



MIDWEST WIRELINE

DUAL INDUCTION LOG

Company **Griffin Management, LLC**
 Well **Reta #1**
 Field **Sawyer**
 County **Pratt** State **Kansas**

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 Well **Reta #1**
 Field **Sawyer**
 County **Pratt**
 State **Kansas**

Location: **API #: 15-151-22577-00-00**
1650 FSL & 2310 FWL
SEC 26 TWP 29S RGE 13W
 Permanent Datum **Ground Level** Elevation **1871**
 Log Measured From **Kelly Bushing**
 Drilling Measured From **Kelly Bushing**
 Other Services **CNL/CDL MEL/BHCS**
 Elevation **K.B. 1876 D.F. G.L. 1871**

Date	10/31/2023	
Run Number	One	
Depth Driller	4741	
Depth Logger	4744	
Bottom Logged Interval	4743	
Top Log Interval	350	
Casing Driller	8.625 @ 386	
Casing Logger	385	
Bit Size	7.875	
Type Fluid in Hole	Chemical	
Salinity, ppm CL	4000	
Density / Viscosity	9.3	57
pH / Fluid Loss	10.5	8.8
Source of Sample	FLOWLINE	
Rm @ Meas. Temp	0.50 @	50
Rmt @ Meas. Temp	0.38 @	50
Rmc @ Meas. Temp	0.68 @	50
Source of Rmf / Rmc	CHARTS	
Rm @ BHT	0.20 @	123
Operating Rig Time	5 Hours	
Max Rec. Temp. F	123	
Equipment Number	P-108	
Location	HAYS	
Recorded By	D. Schmidt	
Witnessed By	Eli Felts	

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

**Sawyer,
 1 South to 110th St,
 3/4 West, North in driveway,
 East to location**

Log Measured From: Kelly Bushing 5 Ft. Above Permanent Datum

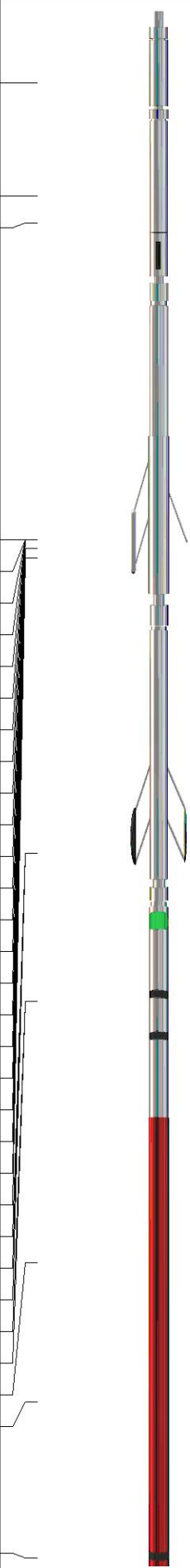
**THANK YOU FOR USING MIDWEST WIRELINE LLC
 785-625-3858**

Your Midwest Wireline Crew

**Engineer: D. Schmidt
 Operator:
 Operator:
 Operator:**

This Log Record Was Witnessed By

**Primary Witness: Eli Felts
 Secondary Witness:
 Secondary Witness:
 Secondary Witness:**

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.75		GR-M&W (105)	3.00	3.50	50.00
CNLSC CNSSC	37.65 36.90		CNT-M&W (210)	5.00	3.50	100.00
			MWLith-STEP LITHO (704-10)	8.92	5.00	250.00
LCAL	28.21					
LLW8N	28.21					
LLW7N	28.21					
LLW6N	28.21					
LLW5N	28.21					
LLW4N	28.21					
LLW3N	28.21					
LLW2N	28.21					
LLW1N	28.21					
LSLOCK	27.96					
LLLOCK	27.96					
PELTMPR	27.96					
LSHVNG	27.96					
LLHVNG	27.96					
LSW8N	27.71					
LSW7N	27.71					
LSW6N	27.71					
LSW5N	27.71					
LSW4N	27.71					
LSW3N	27.71					
LSW2N	27.71					
LSW1N	27.71					
MCAL	19.58					
MI	19.58					
MN	19.58					
RLL3F	15.50					
RLL3	15.50					
CILD	8.33					
CILM	4.50					
SP	0.20					
			ML-PSI STKBL ML (402)	7.58	4.00	65.00
			DIL-M&W (505 HT)	18.25	3.50	220.00

Dataset: griffin_reta 1.db: field/well/stkml/pass3.1
 Total length: 42.75 ft
 Total weight: 685.00 lb
 O.D.: 5.00 in

Log Variables

DatabaseC:\ProgramData\Warrior\Data\griffin_reta 1.db
 Dataset field/well/stkml/pass3.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	123	5.5	0	1	2	2.71
NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	No	-6	2	450	30	Off	4744

Variable Description

A : Cement Factor (a)
 BOREID : Borehole I.D.
 BOTTEMP : Bottom Hole Temperature
 CASEOD : Casing O.D.
 CASETHCK : Casing Thickness
 FLUIDDEN : Fluid Density
 M : Cement Exp (m)
 MATRXDEN : Matrix Density

NPORSEL : Neutron Porosity Curve Select
 PERFS : Perforation Flag
 SNDERR : Deep Sonde Error Correction
 SNDERRM : Medium Sonde Error Correction
 SPSHIFT : S.P. Baseline Offset
 SRFTEMP : Surface Temperature
 SZCOR : CN Size Cor. ?
 TDEPTH : Total Depth

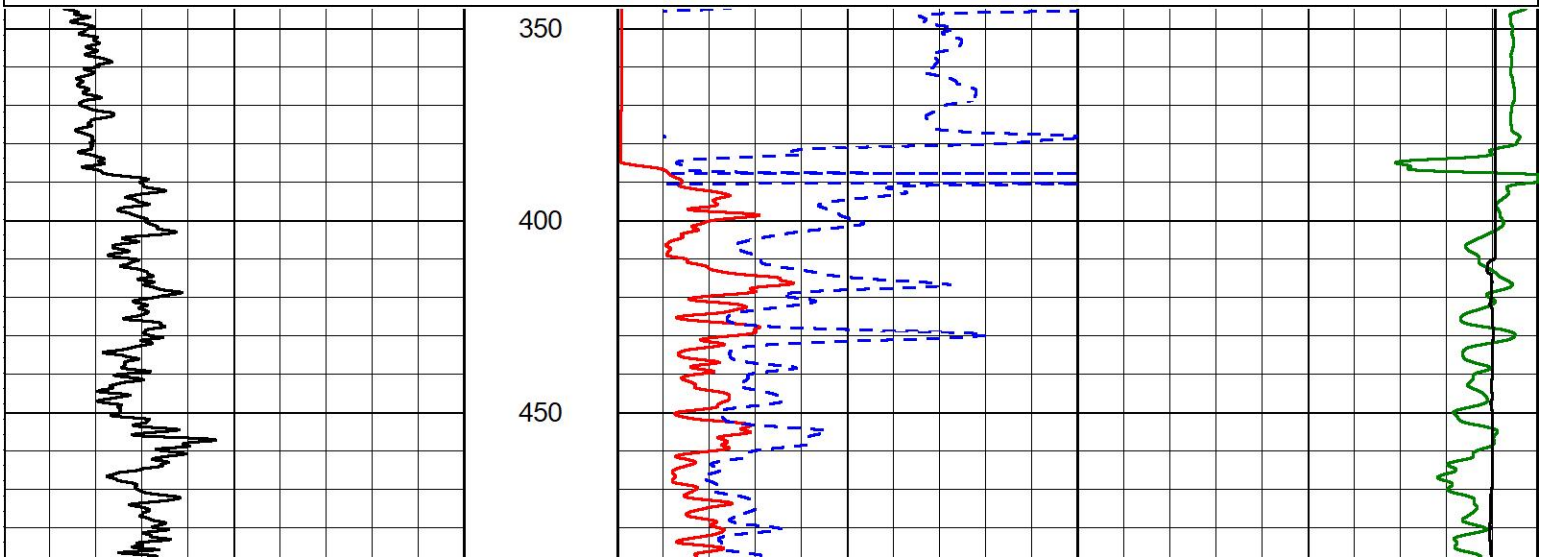


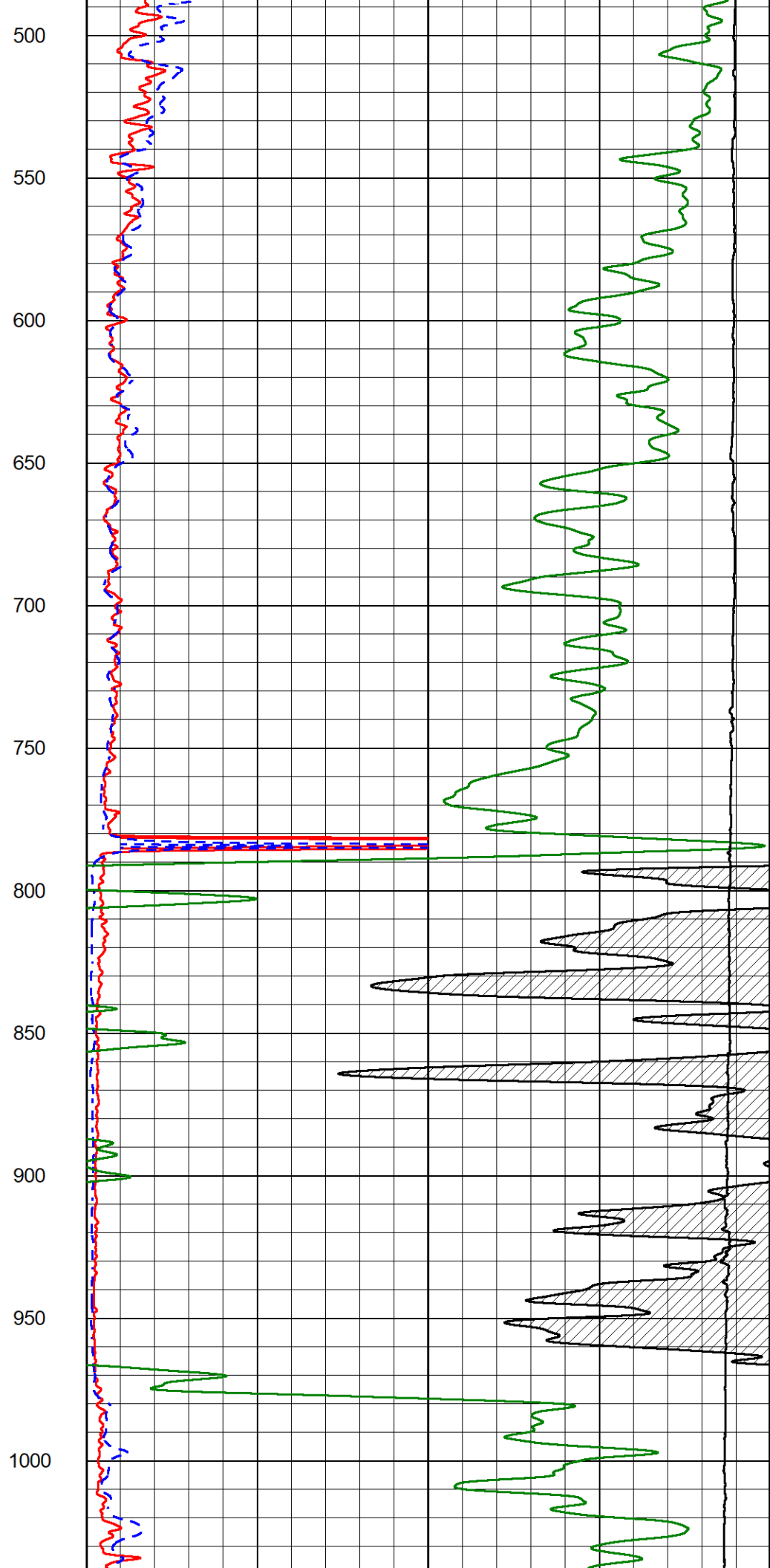
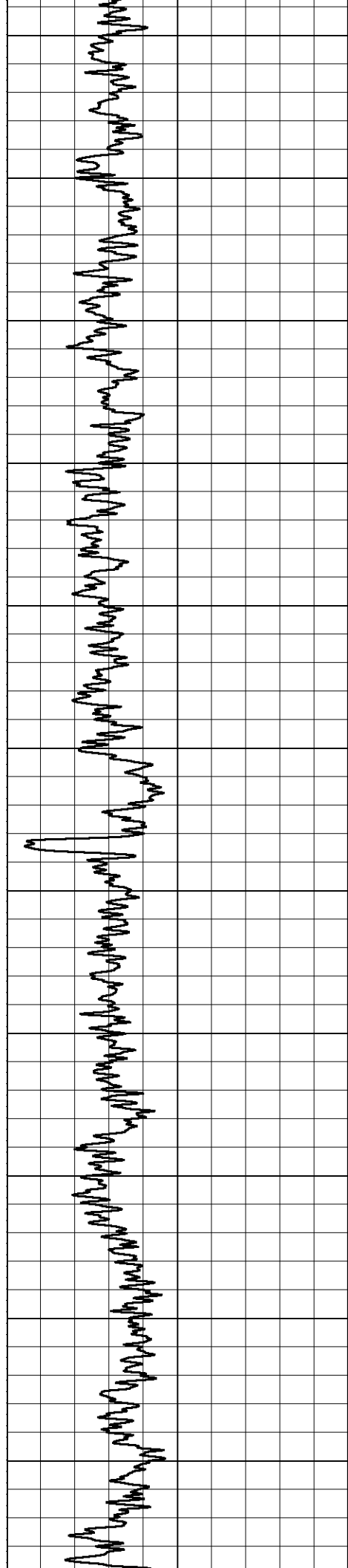
2" SCALE RESISTIVITY

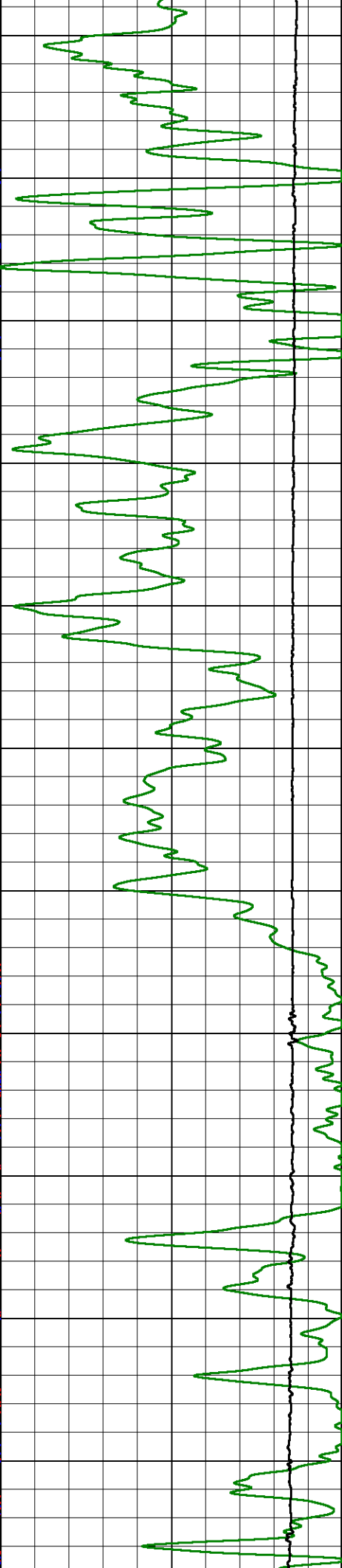
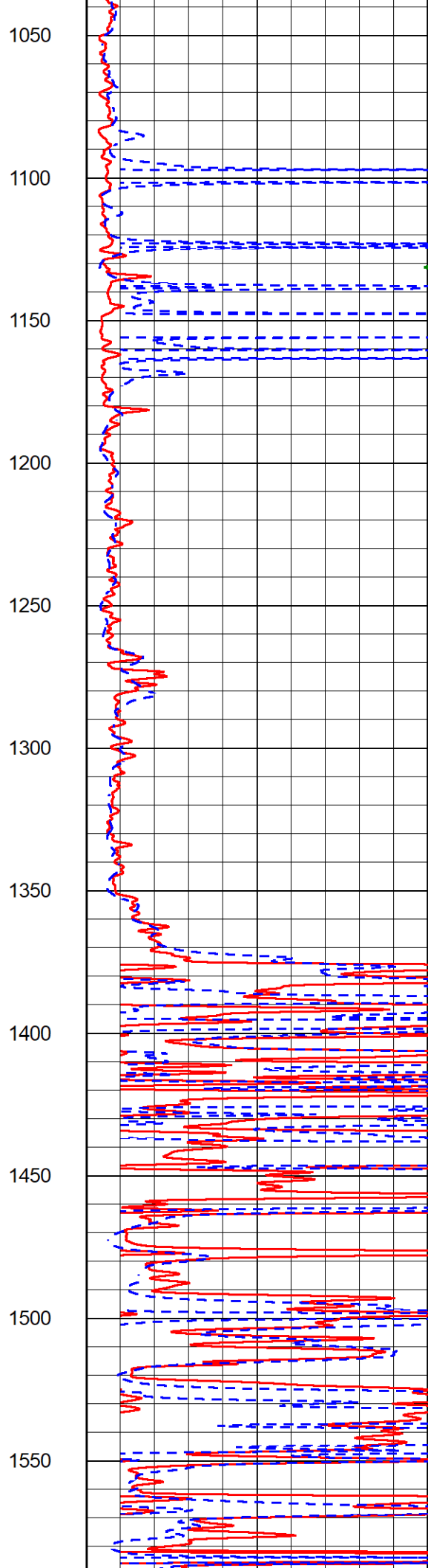
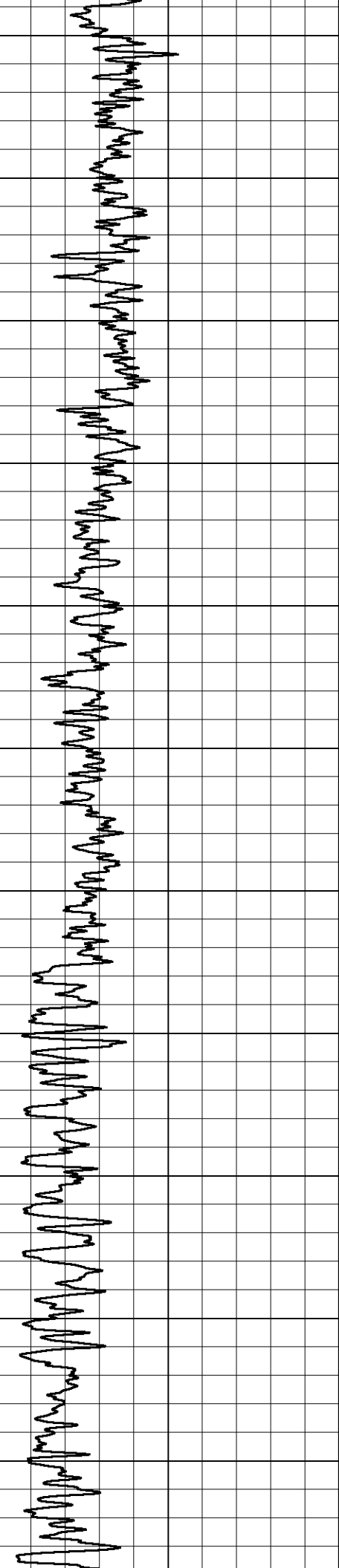
MAIN PASS

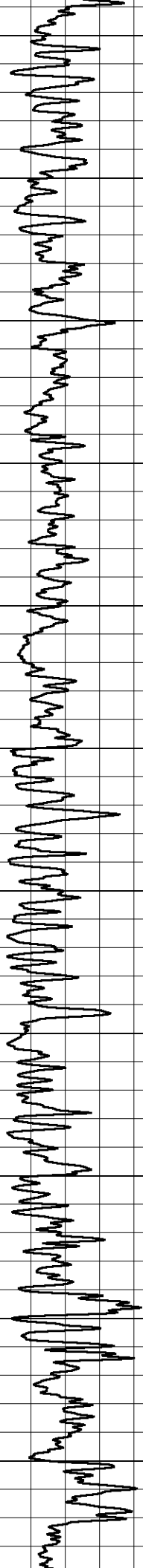
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 Dataset Pathname stkml/pass3.3
 Presentation Format _dil2in
 Dataset Creation Wed Nov 01 02:38:33 2023
 Charted by Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	300	1000	Conductivity (mmho/m)	0
			15000	Line Tension (lb)	0
			0	Shallow Resistivity (Ohm-m)	50
			0	Deep Resistivity (Ohm-m)	50
			50	Shallow Resistivity (Ohm-m)	200
			50	Deep Resistivity (Ohm-m)	200

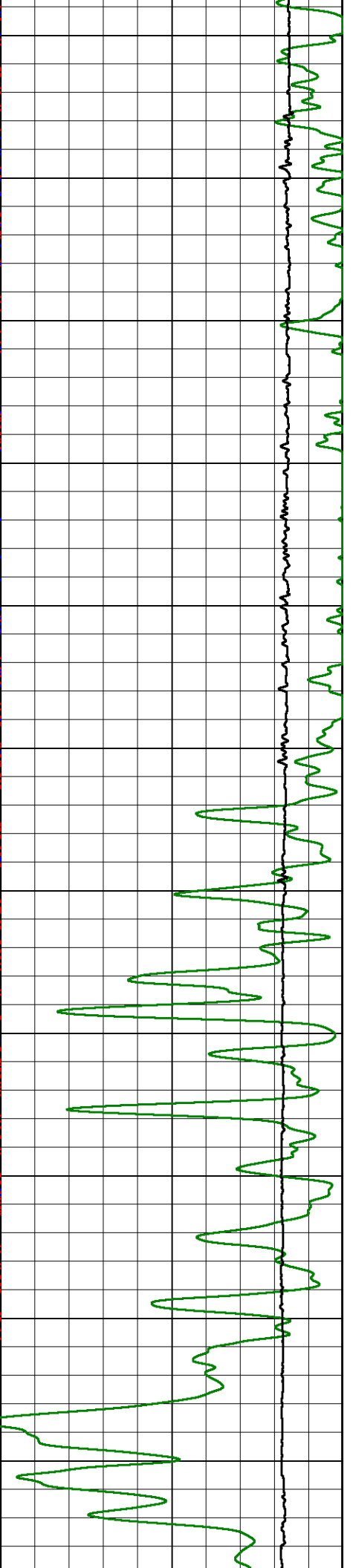
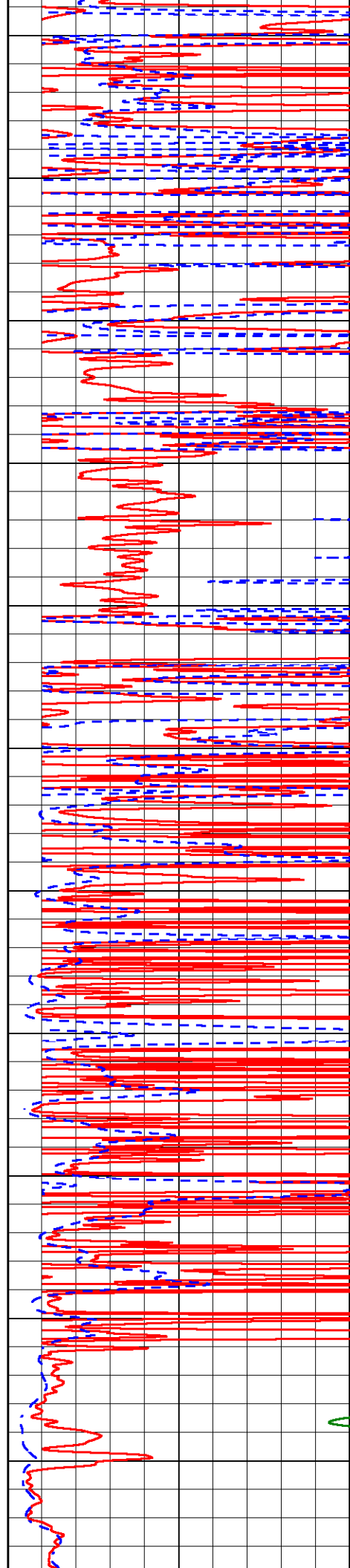


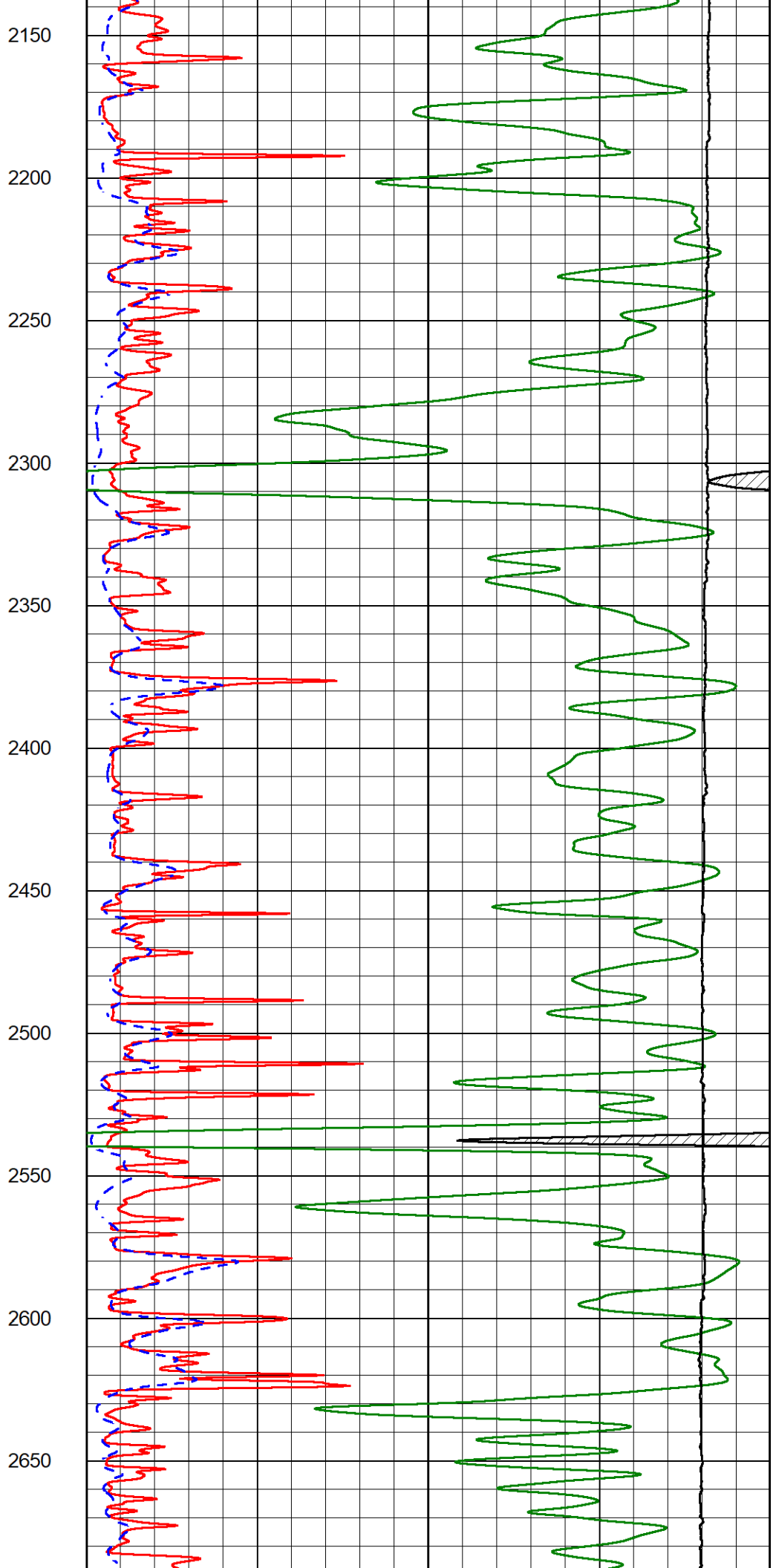
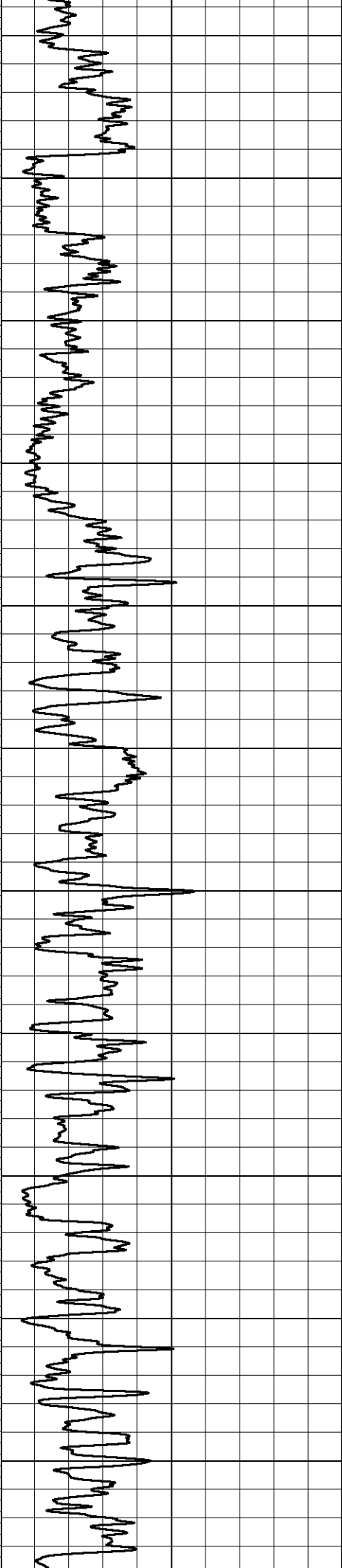


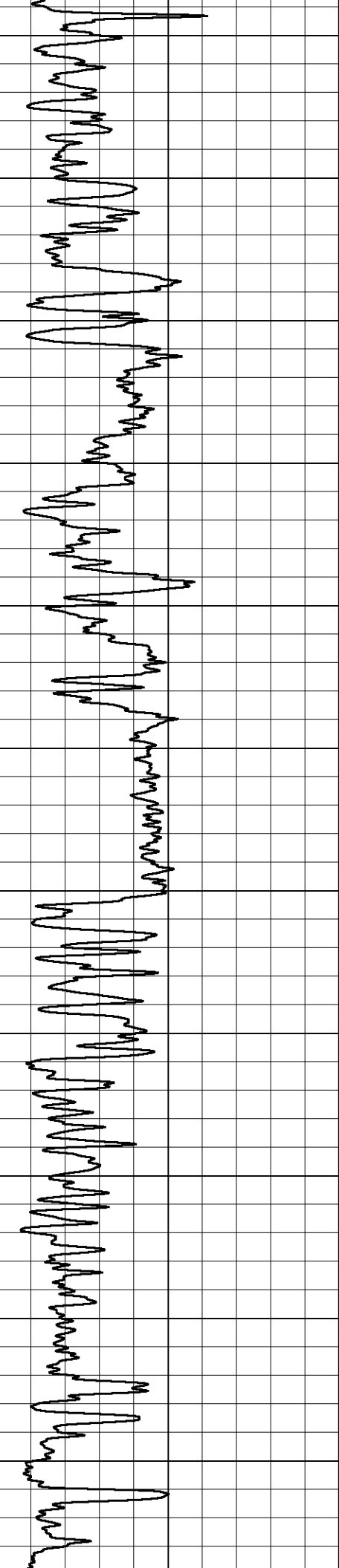




1600
1650
1700
1750
1800
1850
1900
1950
2000
2050
2100







2700

2750

2800

2850

2900

2950

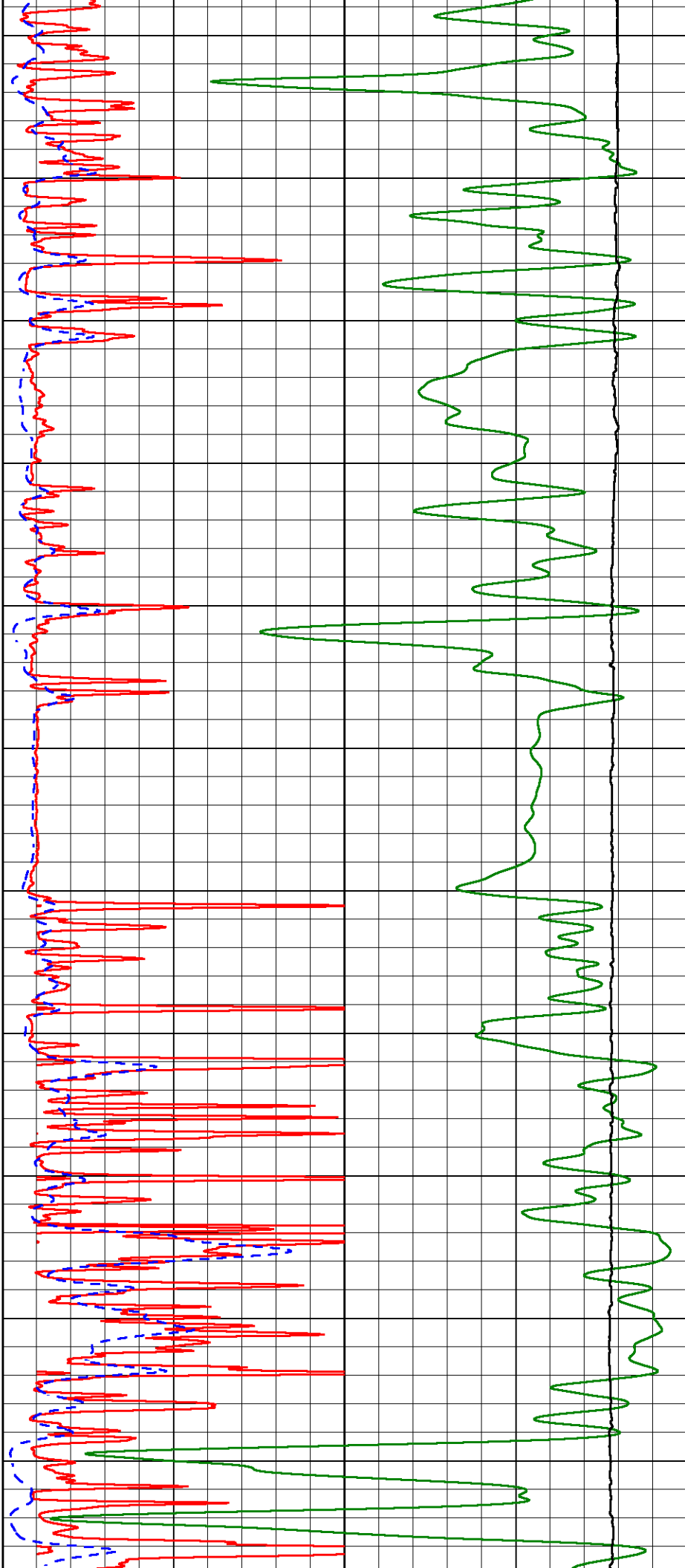
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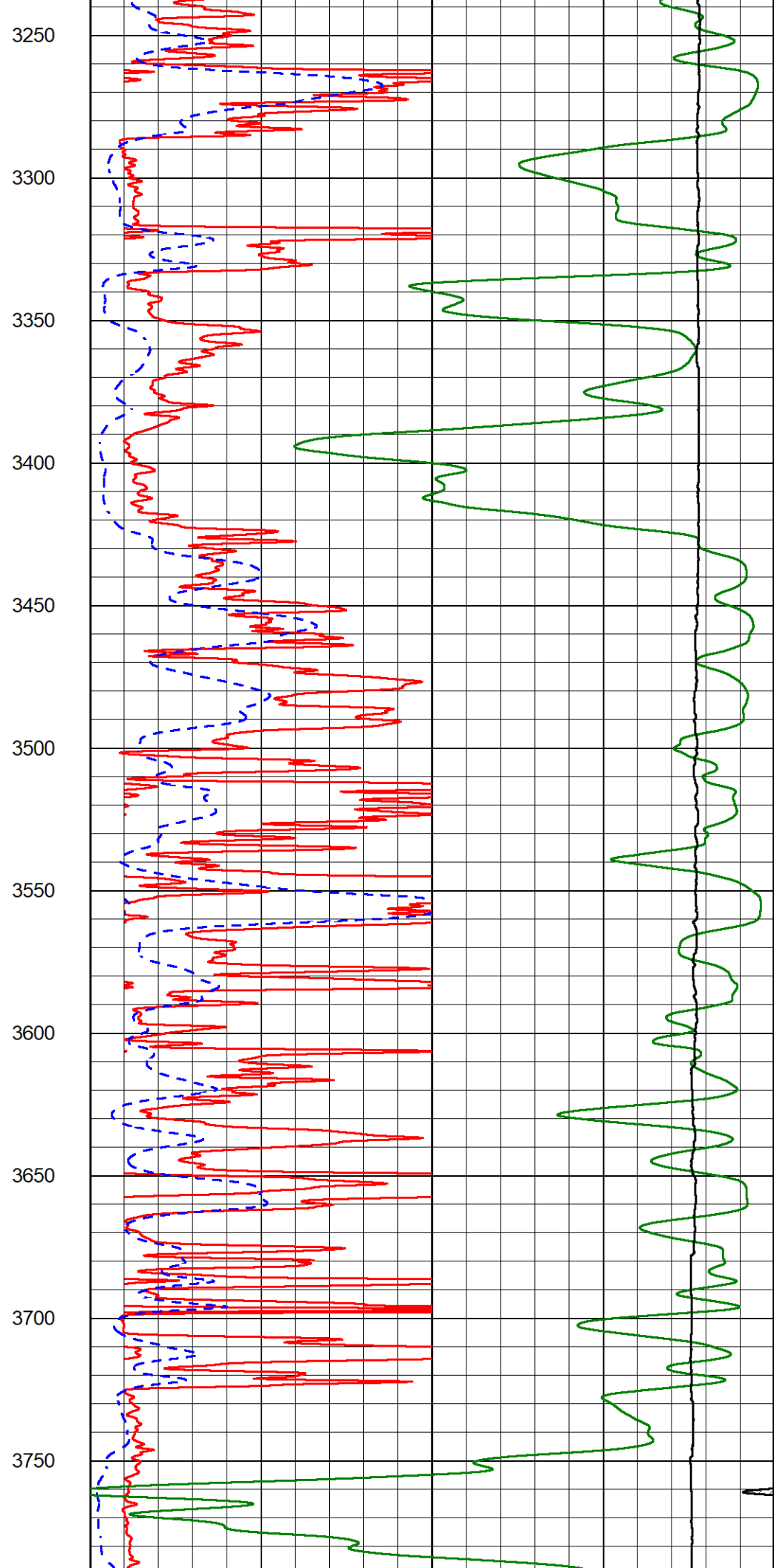
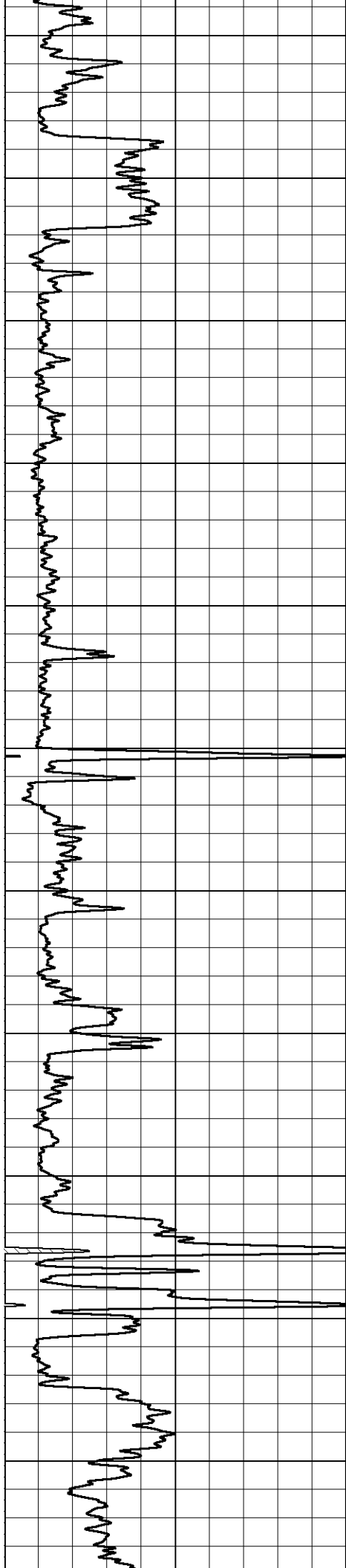
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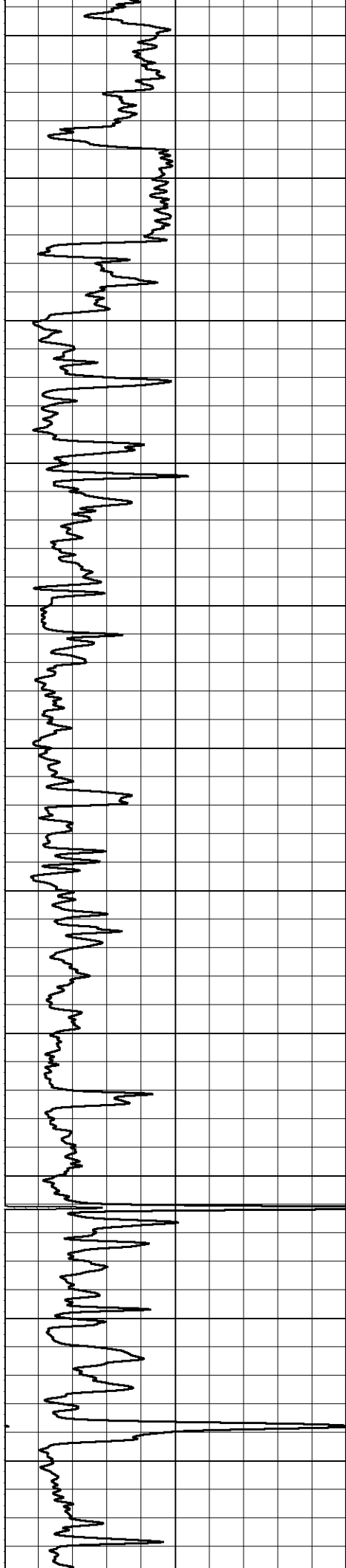
3100

3150

3200







3800

3850

3900

3950

4000

4050

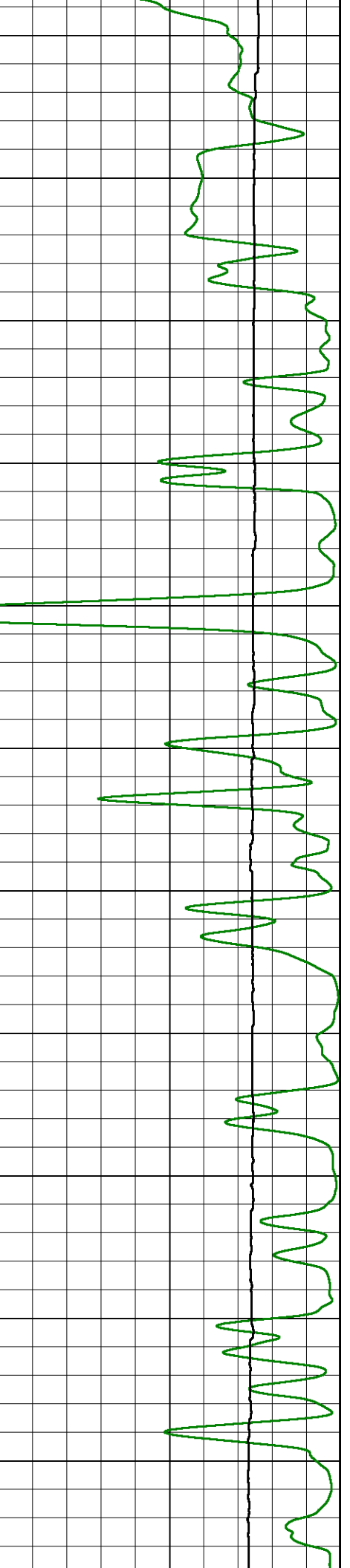
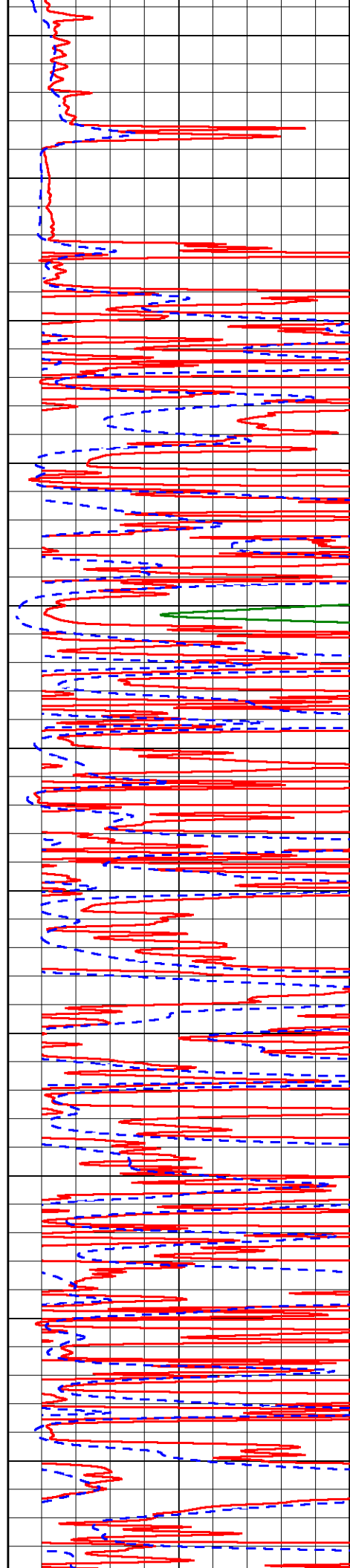
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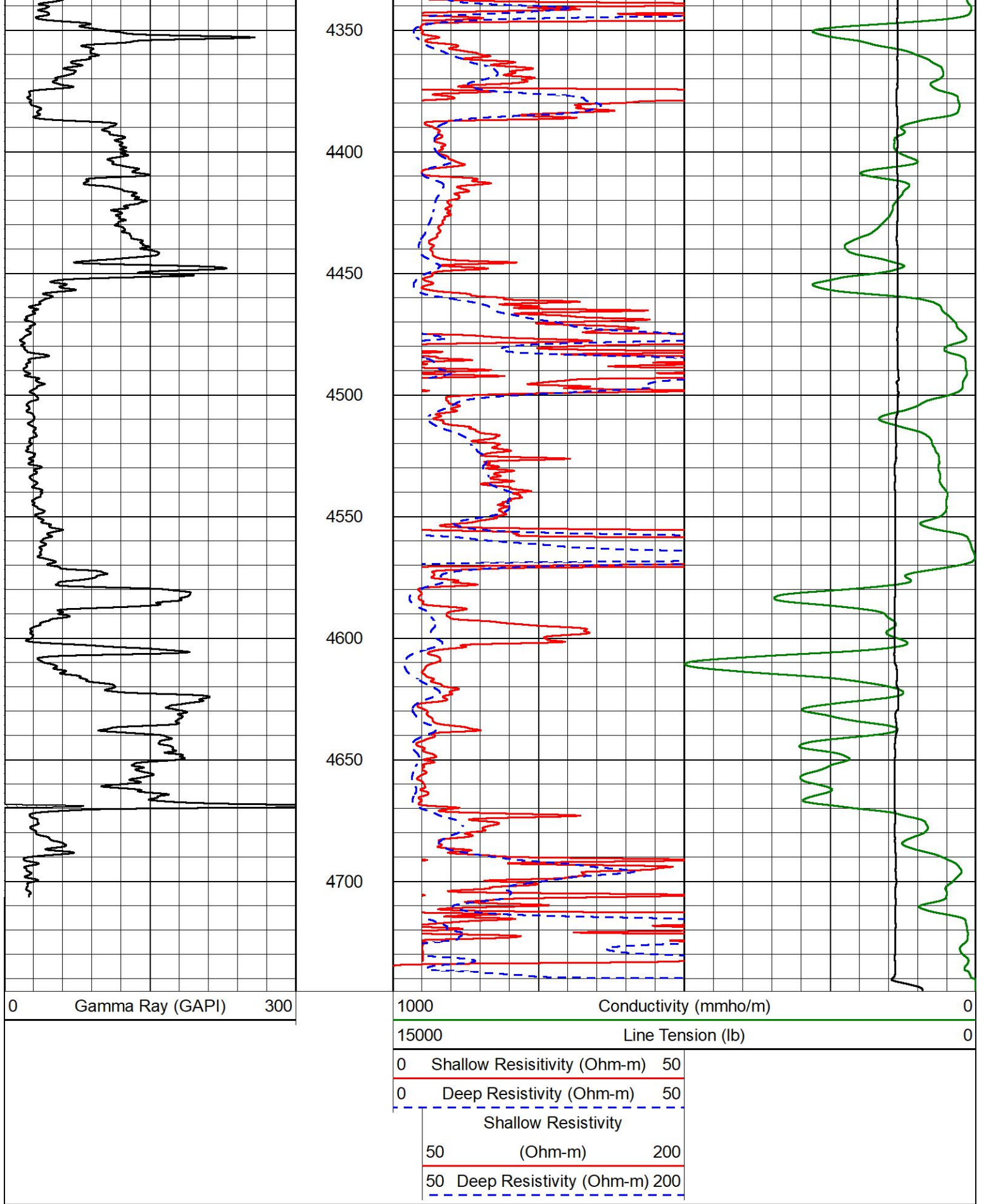
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4200

4250

4300





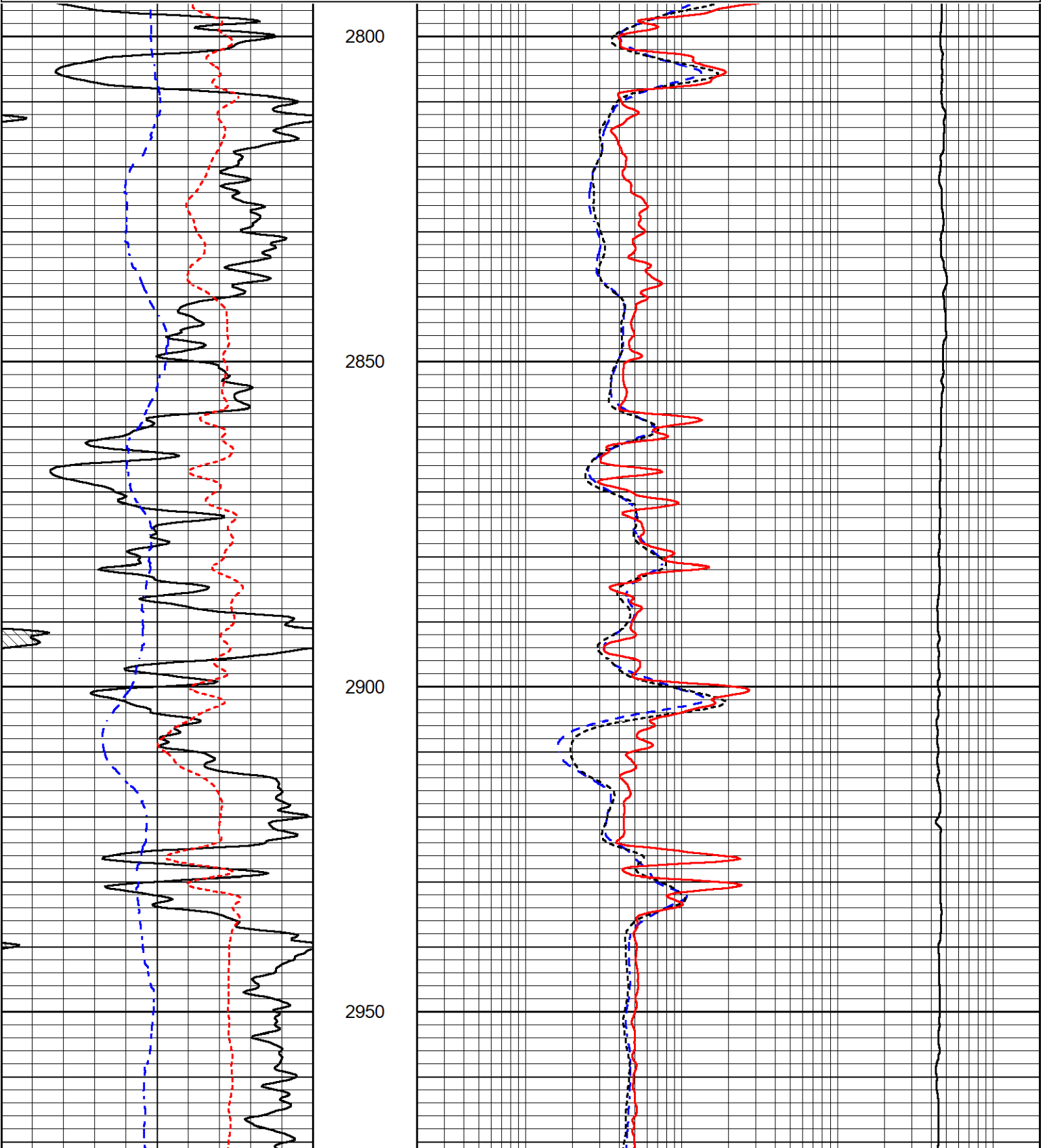
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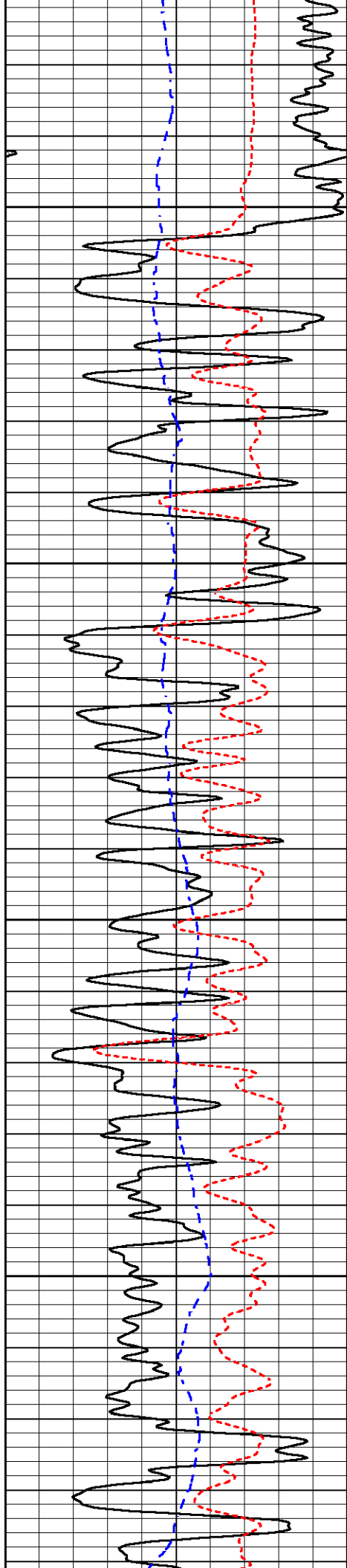
MAIN PASS

Database File griffin_reta 1.db
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 Presentation Format _dil
 Dataset Creation Wed Nov 01 02:38:22 2023
 Charted by Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150
50	RXORT	250
-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



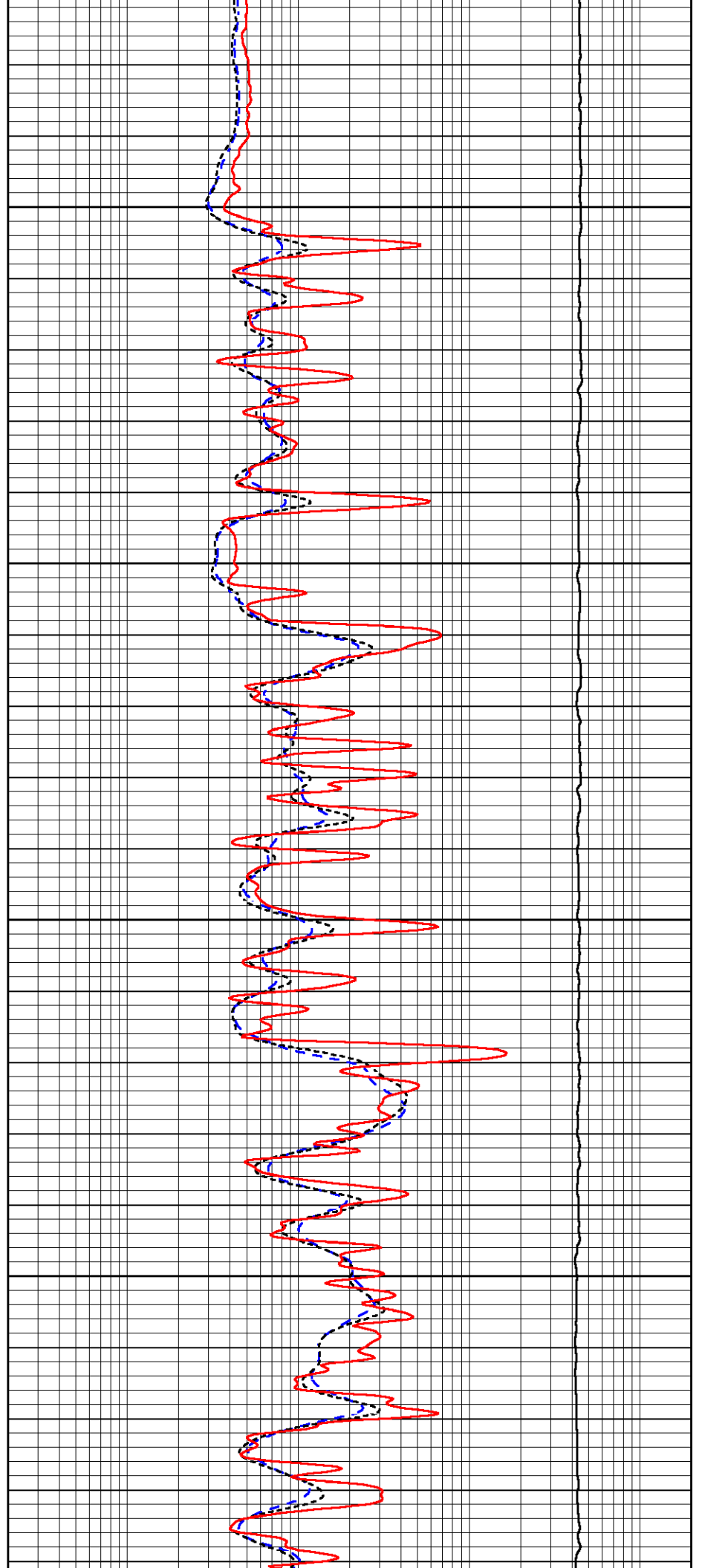


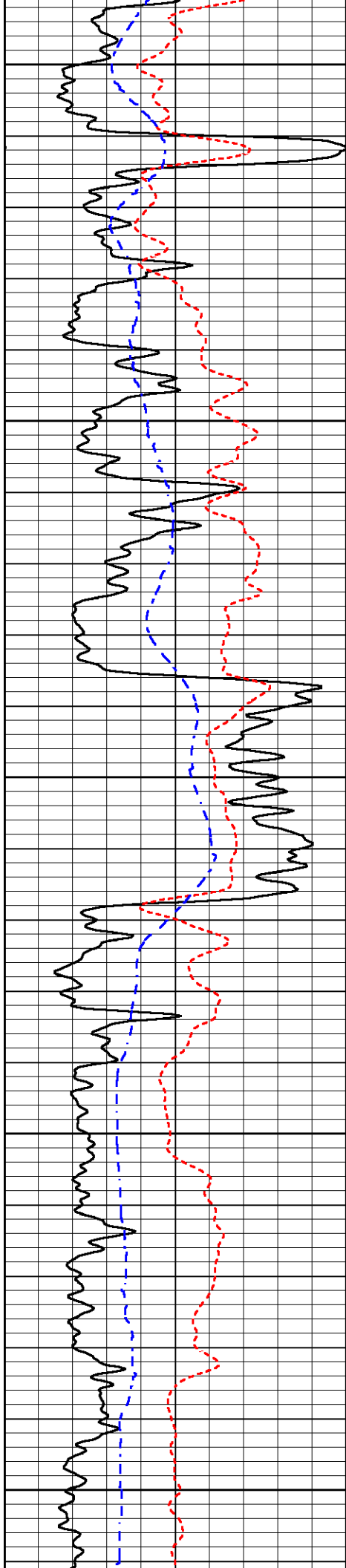
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3050

3100

3150





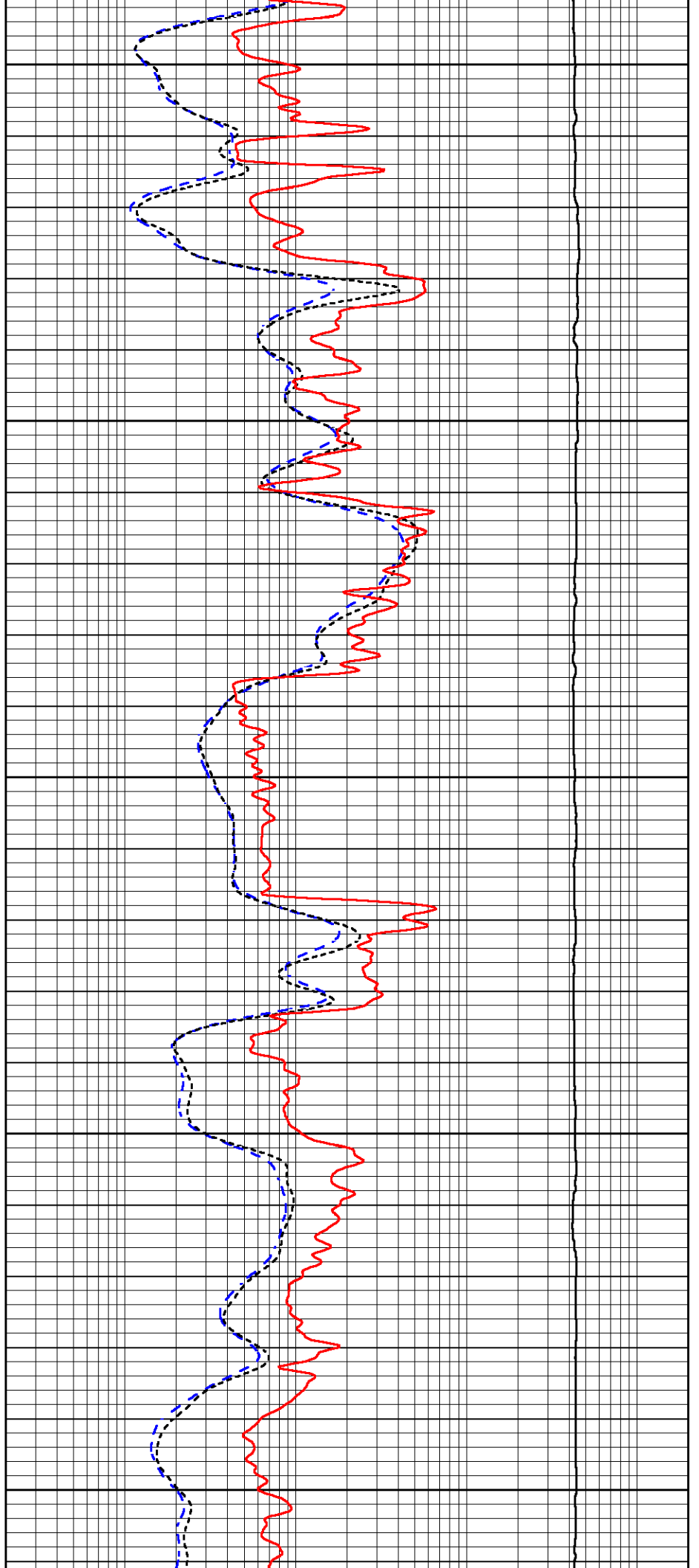
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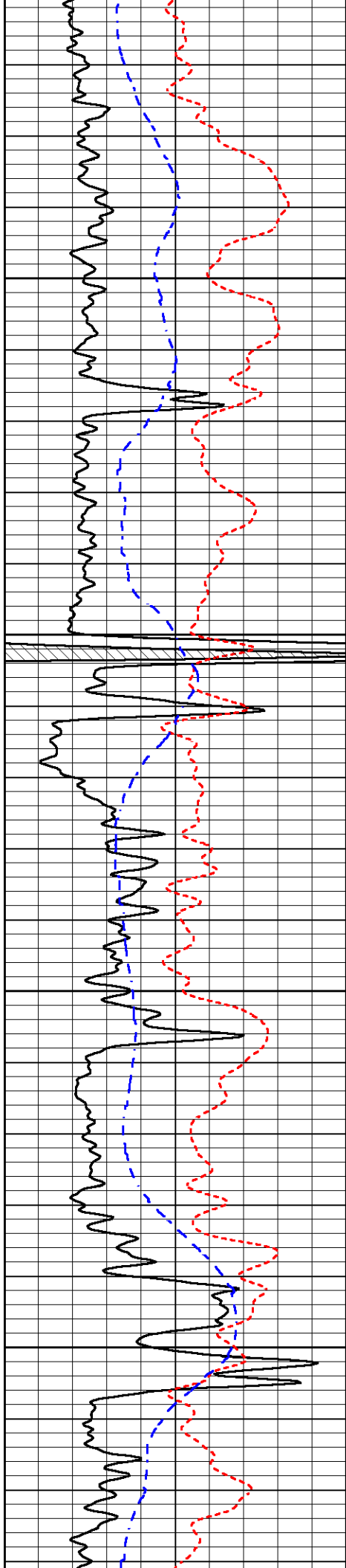
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3300

3350

3400



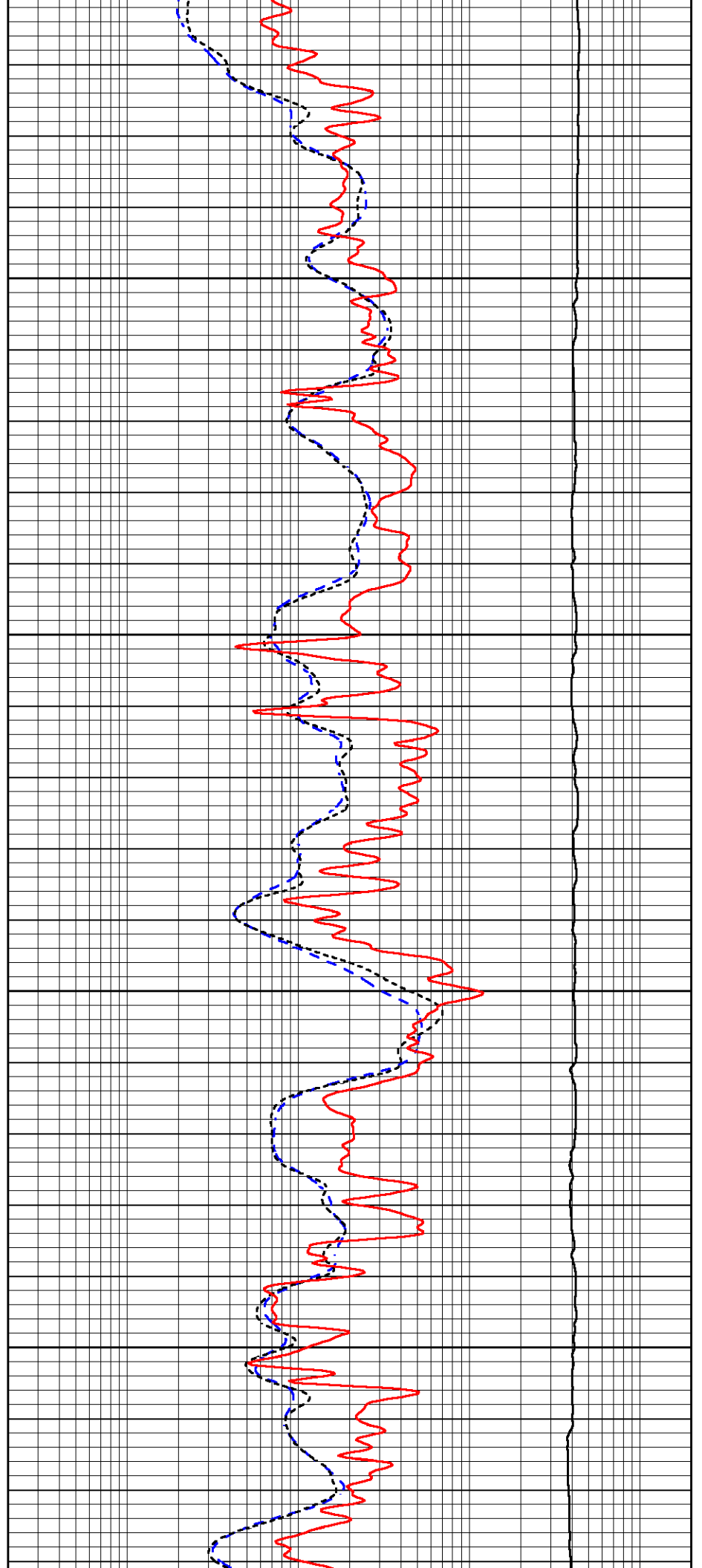


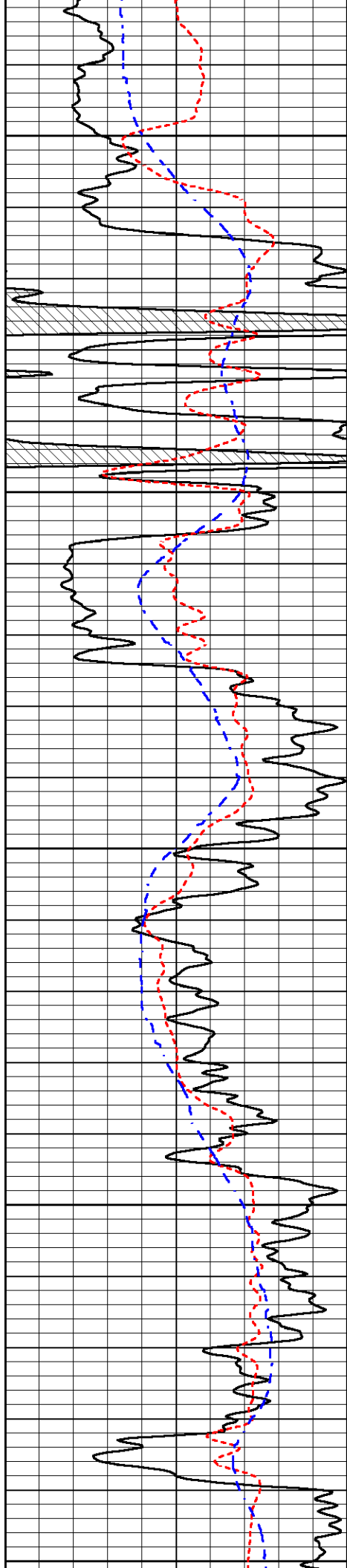
3450

3500

3550

3600





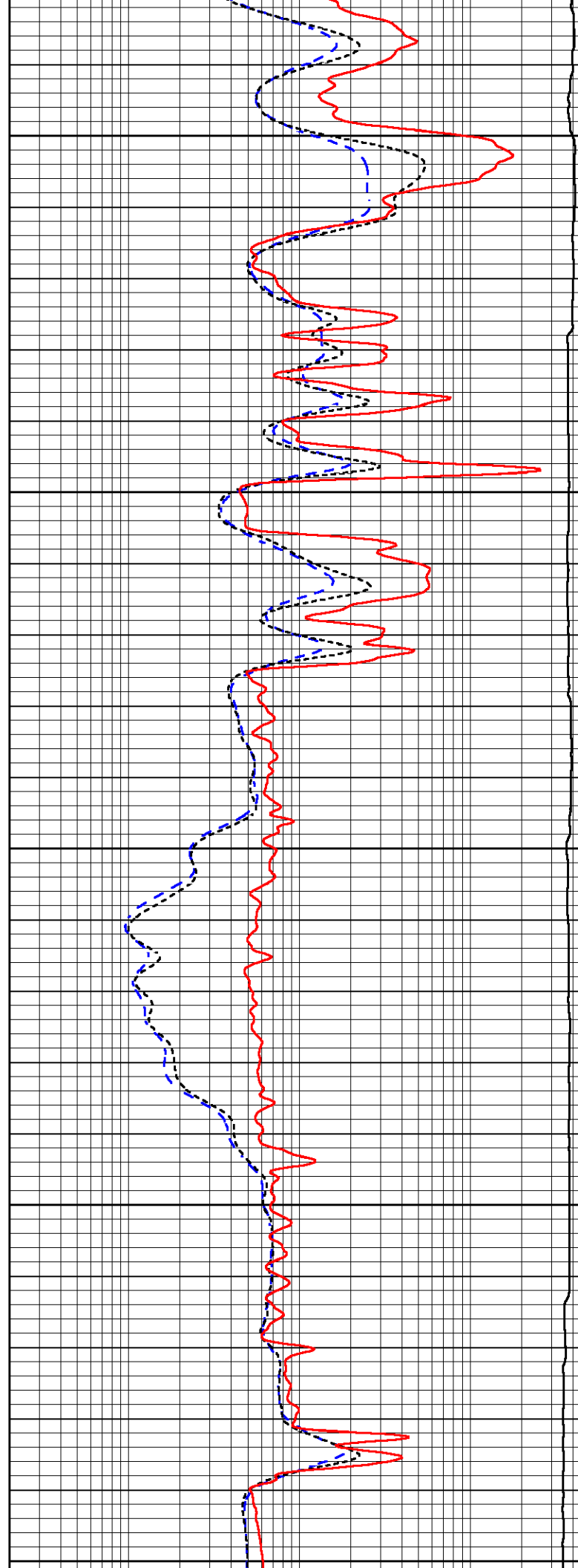
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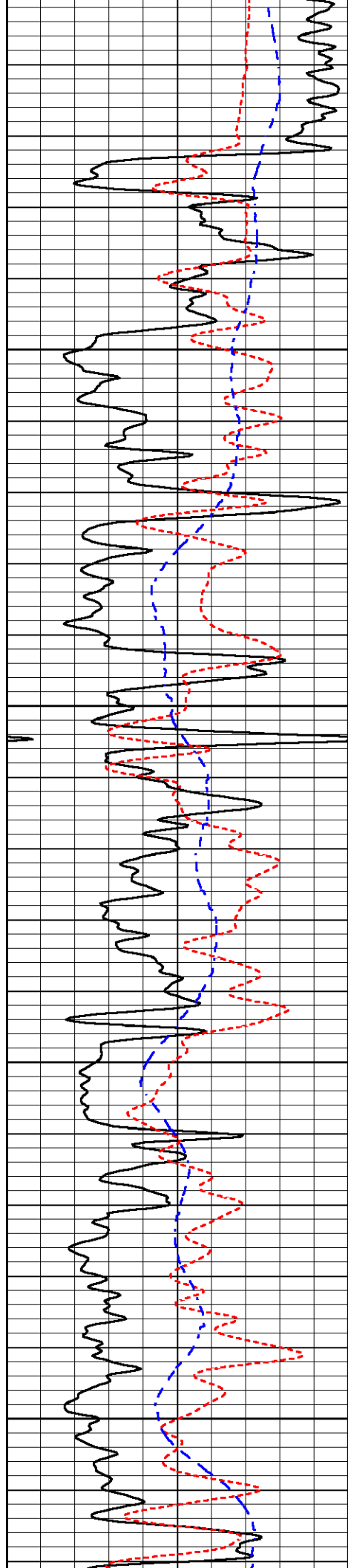
3700

3750

3800

3850



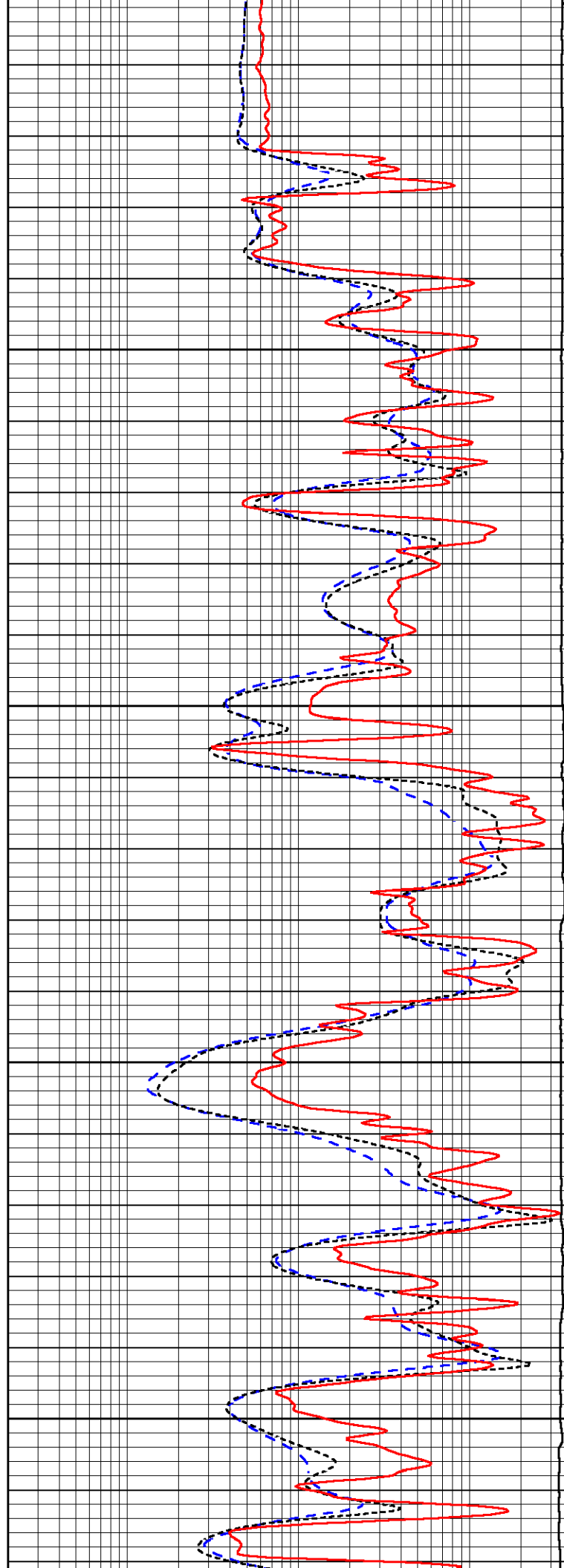


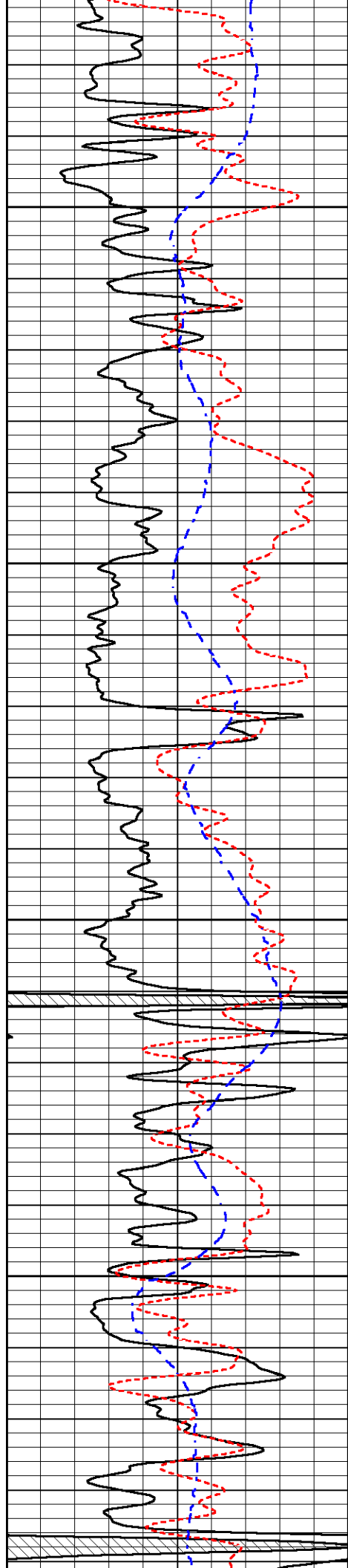
3900

3950

4000

4050



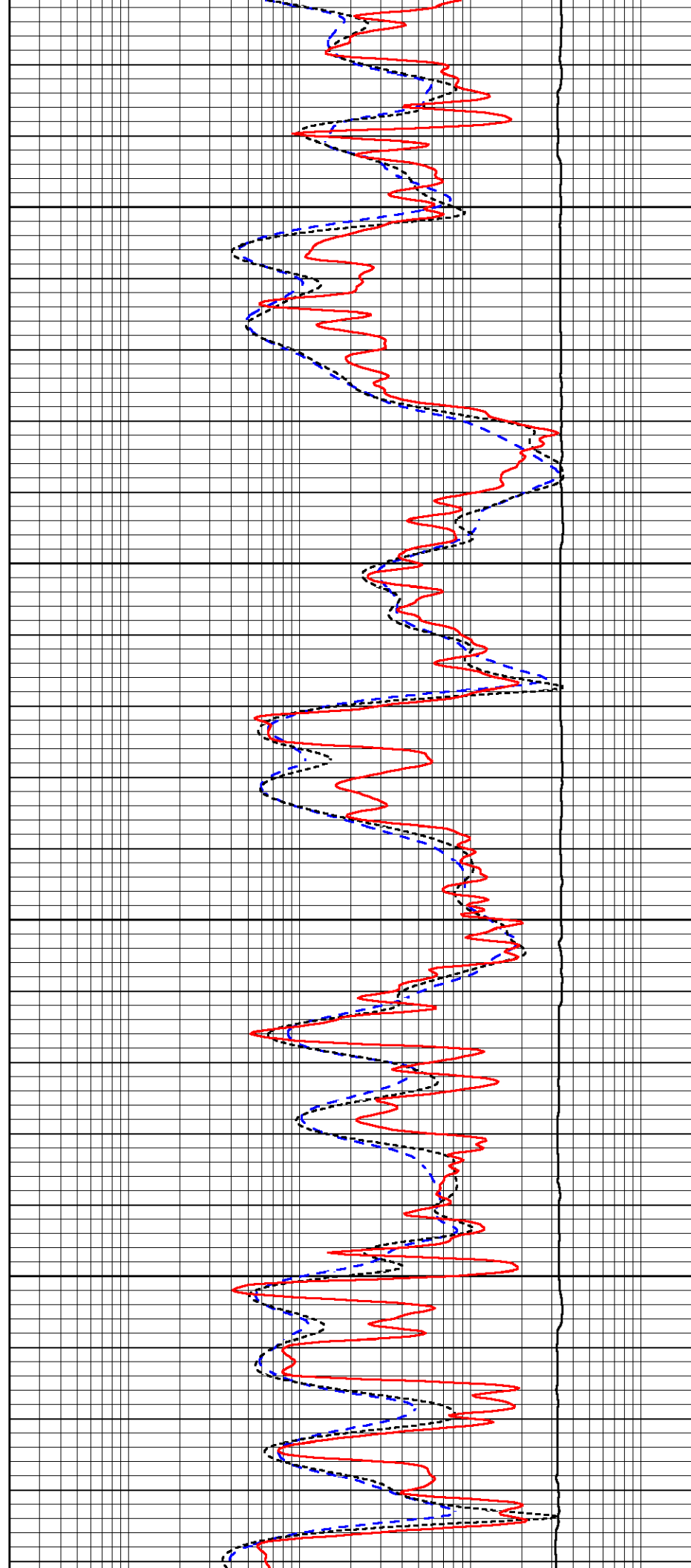


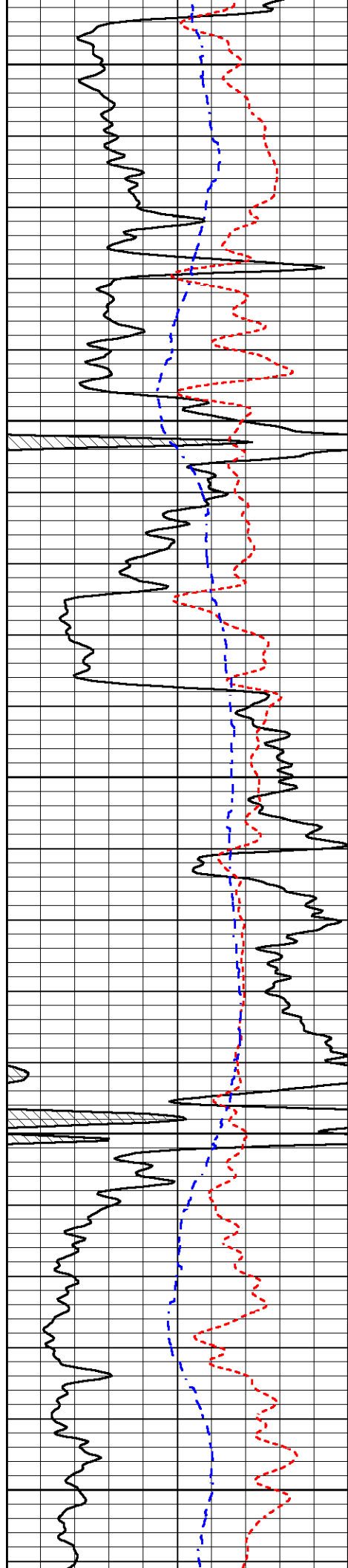
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4150

4200

4250





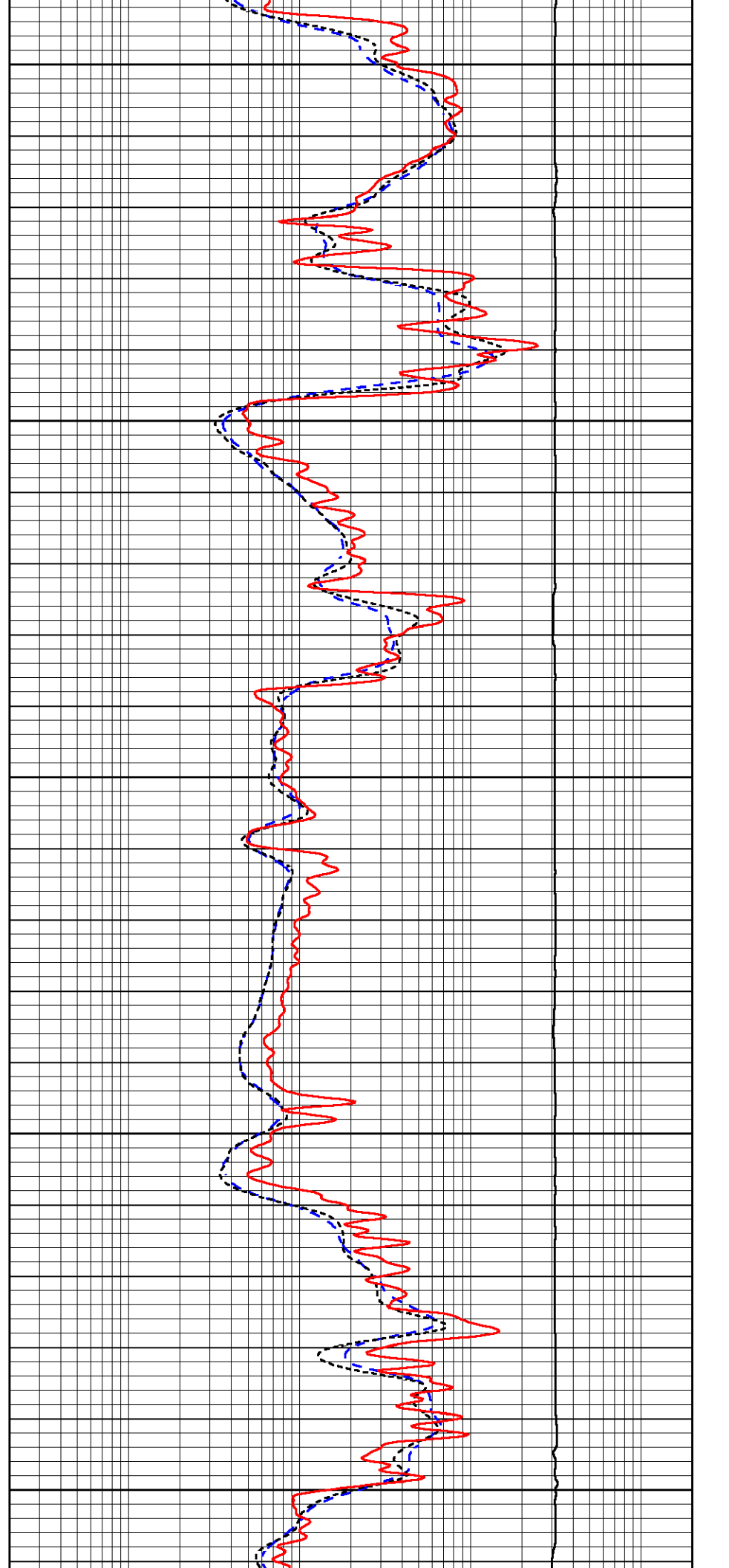
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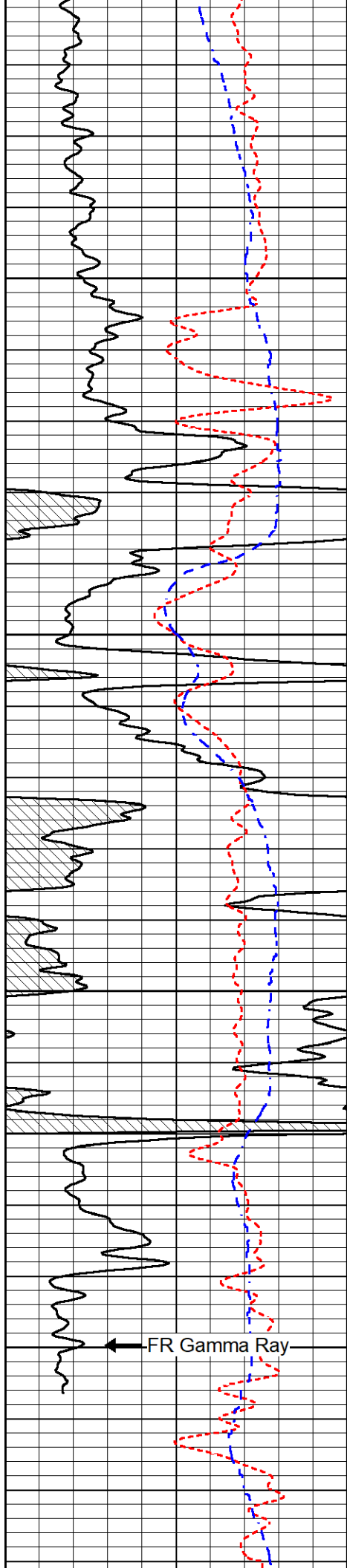
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4400

4450

4500





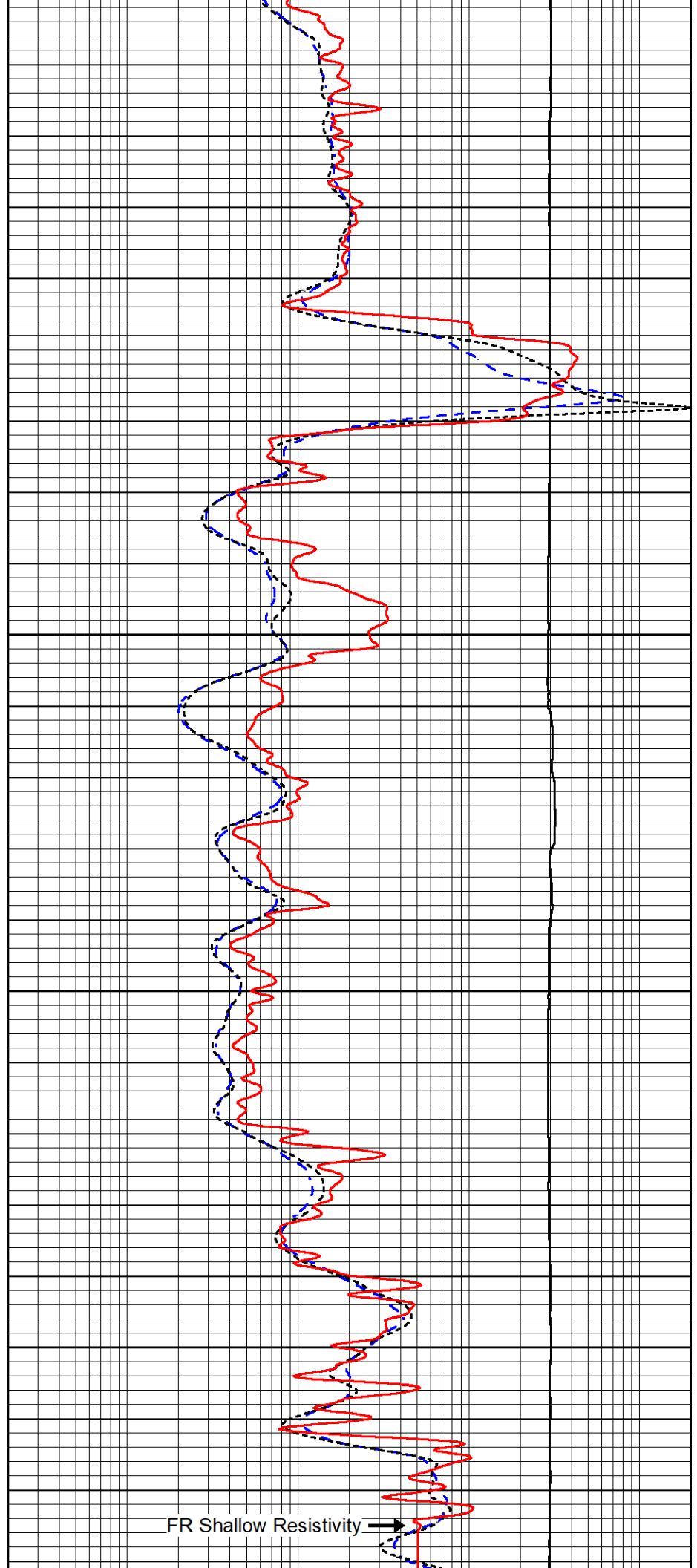
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4600

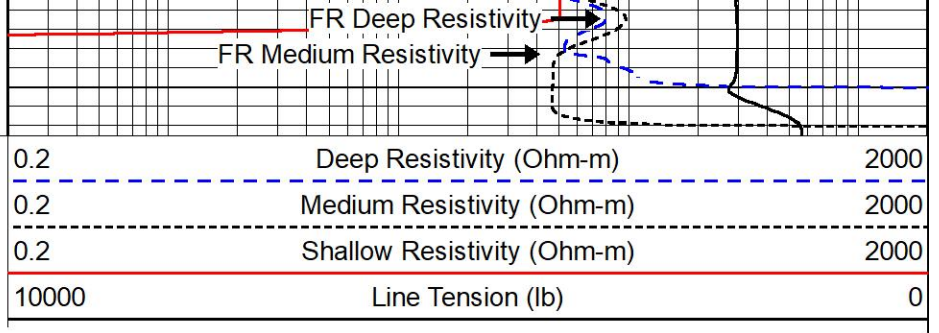
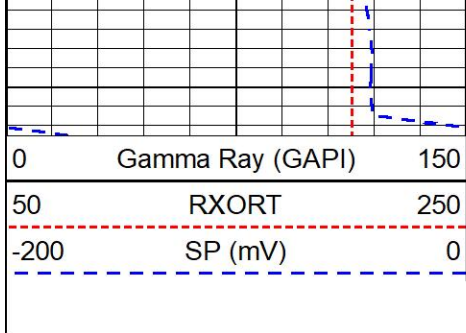
4650

4700

FR Gamma Ray



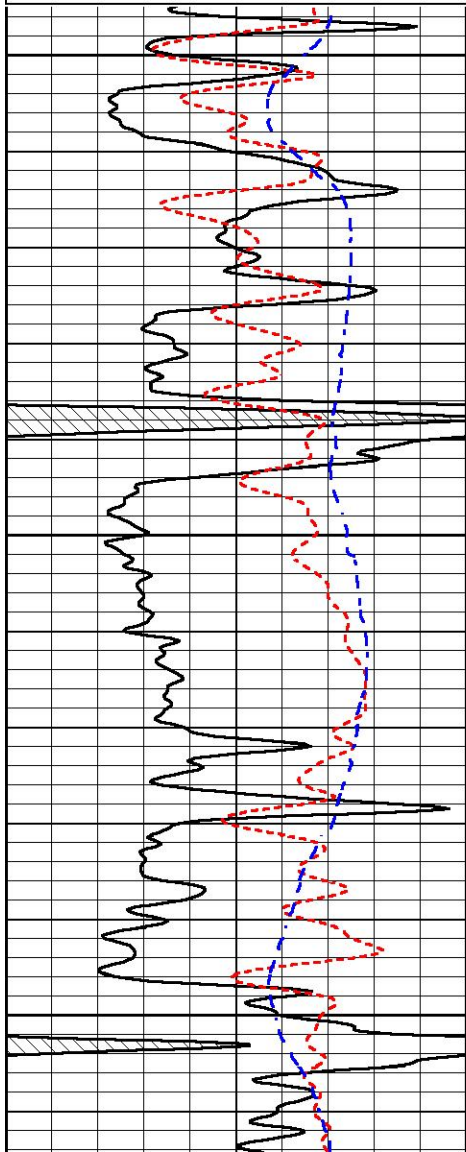
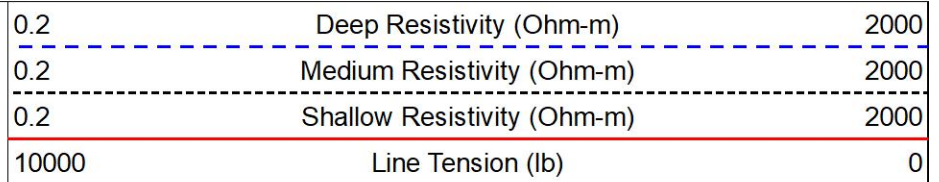
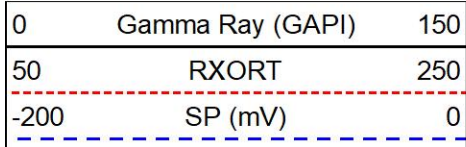
FR Shallow Resistivity



REPEAT SECTION

REPEAT PASS

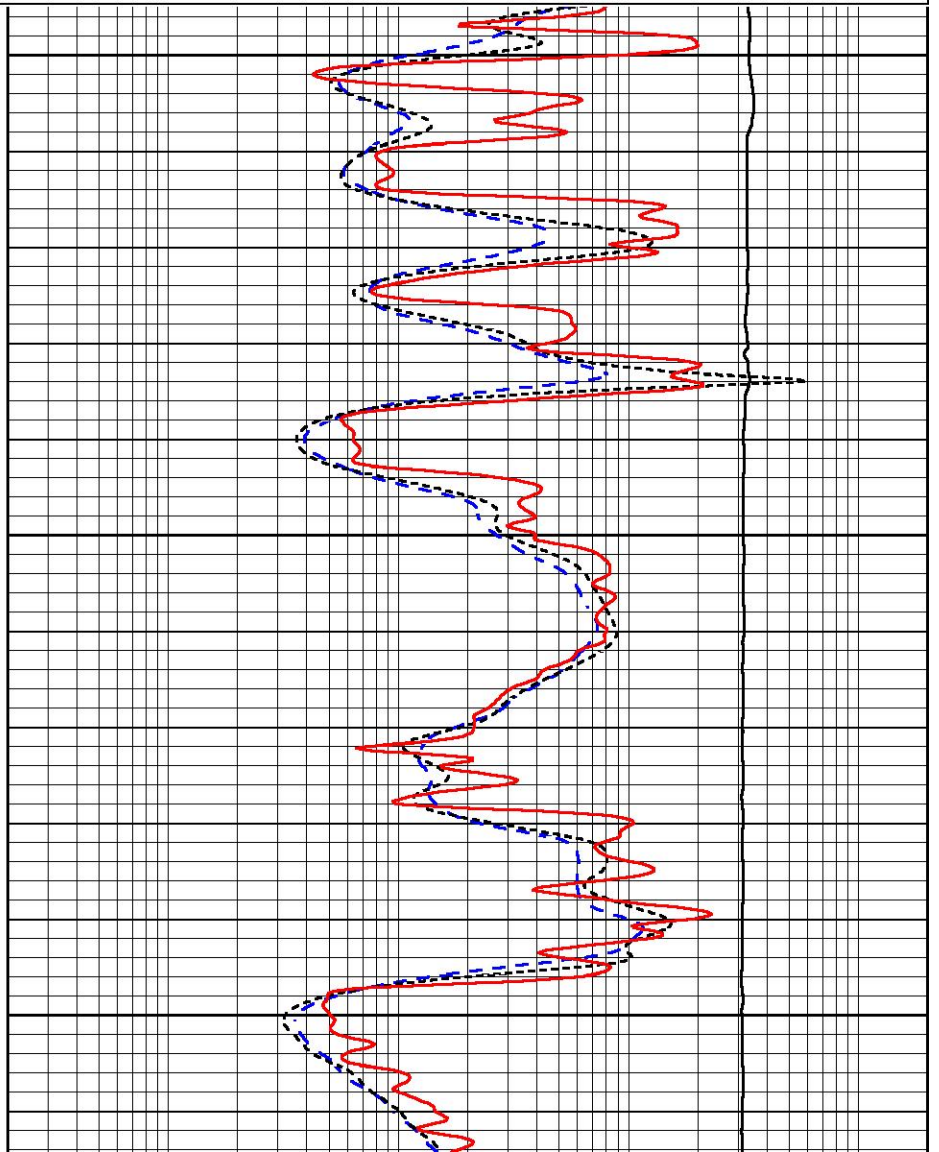
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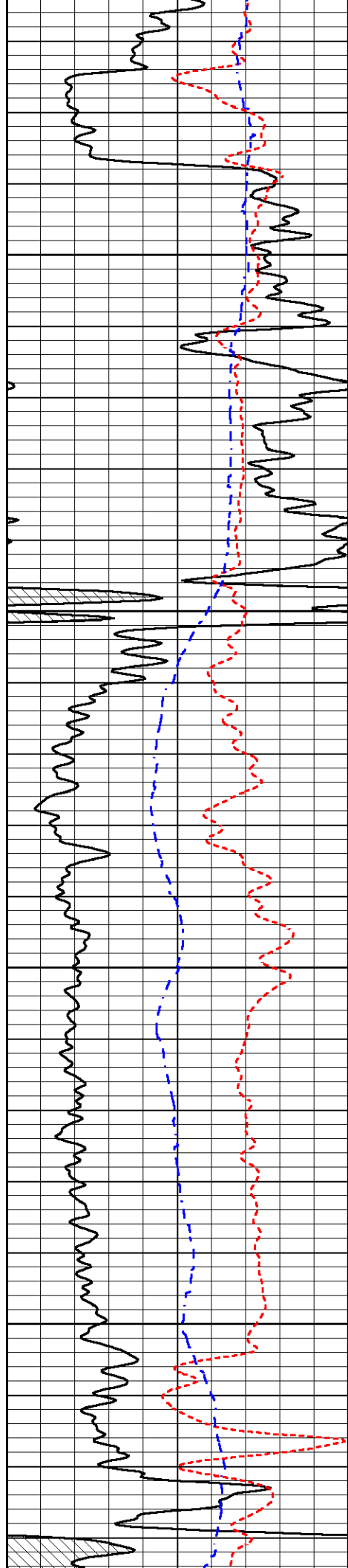


4250

4300

4350



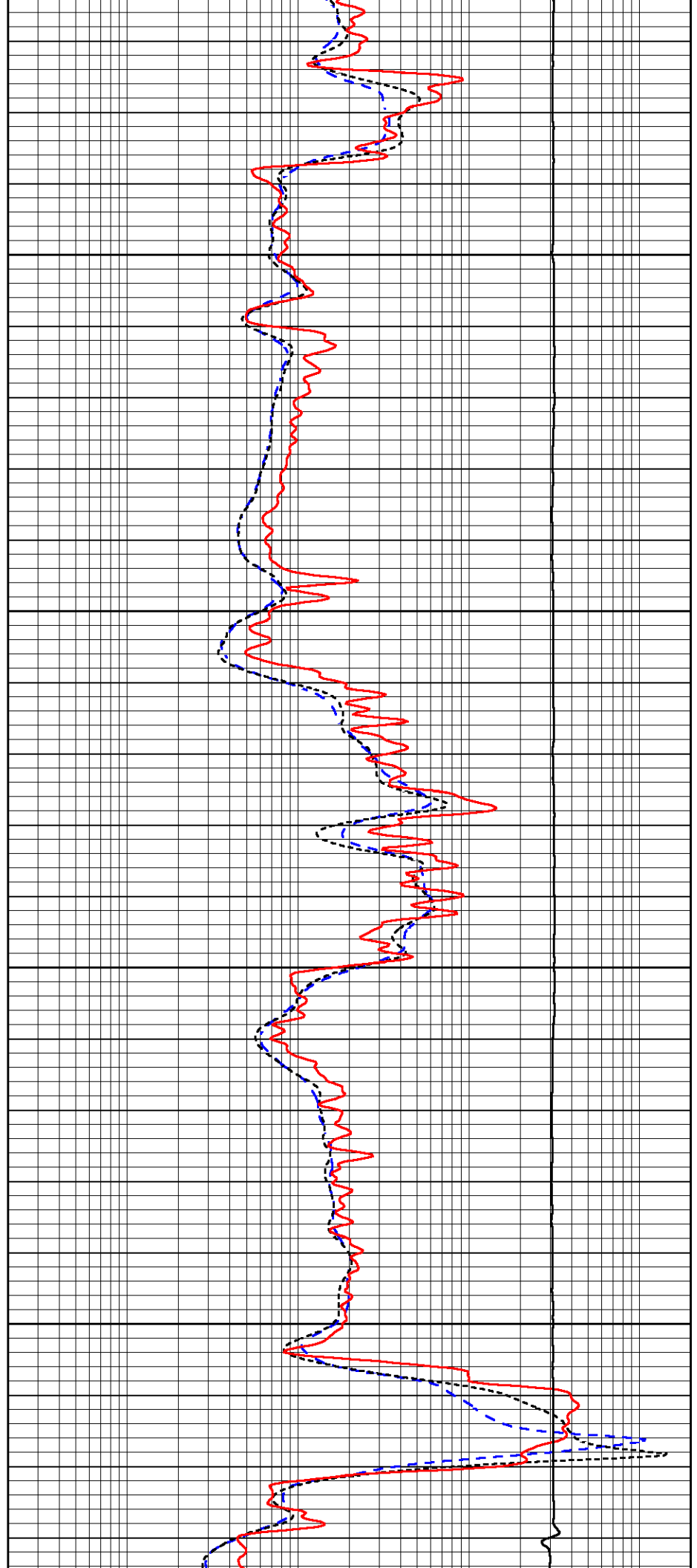


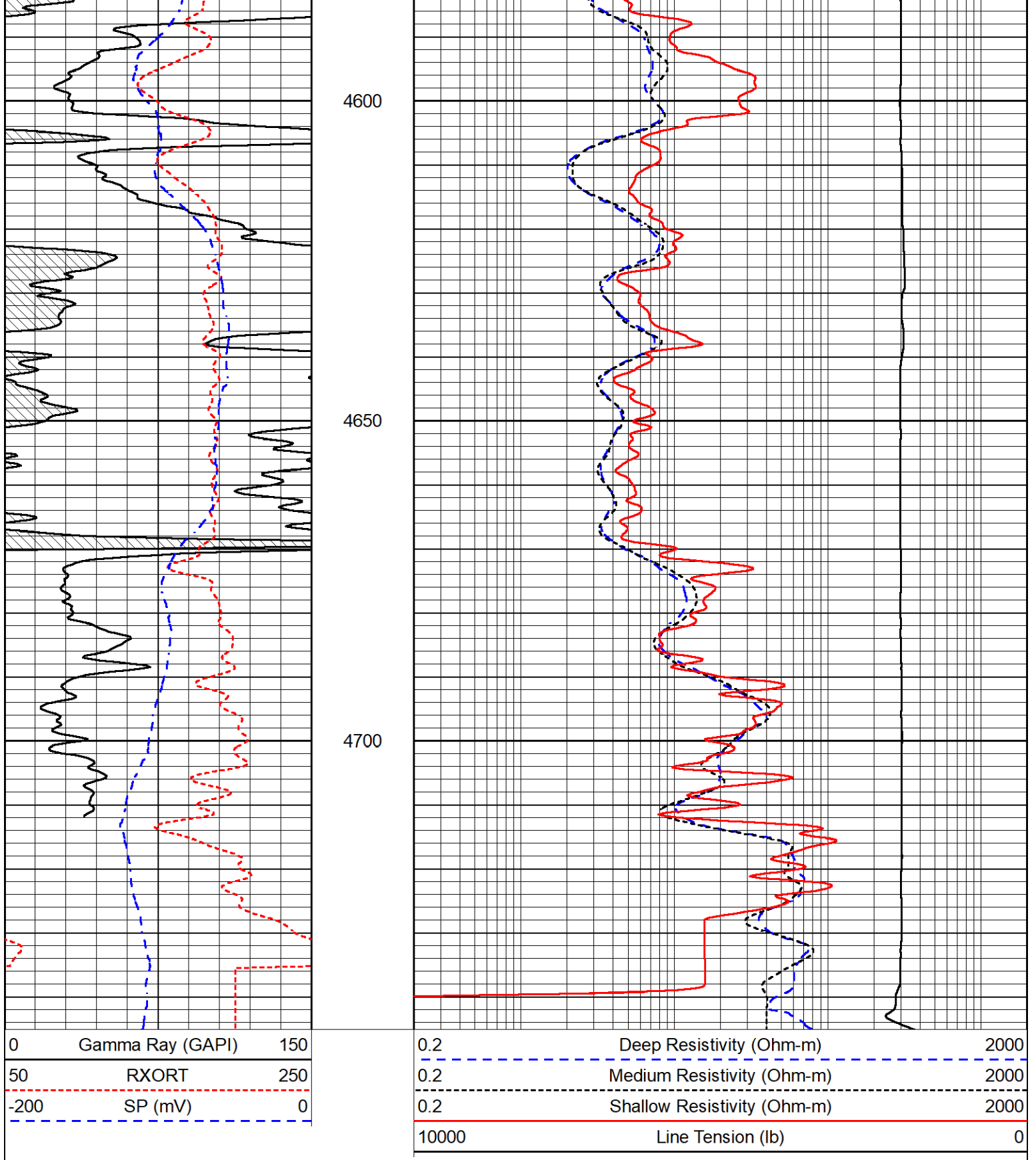
4400

4450

4500

4550





Calibration Report

Database File griffin_reta 1.db
 Dataset Pathname stkml/pass3.1
 Dataset Creation Wed Nov 01 02:38:22 2023

Dual Induction Calibration Report

Serial-Model: 505 HT-M&W
 Surface Cal Performed: Sat Oct 21 23:47:45 2023

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		m	b
Deep	167.000	835.000	0.000	255.800	mmho/m	0.500	-50.000
Medium	1348.000	1348.000	0.000	255.800	mmho/m	0.430	-45.000

Microlog Calibration Report

Serial-Model: 402-PSI STKBL ML
 Performed: Fri Oct 20 13:01:04 2023

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0037	0.0043	0.0000	10.0000	Ohm-m	21500.0000	-0.5000
Inverse	0.1208	0.0013	0.0000	10.0000	Ohm-m	21000.0000	0.0000
Caliper	1.0046	1.1419	5.5000	20.0000	in	50.0000	-44.5000

LITHODENSITY Calibration Report

Serial Number: 704-10
 Tool Model: STEP LITHO
 Performed: Mon Jul 10 14:32:46 2023

Source:

	Win1	Win2	Win3	Win4	Win5	Win6	Win7	Win8	
Background:									
SS:	51	52	200	248	22	69	43	1	cps
LS:	86	98	369	472	53	149	98	3	cps
Aluminum:									
SS:	770	911	2087	1811	37	71	43	2	cps
LS:	972	1684	3061	1465	60	147	96	5	cps
Magnesium:									
SS:	1299	1502	3449	2640	40	69	47	3	cps
LS:	4207	6947	11930	4497	91	136	95	12	cps
Aluminum+Iron:									
SS:	502	651	1766	1595	36	70	46	1	cps
LS:	571	1190	2606	1318	59	148	98	5	cps

	Density Actual	Density Calibrated	PE Actual	PE Calibrated	Quality
Background:					
SS:					0.235
LS:					0.209
Aluminum:					
SS:	2.6000	2.6000	g/cc		0.245
LS:	2.6000	2.6000	g/cc		0.210
Magnesium:					
SS:	1.6800	1.6800	g/cc	2.5700	2.5700 0.192
LS:	1.6800	1.6800	g/cc	2.5700	2.5700 0.177
Aluminum+Iron:					
SS:				6.1800	0.198
LS:				6.1800	0.206

Caliper: Reference: Reading:
 Small Ring: 6.0 in 0.2
 Large Ring: 16.0 in 0.8
 Gain: 18.088
 Offset: 0.255

Compensated Neutron Calibration Report

Serial Number: 210
 Tool Model: M&W

CALIBRATION

Detector	Readings	Target	Normalization
Short Space	6240.00 cps	1000.00 cps	1.6025
Long Space	460.00 cps	1000.00 cps	1.9500

Gamma Ray Calibration Report

Serial Number: 105
 Tool Model: M&W
 Performed: Sat Oct 21 23:48:19 2023

Calibrator Value: 500.0 GAPI

Background Reading: 24.0 cps
 Calibrator Reading: 637.0 cps

Sensitivity: 0.6000 GAPI/cps



Company Griffin Management, LLC
 Well Reta #1
 Field Sawyer
 County Pratt
 State Kansas