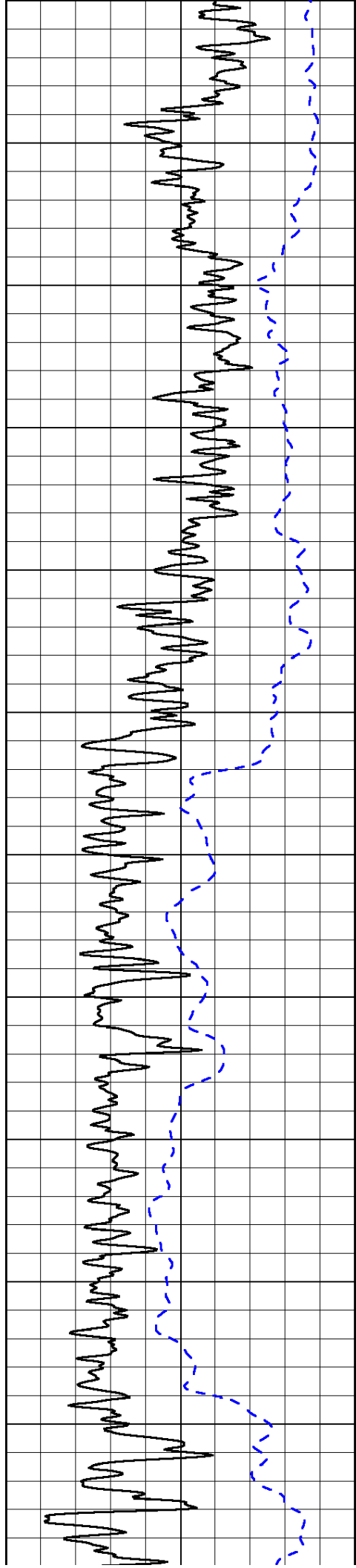
Wilson Kansas
10 South to Ave. N, 1 3/4 East, North Into

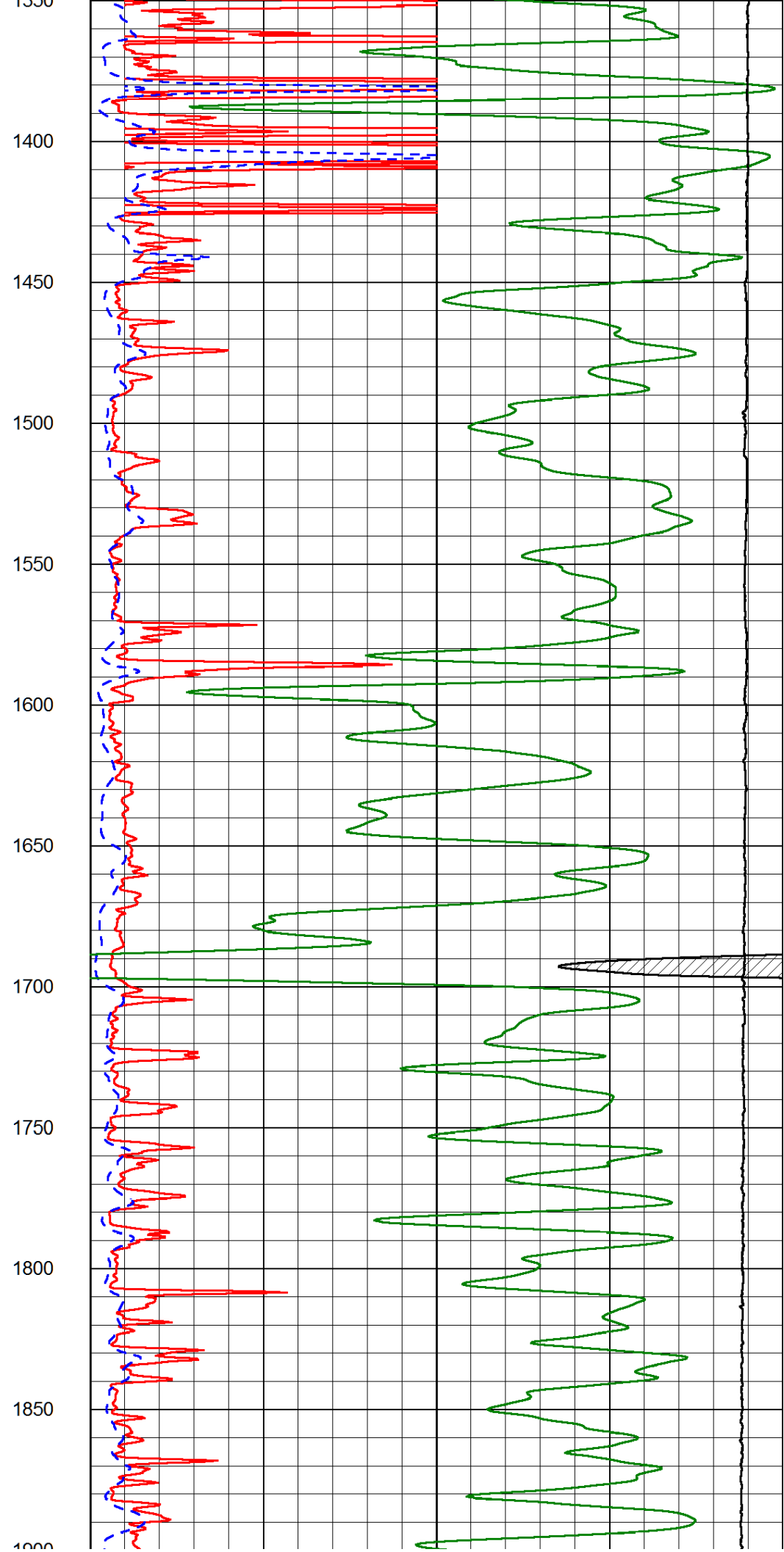
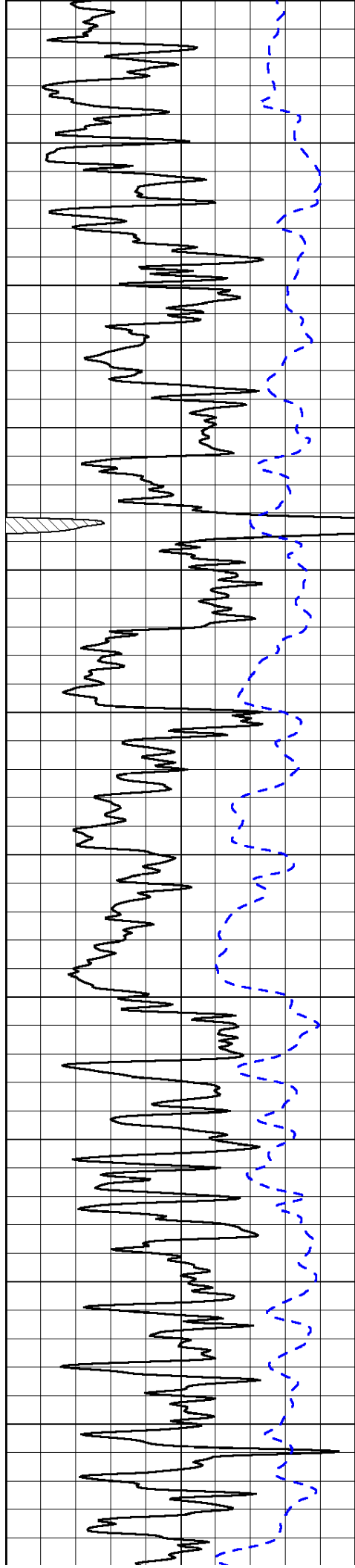
Database File: american_warrior_grubb_1_5hd.db
Dataset Pathname: DIL/awstk
Presentation Format: dil2in
Dataset Creation: Sun Dec 08 20:23:11 2013
Charted by: Depth in Feet scaled 1:600

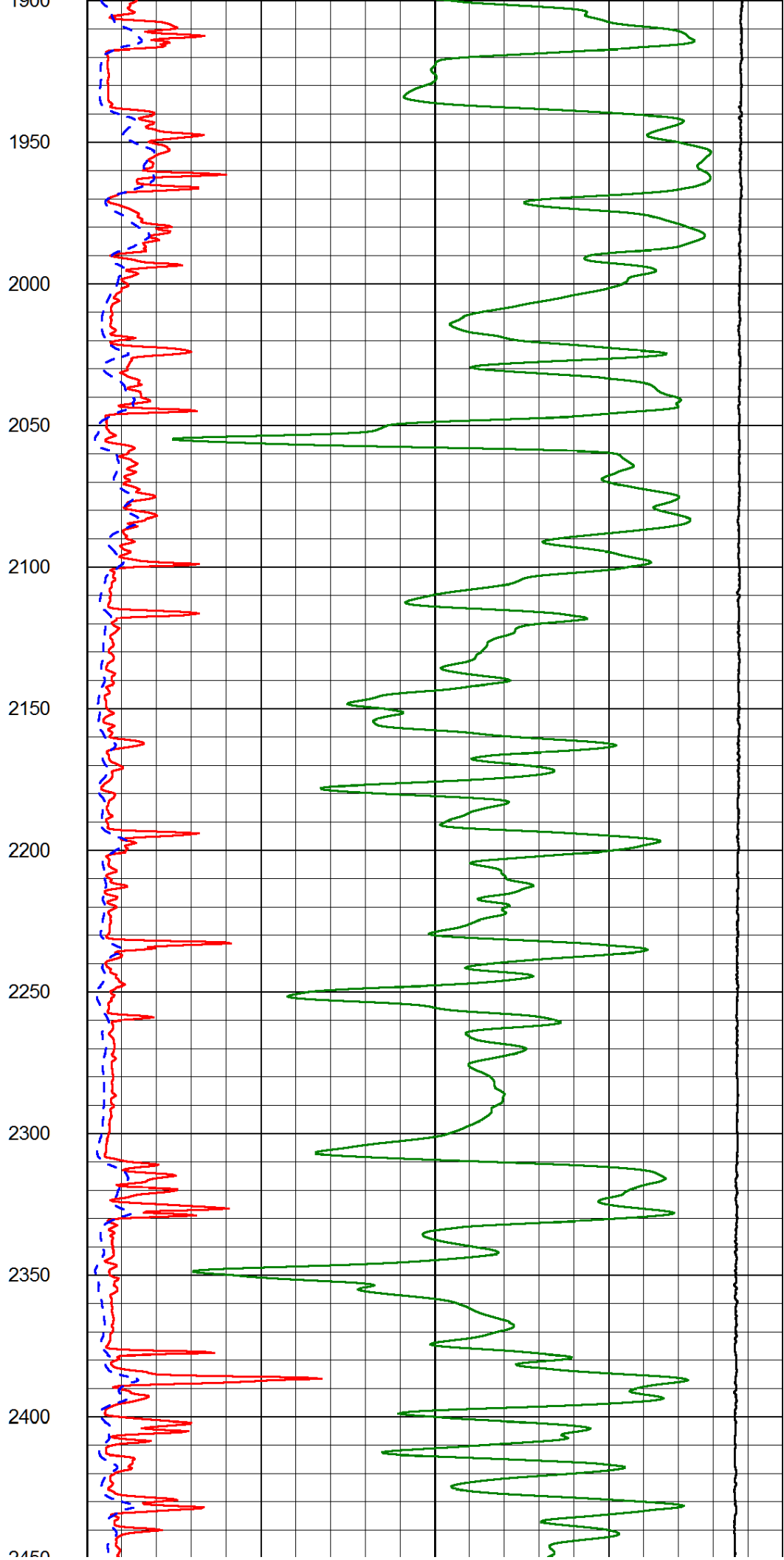
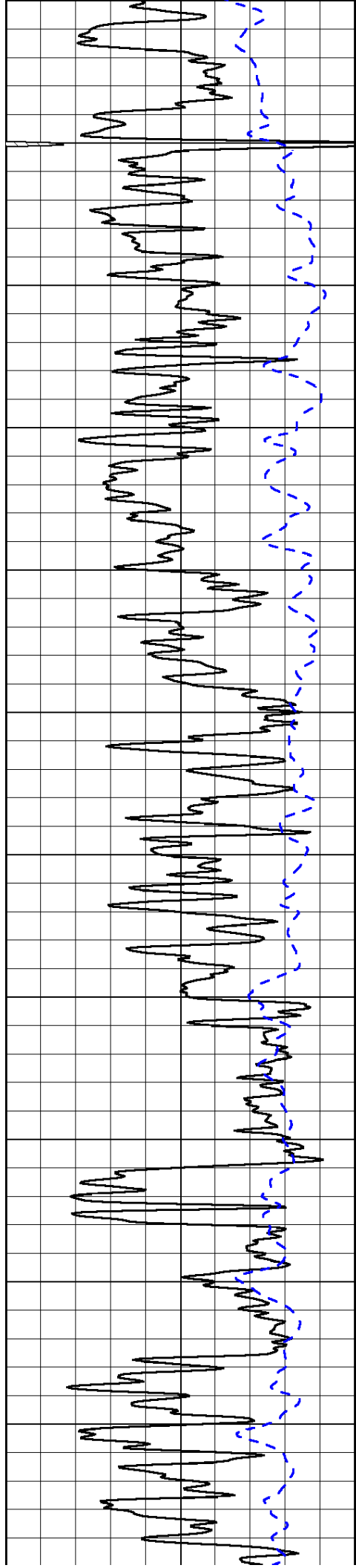
0	Gamma Ray (GAPI)	150
-200	SP (mV)	0

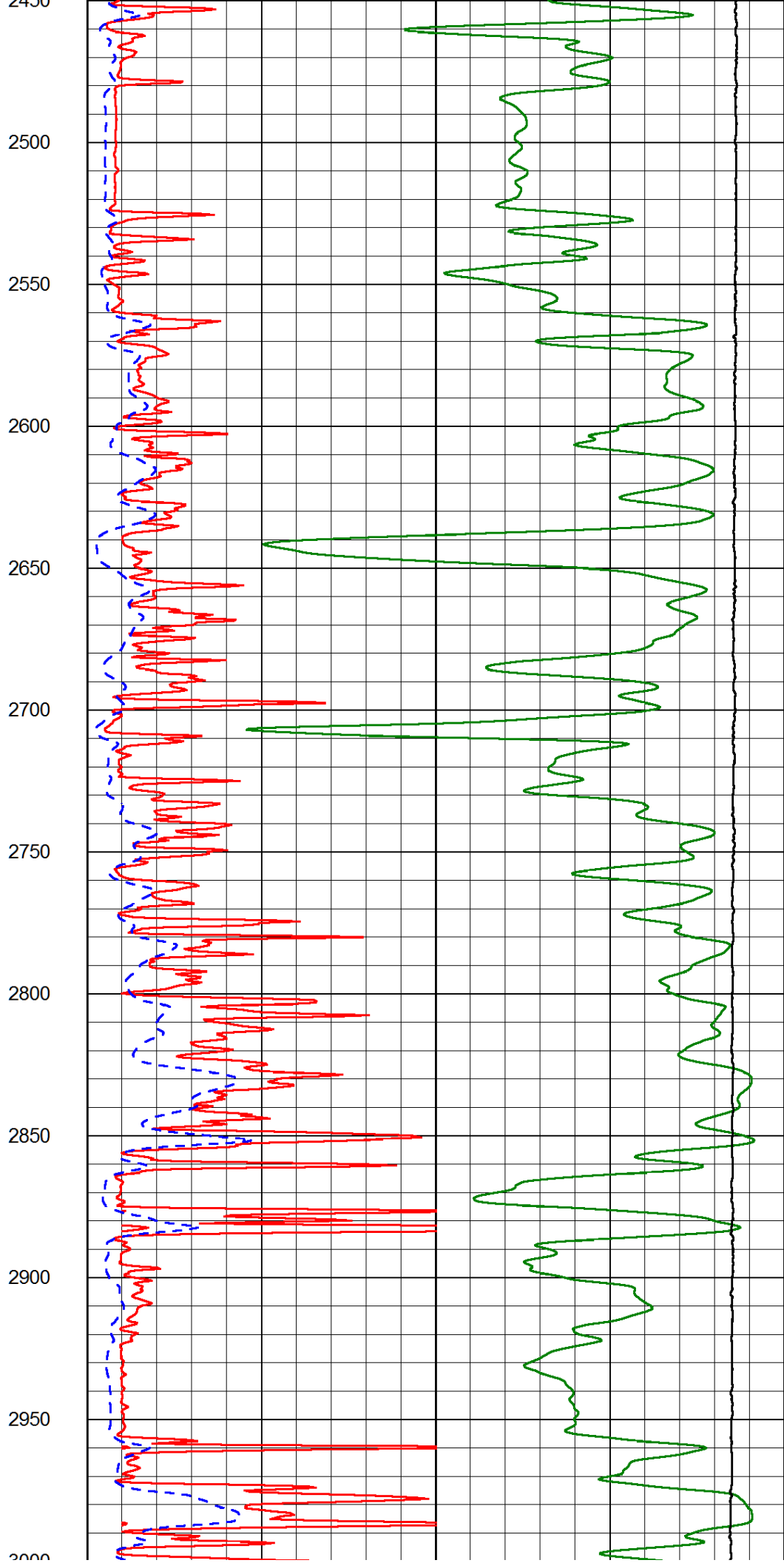
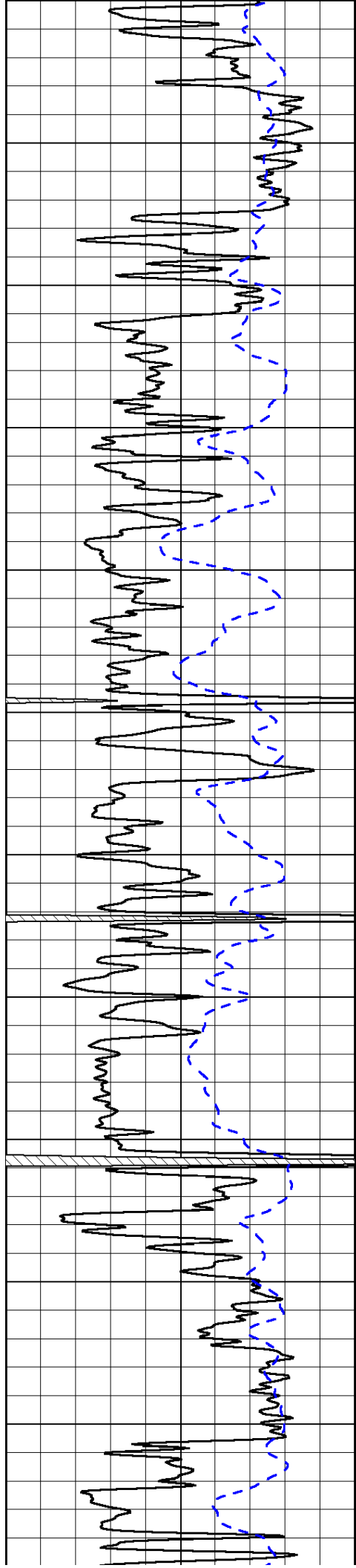
0	Shallow Resistivity (Ohm-m)	50
0	Deep Resistivity (Ohm-m)	50
1000	Conductivity (Ohm-m)	0
15000	Line Tension (lb)	0
	Shallow Resistivity	
50	(Ohm-m)	500
50	Deep Resistivity (Ohm-m)	500

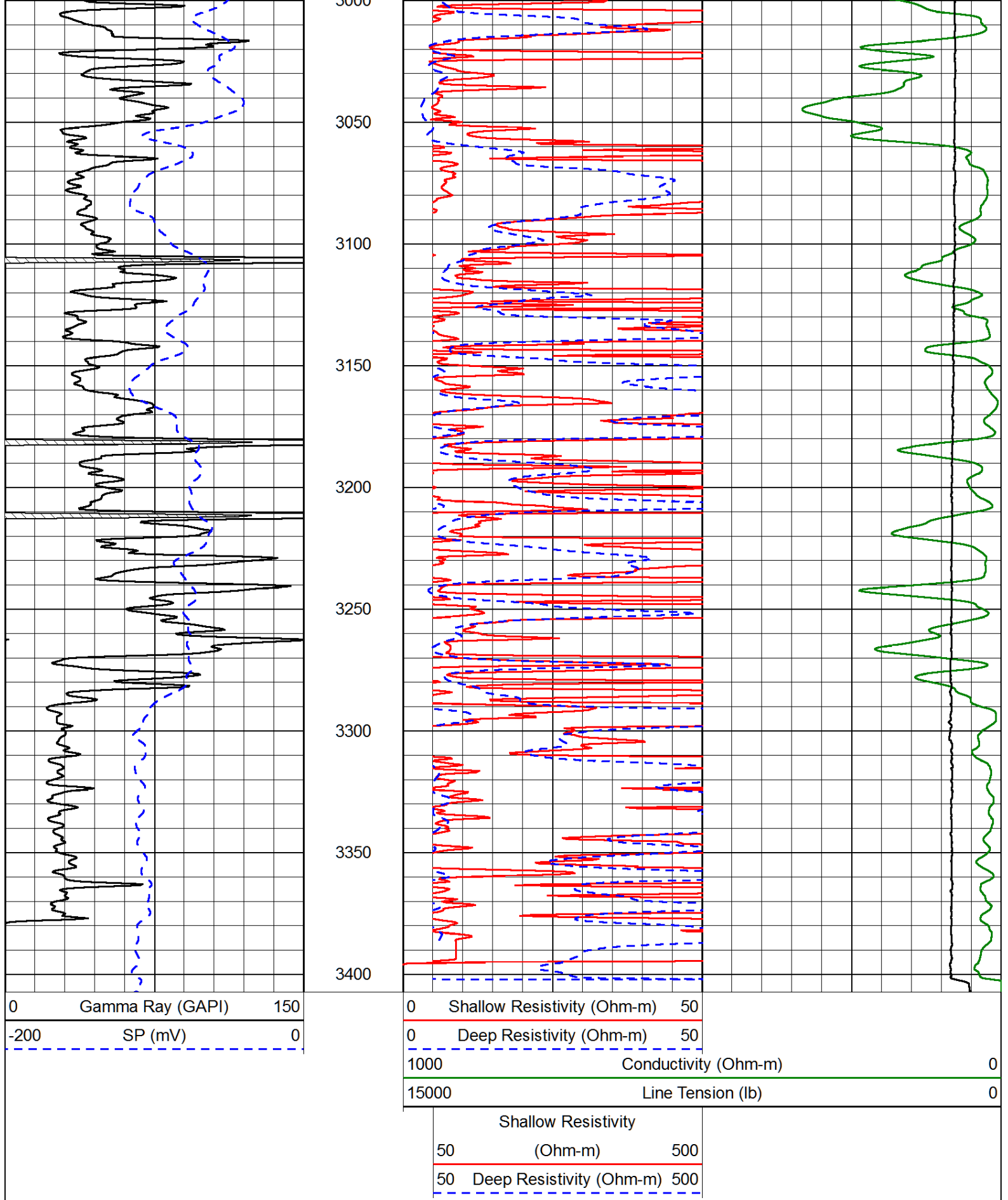












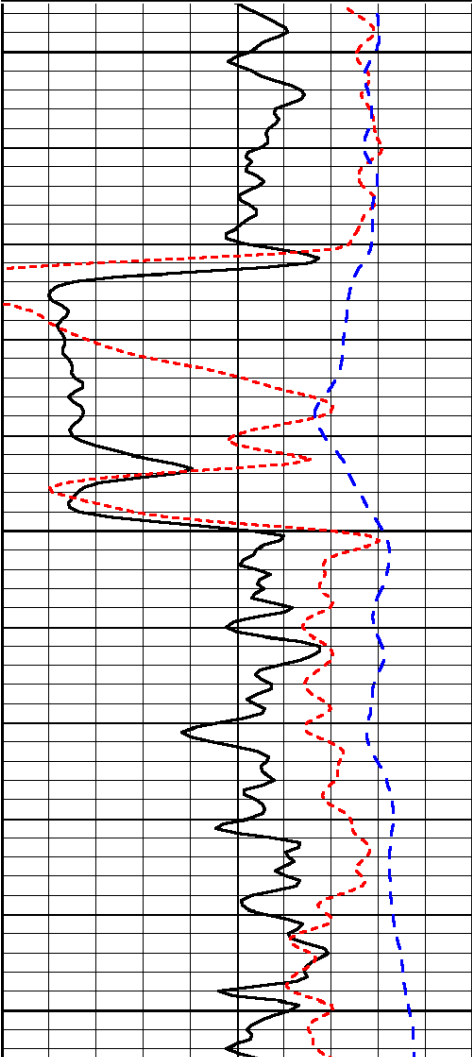
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Dataset Pathname: DIL/awstk
Presentation Format: dil
Dataset Creation: Sun Dec 08 20:23:11 2013
Charted by: Depth in Feet scaled 1:240

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

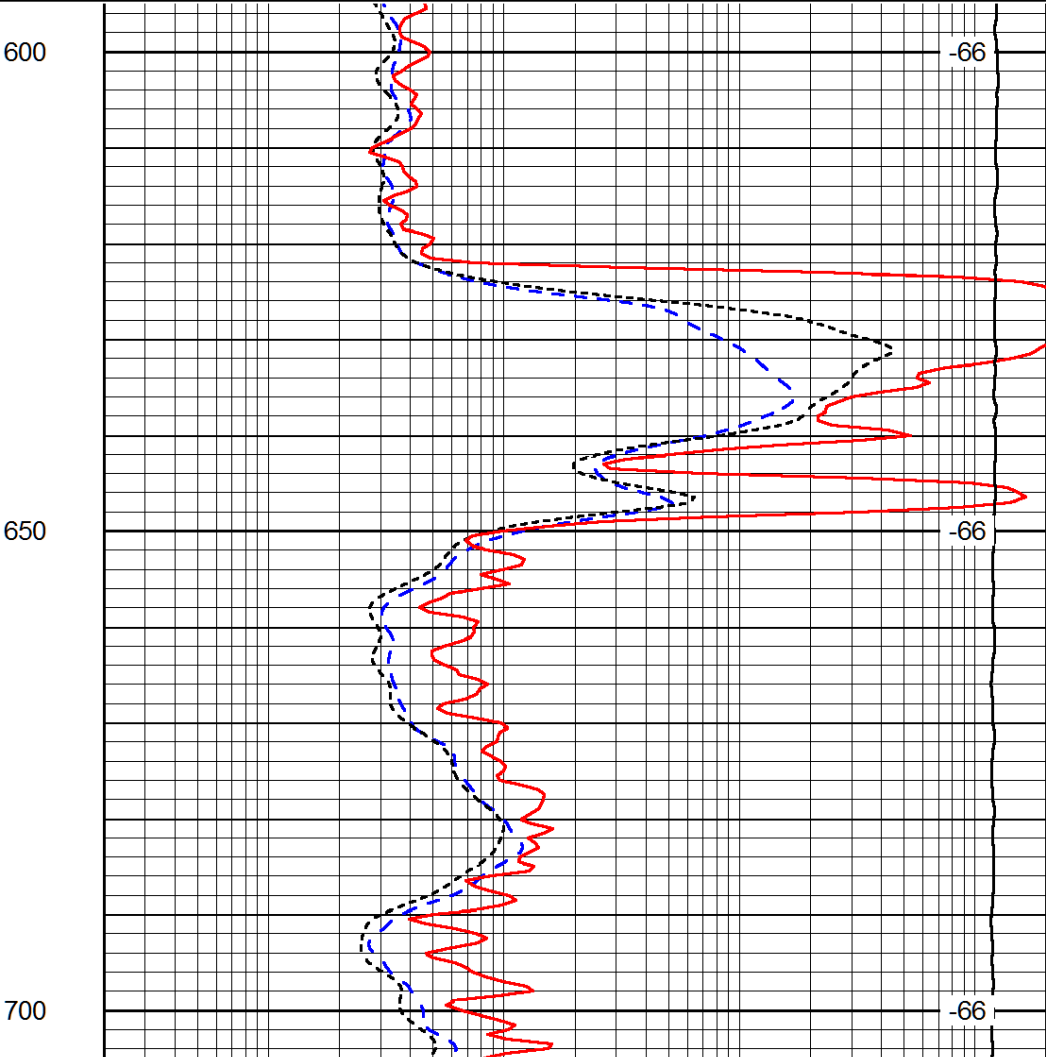
0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000
10000	Line Tension (lb)	0

LSPD

(ft/min)



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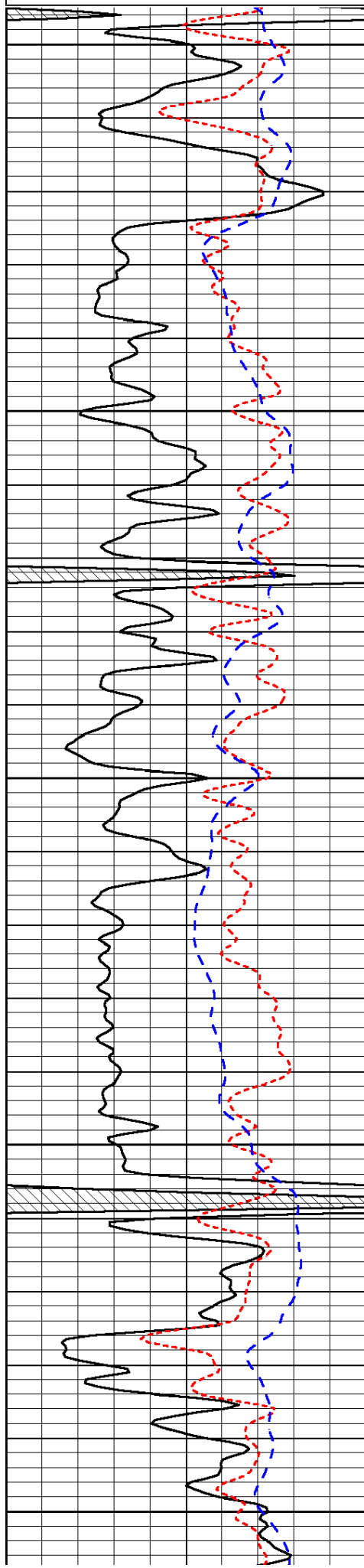
Charted by: Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150
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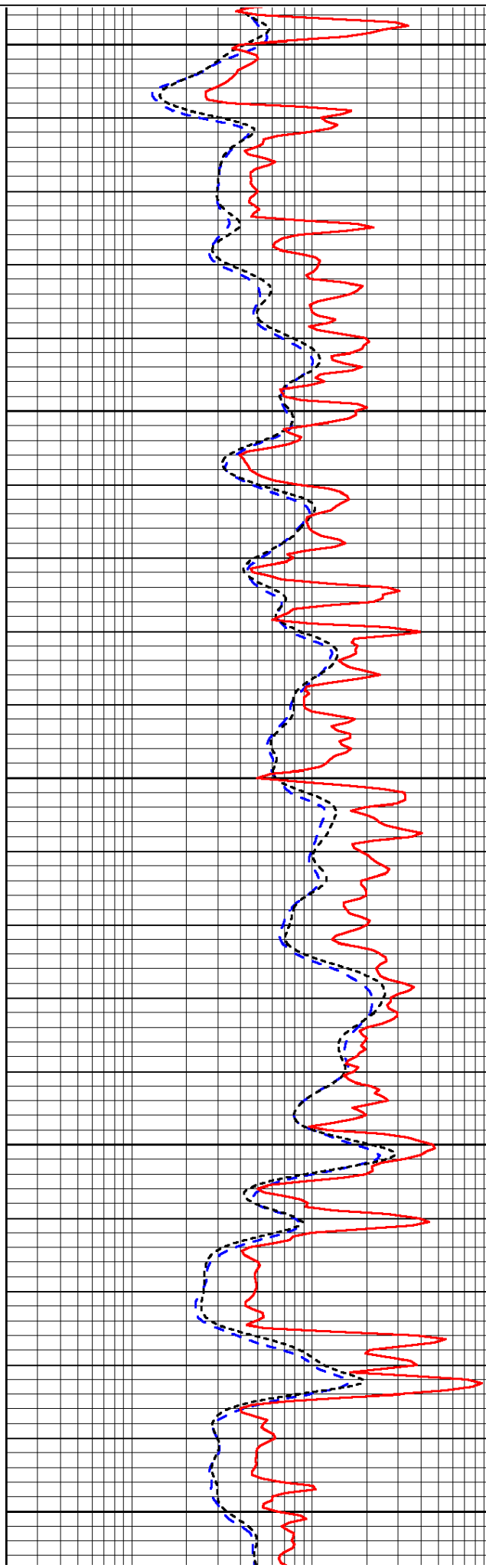
2700

2750

2800

2850

2900



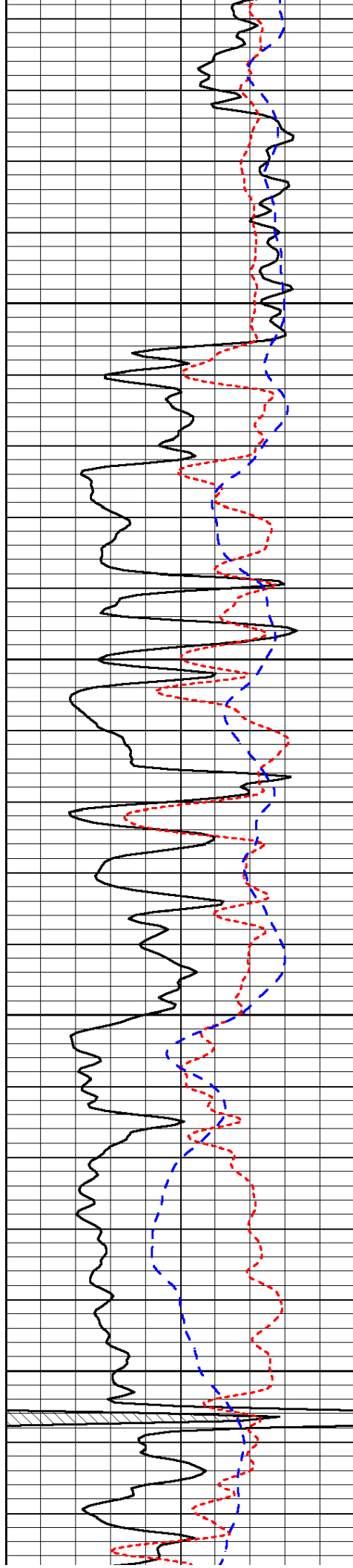
-32

-32

-32

-31

-32

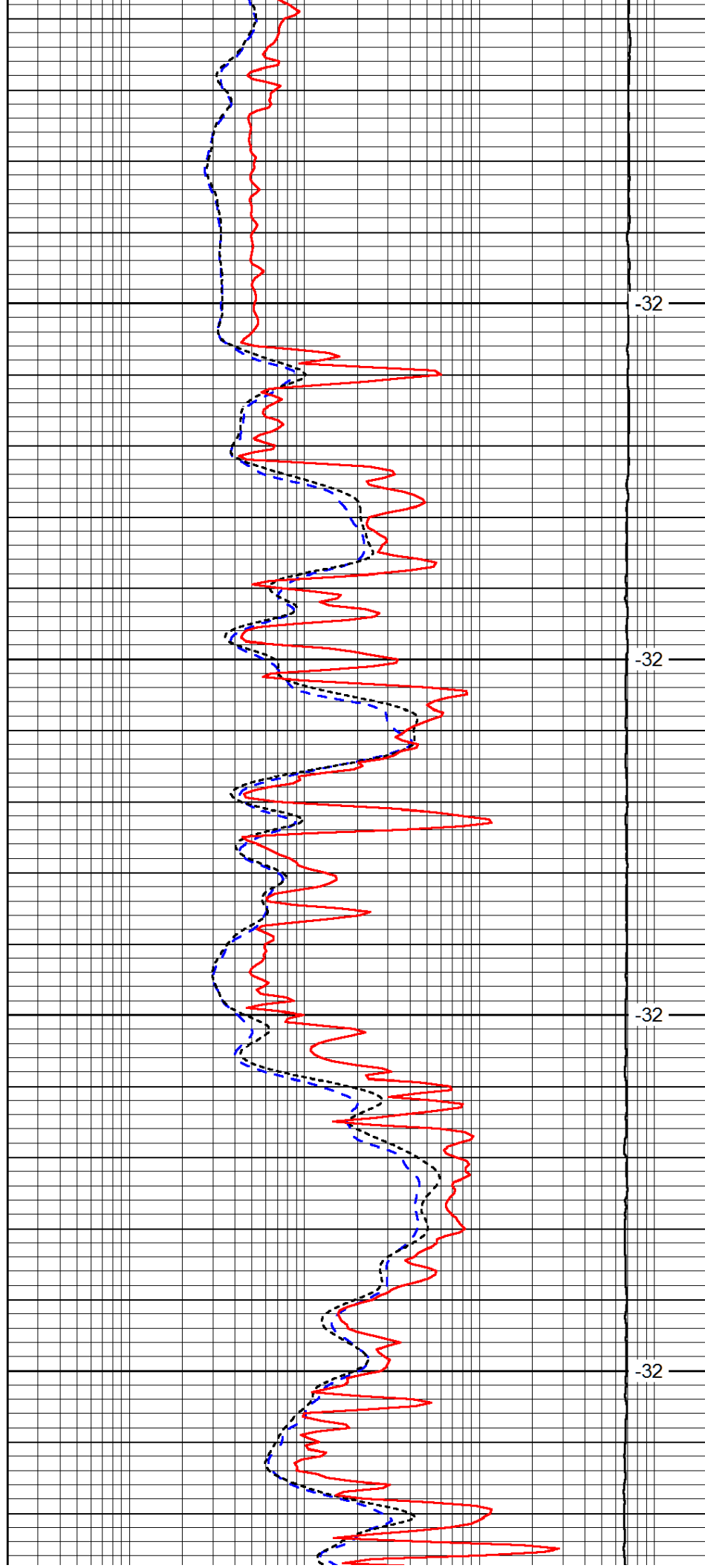


2950

3000

3050

3100

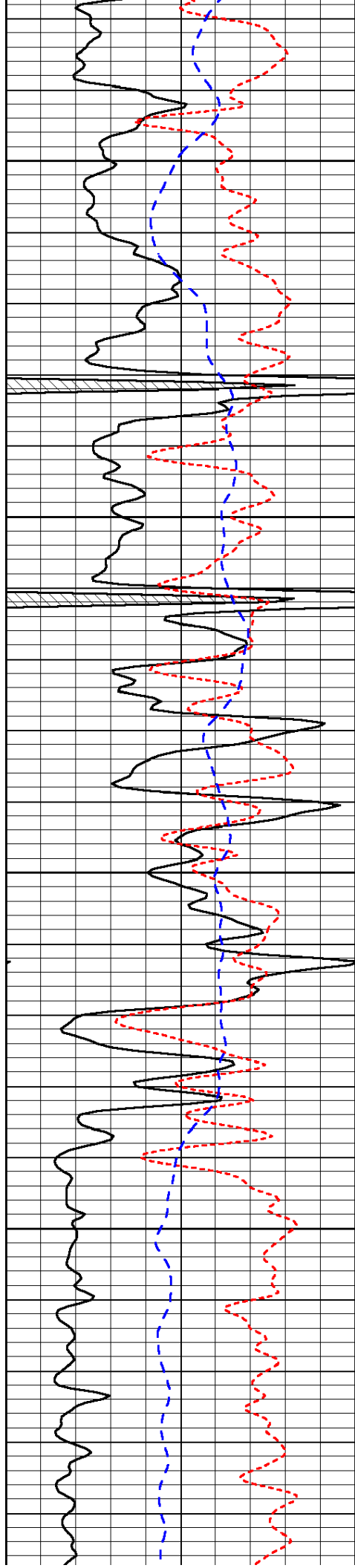


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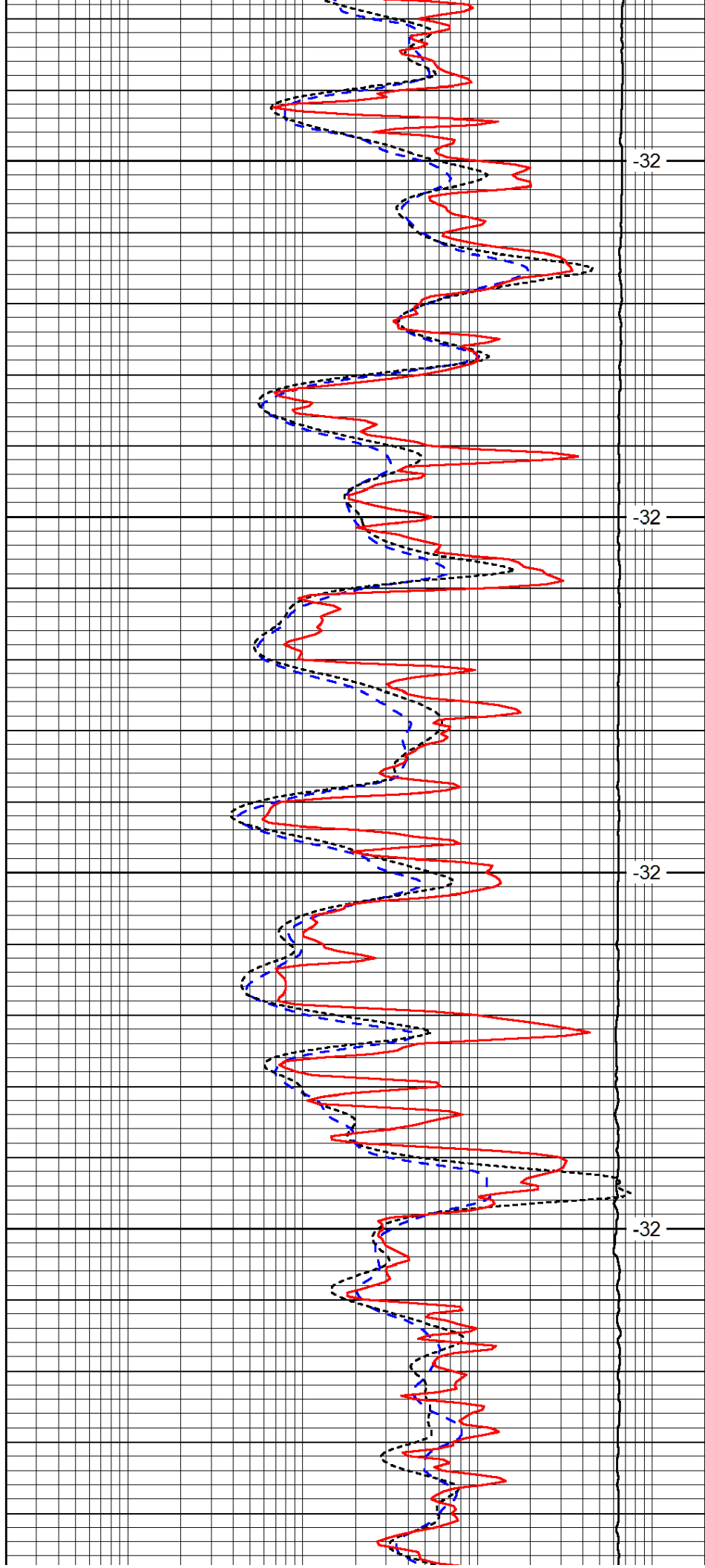


3150

3200

3250

3300

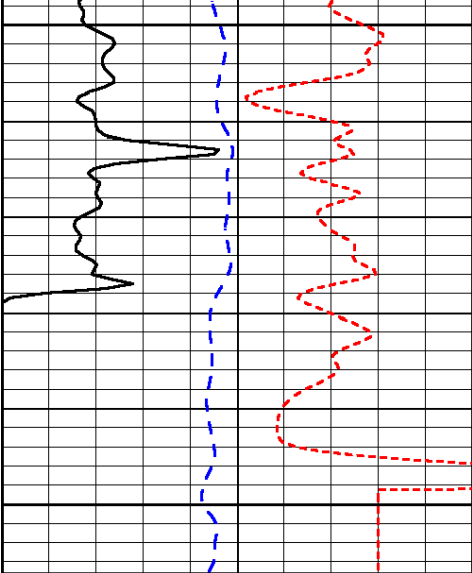


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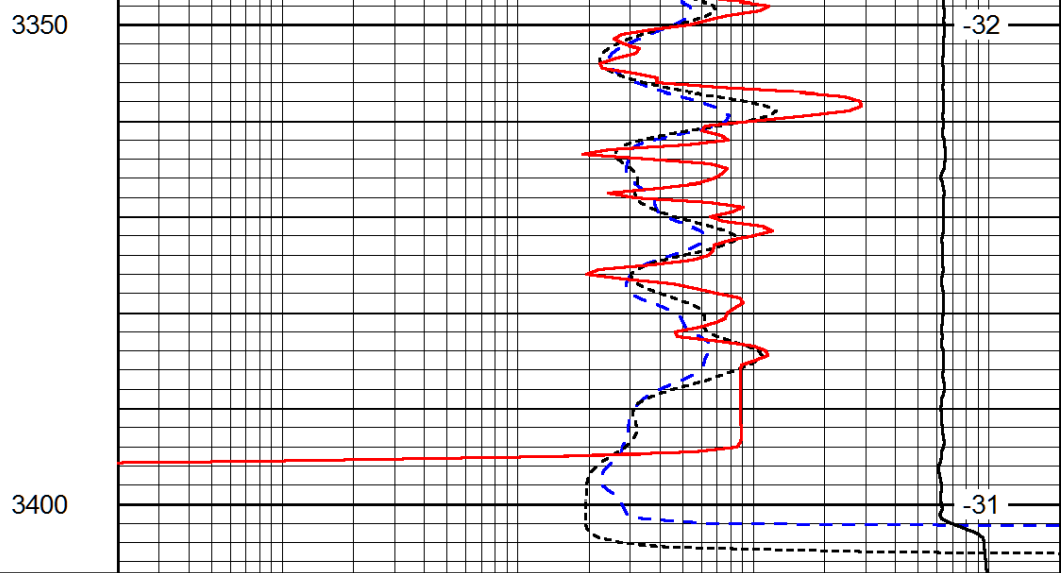
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