



**SUPERIOR**  
Black Lick, Pa.  
Mercer, Pa.  
Wooster, Oh.  
Cleveland, Ok.  
Trinidad, Co.

# COMPENSATED DENSITY NEUTRON LOG

Company	XTO Energy Inc.		
Well	Hill Ranch East 14-14		
Field	Purgatoire River		
County	Las Animas	State	Colorado
Location:	API # : 05 071 09452 00		Other Services
1028' FSL & 1746' FWL		DIL	
Permanent Datum	SEC 14 TWP 34S RGE 67W	Ground Level	Elevation 7969'
Log Measured From	Ground Level	Ground Level	Elevation
Drilling Measured From	Ground Level	Ground Level	Elevation
Date	4-19-08		
Run Number	One		
Depth Driller	2650'		
Depth Logger	2633'		
Bottom Logged Interval	2610'		
Top Log Interval	Surface Casing		
Casing Driller	8 5/8" @ 488'		
Casing Logger	490'		
Bit Size	7 7/8"		
Type Fluid in Hole	Water		
Density / Viscosity	///		
pH / Fluid Loss	///		
Source of Sample	///		
Rm @ Meas. Temp	///		
Rmf @ Meas. Temp	///		
Rmc @ Meas. Temp	///		
Source of Rmf / Rmc	///		
Rm @ BHT	///		
Time Circulation Stopped	12:00 A.M.		
Time Logger on Bottom	5:40 A.M.		
Maximum Recorded Temperature	113 DEG F		
Equipment Number	T697		
Location	Trinidad		
Recorded By	J. Cappellucci		
Witnessed By	Mr. Don Johnson		

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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, 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. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

## Comments

Neutron Density Porosity Presented On Sandstone Matrix.  
ABHV Calculated For 5 1/2" Casing.

### Well Directions:

Lorencito, 2.2 miles past Compressor station take right,  
at next Y stay right up hill, At top of hill take hard left,  
take third left, second drive through location is HRE 14-14.

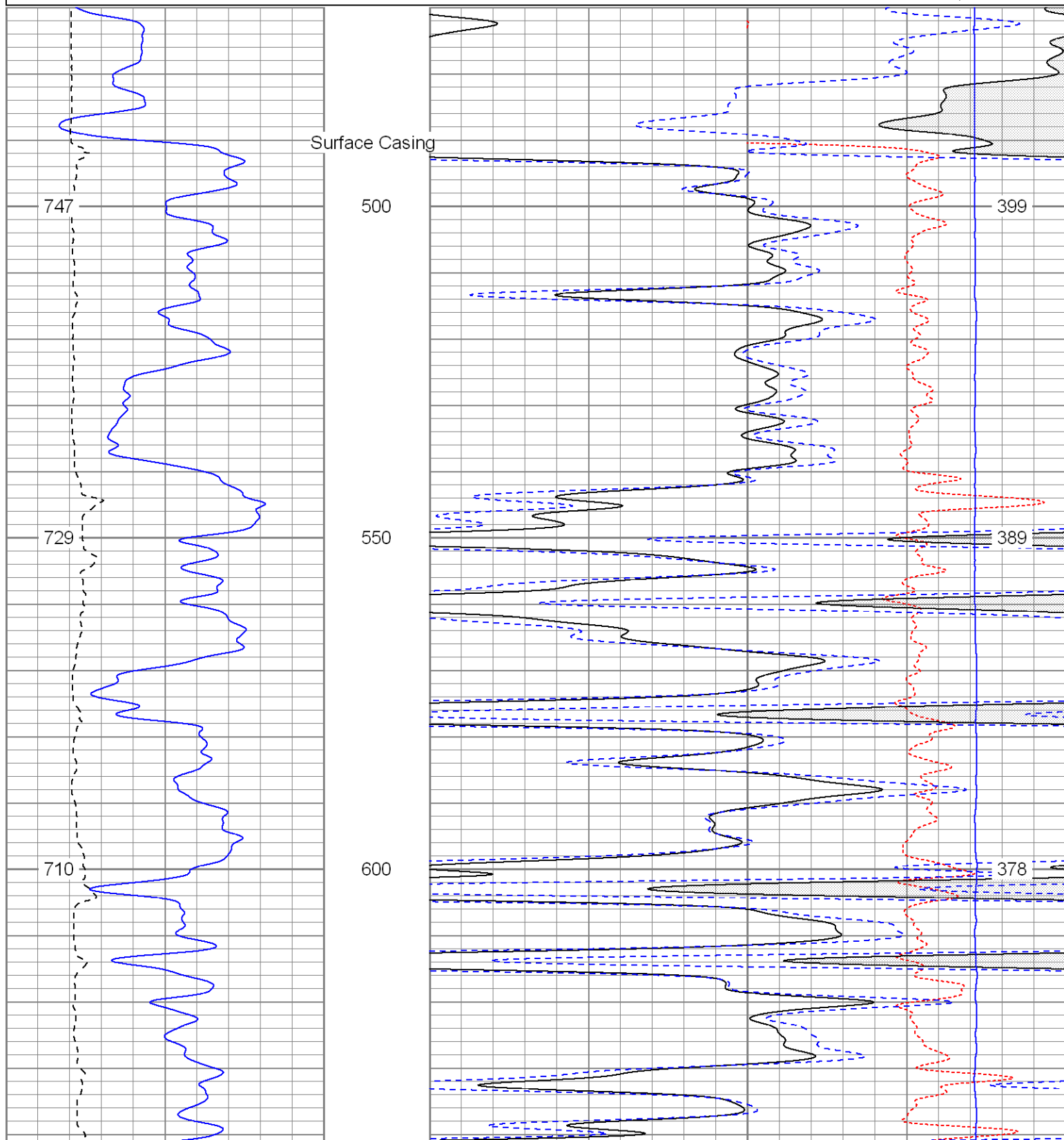


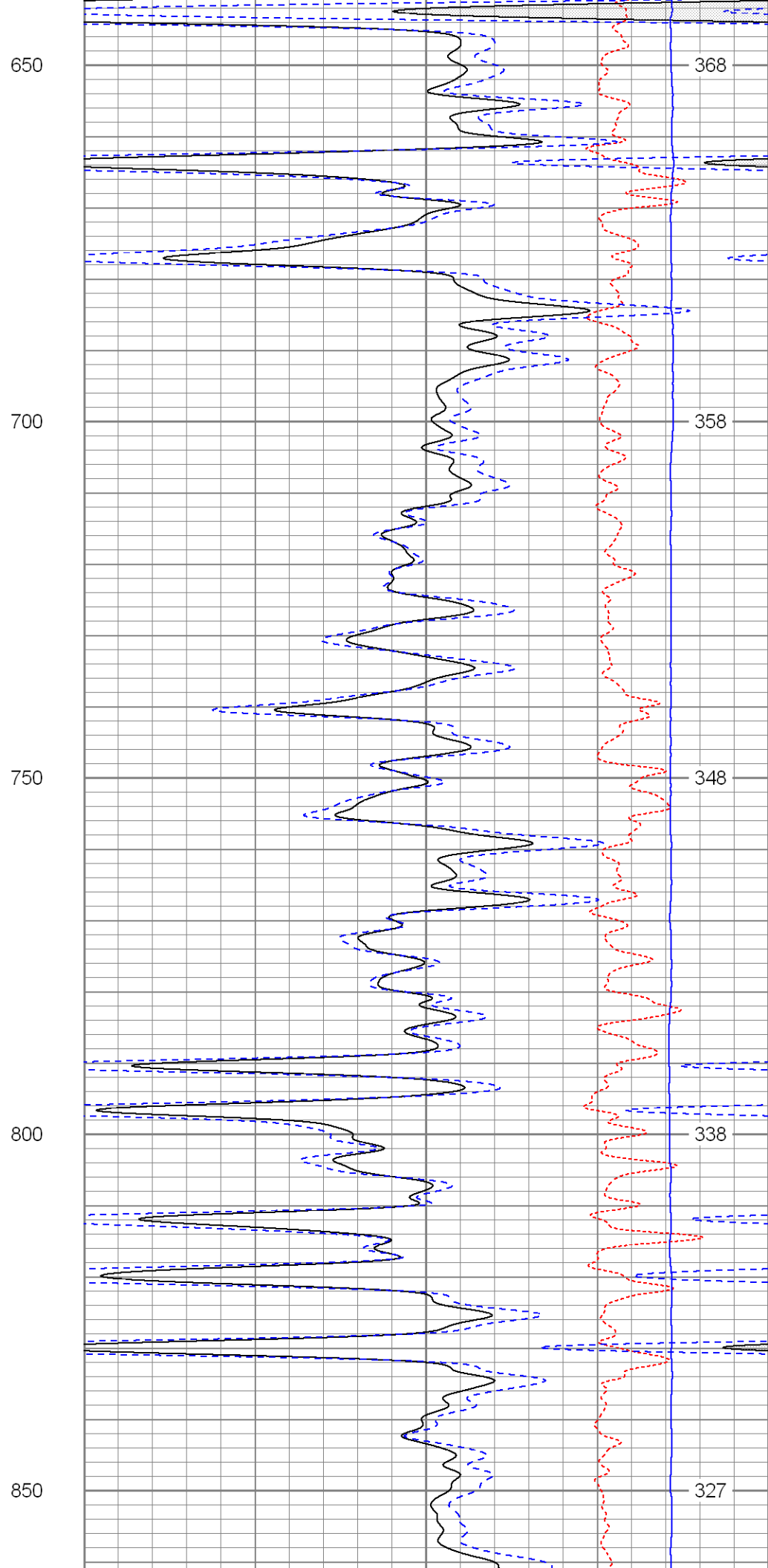
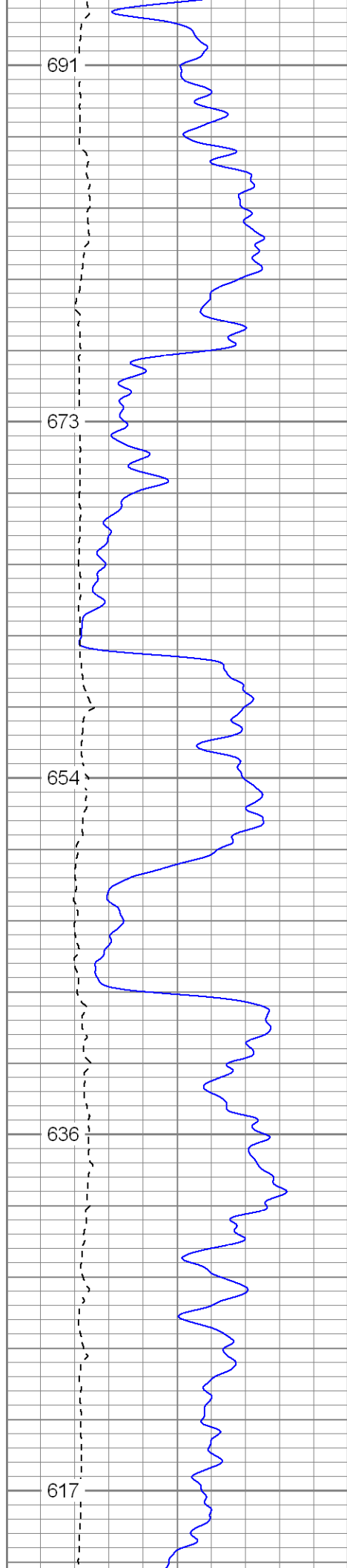
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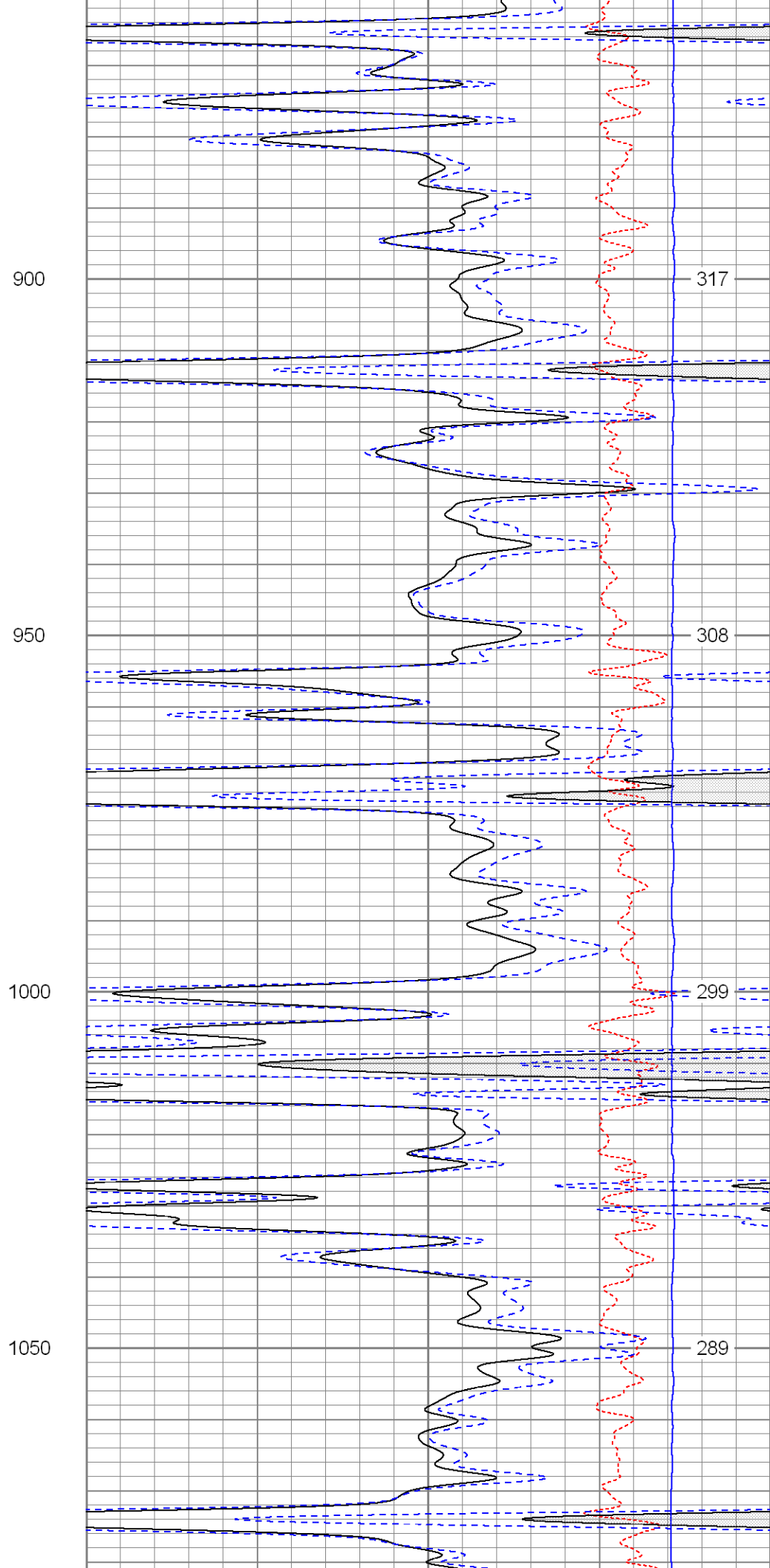
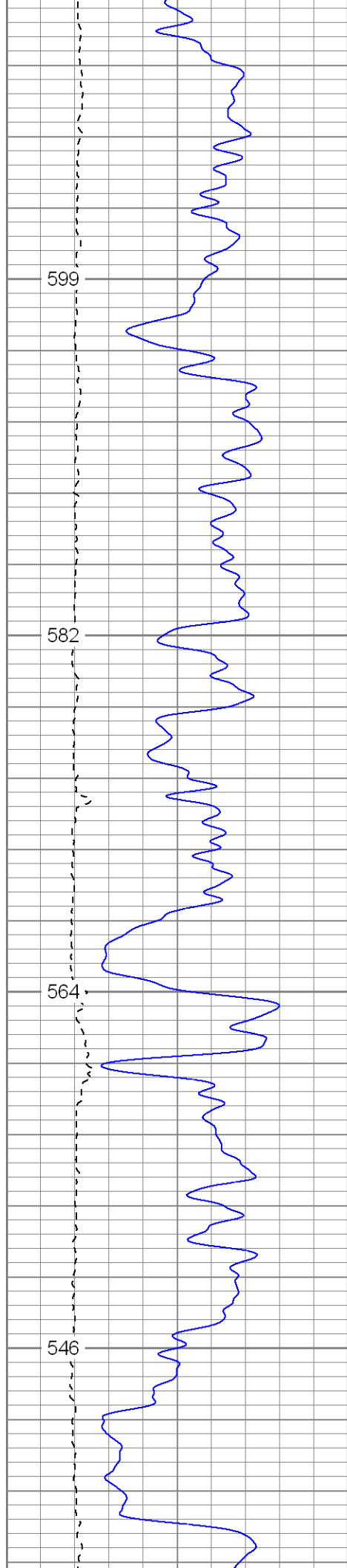
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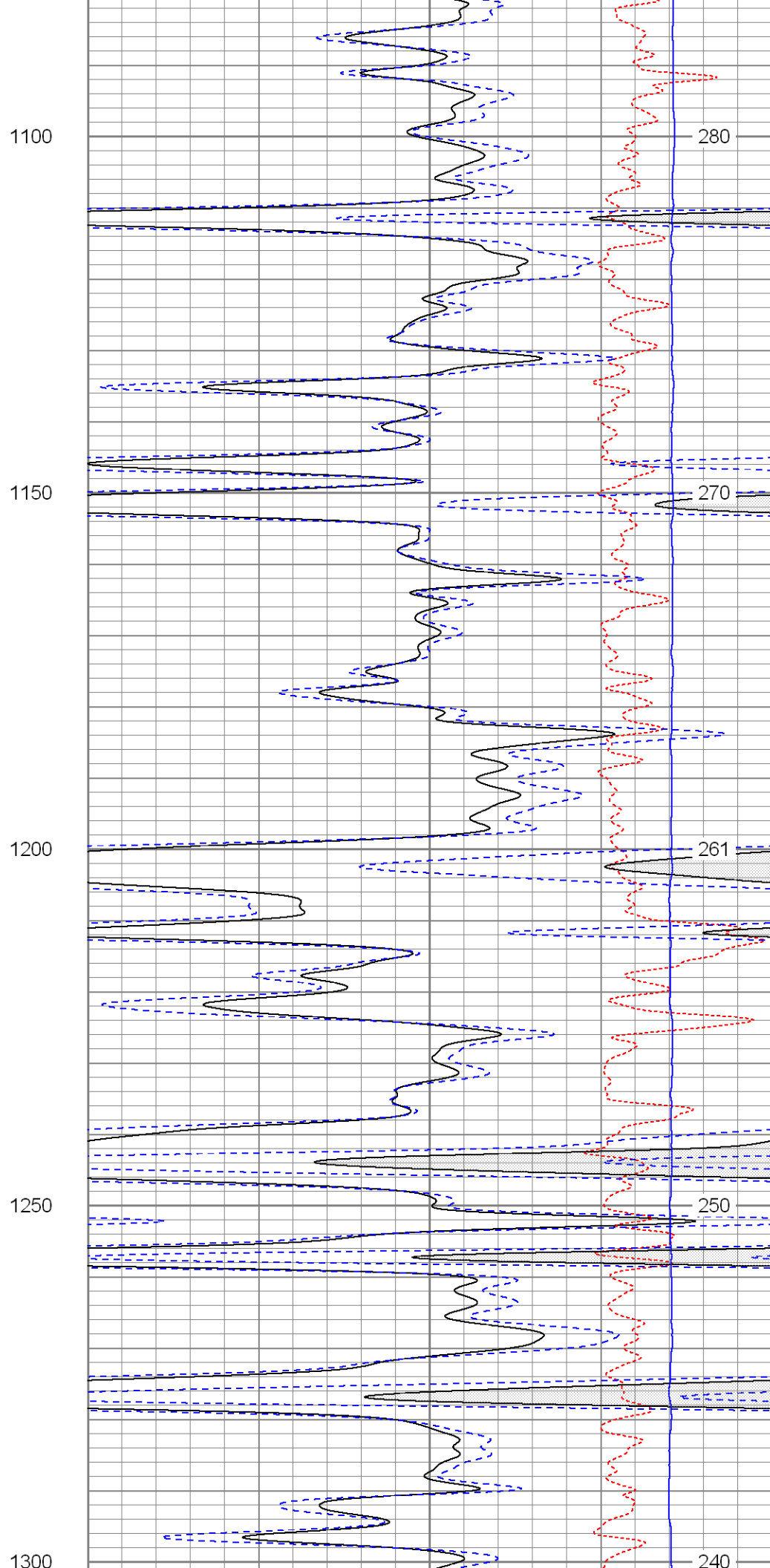
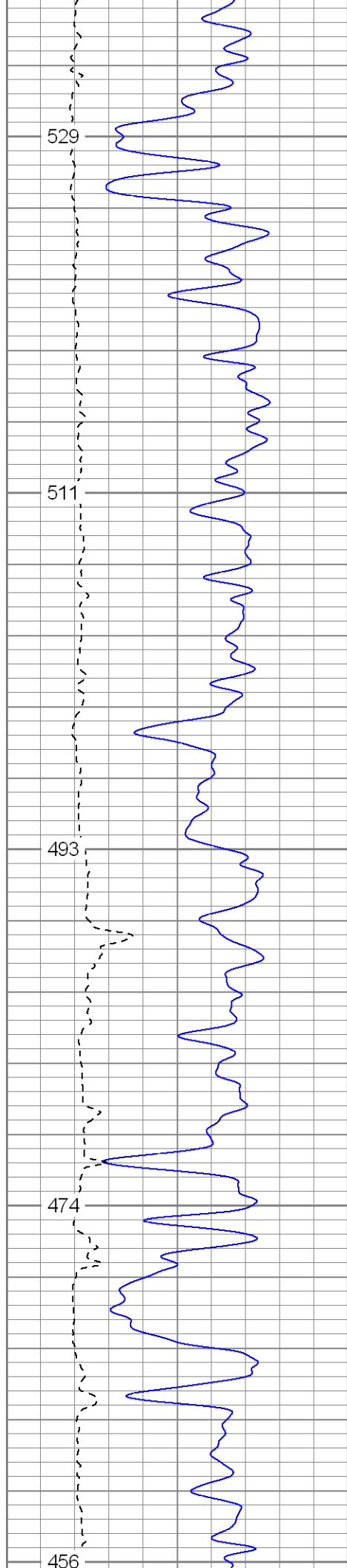
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Dataset Creation: Sat Apr 19 07:27:31 2008 by Calc Open-Cased 070814  
Charted by: Depth in Feet scaled 1:240

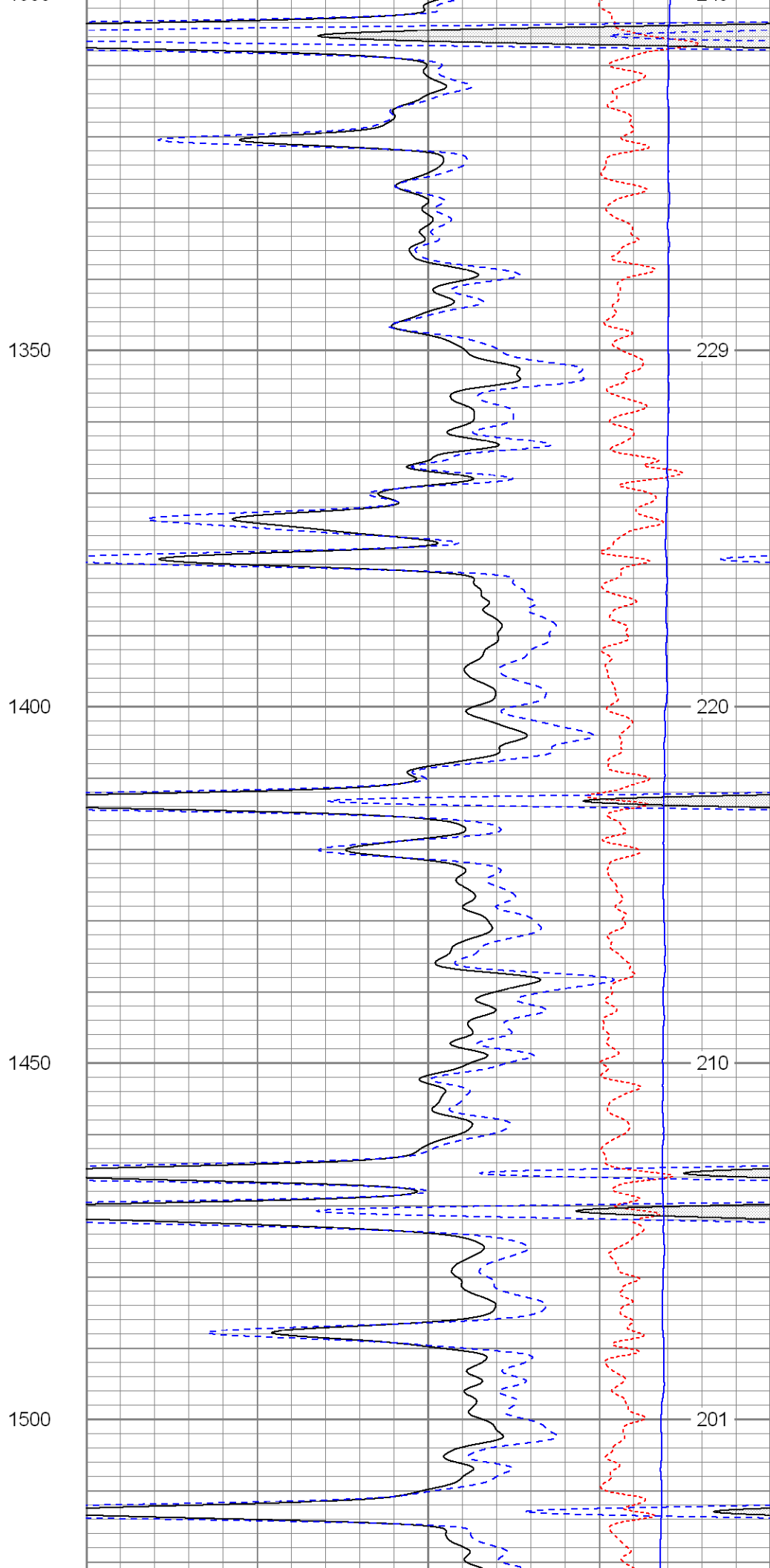
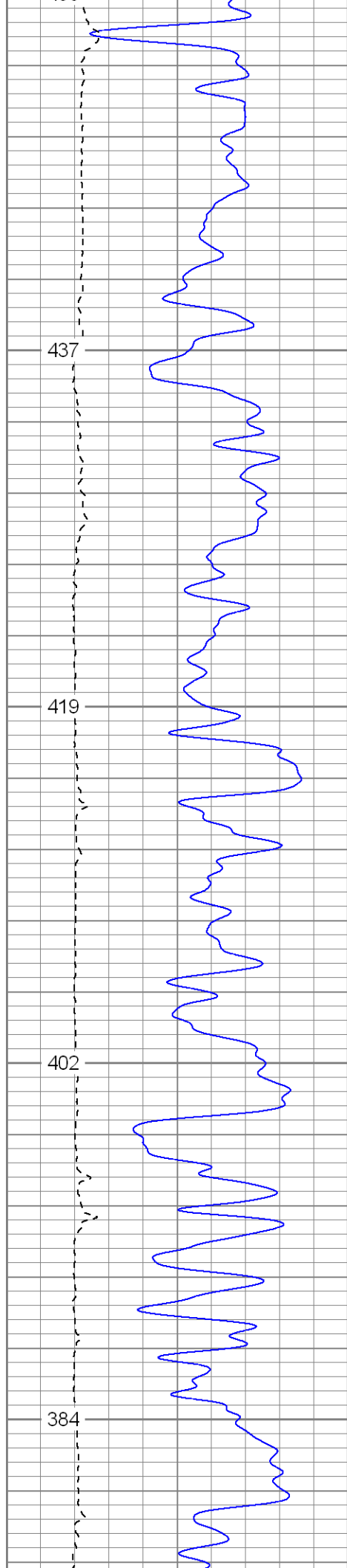
0	GR (GAPI)	200	2	RHOB (g/cc)	3
6	DCAL (in)	16	1	RHOB (g/cc)	2
TBHV (ft3)			30	DPOR (pu)	-10
			-0.5 RHOC (g/cc) 0.5		
			4000 LTEN (lb) 0		
			ABHV (ft3)		

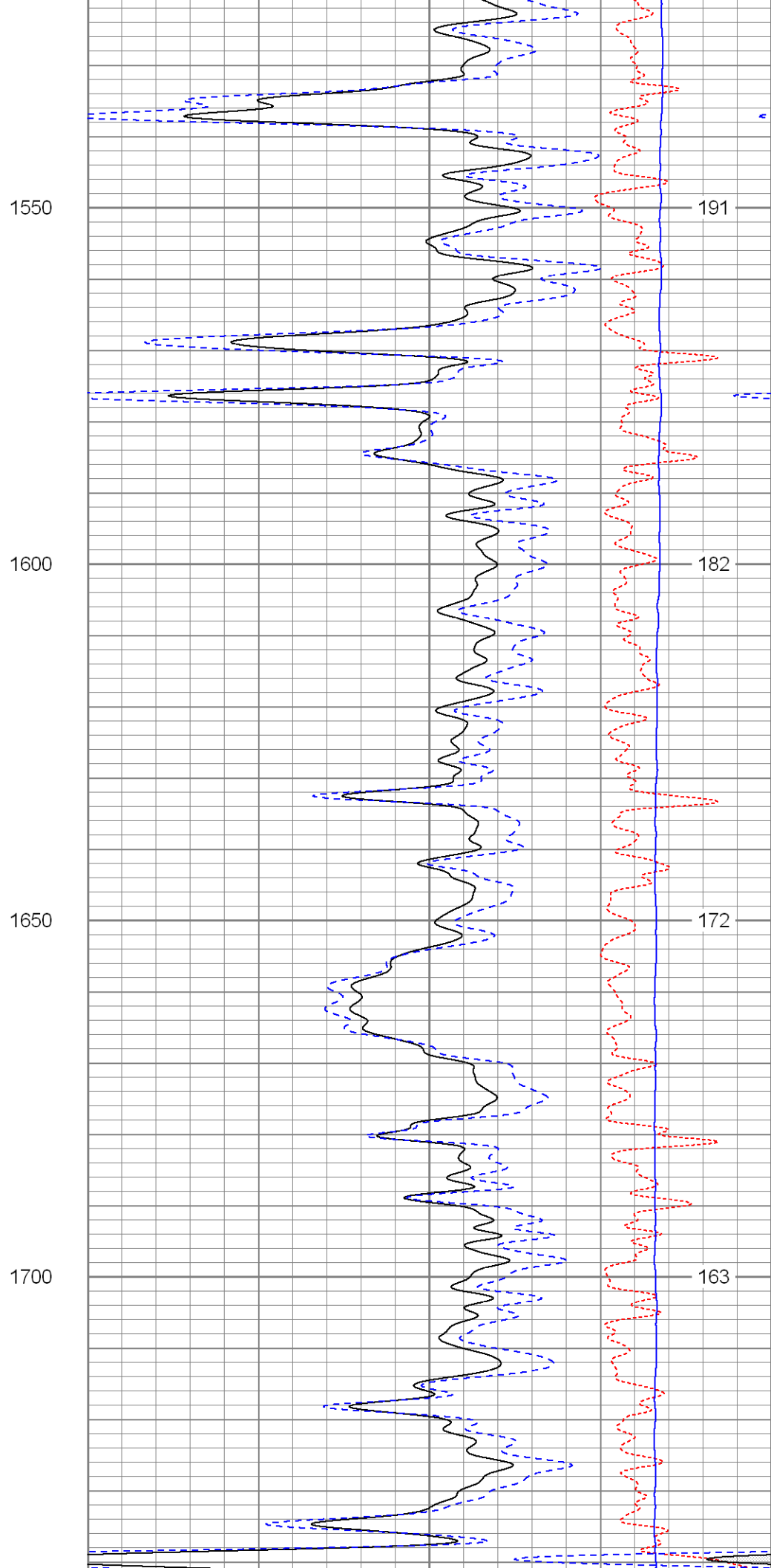
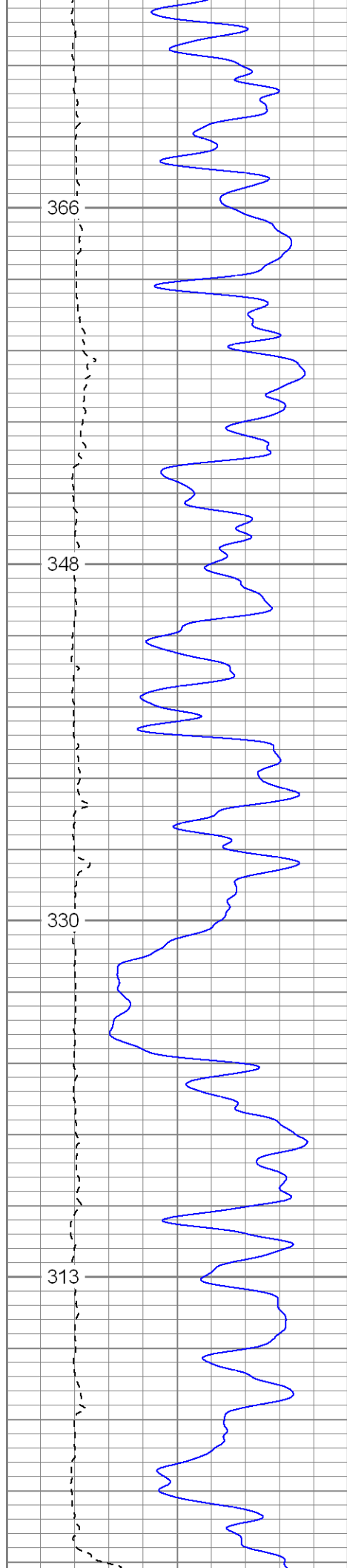


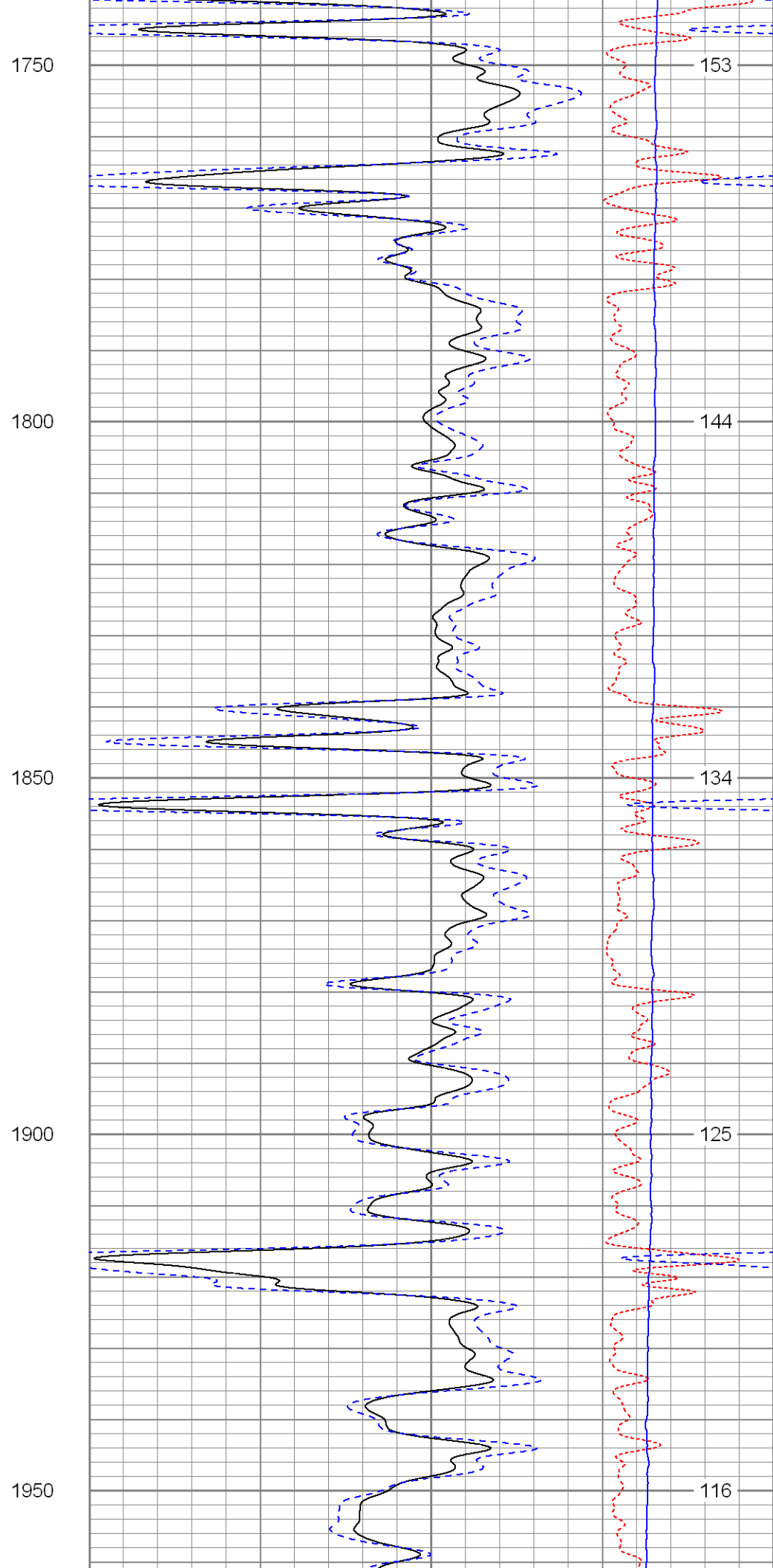
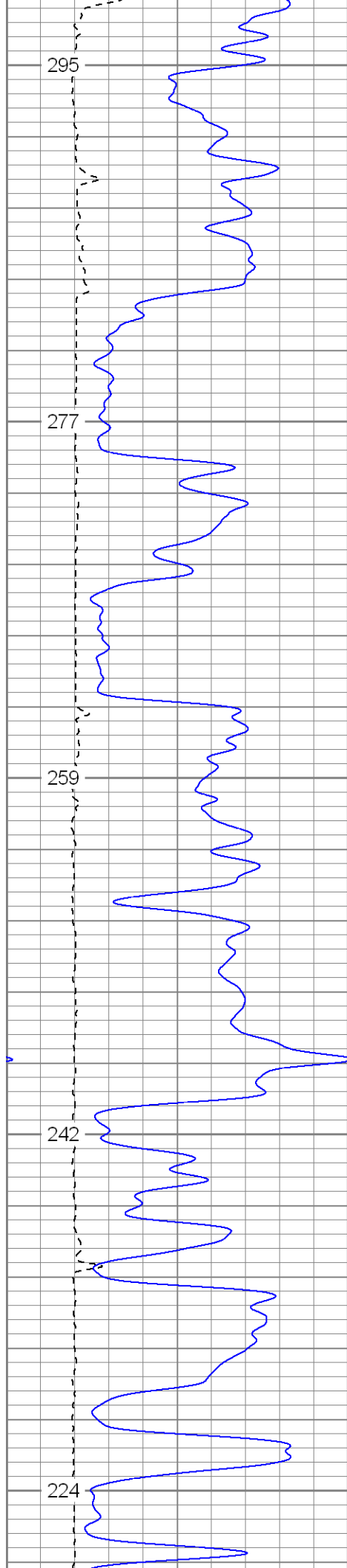




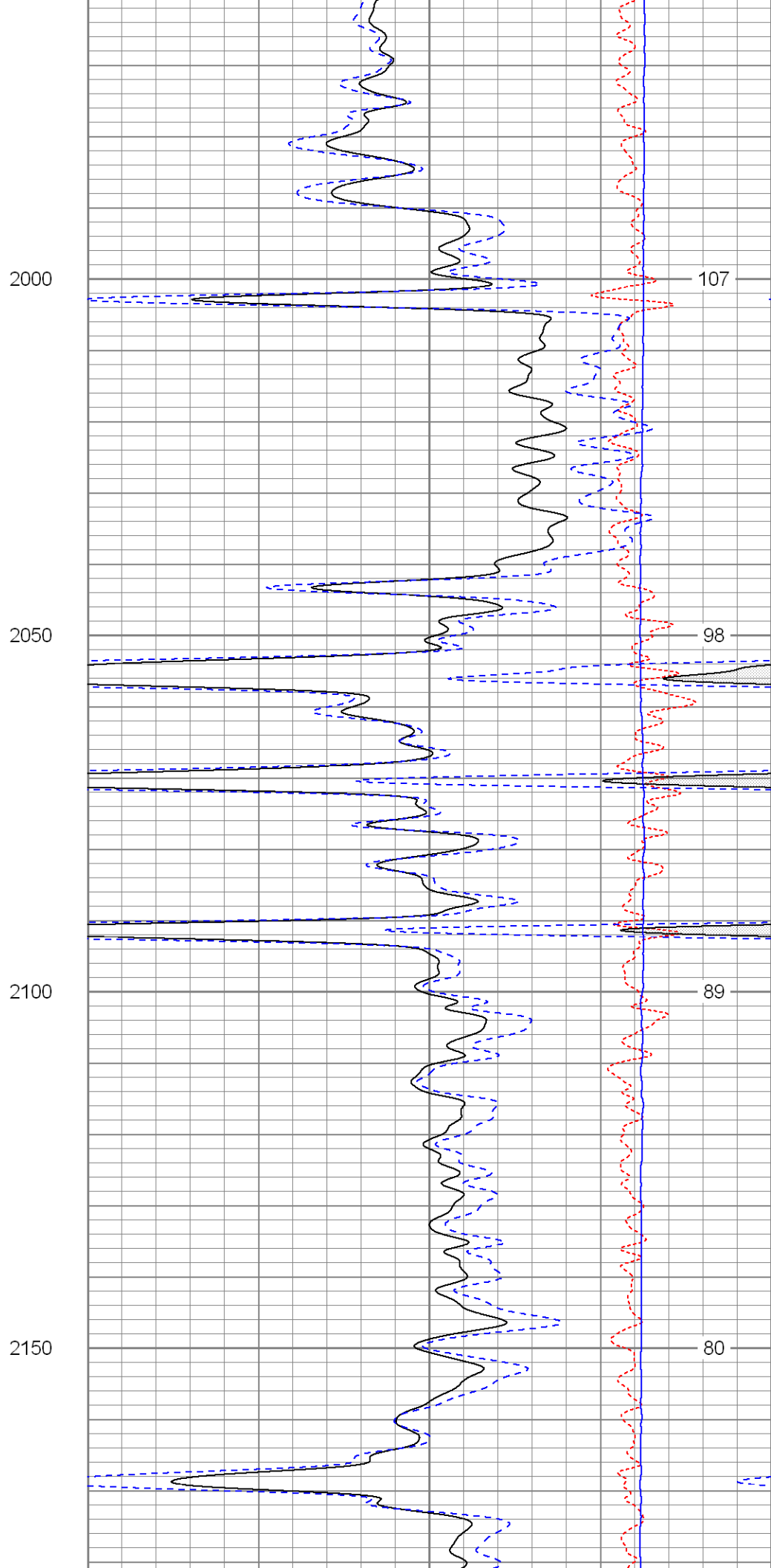
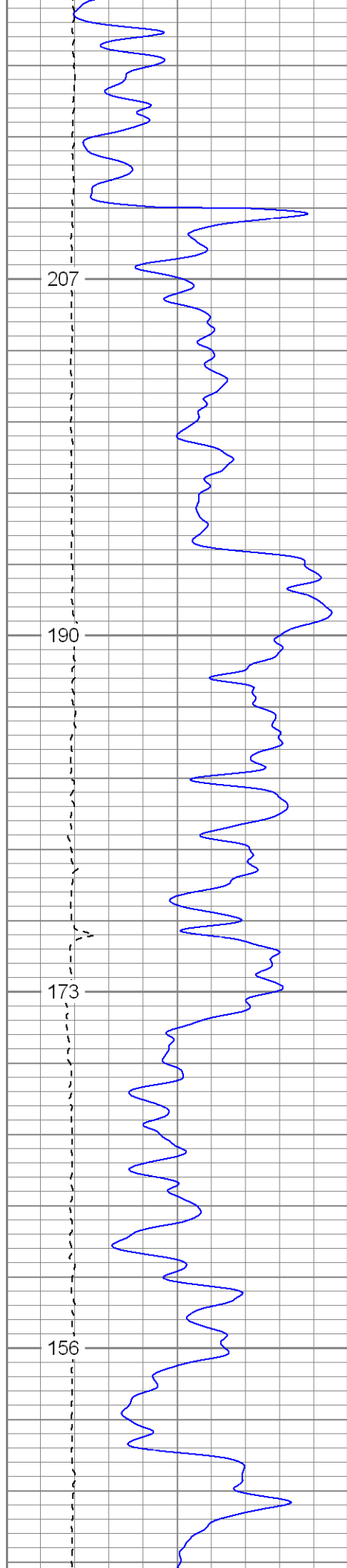


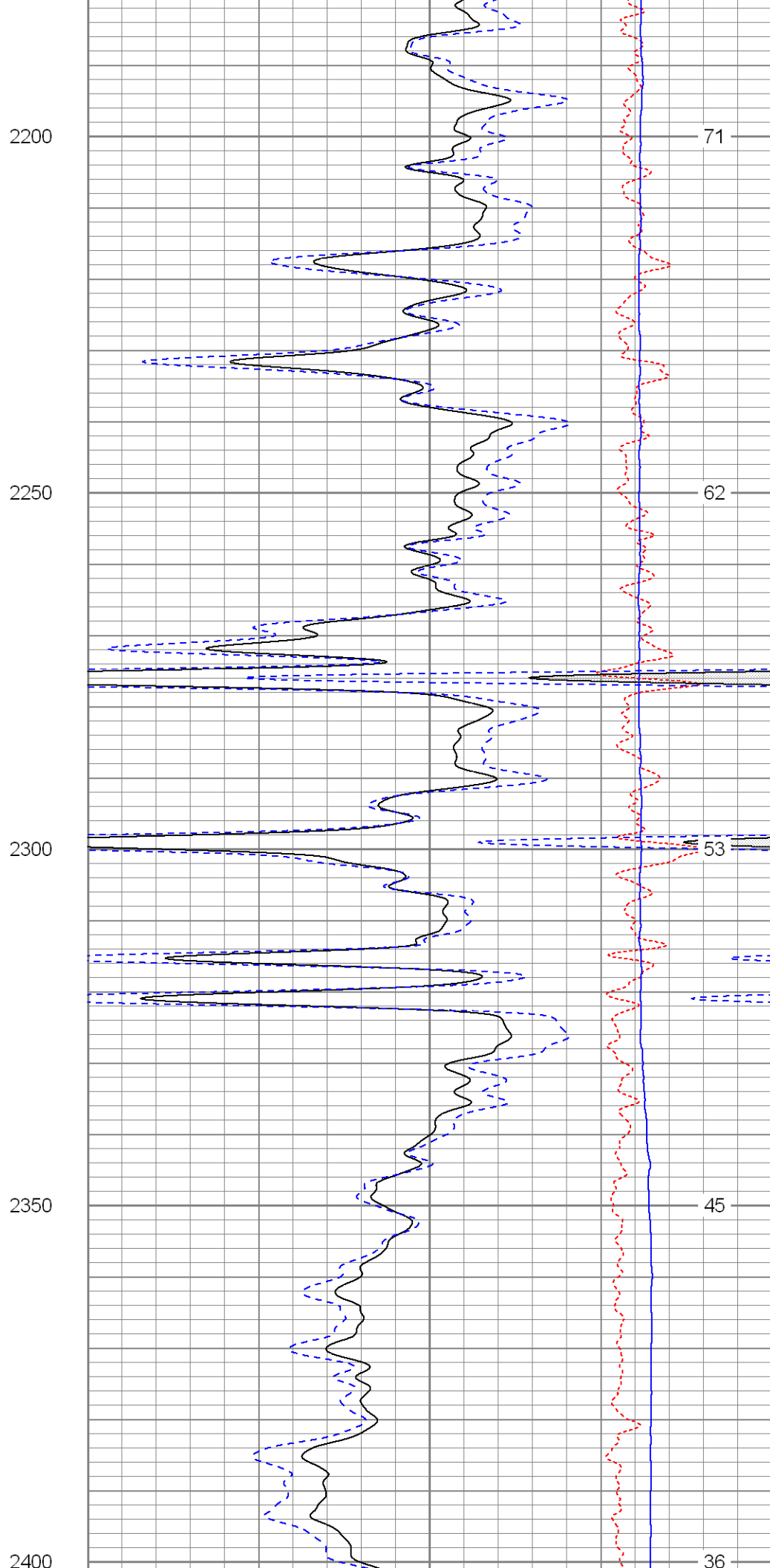
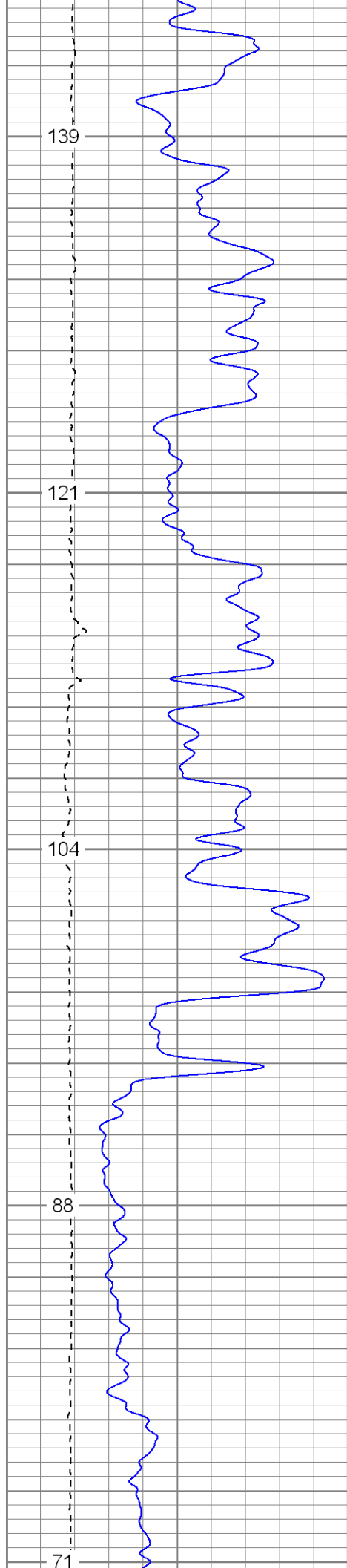


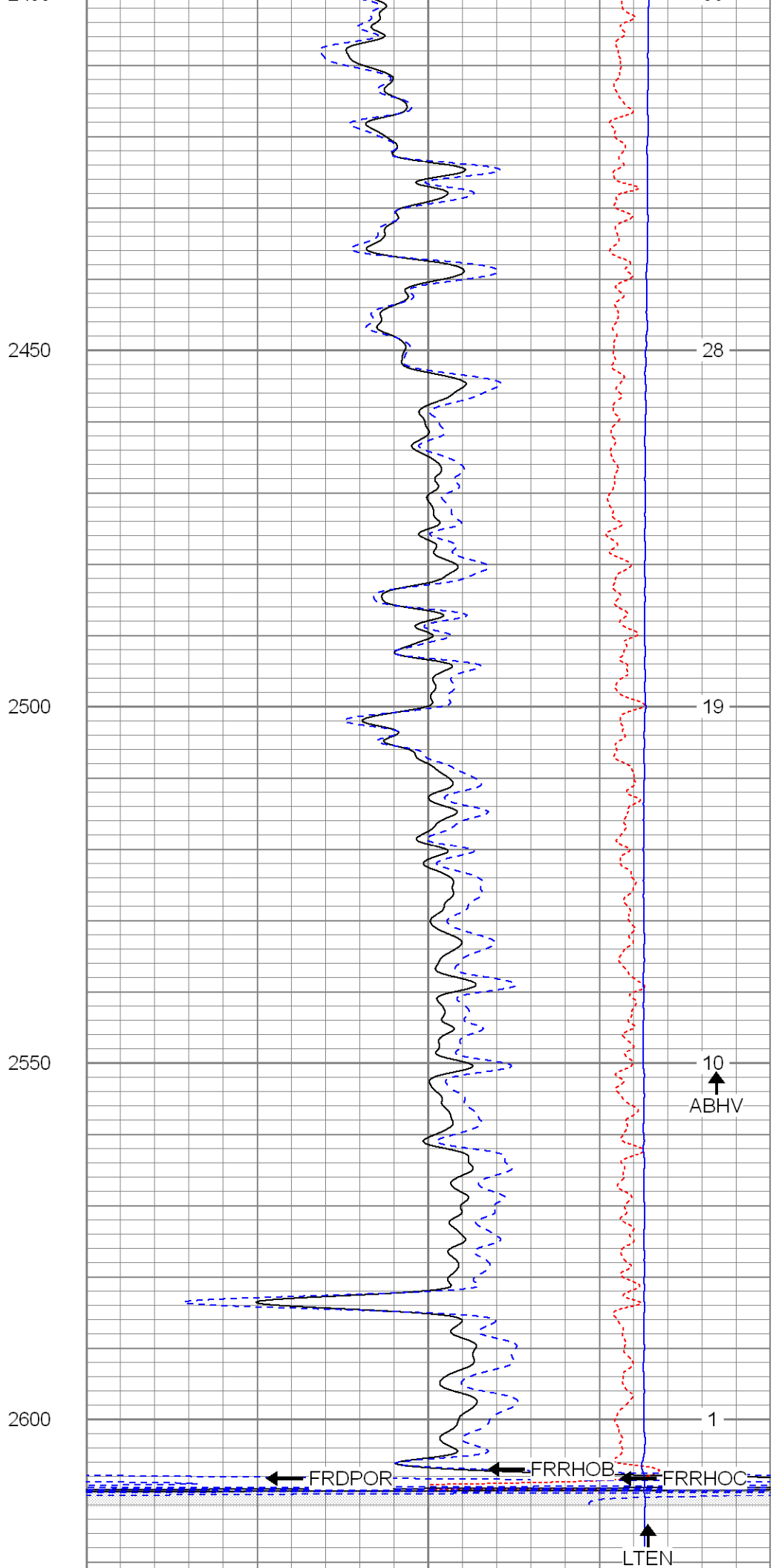
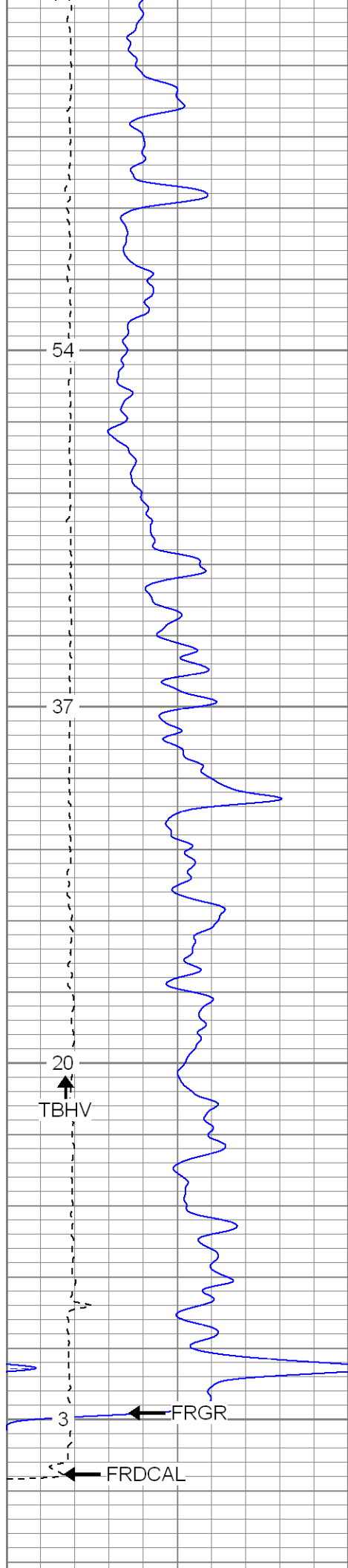












0	GR (GAPI)	200	2	RHOB (g/cc)	3
6	DCAL (in)	16	1	RHOB (g/cc)	2
TBHV (ft3)			30	DPOR (pu)	-10
			-0.5	RHOC (g/cc)	0.5
			4000	LTEN (lb)	0
				ABHV (ft3)	



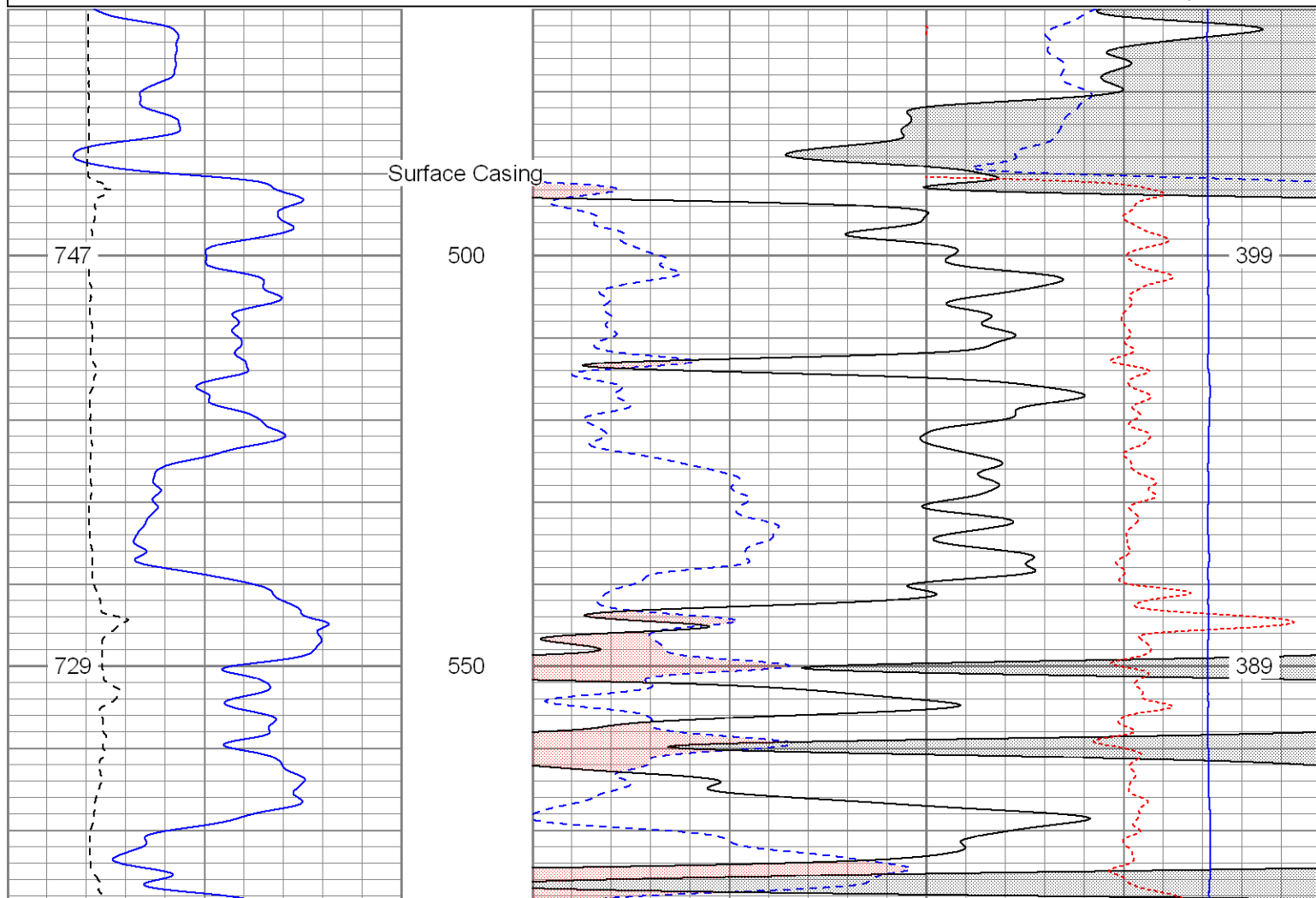
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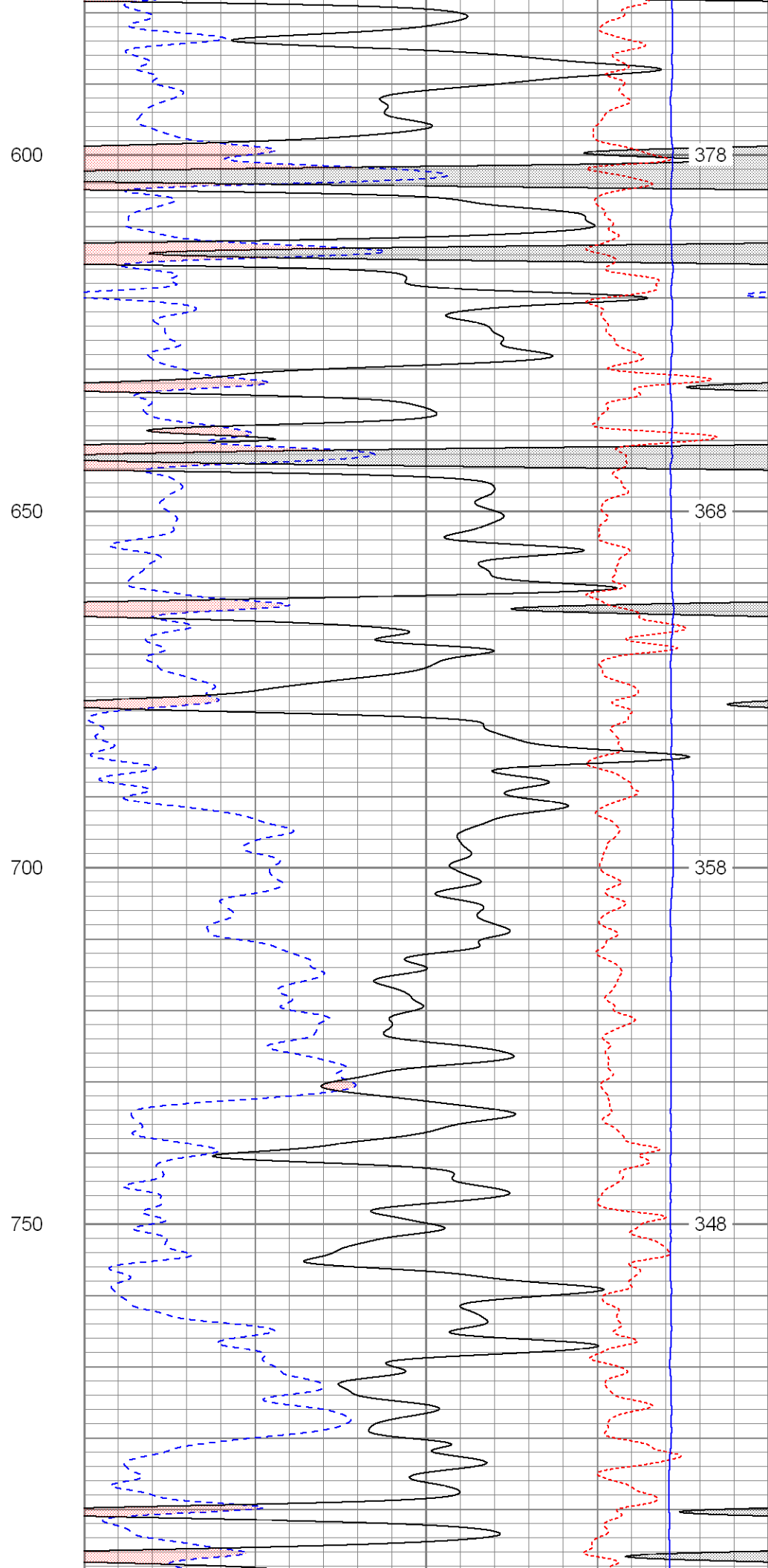
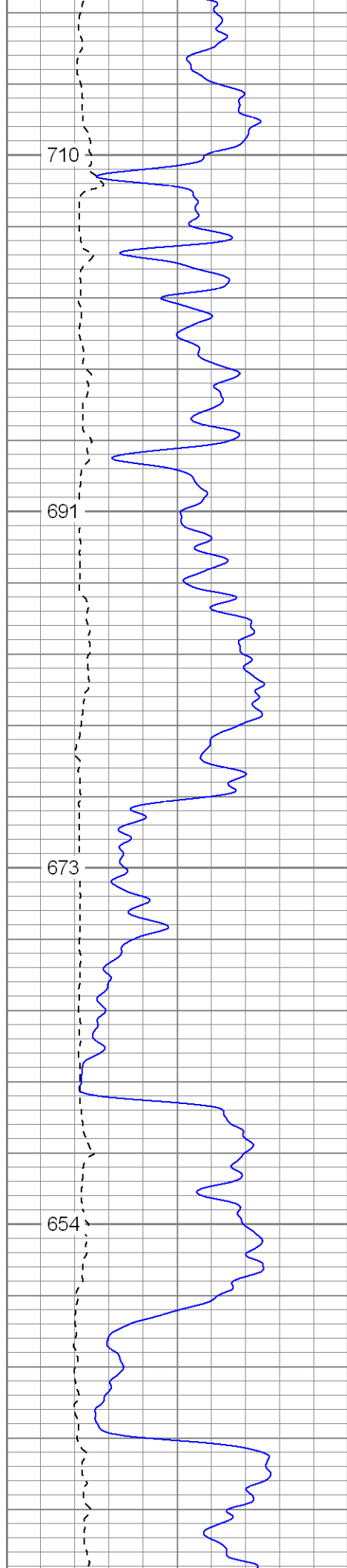
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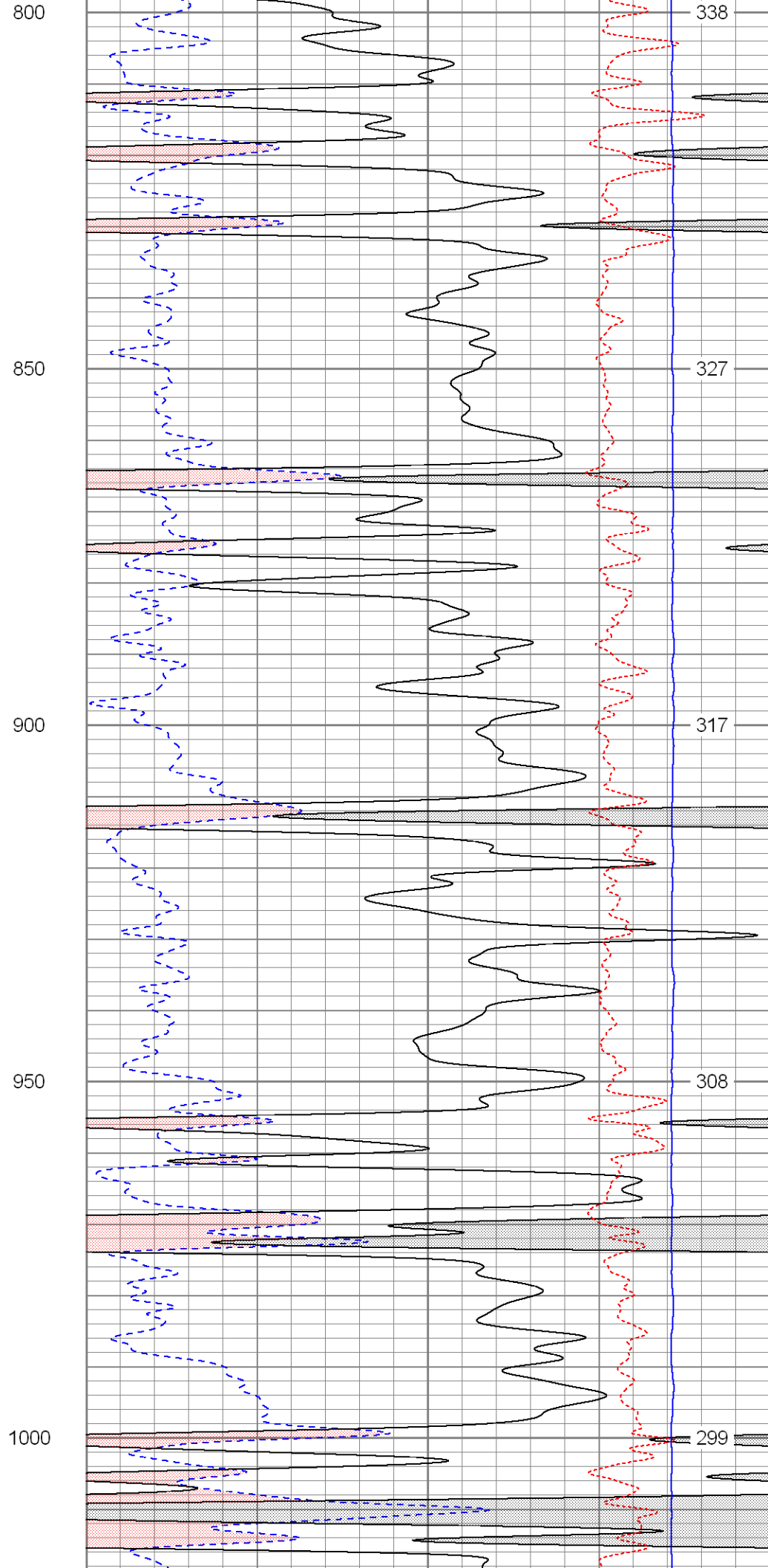
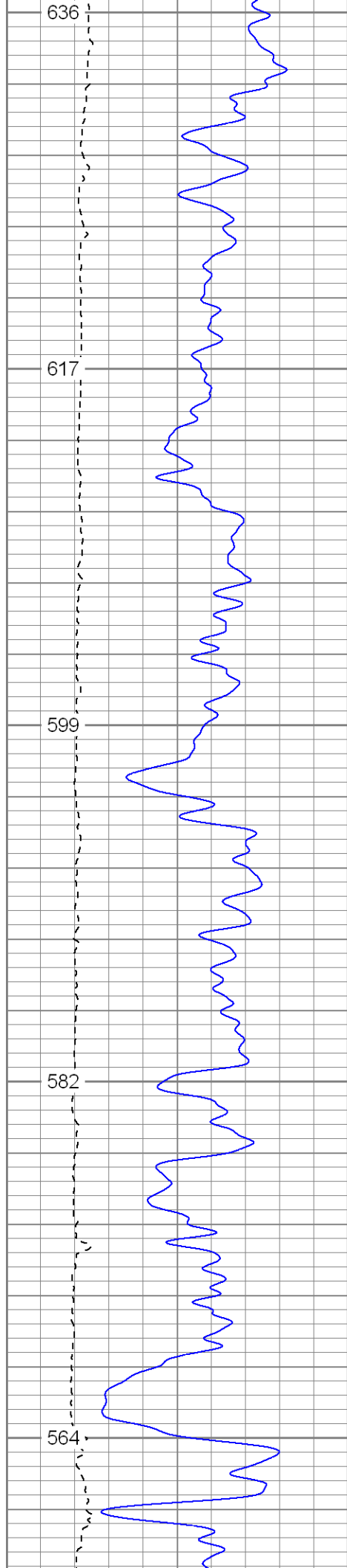
# Main Pass

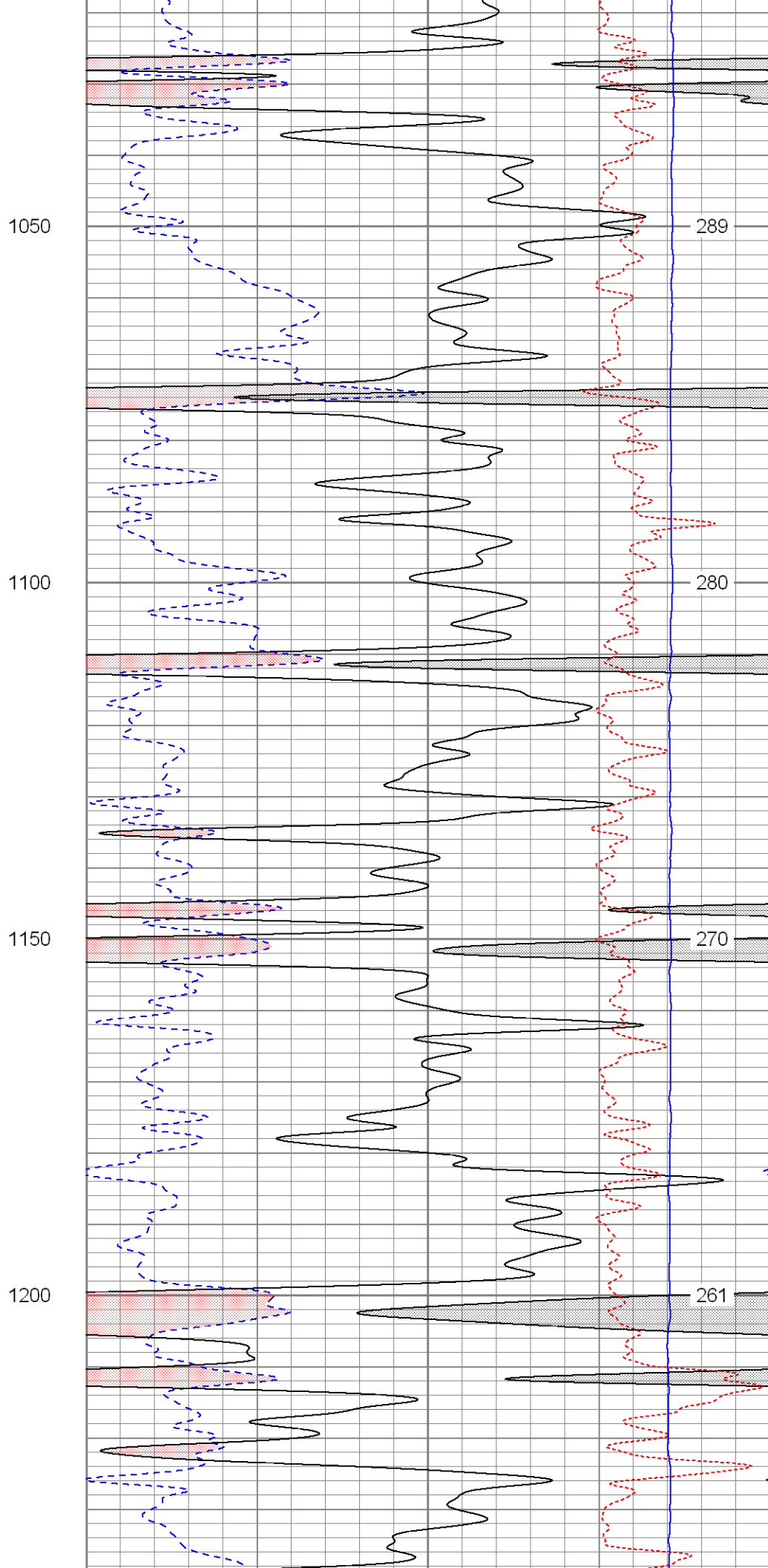
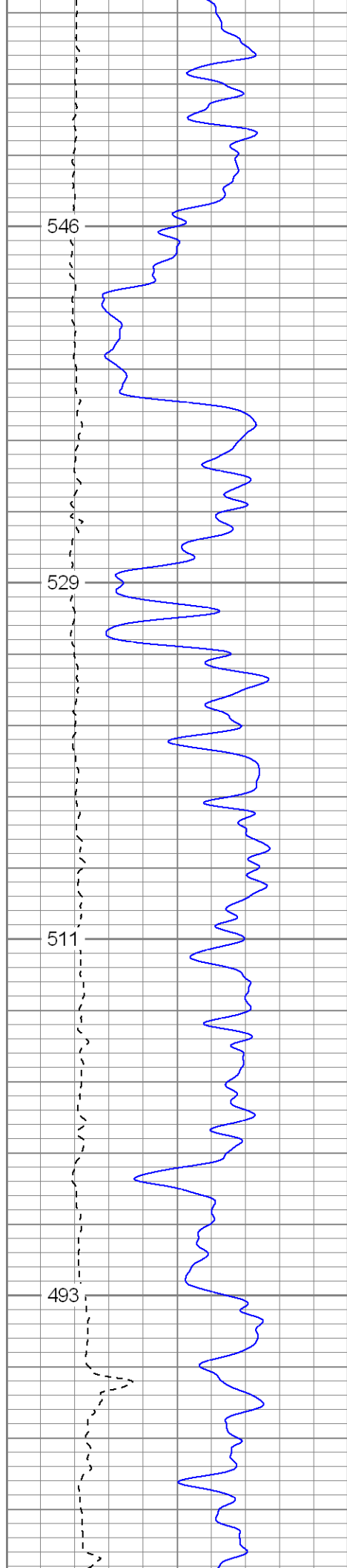
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Charted by: Depth in Feet scaled 1:240

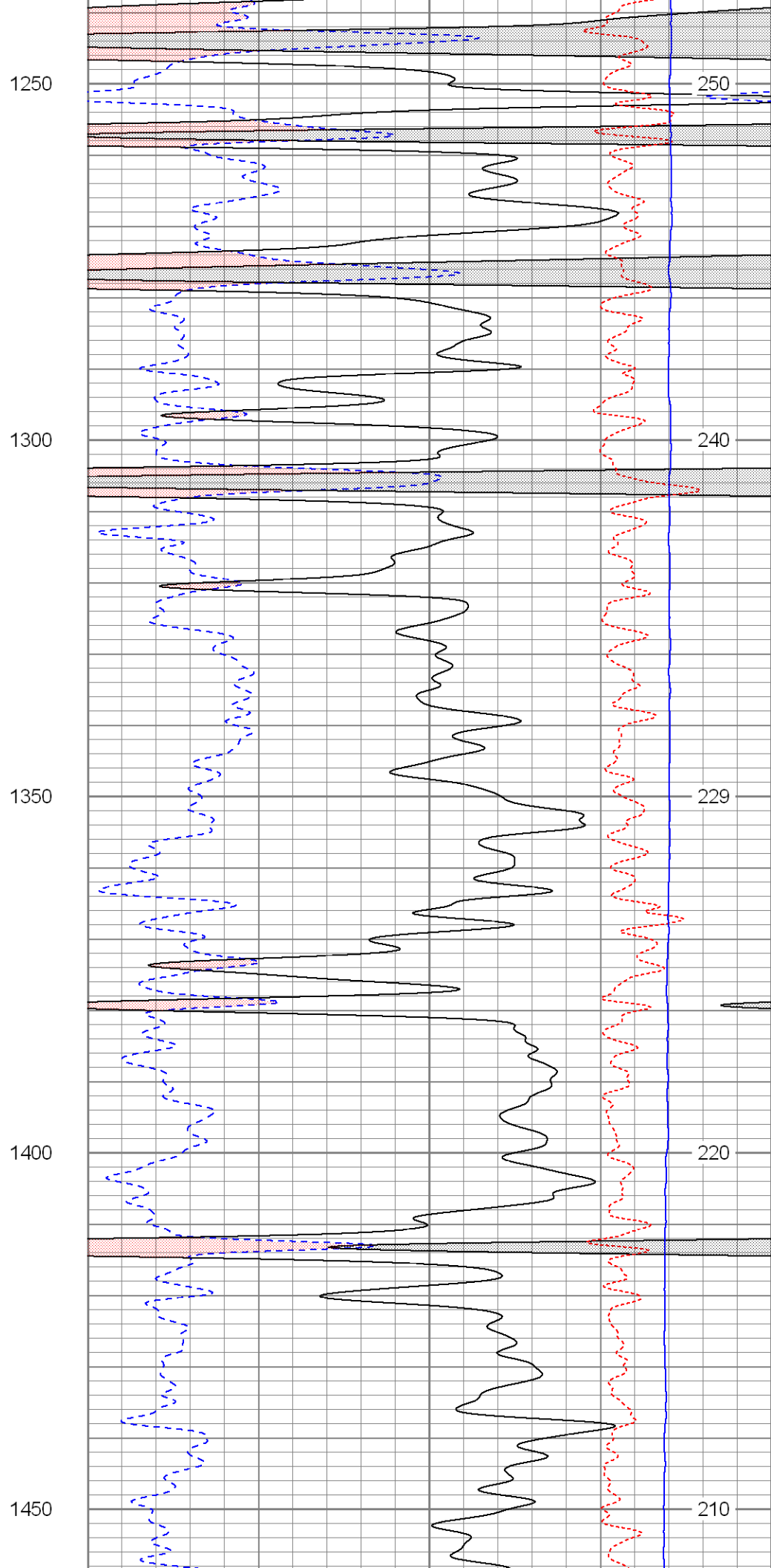
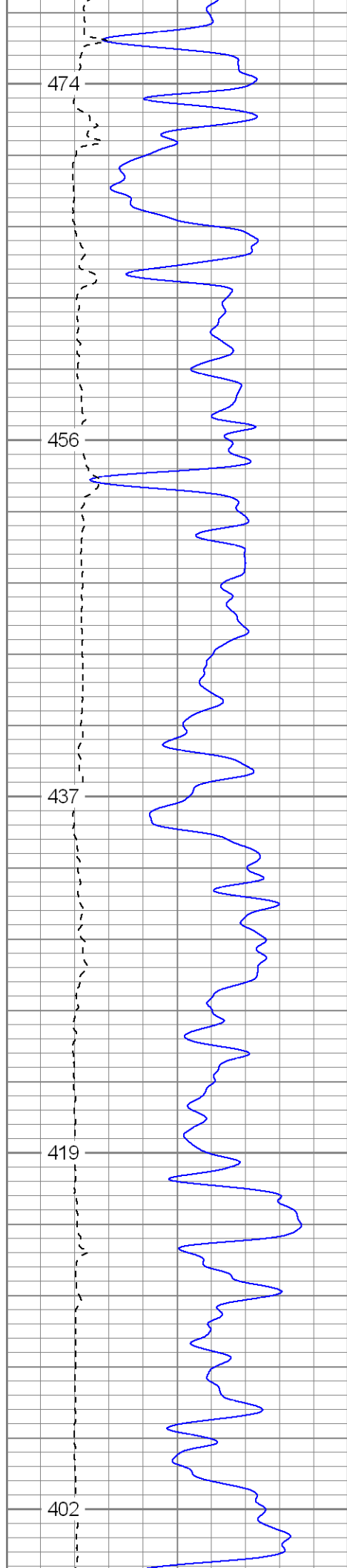
0	GR (GAPI)	200	30	NPOR (pu)	-10
6	DCAL (in)	16	30	DPOR (pu)	-10
TBHV (ft3)			-0.5	RHOC (g/cc)	0.5
			4000	LTEN (lb)	0
				ABHV (ft3)	



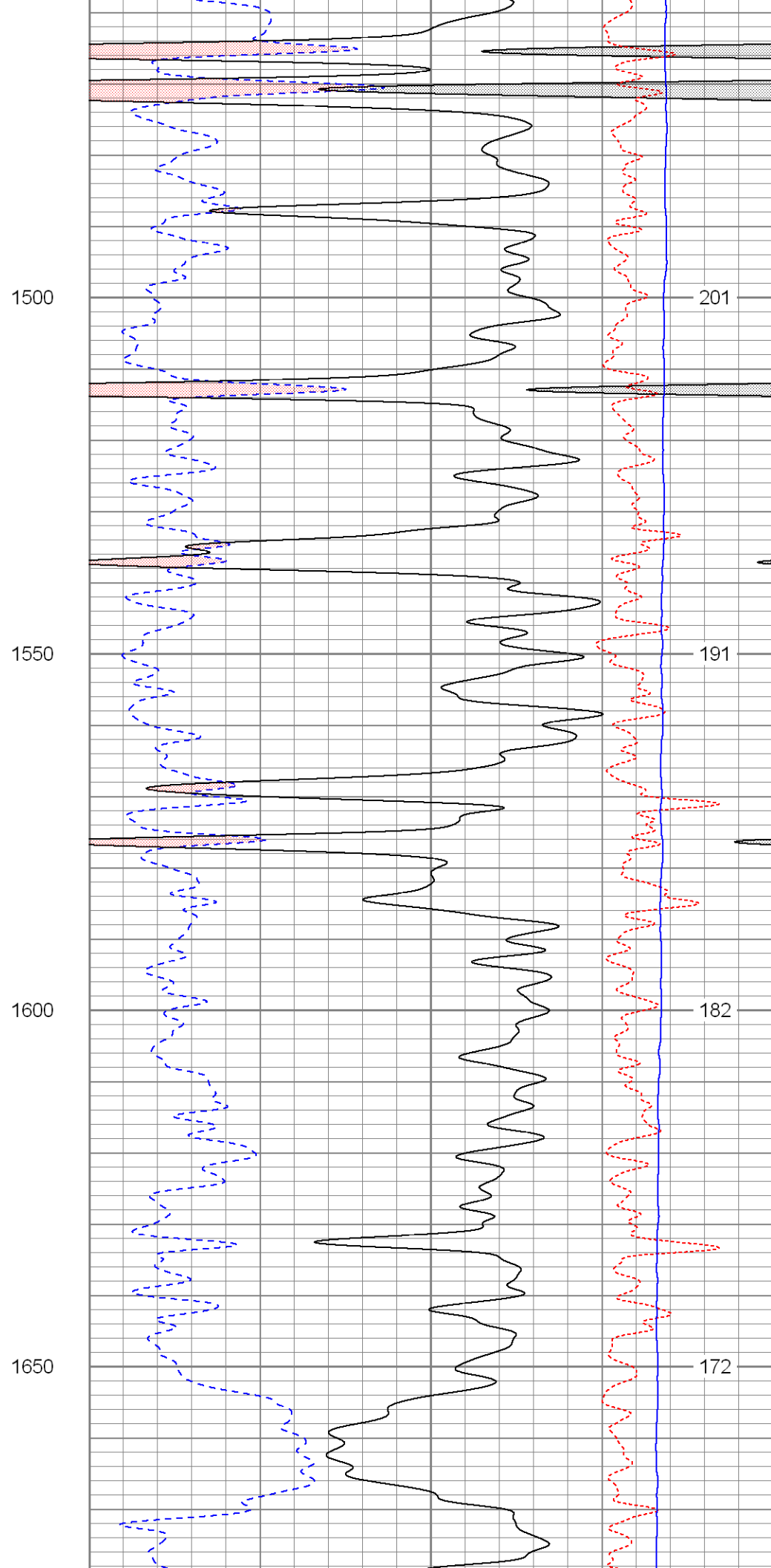
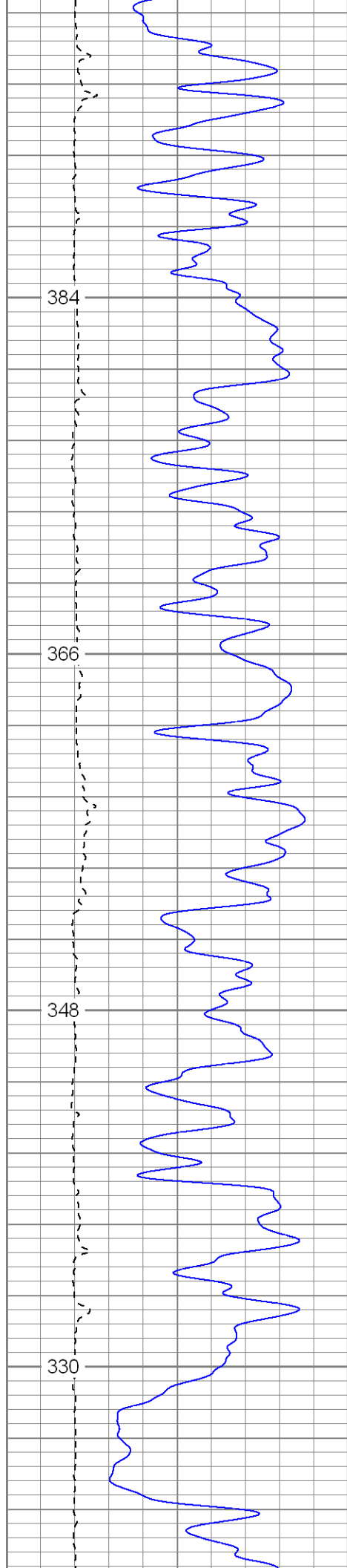


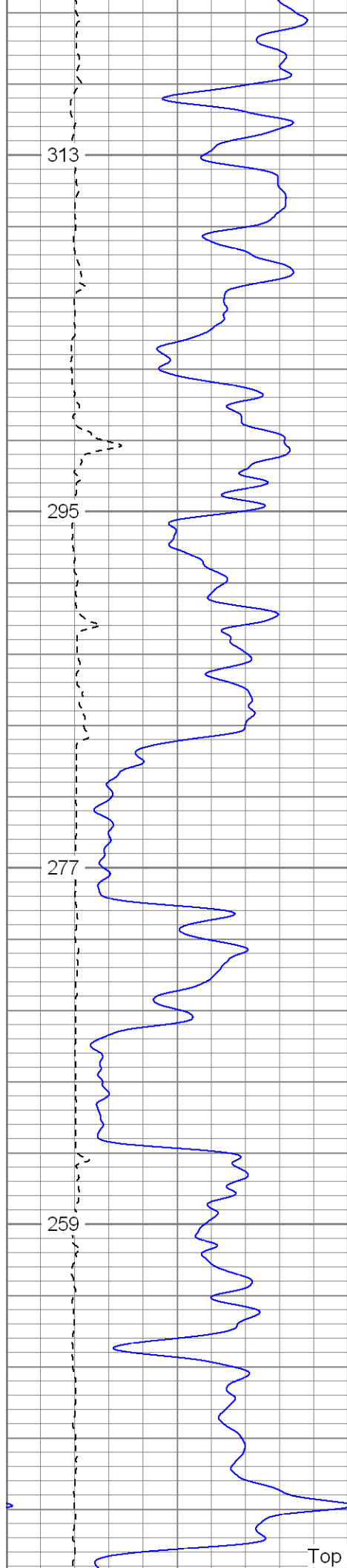




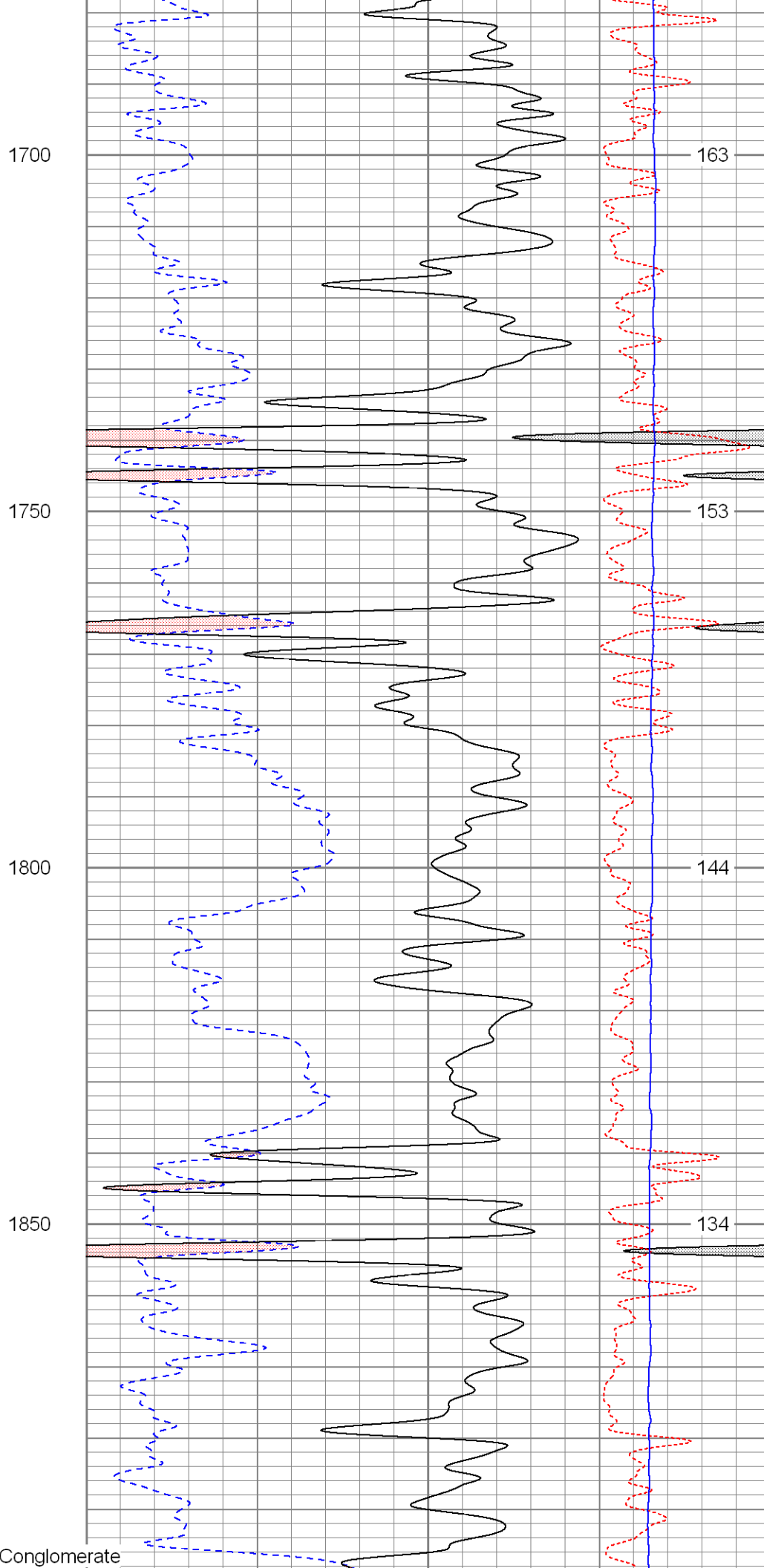


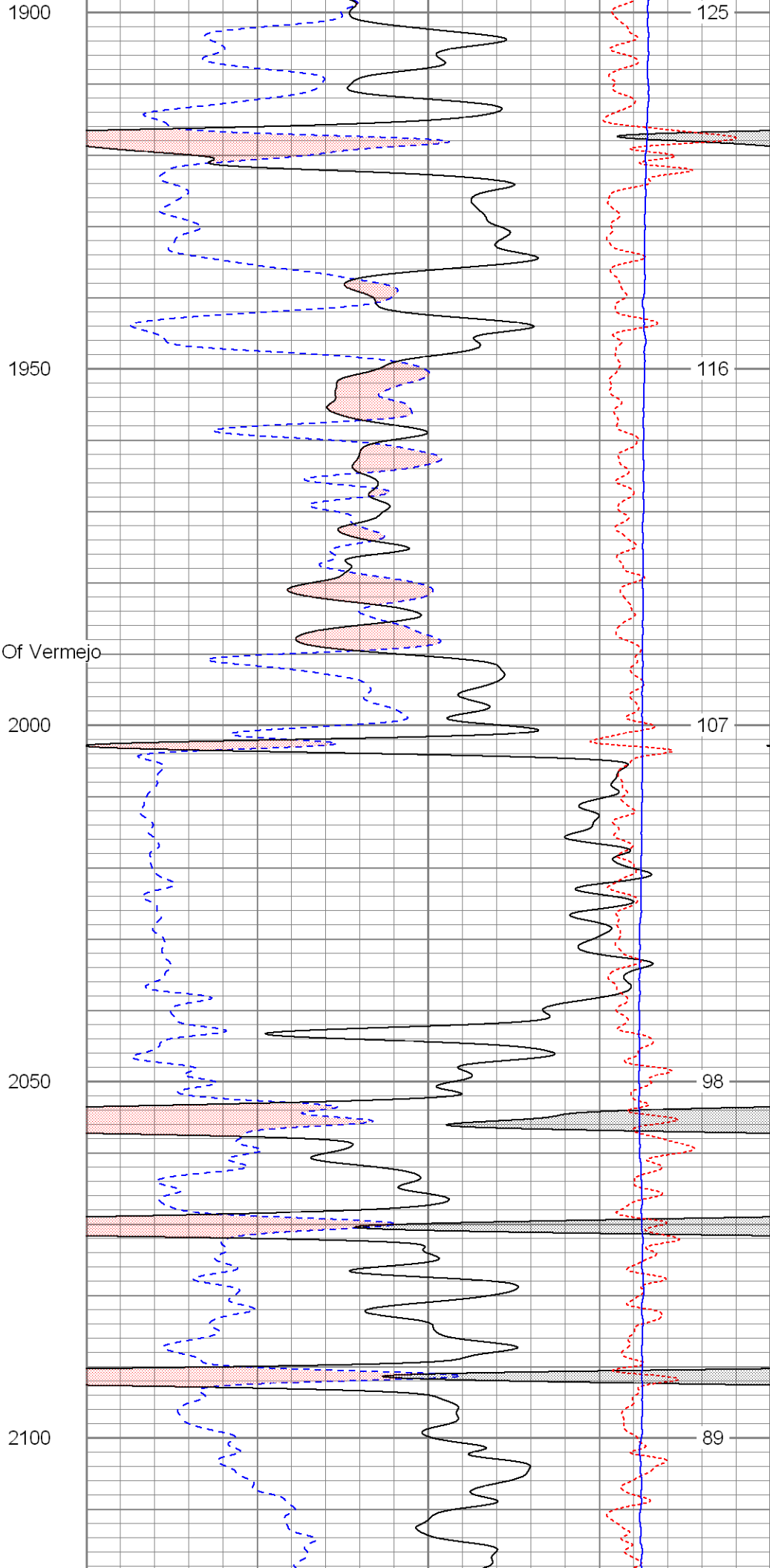
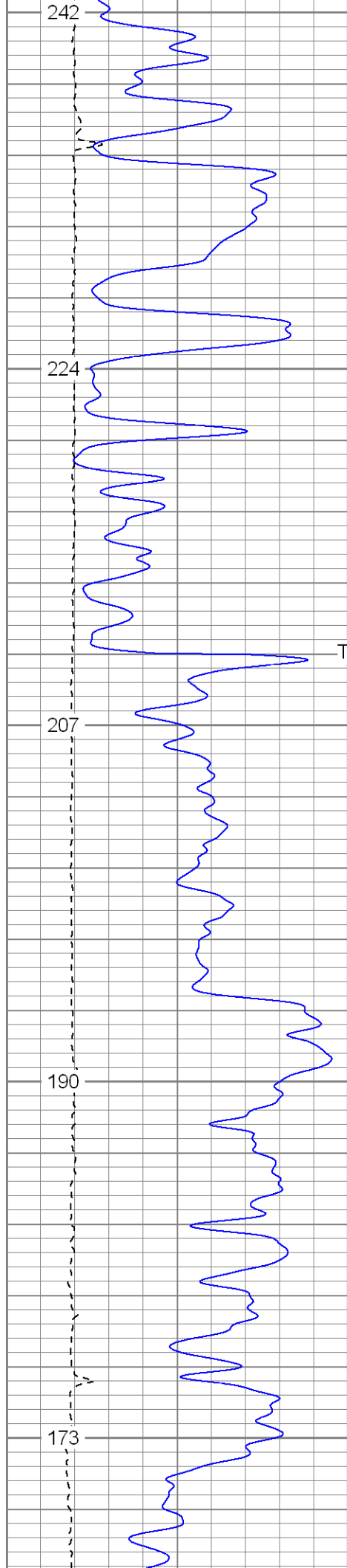


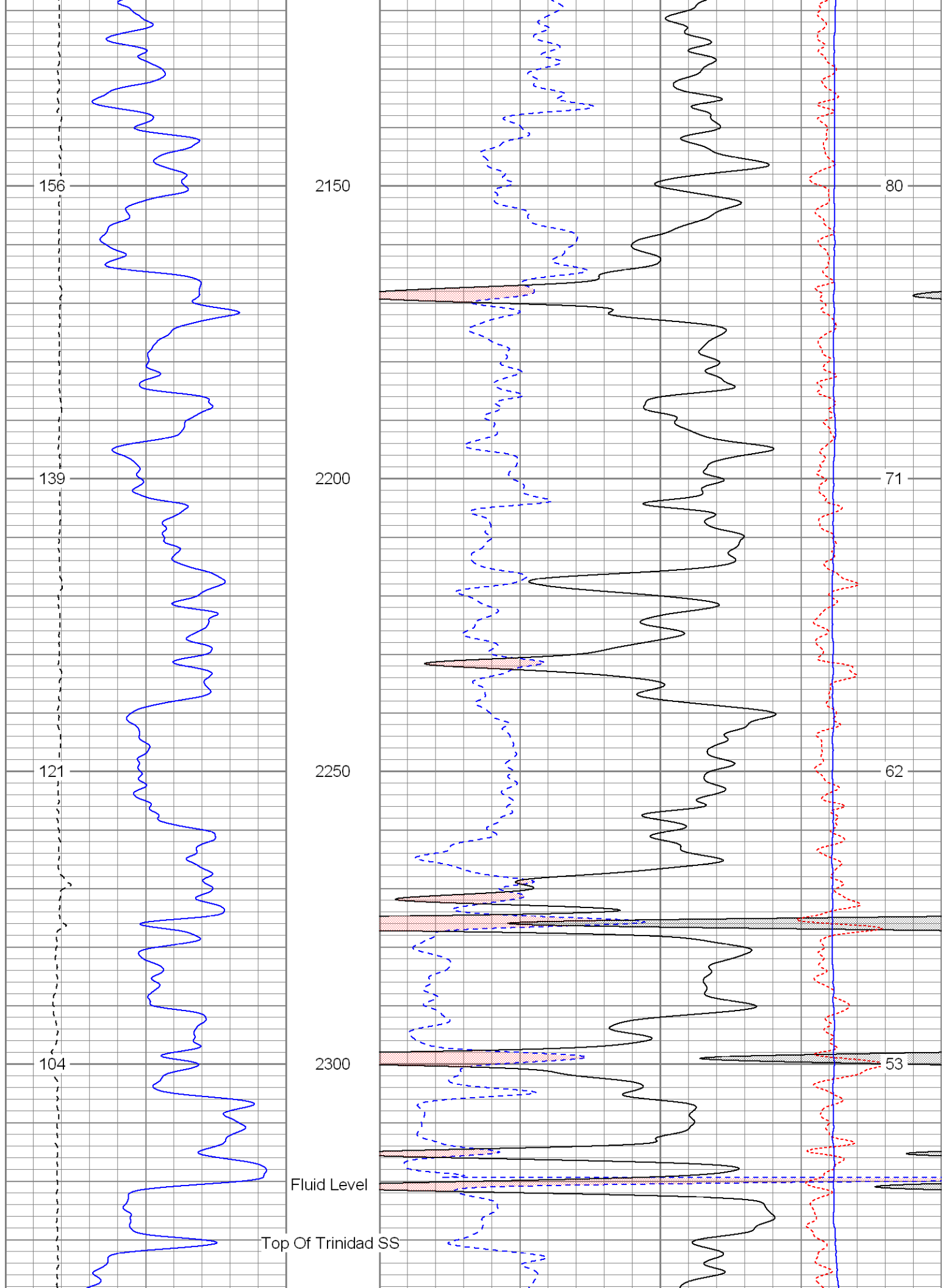


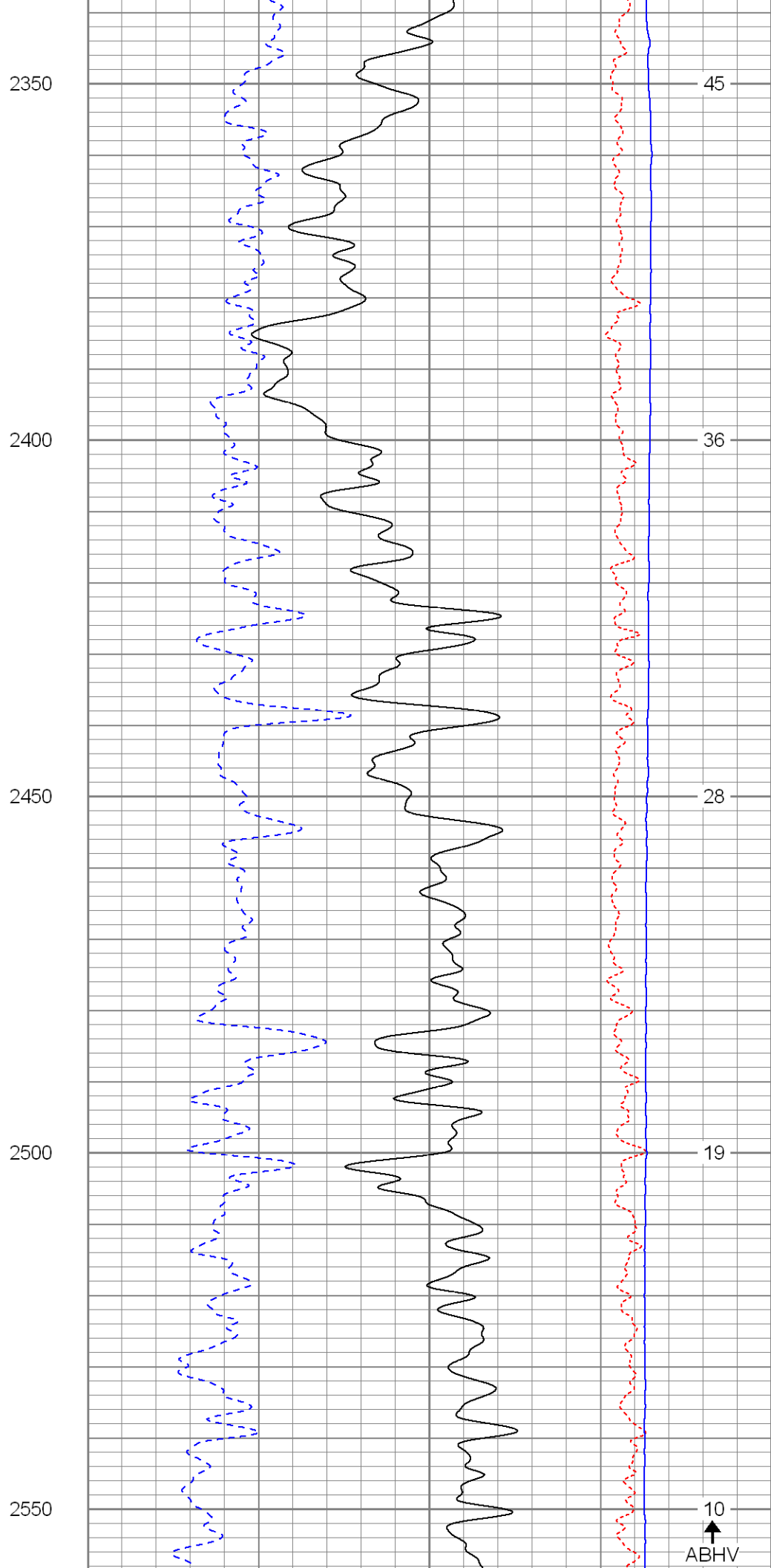
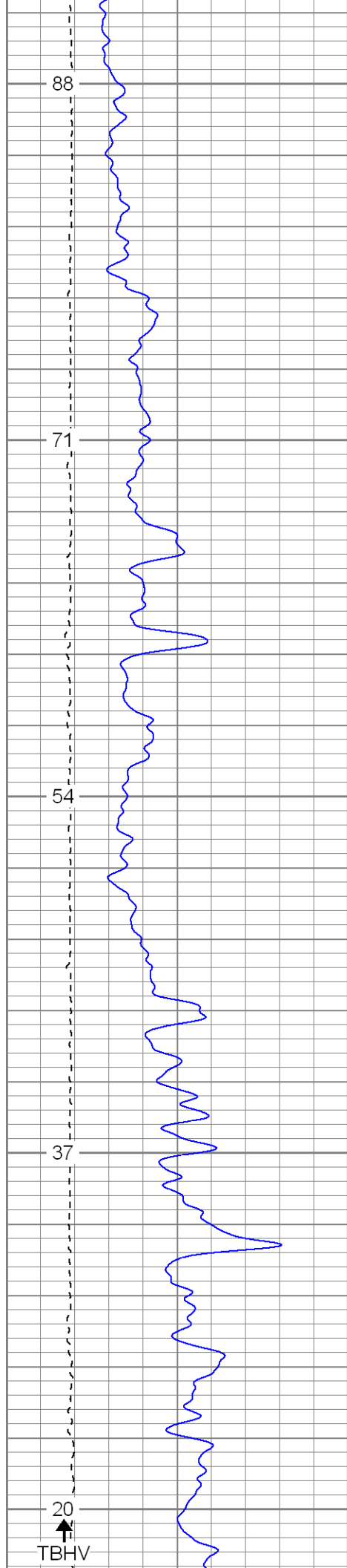


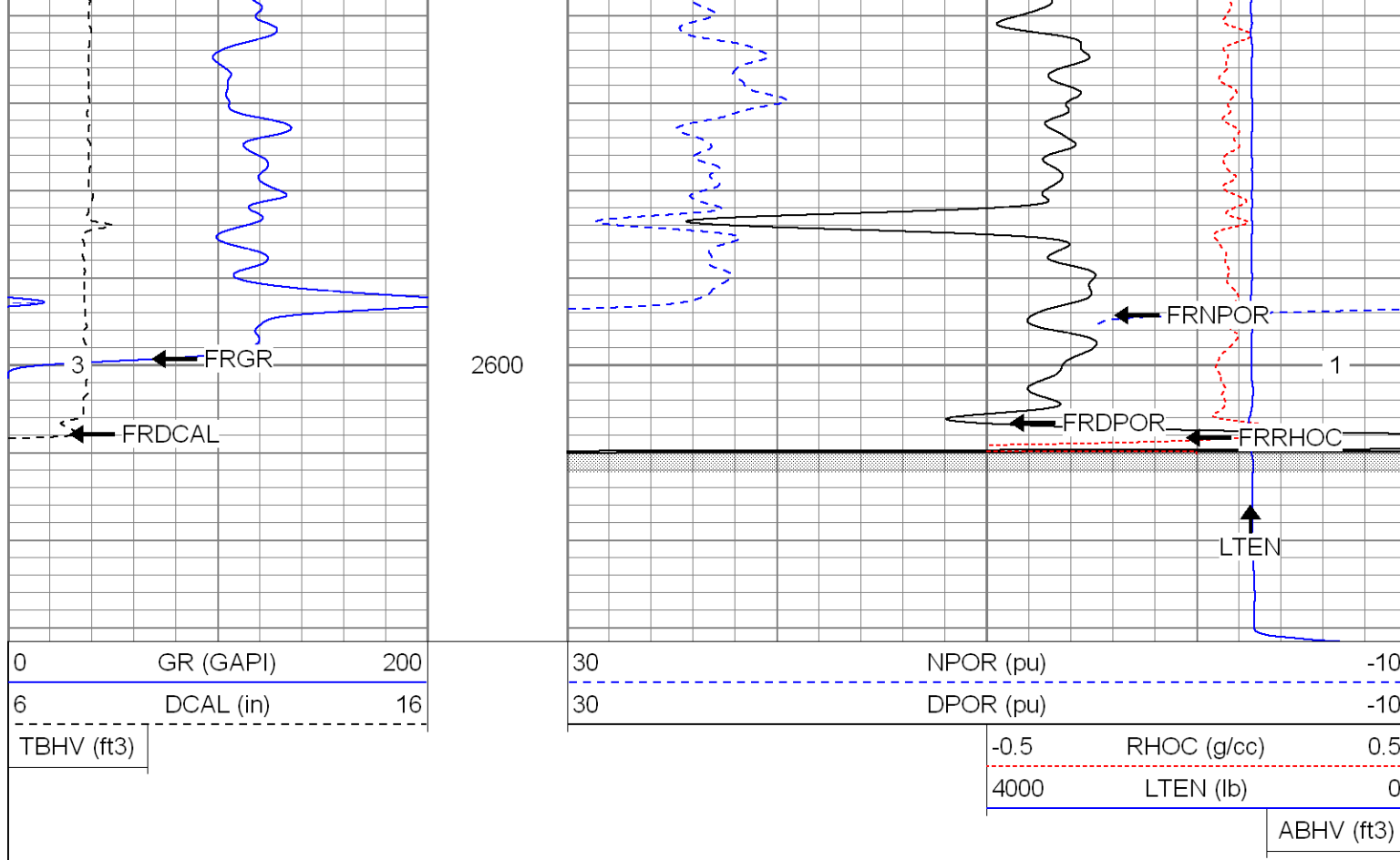
Top Of Conglomerate









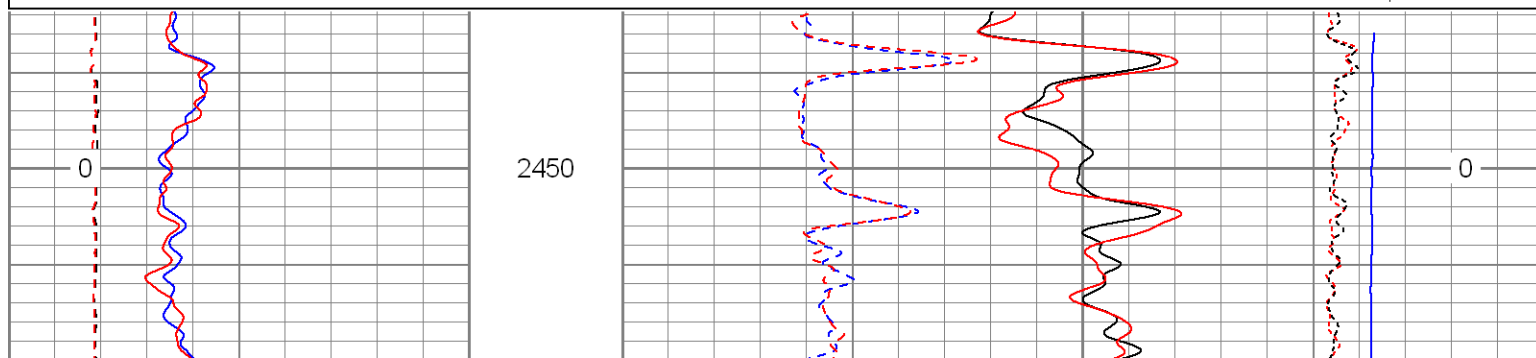
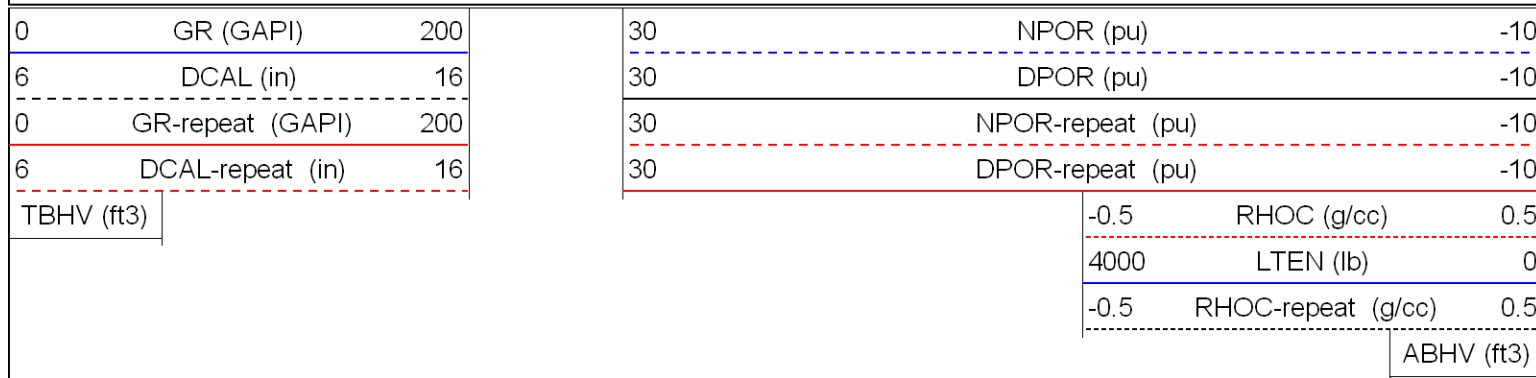


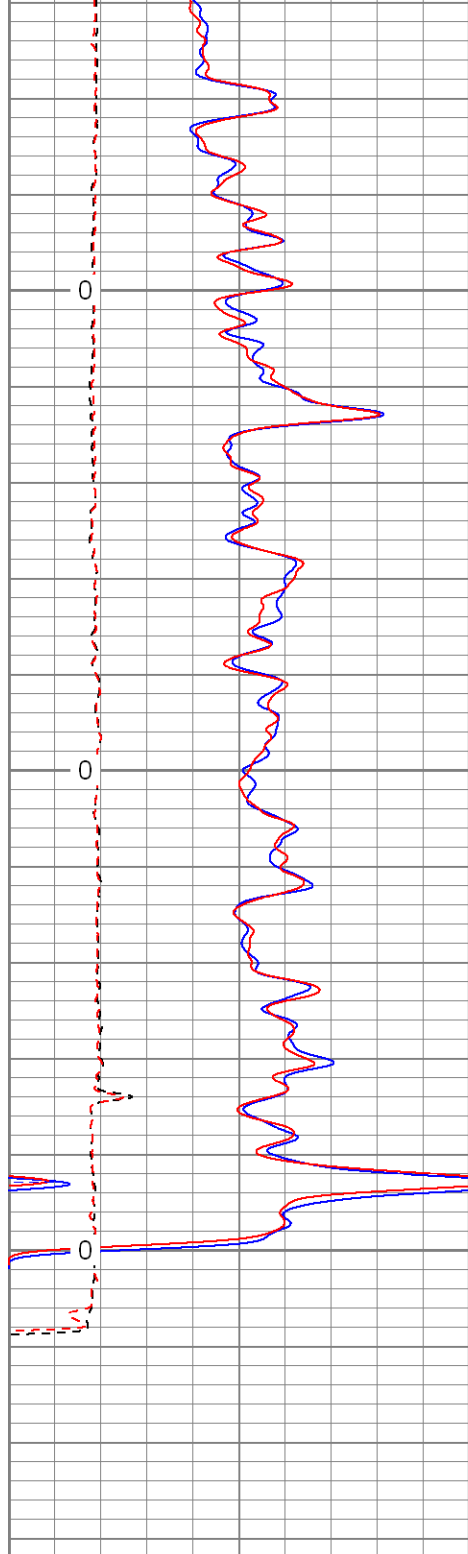
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# Repeat Pass

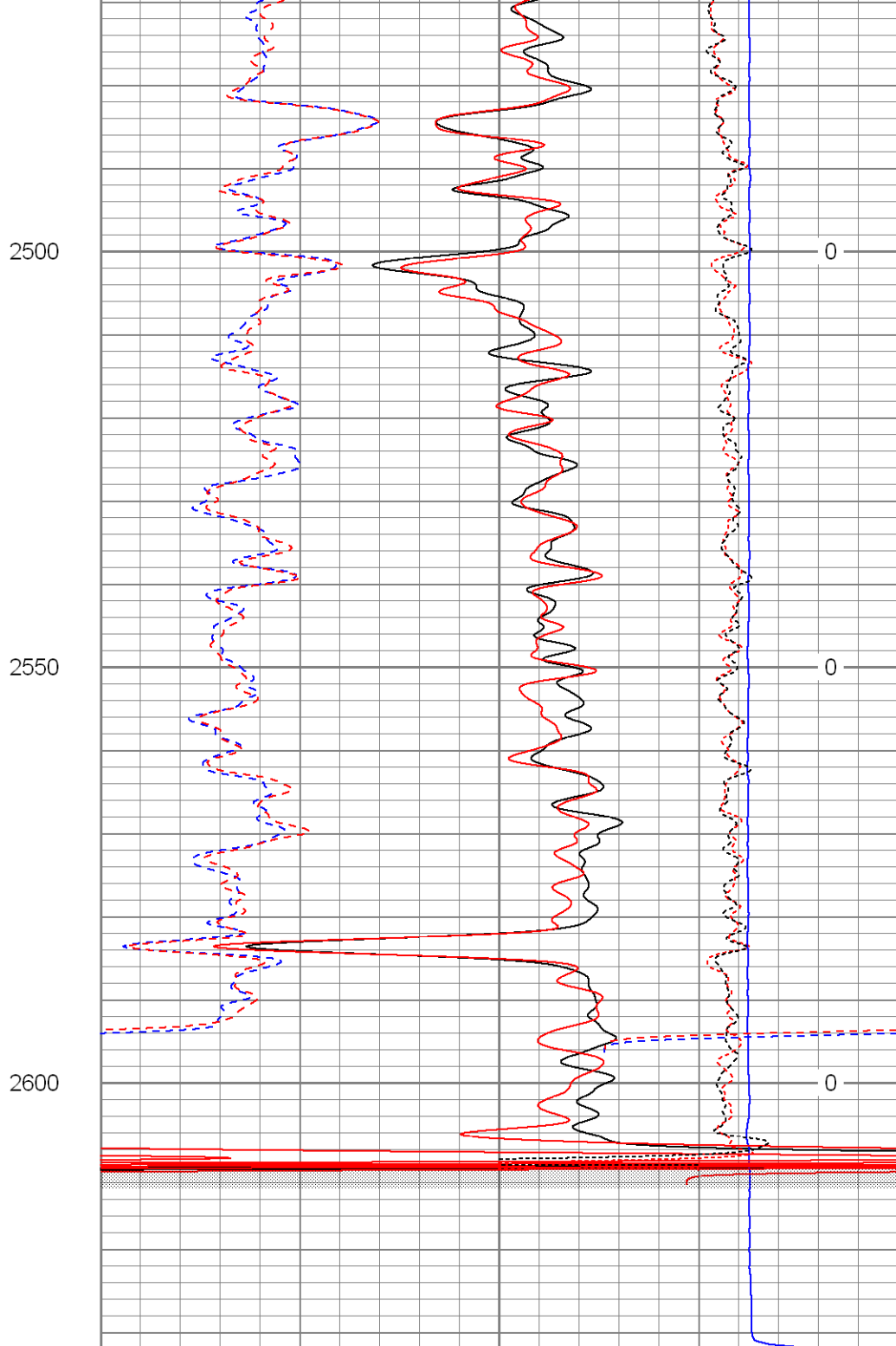
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Dataset Pathname: pass1.1  
Presentation Format: cdnl  
Dataset Creation: Sat Apr 19 06:09:32 2008 by Calc Open-Cased 070814  
Charted by: Depth in Feet scaled 1:240





0	GR (GAPI)	200
6	DCAL (in)	16
0	GR-repeat (GAPI)	200
6	DCAL-repeat (in)	16

TBHV (ft3)



30	NPOR (pu)	-10
30	DPOR (pu)	-10
30	NPOR-repeat (pu)	-10
30	DPOR-repeat (pu)	-10

-0.5	RHOC (g/cc)	0.5
4000	LTEN (lb)	0
-0.5	RHOC-repeat (g/cc)	0.5

ABHV (ft3)



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# High Resolution Pass

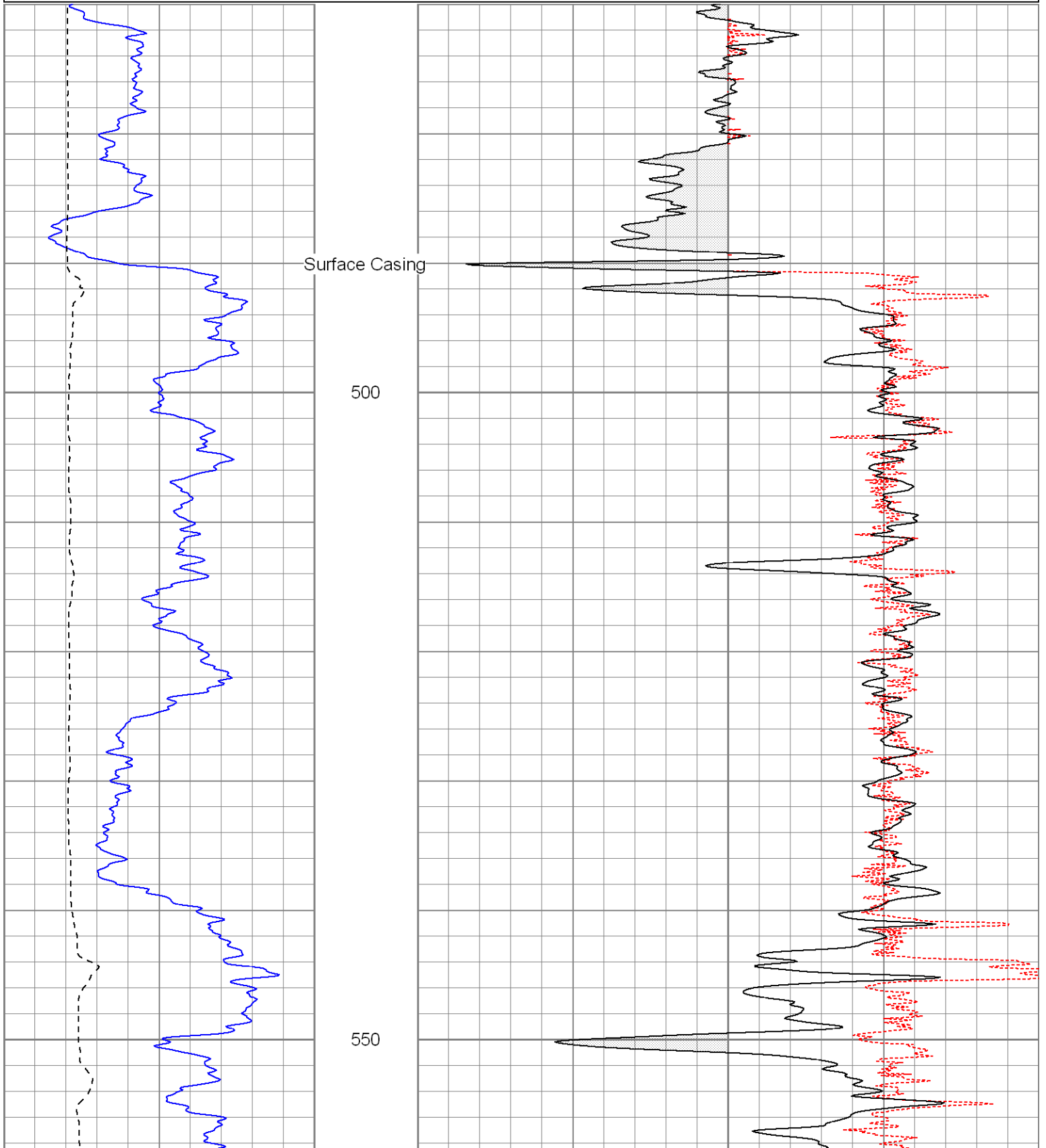


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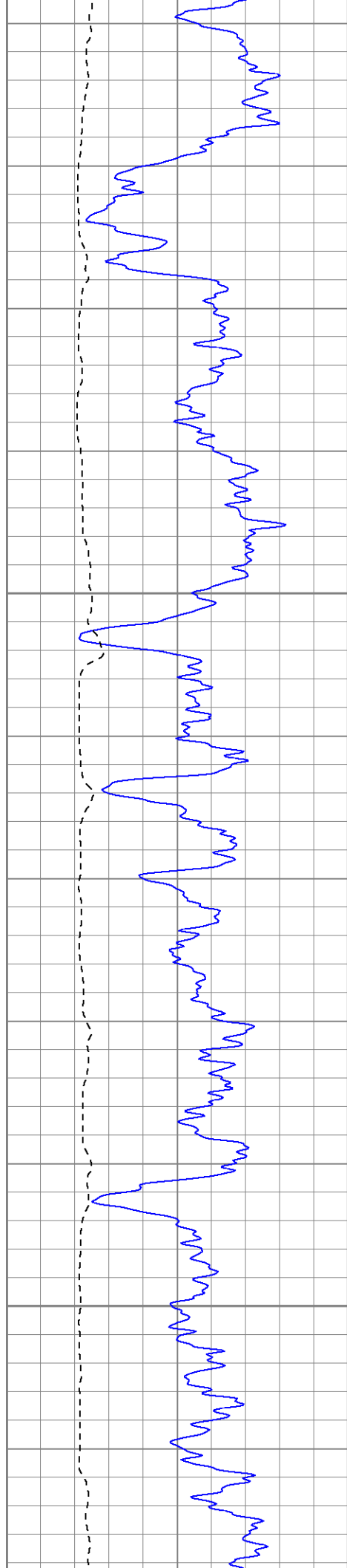
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Presentation Format: cdlhr  
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Charted by: Depth in Feet scaled 1:120

0 GR (GAPI) 200  
6 DCAL (in) 16

1 RHOB (g/cc) 3  
-0.5 RHOC (g/cc) 0.5

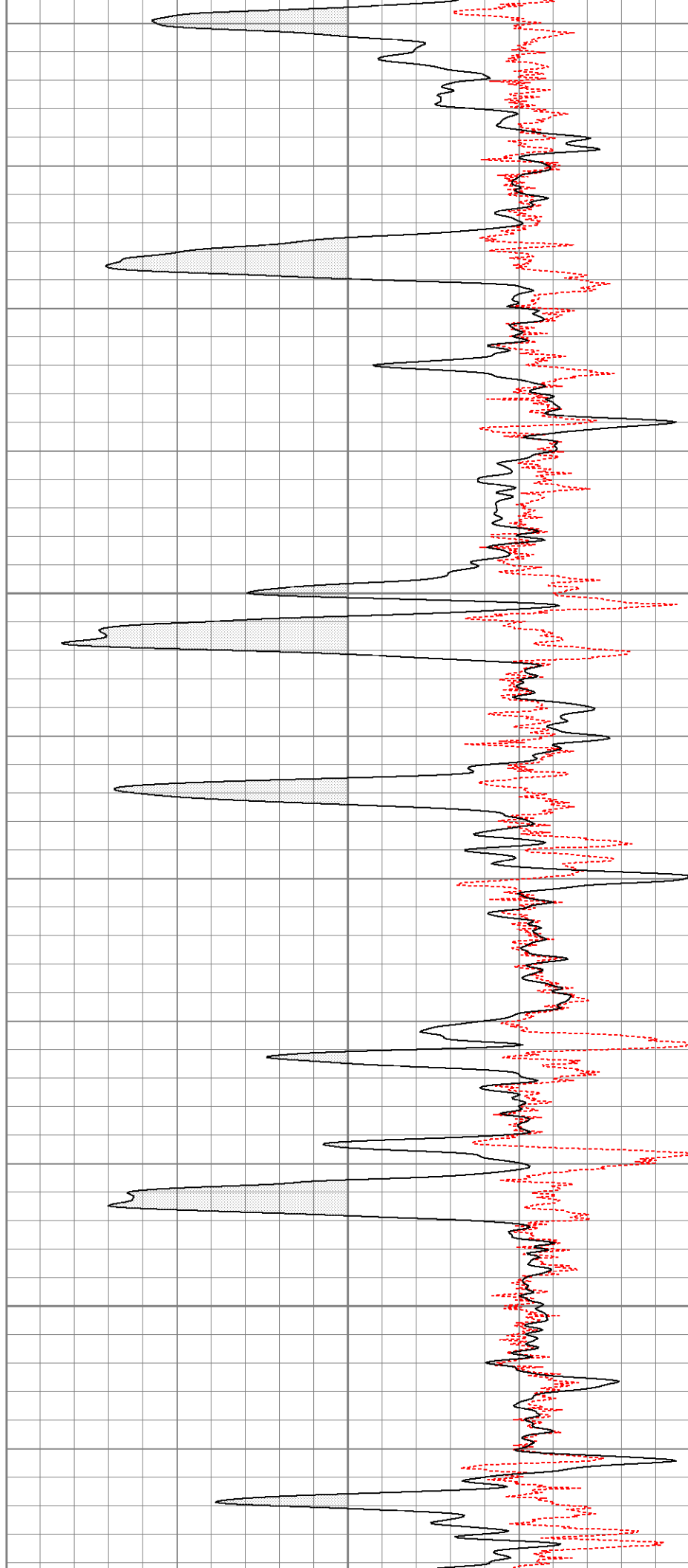


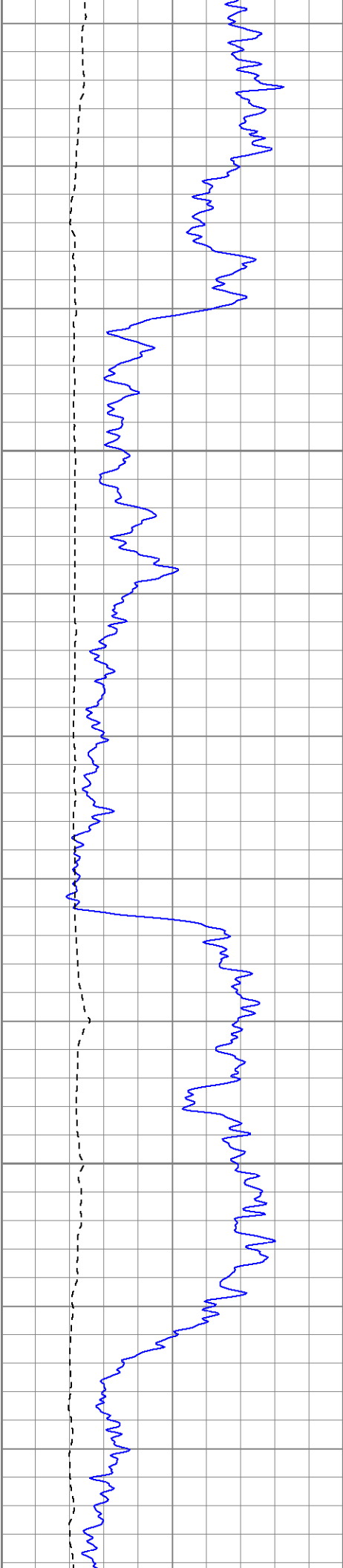




600

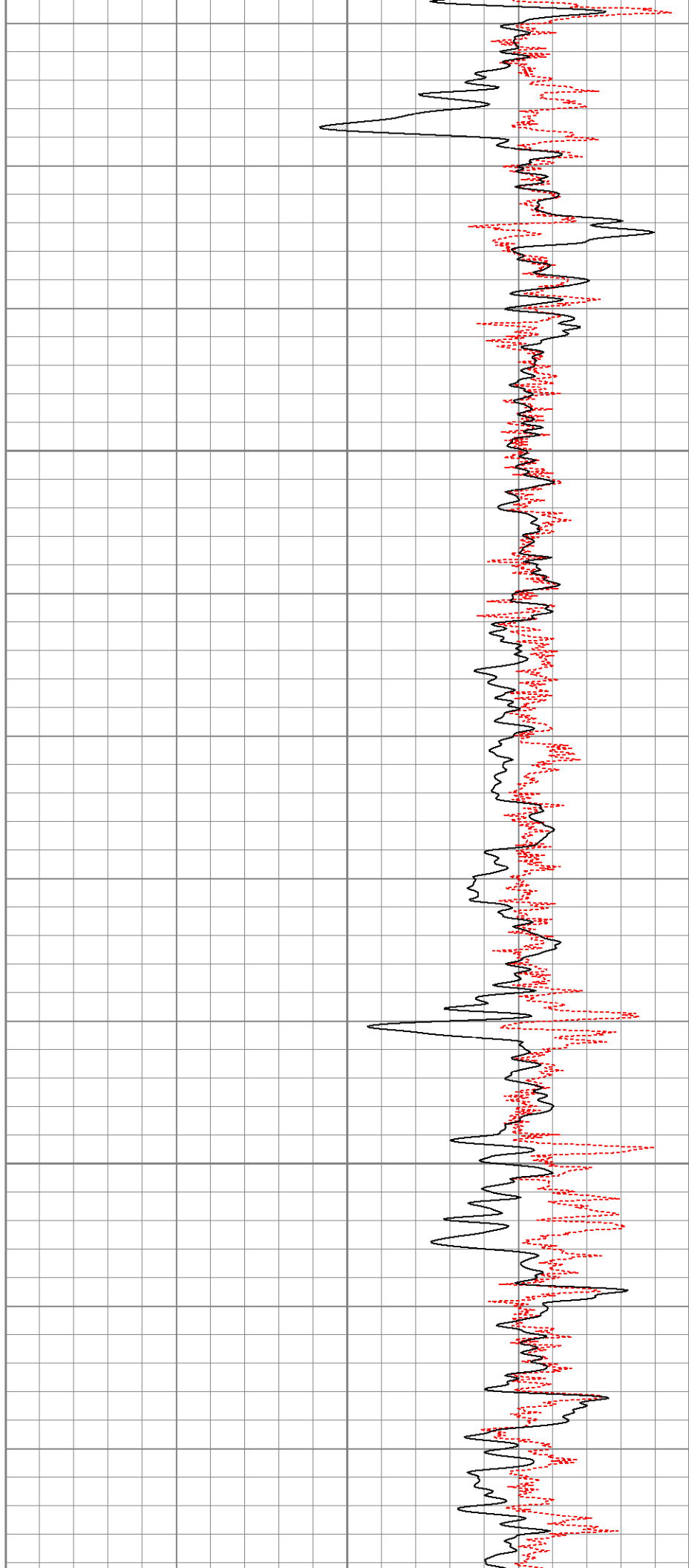
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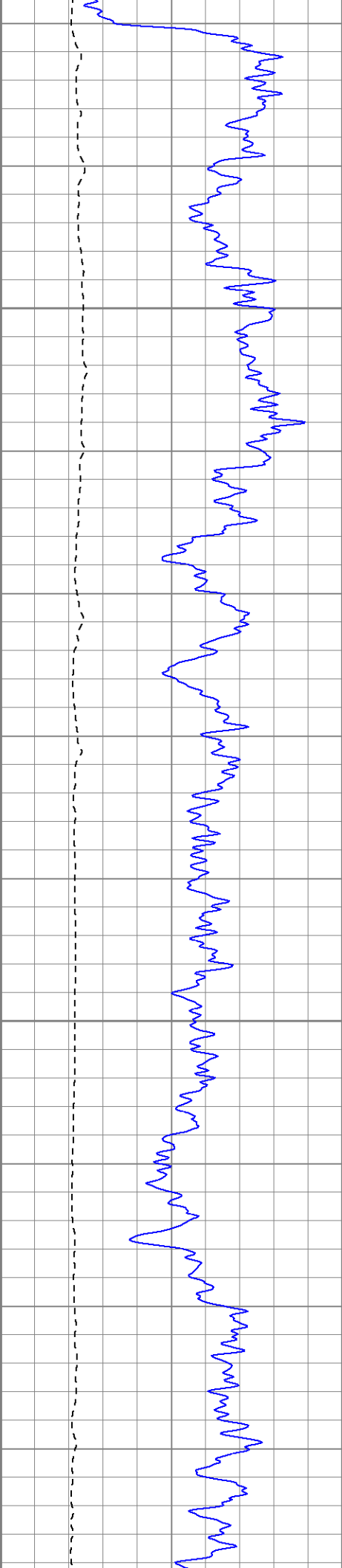




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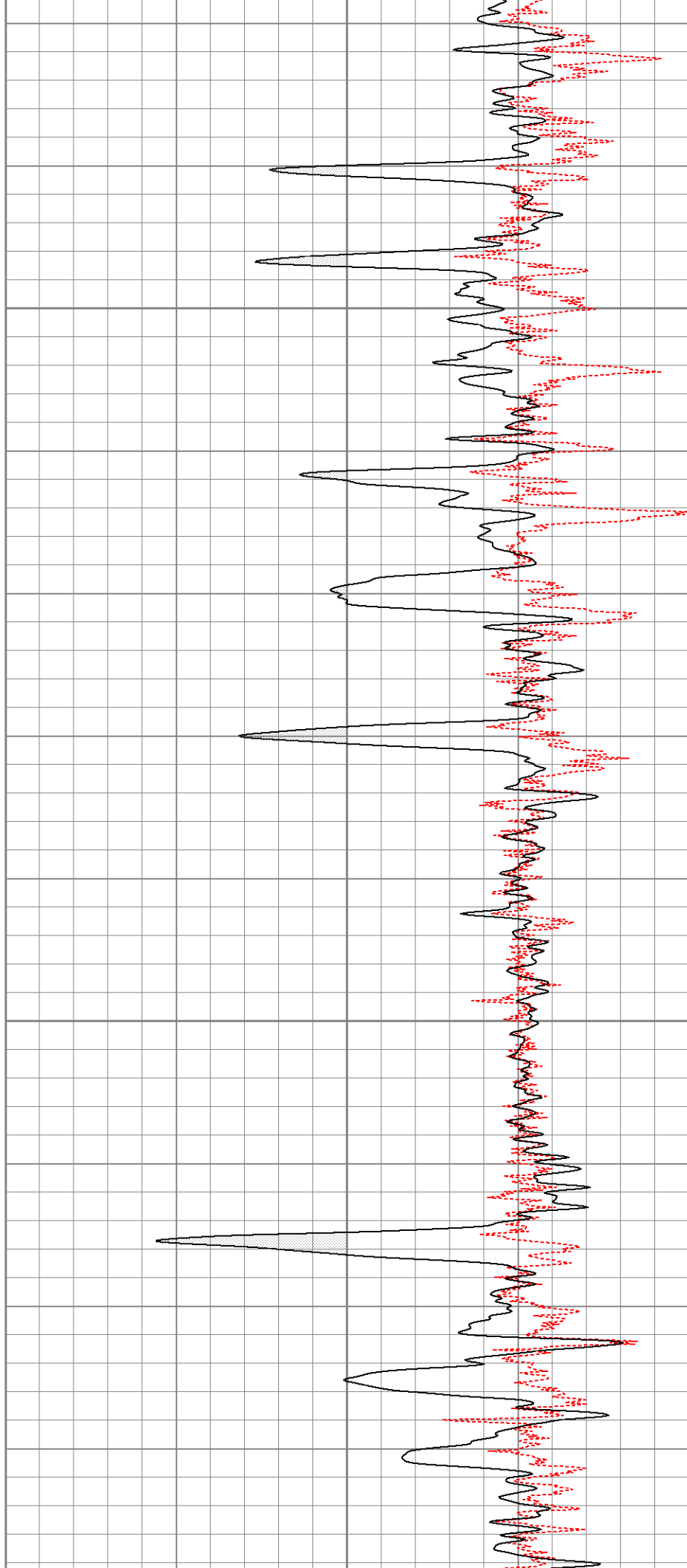
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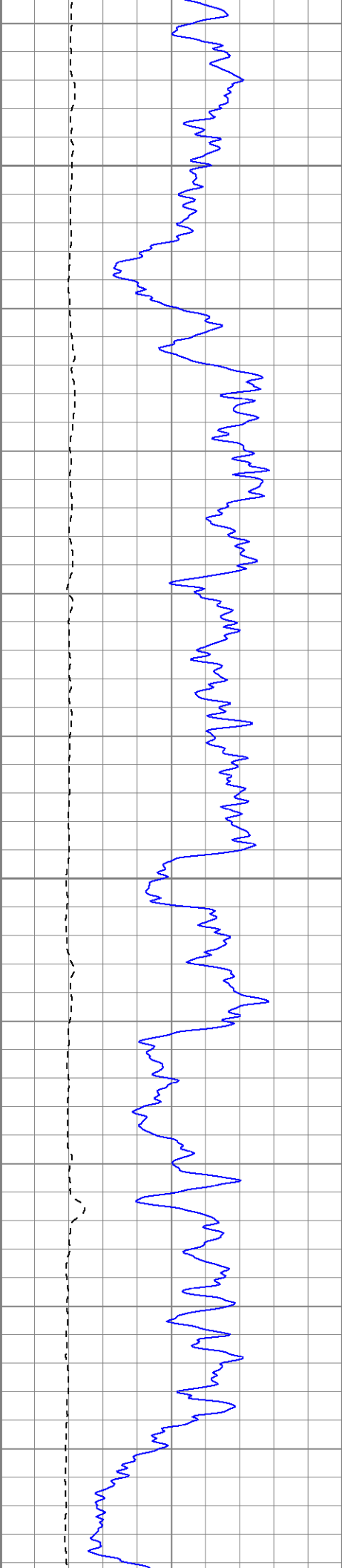




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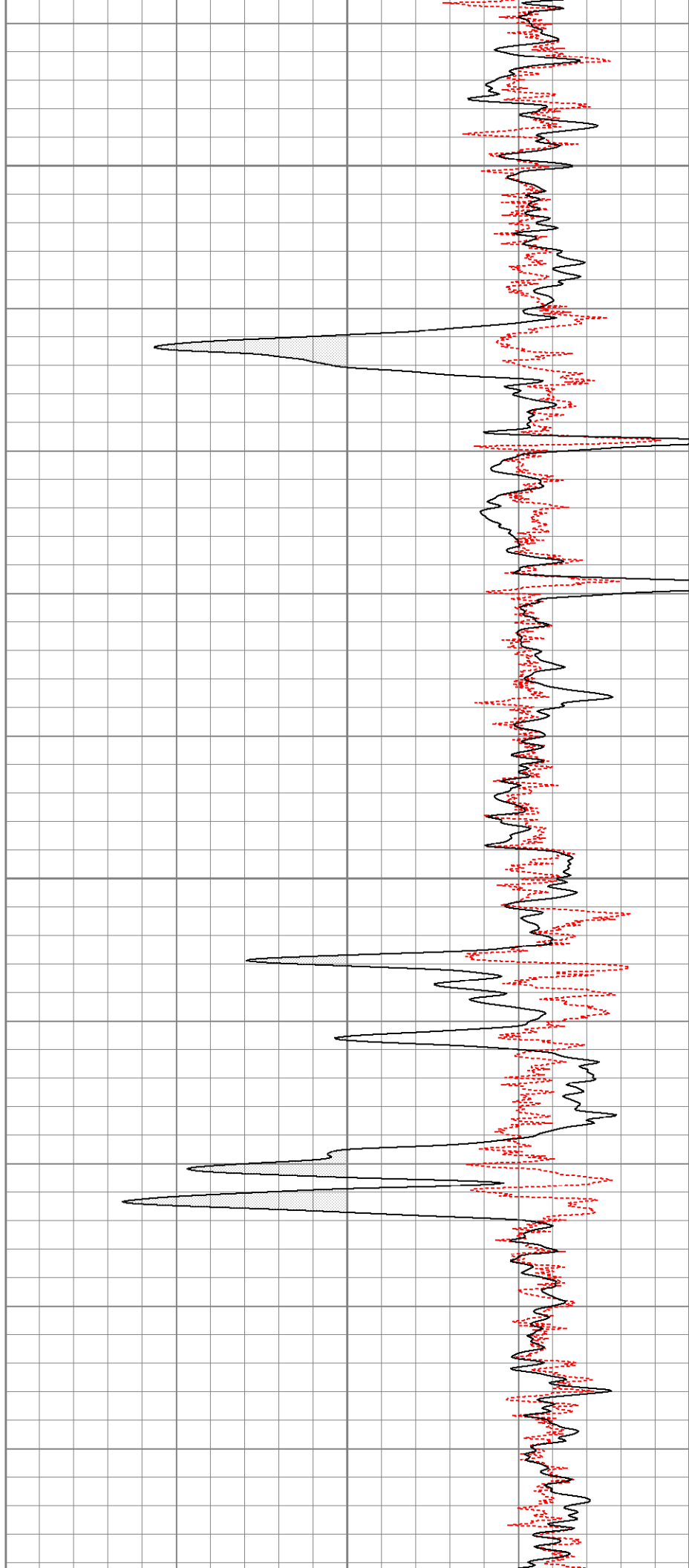
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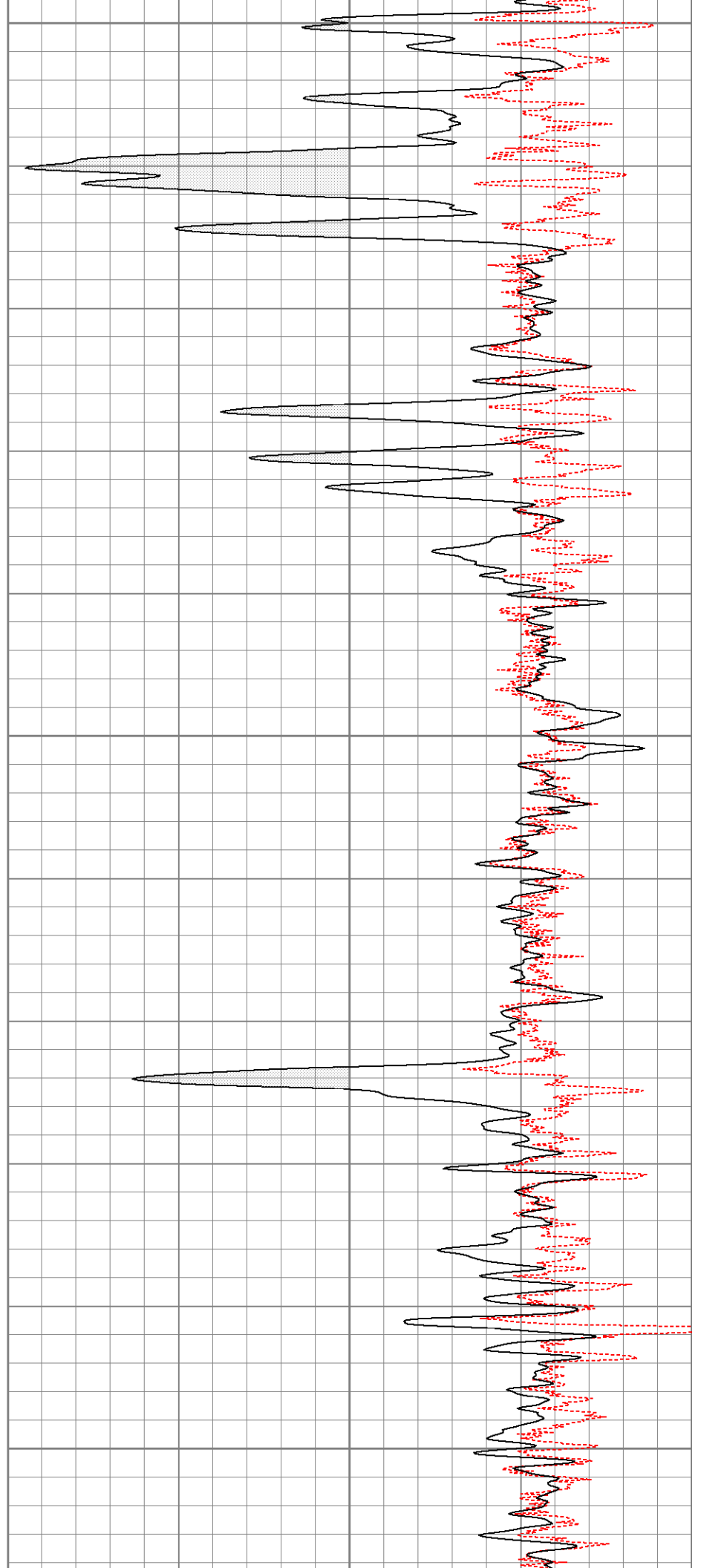
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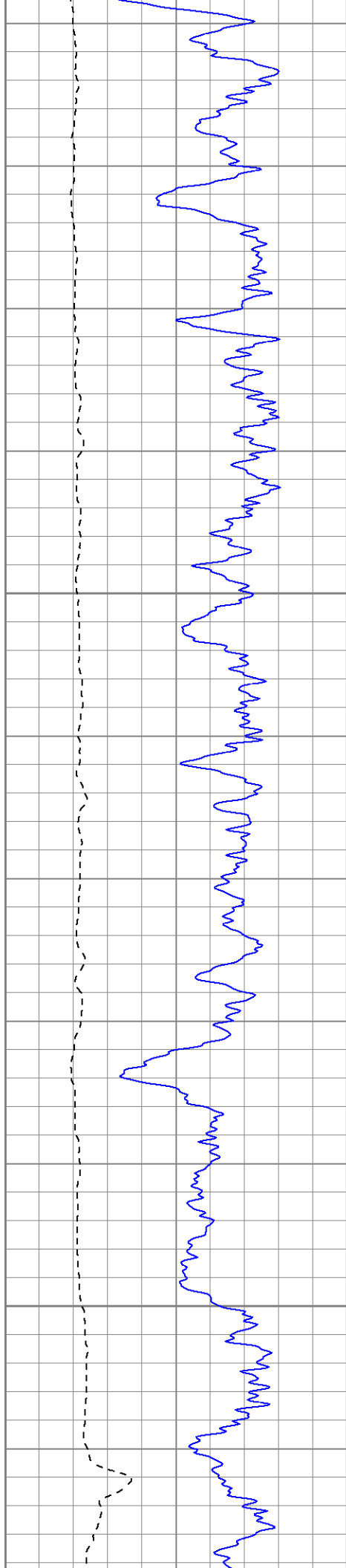


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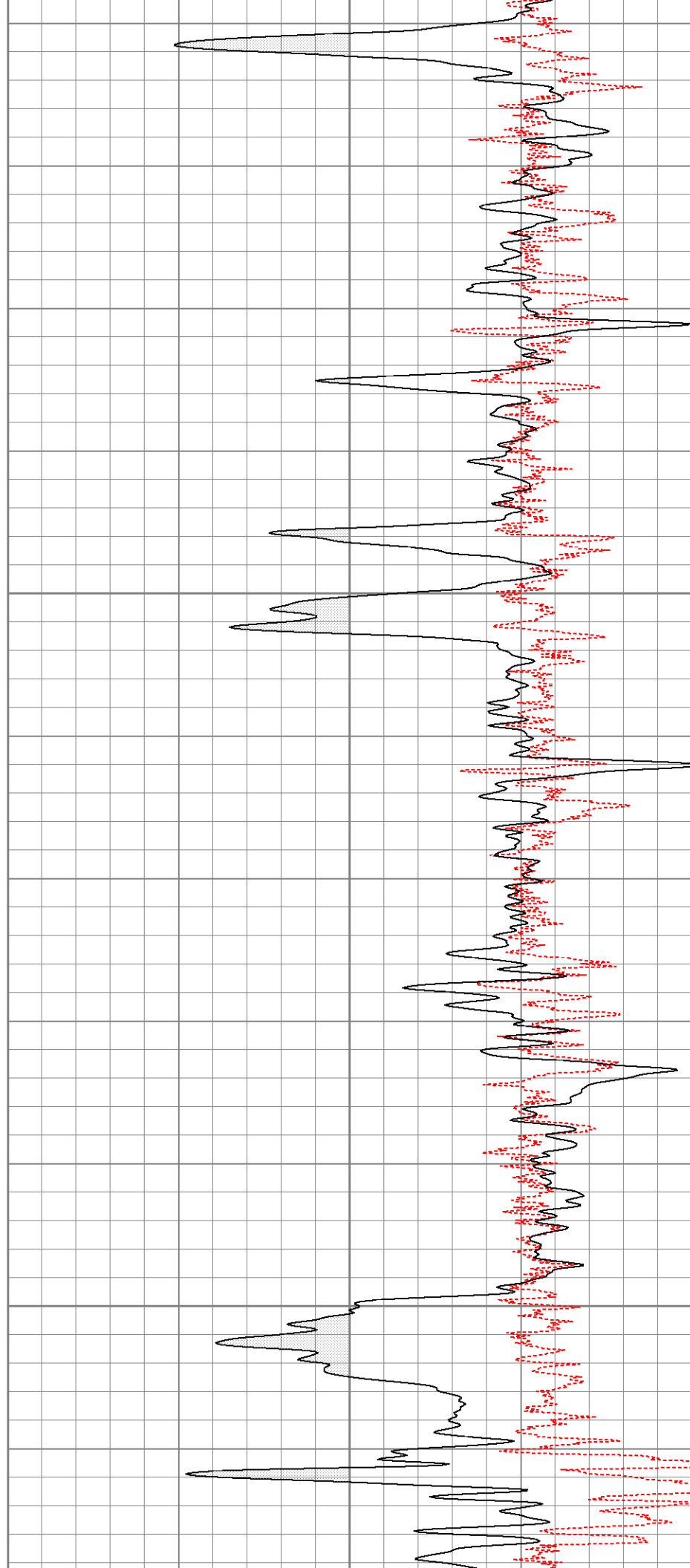
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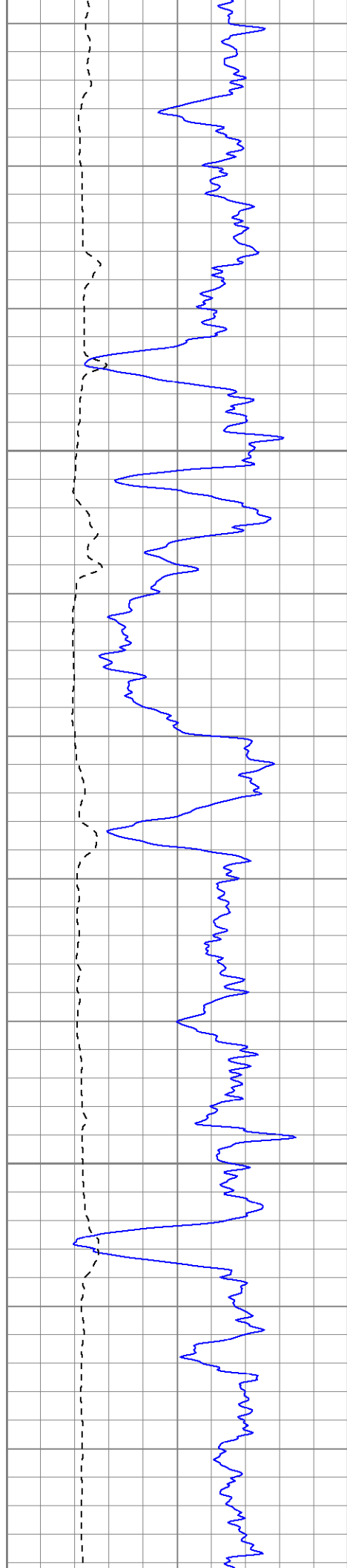




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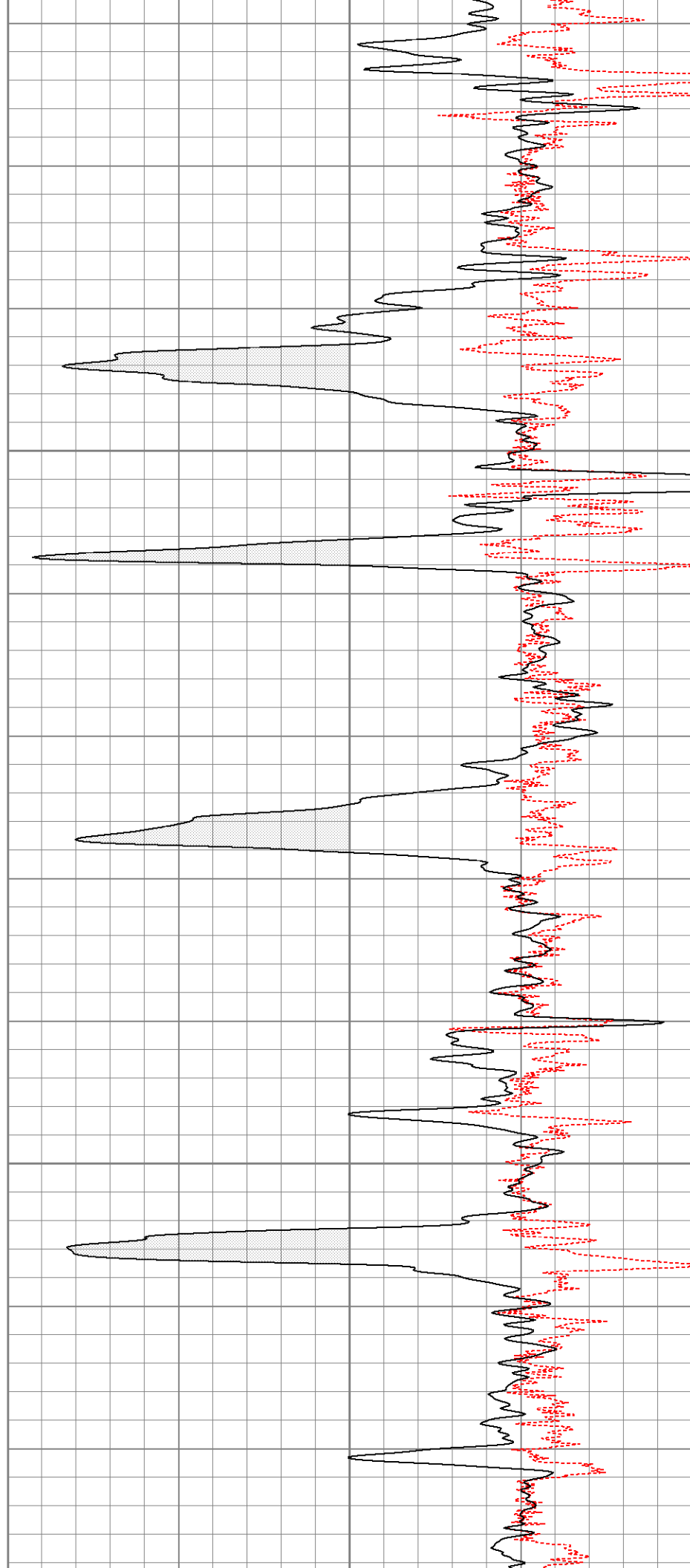
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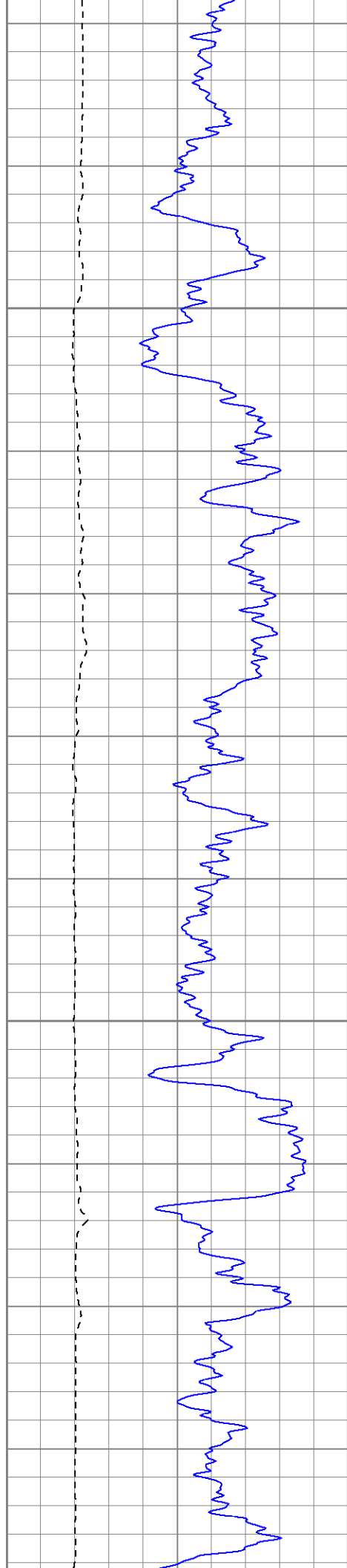




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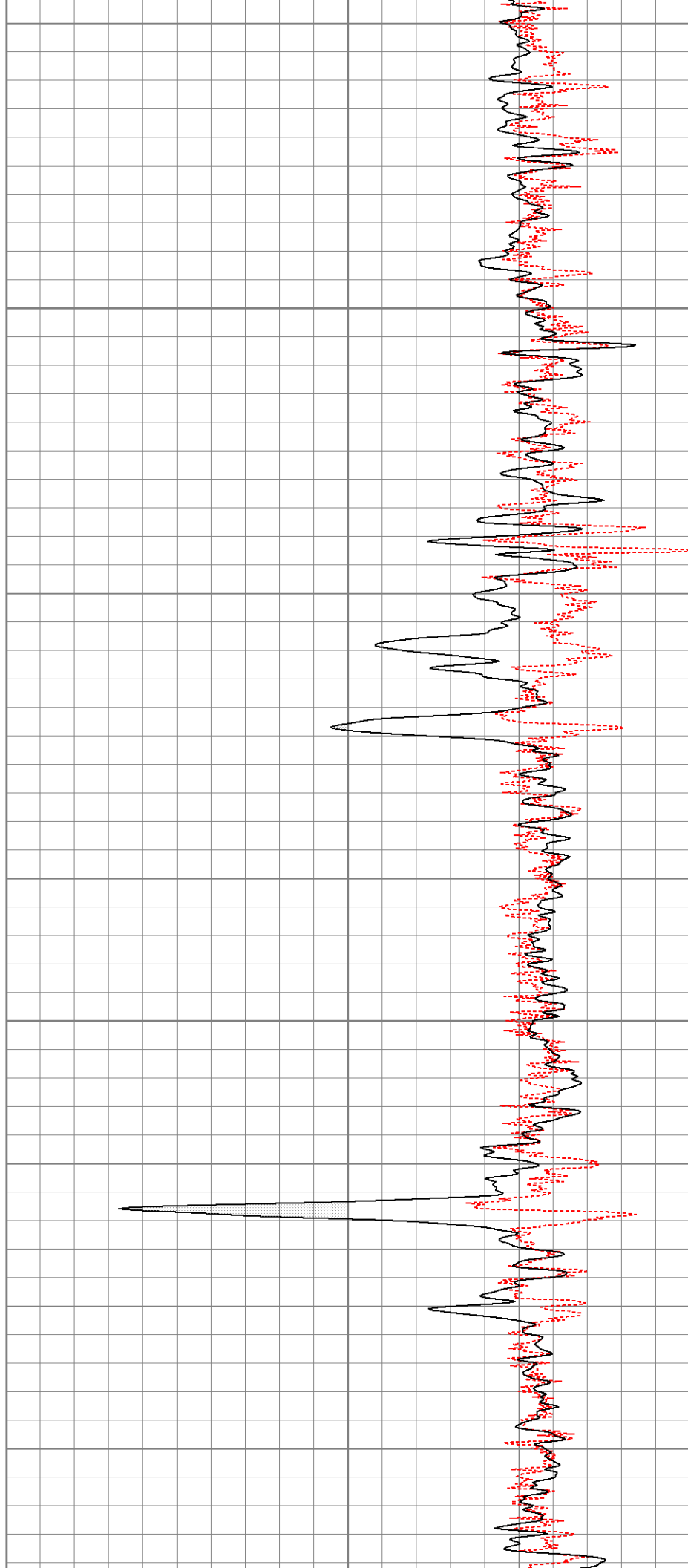
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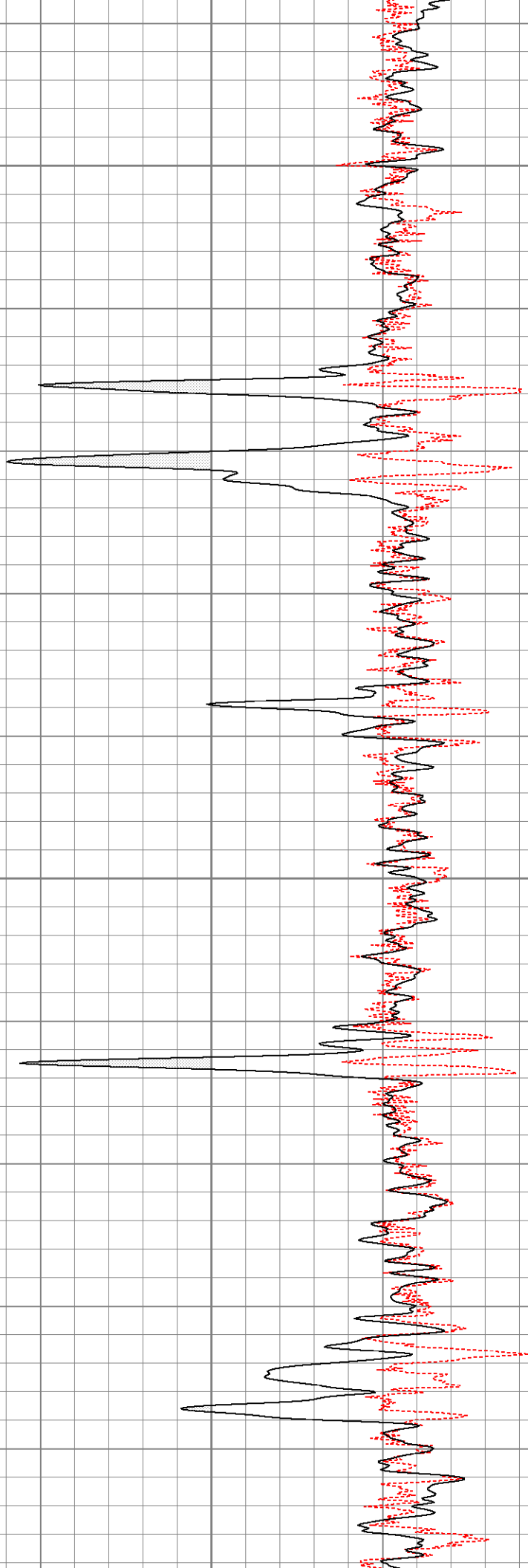
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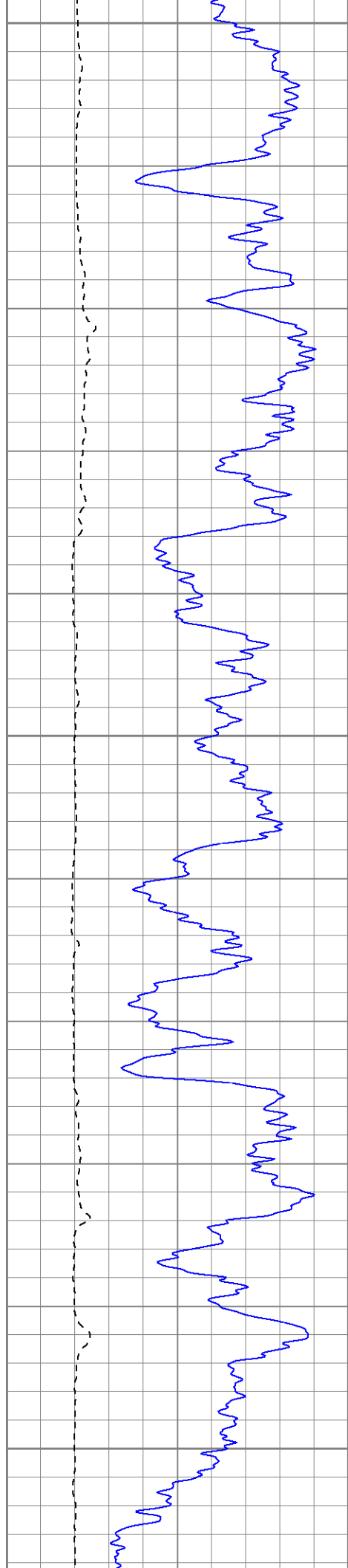




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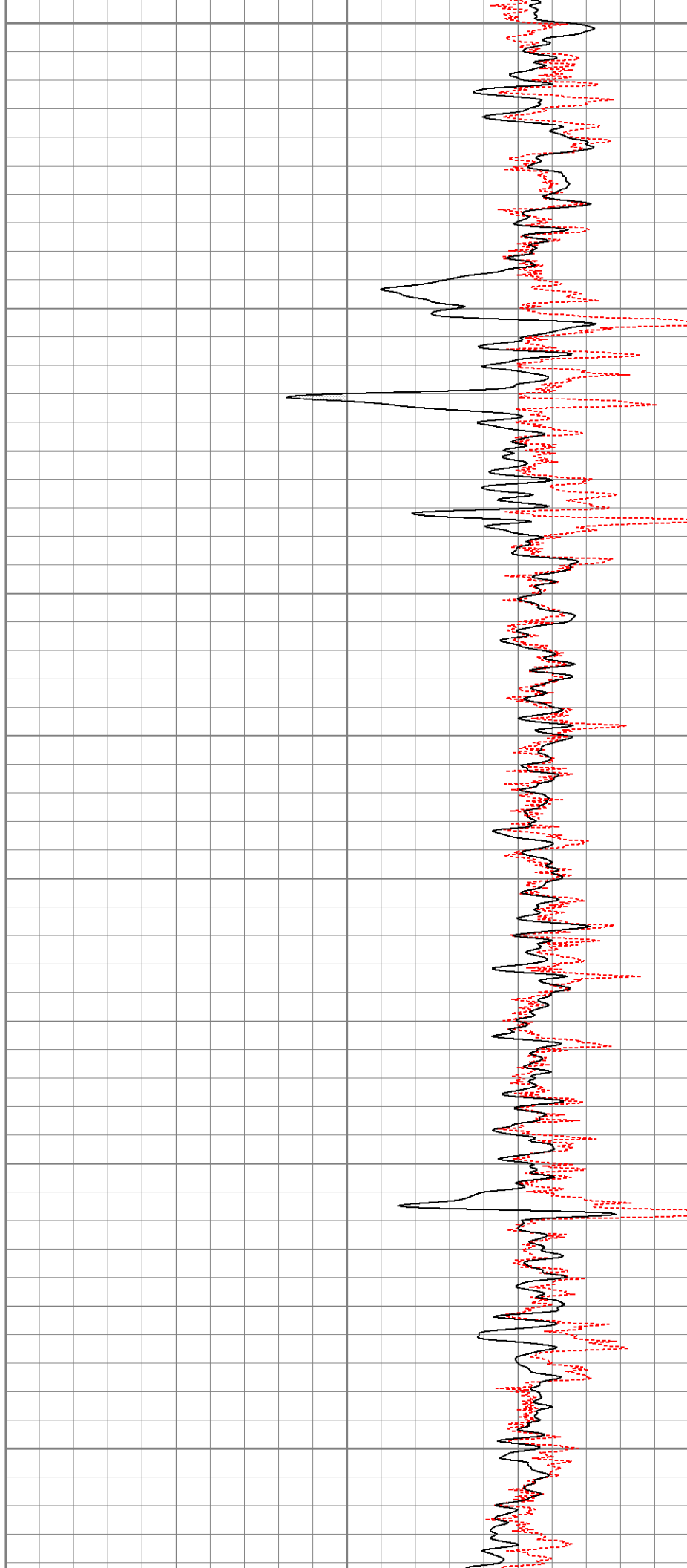


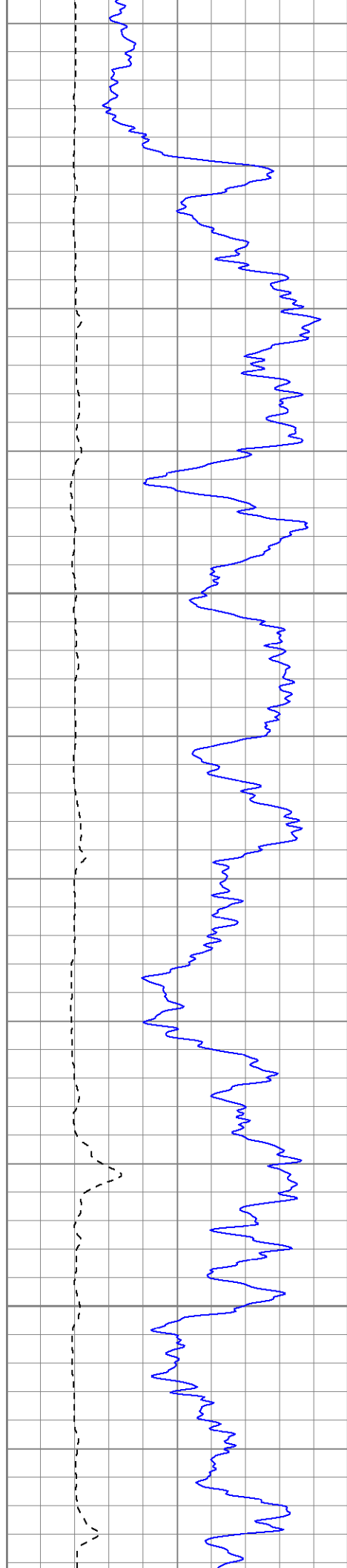


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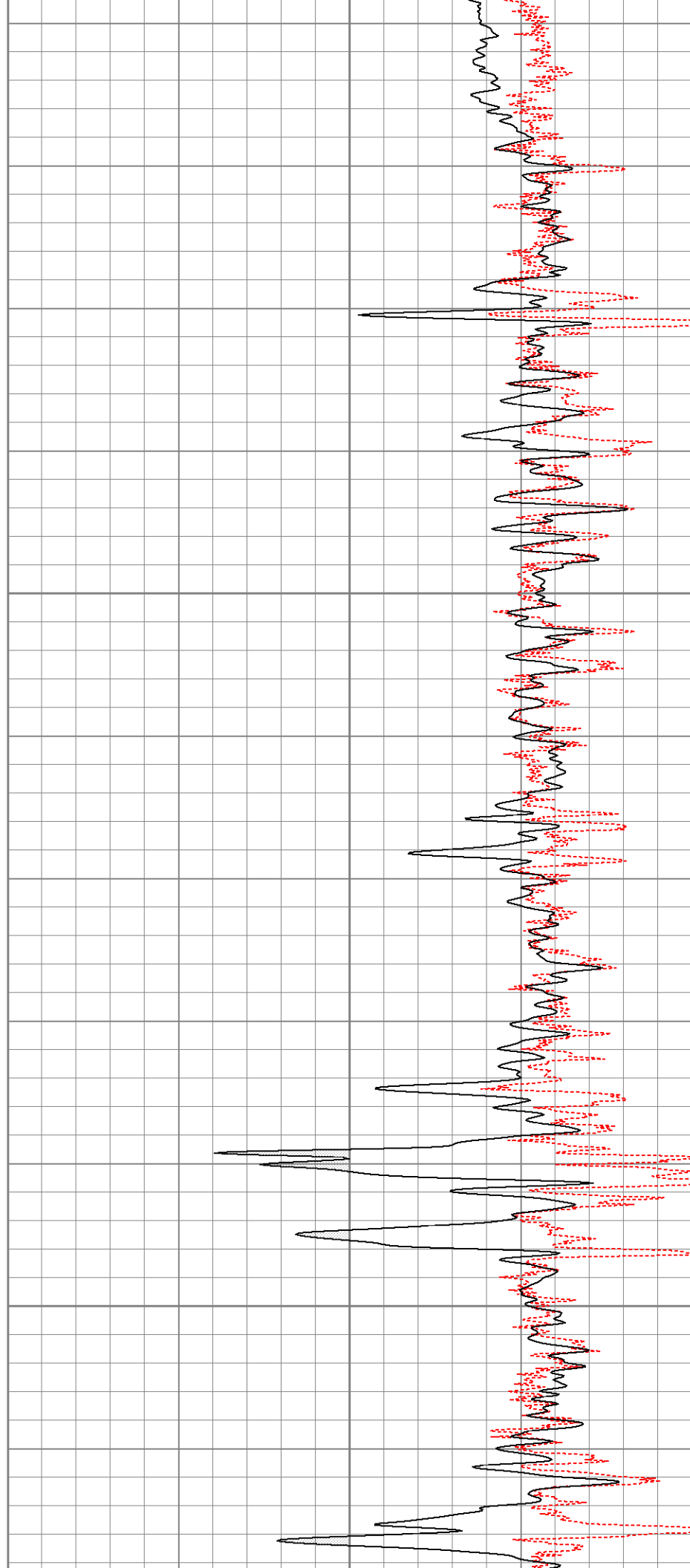
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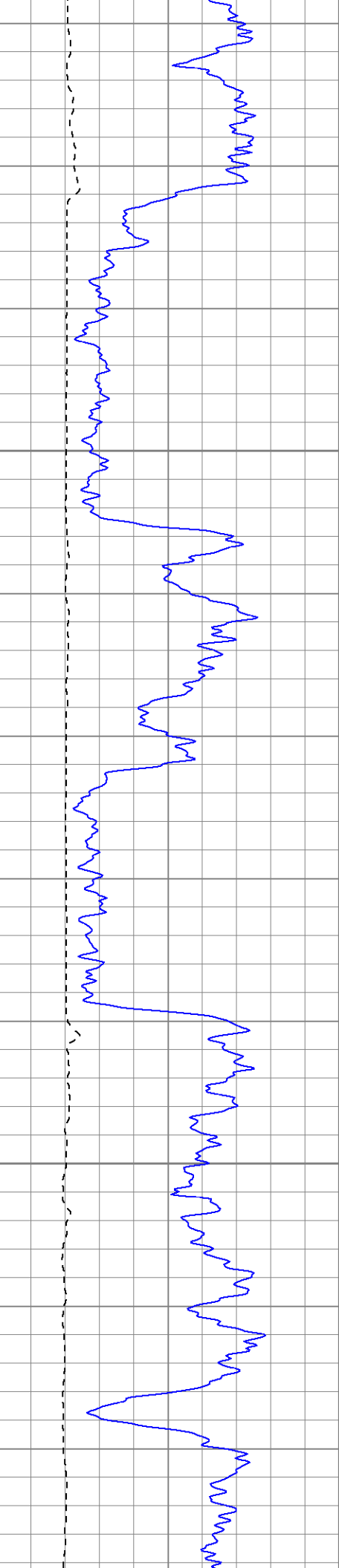




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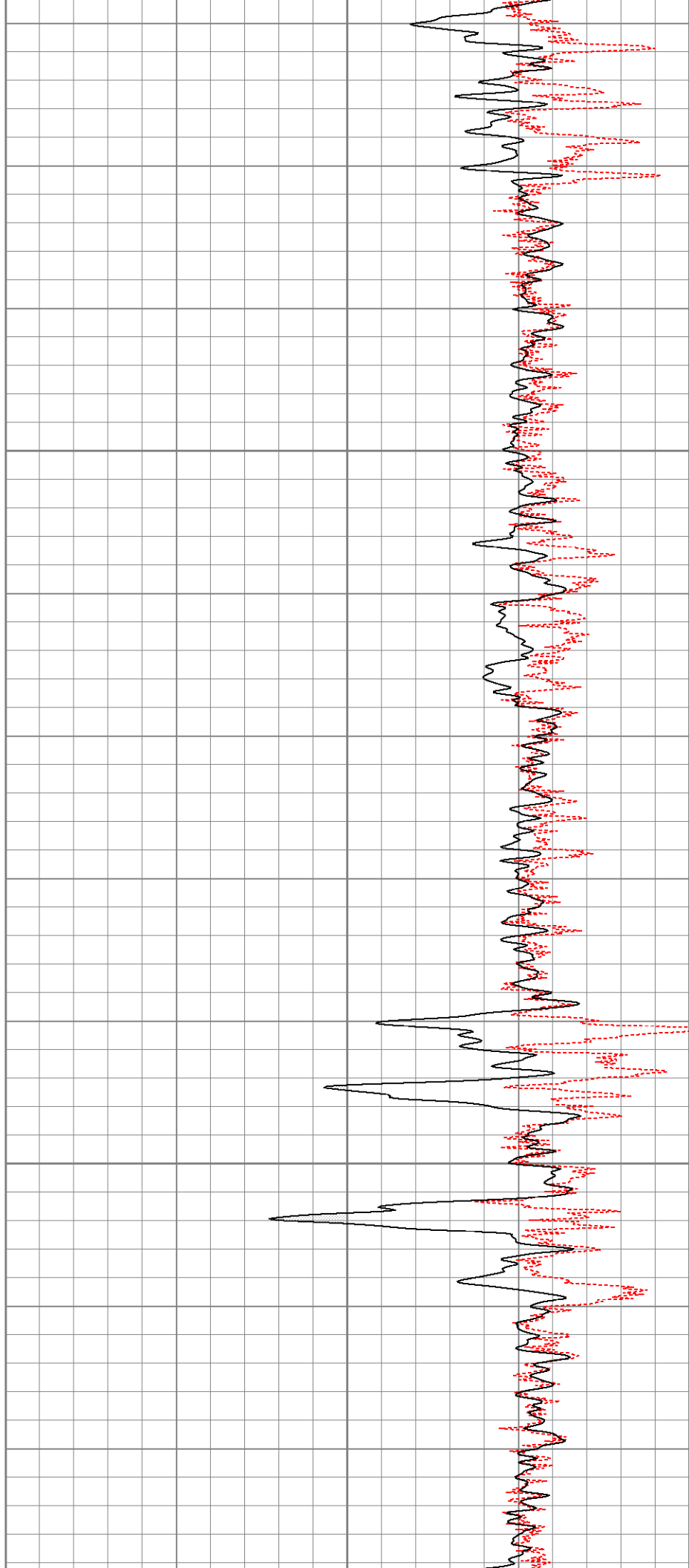
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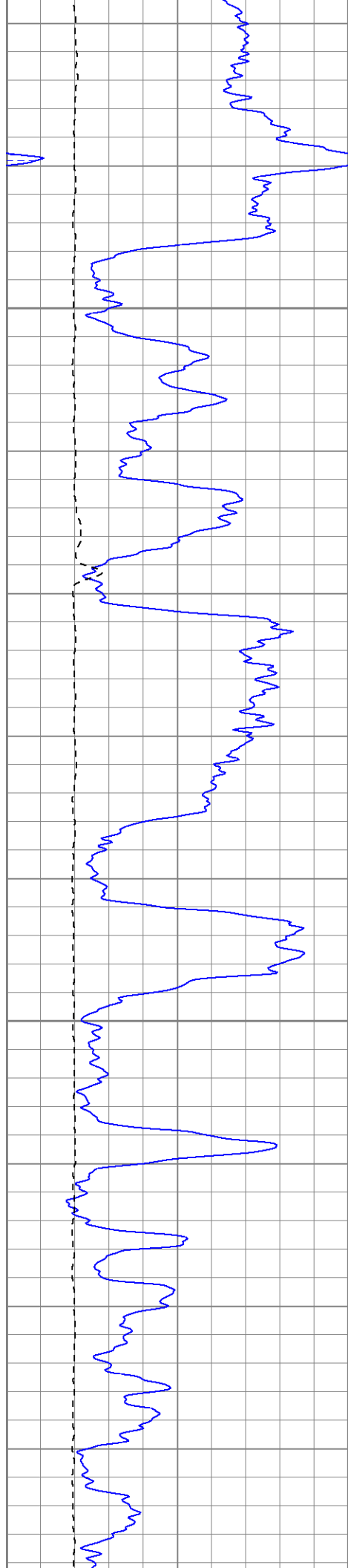




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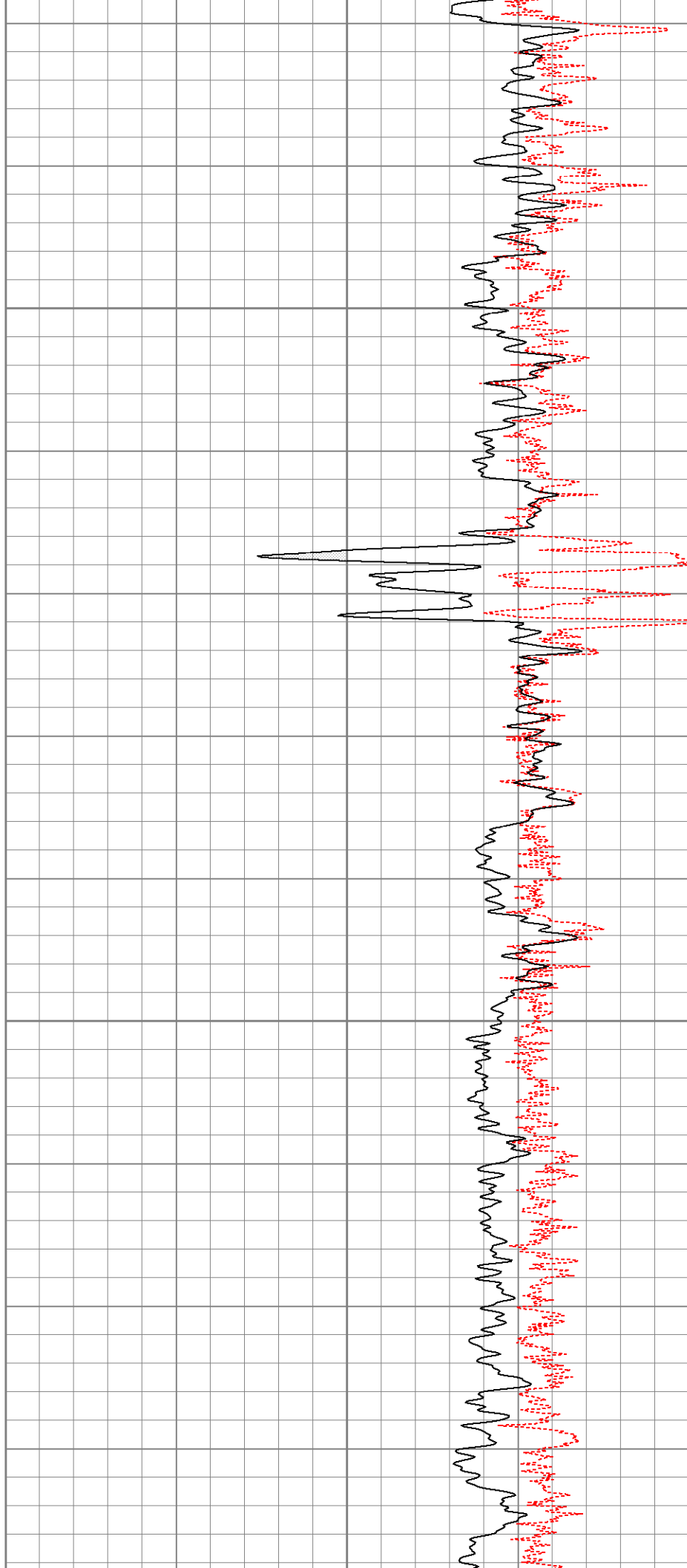
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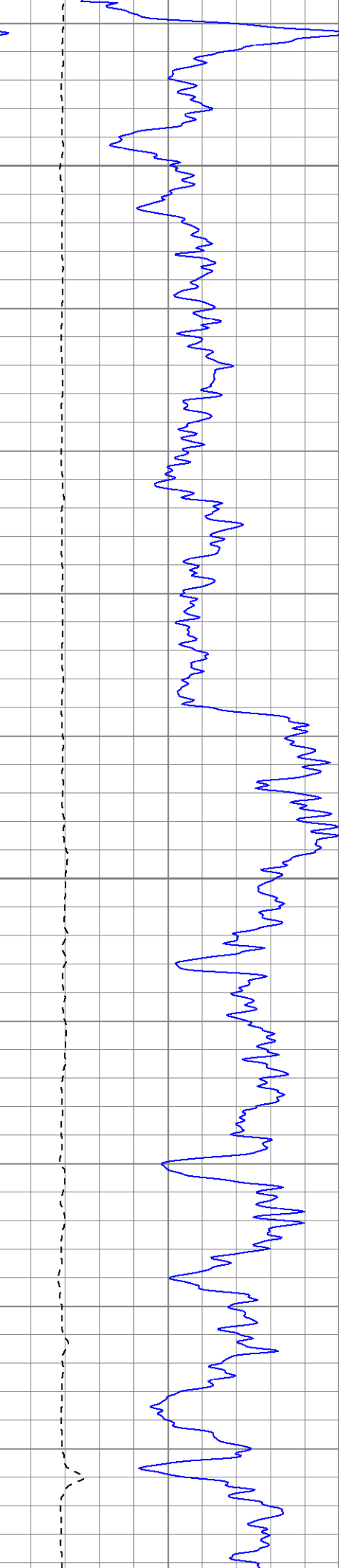




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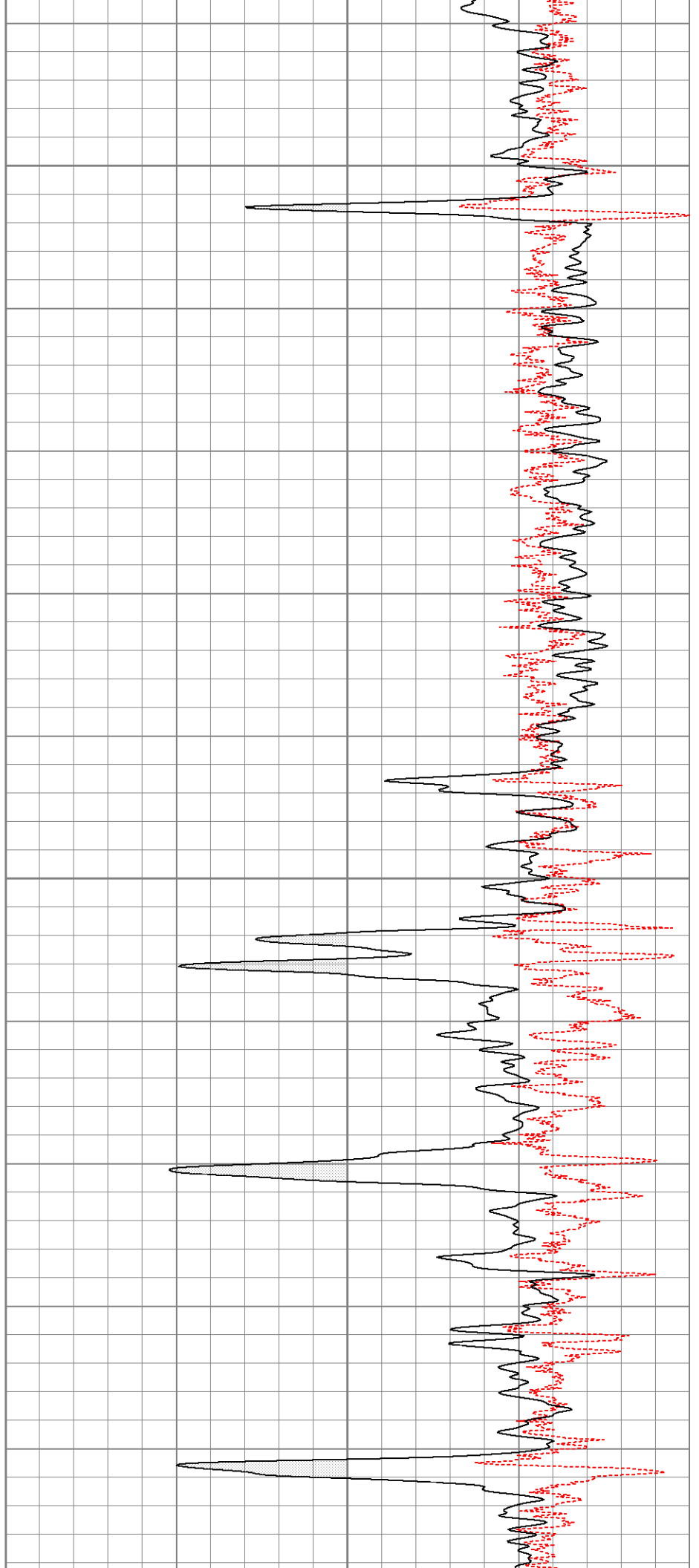
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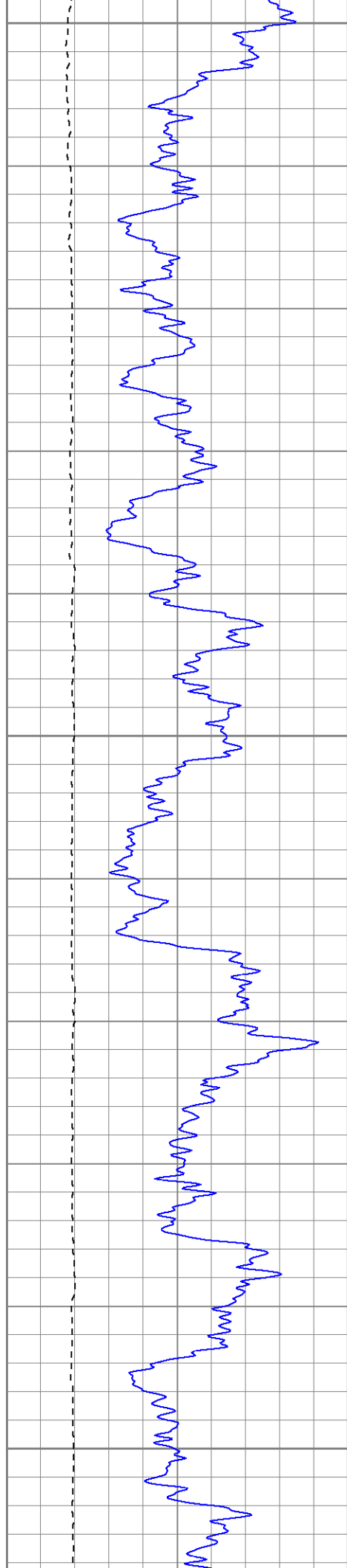




2000

2050

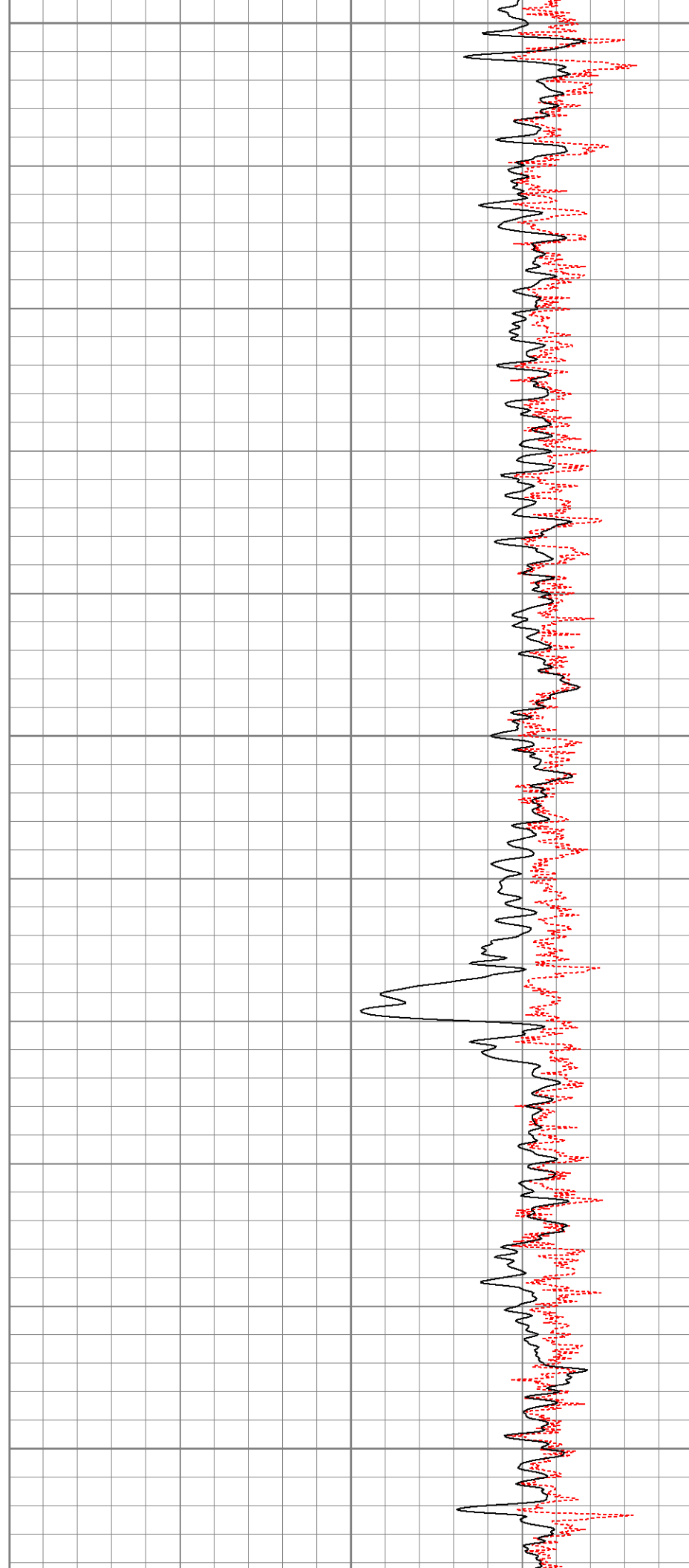


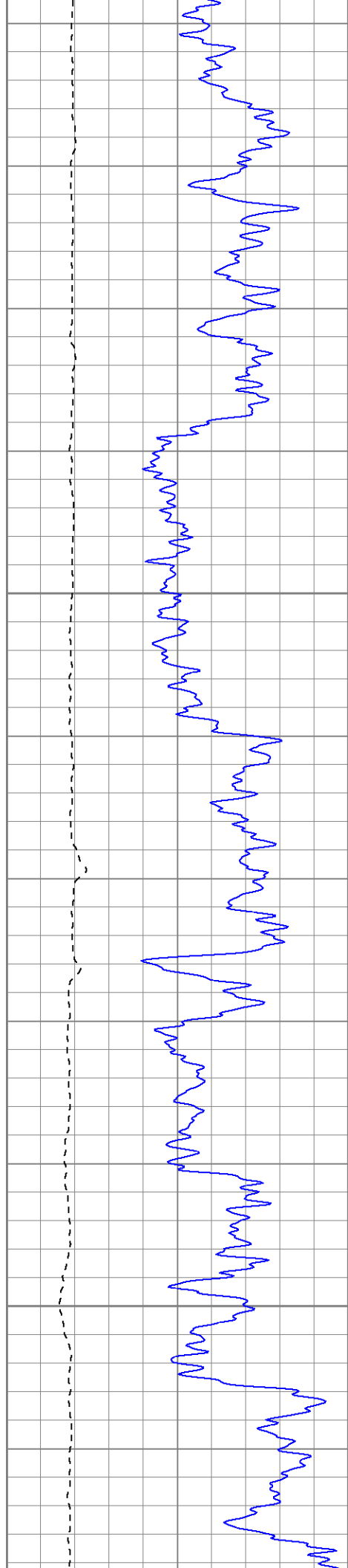


2100

2150

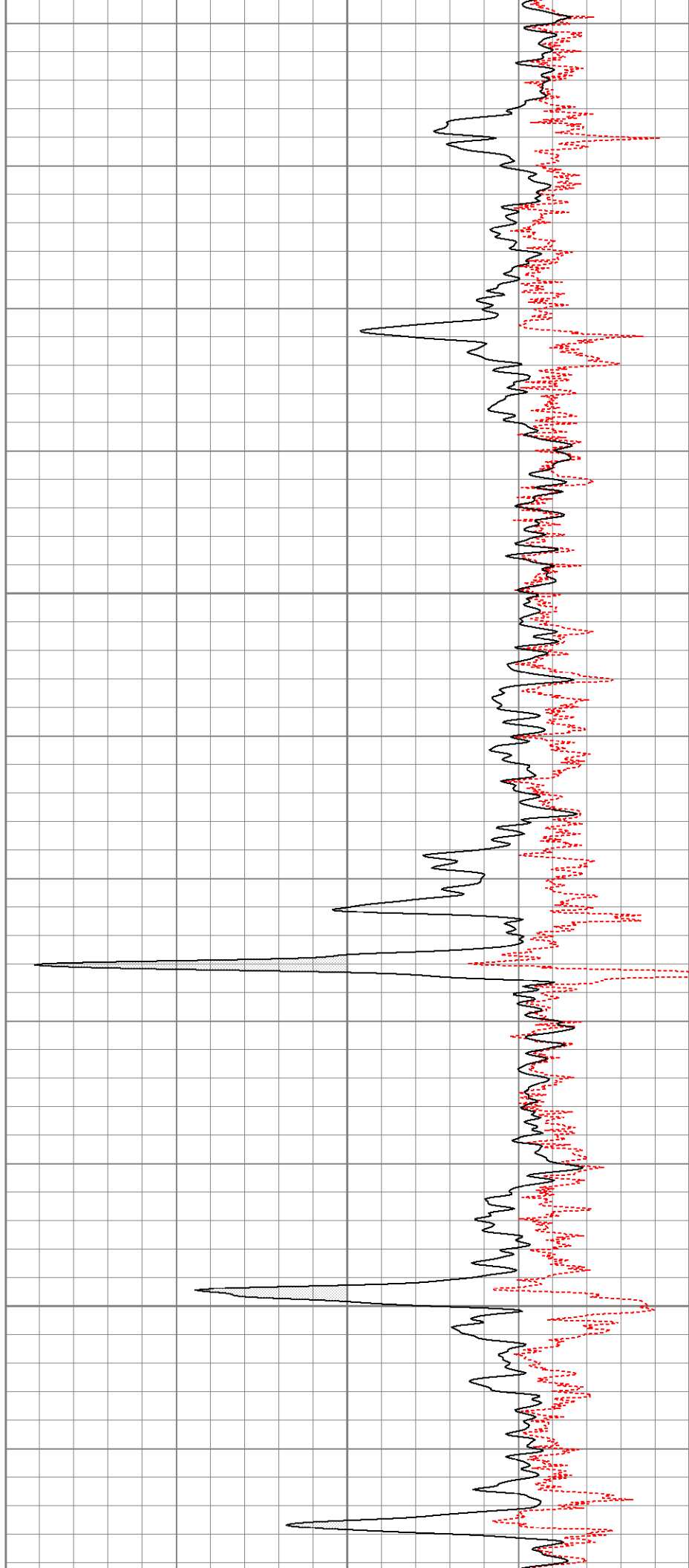
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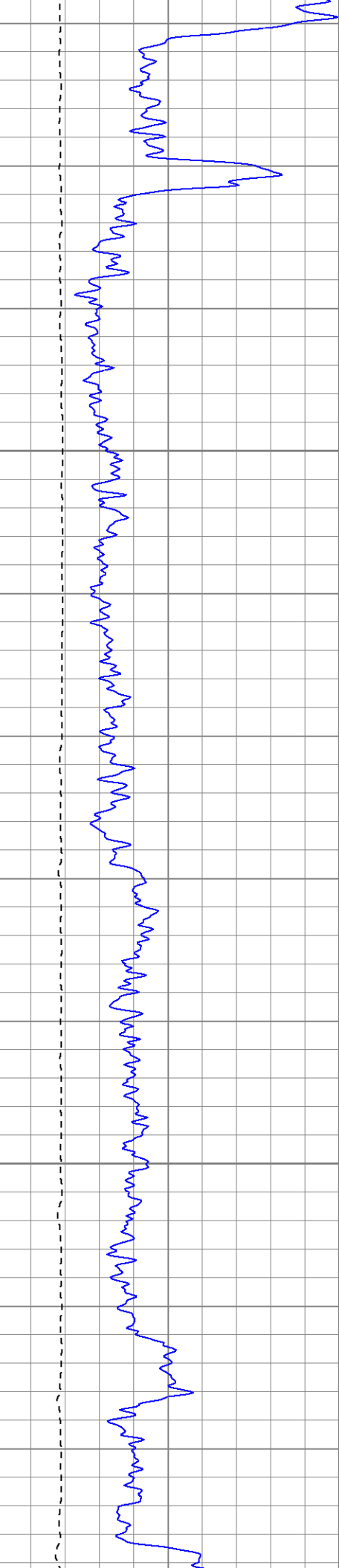


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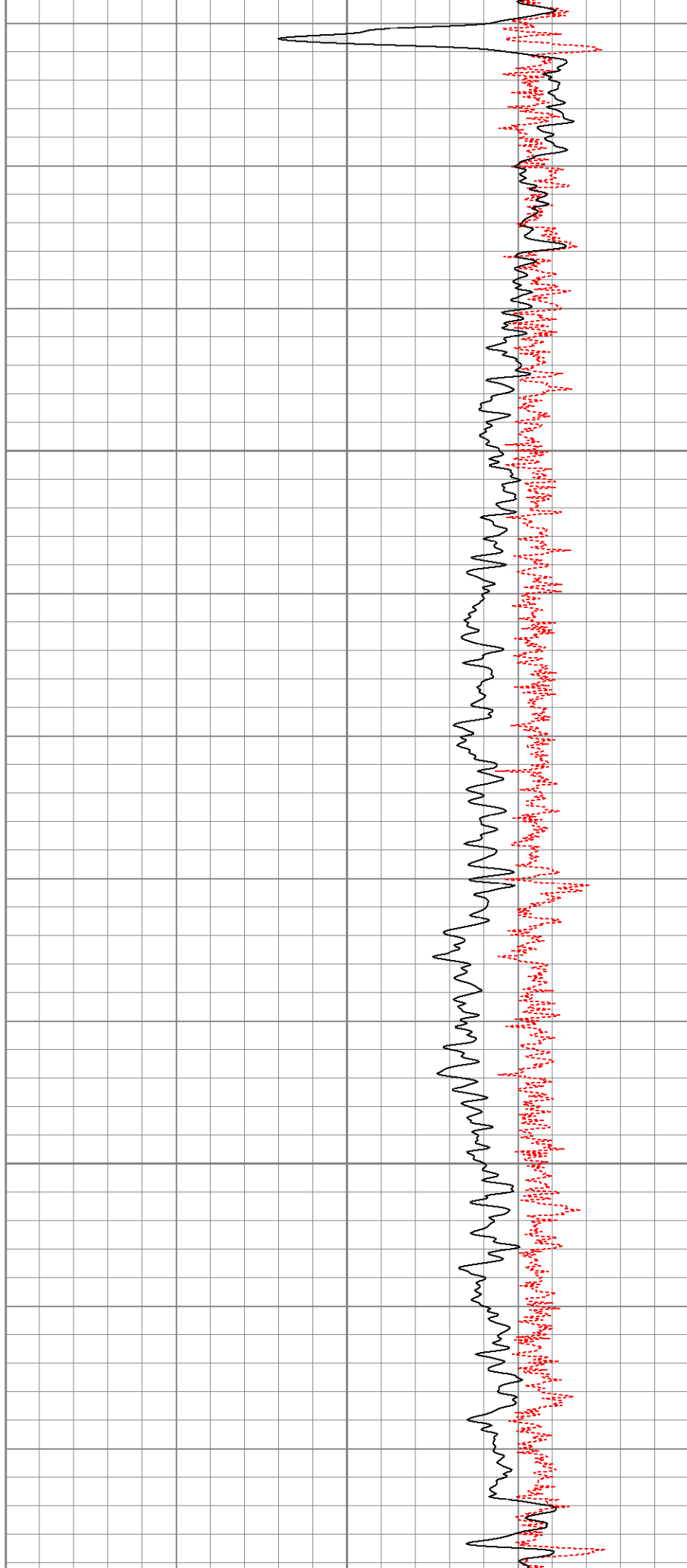


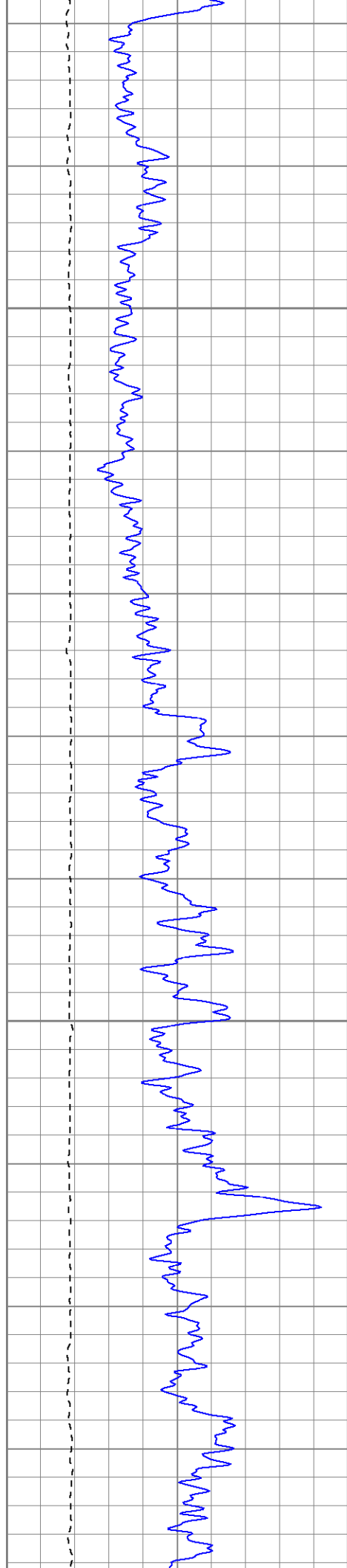




2350

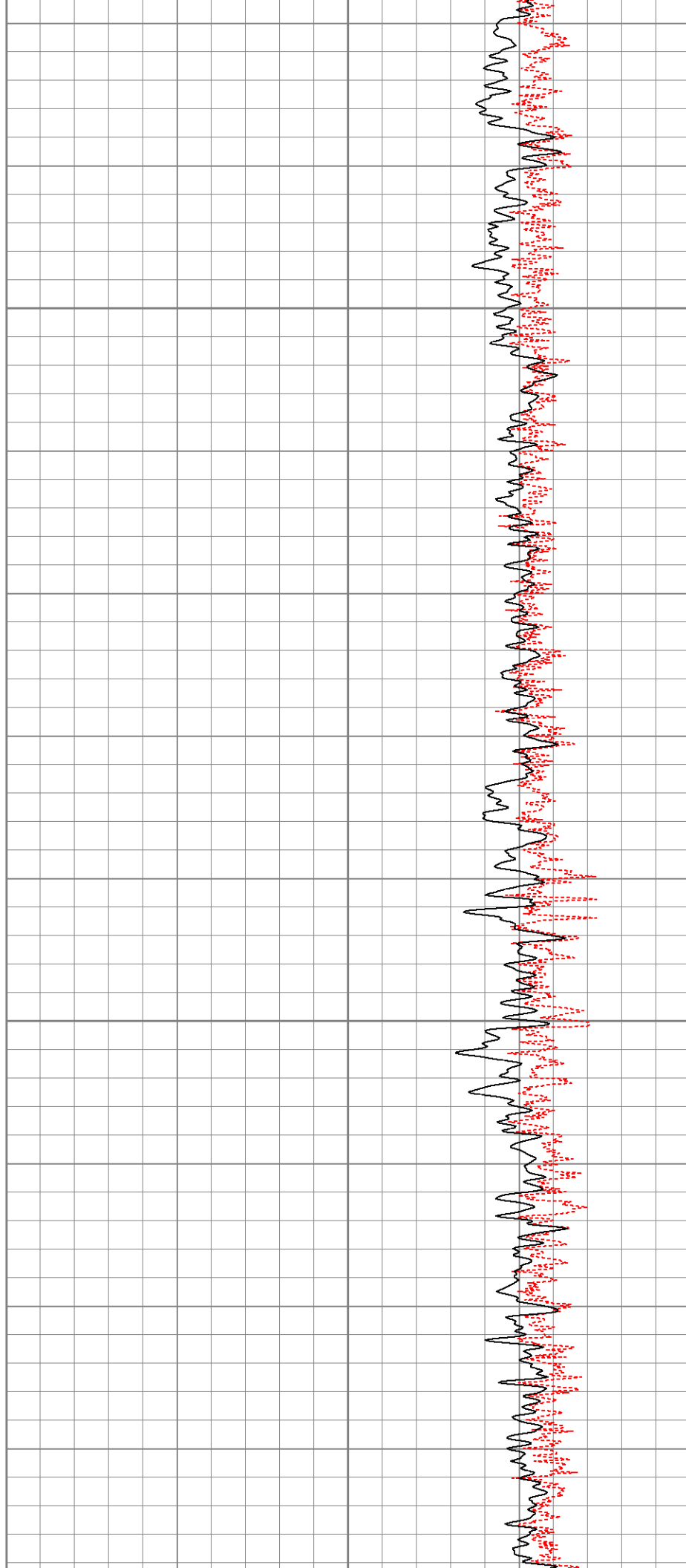
2400

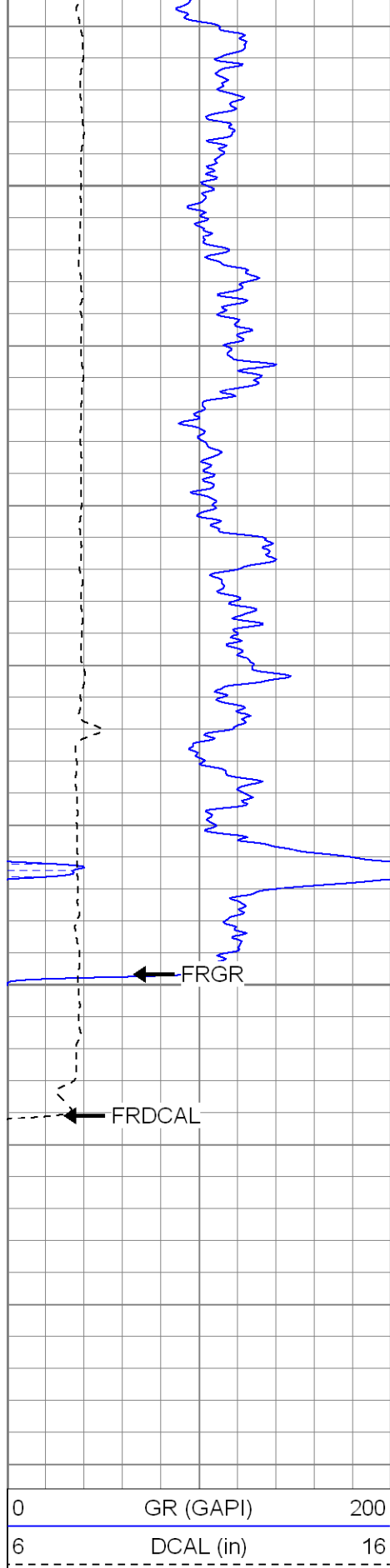




2450

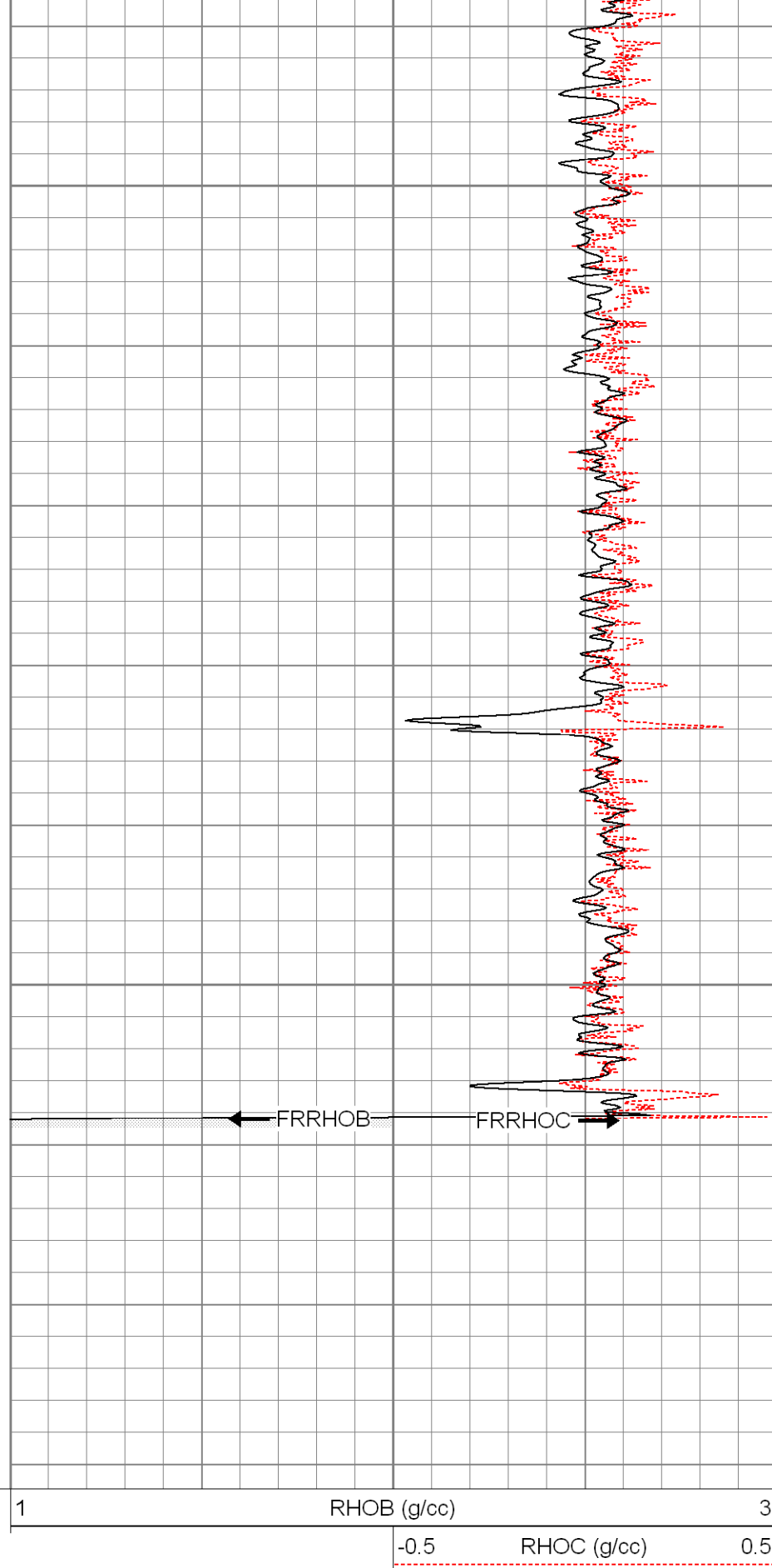
2500





2550

2600



### Calibration Report

Database File: xtohre1414.db

Dataset Pathname: pass1

Dataset Creation Date: 10-25-2001 01:00:00 L: L: Q: Q: 1070014

## Dual Induction Calibration Report

Serial-Model: 5375-G  
Surface Cal Performed: Tue Apr 01 11:00:37 2008  
Downhole Cal Performed: Tue Apr 01 11:01:24 2008

## Surface Calibration

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	0.001	0.620	V	0.000	500.000	mmho-m	807.237	-0.611
Medium	0.003	0.742	V	0.000	550.000	mmho-m	743.848	-2.179
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.001	0.620	V	0.000	500.000	mmho-m	807.141	-0.502
Medium	0.003	0.742	V	0.000	550.000	mmho-m	743.959	-2.189

## Downhole Calibration

Internal:	Readings			References			Results	
	Zero	Cal		Zero	Cal		m	b
Deep	-0.493	500.241	mmho-m	-0.108	499.951	mmho-m	0.999	0.384
Medium	0.182	550.341	mmho-m	0.009	549.927	mmho-m	1.000	-0.172
Shallow	2.506	0.008	V	500.000	2.000	Ohm-m	124.000	-3.000

## Temperature Calibration Report

Serial Number: 2542T  
Tool Model: CDLP  
Performed: Wed Apr 09 15:14:20 2008

	Reference	Reading
Low Reference:	55.00 degF	3.11 V
High Reference:	160.00 degF	5.35 V
Gain:	46.88	
Offset:	-90.78	
Delta Spacing	1	

## Compensated Density Calibration Report

Serial-Model: 2542-T2  
Source / Verifier: /  
Master Calibration Performed: Fri Apr 04 08:43:29 2008

## Master Calibration



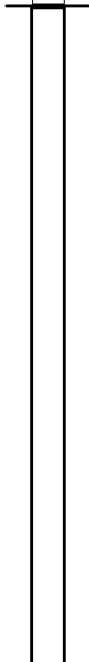


	Density		Far Detector	Near Detector	
Magnesium	1.710	g/cc	725.64	339.44	cps
Aluminum	2.590	g/cc	162.65	232.88	cps
Spine Angle = 75.86			Density/Spine Ratio = 0.571		
	Size		Reading		
Small Ring	8.00	in	1.33	V	
Large Ring	14.00	in	2.67	V	

# Gamma Ray Calibration Report

Serial Number: 2001  
 Tool Model: OH  
 Performed: Fri Apr 04 09:53:13 2008  
  
 Calibrator Value: 1.0 GAPI  
  
 Background Reading: 0.0 cps  
 Calibrator Reading: 1.0 cps  
  
 Sensitivity: 0.2500 GAPI/cps

# Neutron Calibration Report

Serial Number: 5108  
 Tool Model: PROBE  
 Performed: Wed Apr 09 15:10:14 2008  
  
 Calibrator Value: 1 NAPI  
  
 Calibrator Reading: 1 cps  
  
 Sensitivity: 1 NAPI/cps

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
NEU	37.47		None	0.75	1.50	5.00
			NEU-PROBE (5108) Probe Epithermal	4.92	3.63	85.00
GR	31.94		GR-OH (2001) 2001	3.56	3.25	40.00
			CDL-T2 (2542) Gearhart	9.29	4.00	201.00
LSD	23.19		TEMP-CDLP (2542T) Probe Density/Temp	0.01	10.00	1.00
DCAL	22.98					
SSD	22.73					
TEMP	22.55					
CILD	10.60		DIL-G (5375) Gearhart	21.47	4.00	345.00
SP	10.60					
CILM	6.89					
RLL3	1.70	