



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

COMPENSATED DENSITY NEUTRON LOG

Company	Pioneer Natural Resources	Company	Pioneer Natural Resources
Well	E Budd 24-33	Well	E Budd 24-33
Field	Purgatoire River	Field	Purgatoire River
County	Las Animas	County	Las Animas
State	Colorado	State	Colorado
Location:	API # : 05 071 09628 00 597' FSL & 1368' FWL	Other Services	SIL
Permanent Datum	SEC 33 TWP 31S RGE 65W	Elevation	
Log Measured From	Ground Level	K.B. 7276'	
Drilling Measured From	Kelly Bushing 9' Above G.L.	D.F. -----	
	Kelly Bushing	G.L. 7267'	
Date	8-9-08		
Run Number	One		
Depth Driller	1760'		
Depth Logger	1758'		
Bottom Logged Interval	1756'		
Top Log Interval	Surface Casing		
Casing Driller	8 5/8" @ 357'		
Casing Logger	358'		
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	6:00 P.M.		
Time Logger on Bottom	10:15 P.M.		
Maximum Recorded Temperature	103 DEG F		
Equipment Number	7700		
Location	Trinidad		
Recorded By	K. Lucero		
Witnessed By	Mr. Mike Polley		

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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 Nuetron Porosity Presented On Sandstone Matrix.
ABHV Calculated For 5 1/2" Casing.

Neutron Porosity Invalid From 798' to 830' Due to Foam.

Well Directions:

Riley Canyon 2nd right after Zellie's Ranch, 1st right left at Y to location

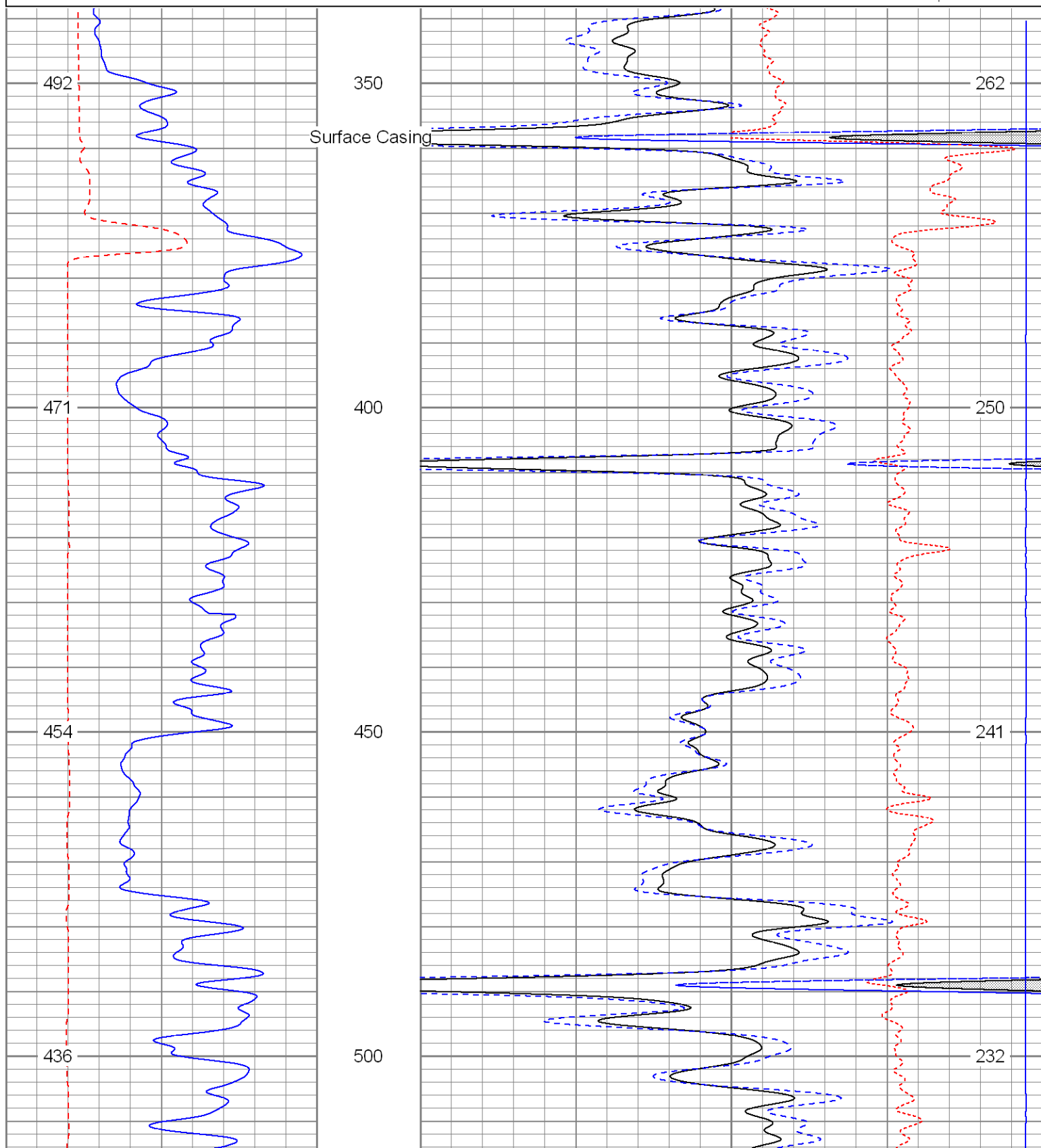


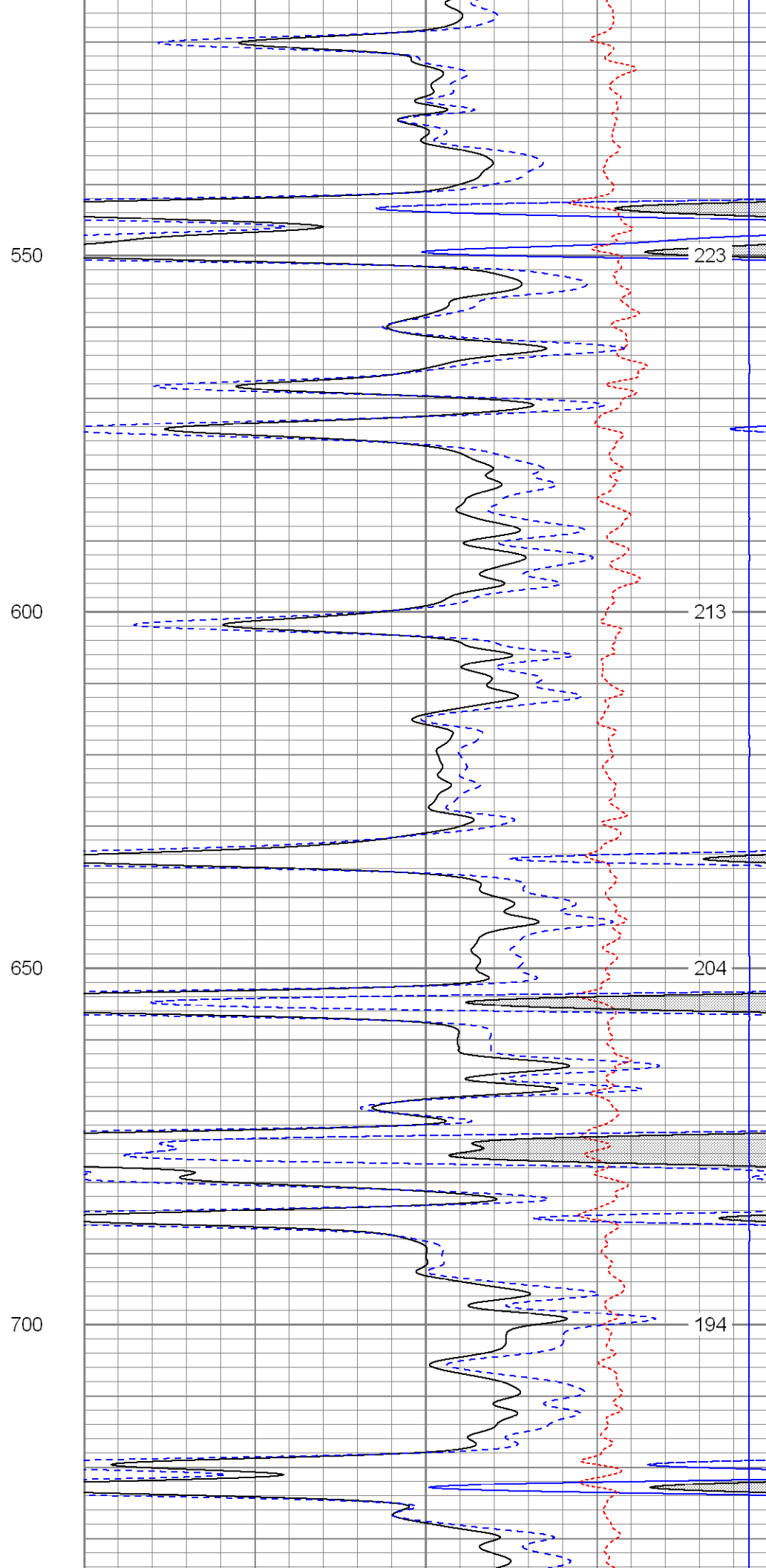
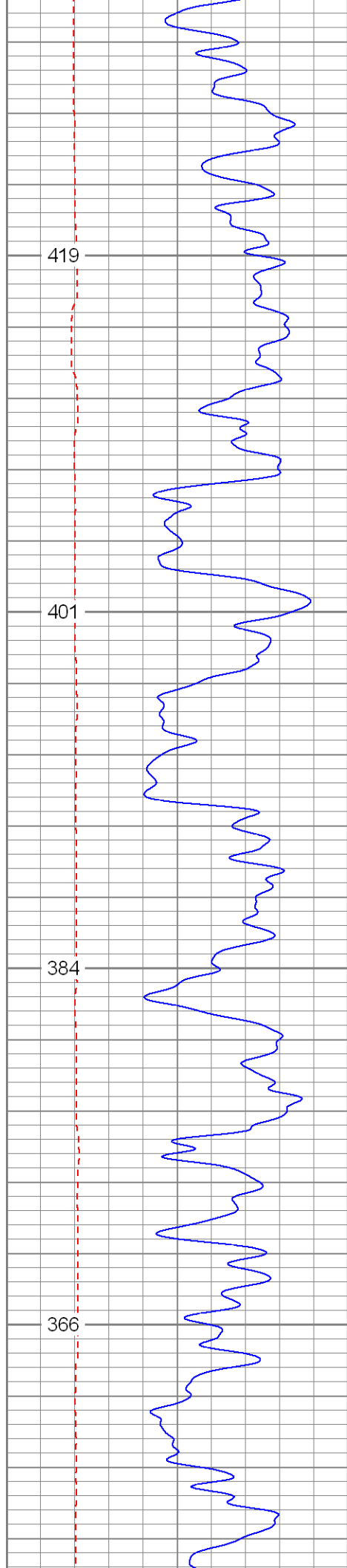
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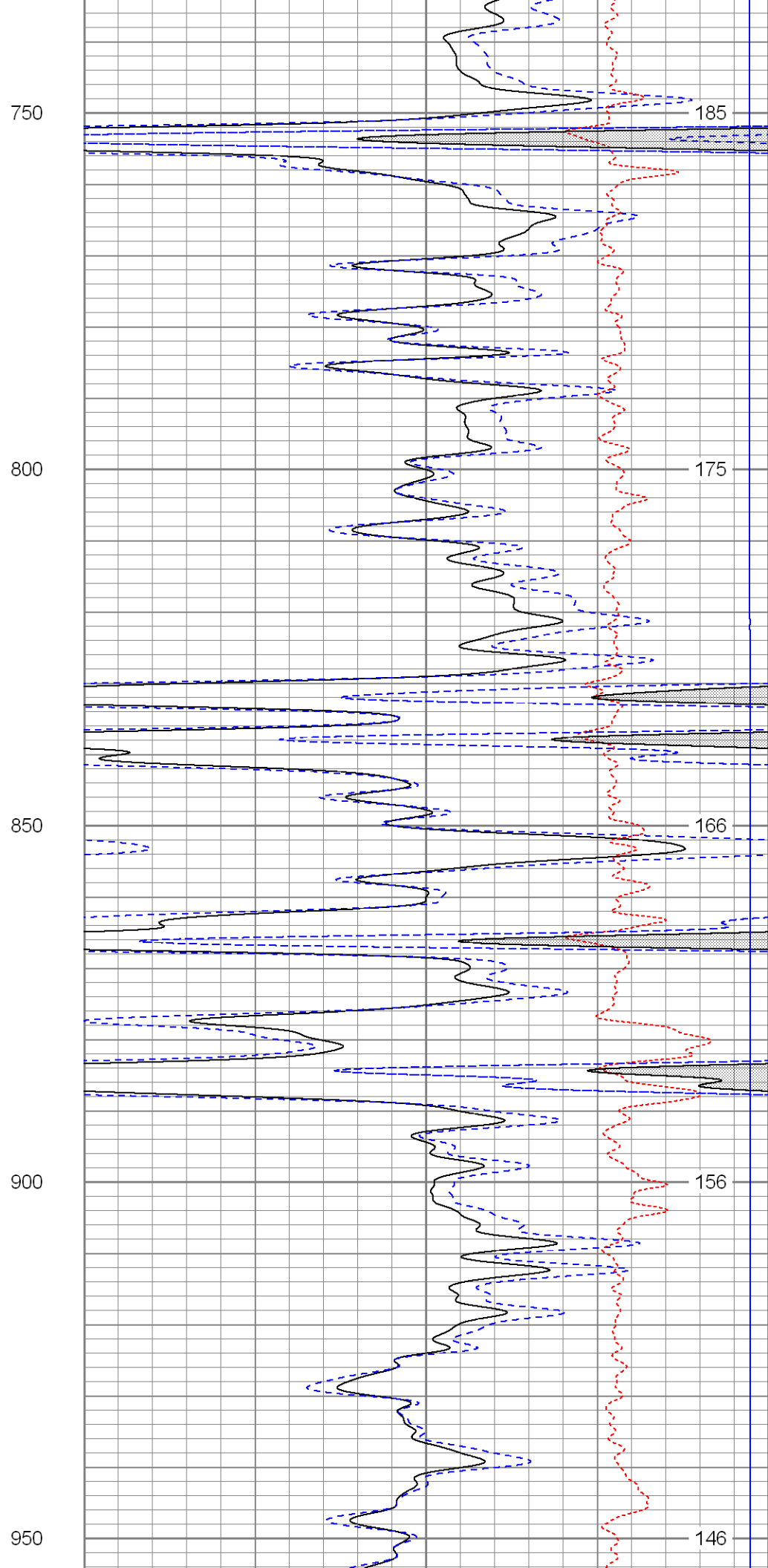
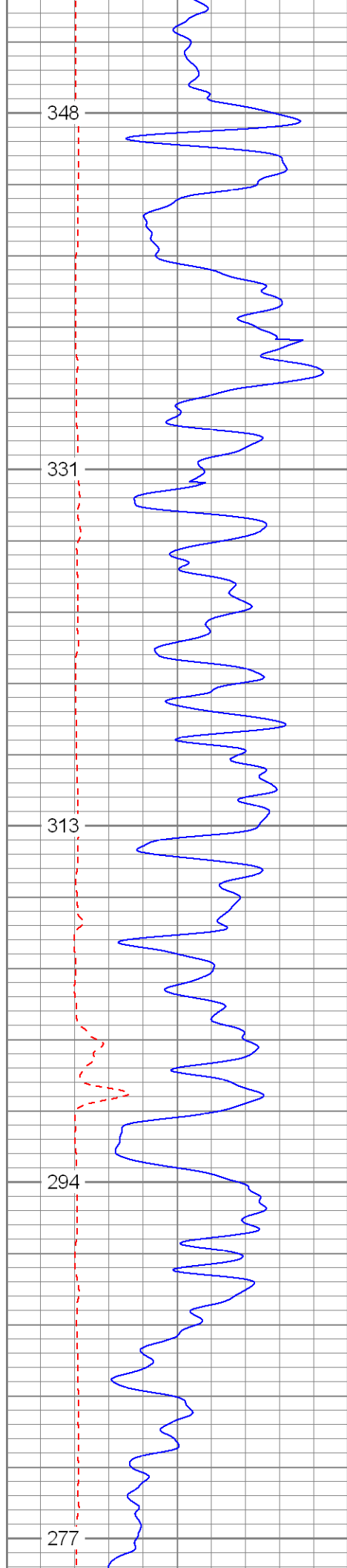
Main Pass

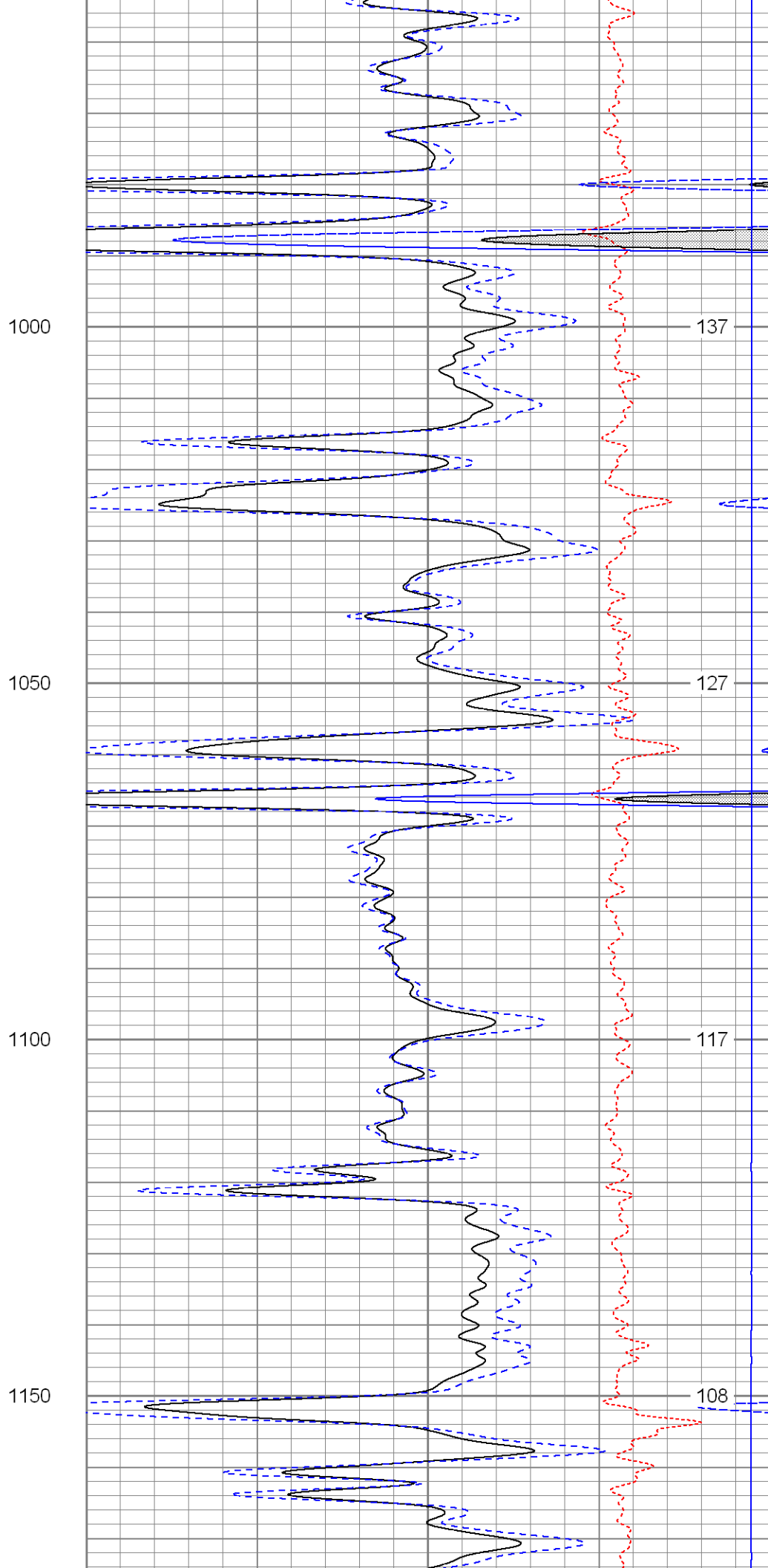
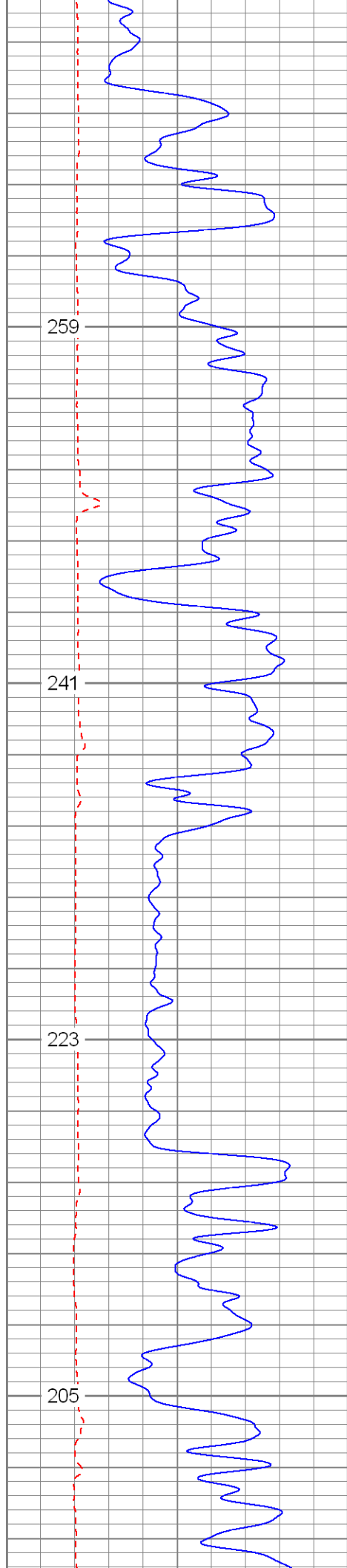
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Dataset Pathname: pass3.1
Presentation Format: cdl
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Charted by: Depth in Feet scaled 1:240

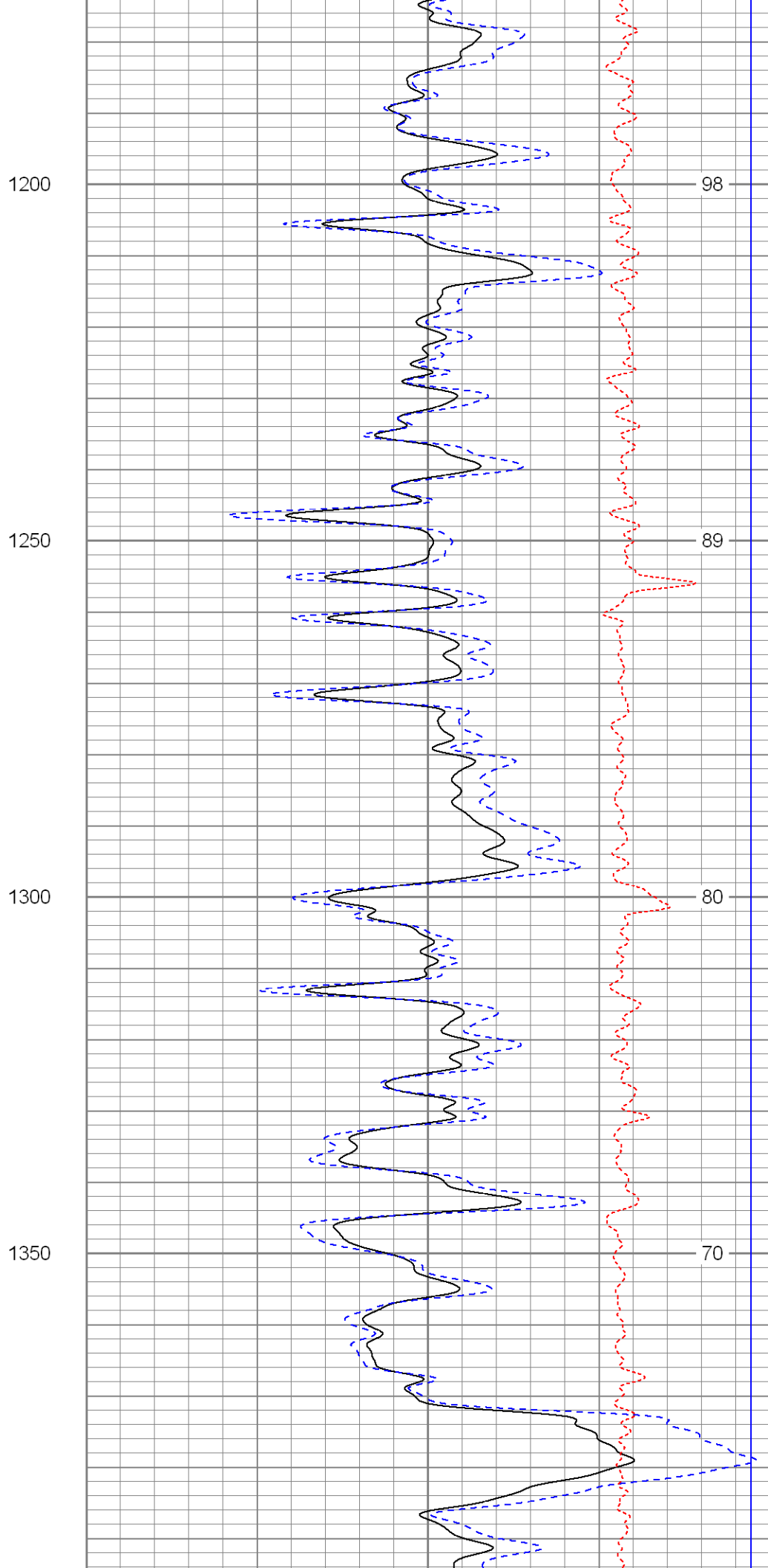
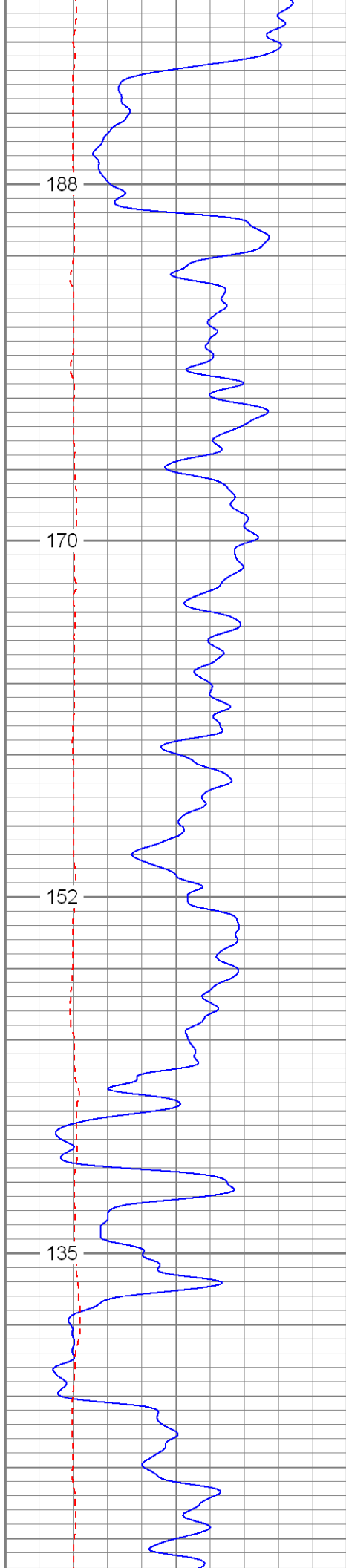
0	GR (GAPI)	200	2	RHOB (g/cc)	3
6	DCAL (in)	16	30	DPOR (pu)	-10
TBHV (ft3)			-0.5 RHOC (g/cc) 0.5		
			5000 LTEN (lb) 0		
			ABHV (ft3)		

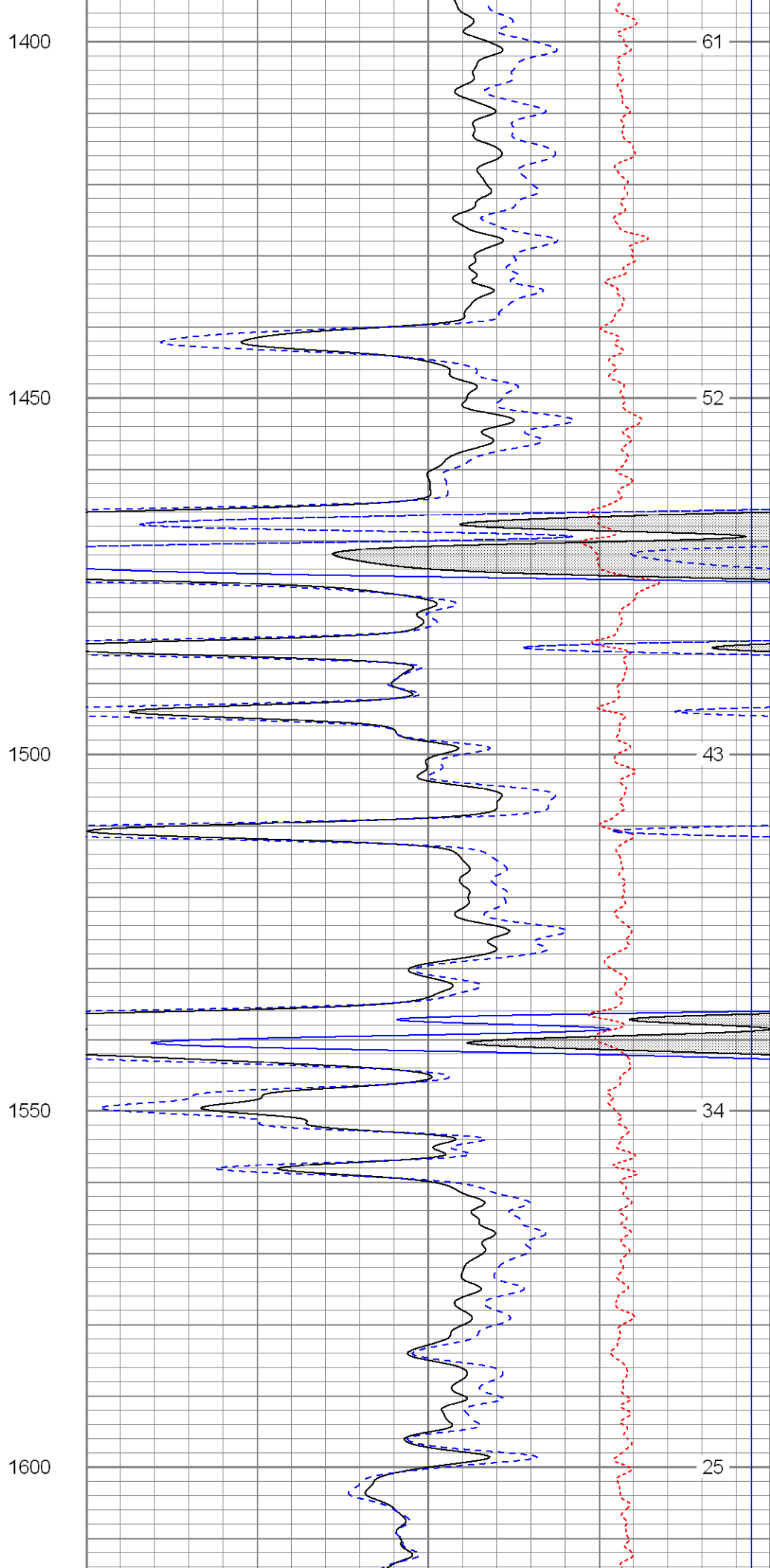
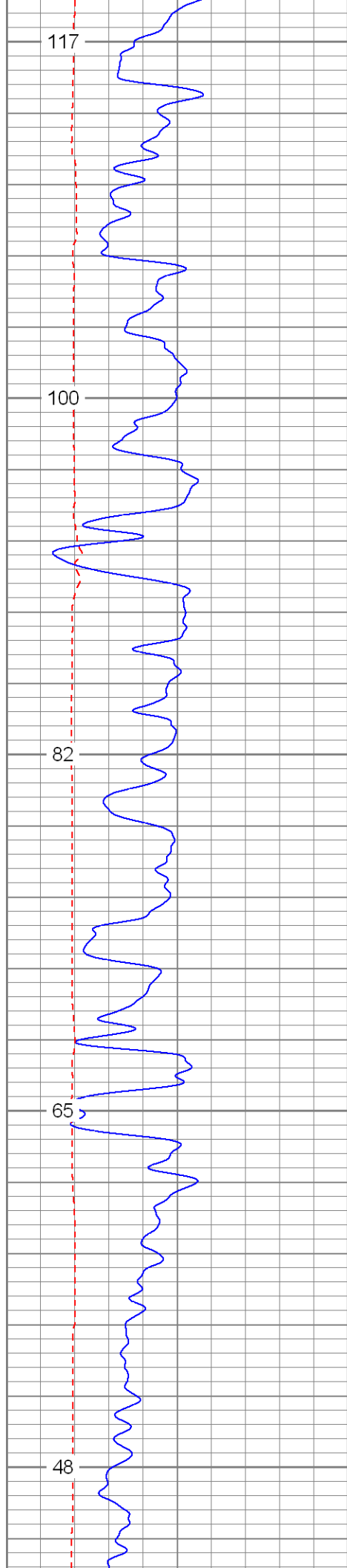


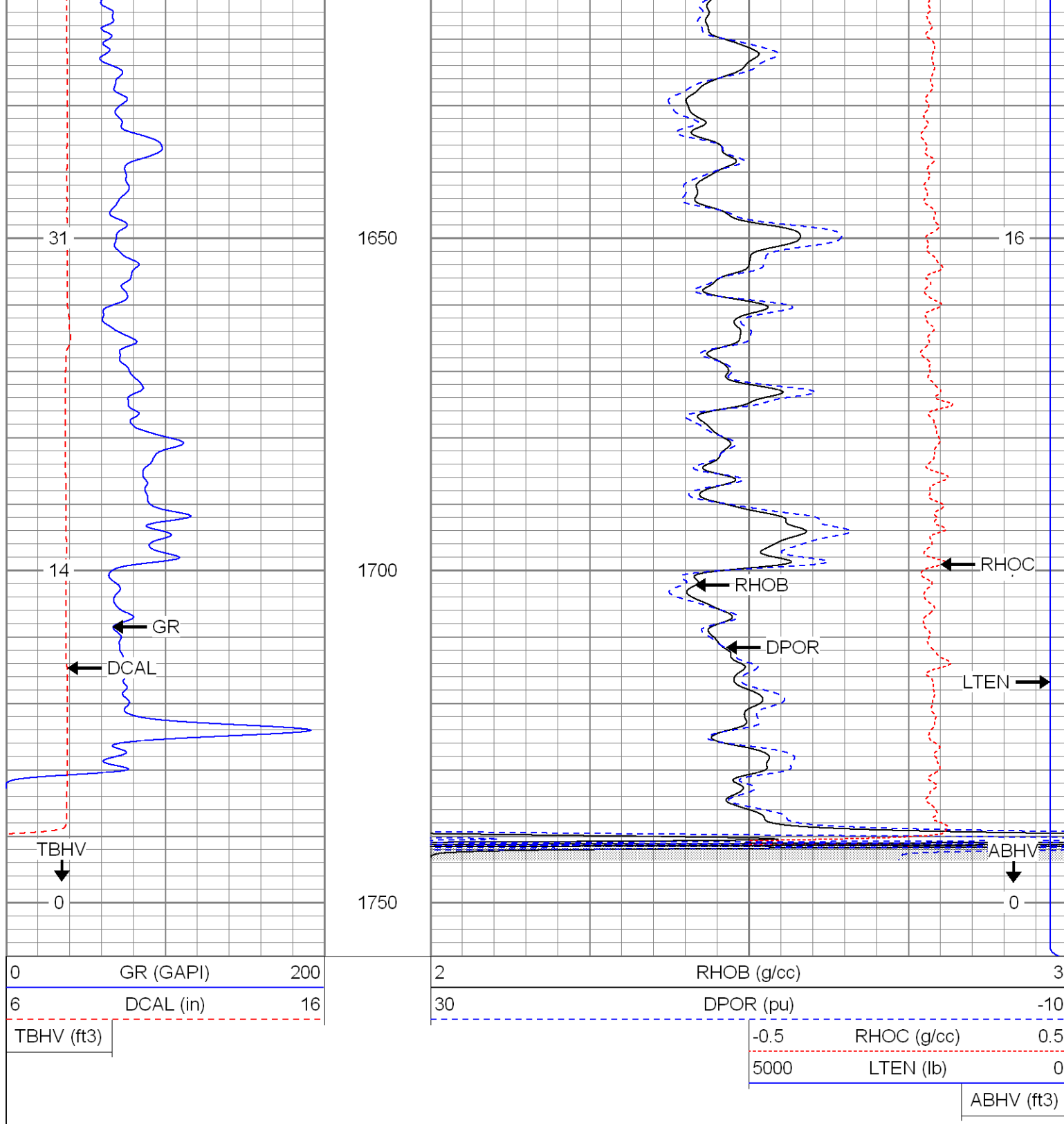












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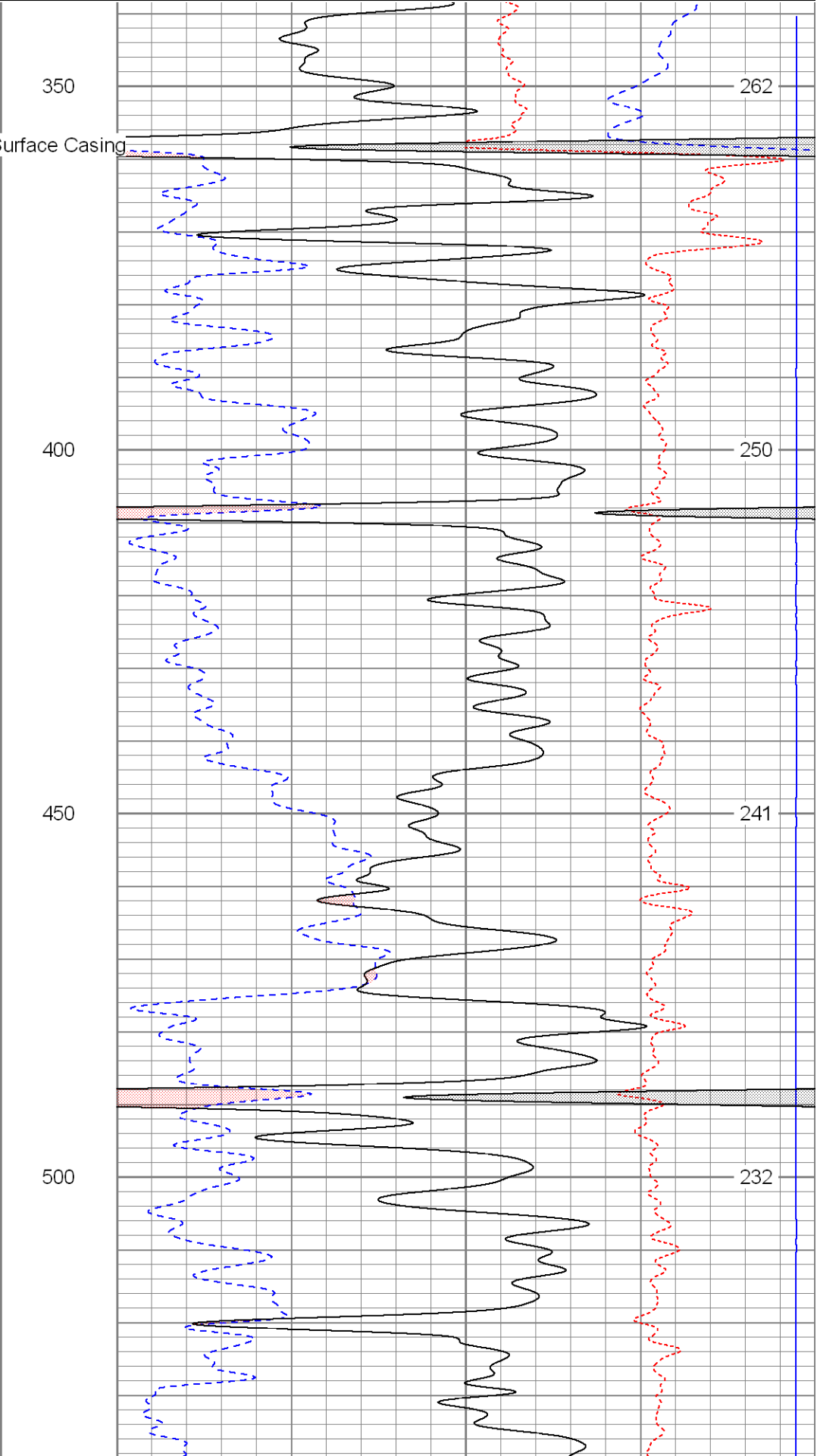
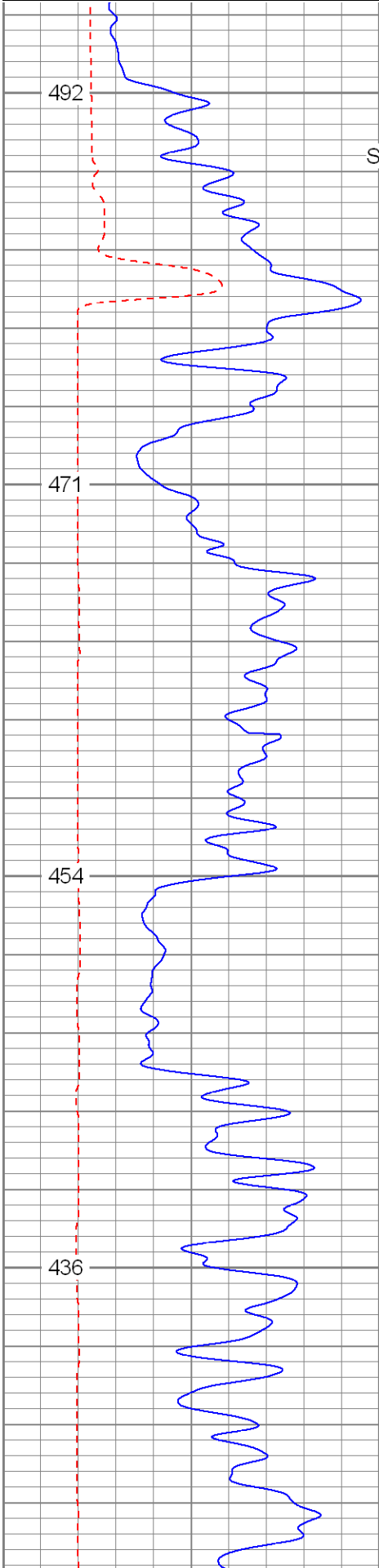
Main Pass

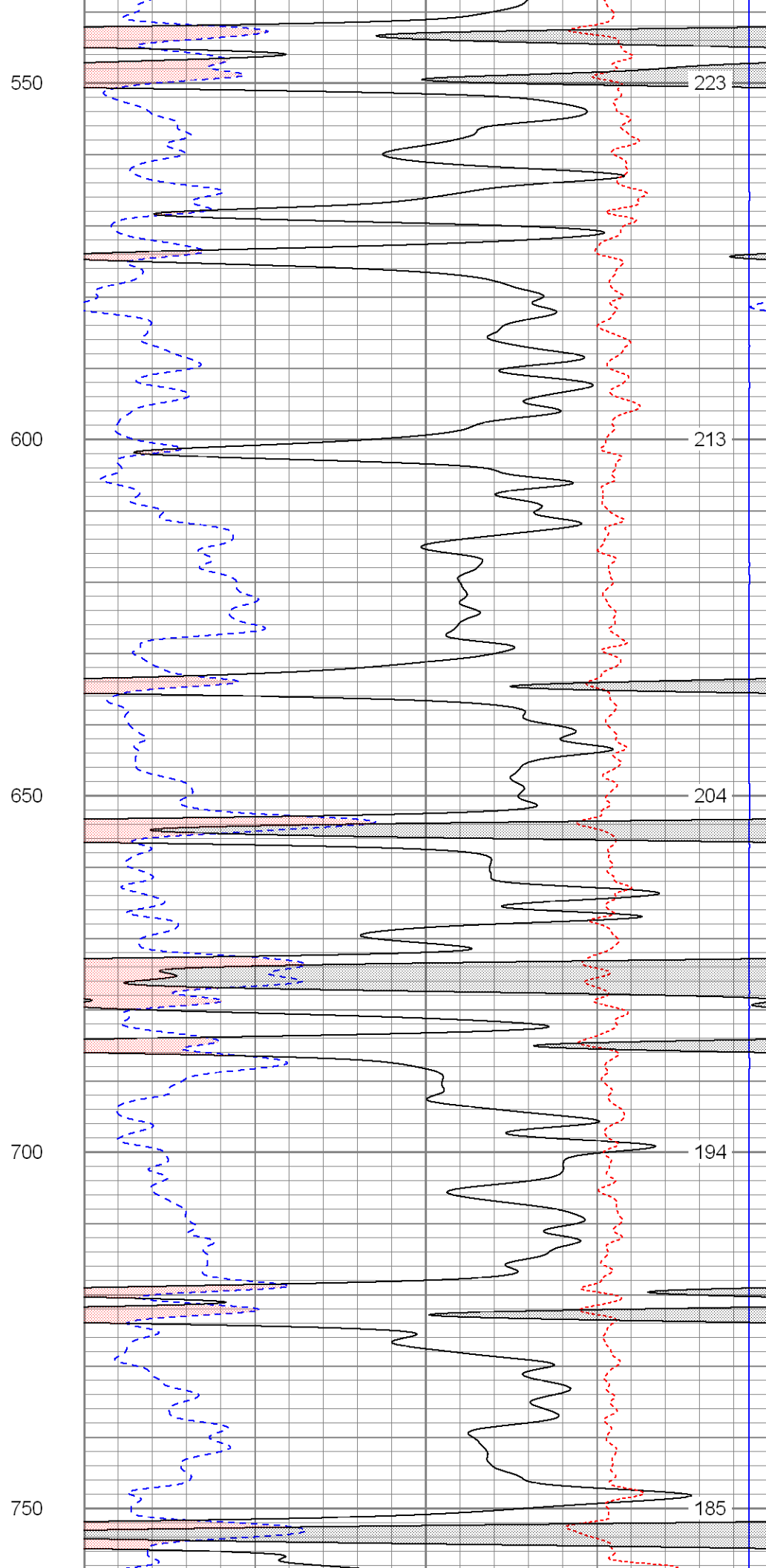
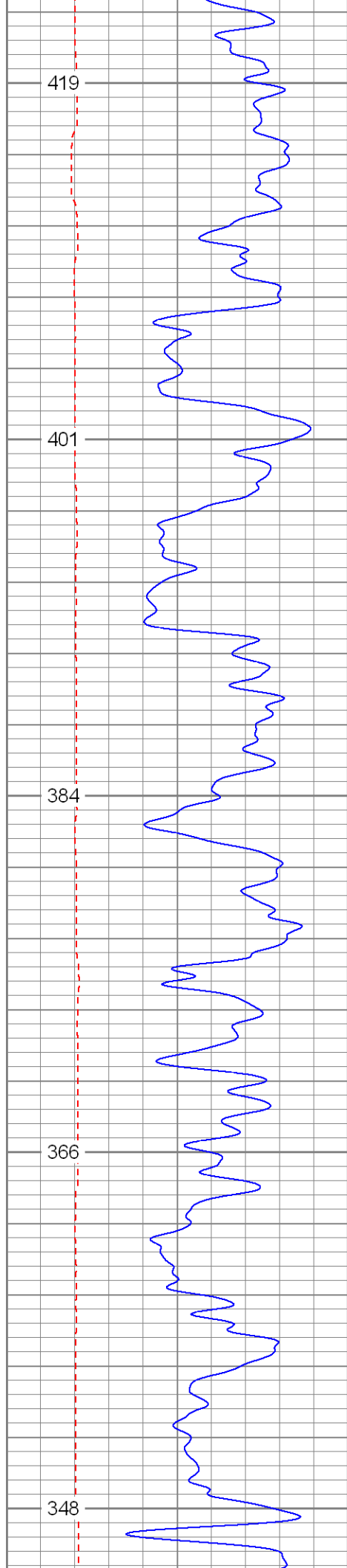
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Dataset Creation: Sat Aug 09 23:40:12 2008 by Calc Open-Cased 071220
Charted by: Depth in Feet scaled 1:240

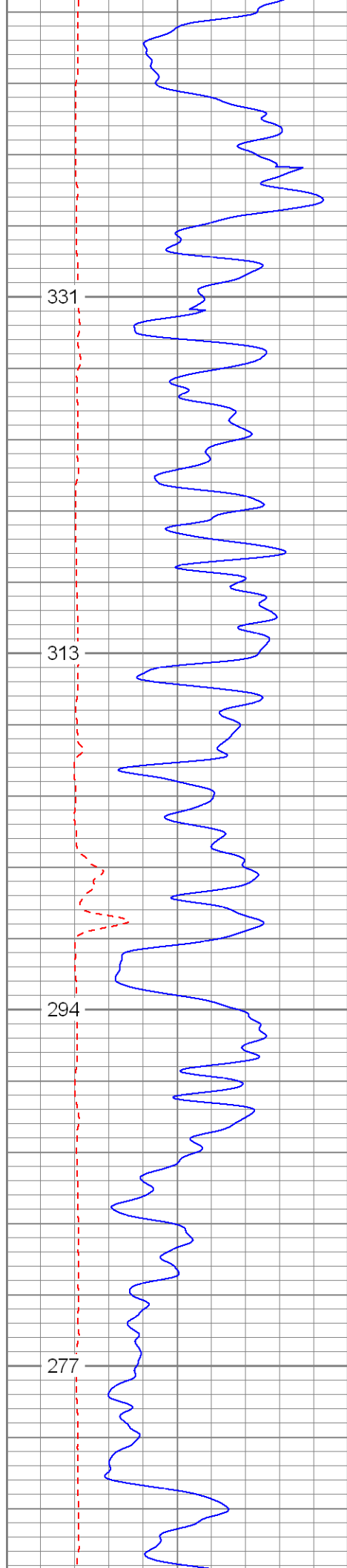
6	DCAL (in)	16	30	NPOR (pu)	-10
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0	GR (GAPI)	200
TBHV (ft3)		

30	DPOR (pu)	-10
-0.5	RHOC (g/cc)	0.5
5000	LTEN (lb)	0
	ABHV (ft3)	







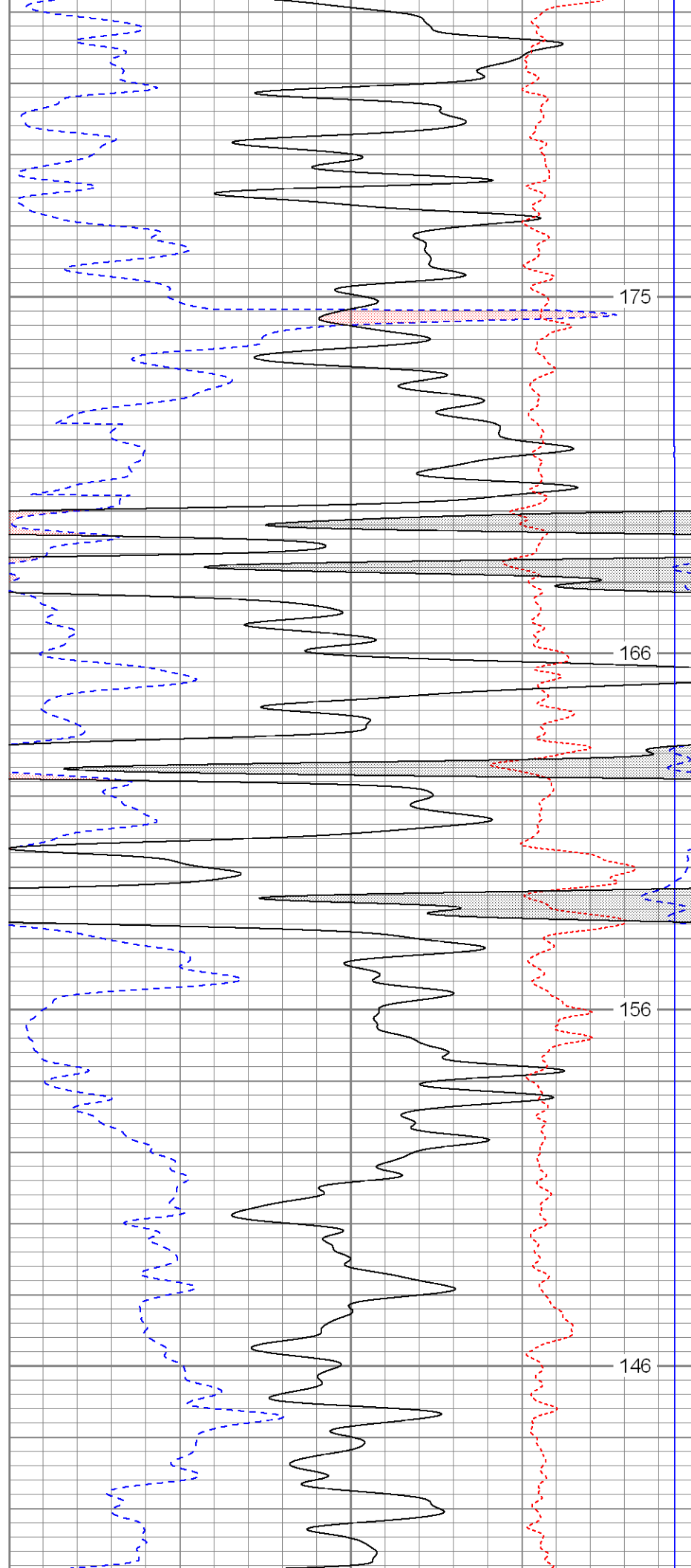
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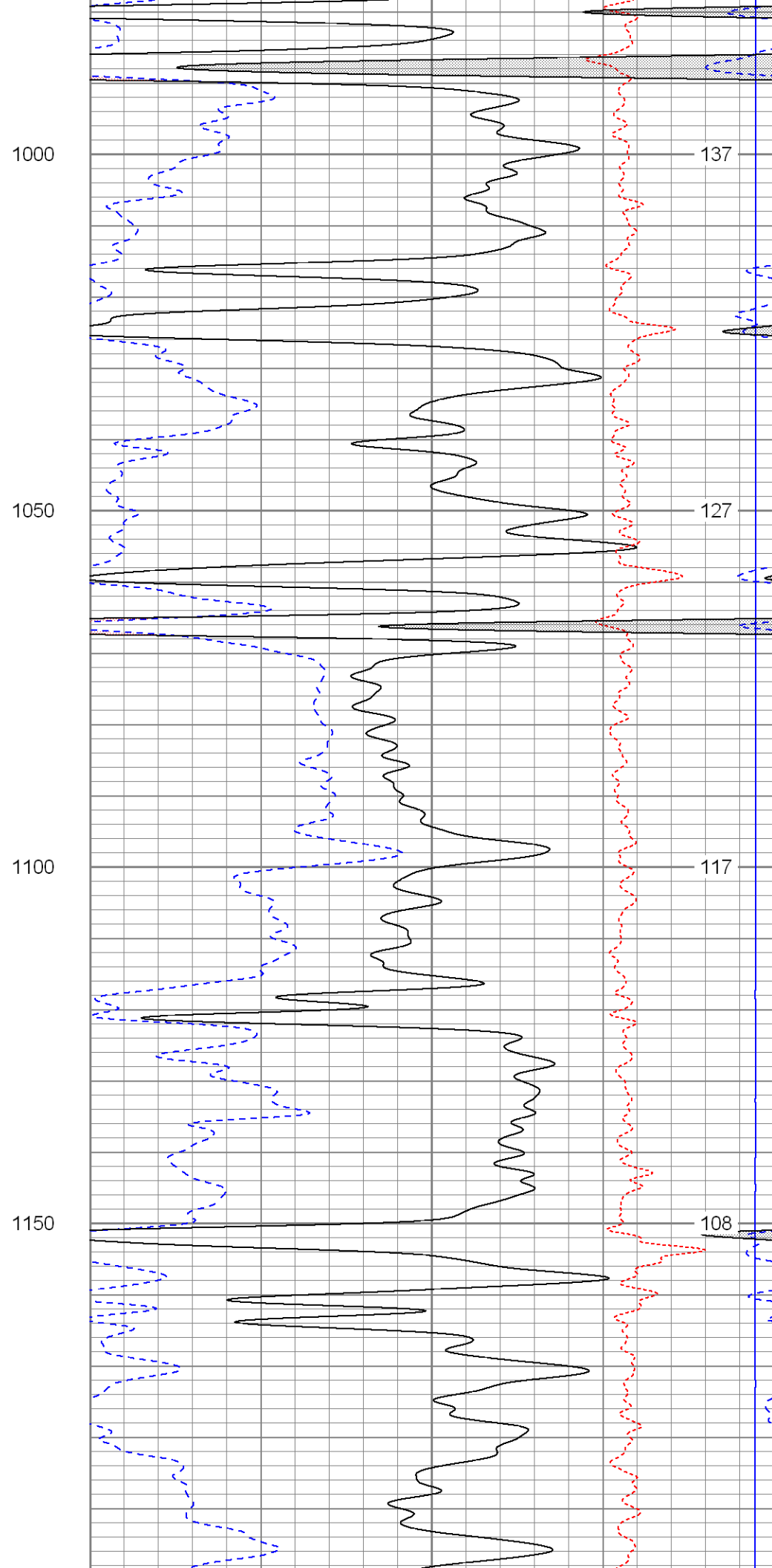
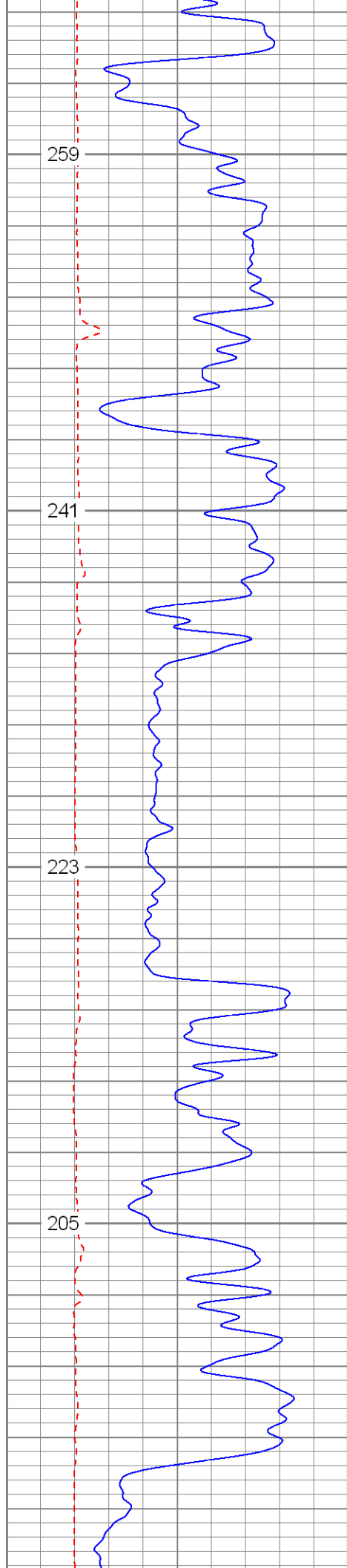
↑
Foam

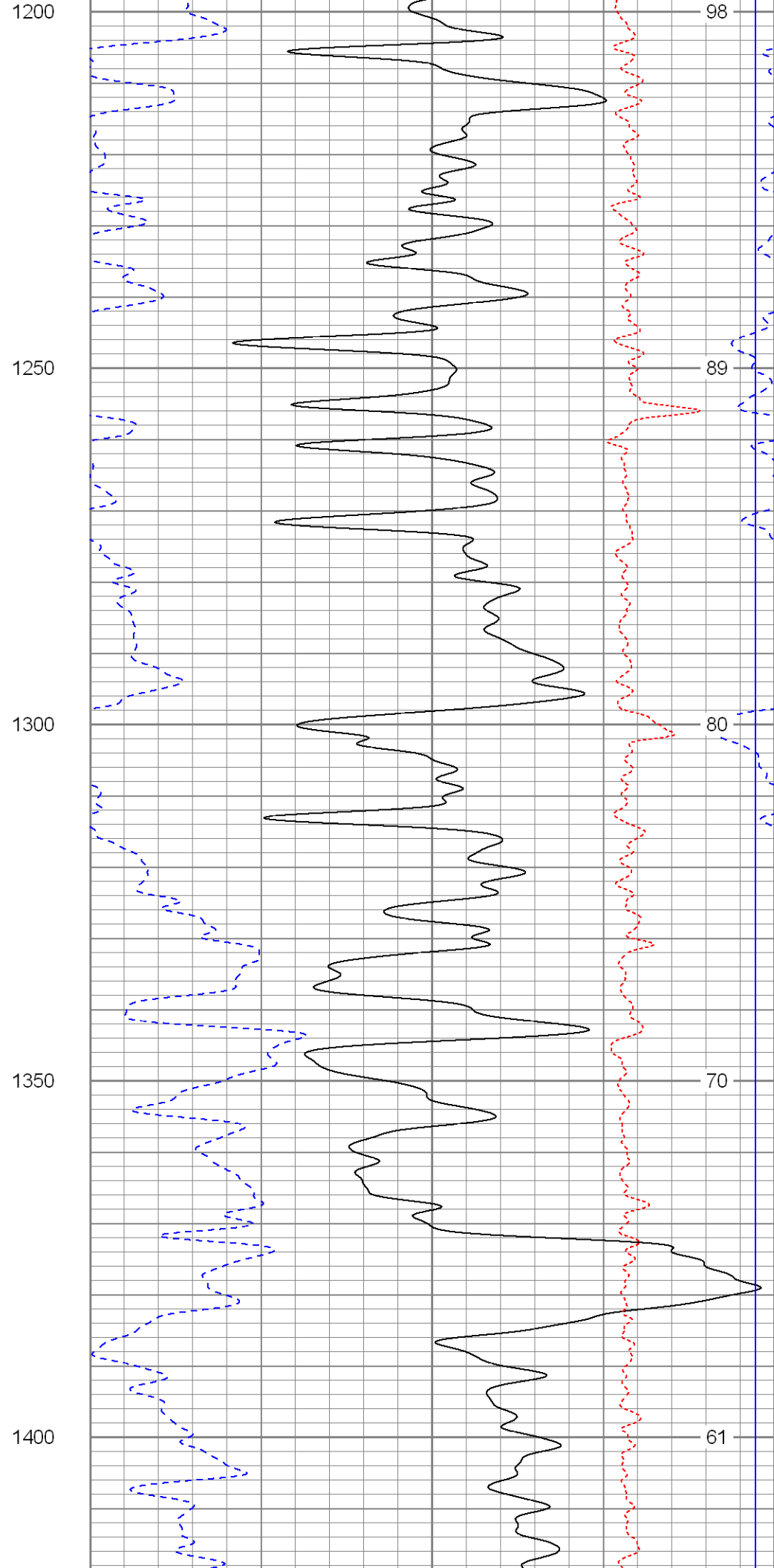
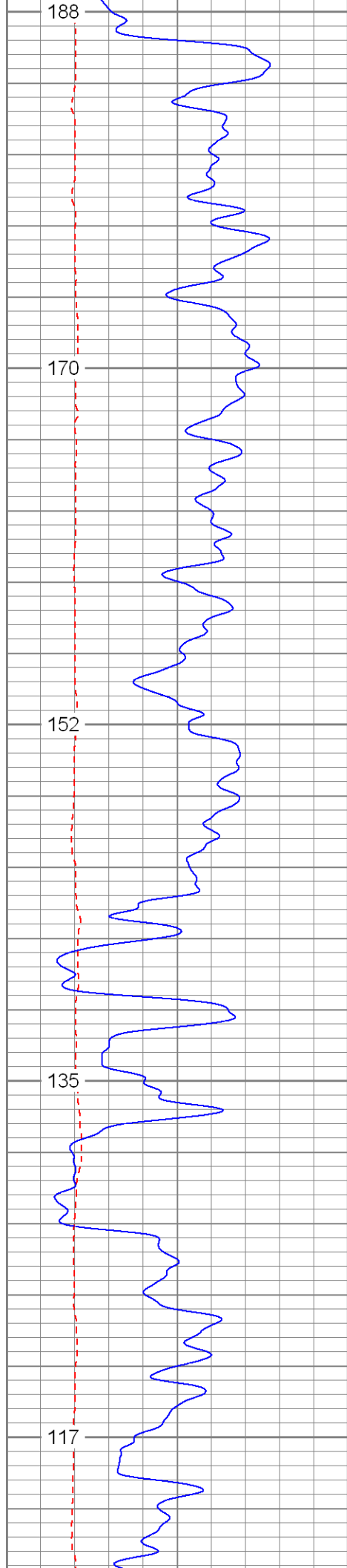
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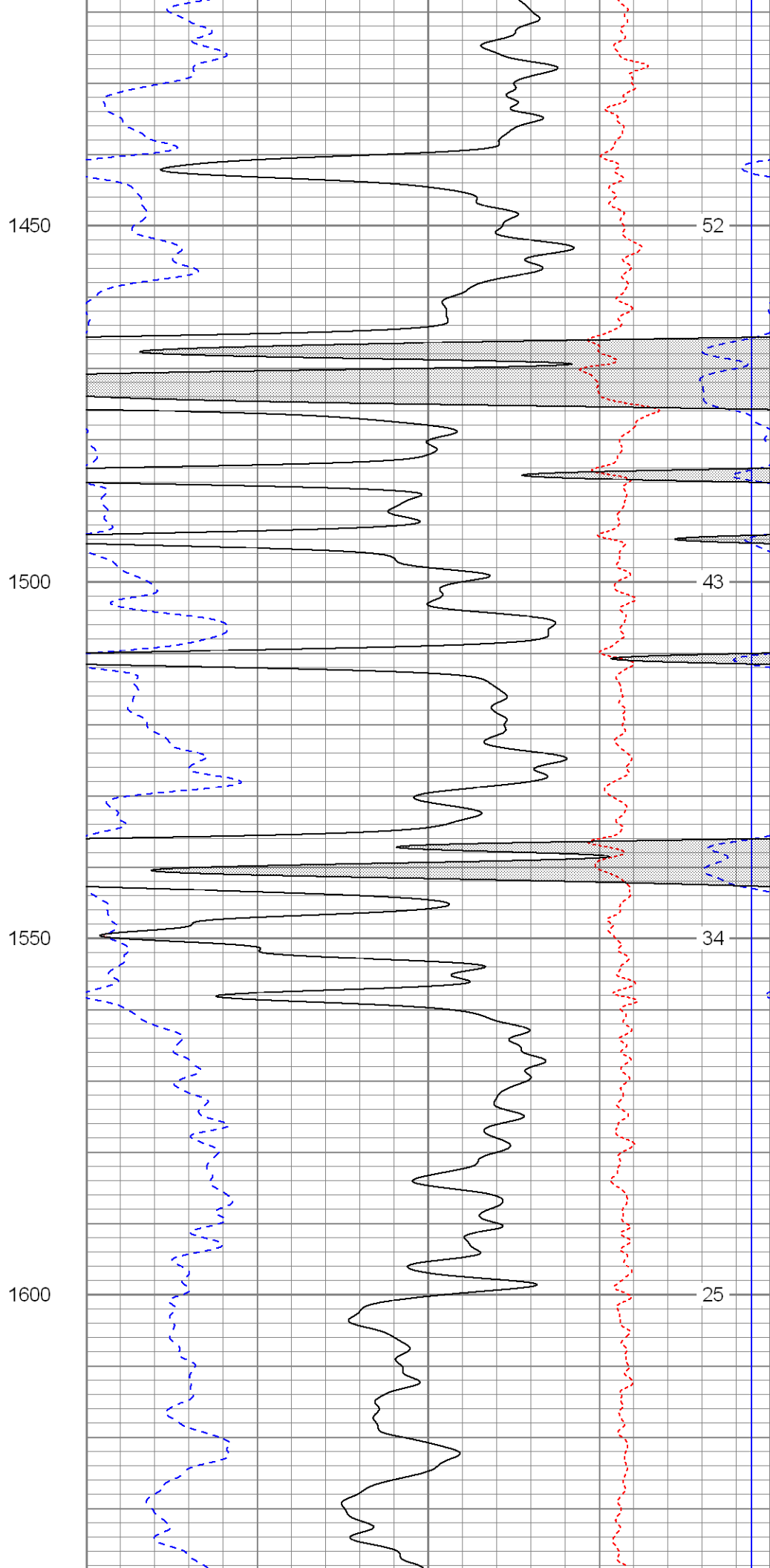
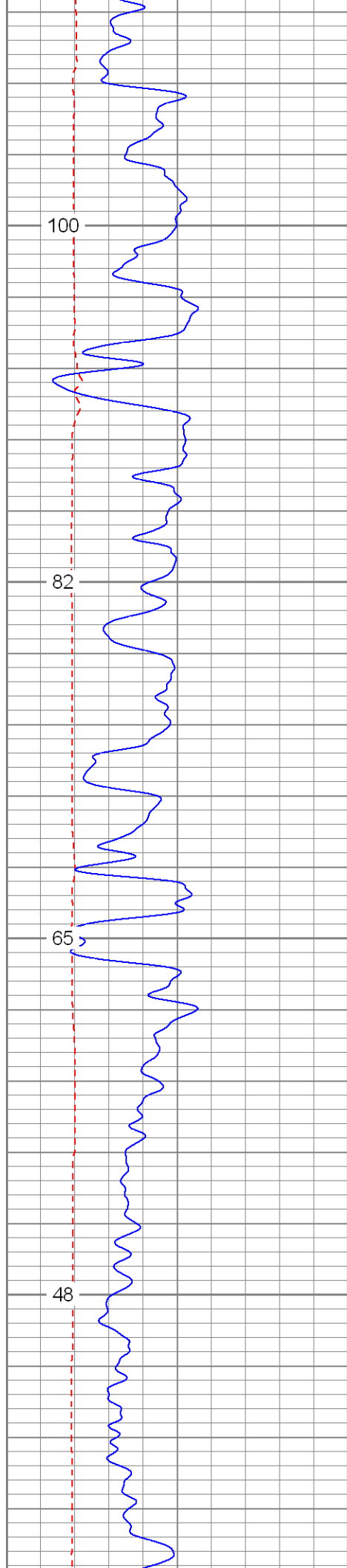
900

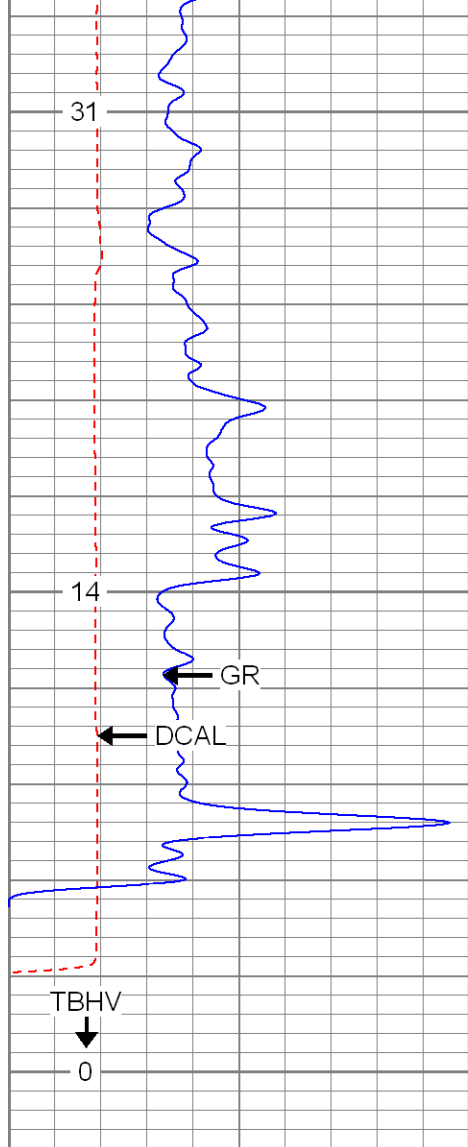
950



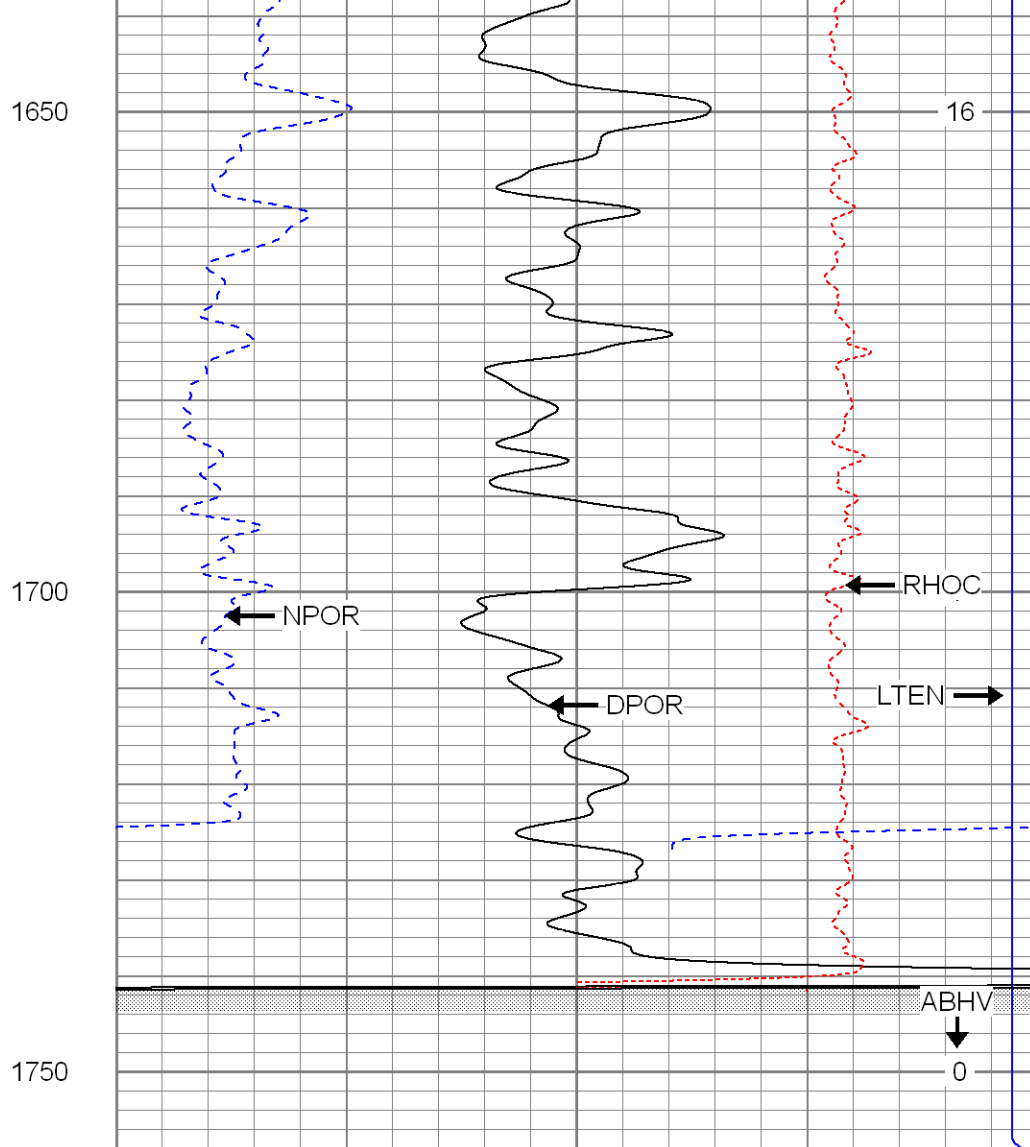








6	DCAL (in)	16
0	GR (GAPI)	200
TBHV (ft3)		



30	NPOR (pu)	-10
30	DPOR (pu)	-10
-0.5	RHOC (g/cc)	0.5
5000	LTEN (lb)	0
ABHV (ft3)		



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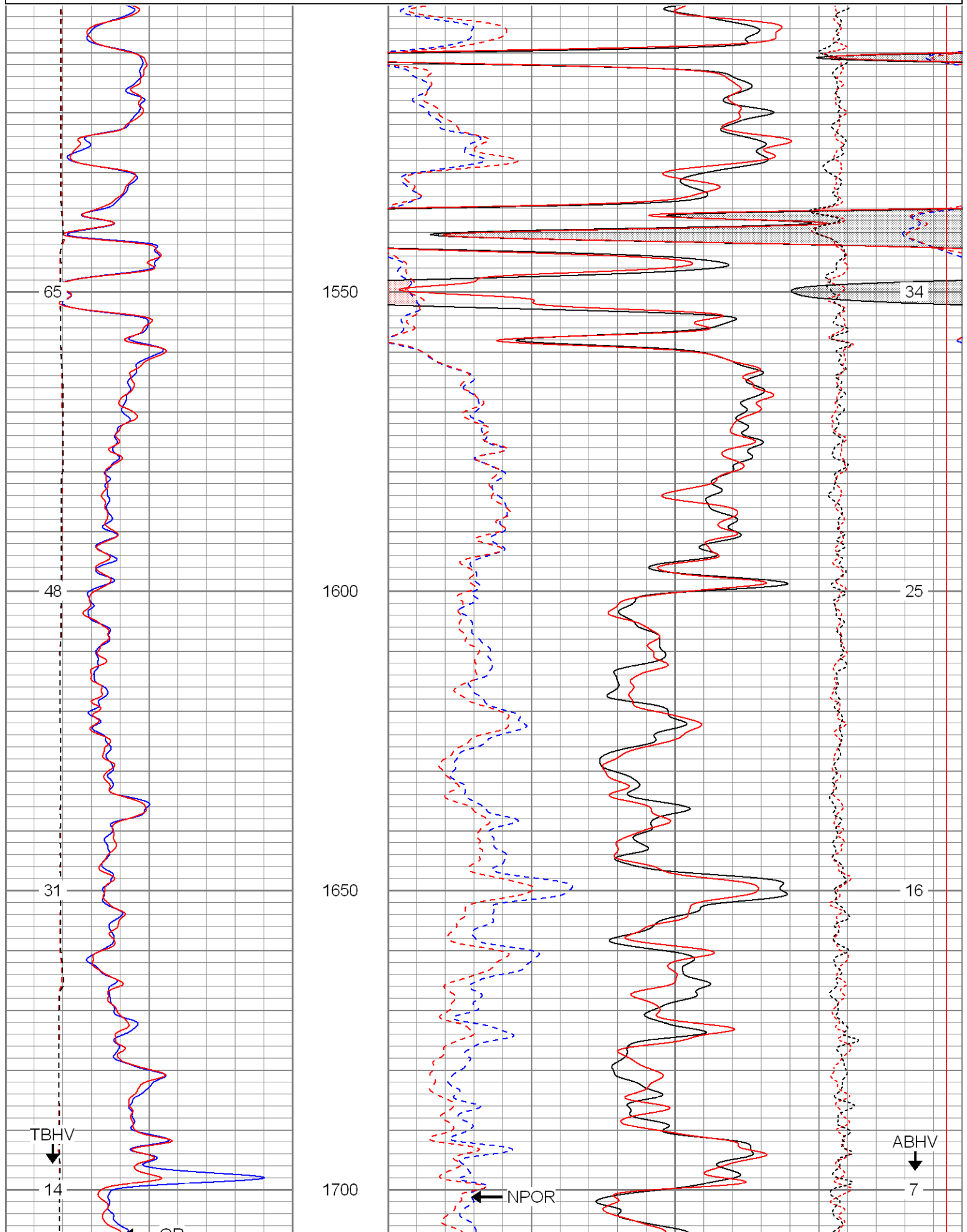
Repeat Section

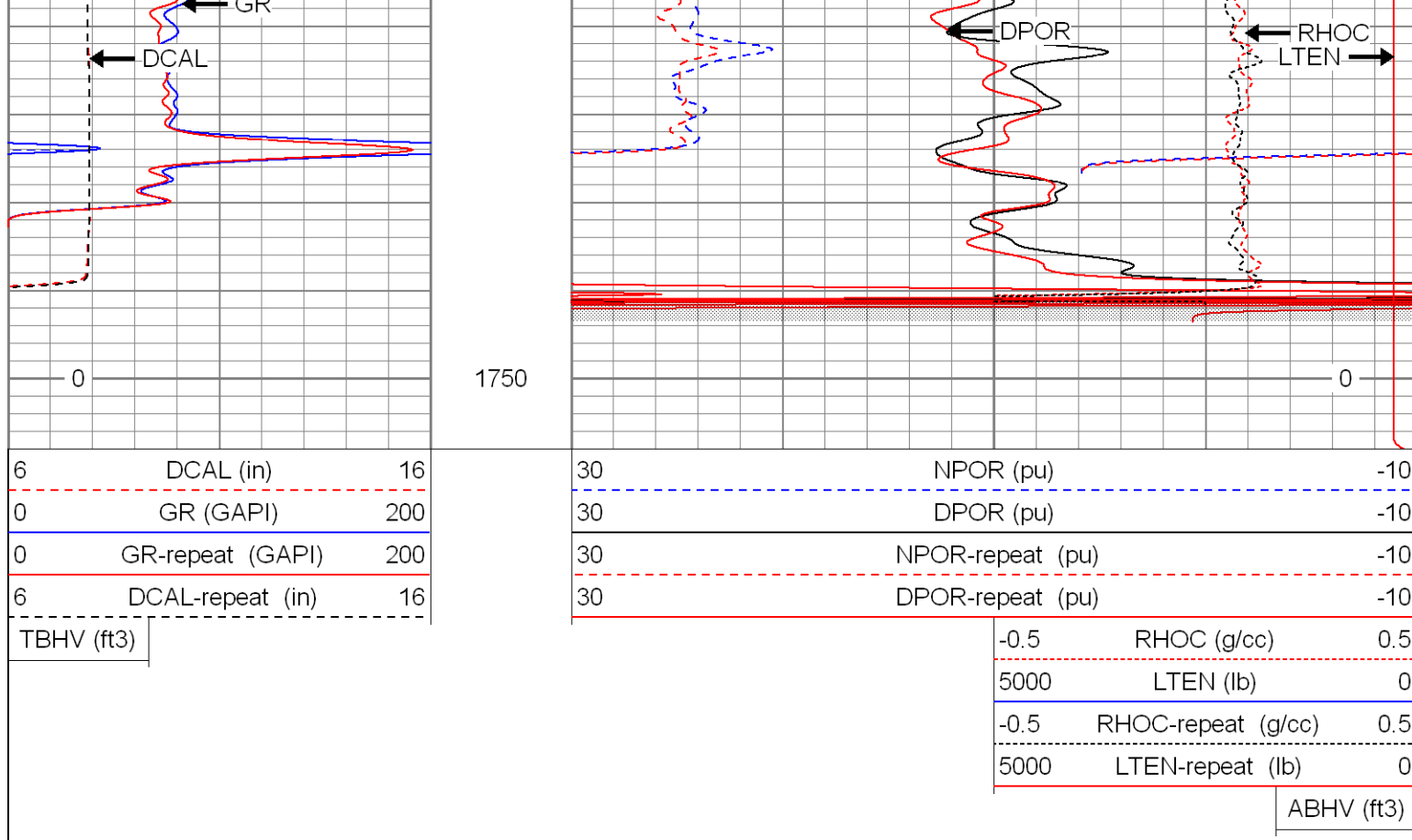
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Dataset Pathname: pass2.1
Presentation Format: cdnl
Dataset Creation: Sat Aug 09 23:16:31 2008 by Calc Open-Cased 071220
Charted by: Depth in Feet scaled 1:240

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

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
5000	LTEN (lb)	0

-0.5	RHOC-repeat (g/cc)	0.5
5000	LTEN-repeat (lb)	0
ABHV (ft3)		





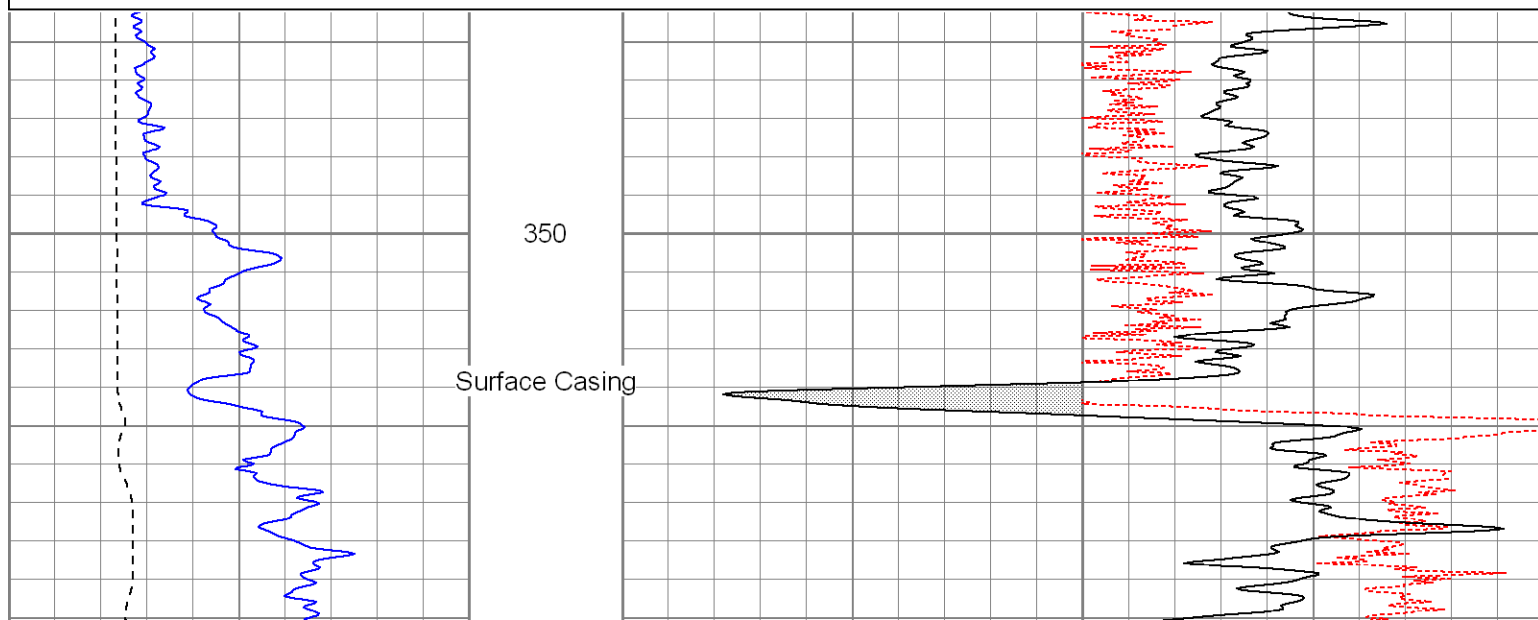
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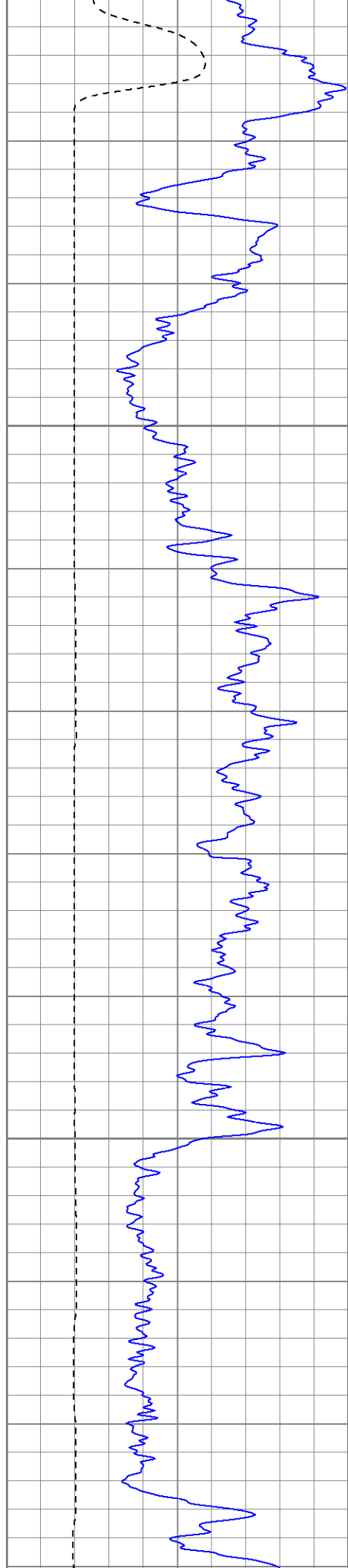
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High Resolution Pass

Database File: e budd .db
Dataset Pathname: pass3.2
Presentation Format: cdlhr
Dataset Creation: Sat Aug 09 23:52:29 2008 by Calc Open-Cased 071220
Charted by: Depth in Feet scaled 1:120

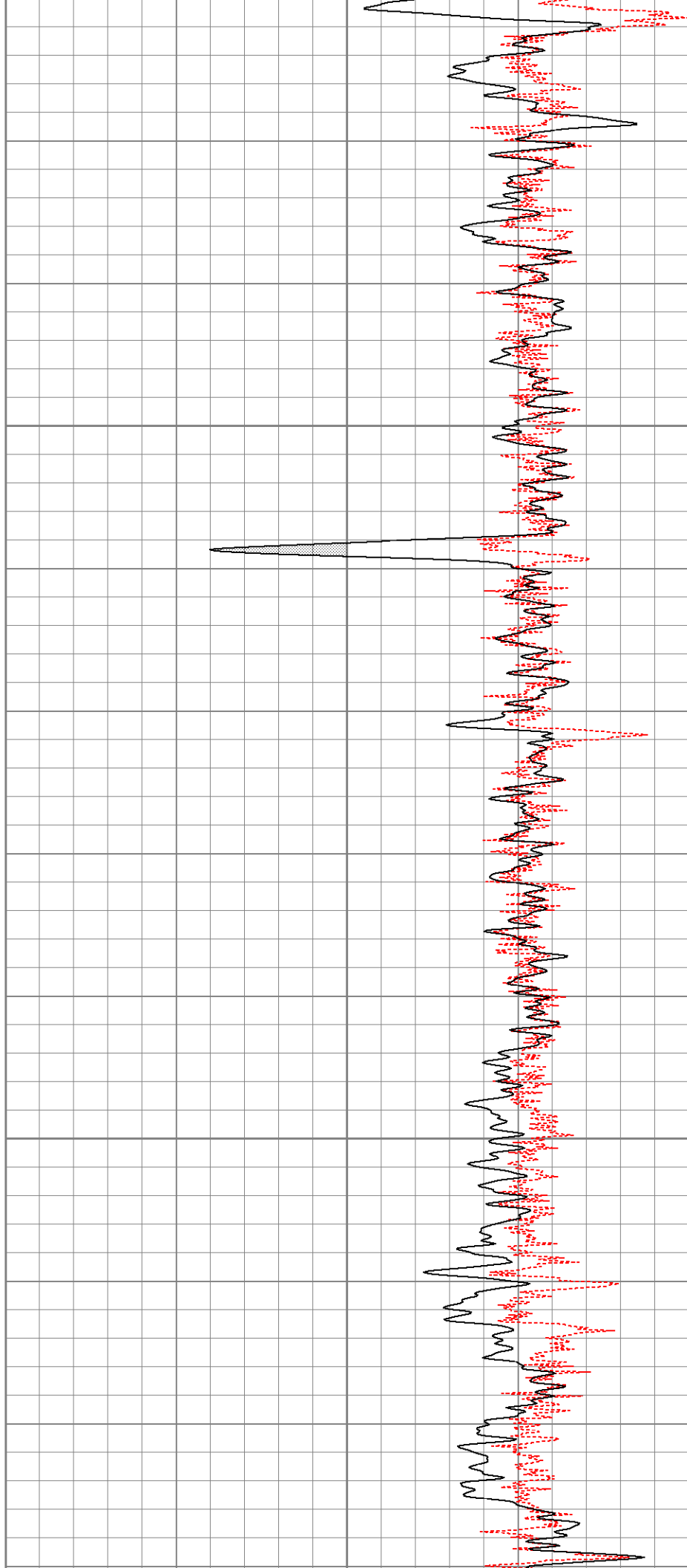
0	GR (GAPI)	200	1	RHOB (g/cc)	3
6	DCAL (in)	16	-0.5	RHOC (g/cc)	0.5

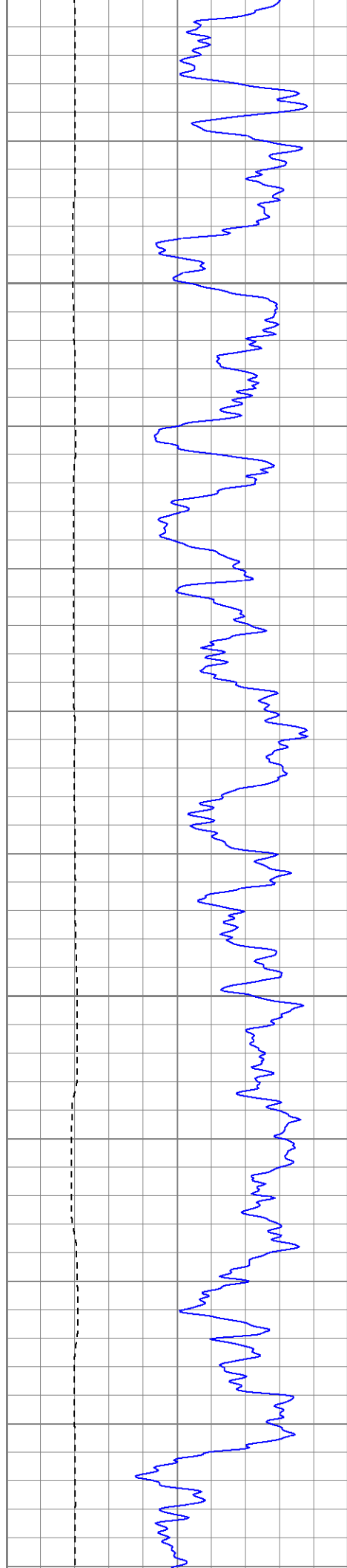




400

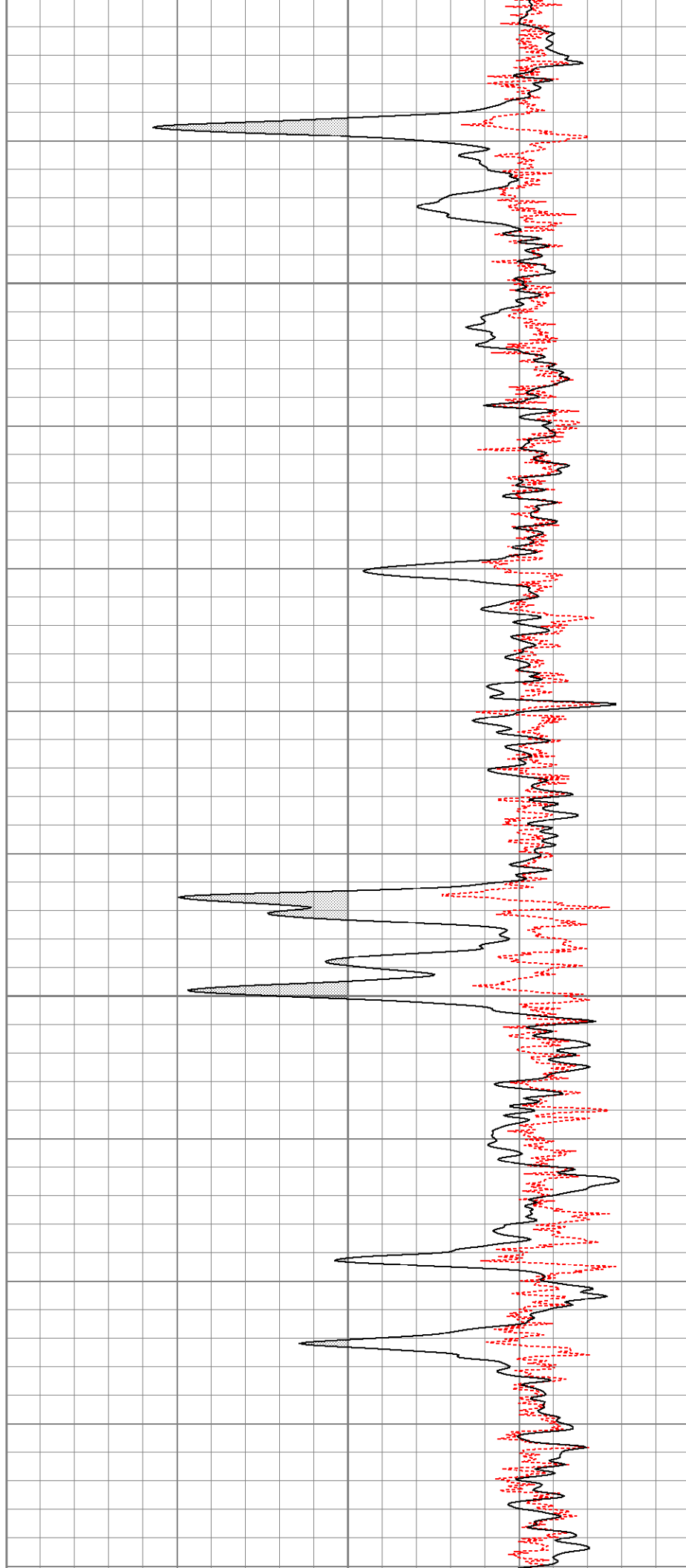
450

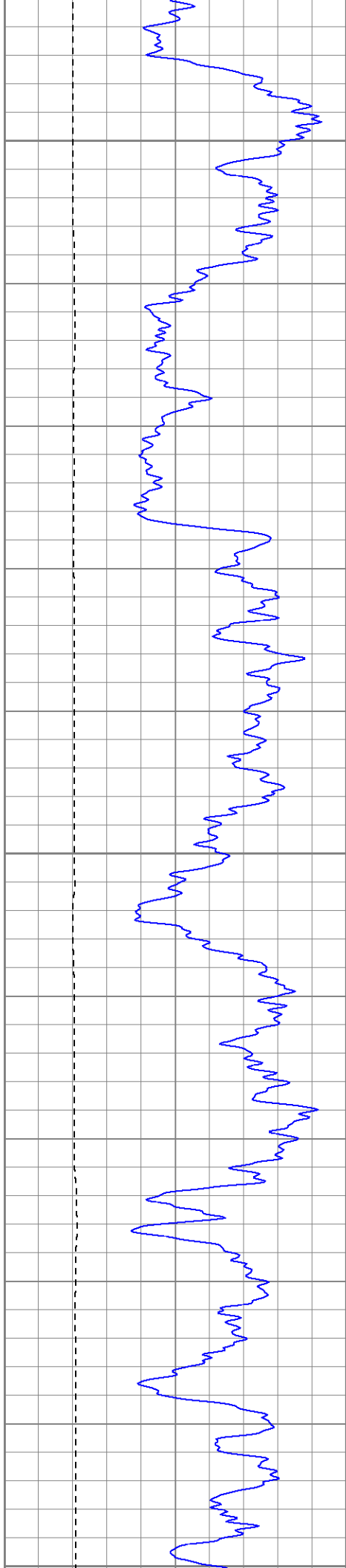




500

550

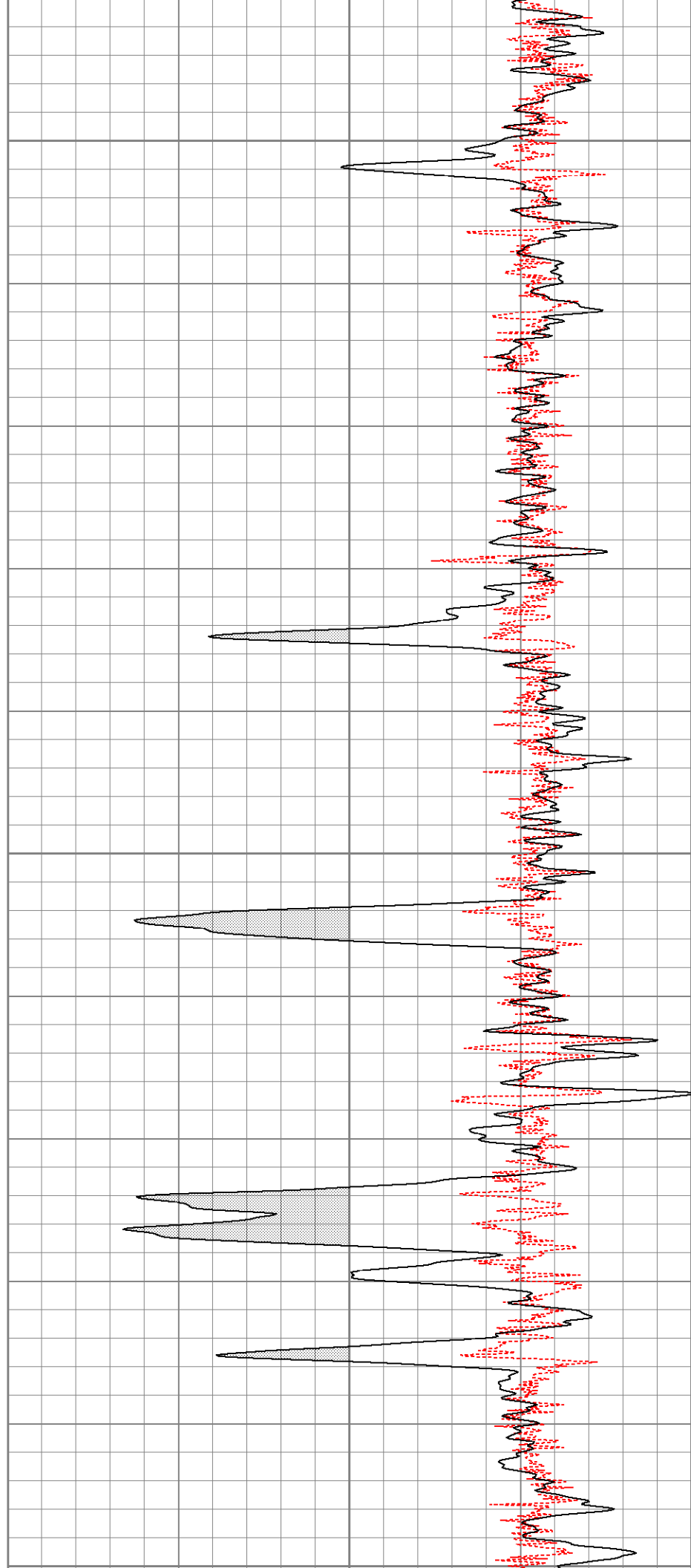




600

650

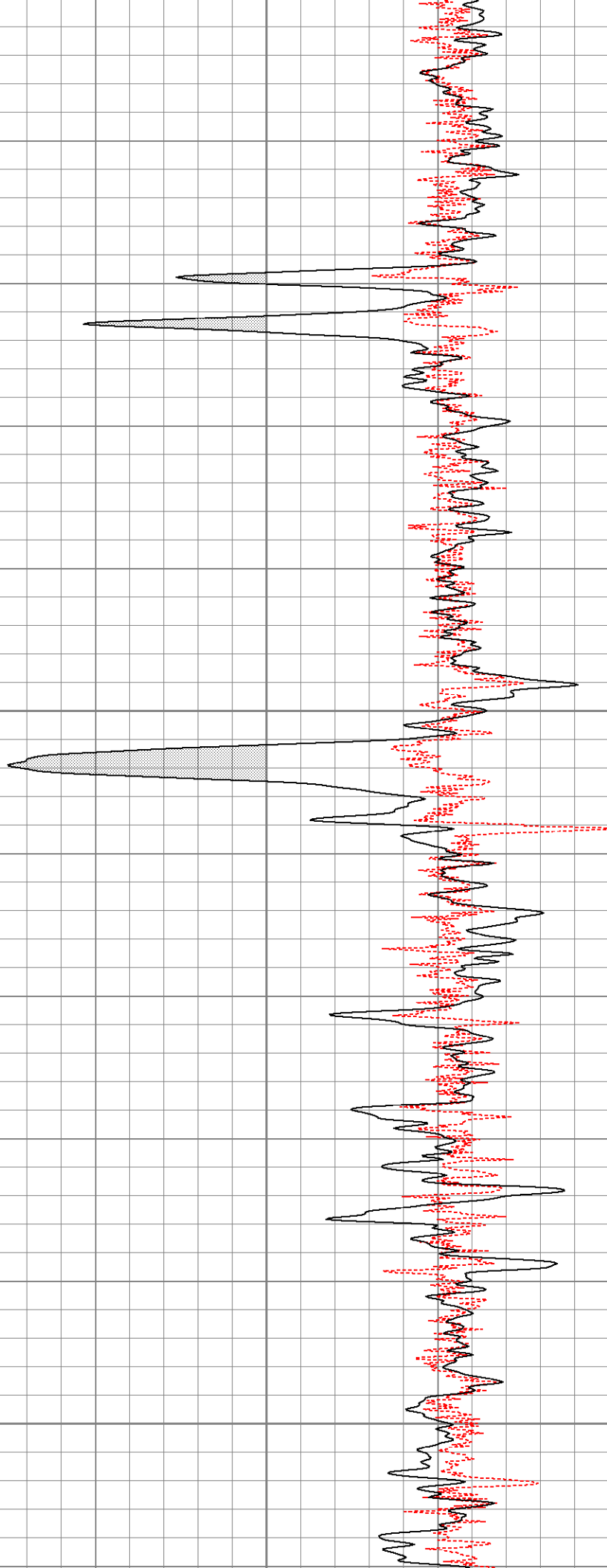
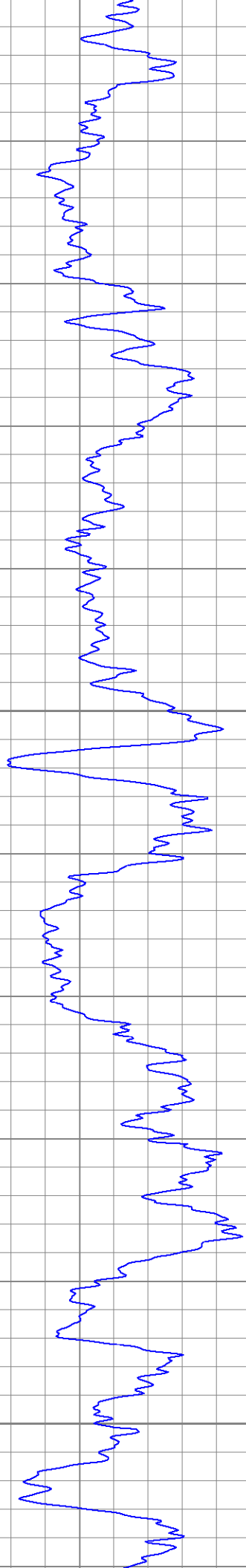
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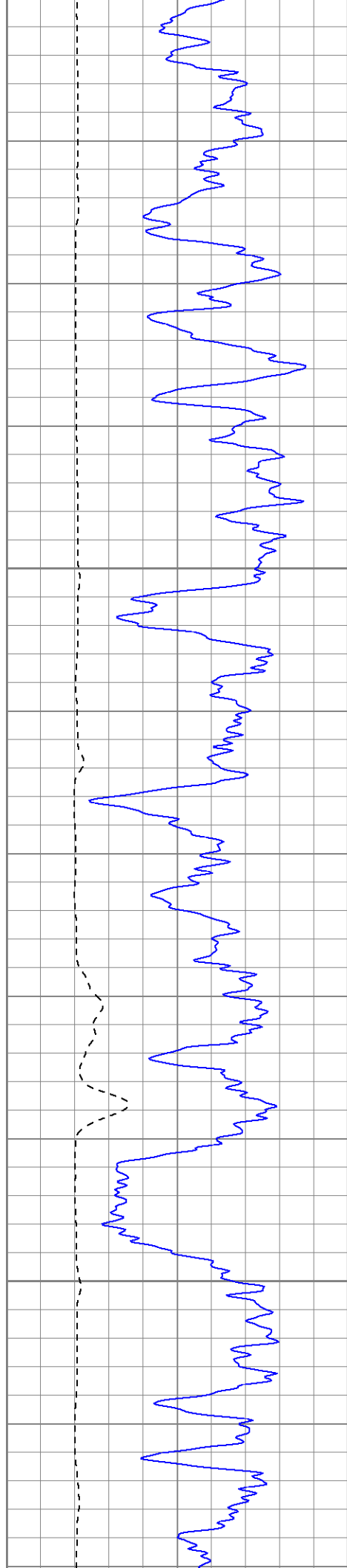


700

750

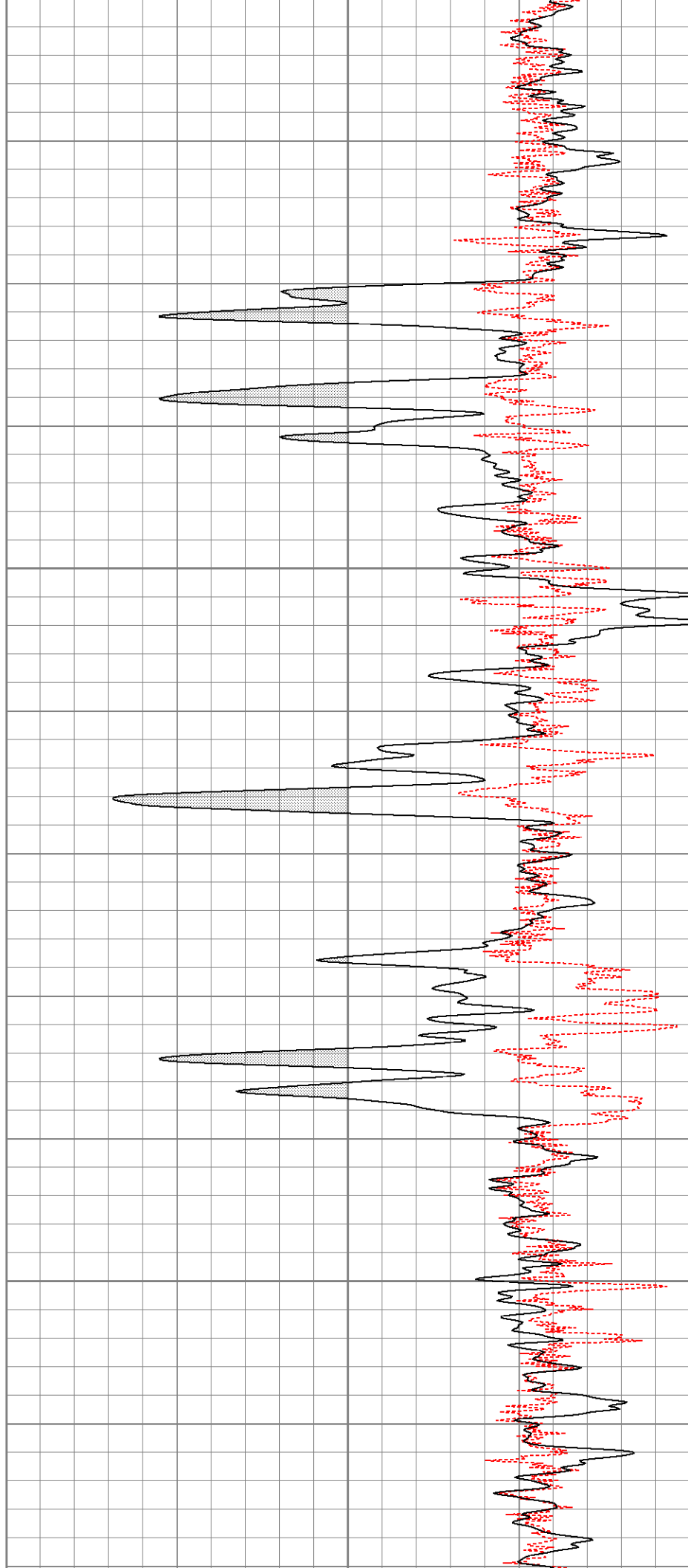
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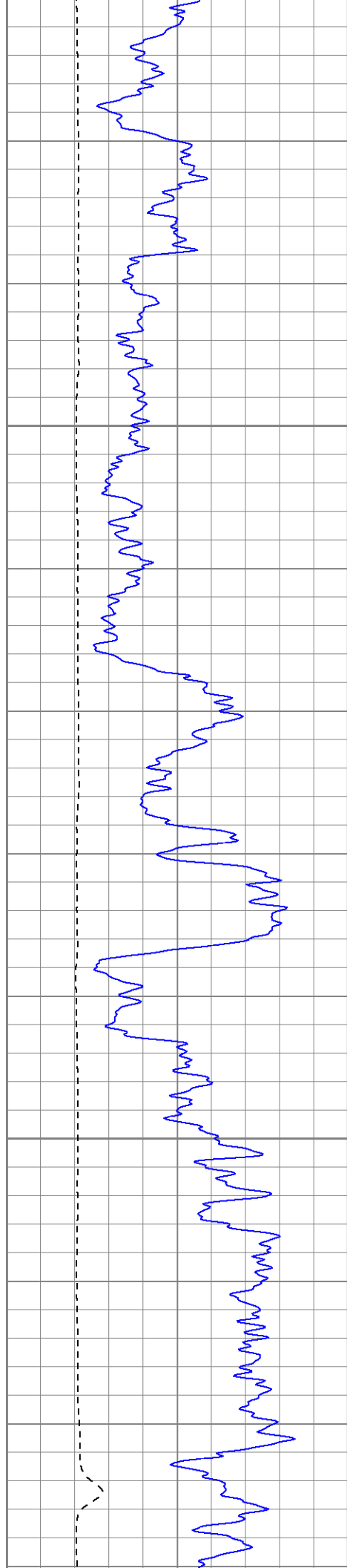




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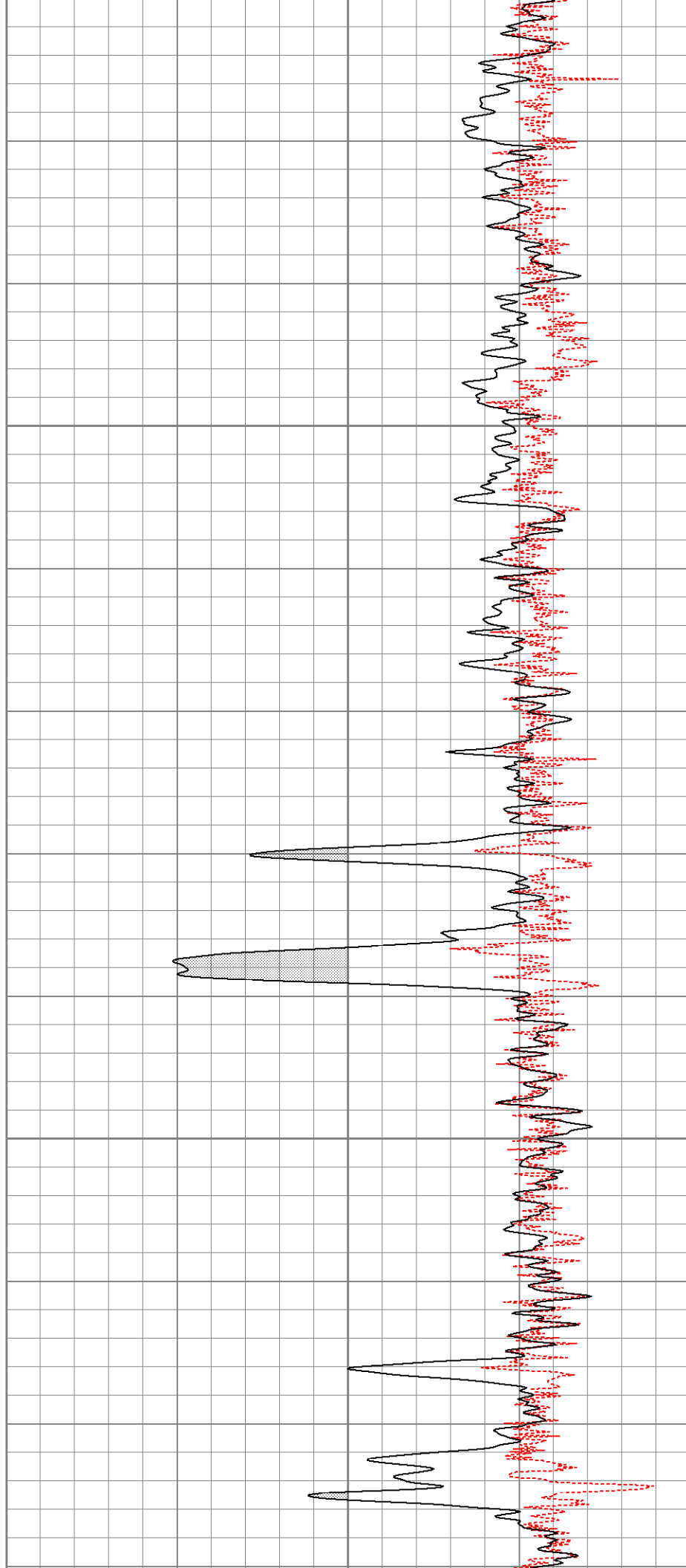
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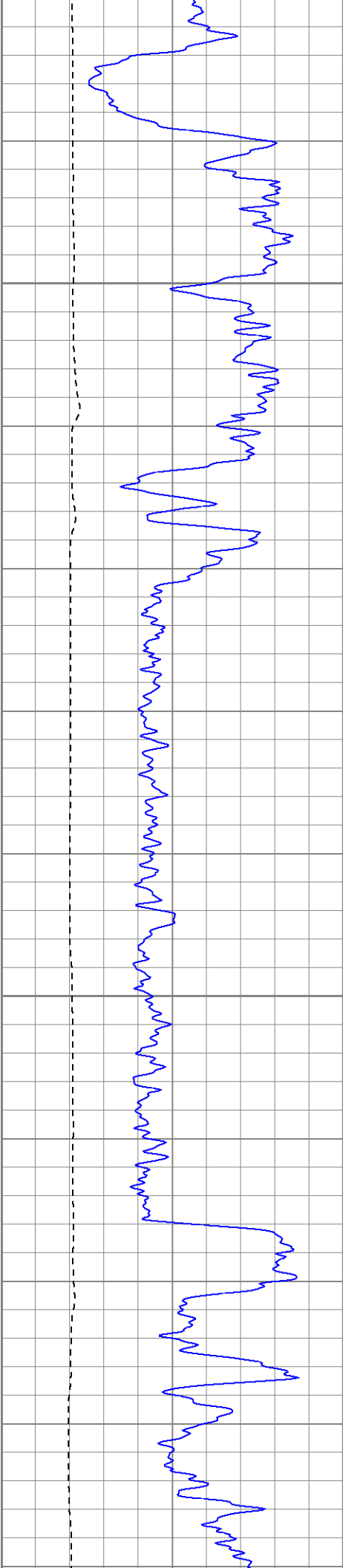




950

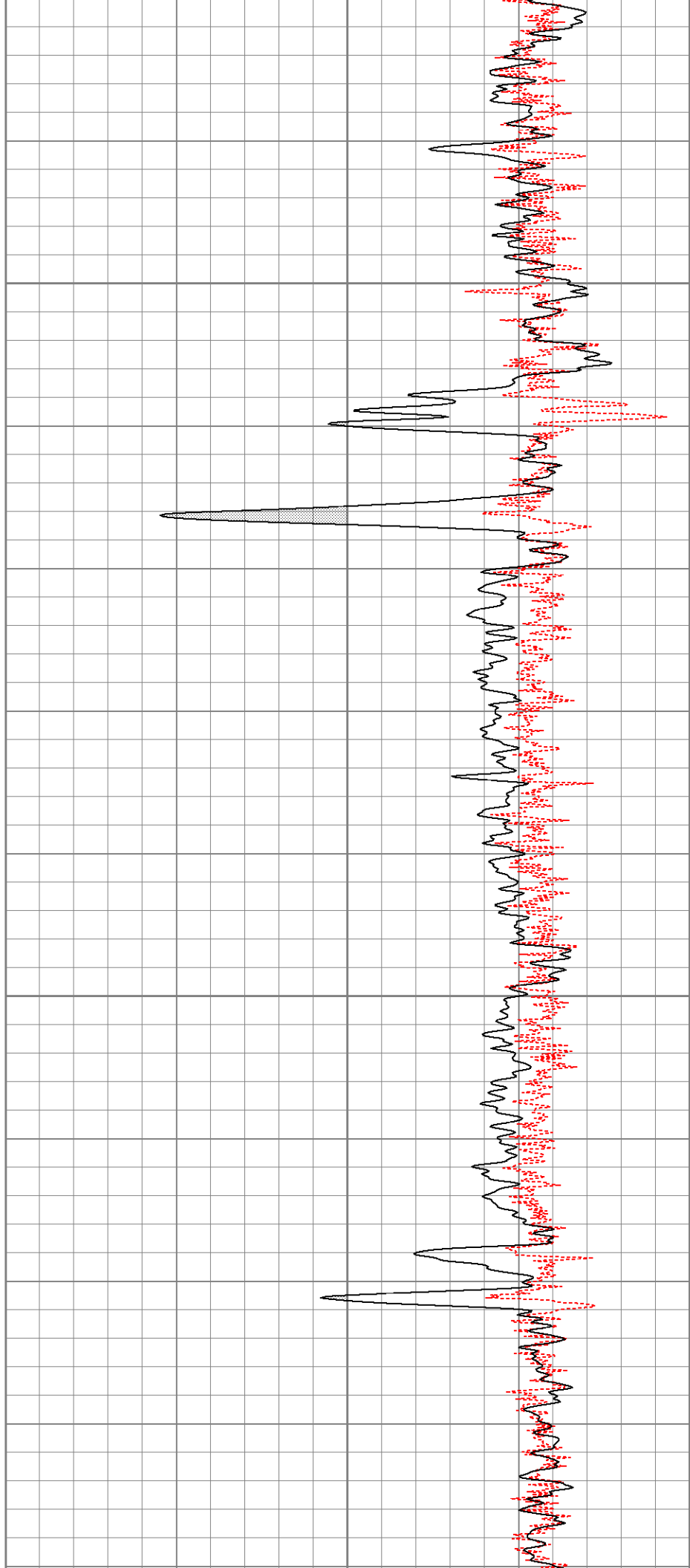
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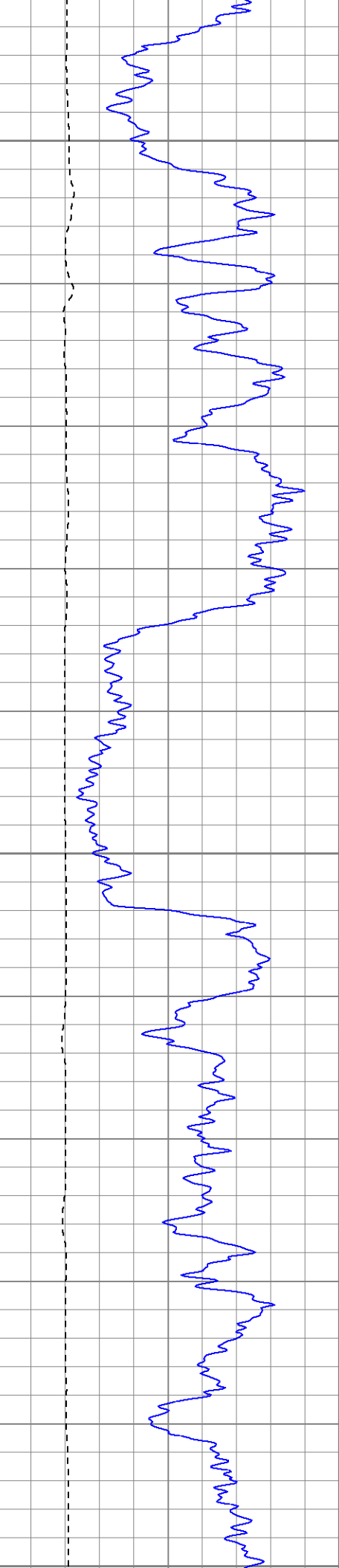




1050

1100

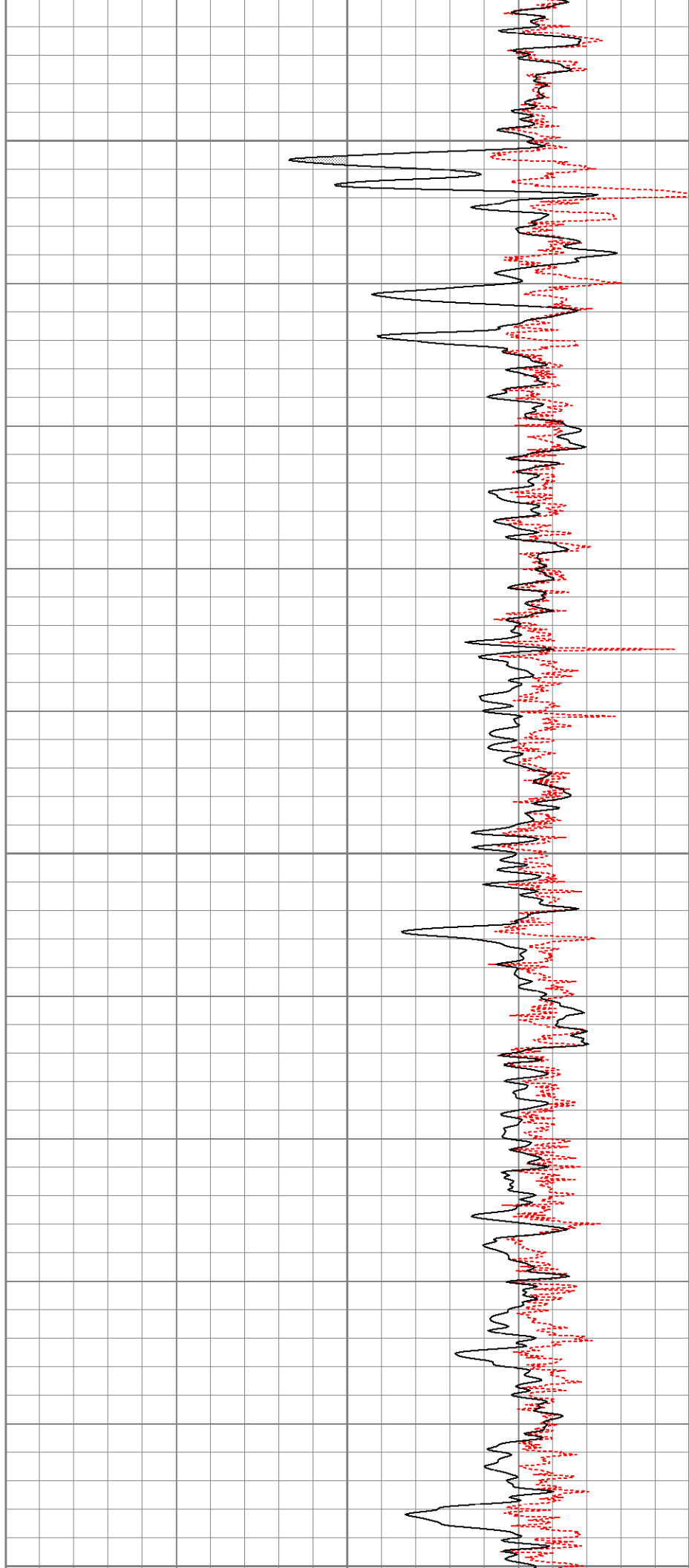


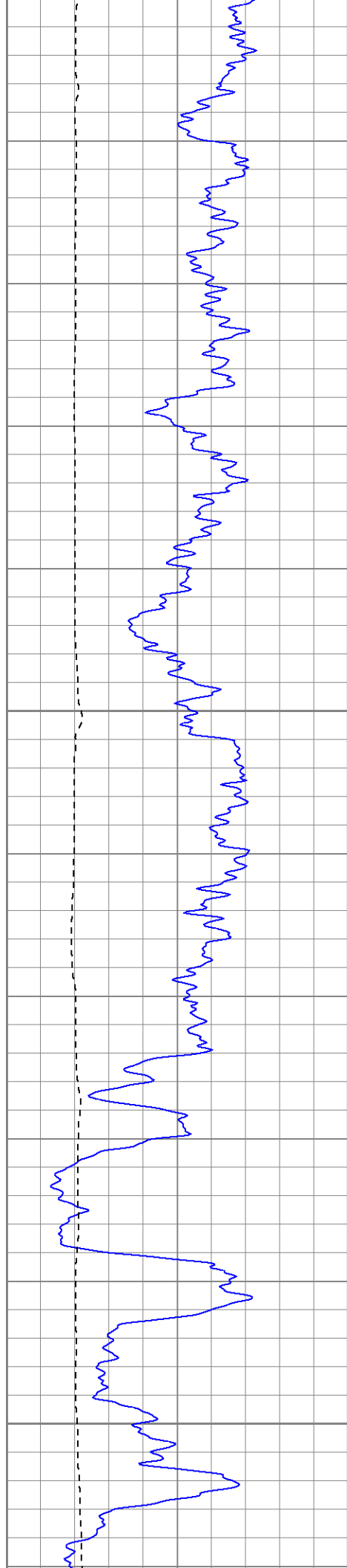


1150

1200

1250

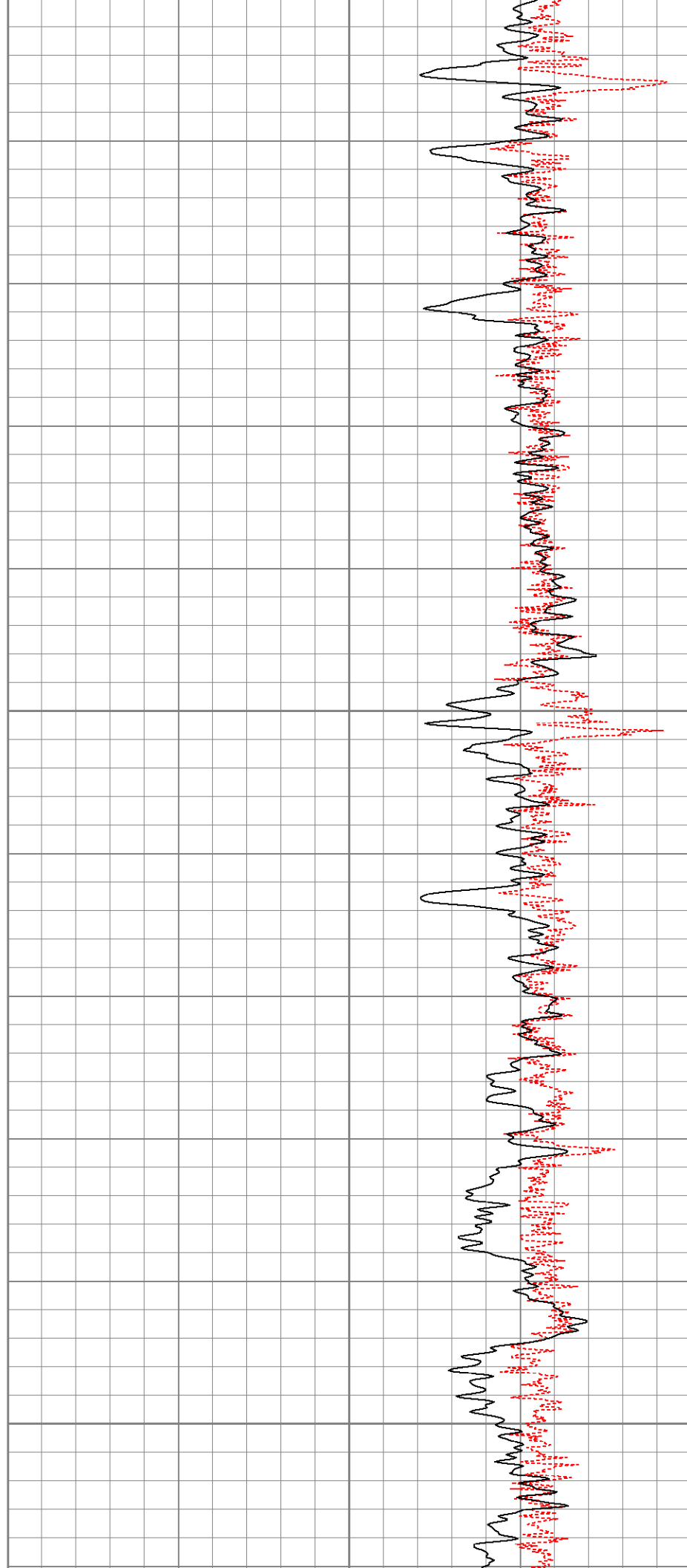


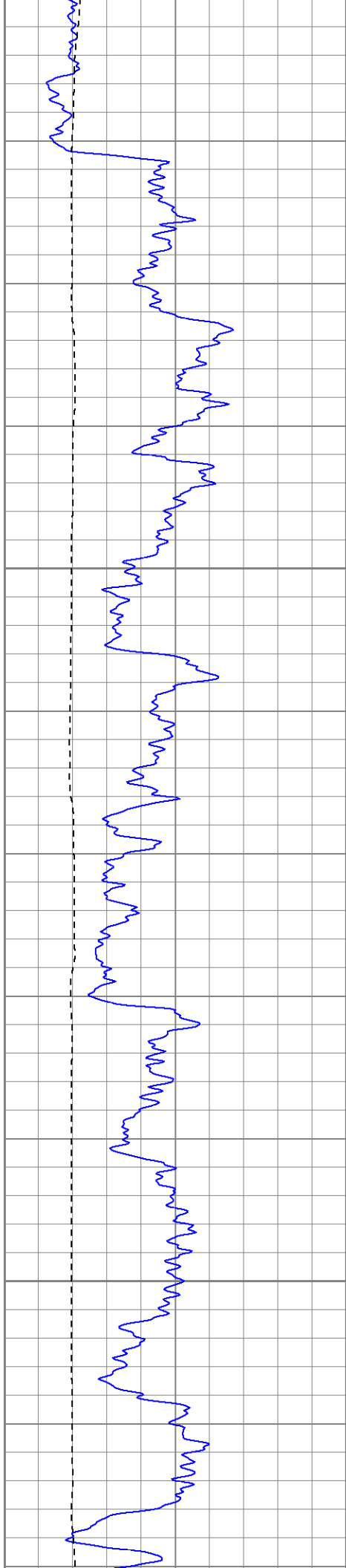


1250

1300

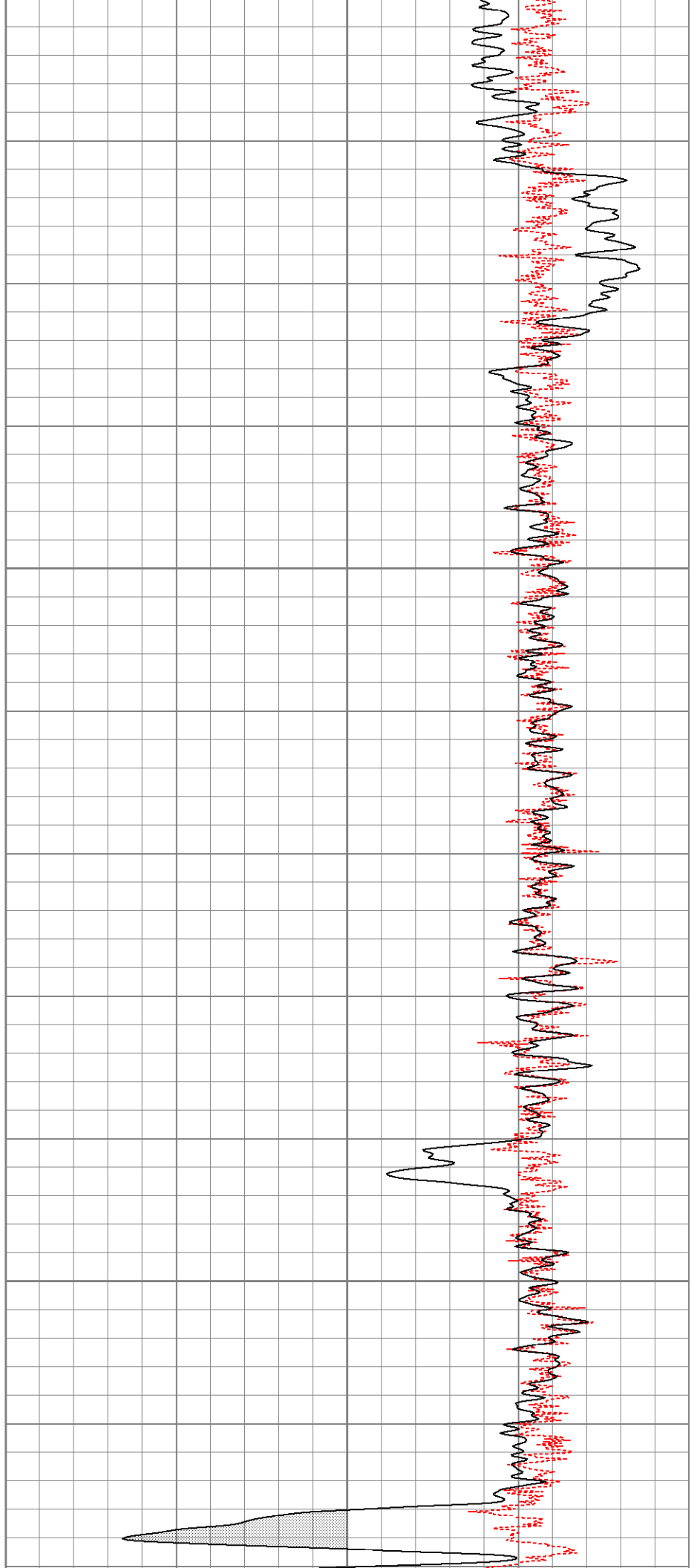
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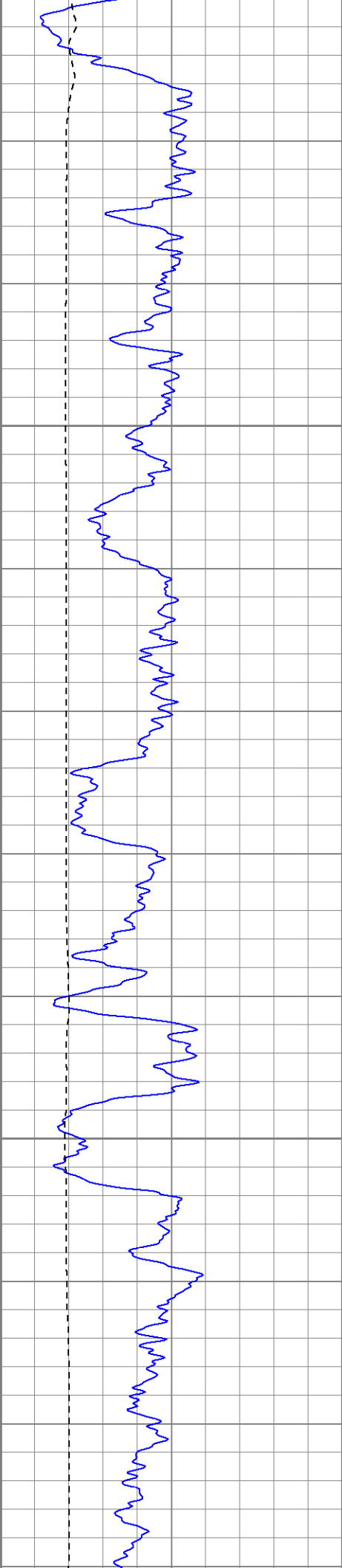




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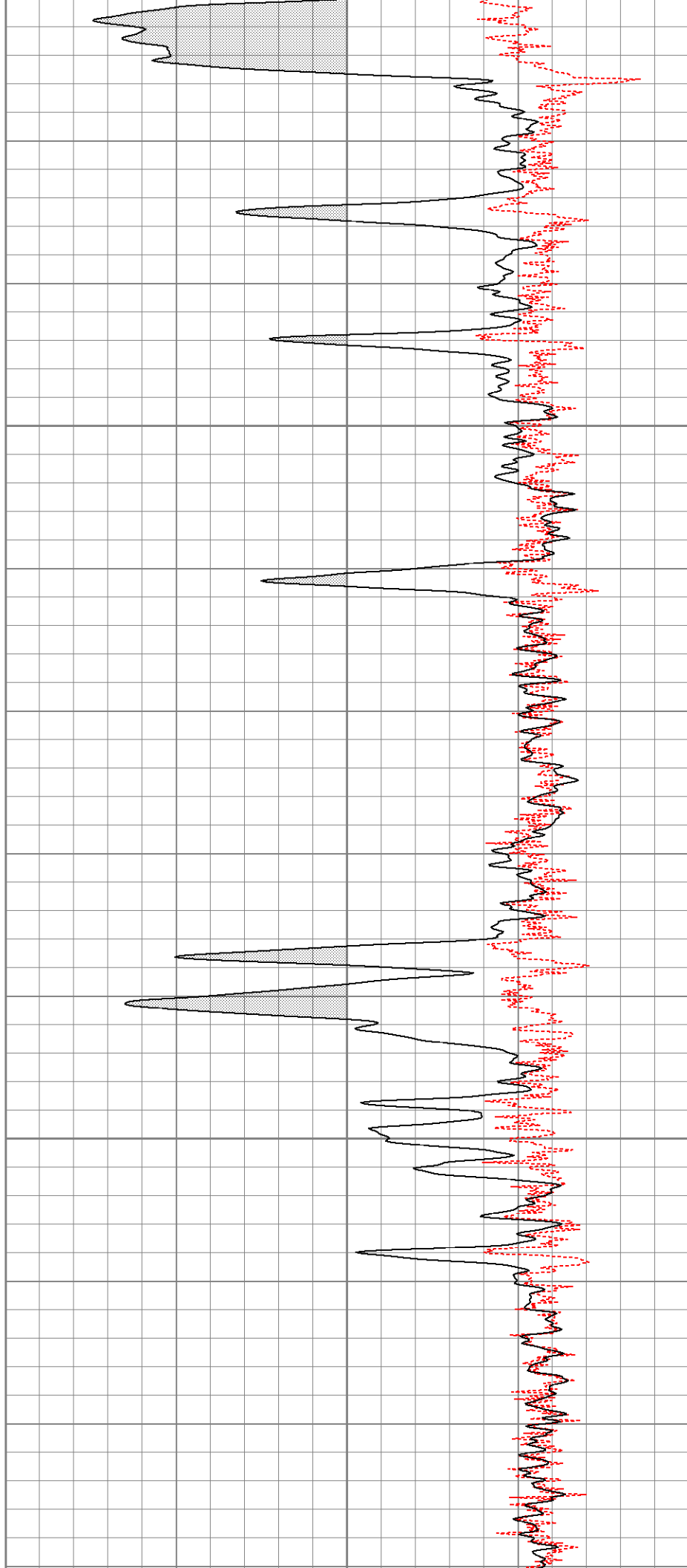
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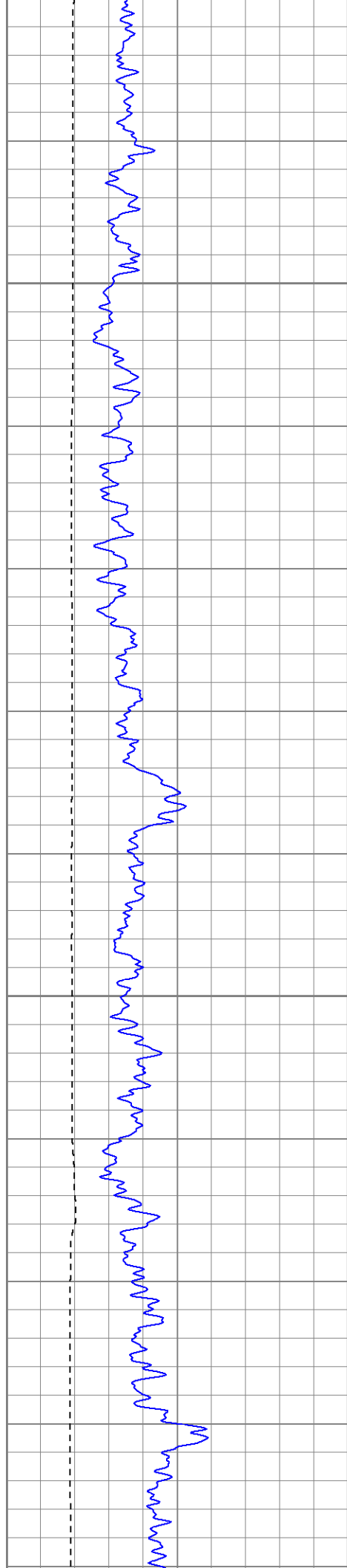




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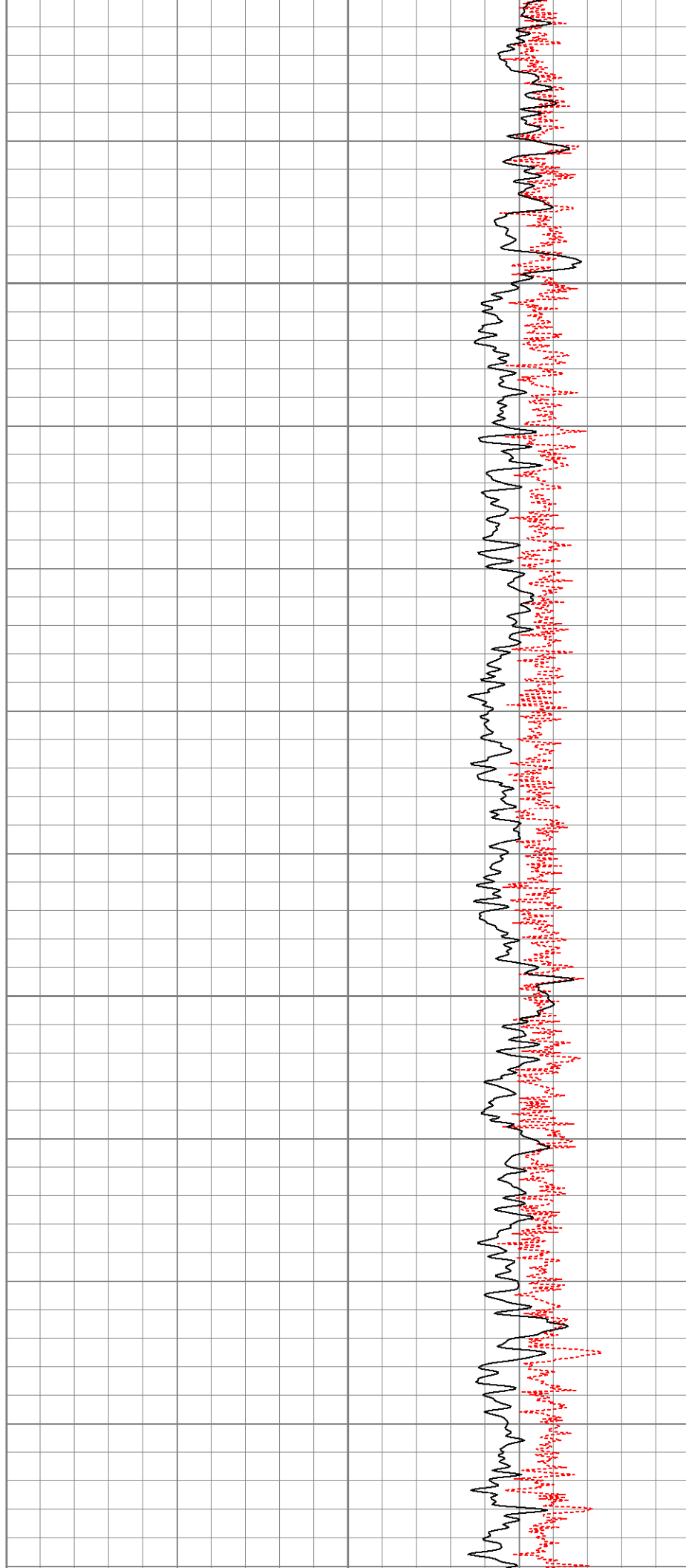
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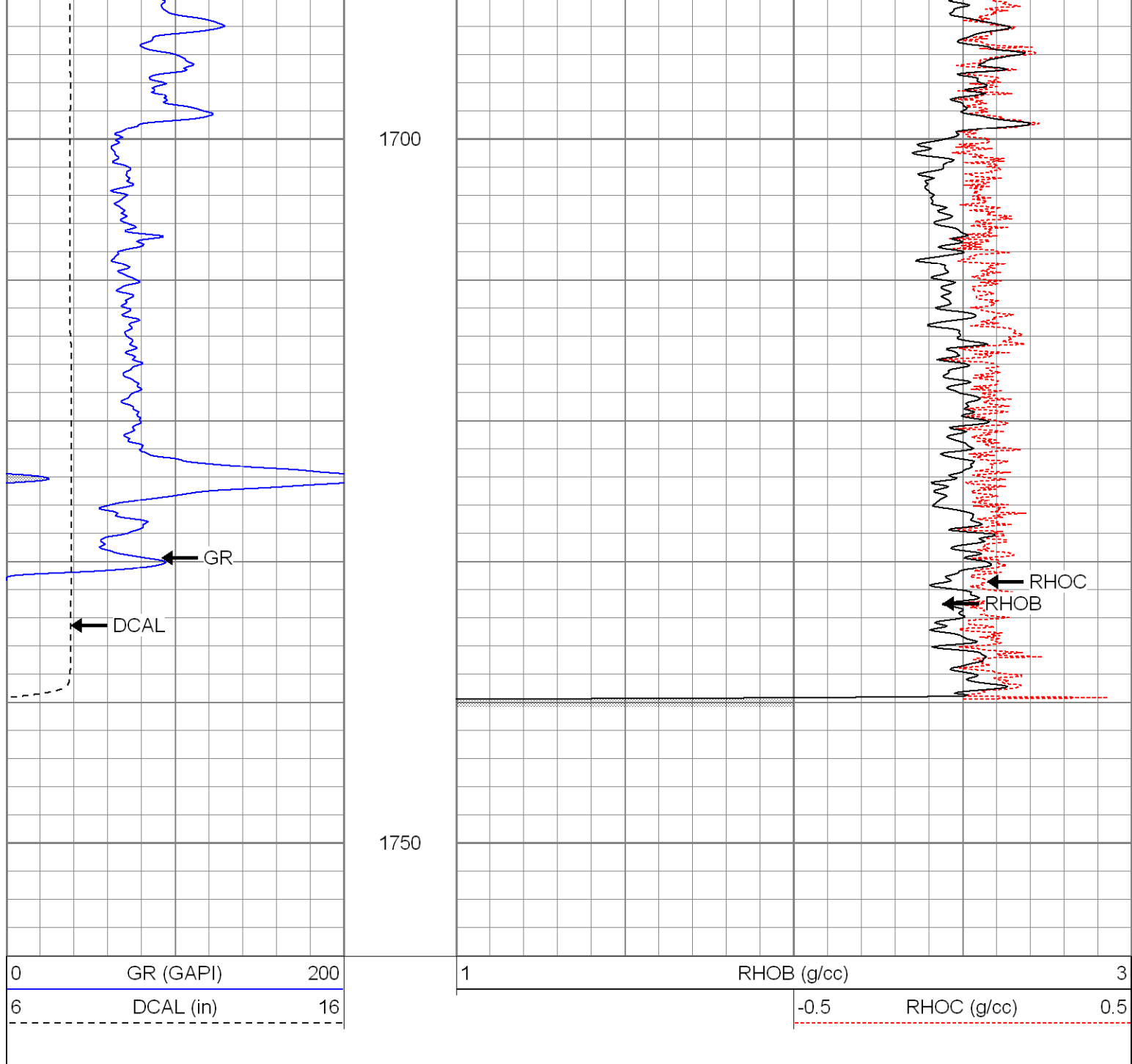




1600

1650





Calibration Report

Database File: e budd .db
Dataset Pathname: pass1
Dataset Creation: Sat Aug 09 22:16:06 2008 by Log Open-Cased 071220

Induction Tool Calibration Report

Serial Number: 121
Tool Model: GL121
Downhole Cal Performed: Thu Aug 07 12:46:17 2008
Surface Cal Performed: Thu Aug 07 12:46:11 2008

Surface Calibration:	Air	Loop	
Conductivity Reference:	0.000	450.000	mmho
Conductivity Reading:	0.010	0.634	V
Internal Reference:	Zero	Cal	
Conductivity Reference:	0.000	500.000	mmho
Conductivity Reading:	0.007	0.619	V

Downhole Calibration:	Conductivity Reference:	Internal Zero	Internal Cal	
	Conductivity Reading:	-2.555	439.683	mmho
	Short Normal Reference:	-1.577	443.895	V
	Short Normal Reading:	0.000	17.000	Ohm-m
		0.005	0.195	V
Results:				
	Gain	Offset		
Loop Conductivity:	721.720	-7.387		
Downhole Correction:	0.993	-0.989		
Short Normal Resistivity:	89.266	-0.436		

Temperature Calibration Report				
Serial Number:	2099T			
Tool Model:	CDLP			
Performed:	Tue Aug 05 12:45:58 2008			
	Reference	Reading		
Low Reference:	55.00 degF	3.15	V	
High Reference:	161.00 degF	5.35	V	
Gain:	48.18			
Offset:	-96.77			
Delta Spacing	1			

Compensated Density Calibration Report					
Serial-Model:			2099-NG		
Source / Verifier:			csv-n20 / blocks		
Master Calibration Performed:			Tue Aug 05 12:45:51 2008		
Master Calibration					
	Density		Far Detector	Near Detector	
Magnesium	1.710	g/cc	426.18	194.49	cps
Aluminum	2.590	g/cc	85.17	121.21	cps
	Spine Angle = 73.64		Density/Spine Ratio = 0.524		
	Size		Reading		
Small Ring	8.00	in	1.65	V	
Large Ring	14.00	in	2.99	V	

Gamma Ray Calibration Report				
Serial Number:	2000			
Tool Model:	P2000			
Performed:	Tue Aug 05 11:45:31 2008			
Calibrator Value:	200.0	GAPI		
Background Reading:	54.0	cps		
Calibrator Reading:	219.0	cps		
Sensitivity:	0.2300	GAPI/cps		

Neutron Calibration Report				
Serial Number:	5108			
Tool Model:	P			
Performed:	Tue Aug 05 09:45:17 2008			
Calibrator Value:	1	NAPI		

cps

NAPI/cps

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
NEU	33.08		NEU-P (5108)	4.92	3.63	85.00
GR	27.11		GR-P2000 (2000)	3.67	3.25	40.00
			CDL-NG (2099)	9.69	4.00	201.00
LSD DCAL SSD TEMP	18.32 18.02 17.77 17.08		TEMP-CDLP (2099T)	0.01	4.00	1.00
DIC	6.89		IEL-GL121 (121)	16.00	4.00	178.00
SP SN	1.50 1.00					
Dataset: e budd .db: field/well/run1/pass1 Total Length: 34.28 ft Total Weight: 505.00 lb O.D. 4.00 in						