



Pioneer Energy Services

Dual Induction Log

15-065-23,918-00-00

API No.

Company **H&C Oil Operating, Inc.**

Well **McGrath Unit No. 36 - 1**

Field **Wildcat**

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

Location **2310' FSL & 2640' FWL**

Sec: **36** Twp: **9 S** Rge: **25 W**

Other Services
CNL/CDL
MEL

Permanent Datum **Ground Level** Elevation **2497**

Log Measured From **Kelly Bushing** 5 Ft. Above Perm. Datum

Drilling Measured From **Kelly Bushing**

Date **4/22/2013**

Run Number **One**

Depth Driller **4100**

Depth Logger **4104**

Bottom Logged Interval **4103**

Top Log Interval **300**

Casing Driller **8.625 @ 326**

Casing Logger **323**

Bit Size **7.875**

Type Fluid in Hole **Chemical**

Salinity, ppm CL **1500**

Density / Viscosity **9.3 59**

pH / Fluid Loss **10.5 6.8**

Source of Sample **Flowline**

Rm @ Meas. Temp **.80 @ 60**

Rmf @ Meas. Temp **.60 @ 60**

Rmc @ Meas. Temp **1.08 @ 60**

Source of Rmf / Rmc **Charts**

Rm @ BHT **.41 @ 117**

Operating Rig Time **4 Hours**

Max Rec. Temp. F **117**

Equipment Number **15**

Location **Hays**

Recorded By **D. Martin**

Witnessed By **Marc Downing**

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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

Wakeeney, KS
N to Redline Rd.(H Rd.),
10 W to 160 Rd., 1 S, 1/2 W, N Into

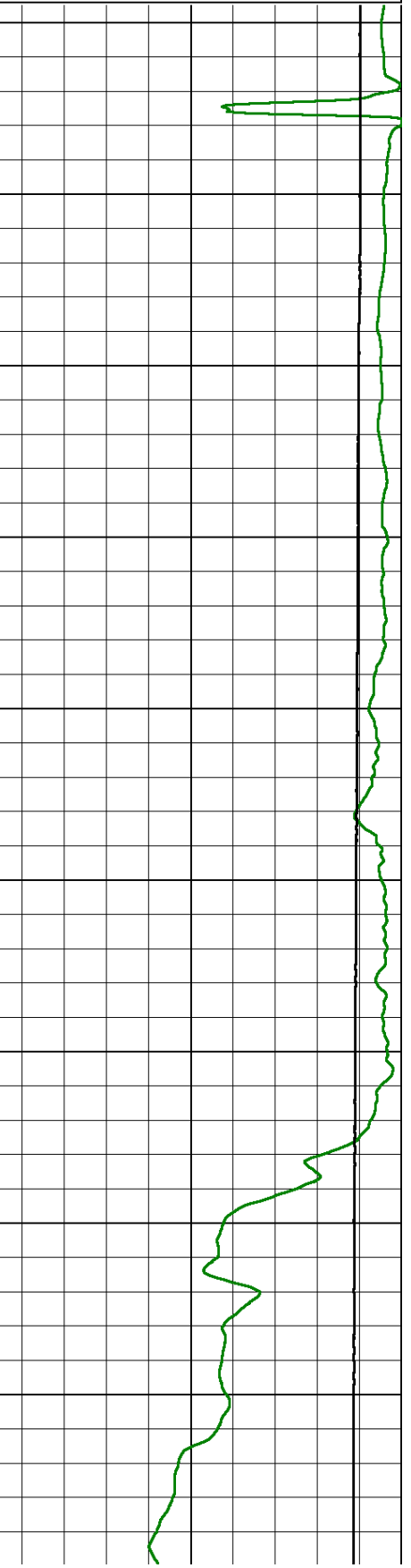
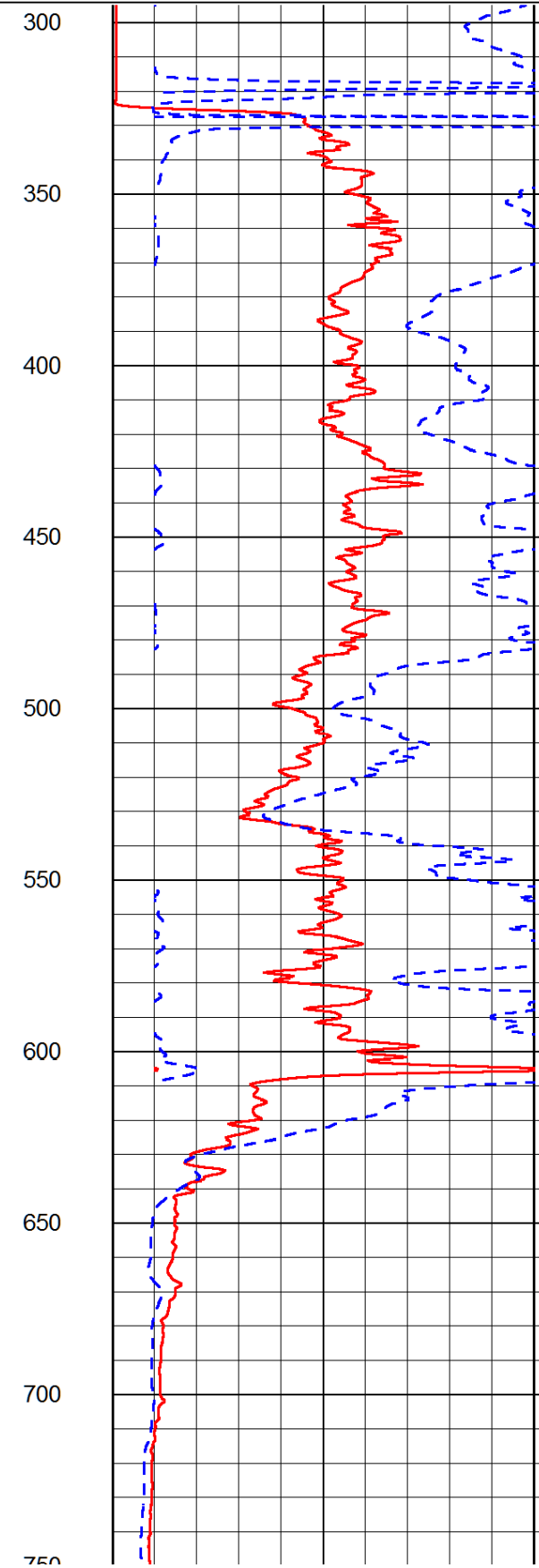
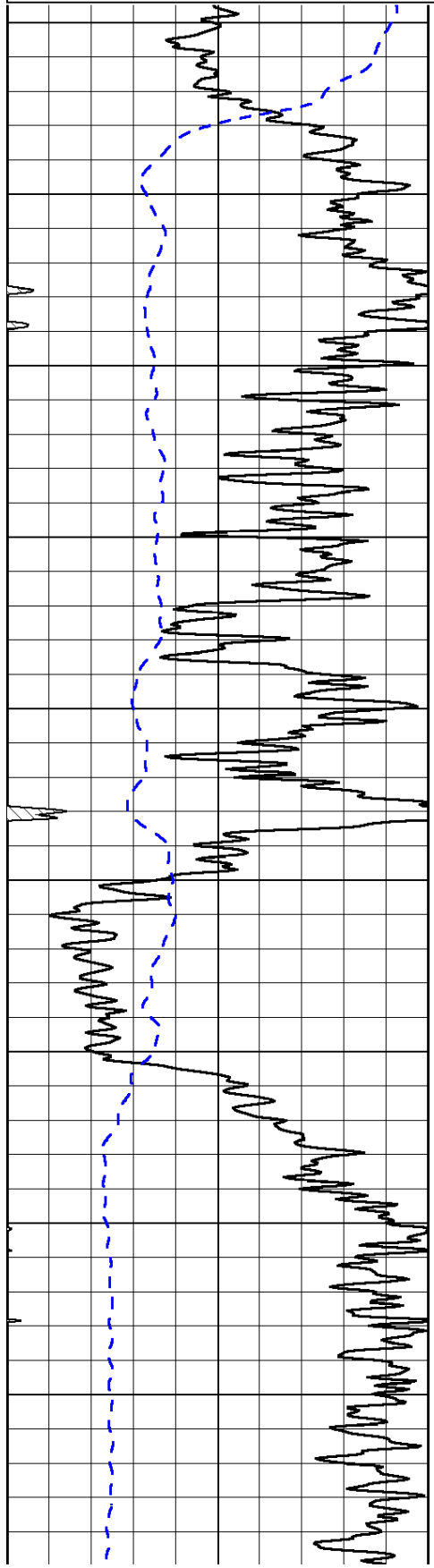
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Presentation Format: dil2in
Dataset Creation: Mon Apr 22 11:37:58 2013
Charted by: Depth in Feet scaled 1:600

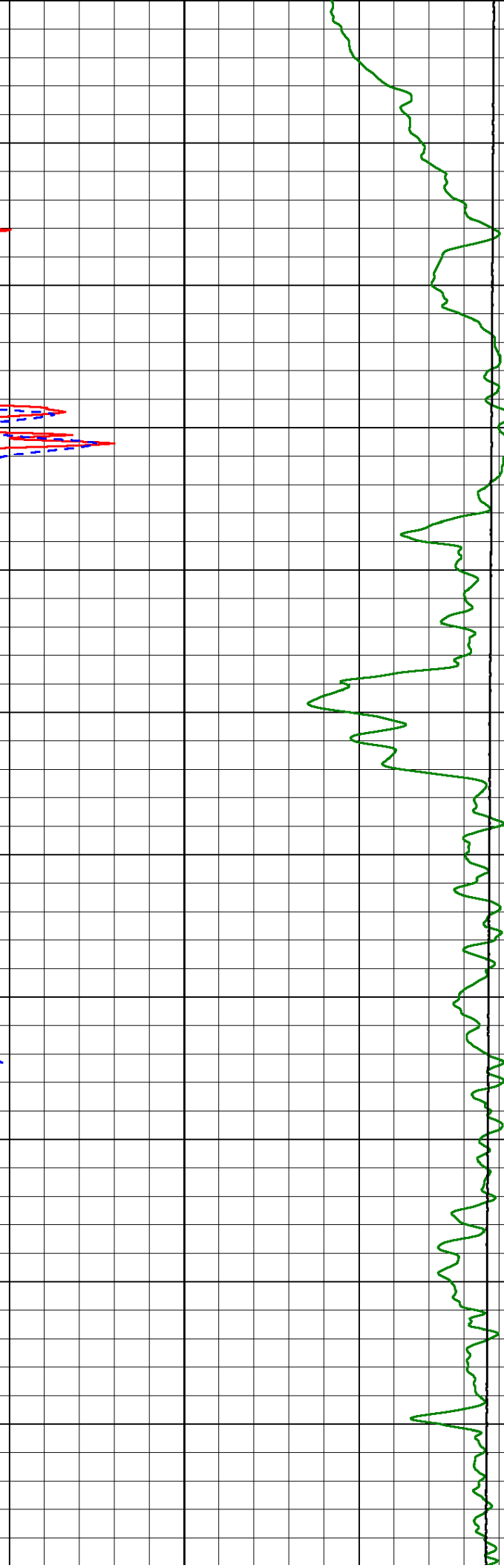
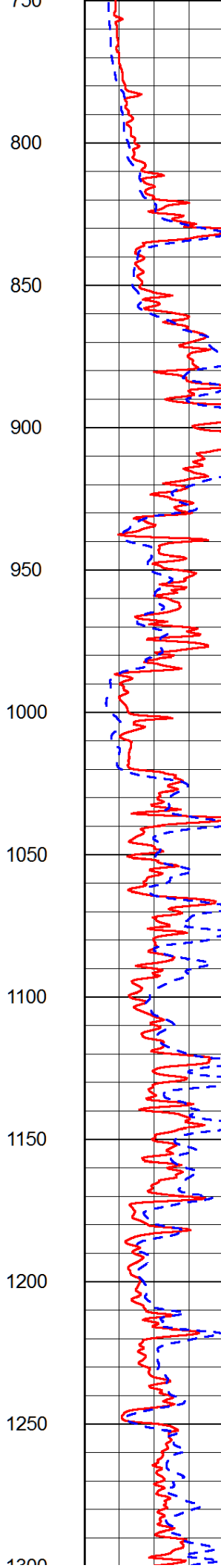
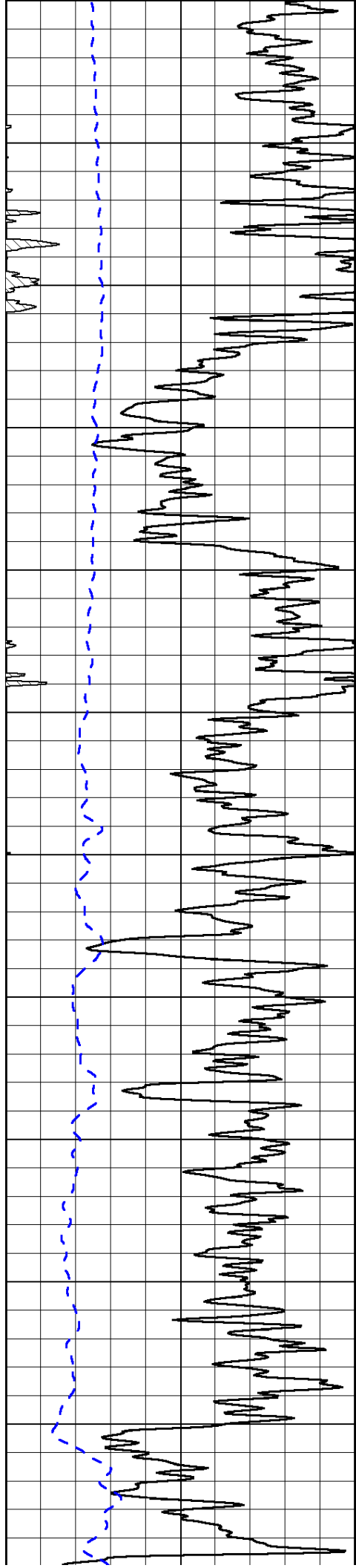
0	Gamma Ray (GAPI)	150
-200	SP (mV)	0

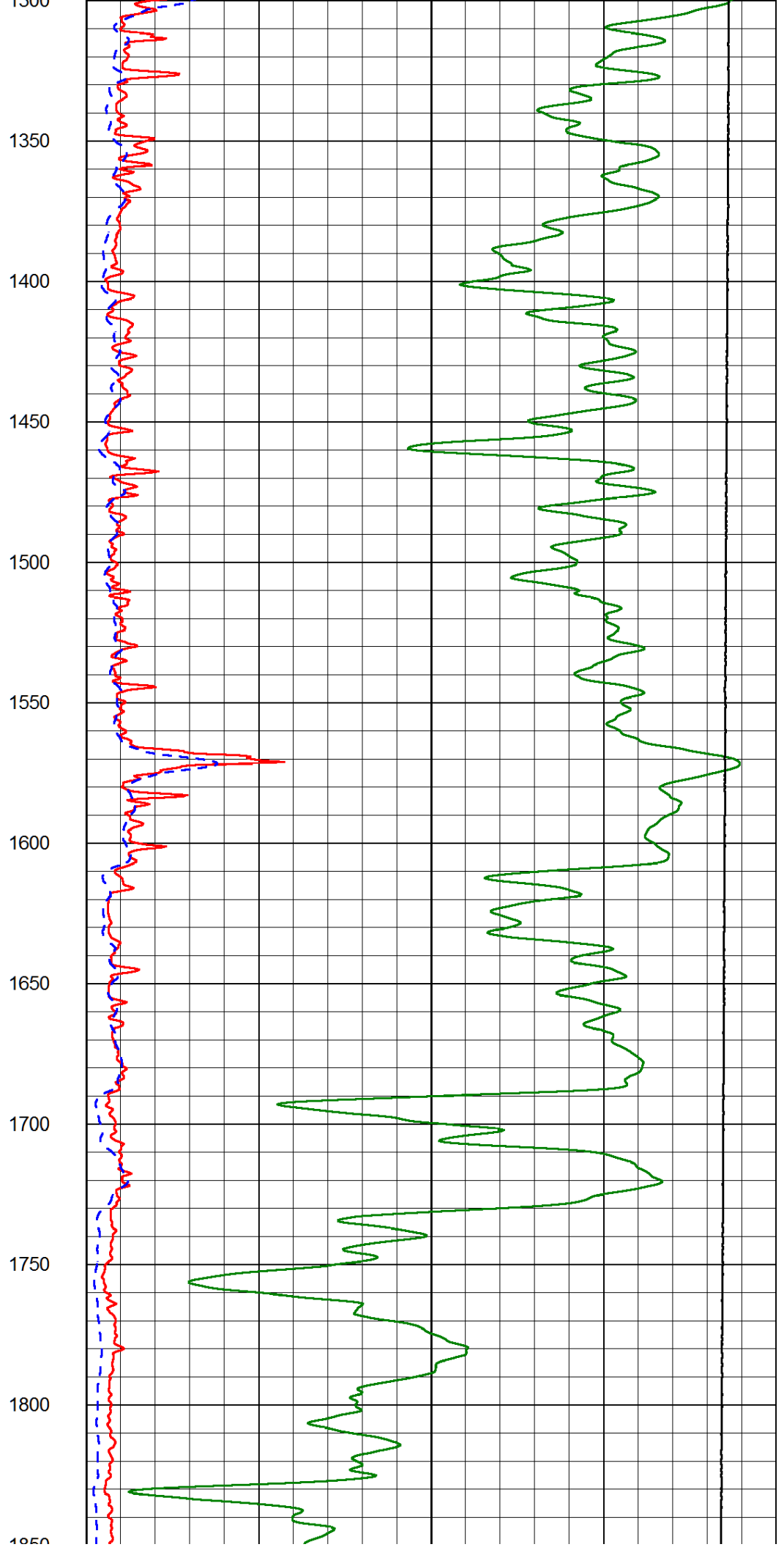
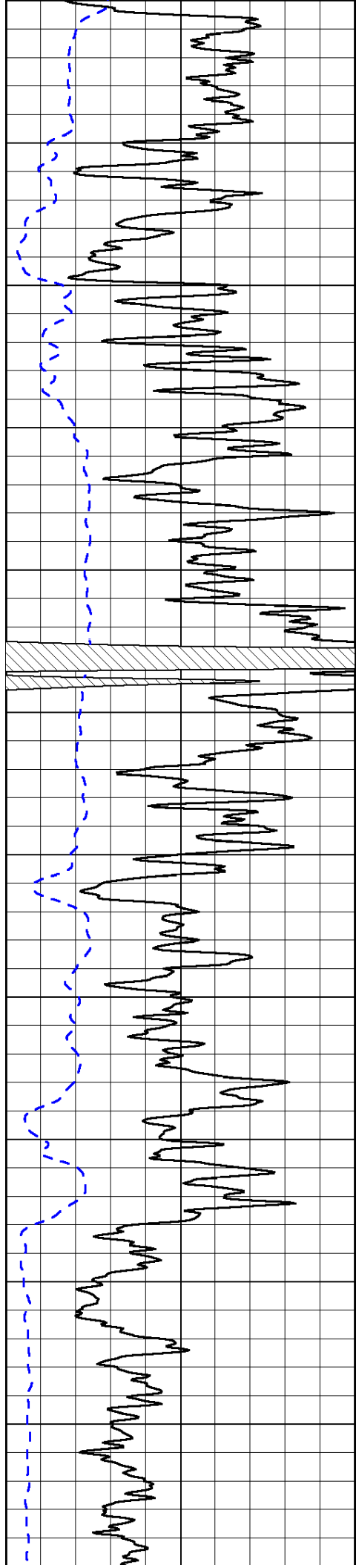
0	Shallow Resistivity (Ohm-m)	50
0	Deep Resistivity (Ohm-m)	50

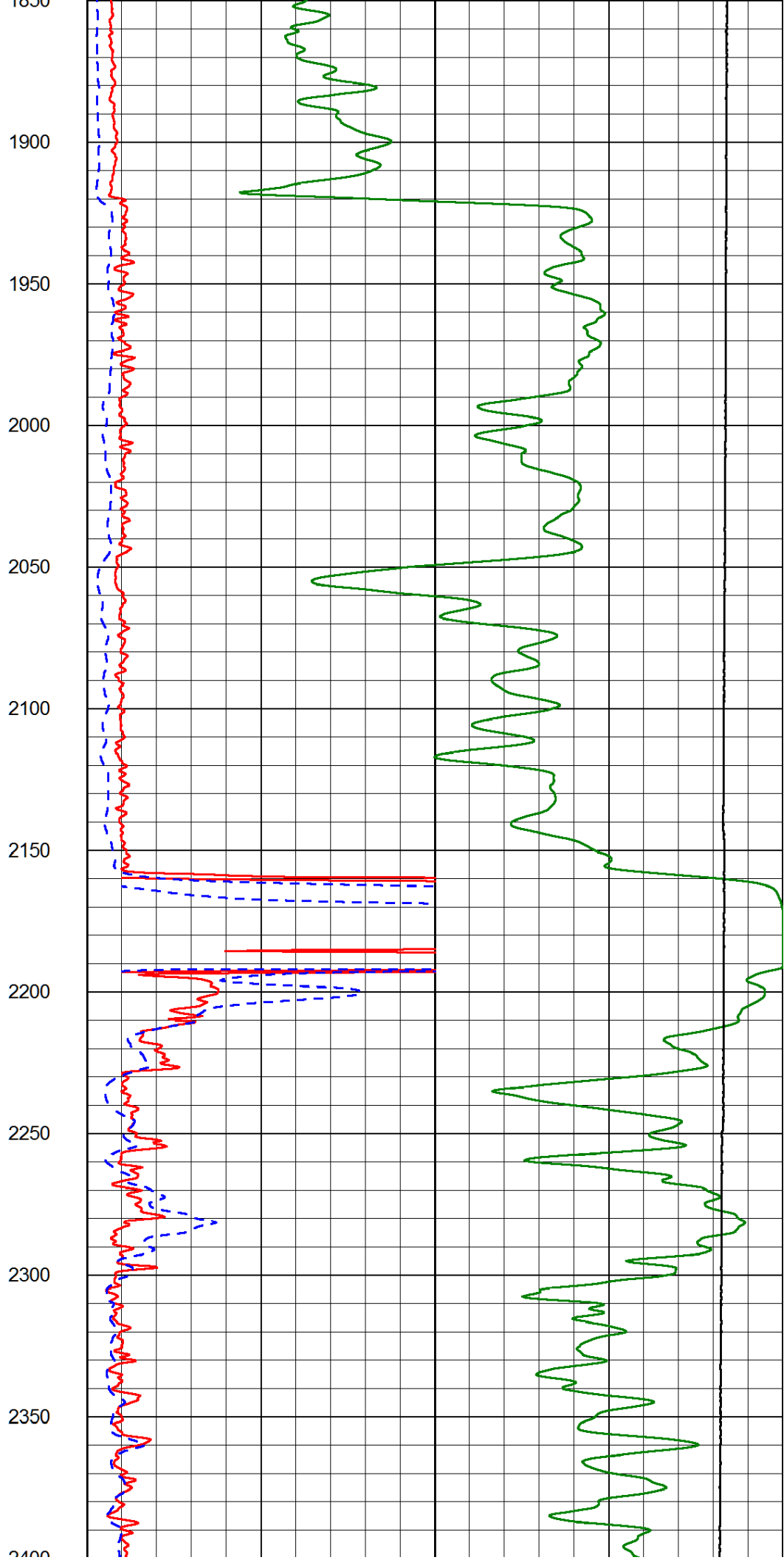
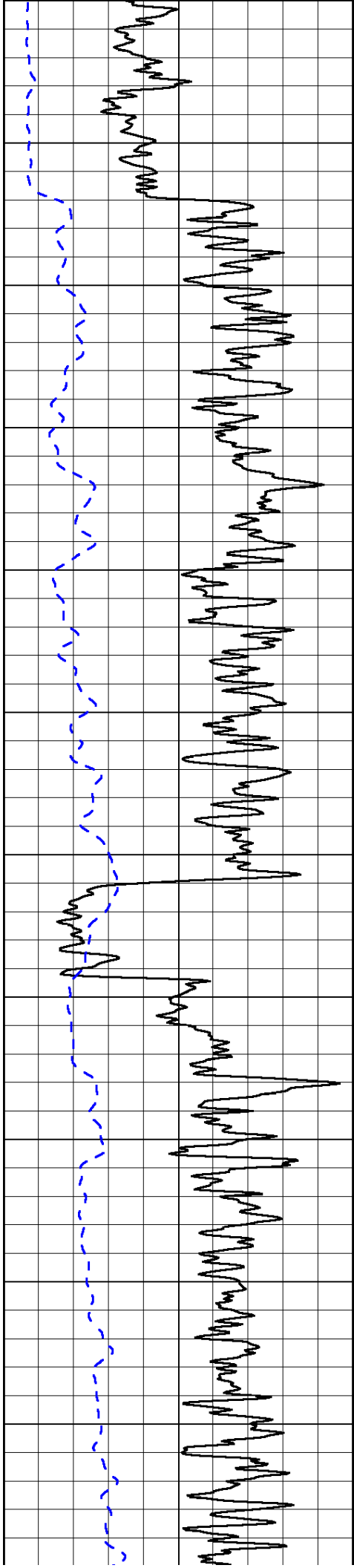
1000	Conductivity (Ohm-m)	0
15000	Line Tension (lb)	0

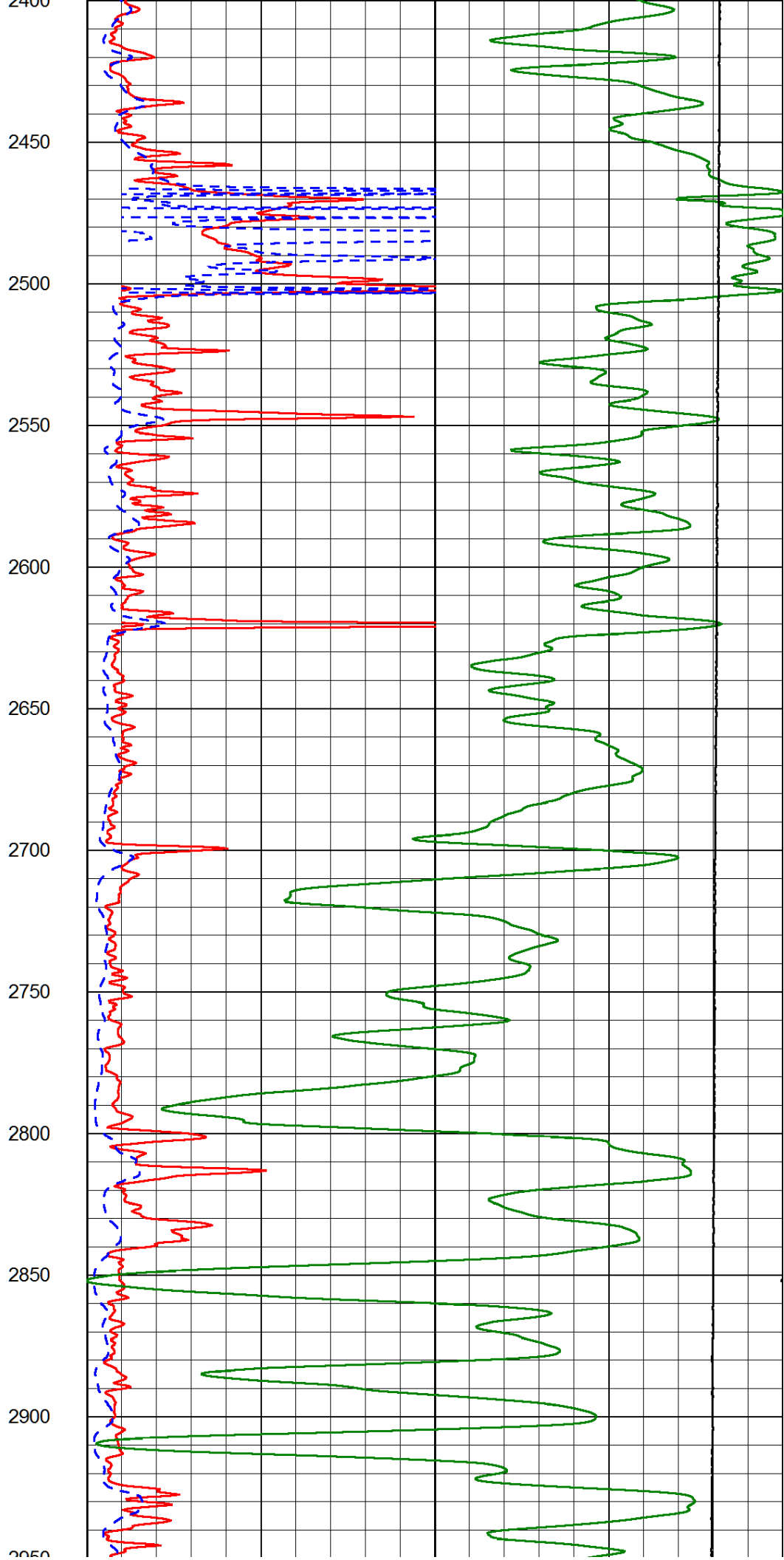
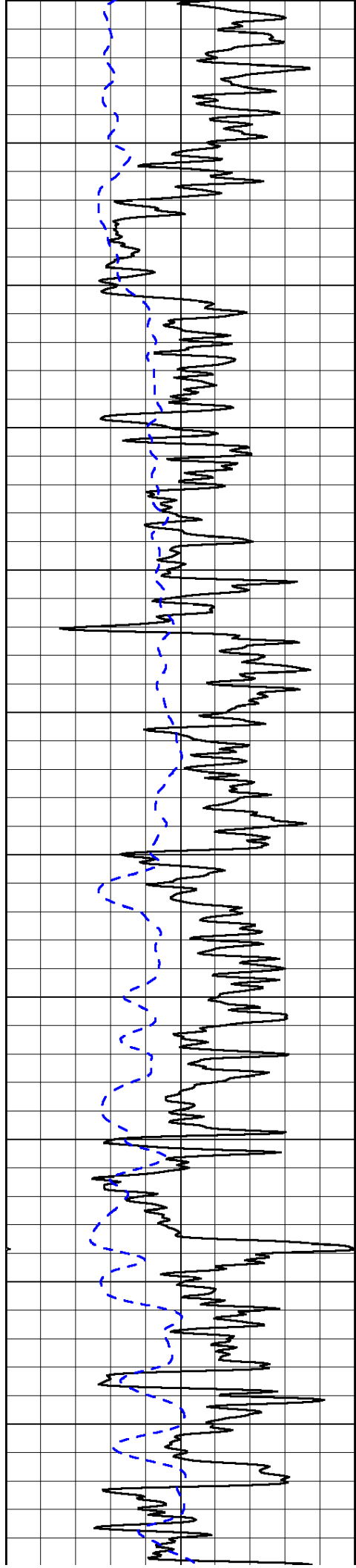
Shallow Resistivity		
50	(Ohm-m)	500
50	Deep Resistivity (Ohm-m)	500

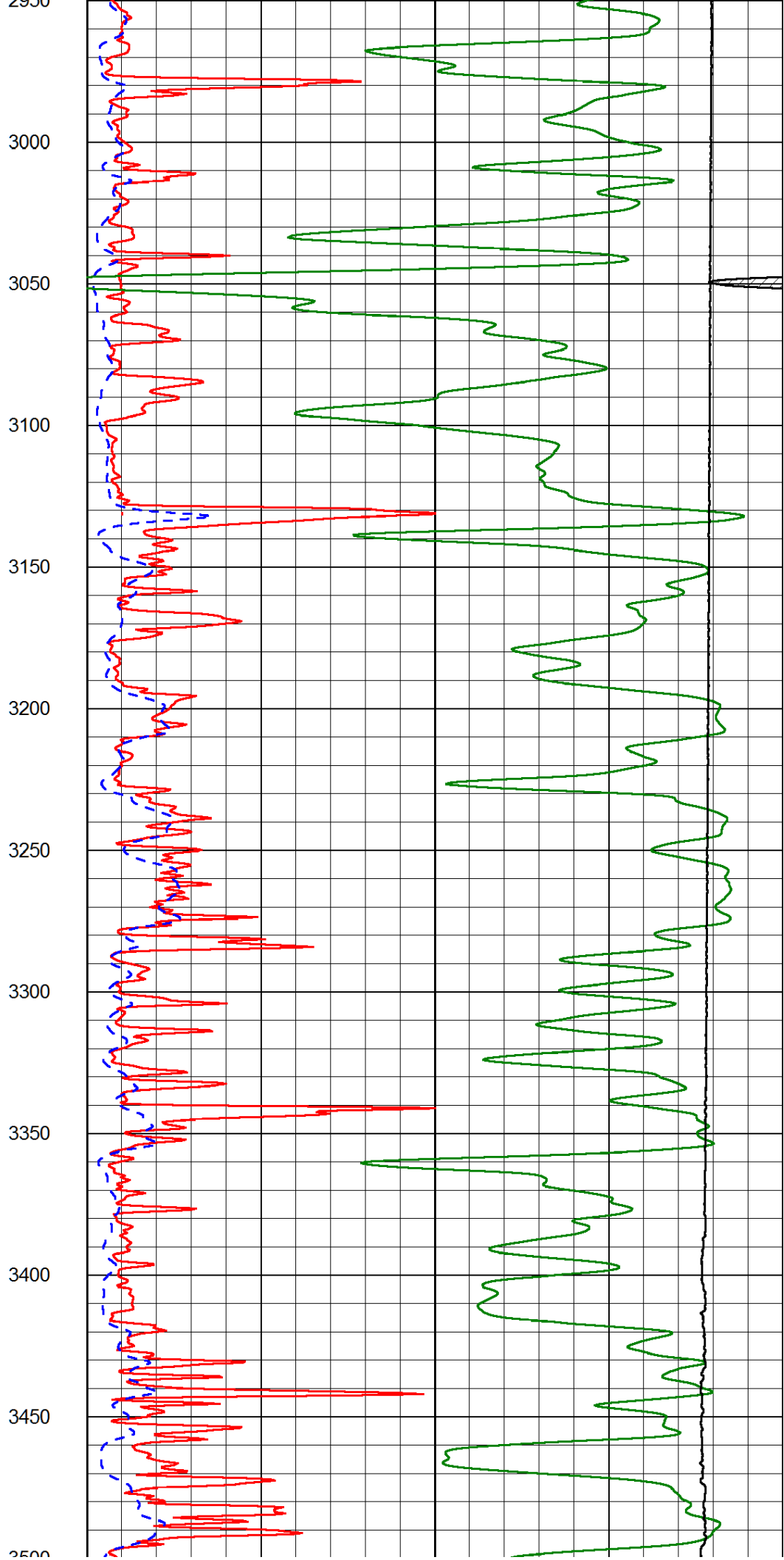
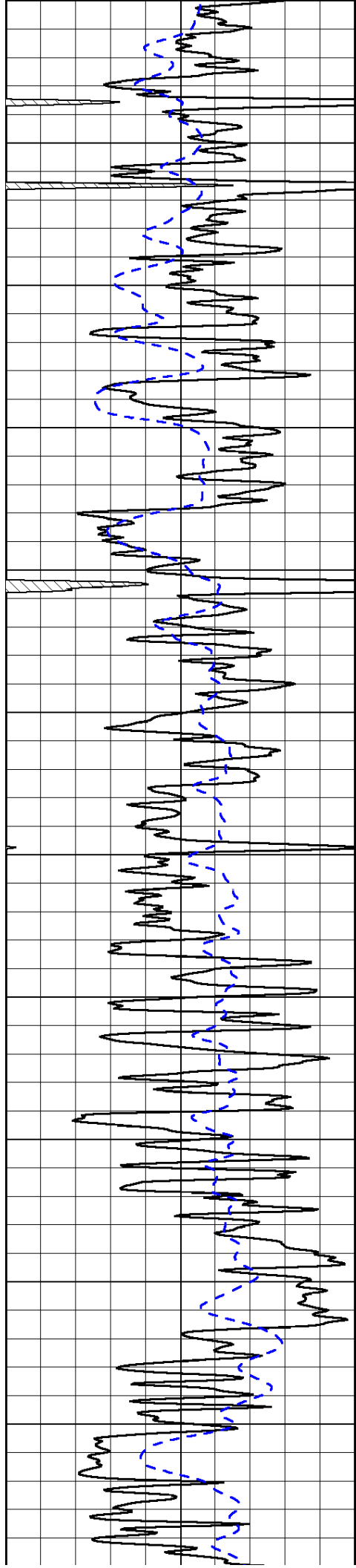


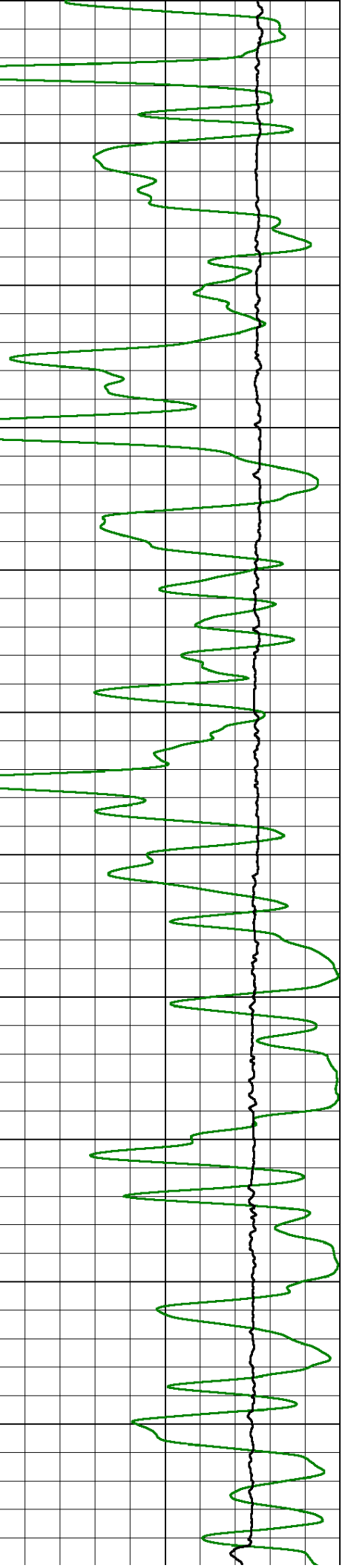
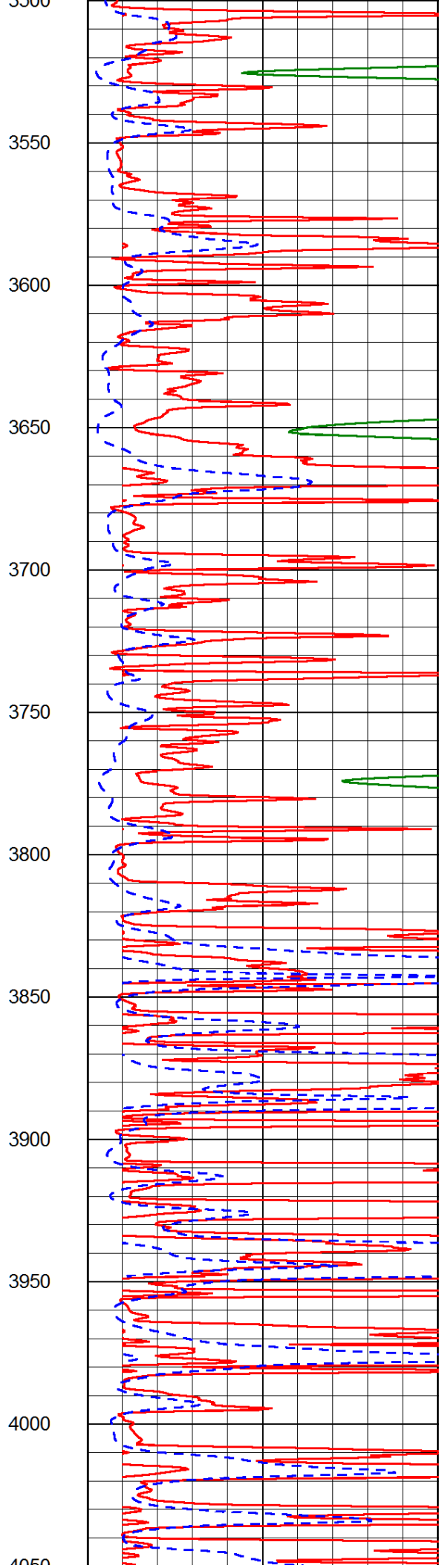
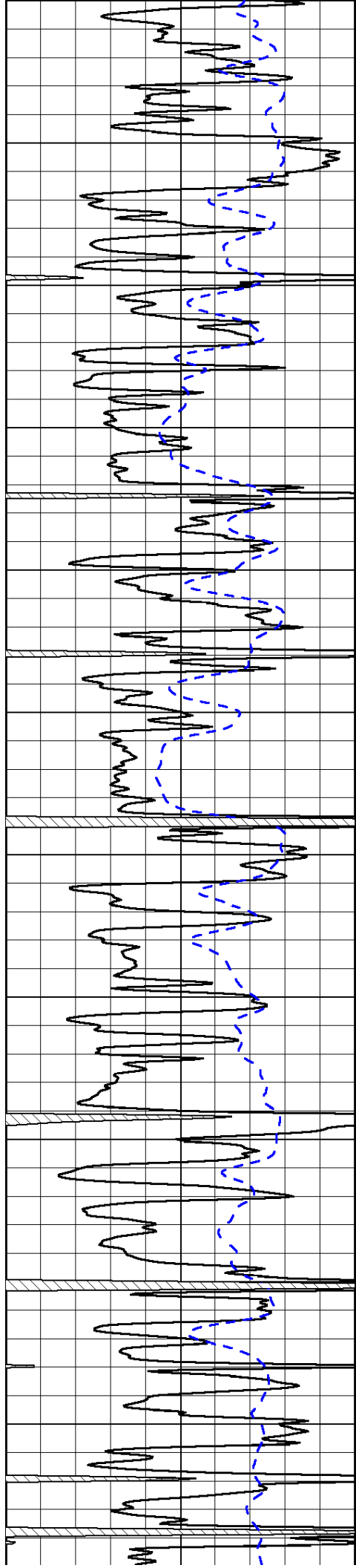


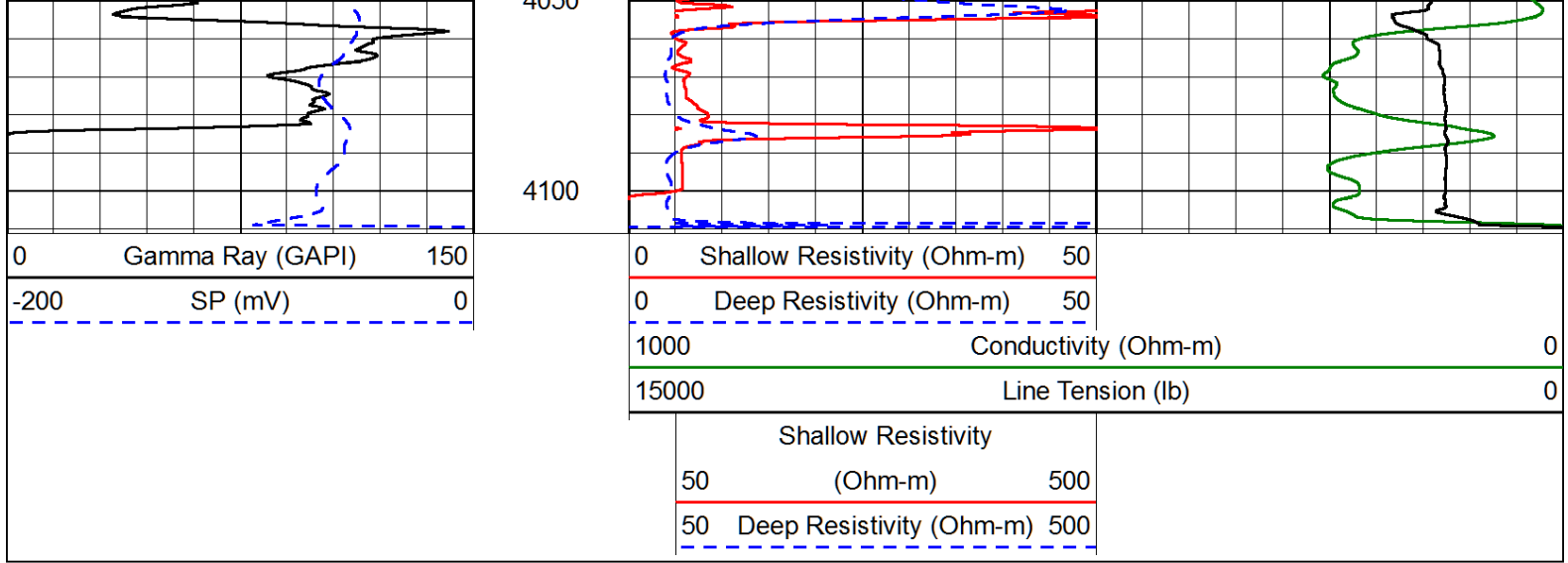




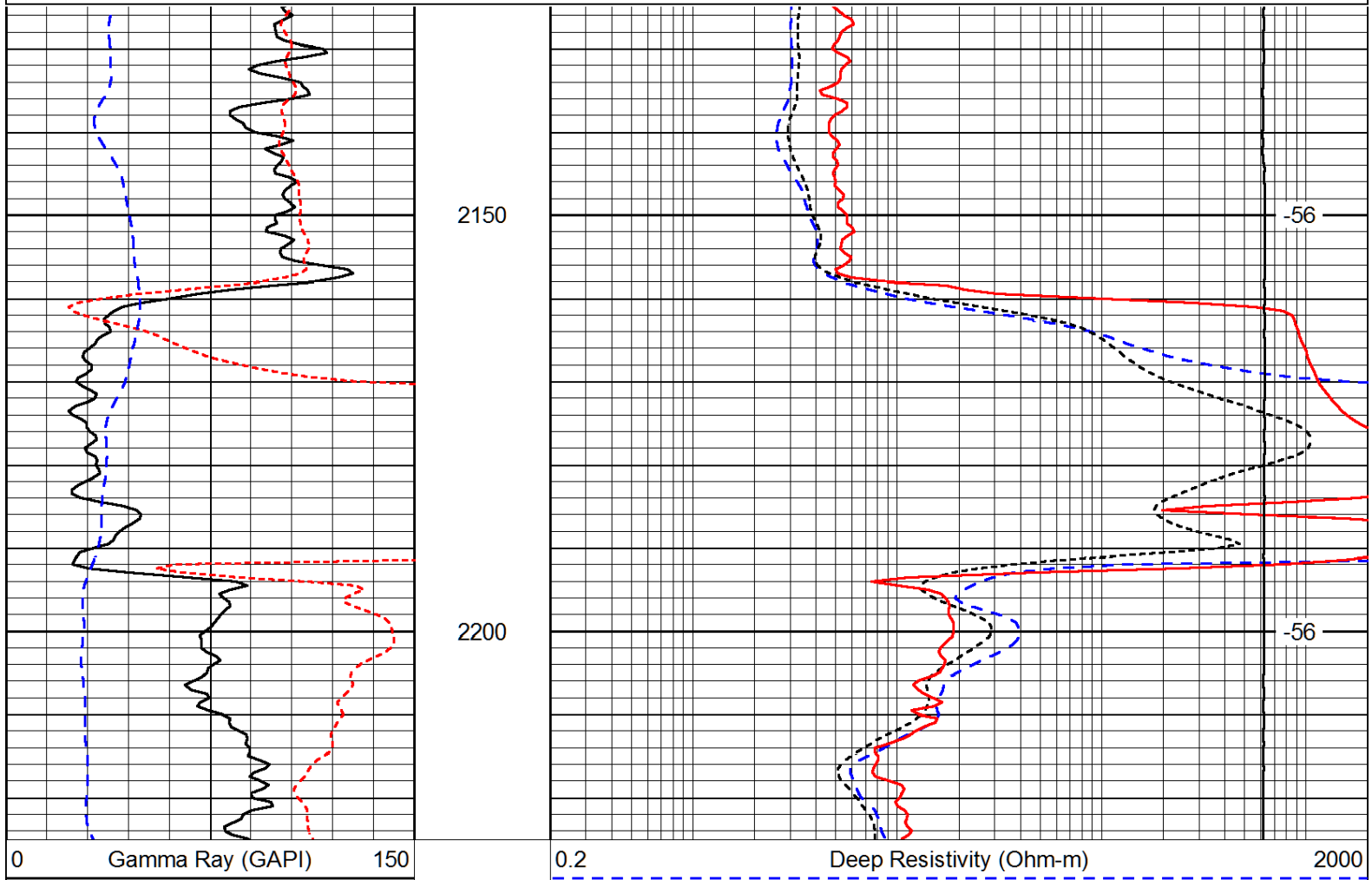
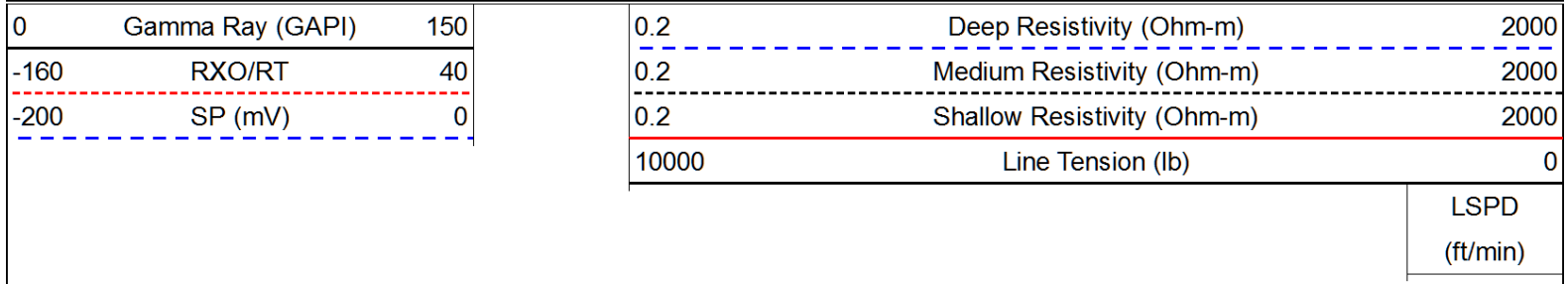








Database File: h&c_mcgrathunit_36_1hd.db
 Dataset Pathname: DIL/h&cstk
 Presentation Format: dil
 Dataset Creation: Mon Apr 22 11:37:58 2013
 Charted by: Depth in Feet scaled 1:240



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

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

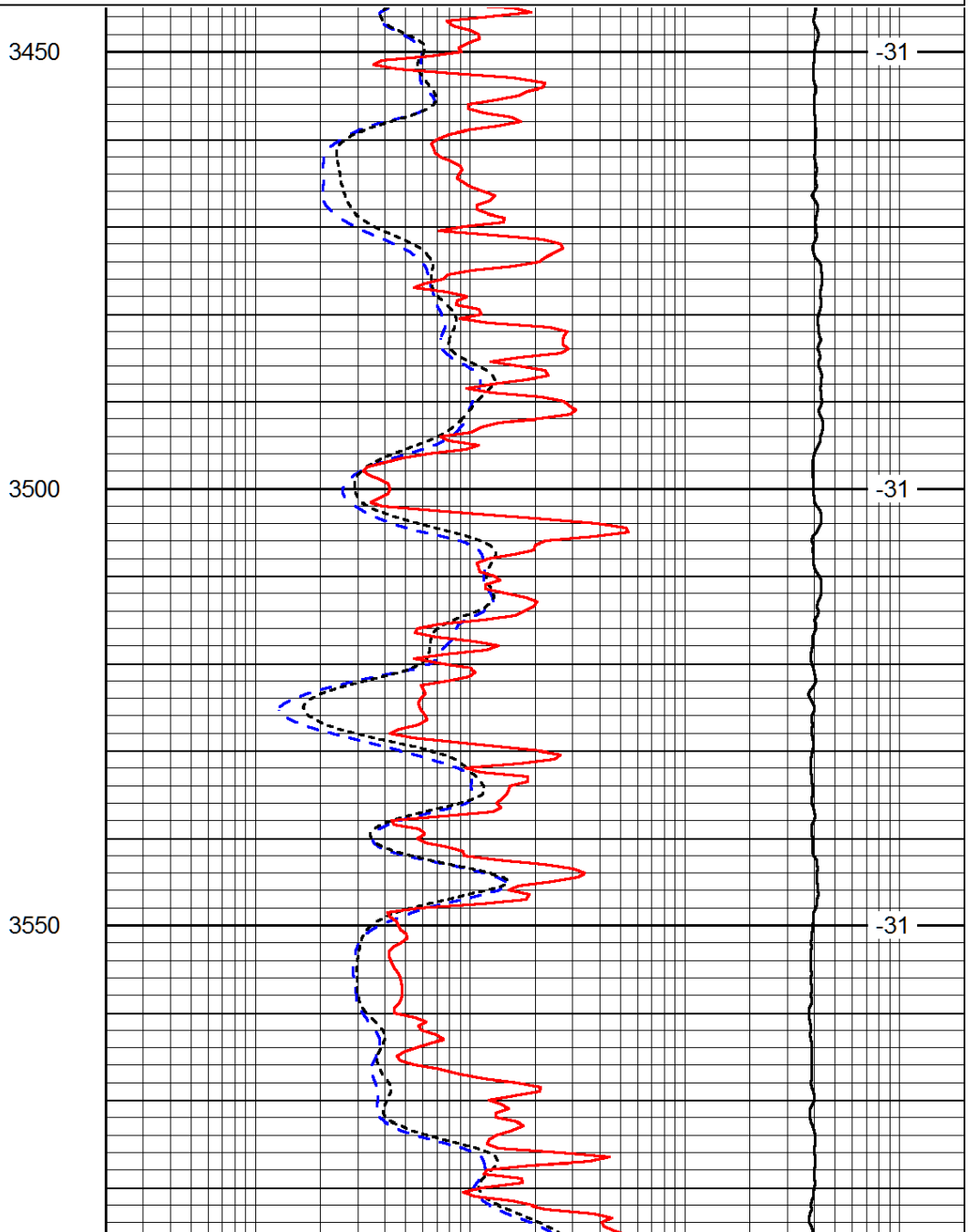
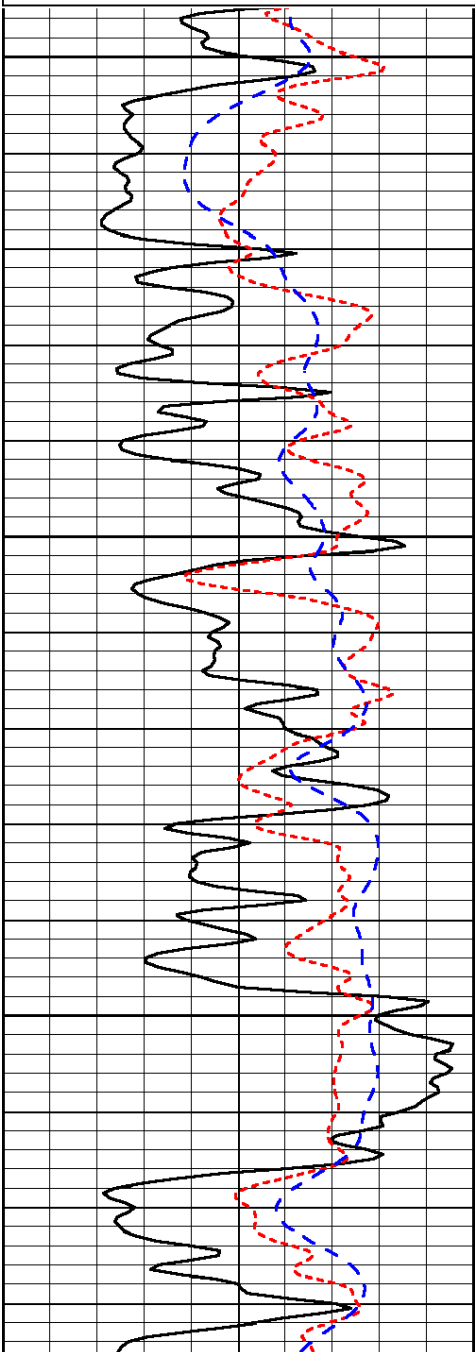
LSPD
(ft/min)

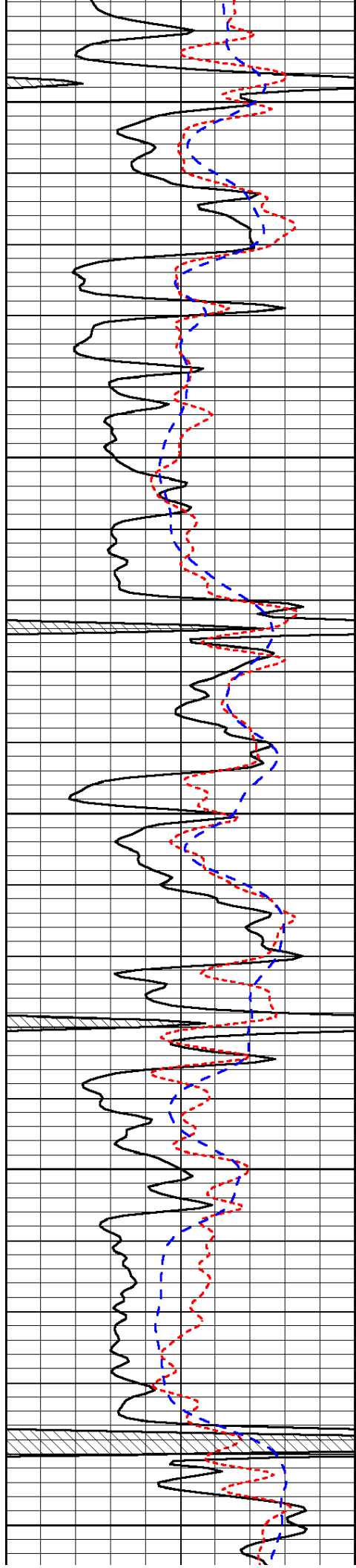
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0	Gamma Ray (GAPI)	150
-160	RXO/RT	40
-200	SP (mV)	0

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)





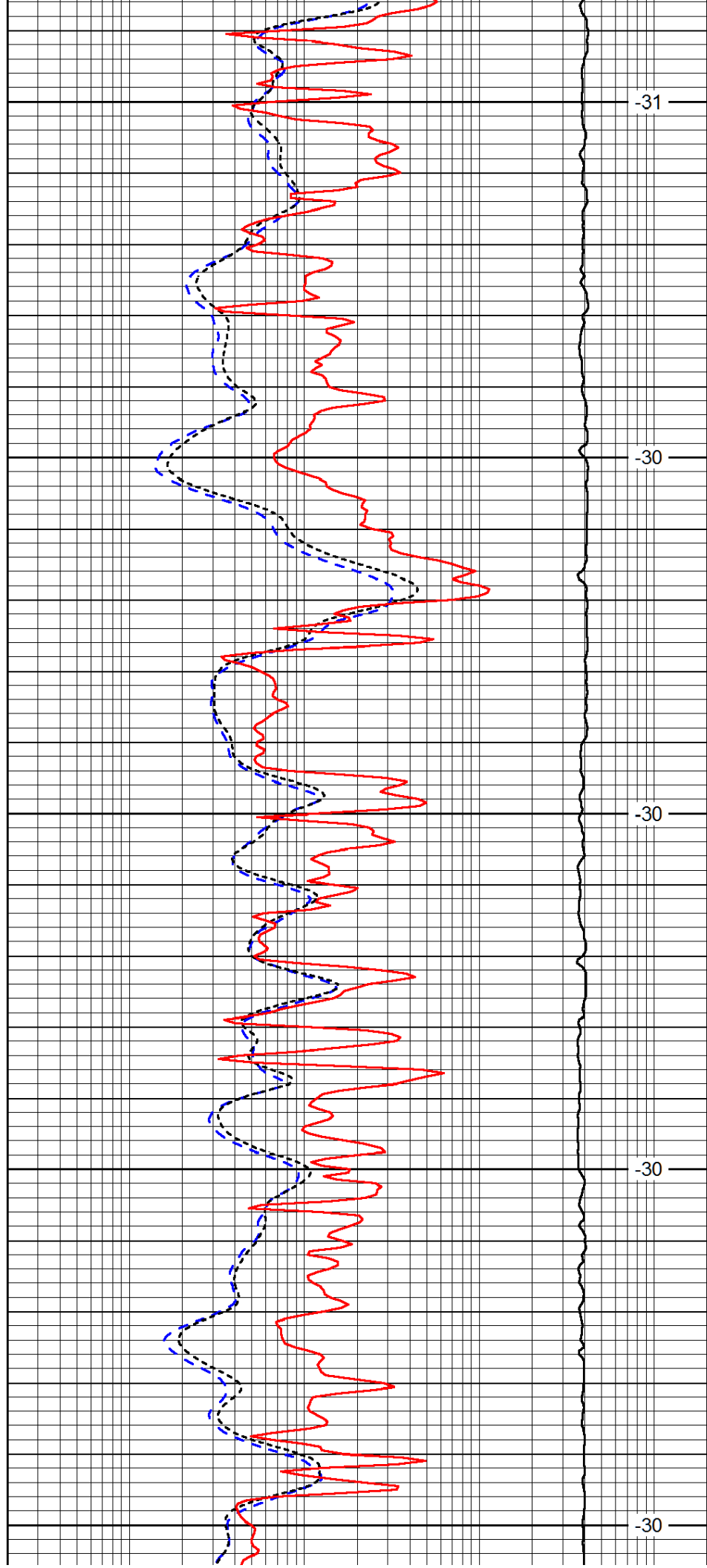
3600

3650

3700

3750

3800



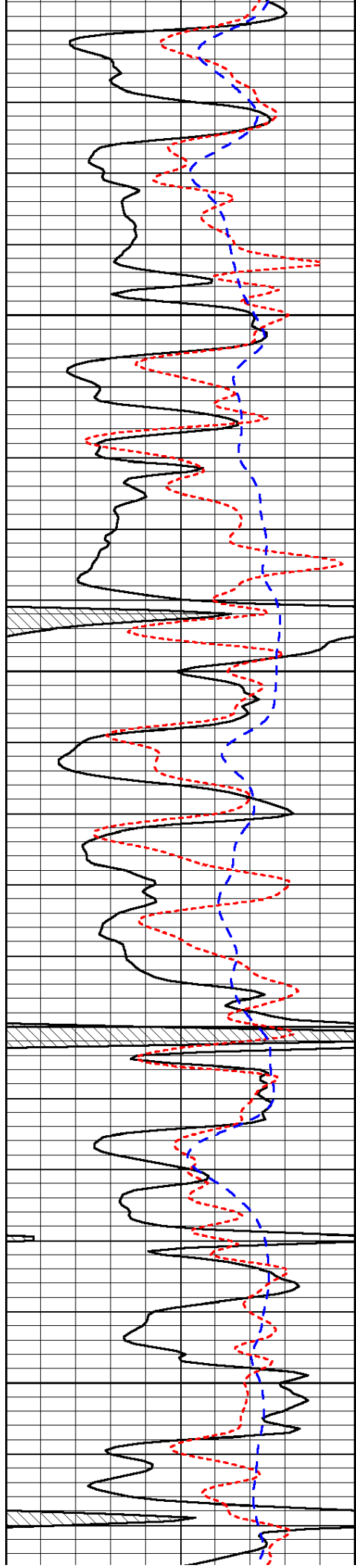
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-30

-30

-30

-30

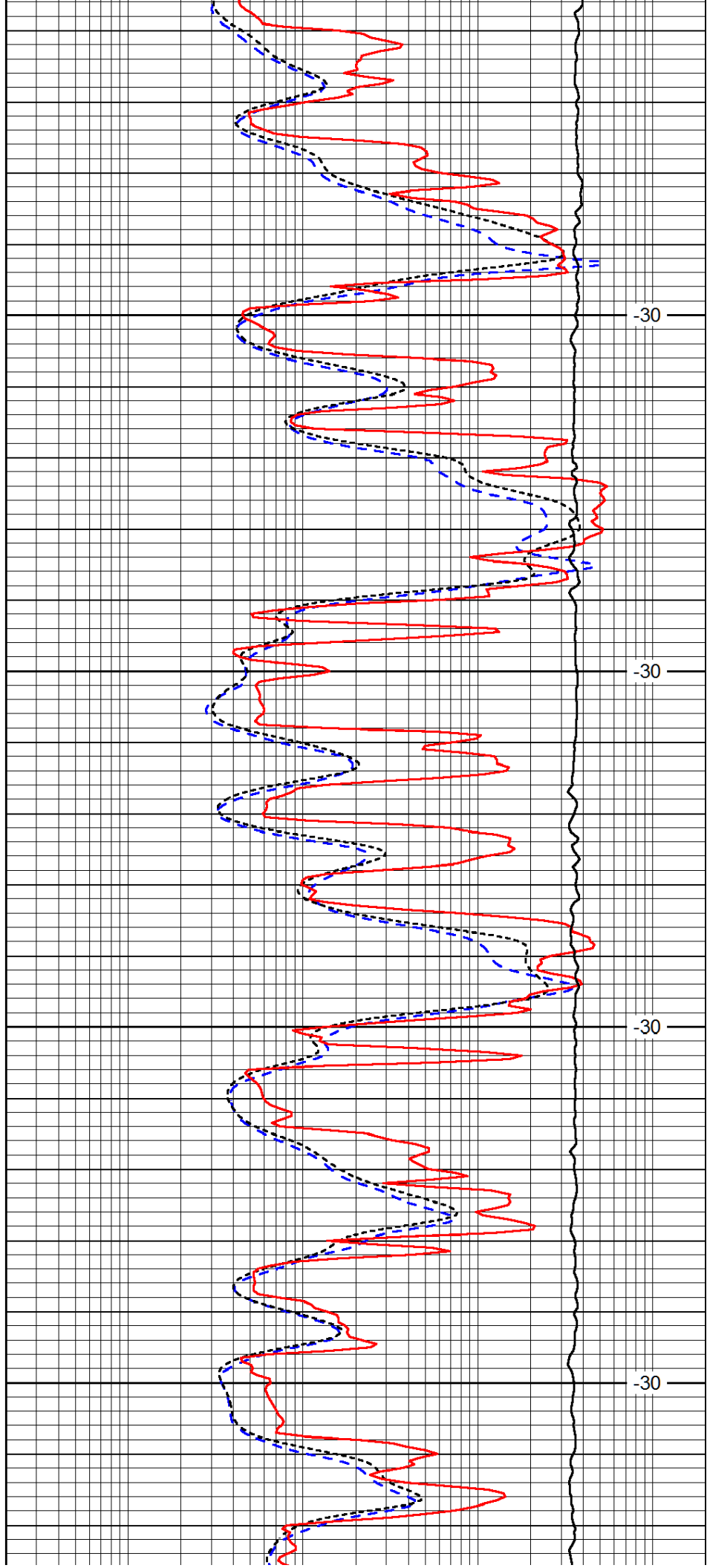


3850

3900

3950

4000

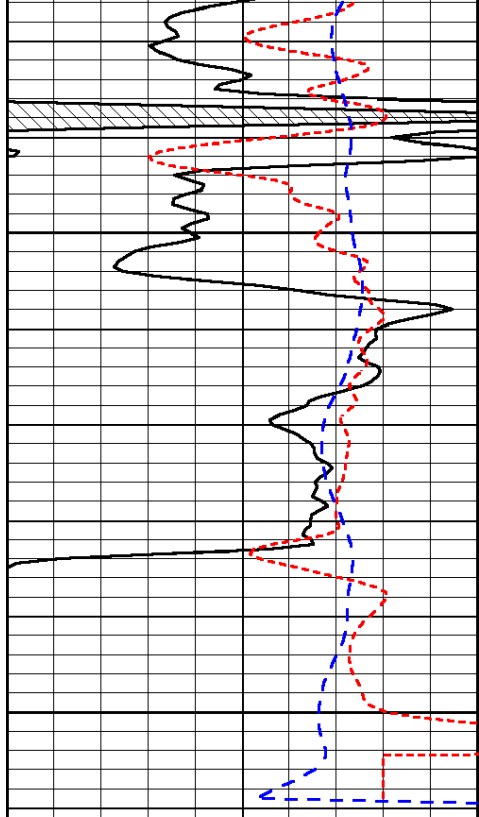


-30

-30

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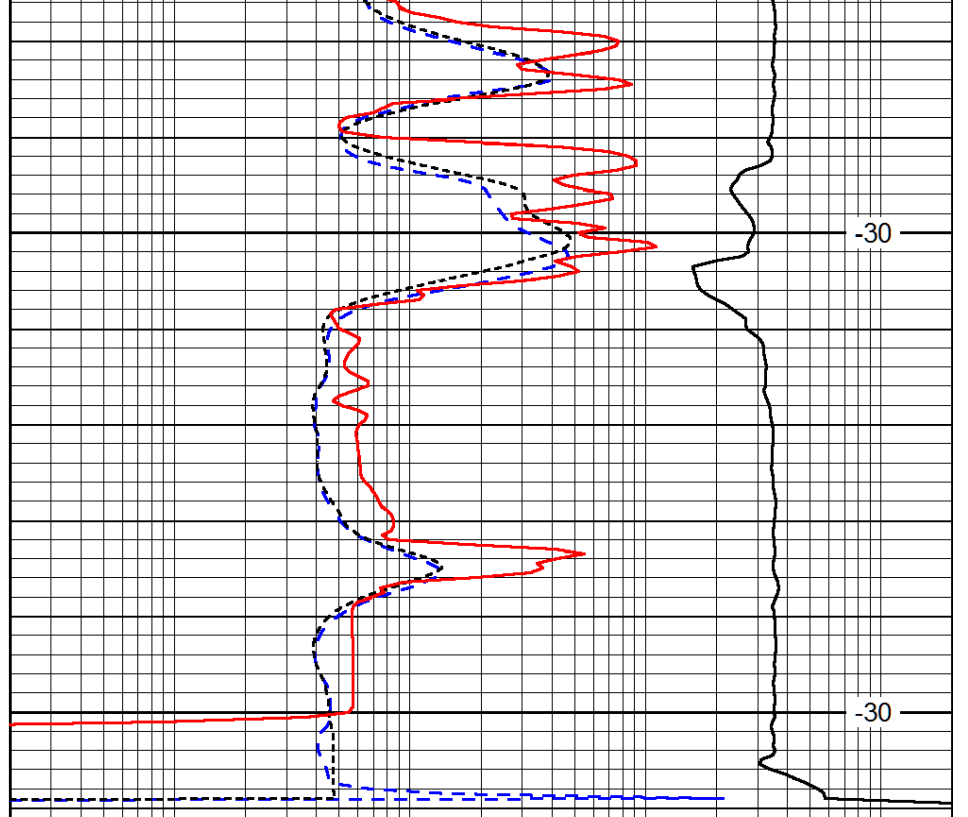
-30



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

4050

4100



-30

-30

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

LSPD
(ft/min)