



Pioneer Energy Services

## Dual Induction Log

15-051-26,724-00-00

API No.

Company **Cobalt Energy, LLC**

Well **Sack Trust 'A' No. 1-24**

Field  
County **Ellis** State **Kansas**

Location **1012' FNL & 335' FWL**

Sec: **24** Twp: **13S** Rge: **19W**

Permanent Datum **Ground Level** Elevation **2038**

Log Measured From **Kelly Bushing** 9 Ft. Above Perm. Datum

Drilling Measured From **Kelly Bushing** Elevation **2047**  
G.I.L. **2038**

Date **8/13/14**

Run Number **One**

Depth Driller **3750**

Depth Logger **3748**

Bottom Logged Interval **3747**

Top Log Interval **200**

Casing Driller **8.625 @ 220**

Casing Logger **219**

Bit Size **7.875**

Type Fluid in Hole **Chemical**

Salinity, ppm CL **10,000**

Density / Viscosity **9.1 | 48**

pH / Fluid Loss **10.0 | 10.0**

Source of Sample **Flowline**

Rm @ Meas. Temp **.22 @ 78**

Rmf @ Meas. Temp **.17 @ 78**

Rmc @ Meas. Temp **.30 @ 78**

Source of Rmf / Rmc **Charts**

Rm @ BHT **.15 @ 114**

Operating Rig Time **4 Hours**

Max Rec. Temp. F **114**

Equipment Number **91**

Location **Hays**

Recorded By **J. Henrickson**

Witnessed By **Mike Maune**

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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

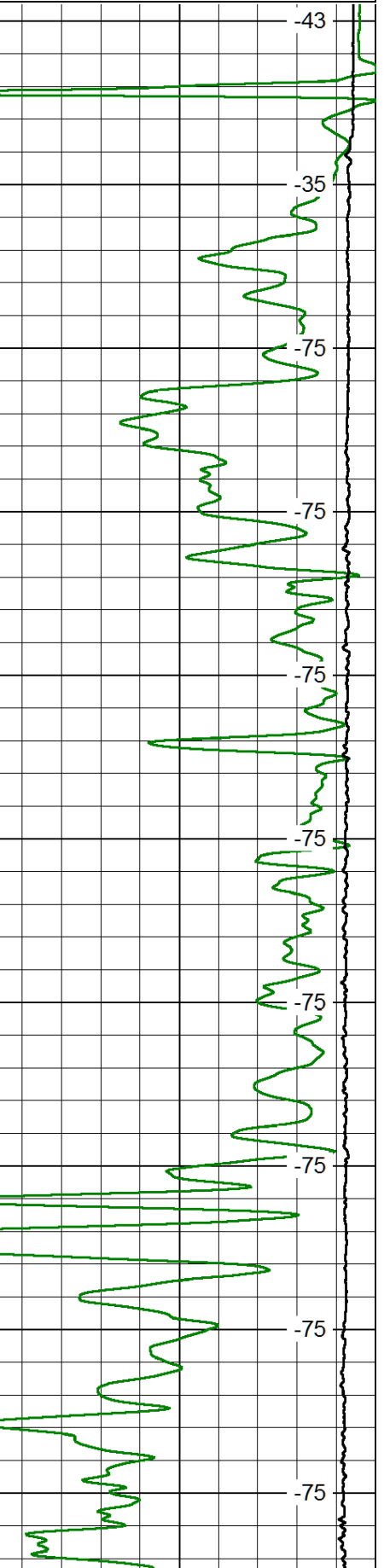
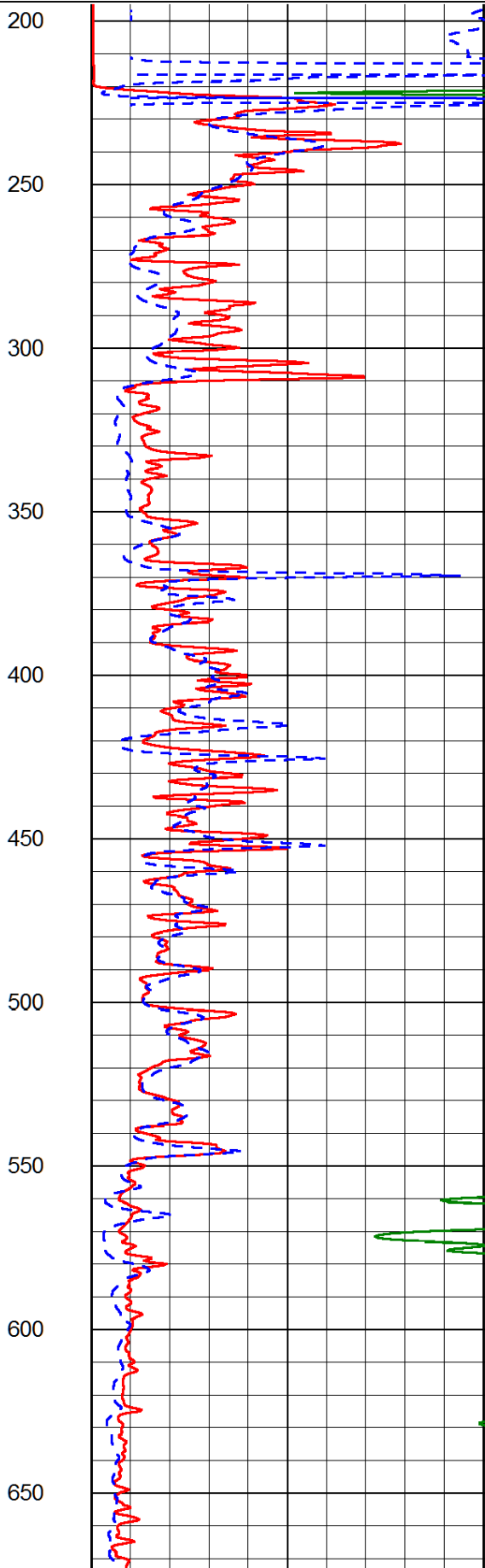
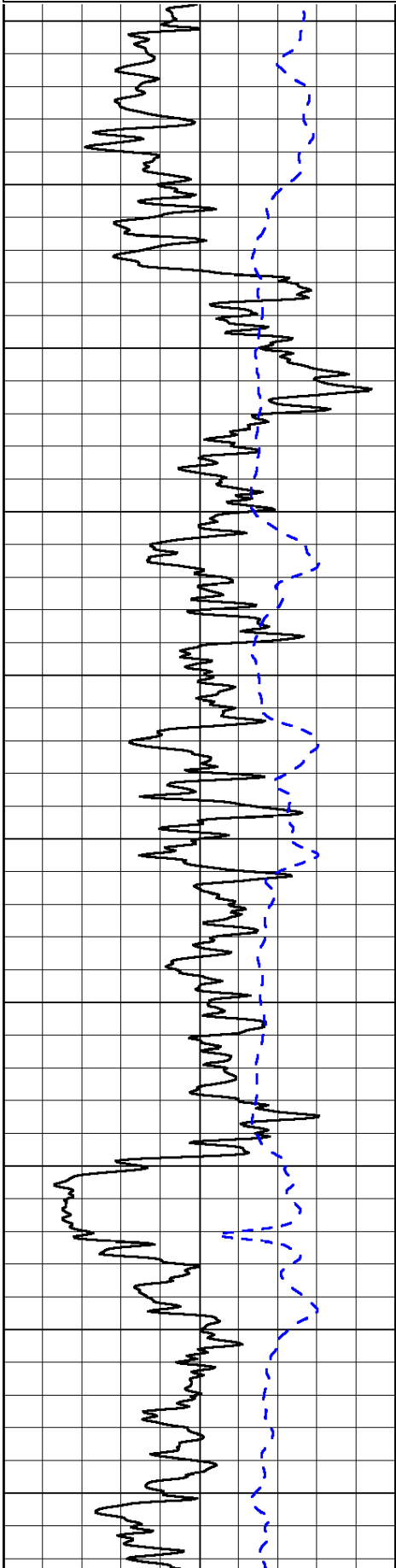
Hays Kansas  
West on Old 40 to 210 Ave, 3/4 North, East Into

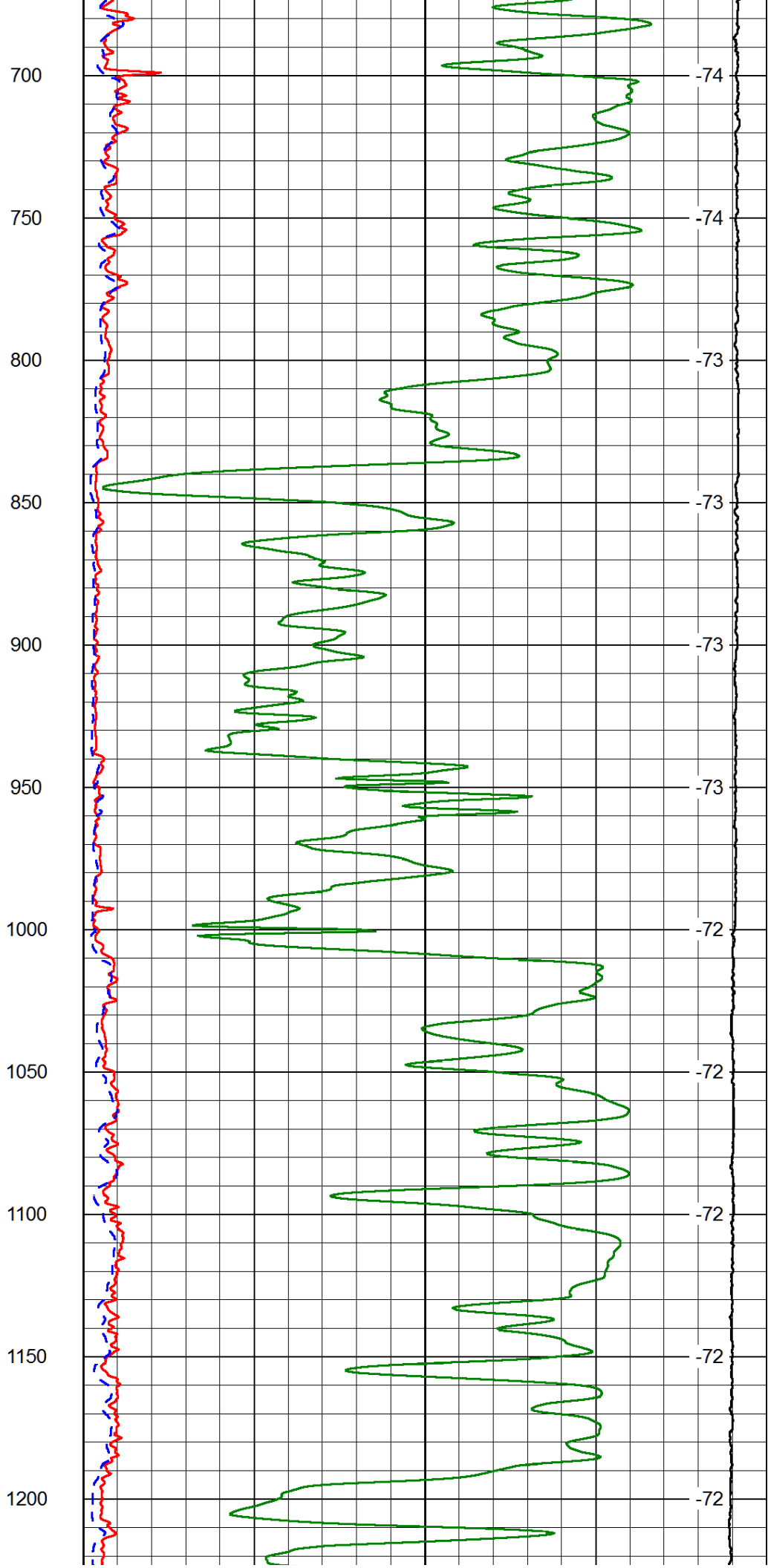
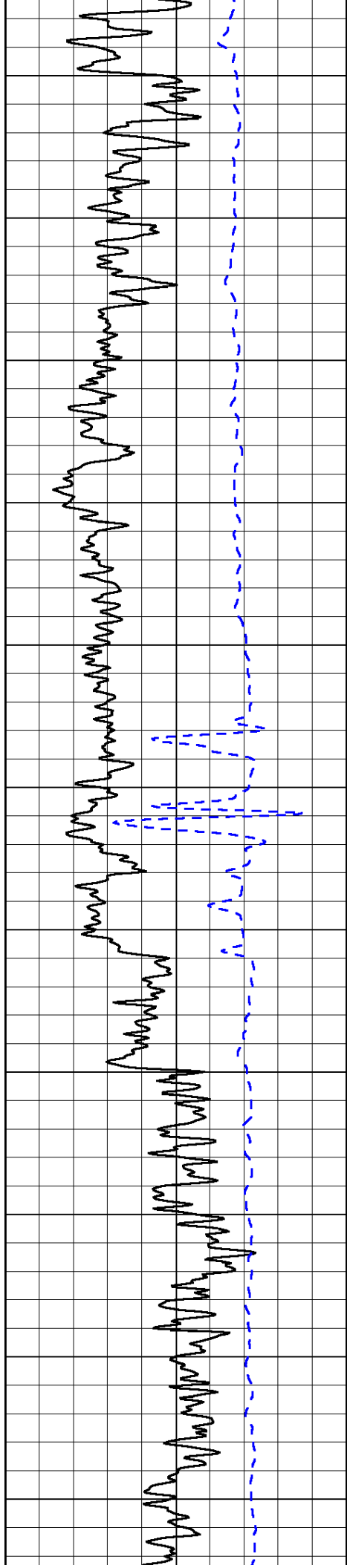
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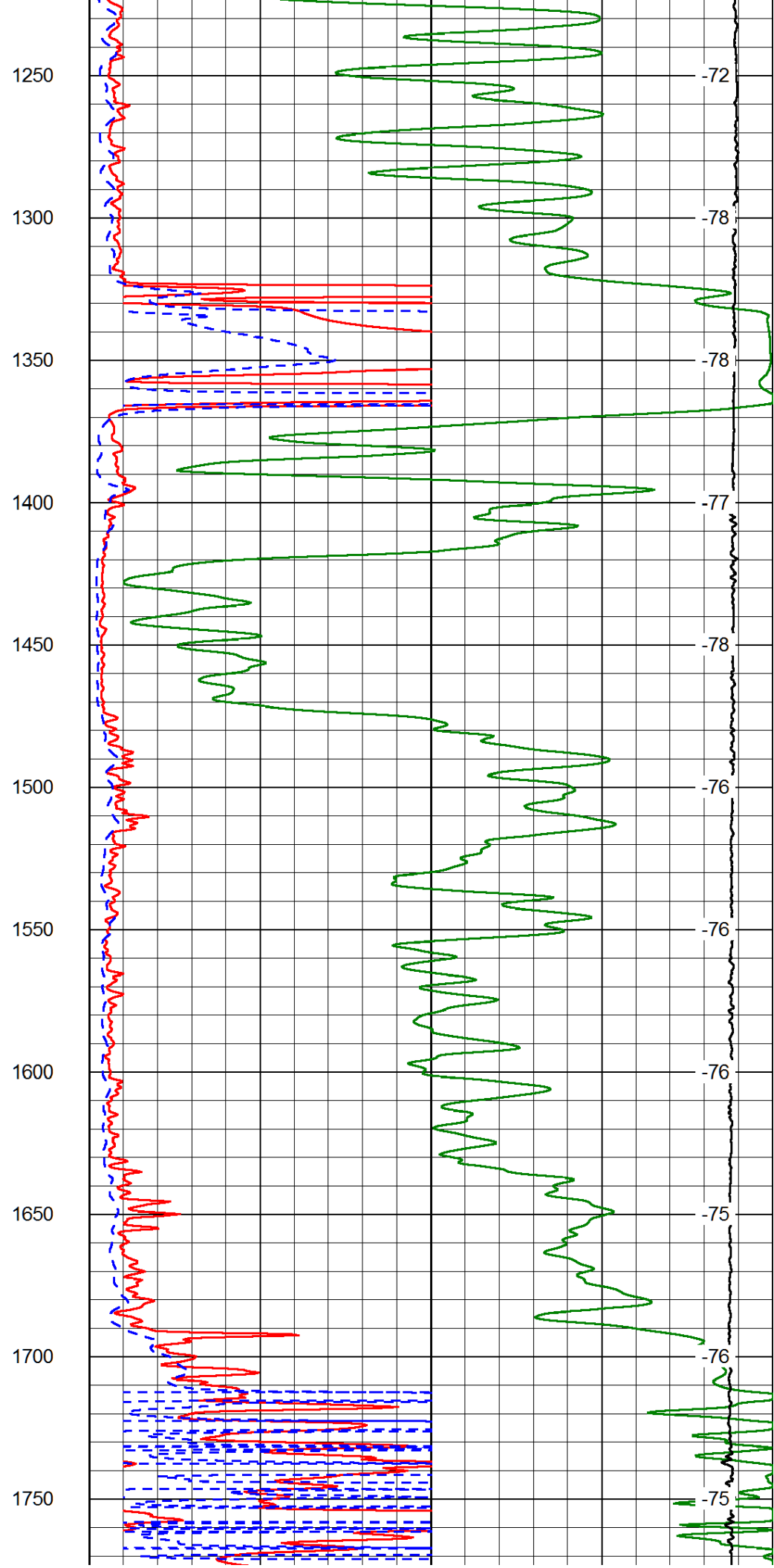
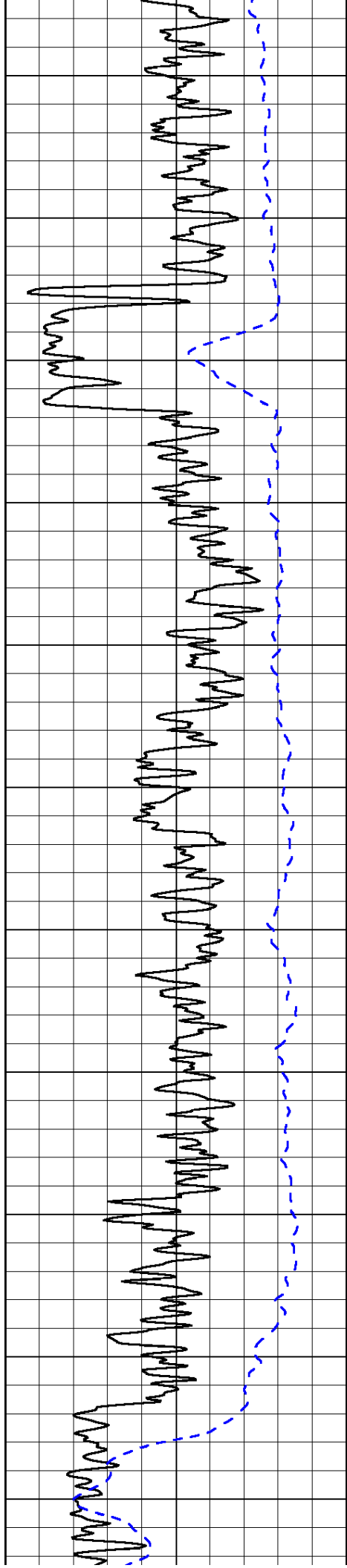
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-200 SP (mV) 0

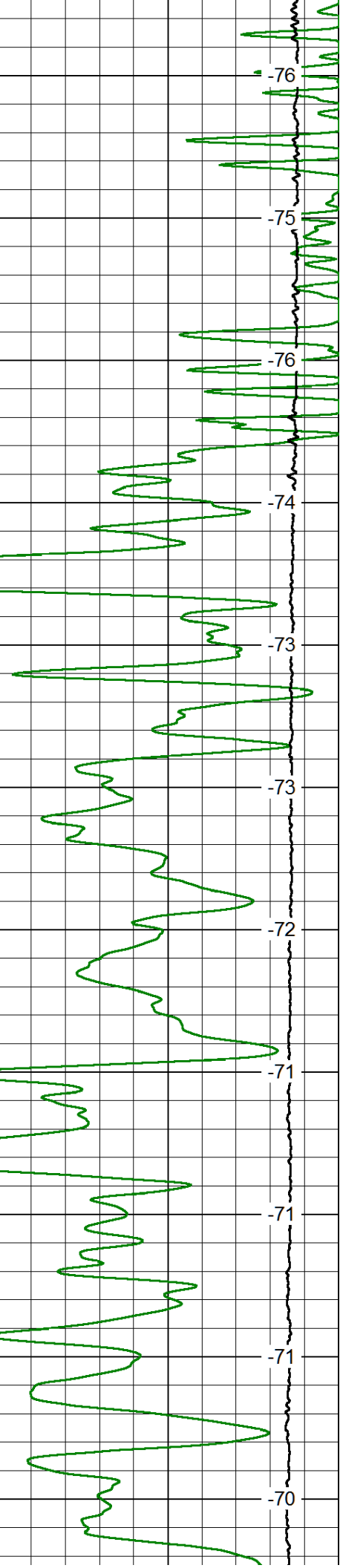
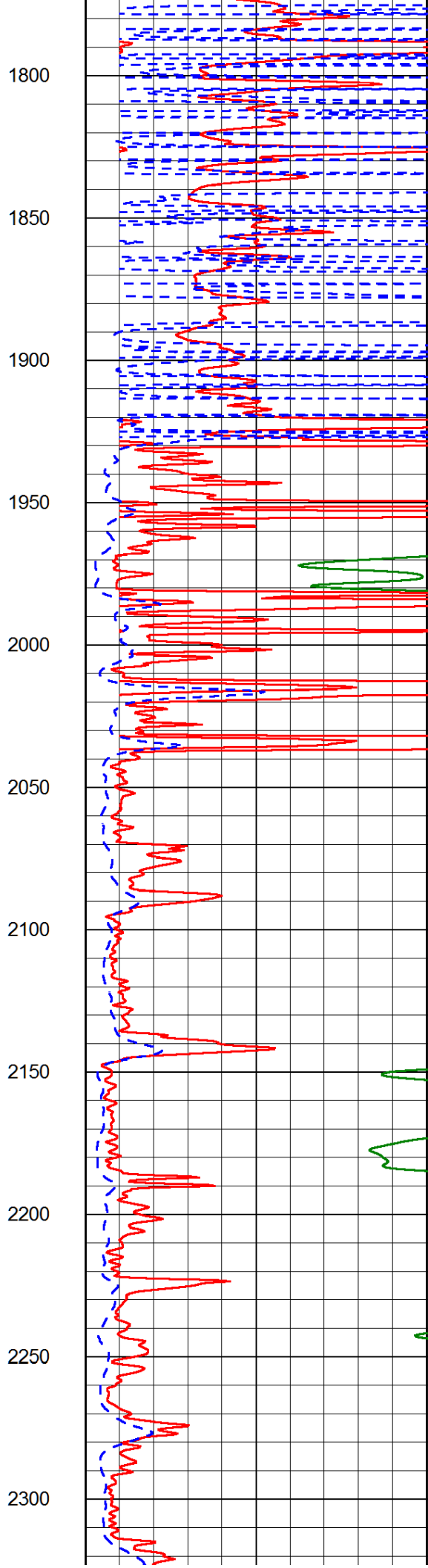
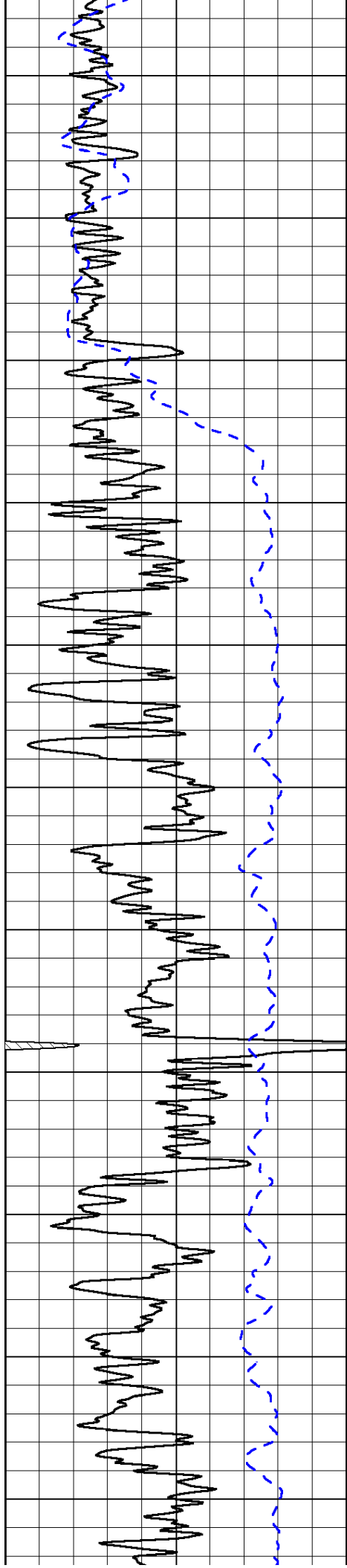
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0 Deep Resistivity 50  
1000 Conductivity 0  
15000 Line Tension 0  
50 Shallow Resistivity 500  
50 Deep Resistivity 500

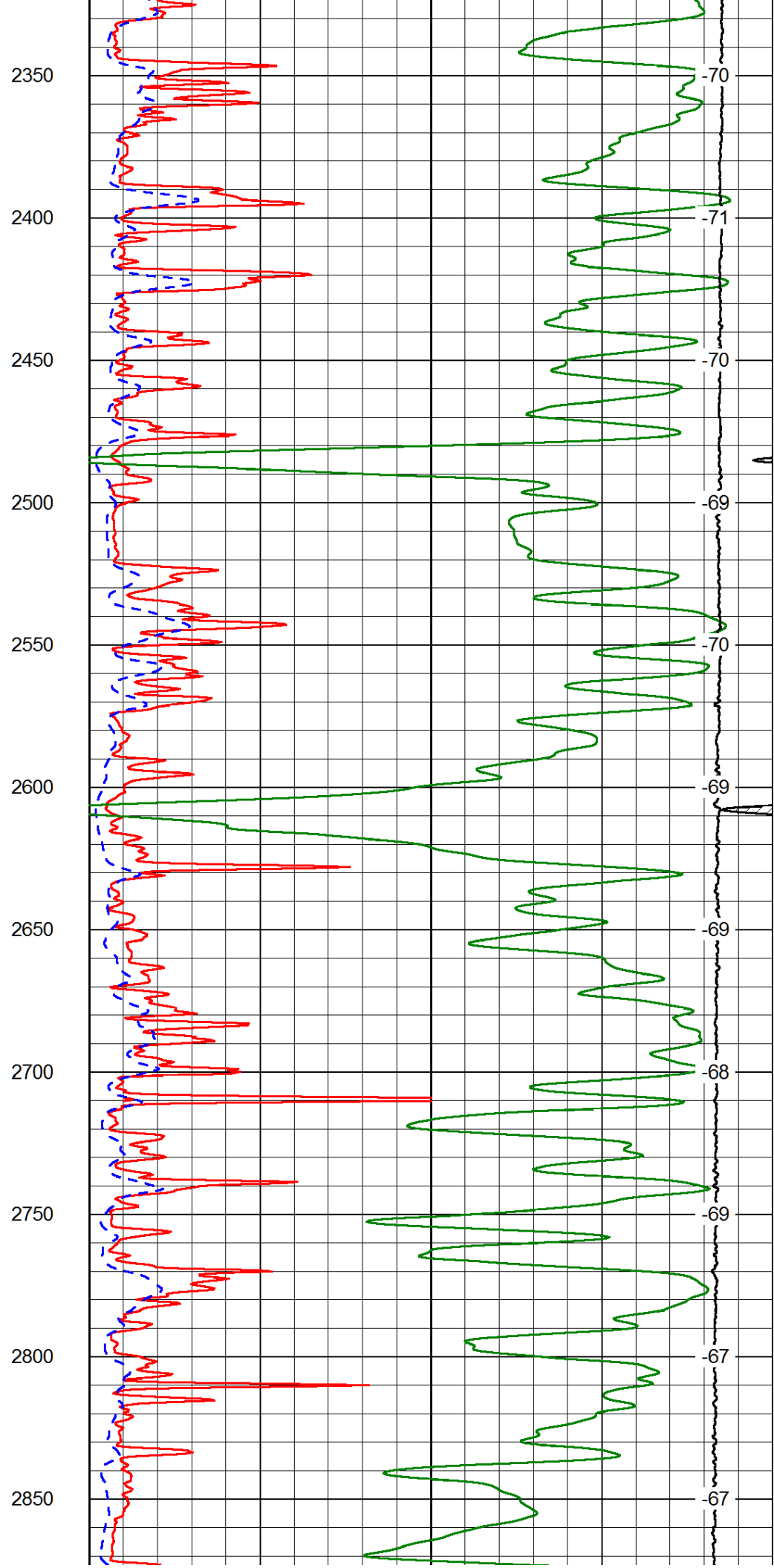
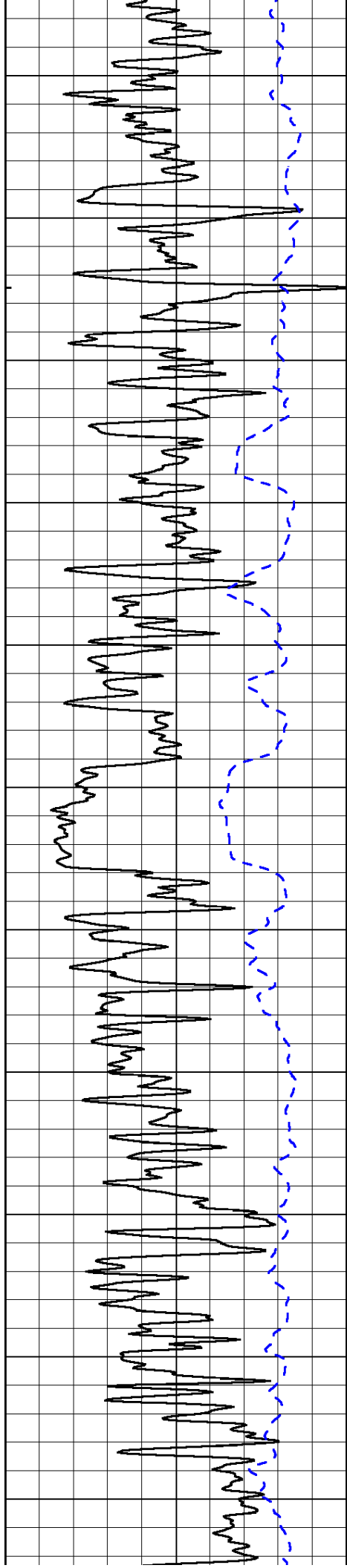
LSPD

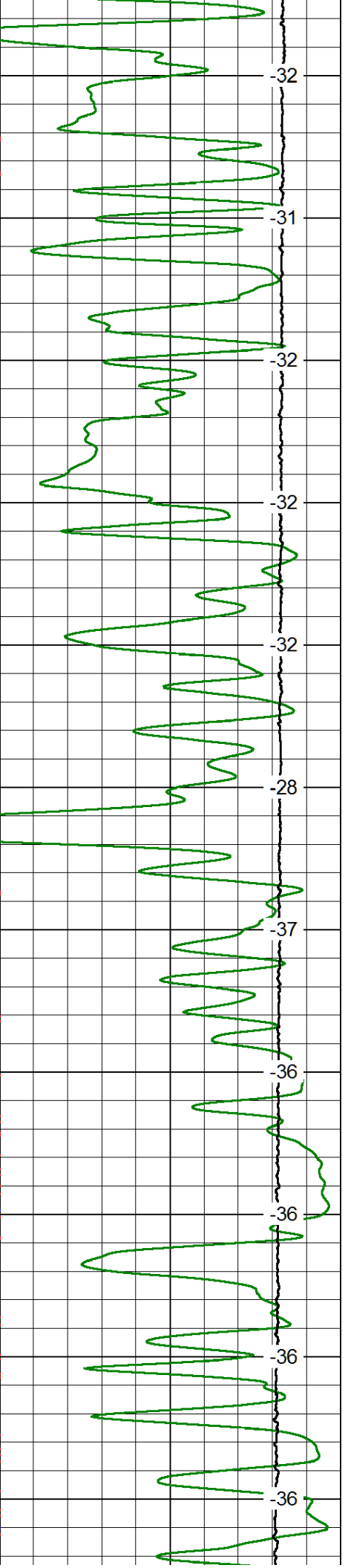
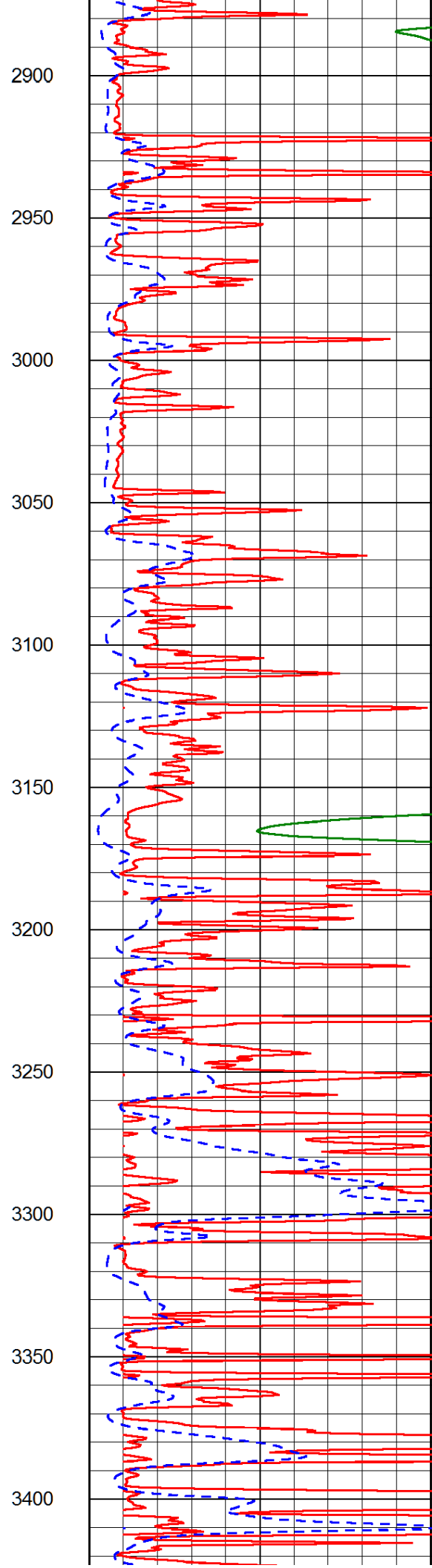
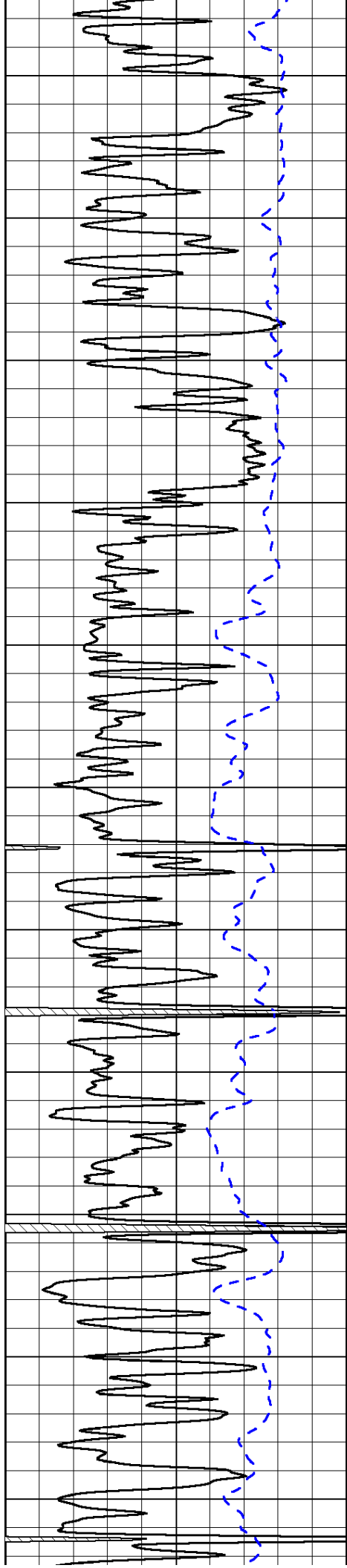


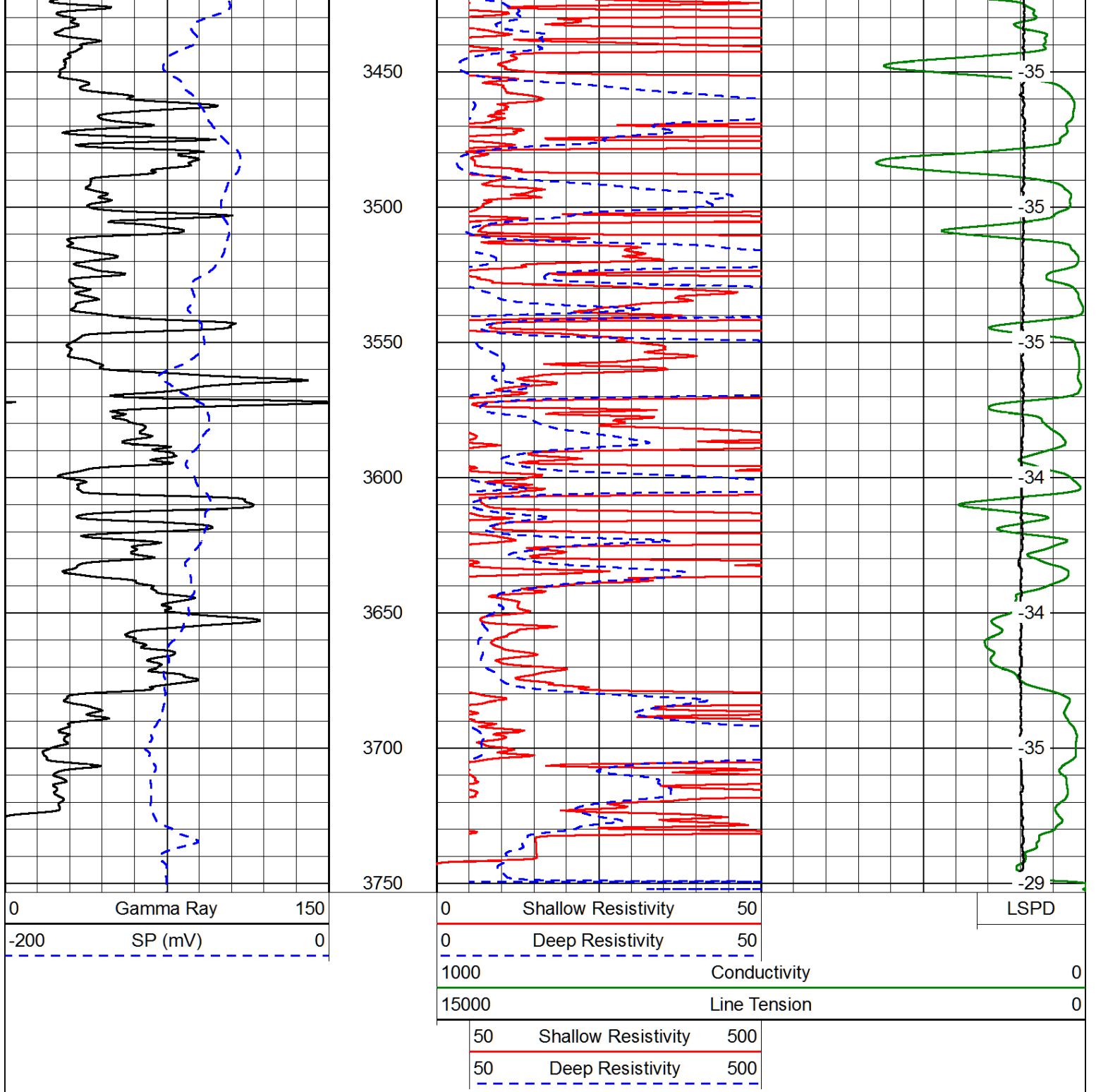




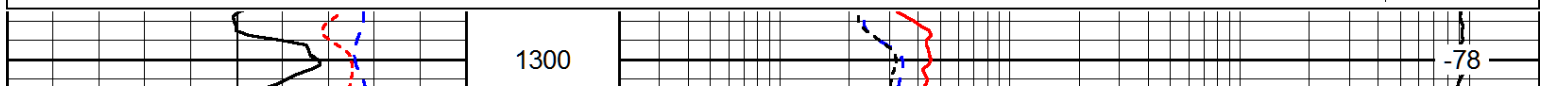
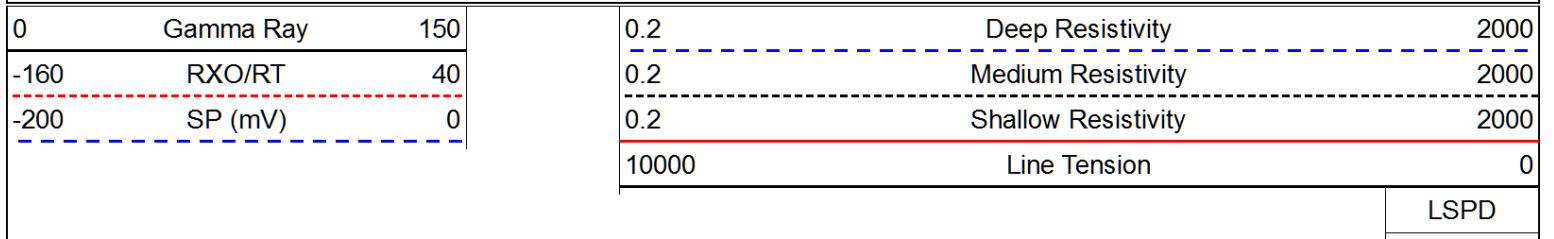


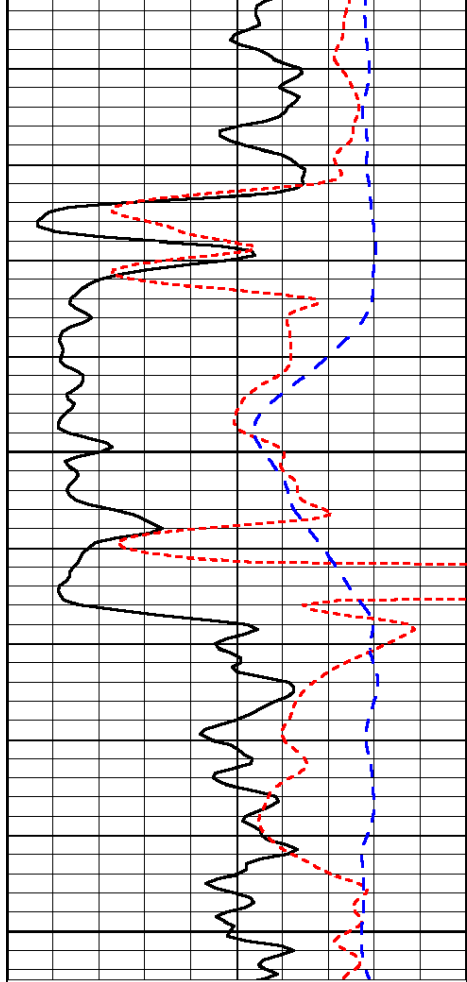






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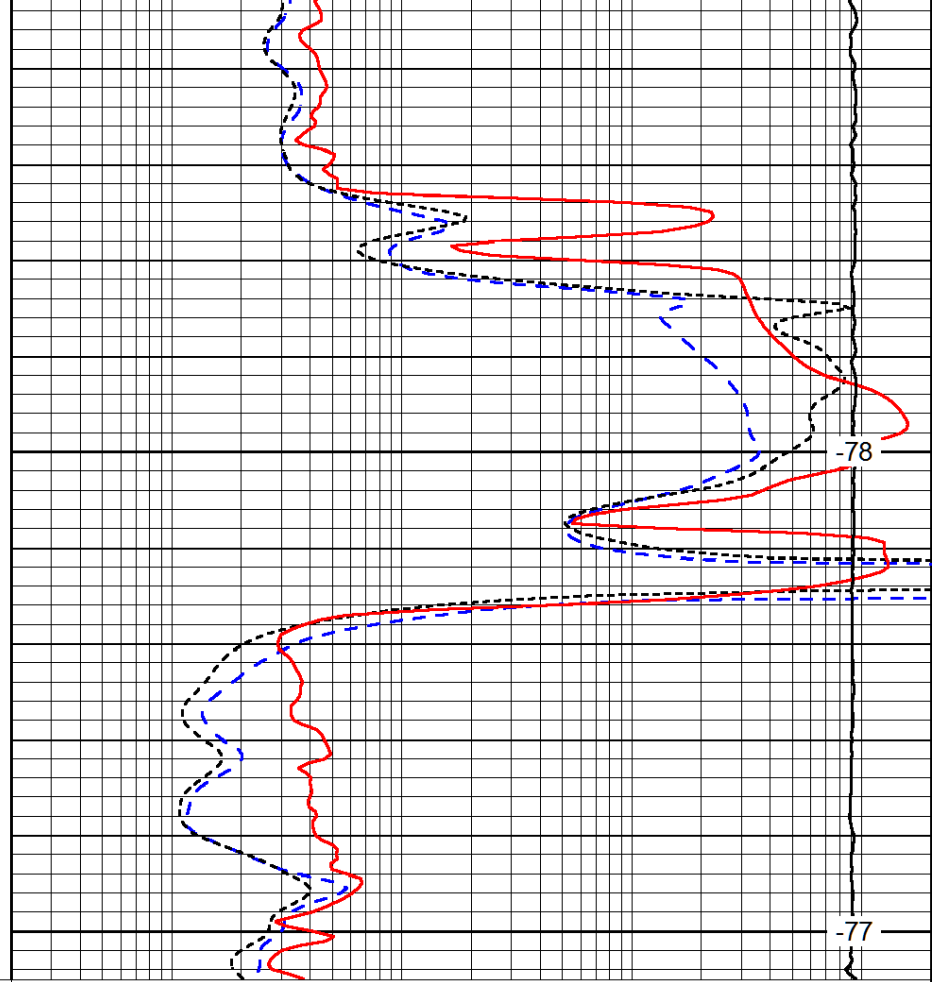




1350

1400

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



-78

-77

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

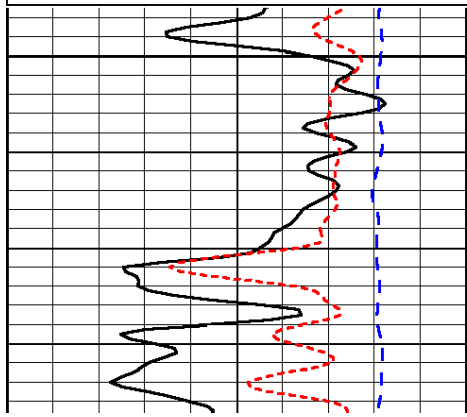
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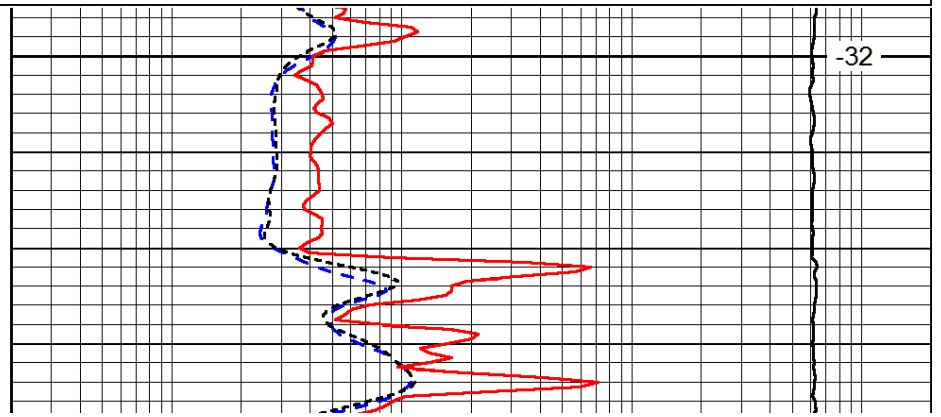
0	Gamma Ray	150
-160	RXO/RT	40
-200	SP (mV)	0

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

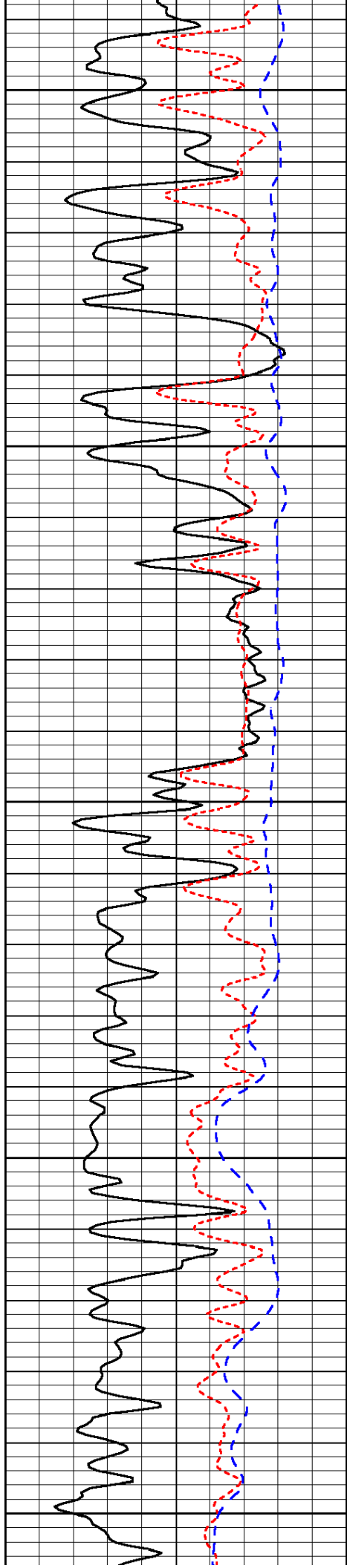
LSPD



2900



-32



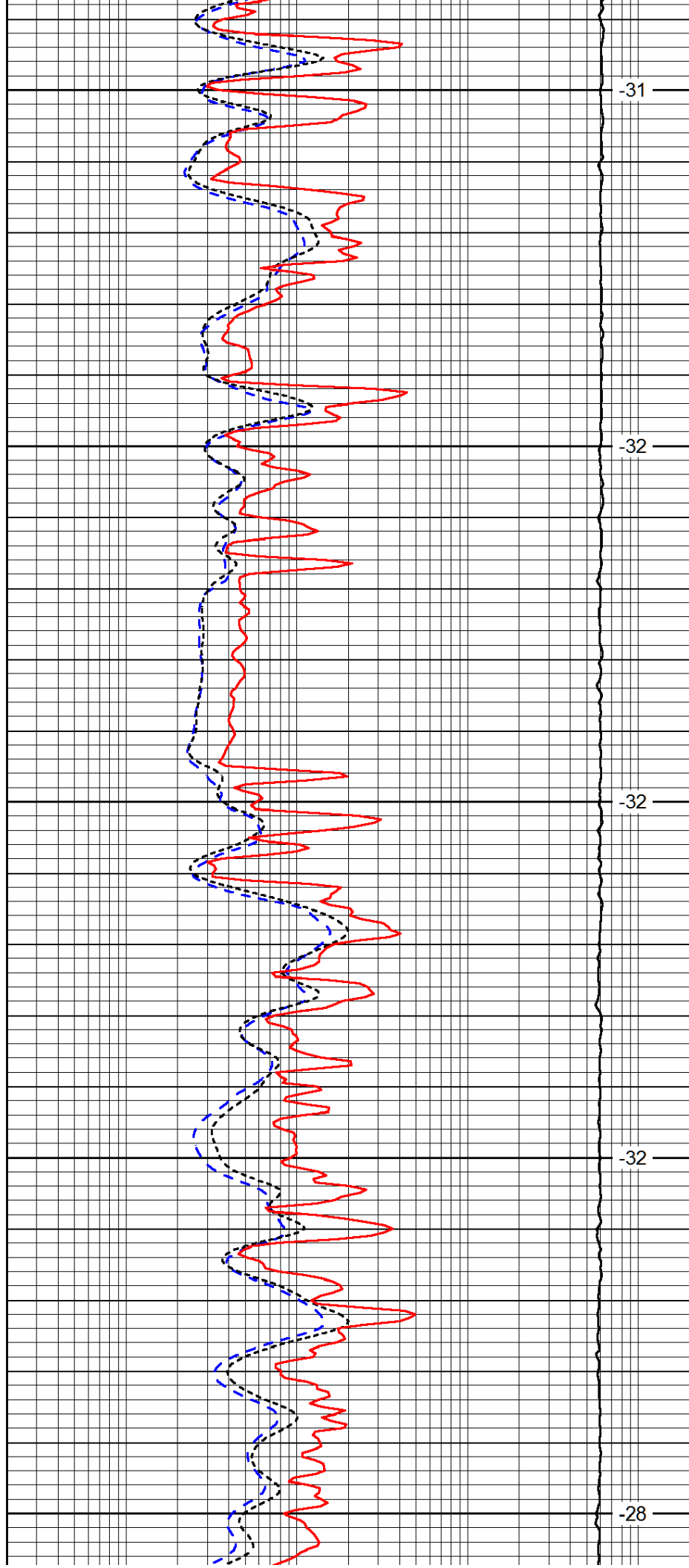
2950

3000

3050

3100

3150



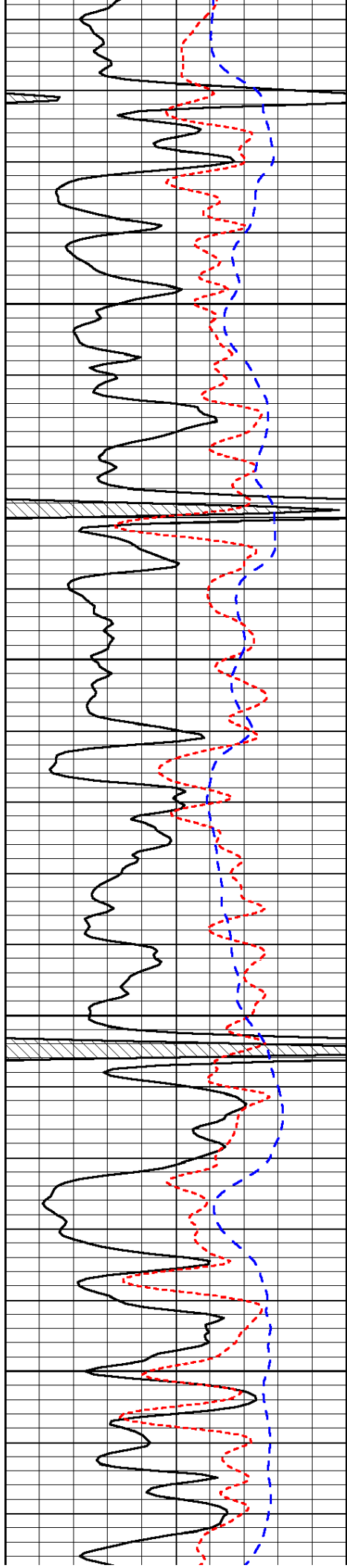
-31

-32

-32

-32

-28

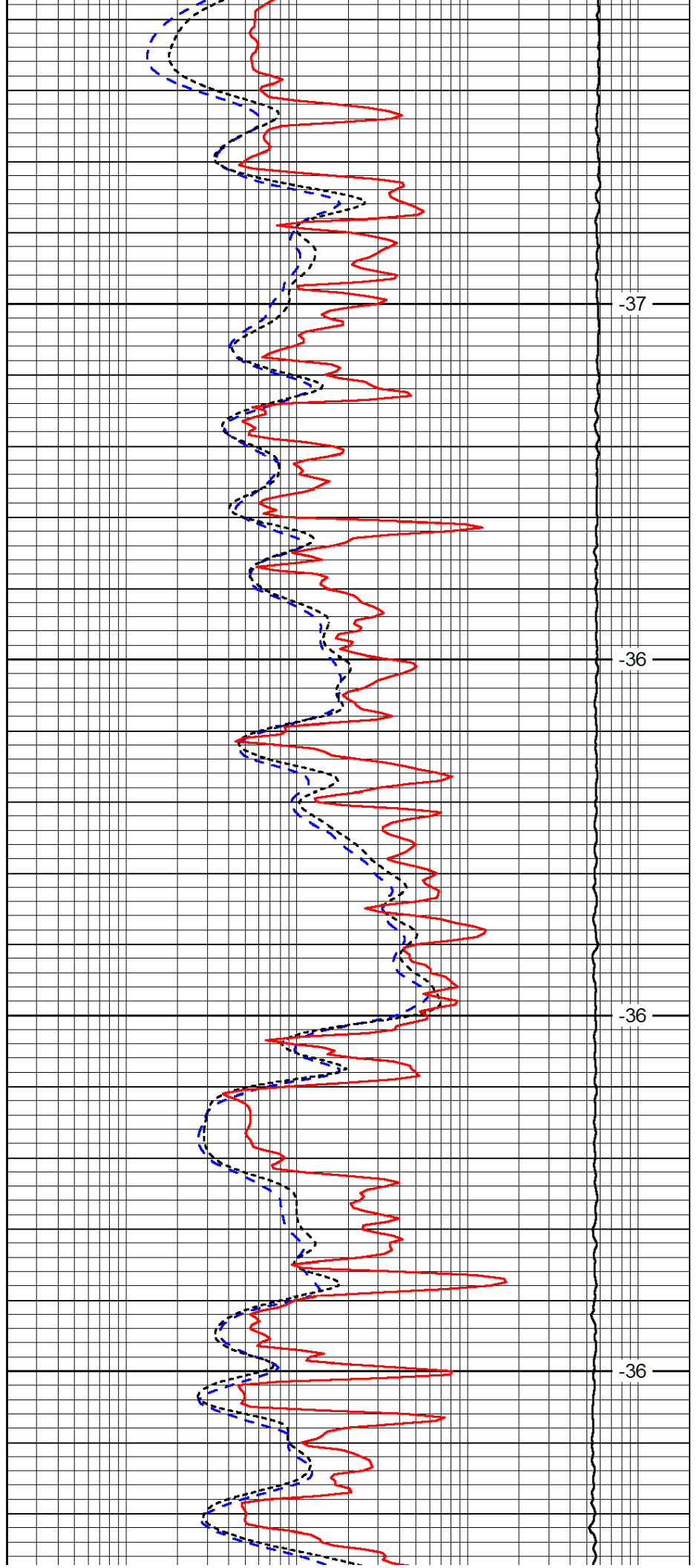


3200

3250

3300

3350

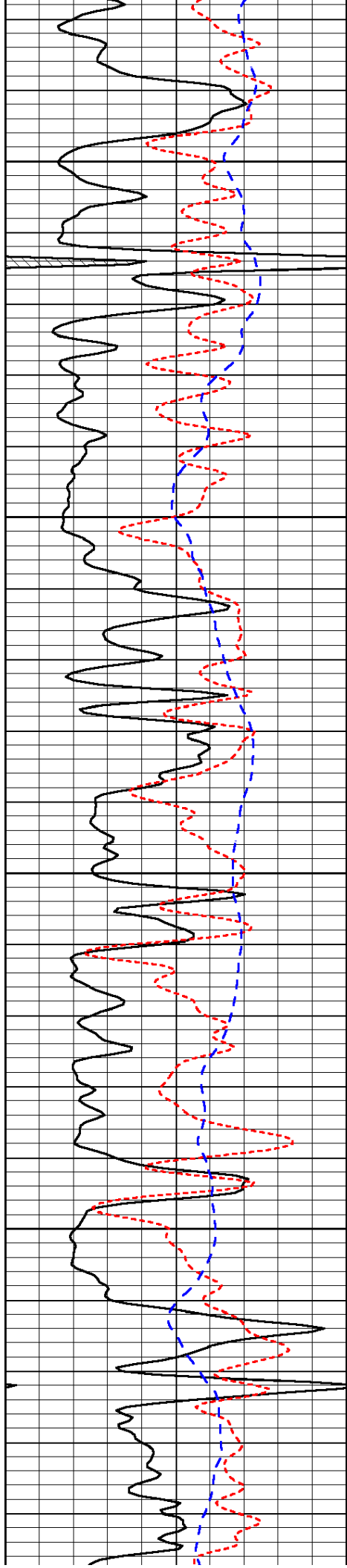


-37

-36

-36

-36

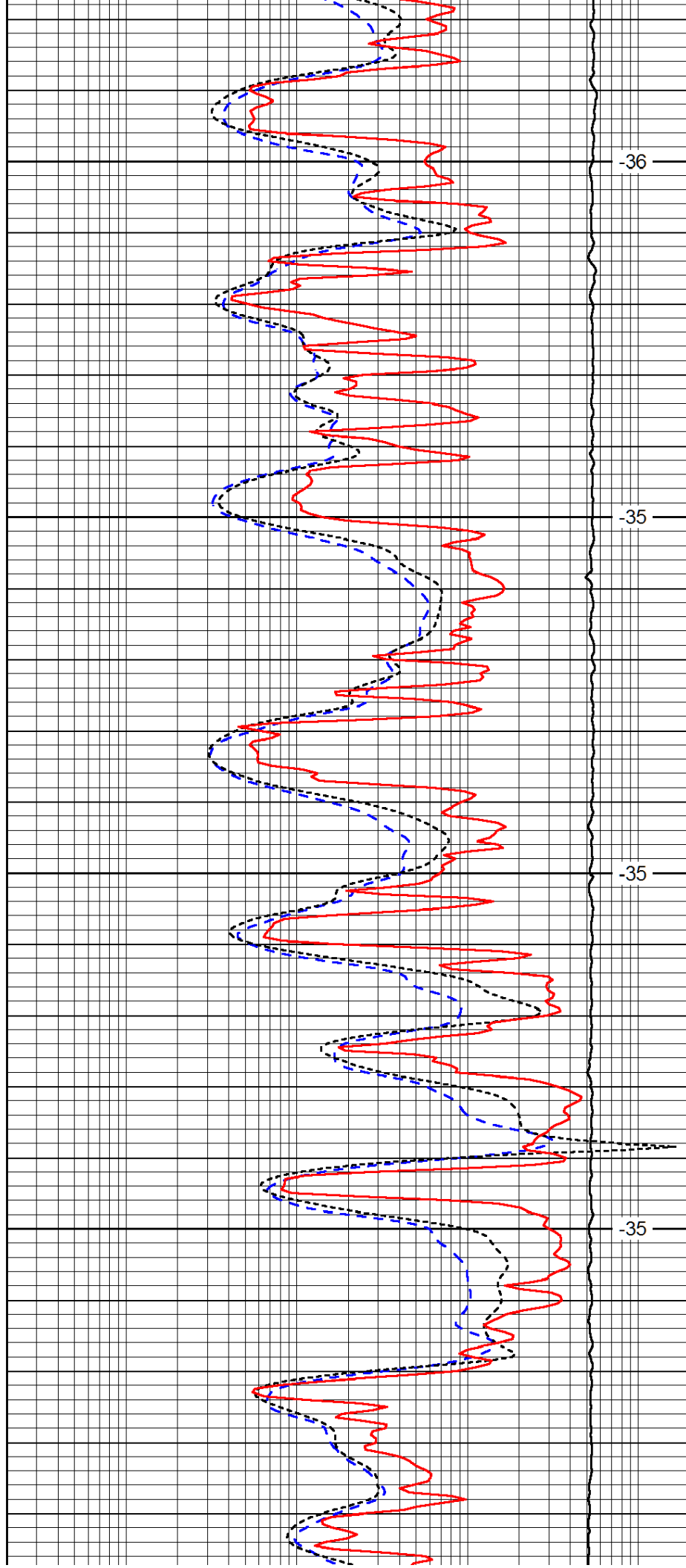


3400

3450

3500

3550

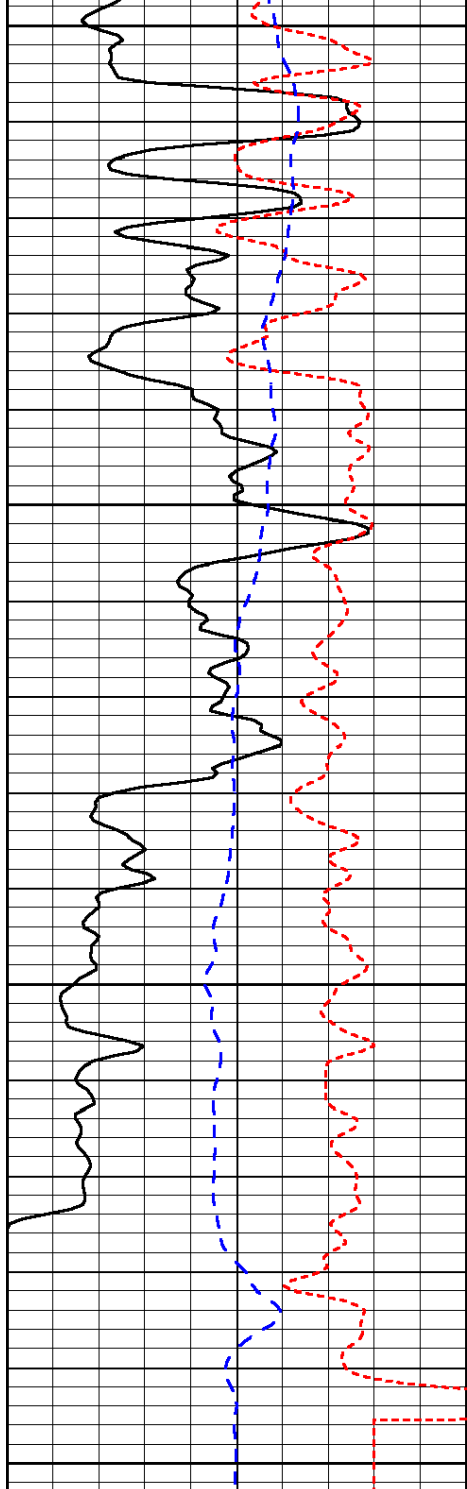


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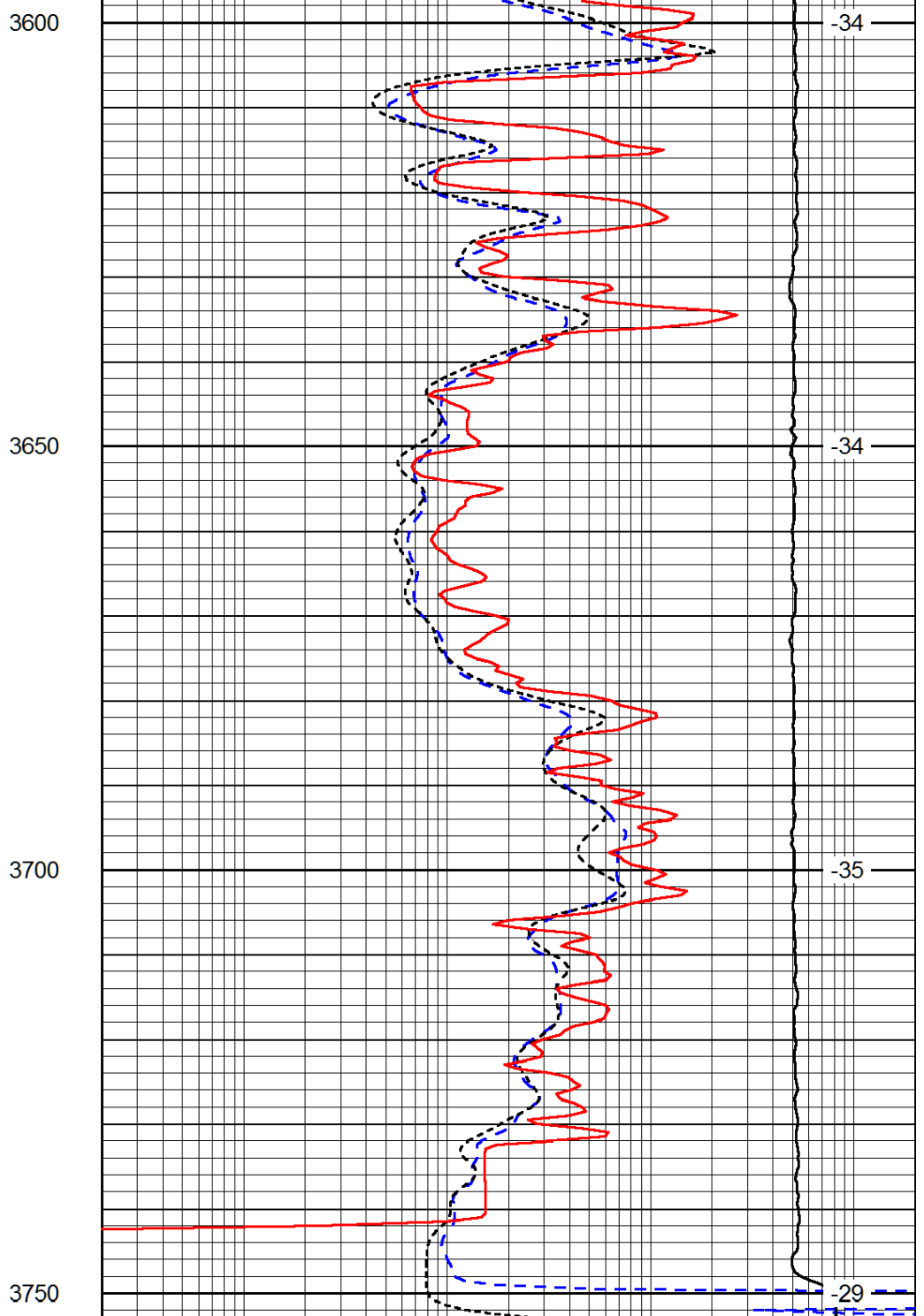
-35

-35

-35



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