



DUAL INDUCTION LOG

MIDWEST WIRELINE

Company American Warrior, Inc.		Company American Warrior, Inc.	
Well	Hicks A #2-24	Well	Hicks A #2-24
Field	Patriot	Field	Patriot
County	Finney	County	Finney
State	Kansas	State	Kansas
Location: API #: 15-055-22549-00-00		Other Services	
SEC 24 TWP 25S RGE 32W		CNL/CDL MEL	
Permanent Datum	Ground Level	Elevation	2883
Log Measured From	Kelly Bushing	K.B.	2894
Drilling Measured From	Kelly Bushing	D.F.	2883
		G.L.	2883
Date	2/12/2022		
Run Number	One		
Depth Driller	5100		
Depth Logger	5100		
Bottom Logged Interval	5099		
Top Log Interval	1600		
Casing Driller	8.625 @ 1619		
Casing Logger	1618		
Bit Size	7.875		
Type Fluid in Hole	Chemical		
Salinity, ppm CL	2500		
Density / Viscosity	9.4 50		
pH / Fluid Loss	11.0 7.2		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.85 @ 75		
Rmt @ Meas. Temp	.64 @ 75		
Rmc @ Meas. Temp	1.15 @ 75		
Source of Rmt / Rmc	CHARTS		
Rm @ BHT	.50 @ 127		
Operating Rig Time	3 Hours		
Max Rec. Temp. F	127		
Equipment Number	P-108		
Location	HAYS		
Recorded By	J. Henrickson		
Witnessed By	Kevin Timson		

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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.

Garden City Kansas
5 South to Anney Sheer, 5 East,
North Into

Log Measured From: Kelly Bushing

11 Ft. Above Permanent Datum

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

Your Midwest Wireline Crew

Engineer: J. Henrickson
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: Kevin Timson
Secondary Witness:
Secondary Witness:
Secondary Witness:

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in 7.875	degF 120	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 440	degF 50	Off	ft 5100

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.33		GR-M&W (103)	3.00	3.50	50.00
CNLSC CNSSC	37.23 36.48		CNT-M&W (210)	5.00	3.50	100.00
LSD DCAL SSD	28.18 28.17 27.68		CDL-M&W (303-03)	8.50	4.00	250.00
MCAL MI MN	19.58 19.58 19.58		ML-PSI STKBL ML (402)	7.58	4.00	65.00
RLL3F RLL3	15.50 15.50					
CILD	8.33		DIL-M&W (504 HT)	18.25	3.50	220.00

CILM	4.50								
SP	0.20								
Dataset: american_warrior_hicks_a_2_24.db: field/well/stackml/pass3.1 Total length: 42.33 ft Total weight: 685.00 lb O.D.: 4.00 in									



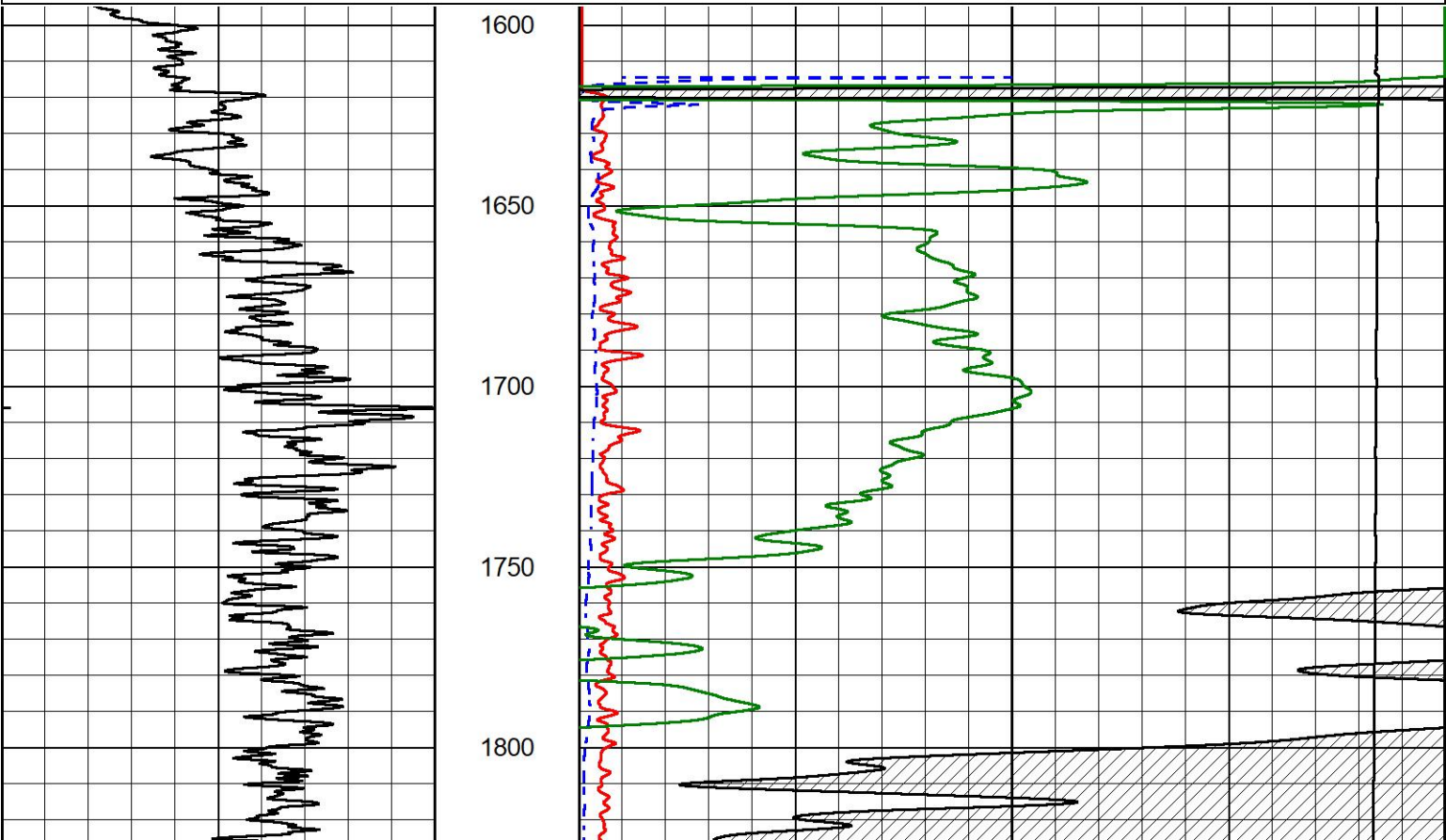
MIDWEST WIRELINE

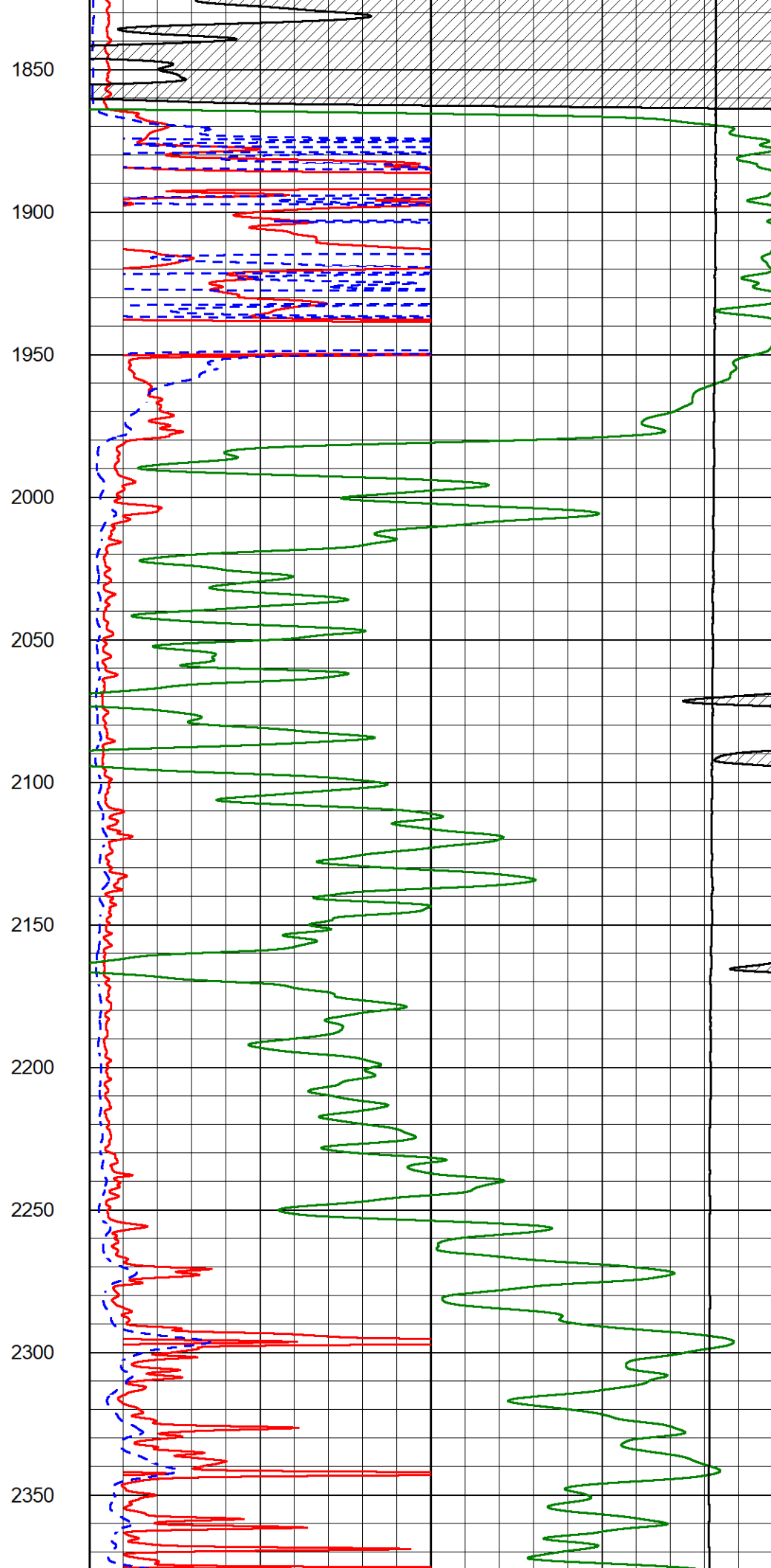
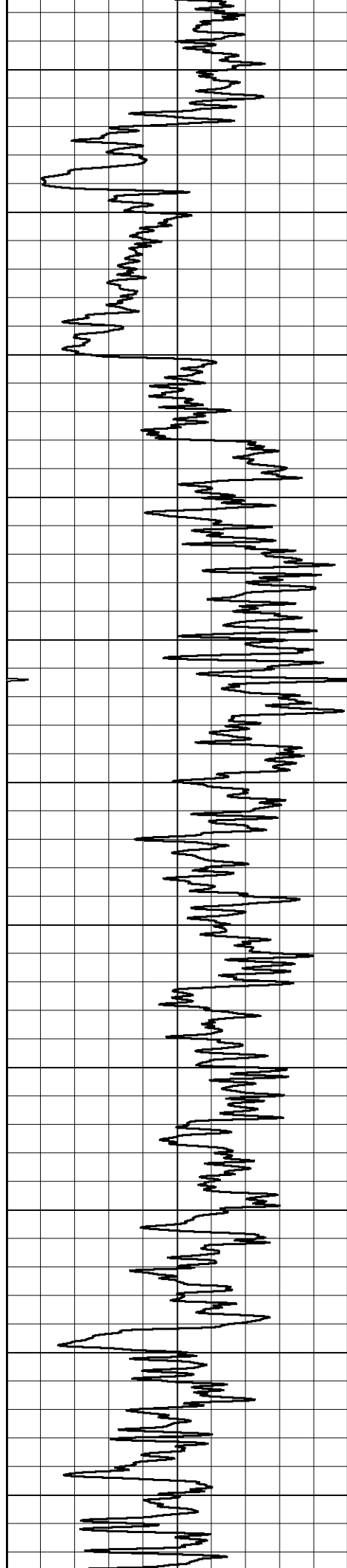
2" SCALE RESISTIVITY

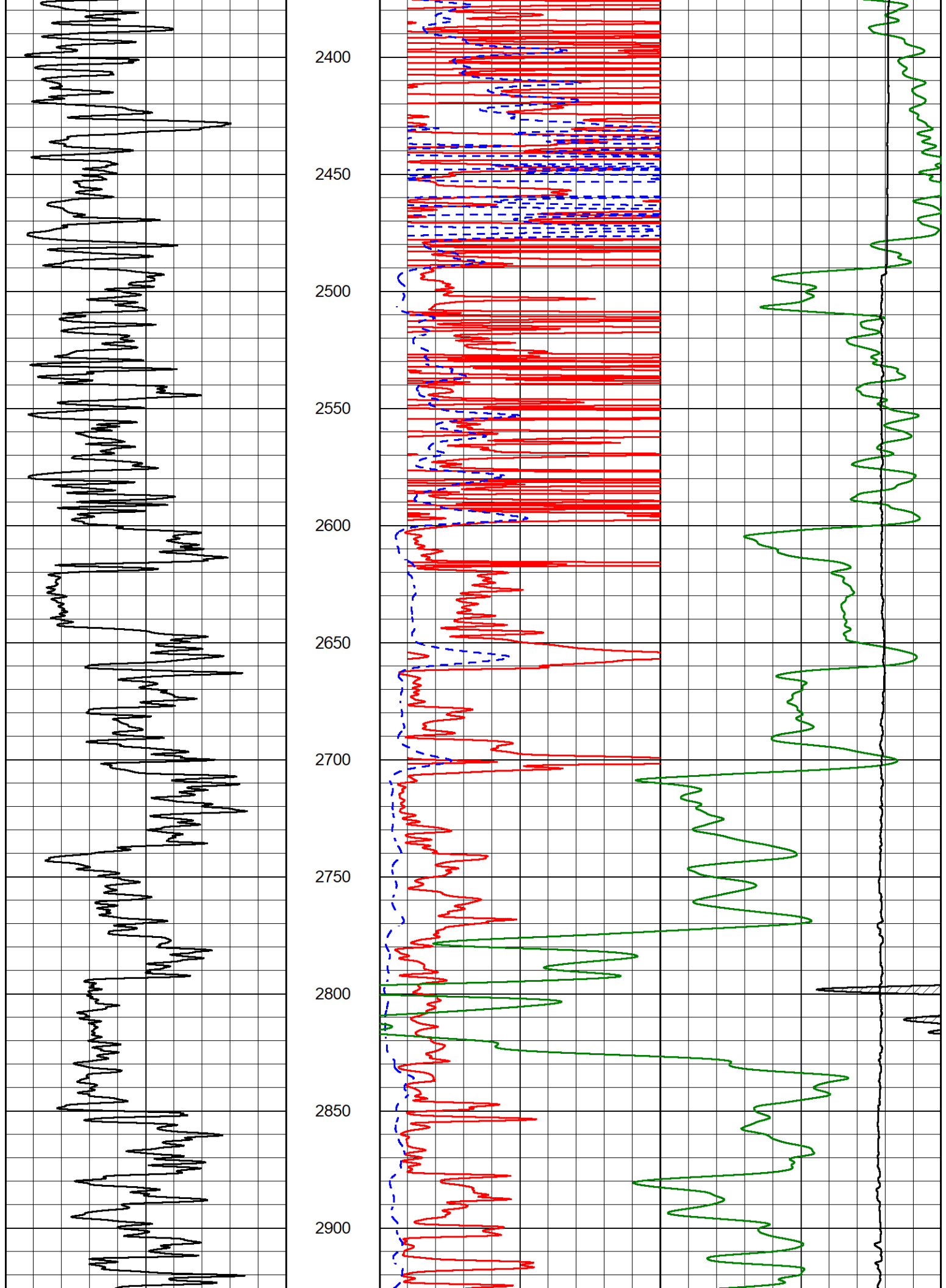
MAIN PASS

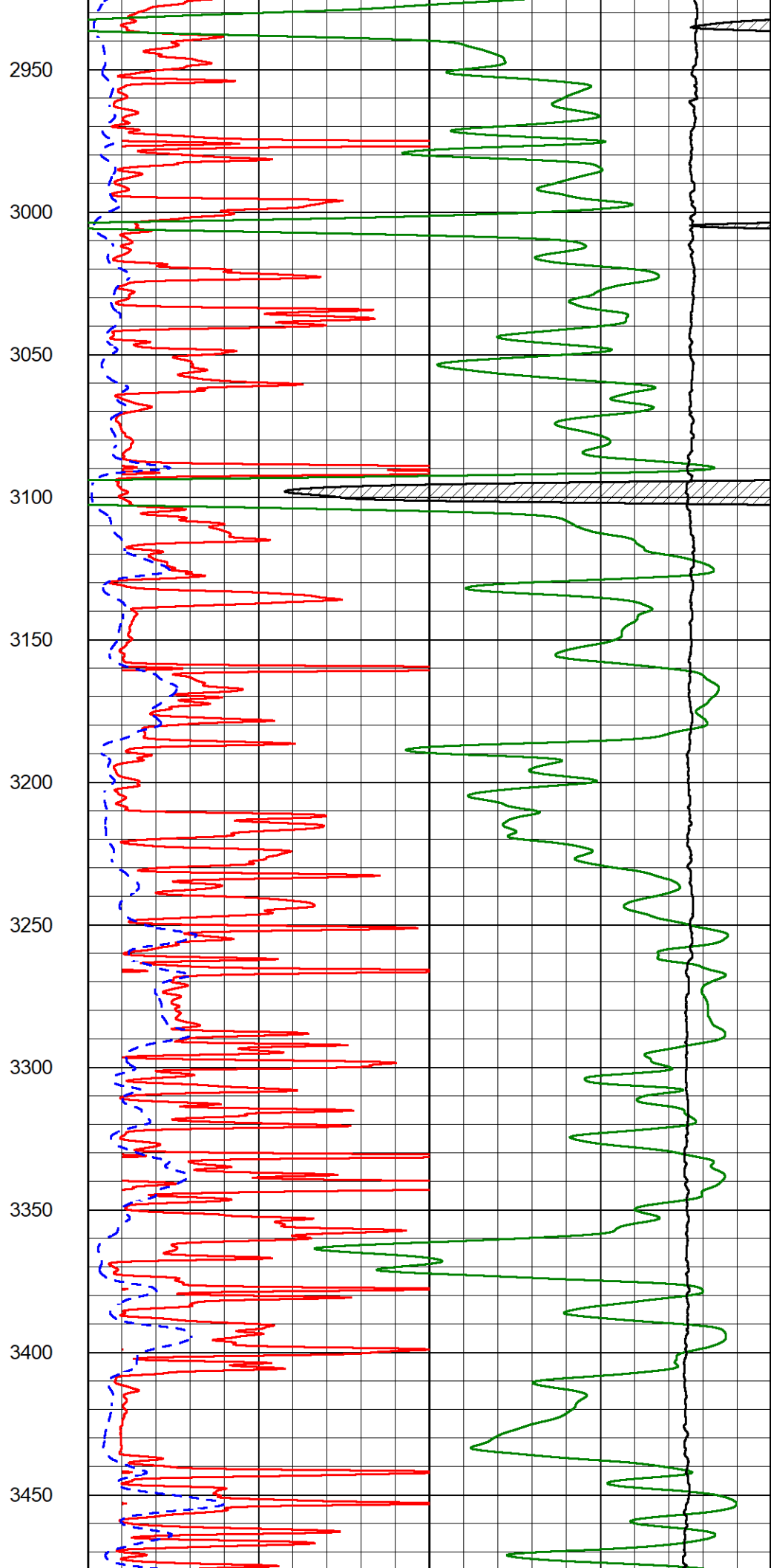
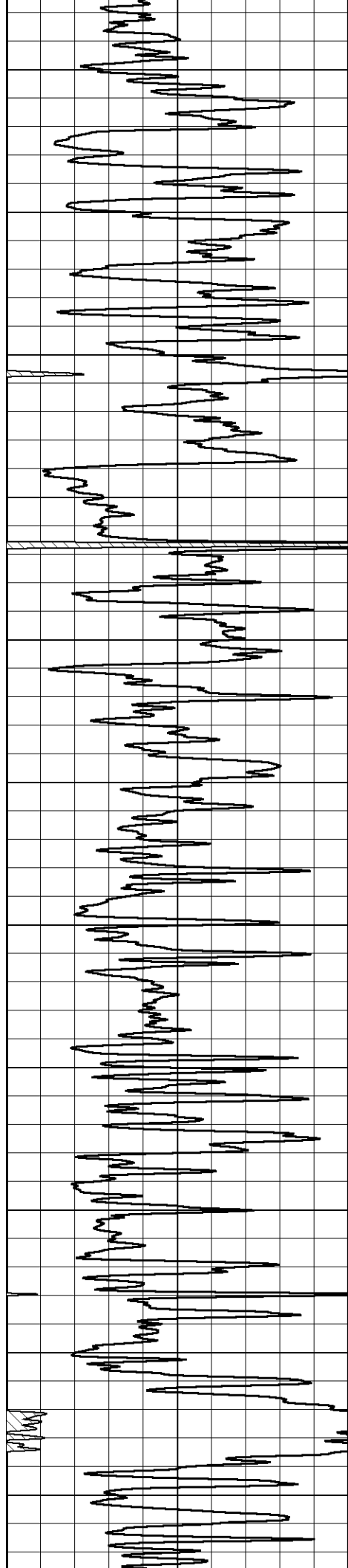
Database File	american_warrior_hicks_a_2_24.db
Dataset Pathname	stackml/pass6.1
Presentation Format	_dil2in
Dataset Creation	Sun Feb 13 01:15:56 2022
Charted by	Depth in Feet scaled 1:600

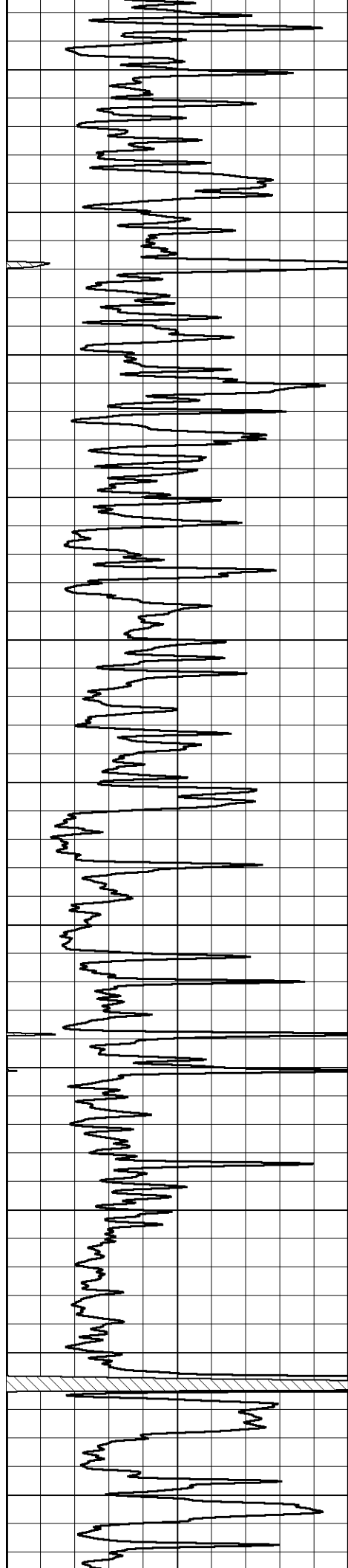
0	Gamma Ray (GAPI)	150	1000	Conductivity (mmho/m)	0
			15000	Line Tension (lb)	0
			0	Shallow Resistivity (Ohm-m)	50
			0	Deep Resistivity (Ohm-m)	50
				Shallow Resistivity	
			50	(Ohm-m)	200
			50	Deep Resistivity (Ohm-m)	200











3500

3550

3600

3650

3700

3750

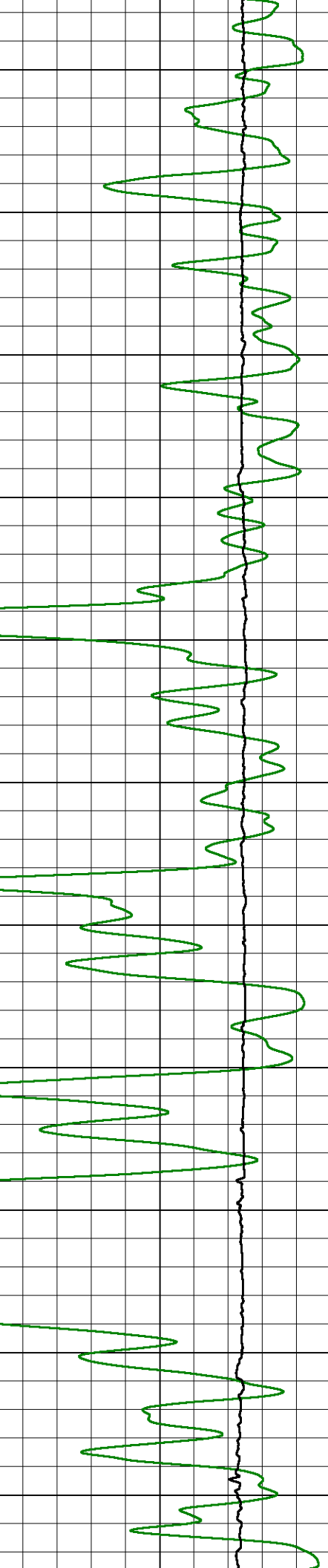
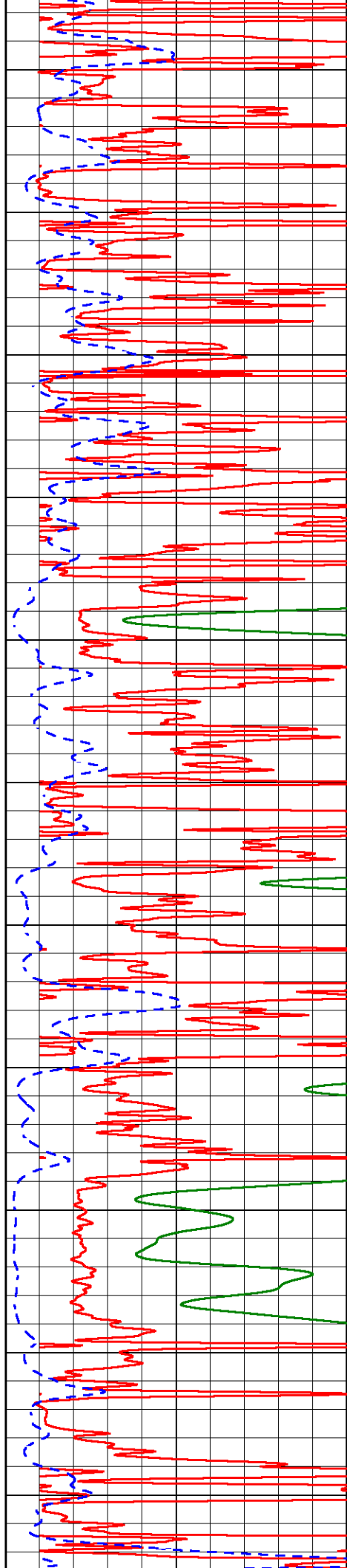
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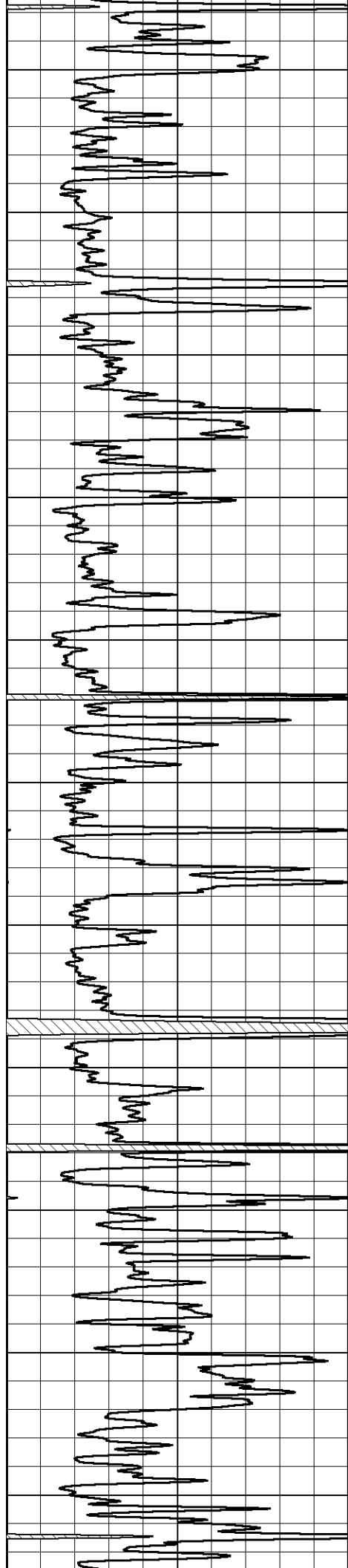
3850

3900

3950

4000





4050

4100

4150

4200

4250

4300

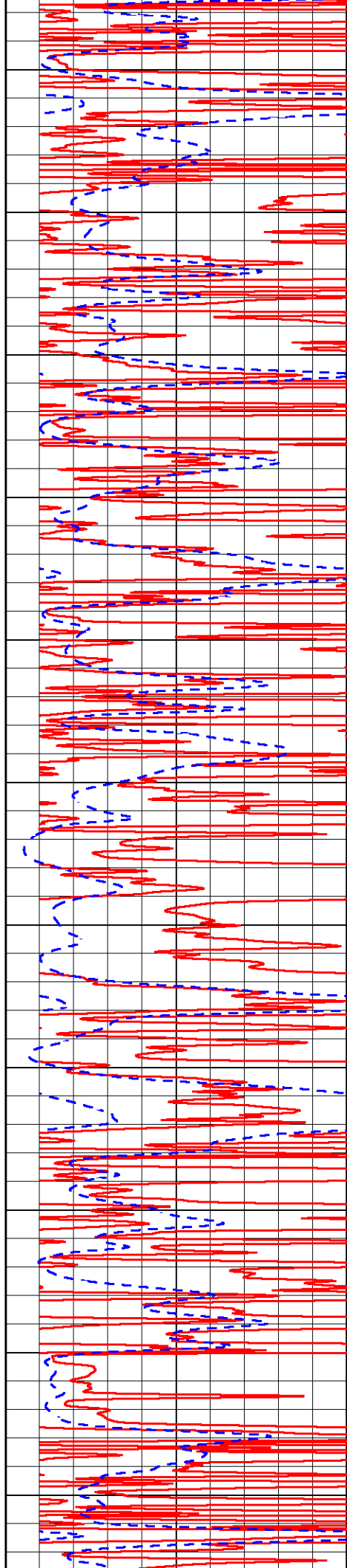
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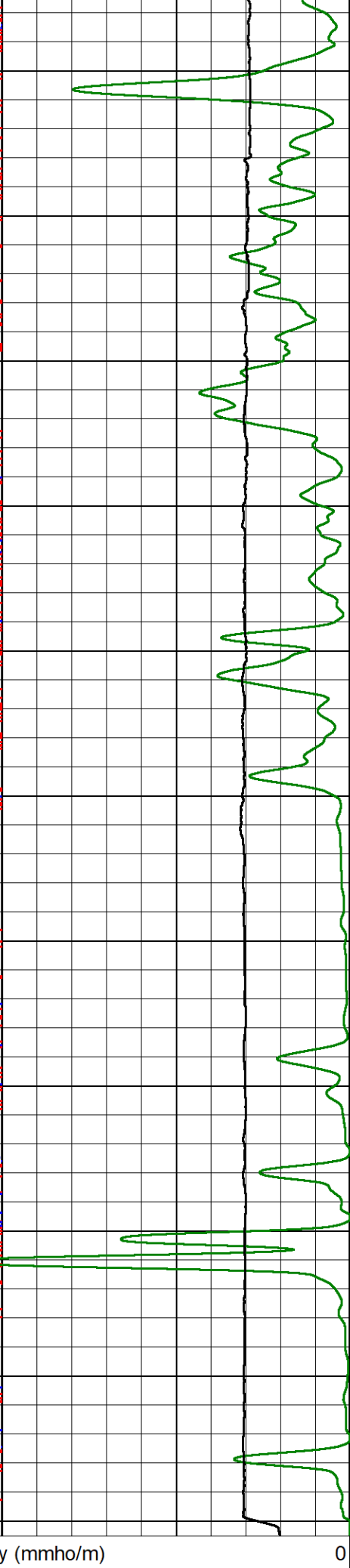
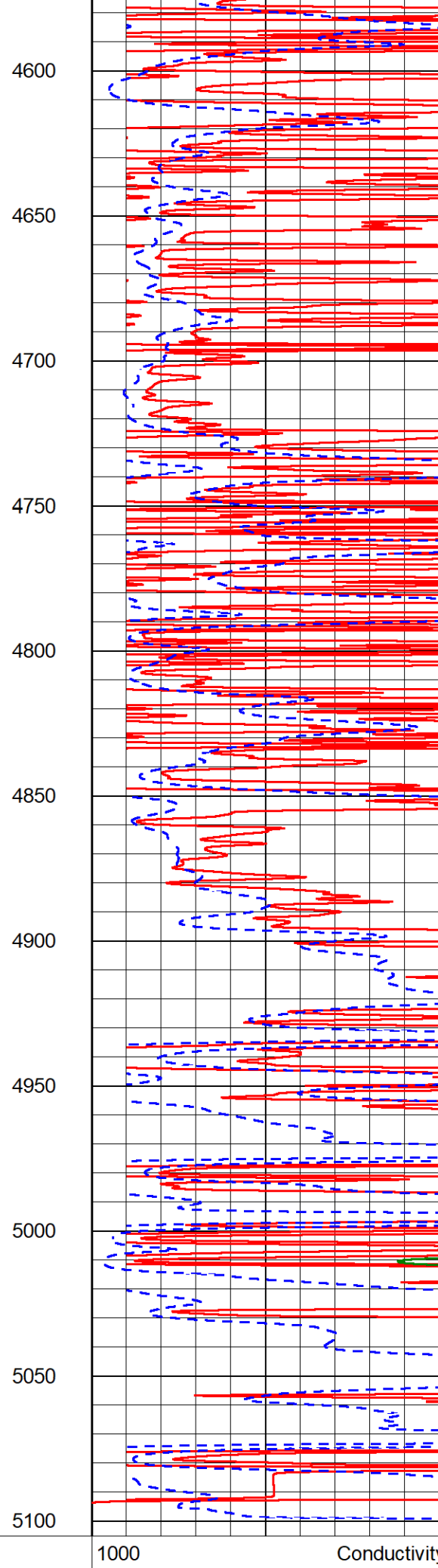
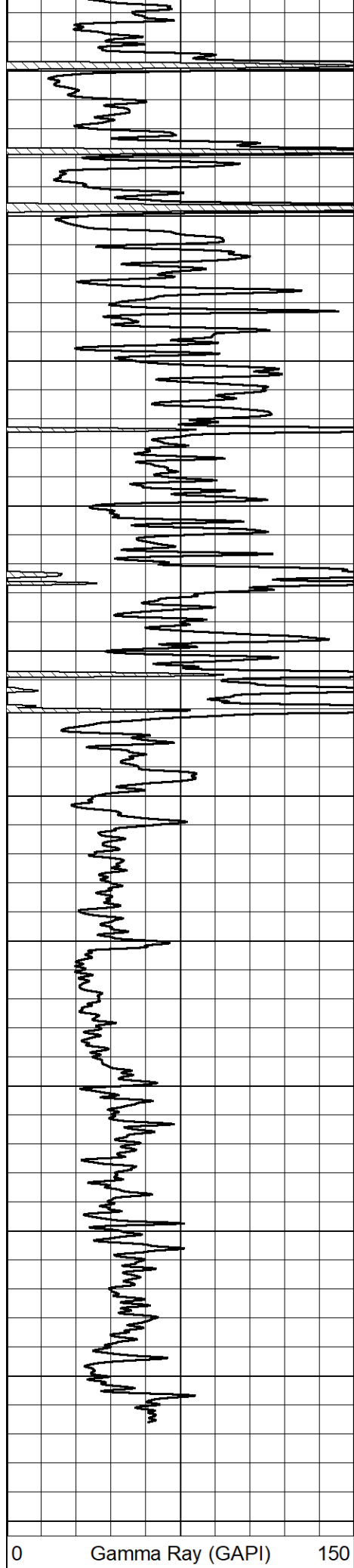
4400

4450

4500

4550





0	Shallow Resistivity (Ohm-m)	50
0	Deep Resistivity (Ohm-m)	50
Shallow Resistivity		
50	(Ohm-m)	200
50	Deep Resistivity (Ohm-m)	200



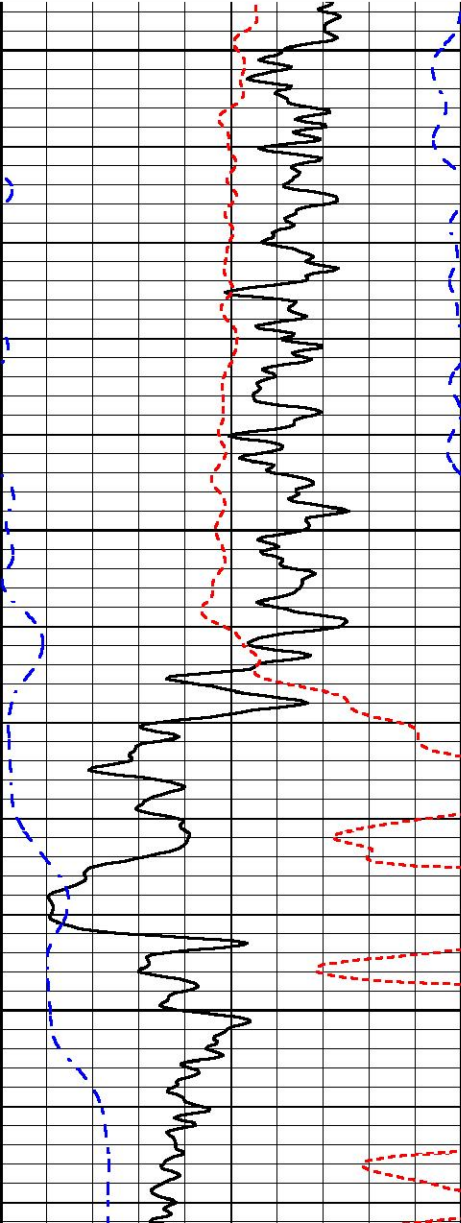
ANHYDRITE SECTION

MAIN PASS

Database File american_warrior_hicks_a_2_24.db
Dataset Pathname stackml/pass5.1
Presentation Format _dil
Dataset Creation Sun Feb 13 01:11:58 2022
Charted by Depth in Feet scaled 1:240

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

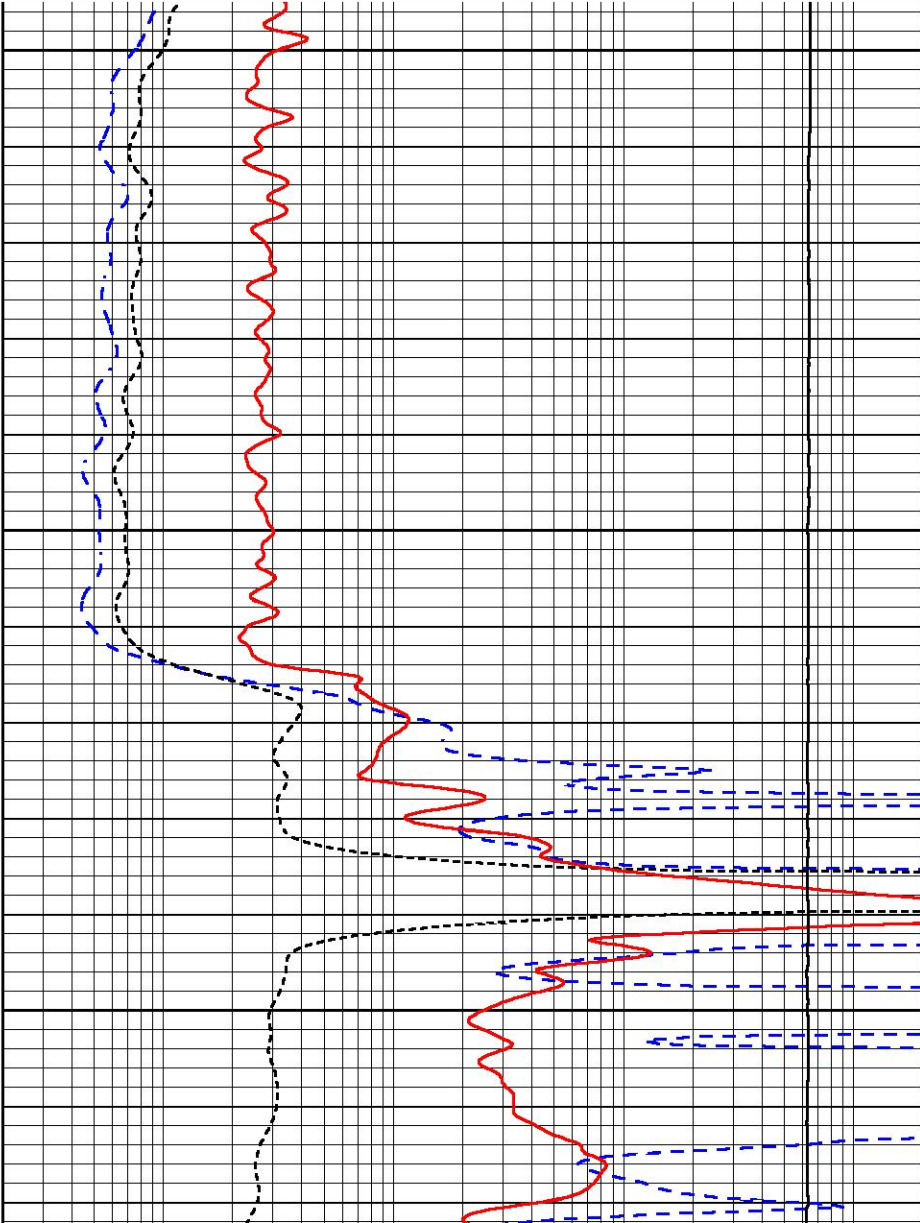
0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000
10000	Line Tension (lb)	0

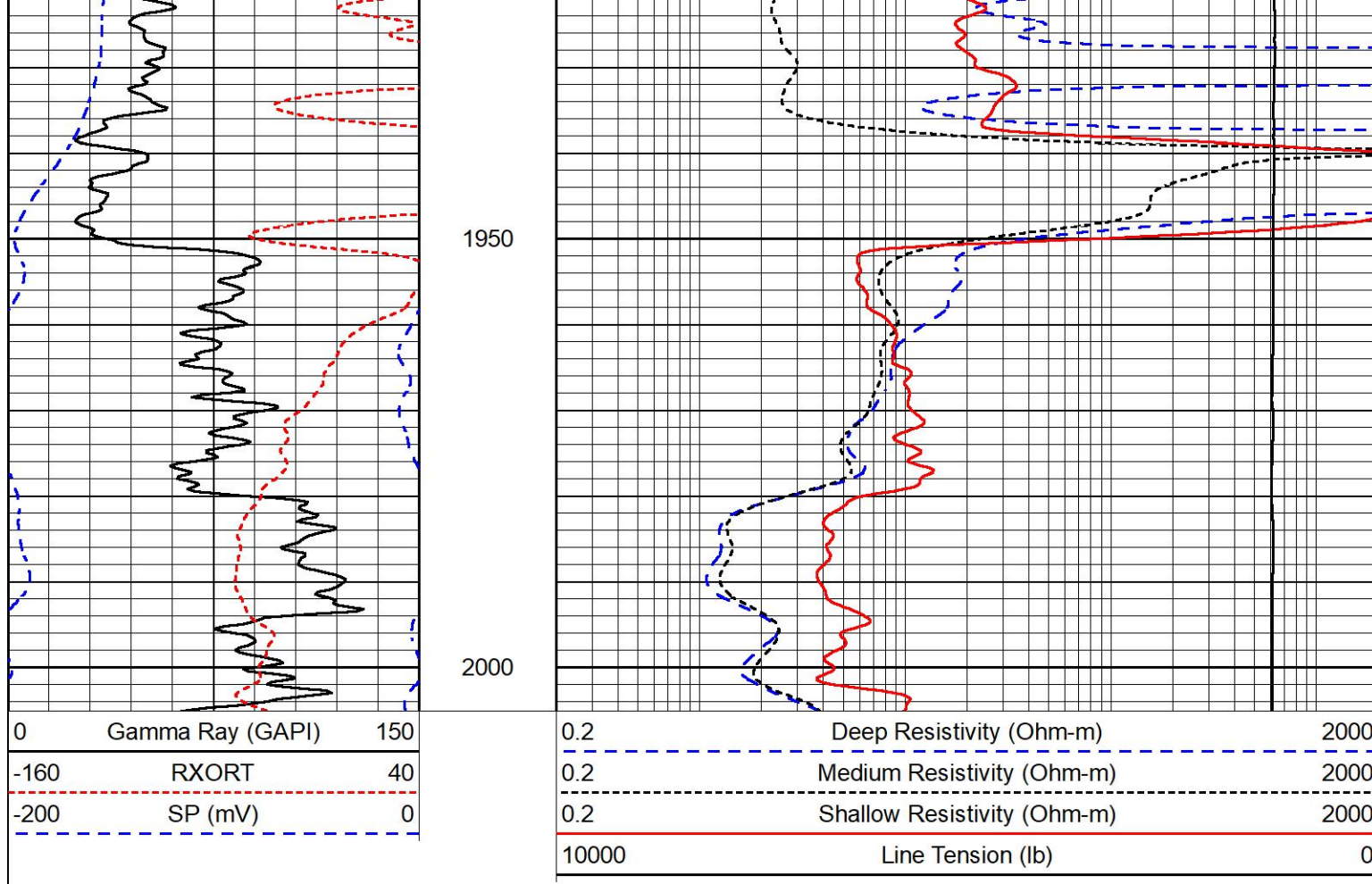


1800

1850

1900



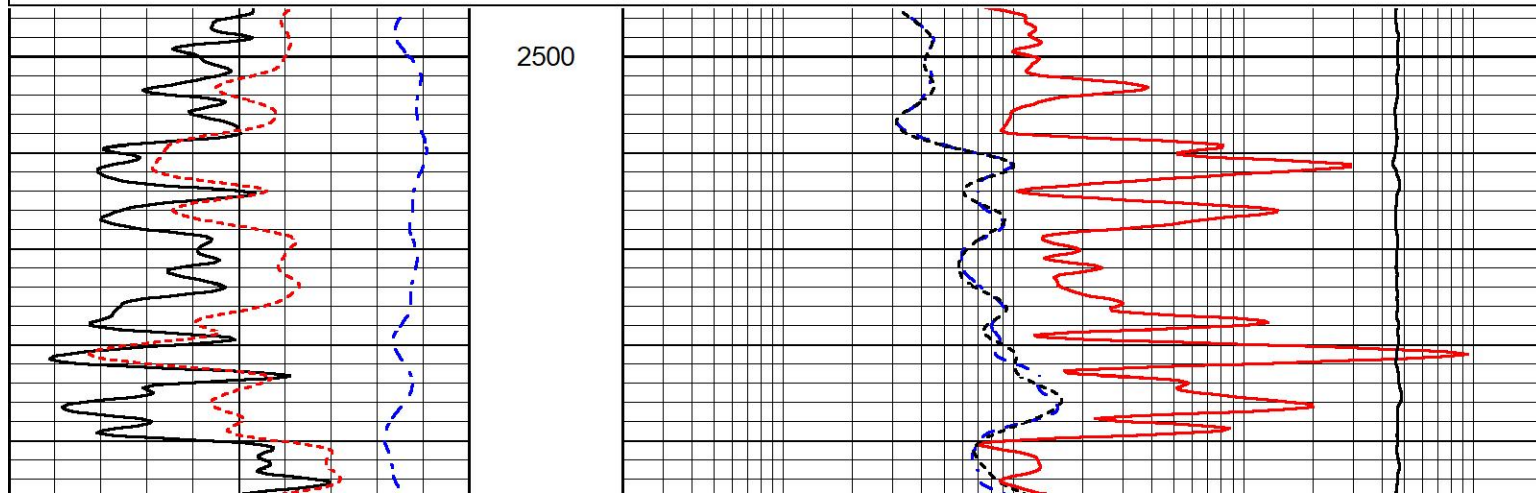
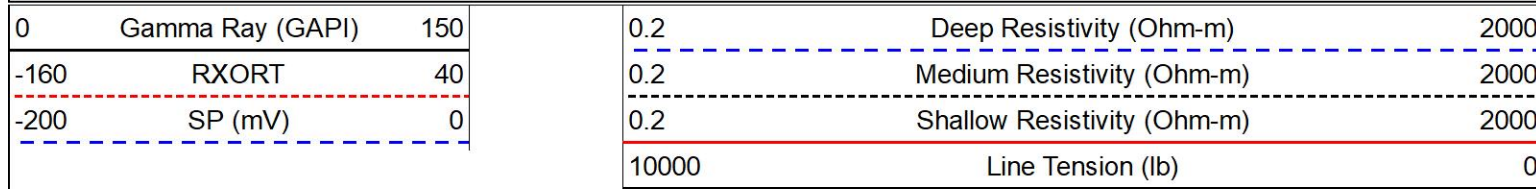


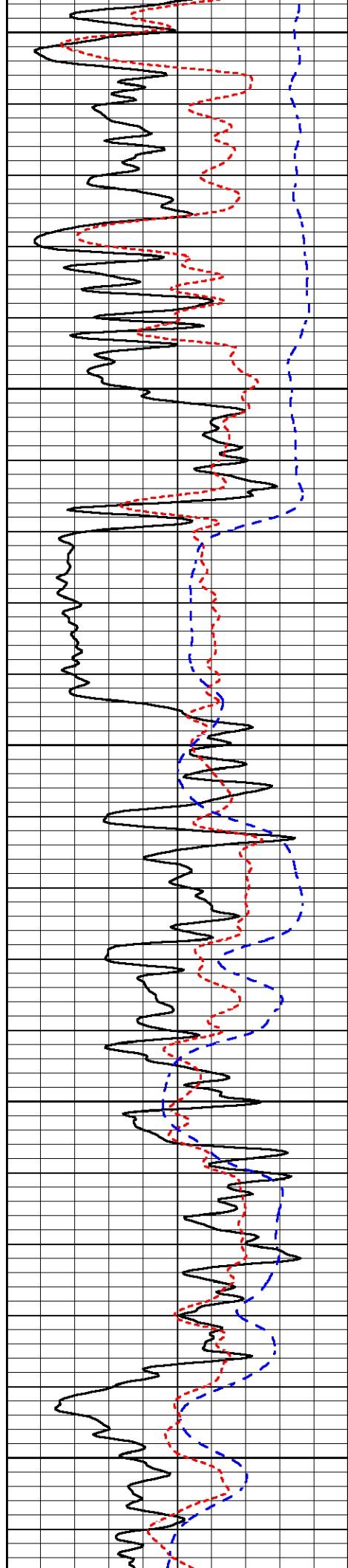
MIDWEST WIRELINE

DETAIL SECTION

MAIN PASS

Database File american_warrior_hicks_a_2_24.db
 Dataset Pathname stackml/pass4.1
 Presentation Format _dil
 Dataset Creation Sun Feb 13 01:04:19 2022
 Charted by Depth in Feet scaled 1:240





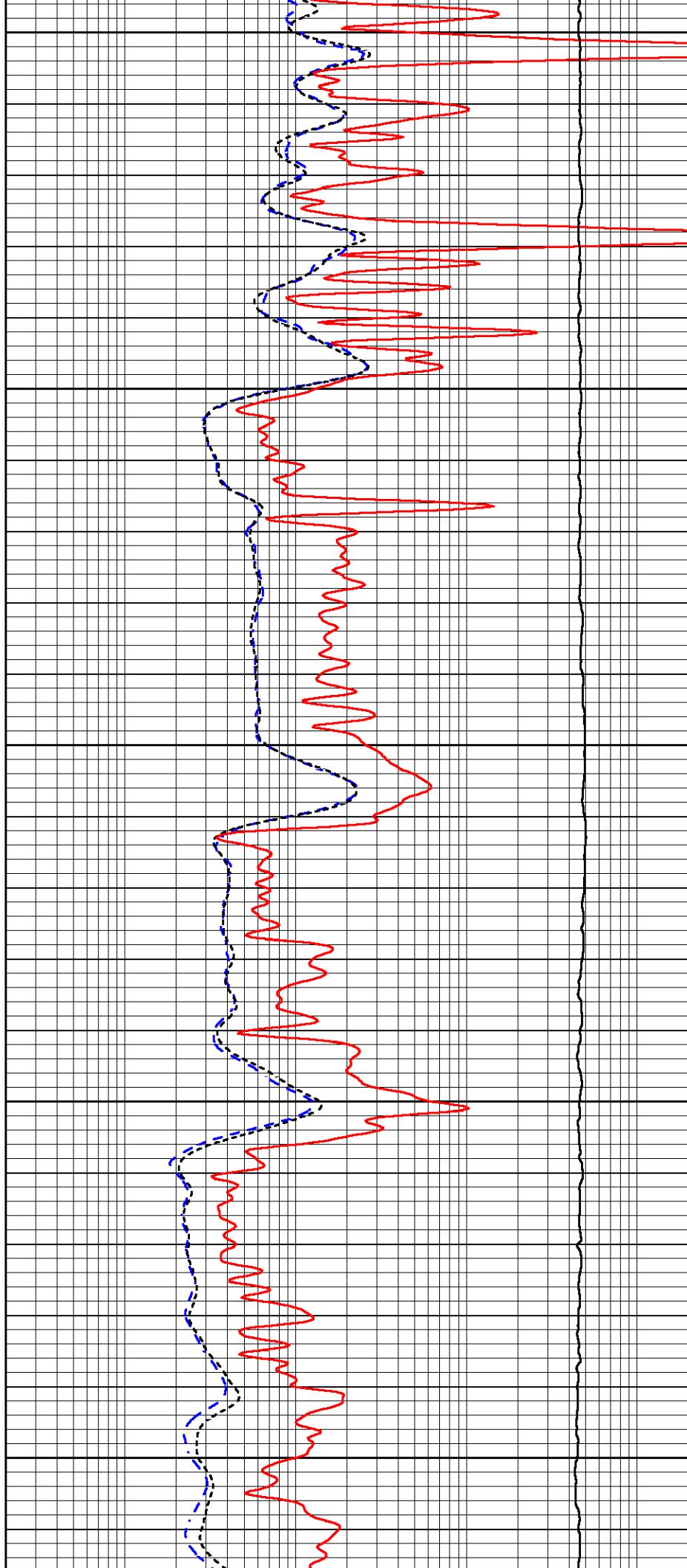
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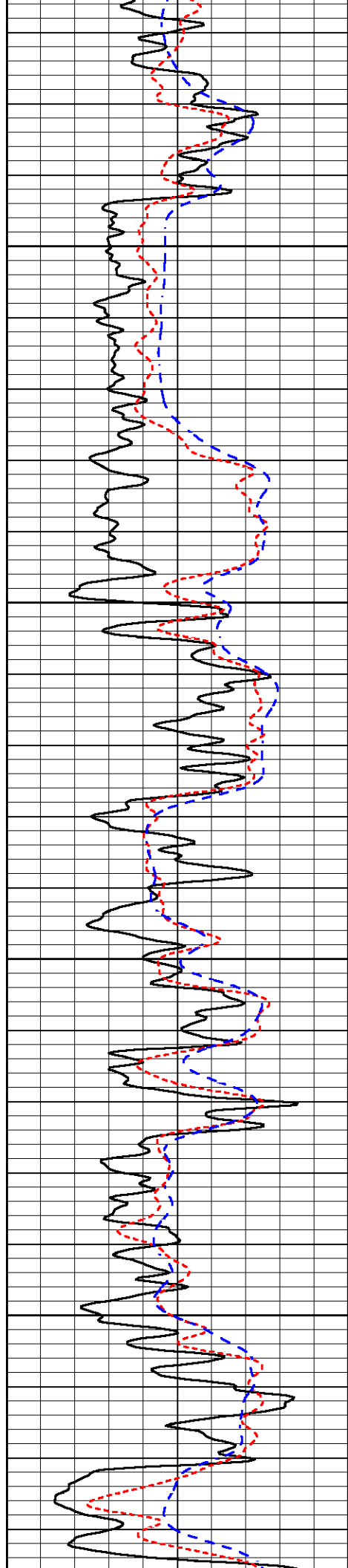
2600

2650

2700

2750



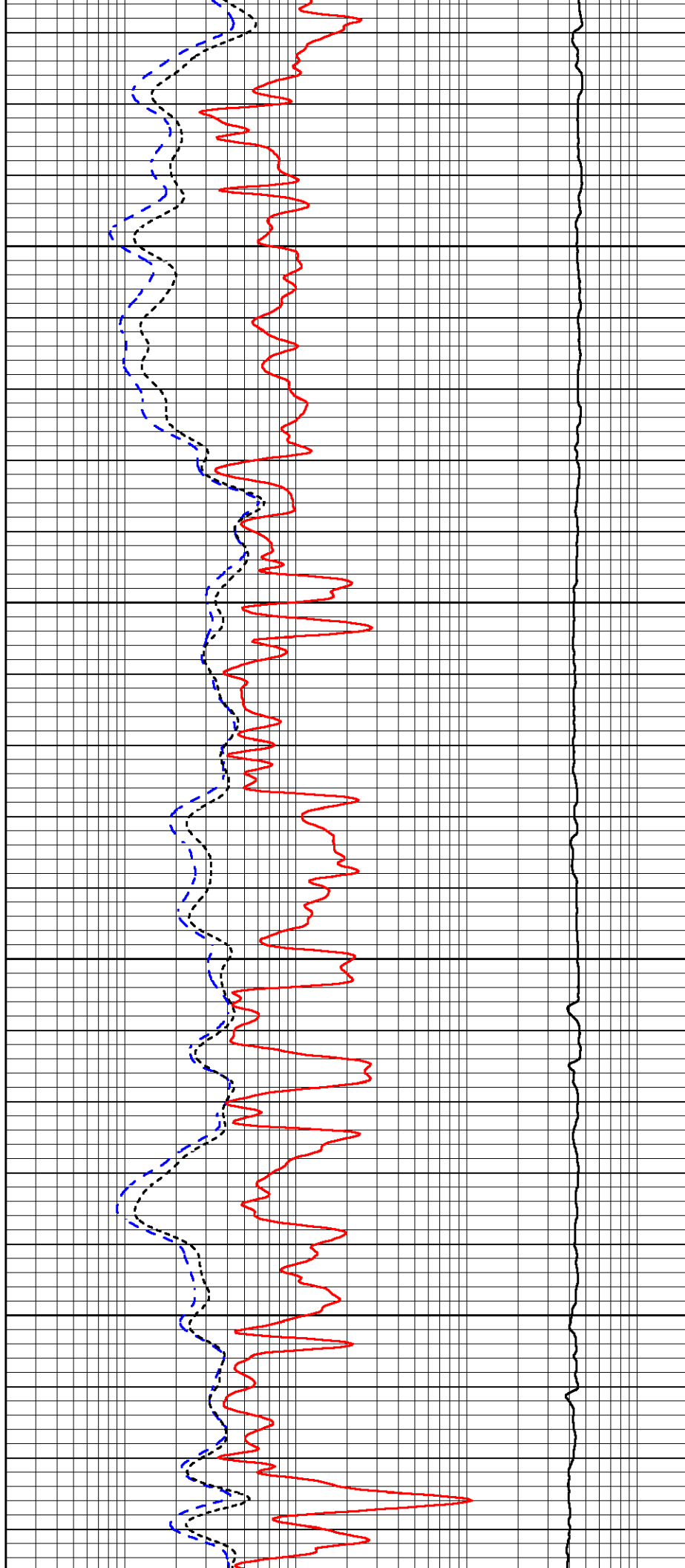


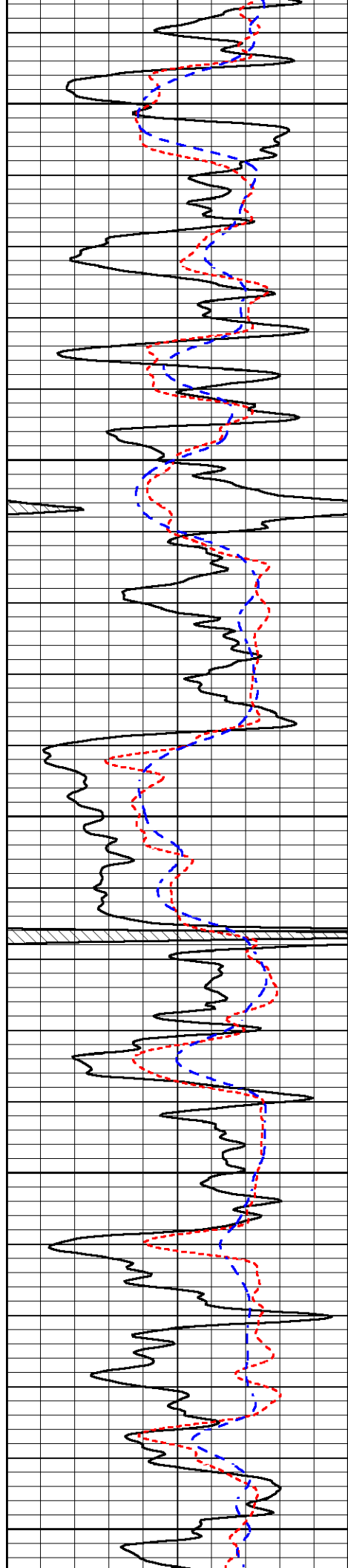
2800

2850

2900

2950





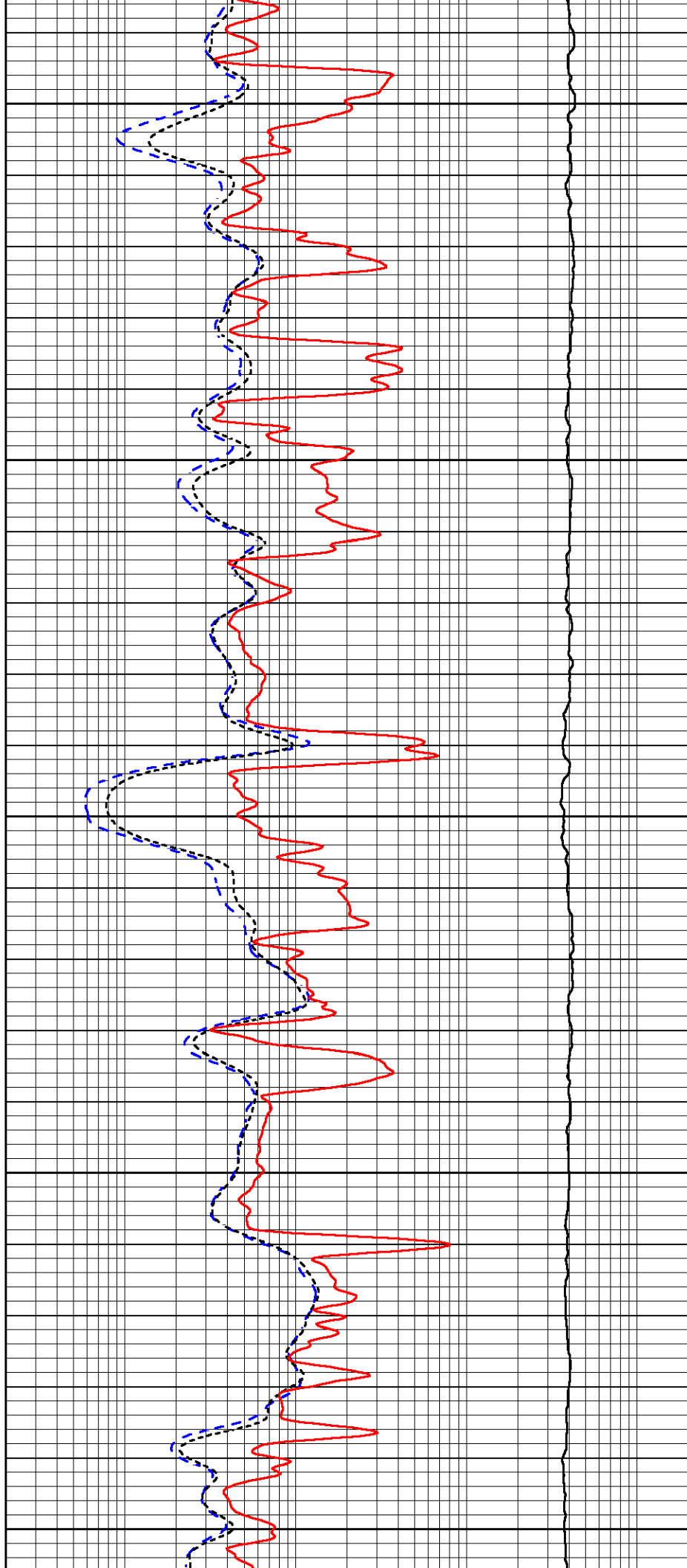
3000

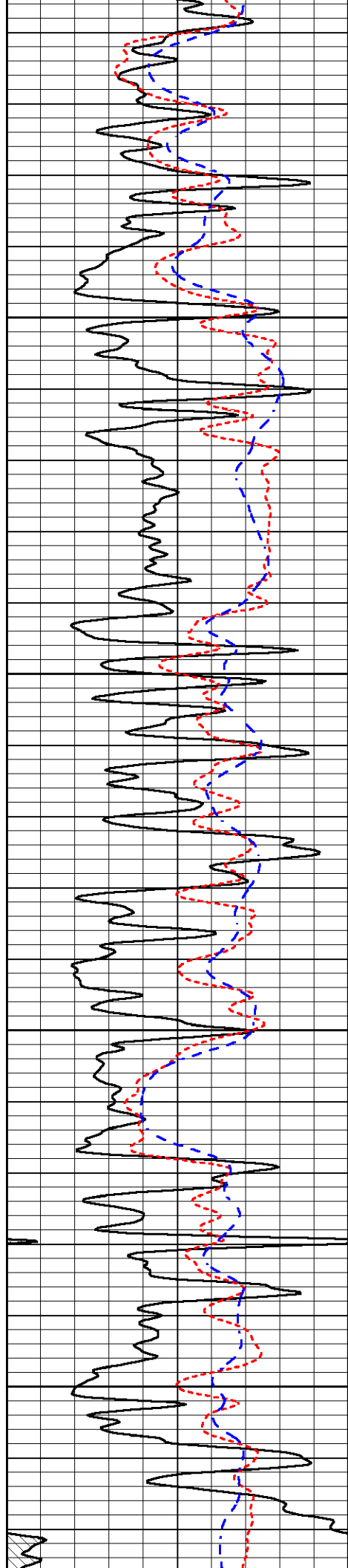
3050

3100

3150

3200



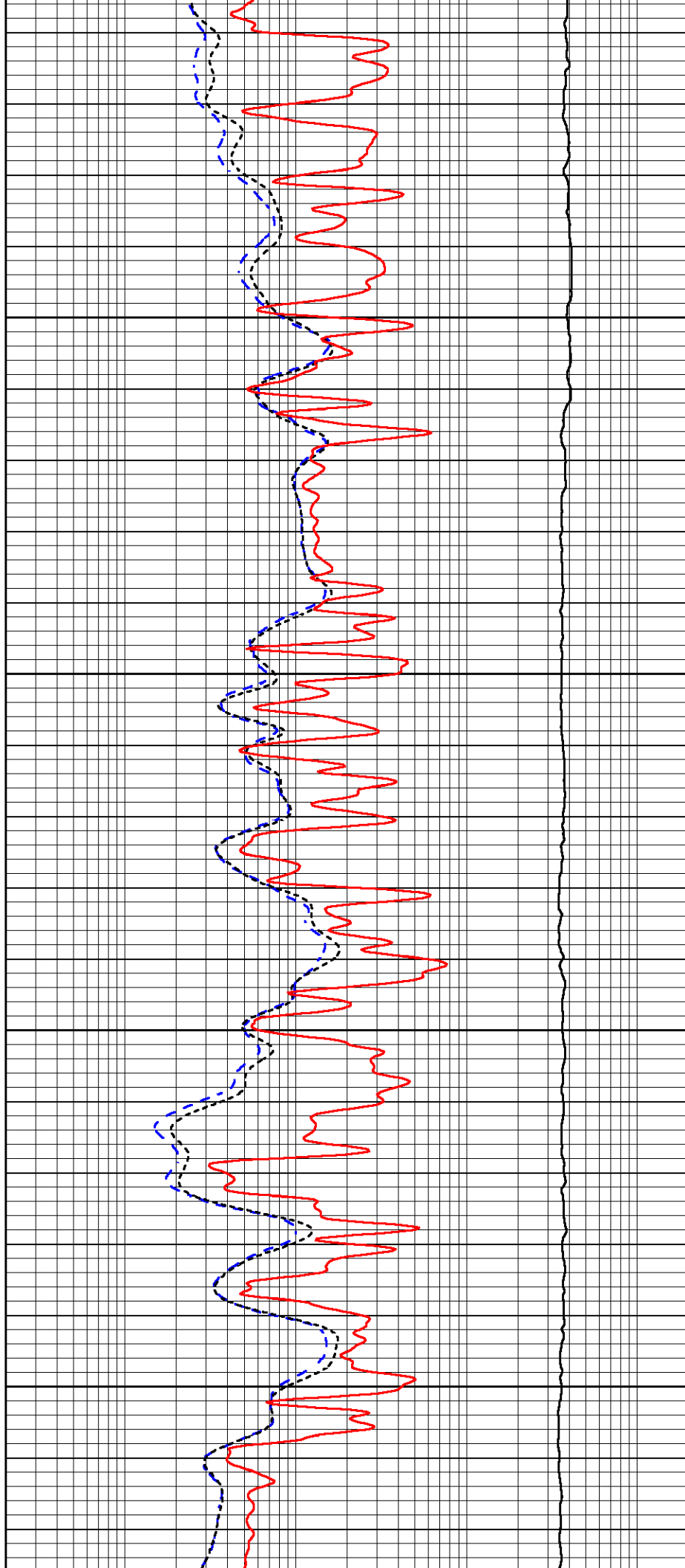


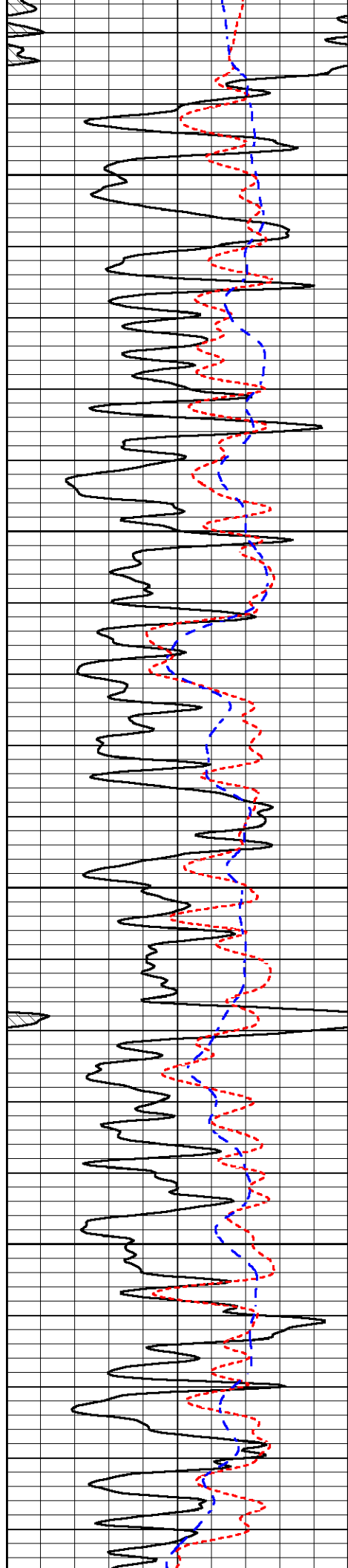
3250

3300

3350

3400



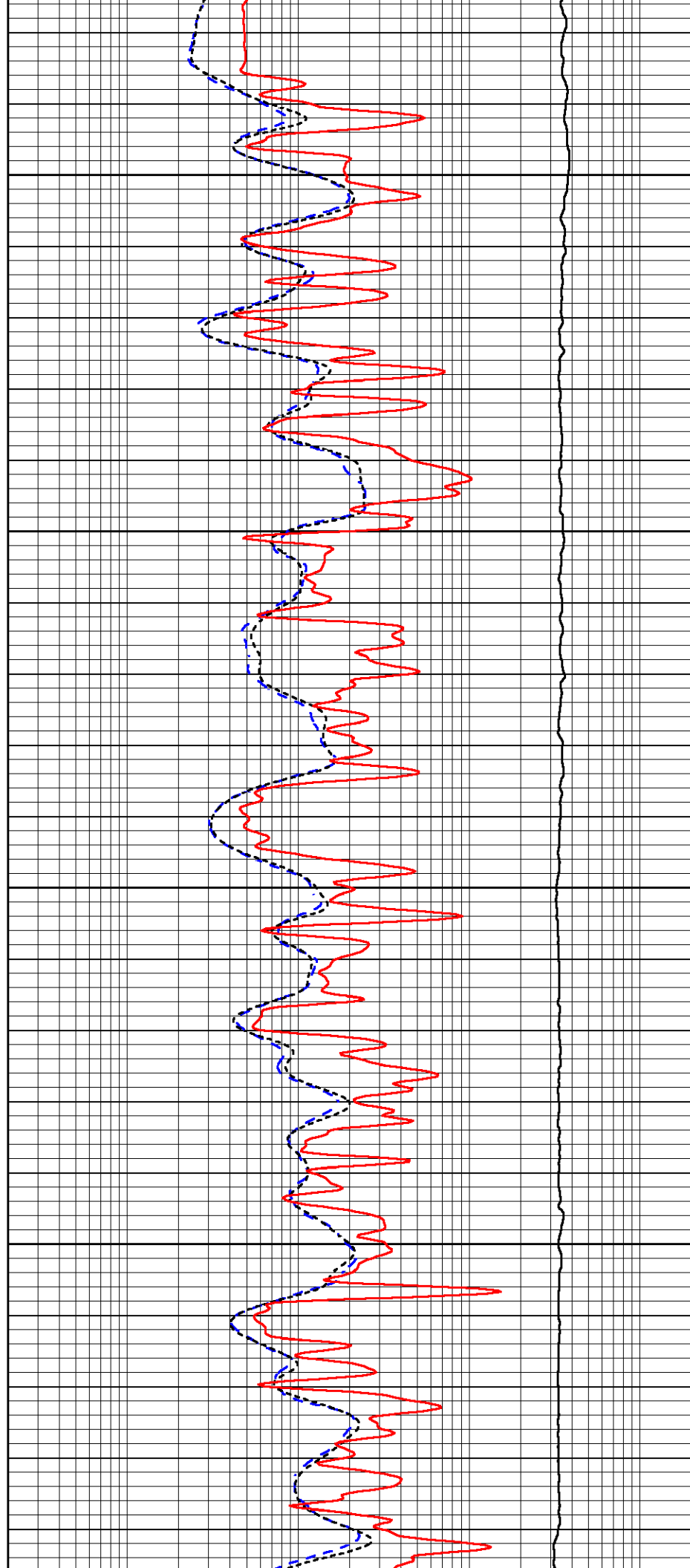


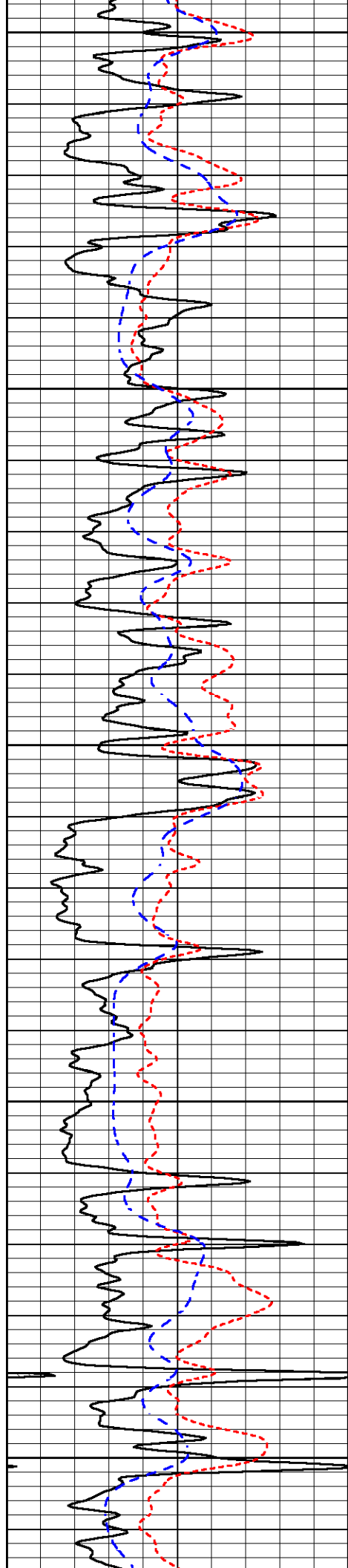
3450

3500

3550

3600





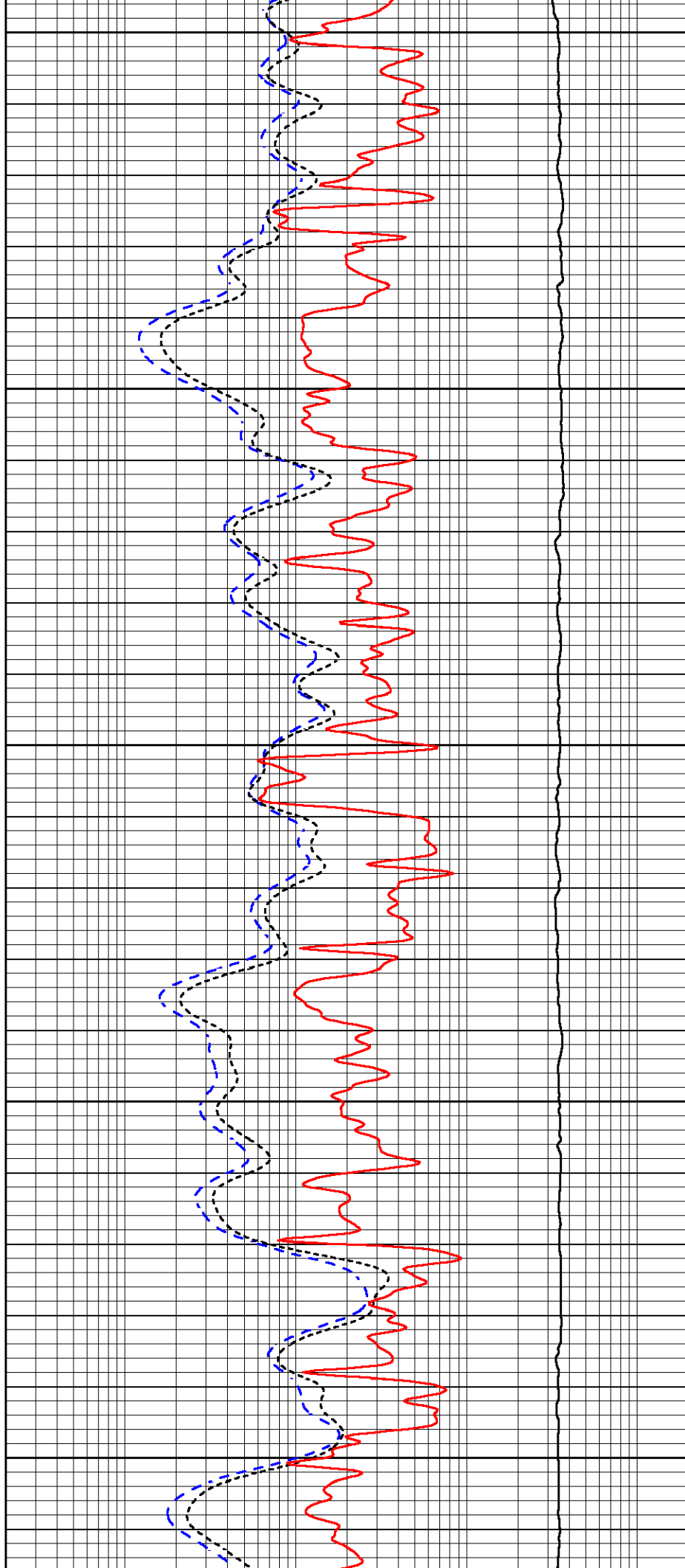
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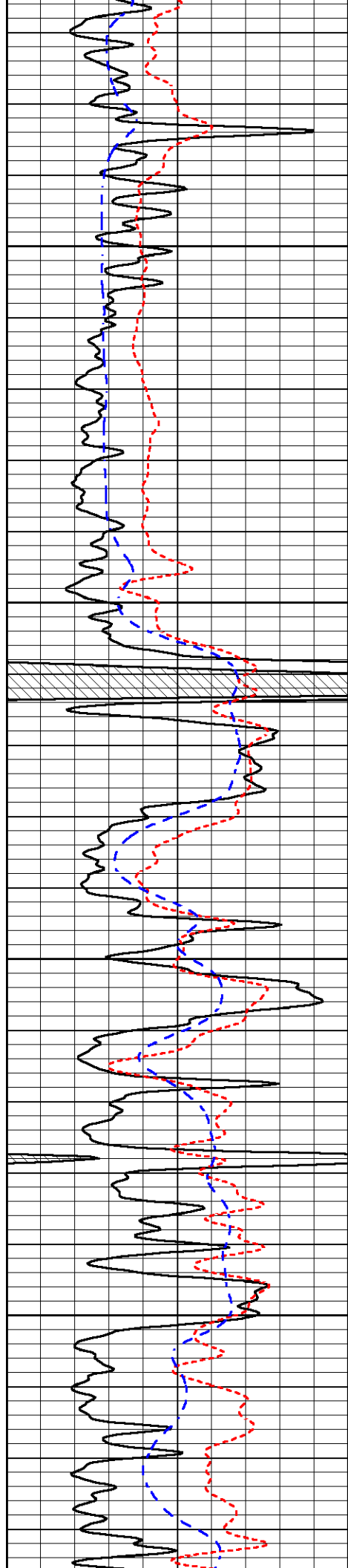
3700

3750

3800

3850



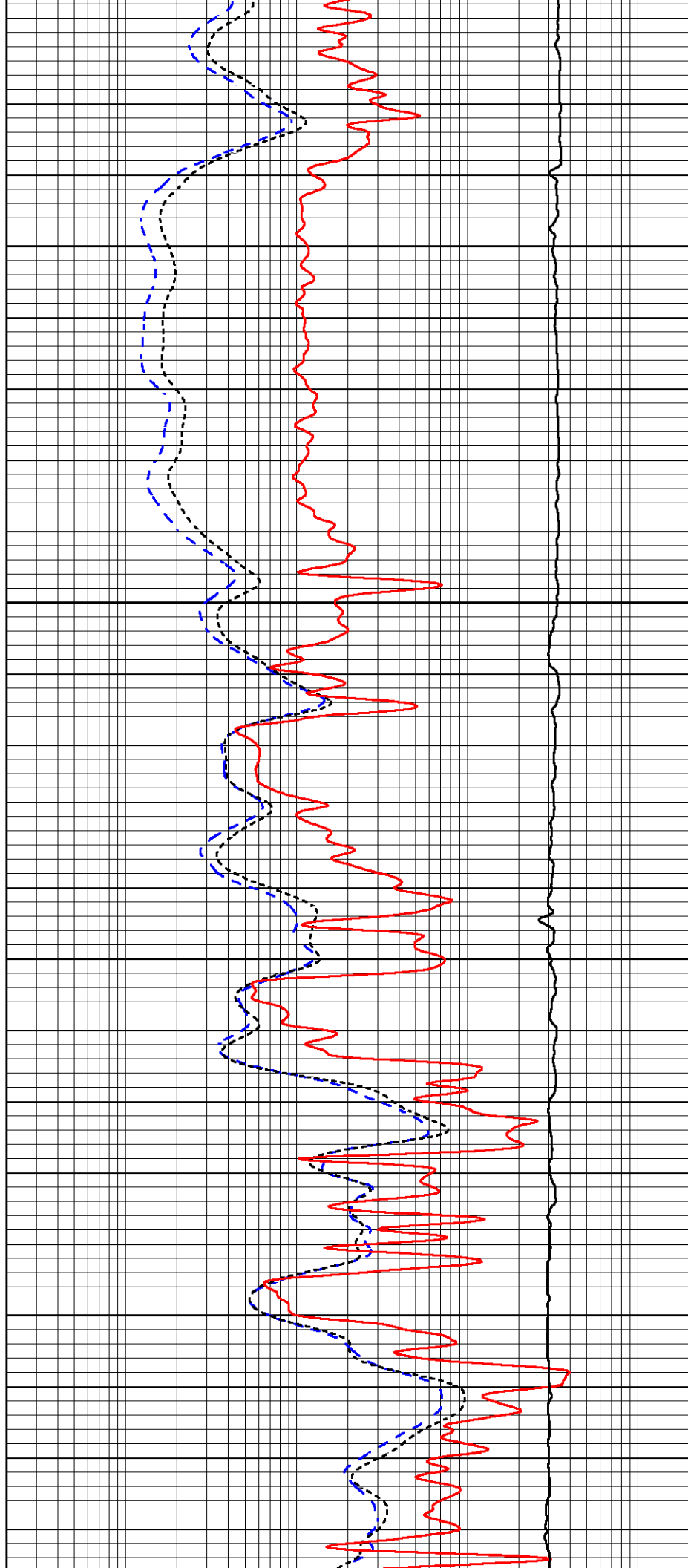


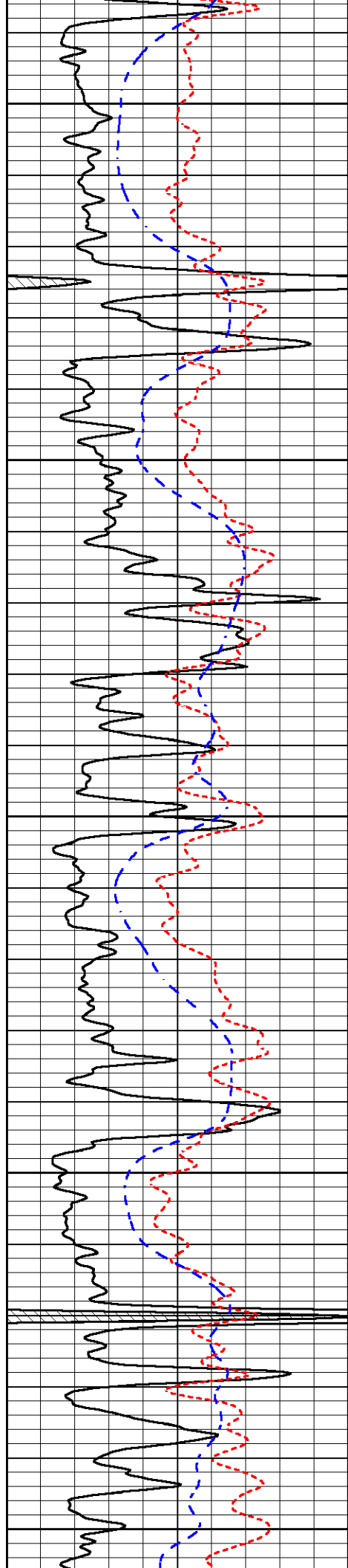
3900

3950

4000

4050





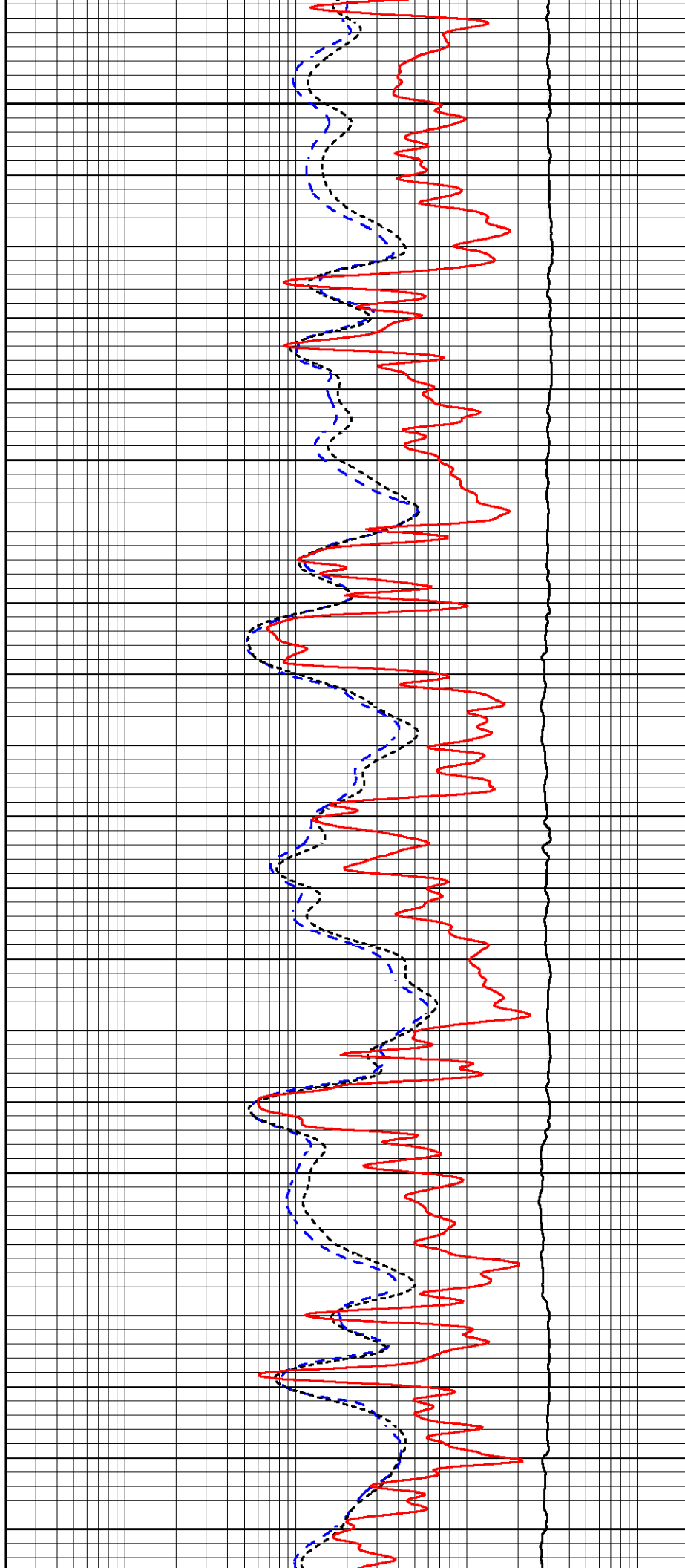
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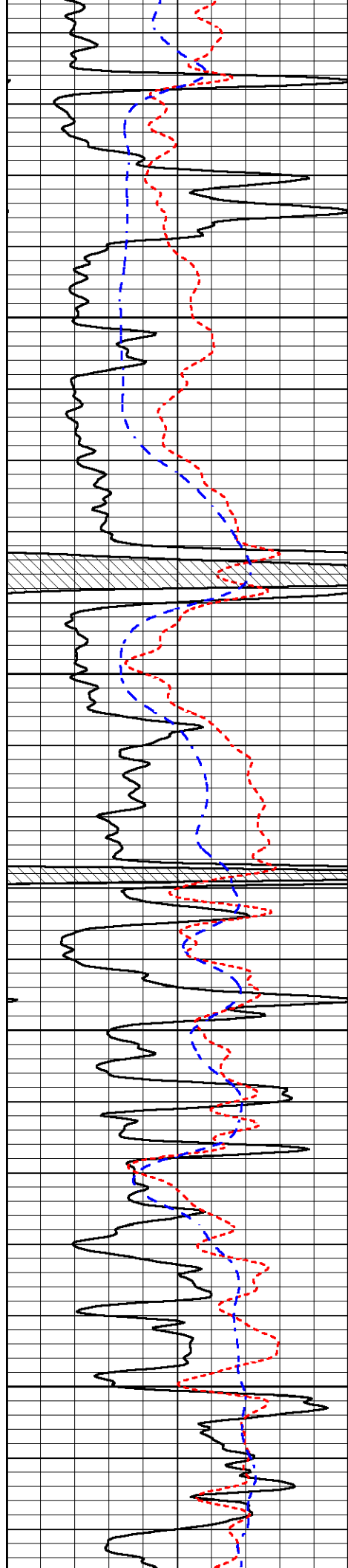
4150

4200

4250

4300



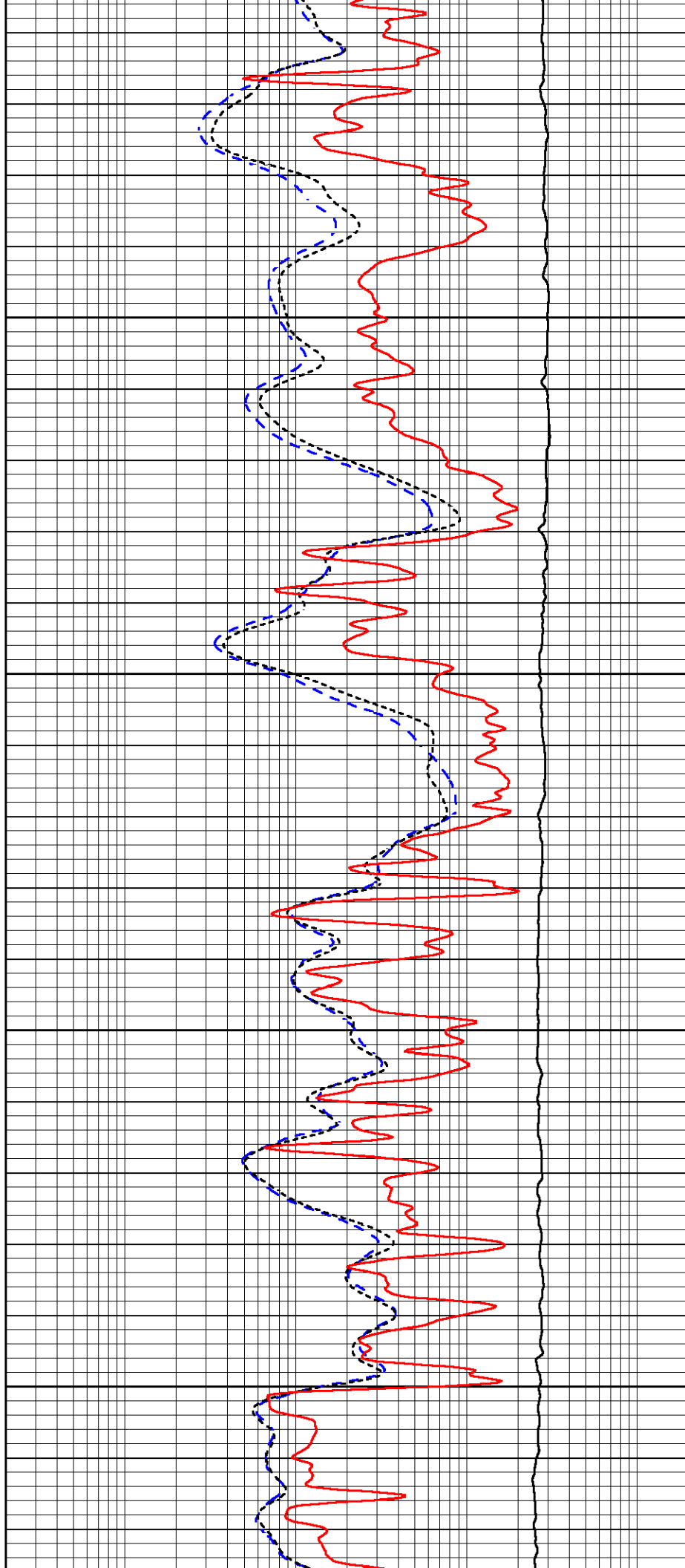


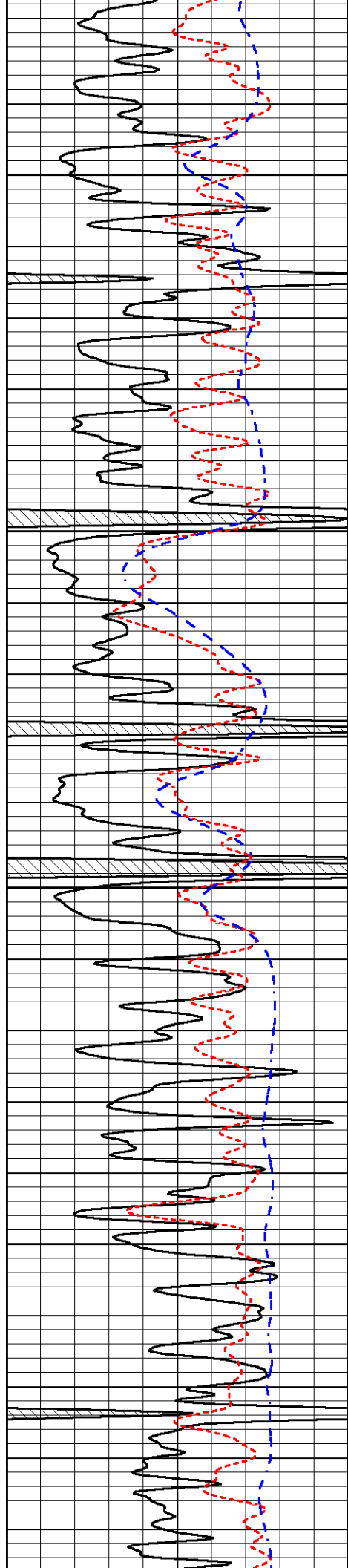
4350

4400

4450

4500



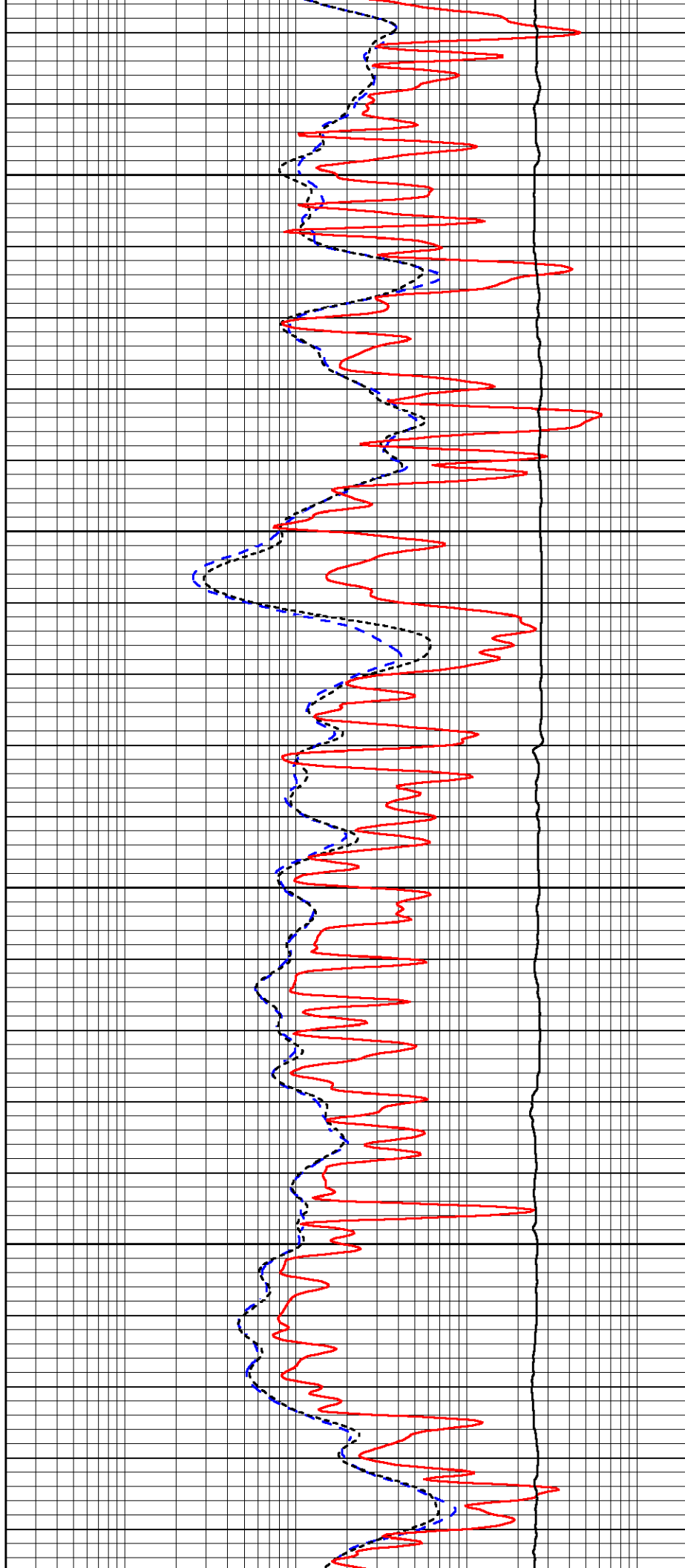


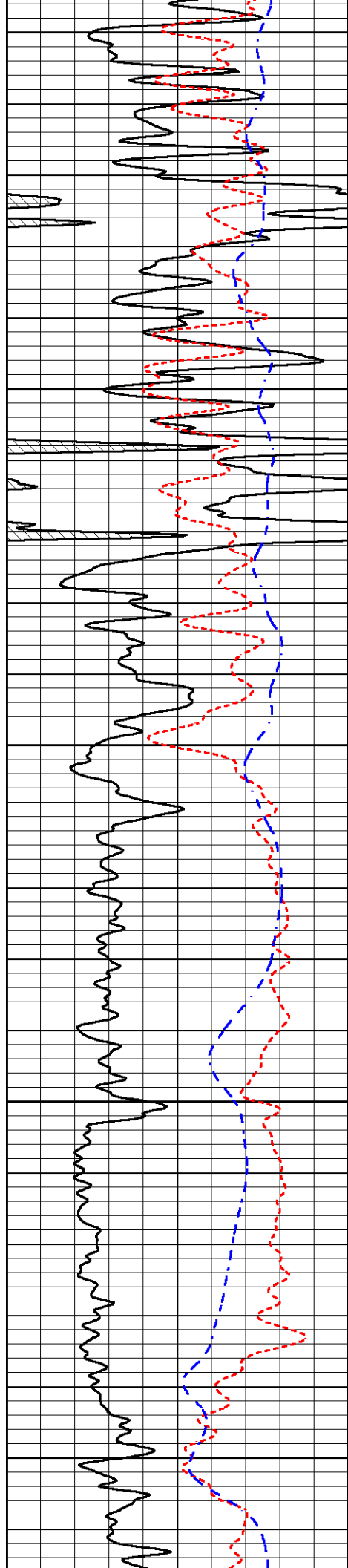
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4600

4650

4700





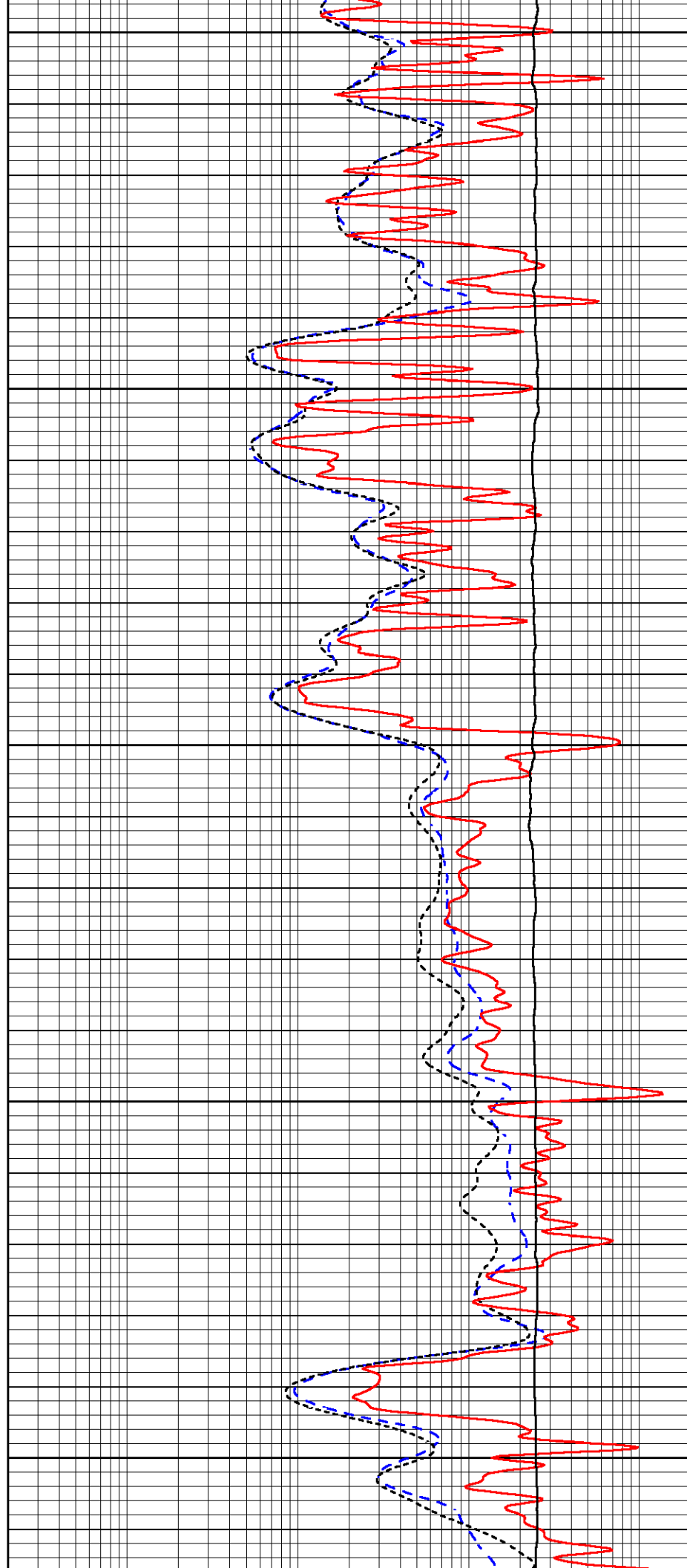
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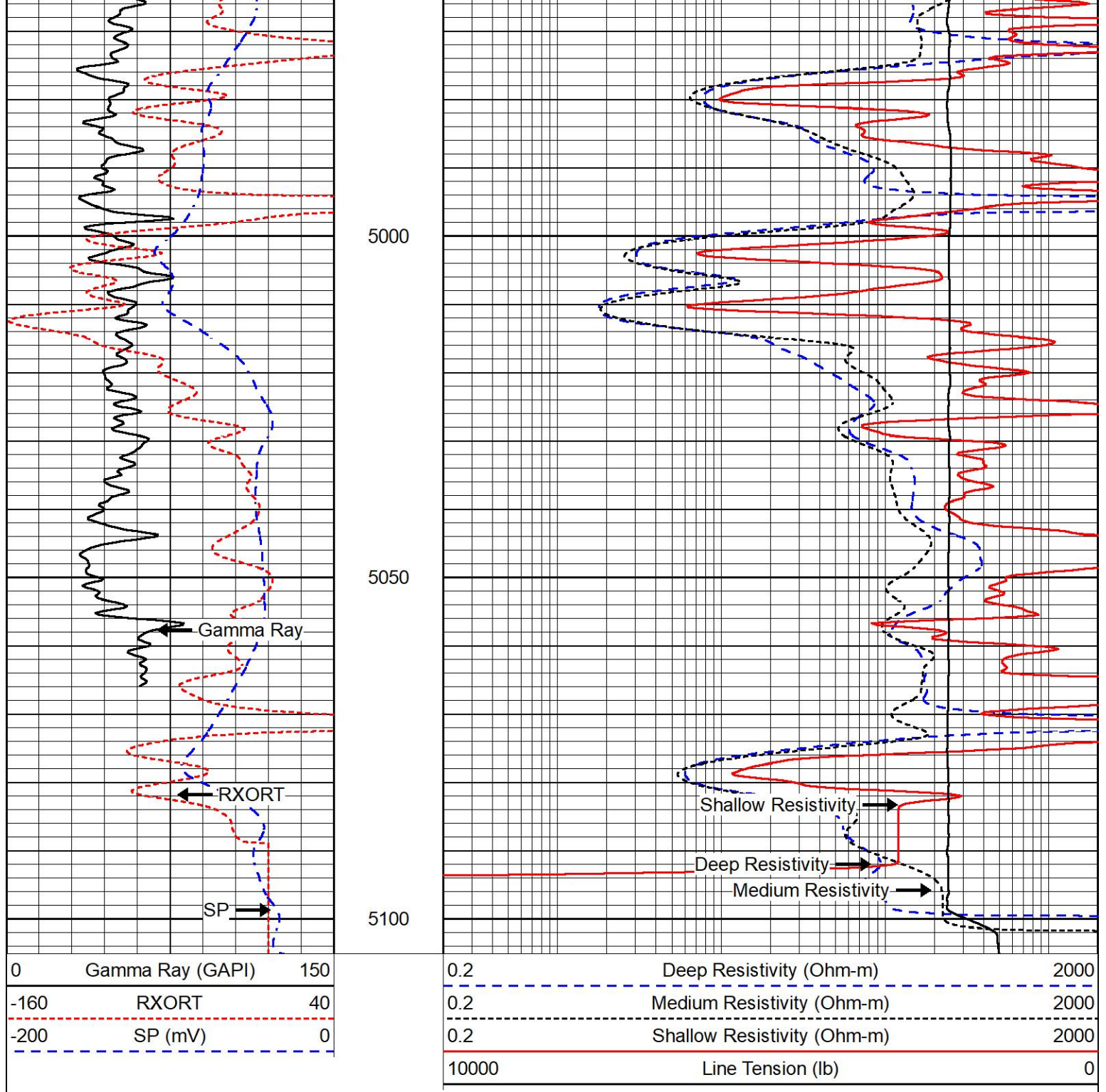
4800

4850

4900

4950





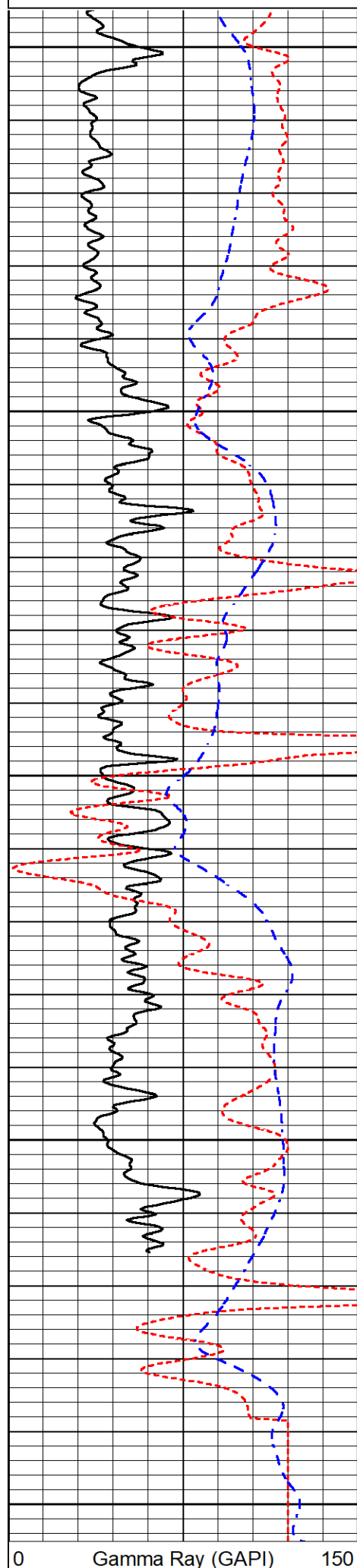
REPEAT SECTION

REPEAT PASS

Database File american_warrior_hicks_a_2_24.db
 Dataset Pathname stackml/pass2.1
 Presentation Format _dil
 Dataset Creation Sun Feb 13 01:03:33 2022
 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



4900

4950

5000

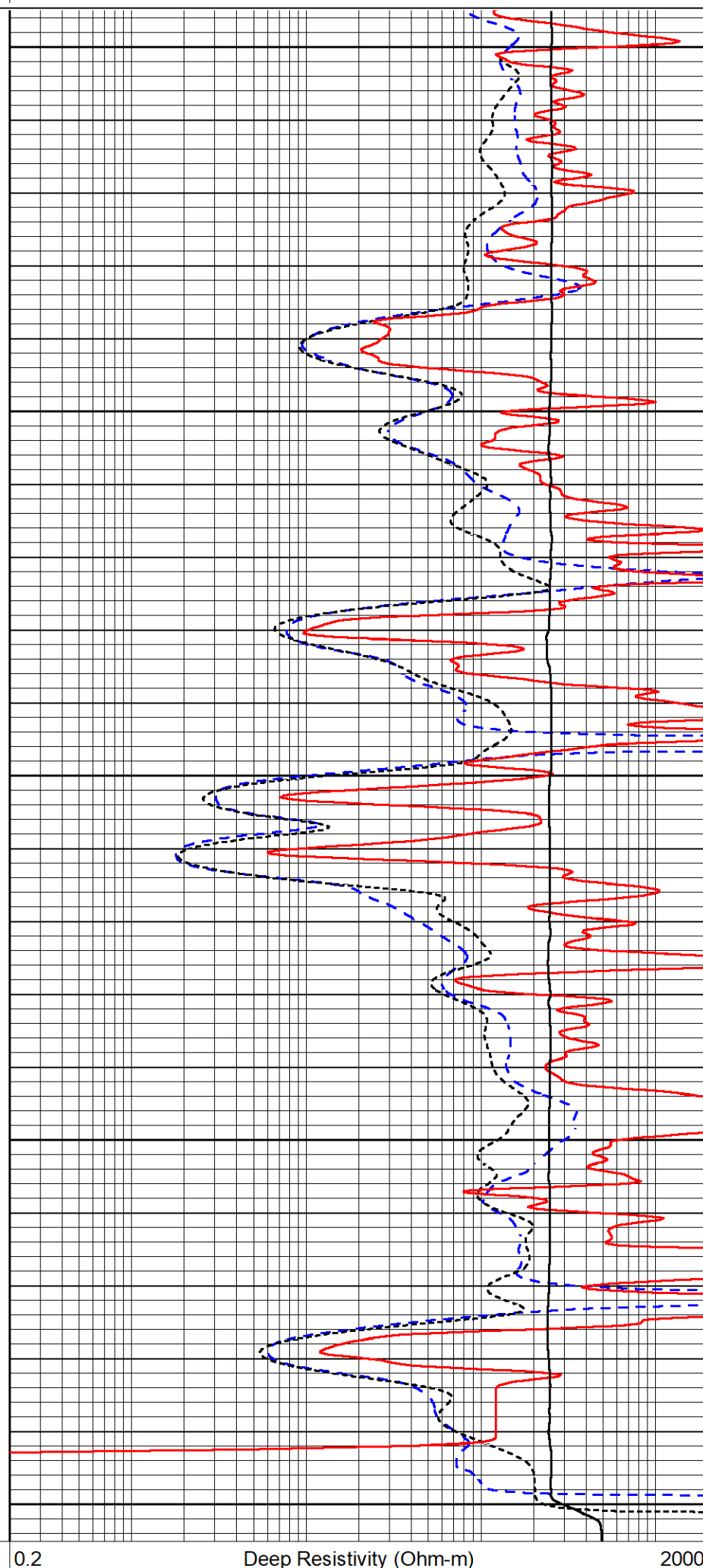
5050

5100

0

Gamma Ray (GAPI)

150



0.2

Deep Resistivity (Ohm-m)

2000

-160	RXORT	40	0.2	Medium Resistivity (Ohm-m)	2000
-200	SP (mV)	0	0.2	Shallow Resistivity (Ohm-m)	2000
			10000	Line Tension (lb)	0

Database File		american_warrior_hicks_a_2_24.db						
Dataset Pathname		stackml/pass4.1						
Dataset Creation		Sun Feb 13 01:04:19 2022						
Dual Induction Calibration Report								
Serial-Model:		504 HT-M&W						
Surface Cal Performed:		Thu Dec 16 22:32:49 2021						
Readings								
References								
Results								
Loop:	Air	Loop	Air	Loop		m	b	
Deep	178.615	710.235	0.000	255.800	mmho/m	0.650	-19.000	
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.450	-45.500	
Microlog Calibration Report								
Serial-Model:		402-PSI STKBL ML						
Performed:		Thu Dec 16 22:29:48 2021						
Readings								
References								
Results								
	Zero	Cal	Zero	Cal		m	b	
Normal	0.0037	0.0043	0.0000	10.0000	Ohm-m	8000.0000	-1.0000	
Inverse	0.1208	0.0013	0.0000	10.0000	Ohm-m	7000.0000	0.0000	
Caliper	1.0020	1.0834	5.5000	16.5000	in	135.1520	-131.2000	
Compensated Density Calibration Report								
Serial-Model:		303-03-M&W						
Source #:		21170B						
Master Calibration Performed:		Thu Dec 16 23:28:34 2021						
Master Calibration								
Density		Far Detector		Near Detector				
Magnesium	1.755 g/cc	3841.78		5151.73 cps				
Aluminum	2.670 g/cc	700.98		3068.49 cps				
Spine Angle = 73.06		Density/Spine Ratio = 0.515						
Size		Reading						
Small Ring	4.00 in	1.17						
Large Ring	14.00 in	1.05						
Compensated Neutron Calibration Report								
Serial-Model:		210-M&W						
Source #:		N-1238						
Master Calibration Performed:		Fri Dec 3 09:16:24 2021						

Master 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:	103	
Tool Model:	M&W	
Performed:	Fri Dec 3 12:13:24 2021	
Calibrator Value:	500.0	GAPI
Background Reading:	28.0	cps
Calibrator Reading:	986.0	cps
Sensitivity:	0.5700	GAPI/cps



Company	American Warrior, Inc.
Well	Hicks A #2-24
Field	Patriot
County	Finney
State	Kansas