



Pioneer Energy Services

# Dual Induction Log

API No.	15-179-21,362-00-00		
Company	Culbreath Oil & Gas, Inc.		
Well	Mader No. 1-12		
Field			
County	Sheridan	State	Kansas
Location	990' FNL & 990' FEL		
Sec: 12	Twp: 10s	Rge: 26w	
Permanent Datum	Ground Level	Elevation 2544	Other Services CNL/CDL MEL
Log Measured From	Kelly Bushing	7 Ft. Above Perm. Datum	K.B. 2551
Drilling Measured From	Kelly Bushing		D.F. 2544
			G.L. 2544

Date	7/4/2014
Run Number	One
Depth Driller	4100
Depth Logger	4096
Bottom Logged Interval	4095
Top Log Interval	250
Casing Driller	8.625 @ 262
Casing Logger	263
Bit Size	7.875
Type Fluid in Hole	Chemical
Salinity, ppm CL	5000
Density / Viscosity	9.4 44
pH / Fluid Loss	9.0 9.6
Source of Sample	Flowline
Rm @ Meas. Temp	.24 @ 76
Rmf @ Meas. Temp	.18 @ 76
Rmc @ Meas. Temp	.32 @ 76
Source of Rmf / Rmc	Charts
Rm @ BHT	.16 @ 117
Operating Rig Time	4 Hours
Max Rec. Temp. F	117
Equipment Number	108
Location	Hays
Recorded By	J. Henrickson
Witnessed By	Anthony Luna
	Steve Murphy

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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

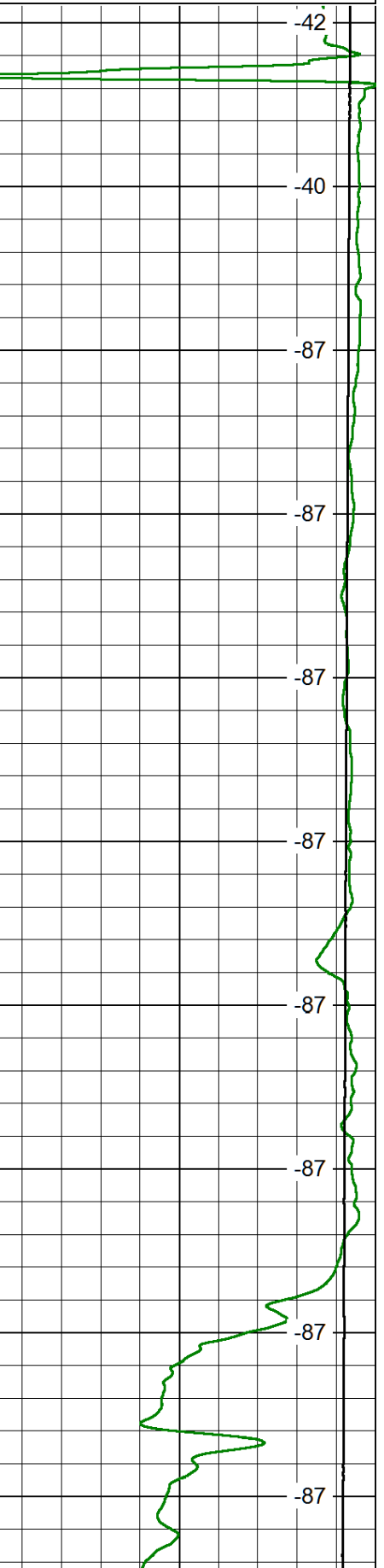
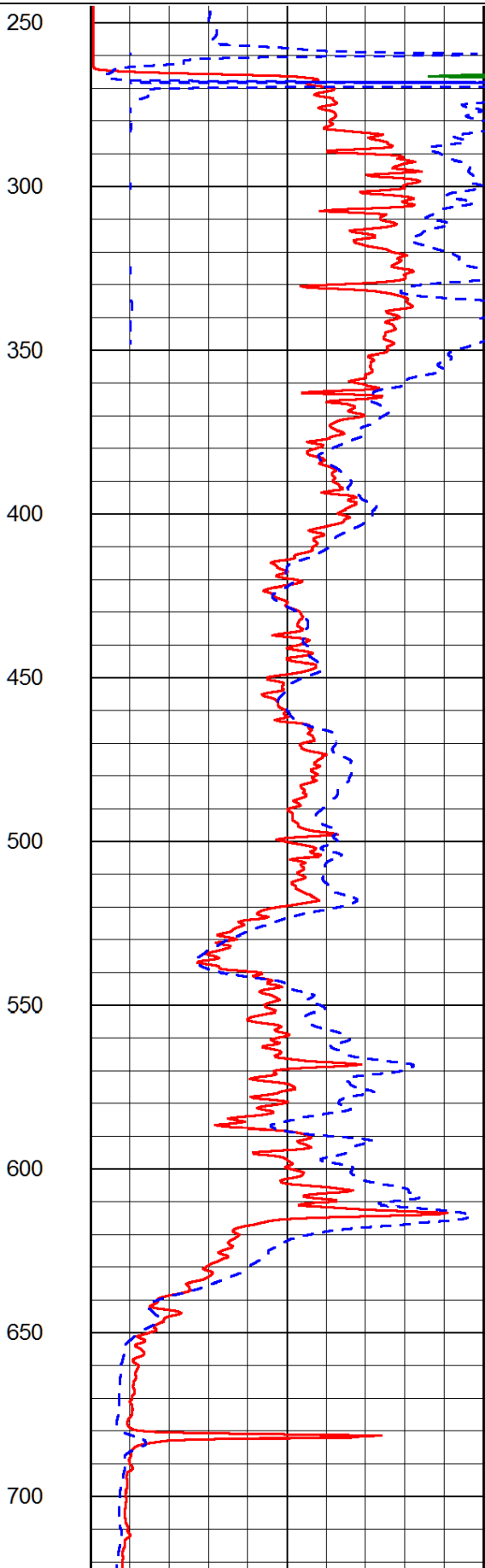
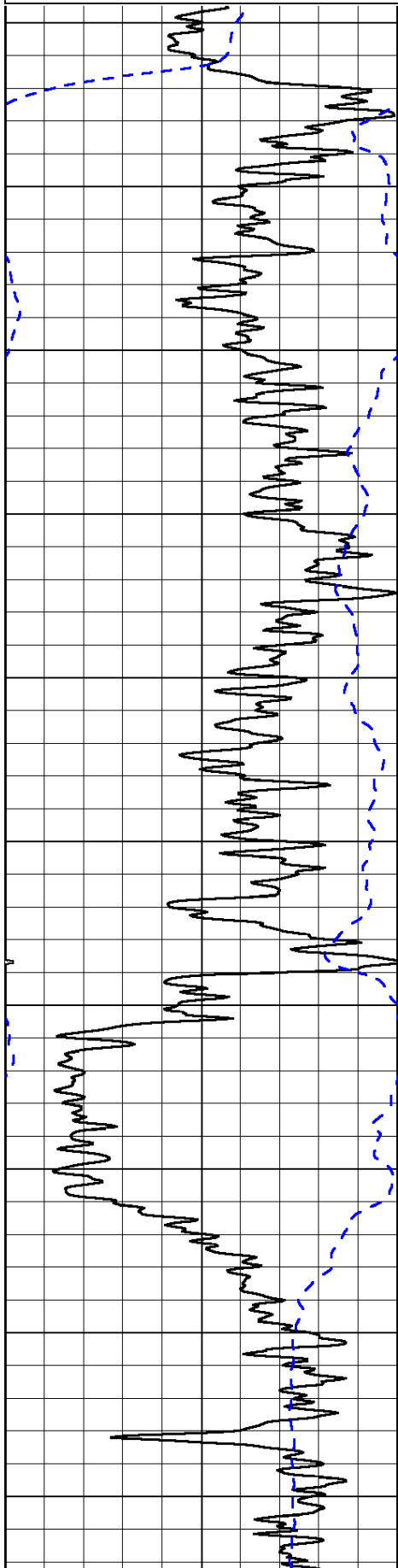
Collyer KS, West to 78 Rd., North to 110 Rd., East Into.

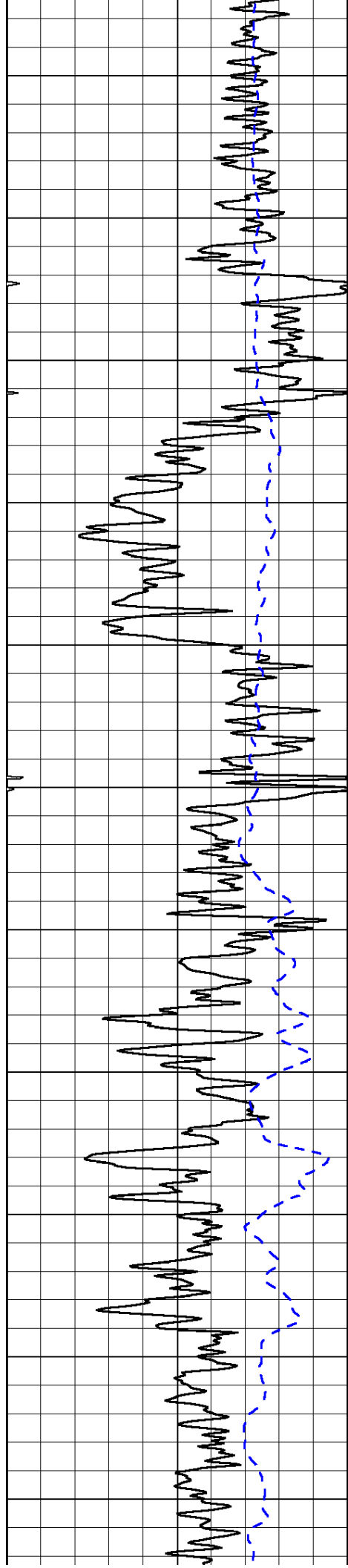
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 Dataset Pathname: DIL/culstk  
 Presentation Format: dil2in  
 Dataset Creation: Fri Jul 04 12:57:50 2014  
 Charted by: Depth in Feet scaled 1:600

0 Gamma Ray 150  
-200 SP (mV) 0

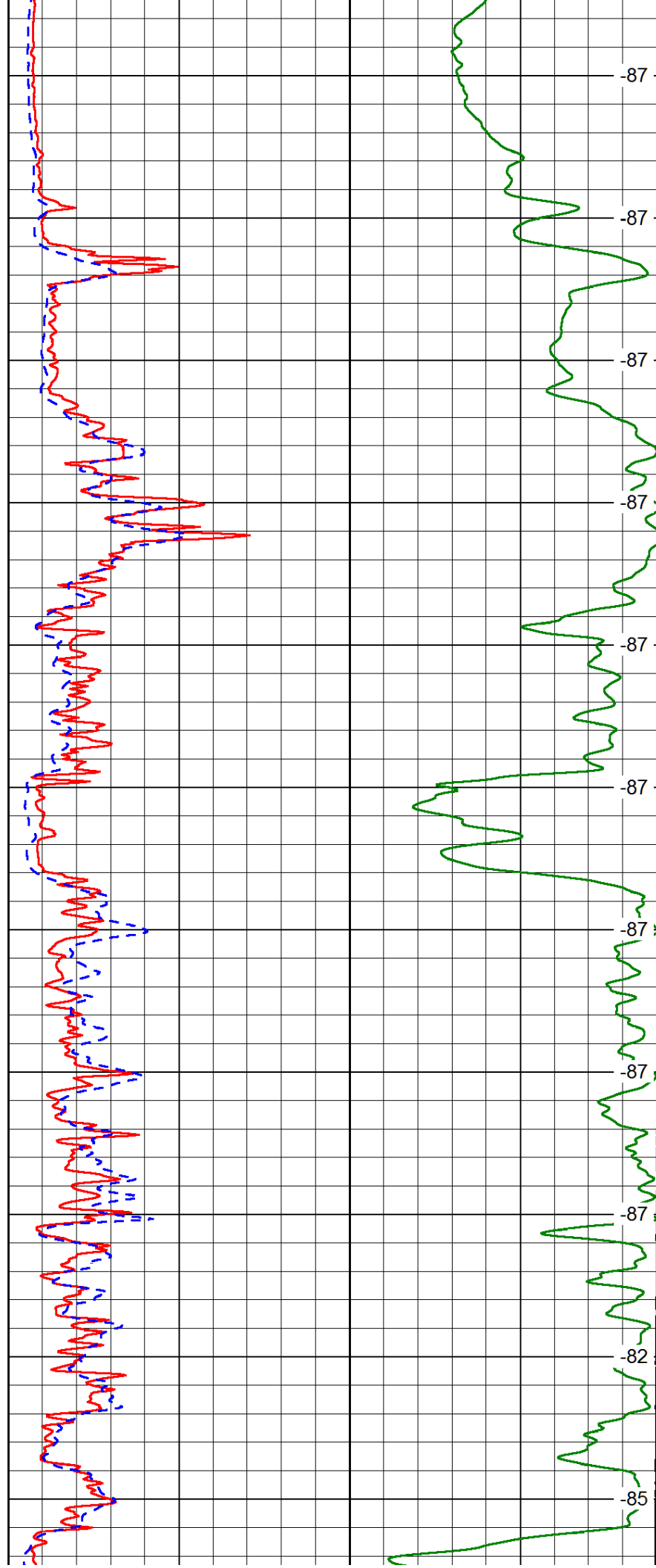
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0 Deep Resistivity 50  
1000 Conductivity 0  
15000 Line Tension 0  
50 Shallow Resistivity 500  
50 Deep Resistivity 500

LSPD

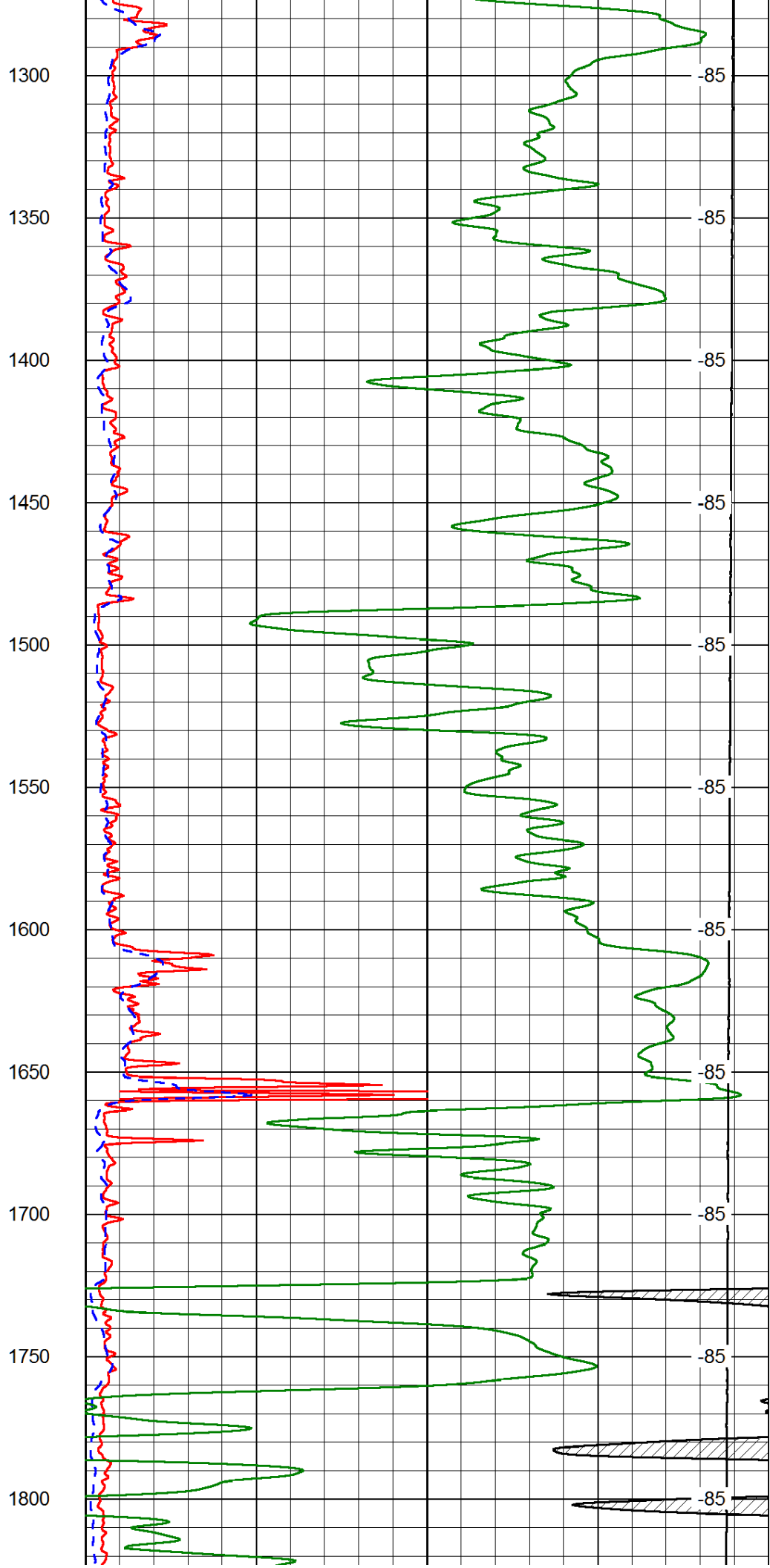
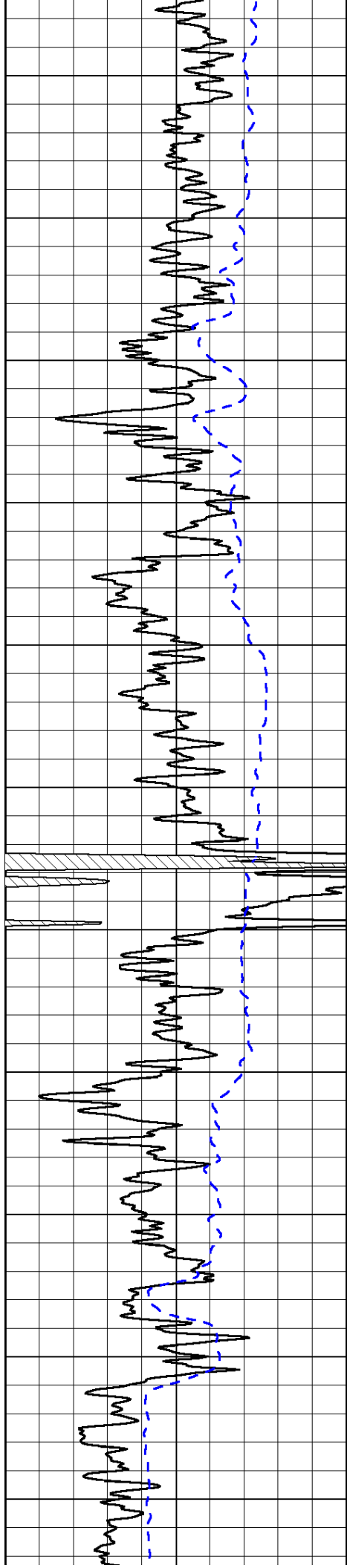


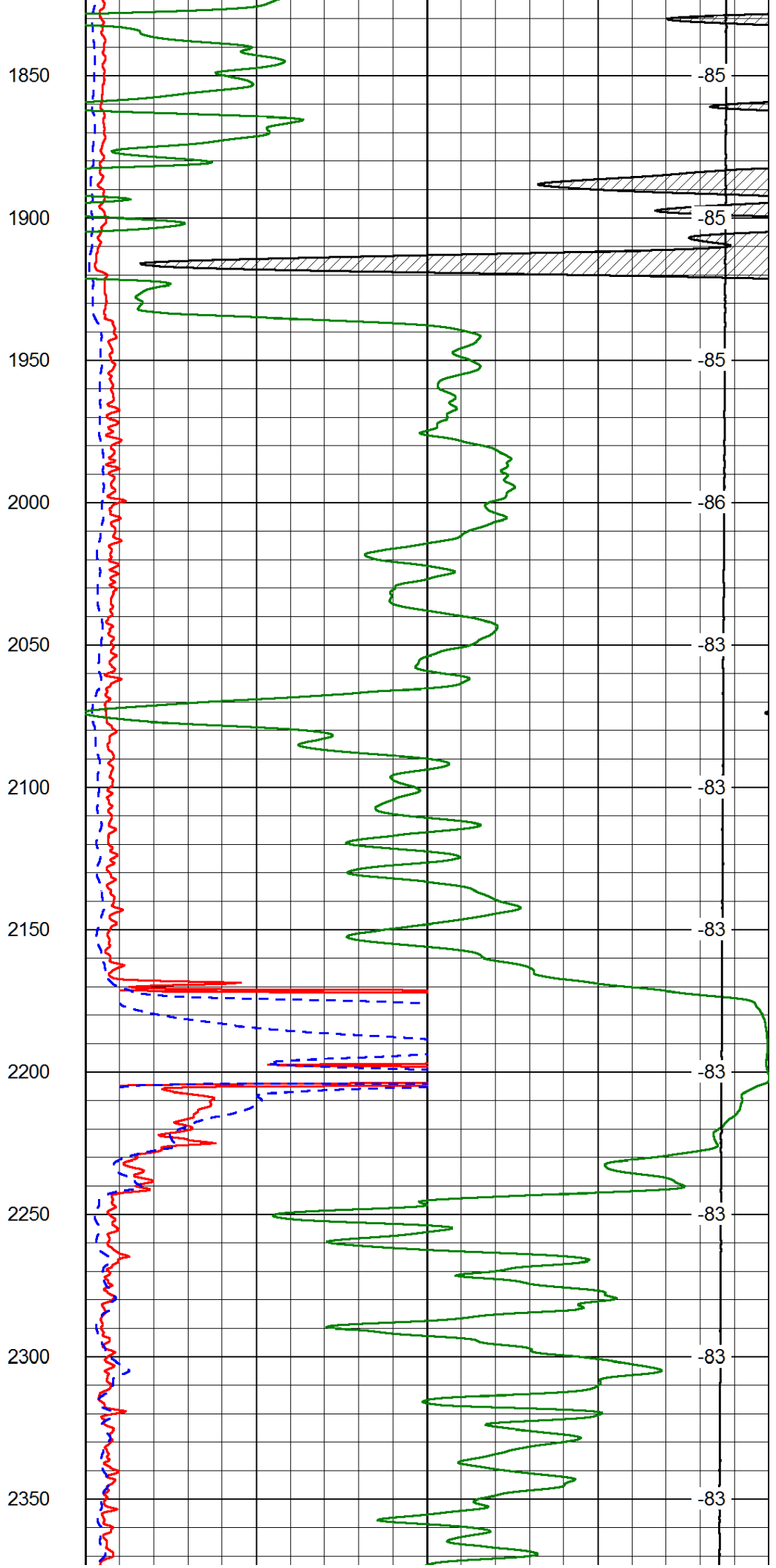
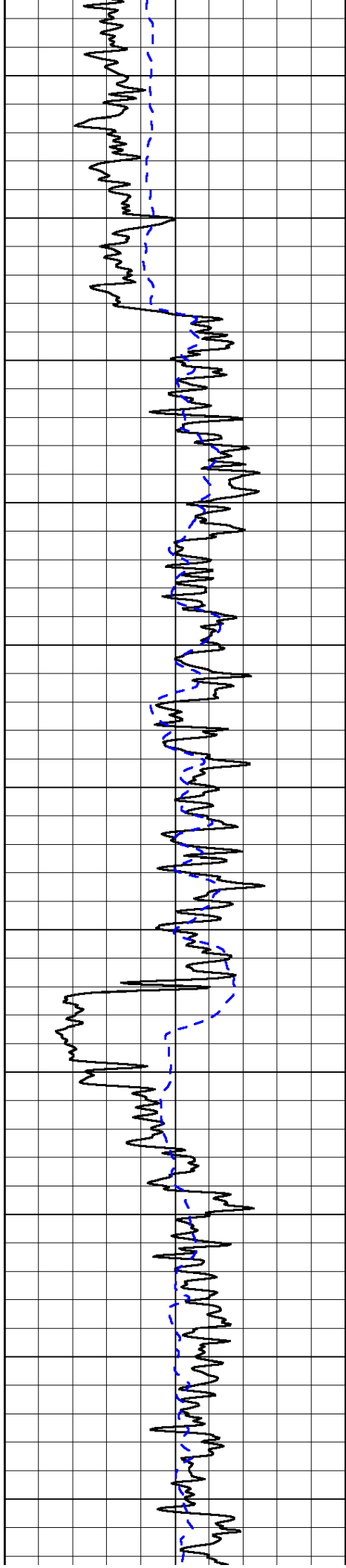


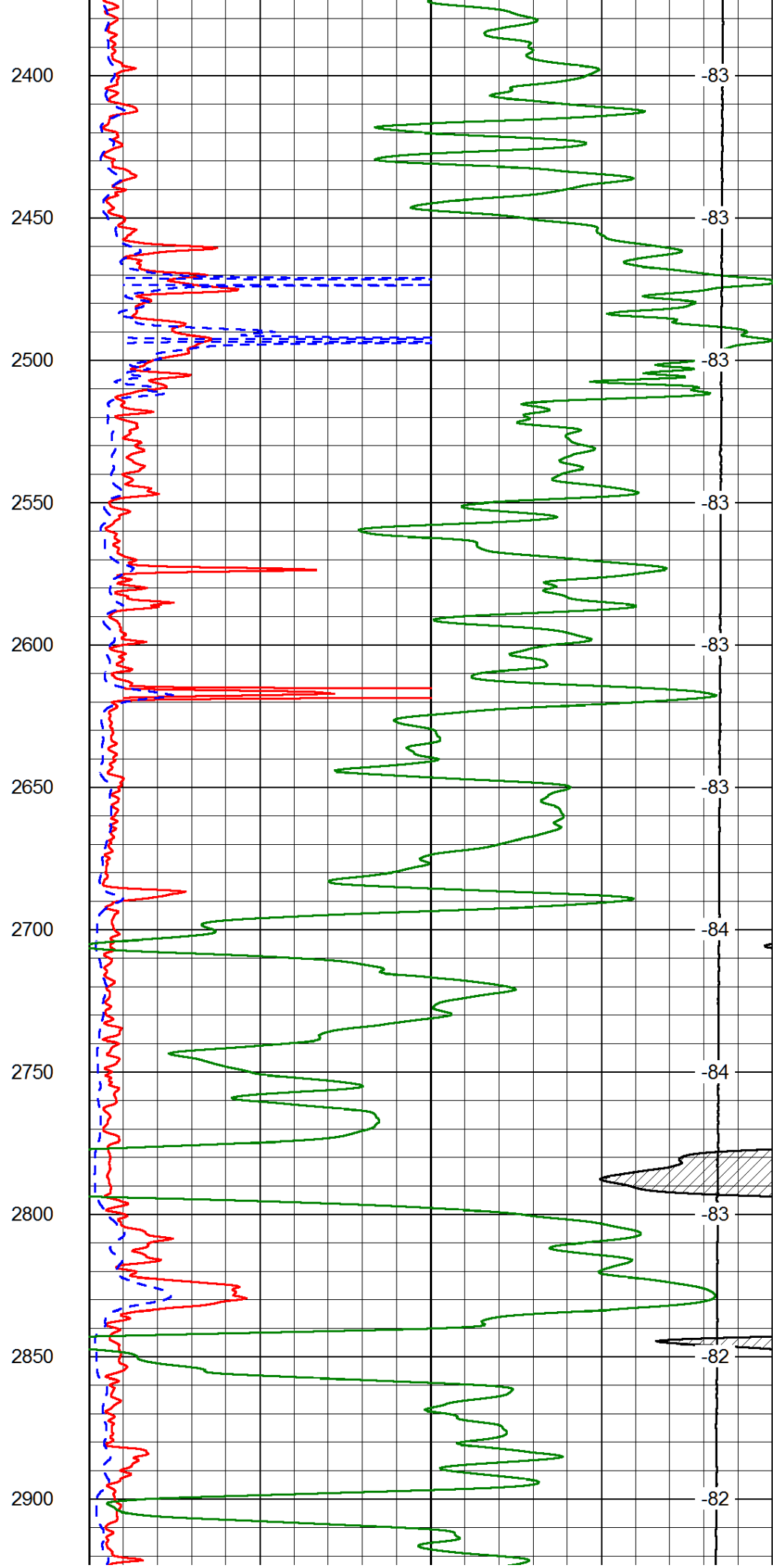
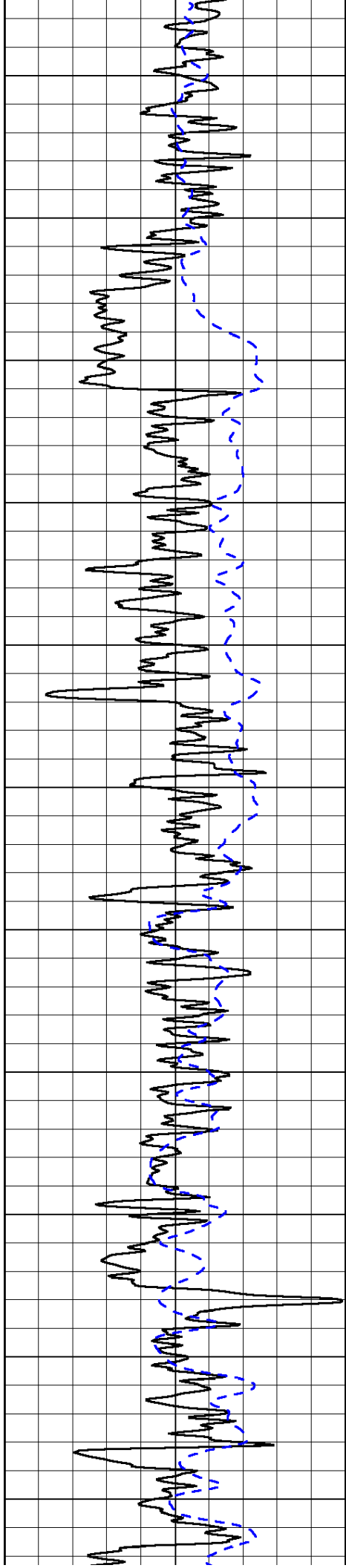
750  
800  
850  
900  
950  
1000  
1050  
1100  
1150  
1200  
1250



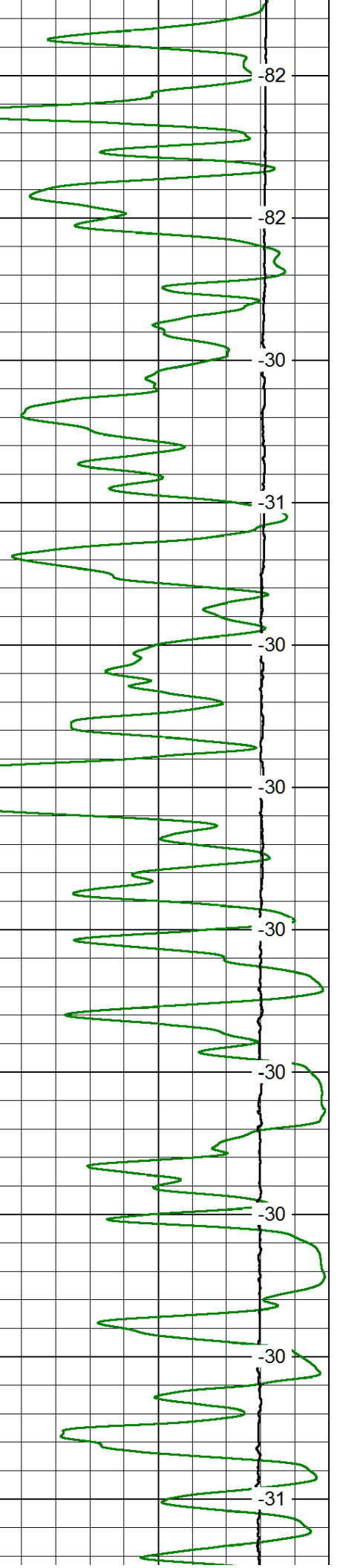
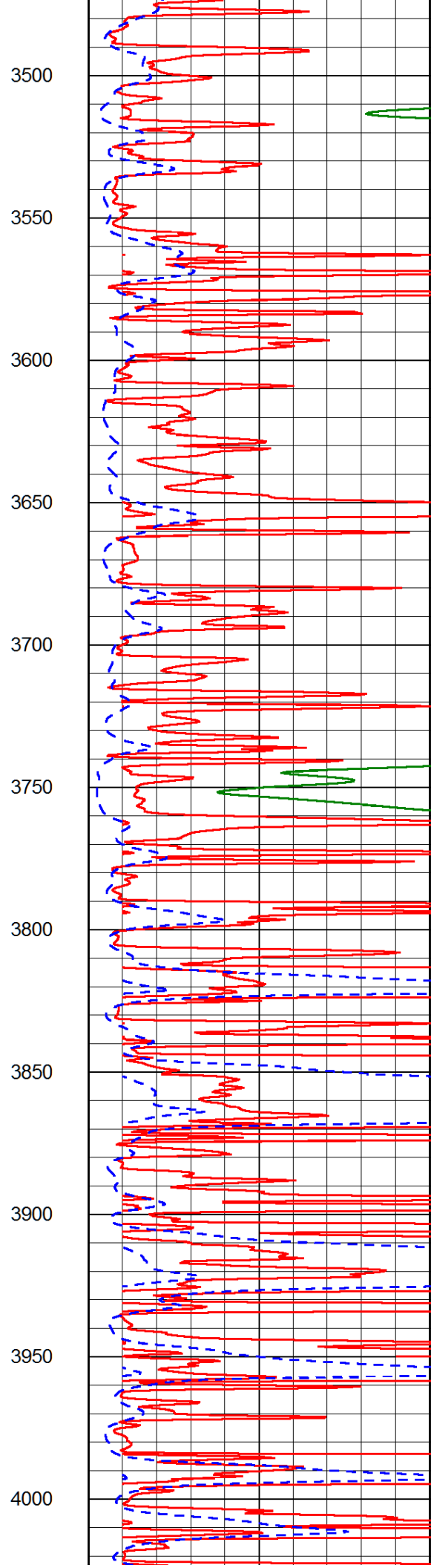
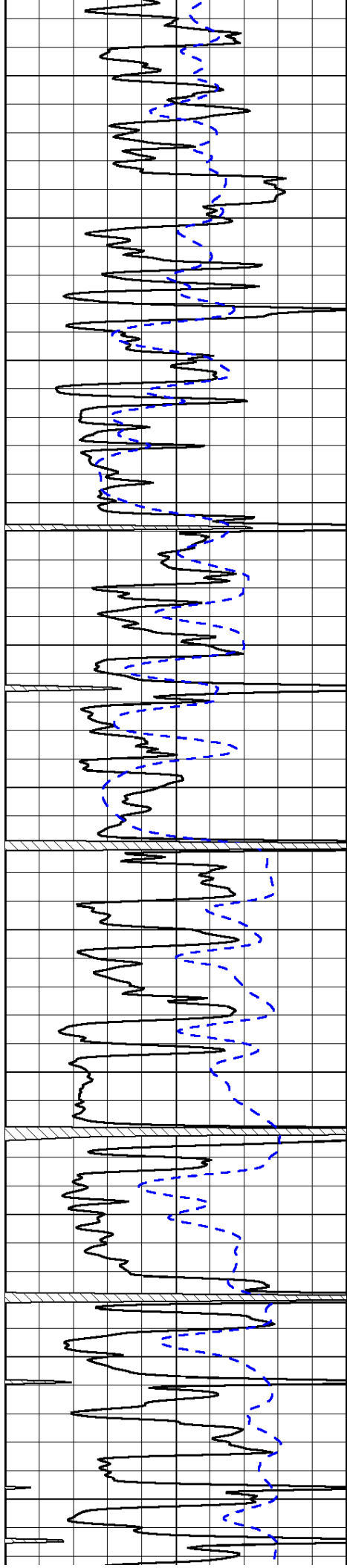
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-87  
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-87  
-87  
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-82  
-85

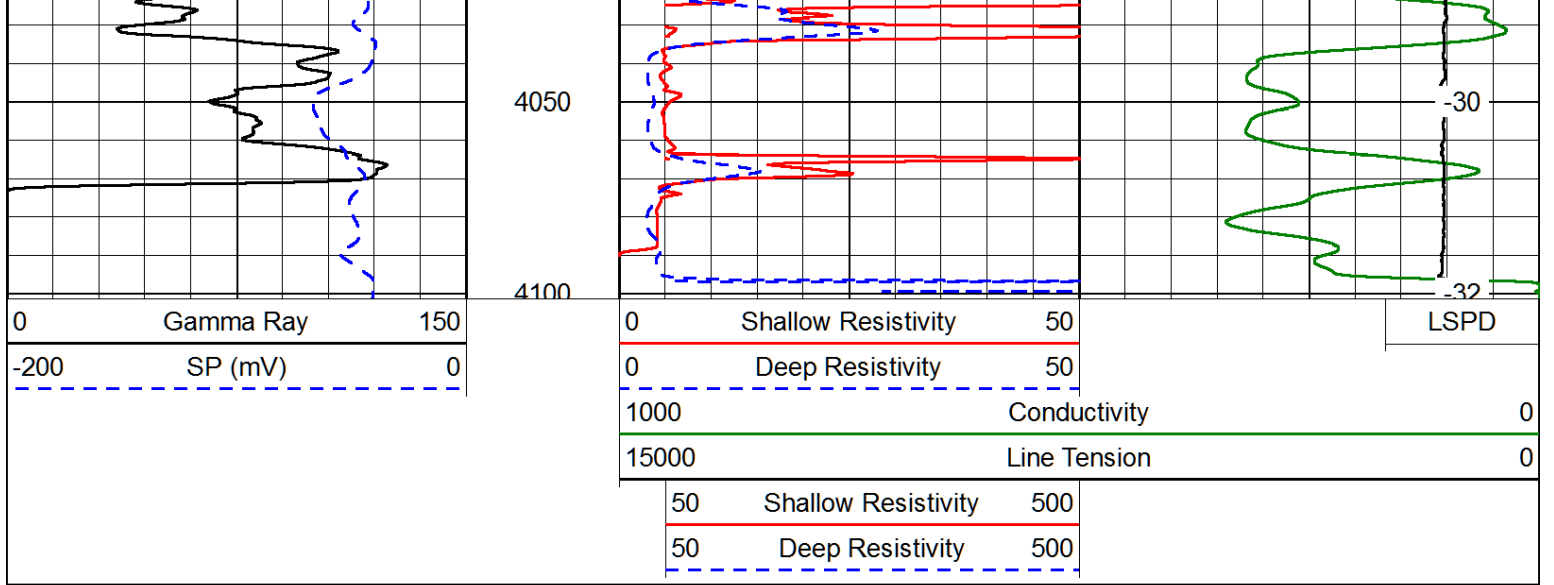




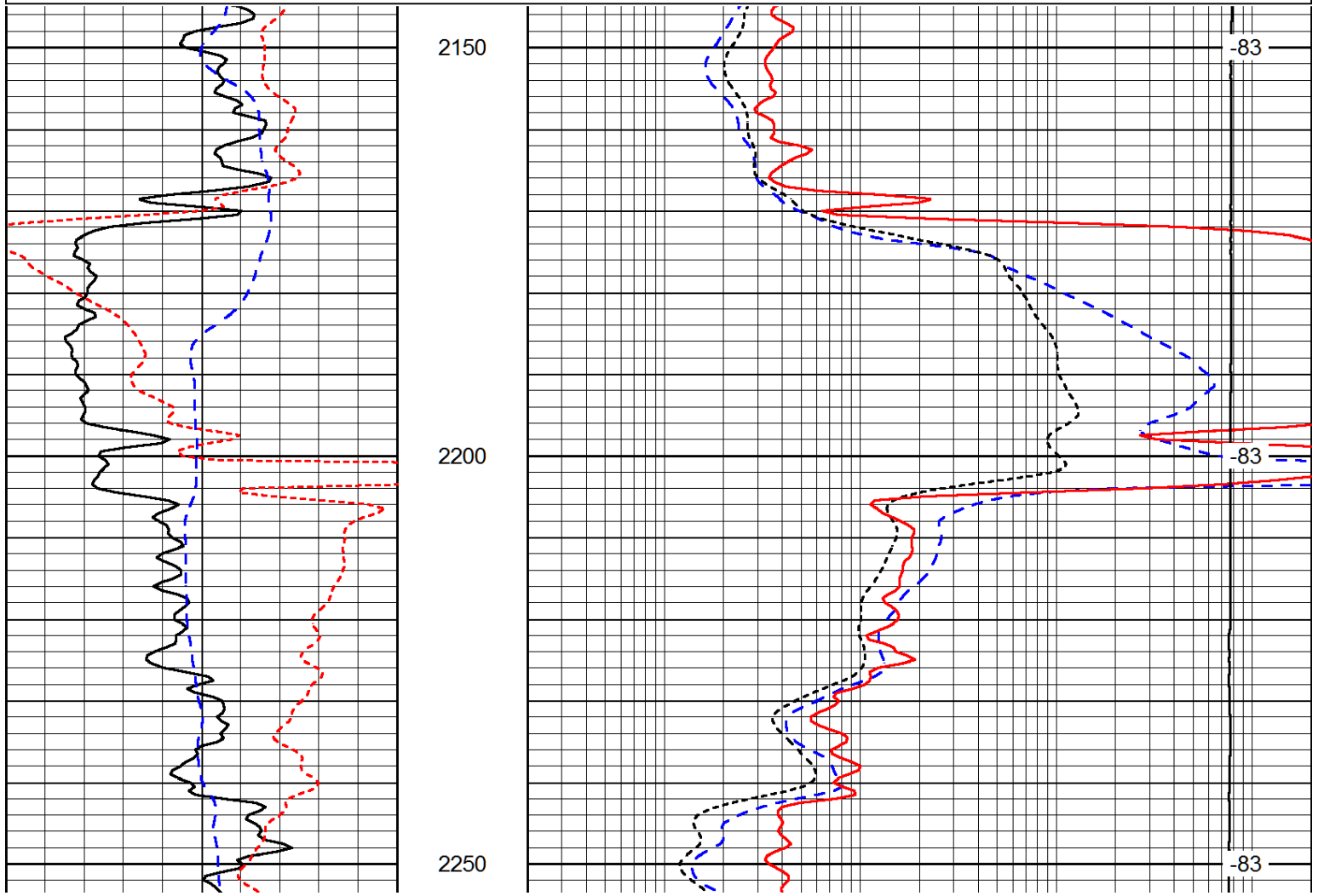
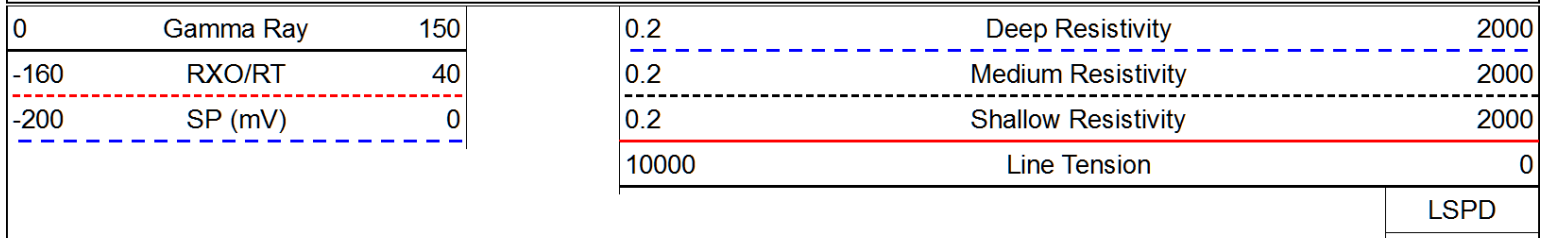








Database File: culnreath\_mader\_1-12hd.db  
 Dataset Pathname: DIL/culstk  
 Presentation Format: dil  
 Dataset Creation: Fri Jul 04 12:57:50 2014  
 Charted by: Depth in Feet scaled 1:240



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

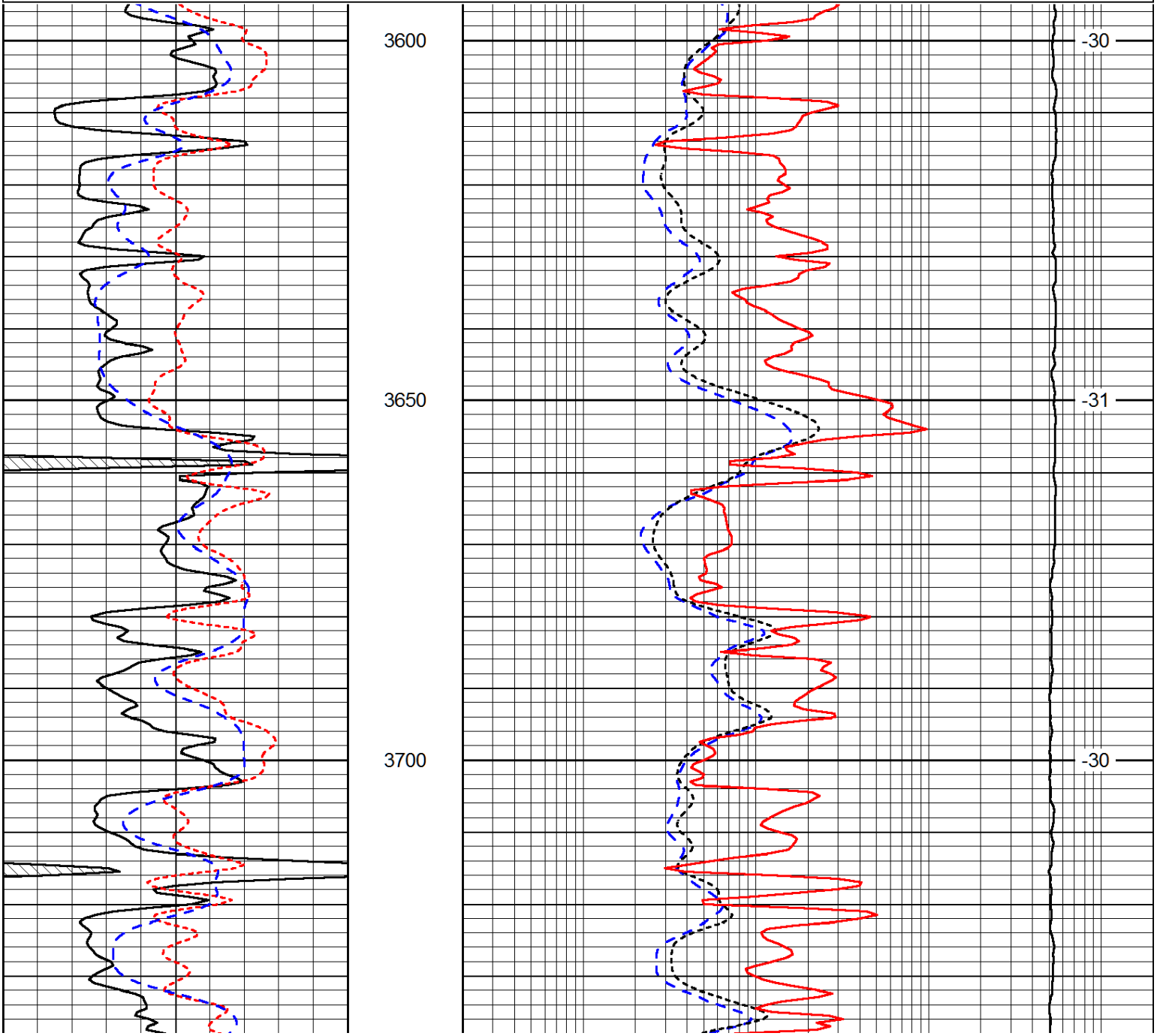
LSPD

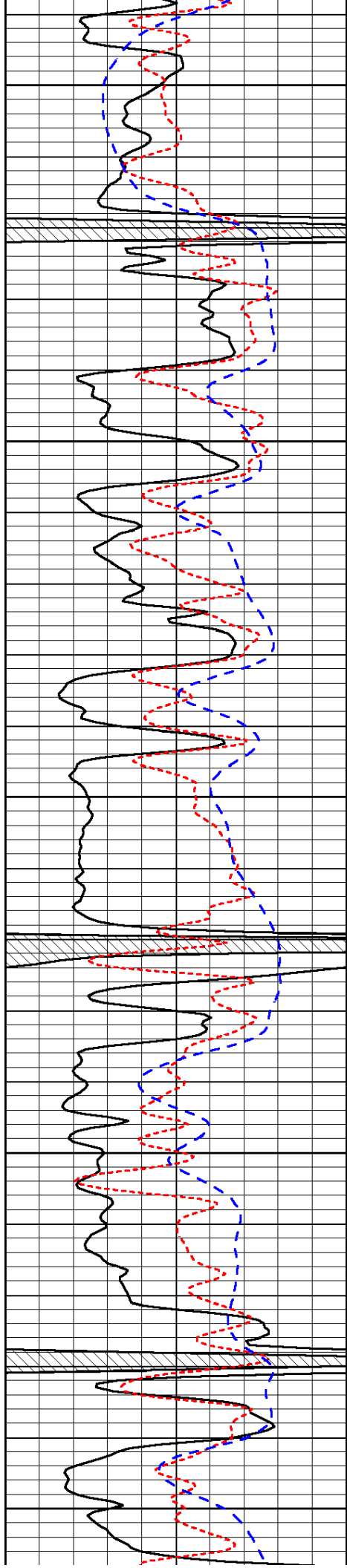
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LSPD





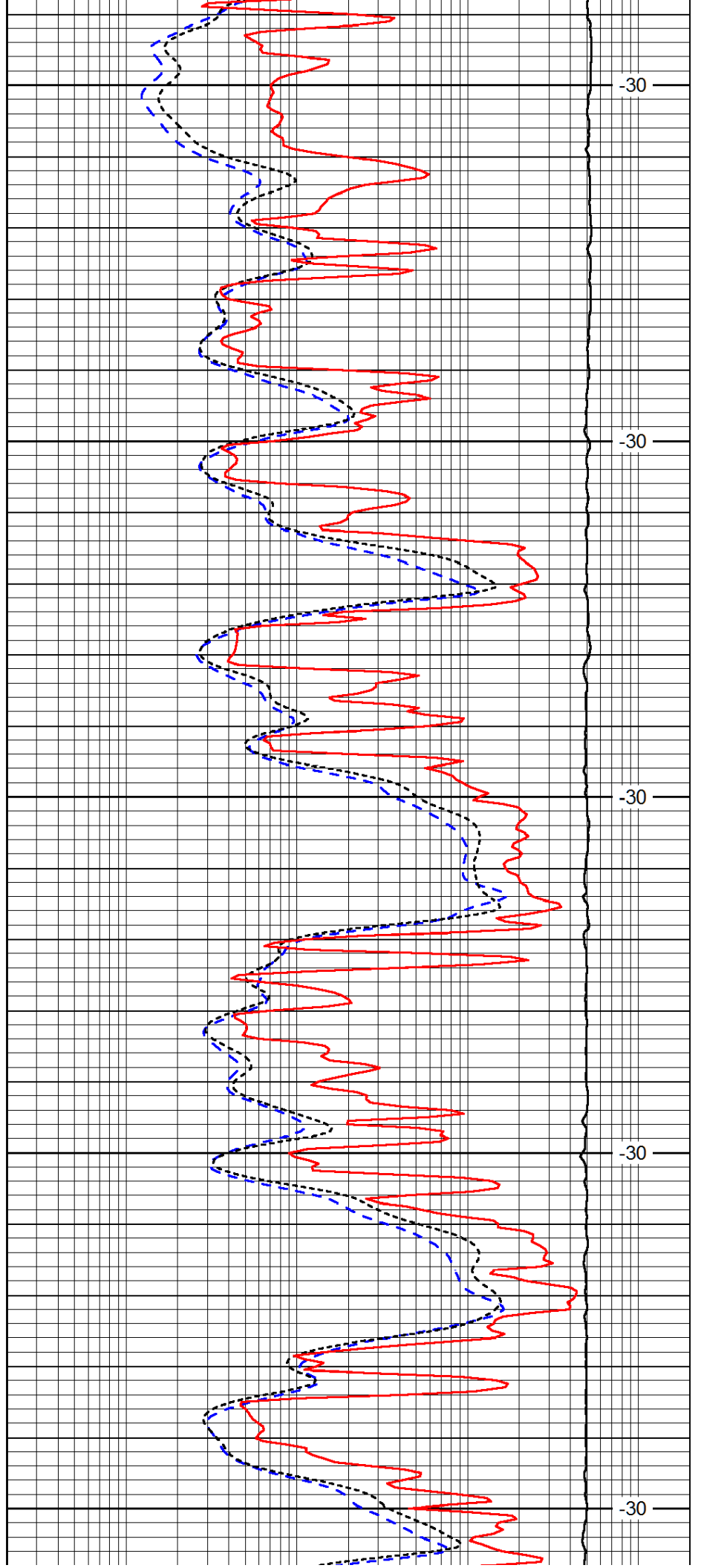
3750

3800

3850

3900

3950



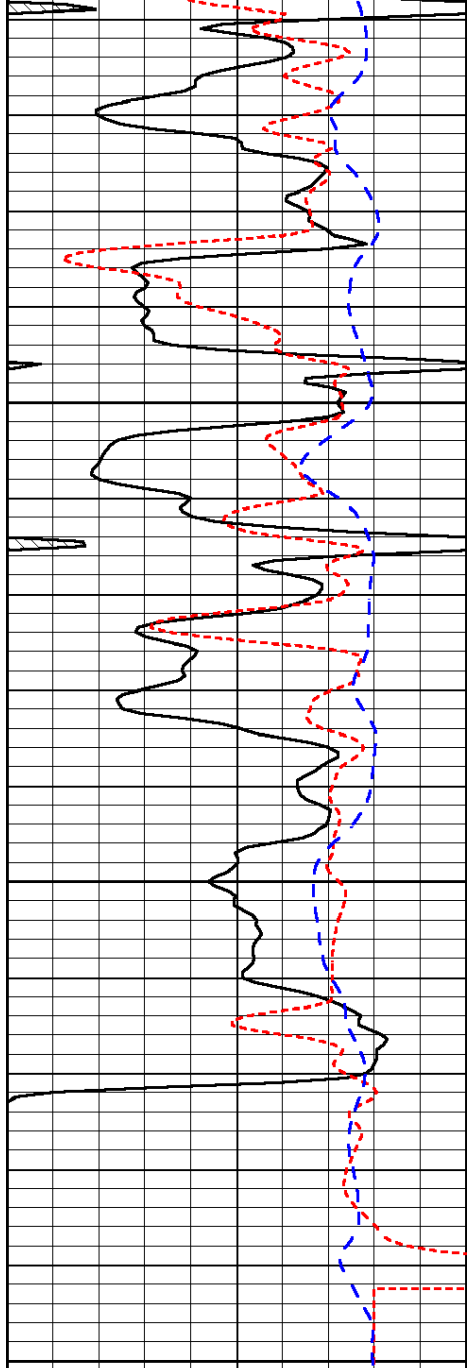
-30

-30

-30

-30

-30

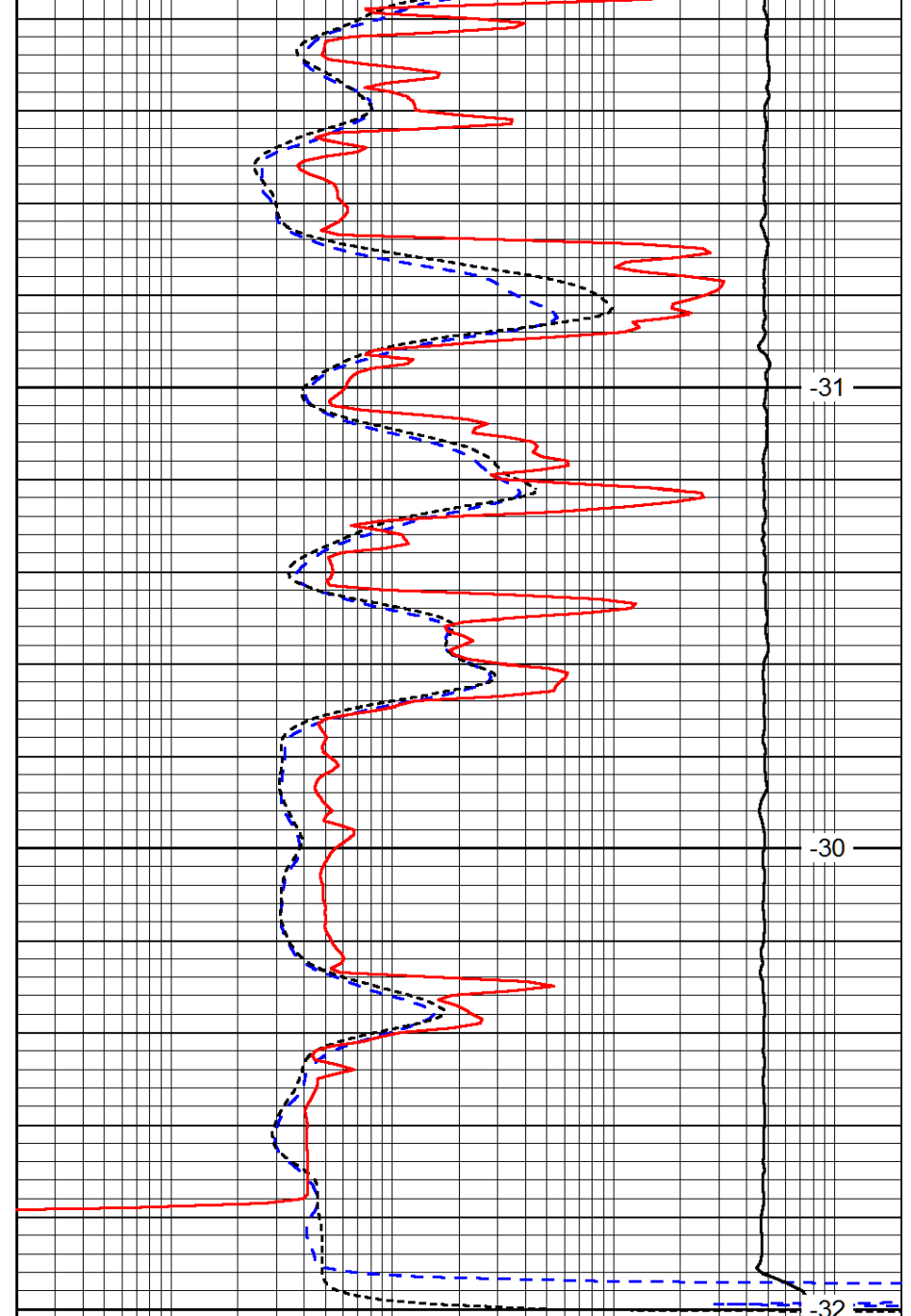


0	Gamma Ray	150
-160	RXO/RT	40
-200	SP (mV)	0

4000

4050

4100



-31

-30

-32

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

LSPD