



Pioneer Energy Services

Dual Induction Log

15-053-21,302-00-00

API No.

Company **American Warrior, Inc.**
 Well **Grubb Unit No. 2-5**
 Field **Stoltenberg**
 County **Ellsworth** State **Kansas**

Location **SE-NE-NE-SW
 2296' FSL & 2611' FEL**

Sec: **5** Twp: **16S** Rge: **10W**

Other Services
 CNL/CDL
 MEL

Elevation
 K.B. 1843
 D.F. 1835
 G.L. 1835

Permanent Datum	Ground Level	Elevation 1835
Log Measured From	Kelly Bushing	8 Ft. Above Perm. Datum
Drilling Measured From	Kelly Bushing	
Date	1/19/14	
Run Number	One	
Depth Driller	3420	
Depth Logger	3420	
Bottom Logged Interval	3419	
Top Log Interval	300	
Casing Driller	8.625 @ 343	
Casing Logger	335	
Bit Size	7.875	
Type Fluid in Hole	Chemical	
Salinity, ppm CL	6,100	
Density / Viscosity	9.6 58	
pH / Fluid Loss	10.0 8.8	
Source of Sample	Flowline	
Rm @ Meas. Temp	.60 @ 55	
Rmf @ Meas. Temp	.45 @ 55	
Rmc @ Meas. Temp	.81 @ 55	
Source of Rmf / Rmc	Charts	
Rm @ BHT	.30 @ 110	
Operating Rig Time	3 1/2 Hours	
Max Rec. Temp. F	110	
Equipment Number	108	
Location	Hays	
Recorded By	J. Henrickson	
Witnessed By	Wyatt Urban	

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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

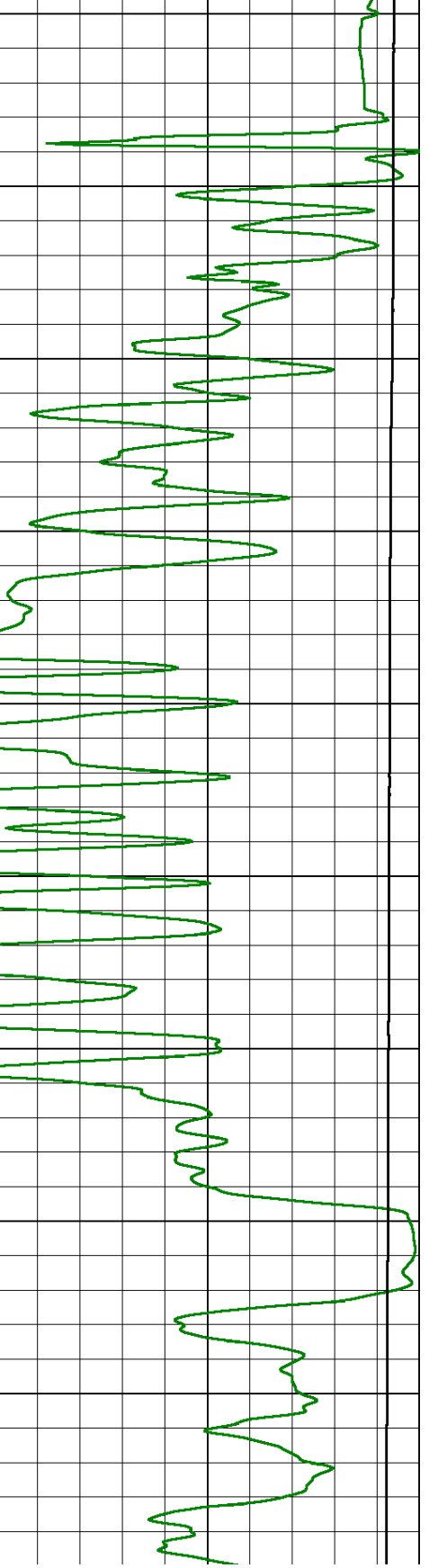
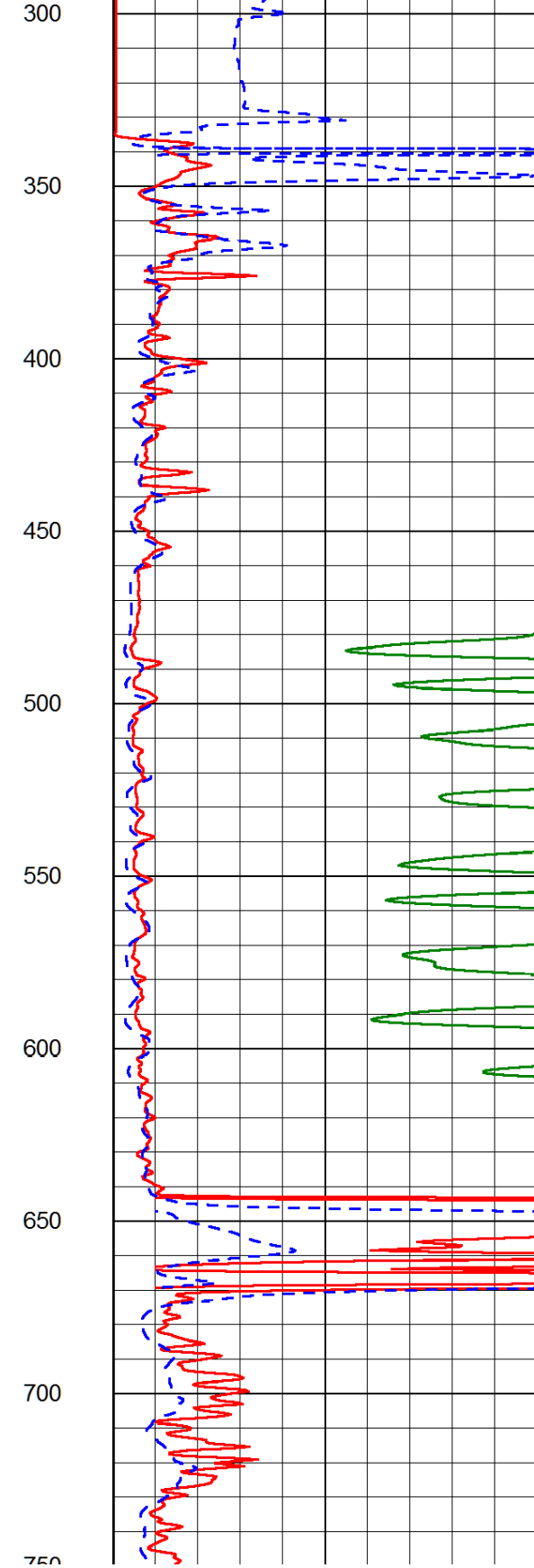
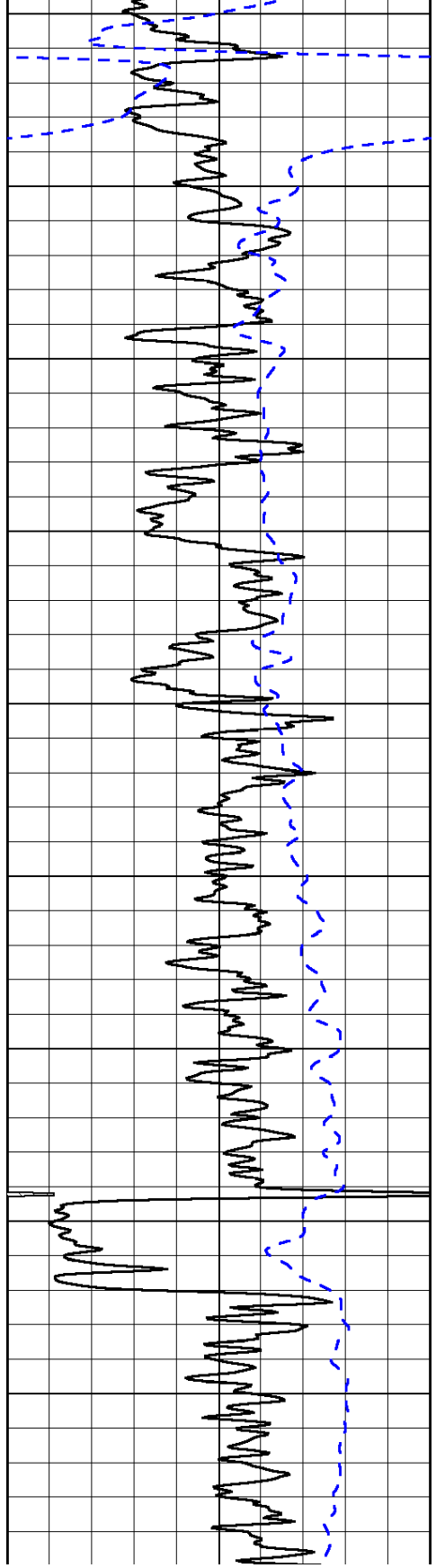
Thank you for using Log-Tech, Inc.
 (785) 625-3858

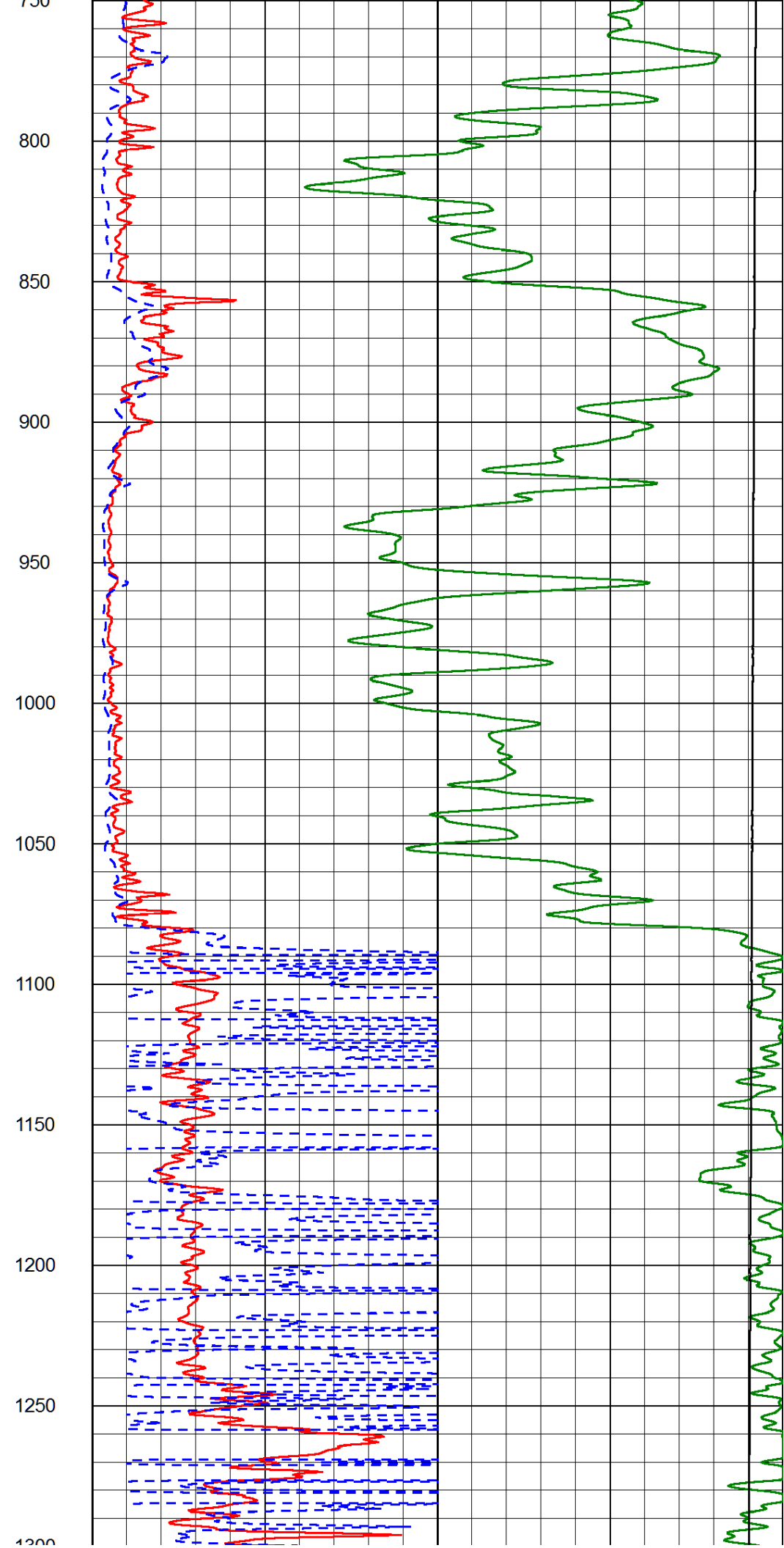
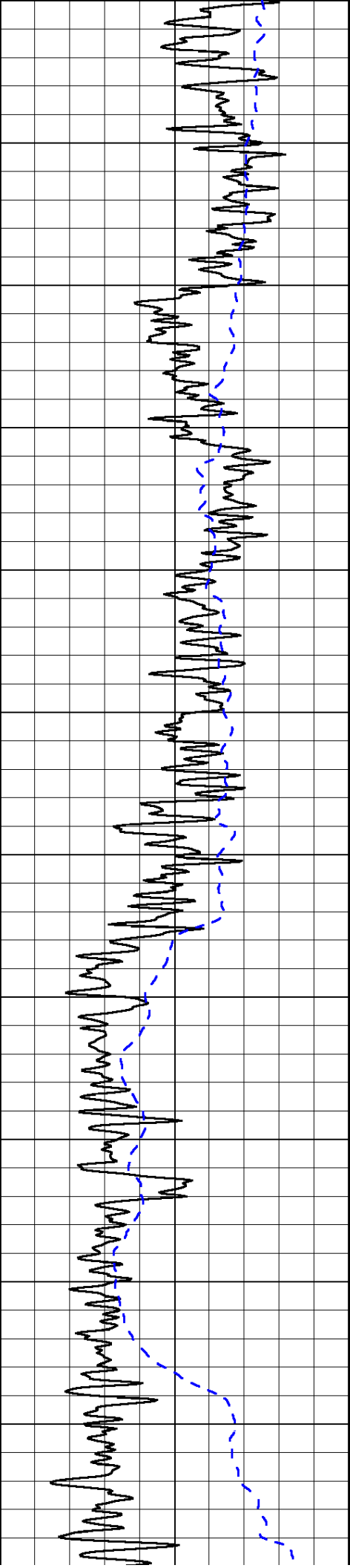
 Wilson Kansas
 10 South, 1 1/2 East, North Into at Tank Batteries

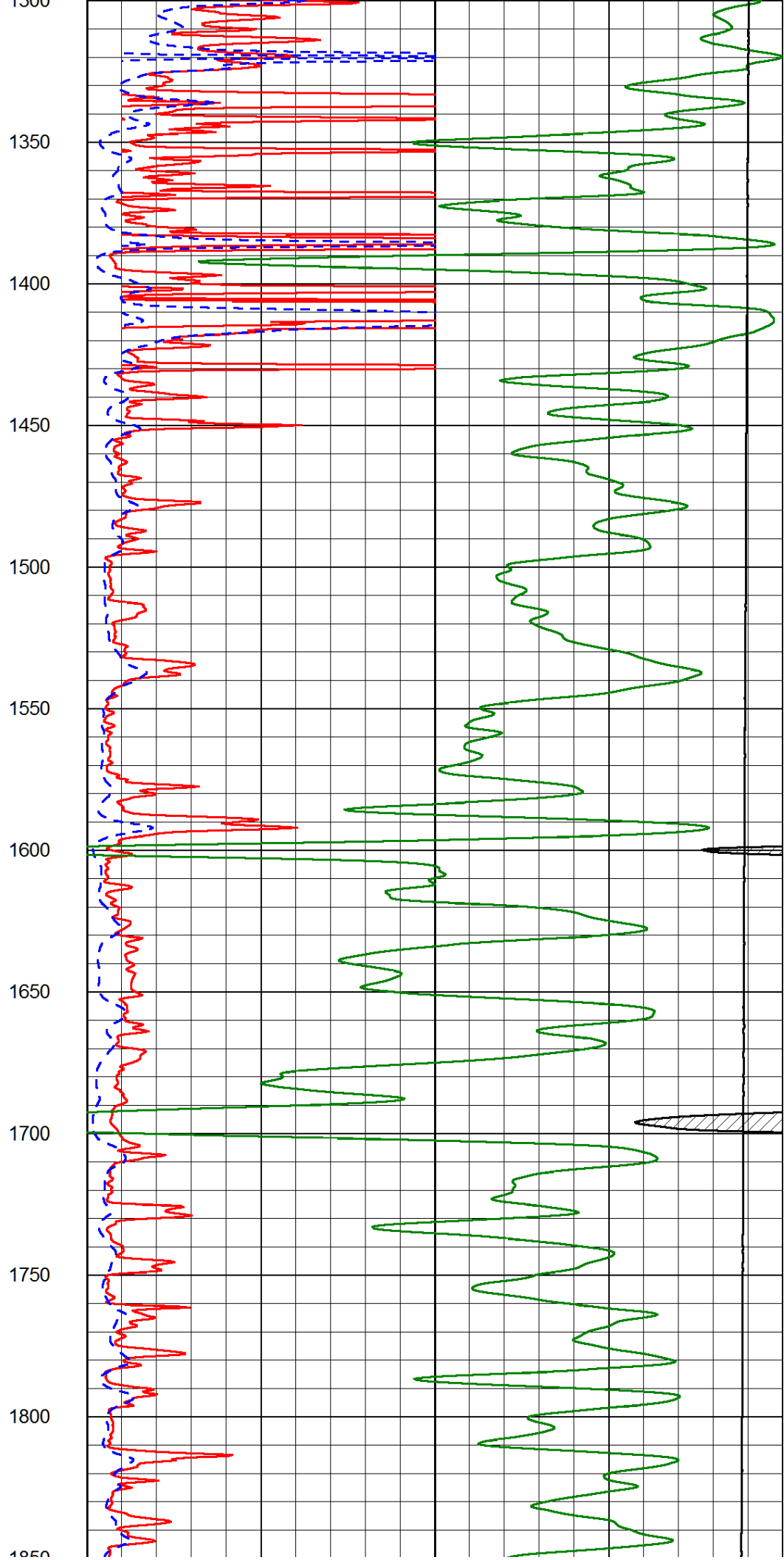
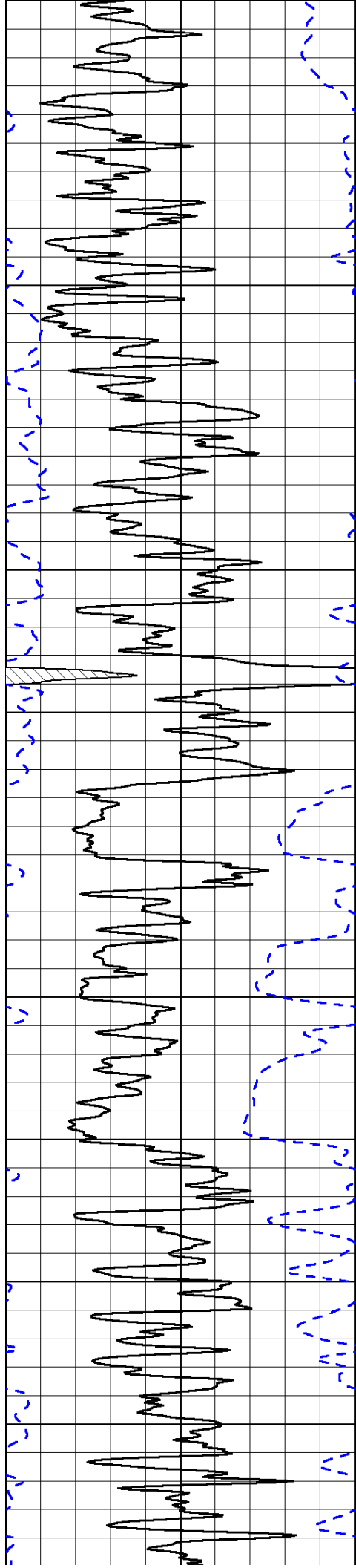
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 Dataset Creation: Sun Jan 19 05:13:33 2014
 Charted by: Depth in Feet scaled 1:600

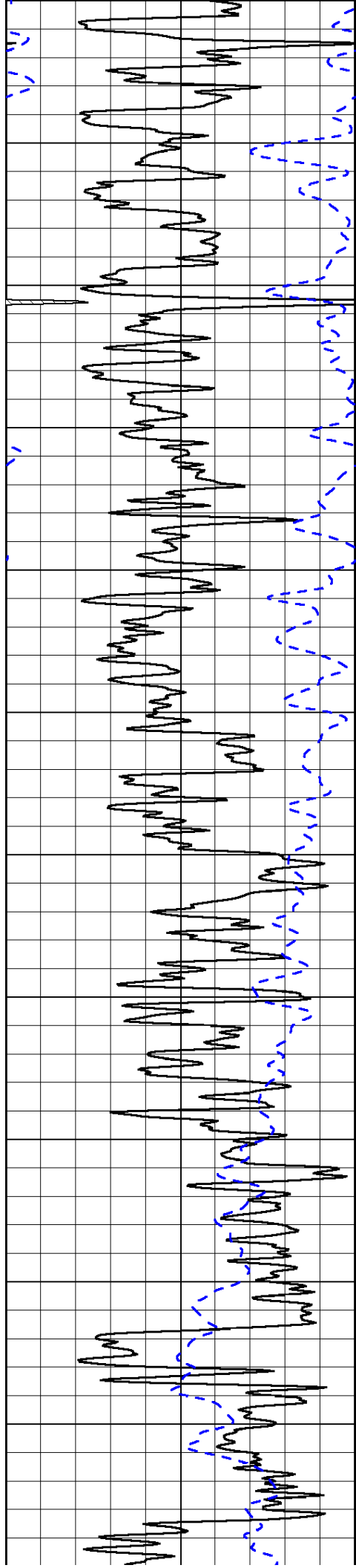
0	Gamma Ray (GAPI)	150
-200	SP (mV)	0

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

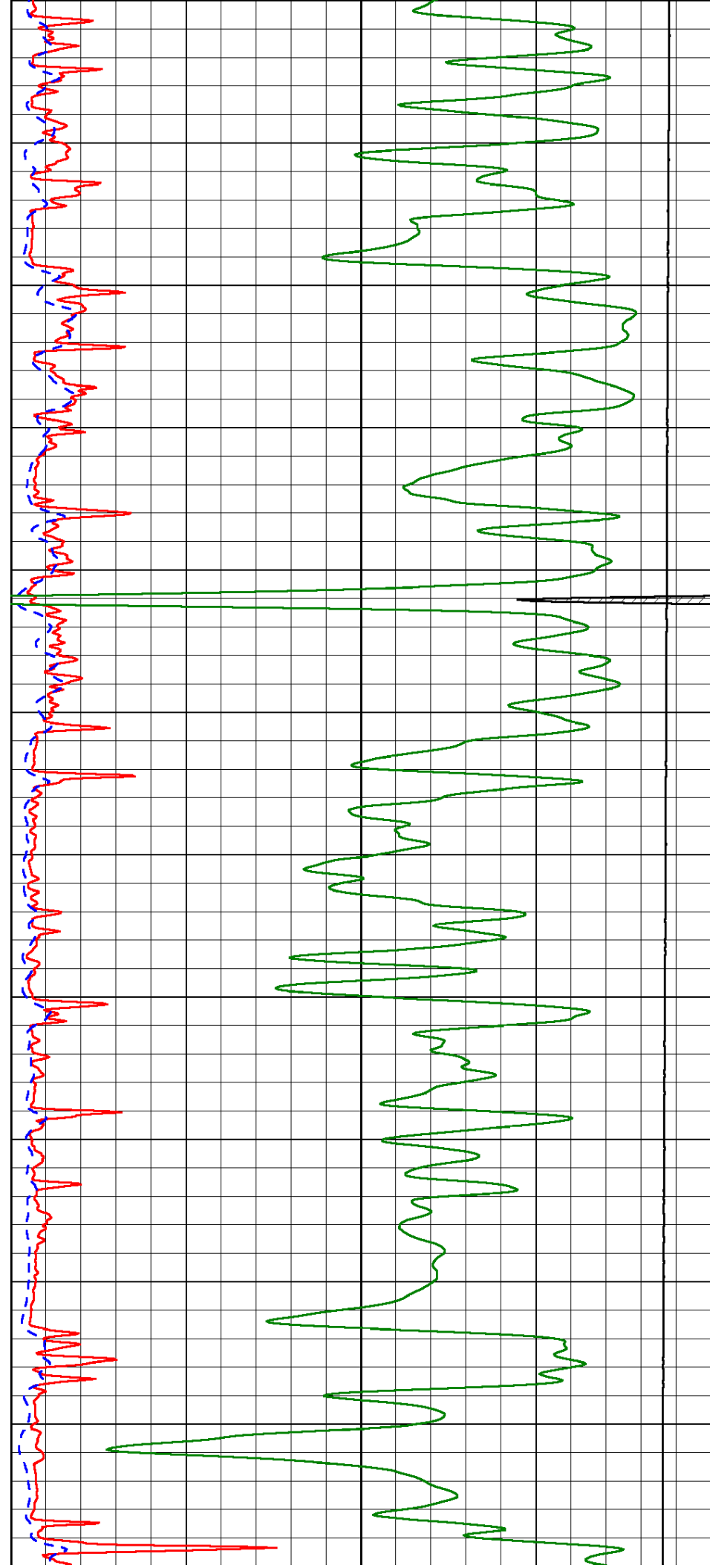


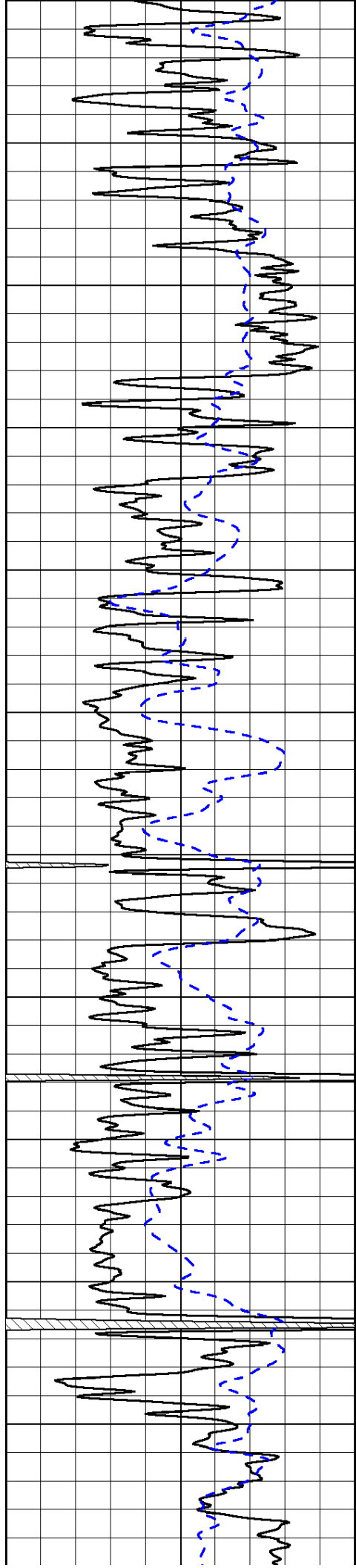




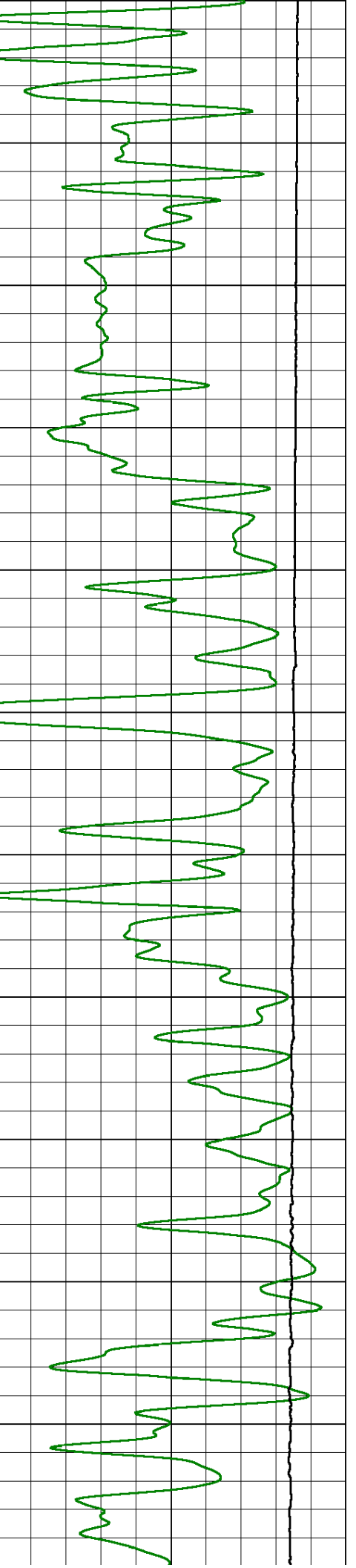
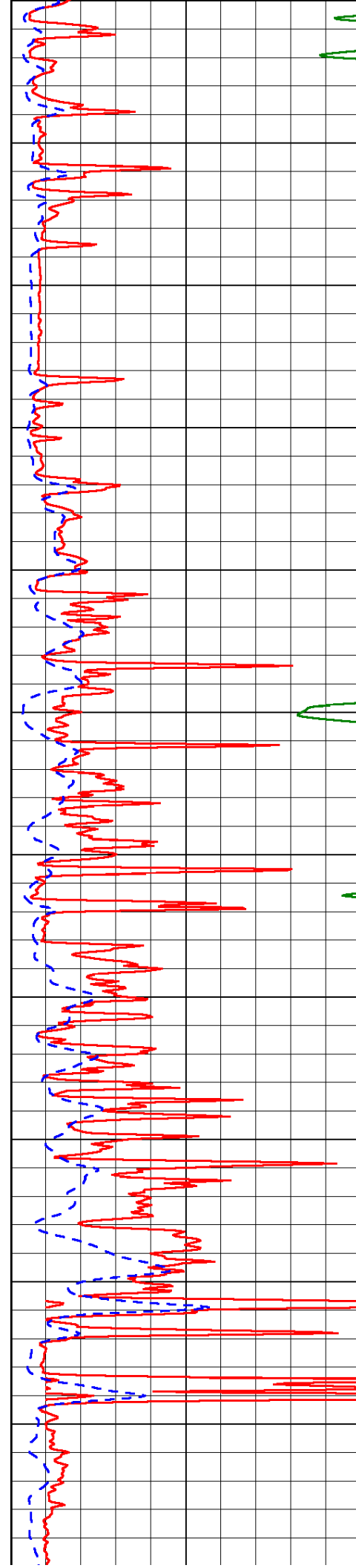


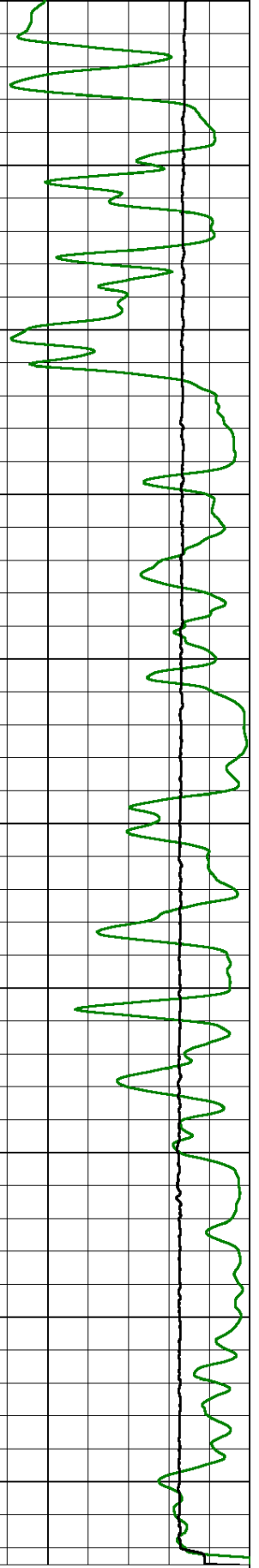
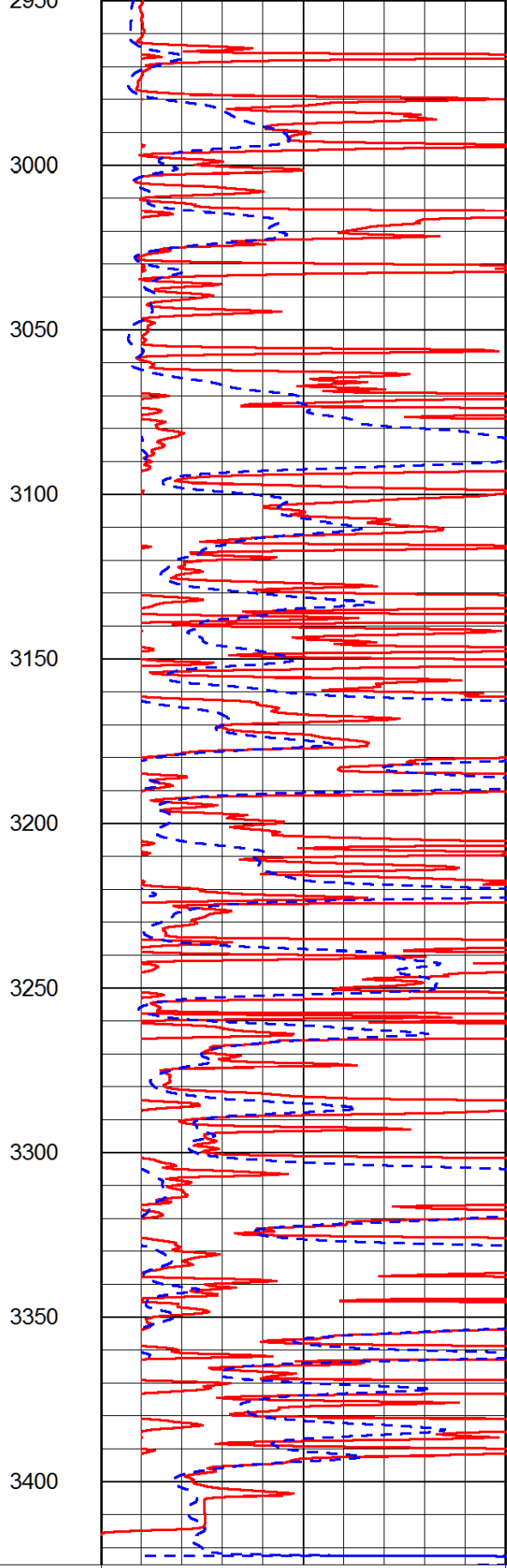
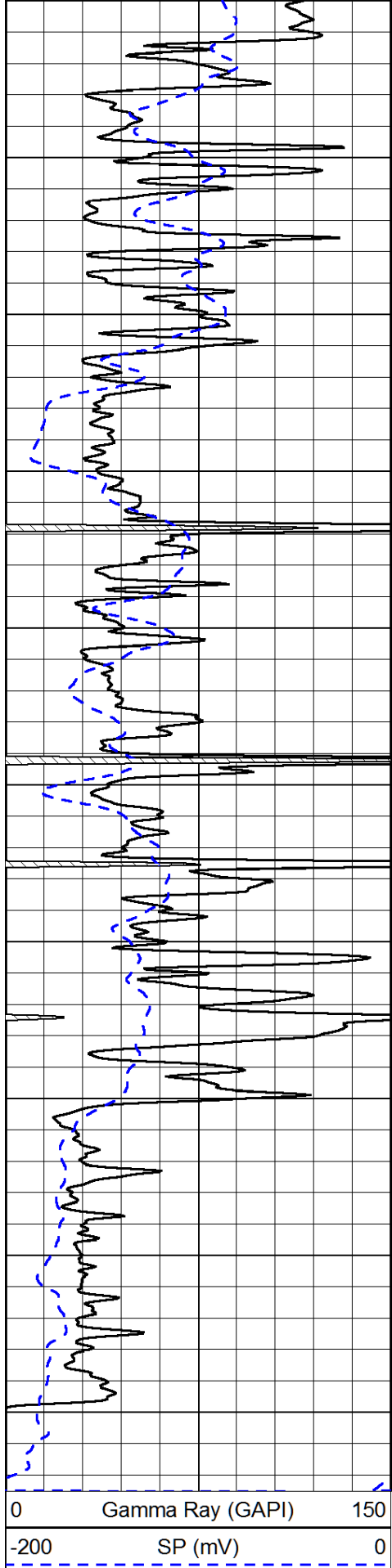
1850
1900
1950
2000
2050
2100
2150
2200
2250
2300
2350
2400





2400
2450
2500
2550
2600
2650
2700
2750
2800
2850
2900
2950





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

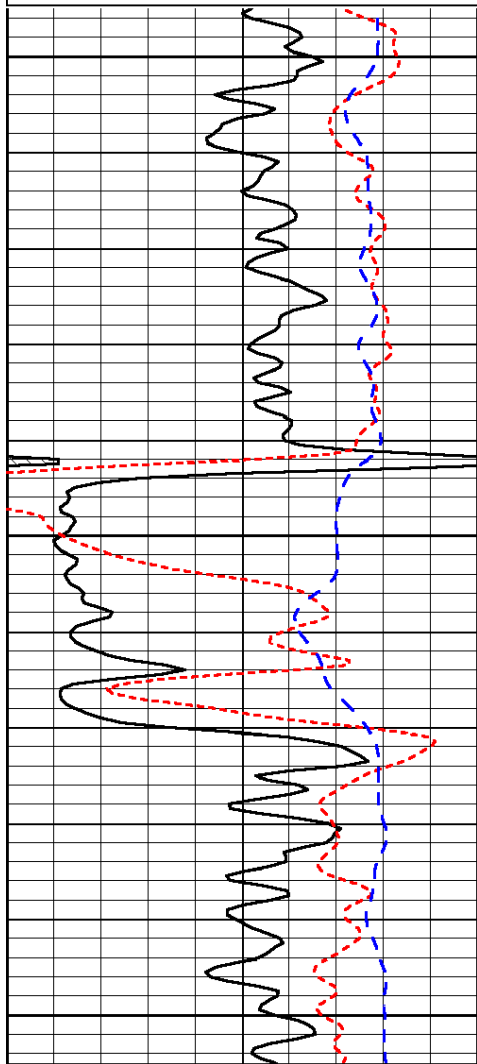
Shallow Resistivity
50 (Ohm-m) 500

Database File: american_warrior_grubb_unit_2_5hd.db
 Dataset Pathname: DIL/awstk
 Presentation Format: dil
 Dataset Creation: Sun Jan 19 05:13:33 2014
 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

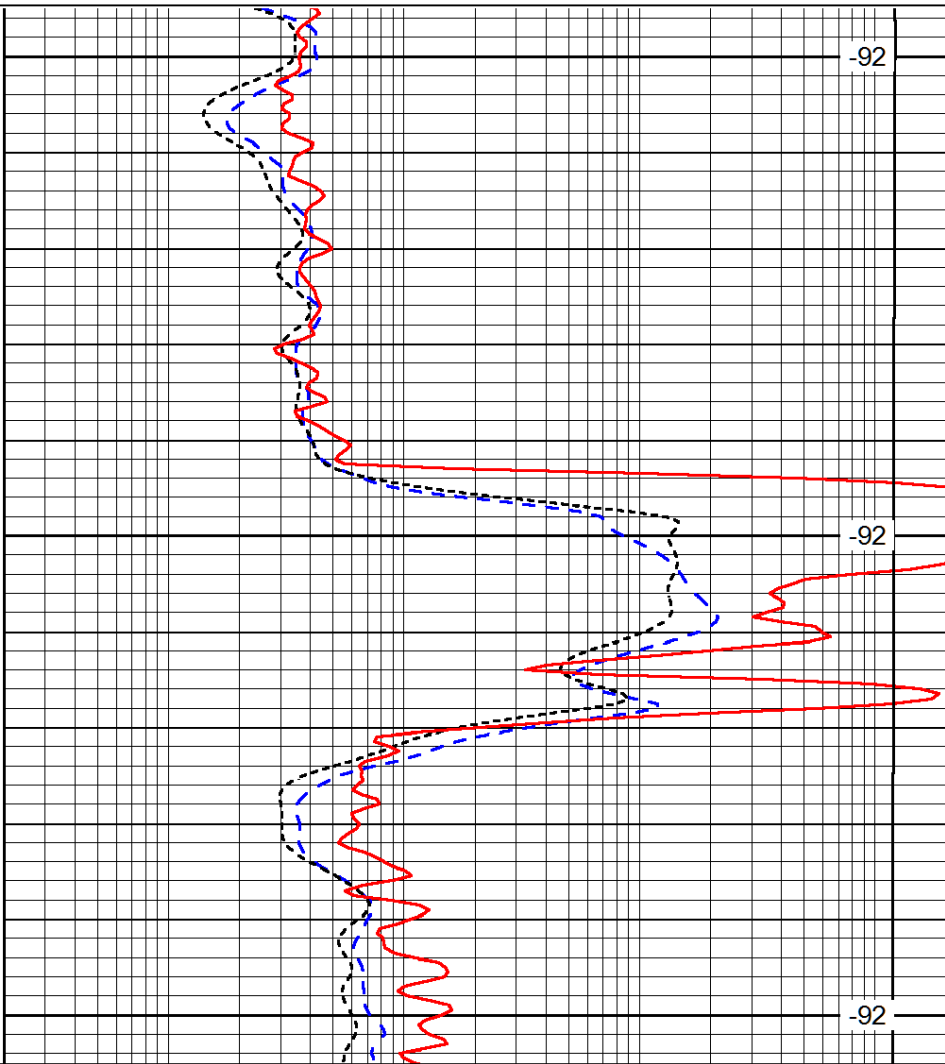
LSPD
(ft/min)



600

650

700



-92

-92

-92

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

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

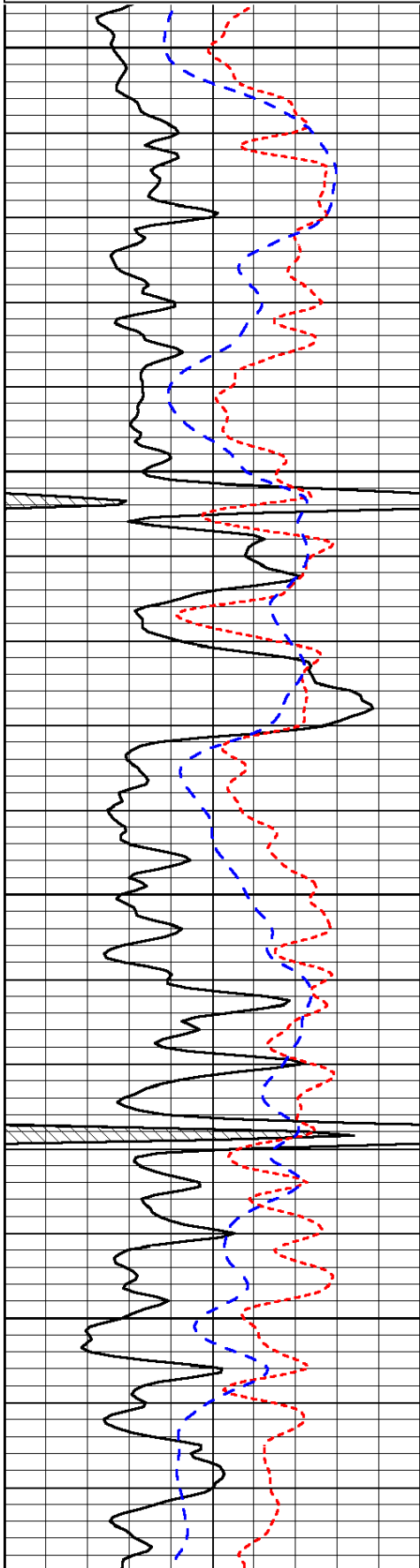
LSPD
(ft/min)

Database File: american_warrior_grubb_unit_2_5hd.db
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0.2	Shallow Resistivity (Ohm-m)	2000
10000	Line Tension (lb)	0

LSPD
(ft/min)

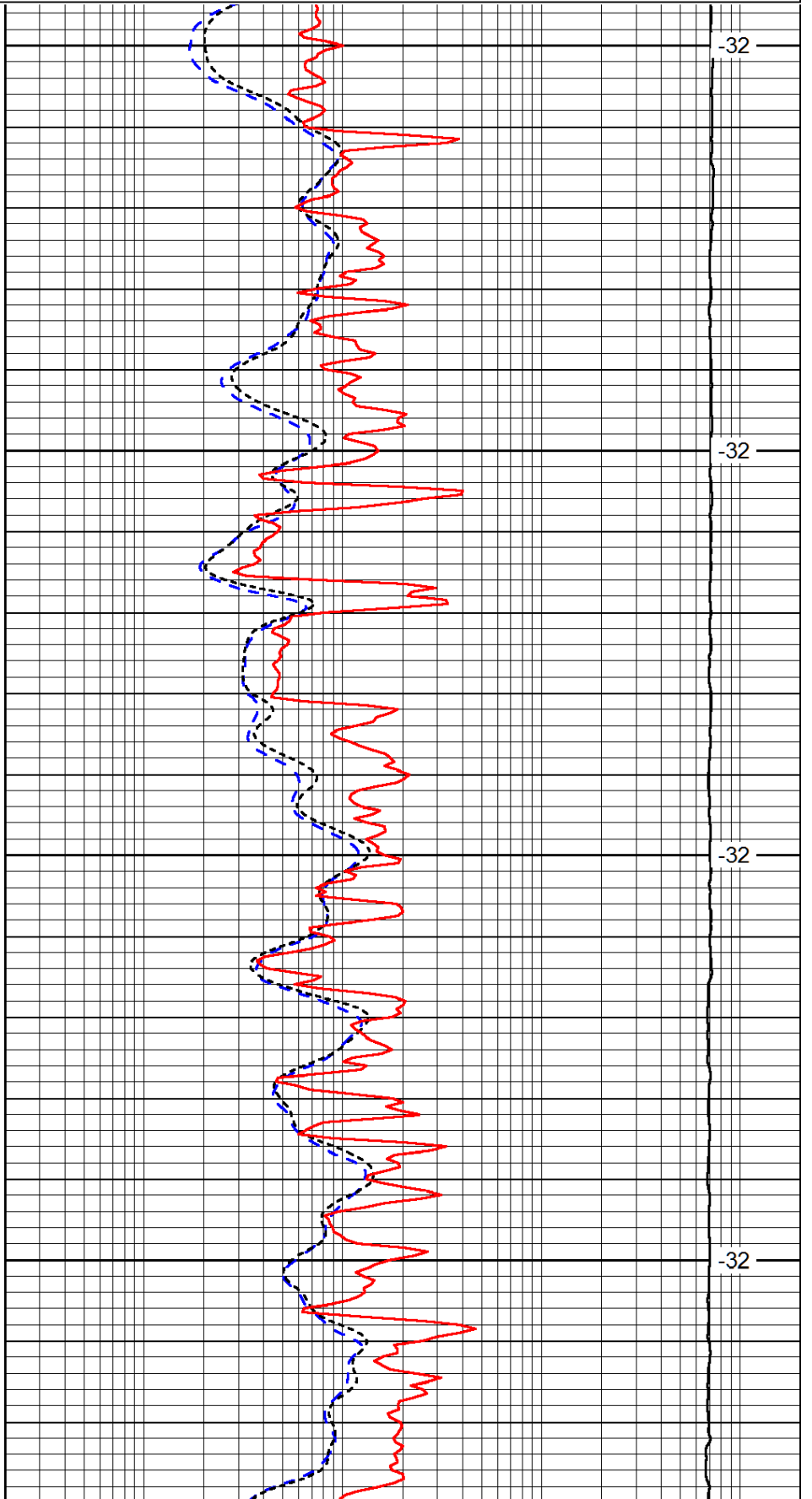


2650

2700

2750

2800

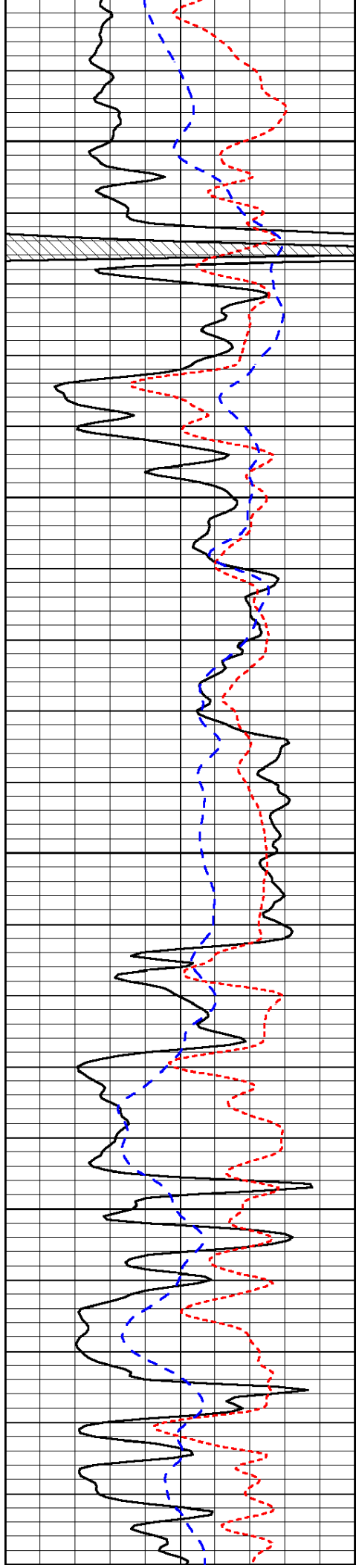


-32

-32

-32

-32



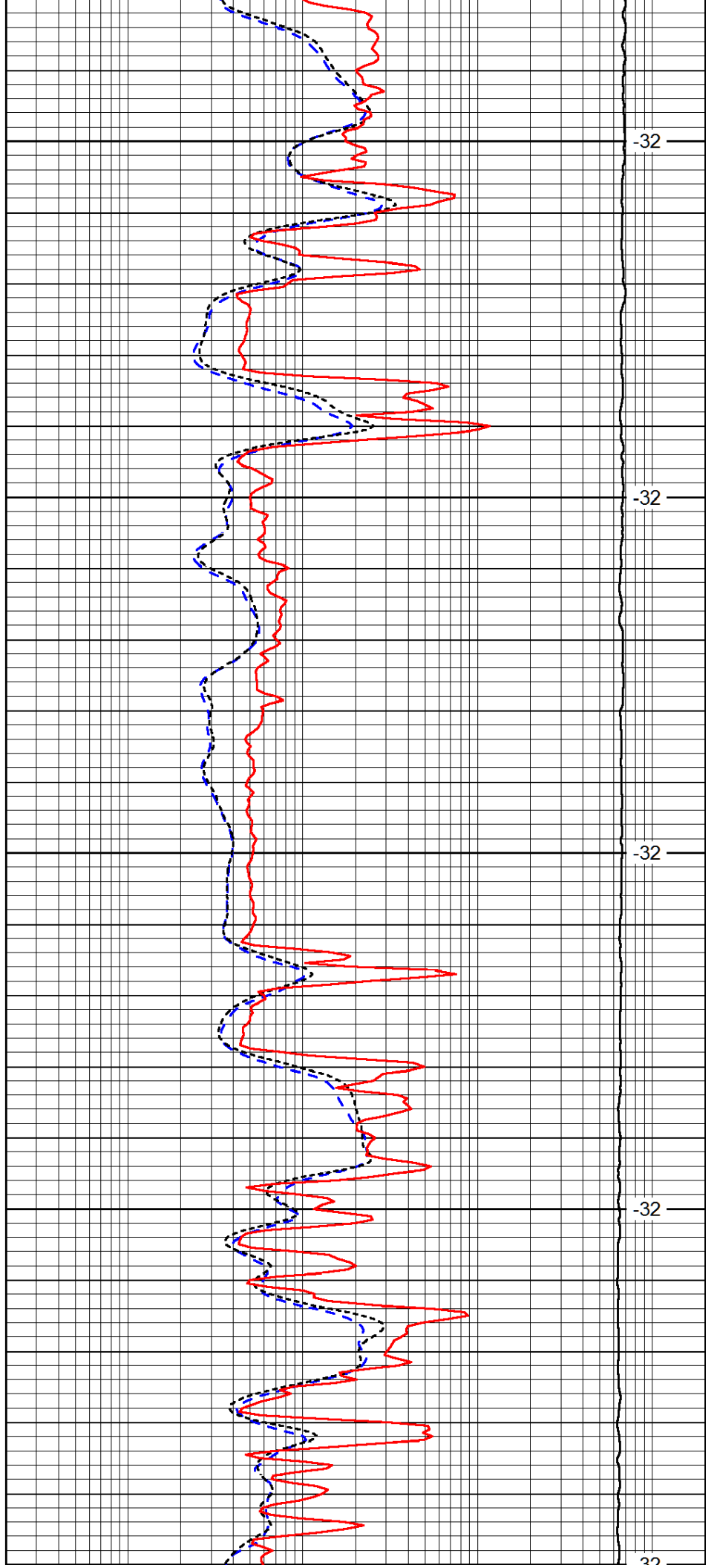
2850

2900

2950

3000

3050



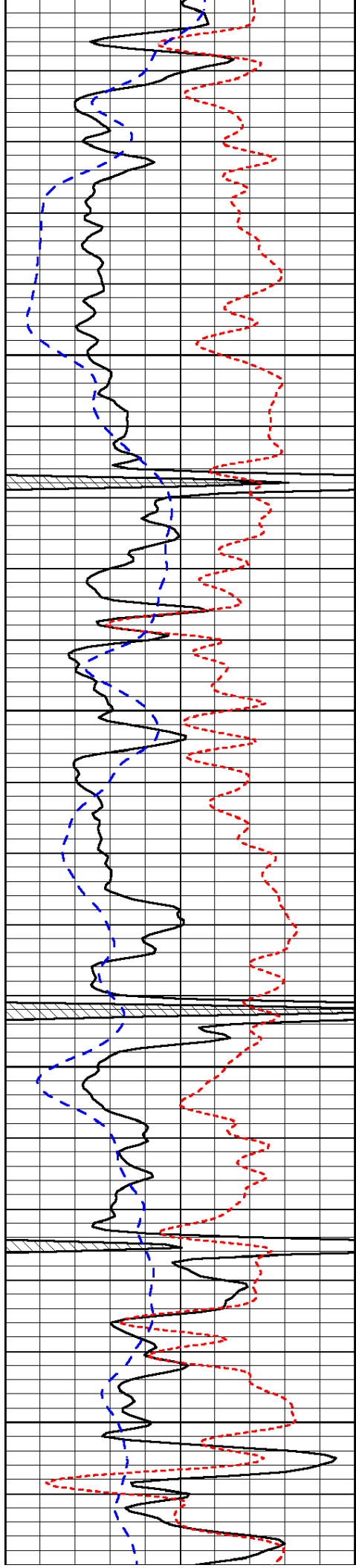
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-32

-32

-32

-32



3050

3100

3150

3200

3250

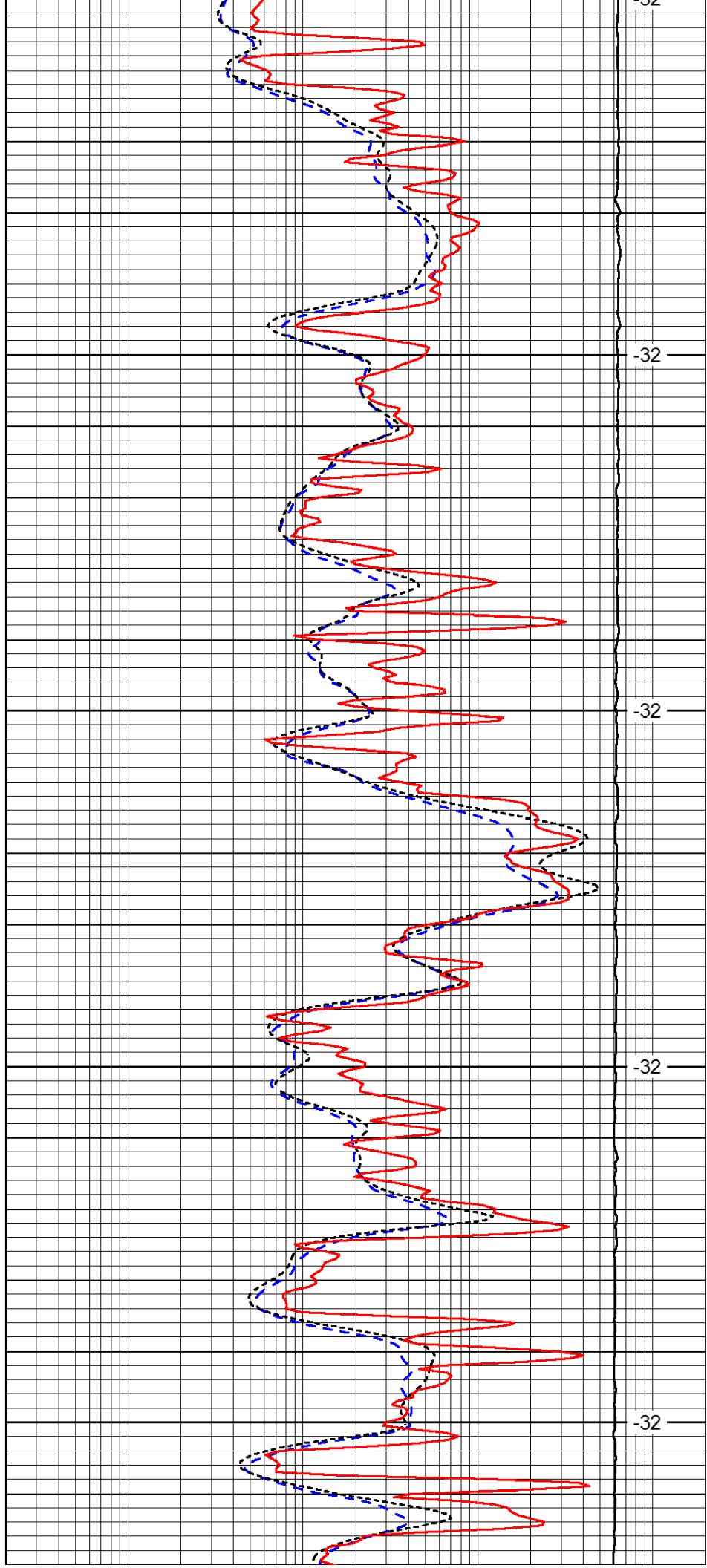
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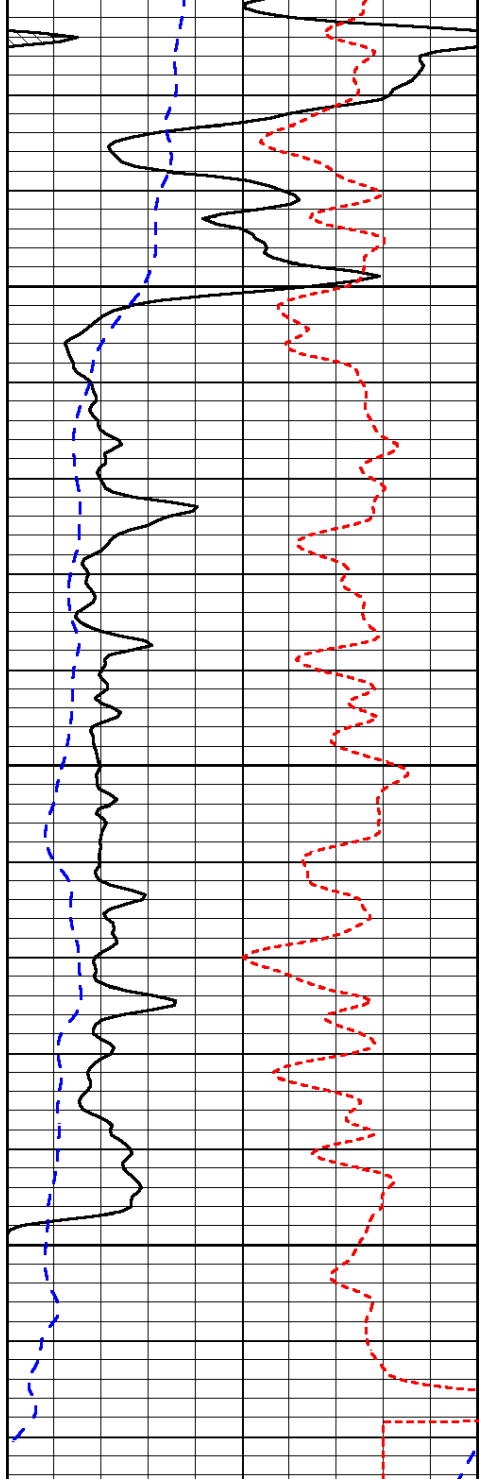
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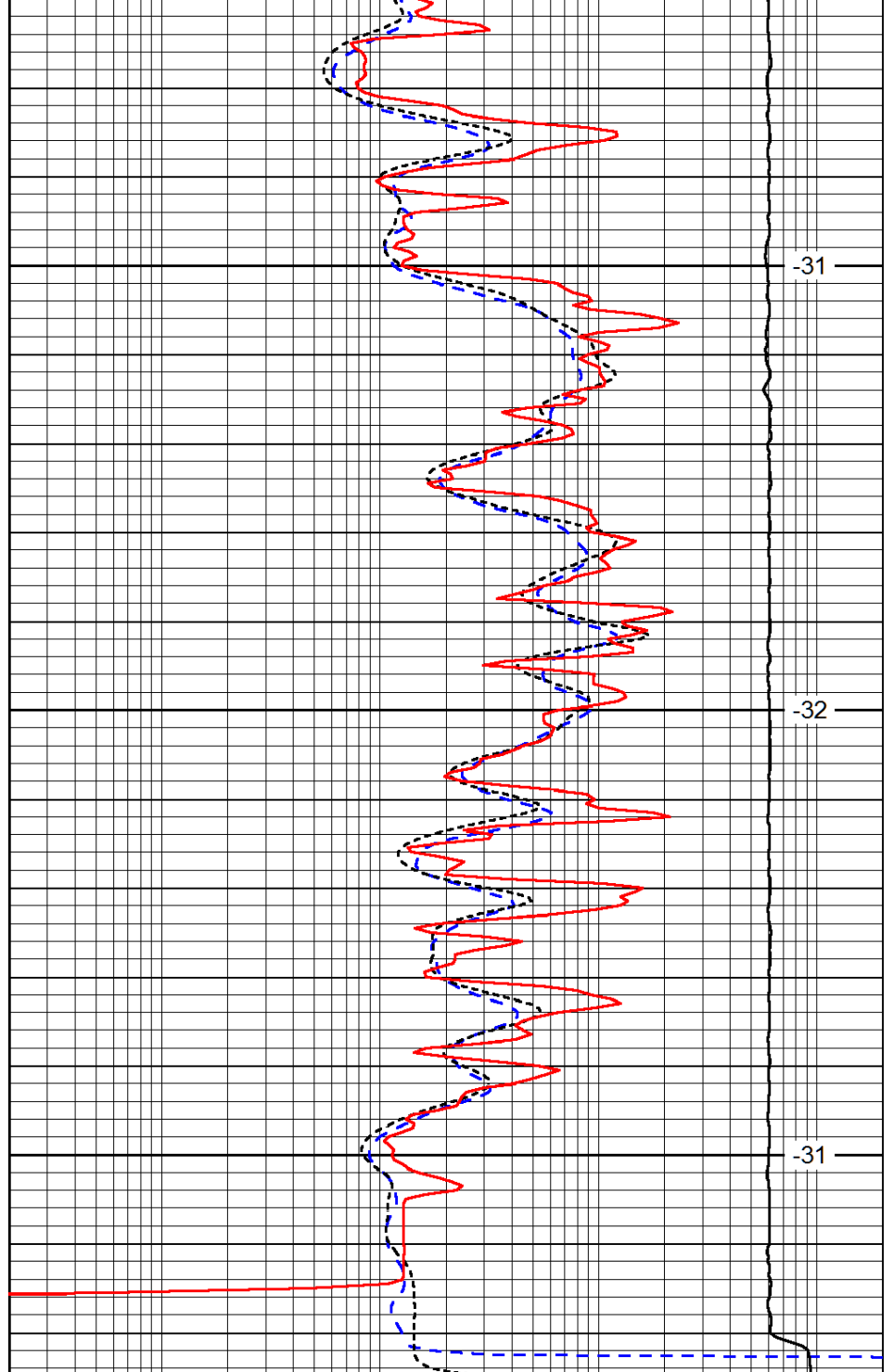


0	Gamma Ray (GAPI)	150
-160	RXO/RT	40
-200	SP (mV)	0

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

-31

-32

-31

LSPD
(ft/min)