



Dual Induction Log

Pioneer Energy Services

API No.	Company H&C Oil Operating, Inc.		
	Well Minium # 23-1		
	Field Wildcat		
	County	Graham	State Kansas
	Location	1600' FSL & 2310' FEL	
	Sec: 23	Tw: 8 S	Rge: 25 W
	Permanent Datum	Ground Level	Elevation 2337
	Log Measured From	Kelly Bushing	5 Ft. Above Perm. Datum
	Drilling Measured From	Kelly Bushing	
Date		4/2/2013	
Run Number		One	
Depth Driller		3923	
Depth Logger		3924	
Bottom Logged Interval		3923	
Top Log Interval		200	
Casing Driller		8.625 @ 230	
Casing Logger		228	
Bit Size		7.875	
Type Fluid in Hole		Chemical	
Salinity, ppm CL		1500	
Density / Viscosity		9.4 56	
pH / Fluid Loss		10.5 7.4	
Source of Sample		Flowline	
Rm @ Meas. Temp		1.40 @ 63	
Rmf @ Meas. Temp		1.05 @ 63	
Rmc @ Meas. Temp		1.89 @ 63	
Source of Rmf / Rmc		Charts	
Rm @ BHT		.77 @ 115	
Operating Rig Time		4 Hours	
Max Rec. Temp. F		115	
Equipment Number		15	
Location		Hays	
Recorded By		D. Kerr	
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

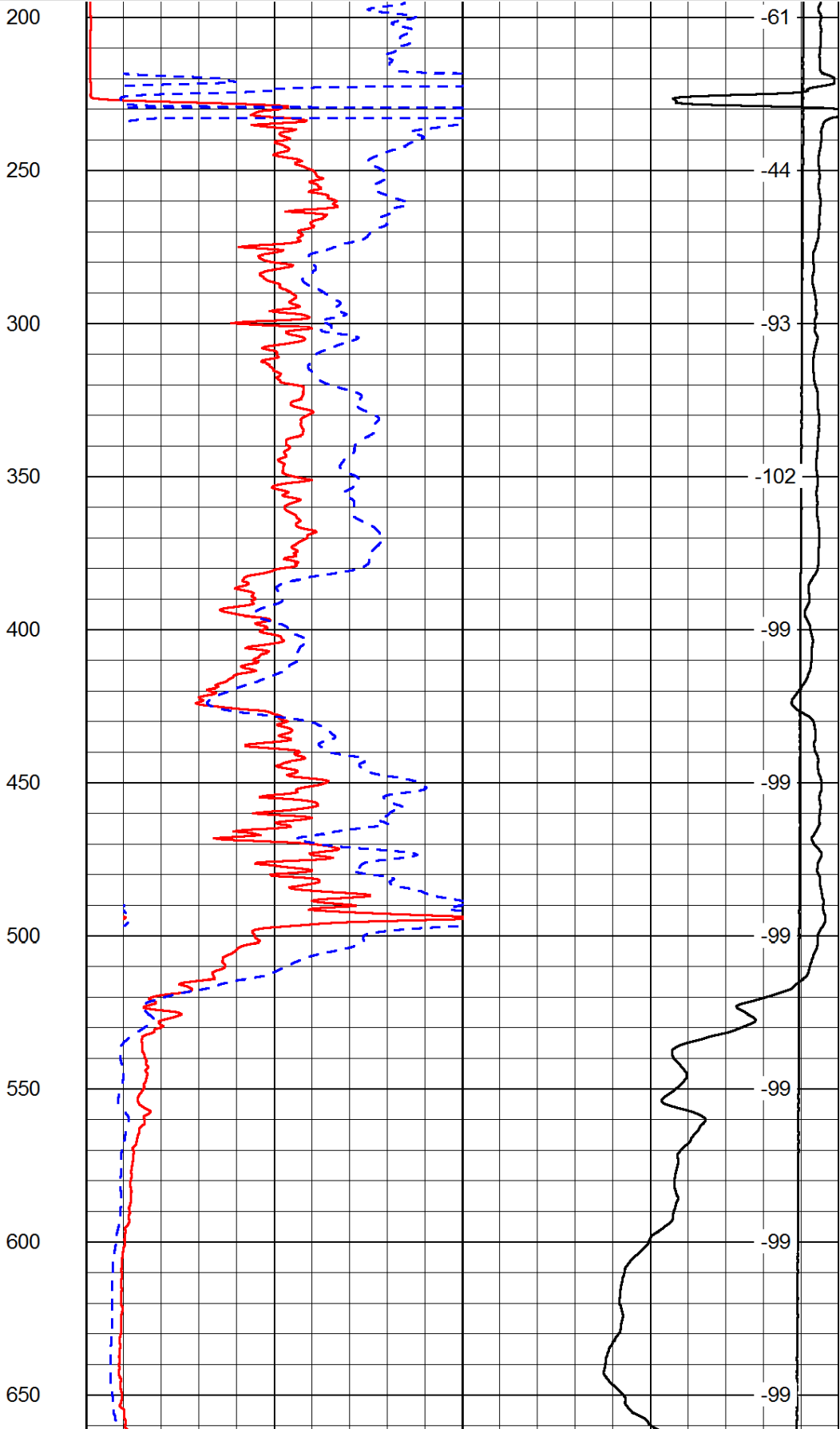
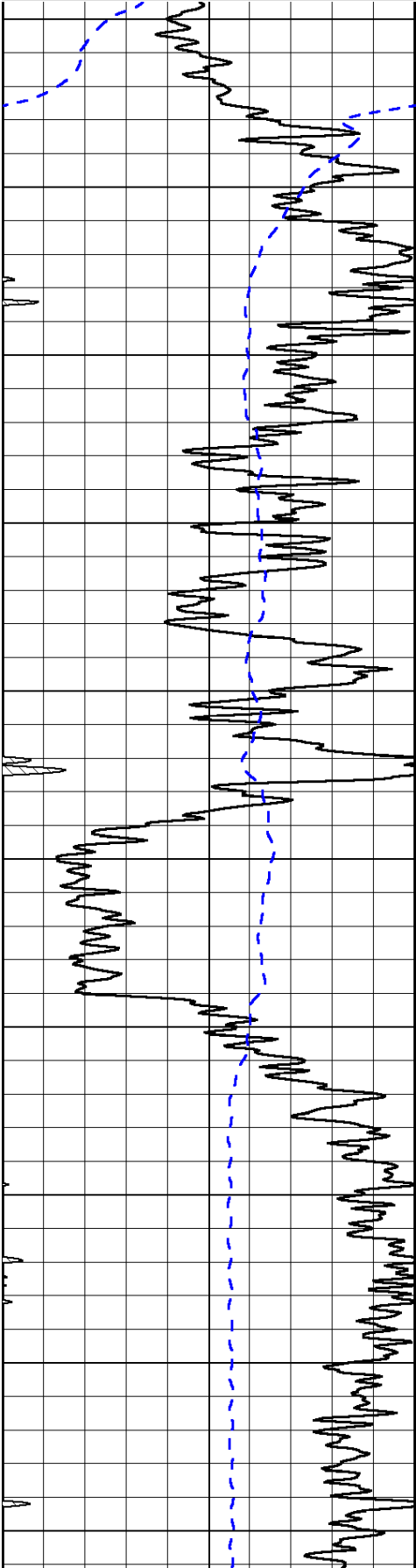
Thank you for using Pioneer Energy Services
www.pioneerres.com
785 625 3858

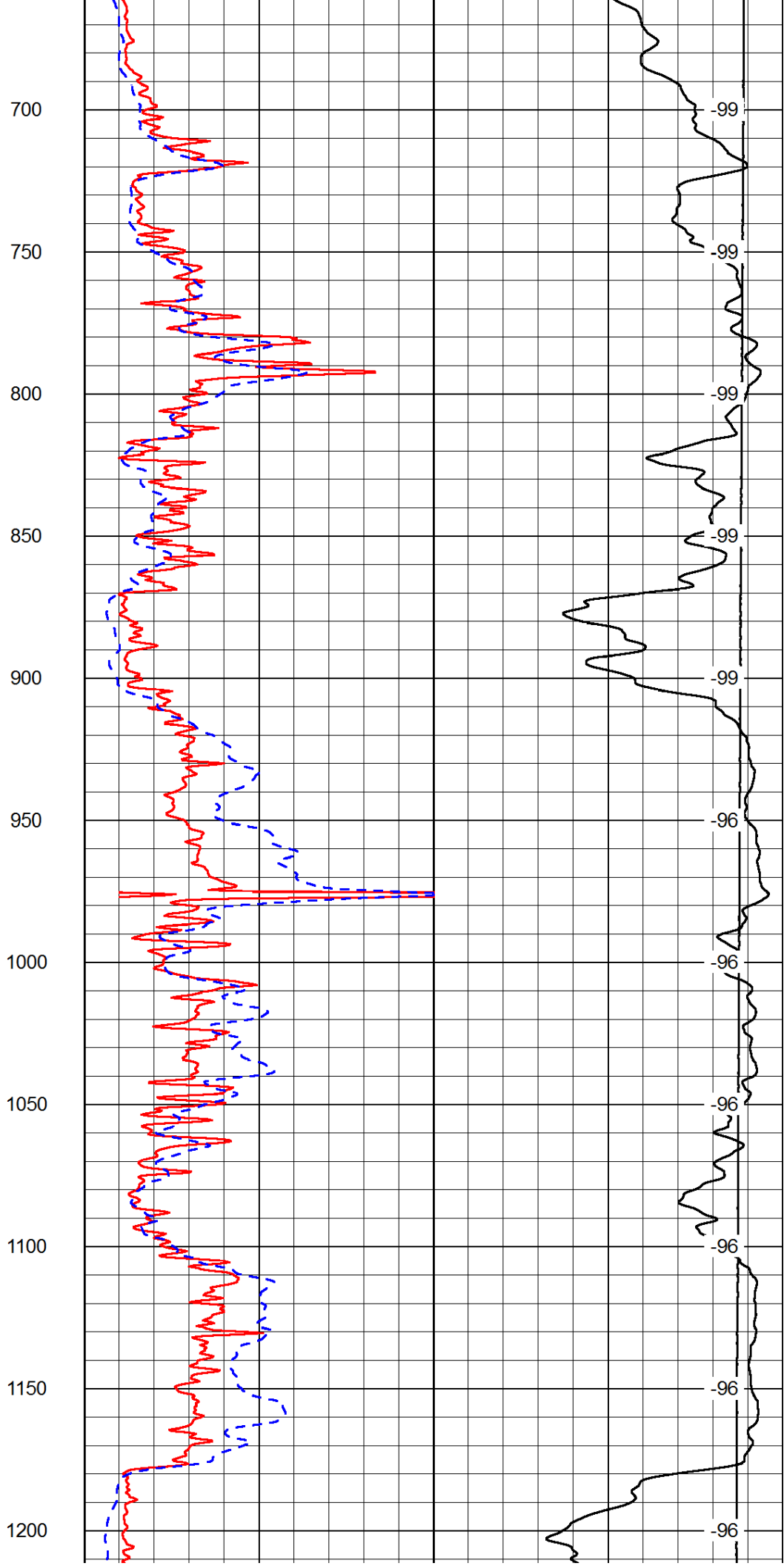
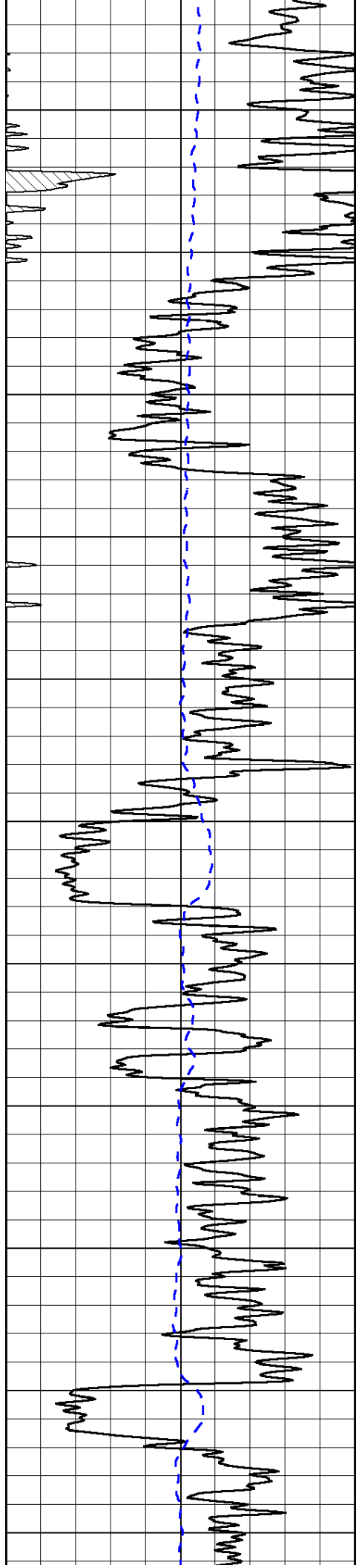
Morland KS, 1/2 South on 145 Ave,
South/East Into

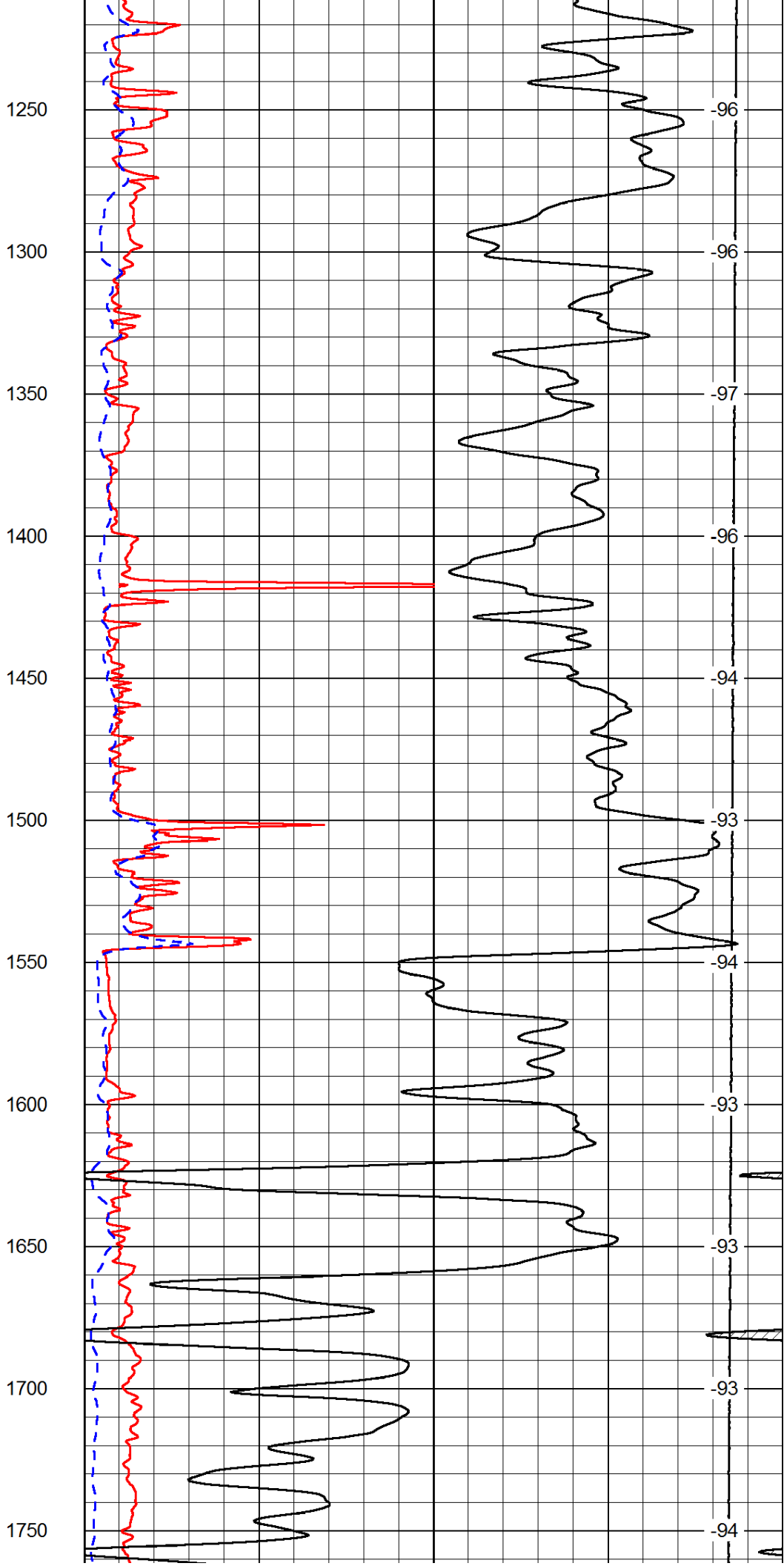
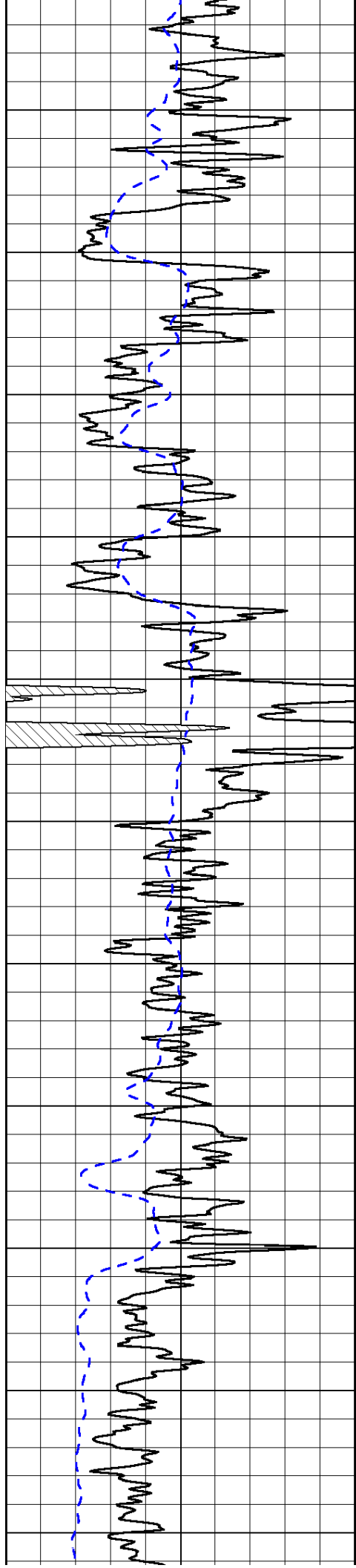
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Dataset Pathname: DIL\hcstk
Presentation Format: dil2in
Dataset Creation: Tue Apr 02 03:01:35 2013
Charted by: Depth in Feet scaled 1:600

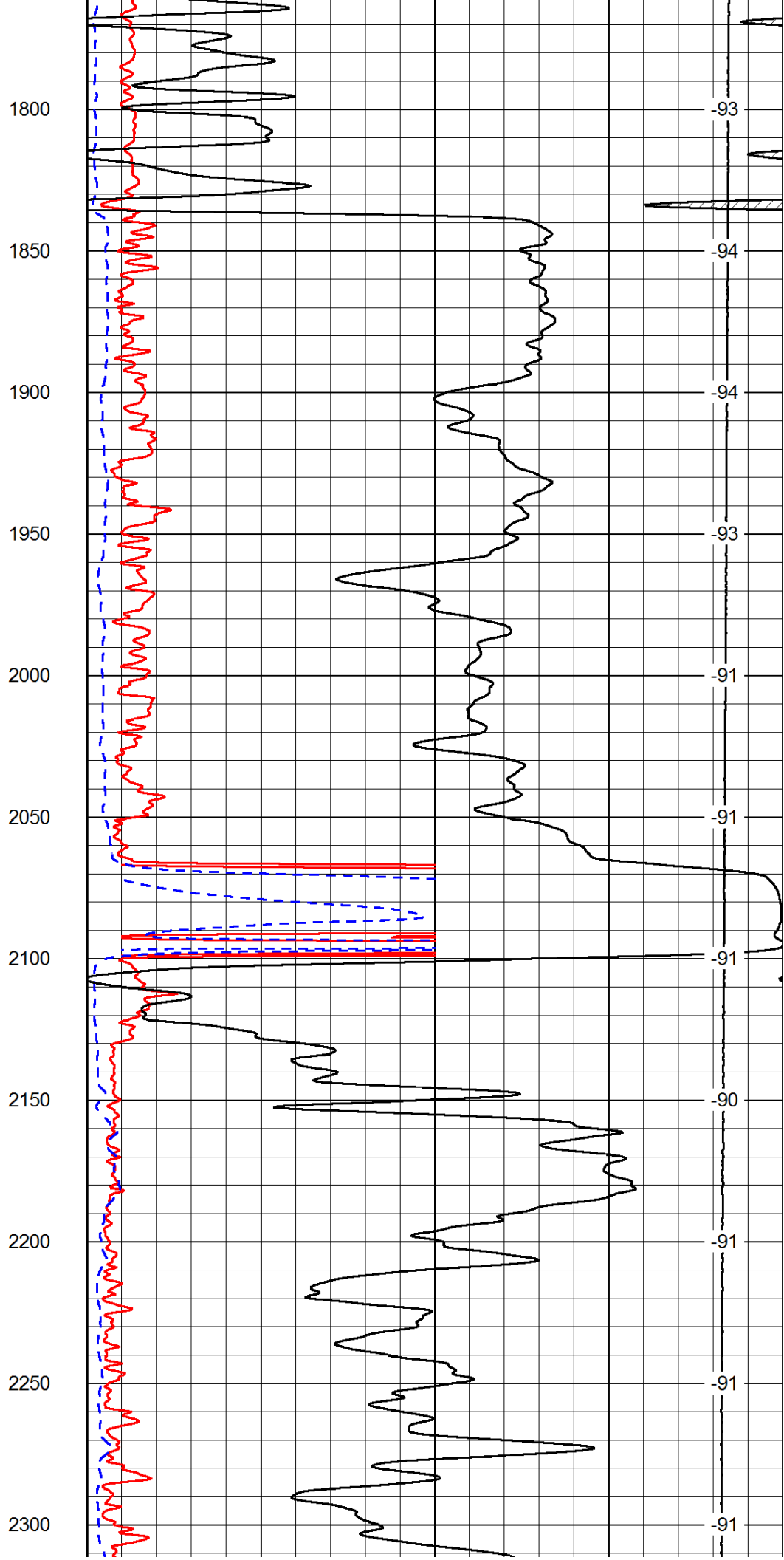
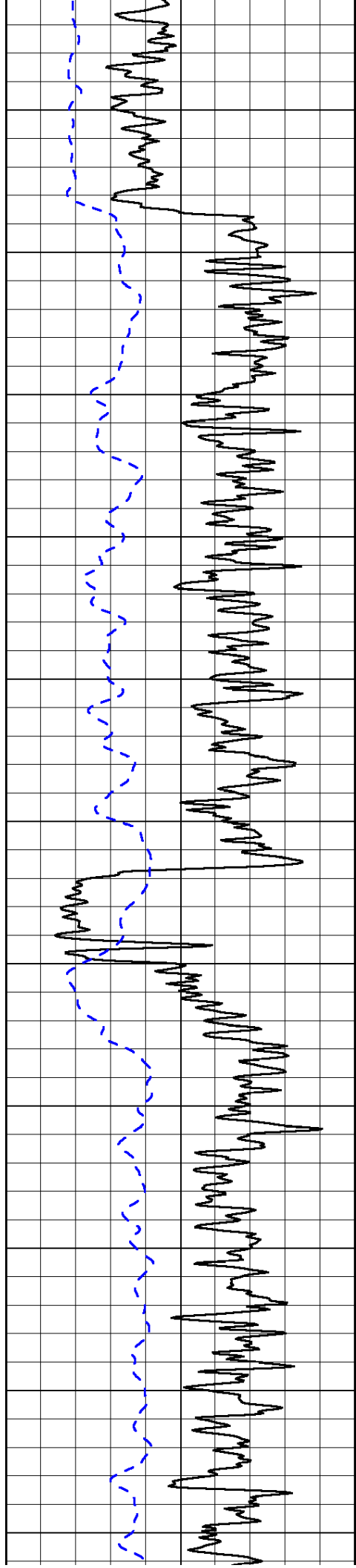
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-200	SP (mV)	0

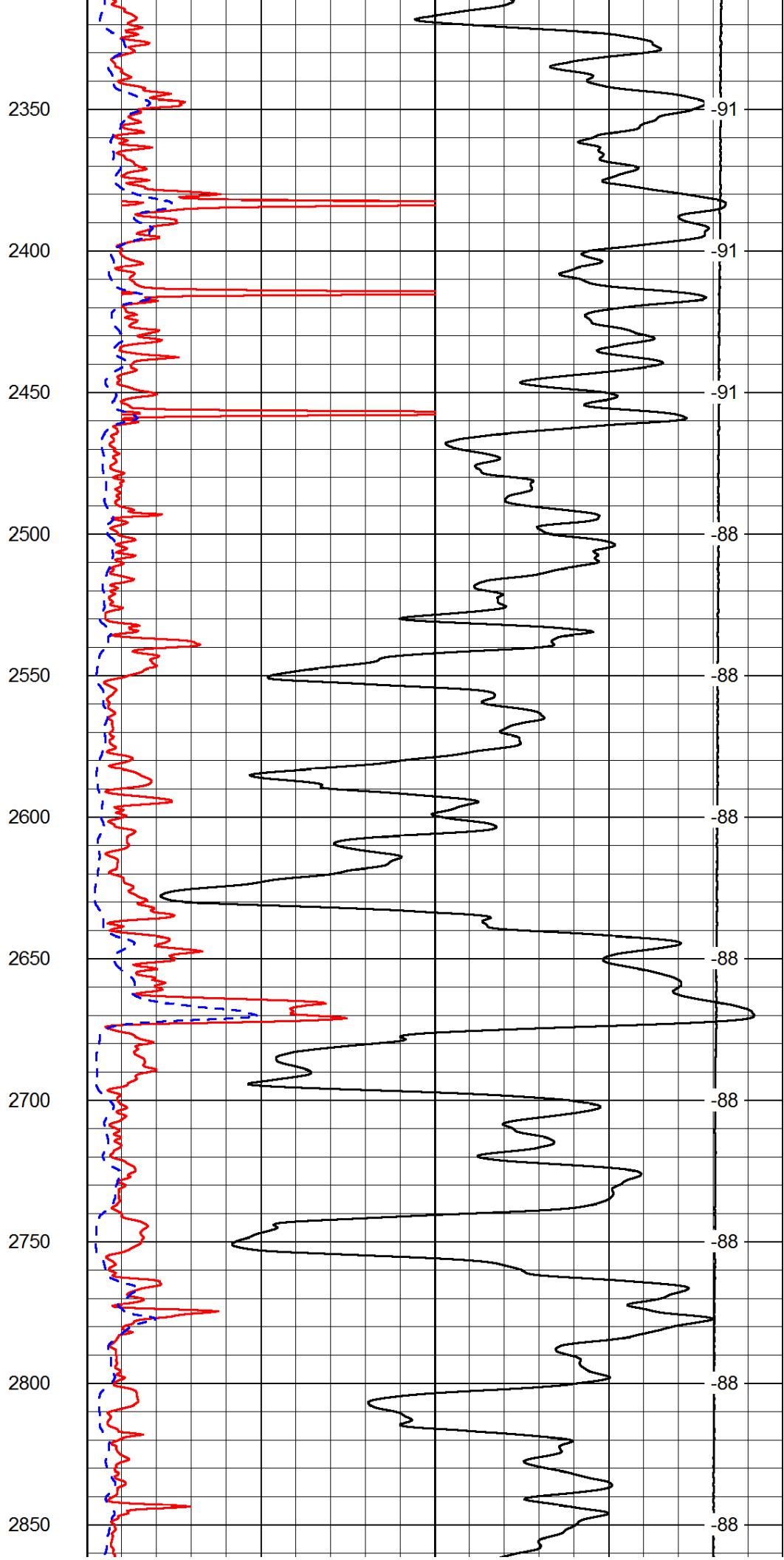
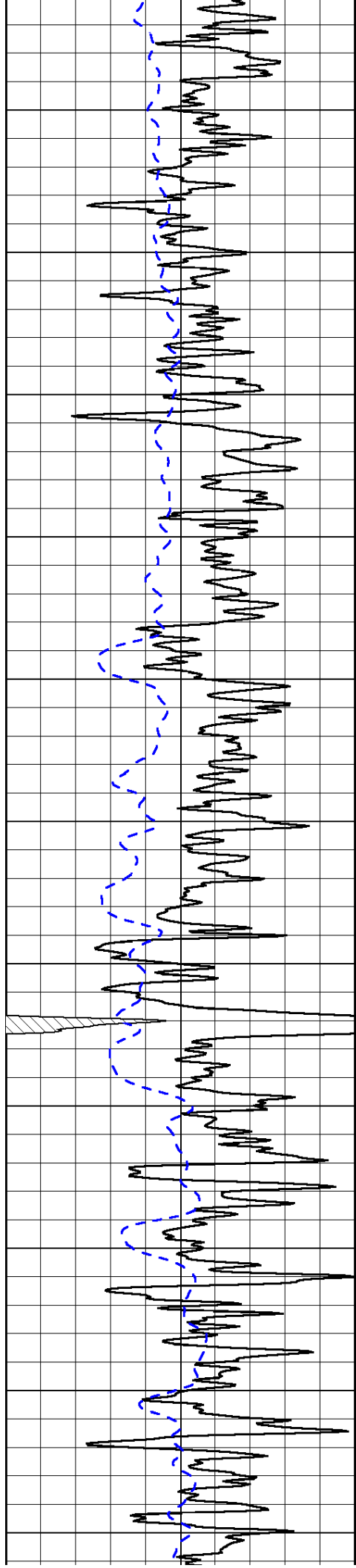
0	Shallow Resistivity	50	LSPD
0	Deep Resistivity	50	
1000	Conductivity		0
15000	Line Tension		0
50	Shallow Resistivity	500	
50	Deep Resistivity	500	

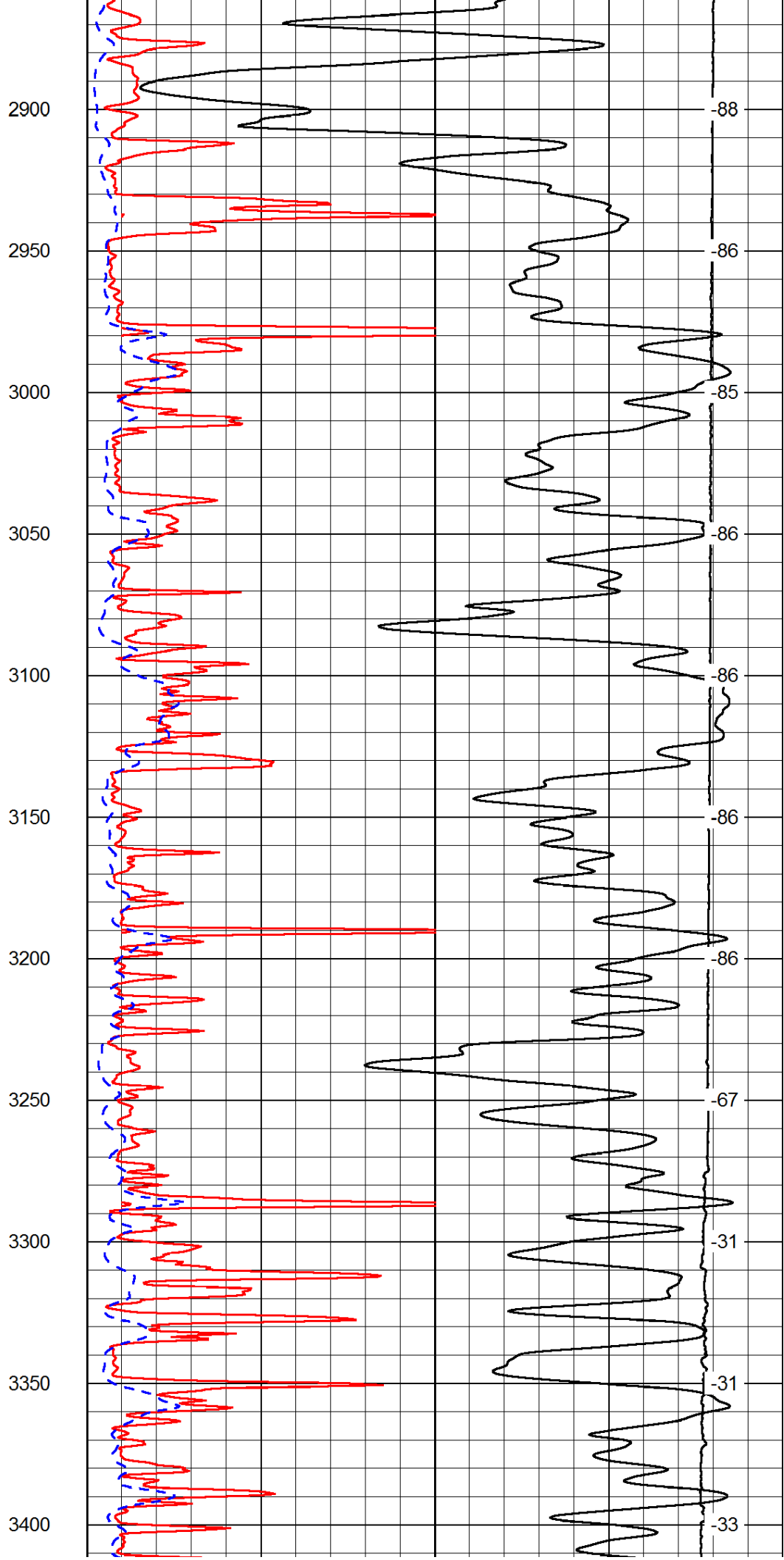
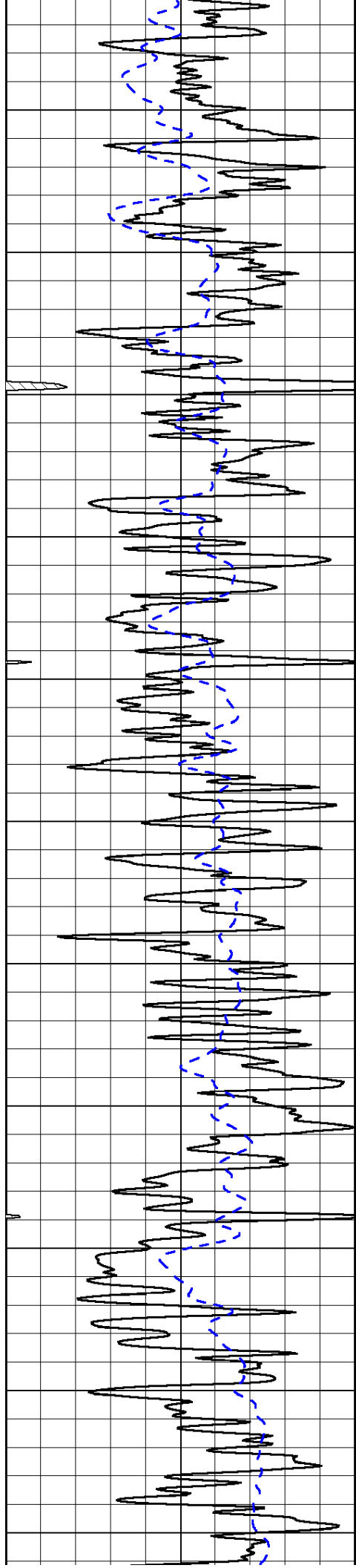


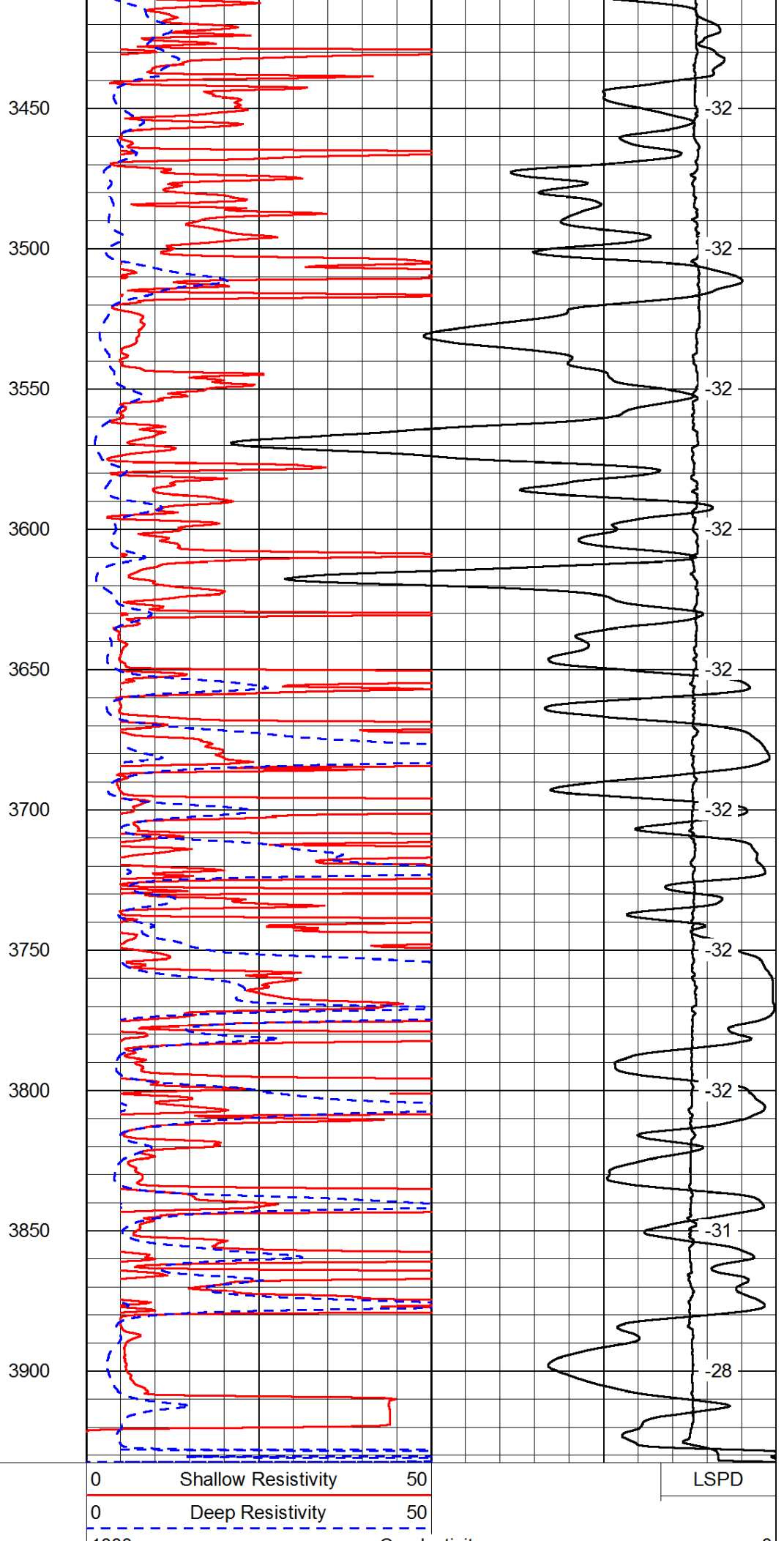
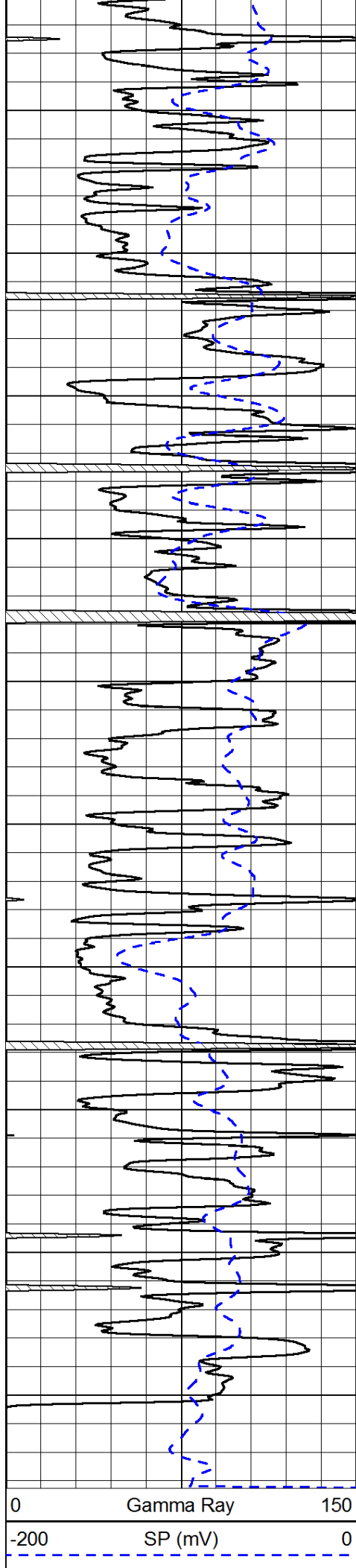












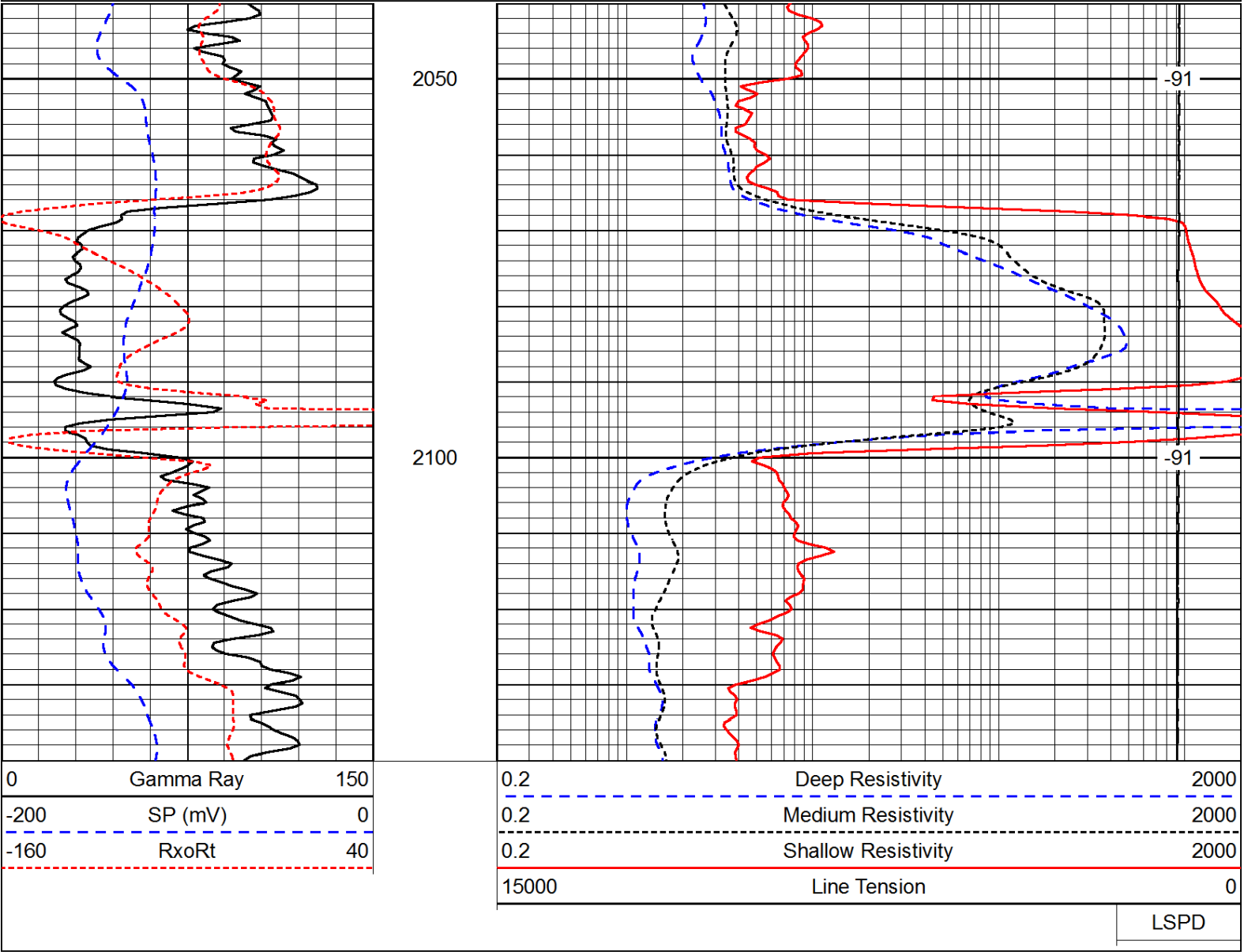
1000	Conductivity	0
15000	Line Tension	0
50	Shallow Resistivity	500
50	Deep Resistivity	500

Database File:	c:\warrior\data\h&c_minium # 23-1\h&c_minium_23_1hd.db
Dataset Pathname:	DIL/hcstk
Presentation Format:	dil
Dataset Creation:	Tue Apr 02 03:01:35 2013
Charted by:	Depth in Feet scaled 1:240

0	Gamma Ray	150
-200	SP (mV)	0
-160	RxoRt	40

0.2	Deep Resistivity	2000
0.2	Medium Resistivity	2000
0.2	Shallow Resistivity	2000
15000	Line Tension	0

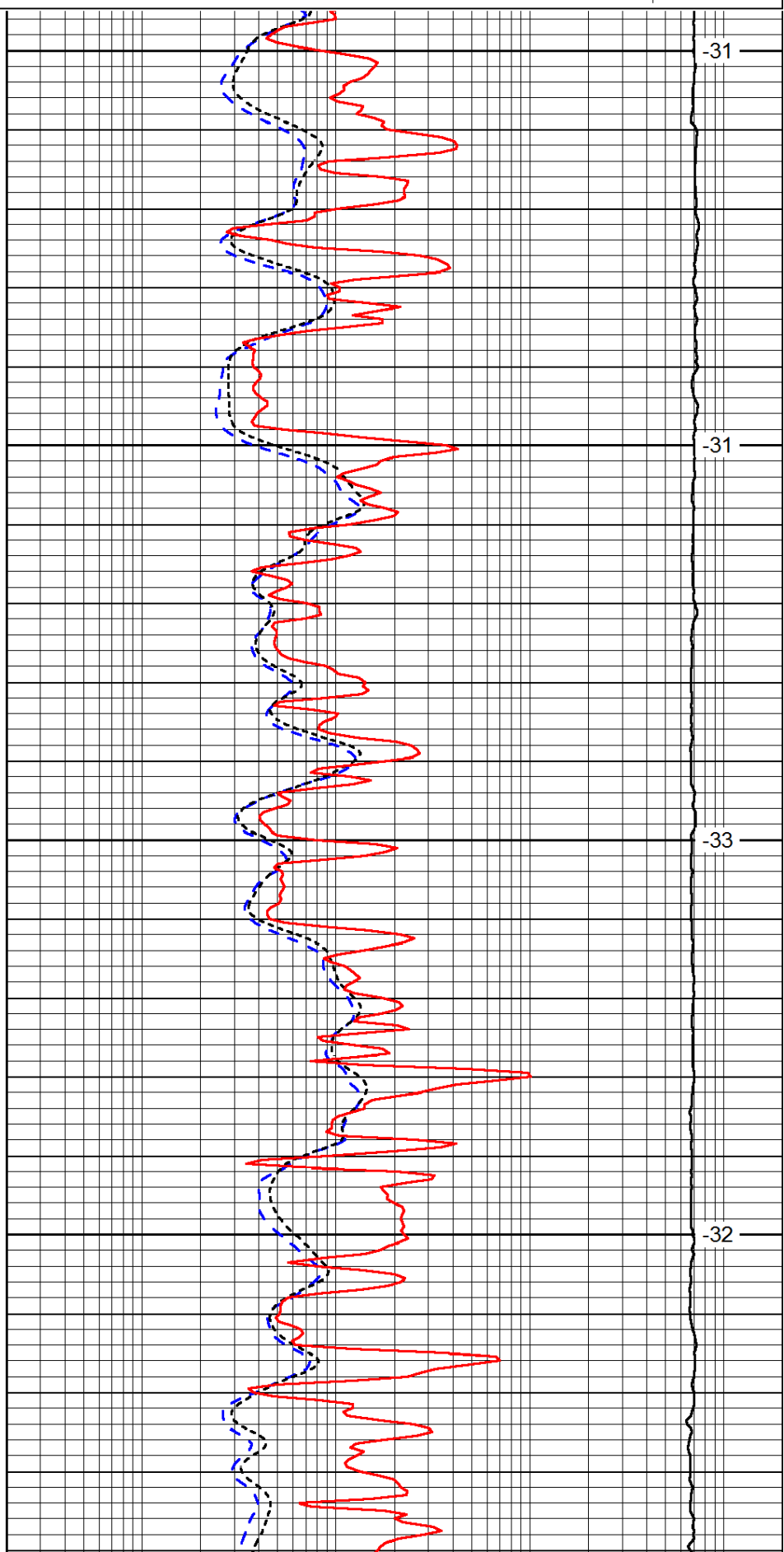
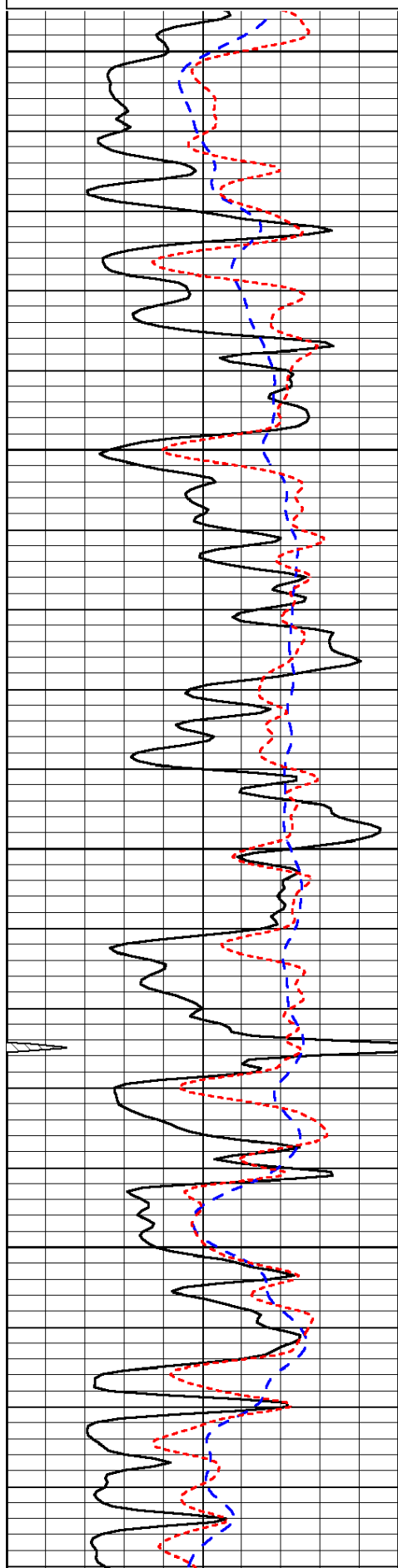
LSPD



Database File:	c:\warrior\data\h&c_minium # 23-1\h&c_minium_23_1hd.db
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0	Gamma Ray	150
-200	SP (mV)	0
-160	RxoRt	40

0.2	Deep Resistivity	2000
0.2	Medium Resistivity	2000
0.2	Shallow Resistivity	2000
15000	Line Tension	0

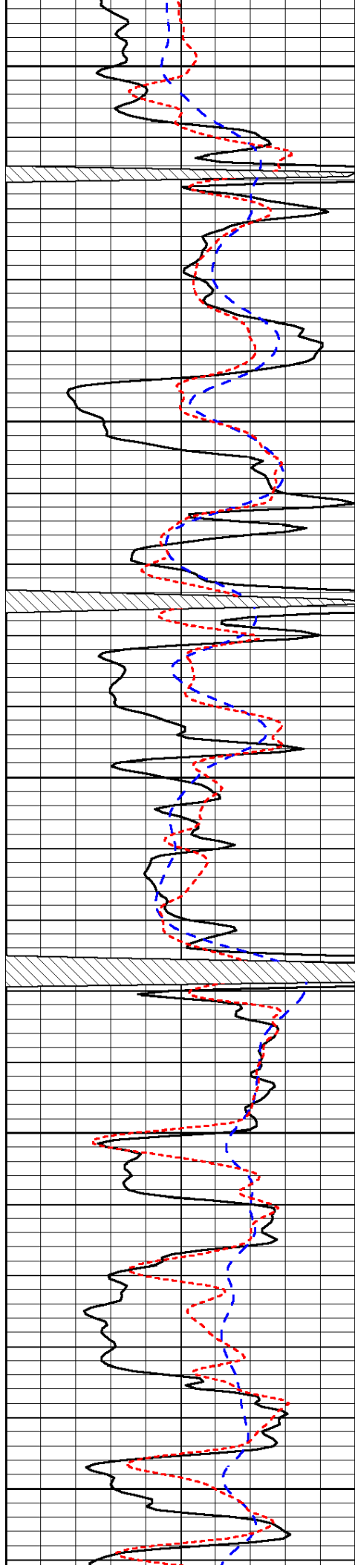
LSPD

-31

-31

-33

-32



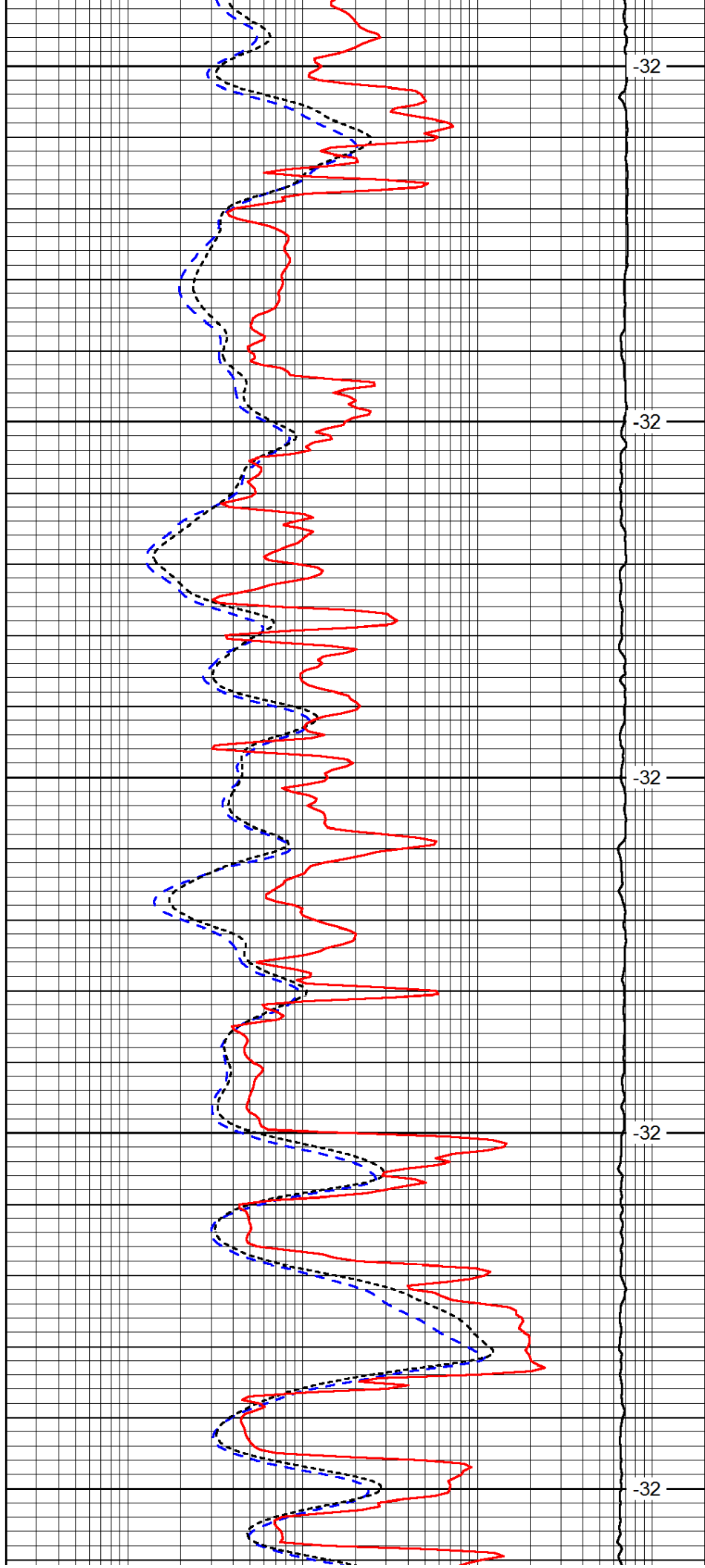
3500

3550

3600

3650

3700



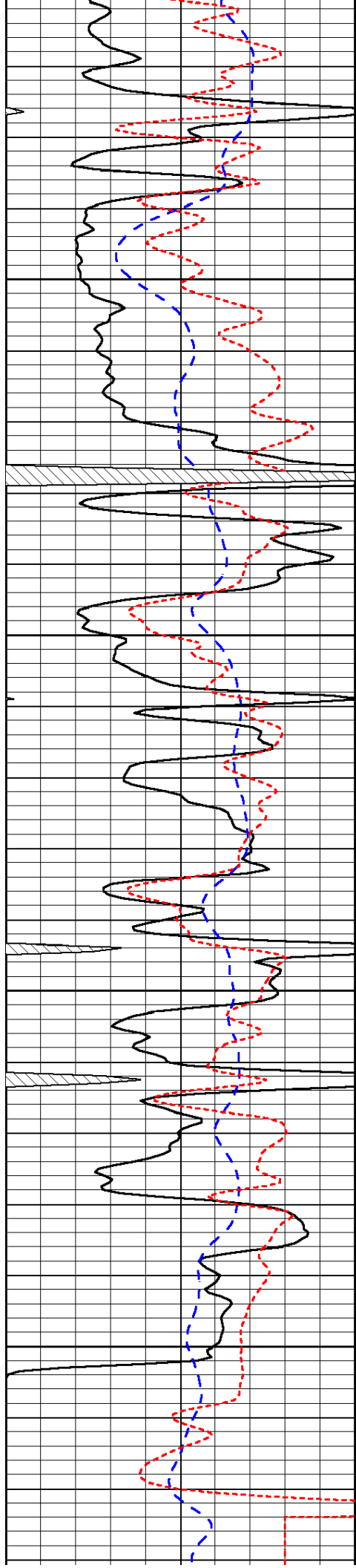
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32

32

32

32

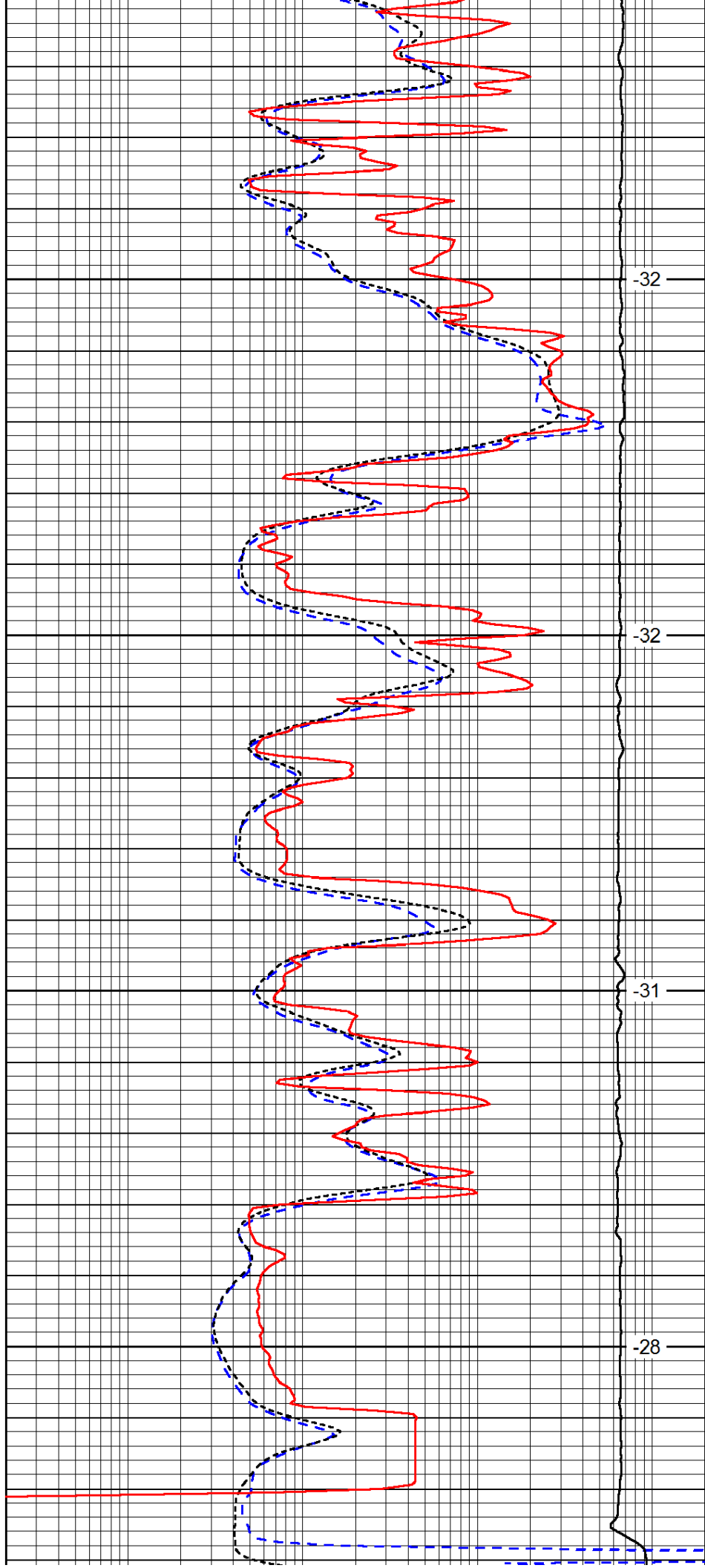


3750

3800

3850

3900



-32

-32

-31

-28

0	Gamma Ray	150
-200	SP (mV)	0
-160	RxoRt	40

0.2	Deep Resistivity	2000
0.2	Medium Resistivity	2000
0.2	Shallow Resistivity	2000
15000	Line Tension	0
		LSPD