



Cement Bond Log  
Gamma Ray / CCL

Baker Atlas

File No: 551561	Company Well Field County	COLORADO INTERSTATE GAS FLANK #21 FLANK BACA	State COLORADO
API No: 05-009-05080			

Location 1170' FEL & 1320' FSL	Other Services MICROVERTILOG GAMMA RAY/NEUTRON
SEC 31 TWP 33S RGE 42W	

Permanent Datum	G.L.	Elevation	3836 ft
Log Measured From	G.L.	0 ft	Above P. D.
Drill Measured From	GROUND LEVEL		

Date	28 JANUARY 2011
Run	ONE
Service Order	551561
Depth Driller	4239 ft
Depth Logger	4034 ft
Bottom Logged Interval	4034 ft
Top Logged Interval	0 ft
Time Started	12:30
Time Finished	16:30
Operator Rig Time	4 HOURS
Type of Fluid in Hole	WATER
Fluid Density	8.34 lbm/gal
Salinity	N/A
Fluid Level	FULL
Logged Cement Top	711 ft
Wellhead Pressure	0 psi
Maximum Hole Deviation	N/A
Nominal Logging Speed	30 fpm
Maximum Recorded Temperature	N/A
Reference Log	GAMMA RAY/NEUTRON
Reference Log Date	20 AUGUST 1981
Equipment No.	4247
Location	WWD, OK
Recorded By	ED NORBURY
Witnessed By	MR. SYD KRAALER

- FOLD HERE

In making Interpretations of logs, our employees will give the customer the benefit of their best judgement. But since all Interpretations are opinions based on Inferences from electrical or other measurements, we cannot, and we do not guarantee the accuracy or correctness of any Interpretation. We shall not be liable or responsible for any loss, cost, damages, or expenses whatsoever incurred or sustained by the customer resulting from any Interpretation made by any of our employees.

Borehole Record		
Bit Size	From	To
12.25 in	0 ft	1499 ft
7.875 in	1499 ft	4790 ft

Casing Record				
Size	Weight	Grade	From	To
8.625 in	24 lbm/ft	J-55	0 ft	1485 ft
2.875 in	6.5 lbm/ft	J-55	0 ft	4239 ft

Remarks
LOG RECORDED ON TRUE WIRELINE DEPTH FROM GROUND LEVEL
LOG RECORDED AS PER CUSTOMER REQUEST.
ESTIMATED TOP OF CEMENT RECORDED AT 711 FT.

Equipment Data					
Run	Trip	Tool	Series Number	Serial Number	Position
1	1	WDL	41627X4	40730070	CENTRALIZED

MAIN PASS  
RECORDED AT 0 PSI

## DEPTH OFFSETS

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-17.580	ACAL	ANR	AR1	AR2	AR3	AR4
		AR5	AR6	AR7	AR8	CHV	FPR2
		FPR3	FPR5	TT3	TTR1	TTR2	TTR3
		TTR4	TTR5	TTR6	TTR7	TTR8	XAMP
1426XA	-16.580	AFAR	SIG	TT5			
2460XA	-7.710	CCL					
2460XA	-5.420	GR					
2460XA	-3.660	NEU					

Created by : RAL, v4.8.008

Plotted by : PlotMgr, v5.4.504

Company : COLORADO INTERSTATE GAS

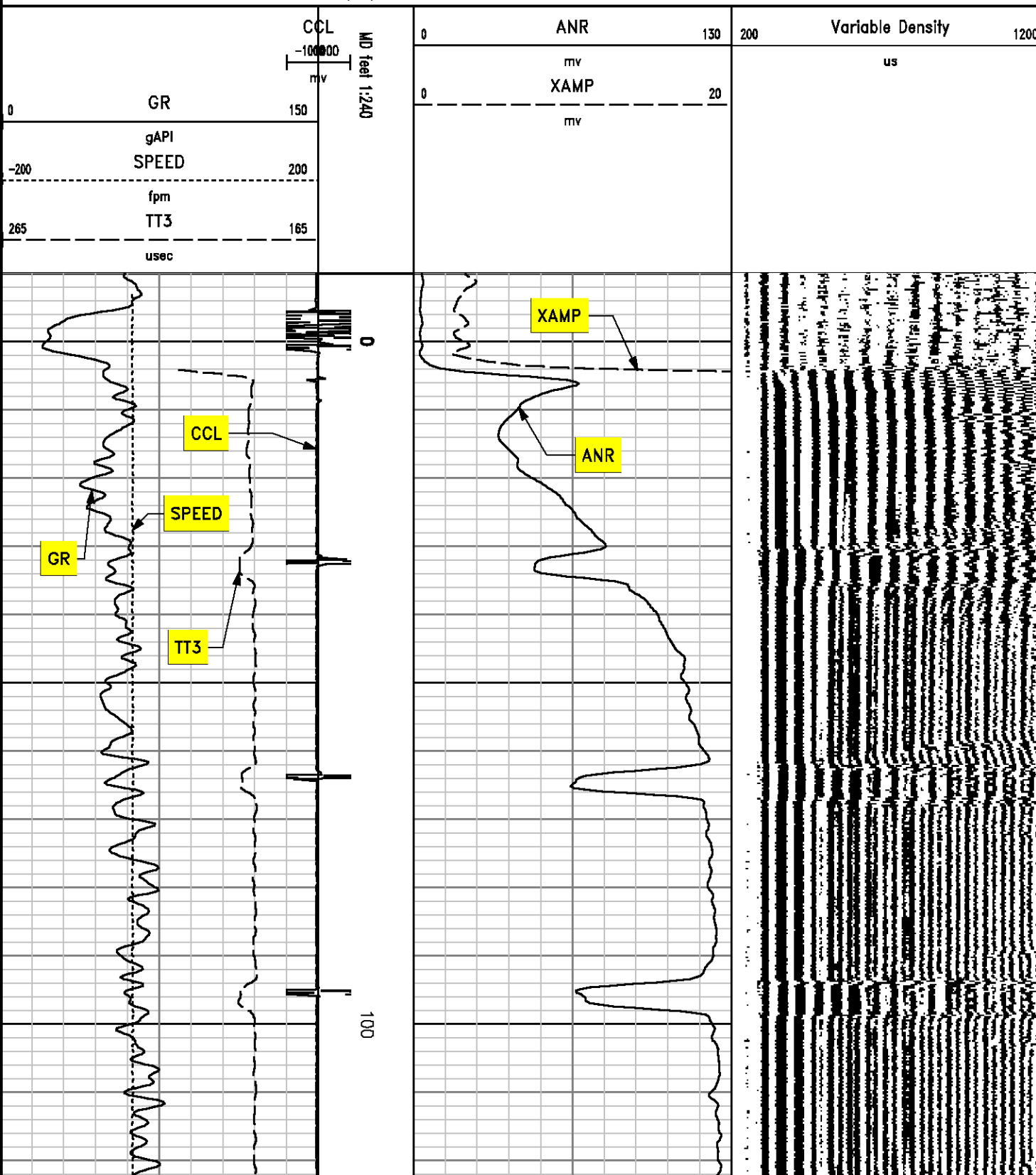
Well : FLANK #21

File Name : c:\welldata\cb1561\main.xtf

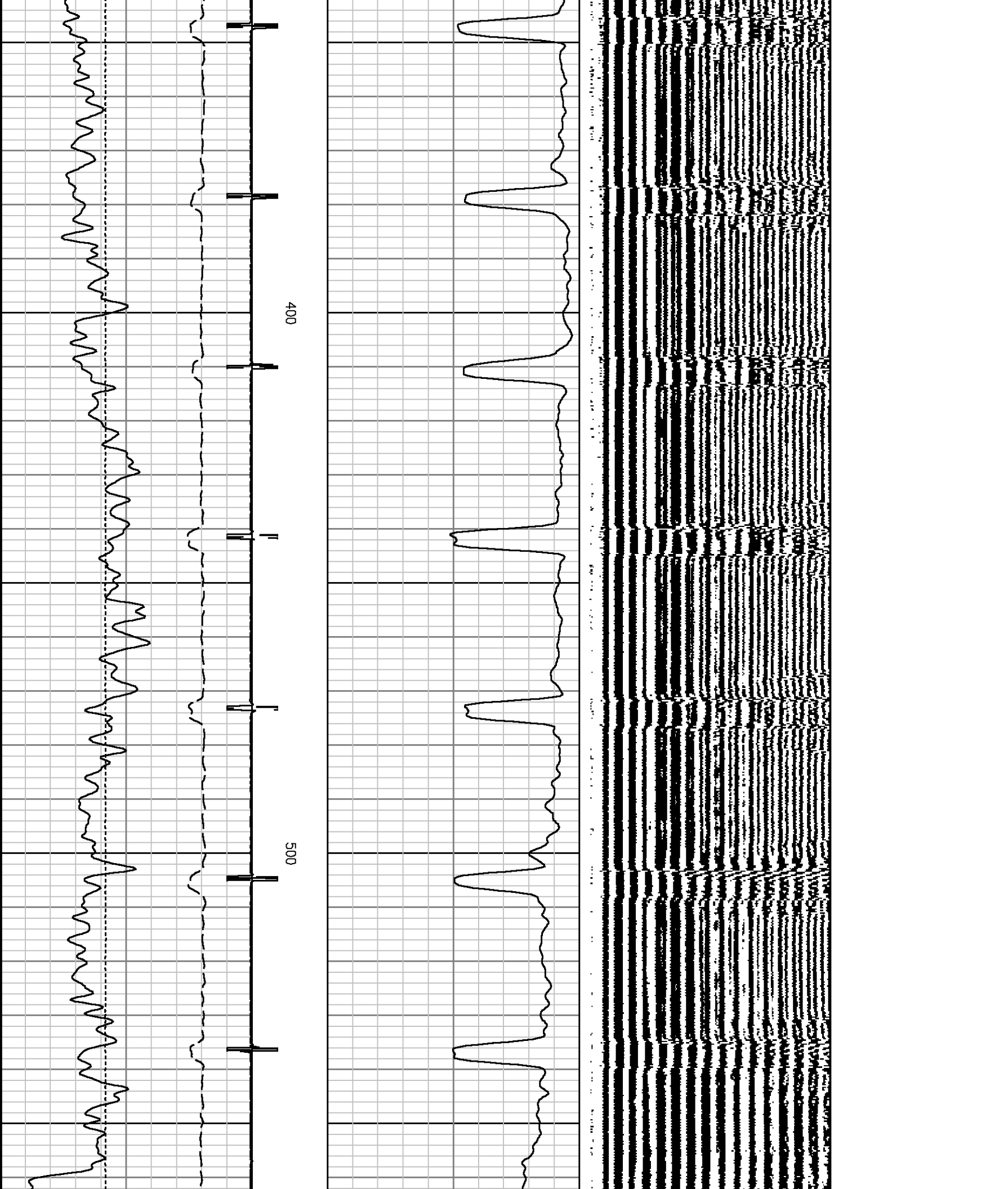
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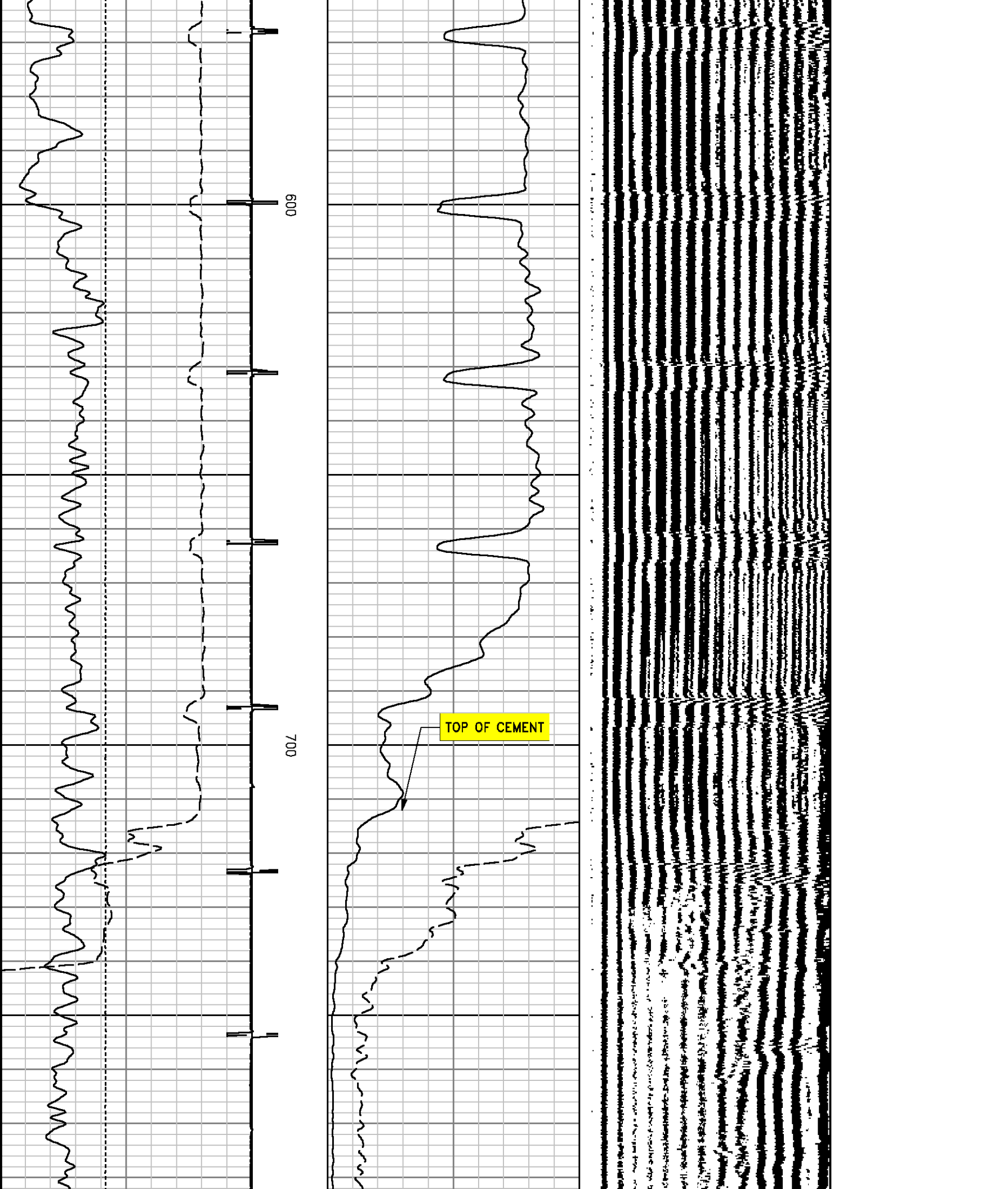
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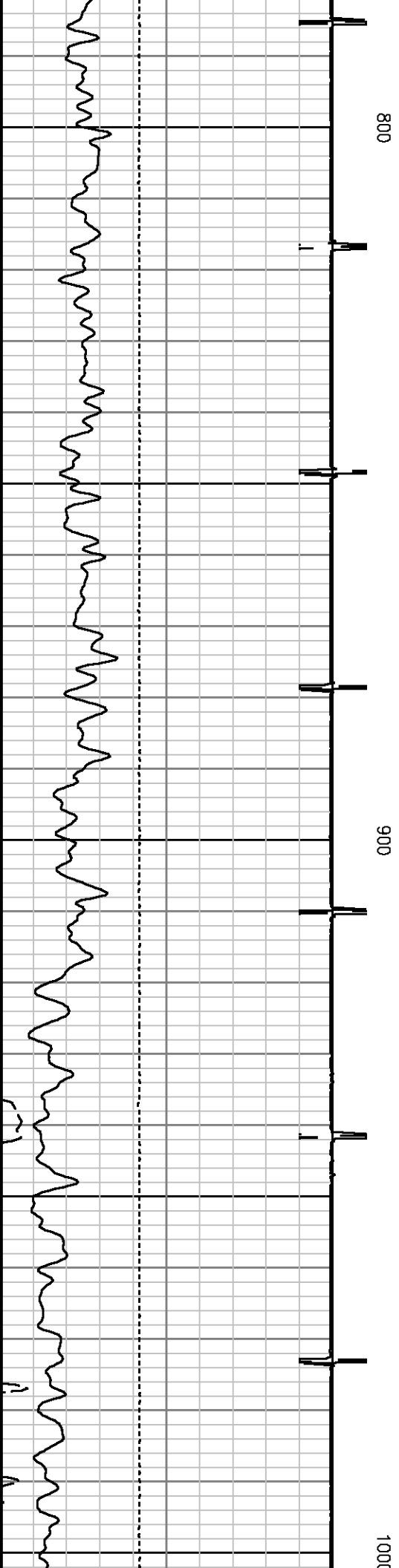
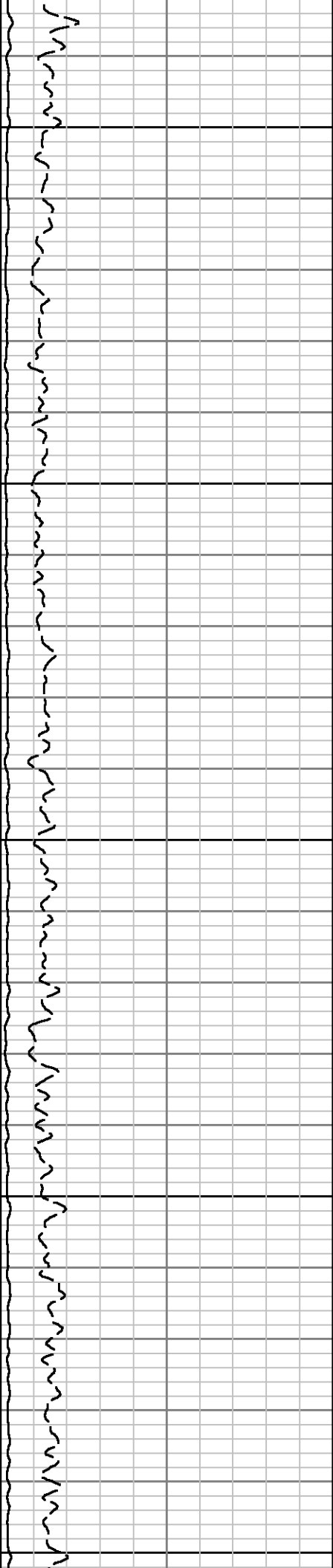
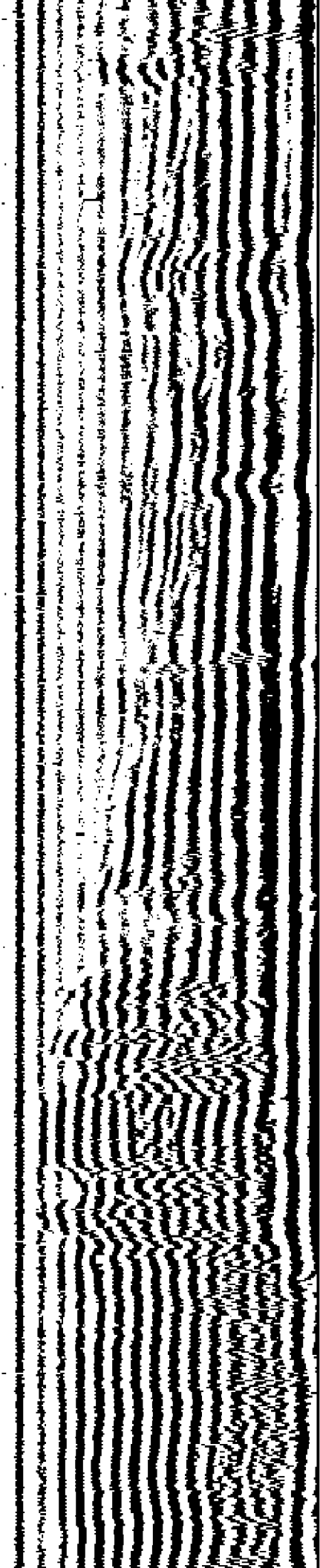
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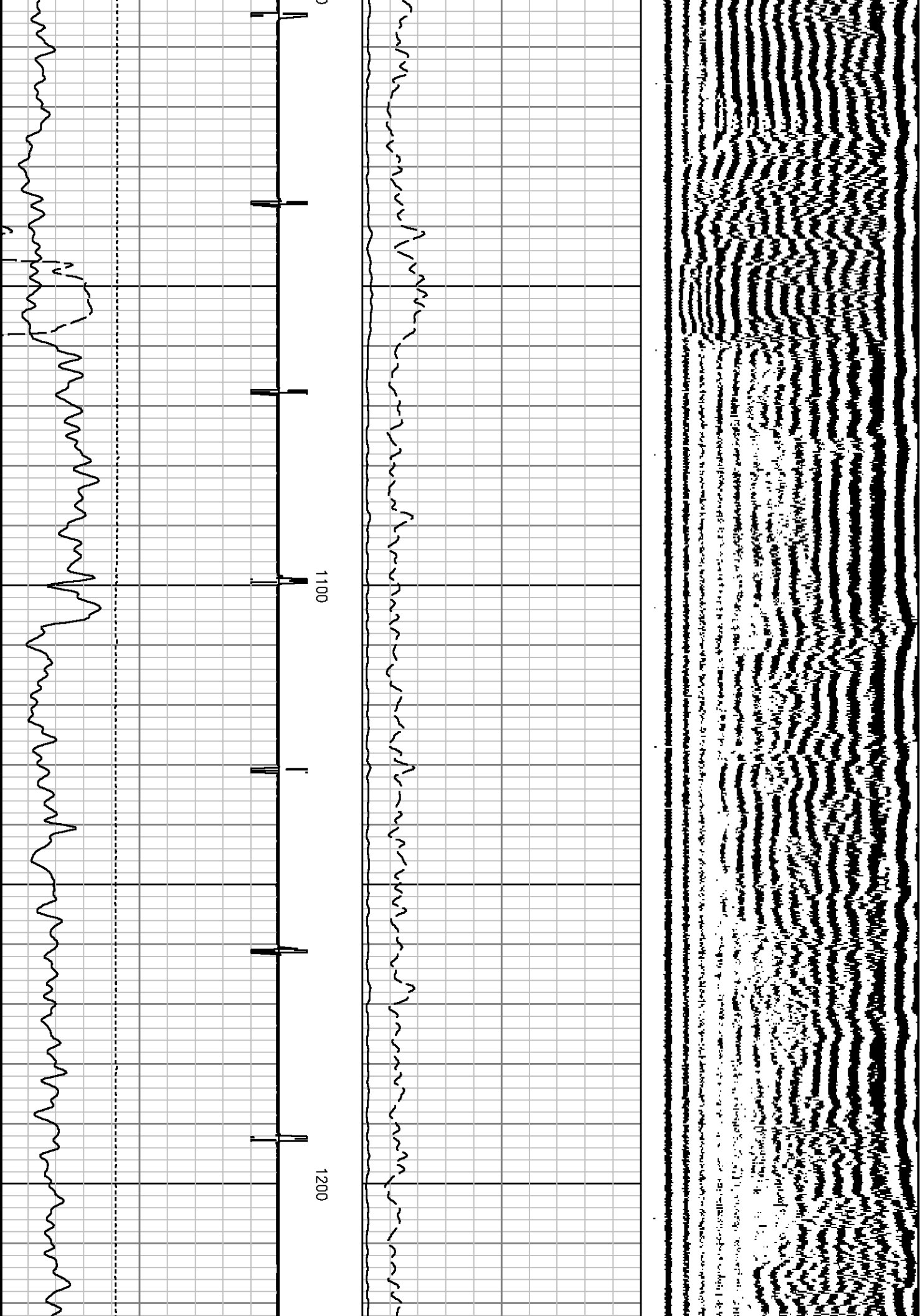




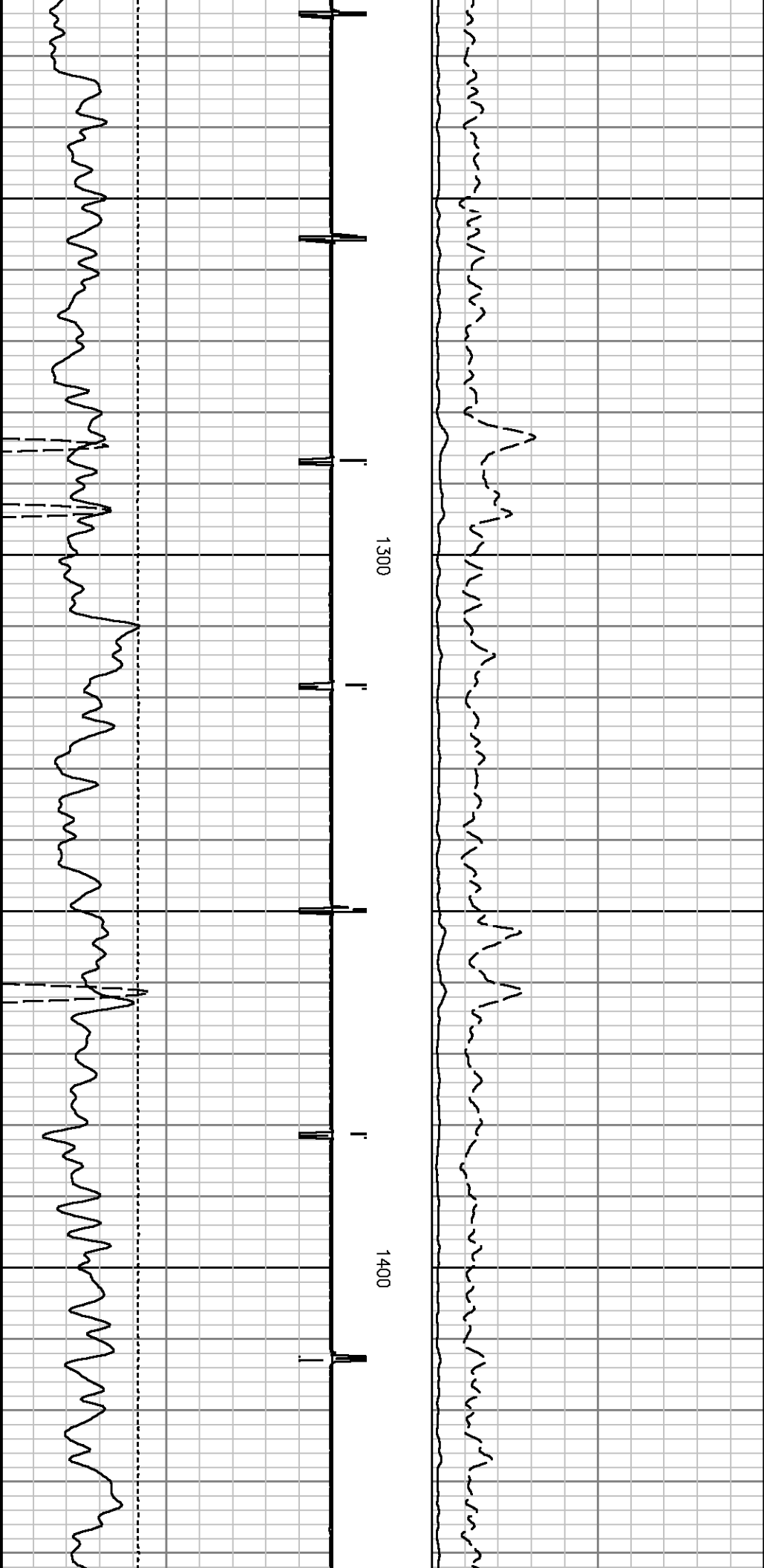
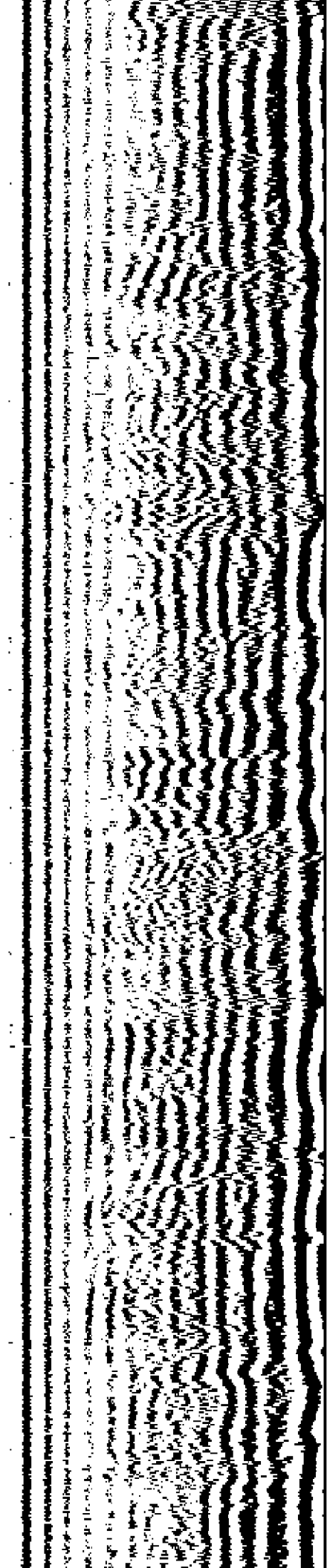


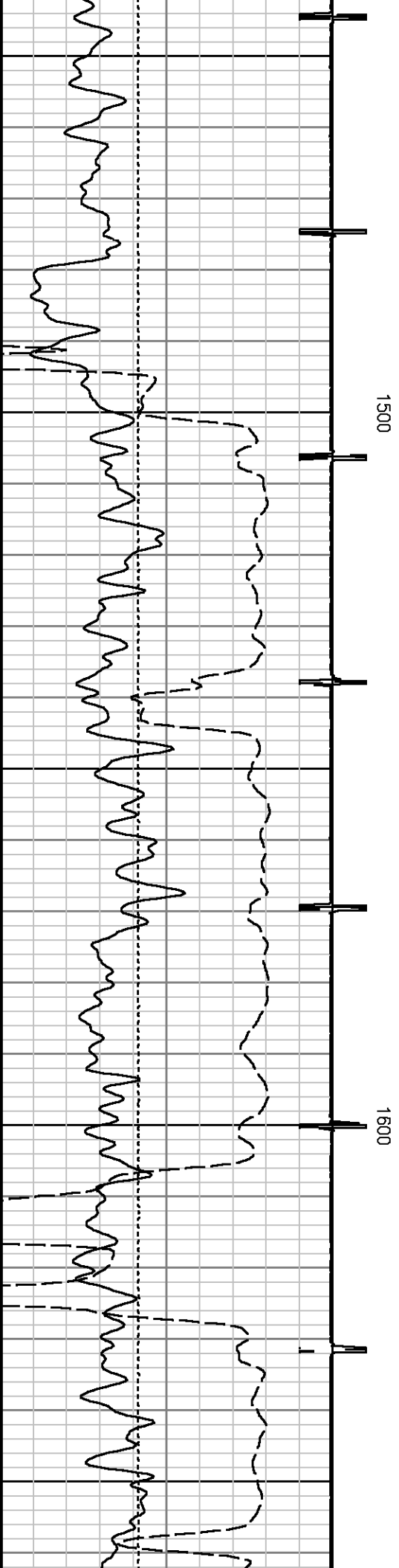
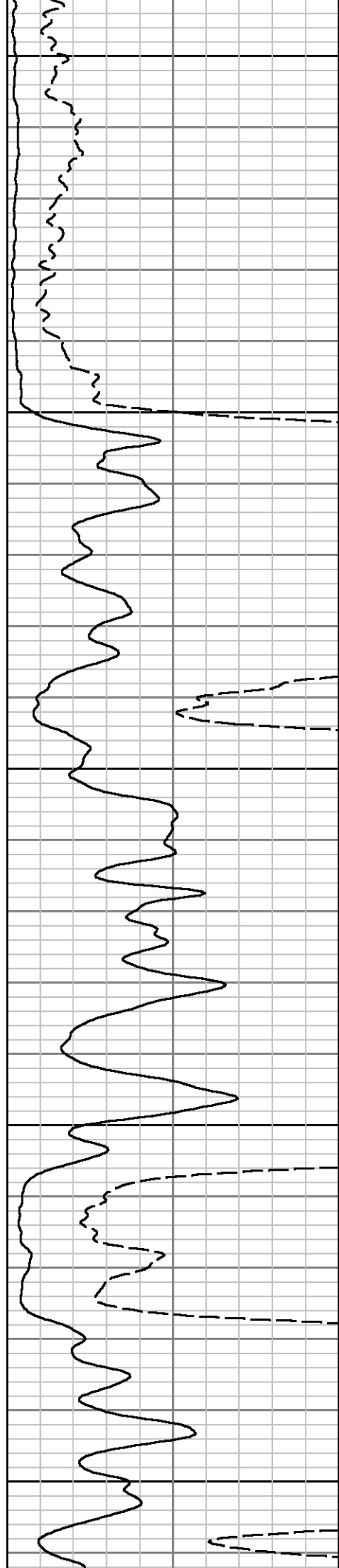
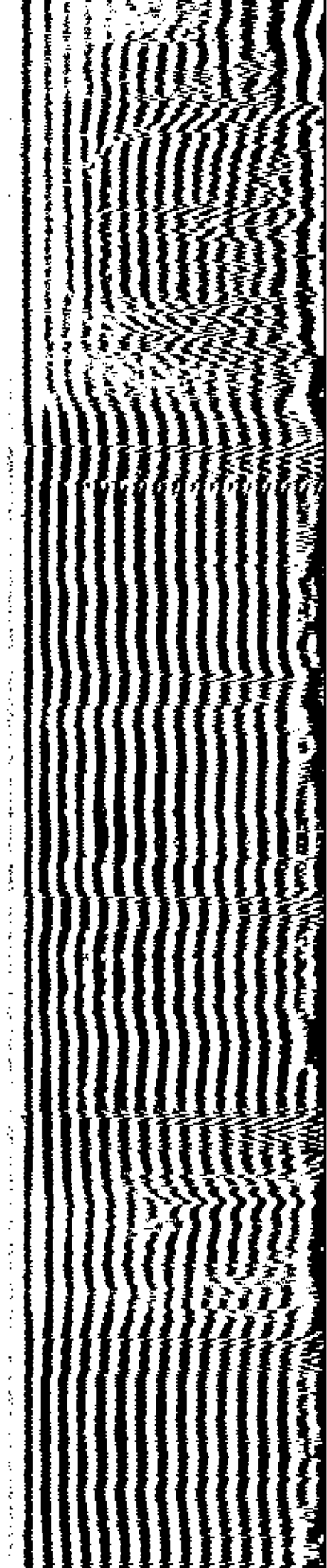


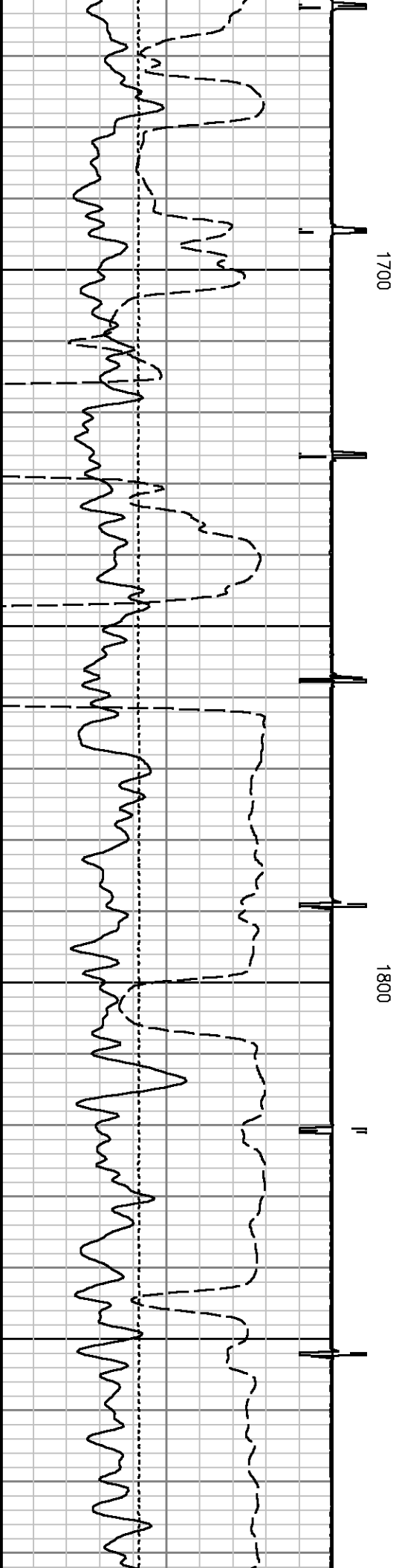
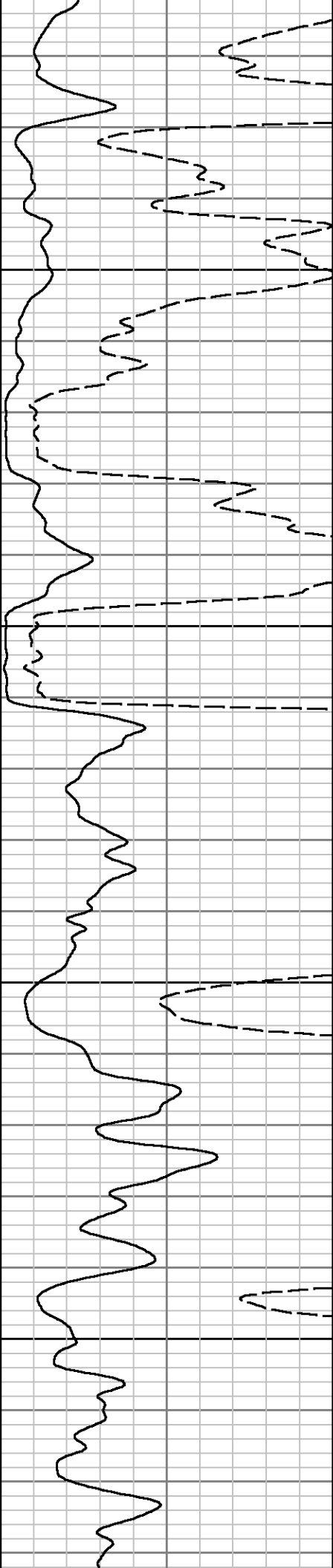
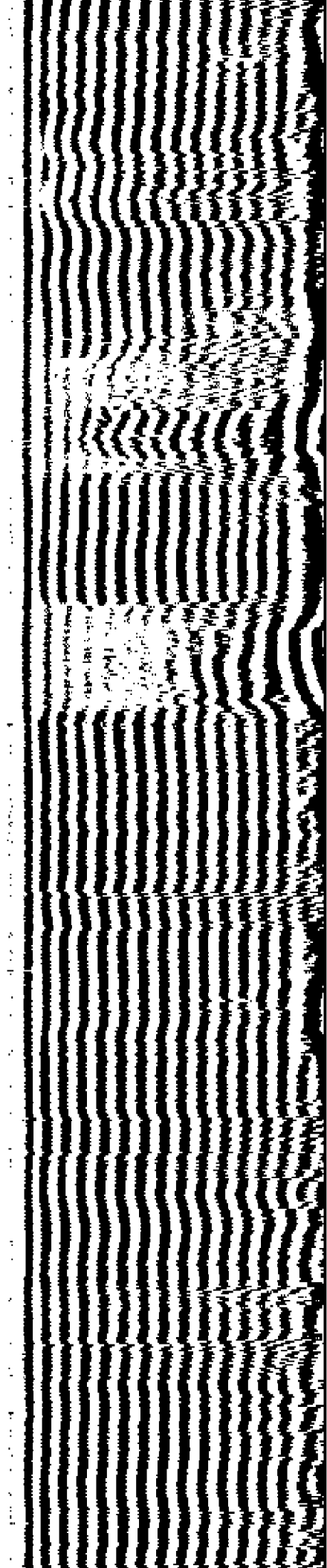


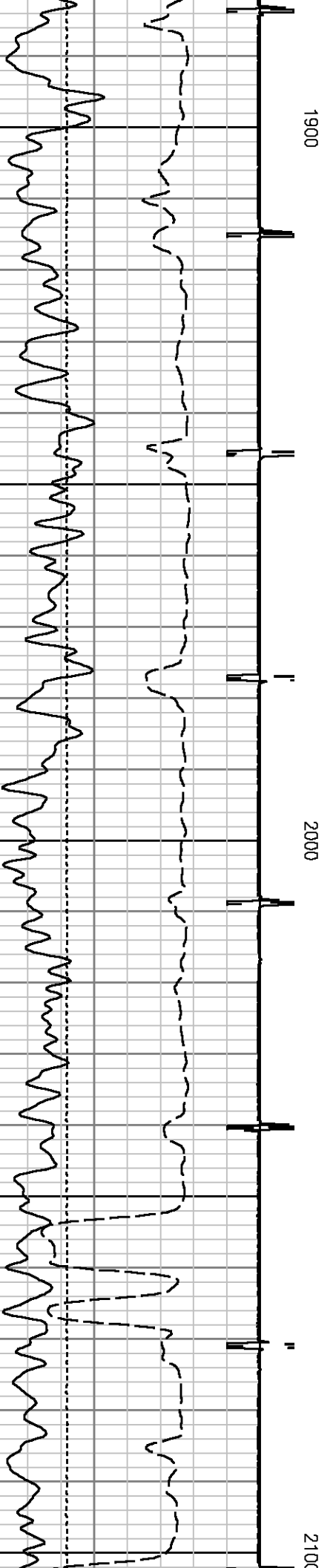
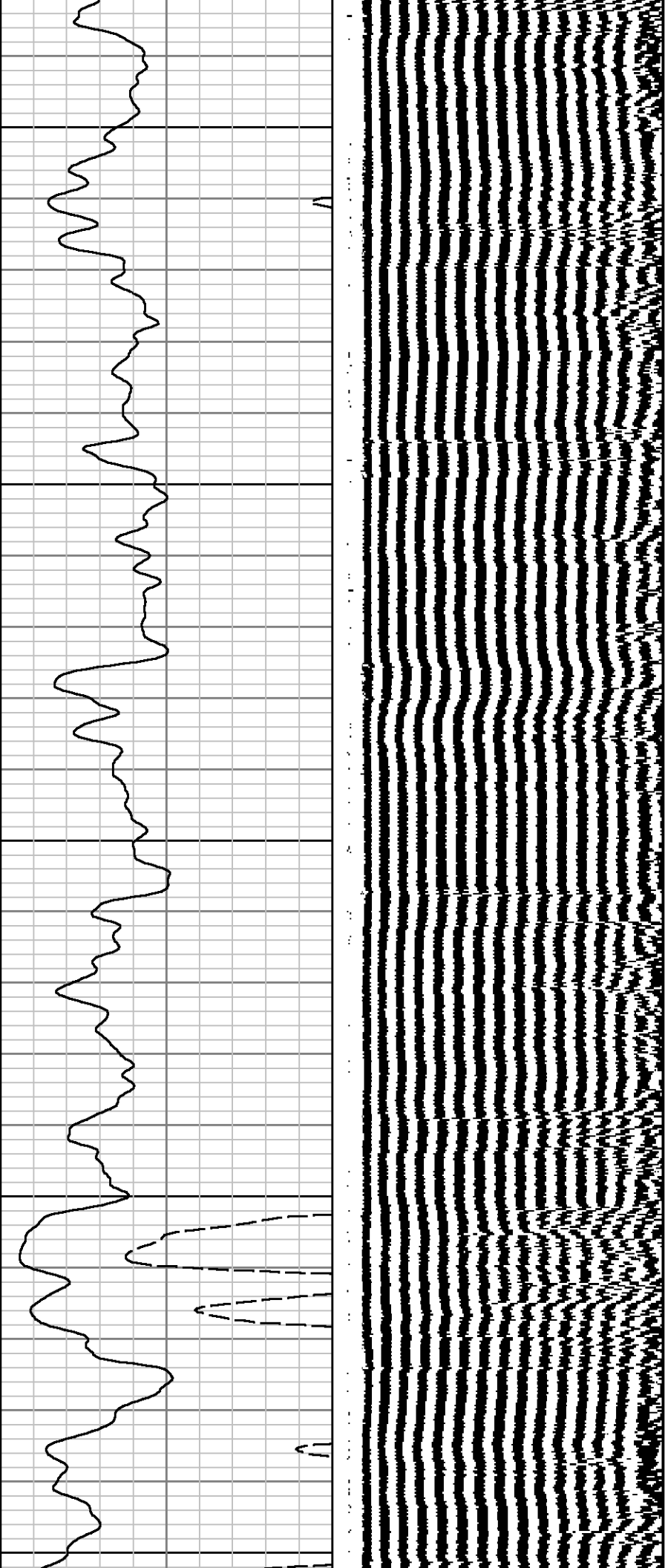


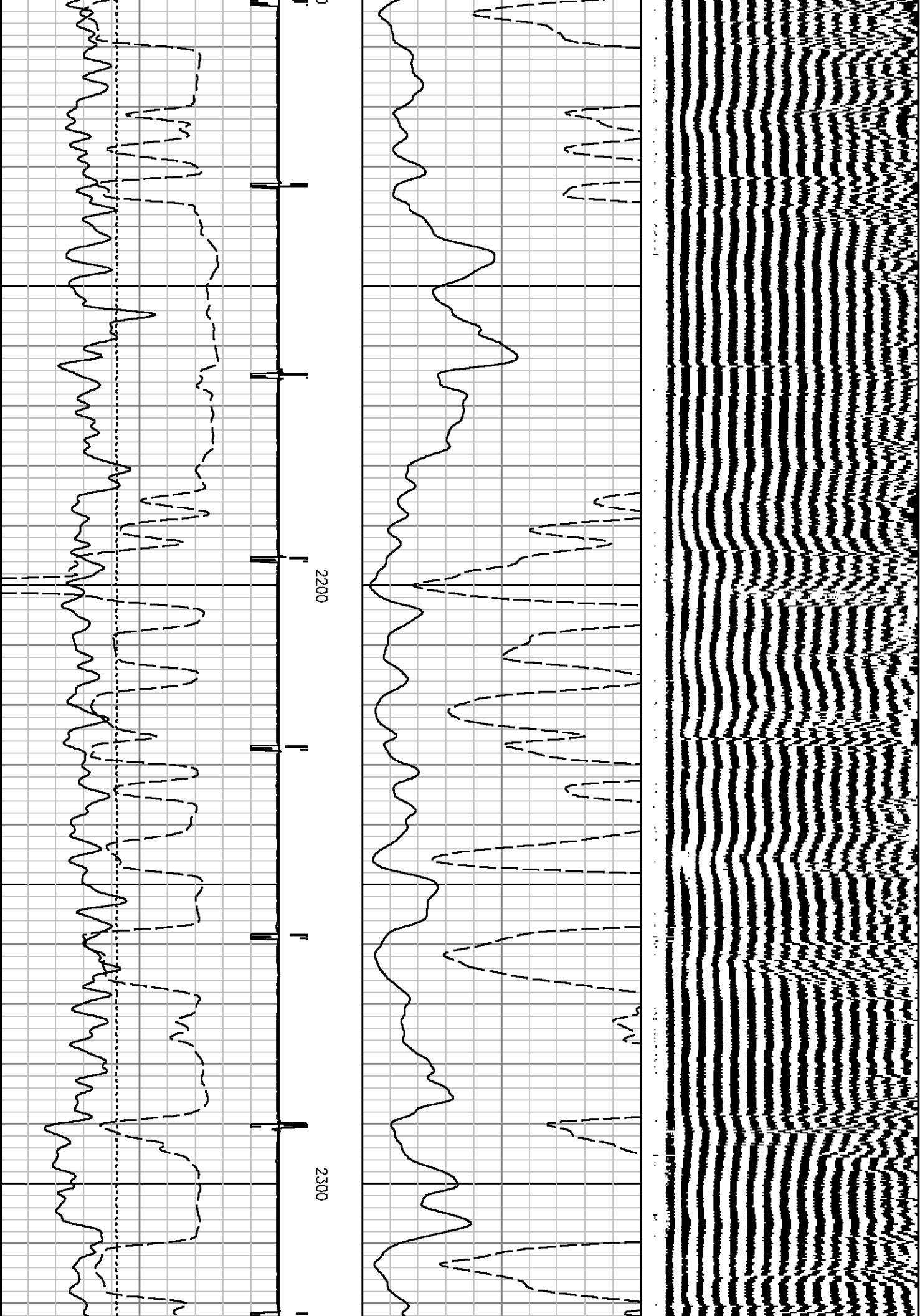


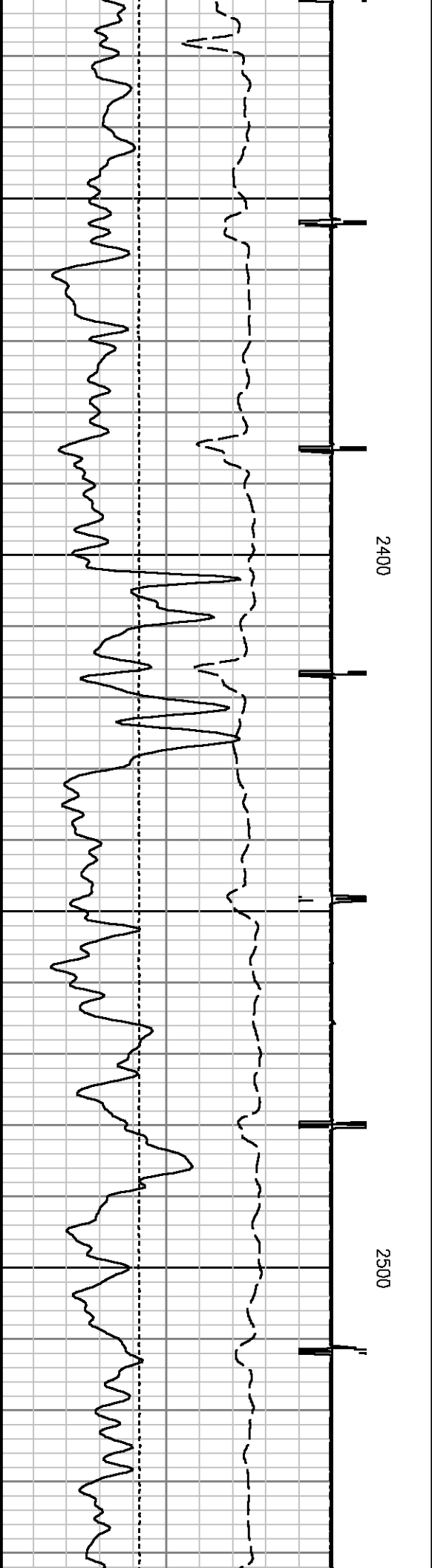
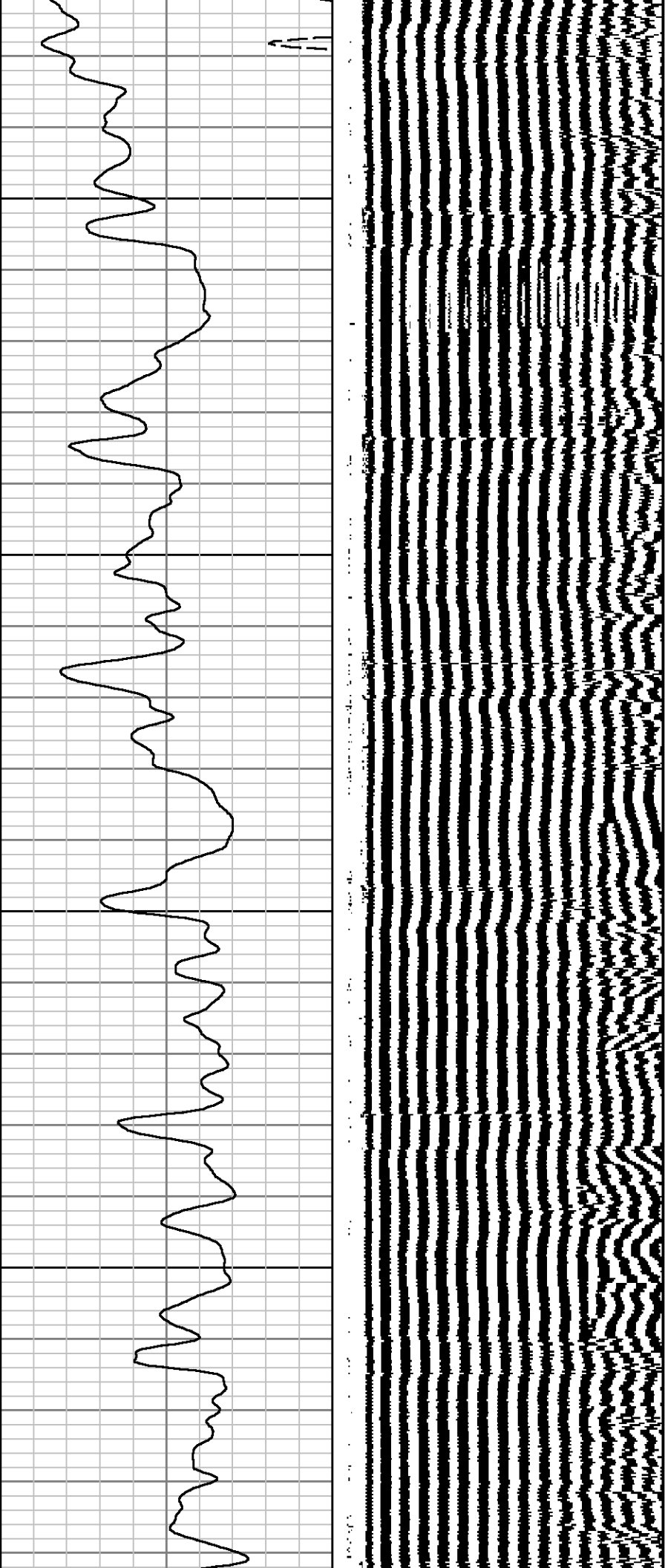


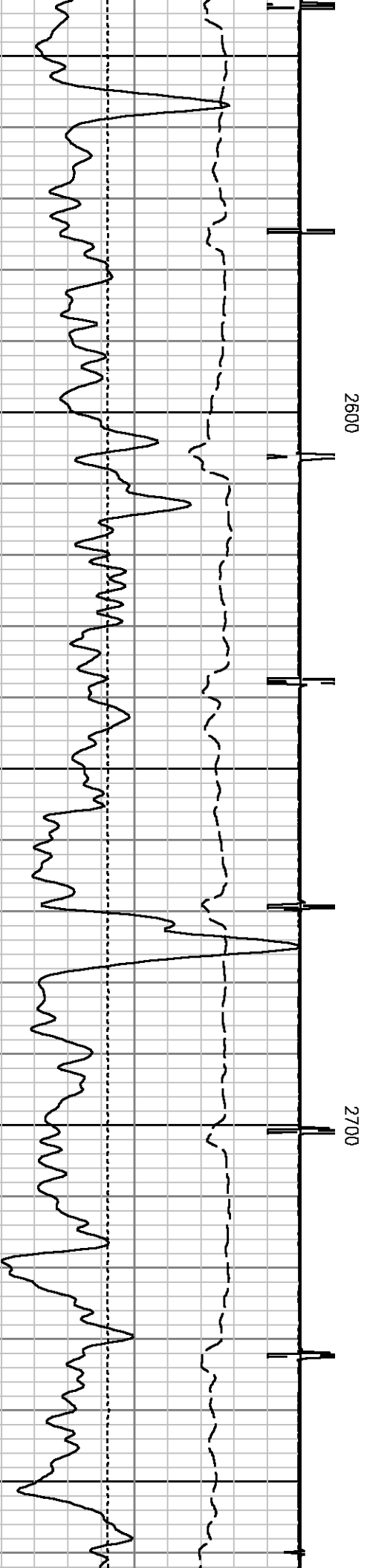
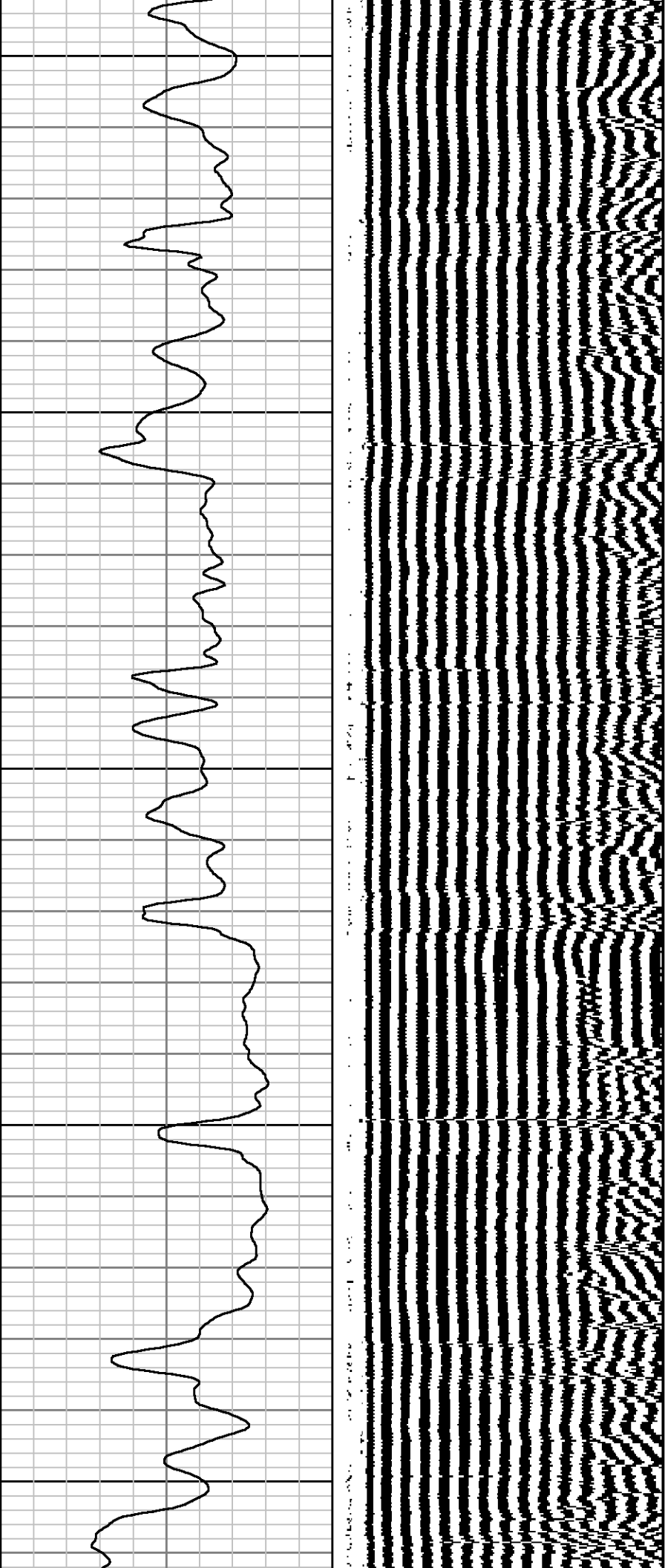


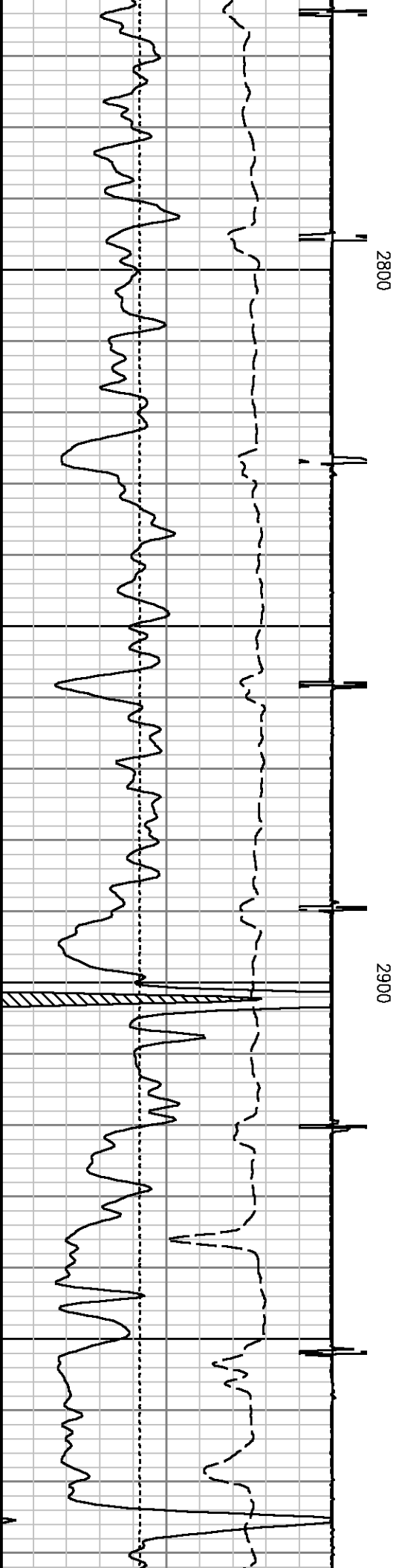
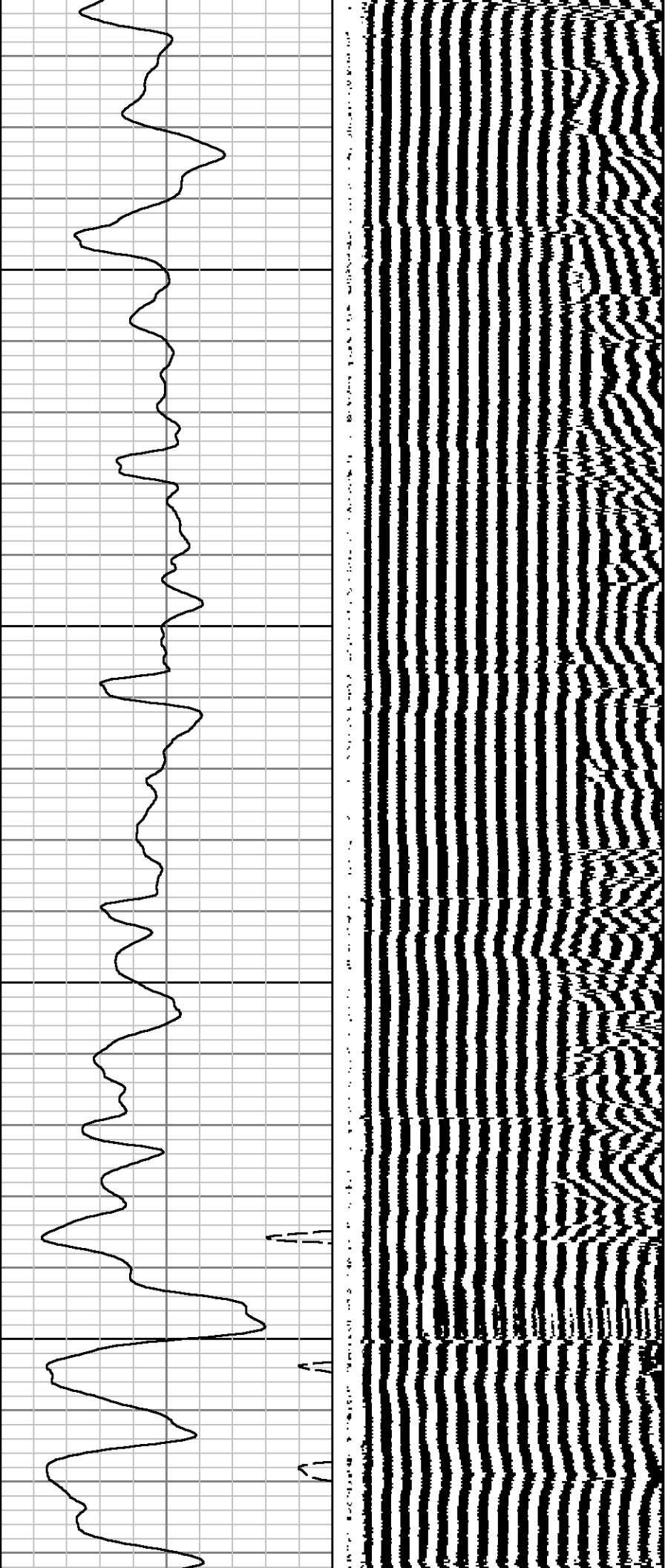




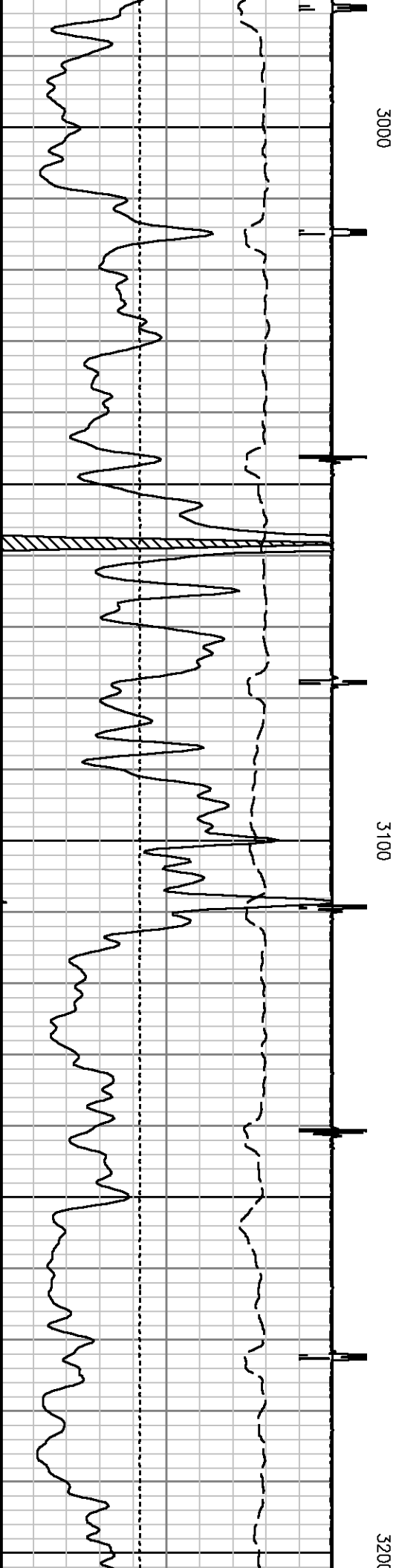
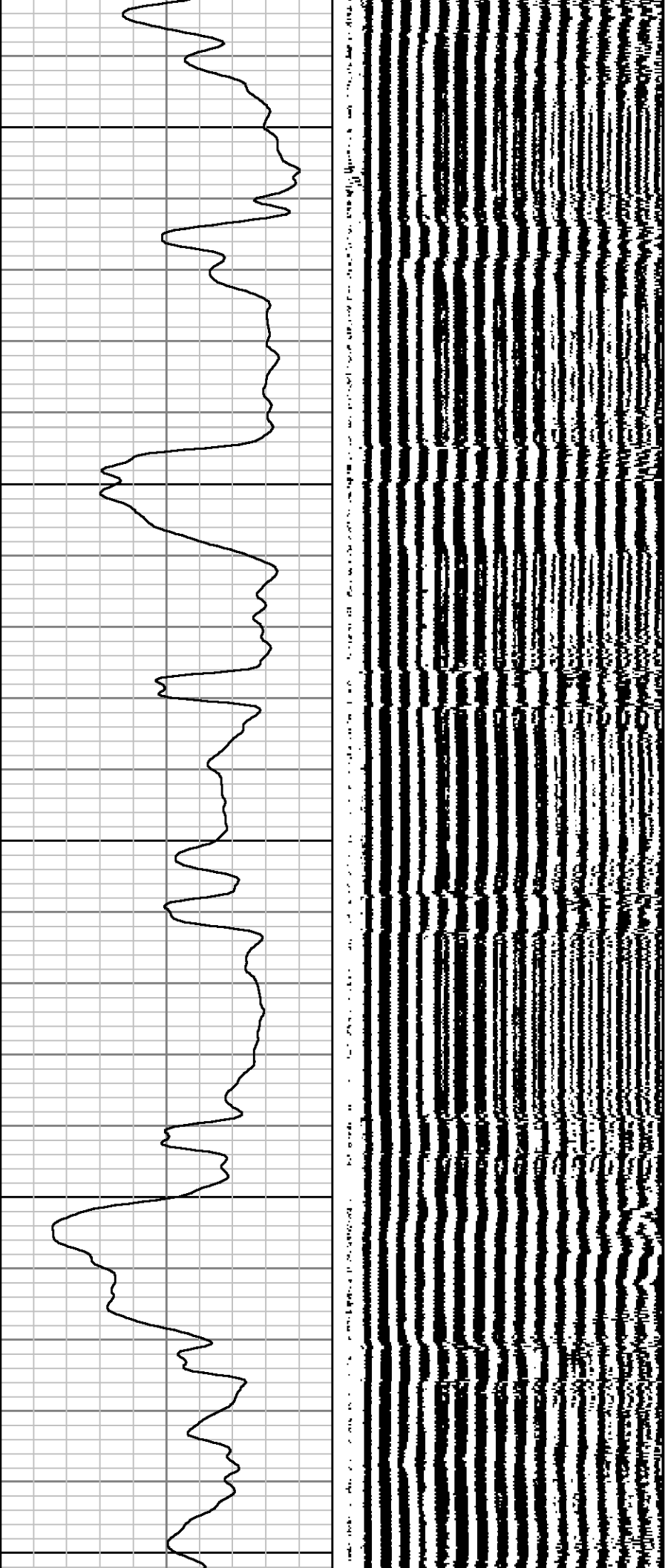


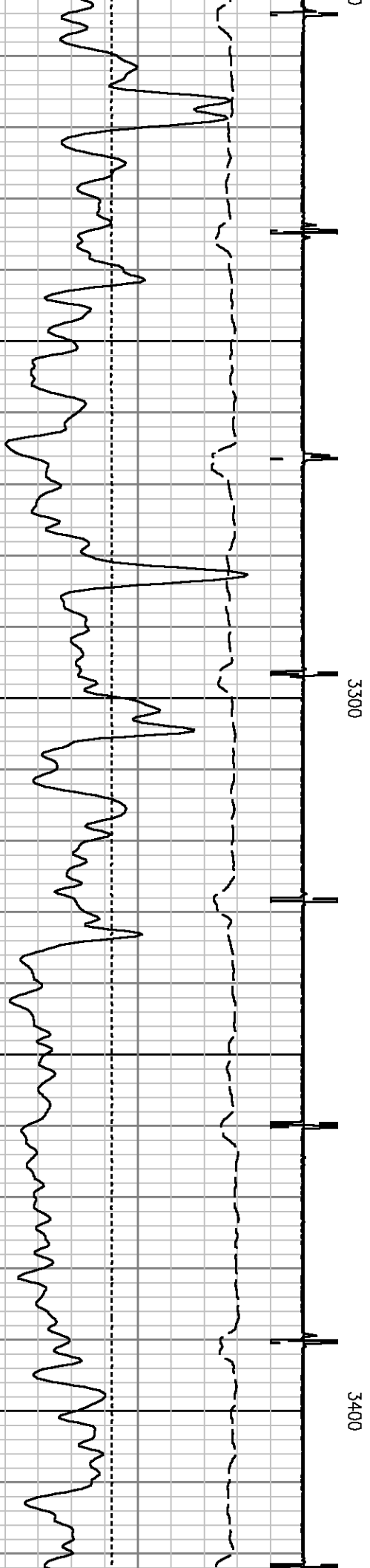
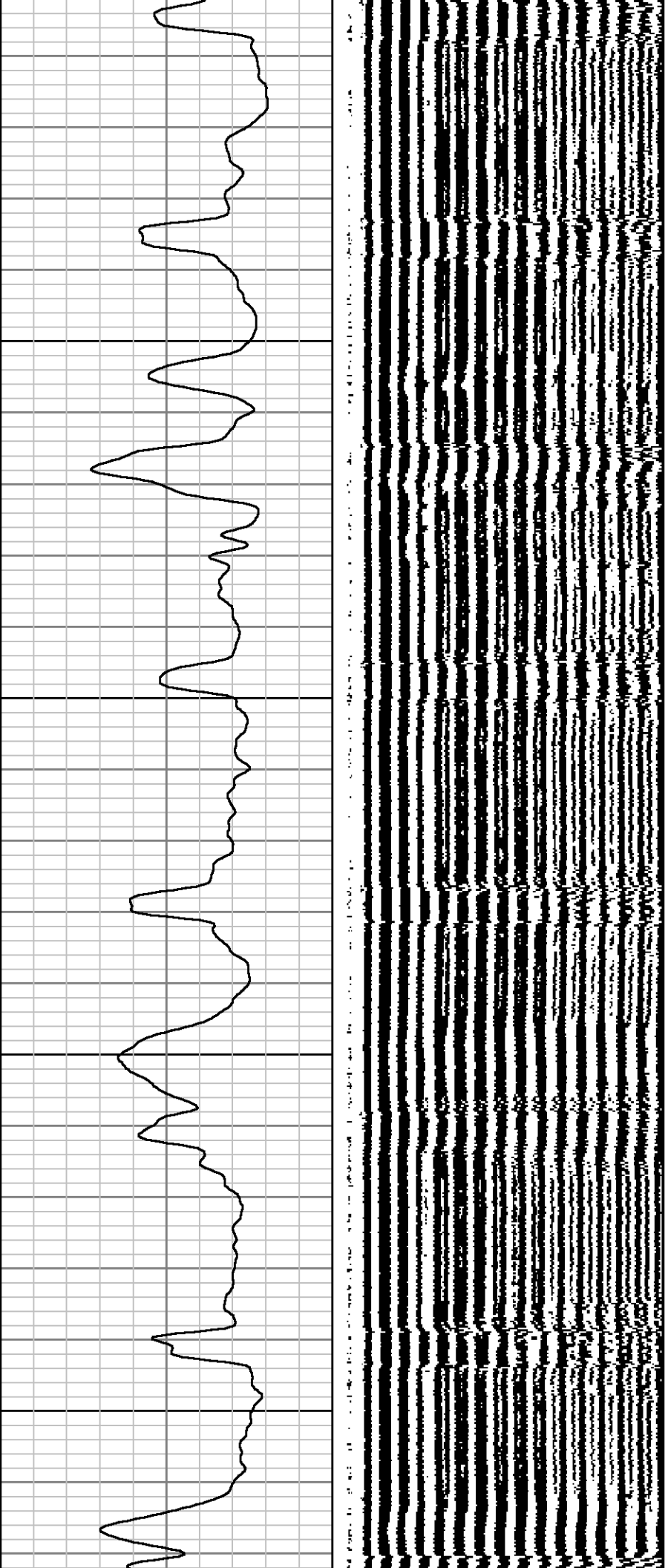


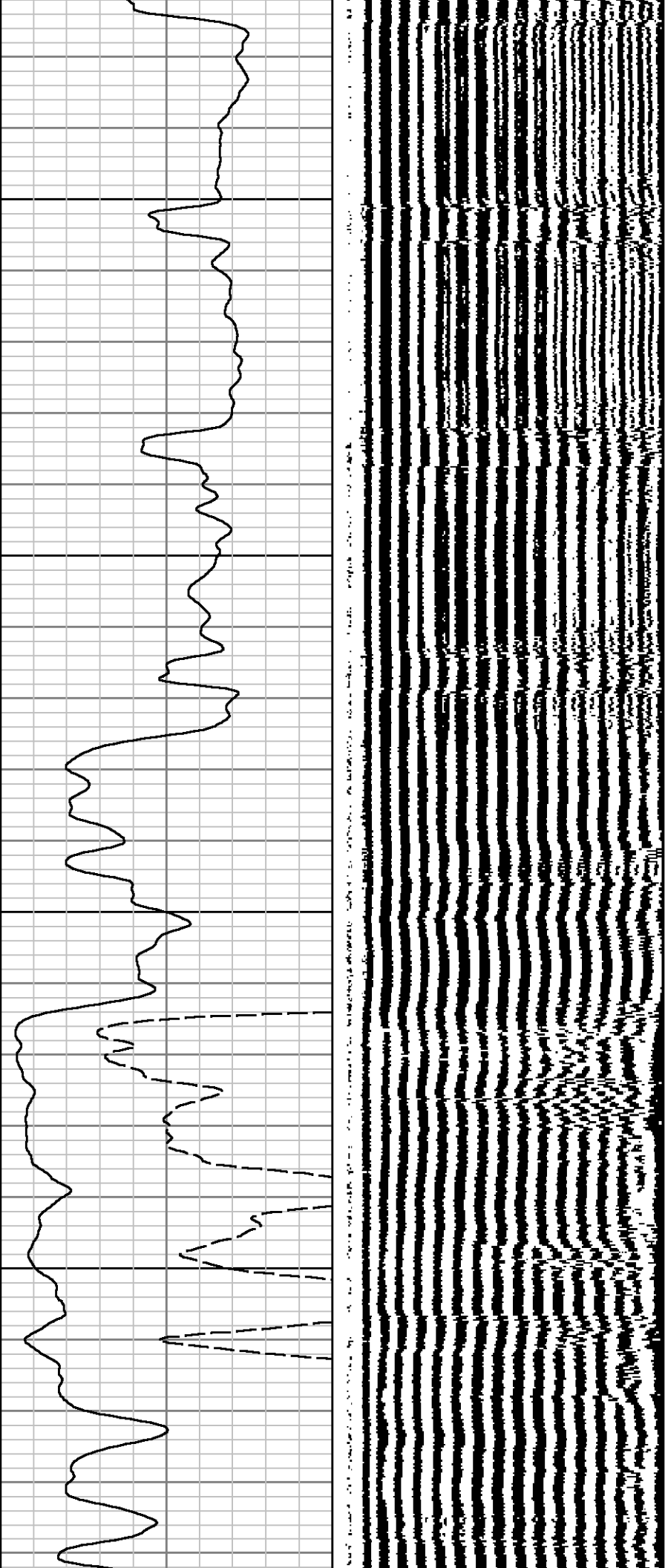






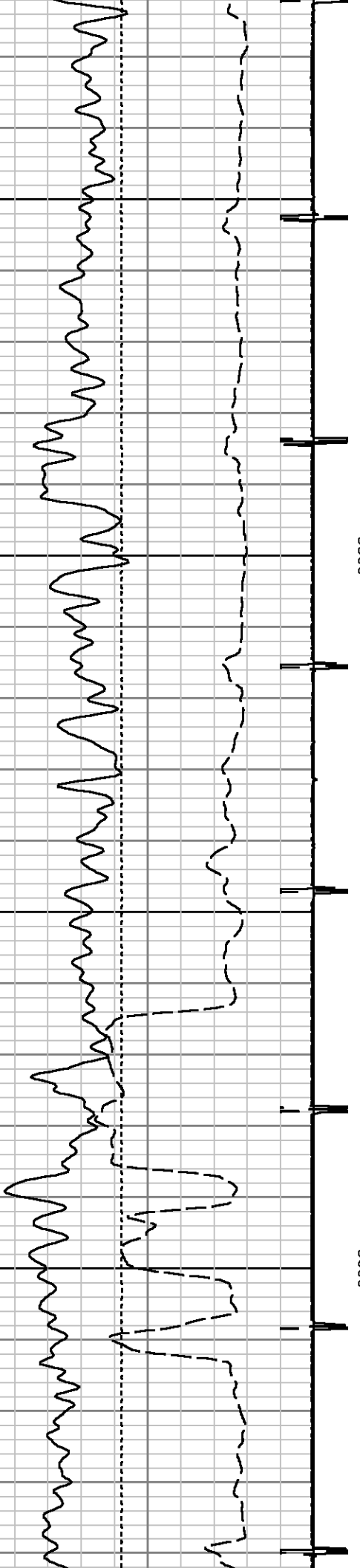


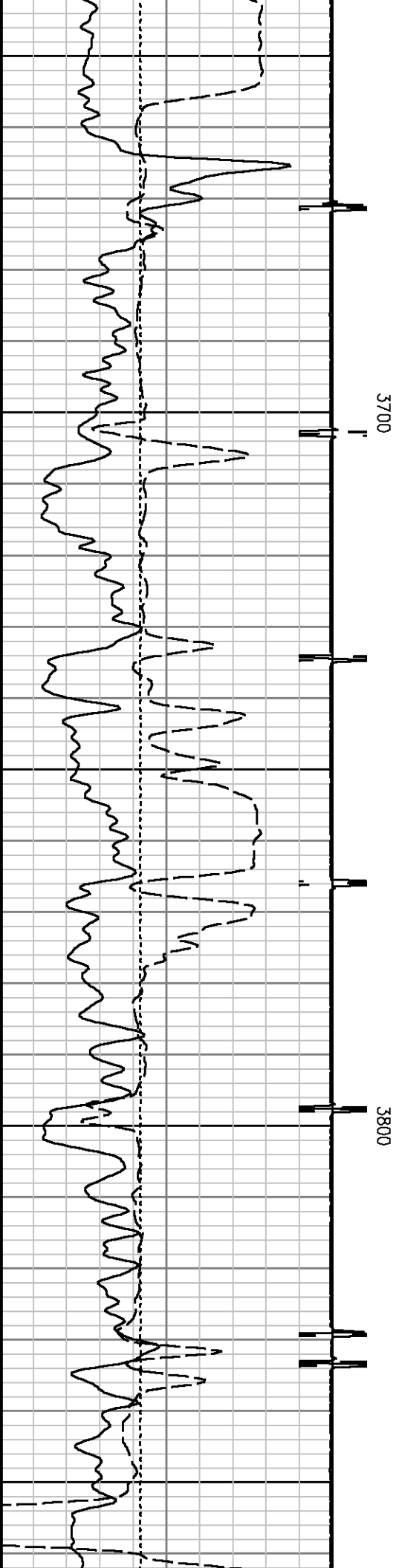
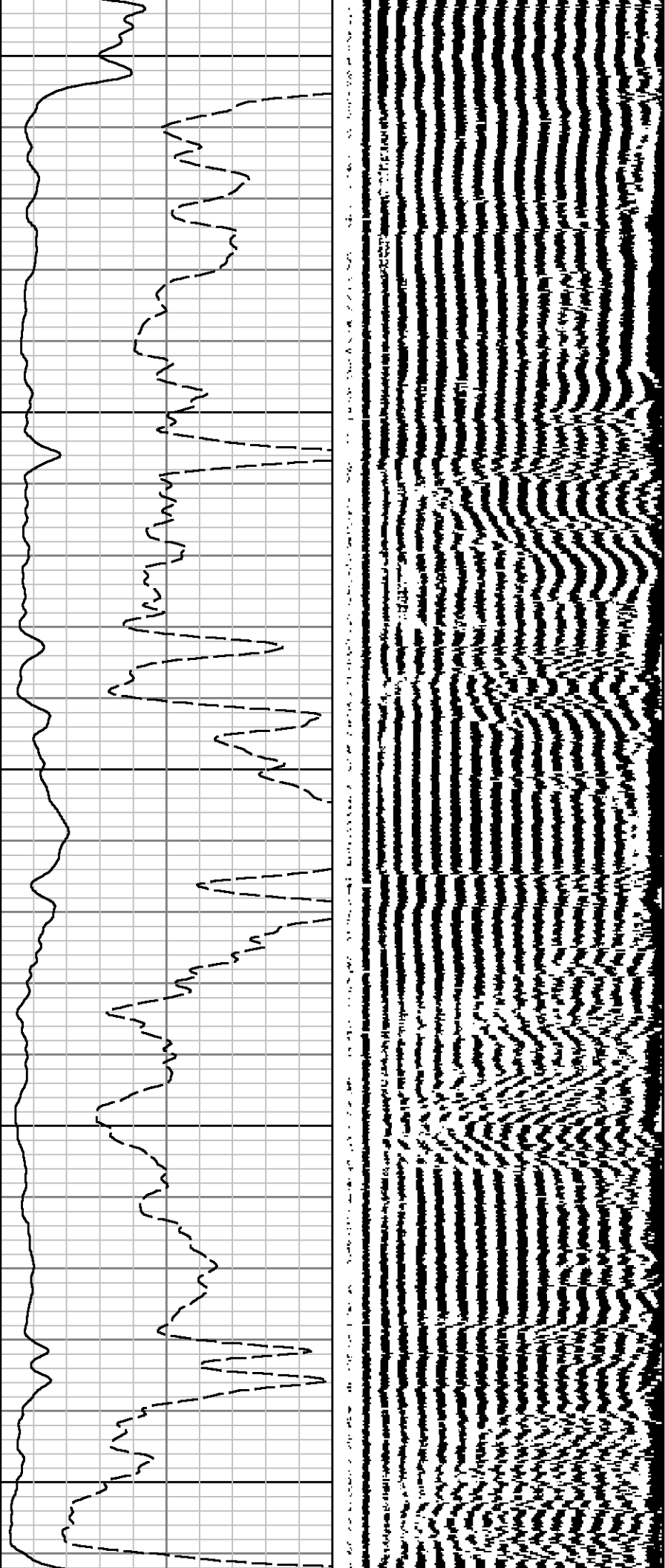


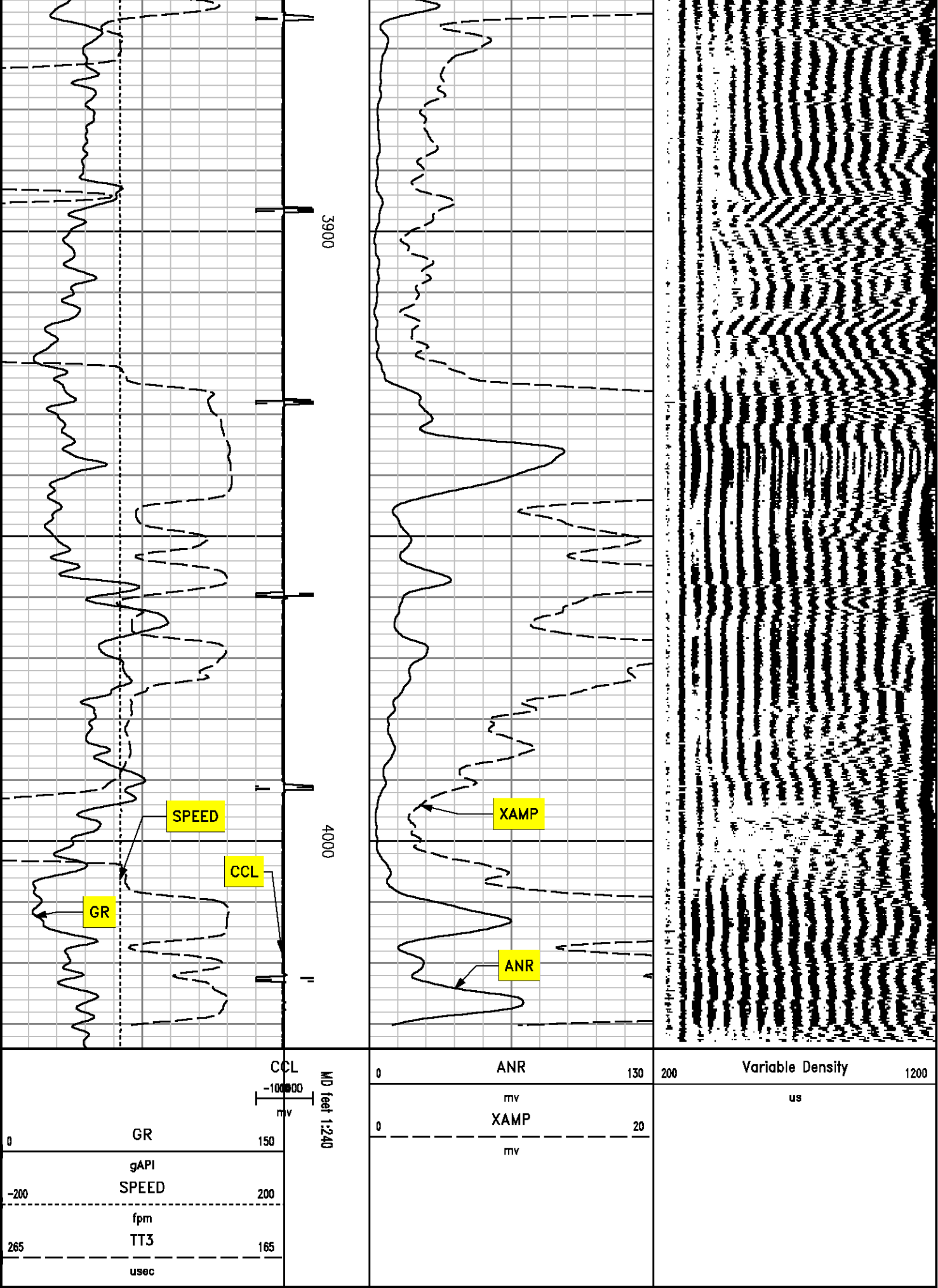


3500

3600







***REPEAT SECTION  
RECORDED AT 0 PSI***

MEASUREMENT TYPE	PARAMETER	VALUE	UNITS	TOP	BOTTOM
RAL	Amp Gate Start Far	287.746	usec	3811.680	4051.000
RAL	Amp Gate Start Near	178.337	usec	3811.680	4051.000
RAL	Amp Gate Start Radial	179.470	usec	3811.680	4051.000
RAL	Amp Gate Width Far	30.000	usec	3811.680	4051.000
RAL	Amp Gate Width Near	30.000	usec	3811.680	4051.000
RAL	Amp Gate Width Radial	30.000	usec	3811.680	4051.000
RAL	casing od	2.875	inches	3811.680	4051.000
RAL	casing wt	6.500	lbm/ft	3811.680	4051.000
RAL	FB Start Far	276.805	usec	3811.680	4051.000
RAL	FB Start Near	170.678	usec	3811.680	4051.000
RAL	FB Start Radial	167.913	usec	3811.680	4051.000
RAL	FB Thresh Far	15.000	mv	3811.680	4051.000
RAL	FB Thresh Near	15.000	mv	3811.680	4051.000
RAL	FB Thresh Radial	15.000	mv	3811.680	4051.000
RAL	Fluid Travel Time	200.000	usec/ft	3811.680	4050.508

**DEPTH OFFSETS**  
(for Acquired Curves)

SERIES	DEPTH OFFSET	ACQUIRED CURVES					
1426XA	-17.580	ACAL	ANR	AR1	AR2	AR3	AR4
		AR5	AR6	AR7	AR8	CHV	FPR2
		FPR3	FPR5	TT3	TTR1	TTR2	TTR3
		TTR4	TTR5	TTR6	TTR7	TTR8	XAMP
1426XA	-16.580	AFAR	SIG	TT5			
2460XA	-7.710	CCL					
2460XA	-5.420	GR					
2460XA	0.000	NEU					

Company : COLORADO INTERSTATE GAS

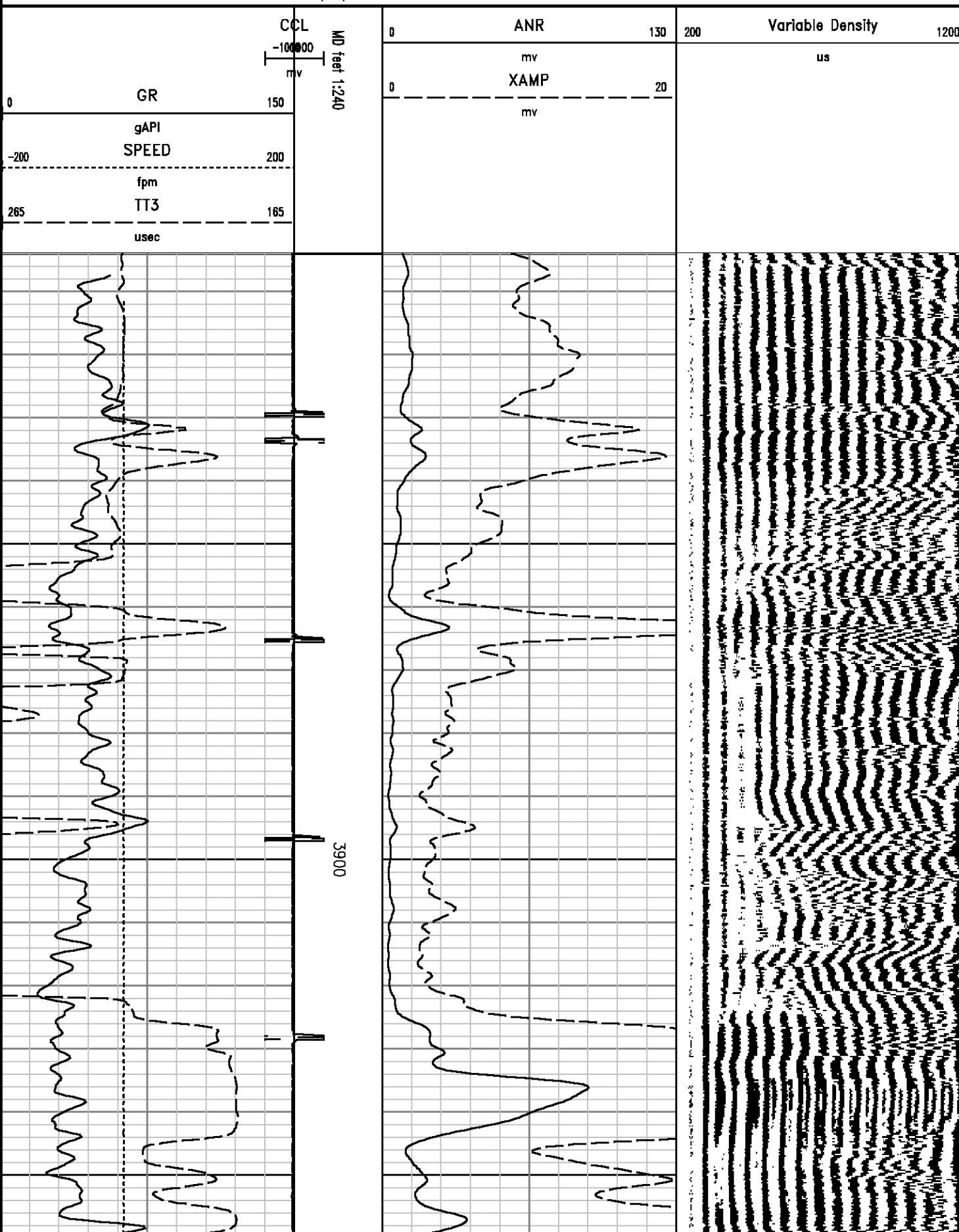
Well : FLANK #21

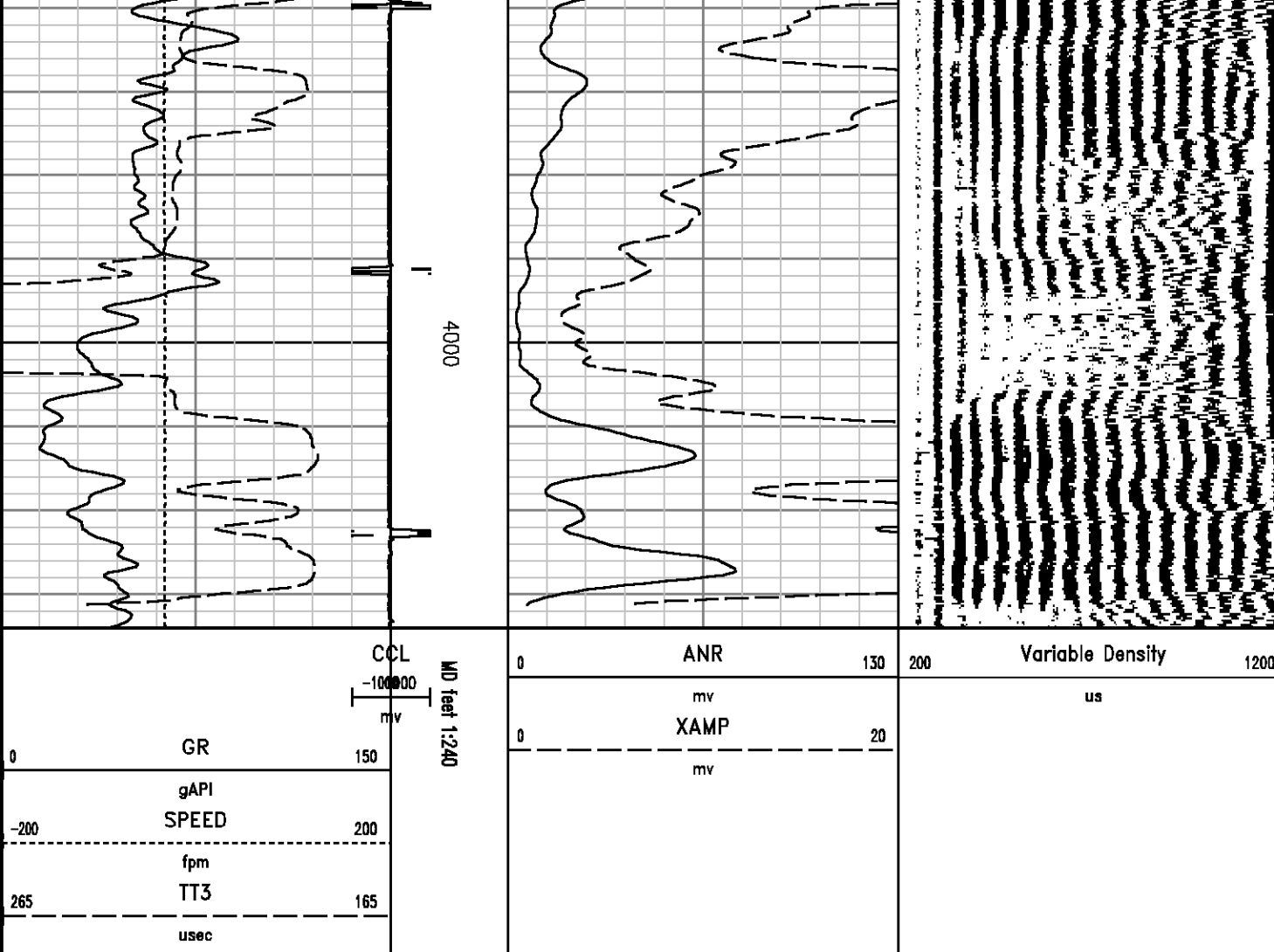
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Mode : PlotMgr 5.4.504

Interval : 3804.00 - 4034.00 feet UP

Created : 1/28/2011 2:11:09 PM





## CALIBRATION SUMMARY

## GAMMA RAY #2

Calibration Files: C:\case\calver\GR\1037642161.cal

### CALIBRATION SUMMARY

DATE/TIME PERFORMED: Fri Jan 28 13:28:24 2011 TOOL SERIES: 2460XA ASSET: 10376421 SEQ: 61

Calibrator #	Background [cps]	Calibrator On [cps]	Multiplicative	Background [api]	Calibrator On [api]	Differential [api]
S2K I-352N	40.62	151.33	1.355	55.03	205.03	150.00

Verification Files: C:\case\calver\GR\1037642161.VP

PRIMARY LOG VERIFICATION



DATE/TIME PERFORMED:		Fri Jan 28 13:29:47 2011		TOOL SERIES:	2460XA	ASSET:	10376421	SEQ:	61
Calibrator #	Background	Calibrator On		Multiplicative	Background	Calibrator On	Differential		
	[cps]	[cps]			[api]	[api]	[api]		
S2K I-352N	40.80	151.78		1.355	55.28	205.63	150.36		

*RALSHP #2*

Shop Calibration:	C:\case\calver\RALSHP\1037623861_shp.cal
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SHOP CALIBRATION SUMMARY									
DATE/TIME PERFORMED:		Fri Jan 28 13:38:44 2011		TOOL SERIES:	1426XA	ASSET:	10376238	SEQ:	61
Tool Delay	-50.00	Tank OD	5.50	Tank Wt	15.50	Tank ID	4.95		
[usec]		in		lbm/ft		in			
RECEIVER	Travel Time	Amp. Gate	Amp. Gate	Zero Gate	Zero Gate	Zero Amp.	Amp Ref.	Shop Factor	
	[usec]	Start	Width	Start	Width	[mV]	[mV]		
		[usec]	[usec]	[usec]	[usec]				
CAL Pulse	200	179	30	145	25	-0.250	100.00	1.01	
3 Ft. Receiver	200	179	30	143	25	1.678	100.00	1.08	
5 Ft. Receiver	335	288	30	246	25	0.850	150.00	1.30	
Radial #1	224	179	30	130	25	1.606	100.00	1.05	
Radial #2	222	179	30	130	25	2.078	100.00	1.05	
Radial #3	215	179	30	130	25	3.317	100.00	1.08	
Radial #4	200	179	30	130	25	1.733	100.00	1.09	
Radial #5	200	179	30	130	25	-0.239	100.00	1.07	
Radial #6	200	179	30	130	25	-1.100	100.00	1.05	
Radial #7	212	179	30	130	25	-0.311	100.00	1.06	
Radial #8	200	179	30	130	25	-0.161	100.00	1.02	

*RALFLD #2*

Wellsite Calibration:	C:\case\calver\RALFLD\1037623861 fld.cal
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WELLSITE CALIBRATION SUMMARY															
DATE/TIME PERFORMED:		Fri Jan 28 13:39:36 2011		TOOL SERIES:		1426XA		ASSET: 10376238		SEQ: 61					
Tool Delay [usec]		-50.00		Casing OD in		5.50		Casing Wt lbm/ft		15.50		Casing ID in		4.95	
RECEIVER		Zero Gate Start [usec]		Zero Gate Width [usec]		Zero Amp. [mV]		Full Amp. [mV]		Wellsite Factor		Amp. Ref [mV]			
CAL Pulse		145		25		-0.163		0.000		1.01		100.000			
3 Ft. Receiver		226		30		-0.277									
5 Ft. Receiver		340		30		-2.994									
Radial #1		226		30		0.080									
Radial #2		226		30		-2.173									
Radial #3		226		30		-0.371									
Radial #4		226		30		-3.401									
Radial #5		226		30		-2.303									

Radial #5	226	30	2.933
Radial #6	226	30	0.708
Radial #7	226	30	3.605
Radial #8	226	30	2.764

<div> Baker Atlas  </div>	<div>CompanyCOLORADO INTERSTATE GAS</div> <div>WellFLANK #21</div> <div>FieldFLANK</div> <div>CountyBACAStateCOLORADO</div>		<div>File No: 551561</div> <div>API No: 05-009-05080</div>
	<div>Location 1170' FEL &amp; 1320' FSL  SEC 31TWP 33SRGE 42W</div> <div>Elevations KB 3846 ft DF N/A GL 3836 ft</div>		