

Compensated Density Neutron Log

Company	Pioneer Natural Resources	Company	Pioneer Natural Resources
Well	Timbale 32-12	Well	Timbale 32-12
Field	Purgatoire River	Field	Purgatoire River
County	Las Animas	County	Las Animas
State	Colorado	State	Colorado
Location:	API #: 05 071 09817-00	Other Services	SIL
SEC 12 TWP 33S RGE 68W	1569' FNL & 1854' FEL	Elevation	
Permanent Datum	Ground Level	Elevation	7894'
Log Measured From	Kelly Bushing 9' AGL	D.F.	-----
Drilling Measured From	Kelly Bushing	G.L.	7894'
Date	6-18-11		6-19-11
Run Number	One		Eight
Depth Driller	2548'		2548'
Depth Logger	1276'		2529'
Bottom Logged Interval	1260'		2525'
Top Log Interval	Surface Casing		5 1/2" Casing
Casing Driller	8 5/8" @ 552'		1892'
Casing Logger	552'		1892'
Bit Size	7 7/8"		7 7/8"
Type Fluid in Hole	Airated Water		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	1:15 P.M.		1:15 P.M.
Time Logger on Bottom	2:30 P.M.		1:00 A.M.
Maximum Recorded Temperature	71 DEG F		///
Equipment Number	T590		T590
Location	Trinidad		Trinidad
Recorded By	C. Sisneros		C. Sisneros
Witnessed By	Mr. Dave Martinez		Mr. Dave Martinez

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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.

Multiple Passes logged thru 5.5" casing. Merged all passes.
Neutron not ran from 2529' to 1276' due to hole conditions.

Directions:

Rancho Escondido, turn left at trash dumpsters, go thru gate on cattle gaurd,
straight to top of hill and go right, 2nd right to location.

Database File: timbale.db
Dataset Pathname: pass1cdnl
Presentation Format: cdl
Dataset Creation: Tue Jun 21 07:54:14 2011
Charted by: Depth in Feet scaled 1:240

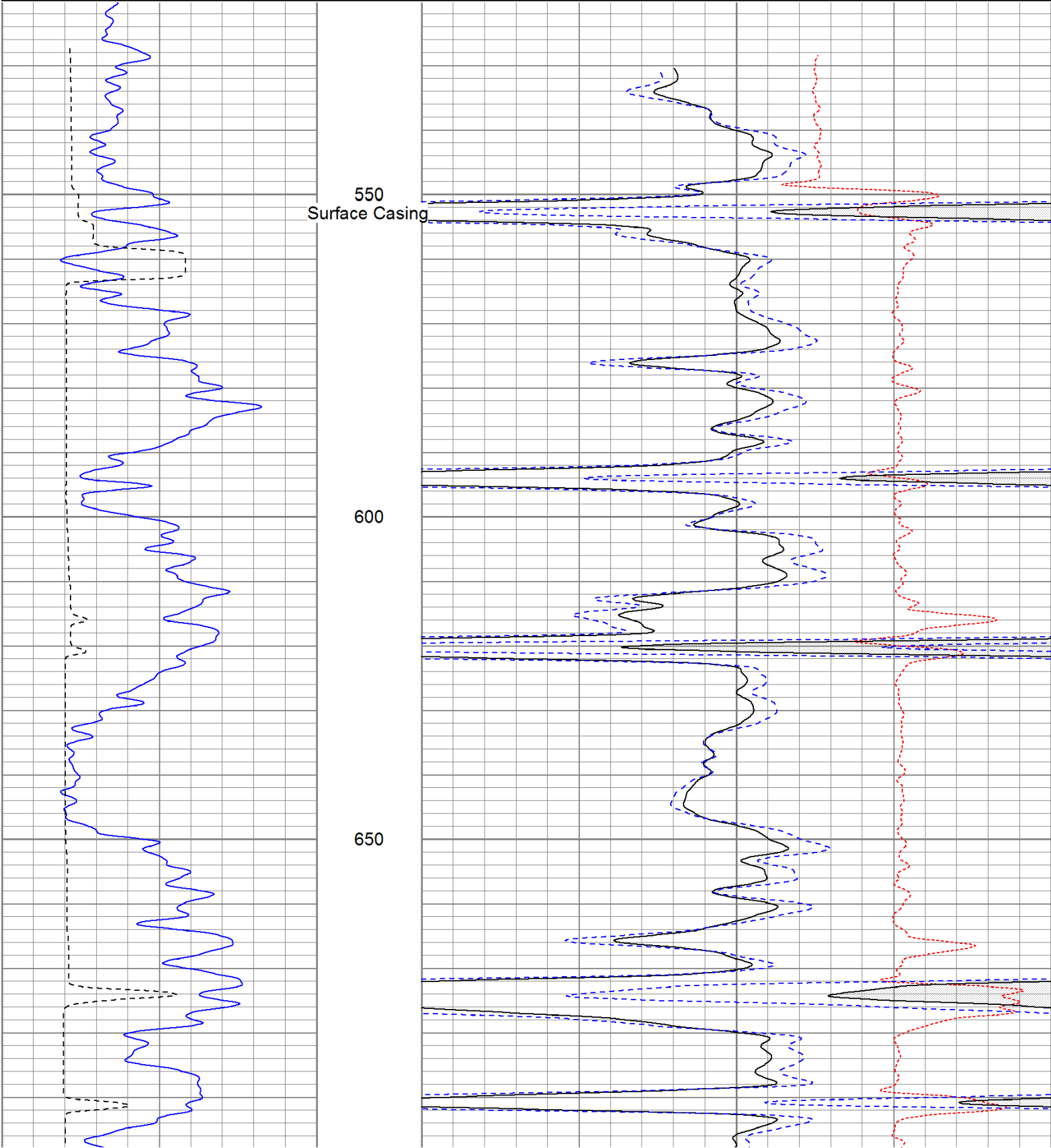
0	GR (GAPI)	200
6	DCAL (in)	16

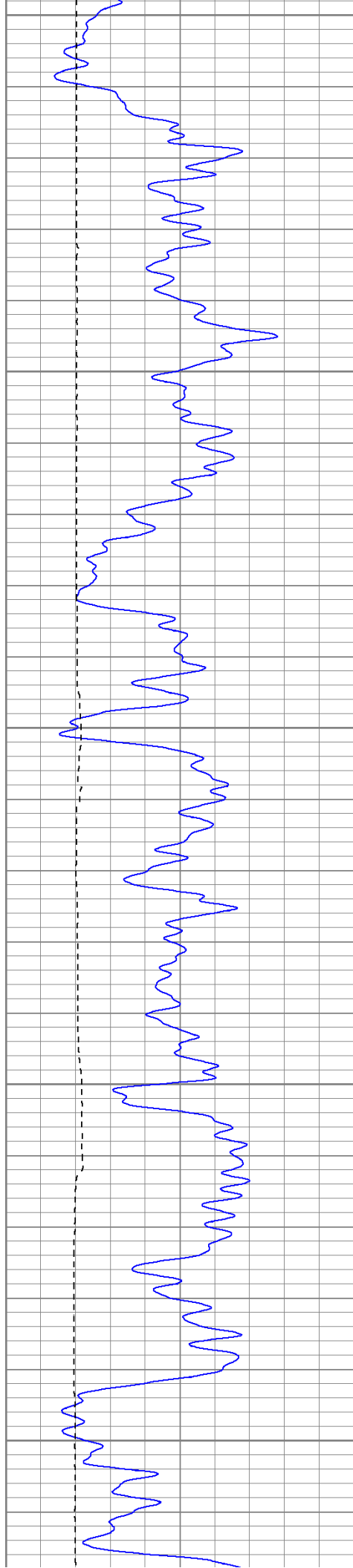
2	RHOB (g/cc)		3
1	RHOB (g/cc)		2
30	DPOR (pu)		-10
	-0.5	RHOC (g/cc)	0.5

550
Surface Casing

600

650





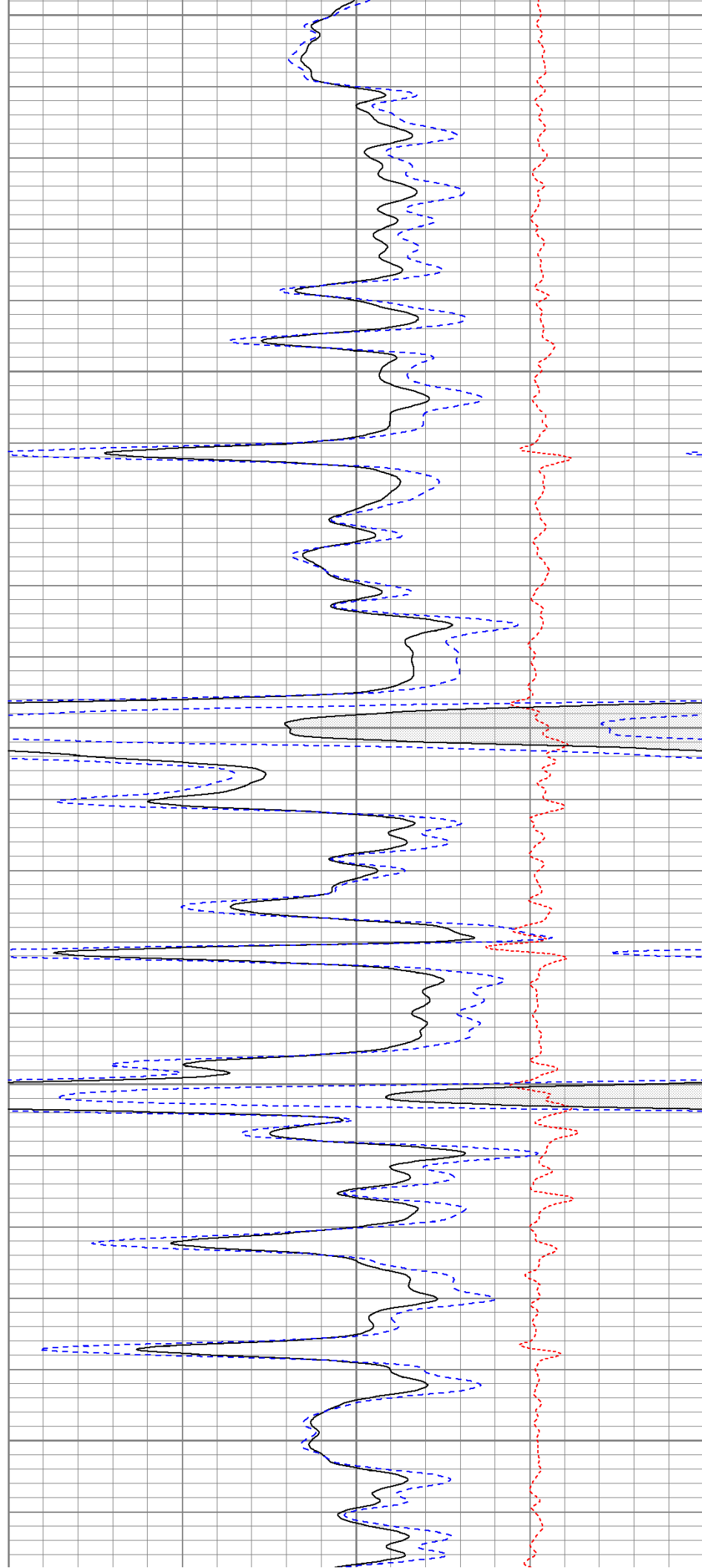
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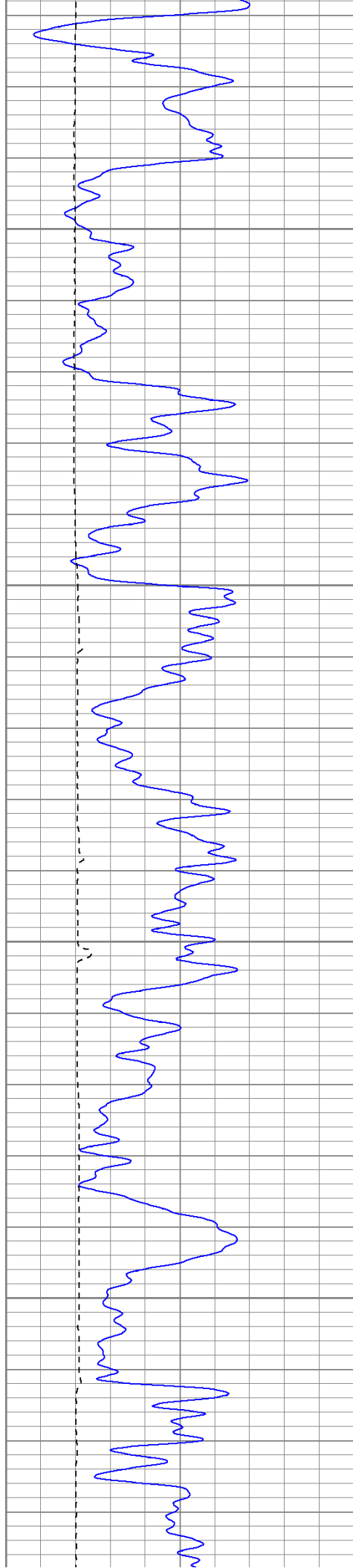
750

800

850

900



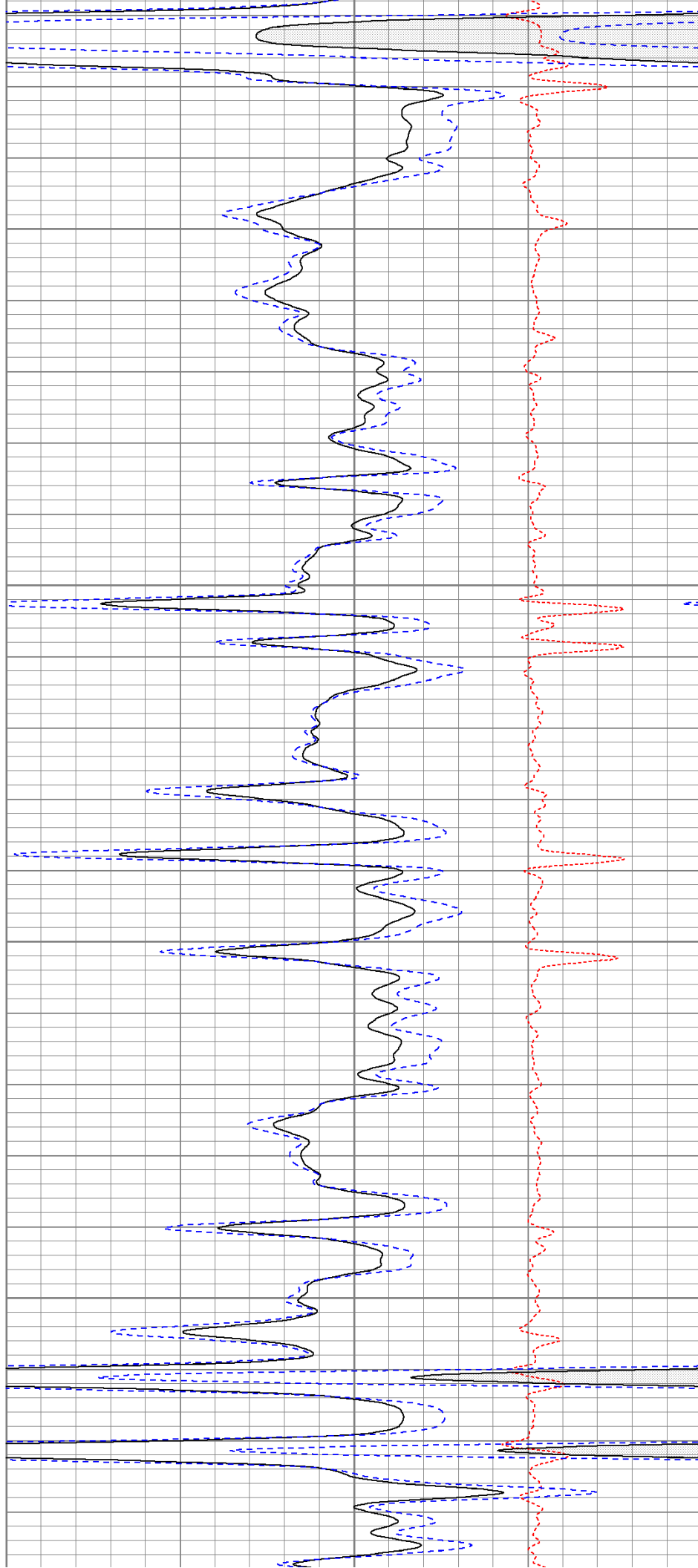


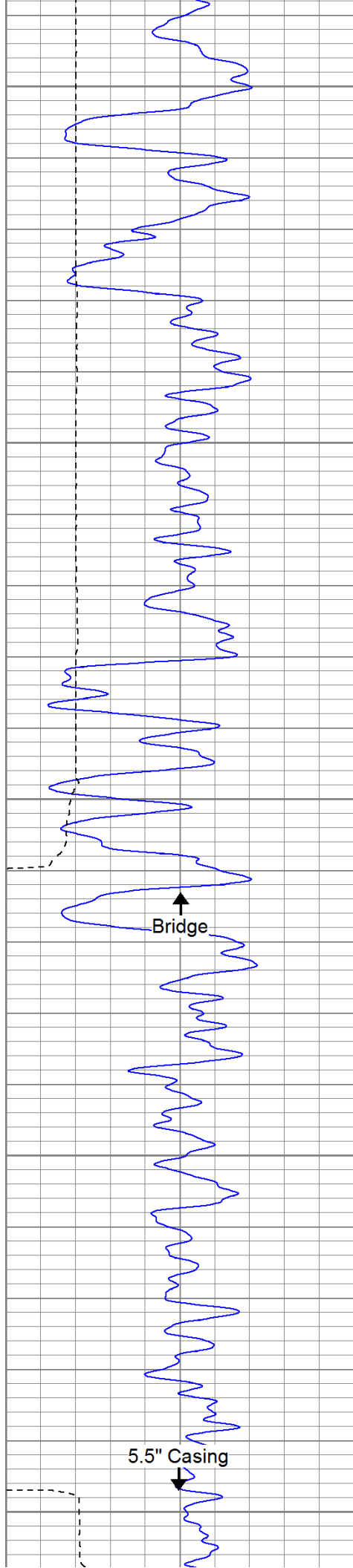
950

1000

1050

1100





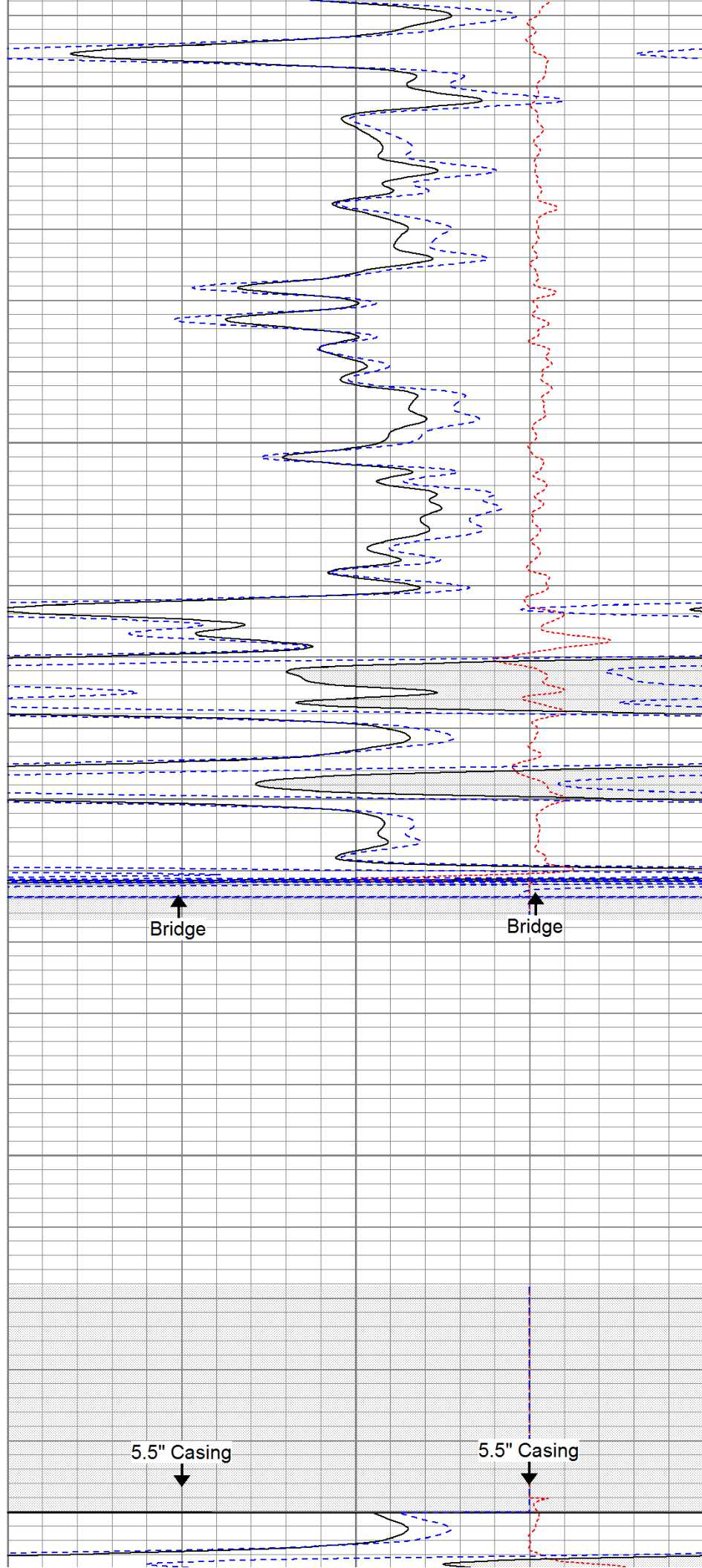
1150

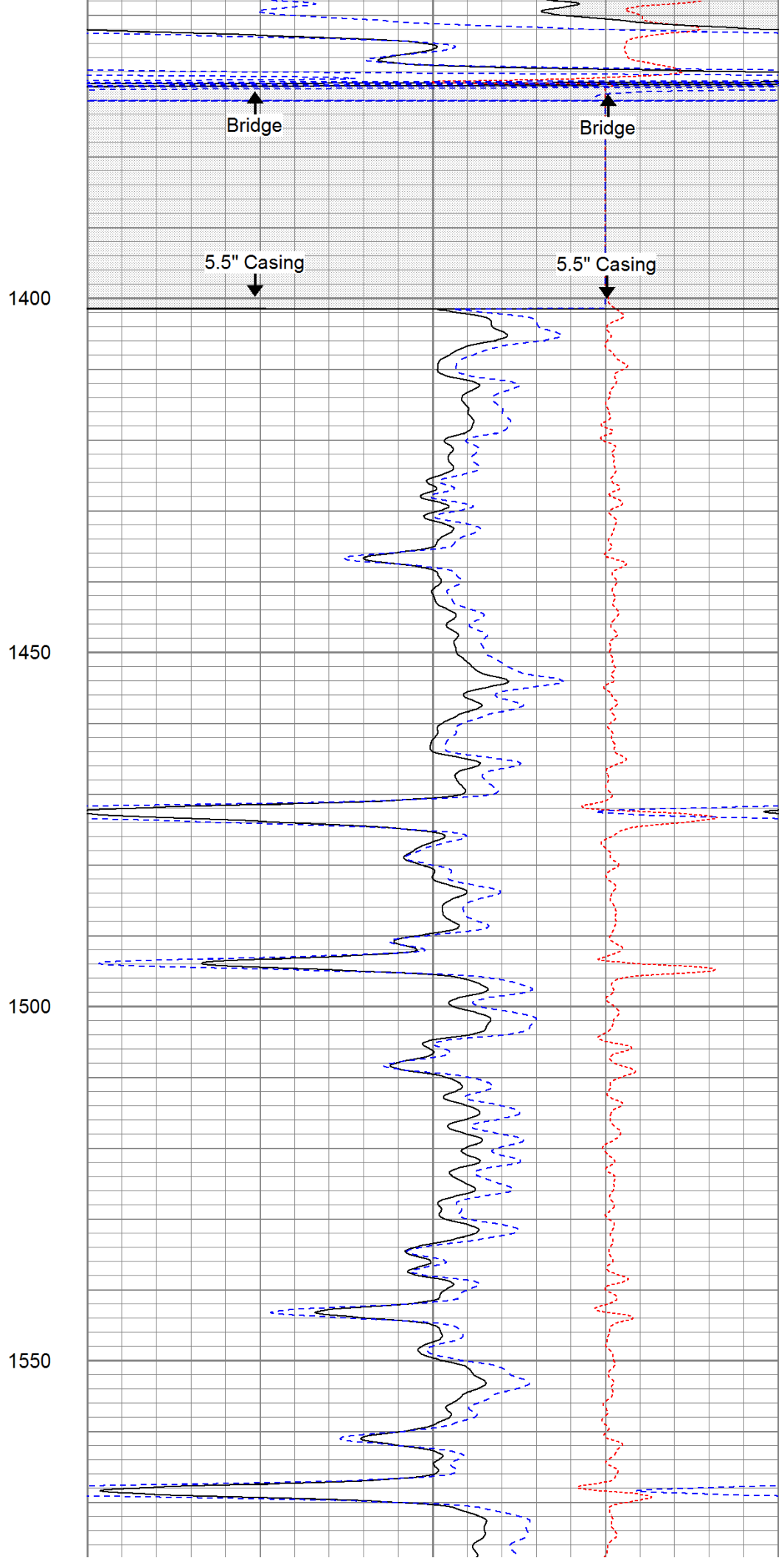
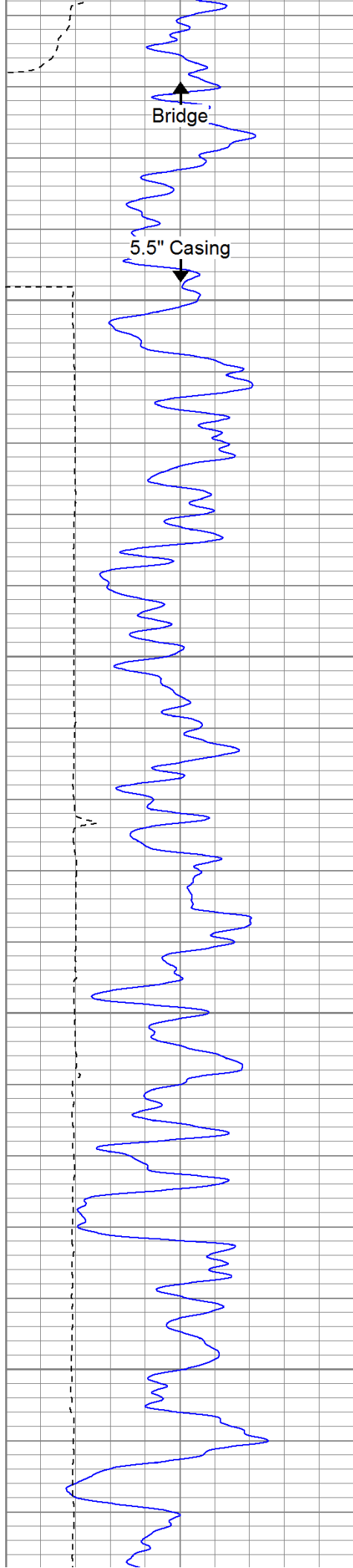
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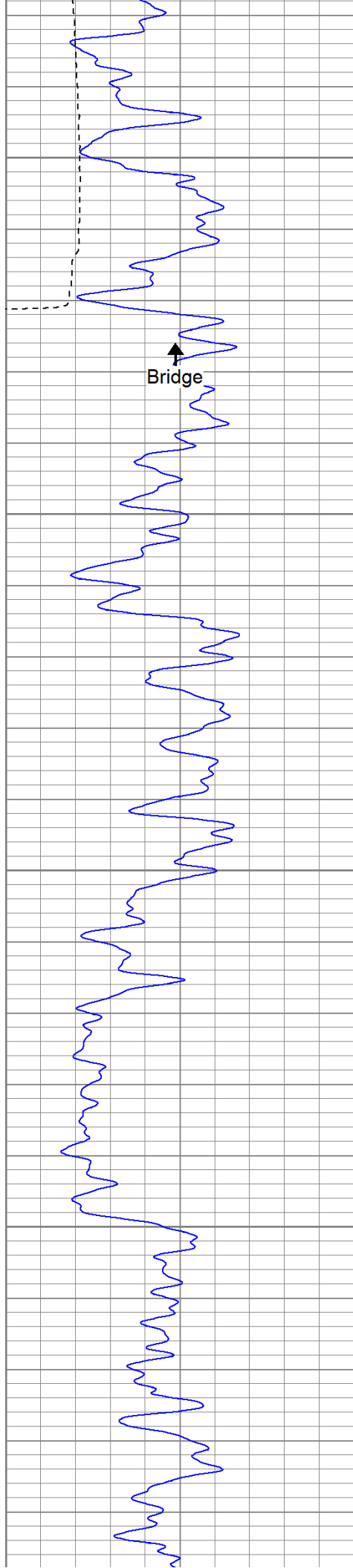
1250

1300

1350





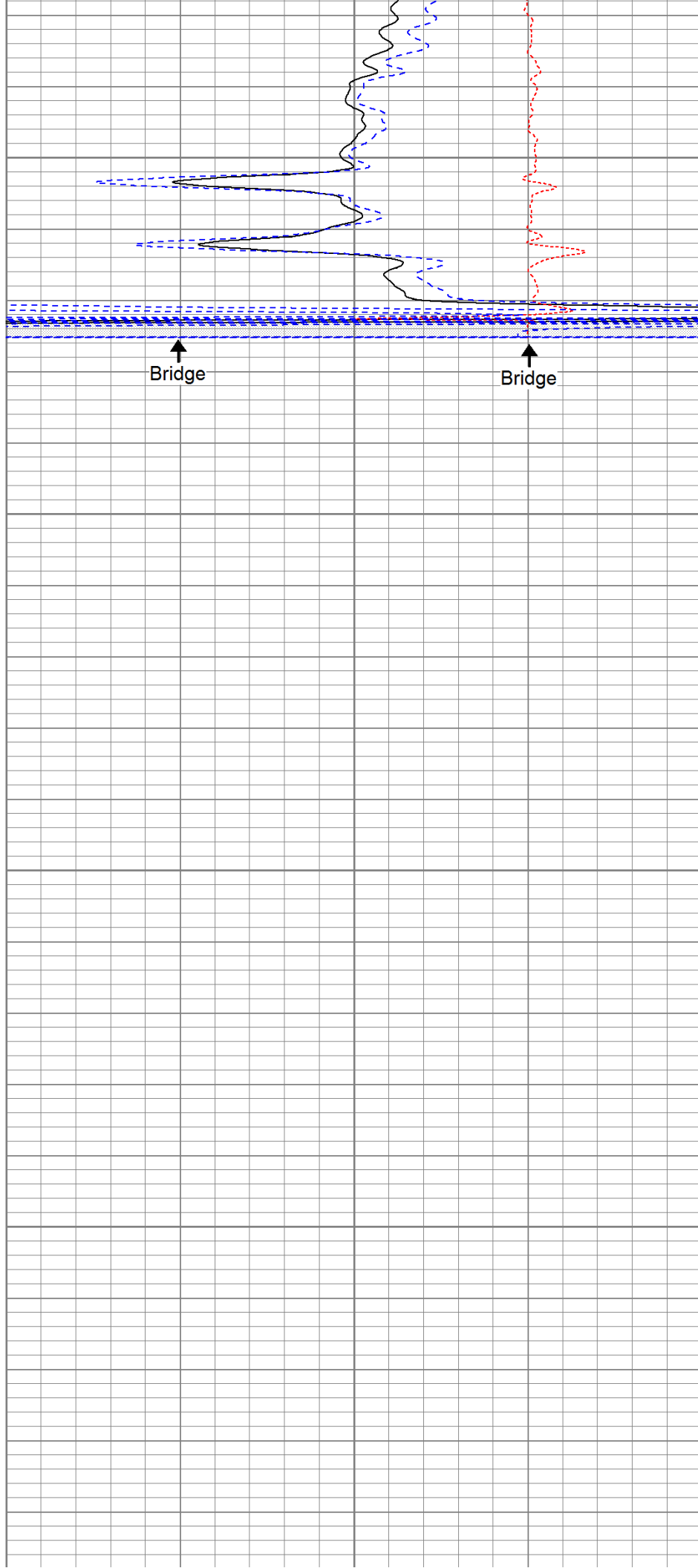


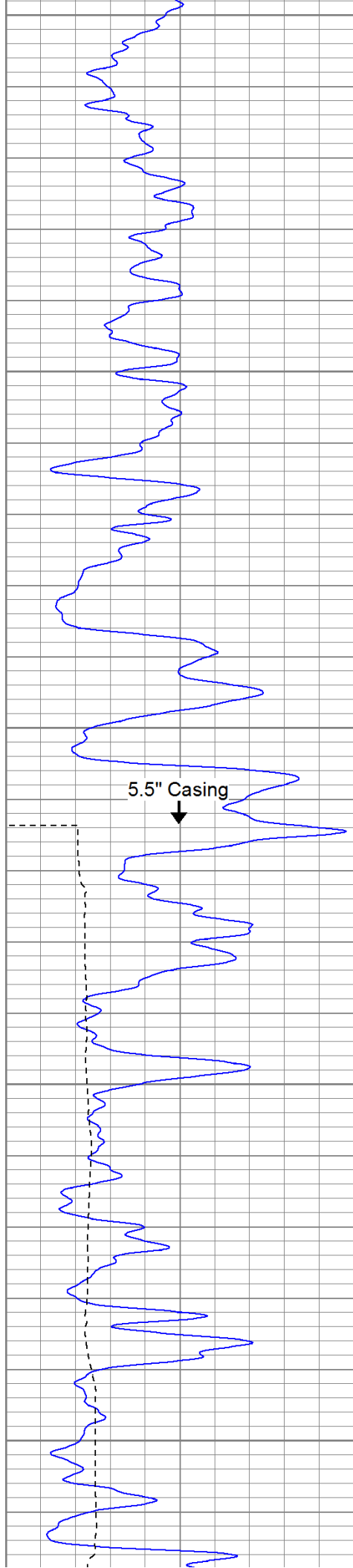
1600

1650

1700

1750





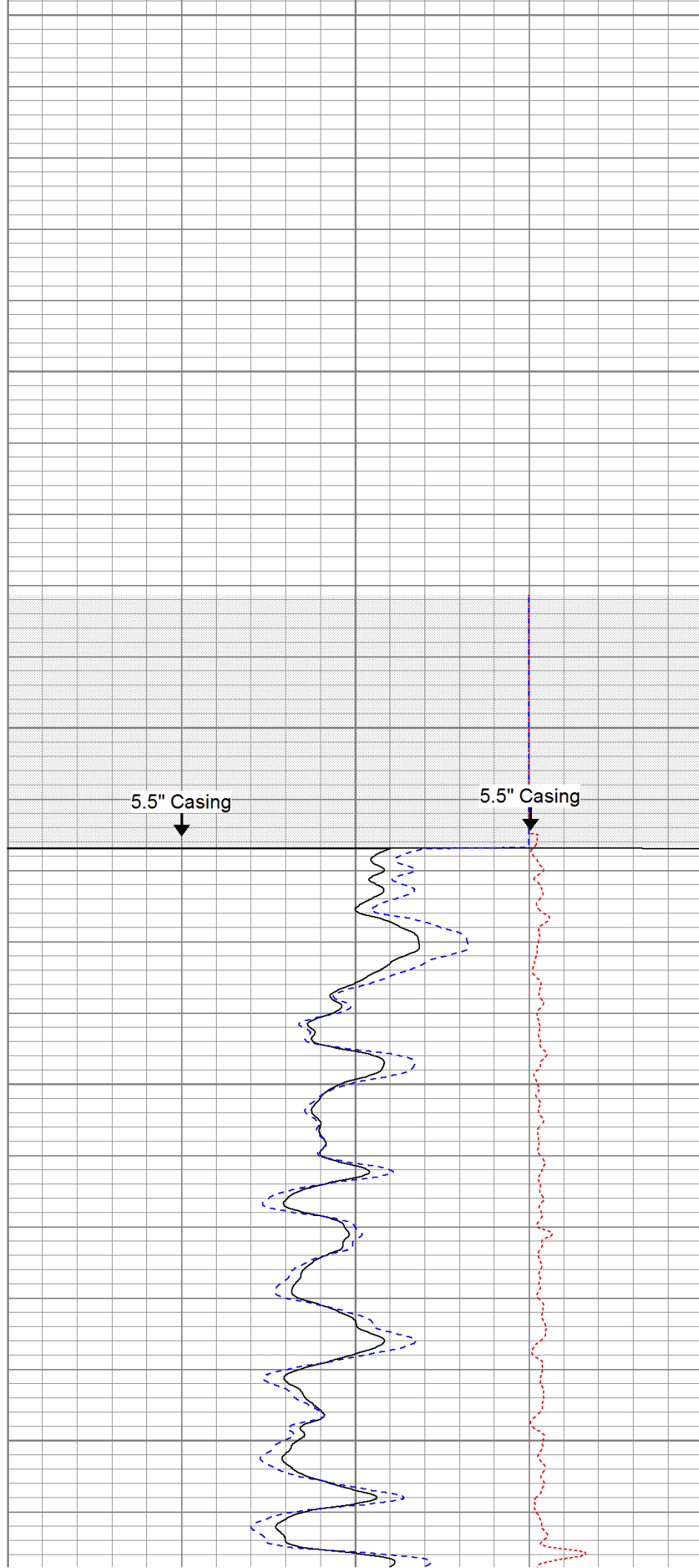
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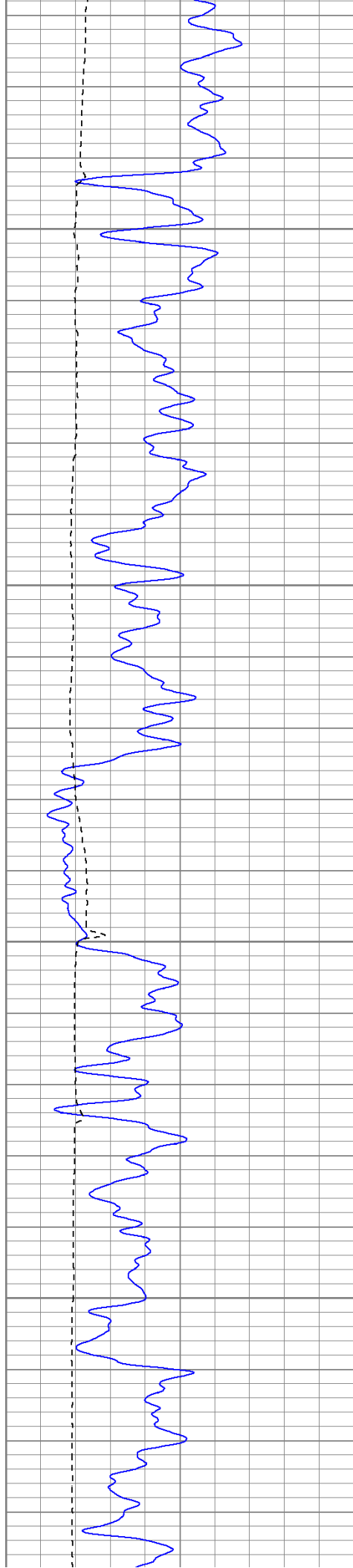
1850

1900

1950

2000



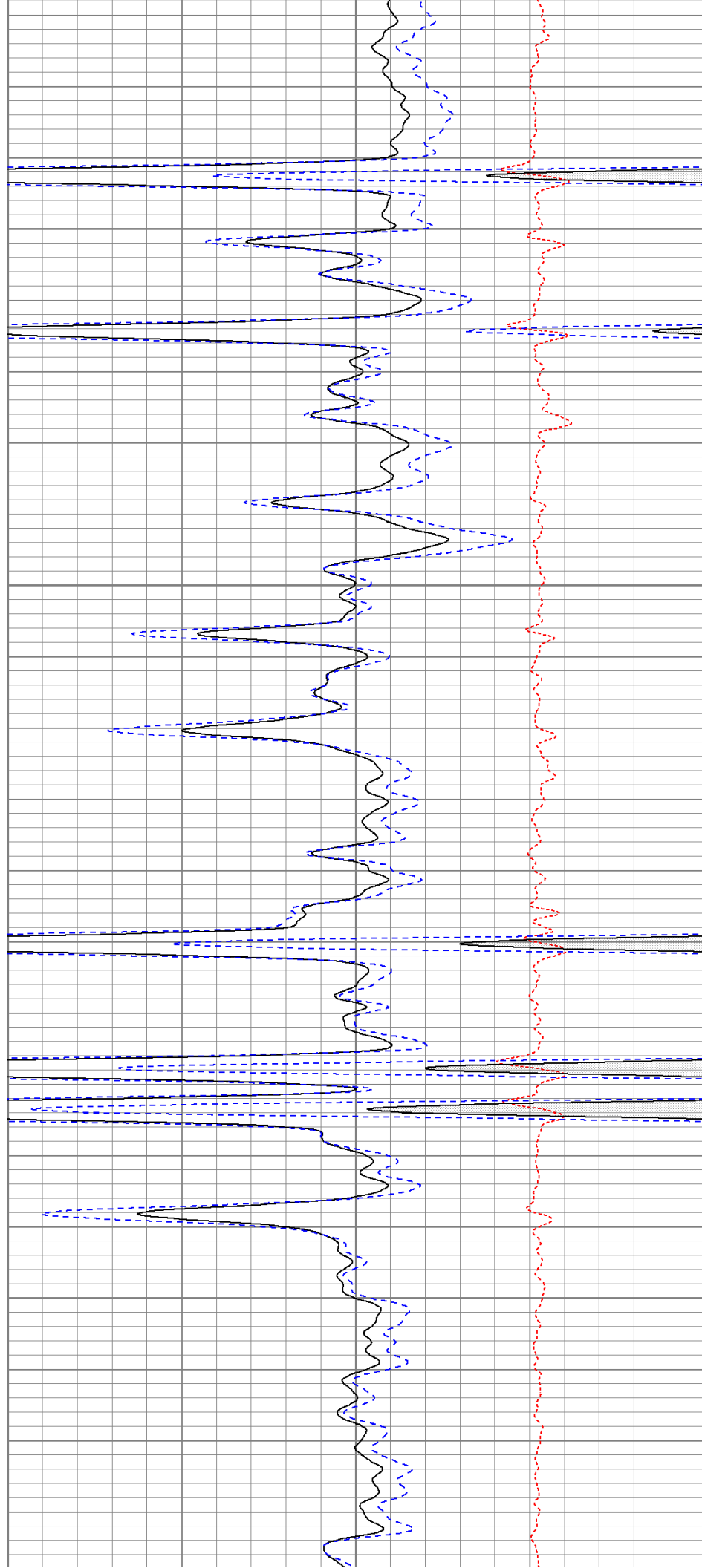


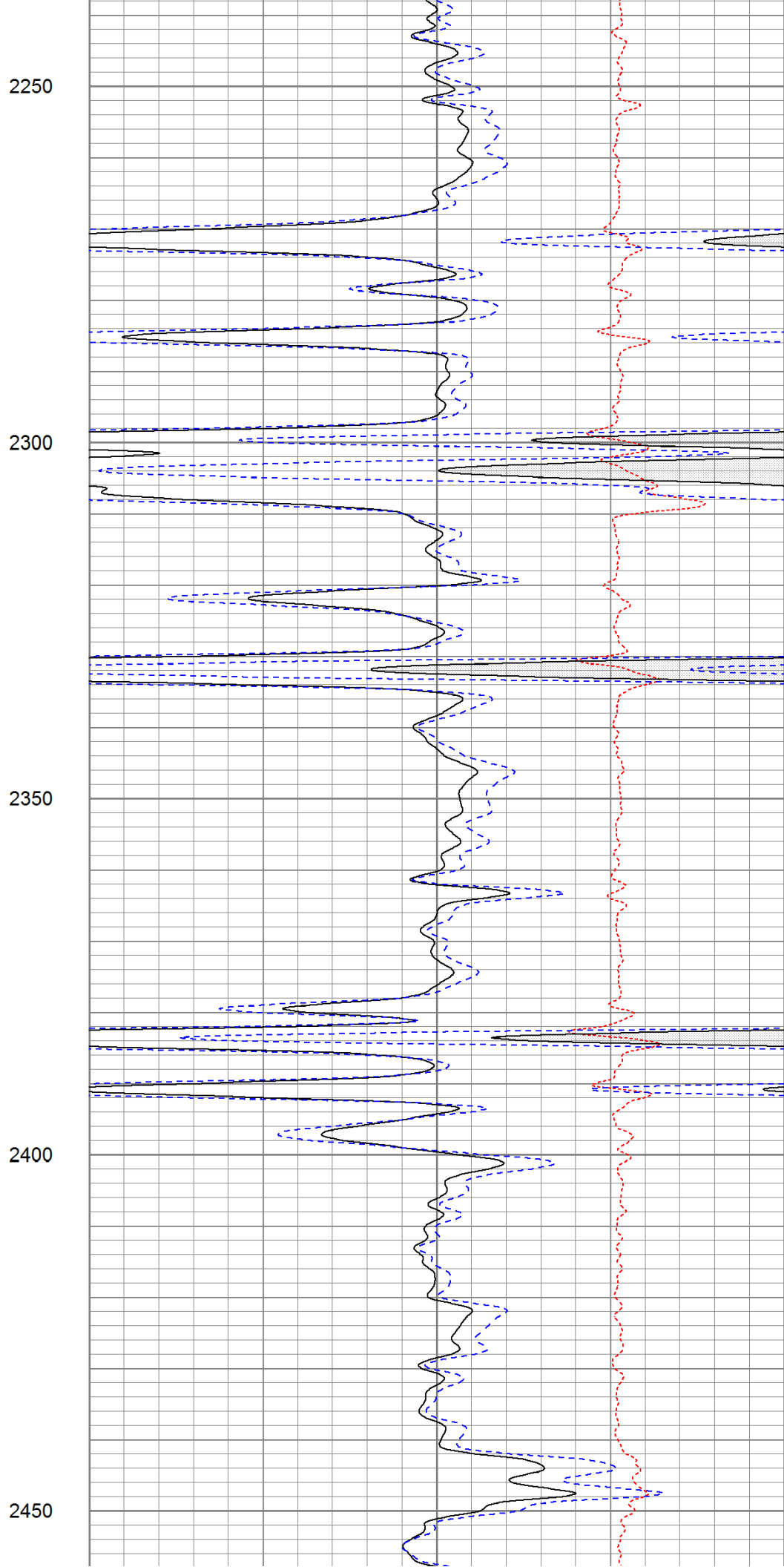
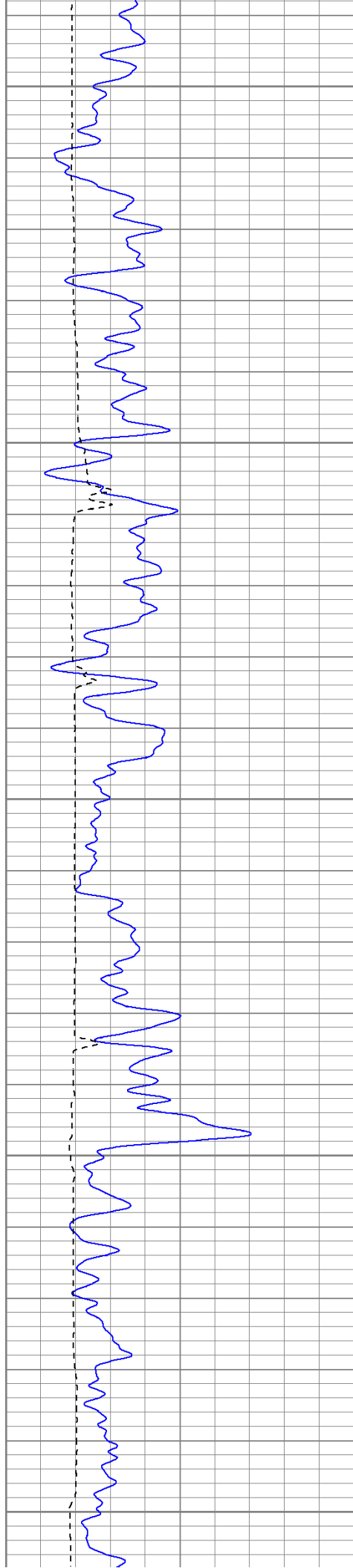
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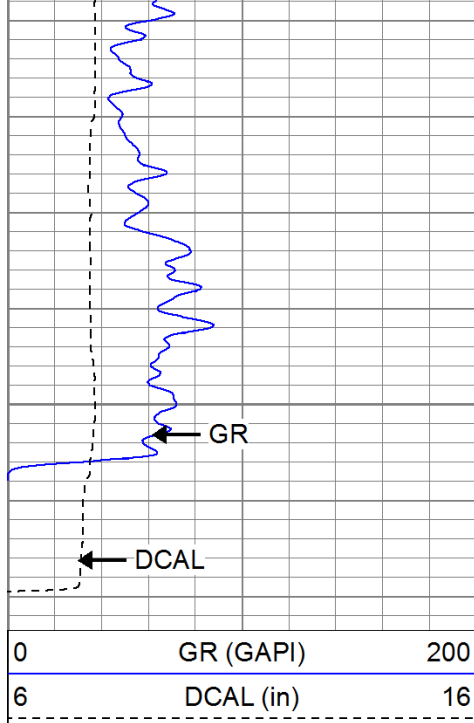
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2150

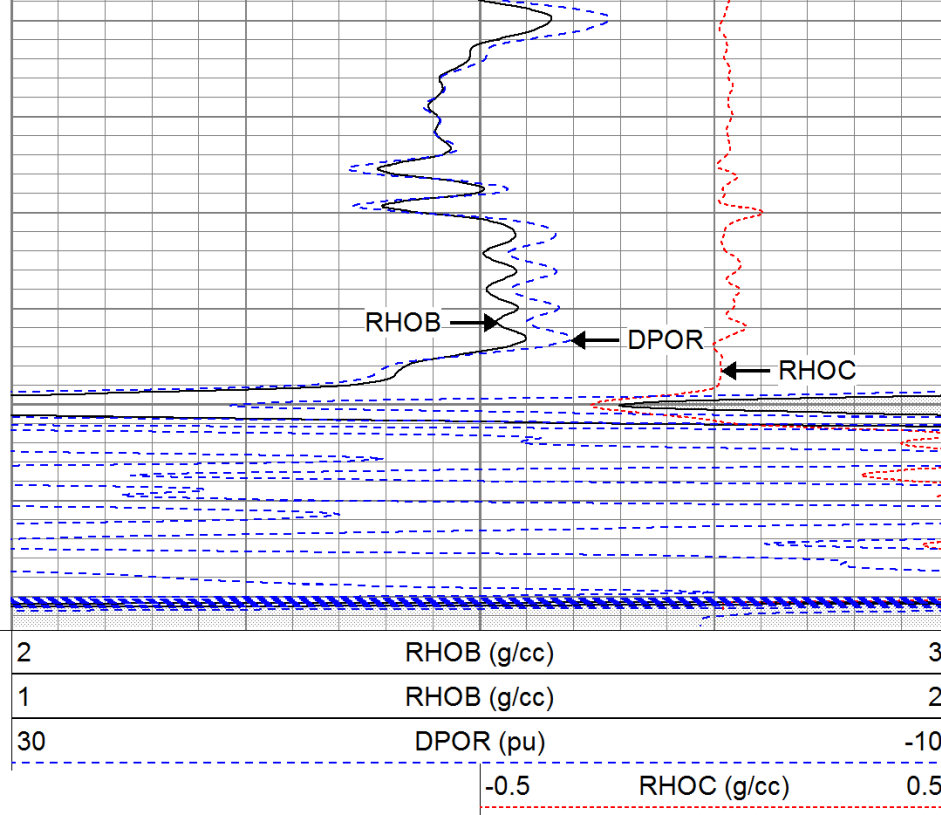
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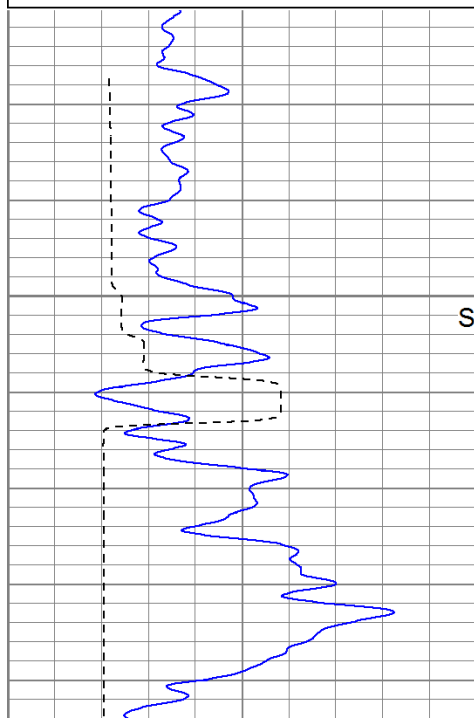


Main Merged Pass

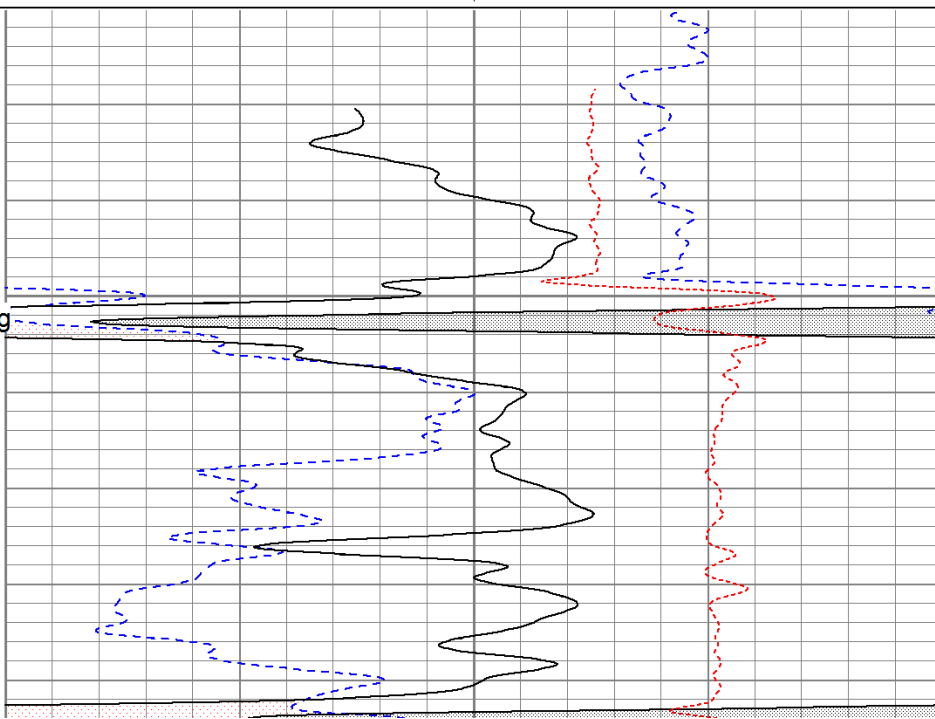
Database File: timbale.db
 Dataset Pathname: pass1cdnl
 Presentation Format: cdnl
 Dataset Creation: Tue Jun 21 07:54:14 2011
 Charted by: Depth in Feet scaled 1:240

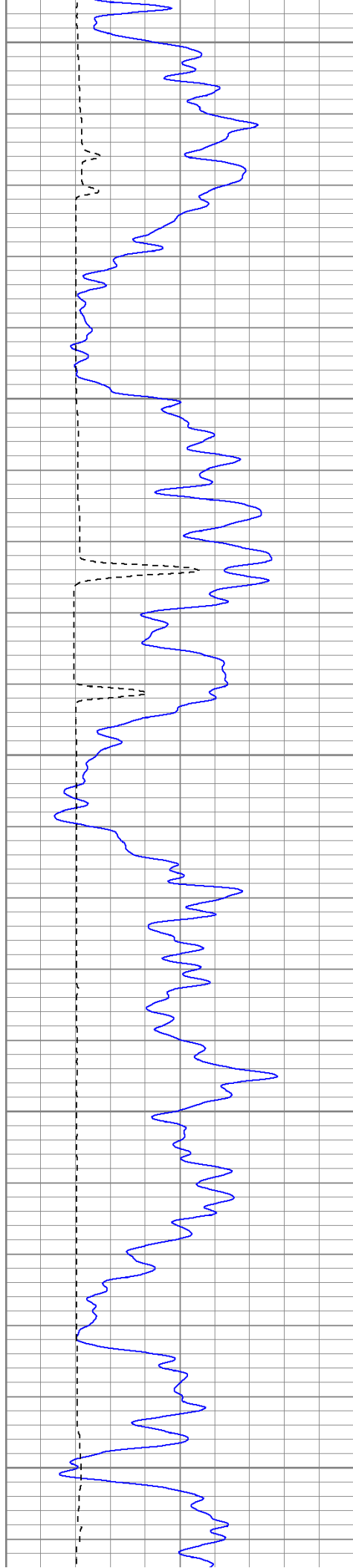
0	GR (GAPI)	200
6	DCAL (in)	16

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



550
Surface Casing





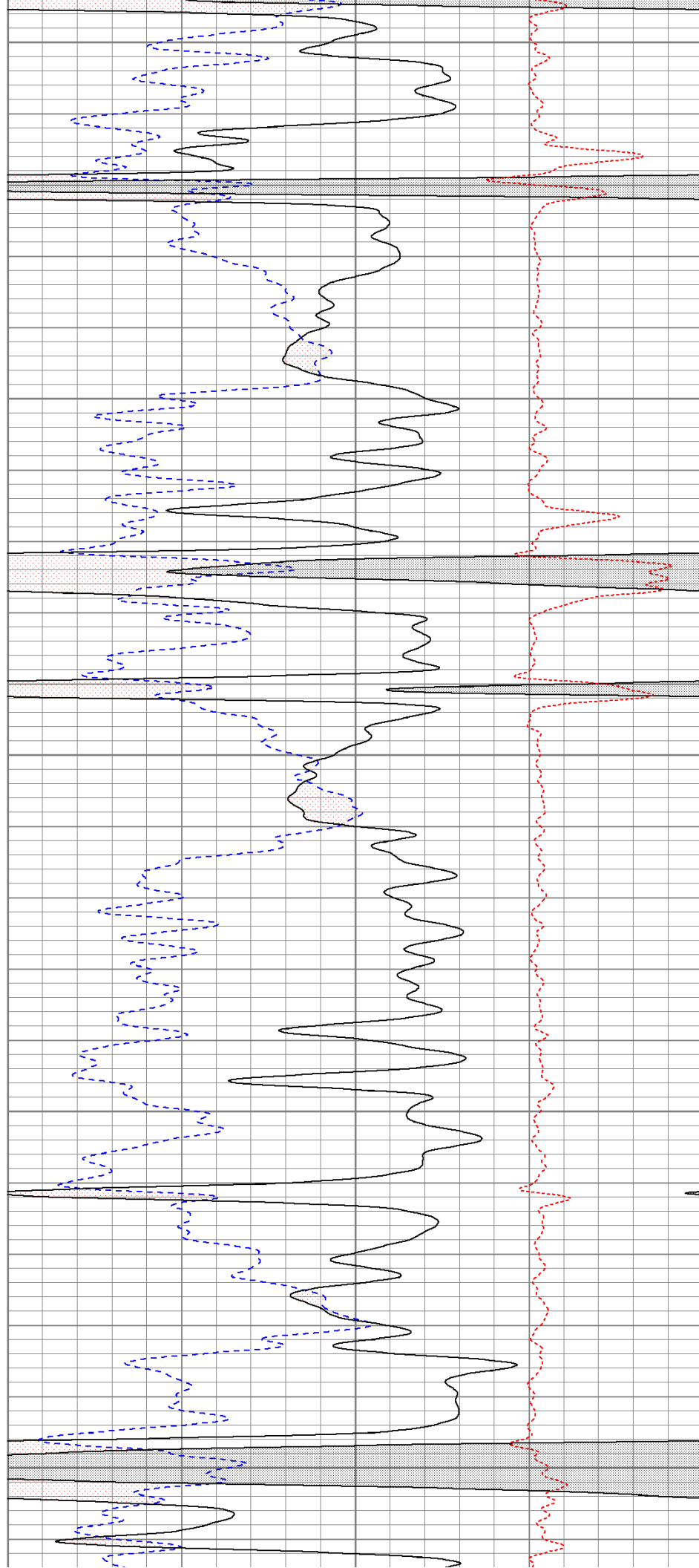
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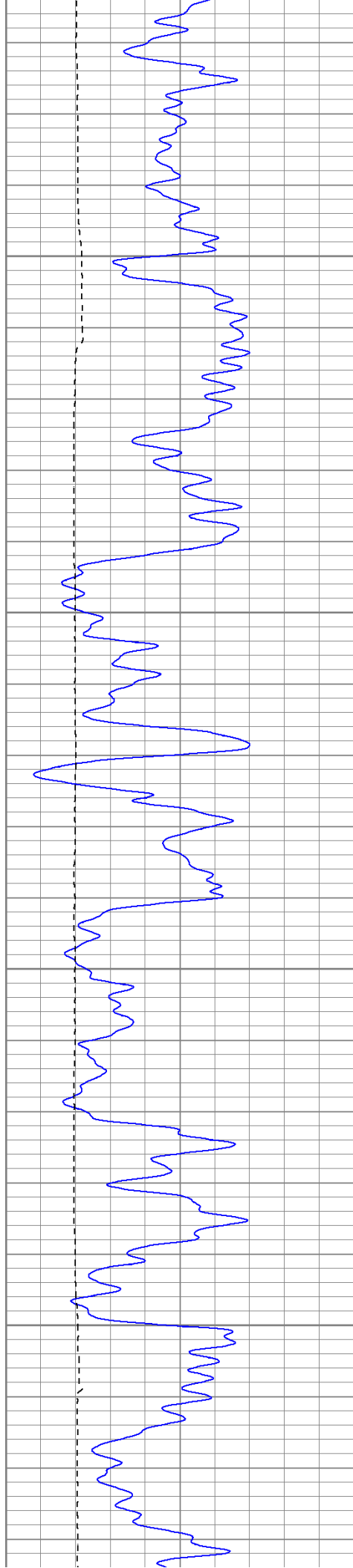
650

700

750

800



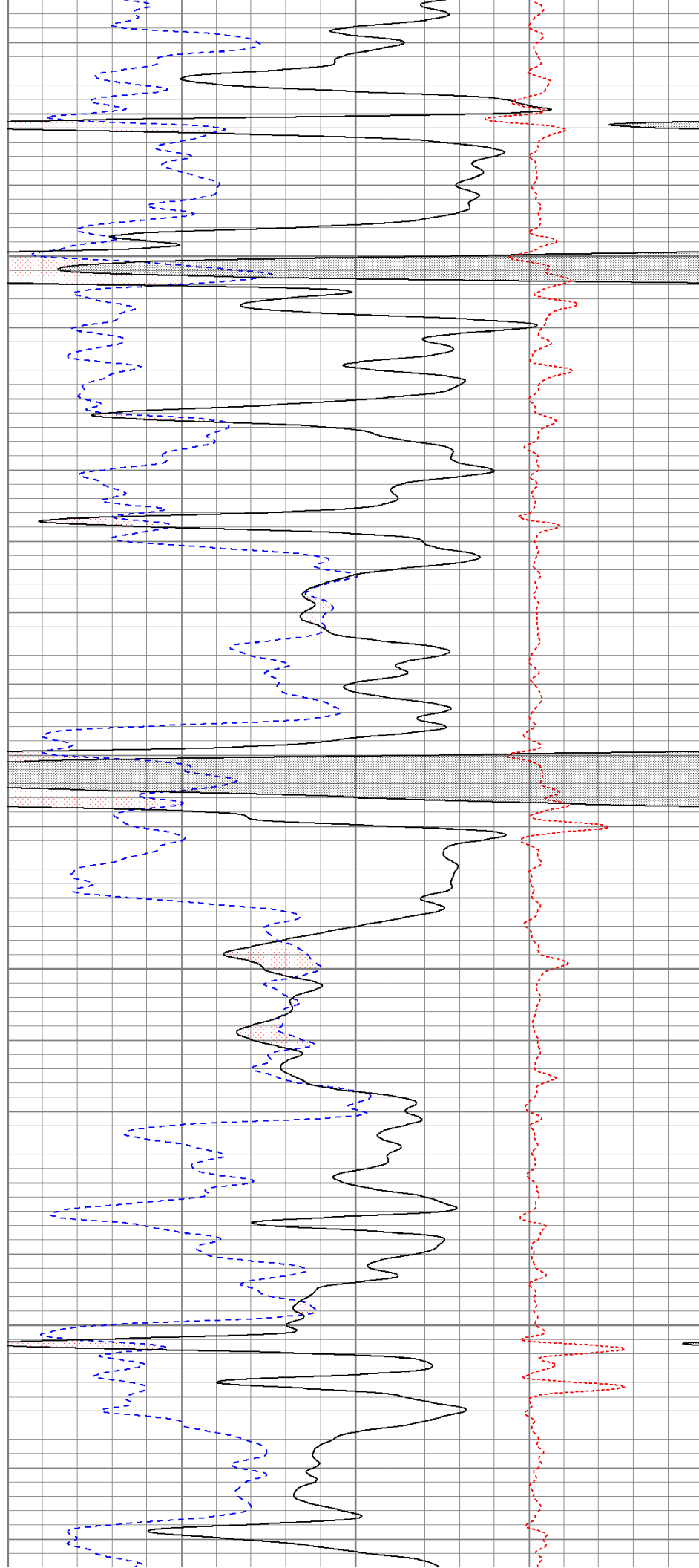


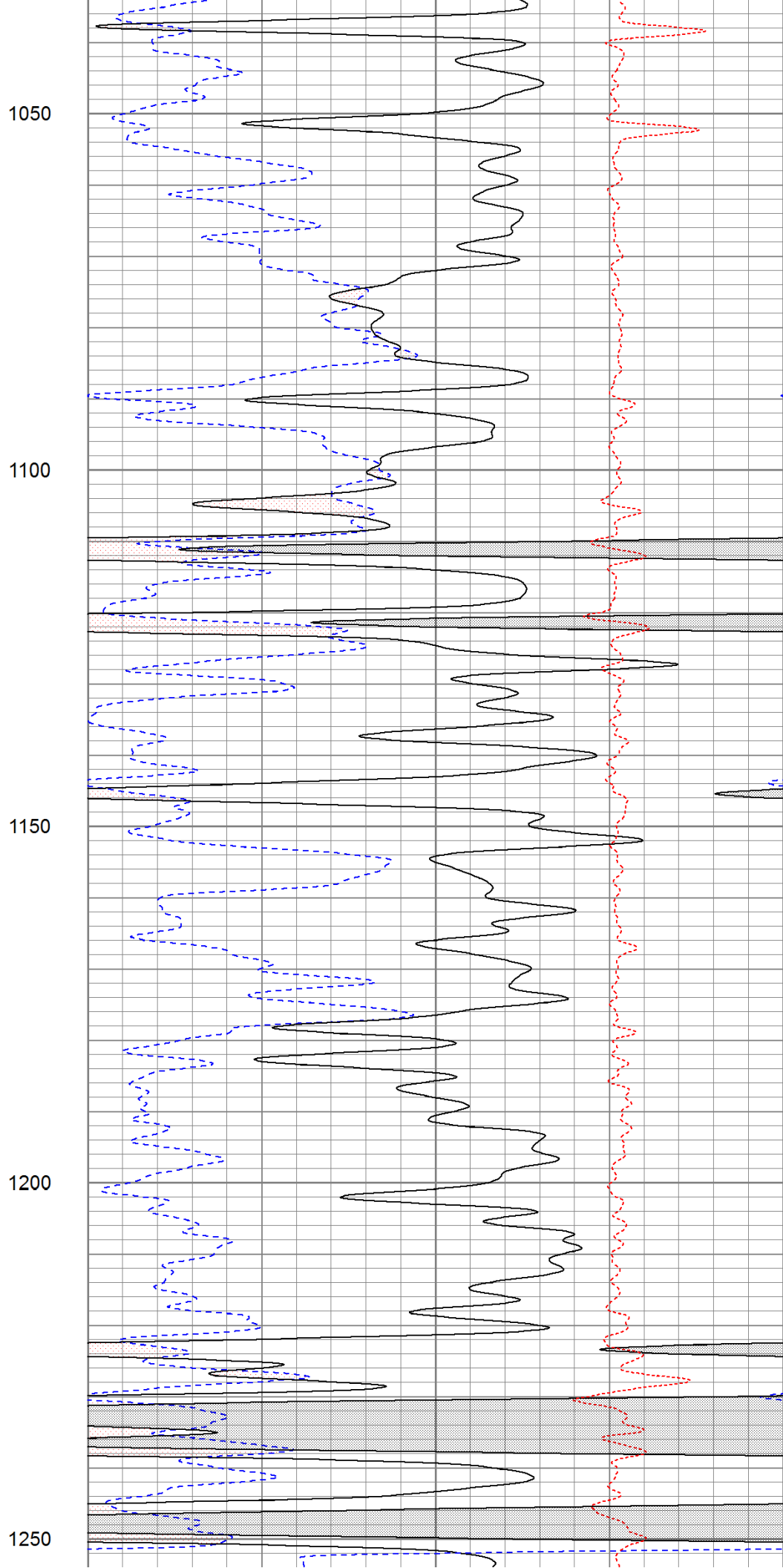
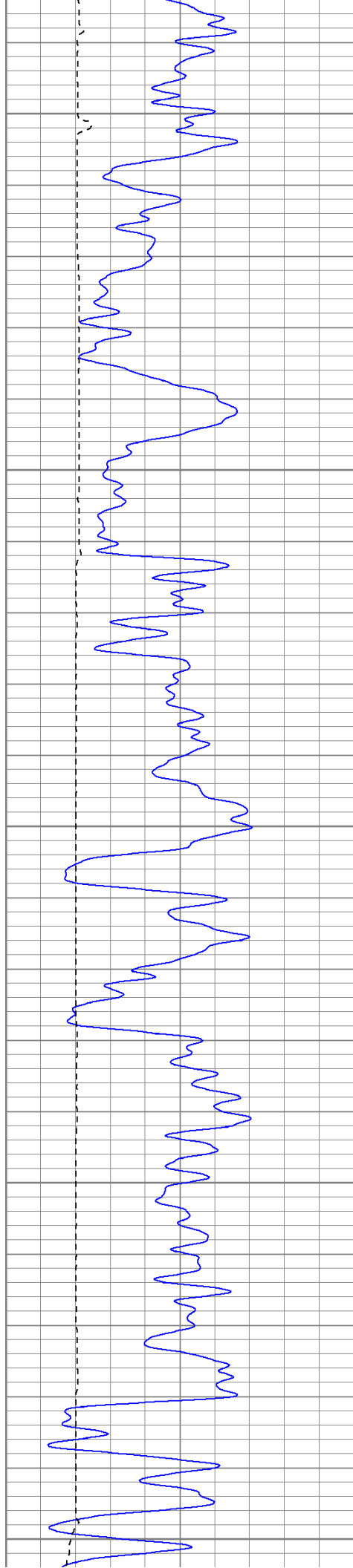
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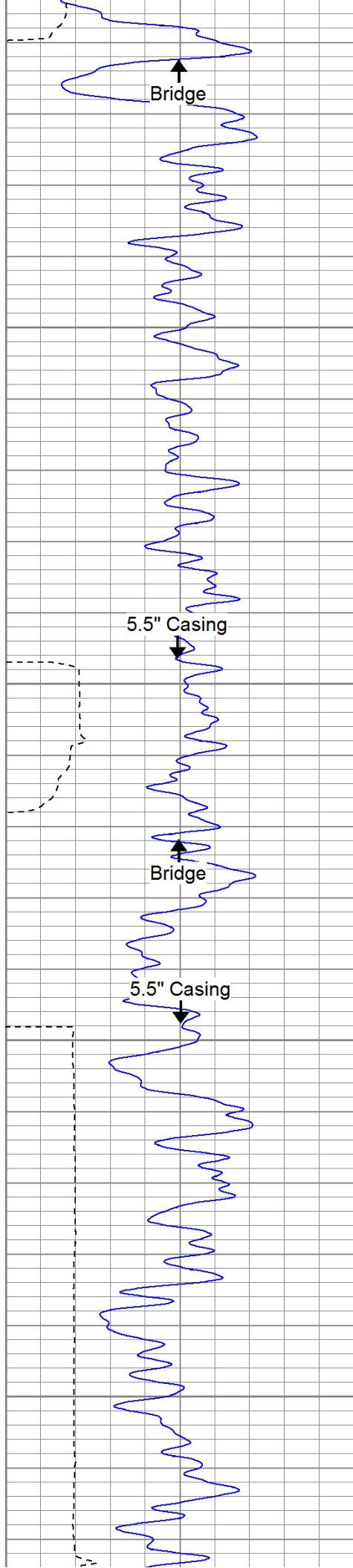
900

950

1000





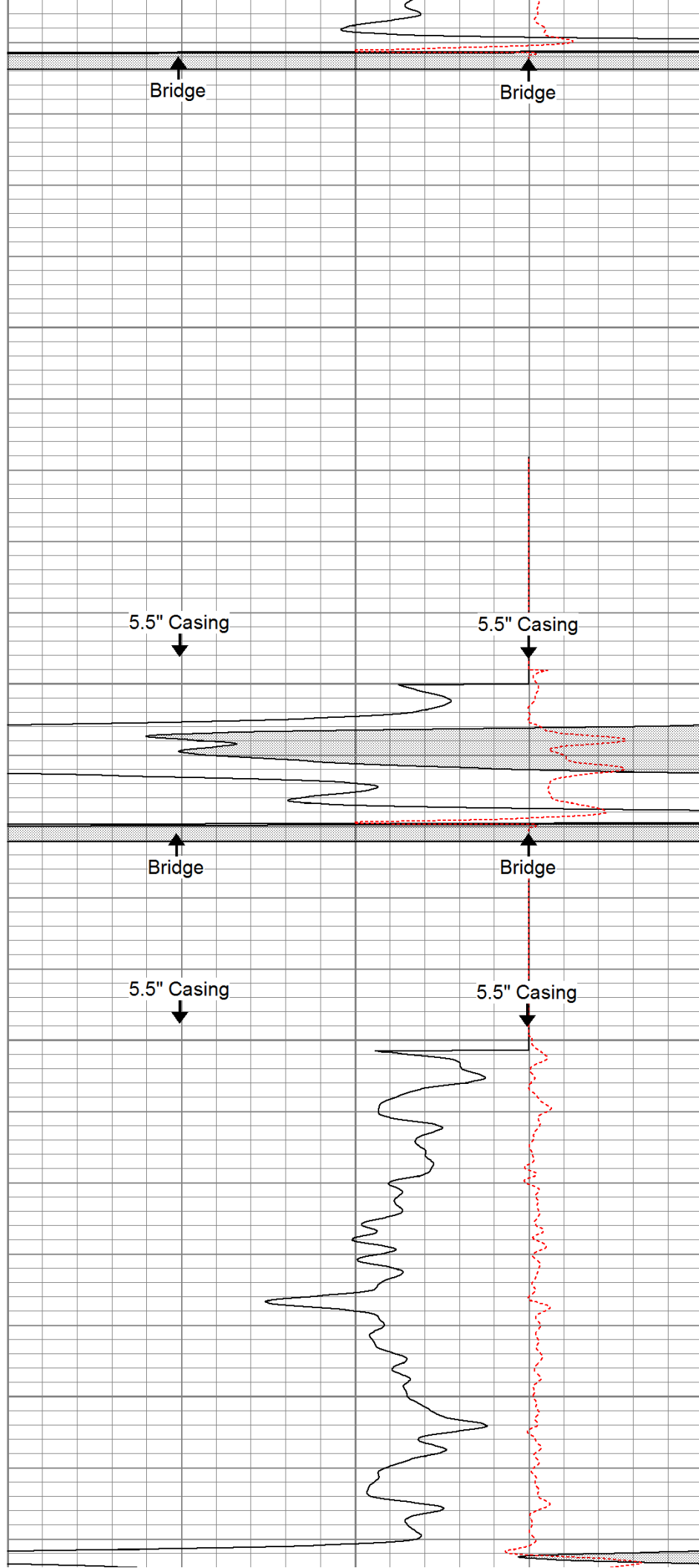


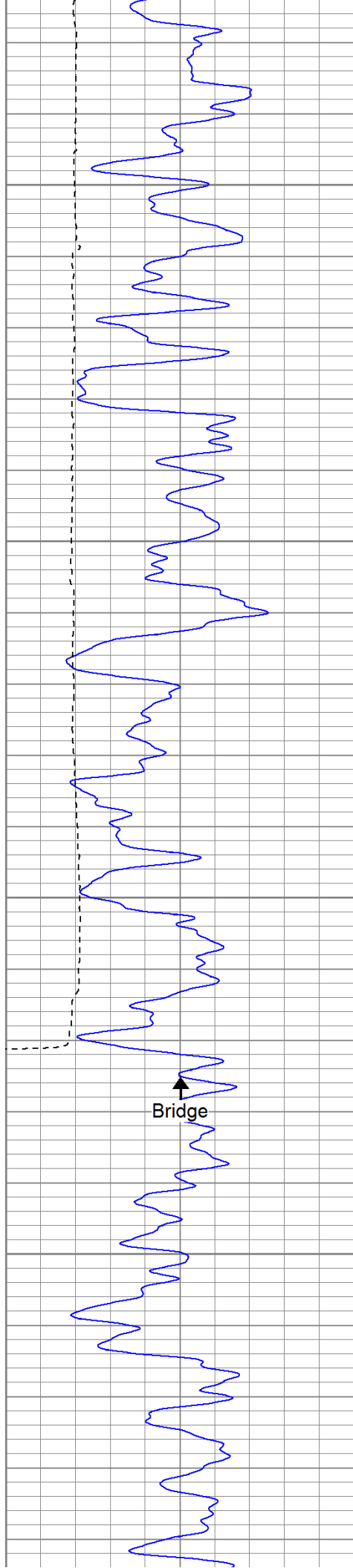
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1350

1400

1450





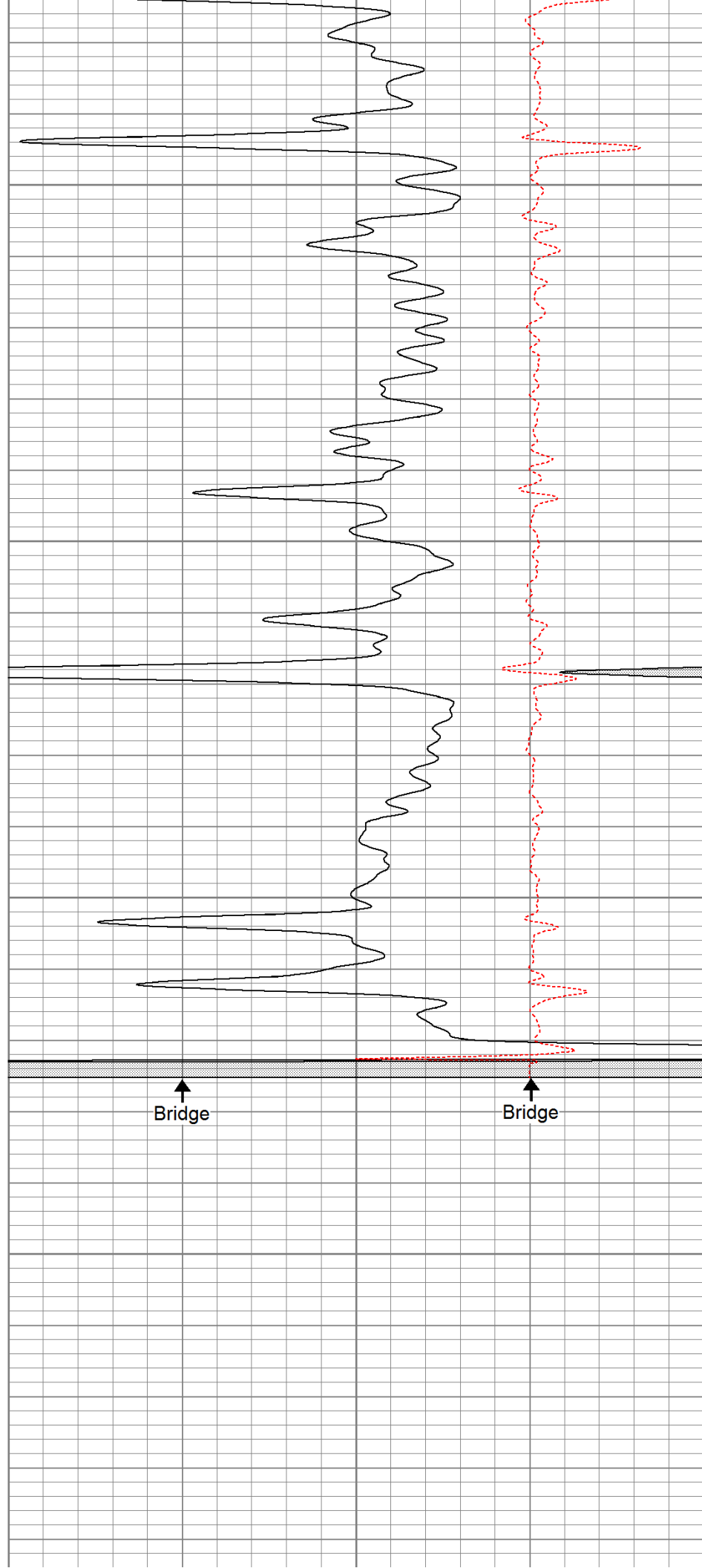
1500

1550

1600

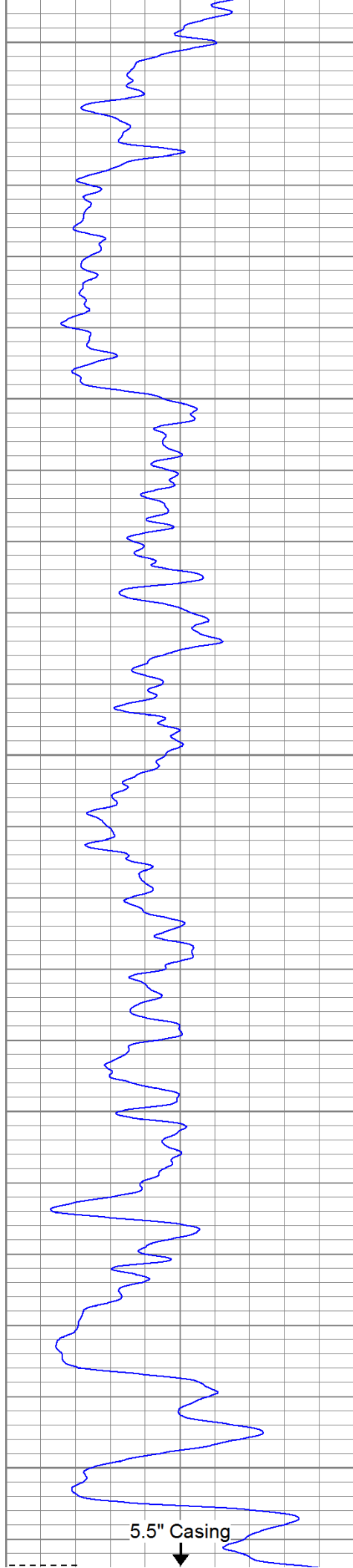
1650

Bridge



Bridge

Bridge



1700

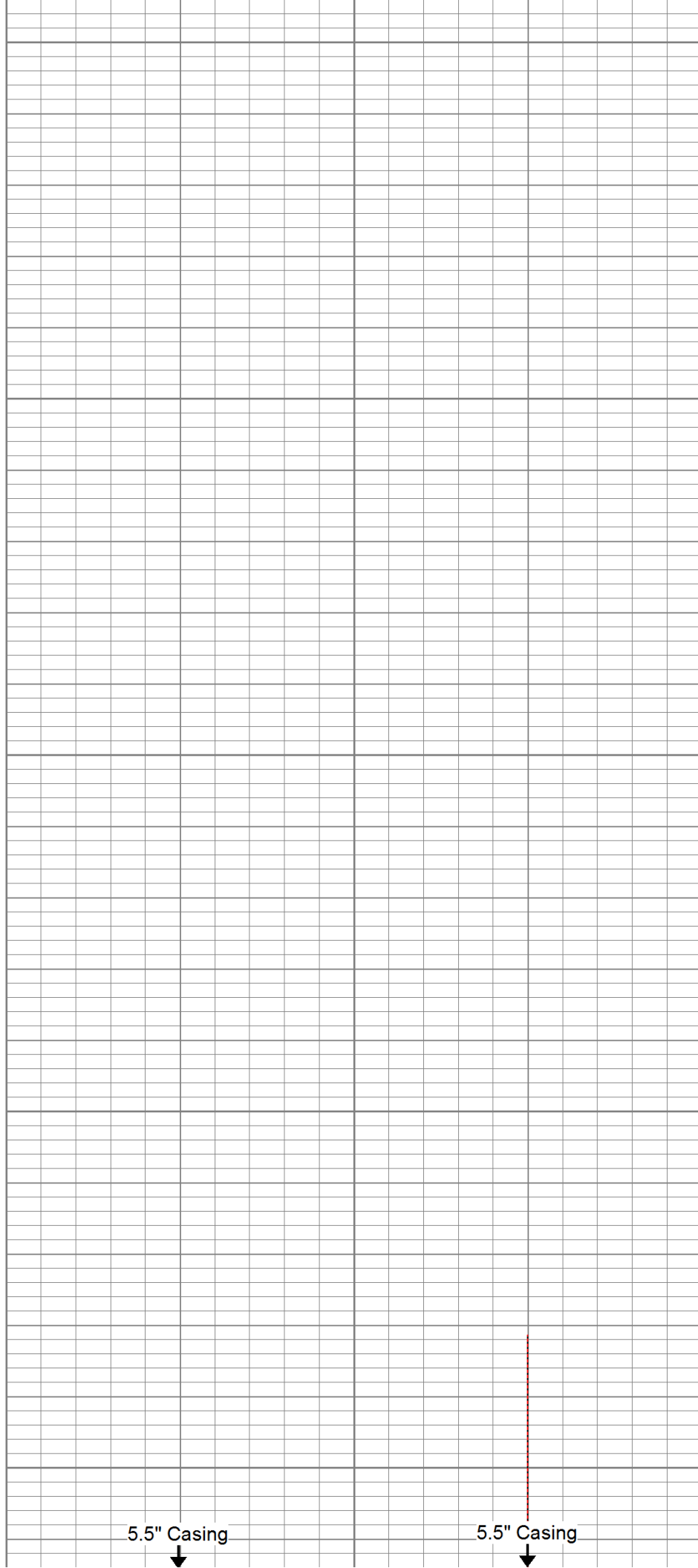
1750

1800

1850

1900

5.5" Casing

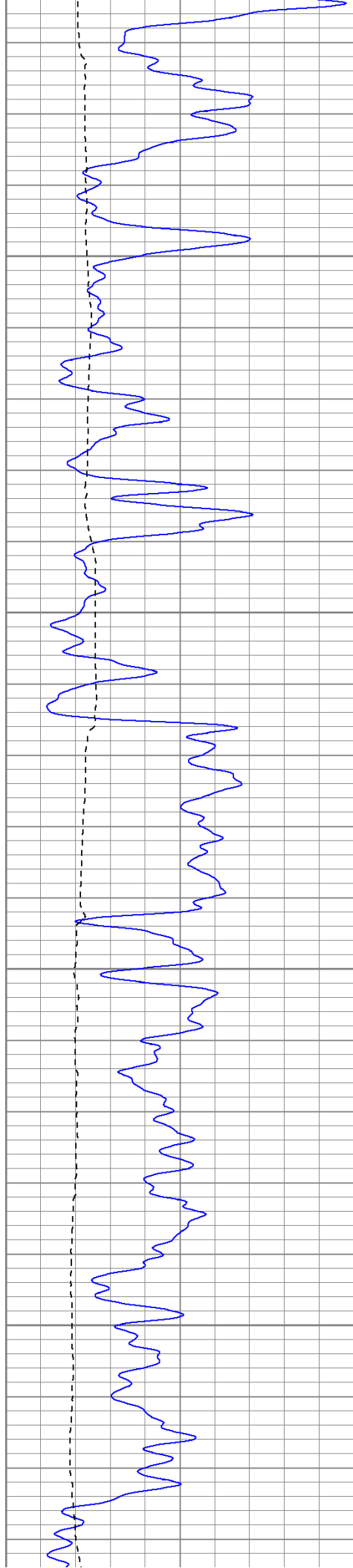


5.5" Casing



5.5" Casing



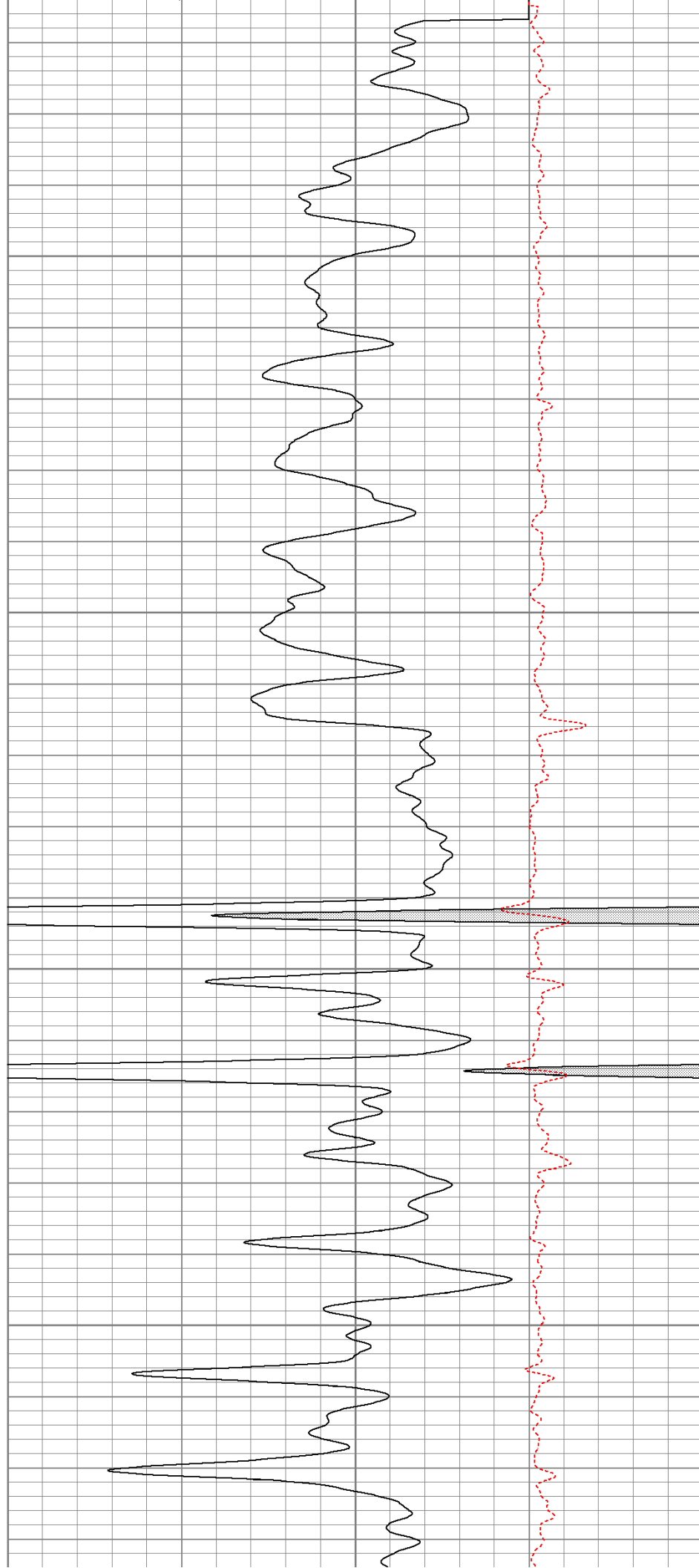


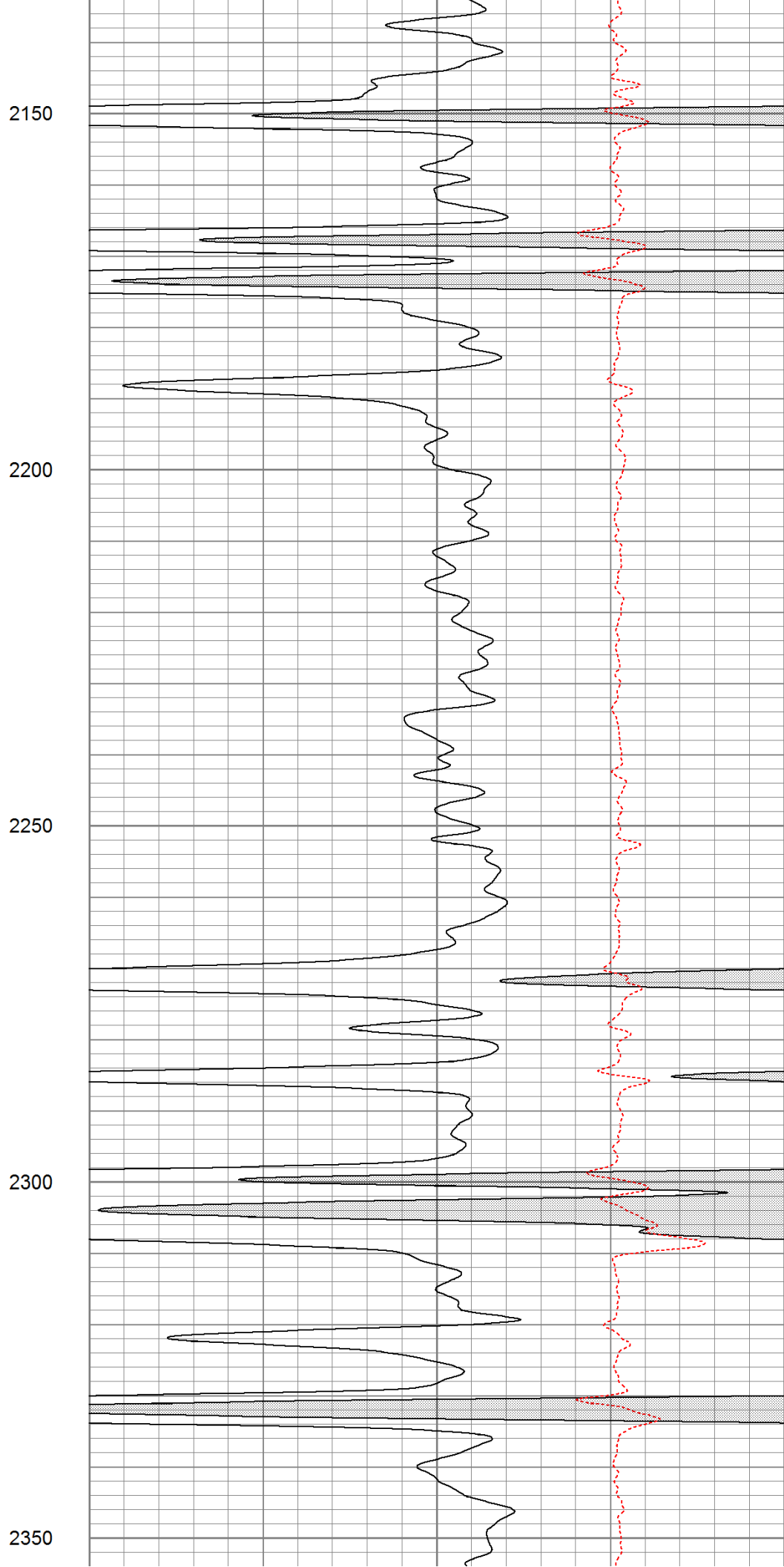
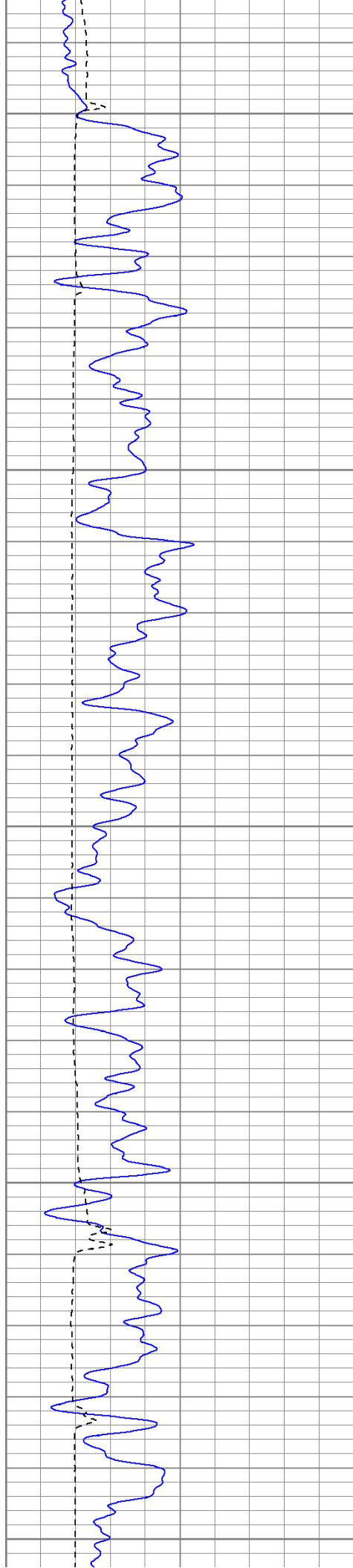
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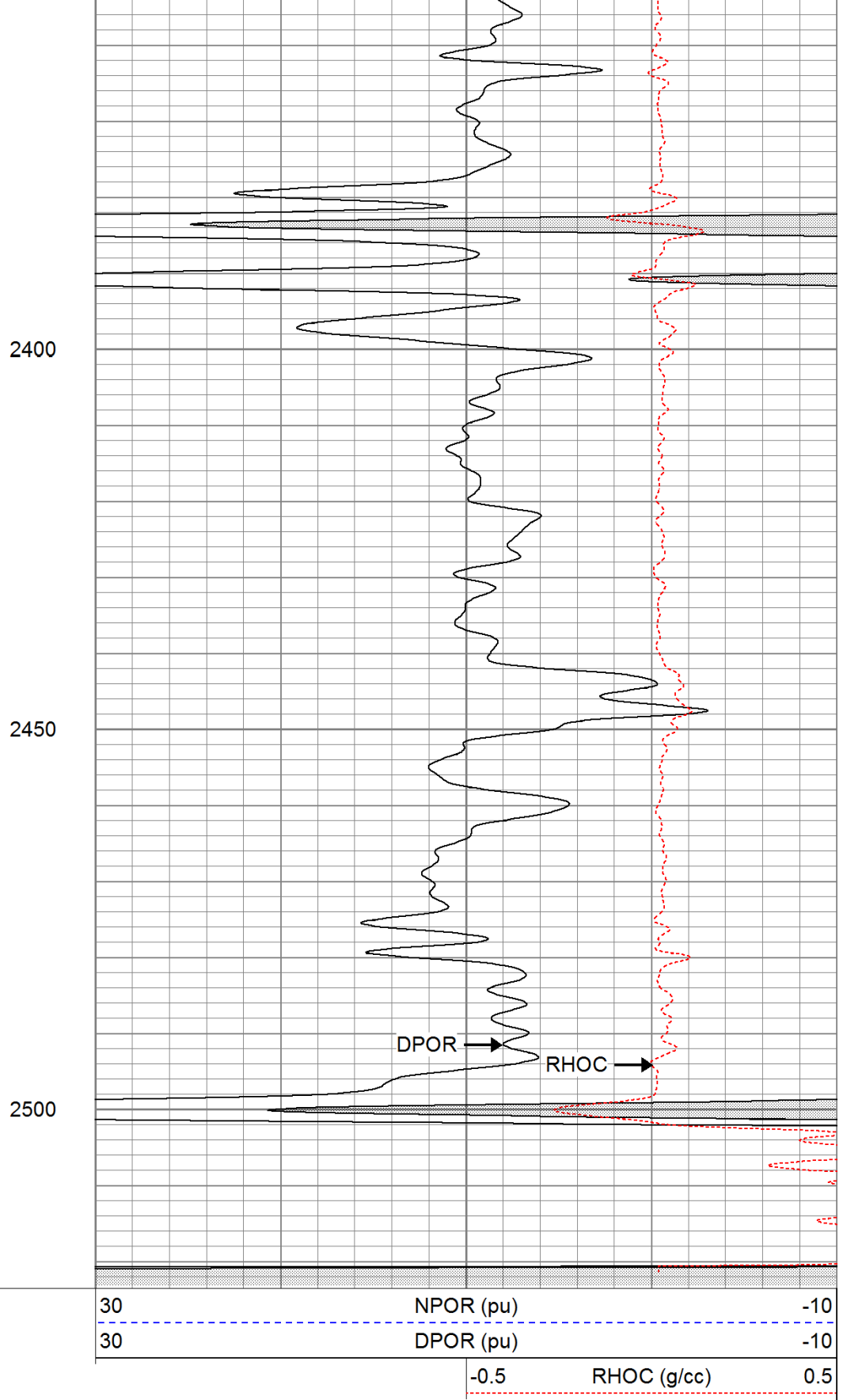
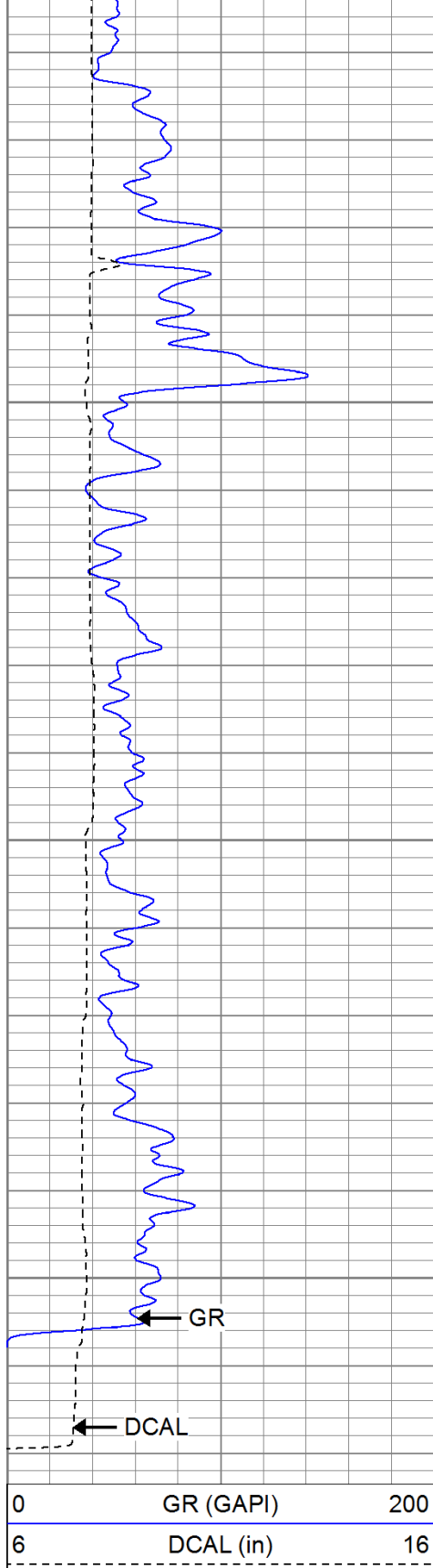
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2050

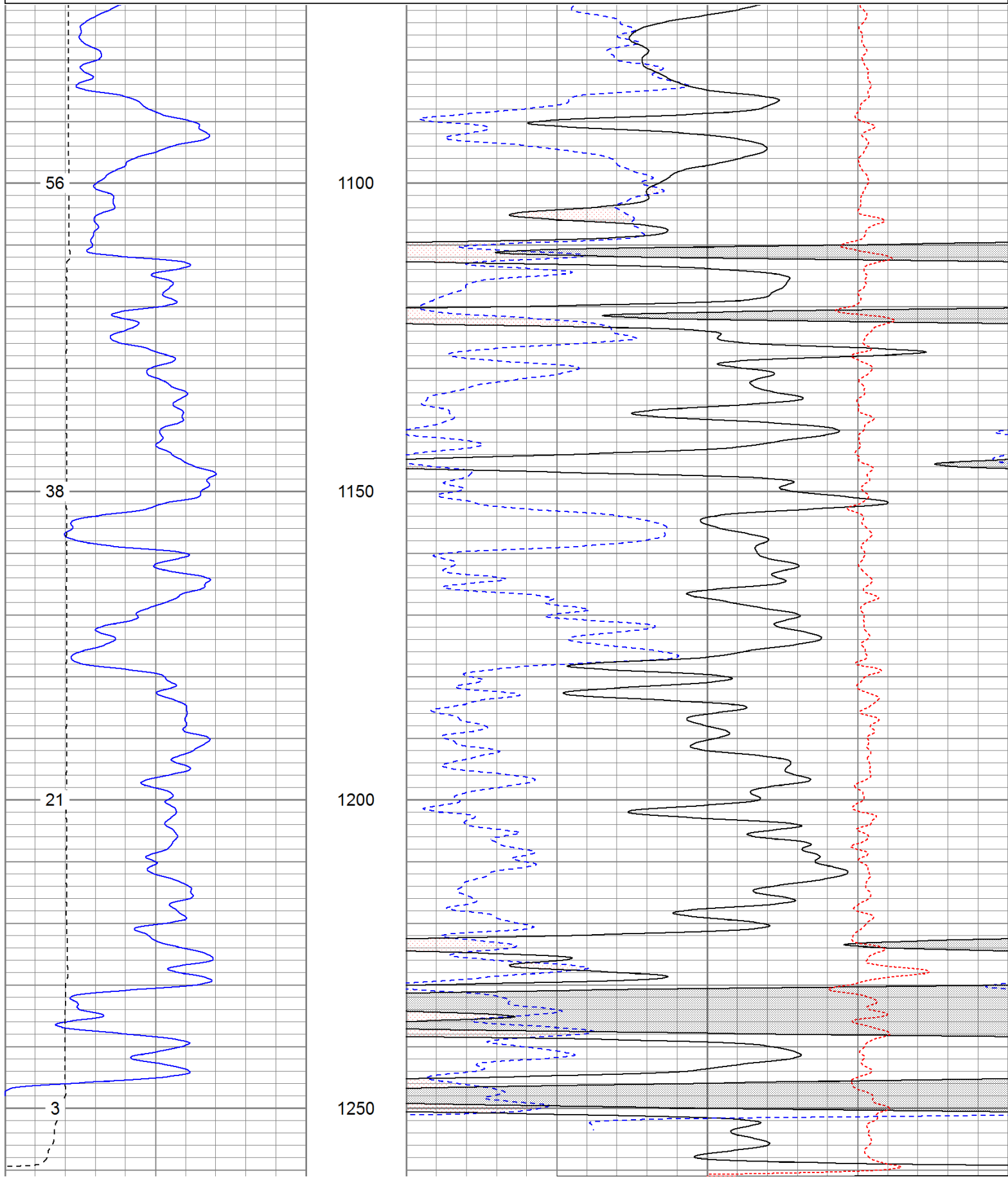
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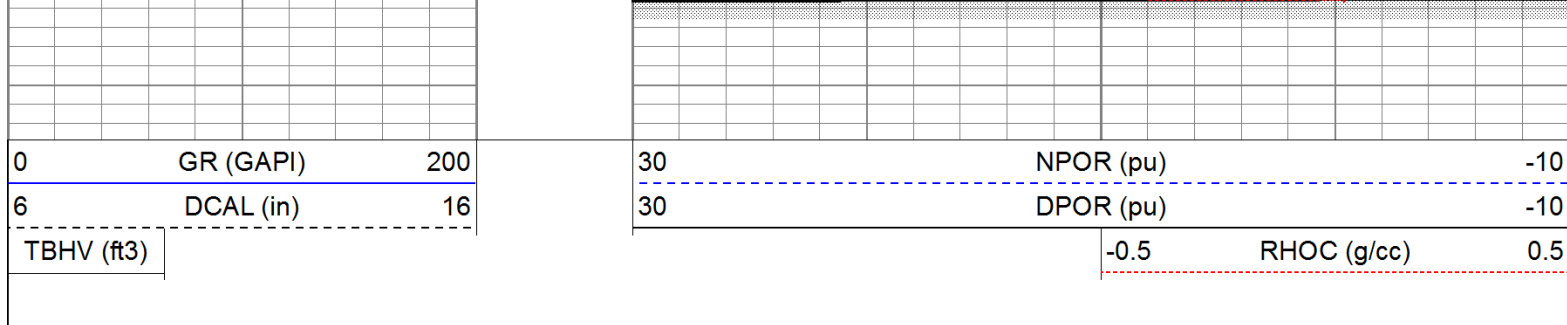


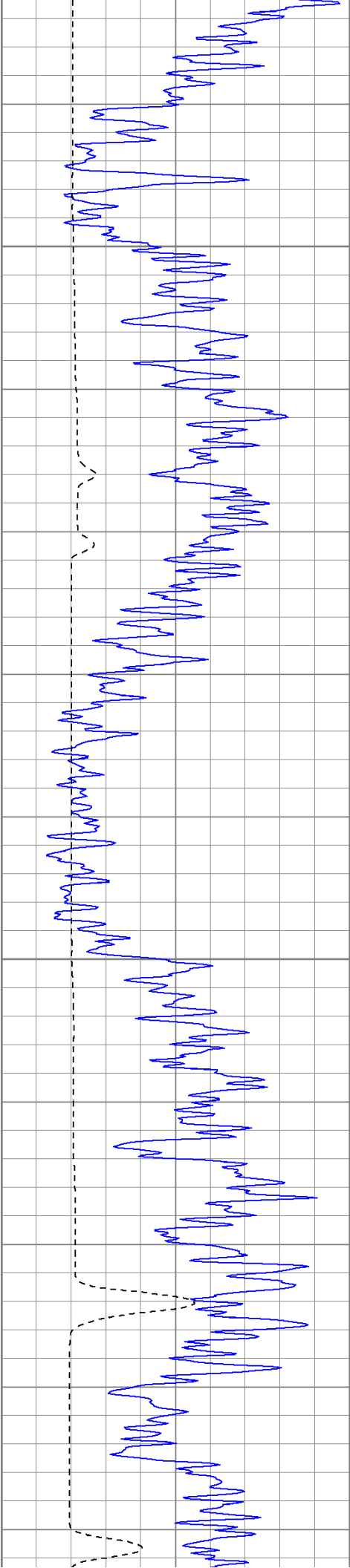




0	GR (GAPI)	200	30	NPOR (pu)	-10
6	DCAL (in)	16	30	DPOR (pu)	-10
TBHV (ft3)				-0.5	RHOC (g/cc) 0.5

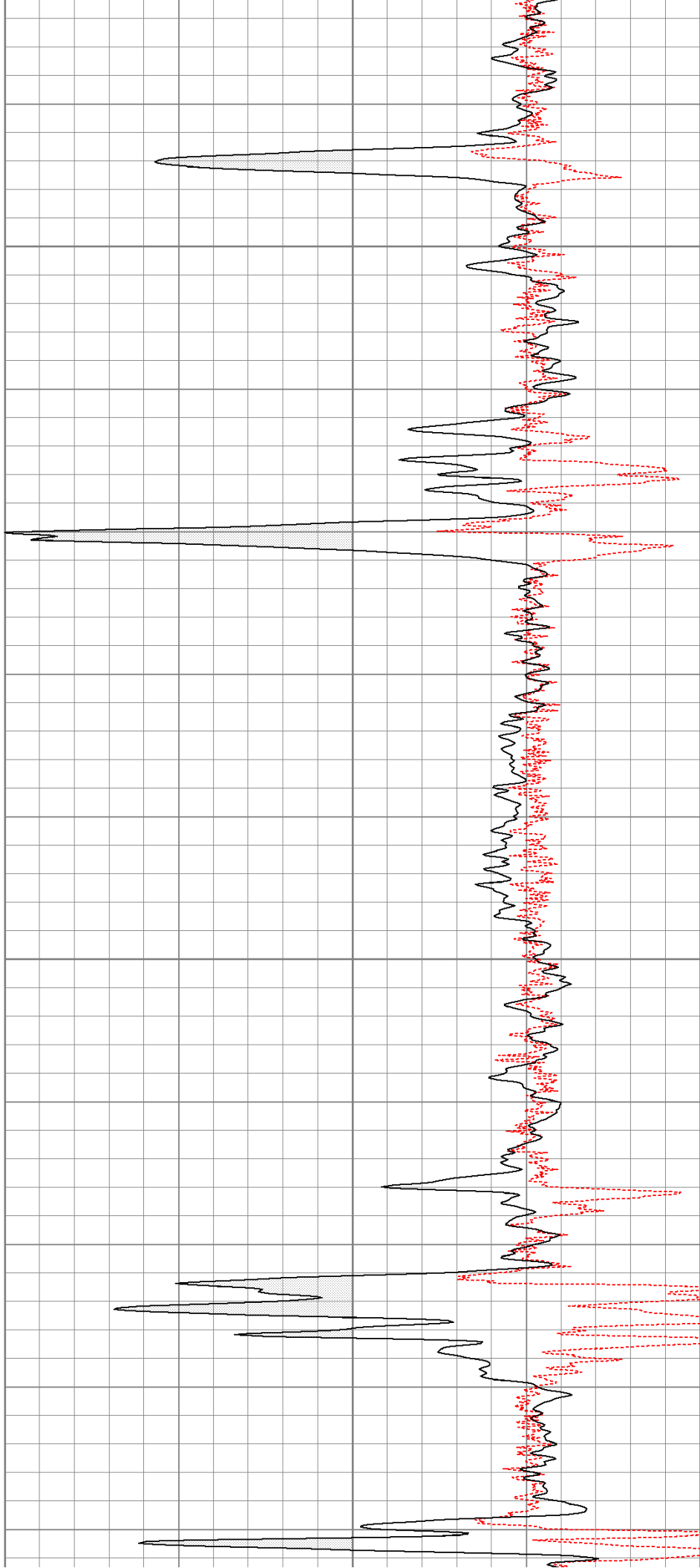


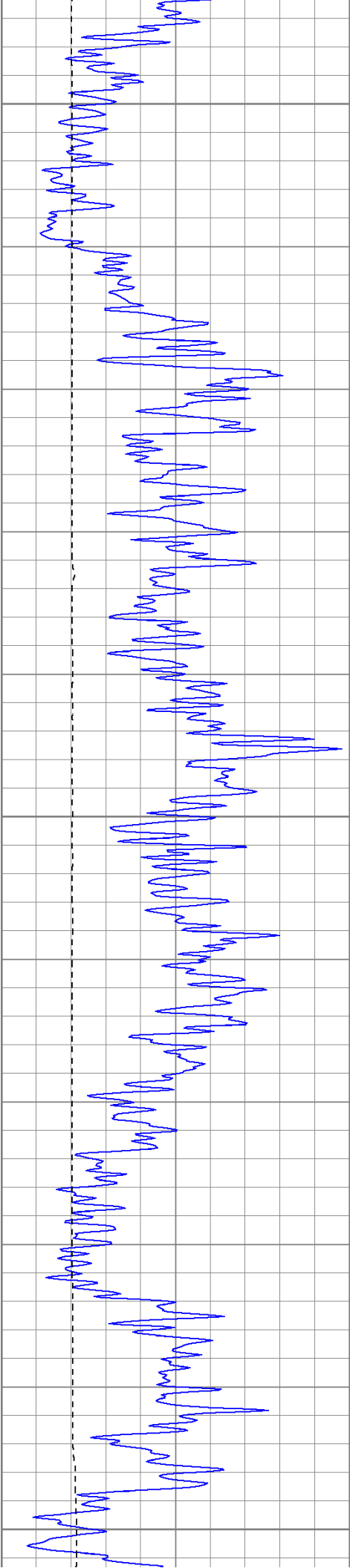




600

650

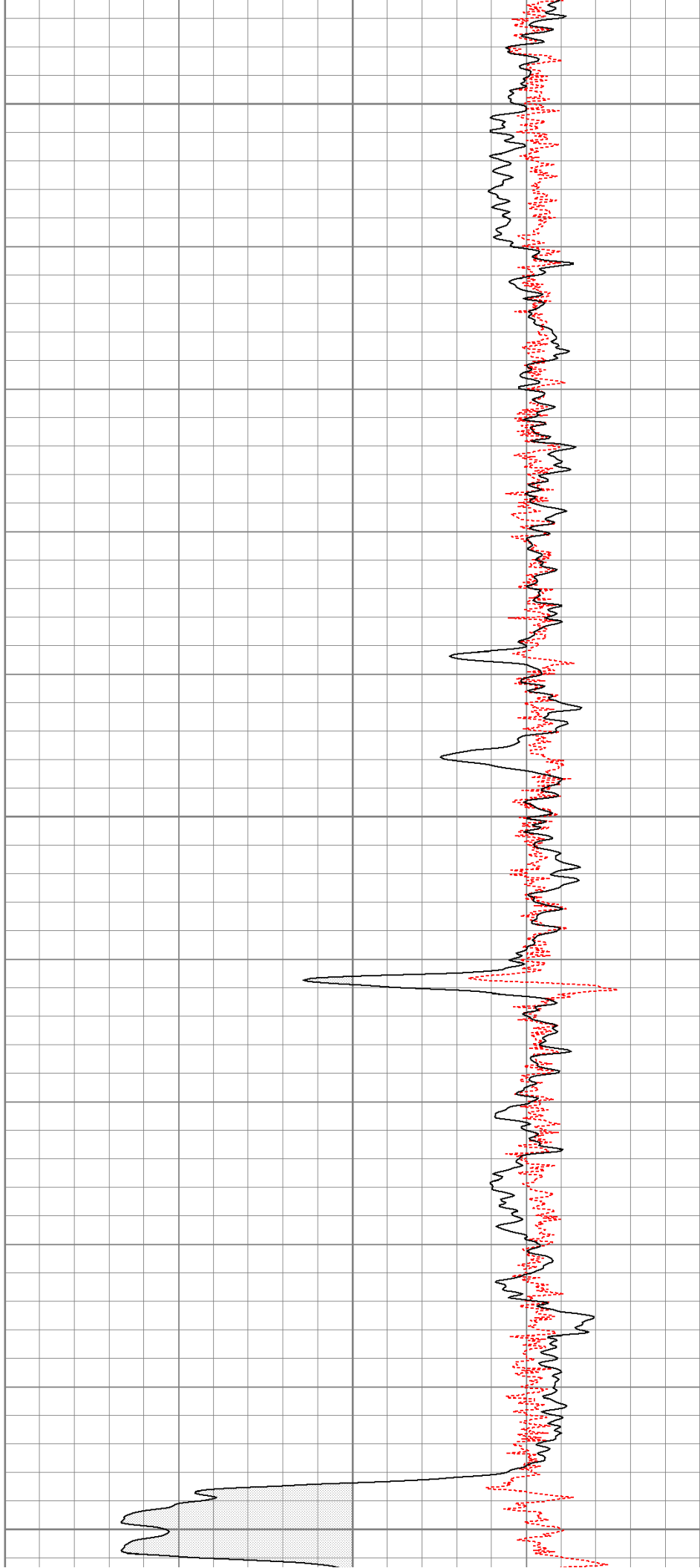


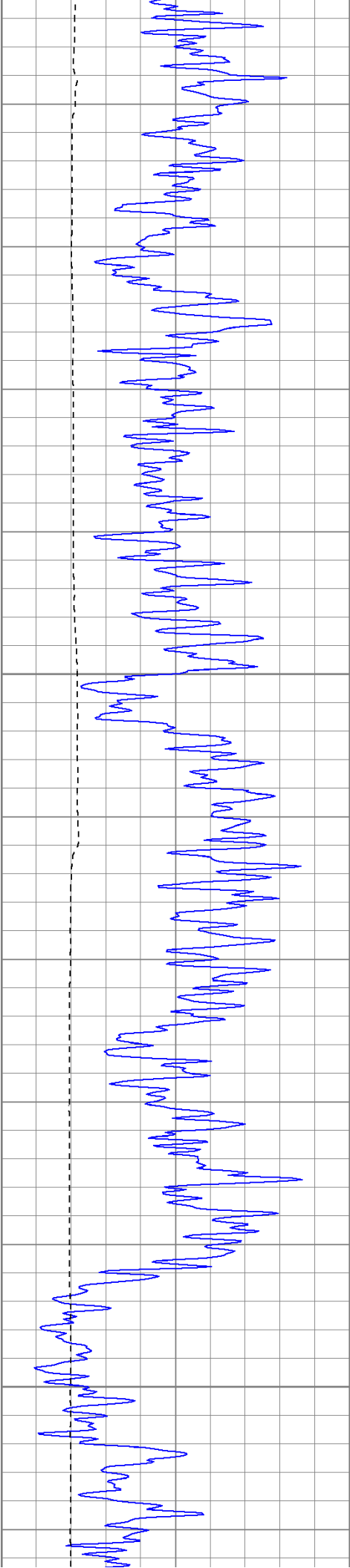


700

750

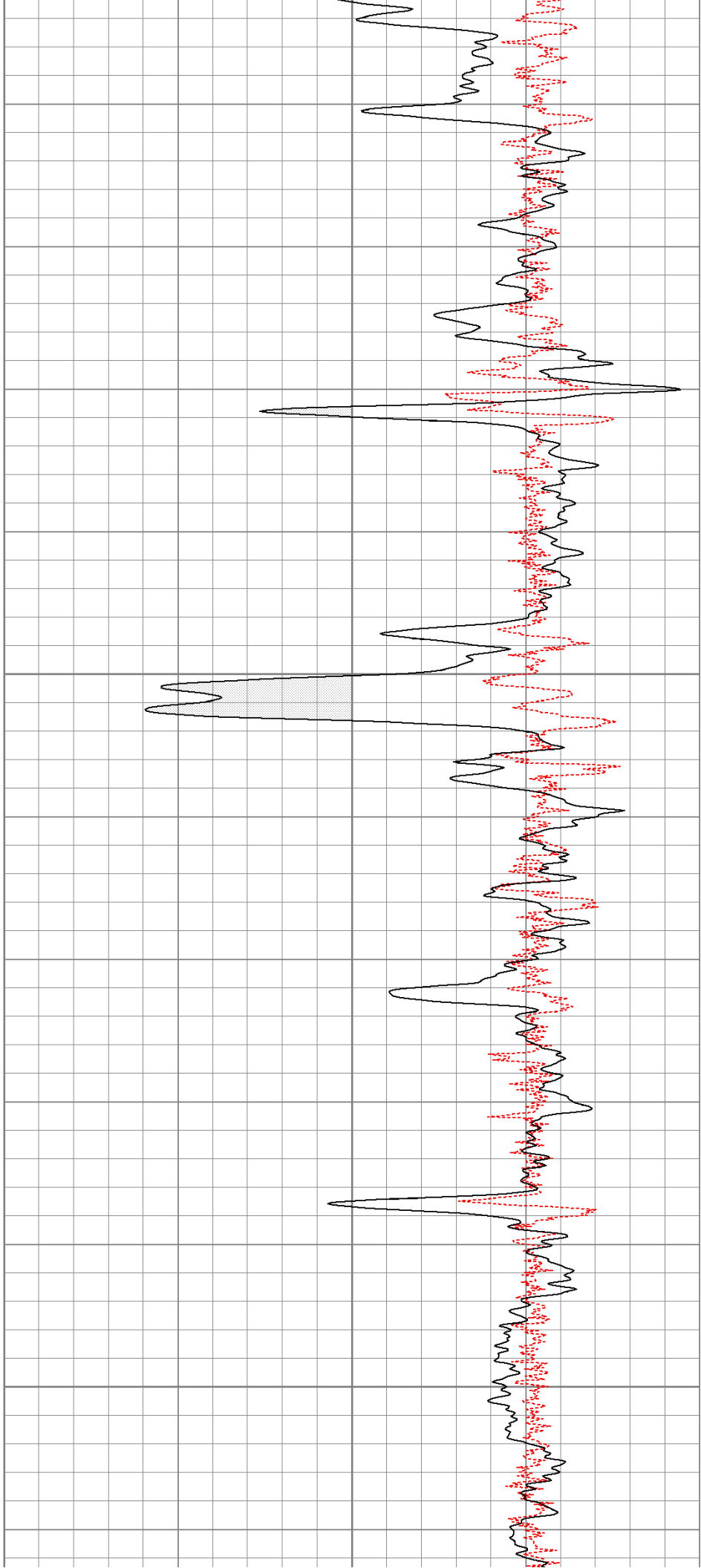
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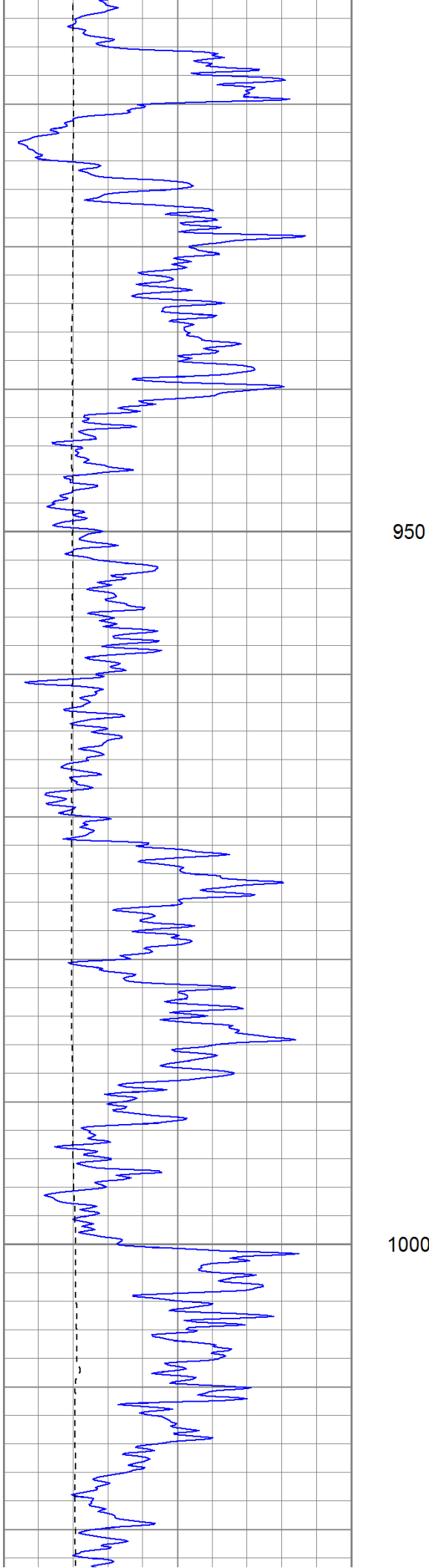
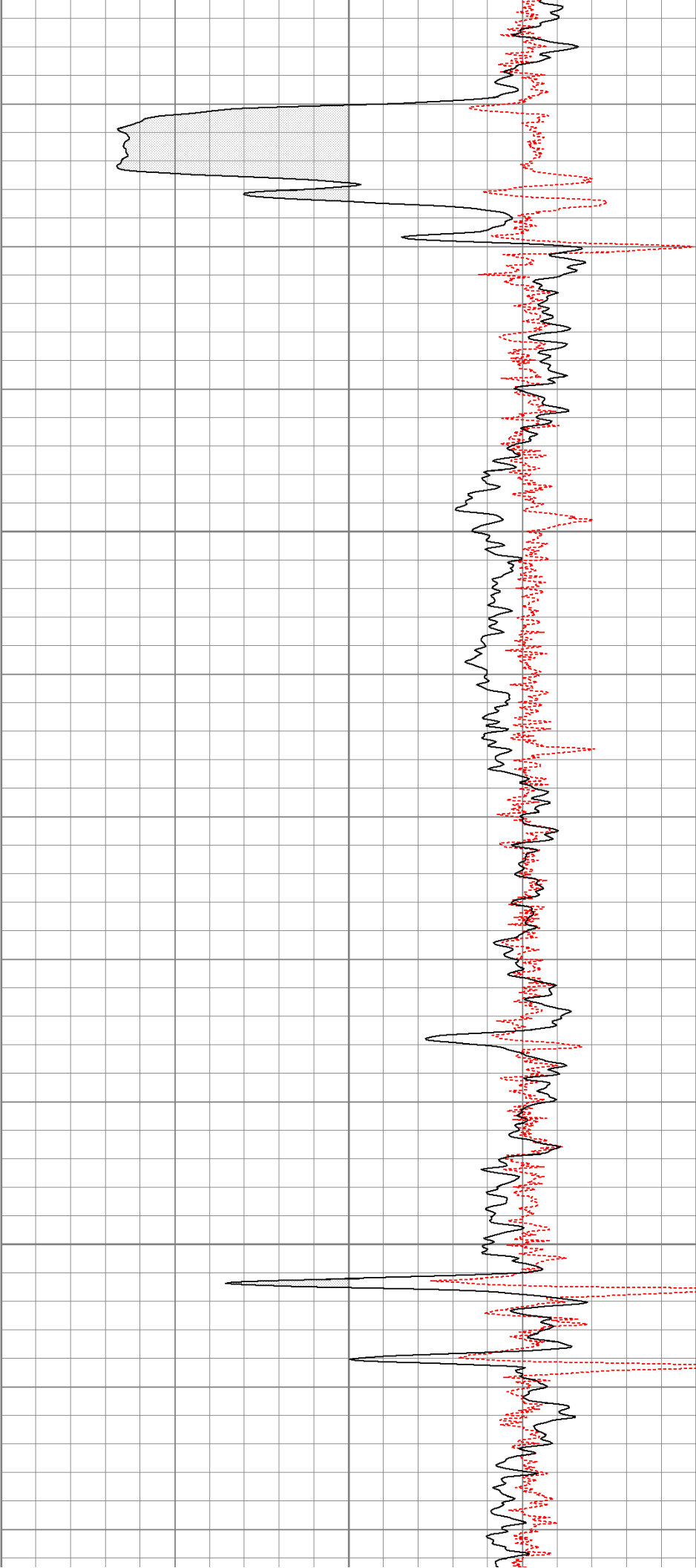


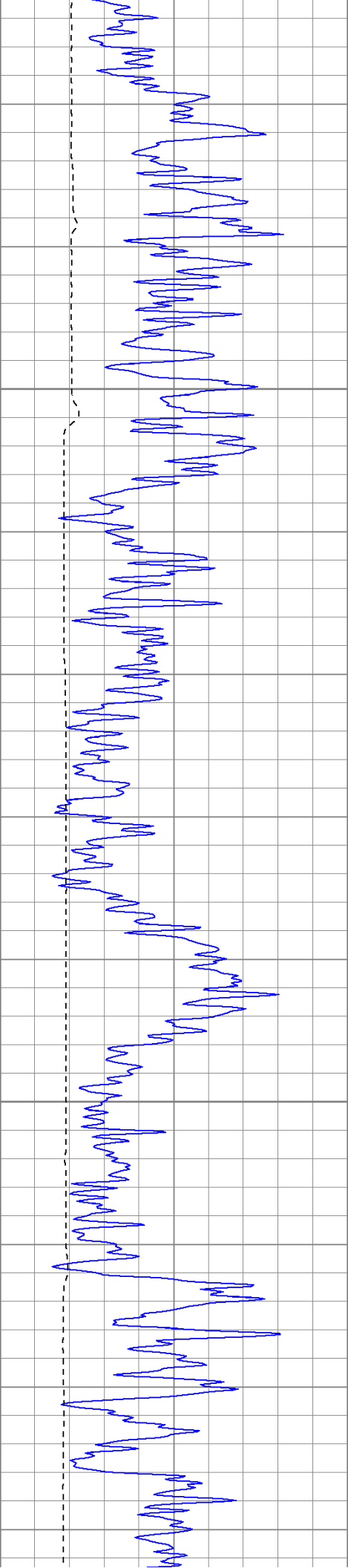


850

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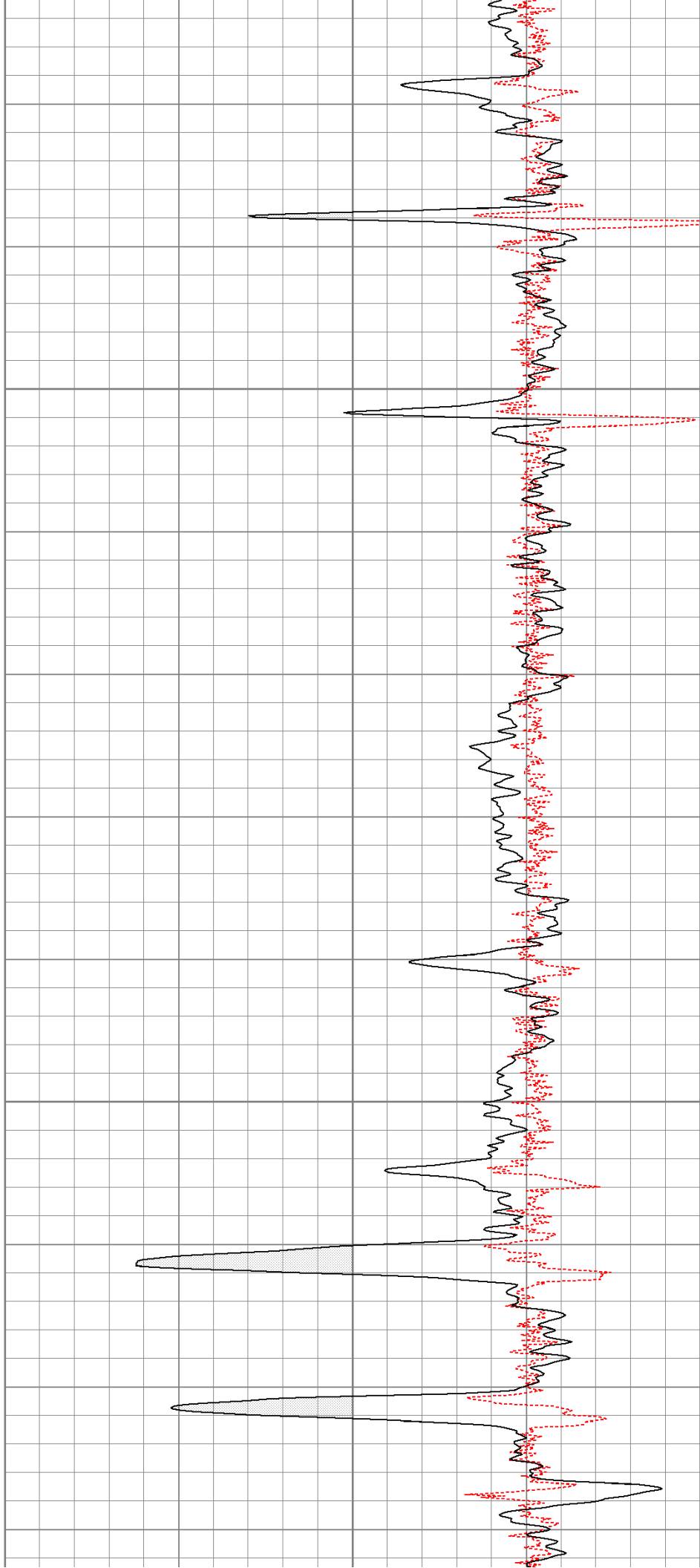


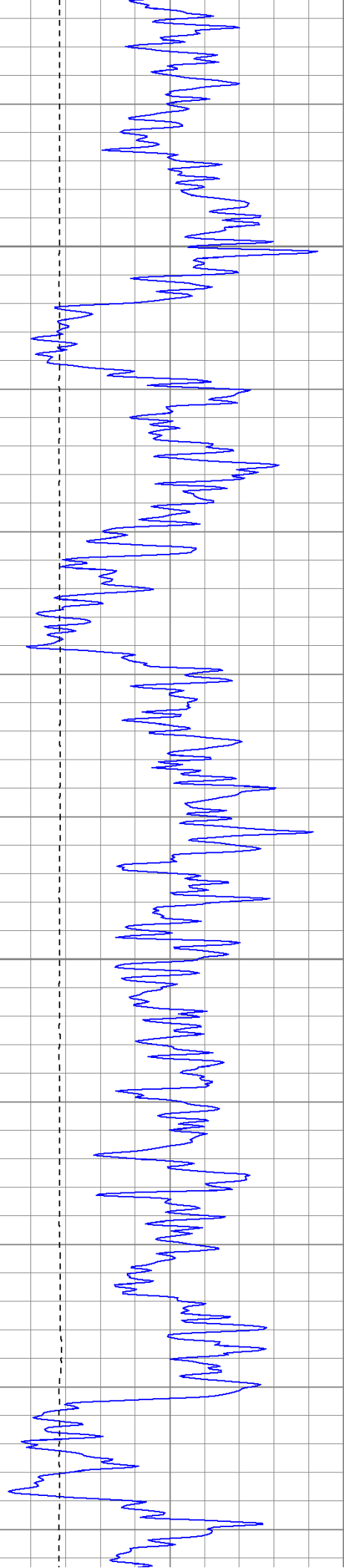




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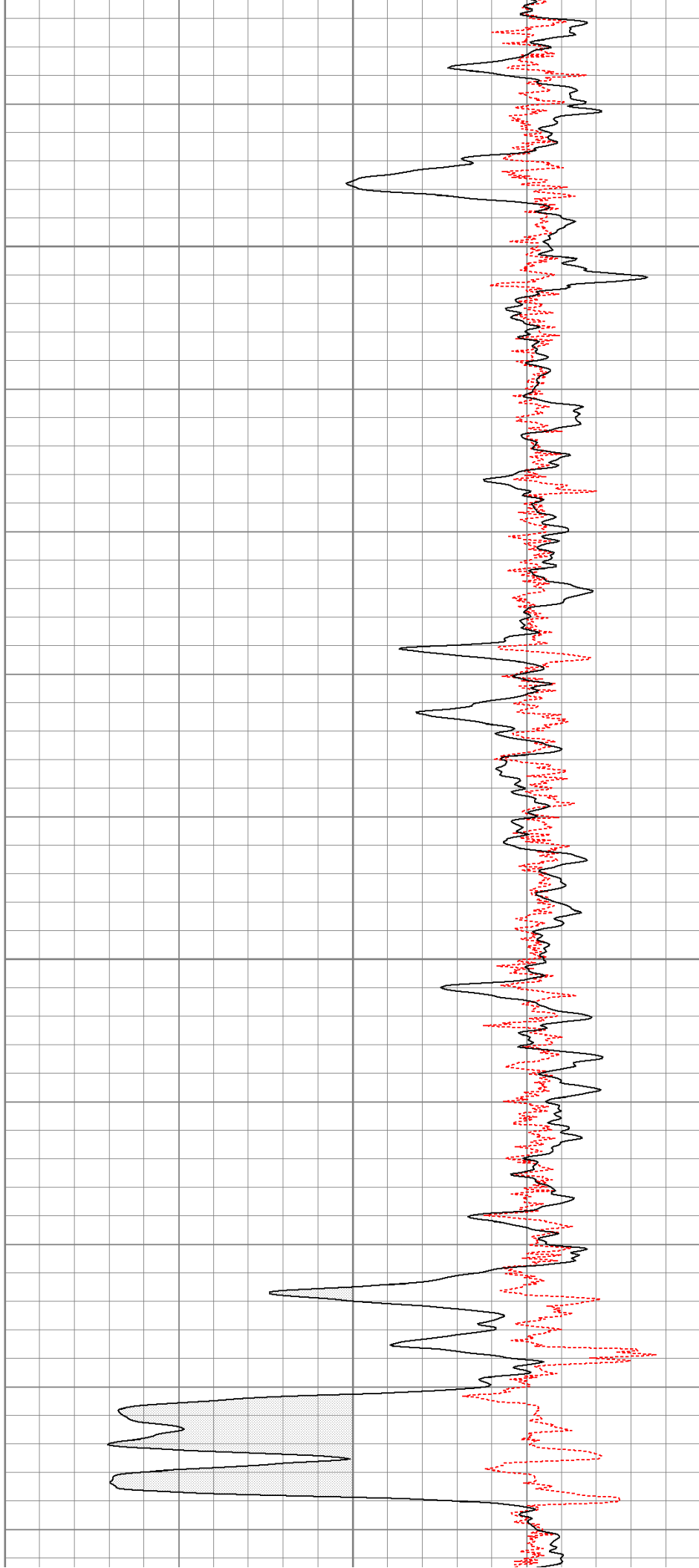
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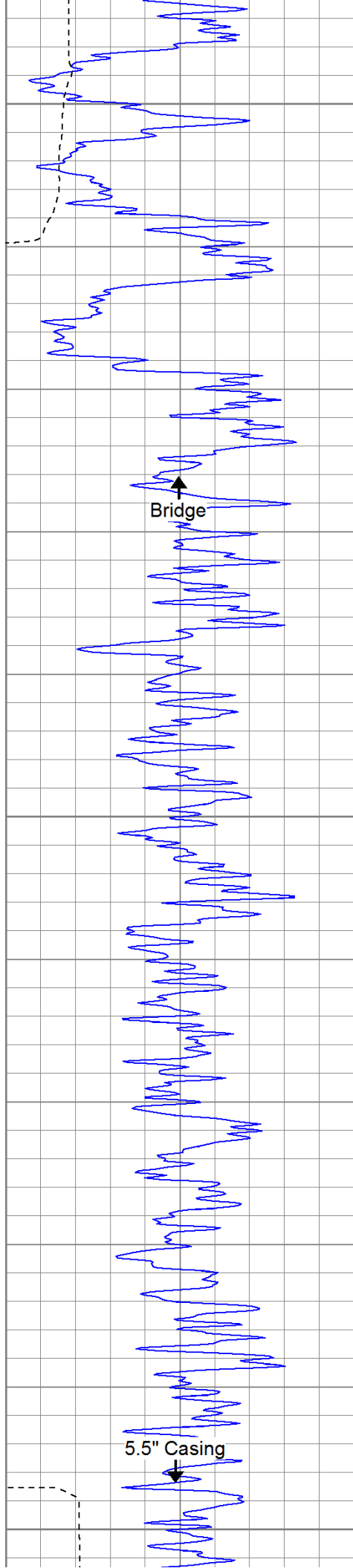




1150

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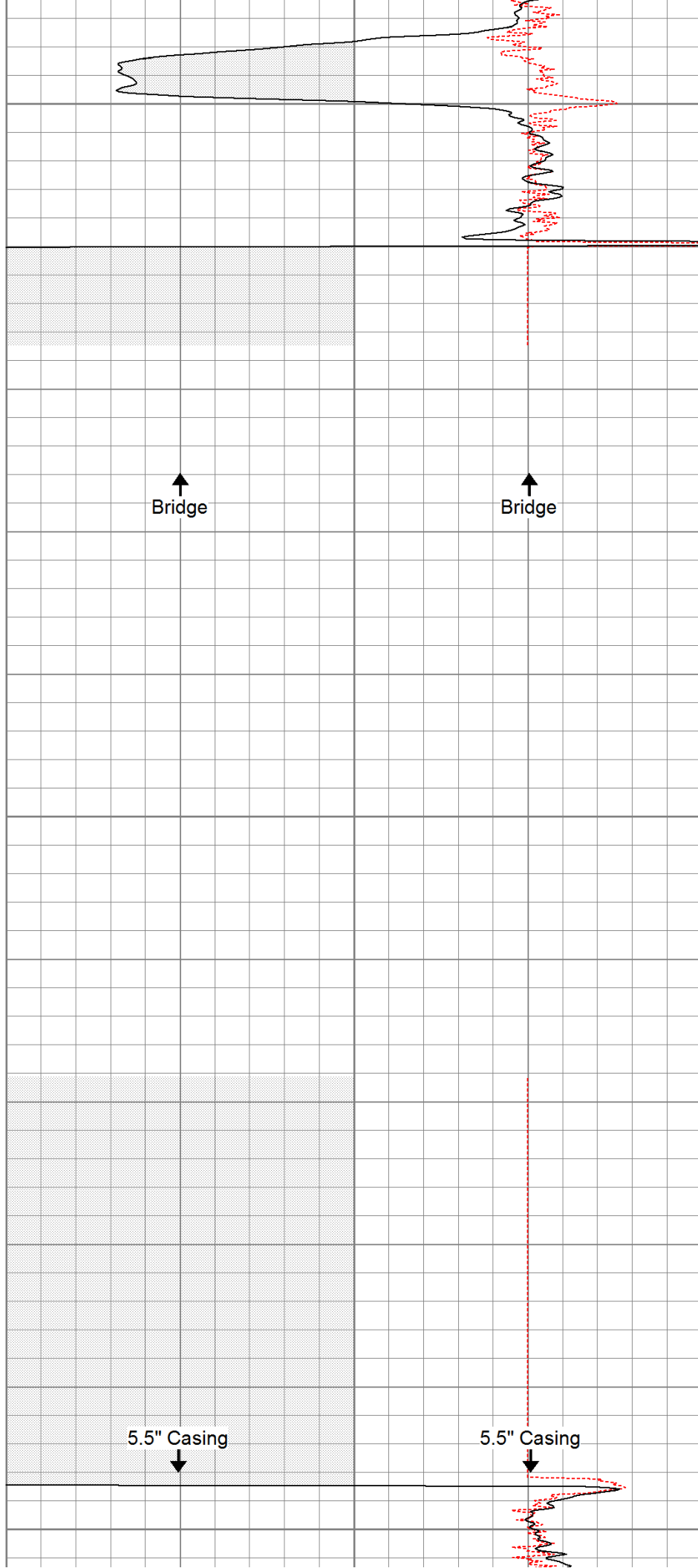


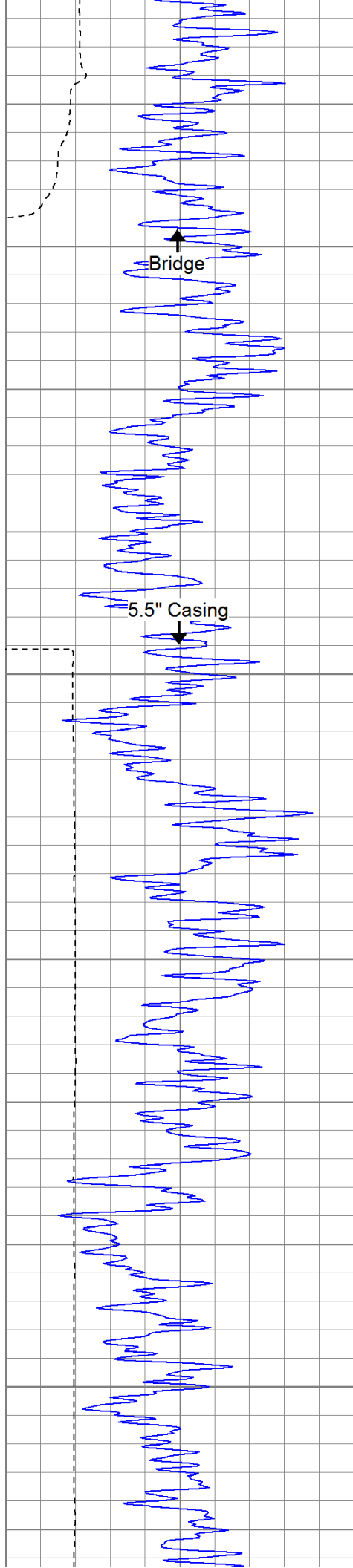


1250

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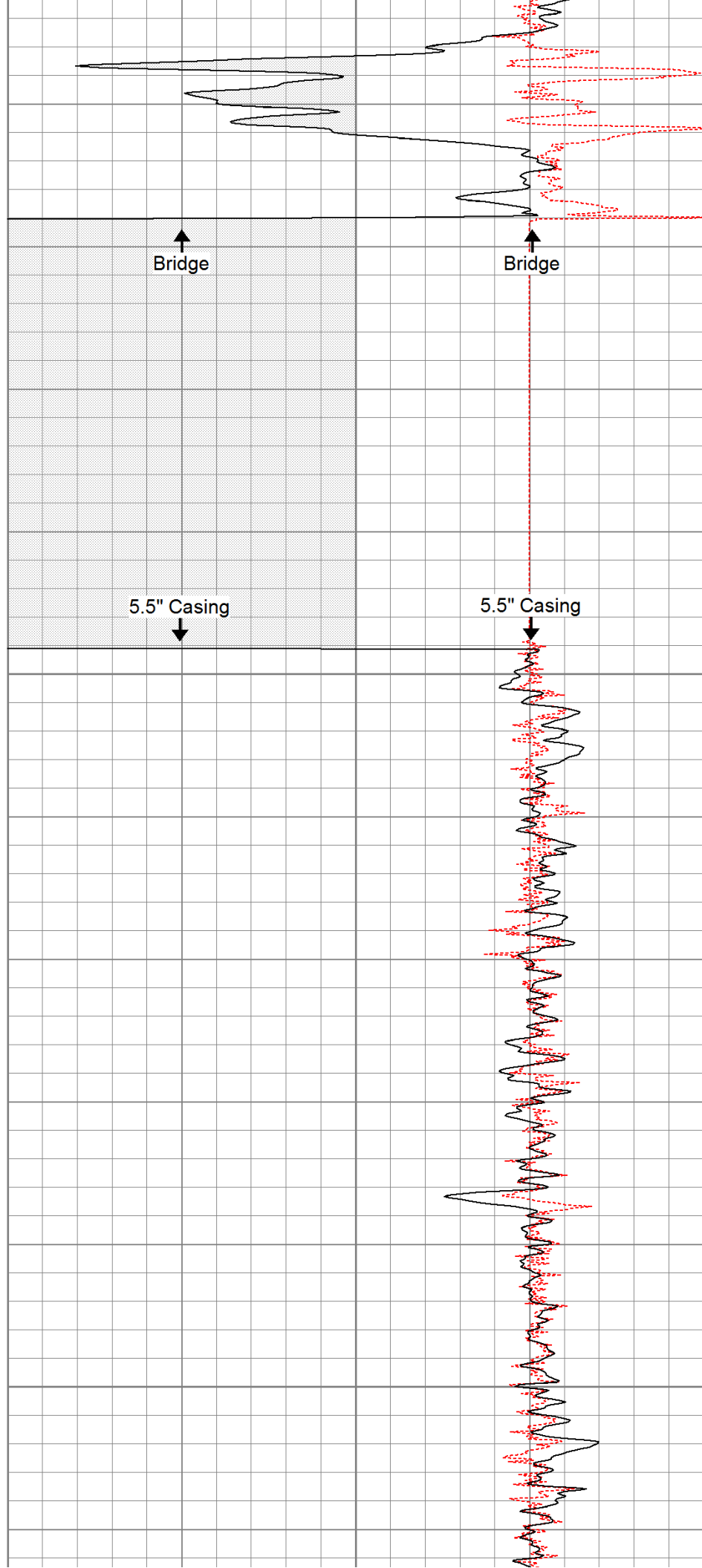
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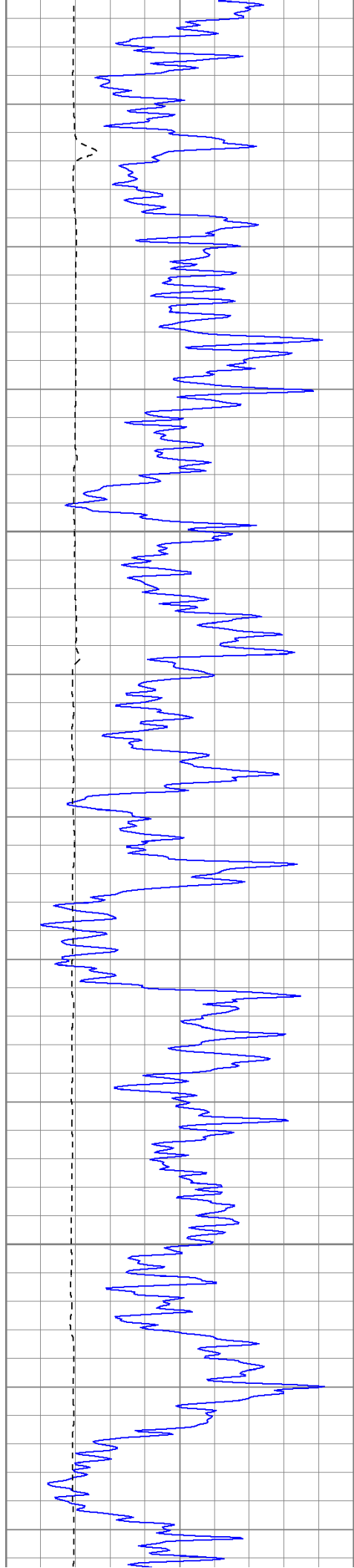




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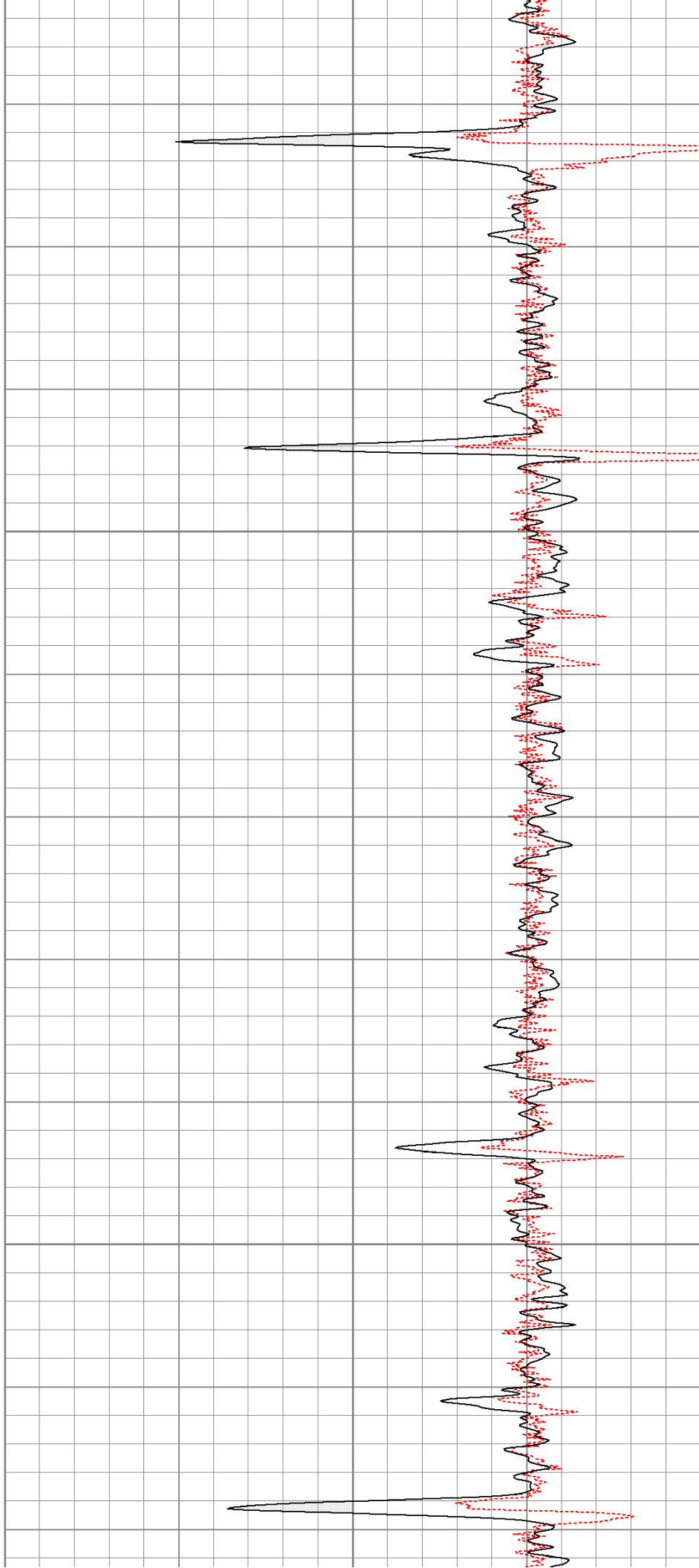
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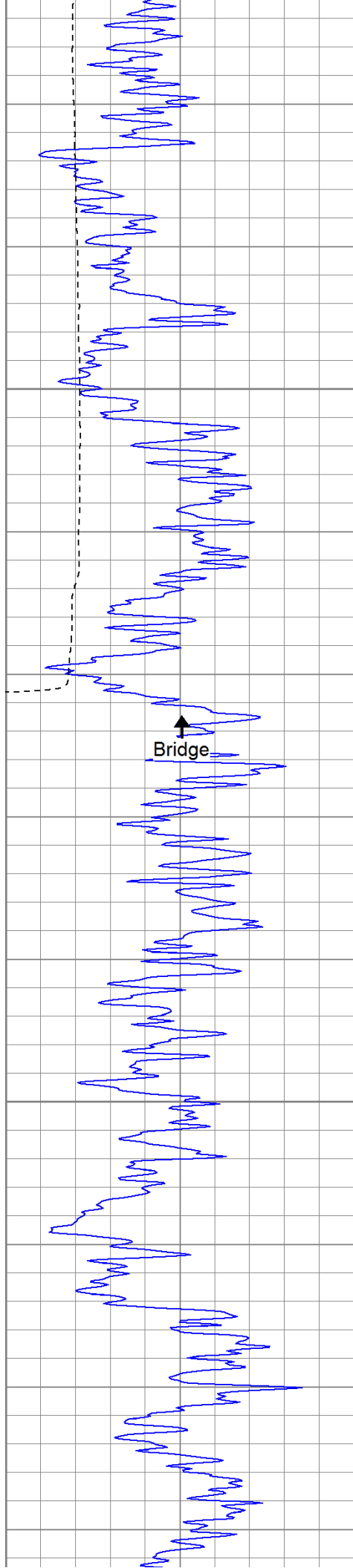




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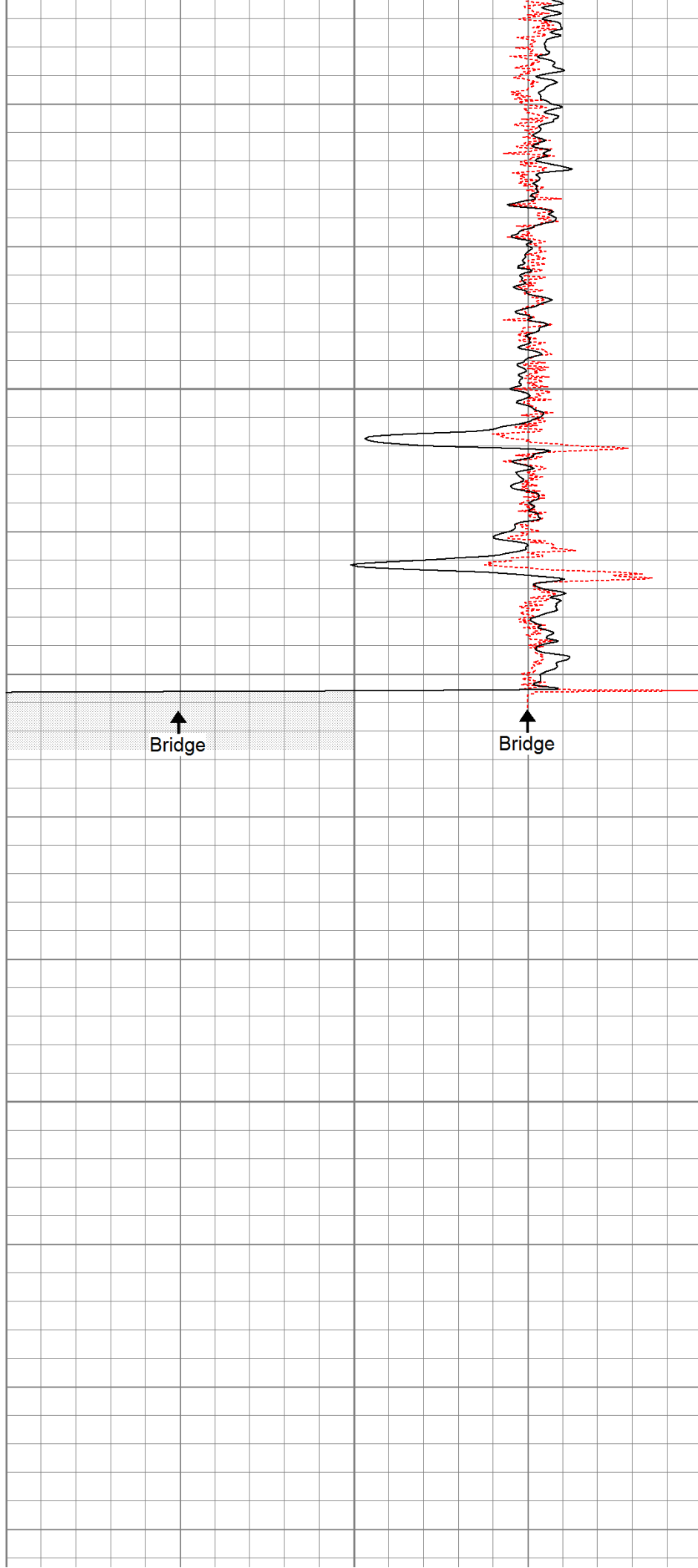




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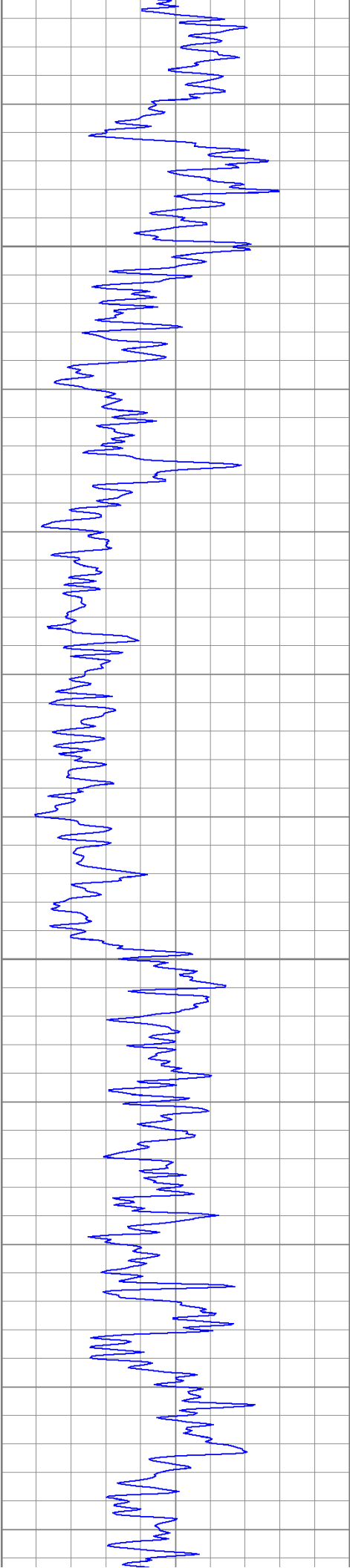
Bridge

1650



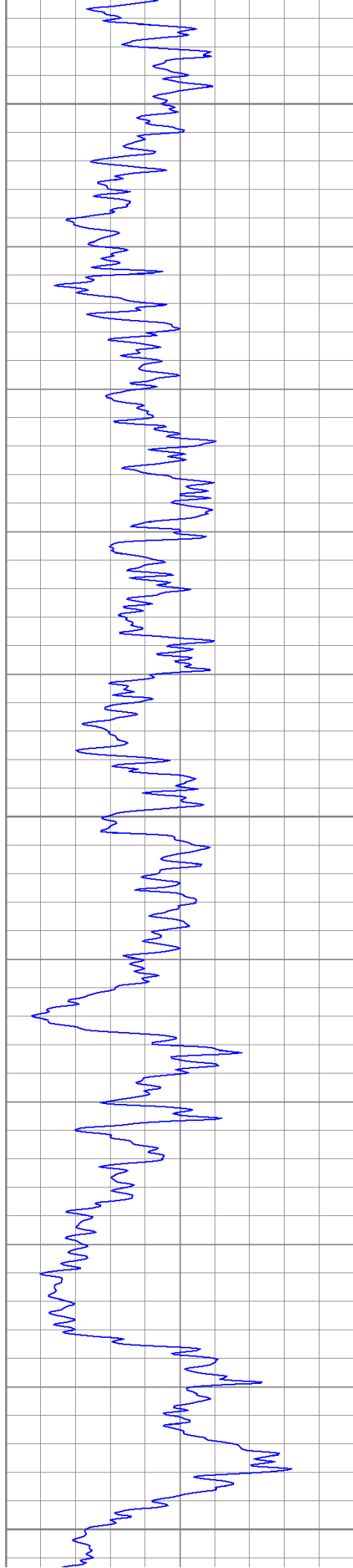
Bridge

Bridge



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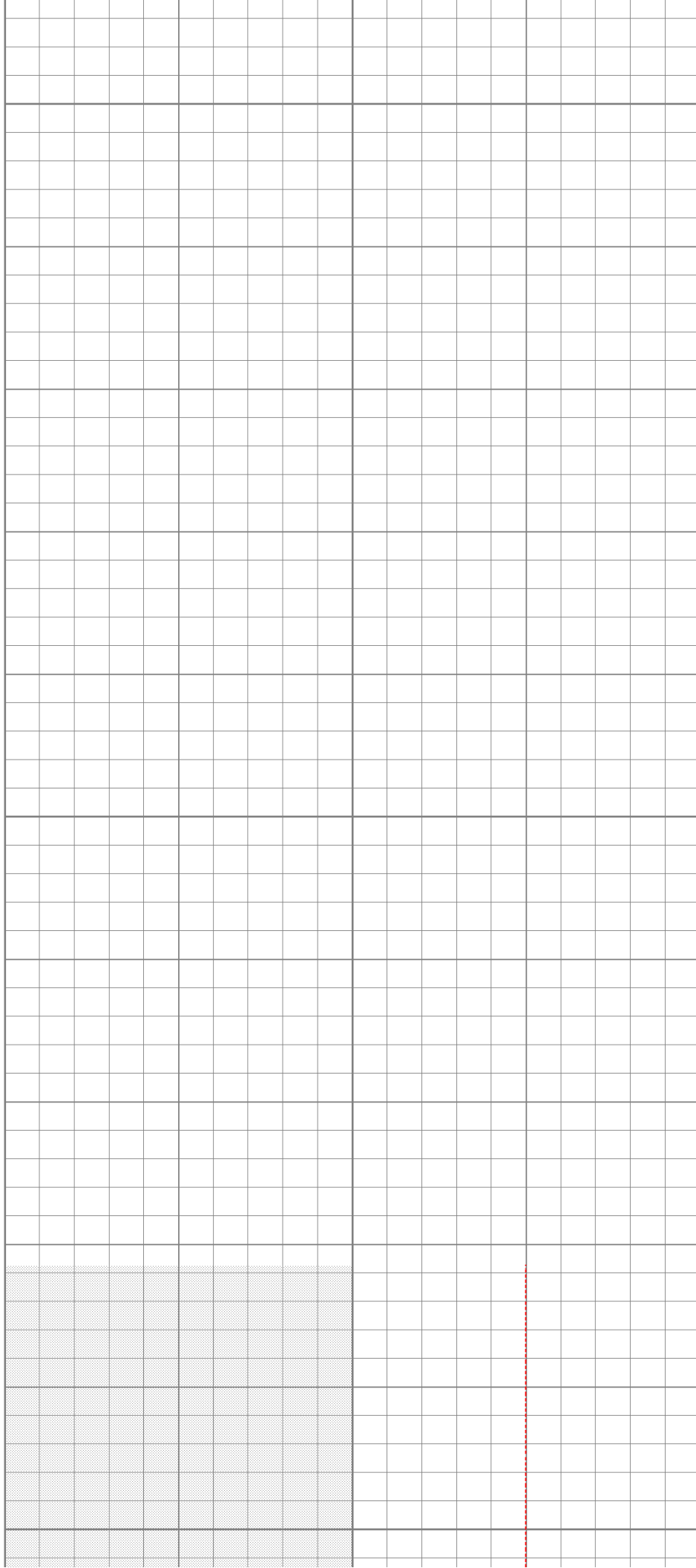
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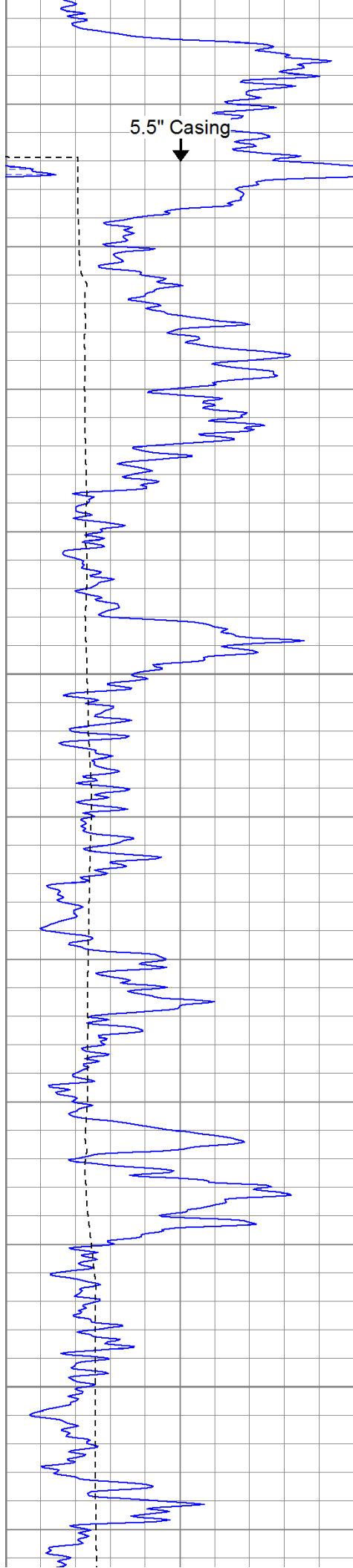


1800

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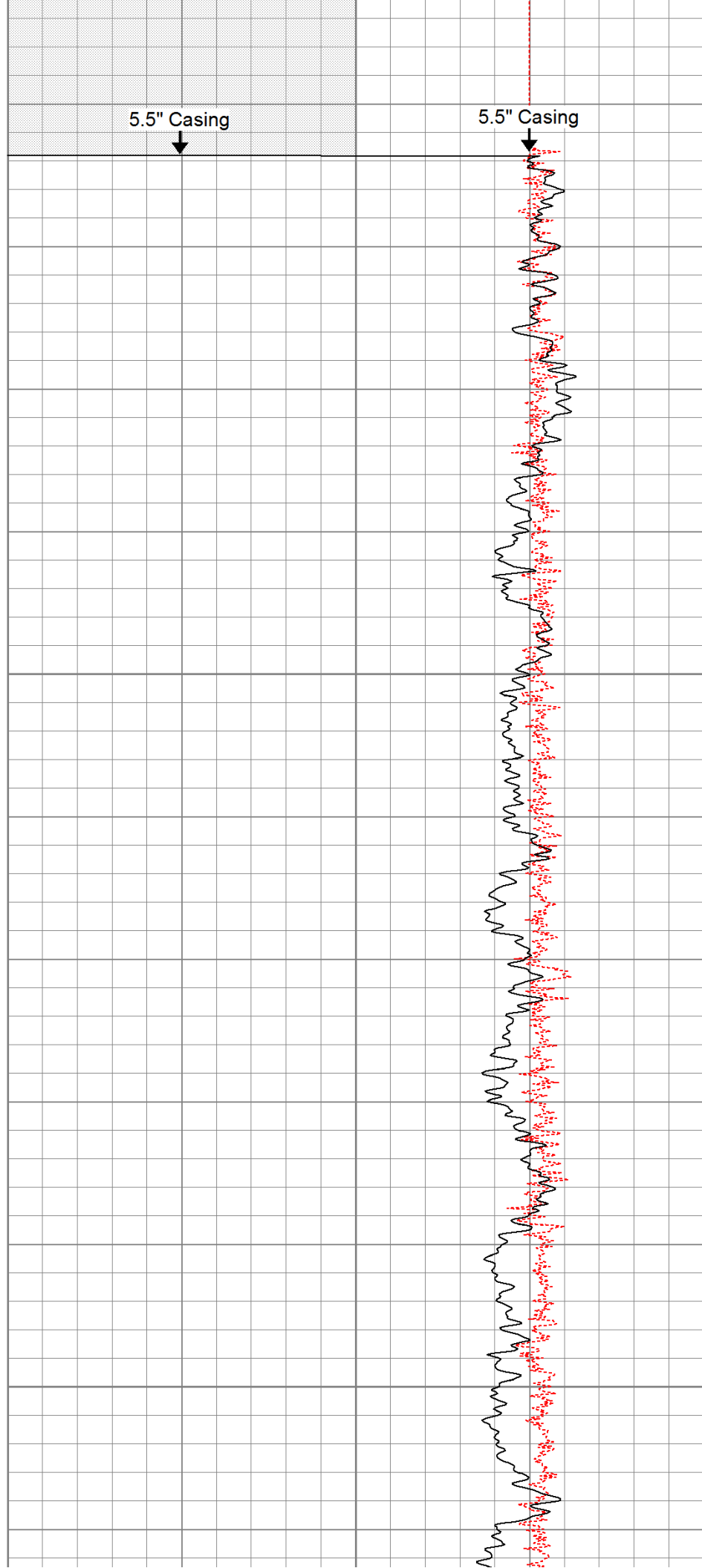
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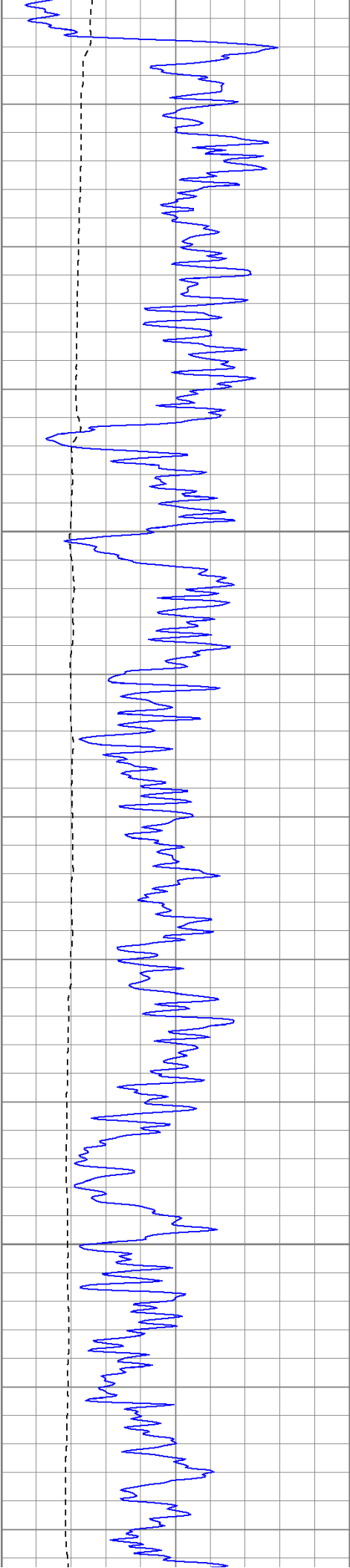




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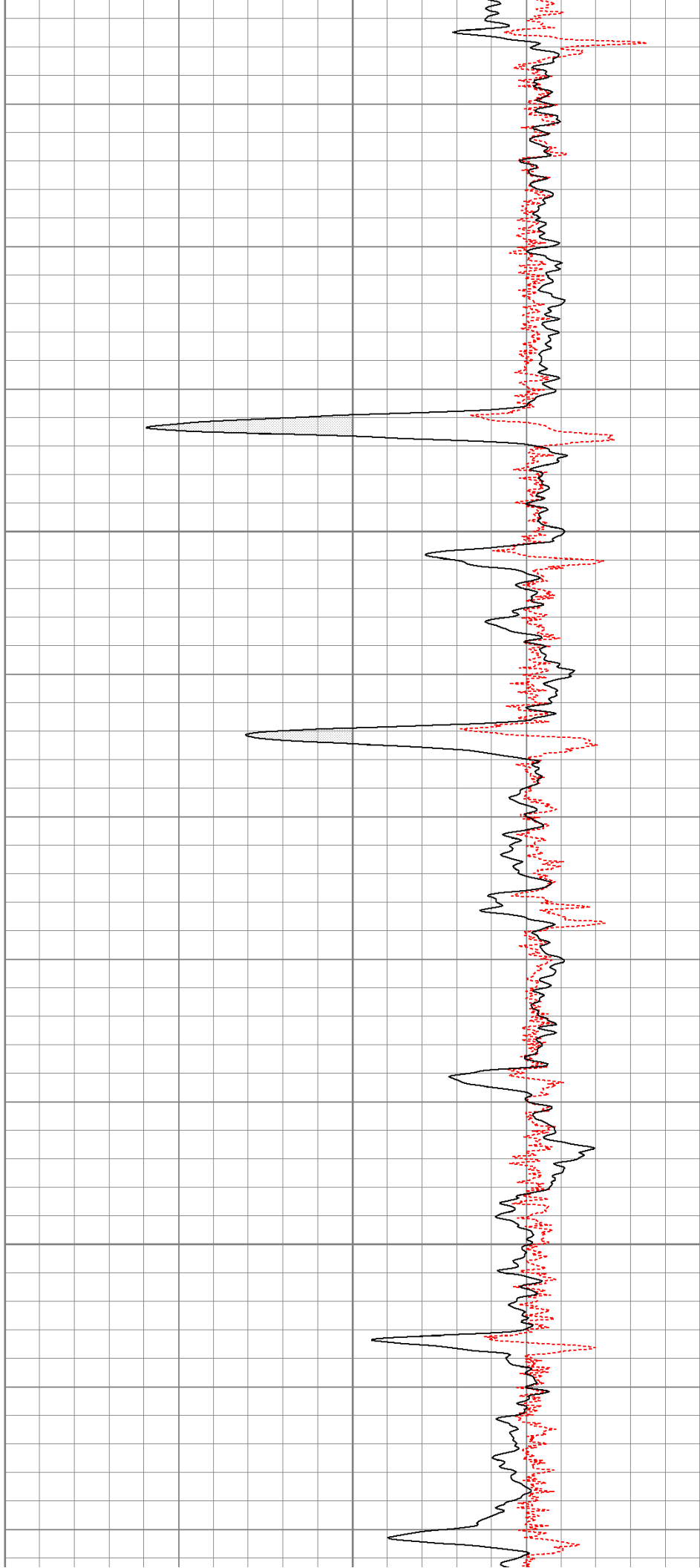
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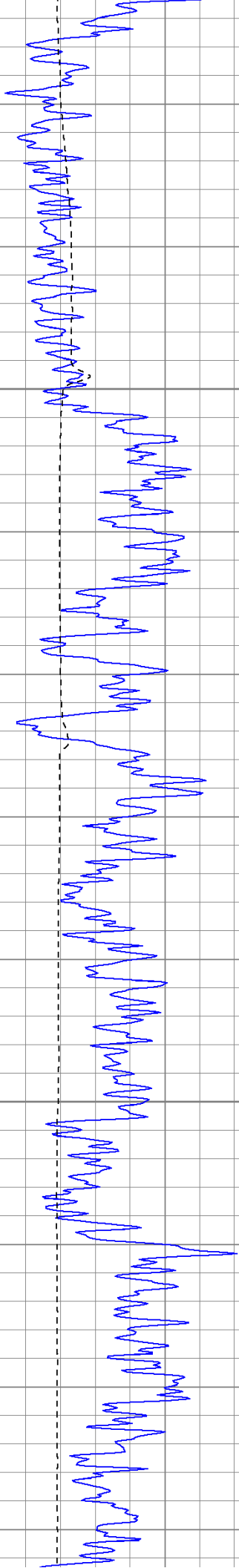
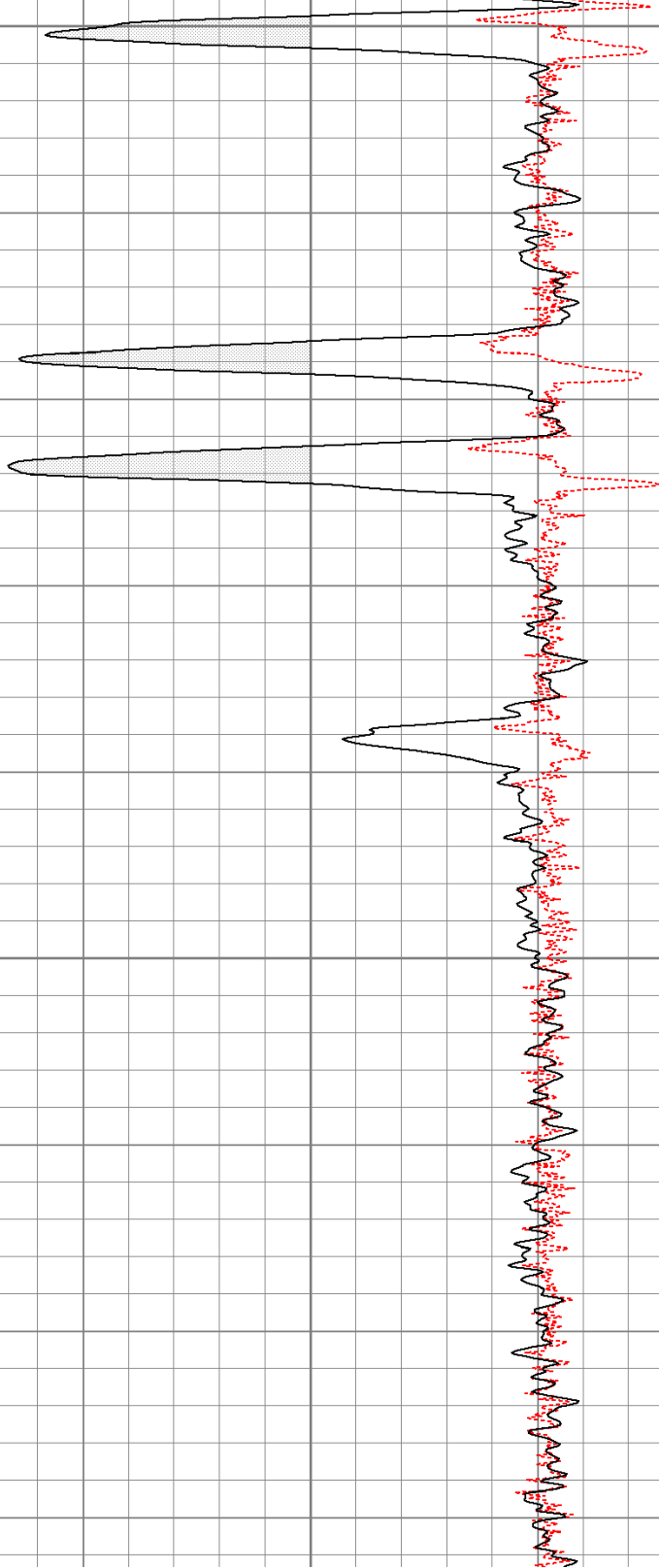
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2100



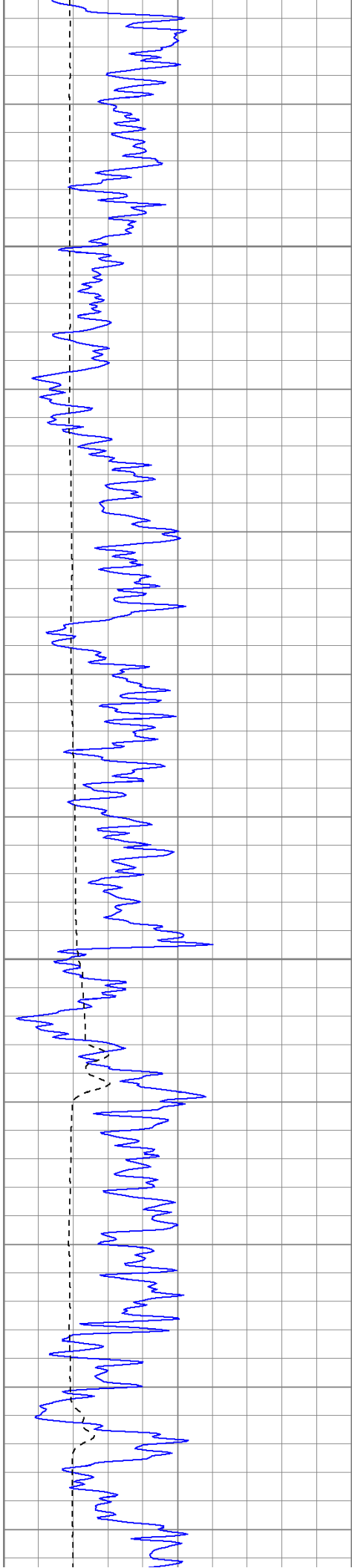
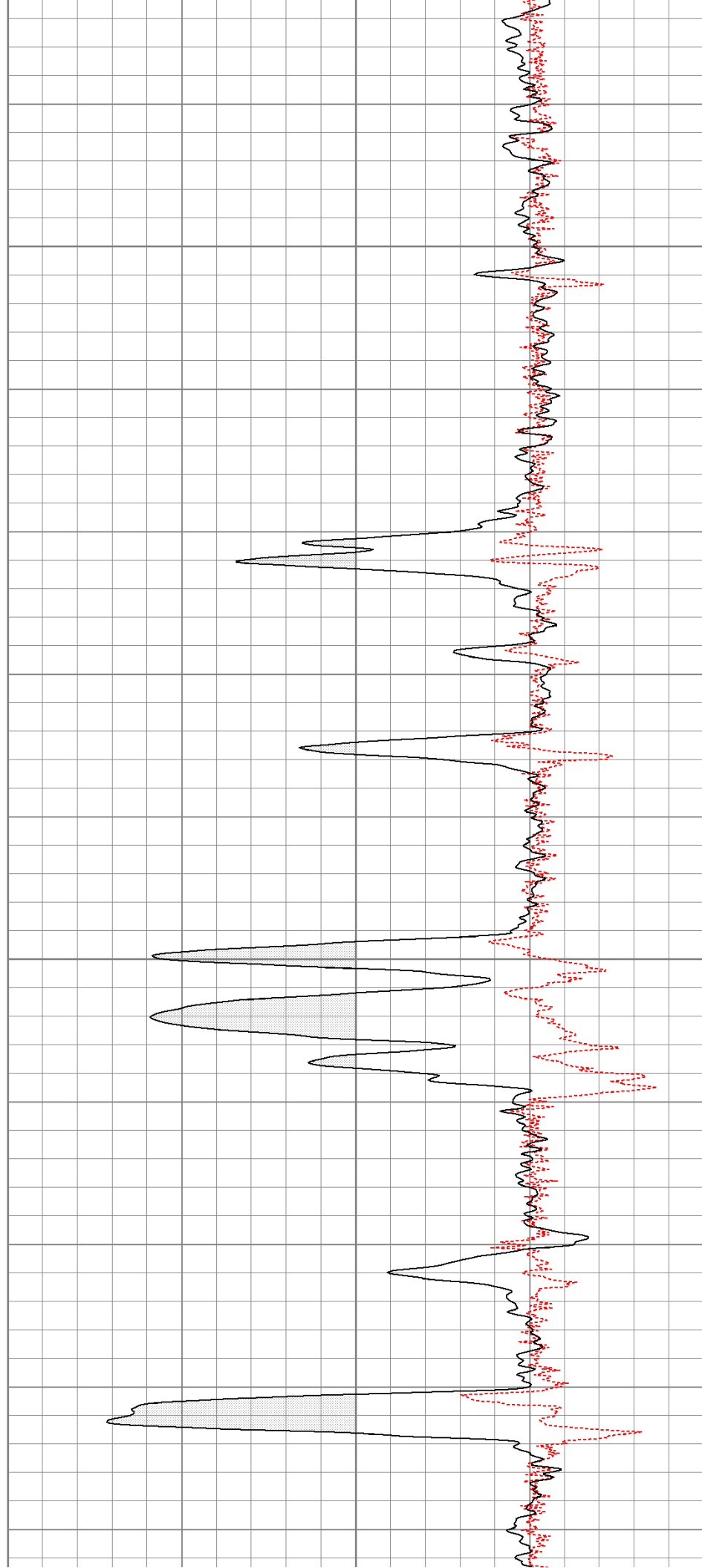
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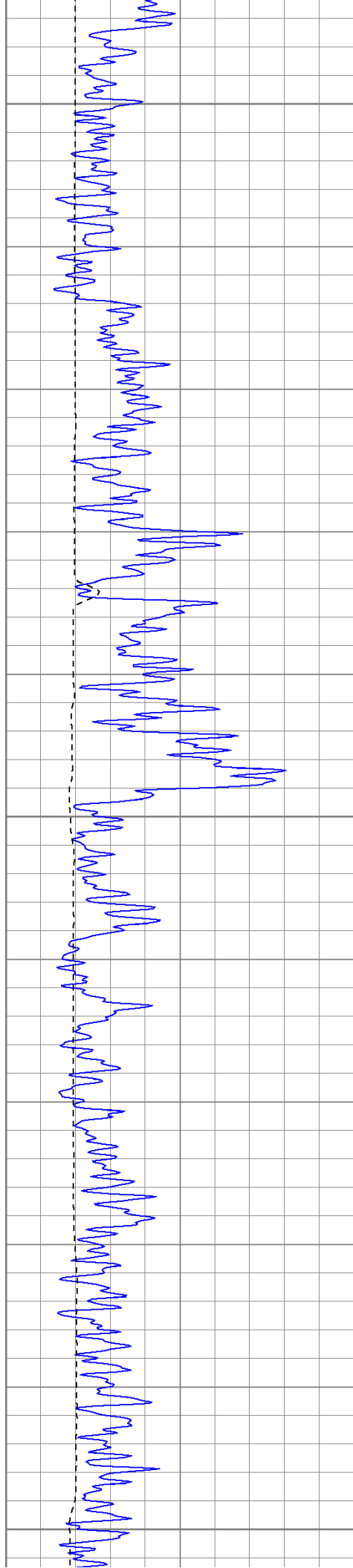
2200



2250

2300

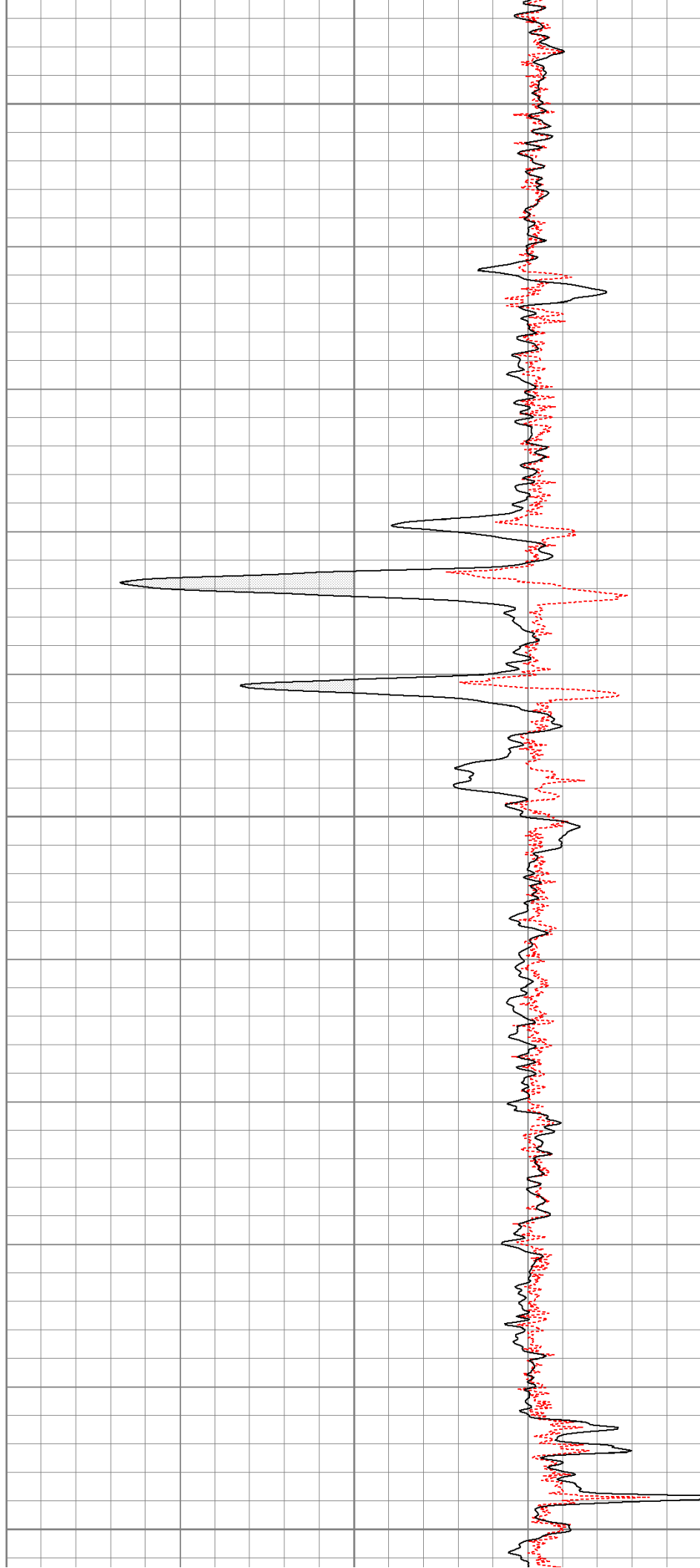


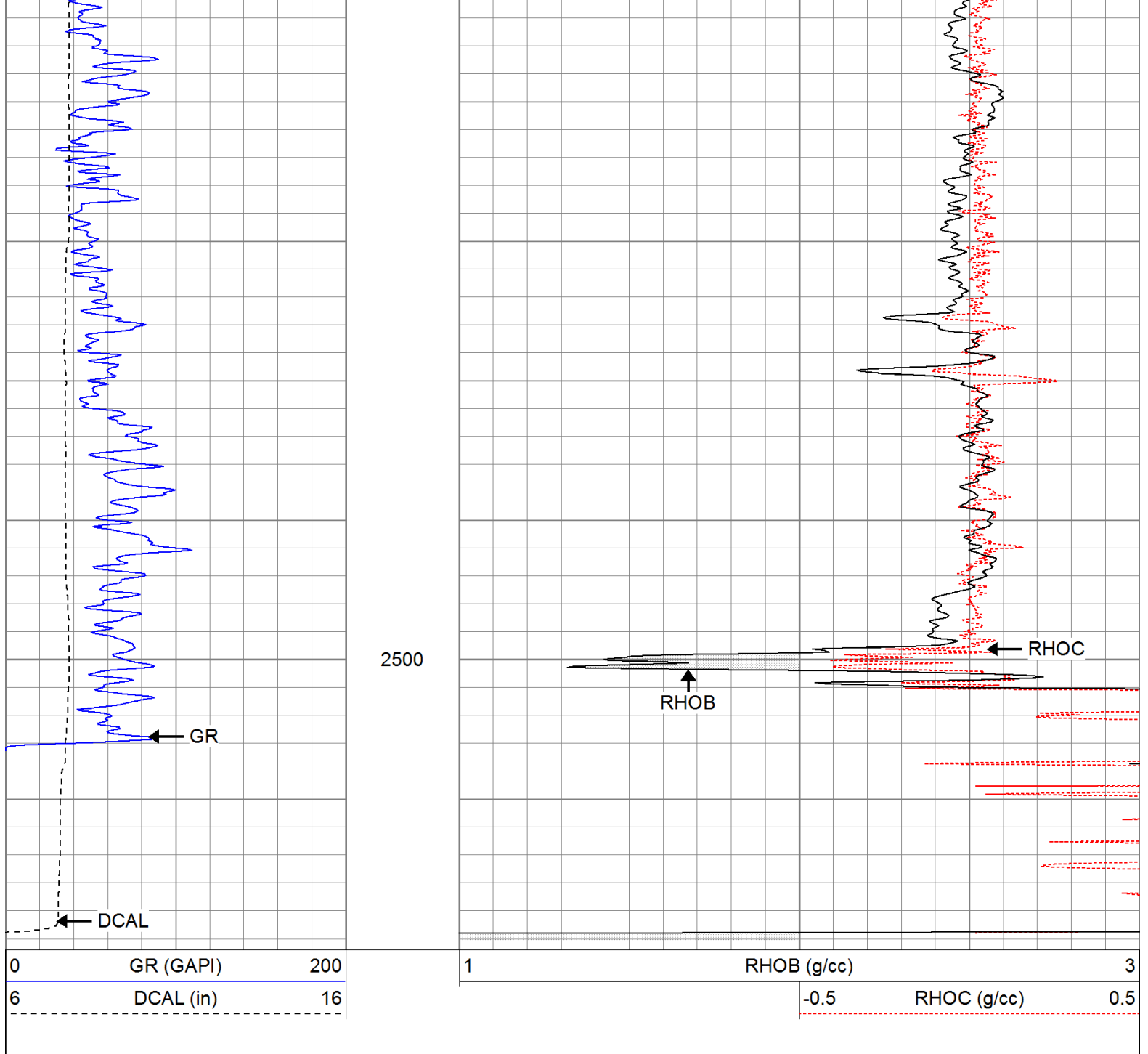


2350

2400

2450





Calibration Report

Database File: timbale.db
 Dataset Pathname: pass2
 Dataset Creation: Sat Jun 18 15:04:32 2011 by Log Open-Cased 110302

Induction Tool Calibration Report

Serial Number: 903
 Tool Model: Probe
 Downhole Cal Performed: Sat Jun 18 15:02:12 2011
 Surface Cal Performed: Sat Jun 18 10:01:28 2011
 After Survey Verification Performed:

Surface Calibration:	Air	Loop	
Conductivity Reference:	0.000	500.000	mmho
Conductivity Reading:	0.007	0.642	V
Internal Reference:	Zero	Cal	
Conductivity Reference:	0.000	500.000	mmho
Conductivity Reading:	0.006	0.641	V






Downhole Calibration:		Internal Zero	Internal Cal	
Conductivity Reference:		-0.702	499.904	mmho
Conductivity Reading:		-0.082	503.319	V
Short Normal Reference:		0.000	20.000	Ohm-m
Short Normal Reading:		0.006	0.233	V
Results:	Loop Conductivity:	Gain 788.230	Offset -5.739	
	Downhole Correction:	0.994	-0.621	
	Short Normal Resistivity:	88.245	-3.000	
After Survey Verification	Conductivity Reading:	Internal Zero 0.000	Internal Cal 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:		Wed Jun 08 09:11:26 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:		803		
Tool Model:		2.75POH		
Performed:		Wed Jun 08 13:12:55 2011		
Calibrator Value:	1	NAPI		
Calibrator Reading:	1	cps		
Sensitivity:	1	NAPI/cps		

Serial Number: 804
Tool Model: 2.75POH
Performed: Tue Jun 14 18:09:29 2011

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 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 (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 DCAL SSD	16.21		CDL-2.75POH (901) Probe	8.43	2.75	106.00
	15.94					
	15.69					
DIC	6.24					
			IEL-Probe (903)	13.46	2.75	93.00
SP SN	2.25					
	1.71					

Dataset: timbale.db: field/well/run1/pass2
Total Length: 31.11 ft
Total Weight: 305.00 lb
O.D. 2.75 in