

Company	Pioneer Natural Resources	Company	Pioneer Natural Resources
Well	Gremlin 23-35	Well	Gremlin 23-35
Field	Purgatoire River	Field	Purgatoire River
County	Las Animas	County	Las Animas
State	Colorado	State	Colorado
Location:	API #: 05 071 09769 00	Other Services	SIL
SEC 35 TWP 32S RGE 66W	2286' FSL & 1774' FWL	Elevation	7154'
Permanent Datum	Ground Level	K.B.	7158'
Log Measured From	Kelly Bushing 4' AGL	D.F.	-----
Drilling Measured From	Kelly Bushing	G.L.	7154'
Date	11-2-11		
Run Number	One		
Depth Driller	2022'		
Depth Logger	2021'		
Bottom Logged Interval	2006'		
Top Log Interval	Surface Casing		
Casing Driller	8 5/8" @ 496'		
Casing Logger	496'		
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	9:00 A.M.		
Time Logger on Bottom	12:00 P.M.		
Maximum Recorded Temperature	DEG F		
Equipment Number	T590		
Location	Trinidad		
Recorded By	C. Sisneros		
Witnessed By	Mr. Billy 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.

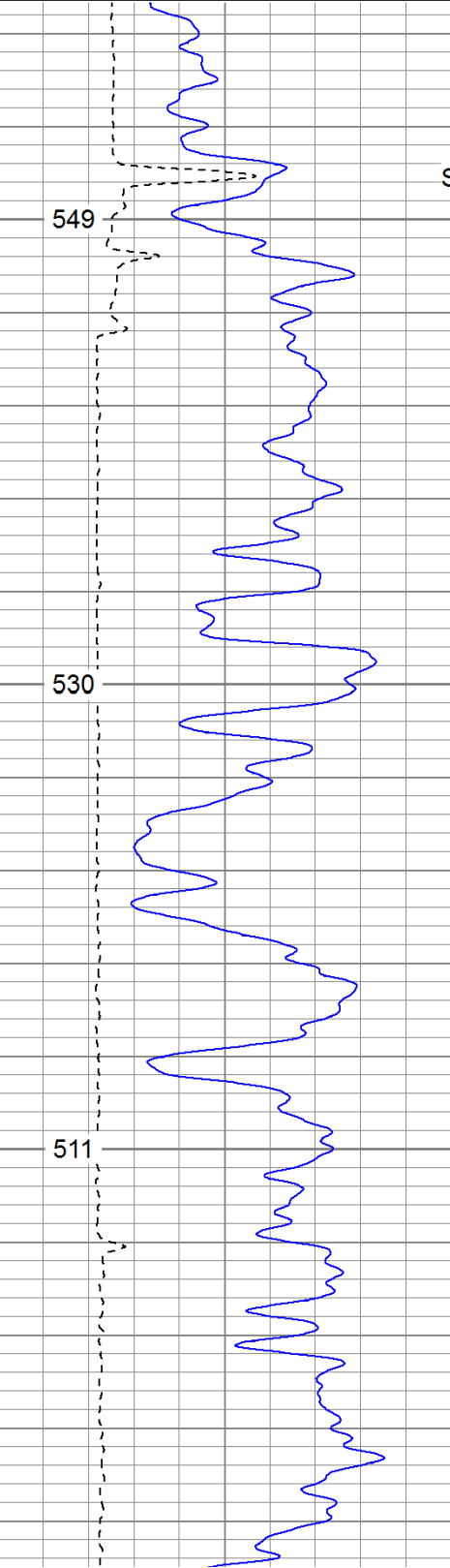
Directions:

Database File: gremlin.db
Dataset Pathname: pass2.1
Presentation Format: cdl
Dataset Creation: Wed Nov 02 13:10:17 2011 by Calc Open-Cased 110302
Charted by: Depth in Feet scaled 1:240

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

TBHV (ft3)		

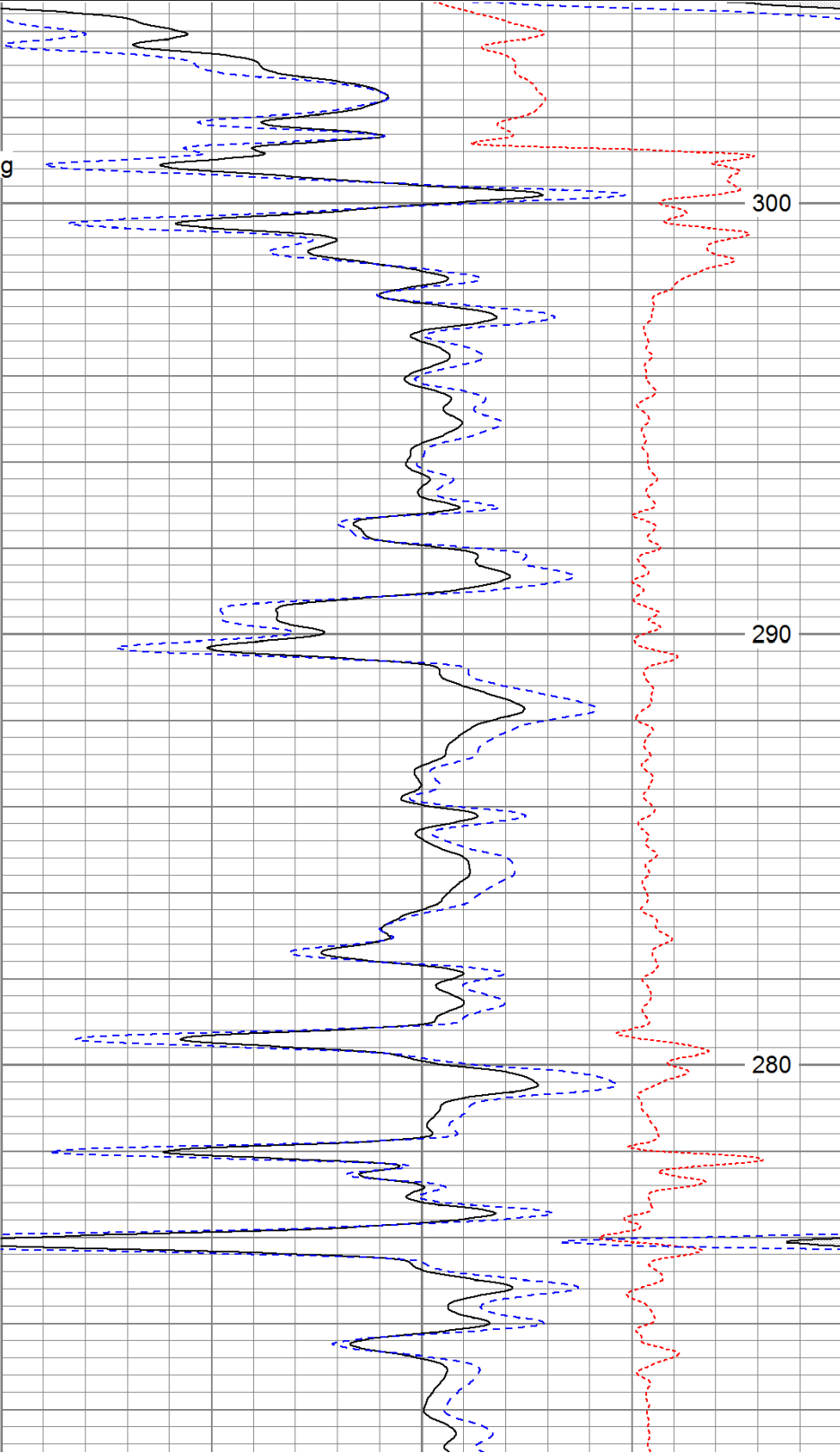
2	RHOB (g/cc)		3
1	RHOB (g/cc)		2
30	DPOR (pu)		-10
<hr style="border-top: 1px dashed blue;"/>			
	-0.5	RHOC (g/cc)	0.5
<hr style="border-top: 1px dashed red;"/>			
	7000	LTEN (lb)	0
			ABHV (ft3)

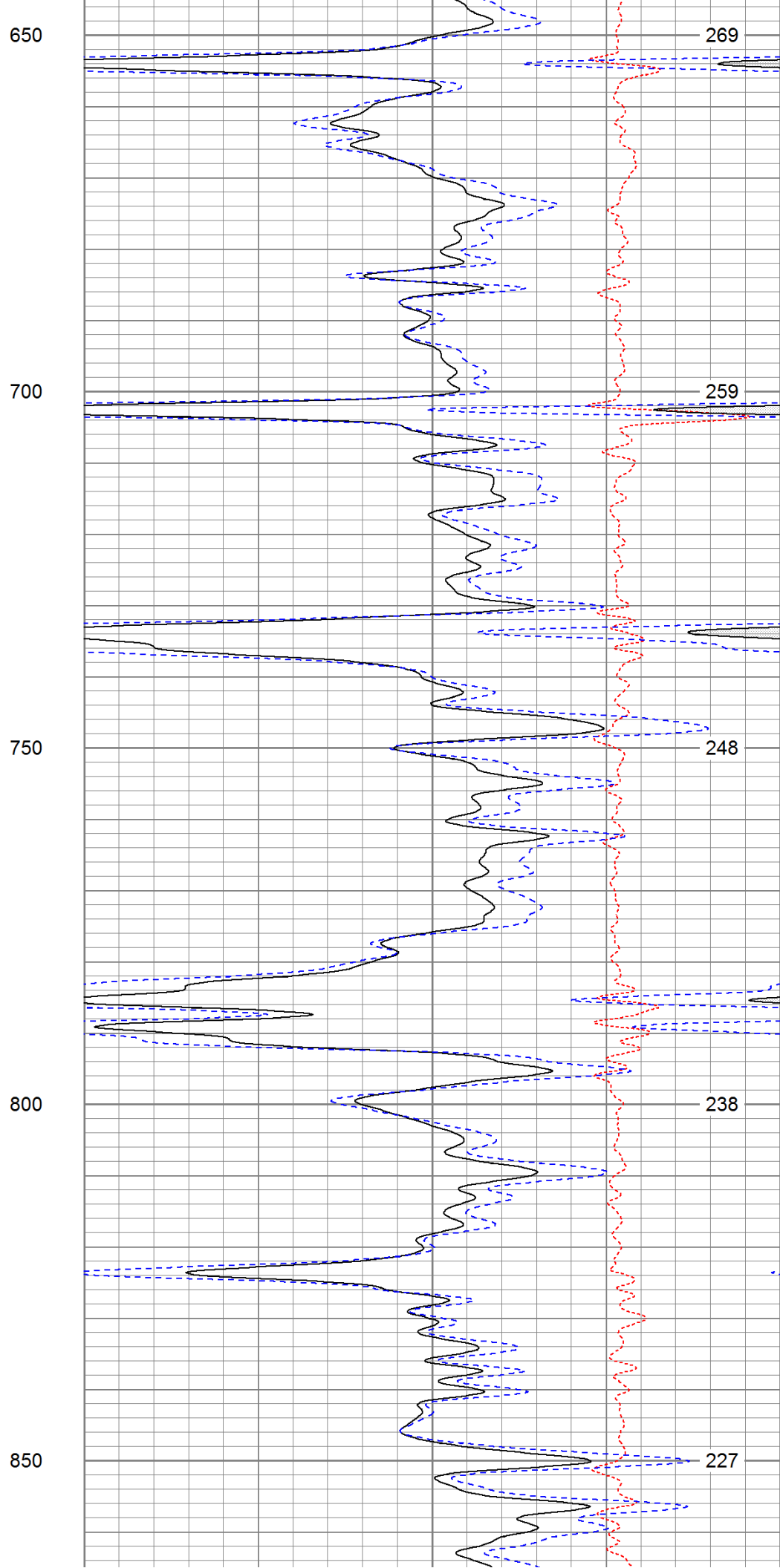
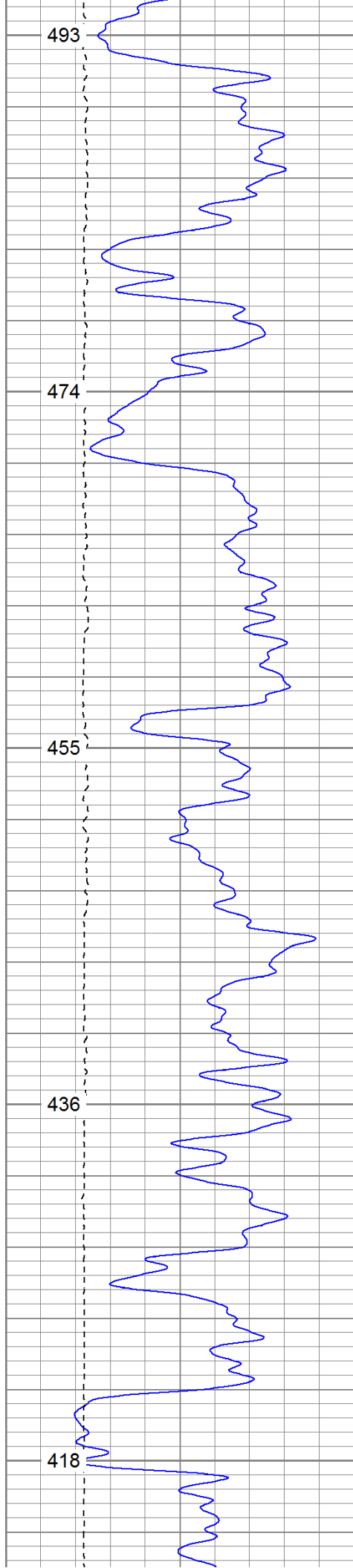


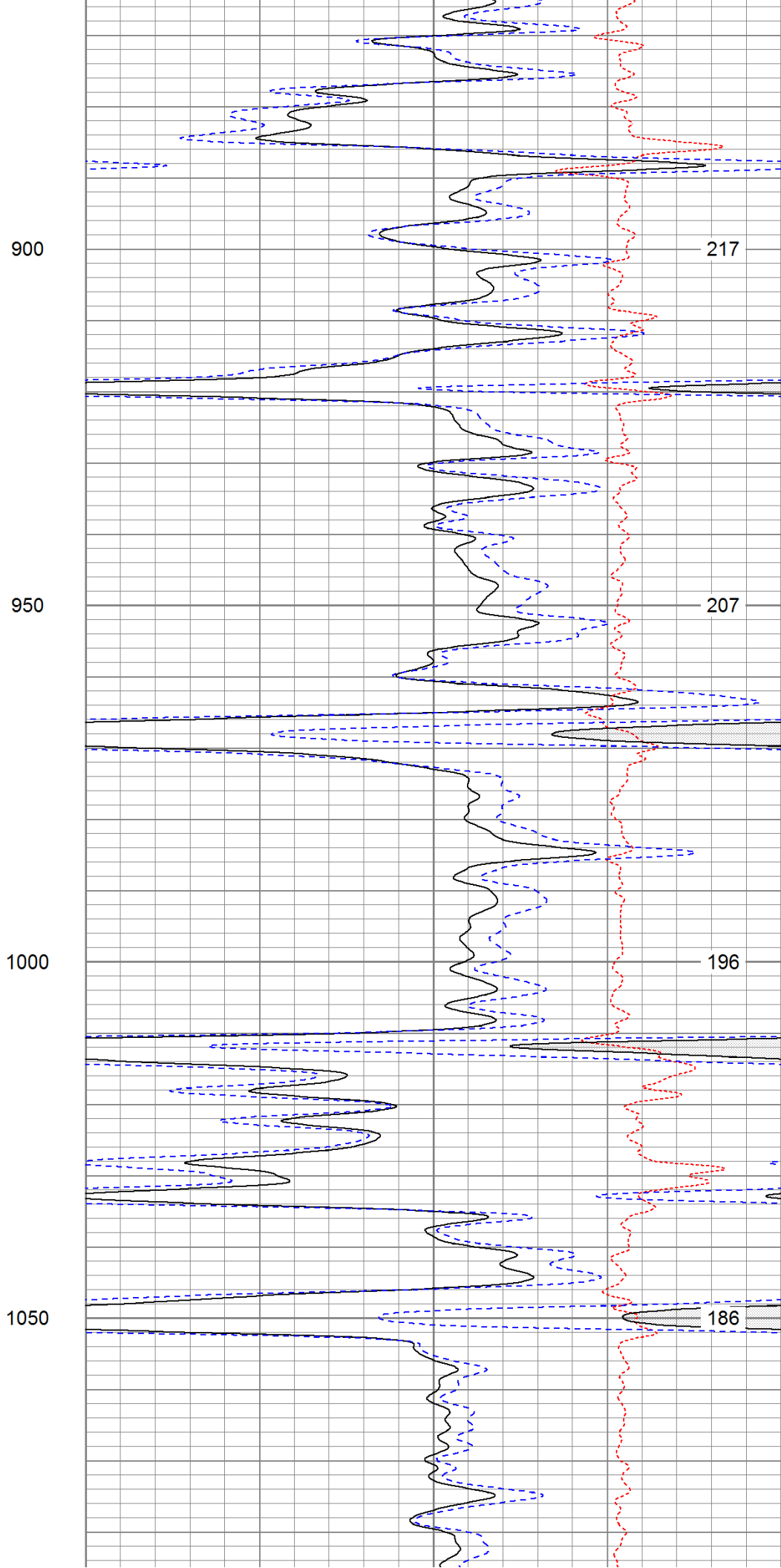
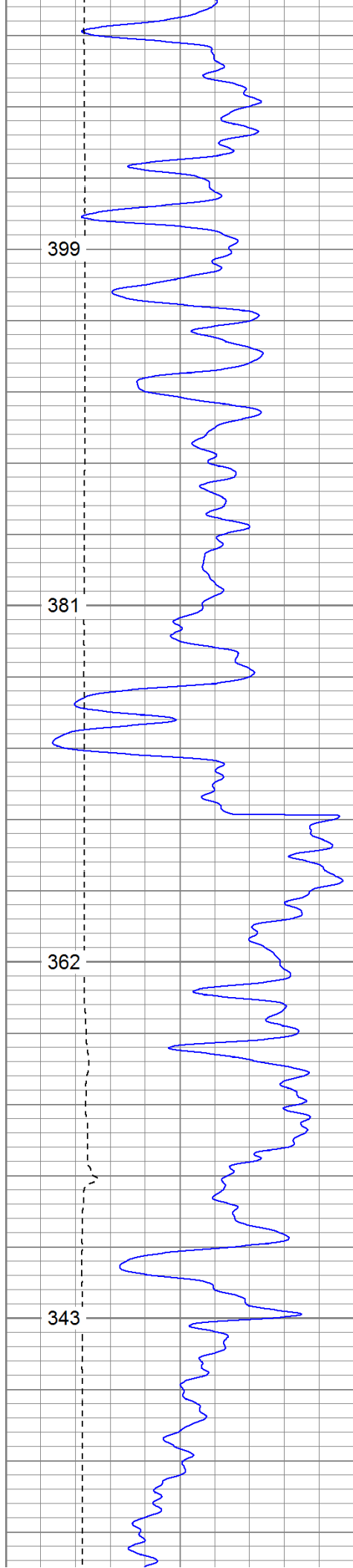
Surface Casing
500

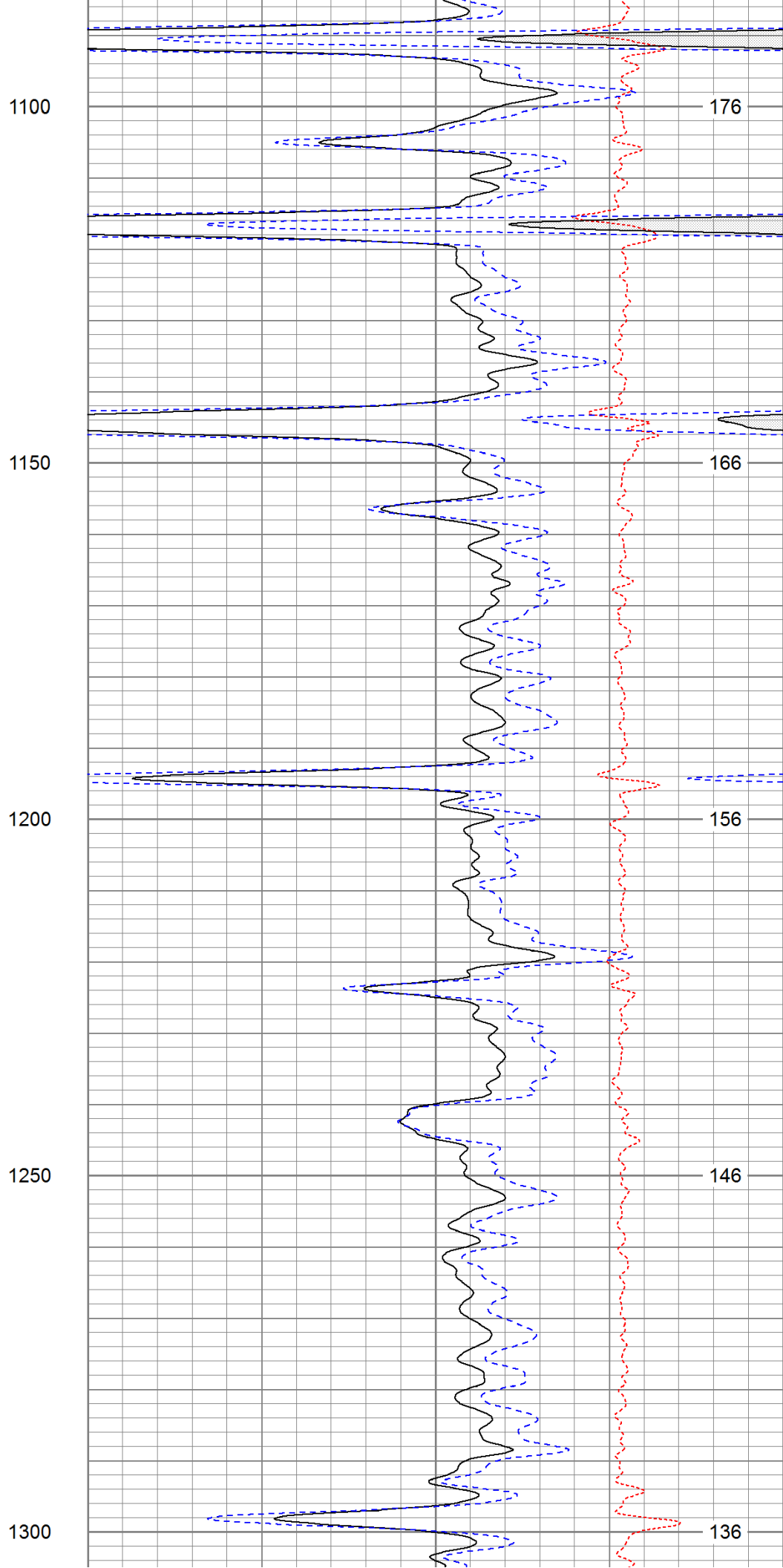
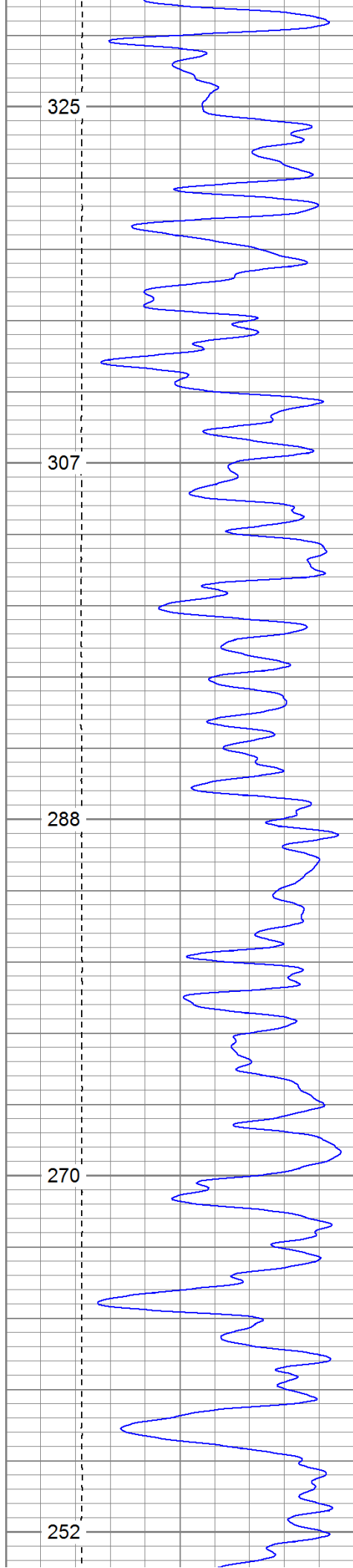
550

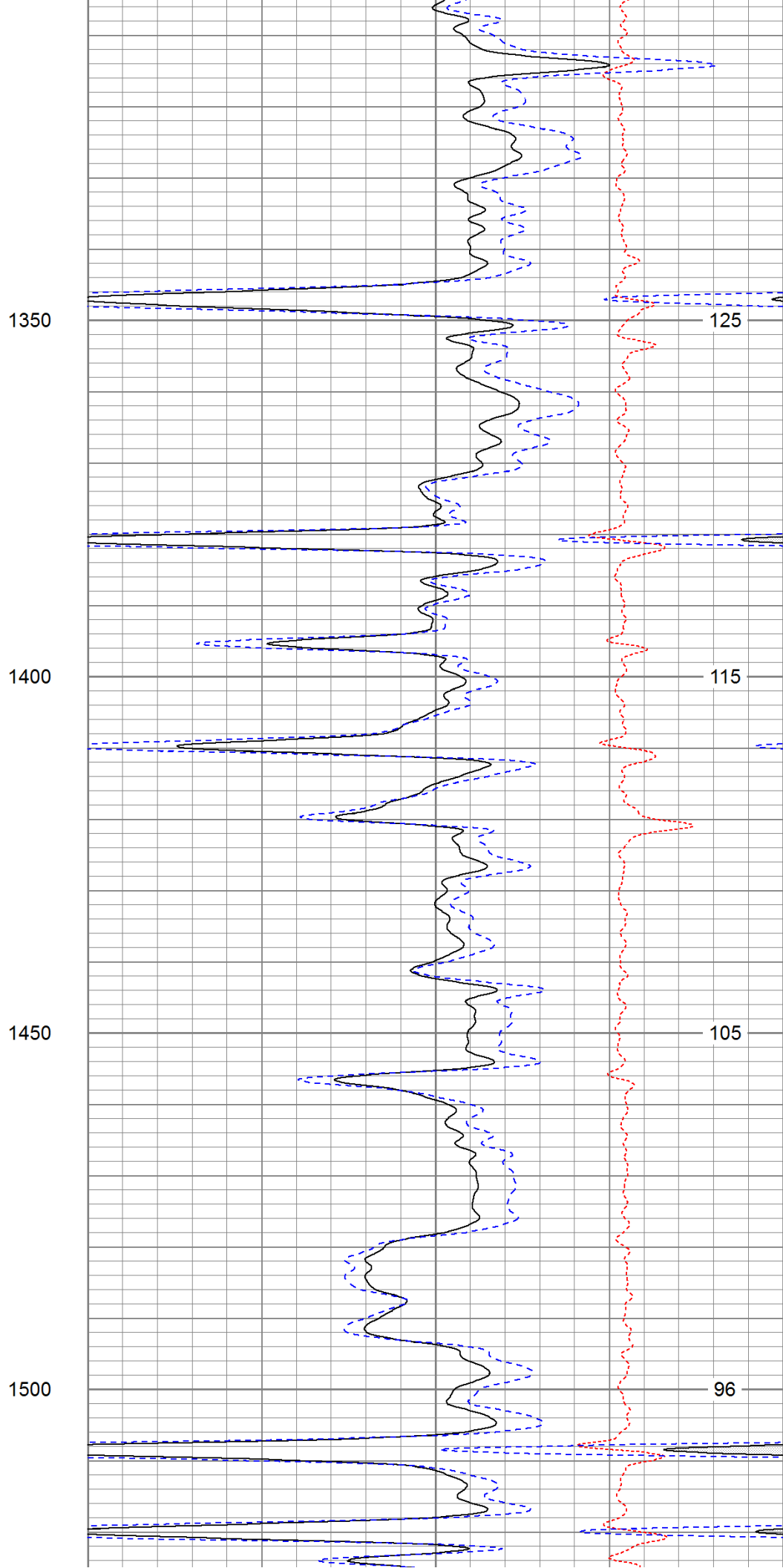
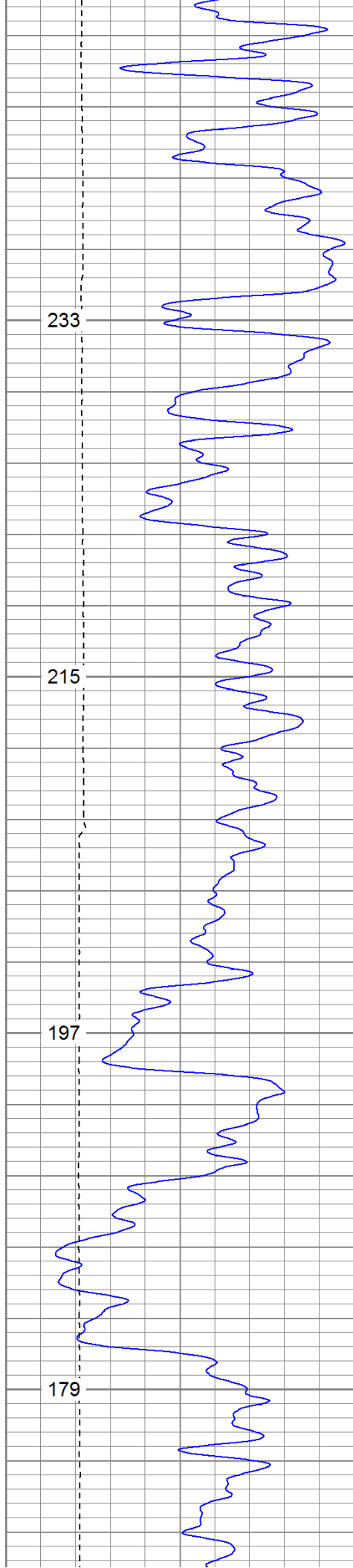
600

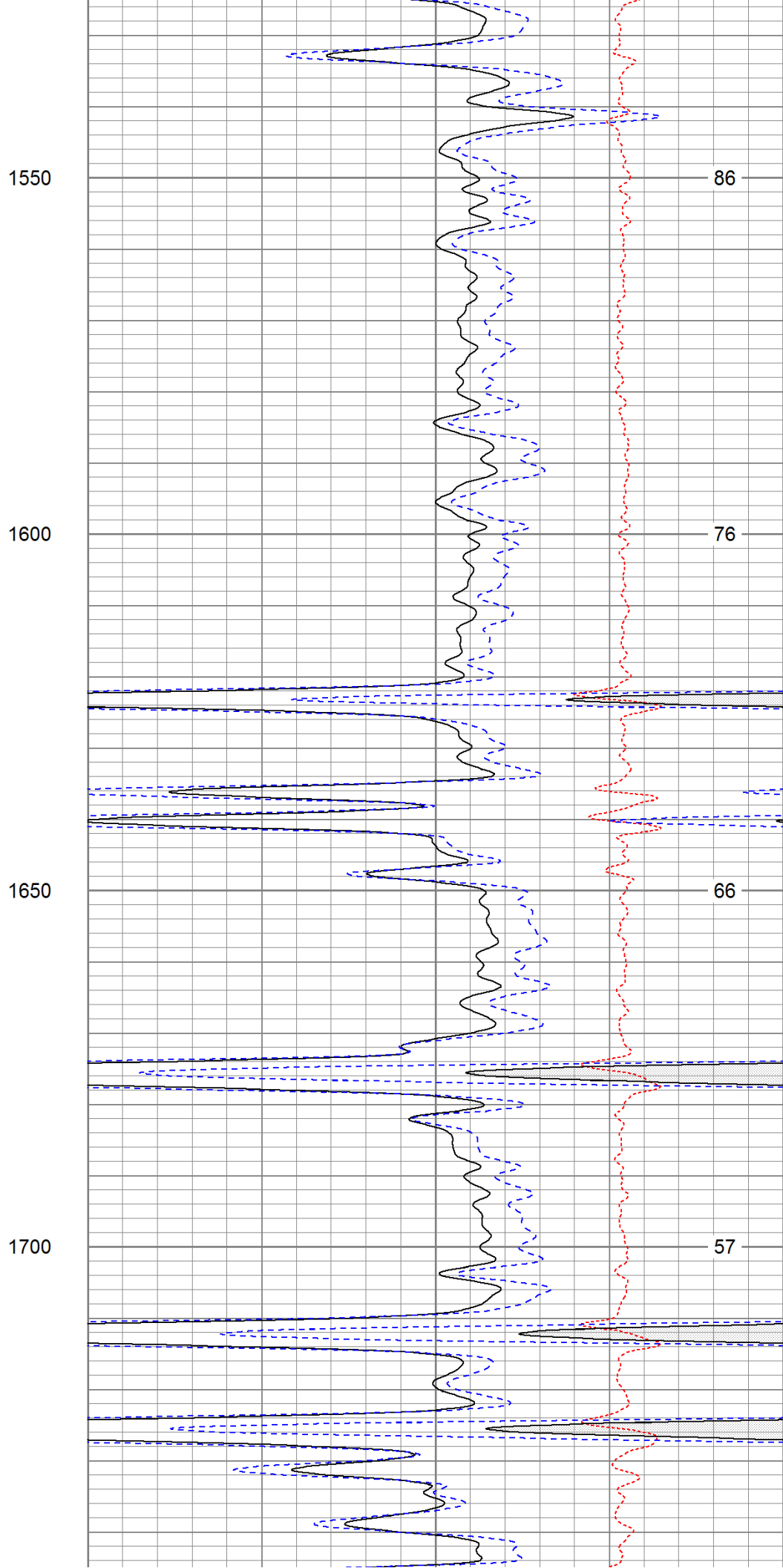
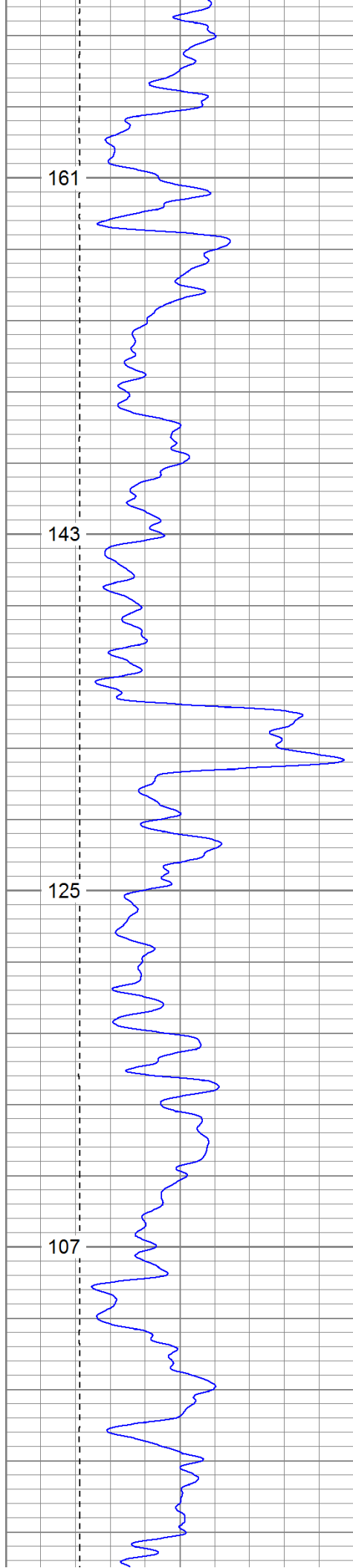


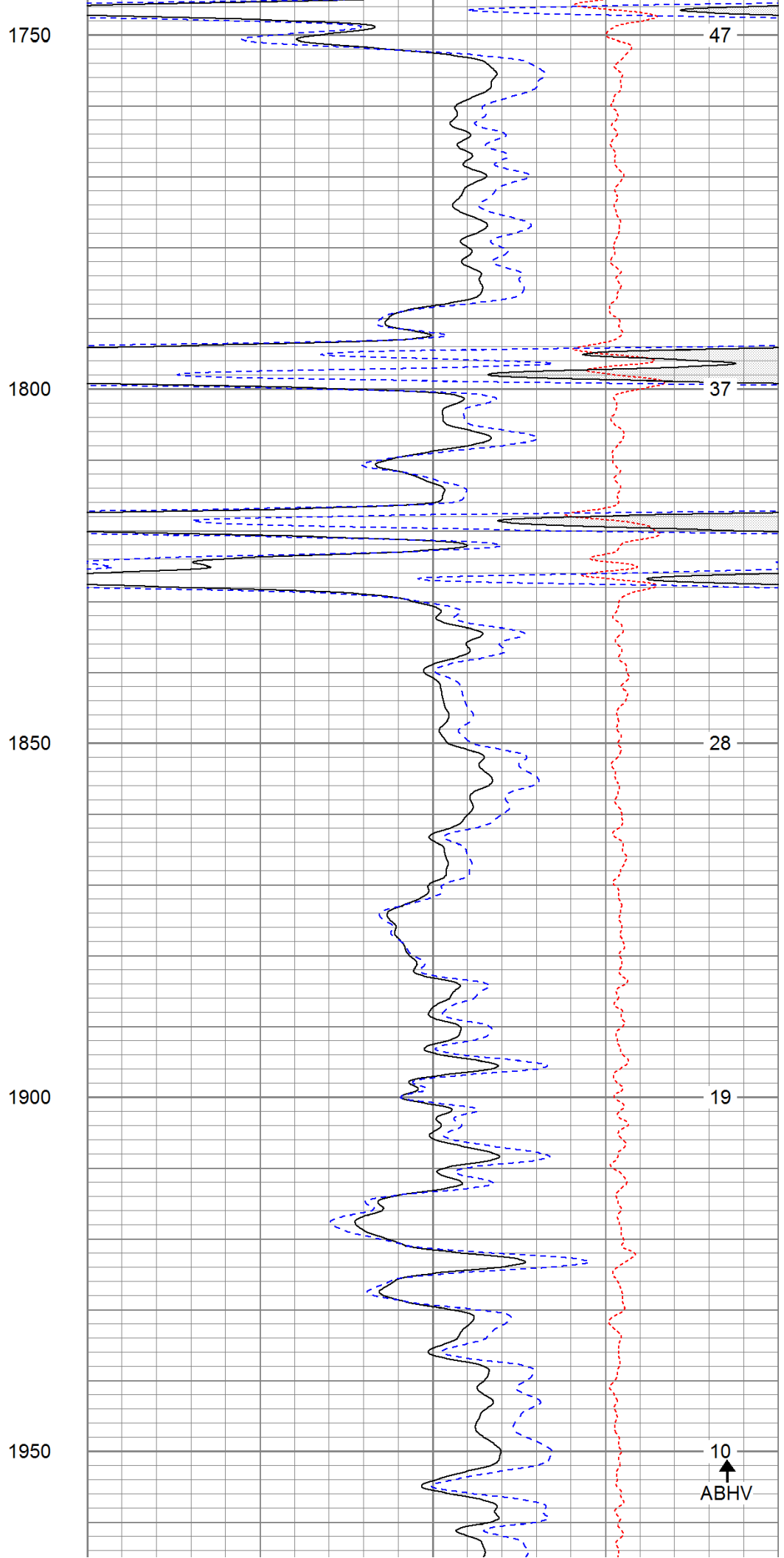
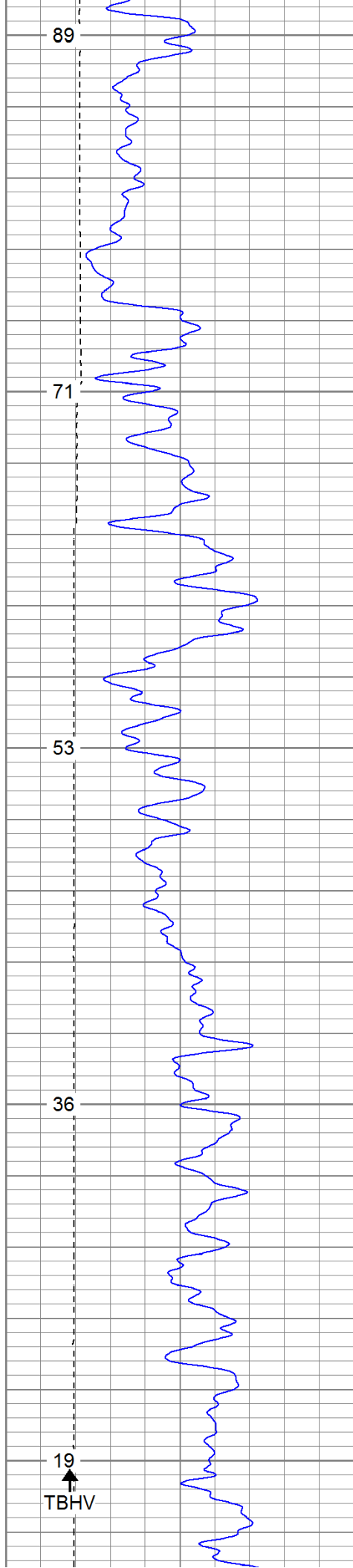


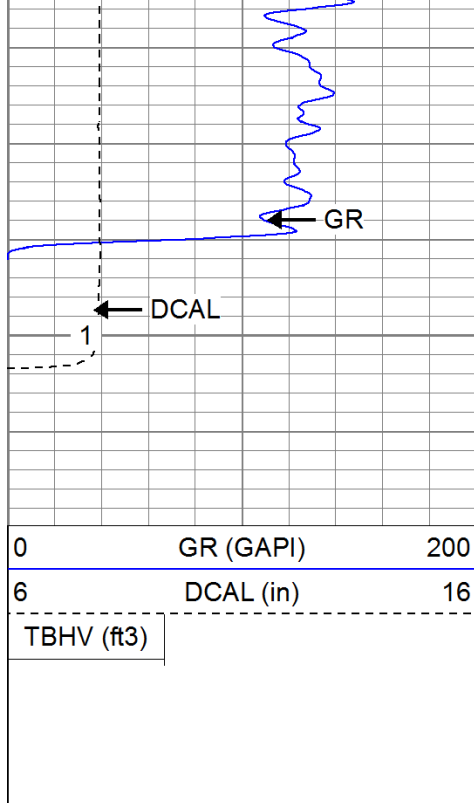




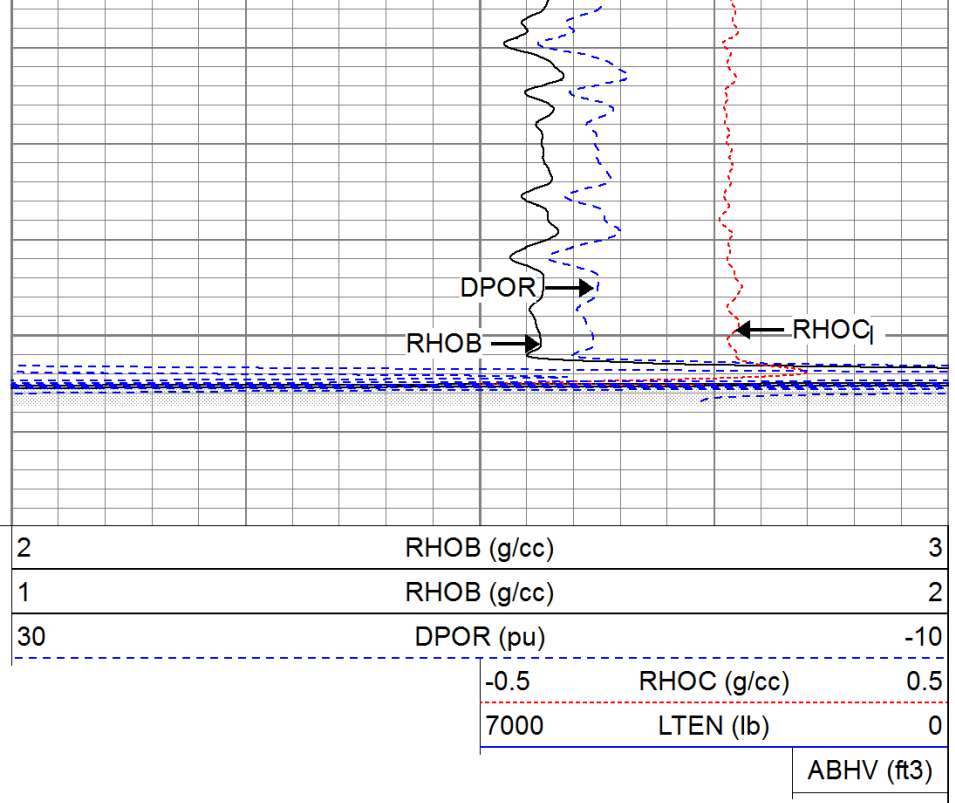






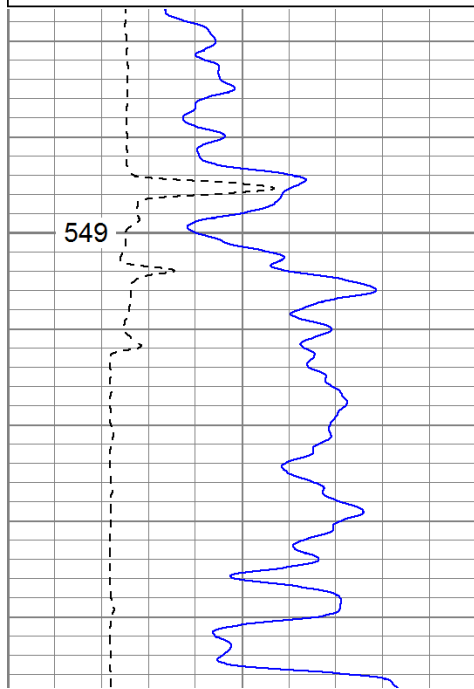
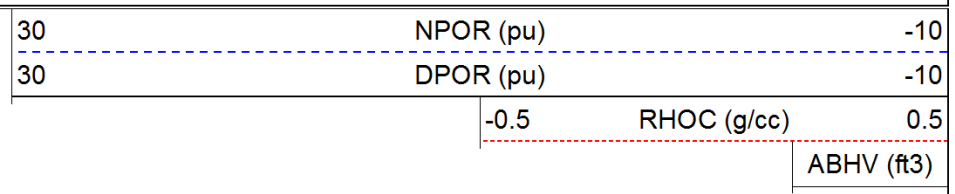
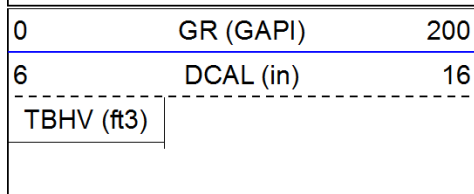


2000

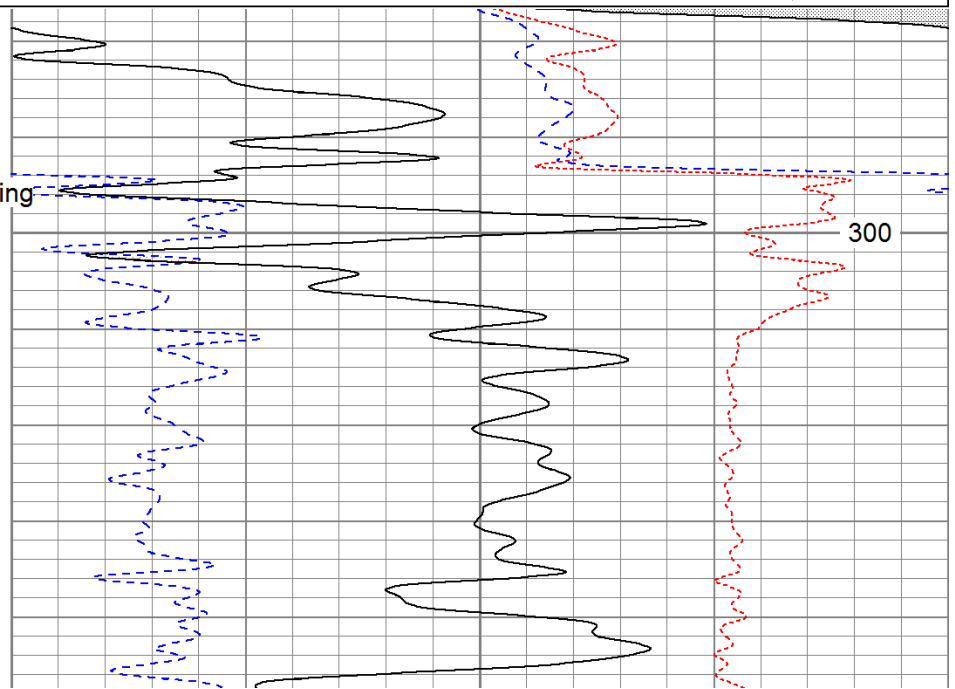


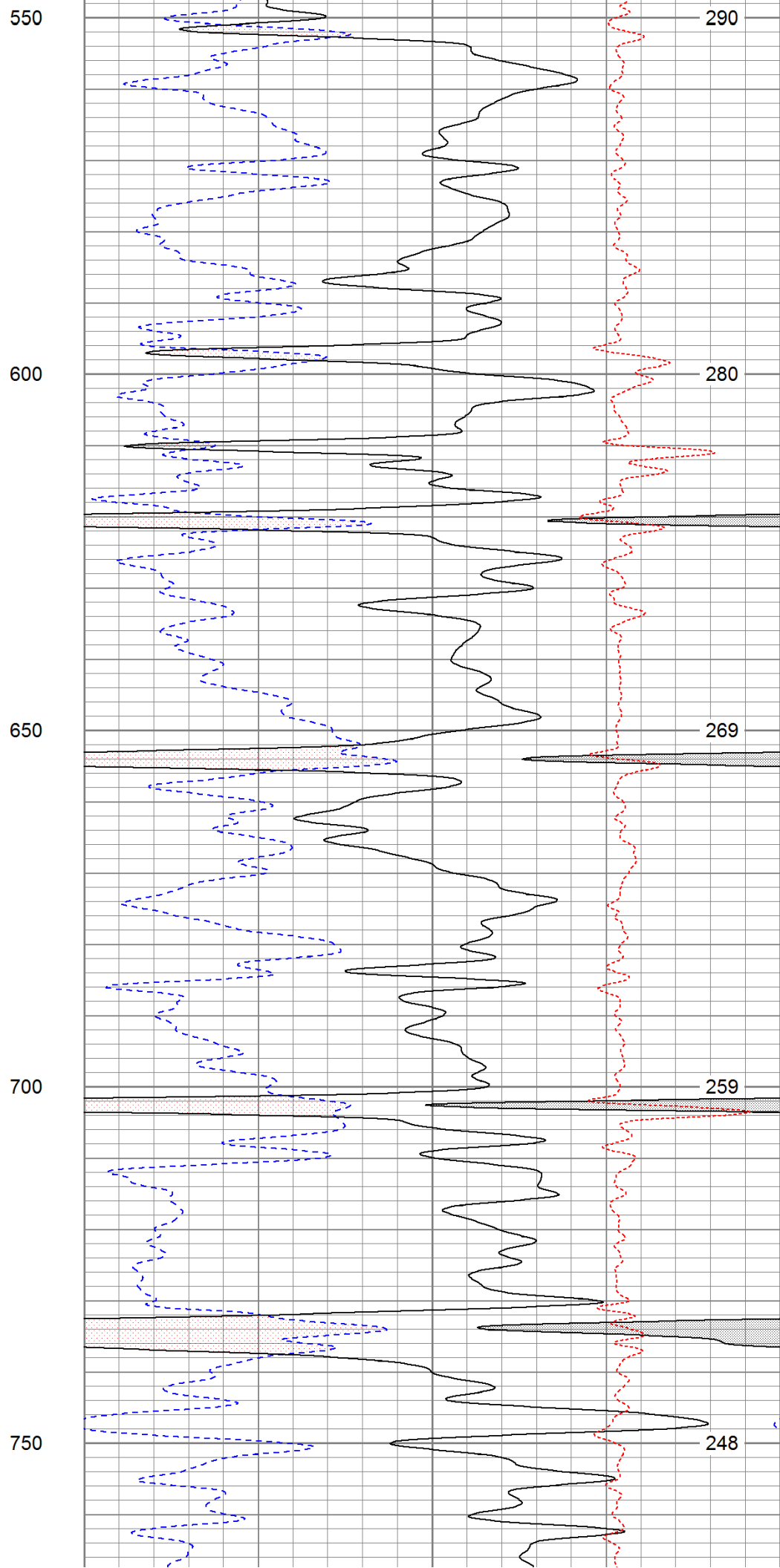
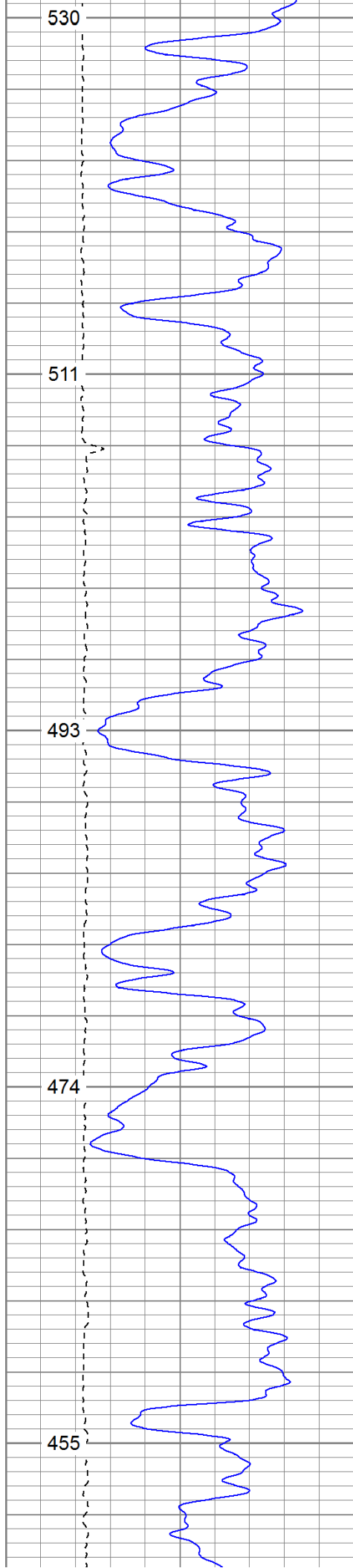
Main Pass

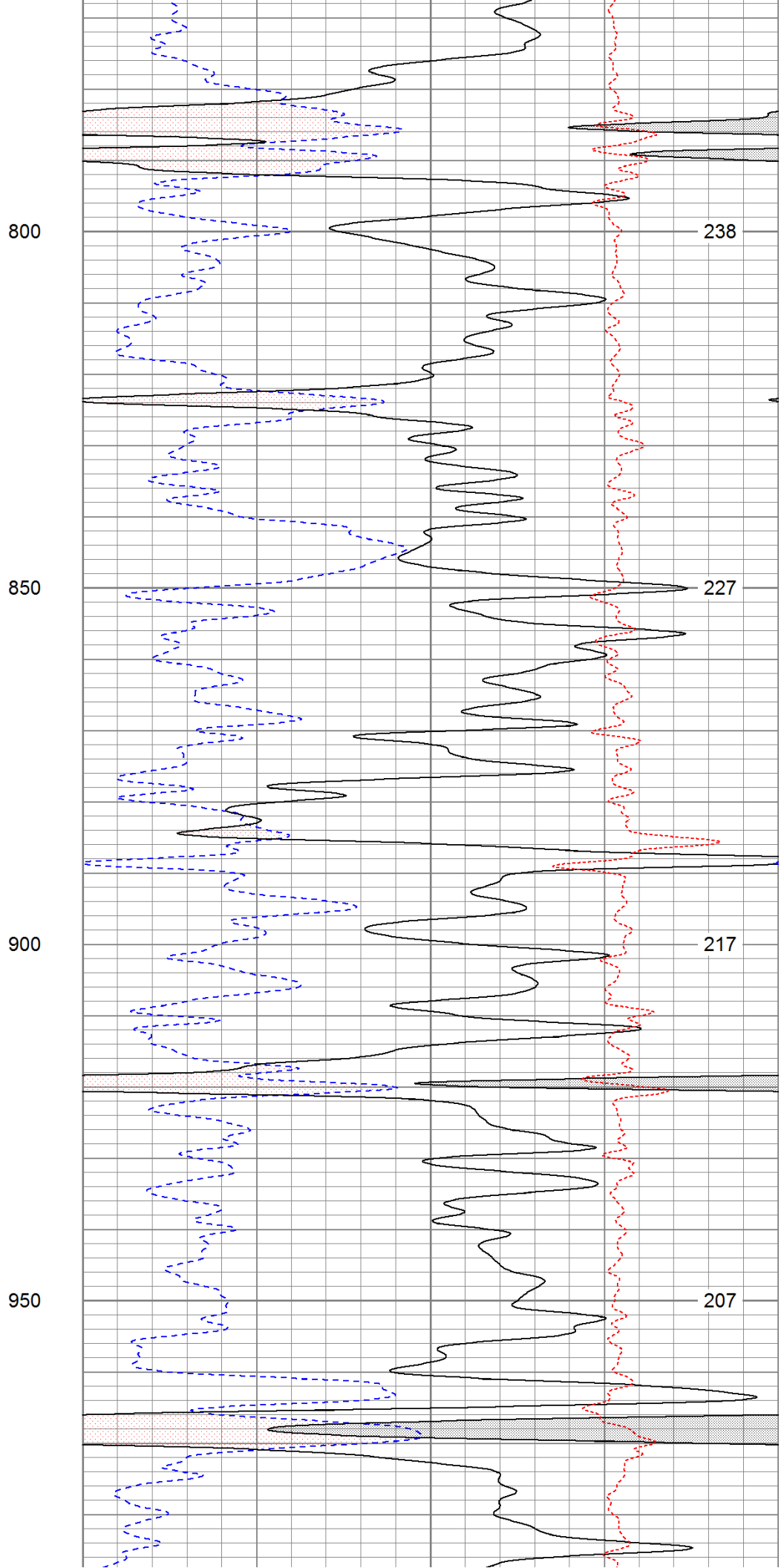
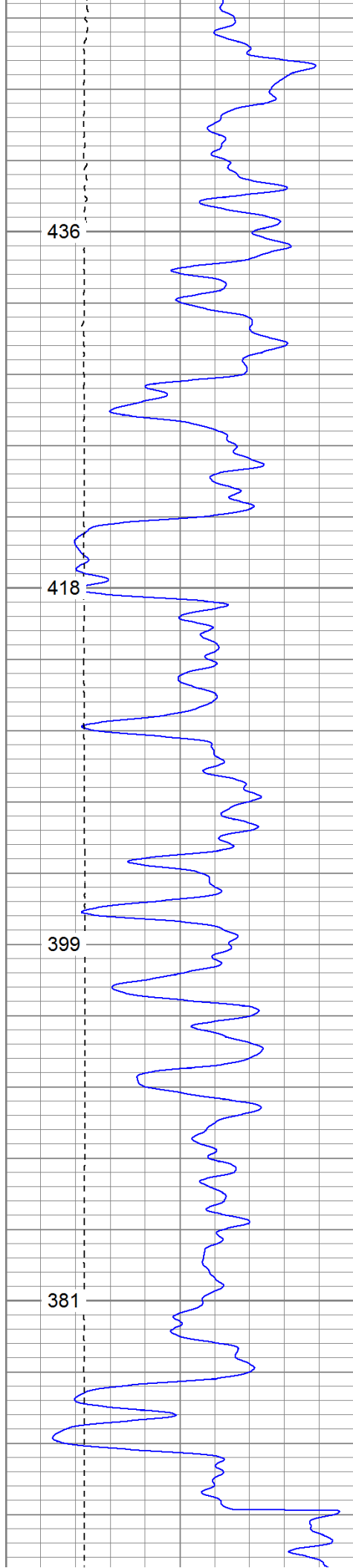
Database File: gremlin.db
 Dataset Pathname: pass2.1
 Presentation Format: cdnl
 Dataset Creation: Wed Nov 02 13:10:17 2011 by Calc Open-Cased 110302
 Charted by: Depth in Feet scaled 1:240

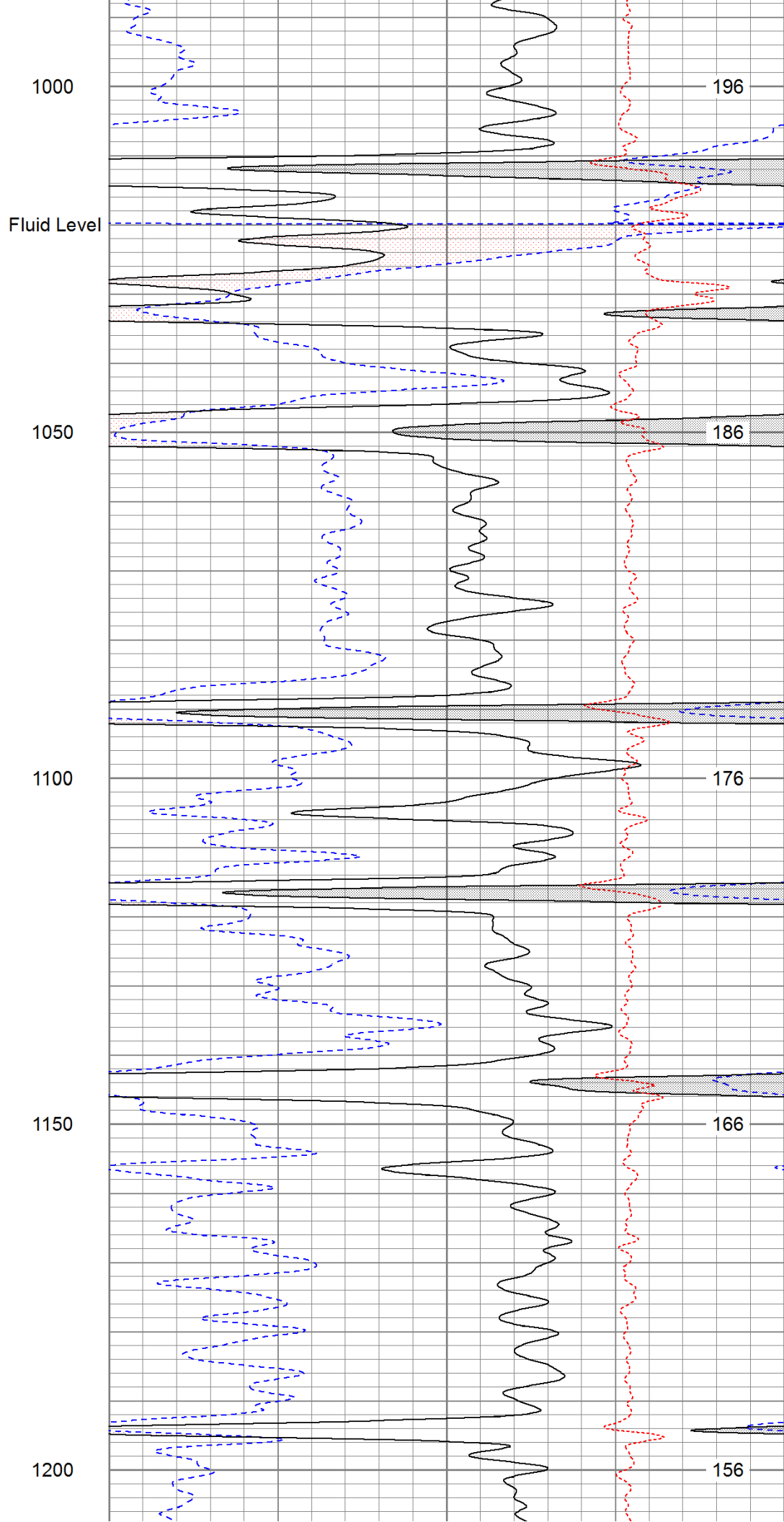
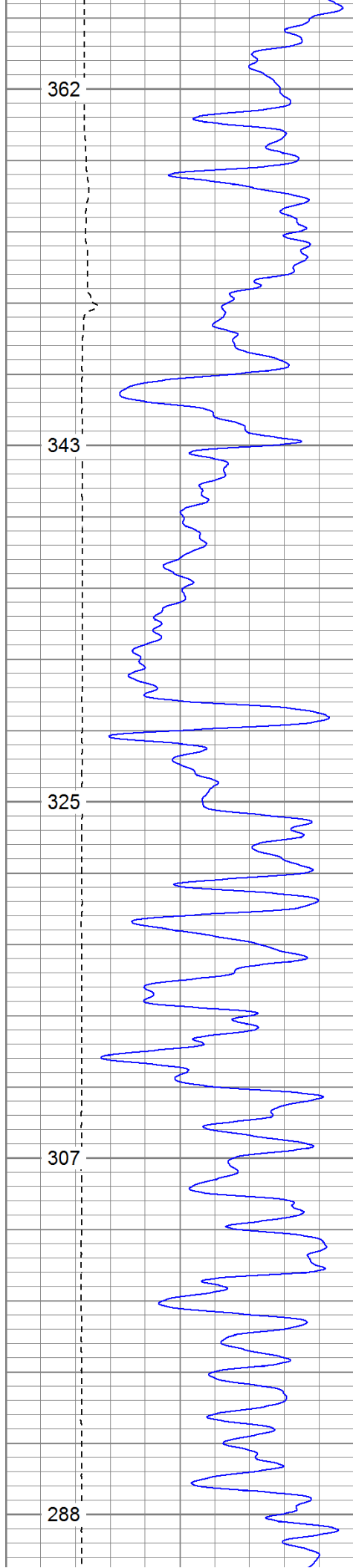


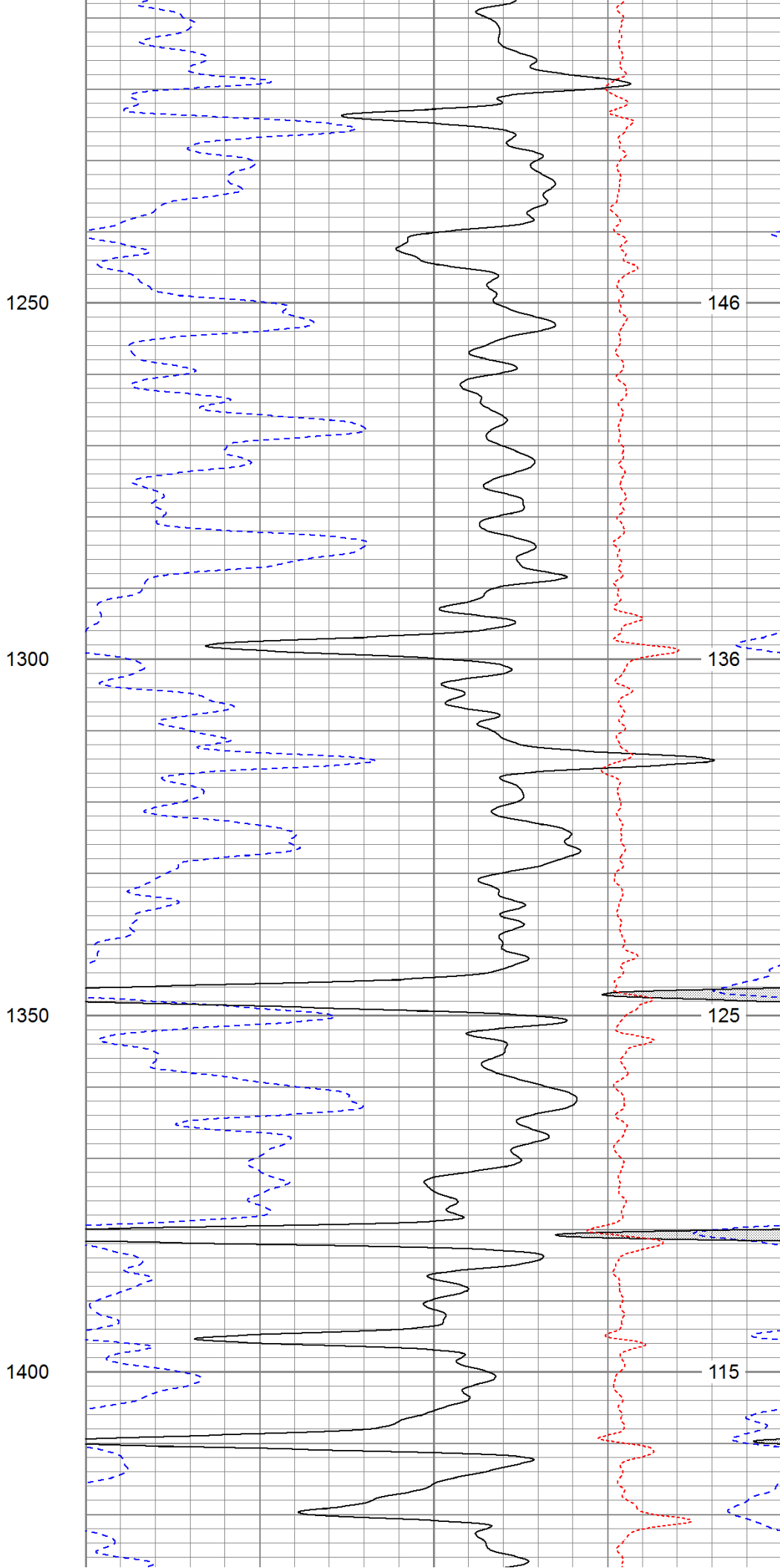
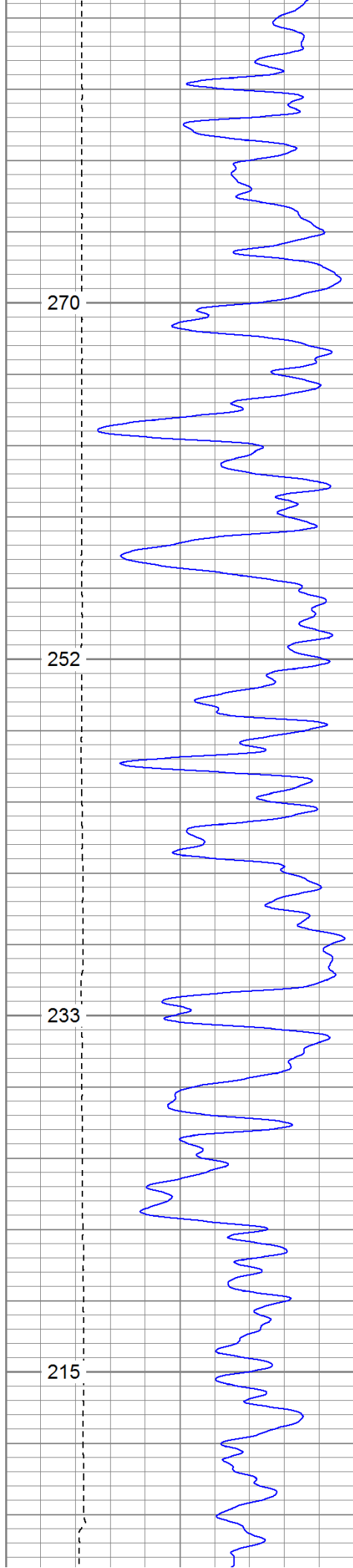
Surface Casing
500

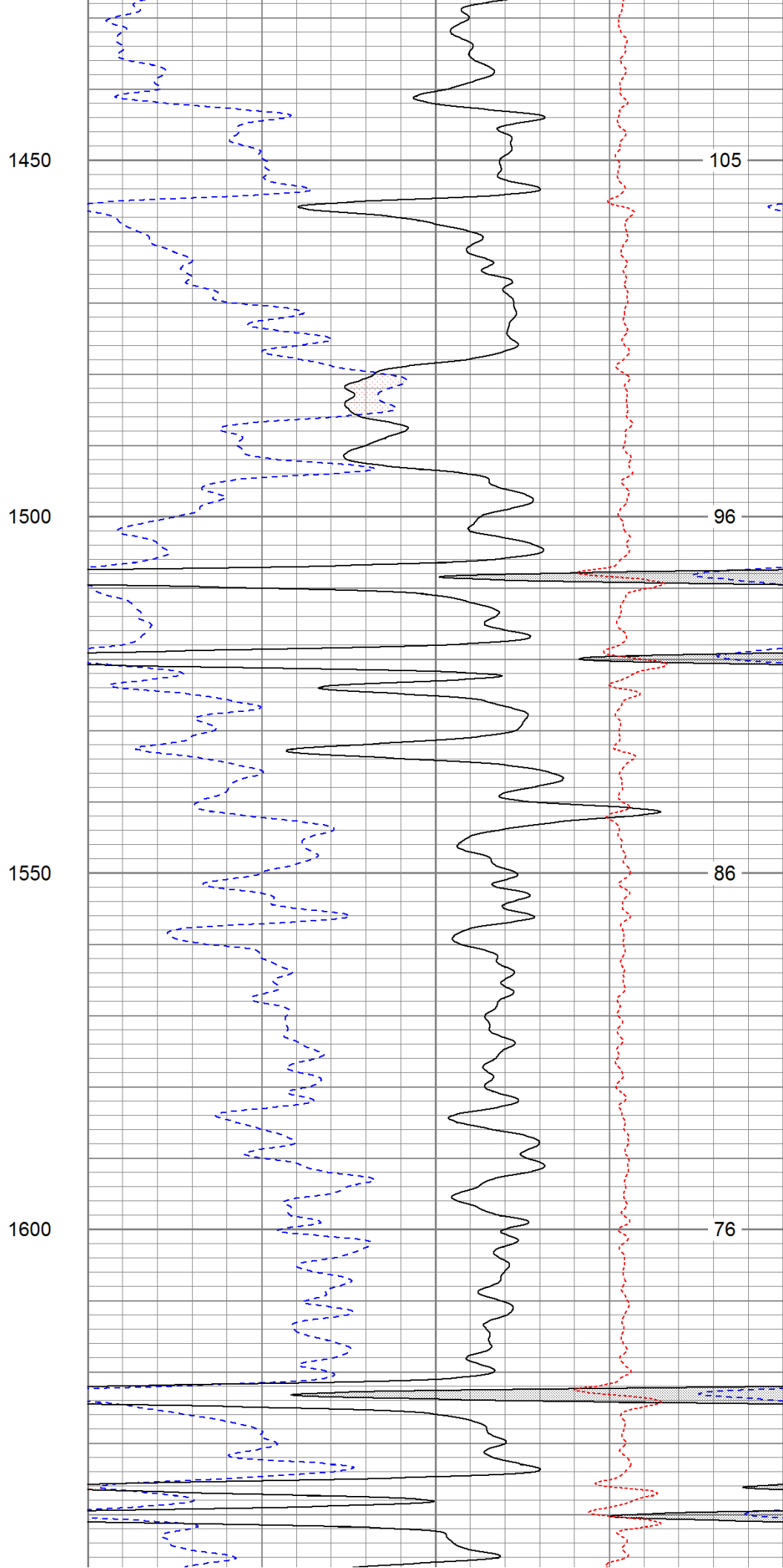
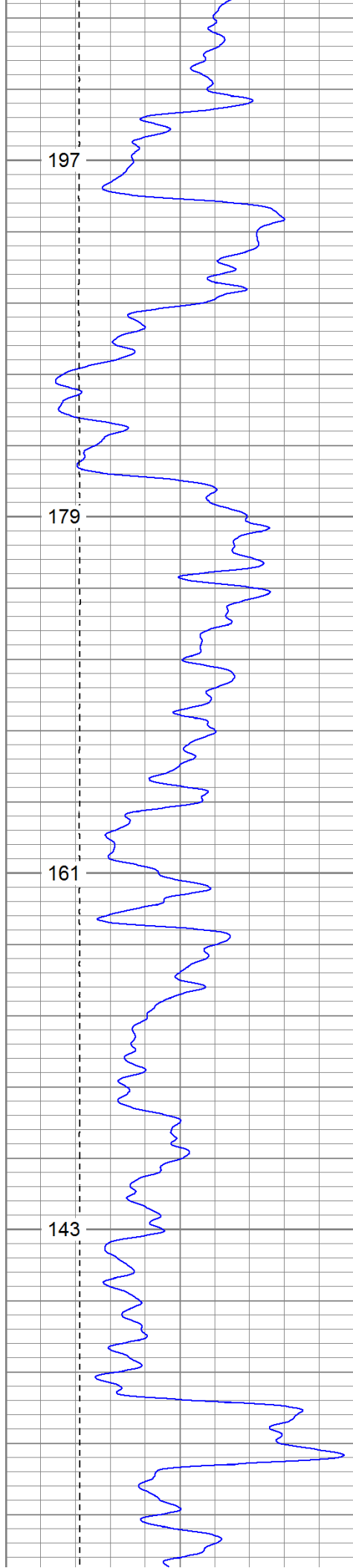


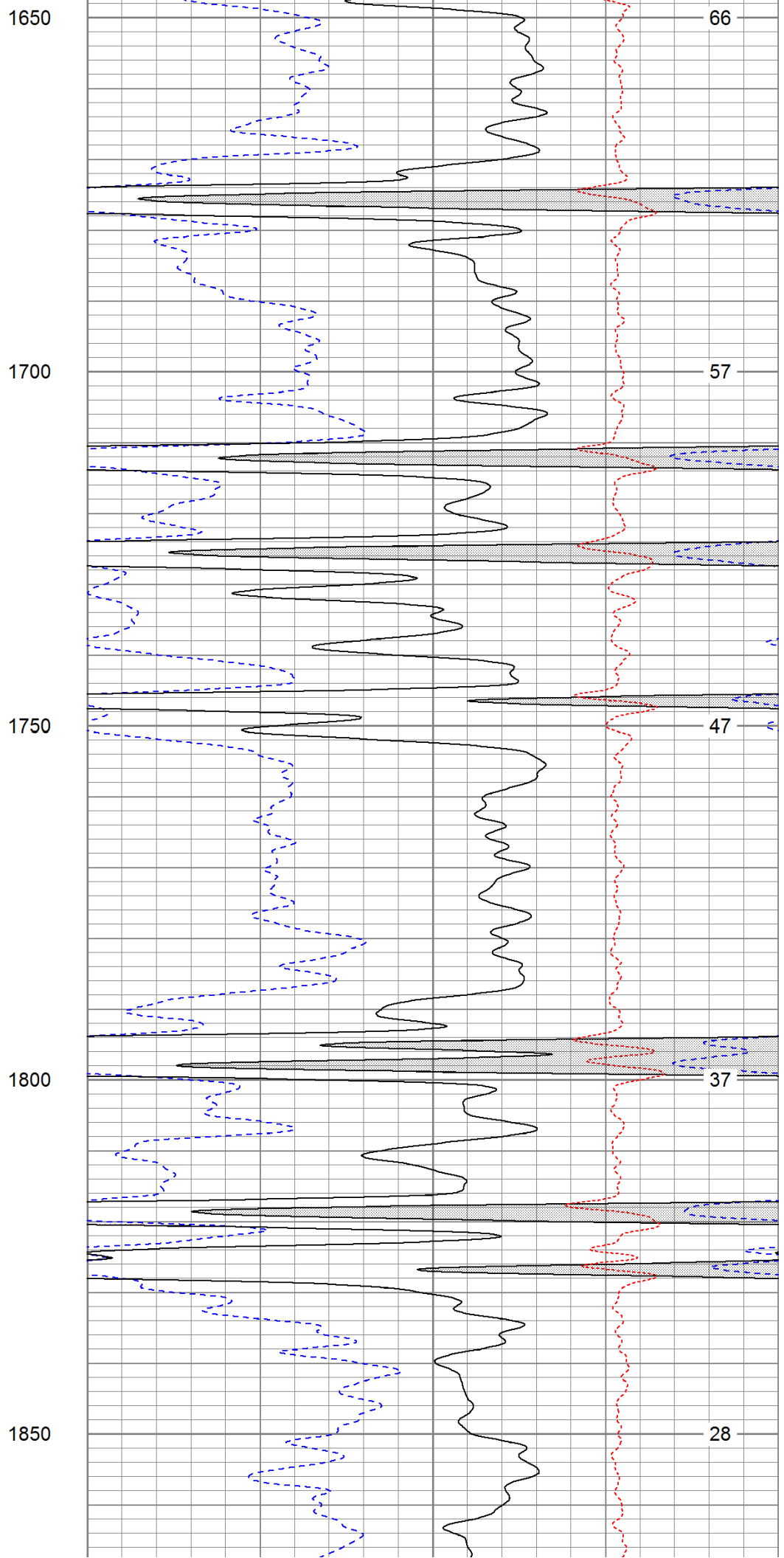
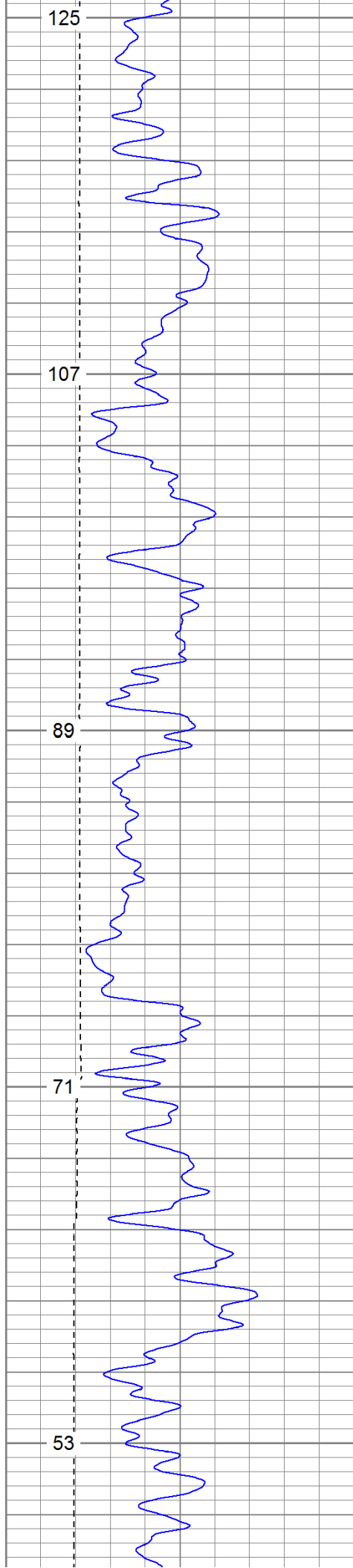


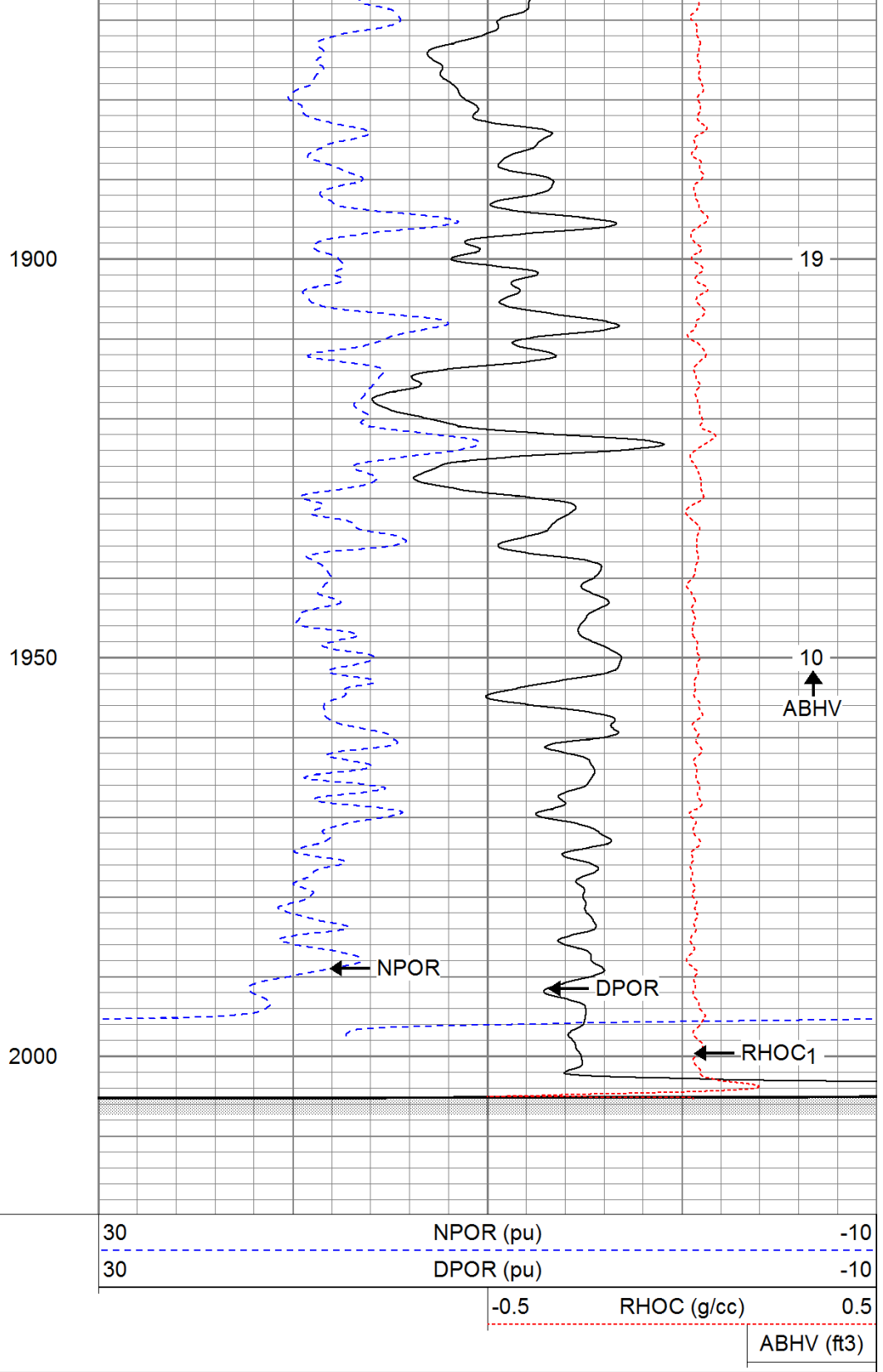
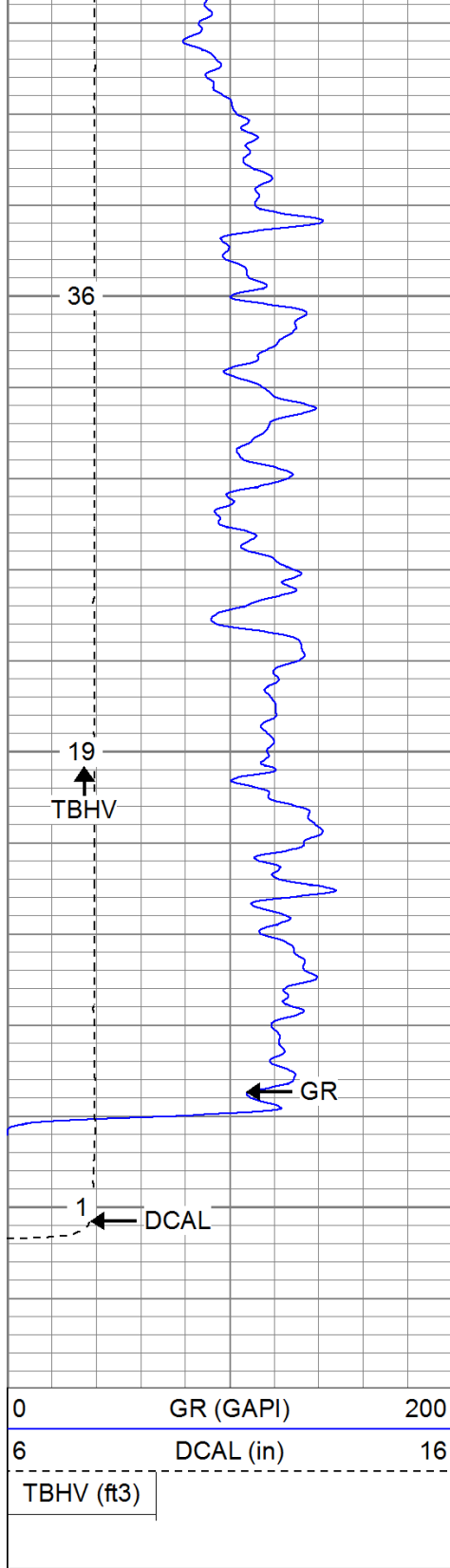










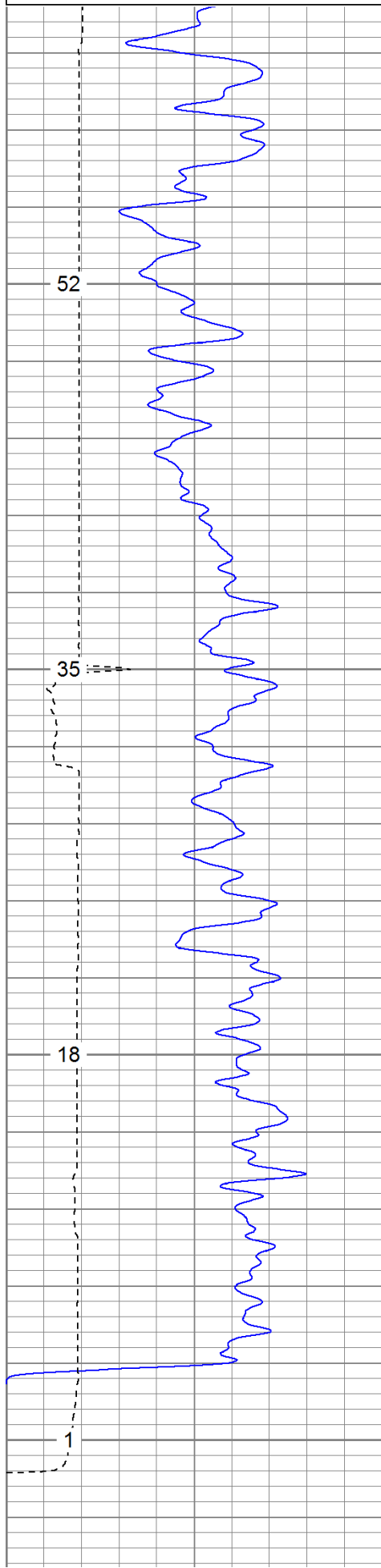


Repeat Pass

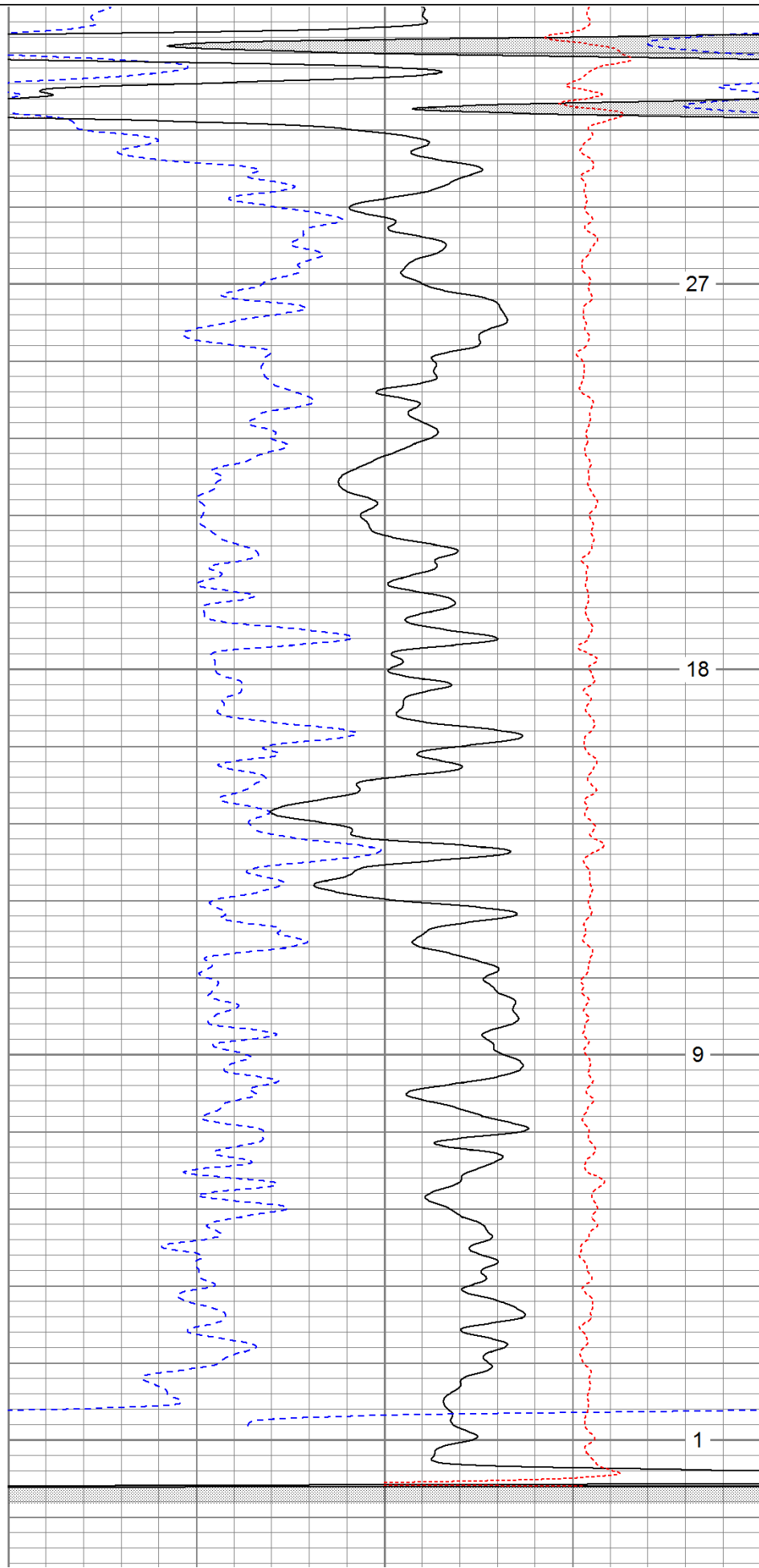
Database File: gremlin.db
 Dataset Pathname: pass1.1
 Presentation Format: cdnl
 Dataset Creation: Wed Nov 02 13:15:02 2011 by Calc Open-Cased 110302
 Charted by: Depth in Feet scaled 1:240



CR (G/ft ³)		
6	DCAL (in)	16
TBHV (ft3)		



DPOR (pu)		
30		-10
RHOC (g/cc)		
-0.5		0.5
ABHV (ft3)		



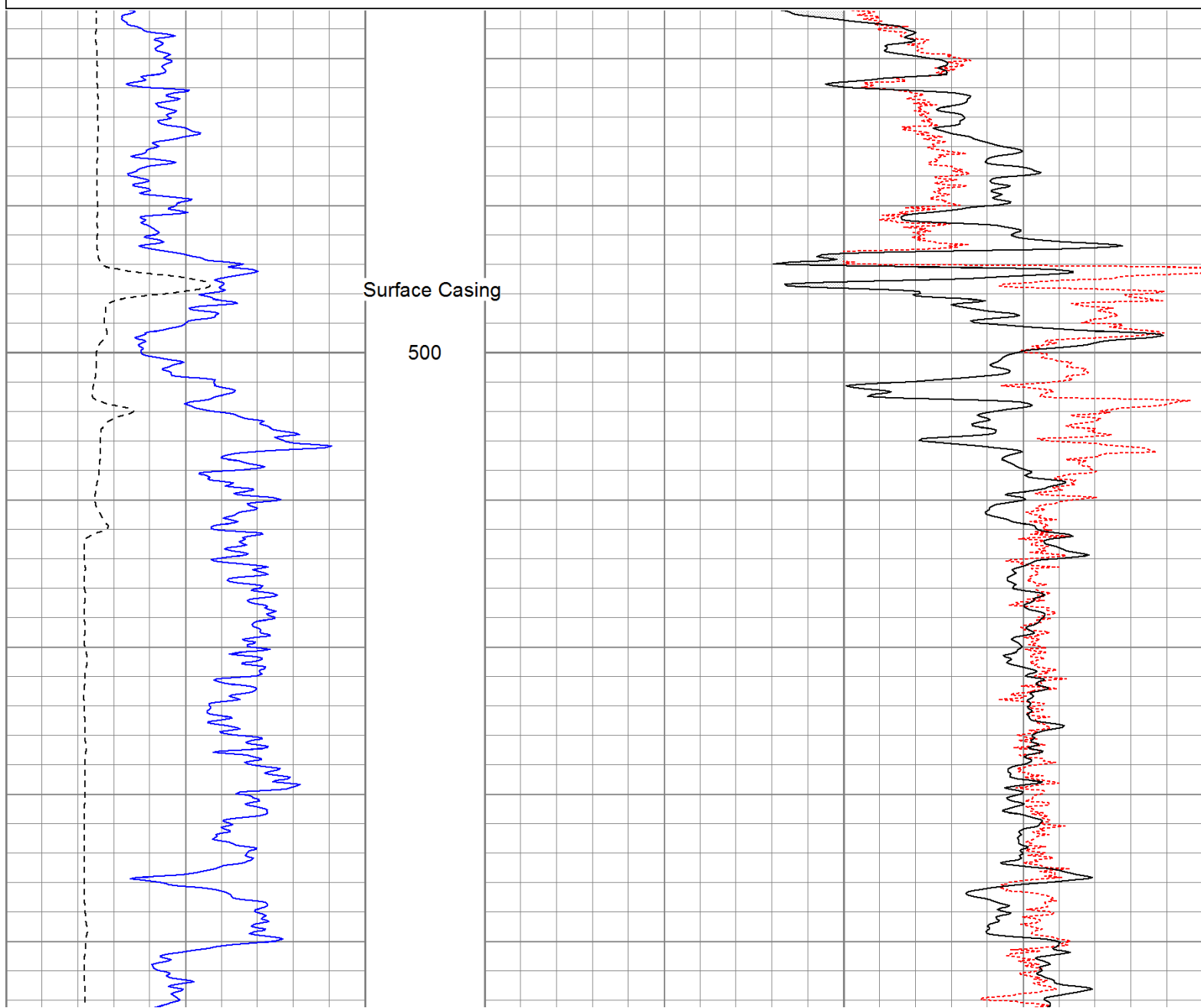
0	GR (GAPI)	200	30	NPOR (pu)	-10
6	DCAL (in)	16	30	DPOR (pu)	-10
TBHV (ft3)			-0.5	RHOC (g/cc)	0.5
				ABHV (ft3)	

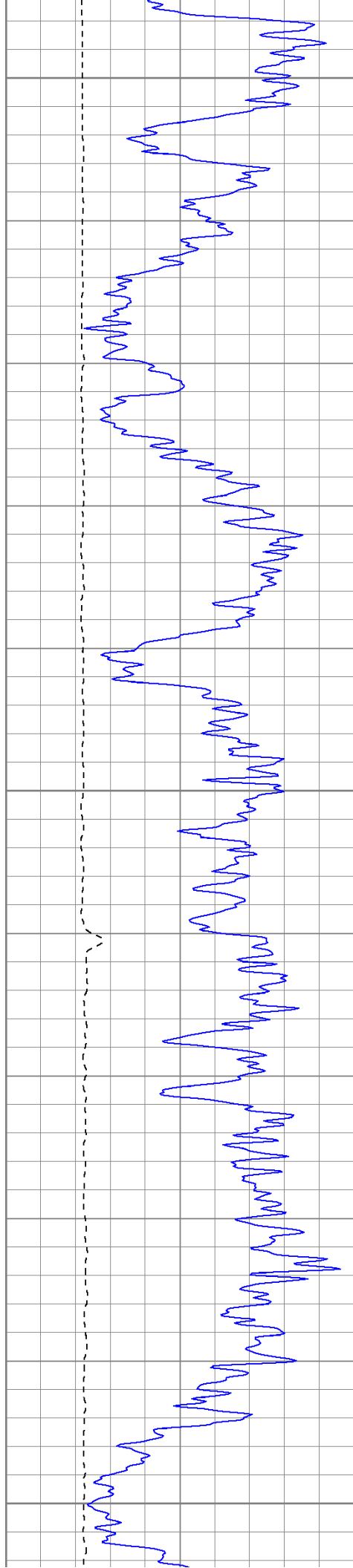


High Resolution Pass

Database File: gremlin.db
 Dataset Pathname: pass2.2
 Presentation Format: cdlhr
 Dataset Creation: Wed Nov 02 13:24:22 2011 by Calc Open-Cased 110302
 Charted by: Depth in Feet scaled 1:120

0	GR (GAPI)	200	1	RHOB (g/cc)	3
6	DCAL (in)	16	-0.5	RHOC (g/cc)	0.5

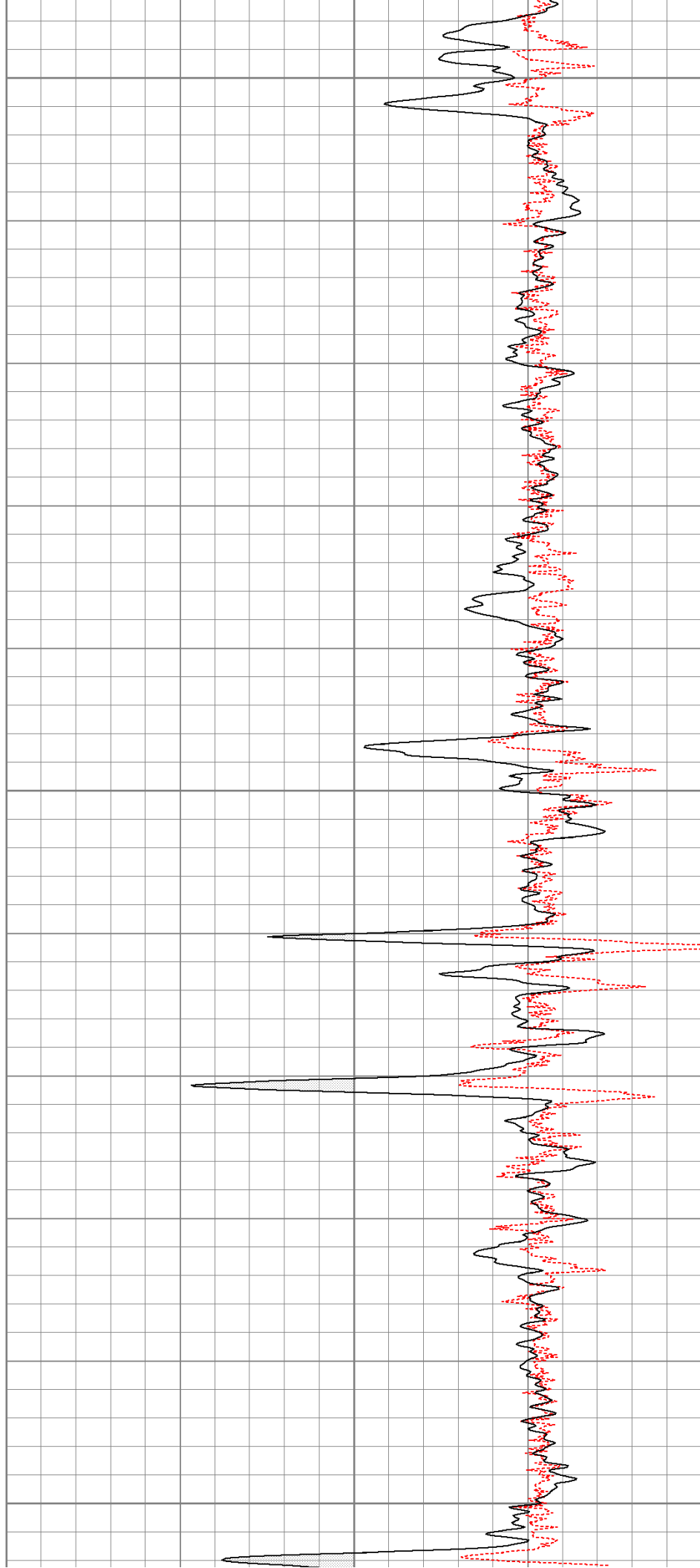


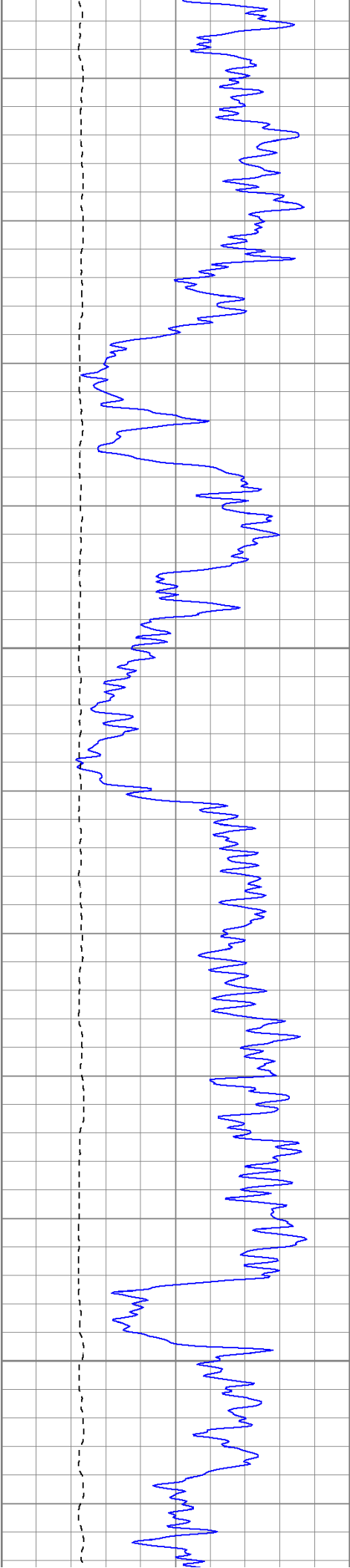


550

600

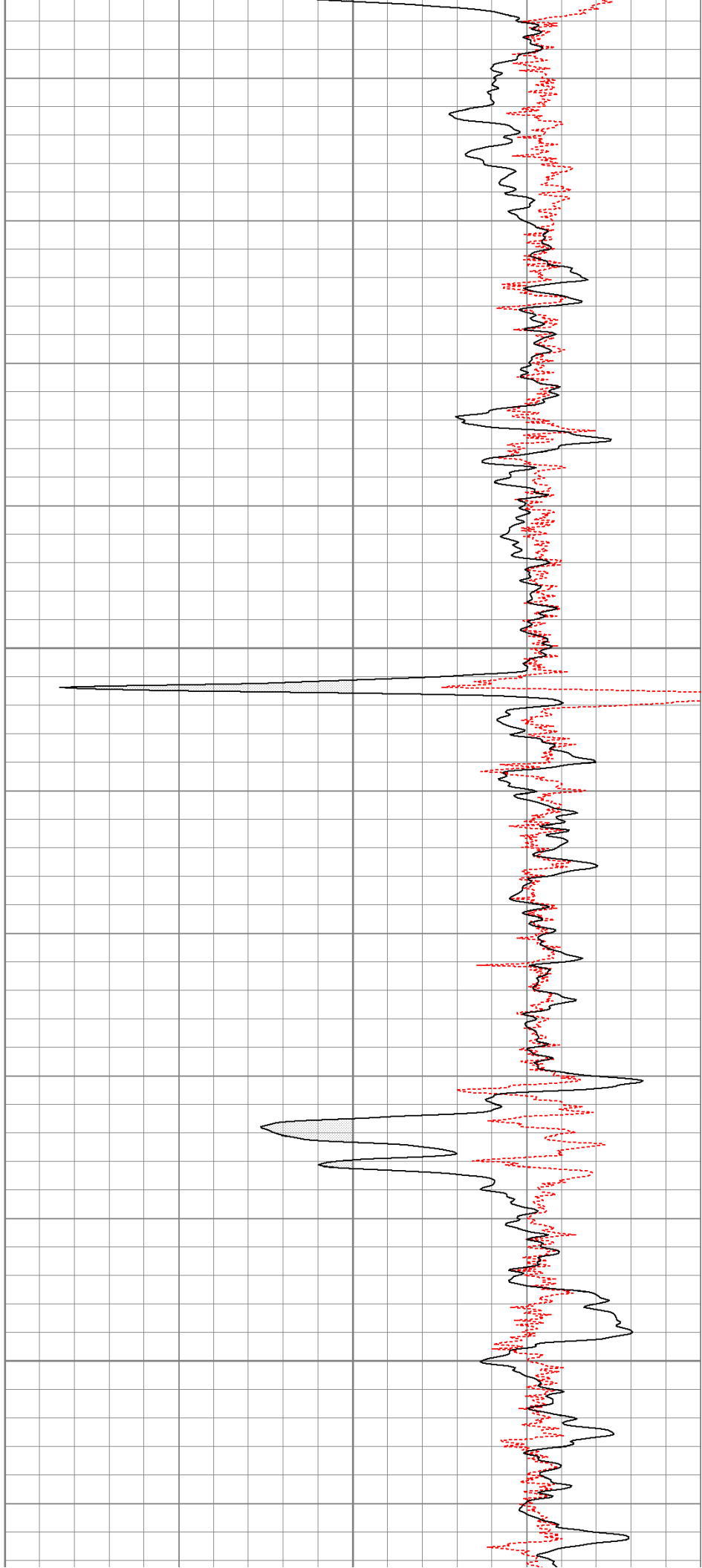
650

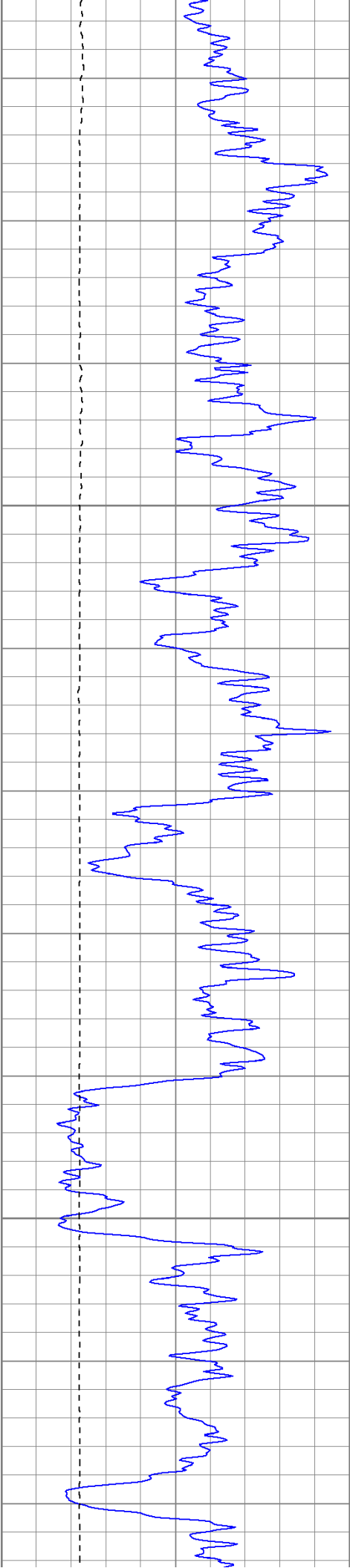




700

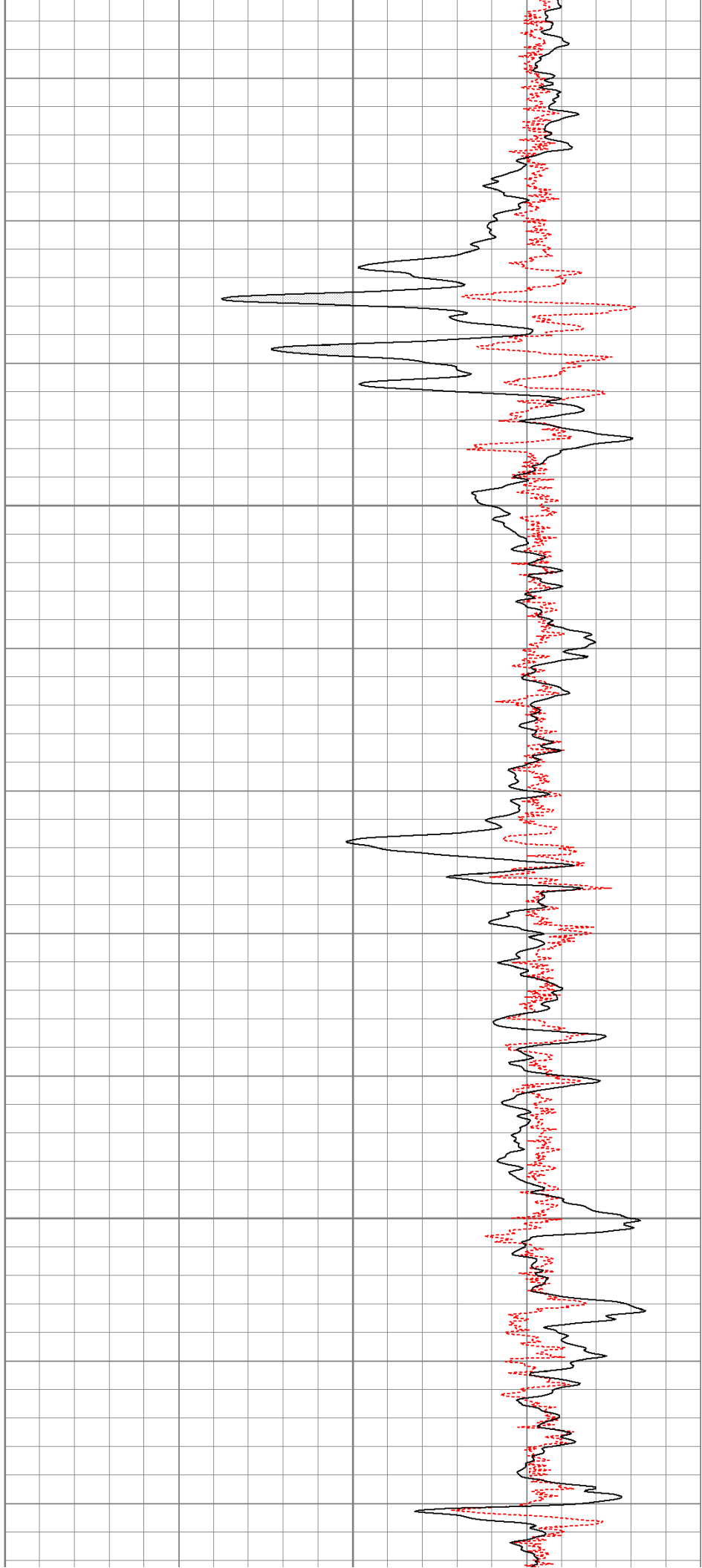
750

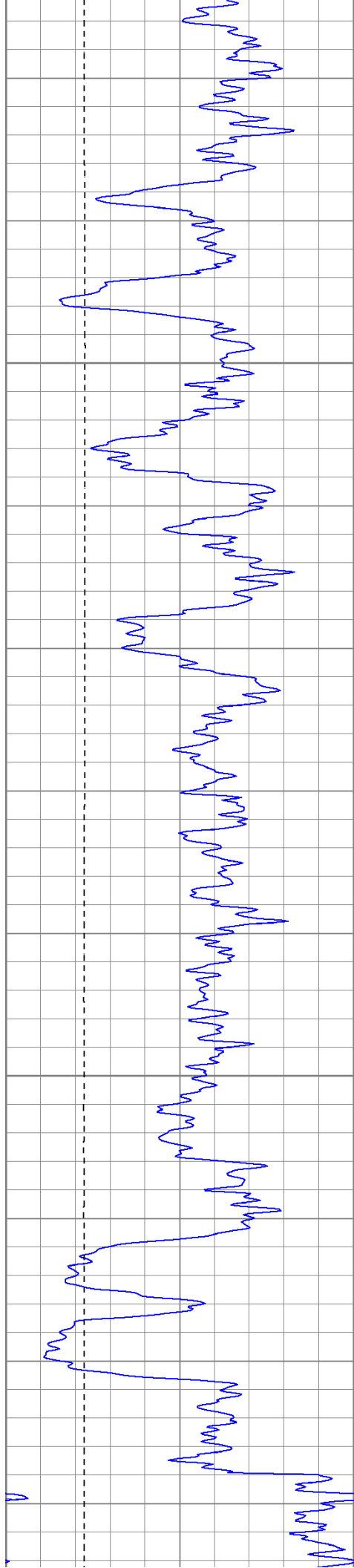




800

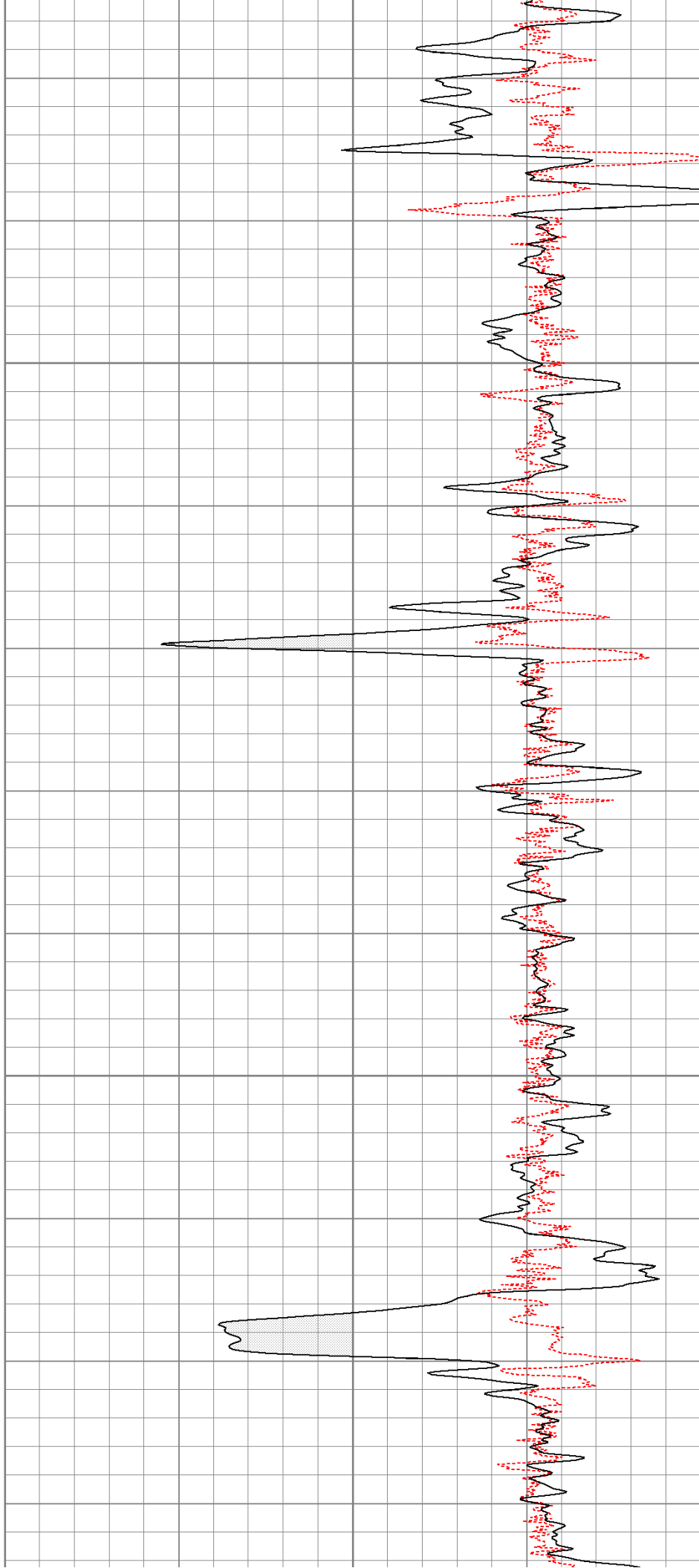
850

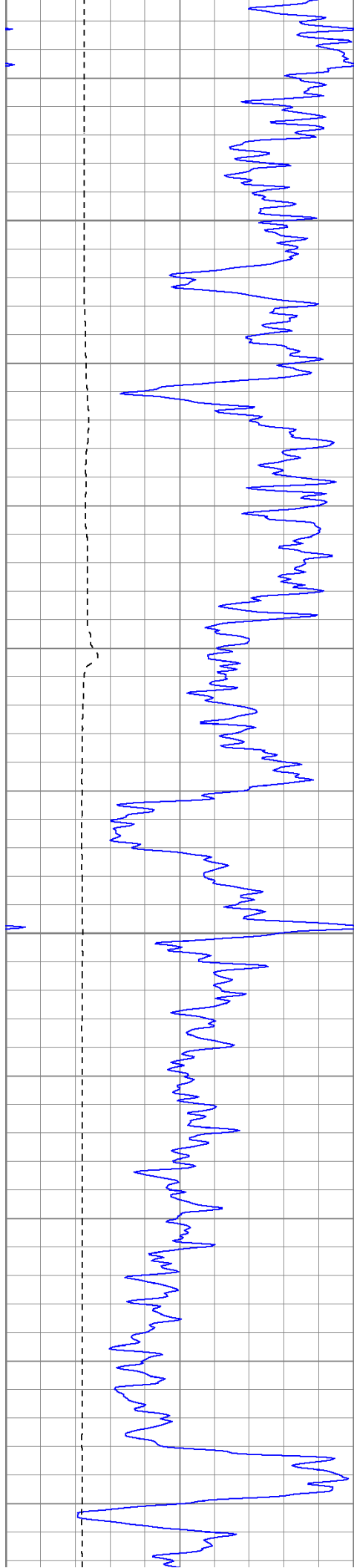




900

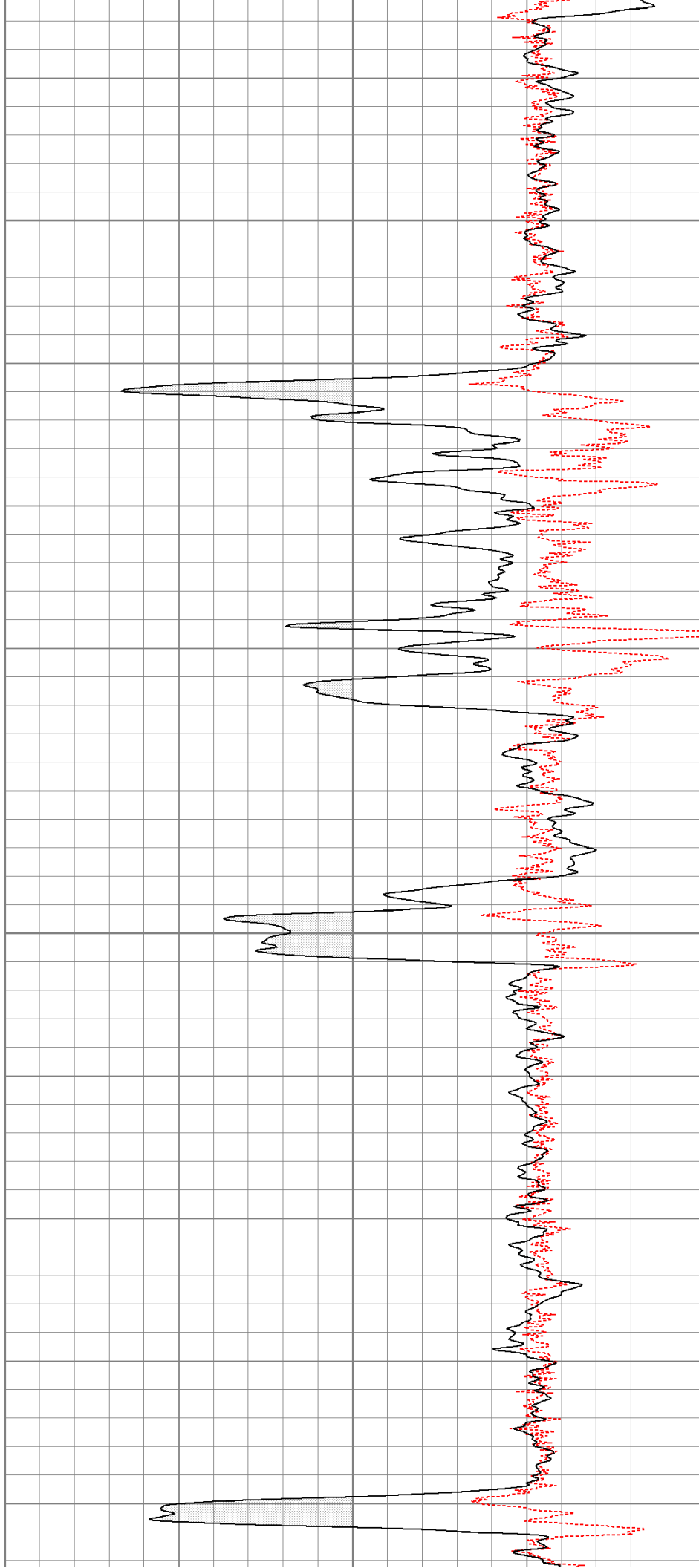
950

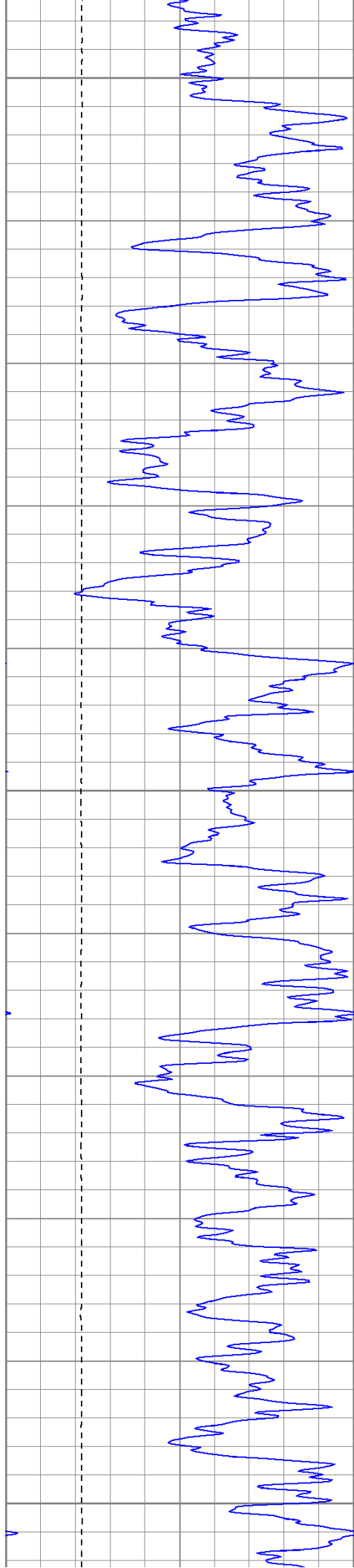




1000

1050

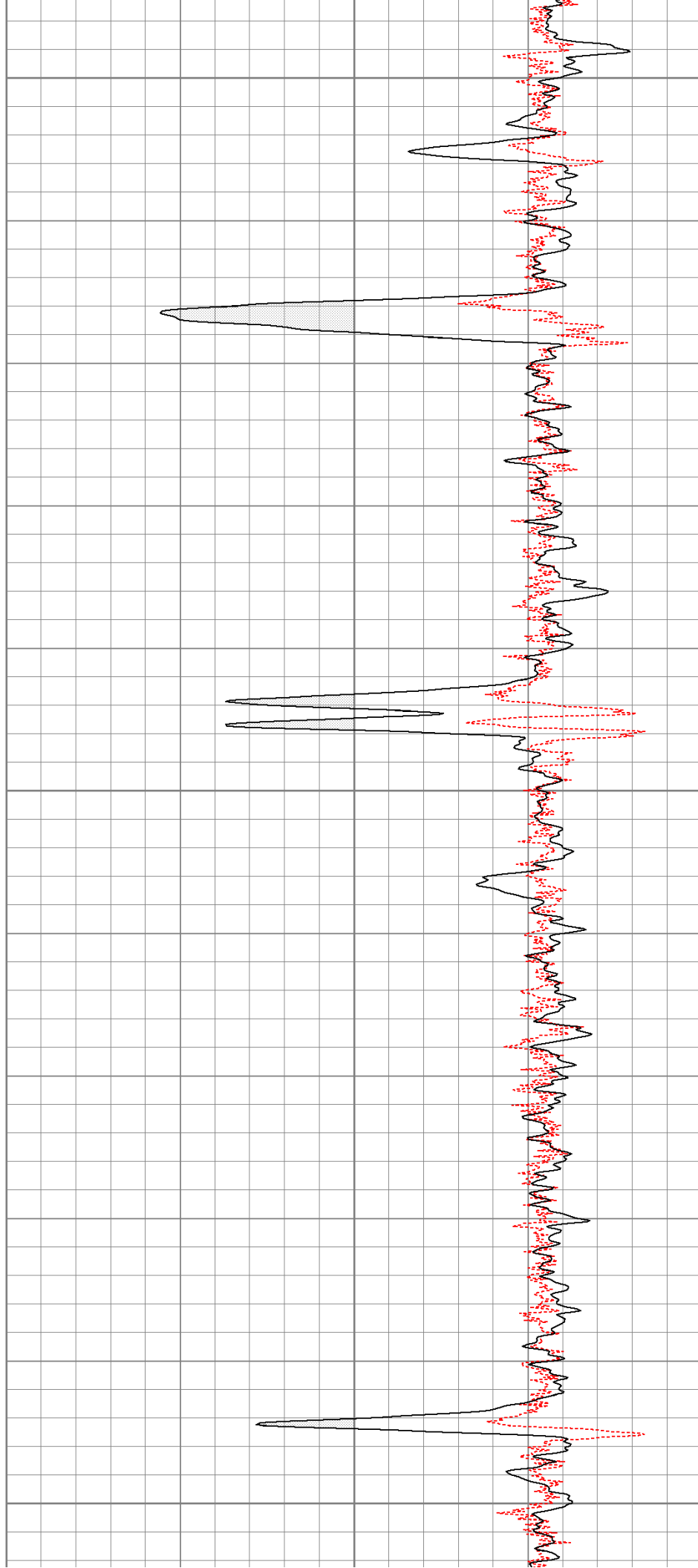


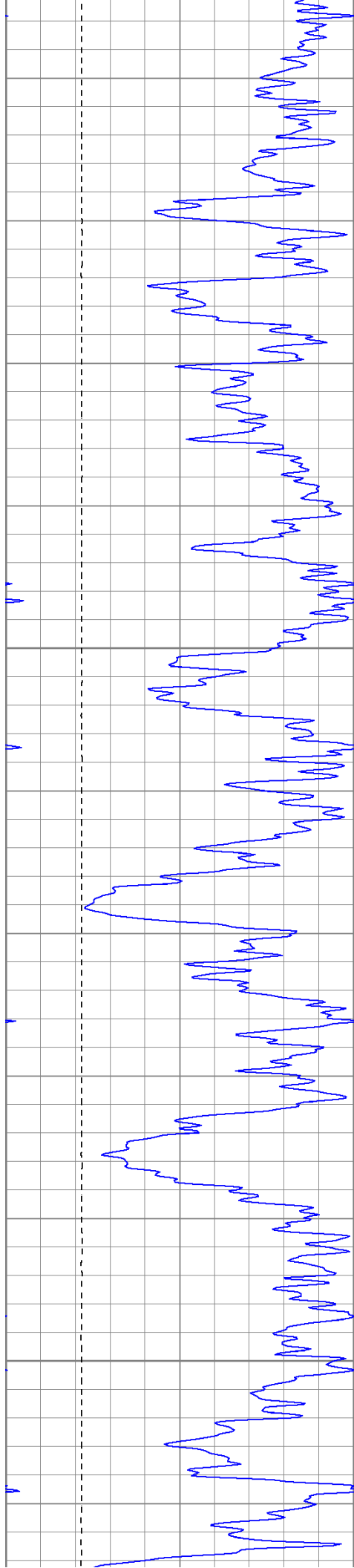


1100

1150

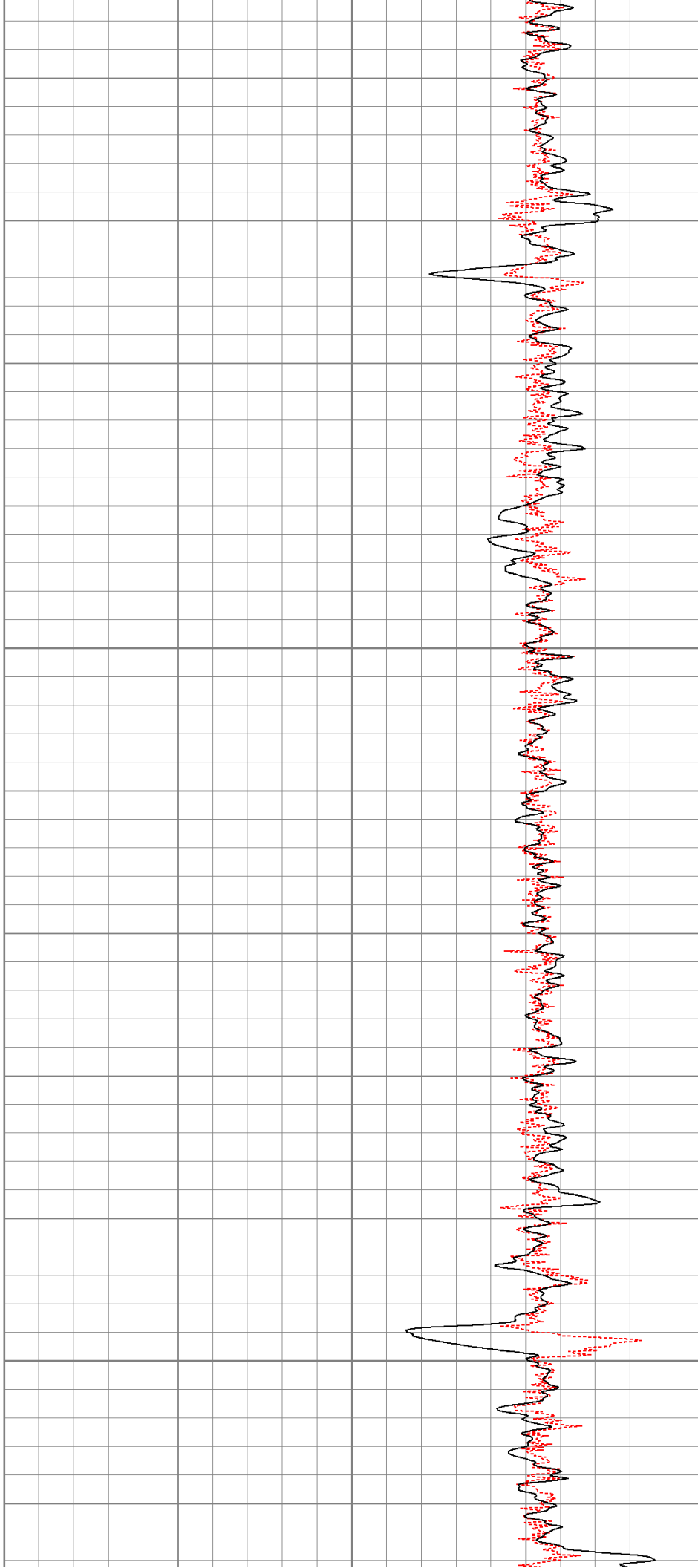
1200

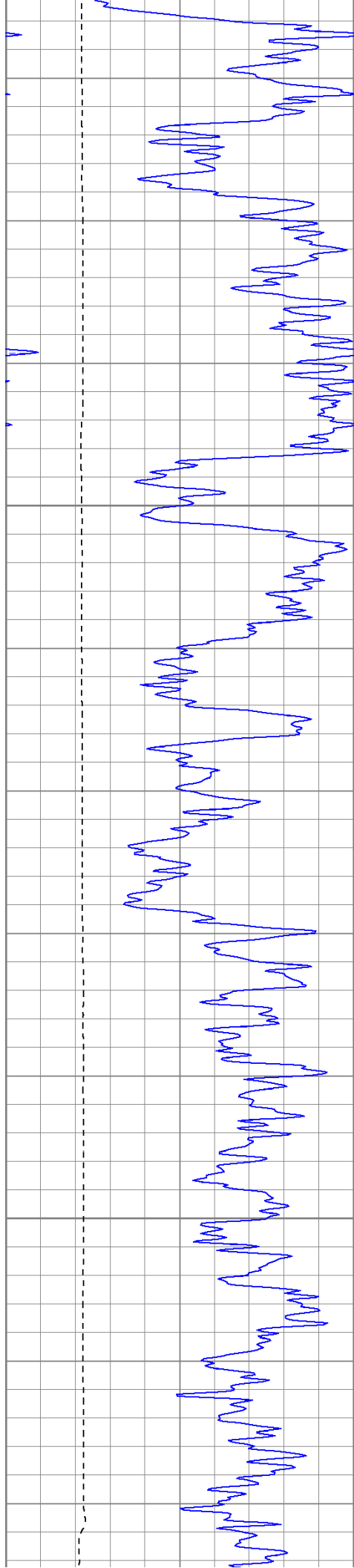




1250

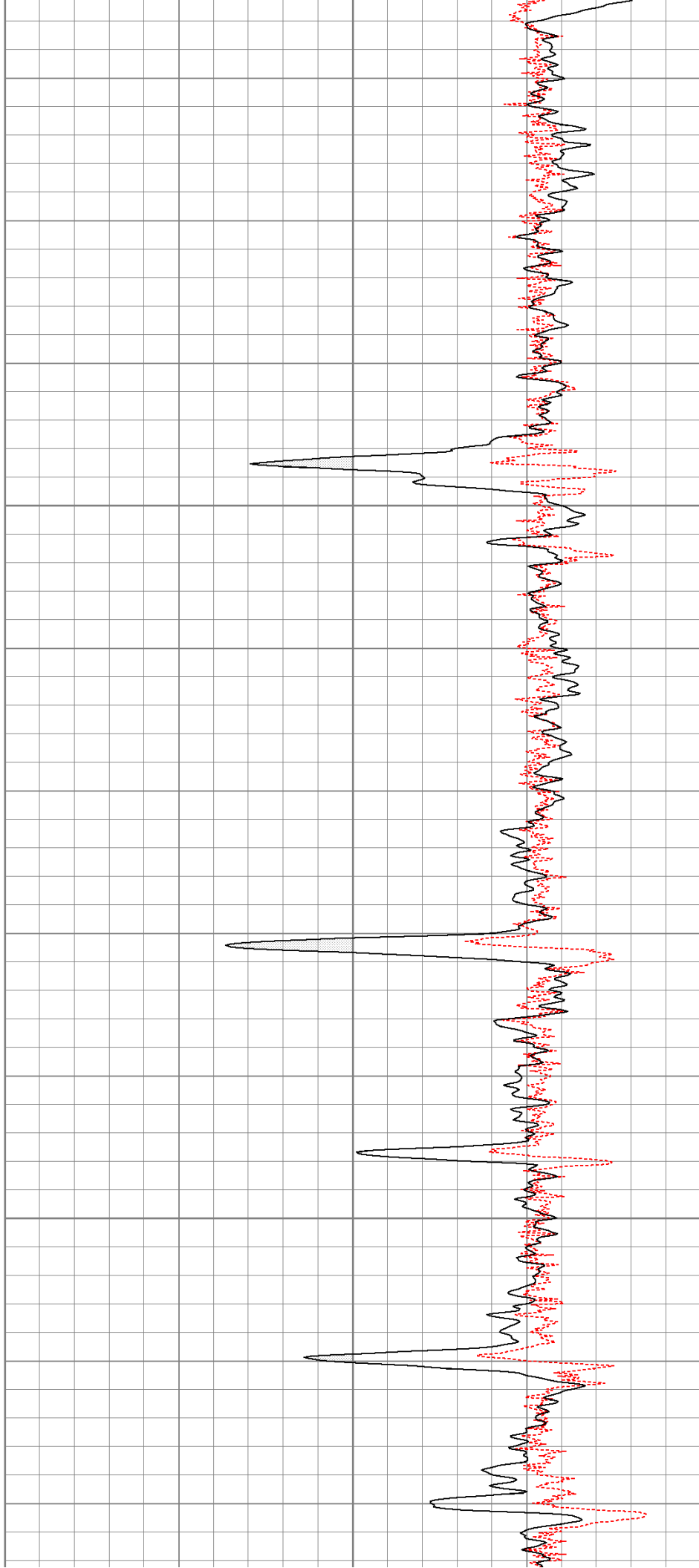
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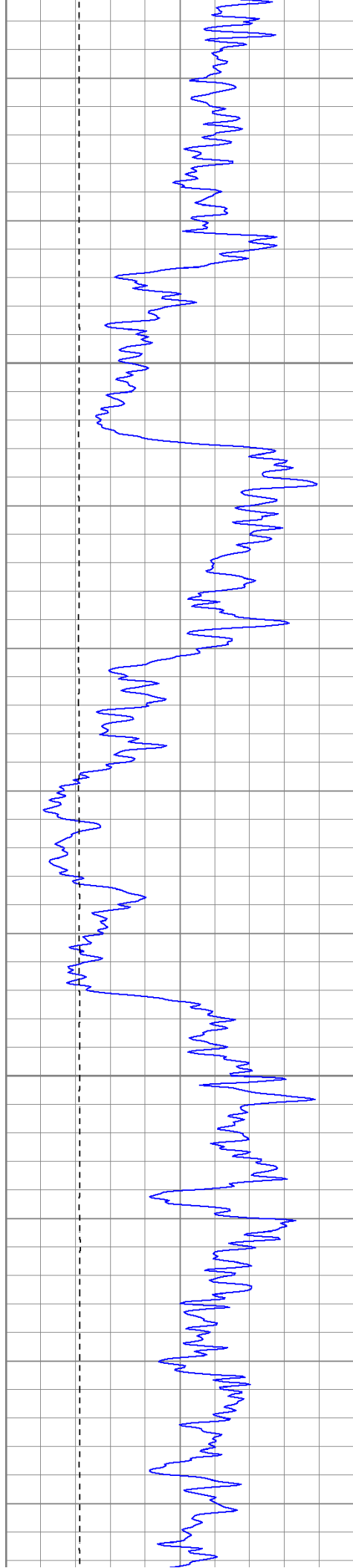




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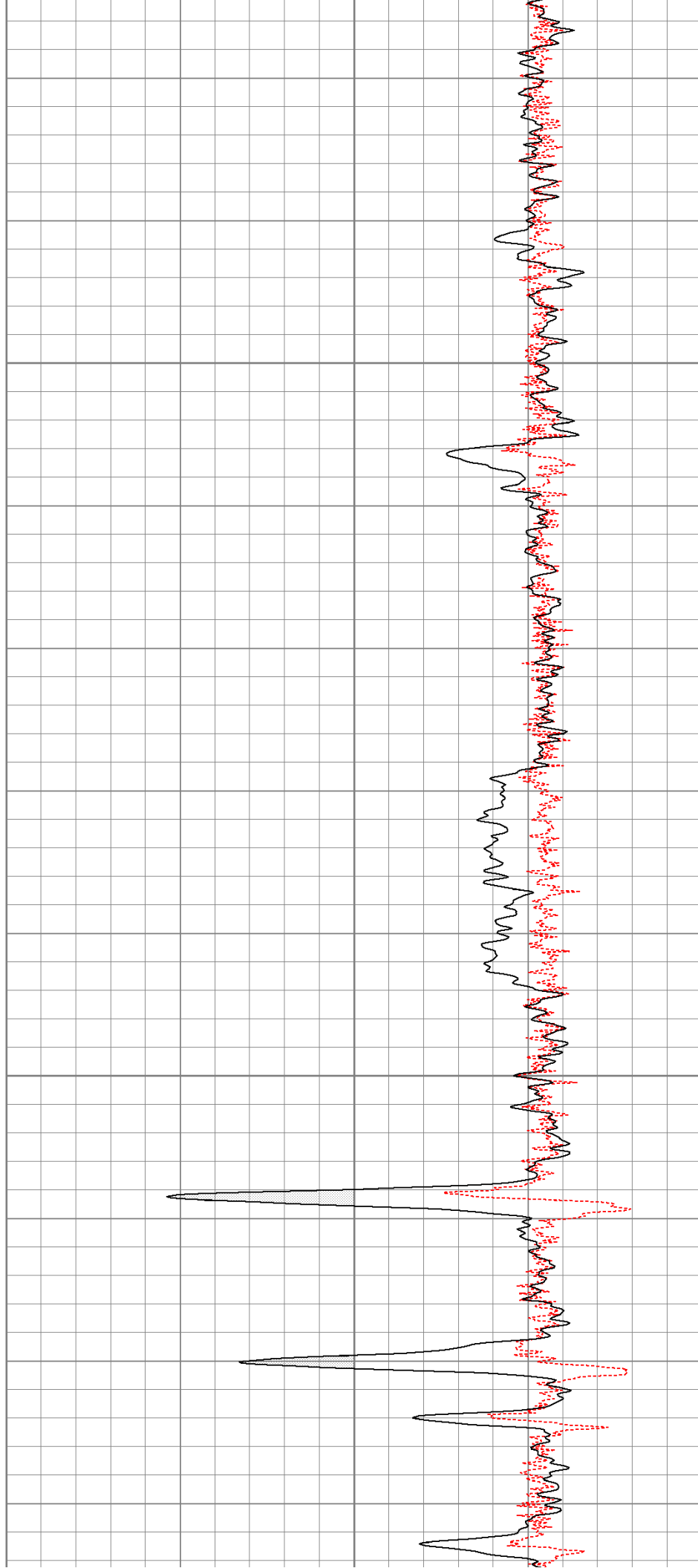
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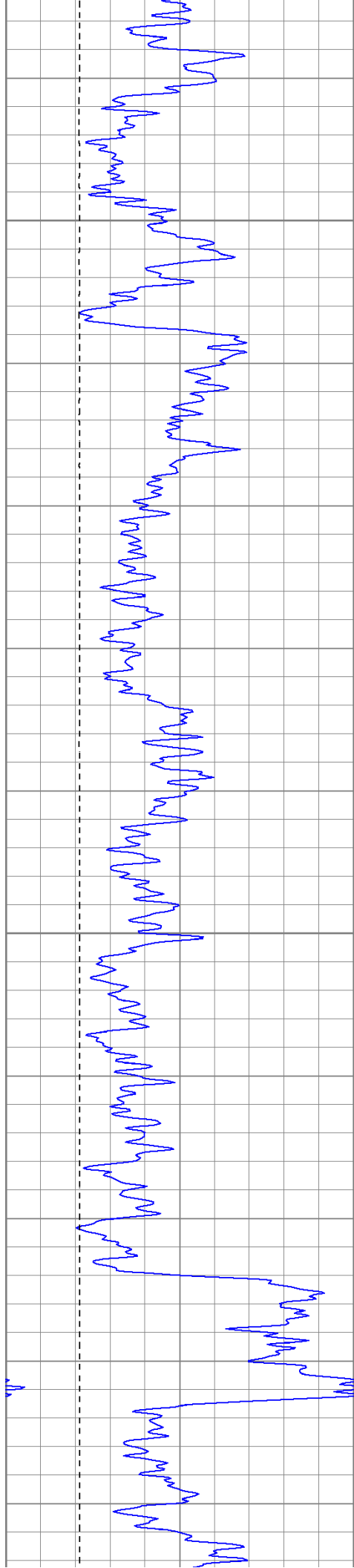




1450

1500

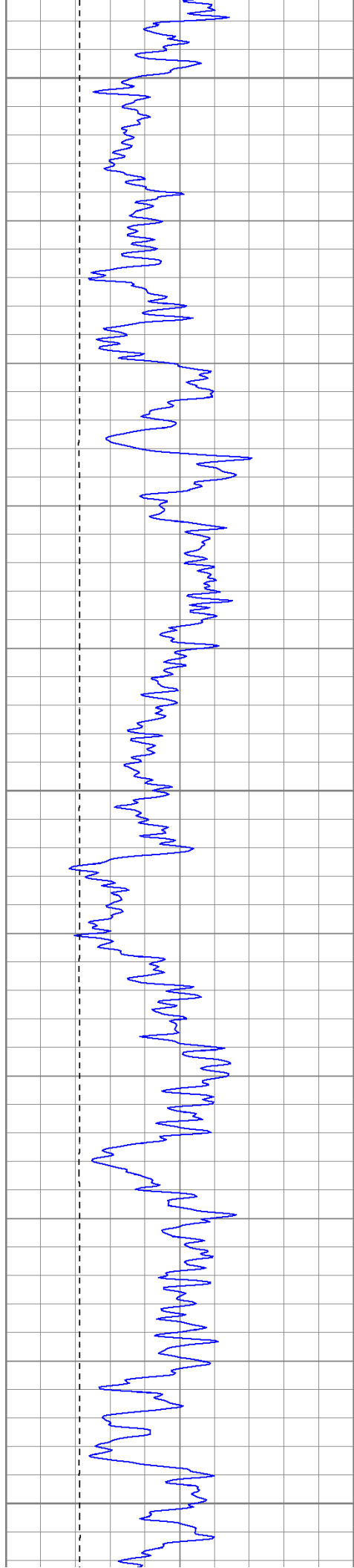




1550

1600

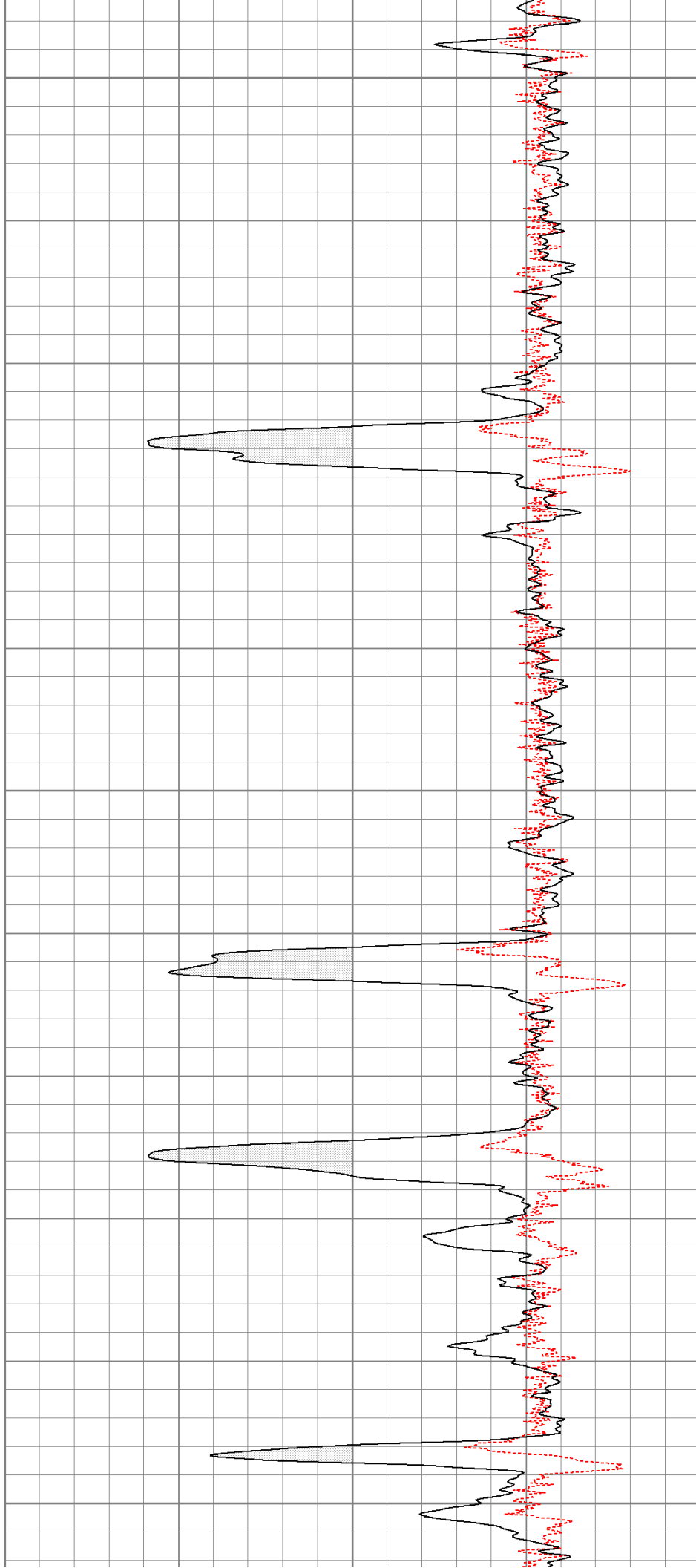


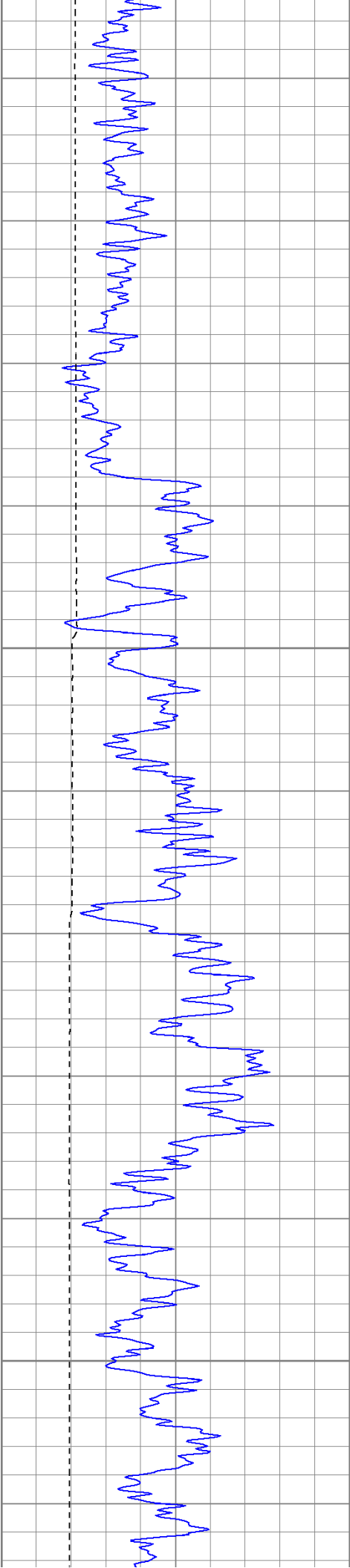


1650

1700

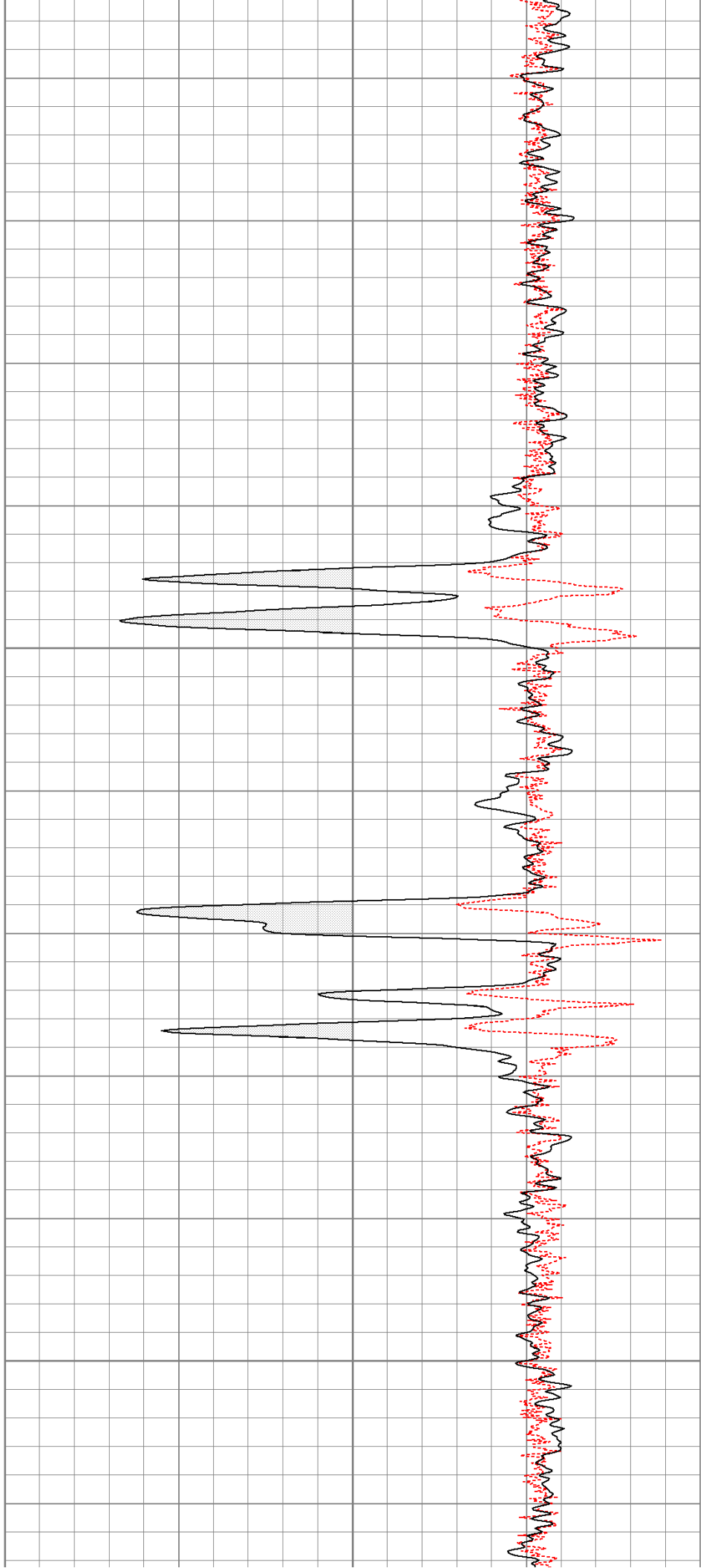
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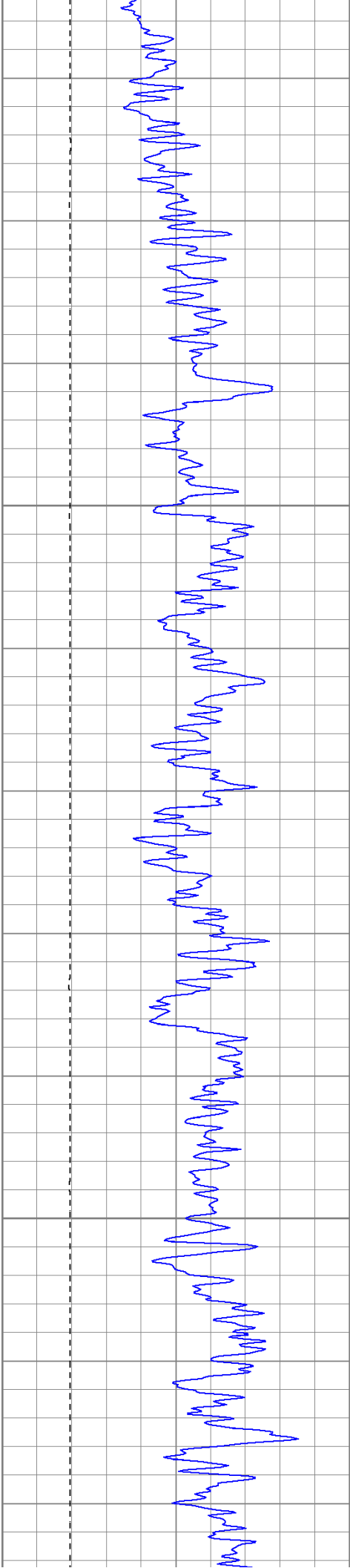




1800

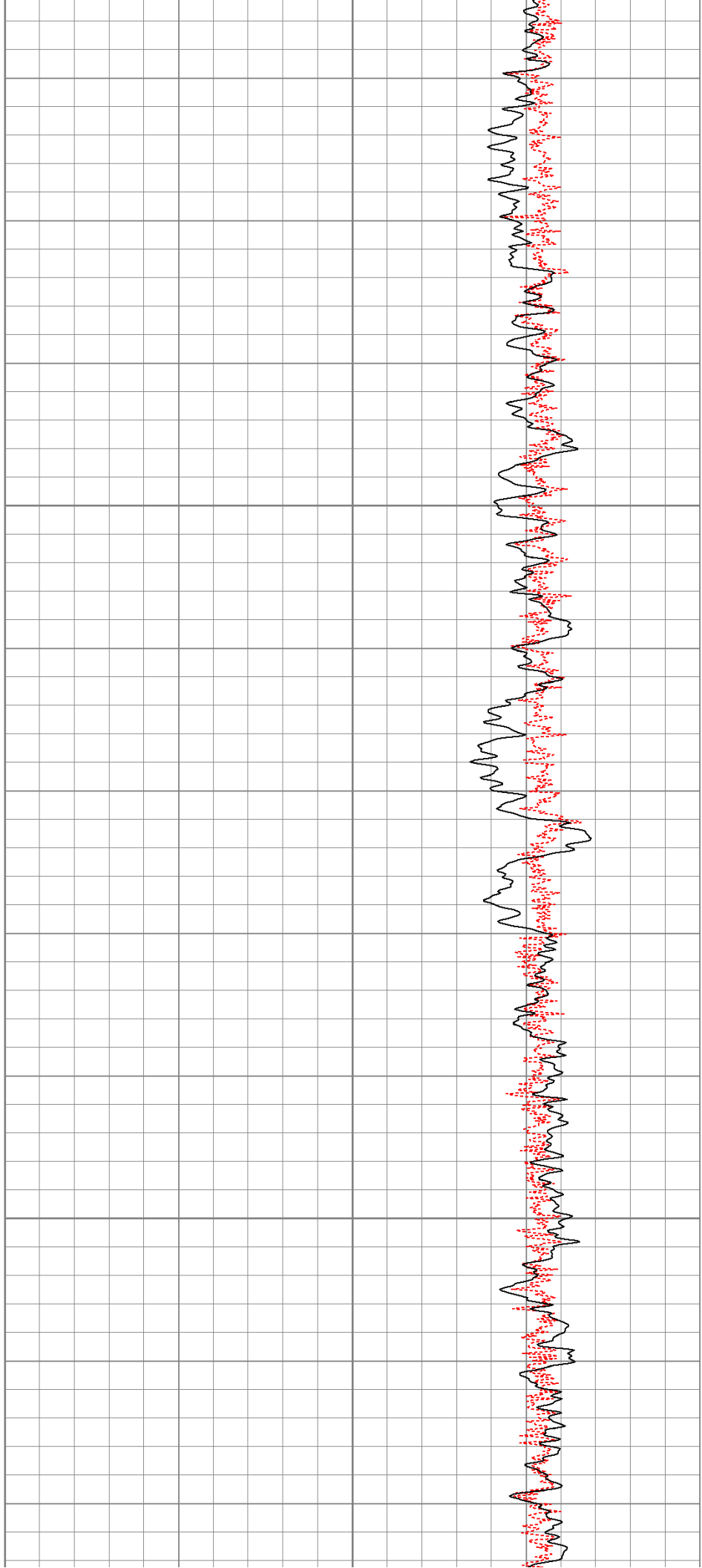
1850

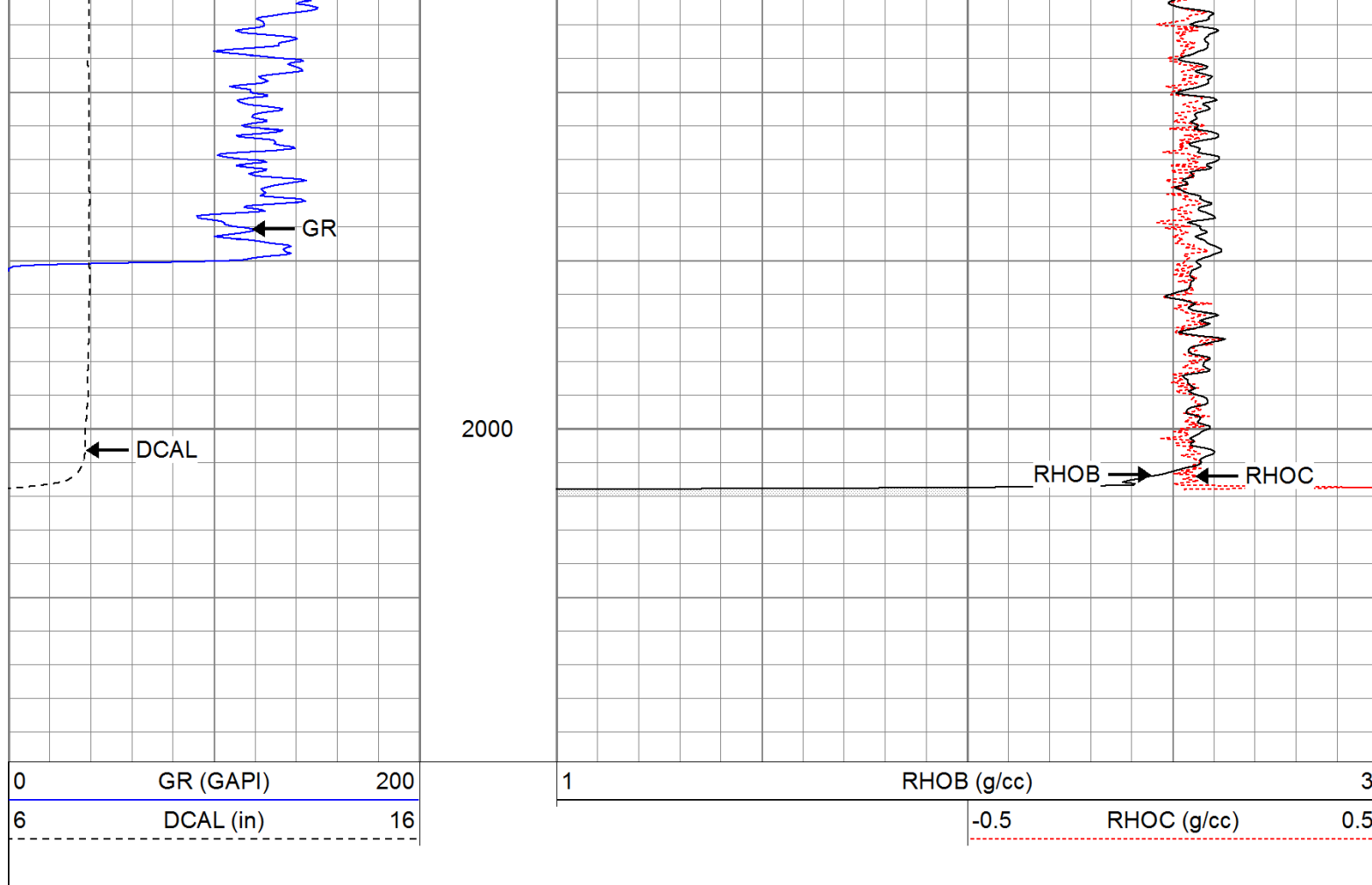




1900

1950





Calibration Report

Database File: gremlin.db
 Dataset Pathname: pass1
 Dataset Creation: Wed Nov 02 12:05:39 2011 by Log Open-Cased 110302

Induction Tool Calibration Report

Serial Number: 701
 Tool Model: Probe
 Downhole Cal Performed: Wed Jun 08 22:14:25 2011
 Surface Cal Performed: Wed Jun 08 22:14:40 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	-2.000

After Survey Verification	Internal Zero	Internal Cal	
Conductivity Reading:	0.000	0.000	V
Conductivity Result:	0.000	0.000	mmho

Conductivity Result:	0.000	0.000	mmms
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:	Mon Oct 10 09:20:39 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	8.20	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:	803	
Tool Model:	2.75POH	
Performed:	Mon Oct 10 09:27:42 2011	
Calibrator Value:	1	NAPI
Calibrator Reading:	1	cps
Sensitivity:	1	NAPI/cps

Gamma Ray Calibration Report

Serial Number:	804	
Tool Model:	2.75POH	
Performed:	Mon Oct 10 09:53:04 2011	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.6500	GAPI/cps

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
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Tool Joint	Length (ft)	Weight (lb)	OD (in)	Tool Joint	Length (ft)	Weight (lb)	OD (in)
GR	29.58			None	0.75	1.50	5.00
				GR-2.75POH (804) Probe 2.75" Probe Open Hole Gamma Ray	3.73	2.75	43.00
NEU	24.04			NEU-2.75POH (803) Probe Epithermal	4.75	2.75	58.00
LSD	16.21			CDL-2.75POH (901) Probe	8.43	2.75	106.00
DCAL	15.94						
SSD	15.69						
DIC	6.24			IEL-Probe (701)	13.46	2.75	93.00
SP	2.25						
SN	1.71						
Dataset: gremlin.db: field/well/run1/pass1 Total Length: 31.11 ft Total Weight: 305.00 lb O.D.: 2.75 in							