



**Cement  
Bond  
Log**

Company Blackhawk Production Co.  
Well Sanders # 7  
Field Toulon  
County Ellis  
State Kansas

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Well Sanders # 7  
Field Toulon  
County Ellis  
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Location: API #: SE-SW-13  
SEC TWP RGE  
Permanent Datum Ground Level Elevation  
Log Measured From Ground Level  
Drilling Measured From Ground Level

Date	8-30-13							
Run Number	ONE							
Depth Driller	3568'							
Depth Logger	3563'							
Bottom Logged Interval	3551'							
Top Log Interval	1110'							
Open Hole Size	7 7/8"							
Type Fluid	Water							
Density / Viscosity	////							
Max. Recorded Temp.	////							
Estimated Cement Top	3150'							
Time Well Ready	7:00 P.M							
Time Logger on Bottom	7:15 P.M							
Equipment Number	T-747							
Location	Hays,KS							
Recorded By	Casey							
Witnessed By	Todd							
Borehole Record			Tubing Record					
Run Number	Bit	From	To	Size	Weight	From	To	
Casing Record	Size	Wgt/Ft		Top	Bottom			
Surface String								
Prot. String								
Production String								
Liner								

<<< Fold Here >>>

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.

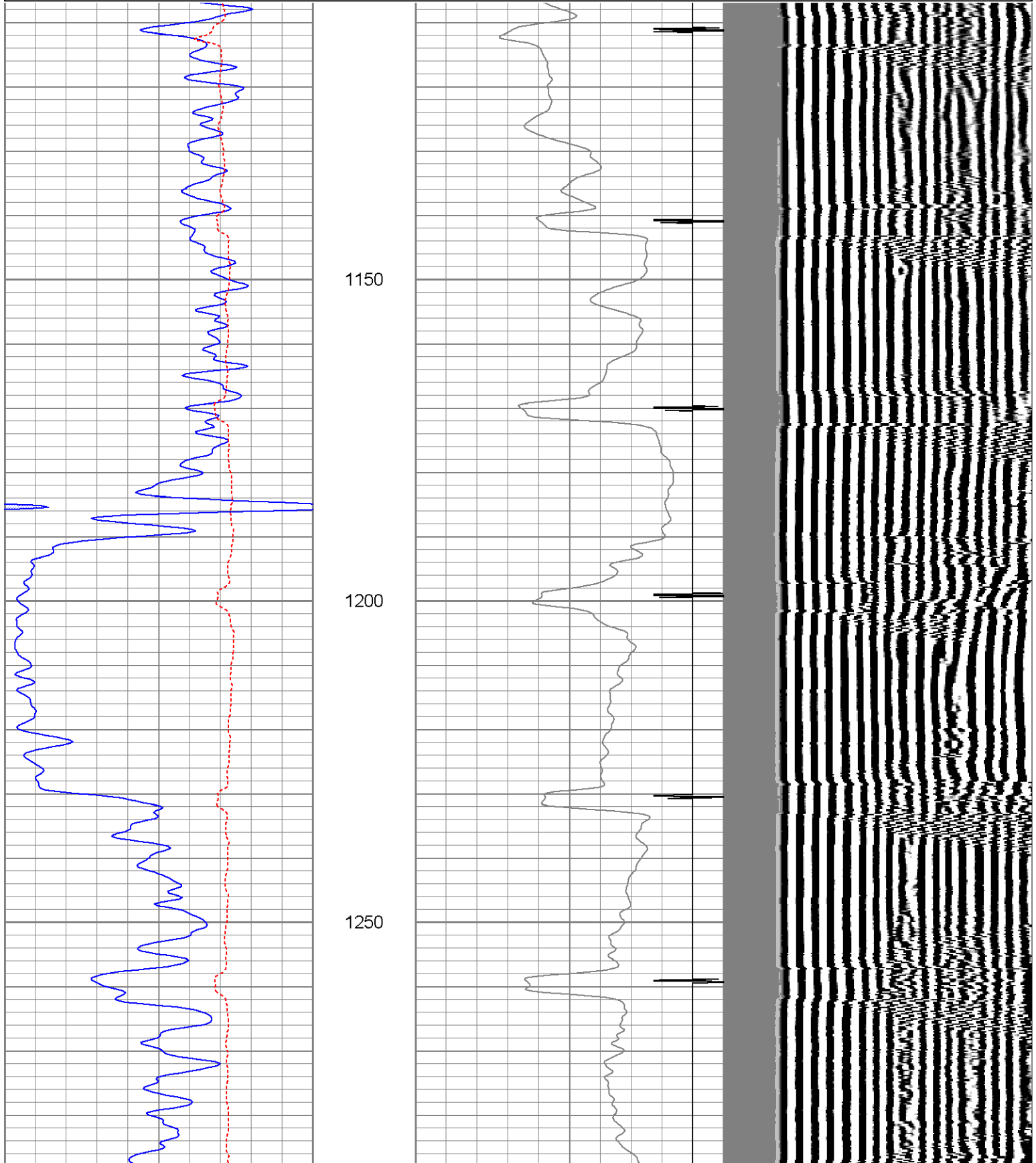
Comments

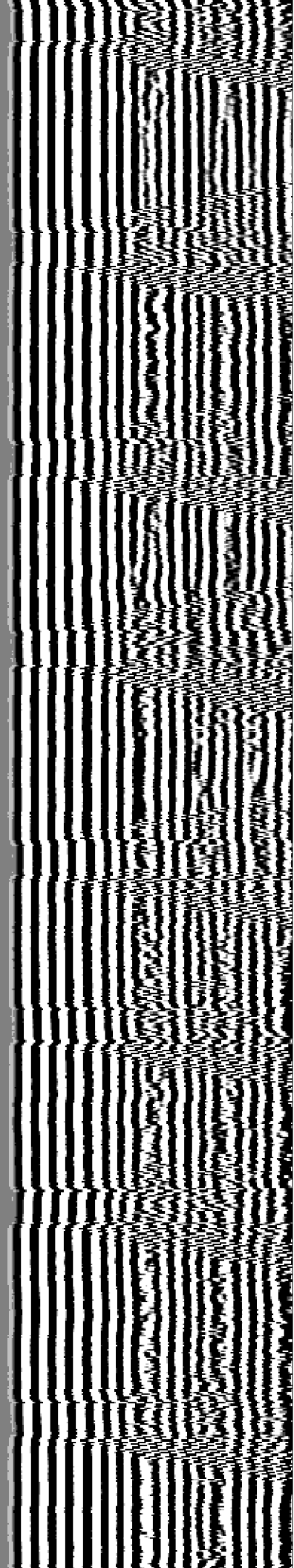
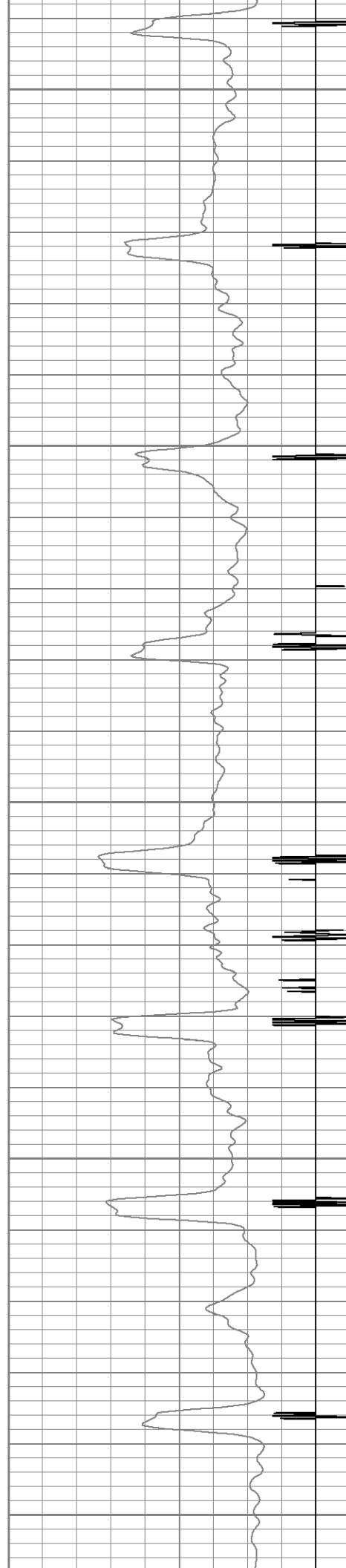
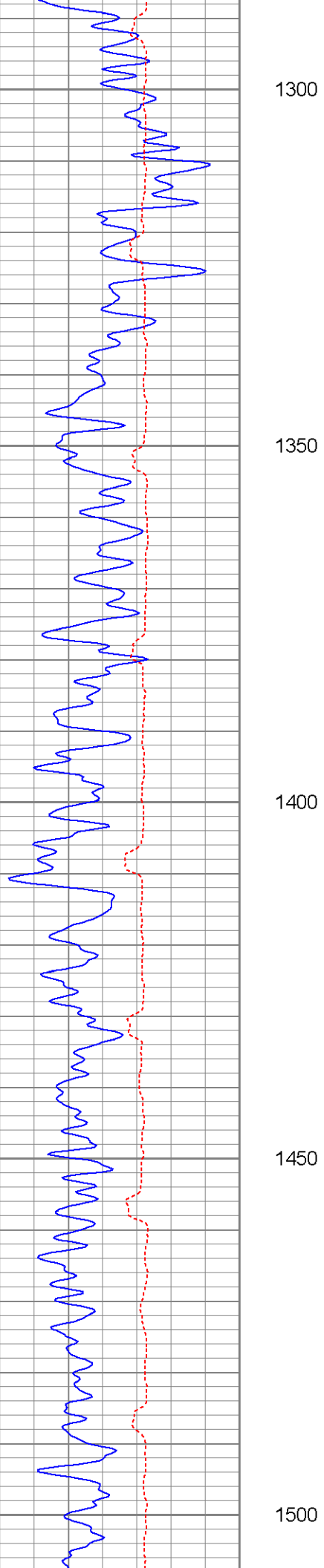


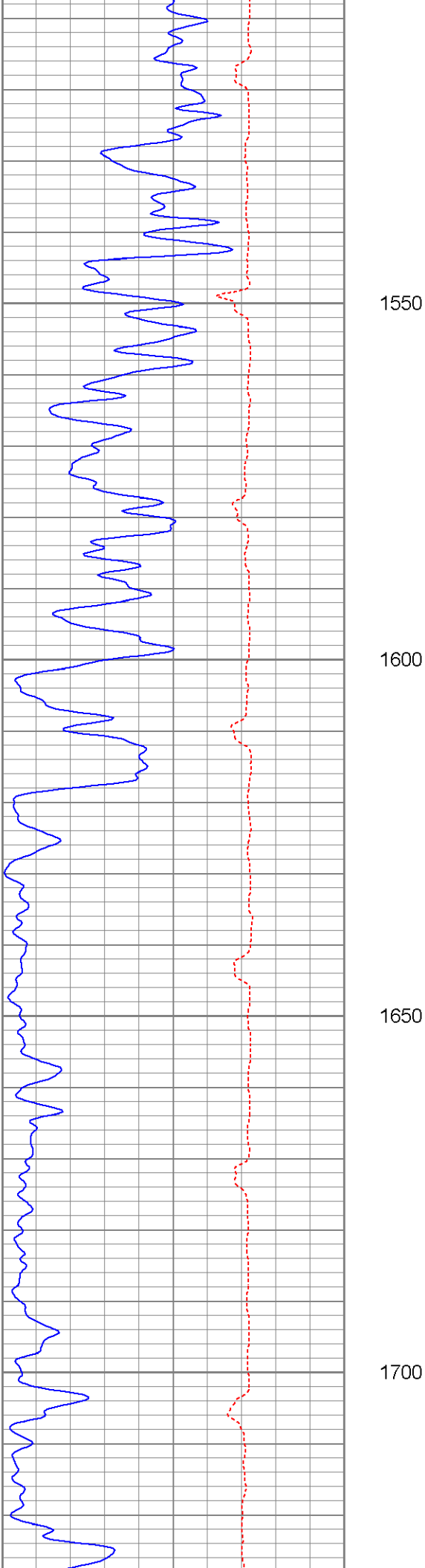
# Main Pass

Database File: sanders #7.db  
 Dataset Pathname: pass5  
 Presentation Format: cbl  
 Dataset Creation: Fri Aug 30 20:21:29 2013 by Log Std Casedhole 10071  
 Charted by: Depth in Feet scaled 1:240

0	GR (GAPI)	150	18	CCL	-2	200	VDL	1200
150	GR (GAPI)	300	0	AMP3 (mV)	100			
420	TT3FT (usec)	220						





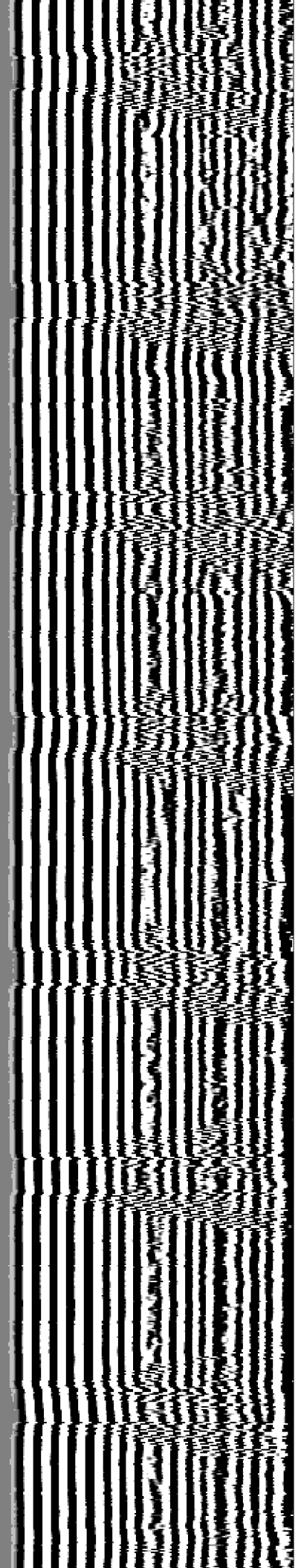
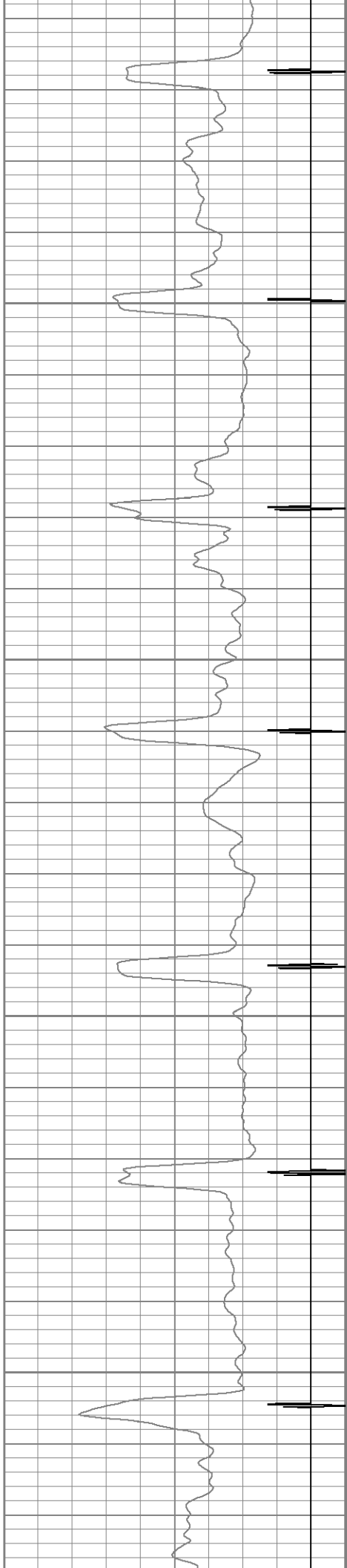


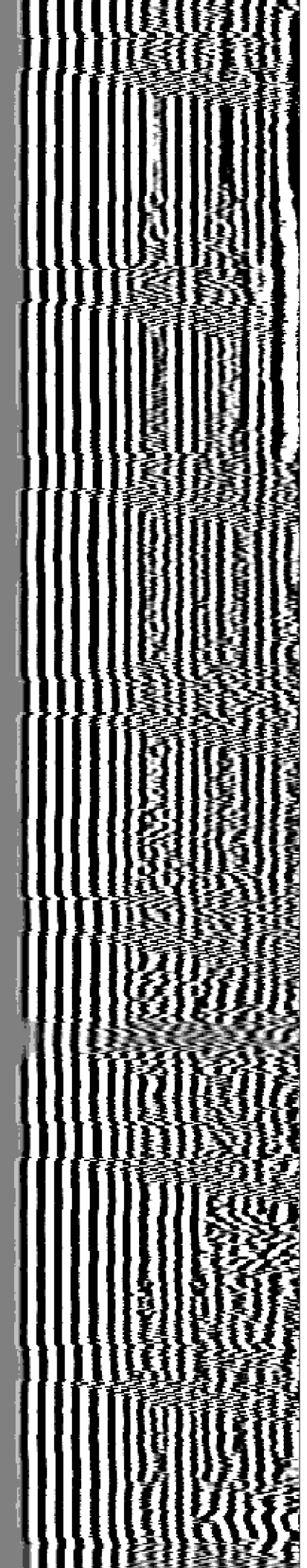
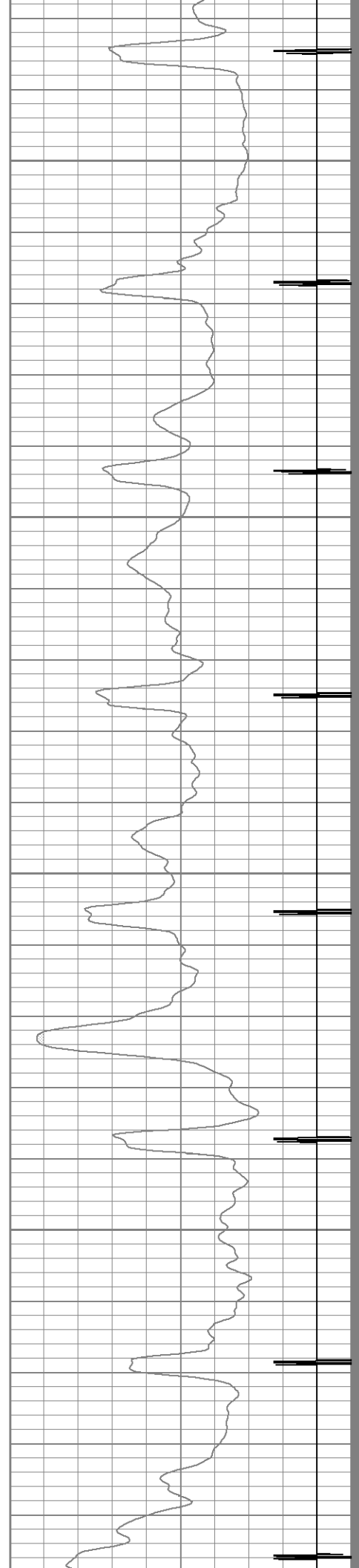
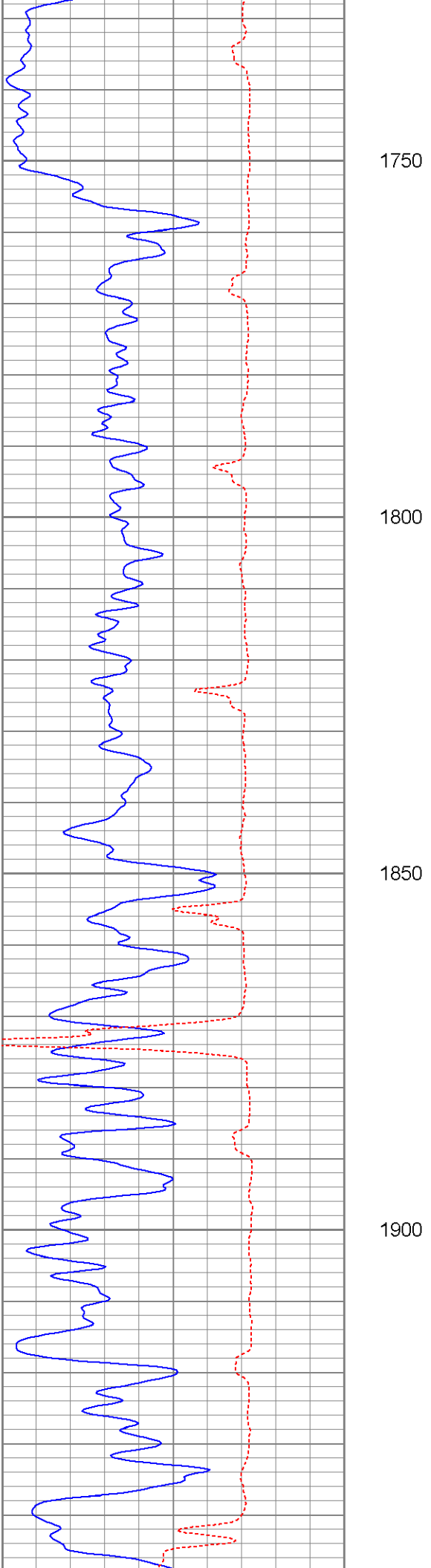
1550

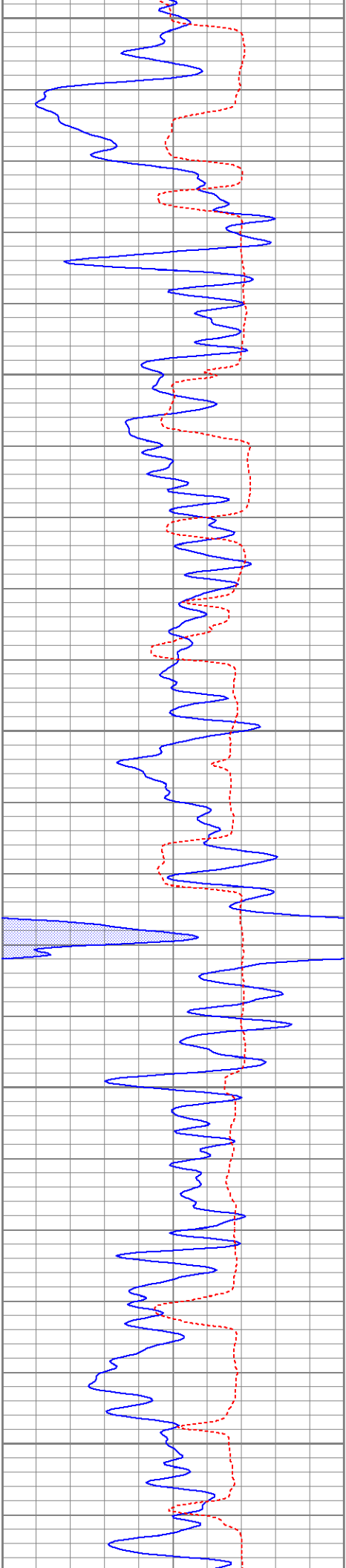
1600

1650

1700







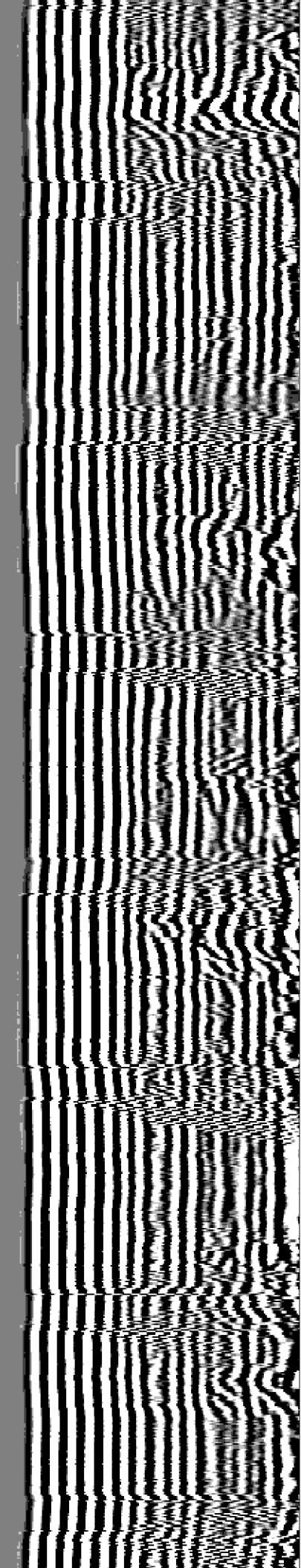
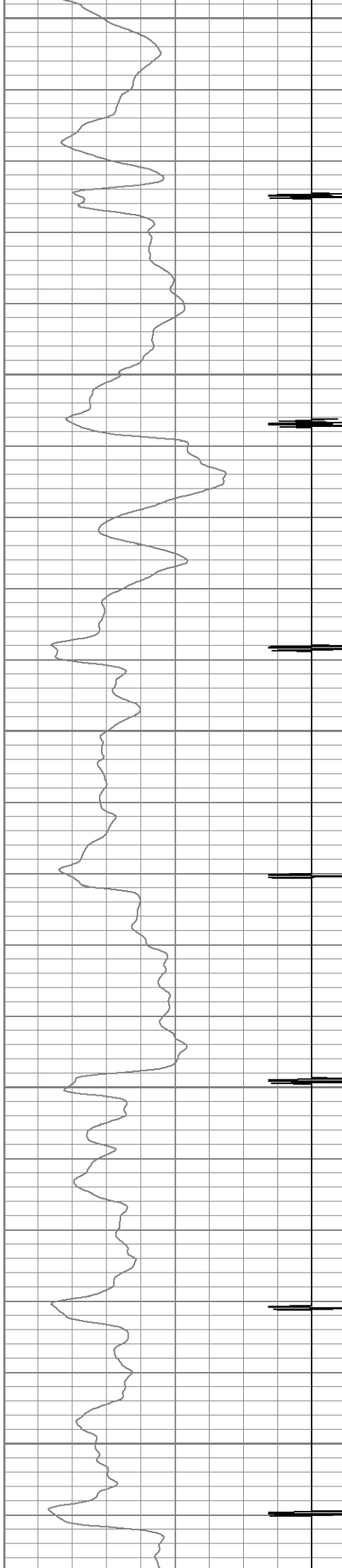
1950

2000

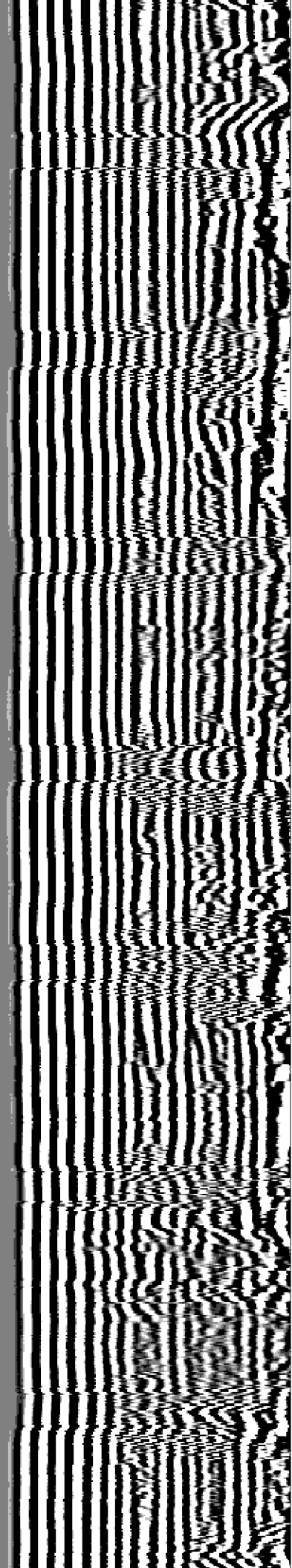
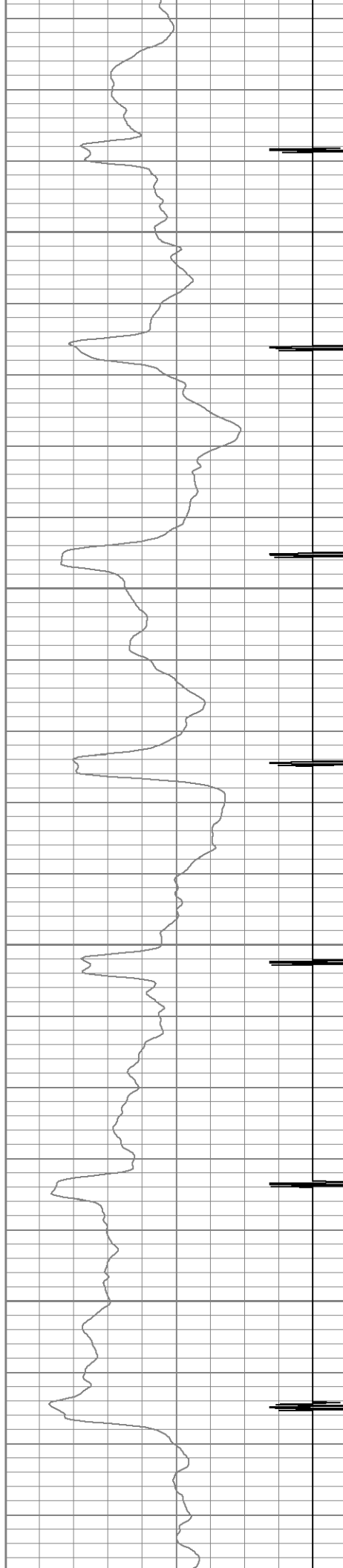
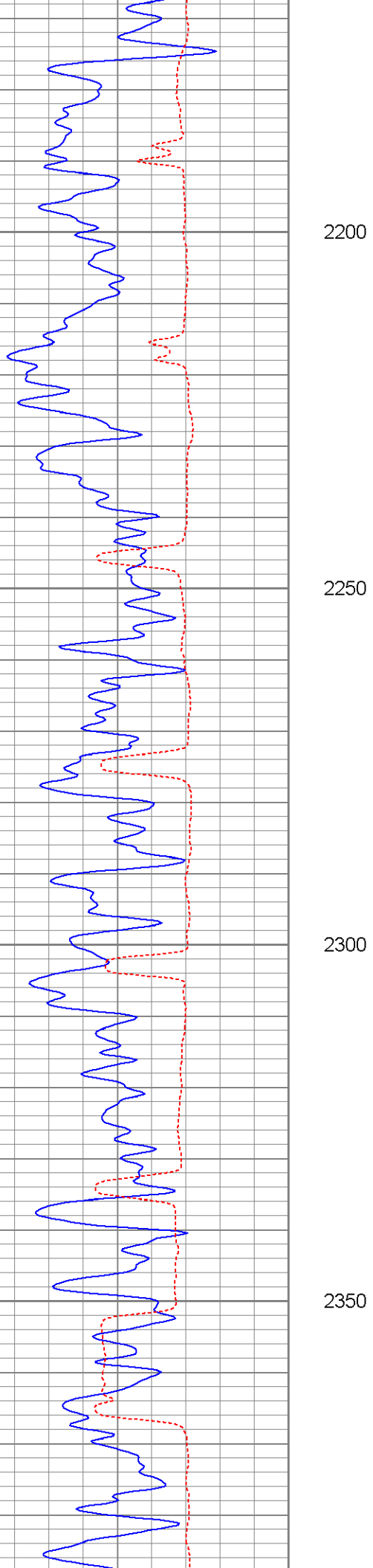
2050

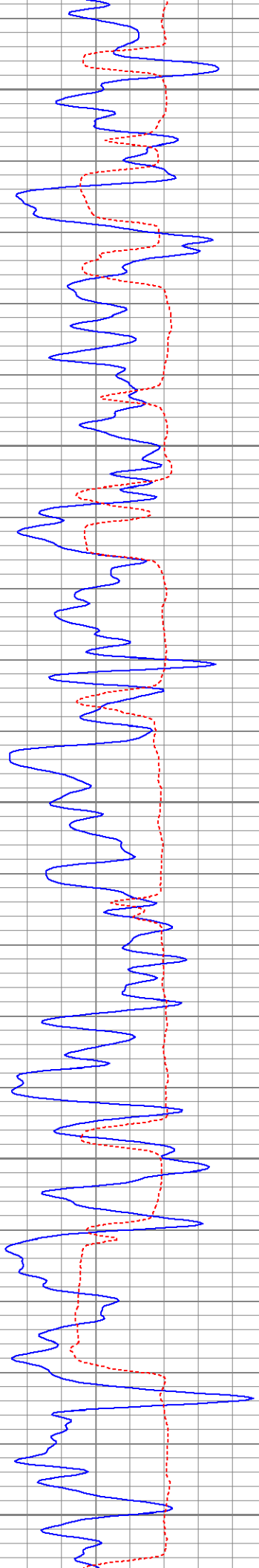
2100

2150









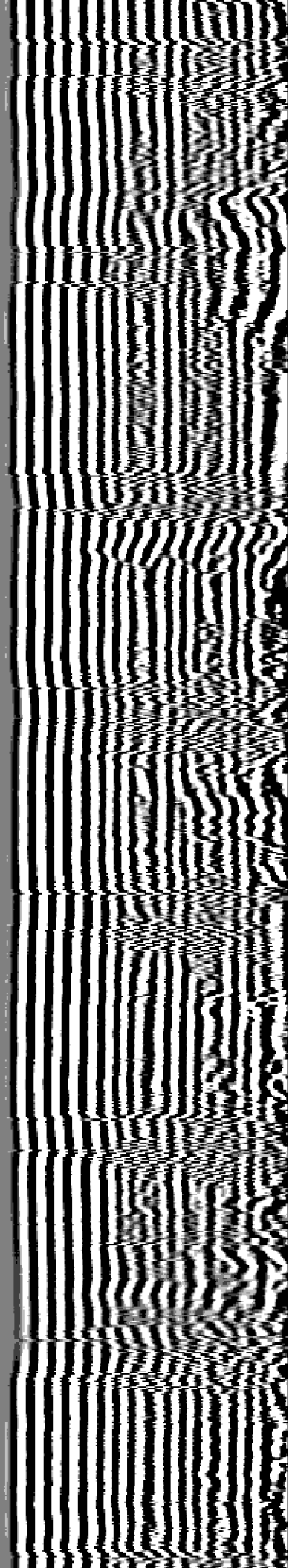
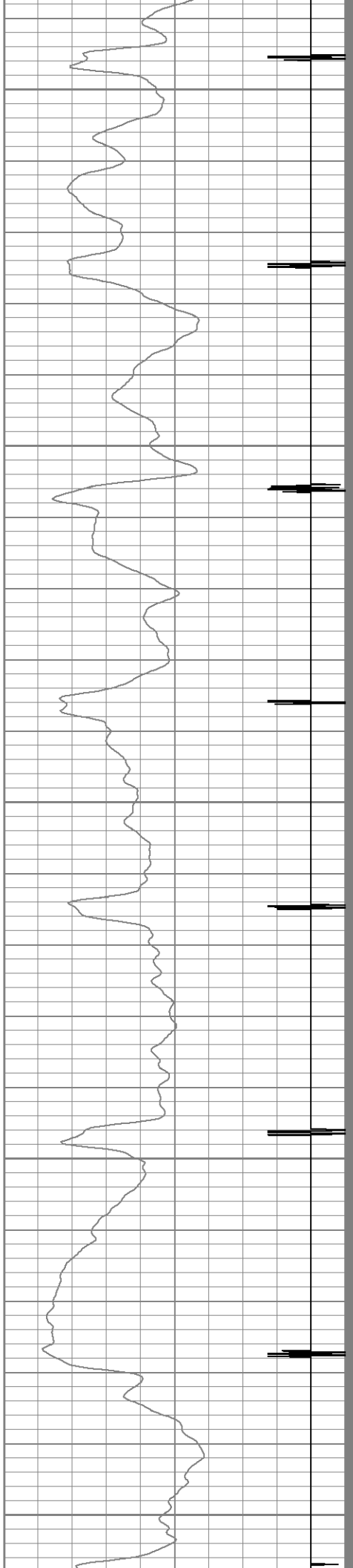
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2450

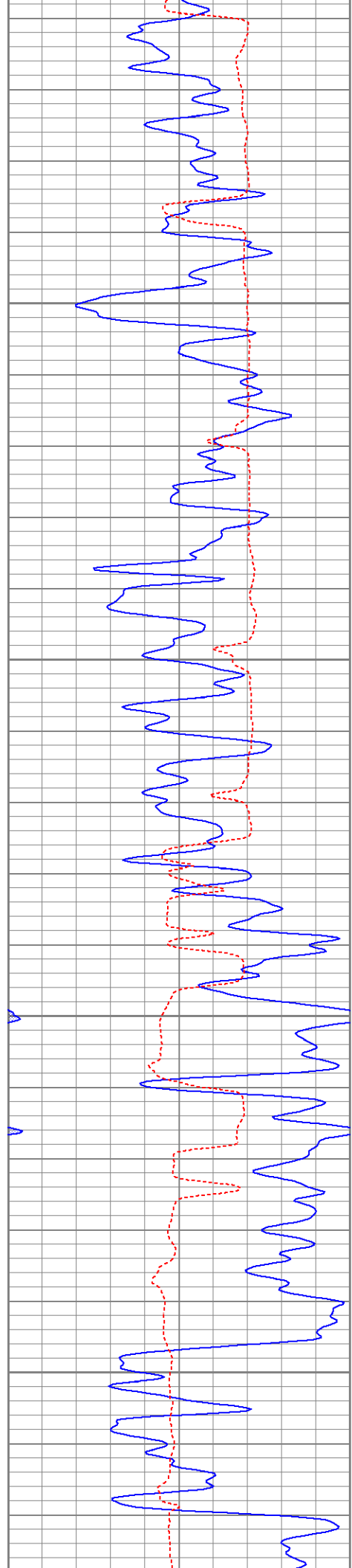
2500

2550

2600





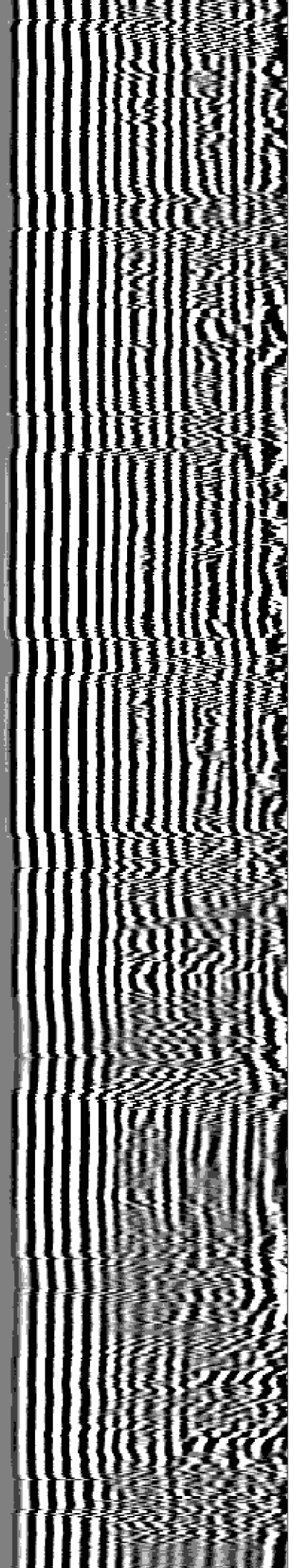
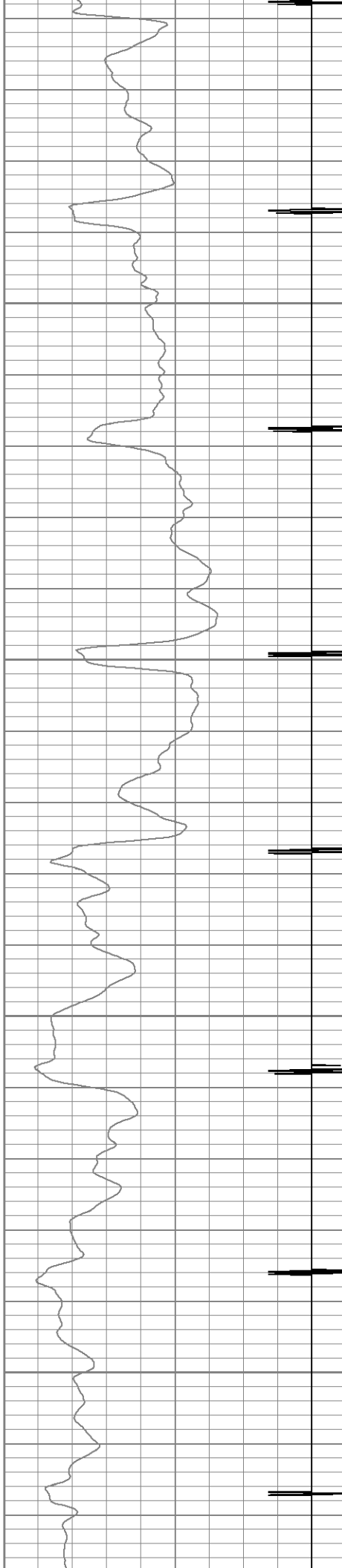


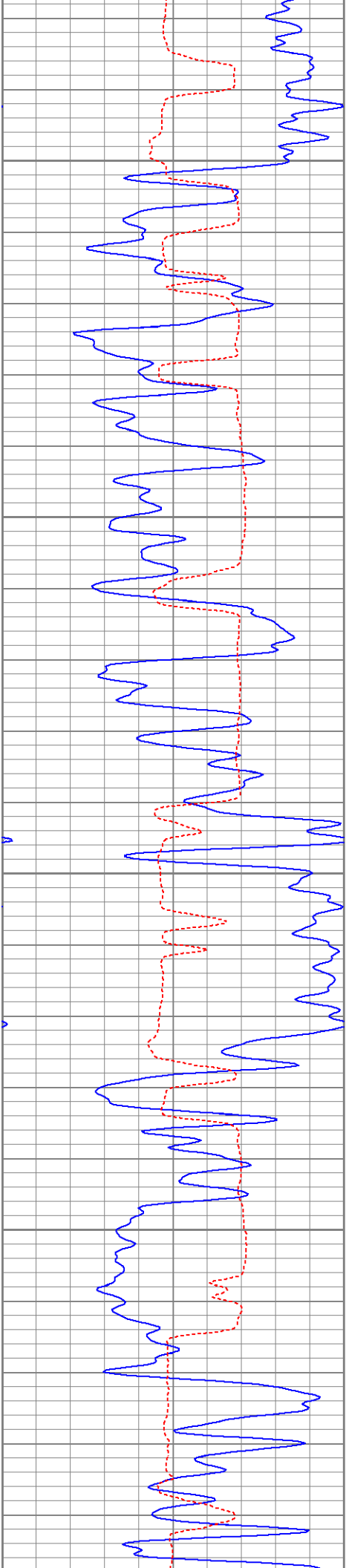
2650

2700

2750

2800



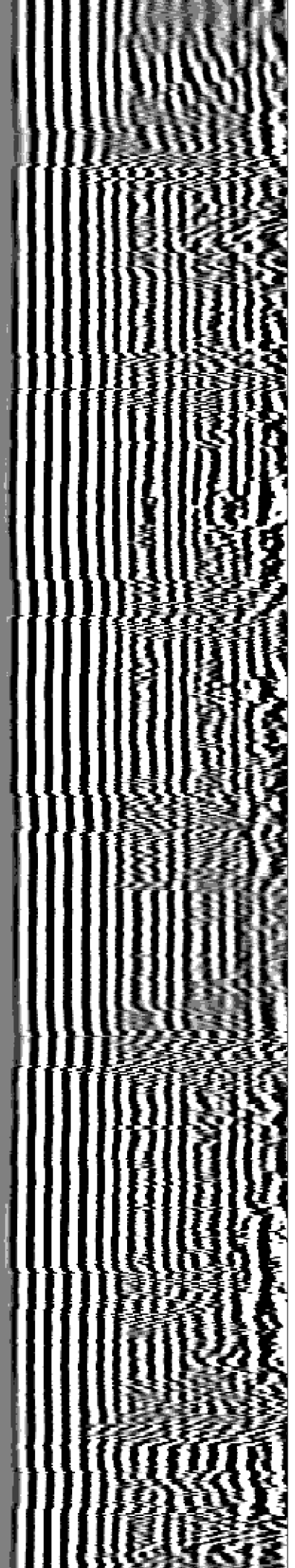
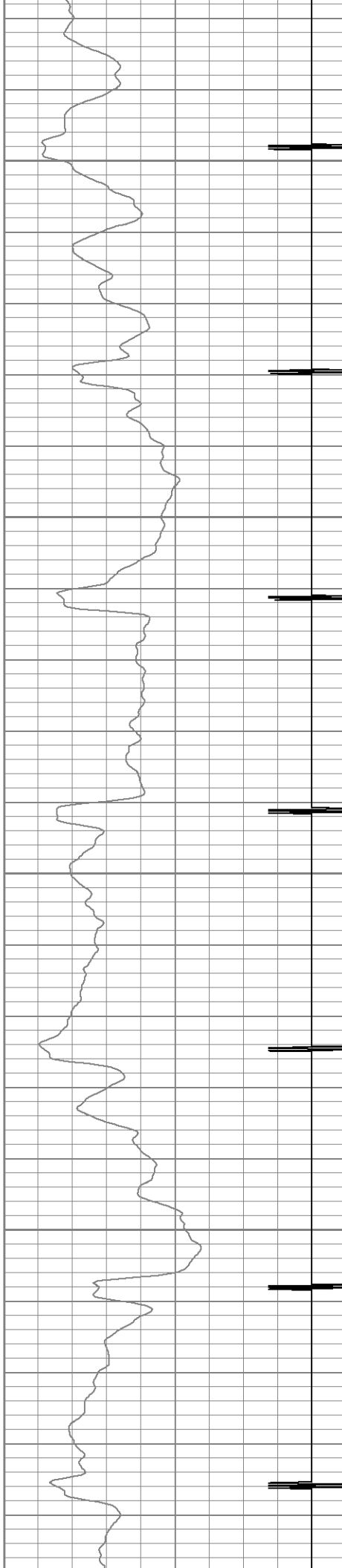


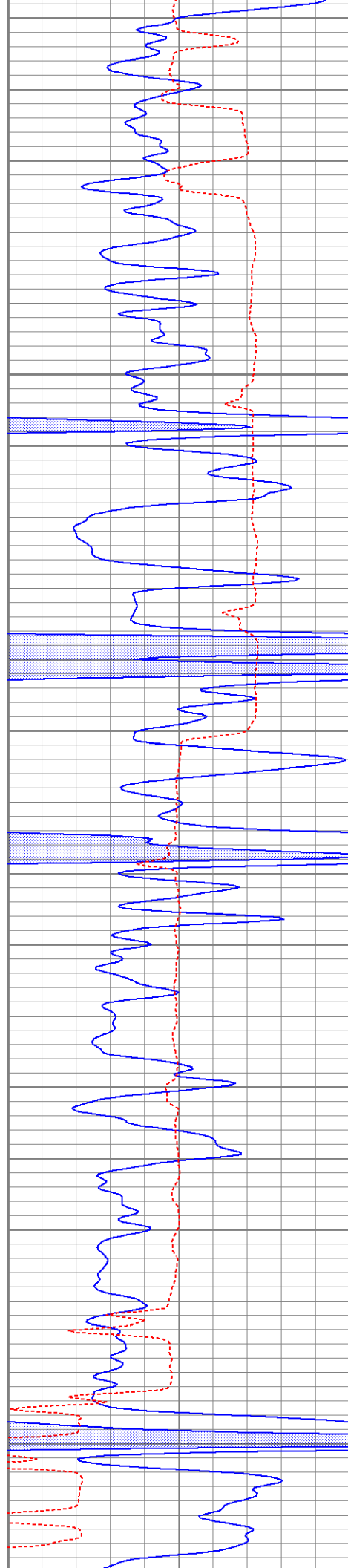
2850

2900

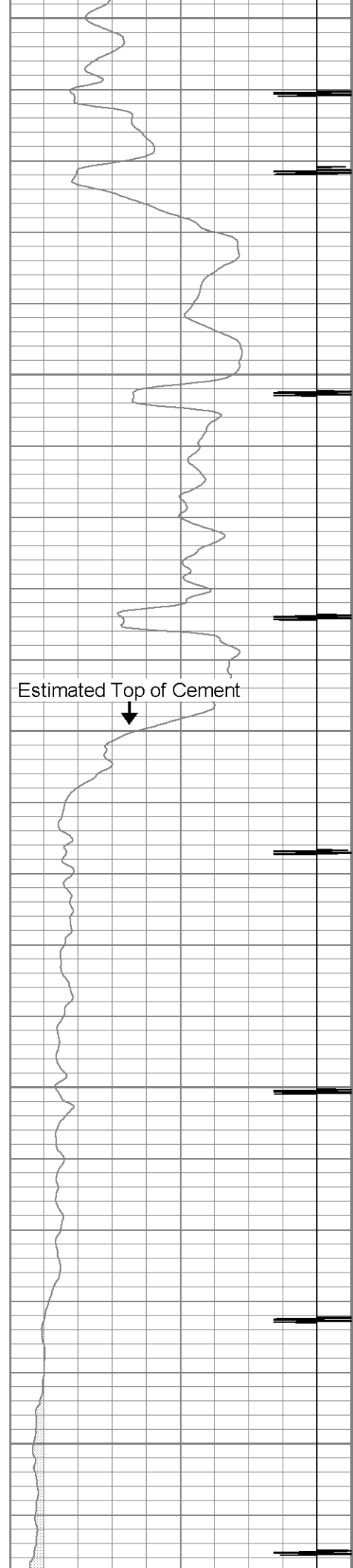
2950

3000

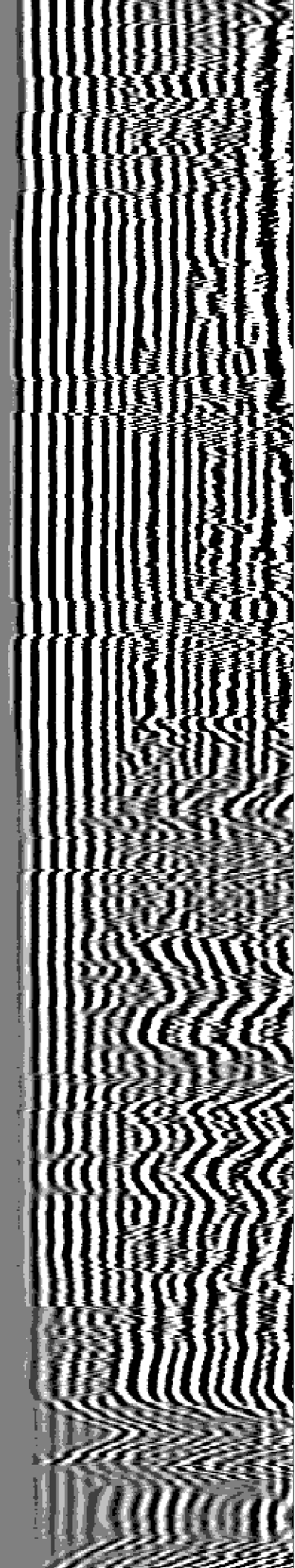


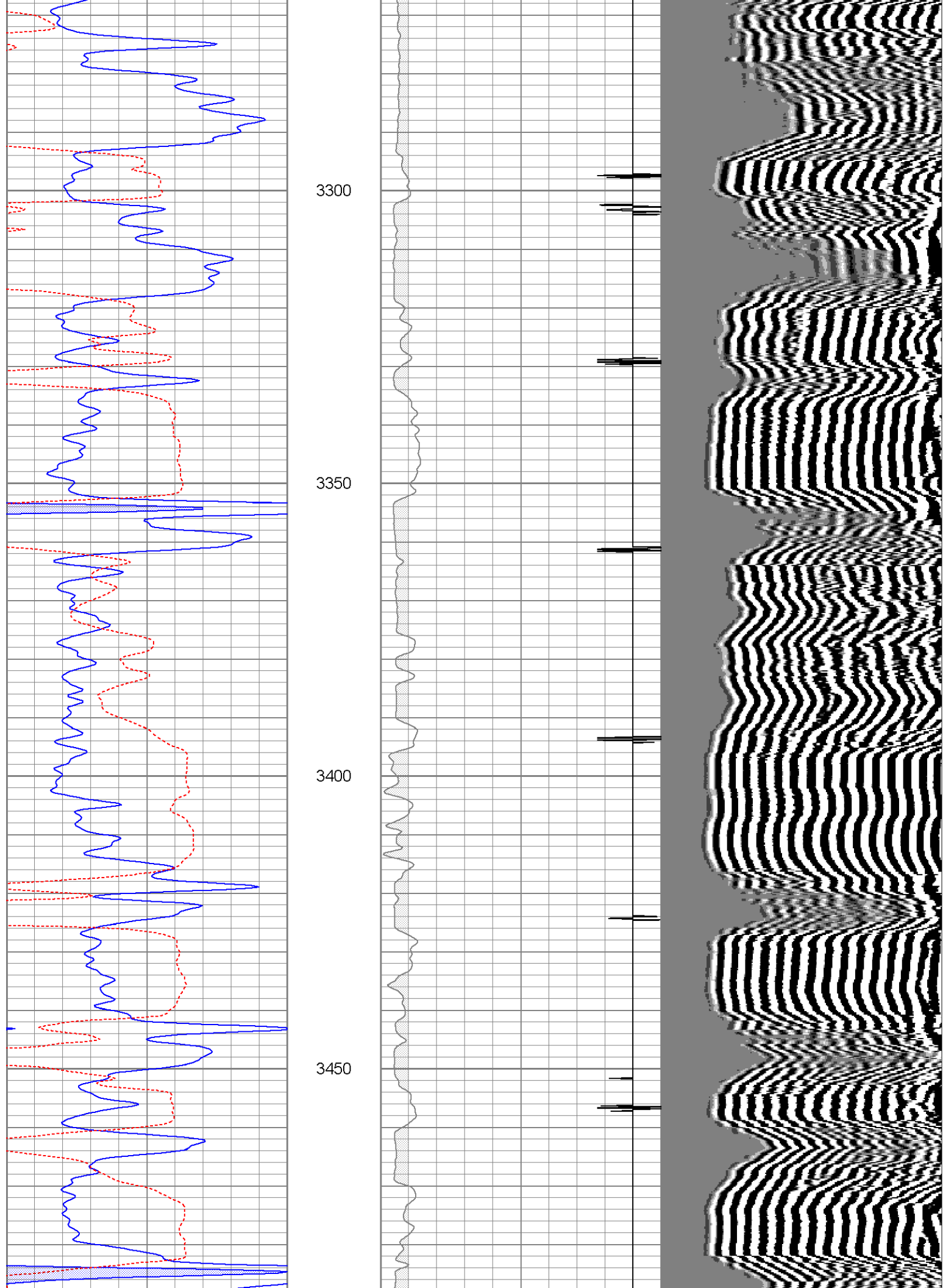


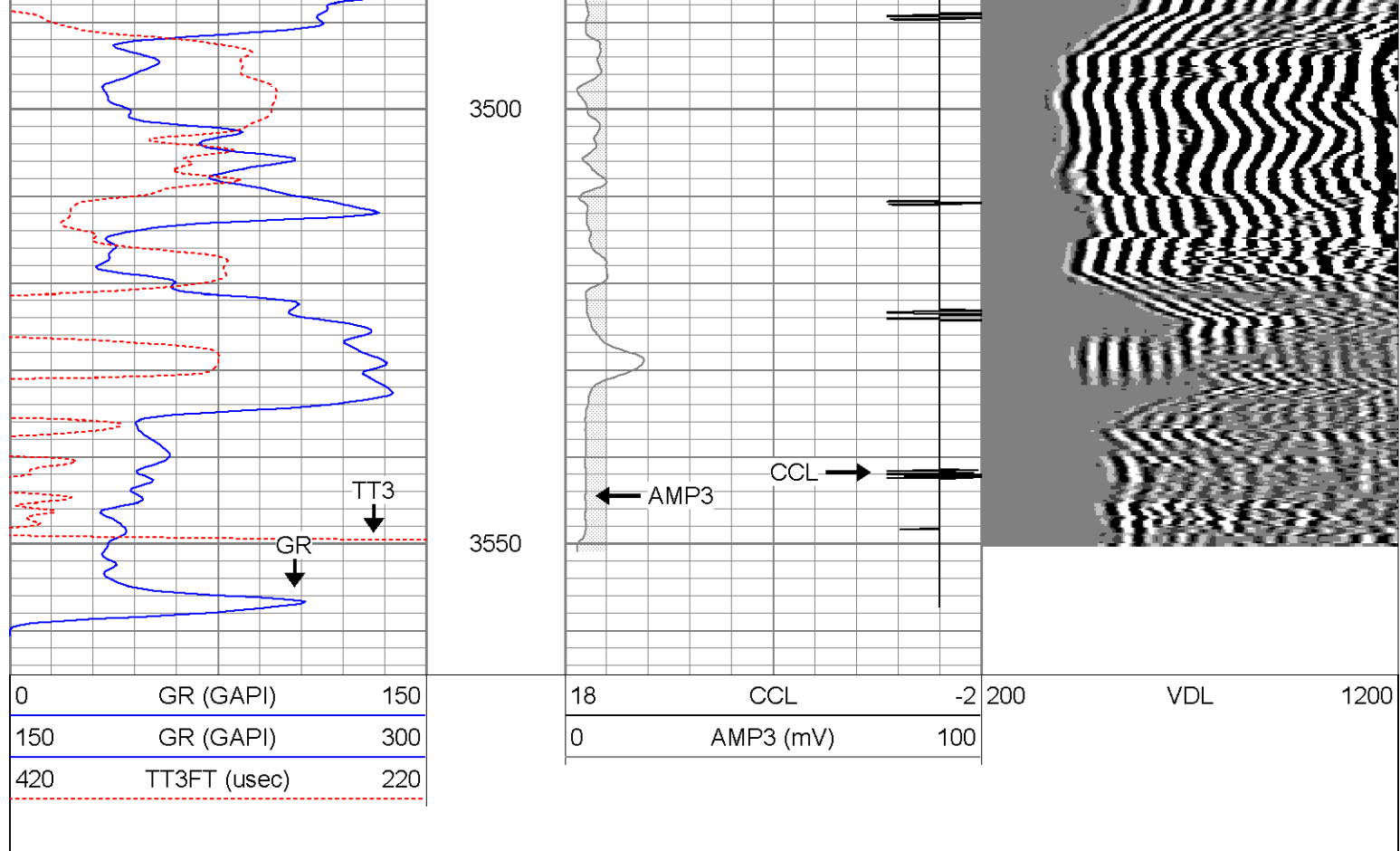
3050  
3100  
3150  
3200  
3250



Estimated Top of Cement  
↓

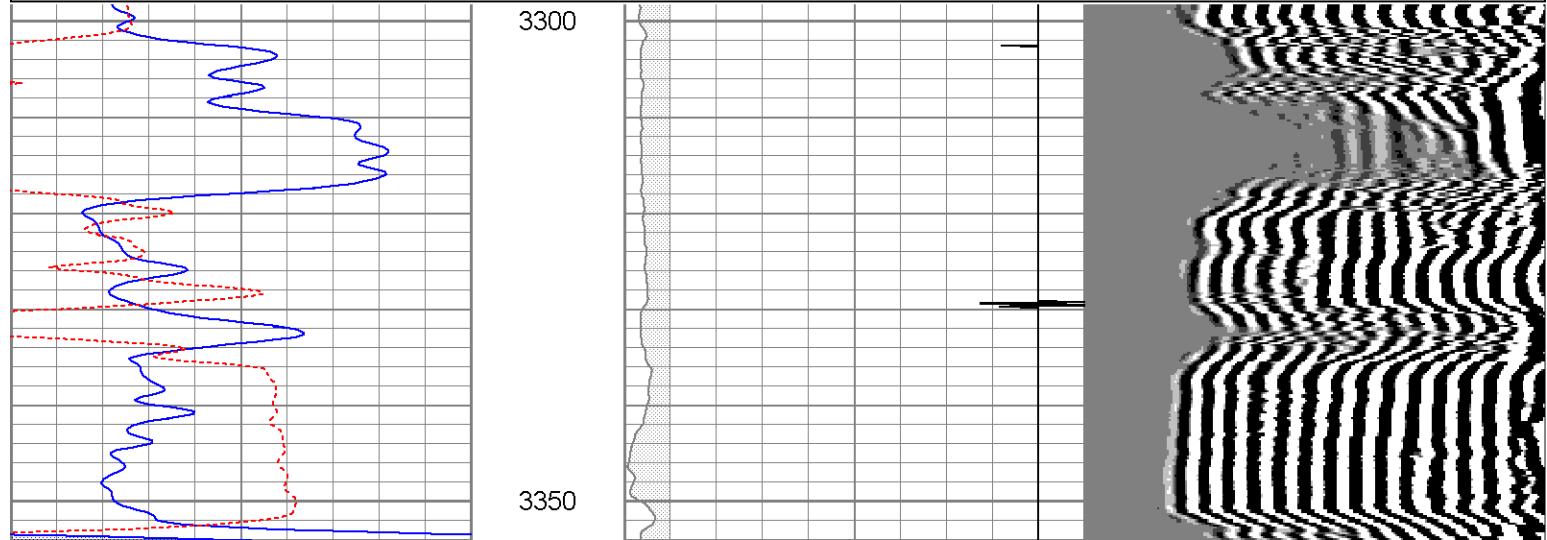
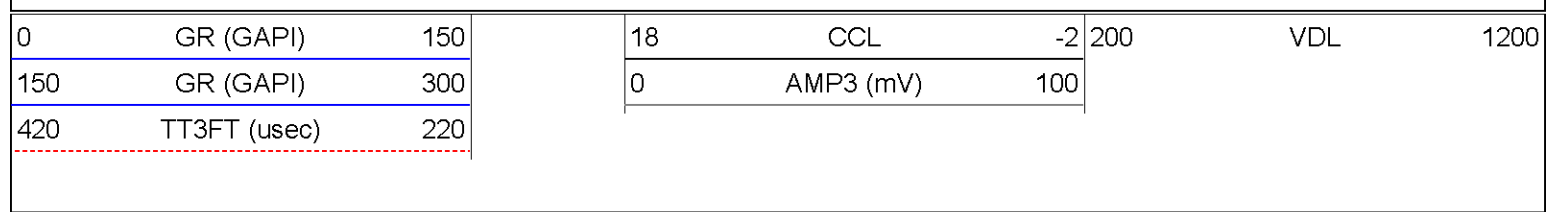




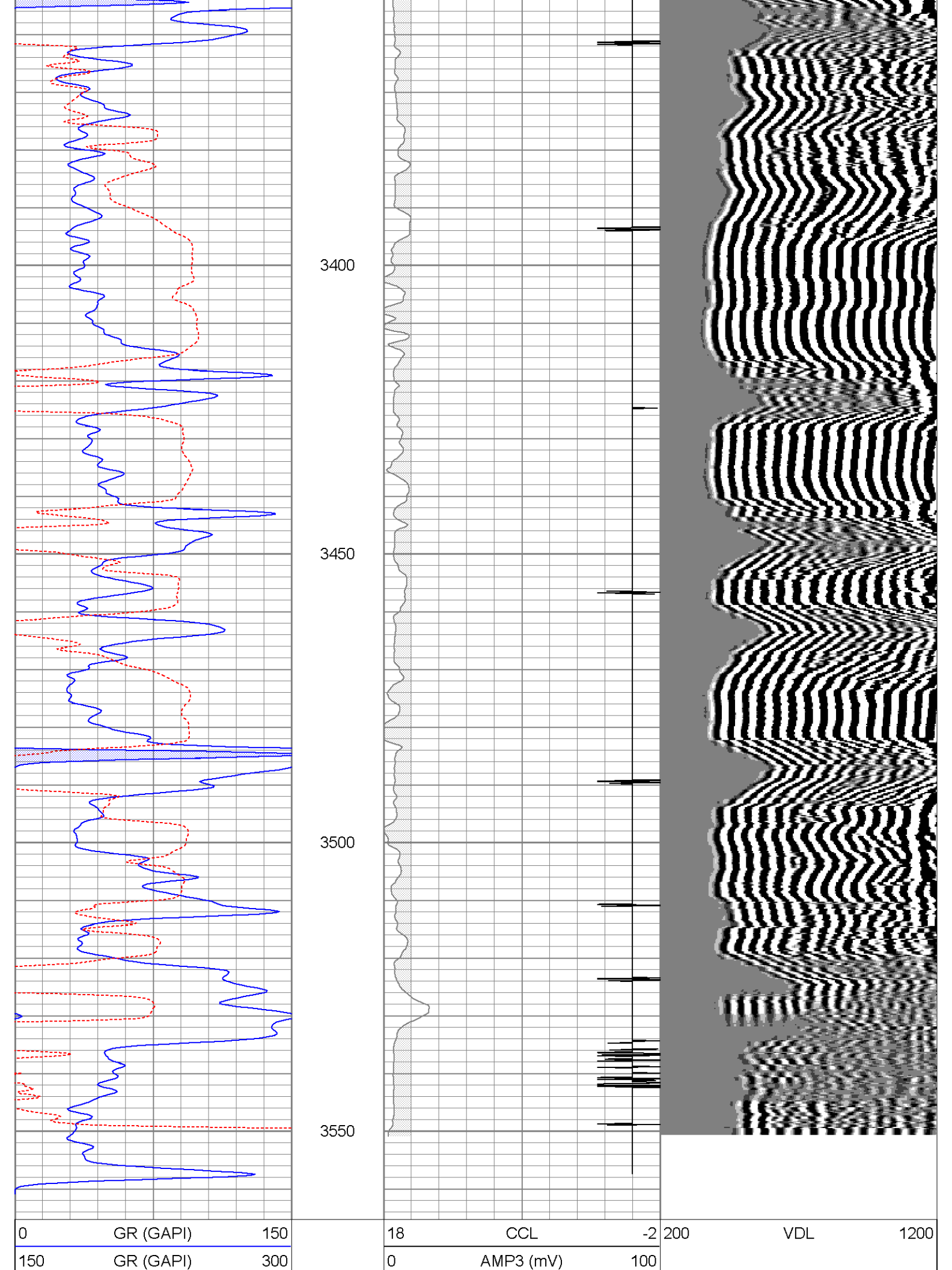


# Repeat Section

Database File: sanders #7.db  
 Dataset Pathname: pass3  
 Presentation Format: cbl  
 Dataset Creation: Fri Aug 30 20:08:17 2013 by Log Std Casedhole 10071  
 Charted by: Depth in Feet scaled 1:240









Calibration Report

Database File: sanders #7.db  
 Dataset Pathname: pass5  
 Dataset Creation: Fri Aug 30 20:21:29 2013 by Log Std Casedhole 10071

Neutron Calibration Report

Serial Number: 080739P  
 Tool Model: Probe  
 Performed: Sun Jun 13 14:33:21 1993

Calibrator Values: 0 1 NAPI  
 Calibrator Readings: 0 1 cps

Sensitivity: 1 NAPI/cps

Gamma Ray Calibration Report

Serial Number: 080224  
 Tool Model: Probe1  
 Performed: Thu May 16 07:41:41 2013

Calibrator Value: 200.0 GAPI

Background Reading: 15.0 cps  
 Calibrator Reading: 222.7 cps

Sensitivity: 0.9629 GAPI/cps

Cement Bond Log Calibration Report

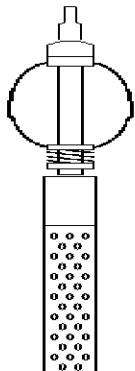
Serial Number: 080201  
 Tool Model: DigitalCBL  
 Performed: Fri Aug 30 17:06:42 2013

Depth: 2538.66 ft  
 Casing Diameter: 5.5 in

3' Spacing 5' Spacing

Signal Zero: 3 0 mV  
 Calibrated Amplitude: 71.921 71.921 mV  
 Reading at Signal Zero: 0 0.0158691 V  
 Reading in Free Pipe: 0.85415 0.823755 V

Gain: 80.6896 89.0237  
 Offset: 3 -1.41273

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			sdschd	0.75	1.44	3.00
			275 2 3/4" Centralizer	2.94	2.75	10.00
			...	...	...	...

WVF3	15.65		Probedig-DigitalCBL (080201) 2 3/4 Bond Tool	8.77	2.75	92.00
WVF5	14.65		275 2 3/4" Centralizer	2.94	2.75	10.00
CCL	7.63		CCL-Probe (080224)	1.42	2.75	20.00
GR	6.26		GR-Probe1 (080224)	3.08	2.75	40.00
NEU	0.83		NEU-Probe (080739P) 2 3/4 Neutron	3.96	2.75	40.00

Dataset: sanders #7.db: field/well/run1/pass5  
 Total Length: 23.85 ft  
 Total Weight: 215.00 lb  
 O.D. 2.75 in