



Pioneer Energy Services

# Dual Induction Log

API No.	15-051-26,534-00-00		
Company	TDL, Inc.		
Well	Bieler No. 1		
Field	Virginia		
County	Elis	State	Kansas
Location	N2 NE SW SE 1250' FSL & 1650' FEL		
Sec: 9	Twp: 15 S	Rge: 19 W	Other Services CNL/CDL MEL

Permanent Datum	Ground Level	Elevation 2024	K.B. 2034
Log Measured From	Kelly Bushing	10 Ft. Above Perm. Datum	D.F. 2024
Drilling Measured From	Kelly Bushing		G.L. 2024
Date	7/19/2013		
Run Number	One		
Depth Driller	3750		
Depth Logger	3749		
Bottom Logged Interval	3748		
Top Log Interval	200		
Casing Driller	8.625 @ 223		
Casing Logger	221		
Bit Size	7.875		
Type Fluid in Hole	Chemical		
Salinity, ppm CL	3200		
Density / Viscosity	9.3	56	
pH / Fluid Loss	10.5	8.0	
Source of Sample	Flowline		
Rm @ Meas. Temp	.22	@ 84	
Rmf @ Meas. Temp	.17	@ 84	
Rmc @ Meas. Temp	.30	@ 84	
Source of Rmf / Rmc	Charts		
Rm @ BHT	.16	@ 114	
Operating Rig Time	3 1/2 Hours		
Max Rec. Temp. F	114		
Equipment Number	108		
Location	Hays		
Recorded By	D. Martin		
Witnessed By	Herb Deines		

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### Comments

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(785) 625-3858  
  
Antonino, KS  
2 W, 2 S, 1/4 W, N Into

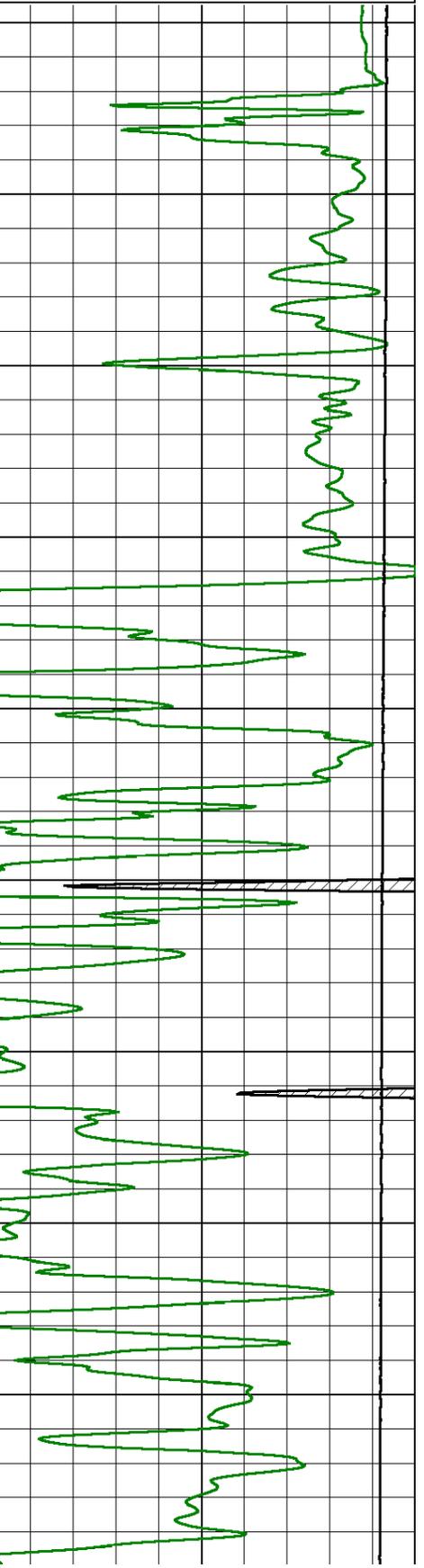
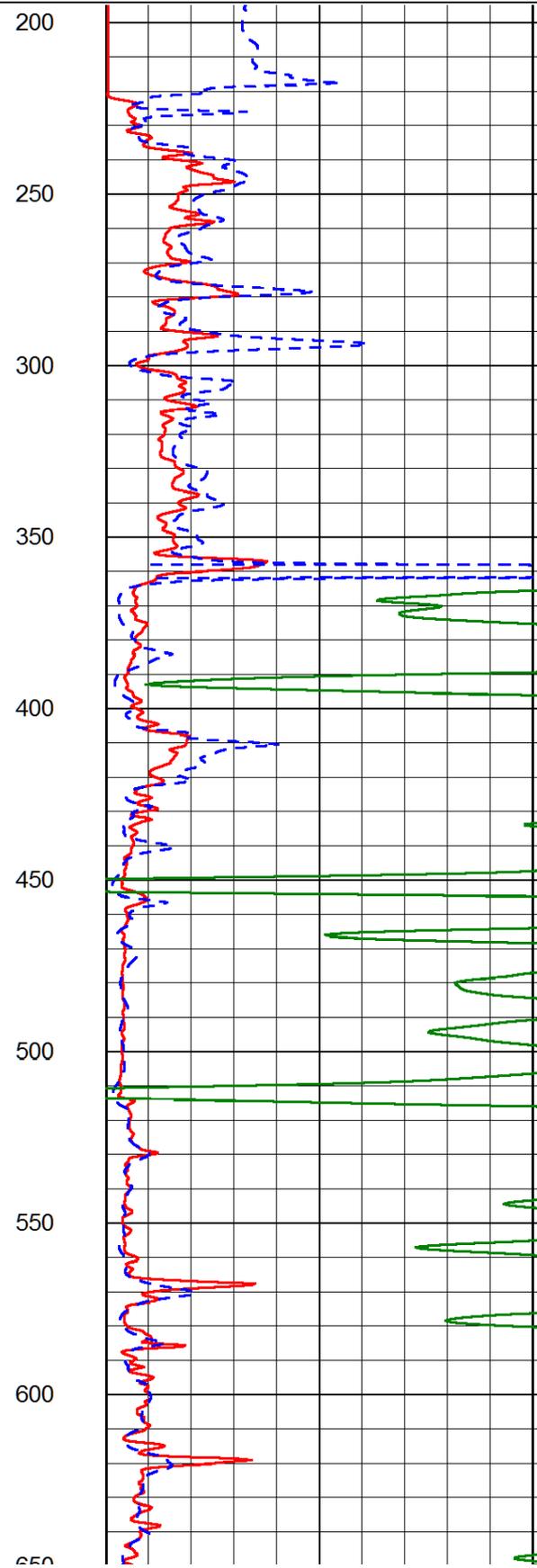
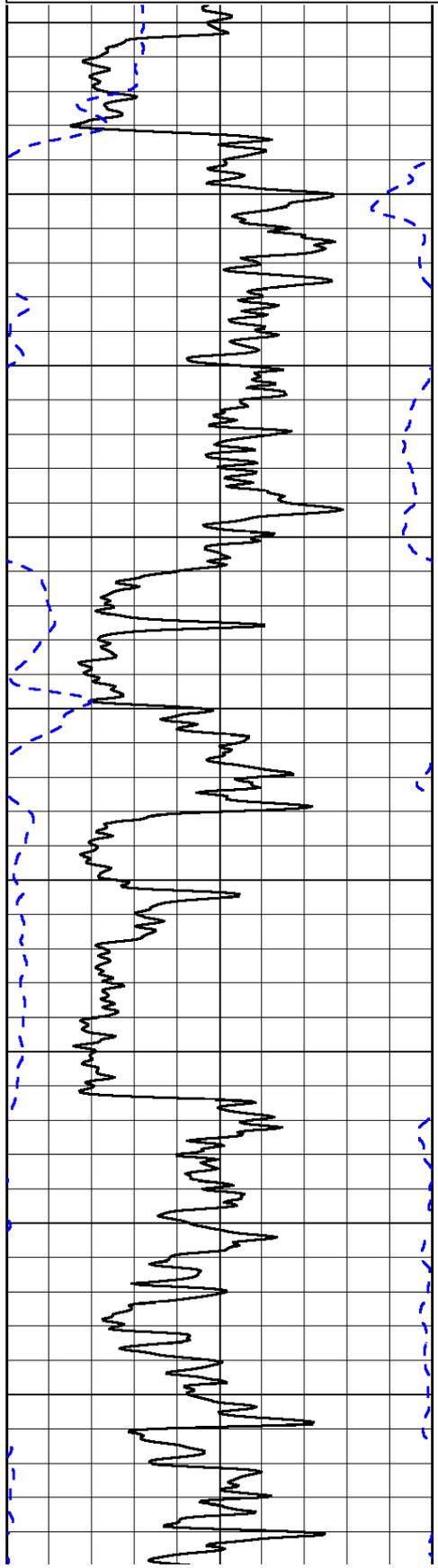
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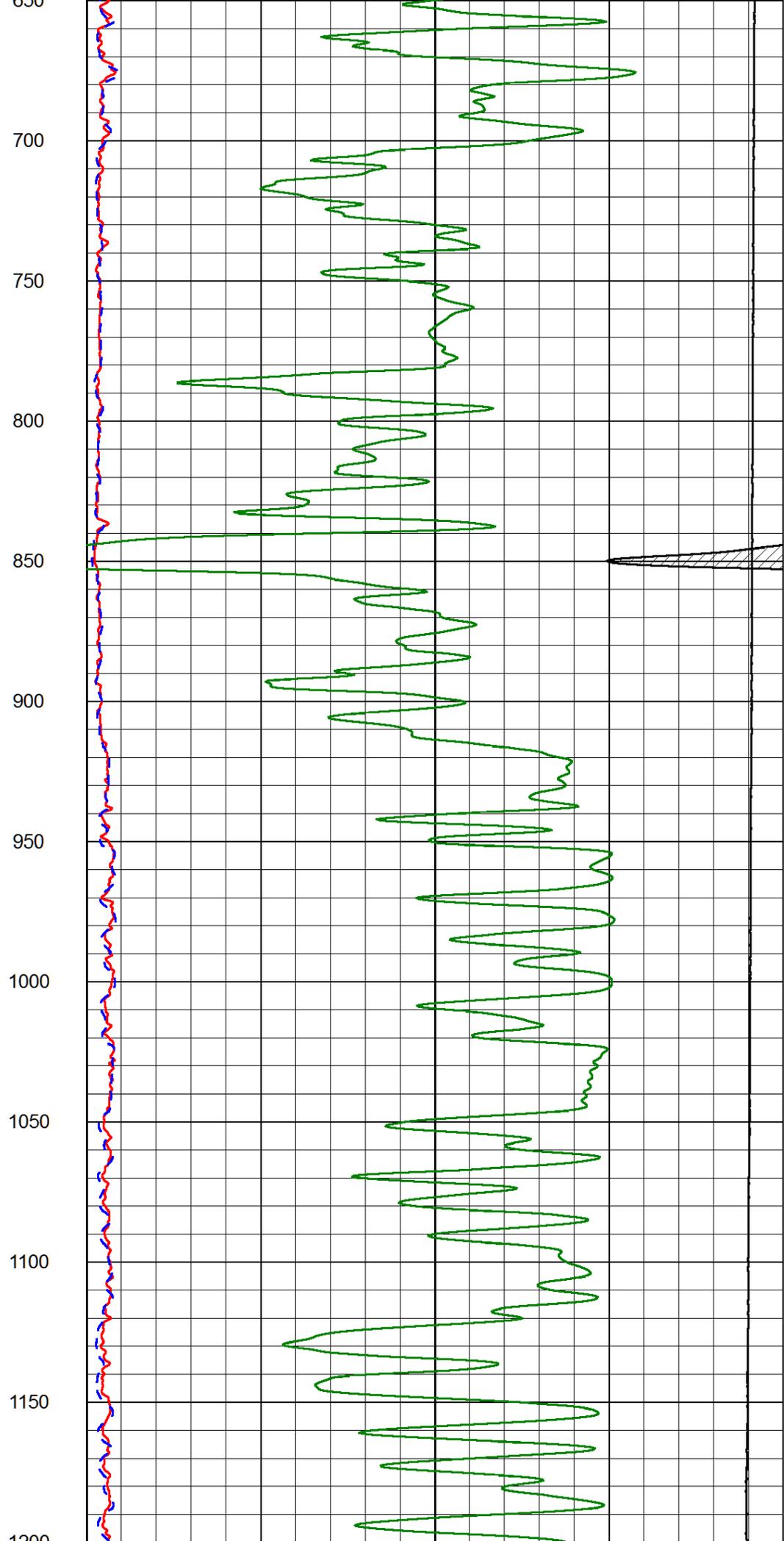
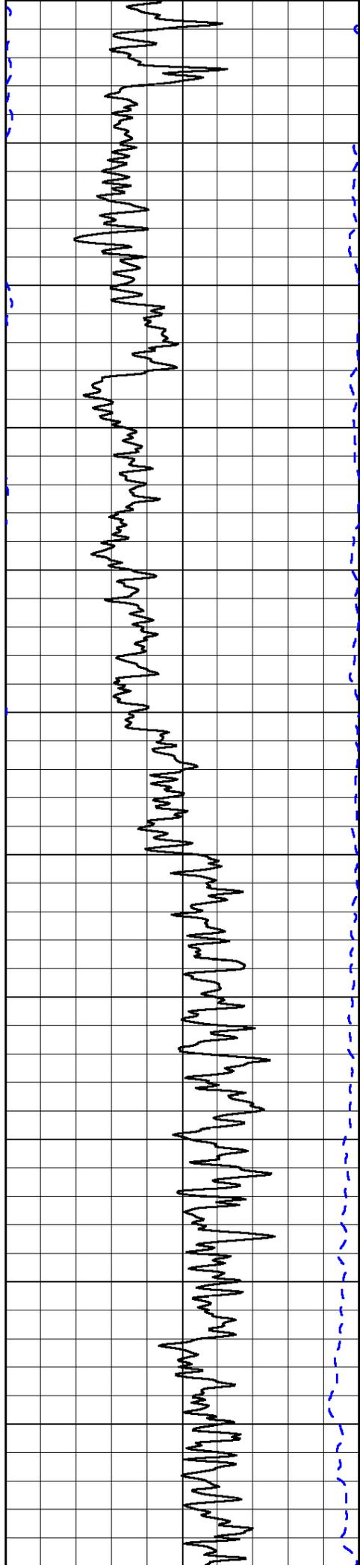
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-200	SP (mV)	0

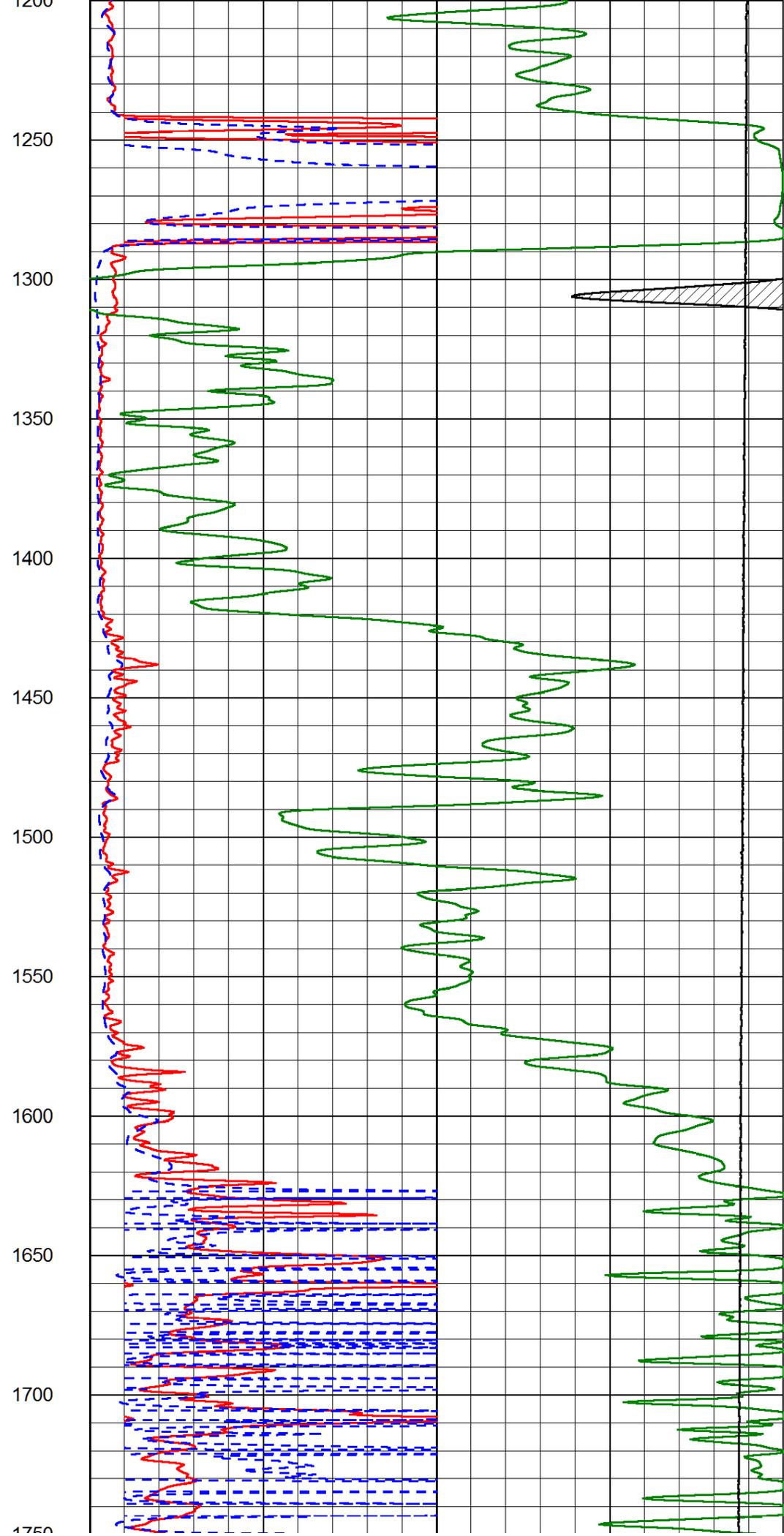
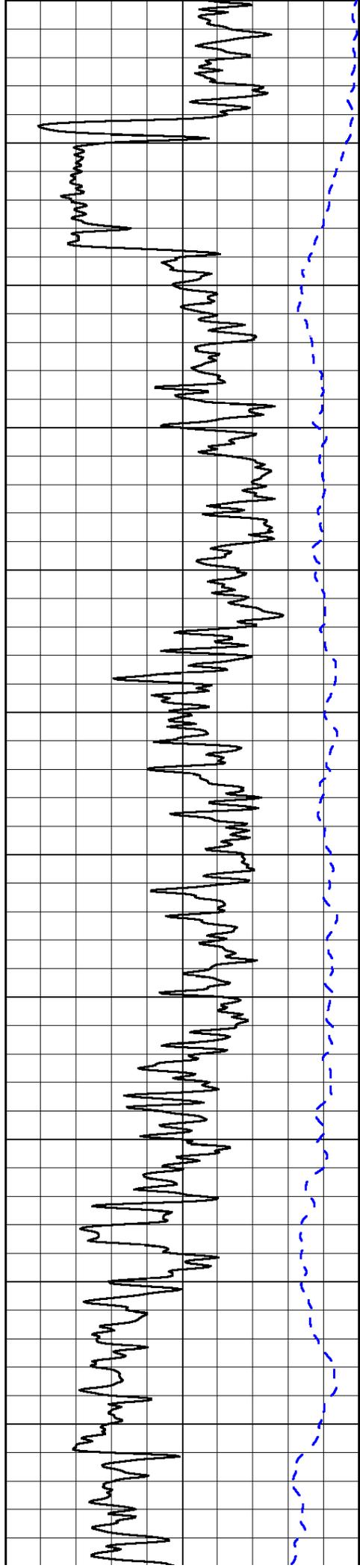
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0	Deep Resistivity (Ohm-m)	50

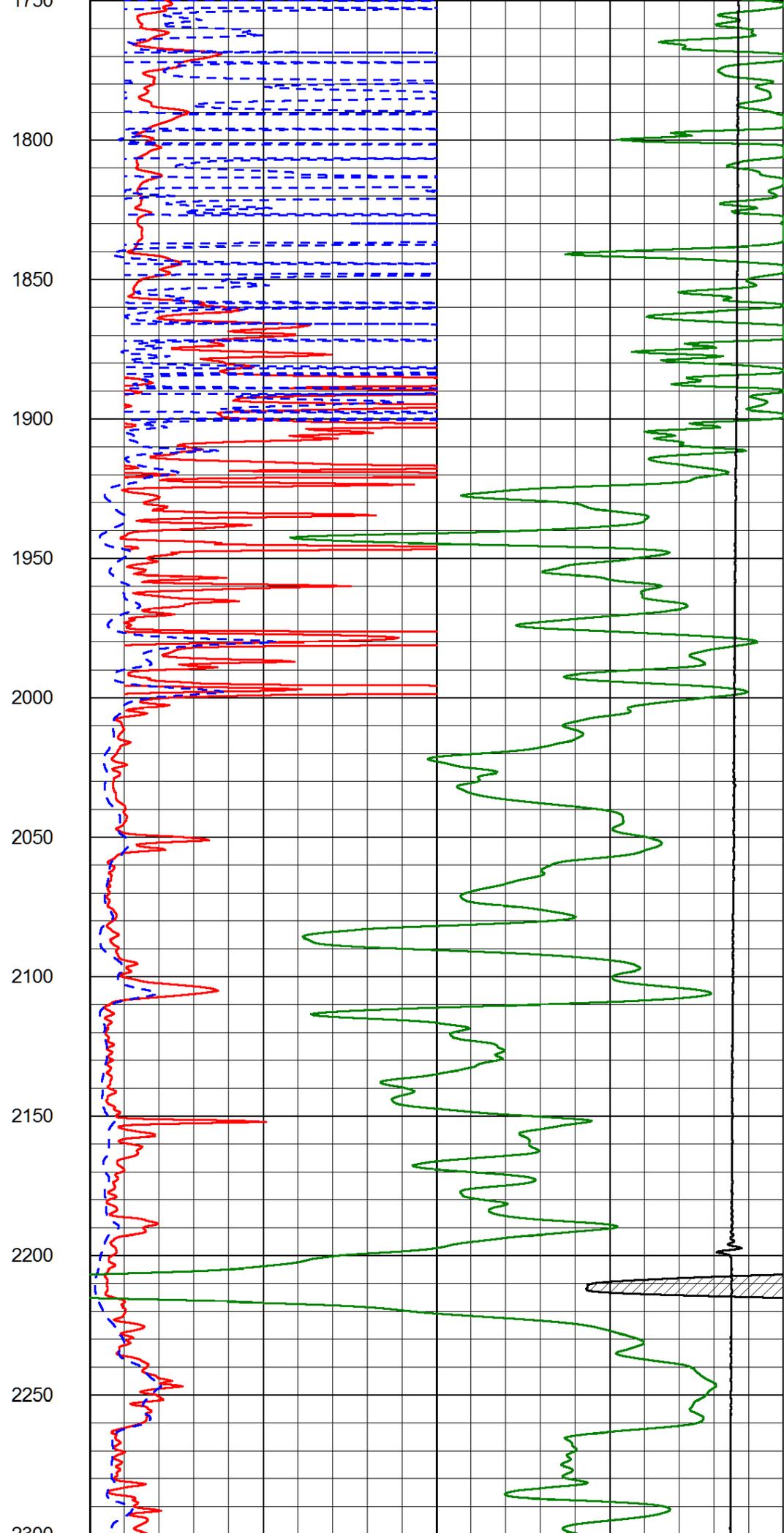
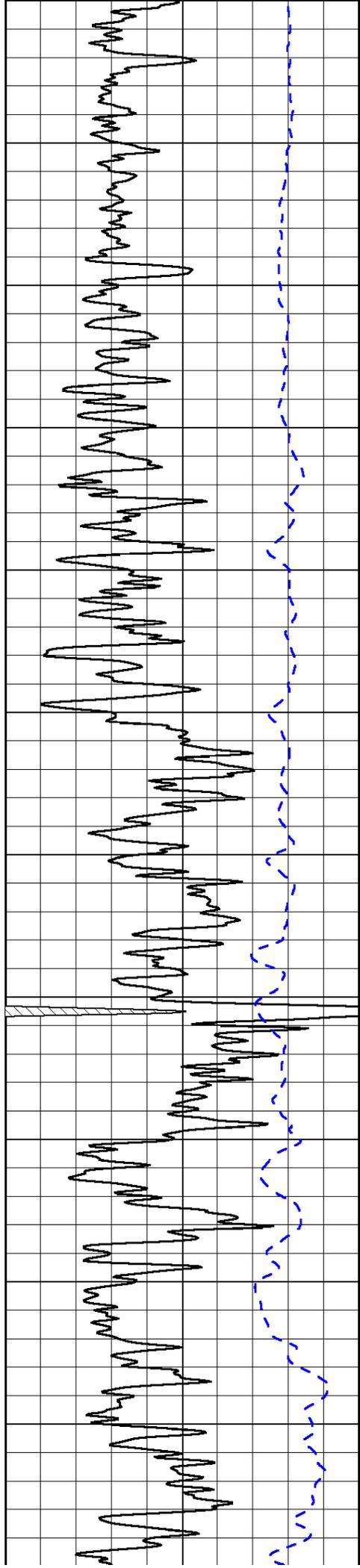
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15000	Line Tension (lb)	0

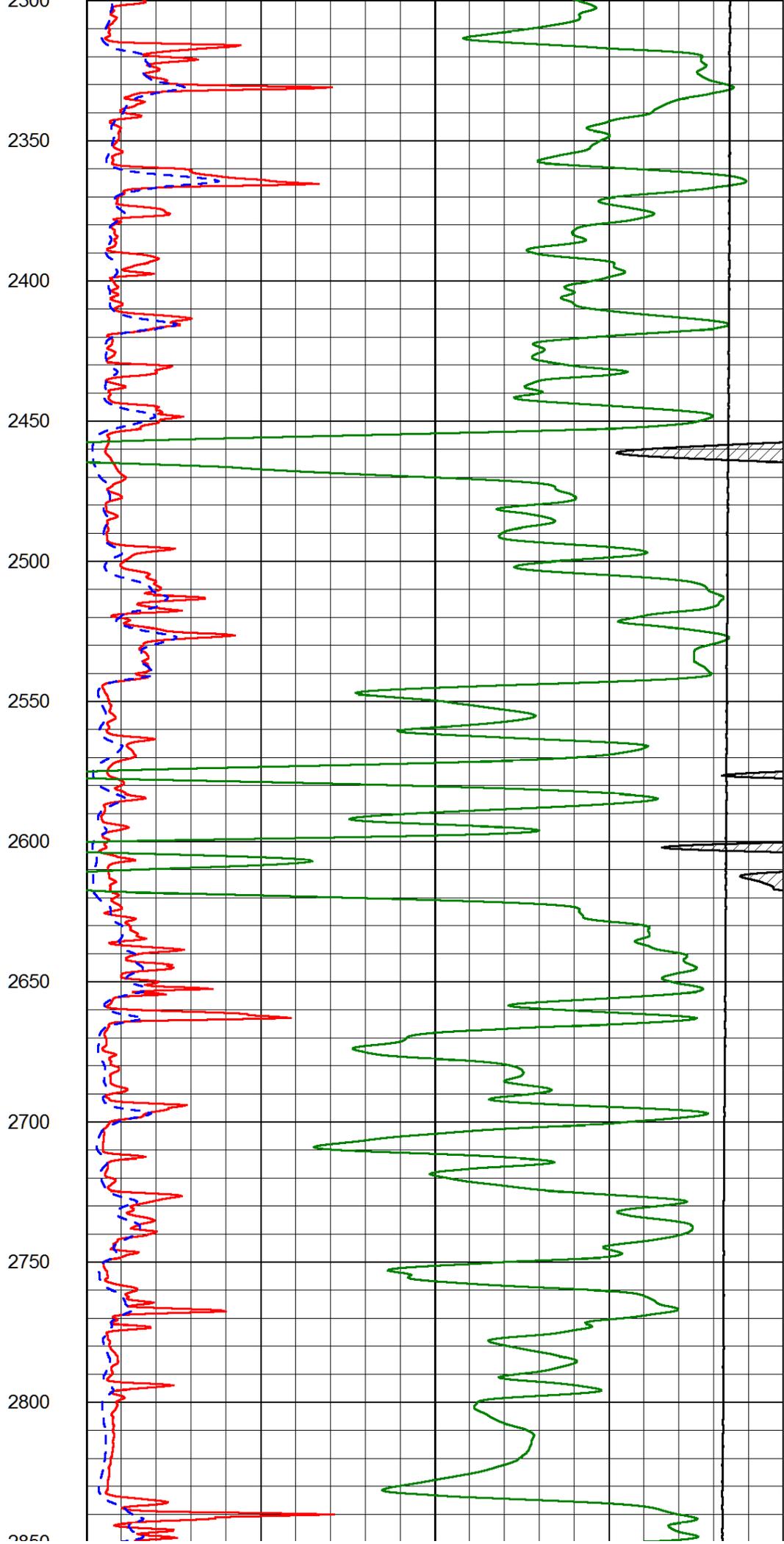
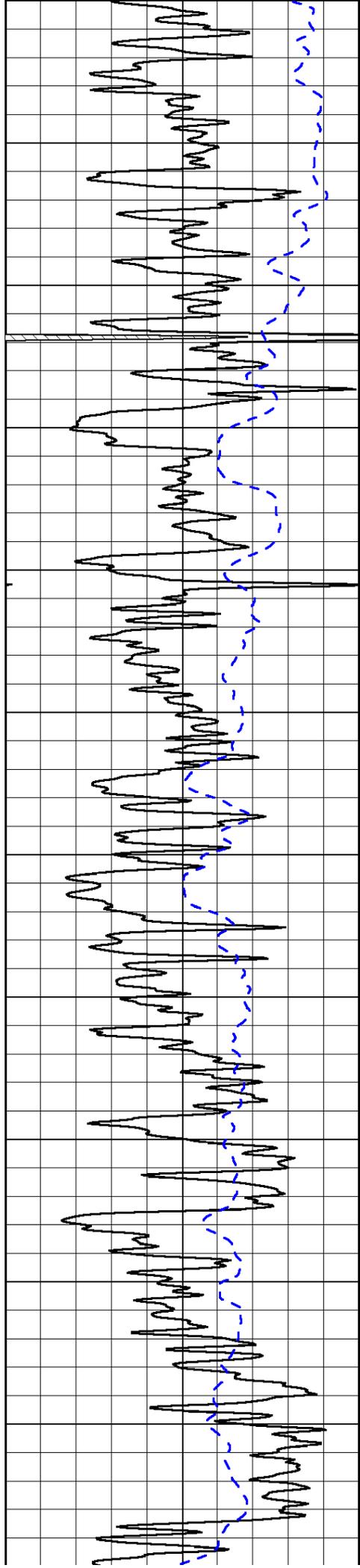
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50	Deep Resistivity (Ohm-m)	500

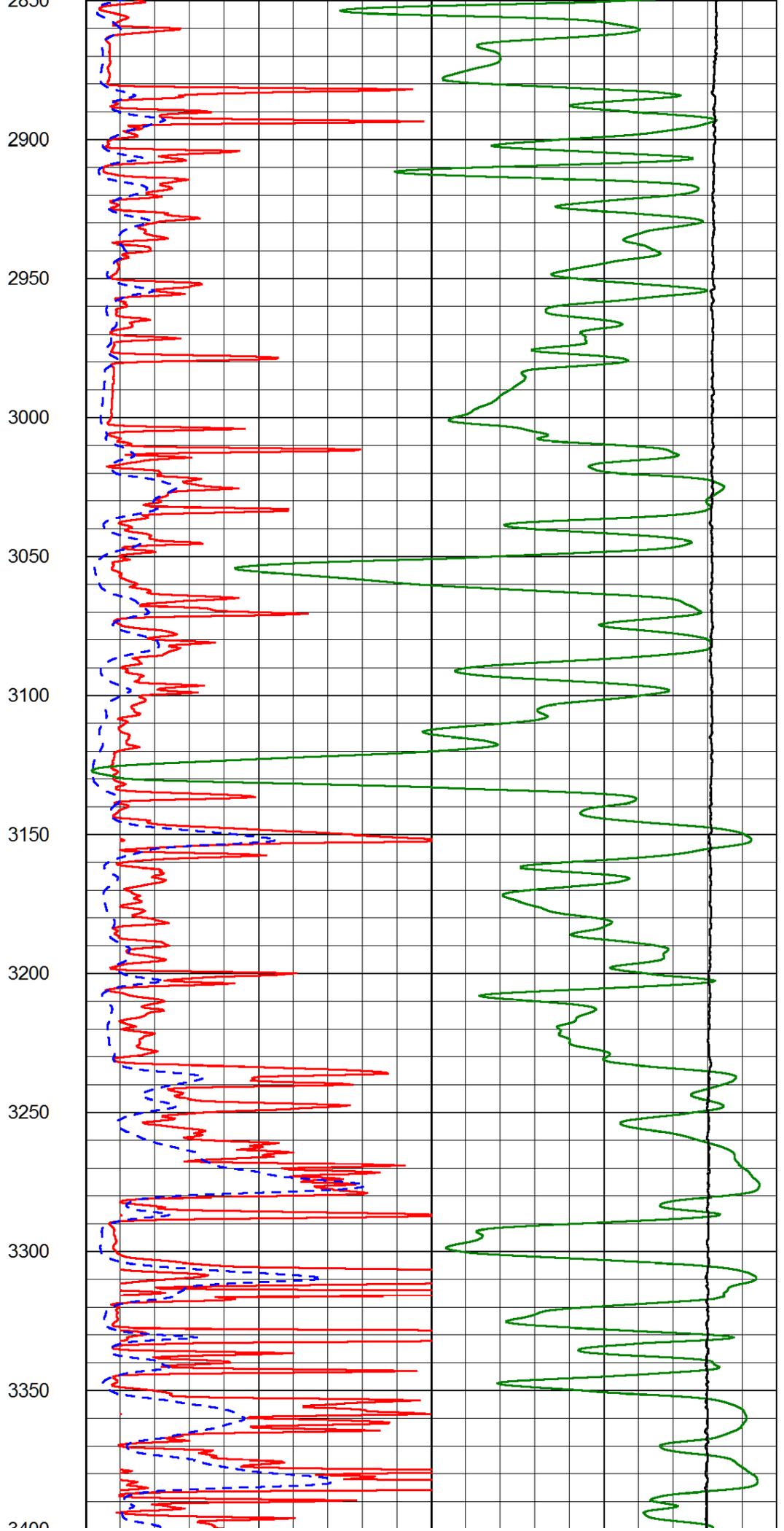
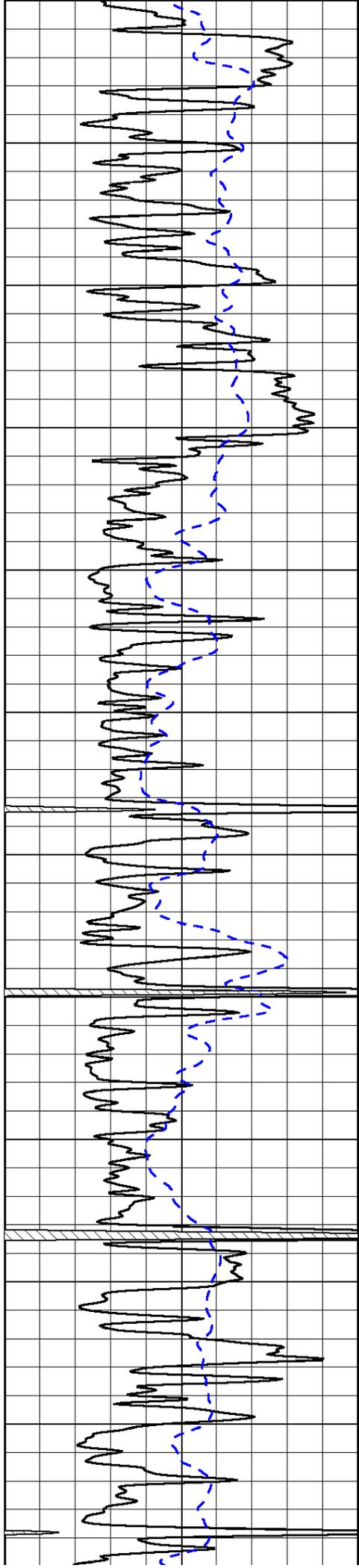


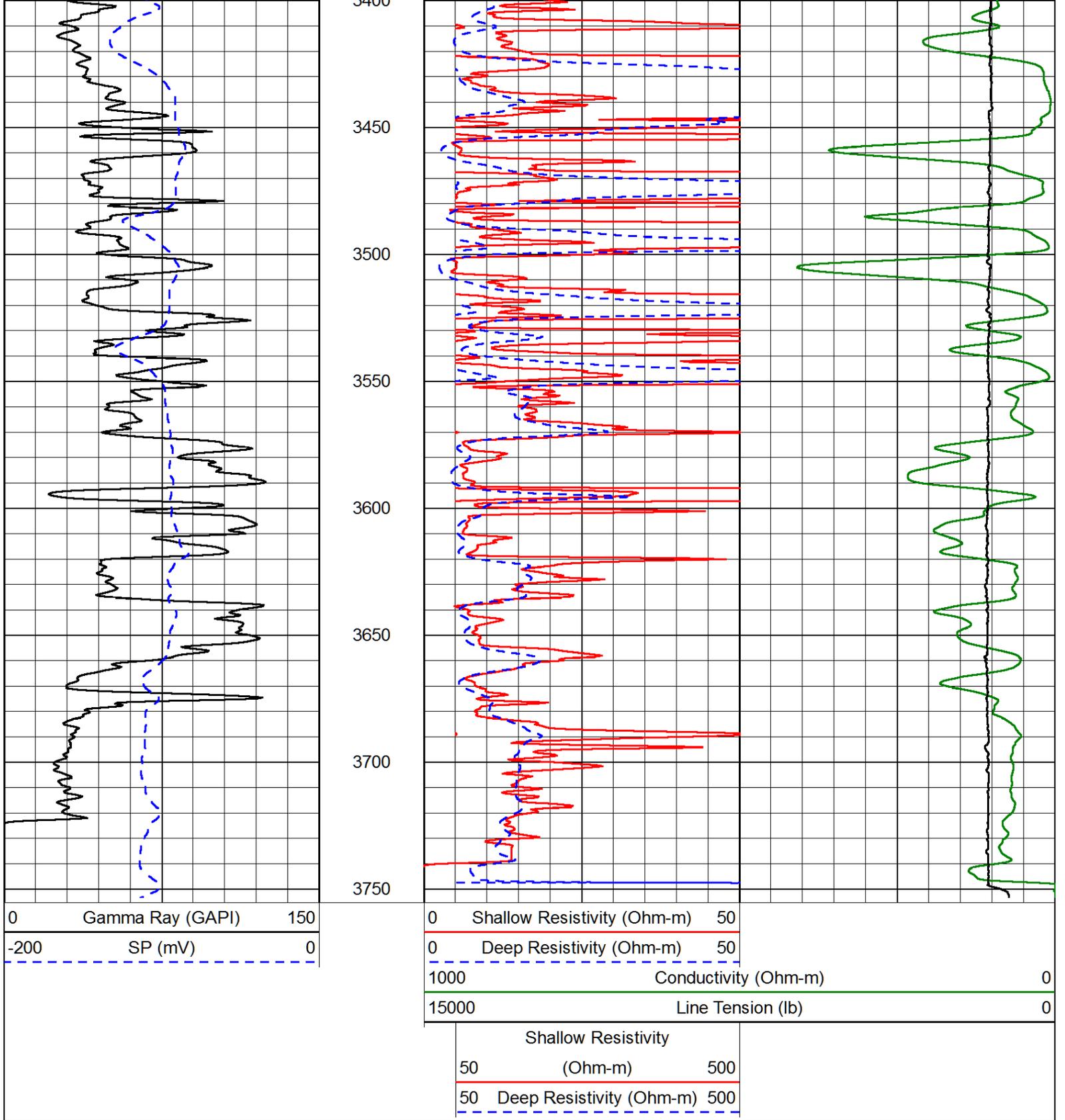








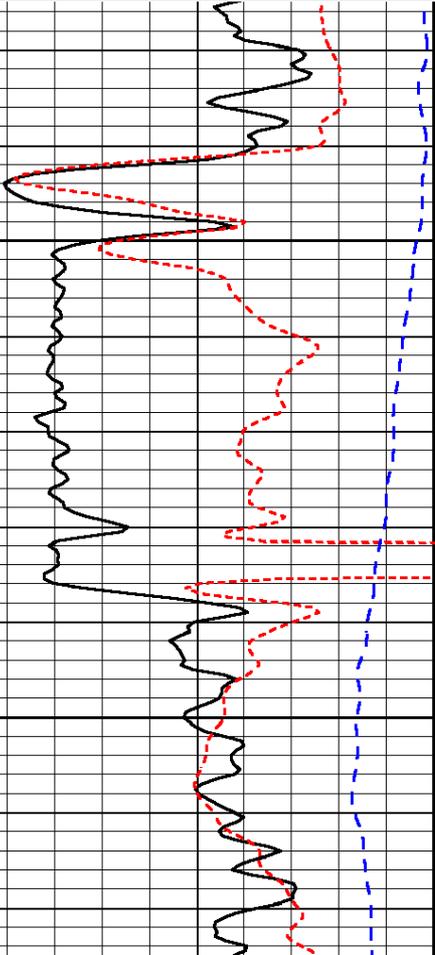




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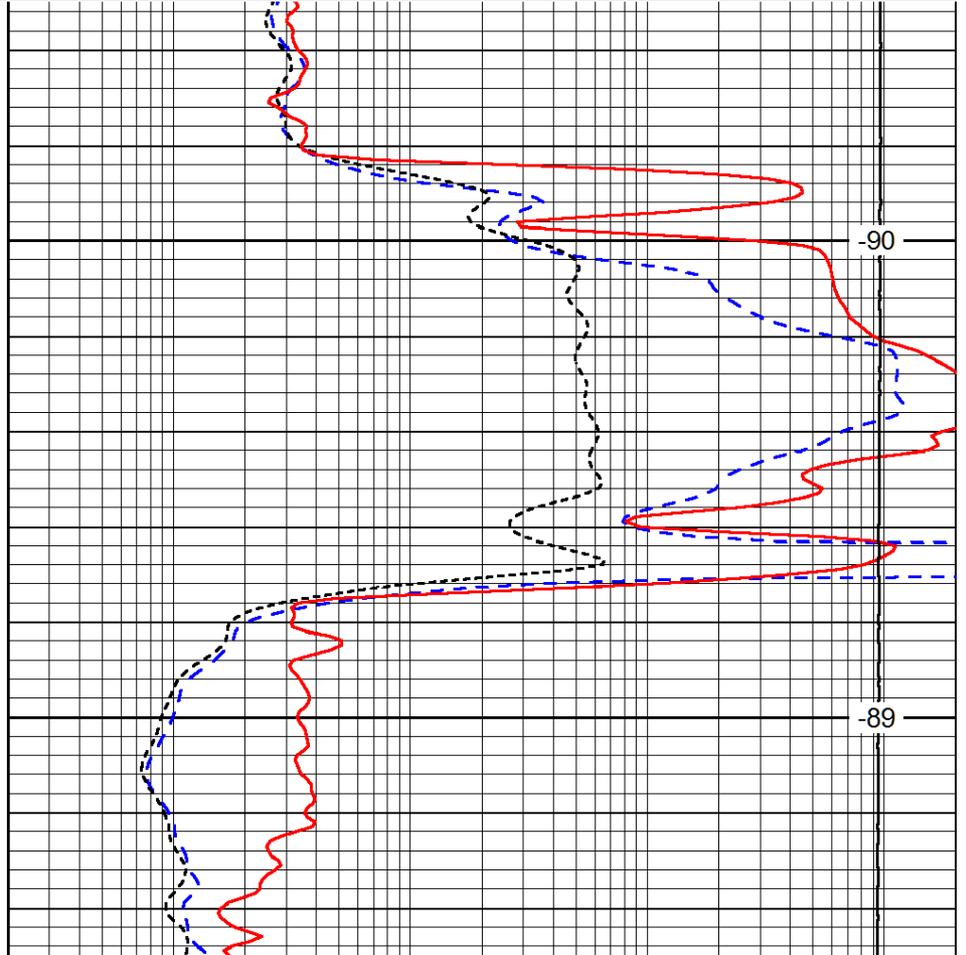
LSPD  
(ft/min)



1250

1300

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



-90

-89

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

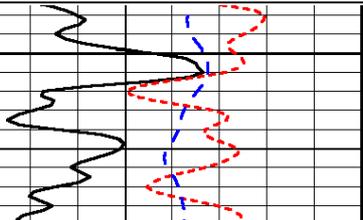
LSPD  
(ft/min)

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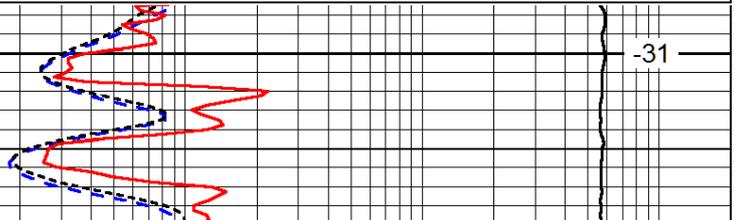
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-160	RXO/RT	40
-200	SP (mV)	0

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

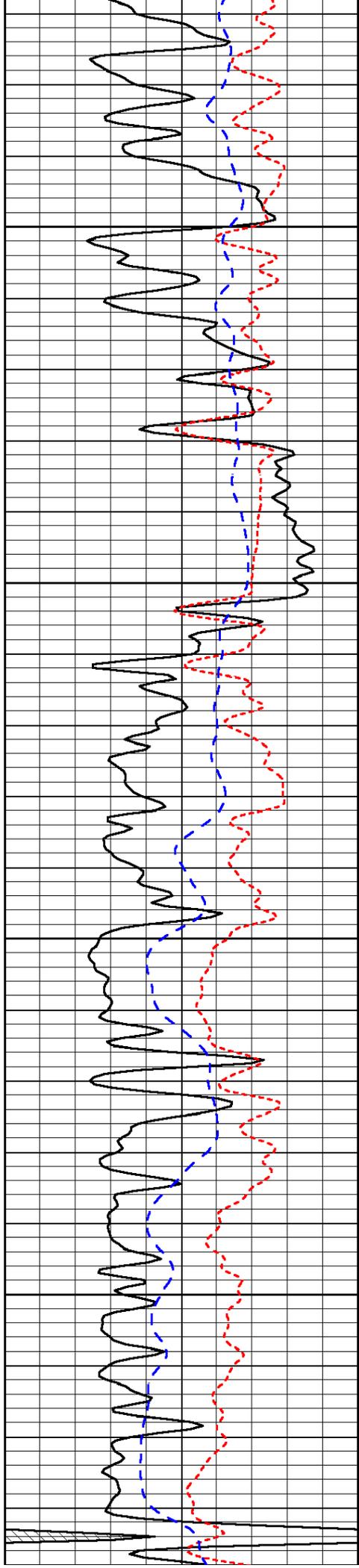
LSPD  
(ft/min)



2900



-31

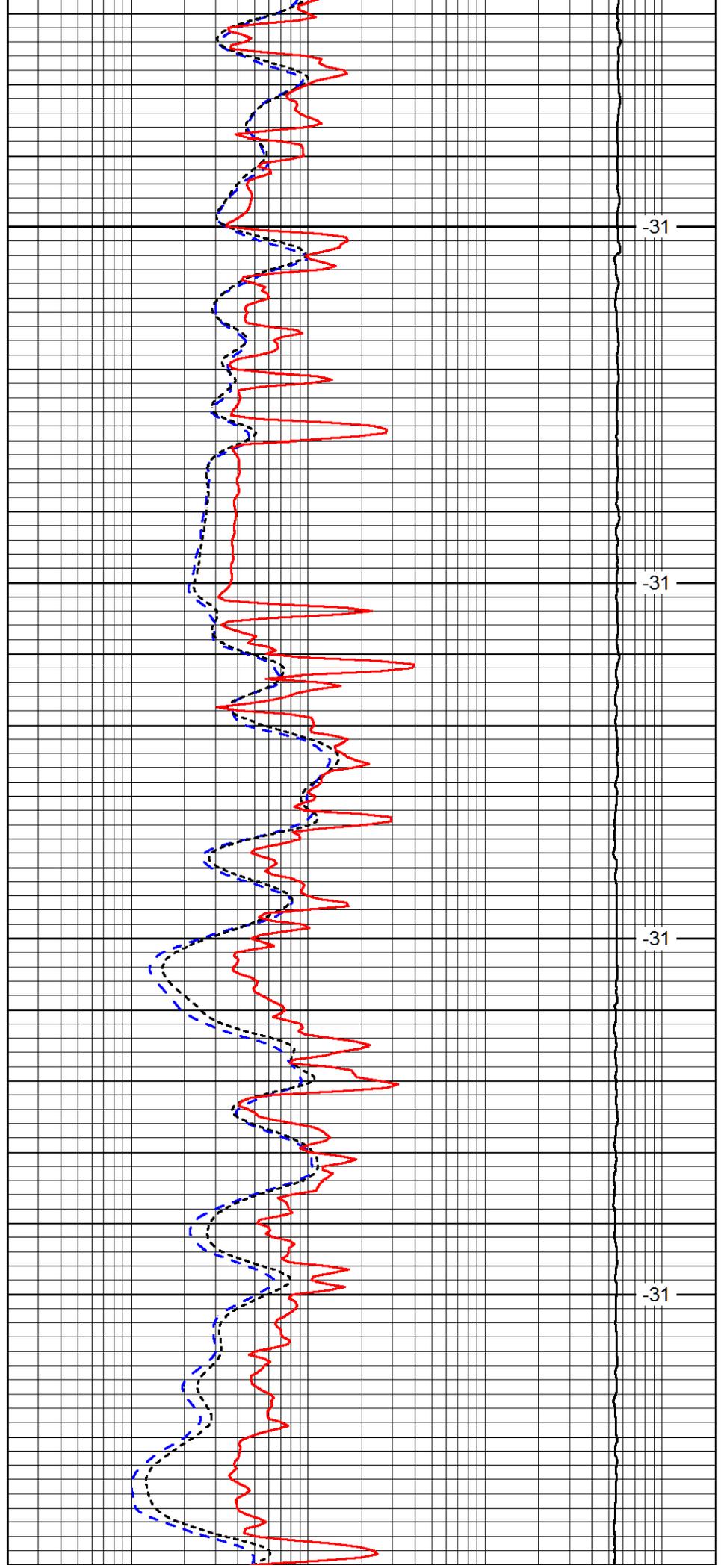


2950

3000

3050

3100

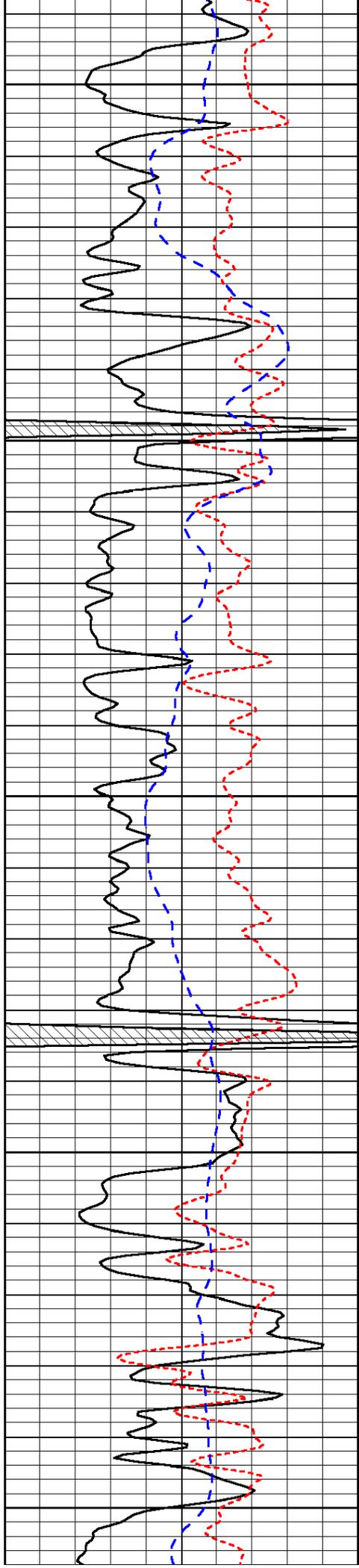


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-31



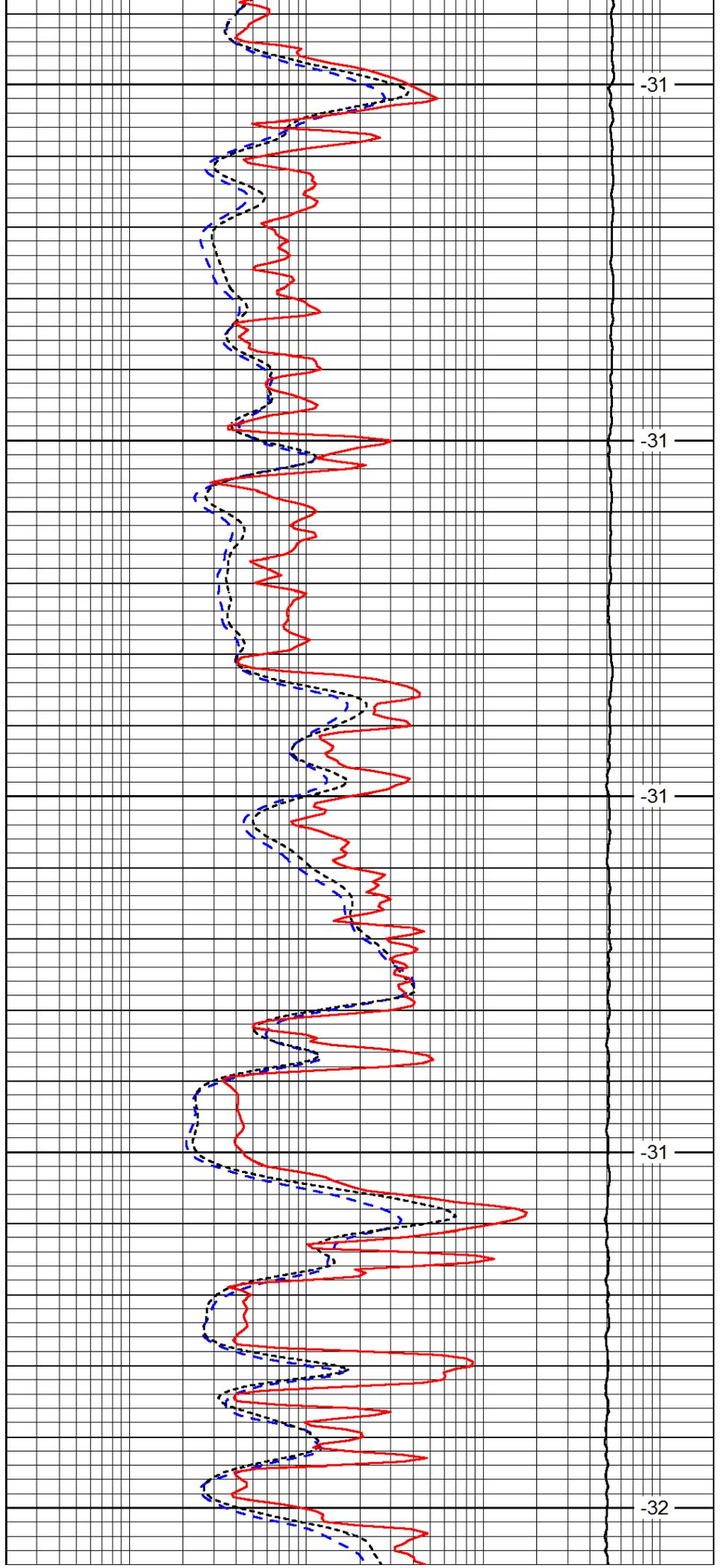
3150

3200

3250

3300

3350



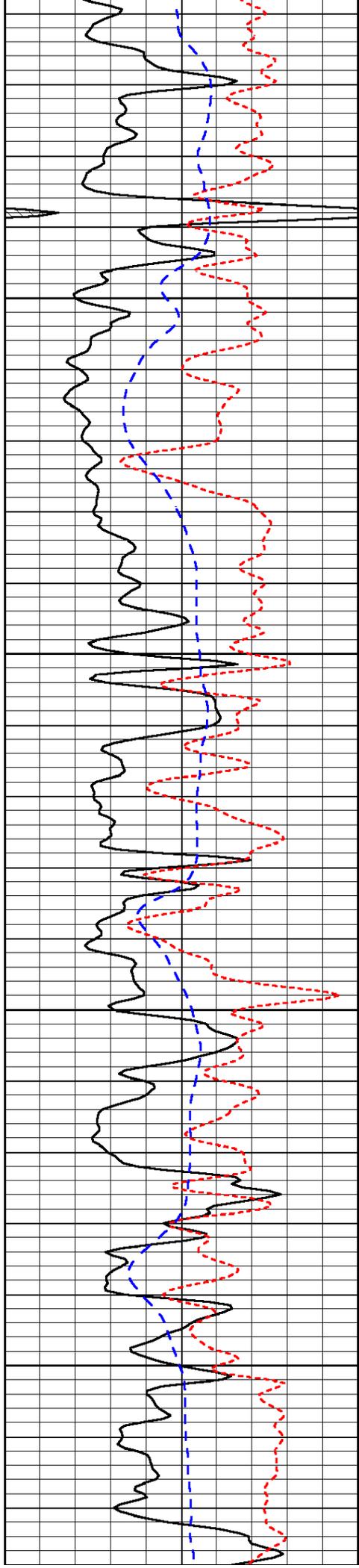
-31

-31

-31

-31

-32

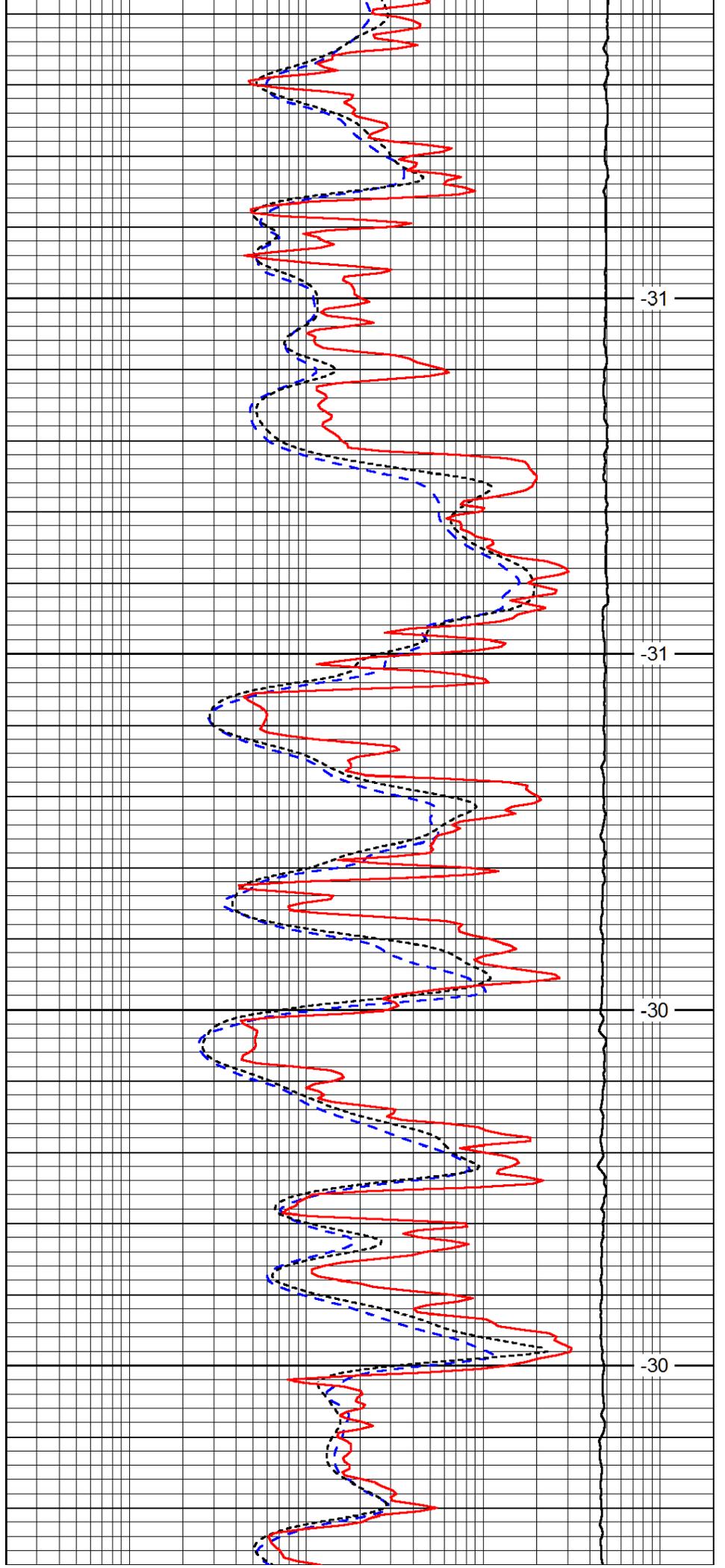


3400

3450

3500

3550

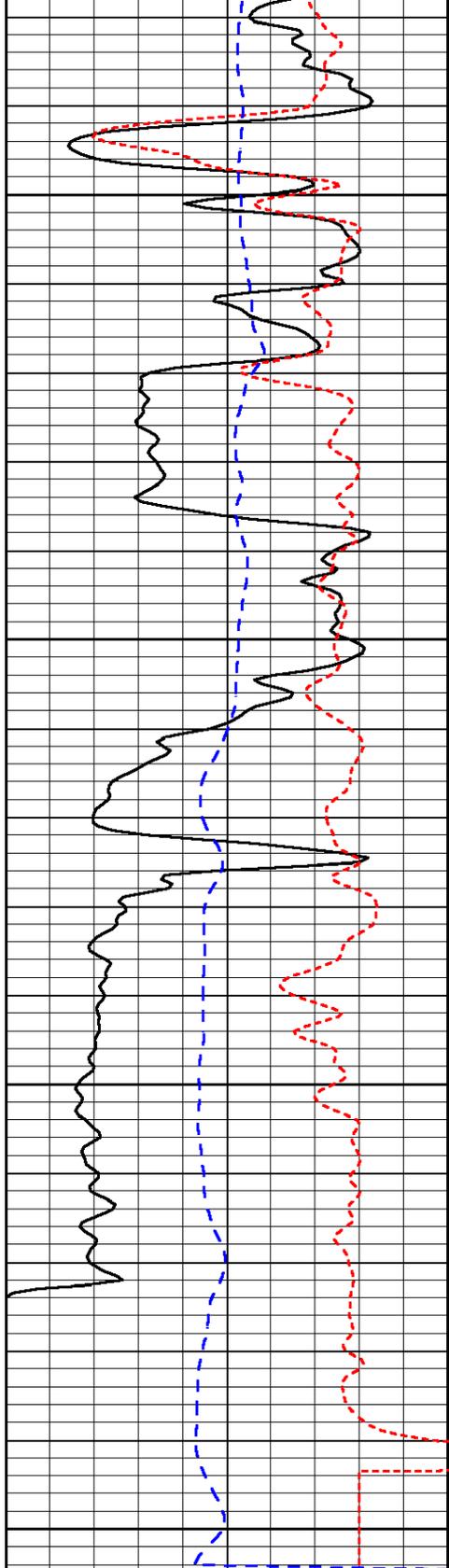


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-30

-30



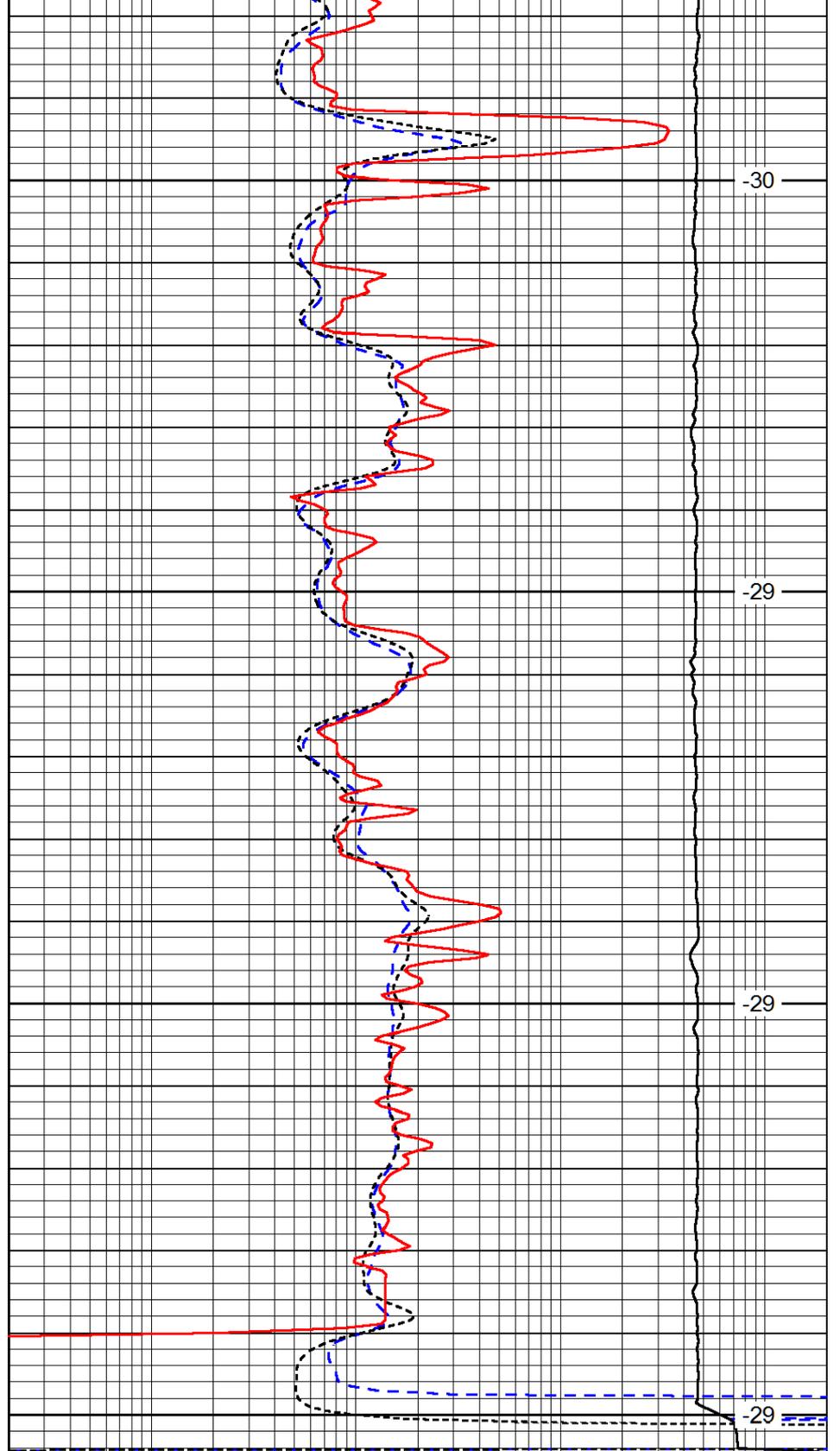
3600

3650

3700

3750

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



-30

-29

-29

-29

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)



Pioneer Energy Services

## Dual Compensated Porosity Log

API No.	15-051-26,534-00-00		
Company	TDL, Inc.		
Well	Bieler No. 1		
Field	Virginia		
County	Ellys		
Location	N2 NE SW SE 1250' FSL & 1650' FEL		
Other Services	DILMEL		
Sec: 9	Twp: 15 S	Rge: 19 W	
Permanent Datum	Ground Level	Elevation 2024	
Log Measured From	Kelly Bushing	10 Ft. Above Perm. Datum	
Drilling Measured From	Kelly Bushing		
Date	7/19/2013		
Run Number	One		
Type Log	CNL / CDL		
Depth Driller	3750		
Depth Logger	3749		
Bottom Logged Interval	3728		
Top Logged Interval	2800		
Type Fluid In Hole	Chemical		
Salinity, PPM CL	3200		
Density	9.3		
Level	Full		
Max. Rec. Temp. F	114		
Operating Rig Time	3 1/2 Hours		
Equipment -- Location	108 Hays		
Recorded By	D. Martin		
Witnessed By	Herb Deines		

Borehole Record				Casing Record			
Run No.	Bit	From	To	Size	Wgt. 23#	From	To
One	12.25	00	223	8.625	23#	00	223
Two	7.875	223	TD				

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**Comments**

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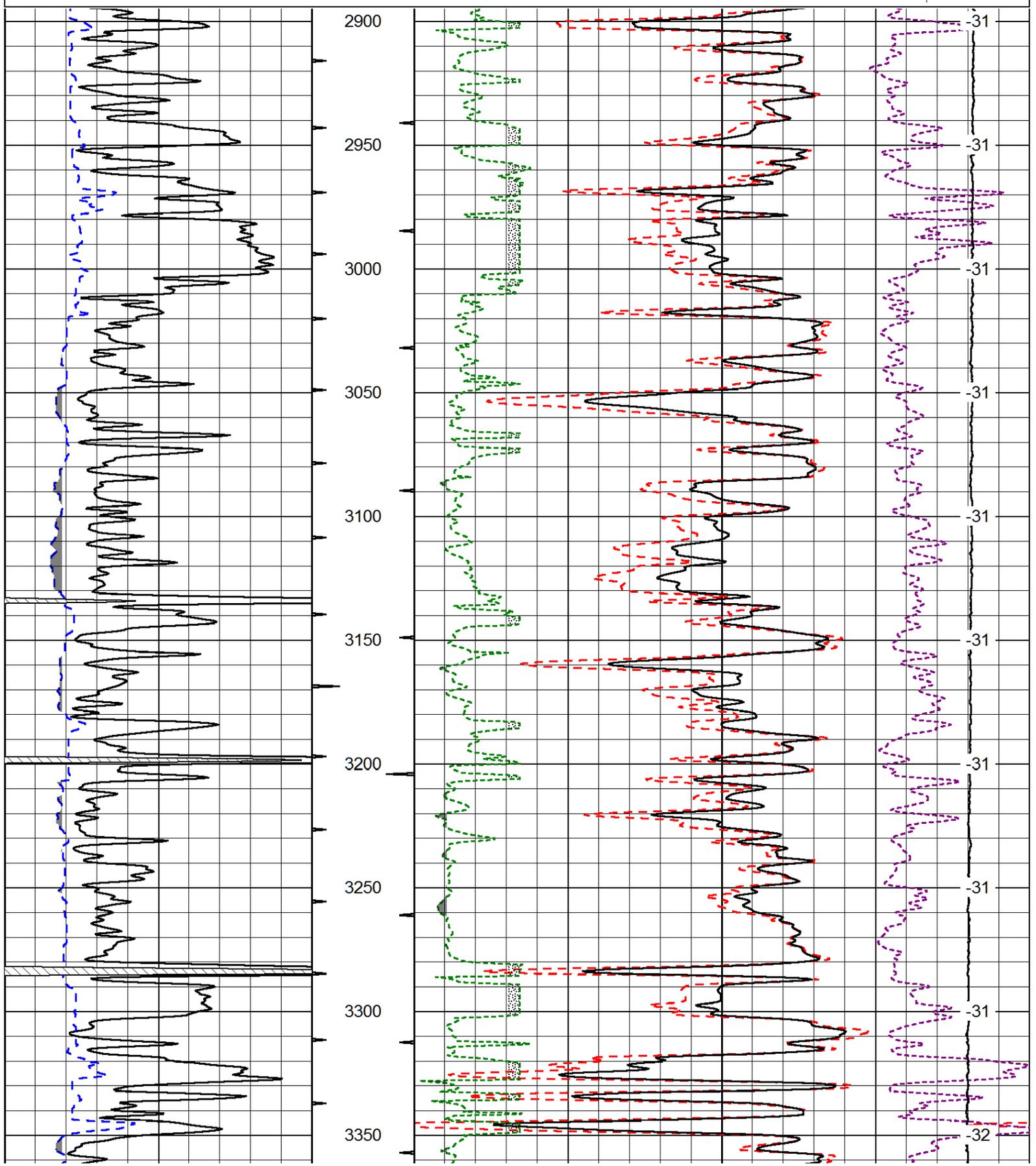
Antonino, KS  
2 W, 2 S, 1/4 W, N Into

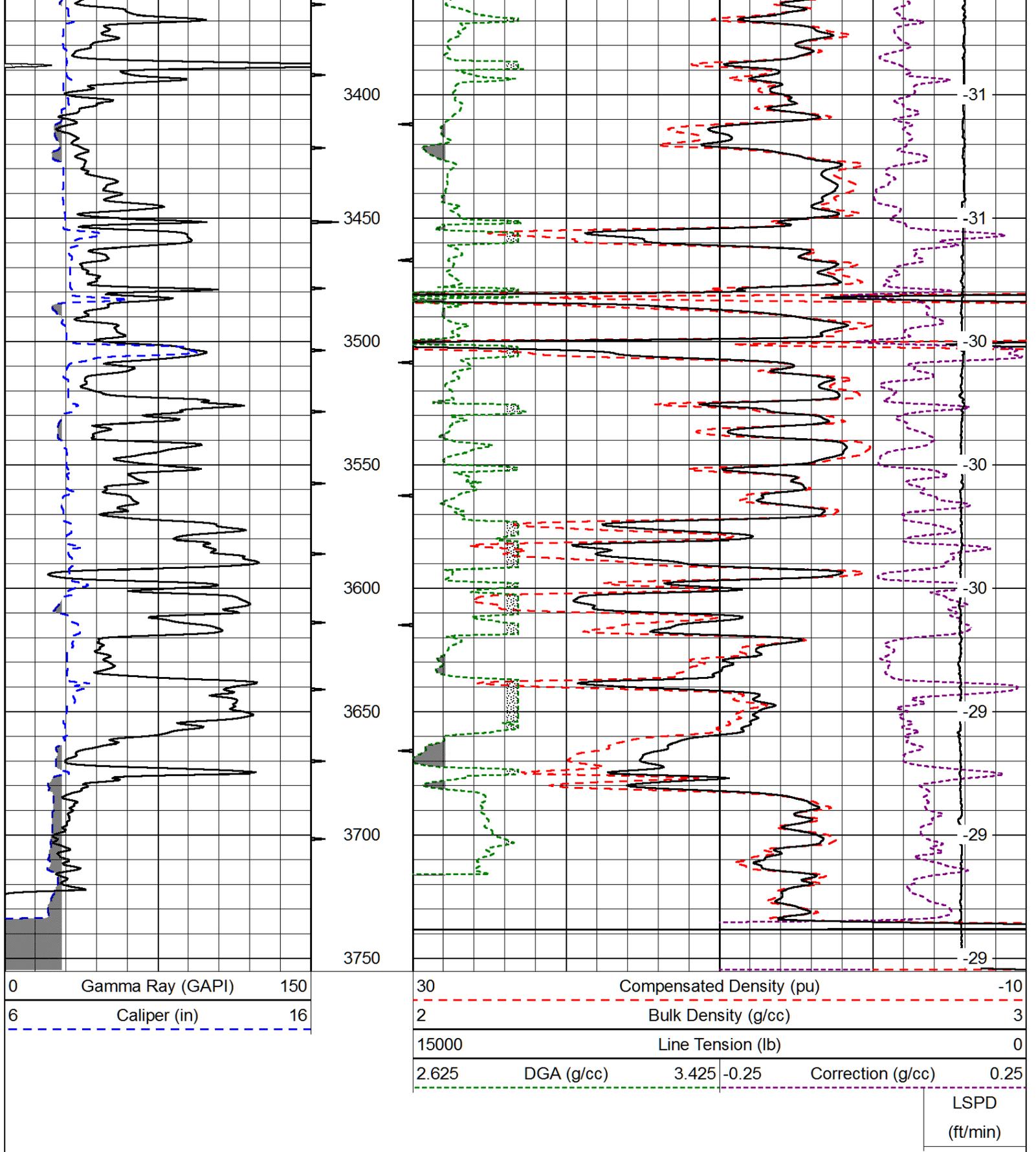
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 Charted by: Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	150
6	Caliper (in)	16

30	Compensated Density (pu)		-10
2	Bulk Density (g/cc)		3
15000	Line Tension (lb)		0
2.625	DGA (g/cc)	3.425	-0.25
	Correction (g/cc)		0.25

LSPD  
(ft/min)



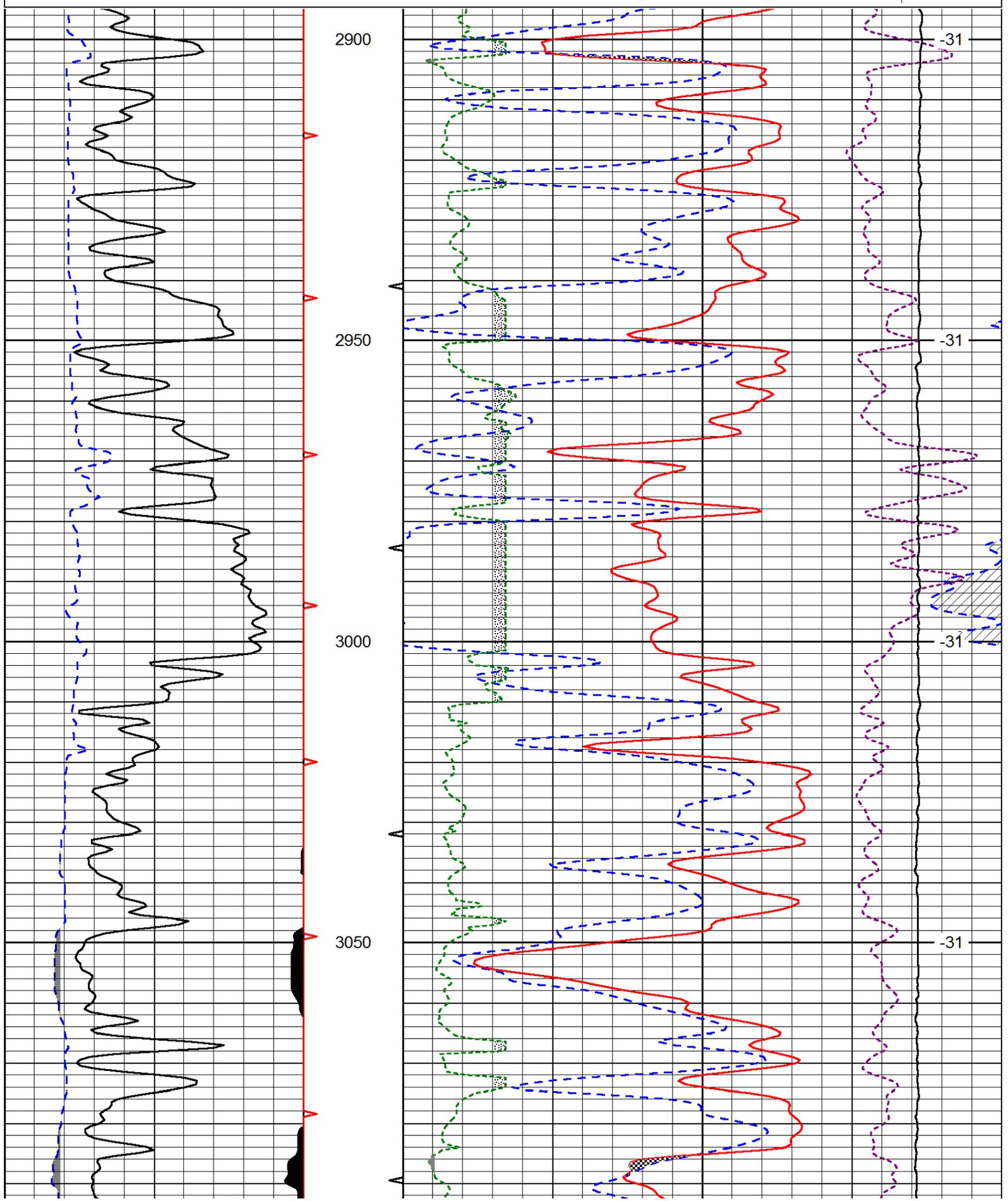


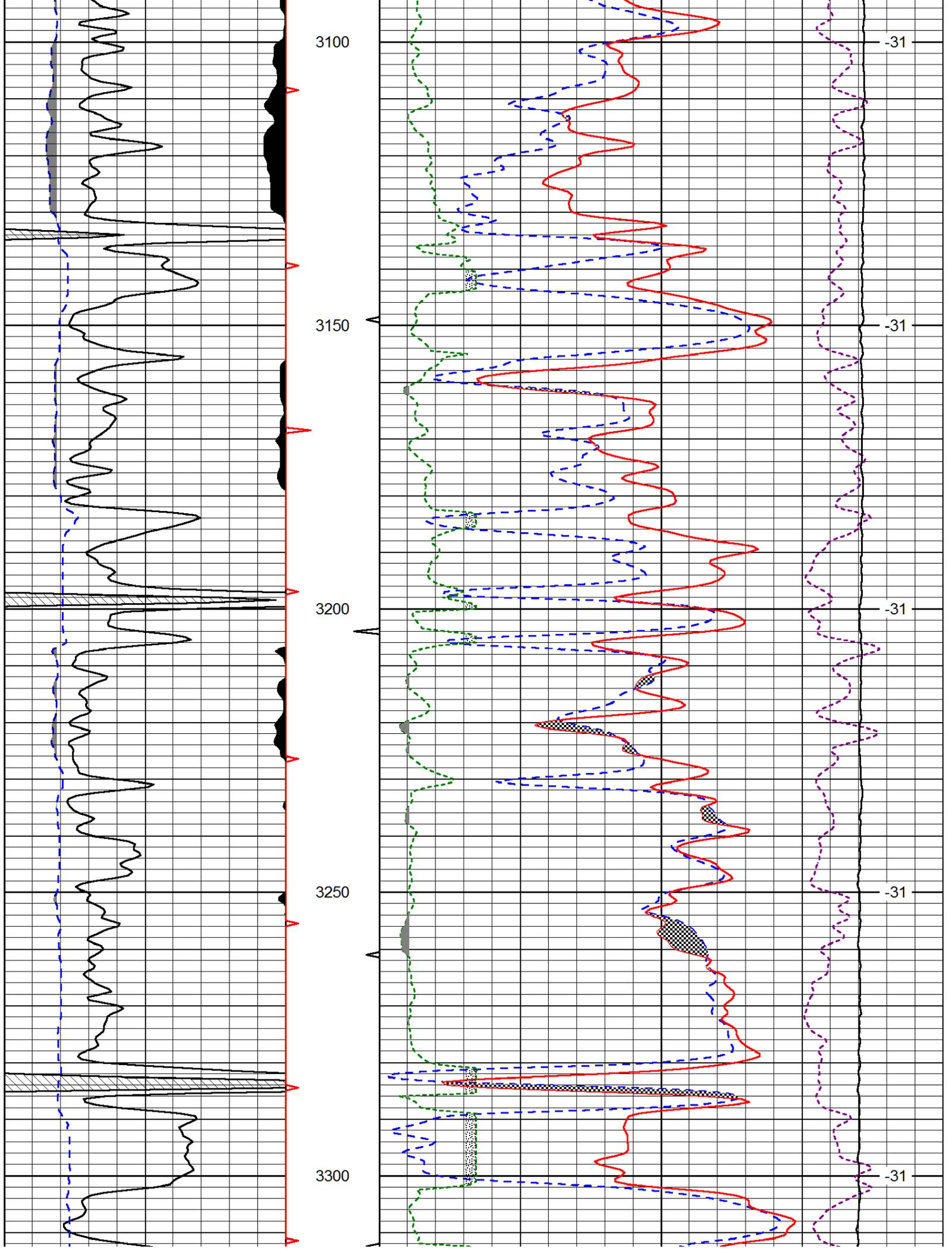
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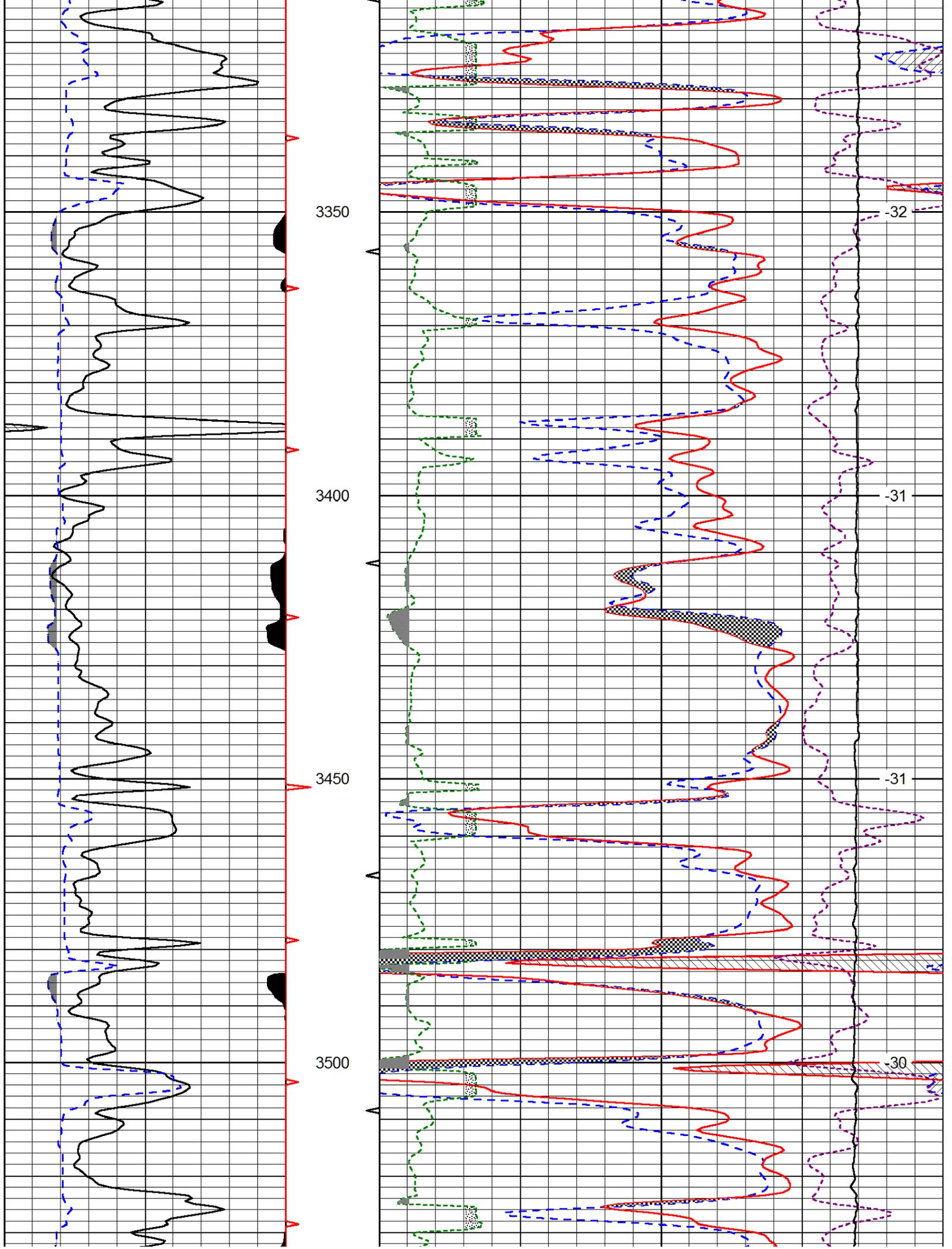


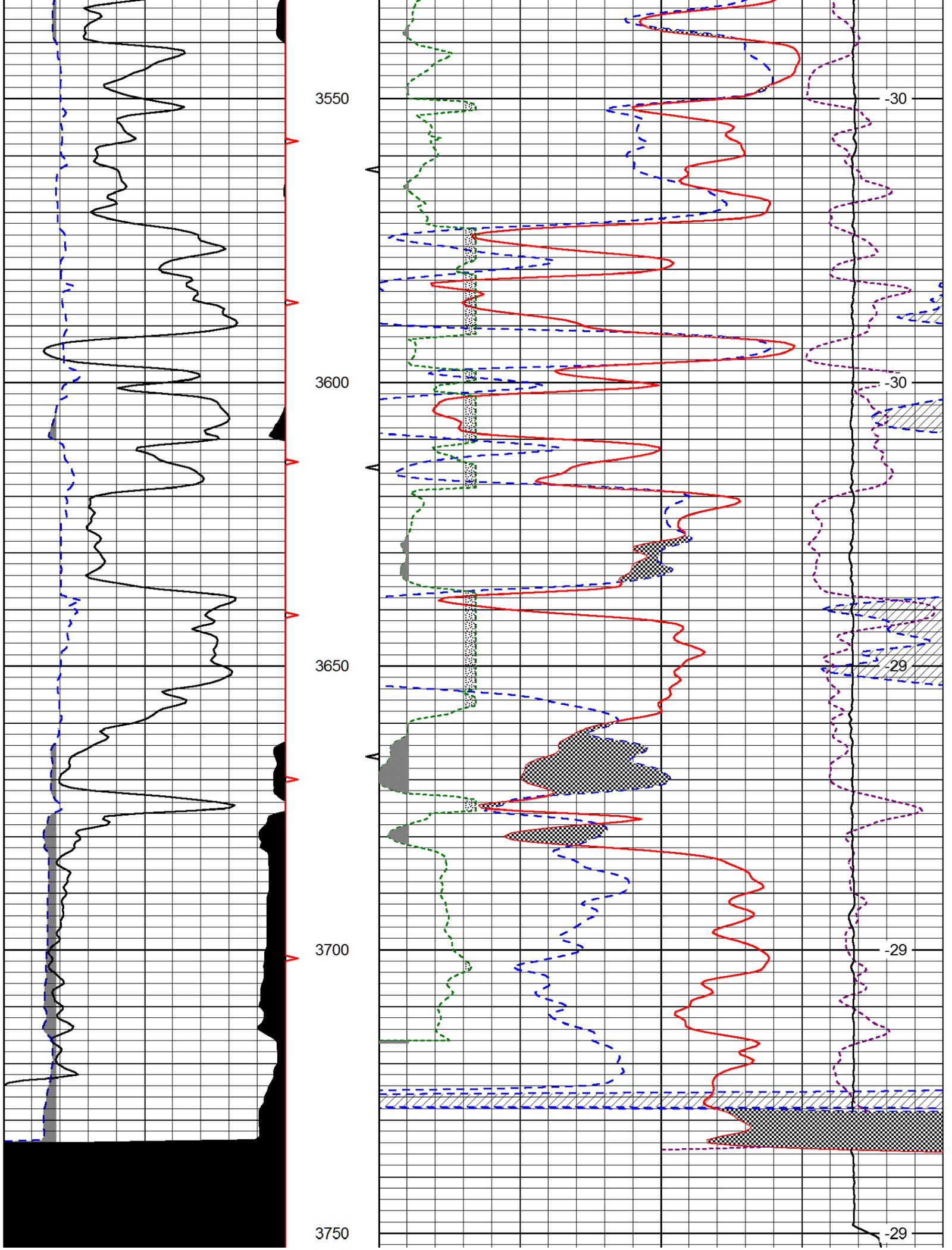
2.625	DGA (g/cc)	3.425	-0.25	Correction (g/cc)	0.25
10000		Line Tension (lb)			0

LSPD  
(ft/min)









0	Gamma Ray (GAPI)	150
6	Caliper (in)	16

30	CNLS (pu)				-10
30	Compensated Density (2.71 ma) (pu)				-10
2.625	DGA (g/cc)	3.425	-0.25	Correction (g/cc)	0.25
10000	Line Tension (lb)				0
					LSPD (ft/min)



Pioneer Energy Services

# Microresistivity Log

API No. 15-051-26,534-00-00

Company **TDI, Inc.**  
 Well **Bieler No. 1**  
 Field **Virginia**  
 County **Elis** State **Kansas**

Location **N2 NE SW SE  
 1250' FSL & 1650' FEL**

Sec: **9** Twp: **15 S** Rge: **19 W**

Other Services  
 CNL/CDL  
 DIL

Permanent Datum Ground Level Elevation 2024  
 Log Measured From Kelly Bushing 10 Ft. Above Perm. Datum  
 Drilling Measured From Kelly Bushing

Date	7/19/2013	
Run Number	Two	
Depth Driller	3750	
Depth Logger	3749	
Bottom Logged Interval	3748	
Top Log Interval	2800	
Casing Driller	8.625 @ 223	
Casing Logger	221	
Bit Size	7.875	
Type Fluid in Hole	Chemical	
Salinity, ppm Cl	3200	
Density / Viscosity	9.3   56	
pH / Fluid Loss	10.5   8.0	
Source of Sample	Flowline	
Rm @ Meas. Temp	.22 @ 84	
Rmf @ Meas. Temp	.17 @ 84	
Rmc @ Meas. Temp	.30 @ 84	
Source of Rmf / Rmc	Charts	
Rm @ BHT	.16 @ 114	
Operating Rig Time	3 1/2 Hours	
Max Rec. Temp. F	114	
Equipment Number	108	
Location	Hays	
Recorded By	D. Martin	
Witnessed By	Herb Deines	Tom Denning

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### Comments

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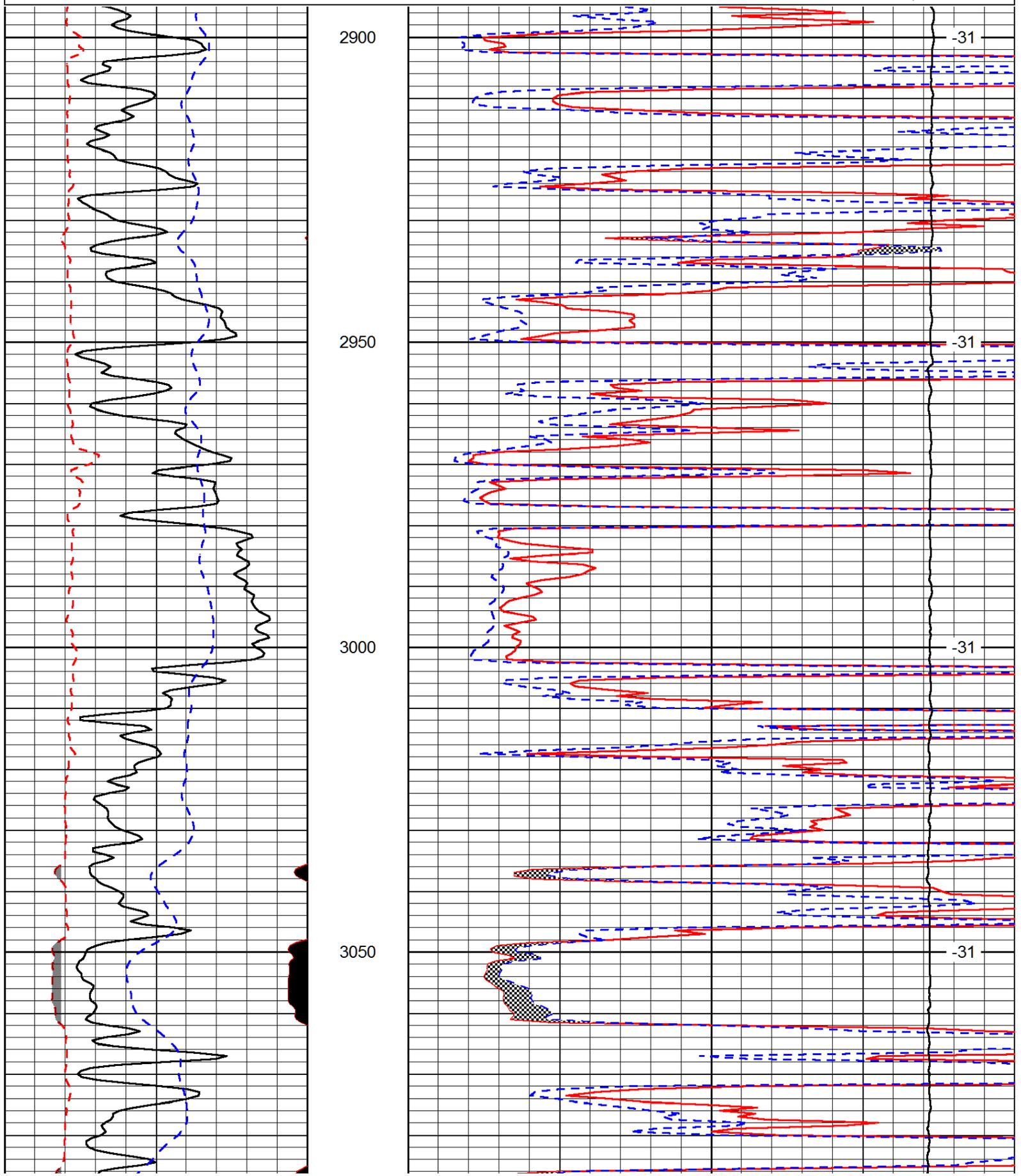
Antonino, KS  
 2 W, 2 S, 1/4 W, N Into

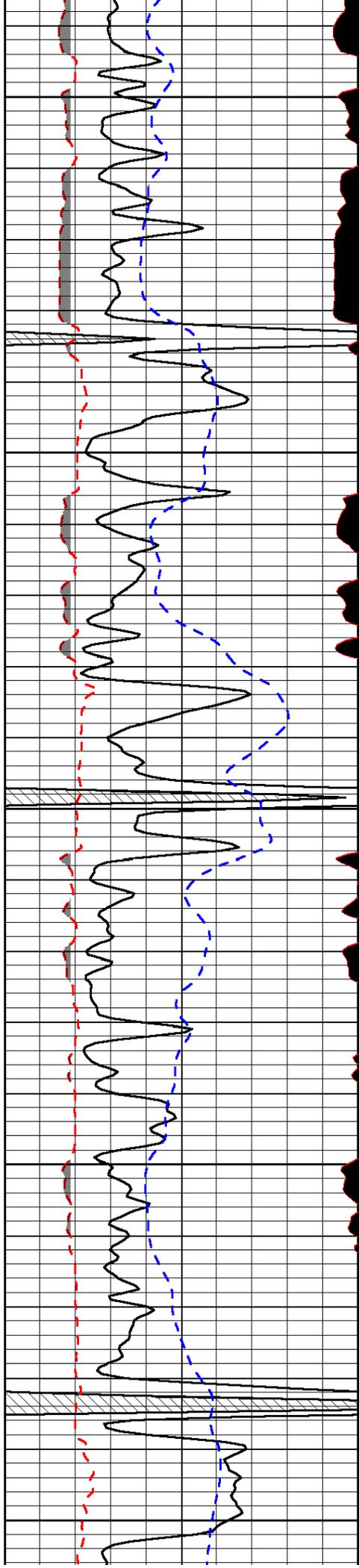
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 Charted by: Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150
6	MCAL (in)	16
2.875	Mud Cake (in)	7.875
-200	SP (mV)	0

0	Micro Inverse 1 X 1 (Ohm-m)	40
0	Micro Normal 2" (Ohm-m)	40
10000	Line Weight (lb)	0

LSPD  
(ft/min)





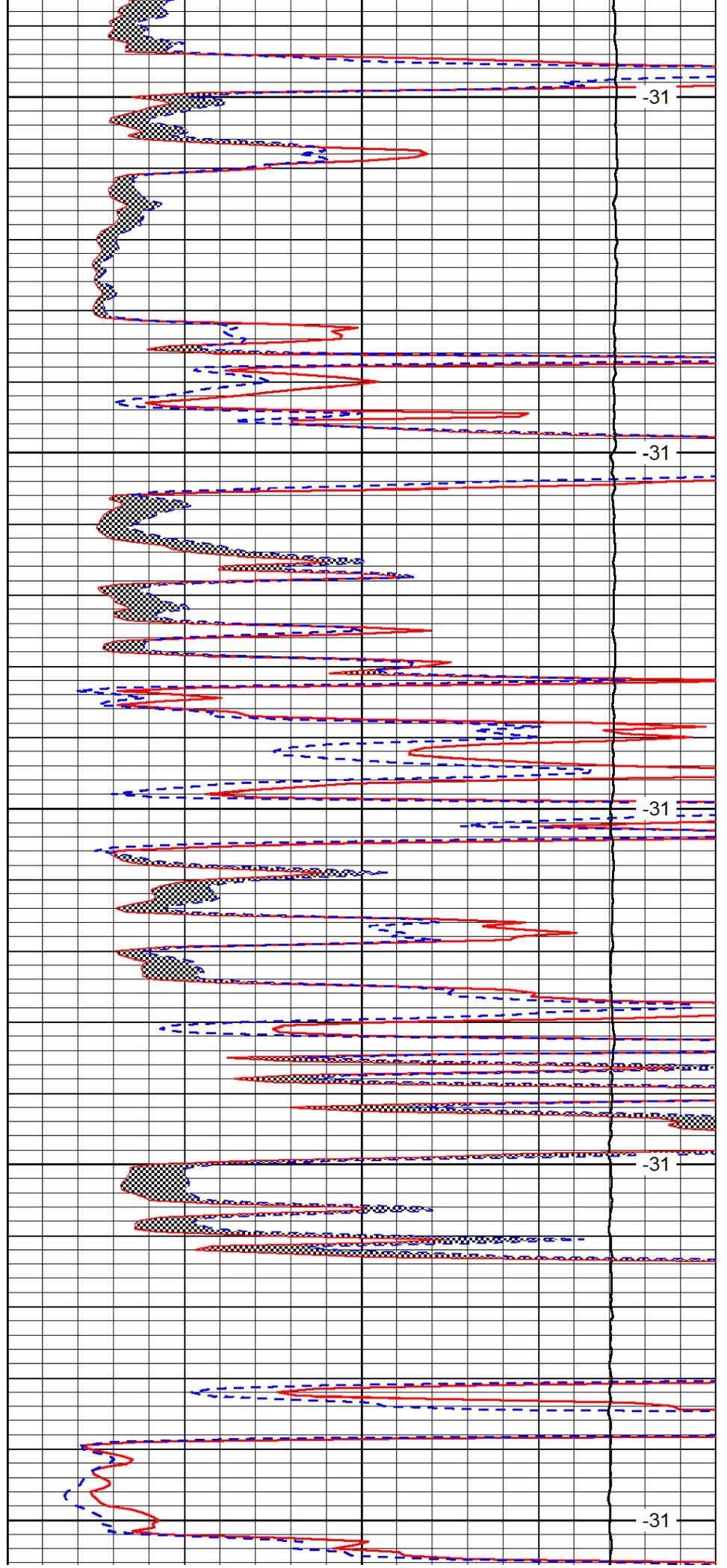
3100

3150

3200

3250

3300



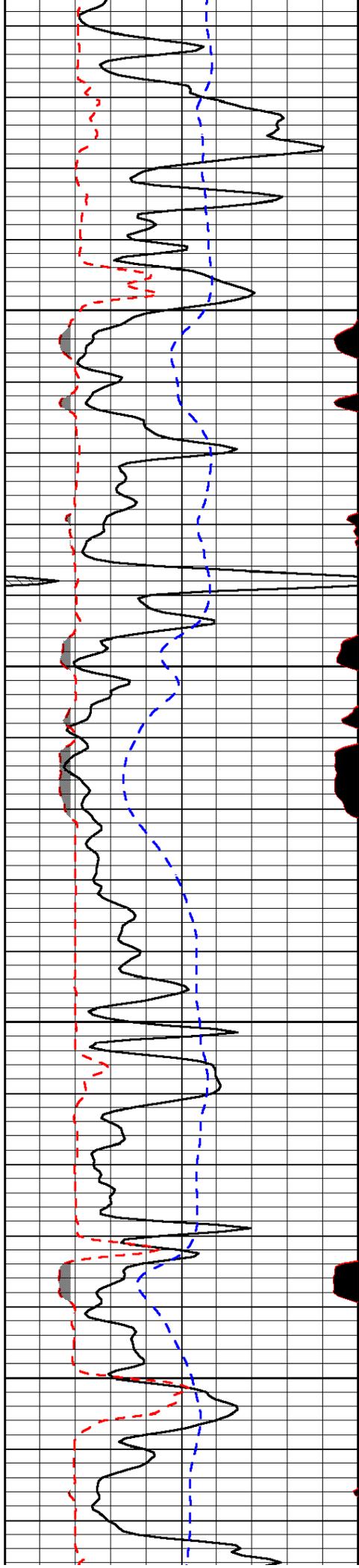
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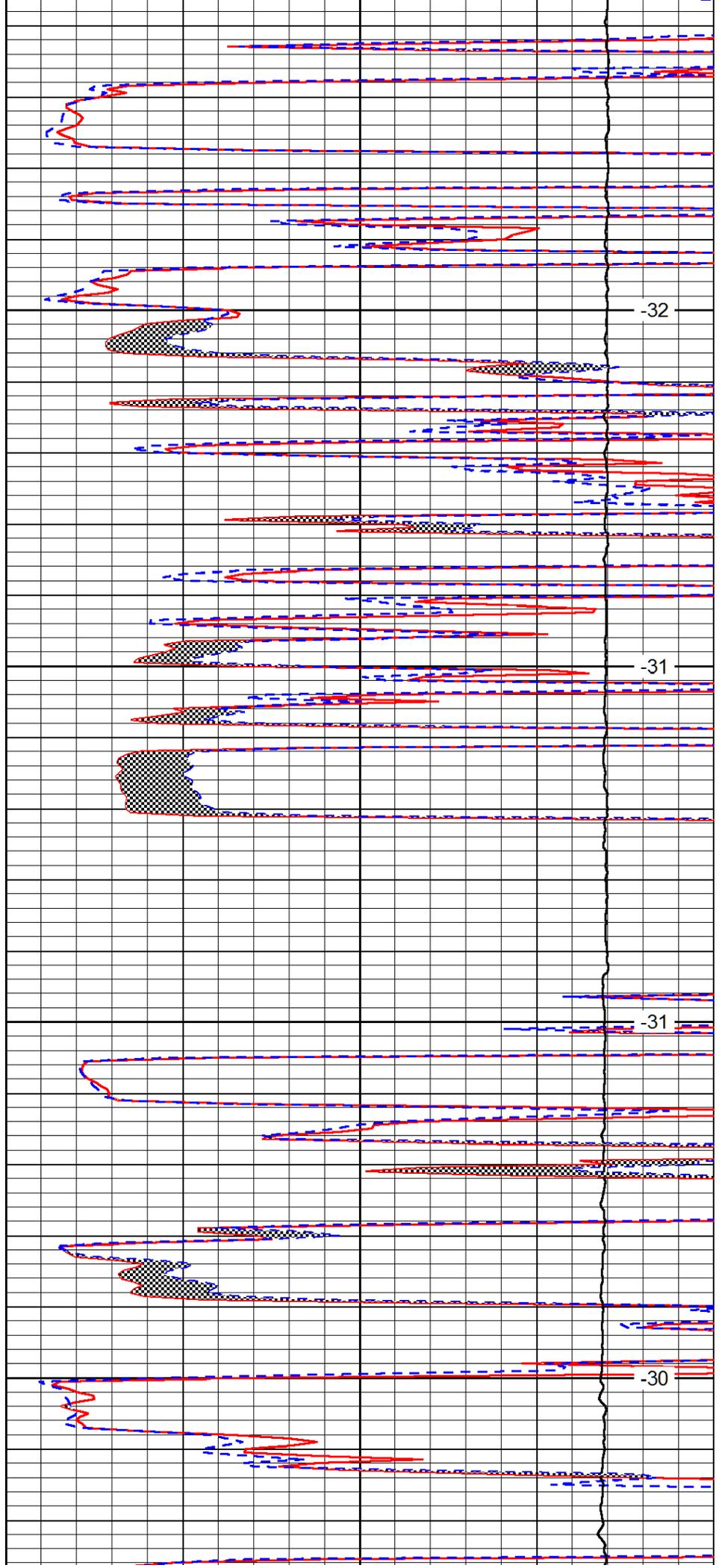


3350

3400

3450

3500

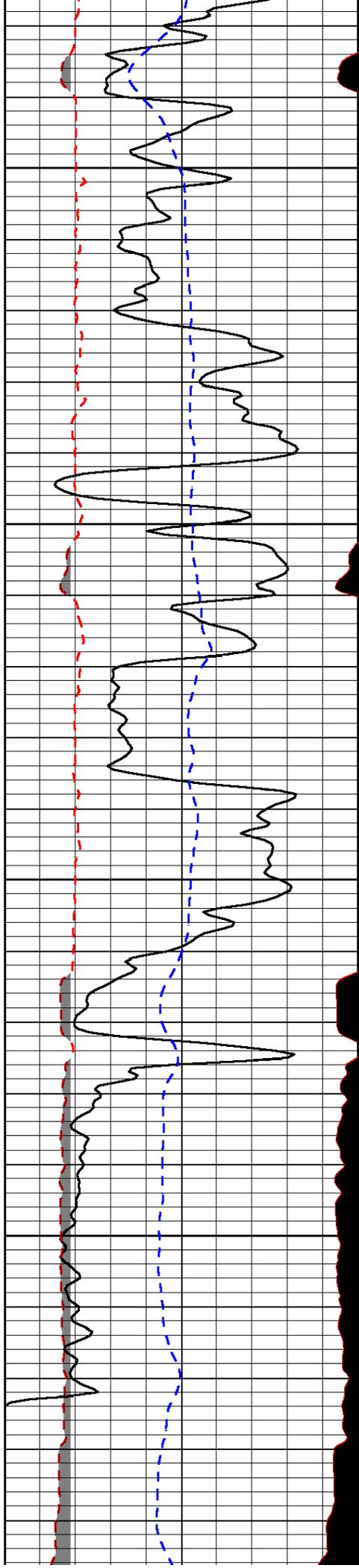


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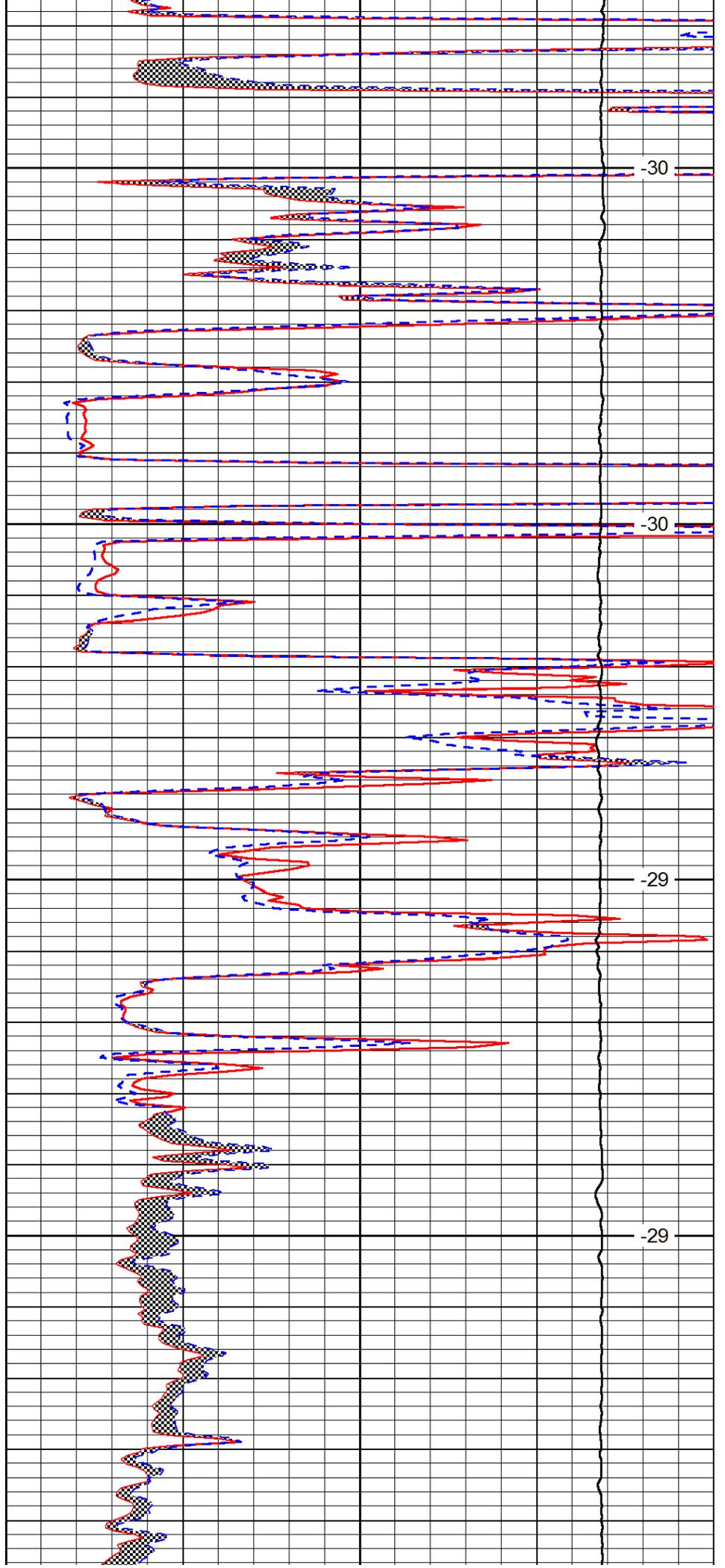


3550

3600

3650

3700

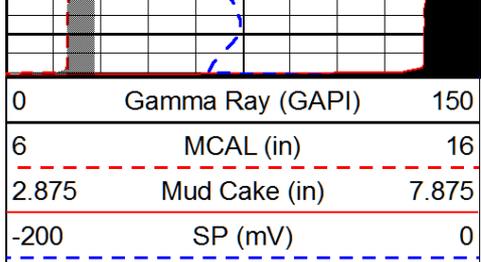


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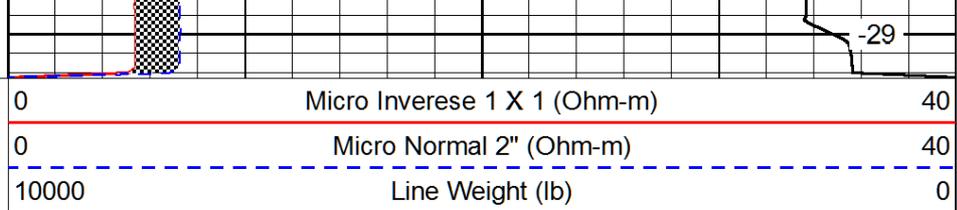
-30

-29

-29



3750



LSPD  
(ft/min)