



COMPENSATED DENSITY COMPENSATED NEUTRON GAMMA RAY

Pioneer Energy Services

Company Wiekking-Fullerton Energy LLC
Well Ma-State #8
Field Wildcat
County Lincoln State Colorado

Location: API #: 05073065910000

1980' FNL & 1880' FEL SWNE
SEC 24 TWP 10S RGE 56W

Permanent Datum GL Elevation 5267
Log Measured From KB
Drilling Measured From KB

Other Services
Hi Res
Induction
Elevation
K.B. 5280
D.F. 5279
G.L. 5267

Date May 31, 2014

Run Number	1		
Depth Driller	8075		
Depth Logger	8065		
Bottom Logged Interval	8045		
Top Log Interval	2000		
Casing Driller	336		
Casing Logger	Not Logged		
Bit Size	7-7/8"		
Type Fluid in Hole	Chem Gel		
Density / Viscosity	9.7 / 87		
pH / Fluid Loss	9.5 / 8.8		
Source of Sample	Flowline		
Rm @ Meas. Temp	1.47 @ 70 F		
Rmf @ Meas. Temp	1.18 @ 70 F		
Rmc @ Meas. Temp	1.76 @ 70 F		
Source of Rmf / Rmc	Measure / Calc		
Rm @ BHT	0.52 @ 199 F		
Time Circulation Stopped	0115		
Time Logger on Bottom	0900		
Maximum Recorded Temperature	199 F		
Equipment Number	49		
Location	Ft. Morgan, CO		
Recorded By	Clint Christensen		
Witnessed By	Gregg Smith		

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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.

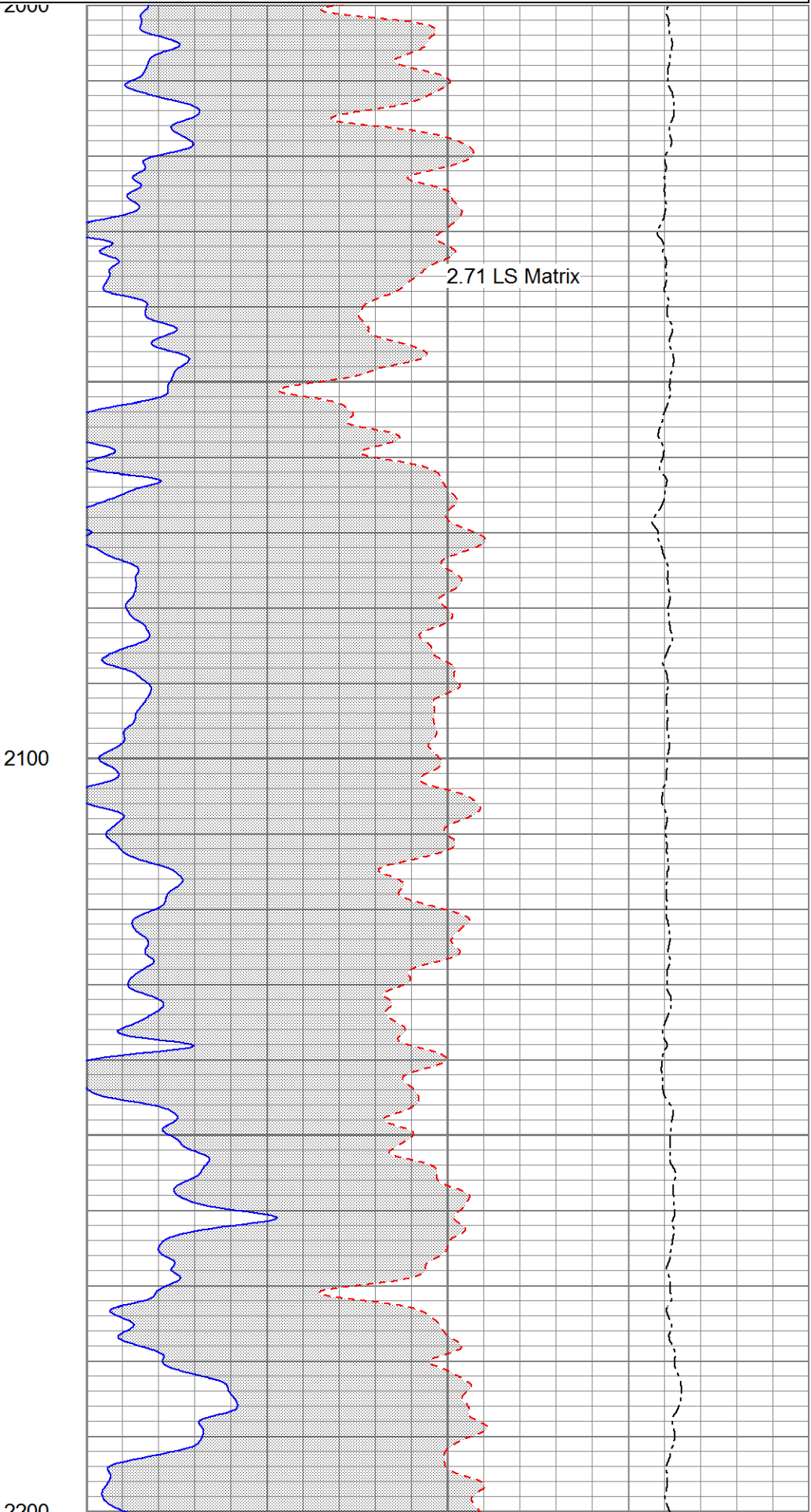
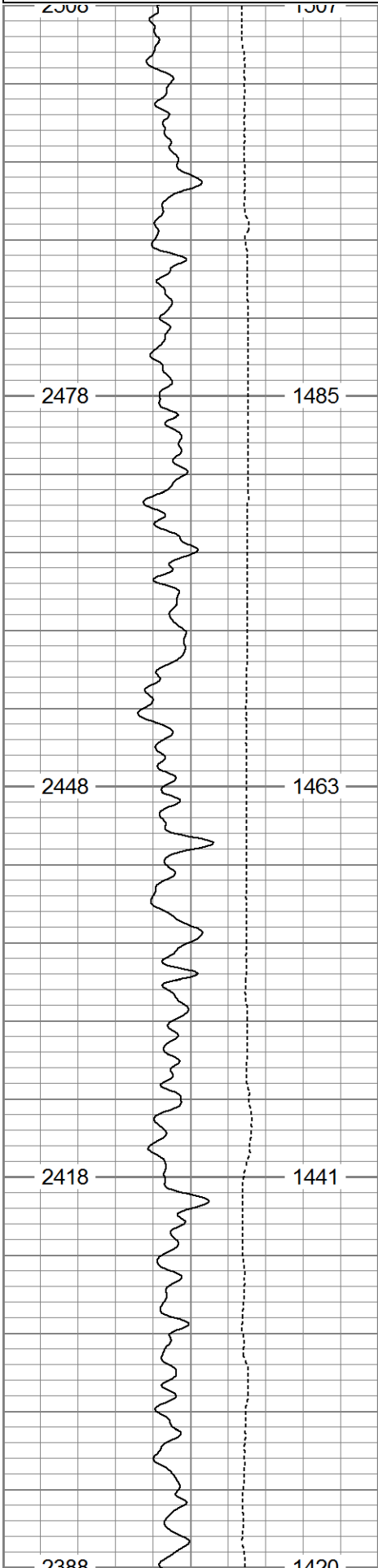
Comments

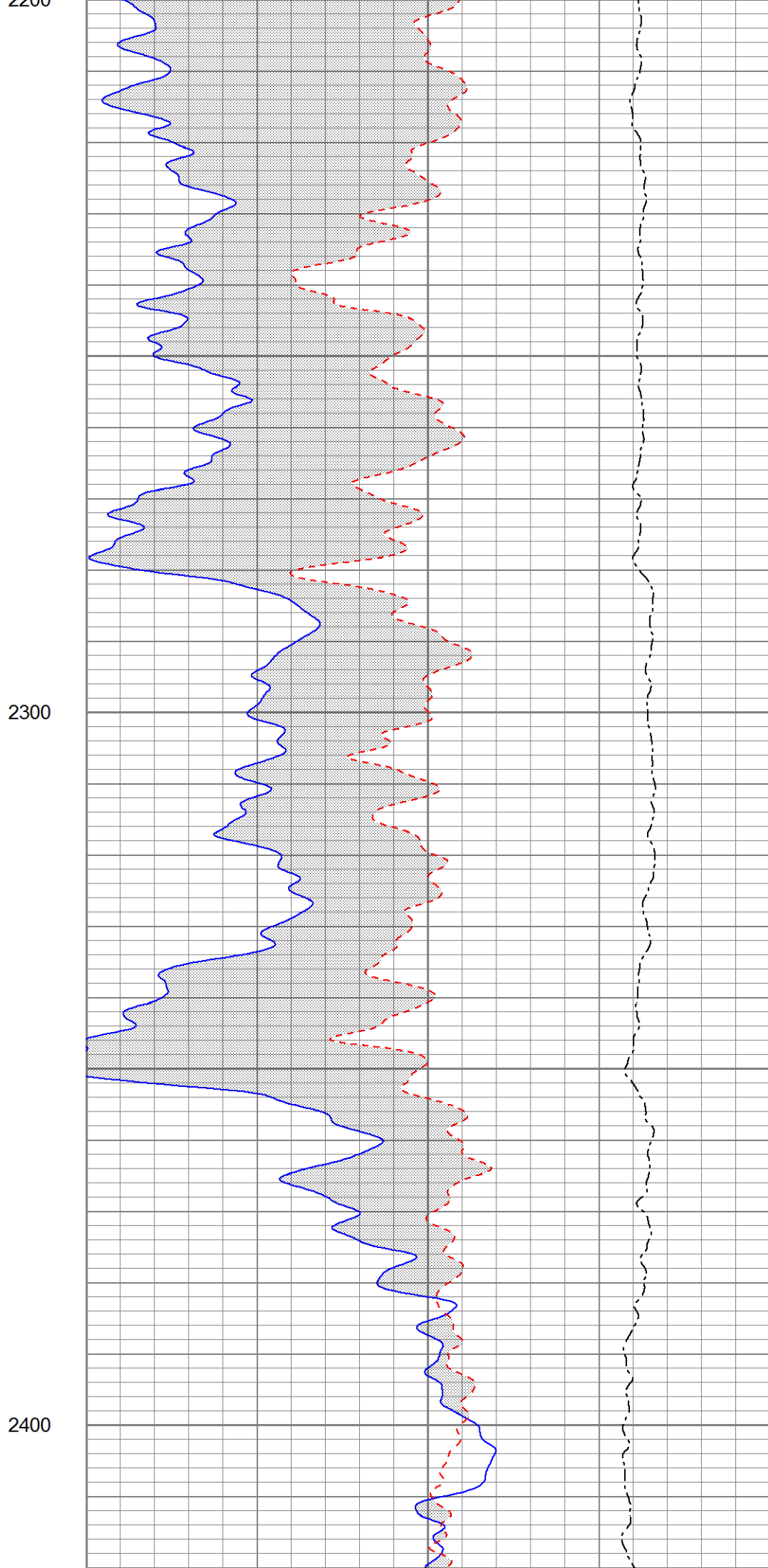
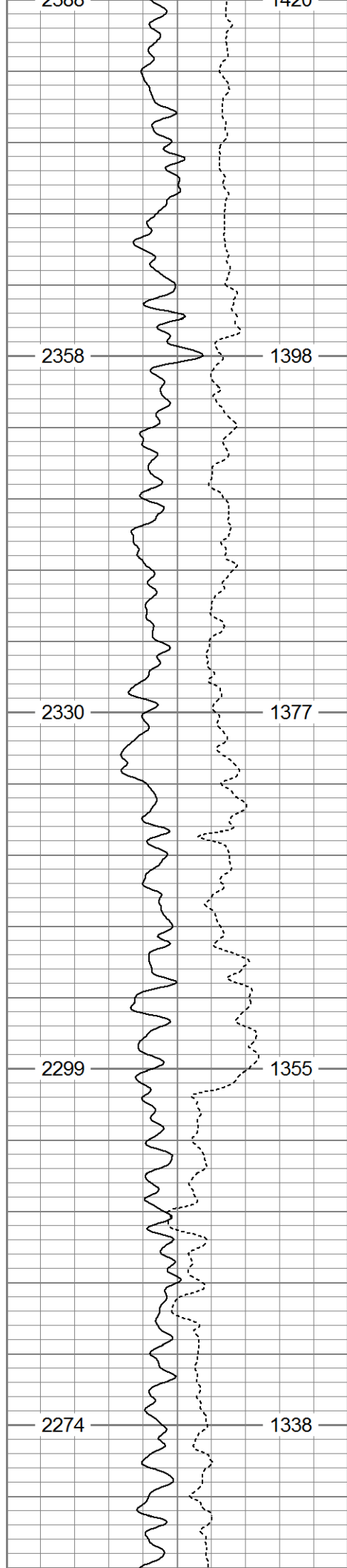
Annular volume calculated for 5.5" casing
Murfin Drilling Rig 25
Thank you for using Pioneer Energy Services

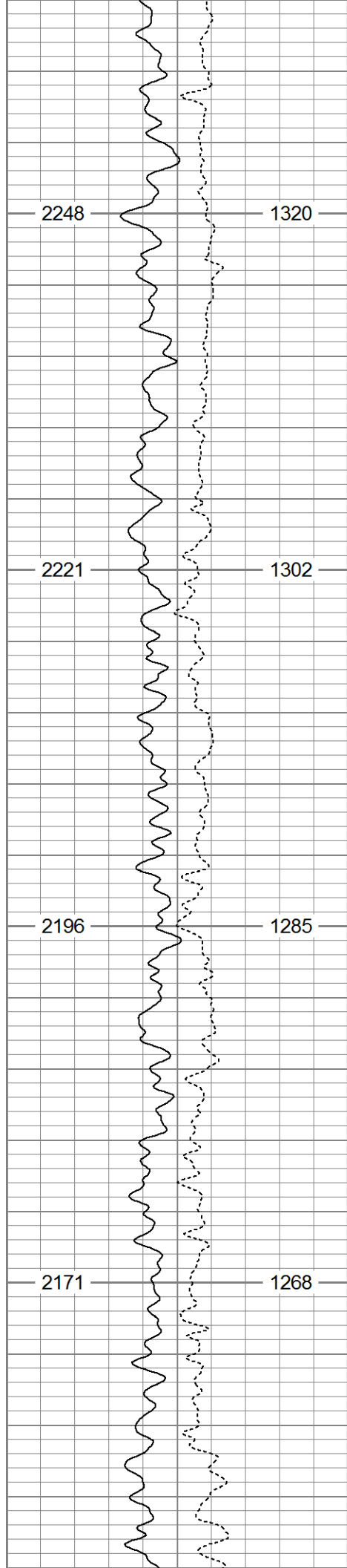
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Dataset Pathname: Final
Presentation Format: poro60
Dataset Creation: Sat May 31 13:06:12 2014
Charted by: Depth in Feet scaled 1:240

4	Caliper (in)	14
0	Gamma Ray (GAPI)	200
TBHV (ft3)		ABHV (ft3)

60	Density Porosity (pu)	0
60	Neutron Porosity (pu)	0
-0.5	Corr (g/cc)	0.5

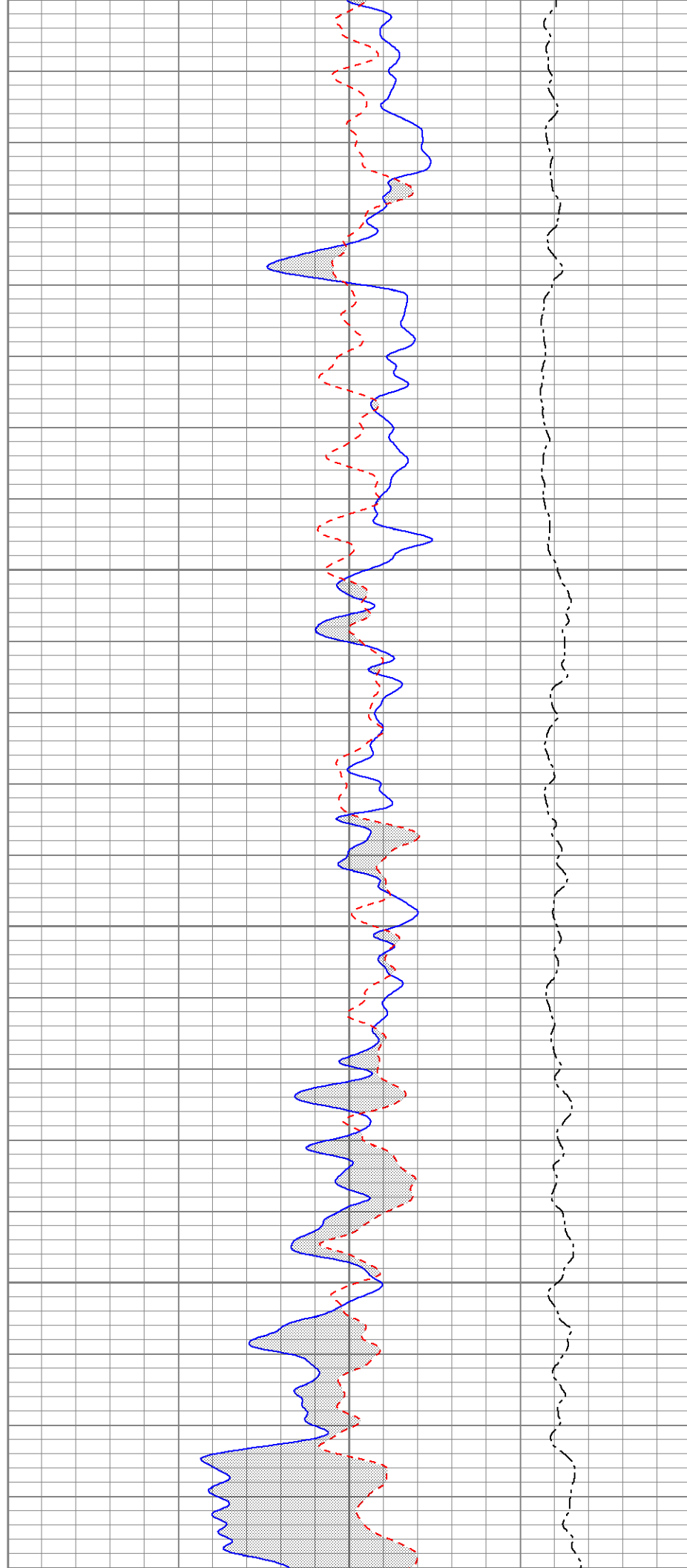


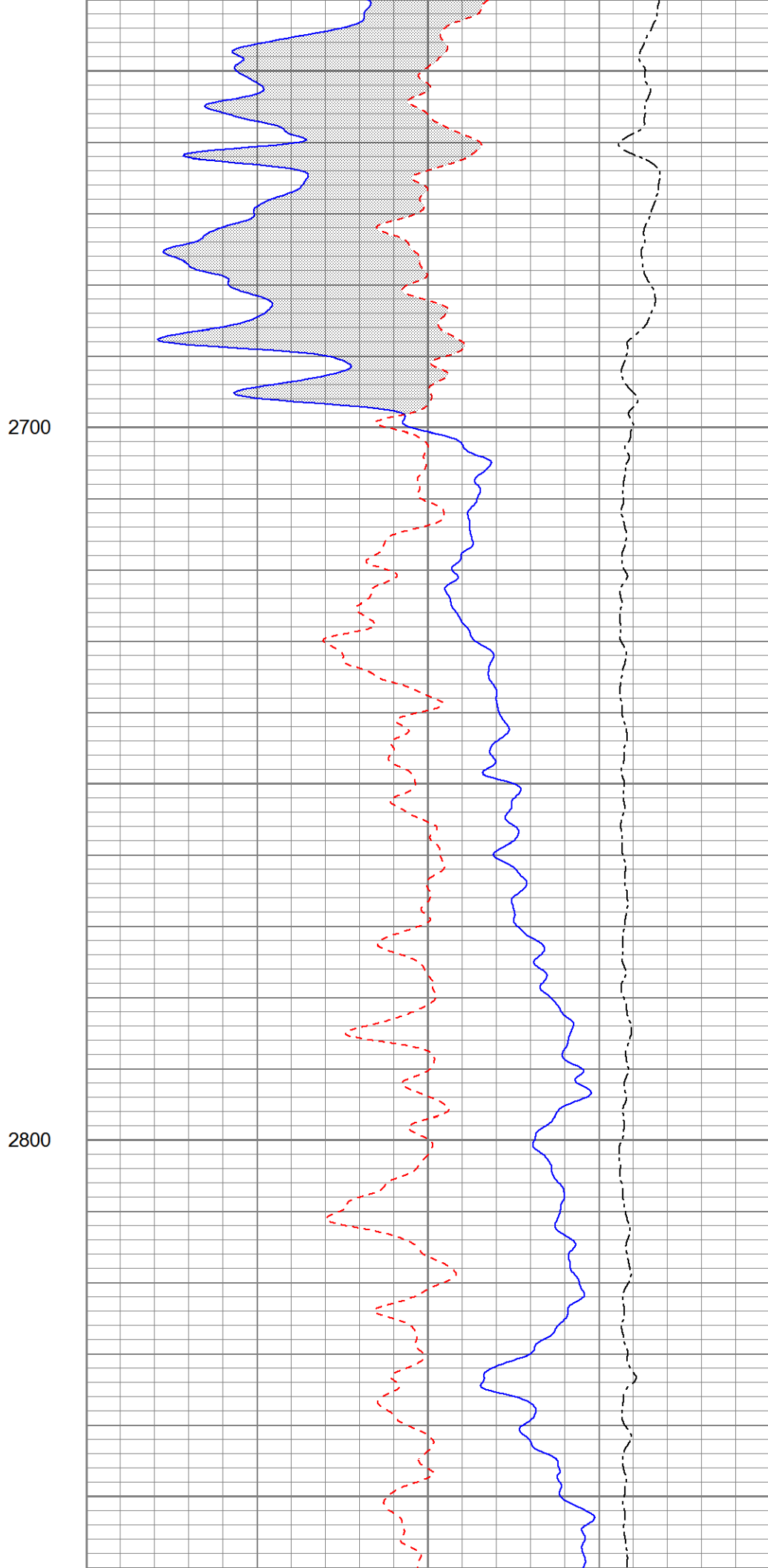
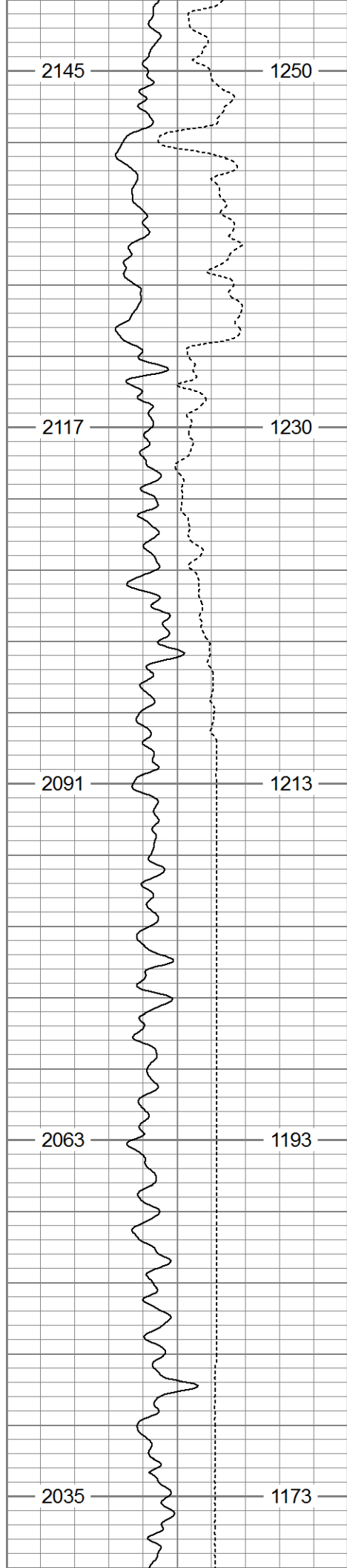


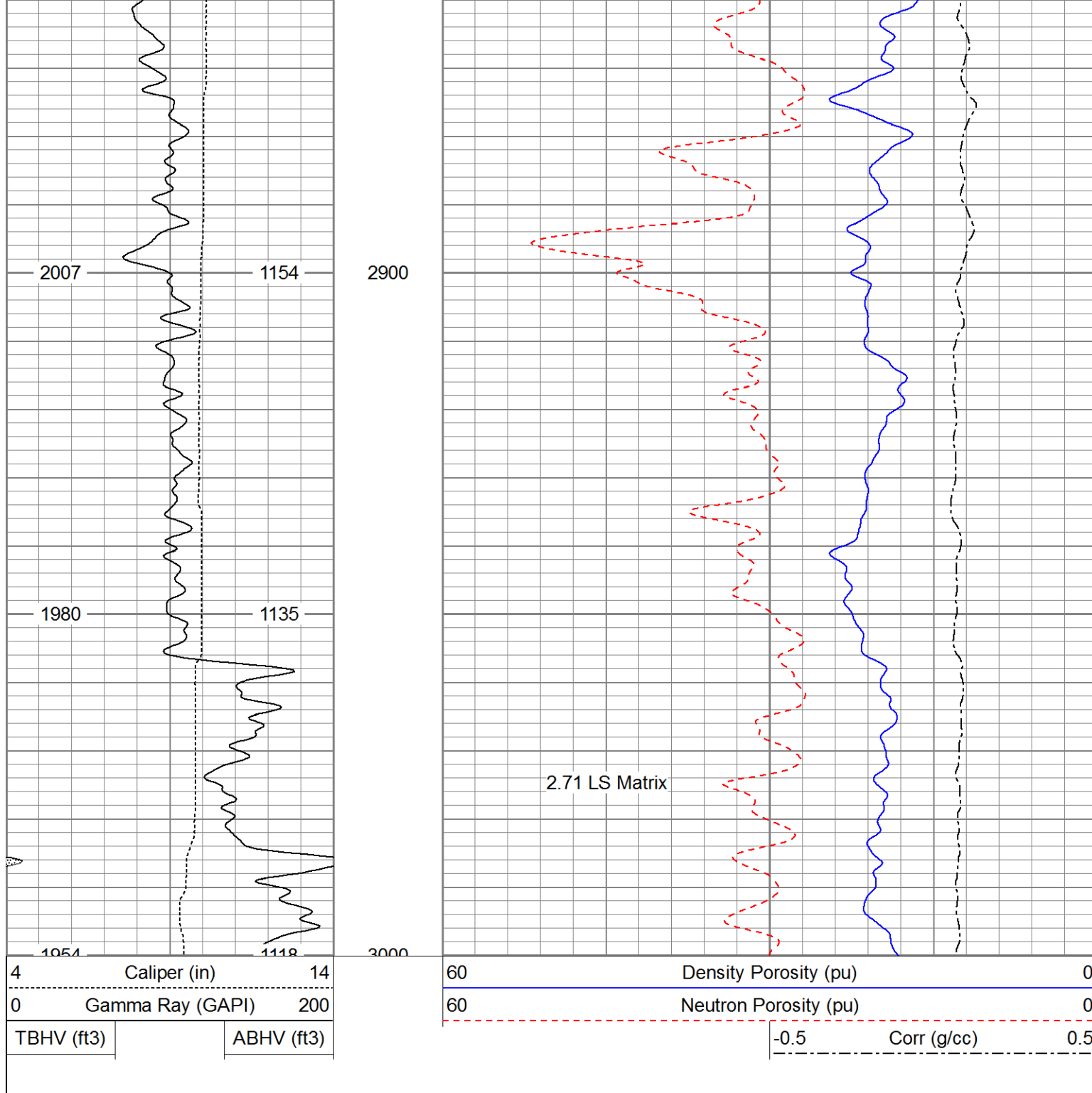


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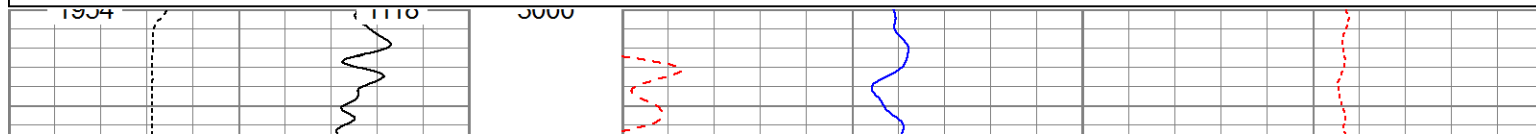
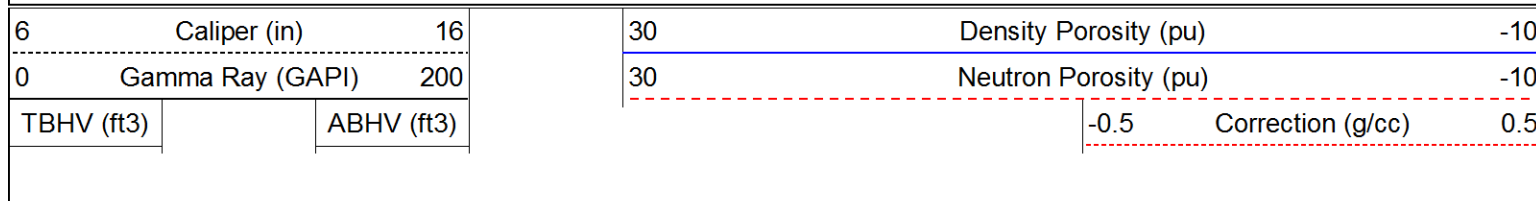
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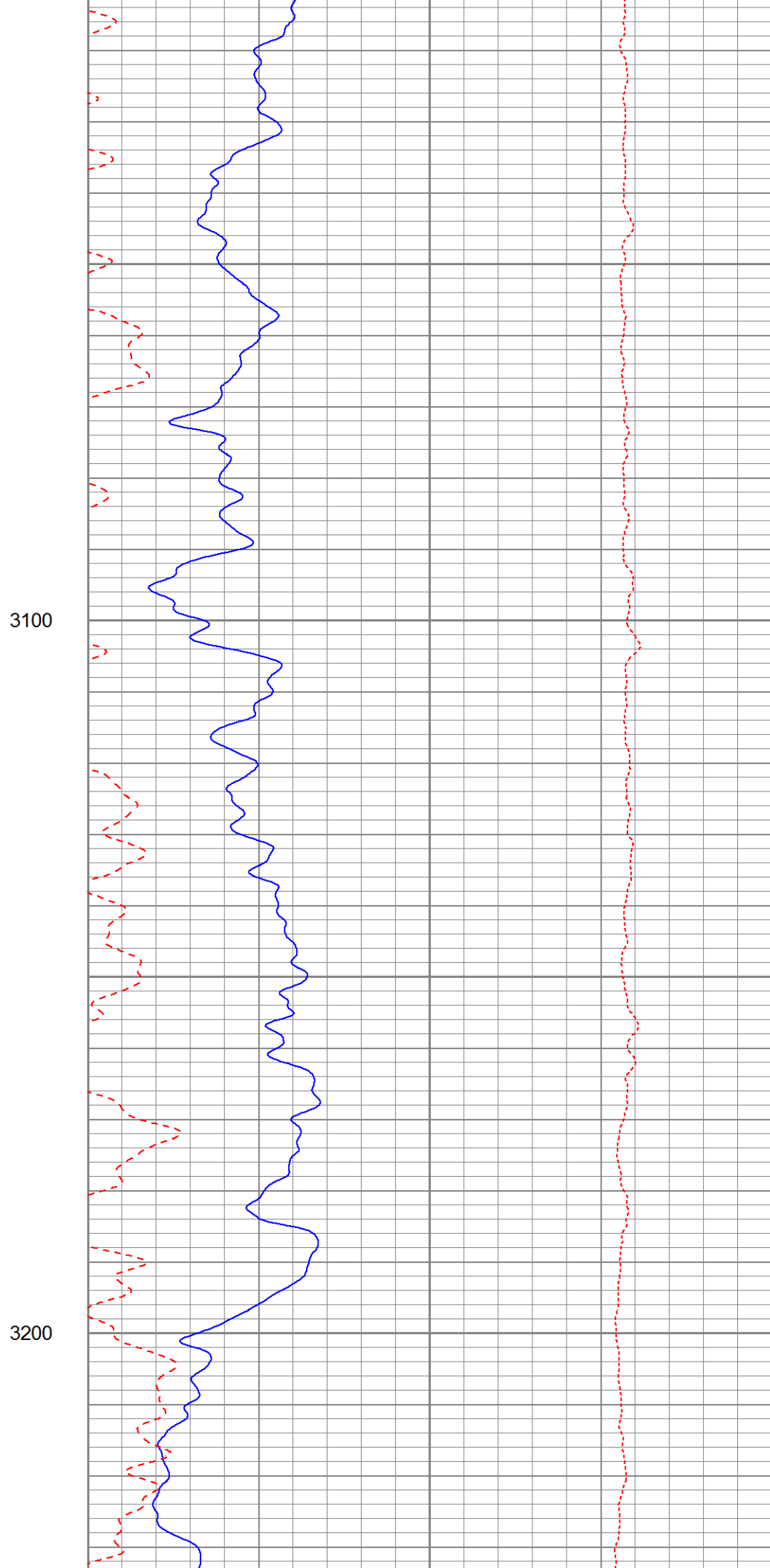
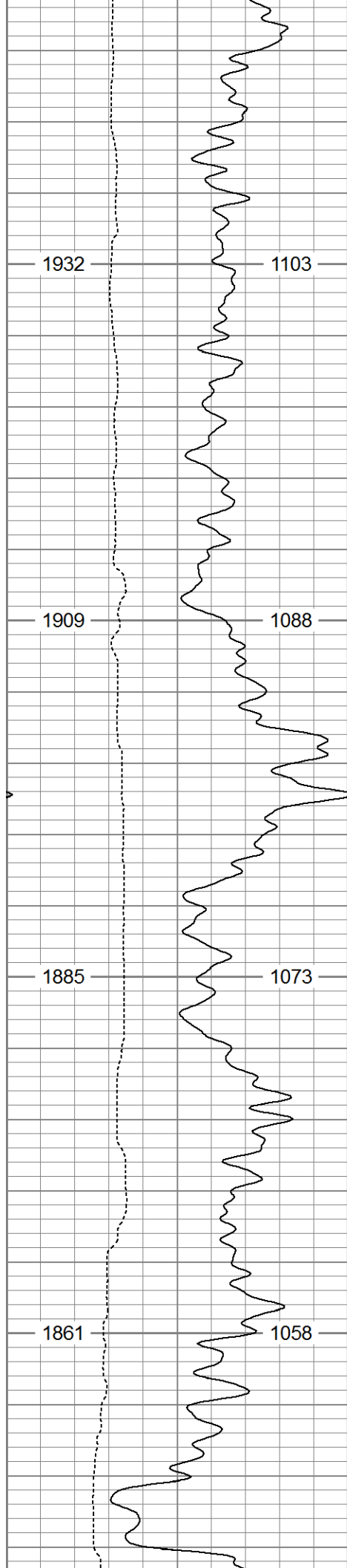


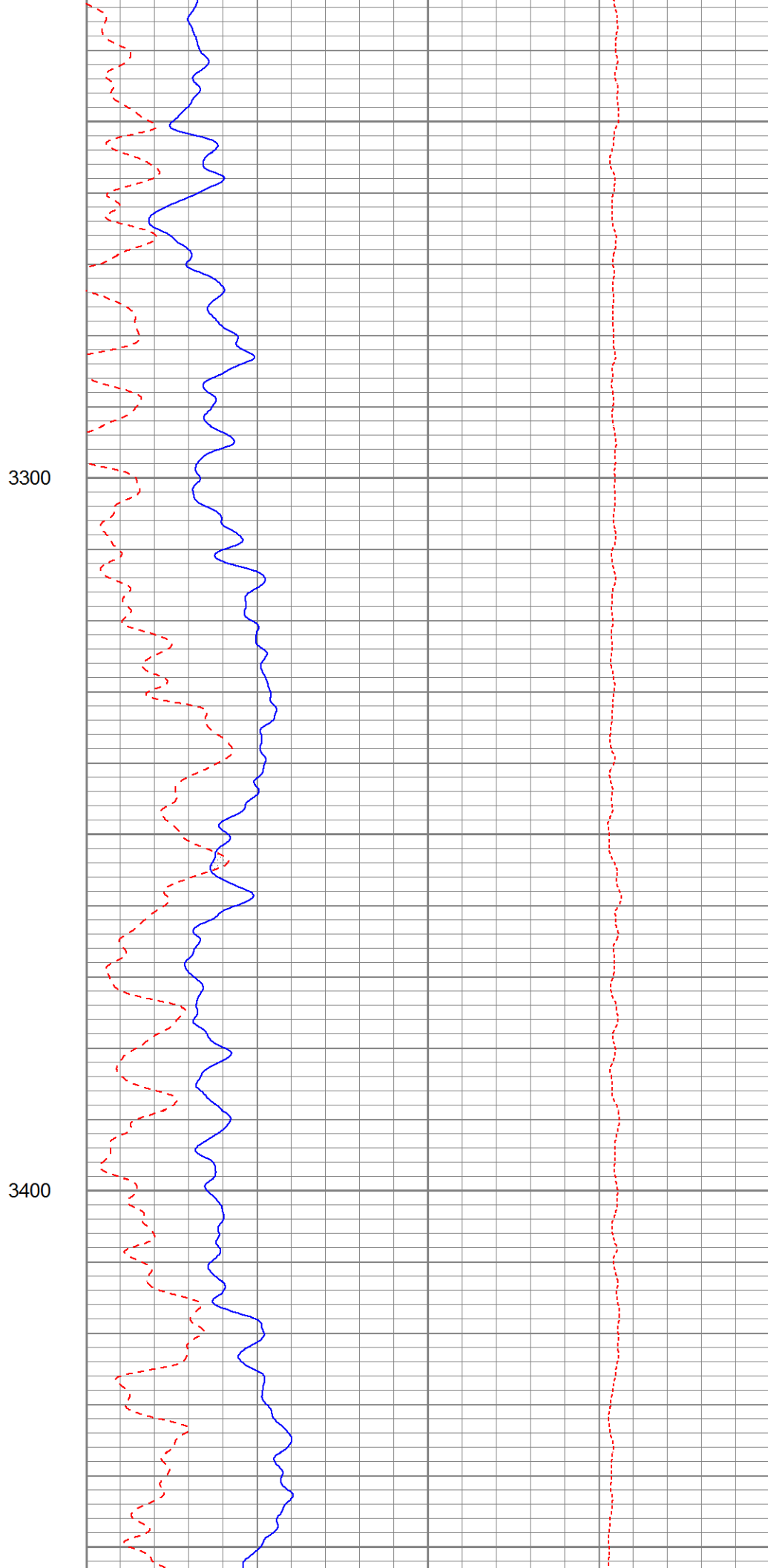
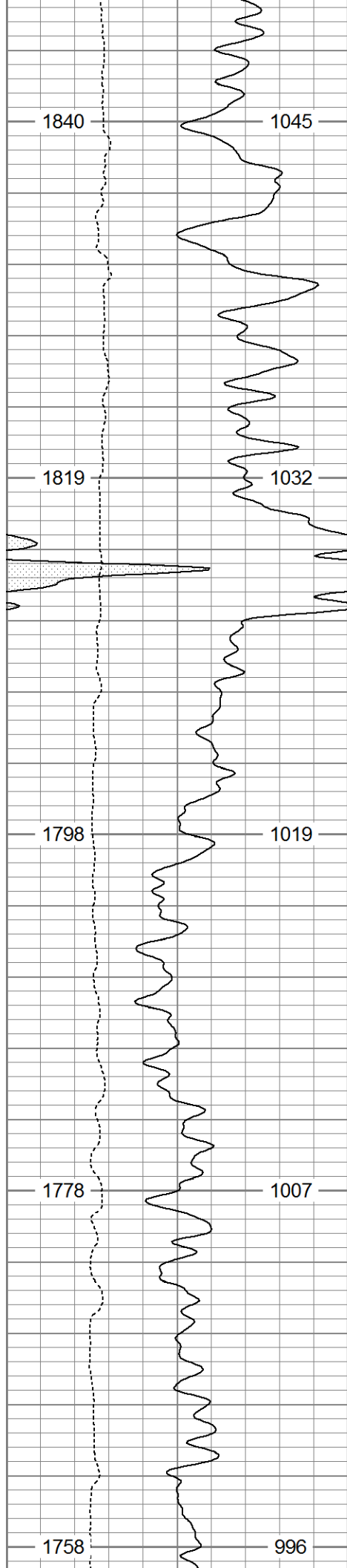


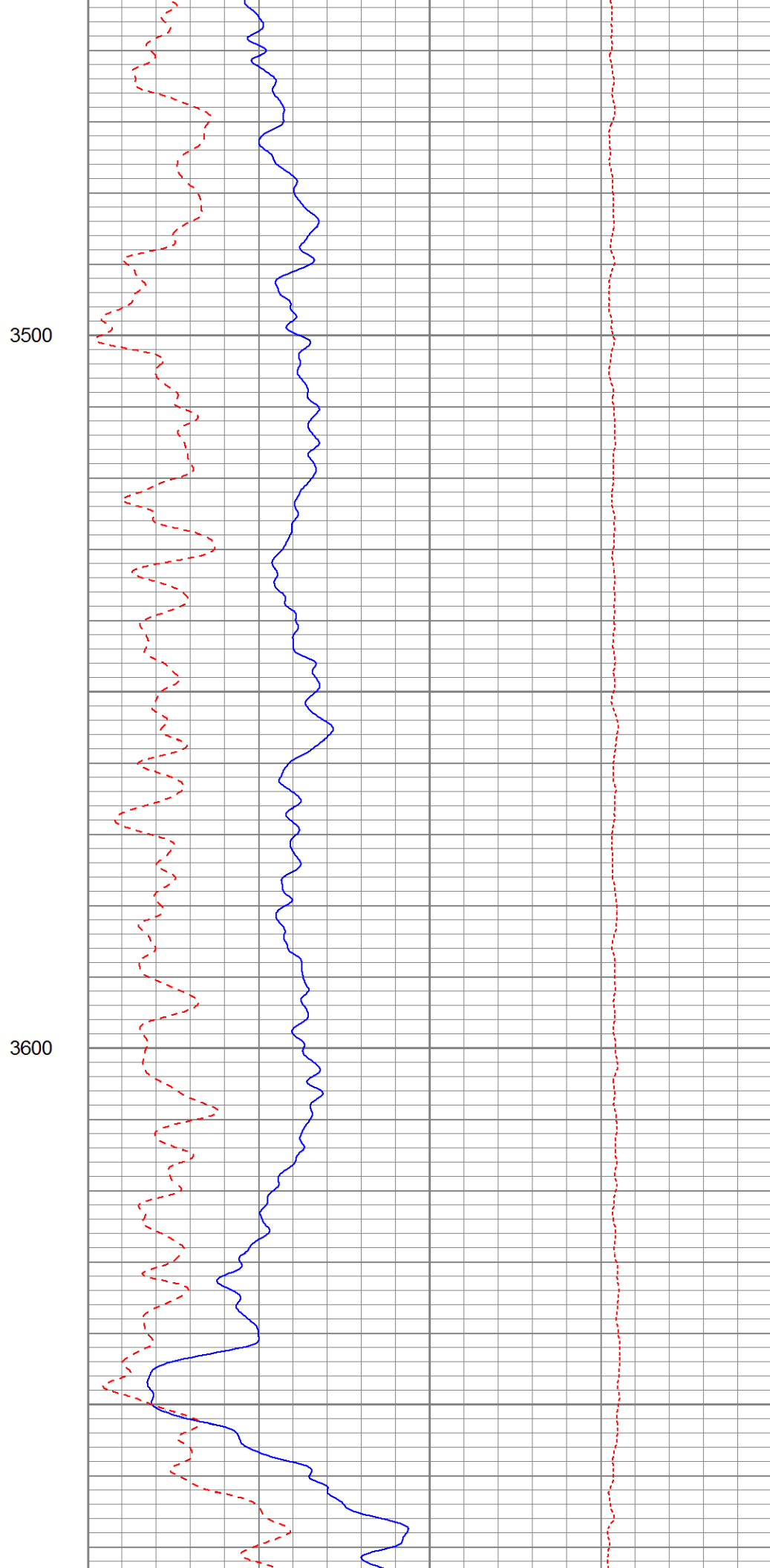
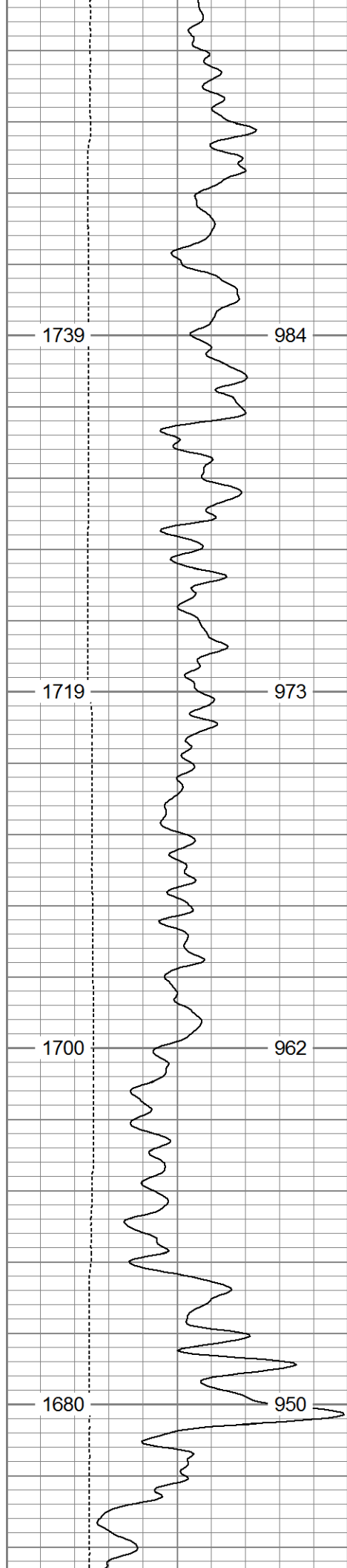


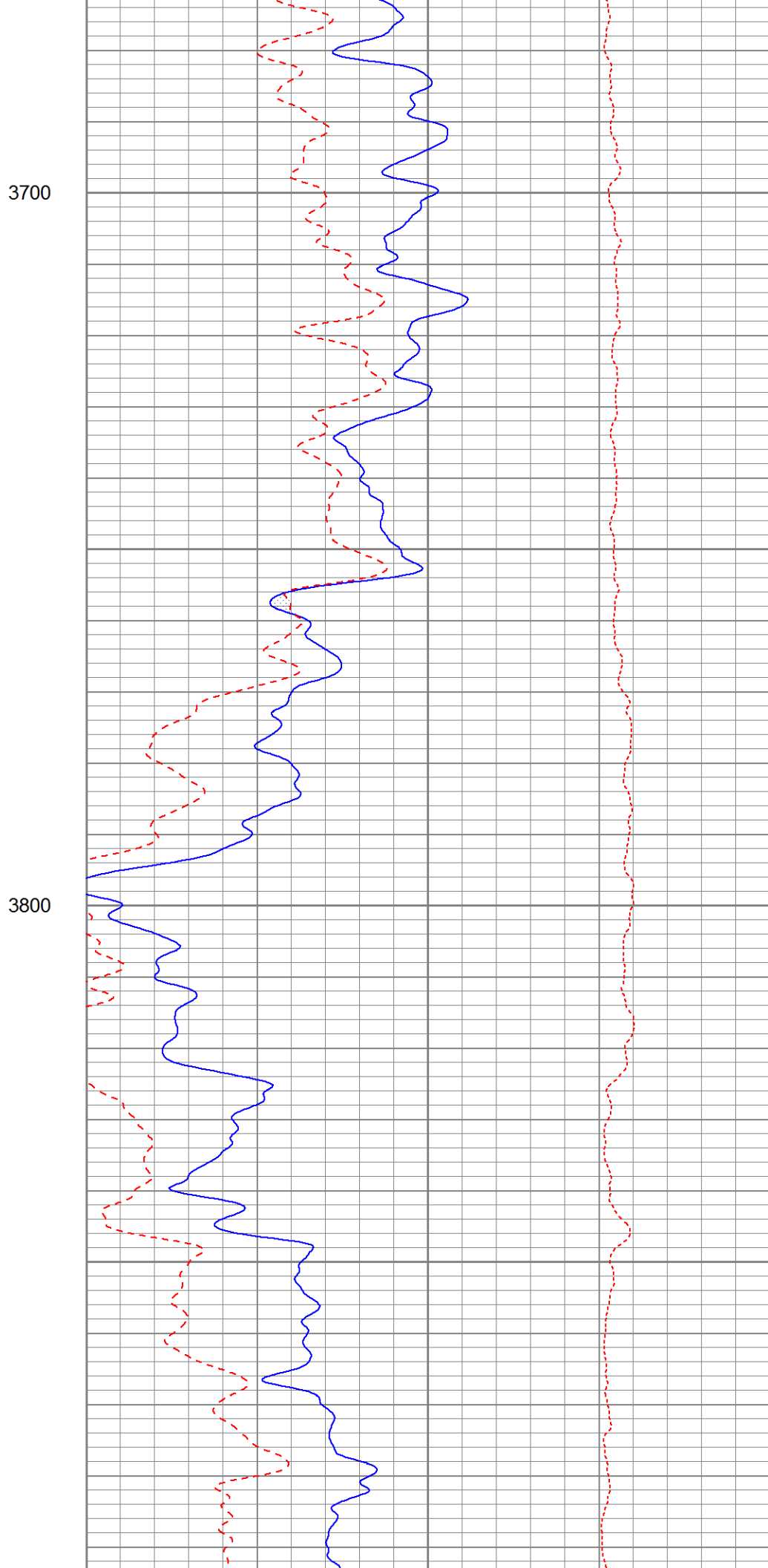
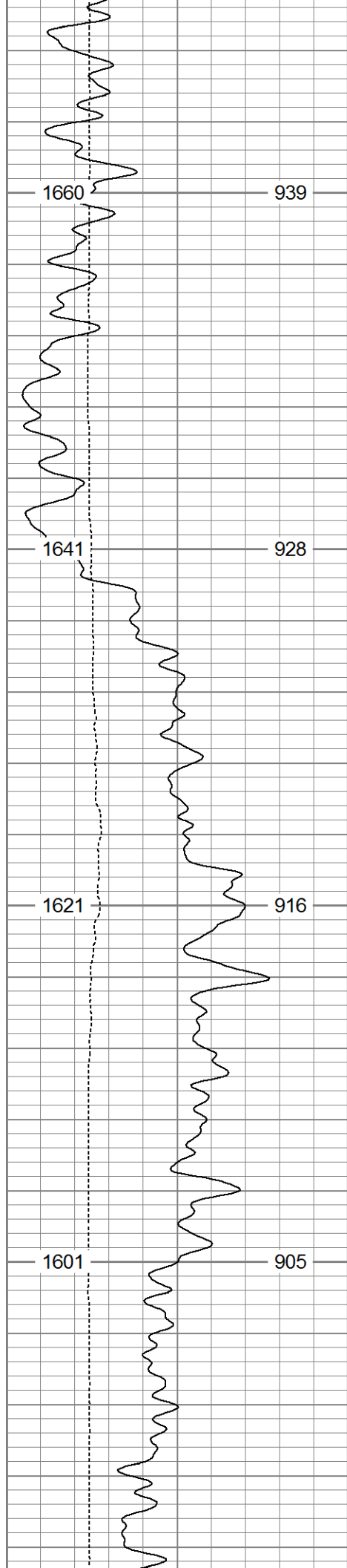
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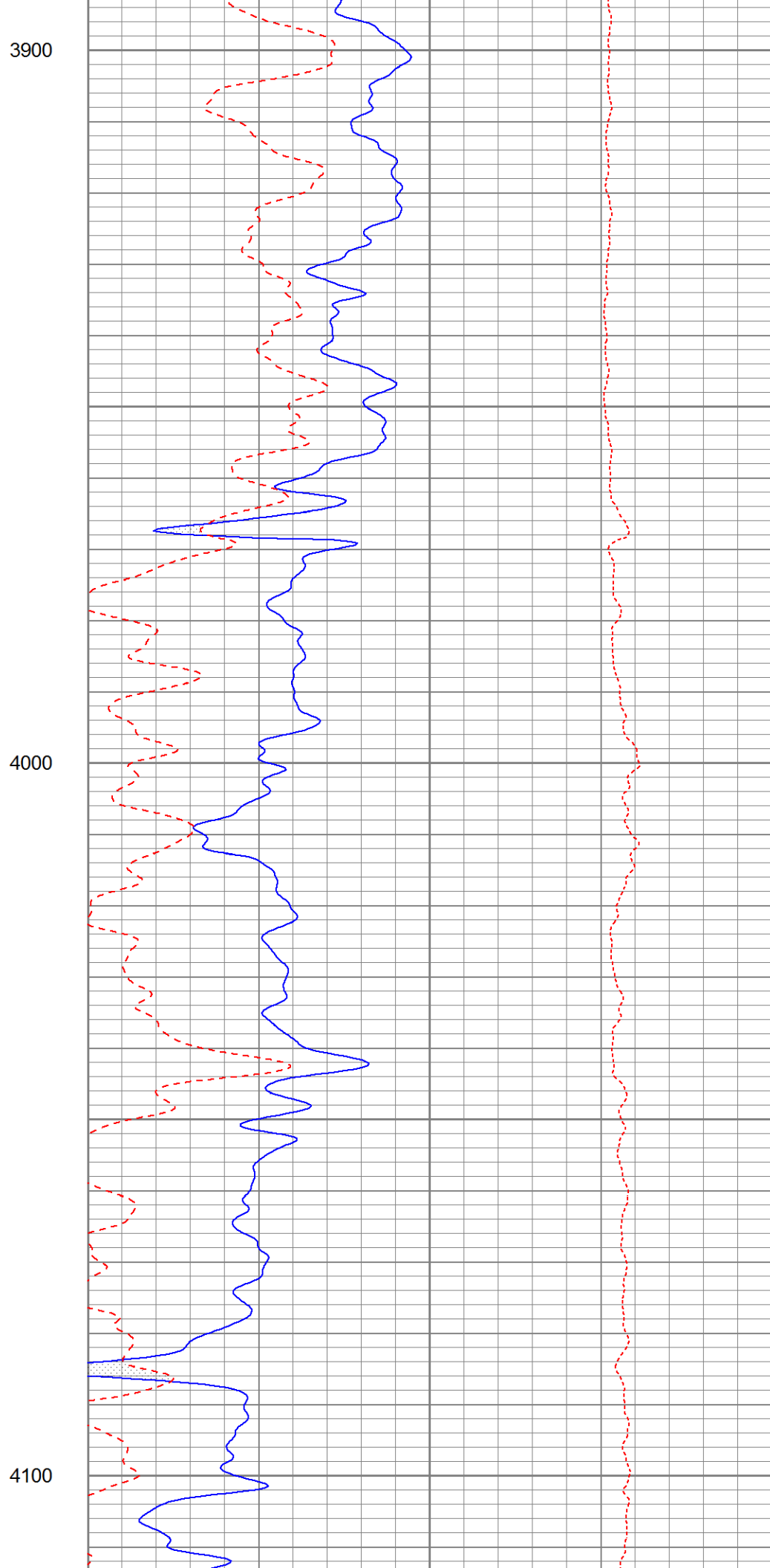
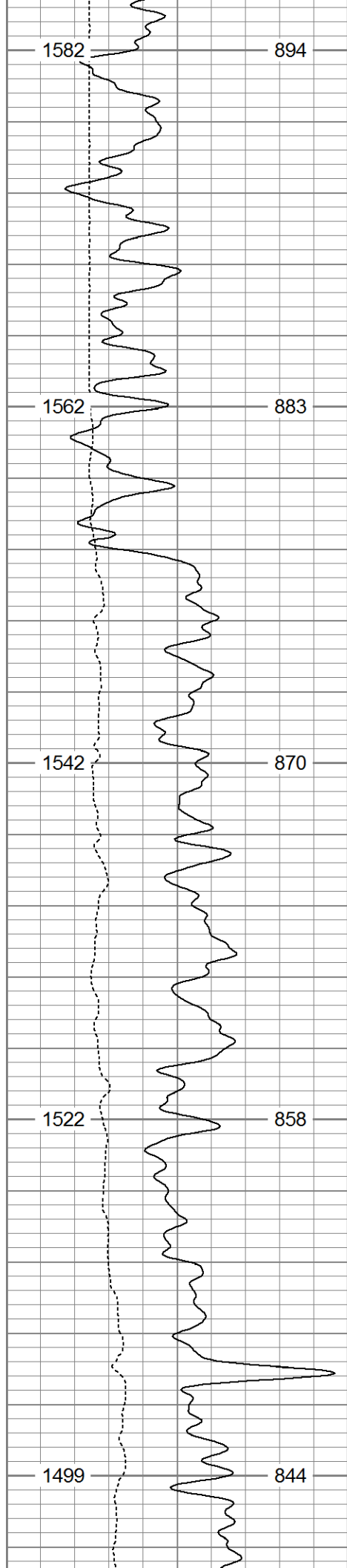


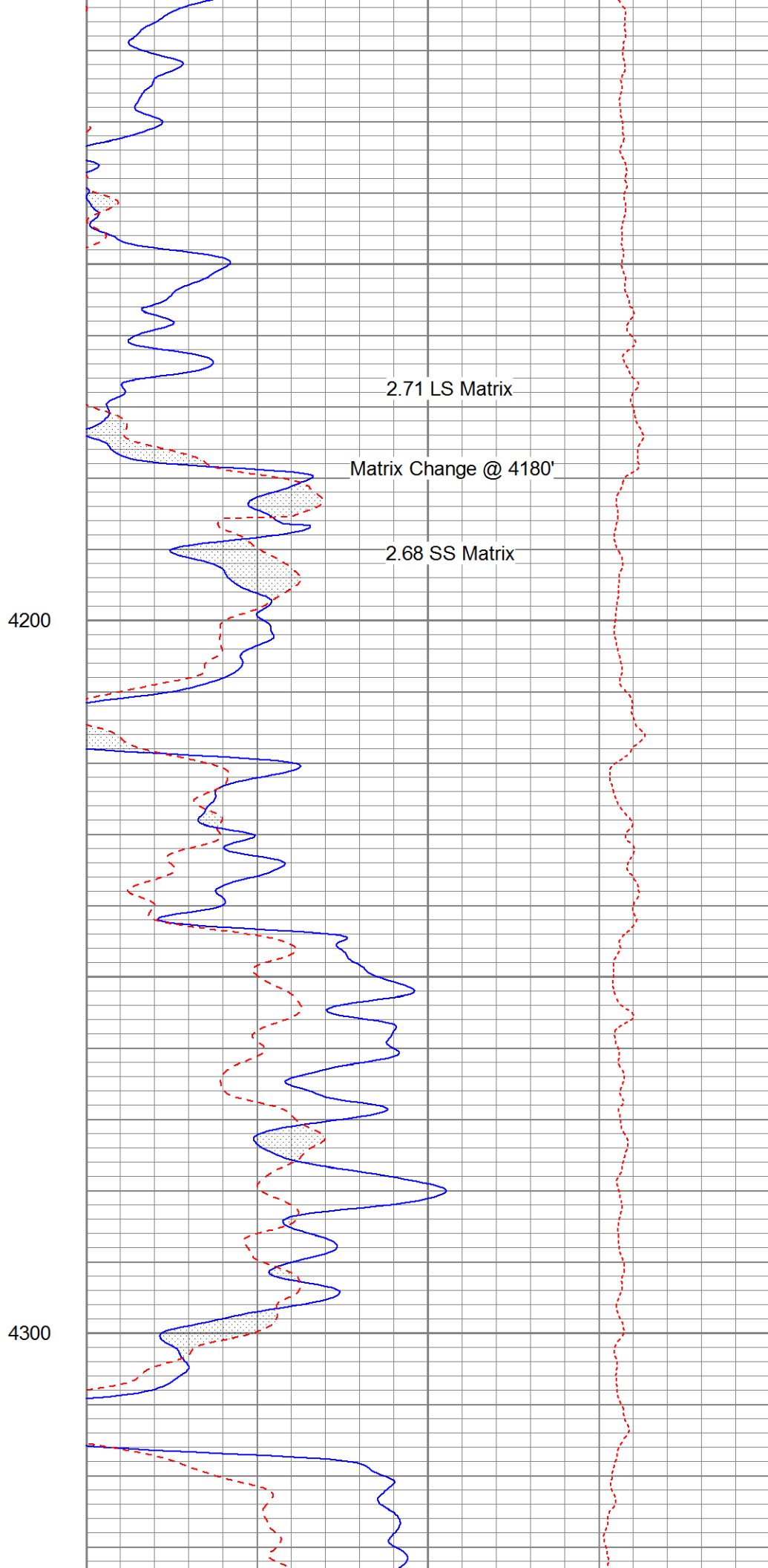
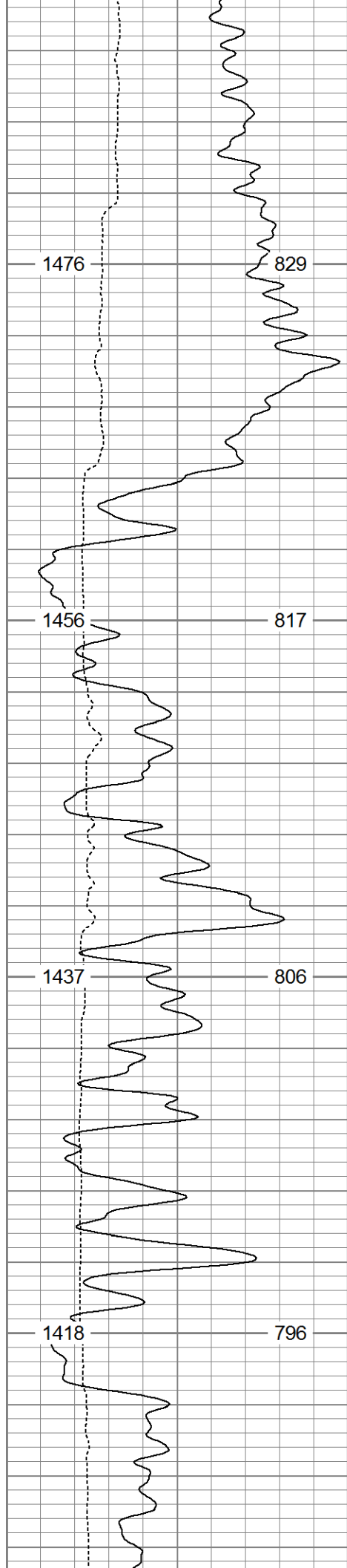


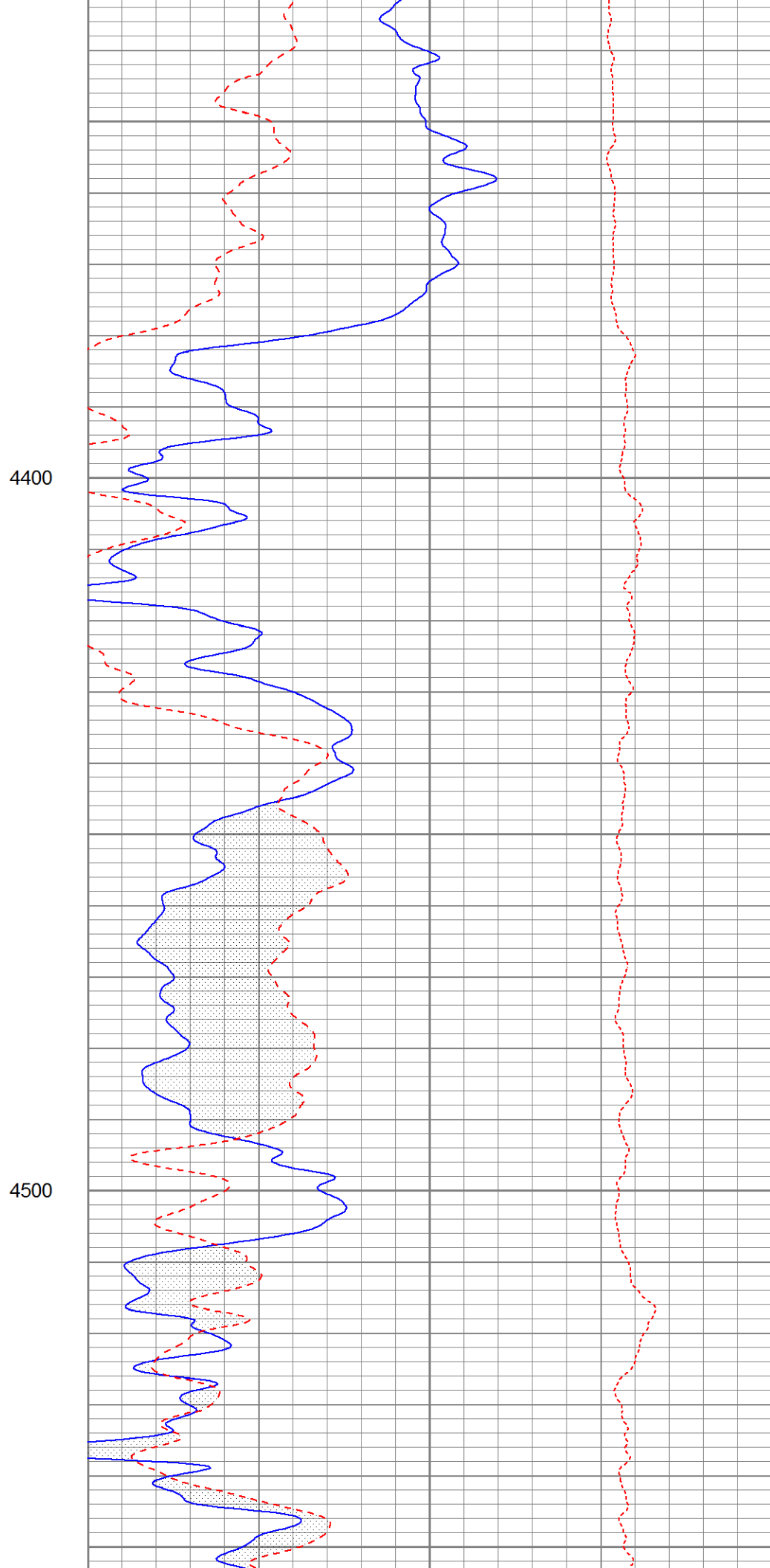
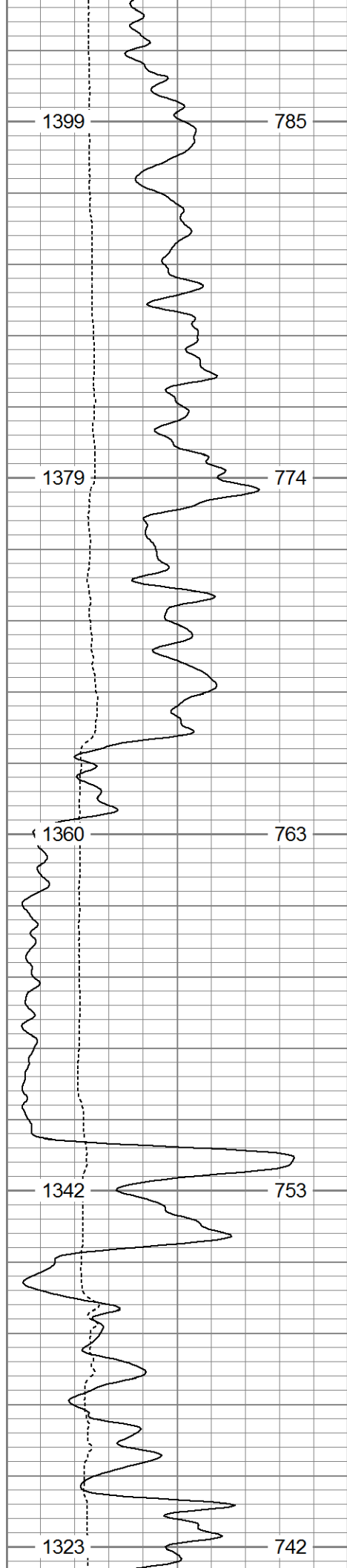


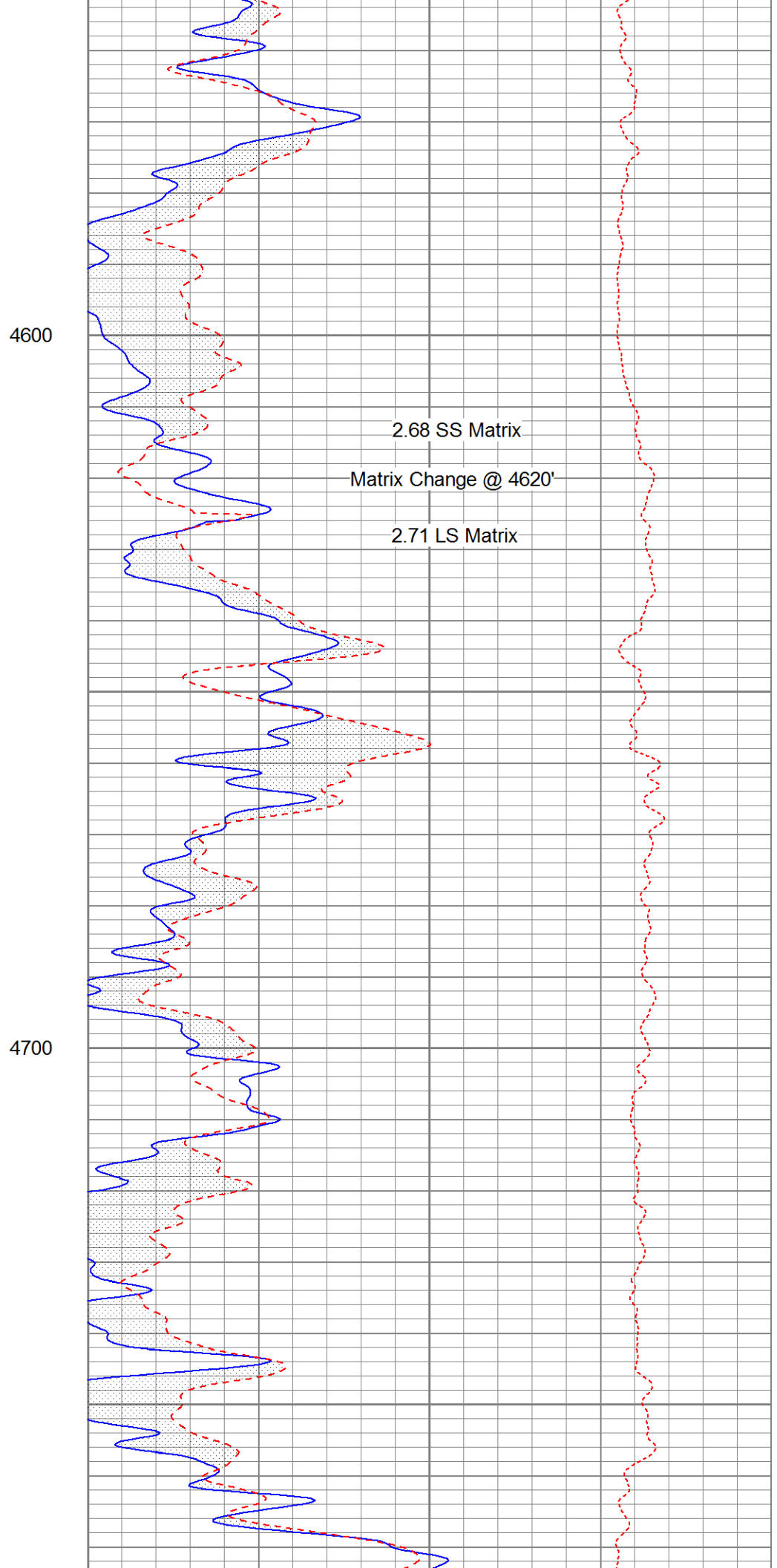
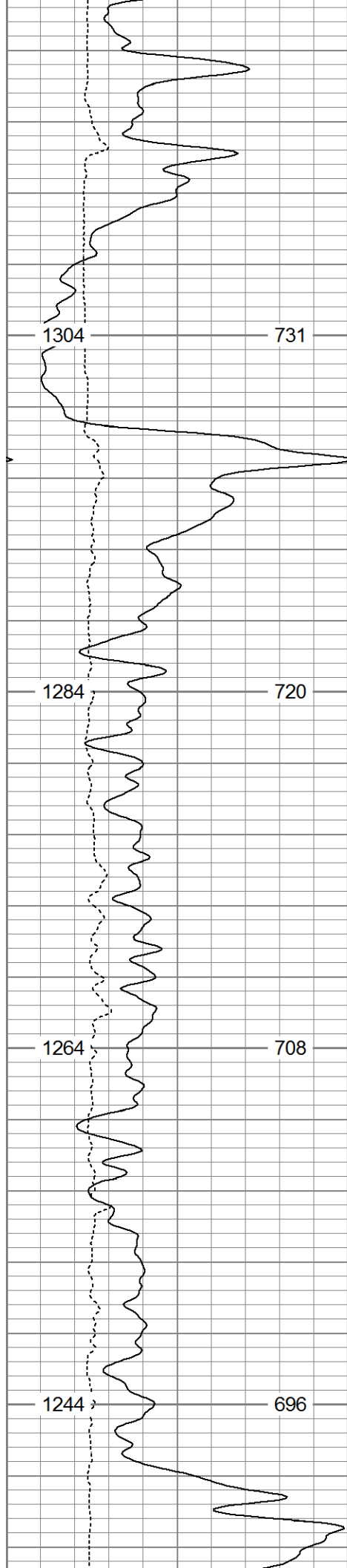


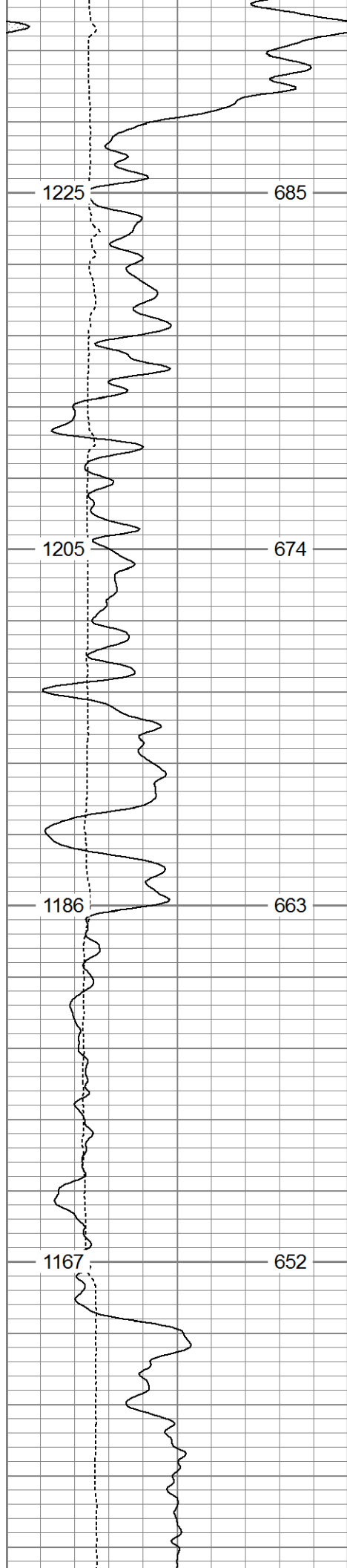




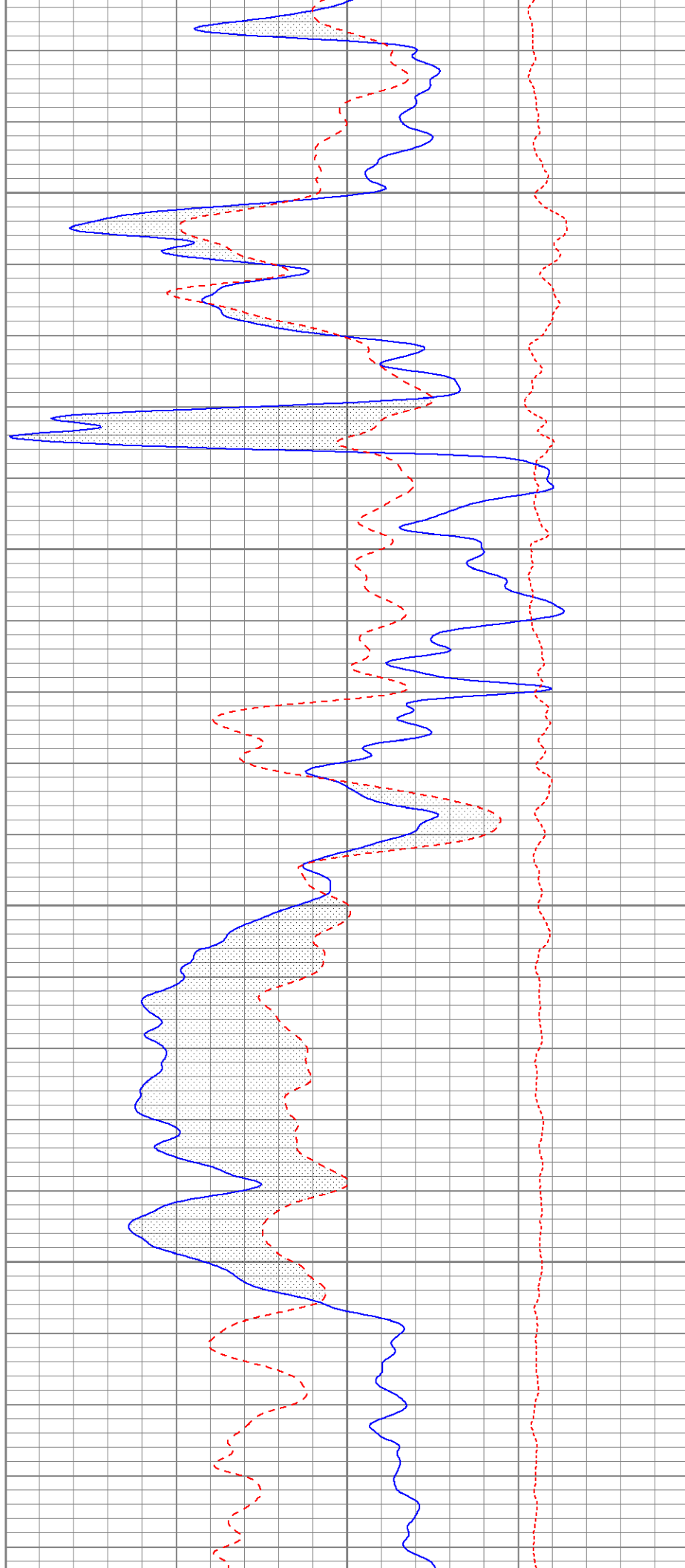


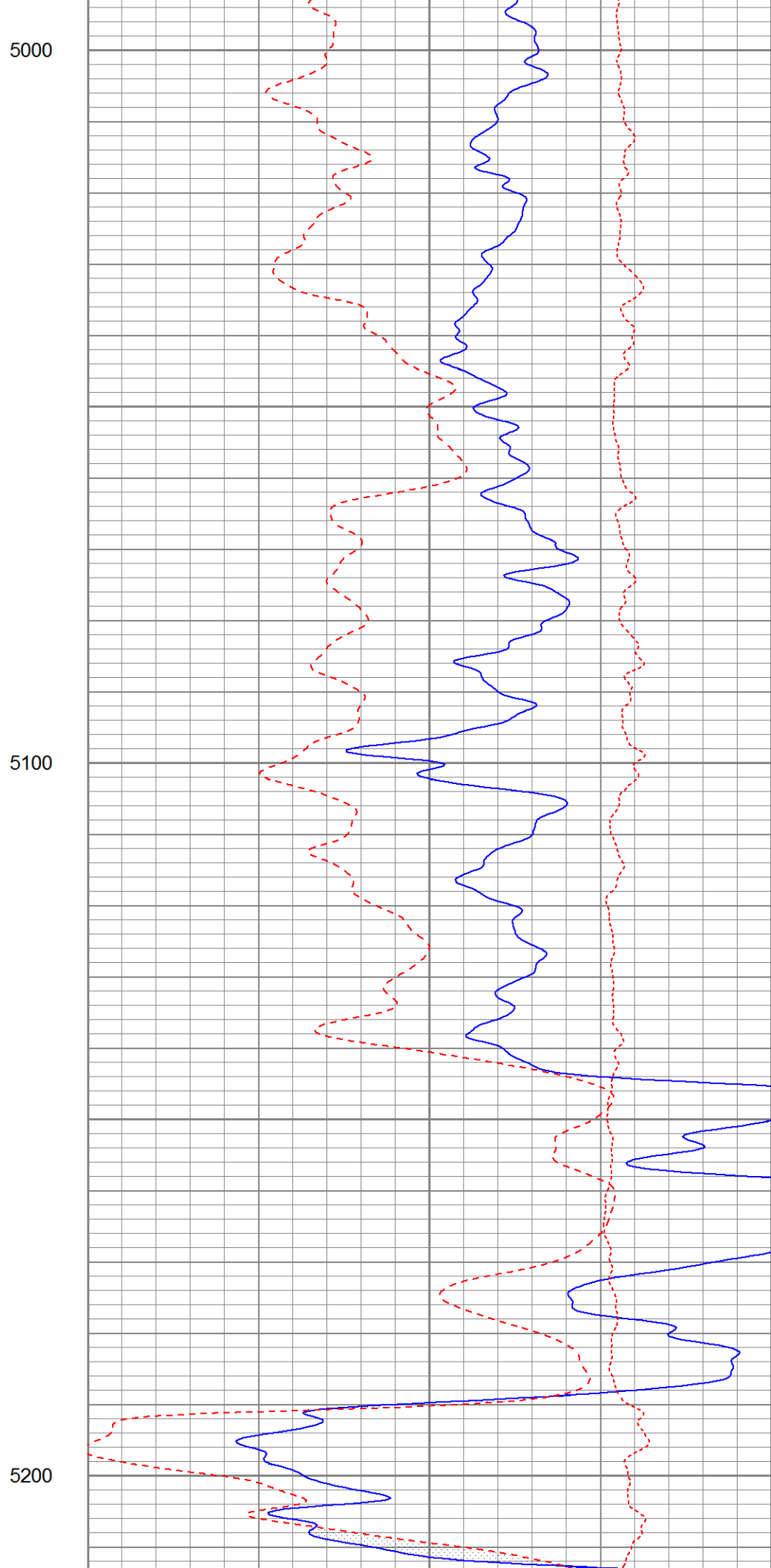
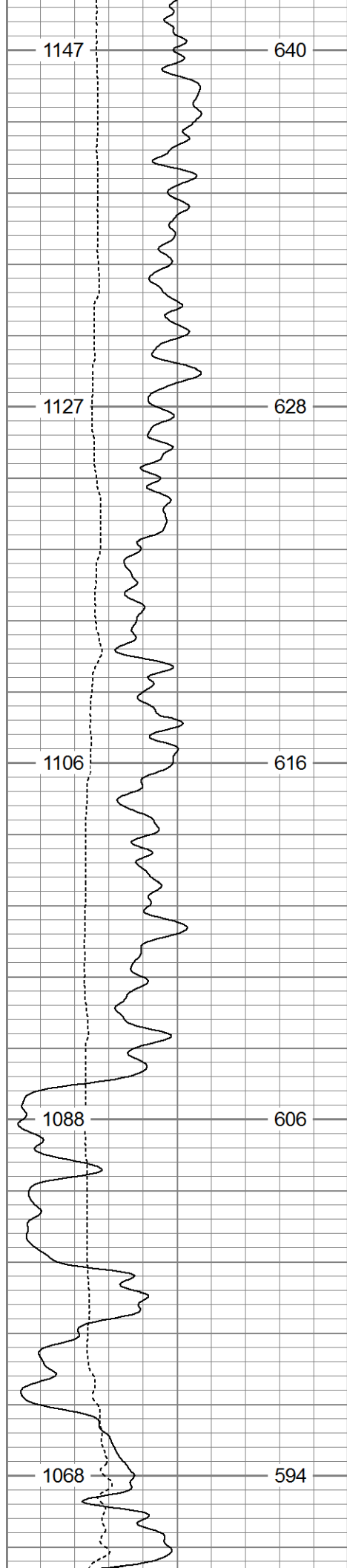


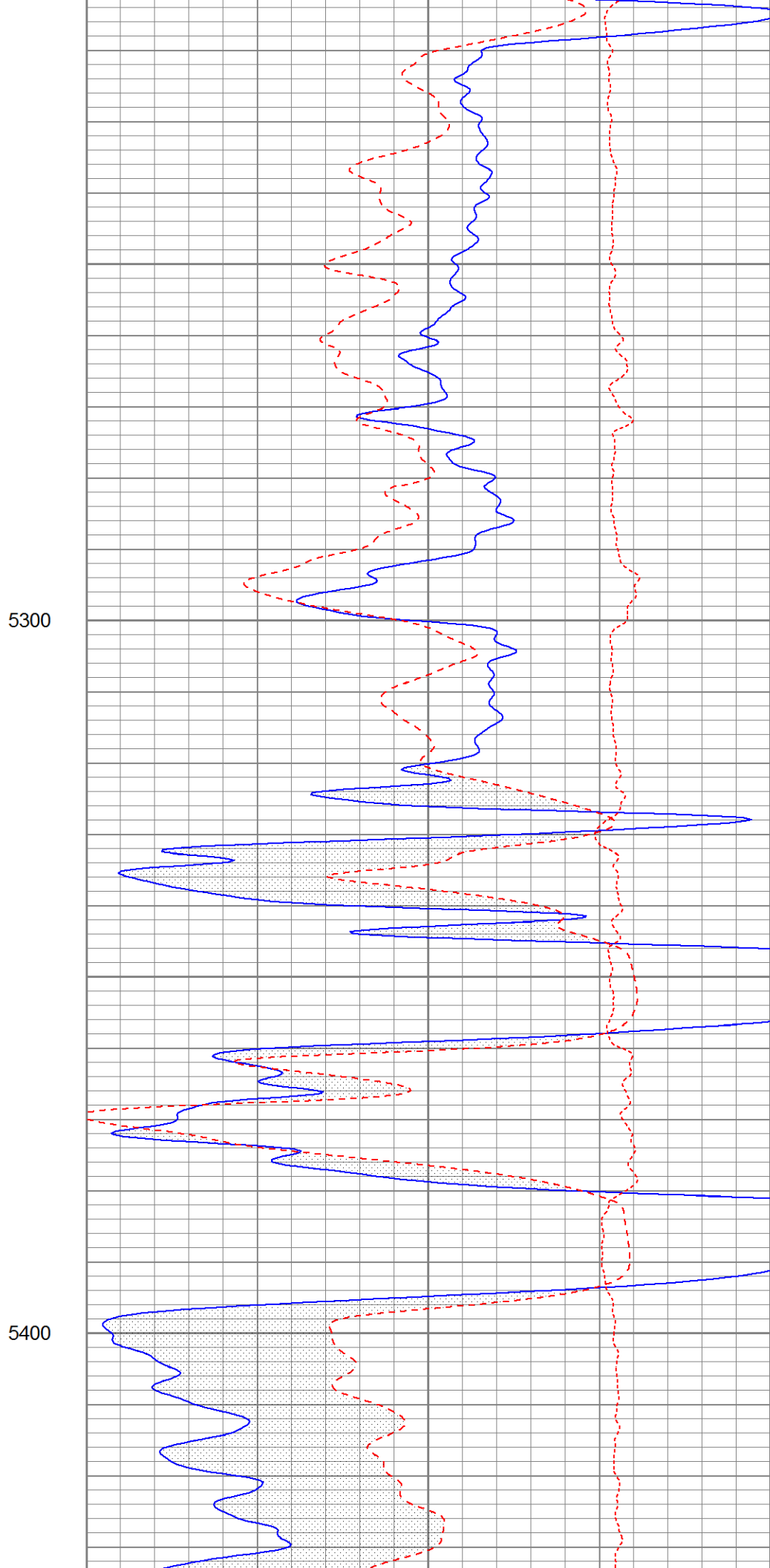
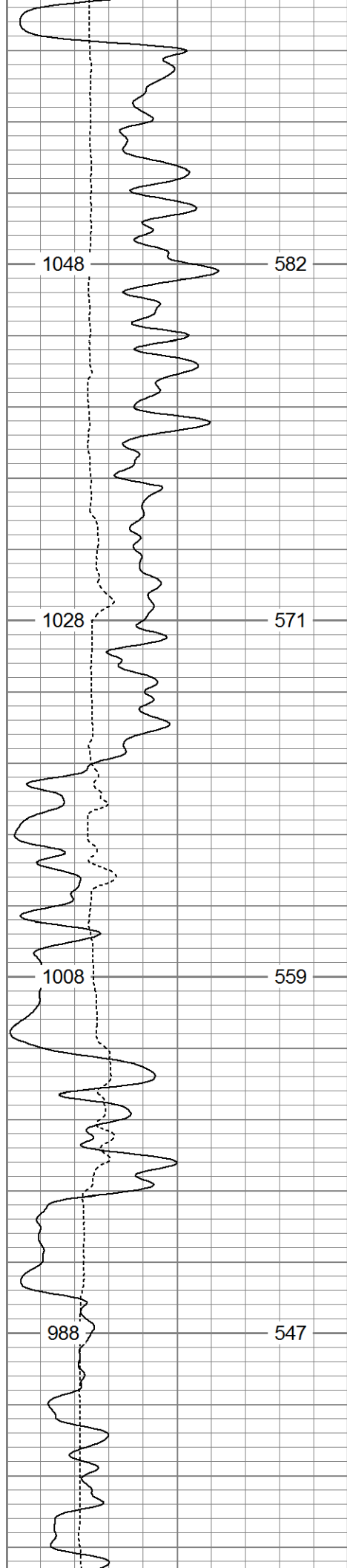


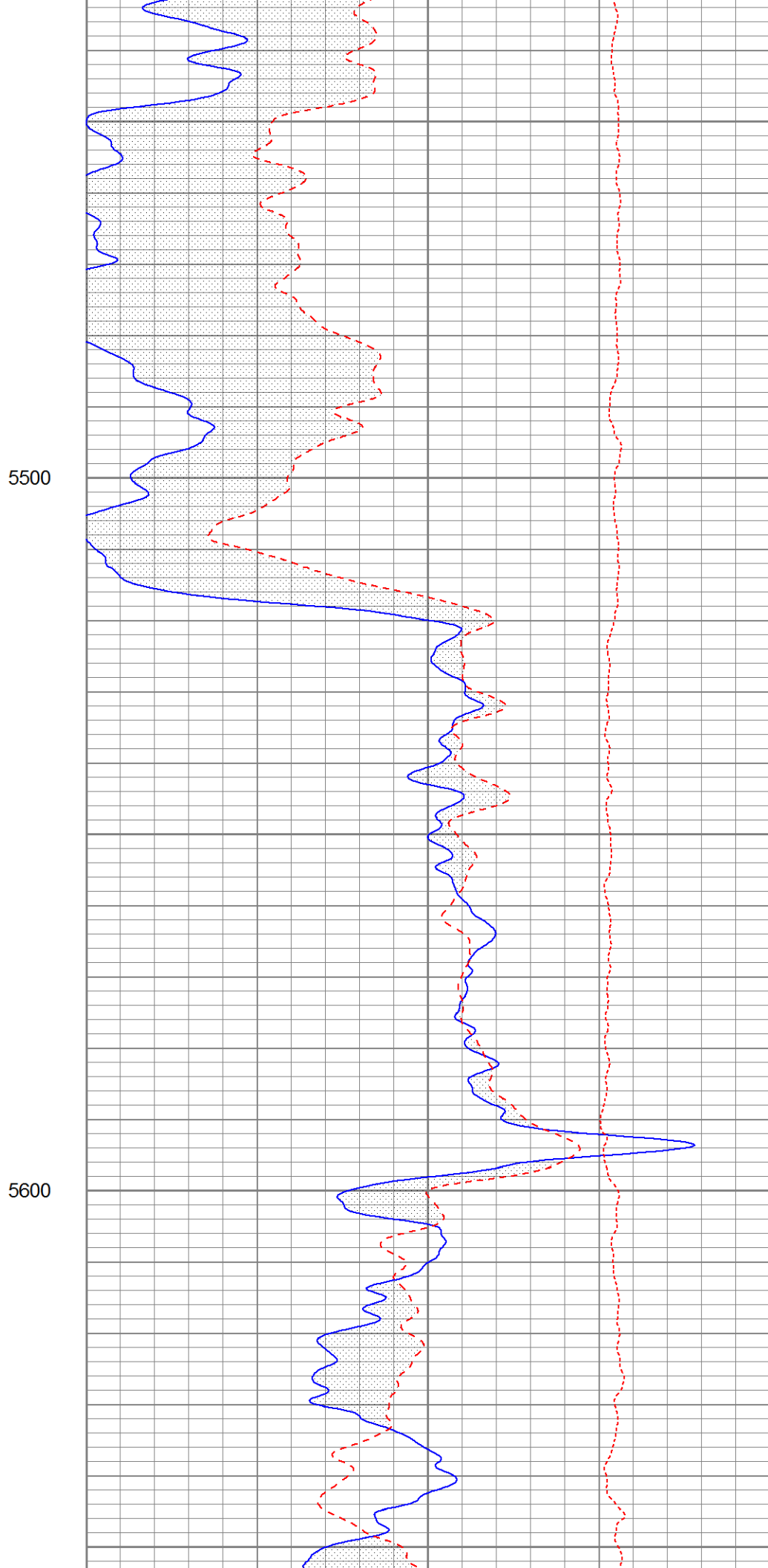
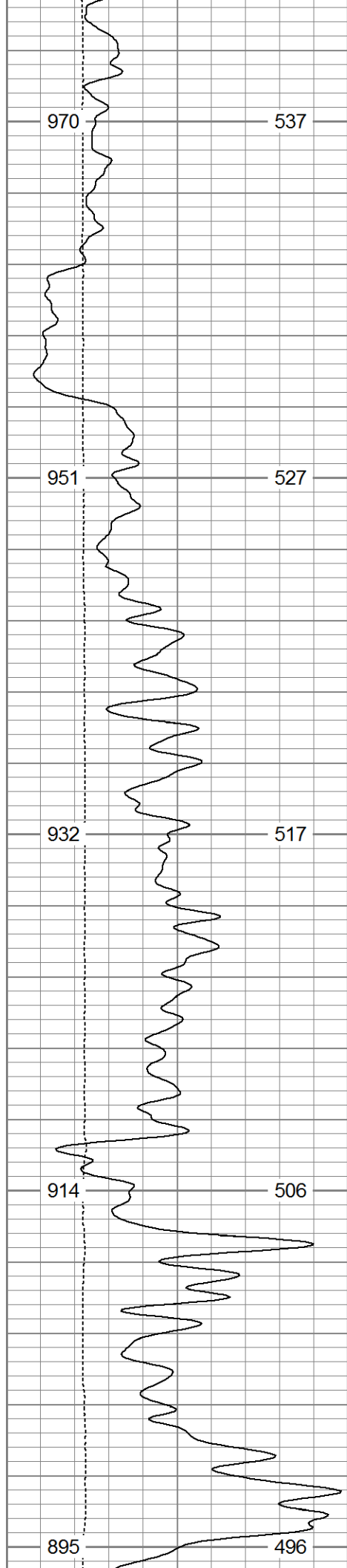


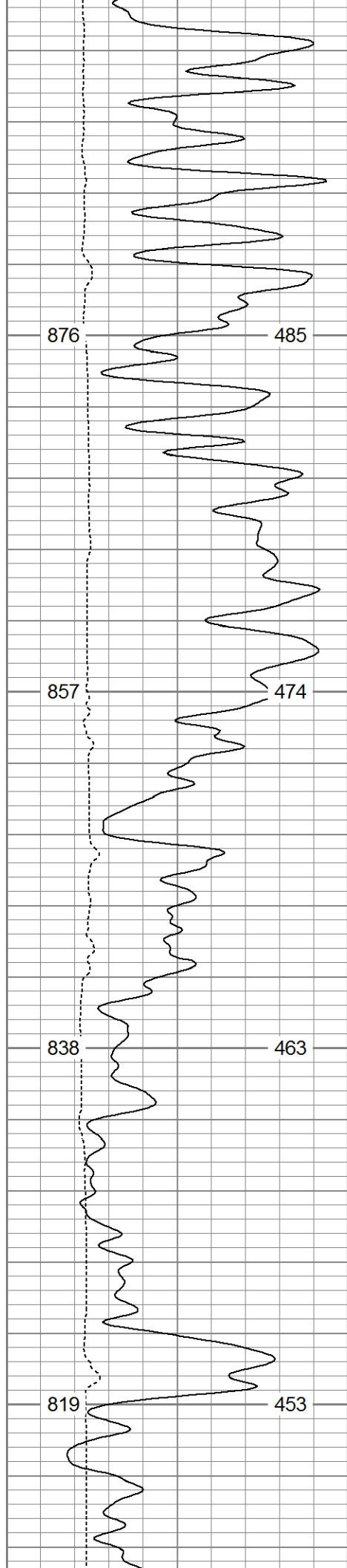
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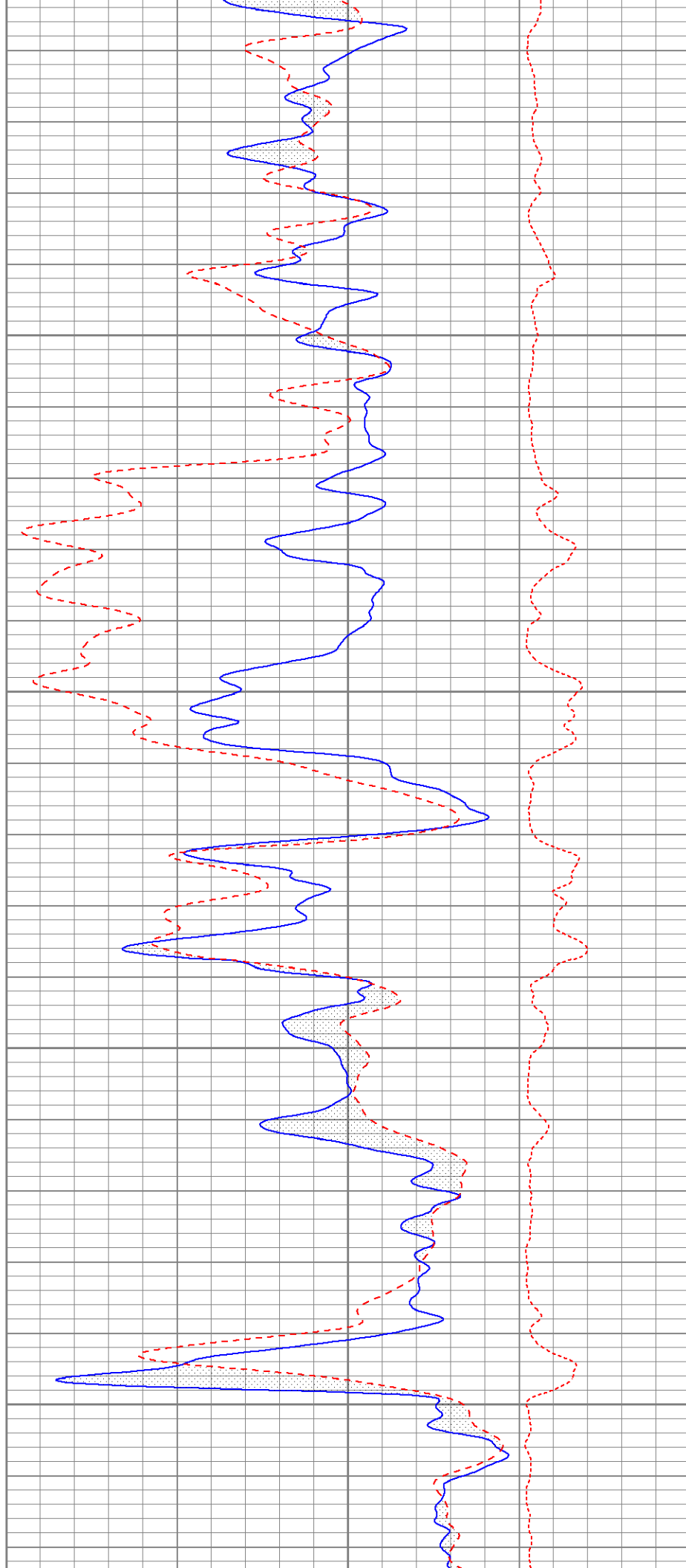


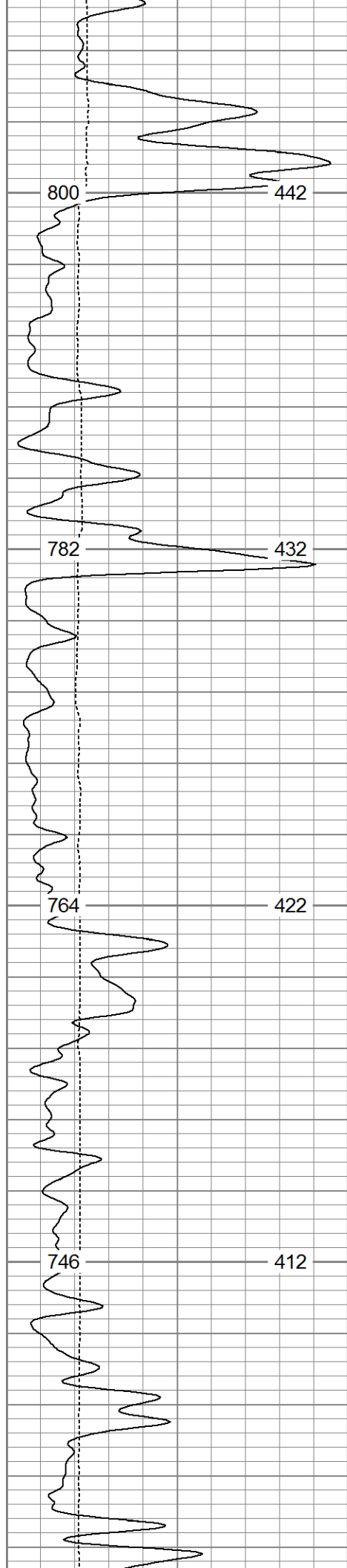




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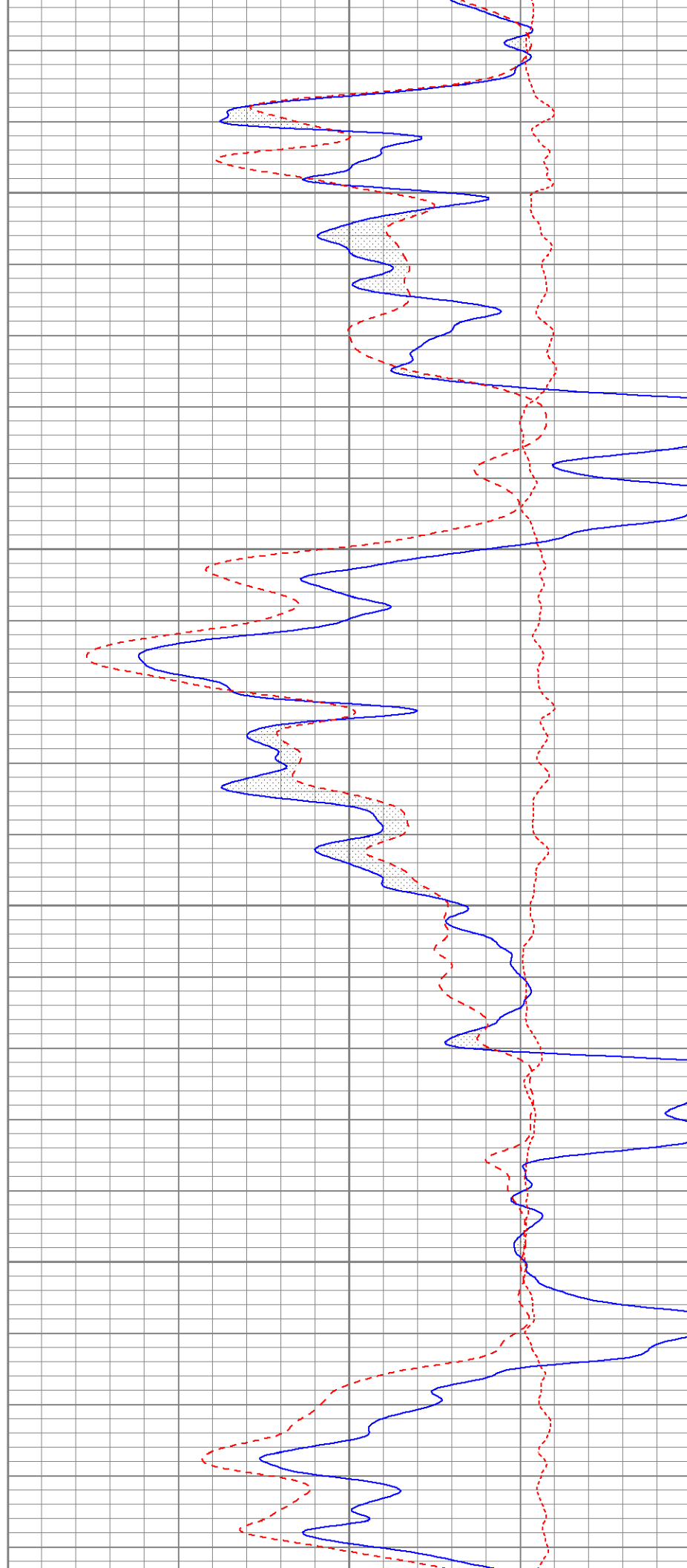
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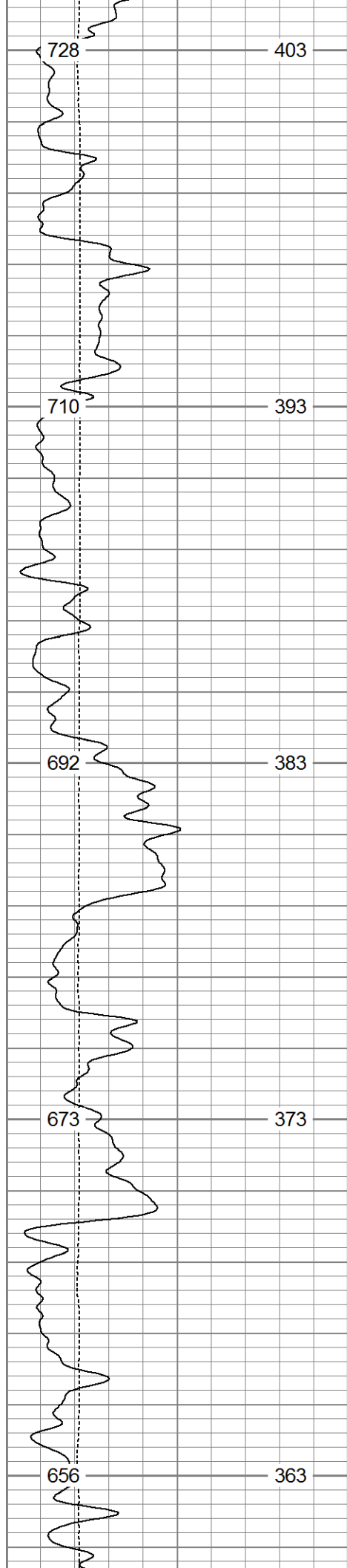




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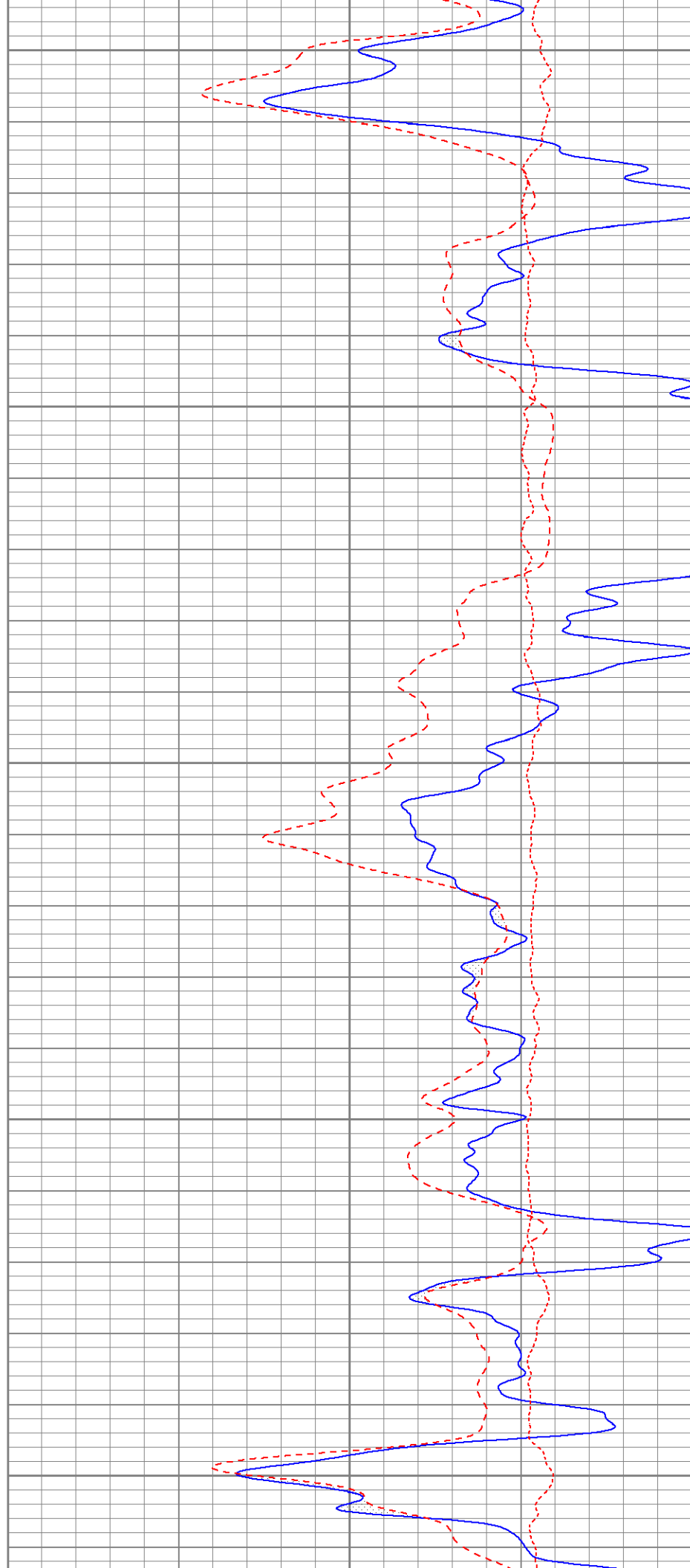


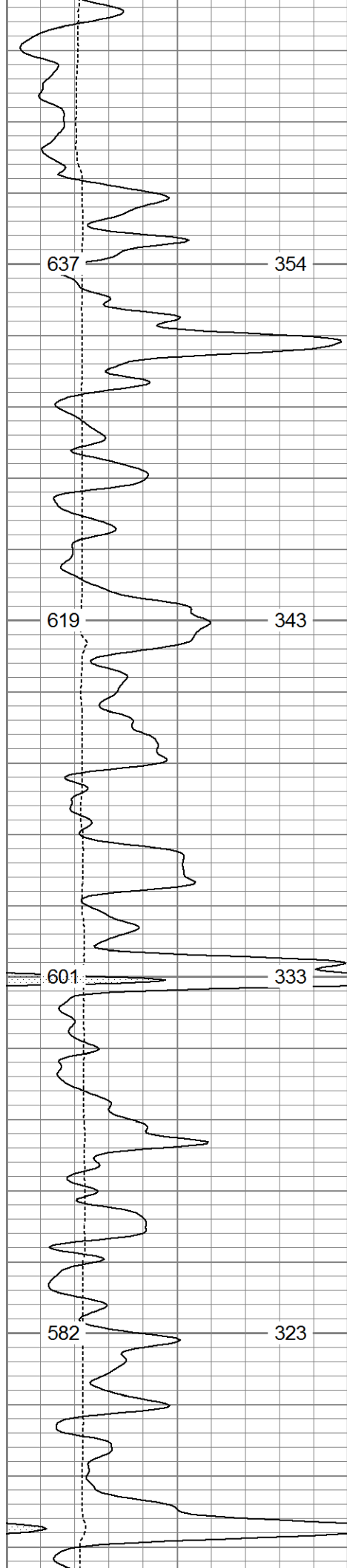


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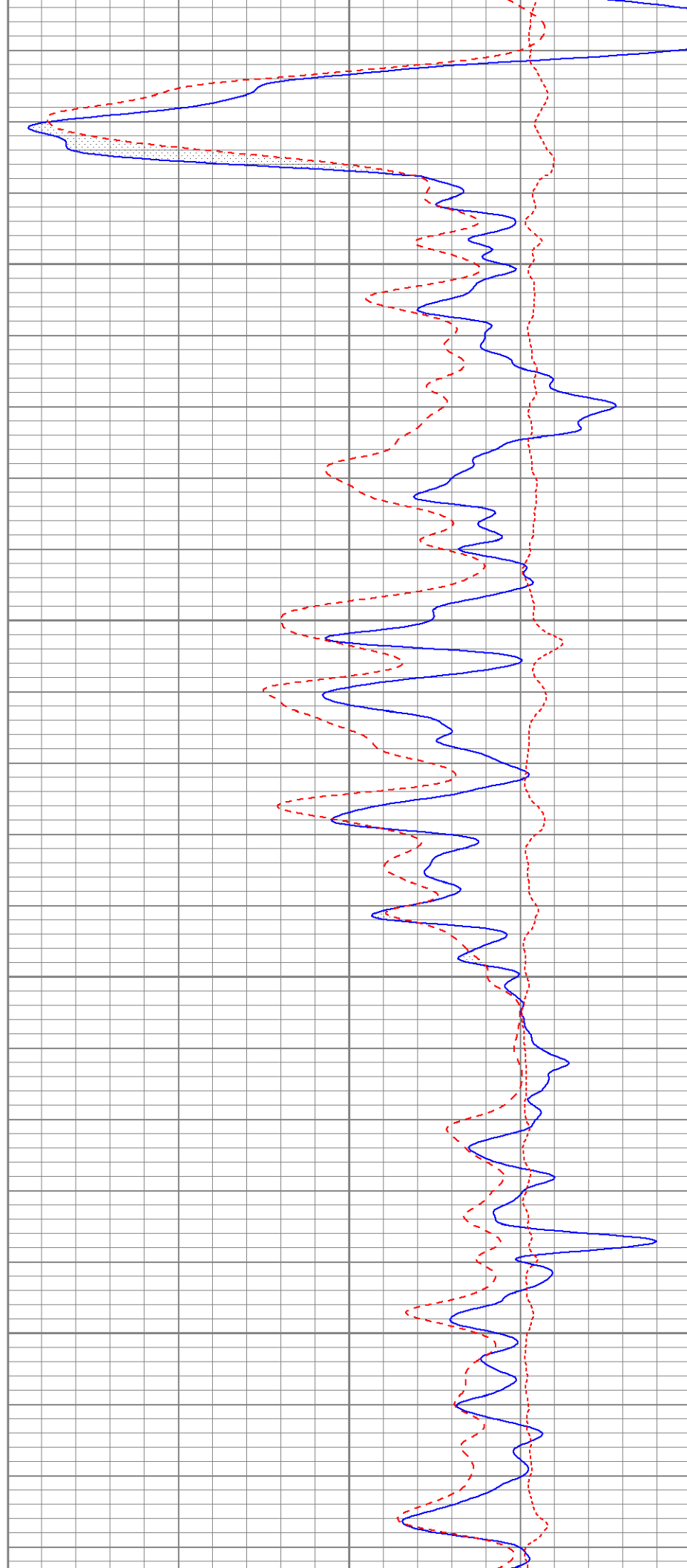
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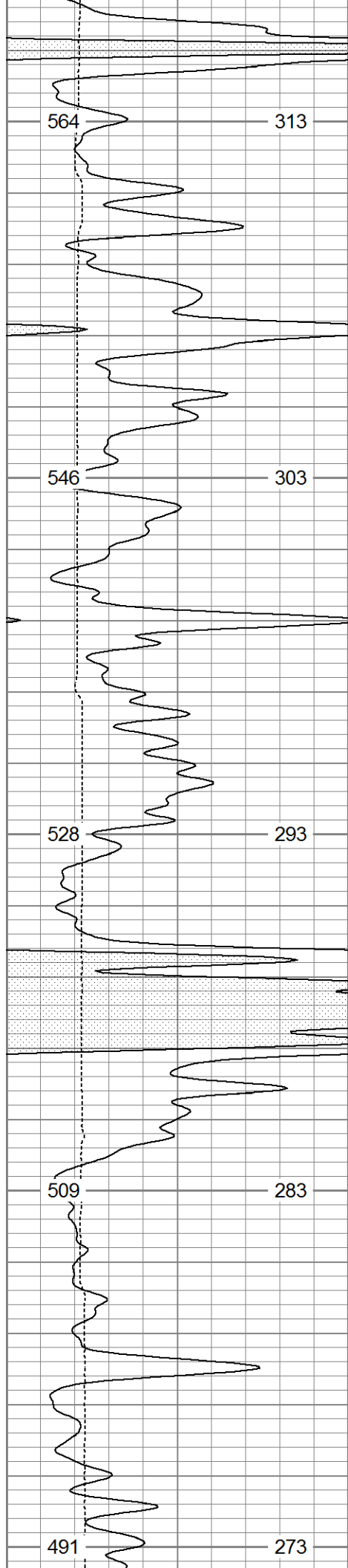




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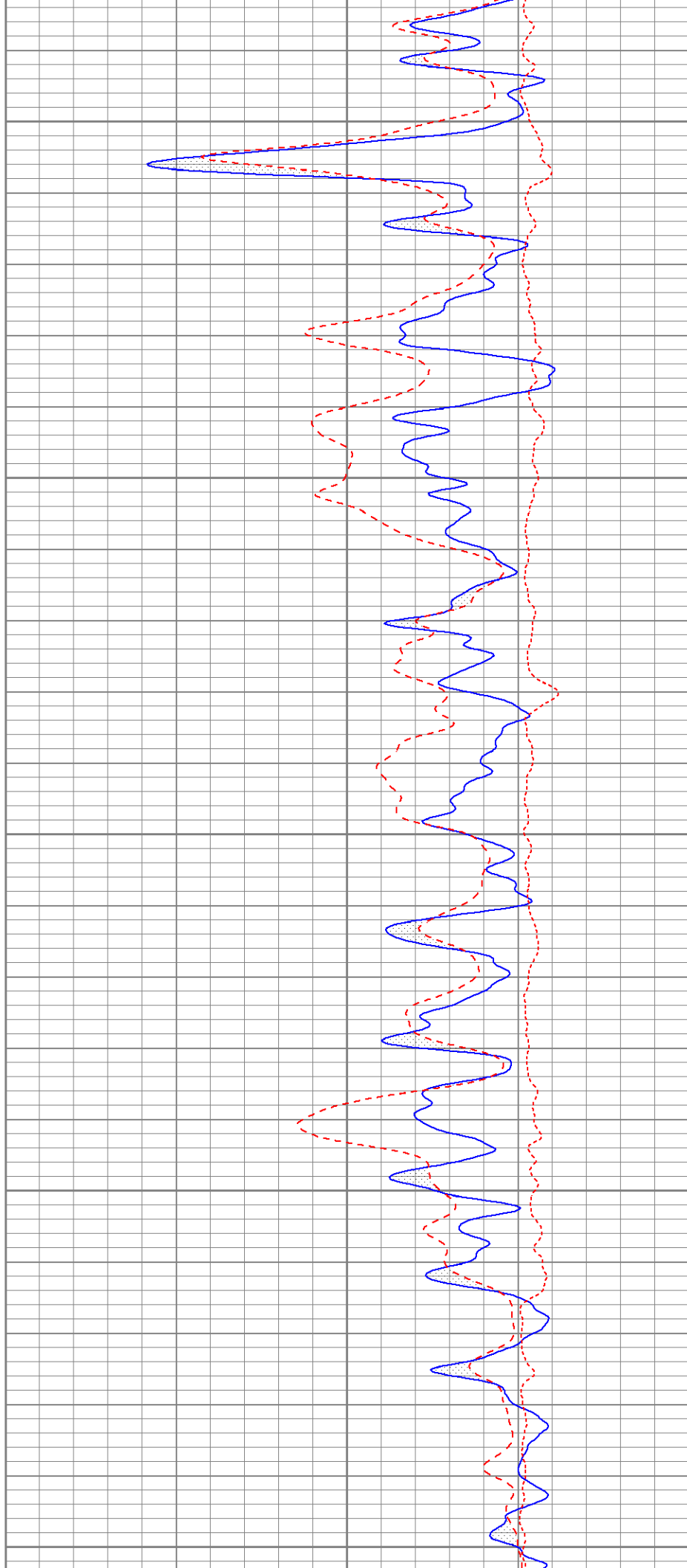
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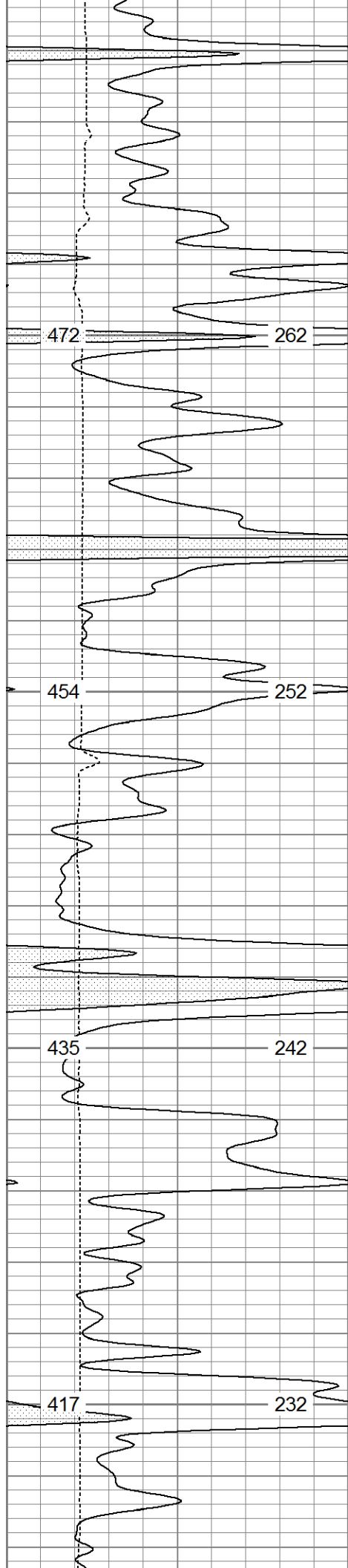




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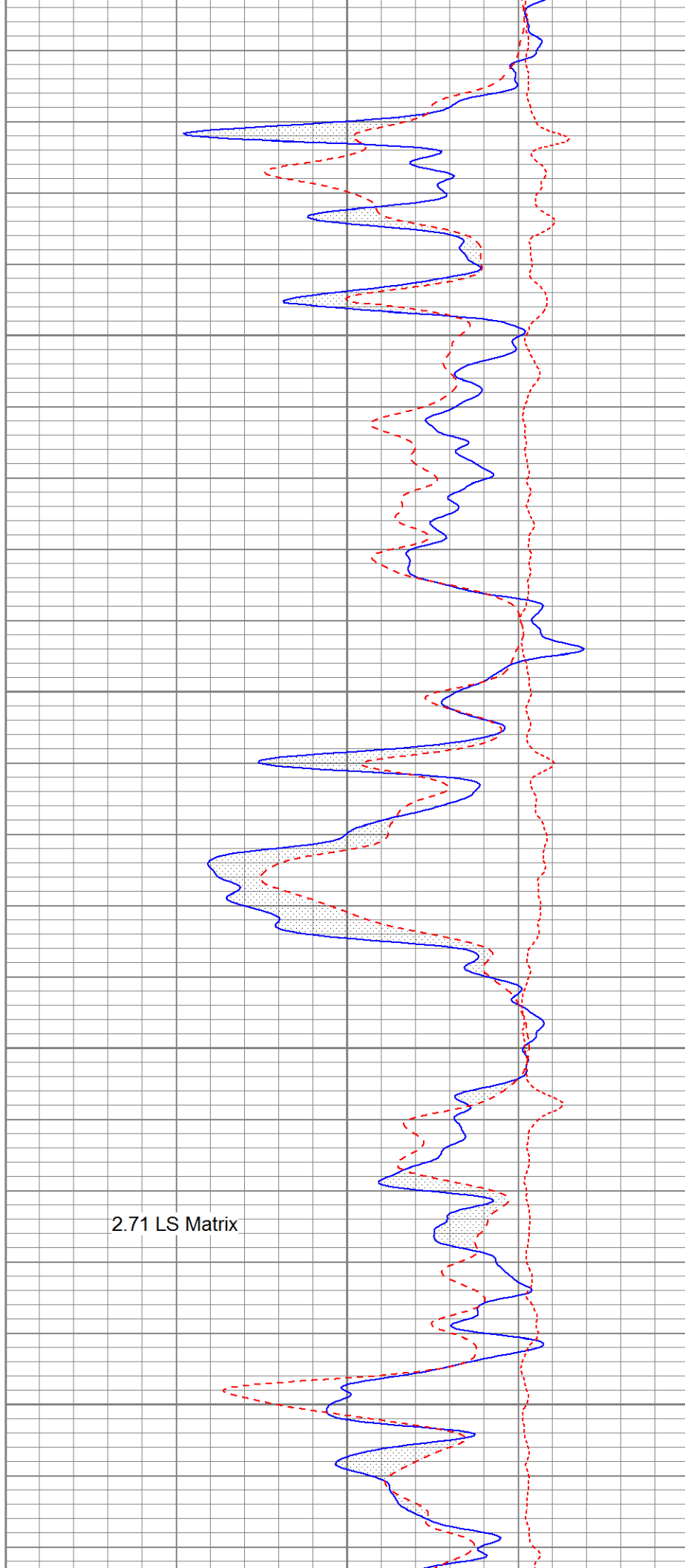


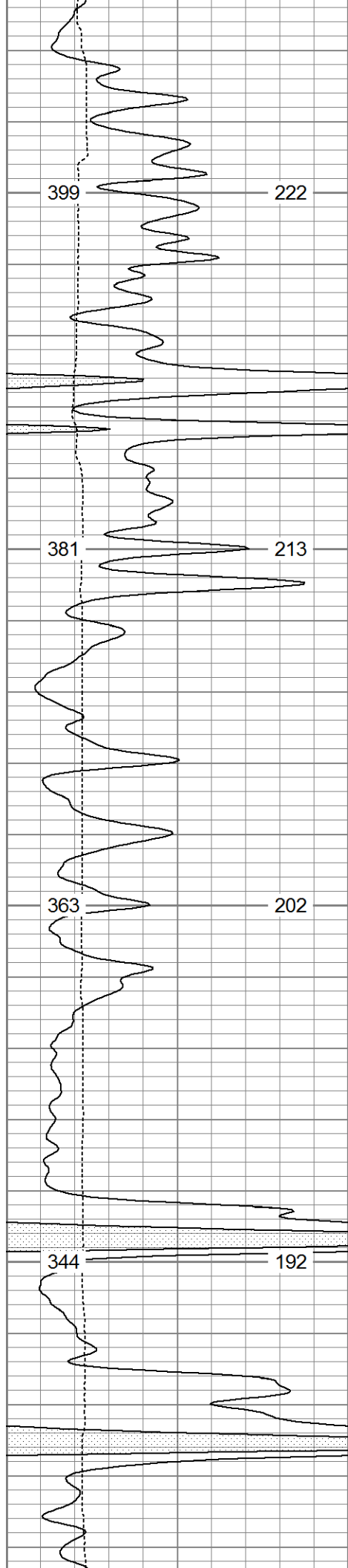


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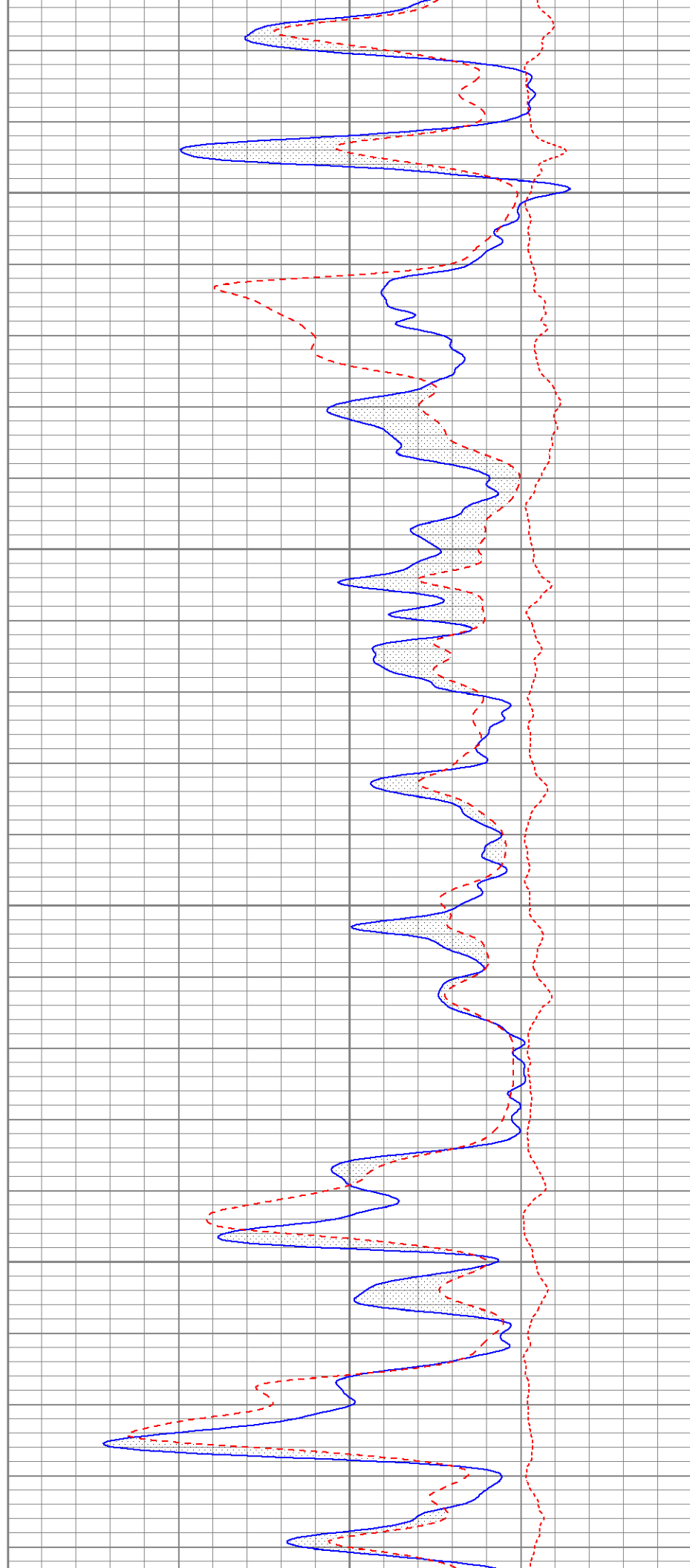
2.71 LS Matrix

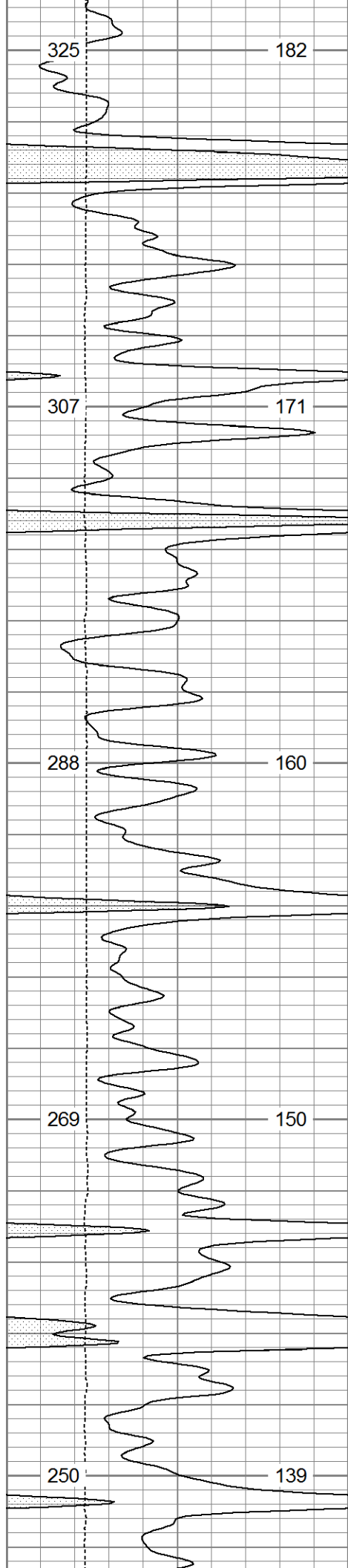




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7100

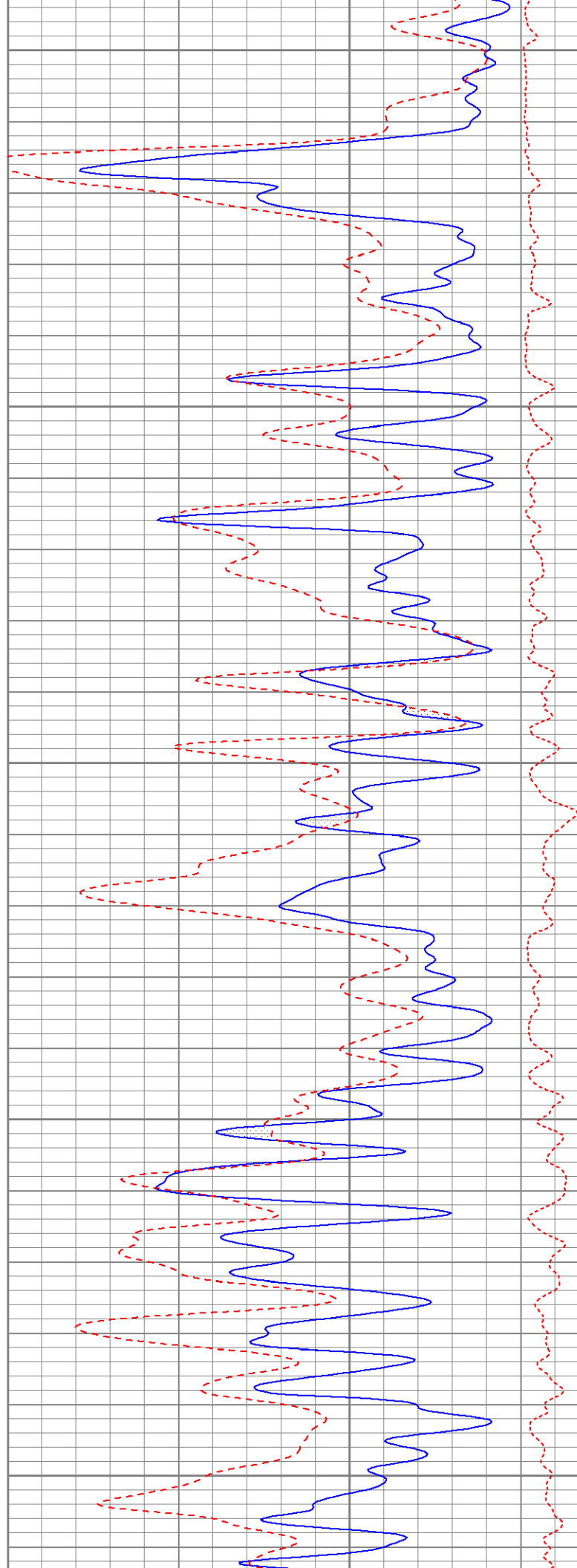


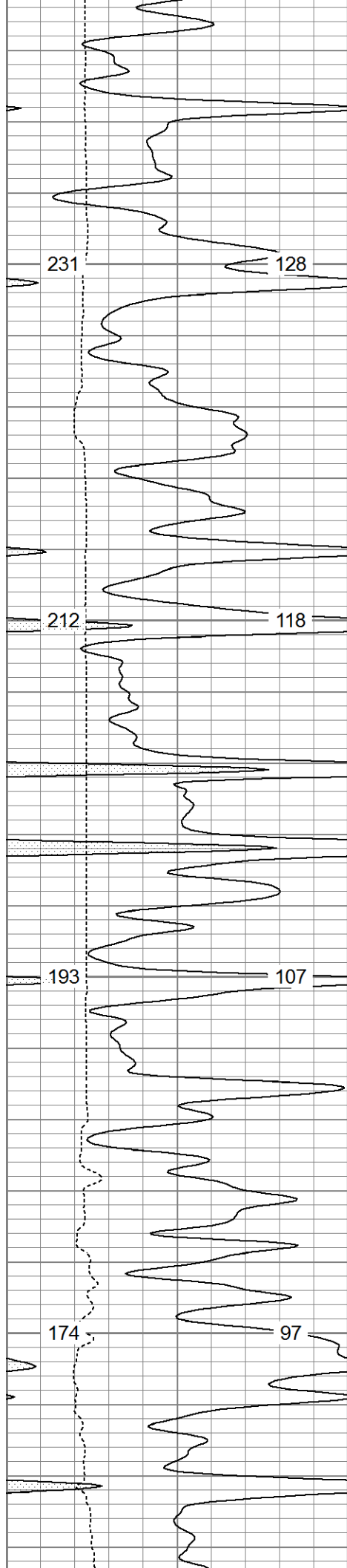


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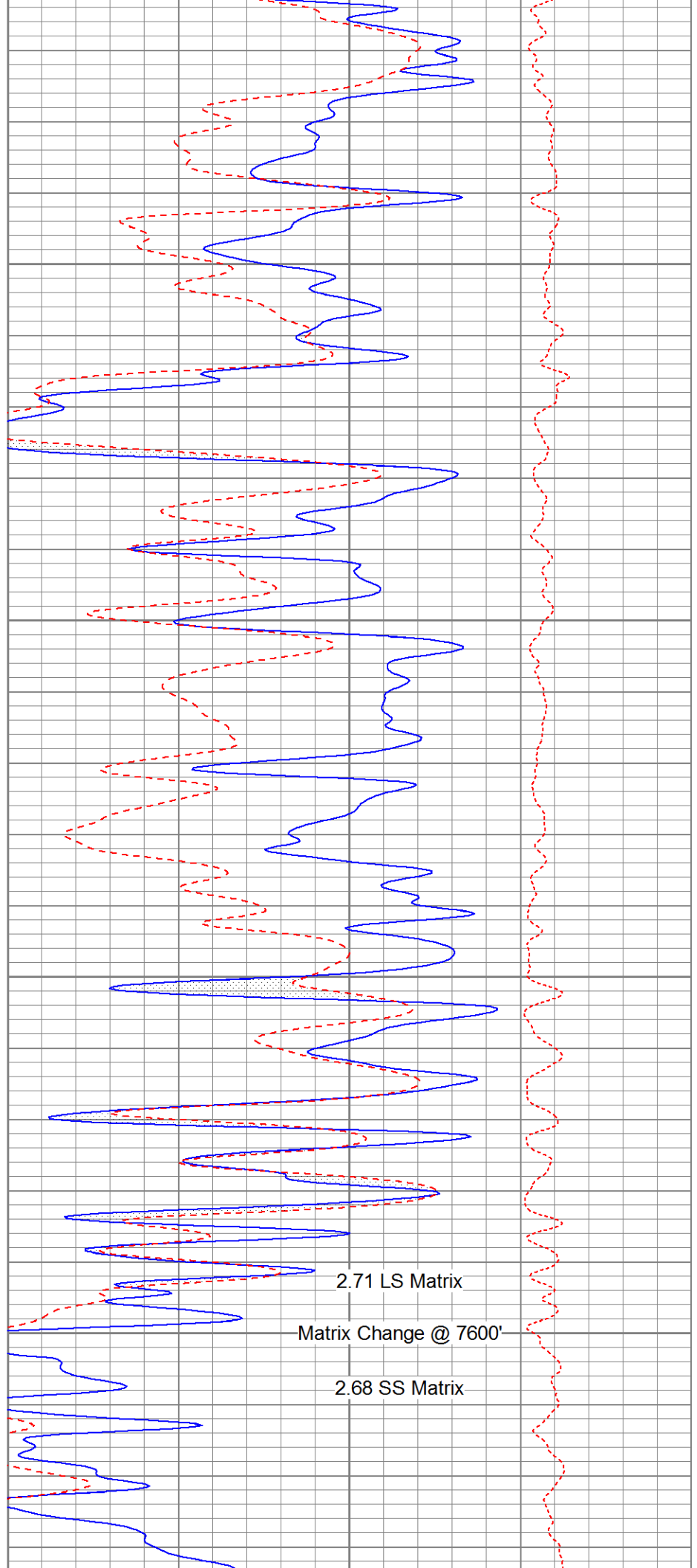
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7500

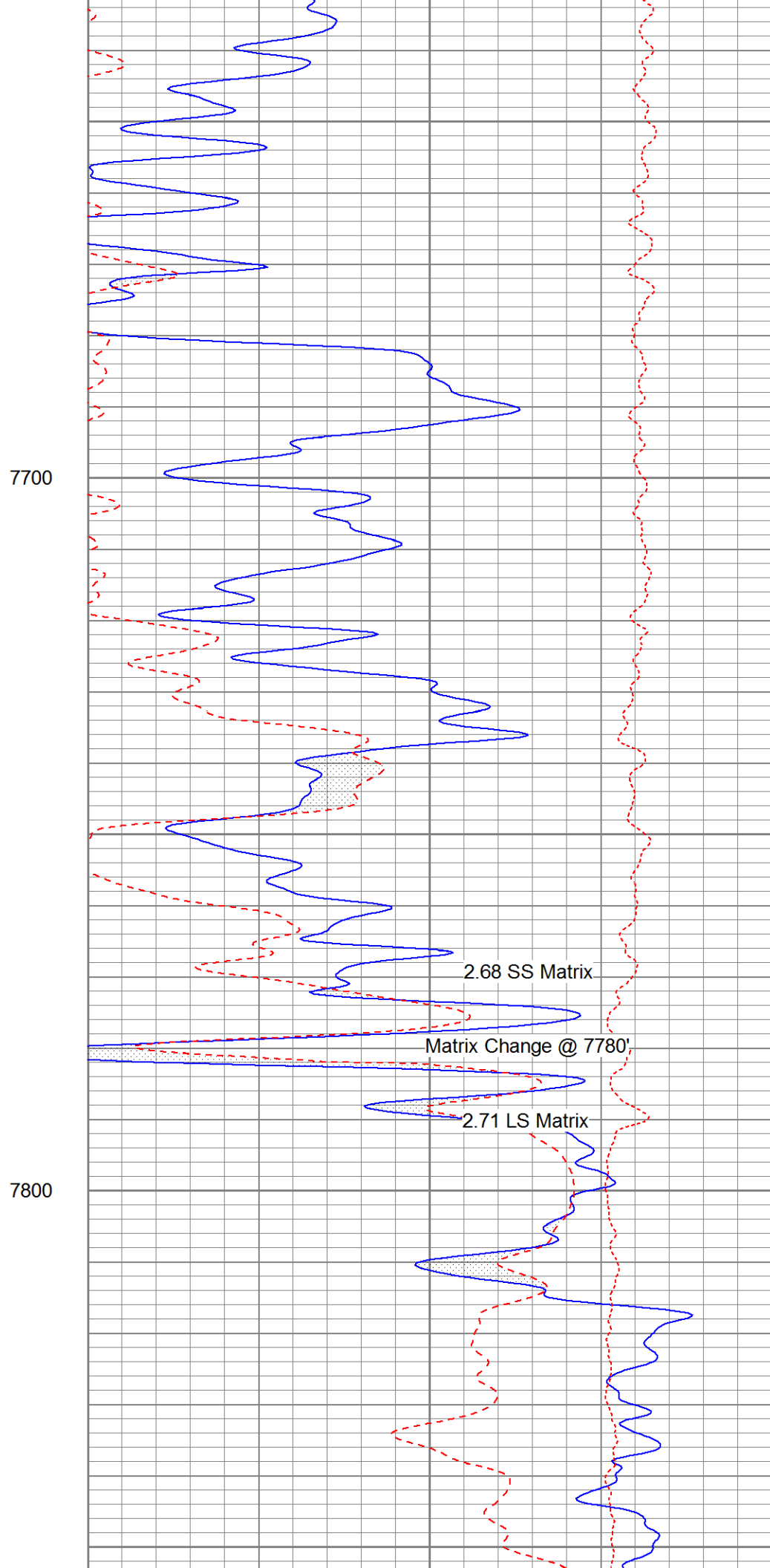
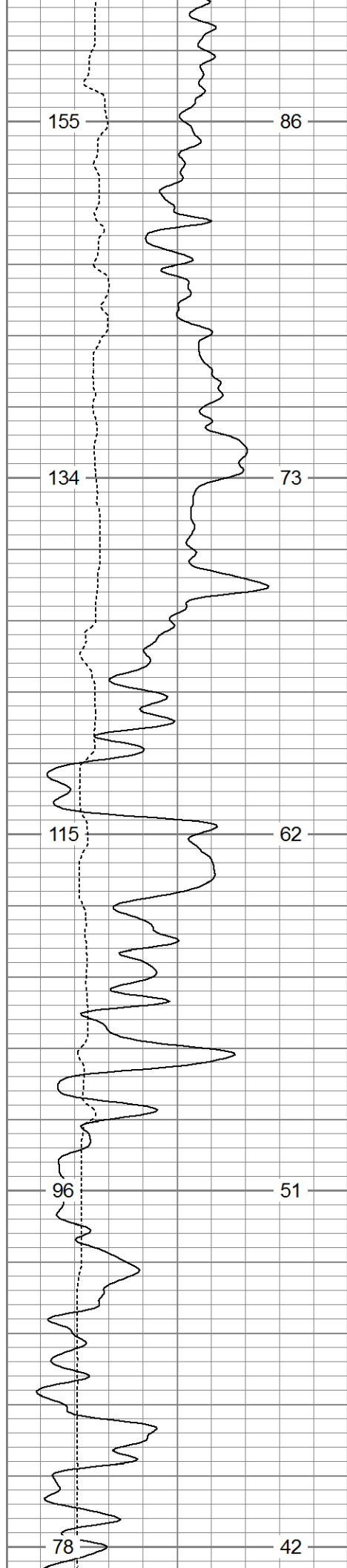
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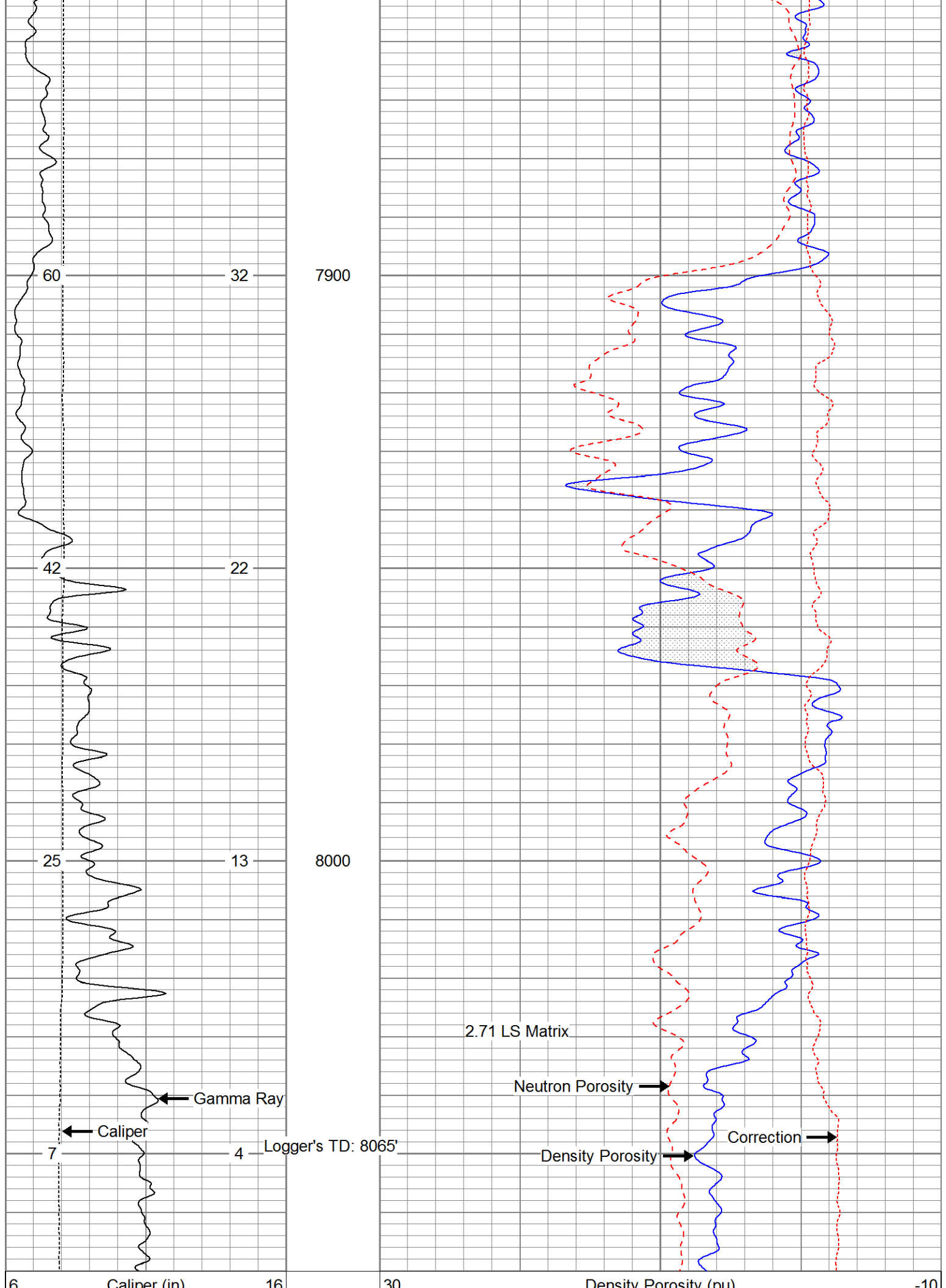


2.71 LS Matrix

Matrix Change @ 7600'

2.68 SS Matrix





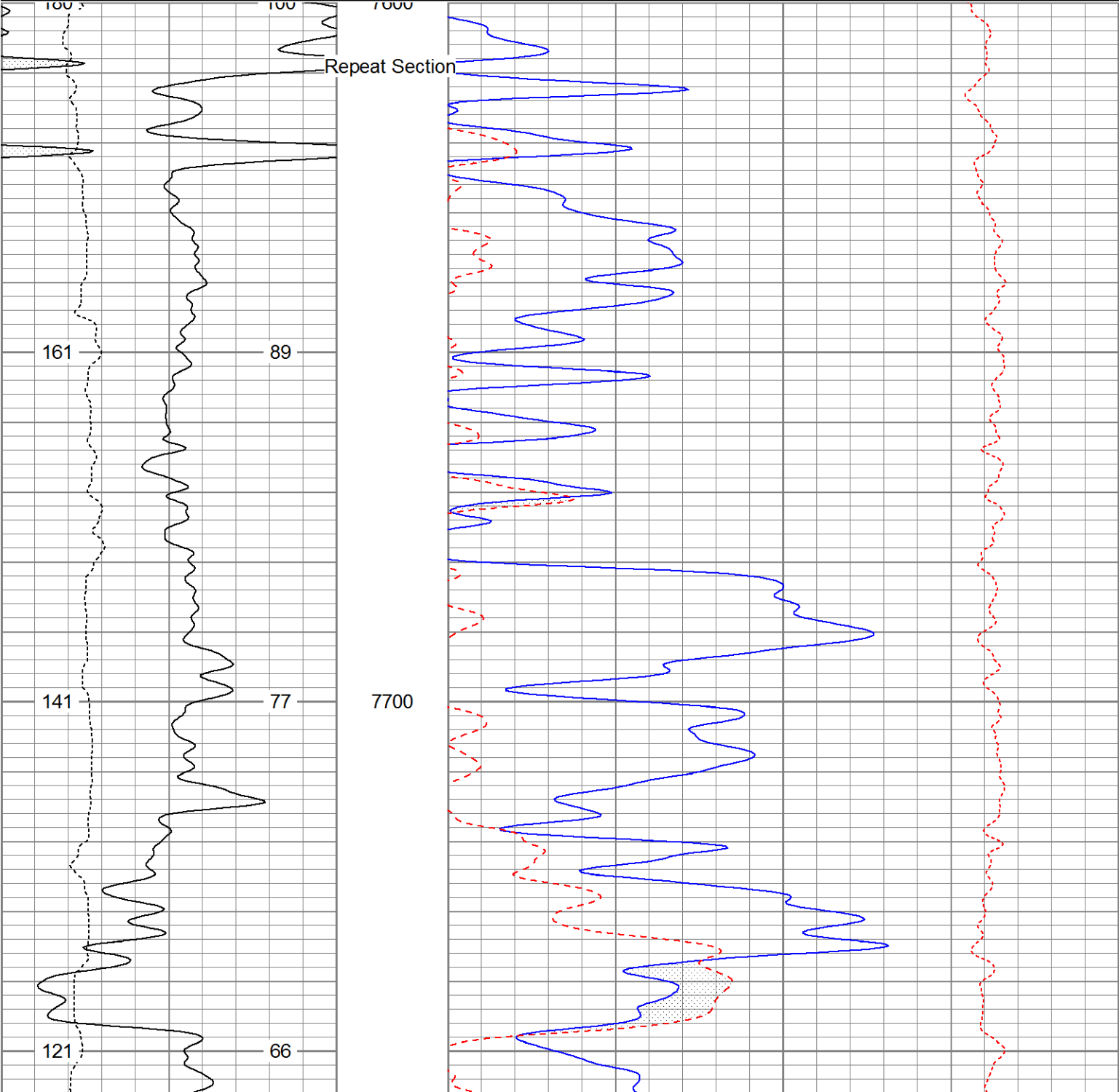
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0	Gamma Ray (GAPI)	200
TBHV (ft3)		ABHV (ft3)

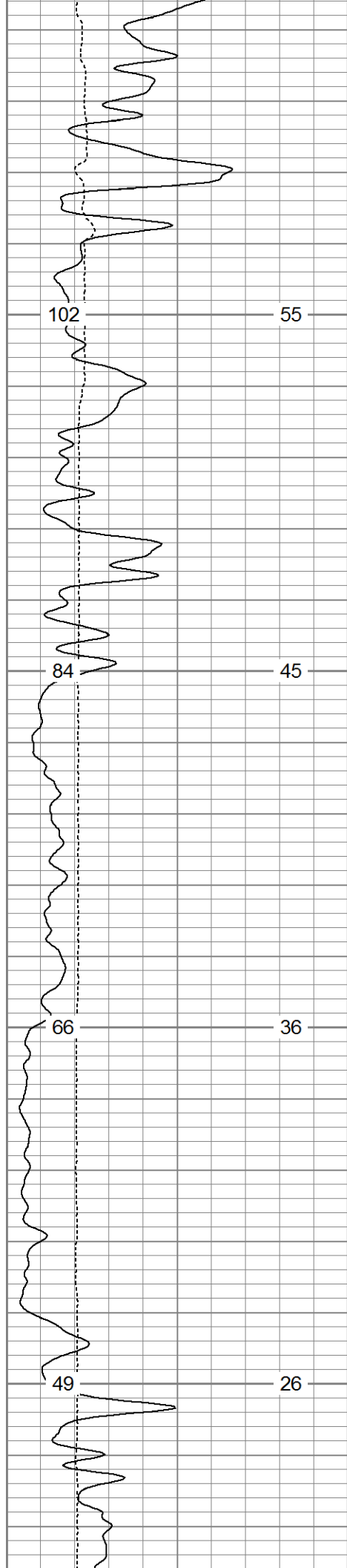
30	Density Porosity (pu)	-10
30	Neutron Porosity (pu)	-10
-0.5	Correction (g/cc)	0.5

Database File:	13507.db
Dataset Pathname:	repeat
Presentation Format:	poro
Dataset Creation:	Sat May 31 13:23:18 2014 by Calc 0
Charted by:	Depth in Feet scaled 1:240

6	Caliper (in)	16
0	Gamma Ray (GAPI)	200
TBHV (ft3)		ABHV (ft3)

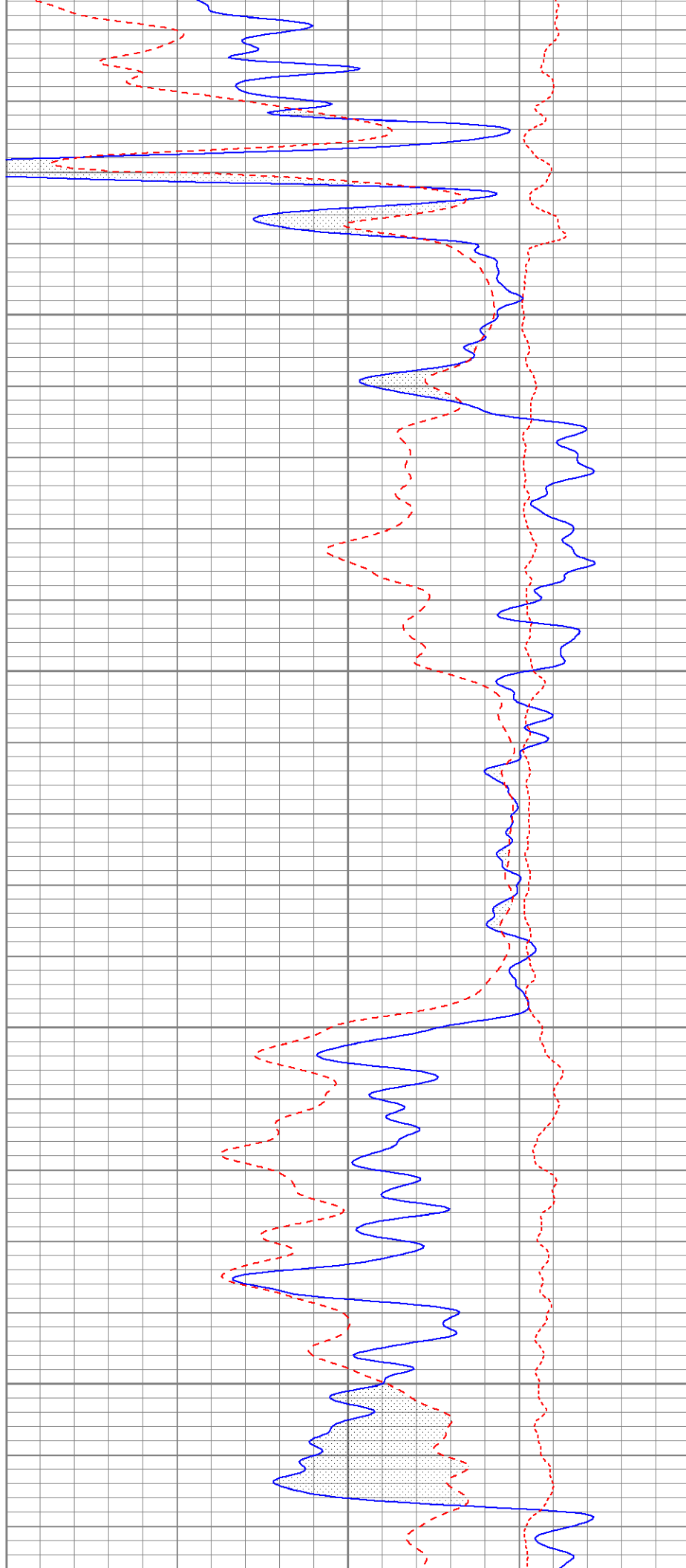
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30	Neutron Porosity (pu)	-10
-0.5	Correction (g/cc)	0.5

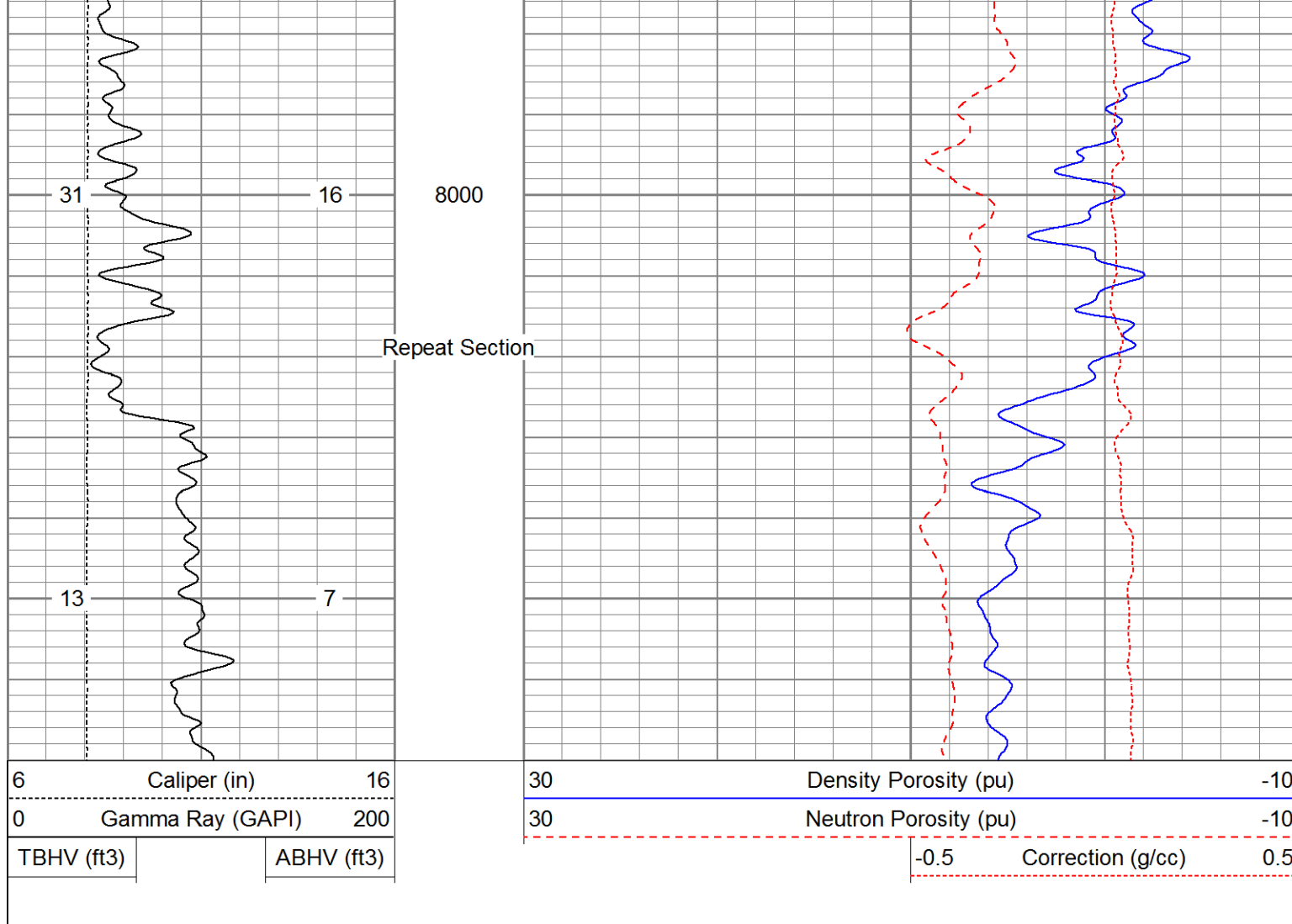




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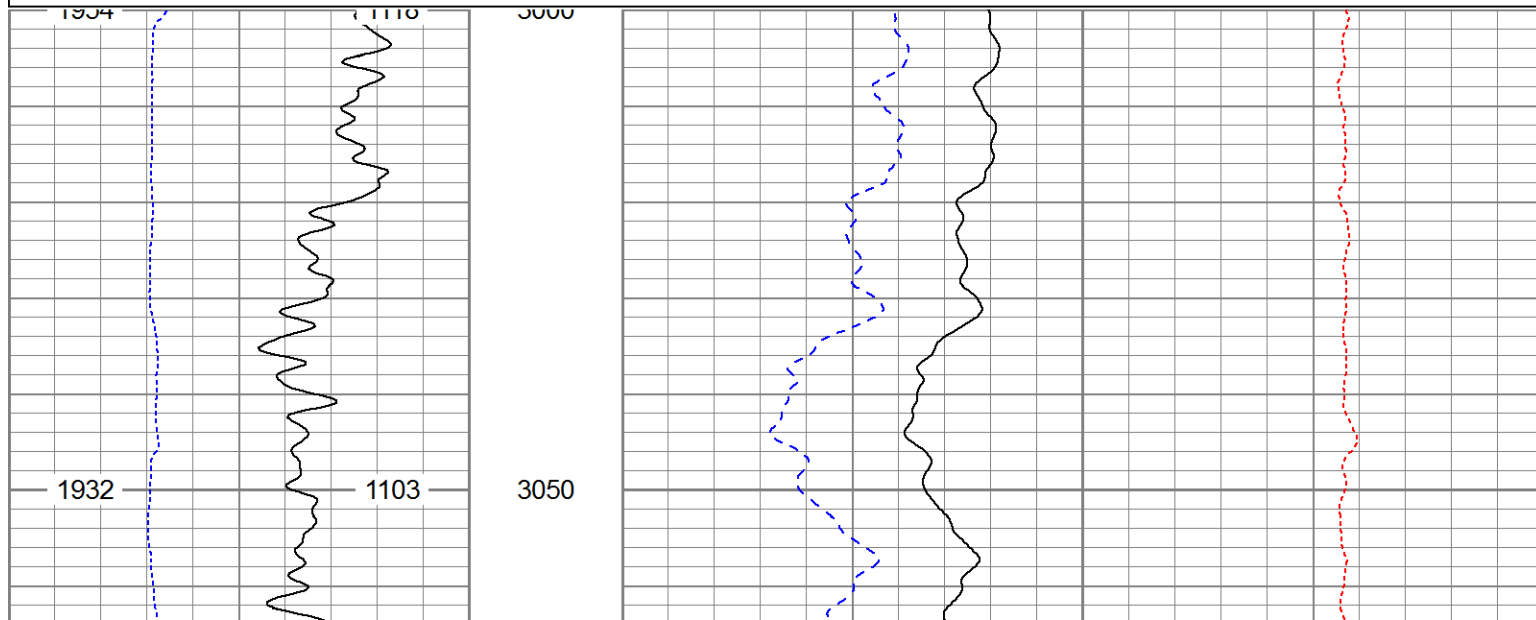


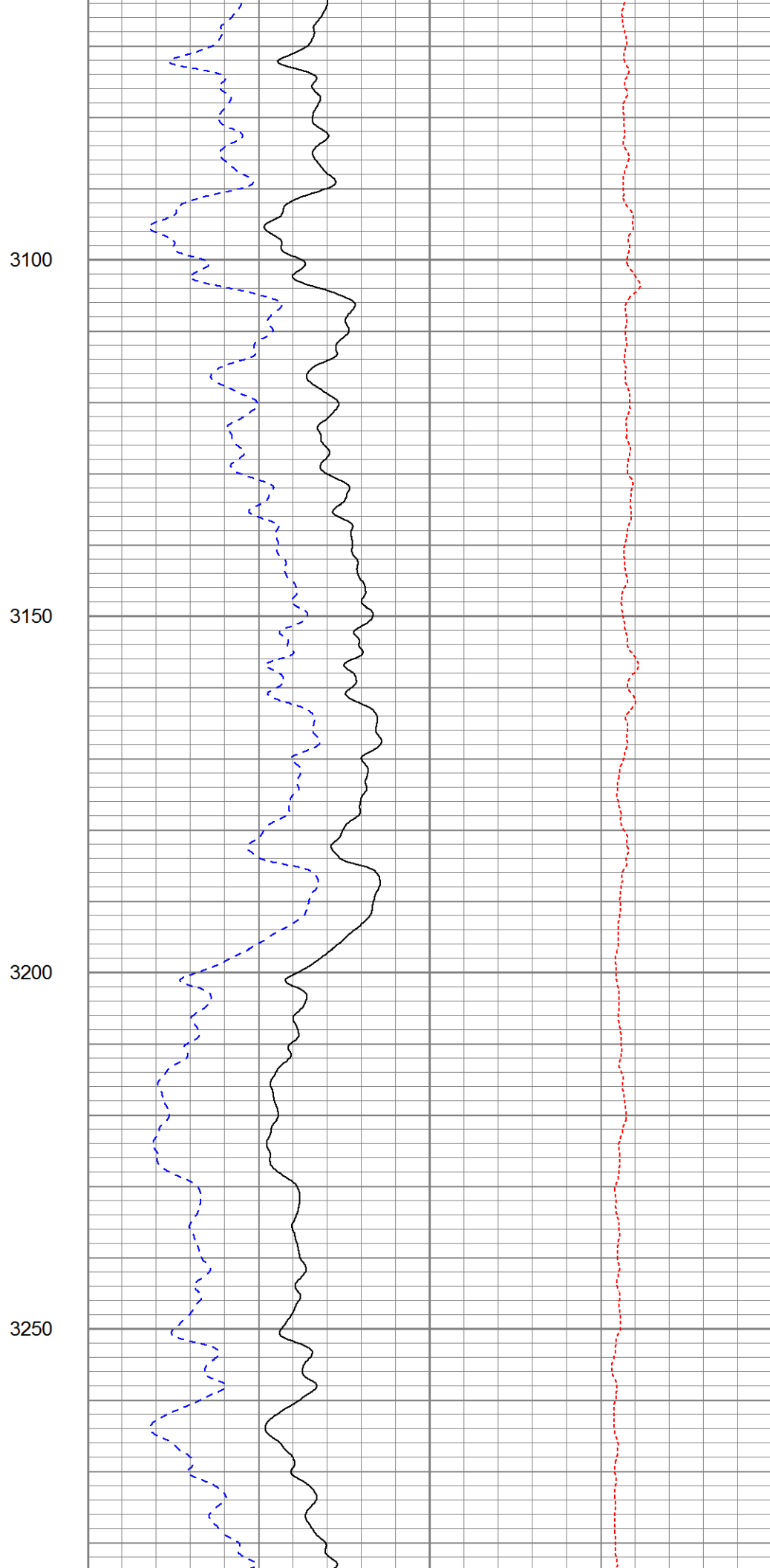
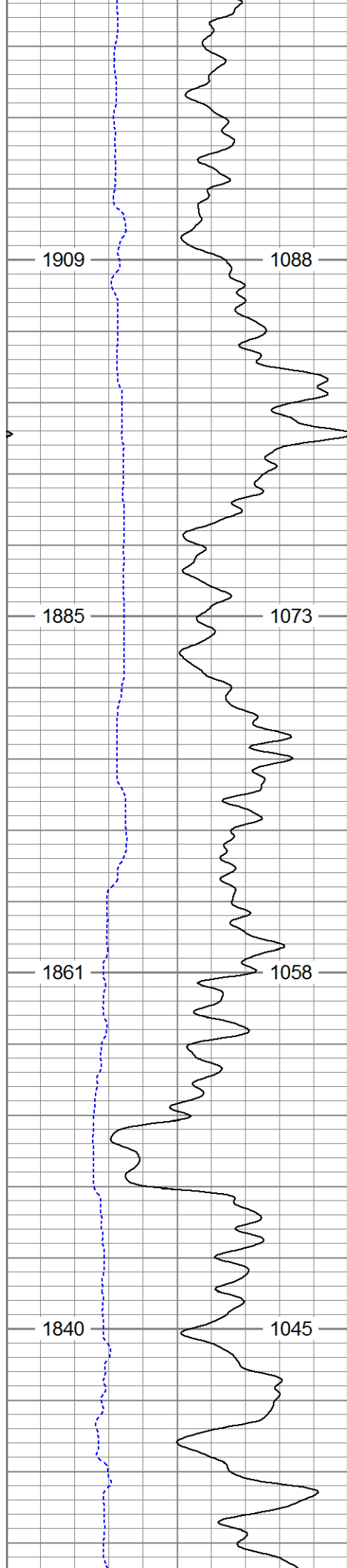


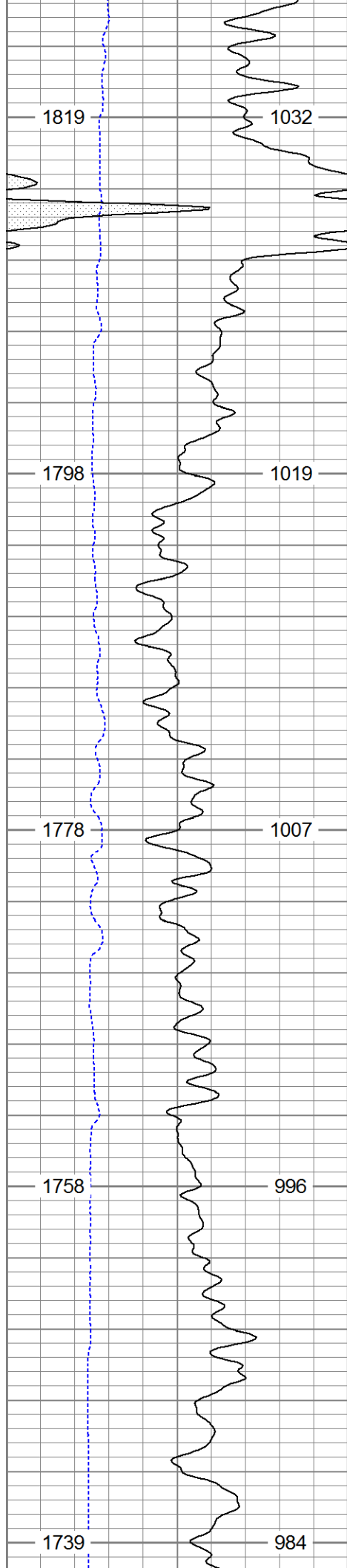
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Presentation Format:	cdl
Dataset Creation:	Sat May 31 13:06:12 2014
Charted by:	Depth in Feet scaled 1:240

6	Caliper (in)	16
0	Gamma Ray (GAPI)	200

2	Bulk Density (g/cc)	3
30	Density Porosity (pu)	-10
-0.5	Correction (g/cc)	0.5







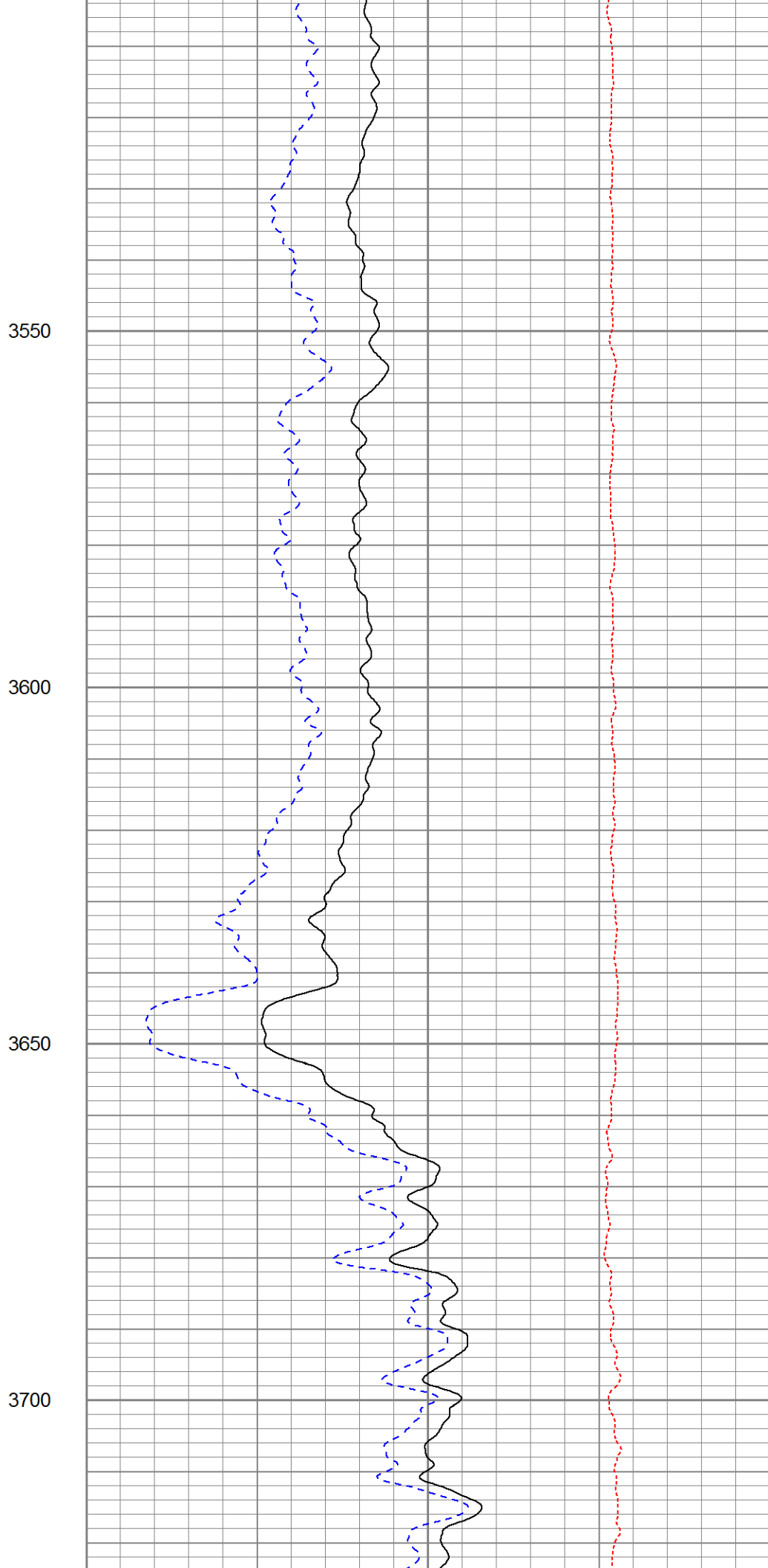
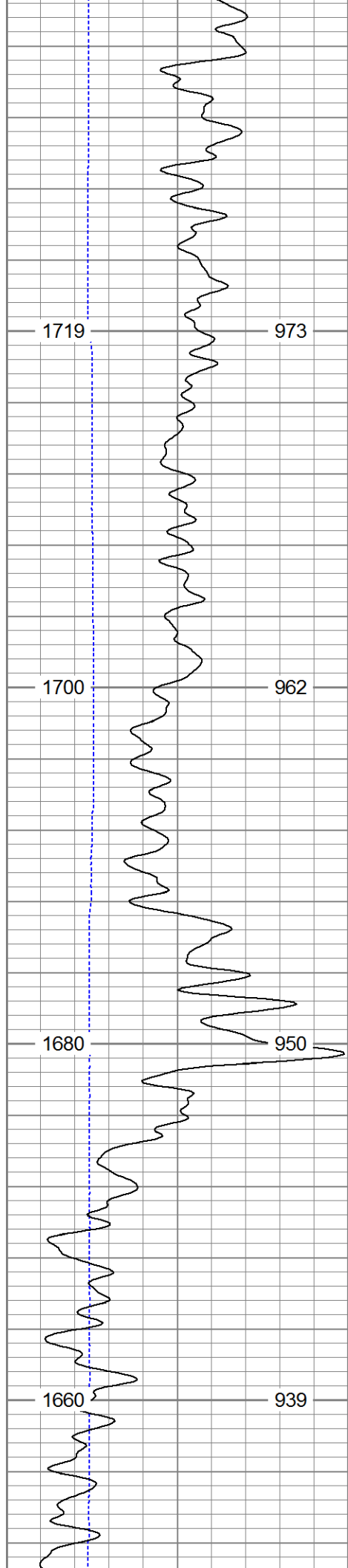
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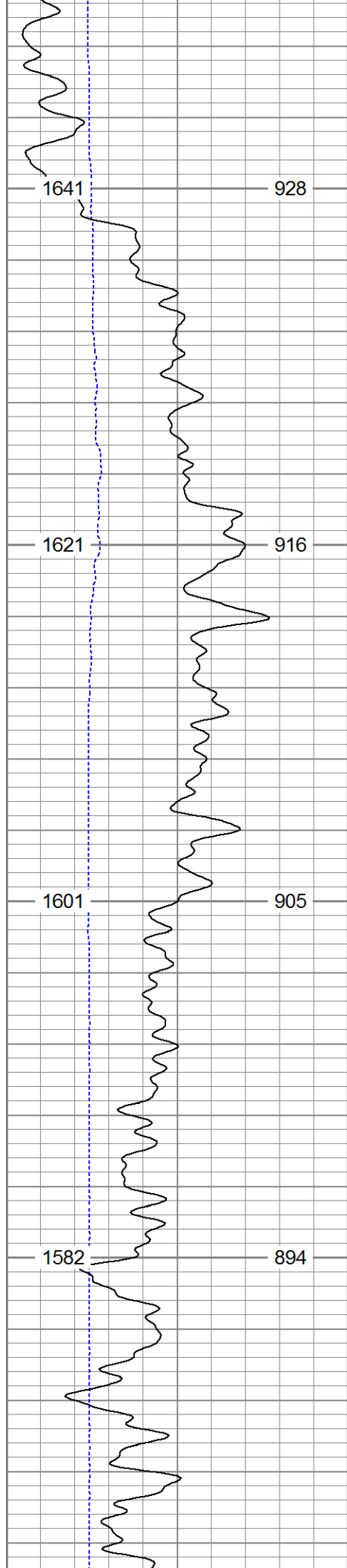
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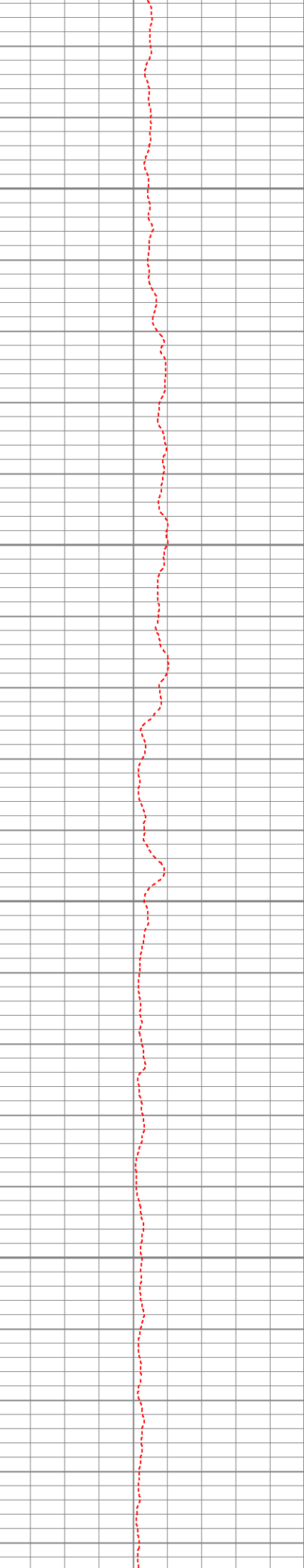
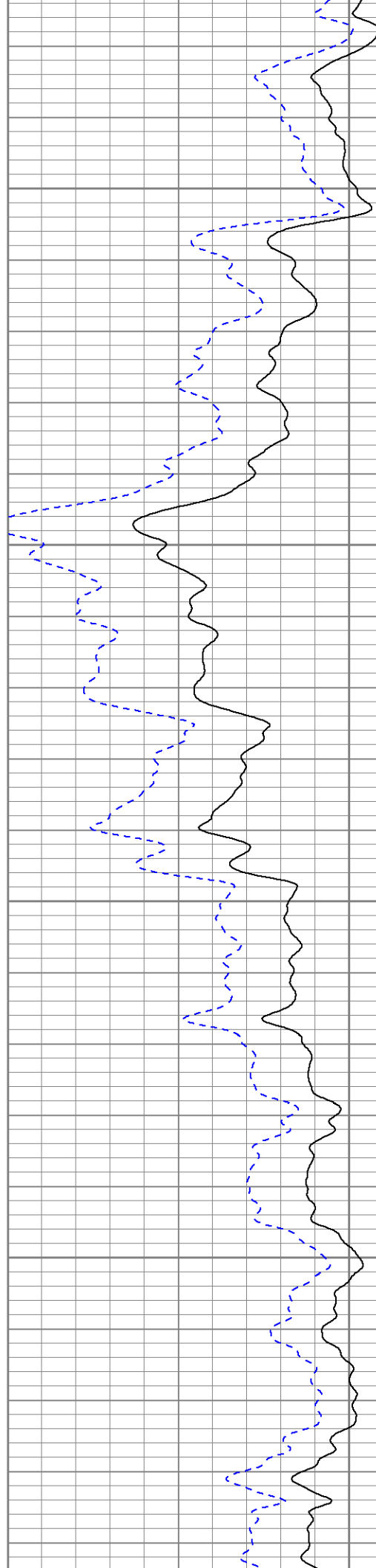


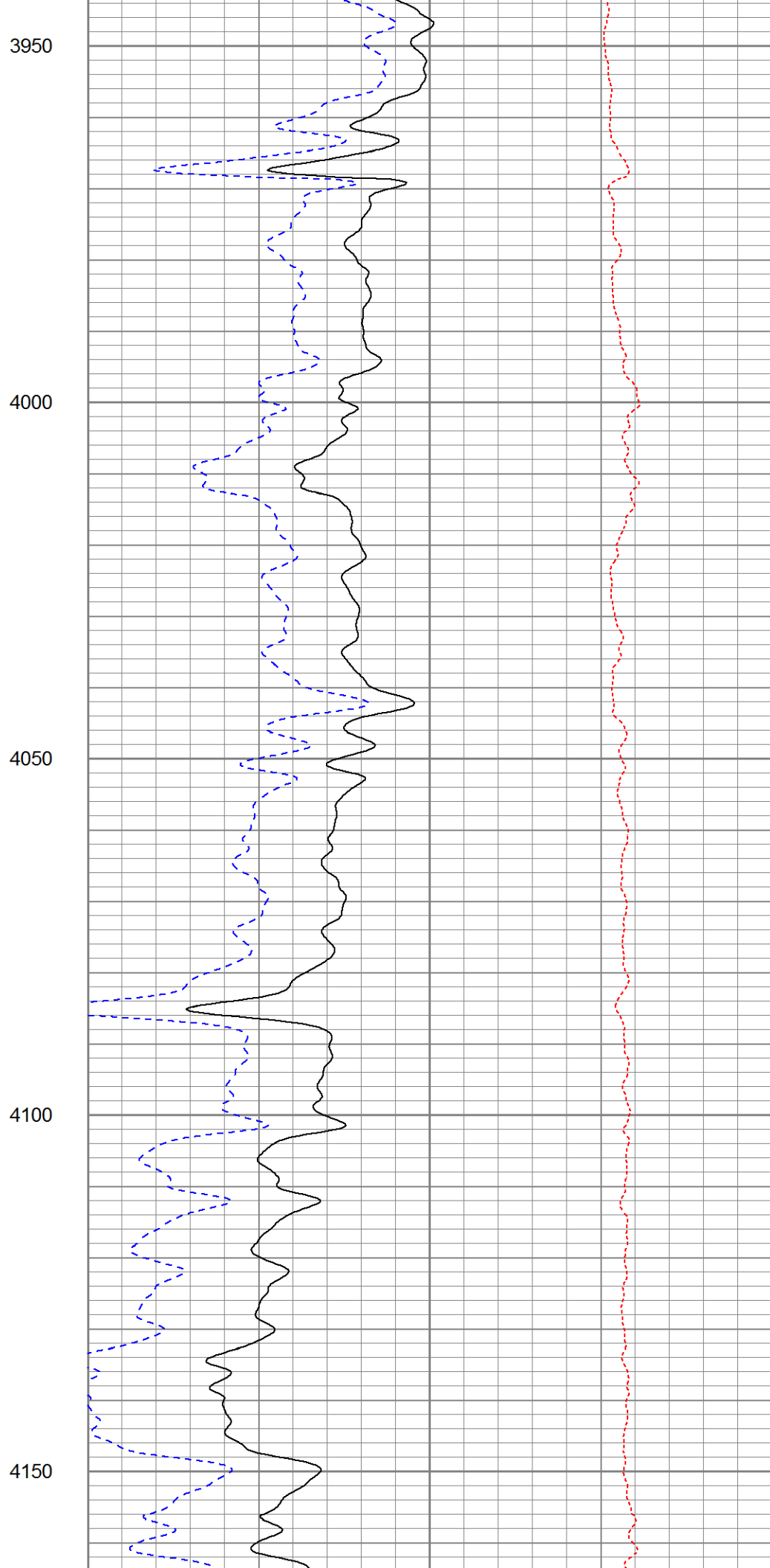
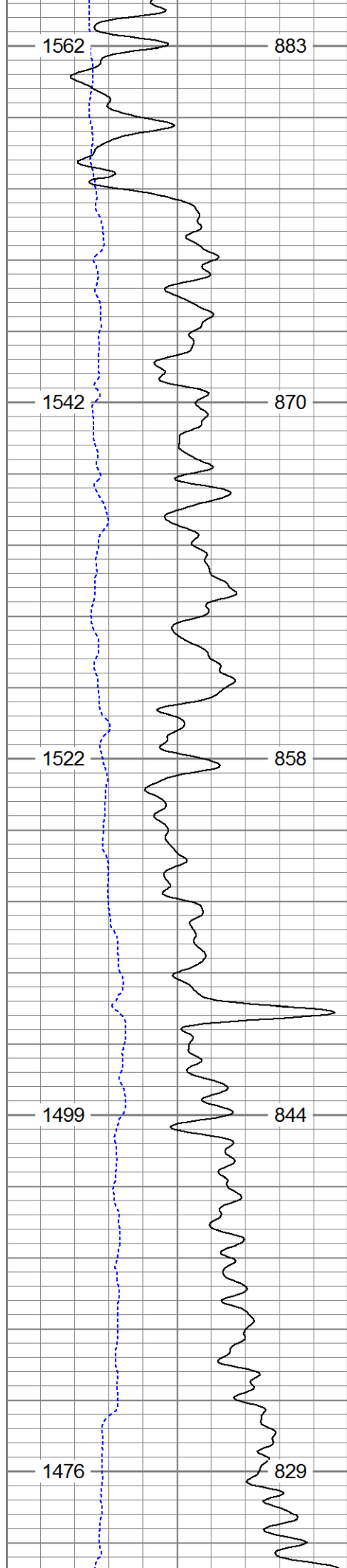
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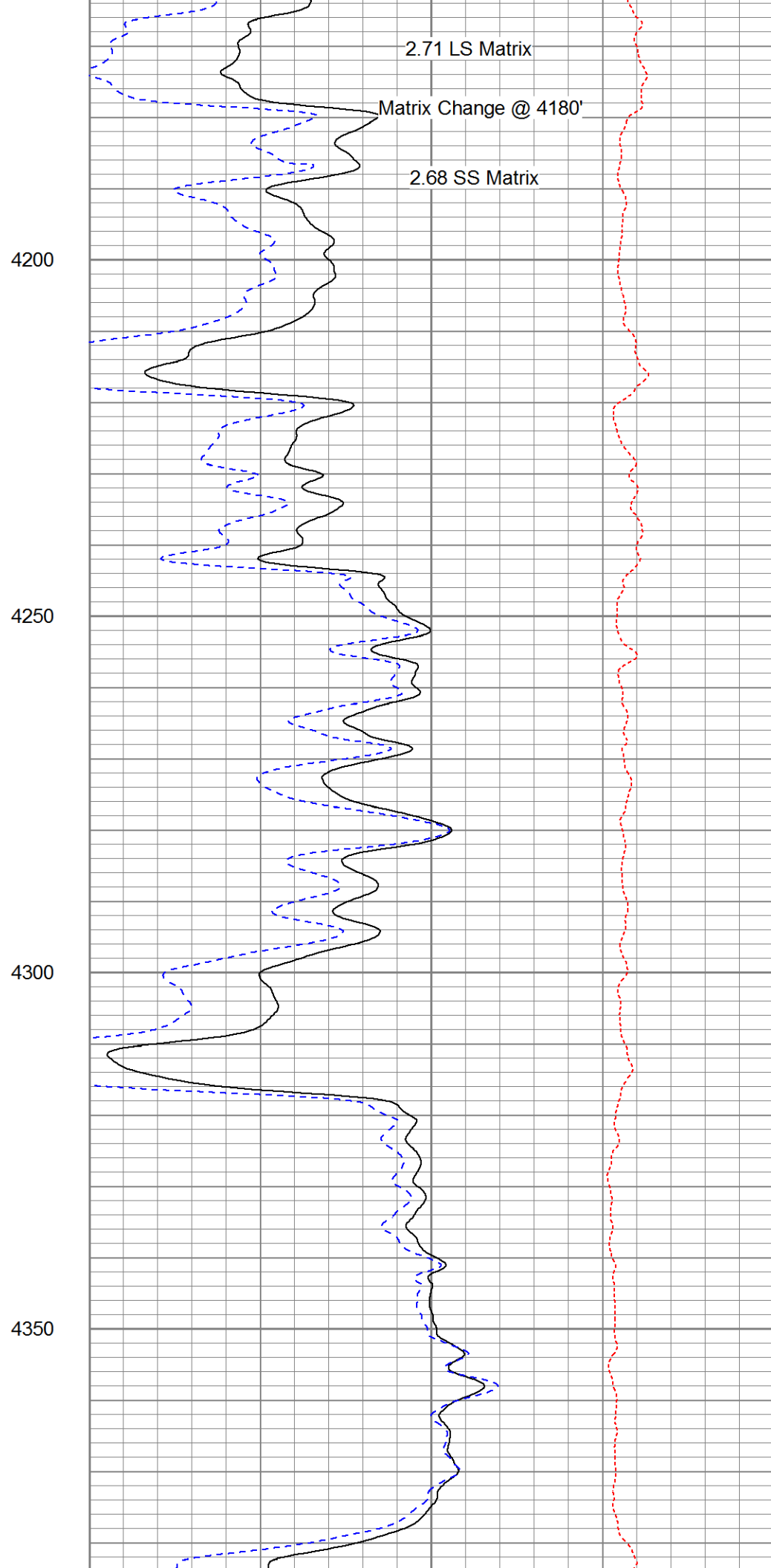
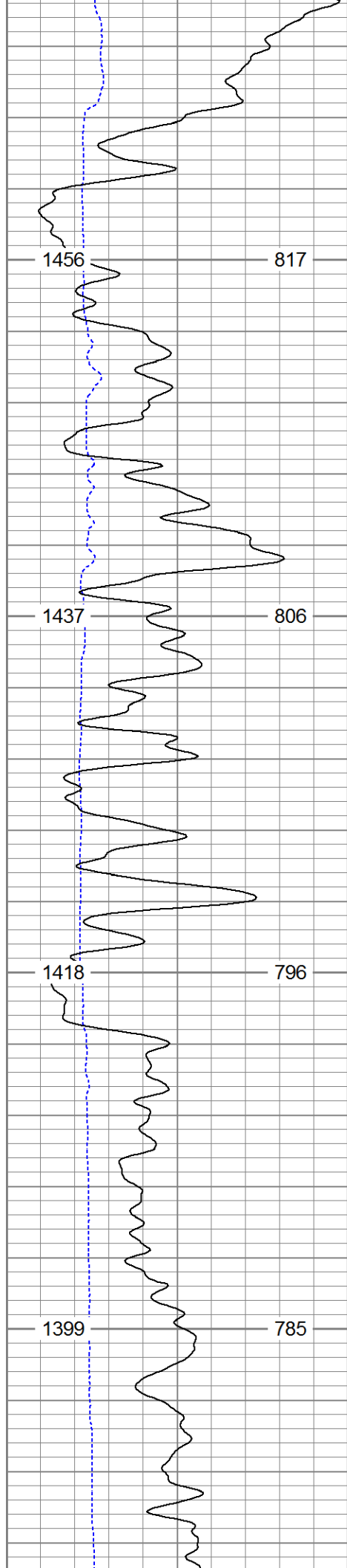
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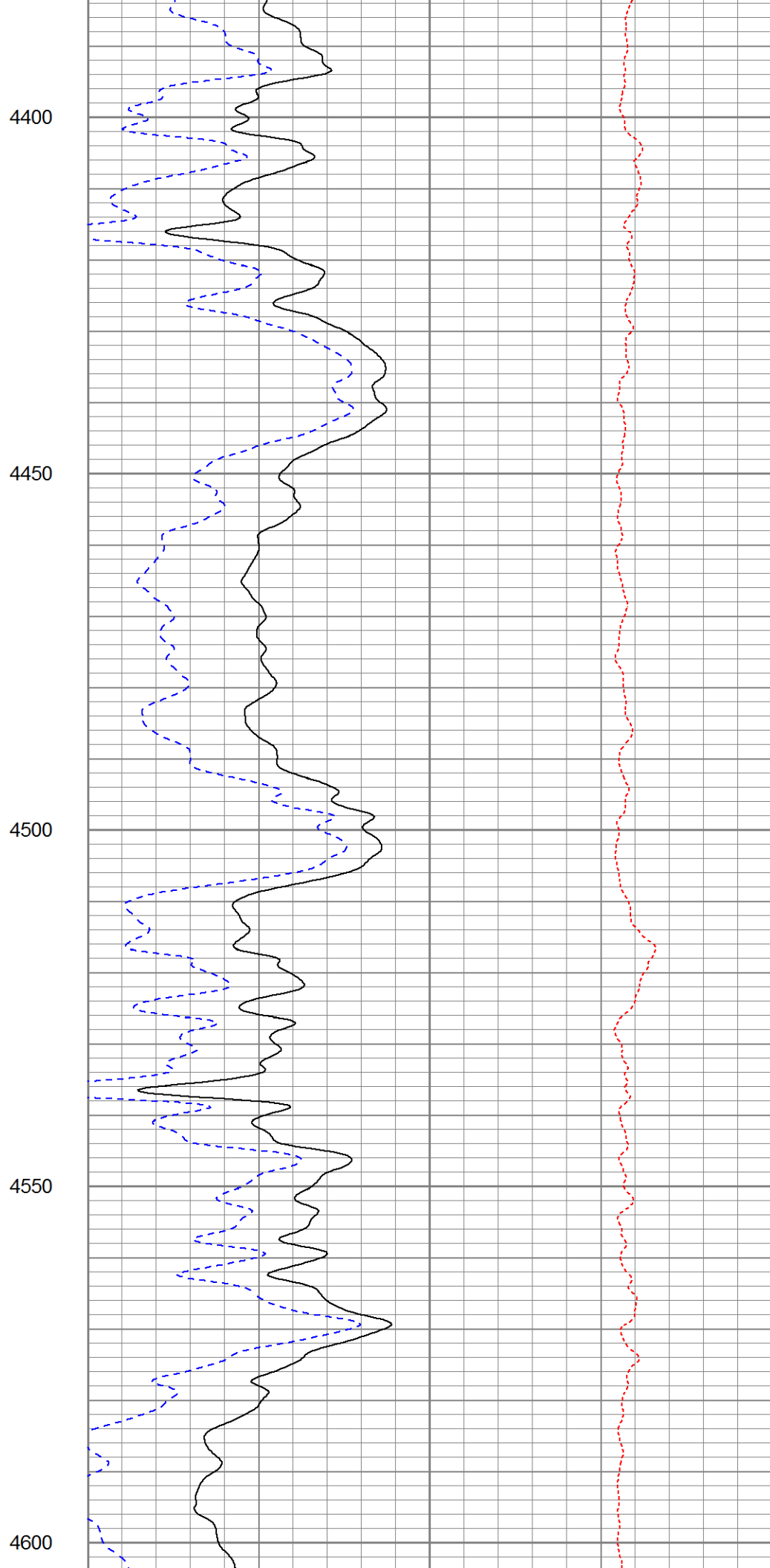
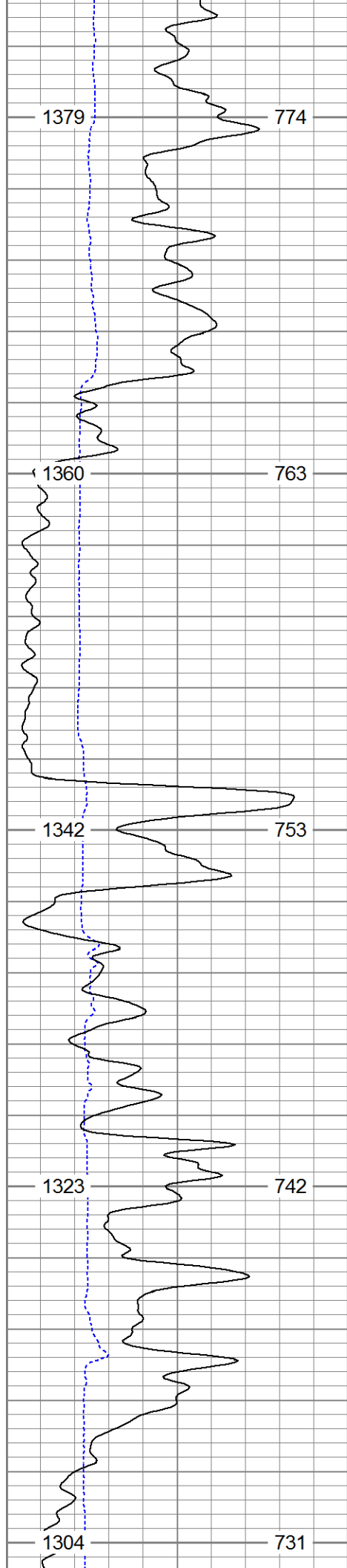
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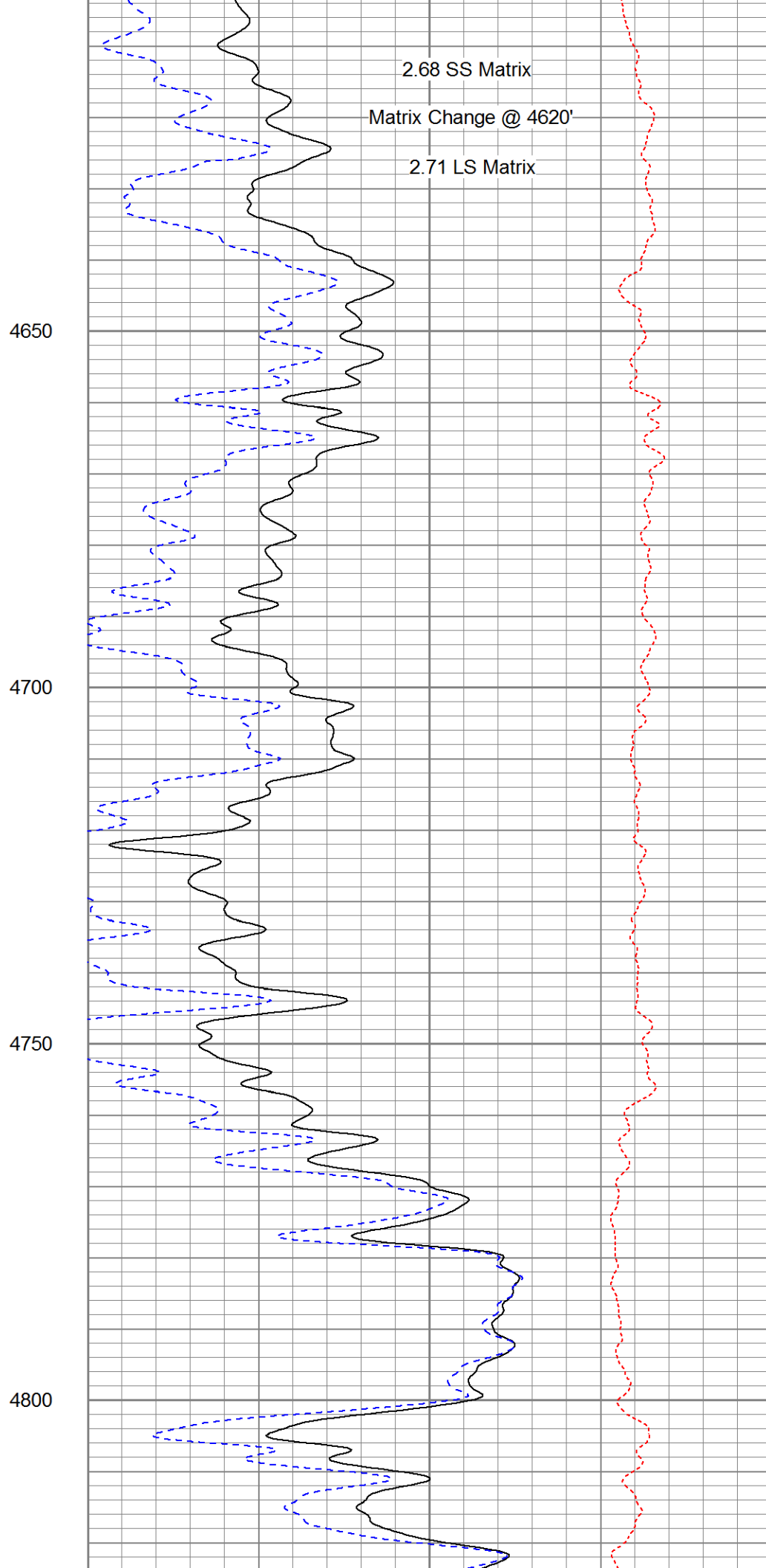
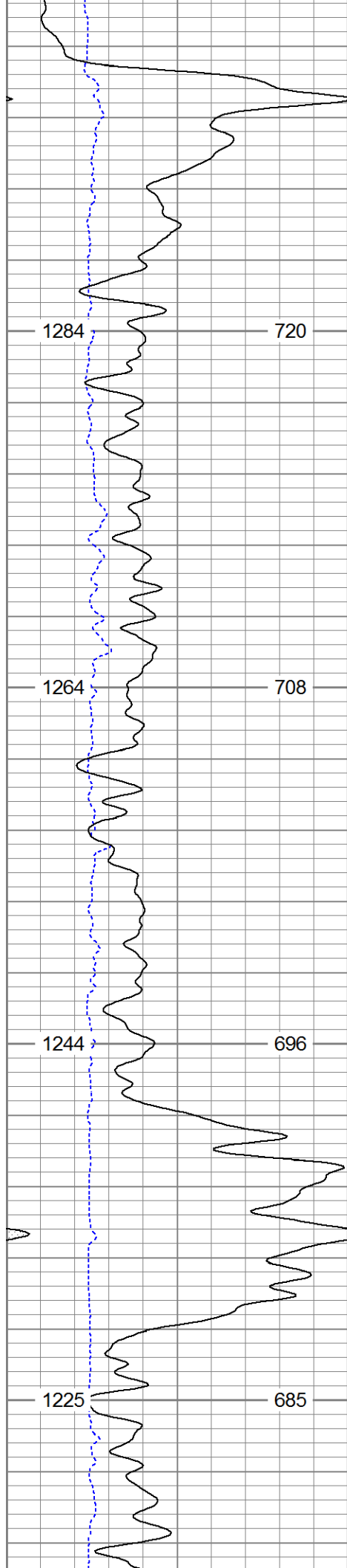
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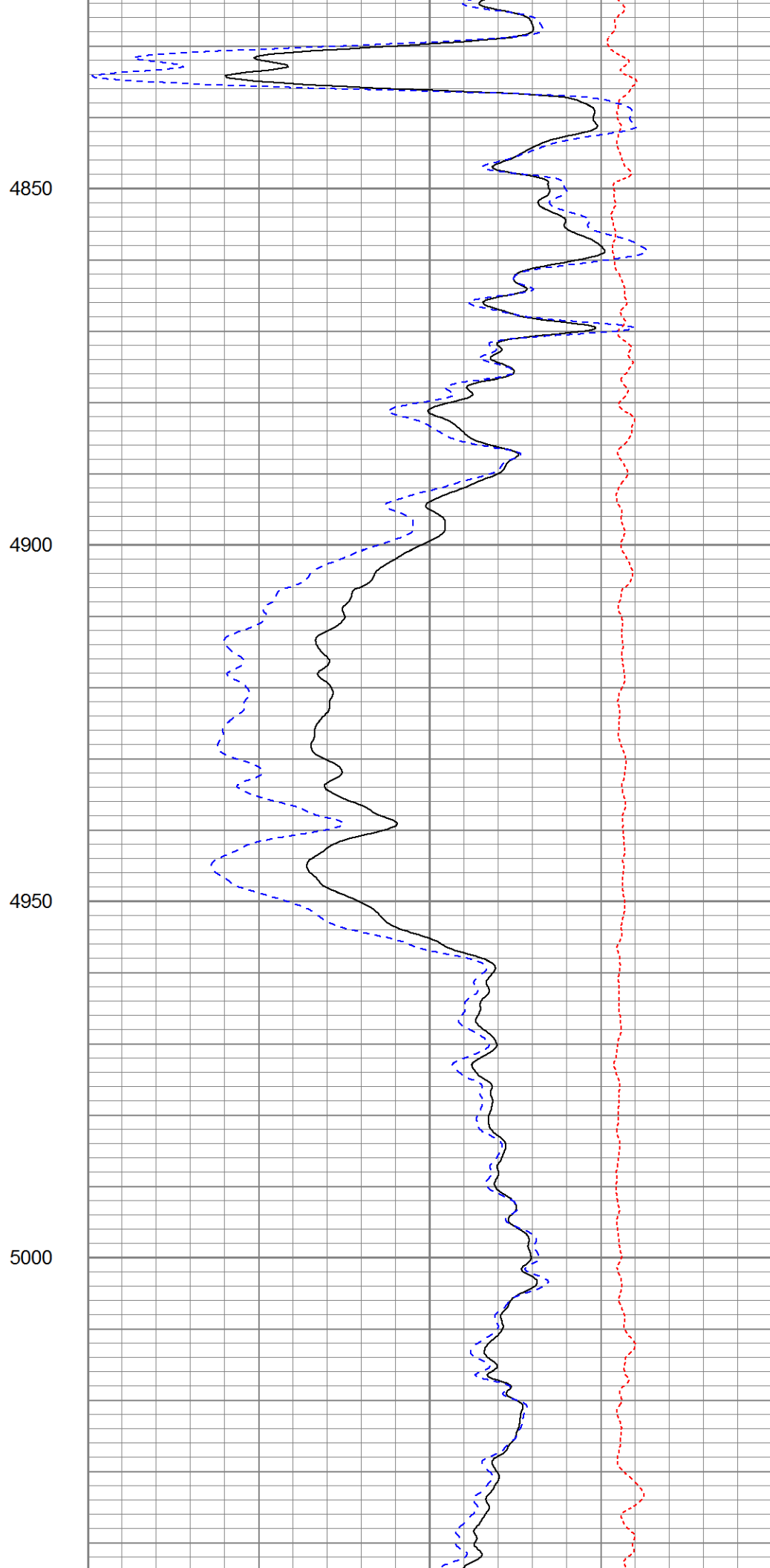
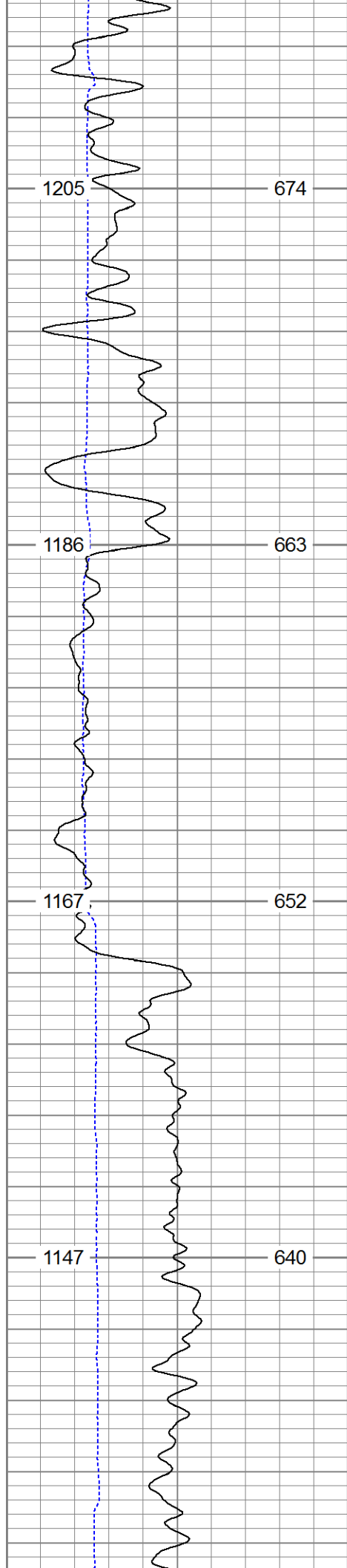


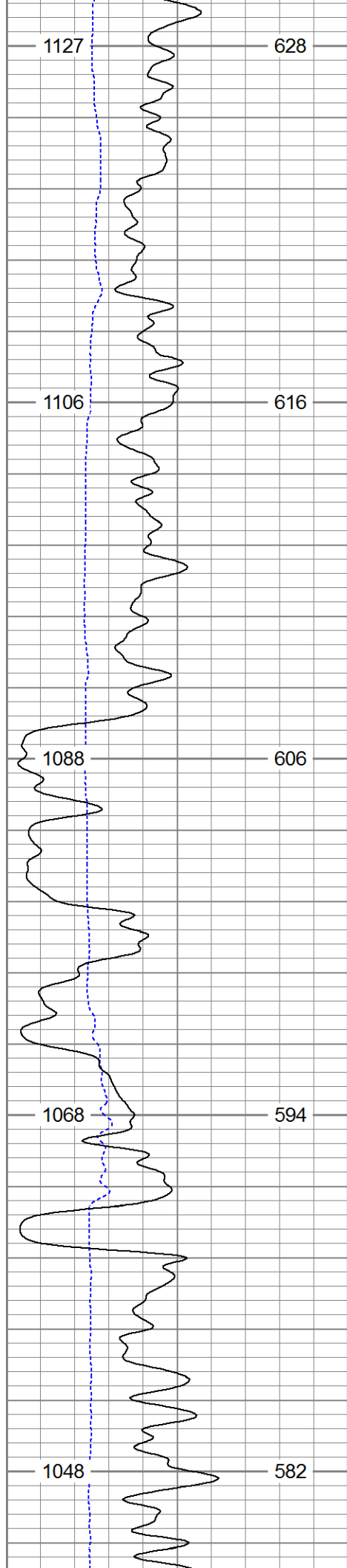












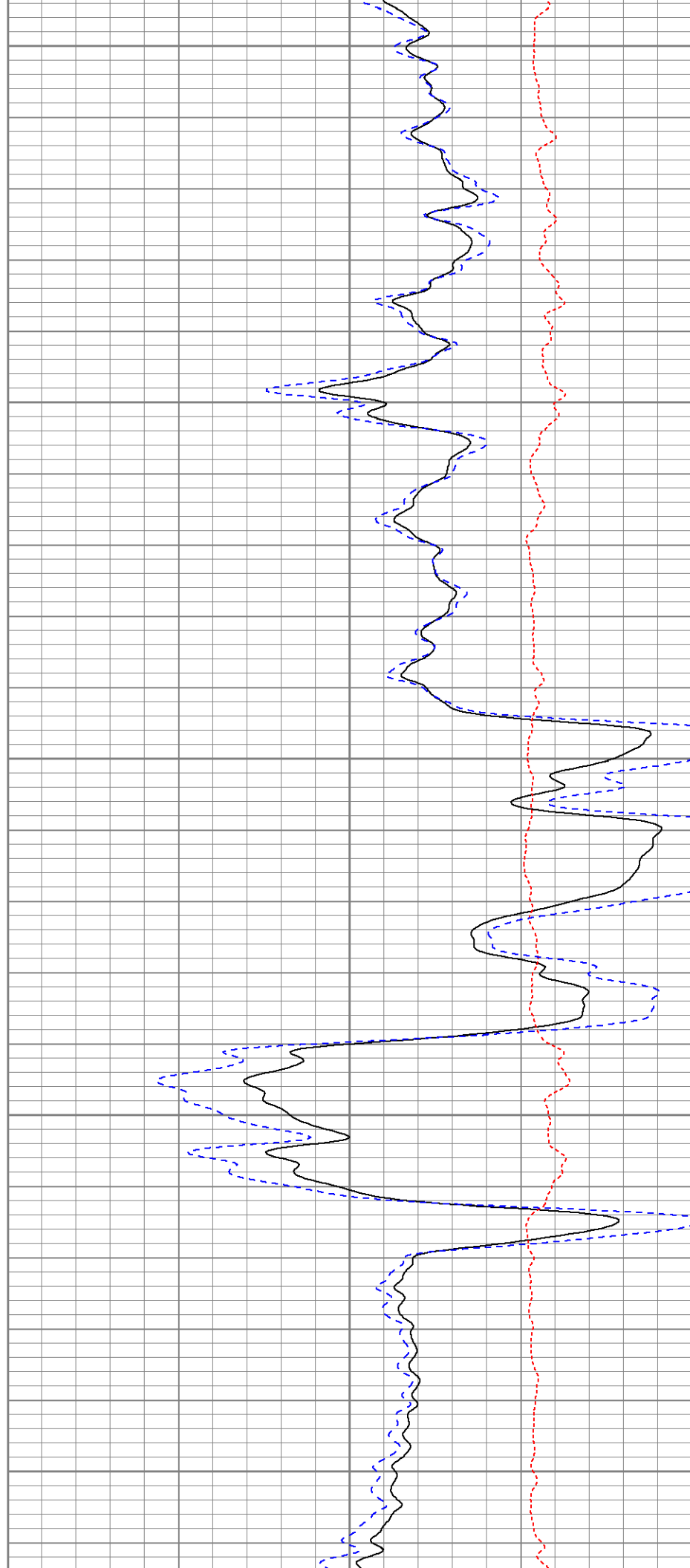
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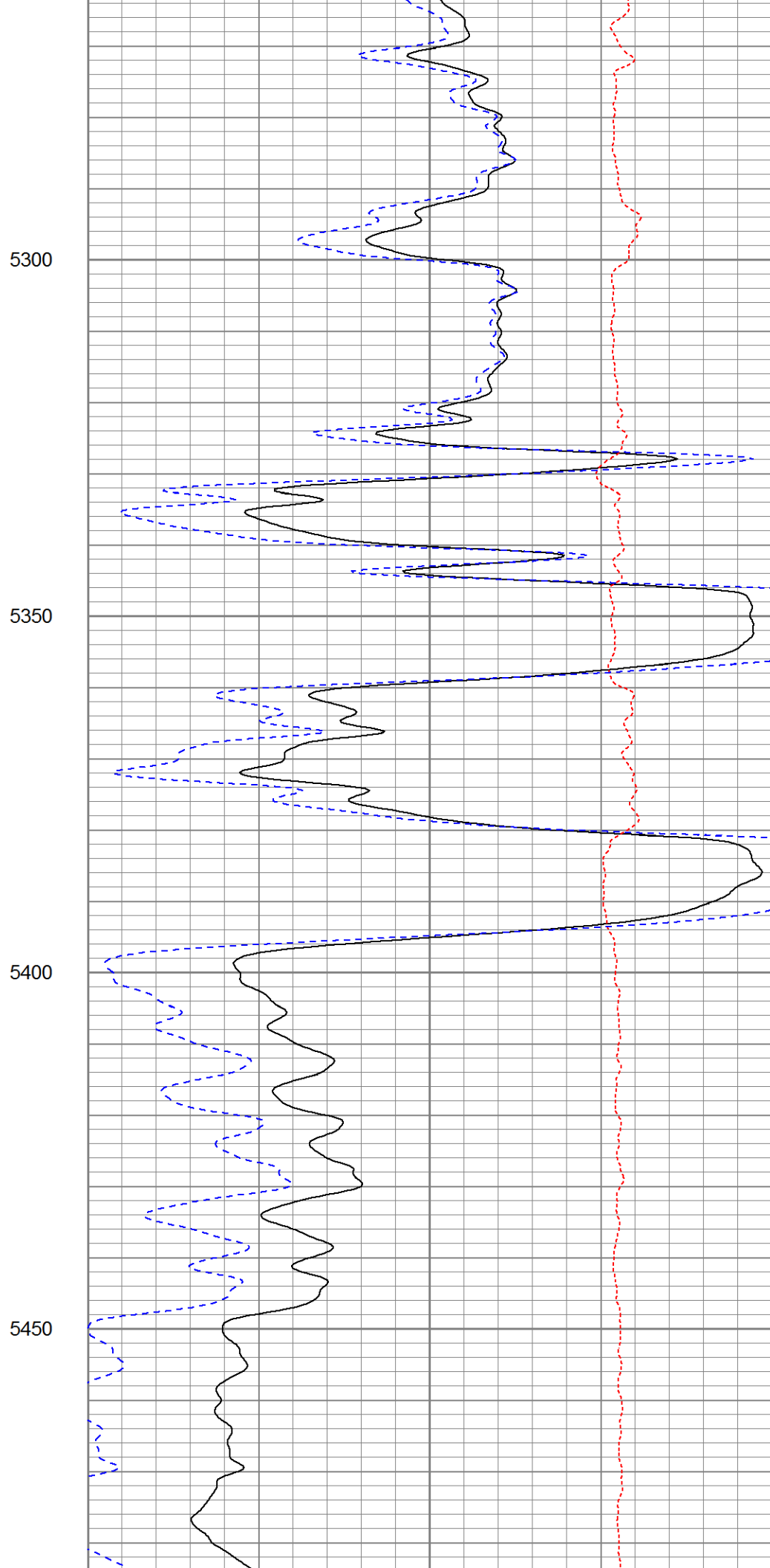
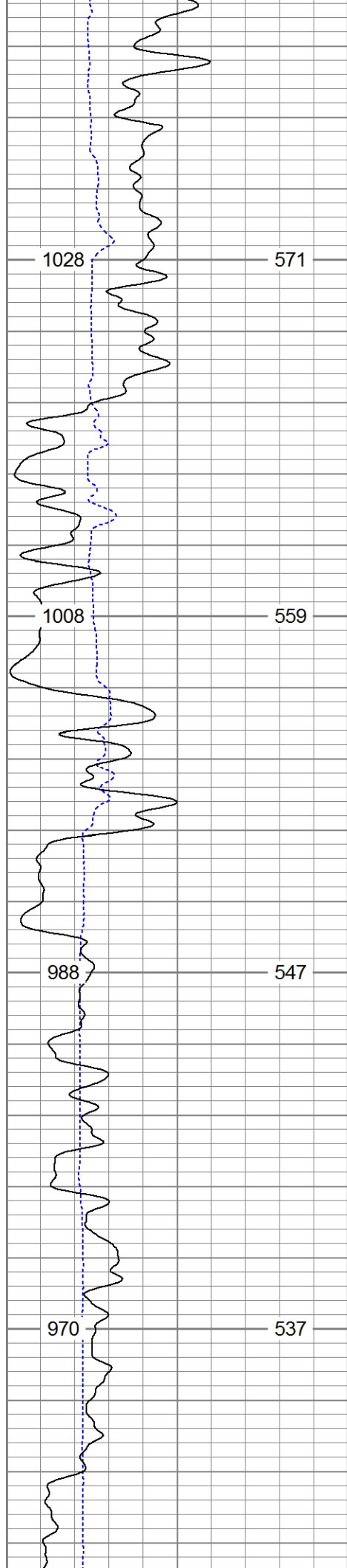
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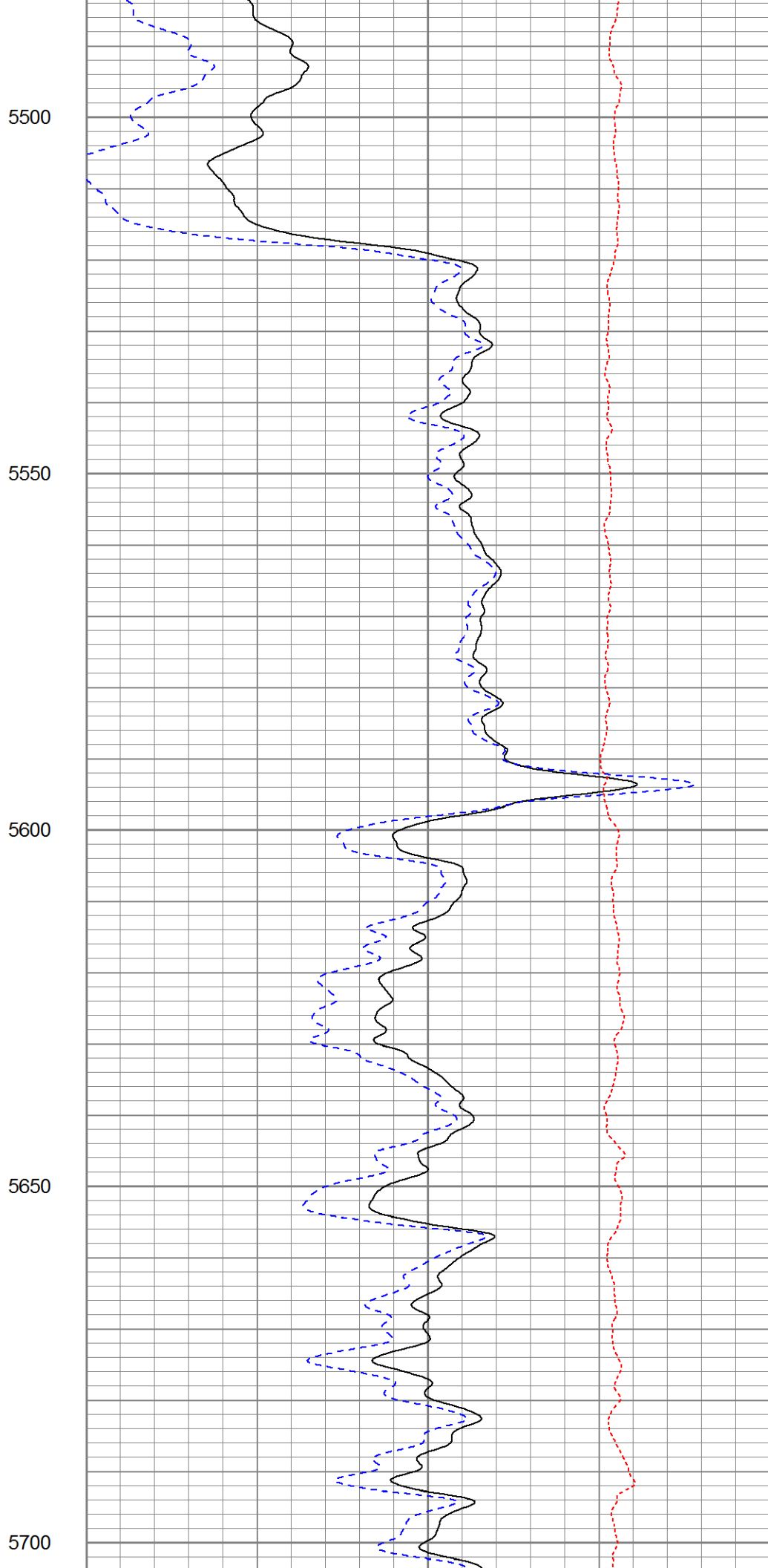
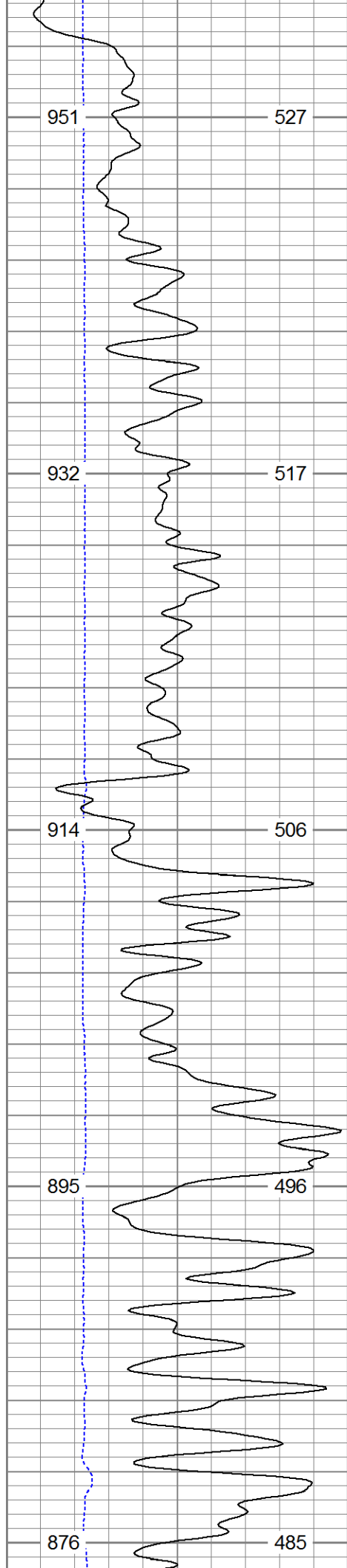
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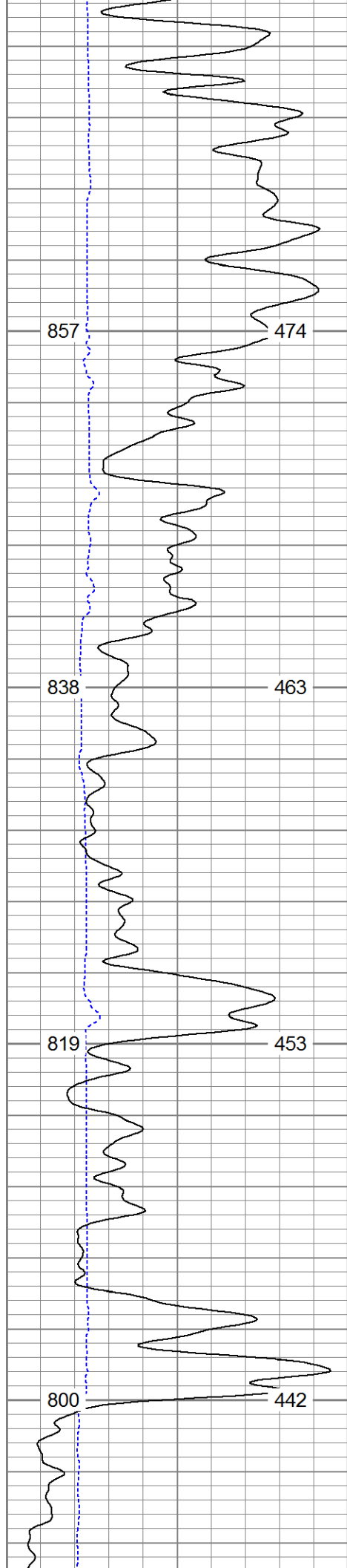
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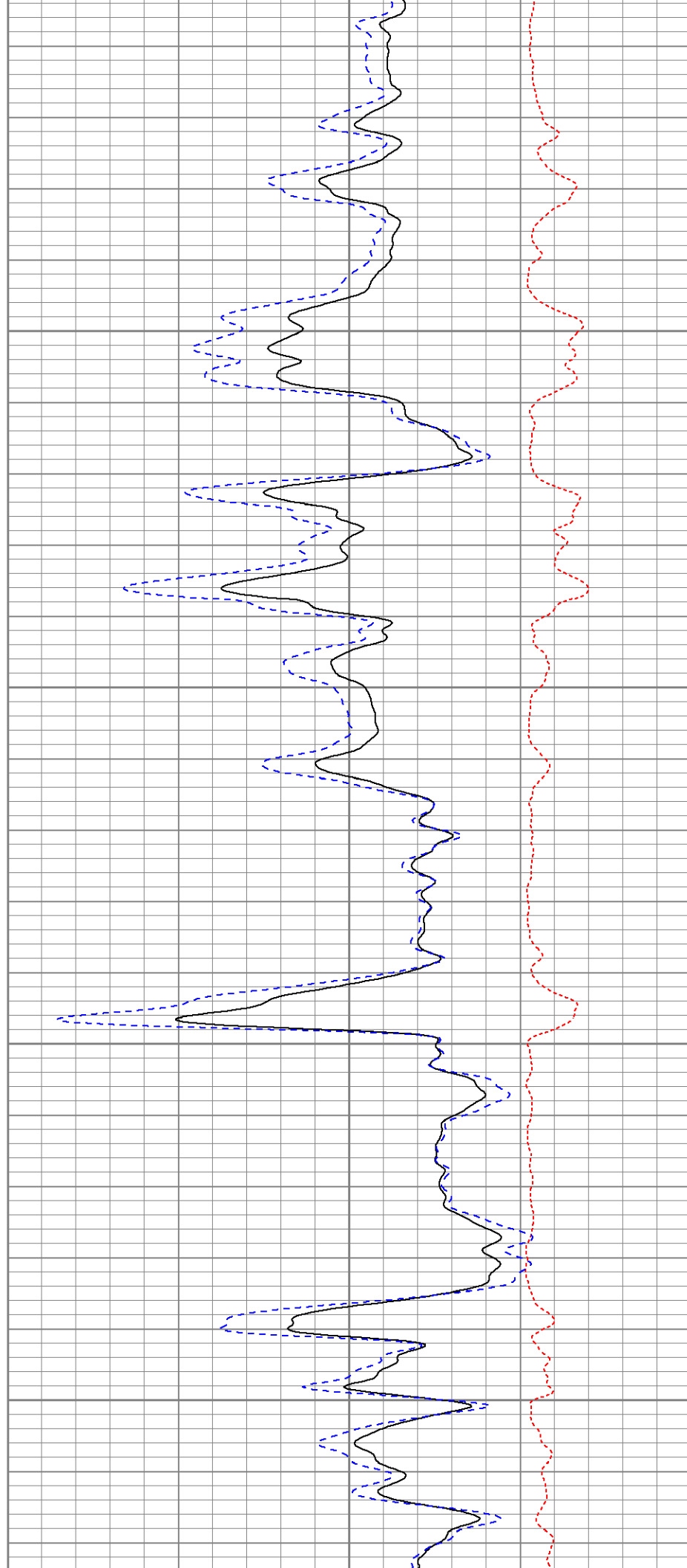


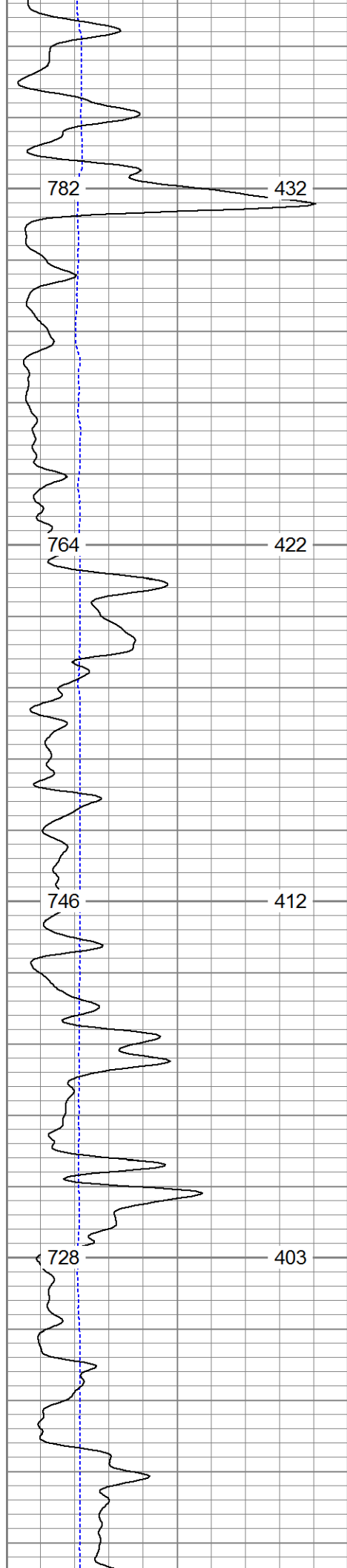
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5800

5850

5900



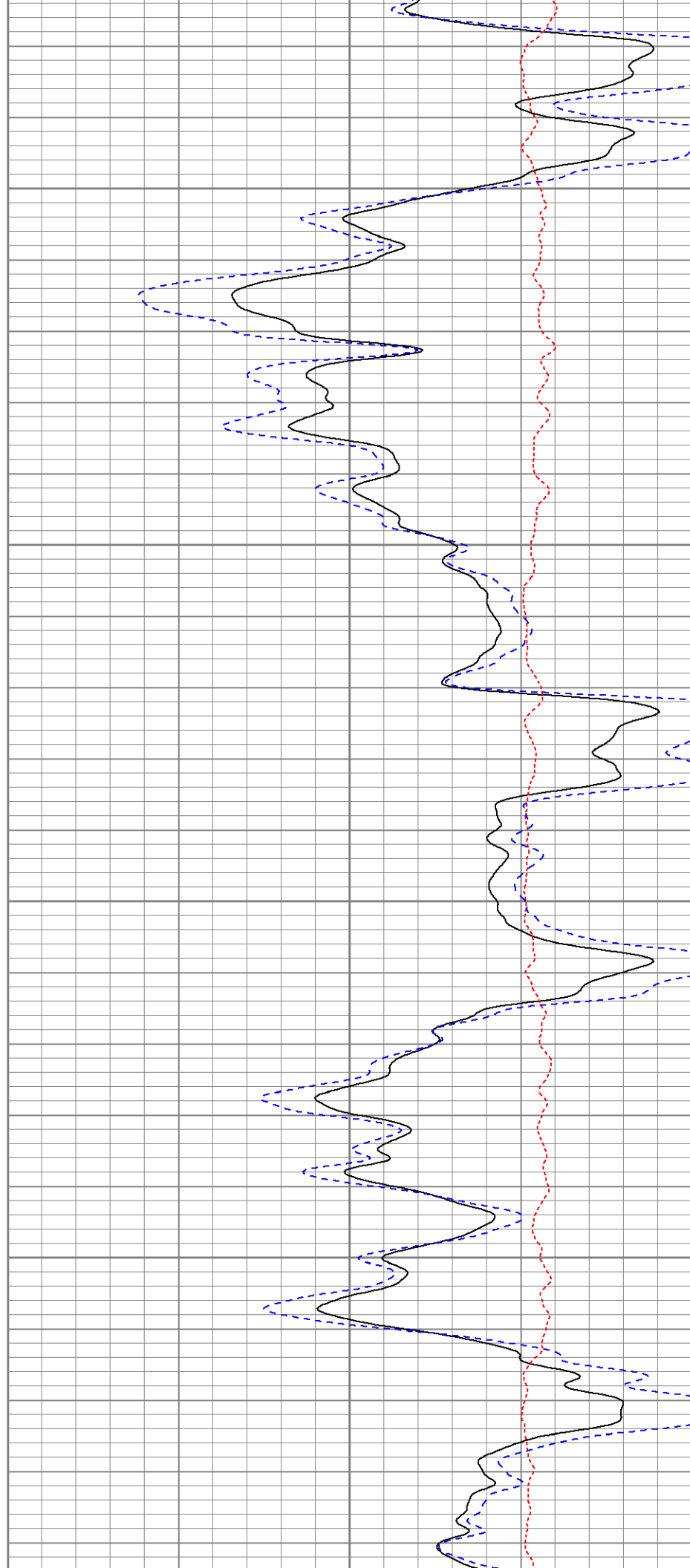


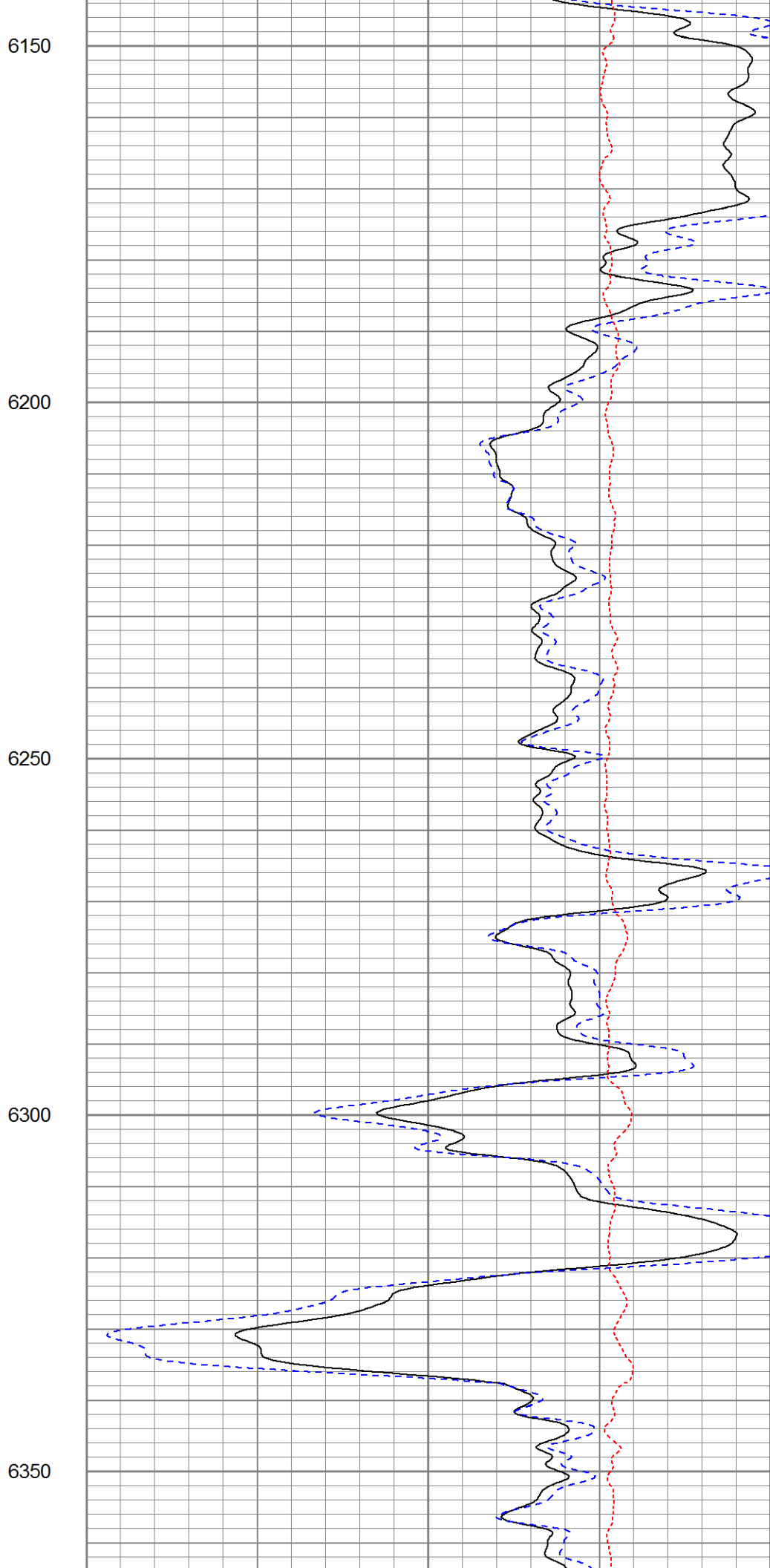
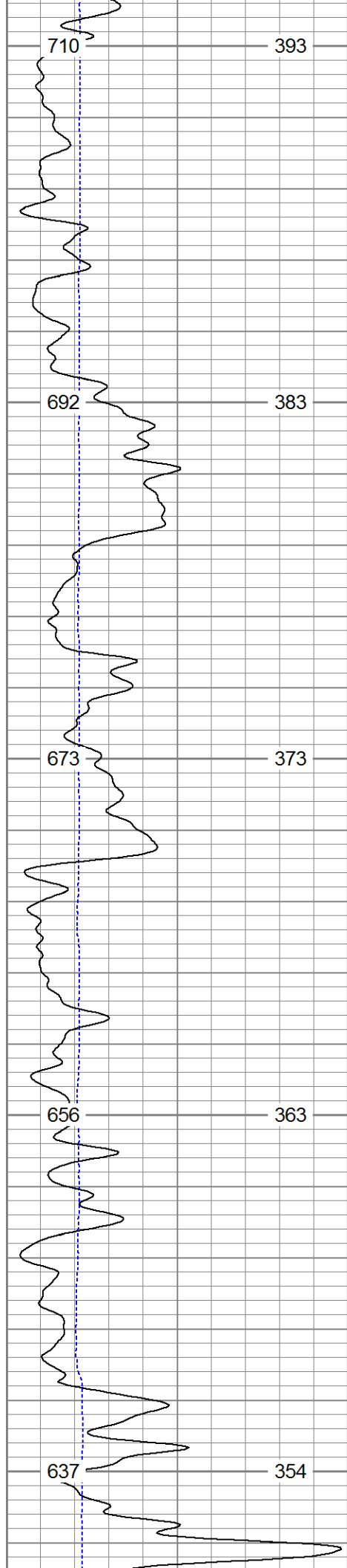
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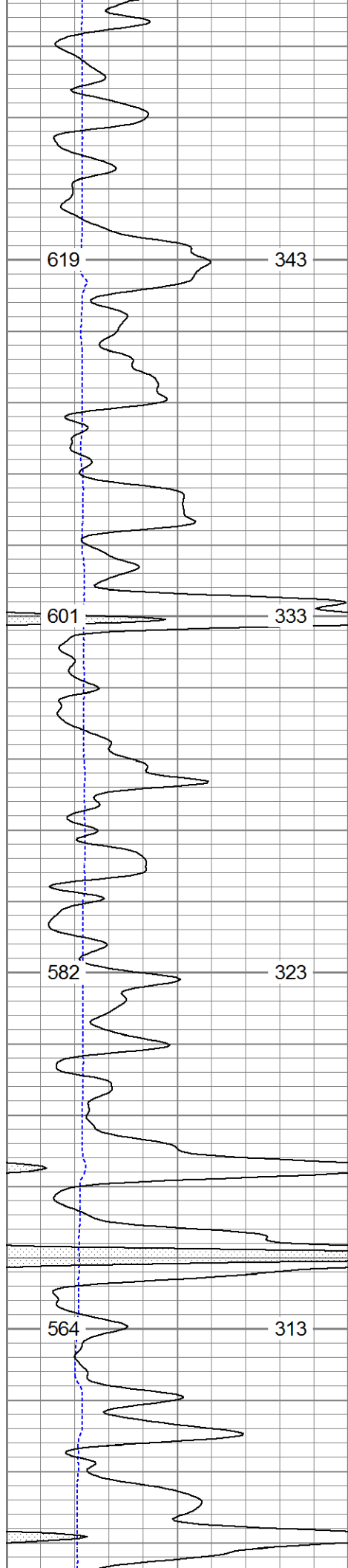
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6100





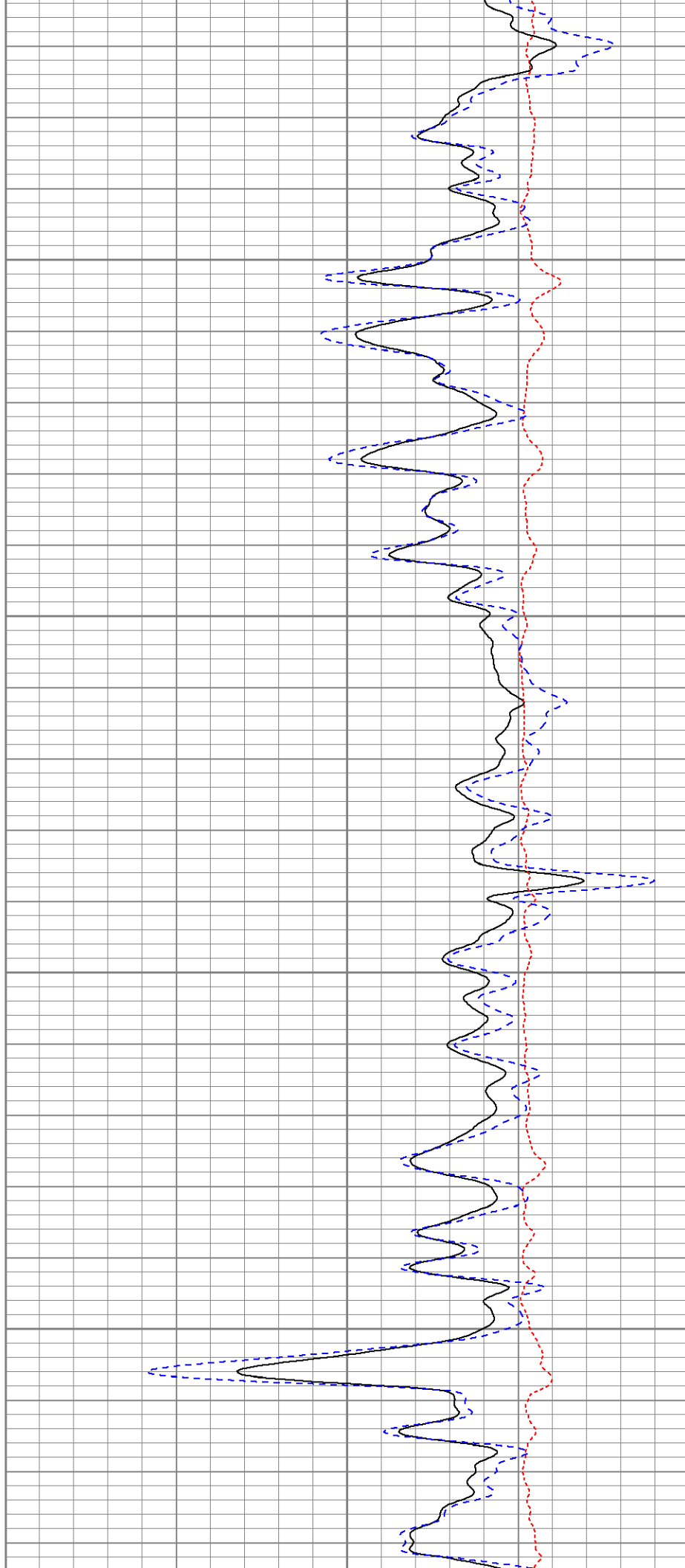


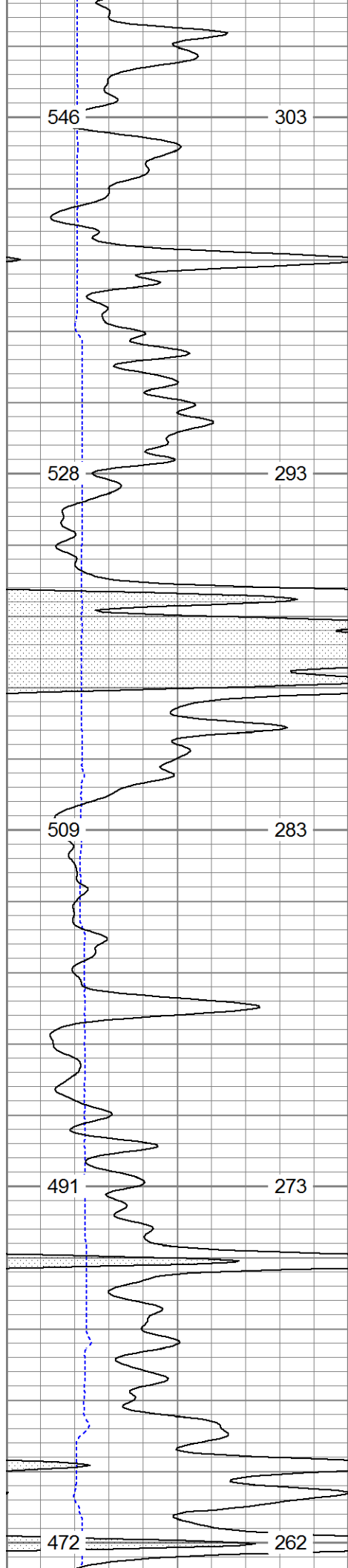
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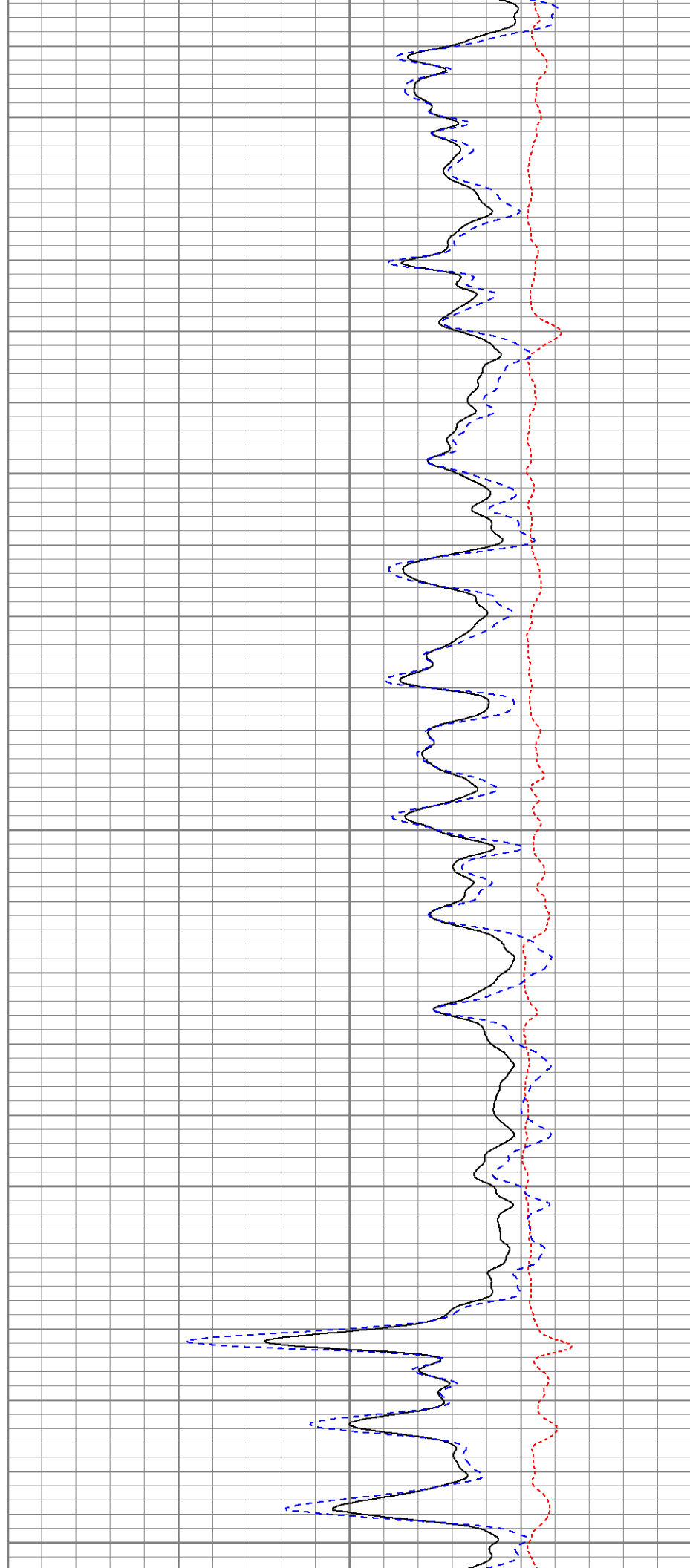
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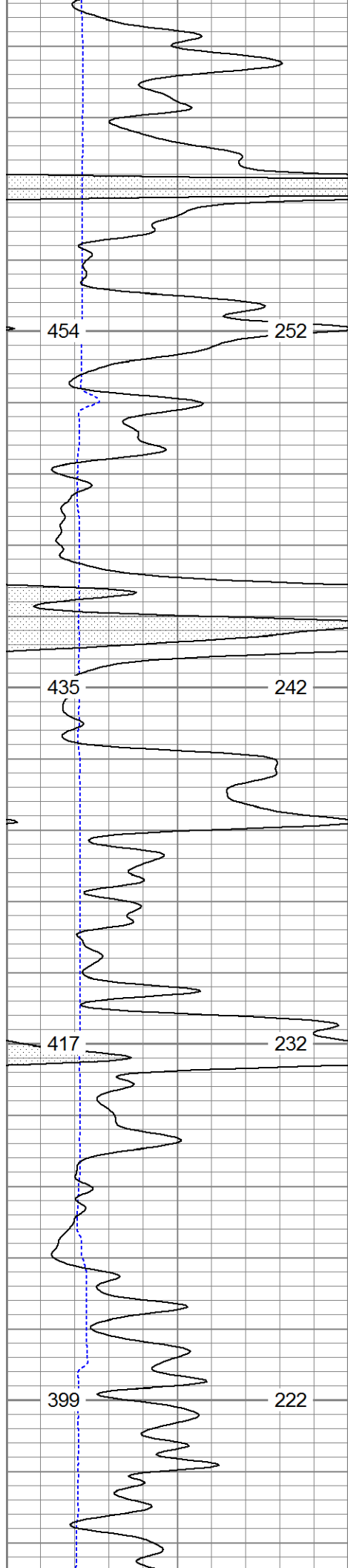
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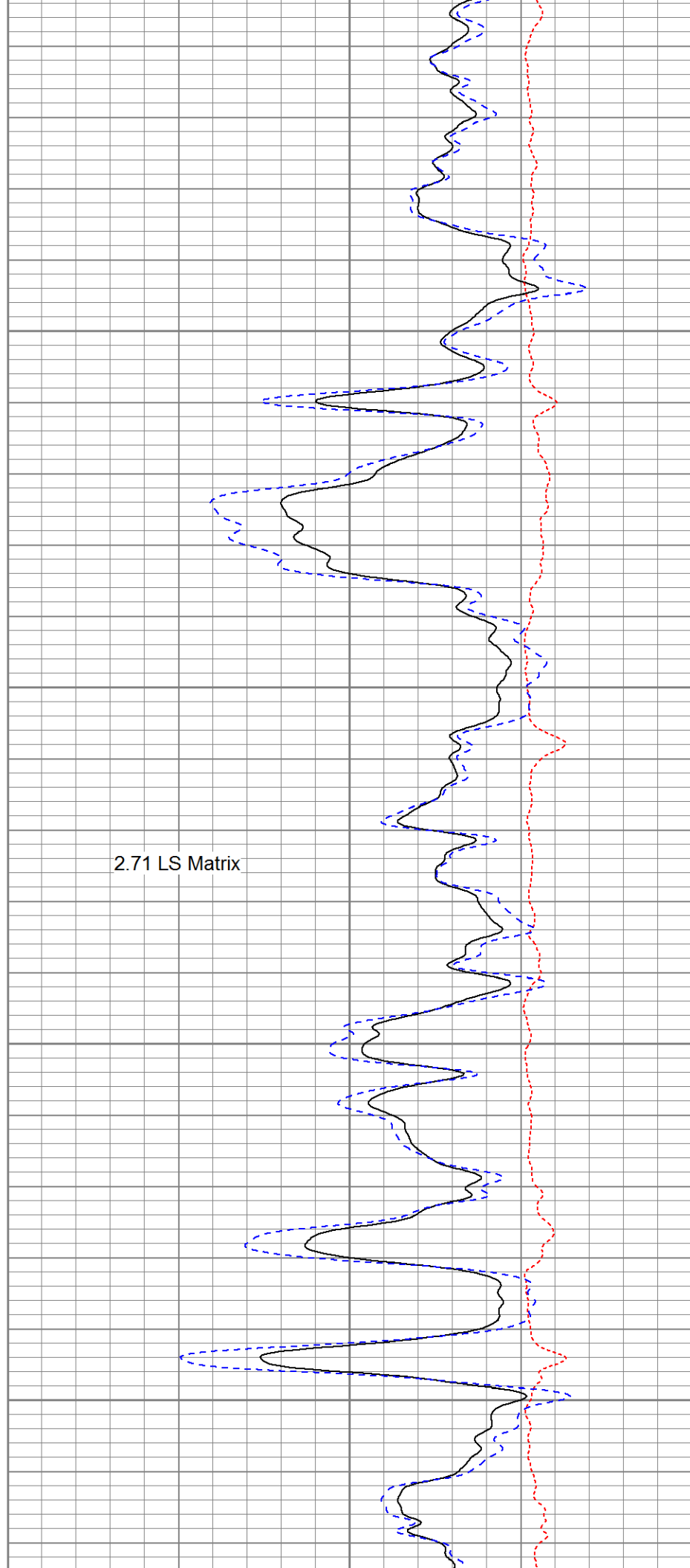
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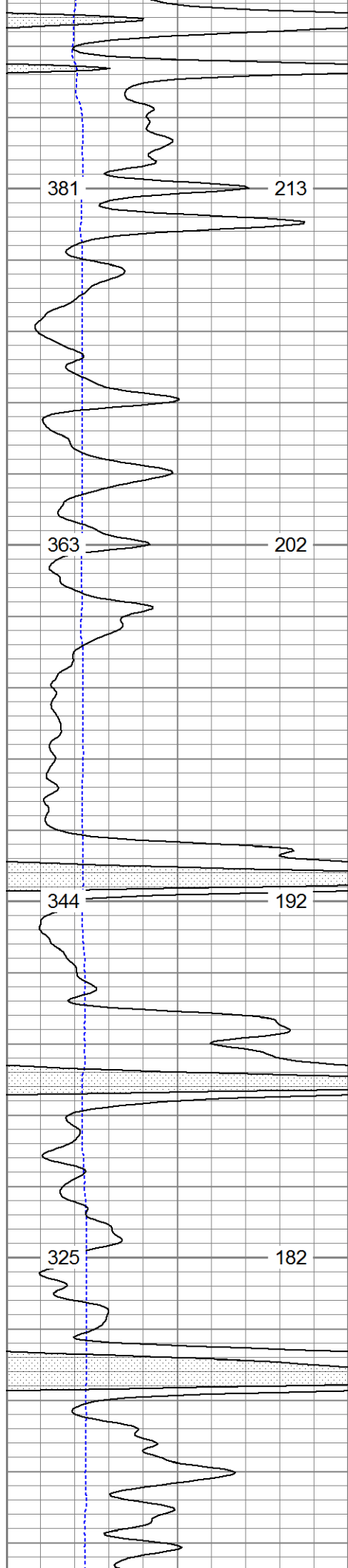
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6950

7000

2.71 LS Matrix



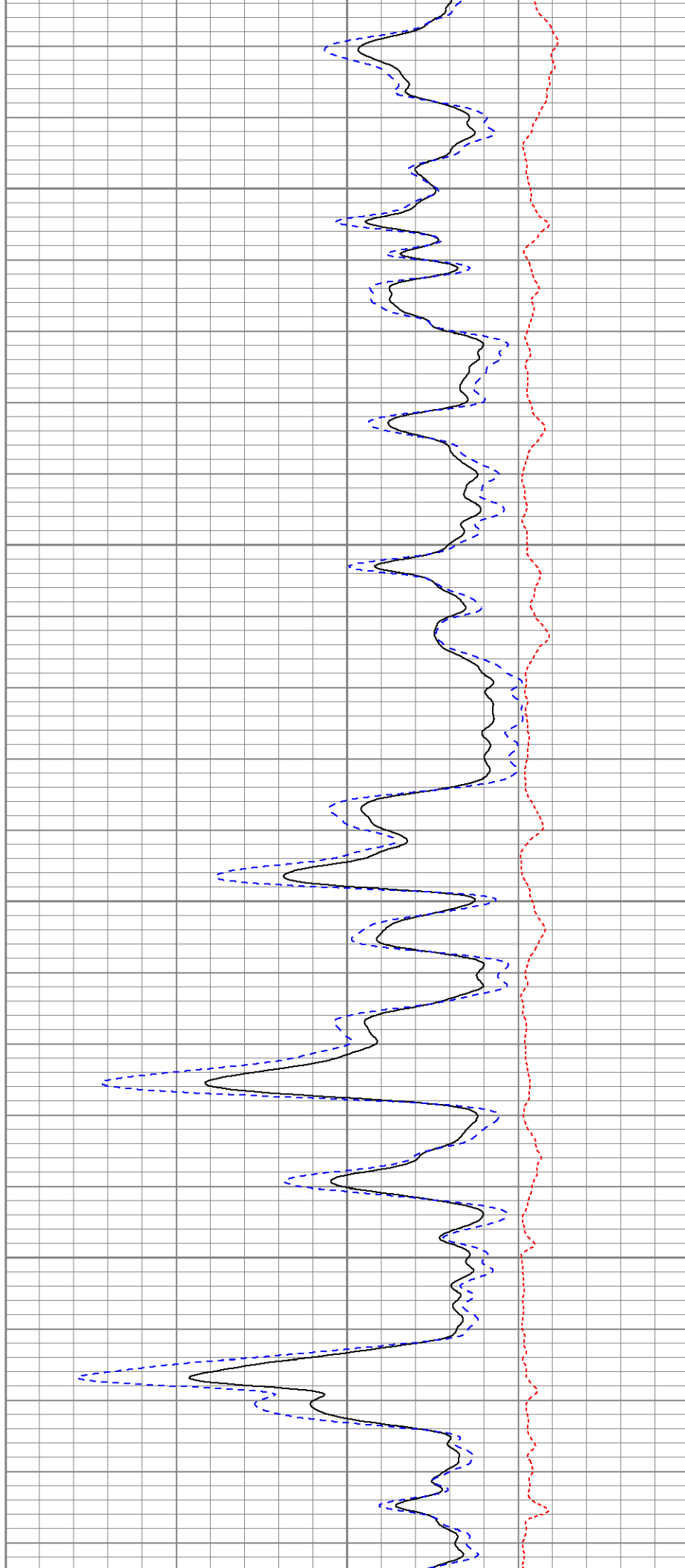


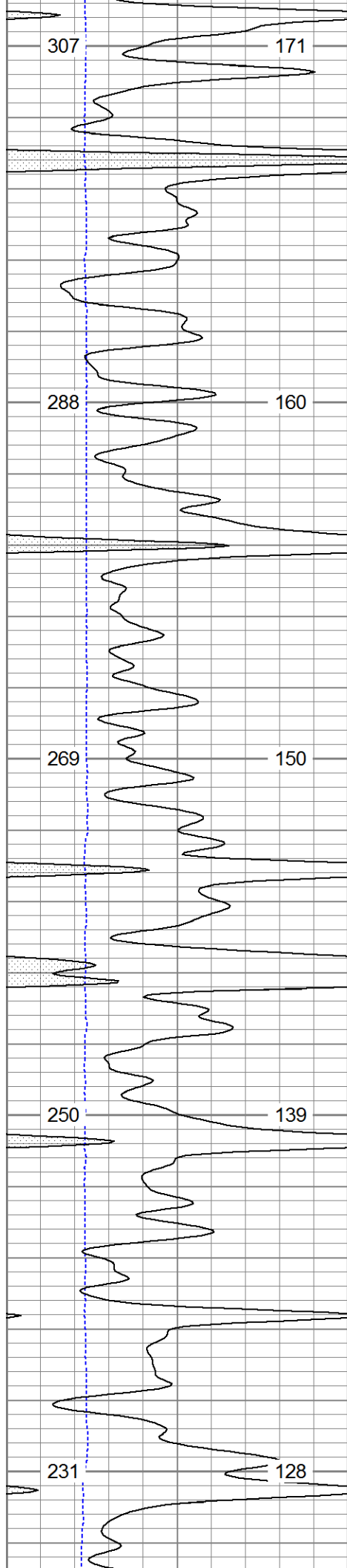
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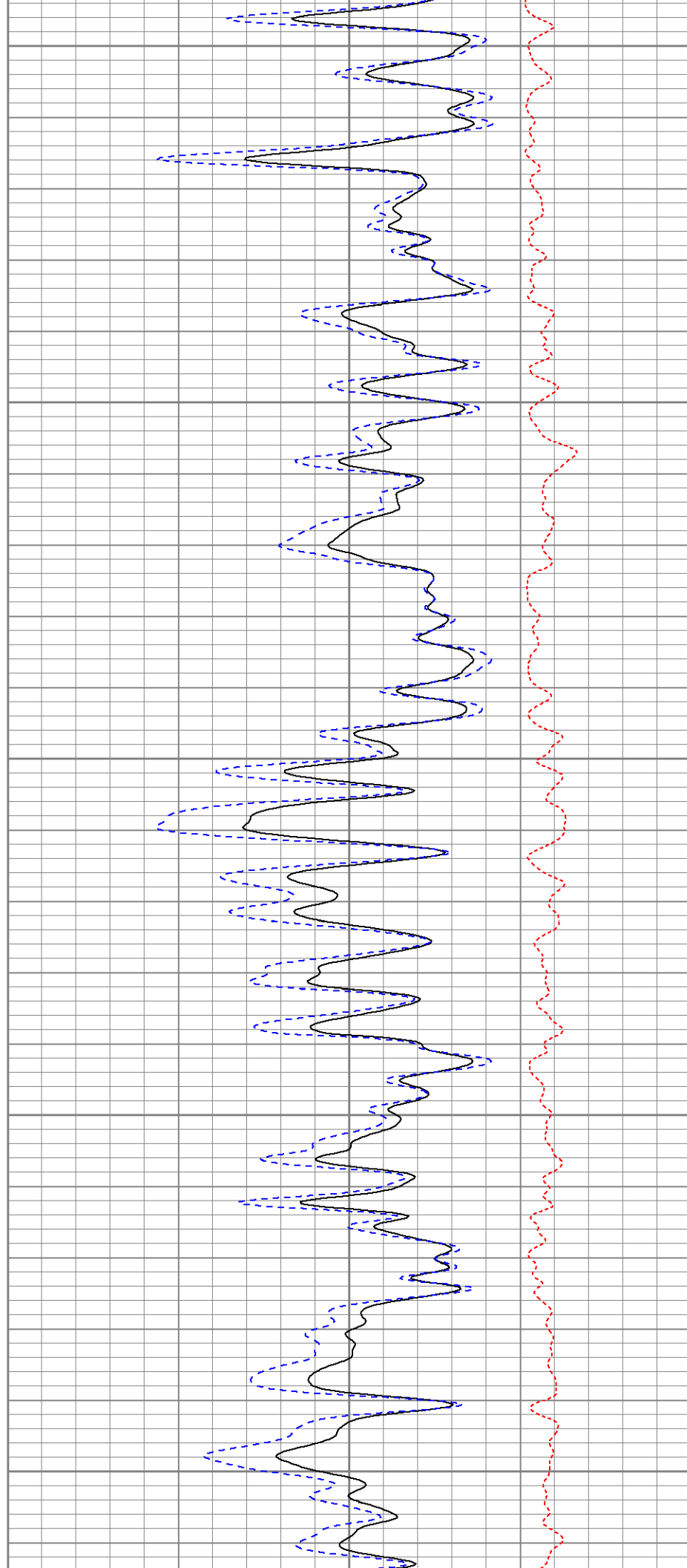
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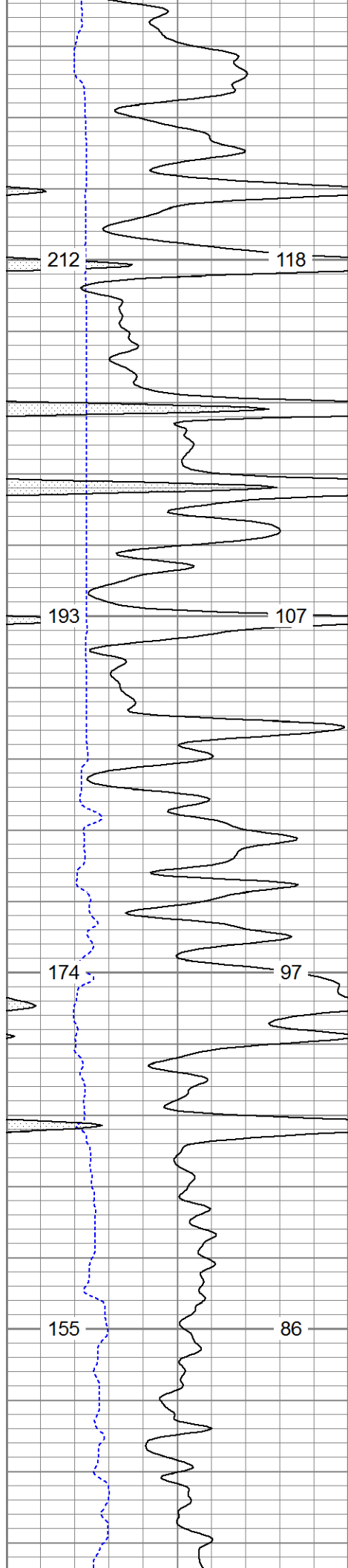
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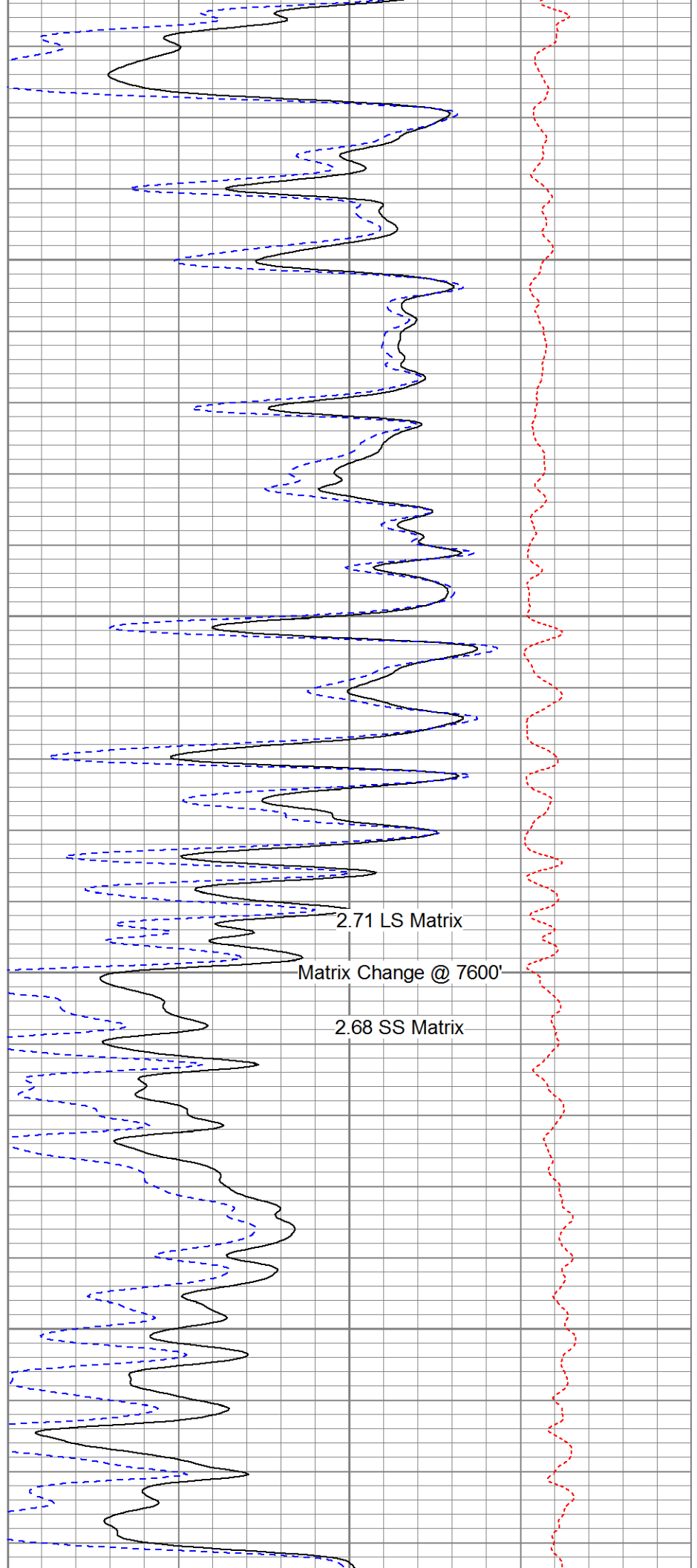


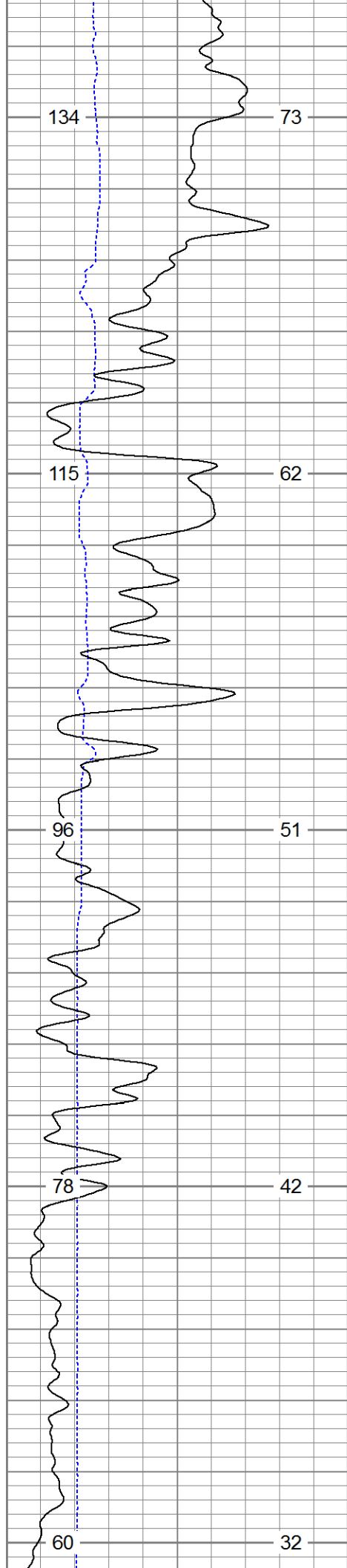
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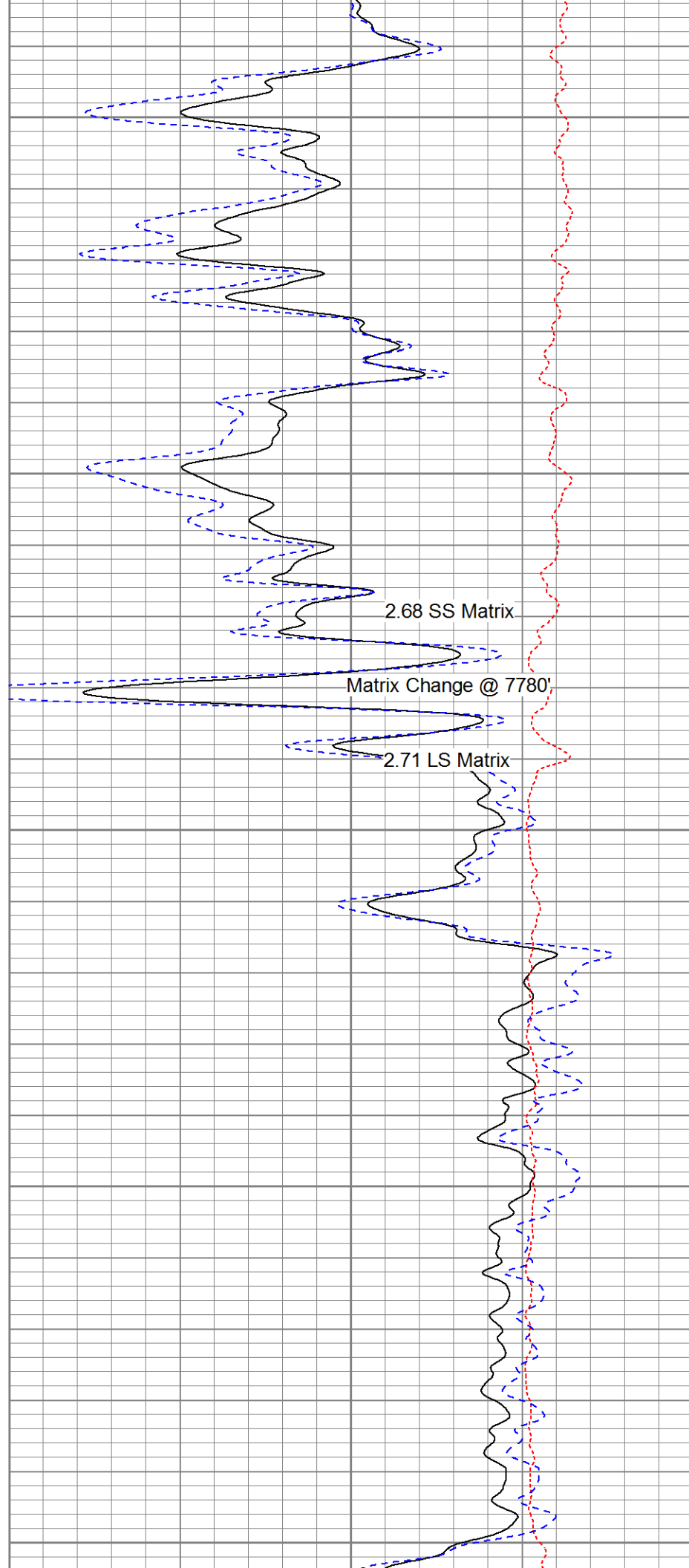
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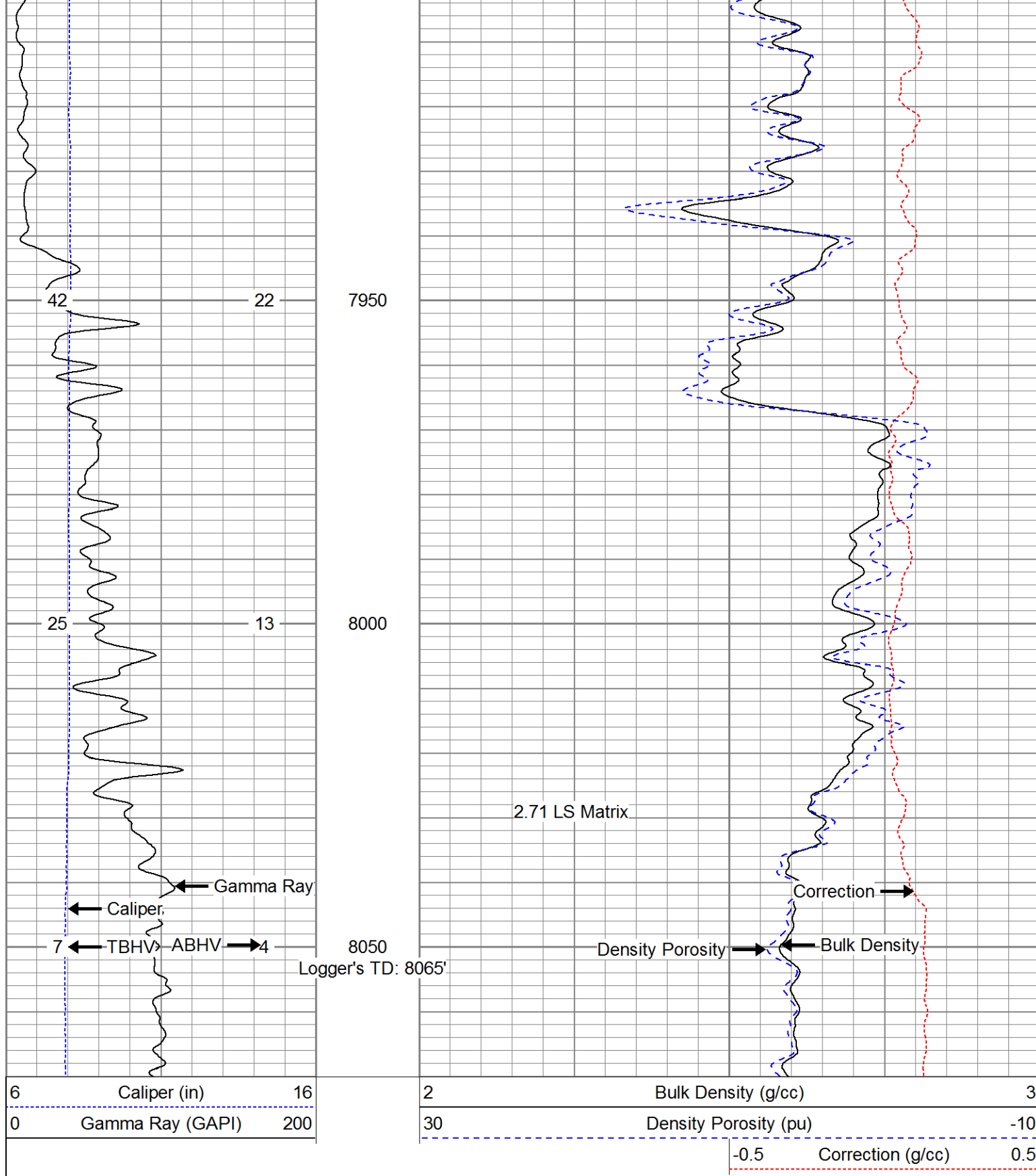
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7800

7850

7900





Calibration Report

Database File: 13507.db
Dataset Pathname: pass1
Dataset Creation: Sat May 31 06:19:10 2014 by Log 0

Dual Induction Calibration Report

Serial-Model: 860-PSI
Surface Cal Performed:

		Readings		References		Results	
Loop:	Air	Loop		Air	Loop	m	b
Deep	0.000	1.000		0.000	1.000	mmho/m	0.630
Medium	0.000	1.000		0.000	1.000	mmho/m	-46.000
							-31.000

Compensated Density Calibration Report							
Serial-Model:				934-PSI			
Source / Verifier:				4400 / PSI			
Master Calibration Performed:				Fri May 30 3:25:35 2014			
Before Survey Verification Performed:							
After Survey Verification Performed:							

Master Calibration							
		Density		Far Detector		Near Detector	
Magnesium		1.750	g/cc	4883.27		3645.80	cps
Aluminum		2.690	g/cc	915.83		2377.06	cps
Spine Angle = 75.67				Density/Spine Ratio = 0.544			
		Size		Reading			
Small Ring		4.50	in	1.80			
Large Ring		13.00	in	1.46			

Before Survey Verification							
		Target		Measured			
			g/cc				g/cc
			g/cc				g/cc
			g/cc				g/cc

After Survey Verification							
		Target		Measured			
			g/cc				g/cc
			g/cc				g/cc
			g/cc				g/cc

Compensated Neutron Calibration Report							
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Serial Number:				856			
Tool Model:				PSI			

CALIBRATION							
Detector		Readings		Target		Normalization	
Short Space		1.00	cps	1.00	cps	1.9000	
Long Space		1.00	cps	1.00	cps	2.1700	

PRE-SURVEY VERIFICATION							
Detector		Readings		Measured		Target	
1)	Short Space		cps				
	Long Space		cps	pu		pu	
2)	Short Space		cps				
	Long Space		cps	pu			

3)	Short Space Long Space	cps cps	pu	
POST-SURVEY VERIFICATION				
	Detector	Readings	Measured	Target
1)	Short Space Long Space	cps cps	pu	pu
2)	Short Space Long Space	cps cps	pu	pu
3)	Short Space Long Space	cps cps	pu	pu
Gamma Ray Calibration Report				
	Serial Number:	923		
	Tool Model:	PSI		
	Performed:	Fri May 30 2:55:35 2014		
	Calibrator Value:	1.0	GAPI	
	Background Reading:	0.0	cps	
	Calibrator Reading:	1.0	cps	
	Sensitivity:	0.6000	GAPI/cps	