



CEMENT BOND LOG
W/ GAMMA RAY, VDL
& CASING COLLARS

Company	HILCORP ENERGY CO.		
Well	KROEGER 33-9 #5-1A		
Field	PICTURED CLIFF		
County	LaPLATA		
State	COLORADO		
Location:	API # : 0506709339		Other Services
SEC 05 TWP 33N RGE 09W			
Permanent Datum	GROUND LEVEL	Elevation	
Log Measured From	K.B. 16'		K.B. 6588'
Drilling Measured From	KELLY BUSHING		D.F. 6587'
			G.L. 6572'

Date	11-15-2018
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Run Number	ONE
Depth Driller	PBTD & 3350'
Depth Logger	3346'
Bottom Logged Interval	3343'
Top Log Interval	SURFACE
Open Hole Size	6.75
Type Fluid	WATER
Density / Viscosity	N/A
Max. Recorded Temp.	N/A
Estimated Cement Top	360'
Time Well Ready	SEE LOG
Time Logger on Bottom	SEE LOG
Equipment Number	WL-112
Location	FARMINGTON,NM
Recorded By	P.PORTER
Witnessed By	DANA PHILLIPS
	ENGINEER: SCOTT ANDERSON

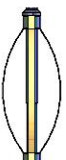
Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To

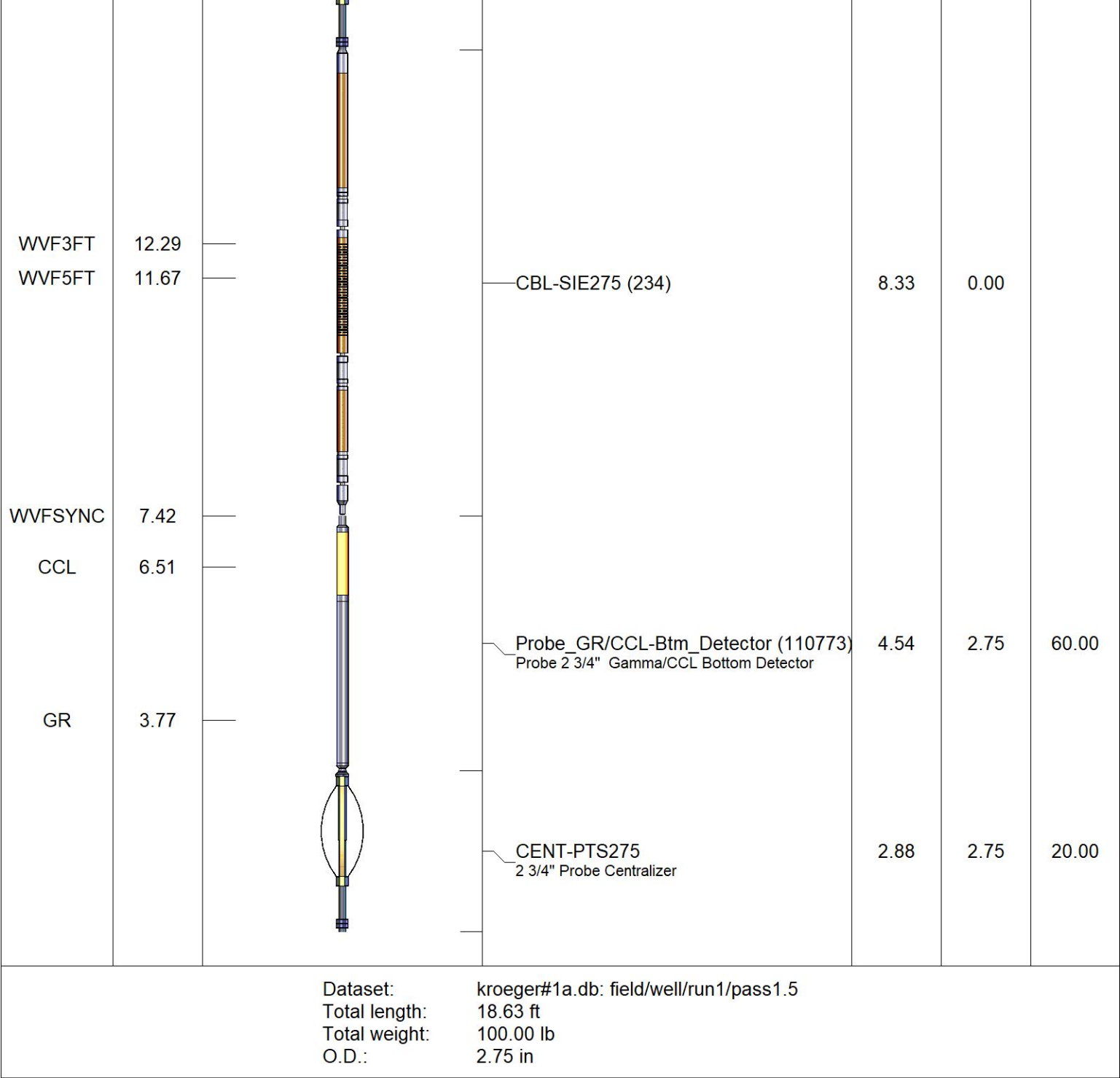
Casing Record	Size	Mg/ft	Top	Bottom
Surface String	9-5/8"	36# / J-55	SURFACE	363'
Prot. String				
Production String	5-1/2"	17# / J-55	SURFACE	3740'
Liner				

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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.

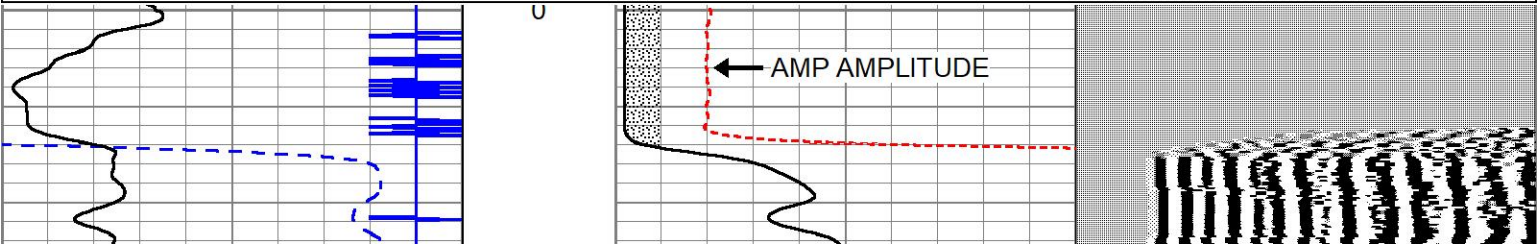
Comments

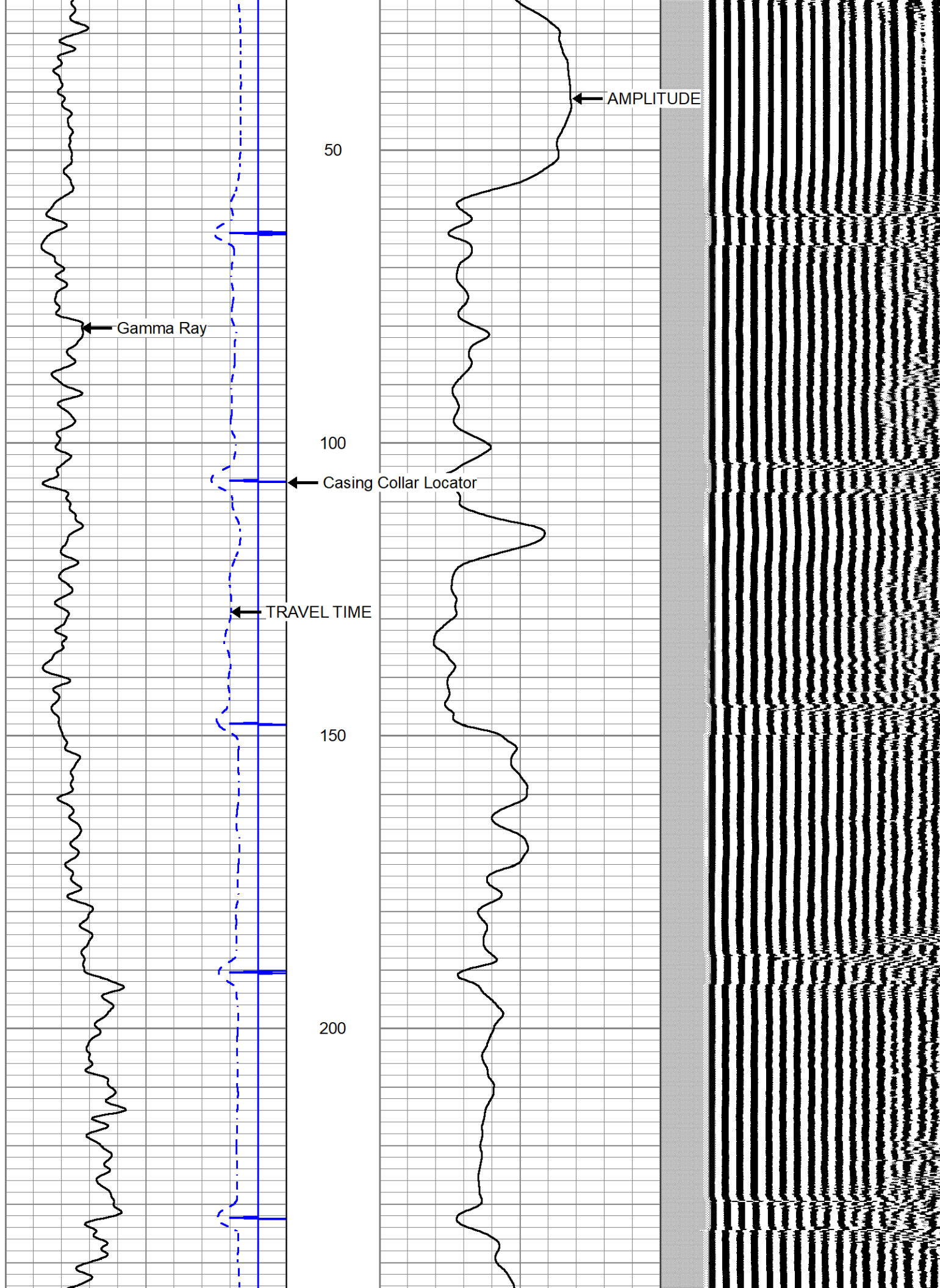
Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			CENT-PTS275 2 3/4" Probe Centralizer	2.88	2.75	20.00

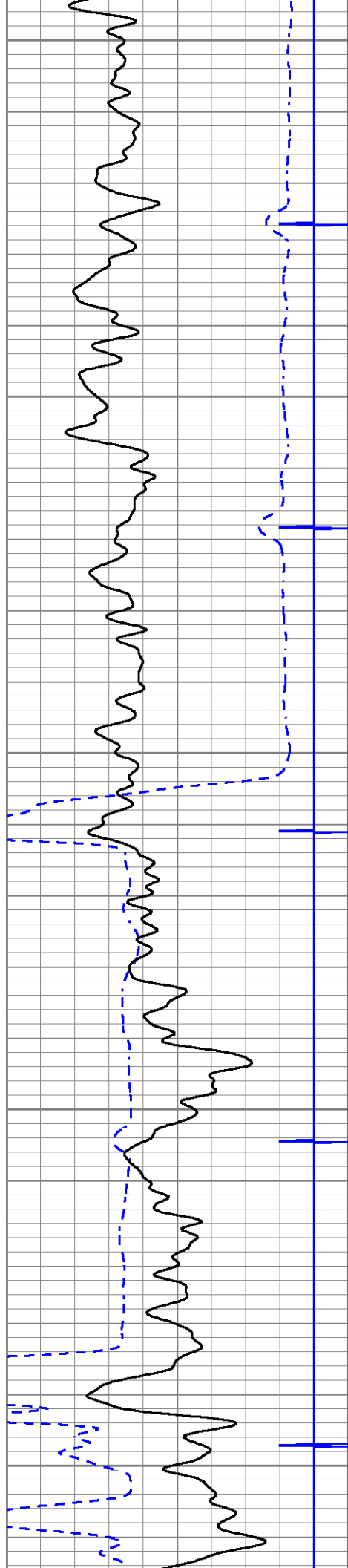


Database File	kroeger#1a.db
Dataset Pathname	pass1.5
Presentation Format	cbl_dr
Dataset Creation	Thu Nov 15 08:46:57 2018
Charted by	Depth in Feet scaled 1:240

325	TRAVEL TIME (usec)	225	0	AMP AMPLITUDE (mV)	10	200	VDL (usec)	1200
9	Collar Locator	-1	0	AMPLITUDE (mV)	100			
0	Gamma Ray (GAPI)	150						







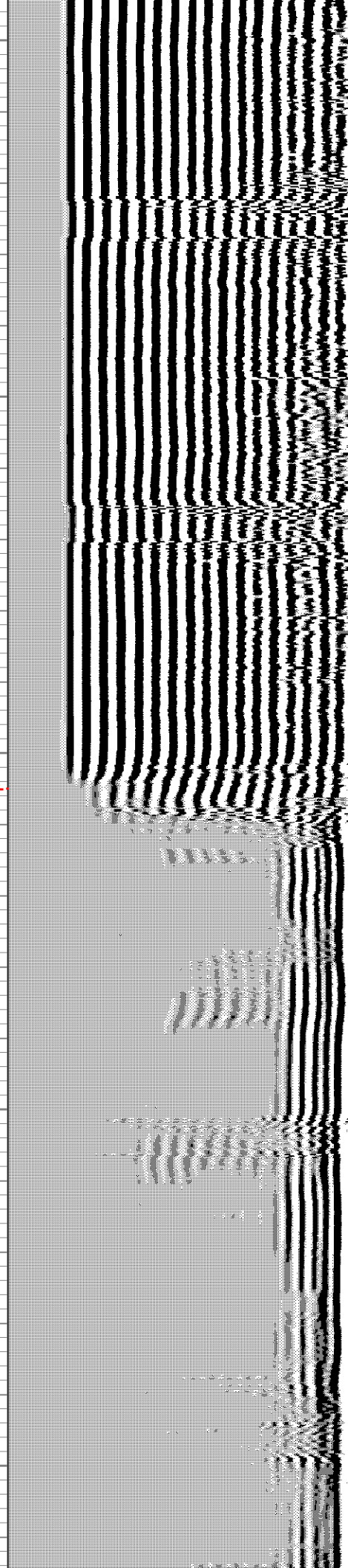
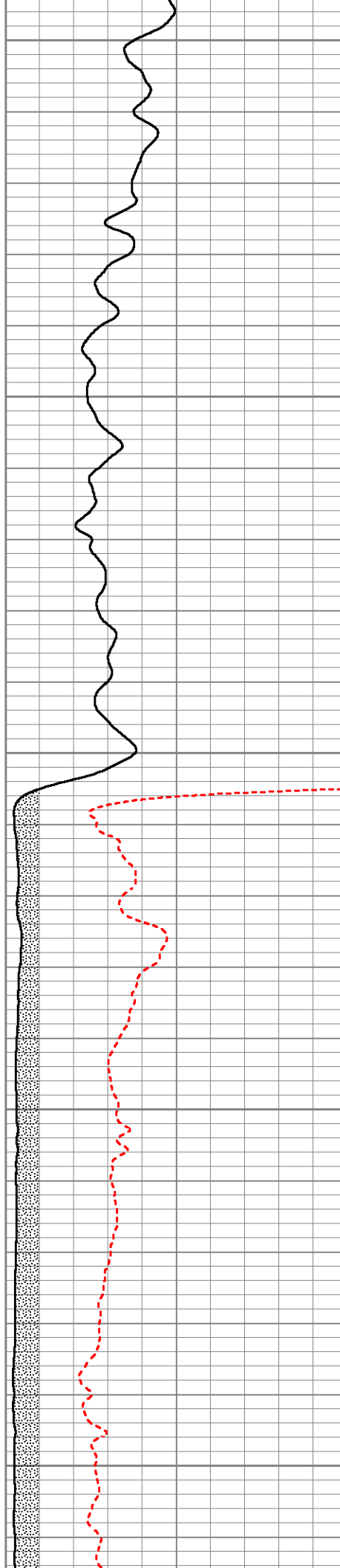
250

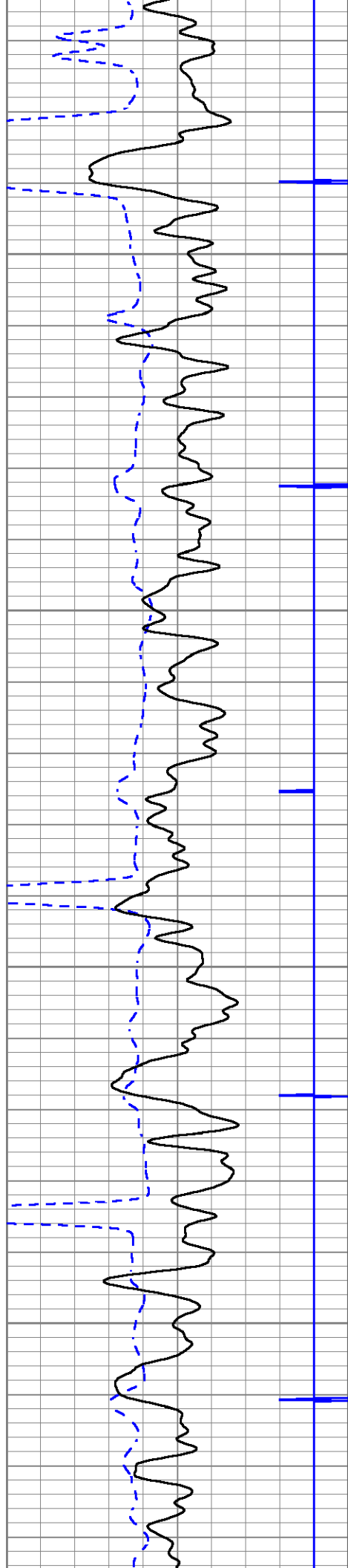
300

350

400

450



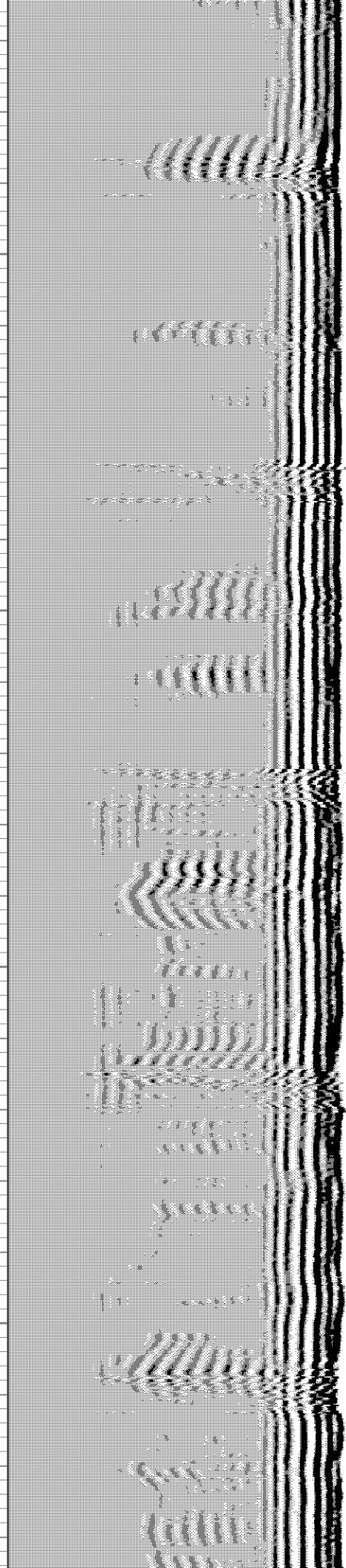
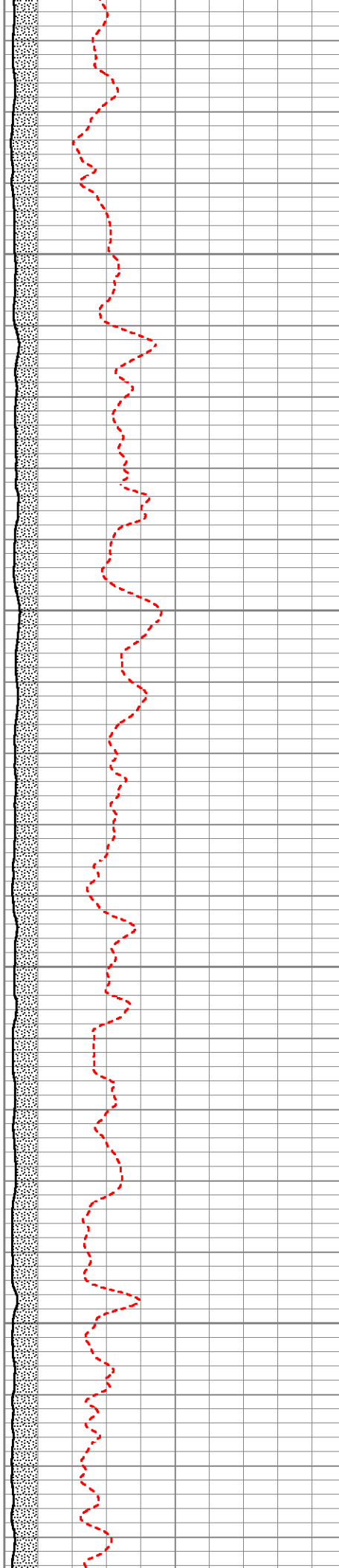


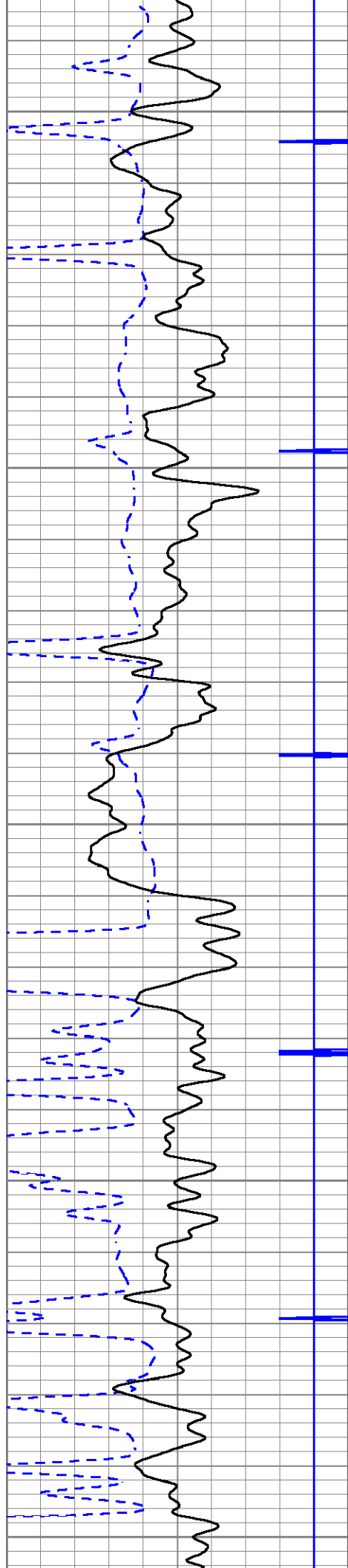
500

550

600

650





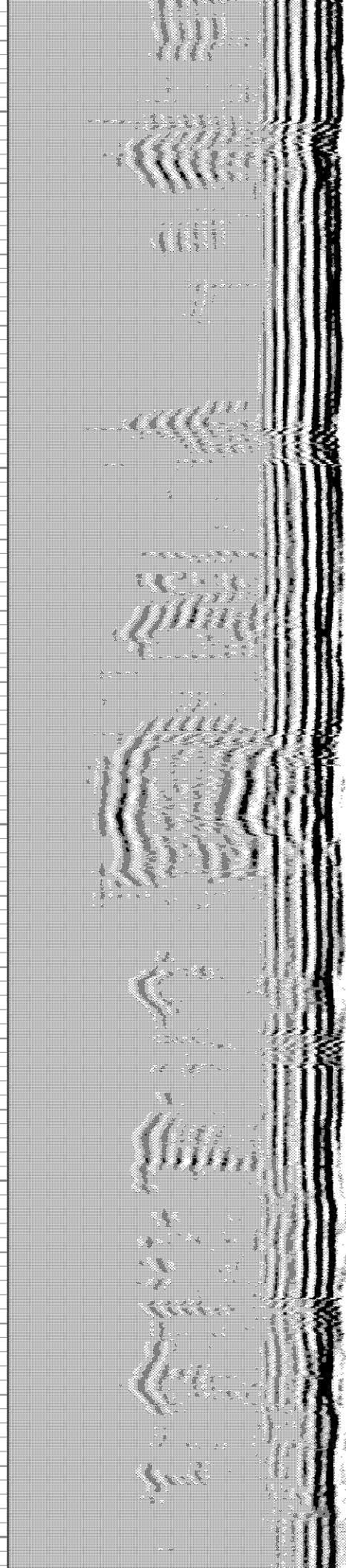
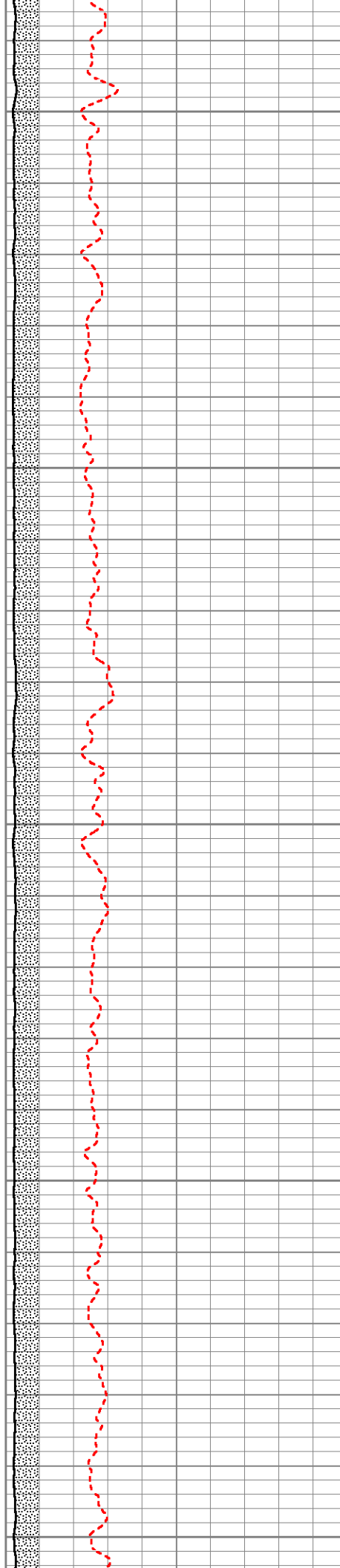
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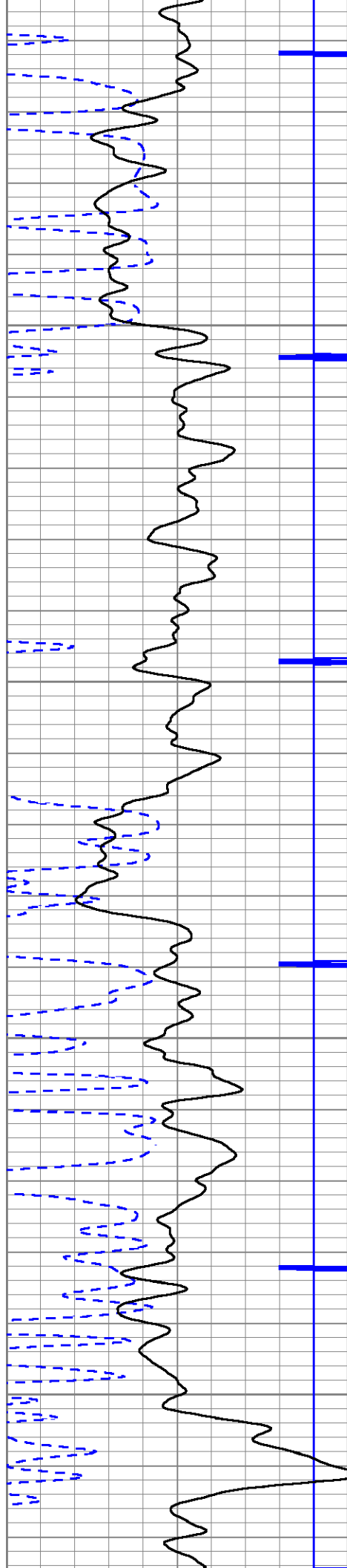
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800

850

900



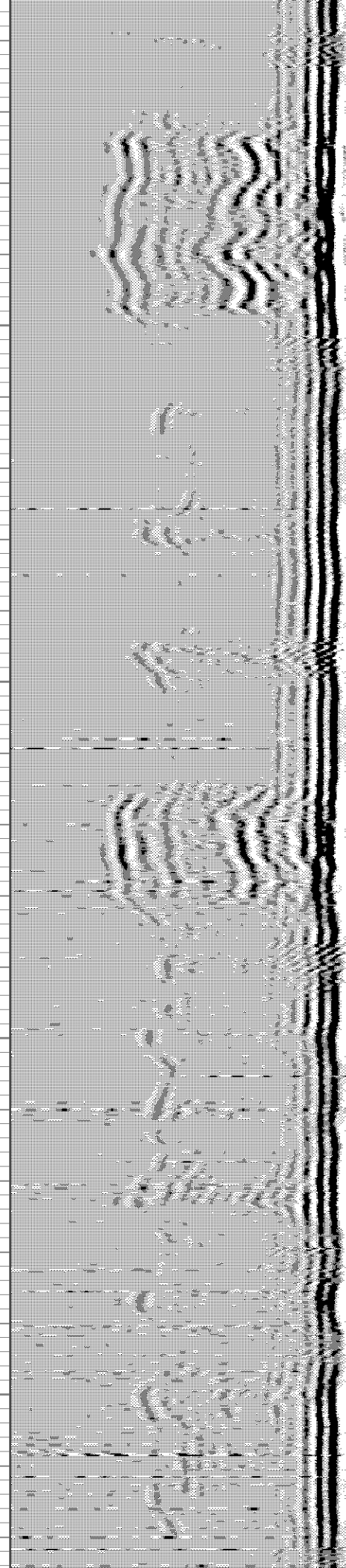
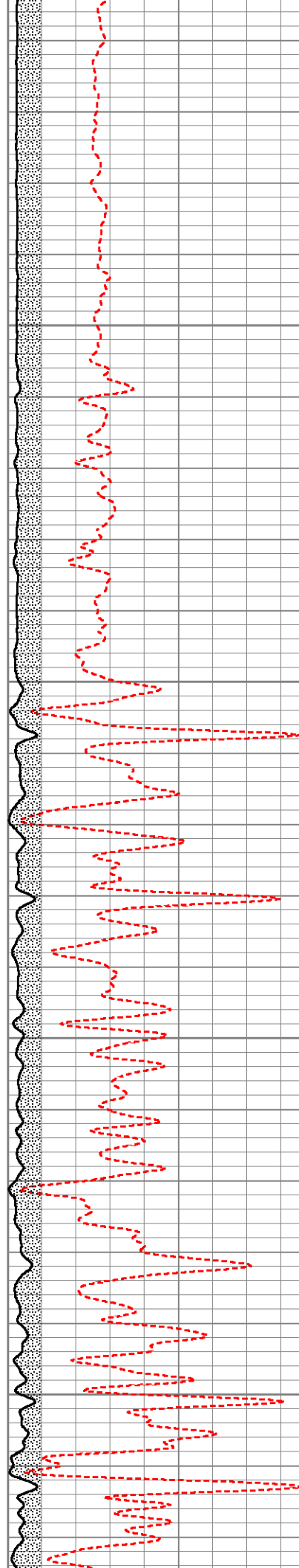


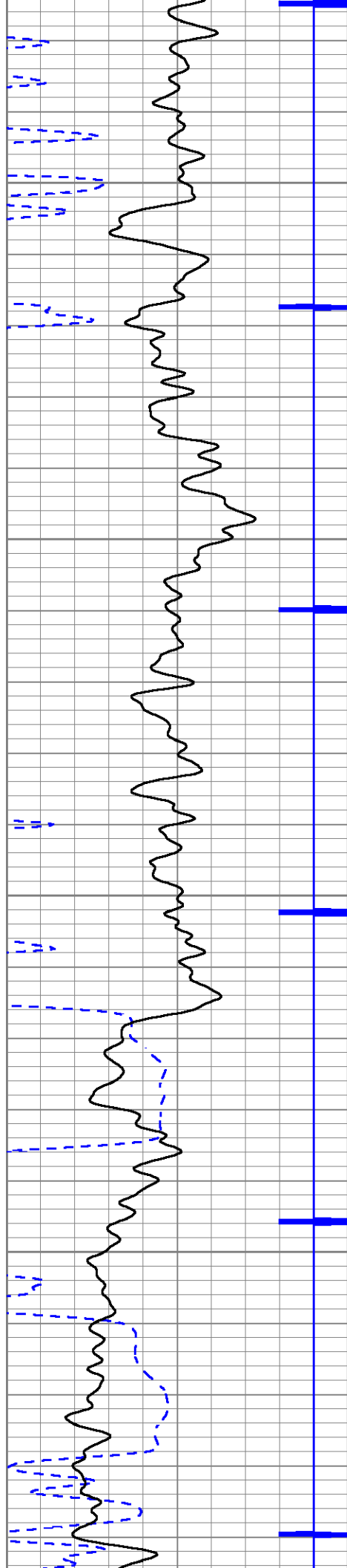
950

1000

1050

1100



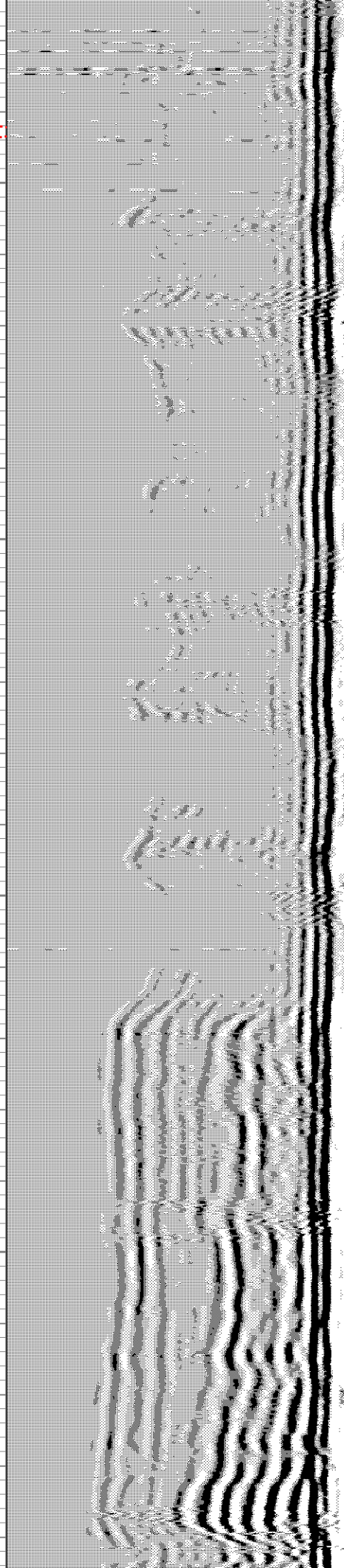
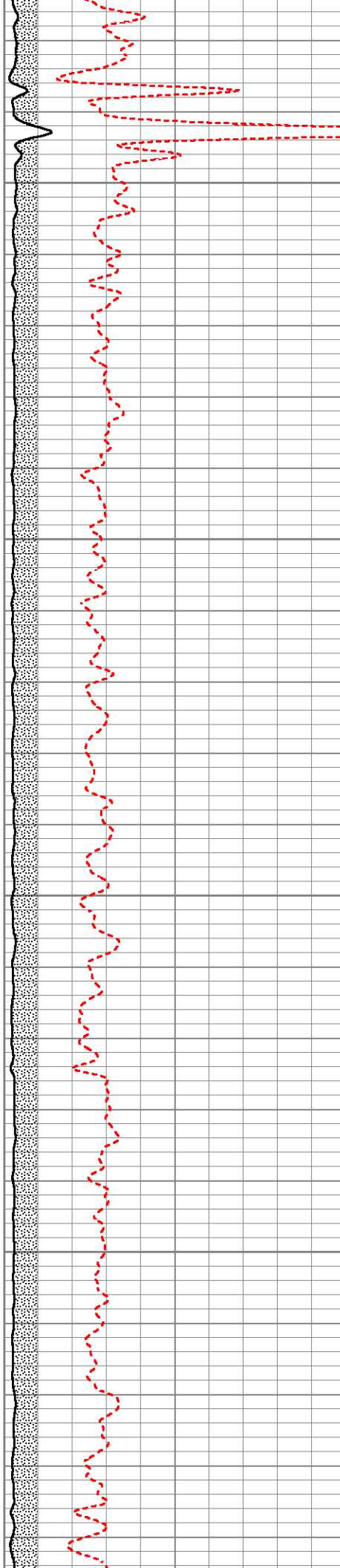


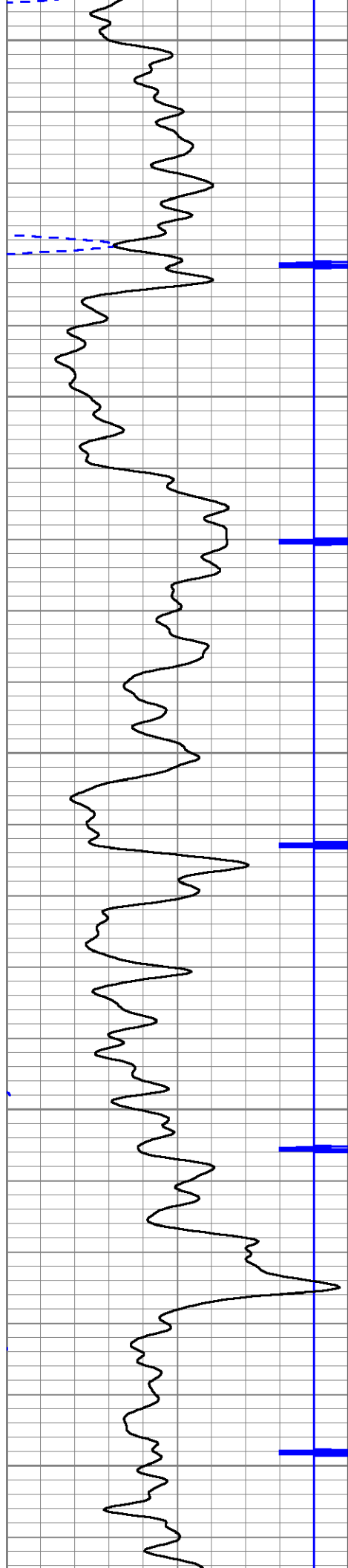
1150

1200

1250

1300





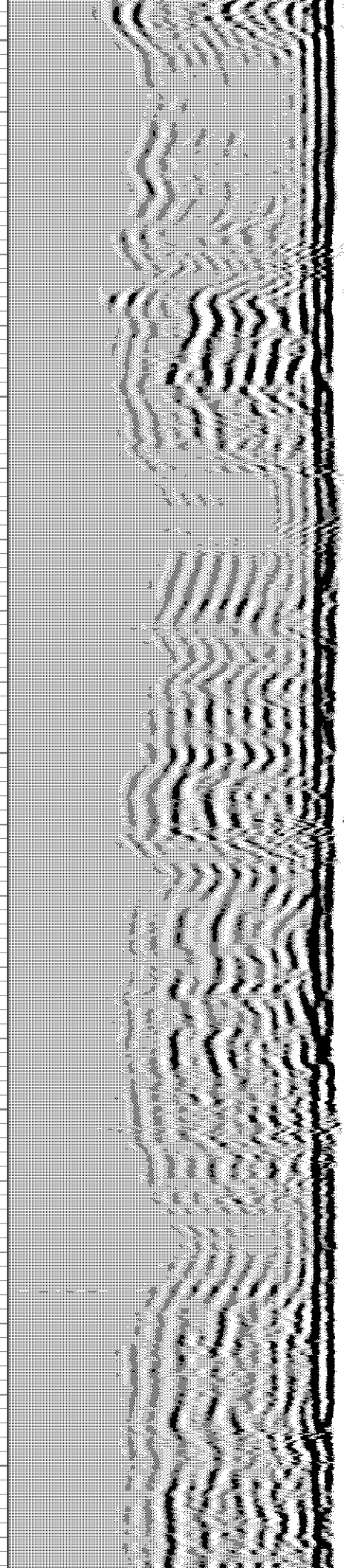
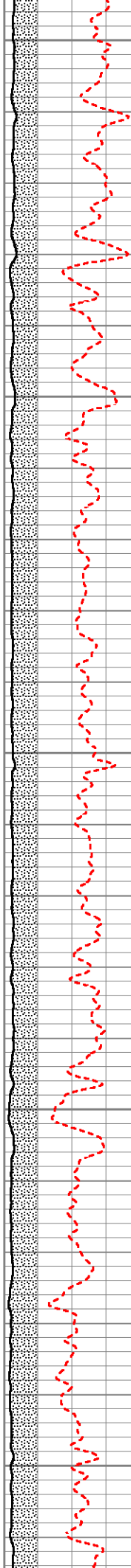
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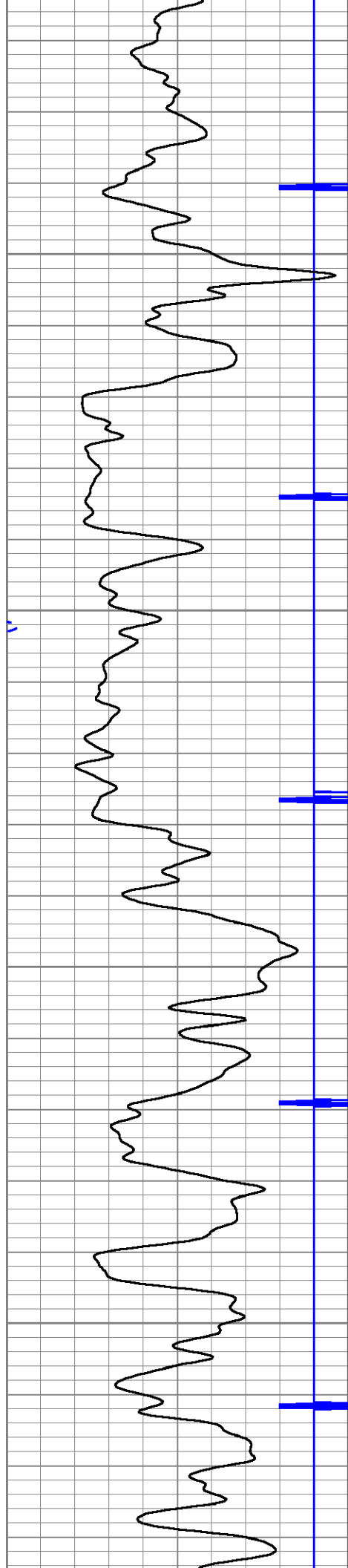
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1450

1500

1550



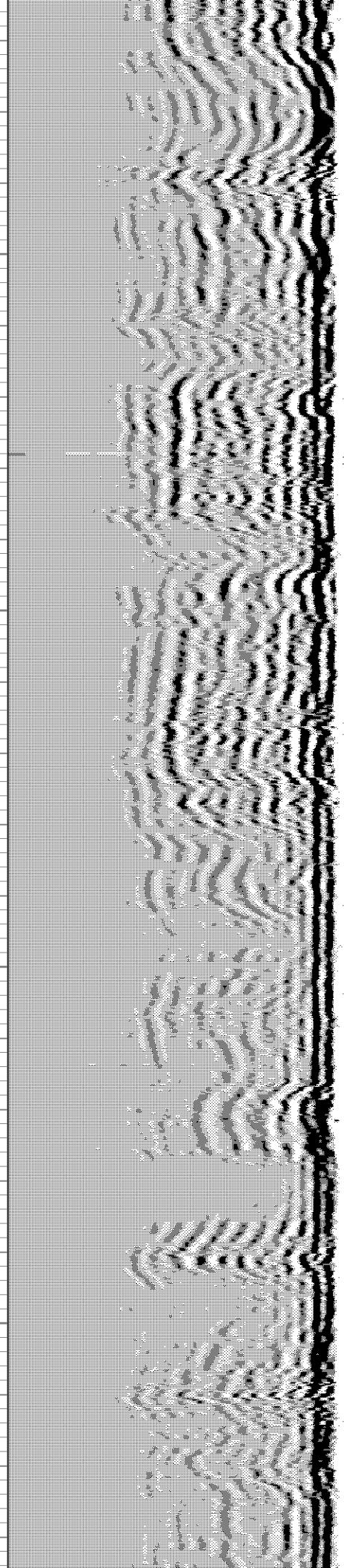
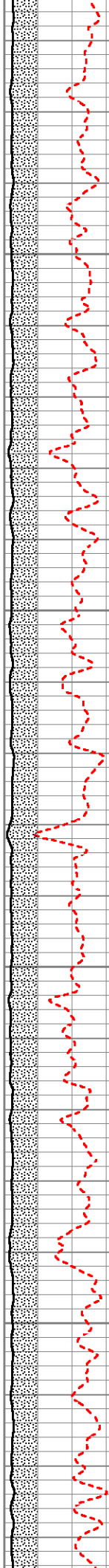


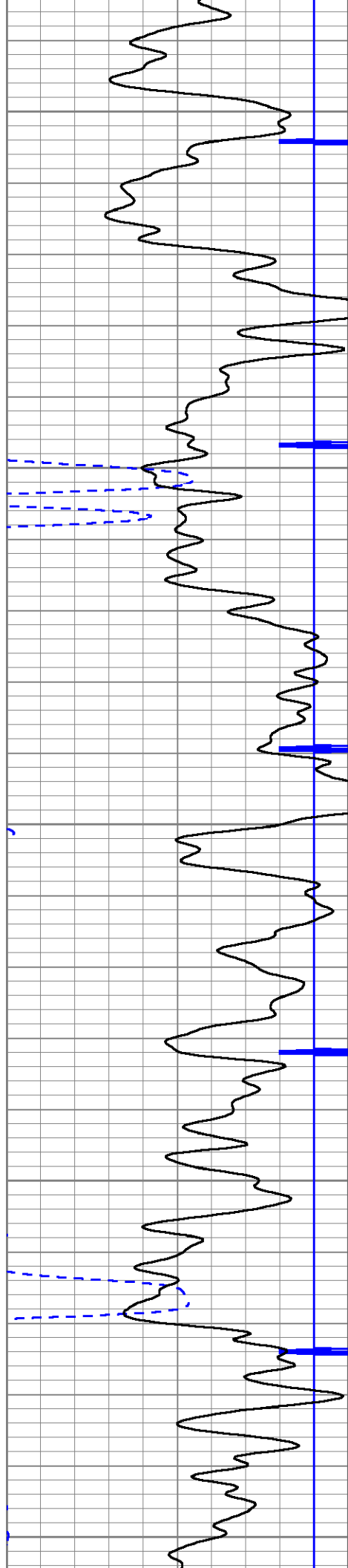
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1650

1700

1750





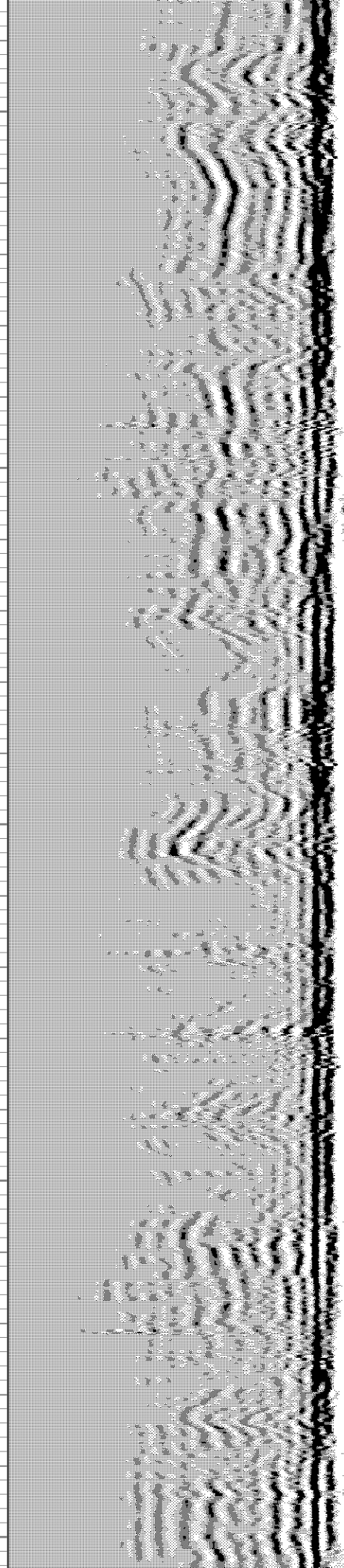
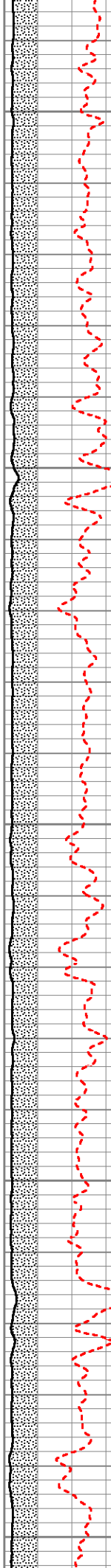
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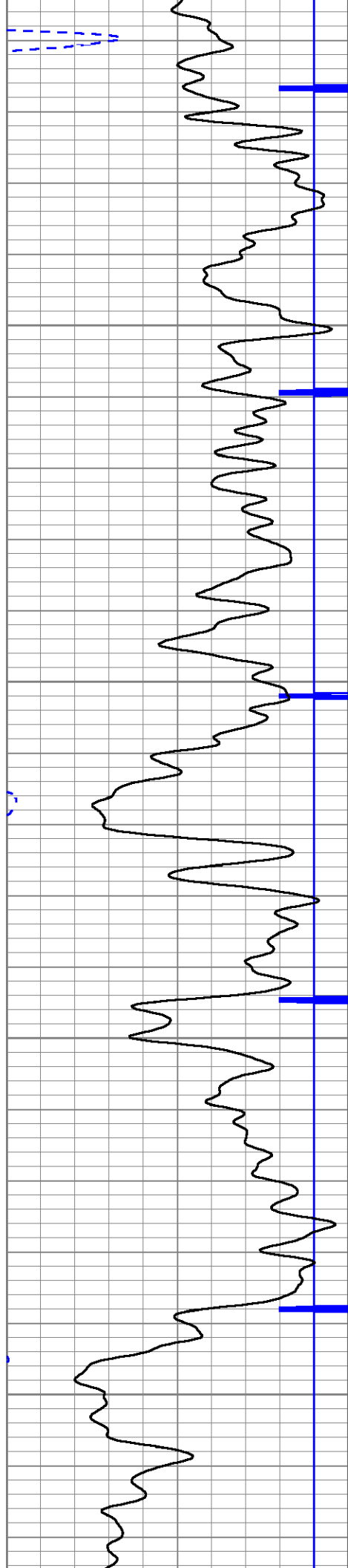
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1900

1950

2000



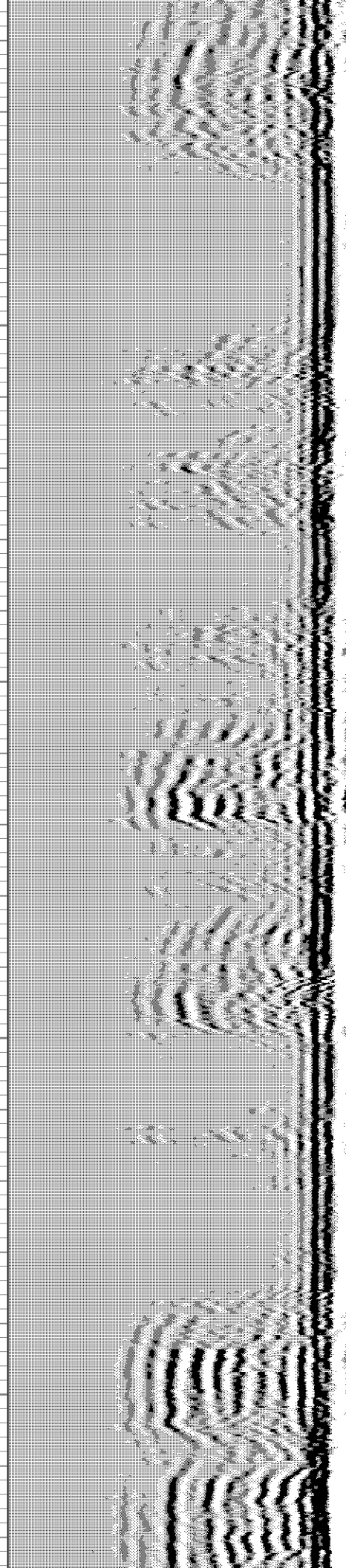
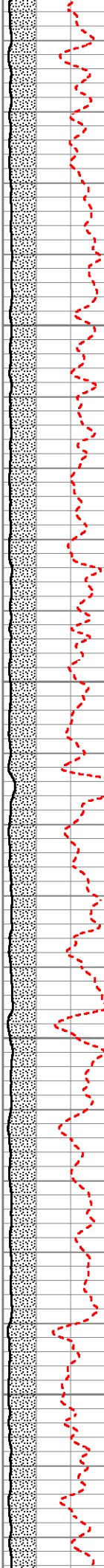


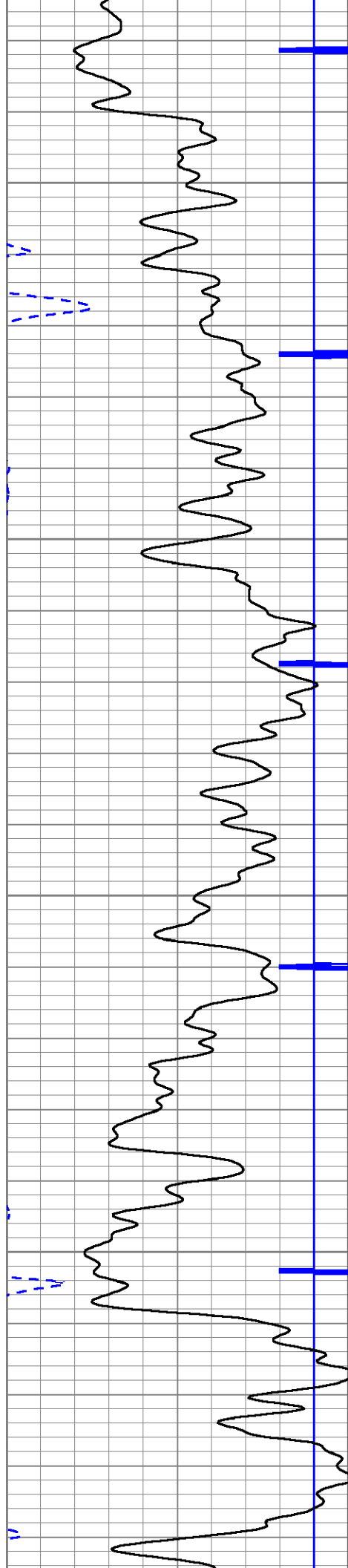
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2100

2150

2200



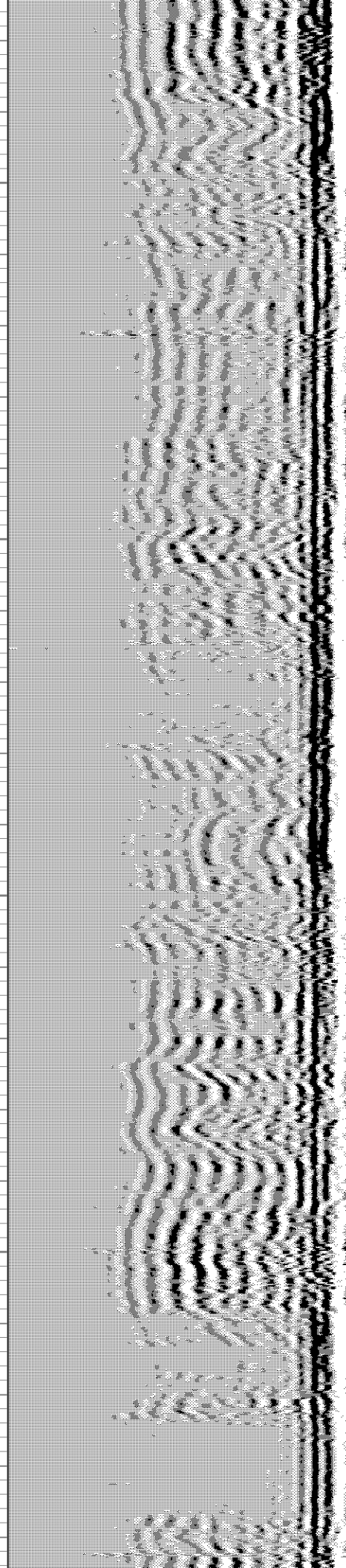
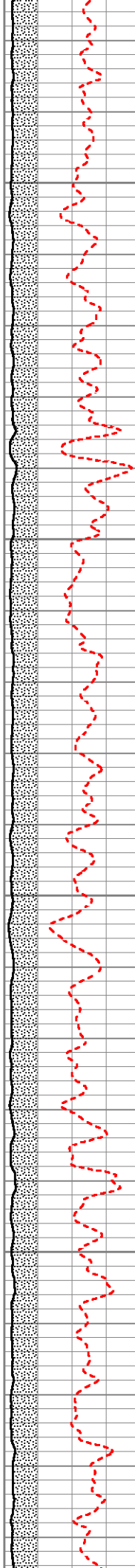


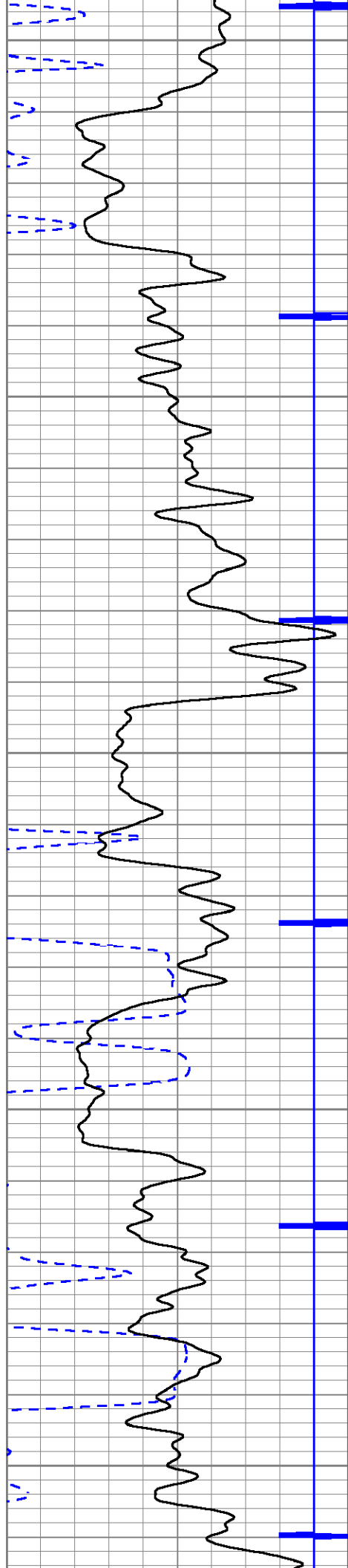
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2300

2350

2400





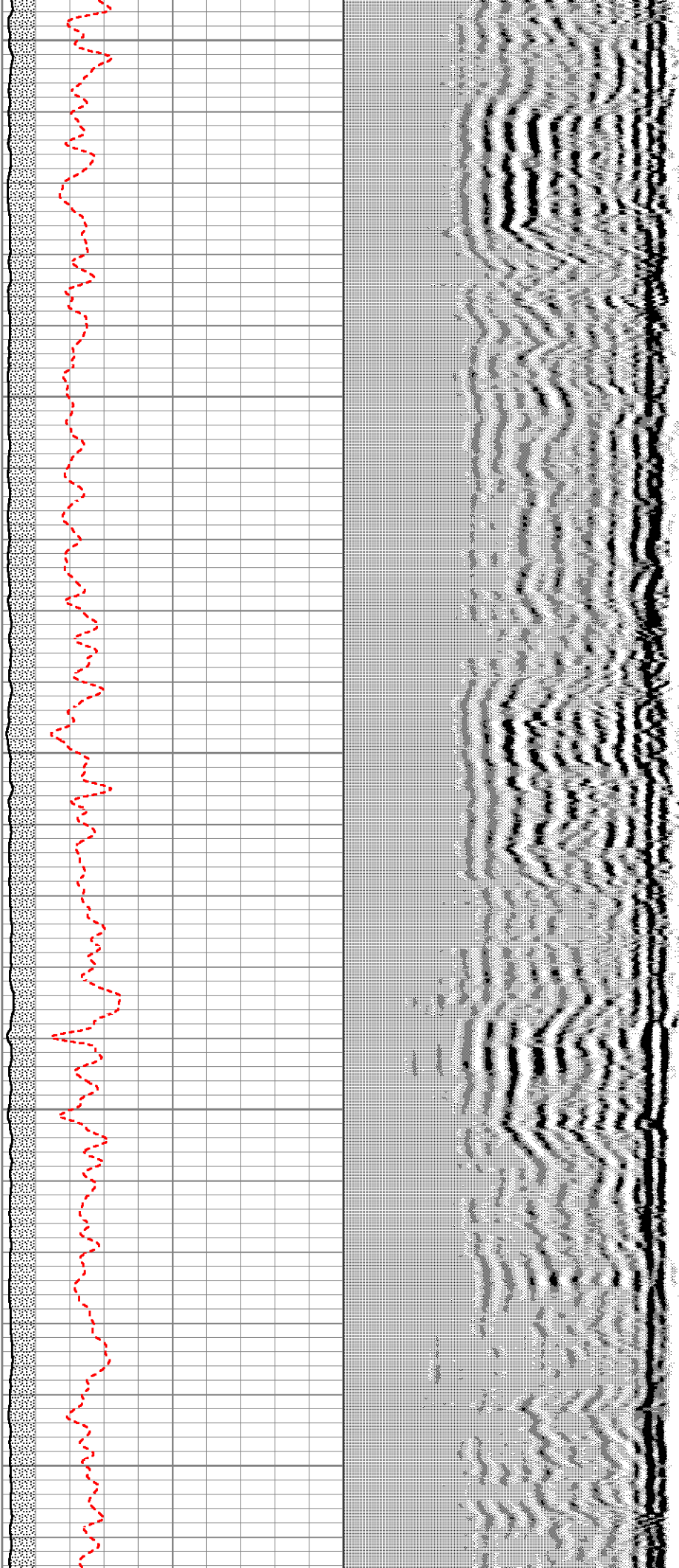
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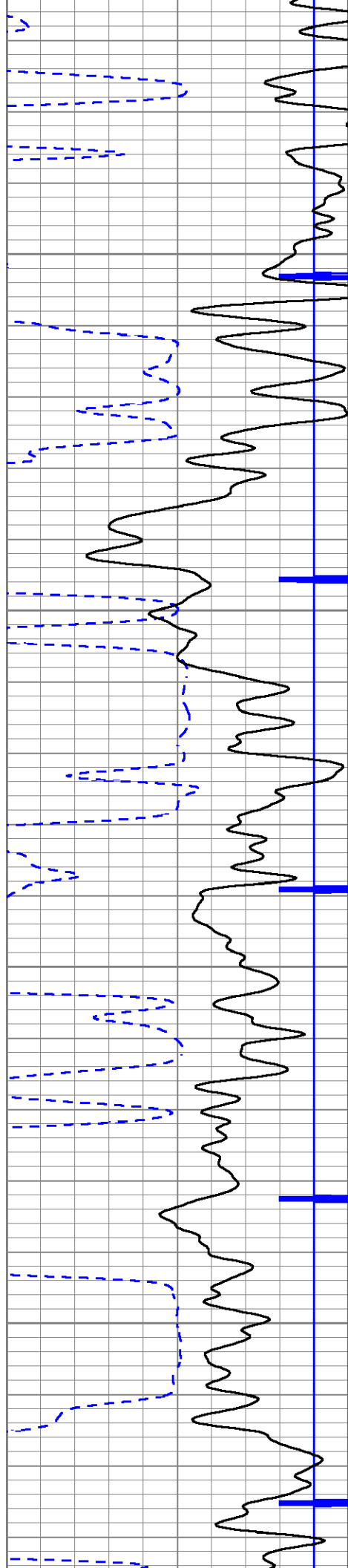
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2550

2600

2650



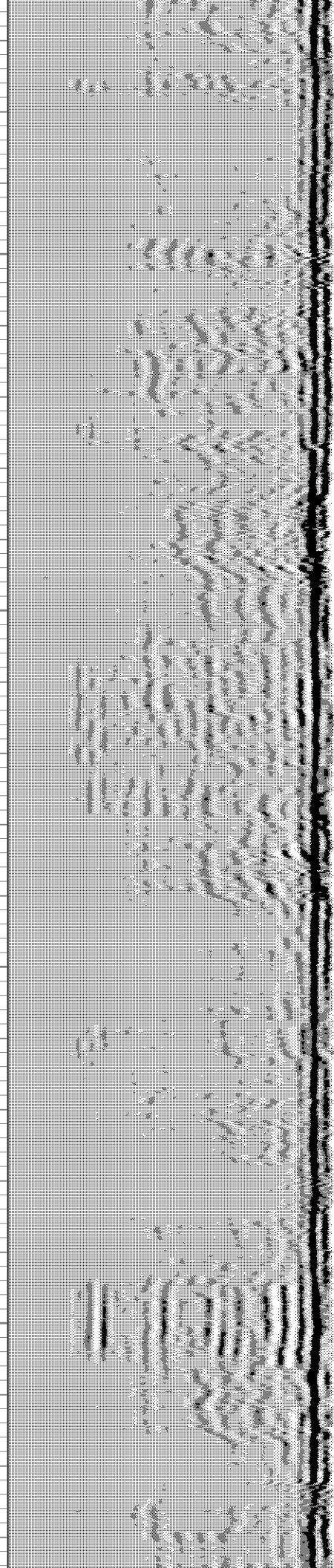
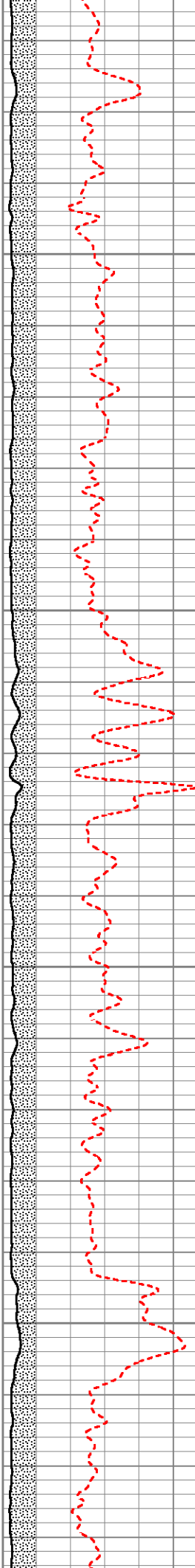


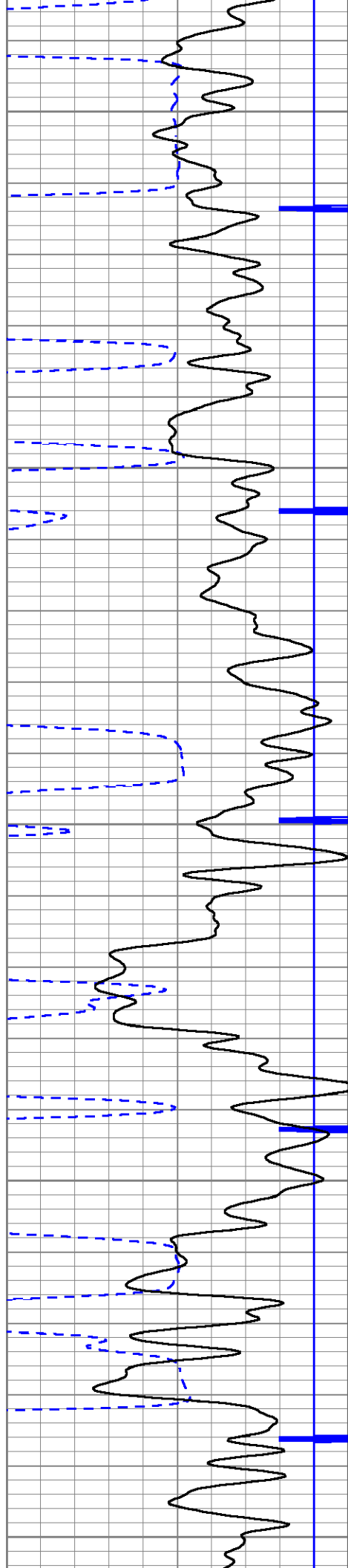
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2750

2800

2850





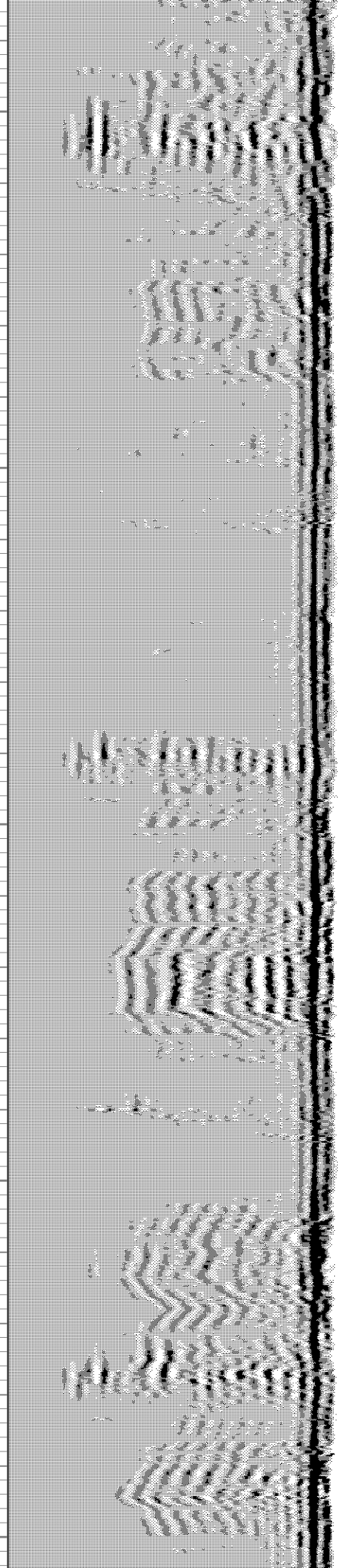
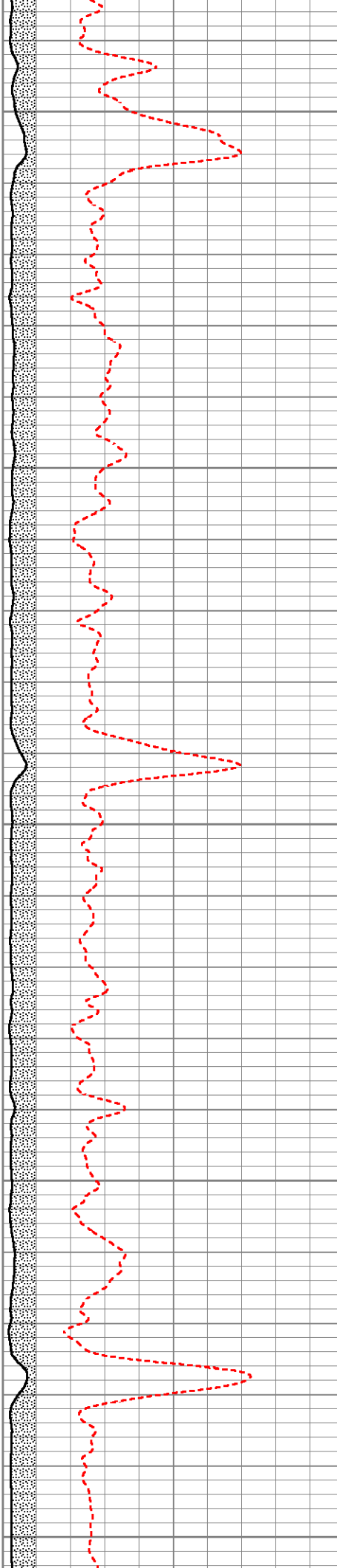
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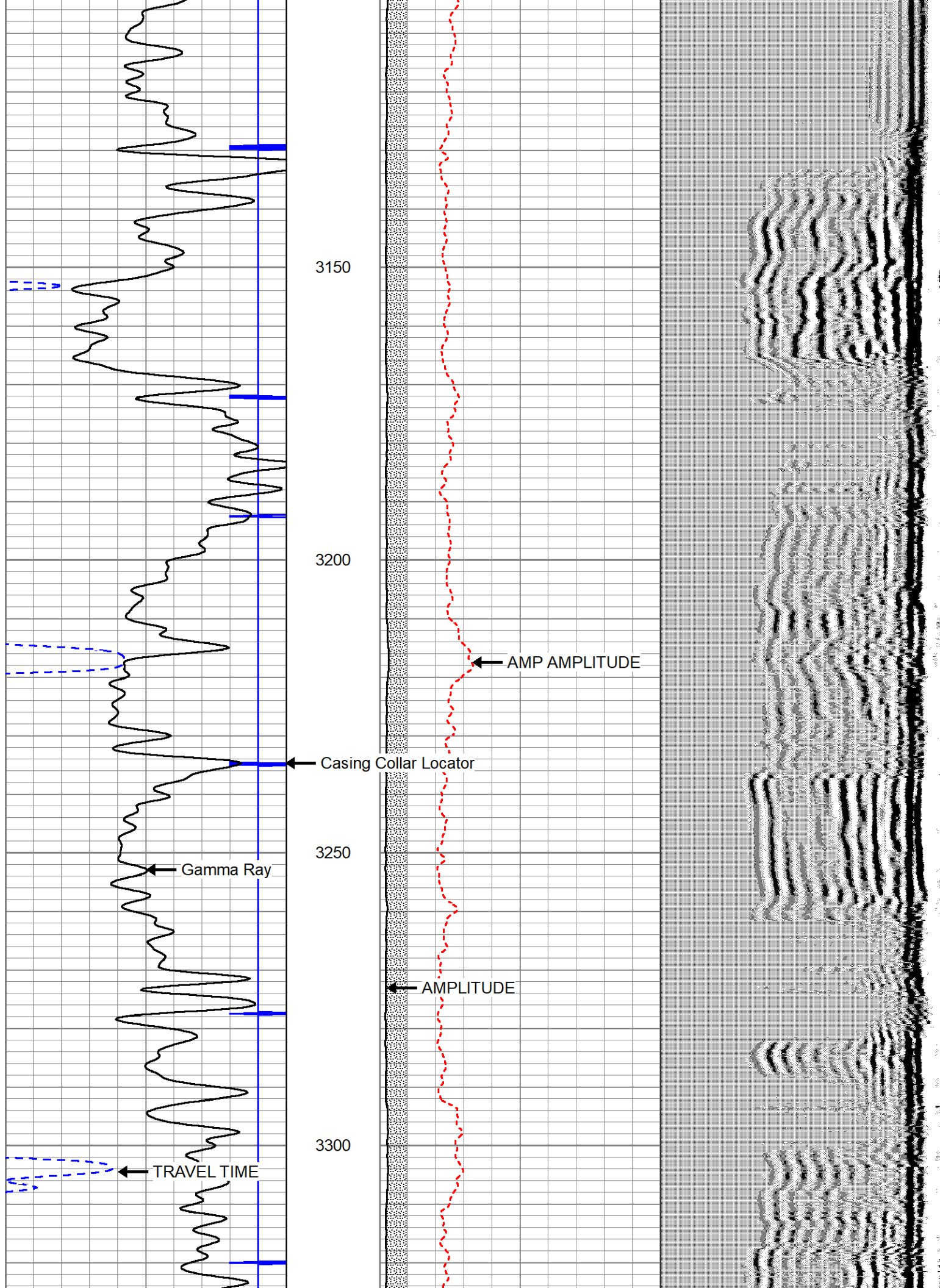
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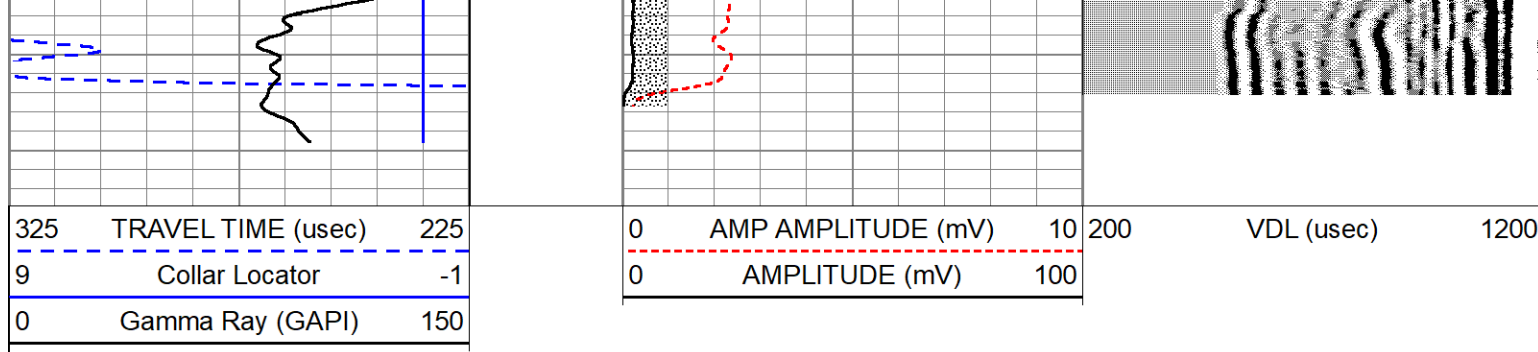
3000

3050

3100







Calibration Report		
Database File	kroeger#1a.db	
Dataset Pathname	pass1.5	
Dataset Creation	Thu Nov 15 08:46:57 2018	

Gamma Ray Calibration Report		
Serial Number:	110773	
Tool Model:	Btm_Detector	
Performed:	Sun Jul 22 15:52:22 2018	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.8000	GAPI/cps

Segmented Cement Bond Log Calibration Report		
Serial Number:	234	
Tool Model:	SIE275	
Calibration Casing Diameter:	5.500	in
Calibration Depth:	187.283	ft

Master Calibration, performed Thu Nov 15 07:24:59 2018:						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.003	0.735	0.000	71.921	50.470	0.244
CAL						
5'	0.006	0.389	0.000	71.921	70.875	-1.105
SUM						
S1						
S2						
S3						
S4						
S5						
S6						
S7						
S8						

Internal Reference Calibration, performed (Not Performed):						
	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL						

Air Zero Calibration, performed Thu May 26 15:46:40 2016:

	Raw (v)	Calibrated (v)	Results
	Zero	Zero	Offset
3'	0.000	0.000	0.000
5'	0.000	0.000	0.000
SUM			
S1			
S2			
S3			
S4			
S5			
S6			
S7			
S8			