

# HALLIBURTON

## ACOUSTIC CEMENT BOND LOG

Company	LARAMIE ENERGY II	
Well	FURR-HAGEN 6-22B	
Field	PARACHUTE	
County	GARFIELD	State COLORADO

Company	LARAMIE ENERGY II
Well	FURR-HAGEN 6-22B
Field	PARACHUTE
County	GARFIELD
State	COLORADO

API No.:	050451412200	Serv #:	6023717	Other Services
Location:	SURFACE HOLE: 2304' FNL & 2262' FEL			
BOTTOM HOLE: 1650' FNL & 2310' FWL		RMT		

Sec: 22 Twp:07S Rge: 95W	
--------------------------	--

Permanent Datum	GROUND LEVEL	Elevation	6657'	Elevation
Log Measured From	K.B.	24 Ft. above perm. datum	K.B.	6681'
Drilling Measured From	K.B.		D.F.	6680'
			G.L.	6657'

Date @ Time Logged	07-11-08 @ 12:45 HRS	Type Fluid in Hole	FRESH WATER
Run No.	ONE	Density of Fluid	8.34#
Depth - Driller	8194'	Fluid Level	80'
Depth - Logger	8091'	Cement Top Est. Logged	3850'
Bottom - Logged Interval	8082'	Equipment / Location	10549604 / G.J.
Top - Log Interval	SURFACE	Recorded by	JAMES ZLOMKE
Max. Recorded Temp.	224 DEG F	Witnessed by	MARK ROBERTS

CEMENTING DATA	Surface	Protection	Production	Liner
	String	String	String	
	N/A	N/A	N/A	

Date / Time Cemented	N/A		
Primary / Squeeze			
Expected Compressive Strength	psi@	hrs	psi@
Cement Volume			
Cement Type / Weight	/		/
Formulation			
Mud Type / Mud Wgt.	/		/

Borehole Record		Casing & Tubing Record	
Run Number	Bit From To	Size	Weight From To
ONE	12.25" SURFACE 817'	8.625"	32# SURFACE 817'
TWO	7.875" 817'	4.5"	11.6# SURFACE 8170'

<<< Fold Here >>>

HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.

### Comments

H.E.S. ACOUSTIC CEMENT BOND LOG DATED JULY 11, 2008 IS THE PRIMARY LOG FOR THIS WELL.

SHORT JOINT: 7919' - 7929' & 6484' - 6497' / 5185' - 5214' & 5214' - 5245'

YOUR CREW TODAY: JIM JOSEPH, MIKE SIMMONS

\*\*\* THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES \*\*\*

Service Ticket No. 6023717 API No. 050451412200 PGM Ver WARRIOR 7.0

The Well Name, Location, Borehole Description, and / or Cementing Data Furnished by Client

EQUIPMENT DATA

CCL		GR		CBT			
Run No.	ONE	Run No.	ONE	Run No.	ONE	Run No.	
Serial No.	397	Serial No.	397	Serial No.	397	Serial No.	
Model No.	CBT_DC-CCL	Model No.	CBT_DC-GR	Model No.	CBT_DC	Model No.	
Diameter	3.25"	Diameter	3.25"	Diameter	3.25"	Diameter	
LOGGING DATA							
General Data							
Pass	Depths		Well Head	Speed	Logging Run Comments		
No.	From	To	Pressure	Ft/Min			
ONE	8091'	7891'	0	65	REPEAT LOG SECTION		
TWO	8091'	SURFACE	0	65	MAIN LOG SECTION		
	GR		CCL		AMPLITUDE		MSG
Pass	Scale		Scale		Scale		Scale
No.	L	R	L	R	L	R	L
ONE	0	200	-9	1	0	100	200
DIRECTIONAL INFORMATION							
Maximum Deviation		N/A	deg. @	N/A	KOP	N/A	


Log Variables

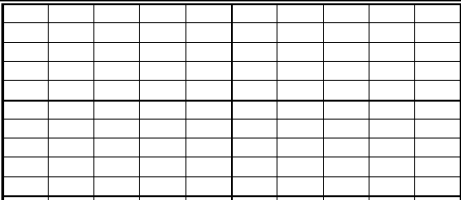
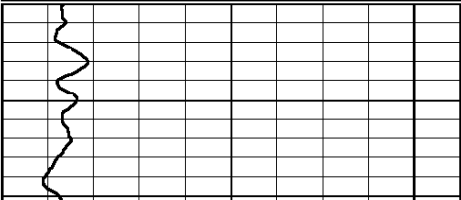
Database:C:\Warrior\Data\f\_hagen\_6\_22b\_cbl.db

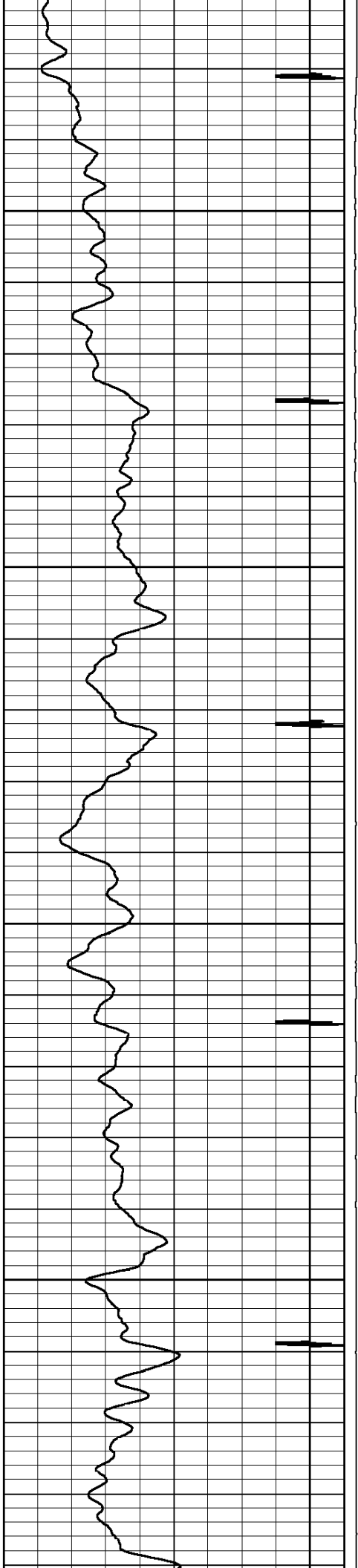
Dataset: RULLISON/F\_HAGEN\_6/CBL/MAIN

Top - Bottom

BOREID in 7.875	BOTTEMP degF 224	CASEOD in 4.5	CASEWGHT lb/ft 11.6	MAXAMPL mV 82	MINAMPL mV 2	MINATTN db/ft 0.8	PERFS  0
PPT usec 0	TDEPTH ft 8091						

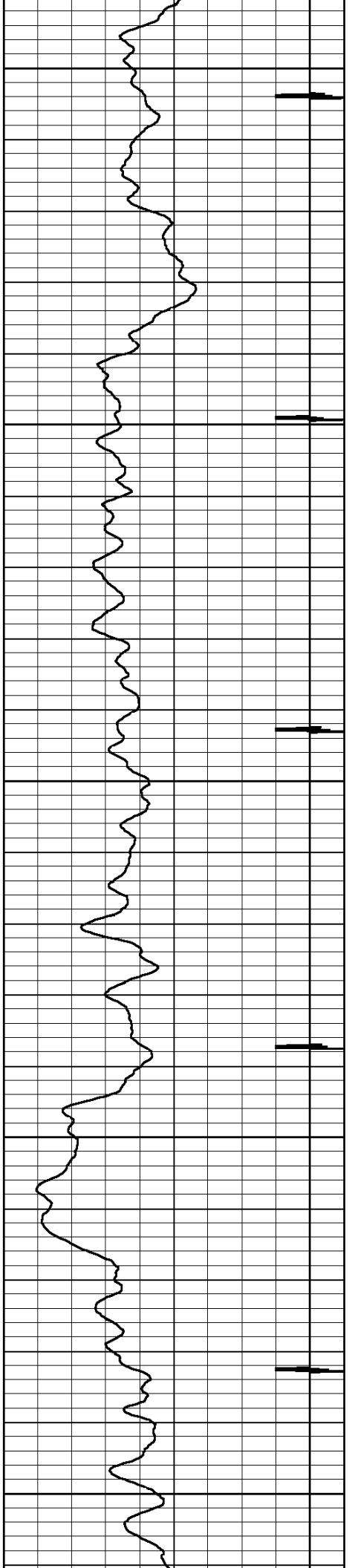
HALLIBURTON		ACOUSTIC CEMENT BOND LOG							
		MAIN LOG SECTION 5" = 100'							
Database File:		f_hagen_6_22b_cbl.db							
Dataset Pathname:		RULLISON/F_HAGEN_6/CBL/MAIN							
Presentation Format:		cbl_main							
Dataset Creation:		Fri Jul 11 16:12:54 2008							
Charted by:		Depth in Feet scaled 1:240							
360	TRAVEL TIME (usec)	160	LTEN	0	AMPLITUDE (mV)	100	200	MSG	1200
-9	Collar Locator	1	0 (lb)3000	0	AMP AMPLITUDE (mV)	10			
0	Gamma Ray (GAPI)	200							





100

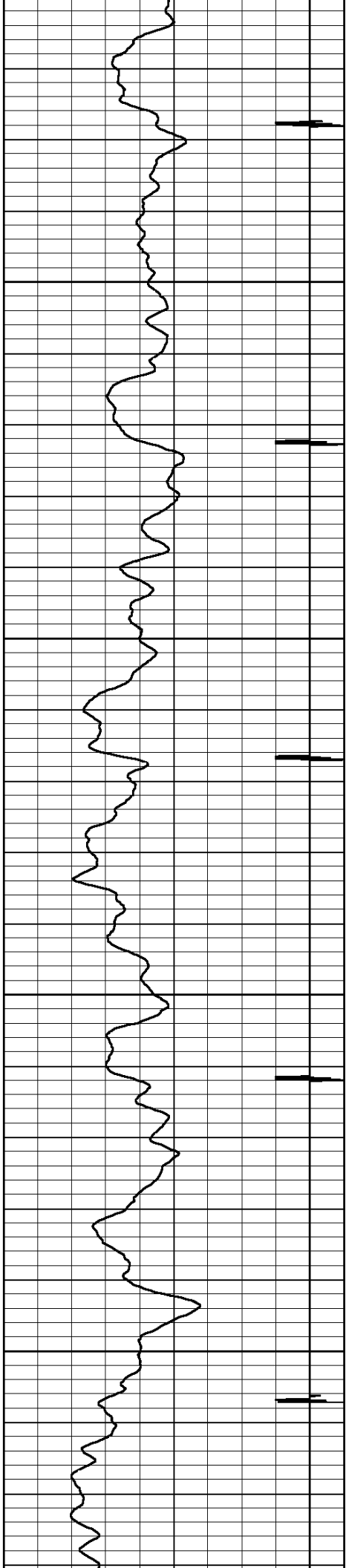
200



300

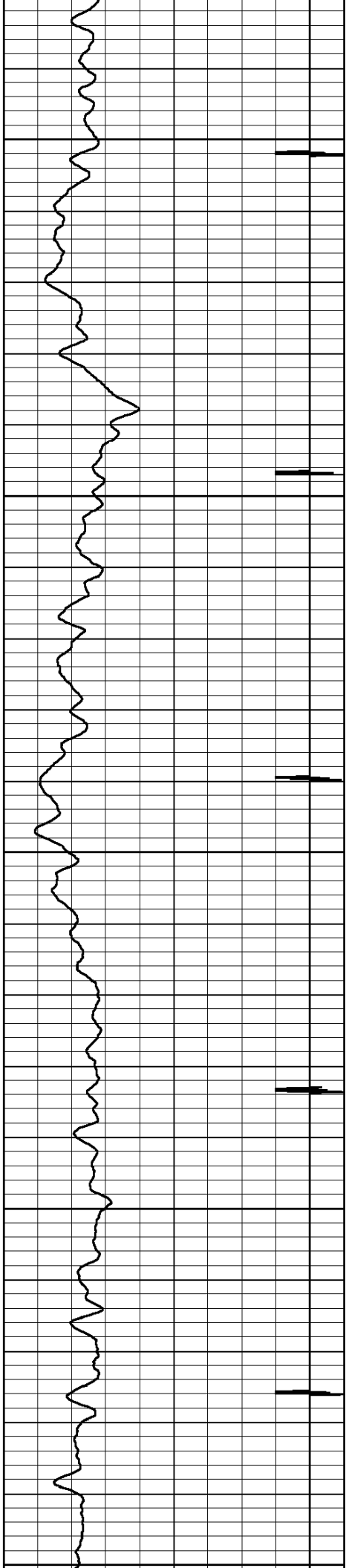
400

500



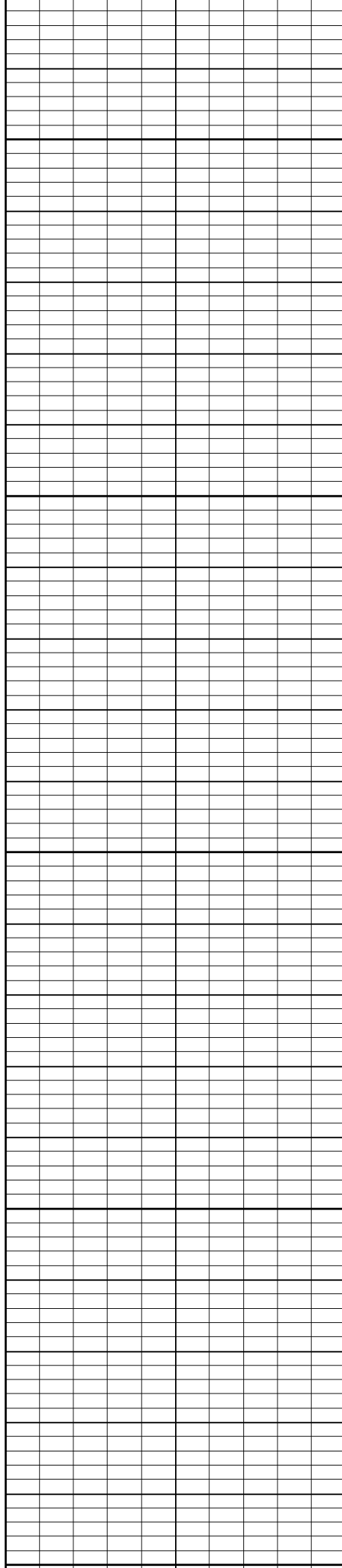
600

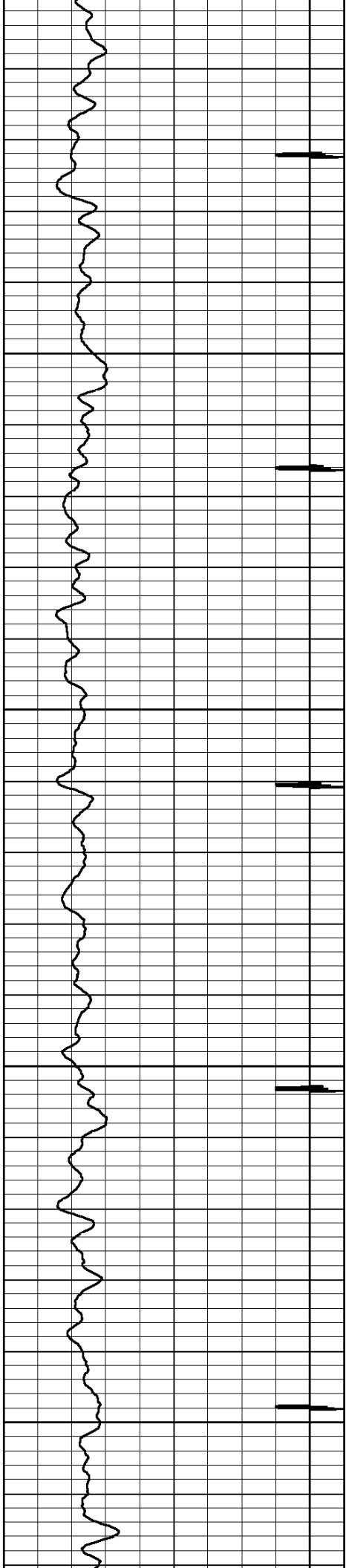
700



800

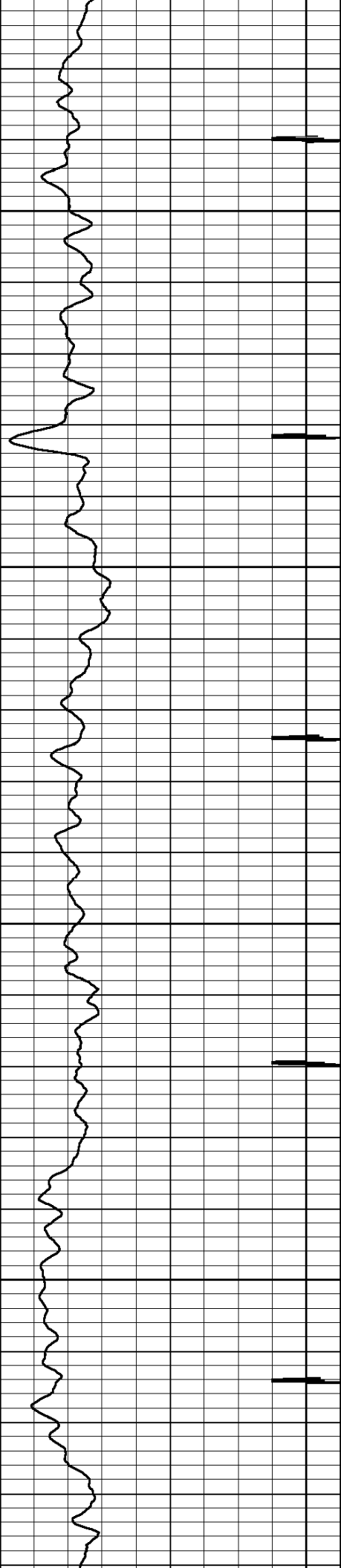
900





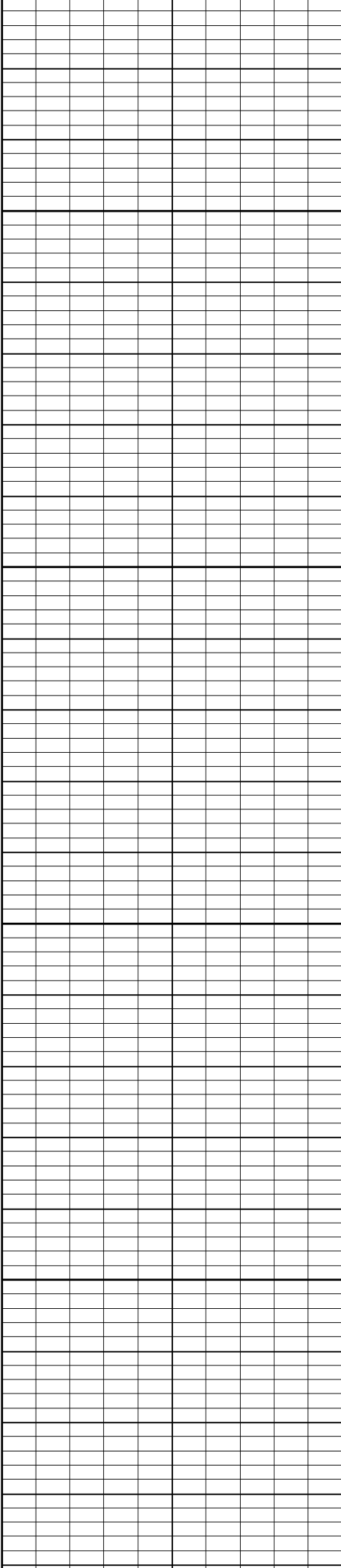
1000

1100

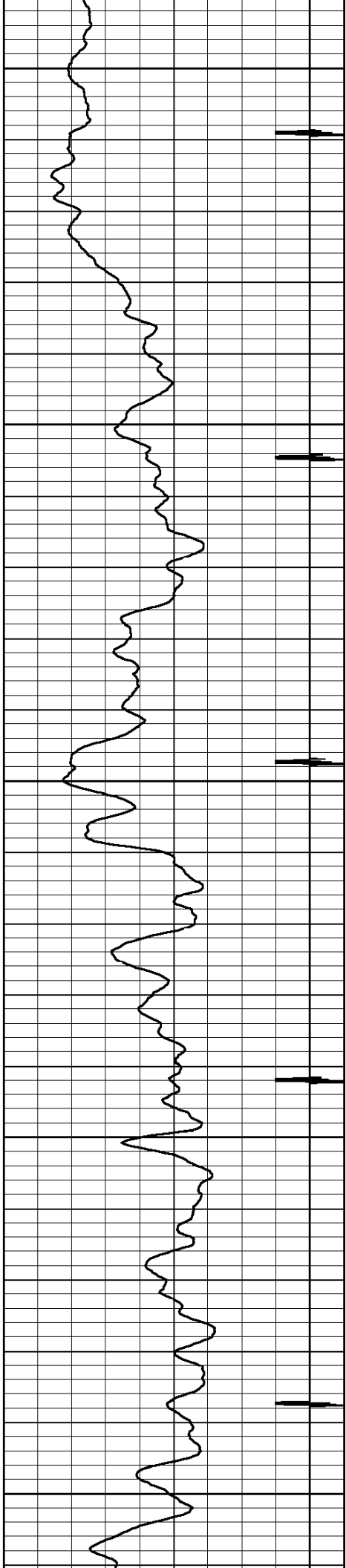


1200

1300



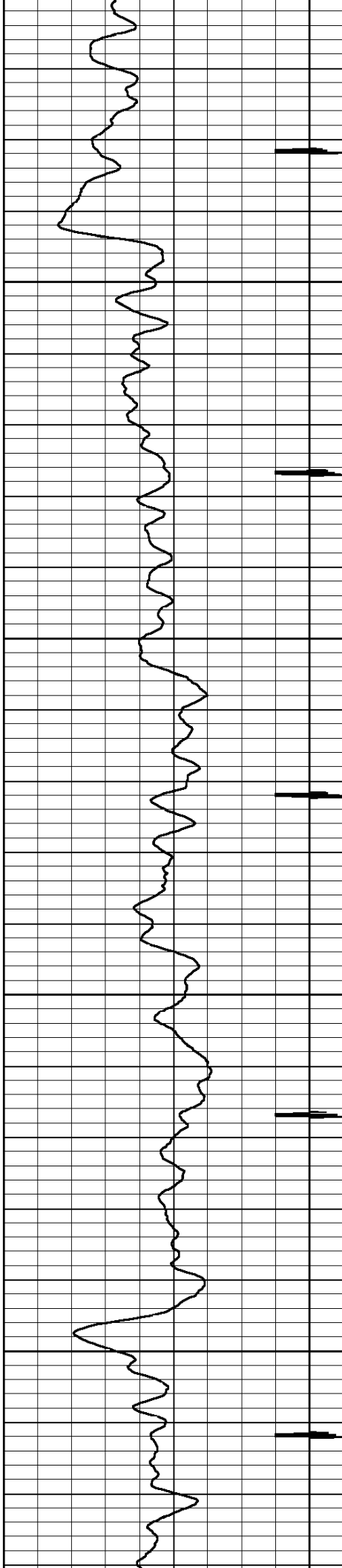




1400

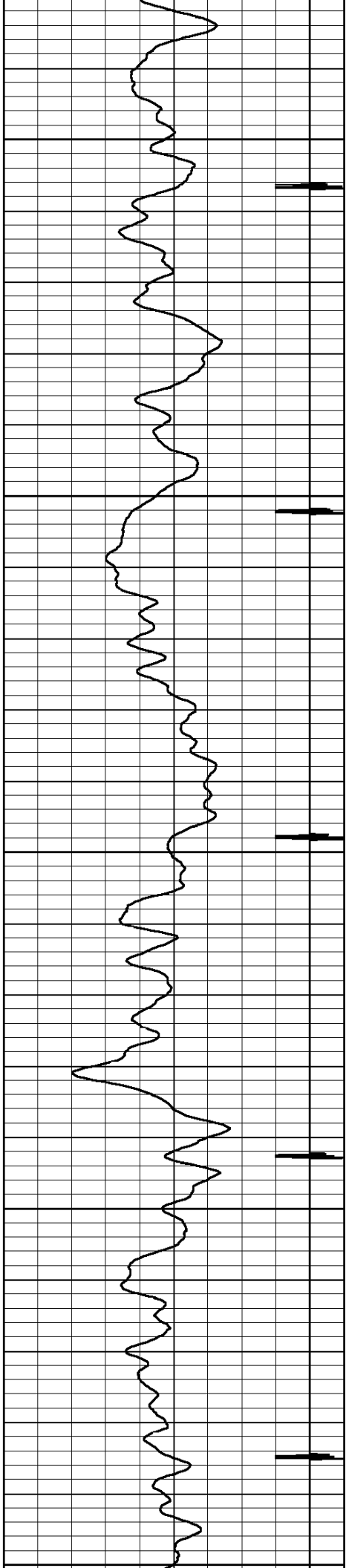
1500

1600



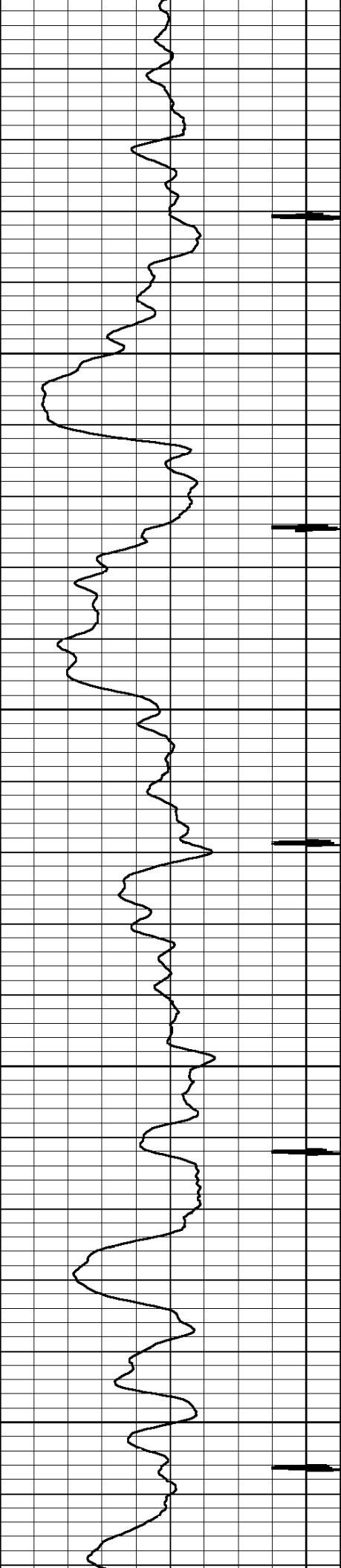
1700

1800



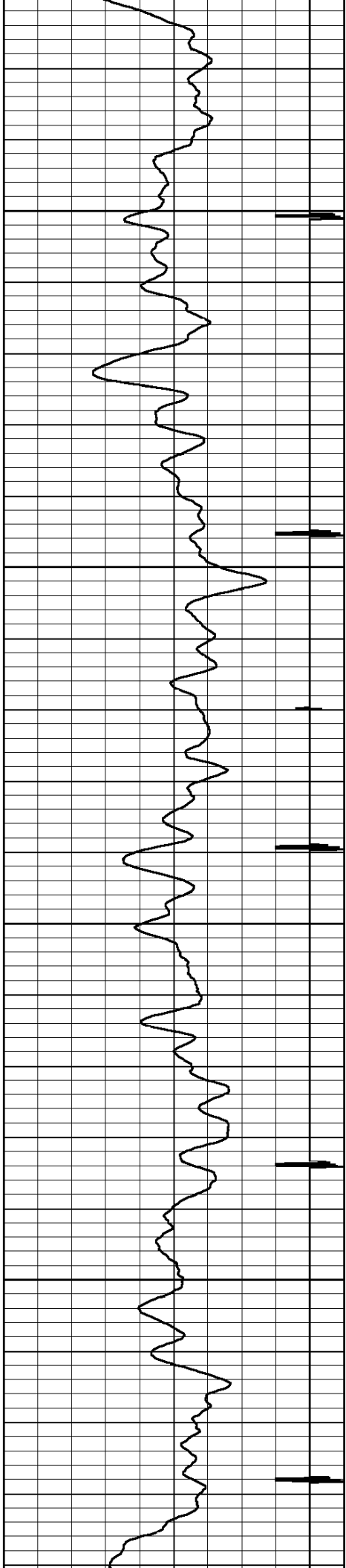
1900

2000



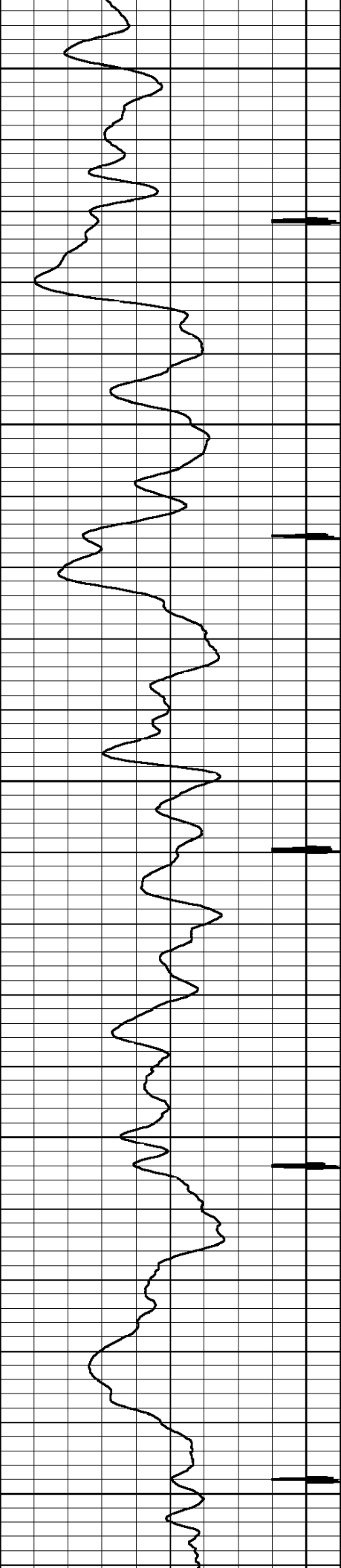
2100

2200



2300

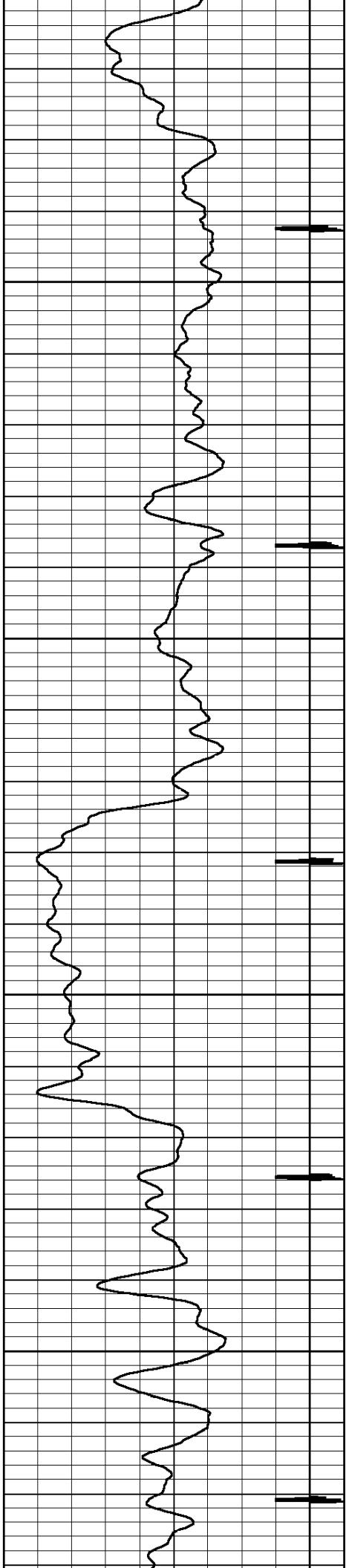
2400



2500

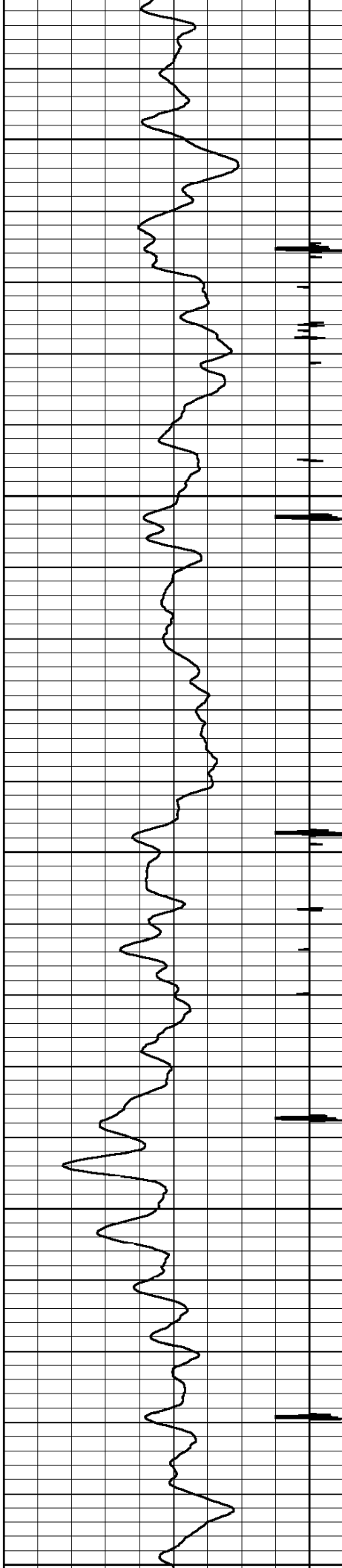
2600

2700



2800

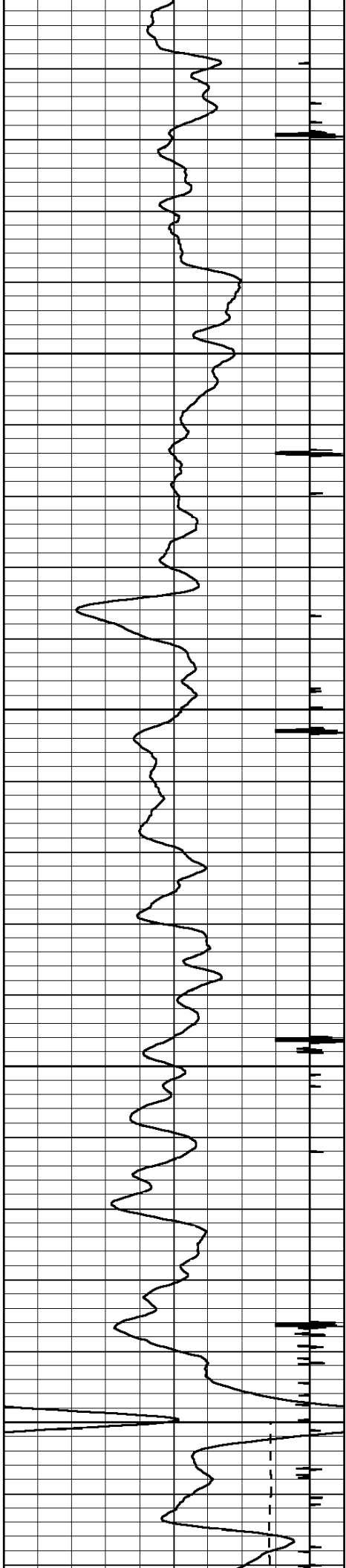
2900



3000

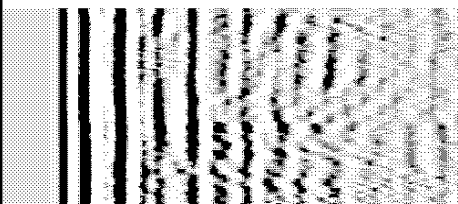
3100

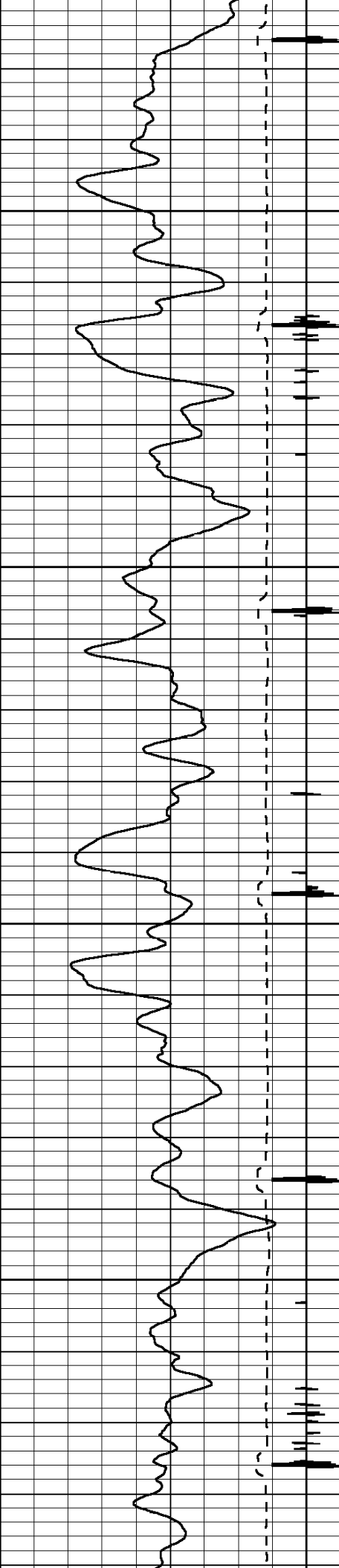




3200

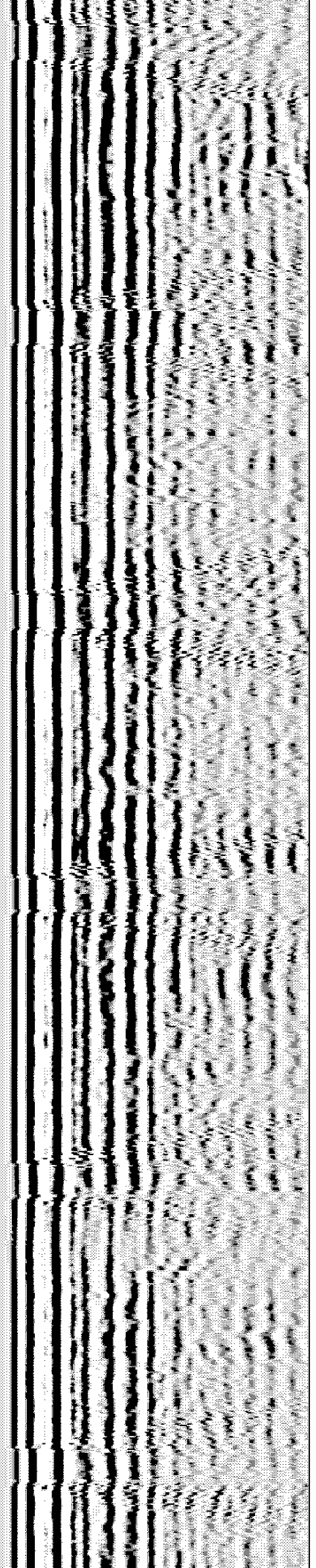
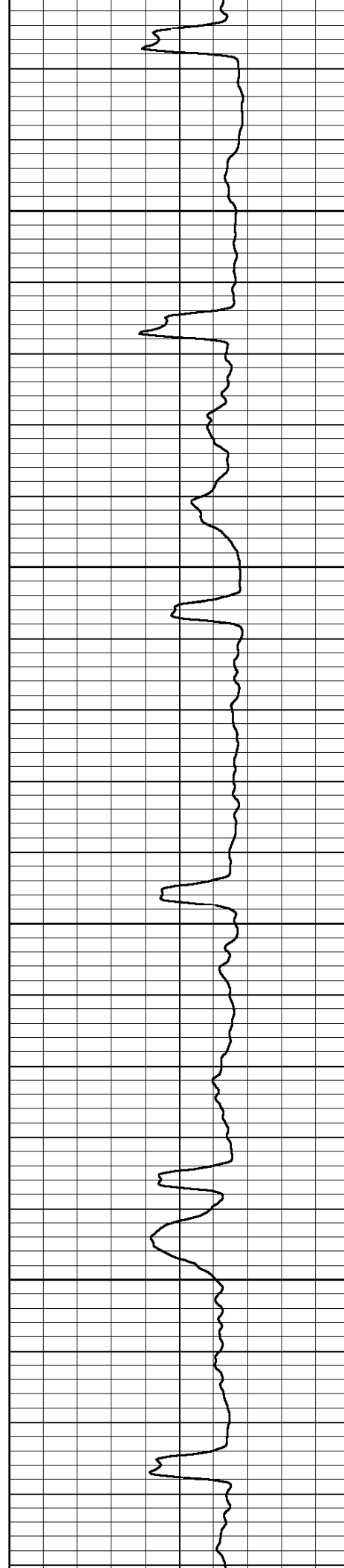
3300

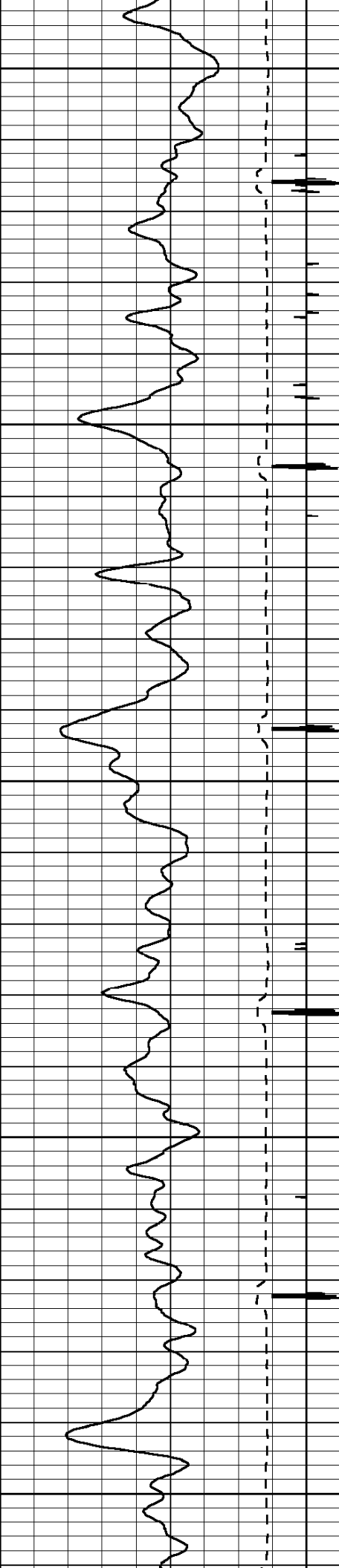




3400

3500

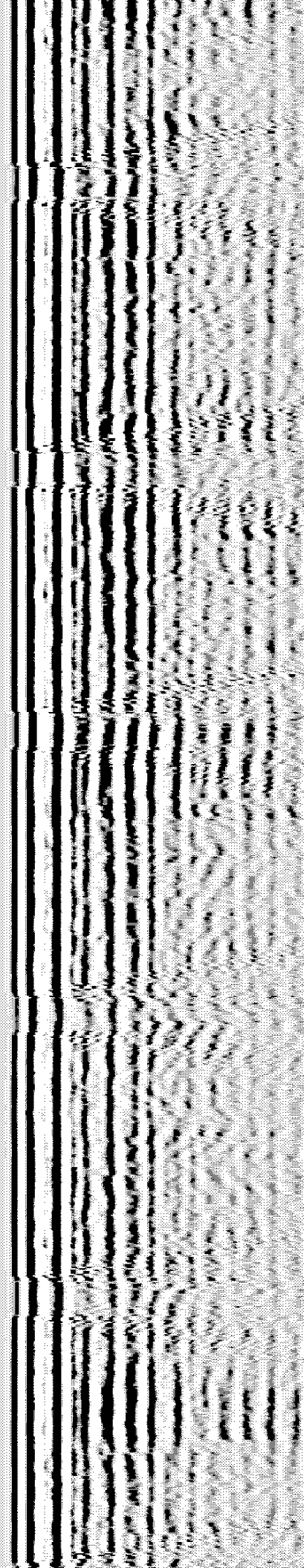
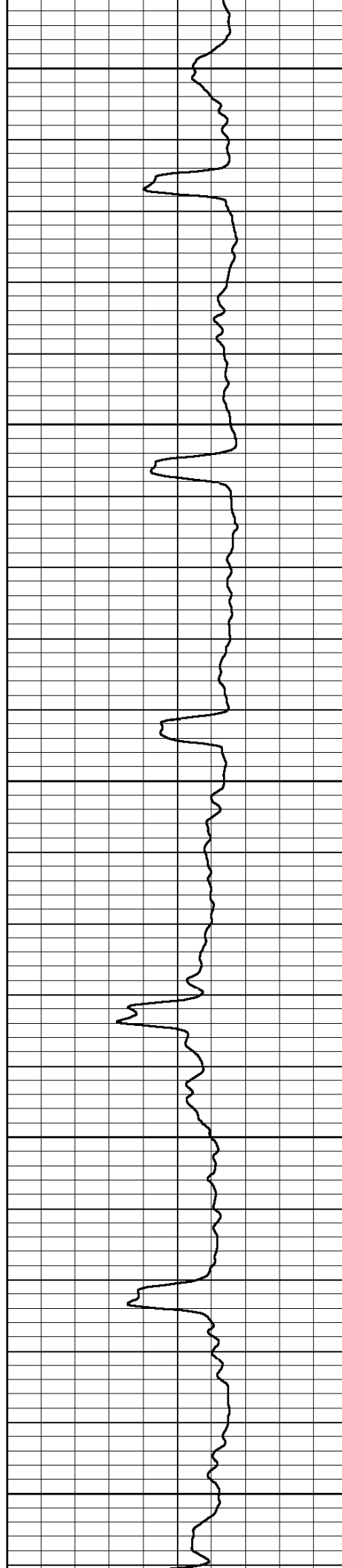


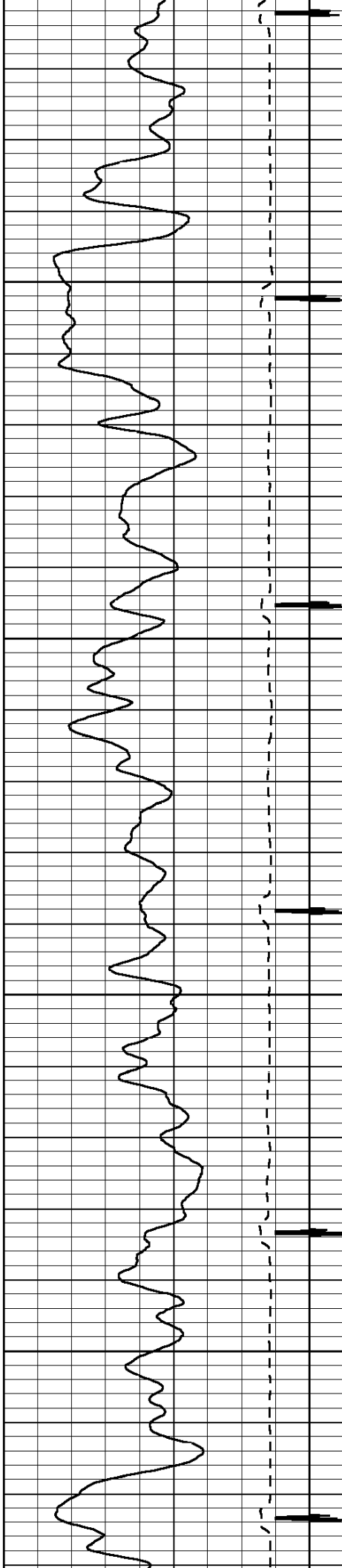


3600

3700

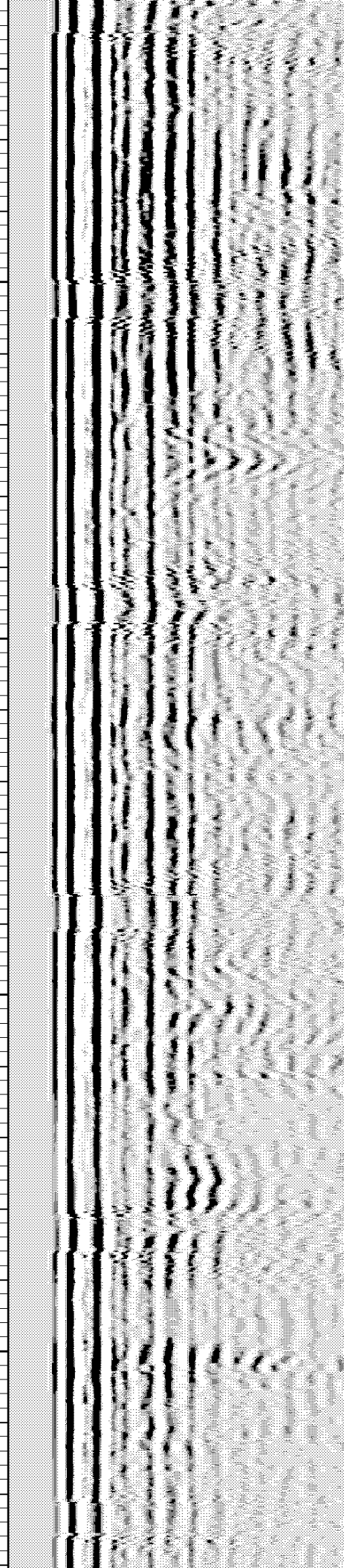
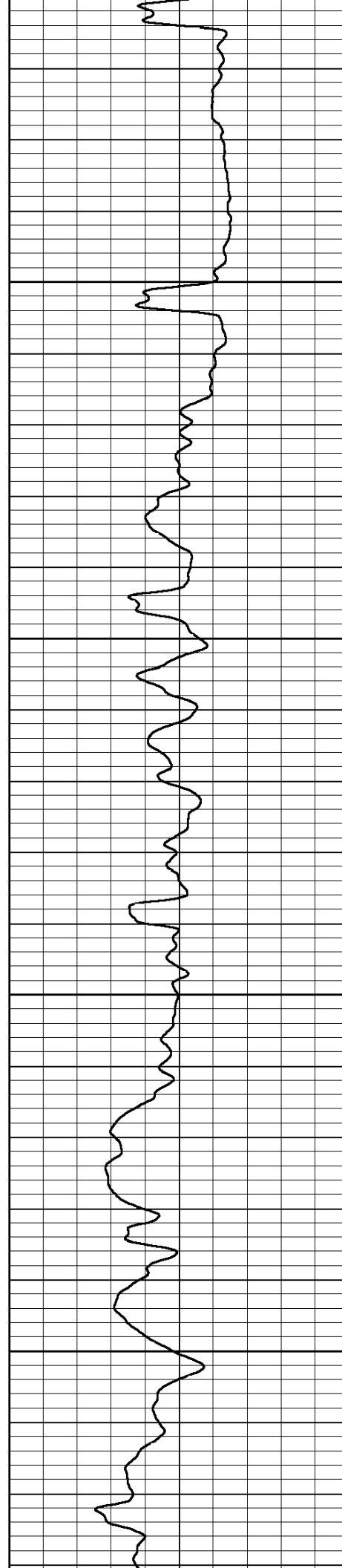
3800

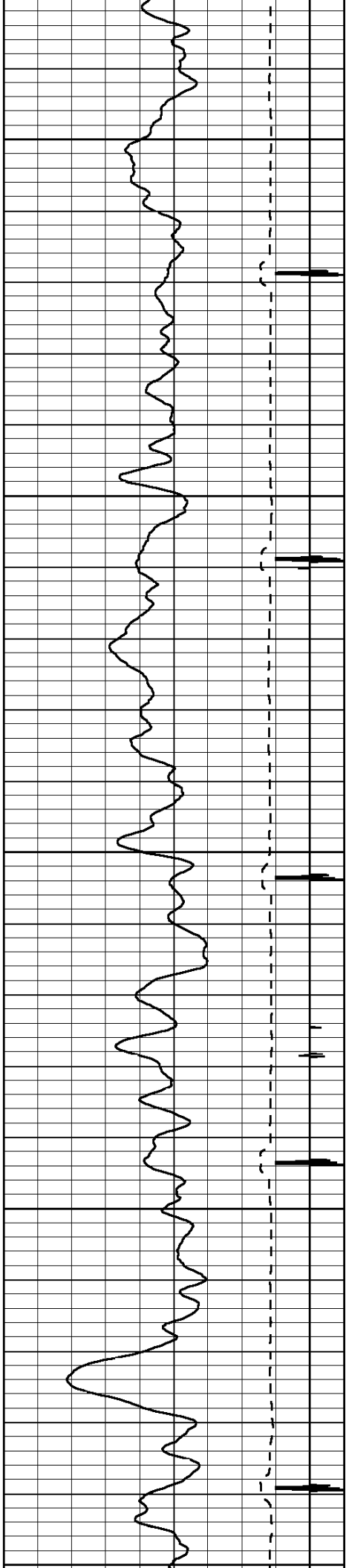




3900

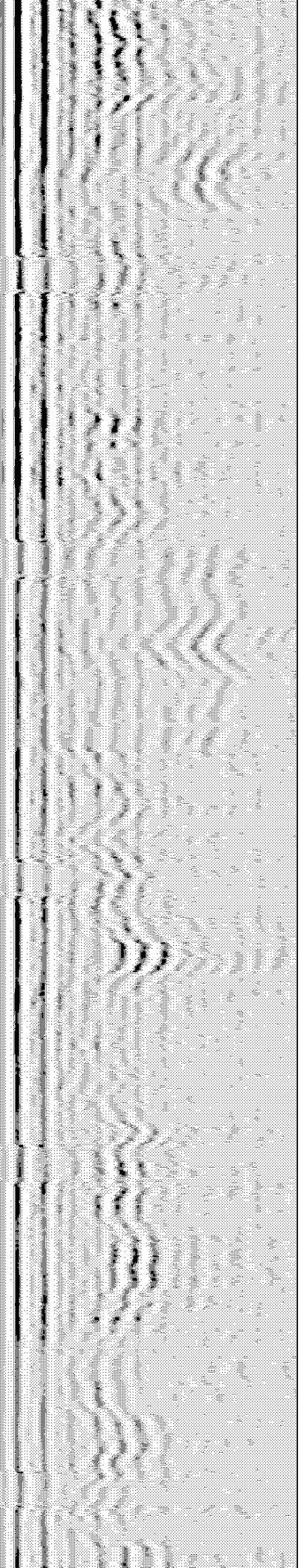
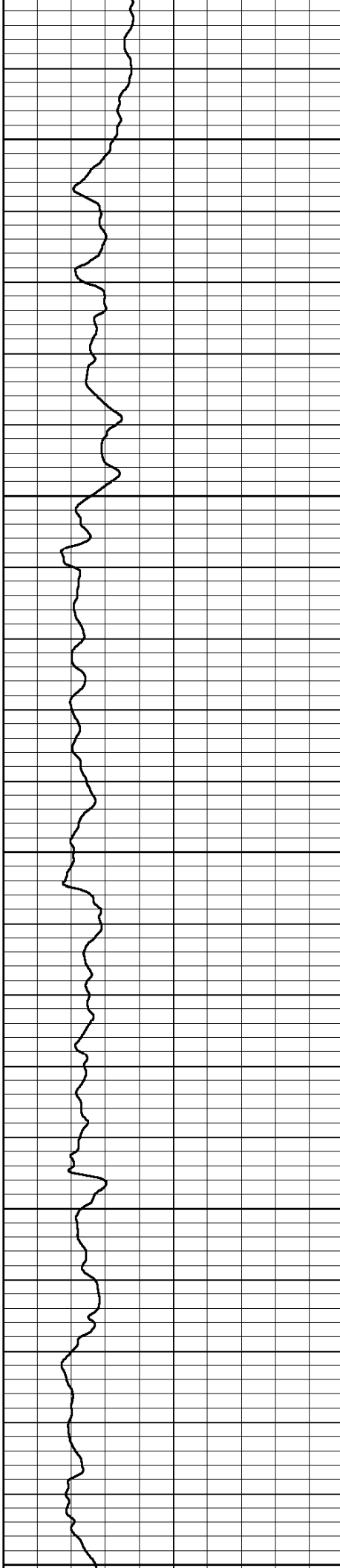
4000

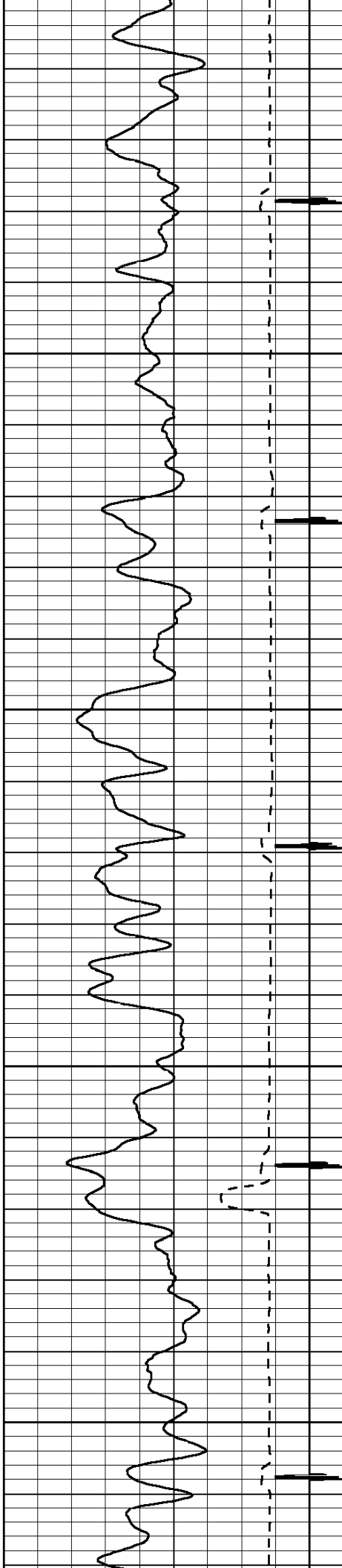




4100

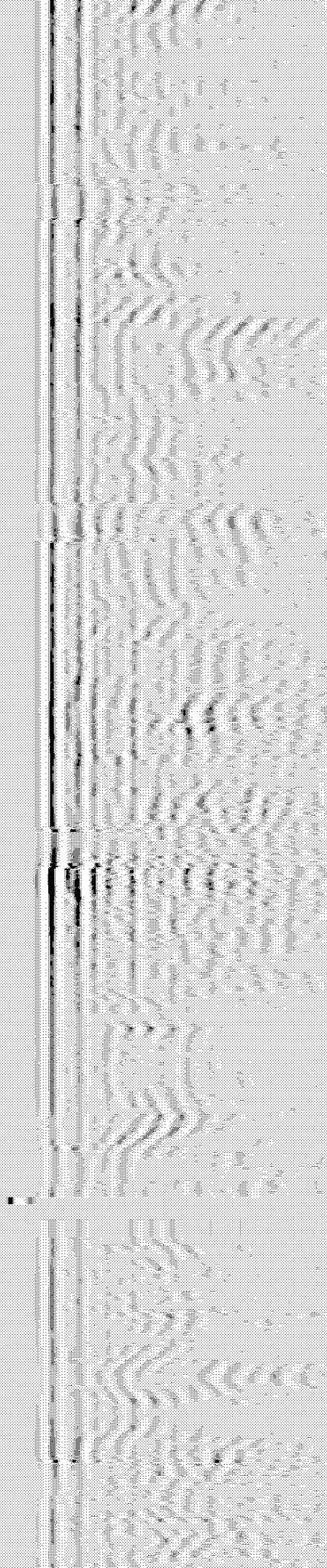
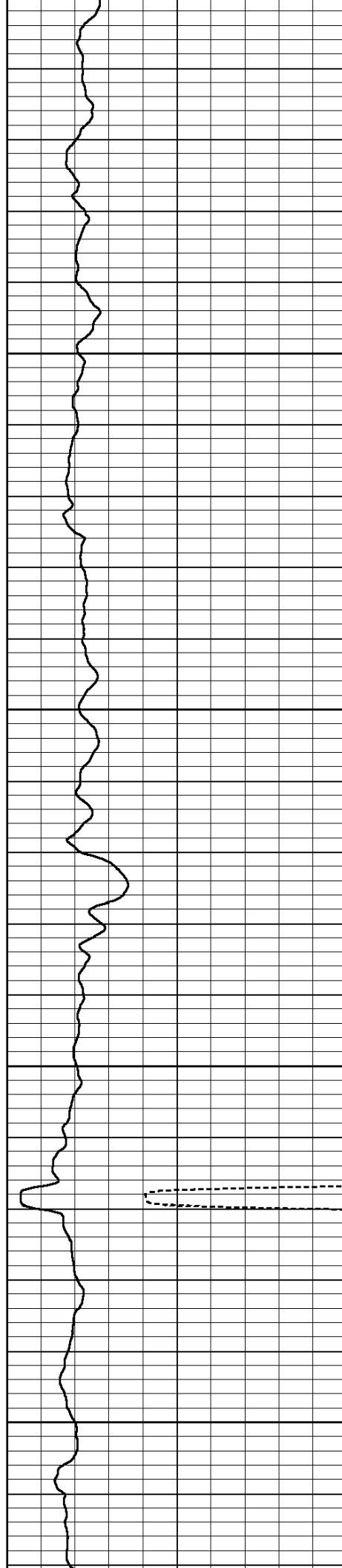
4200



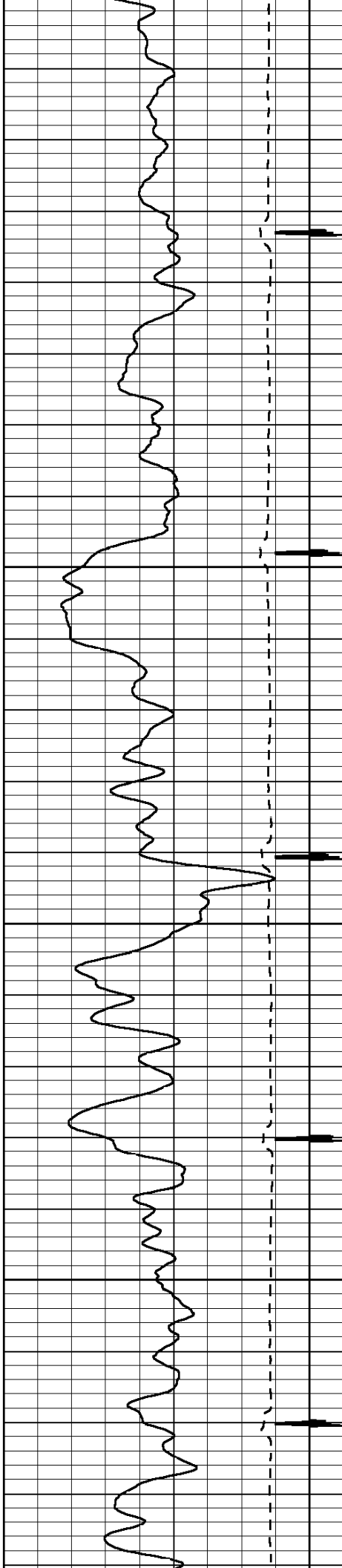


4300

4400

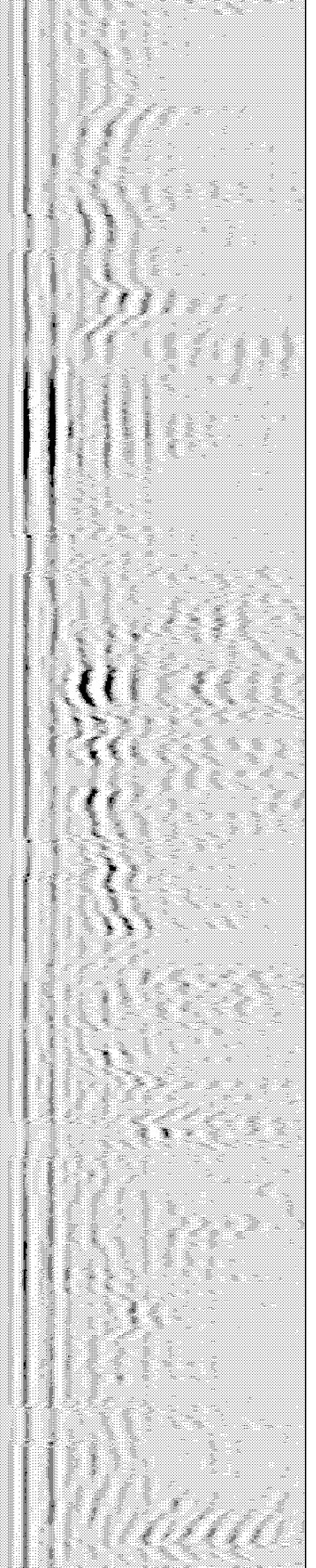
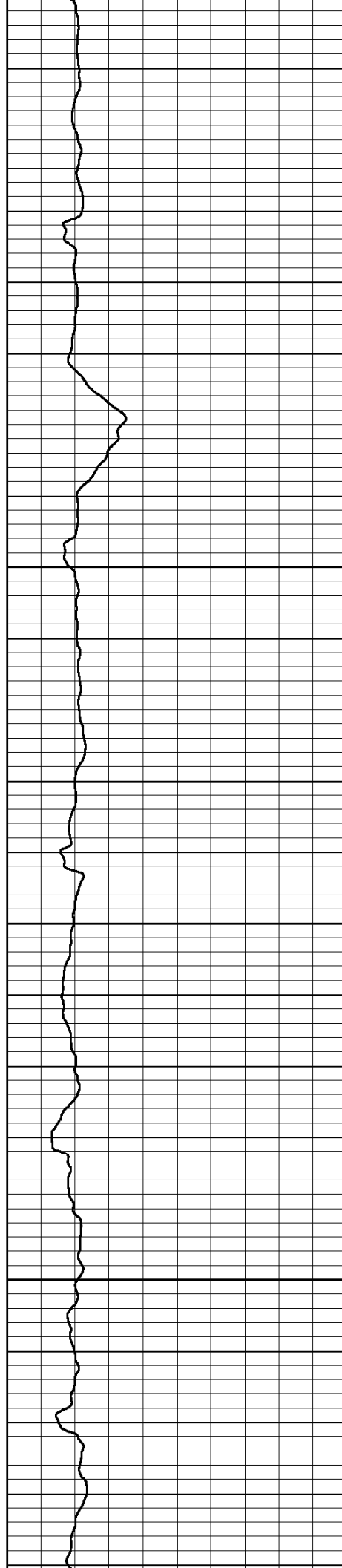


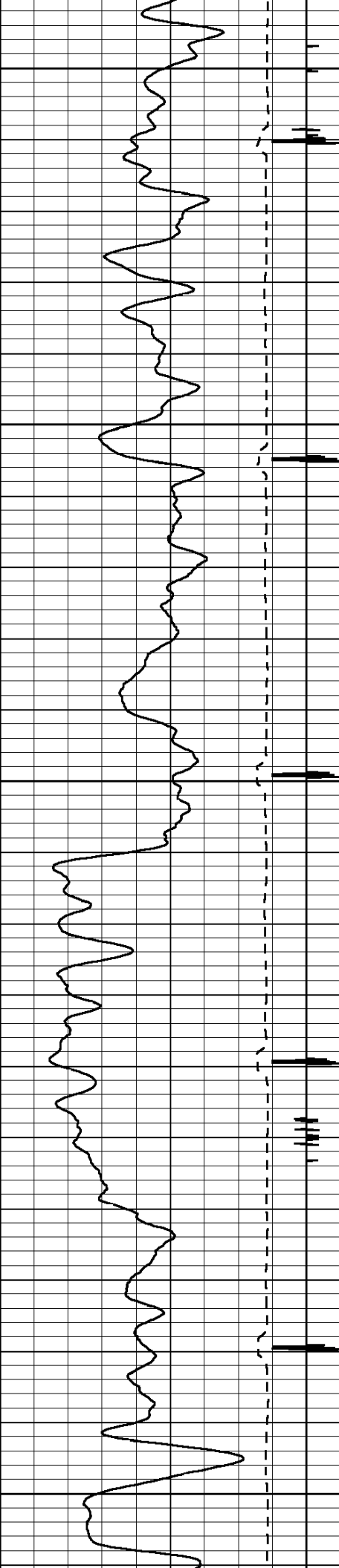




4500

4600

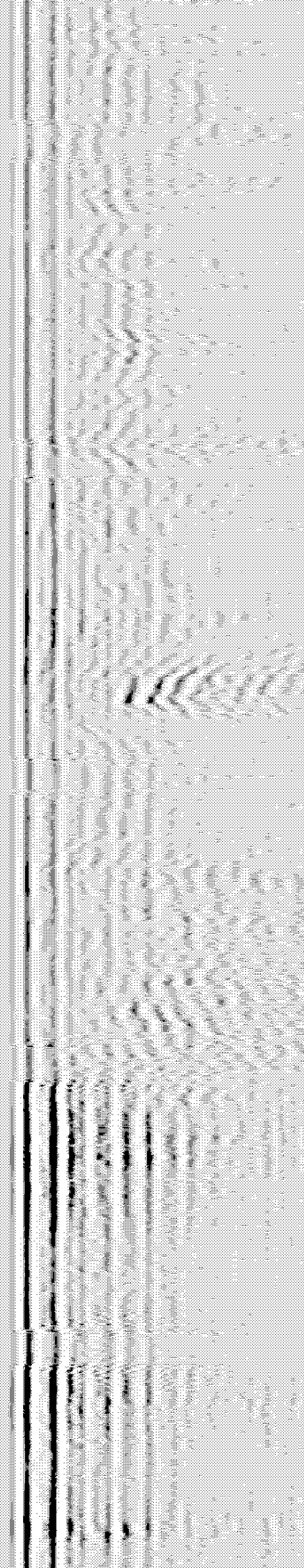
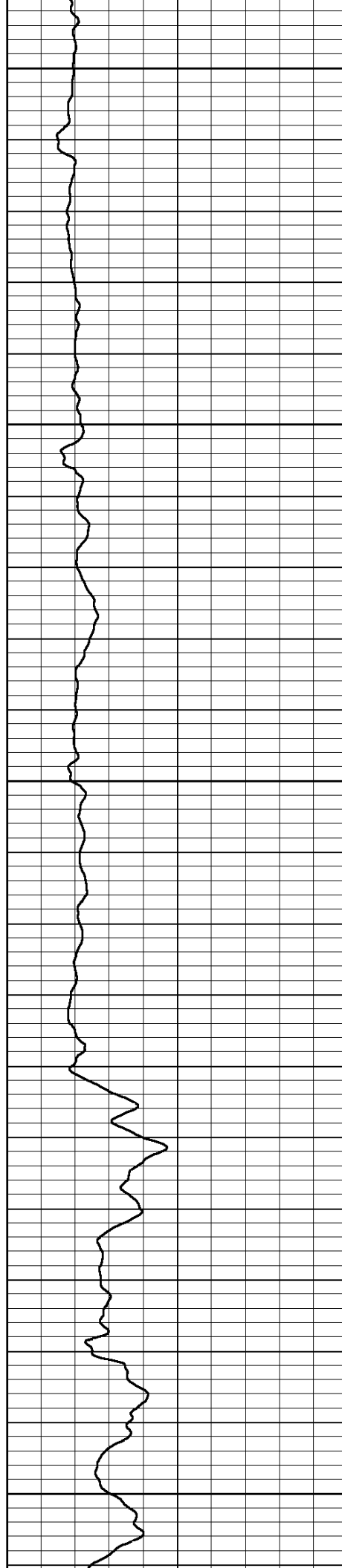




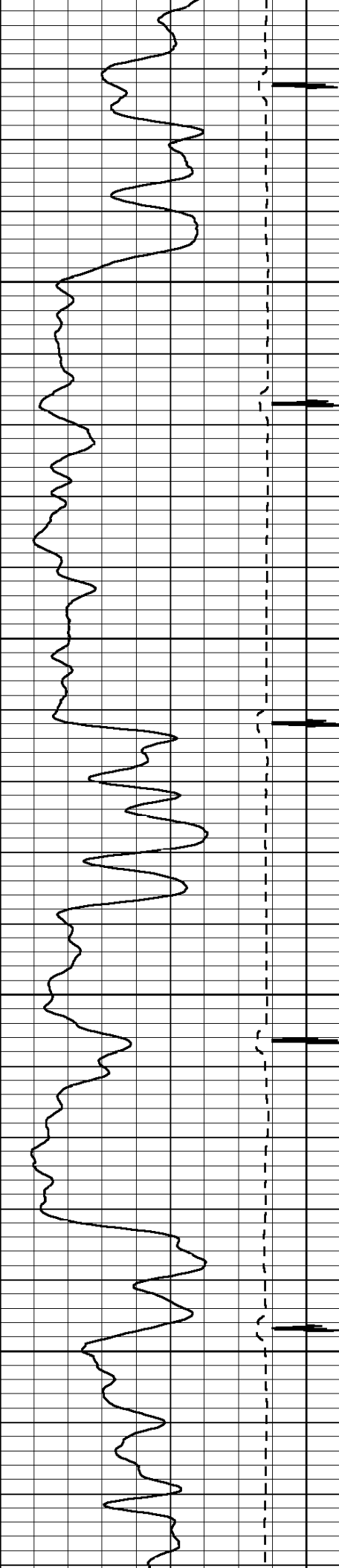
4700

4800

4900

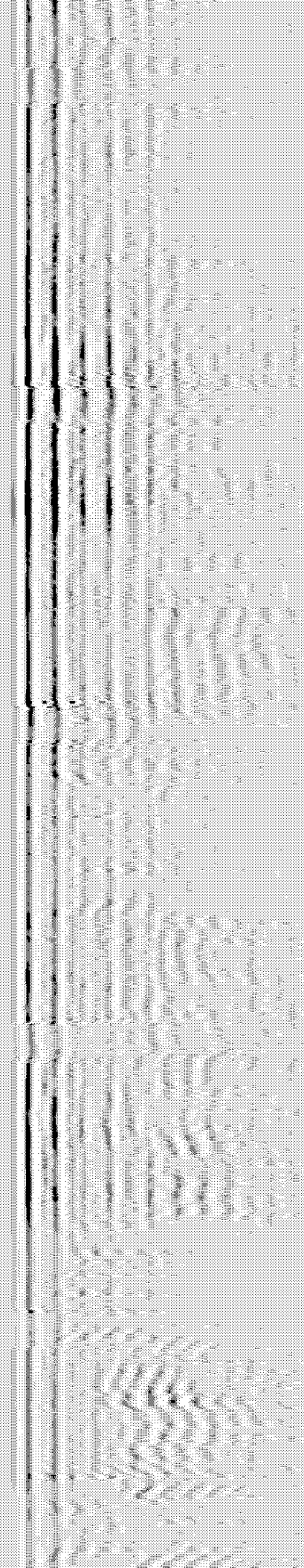
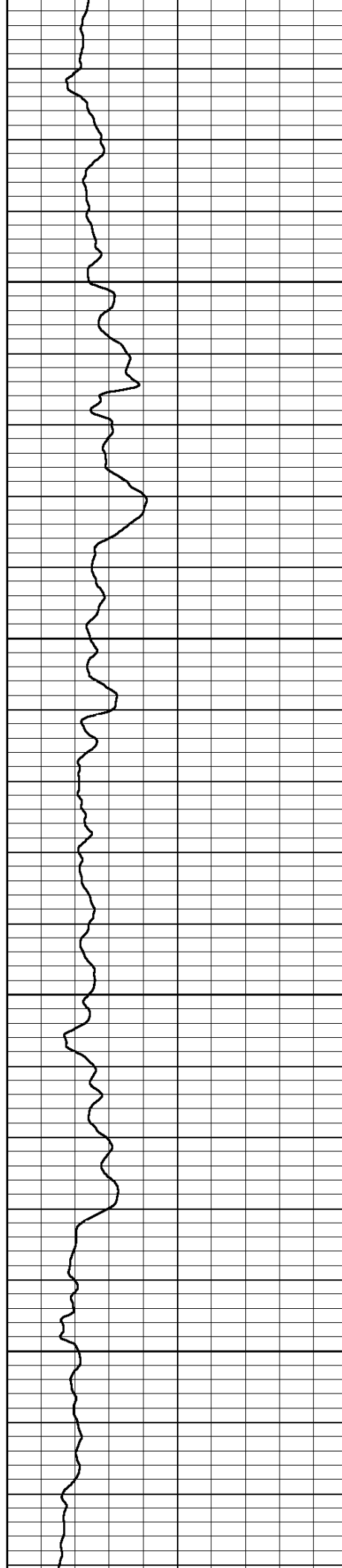


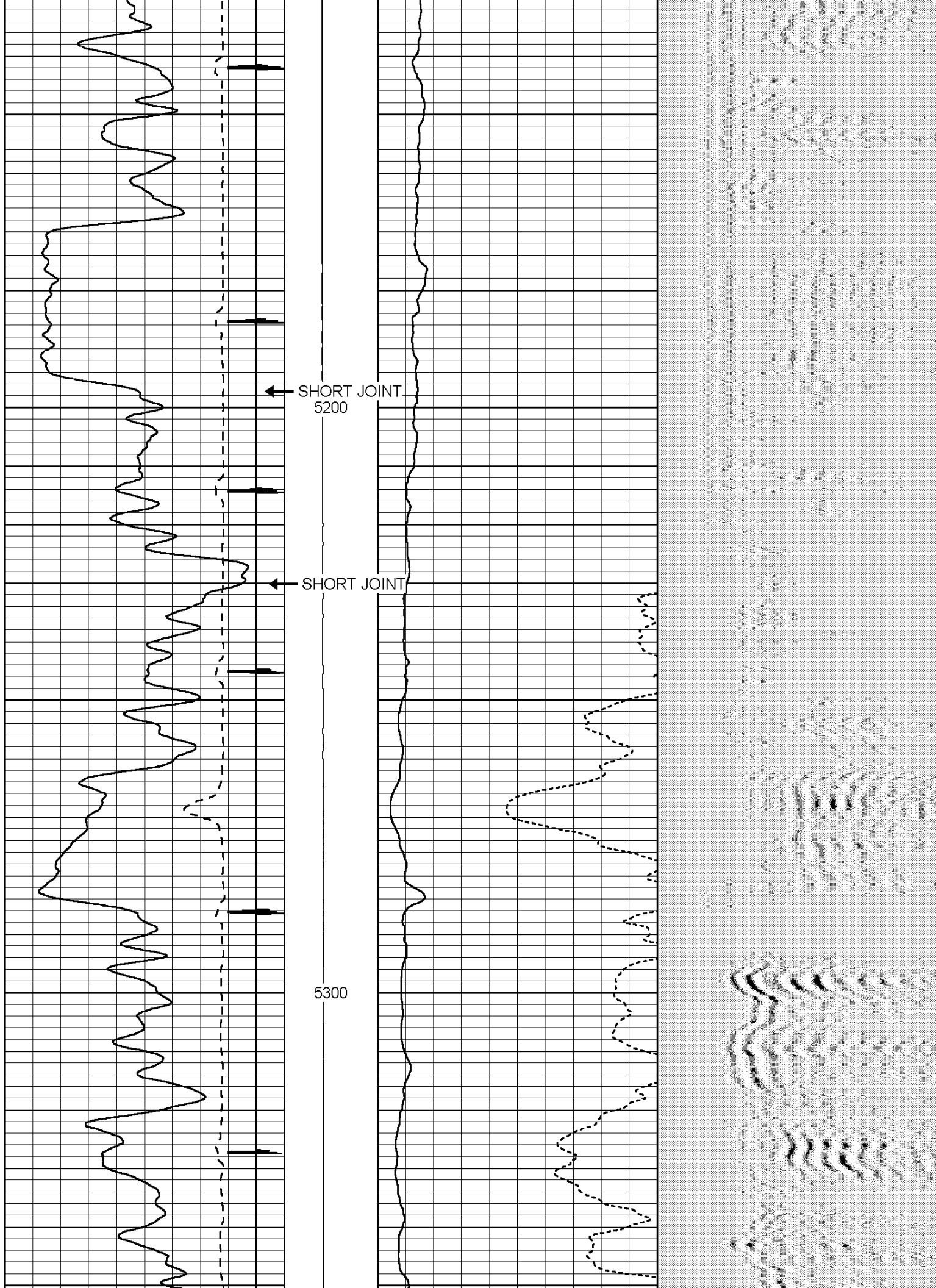


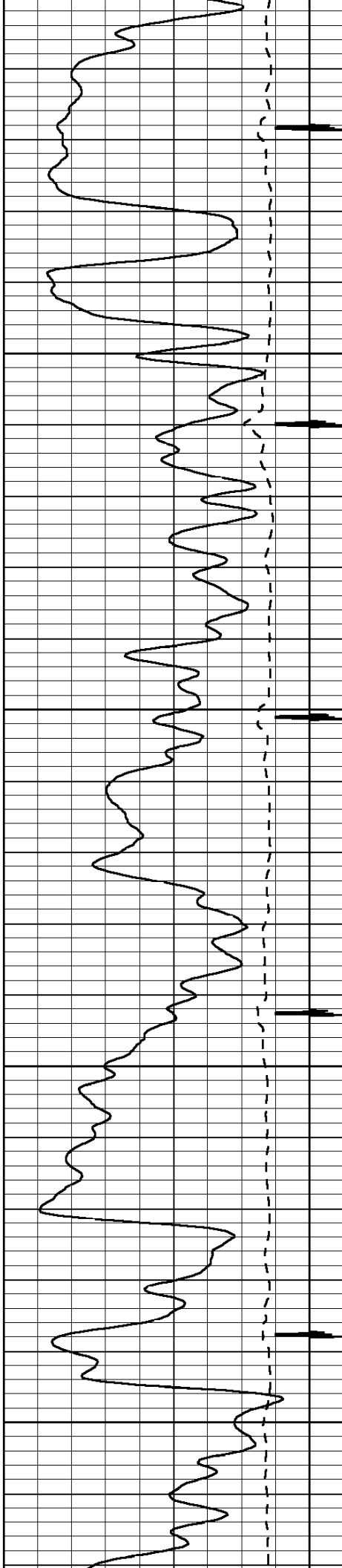


5000

5100

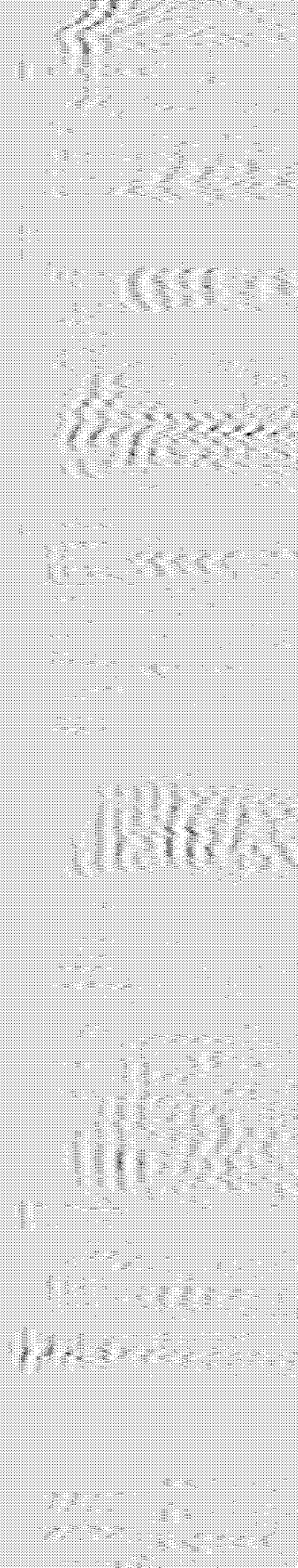
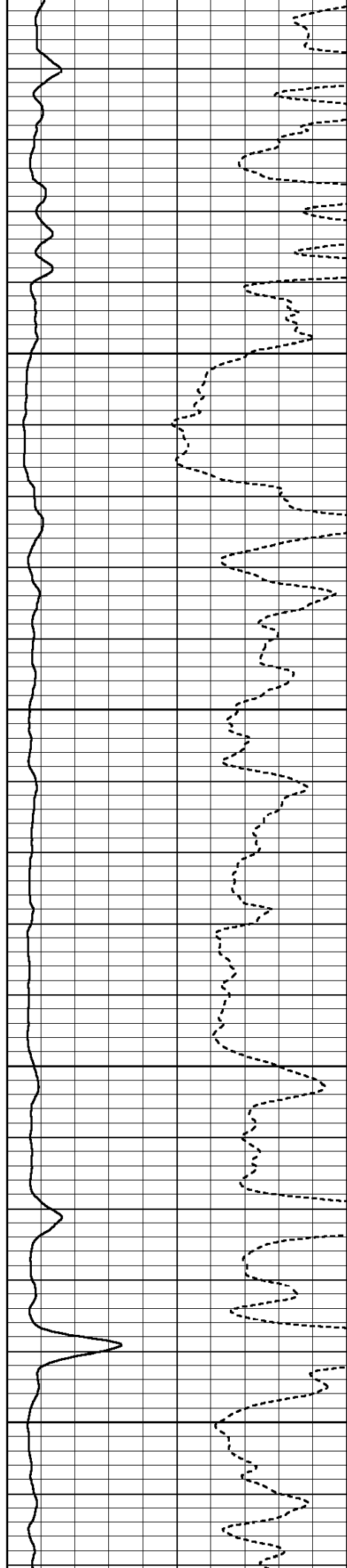


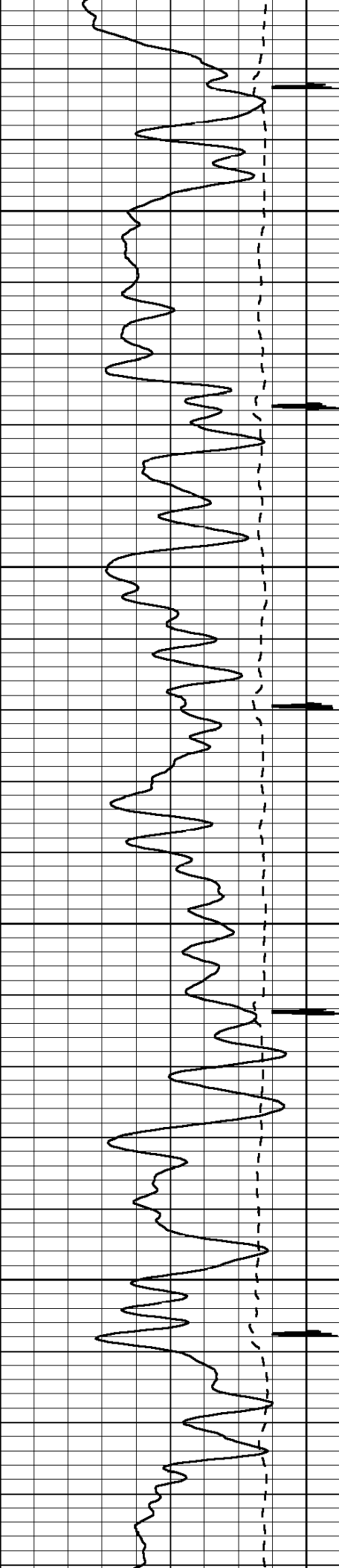




5400

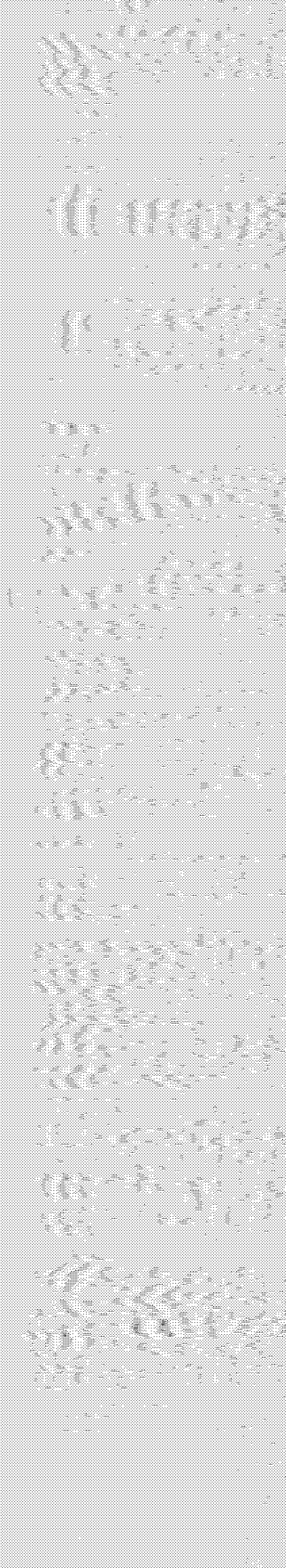
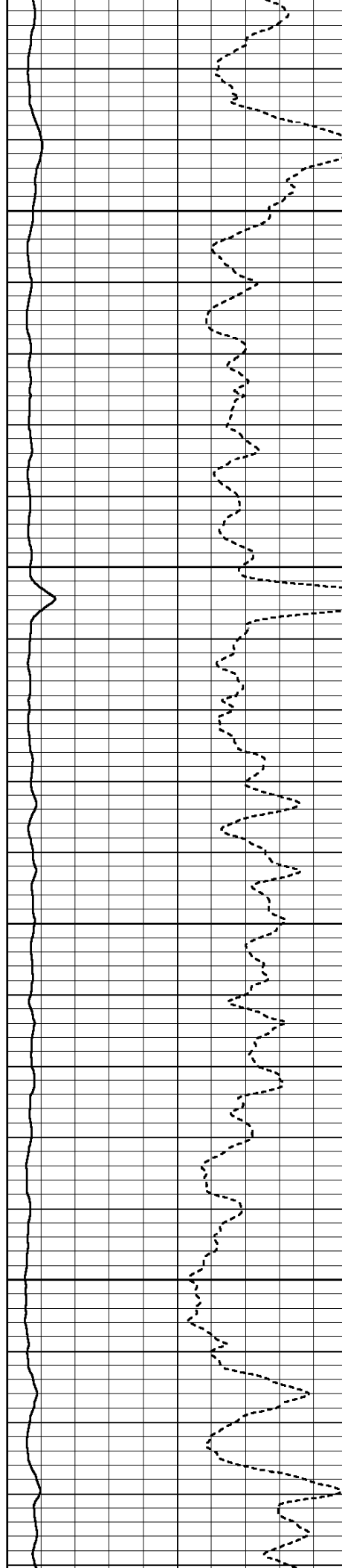
5500

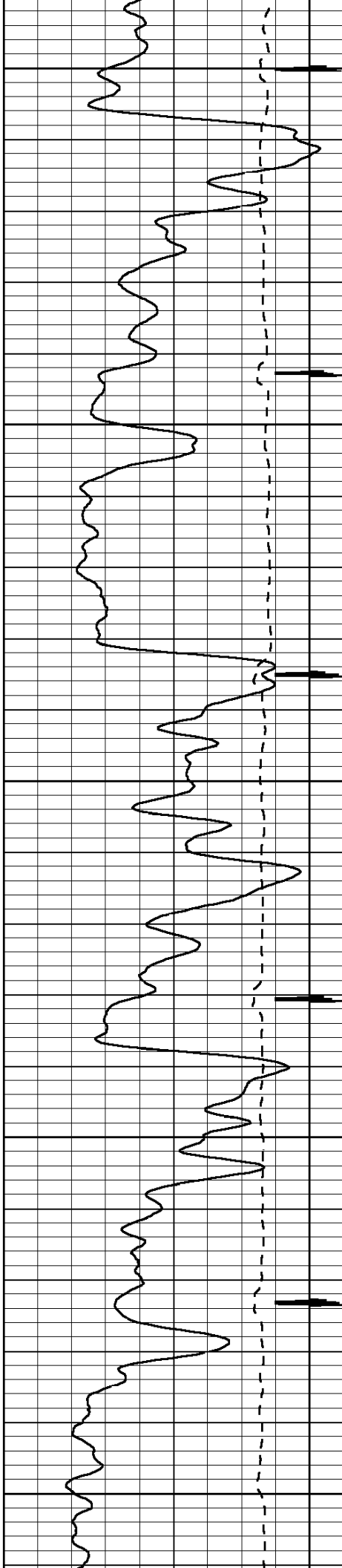




5600

5700

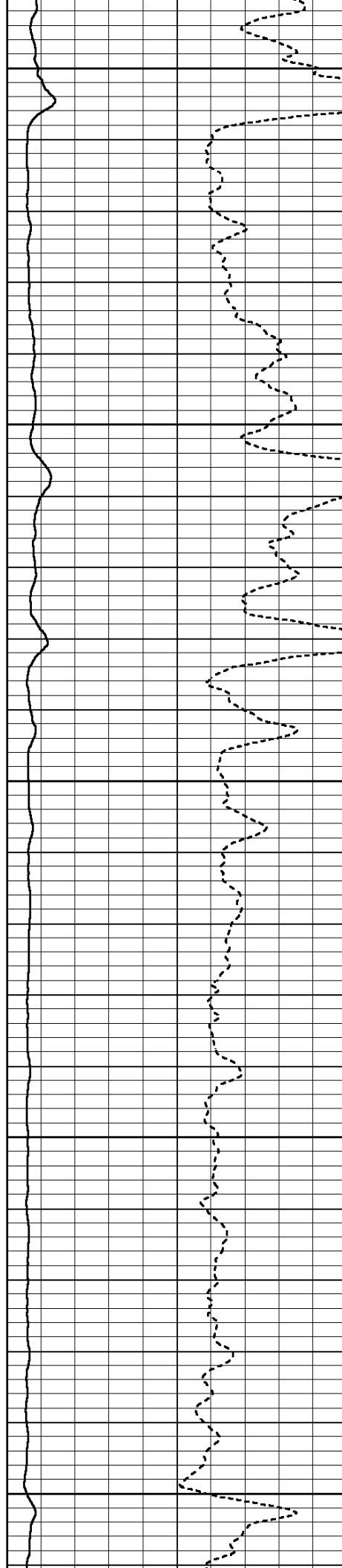


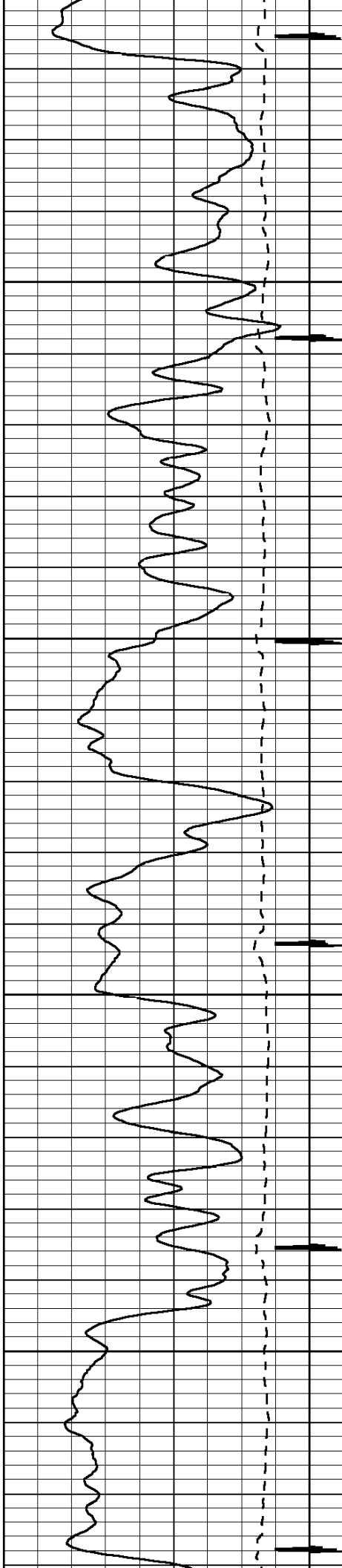


5800

5900

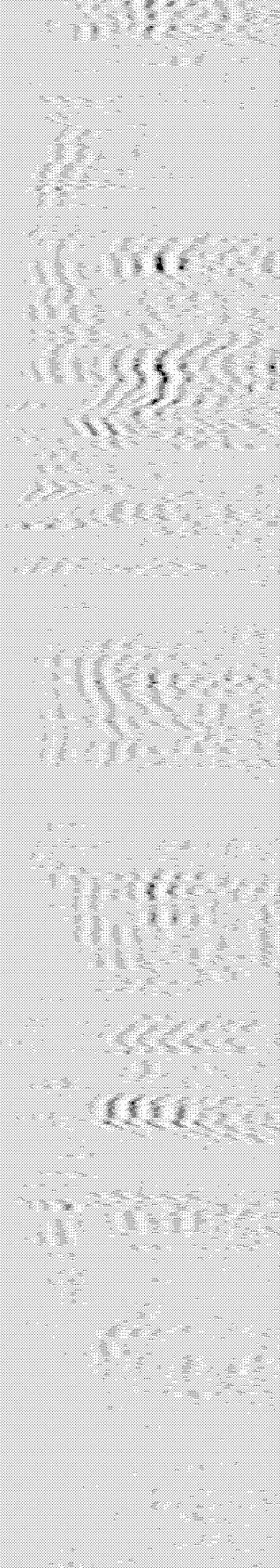
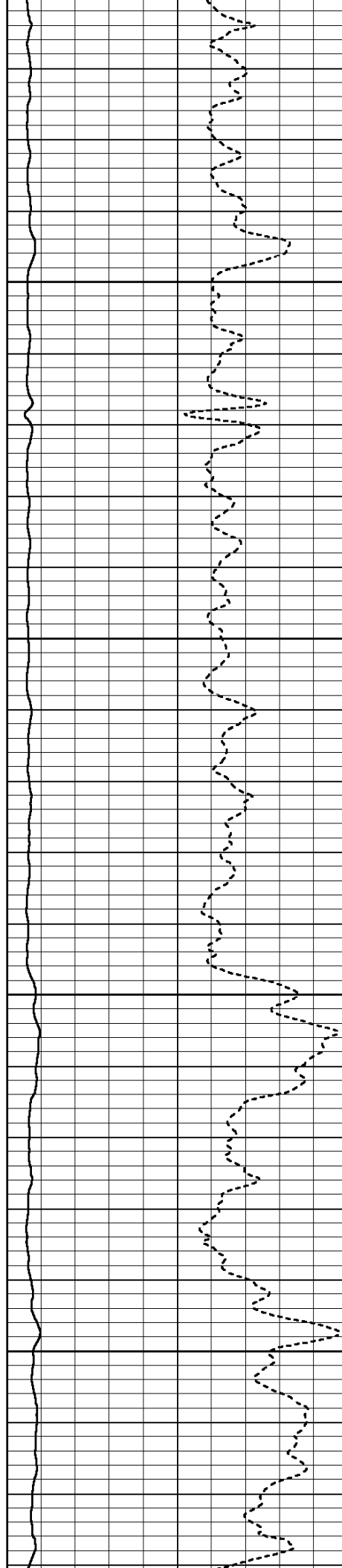
6000



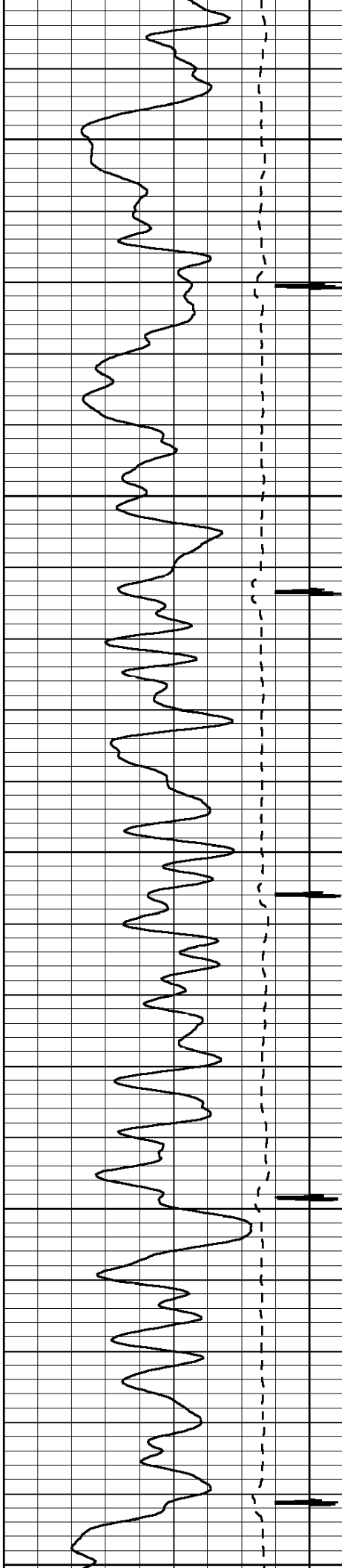


6100

6200

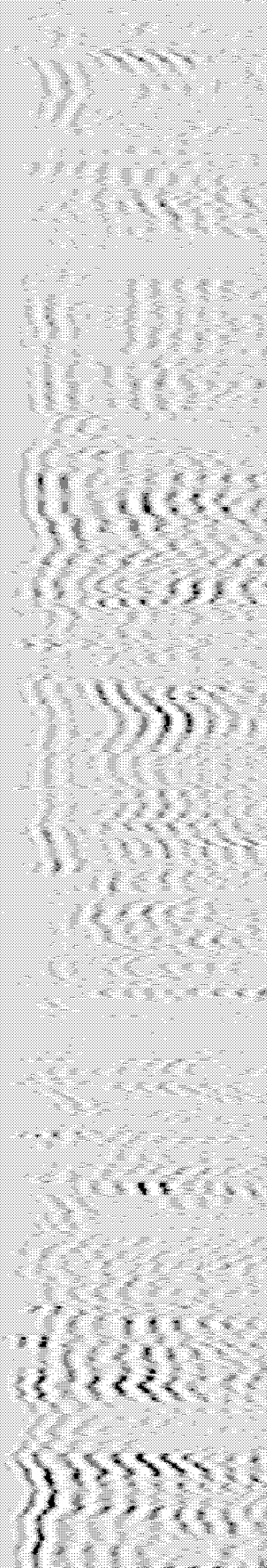
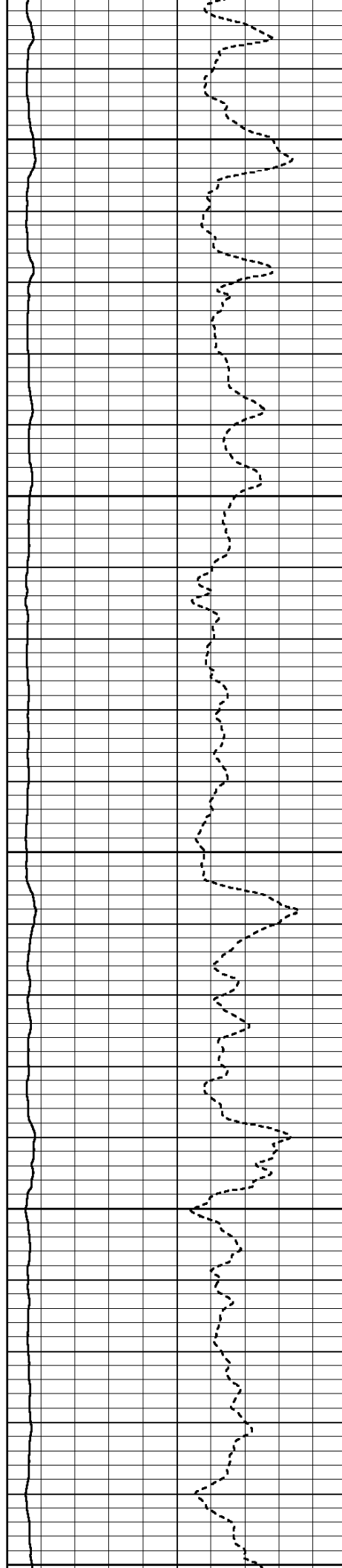


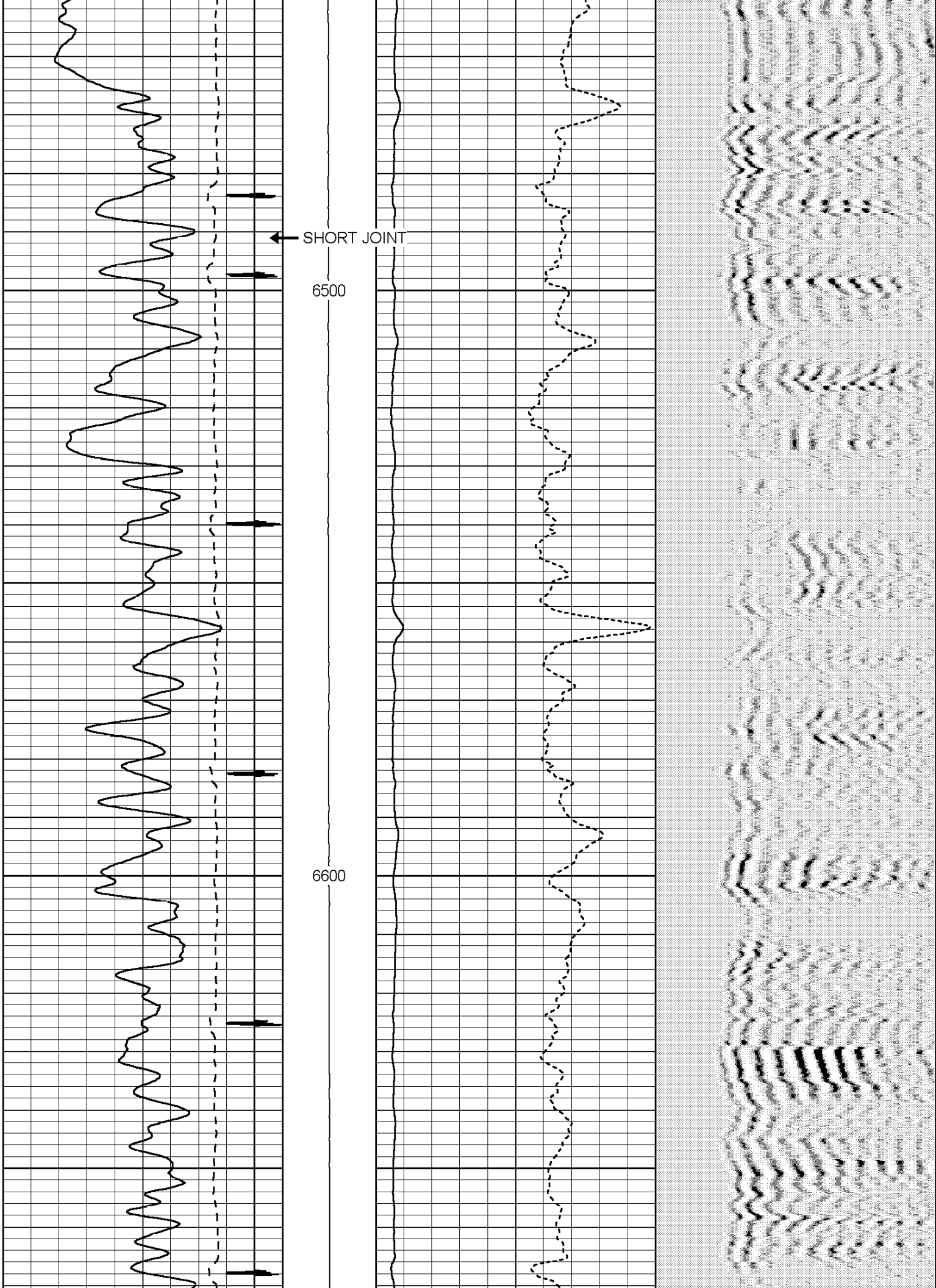




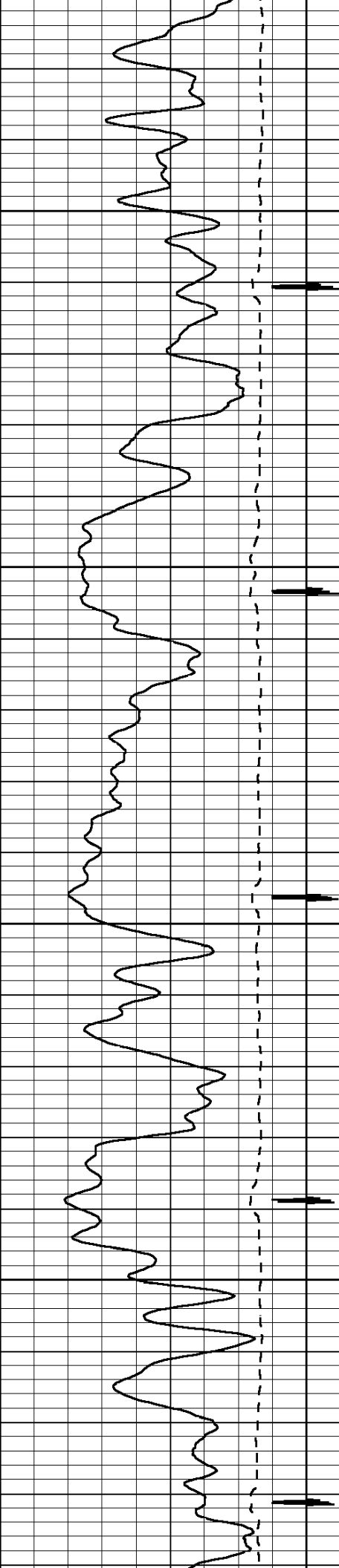
6300

6400



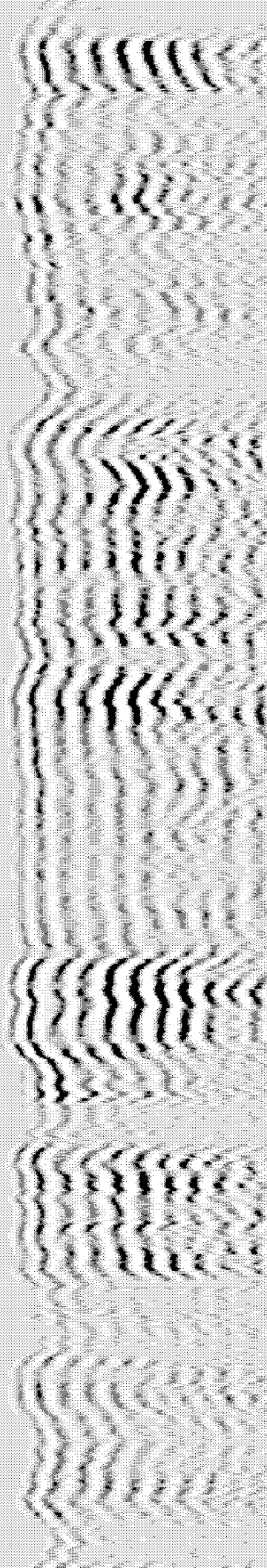
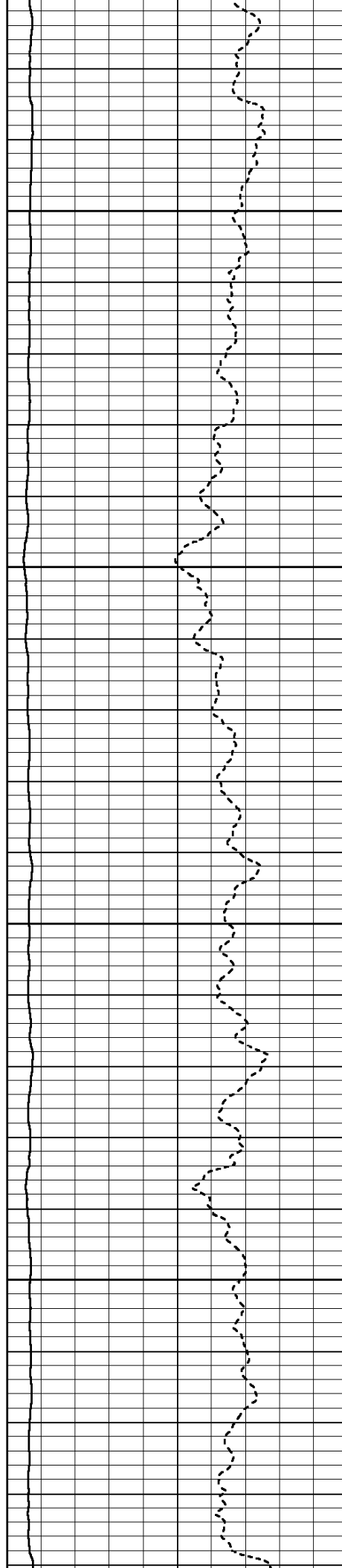


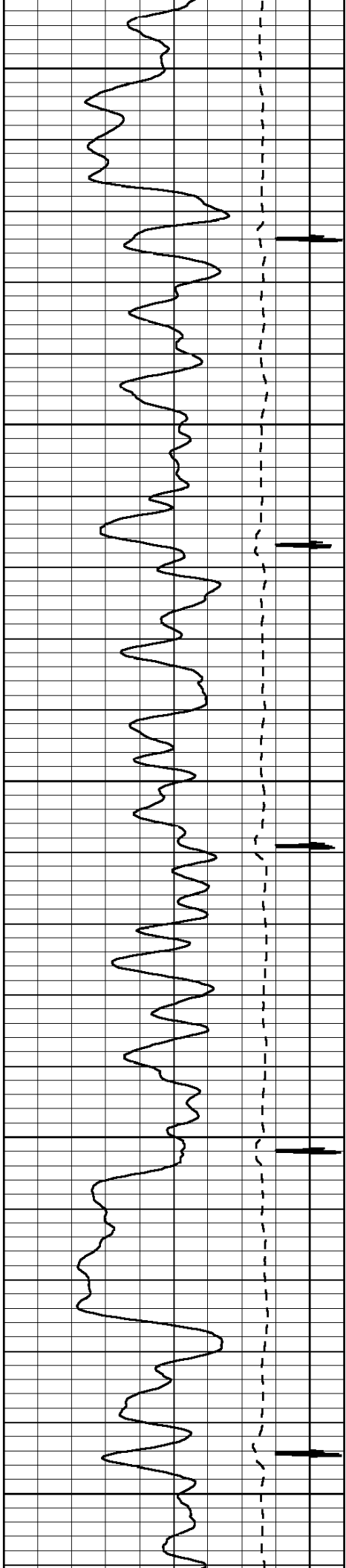




6700

6800

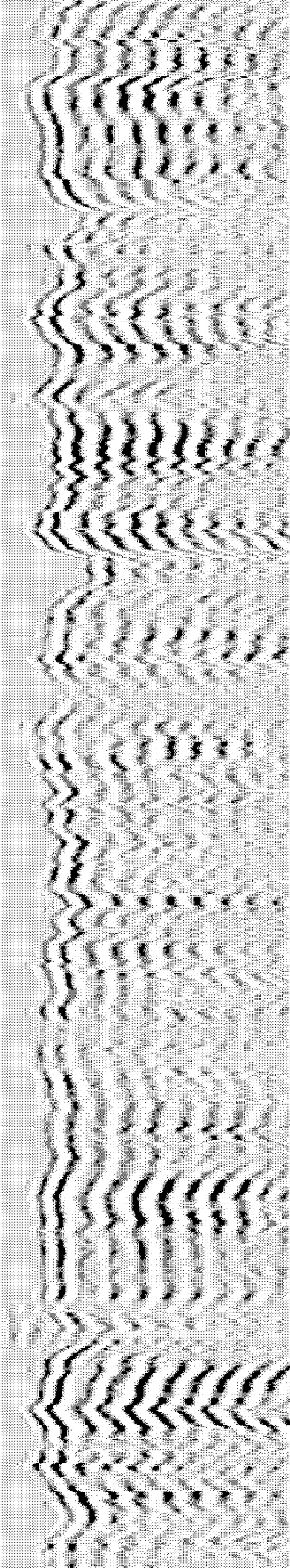
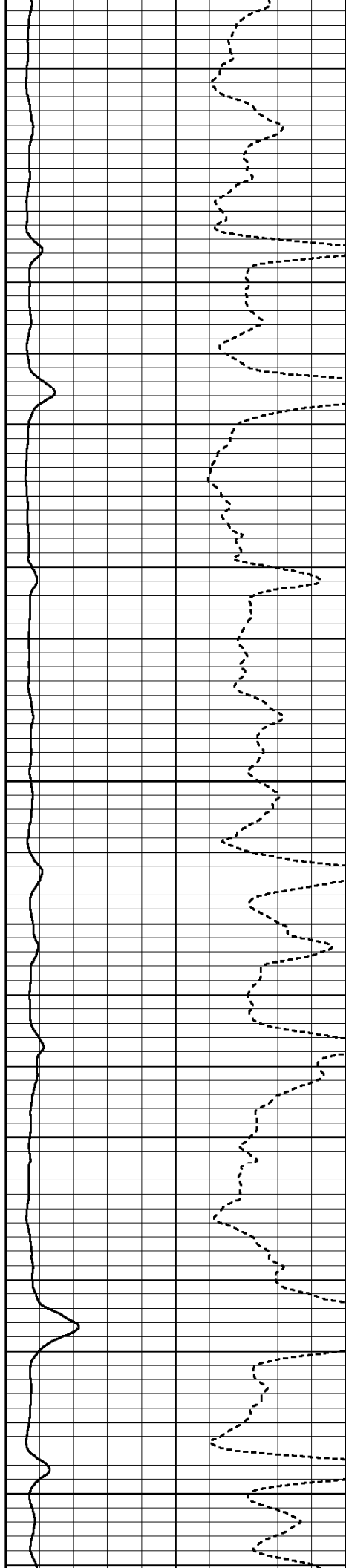


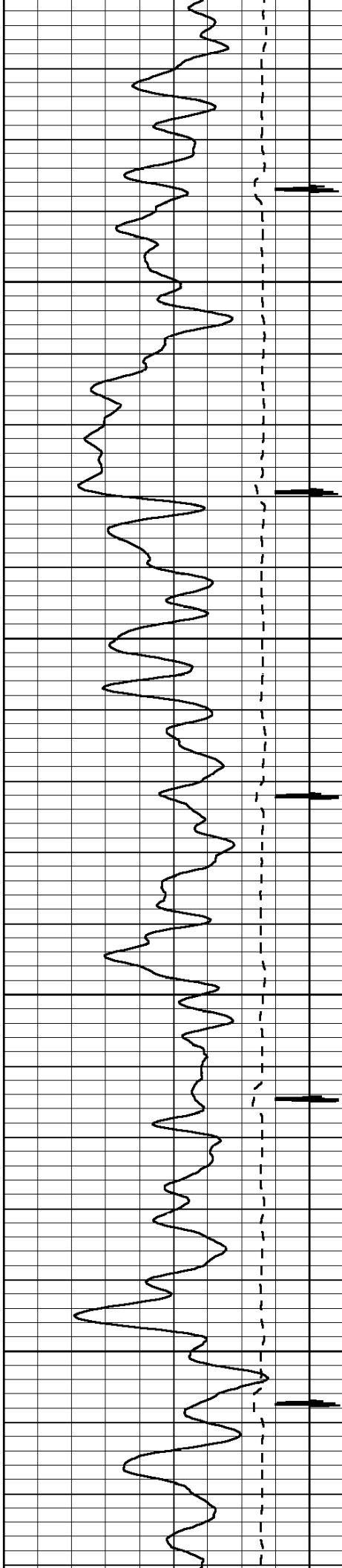


6900

7000

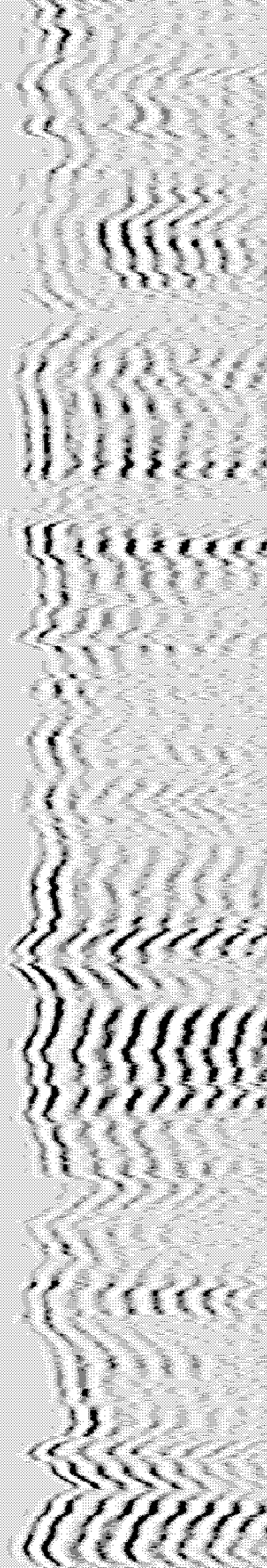
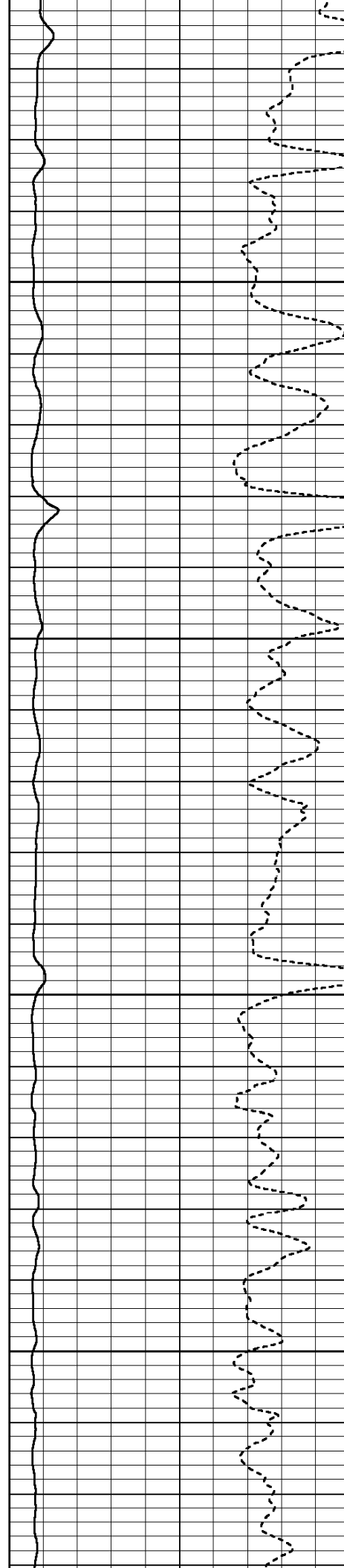
7100

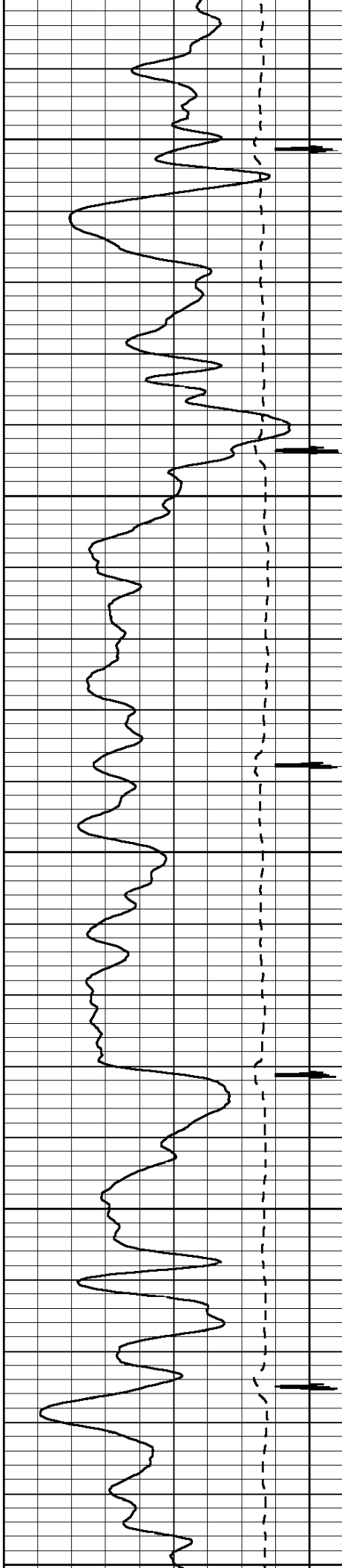




7200

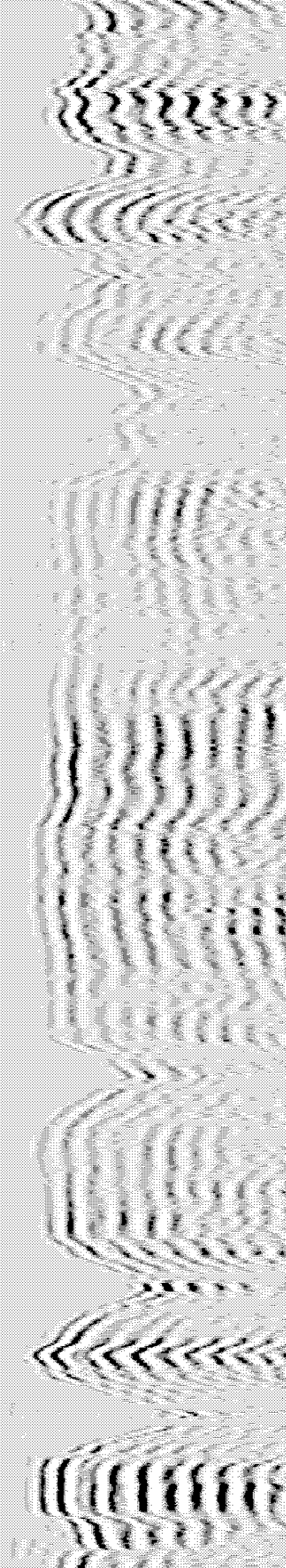
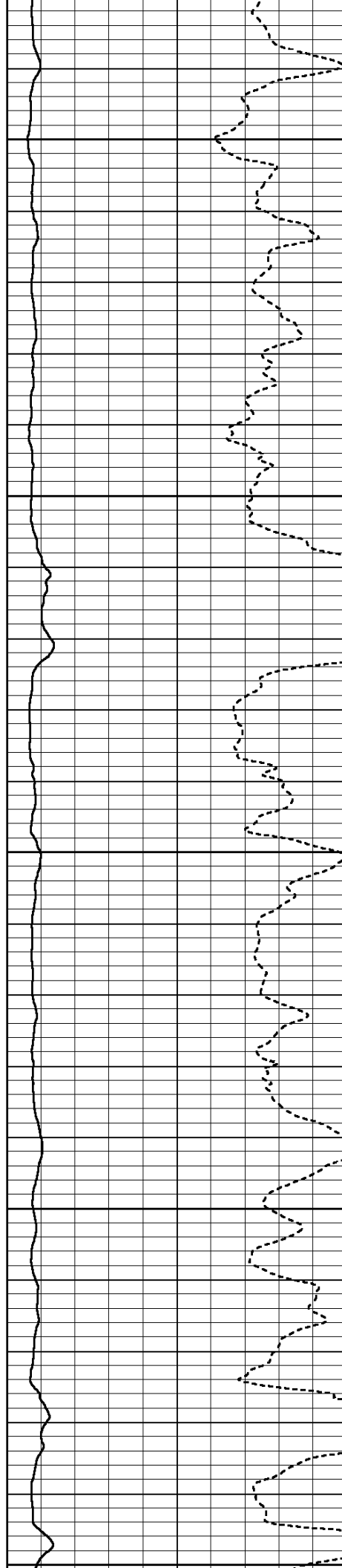
7300

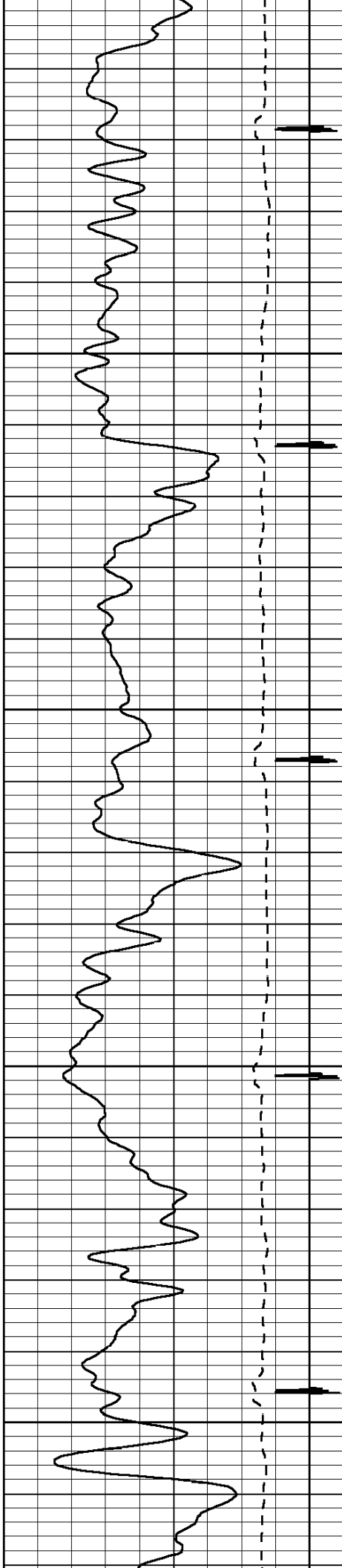




7400

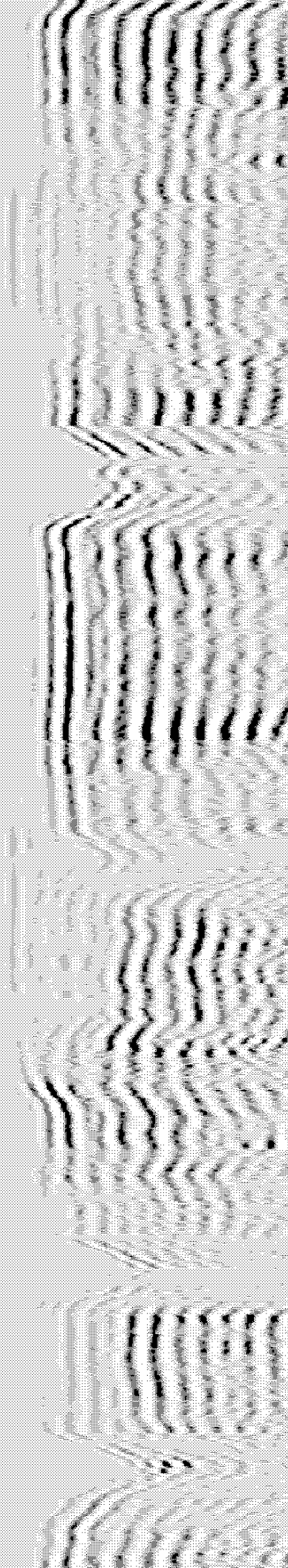
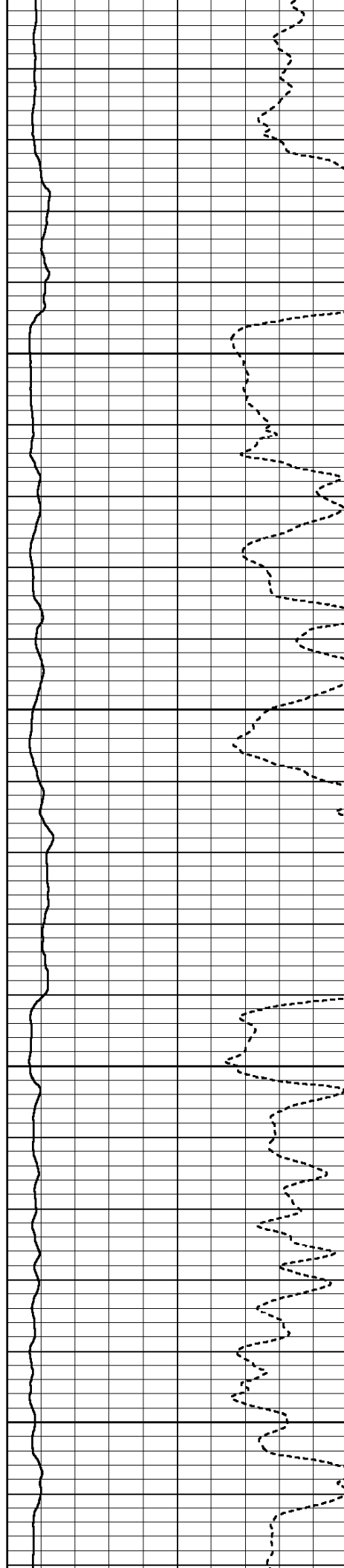
7500



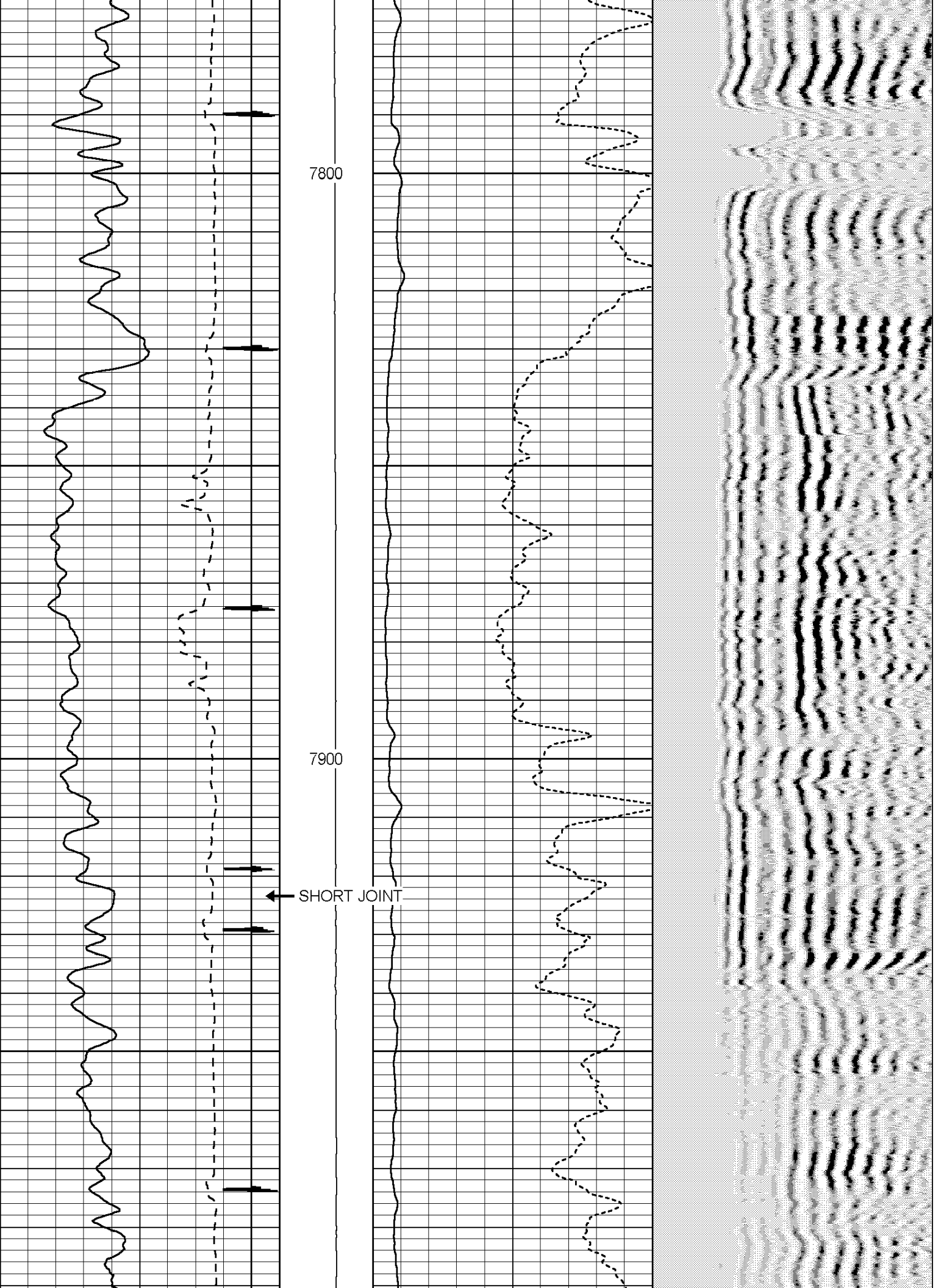


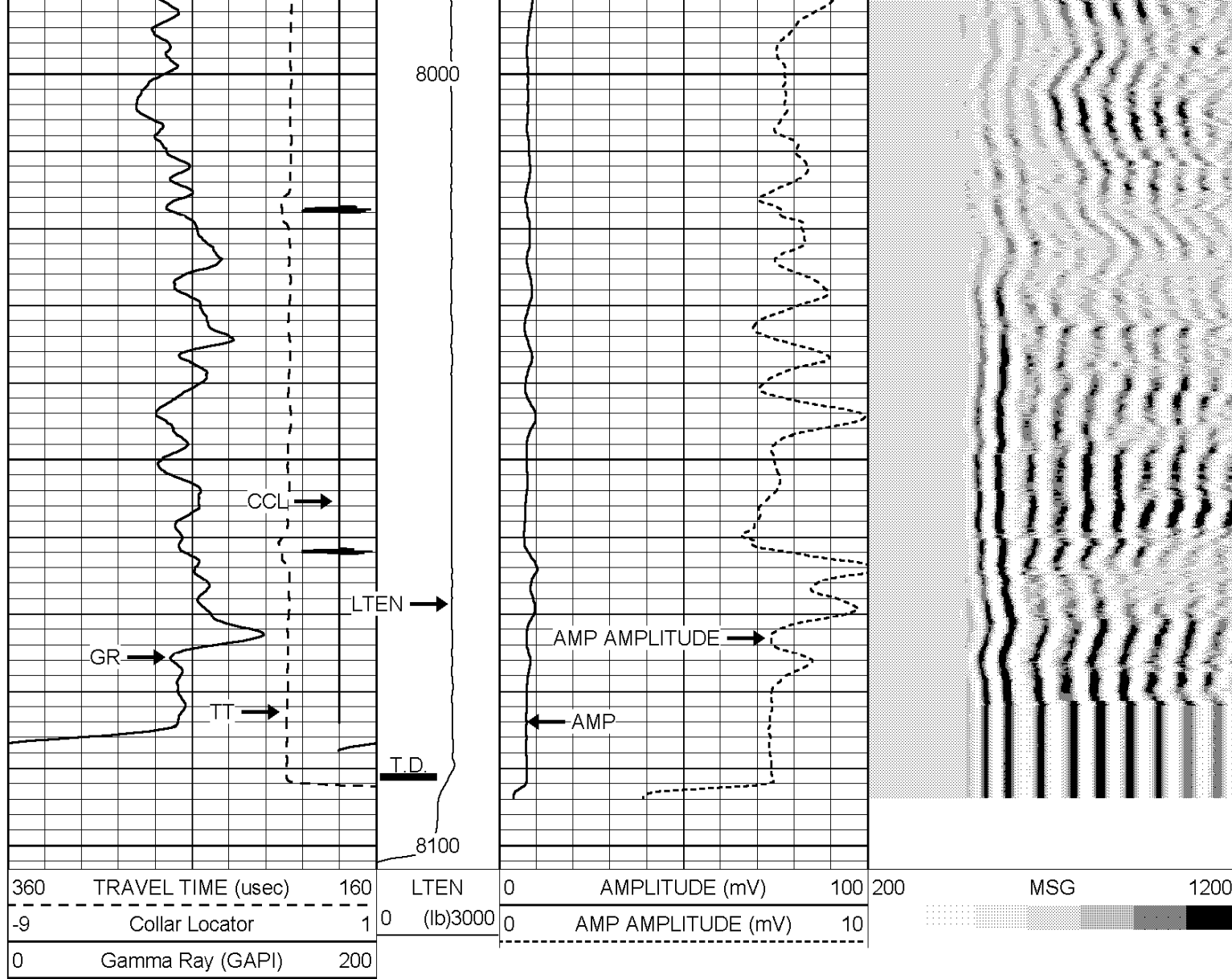
7600

7700









**HALLIBURTON**

## ACOUSTIC CEMENT BOND LOG

MAIN LOG SECTION

5" = 100'

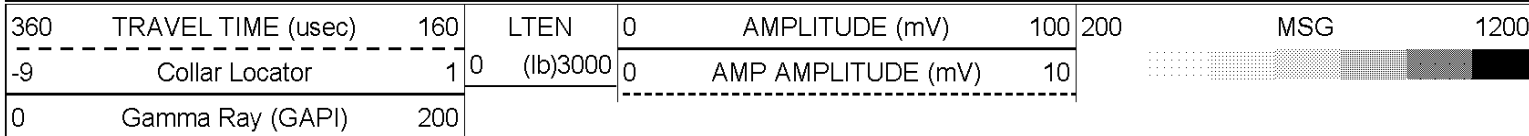
**HALLIBURTON**

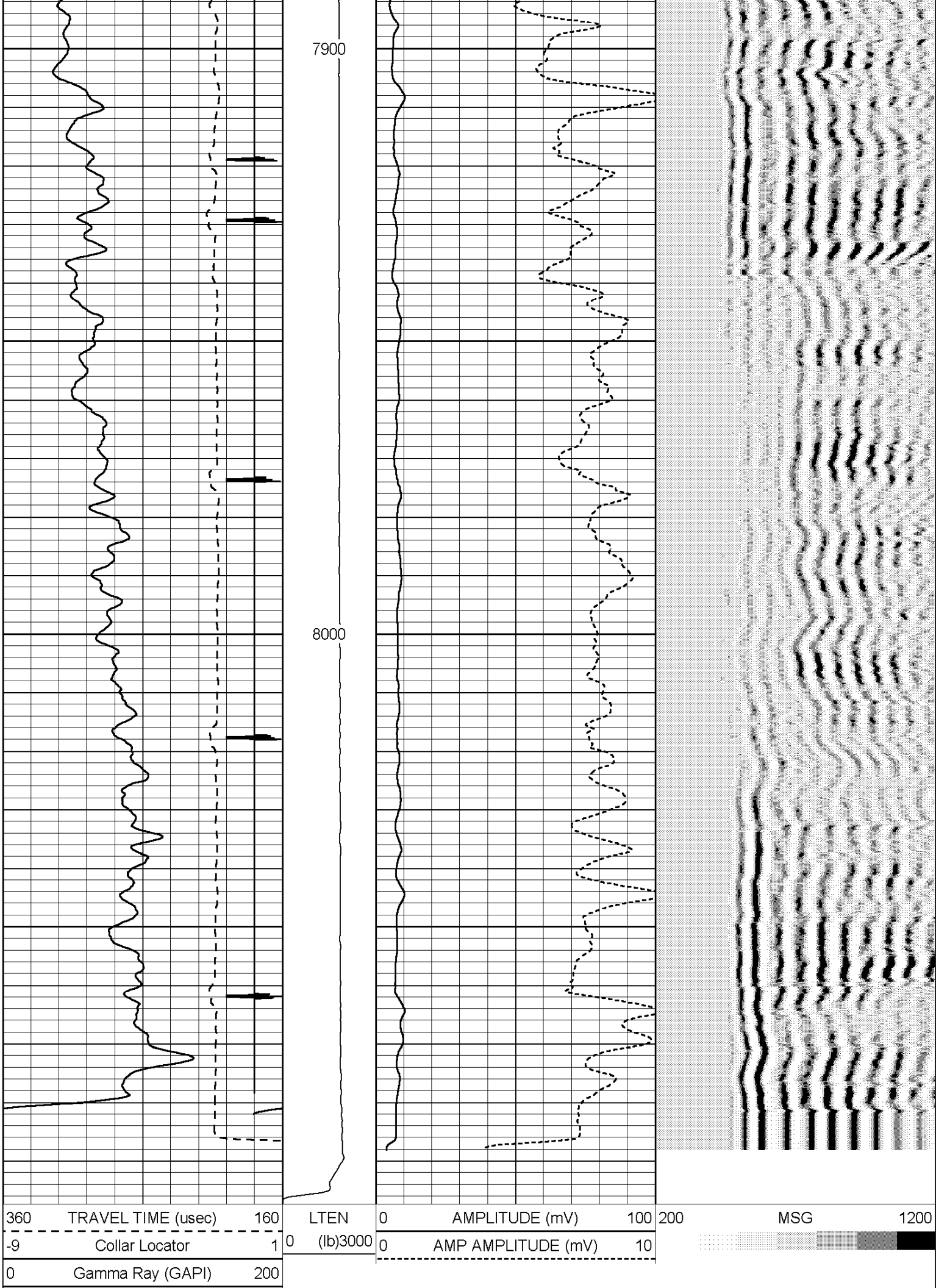
## ACOUSTIC CEMENT BOND LOG

REPEAT LOG SECTION

5" = 100'

Database File: f\_hagen\_6\_22b\_cbl.db  
 Dataset Pathname: RULLISON/F\_HAGEN\_6/CBL/pass5  
 Presentation Format: cbl\_main  
 Dataset Creation: Fri Jul 11 14:01:41 2008 by Log Halliburton Casedho  
 Charted by: Depth in Feet scaled 1:240







HALLIBURTON

# ACOUSTIC CEMENT BOND LOG

REPEAT LOG SECTION  
5" = 100'

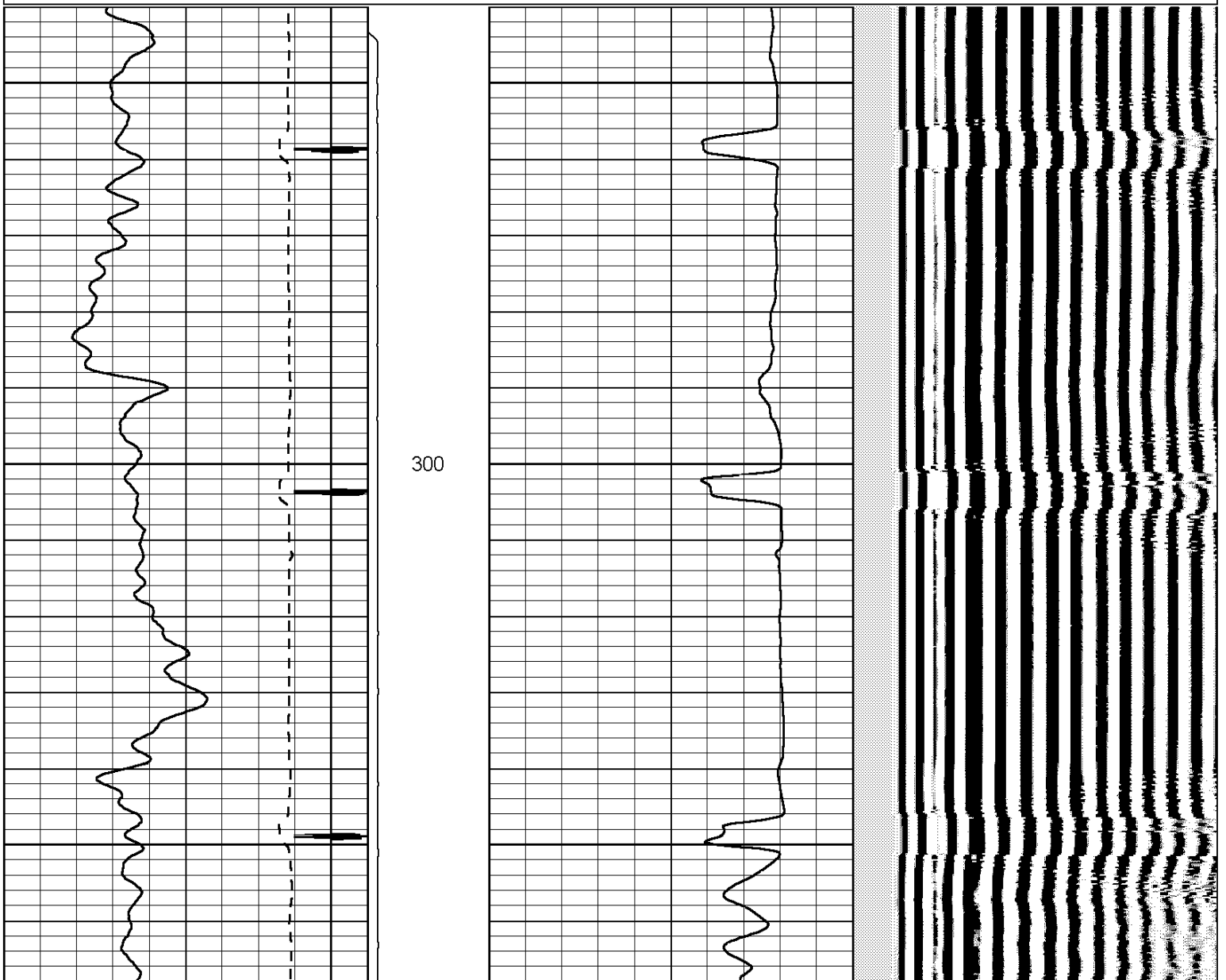
HALLIBURTON

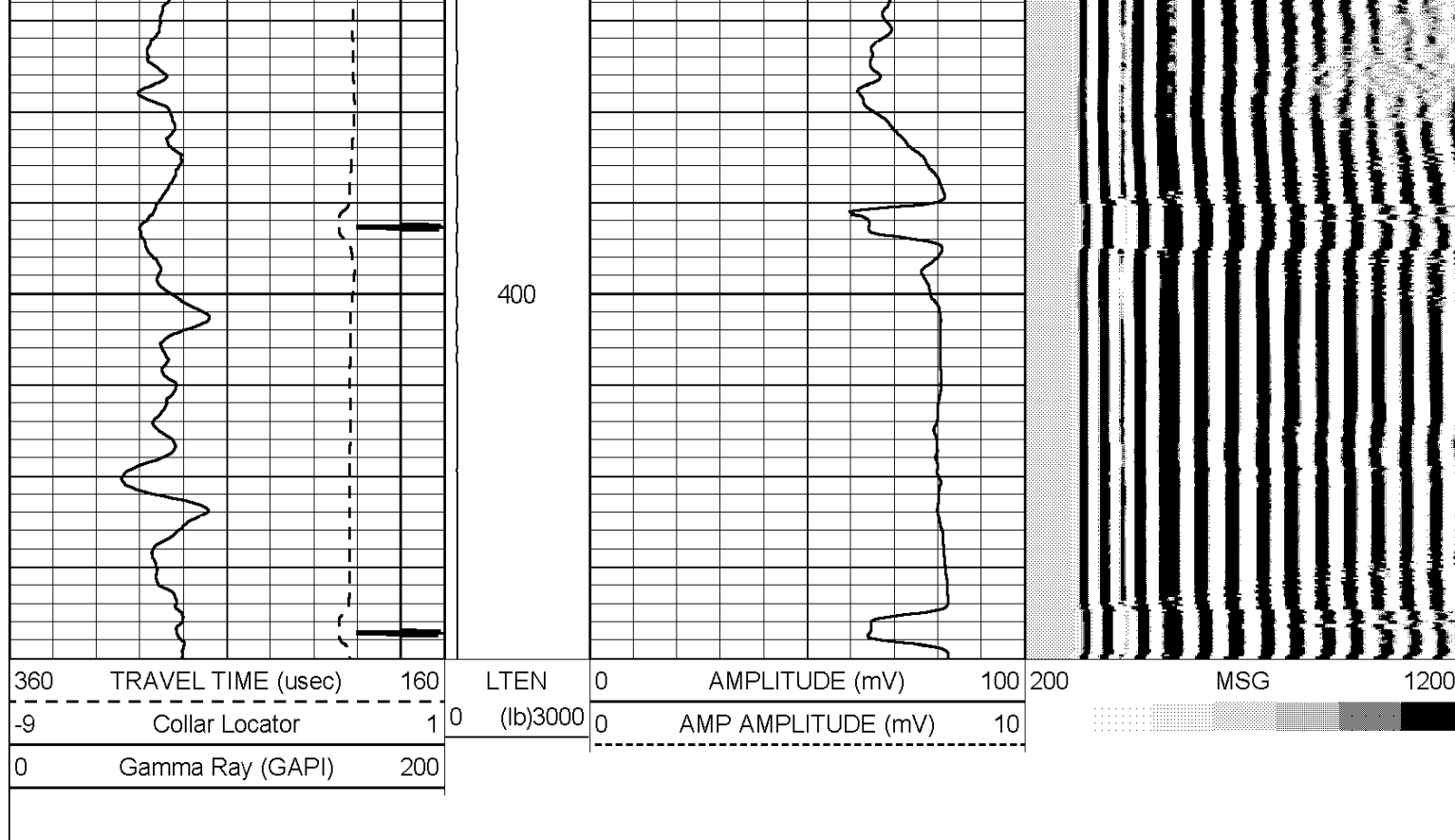
# ACOUSTIC CEMENT BOND LOG

FREE PIPE LOG SECTION  
5" = 100'

Database File: f\_hagen\_6\_22b\_cbl.db  
Dataset Pathname: RULLISON/F\_HAGEN\_6/CBL/pass2  
Presentation Format: cbl\_main  
Dataset Creation: Fri Jul 11 13:06:51 2008 by Log Halliburton Casedho  
Charted by: Depth in Feet scaled 1:240

360	TRAVEL TIME (usec)	160	LTEN	0	AMPLITUDE (mV)	100	200	MSG	1200
-9	Collar Locator	1	0	(lb)3000	0	AMP AMPLITUDE (mV)	10		
0	Gamma Ray (GAPI)	200							





**HALLIBURTON**

## ACOUSTIC CEMENT BOND LOG

FREE PIPE LOG SECTION

5" = 100'

### Calibration Report

Database File: f\_hagen\_6\_22b\_cbl.db  
 Dataset Pathname: RULLISON/F\_HAGEN\_6/CBL/MAIN  
 Dataset Creation: Fri Jul 11 16:12:54 2008

### Gamma Ray Calibration Report

Type / Serial: CBL\_DC / 397

#### SHOP CALIBRATION

Fri Jul 11 12:47:04 2008

Background	Counts/Sec.	Gain	Offset	Jig	Units
Calibrator	167.7				cps
	560.0				cps
		0.5404			GAPI/cps

#### PRIMARY VERIFICATION

Fri Jul 11 12:49:45 2008

Background	69.8				cps
Calibrator	282.7				cps
Difference				212.9	GAPI

#### BEFORE SURVEY VERIFICATION

Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI

#### AFTER SURVEY VERIFICATION

Background	0.0				cps
Calibrator	0.0				cps

Calibrator	0.0	0.0	0.0
Difference			GAPI

### Segmented Cement Bond Log Calibration Report

Serial Number:	397	
Tool Model:	CBL_DC	
Calibration Casing Diameter:	4.500	in
Calibration Depth:	345.280	ft

Master Calibration, performed Fri Jul 11 13:05:30 2008:



	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	-0.024	0.971	2.000	82.000	80.402	3.899
CAL						
5'	0.003	0.768	2.000	82.000	104.578	1.709

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

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL						

Air Zero Calibration, performed Sun Jul 06 18:24:46 2008:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Offset	
3'	0.000		0.000		0.000	
5'	0.000		0.000		0.000	

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
CCL	17.38		STNDRD Standard Cable Head - F.N. 1 3/8"	1.15	1.44	1.10
			CBL_DC	1.92	3.25	5.00
GR	15.21					

				CBT_CBL_DC-CBL_DC (397) G-Type 3 1/4" Standard CBL TOOL	16.17	3.25	200.00
WVF3FT	8.96						
WVF5FT	7.96						
WVFSYNC	2.88						
				Probe_275 Probe 2 3/4 Centralizer	2.88	2.75	20.00
LLMTEN	0.00						
Dataset: f_hagen_6_22b_cbl.db: RULLISON/F_HAGEN_6/CBL/MAIN Total Length: 22.11 ft Total Weight: 226.10 lb O.D. 3.25 in							

Company	LARAMIE II			State	COLORADO		
Well	FURR-HAGEN 6-22B						
Field	PARACHUTE						
County	GARFIELD						
HALLIBURTON				ACOUSTIC CEMENT BOND LOG			