



# CEMENT BOND GAMMA RAY COLLAR CORRELATION LOG

Company		K. P. KAUFFMAN					
Well		SUNMARK 19-28-11					
Field		WATTENBERG					
County		WELD					
State		COLORADO					
Country		US					
Location:		API # : 05-123-35080-00					
Permanent Datum		SHL: 924' FSL & 1408' FWL					
Log Measured From		BHL: 1976' FSL & 1987' FWL					
Drilling Measured From		SEC 28 TWP 4N RGE 67W					
Ground Level		Elevation 4975					
Kelly Bushing		Elevation 4989					
Kelly Bushing		Elevation 4988					
Kelly Bushing		Elevation 4975					
Run Number		ONE					
Depth Driller		8085					
Depth Logger		7965					
Bottom Logged Interval		7964					
Top Log Interval		SURFACE					
Open Hole Size		7 7/8					
Type Fluid		WATER					
Density / Viscosity		---					
Max. Recorded Temp.		NOT RECORDED					
Estimated Cement Top		2490					
Time Well Ready		---					
Time Logger on Bottom		---					
Equipment Number		HD119					
Location		FT. LUPTON					
Recorded By		GREG JACKSON					
Witnessed By		MR. PAUL ANDERSON					
Borehole Record		Tubing Record					
Run Number	Bit	From	To	Size	Weight	From	To
Casing Record	Size			Wgt/Ft	Top		Bottom
Surface String	8 5/8			24	SURFACE		757
Prot. String							
Production String	4 1/2			11.6	SURFACE		8049
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

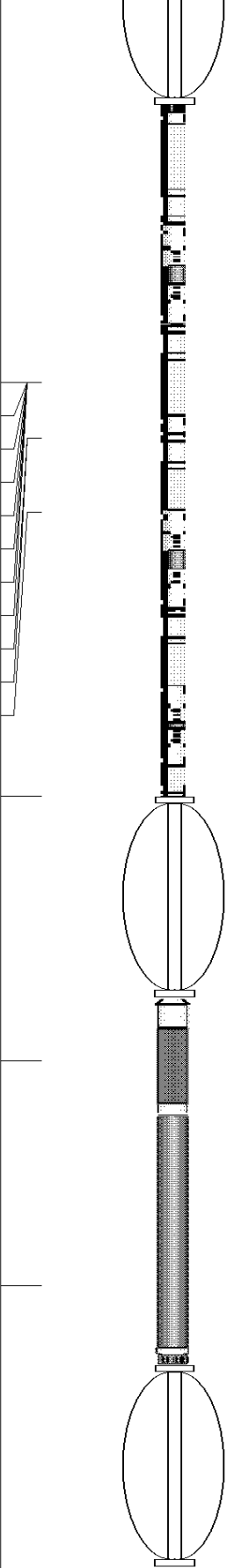
PRIMARY LOG

NO CORRELATION

LOGGED WITH 2500 PSI @ SURFACE

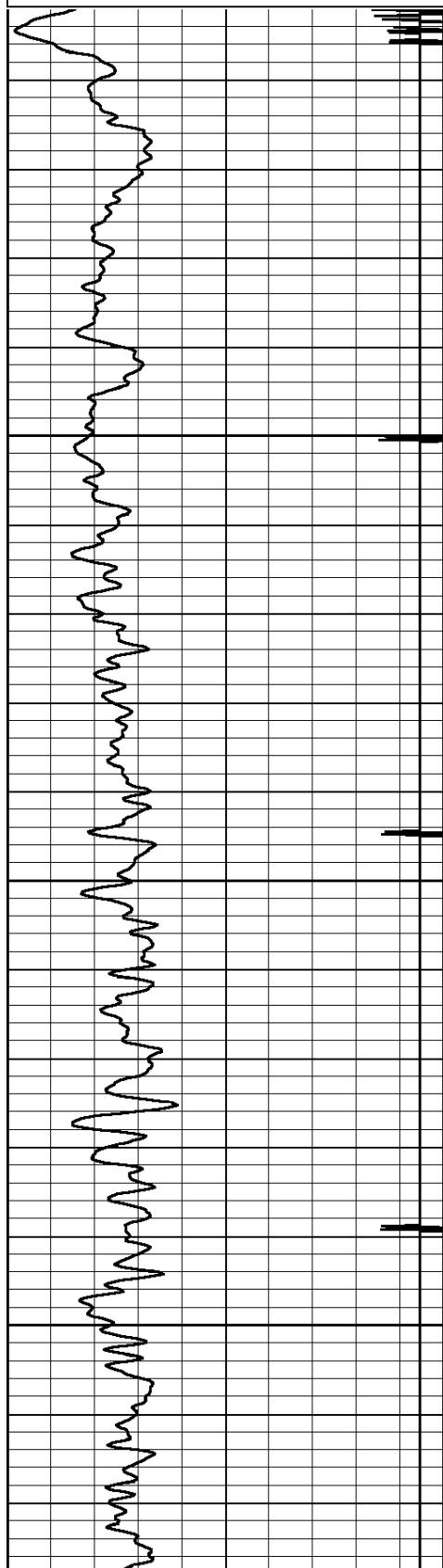
THANK YOU FOR CHOOSING PURE ENERGY SERVICES.

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)

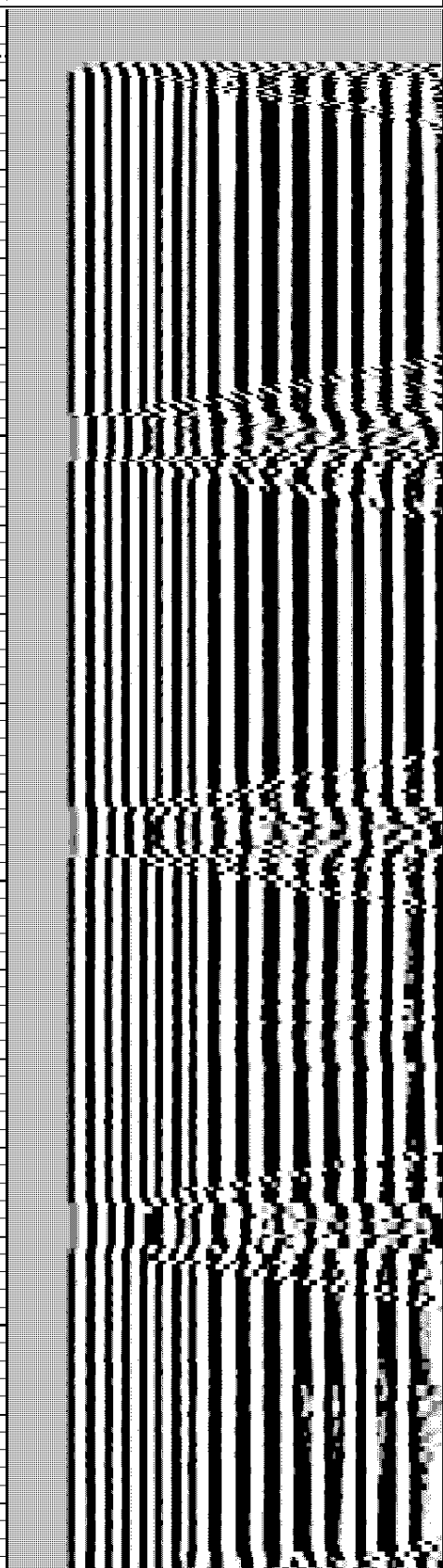
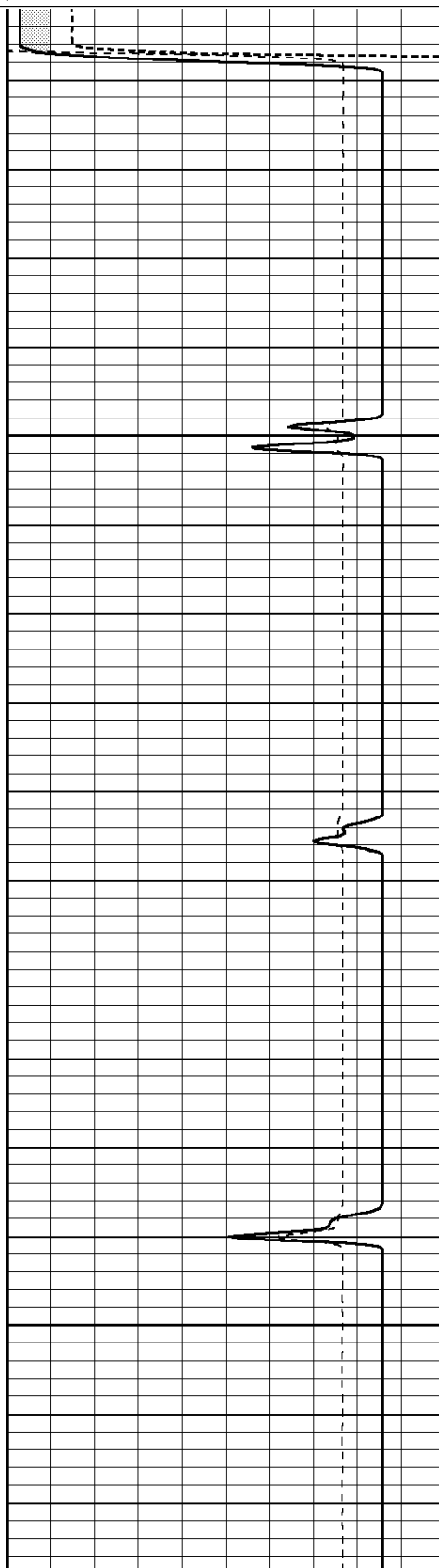
			CENT-TEKCO (101)	2.73	2.75	10.00
WVFS1	16.00					
WVFS2	16.00					
WVFS3	16.00		TEKSCBL-TEKCO275 (0001)	9.33	2.75	100.00
WVFS4	16.00					
WVFS5	16.00					
WVFS6	16.00					
WVFS7	16.00					
WVFS8	16.00					
WVFCAL	15.25					
WVFSYNC	10.42					
			CENT-TEKCO (101)	2.73	2.75	10.00
CCL	6.83		CCL-2.75 (TEKCO) 2.75 TEKCO CCL	1.55	2.75	10.00
			GR-TEKCO (101SGR) 2.75 HIGH TEMP LOGGING GR	3.41	2.75	25.00
GR	3.79					
			CENT-TEKCO (101)	2.73	2.75	10.00
Dataset: sunmark 19-28-11_cbl.db: field/well/run1/pass4 Total Length: 22.48 ft Total Weight: 165.00 lb O.D.: 2.75 in						

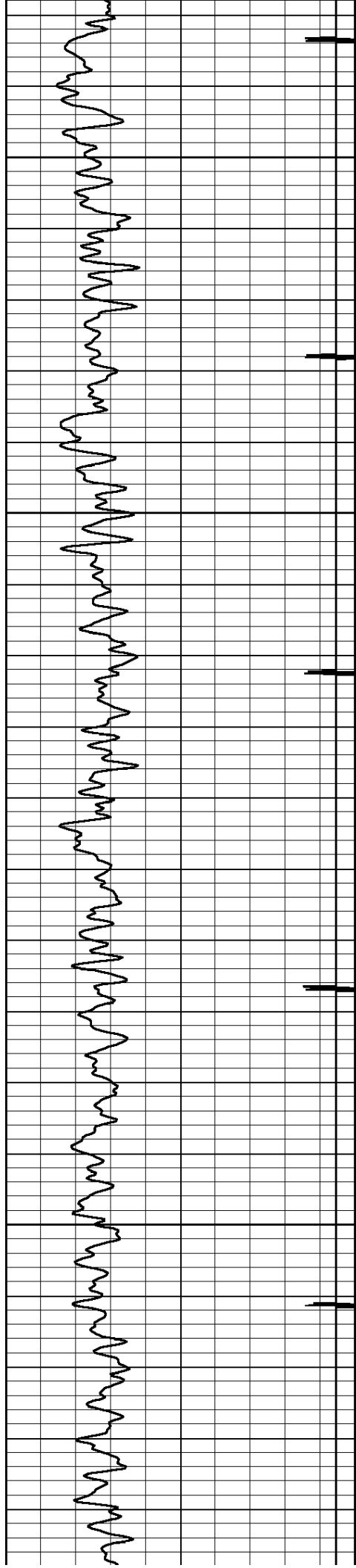
Database File: sunmark 19-28-11\_cbl.db  
 Dataset Pathname: pass4  
 Presentation Format: p\_cbl  
 Dataset Creation: Mon Mar 26 16:37:42 2012 by Log SCH 120126  
 Charted by: Depth in Feet scaled 1:240

Collar Locator			0	3 FT Amplitude x 5 (mV)	20	200	Variable Density	1200
0	Gamma Ray (GAPI)	180	0	3 FT Amplitude (mV)	100			
			650	3' Travel Time (usec)	150			



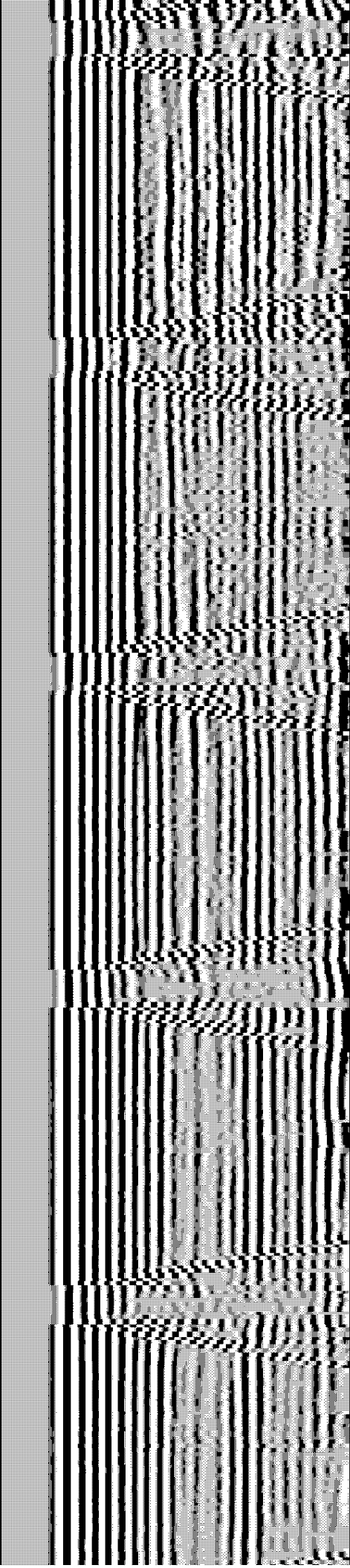
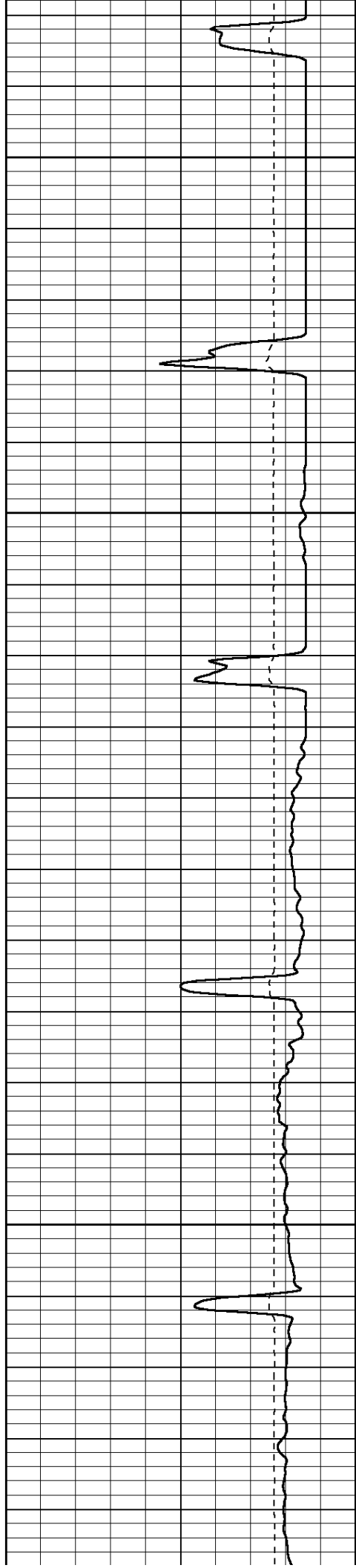
100

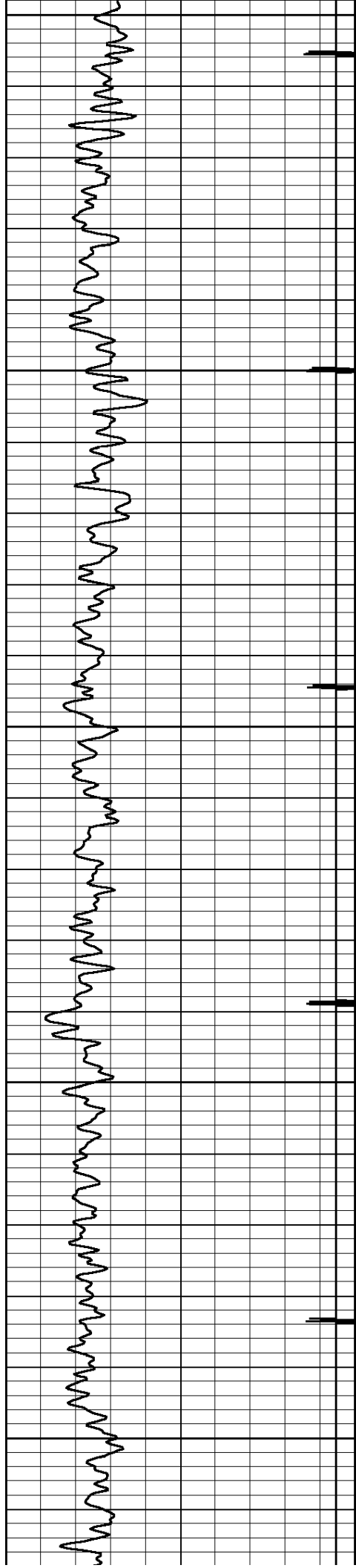




200

300

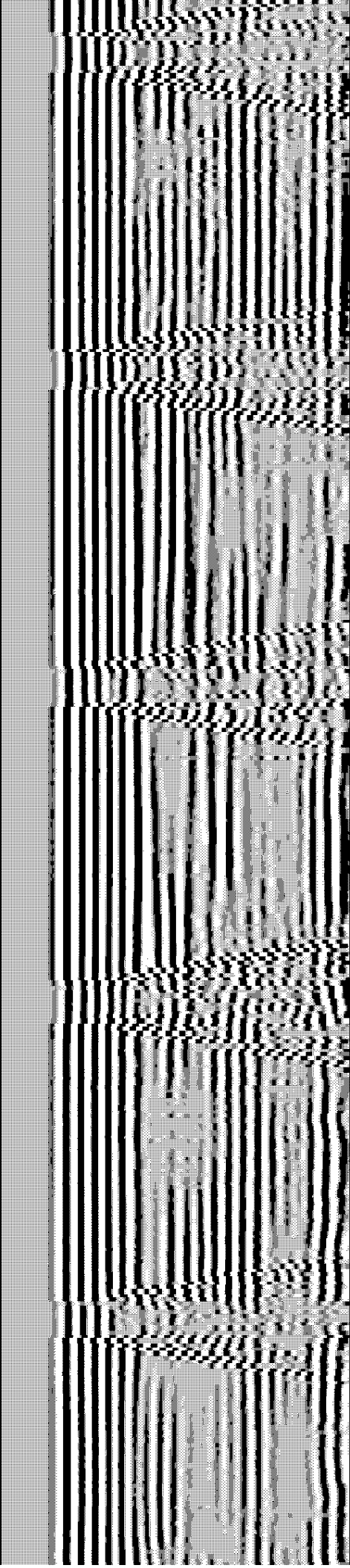
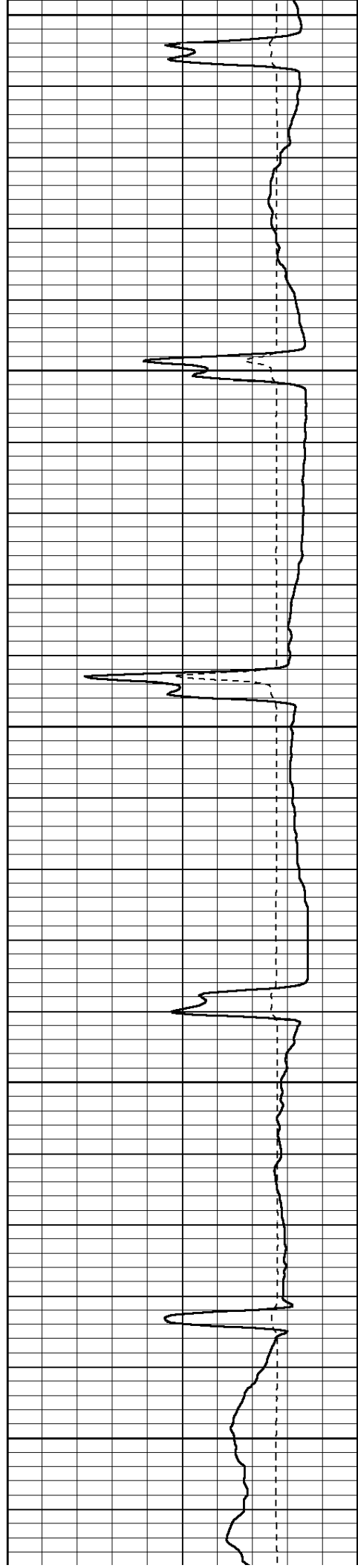


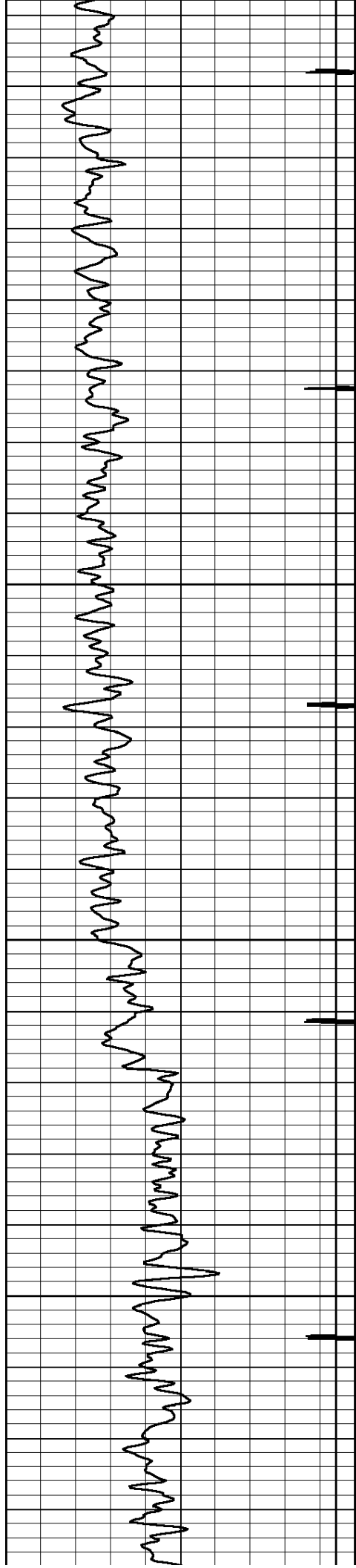


400

500

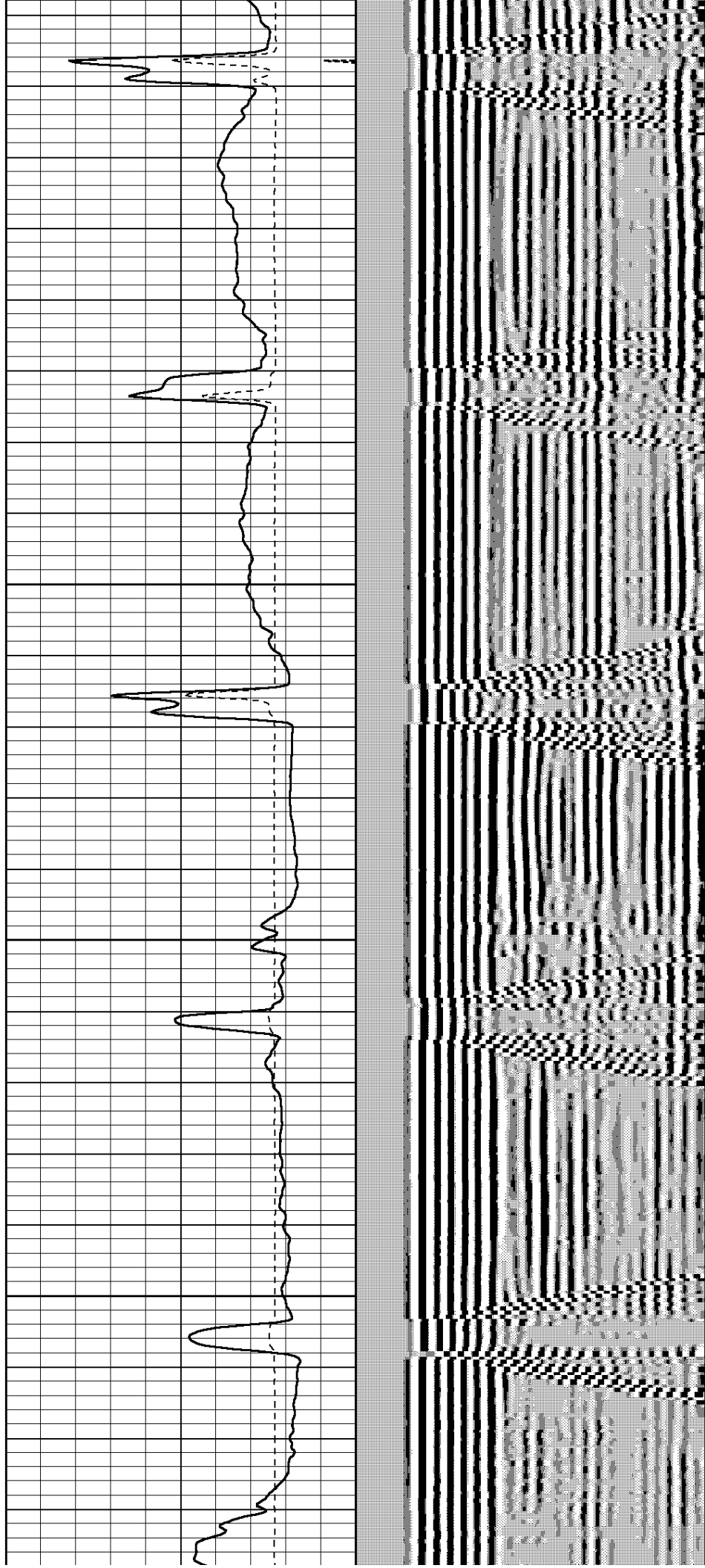
600

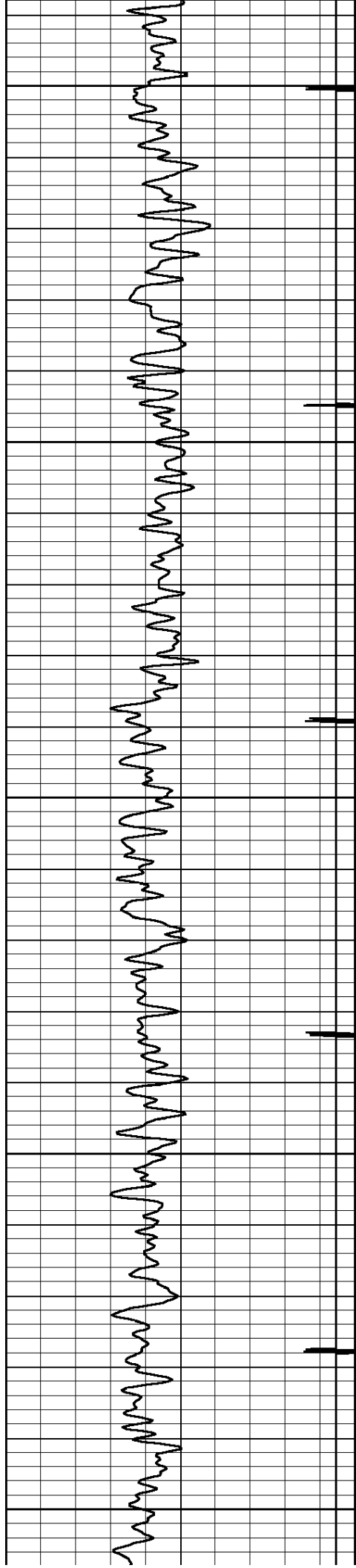




700

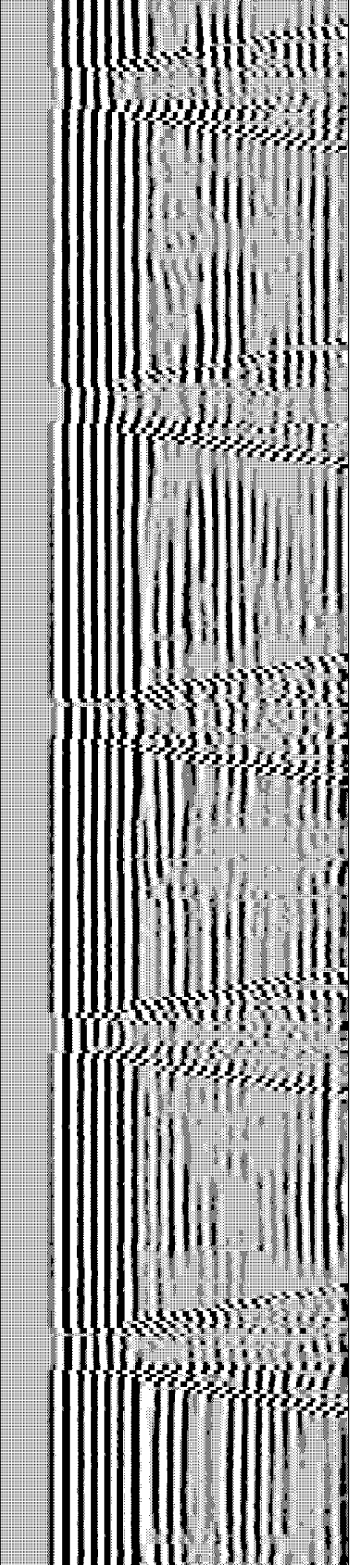
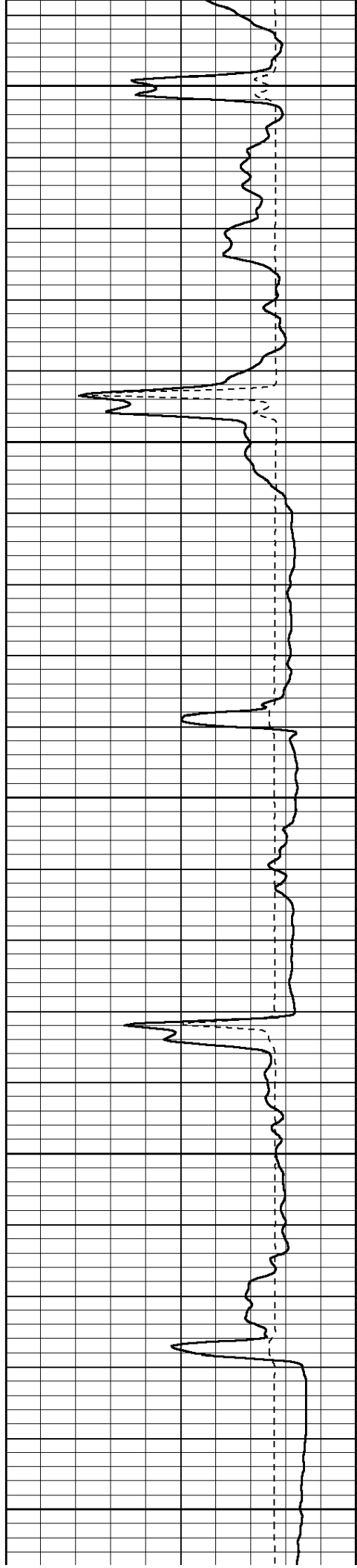
800



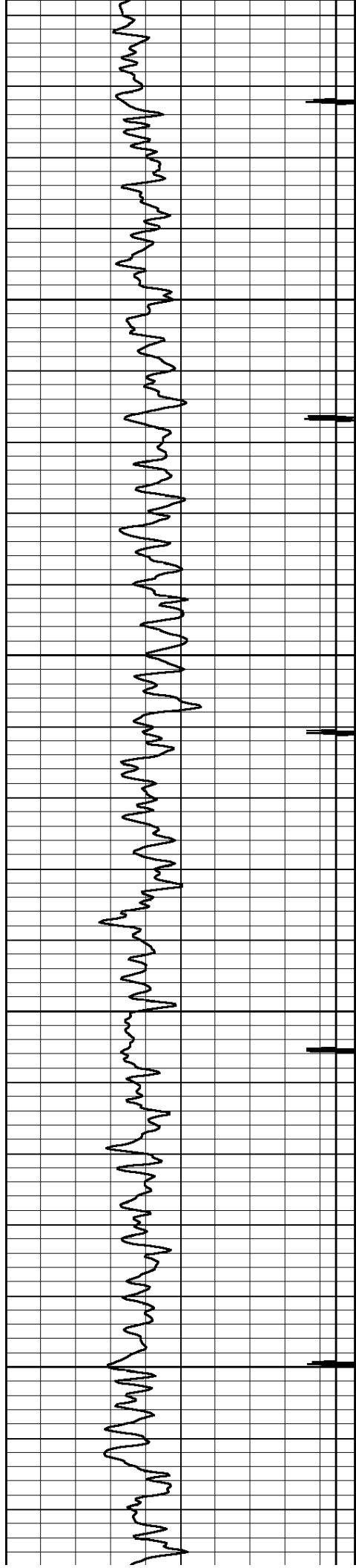


900

1000

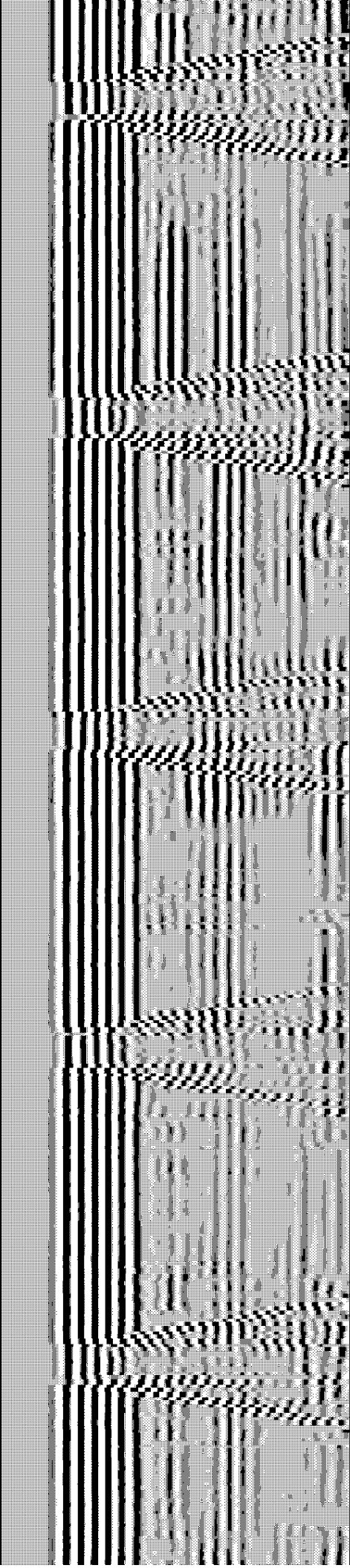
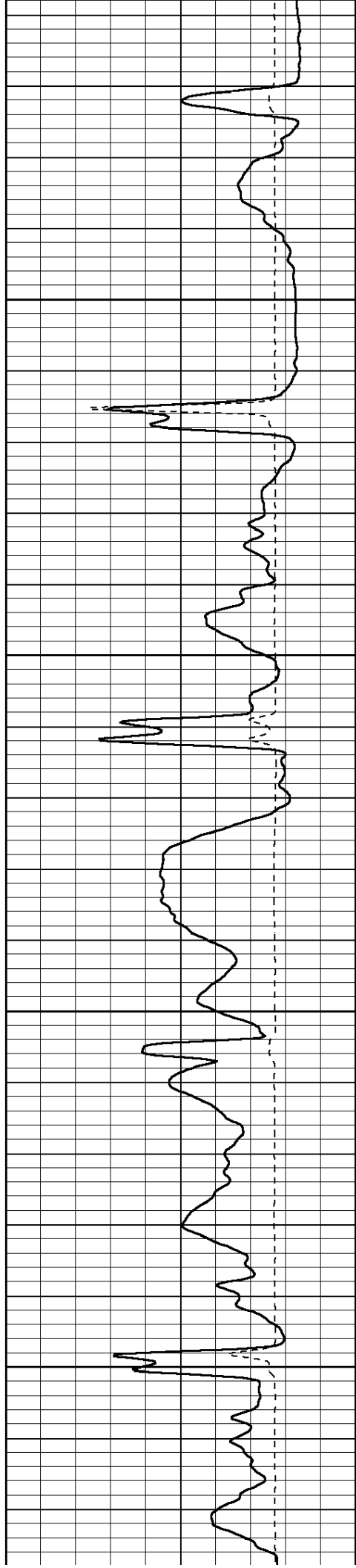




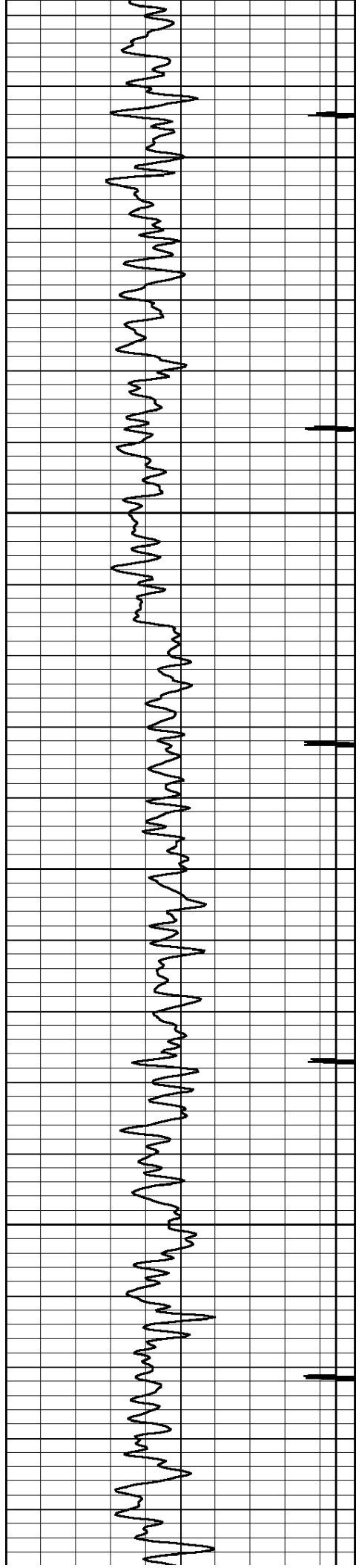


1100

1200

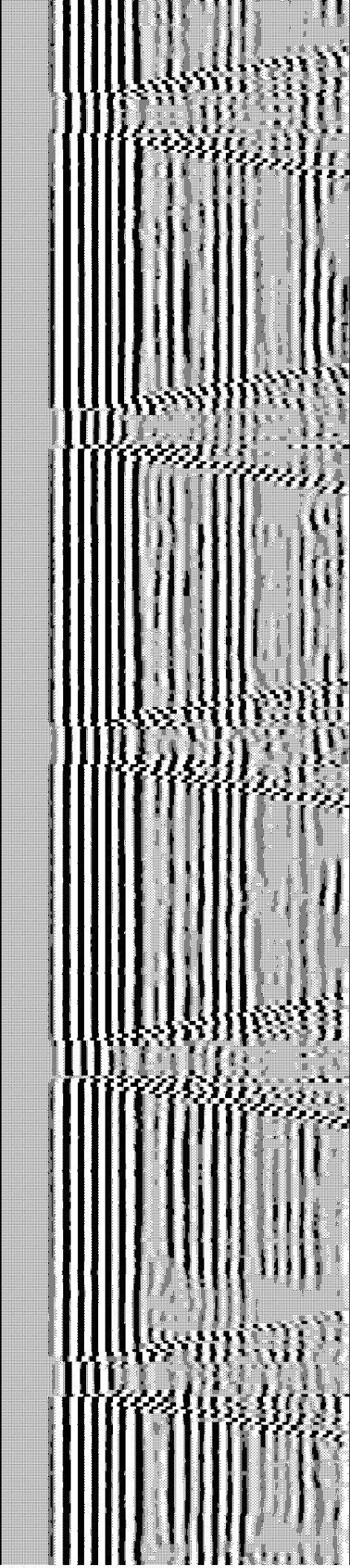
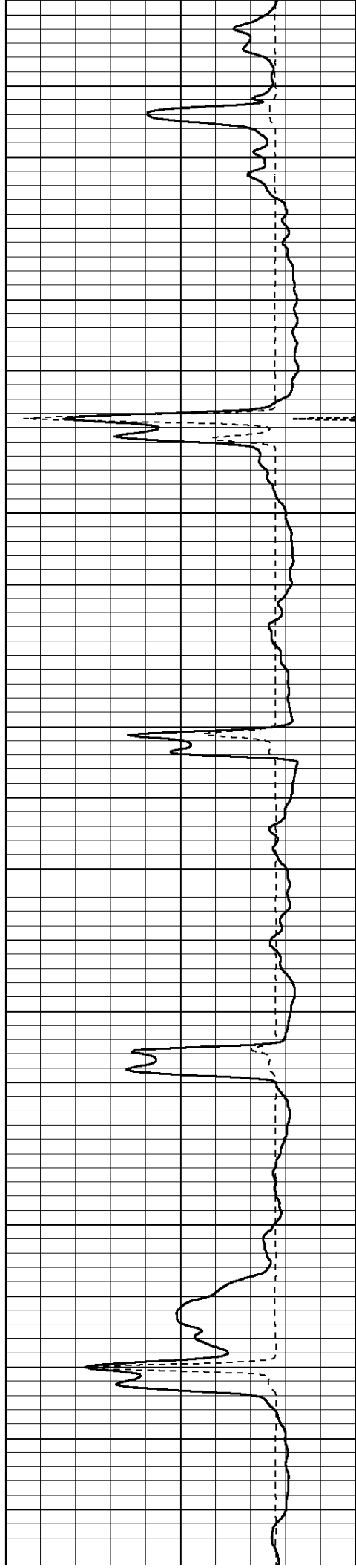


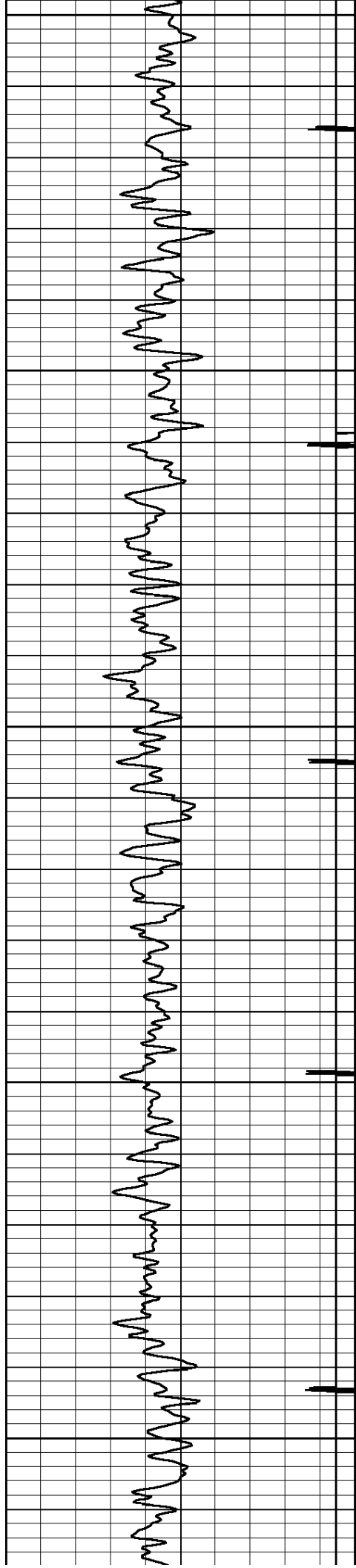




1300

1400

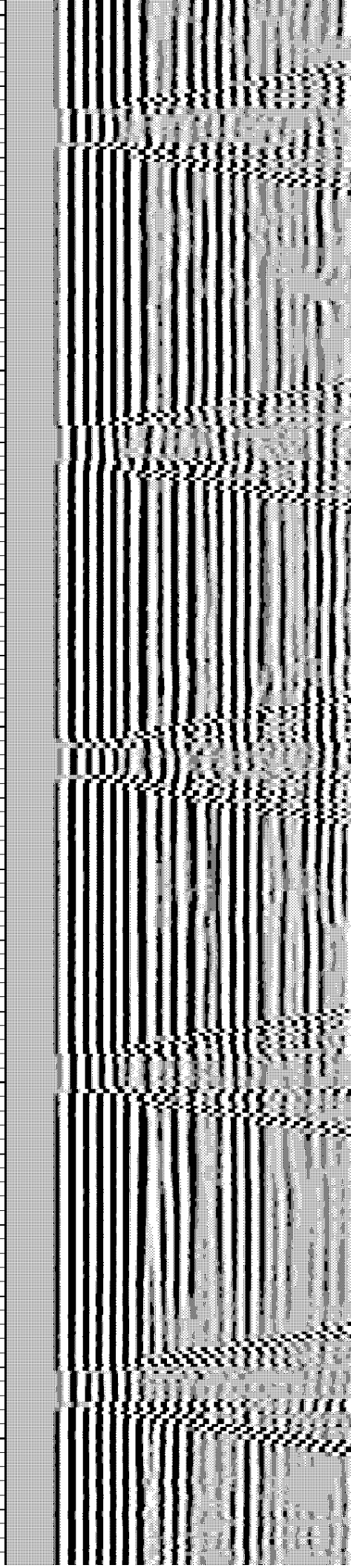
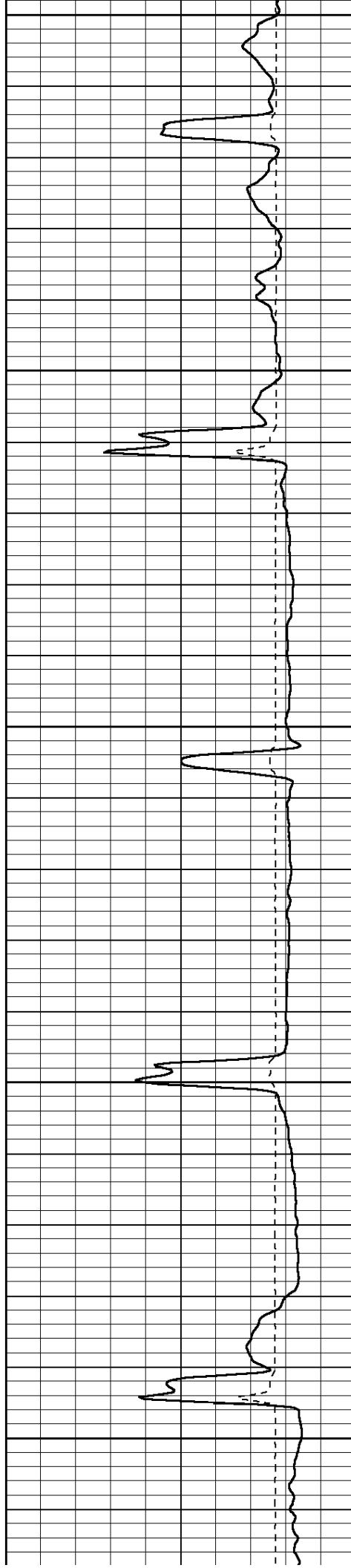


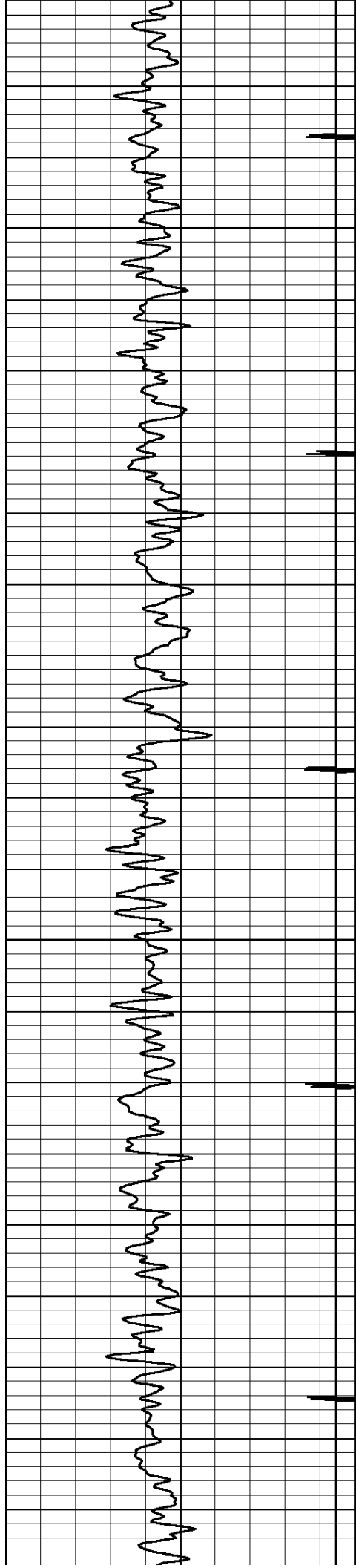


1500

1600

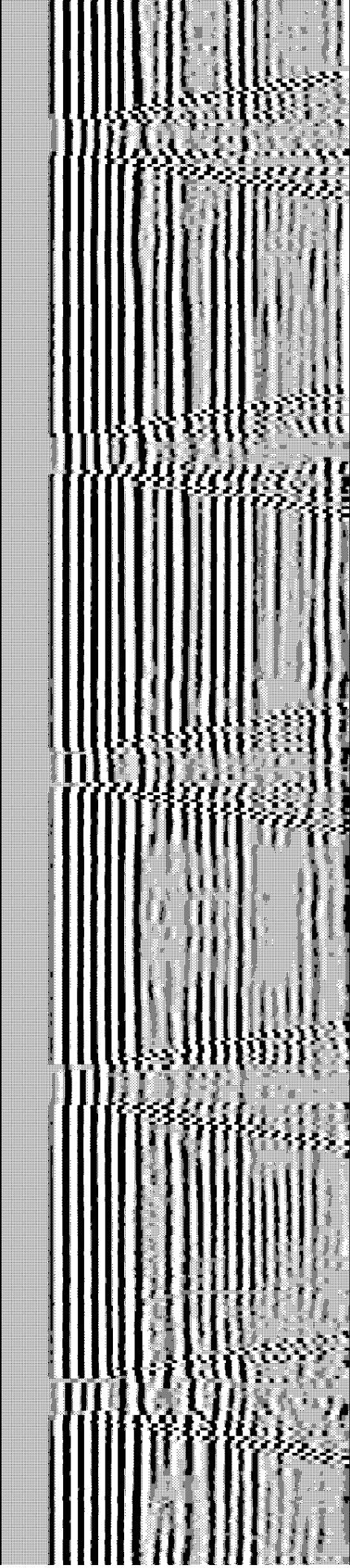
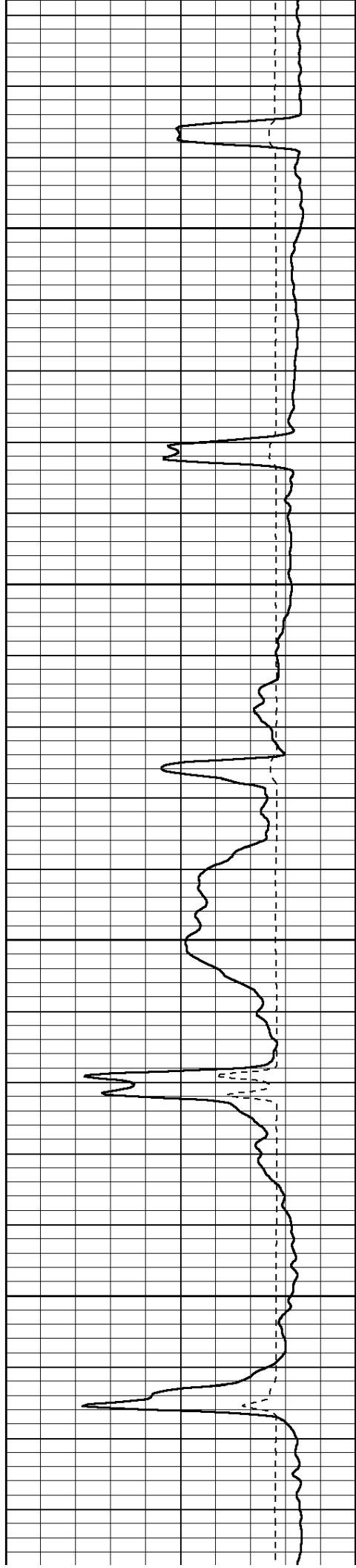
1700

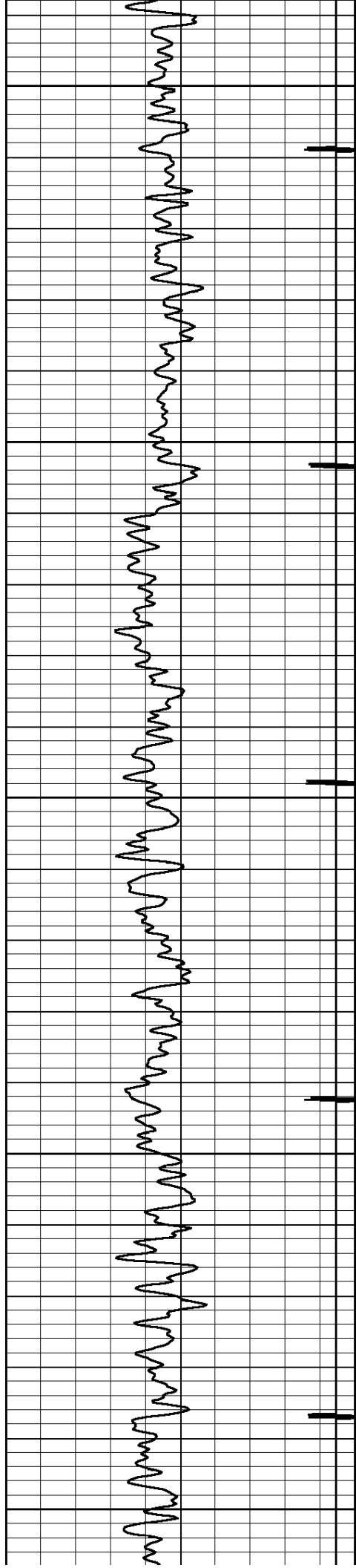




1800

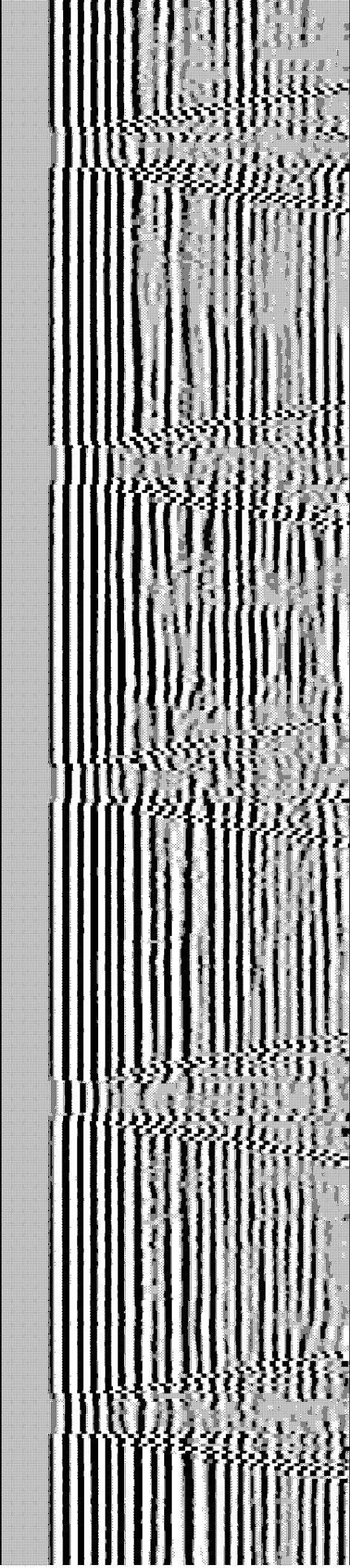
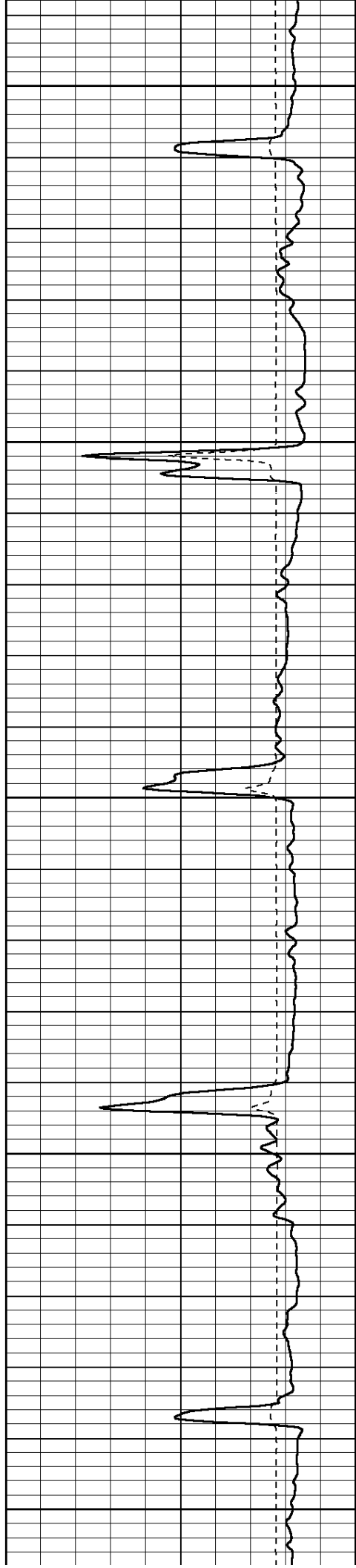
1900

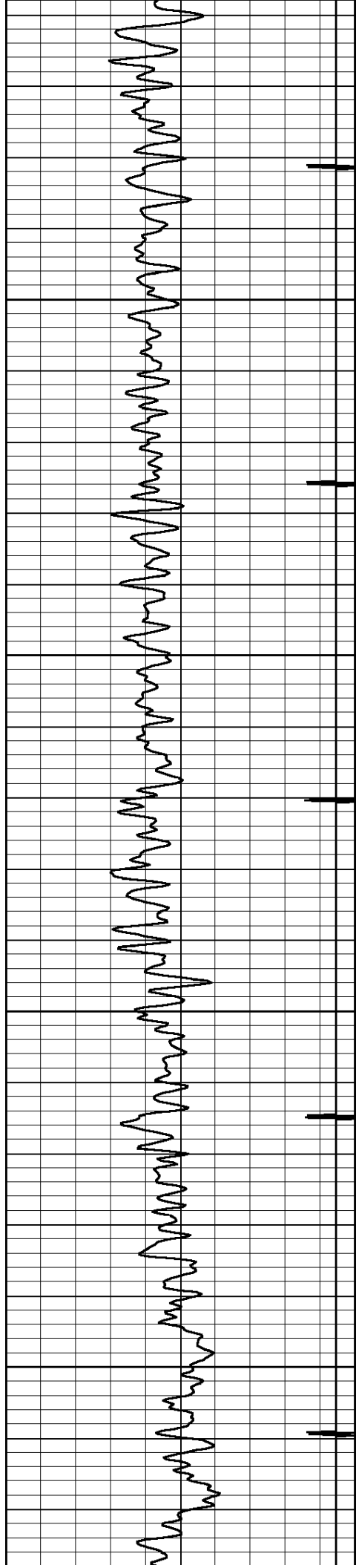




2000

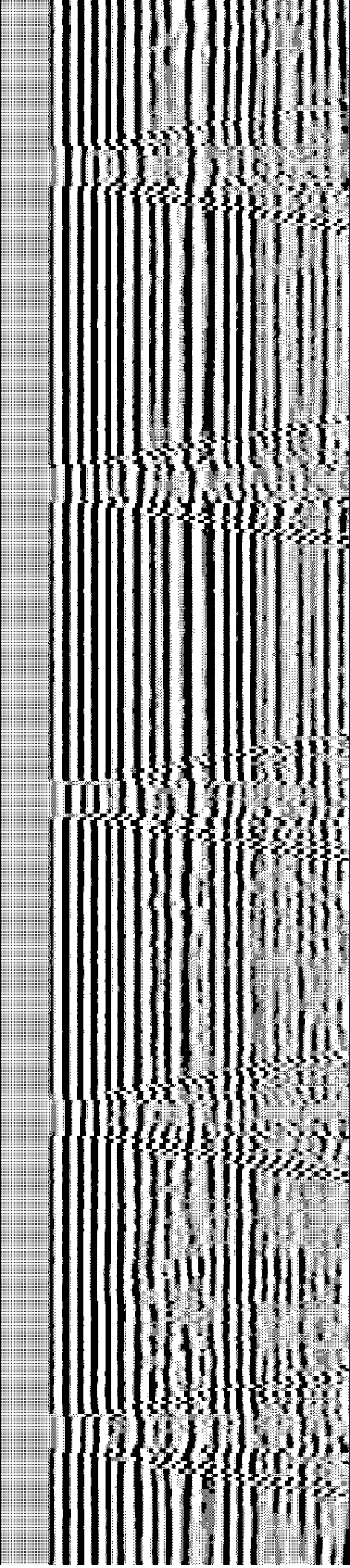
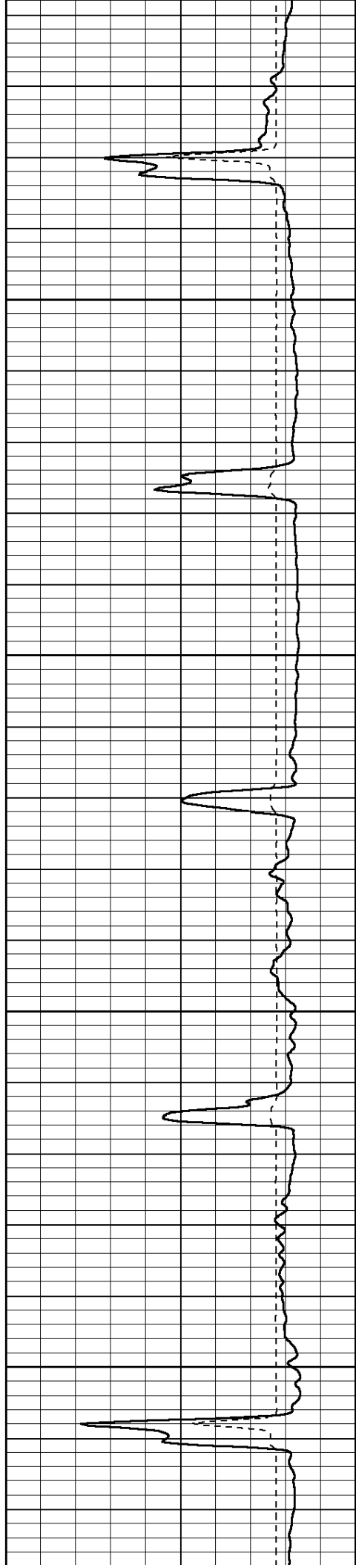
2100

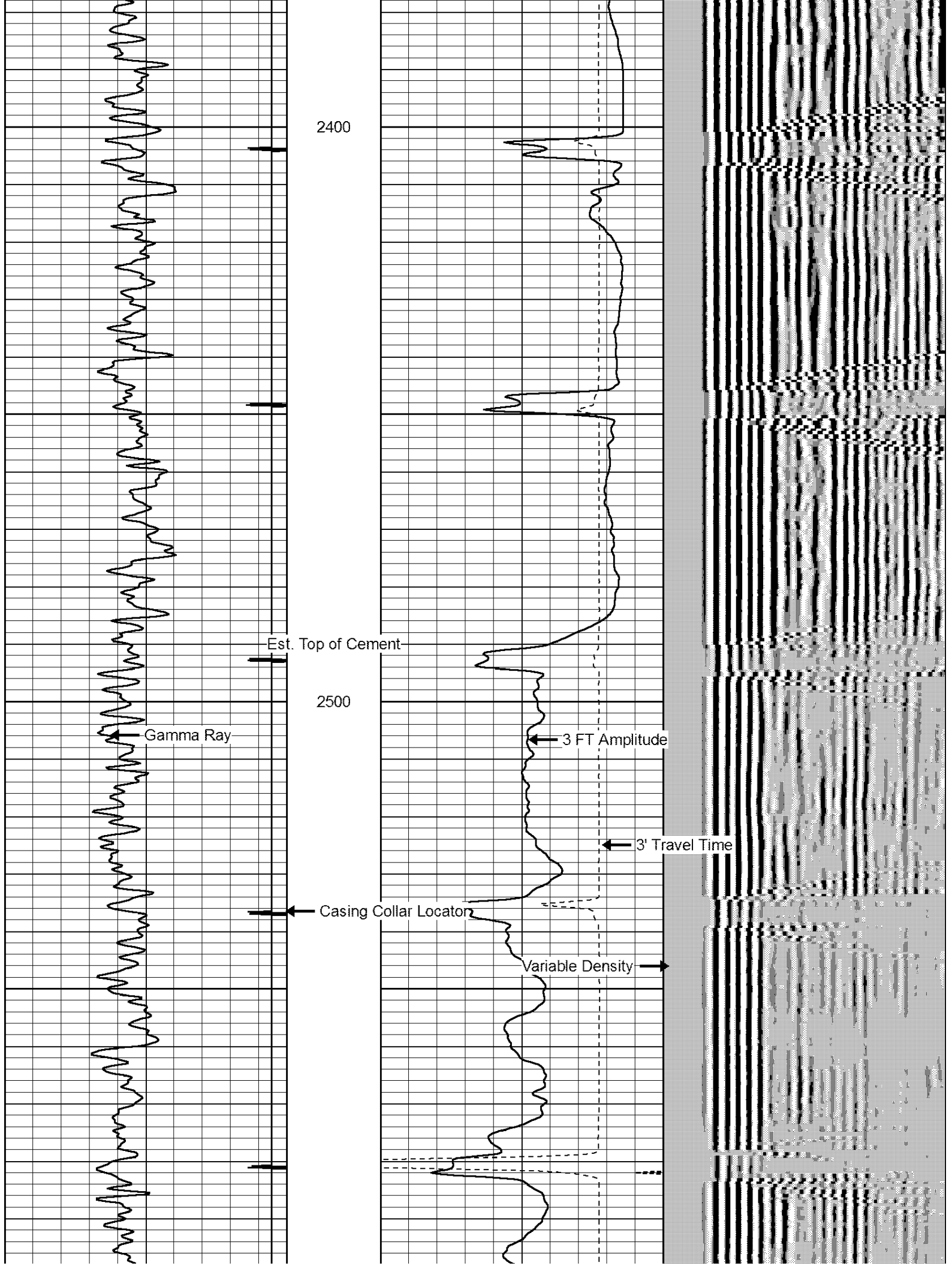




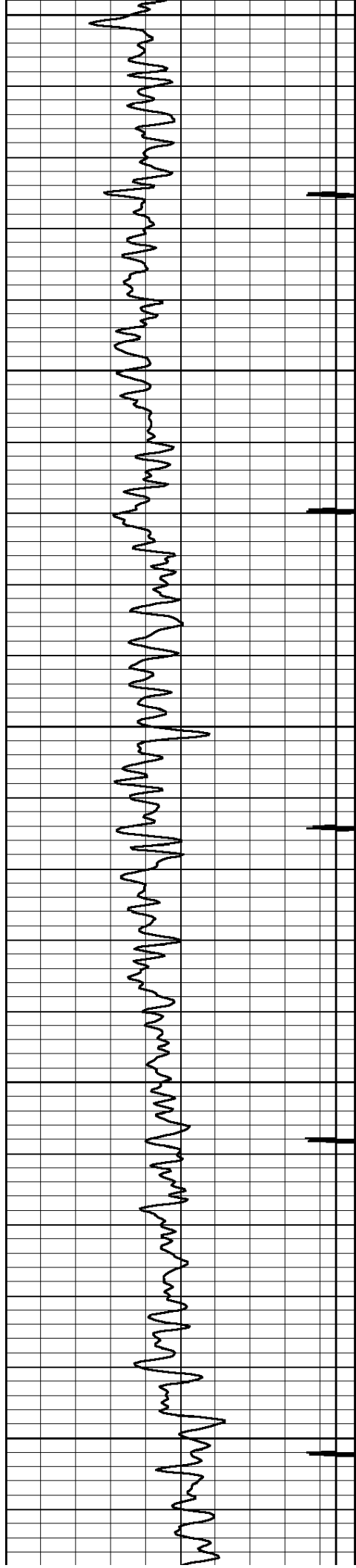
2200

2300





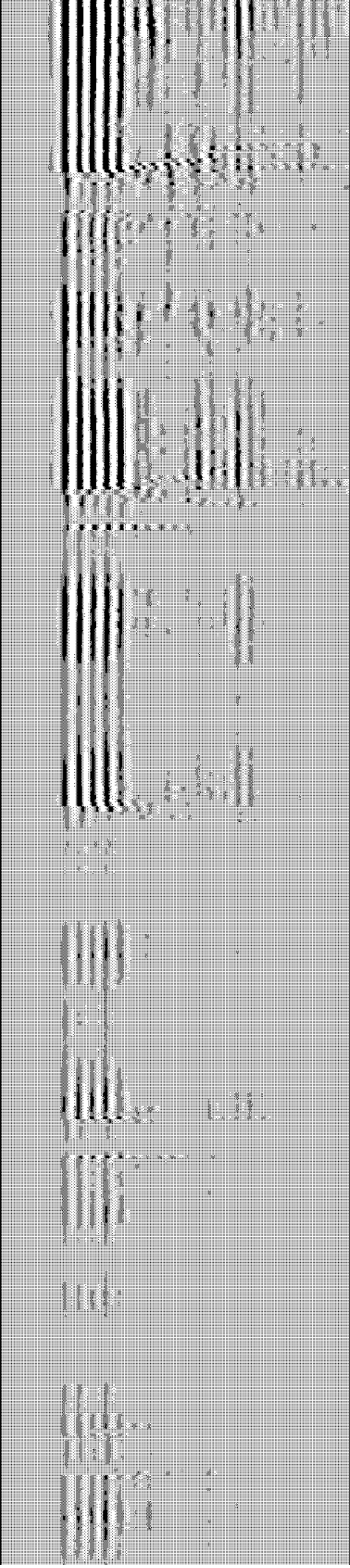
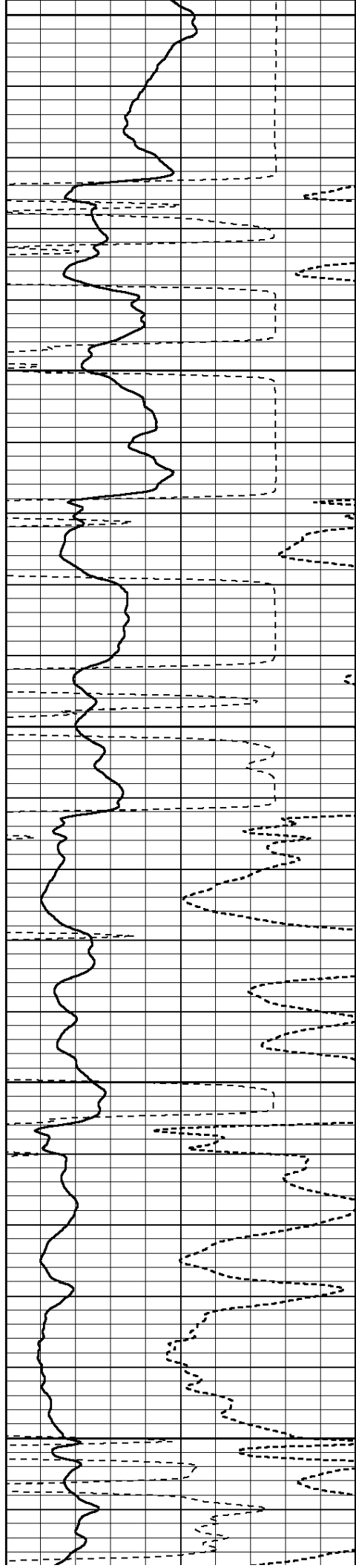




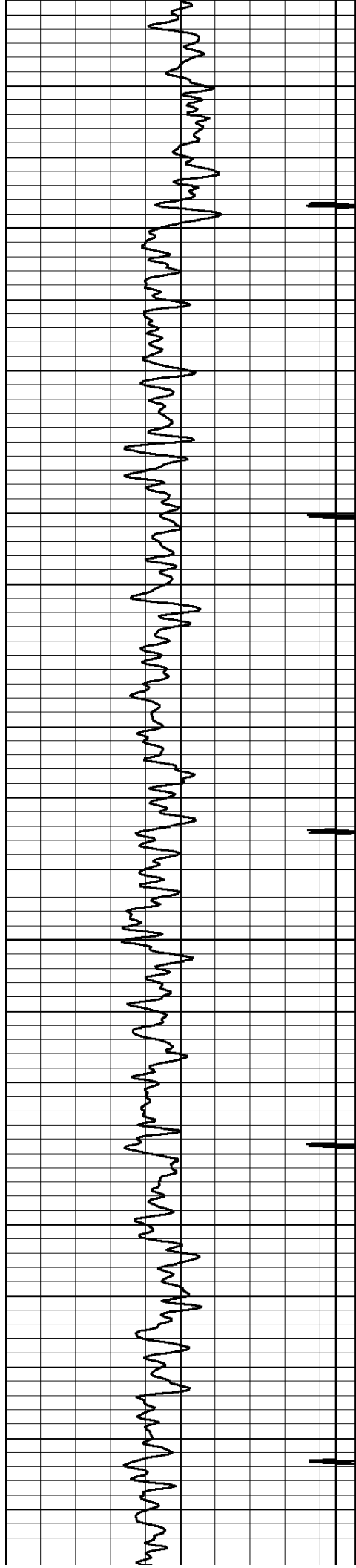
2600

2700

2800

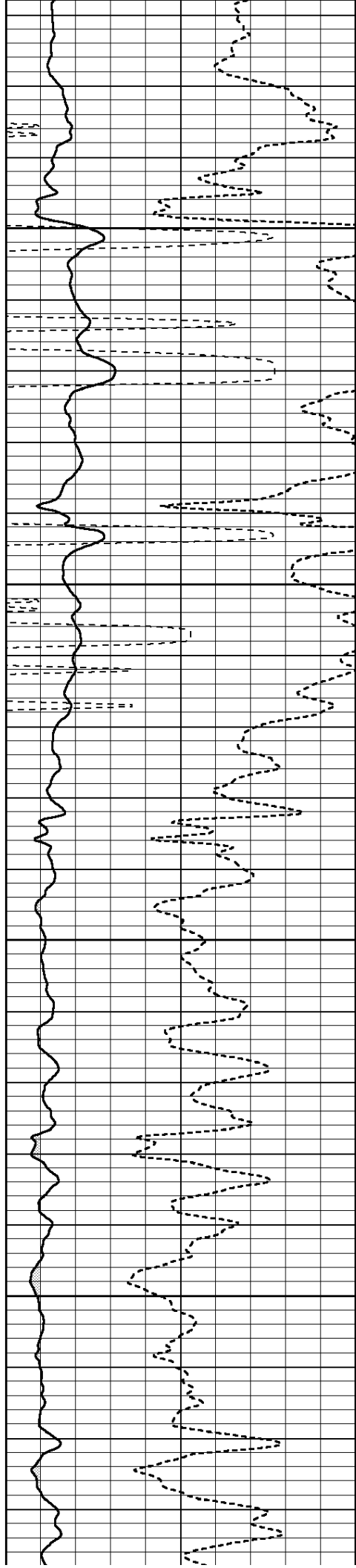


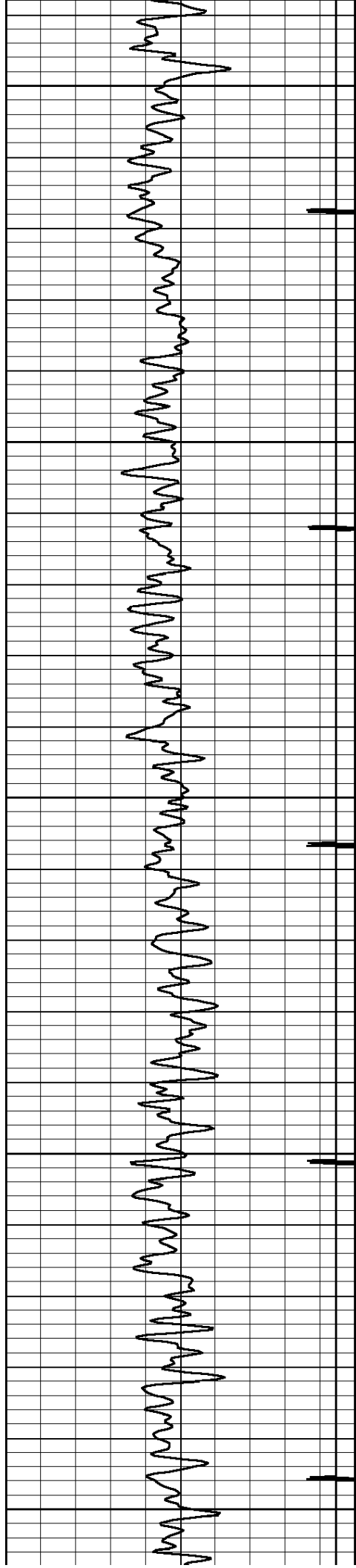




2900

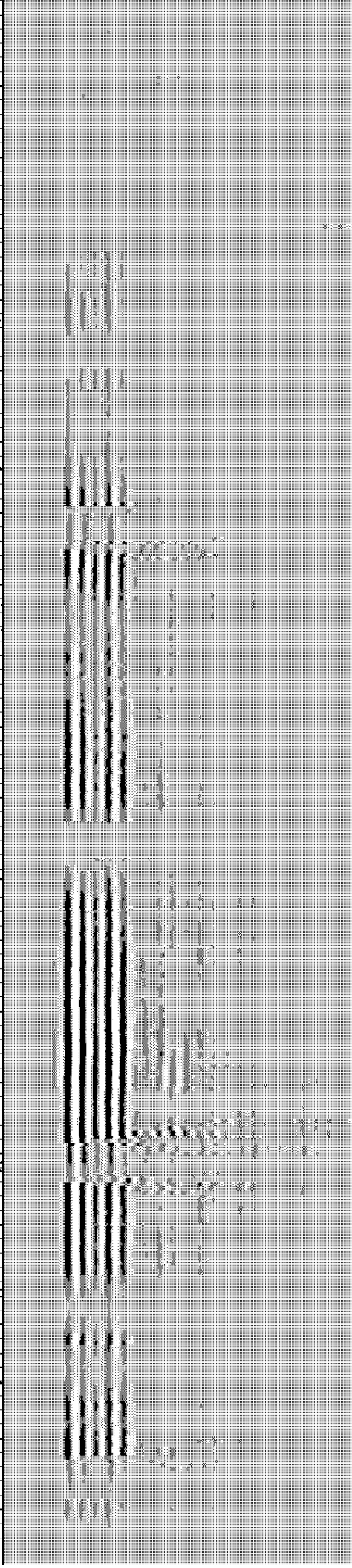
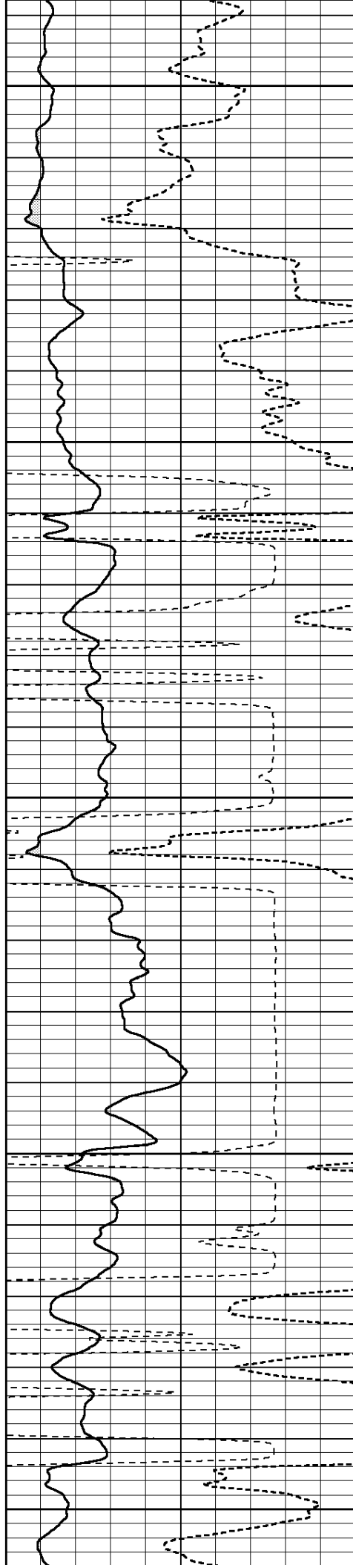
3000

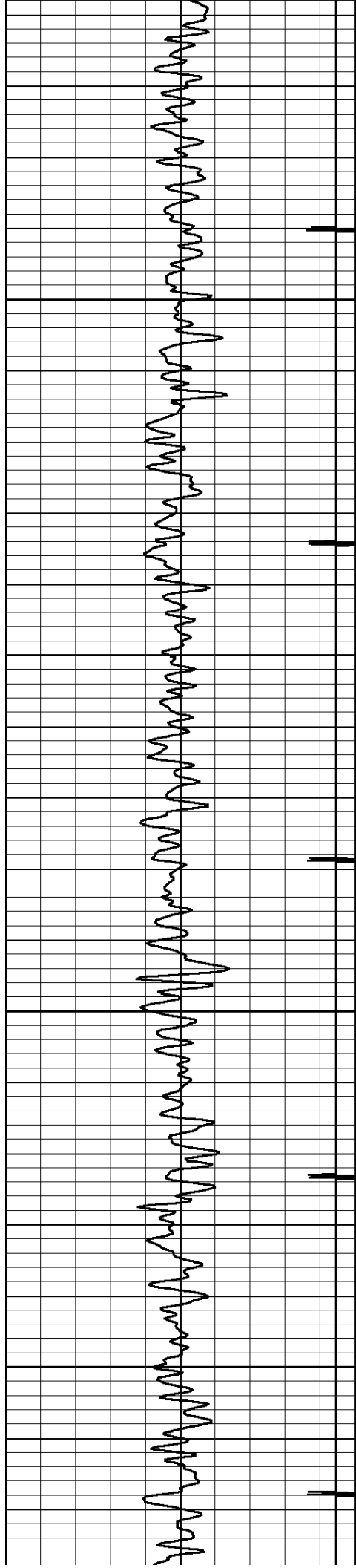




3100

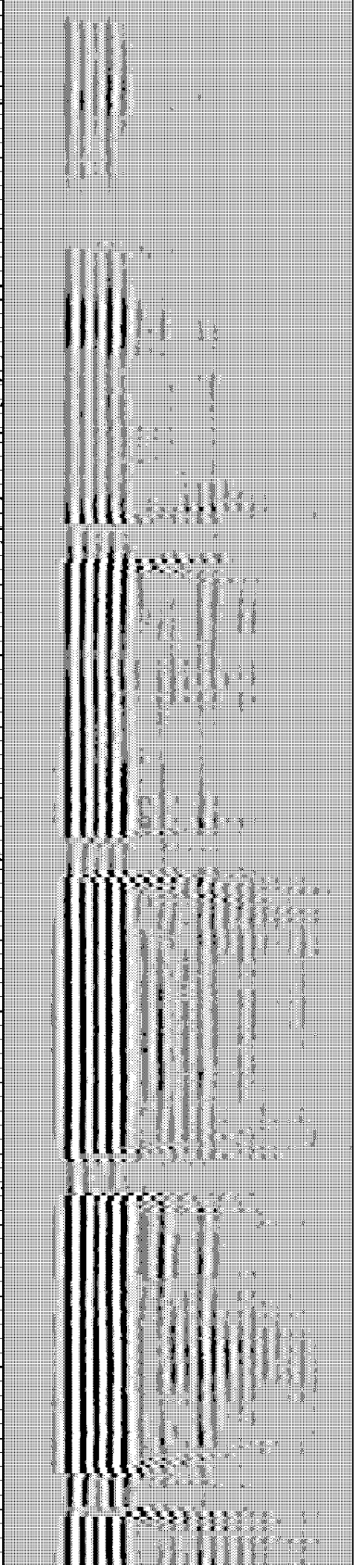
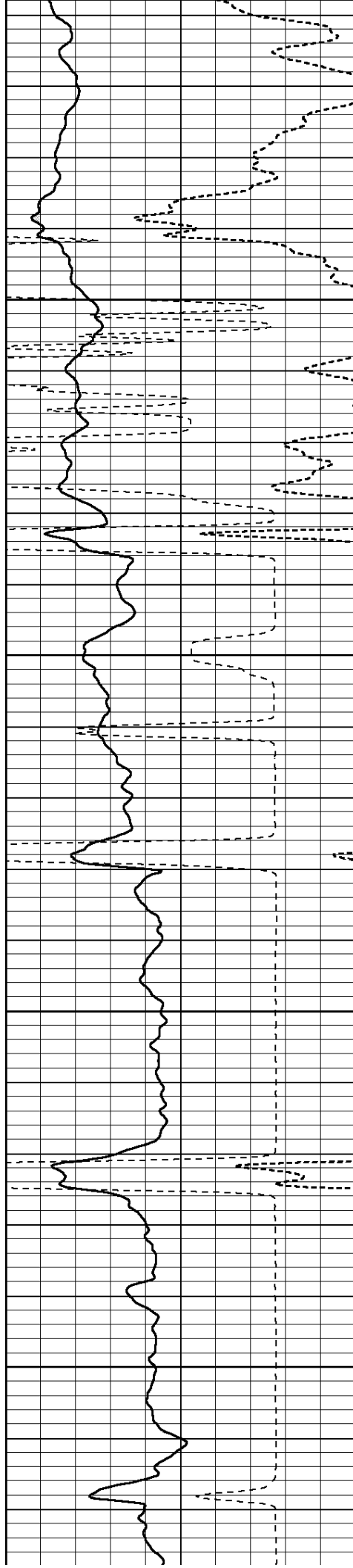
3200

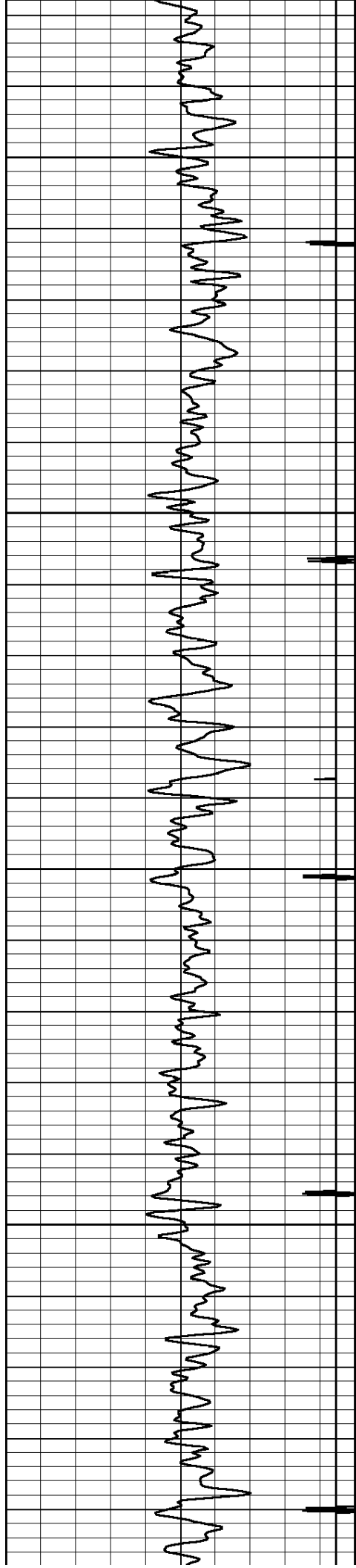




3300

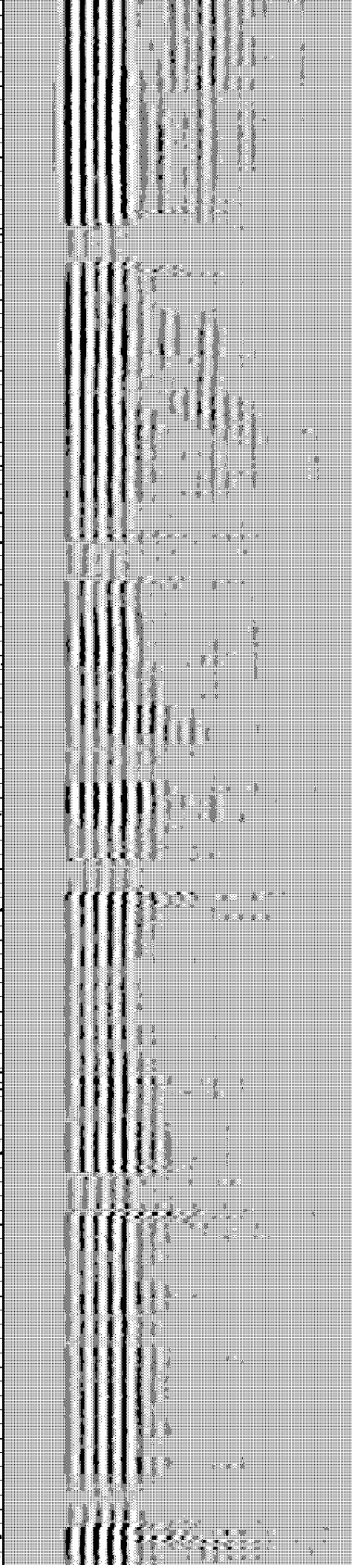
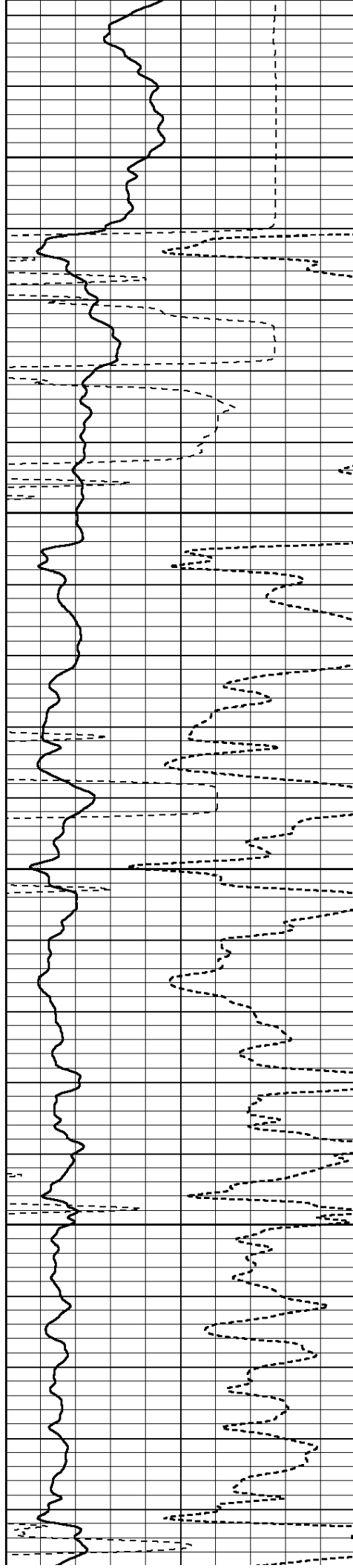
3400

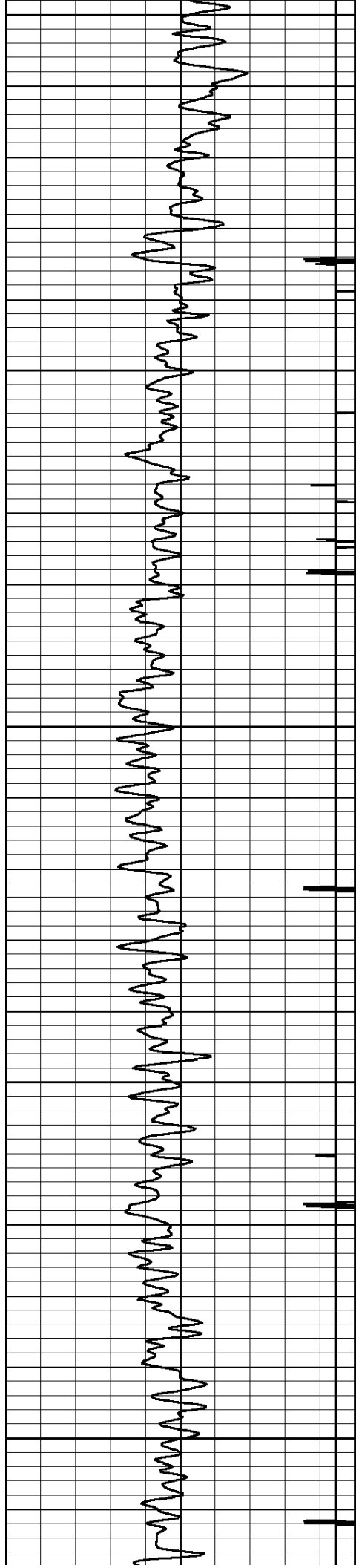




3500

3600

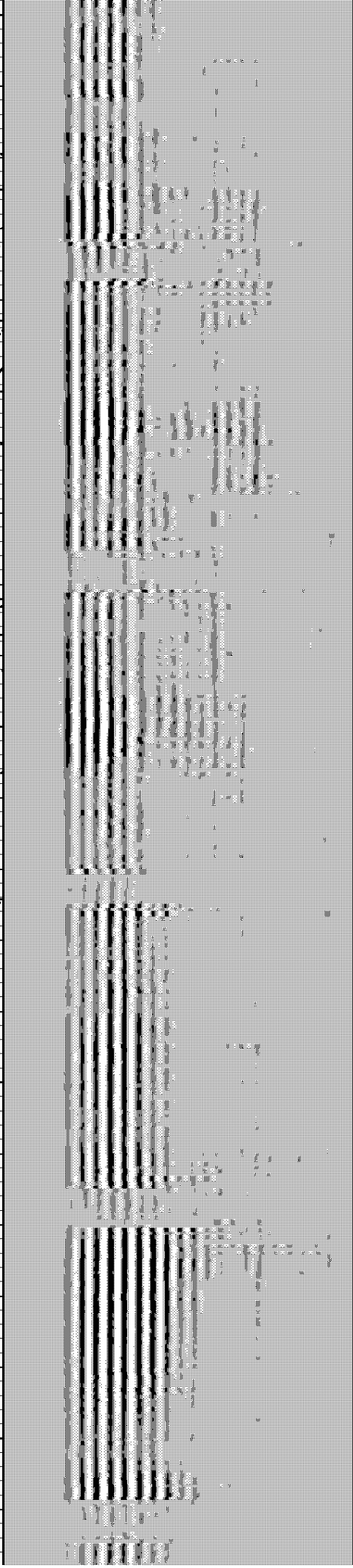
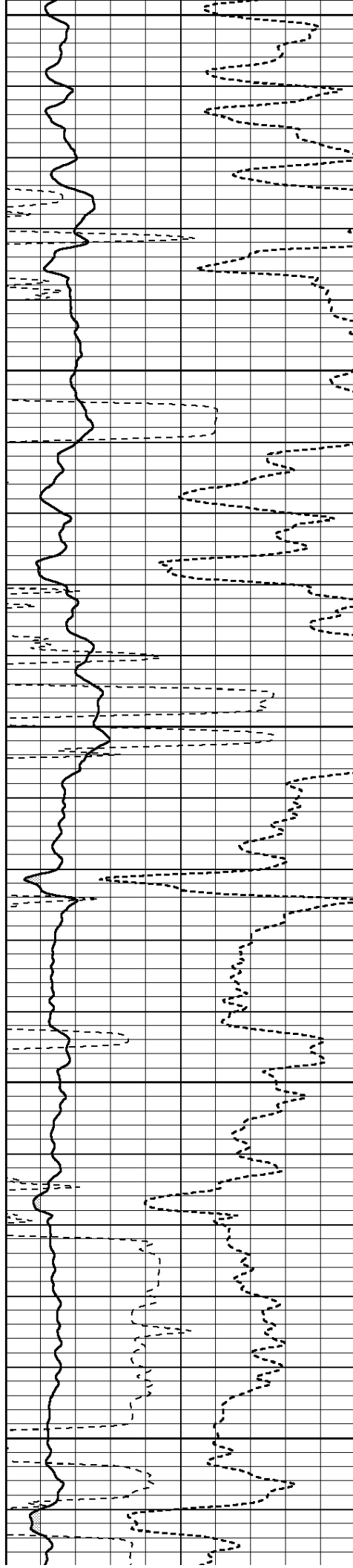


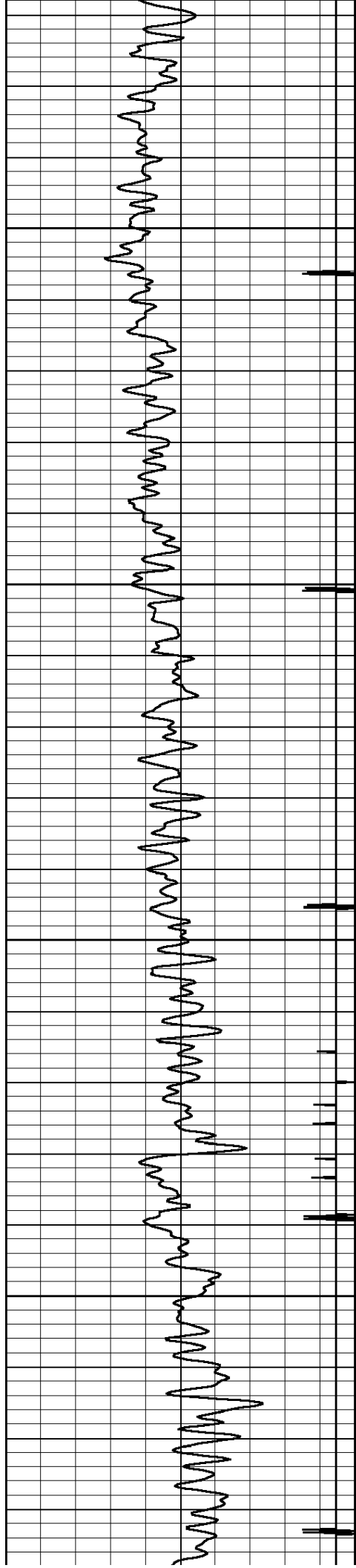


3700

3800

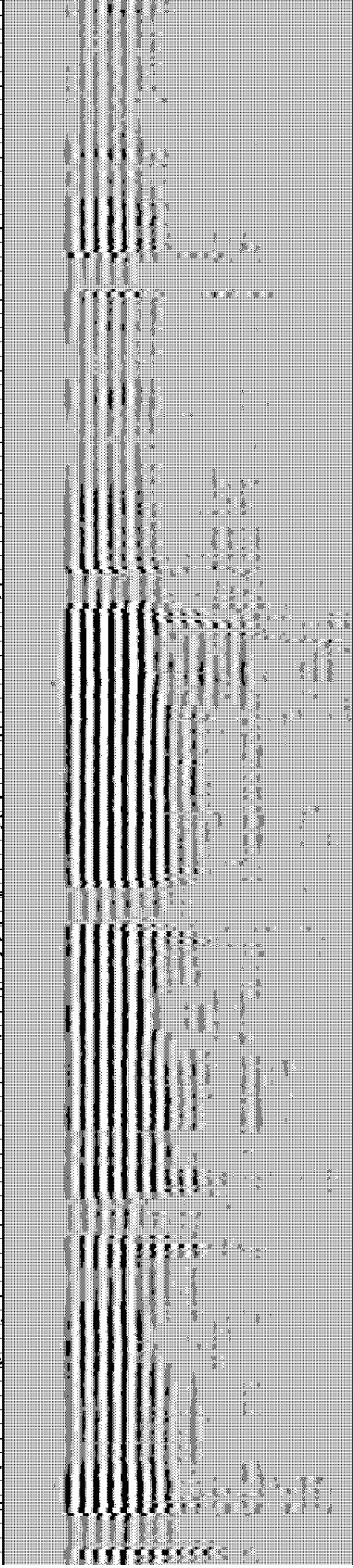
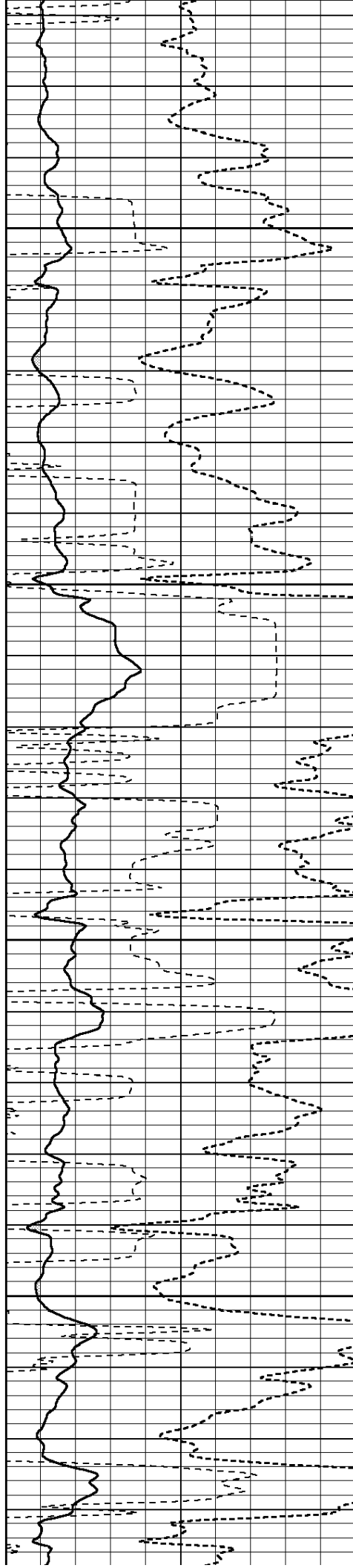
3900



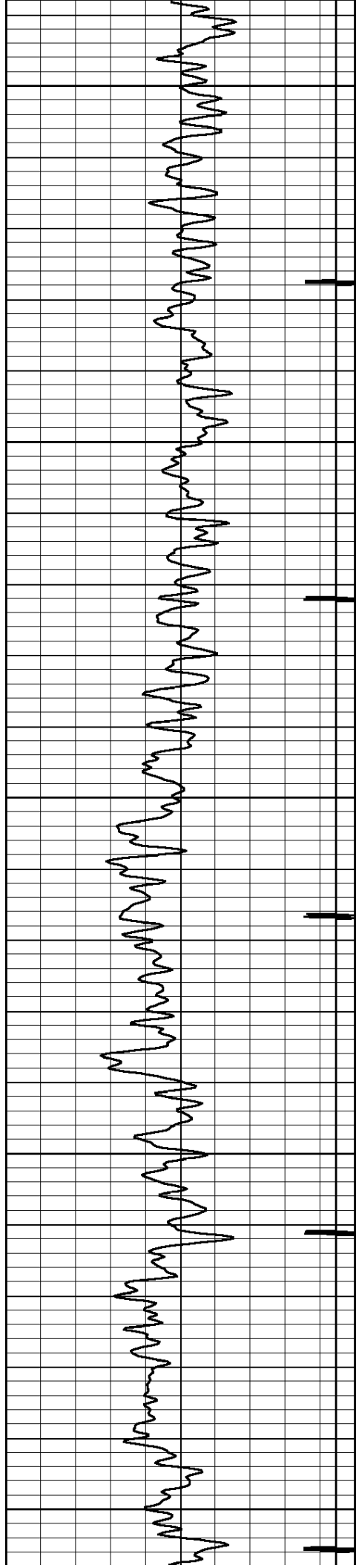


4000

4100

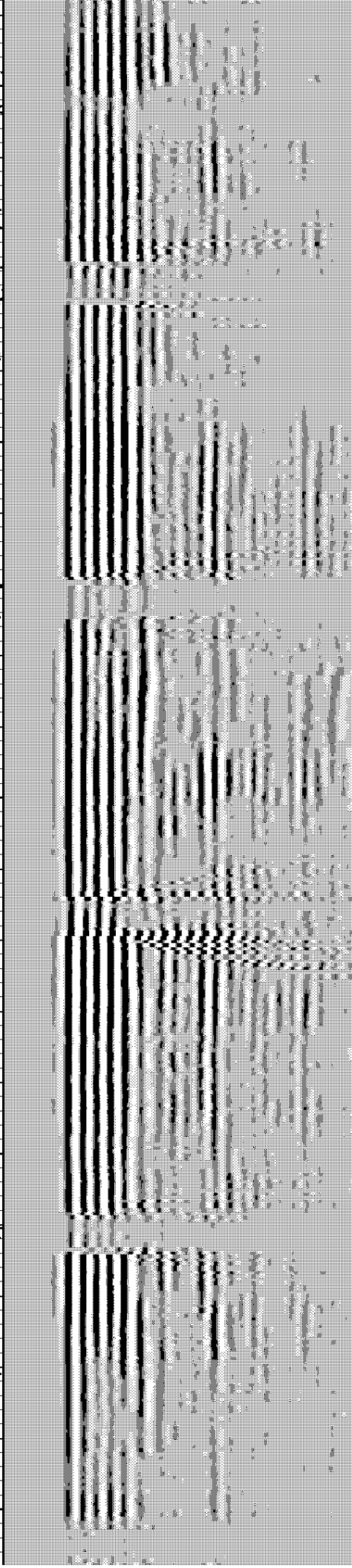
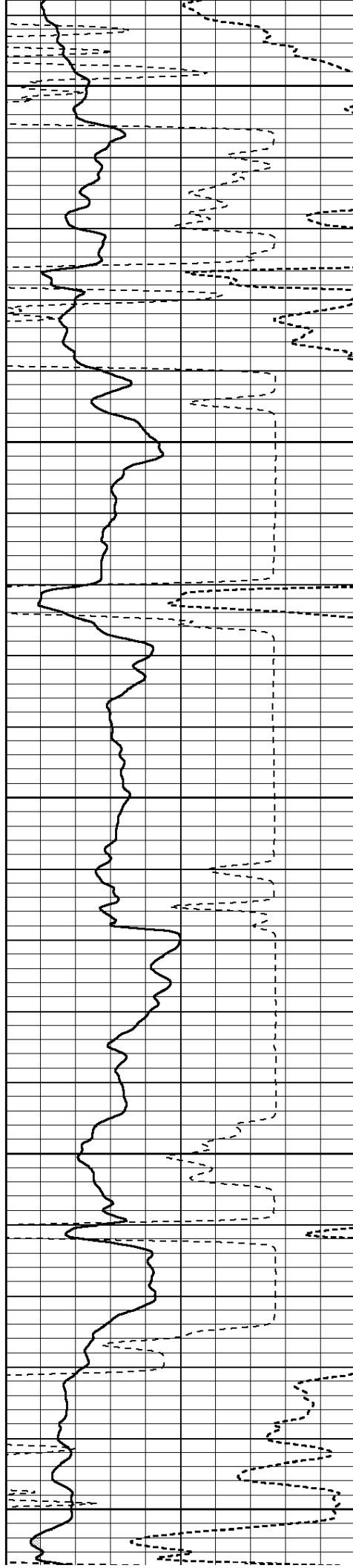




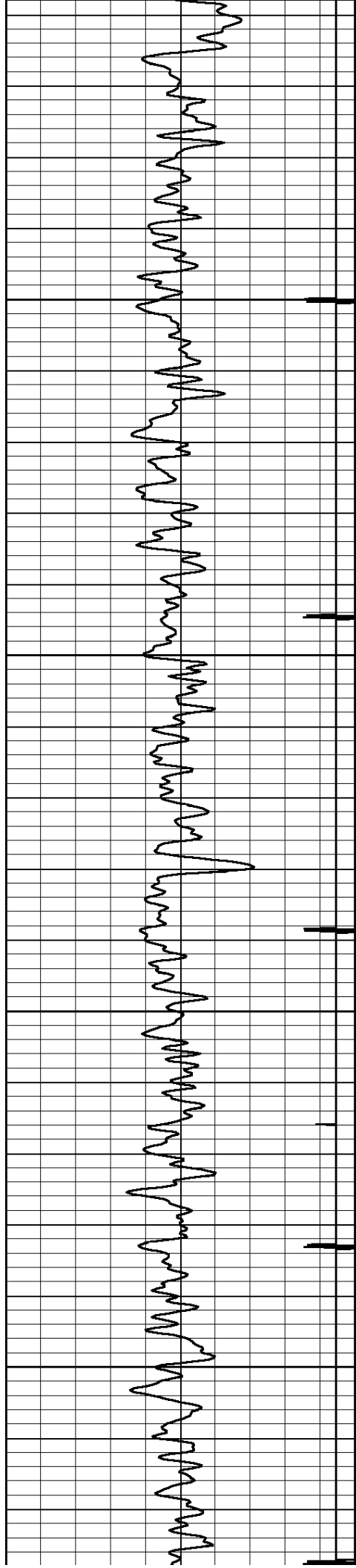


4200

4300

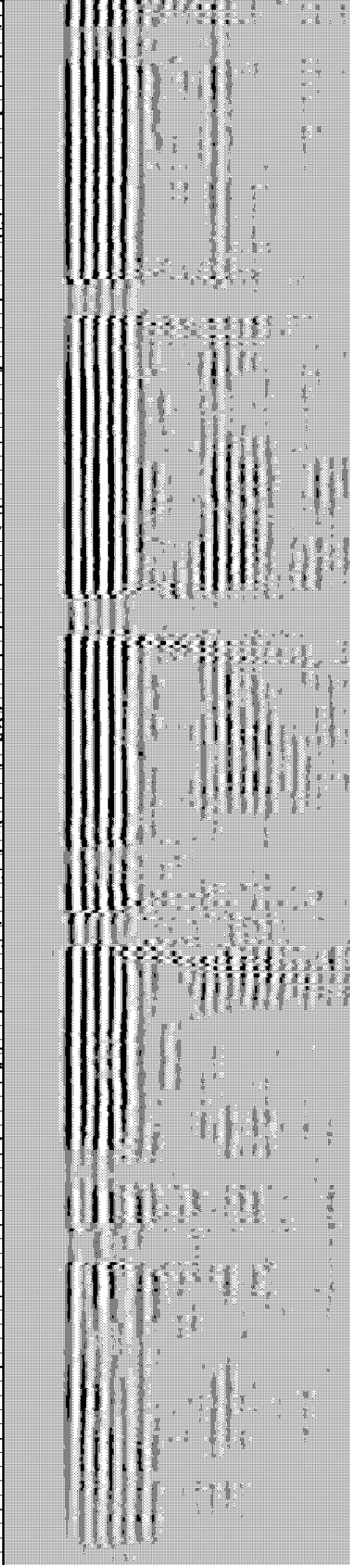
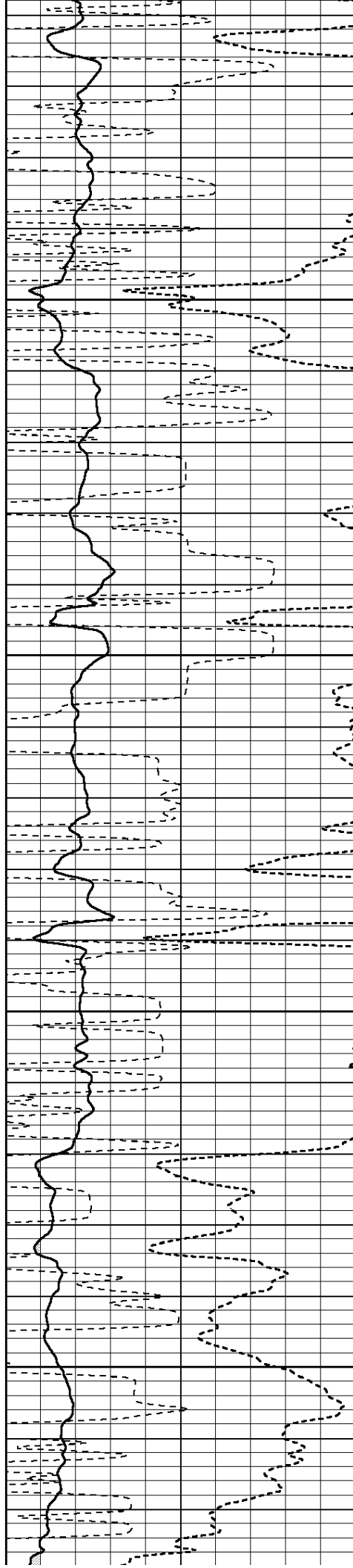


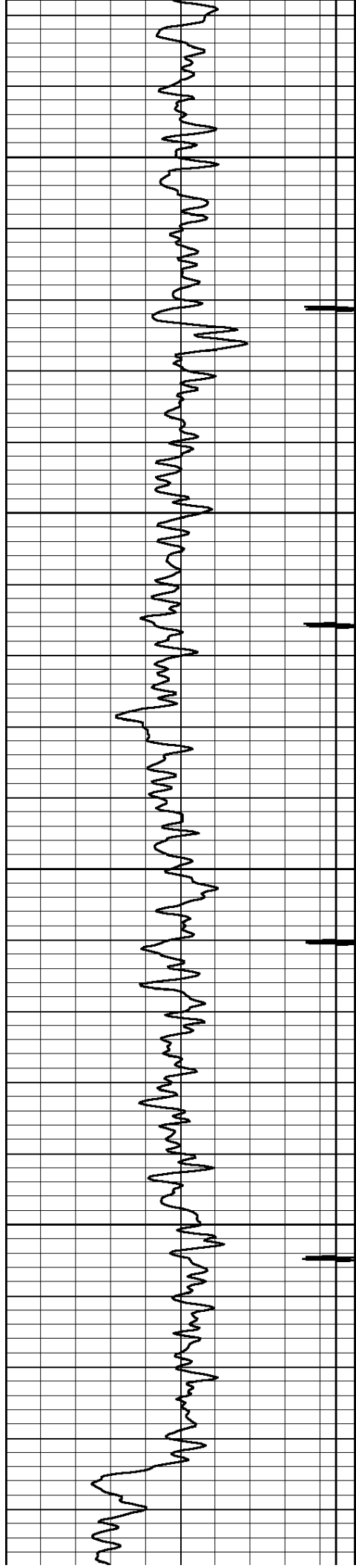




4400

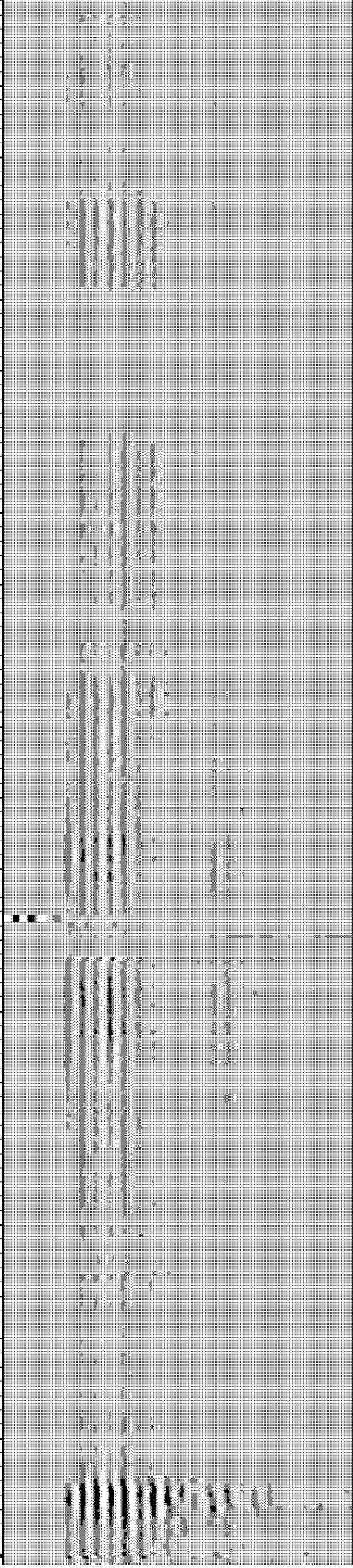
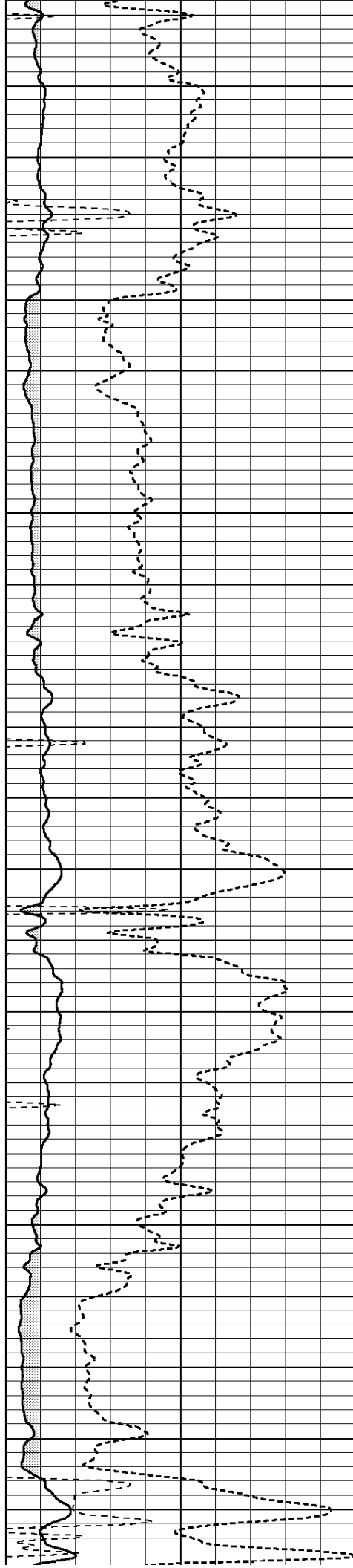
4500

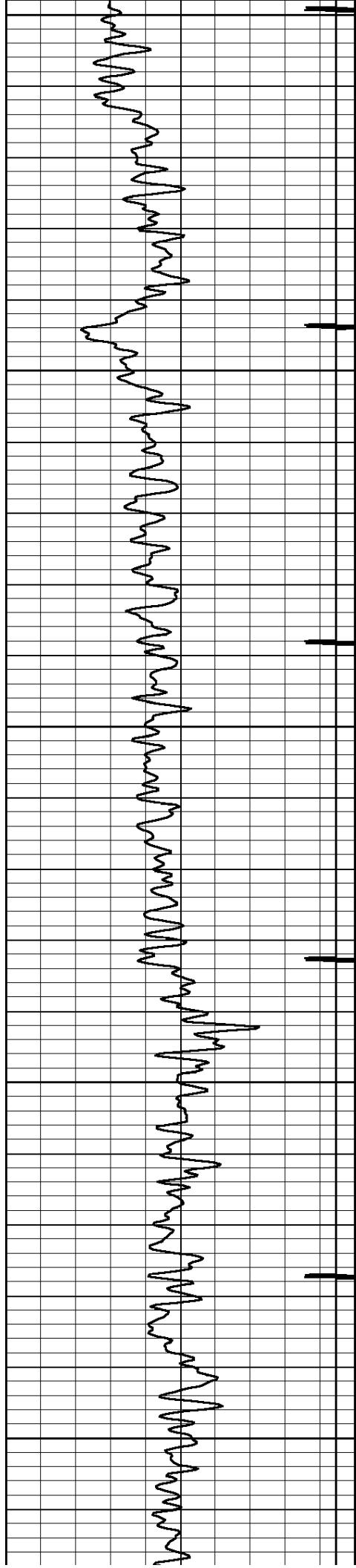




4600

4700

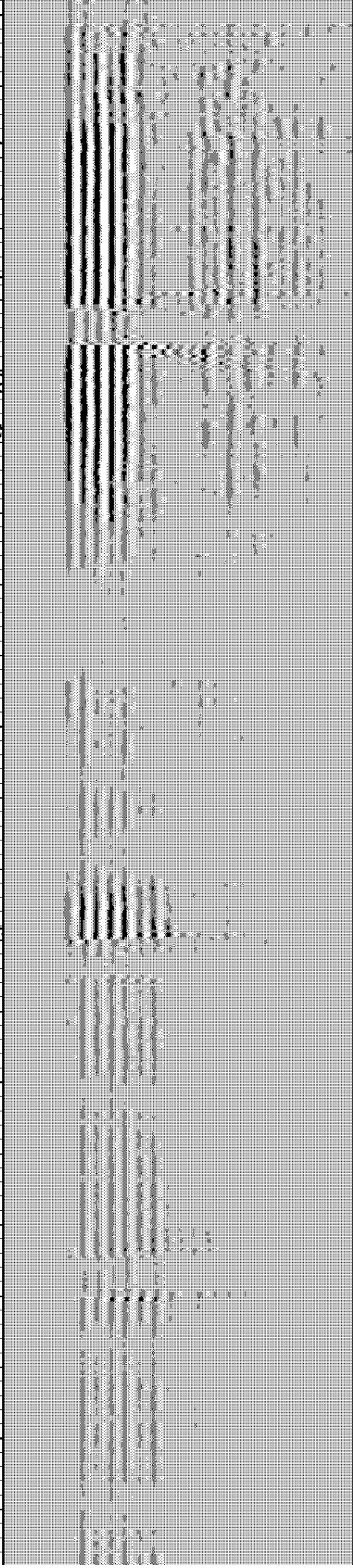
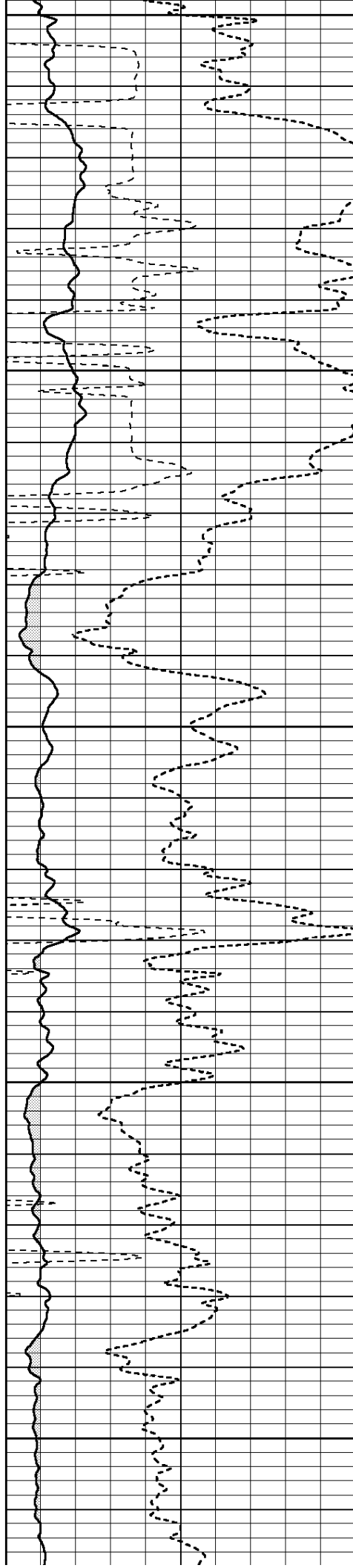


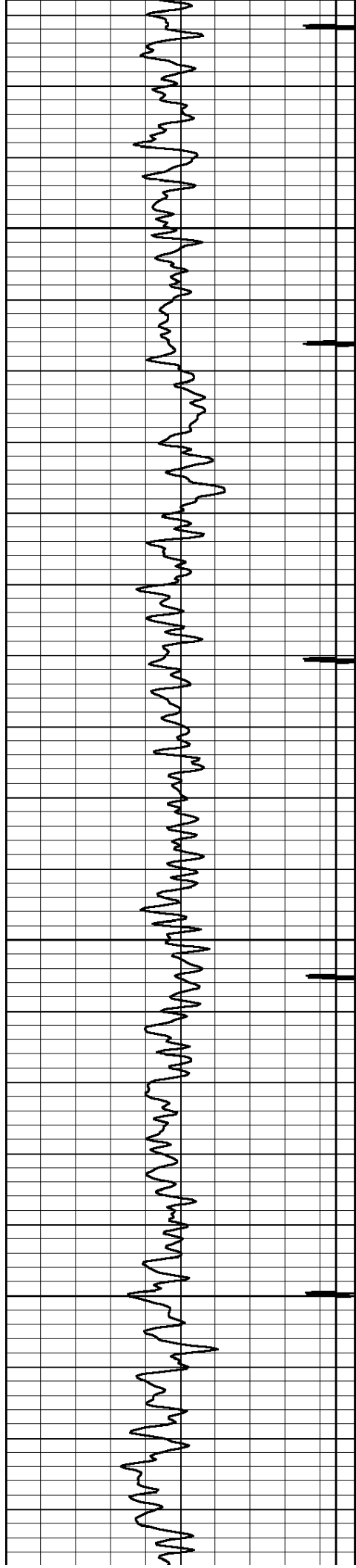


4800

4900

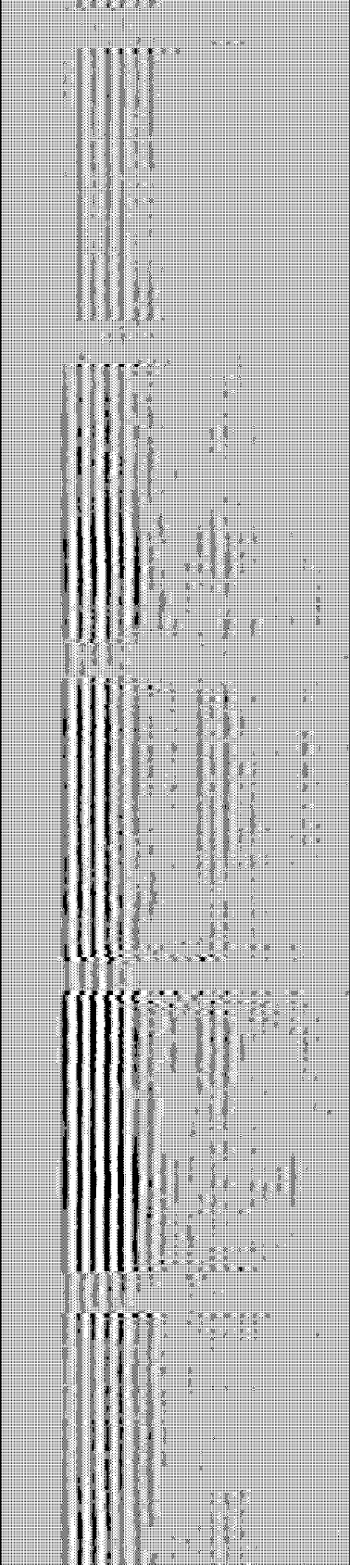
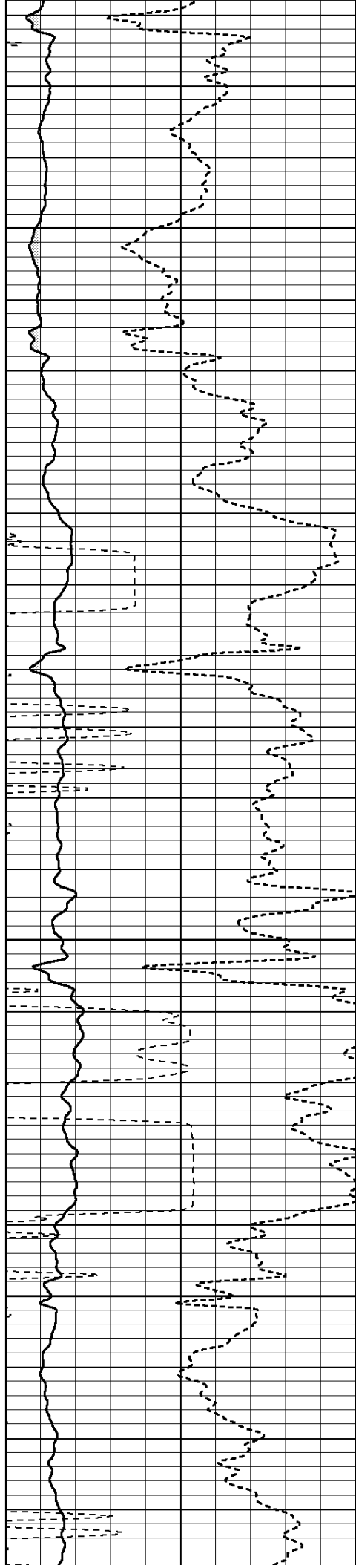
5000

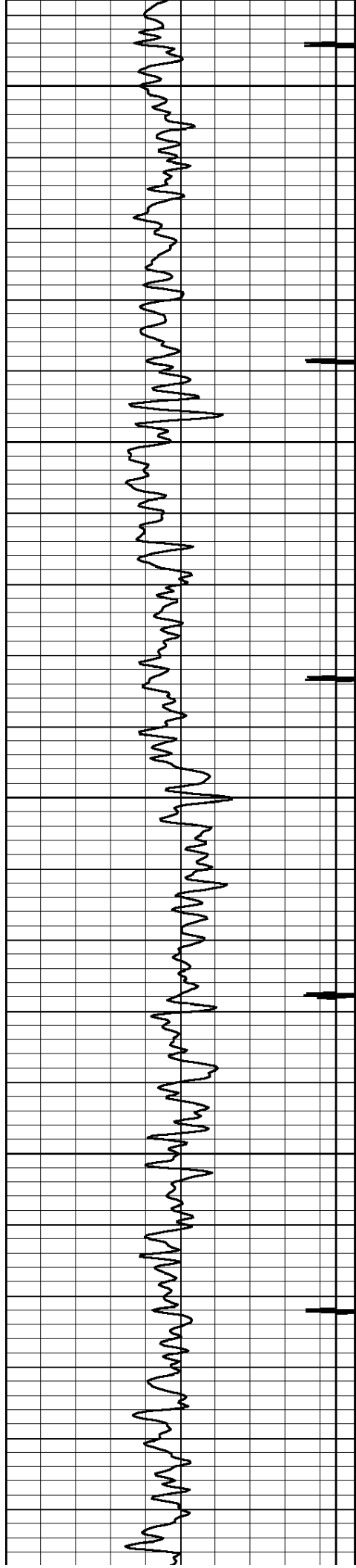




5100

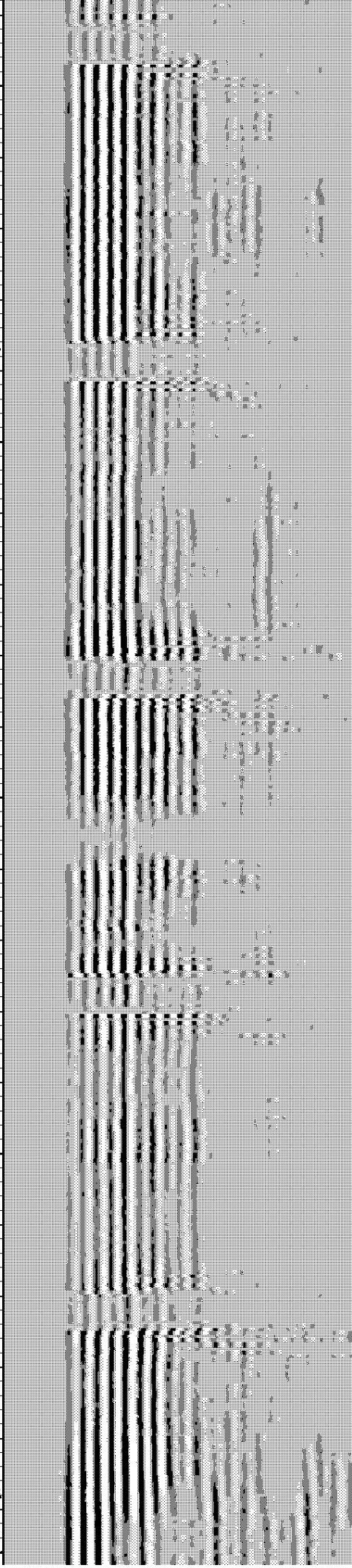
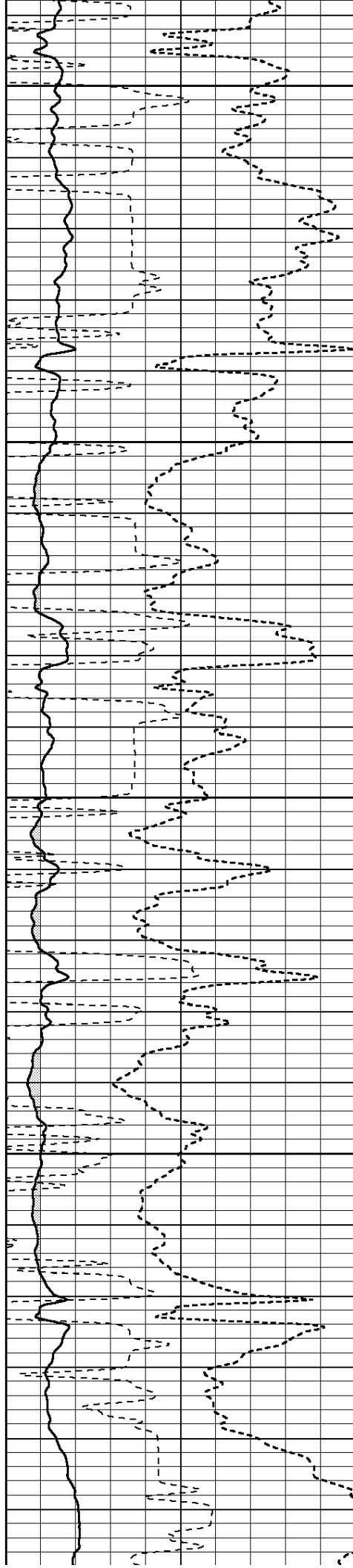
5200



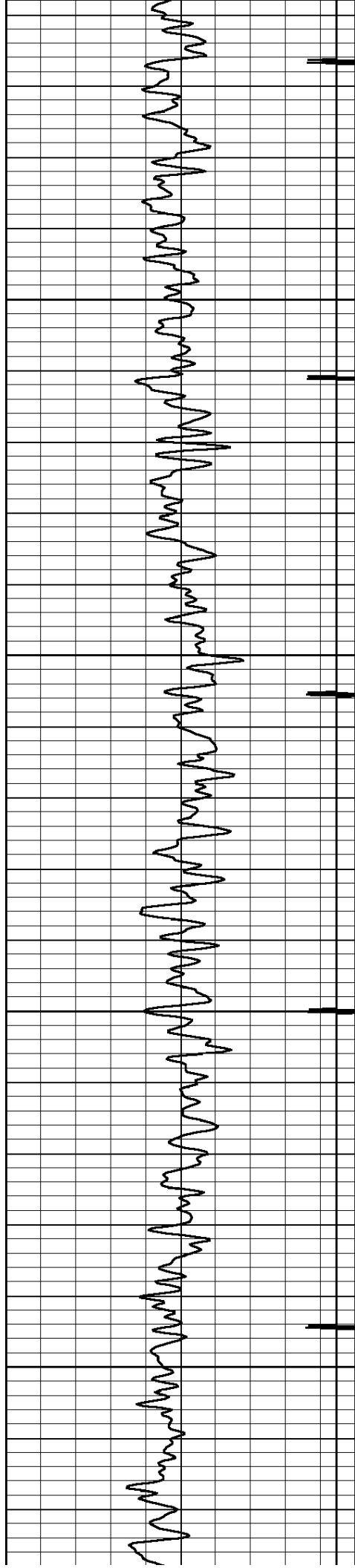


5300

5400

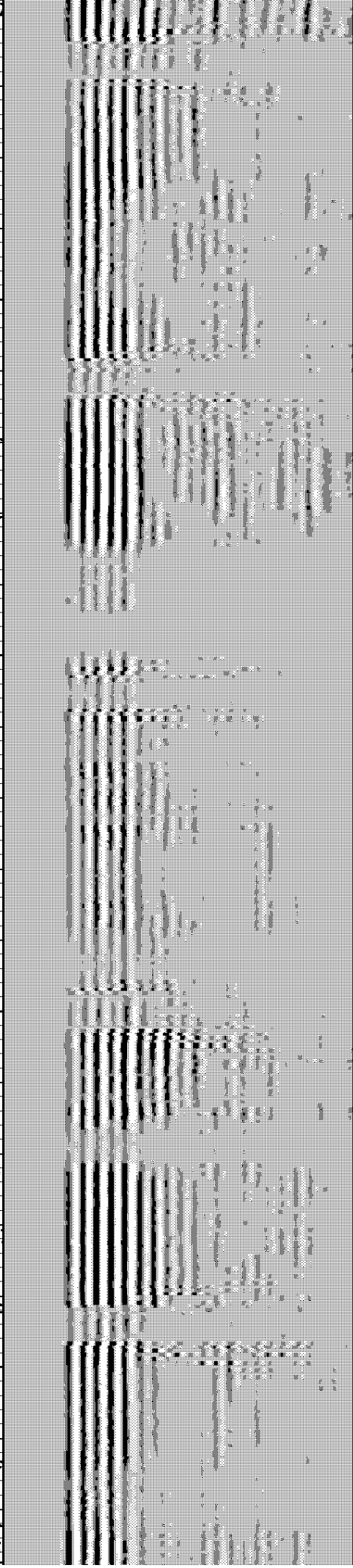
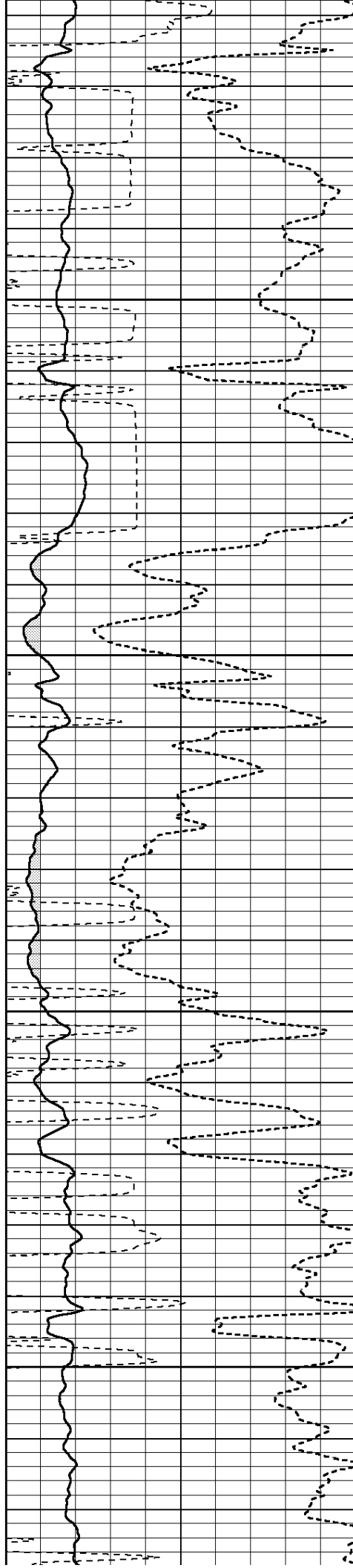


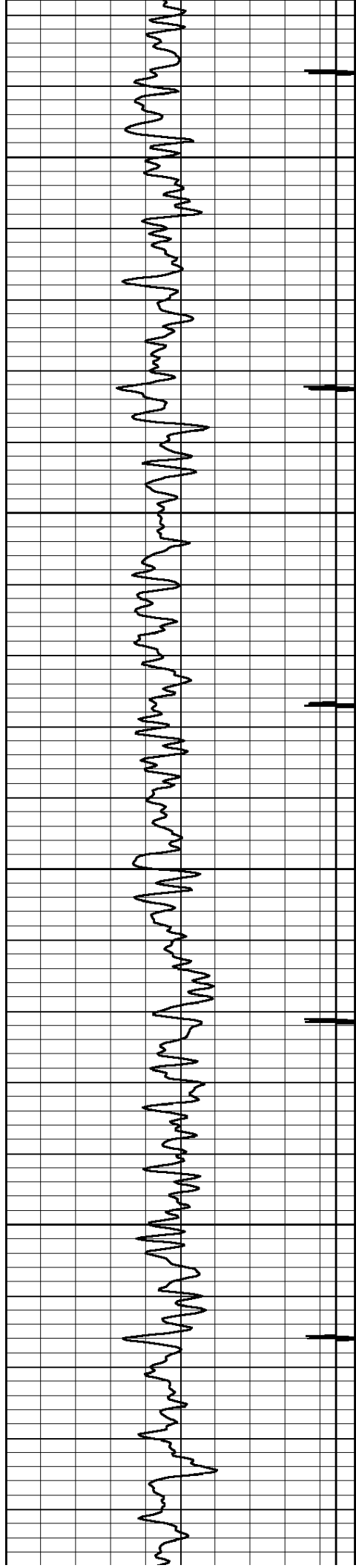




5500

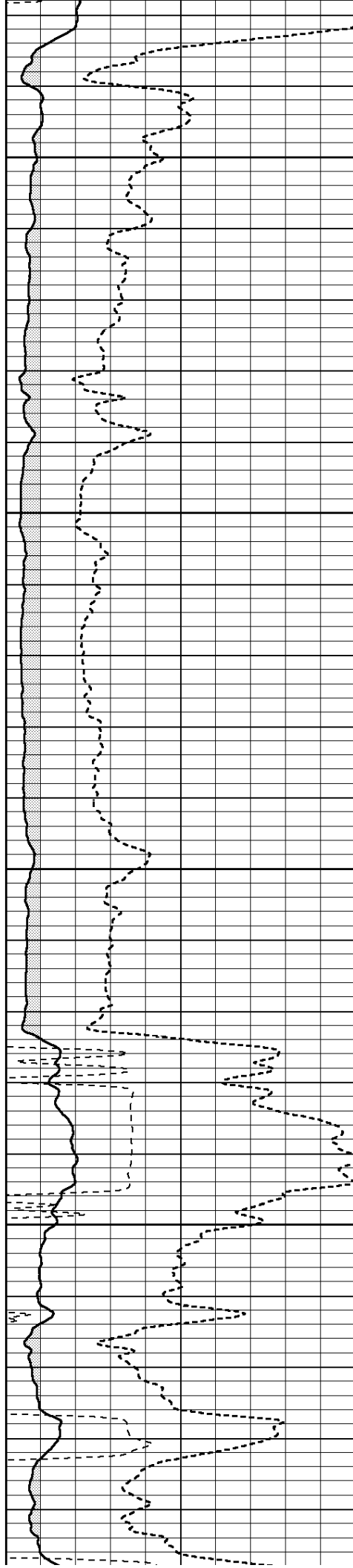
5600



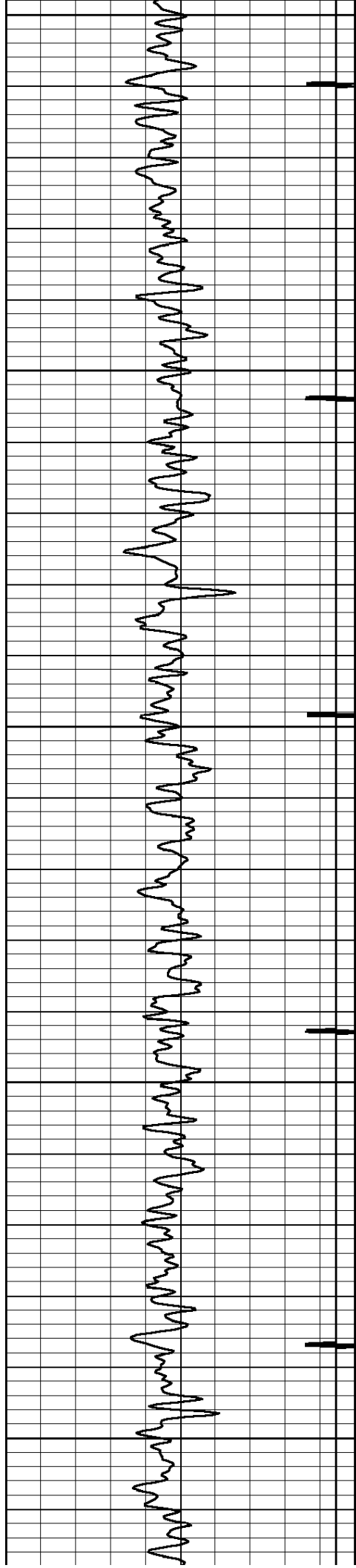


5700

5800



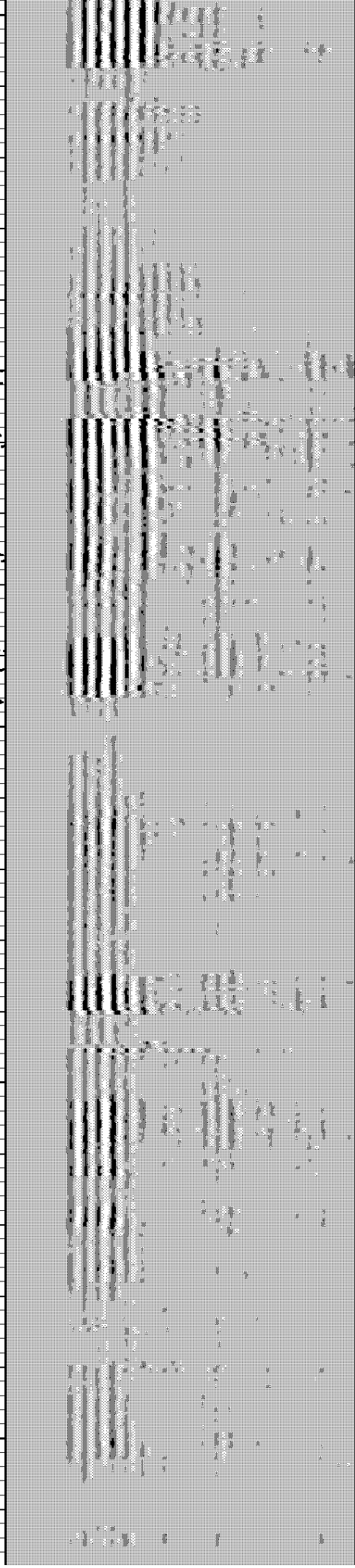
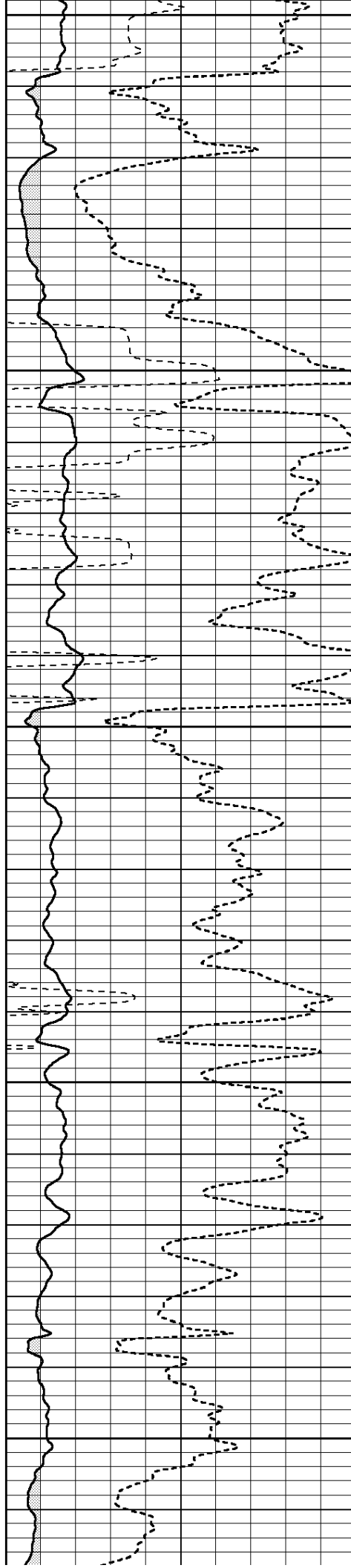


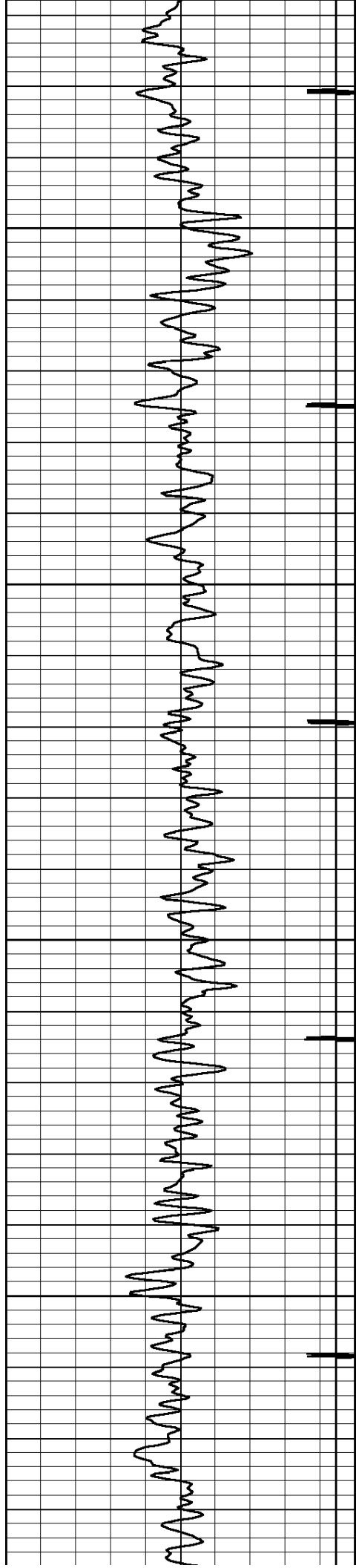


5900

6000

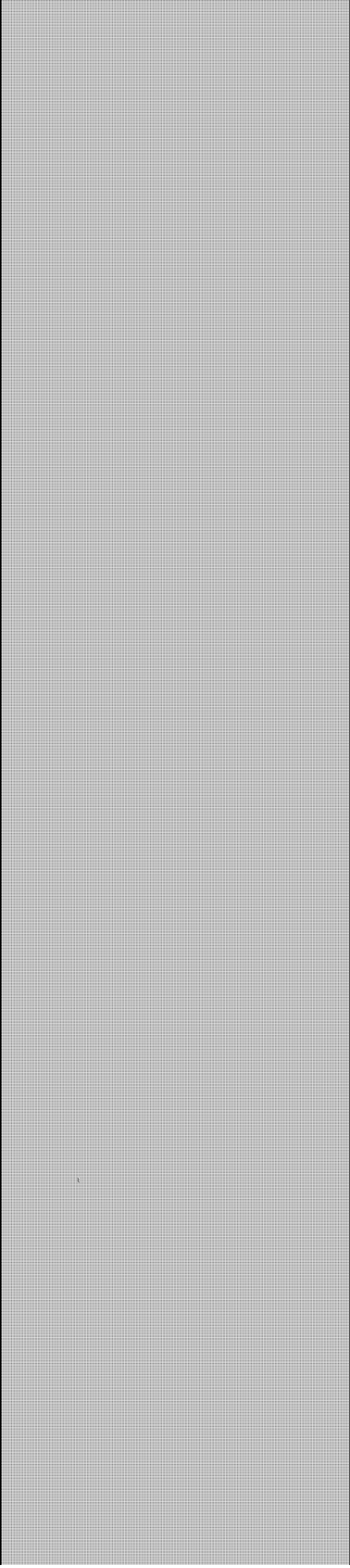
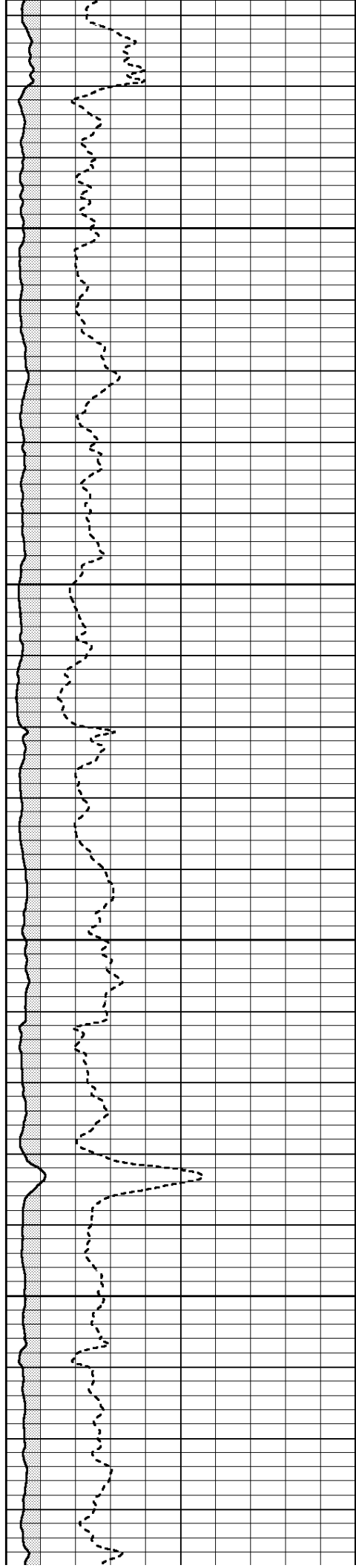
6100

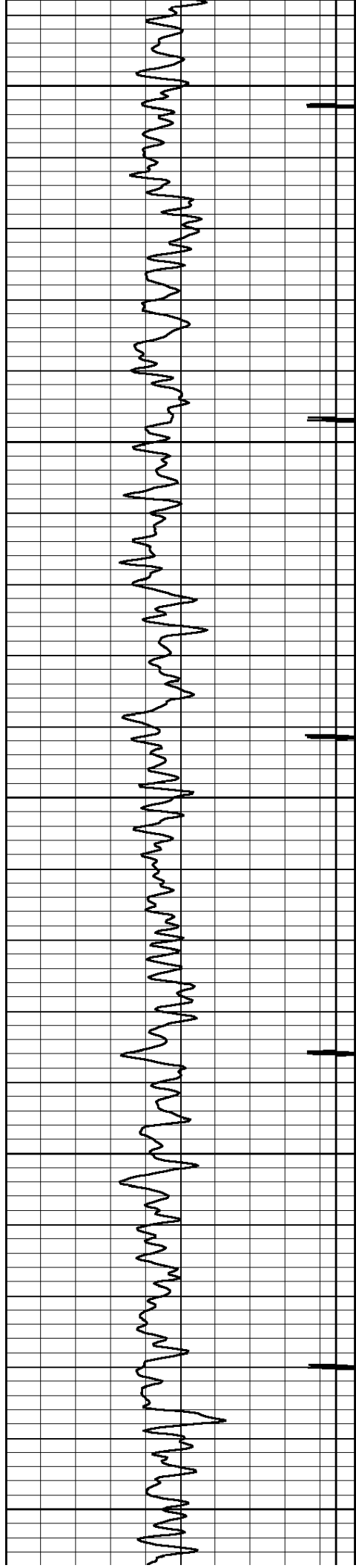




6200

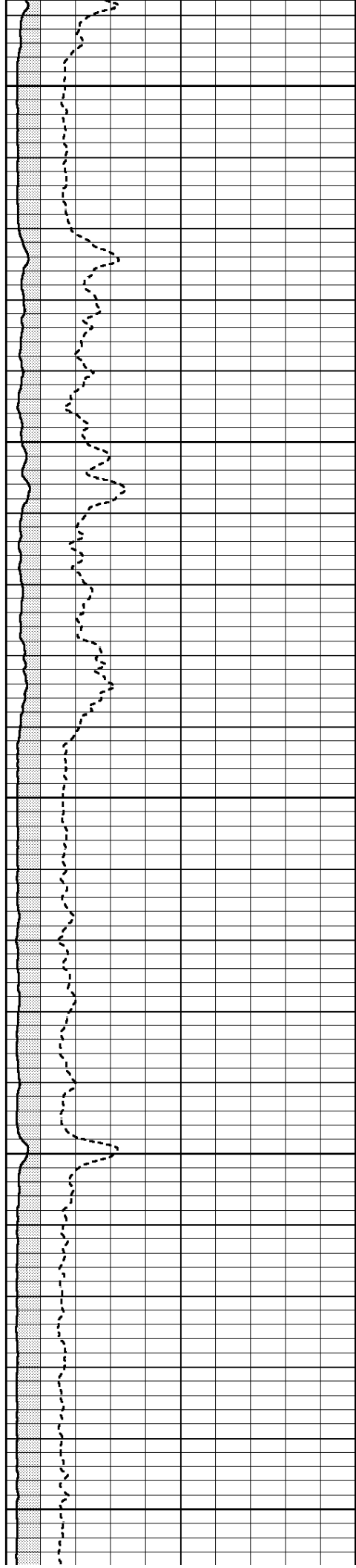
6300

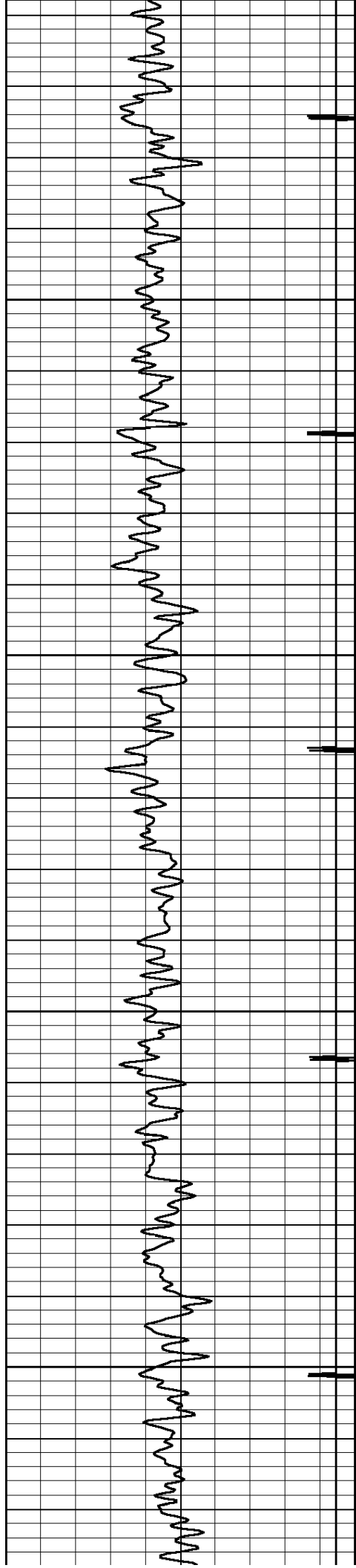




6400

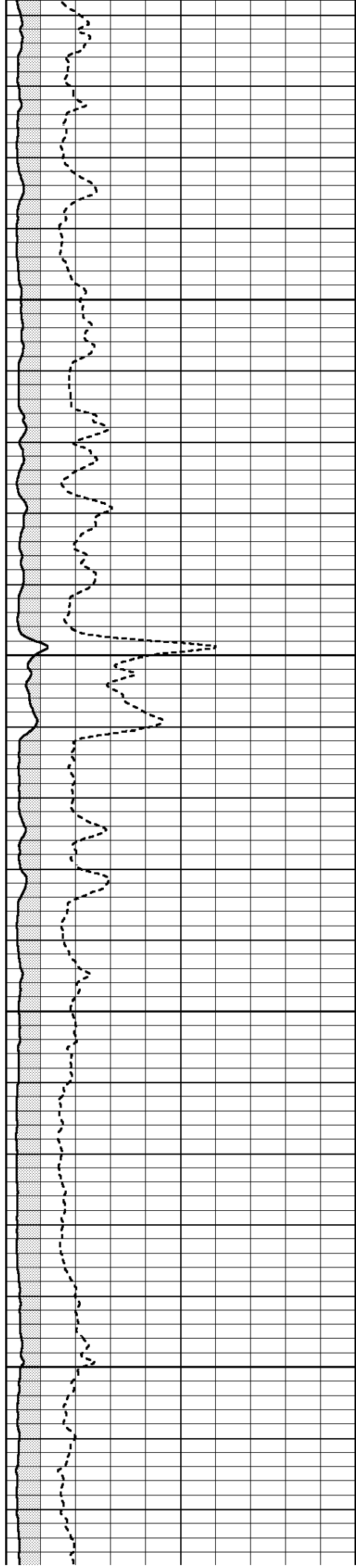
6500

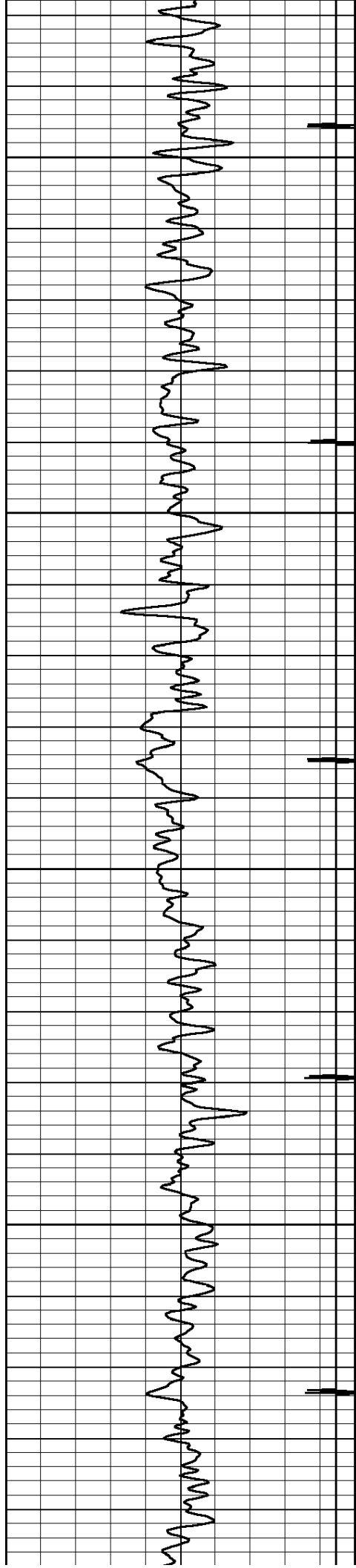




6600

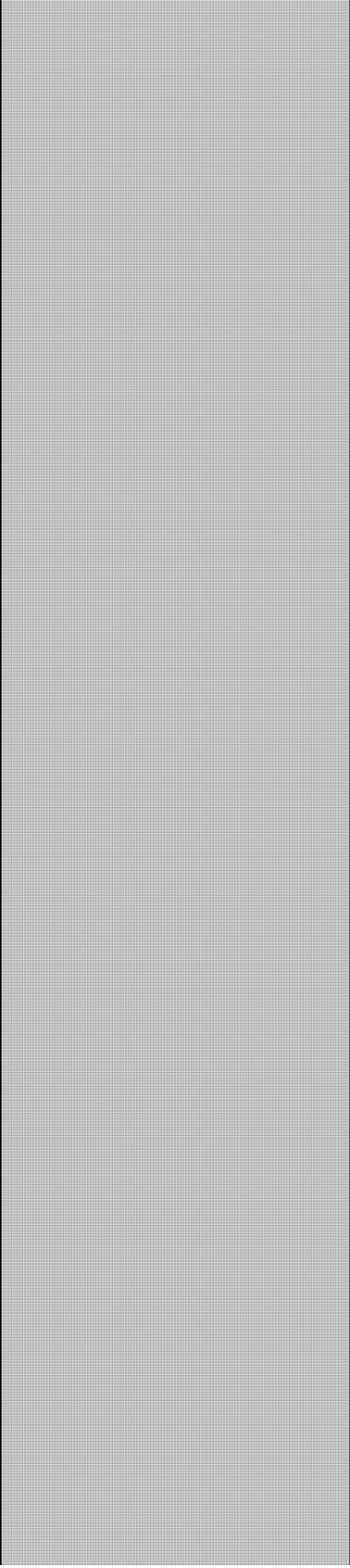
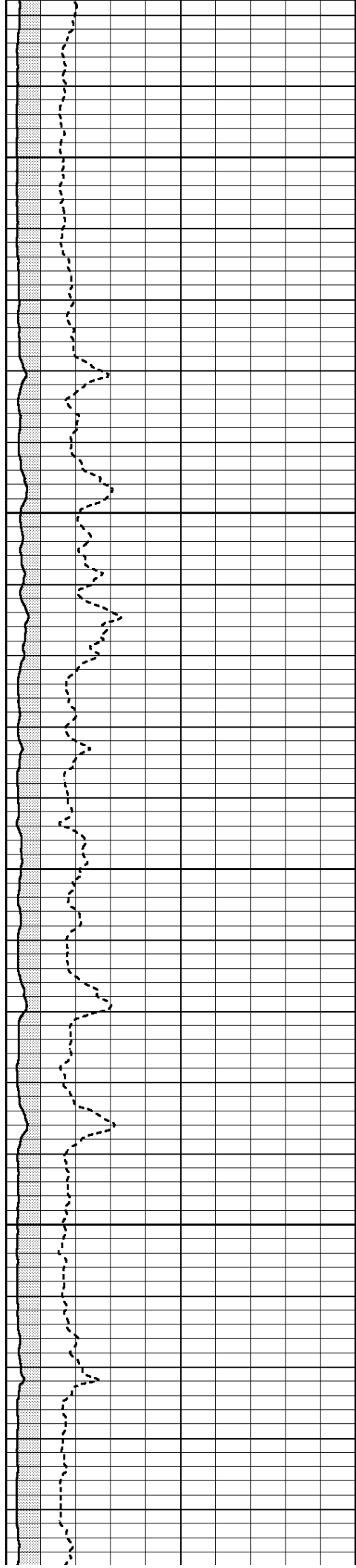
6700

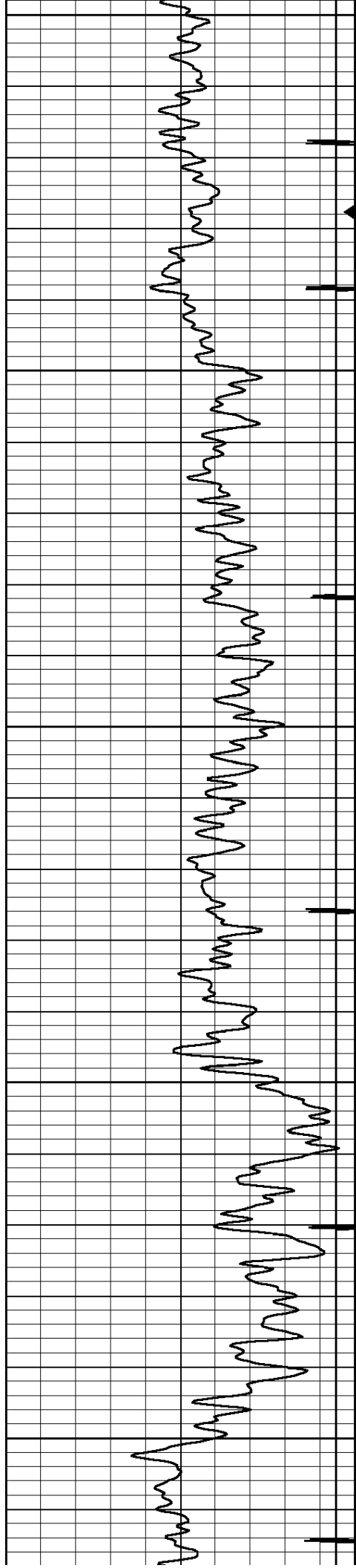




6800

6900



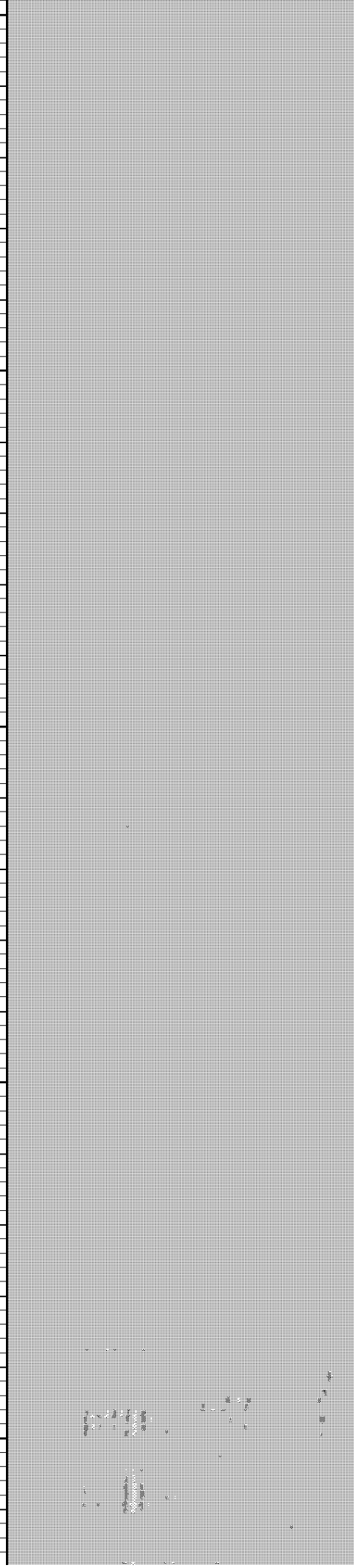
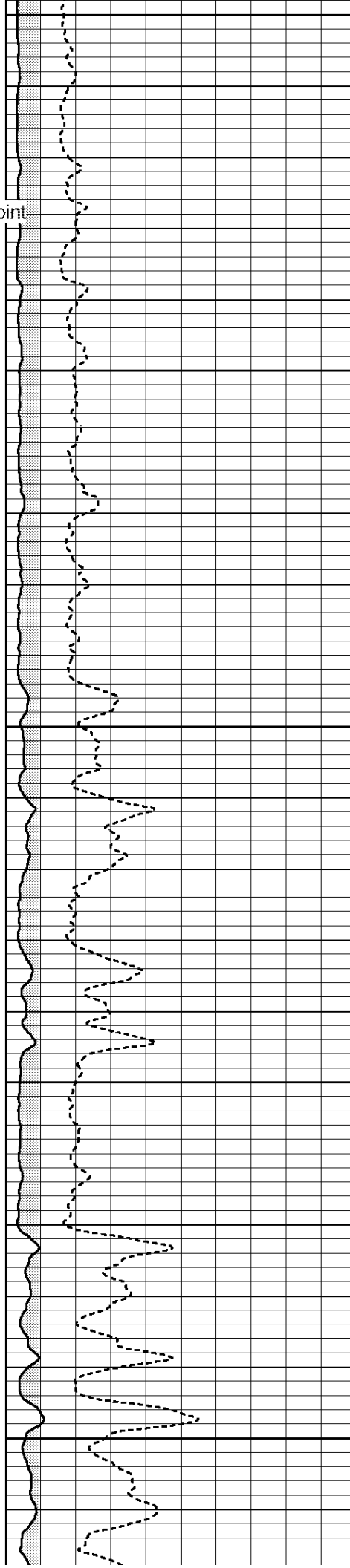


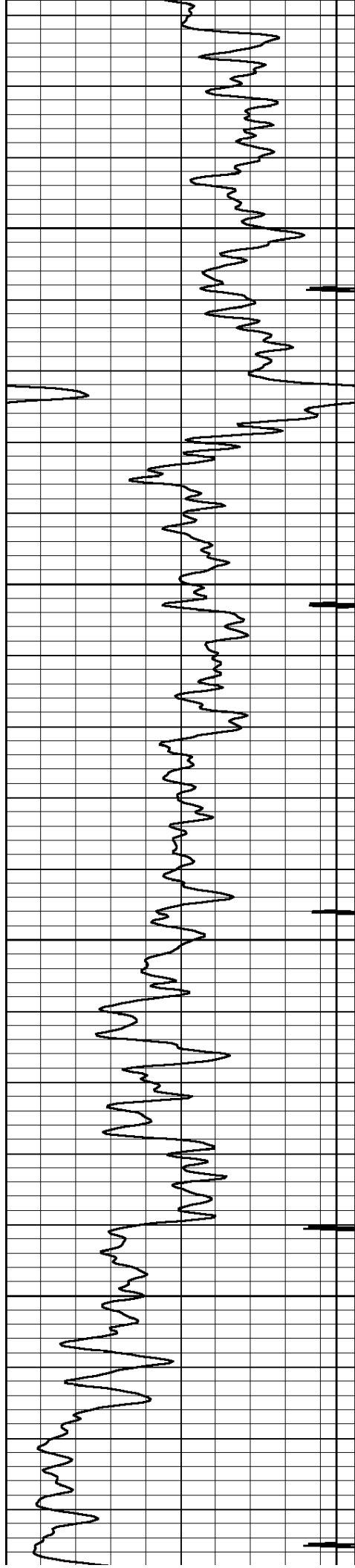
7000

Marker Joint

7100

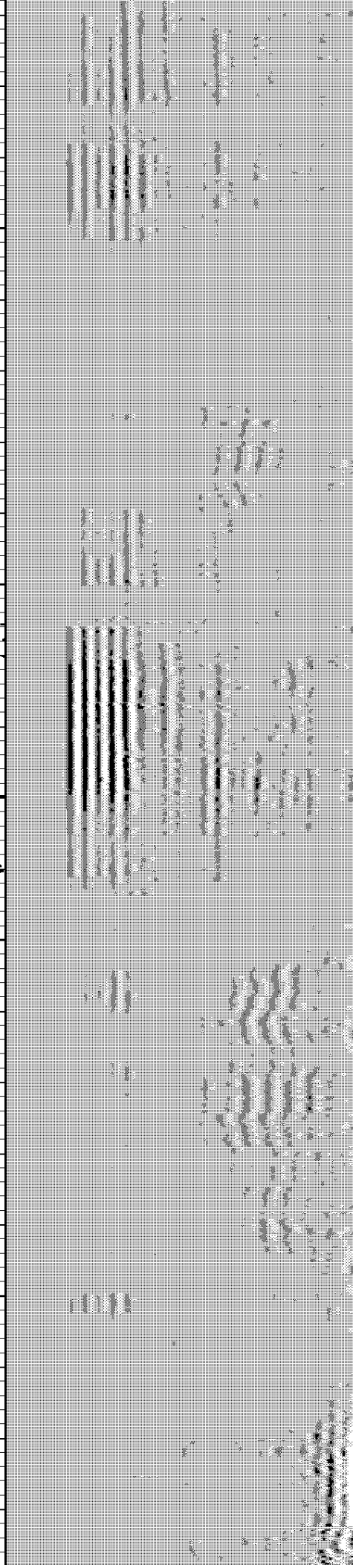
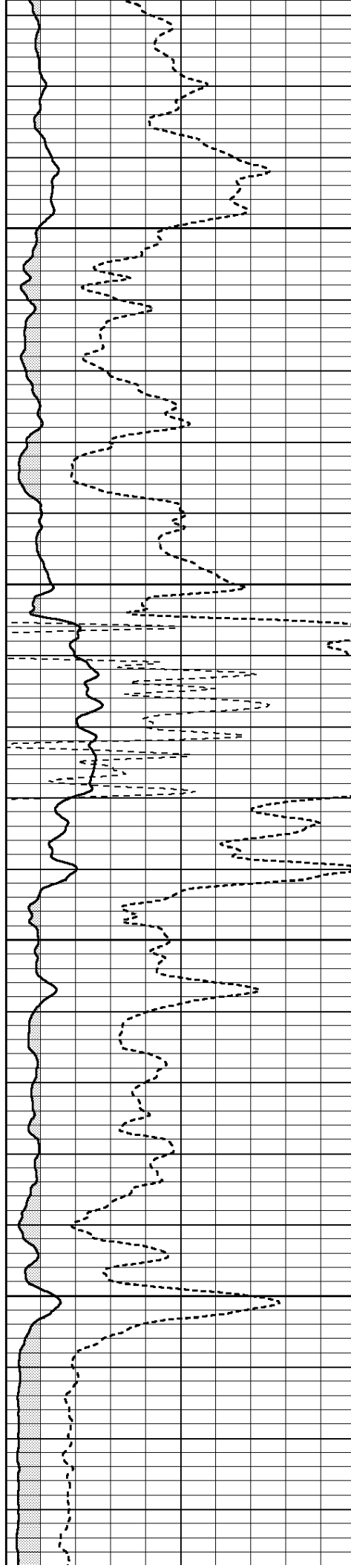
7200



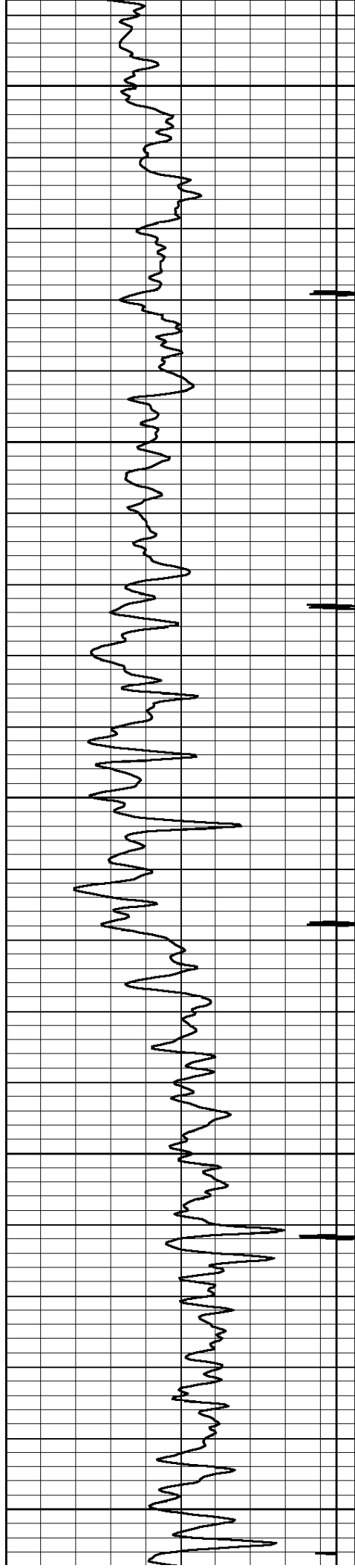


7300

7400

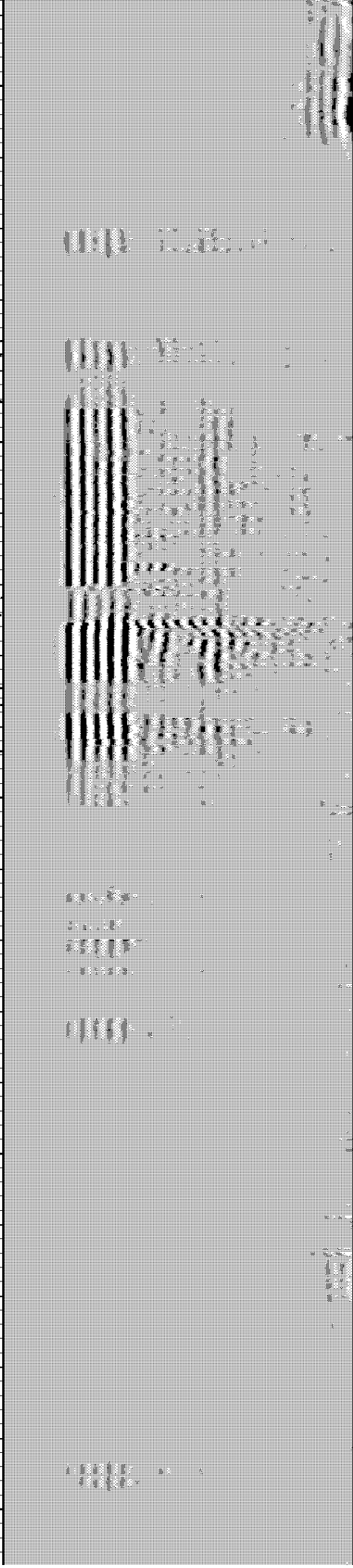
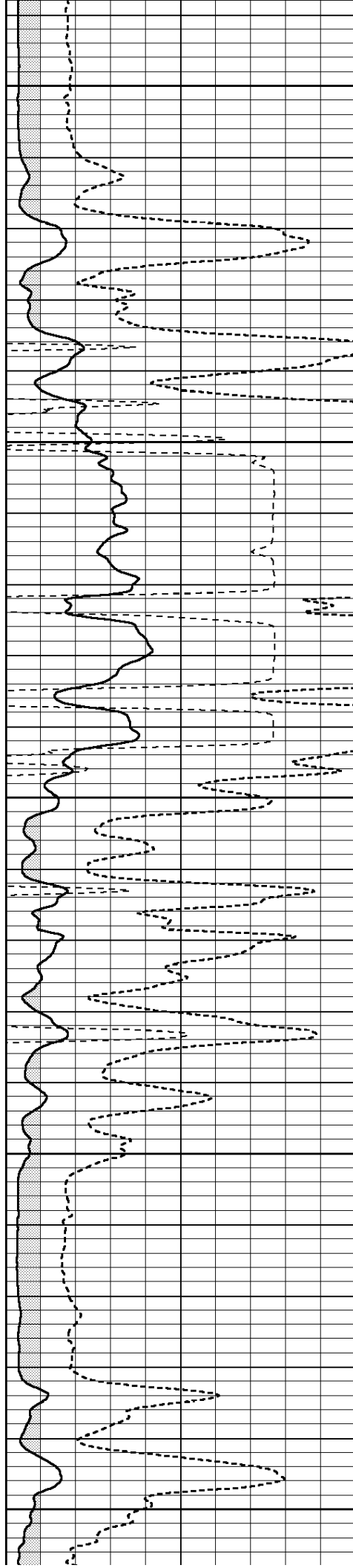


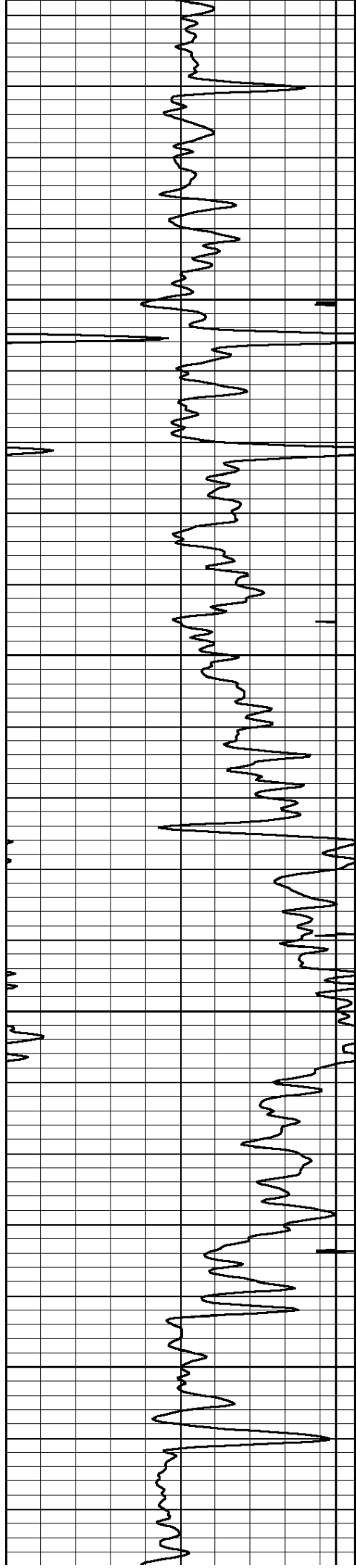




7500

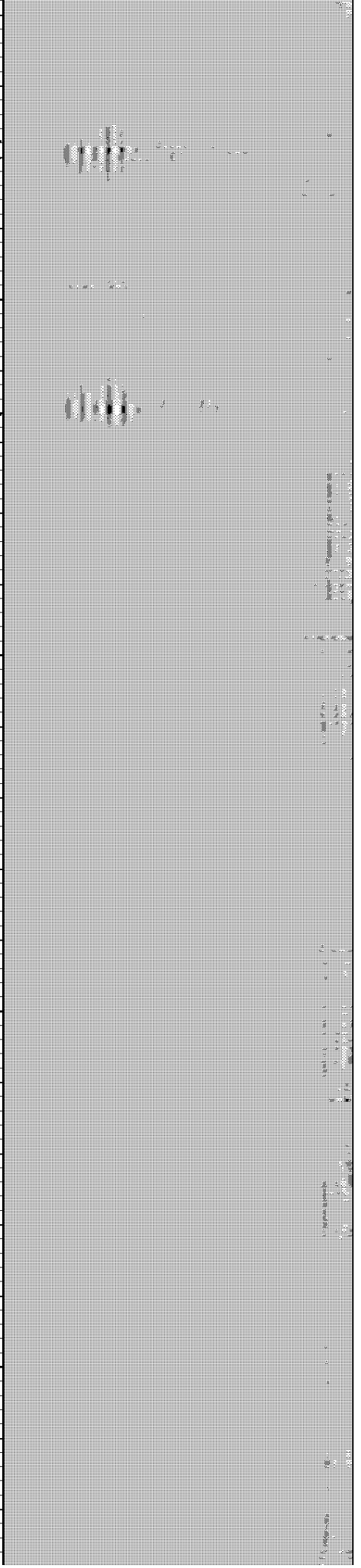
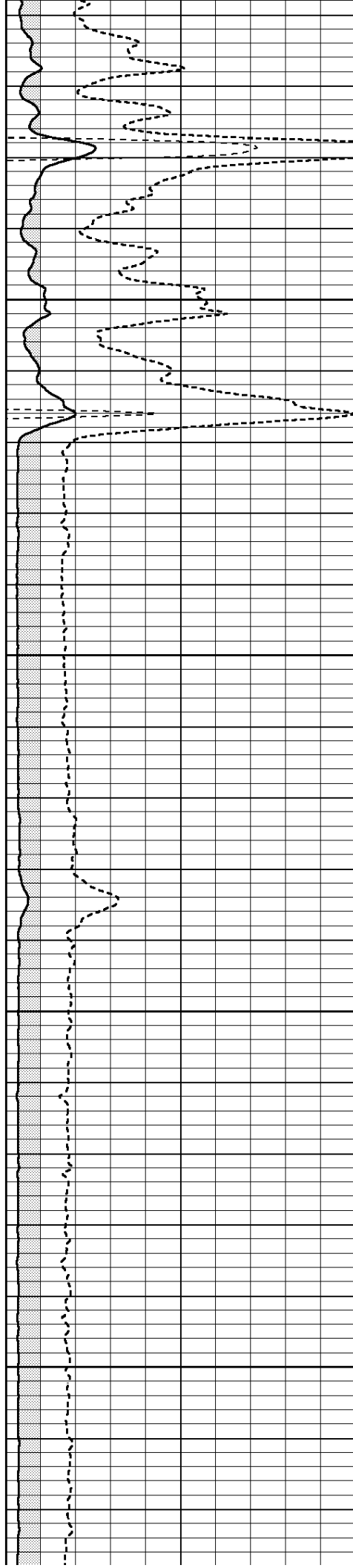
7600

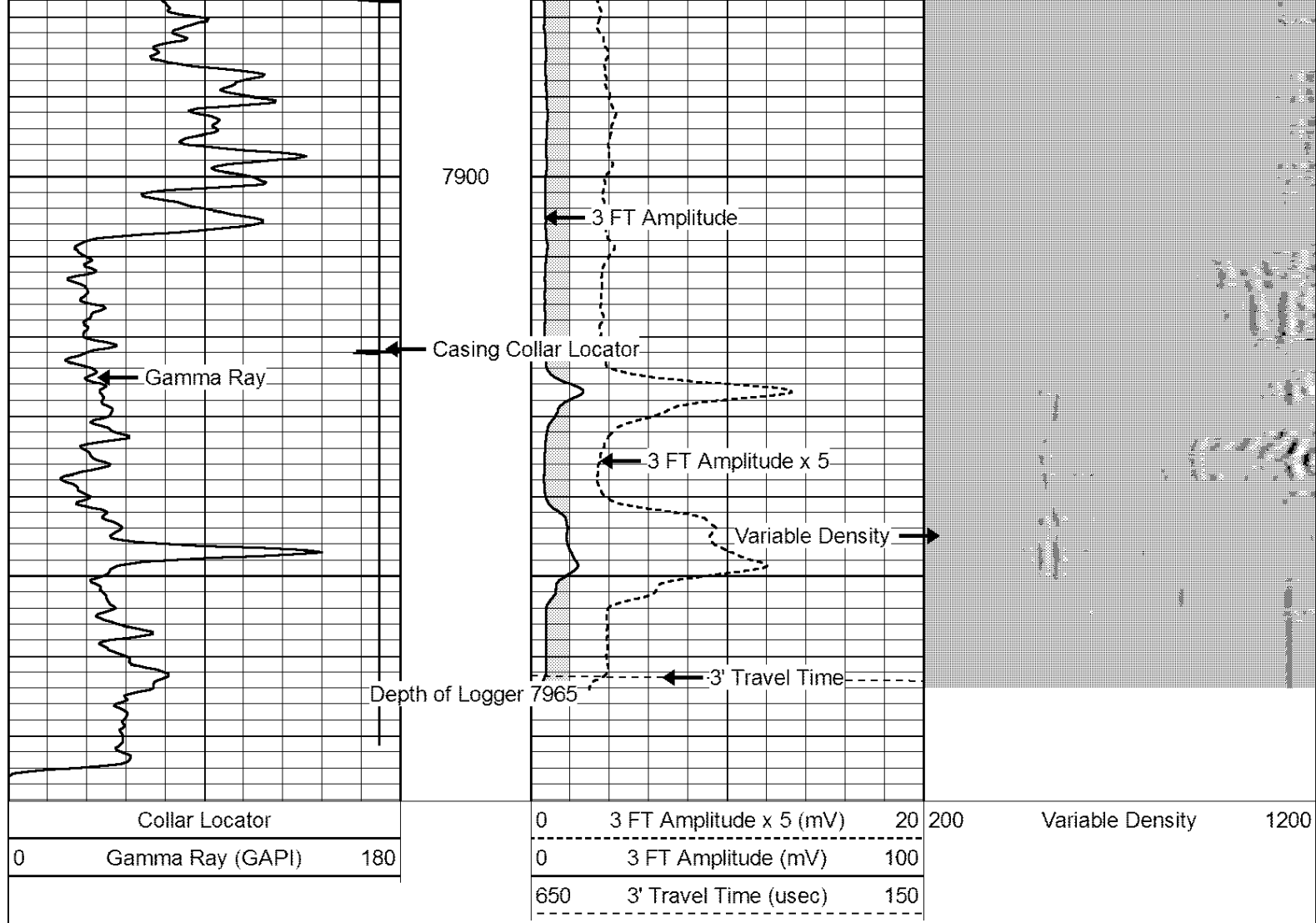




7700

7800





### Calibration Report

Database File: sunmark 19-28-11\_cbl.db  
 Dataset Pathname: pass4  
 Dataset Creation: Mon Mar 26 16:37:42 2012 by Log SCH 120126

### Gamma Ray Calibration Report

Serial Number: 101SGR  
 Tool Model: TEKCO  
 Performed: Wed Feb 01 12:05:29 2012

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps  
 Calibrator Reading: 1.0 cps

Sensitivity: 0.5000 GAPI/cps

### Segmented Cement Bond Log Calibration Report

Serial Number: 0001  
 Tool Model: TEKCO275

Calibration Casing Diameter: 4.500 in  
 Calibration Depth: 1116.262 ft

Master Calibration, performed Mon Mar 26 16:09:10 2012:

Raw (v)

Calibrated (mv)

Results

	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.000	2.356	3.000	81.196	33.188	3.000
CAL	0.000	2.499				
5'	0.000	2.499	3.000	81.196	31.294	3.000
SUM						
S1	0.000	2.499	0.000	72.000	28.814	0.000
S2	0.000	2.499	0.000	72.000	28.814	0.000
S3	0.000	2.499	0.000	72.000	28.814	0.000
S4	0.000	2.499	0.000	72.000	28.814	0.000
S5	0.000	2.499	0.000	72.000	28.814	0.000
S6	0.000	2.499	0.000	72.000	28.814	0.000
S7	0.000	2.499	0.000	72.000	28.814	0.000
S8	0.000	2.499	0.000	72.000	28.814	0.000

Internal Reference Calibration, performed Wed Dec 31 17:00:00 1969:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.000	2.499	1.000	0.000

Air Zero Calibration, performed Mon Mar 26 15:57:39 2012:

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



Company	K. P. KAUFFMAN		
Well	SUNMARK 19-28-11		
Field	WATTENBERG		
County	WELD		
State	COLORADO	Country	US