

**COMPENSATED DENSITY  
NEUTRON  
LOG**

Company	Pioneer Natural Resources	Company	Pioneer Natural Resources
Well	Grants 14-34 Tr	Well	Grants 14-34 Tr
Field	Purgatoire River	Field	Purgatoire River
County	Las Animas	County	Las Animas
State	Colorado	State	Colorado
Location:	API #: 05 071 09783 00	Other Services	SIL
Permanent Datum	571' FSL & 636' FWL	Elevation	
Log Measured From	Kelly Bushing 4' AGL	K.B. 7489'	
Drilling Measured From	Kelly Bushing	D.F. -----	
		G.L. 7485'	
Date	5-15-11		
Run Number	One		
Depth Driller	1902'		
Depth Logger	1889'		
Bottom Logged Interval	1878'		
Top Log Interval	Surface Casing		
Casing Driller	8 5/8" @ 671'		
Casing Logger	667'		
Bit Size	7 7/8"		
Type Fluid in Hole	Airated 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	11:00 P.M.		
Time Logger on Bottom	1:45 A.M.		
Maximum Recorded Temperature	98 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.

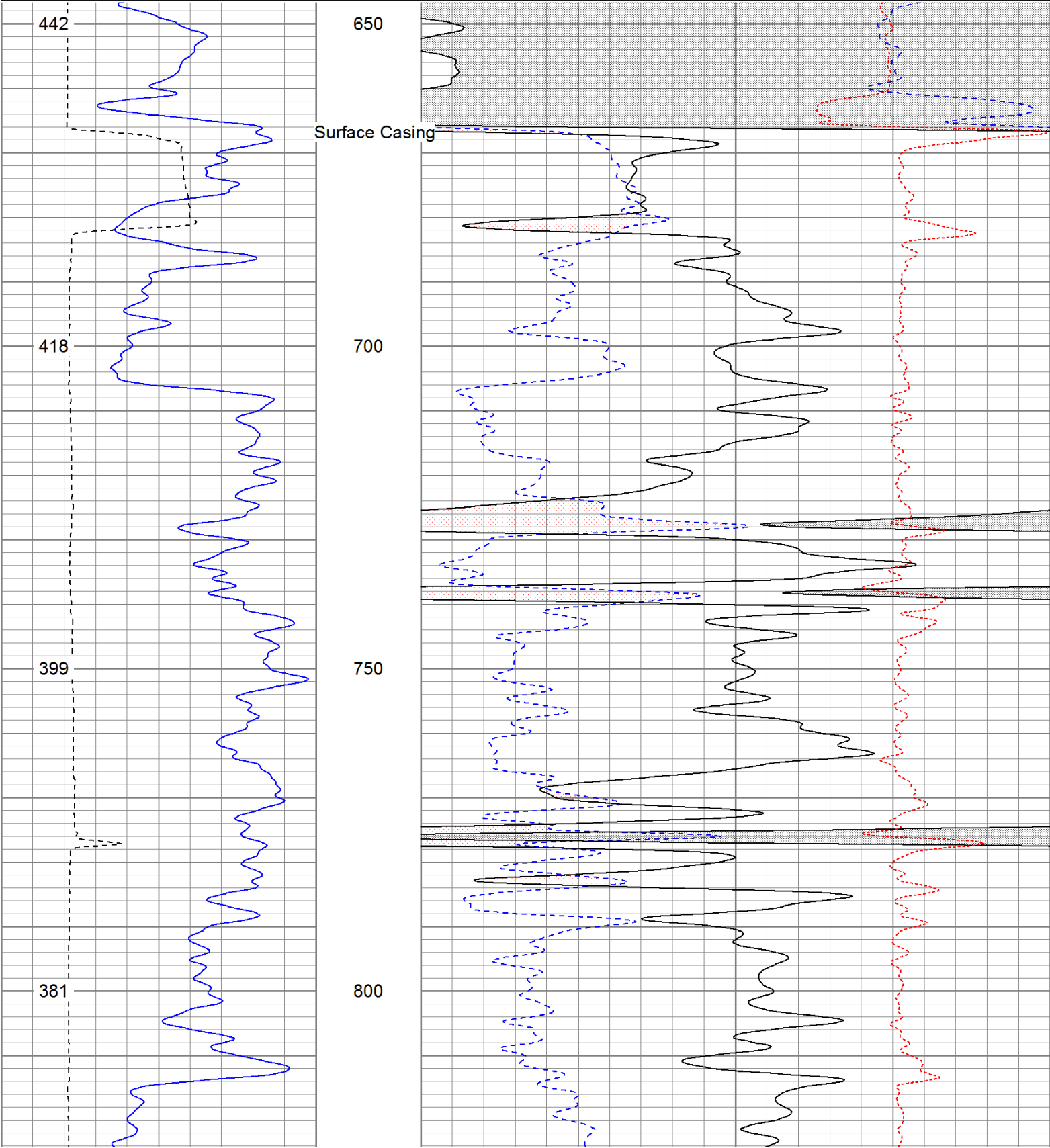
**Directions:**

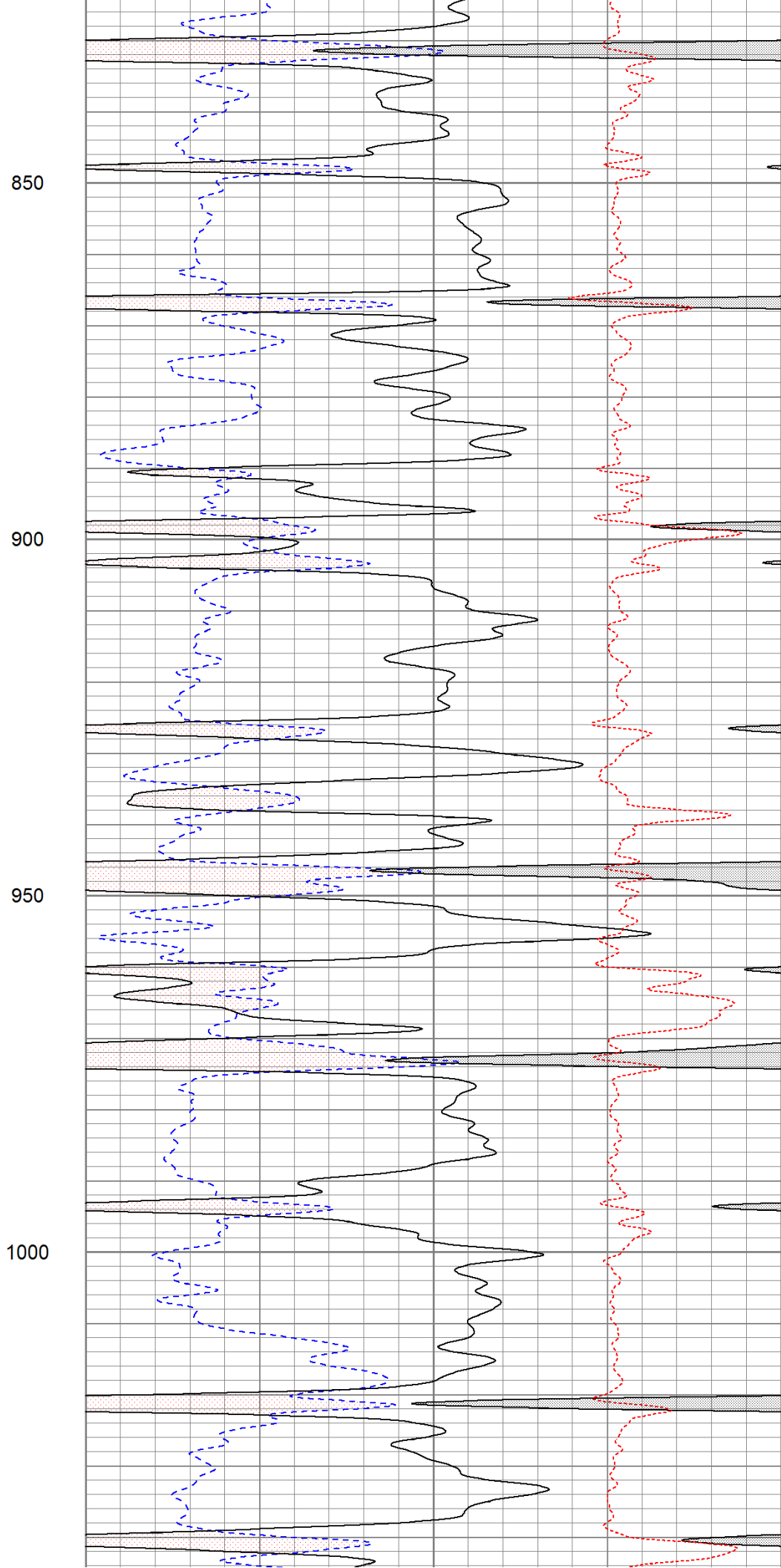
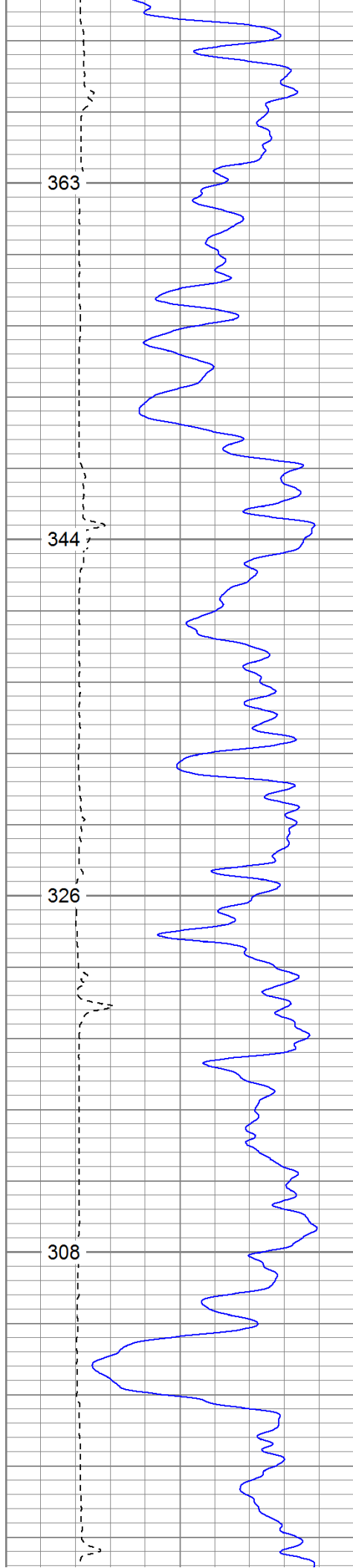
Reilly Canyon, stay left at post office. Left on C.R. 31.0 towards Cottontail Compressor.  
Take 2nd left, straight across from road to Cottontail, and first right to location.

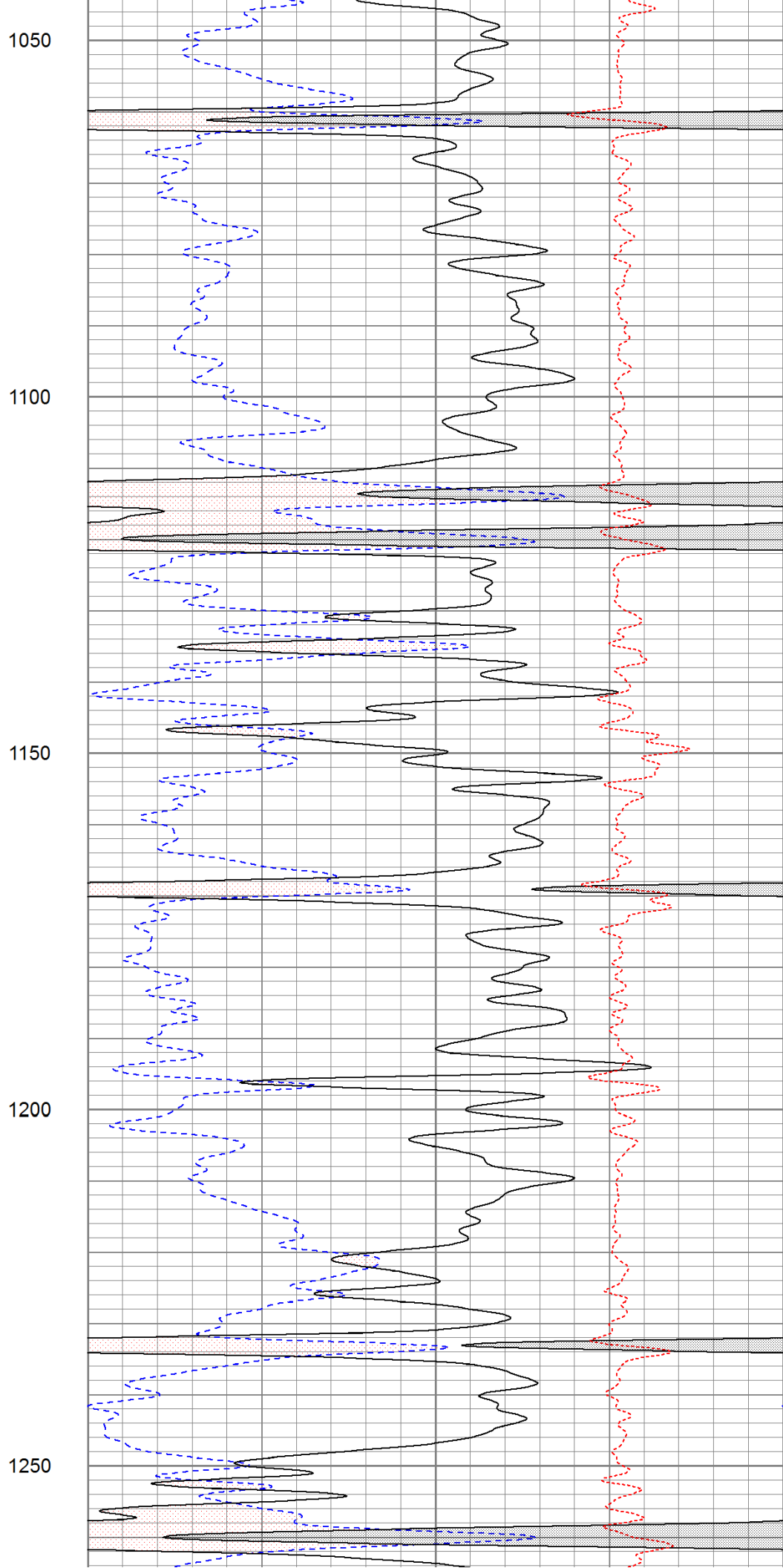
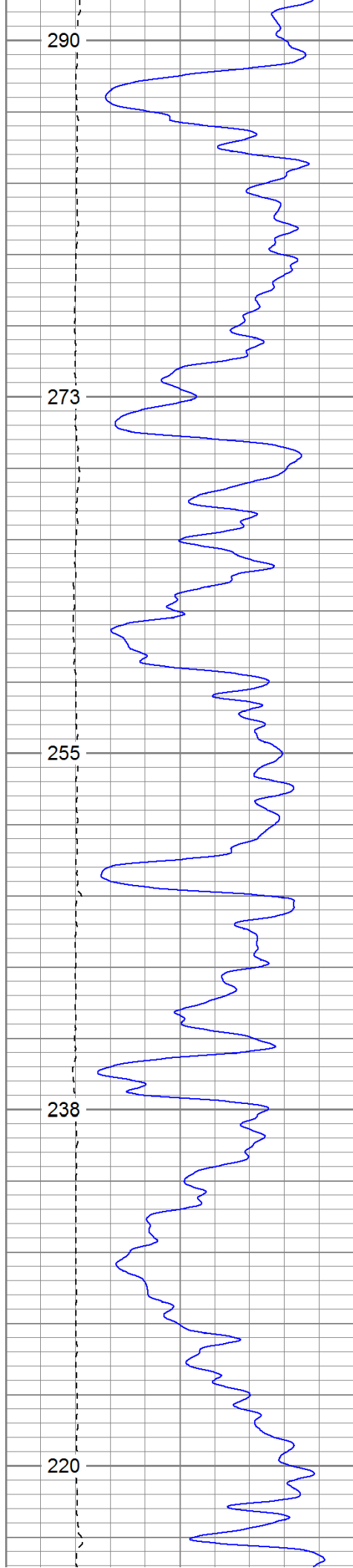
Database File: grantstr.db  
Dataset Pathname: pass2.1  
Presentation Format: cdnl  
Dataset Creation: Mon May 16 19:31:49 2011 by Calc Open-Cased 110302  
Charted by: Depth in Feet scaled 1:240

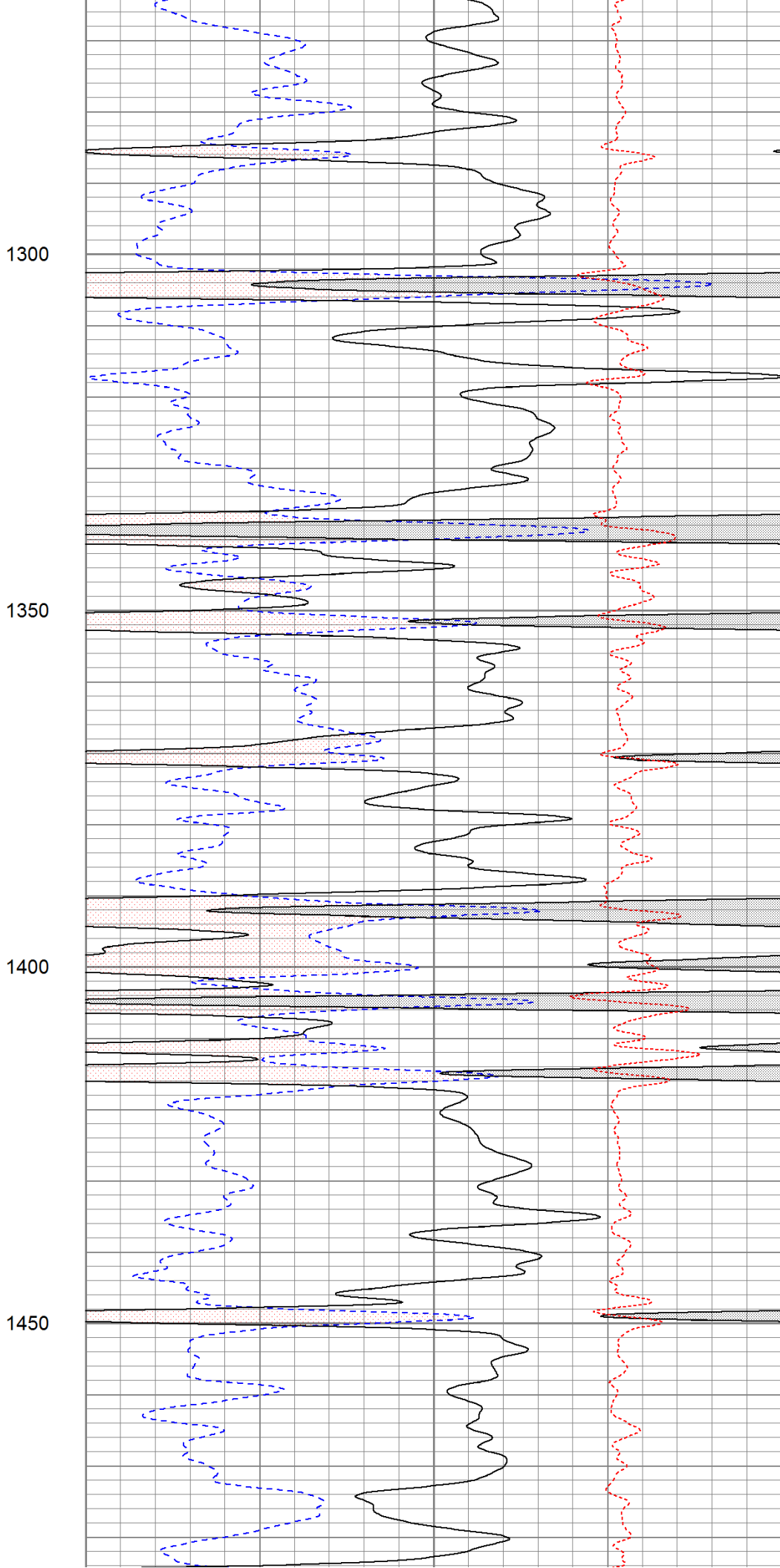
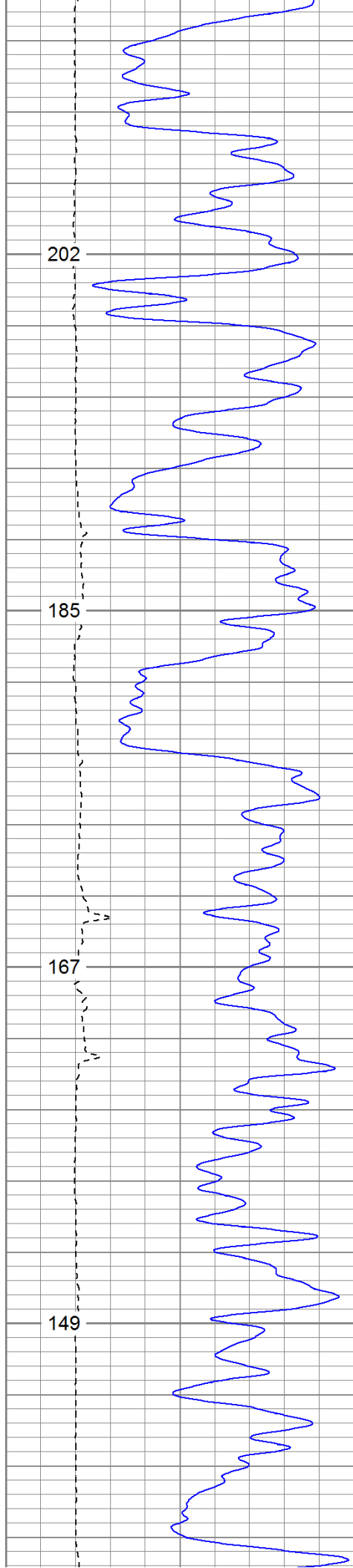
0	GR (GAPI)	200
6	DCAL (in)	16
TBHV (ft3)		

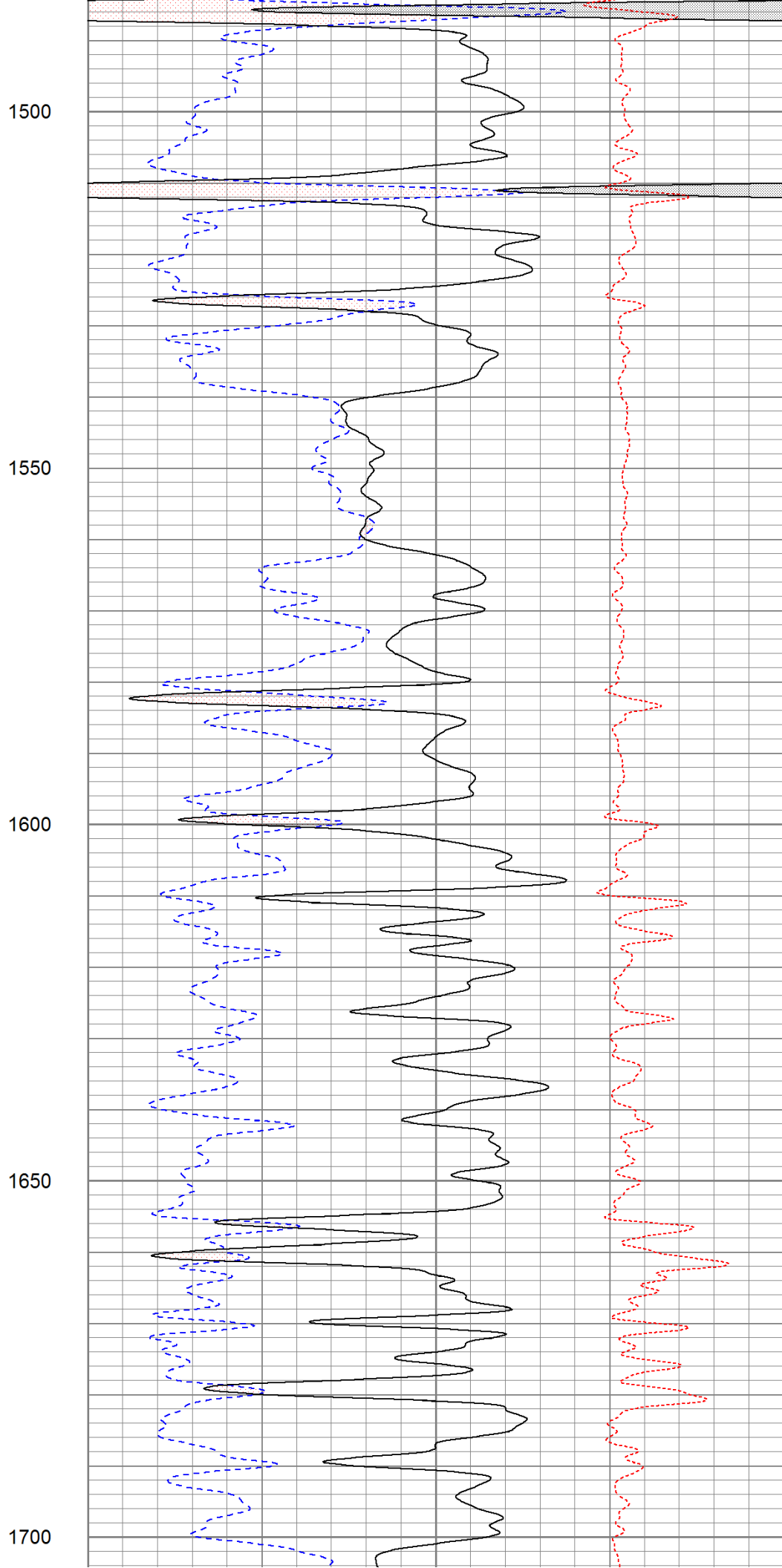
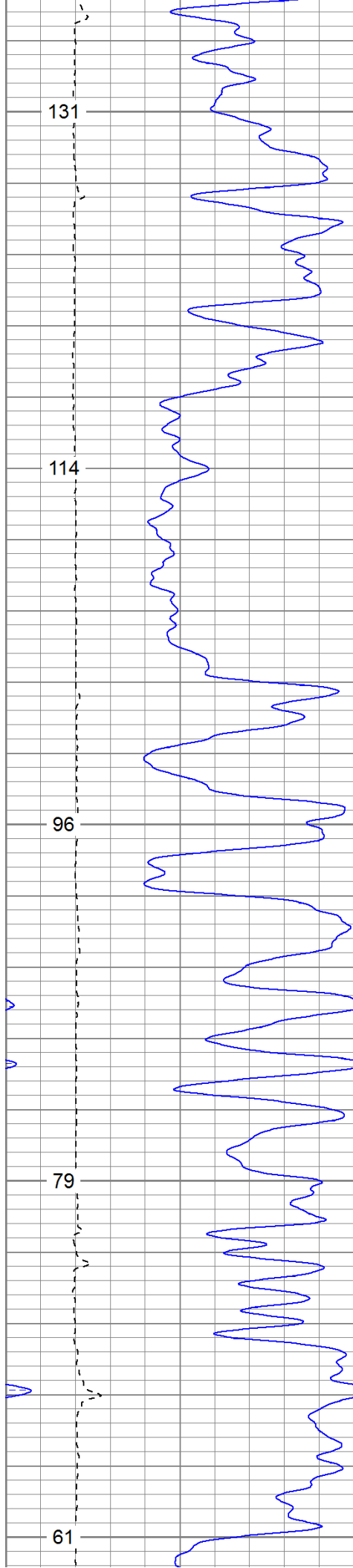
30	NPOR (pu)	-10
30	DPOR (pu)	-10
-0.5	RHOC (g/cc)	0.5

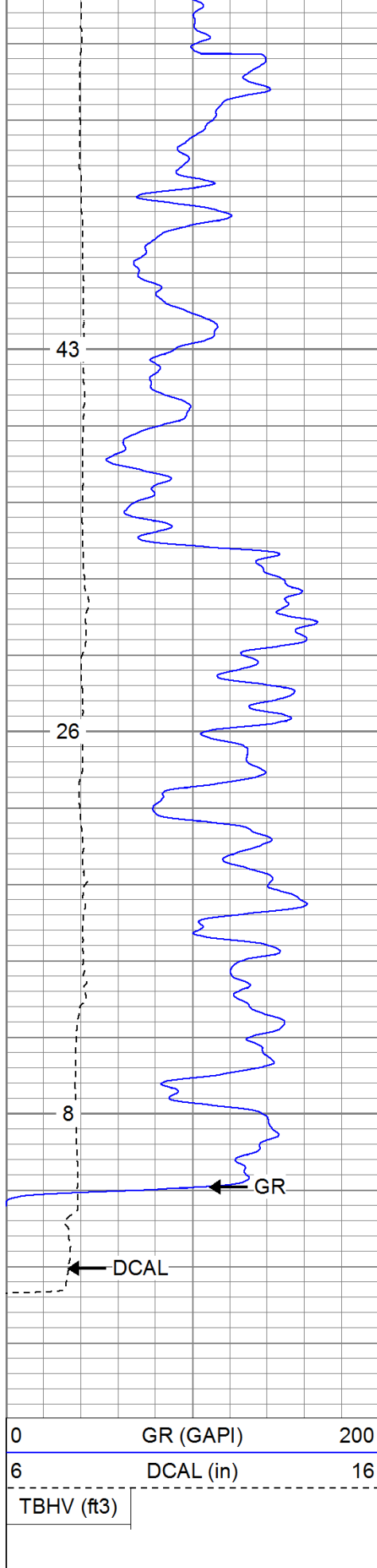










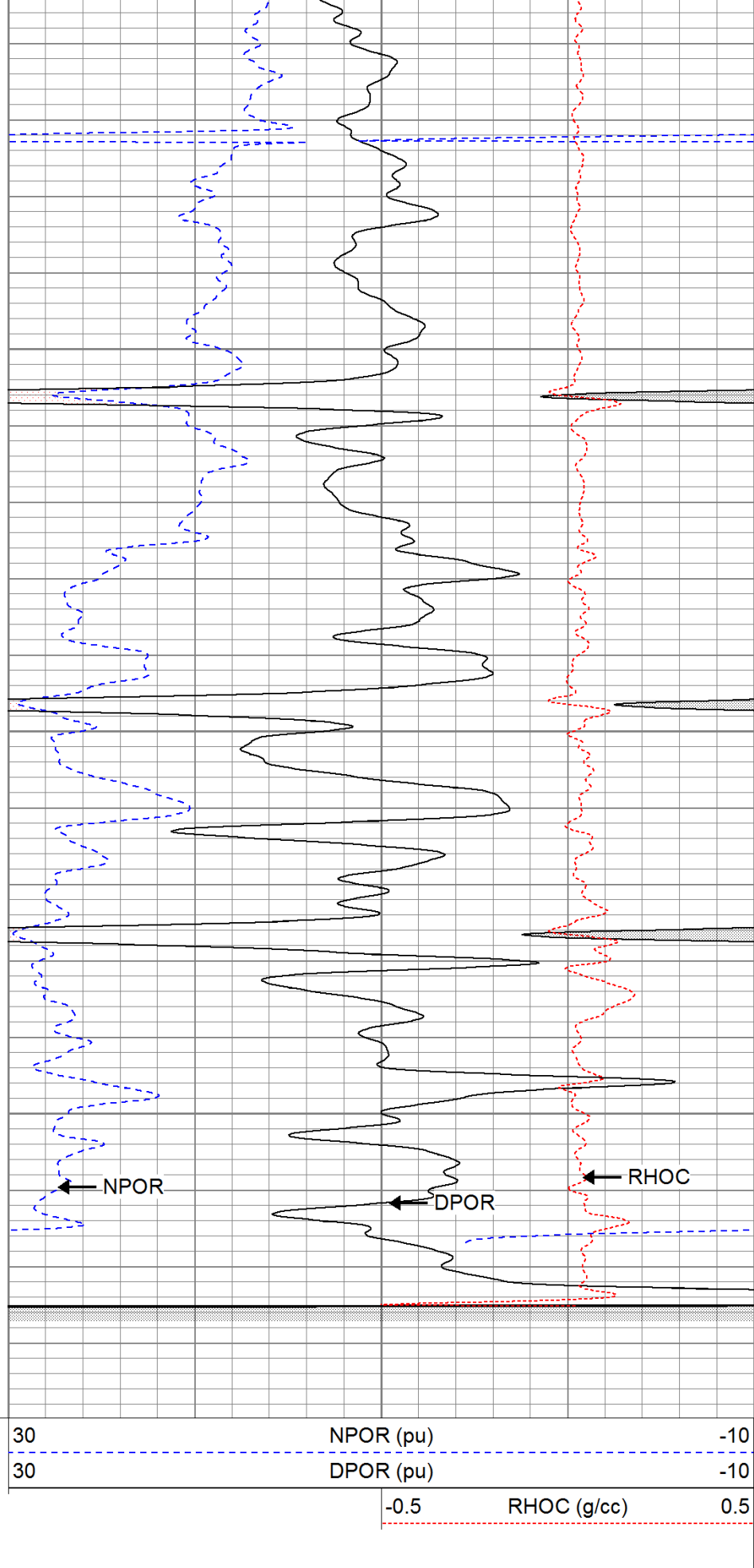


Fluid Level

1750

1800

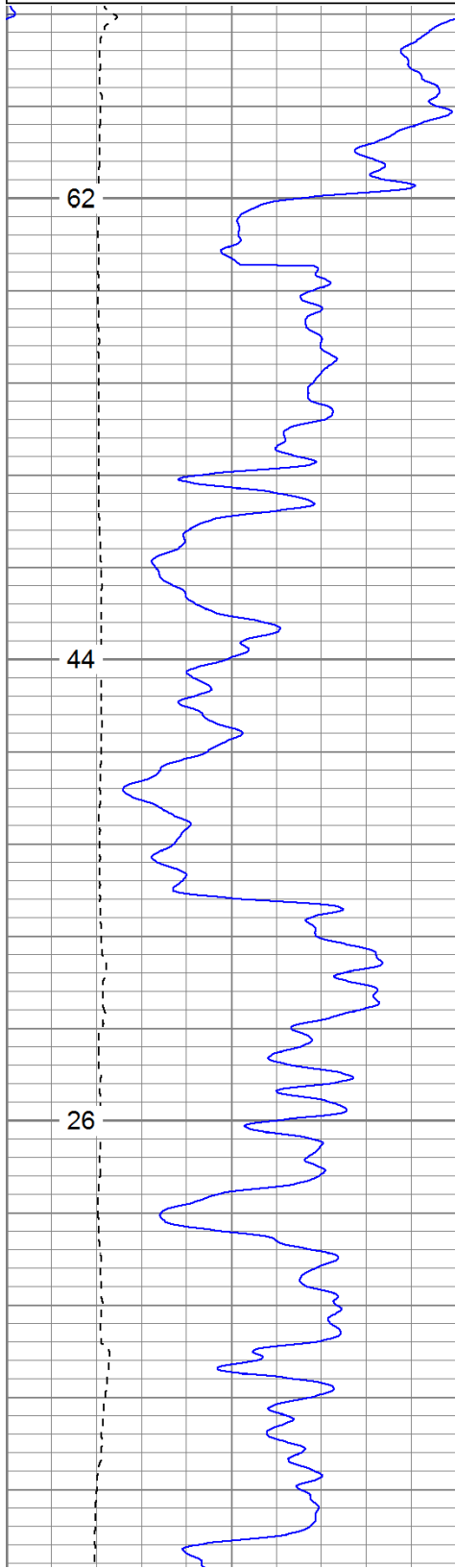
1850



Database File: grantstr.db  
 Dataset Pathname: pass1.1  
 Presentation Format: cdnl  
 Dataset Creation: Mon May 16 19:42:50 2011 by Calc Open-Cased 110302  
 Charted by: Depth in Feet scaled 1:240

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

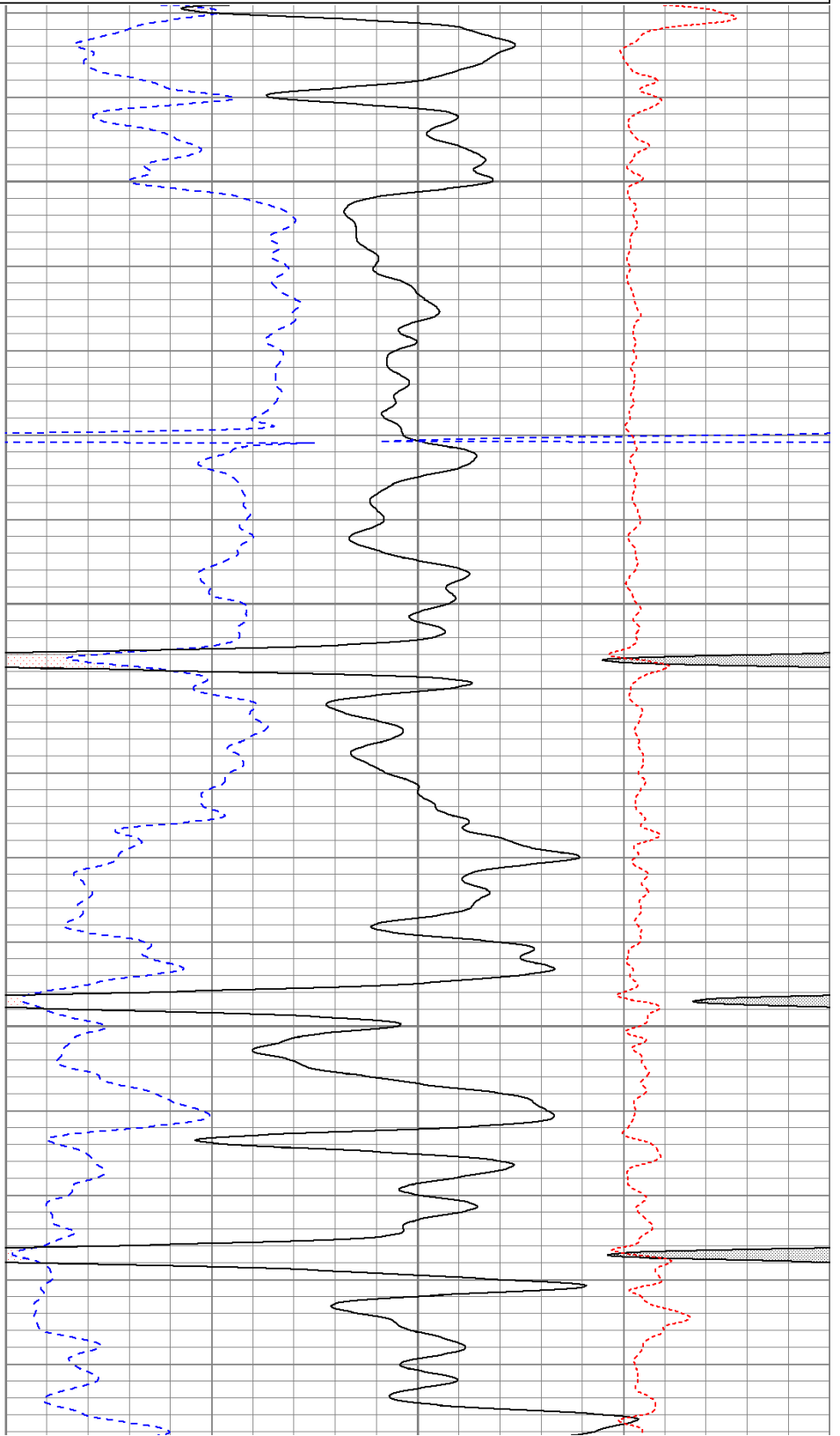
30	NPOR (pu)	-10
30	DPOR (pu)	-10
-0.5	RHOC (g/cc)	0.5



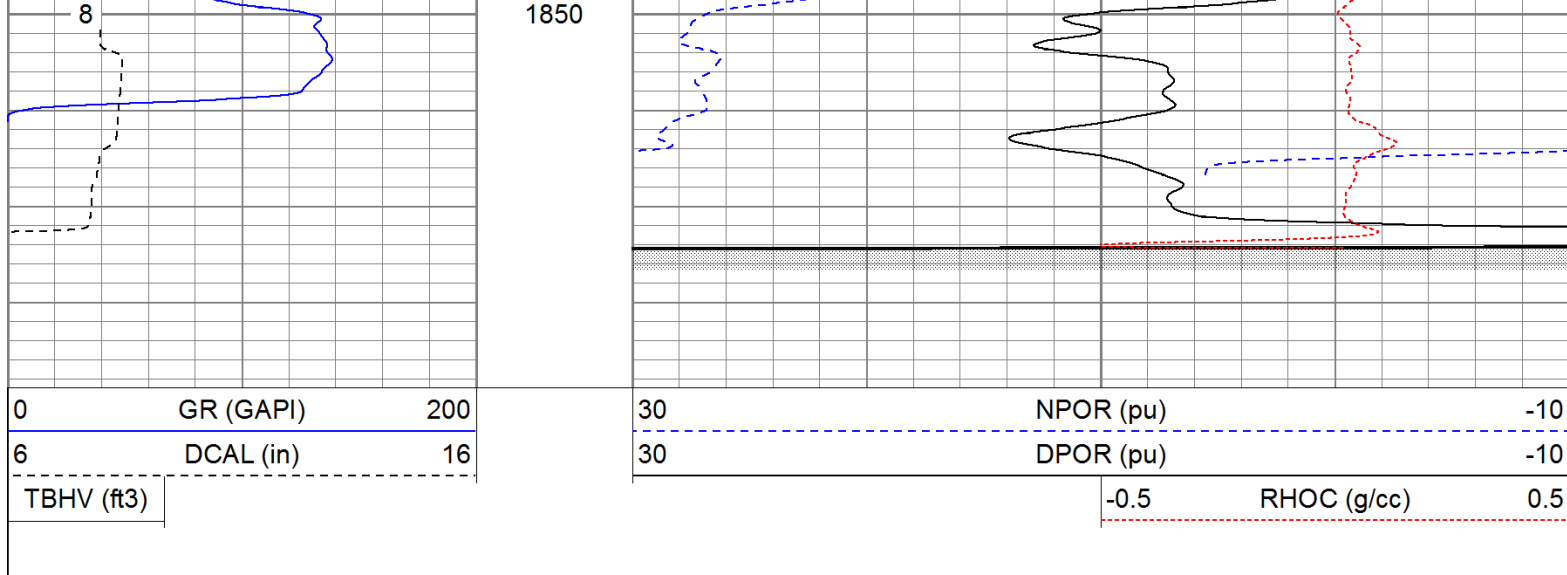
1700

1750

1800

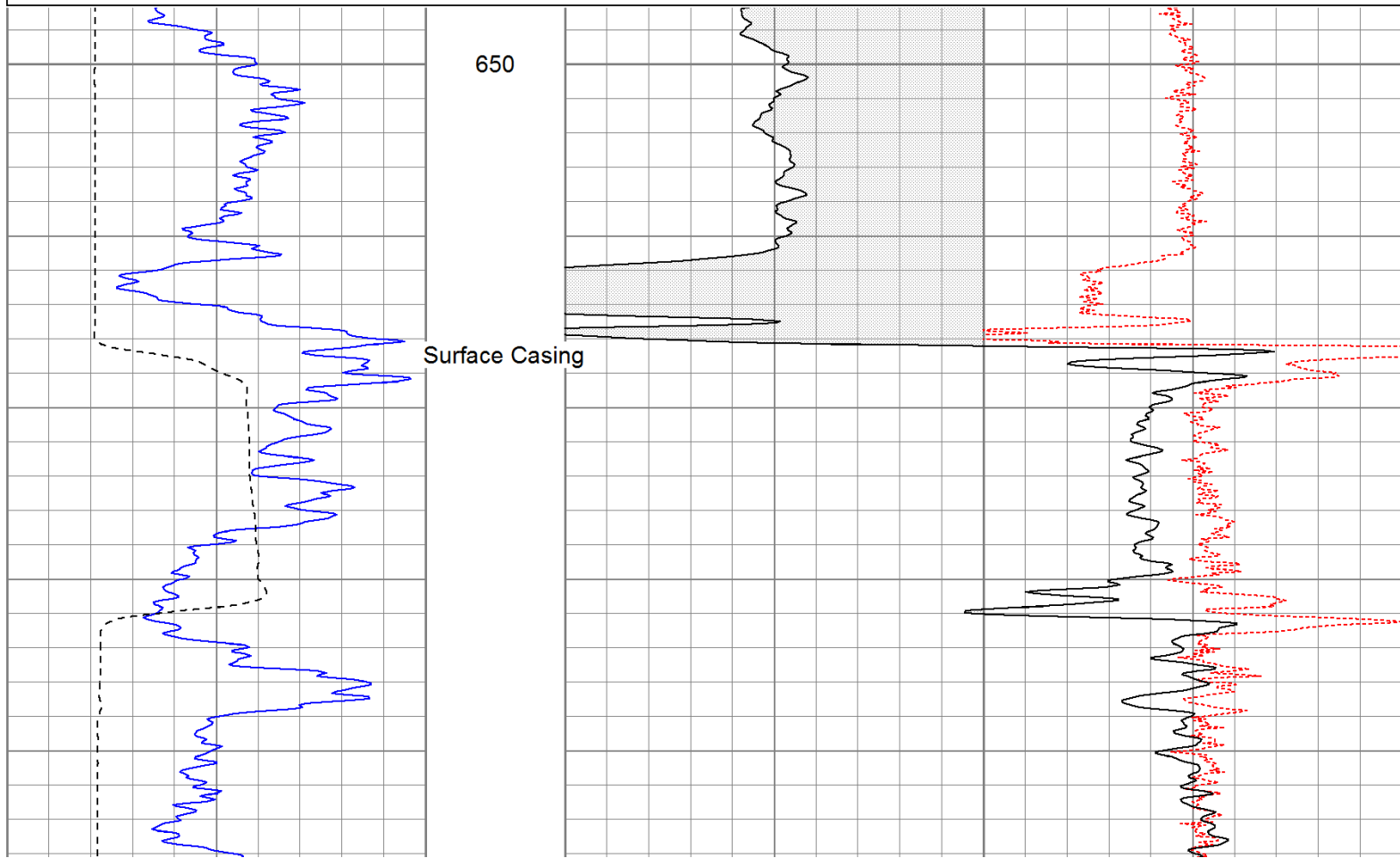
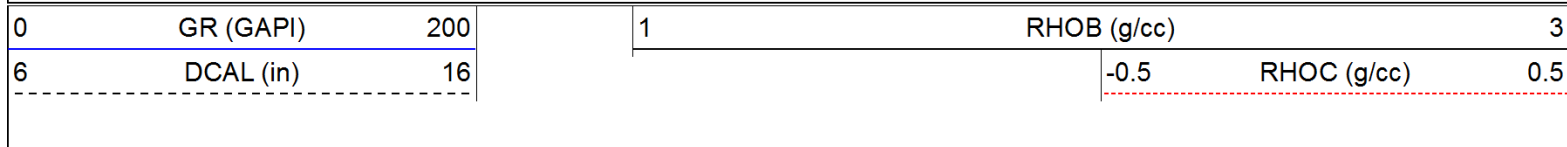


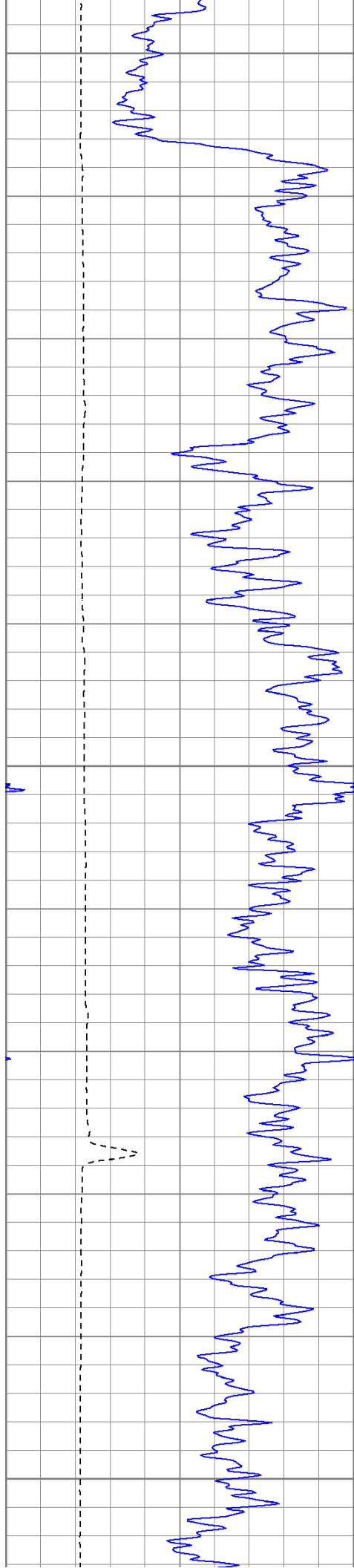




# High Resolution Pass

Database File: grantstr.db  
 Dataset Pathname: pass2.2  
 Presentation Format: cdlhr  
 Dataset Creation: Mon May 16 19:47:11 2011 by Calc Open-Cased 110302  
 Charted by: Depth in Feet scaled 1:120

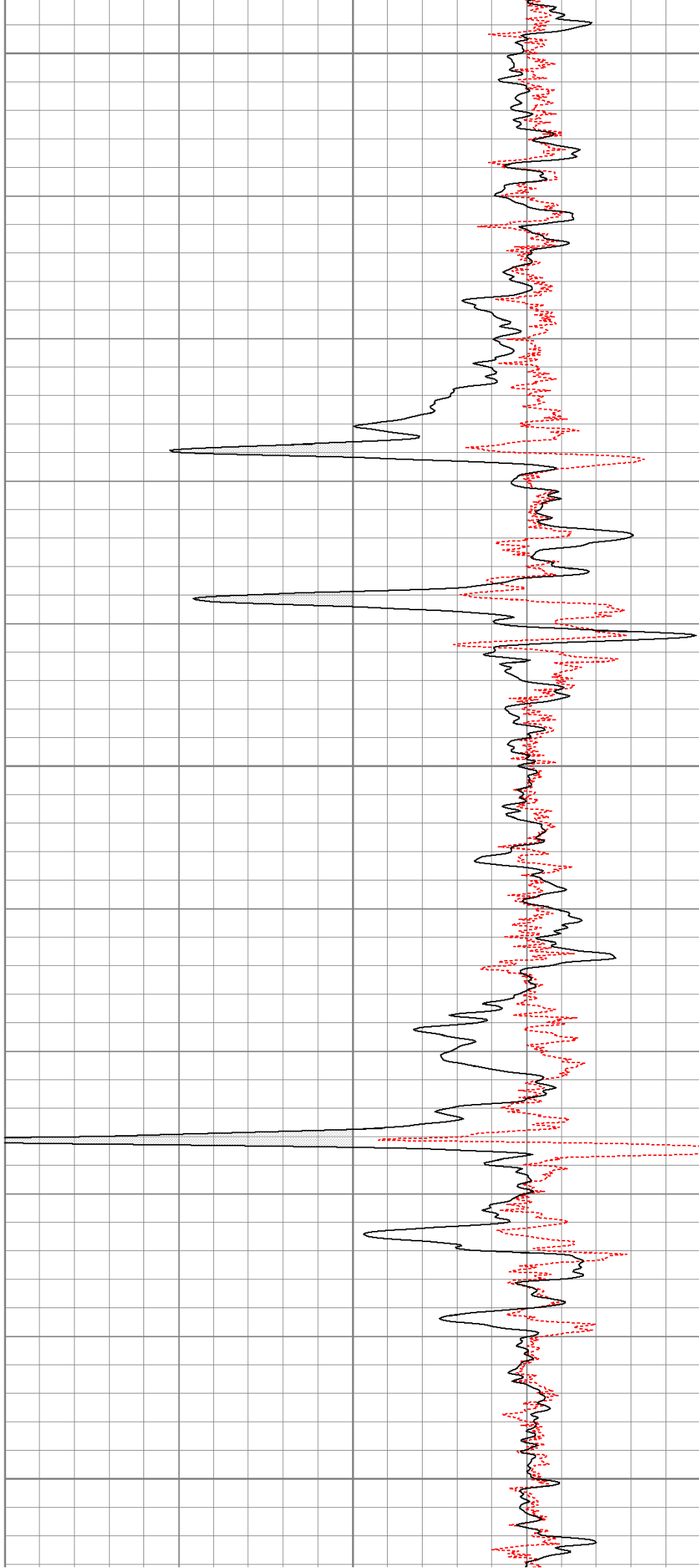


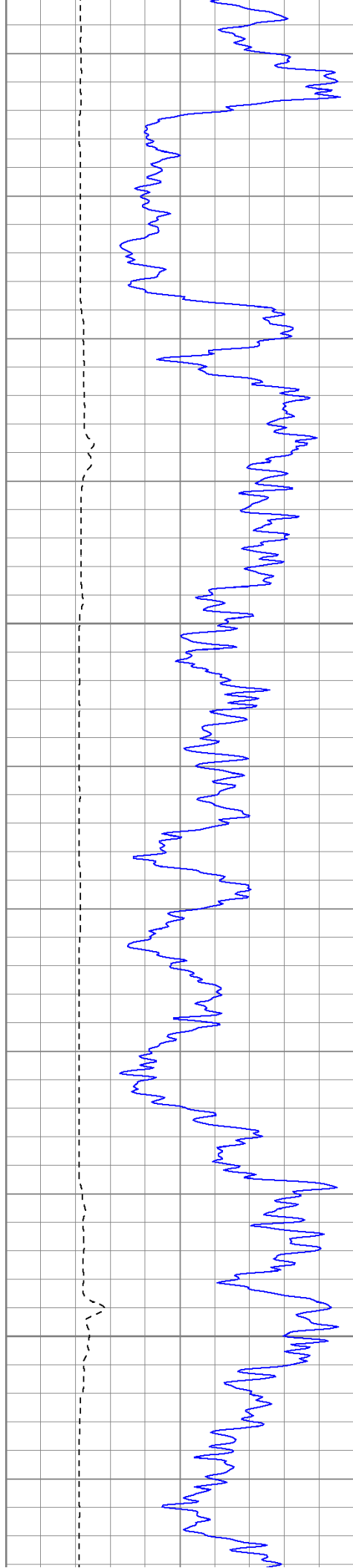


700

750

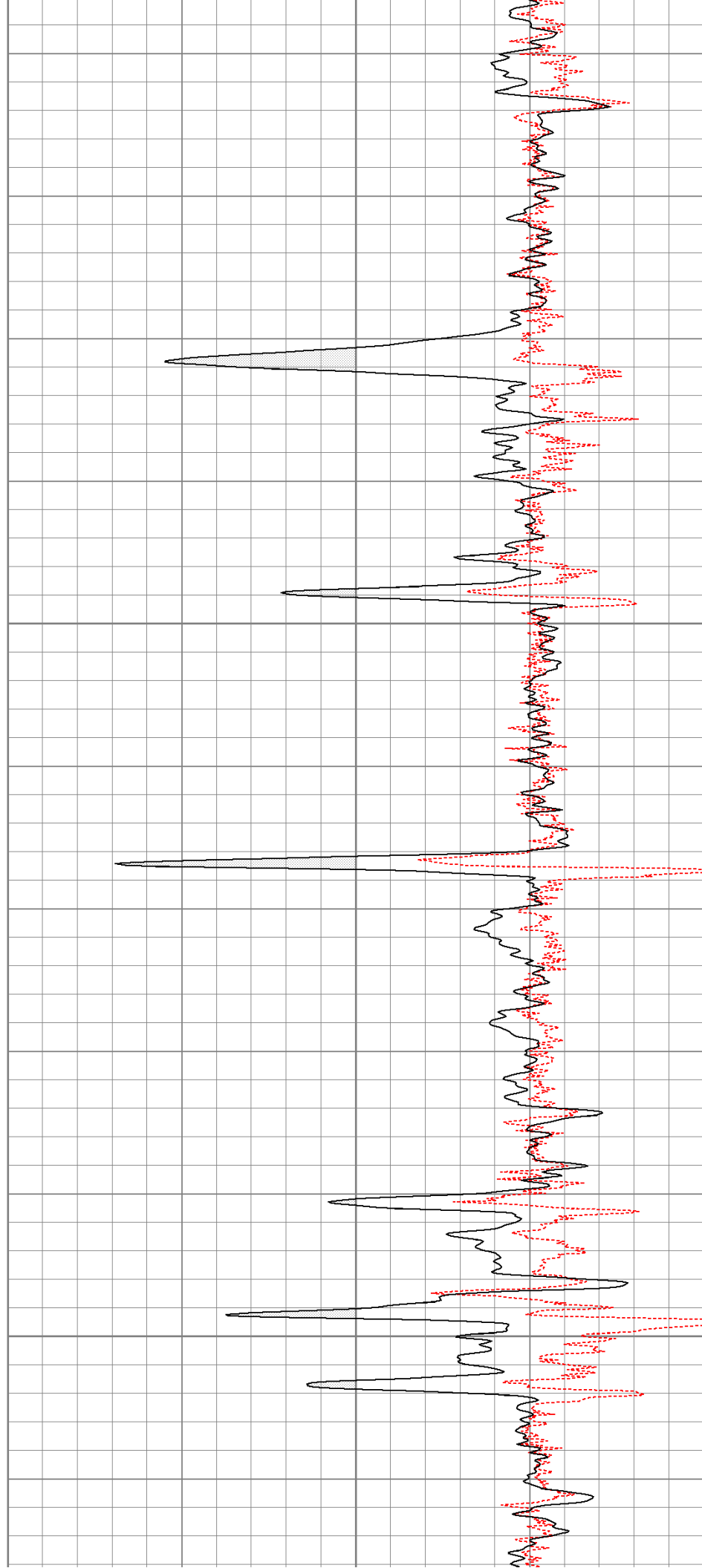
800

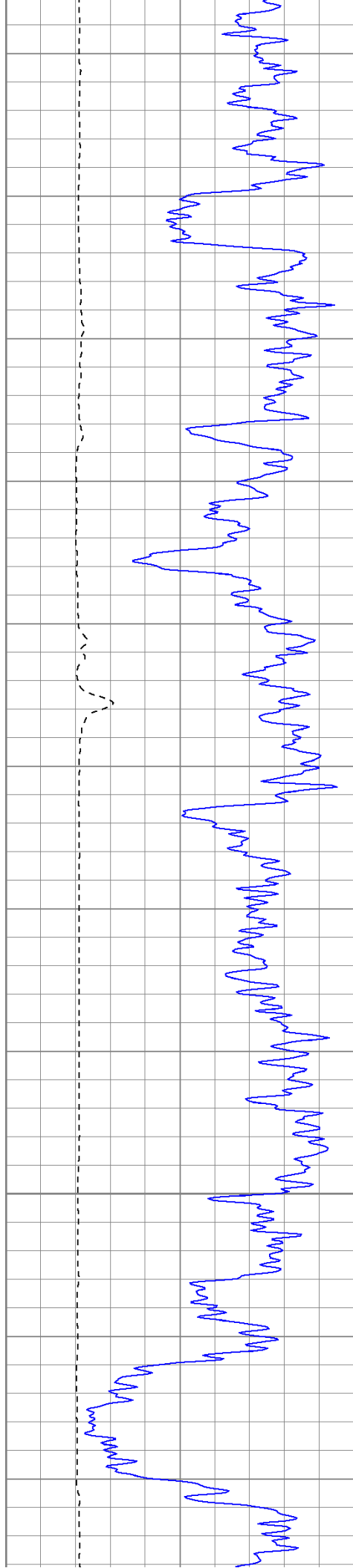




850

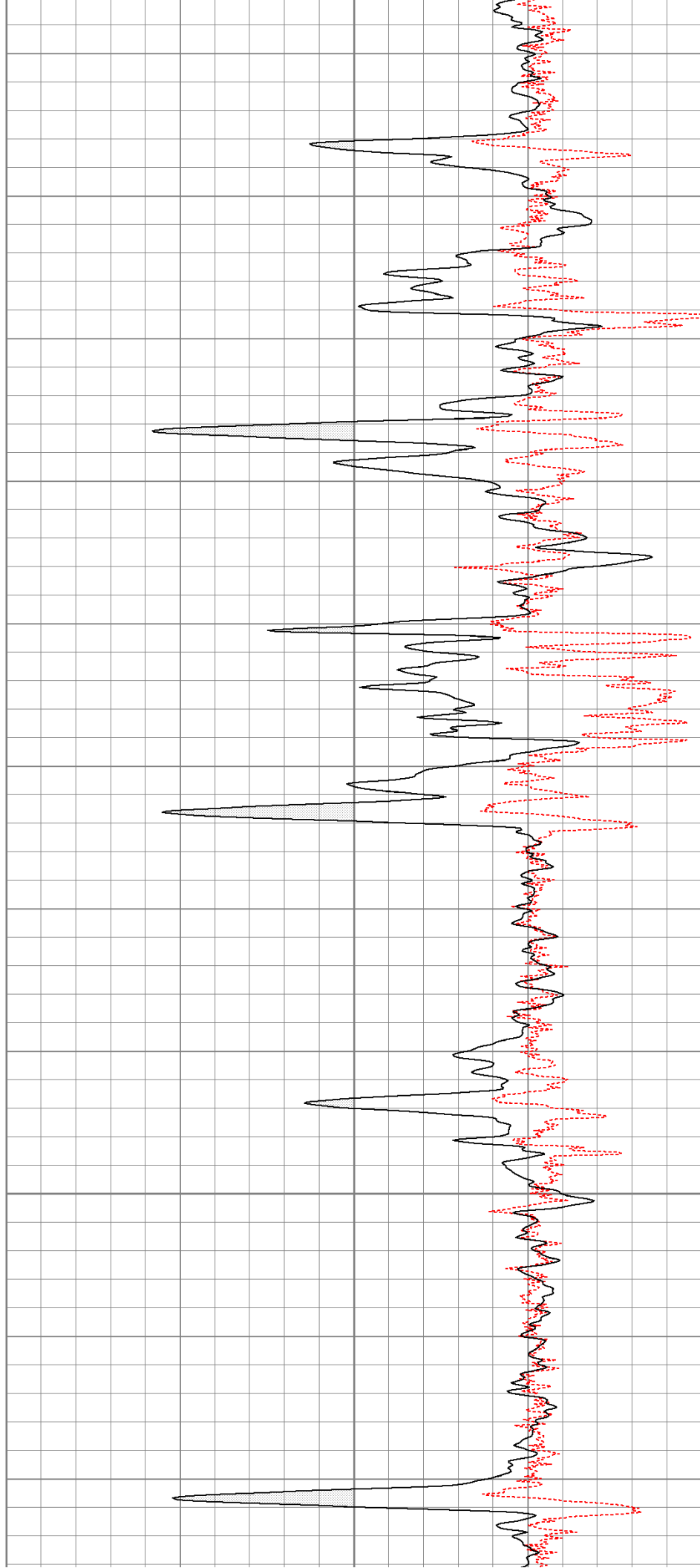
900

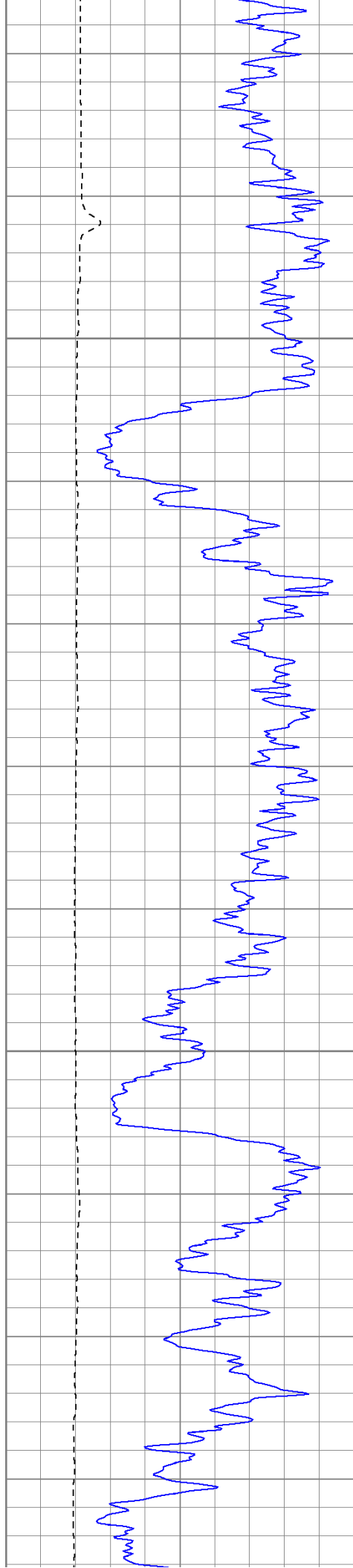




950

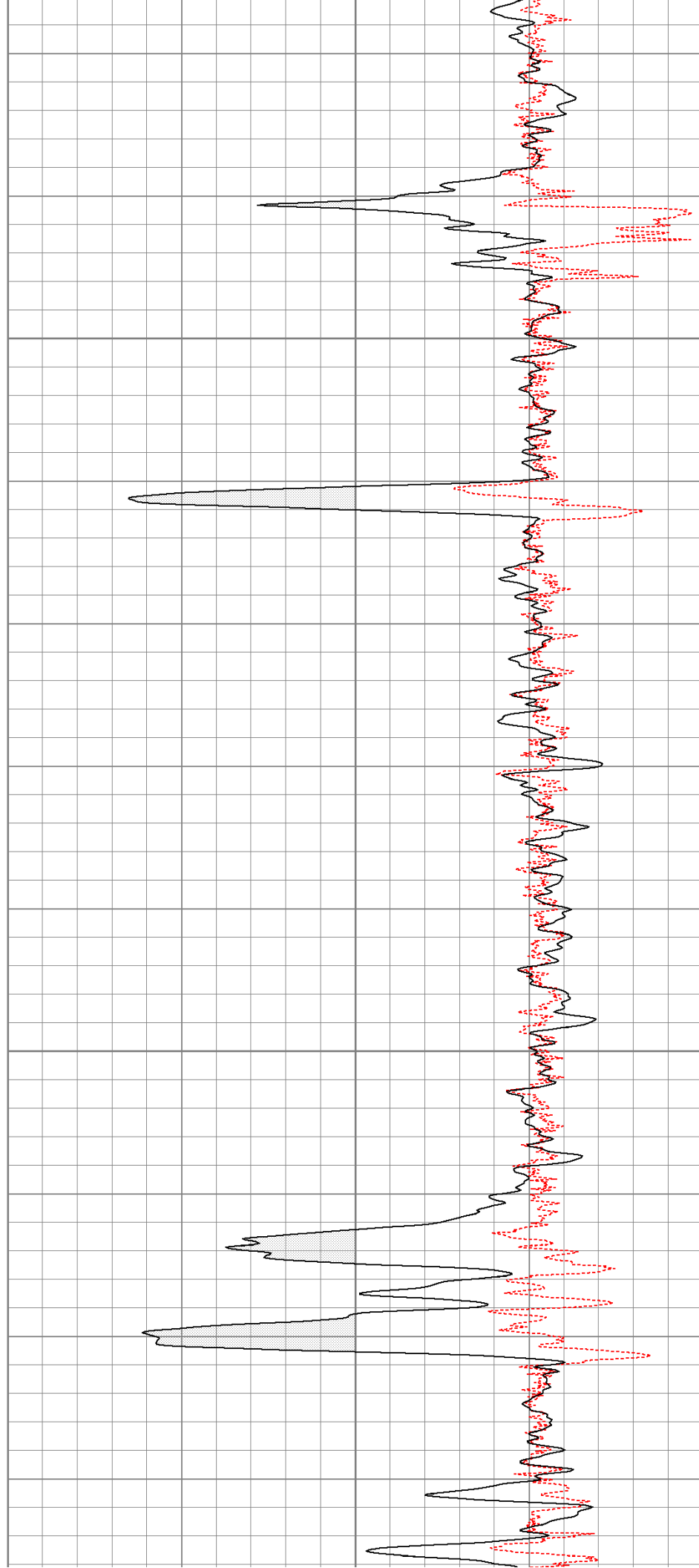
1000

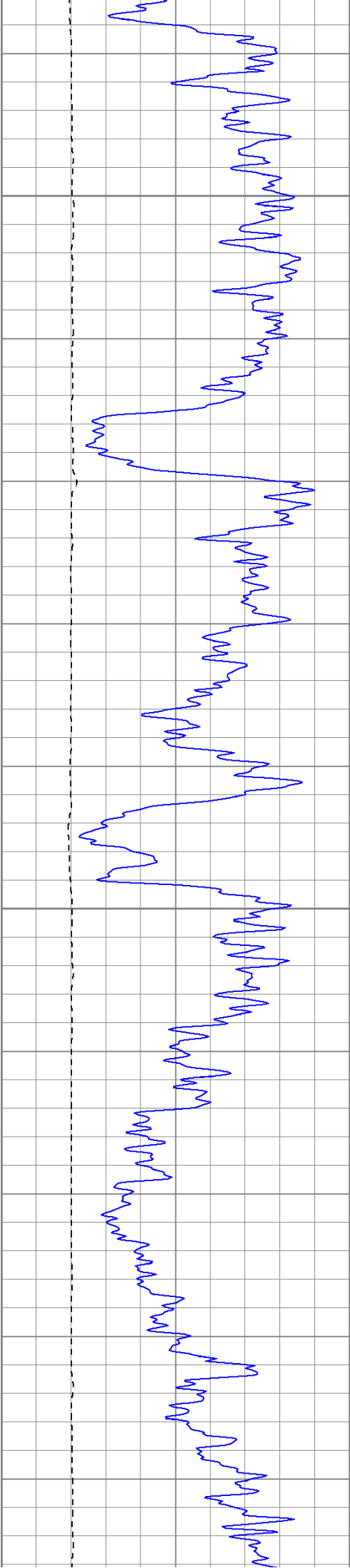




1050

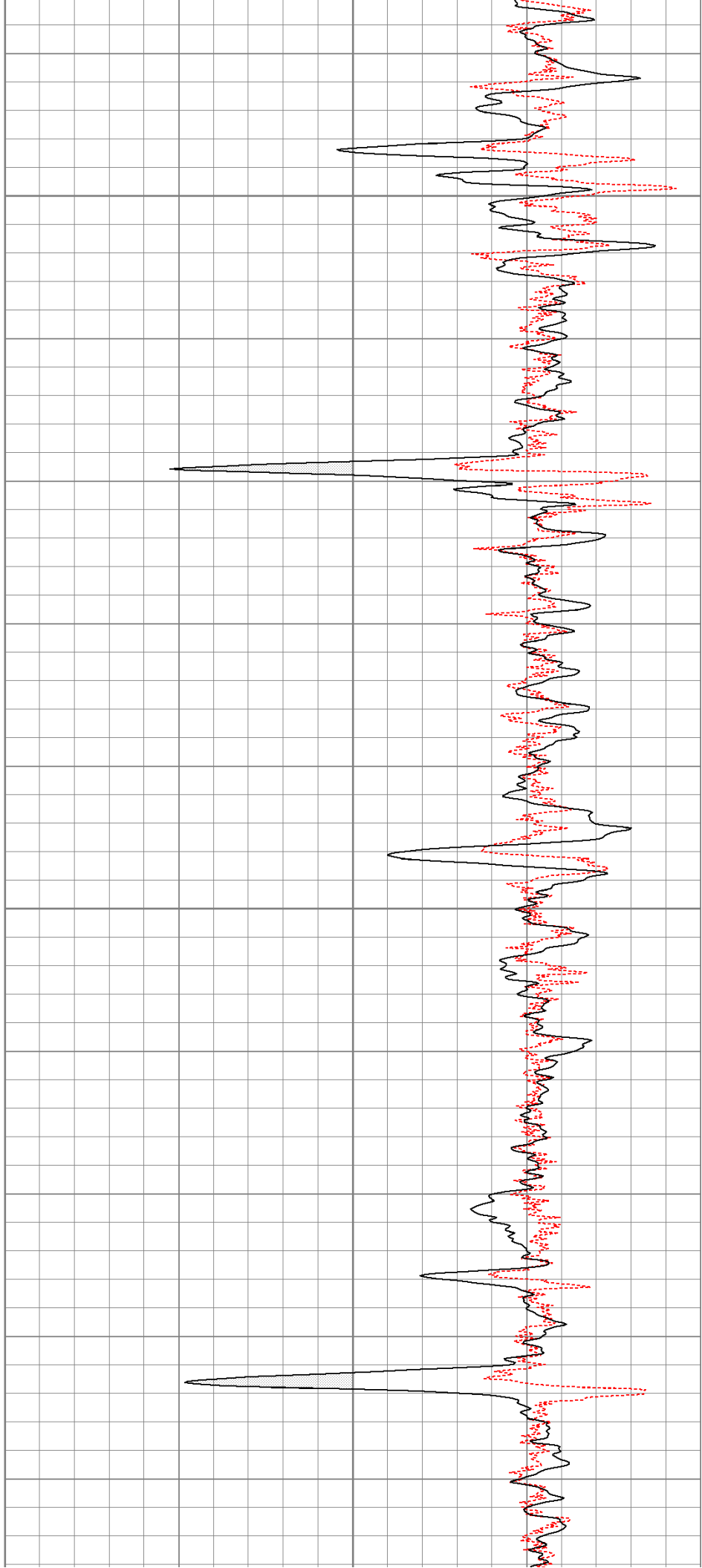
1100

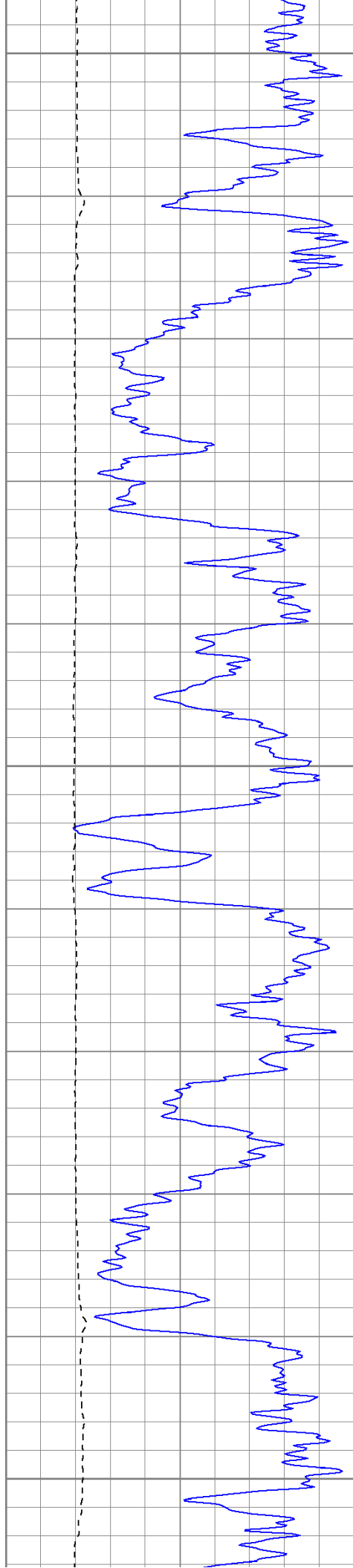




1150

1200

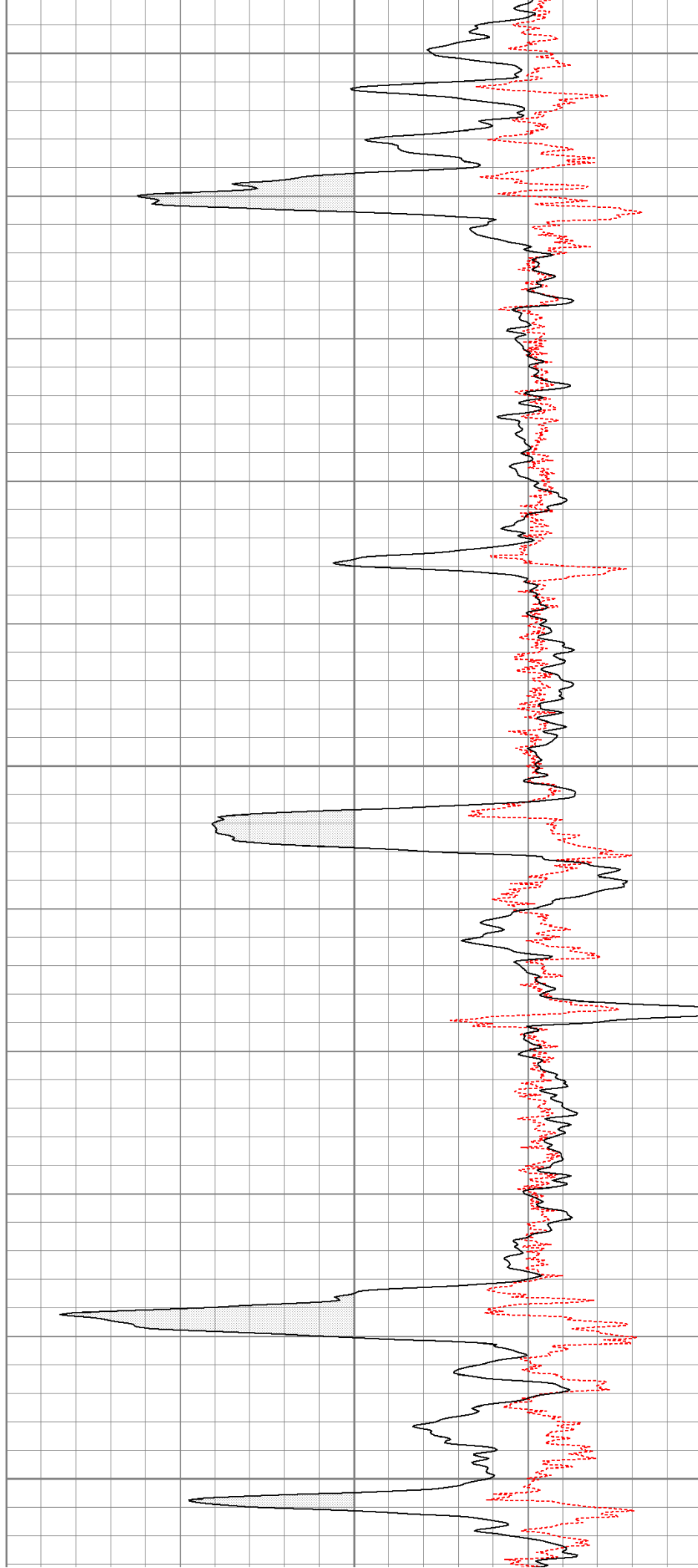


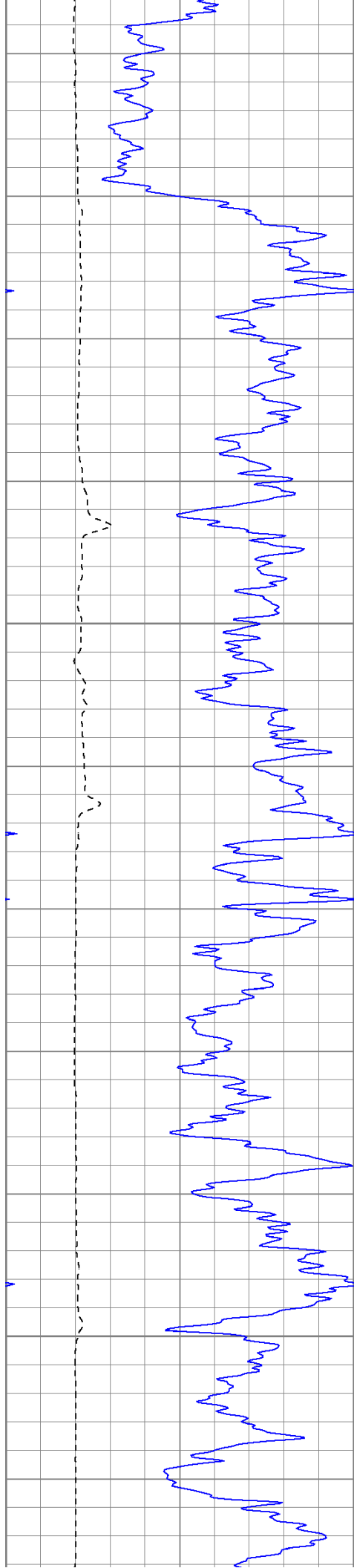


1250

1300

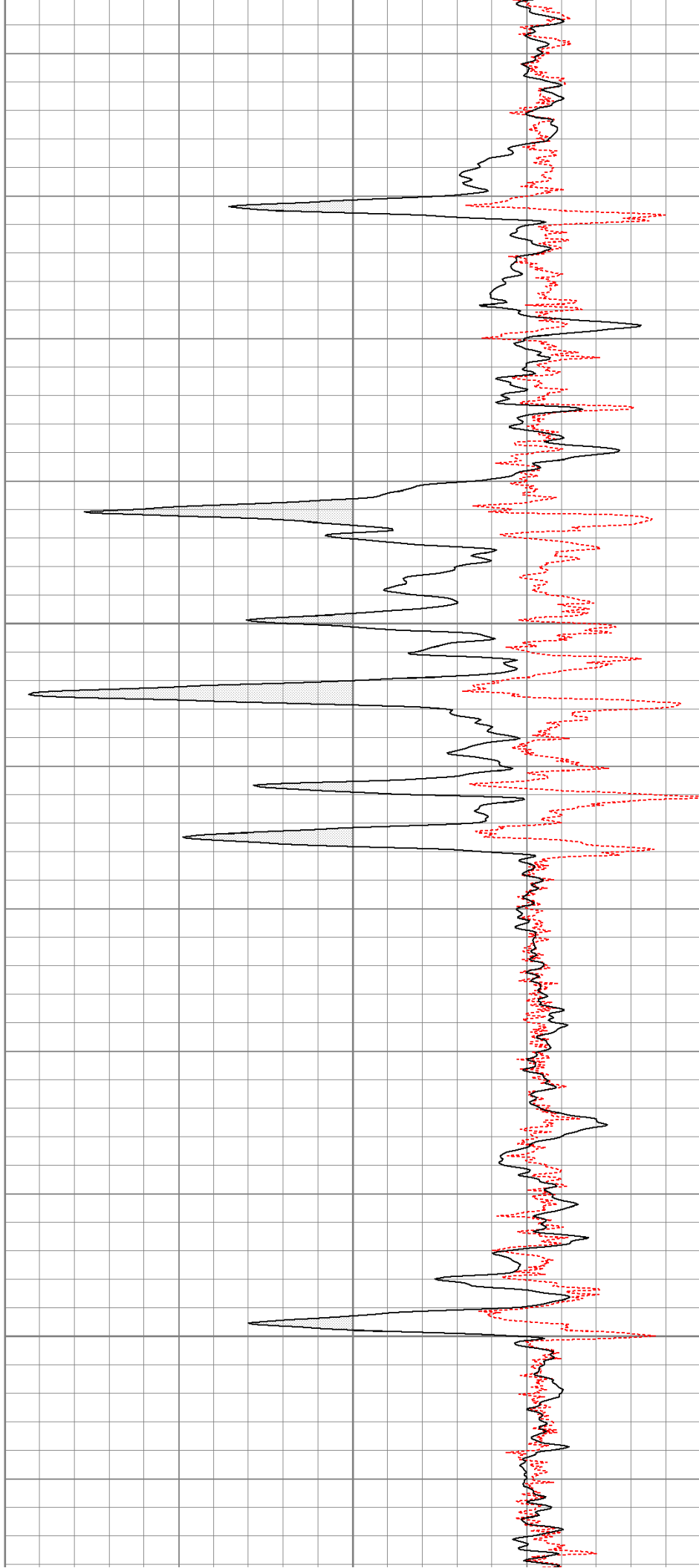
1350



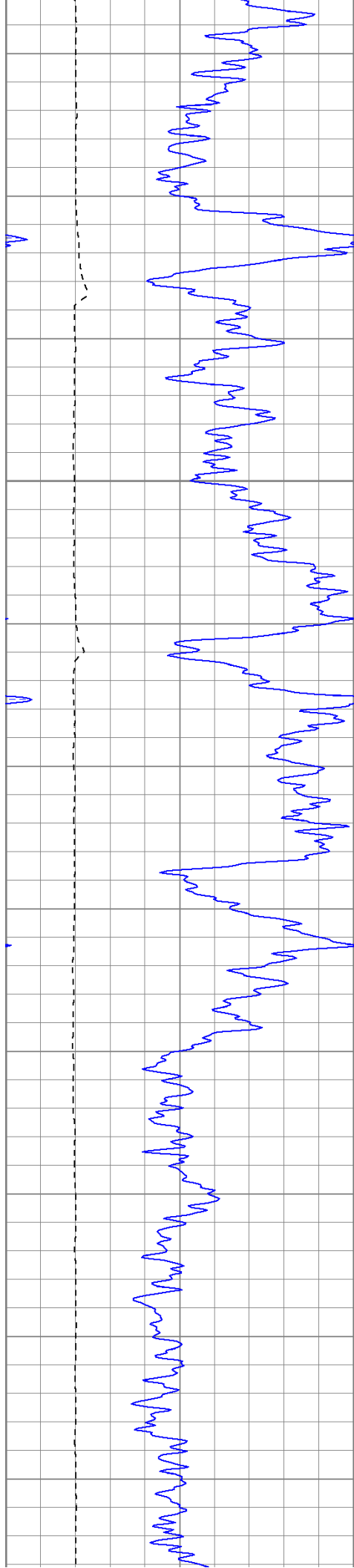


1400

1450

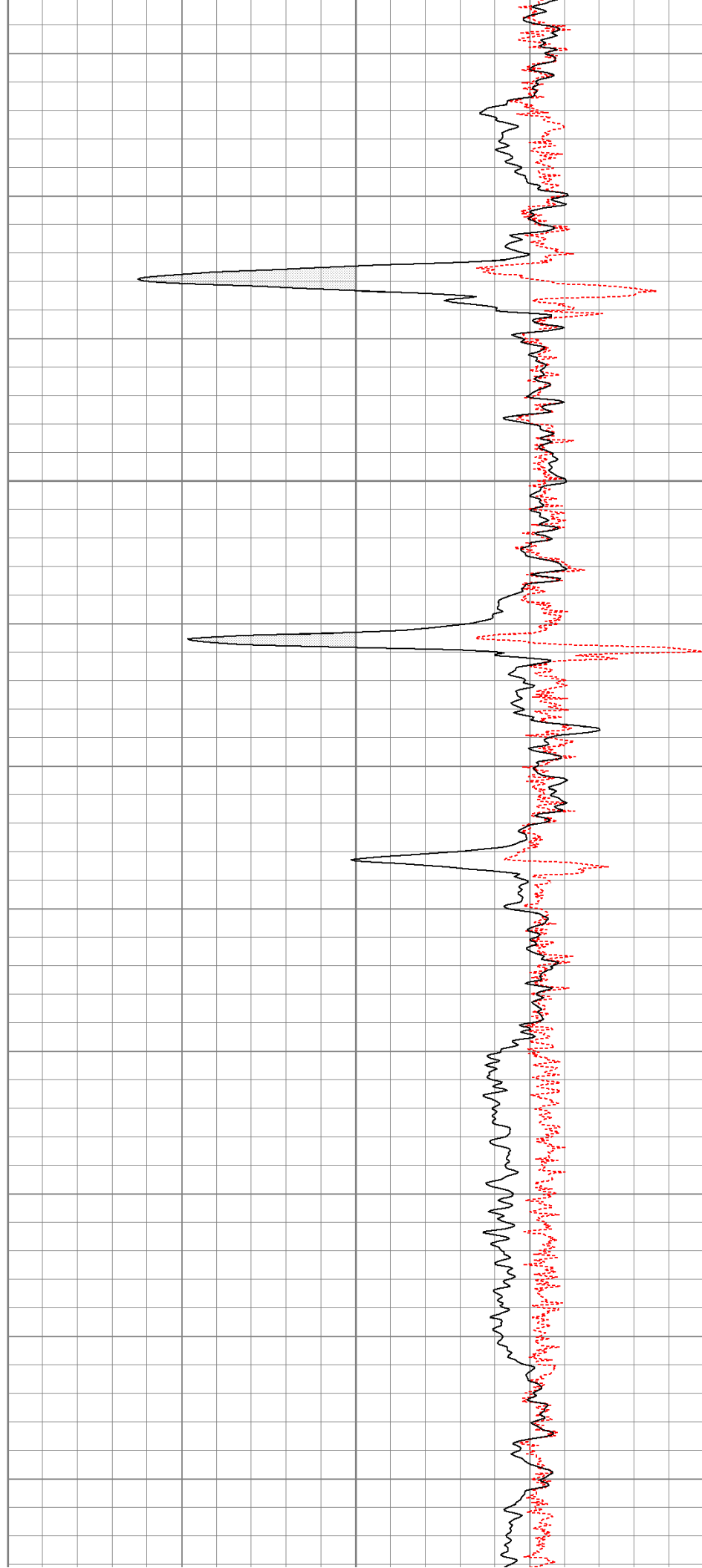


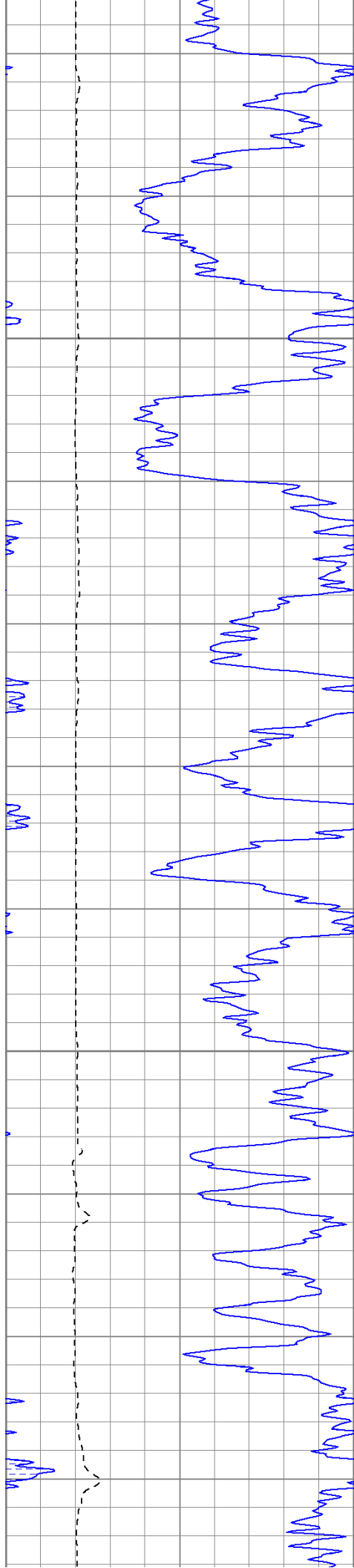




1500

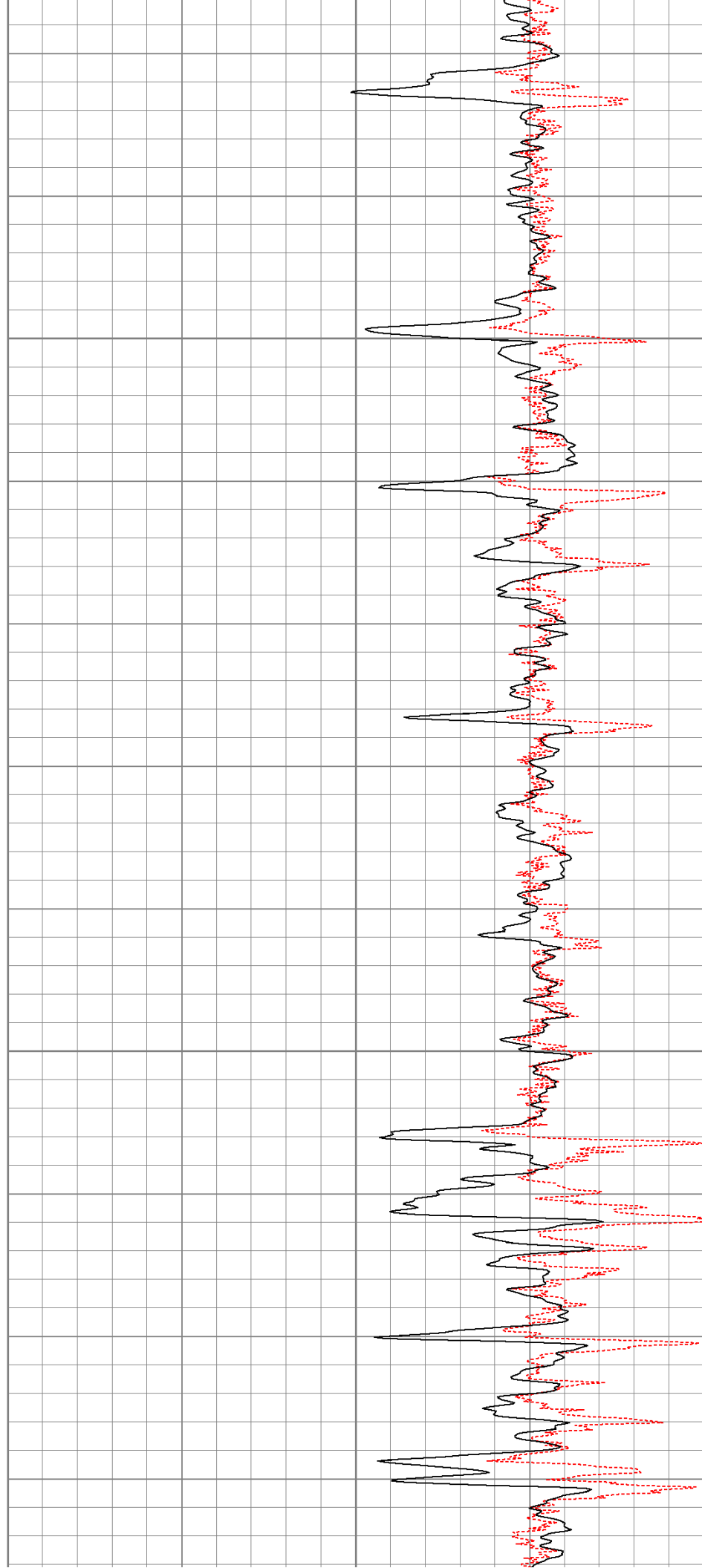
1550

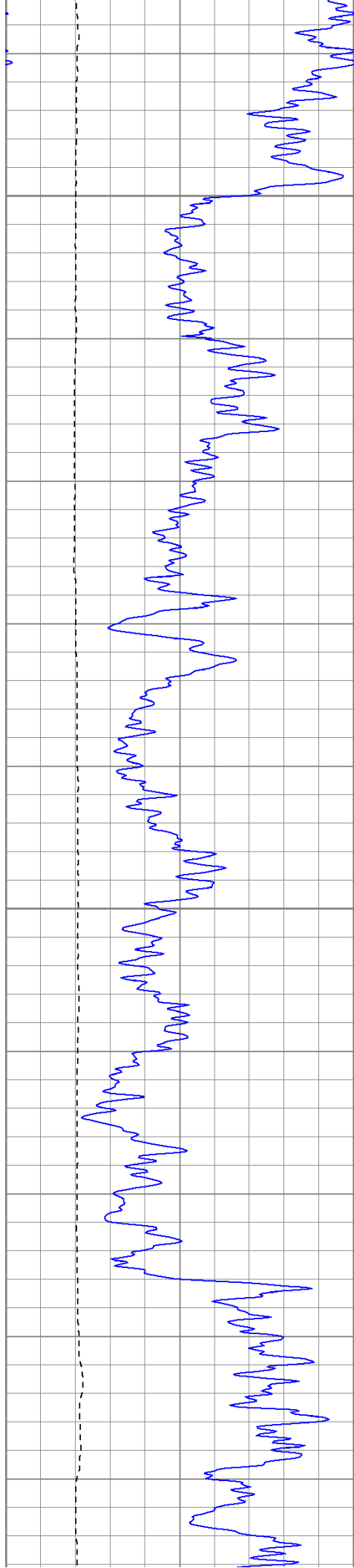




1600

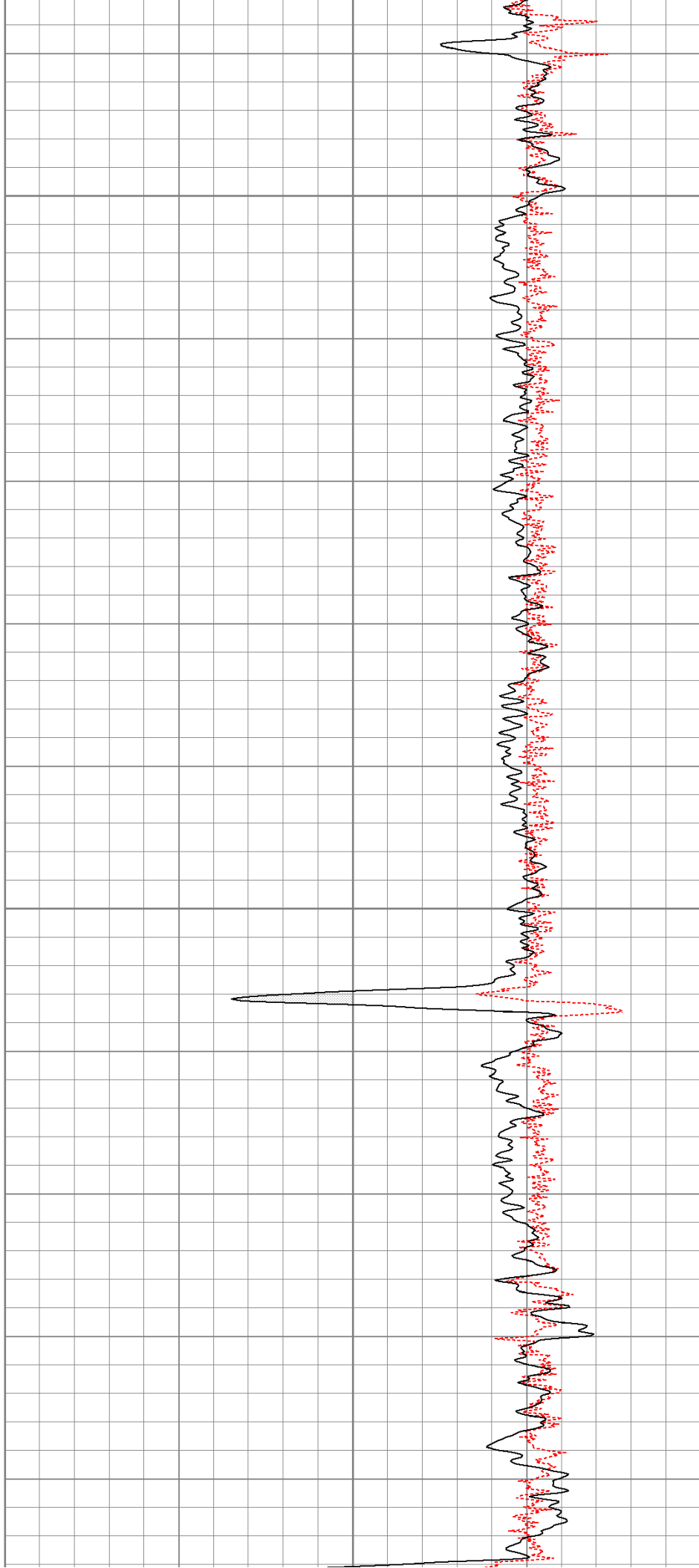
1650

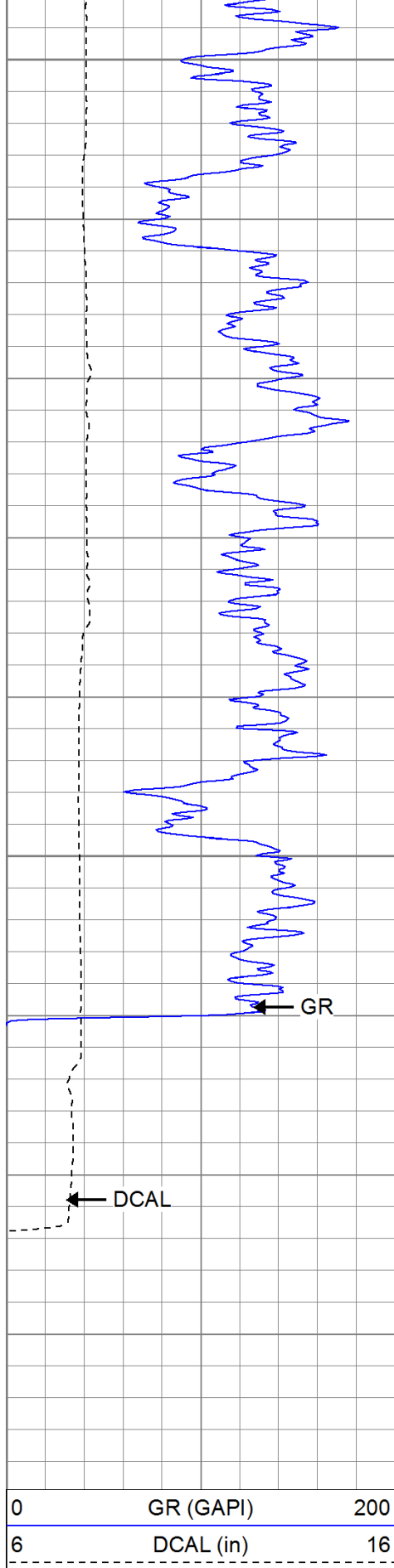




1700

1750



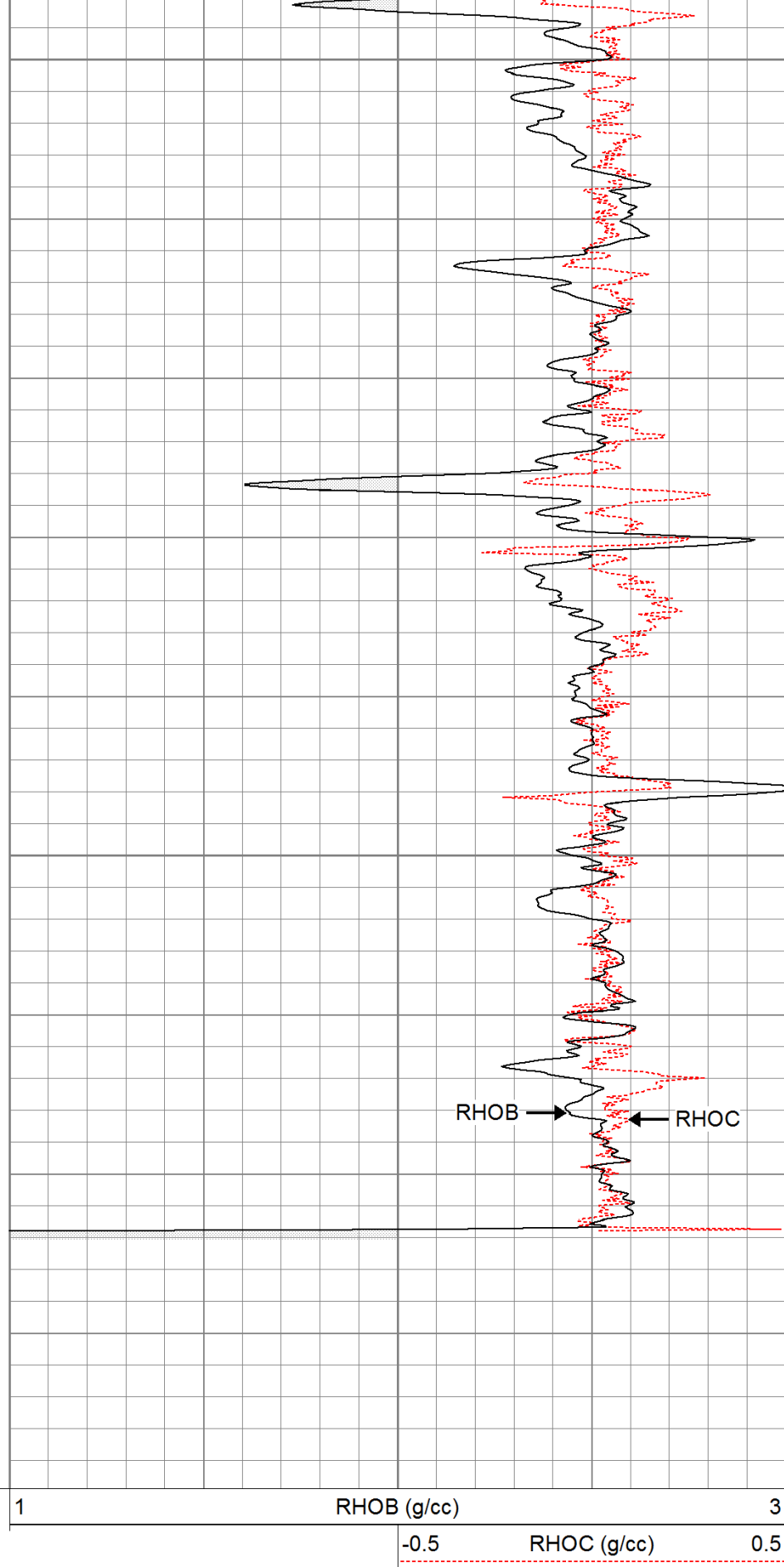


1800

1850

GR

DCAL



RHOB

RHOC

### Calibration Report

Database File: grantstr.db

Dataset Pathname: pass1

Dataset Creation: Mon Mar 10 22:22:53 2014

Dataset Owner: L110000





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:		Sat Apr 30 08:01:03 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	2.47	V	
Large Ring	17.00	in	4.50	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

	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:	0.6500	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
			CDL-2.75POH (901) Probe	8.43	2.75	106.00
LSD	16.21					
DCAL	15.94					
SSD	15.69					
DIC	6.24		IEL-Probe (701)	13.46	2.75	93.00

