



Pioneer Energy Services

Dual Induction Log

API No.

15-065-24,083-00-00

Company H&C Oil Operating, Inc.

Well Cova Unit No.27-1

Field Mickelson

County Graham State Kansas

Location 2500' FNL & 150' FEL

Sec: 27 Twp: 8S Rge: 22W

Other Services
CNL/CDL
MEL

Elevation

K.B. 2209
D.F.
G.L. 2202

Permanent Datum Ground Level
Log Measured From Kelly Bushing
Drilling Measured From Kelly Bushing

Elevation 2202
7 Ft. Above Perm. Datum

Date 11/4/2014

Run Number One

Depth Driller 3865

Depth Logger 3863

Bottom Logged Interval 3862

Top Log Interval 250

Casing Driller 8.625 @ 263

Casing Logger 263

Bit Size 7.875

Type Fluid in Hole Chemical

Salinity, ppm CL 3.100

Density / Viscosity 9.4 56

pH / Fluid Loss 10.0 7.8

Source of Sample Flowline

Rm @ Meas. Temp .75 @ 68

Rmf @ Meas. Temp .56 @ 68

Rmc @ Meas. Temp 1.01 @ 68

Source of Rmf / Rmc Charts

Rm @ BHT .44 @ 115

Operating Rig Time 3 1/2 Hours

Max Rec. Temp. F 115

Equipment Number 10

Location Hays

Recorded By C. Desaire

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

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(785) 625-3858

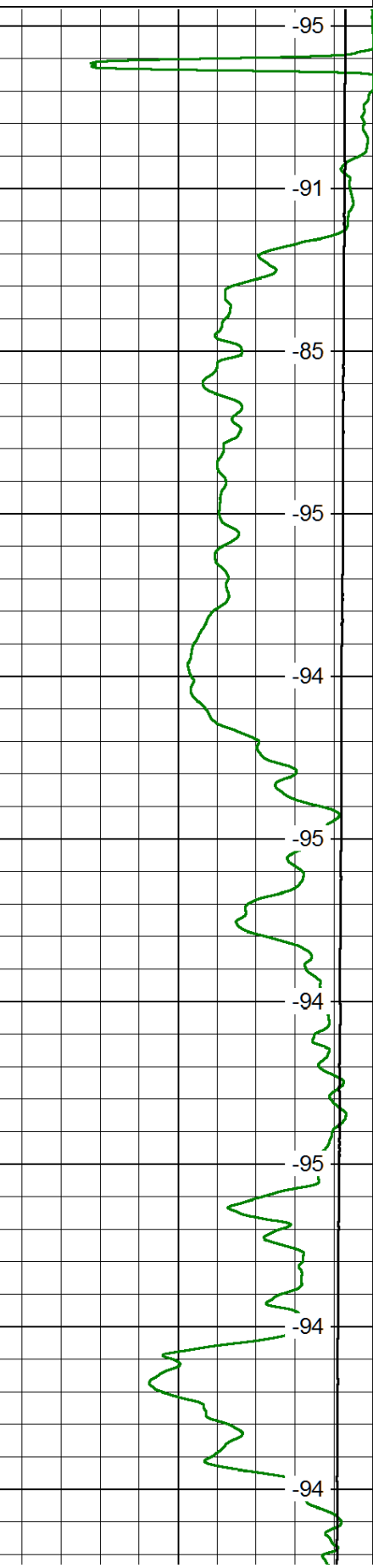
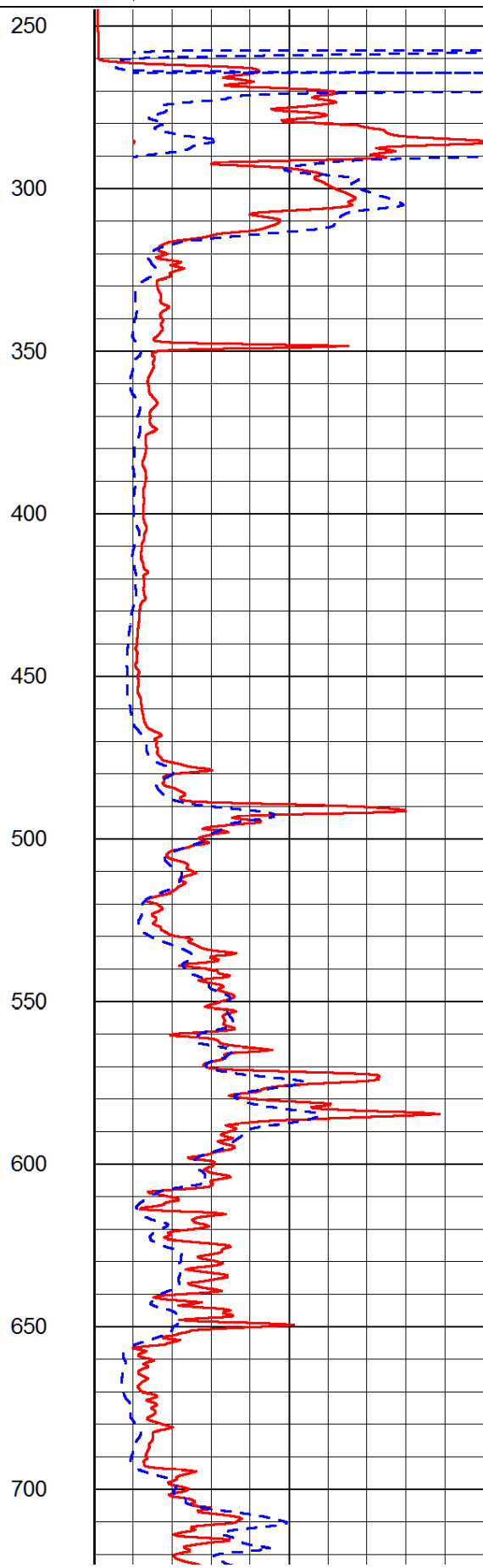
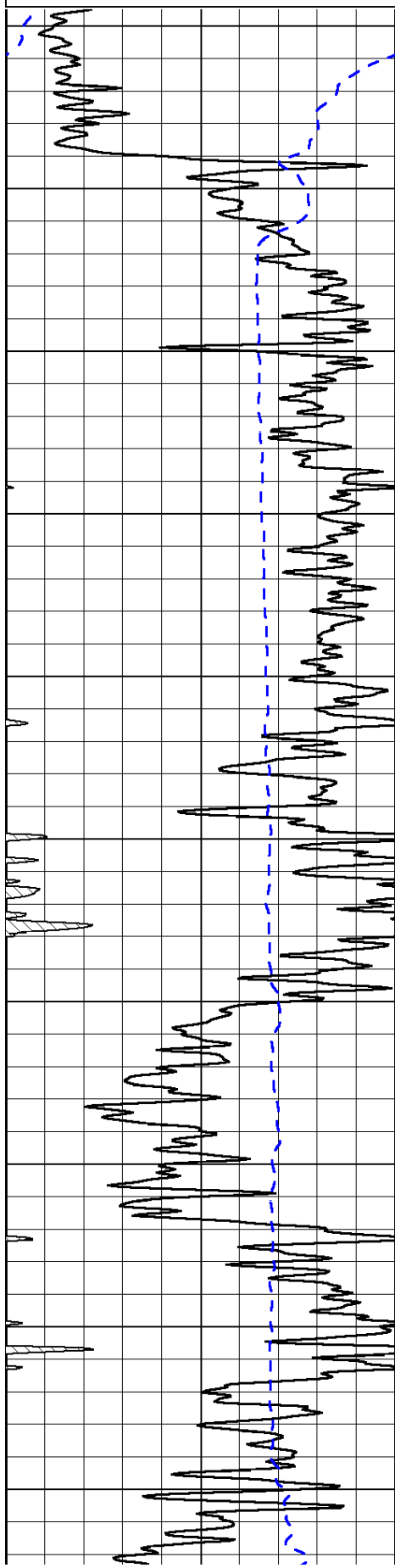
Bogue KS, S edge, 3 W,
1 1/2 S, W Into

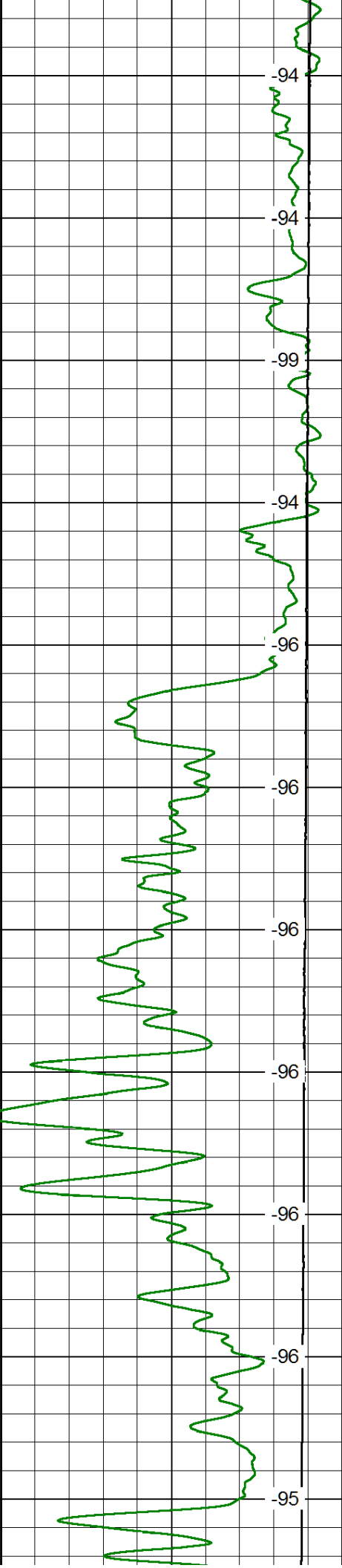
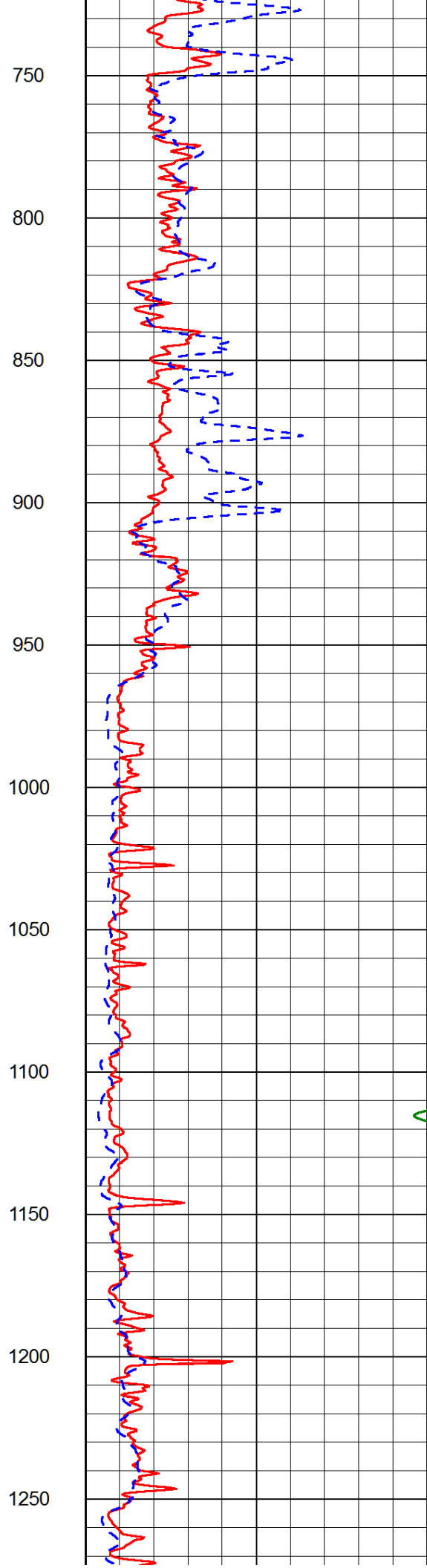
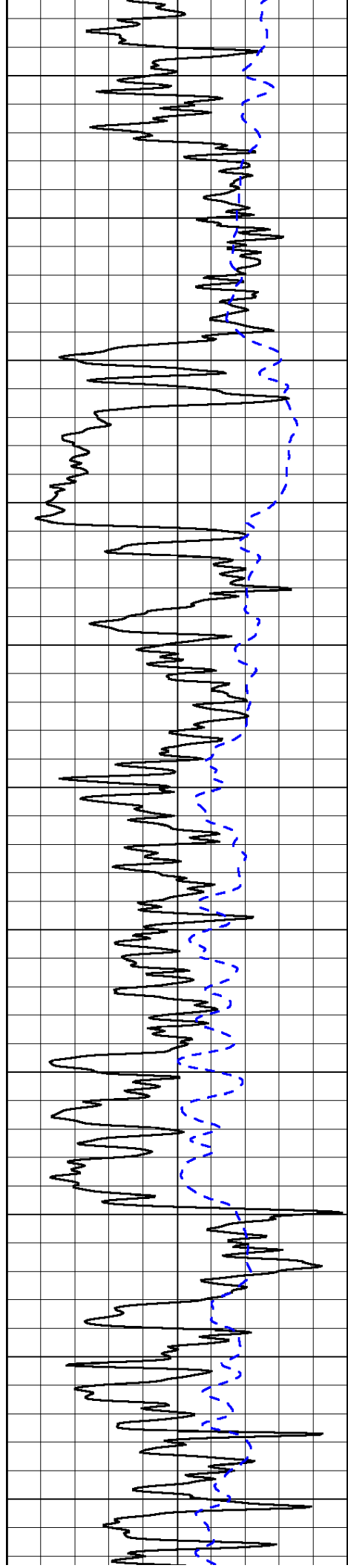
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Presentation Format: dil2in
Dataset Creation: Tue Nov 04 12:59:41 2014
Charted by: Depth in Feet scaled 1:600

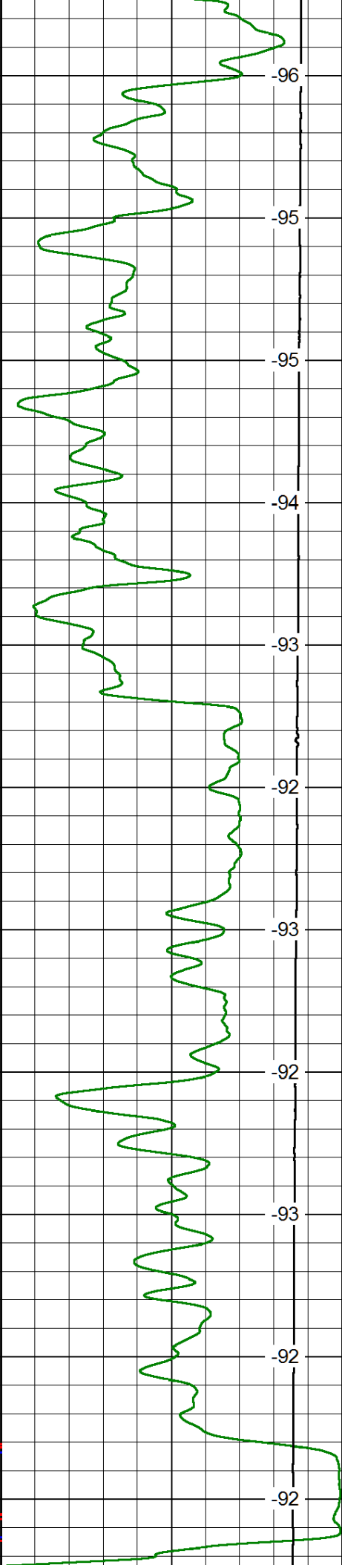
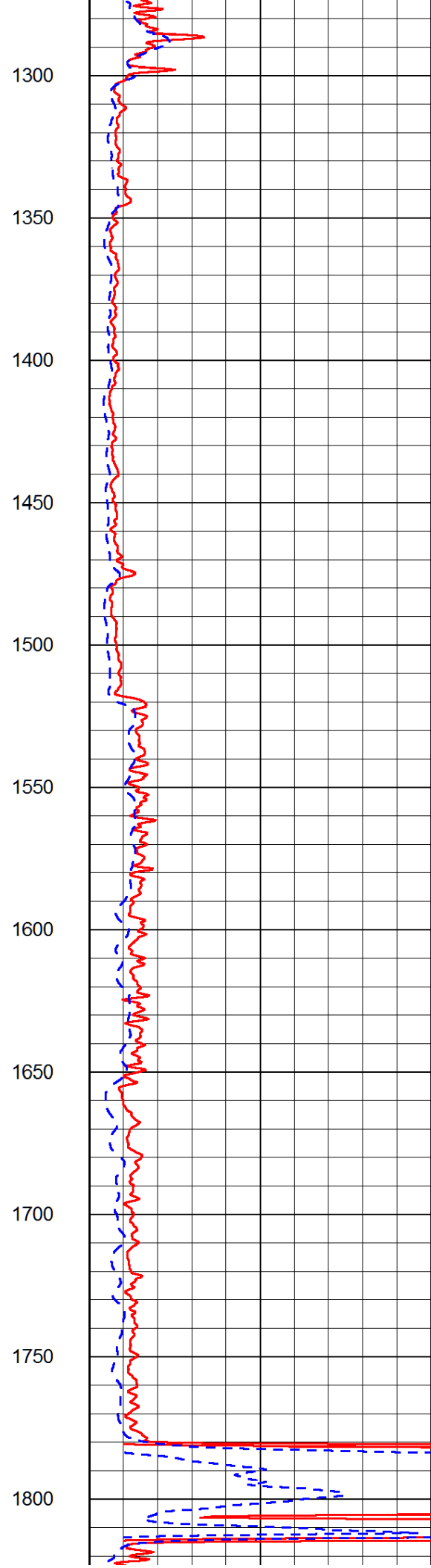
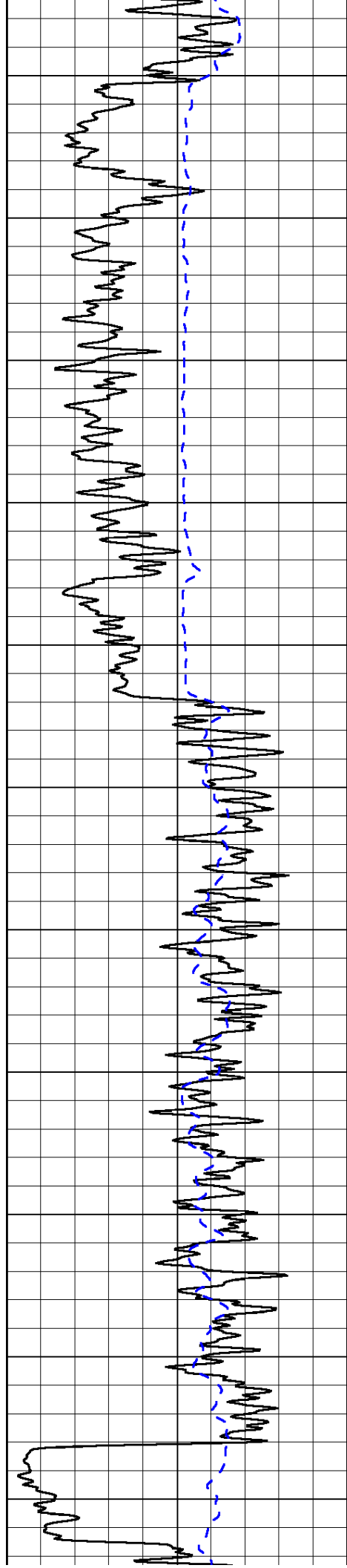
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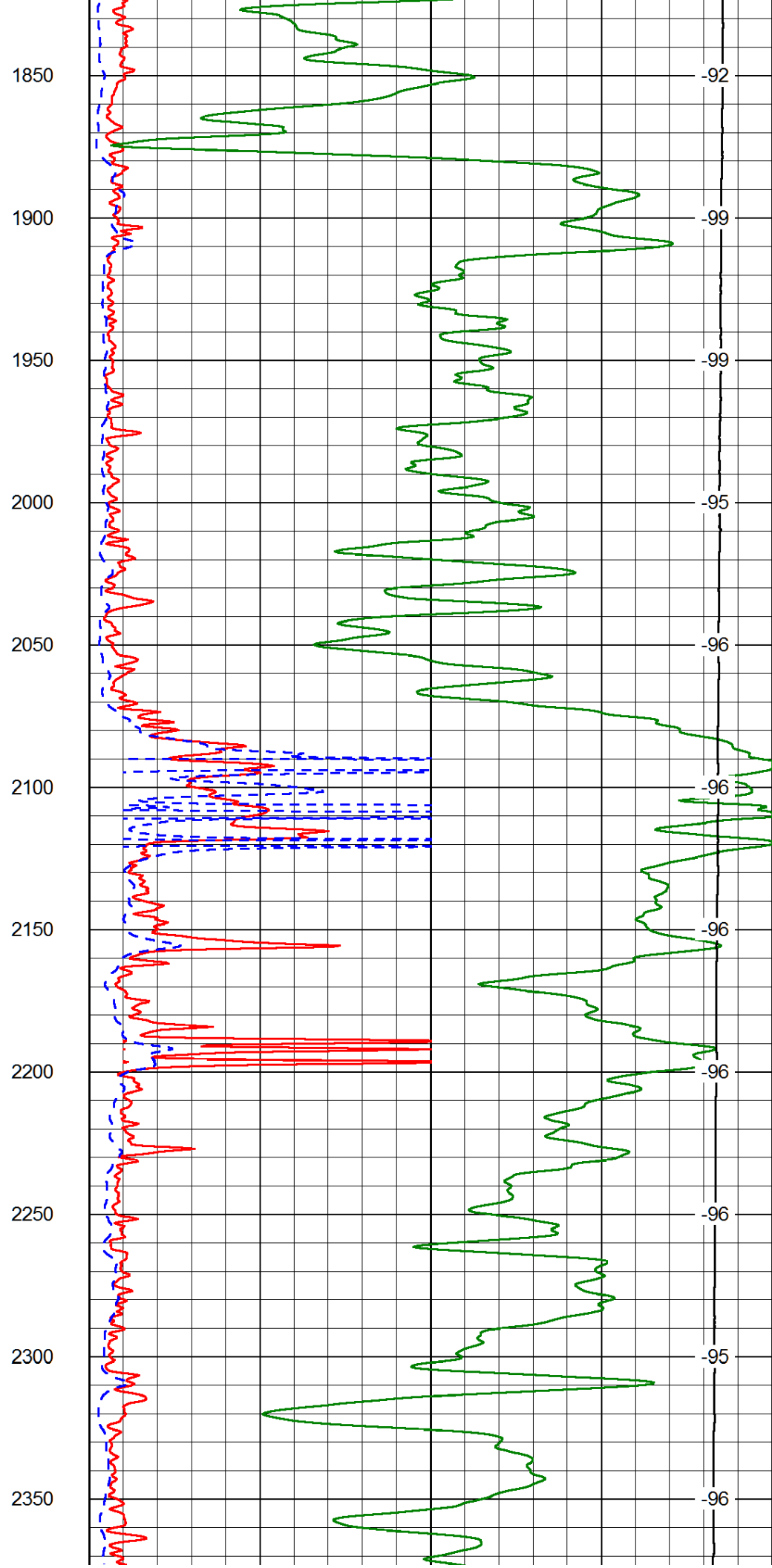
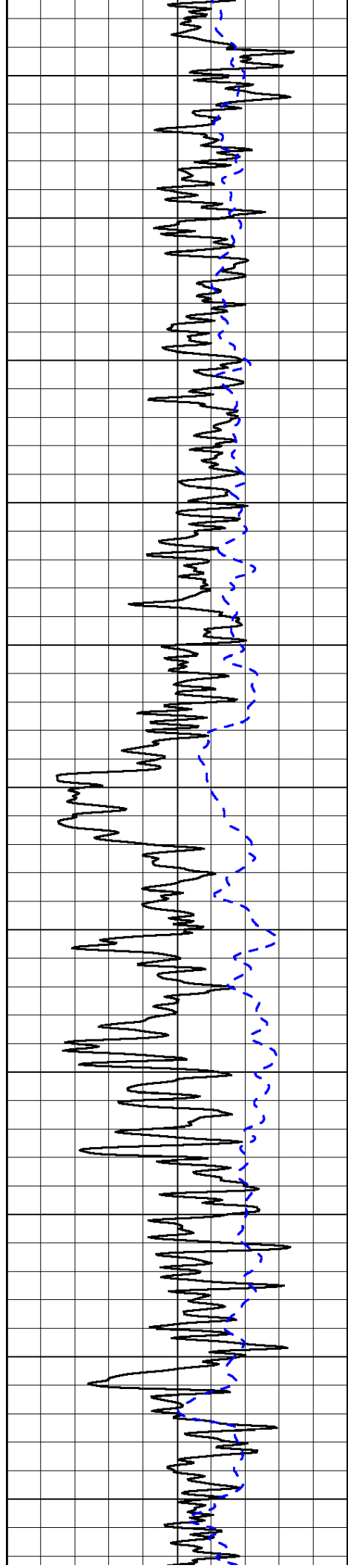
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0	Deep Resistivity	50
1000	Conductivity	0
15000	Line Tension	0
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50	Deep Resistivity	500

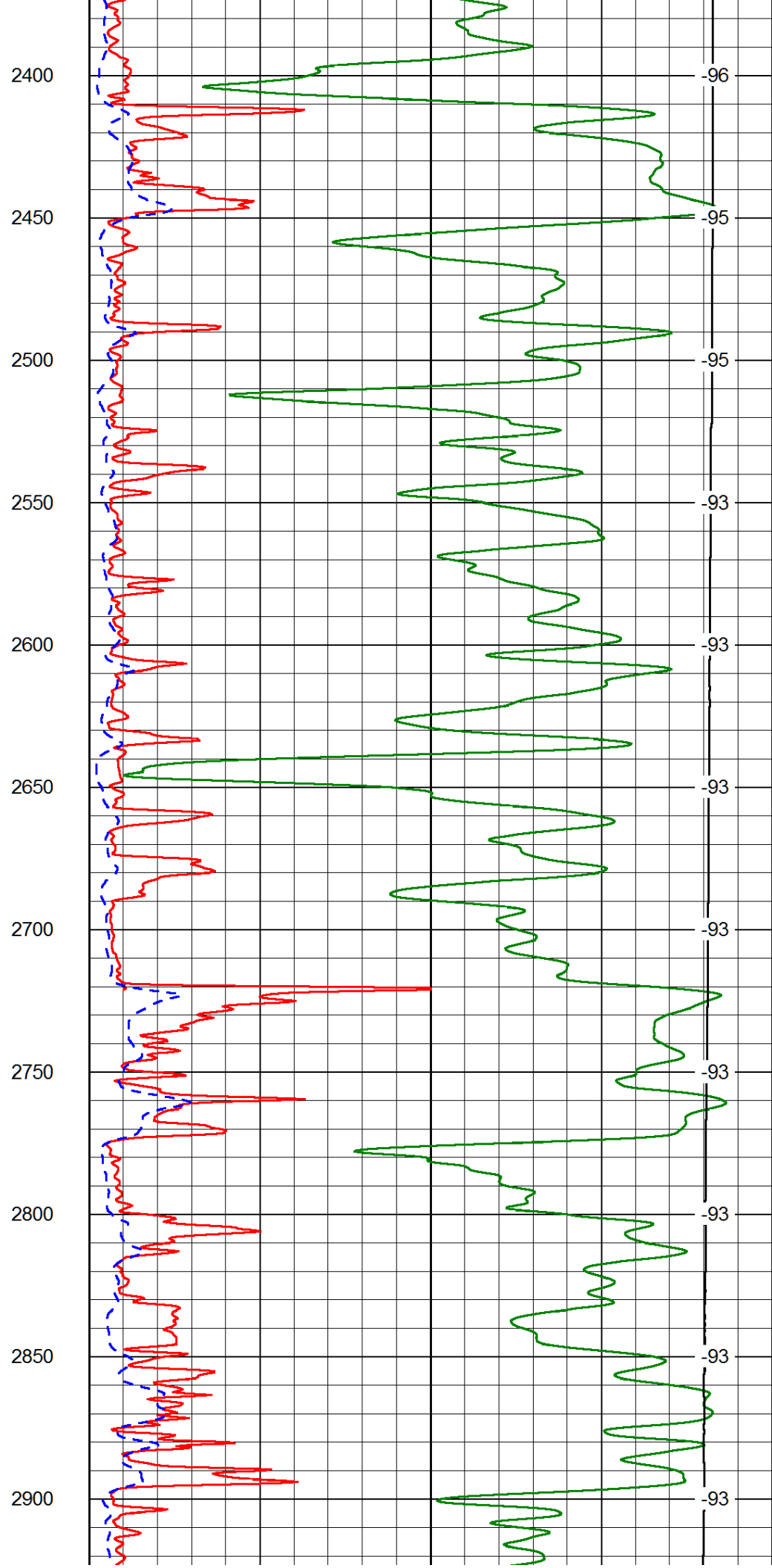
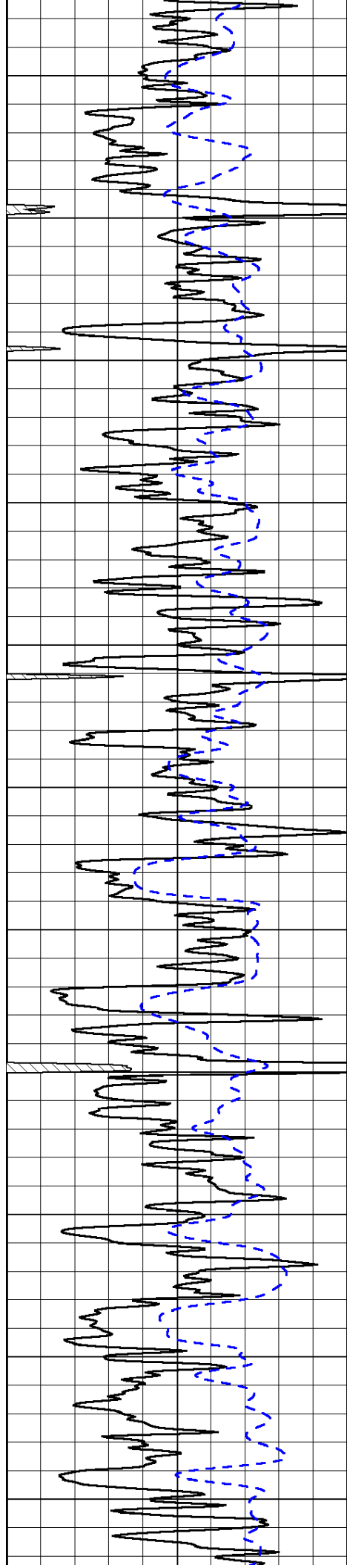
LSPD

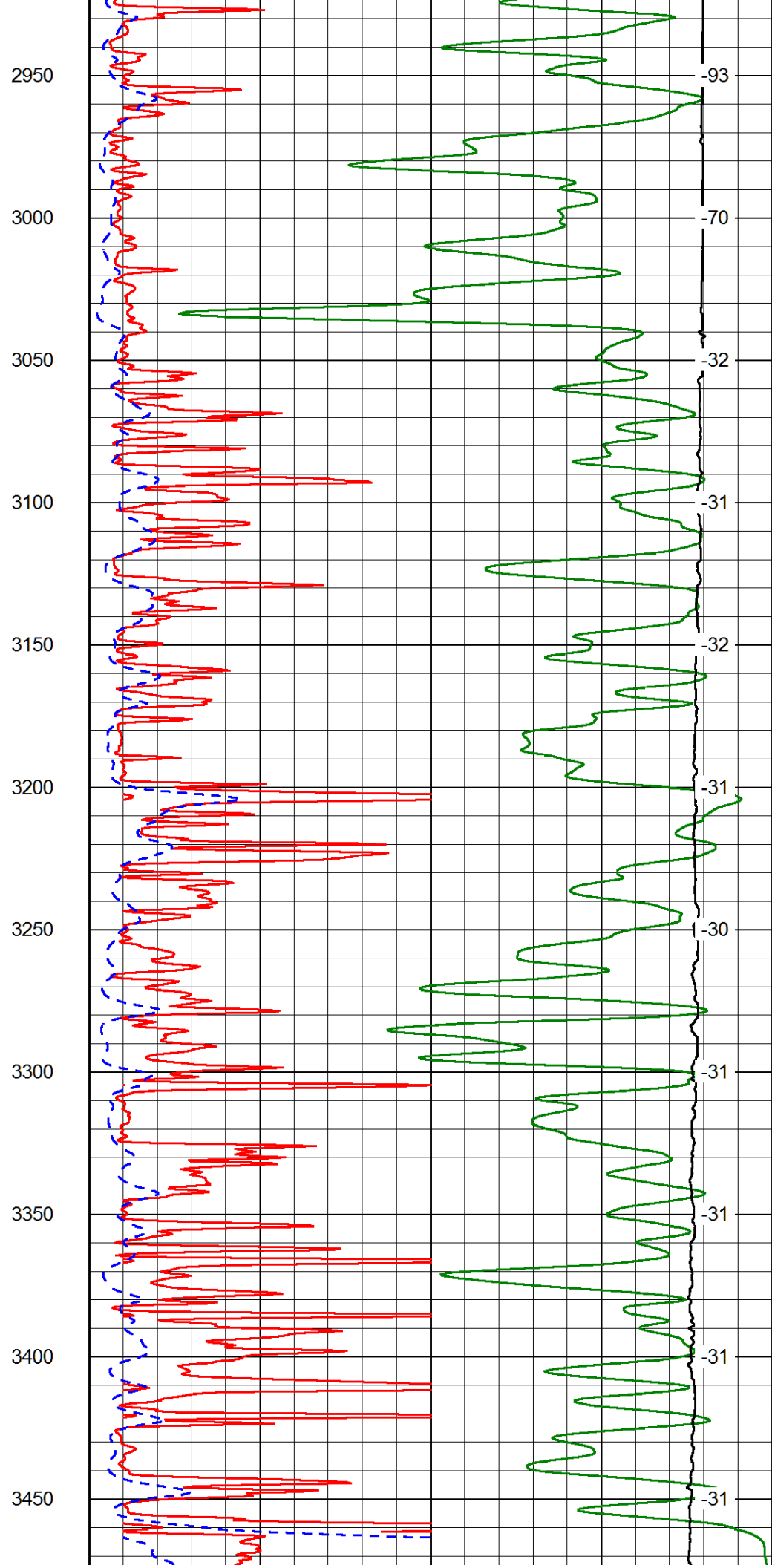
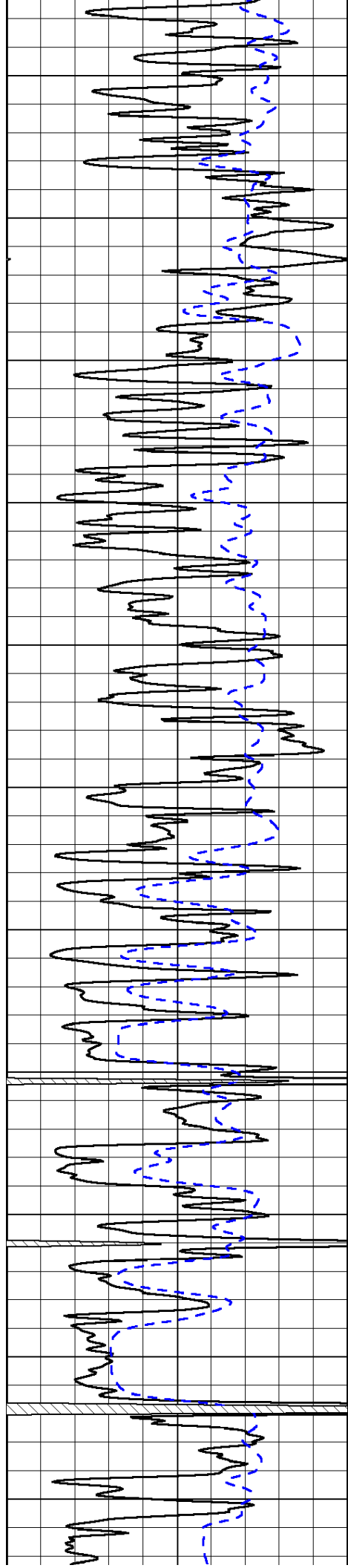


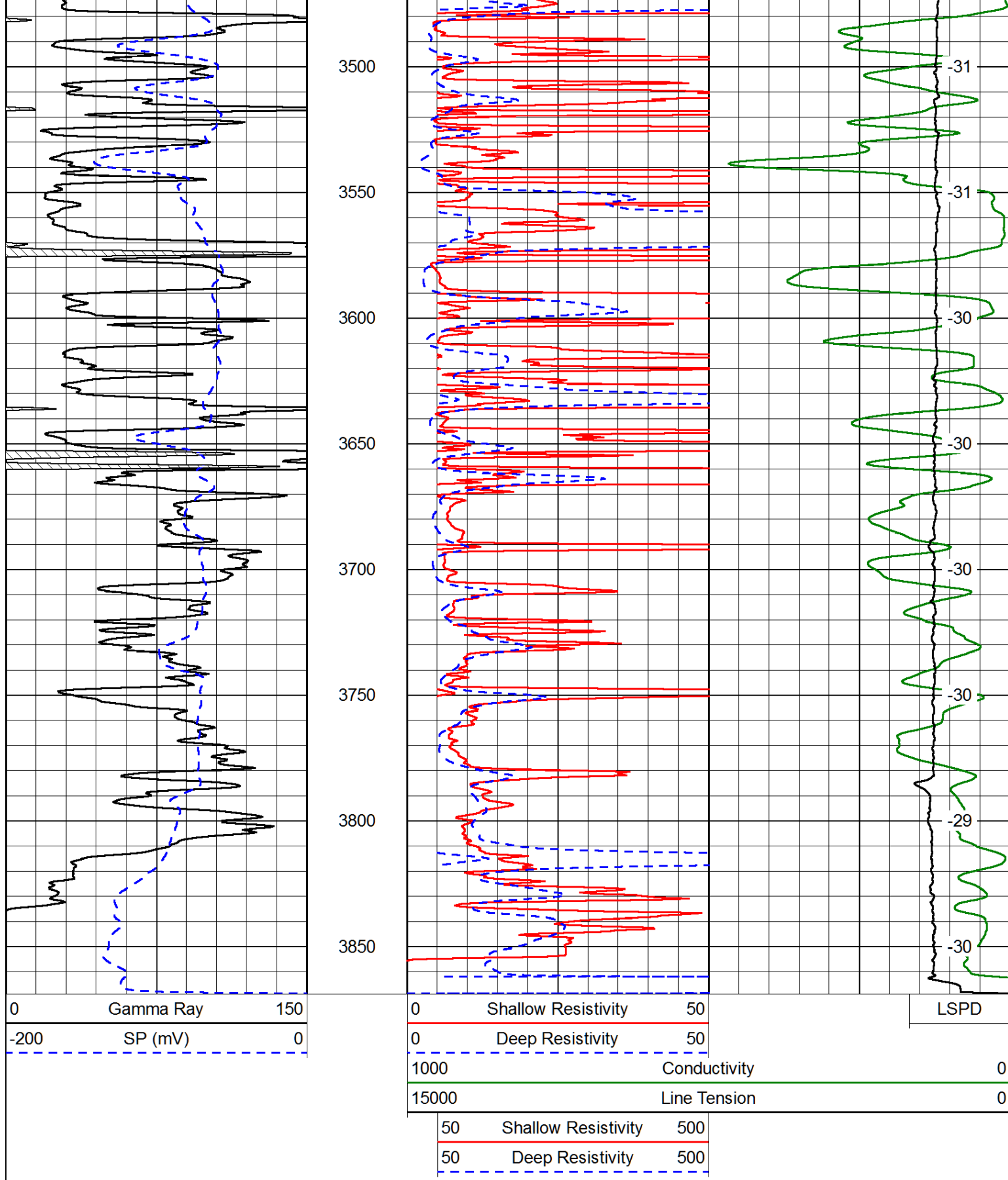








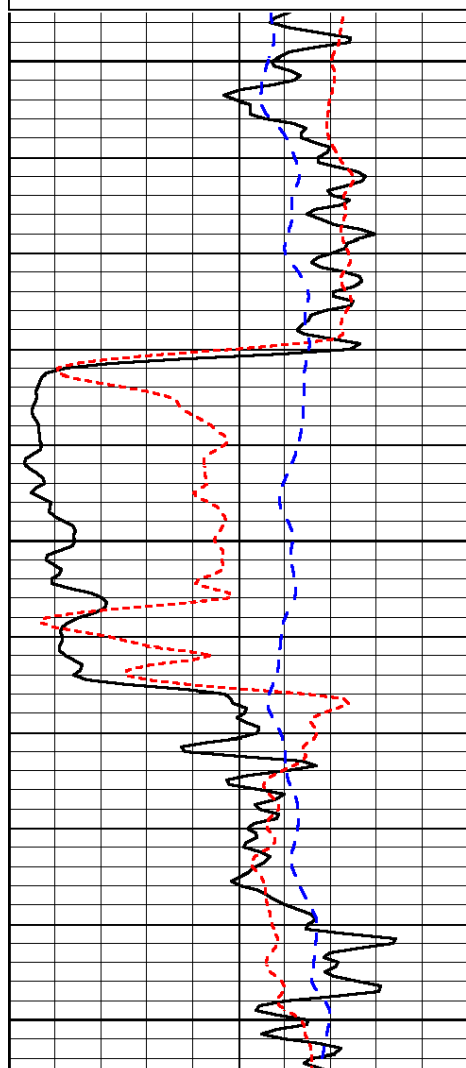




Database File: hchd.db
 Dataset Pathname: dil/hcstk2
 Presentation Format: dil
 Dataset Creation: Tue Nov 04 12:59:41 2014
 Charted by: Depth in Feet scaled 1:240



-160	RxoRt	40
-200	SP (mV)	0



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

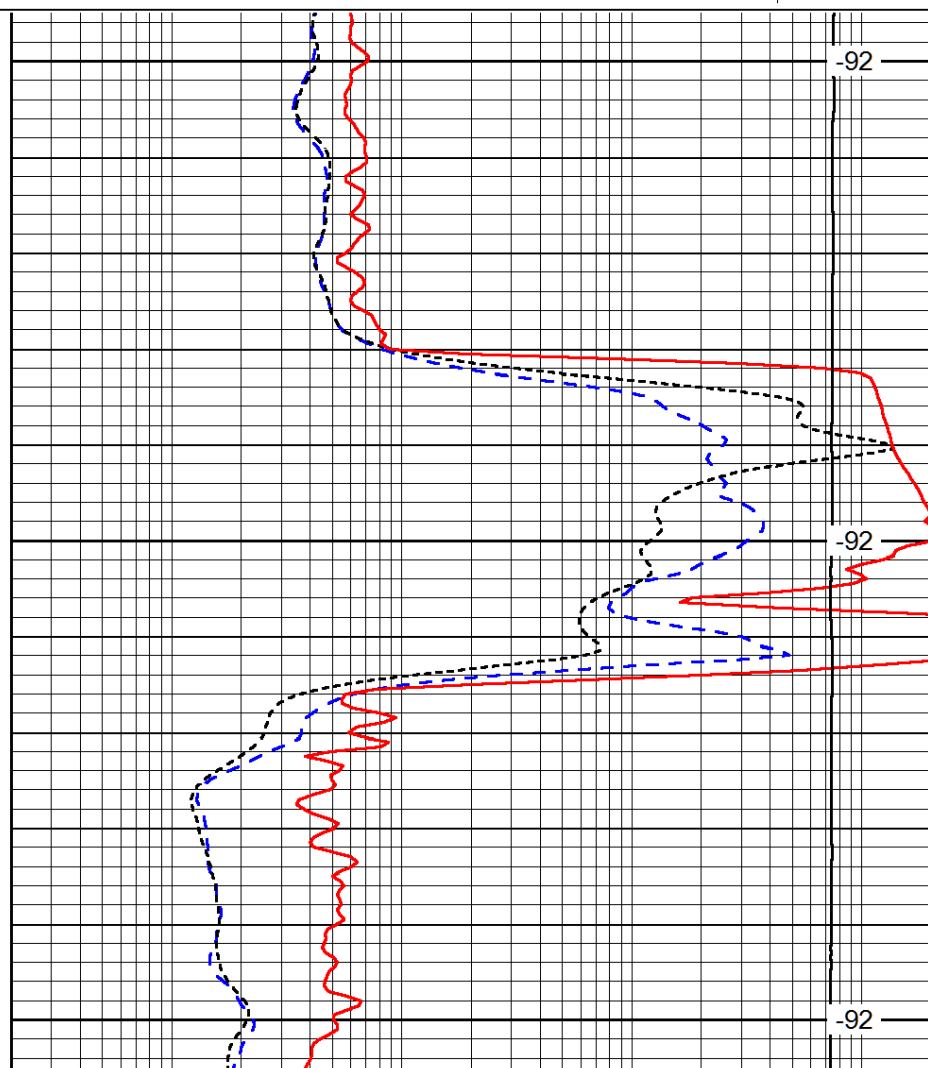
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1800

1850

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0.2	Shallow Resistivity	2000
10000	Line Tension	0

LSPD

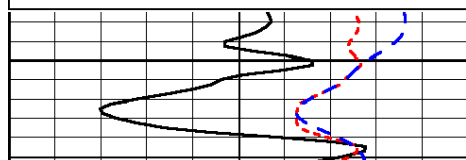


0.2	Deep Resistivity	2000
0.2	Medium Resistivity	2000
0.2	Shallow Resistivity	2000
10000	Line Tension	0

LSPD

Database File: hchd.db
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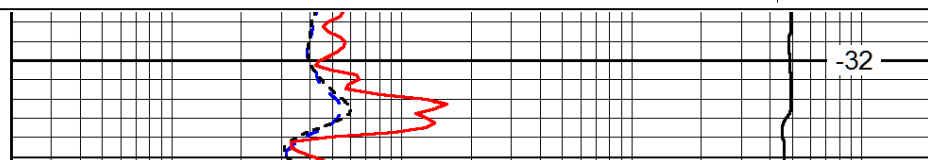
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-160	RxoRt	40
-200	SP (mV)	0



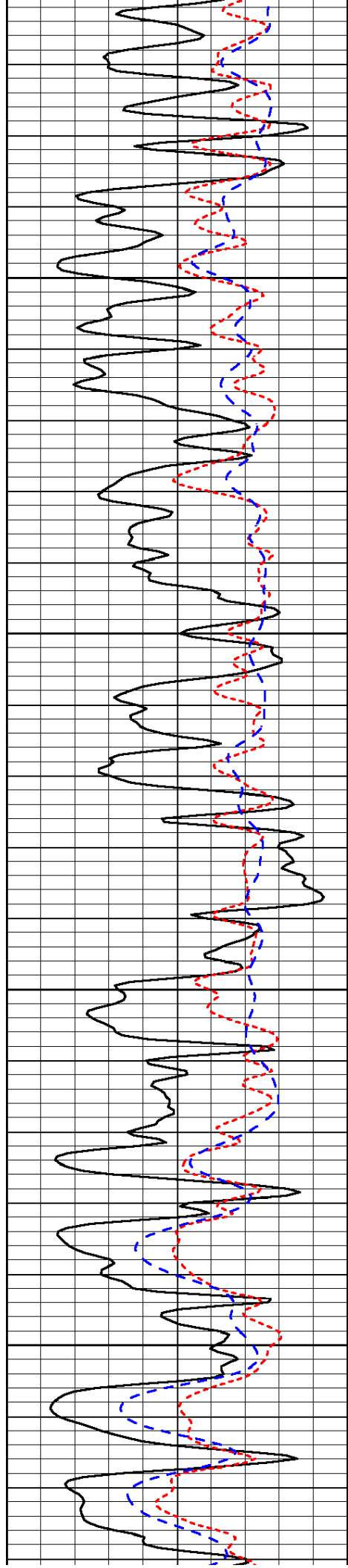
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0.2	Medium Resistivity	2000
0.2	Shallow Resistivity	2000
10000	Line Tension	0

LSPD



-32

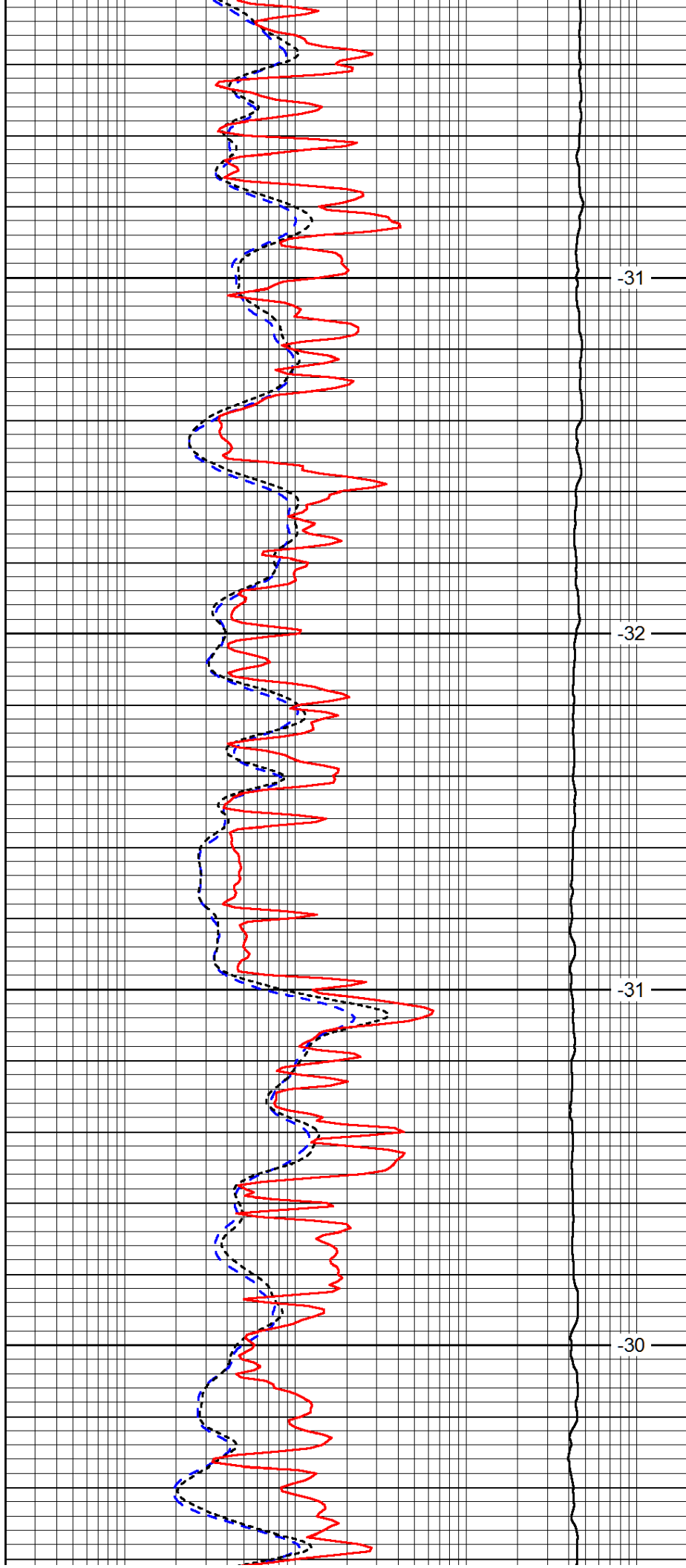


3100

3150

3200

3250

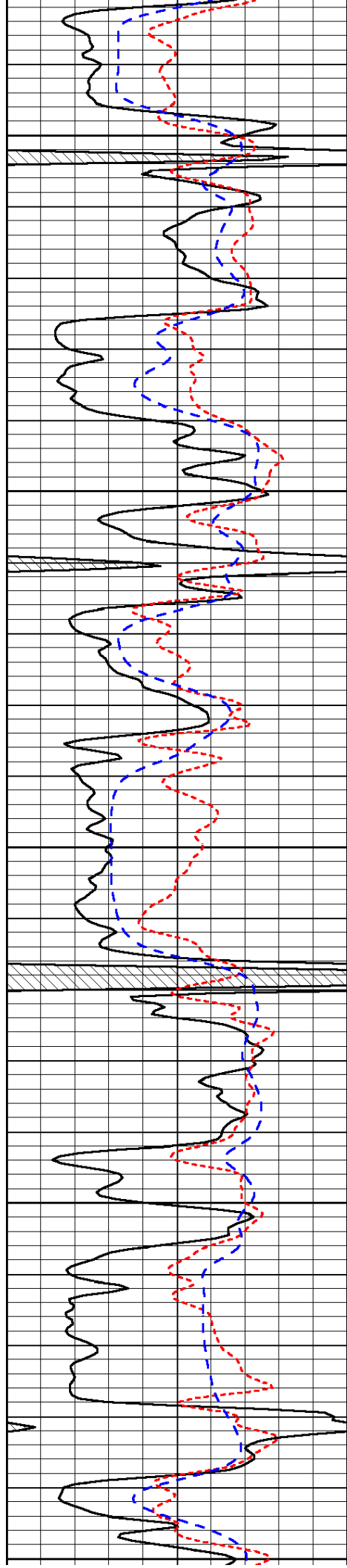


-31

-32

-31

-30



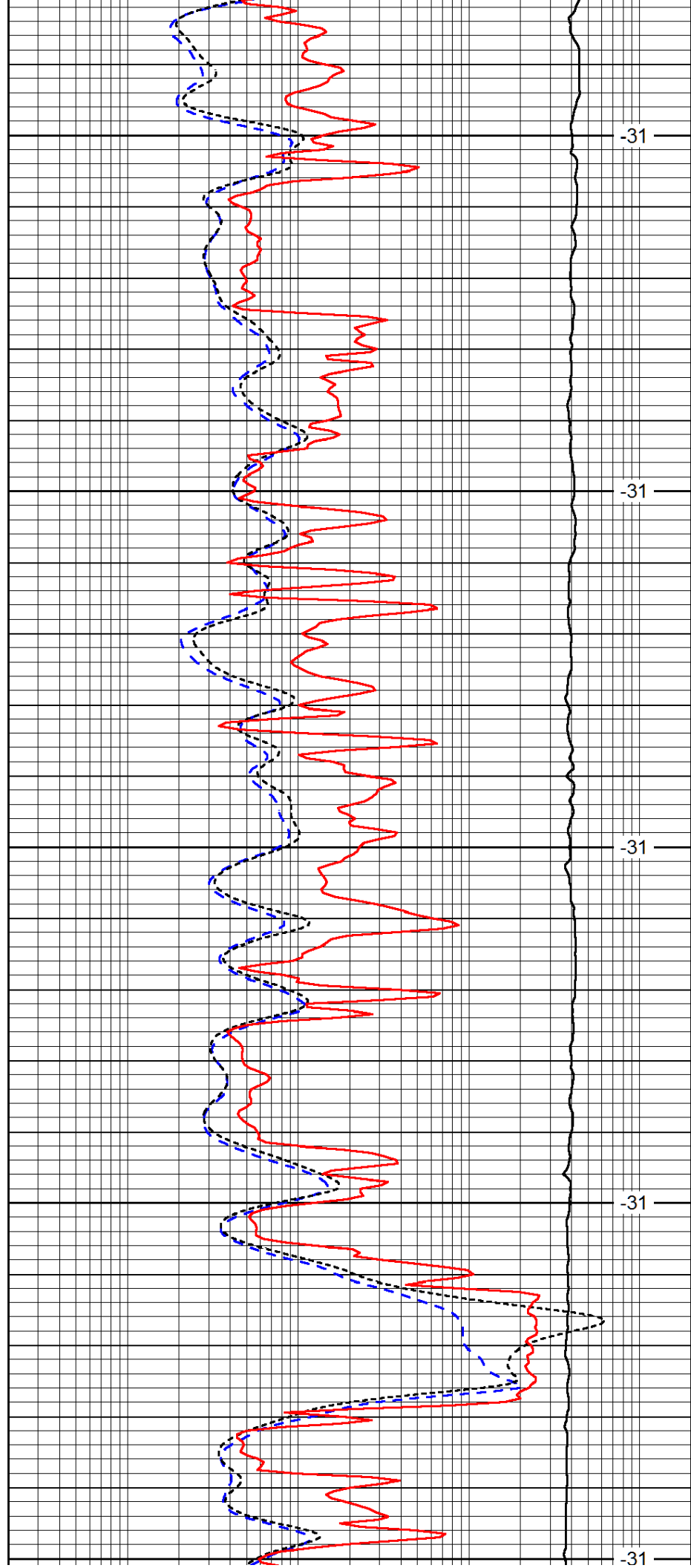
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3350

3400

3450

3500



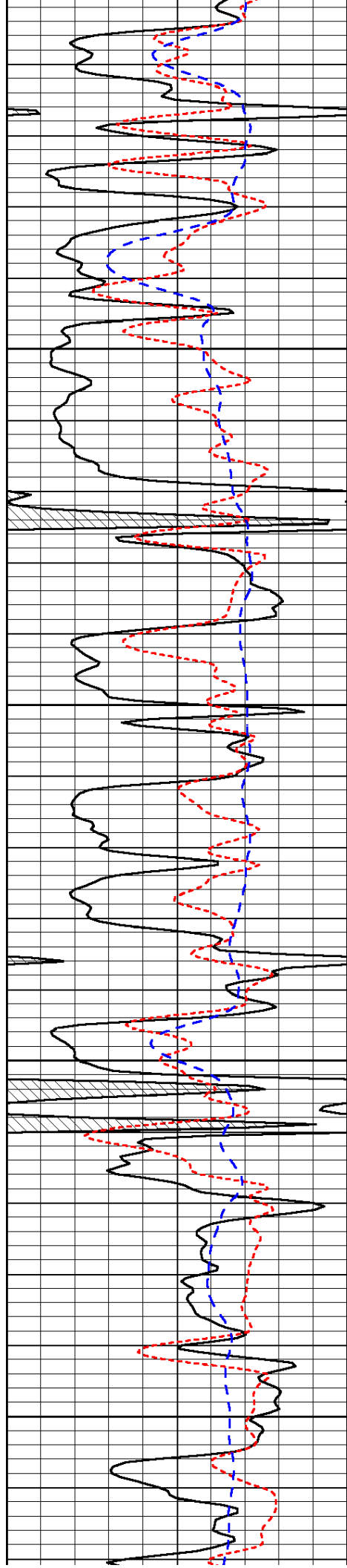
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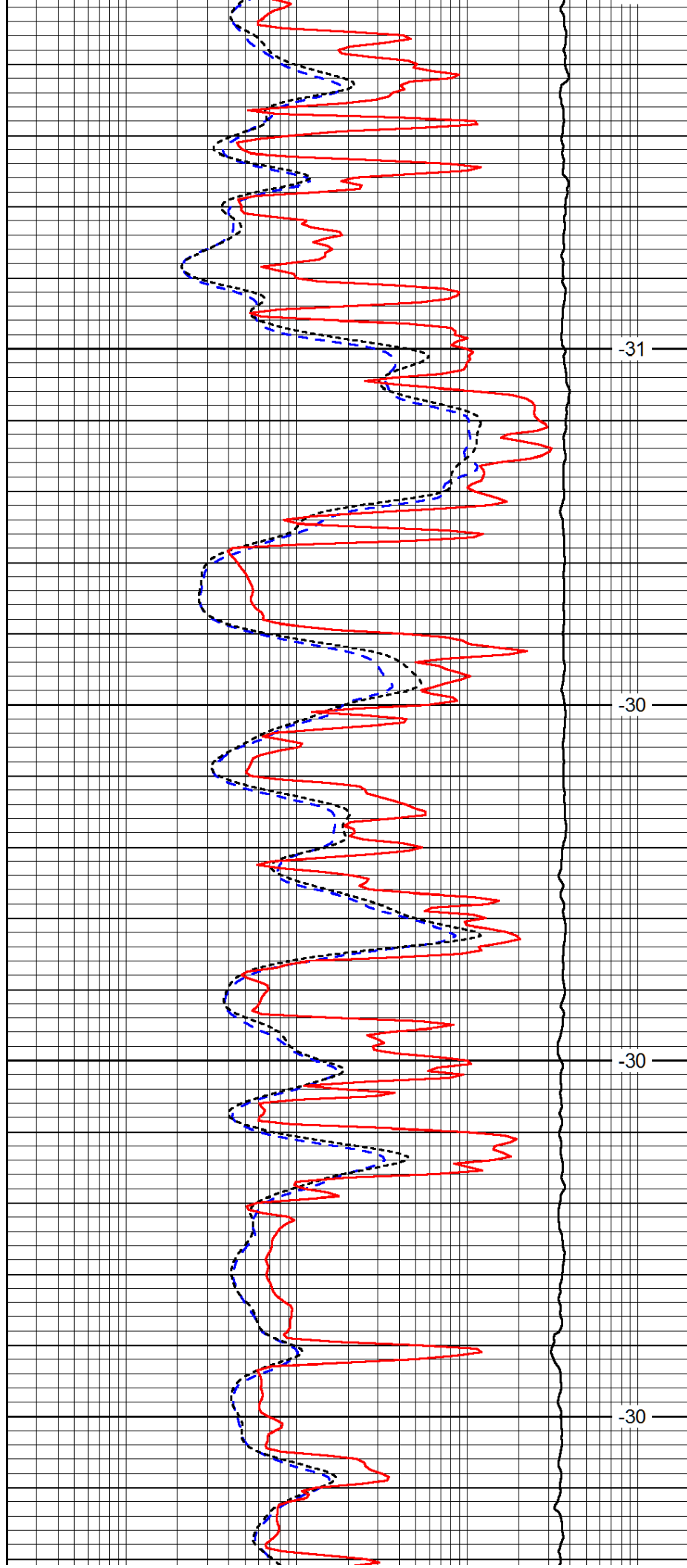


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3600

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3700

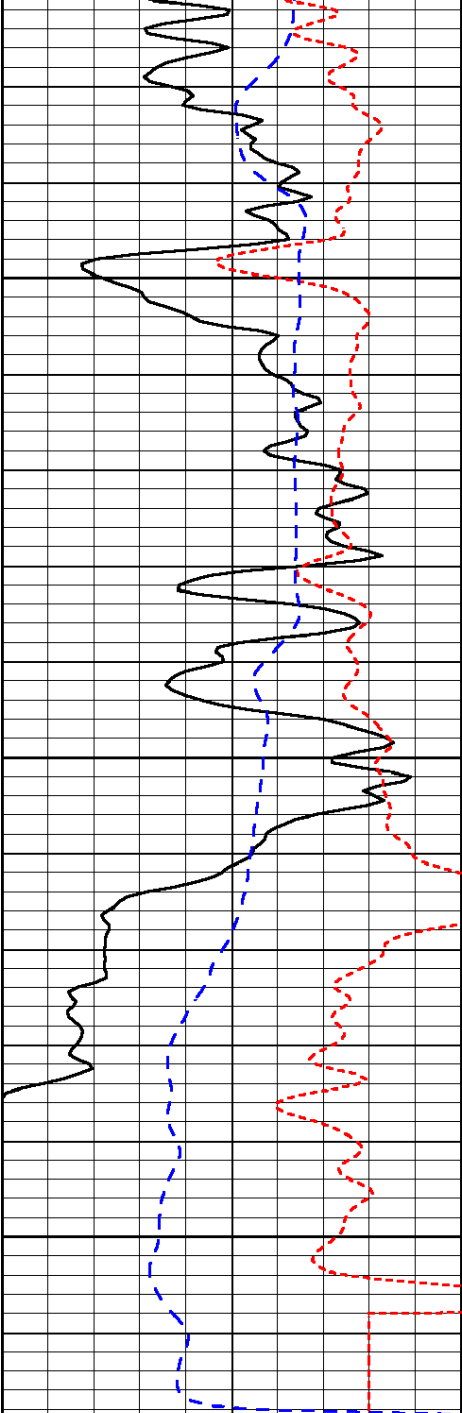


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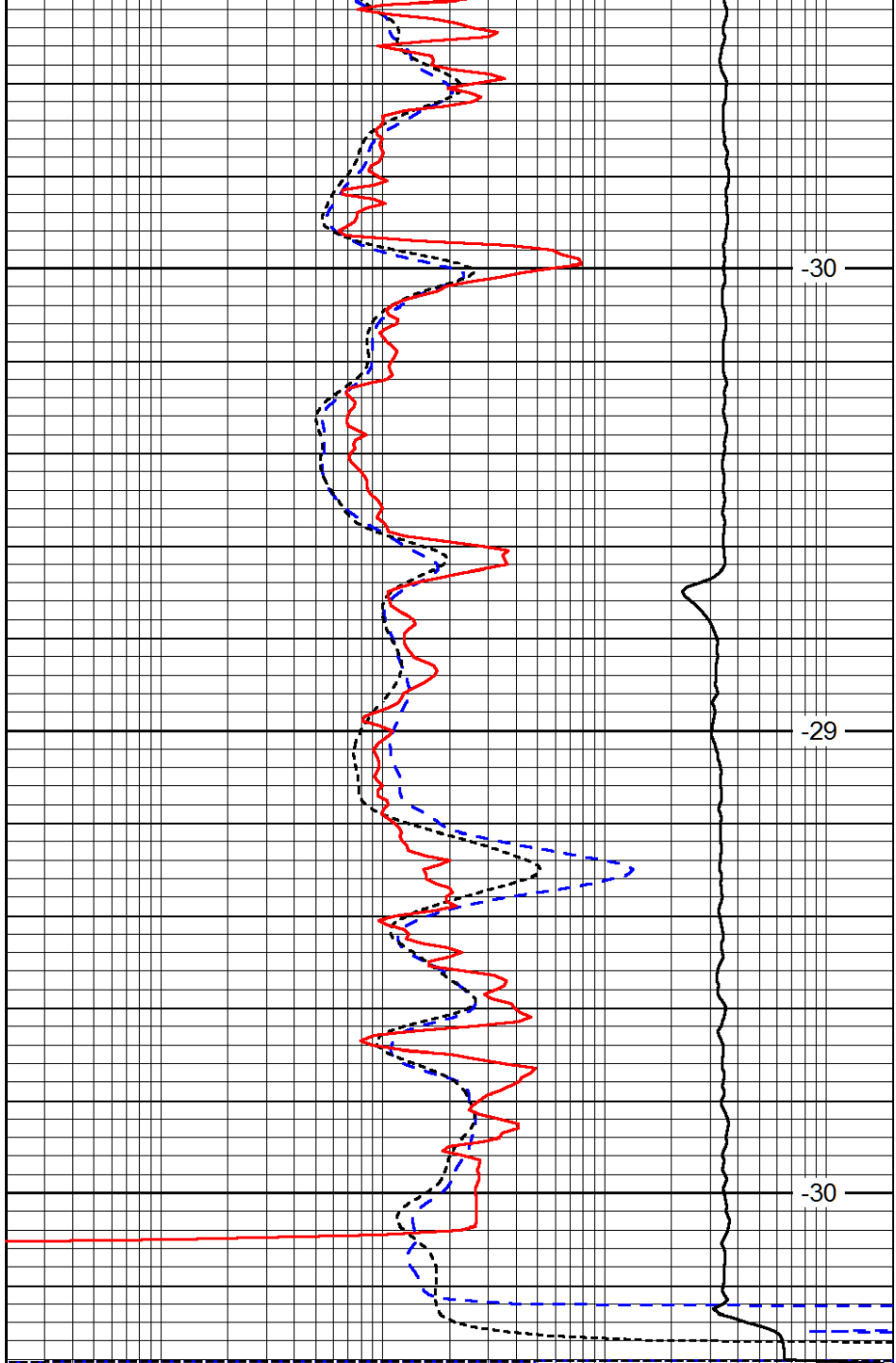
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-30

-30



0	Gamma Ray	150
-160	RxoRt	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