



Pioneer Energy Services

# Dual Induction Log

15-065-23843-00-00

API No.

Company **H&C Oil Operating, Inc.**

Well **Gosselin #24-1**

Field **Mickelson Northeast**

County **Graham**

State

**Kansas**

Location **600' FSL & 330' FWL**

Sec: **24**

Twp: **8S**

Rge: **22W**

Other Services  
CNL/CDL  
MEL

Elevation

K.B. 2152

D.F. 2147

Elevation 2147

5 Ft. Above Perm. Datum

Drilling Measured From **Kelly Bushing**

Permanent Datum **Ground Level**

Date **8/17/2012**

Run Number **One**

Depth Driller **3850**

Depth Logger **3852**

Bottom Logged Interval **3851**

Top Log Interval **200**

Casing Driller **8.625 @ 232**

Casing Logger **233**

Bit Size **7.875**

Type Fluid in Hole **Chemical**

Salinity, ppm CL **1000**

Density / Viscosity **9.1 | 51**

pH / Fluid Loss **10.0 | 8.0**

Source of Sample **Flowline**

Rm @ Meas. Temp **1.4 @ 70**

Rmf @ Meas. Temp **1.05 @ 70**

Rmc @ Meas. Temp **1.89 @ 70**

Source of Rmf / Rmc **Charts**

Rm @ BHT **0.84 @ 117**

Operating Rig Time **4 Hours**

Max Rec. Temp. F **117**

Equipment Number **91**

Location **Hays**

Recorded By **D. Schmidt**

Witnessed By **Clayton Erickson**

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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

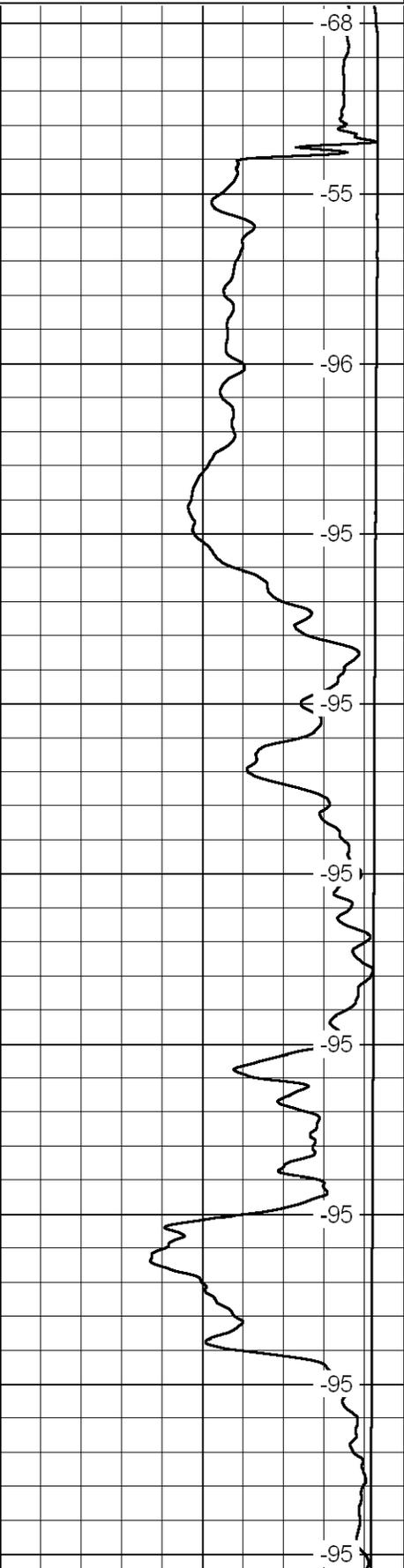
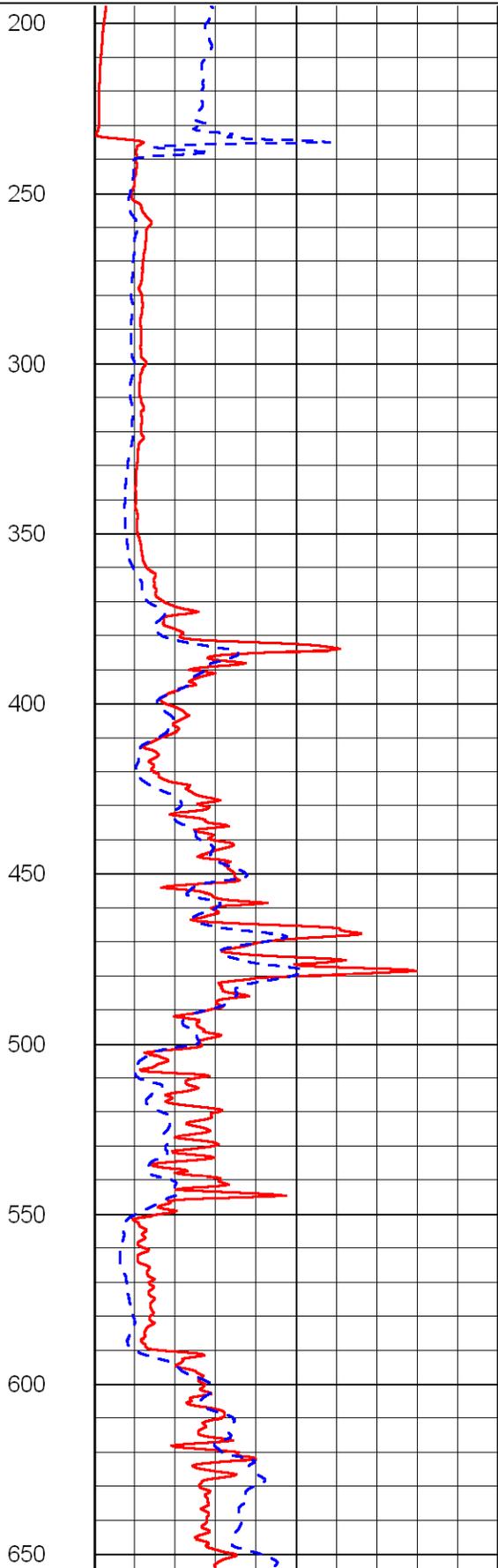
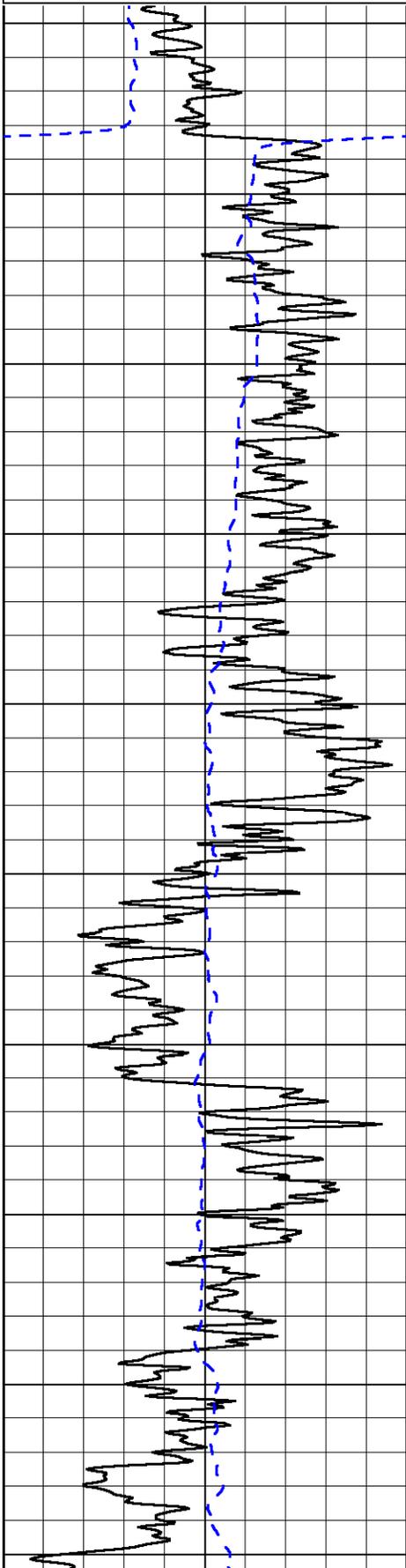
Thank you for using Pioneer Energy Services  
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 2 1/2 West, 1 1/4 South,  
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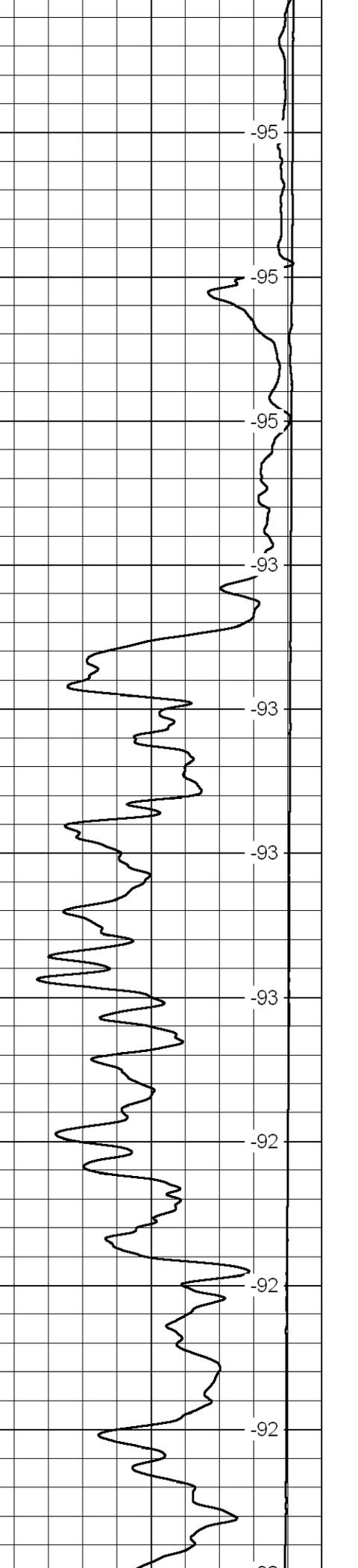
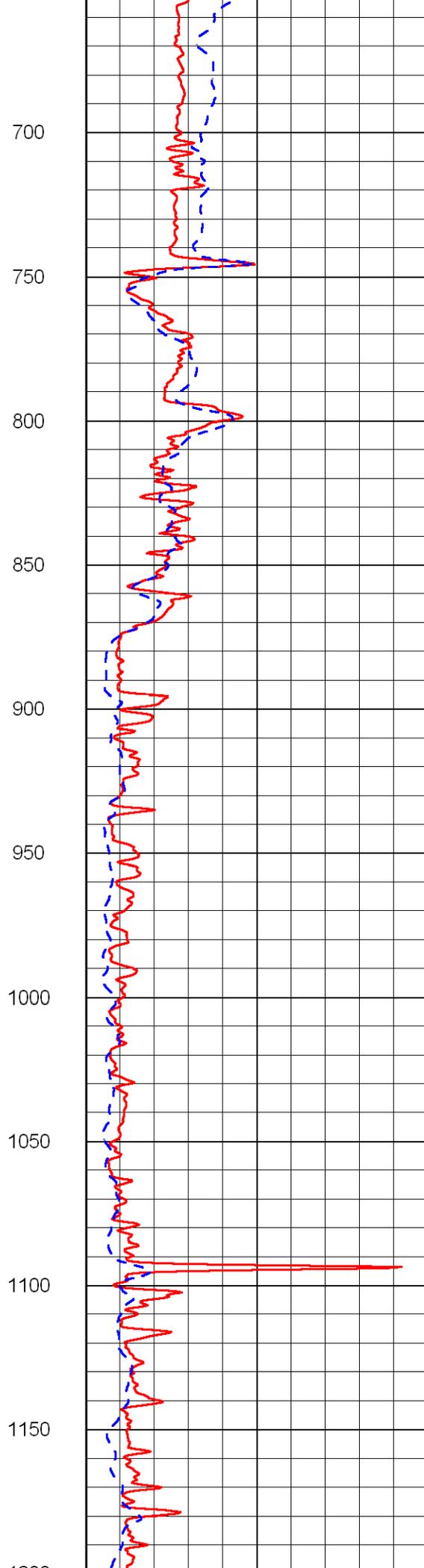
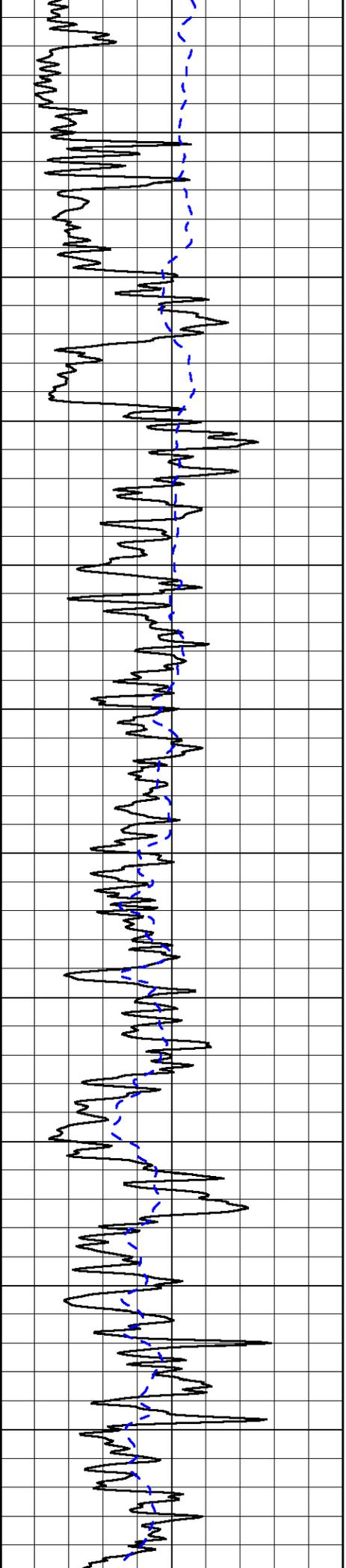
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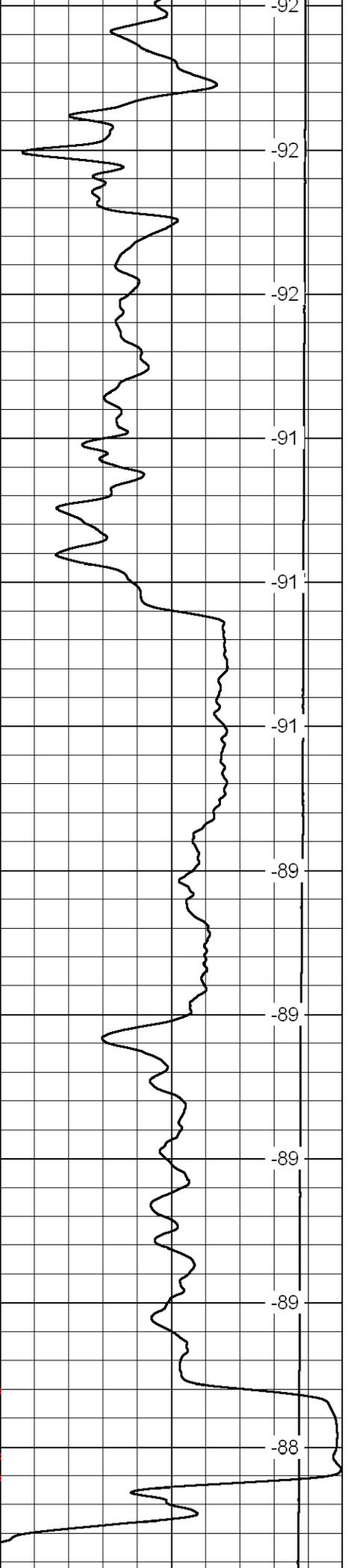
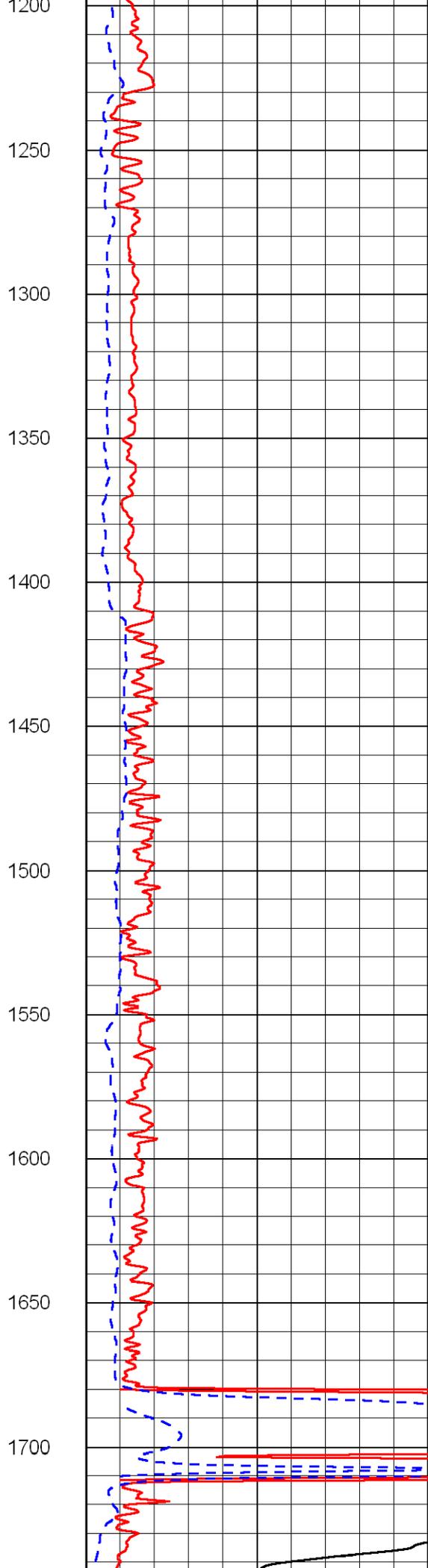
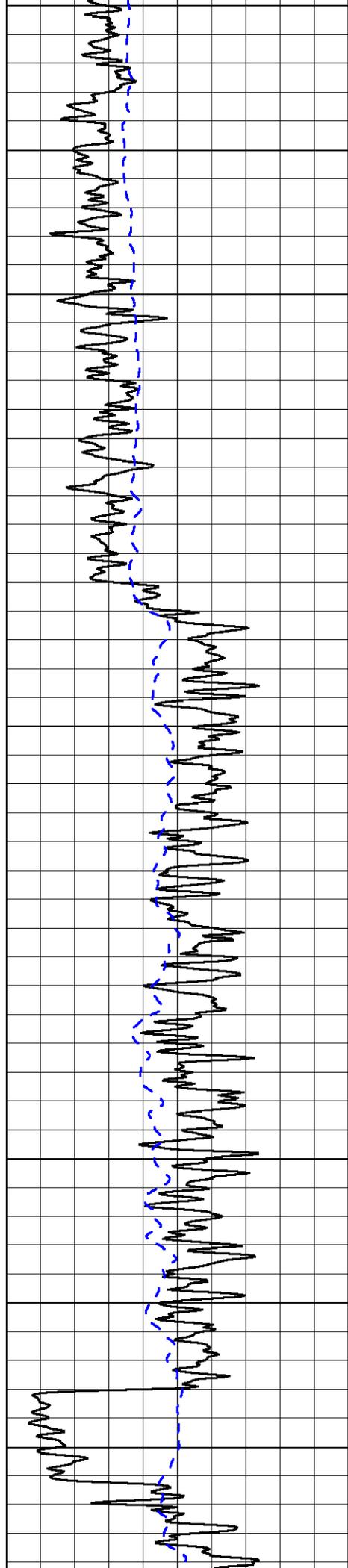
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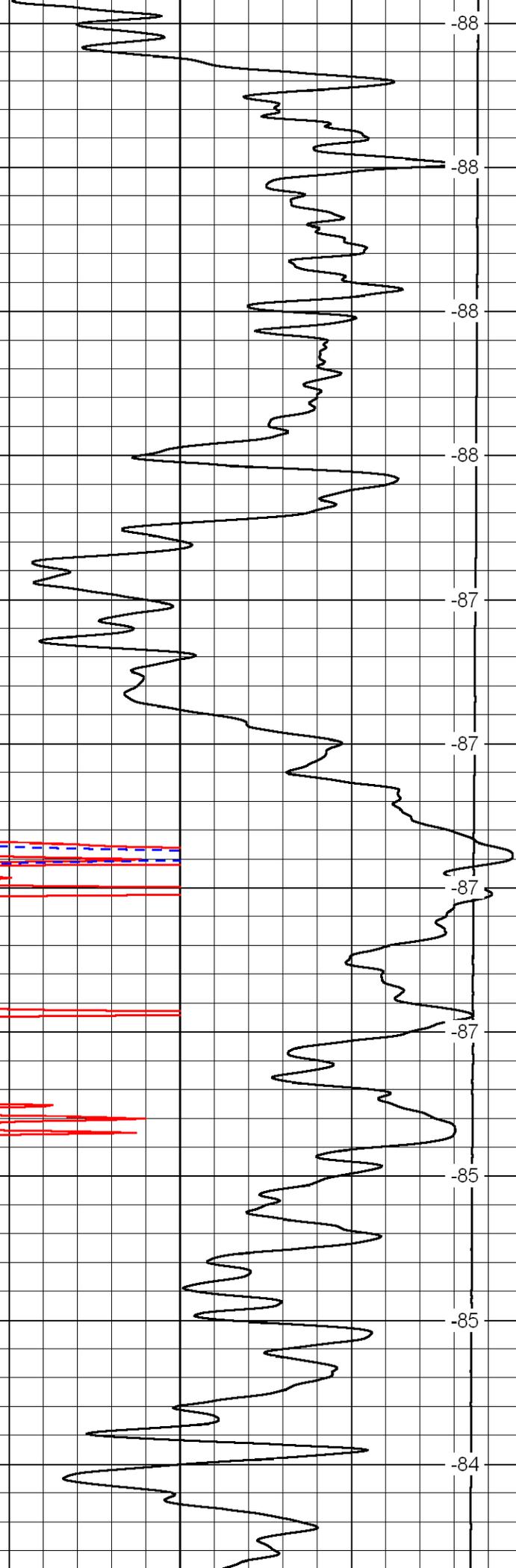
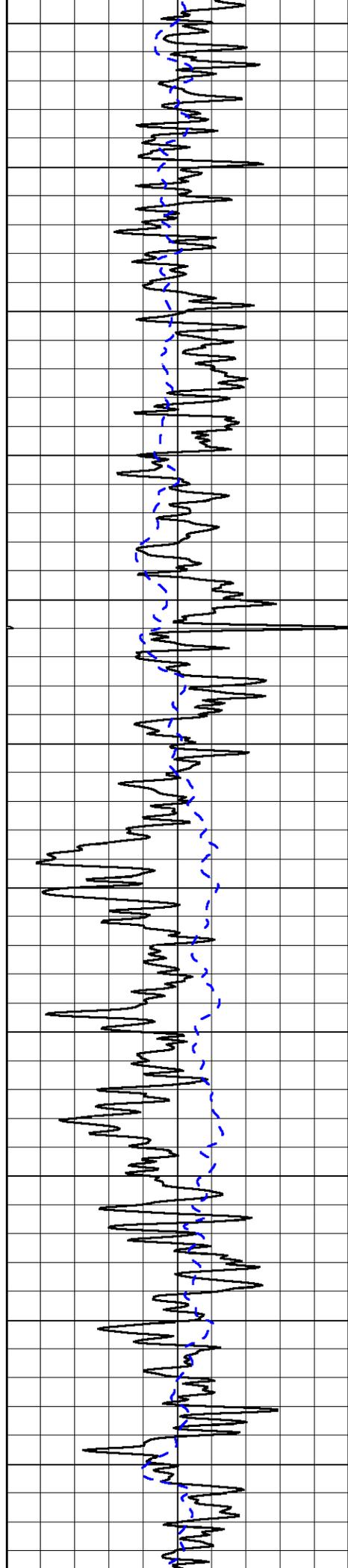
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0 Deep Resistivity (Ohm-m) 50  
1000 Conductivity (mmho/m) 0  
15000 Line Tension (lb) 0  
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50 Deep Resistivity (Ohm-m) 500

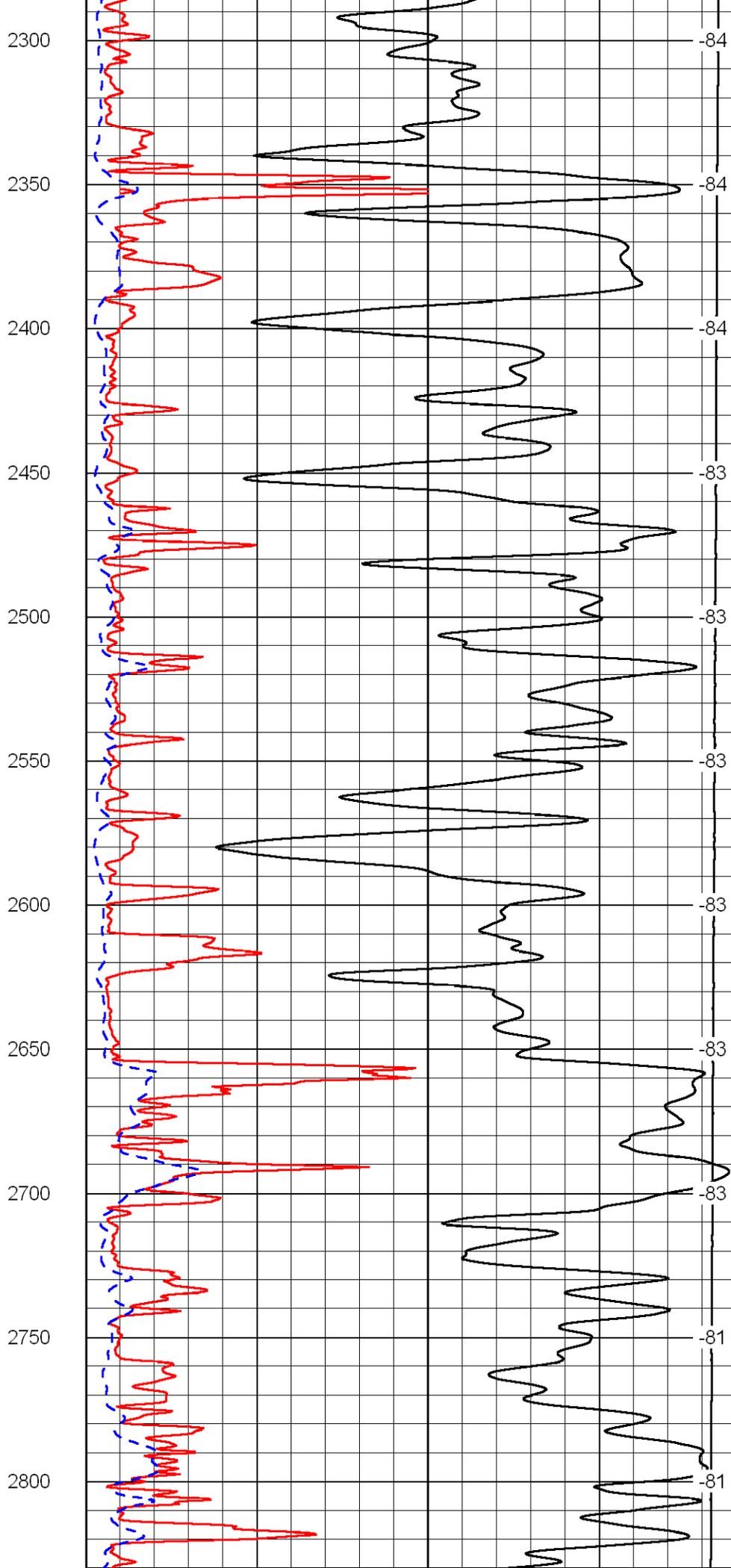
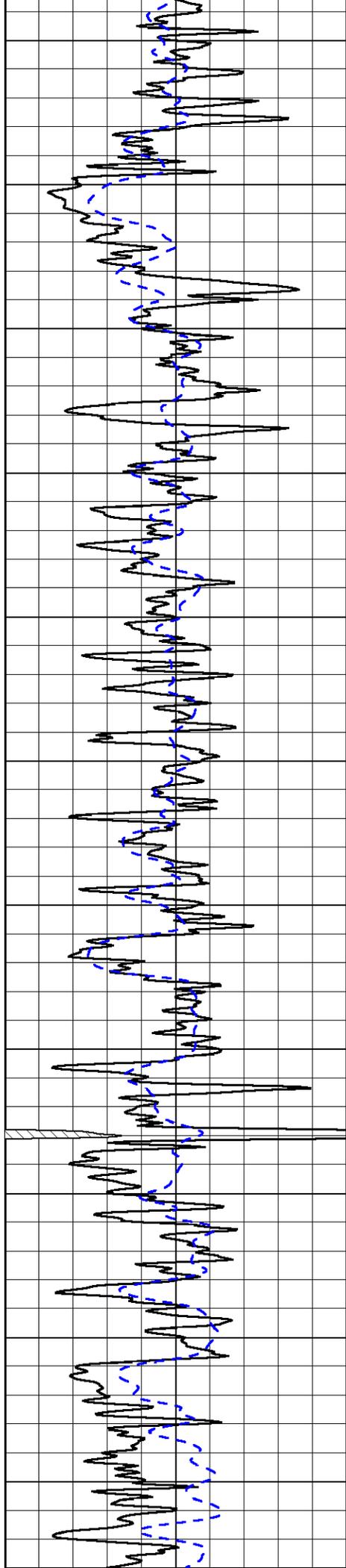
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(ft/min)

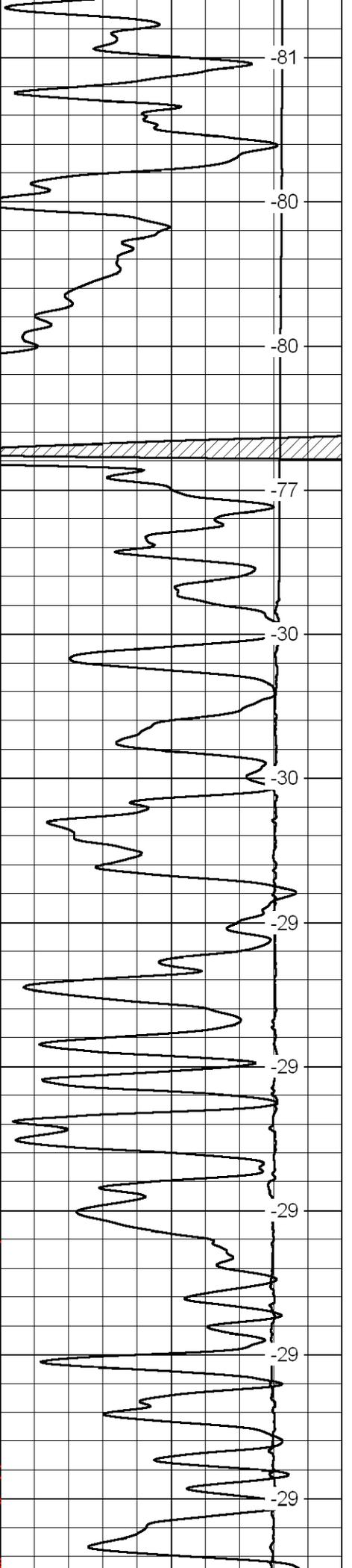
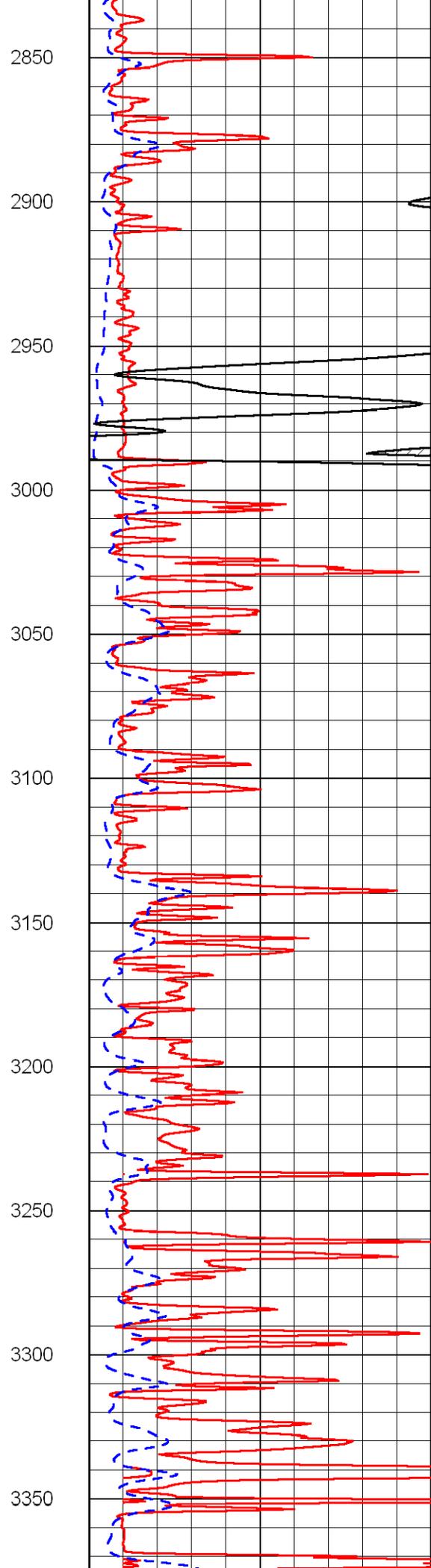
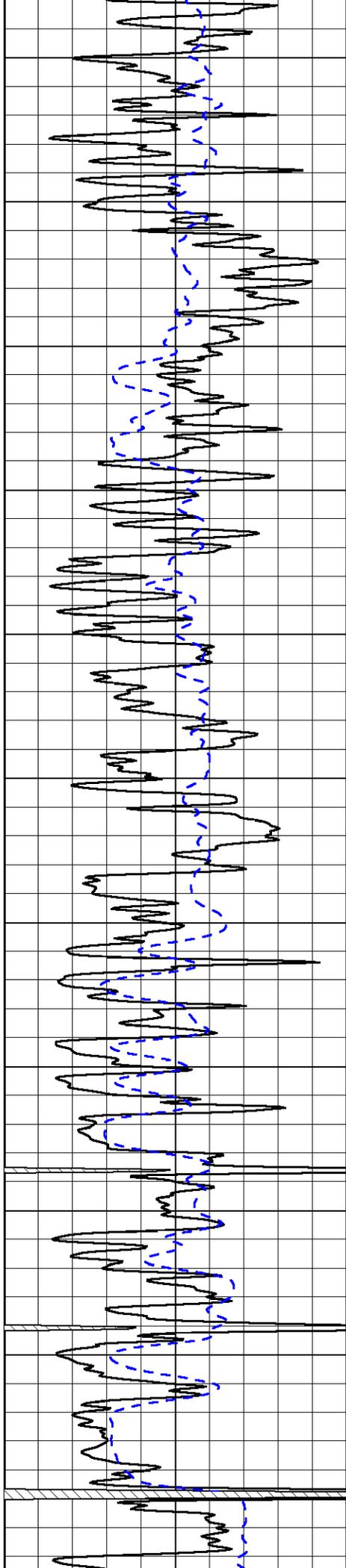


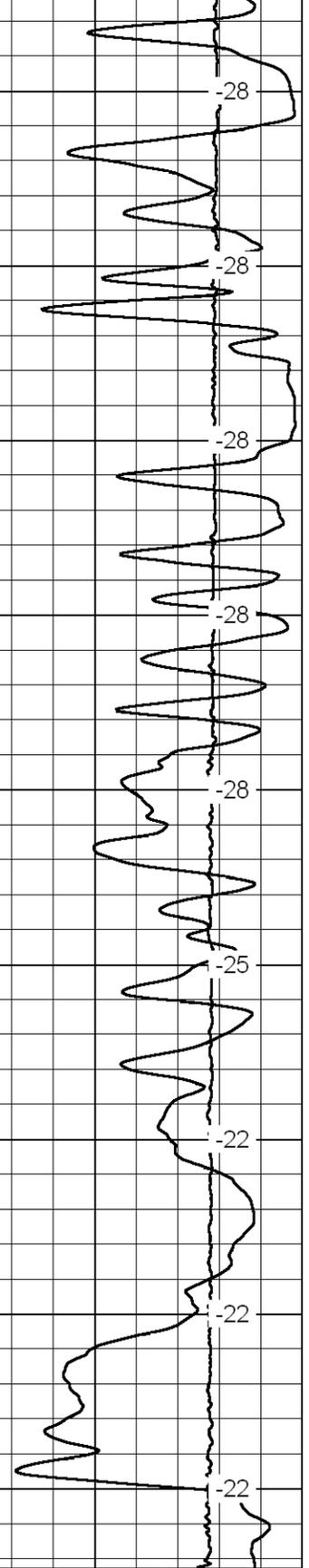
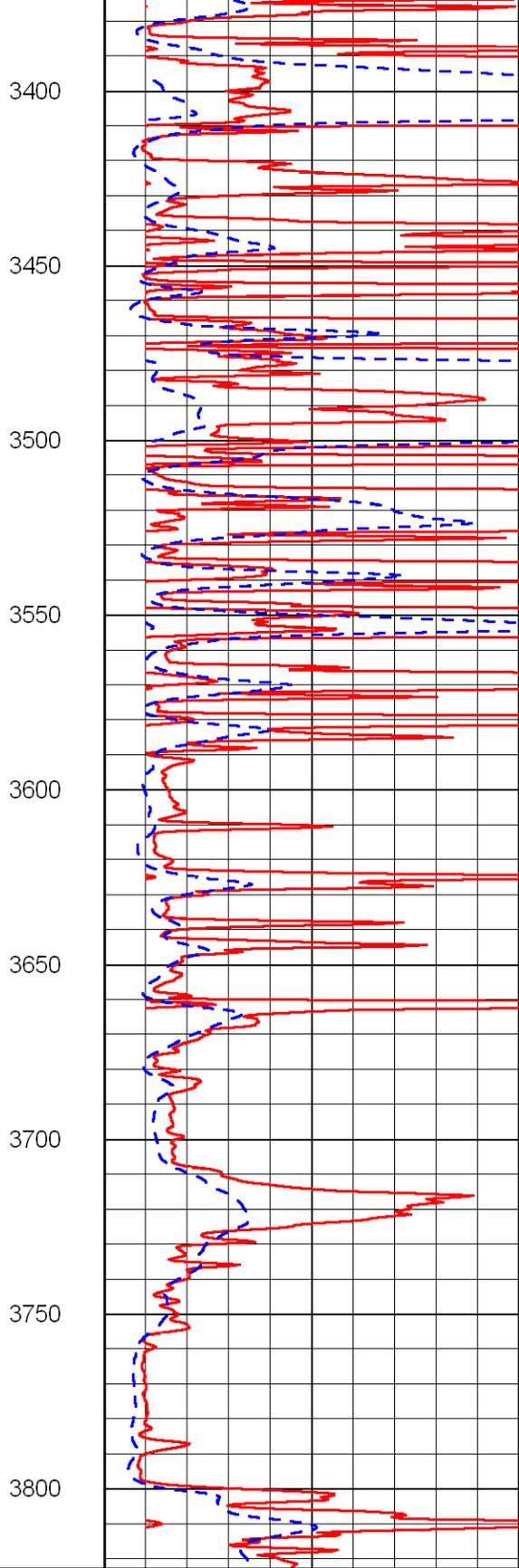
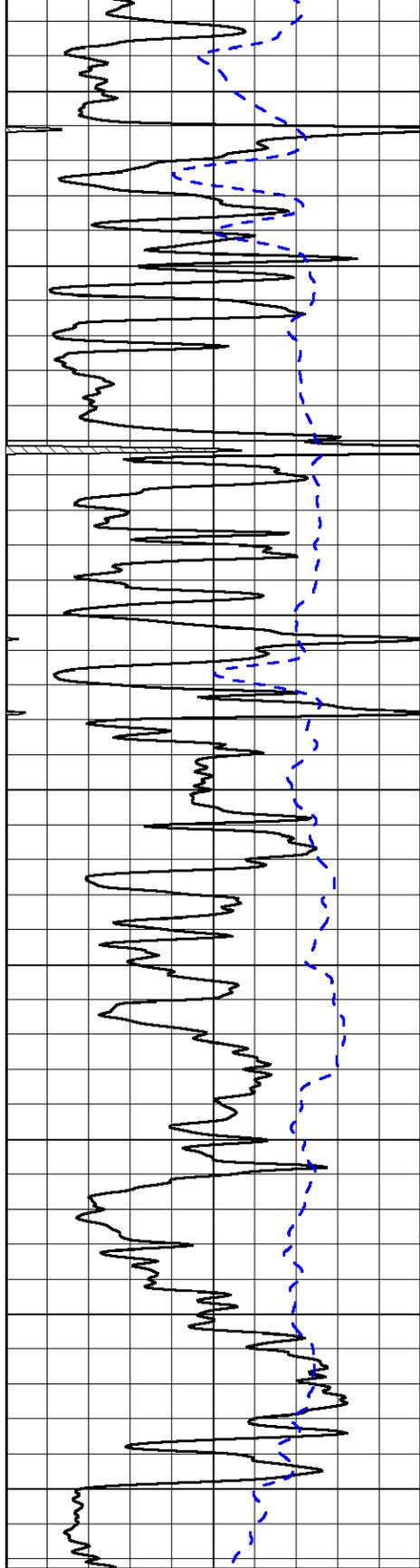












0 150

-200 0

0 50

0 50

1000 0

15000 0

Shallow Resistivity

50 (Ohm-m) 500

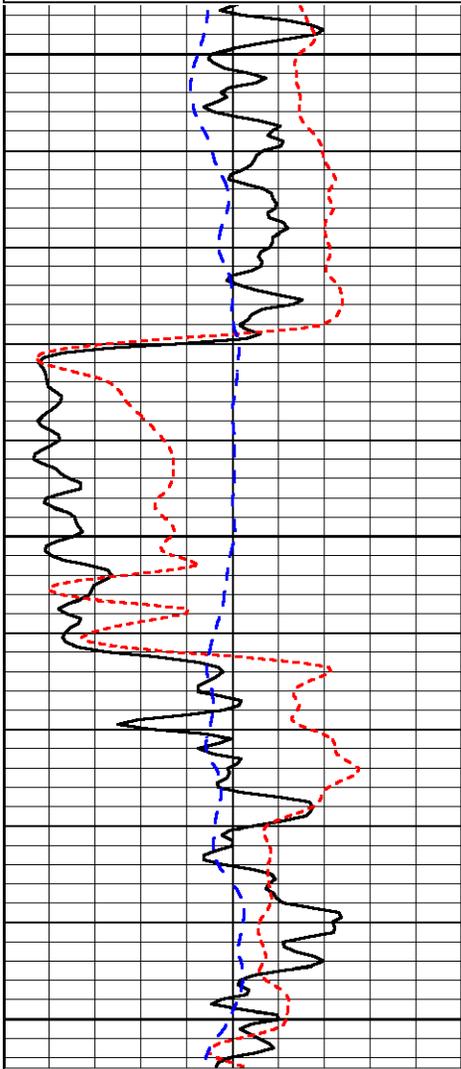
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0	Gamma Ray	150
-160	RXO/RT	40
-200	SP (mV)	0

0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000
15000	Line Tension (lb)	0

LSPD  
(ft/min)

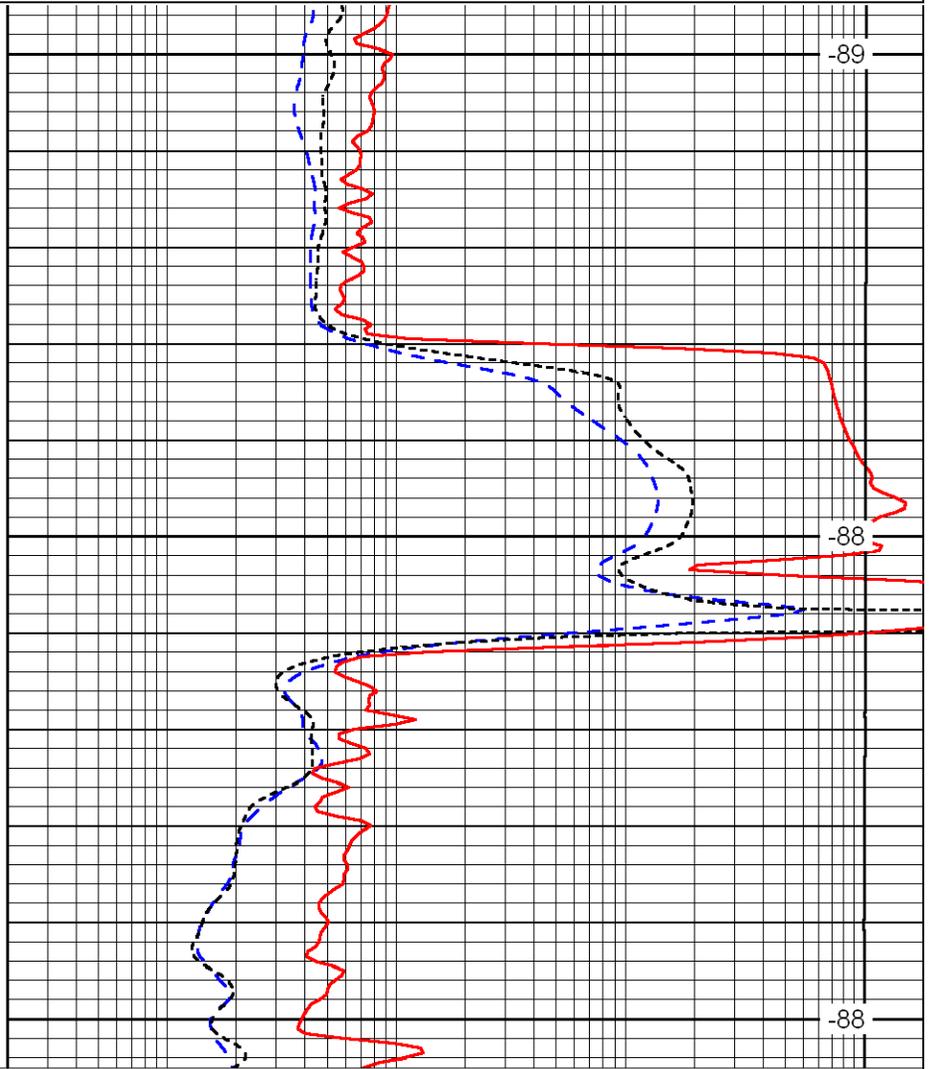


1650

1700

1750

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



-89

-88

-88

0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000
15000	Line Tension (lb)	0

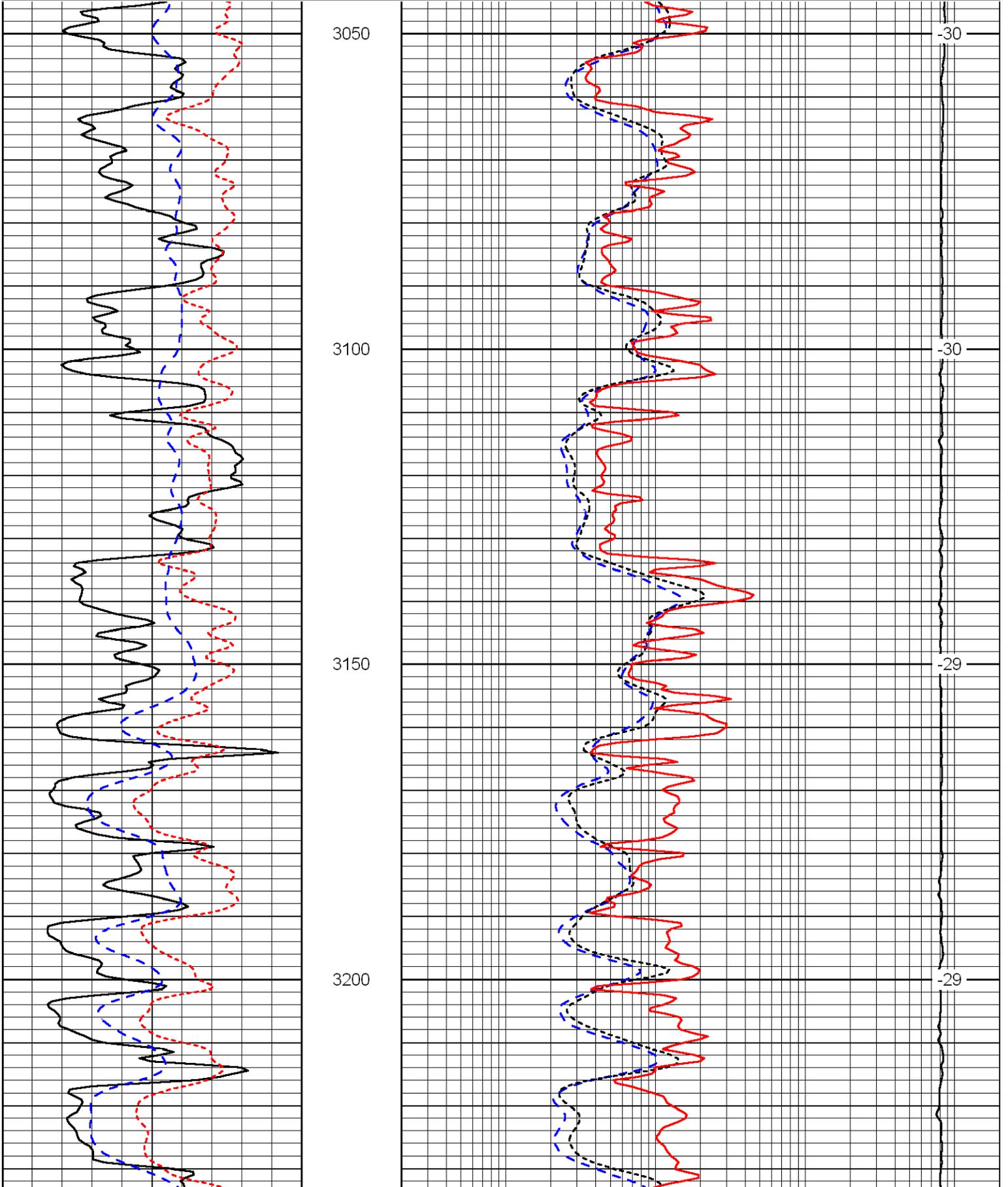
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(ft/min)

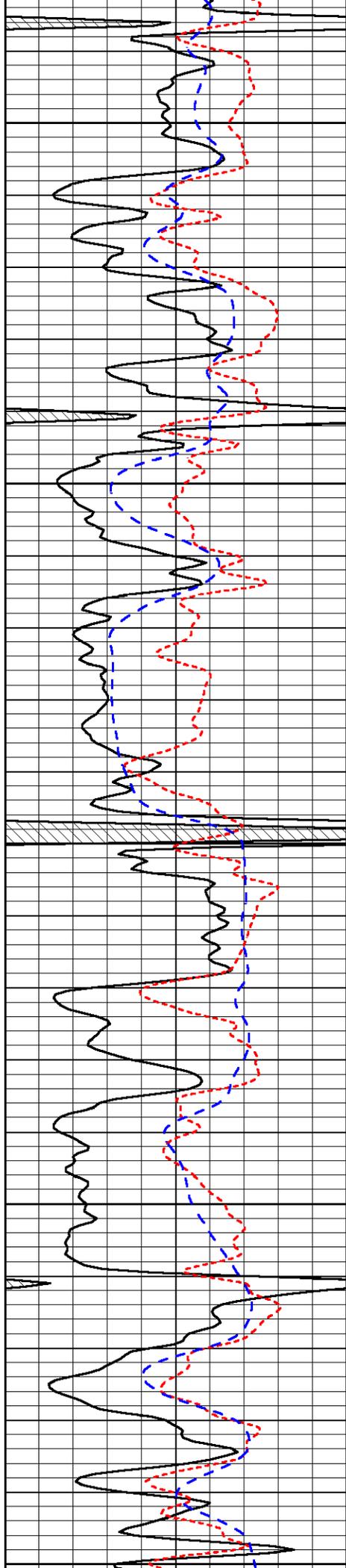
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0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000
15000	Line Tension (lb)	0

LSPD  
(ft/min)





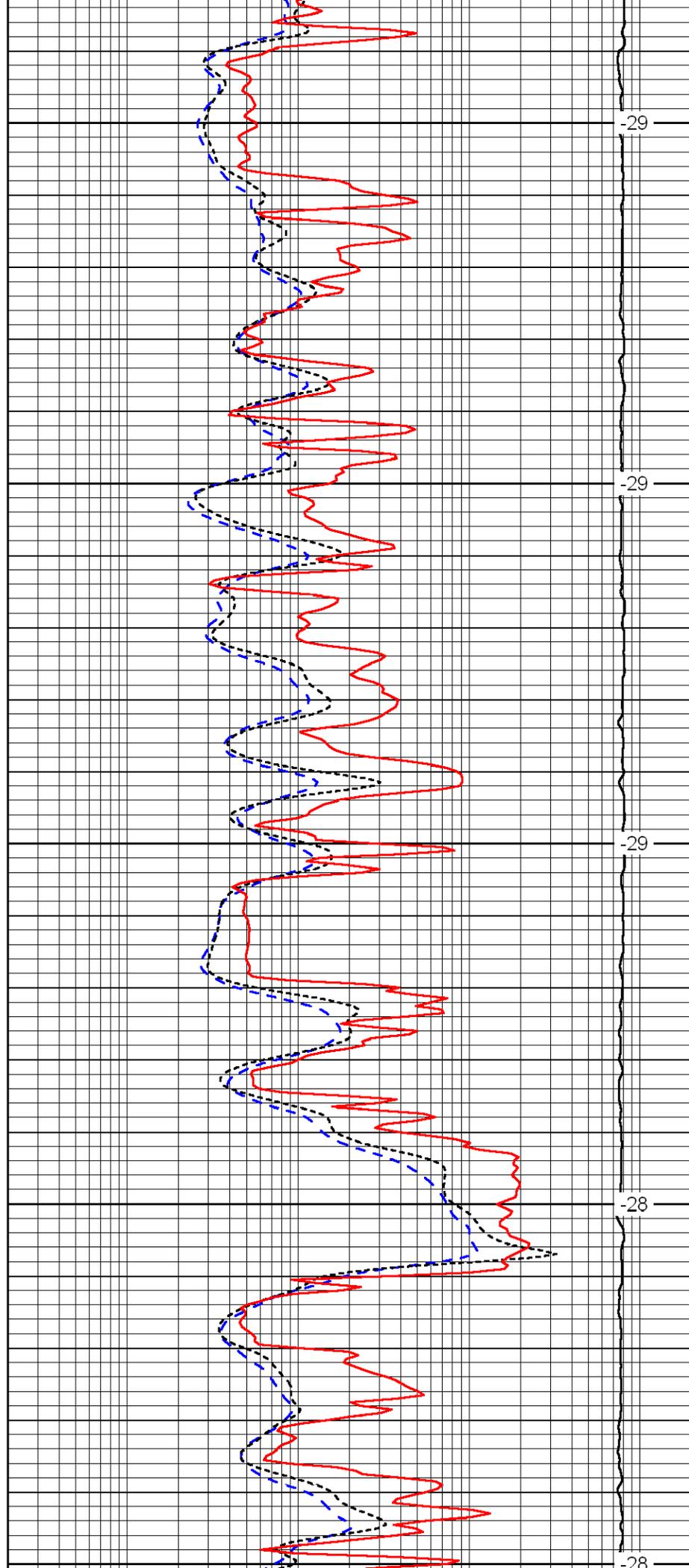
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3300

3350

3400

3450



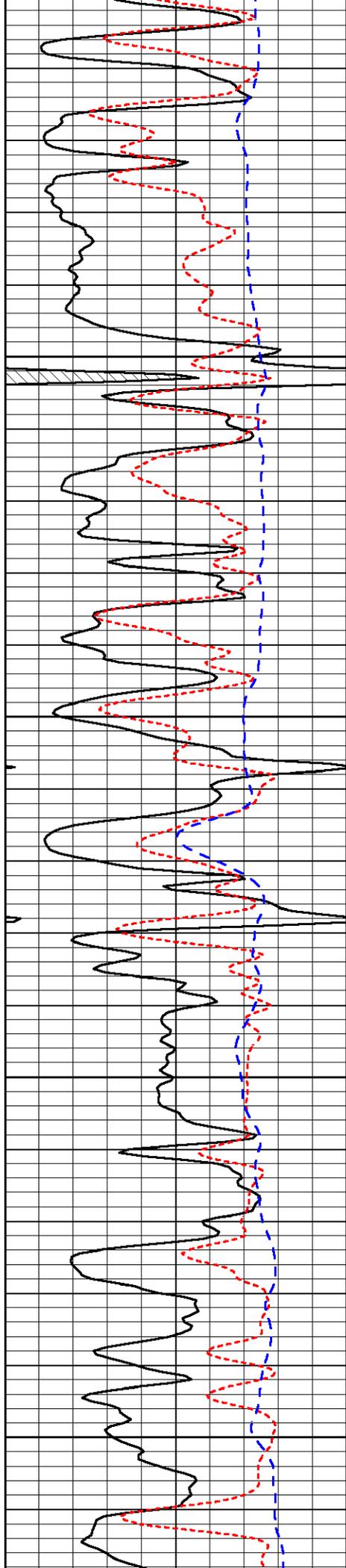
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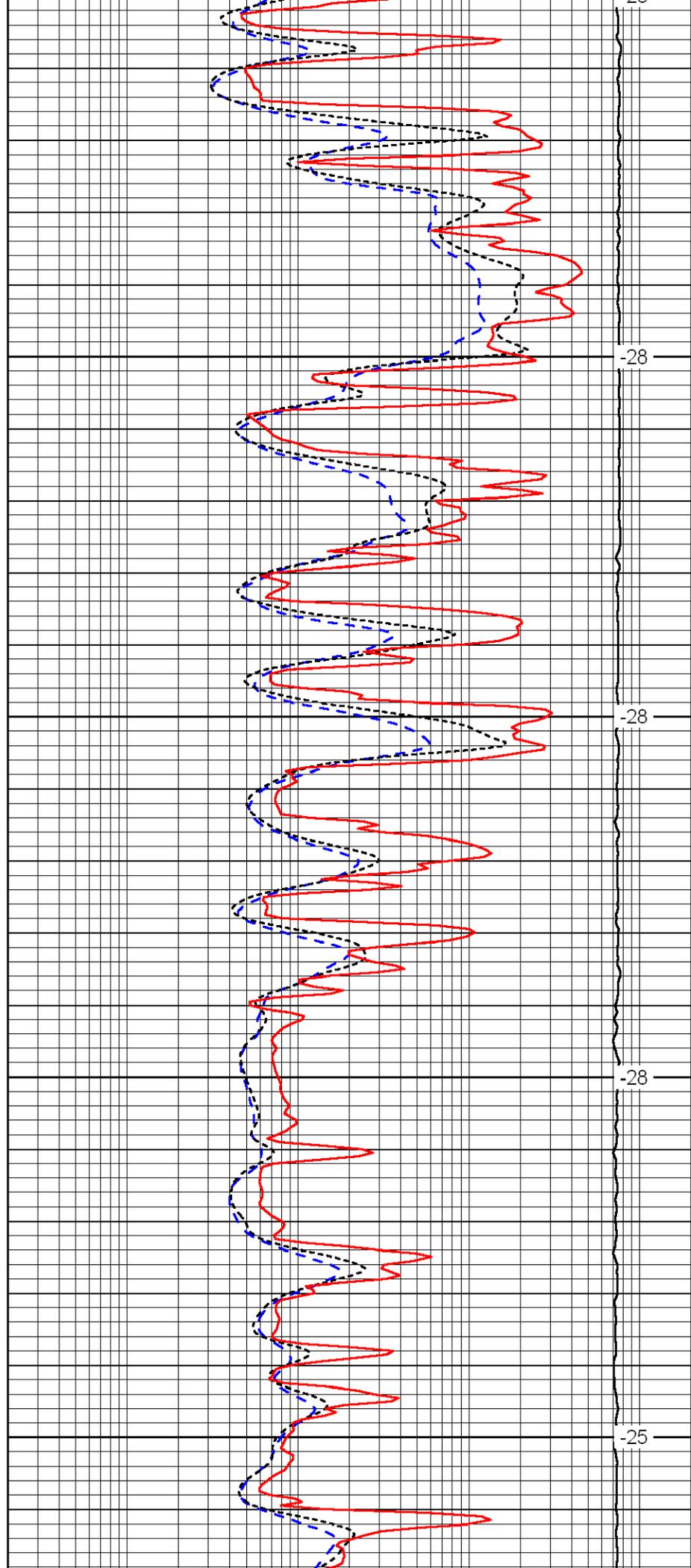
3500

3550

3600

3650

3700



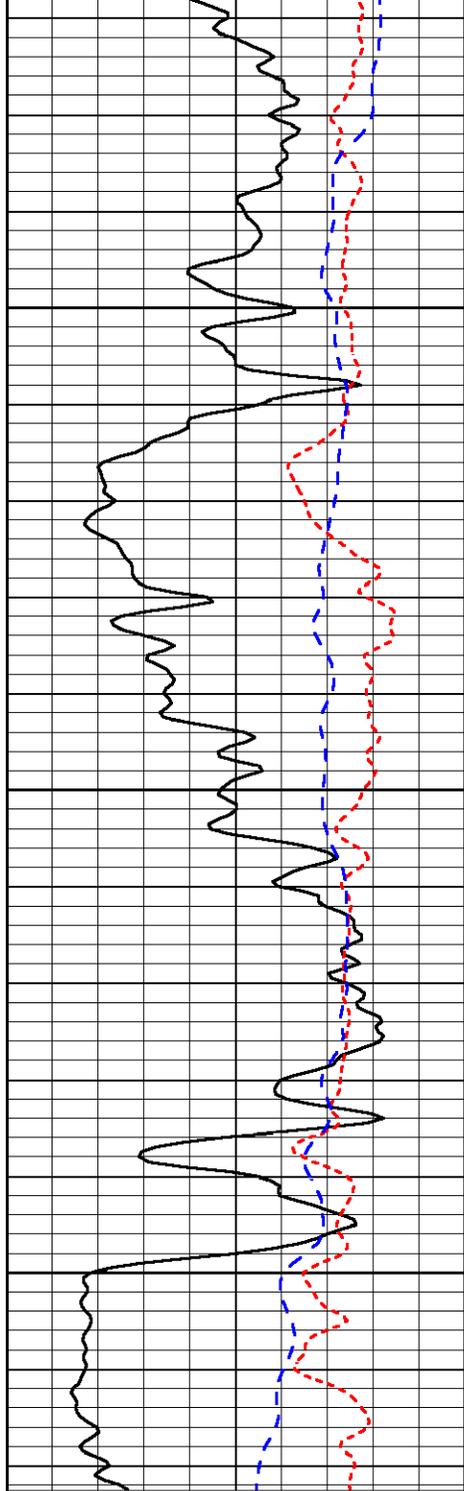
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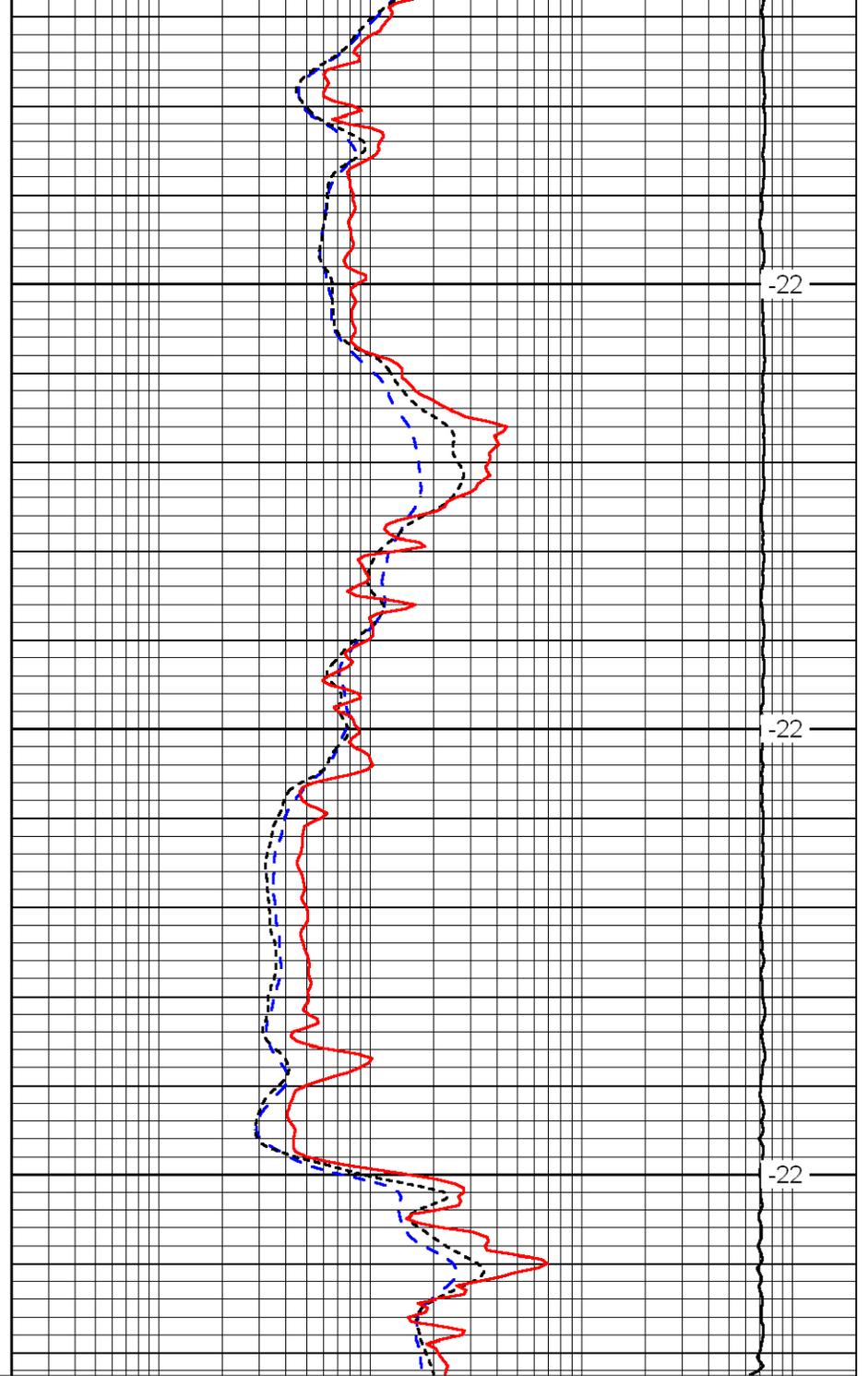


3700

3750

3800

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



-22

-22

-22

0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000
15000	Line Tension (lb)	0

LSPD  
(ft/min)