



PIONEER
Pioneer Energy Services

DUAL INDUCTION LOG

Company **AMERICAN WARRIOR, INC.**
Well **BLAESI NO. 10-6**
Field **UNKNOWN**
County **WALLACE** State **KANSAS**

Location: API #: 15-199-20445-00-00

Other Services

SEC 6 TWP 15S RGE 41W
335' FSL & 335' FEL

CNL/CDL
MEL

Permanent Datum GROUND LEVEL Elevation 3761'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 3769'
D.F. N/A
G.L. 3761'

Date 8/24/2017

Run Number	ONE		
Depth Driller	5200'		
Depth Logger	5200'		
Bottom Logged Interval	5199'		
Top Log Interval	350'		
Casing Driller	8.625" @ 371'		
Casing Logger	370'		
Bit Size	7.875"		
Type Fluid in Hole	CHEMICAL		
Salinity, ppm CL	3,500		
Density / Viscosity	9.3 56		
pH / Fluid Loss	10.0 8.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.85 @ 62		
Rmt @ Meas. Temp	.64 @ 62		
Rmc @ Meas. Temp	1.15 @ 62		
Source of Rmt / Rmc	CHARTS		
Rm @ BHT	.41 @ 128		
Operating Rig Time	3 HOURS		
Max Rec. Temp. F	128 DEGF		
Equipment Number	108		
Location	HAYS		
Recorded By	J. HENRICKSON		
Witnessed By	LUKE THOMPSON		

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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.

SHARON SPRINGS
WEST TO S-9 ROAD, SOUTH TO FIELD ROAD, WEST INTO

Log Measured From: KELLY BUSHING 8 Ft. Above Permanent Datum

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

Your Pioneer Energy Services Crew

Engineer: J. HENRICKSON
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: LUKE THOMPSON
Secondary Witness:
Secondary Witness:
Secondary Witness:

Top - Bottom

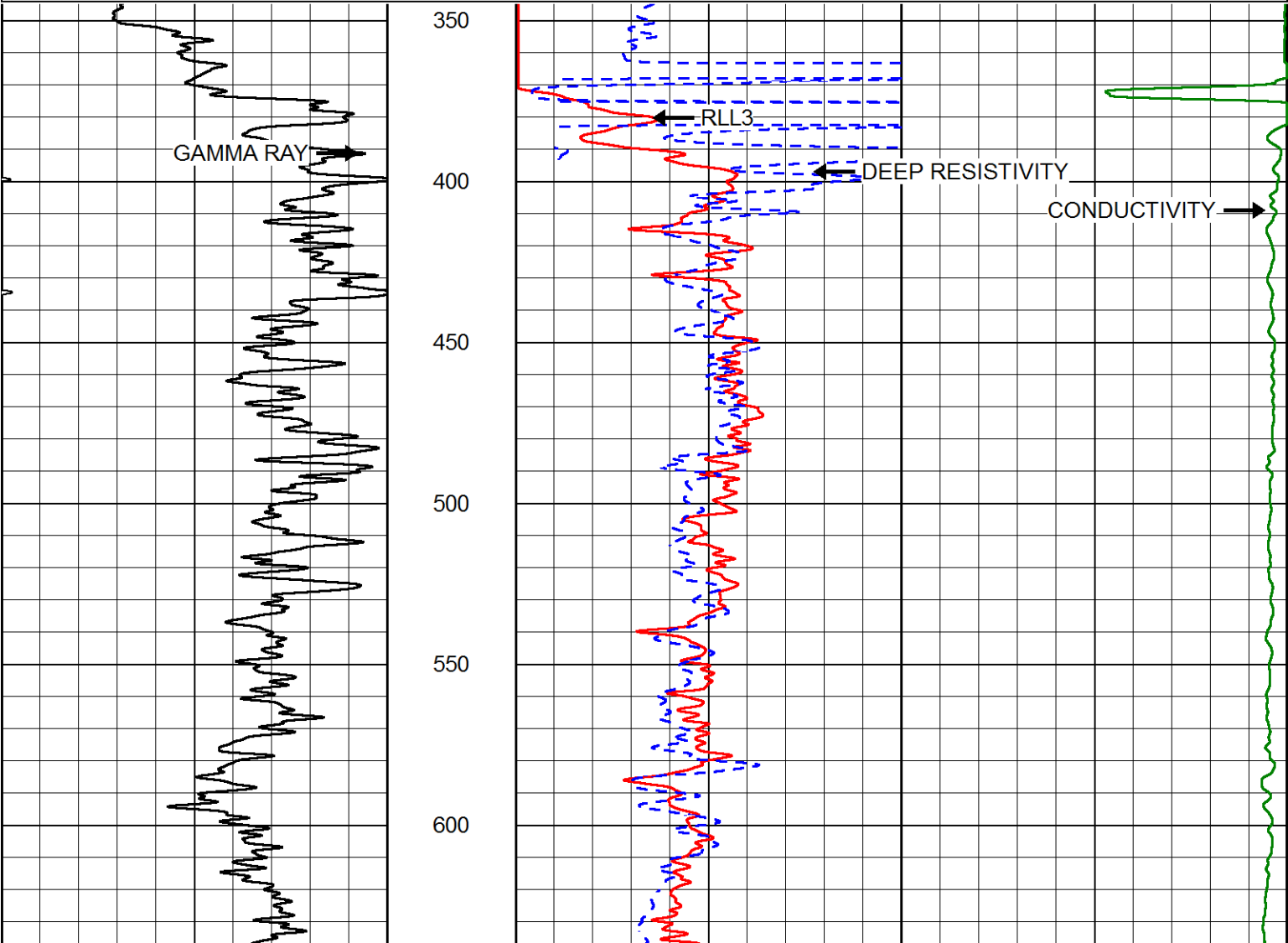
A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in 7.875	degF 128	in 5.5	in 0	g/cc 1	2	g/cc 2.71
NPORSEL	PERFS	SNDERR	SNDERRM	SPSHIFT	SRFTEMP	SZCOR	TDEPTH
Limestone	0	mmho/m 0	mmho/m 0	mV 175	degF 61	Off	ft 5196

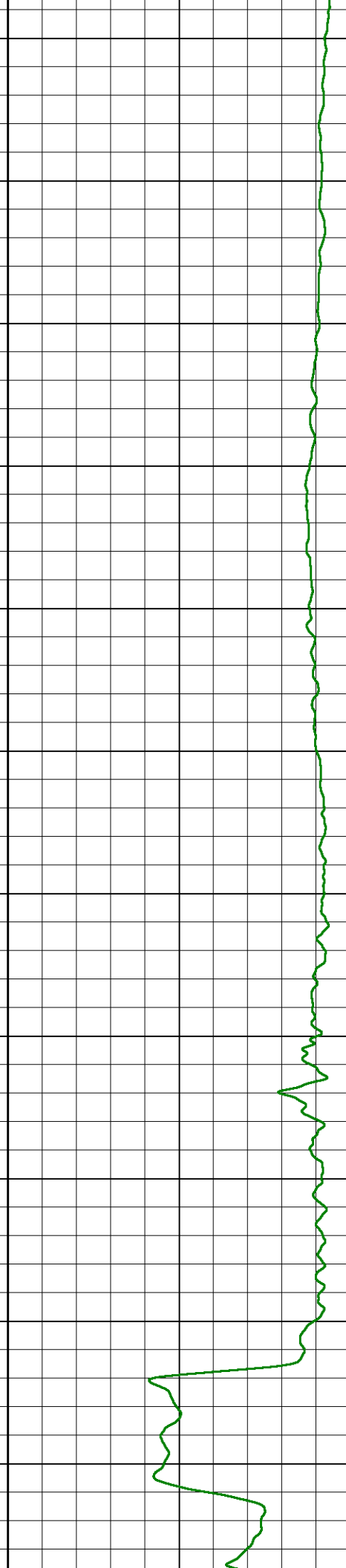
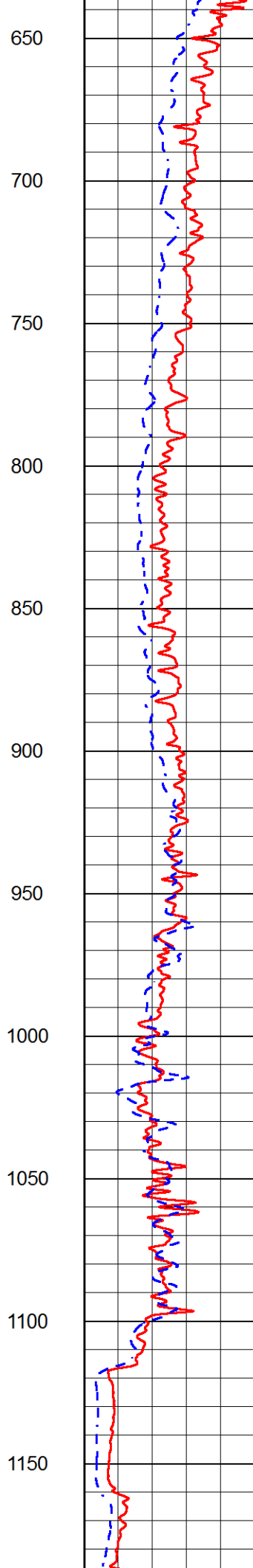
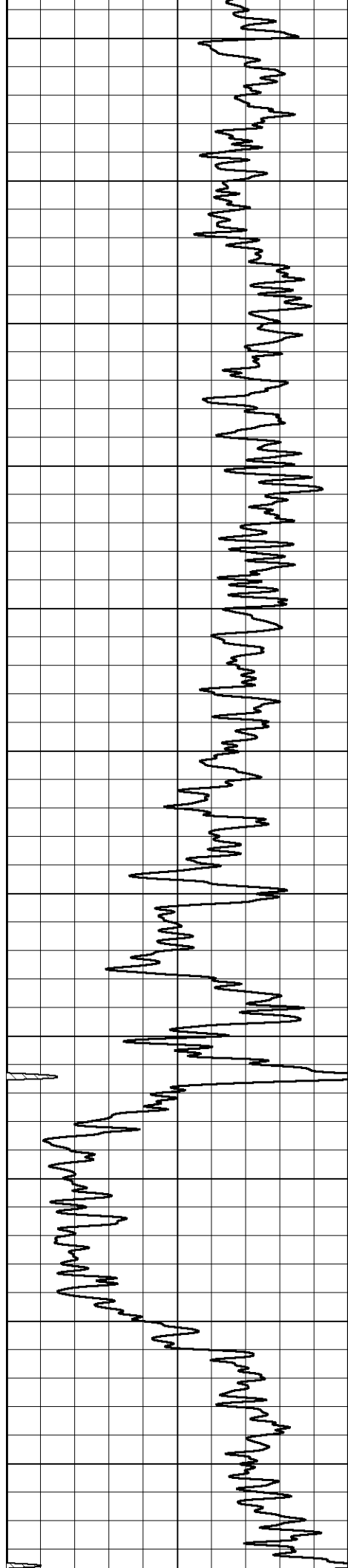
Sensor	Offset (ft)	Schematic		Description	Length (ft)	O.D. (in)	Weight (lb)
GR	33.00			GR-M&W (89-M&W)	3.00	3.50	50.00
CNLSC	29.90			CNT-M&W (tk10-MW)	5.50	3.50	100.00
CNSSC	29.15						
LSD	20.85			CDL-M&W (168-986)	8.50	4.00	250.00
	20.83						
	20.35						
DCAL							
SSD							
RLL3F	15.80						
RLL3	15.80						
CILD	8.00			DIL-PSI HIGH TEMP (PSI 216 HT)	18.50	3.50	220.00

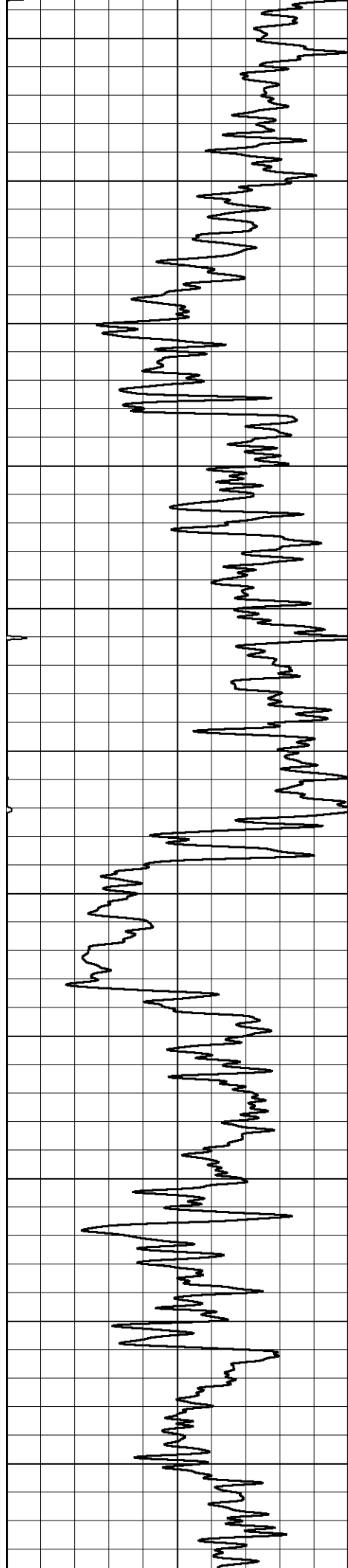
CILM	4.70								
SP	0.20								
Dataset: american_warrior_blaesi_10_6.db: field/well/stack/pass3.1 Total length: 35.50 ft Total weight: 620.00 lb O.D.: 4.00 in									

Database File	american_warrior_blaesi_10_6.db
Dataset Pathname	stack/pass3.1
Presentation Format	dil2in
Dataset Creation	Thu Aug 24 07:16:37 2017
Charted by	Depth in Feet scaled 1:600

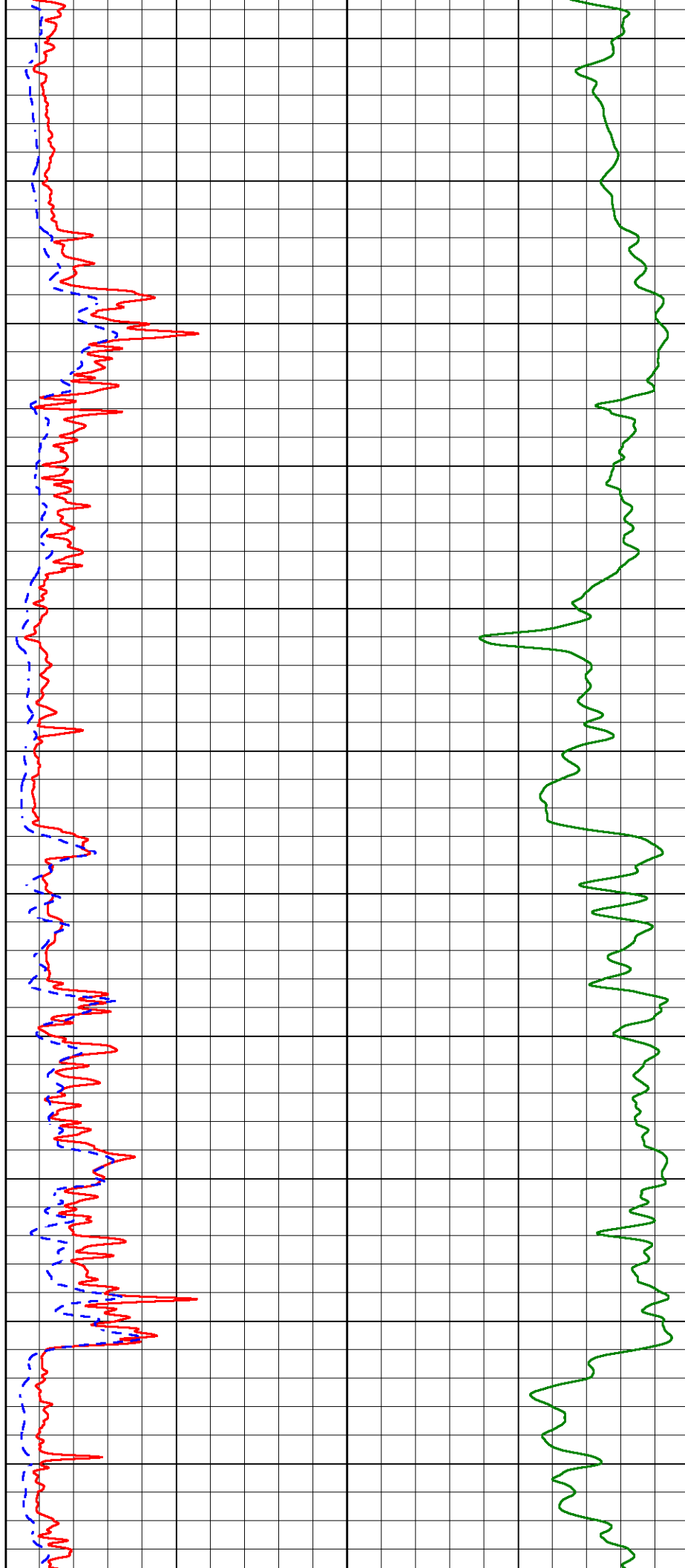
0	GAMMA RAY (GAPI)	150	2000	CONDUCTIVITY (mmho/m)	0
			0	RLL3 (Ohm-m)	50
			0	DEEP RESISTIVITY (Ohm-m)	50
			50	RLL3 (Ohm-m)	500
				DEEP RESISTIVITY	
			50	(Ohm-m)	500

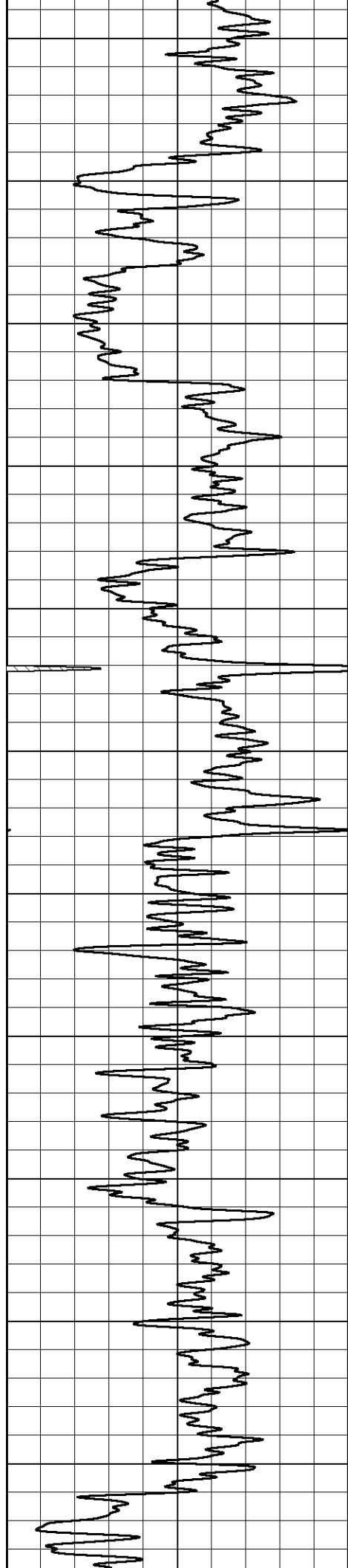






1200
1250
1300
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1450
1500
1550
1600
1650
1700





1750

1800

1850

1900

1950

2000

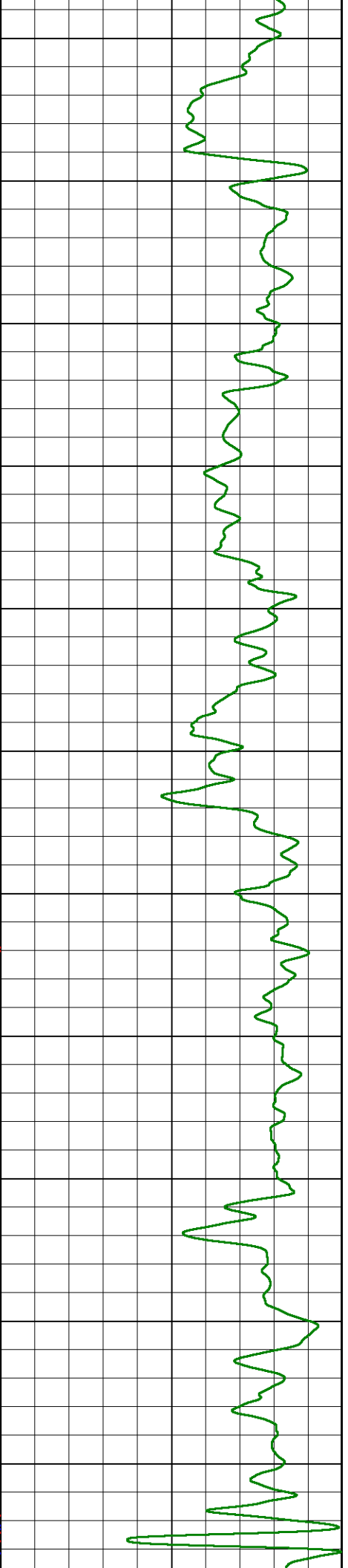
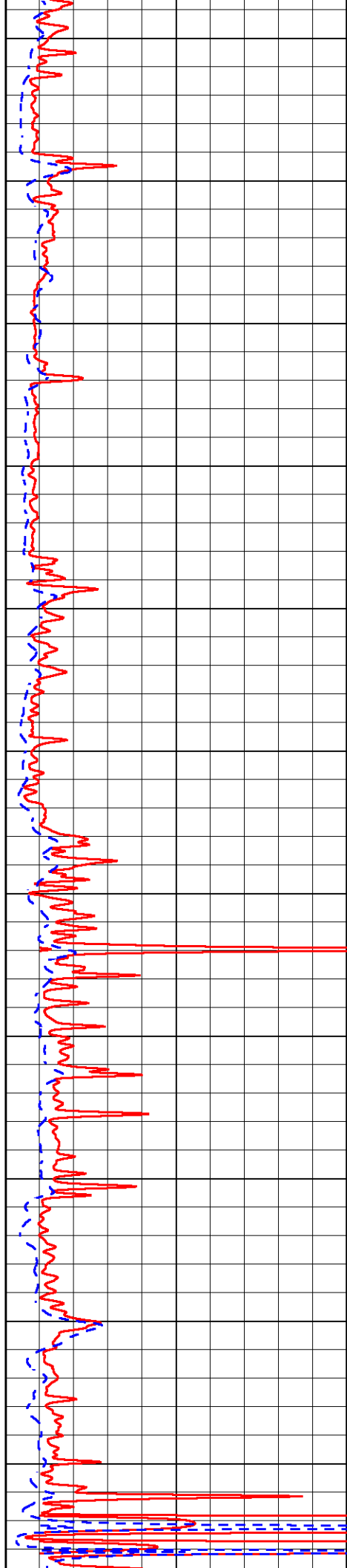
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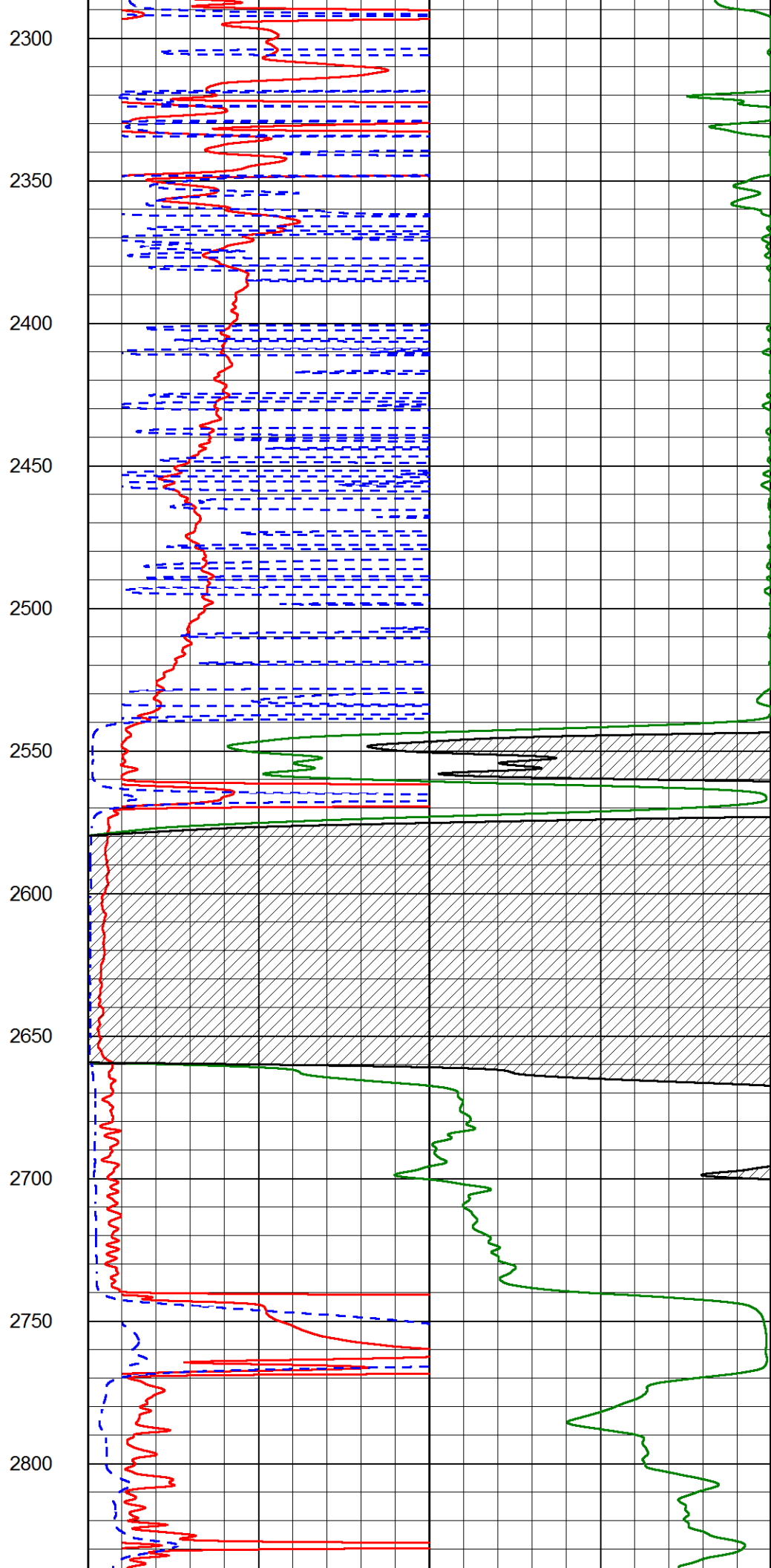
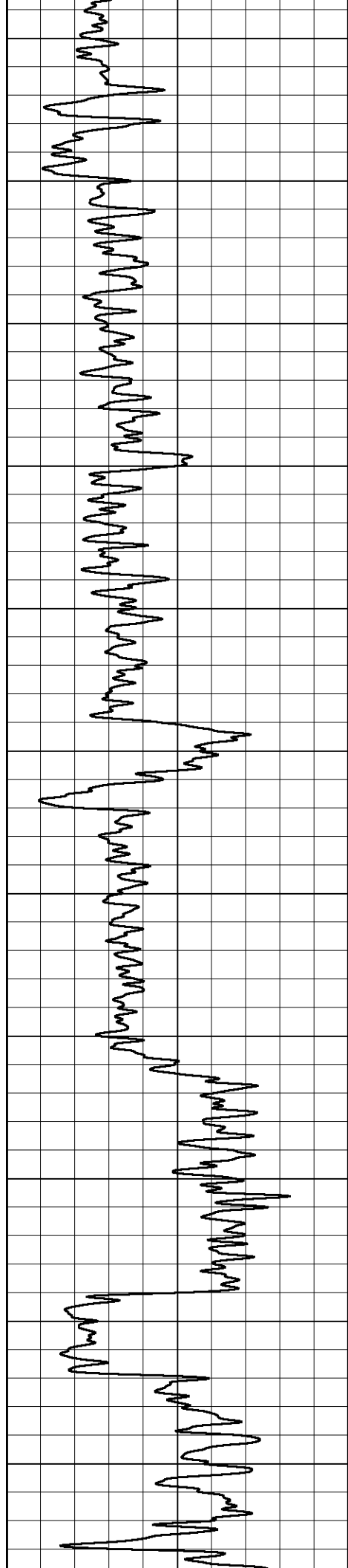
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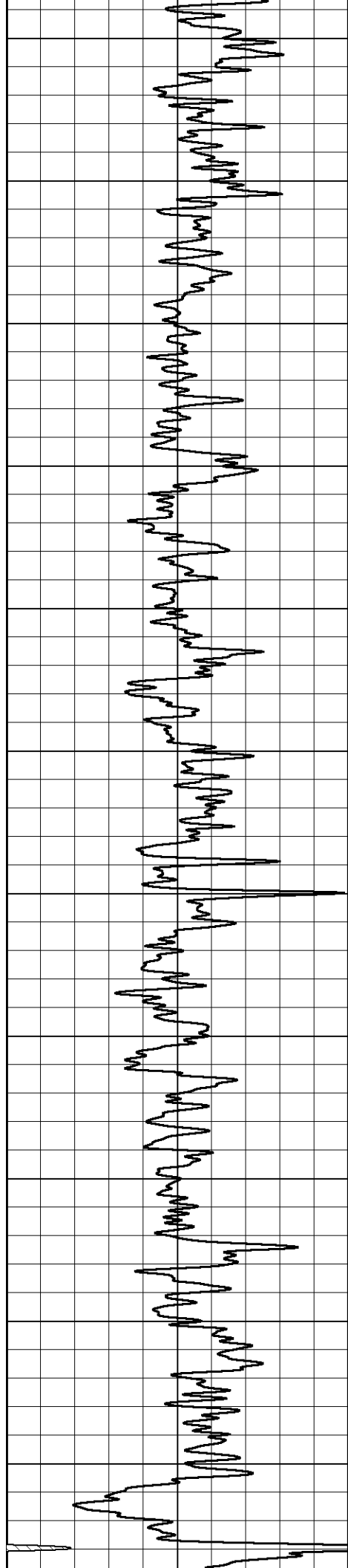
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2200

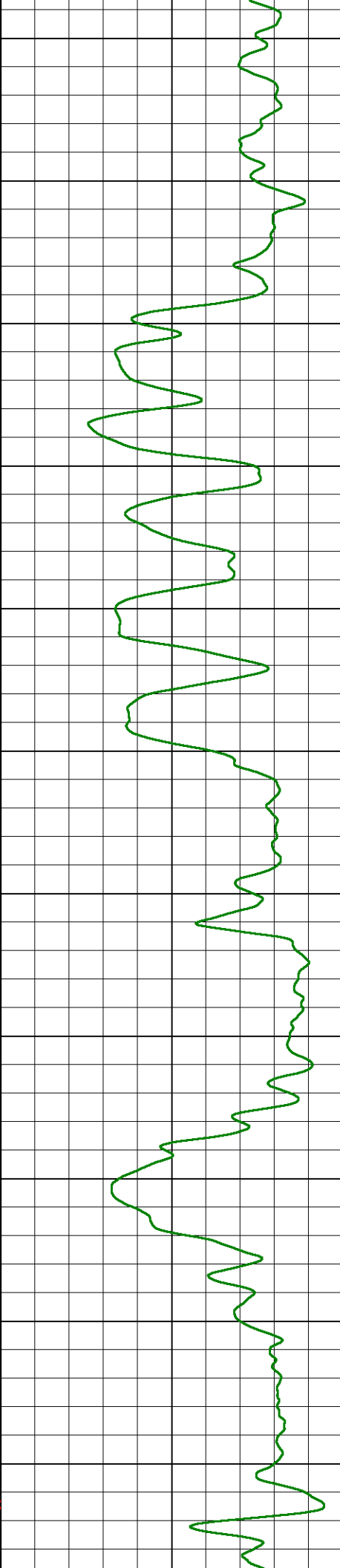
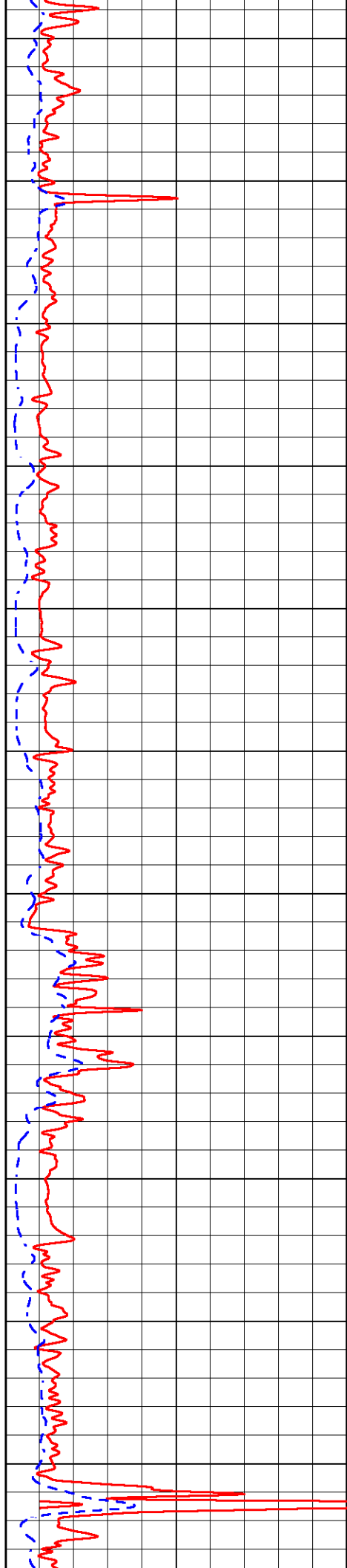
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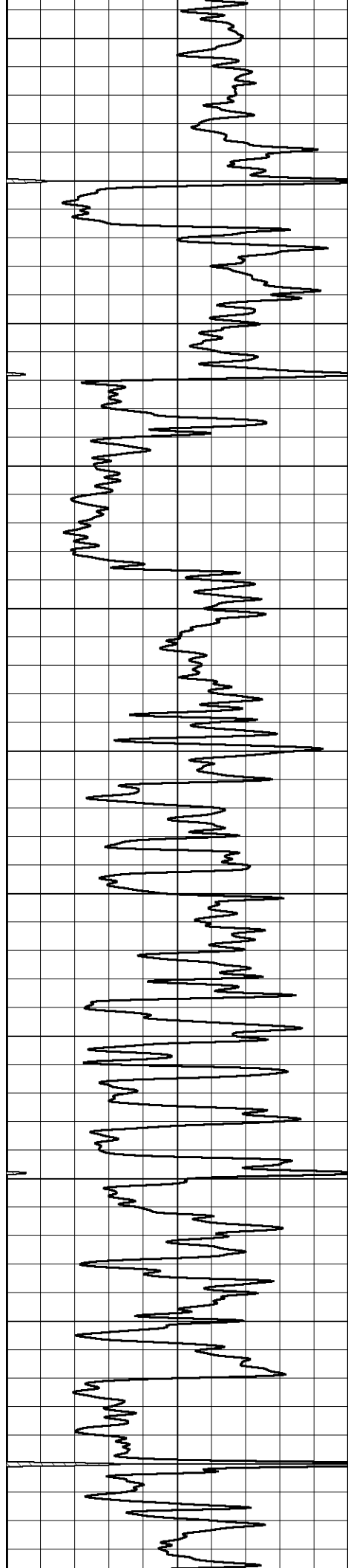






2850
2900
2950
3000
3050
3100
3150
3200
3250
3300
3350





3400

3450

3500

3550

3600

3650

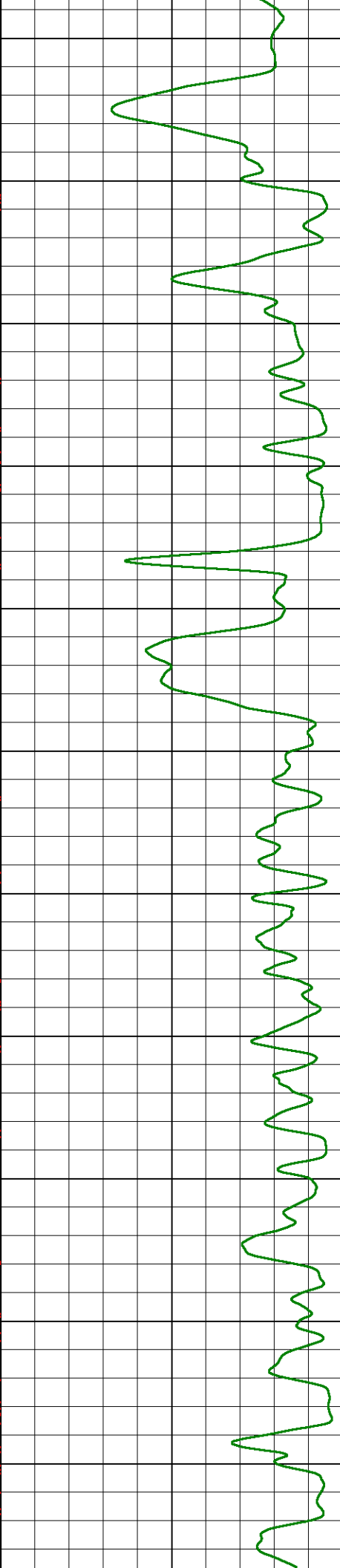
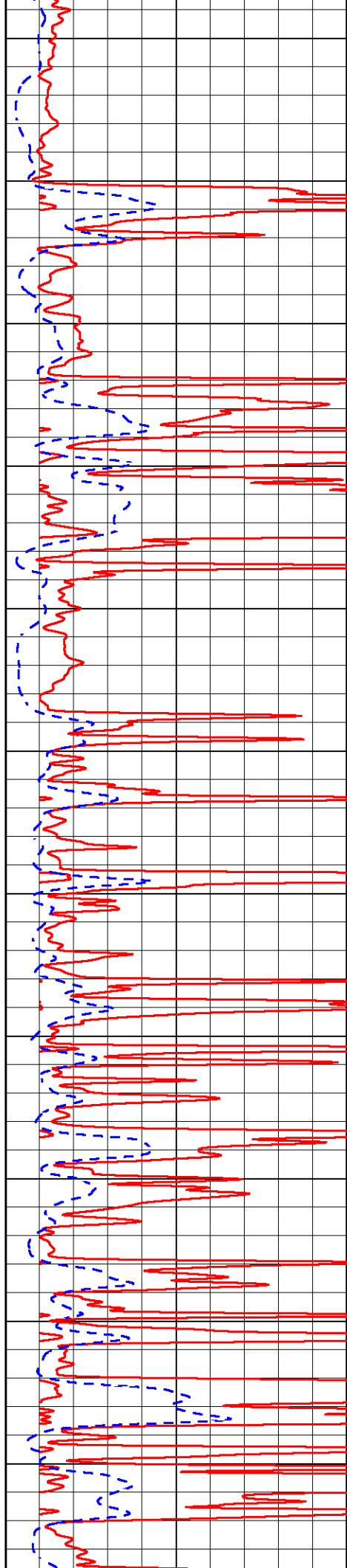
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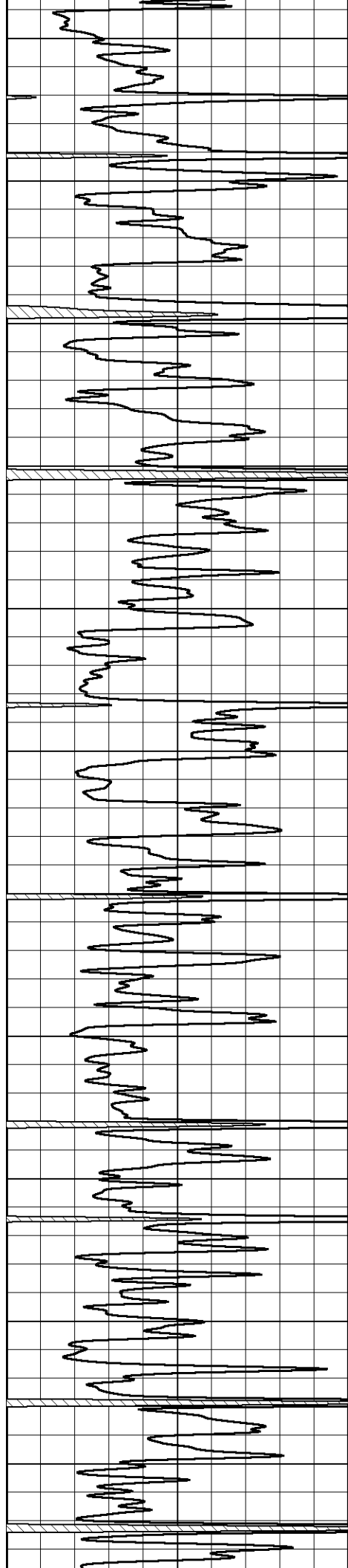
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3800

3850

3900





3950

4000

4050

4100

4150

4200

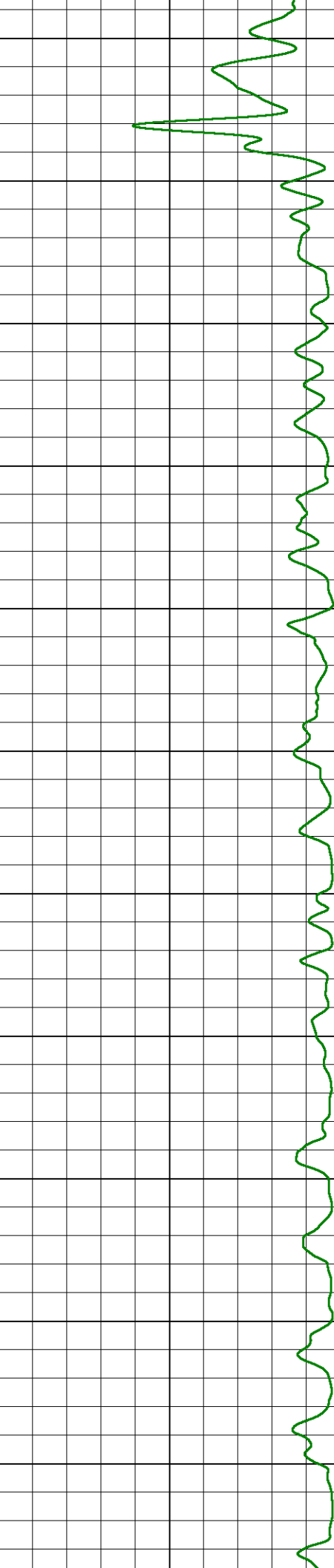
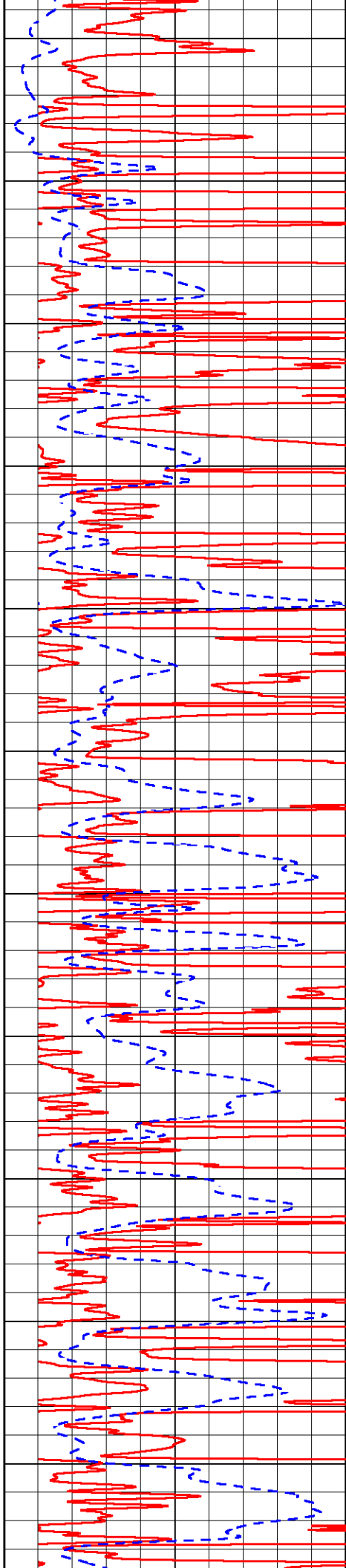
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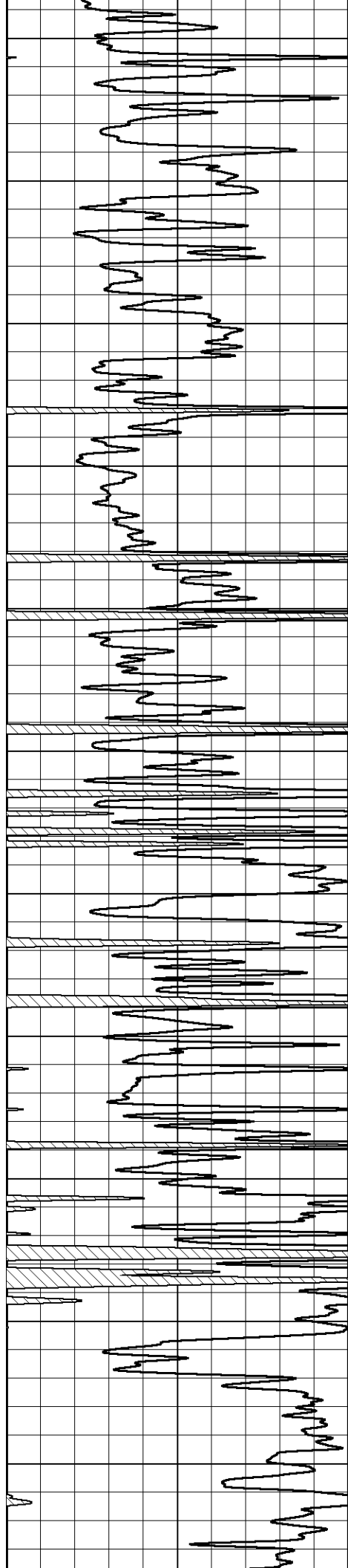
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4400

4450





4500

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4600

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4700

4750

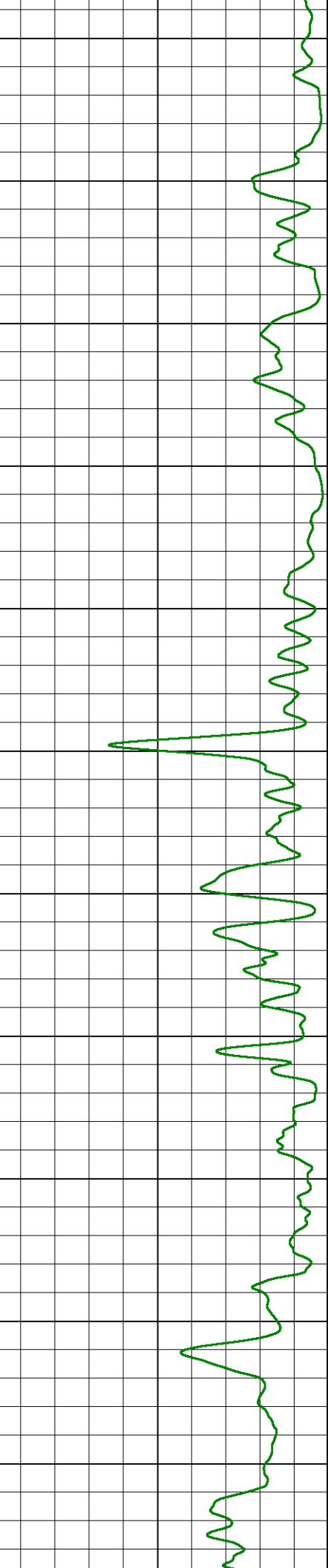
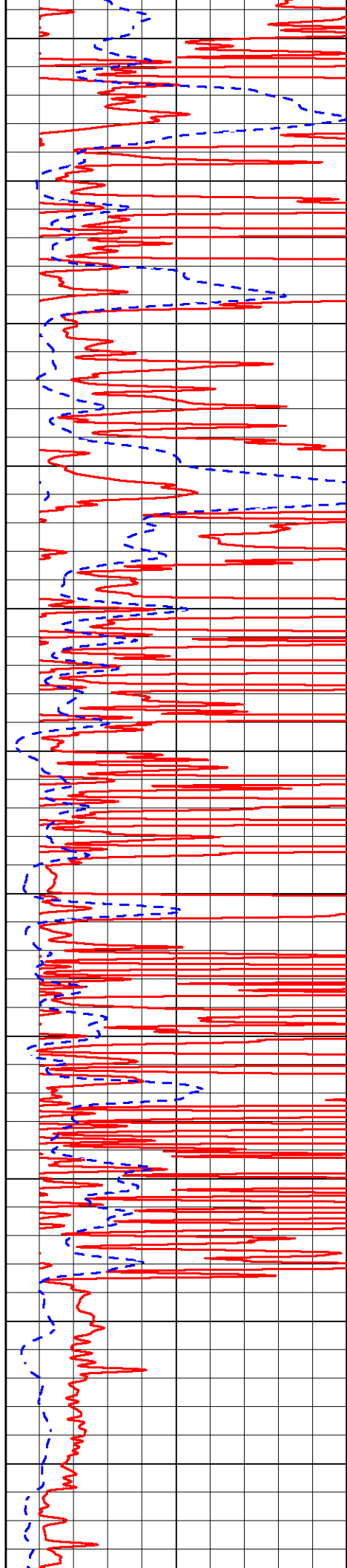
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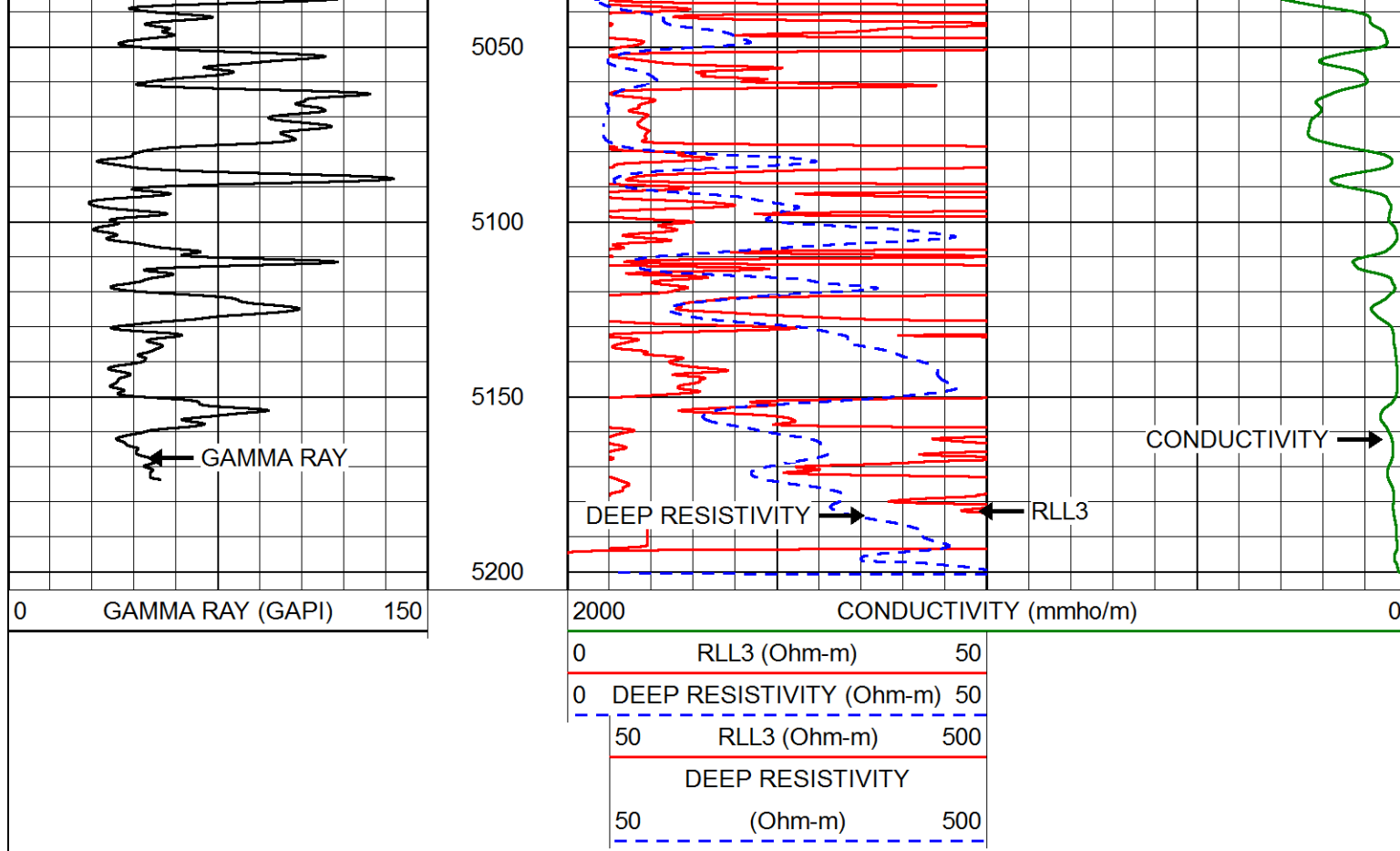
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4900

4950

5000

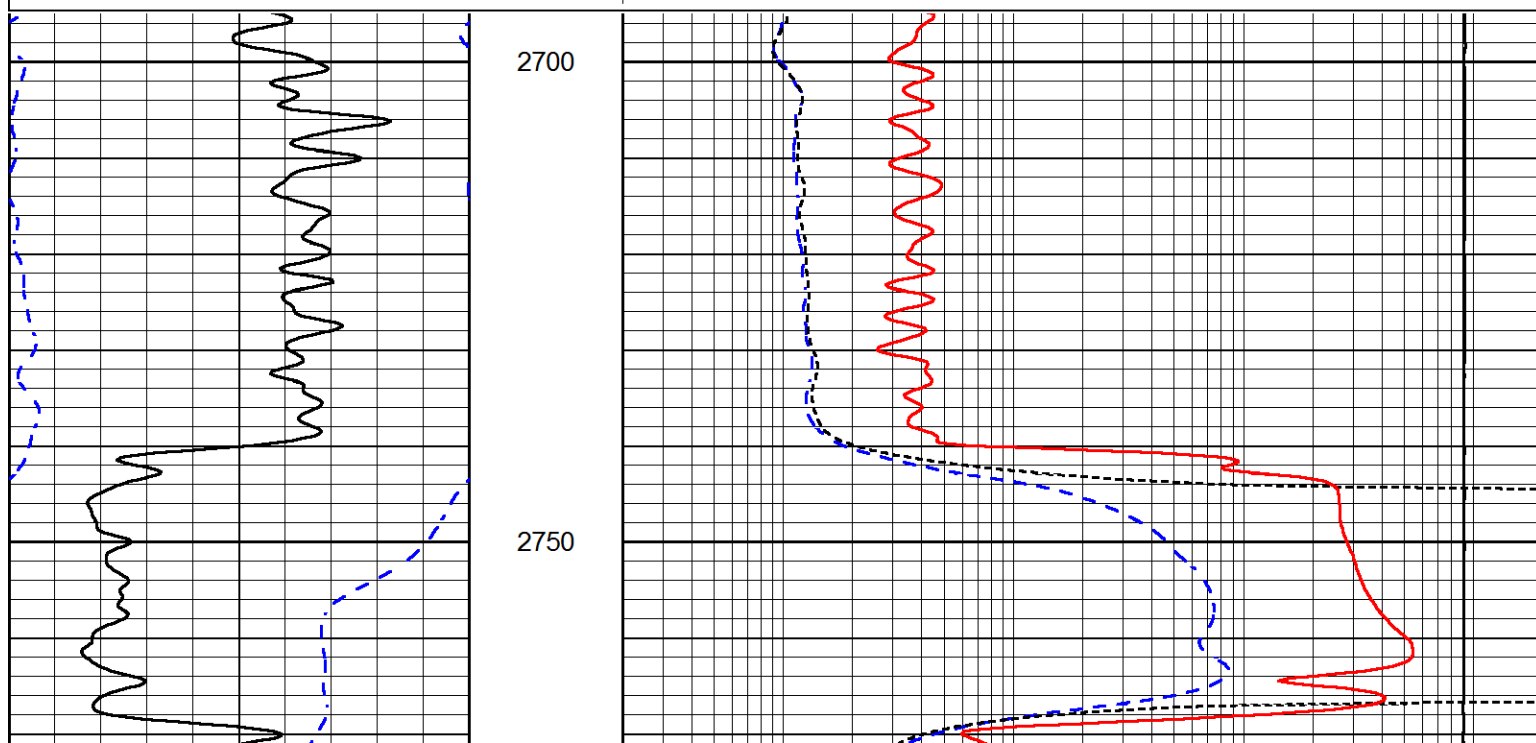


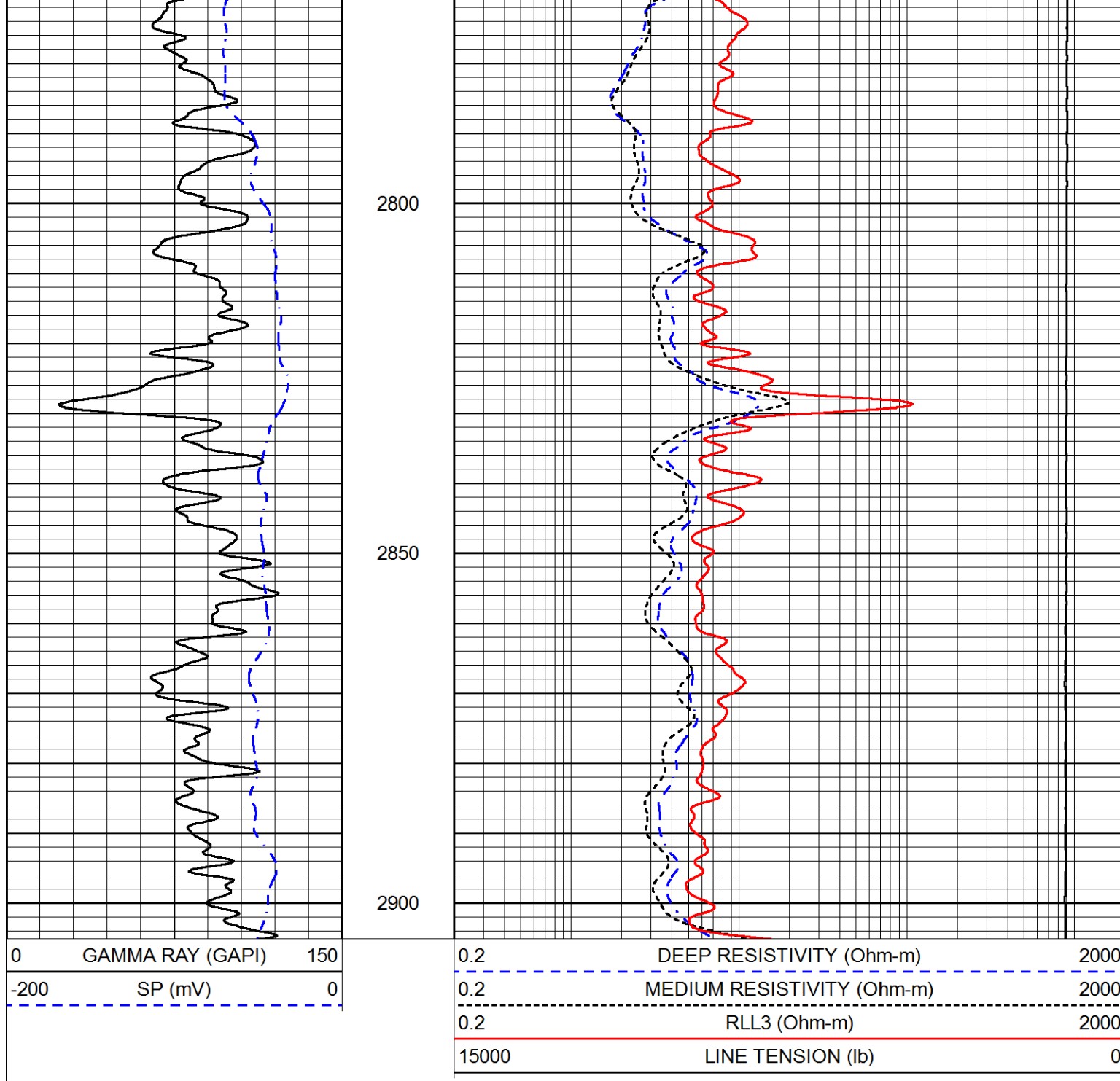


Database File	american_warrior_blaesi_10_6.db
Dataset Pathname	stack/pass3.1
Presentation Format	dil
Dataset Creation	Thu Aug 24 07:16:37 2017
Charted by	Depth in Feet scaled 1:240

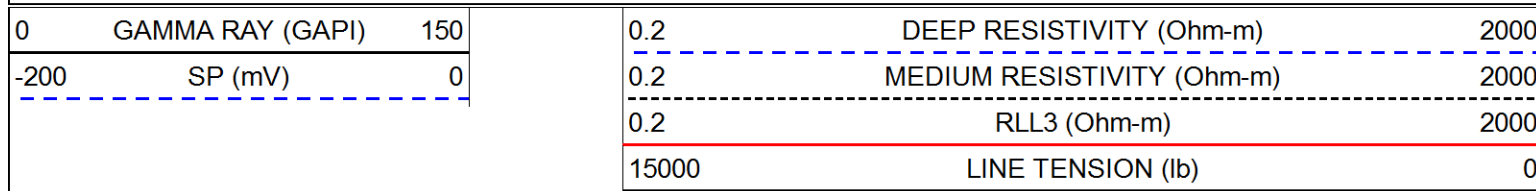
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-200	SP (mV)	0

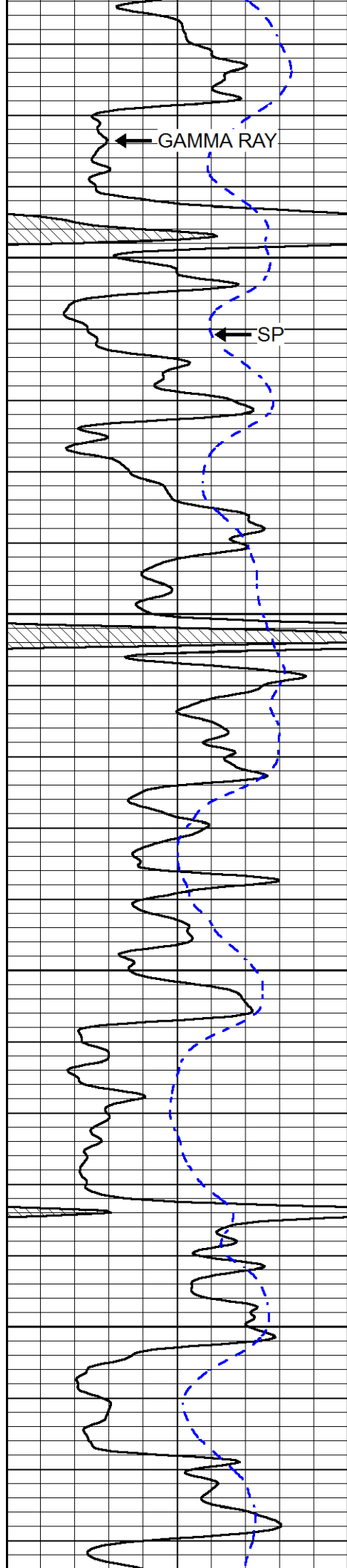
0.2	DEEP RESISTIVITY (Ohm-m)	2000
0.2	MEDIUM RESISTIVITY (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
15000	LINE TENSION (lb)	0





Database File: american_warrior_blaesi_10_6.db
Dataset Pathname: stack/pass3.1
Presentation Format: dil
Dataset Creation: Thu Aug 24 07:16:37 2017
Charted by: Depth in Feet scaled 1:240





4050

4100

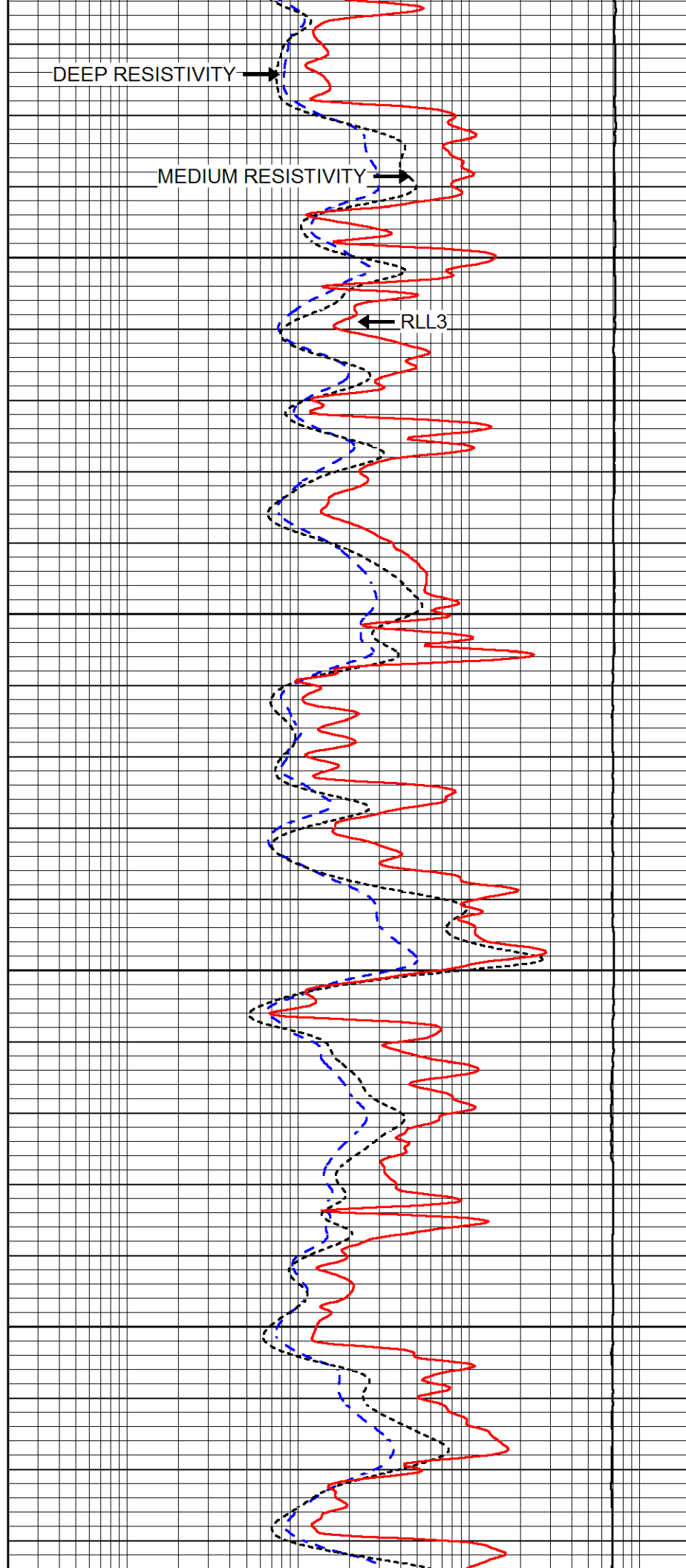
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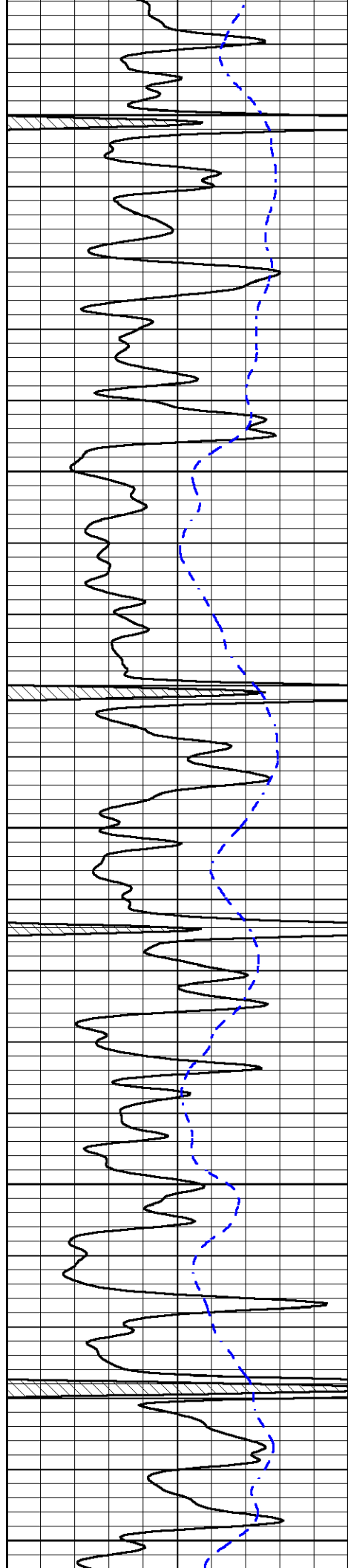
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DEEP RESISTIVITY

MEDIUM RESISTIVITY

RLL3





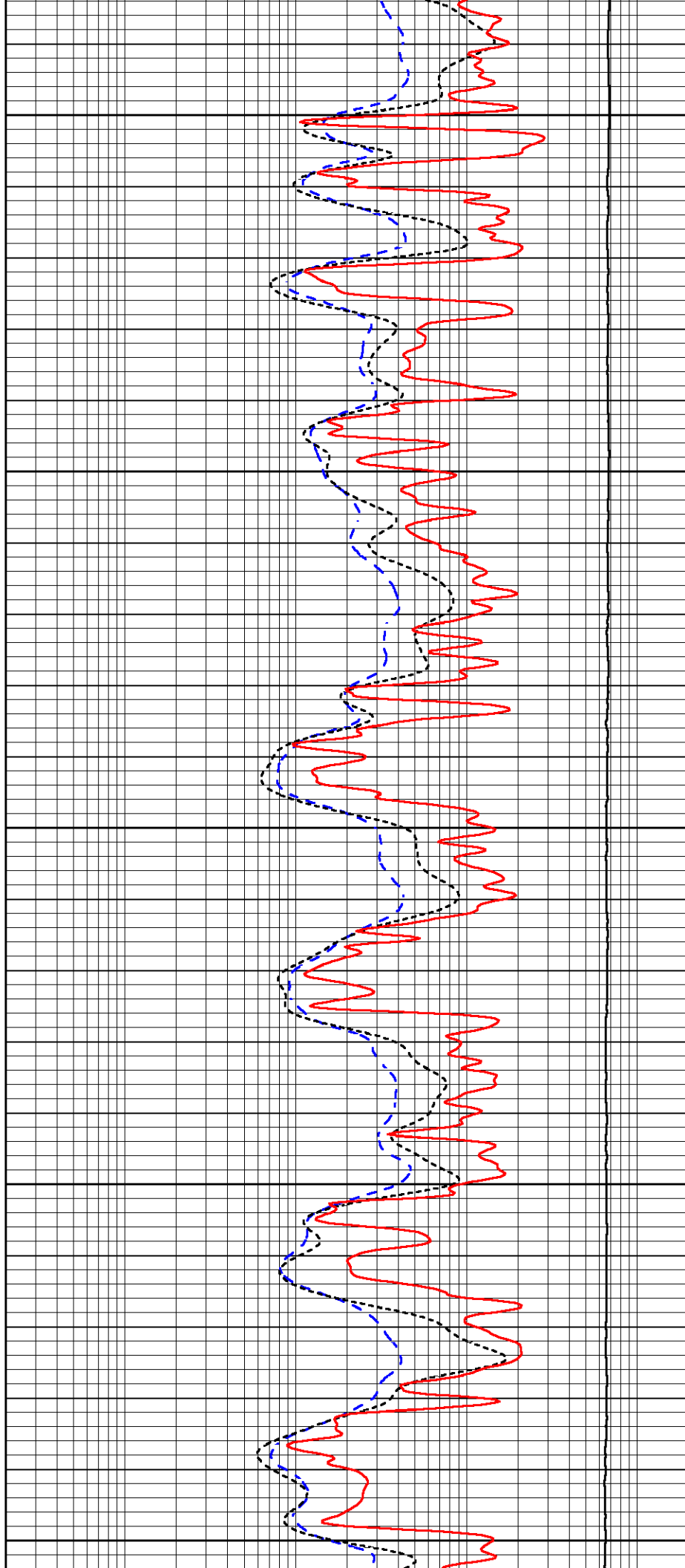
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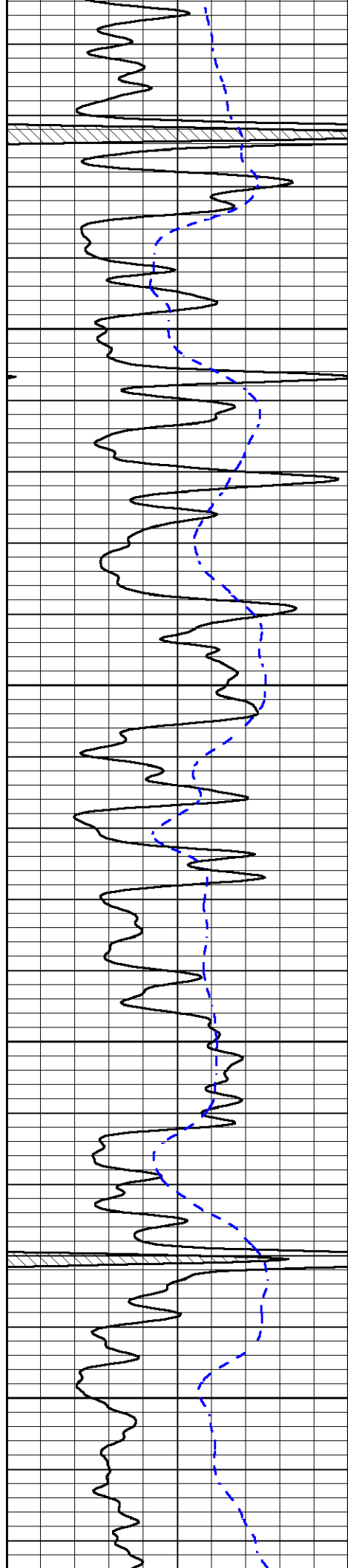
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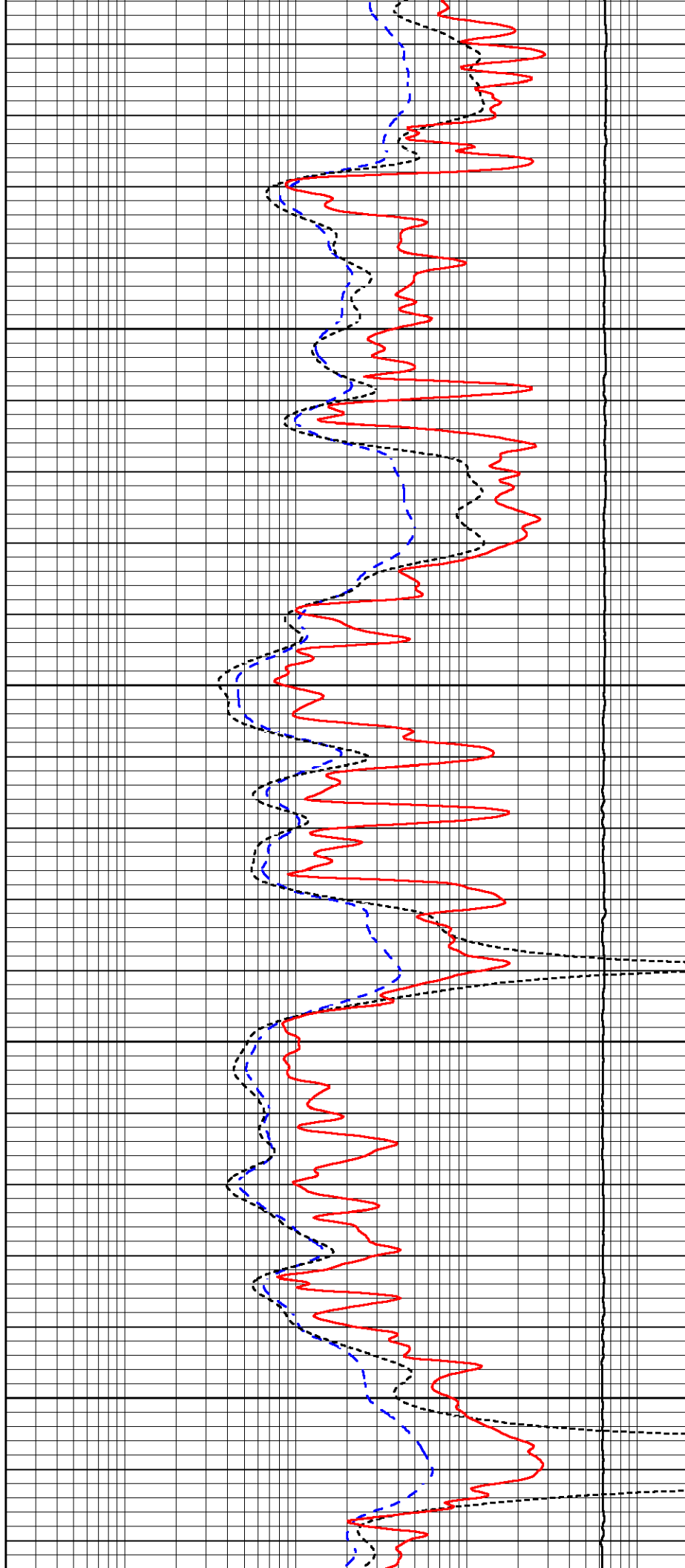


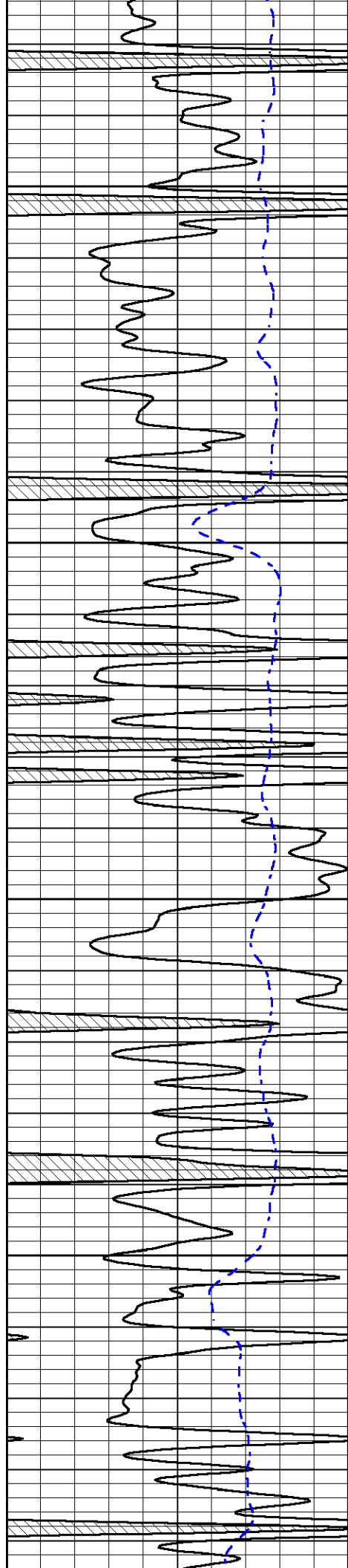
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4650



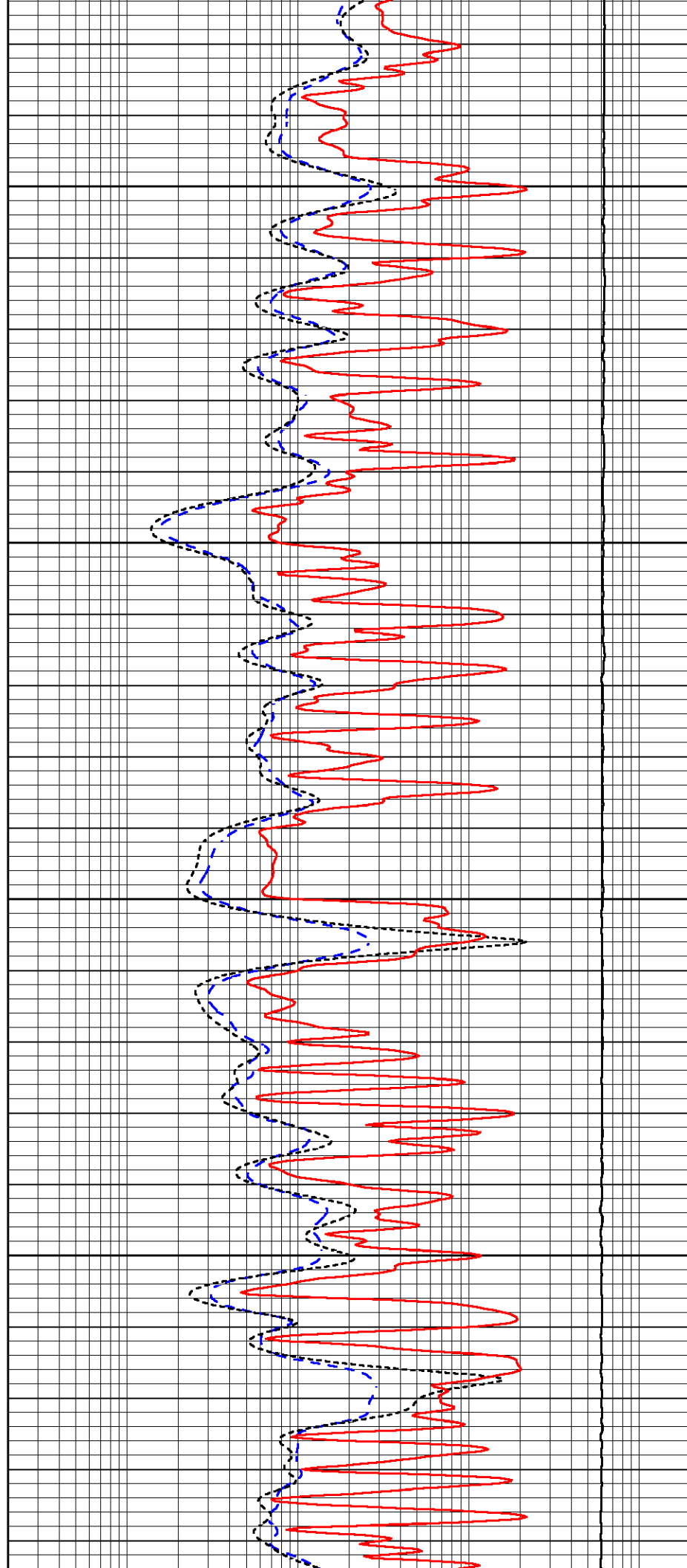


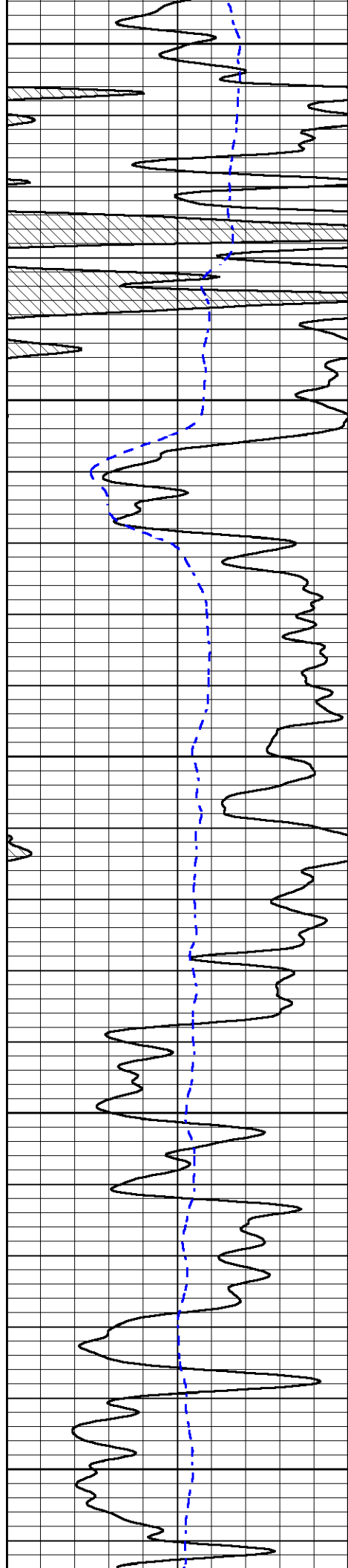
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4850





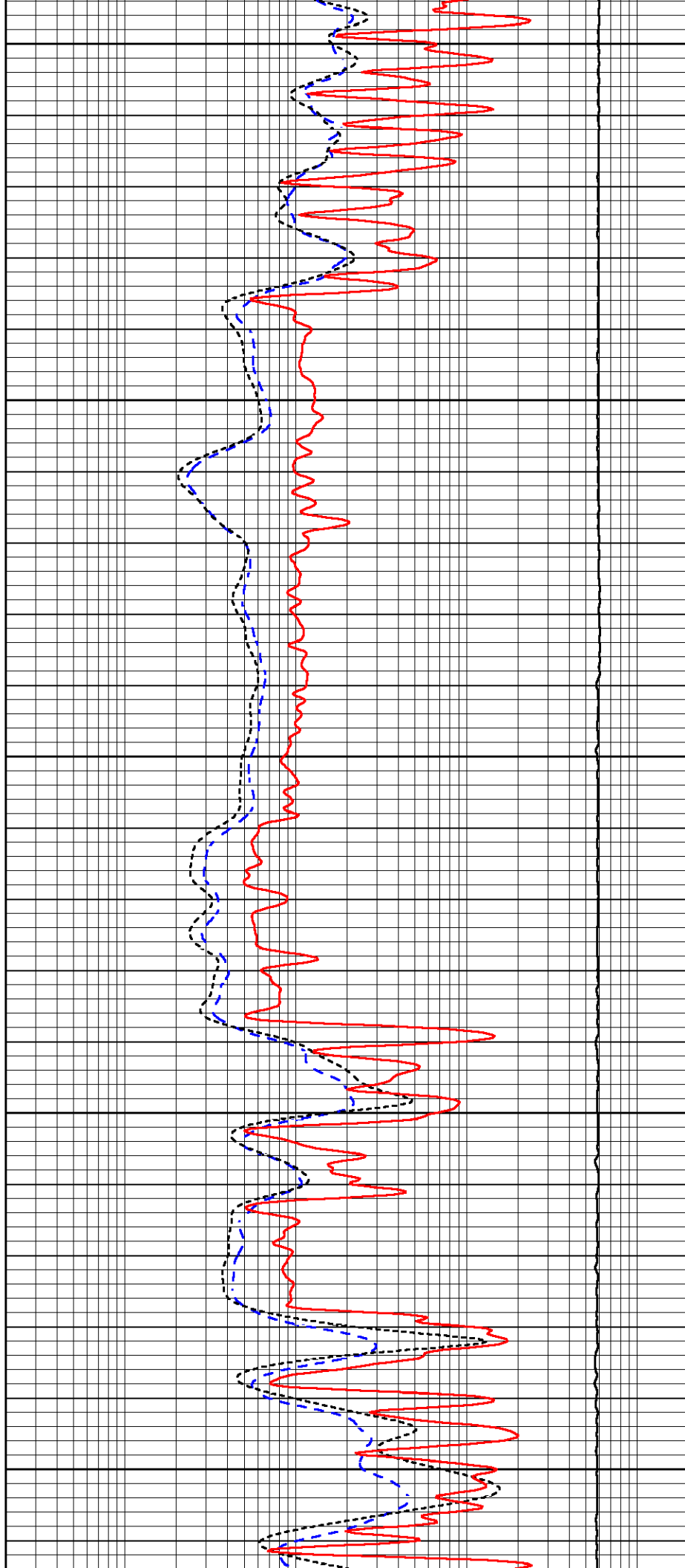
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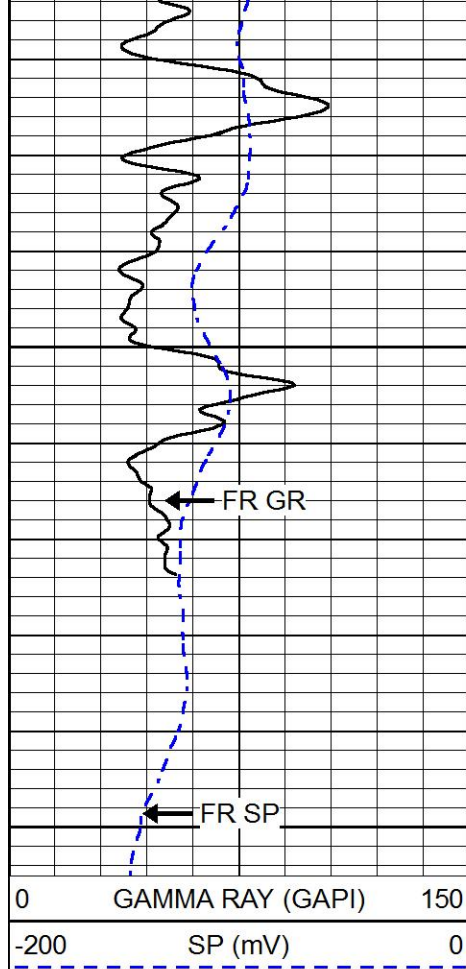
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5000

5050

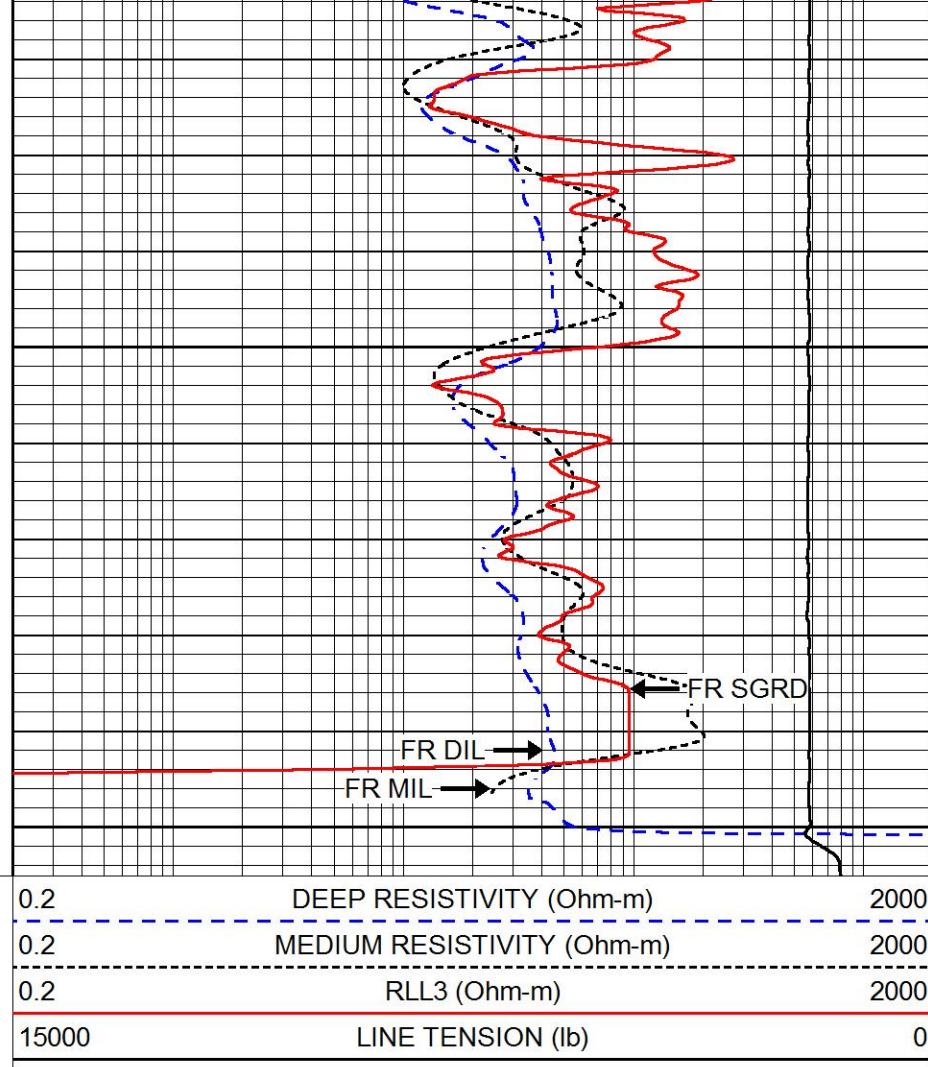
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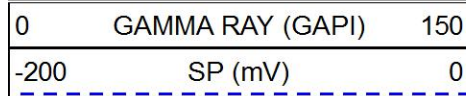
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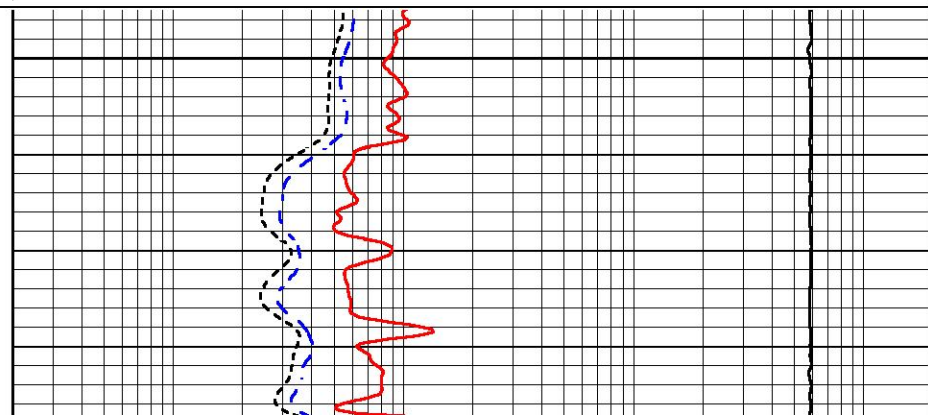
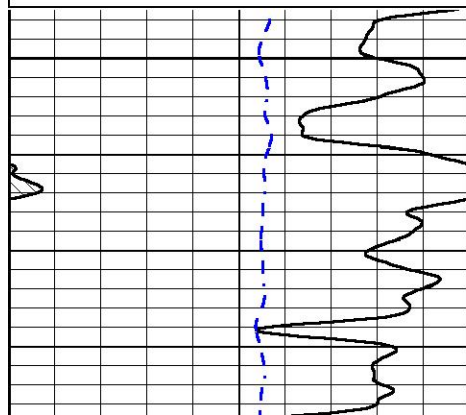
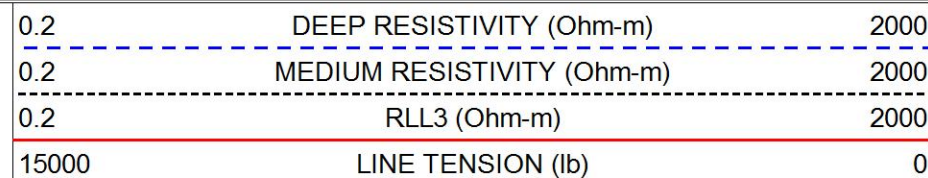


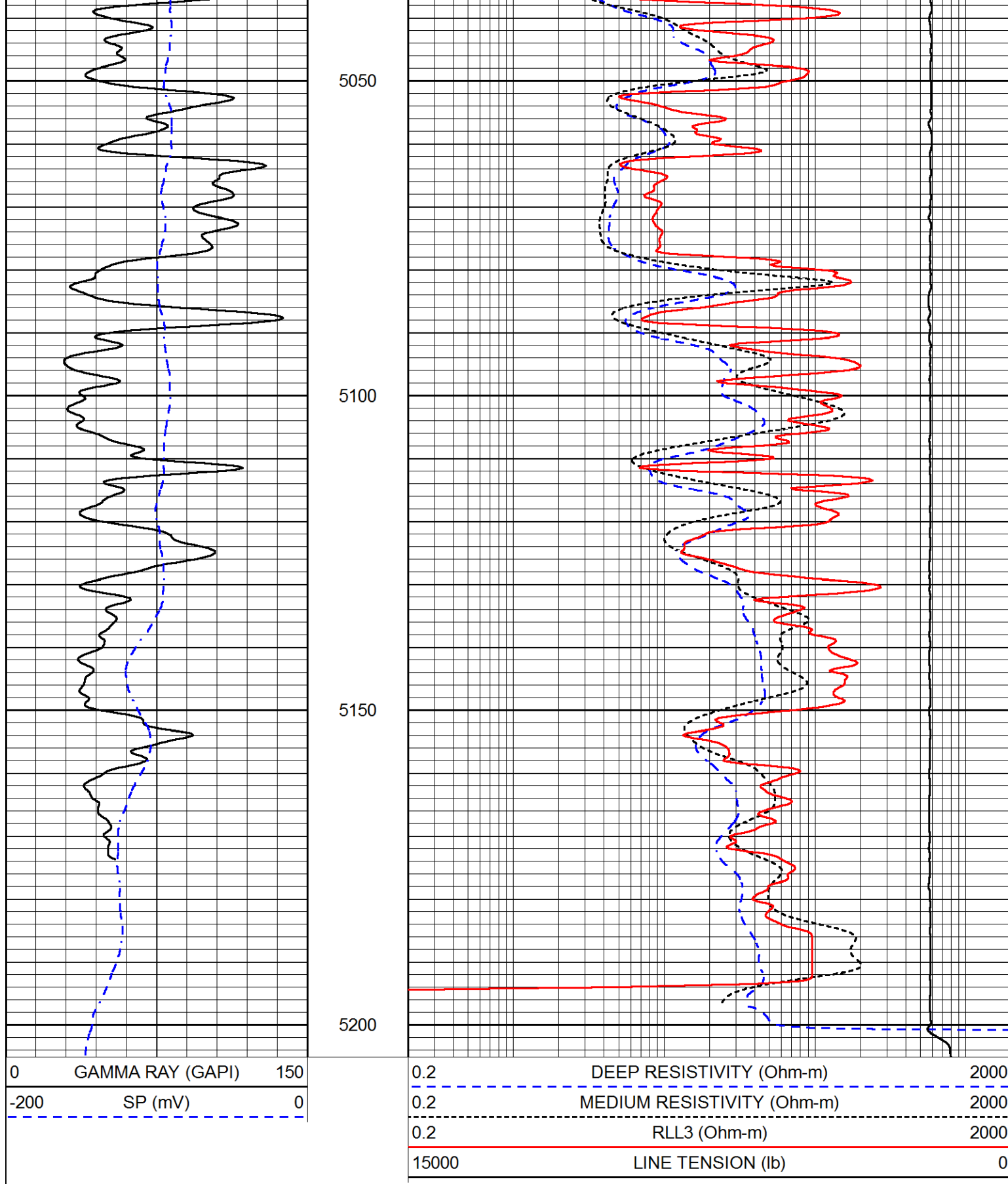
REPEAT SECTION

Database File american_warrior_blaesi_10_6.db
Dataset Pathname stack/pass2.1
Presentation Format dil
Dataset Creation Thu Aug 24 07:16:49 2017
Charted by Depth in Feet scaled 1:240



5000





Calibration Report

Database File american_warrior_blaesi_10_6.db
Dataset Pathname stack/pass3.1
Dataset Creation Thu Aug 24 07:16:37 2017

Dual Induction Calibration Report

Serial Model:

PSI 216 HT PSI HIGH TEMP

		Readings		References		Results	
Loop:	Air	Loop		Air	Loop	Gain	Offset
Deep	75.411	495.929		4.000	250.000 mmho/m	0.750	-40.115
Medium	75.269	470.661		10.000	100.000 mmho/m	0.628	-22.133

Compensated Density Calibration Report

Serial-Model: 168-986-M&W
Source / Verifier: /
Master Calibration Performed: Tue Apr 11 16:07:47 2017

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4691.86	4818.19	cps
Aluminum	2.675	g/cc	859.57	3020.22	cps
Spine Angle = 74.61			Density/Spine Ratio = 0.523		
	Size		Reading		
Small Ring	4.00	in	1.03		
Large Ring	14.00	in	1.23		

Compensated Neutron Calibration Report

Serial Number: tk10-MW
Tool Model: M&W
Calibration Performed: Wed Nov 16 11:21:36 2016

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: 89-M&W
Tool Model: M&W
Calibration Performed: Tue Apr 11 16:08:01 2017

Calibrator Value: 1000.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 6.2 cps

Sensitivity: 0.5200 GAPI/cps



Company AMERICAN WARRIOR, INC.
Well BLAESI NO. 10-6
Field UNKNOWN
County WALLACE
State KANSAS

Pioneer Energy Services

State KANSAS