



DUAL INDUCTION LOG

Company RITCHEE EXPLORATION, INC.
 Well D. SCHUMACHER #1
 Field UNKNOWN
 County LOGAN
 State KANSAS

Company RITCHEE EXPLORATION, INC.
 Well D. SCHUMACHER #1
 Field UNKNOWN
 County LOGAN State KANSAS

Location: API #: 15-109-21428-00-00
 1830' FNL & 1020' FWL
 SEC 23 TWP 15S RGE 36W
 Permanent Datum GROUND LEVEL Elevation 3294
 Log Measured From KELLY BUSHING
 Drilling Measured From KELLY BUSHING
 Other Services CNL/CDL
 Elevation K.B. 3305
 D.F. N/A
 G.L. 3294

Date	8/12/2015
Run Number	ONE
Depth Driller	4910
Depth Logger	4909
Bottom Logged Interval	4908
Top Log Interval	200
Casing Driller	8:625 @ 212
Casing Logger	215
Bit Size	7.875
Type Fluid in Hole	CHEMICAL
Salinity, ppm CL	5000
Density / Viscosity	9.3 54
pH / Fluid Loss	11.0 8.0
Source of Sample	Flowline
Rm @ Meas. Temp	0.65 @ 90
Rmt @ Meas. Temp	0.49 @ 90
Rmc @ Meas. Temp	0.88 @ 90
Source of Rmf / Rmc	Charts
Rm @ BHT	0.47 @ 125
Operating Rig Time	3 HOURS
Max Rec. Temp. F	125
Equipment Number	91
Location	Hays
Recorded By	D. SCHMIDT
Witnessed By	JOHN GOLDSMITH

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All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not 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.

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

RUSSELL SPRINGS,
 SOUTH ON HWY 25 TO DAKOTA RD,
 4 EAST TO 200 RD, 1/2 SOUTH,
 EAST INTO

Log Measured From: KELLY BUSHING 11 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES
www.pioneerenergy.com 785-625-3858

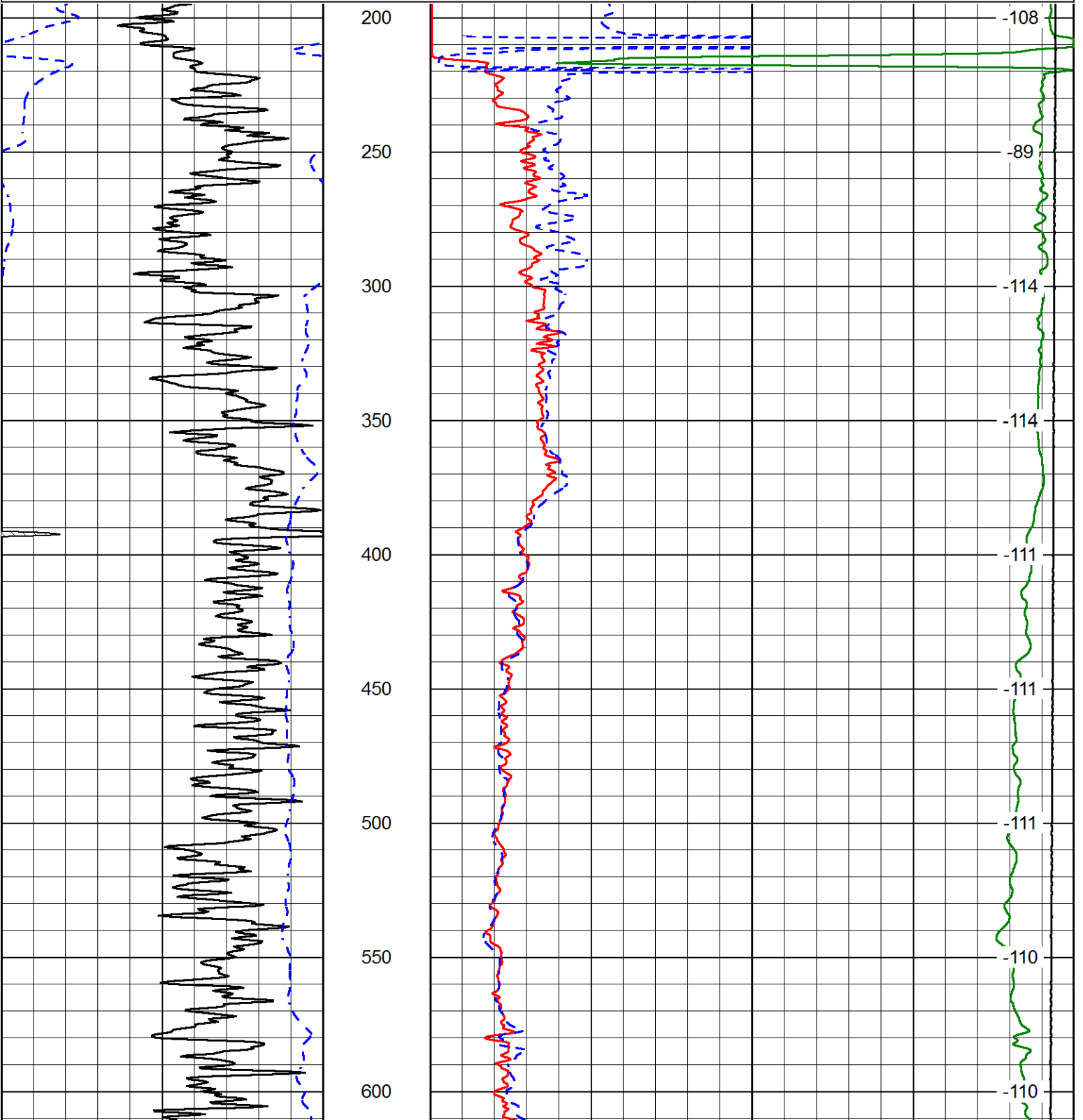
Your Pioneer Energy Services Crew	This Log Record Was Witnessed By
Engineer: D. SCHMIDT	Primary Witness: JOHN GOLDSMITH
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

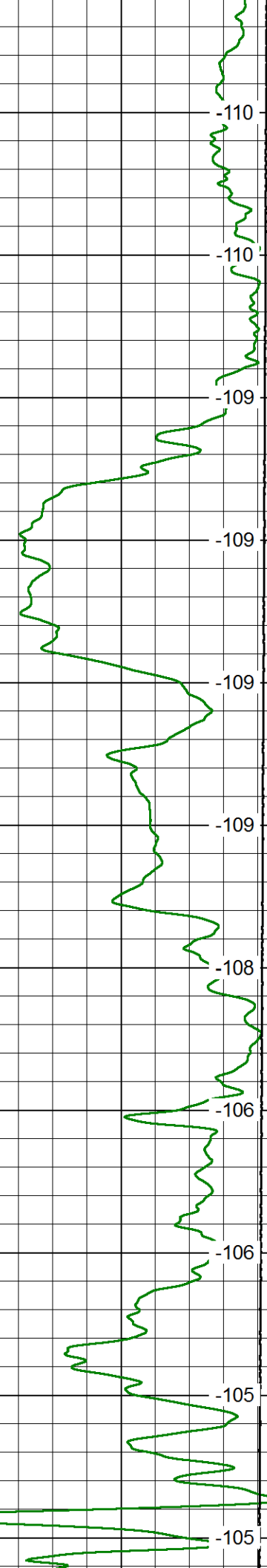
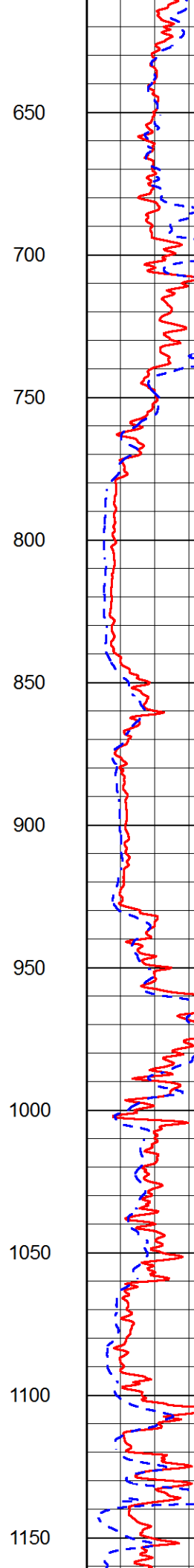
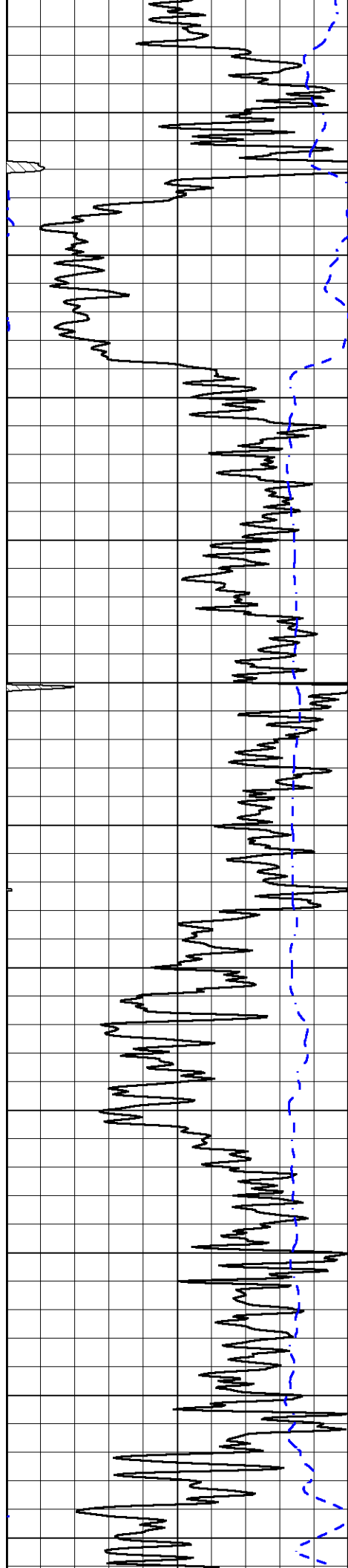
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 Presentation Format dil2in
 Dataset Creation Wed Aug 12 19:14:35 2015
 Charted by Depth in Feet scaled 1:600

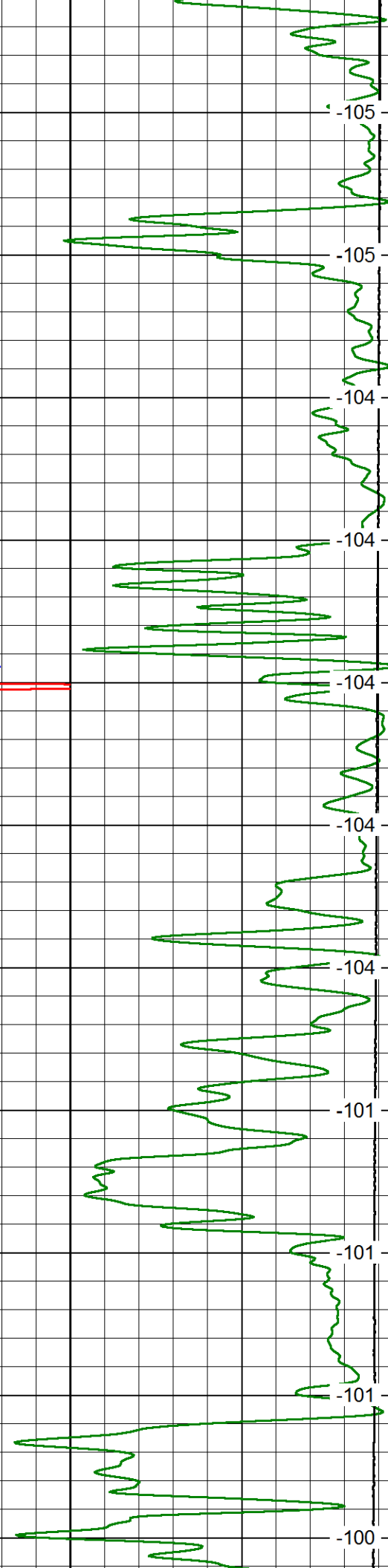
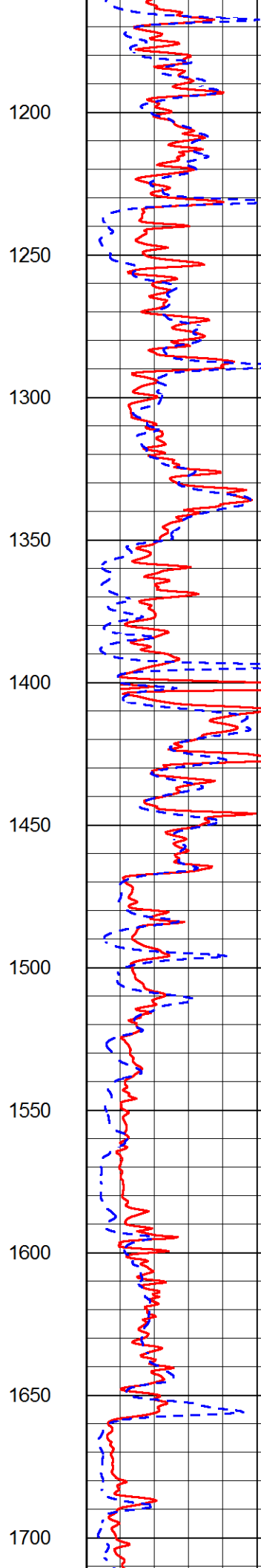
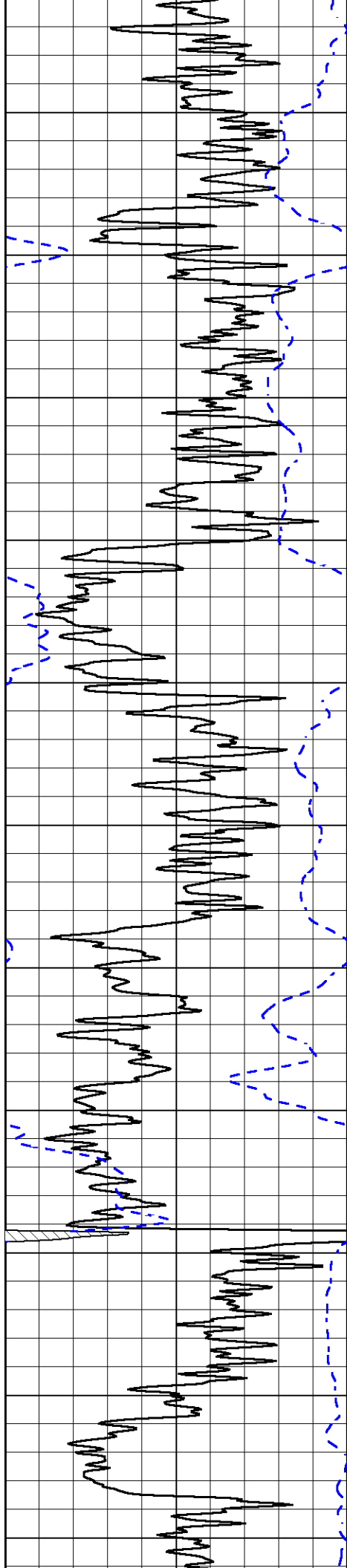
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 -200 SP (mV) 0

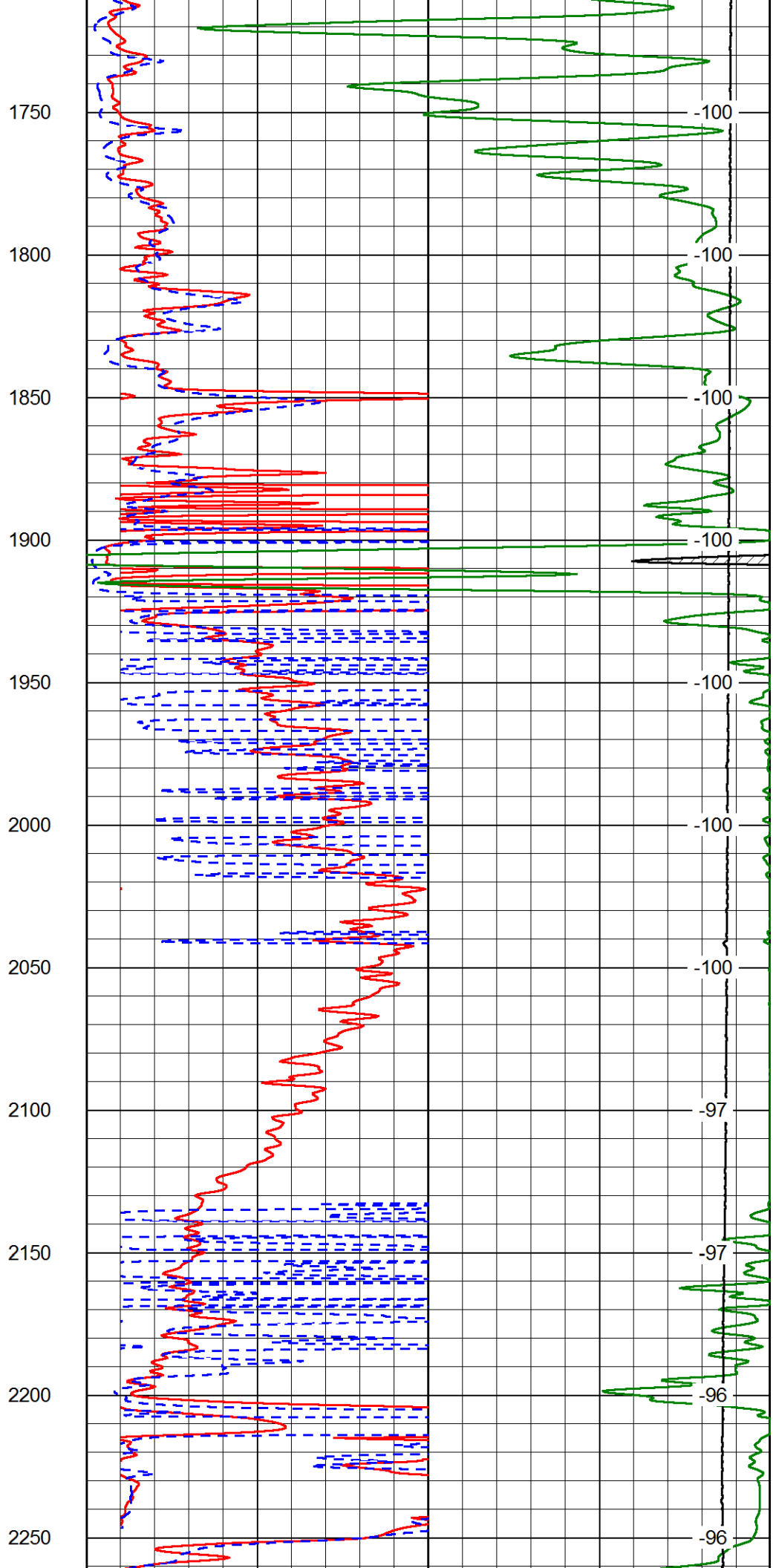
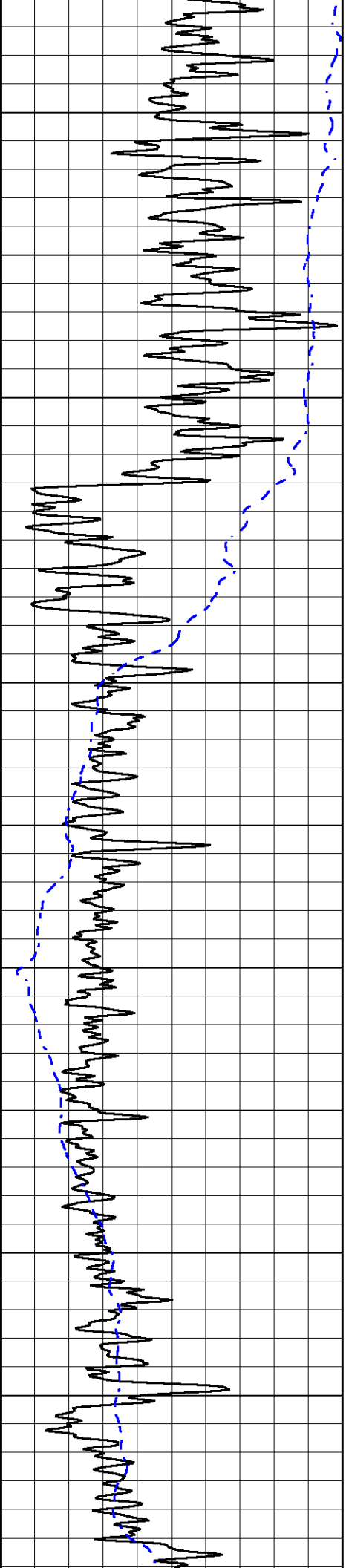
1000 Conductivity 0
 15000 Line Tension (lb) 0

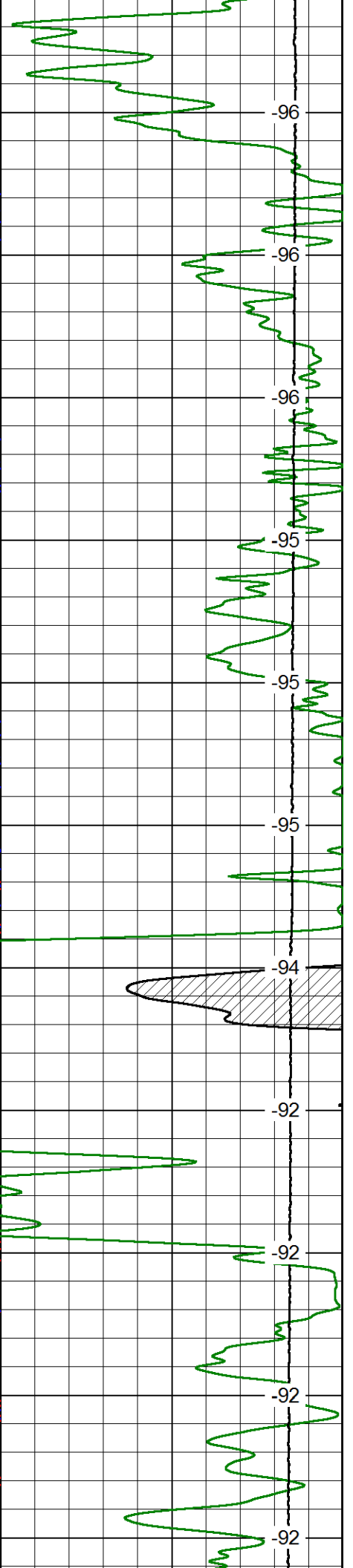
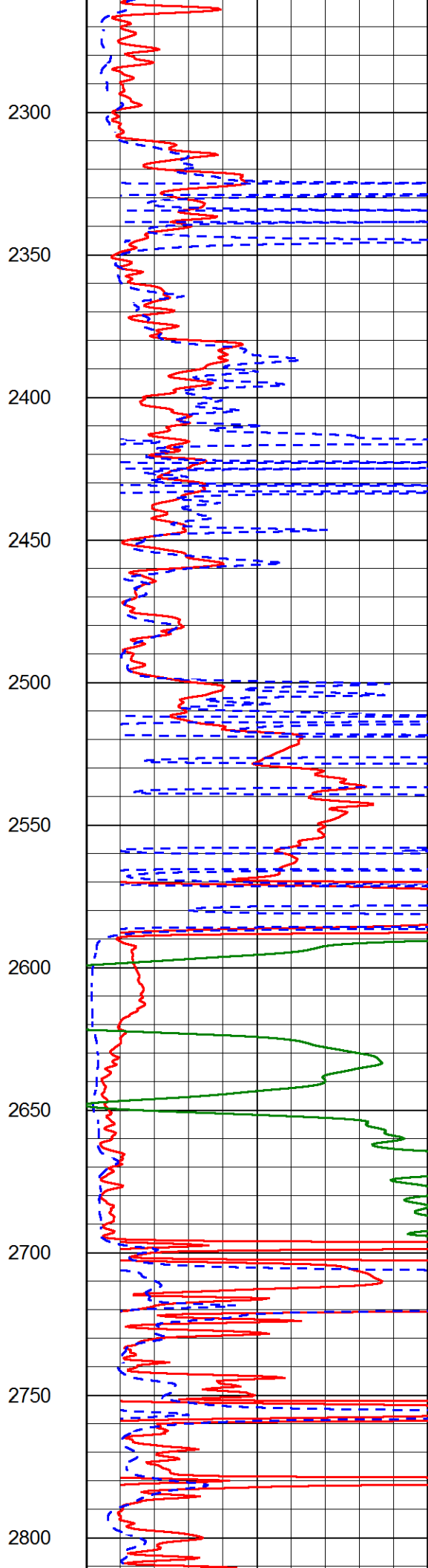
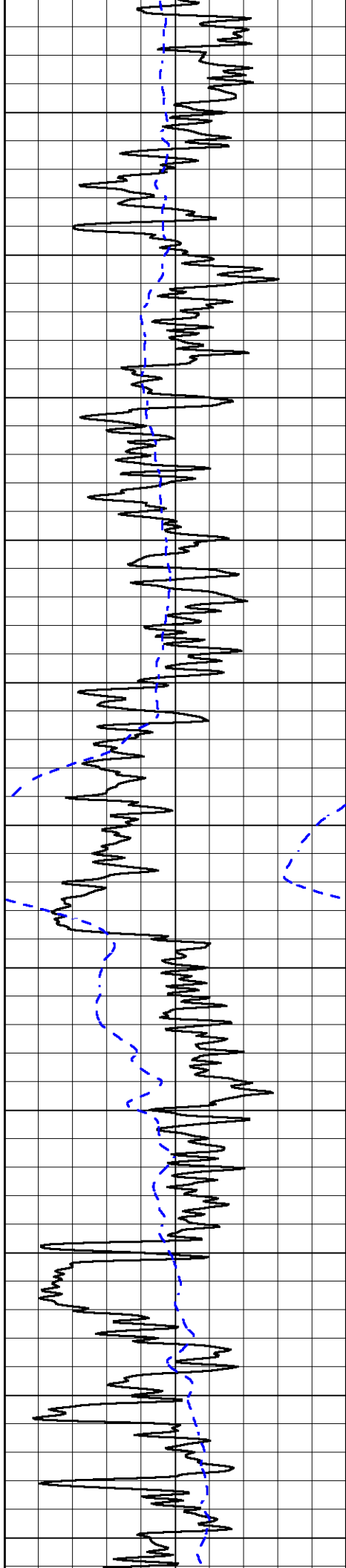
0 Shallow Resistivity (Ohm-m) 50
 0 Deep Resistivity (Ohm-m) 50
 Shallow Resistivity
 50 (Ohm-m) 500
 50 Deep Resistivity (Ohm-m) 500
 LSPD (ft/min)

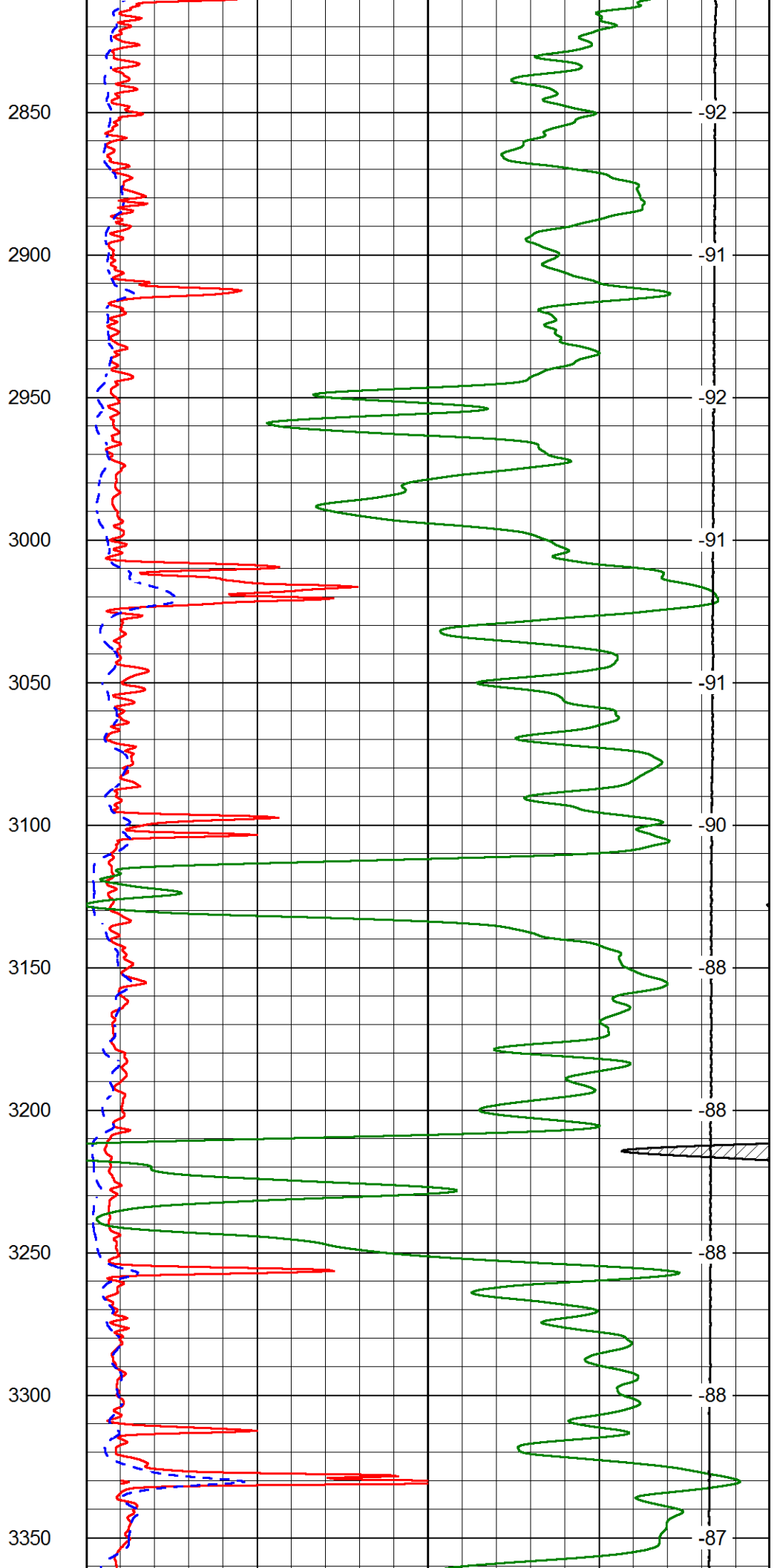
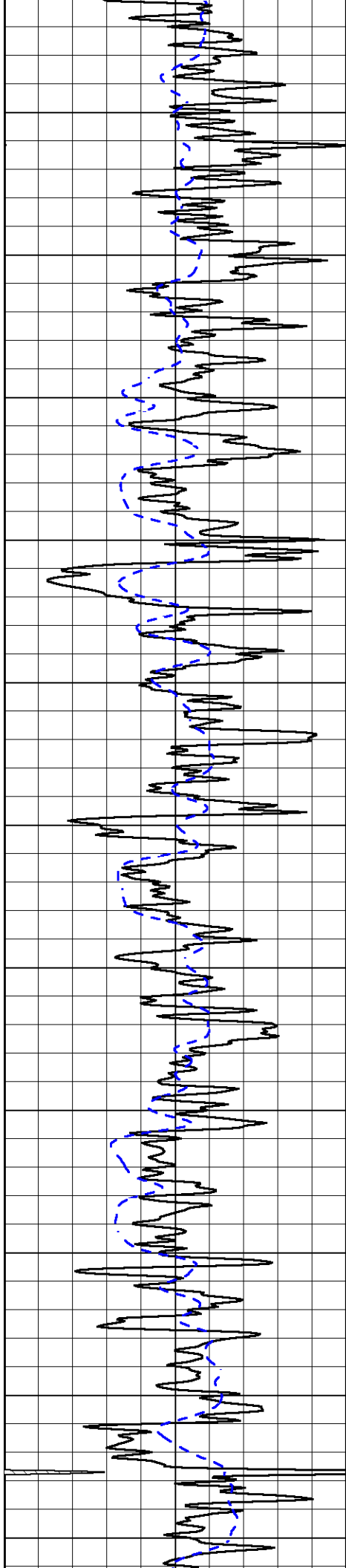


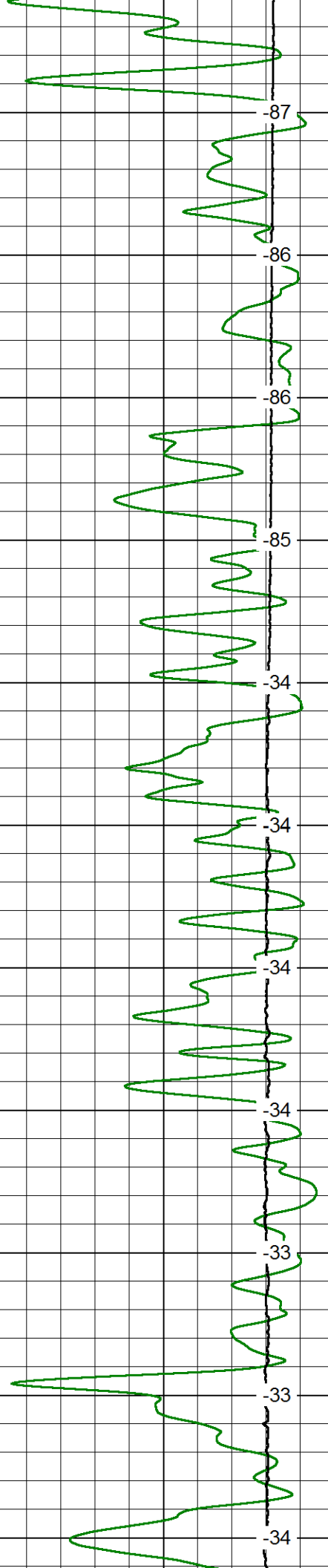
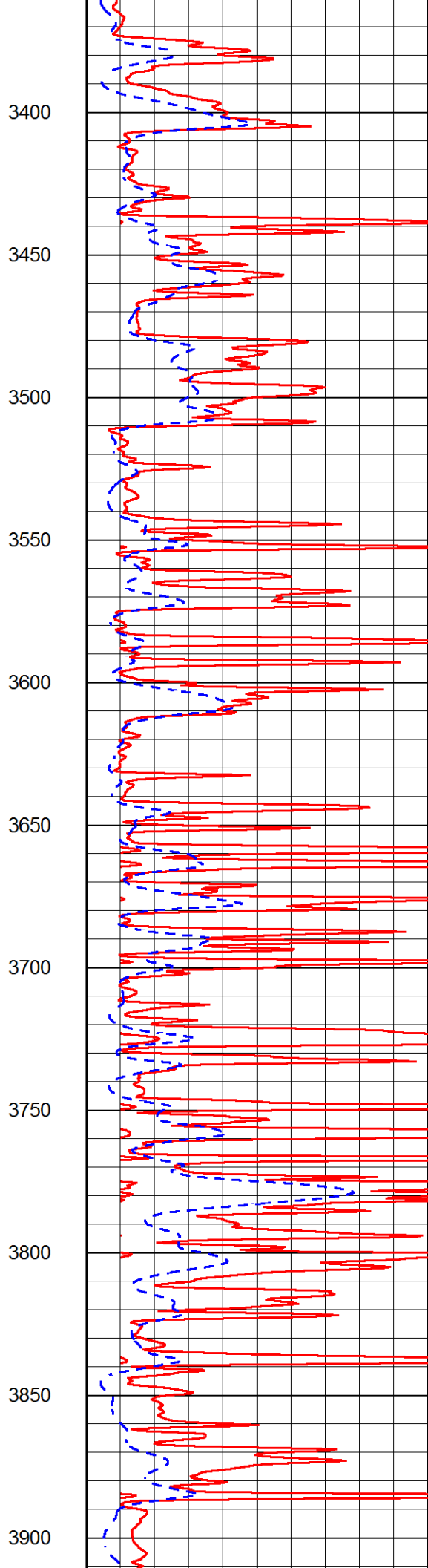
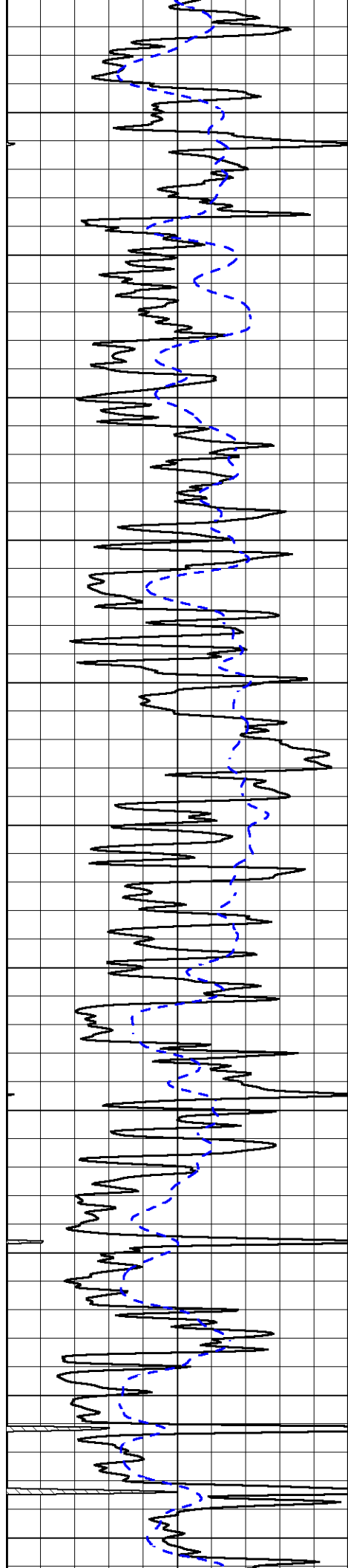


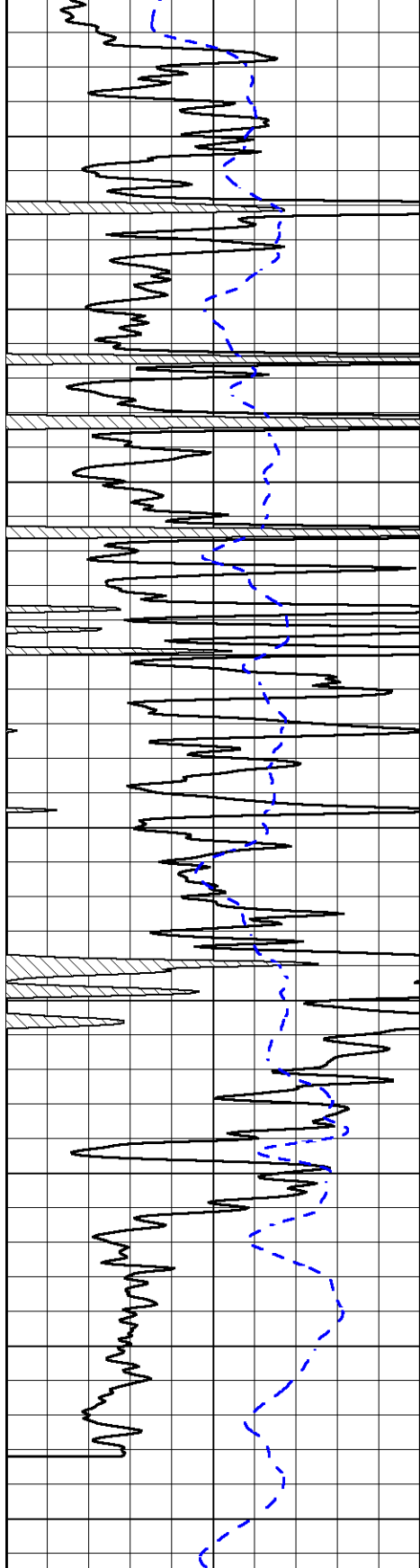




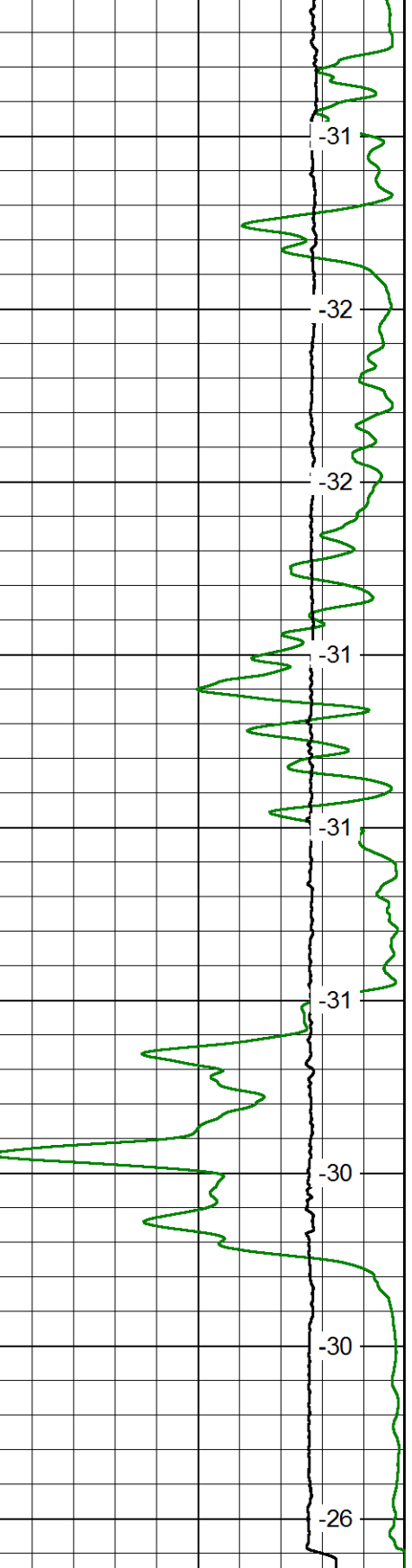
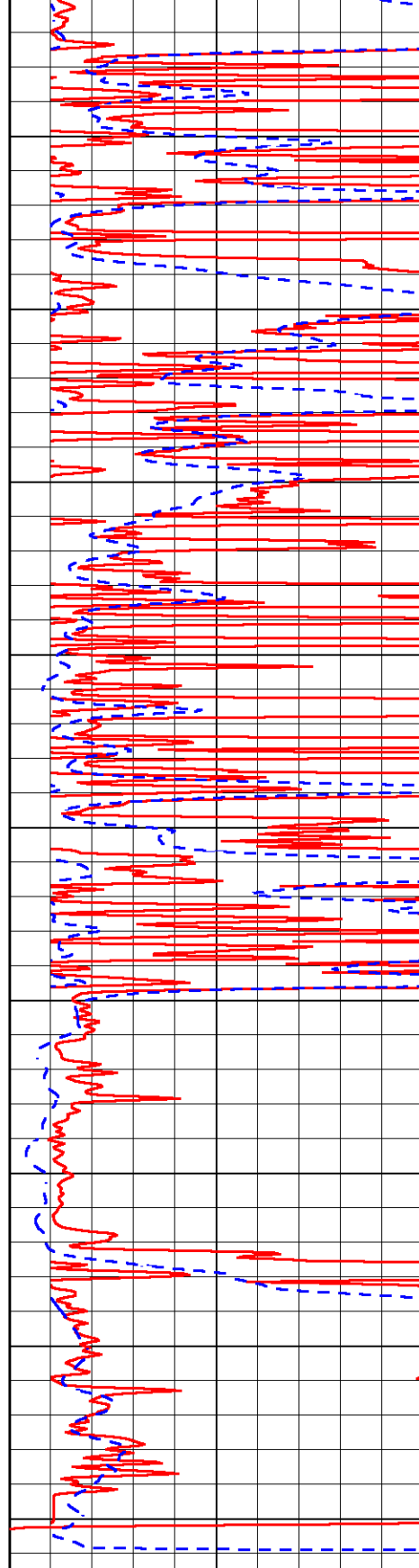








4500
4550
4600
4650
4700
4750
4800
4850
4900



-31
-32
-32
-31
-31
-31
-31
-30
-30
-26

0 Gamma Ray (GAPI) 150
-200 SP (mV) 0

1000 Conductivity 0
15000 Line Tension (lb) 0

0	Shallow Resistivity (Ohm-m)	50
0	Deep Resistivity (Ohm-m)	50
Shallow Resistivity		
50	(Ohm-m)	500
50	Deep Resistivity (Ohm-m)	500

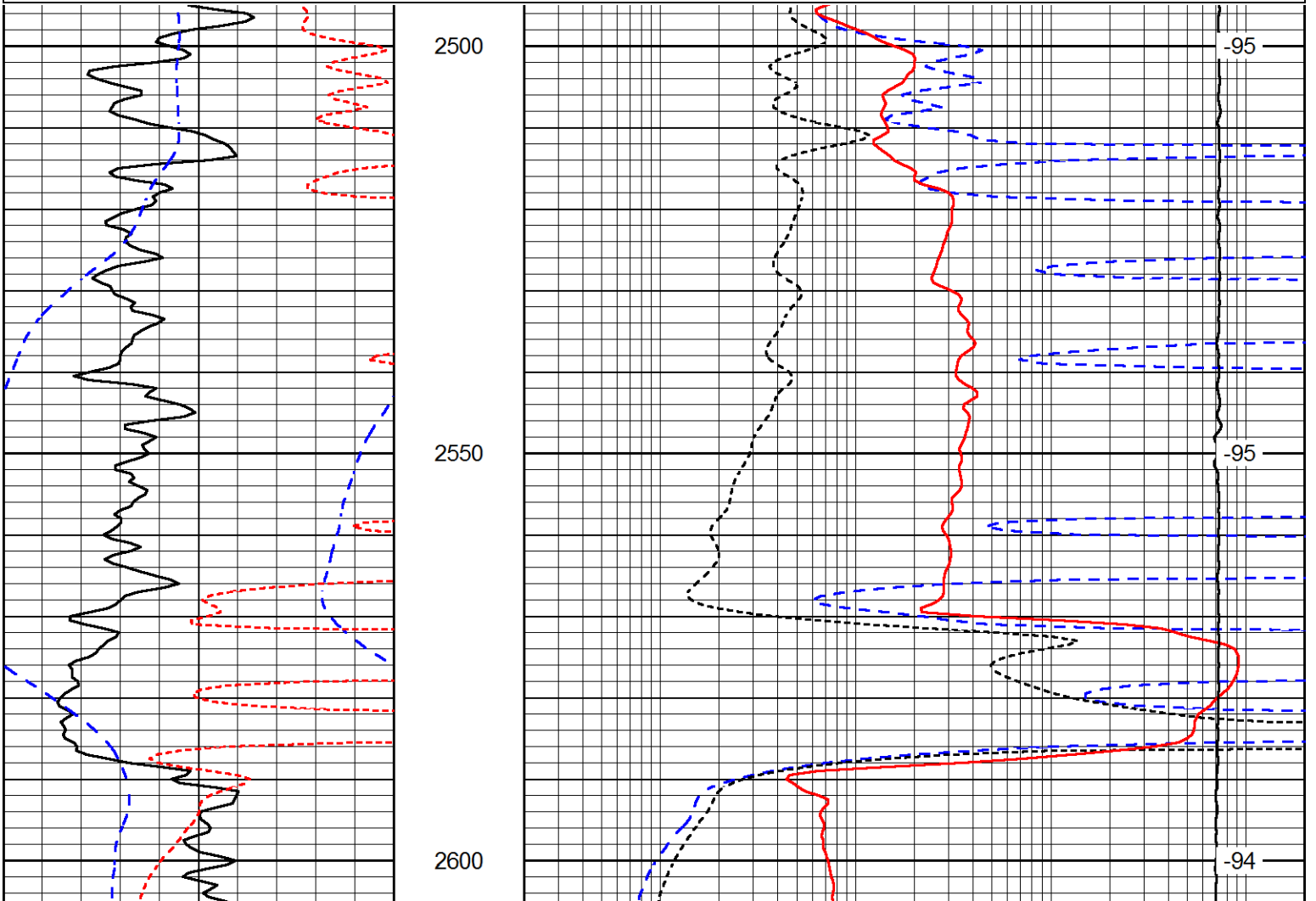
LSPD
(ft/min)

Database File ritchie_d schumacher_1hd.db
 Dataset Pathname DIL/ristack
 Presentation Format dil
 Dataset Creation Wed Aug 12 19:14:35 2015
 Charted by Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150
-160	RxoRt	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
10000	Line Tension (lb)	0

LSPD
(ft/min)



0	Gamma Ray (GAPI)	150
-160	RxoRt	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
10000	Line Tension (lb)	0

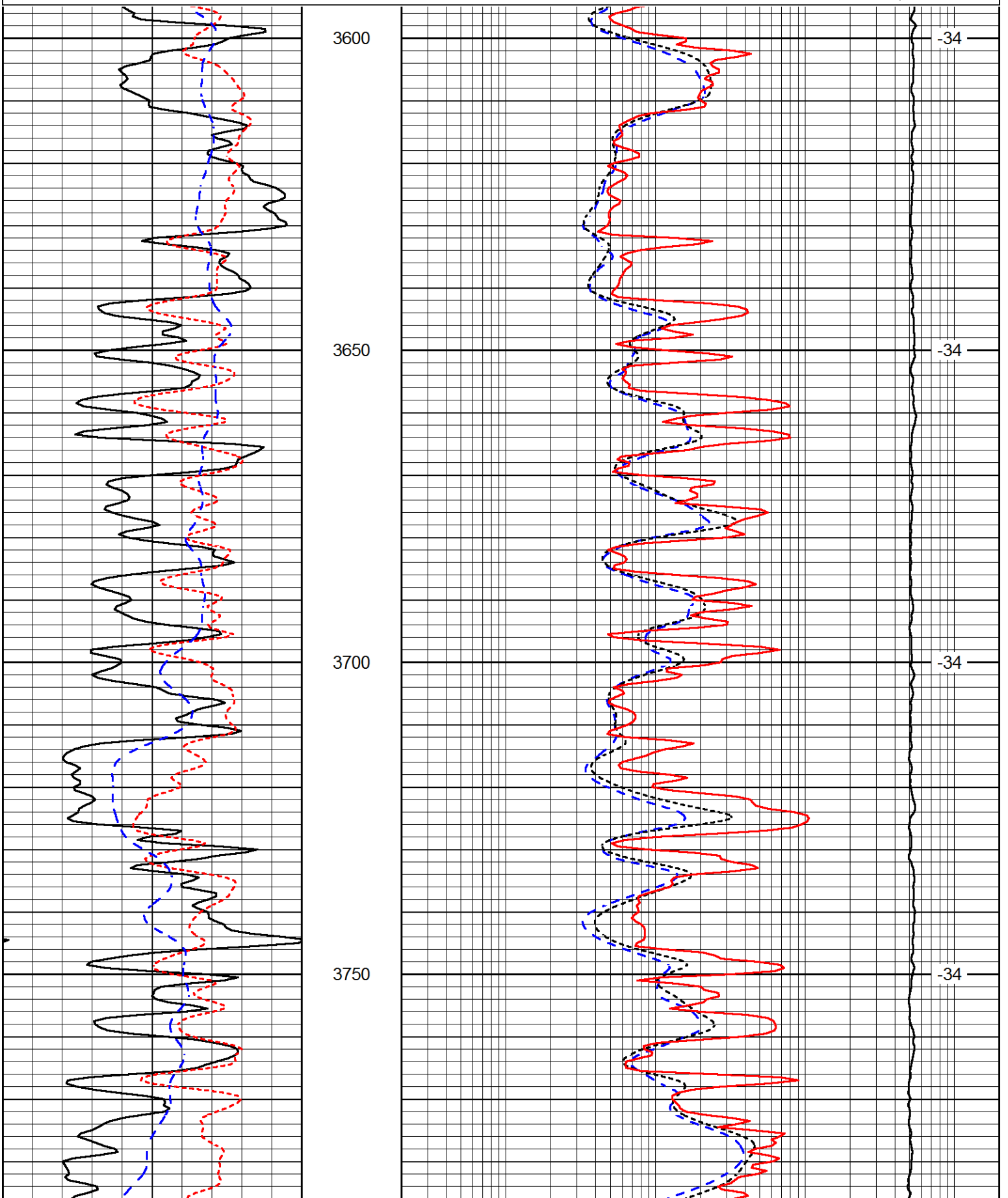
LSPD
(ft/min)

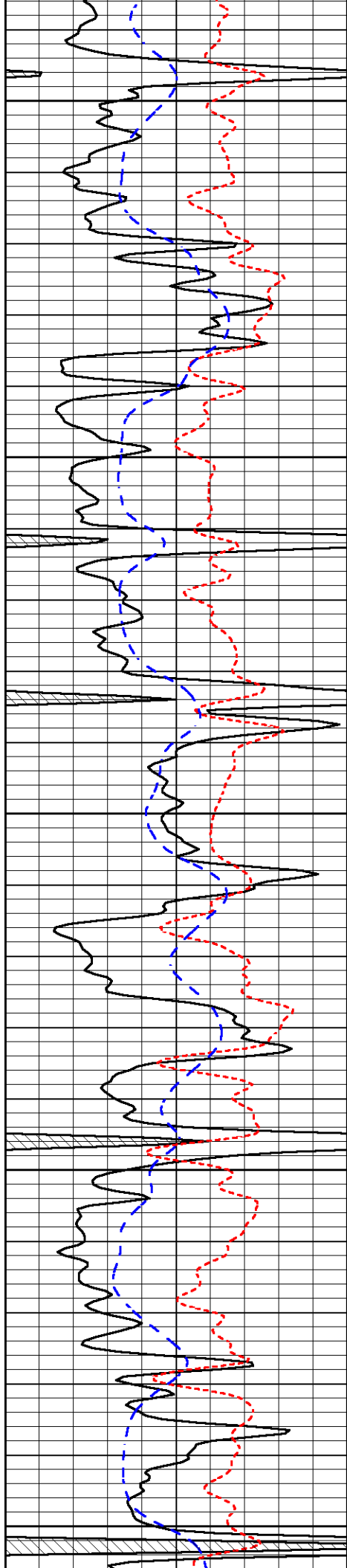
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0	Gamma Ray (GAPI)	150
-160	RxoRt	40
-200	SP (mV)	0

0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000
10000	Line Tension (lb)	0

LSPD
(ft/min)





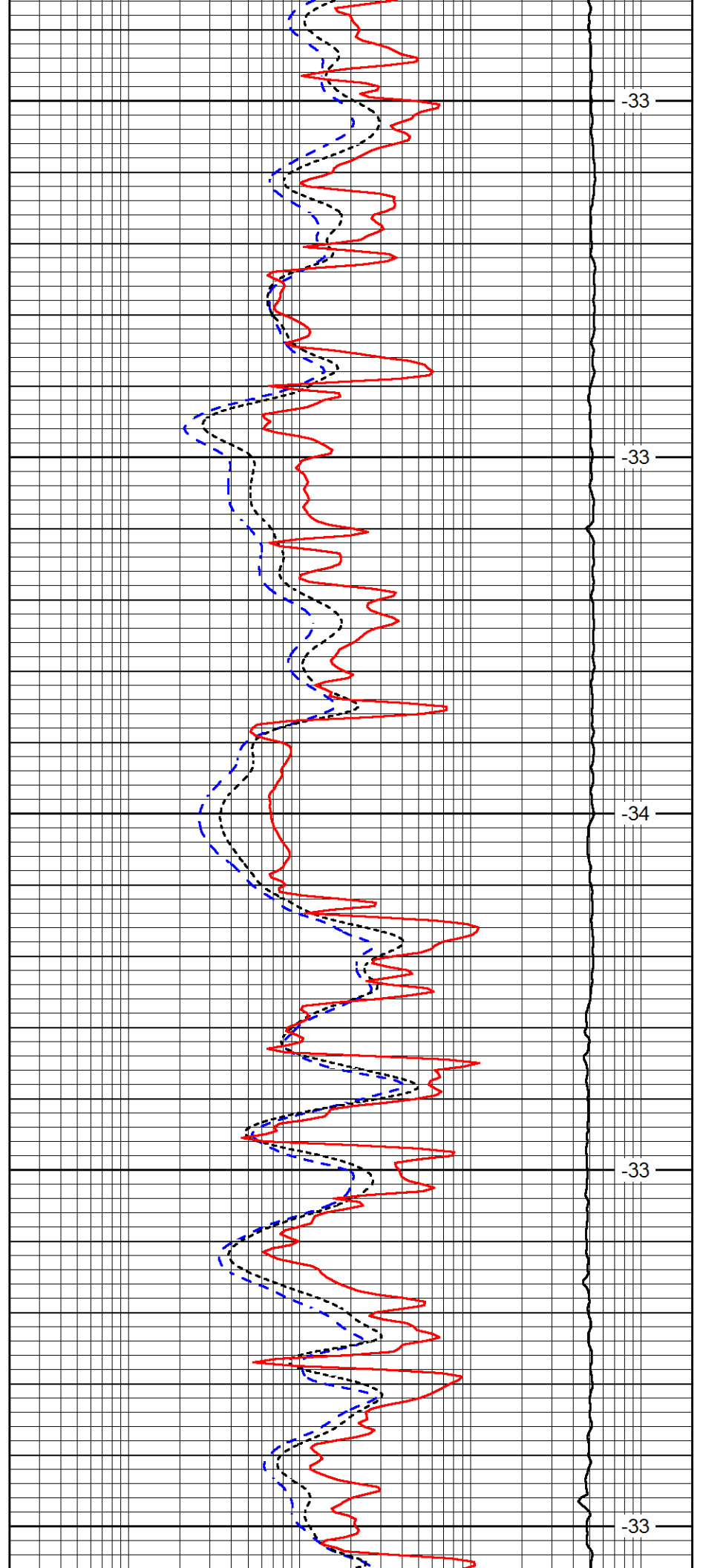
3800

3850

3900

3950

4000



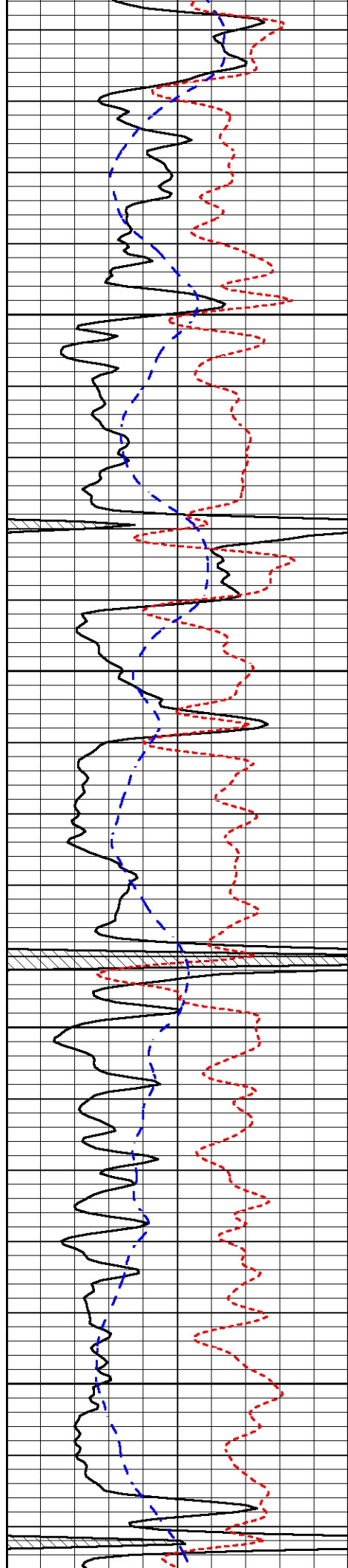
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-33

-34

-33

-33

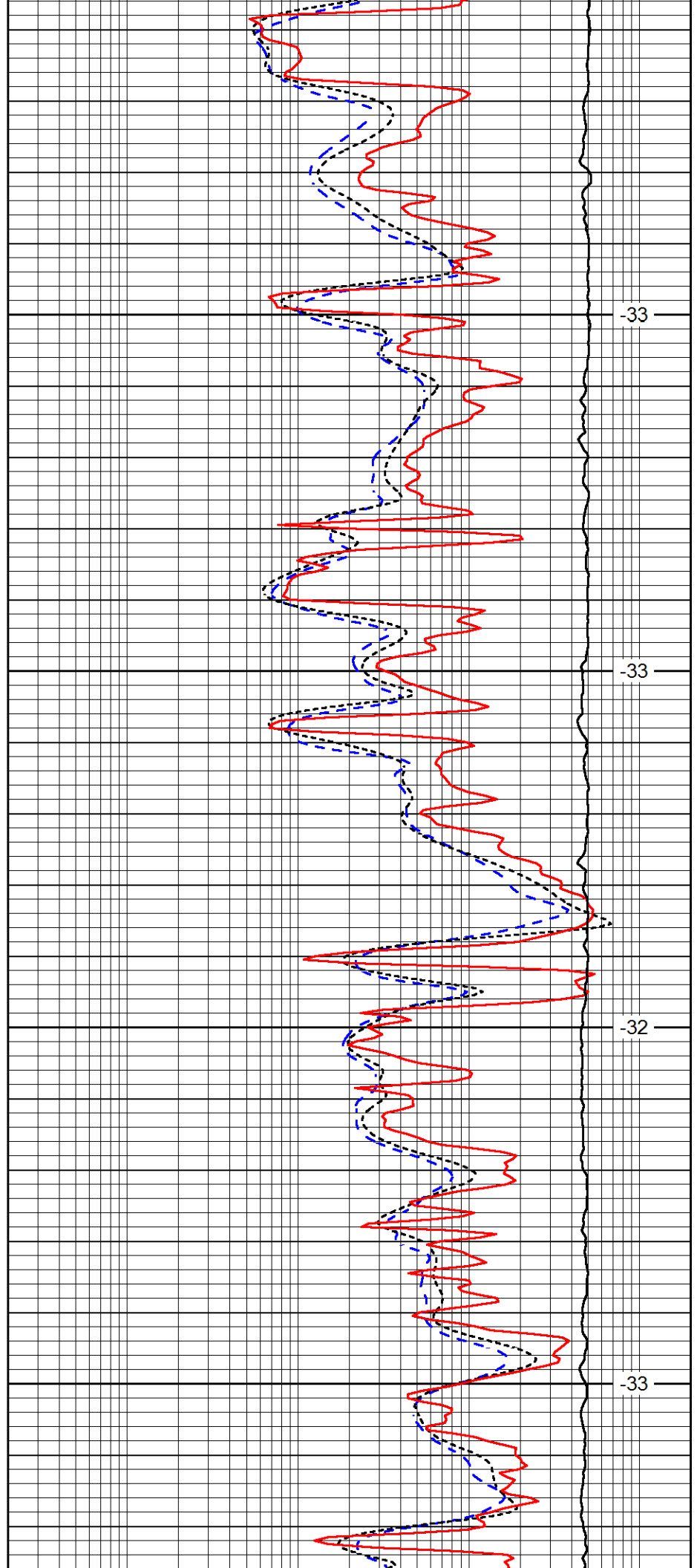


4050

4100

4150

4200

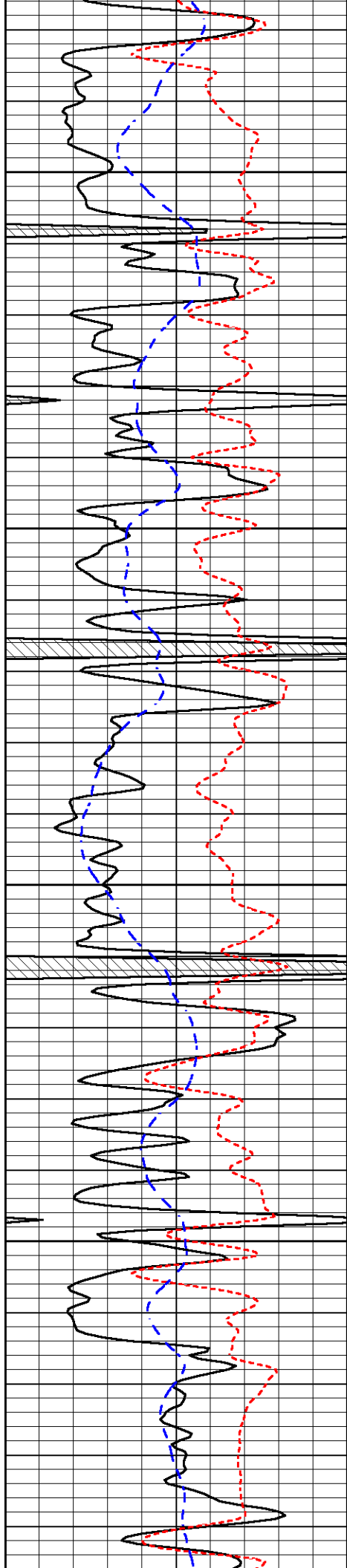


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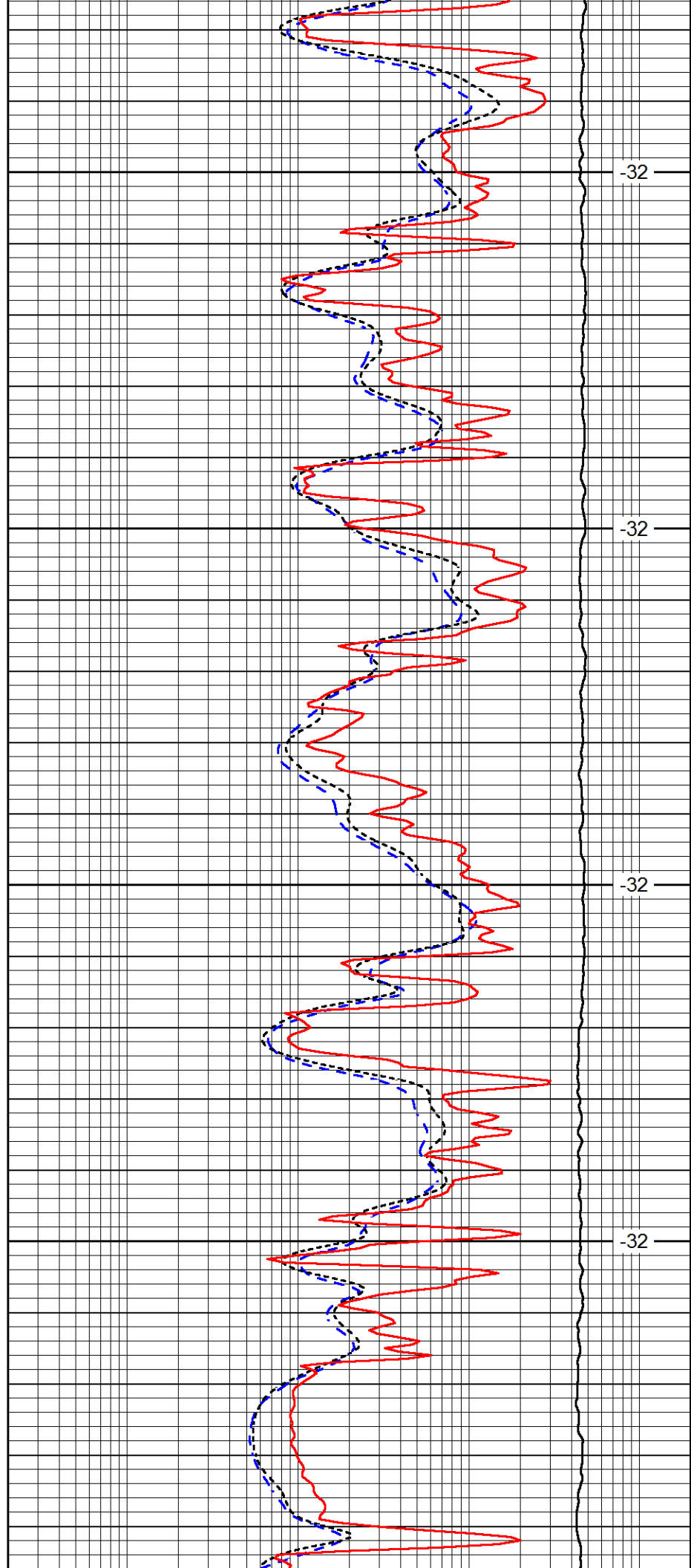


4250

4300

4350

4400

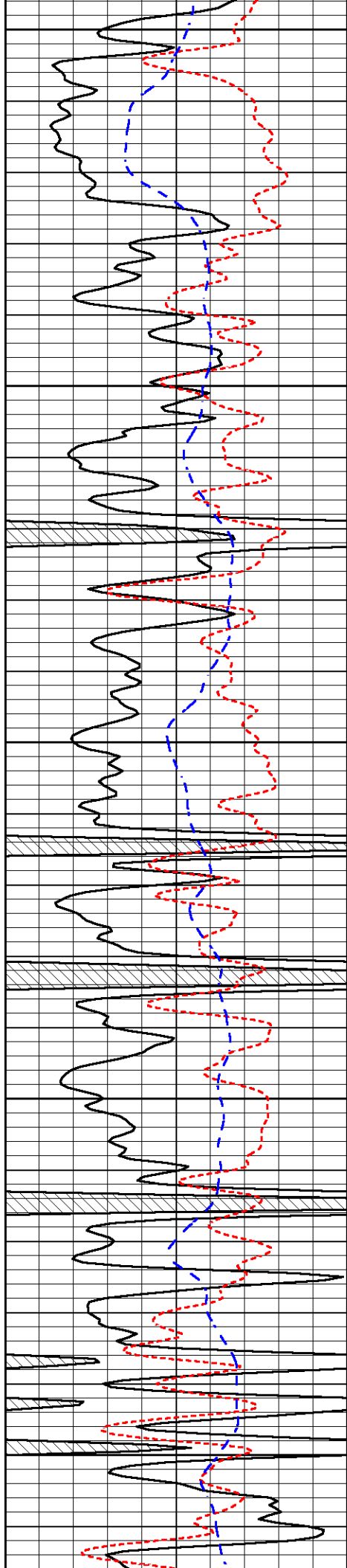


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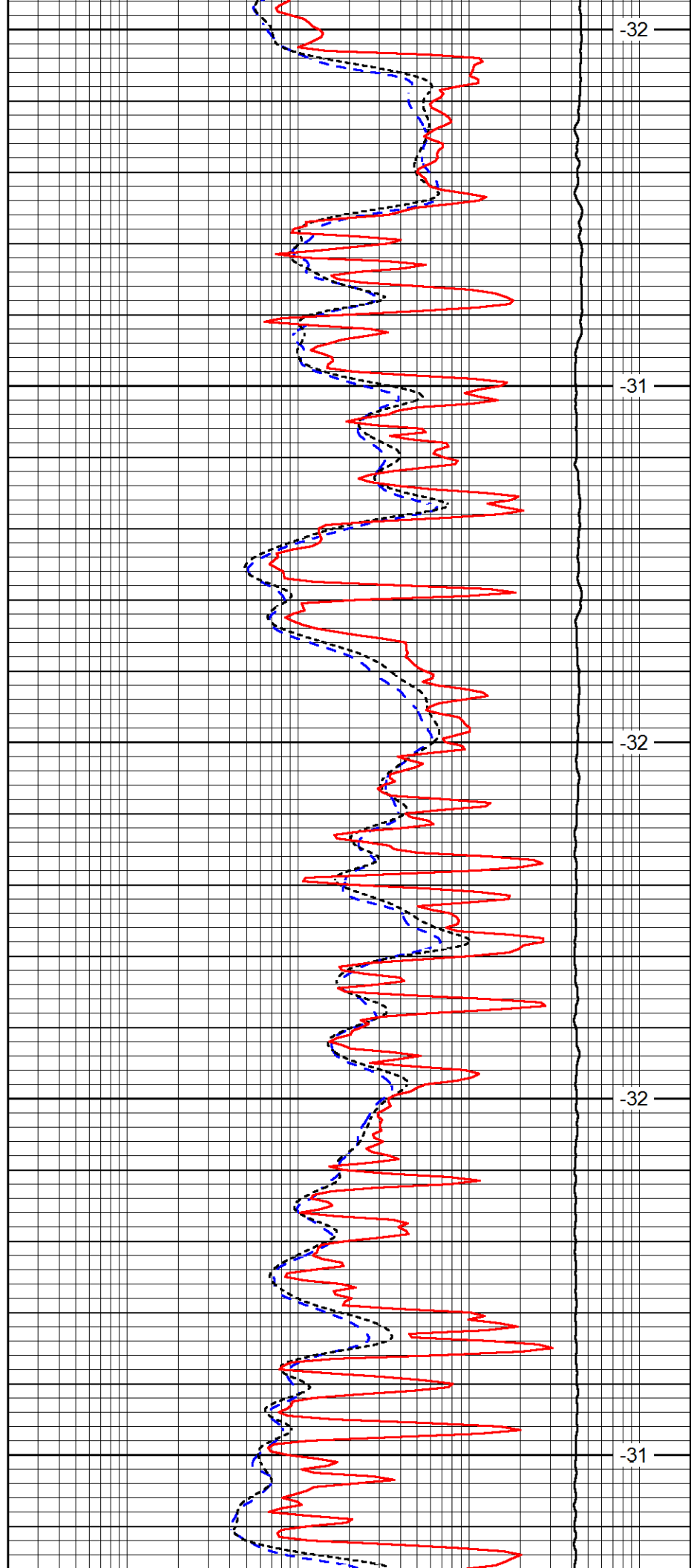
4450

4500

4550

4600

4650



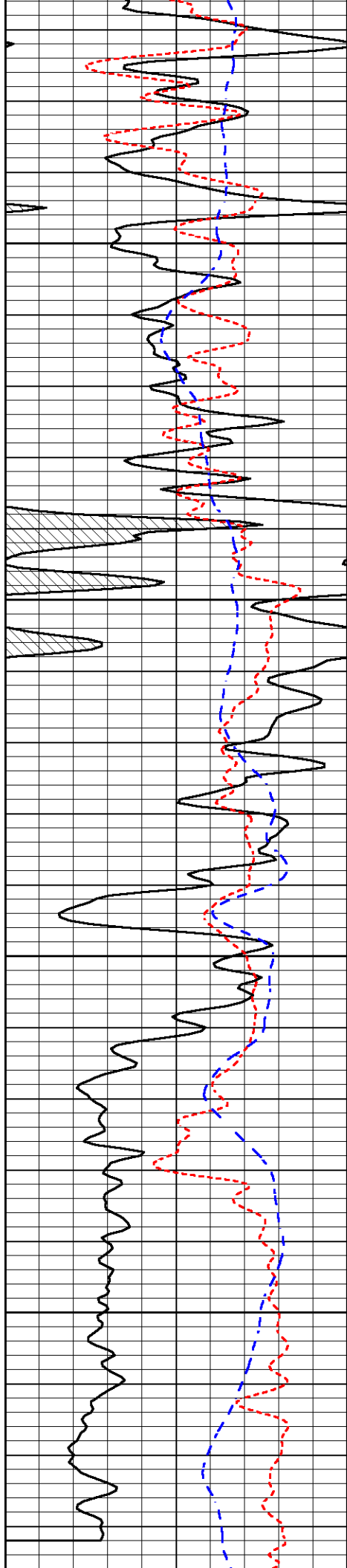
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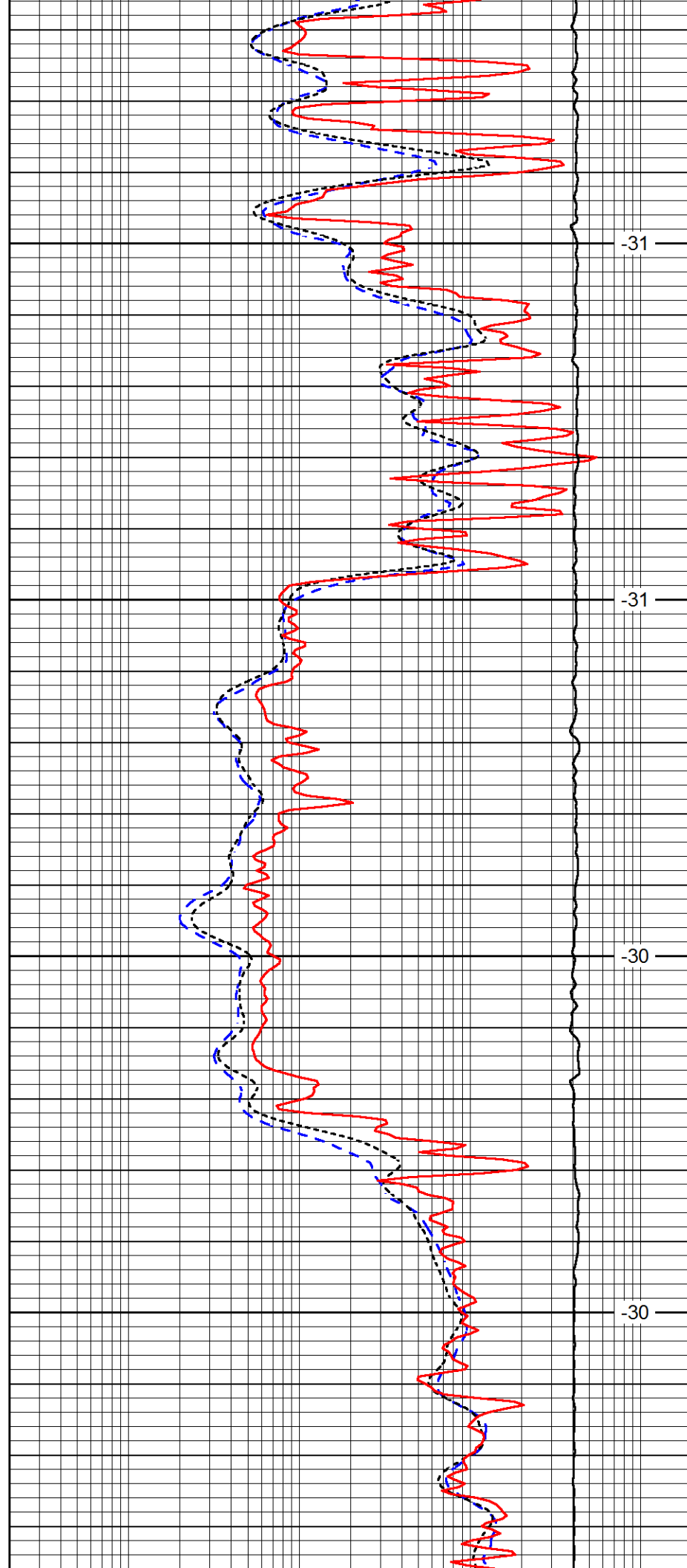


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4800

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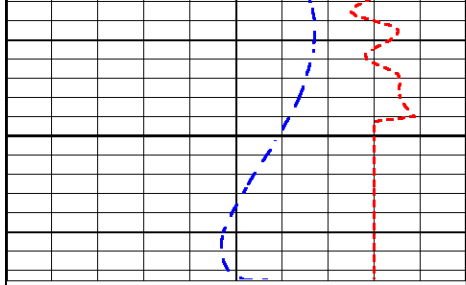


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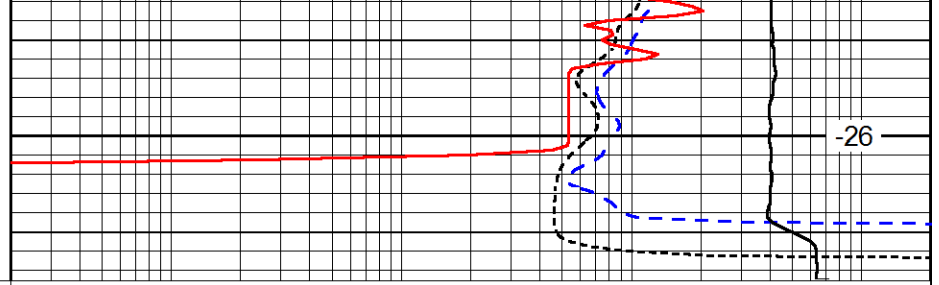
-31

-30

-30



4900



0	Gamma Ray (GAPI)	150
-160	RxoRt	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
10000	Line Tension (lb)	0

LSPD
(ft/min)