

# COMPENSATED DENSITY NEUTRON LOG

Company	Pioneer Natural Resources	Company	Pioneer Natural Resources
Well	Wildfire 41-10	Well	Wildfire 41-10
Field	Purgatoire River	Field	Purgatoire River
County	Las Animas	County	Las Animas
State	Colorado	State	Colorado
Location:	API #: 05 071 09781 00	Other Services	SIL
SEC 10 TWP 33S RGE 66W	441' FNL & 757' FEL	Elevation	
Permanent Datum	Ground Level	Elevation	7332'
Log Measured From	Kelly Bushing 4' AGL	K.B. 7336'	
Drilling Measured From	Kelly Bushing	D.F. -----	
		G.L. 7332'	
Date	5-27-11		
Run Number	One		
Depth Driller	2086'		
Depth Logger	2082'		
Bottom Logged Interval	2066'		
Top Log Interval	Surface Casing		
Casing Driller	8 5/8" @ 507'		
Casing Logger	507'		
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	7:00 P.M.		
Time Logger on Bottom	11:45 P.M.		
Maximum Recorded Temperature	110 DEG F		
Equipment Number	T590		
Location	Trinidad		
Recorded By	C. Sisneros		
Witnessed By	Mr. Bill Vigil		

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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

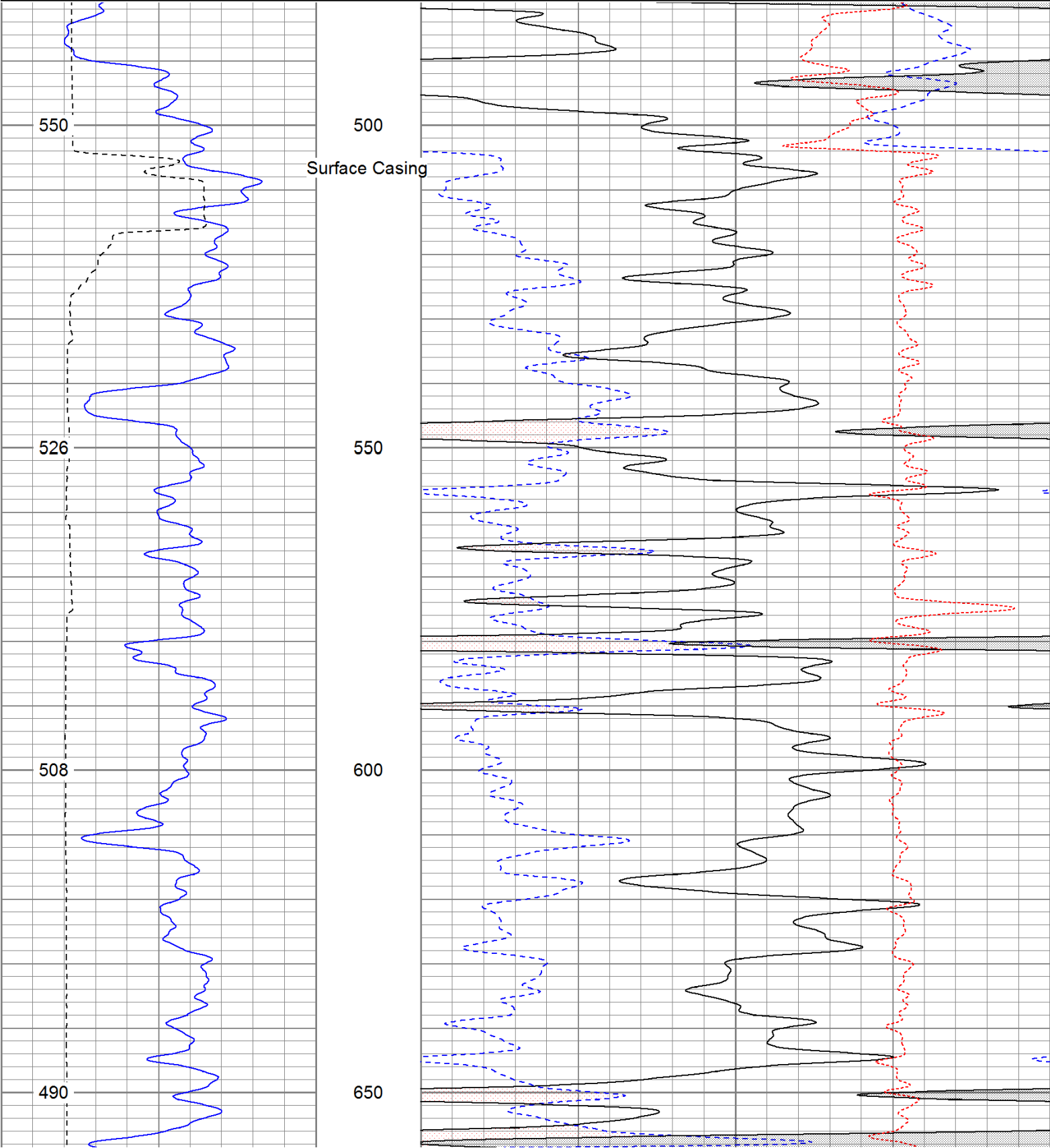
Density Porosity Presented On Sandstone Matrix.  
ABHV Calculated For 5.5" Casing.

Directions:

Database File: wildfire.db  
Dataset Pathname: pass2.1  
Presentation Format: cdnl  
Dataset Creation: Sat May 28 01:34:43 2011 by Calc Open-Cased 110302  
Charted by: Depth in Feet scaled 1:240

0	GR (GAPI)	200
6	DCAL (in)	16
TBHV (ft3)		

30	NPOR (pu)	-10
30	DPOR (pu)	-10
-0.5	RHOC (g/cc)	0.5



Fluid Level

472

454

436

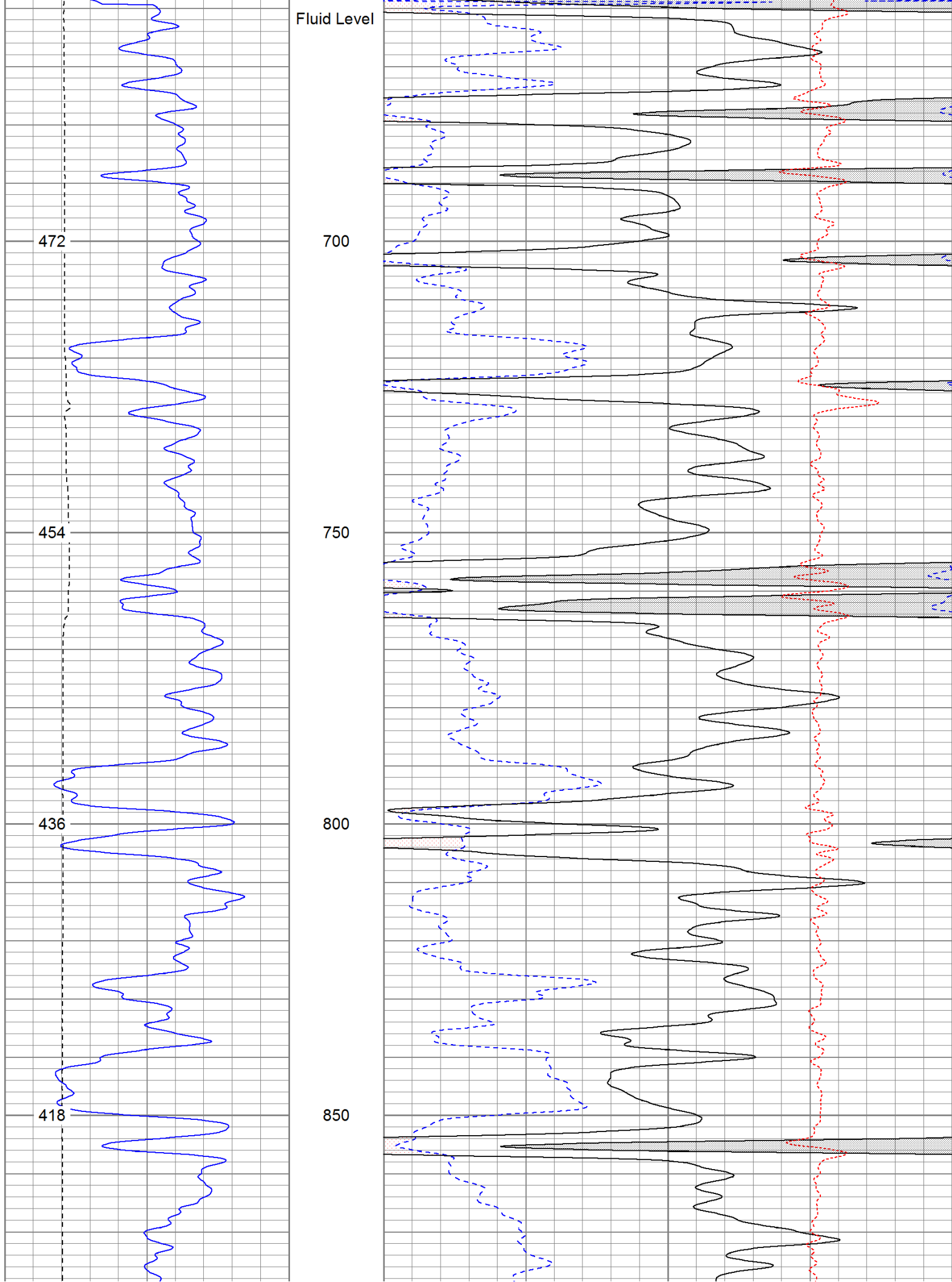
418

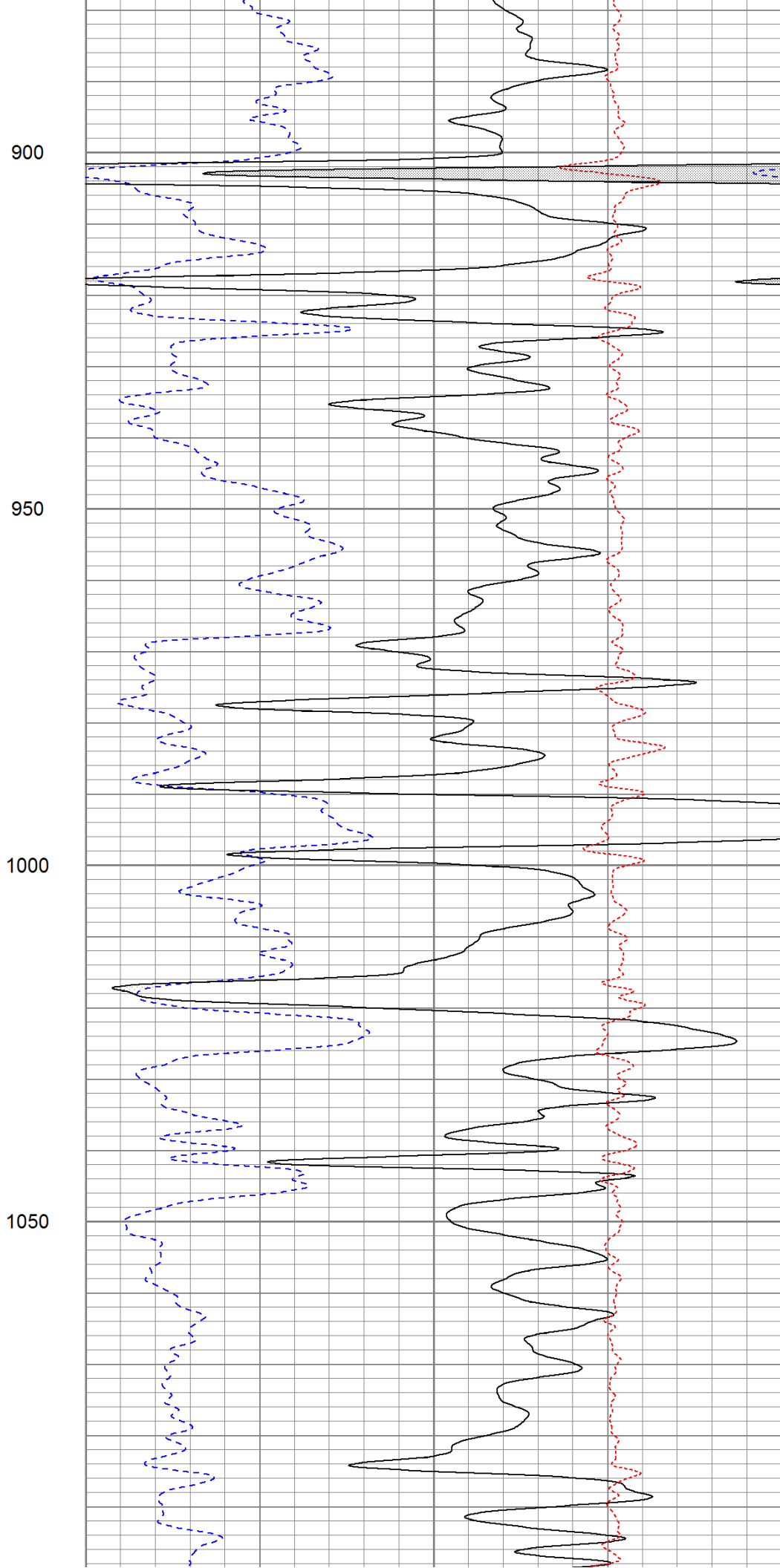
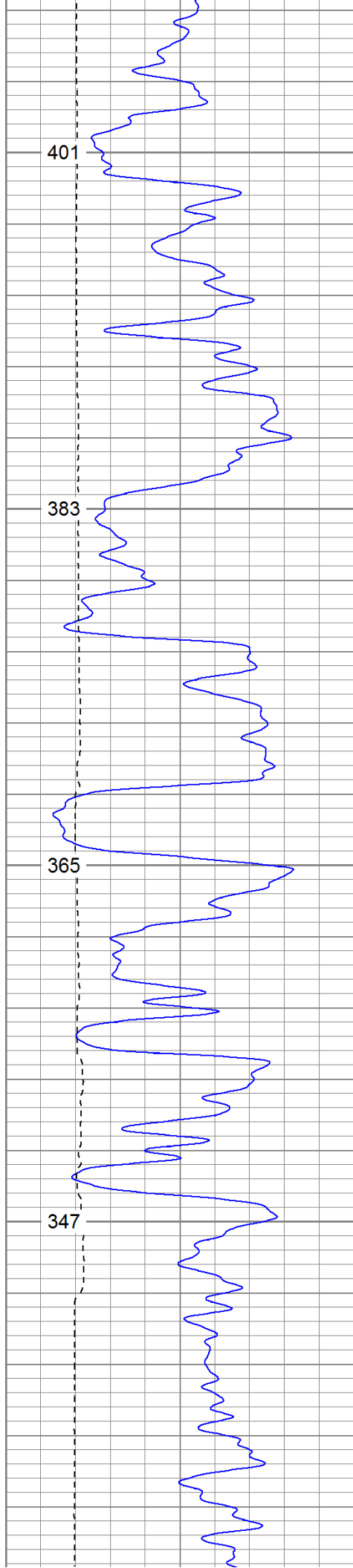
700

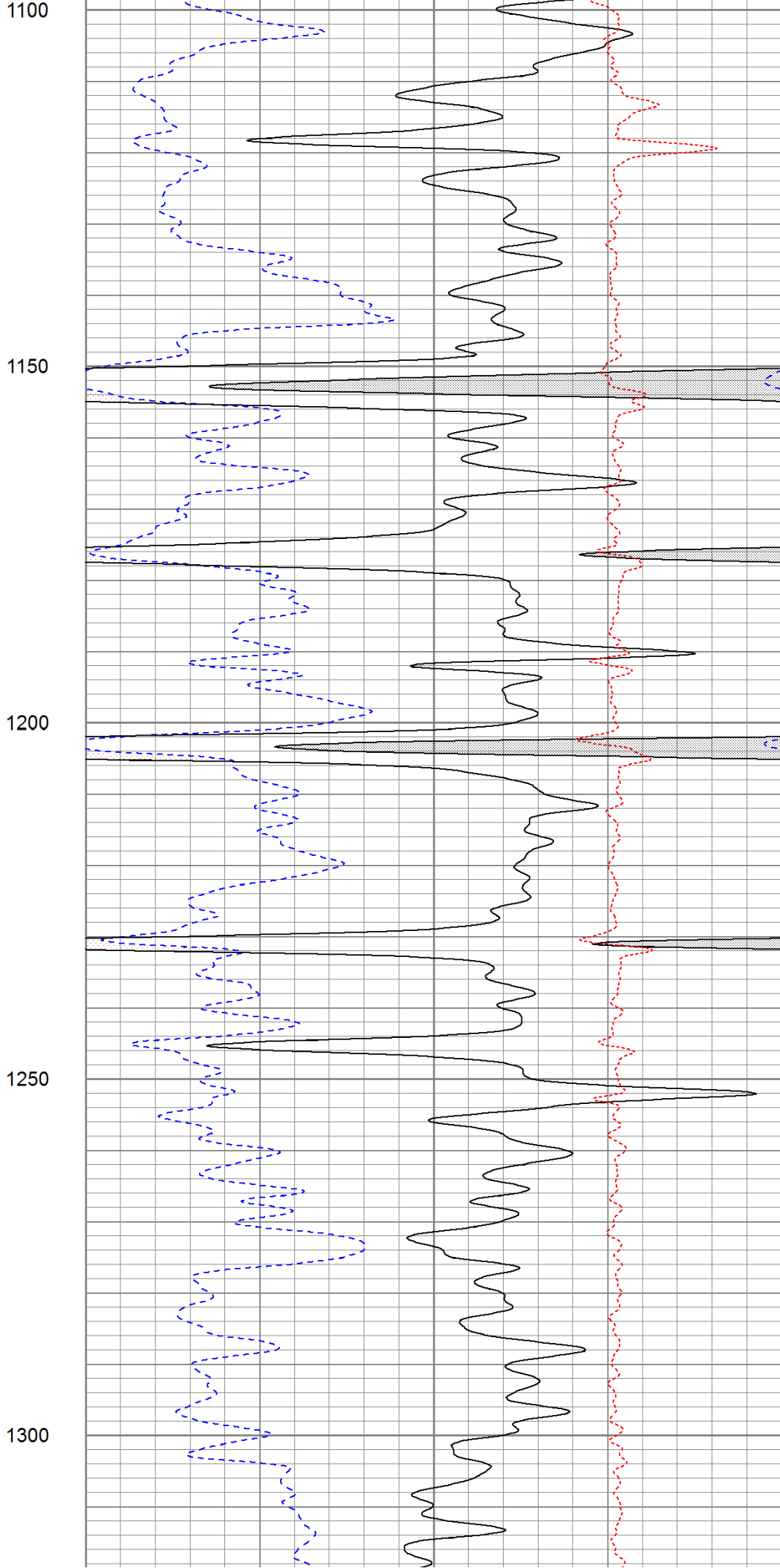
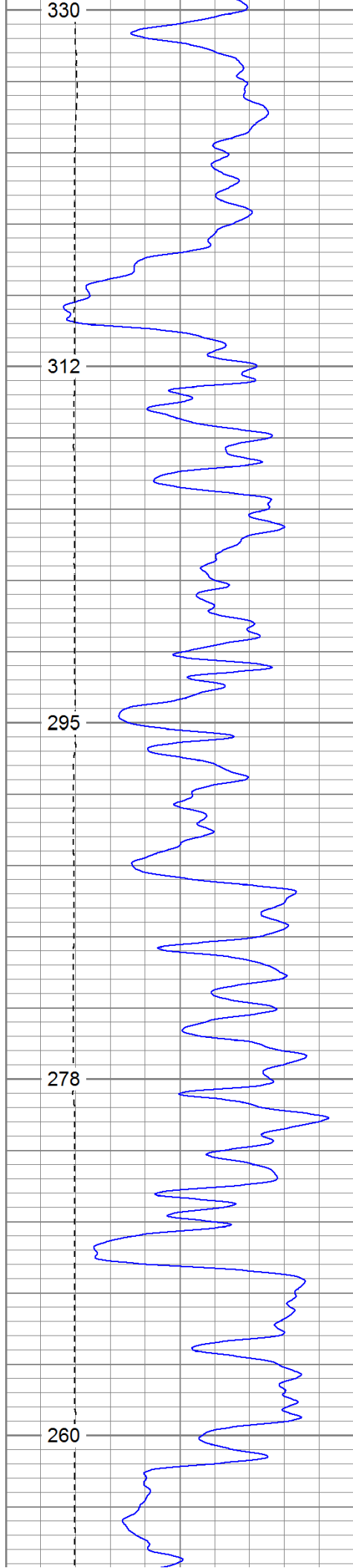
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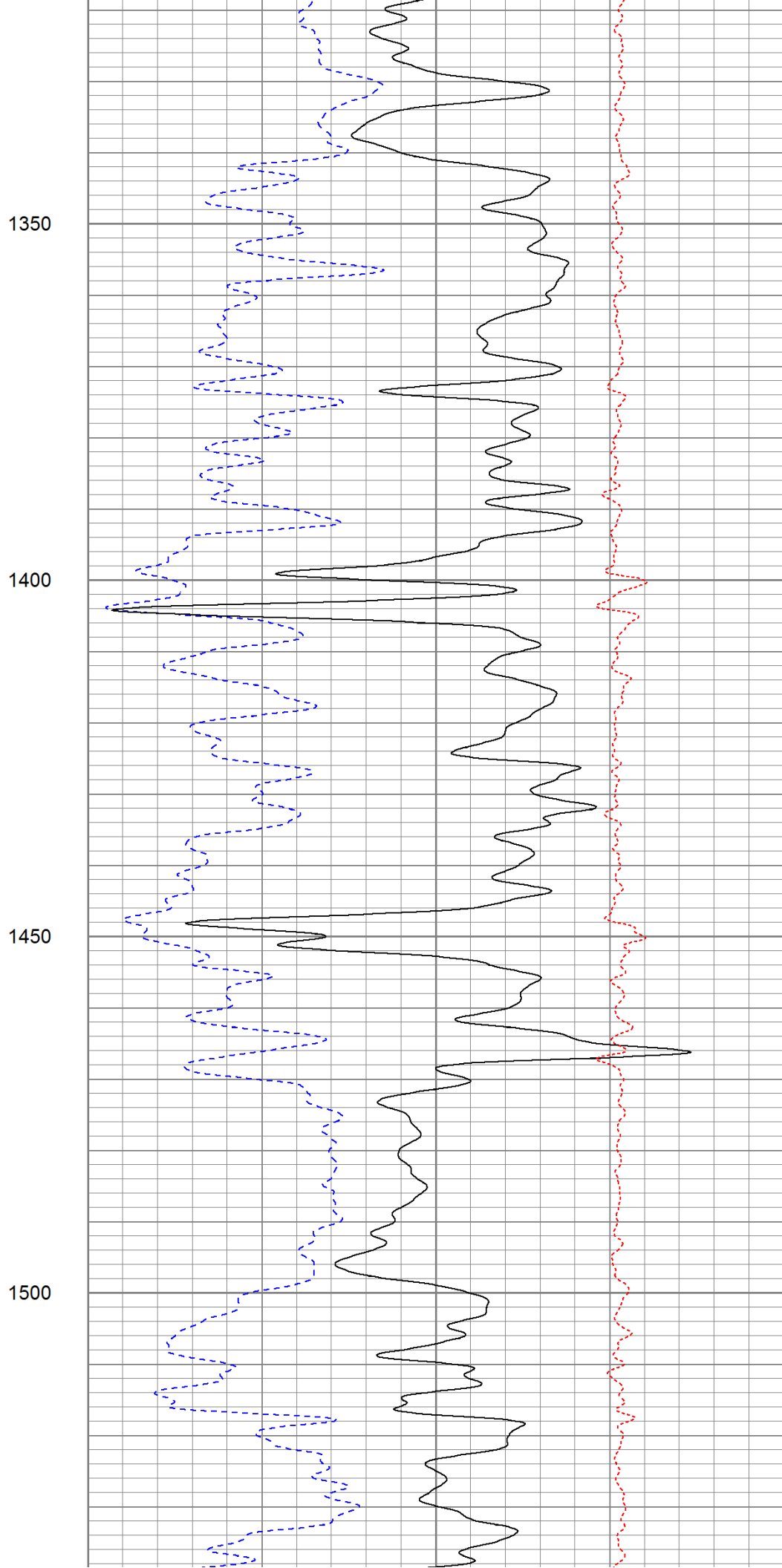
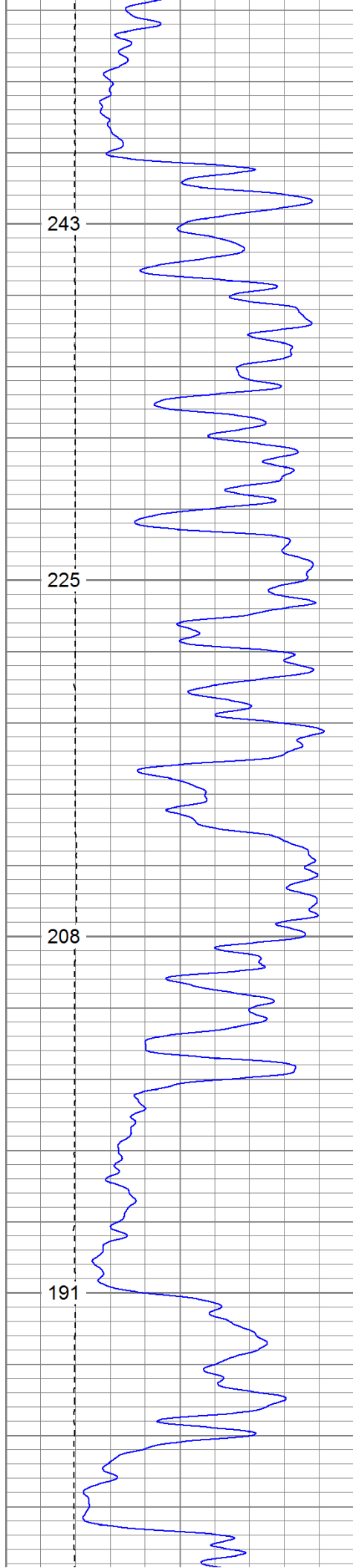
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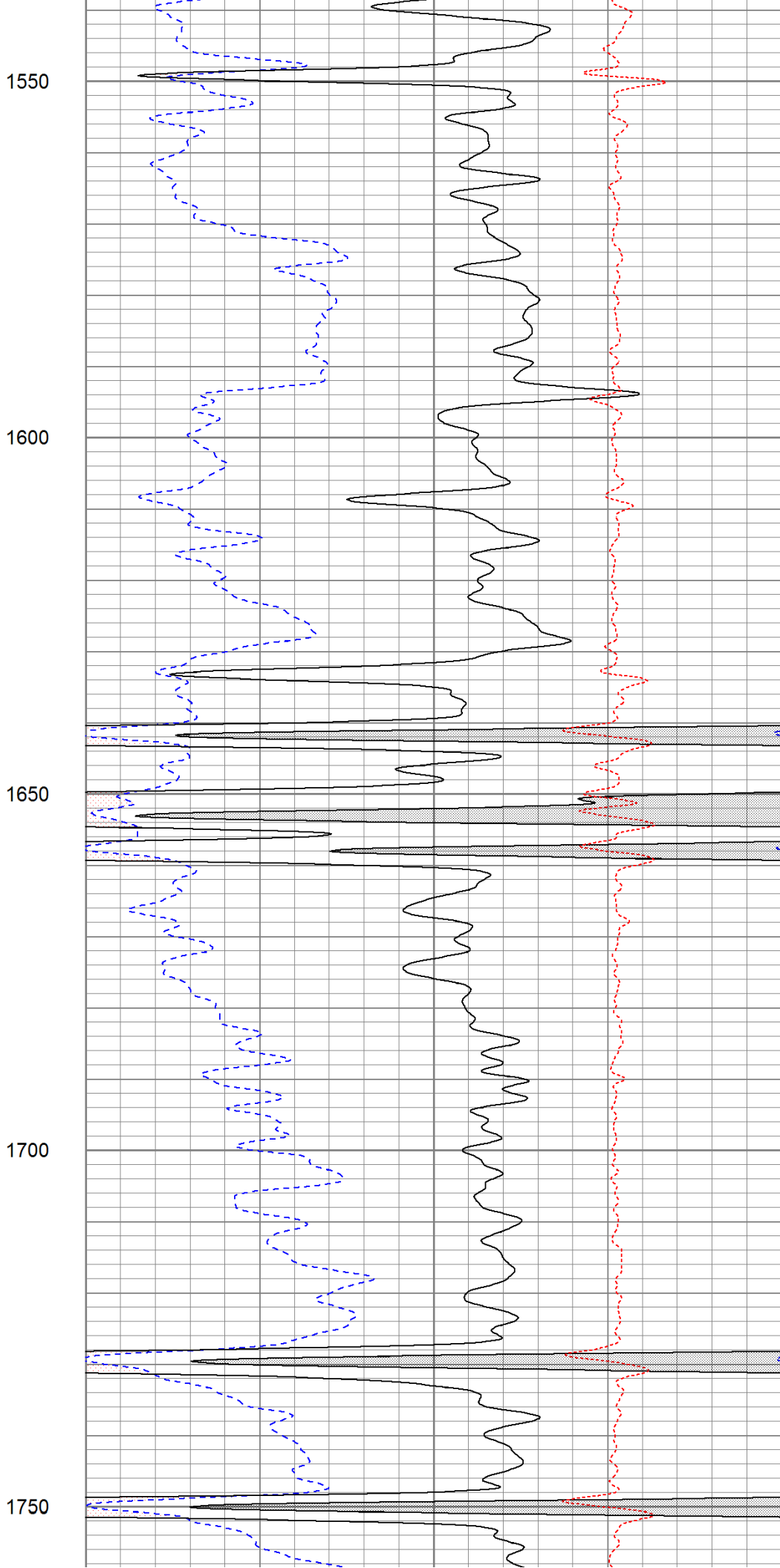
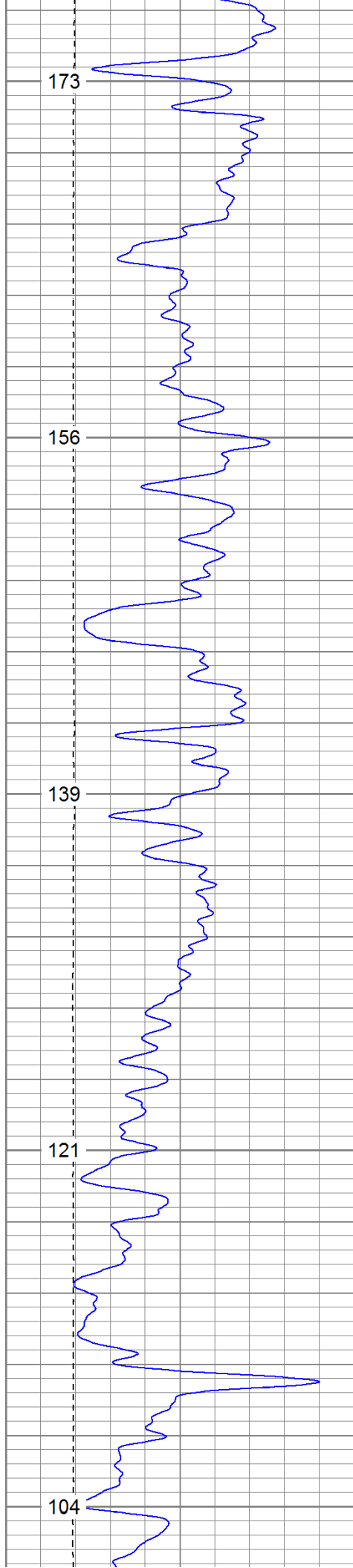
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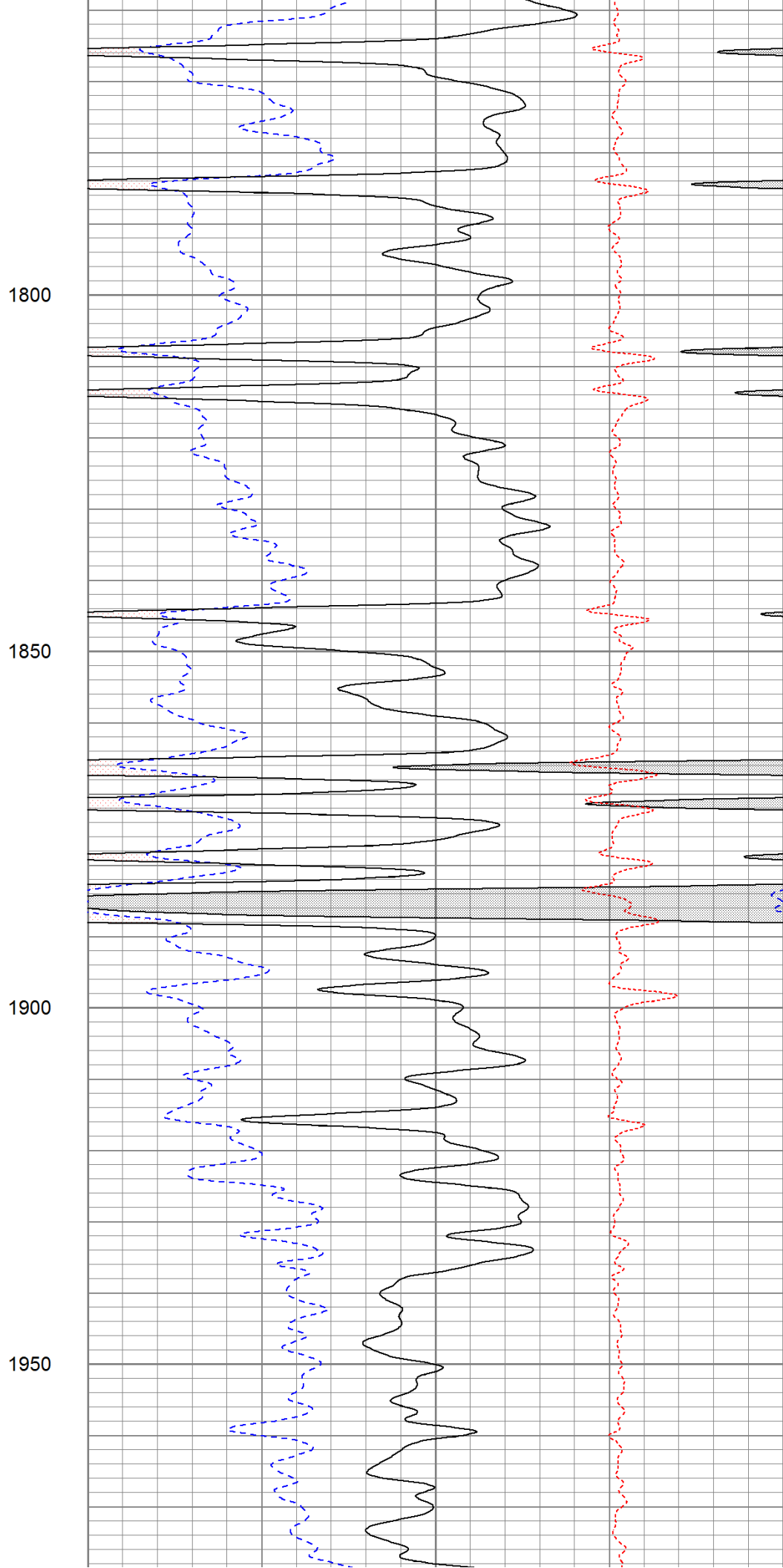
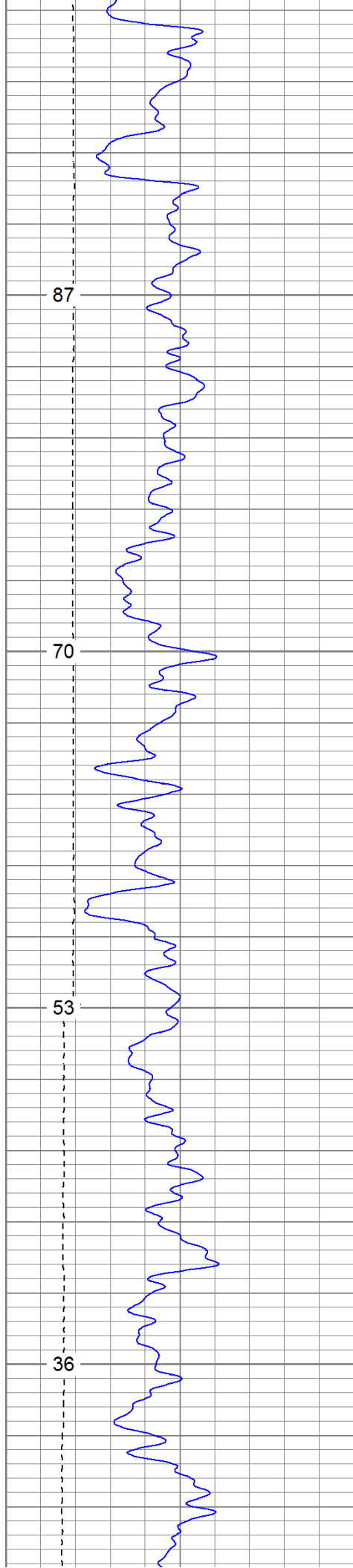




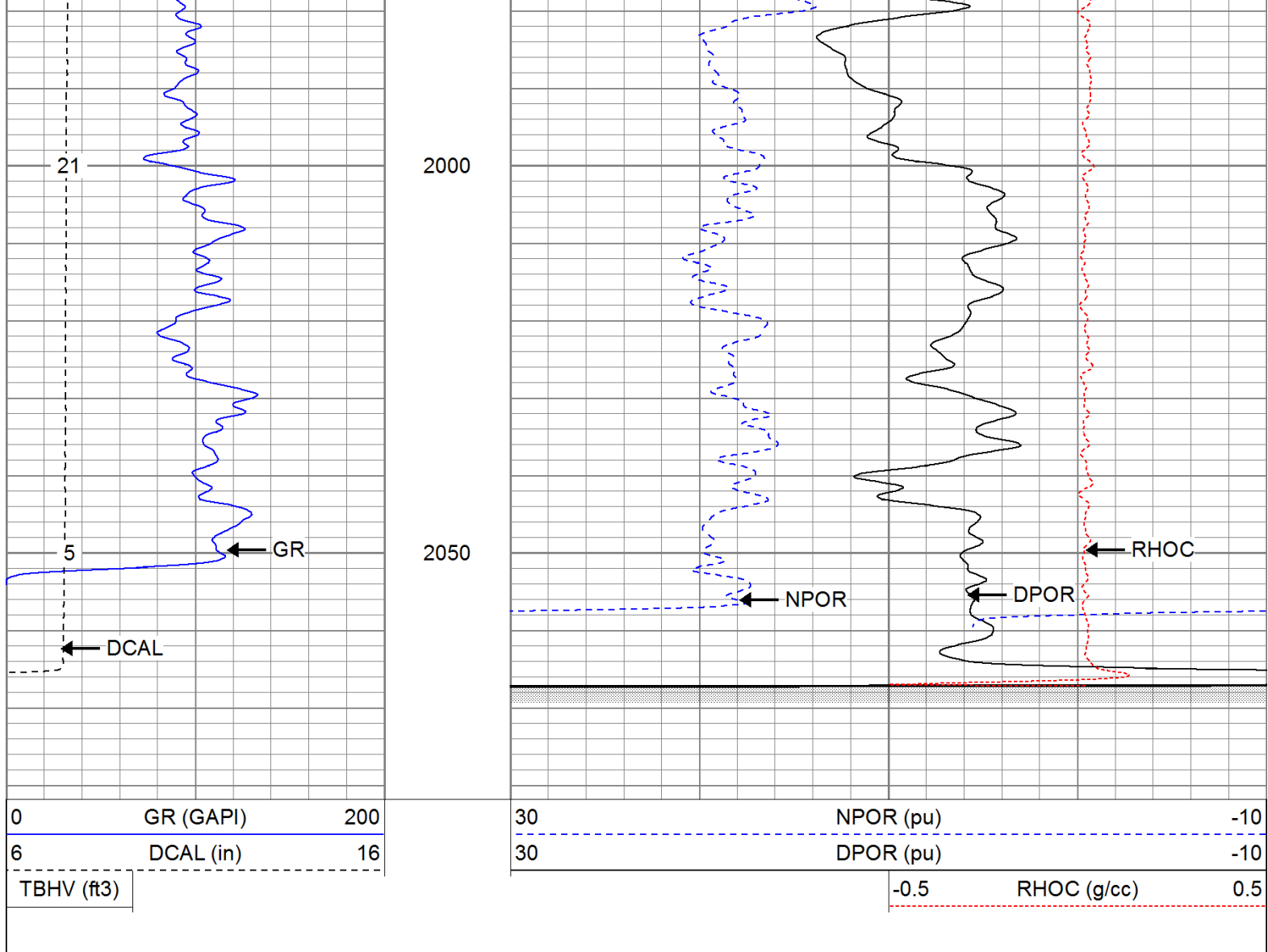








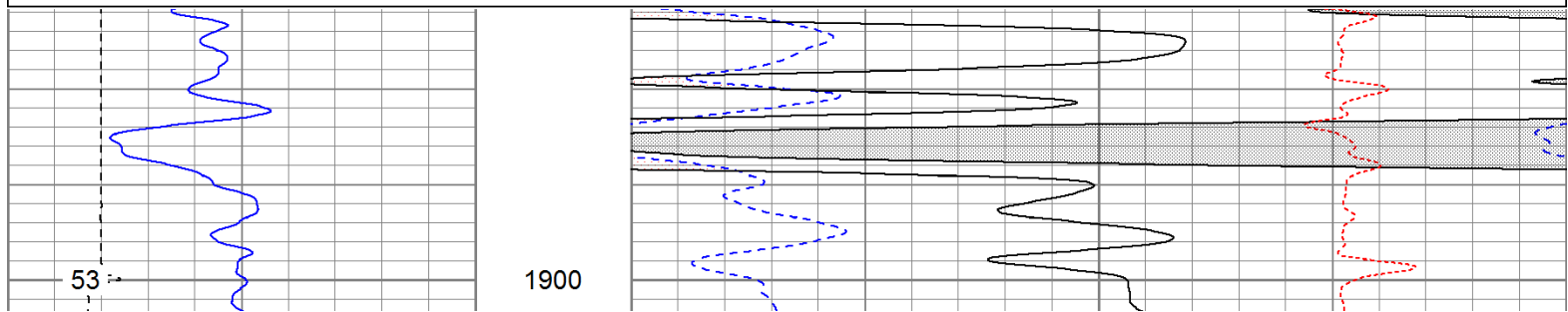
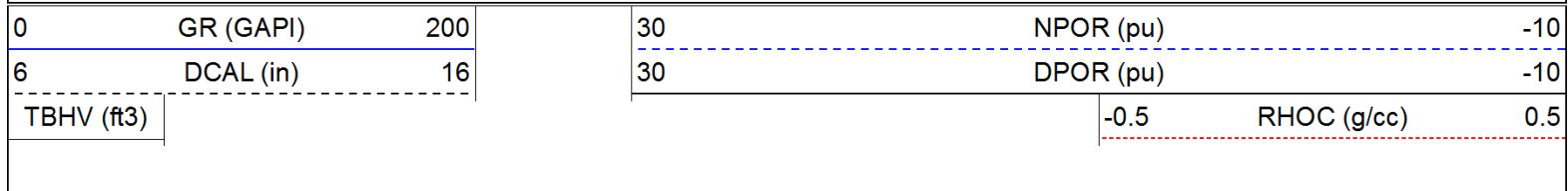


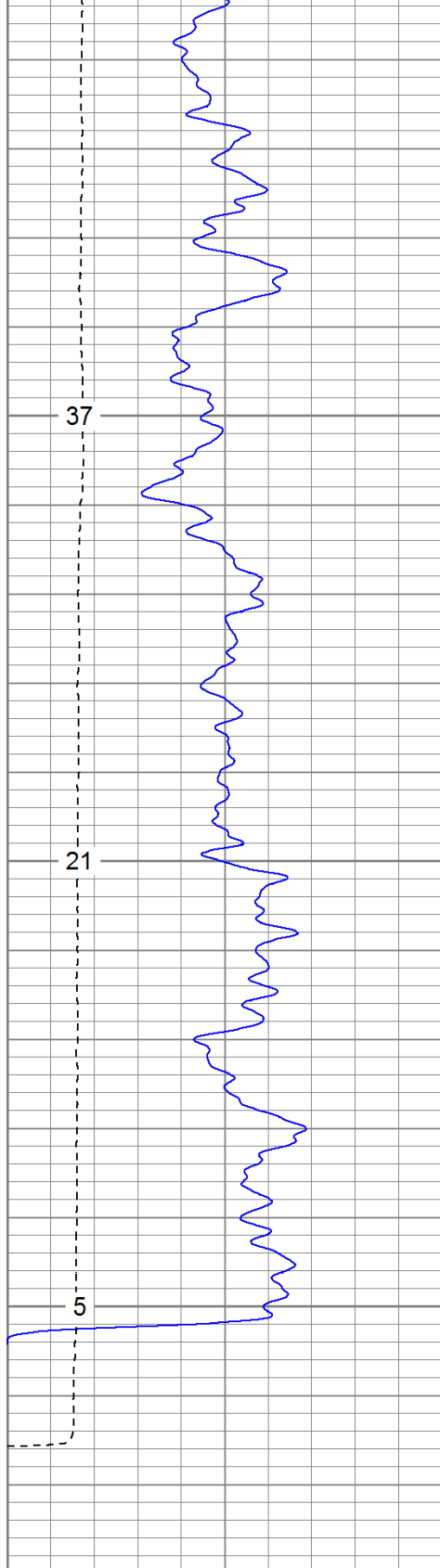


**The Perforators**  
LLC

# Repeat Pass

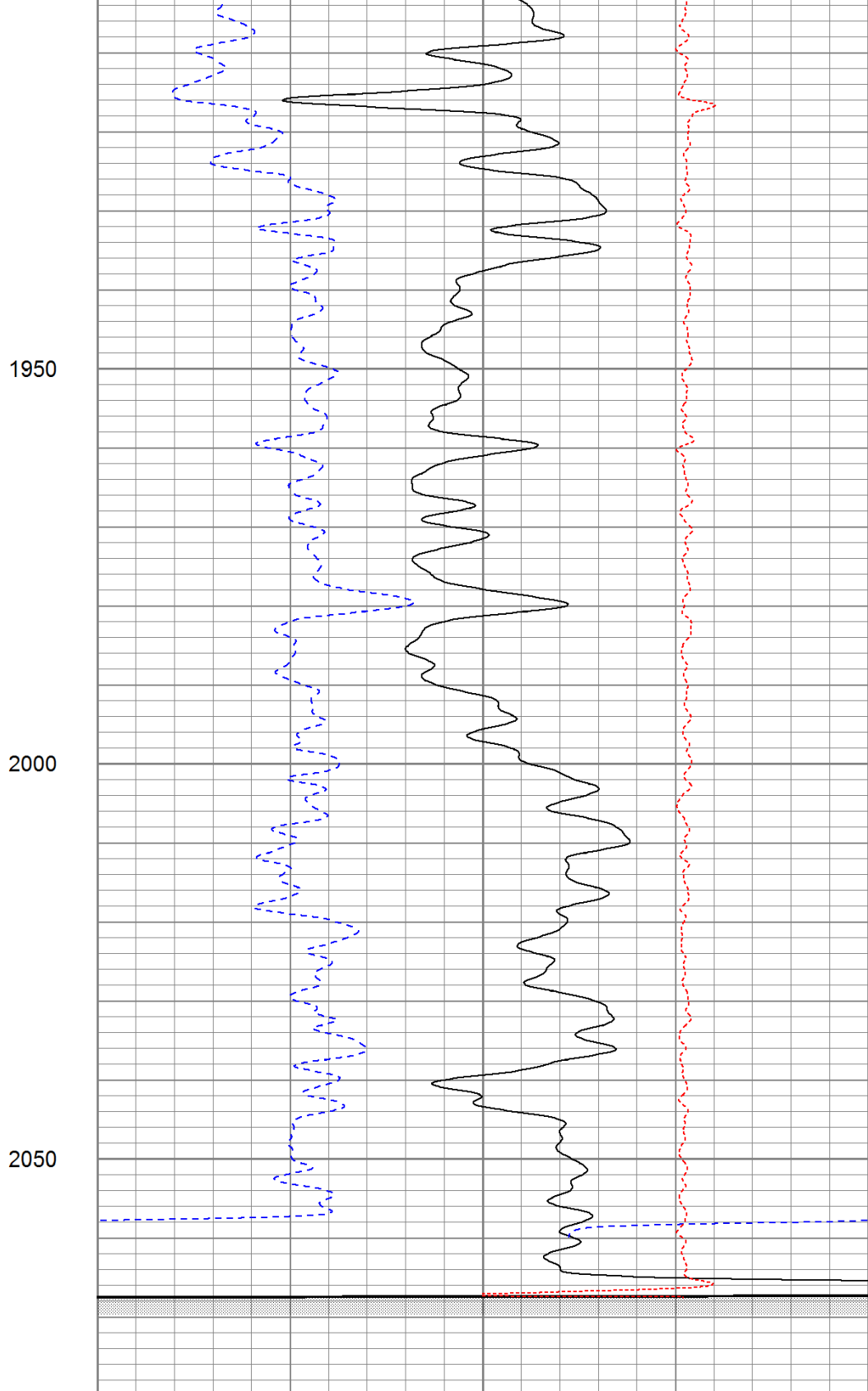
Database File: wildfire.db  
 Dataset Pathname: pass1.1  
 Presentation Format: cdnl  
 Dataset Creation: Sat May 28 01:38:26 2011 by Calc Open-Cased 110302  
 Charted by: Depth in Feet scaled 1:240





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

TBHV (ft3)



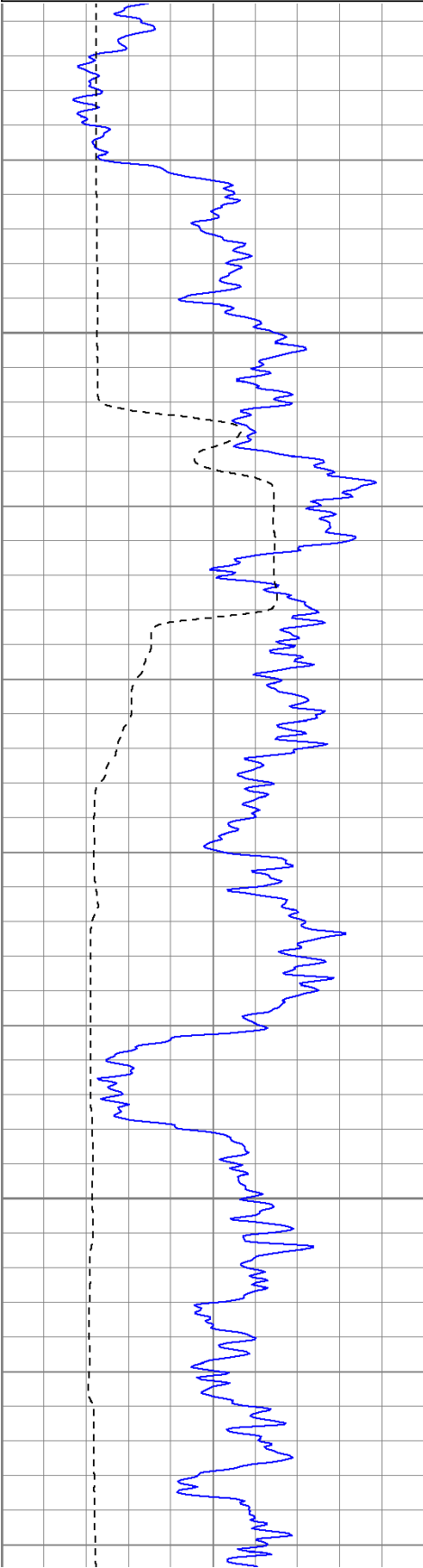
30	NPOR (pu)	-10
30	DPOR (pu)	-10

-0.5 RHOC (g/cc) 0.5

Database File: wildfire.db  
Dataset Pathname: pass2.2  
Presentation Format: cdlhr  
Dataset Creation: Sat May 28 01:40:03 2011 by Calc Open-Cased 110302  
Charted by: Depth in Feet scaled 1:120

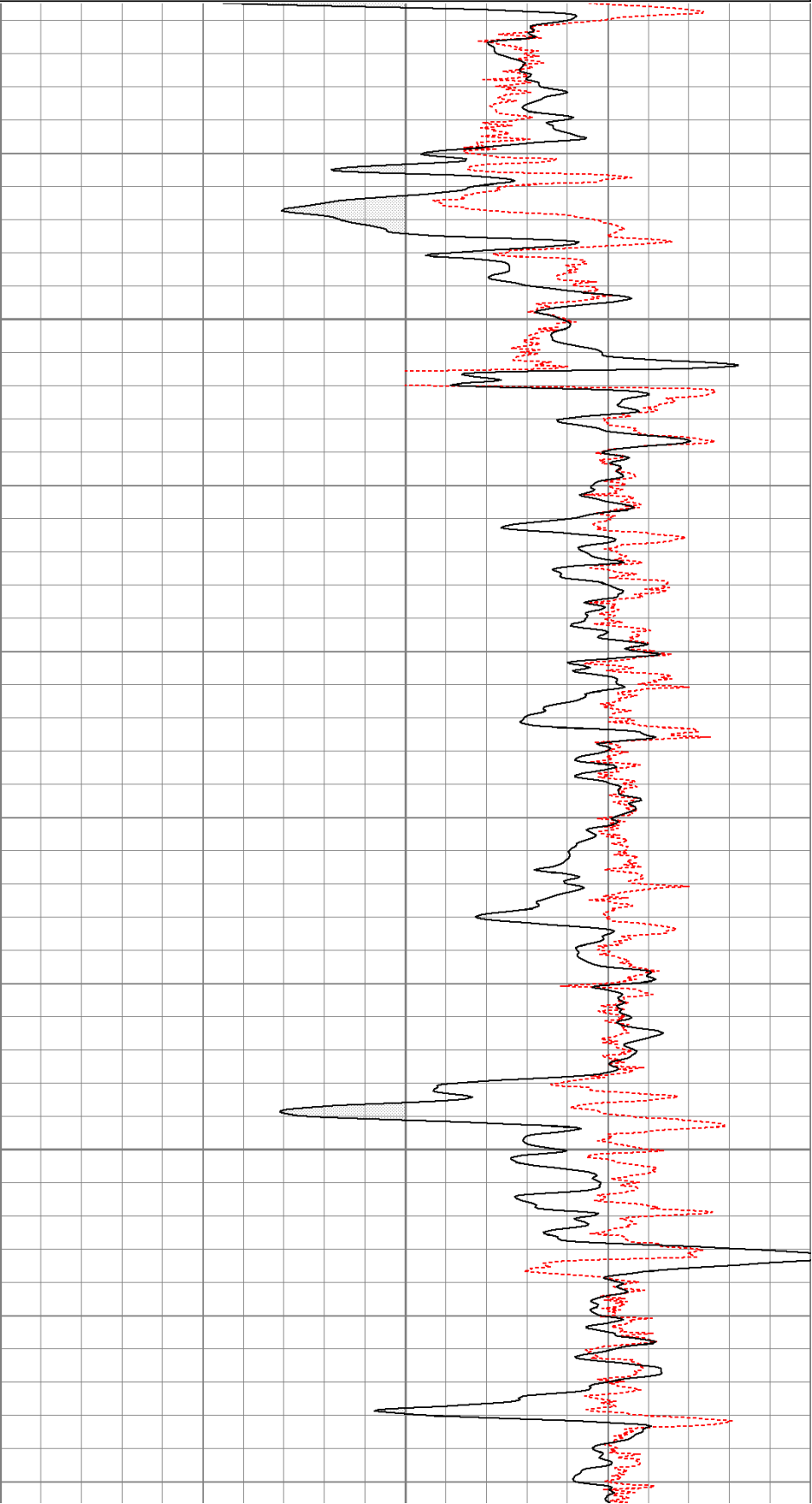
0	GR (GAPI)	200
6	DCAL (in)	16

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



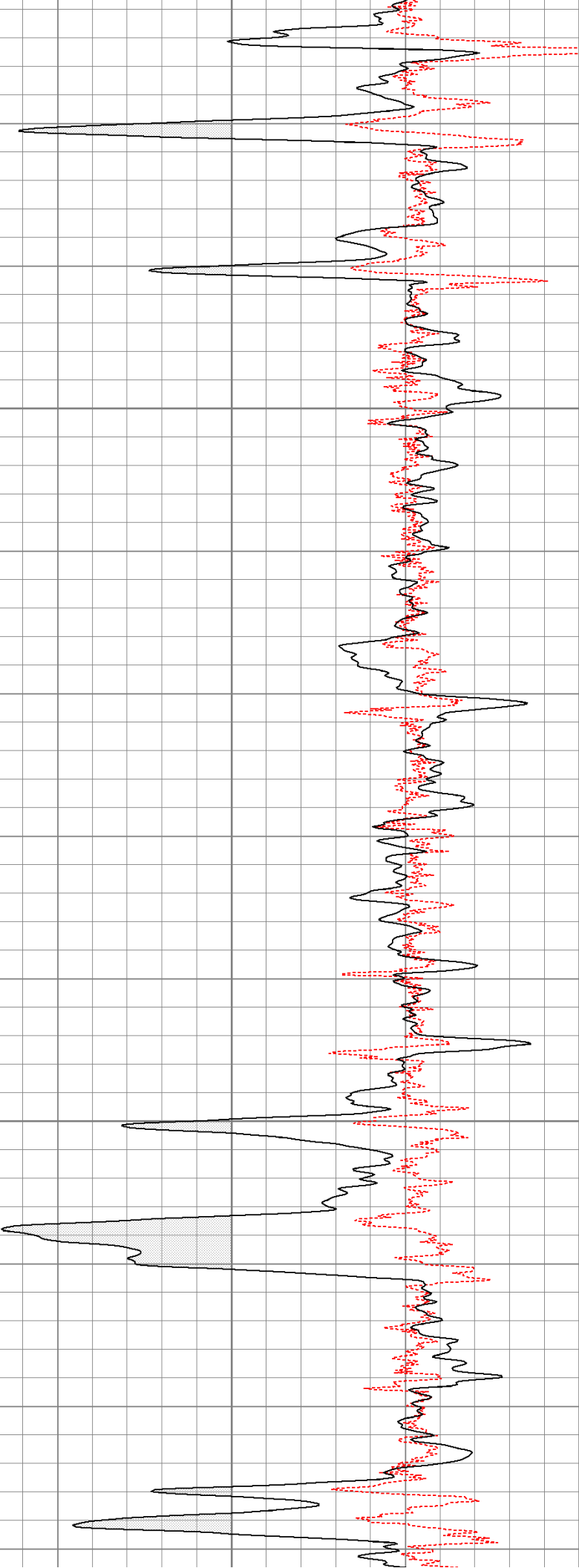
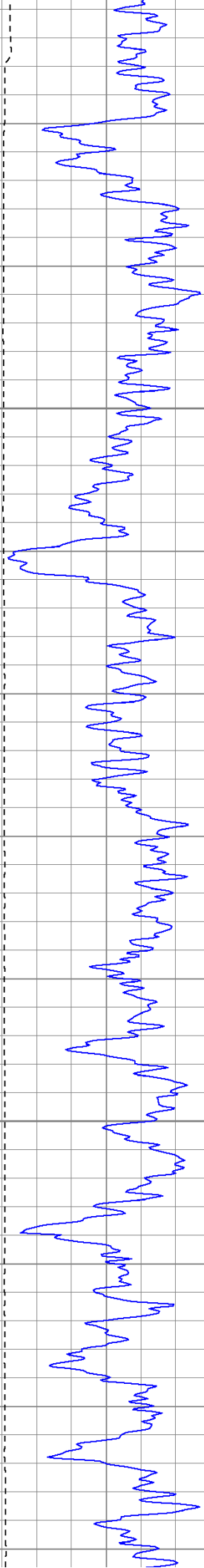
500

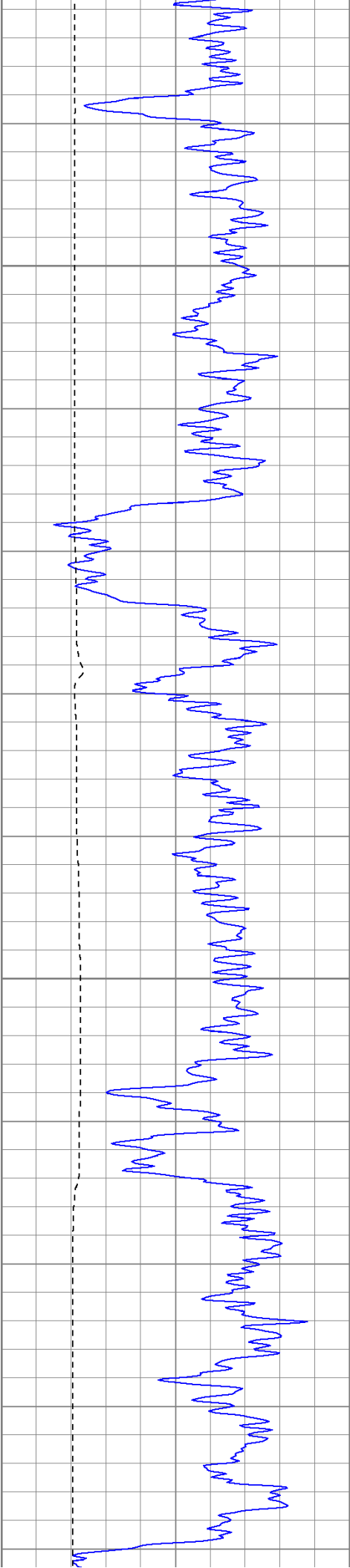
550



600

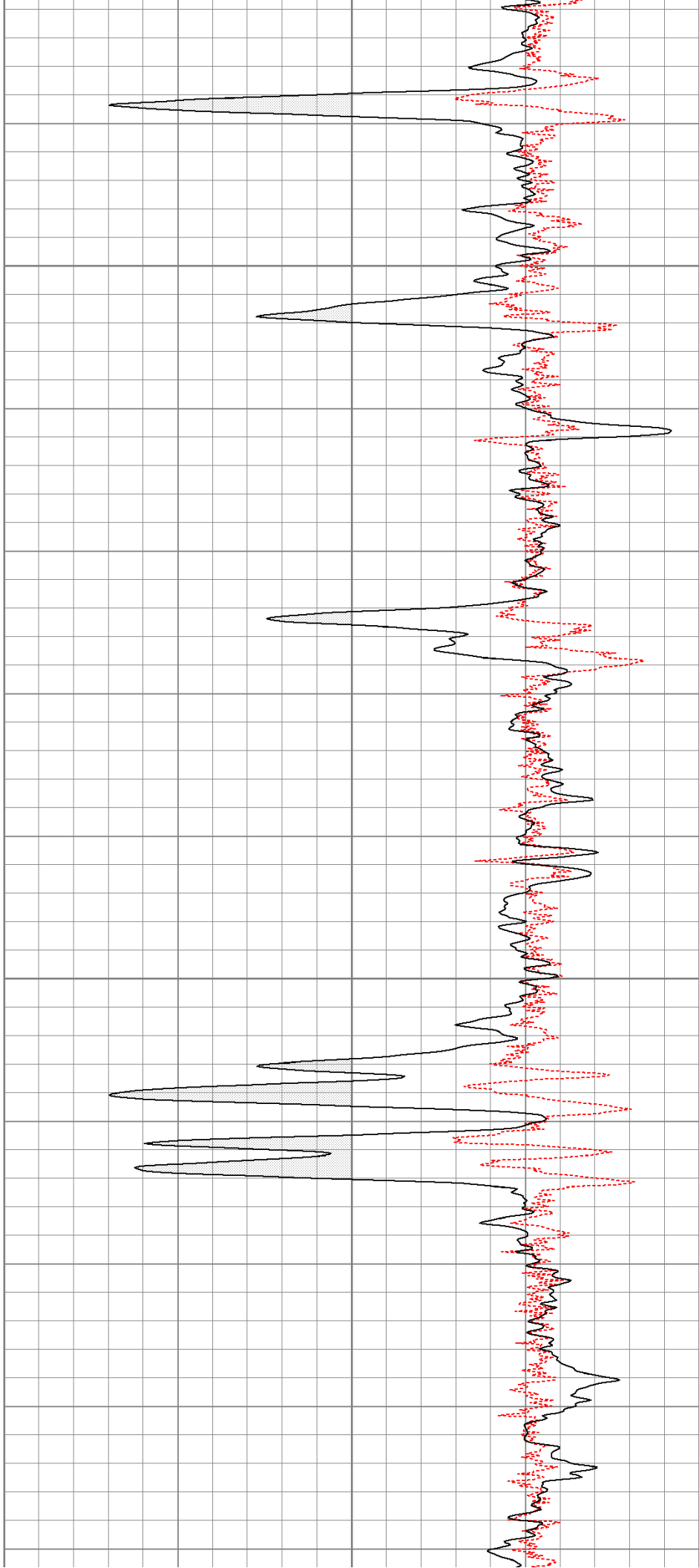
650

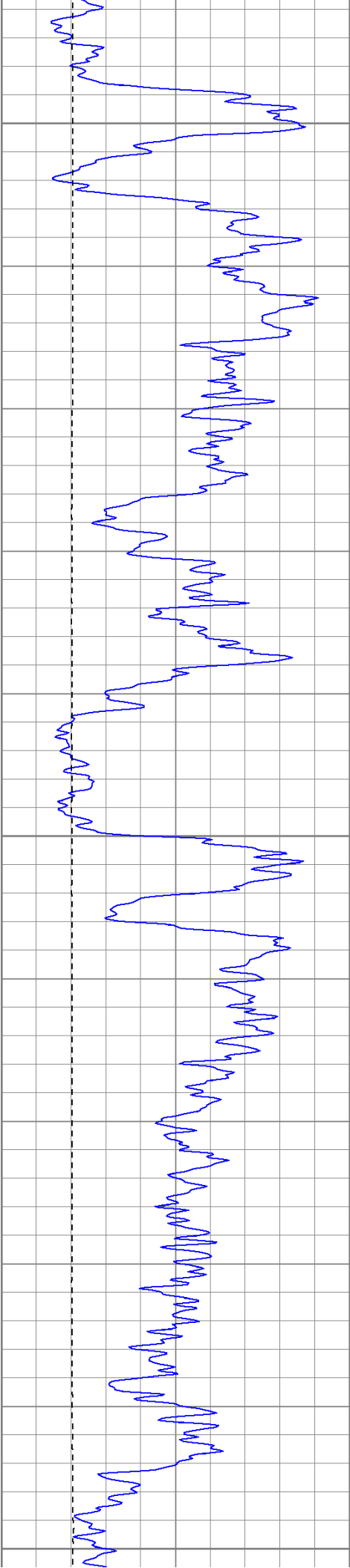




700

750

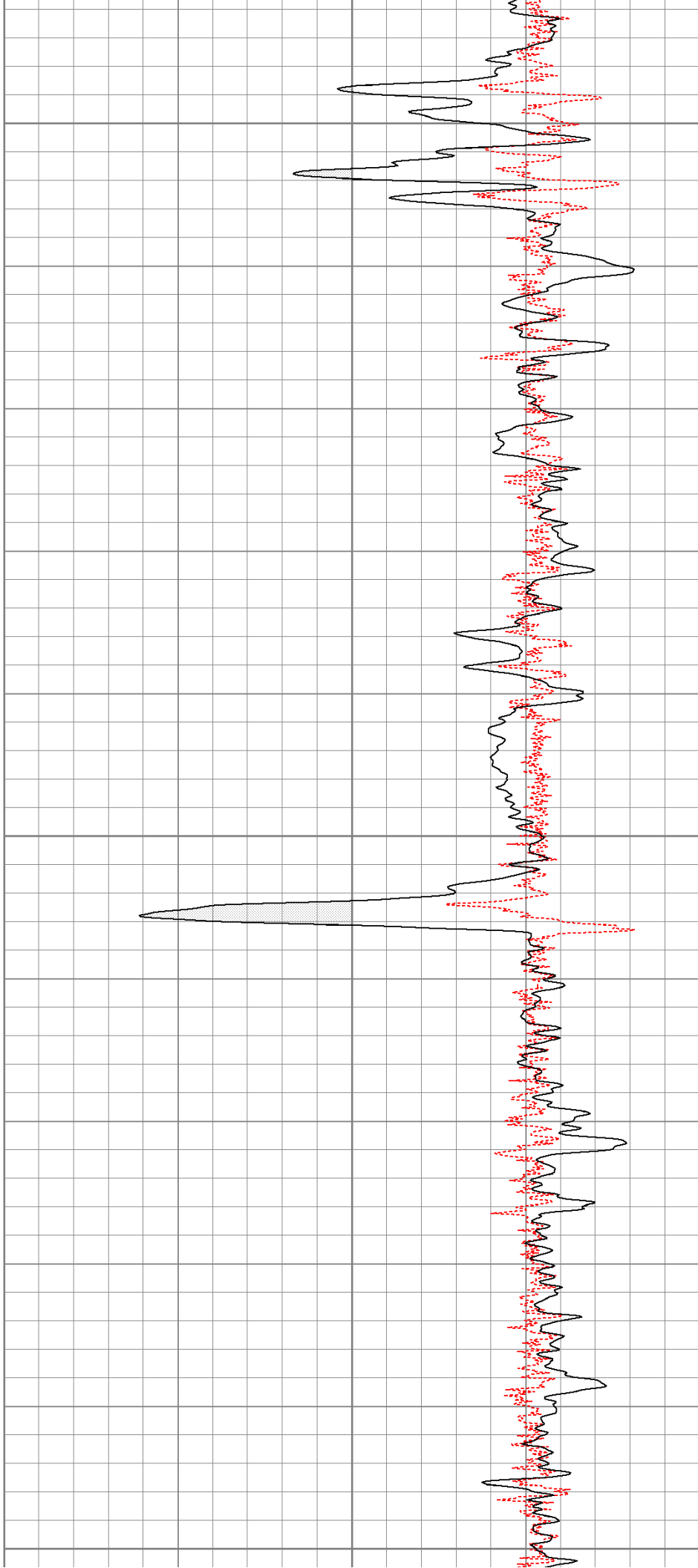


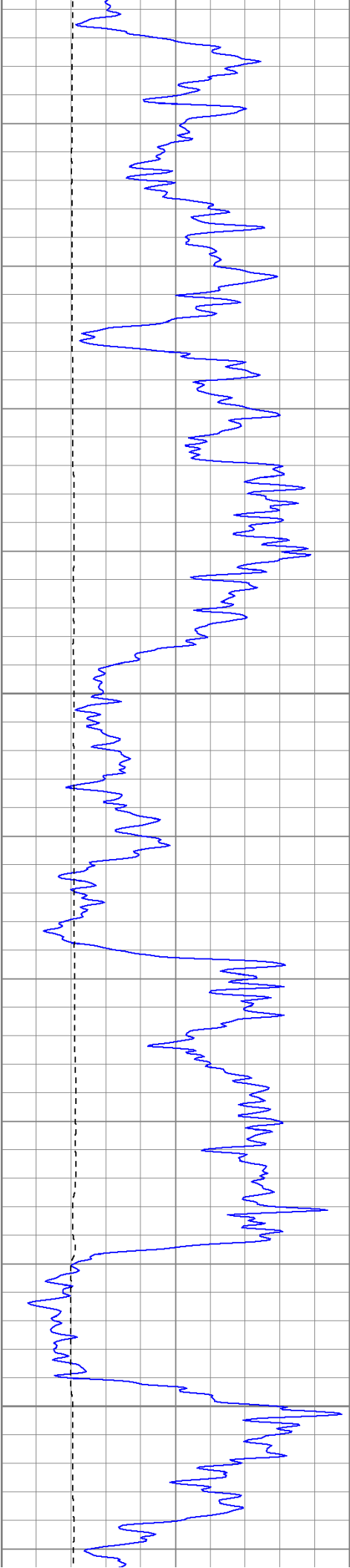


800

850

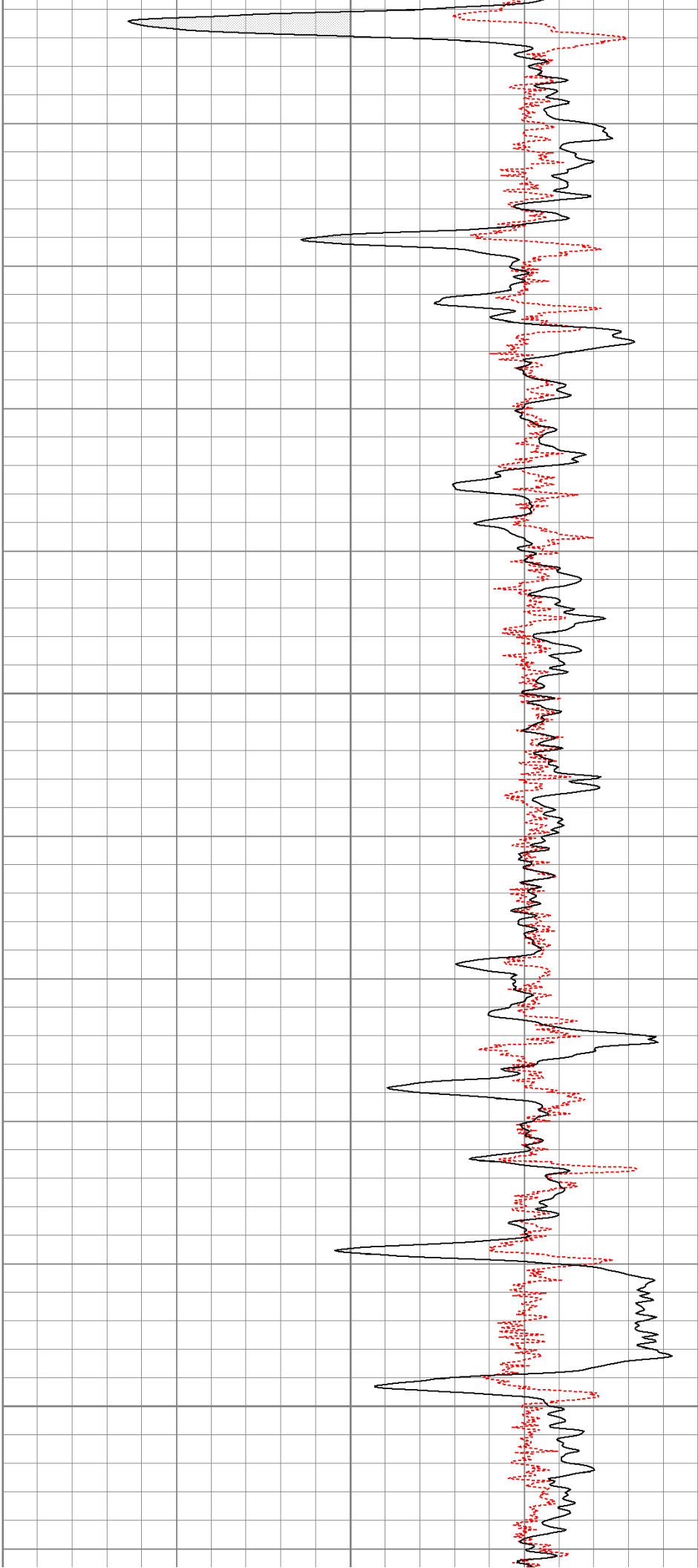
900

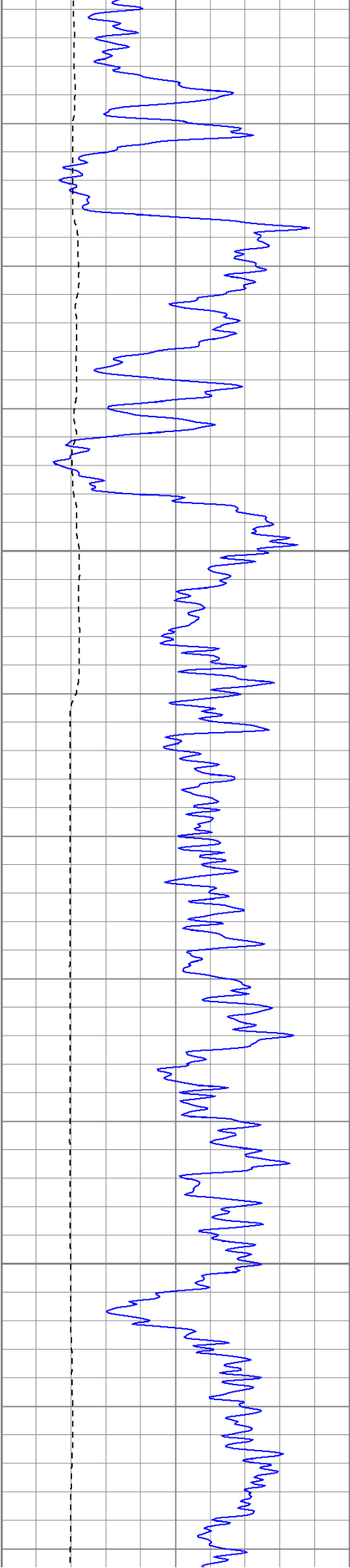




950

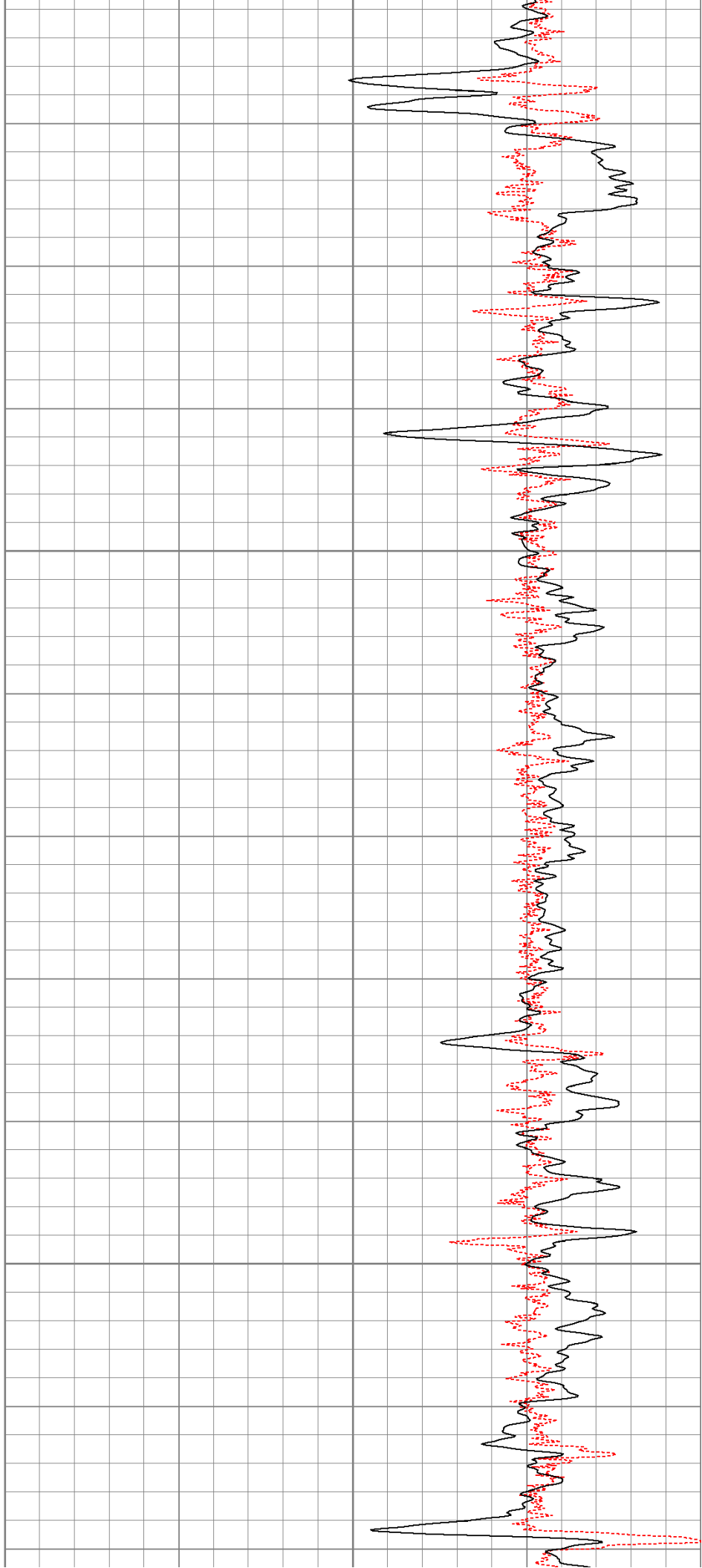
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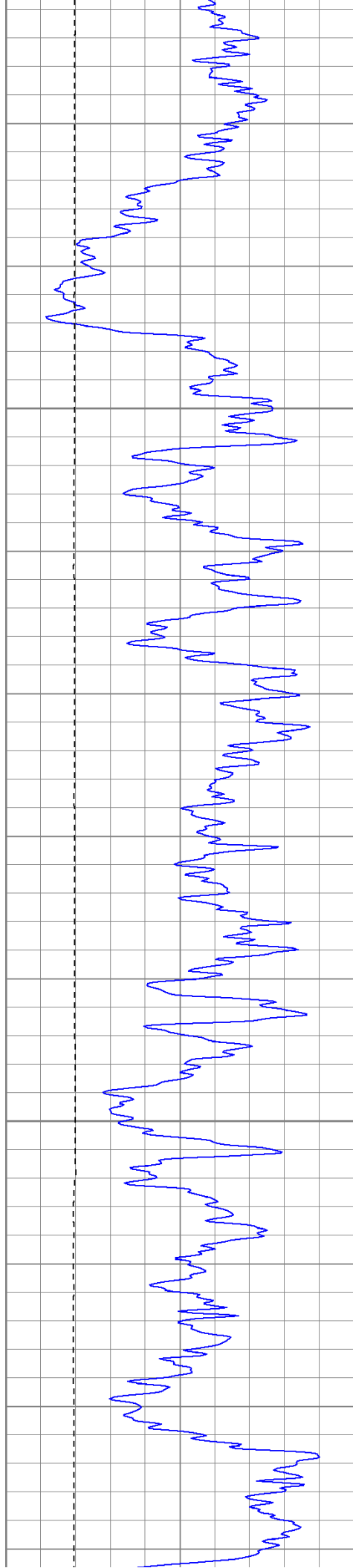


1050

1100

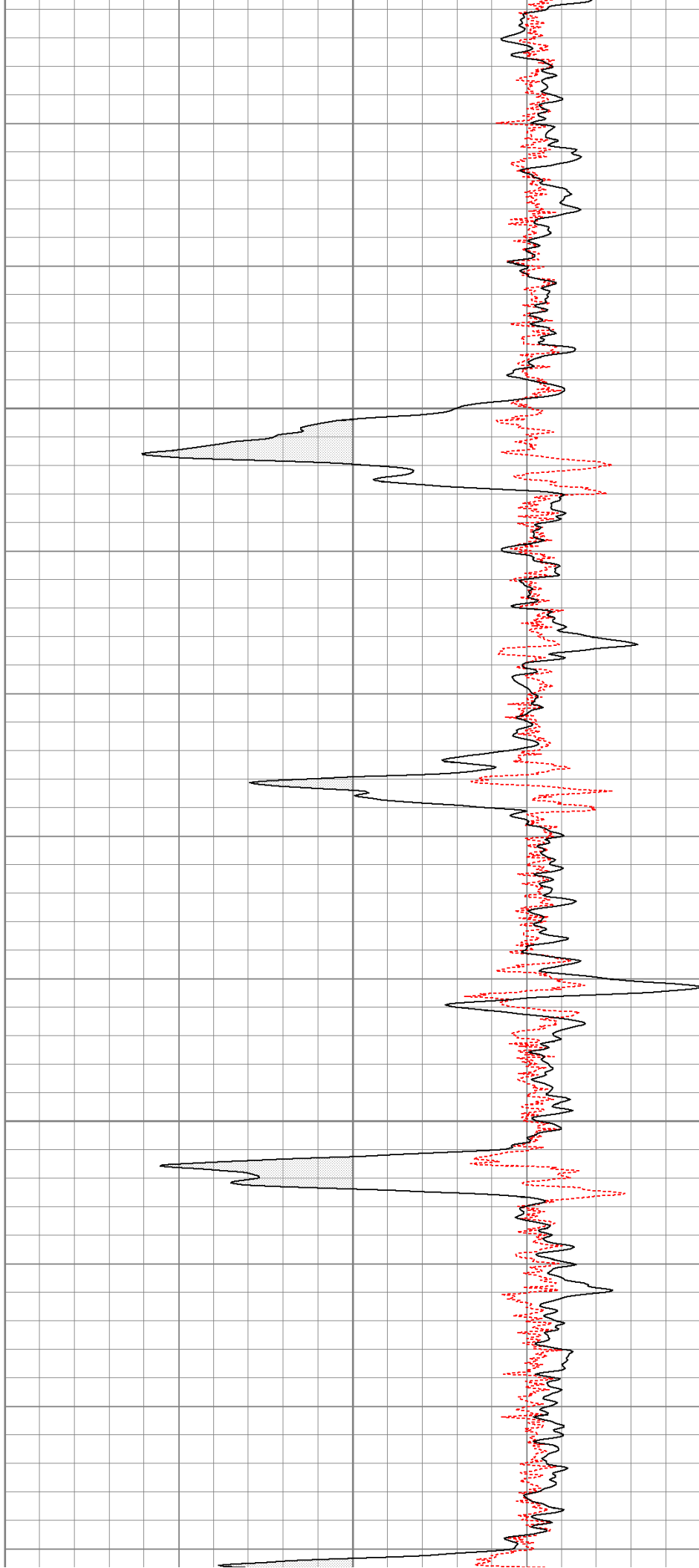


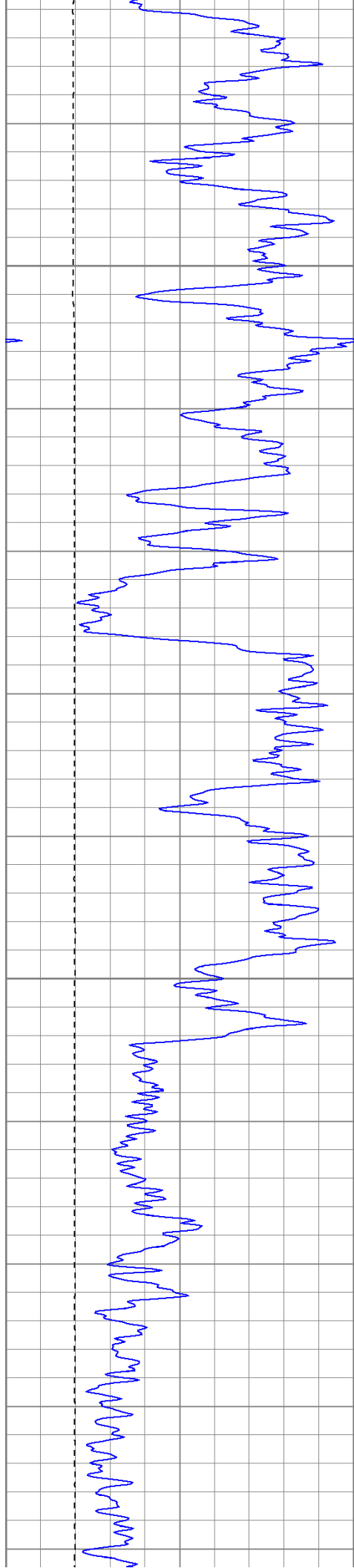




1150

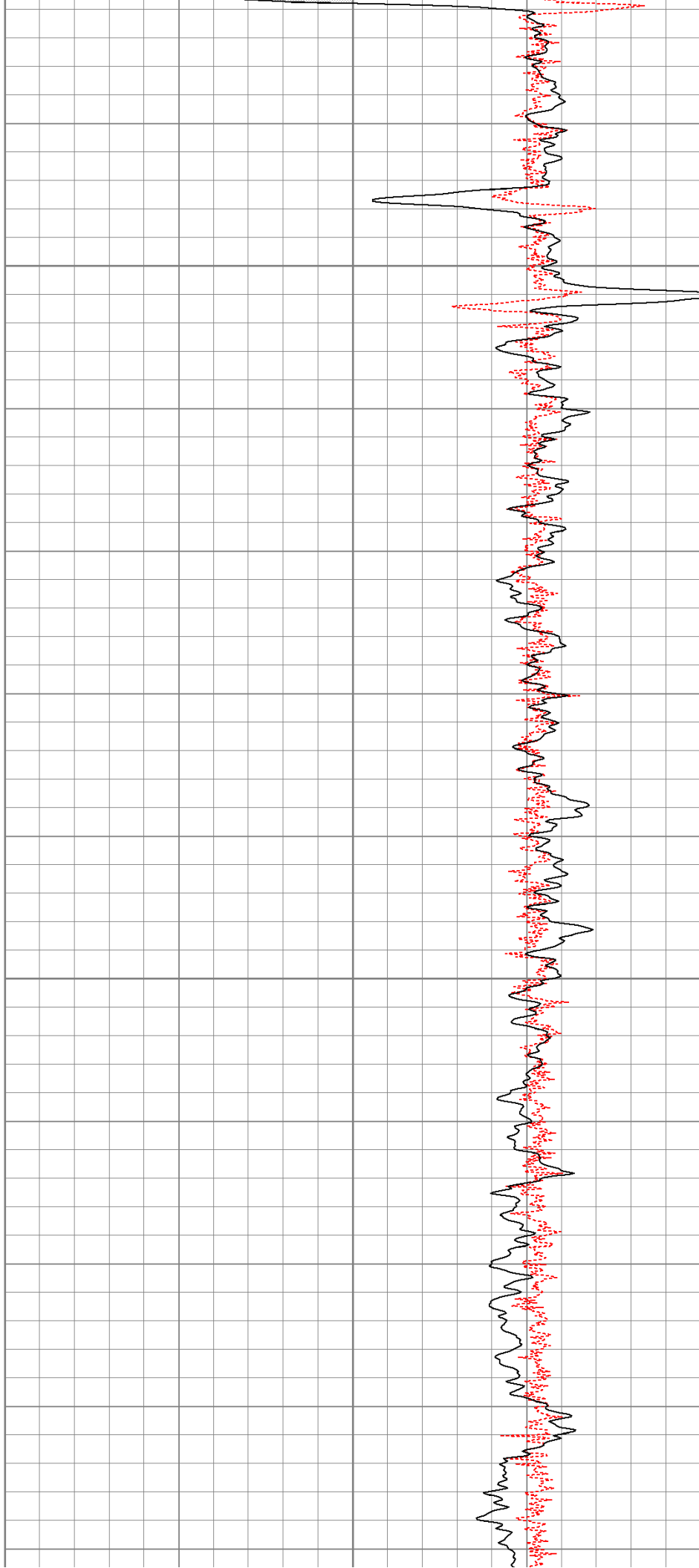
1200

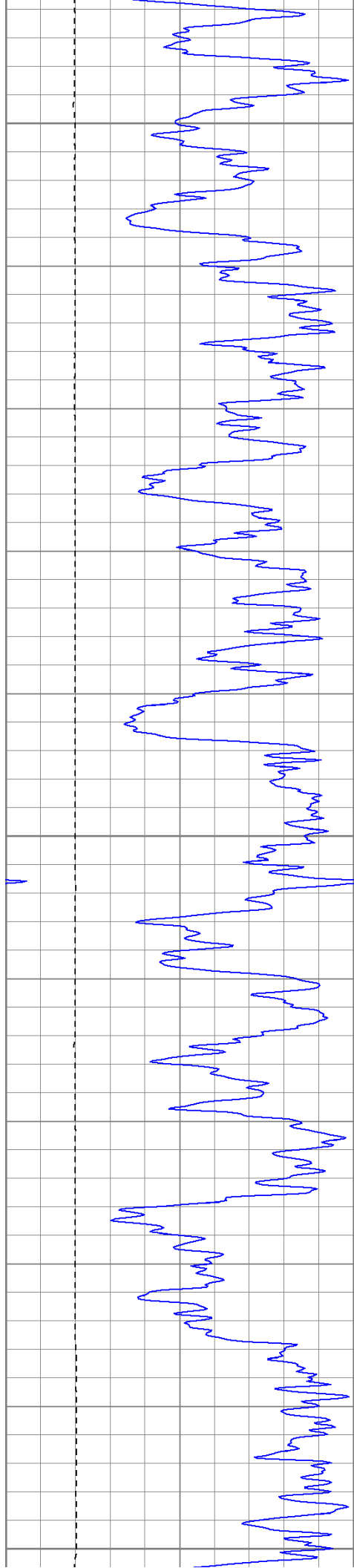




1250

1300

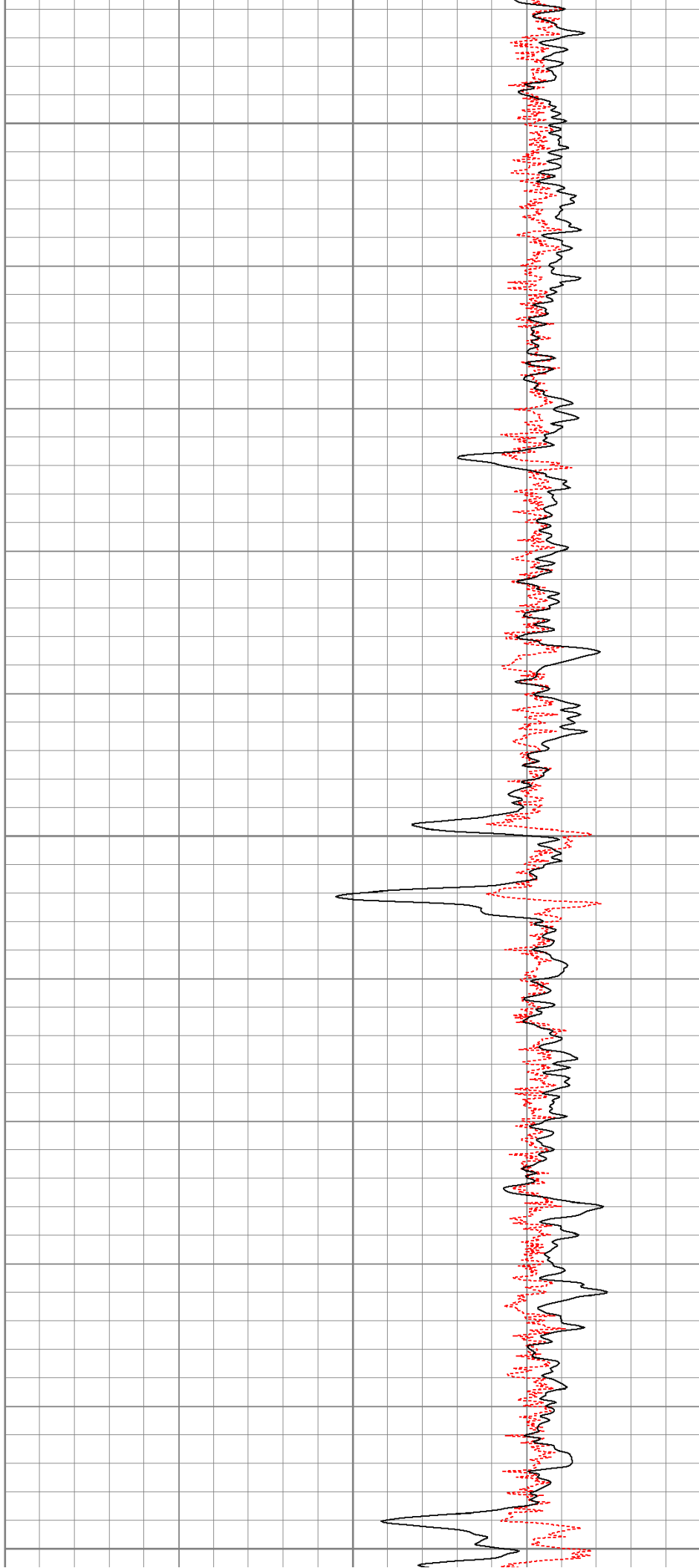


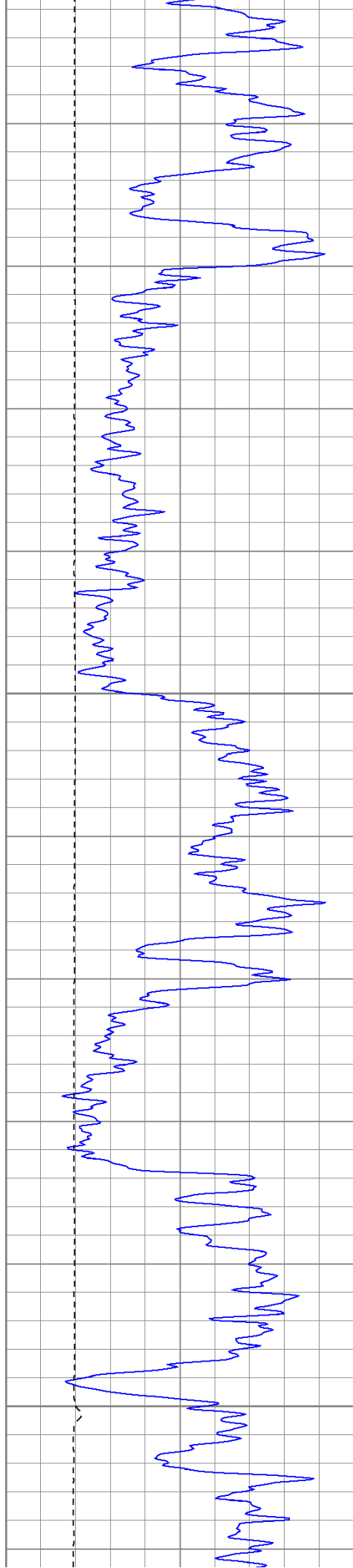


1350

1400

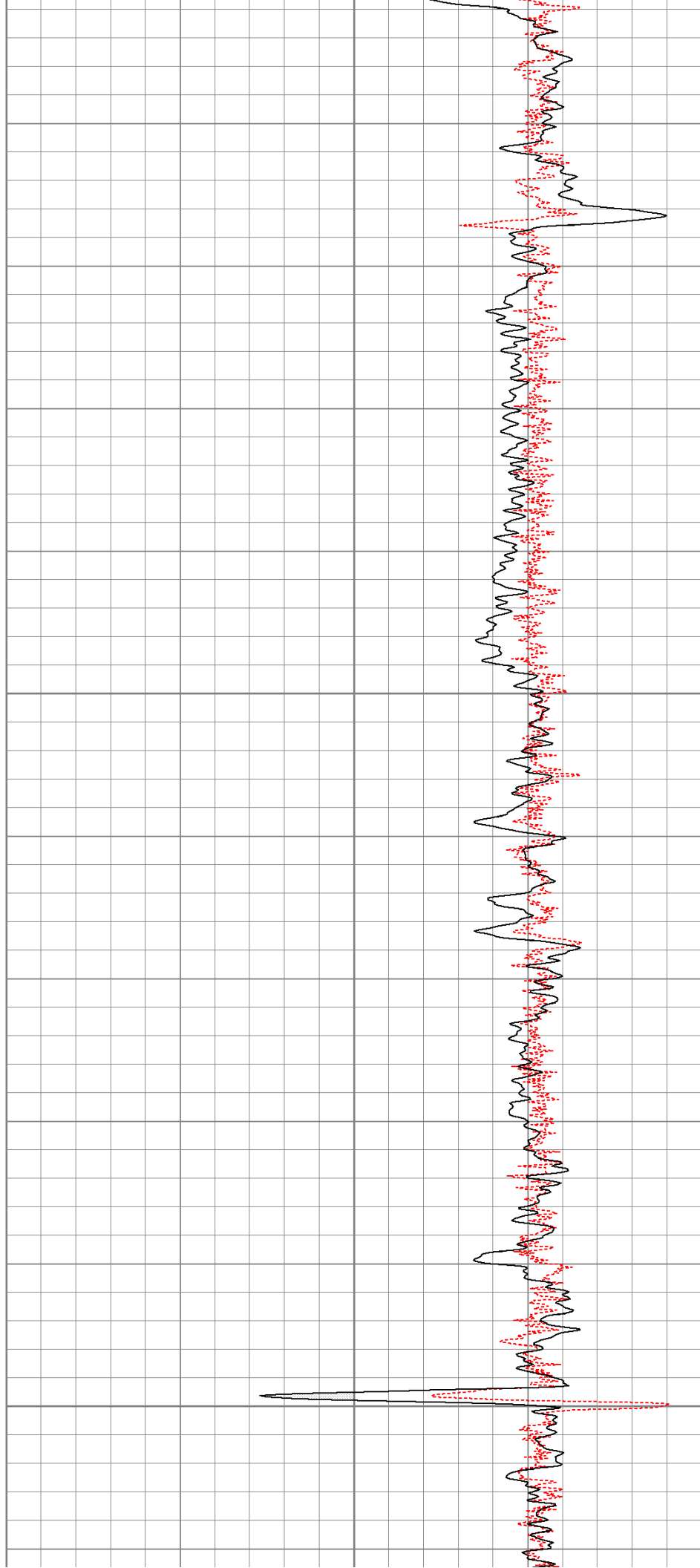
1450

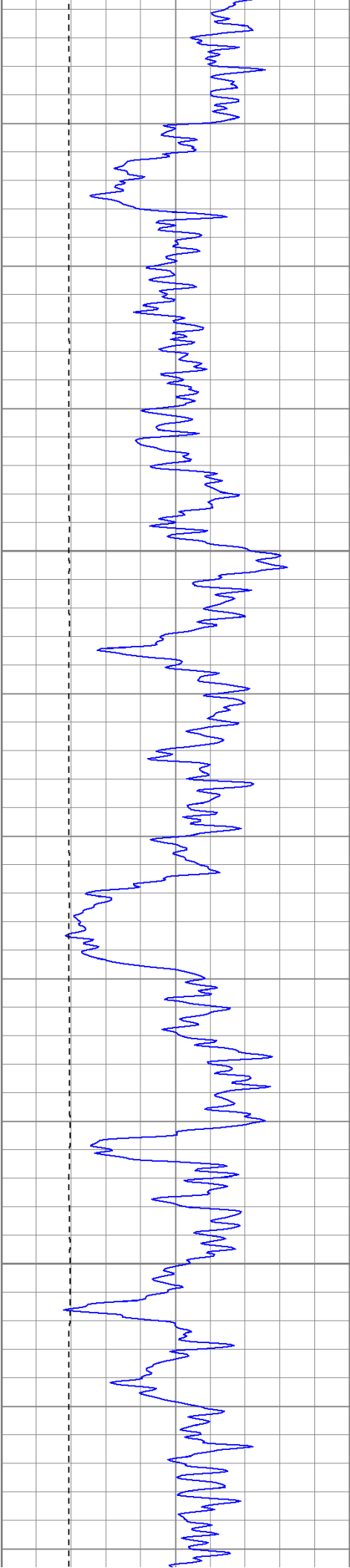




1500

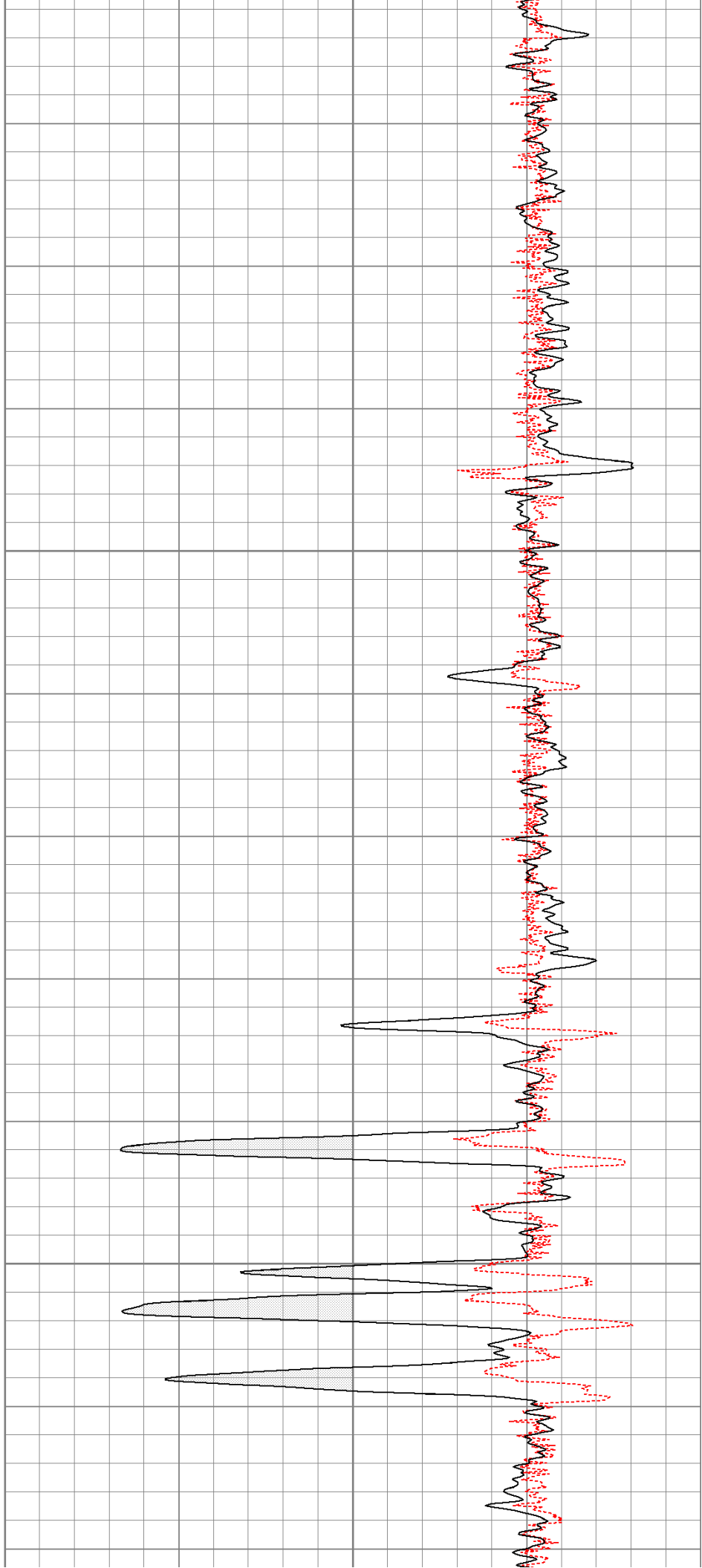
1550

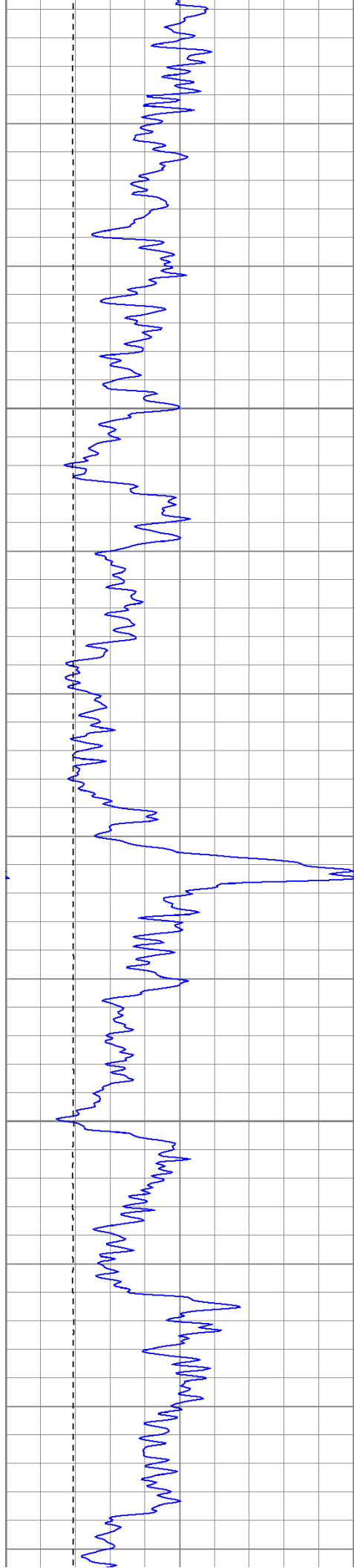




1600

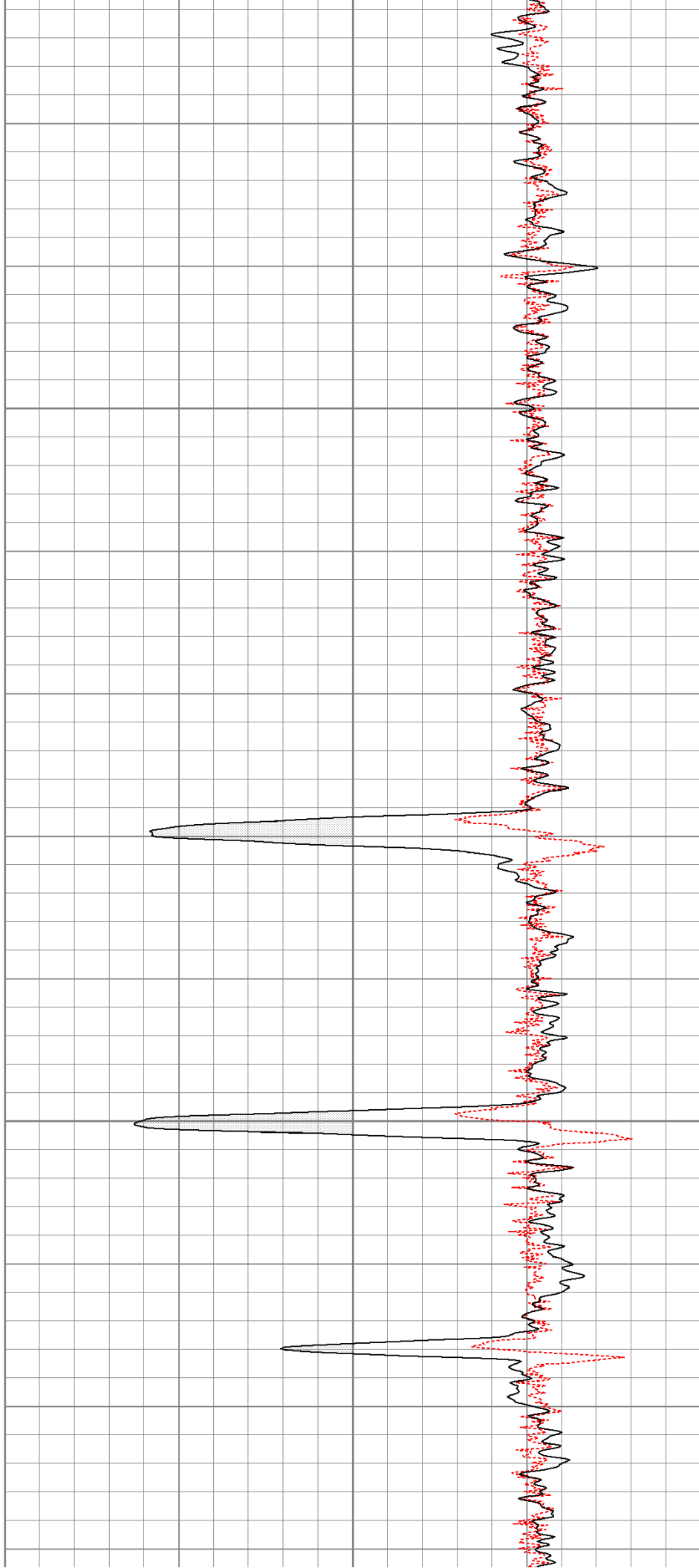
1650

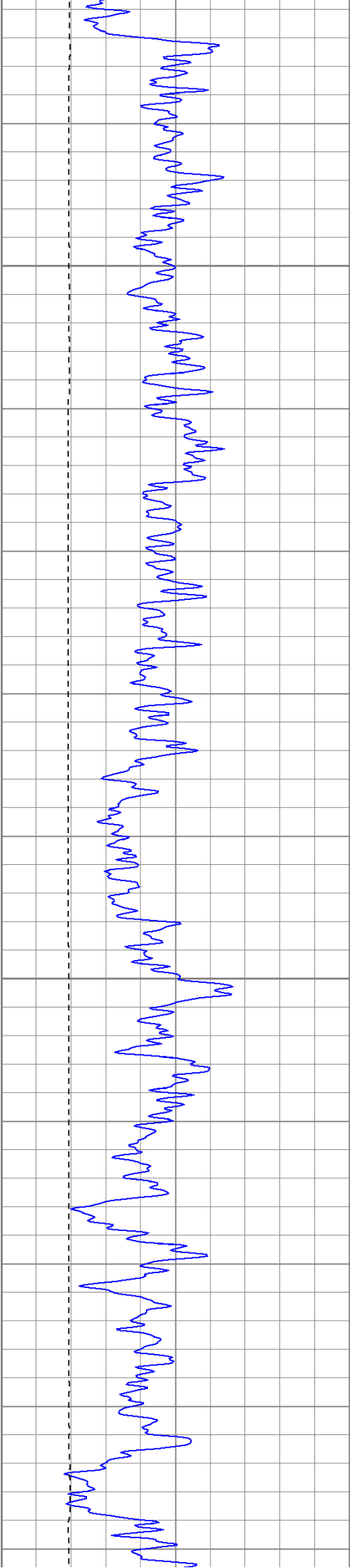




1700

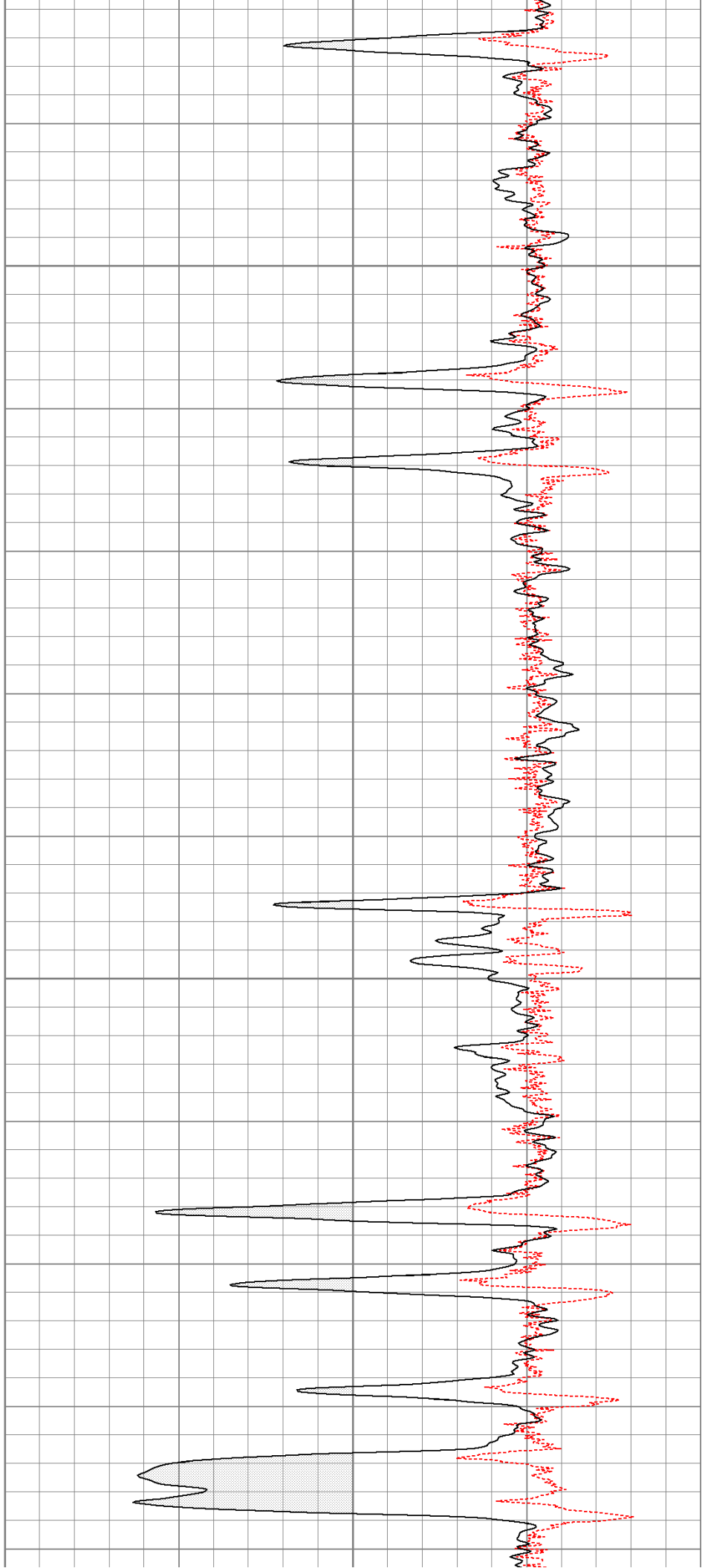
1750

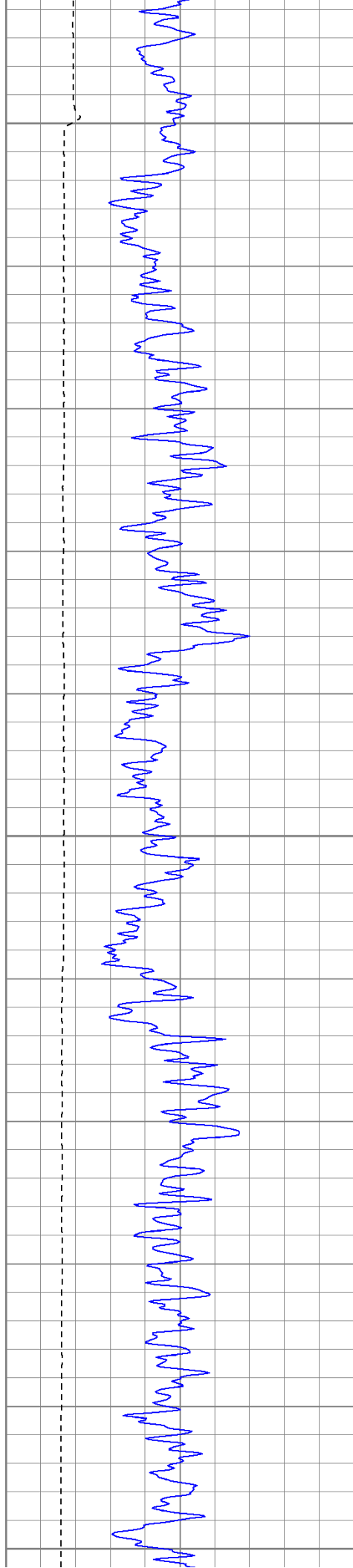




1800

1850

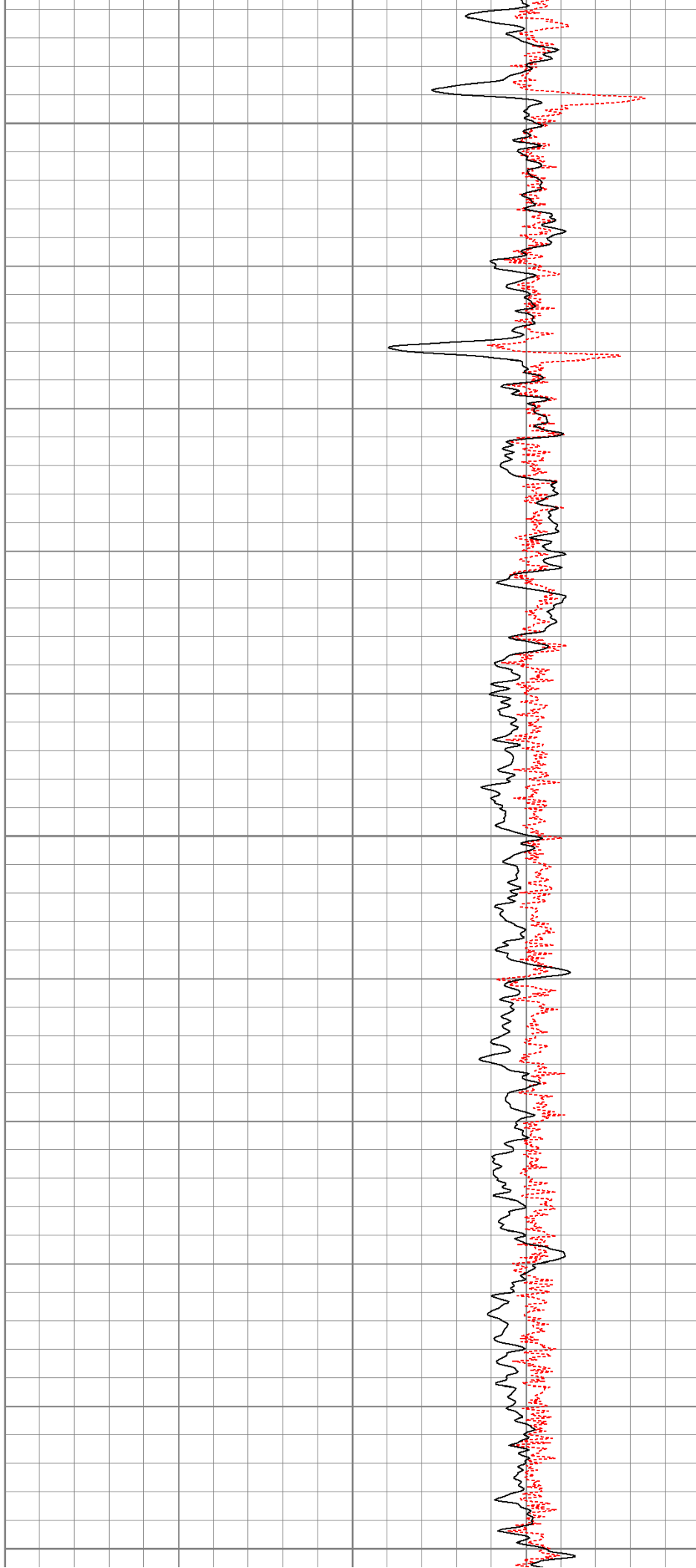




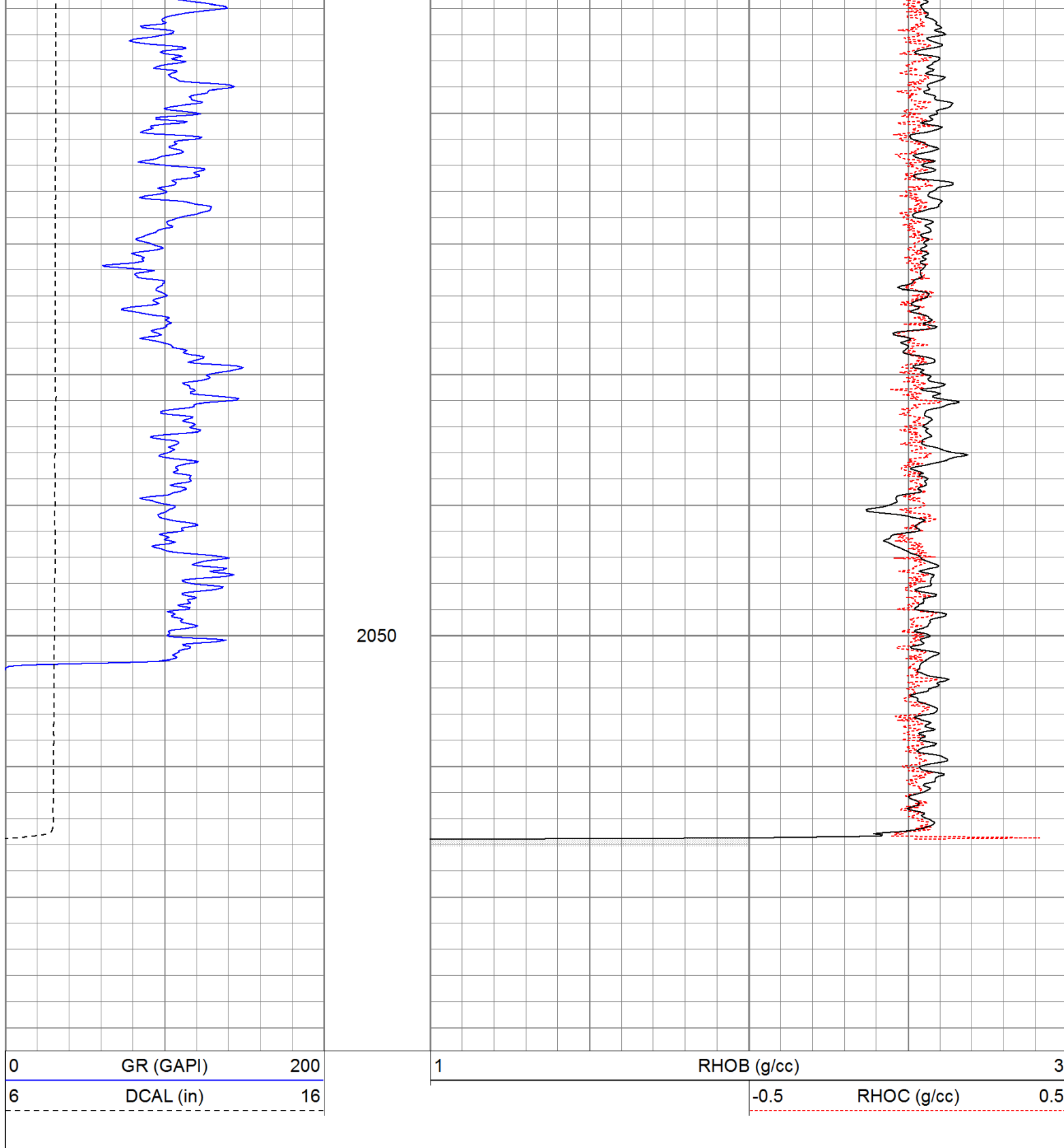
1900

1950

2000







### Calibration Report

Database File: wildfire.db  
Dataset Pathname: pass1  
Dataset Creation: Fri May 27 23:58:08 2011 by Log Open-Cased 110302

### Induction Tool Calibration Report

Serial Number: 701  
Tool Model: Probe  
Downhole Cal Performed: Fri May 13 12:26:14 2011  
Surface Cal Performed: Wed Apr 27 12:27:07 2011  
After Survey Verification Performed:

Surface Calibration:	Air	Loop	
Conductivity Reference:	0.000	500.000	mmho
Conductivity Reading:	0.006	0.644	V
Internal Reference:	Zero	Cal	
Conductivity Reference:	0.000	500.000	mmho
Conductivity Reading:	0.007	0.643	V
Downhole Calibration:	Internal Zero	Internal Cal	
Conductivity Reference:	0.703	499.163	mmho
Conductivity Reading:	0.000	0.000	V
Short Normal Reference:	0.000	20.000	Ohm-m
Short Normal Reading:	0.005	0.214	V
Results:	Gain	Offset	
Loop Conductivity:	783.886	-4.674	
Downhole Correction:	1.000	0.000	
Short Normal Resistivity:	95.281	-0.432	
After Survey Verification	Internal Zero	Internal Cal	
Conductivity Reading:	0.000	0.000	V
Conductivity Result:	0.000	0.000	mmho
Short Normal Reading:	0.000	0.000	V
Short Normal Result:	0.000	0.000	Ohm-m

## Compensated Density Calibration Report

Serial-Model: 901-2.75POH  
 Source / Verifier: /  
 Master Calibration Performed: Tue May 17 10:06:24 2011  
 Before Survey Verification Performed:  
 After Survey Verification Performed:

## Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.710	g/cc	1001.79	578.48	cps
Aluminum	2.590	g/cc	180.36	300.39	cps
Spine Angle = 69.08			Density/Spine Ratio = 0.479		
	Size		Reading		
Small Ring	8.00	in	2.50	V	
Large Ring	16.00	in	4.57	V	

## 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

## Neutron Calibration Report

Serial Number: 802  
 Tool Model: 2.75POH  
 Performed: Tue May 03 12:28:21 2011

Calibrator Value:	700	NAPI
Calibrator Reading:	1000	cps
Sensitivity:	0.7	NAPI/cps

Gamma Ray Calibration Report		
Serial Number:	801	
Tool Model:	2.75POH	
Performed:	Thu May 05 13:29:10 2011	
Calibrator Value:	200.0	GAPI
Background Reading:	8.0	cps
Calibrator Reading:	264.7	cps
Sensitivity:	0.6000	GAPI/cps

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR	29.58		None	0.75	1.50	5.00
			GR-2.75POH (801) Probe 2.75" Probe Open Hole Gamma Ray	3.73	2.75	43.00
NEU	24.04		NEU-2.75POH (802) Probe Epithermal	4.75	2.75	58.00
LSD DCAL SSD	16.21		CDL-2.75POH (901) Probe	8.43	2.75	106.00
	15.94					
	15.69					
DIC	6.24		IEL-Probe (701)	13.46	2.75	93.00
SP SN	2.25					
	1.71					

			Dataset:	wildfire.db: field/well/run1/pass1	
			Total Length:	31.11 ft	
			Total Weight:	305.00 lb	
			O.D.	2.75 in	