



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

# COMPENSATED DENSITY NEUTRON LOG

Company XTO Energy Inc.  
Well Apache Canyon 05-08  
Field Purgatoire River  
County Las Animas State Colorado

Location: API # : 05 071 09133 00

2144' FNL & 944' FEL

SEC 05 TWP 34S RGE 67W

Permanent Datum Ground Level Elevation 7716'  
Log Measured From Ground Level  
Drilling Measured From Ground Level

Other Services  
dill  
Elevation  
K.B. -----  
D.F. -----  
G.L. 7716'

Date

6-08-07

Run Number

One

Depth Driller

2330'

Depth Logger

2332'

Bottom Logged Interval

2309'

Top Log Interval

Surface Casing

Casing Driller

8 5/8" @ 496'

Casing Logger

495'

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

8:30 A.M.

Time Logger on Bottom

11:45 A.M.

Maximum Recorded Temperature

111 DEG F

Equipment Number

T697

Location

Trinidad

Recorded By

M. Norton

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

Density Neutron Porosity Presented On Sandstone Matrix.

ABHV Calculated For 5 1/2" Casing

Well Directions:

First Bosque entrance just before Weston, first right at Cherry Canyon, stay left at Y, stay on main road approx. four and half miles, take road to right, last location.



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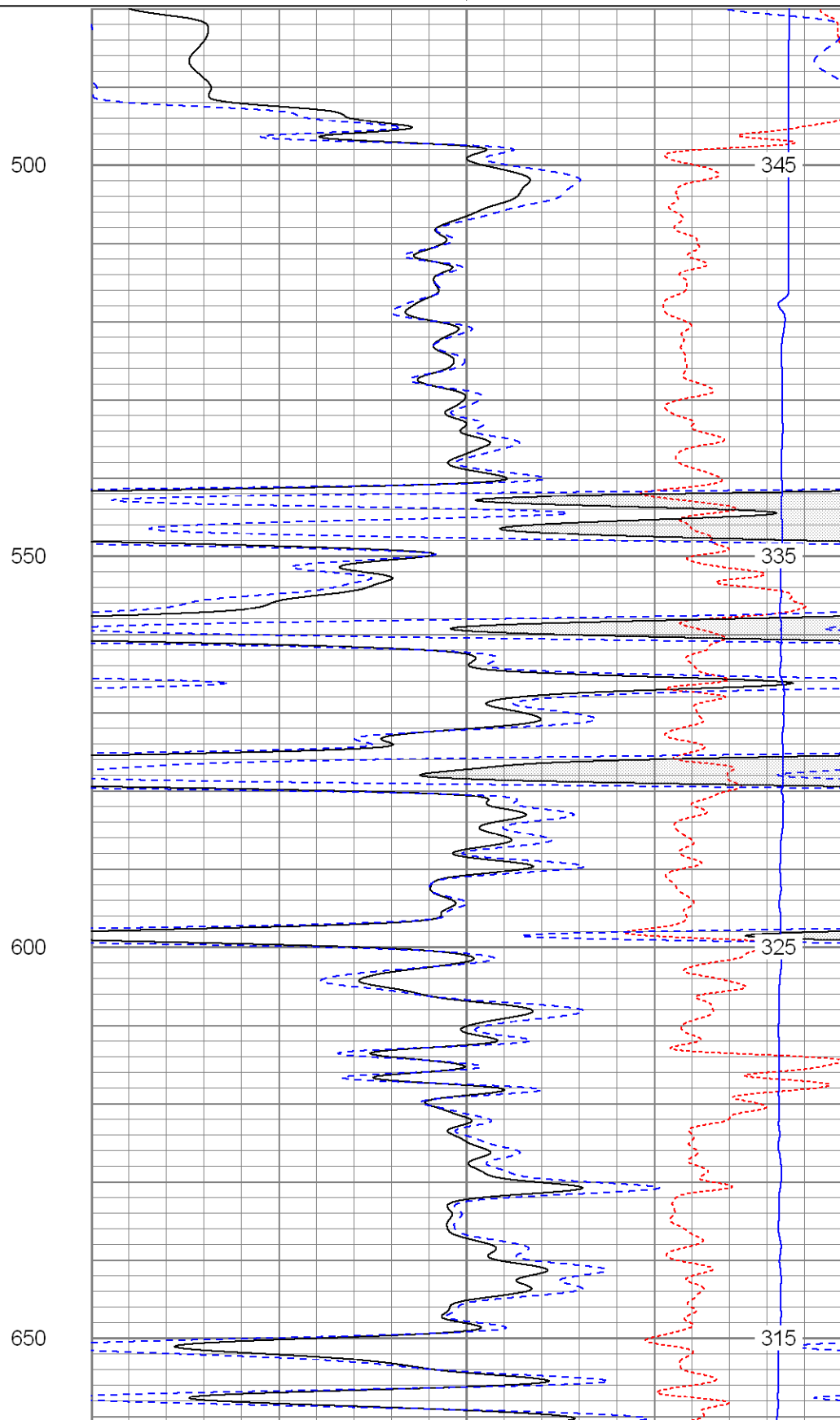
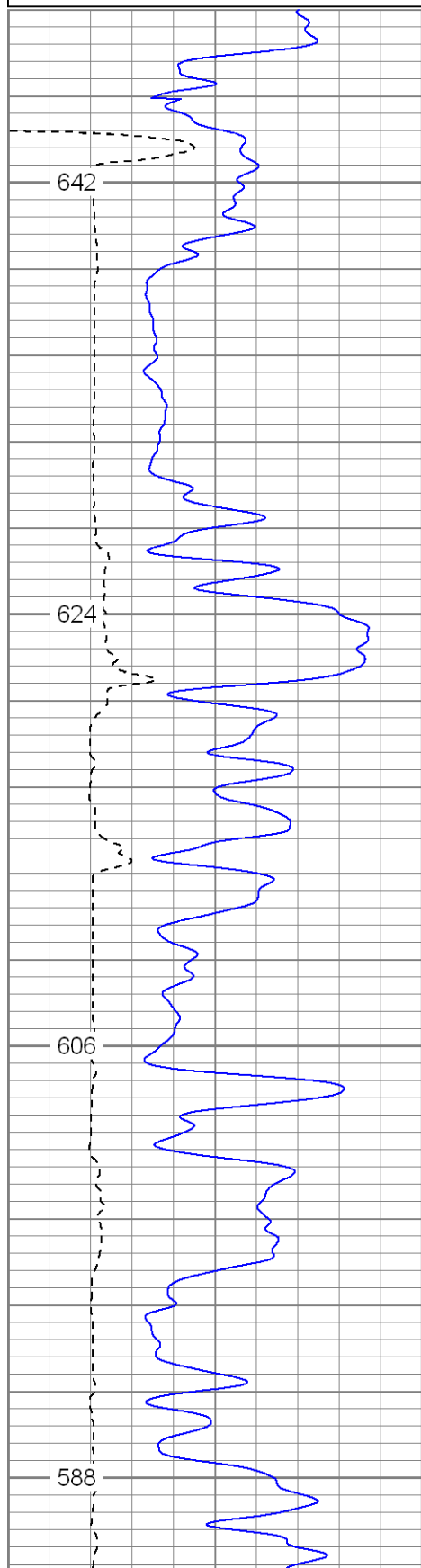
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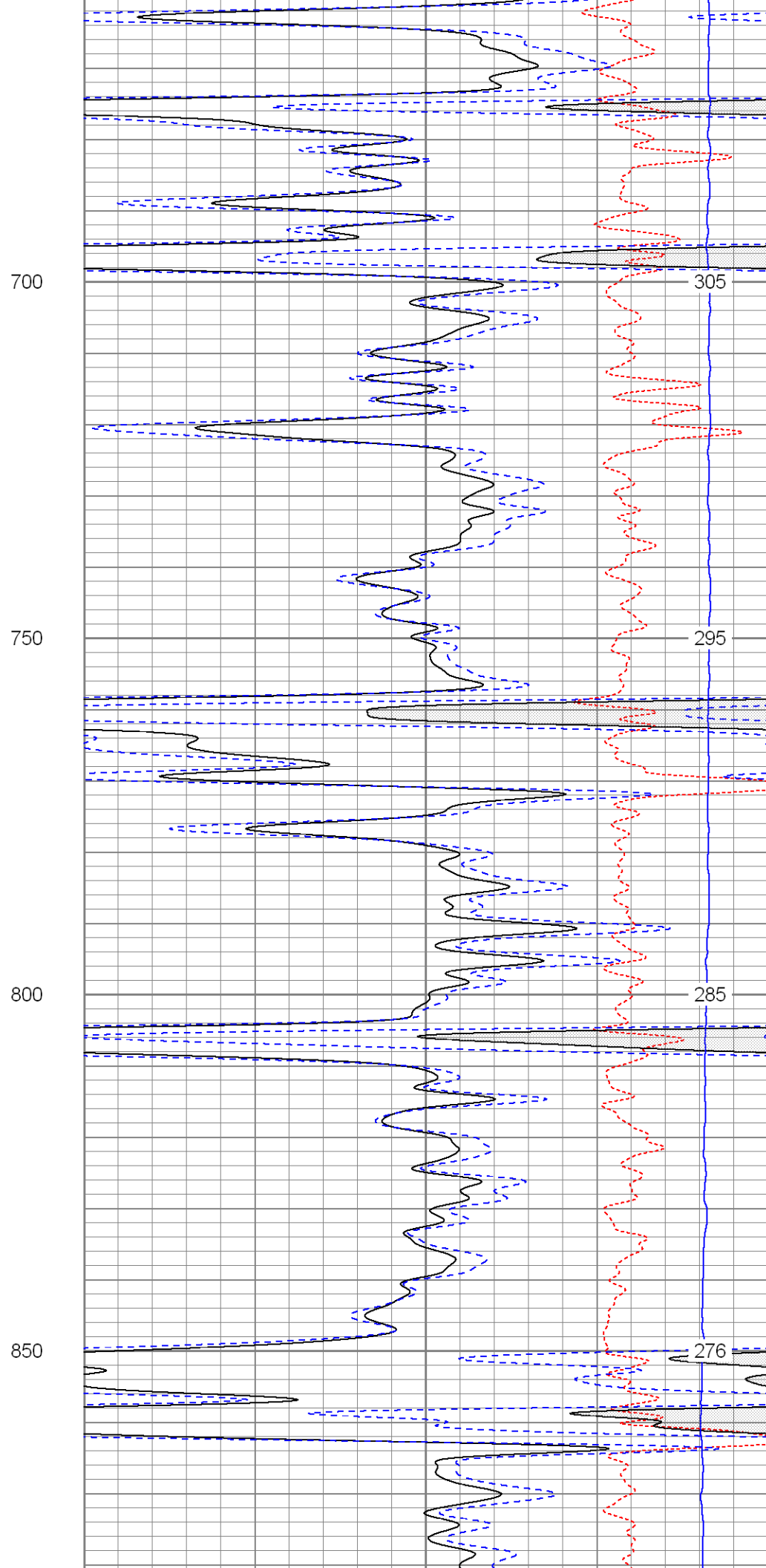
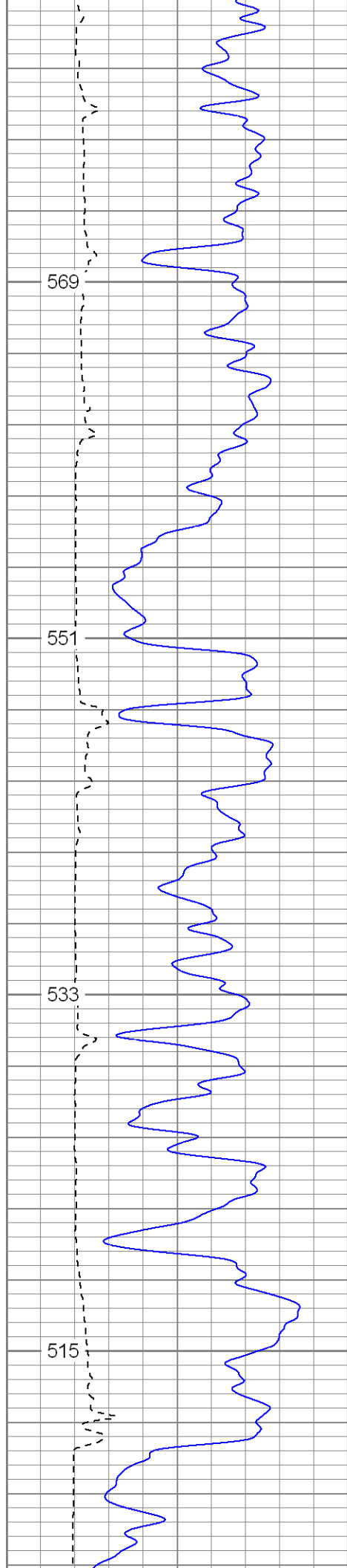
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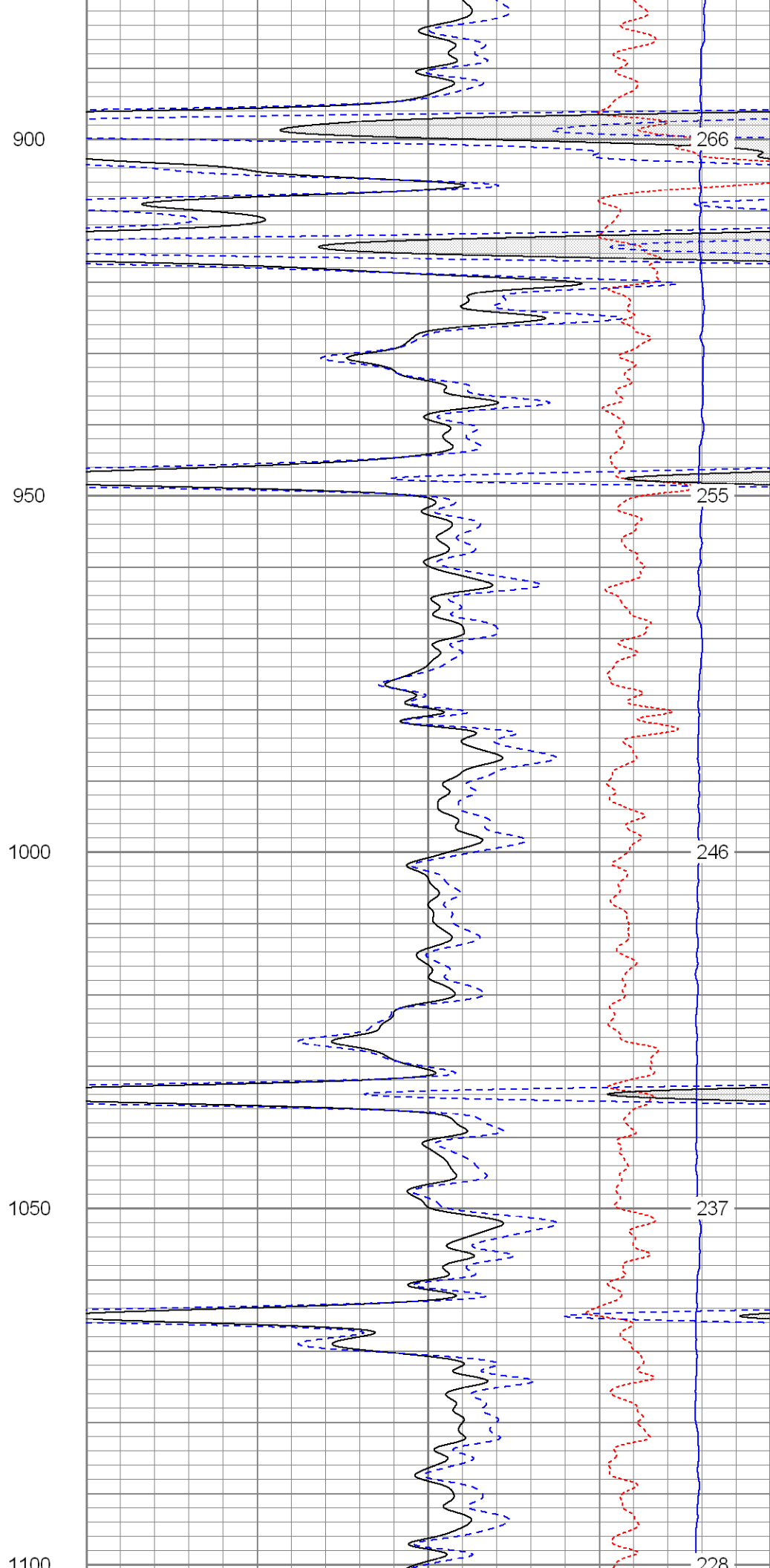
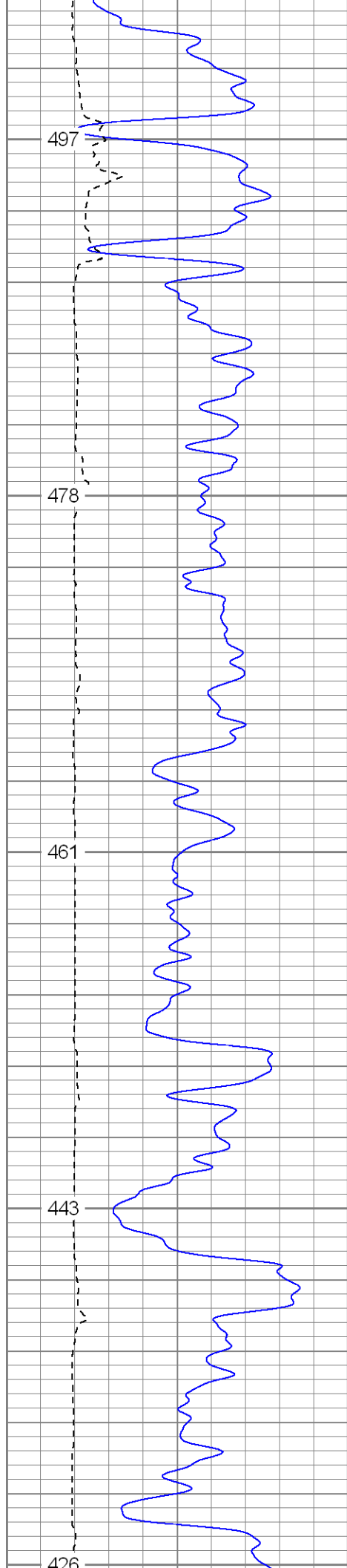
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Charted by: Depth in Feet scaled 1:240

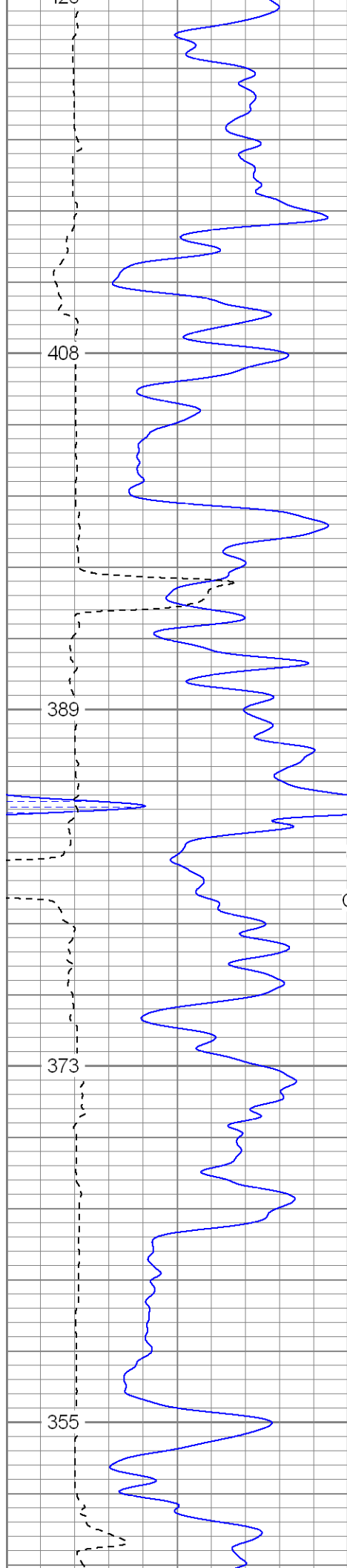
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6	DCAL (in)	16

1	RHOB (g/cc)	2
30	DPOR (pu)	-10
-0.5	RHOC (g/cc)	0.5
4000	LTEN (lb)	0



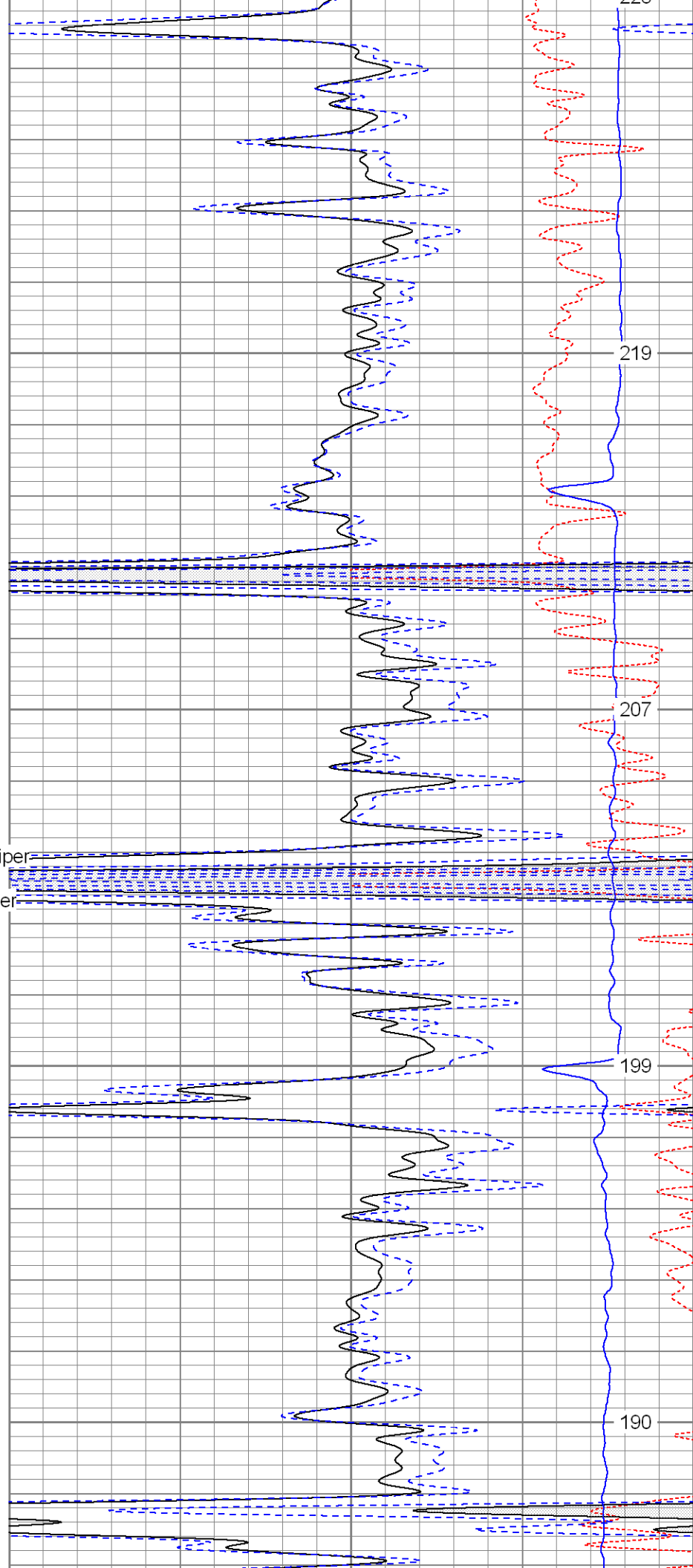


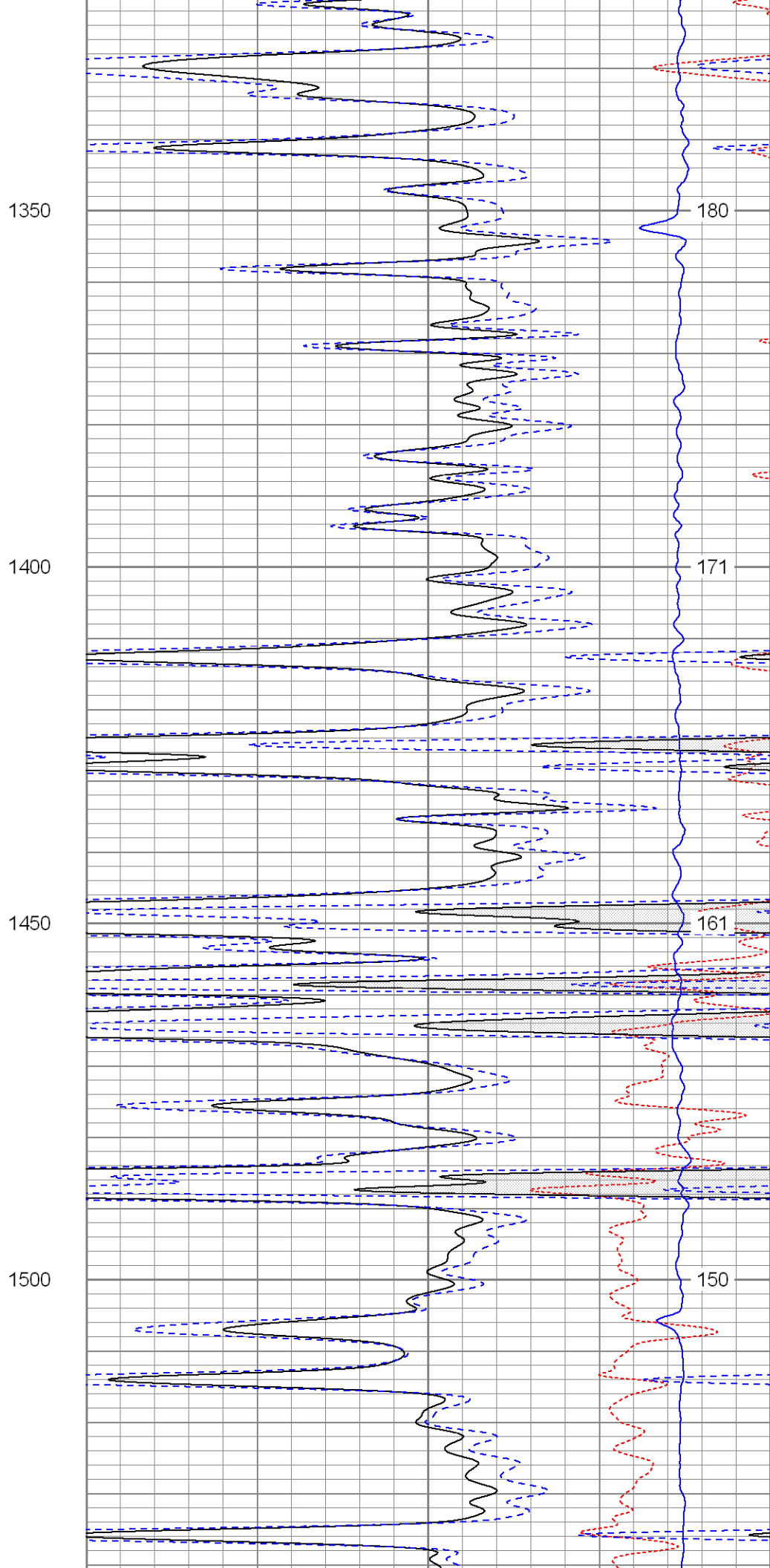
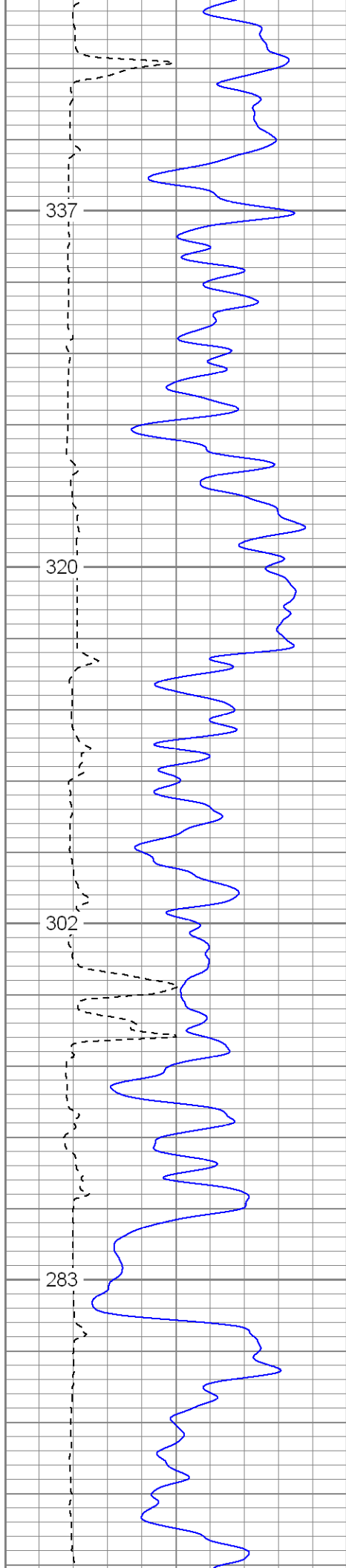


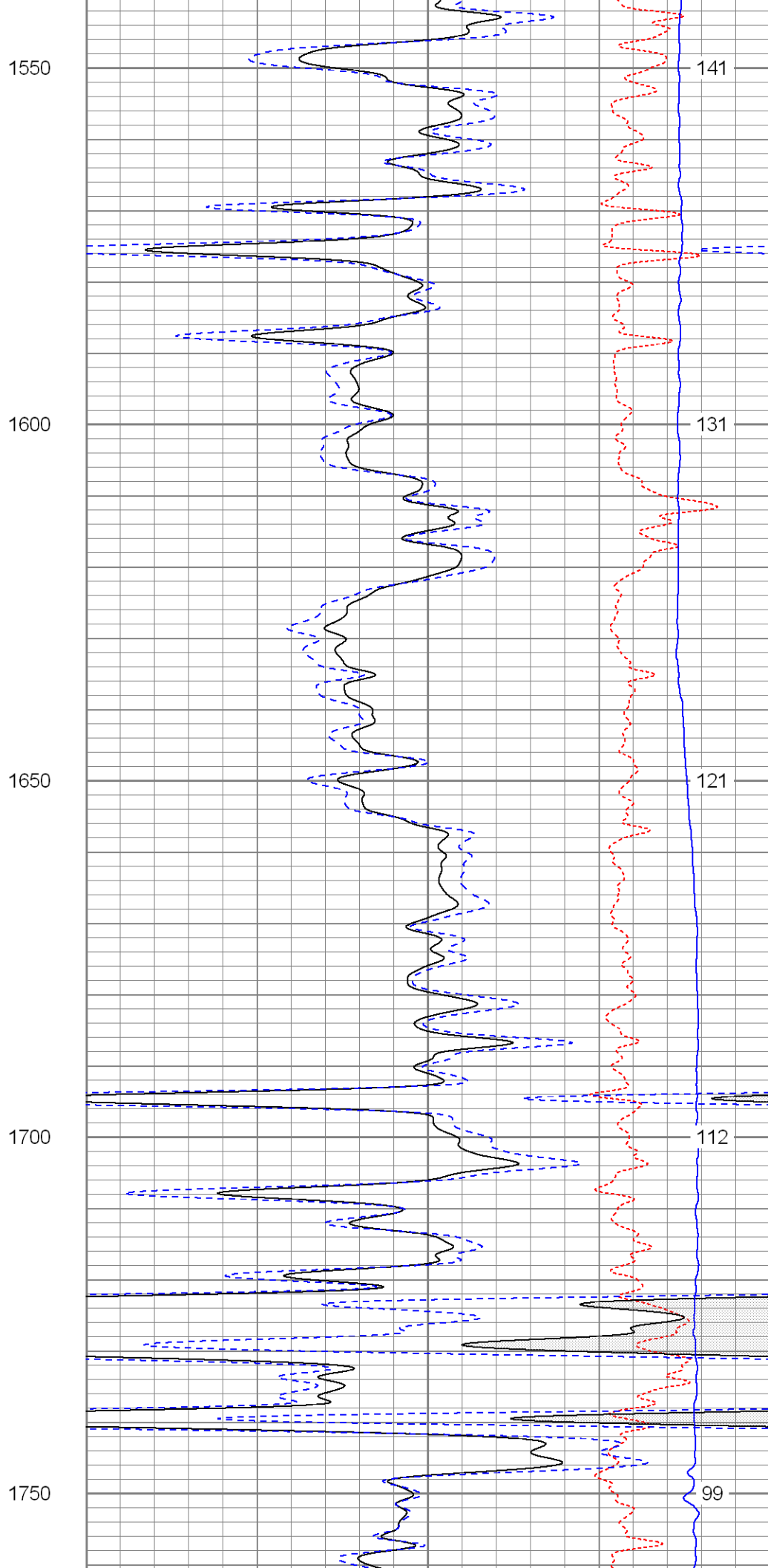
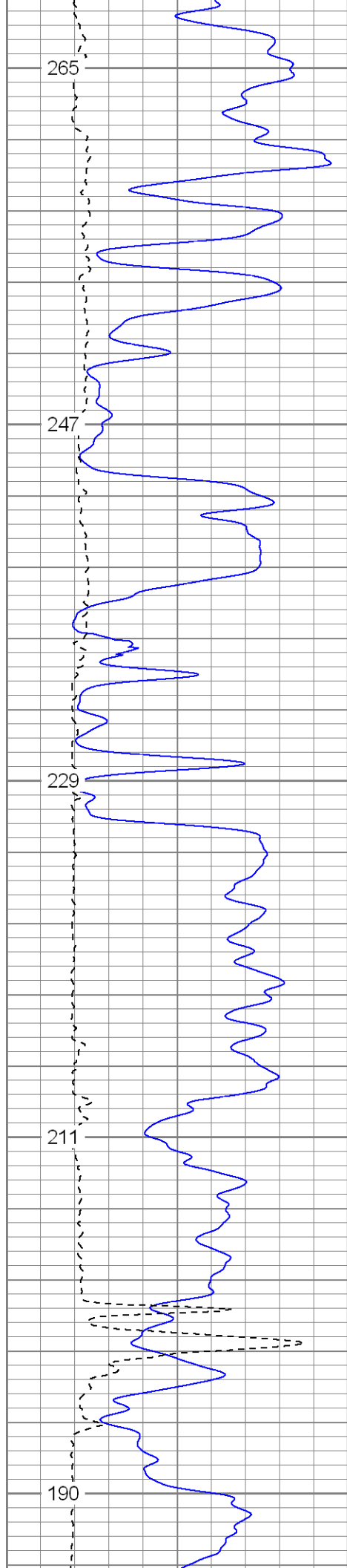


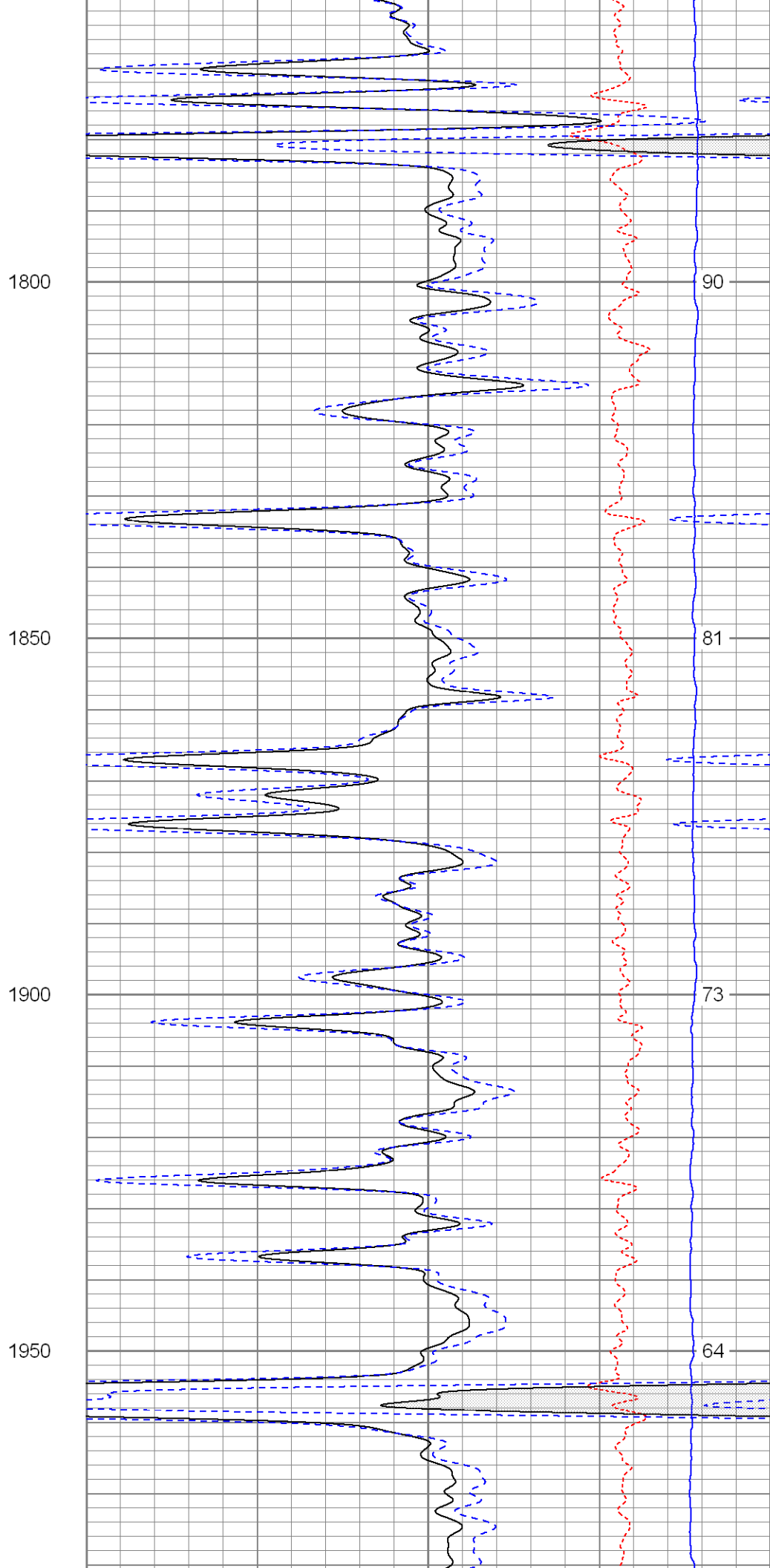
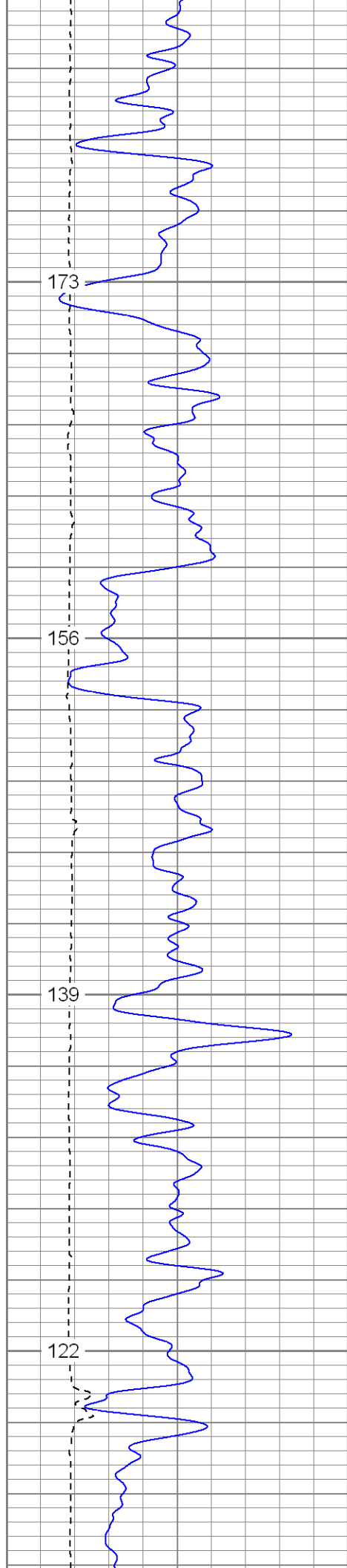
1100  
1150  
1200  
1250  
1300

Opened Caliper  
Closed Caliper

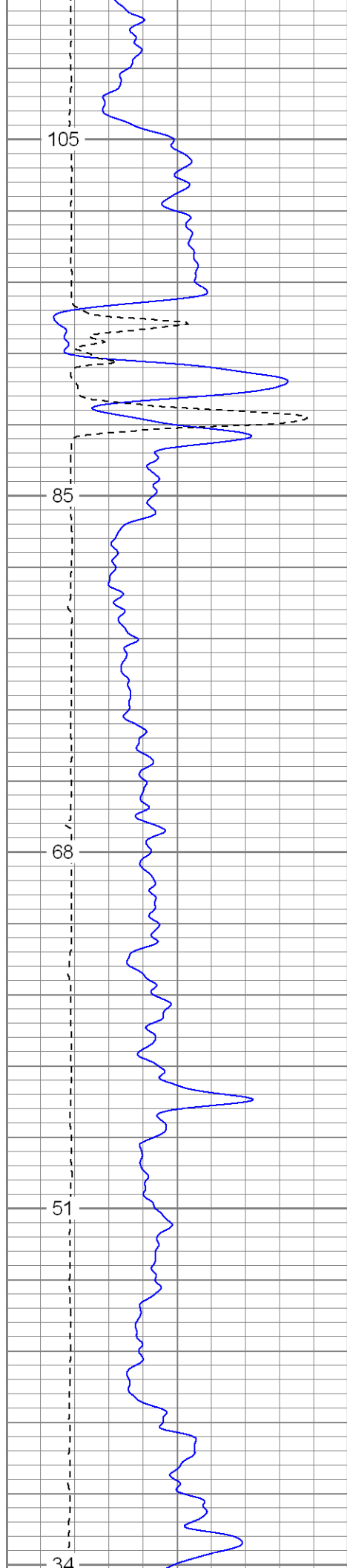












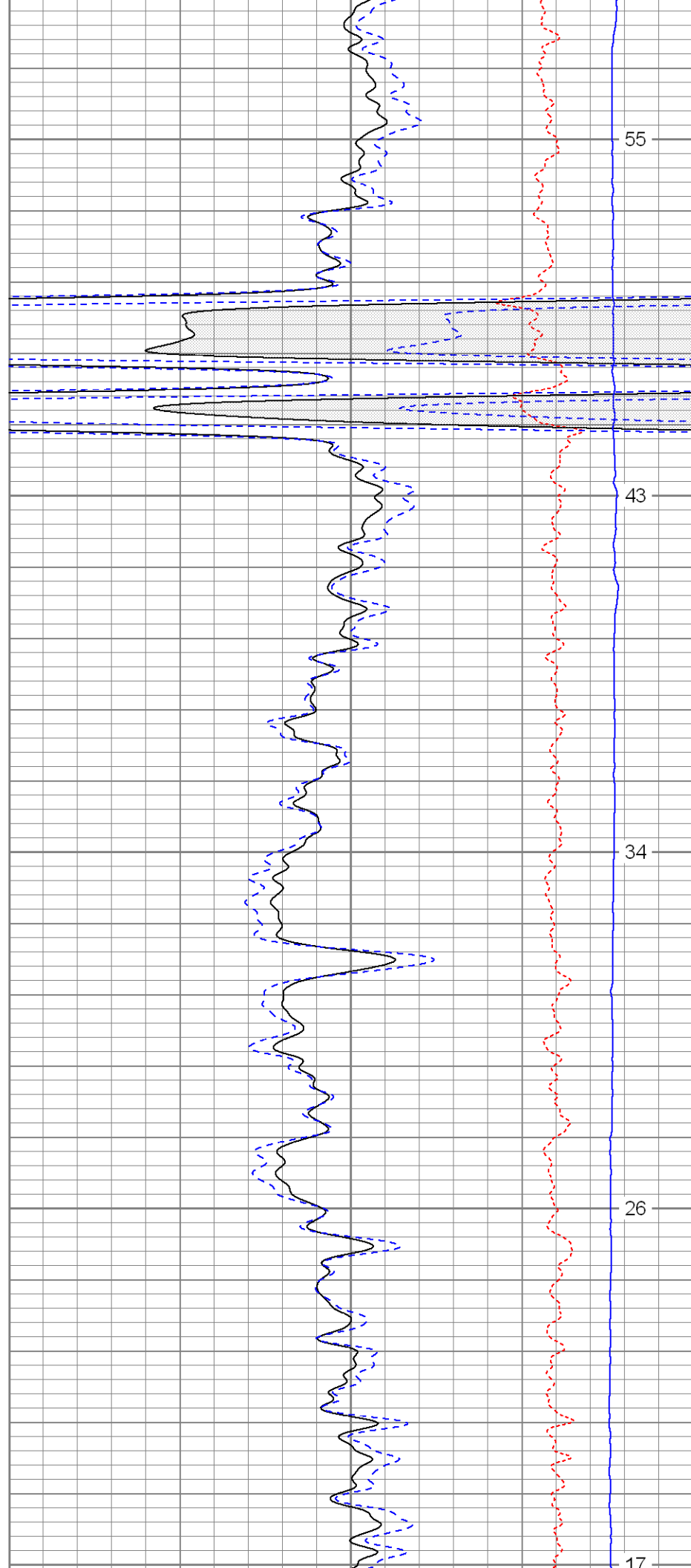
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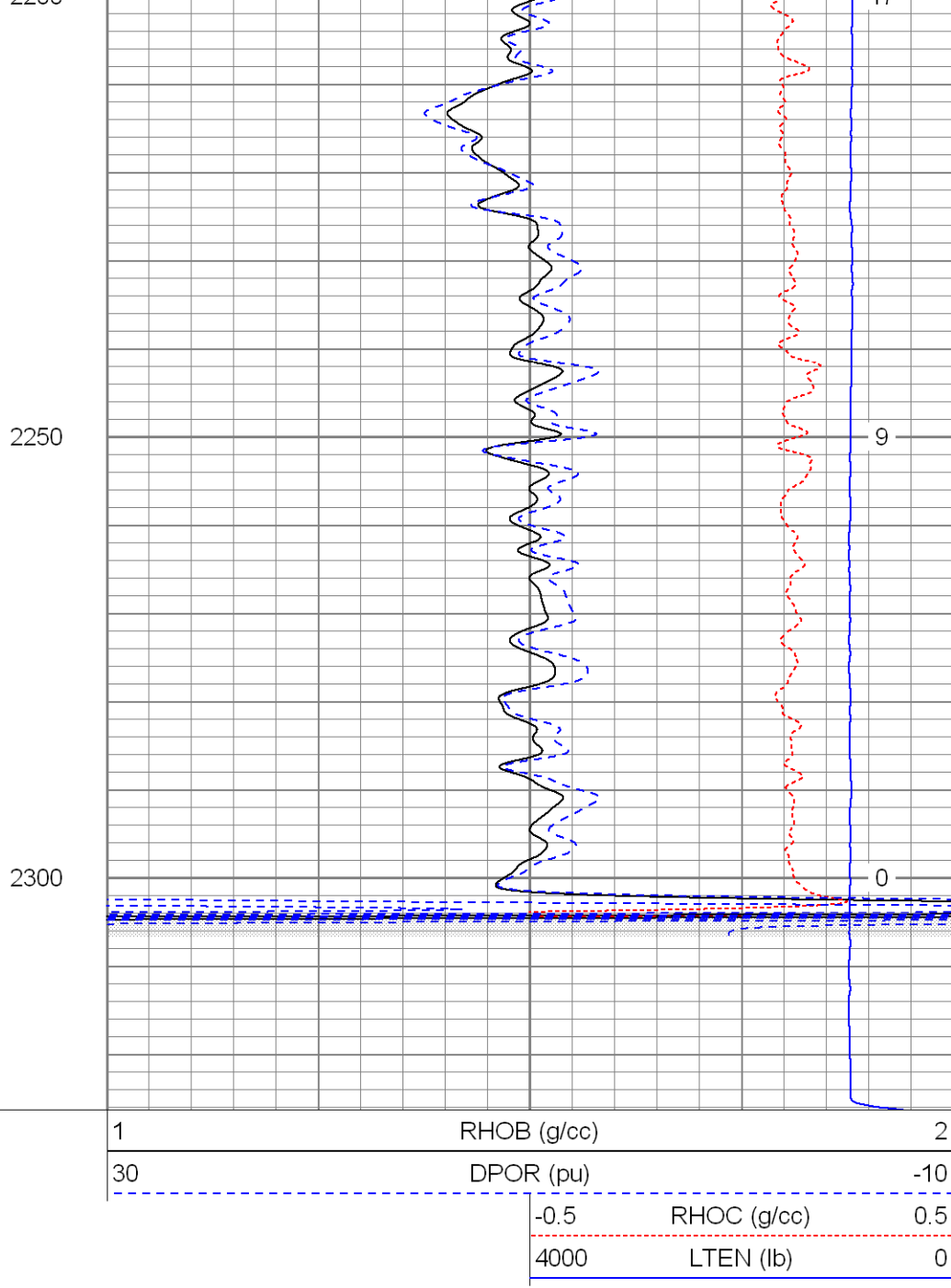
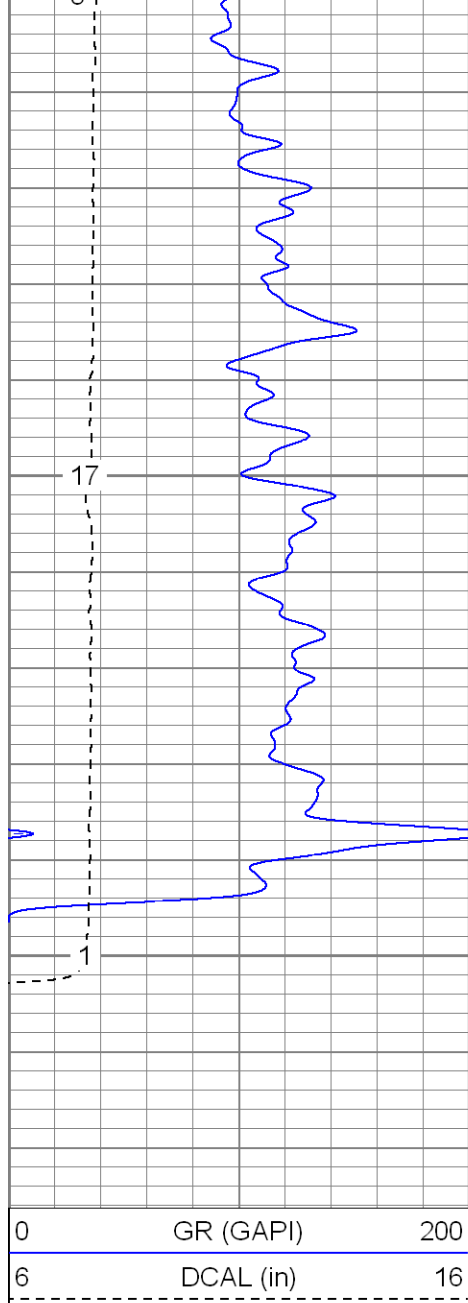
2050

2100

2150

2200





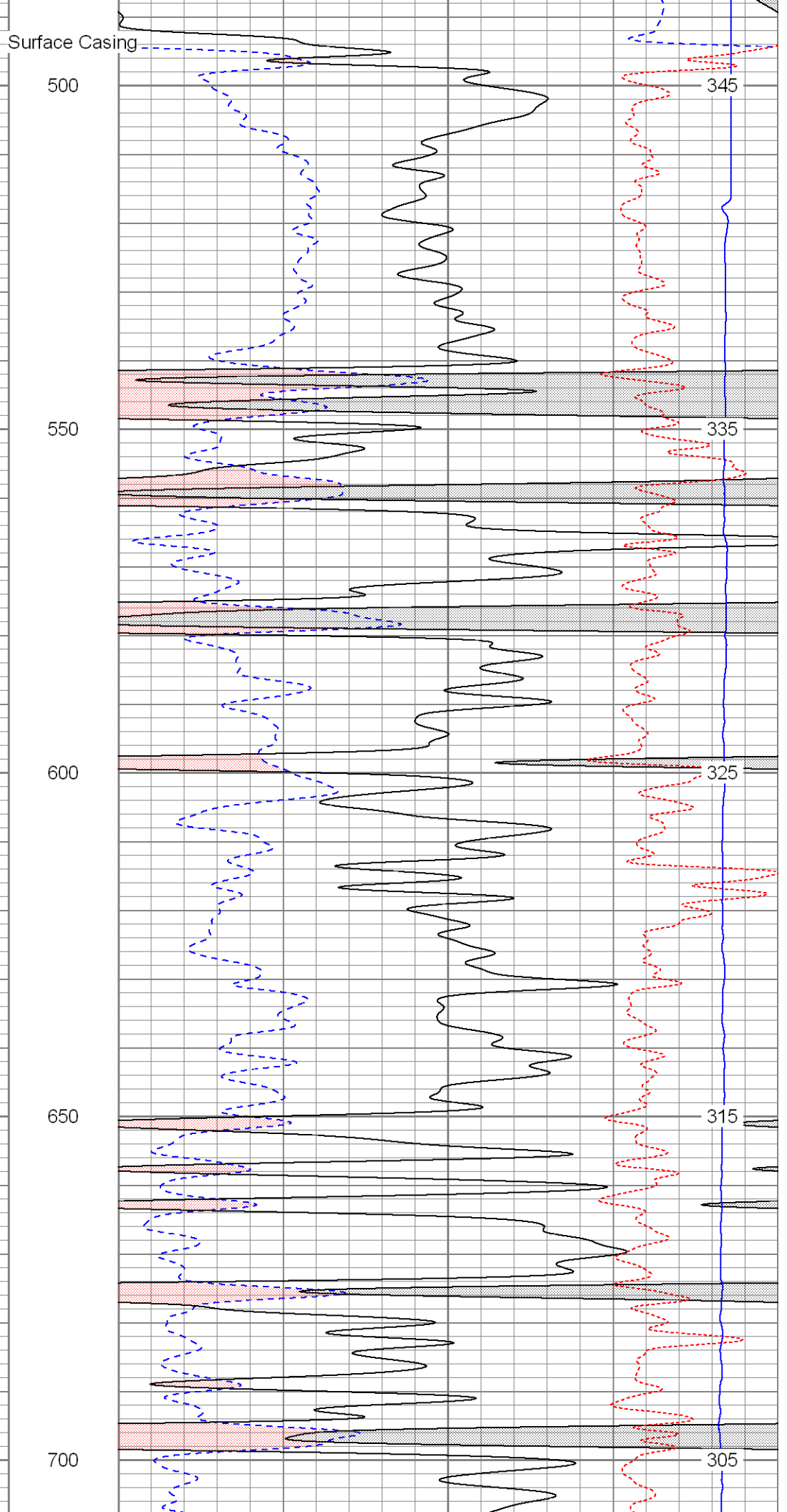
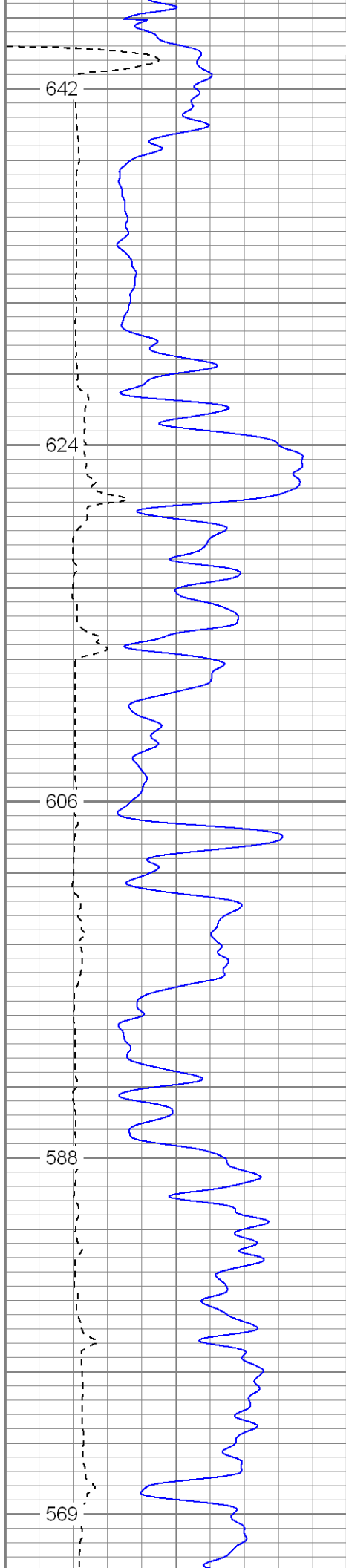
**SUPERIOR**

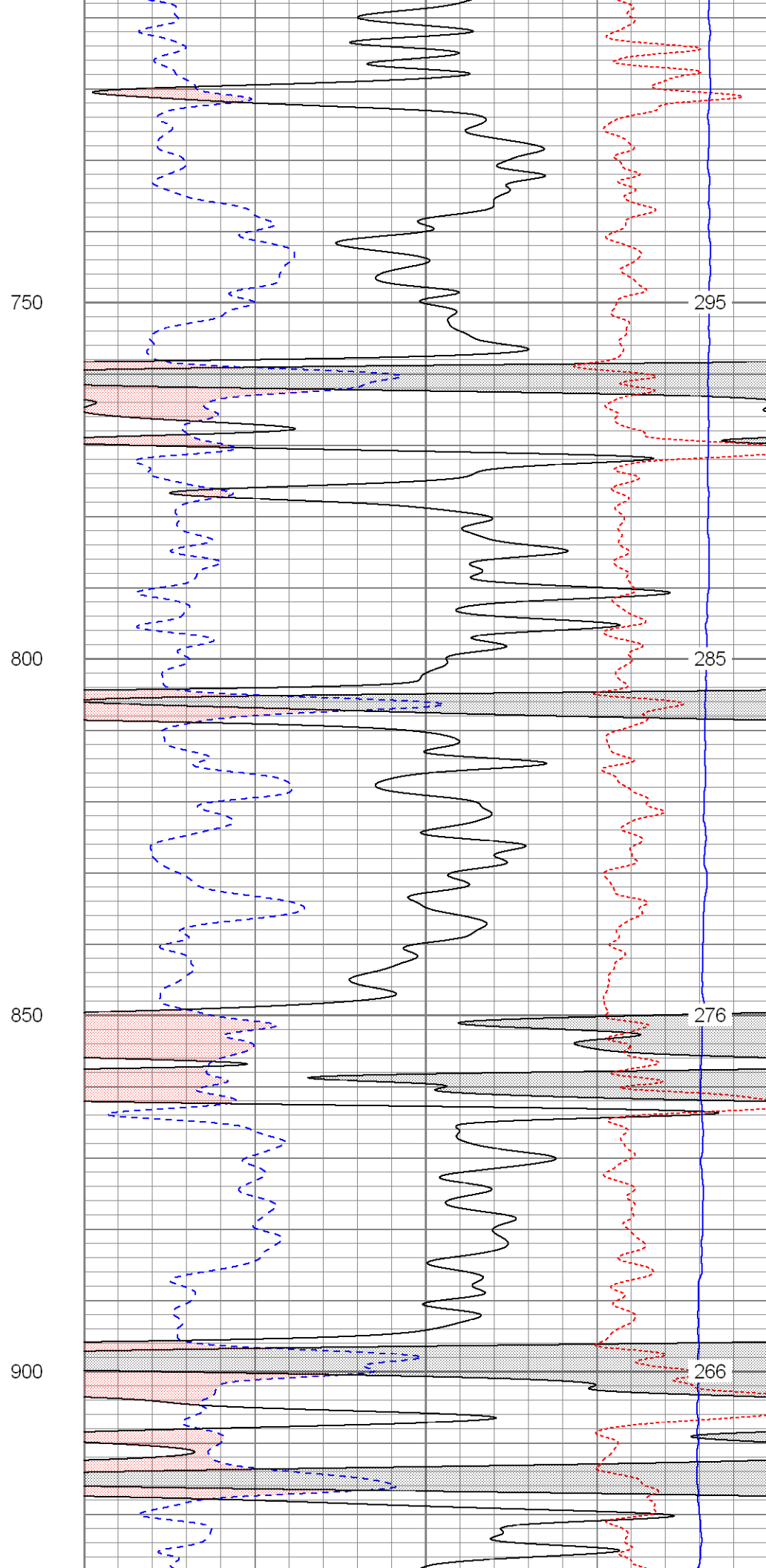
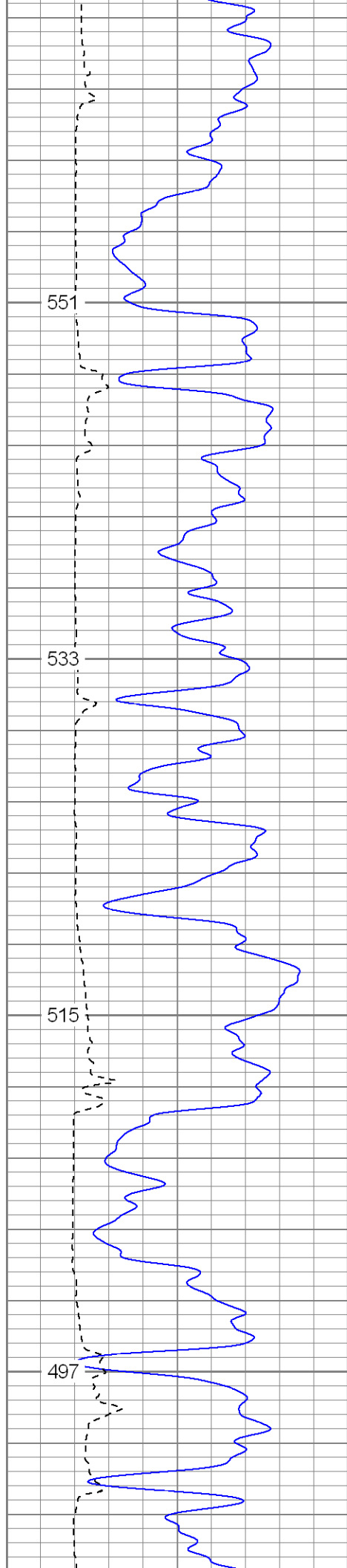
Black Lick, Pa.  
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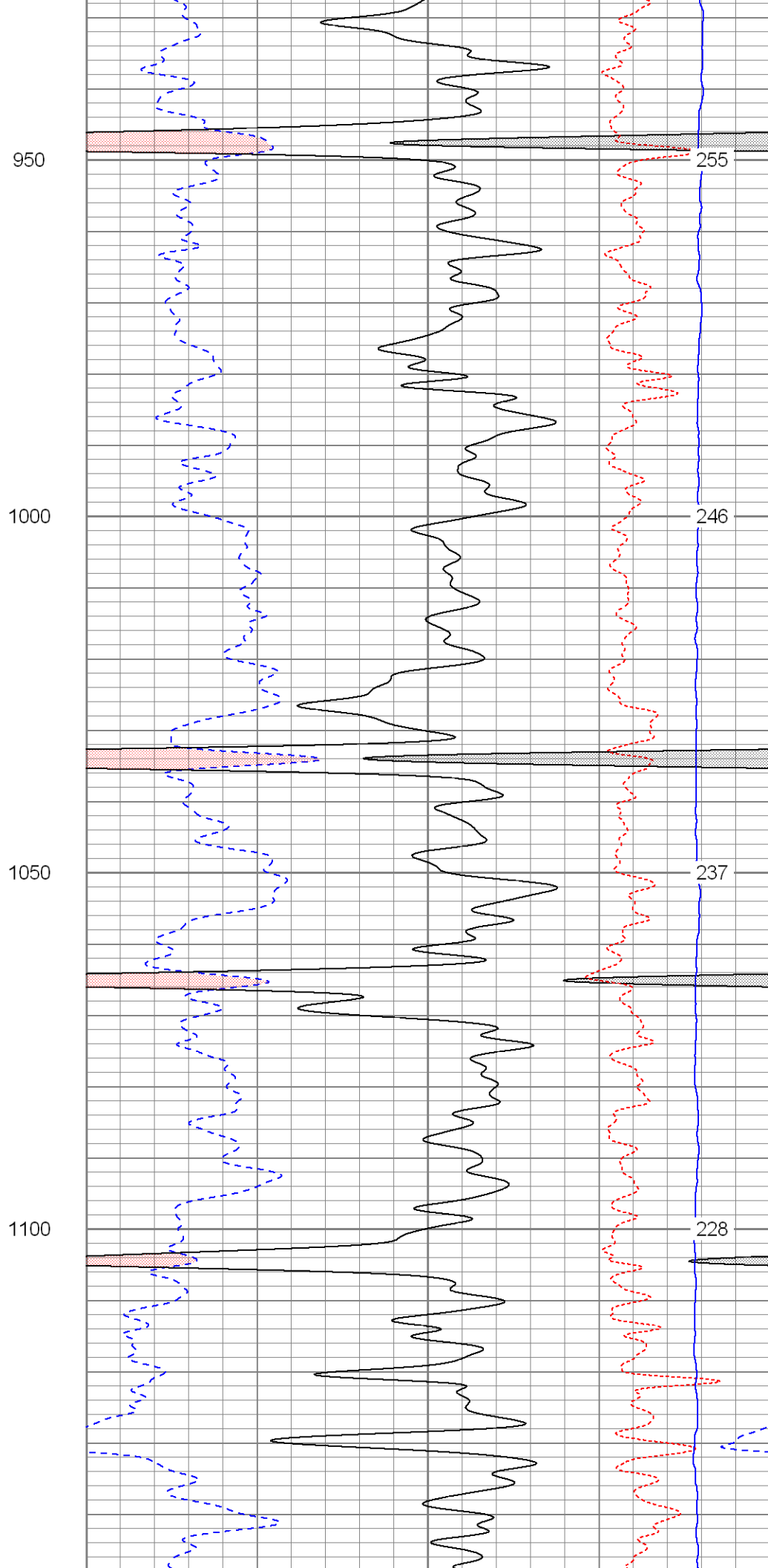
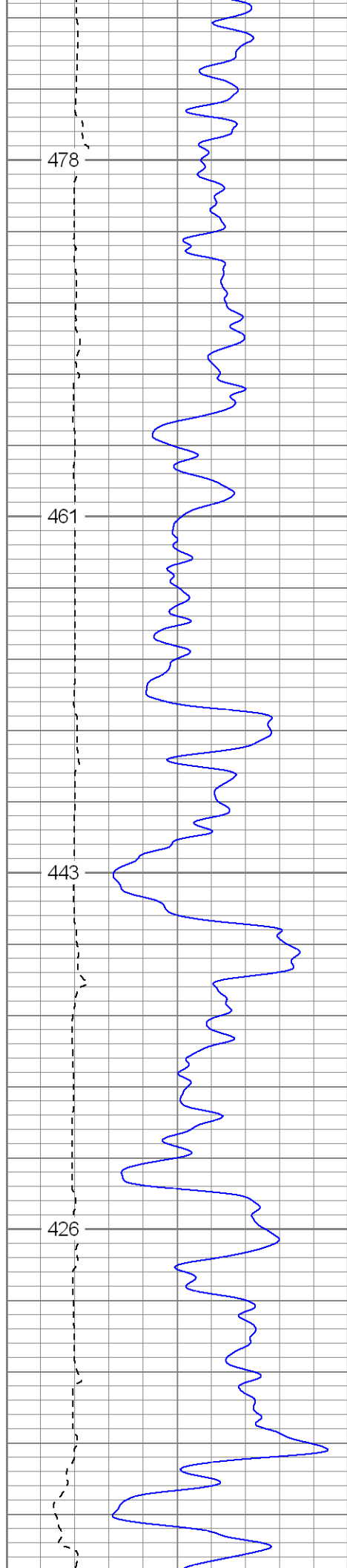
# Main Pass

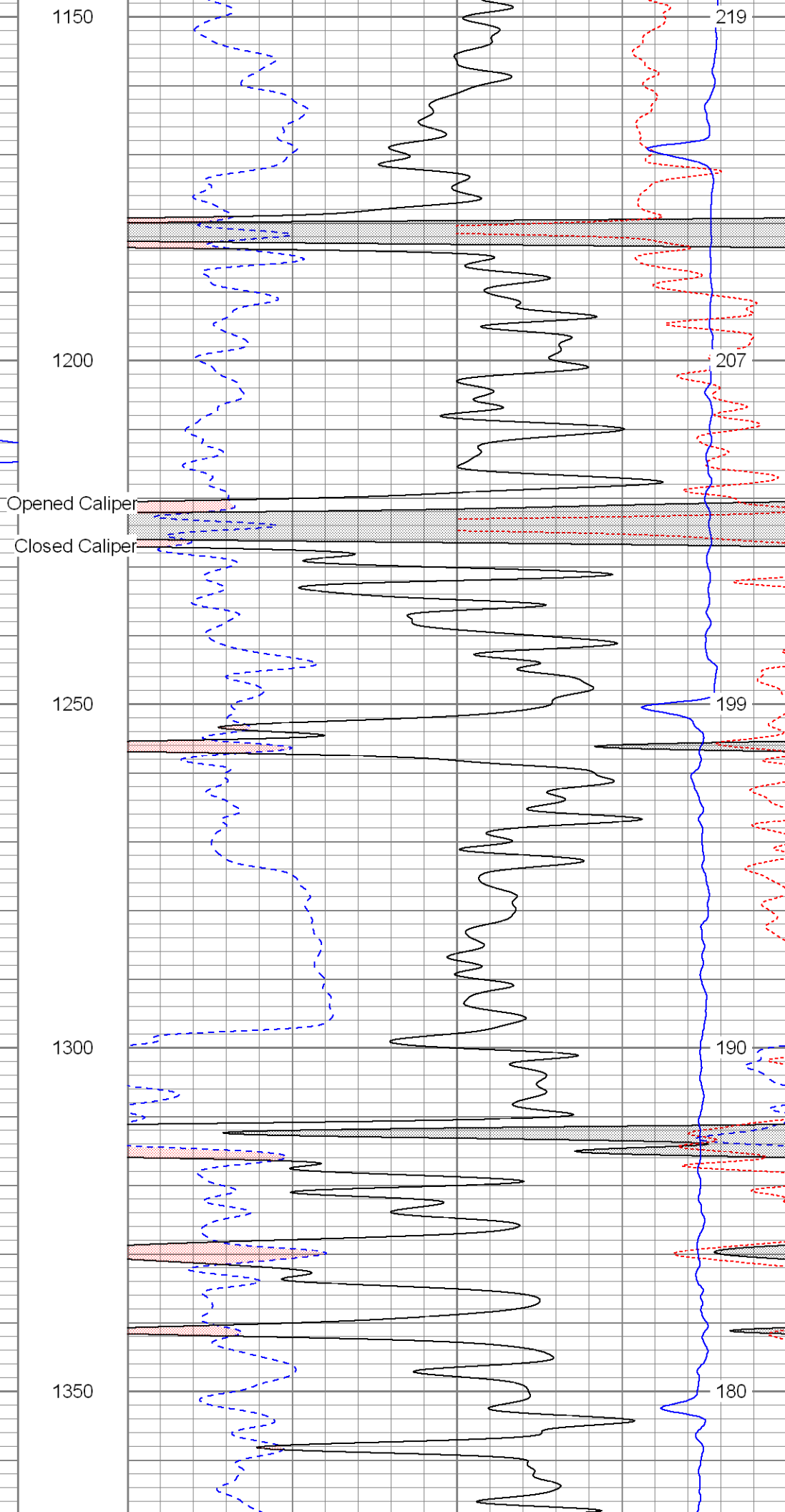
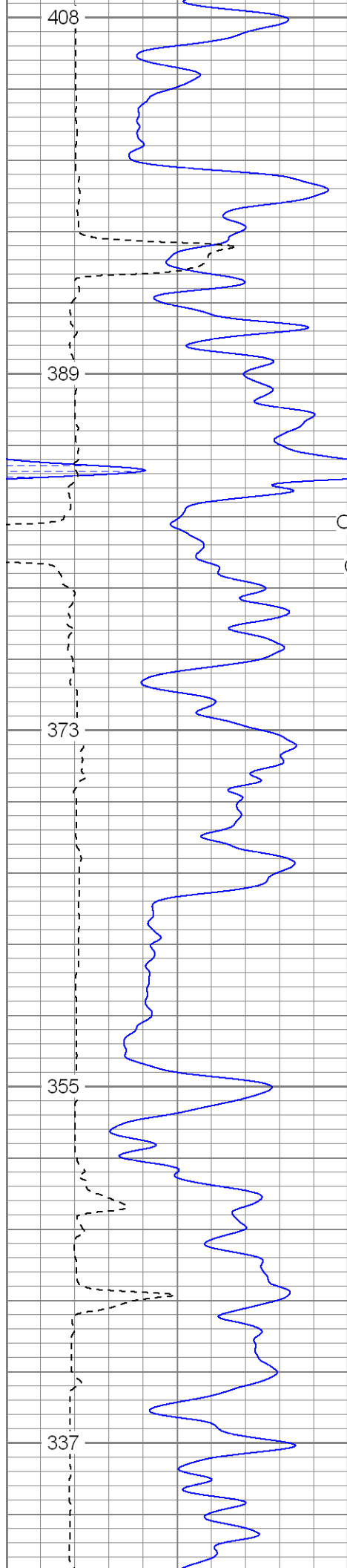
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Presentation Format: cdnl  
Dataset Creation: Fri Jun 08 13:33:49 2007 by Calc Open-Cased 061129  
Charted by: Depth in Feet scaled 1:240

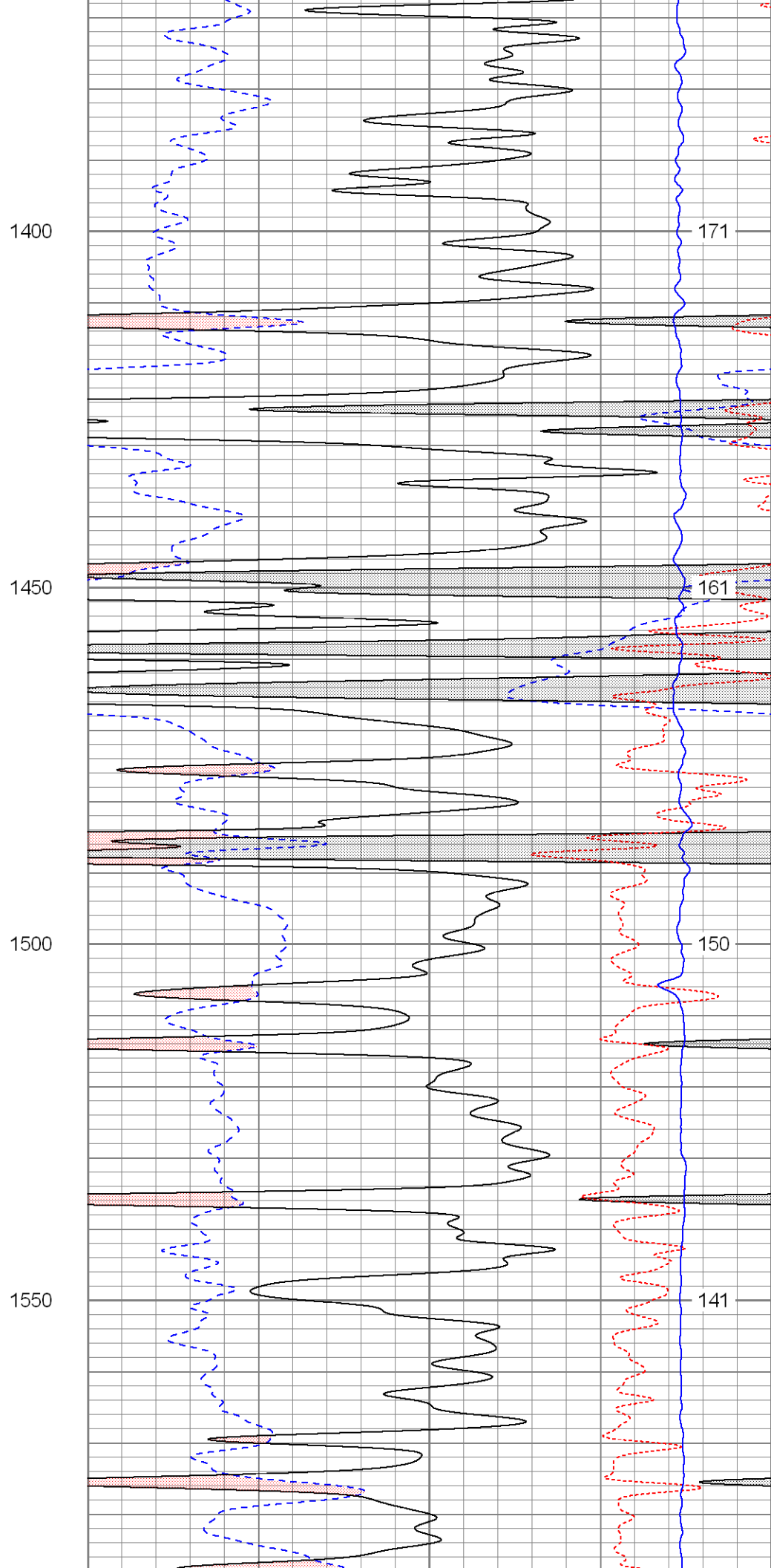
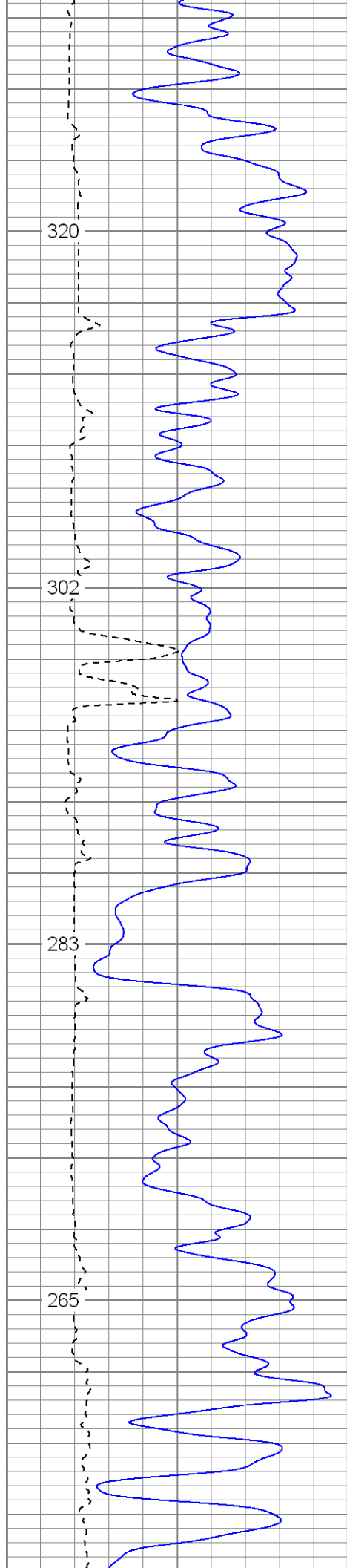
0	GR (GAPI)	200	30	NPOR (pu)	-10
6	DCAL (in)	16	30	DPOR (pu)	-10
			-0.5	RHOC (g/cc)	0.5
			4000	LTEN (lb)	0

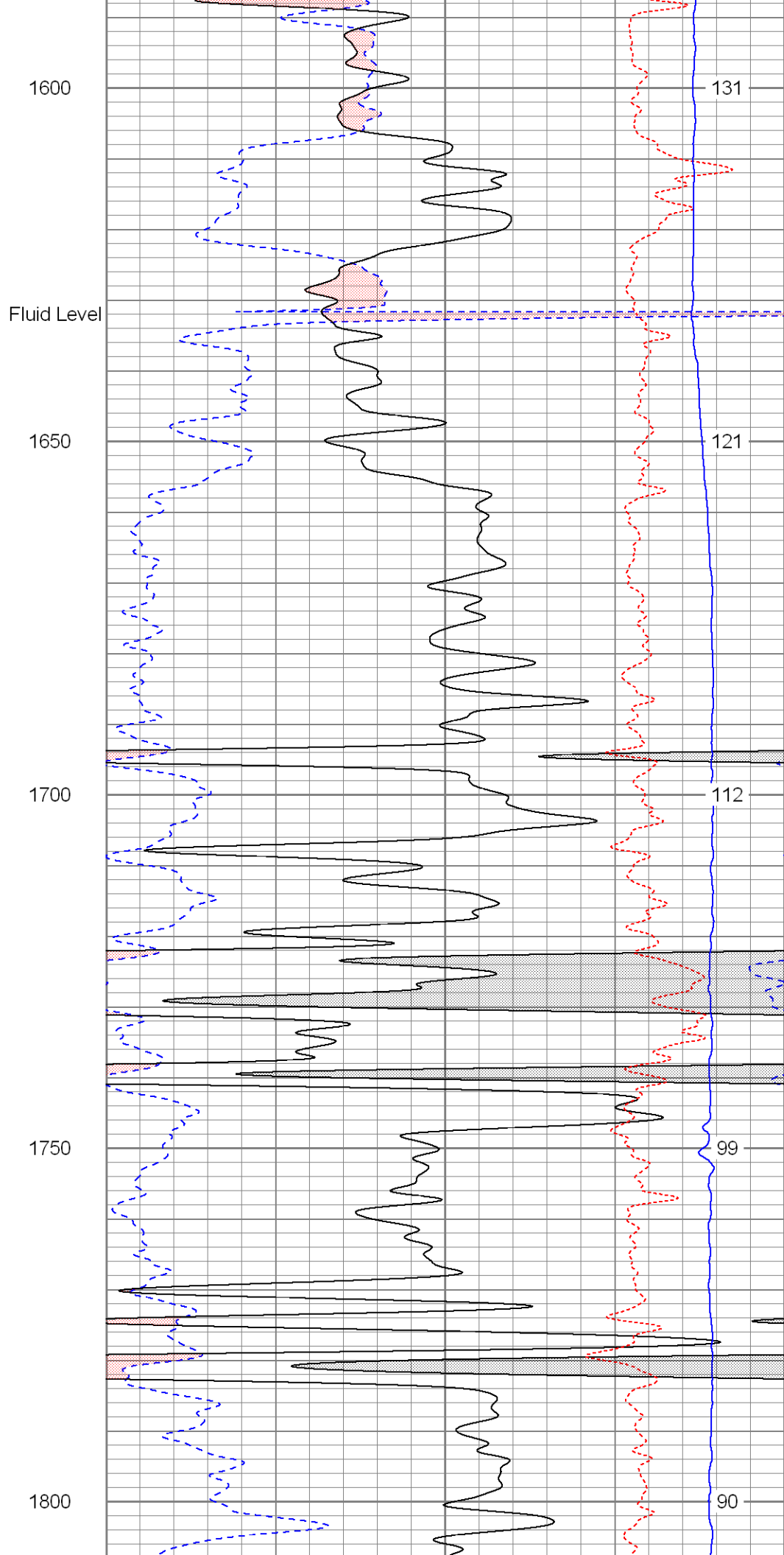
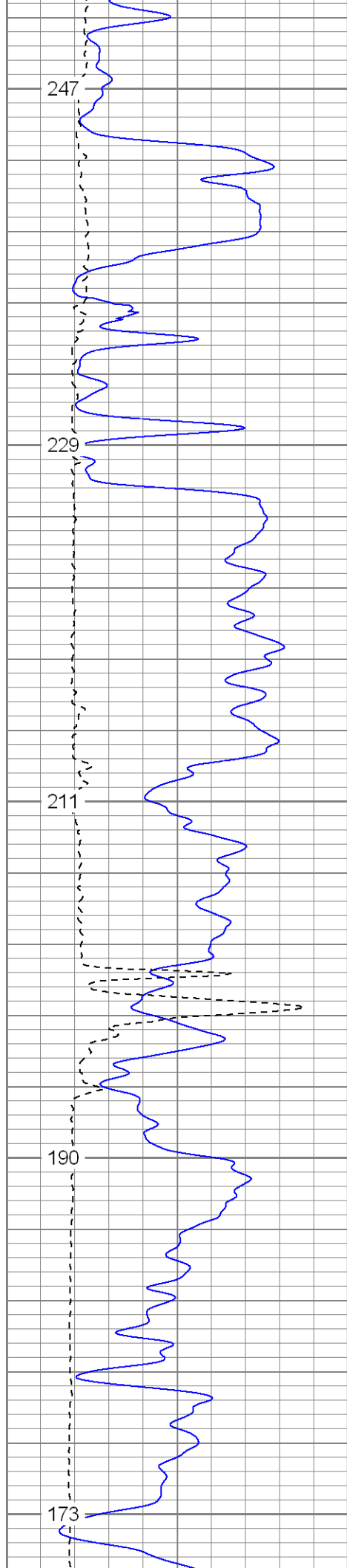




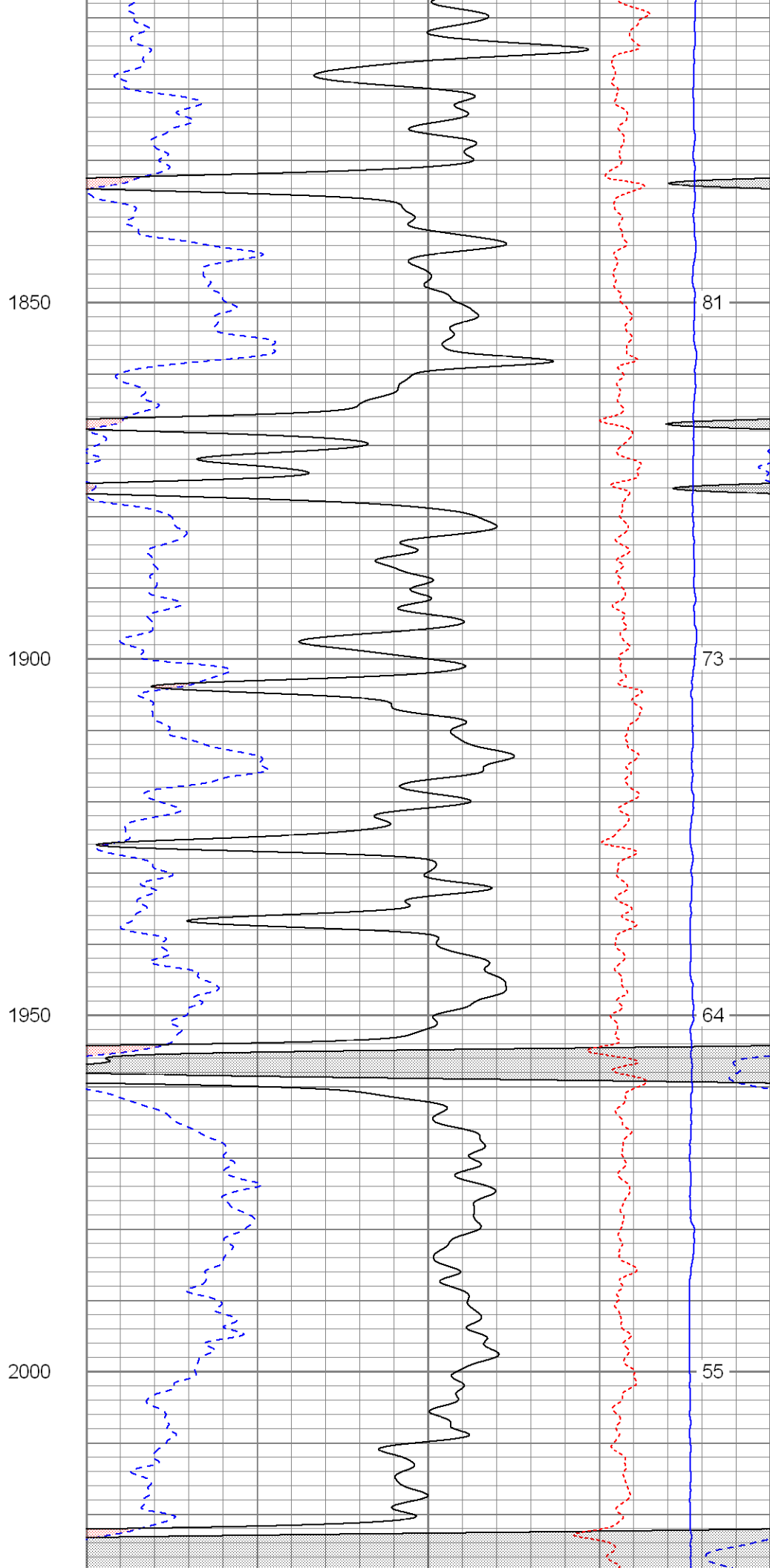
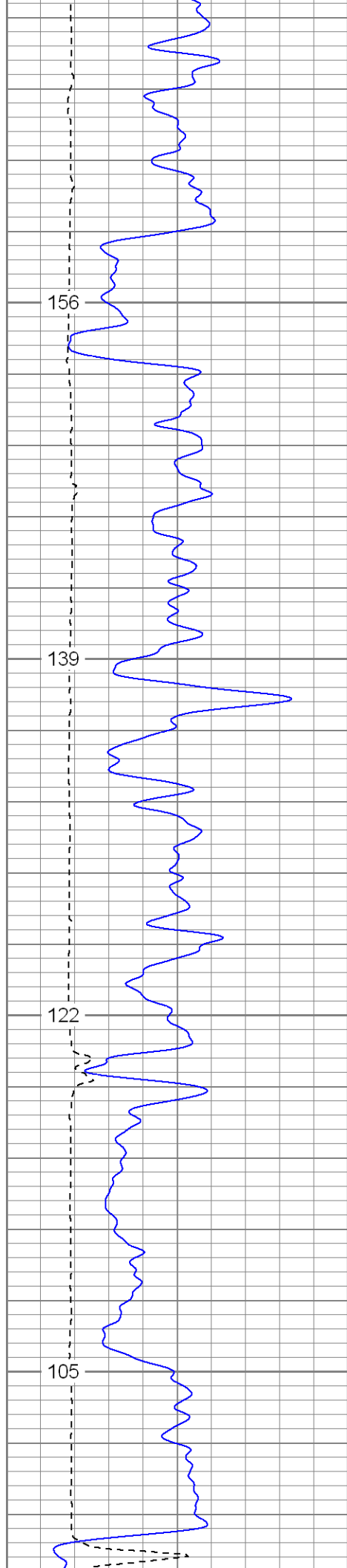


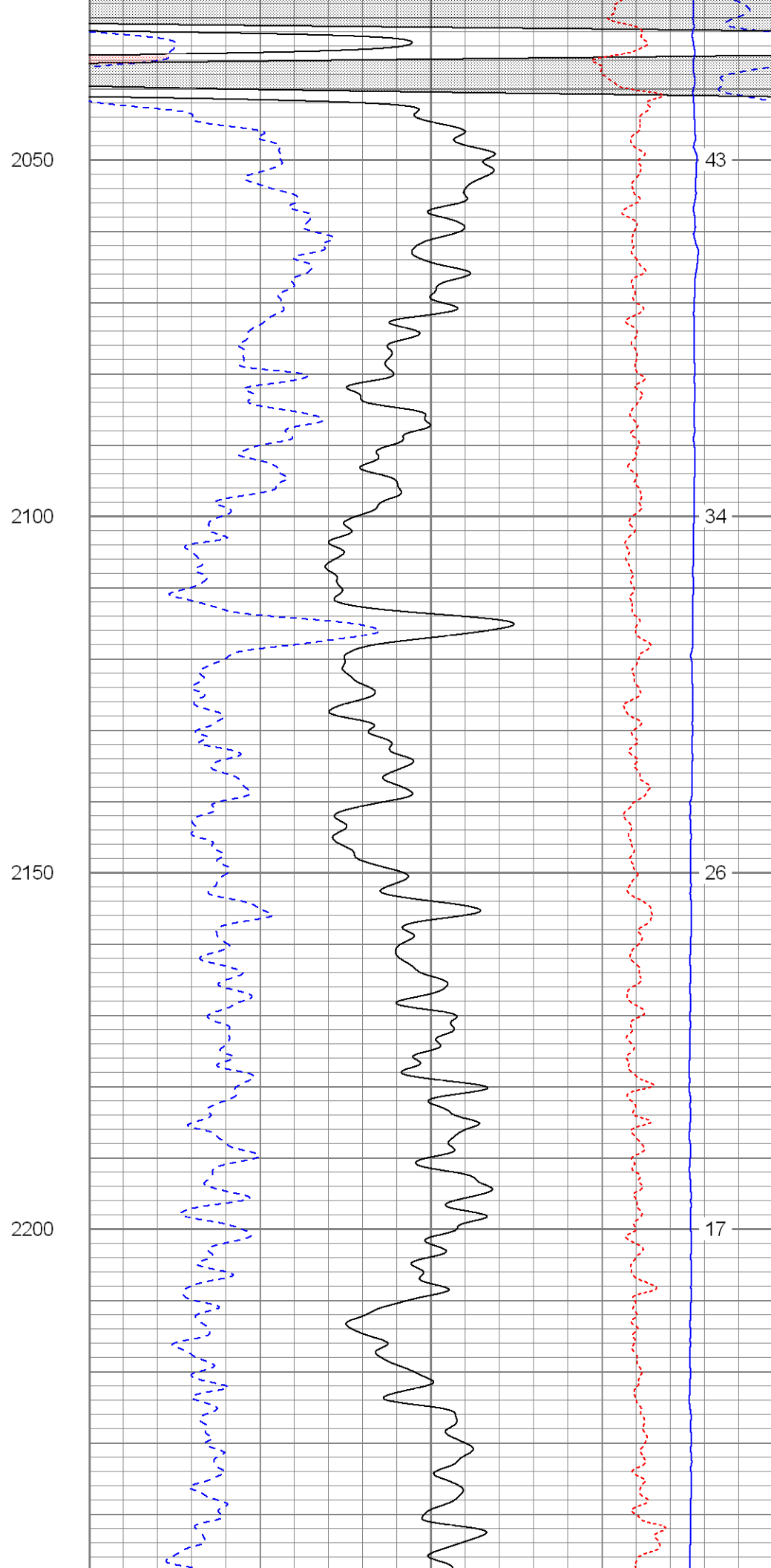
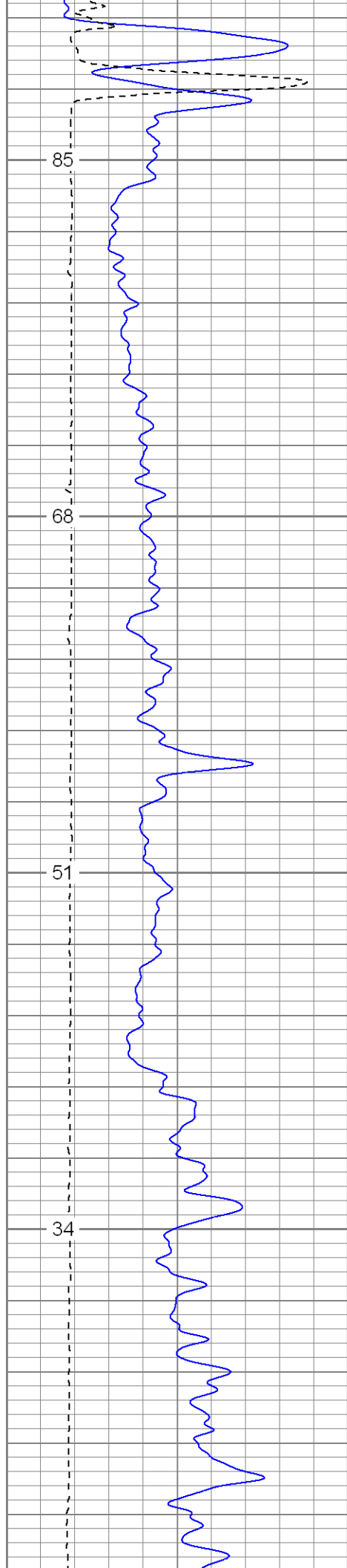


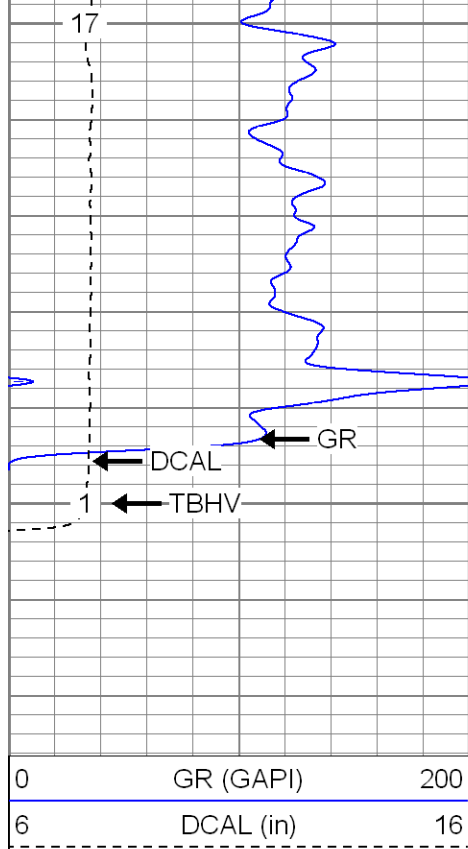




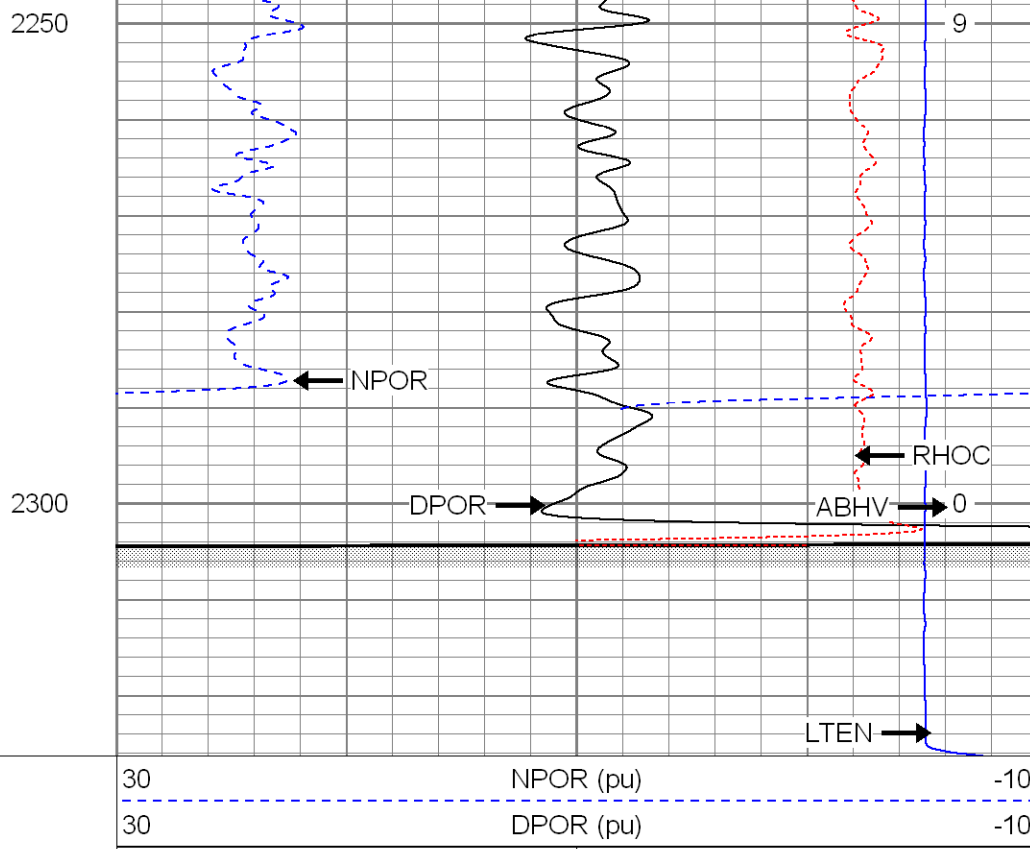








0	GR (GAPI)	200
6	DCAL (in)	16



30	NPOR (pu)	-10
30	DPOR (pu)	-10
-0.5	RHOC (g/cc)	0.5
4000	LTEN (lb)	0



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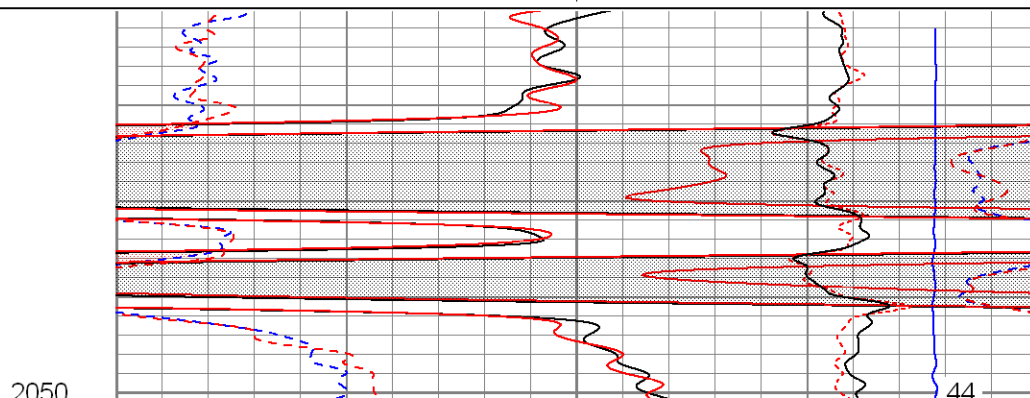
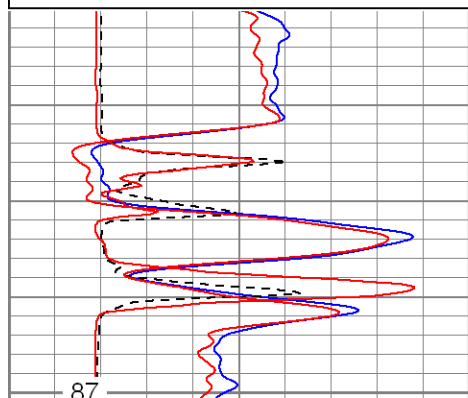
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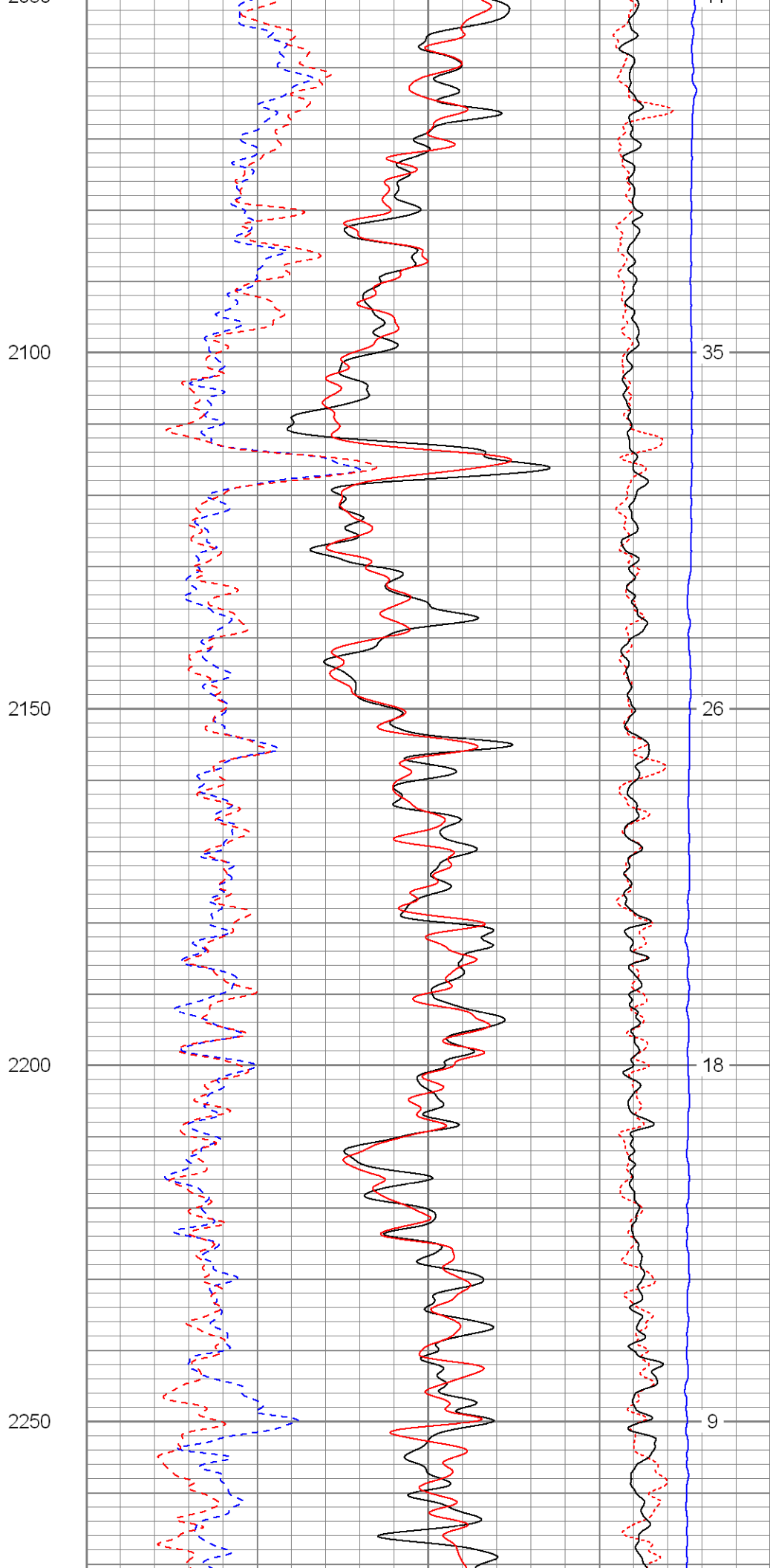
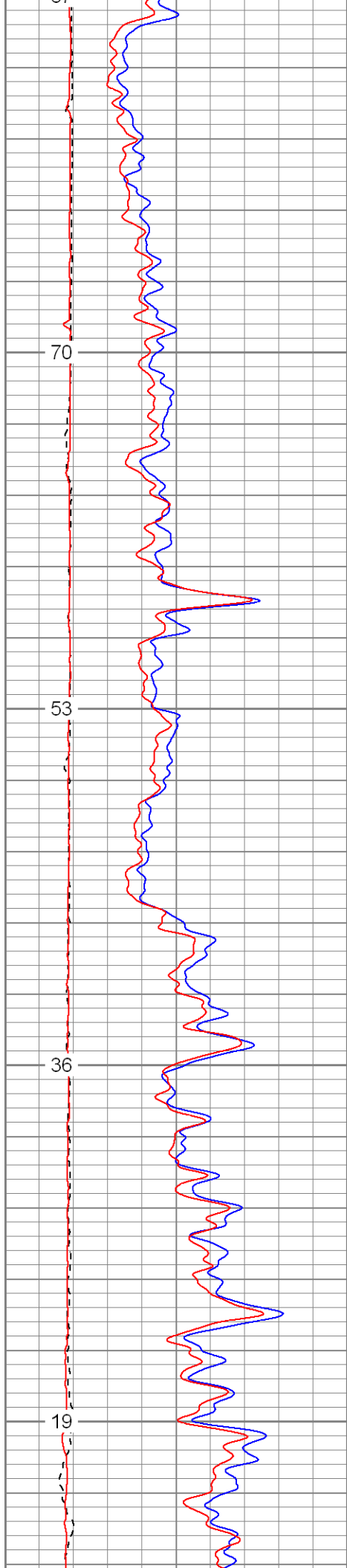
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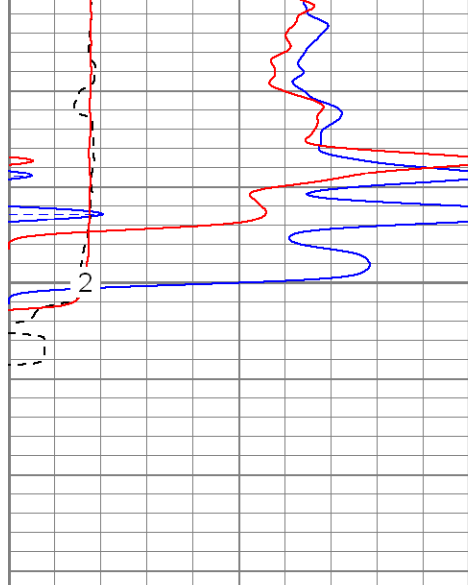
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Presentation Format: cdnl  
Dataset Creation: Fri Jun 08 13:32:34 2007 by Calc Open-Cased 061129  
Charted by: Depth in Feet scaled 1:240

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

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

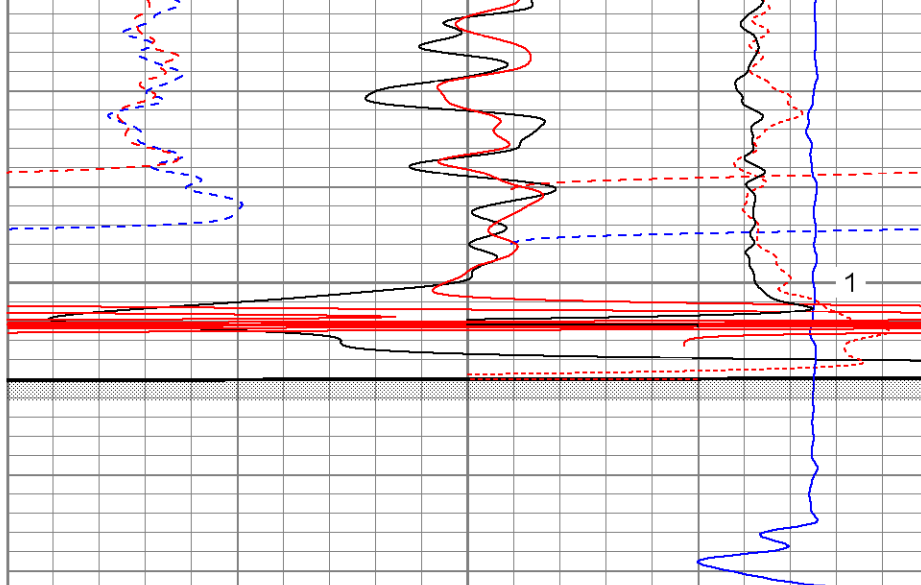






0	GR (GAPI)	200
6	DCAL (in)	16
0	GR-repeat (GAPI)	200
6	DCAL-repeat (in)	16

2300



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



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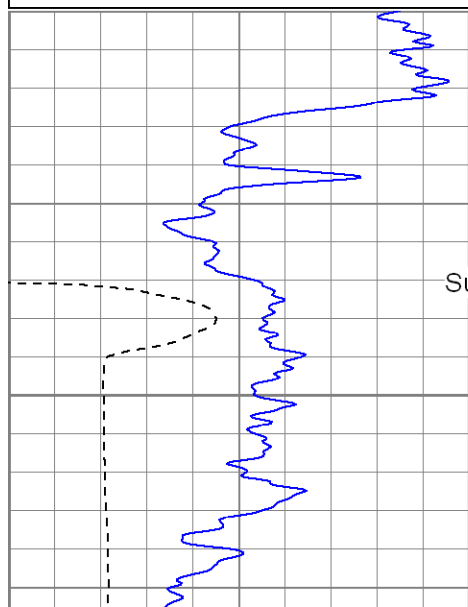
Black Lick, Pa.  
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Trinidad, Co.

# High Resolution Pass

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Presentation Format: cdlhr  
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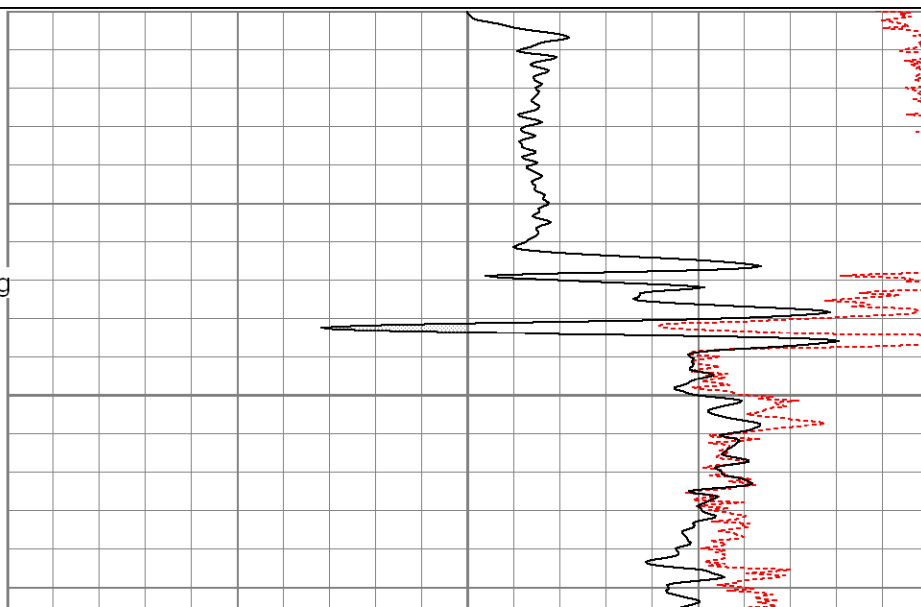
0	GR (GAPI)	200
6	DCAL (in)	16

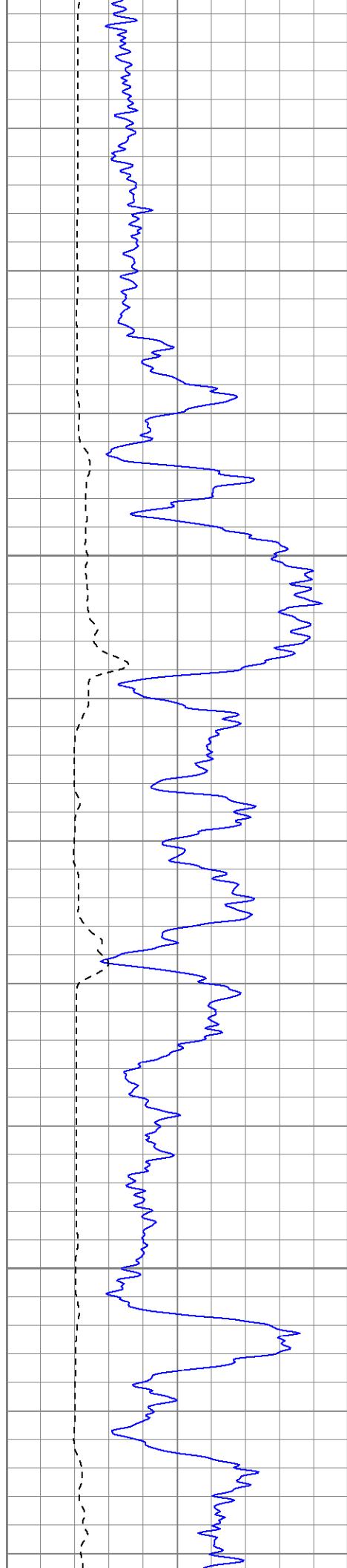
1	RHOB (g/cc)	3
-0.5	RHOC (g/cc)	0.5



Surface Casing

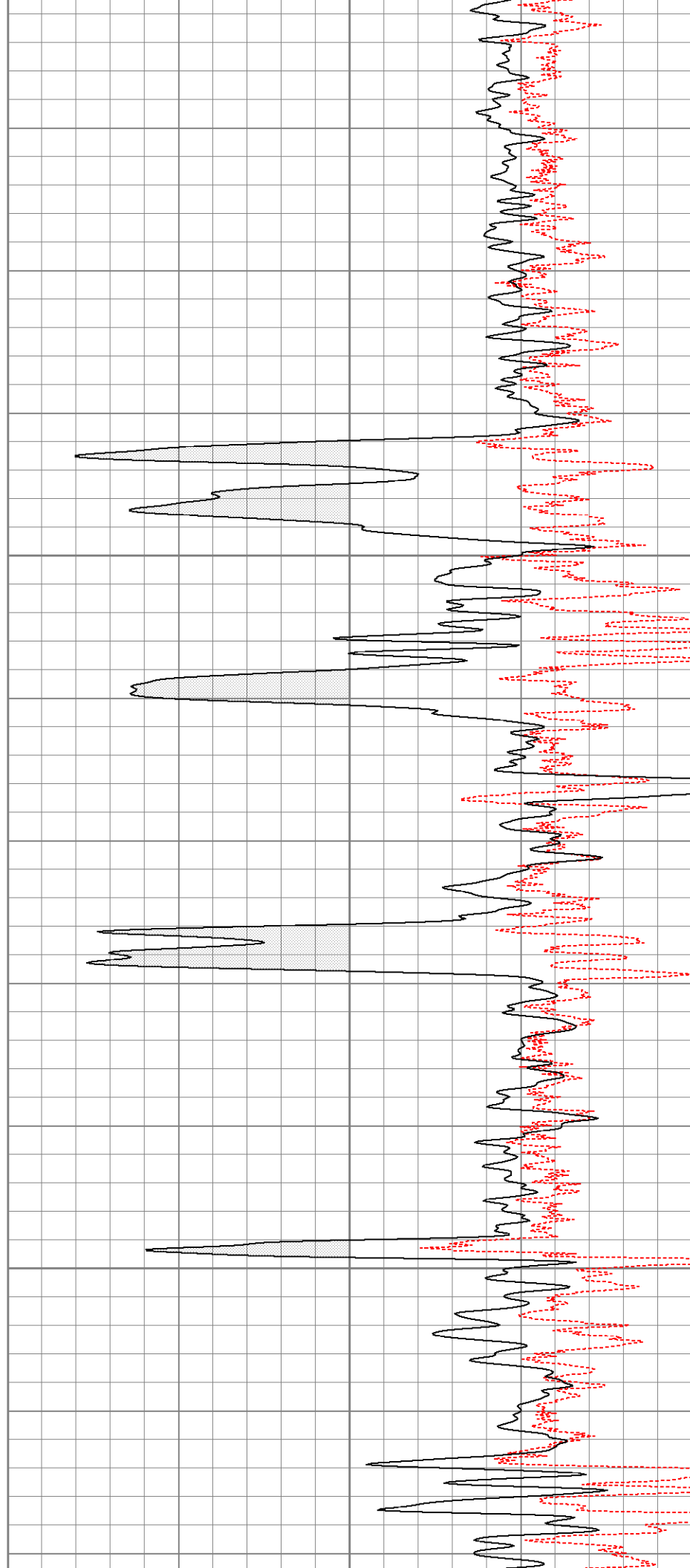
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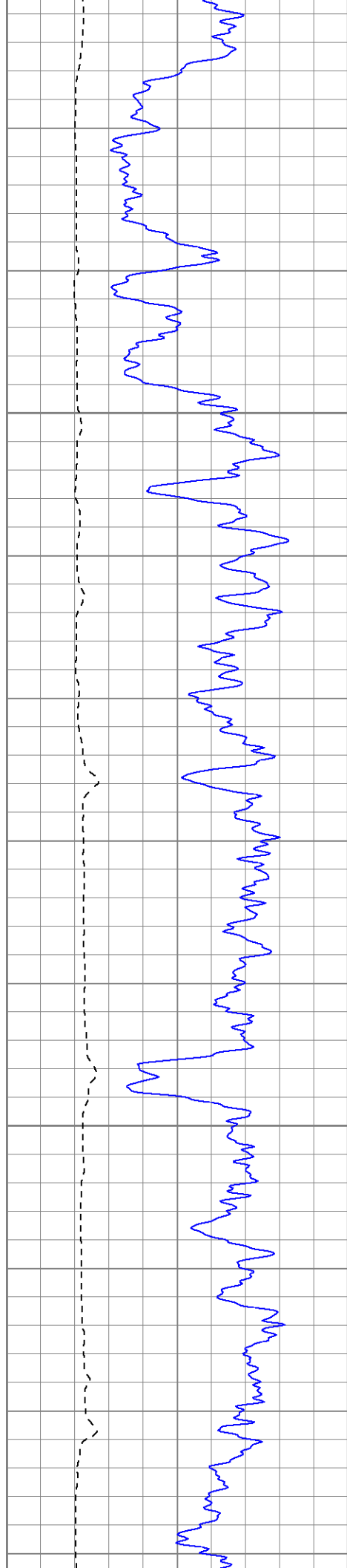




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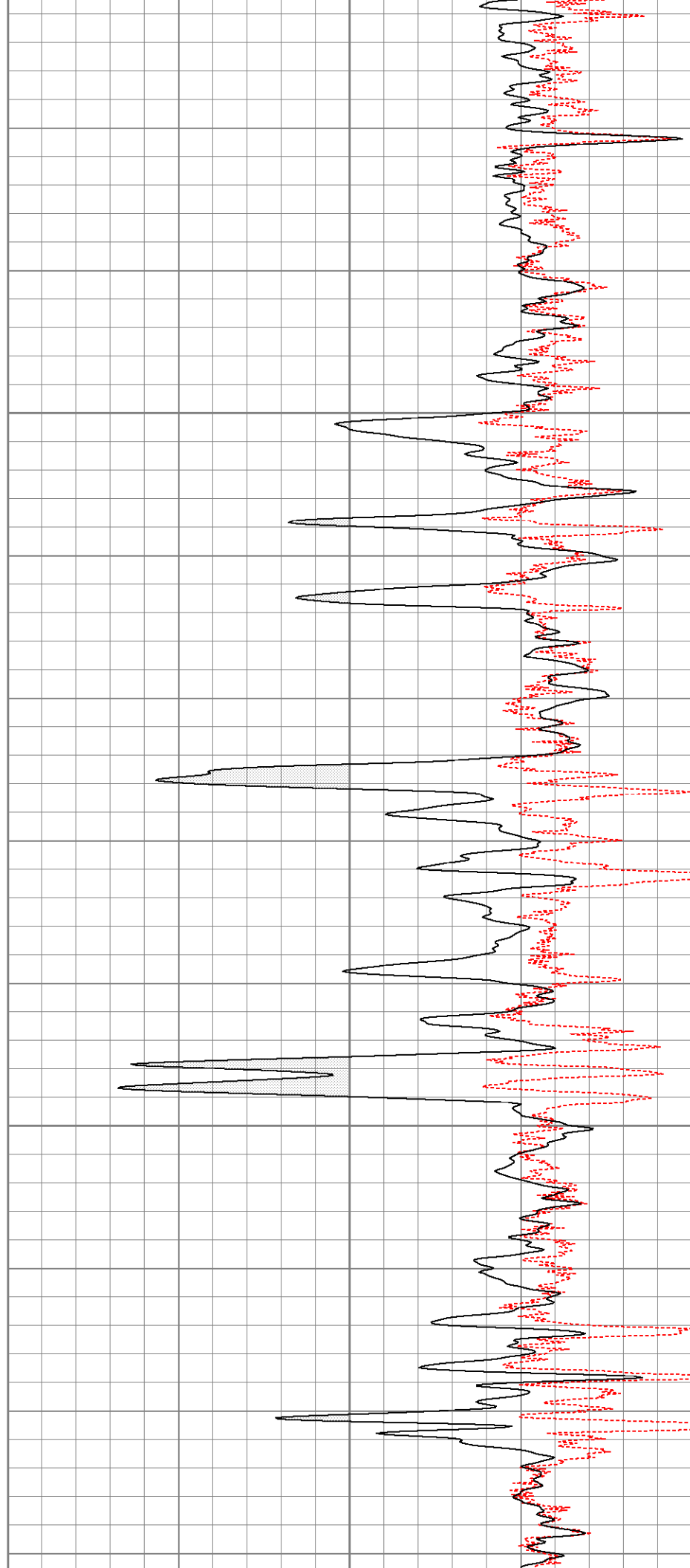
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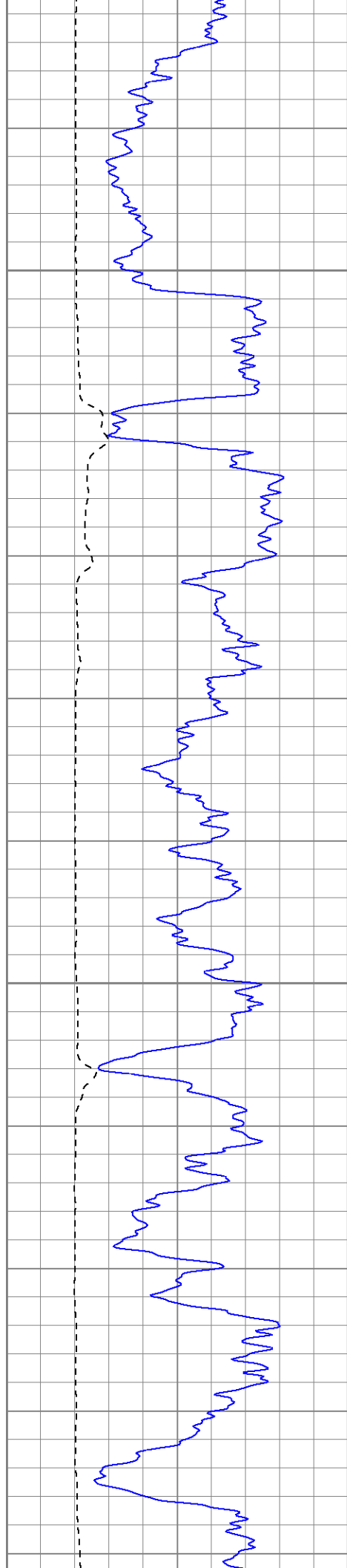




650

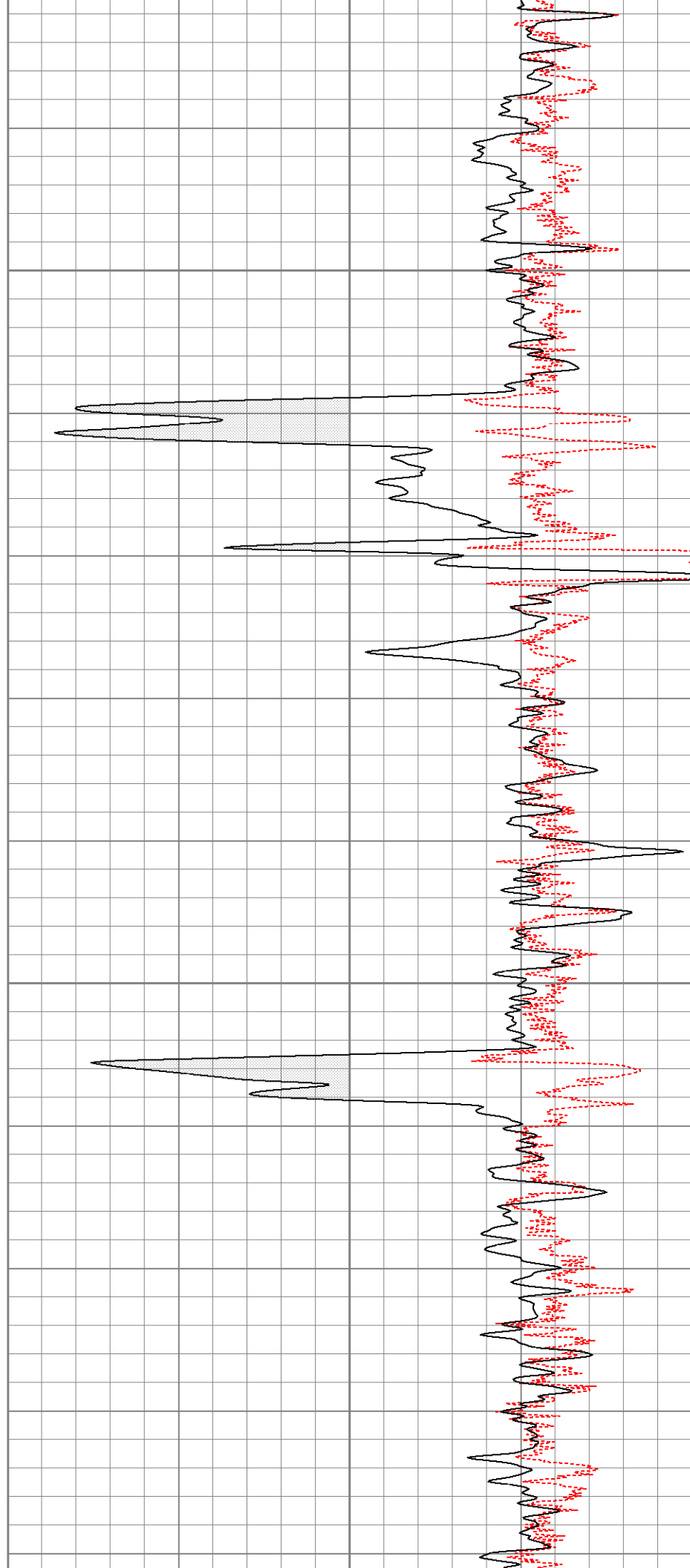
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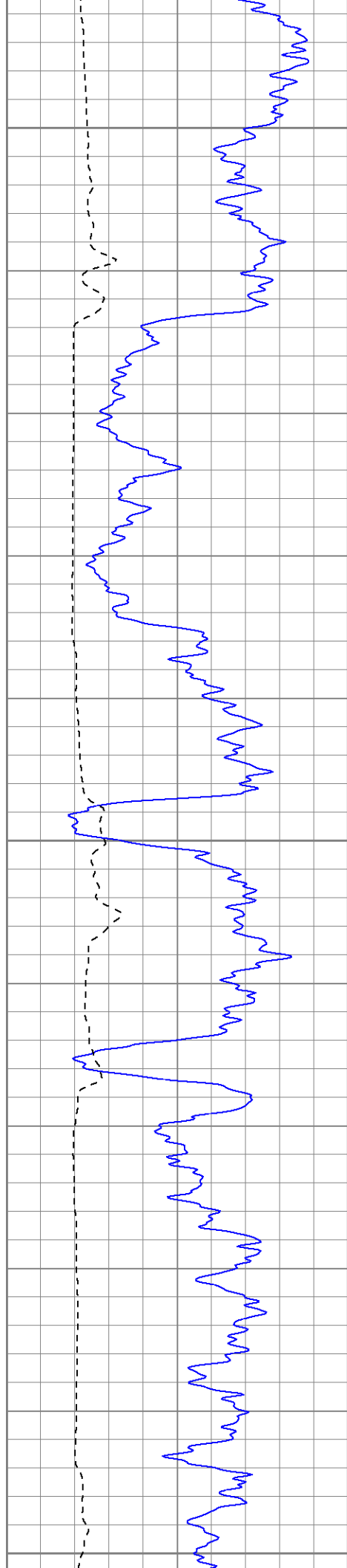


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800



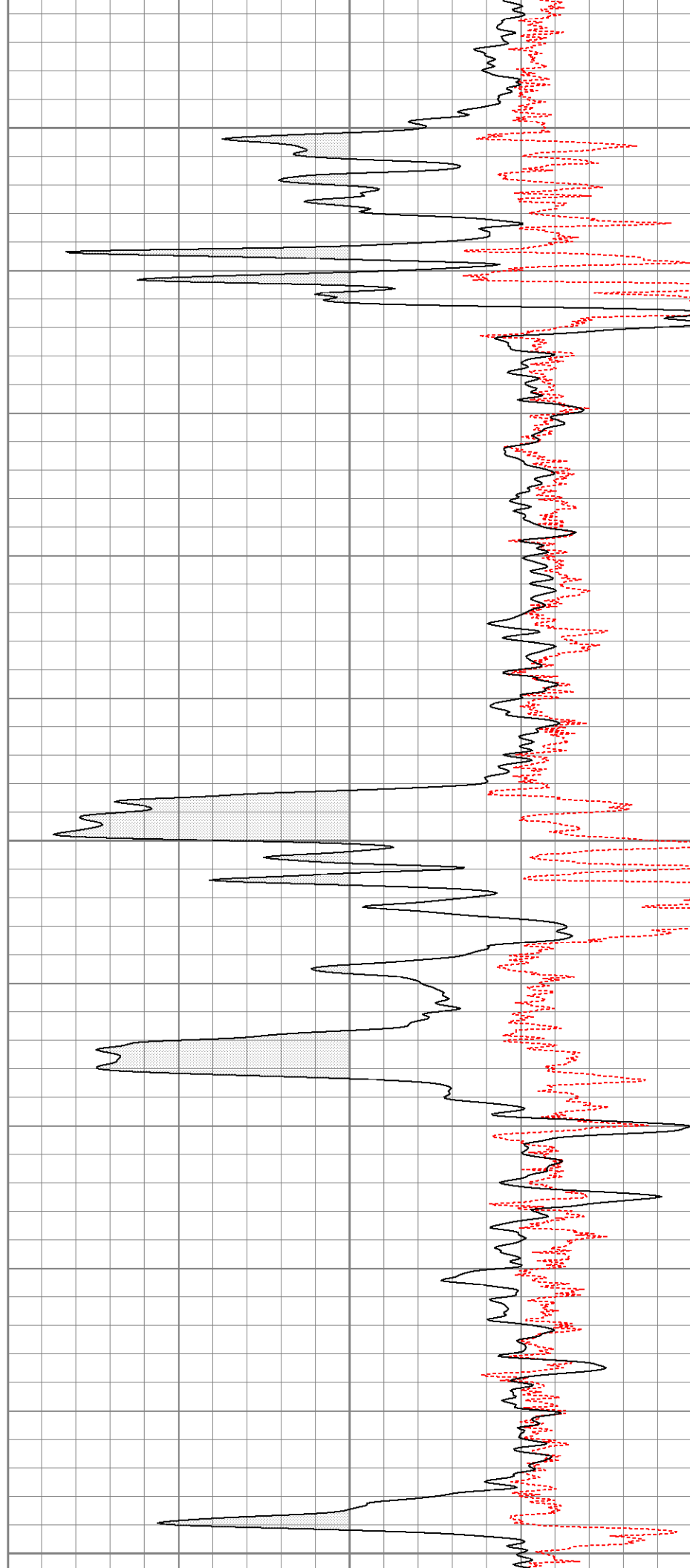


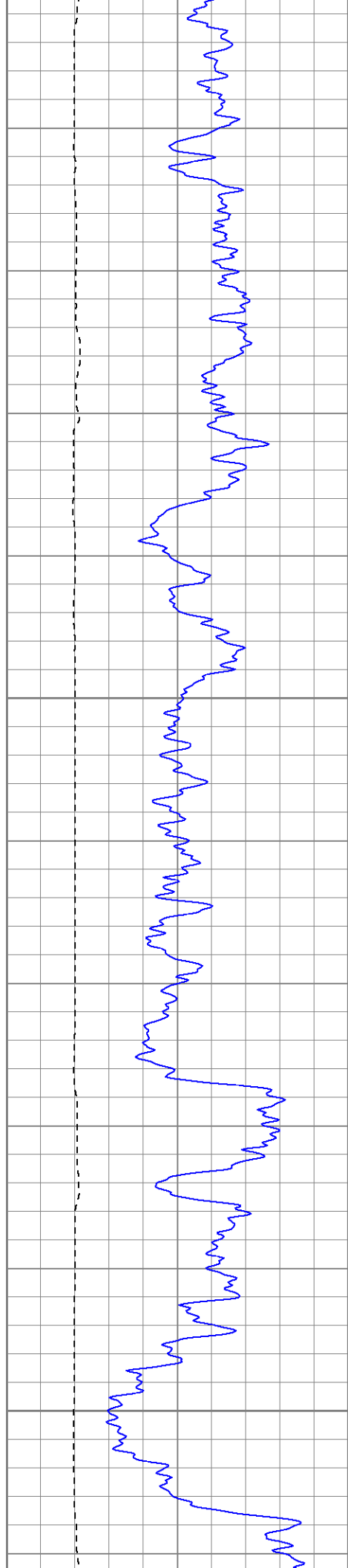


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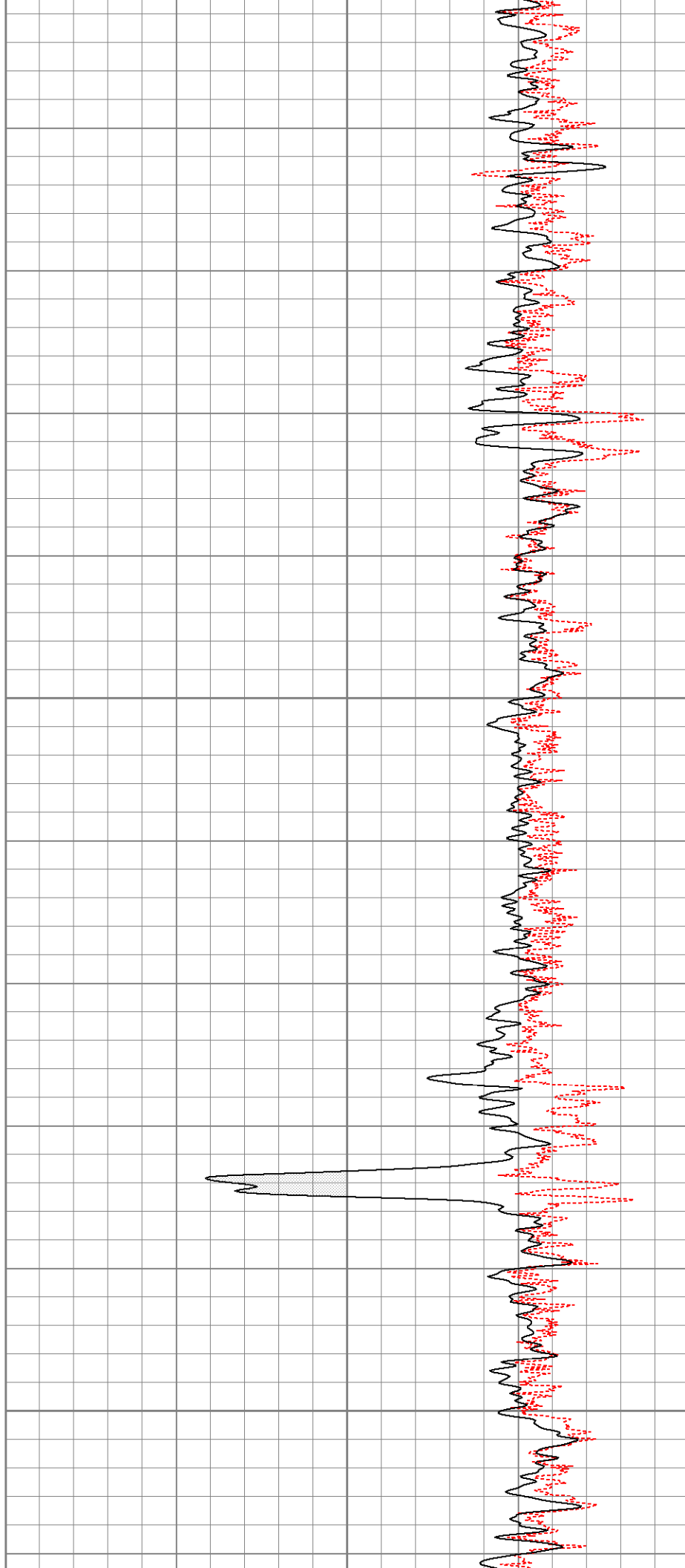
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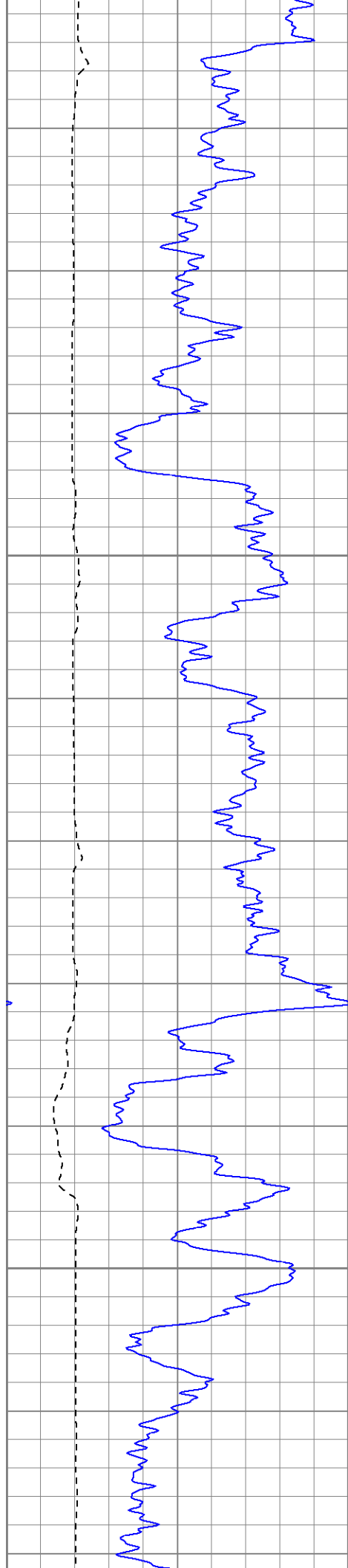




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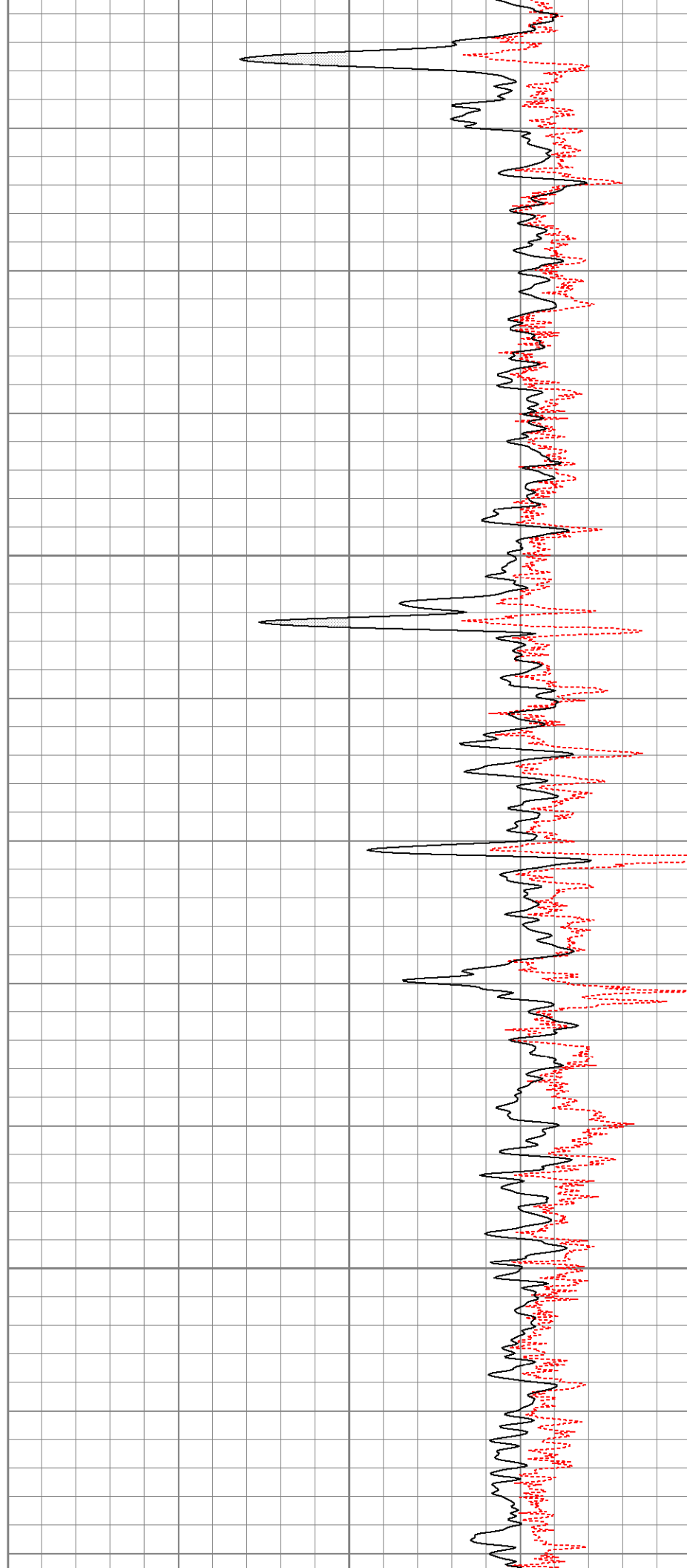
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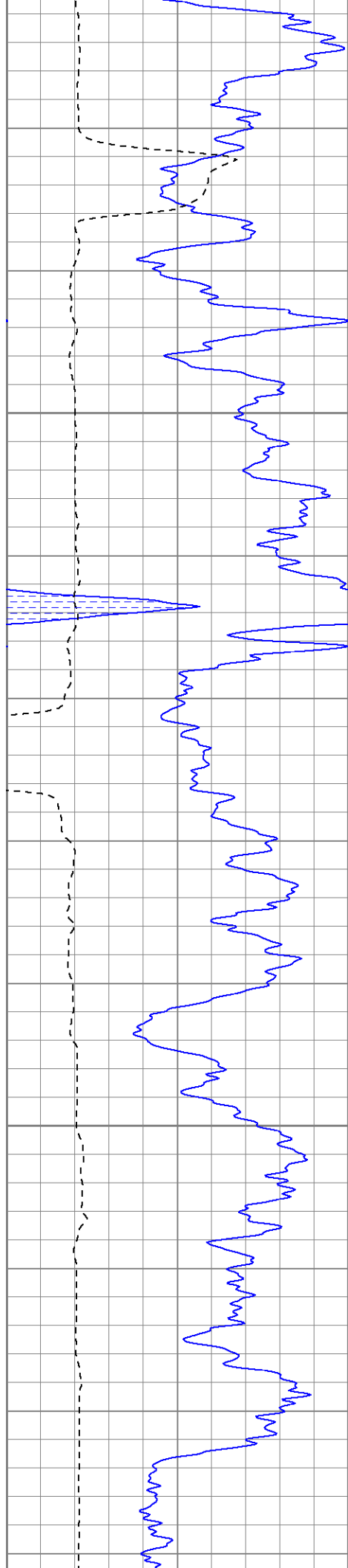




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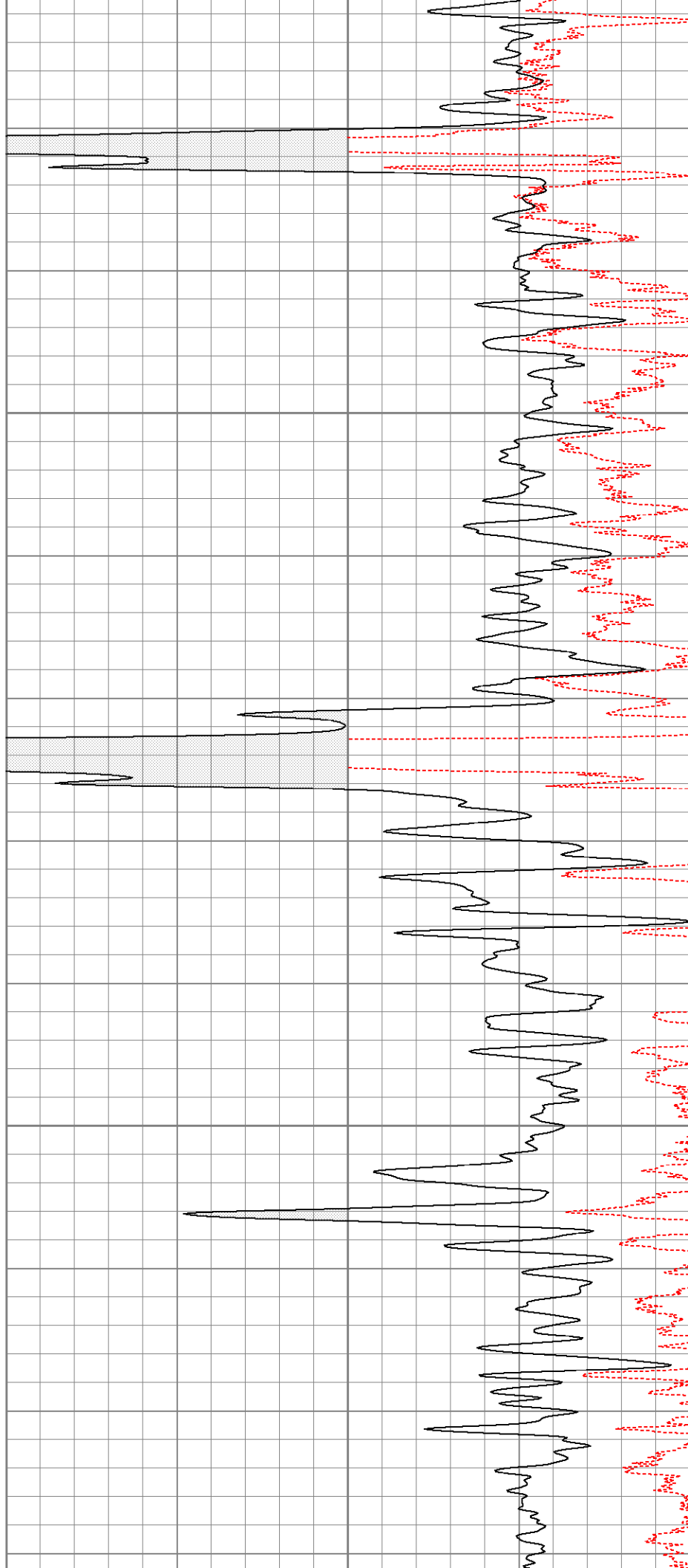
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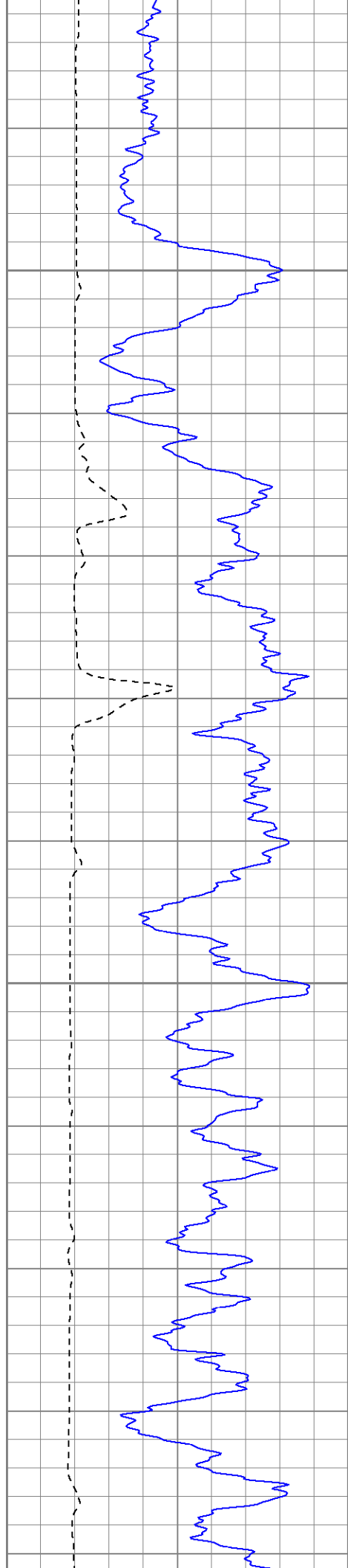




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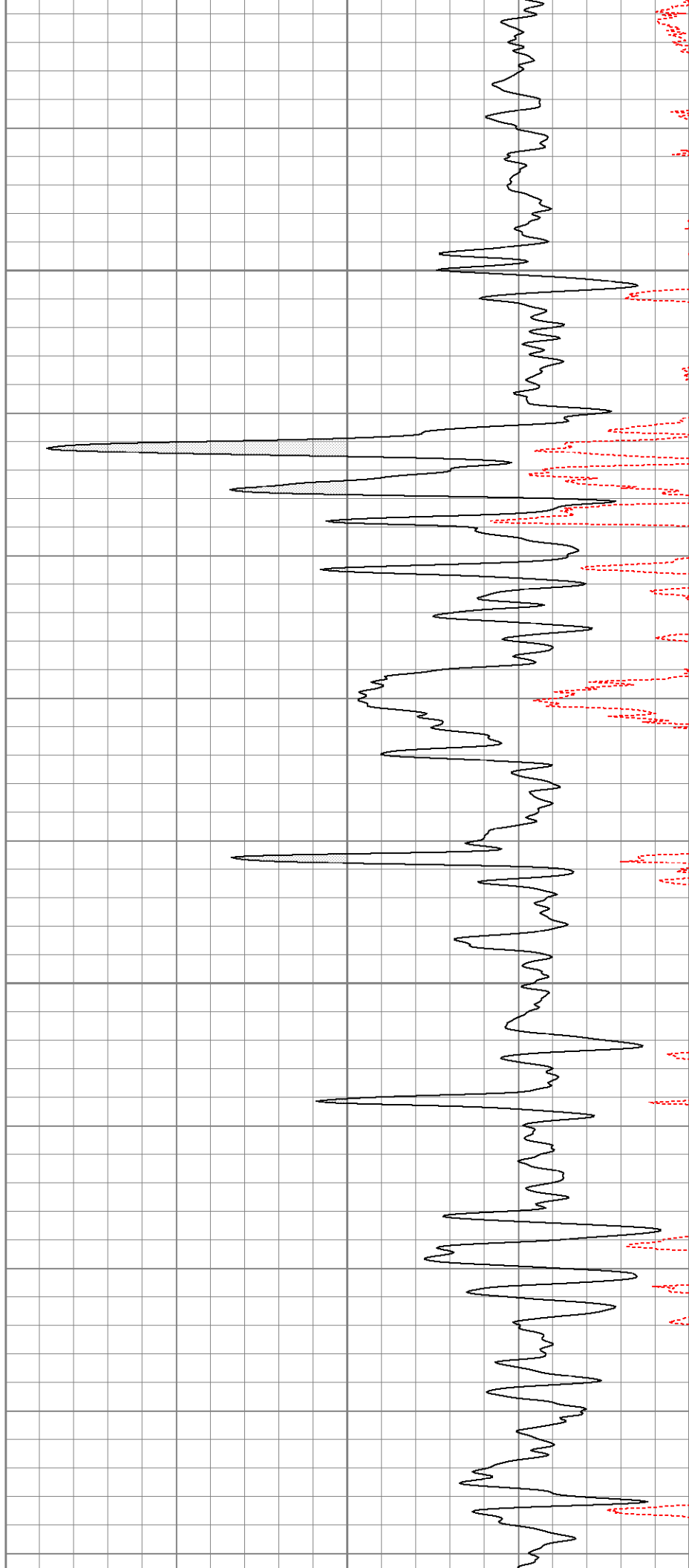
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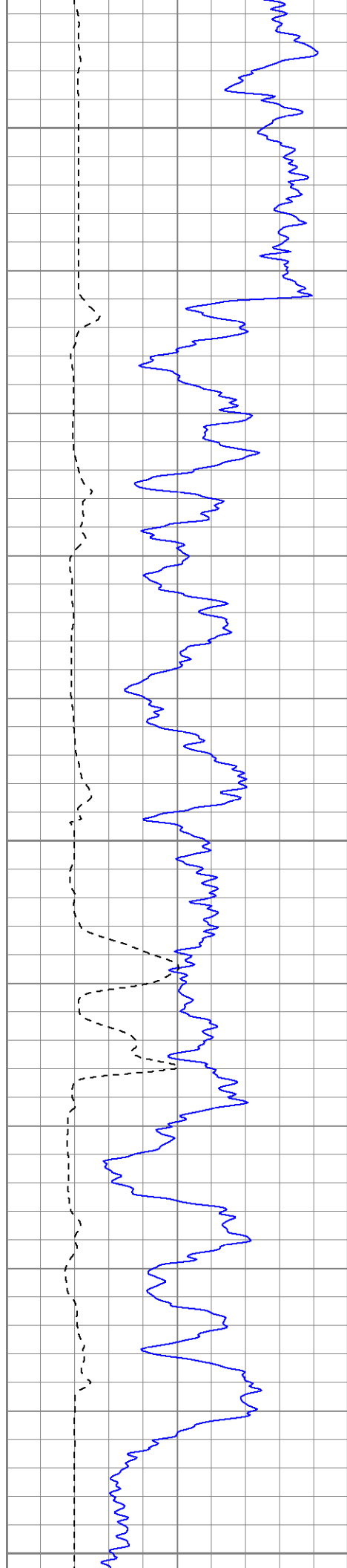




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1350

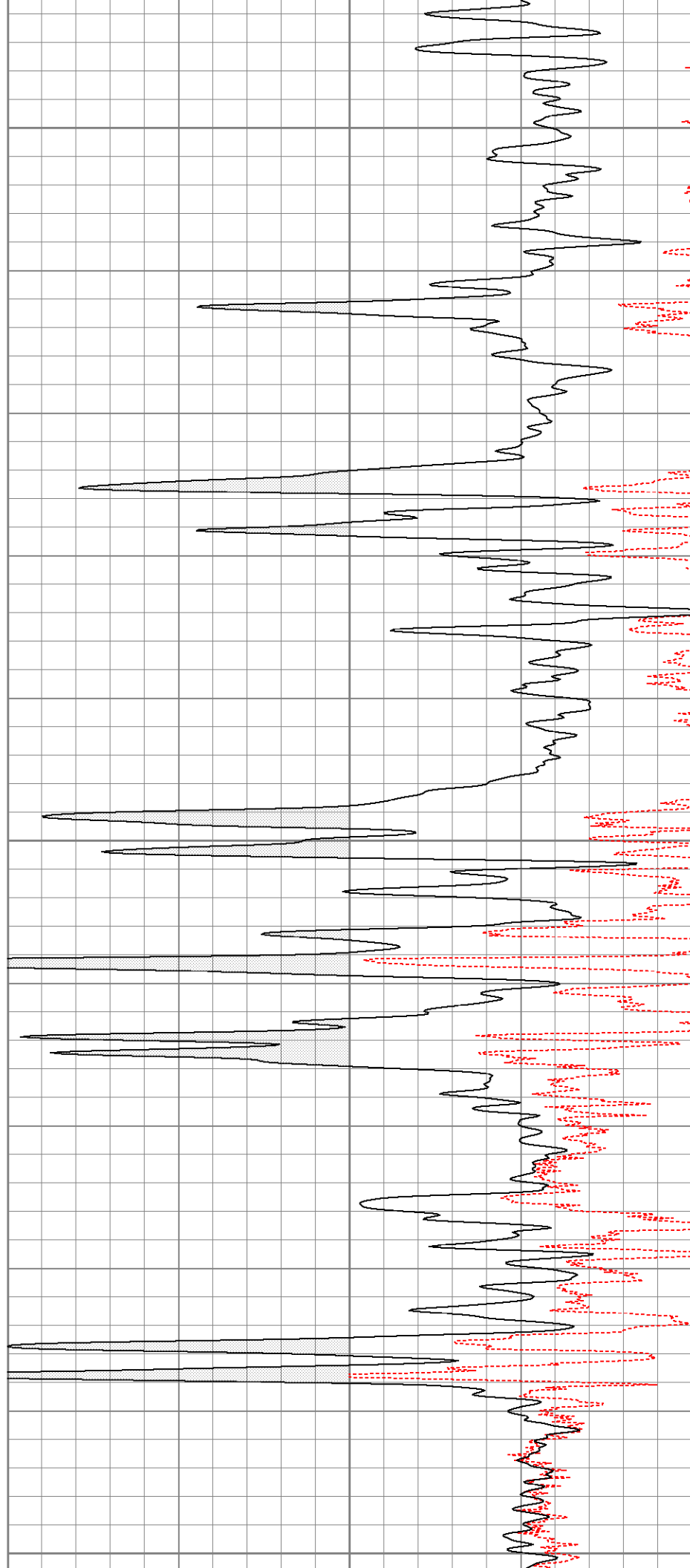


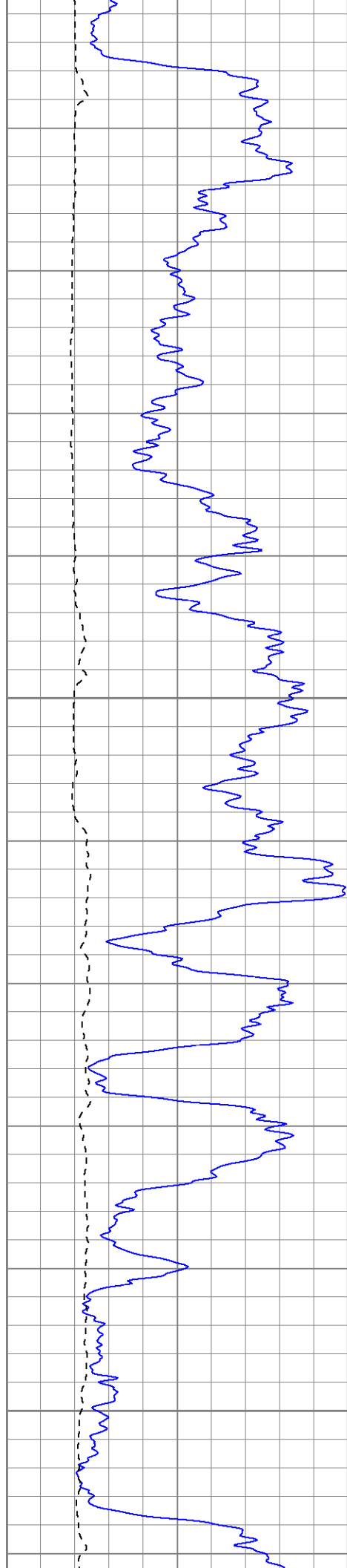


1400

1450

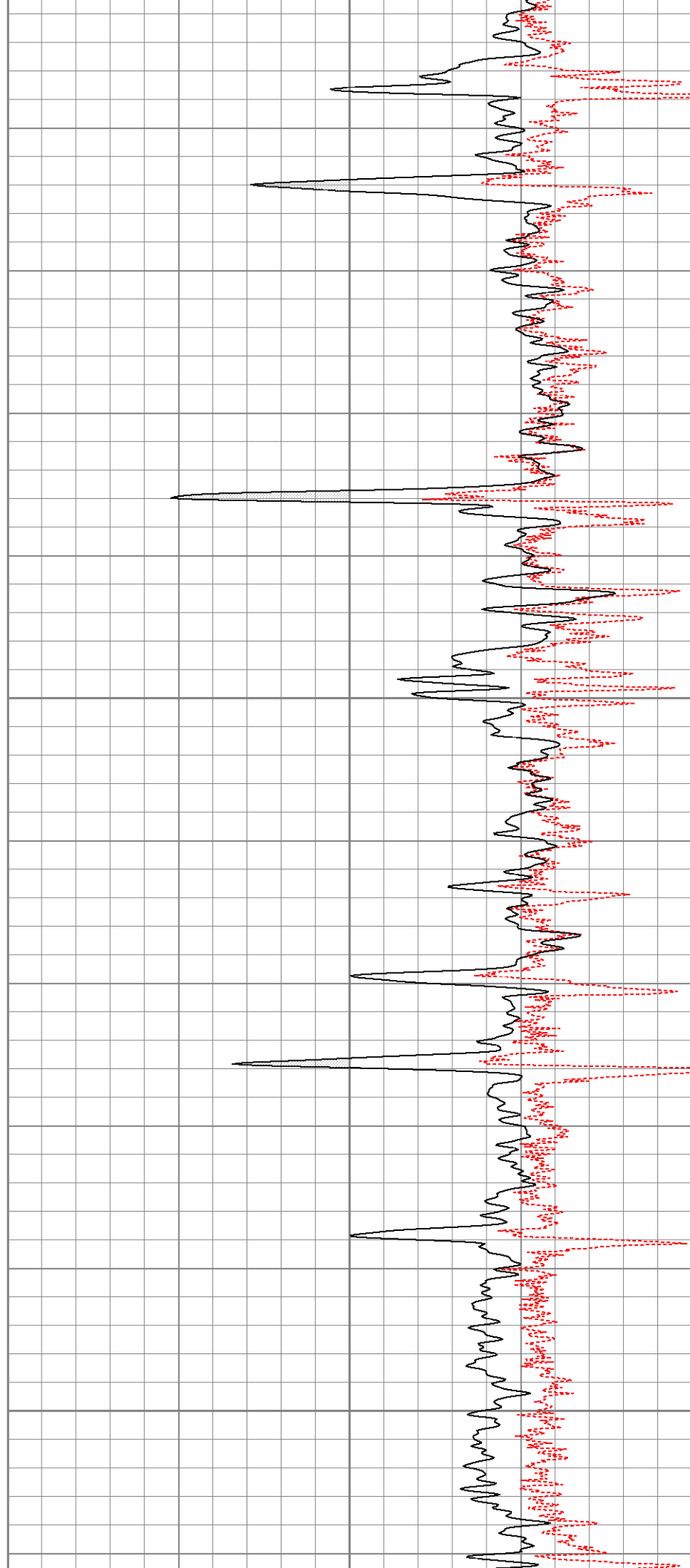
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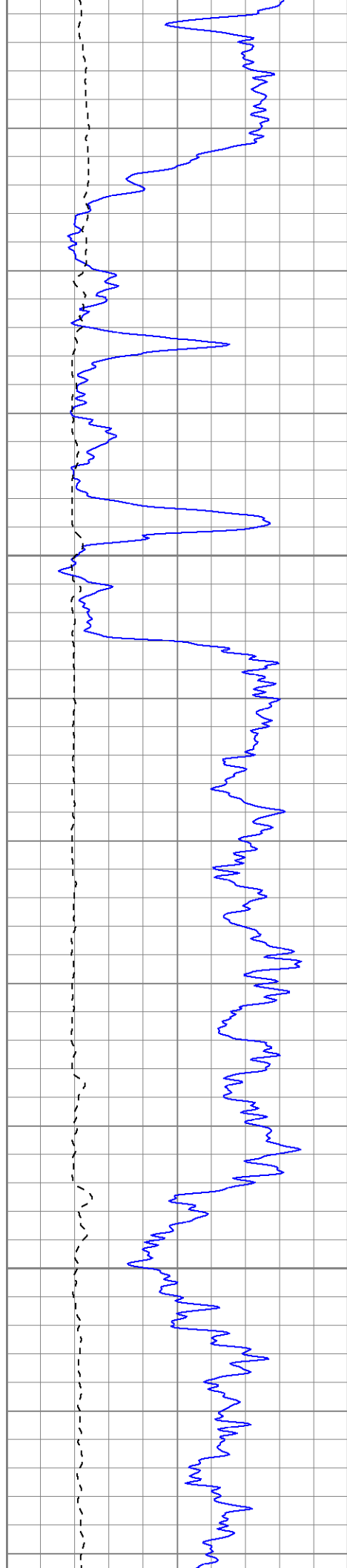




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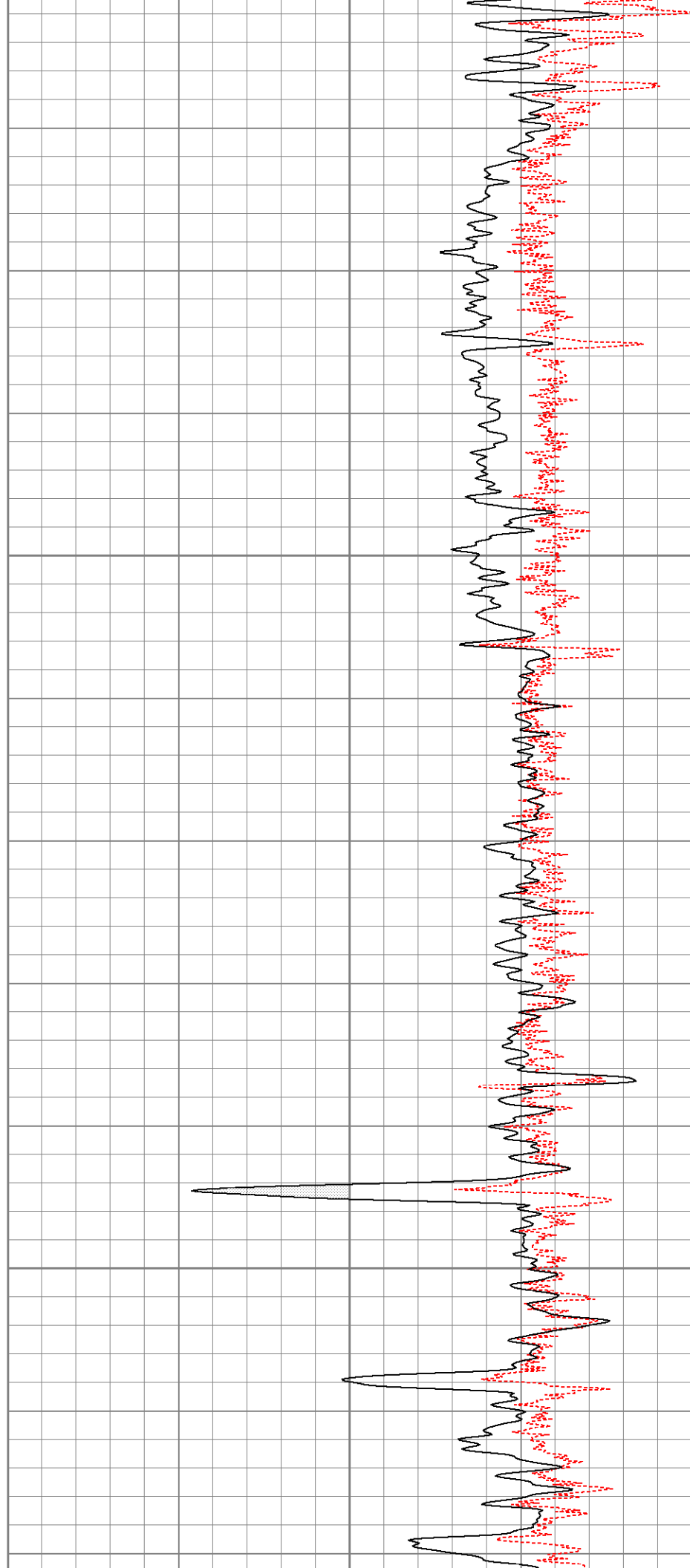
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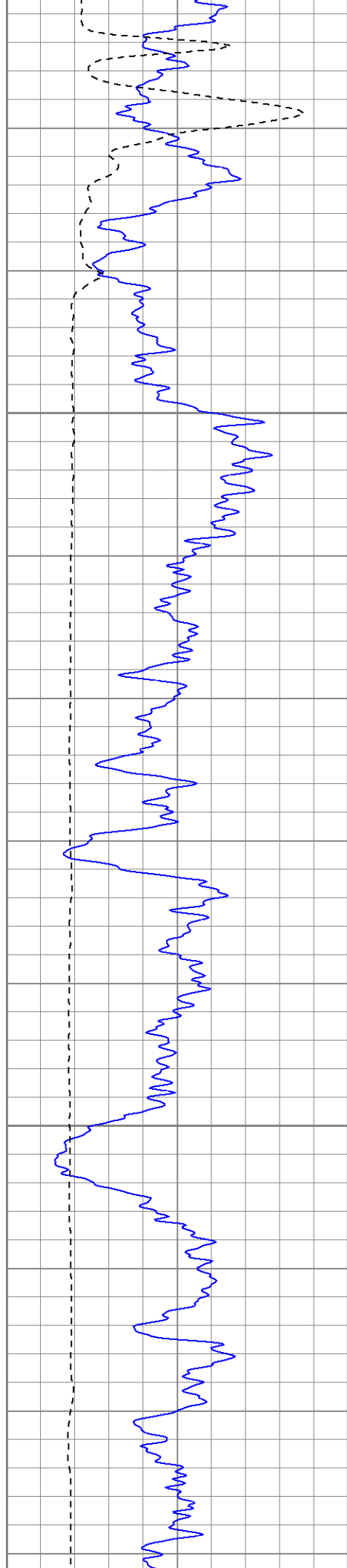


1650

1700

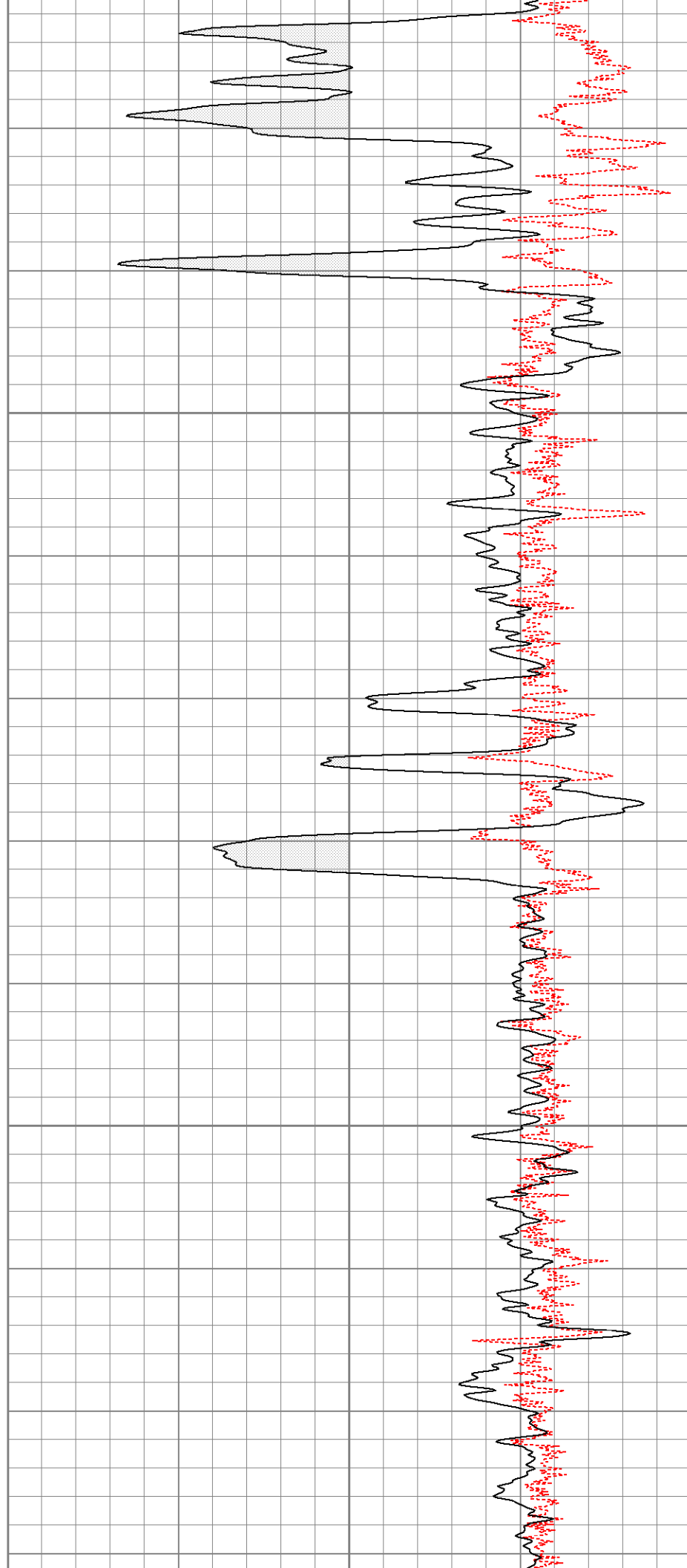






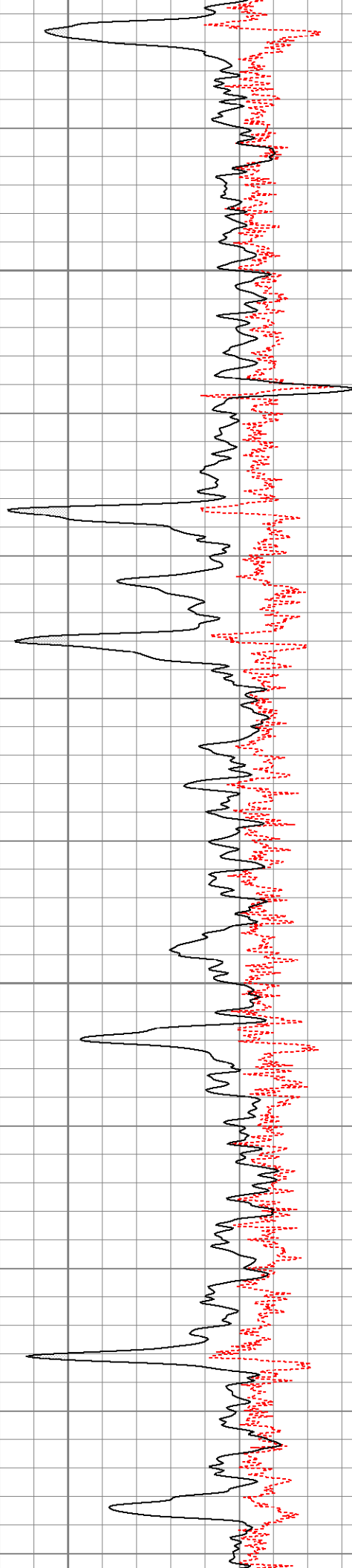
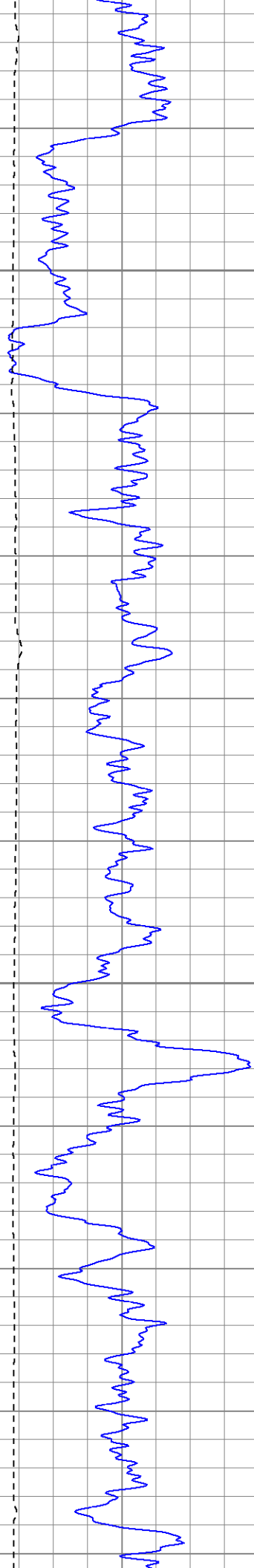
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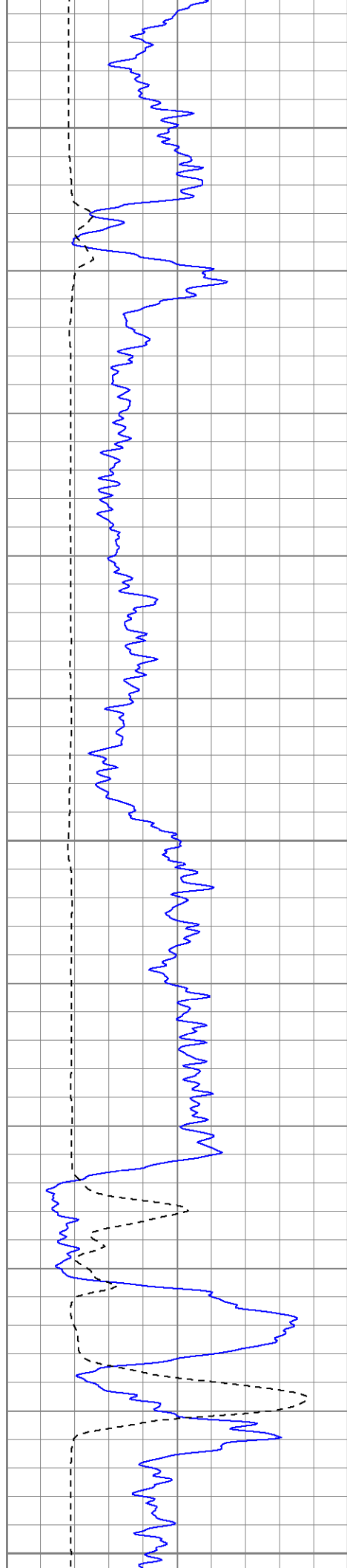
1800



1850

1900

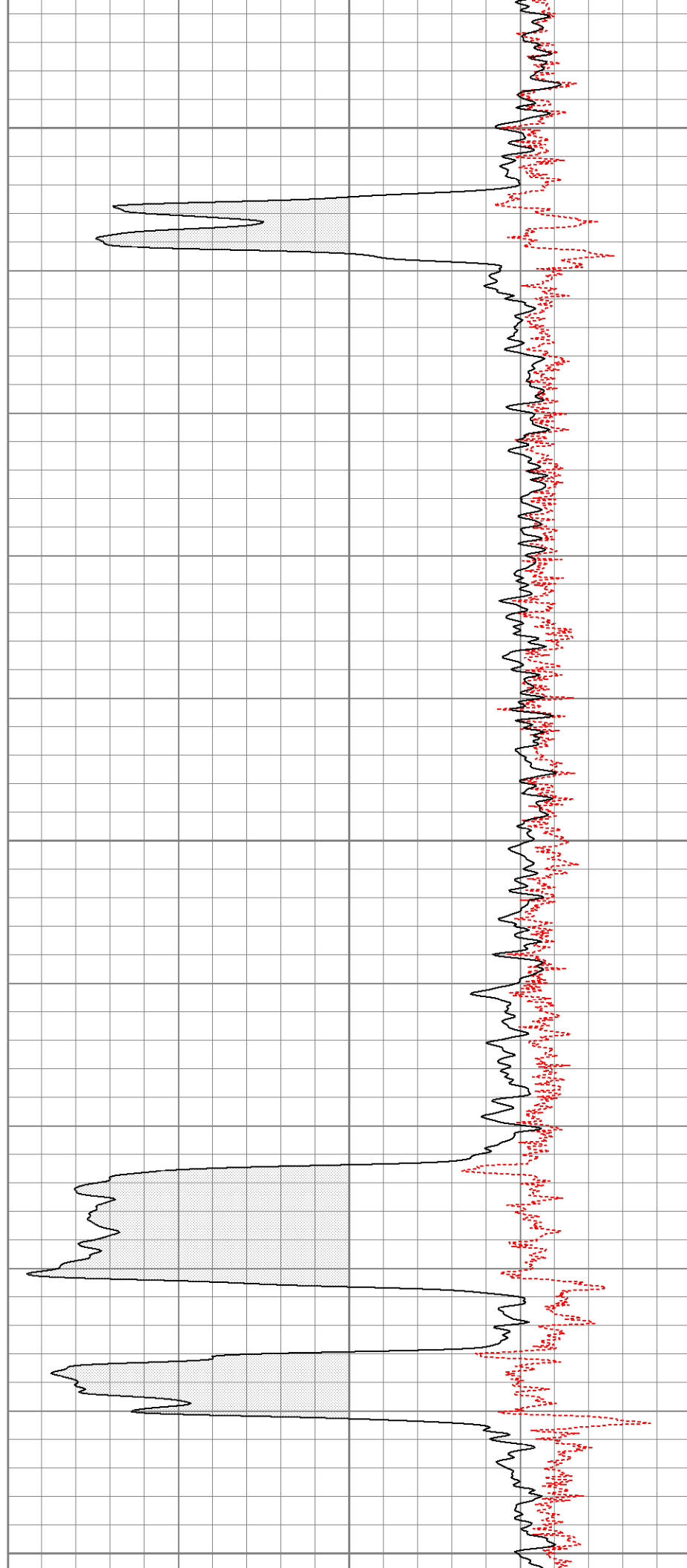


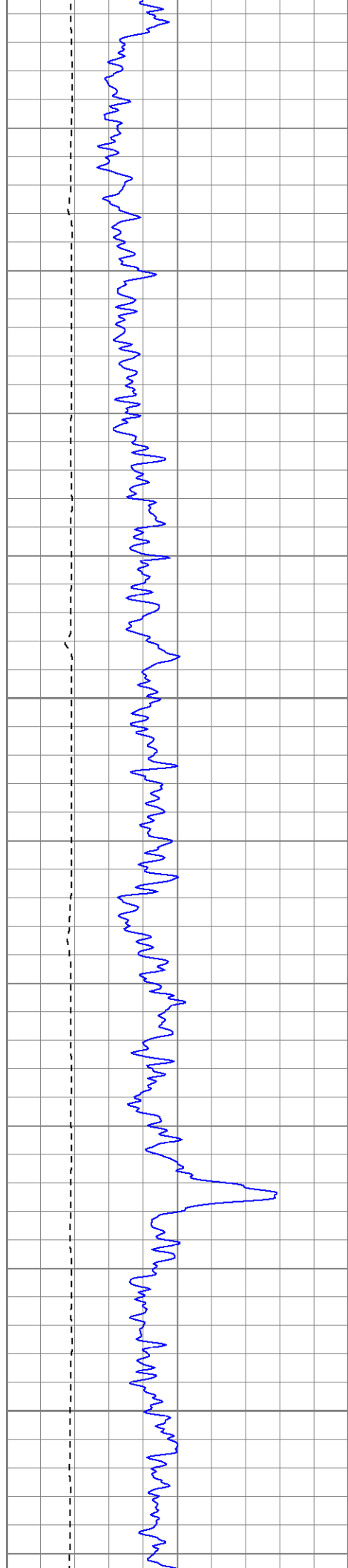


1950

2000

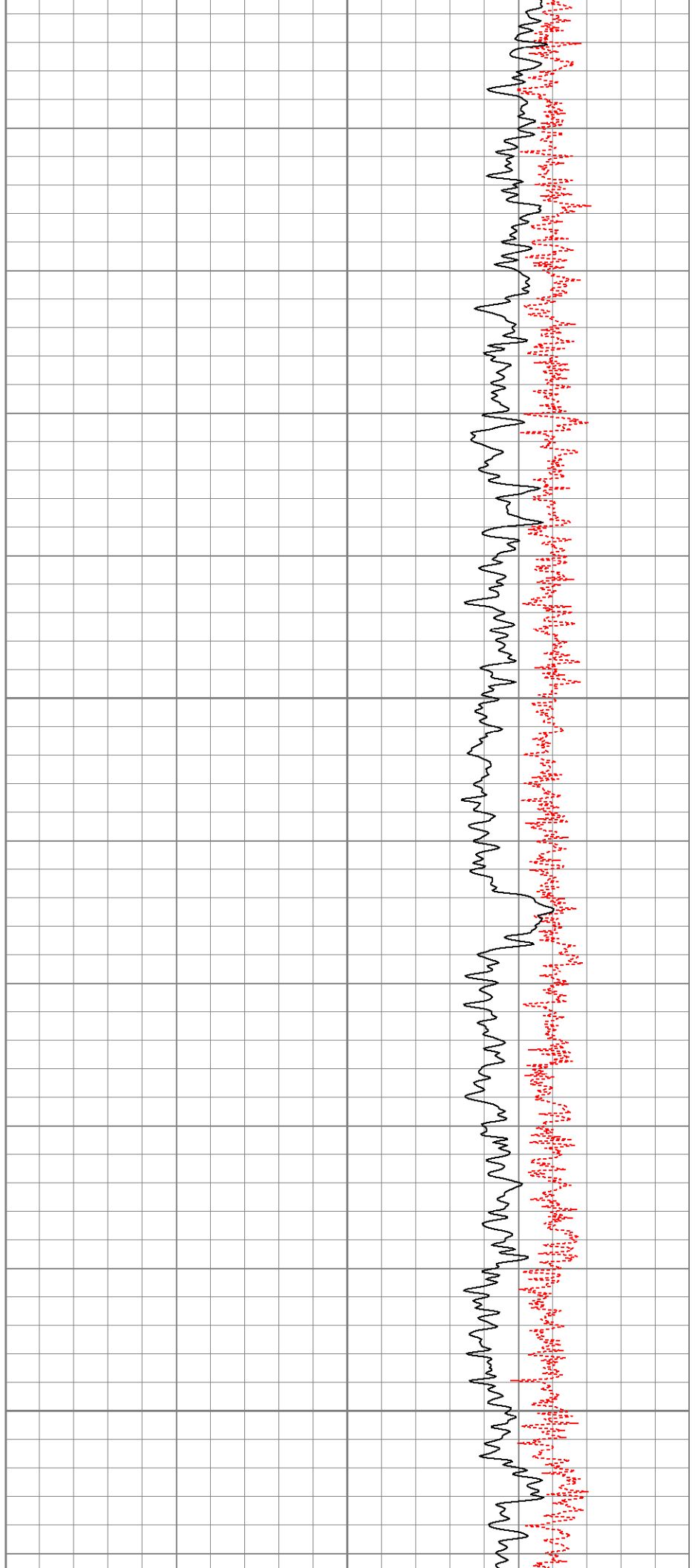
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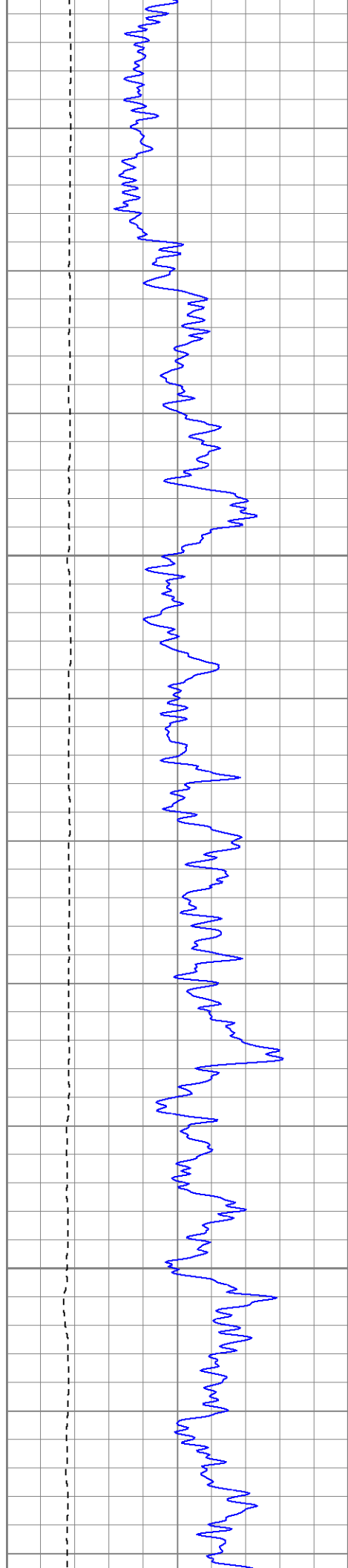




2100

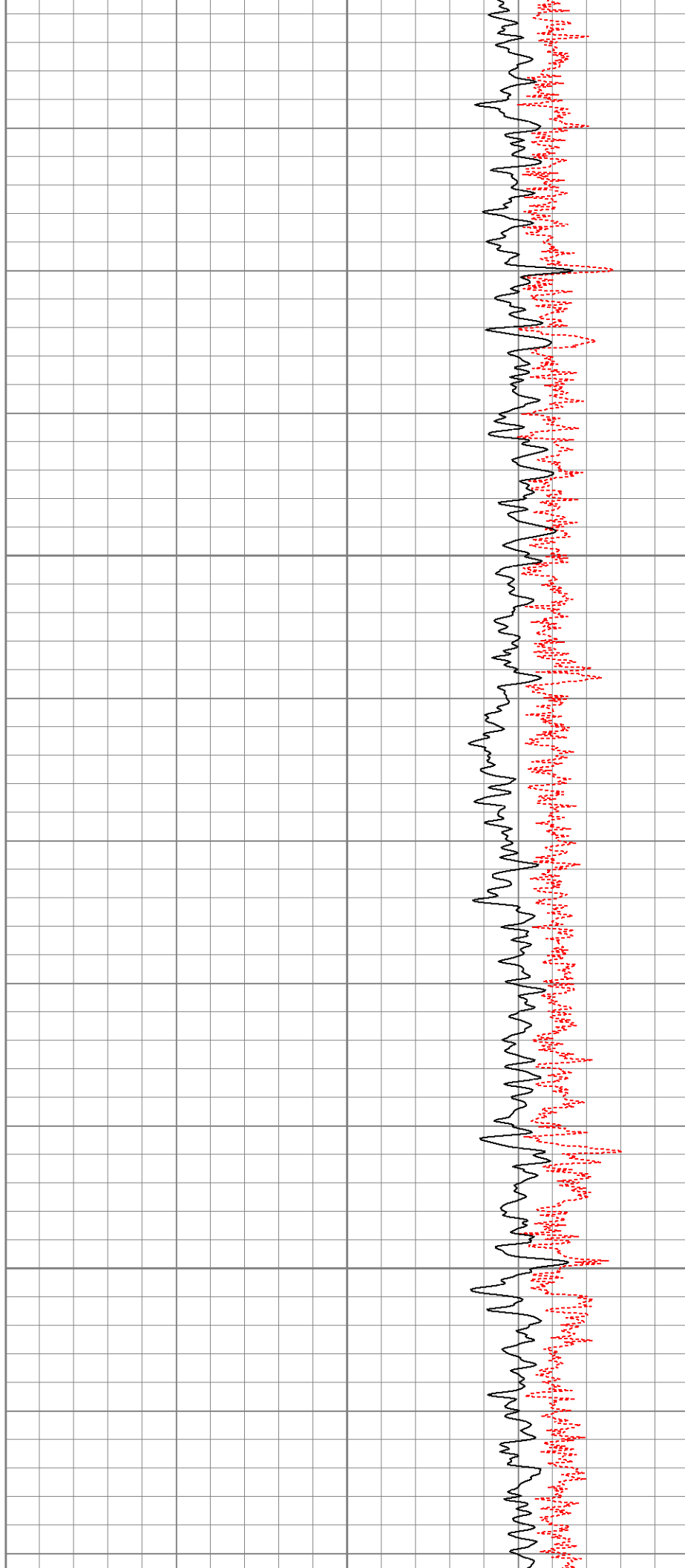
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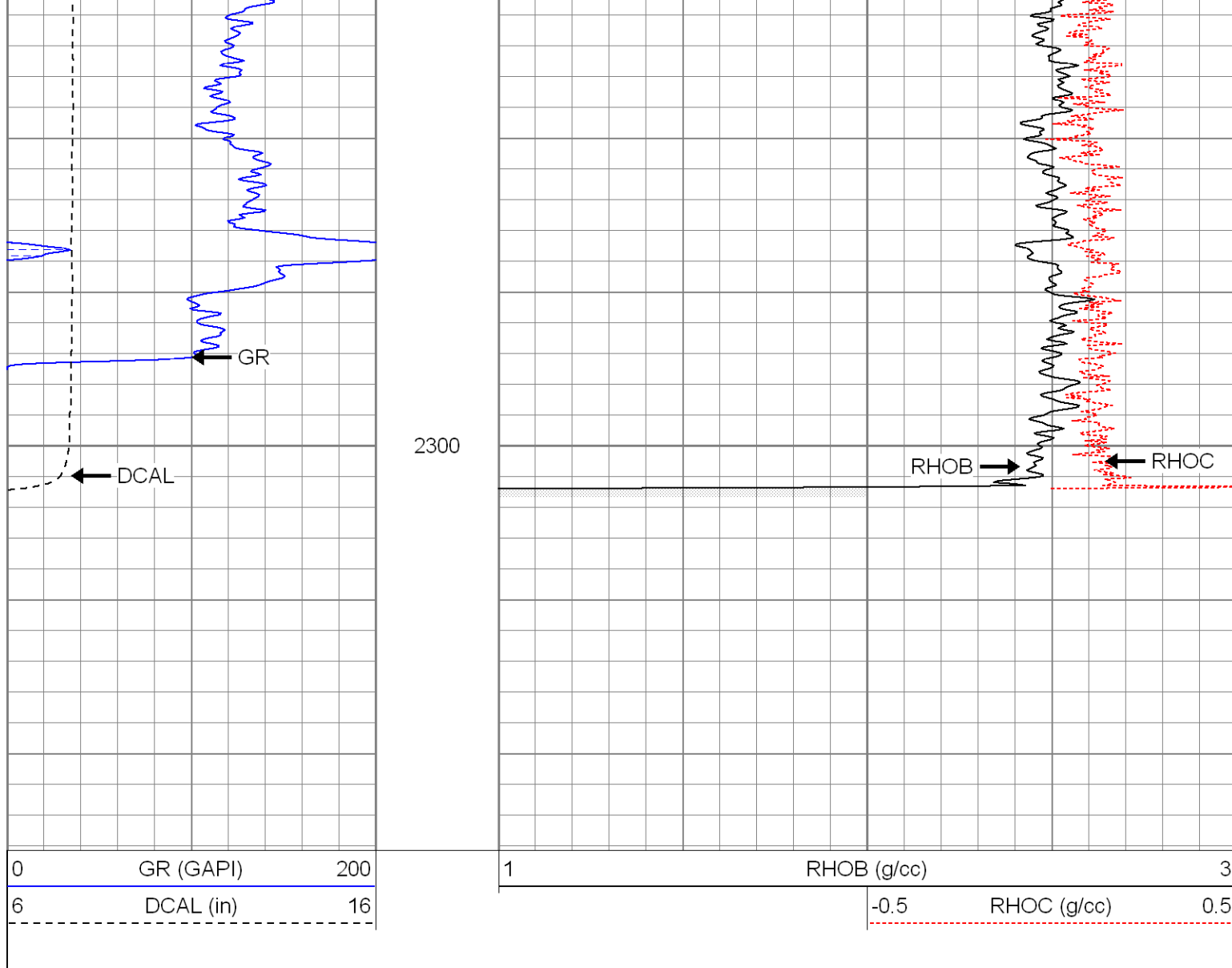




2200

2250





### Calibration Report

Database File: xtoac0508.db  
 Dataset Pathname: pass2  
 Dataset Creation: Fri Jun 08 12:09:27 2007 by Log Open-Cased 061129

### Dual Induction Calibration Report

Serial-Model: 5375-G  
 Surface Cal Performed: Thu Apr 26 17:31:10 2007  
 Downhole Cal Performed: Thu Apr 26 17:31:26 2007

#### Surface Calibration

Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.001	0.620	V	0.000	500.000	mmho-m	807.659	-1.119
Medium	0.005	0.743	V	0.000	550.000	mmho-m	744.727	-3.505
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.001	0.620	V	0.000	500.000	mmho-m	807.698	-1.159
Medium	0.005	0.743	V	0.000	550.000	mmho-m	744.801	-3.569

#### Downhole Calibration

Readings			References			Results		
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.123	499.901	mmho-m	0.039	500.015	mmho-m	1.000	-0.084
Medium	0.245	549.982	mmho-m	0.064	550.009	mmho-m	1.000	-0.182
Shallow	2.506	0.009	V	500.000	2.000	Ohm-m	90.000	0.000

### Compensated Density Calibration Report

Serial-Model: 2118-poilex  
 Source / Verifier: /  
 Master Calibration Performed: Mon May 14 16:51:32 2007

#### Master Calibration



	Density			Far Detector	Near Detector	
Magnesium	1.710	g/cc		665.94	685.05	cps
Aluminum	2.590	g/cc		149.68	463.33	cps
Spine Angle = 75.32			Density/Spine Ratio = 0.570			
	Size			Reading		
Small Ring	7.85	in		4.10	V	
Large Ring	14.00	in		9.25	V	

### Gamma Ray Calibration Report

Serial Number: 2001  
 Tool Model: OH  
 Performed: Tue May 29 19:51:06 2007  
 Calibrator Value: 1.0 GAPI  
 Background Reading: 0.0 cps  
 Calibrator Reading: 1.0 cps  
 Sensitivity: 0.1400 GAPI/cps

### Neutron Calibration Report

Serial Number: 5145  
 Tool Model: G  
 Performed: Mon Apr 23 18:30:25 2007  
 Calibrator Value: 1200 NAPI  
 Calibrator Reading: 1700 cps  
 Sensitivity: 1 NAPI/cps

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
NEU	37.19		None	0.75	1.50	5.00
			NEU-G (5145) Gearhart Epithermal	5.75	3.50	85.00
GR	31.62		GR-OH (2001) SIE	3.50	3.25	40.00

Tool Joint	Length (ft)	Weight (lb)	O.D. (in)	Material	Notes
LSD	23.45				
DCAL	23.04				
SSD	22.91				
CDL-poilex (2118)					
CILD	10.60				
SP	10.60				
CILM	6.89				
RLL3	1.70				
DIL-G (5375) Gearhart					
Dataset: xtoac0508.db: field/well/run1/pass2 Total Length: 39.62 ft Total Weight: 750.00 lb O.D.: 4.00 in					