



Pioneer Energy Services

Dual Induction Log

API No.

15-065-24056-00-00

Company Bowman Oil Company

Well Smith #9

Field Cooper

County Graham State

Kansas

Location

NE SW NE NW
905' FNL / 1815' FWL

Other Services
CNL/CDL
MEL

Sec: 5

Twp: 10S

Rge: 21W

Elevation

Permanent Datum Ground Level Elevation 2271

Log Measured From Kelly Bushing 8 Ft. Above Perm. Datum

Drilling Measured From Kelly Bushing

K.B. 2279
D.F.
G.L. 2271

Date 8/12/2014

Run Number One

Depth Driller 3937

Depth Logger 3936

Bottom Logged Interval 3935

Top Log Interval 200

Casing Driller 8.625 @ 221

Casing Logger 219

Bit Size 7.875

Type Fluid in Hole Chemical

Salinity, ppm CL 1000

Density / Viscosity 9.2 52

pH / Fluid Loss 10.5 8.8

Source of Sample Flowline

Rm @ Meas. Temp 1.10 @ 85

Rmf @ Meas. Temp 0.83 @ 85

Rmc @ Meas. Temp 1.49 @ 85

Source of Rmf / Rmc Charts

Rm @ BHT 0.81 @ 115

Operating Rig Time 4 Hours

Max Rec. Temp. F 115

Equipment Number 15

Location Hays

Recorded By R. Barnhart

Witnessed By Ed Glassman

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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

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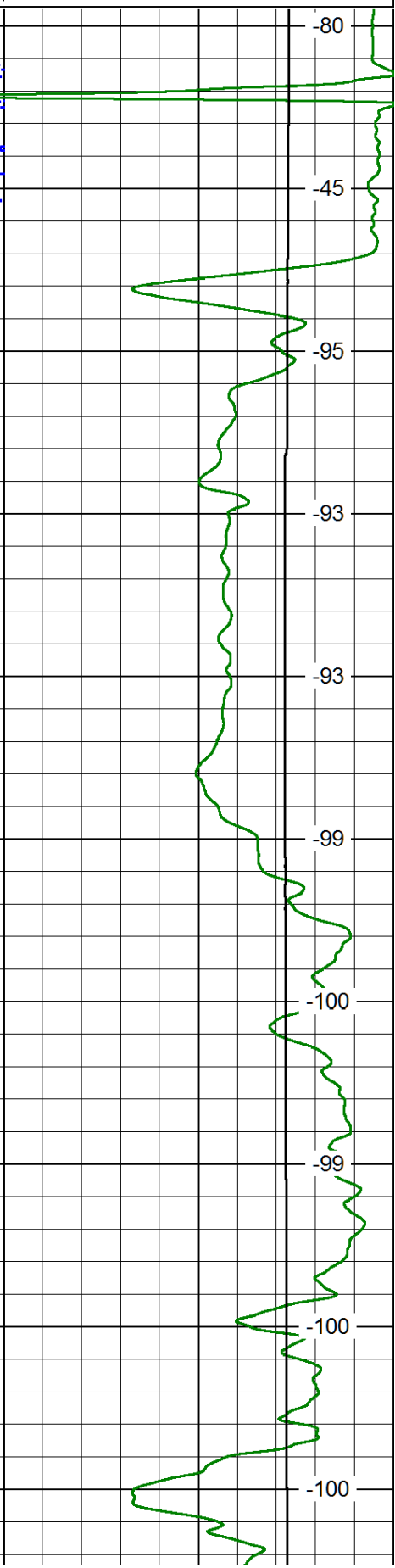
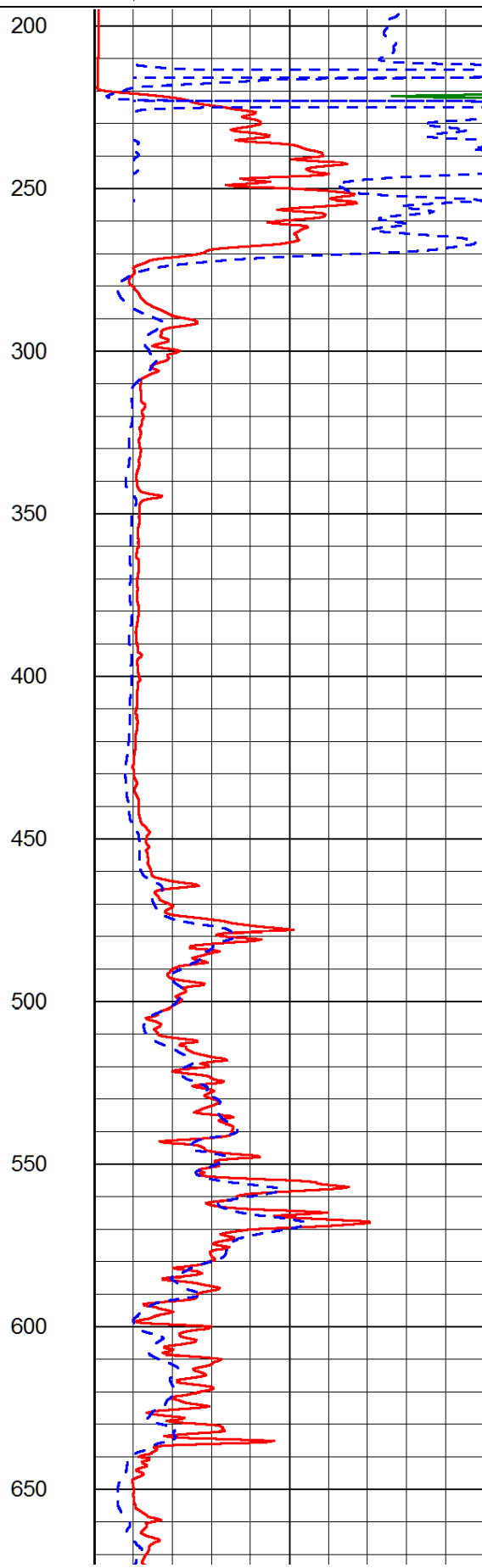
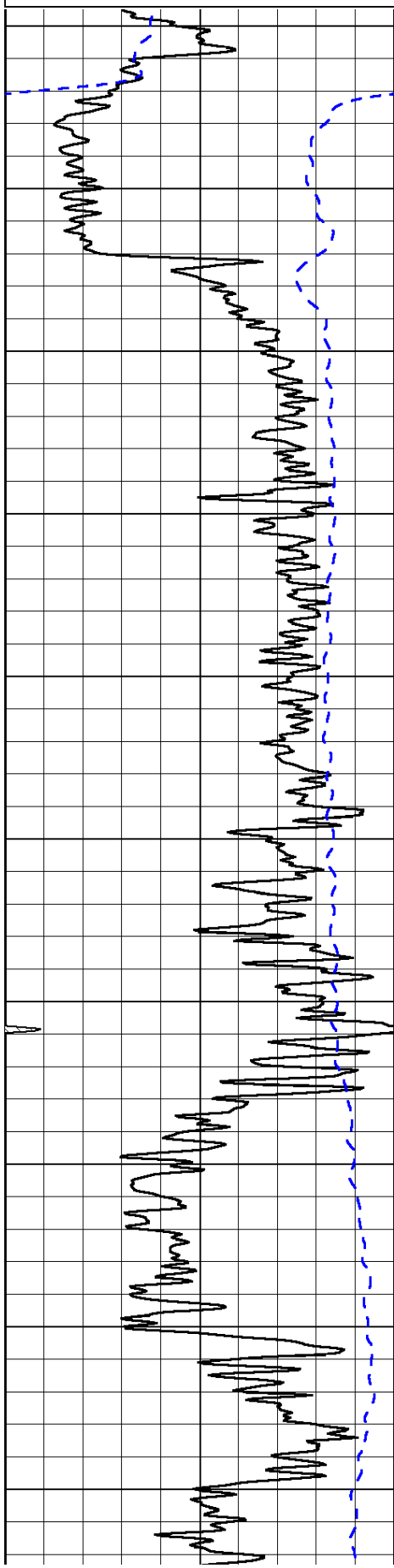
Palco, KS:
Ellis N to Redline Rd., From Church: 3W, 1S, 1/4E, S into

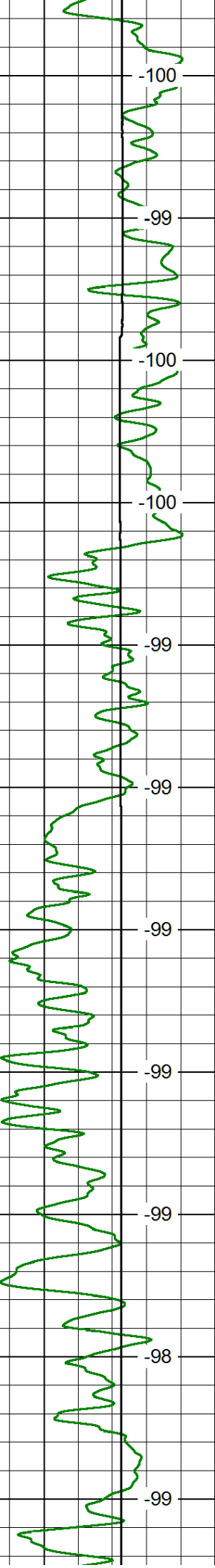
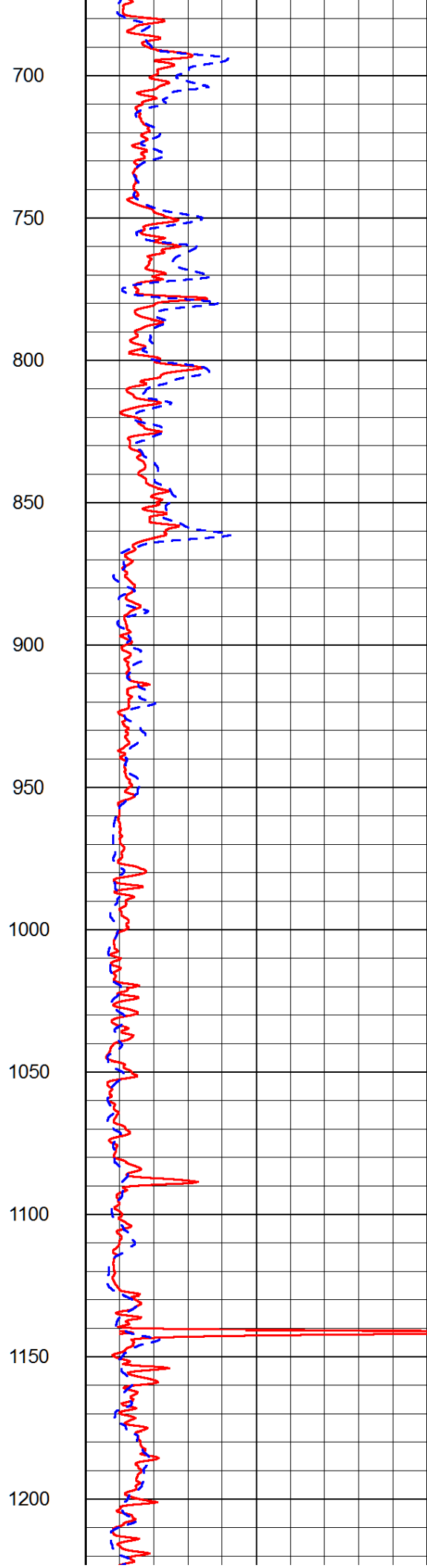
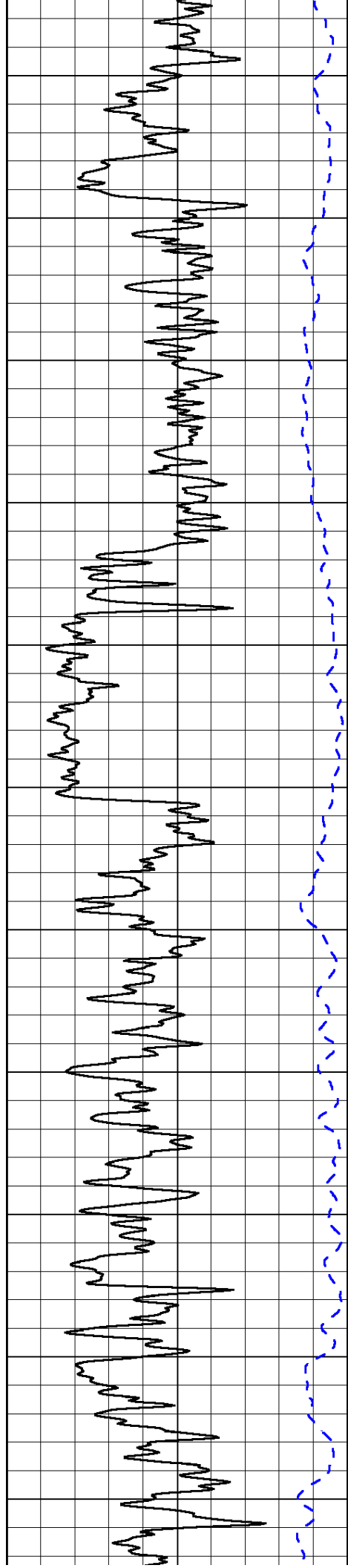
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Dataset Creation: Tue Aug 12 15:28:49 2014
Charted by: Depth in Feet scaled 1:600

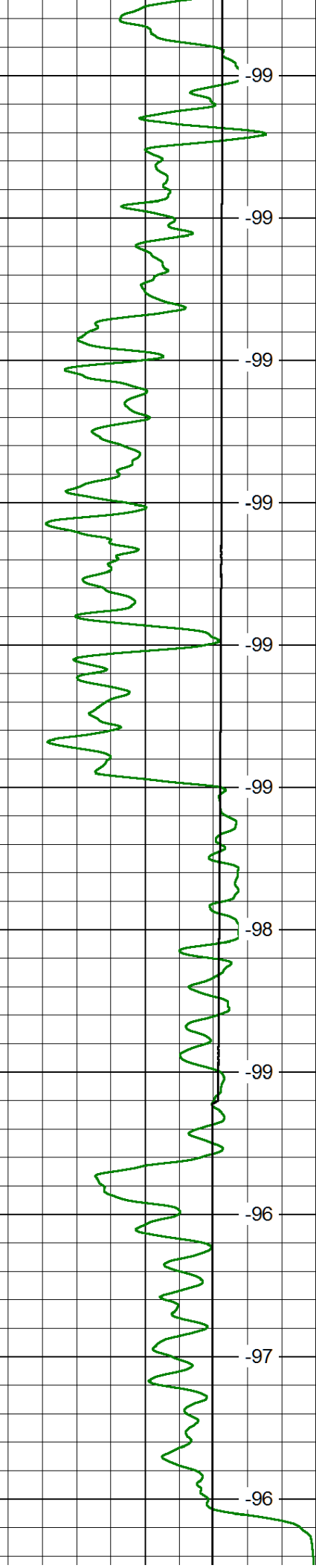
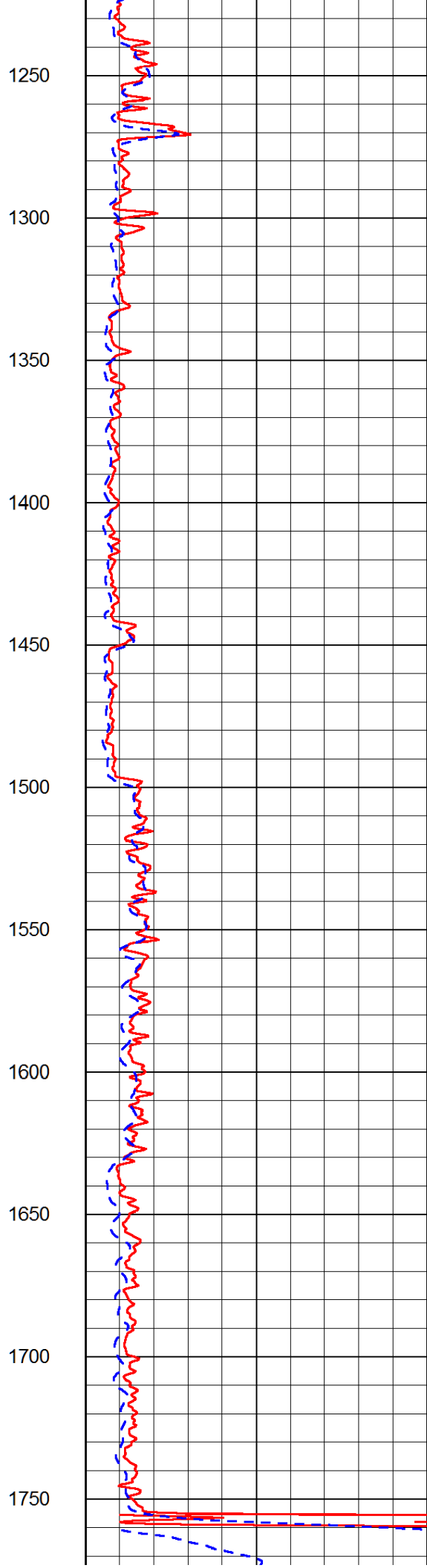
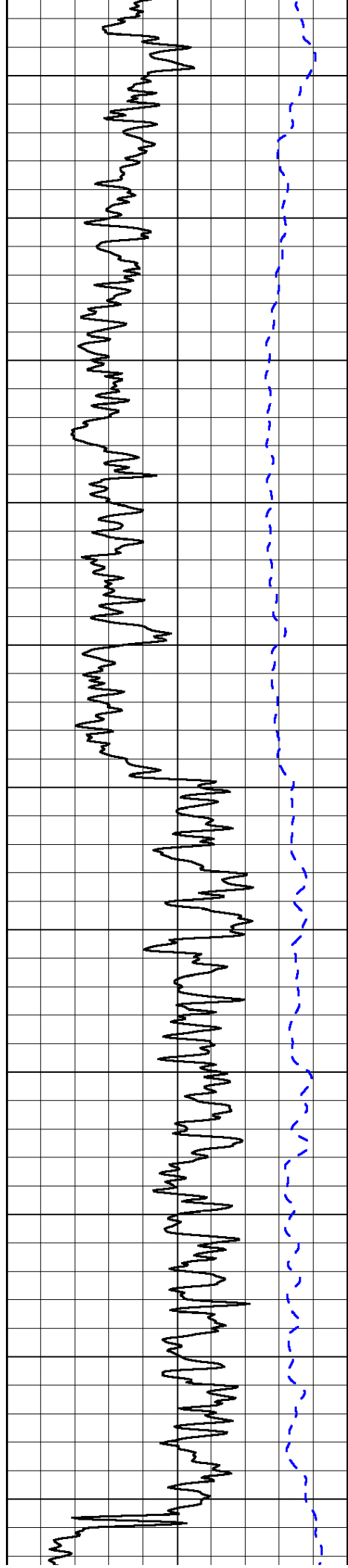
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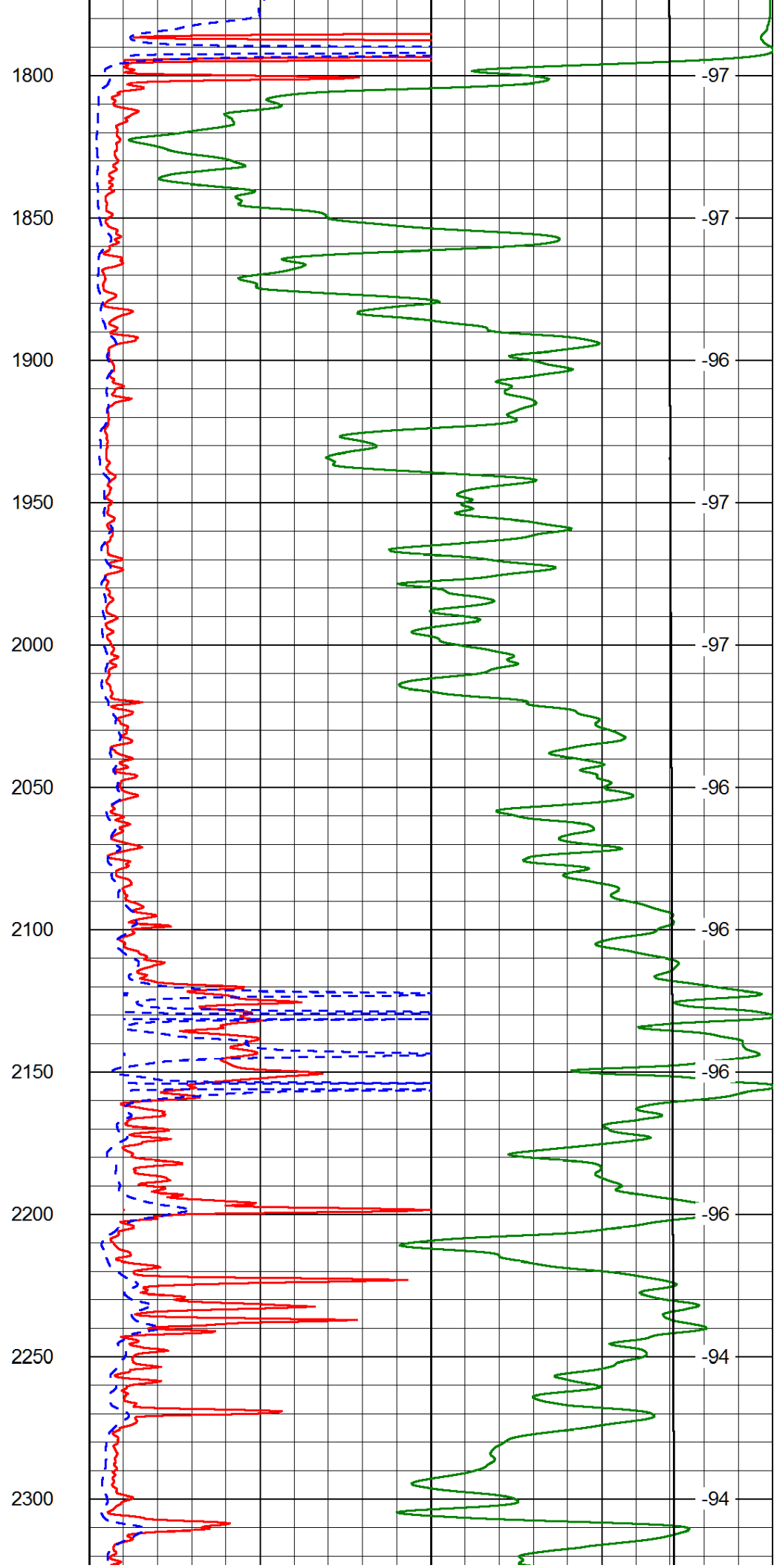
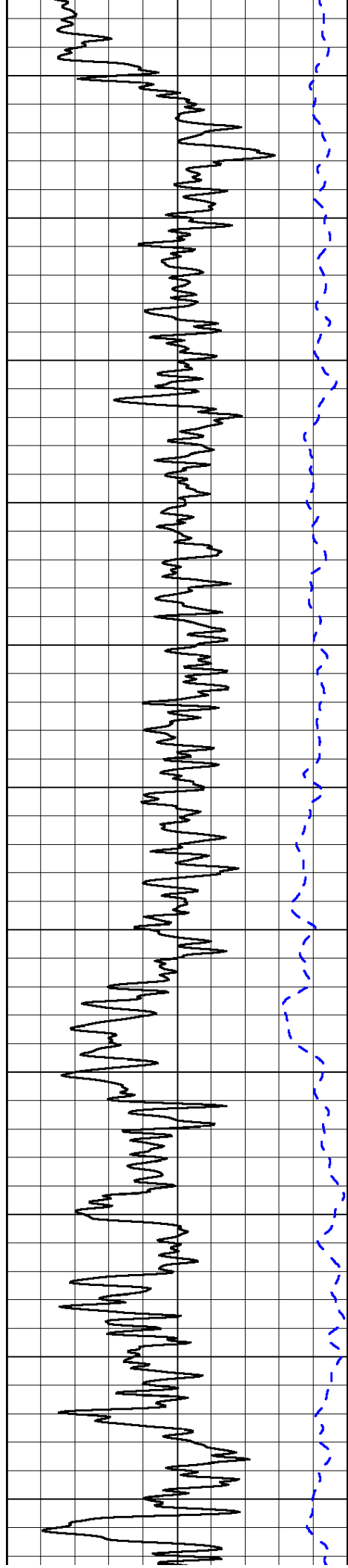
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0	Deep Resistivity	50
1000	Conductivity	0
15000	Line Tension	0
50	Shallow Resistivity	500
50	Deep Resistivity	500

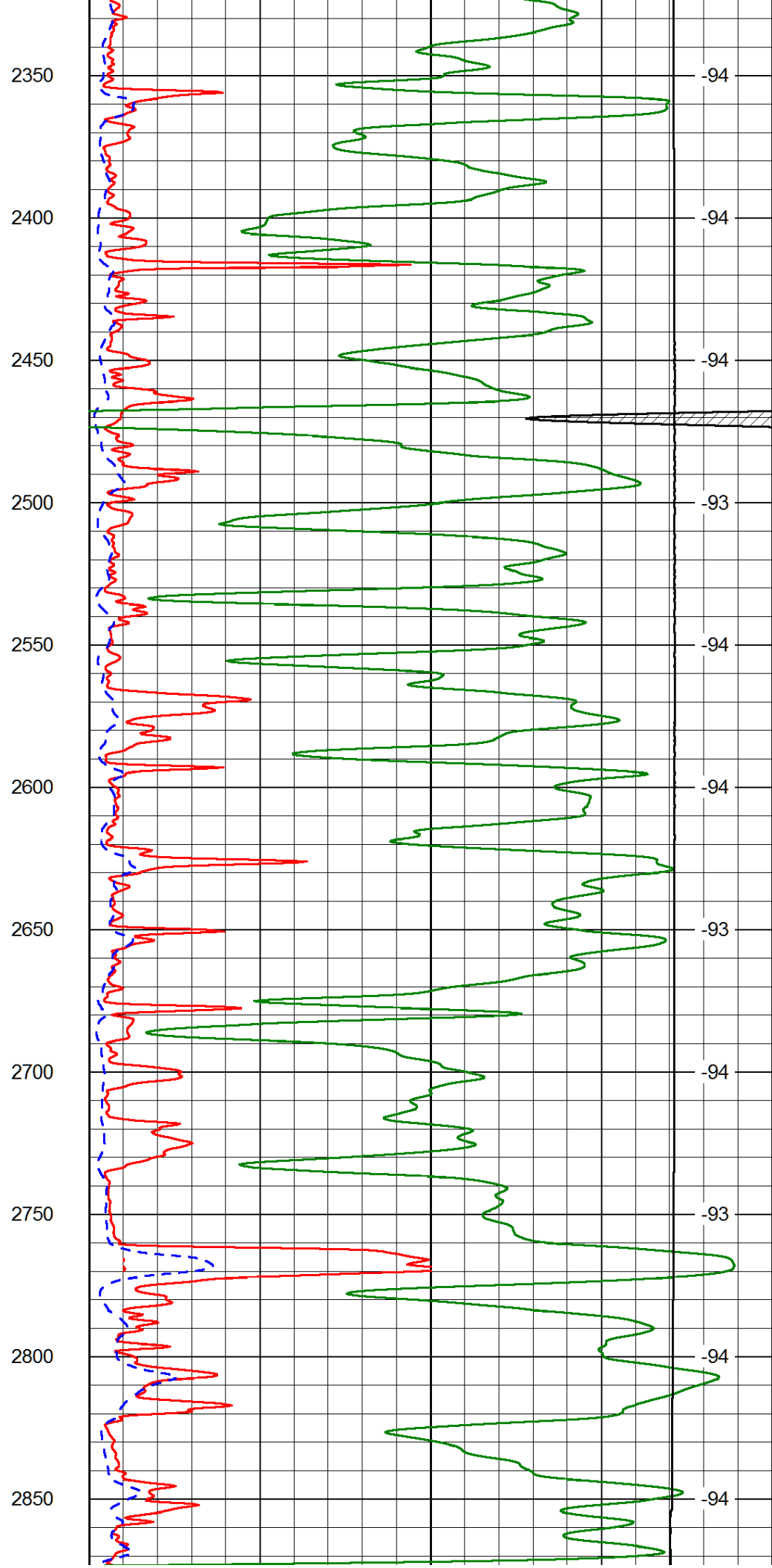
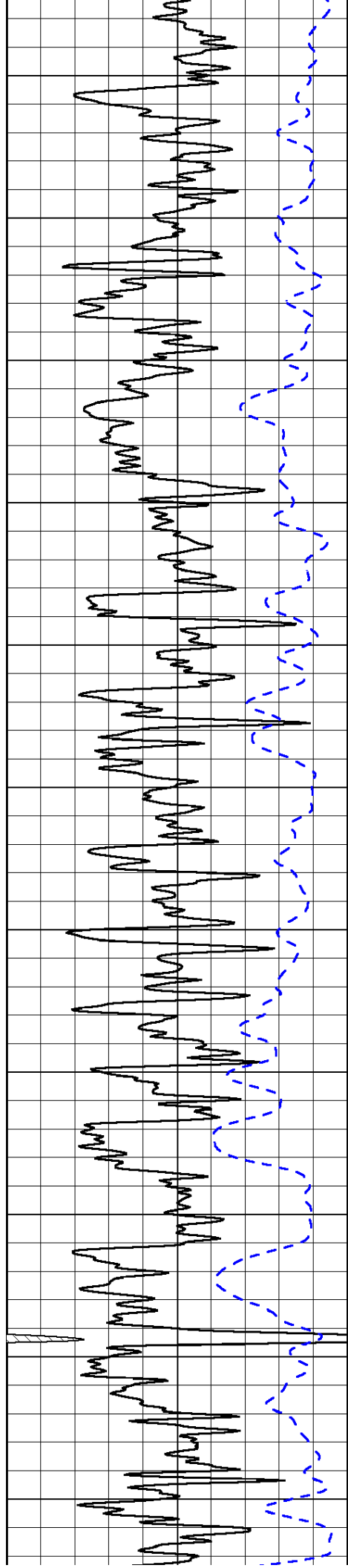
LSPD

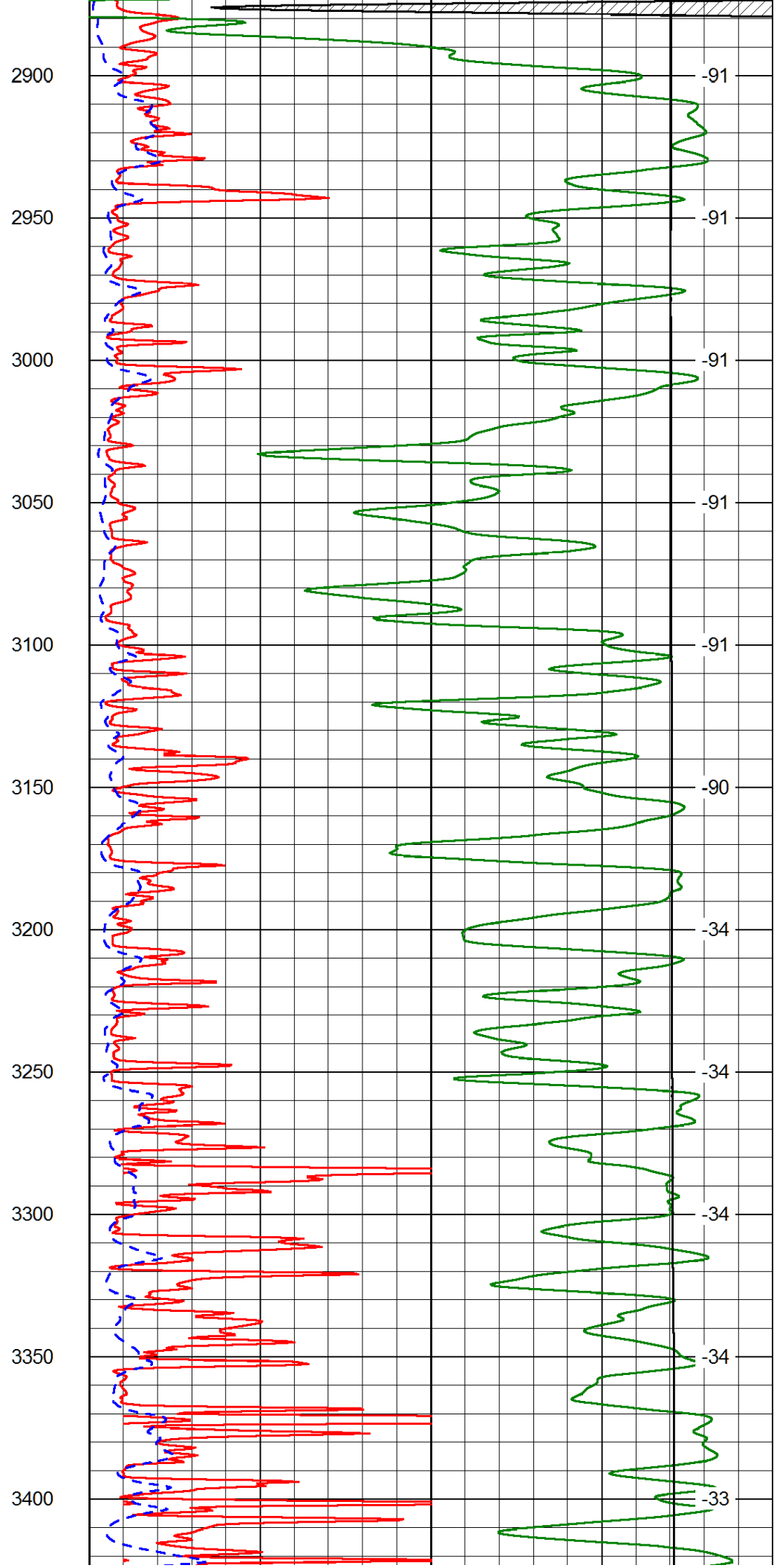
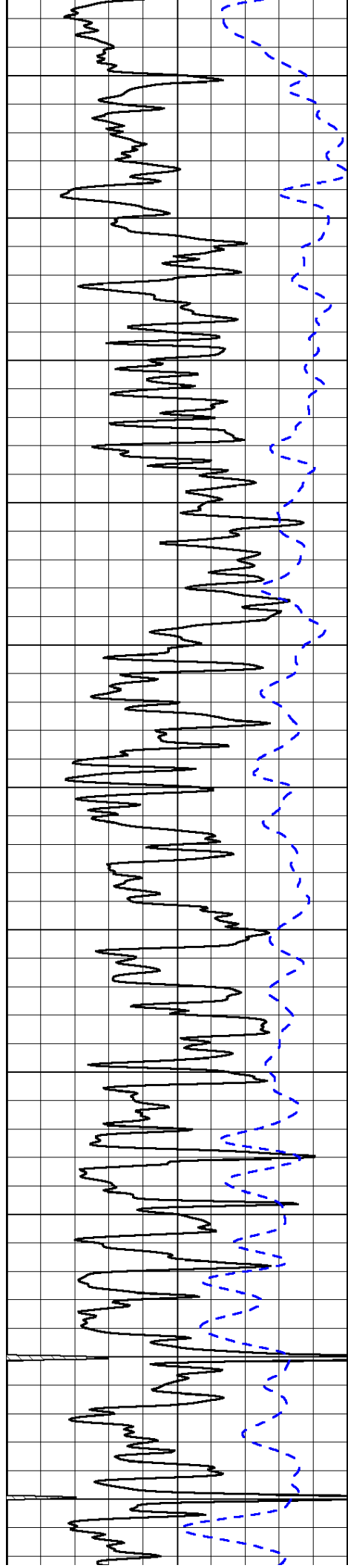


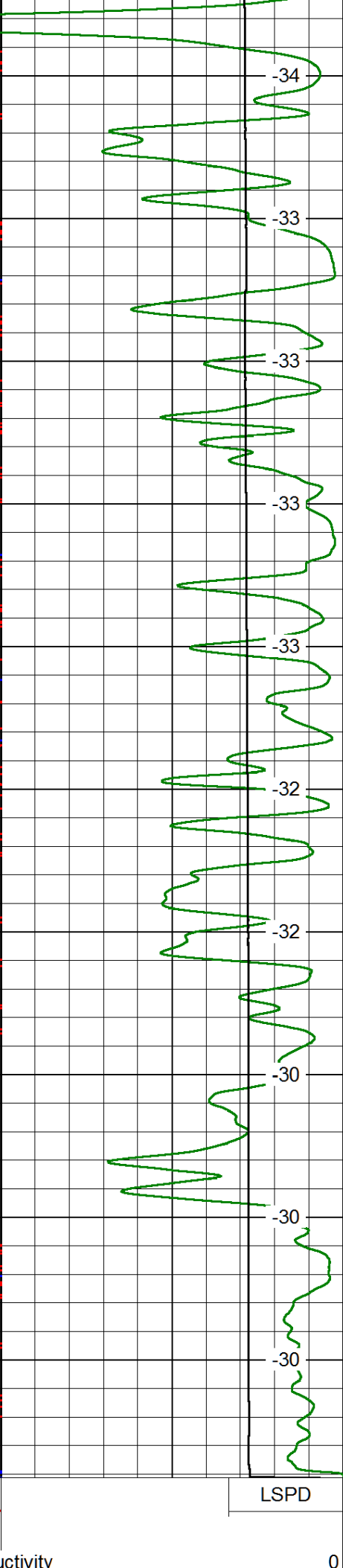
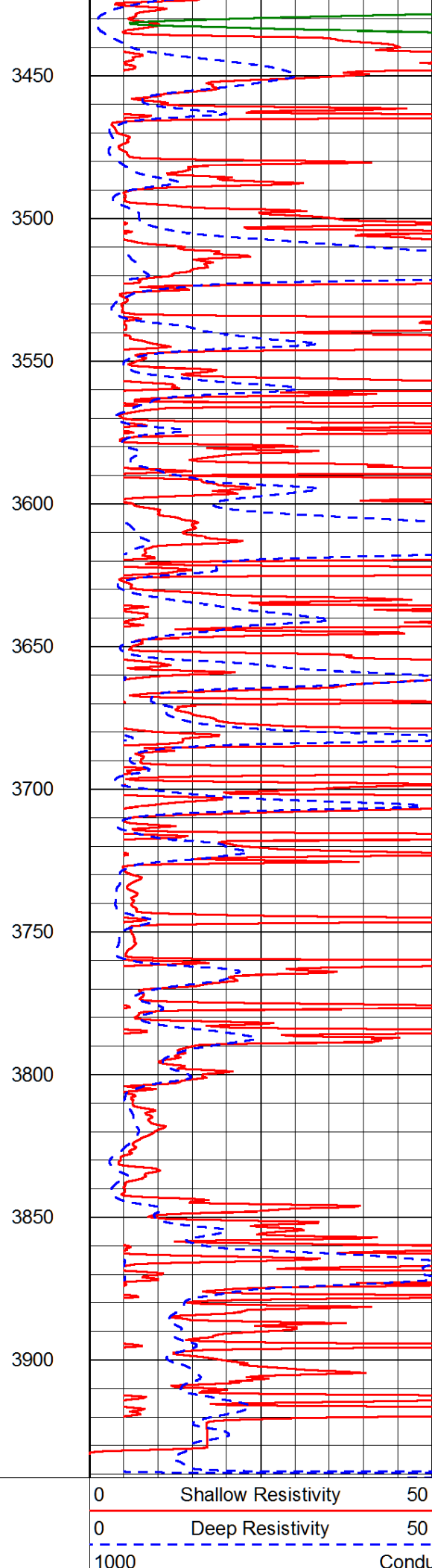
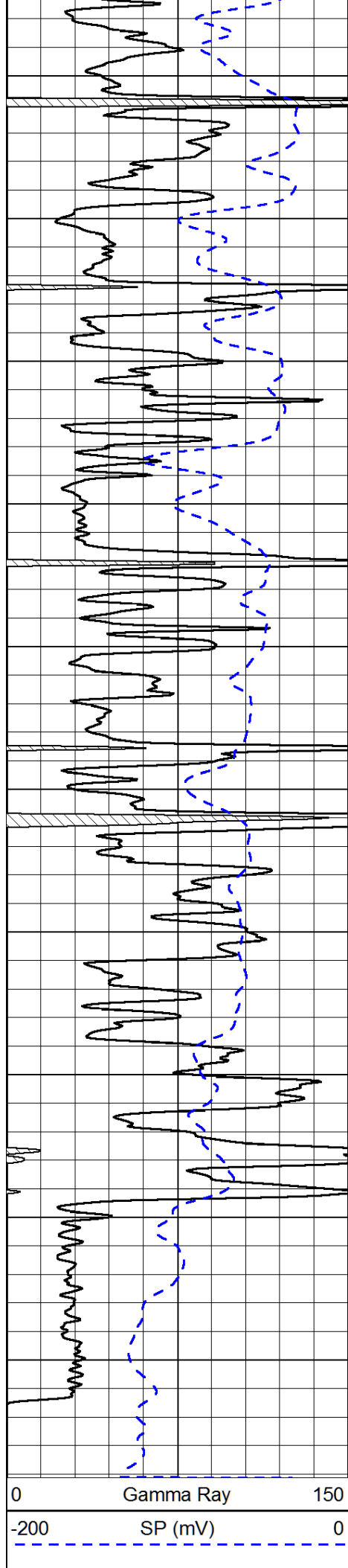






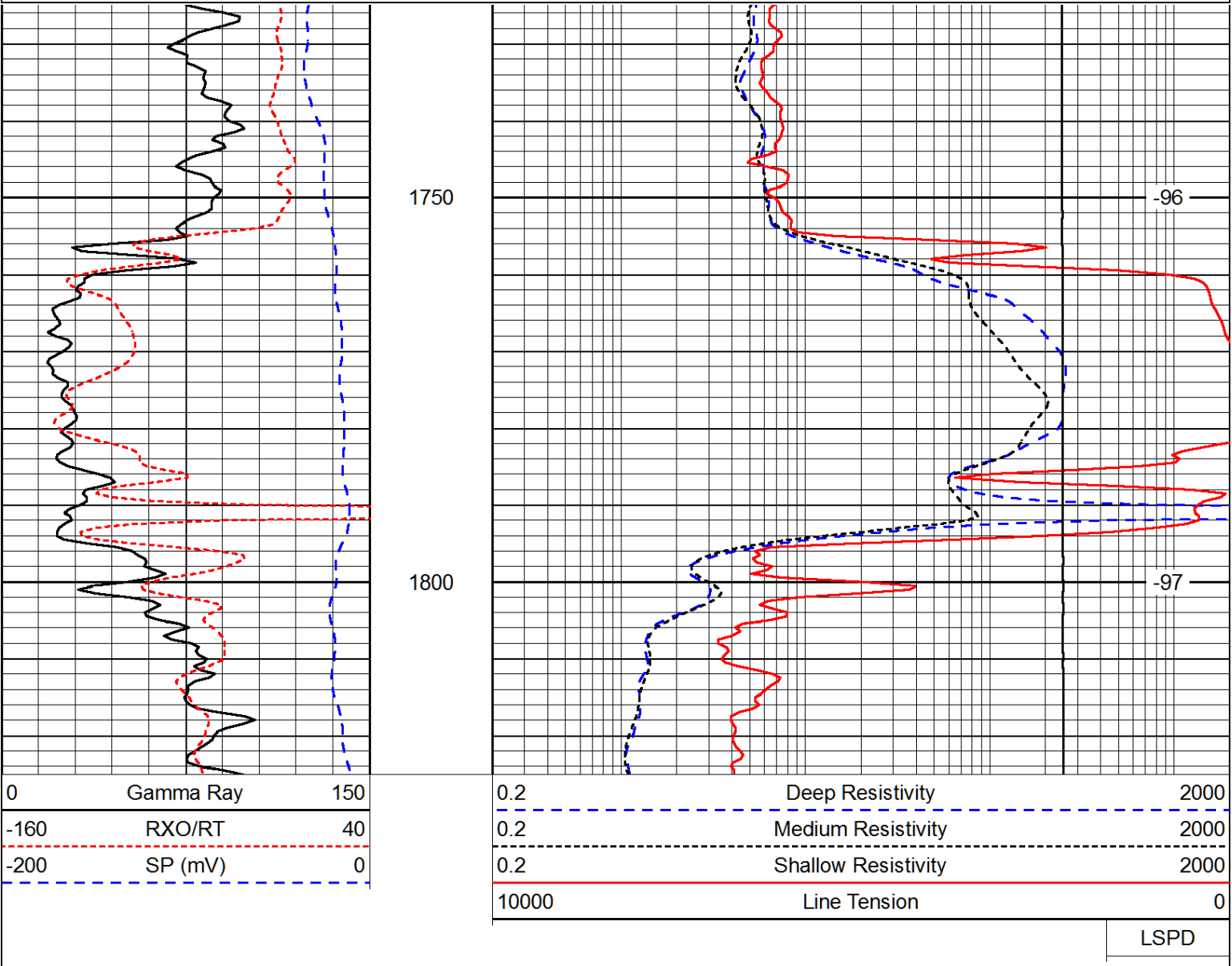






15000	Line Tension		0
50	Shallow Resistivity	500	
50	Deep Resistivity	500	

Database File: bowman_shd.db			
Dataset Pathname: dil/bwmain			
Presentation Format: dil			
Dataset Creation: Tue Aug 12 15:28:49 2014			
Charted by: Depth in Feet scaled 1:240			
0	Gamma Ray	150	
-160	RXO/RT	40	
-200	SP (mV)	0	
0.2	Deep Resistivity	2000	
0.2	Medium Resistivity	2000	
0.2	Shallow Resistivity	2000	
10000	Line Tension	0	
			LSPD

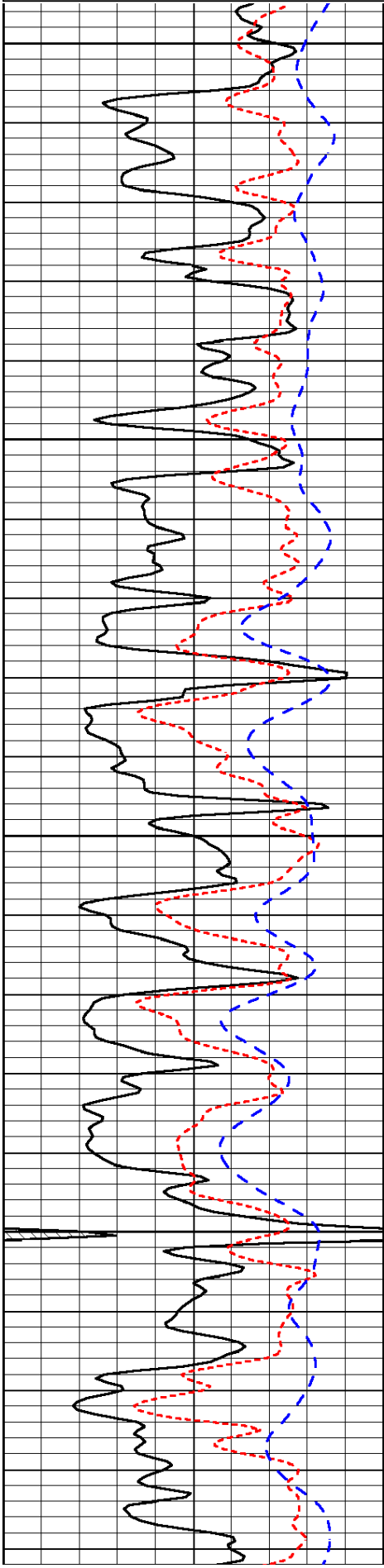


Database File: bowman_shd.db Dataset Pathname: dil/bwmain Presentation Format: dil Dataset Creation: Tue Aug 12 15:28:49 2014 Charted by: Depth in Feet scaled 1:240			
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0.2	Deep Resistivity	2000	

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

0.2	Deep Resistivity	2000
0.2	Medium Resistivity	2000
0.2	Shallow Resistivity	2000
10000	Line Tension	0

LSPD

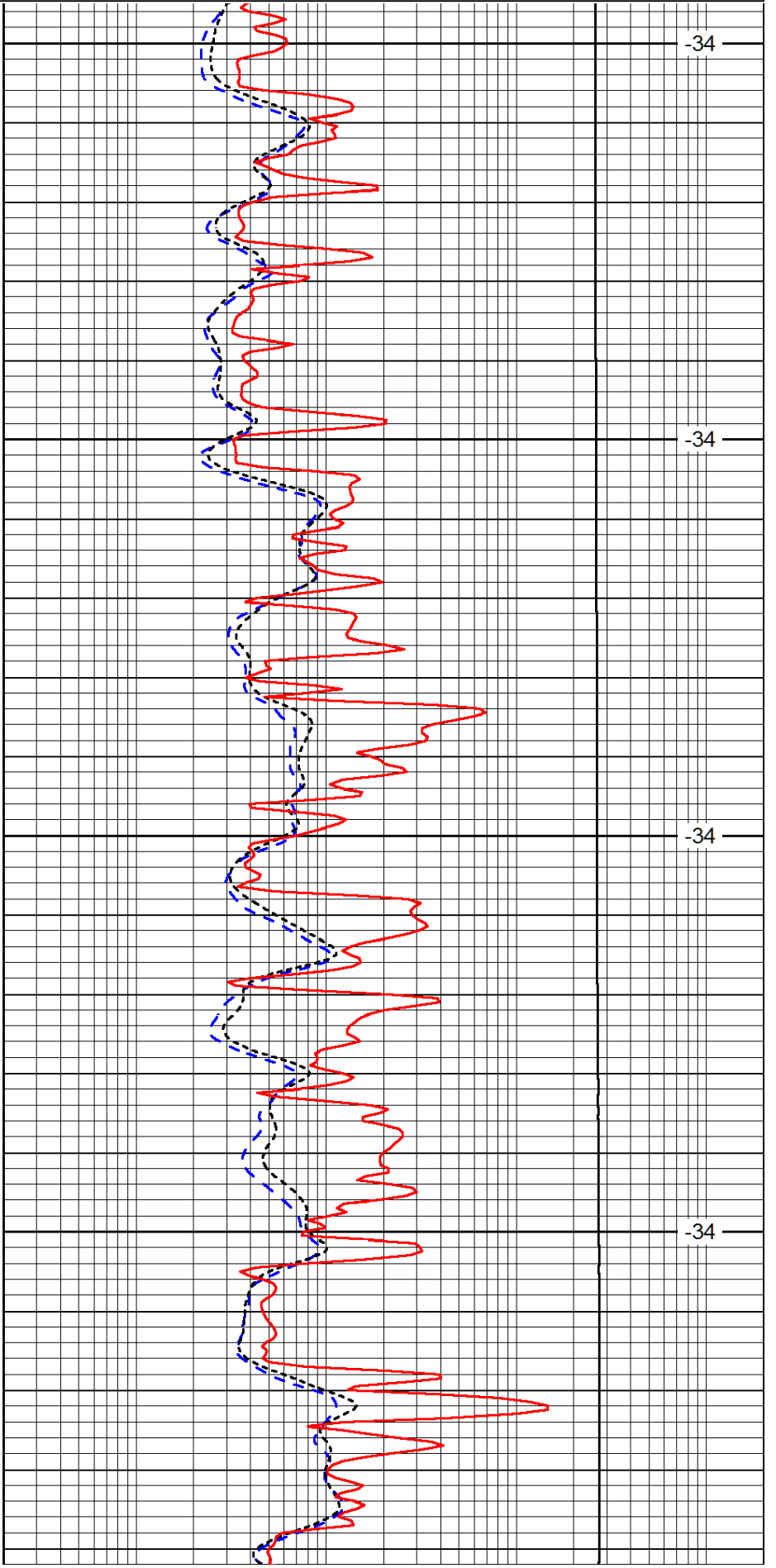


3200

3250

3300

3350

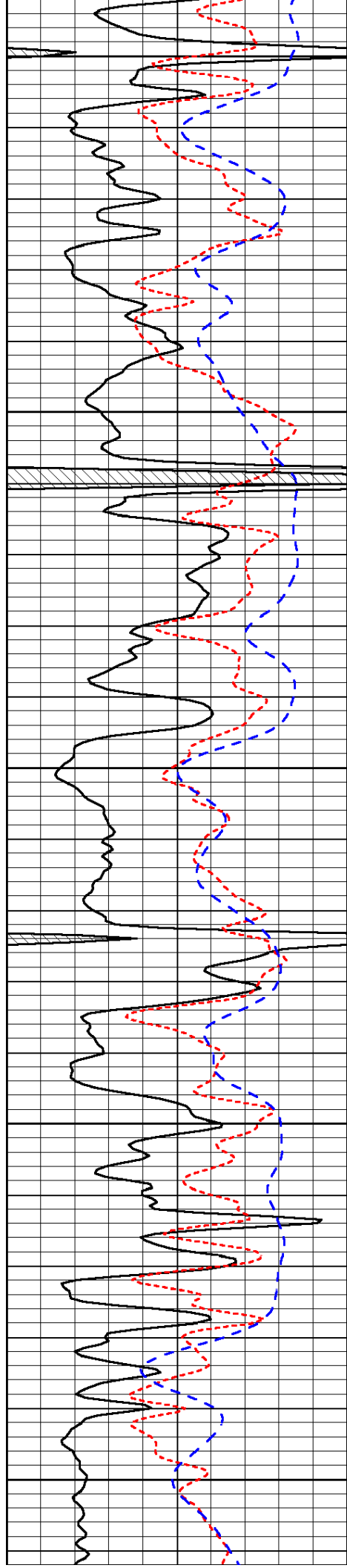


-34

-34

-34

-34



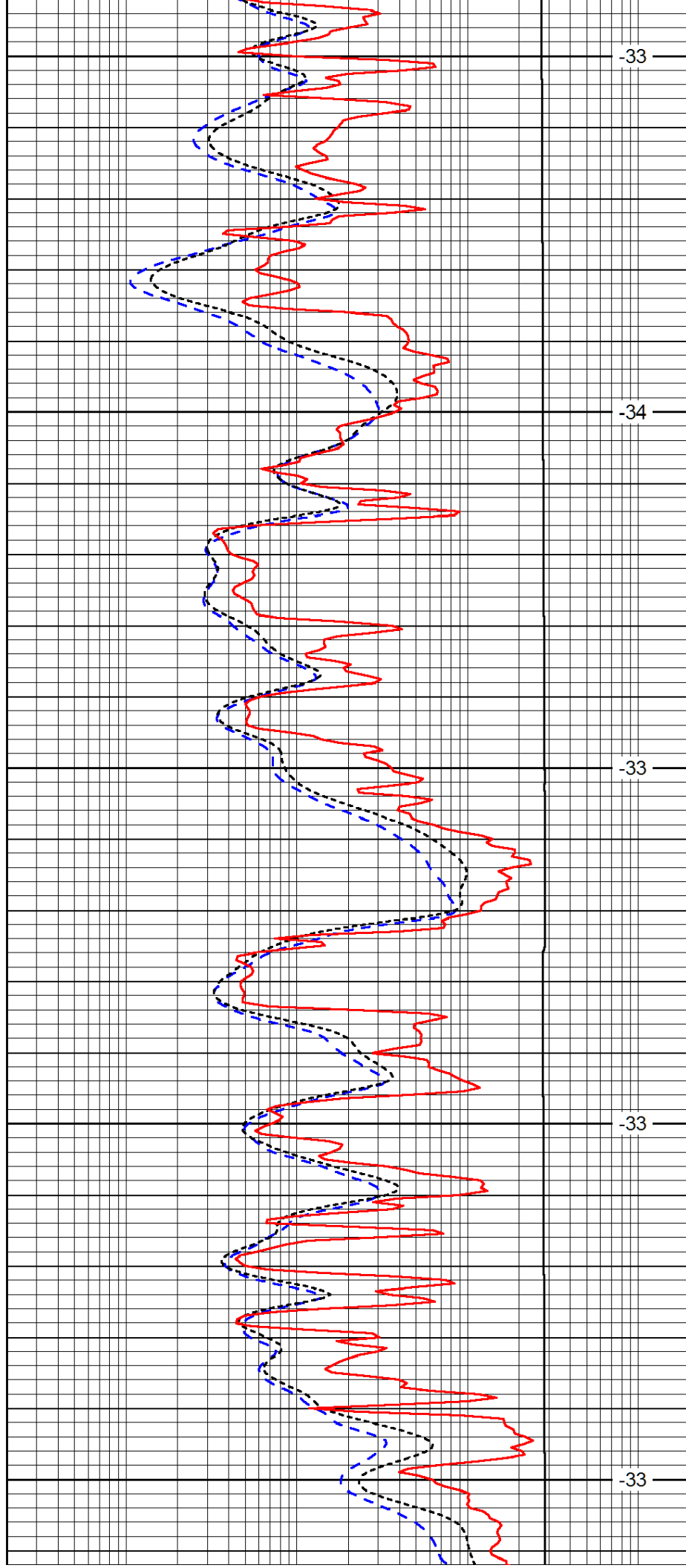
3400

3450

3500

3550

3600



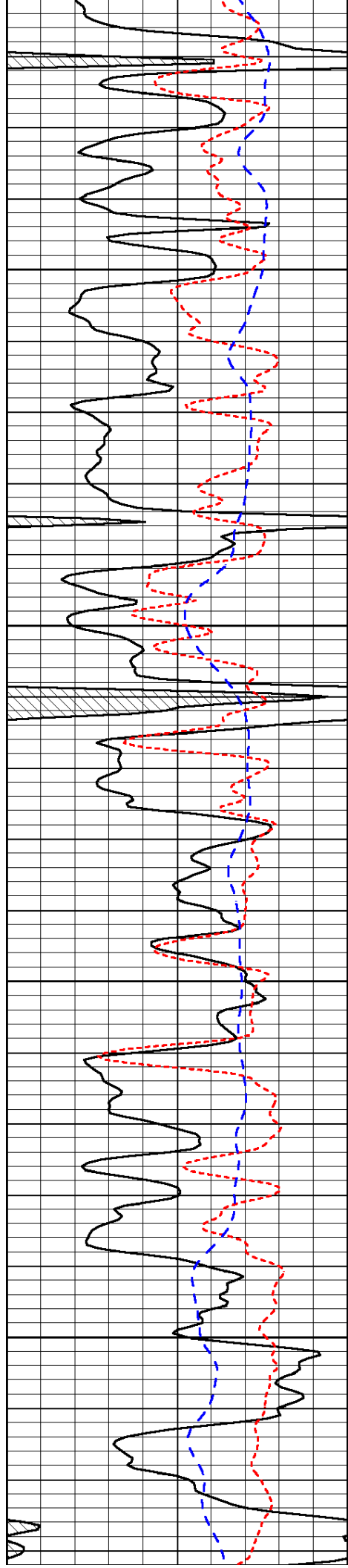
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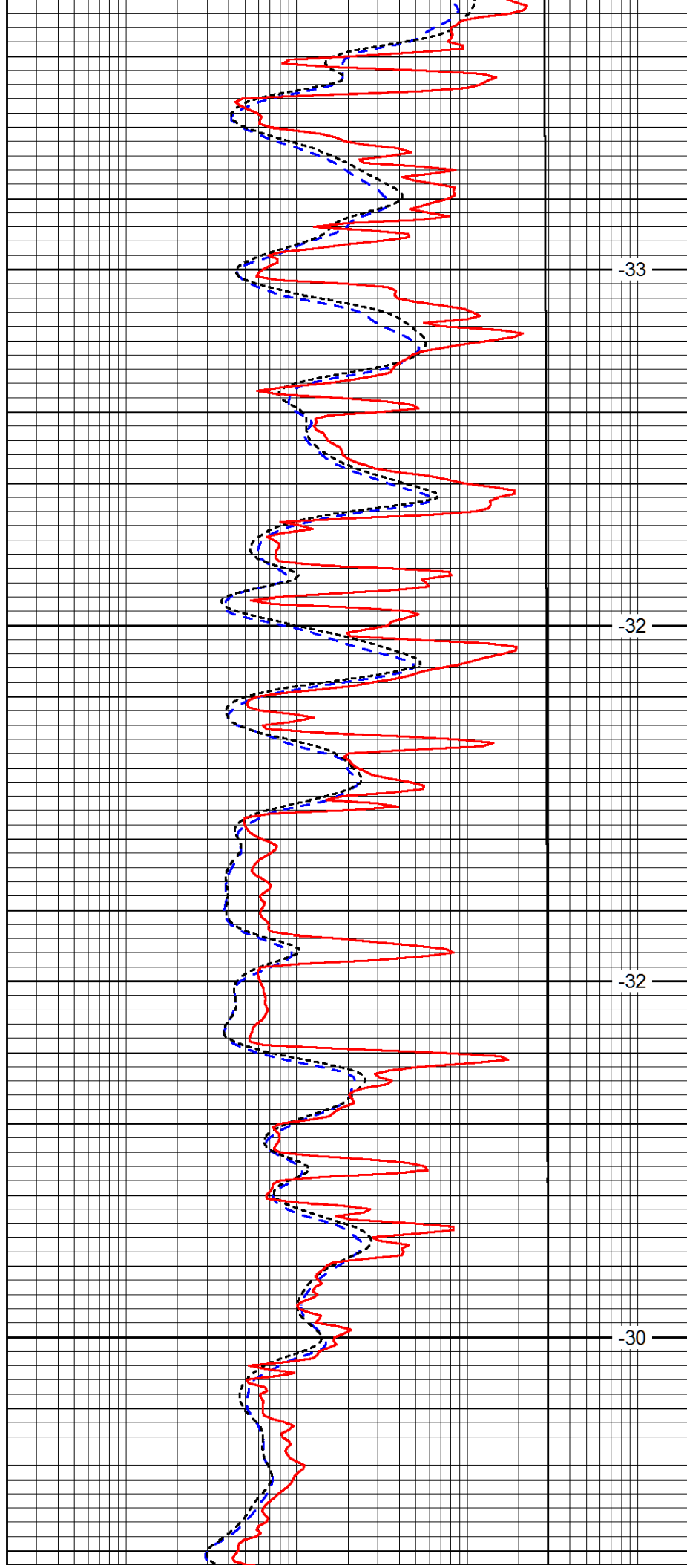


3650

3700

3750

3800

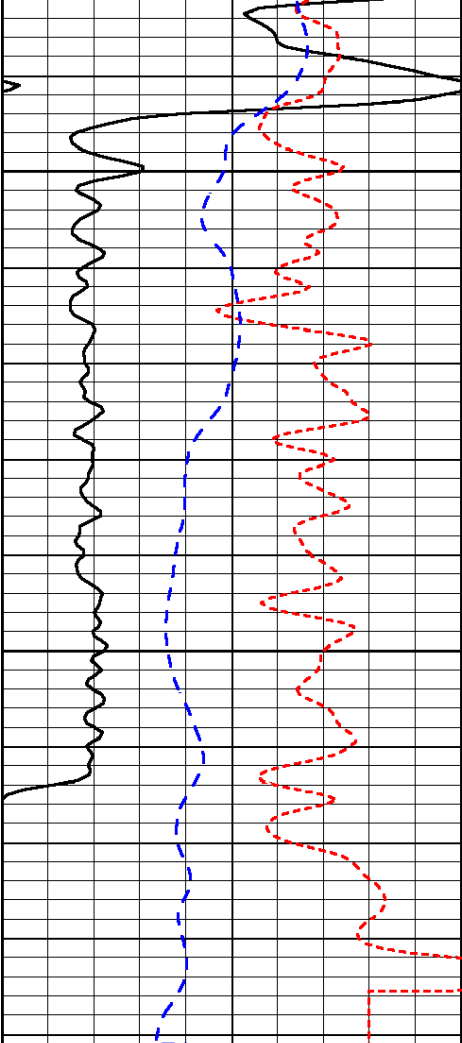


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-32

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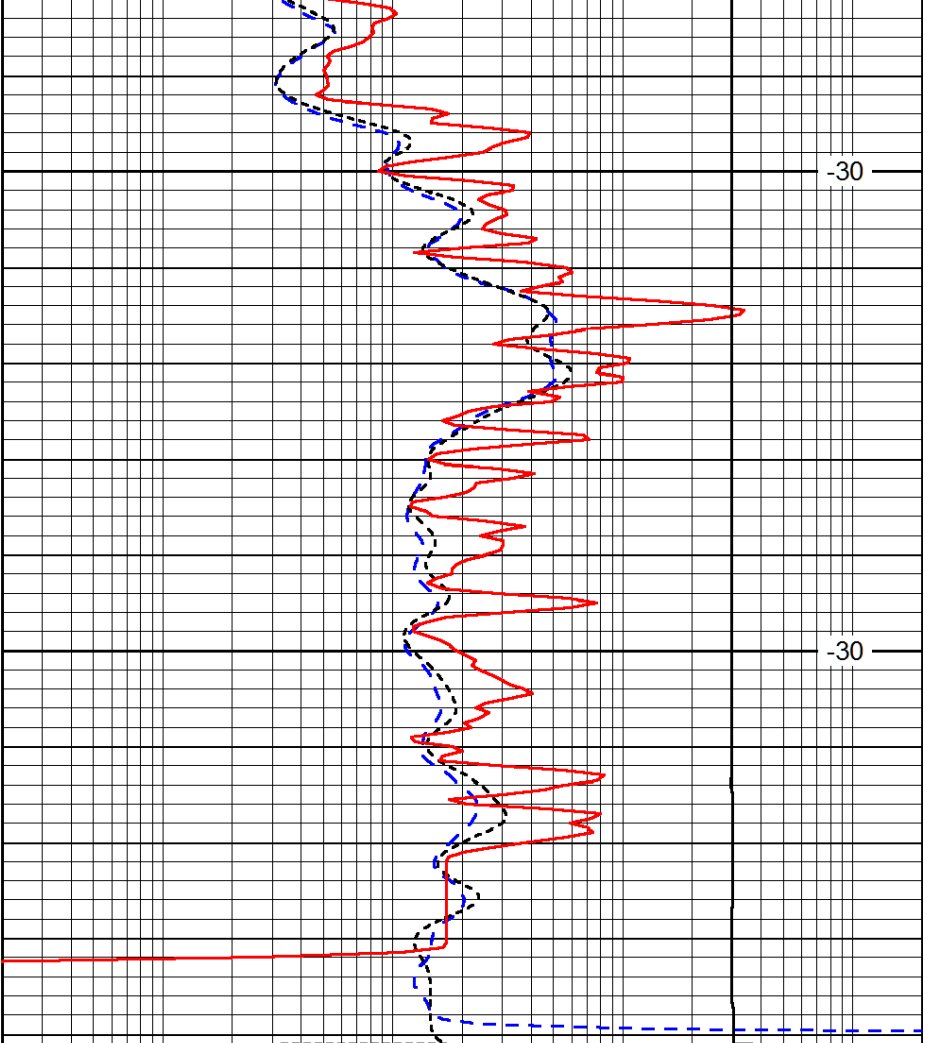
-30



3850

3900

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



-30

-30

0.2	Deep Resistivity	2000
0.2	Medium Resistivity	2000
0.2	Shallow Resistivity	2000
10000	Line Tension	0

LSPD