



Pioneer Energy Services

# Dual Induction Log

15-147-20,702-00-00

API No.

Company **Bach Oil Production**

Well **Lucy No. 1**

Field **Jack Creek**

County **Phillips** State **Kansas**

Location **NW SE SW NE  
2100' FNL & 1750' FEL**

Other Services  
CNL/CDL  
MEL

Sec: **3** Twp: **2 S** Rge: **19 W**

Permanent Datum **Ground Level** Elevation **2223**  
Log Measured From **Kelly Bushing** **5** Ft. Above Perm. Datum  
Drilling Measured From **Kelly Bushing**

Elevation  
K.B. 2228  
D.F. 2223  
G.L. 2223

Date **2/17/2013**

Run Number **One**

Depth Driller **3655**

Depth Logger **3656**

Bottom Logged Interval **3655**

Top Log Interval **200**

Casing Driller **8.625 @ 209**

Casing Logger **209**

Bit Size **7.875**

Type Fluid in Hole **Chemical**

Salinity, ppm CL **400**

Density / Viscosity **9.0 | 72**

pH / Fluid Loss **10.5 | 5.6**

Source of Sample **Flowline**

Rm @ Meas. Temp **.60 @ 65**

Rmf @ Meas. Temp **.45 @ 65**

Rmc @ Meas. Temp **.81 @ 65**

Source of Rmf / Rmc **Charts**

Rm @ BHT **.35 @ 113**

Operating Rig Time **4 Hours**

Max Rec. Temp. F **113**

Equipment Number **108**

Location **Hays**

Recorded By **D. Martin**

Witnessed By **Bob Petersen**

<<< 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.

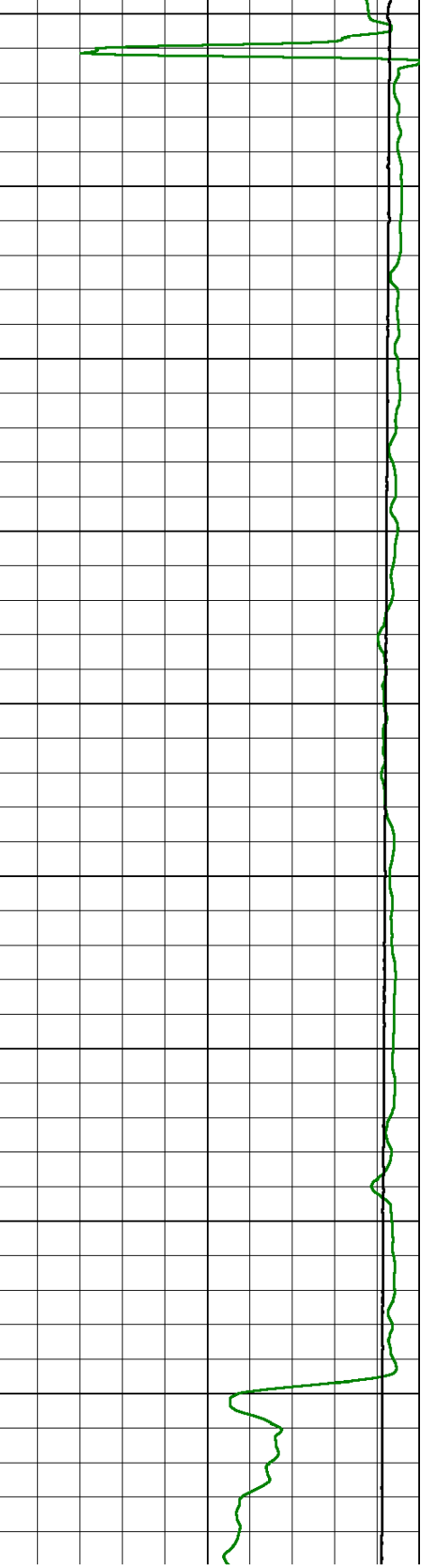
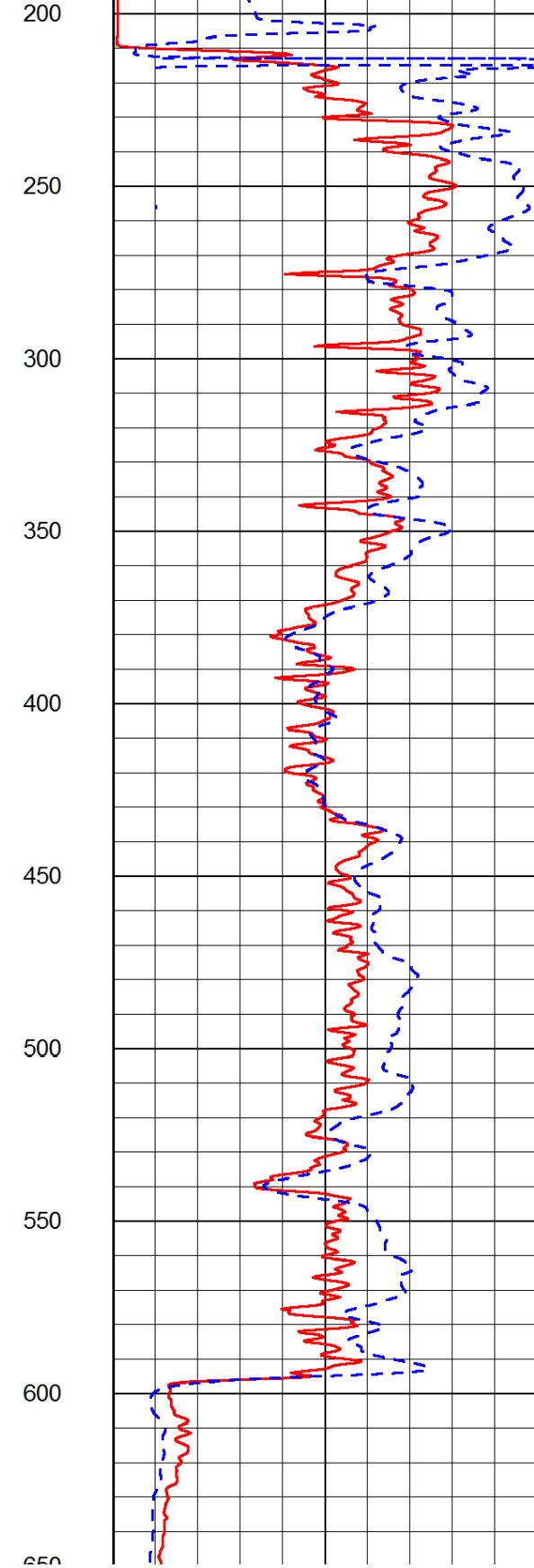
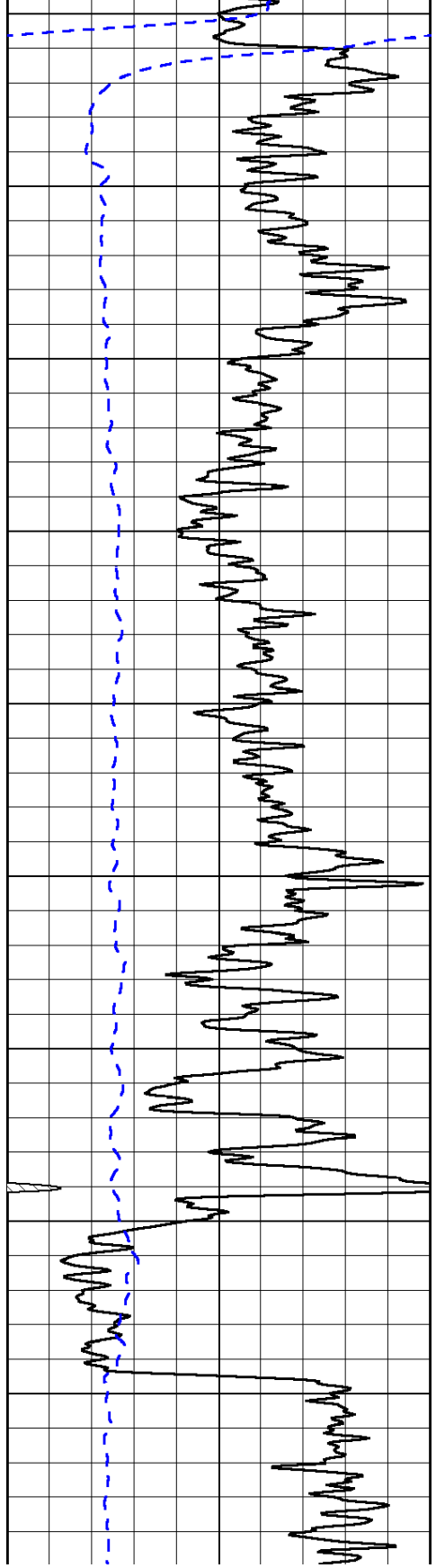
### Comments

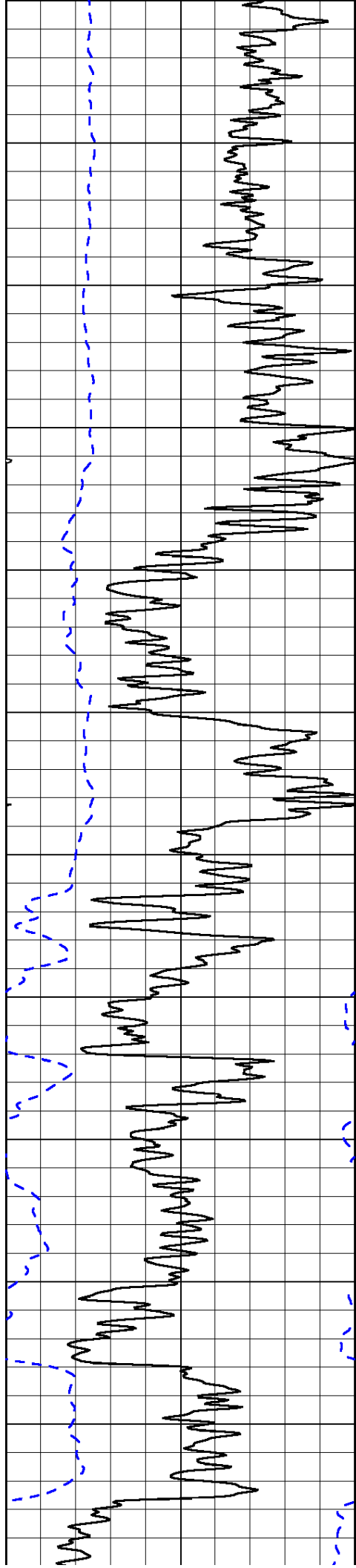
Thank you for using Log-Tech, Inc.  
(785) 625-3858  
  
Phillipsburg, KS  
8 N on Hwy 183 to Hunter Rd.,  
6 1/4 W, N Into

Database File: bachhd.db  
Dataset Pathname: DIL/bachstk  
Presentation Format: dil2in  
Dataset Creation: Sun Feb 17 08:31:25 2013  
Charted by: Depth in Feet scaled 1:600

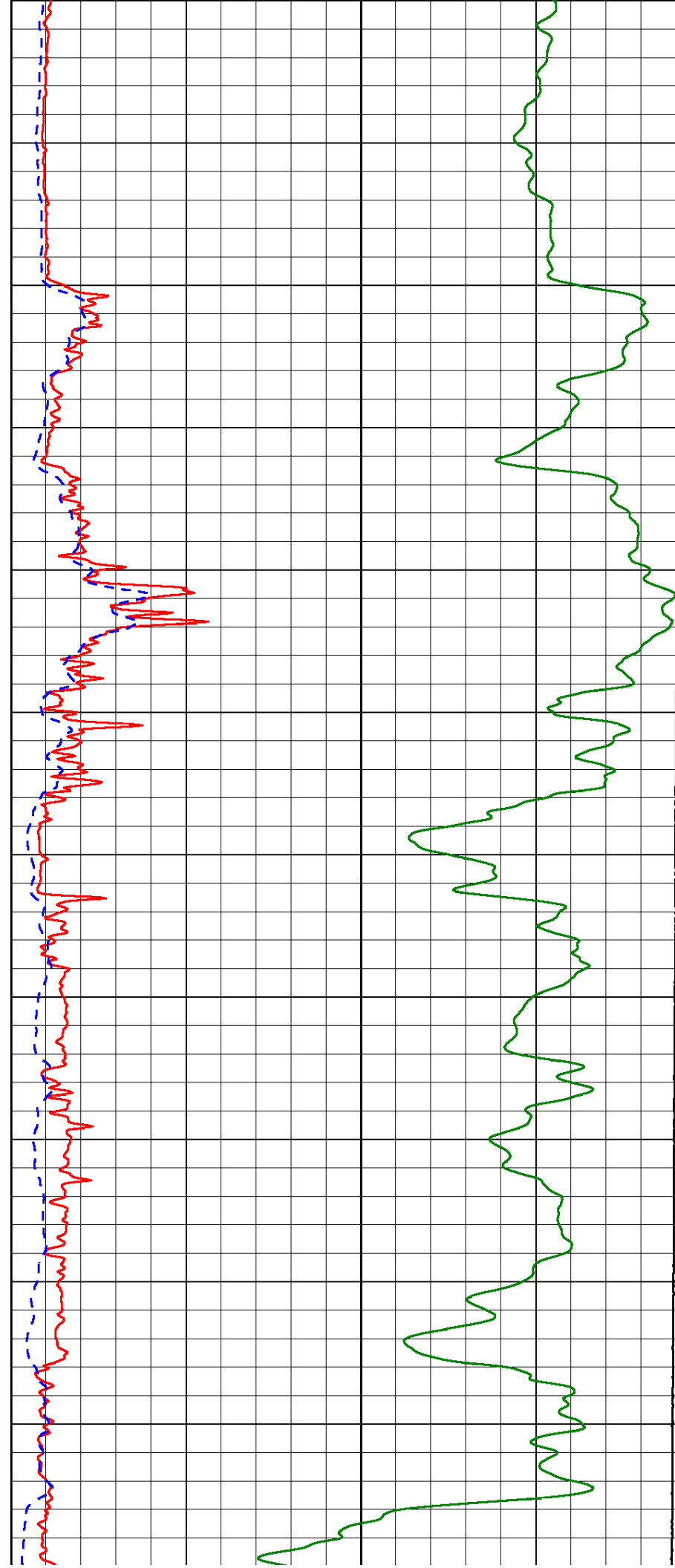
0	Gamma Ray (GAPI)	150
-200	SP (mV)	0

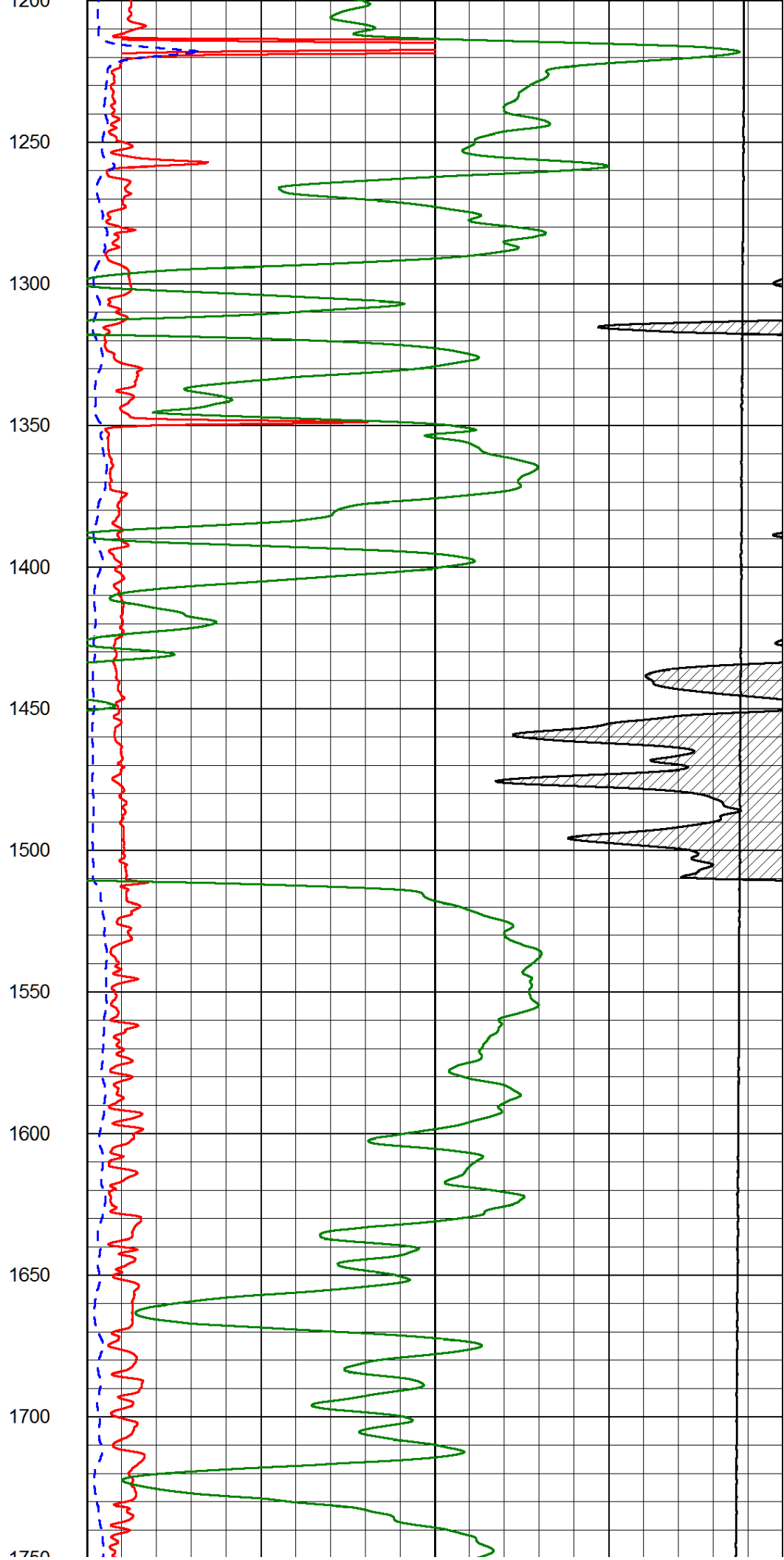
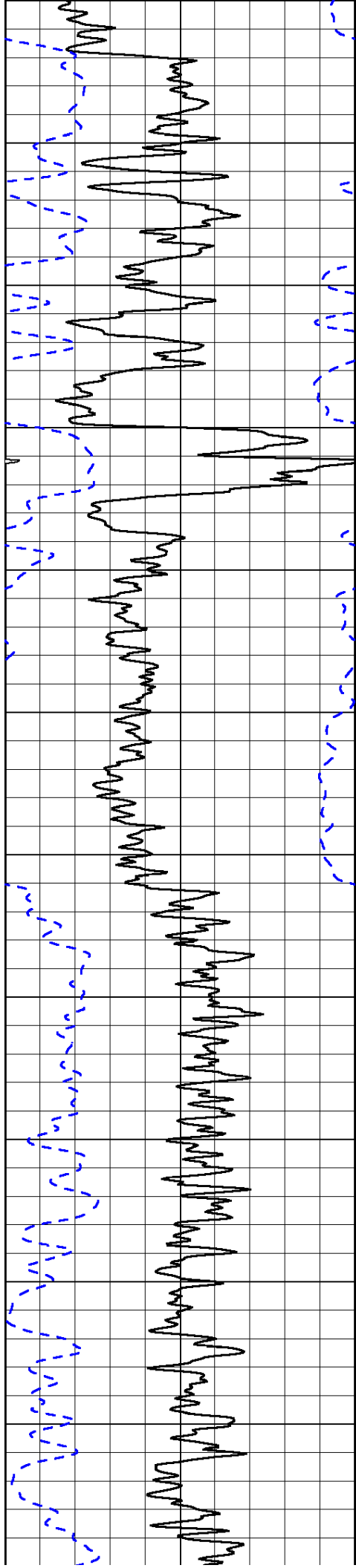
0	Shallow Resistivity (Ohm-m)	50												
0	Deep Resistivity (Ohm-m)	50												
1000	Conductivity (Ohm-m)													
15000	Line Tension (lb)													
<table border="1"> <tr> <td colspan="3">Shallow Resistivity</td> </tr> <tr> <td>50</td> <td>(Ohm-m)</td> <td>500</td> </tr> <tr> <td colspan="3"> <table border="1"> <tr> <td>50</td> <td>Deep Resistivity (Ohm-m)</td> <td>500</td> </tr> </table> </td> </tr> </table>			Shallow Resistivity			50	(Ohm-m)	500	<table border="1"> <tr> <td>50</td> <td>Deep Resistivity (Ohm-m)</td> <td>500</td> </tr> </table>			50	Deep Resistivity (Ohm-m)	500
Shallow Resistivity														
50	(Ohm-m)	500												
<table border="1"> <tr> <td>50</td> <td>Deep Resistivity (Ohm-m)</td> <td>500</td> </tr> </table>			50	Deep Resistivity (Ohm-m)	500									
50	Deep Resistivity (Ohm-m)	500												

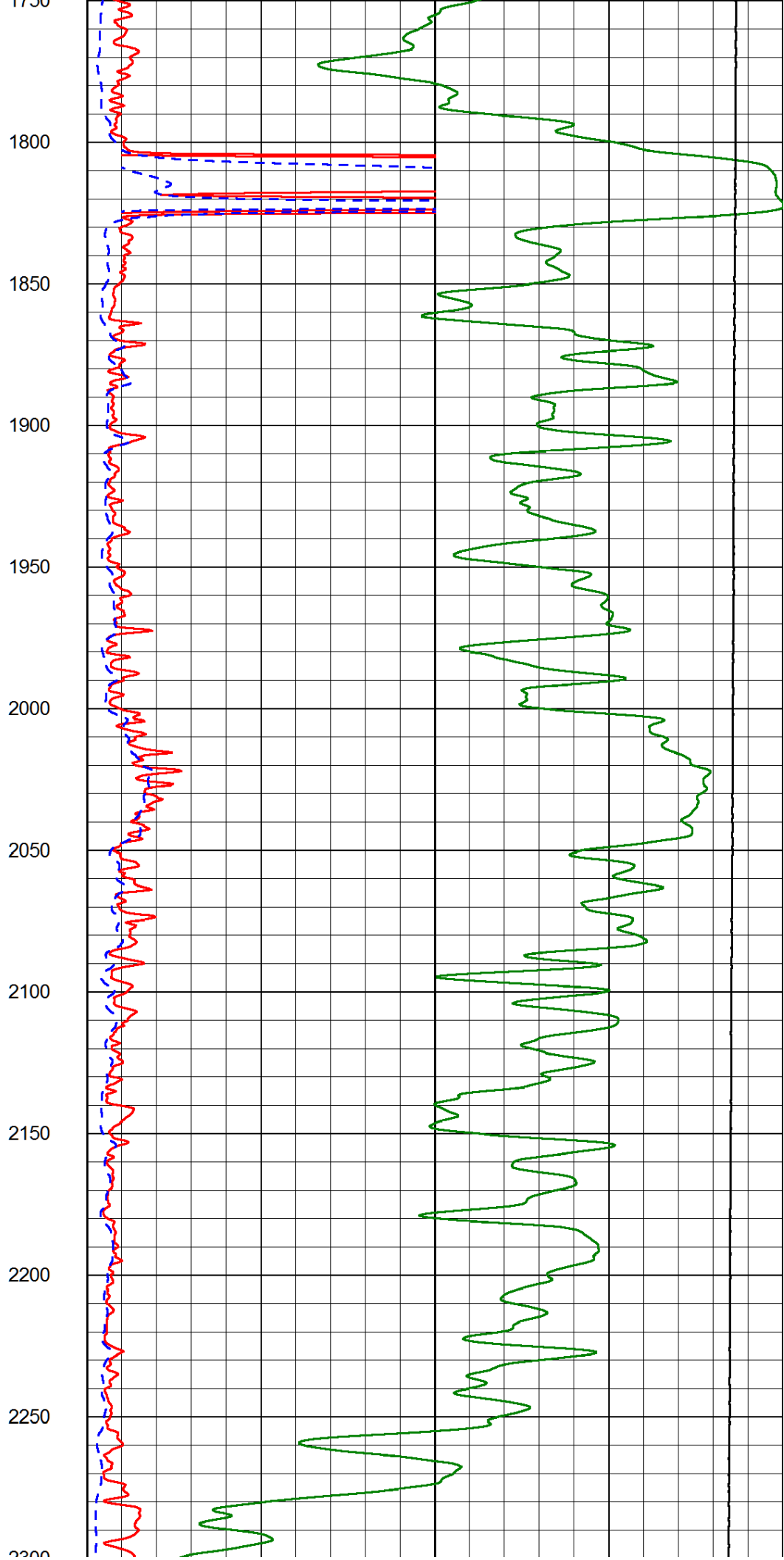
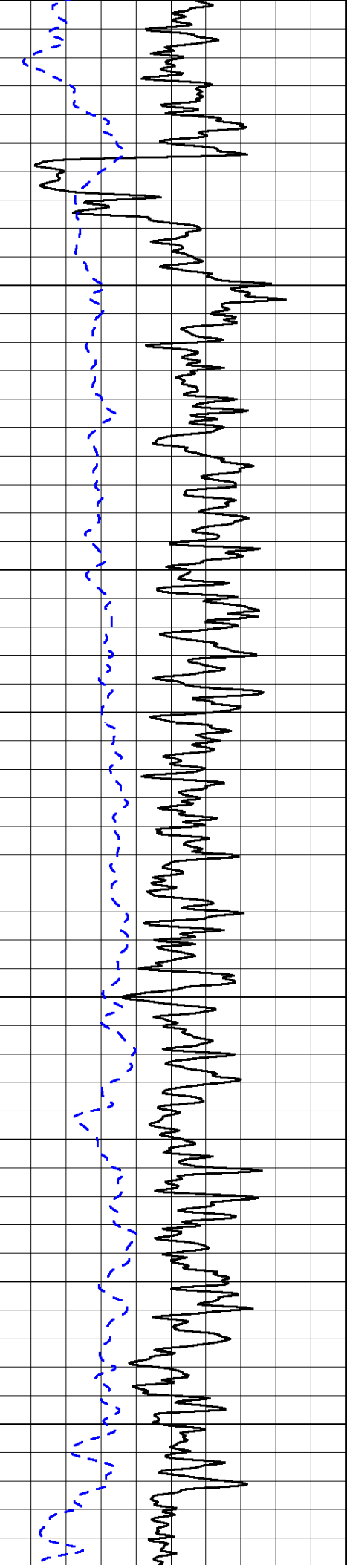


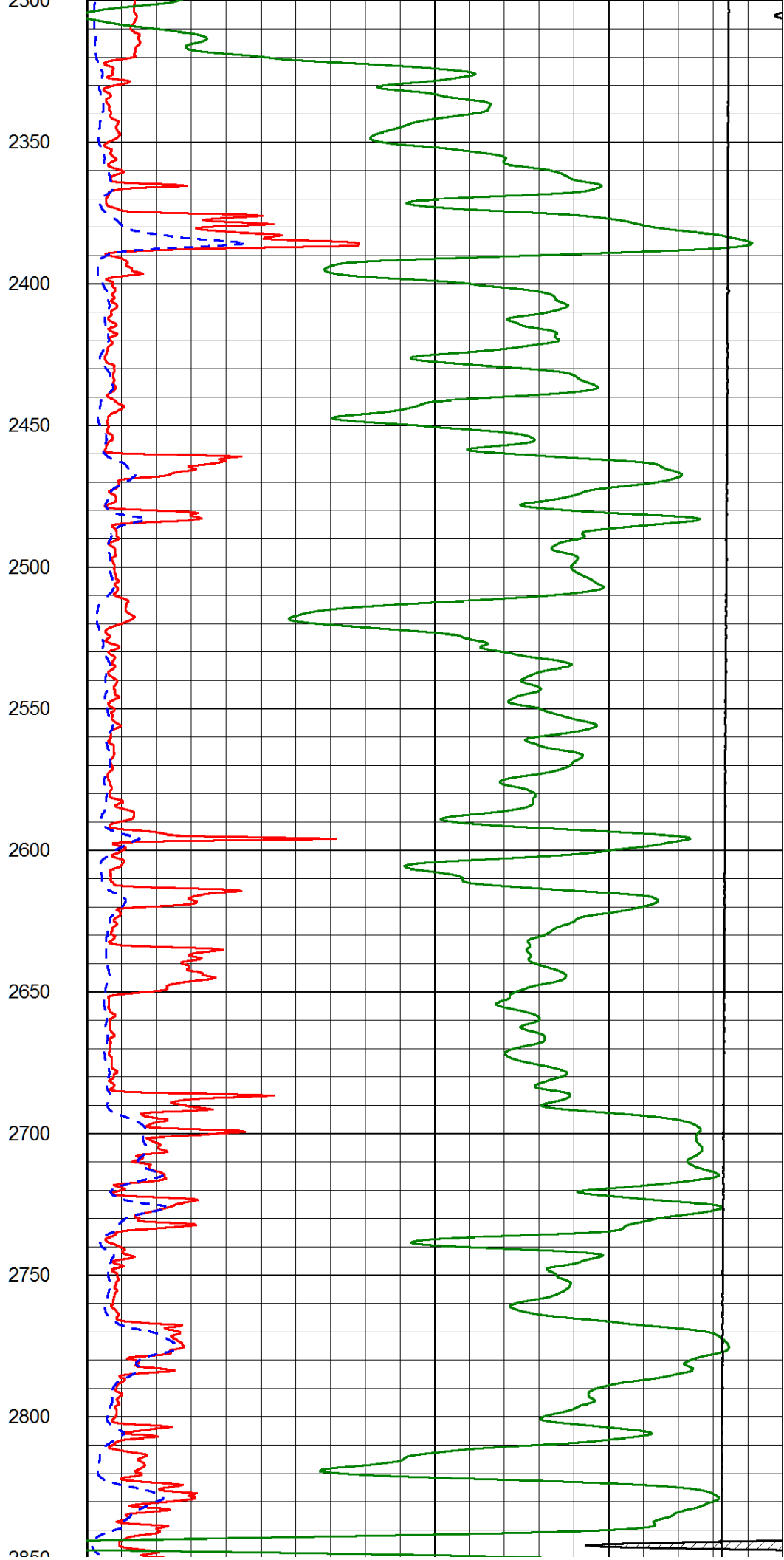
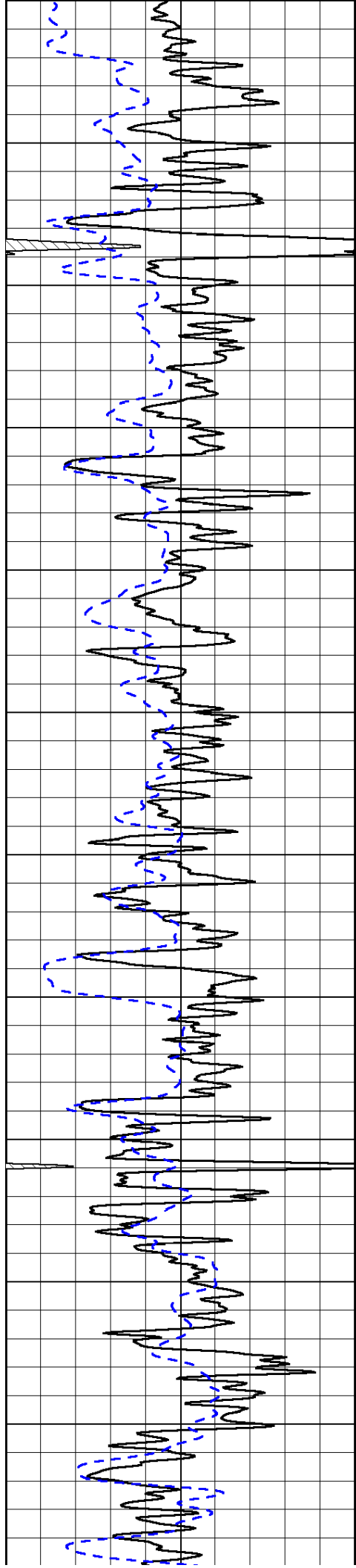


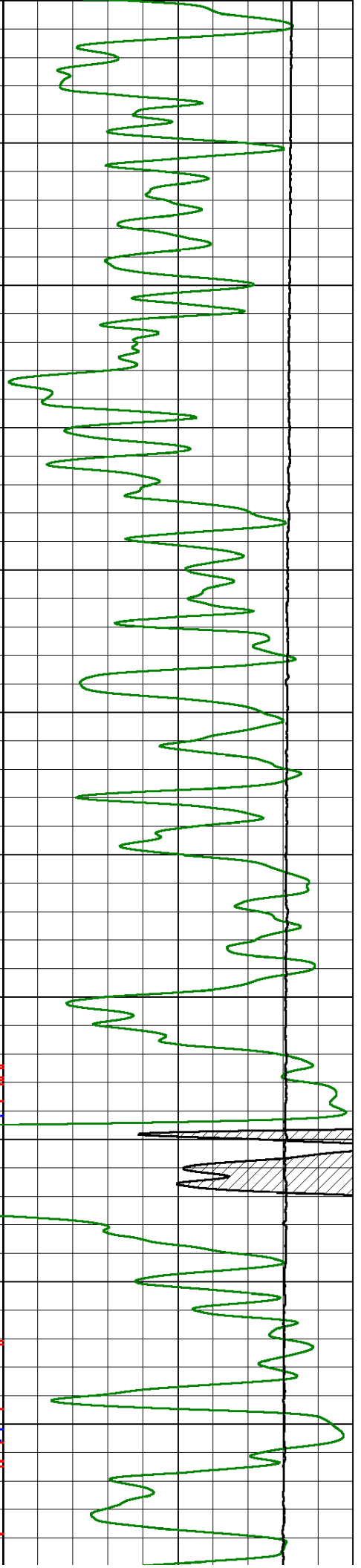
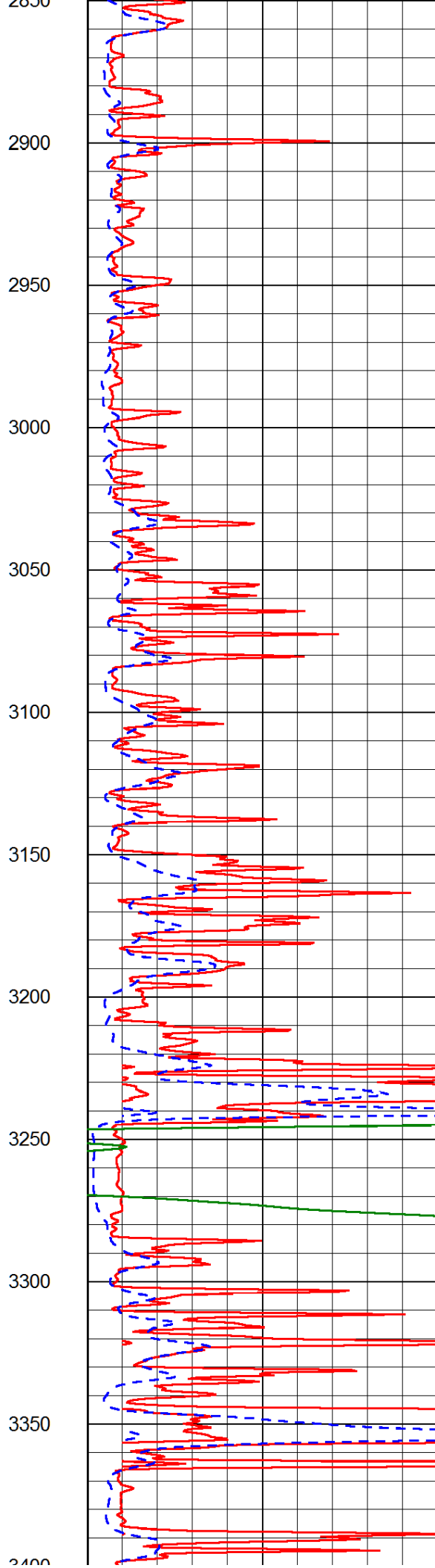
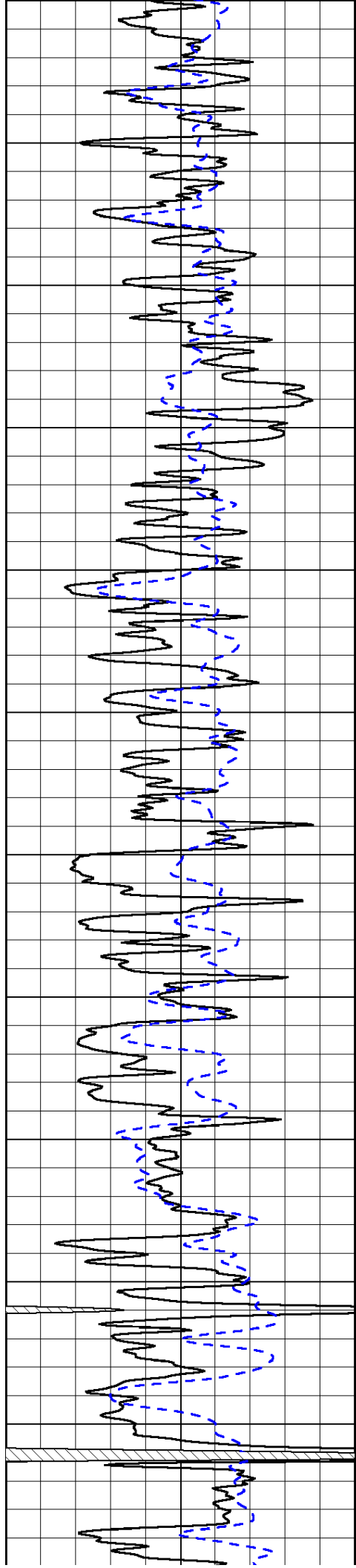
650  
700  
750  
800  
850  
900  
950  
1000  
1050  
1100  
1150  
1200

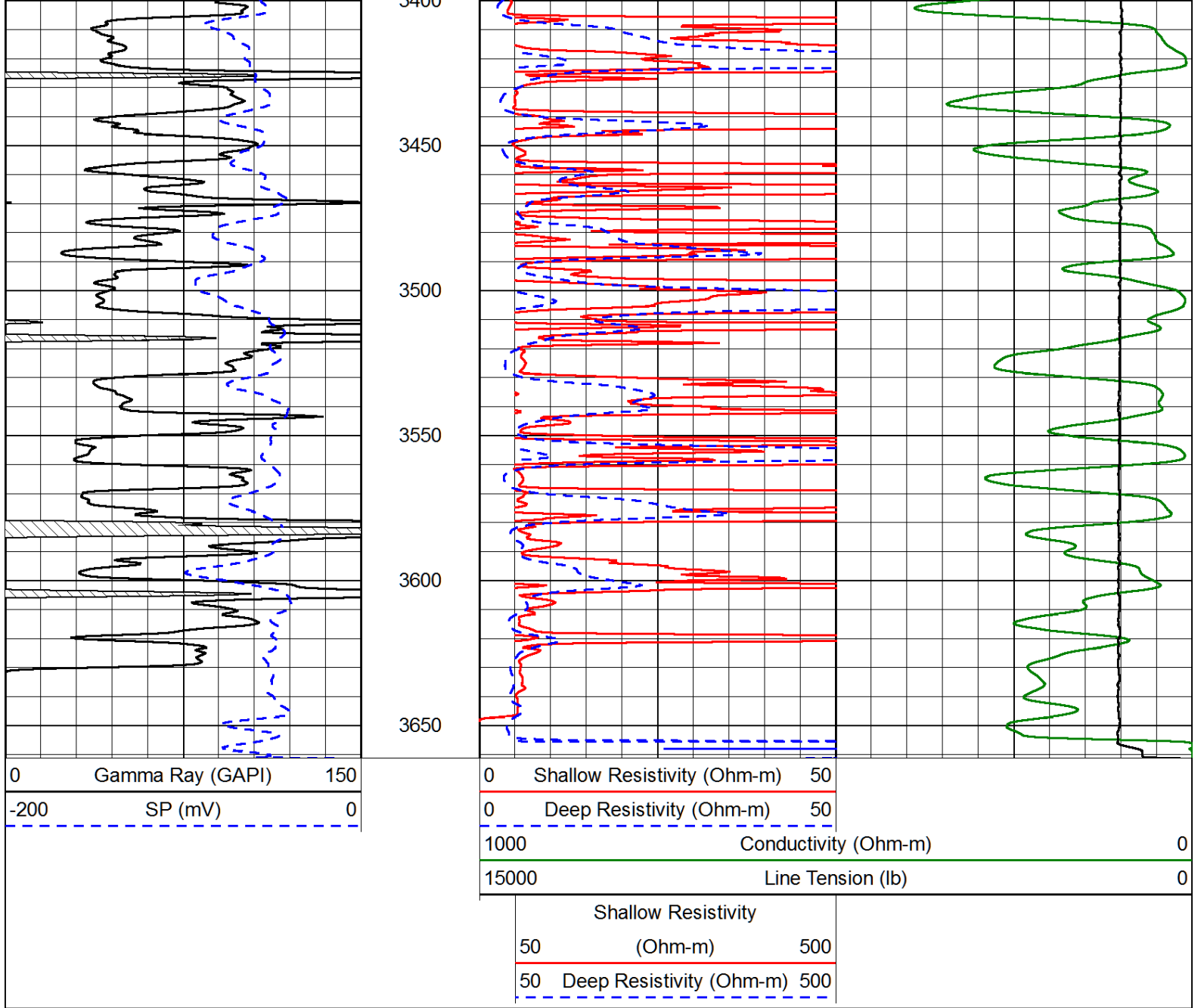




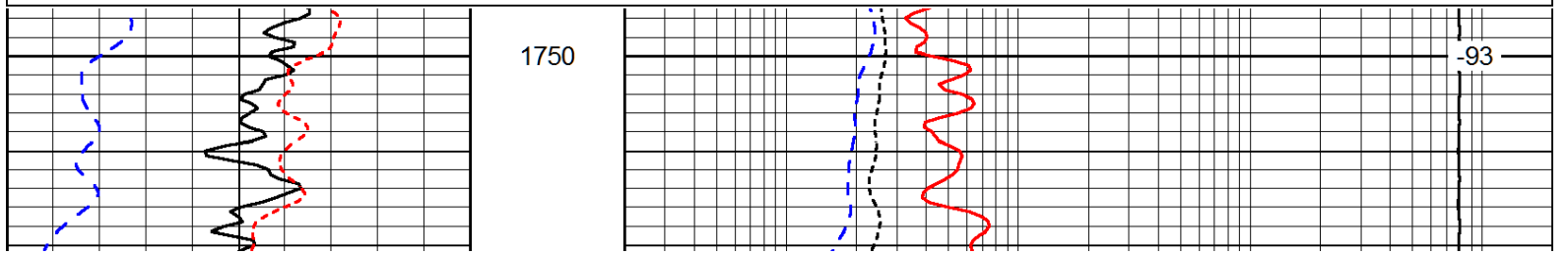
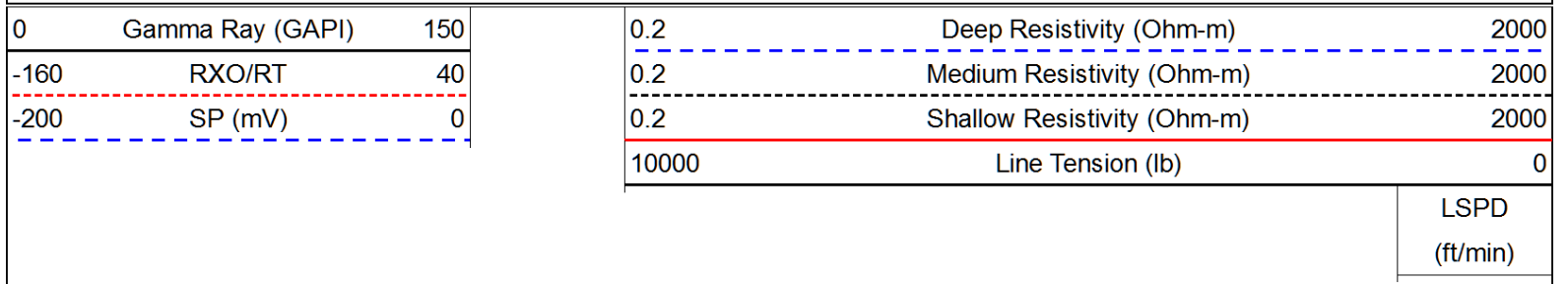


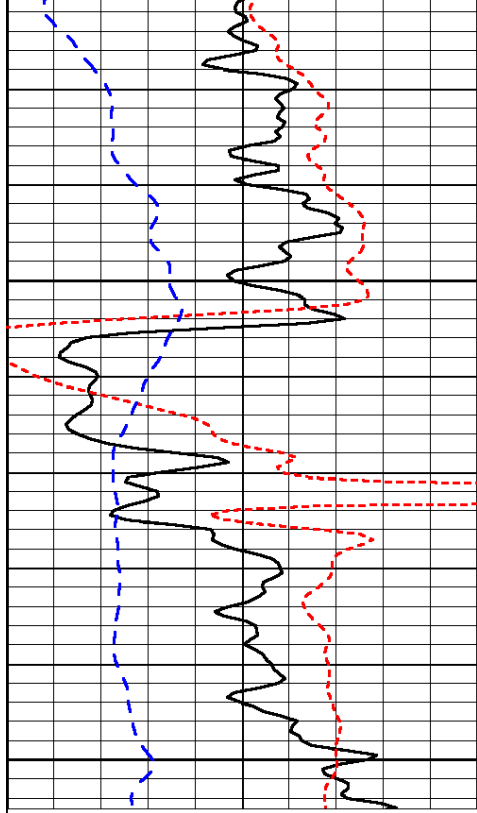






Database File: bachhd.db  
 Dataset Pathname: DIL/bachstk  
 Presentation Format: dil  
 Dataset Creation: Sun Feb 17 08:31:25 2013  
 Charted by: Depth in Feet scaled 1:240

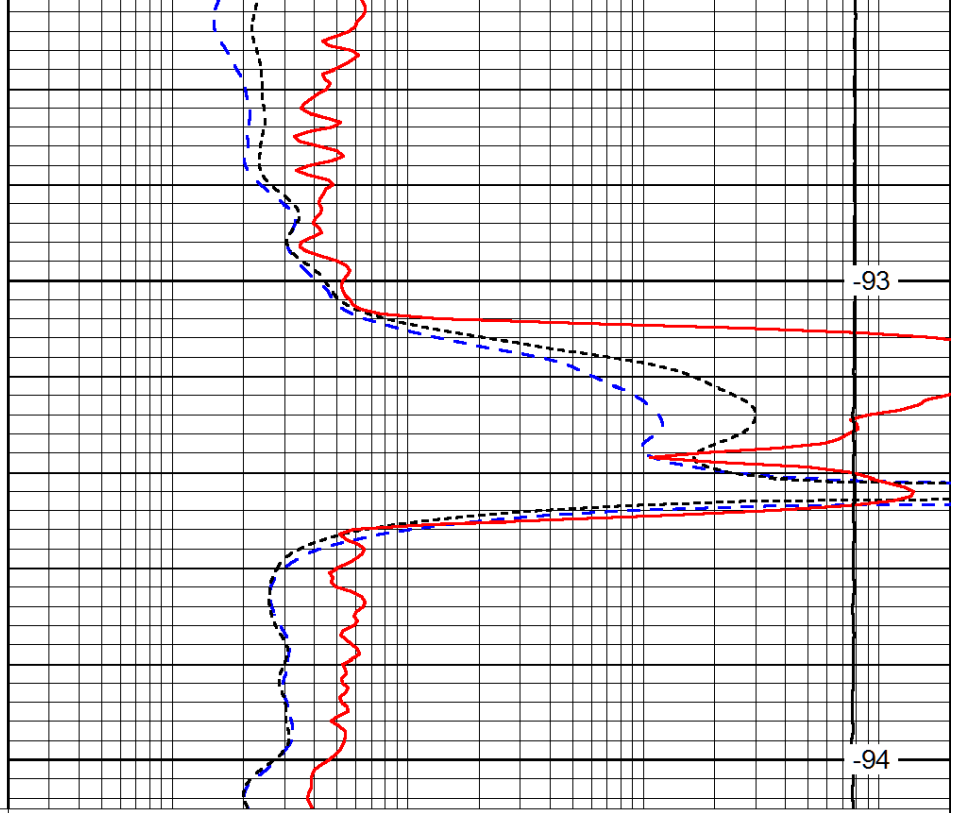




0	Gamma Ray (GAPI)	150
-160	RXO/RT	40
-200	SP (mV)	0

1800

1850



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

-93

-94

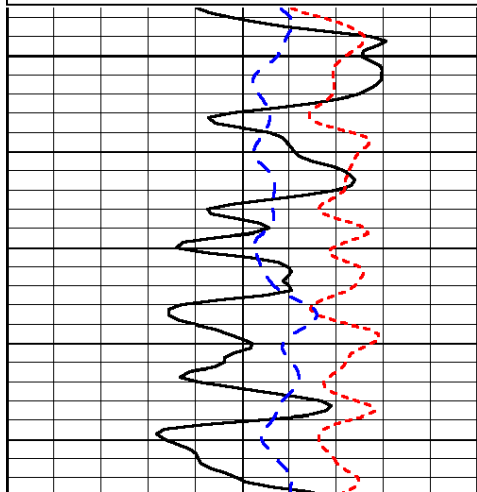
LSPD  
(ft/min)

Database File: bachhd.db  
 Dataset Pathname: DIL/bachstk  
 Presentation Format: dil  
 Dataset Creation: Sun Feb 17 08:31:25 2013  
 Charted by: Depth in Feet scaled 1:240

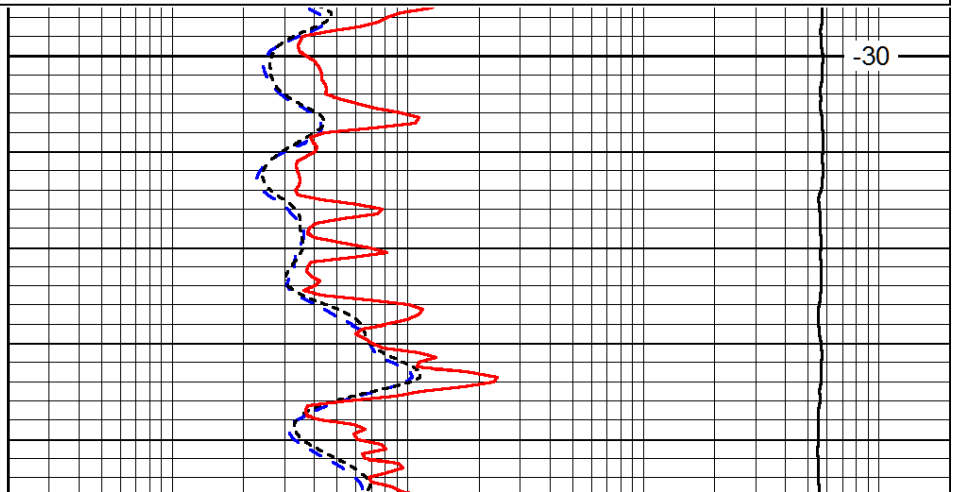
0	Gamma Ray (GAPI)	150
-160	RXO/RT	40
-200	SP (mV)	0

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

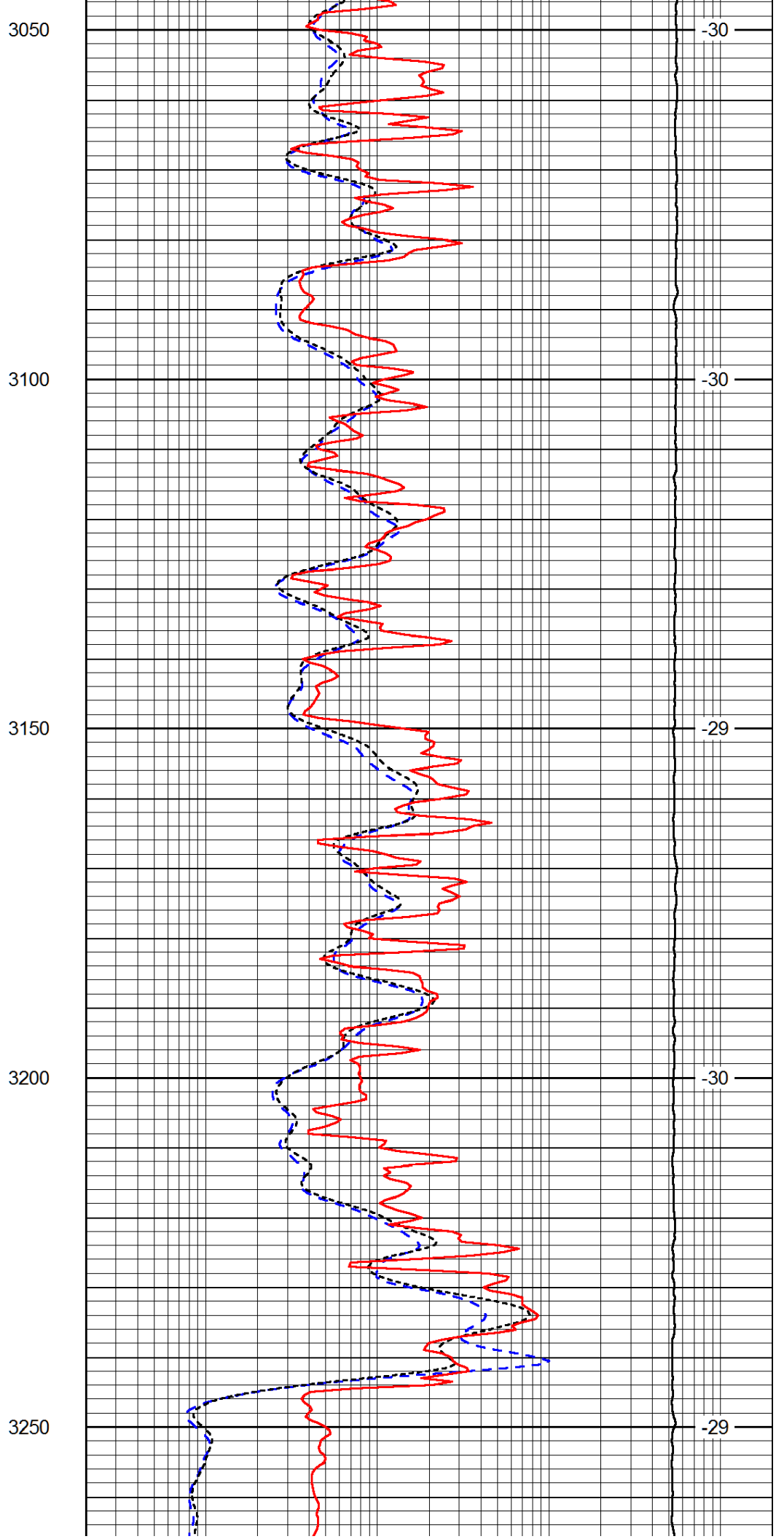
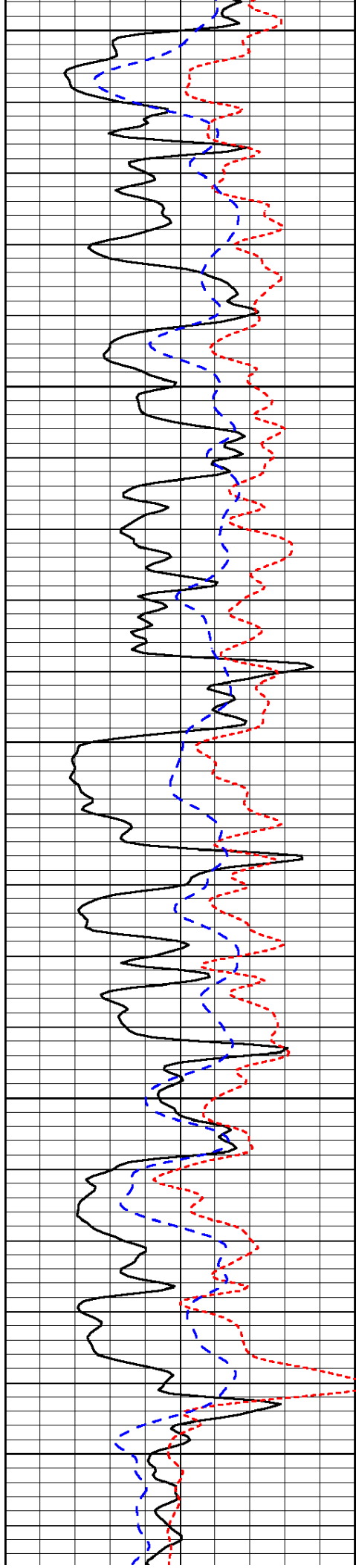
LSPD  
(ft/min)

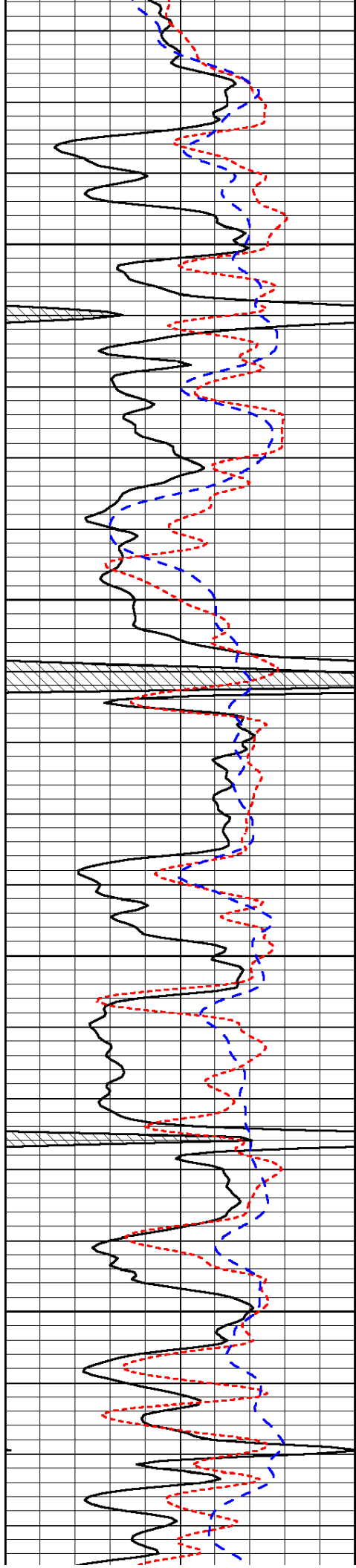


3000



-30



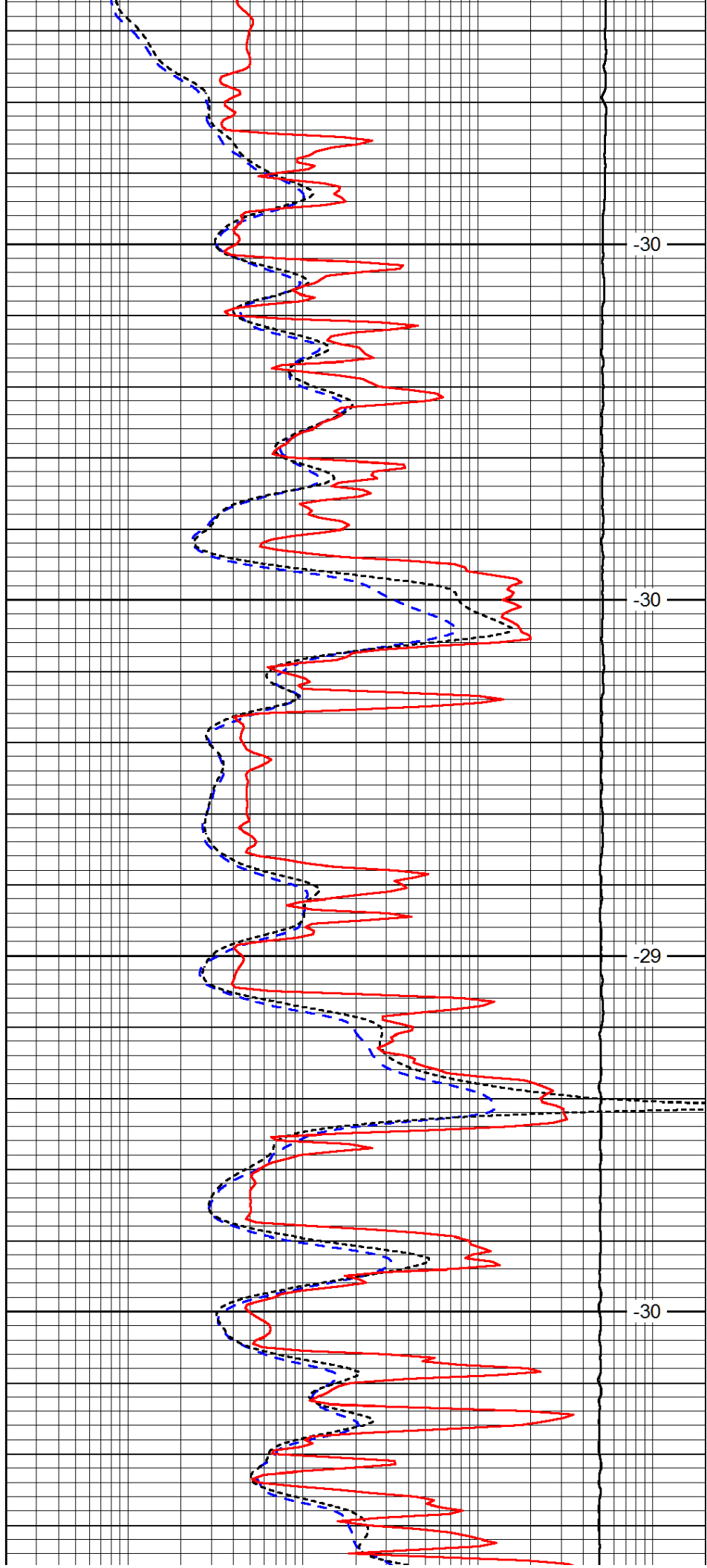


3300

3350

3400

3450

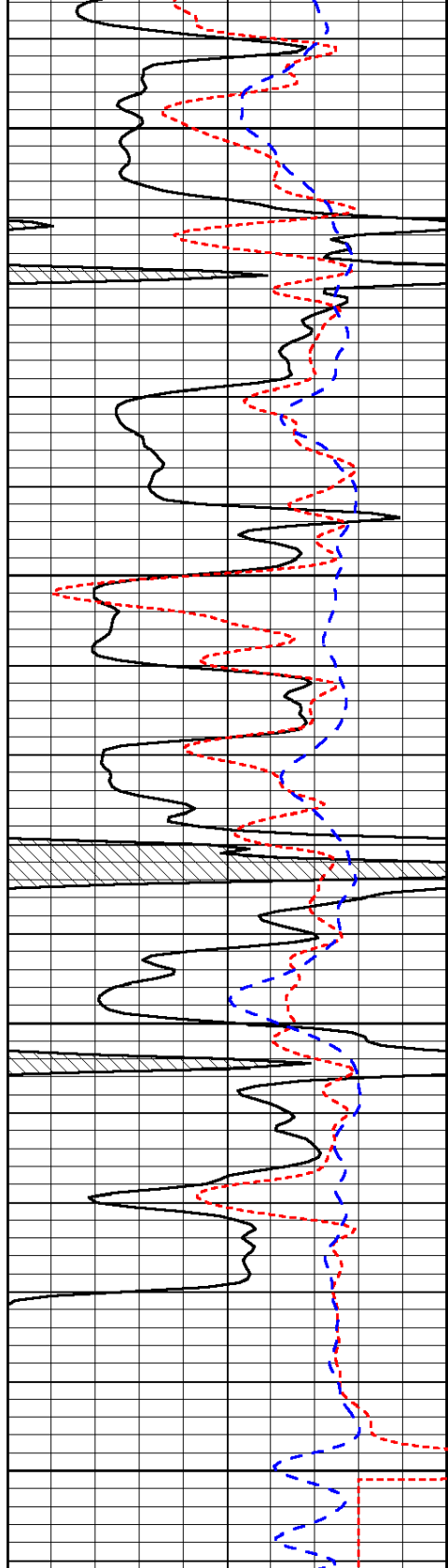


-30

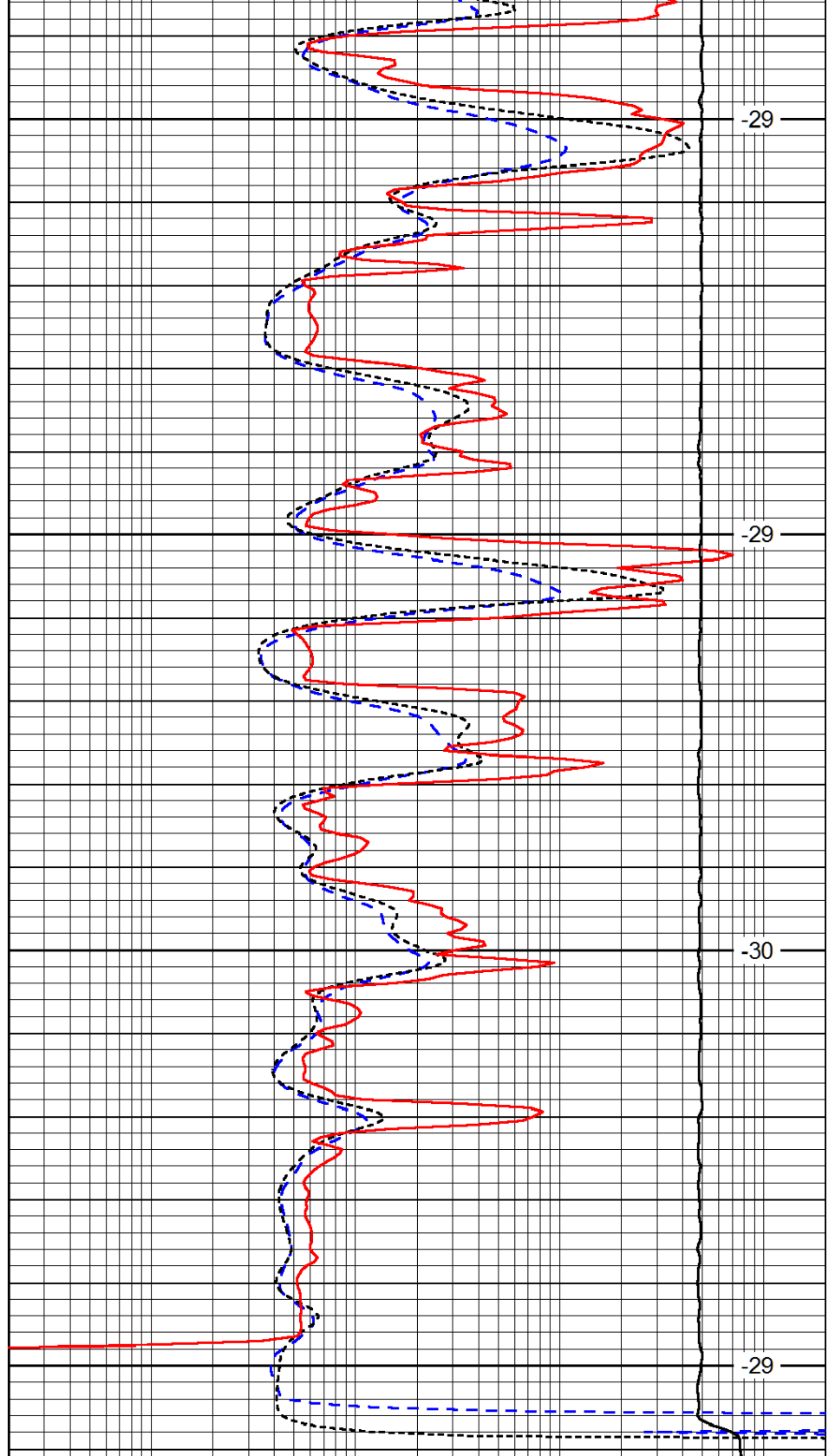
-30

-29

-30



3500  
3550  
3600  
3650



-29  
-29  
-30  
-29

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)