

HALLIBURTON

ACOUSTIC CEMENT
BOND LOG

Company	LARAMIE ENERGY			Company	LARAMIE ENERGY		
Well	SOUTH LEVERICH 18-05D			Well	SOUTH LEVERICH 18-05D		
Field	RULISON			Field	RULISON		
County	GARFIELD State CO			County	GARFIELD State CO		
API No.: 050451620800001 Serv #: 6598089				Other Services			
Location: SURFACE HOLE: 1414' FSL & 0805' FEL BOTTOM HOLE: 2268' FNL & 0706' FWL				TEMP			
Sec: 18 Twp: 7S Rge: 93W							
Permanent Datum	GROUND LEVEL			Elevation	8008'		
Log Measured From	K.B. , 21 Ft. above perm. datum			K.B.	8029'		
Drilling Measured From	K.B.			D.F.	8028'		
				G.L.	8008'		
Date @ Time Logged	04-02-2009 @ 1630			Type Fluid In Hole	WATER		
Run No.	ONE			Density of Fluid	8.4 PPG		
Depth - Driller	10461'			Fluid Level	SURFACE		
Depth - Logger	10407'			Cement Top Est. Logged	LOGGED		
Bottom - Logged Interval	10403'			Equipment / Location	10029613 / GJ		
Top - Log Interval	SURFACE			Recorded by	P. MAZUR		
Max. Recorded Temp.	229 DEG. F.			Witnessed by	G. STAPLETON		
CEMENTING DATA	Surface			Protection	Production		
	String			String	String		
Date / Time Cemented							
Primary / Squeeze							
Expected							
Compressive Strength	psi@ hrs			psi@ hrs	psi@ hrs		
Cement Volume							
Cement Type / Weight	/			/	/		
Formulation							
Mud Type / Mud Wgt.	/			/	/		
Borehole Record				Casing & Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
				4.5"	11.6#	SURFACE	T.D.

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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 WHOIH 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

LOG WAS CORRELATED TO HALLIBURTON SPECTRAL DENSITY, DUAL SPACED NEUTRON LOG DATED 04-01-2009

ALL LOGGED INTERVALS PER CUSTOMER REQUEST

SHORT JOINT @ 7391' - 7412' & 9426' - 9446'

THANKS FOR USING HALLIBURTON ENERGY SERVICES (970) 523-3600

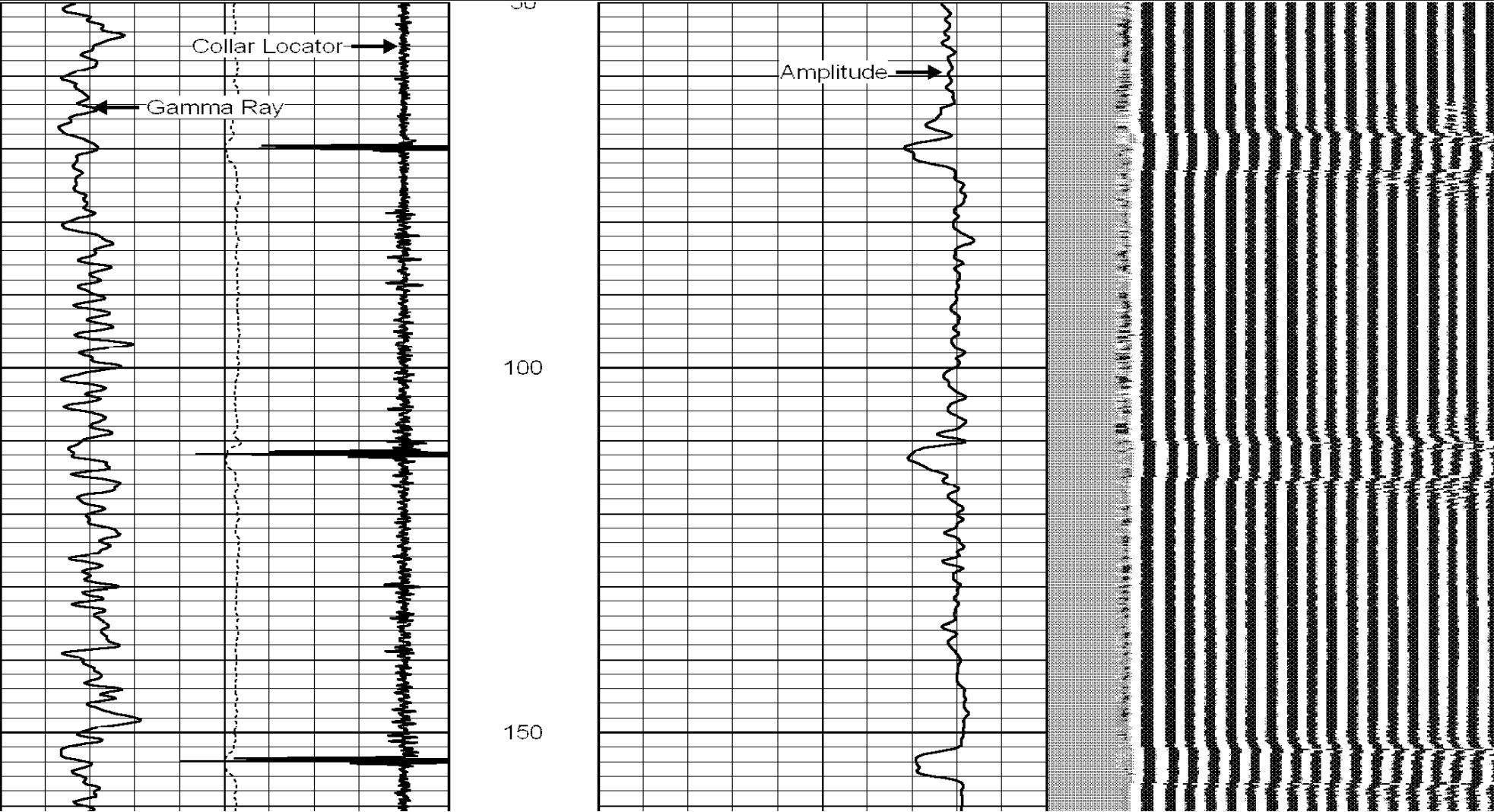
Service Ticket No.		6598089		API No.		05045182080001		PGM Ver	
The Well Name, Location, Borehole Description, and / or Cementing Data Furnished by Client									
EQUIPMENT DATA									
SONIC		CCL		GAMMA RAY		TEMPERATURE			
Run No.	TWO	Run No.	TWO	Run No.	TWO	Run No.	TWO		
Serial No.	061115	Serial No.	061018	Serial No.	061018	Serial No.	0001		
Model No.	PROBE	Model No.	PROBE	Model No.	PROBE	Model No.	TEMP		
Diameter	2.75"	Diameter	2.75"	Diameter	2.75"	Diameter	1.375"		
LOGGING DATA									
General Data									
Pass	Depths		Well Head	Speed	Logging Run Comments				
No.	From	To	Pressure	Ft/Min					
TWO	10407'	50'	0 PSI	68	MAIN PASS				
	CCL		GAMMA RAY		MSG		TEMP		
Pass	Scale		Scale		Scale		Scale		
No.	L	R	L	R	L	R	L	L	
TWO	10	-1	0	200	200	1200	0	100	
DIRECTIONAL INFORMATION									
Maximum Deviation			deg. @		KOP				

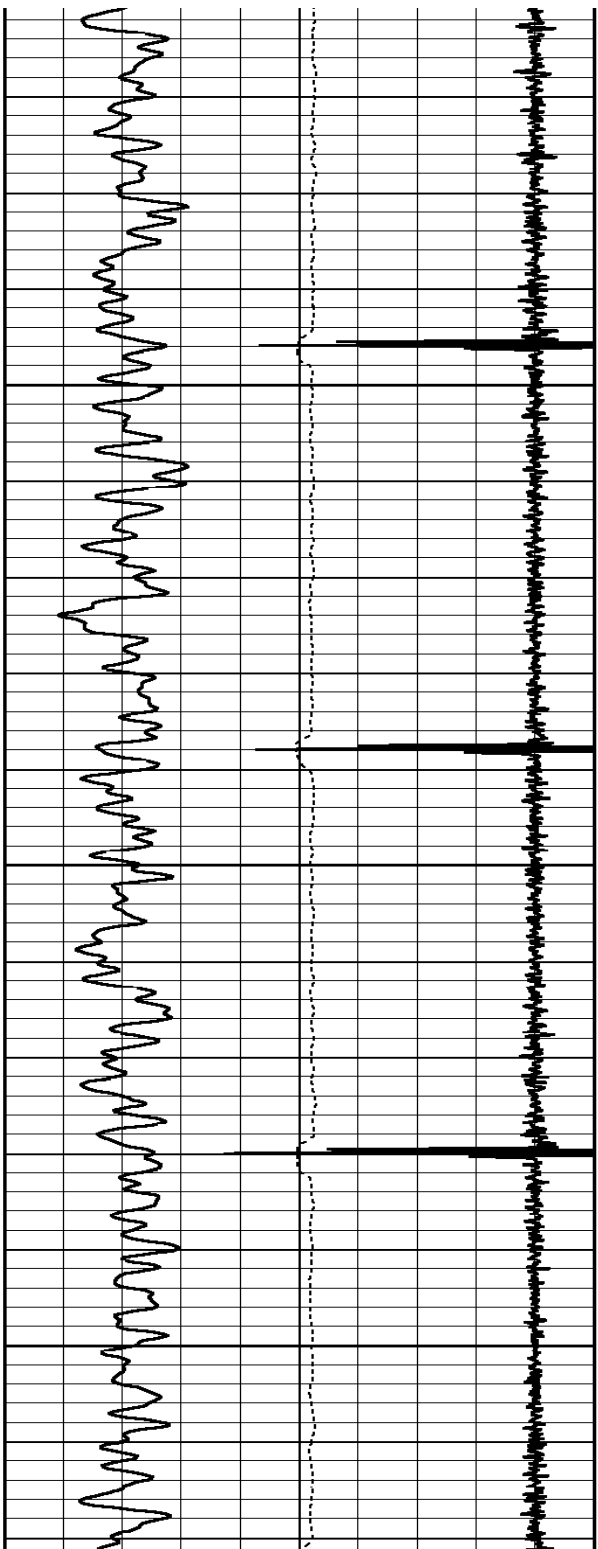
ACOUSTIC CEMENT BOND LOG

MAIN PASS
5" = 100'

Database File: lar_s_leverich_18_05d.db
Dataset Pathname: cbl1/cbl_main2
Presentation Format: cbl_main
Dataset Creation: Thu Apr 02 23:51:48 2009
Charted by: Depth in Feet scaled 1:240

400	Travel Time (usec)	200	Line Tension	0	Amplitude (mV)	100	200	Variable Density	1200
9	Collar Locator	-1	0 (lb)2000	0	Amplified Amplitude (mV)	10			
0	GR (GAPI)	200							

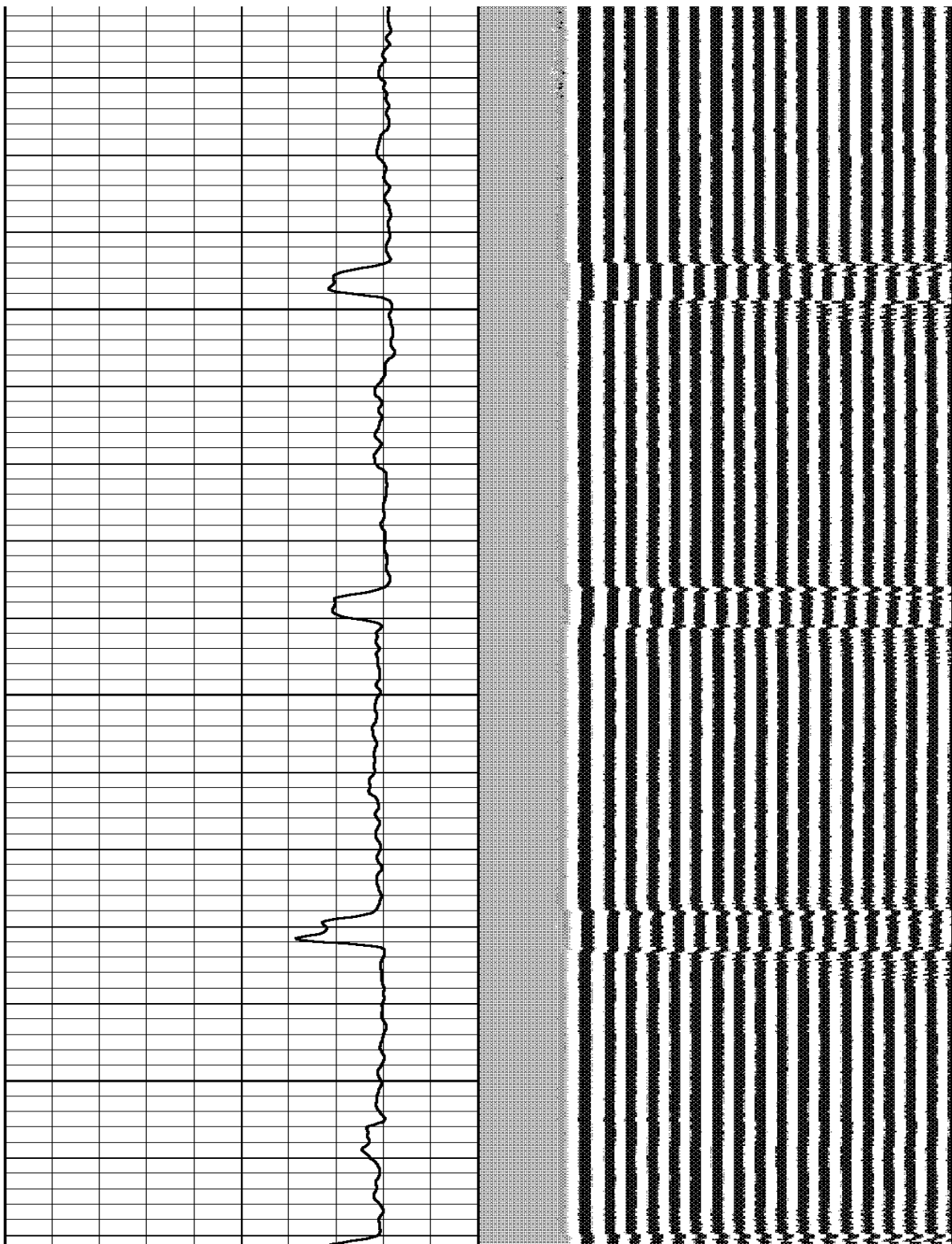


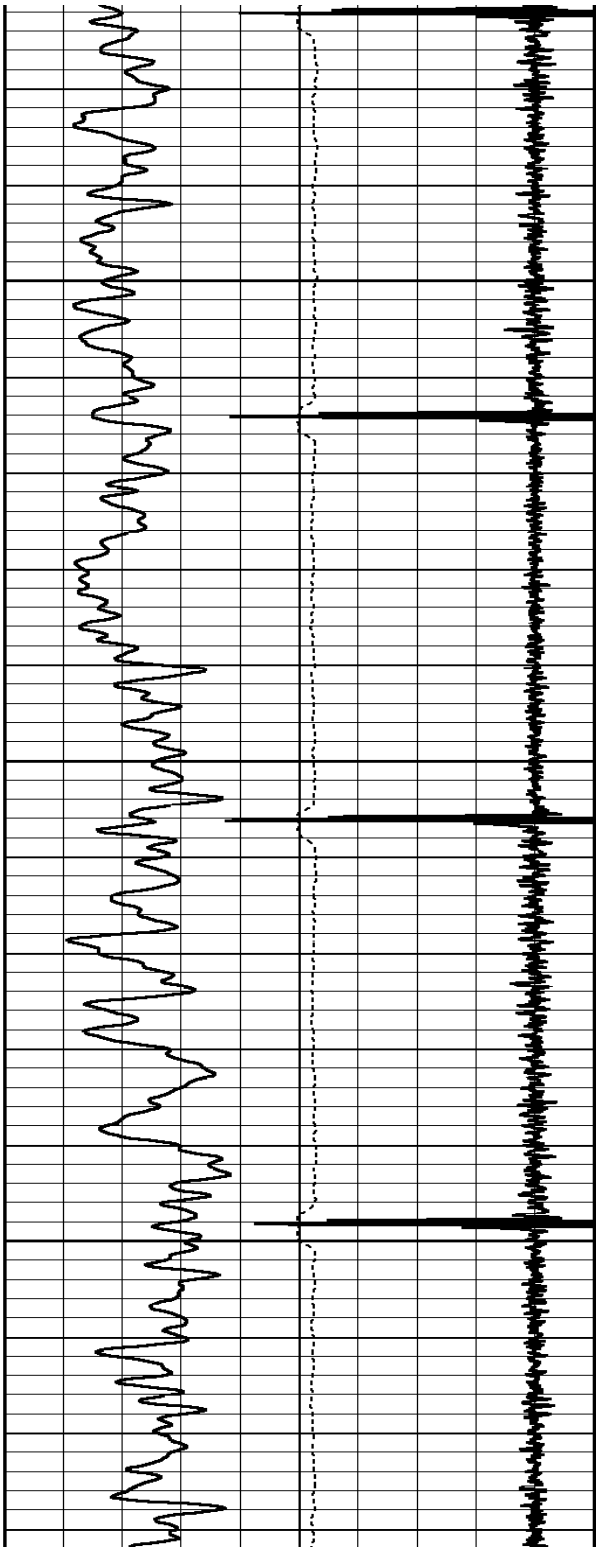


200

250

300

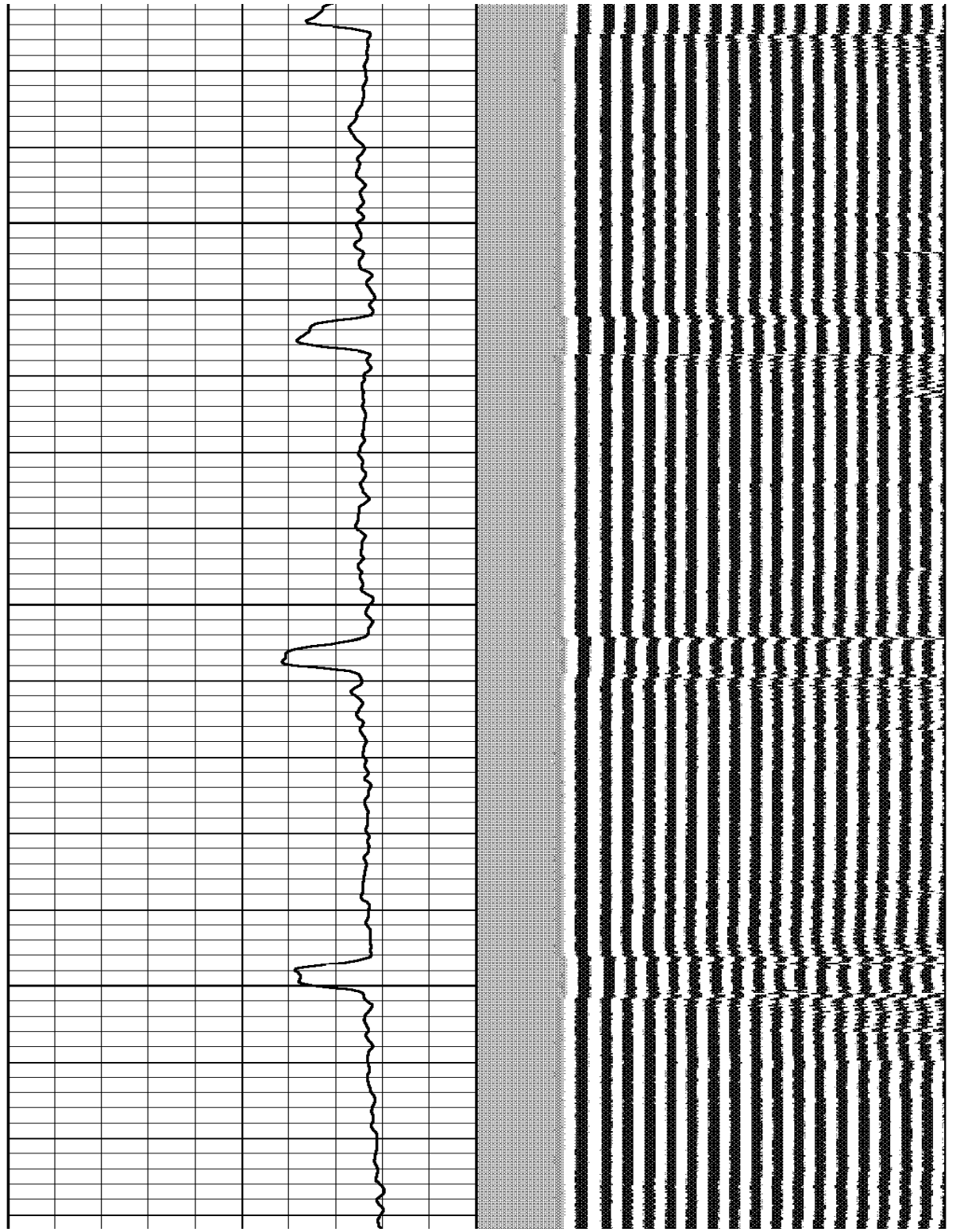


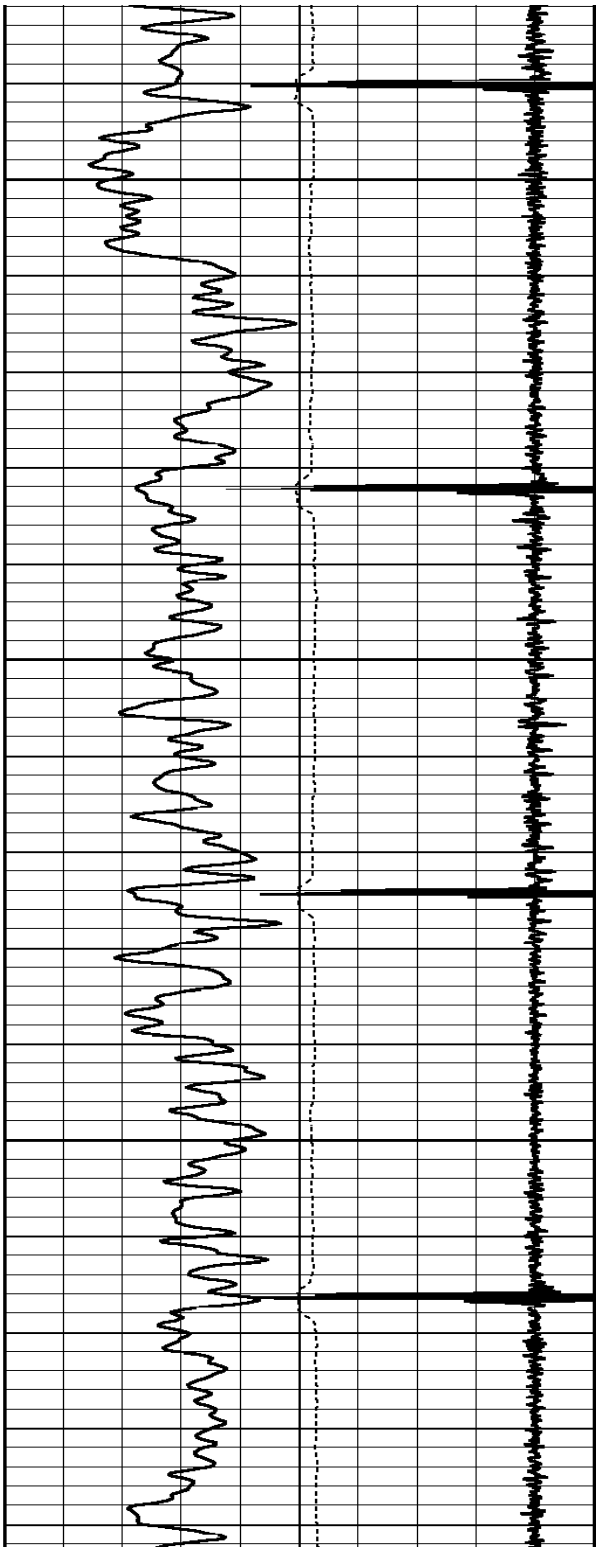


350

400

450

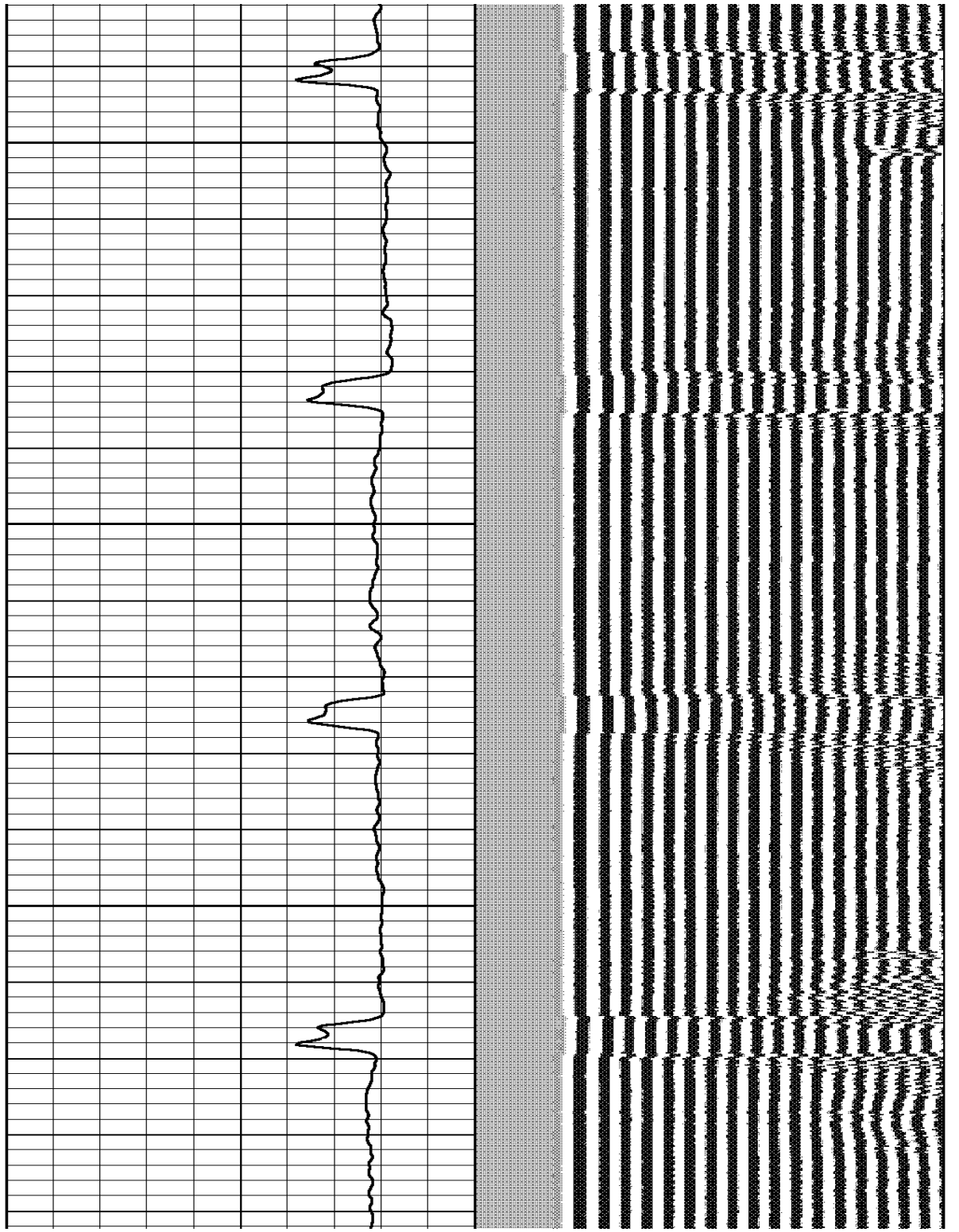


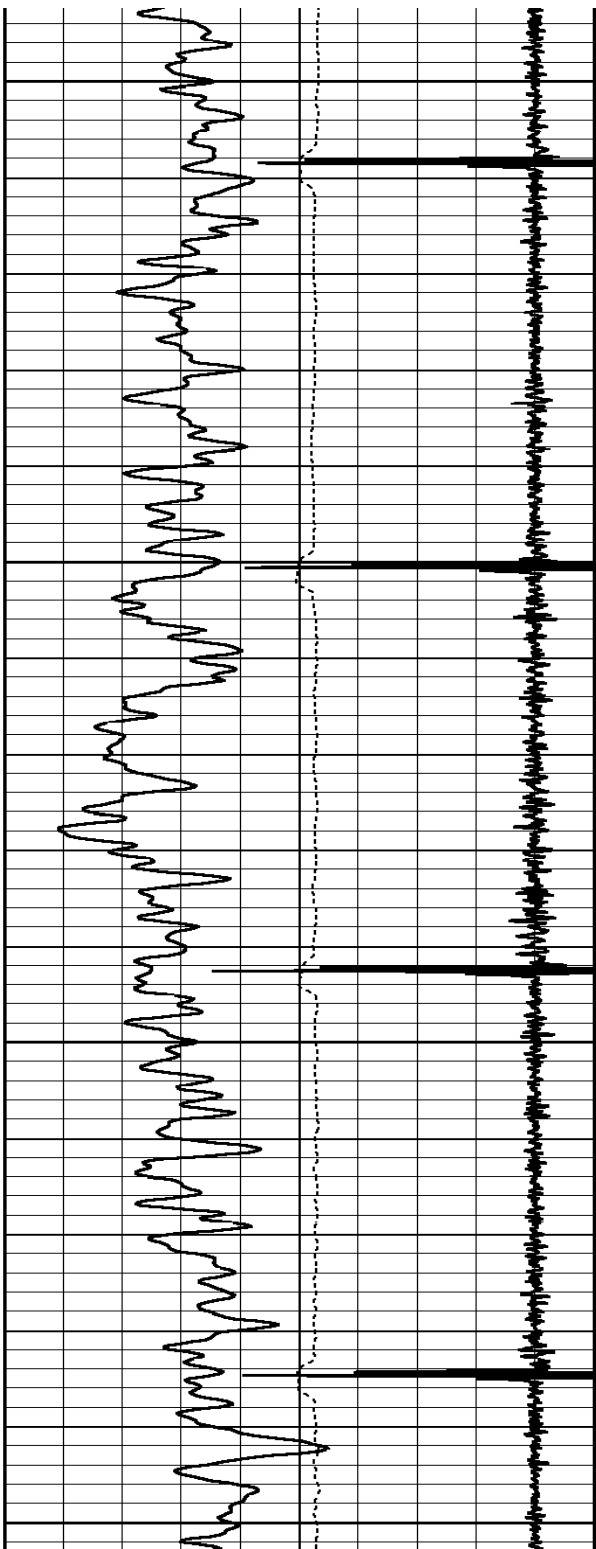


500

550

600



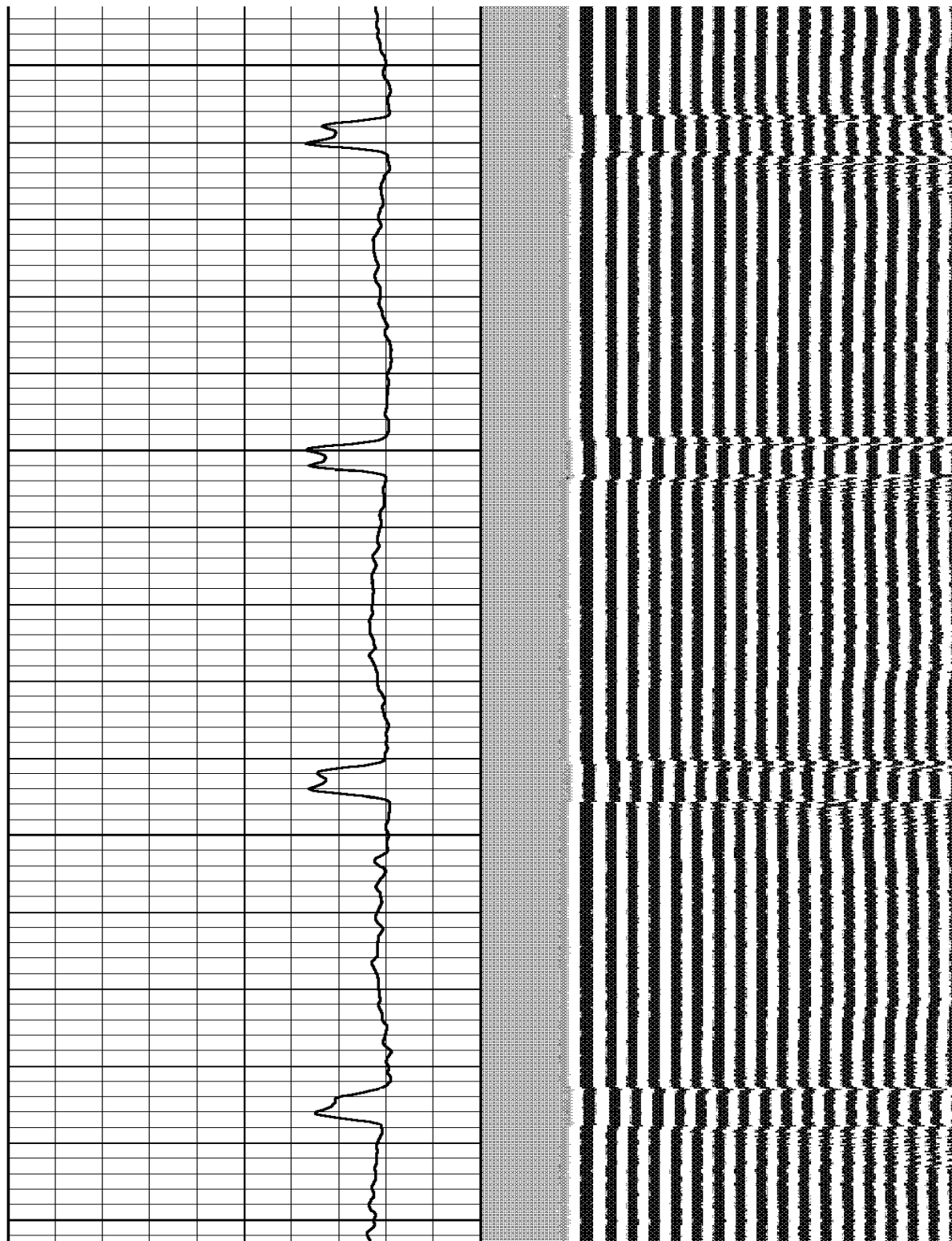


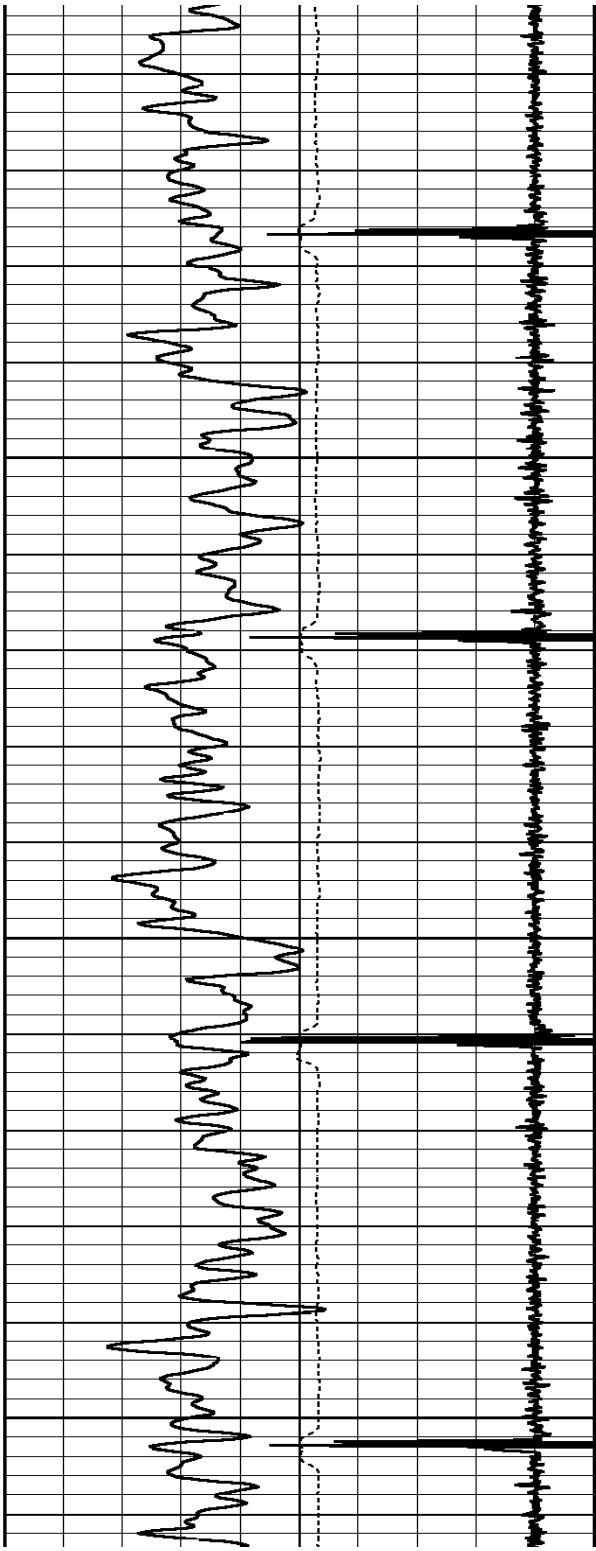
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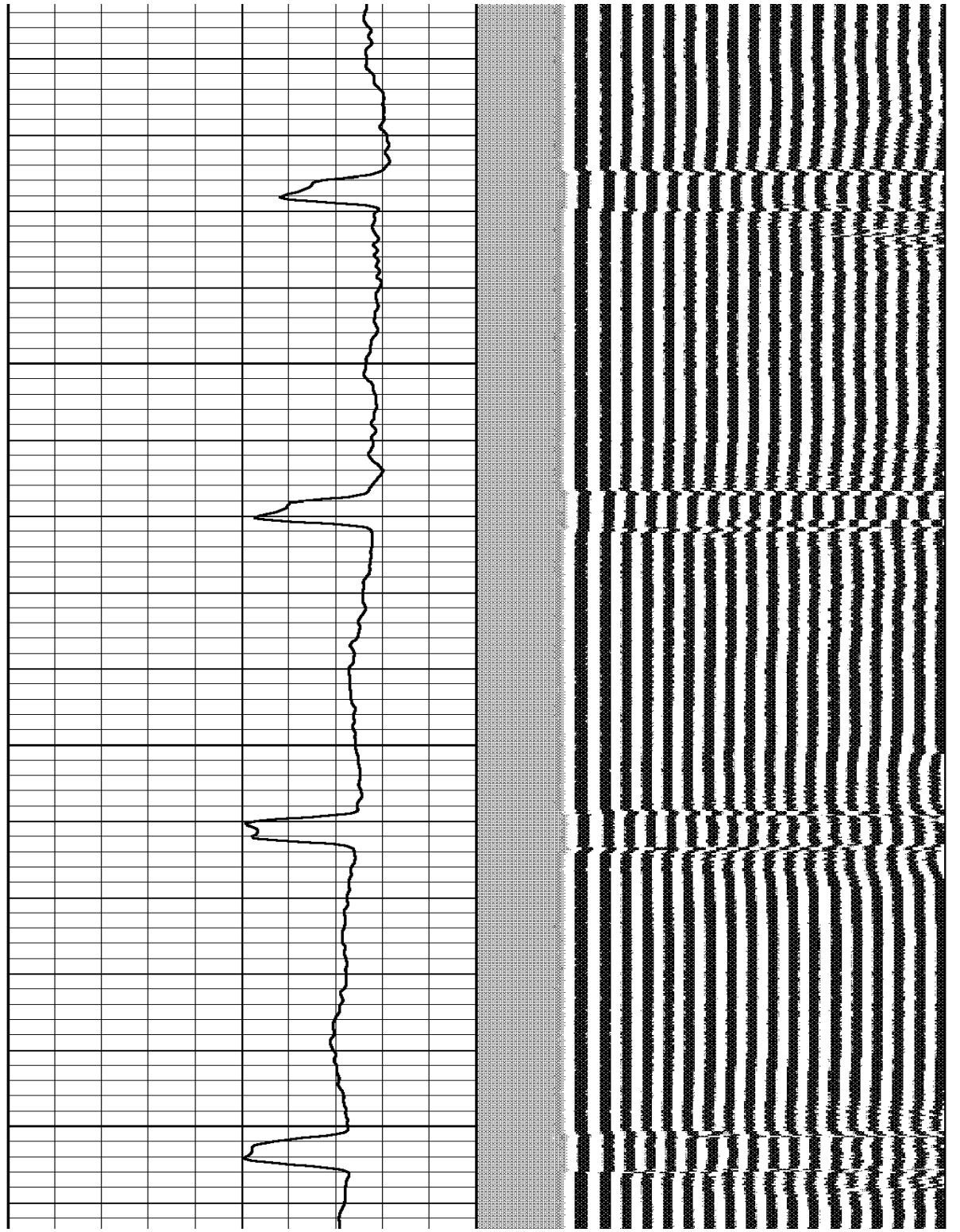


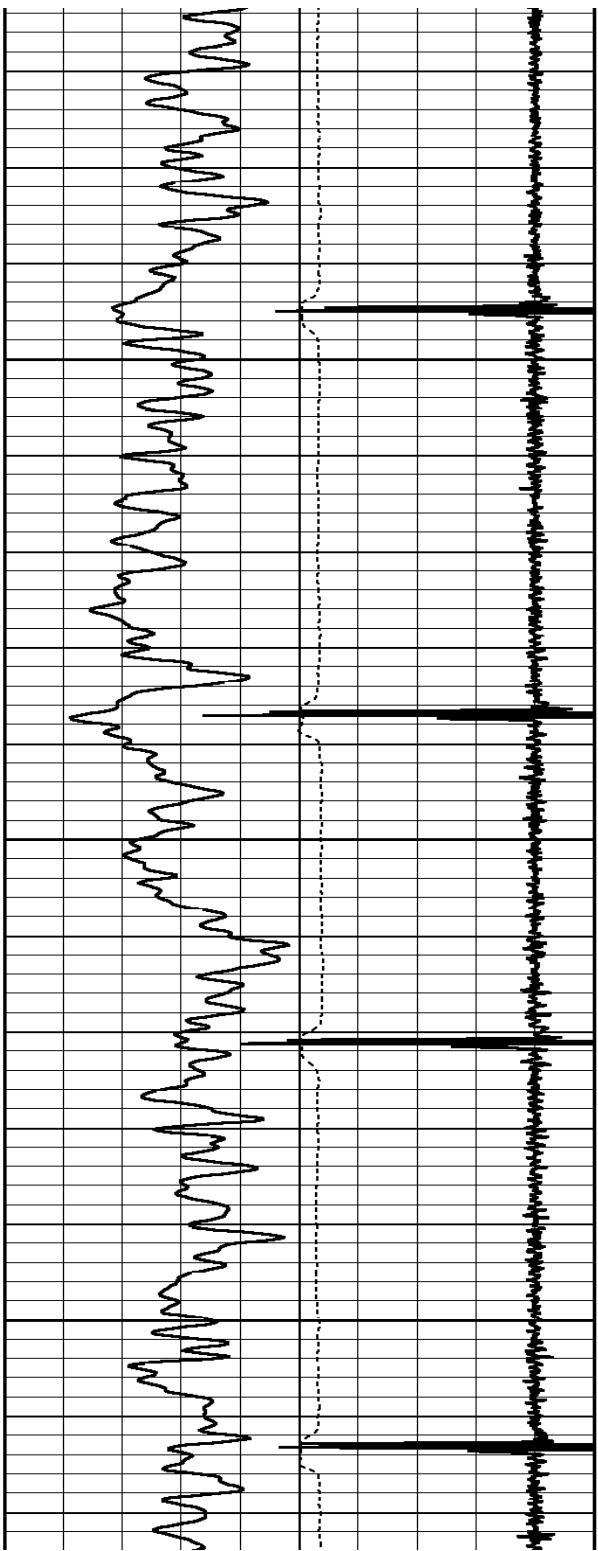


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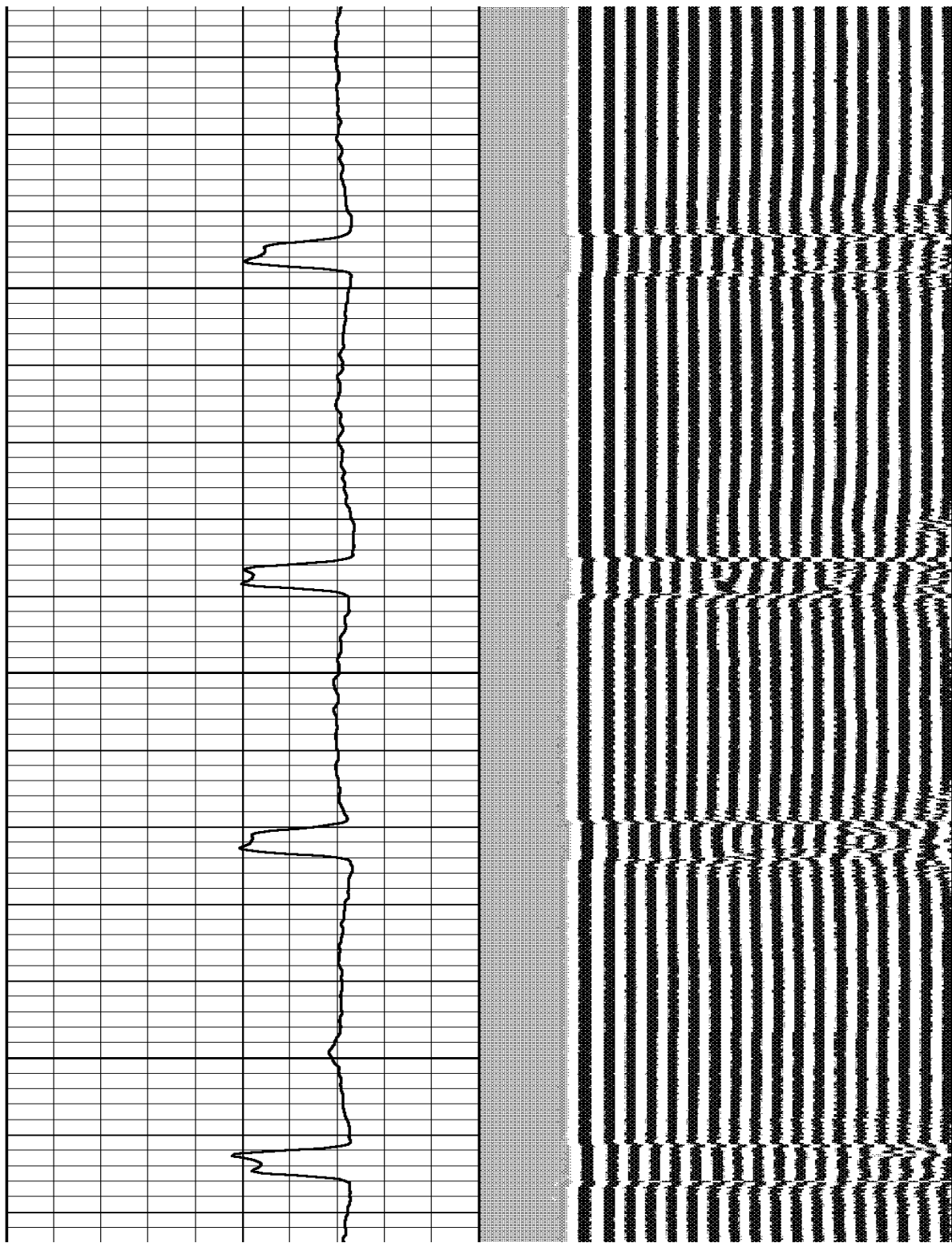


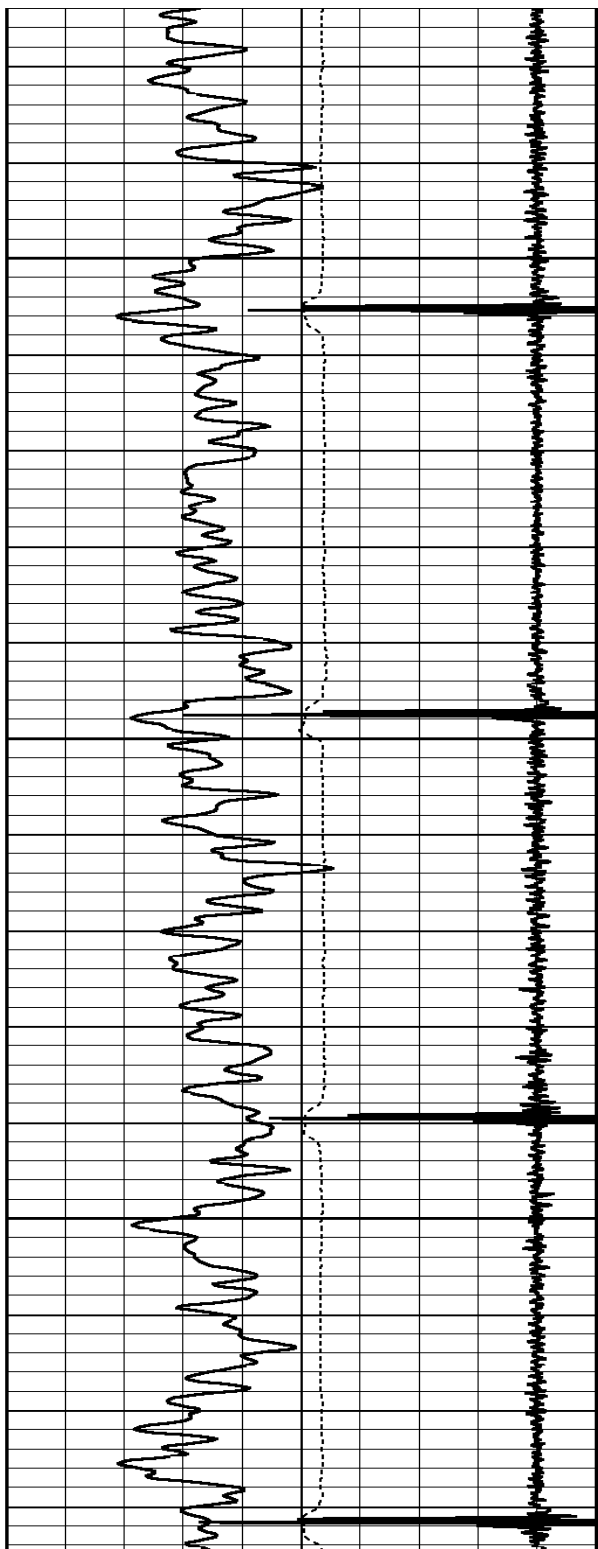


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1050

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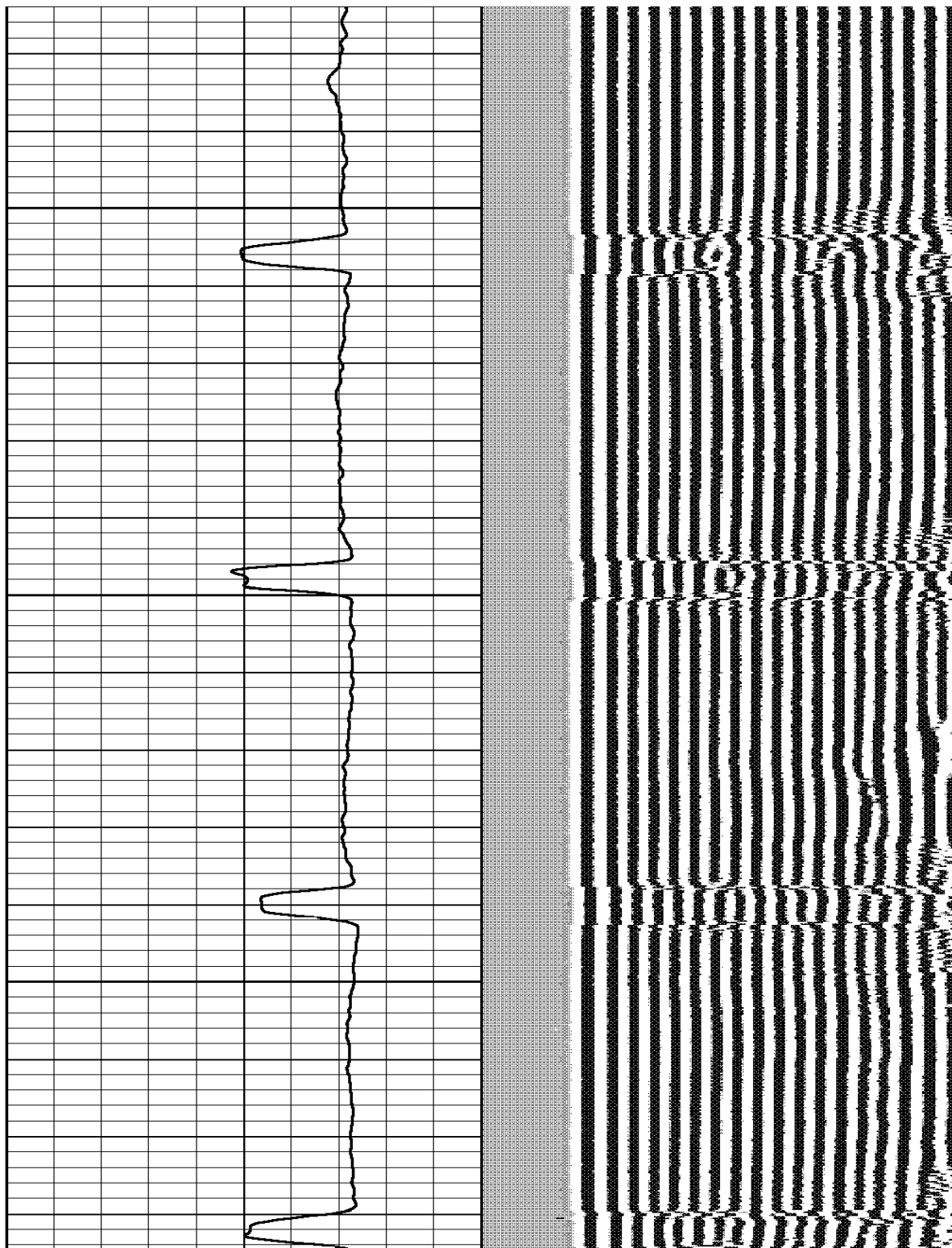


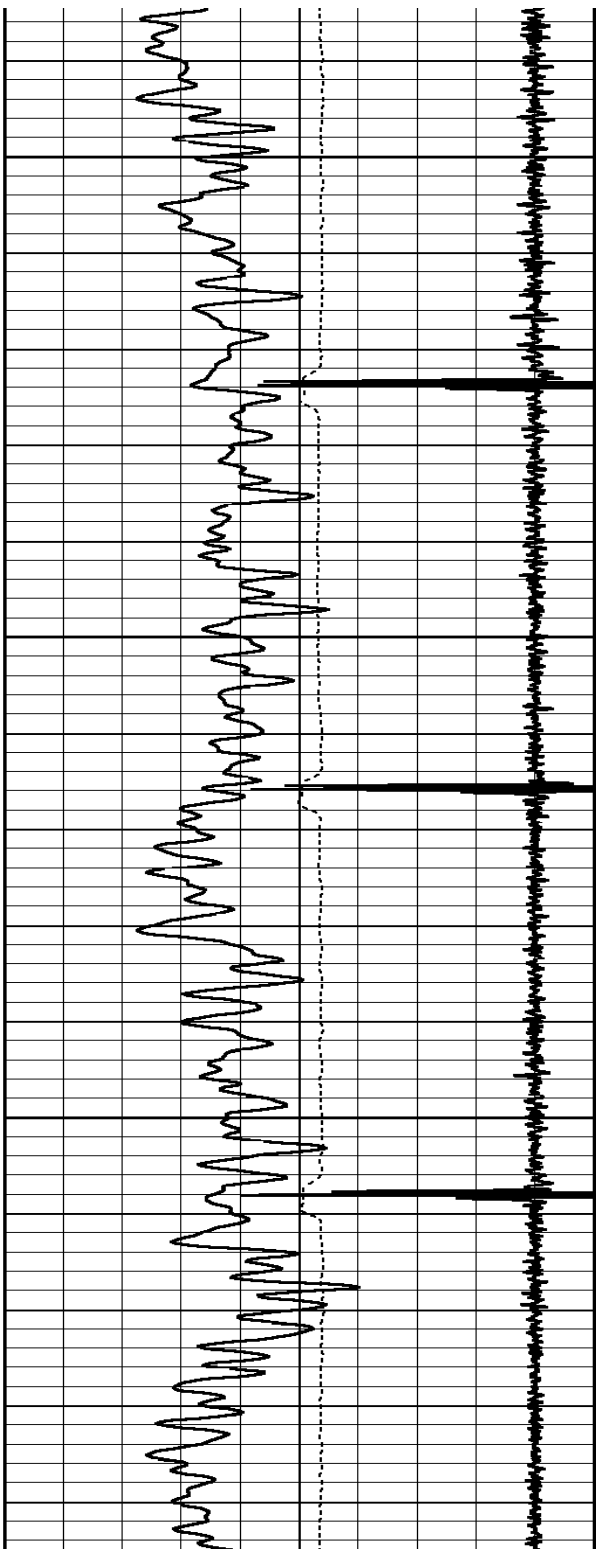


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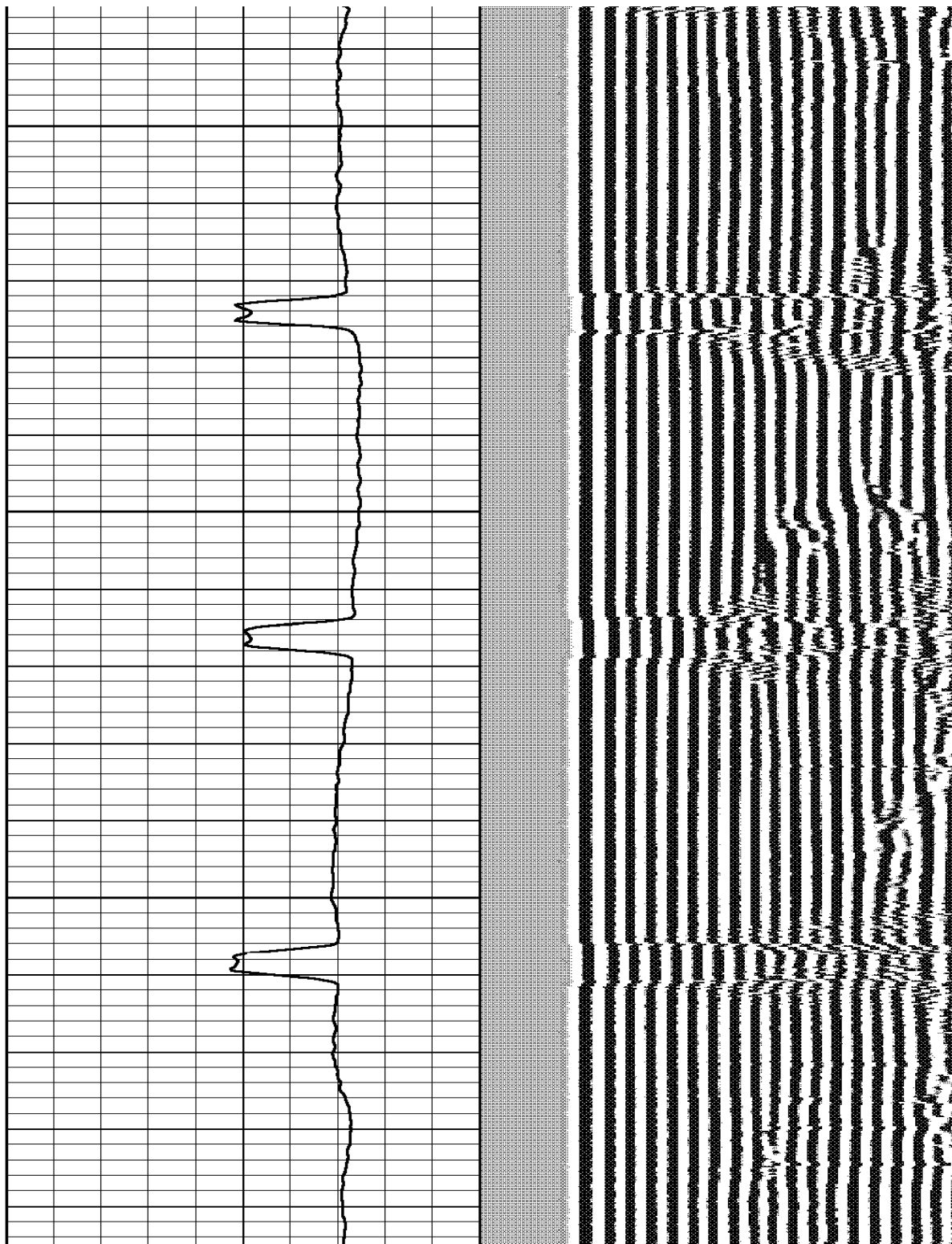


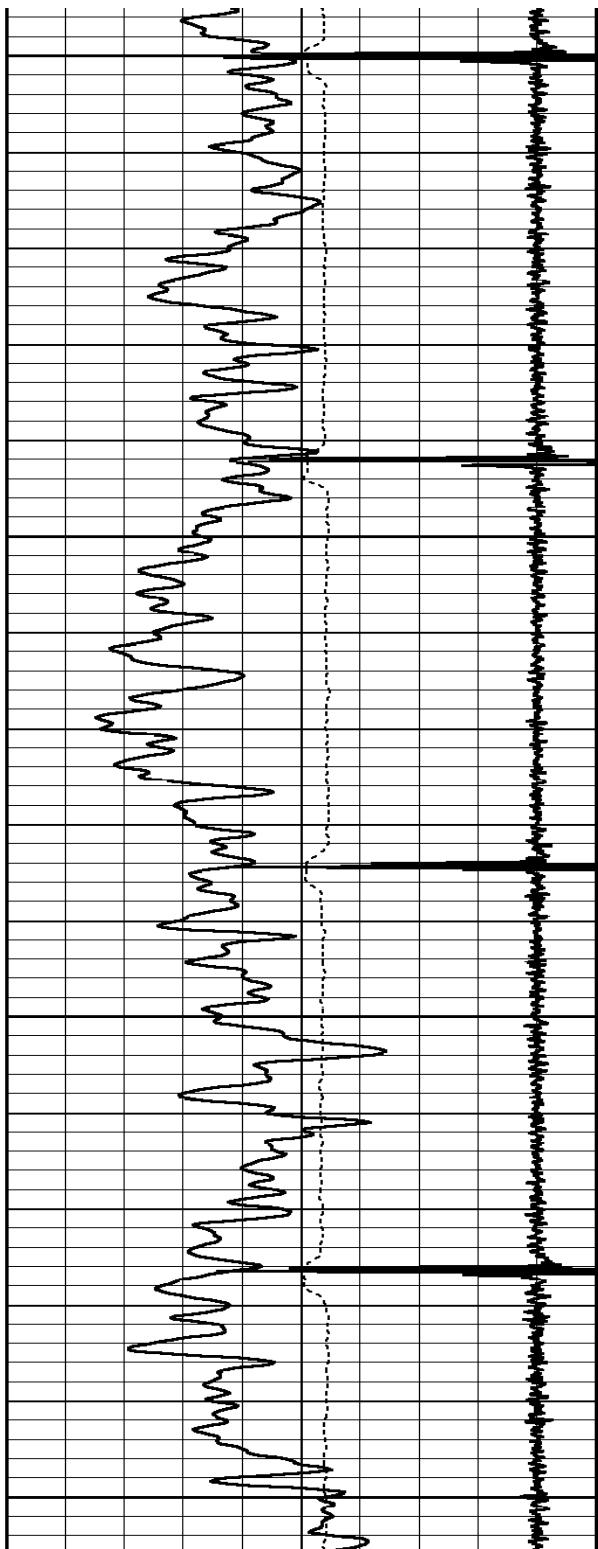


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1400



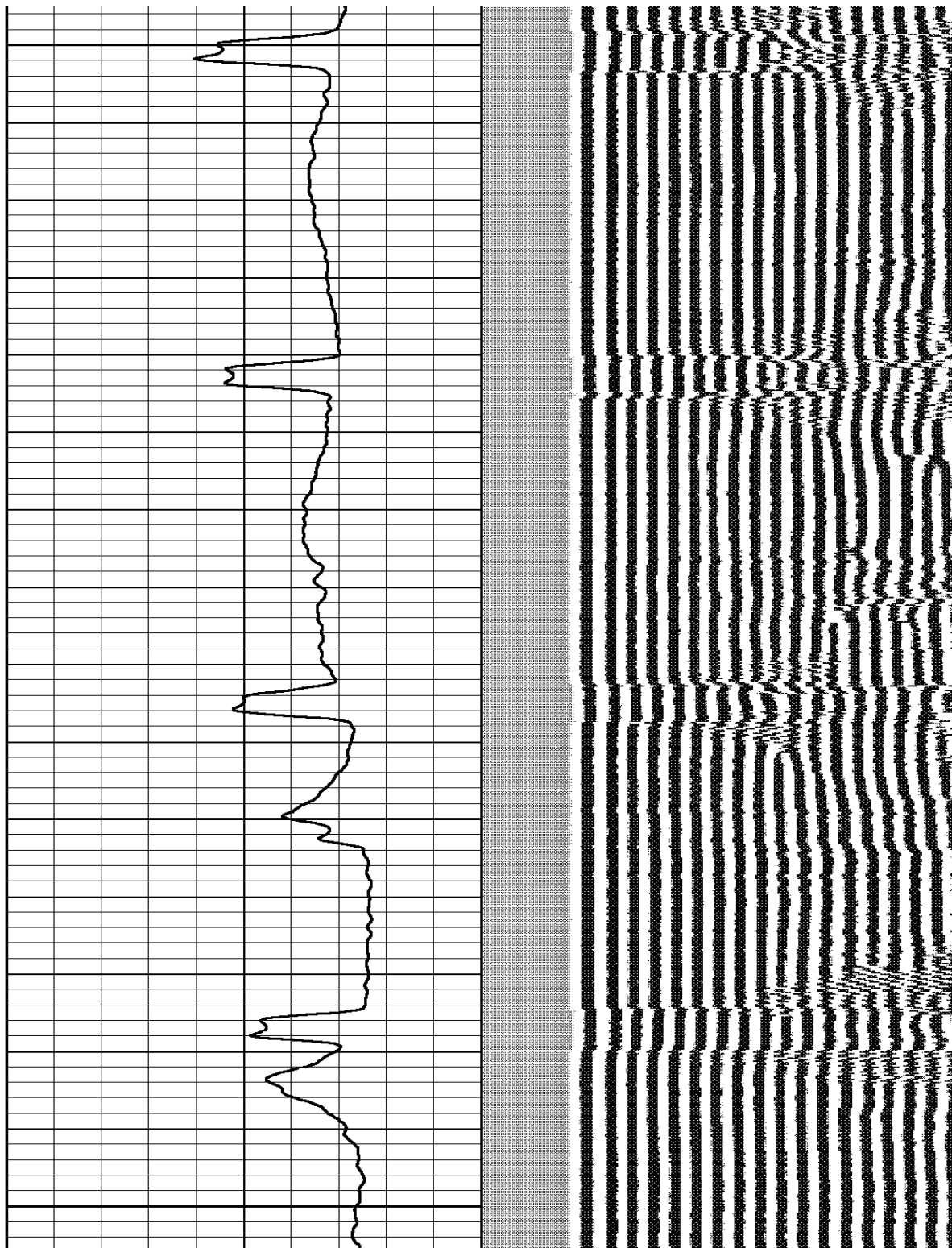


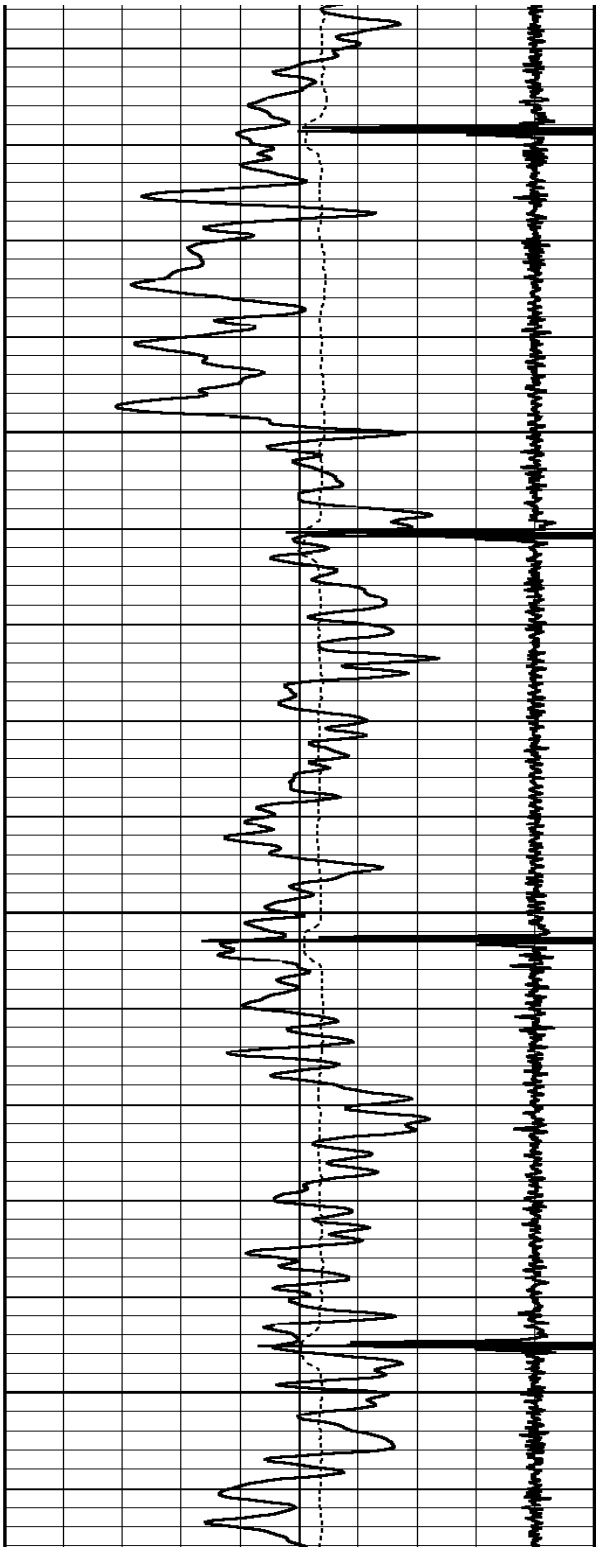
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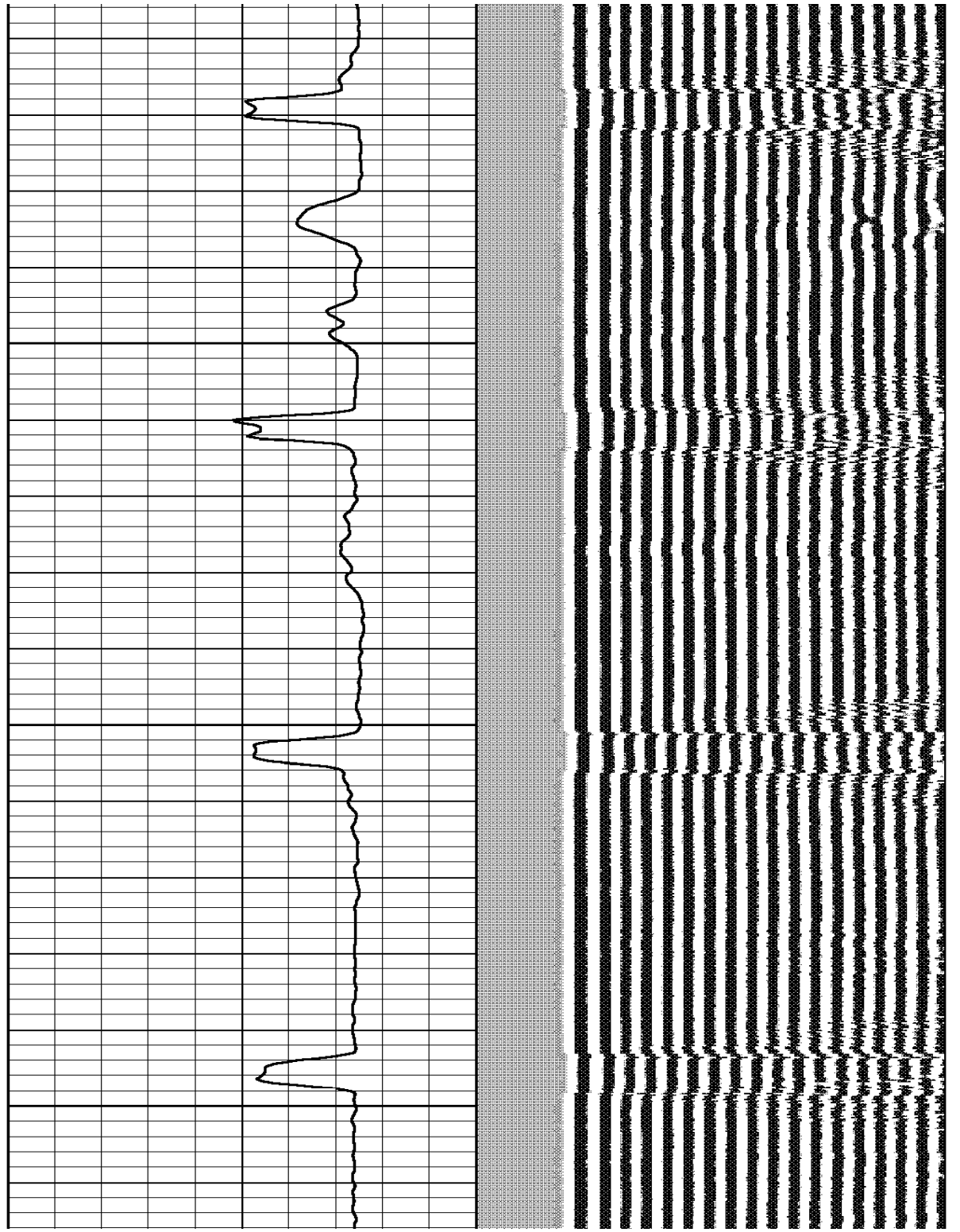


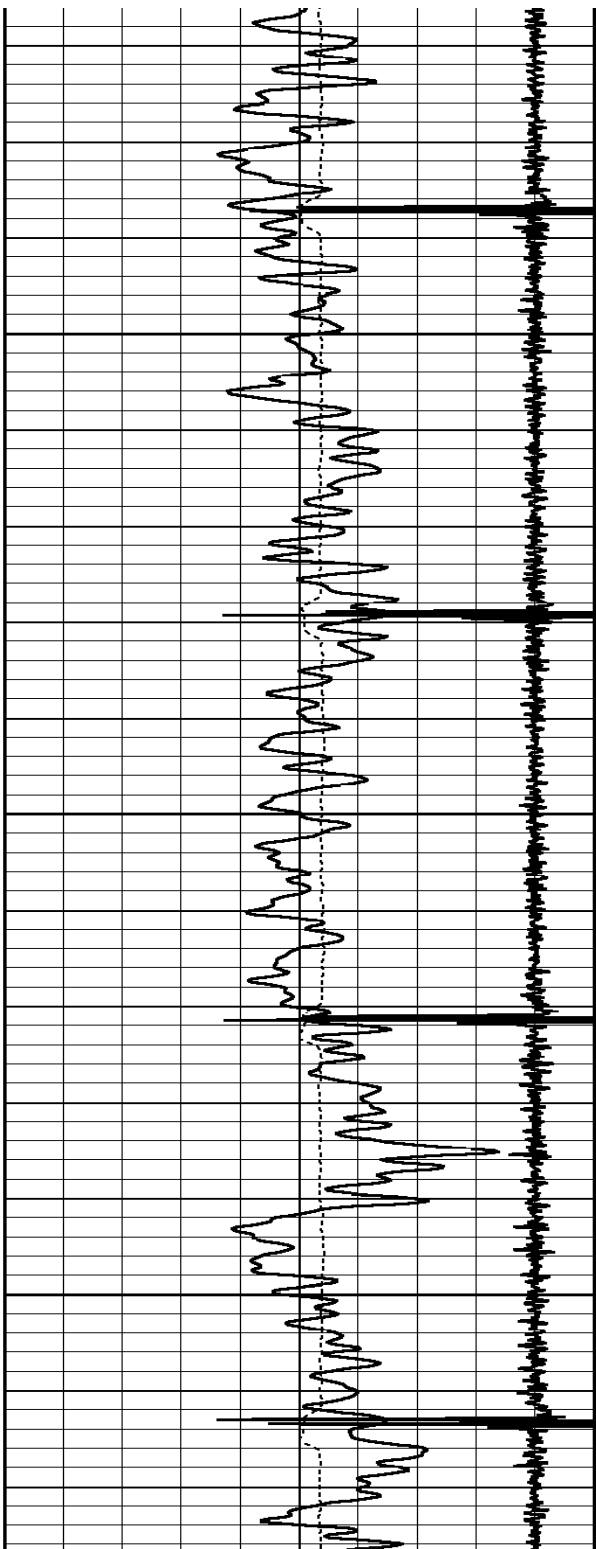


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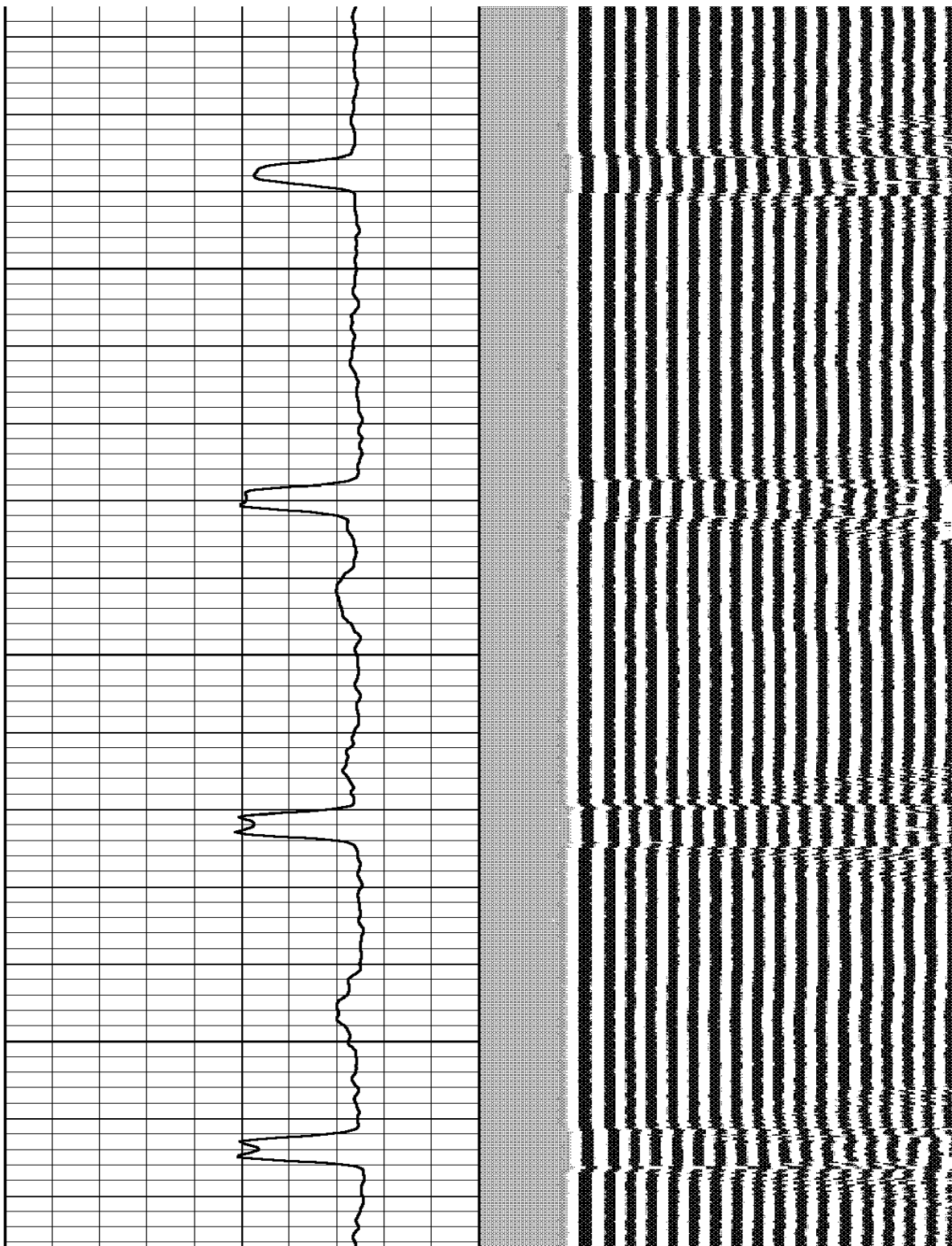


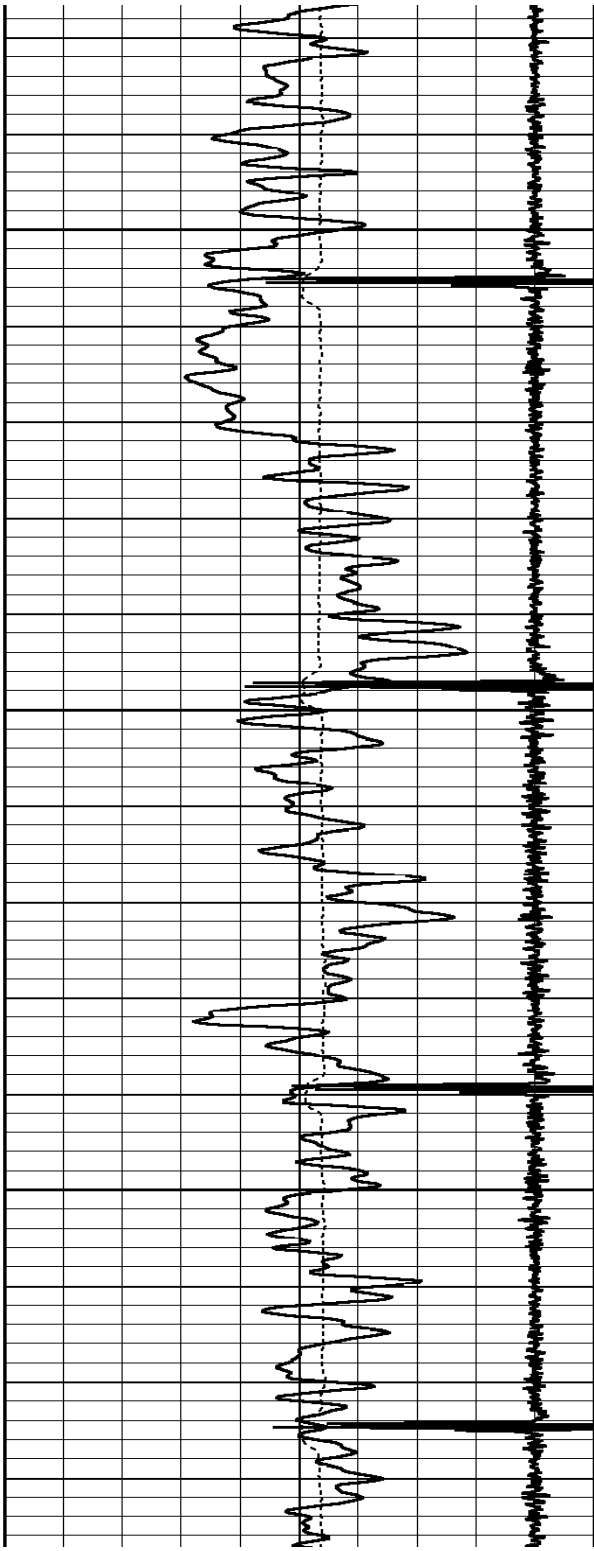


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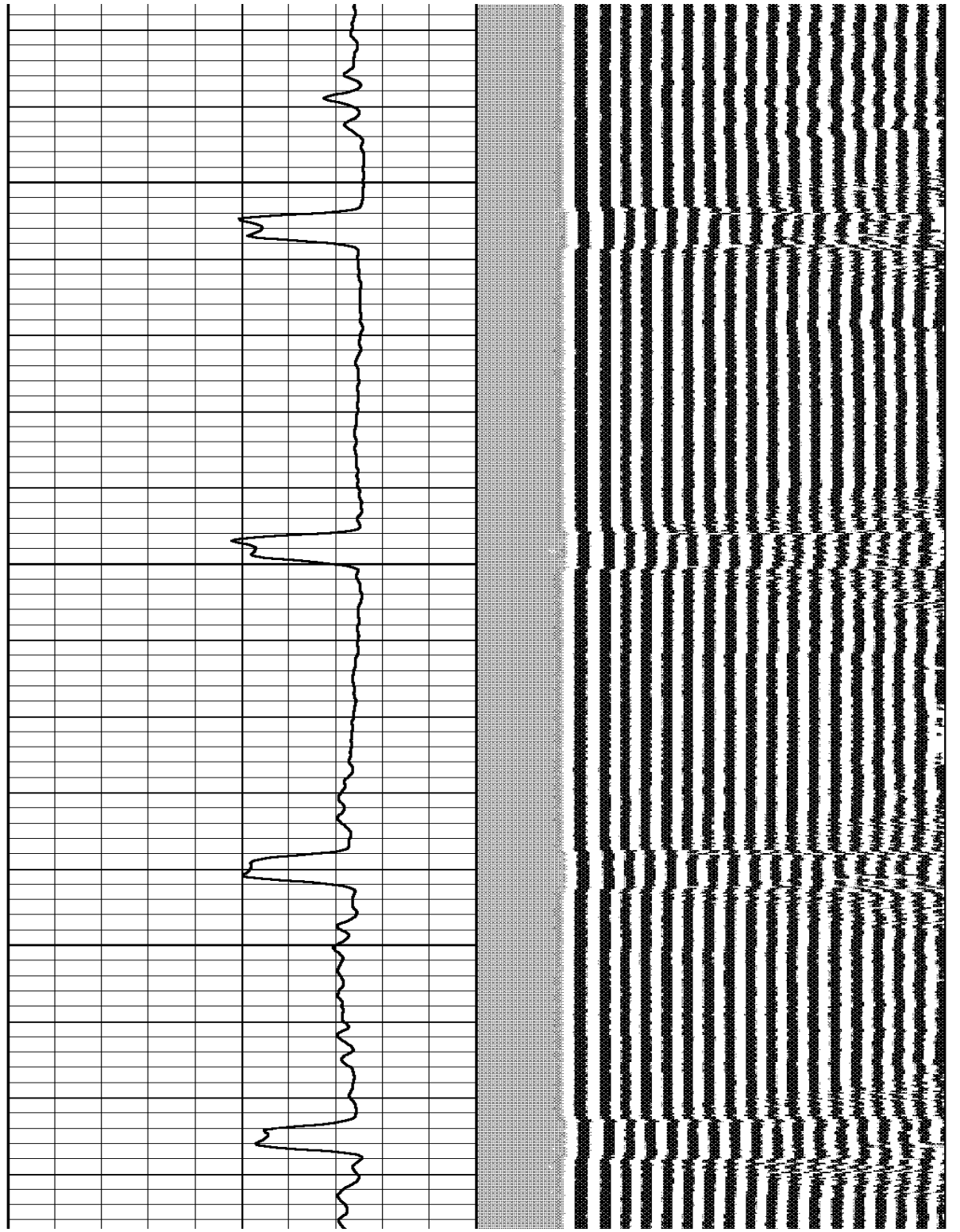


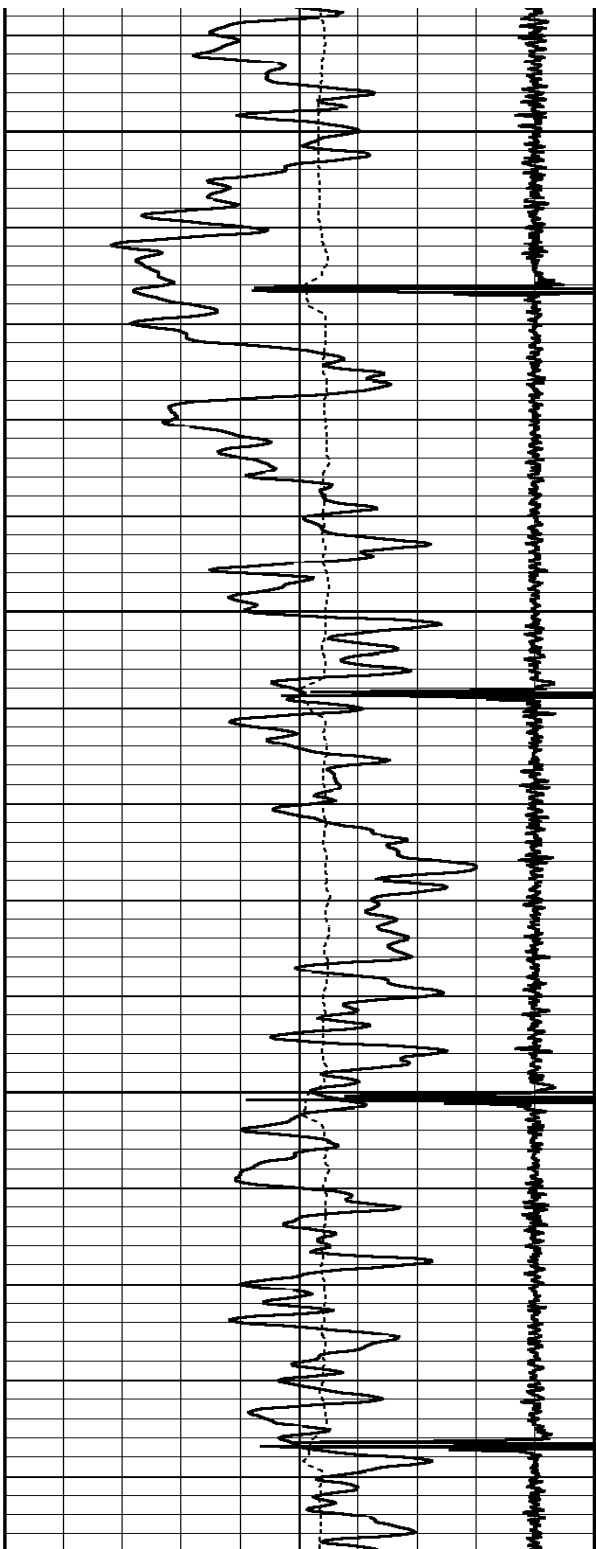


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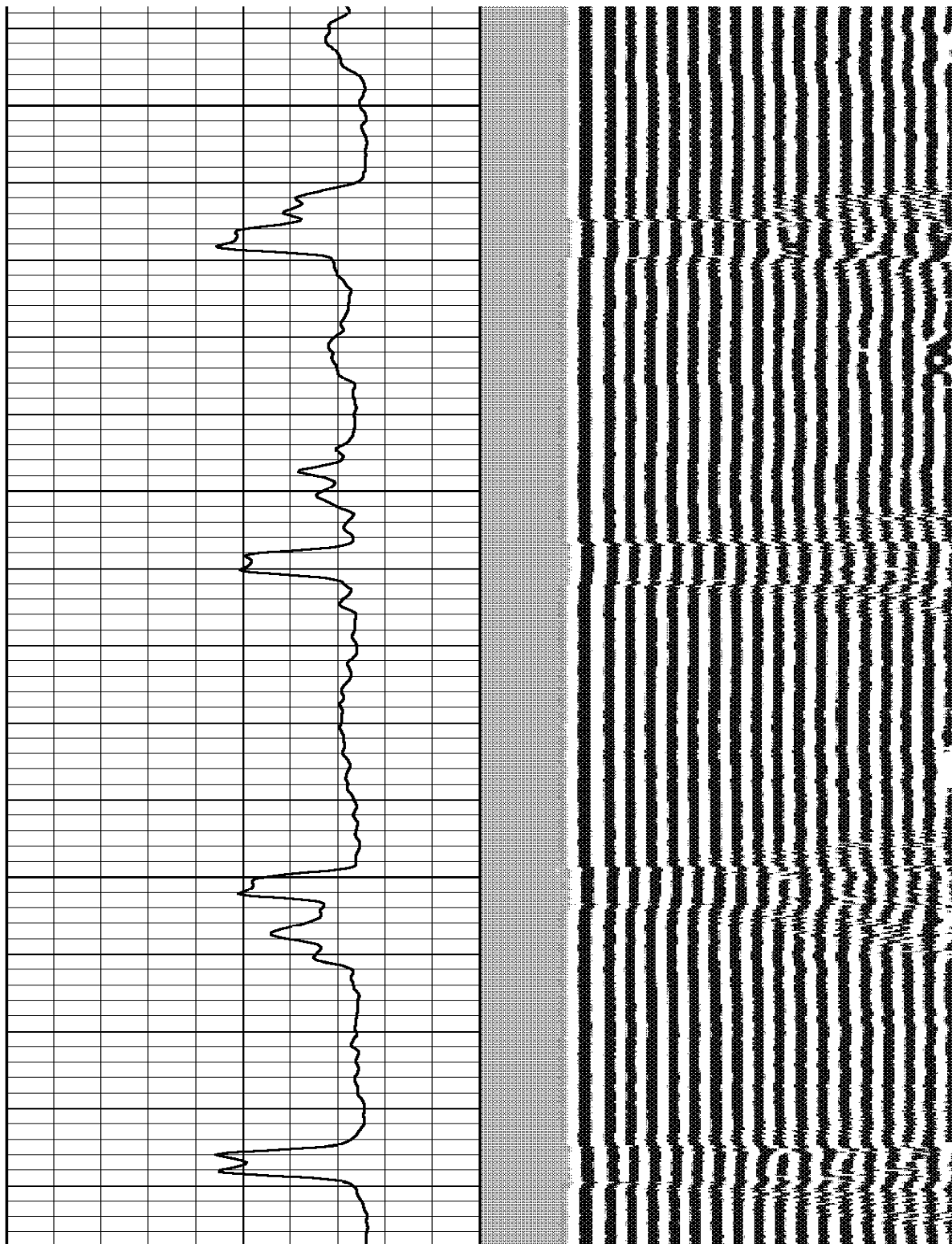


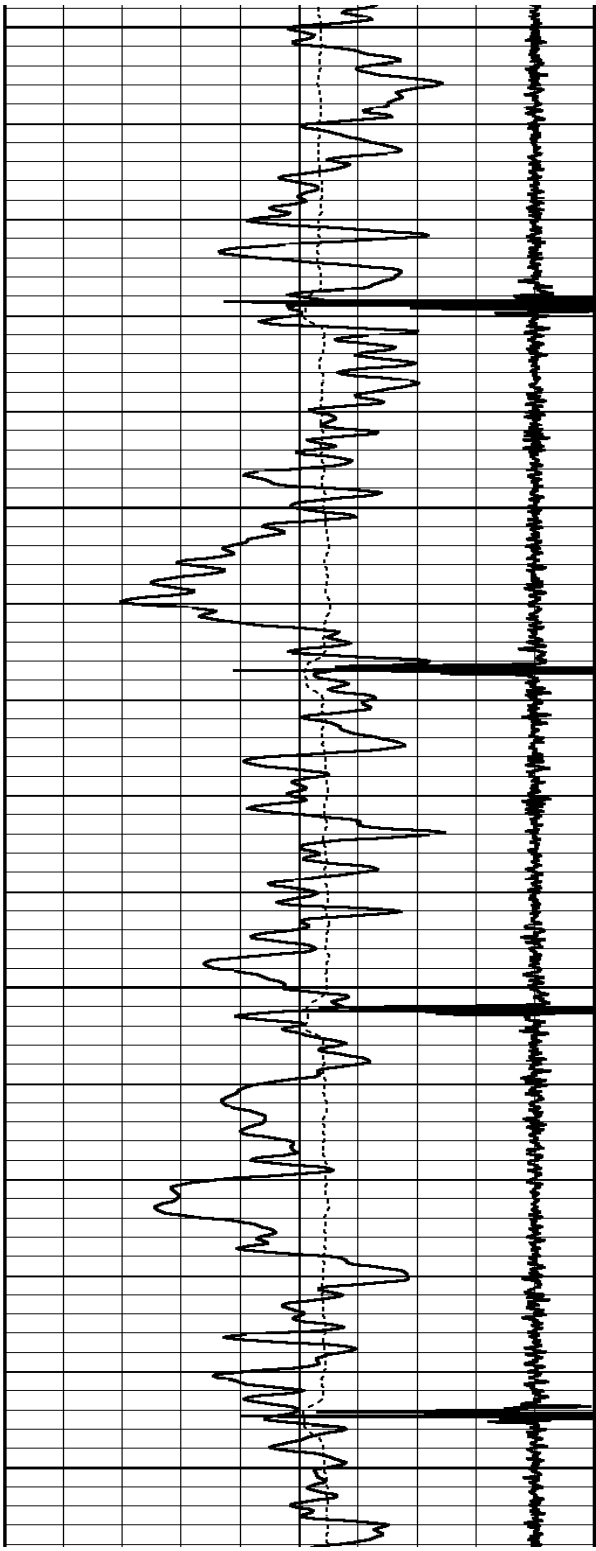


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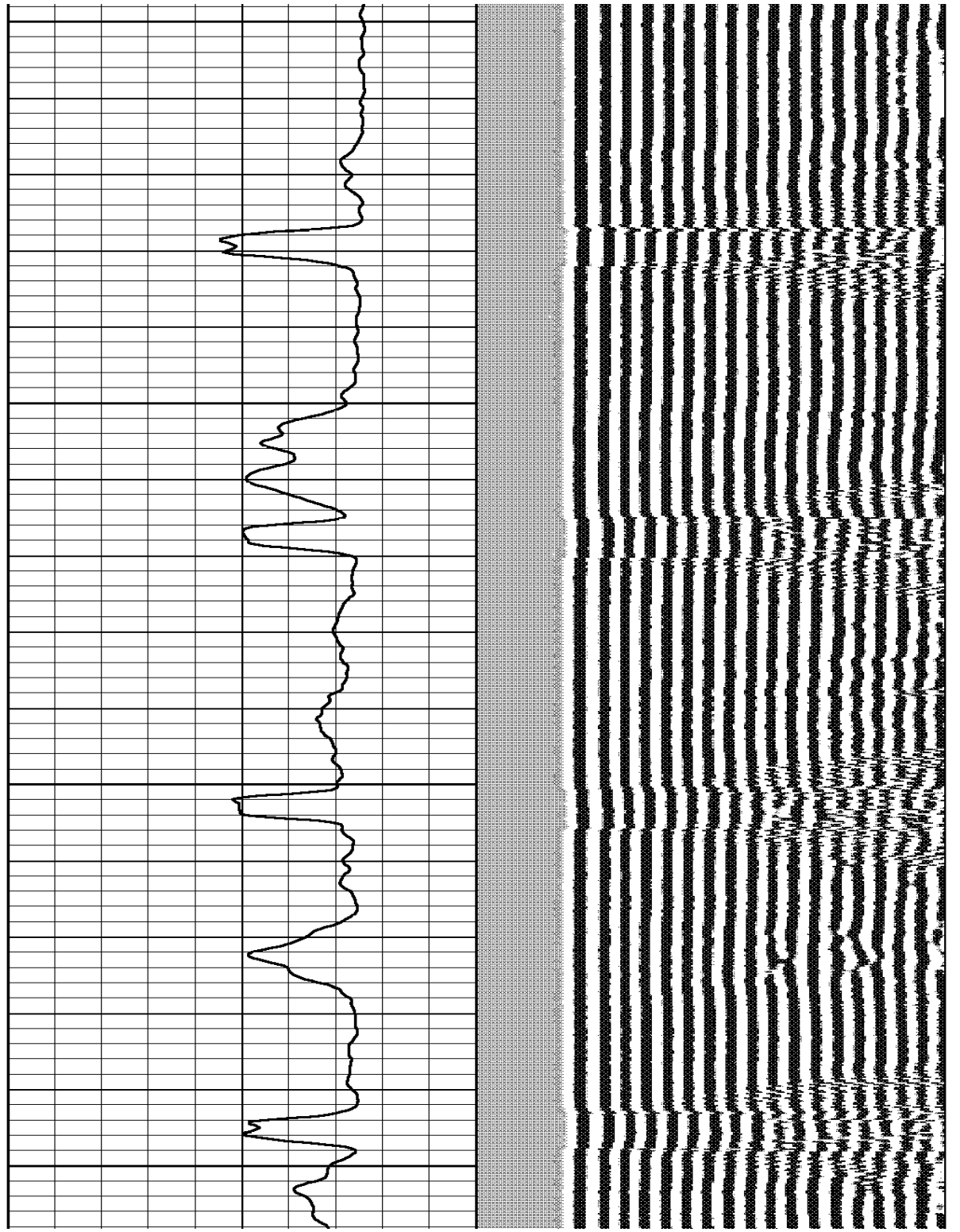


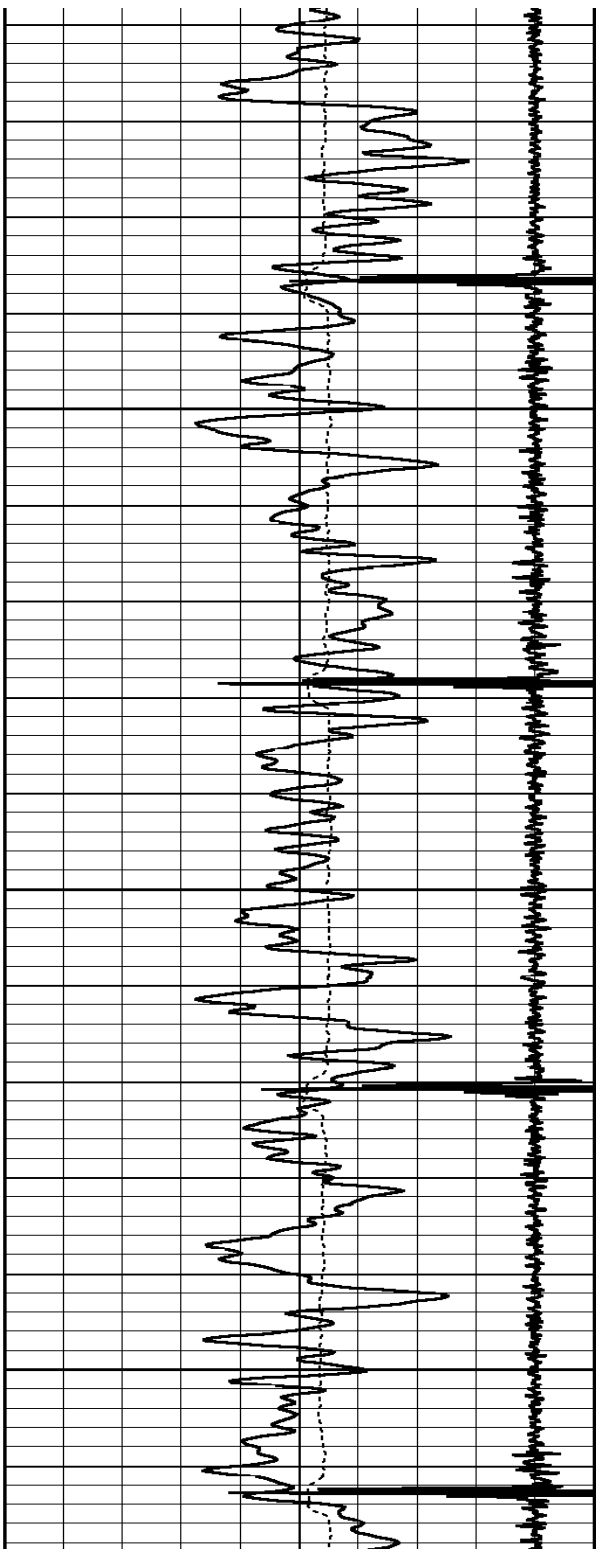
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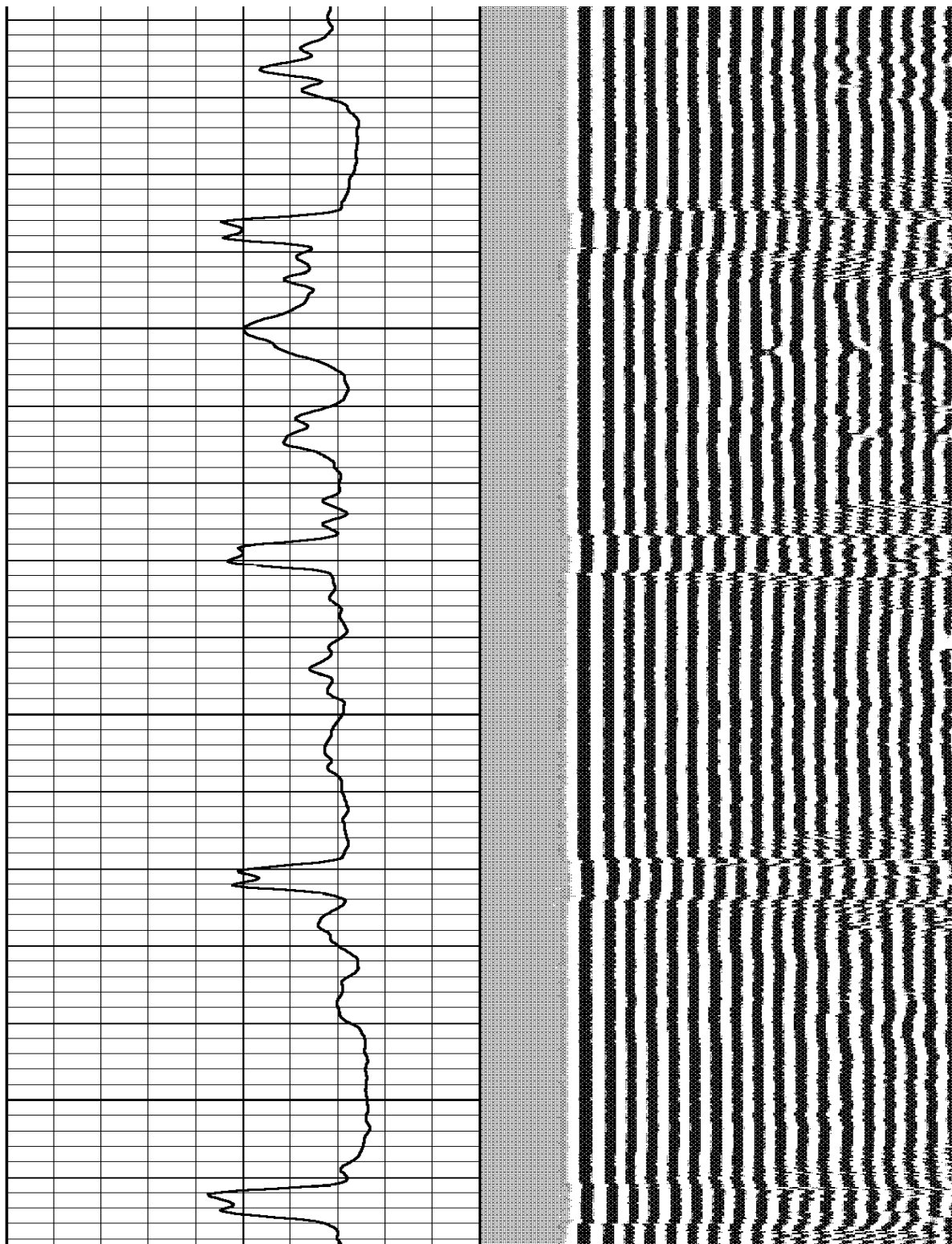


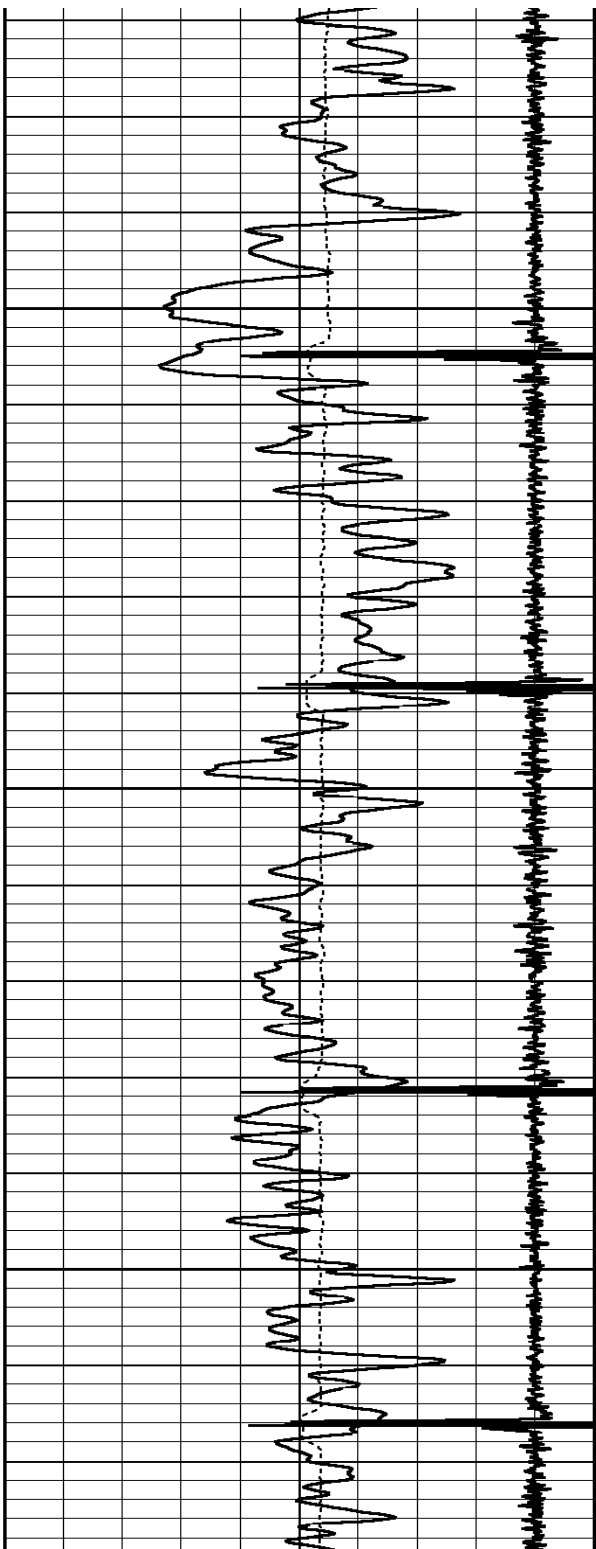


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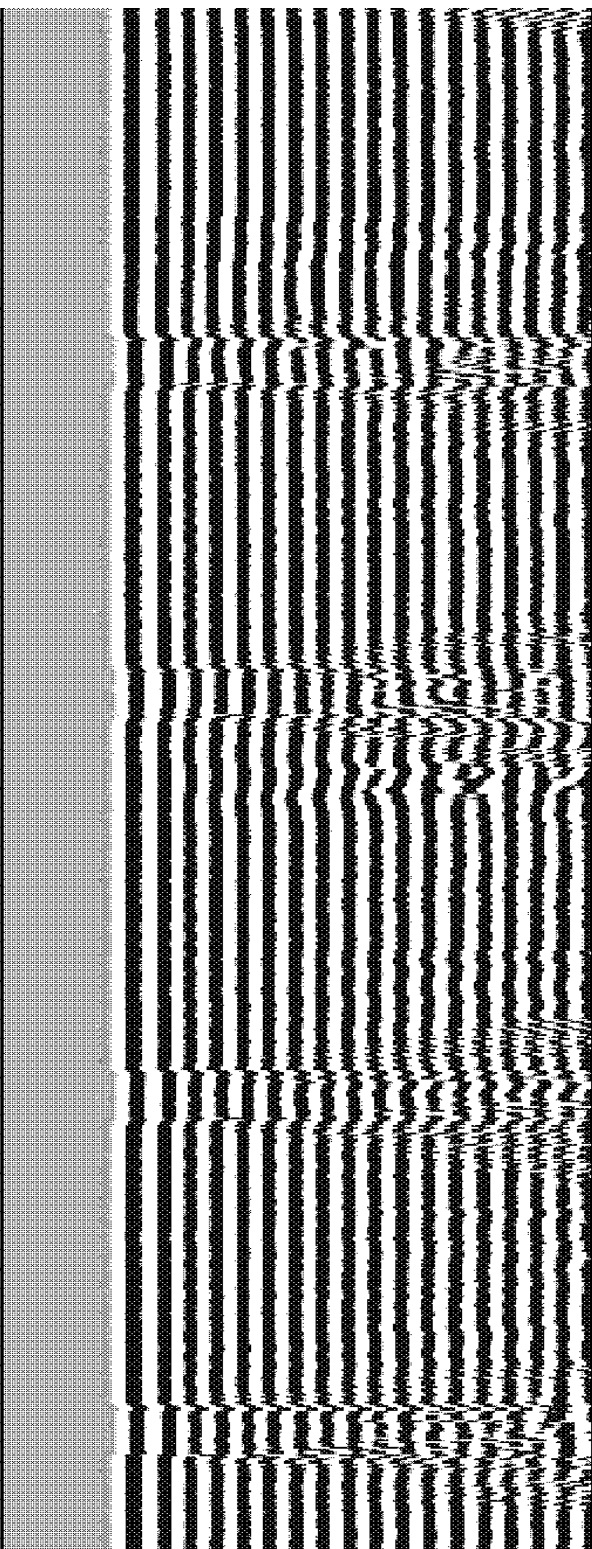
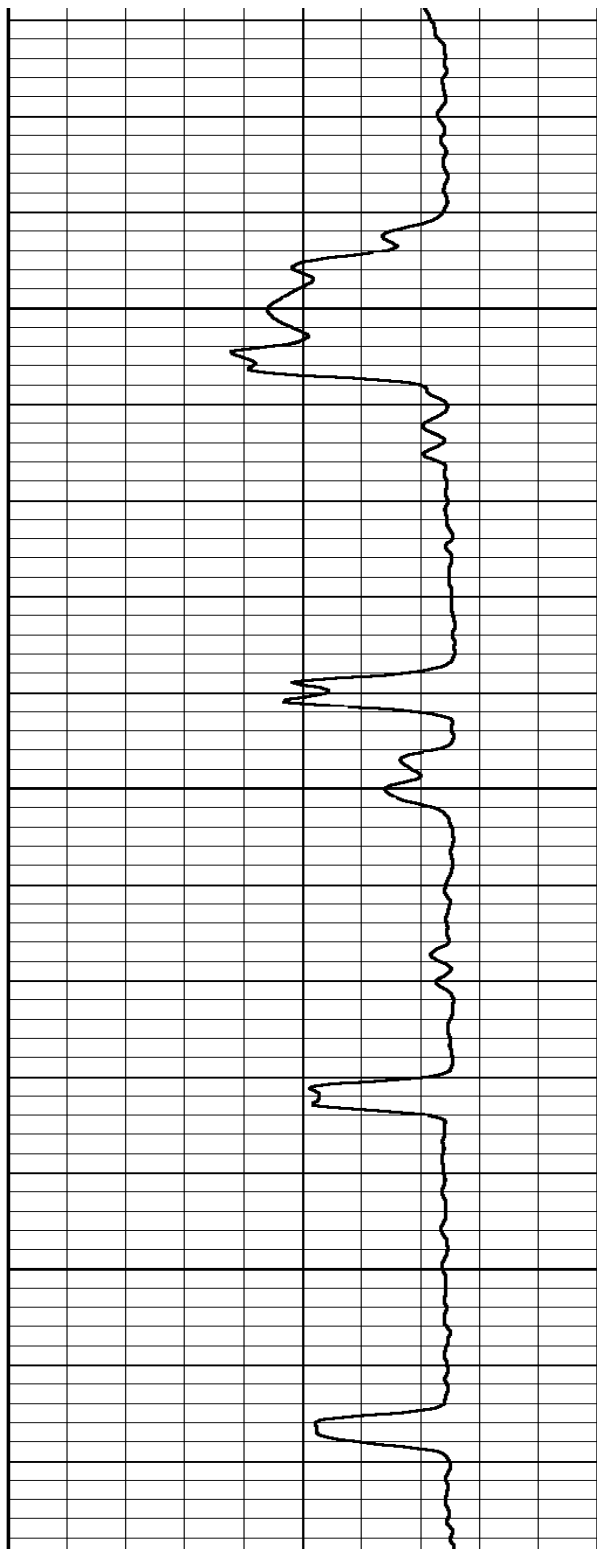


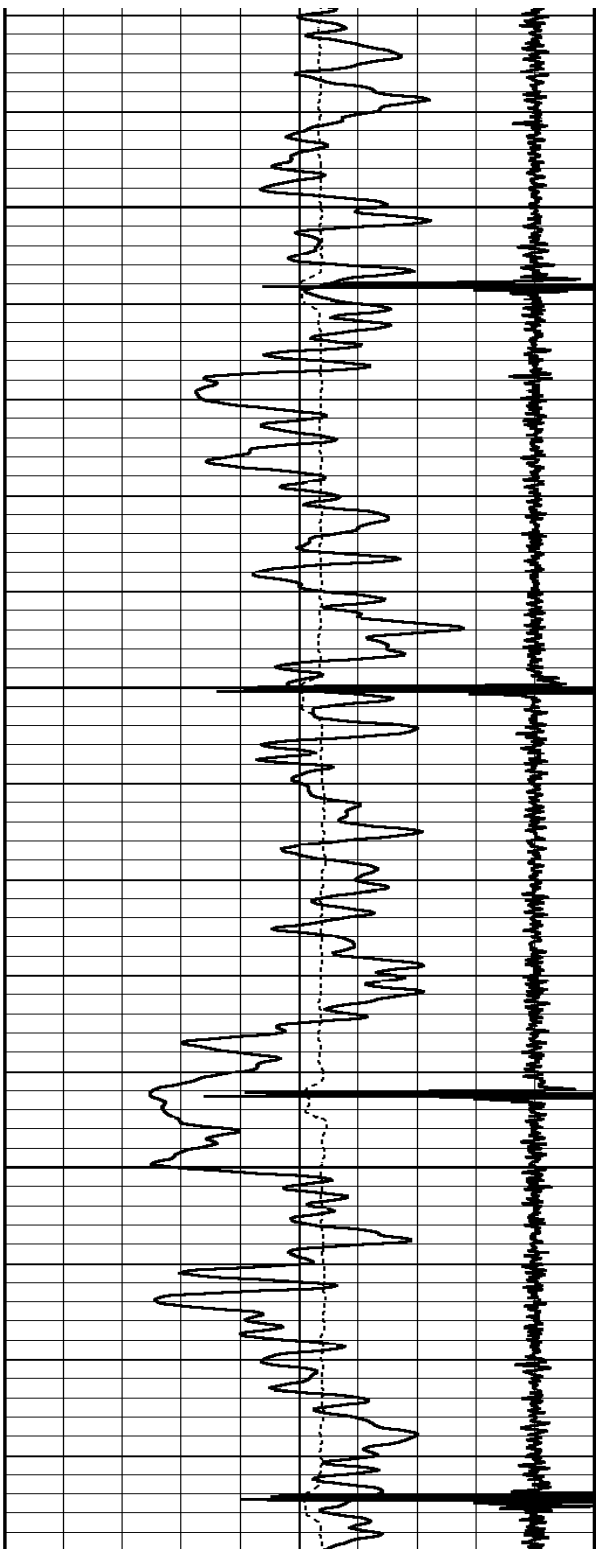


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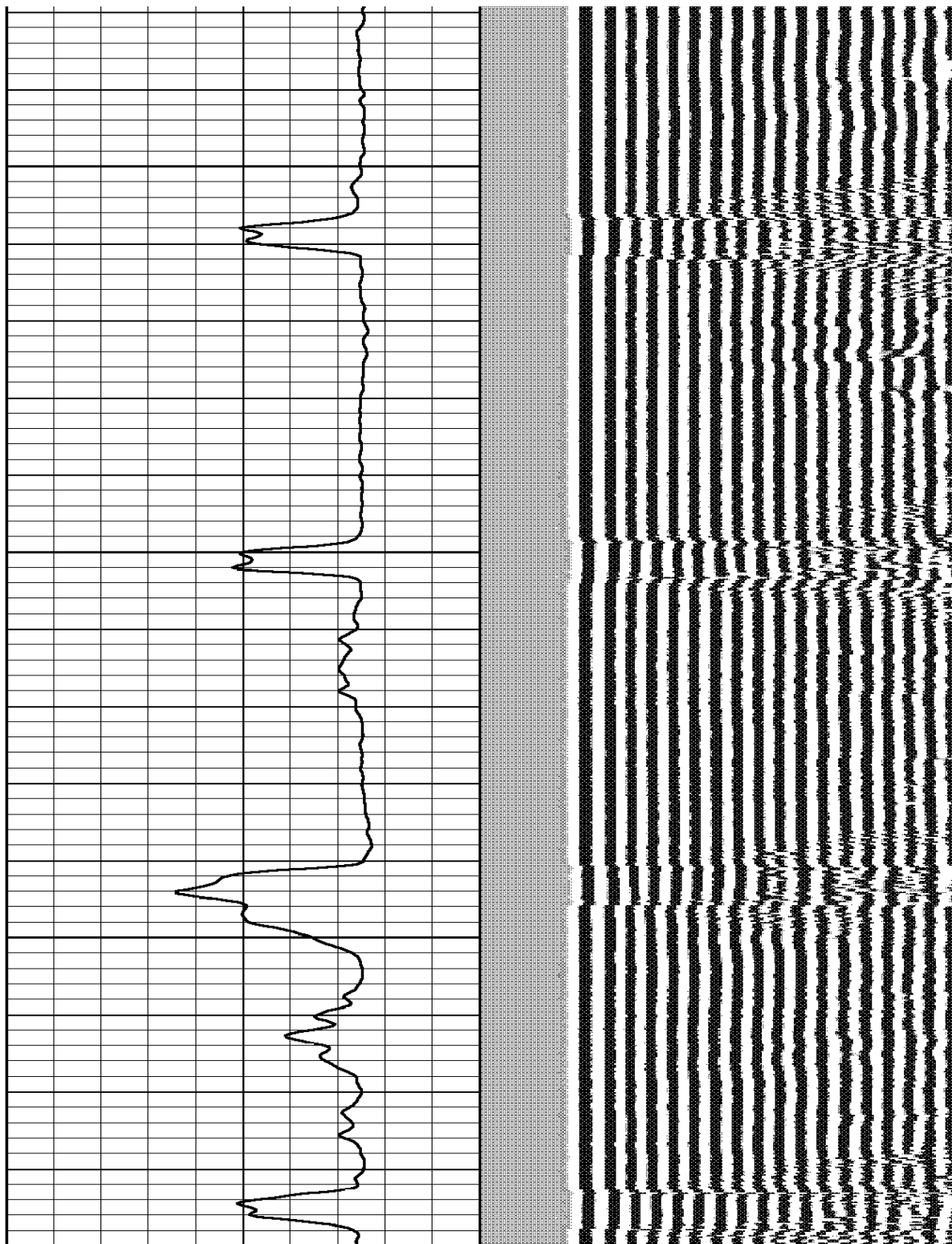


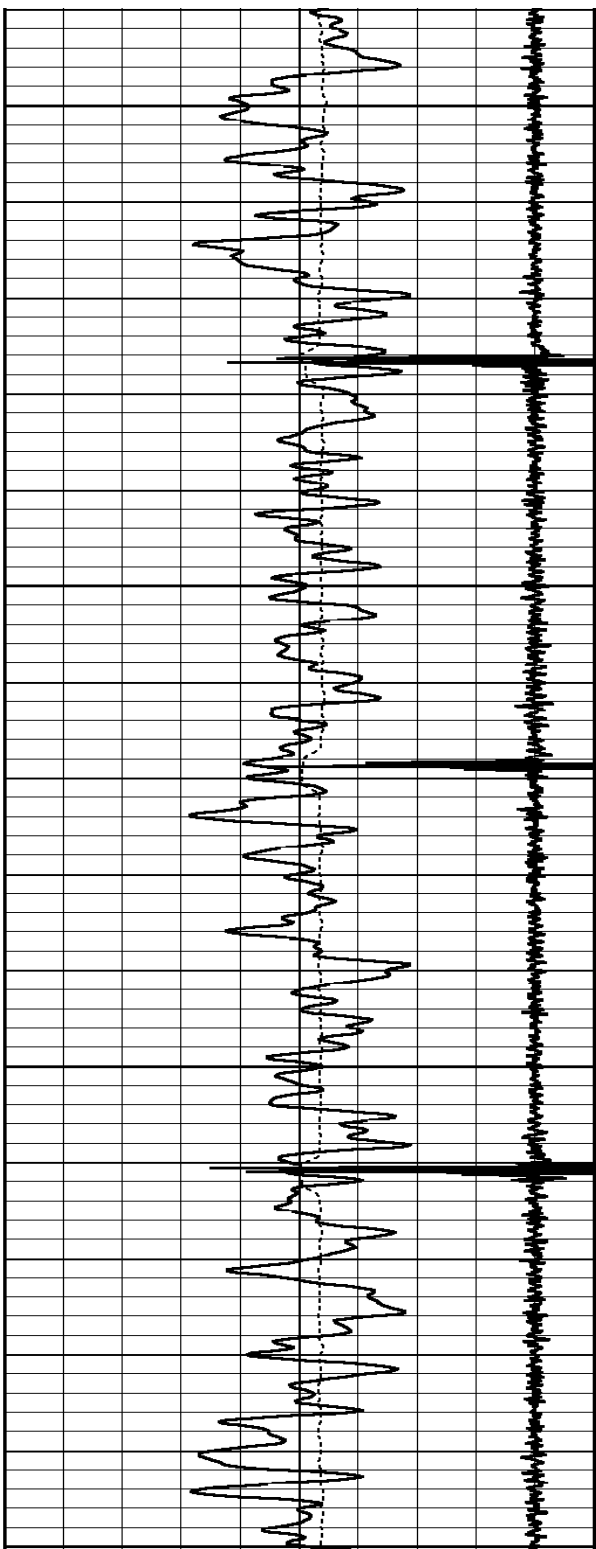


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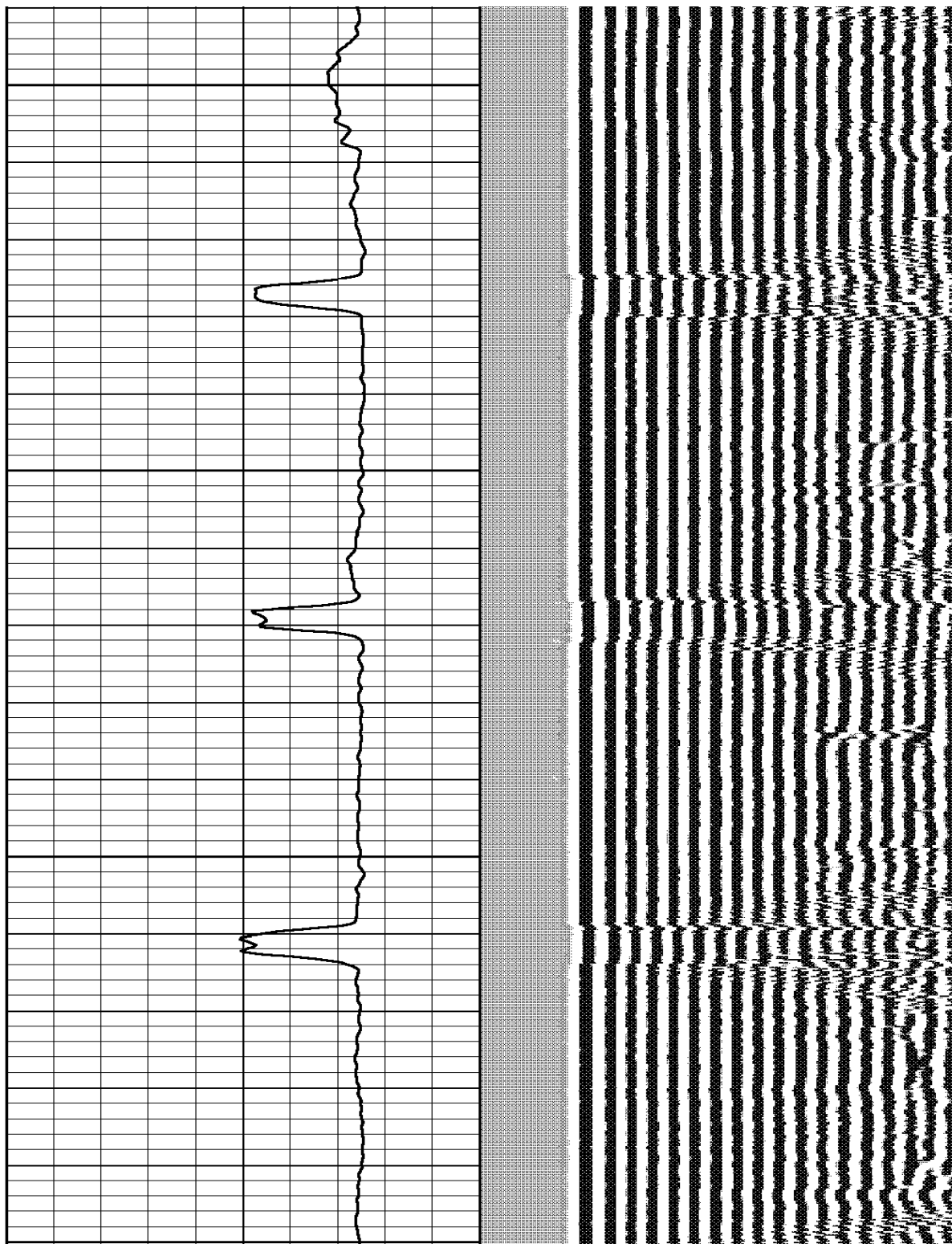


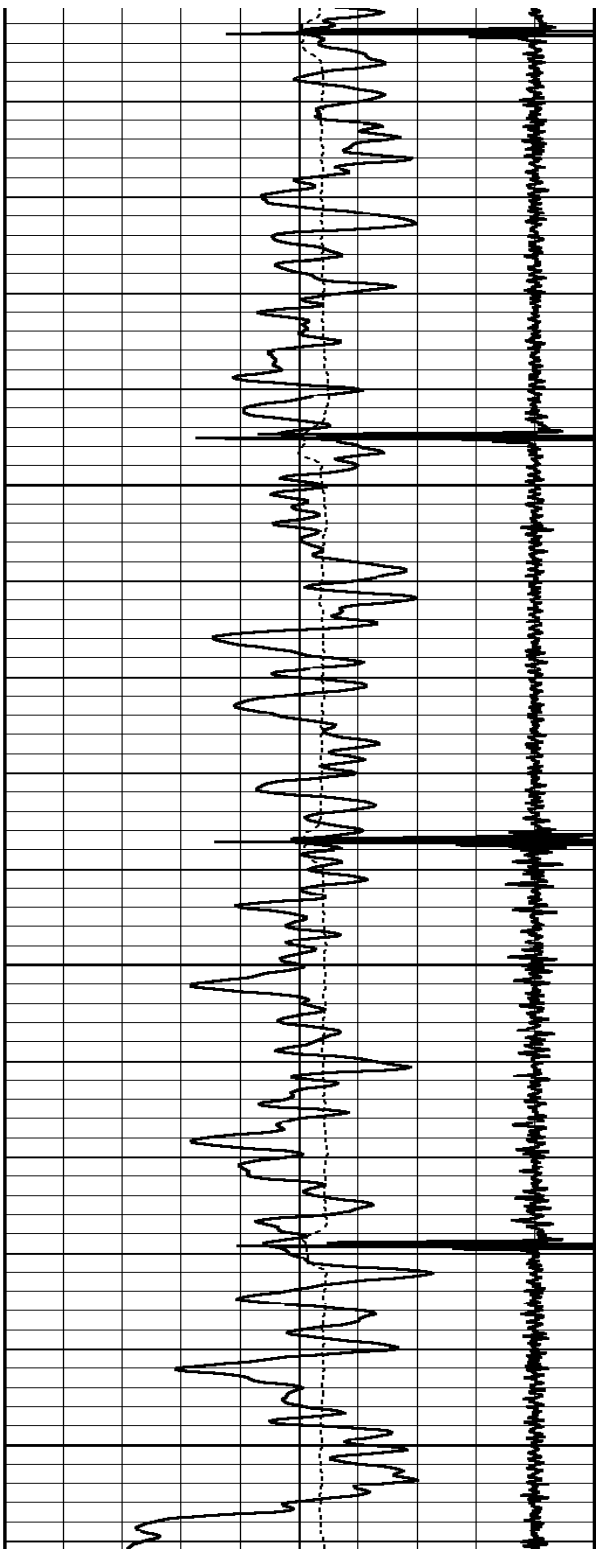
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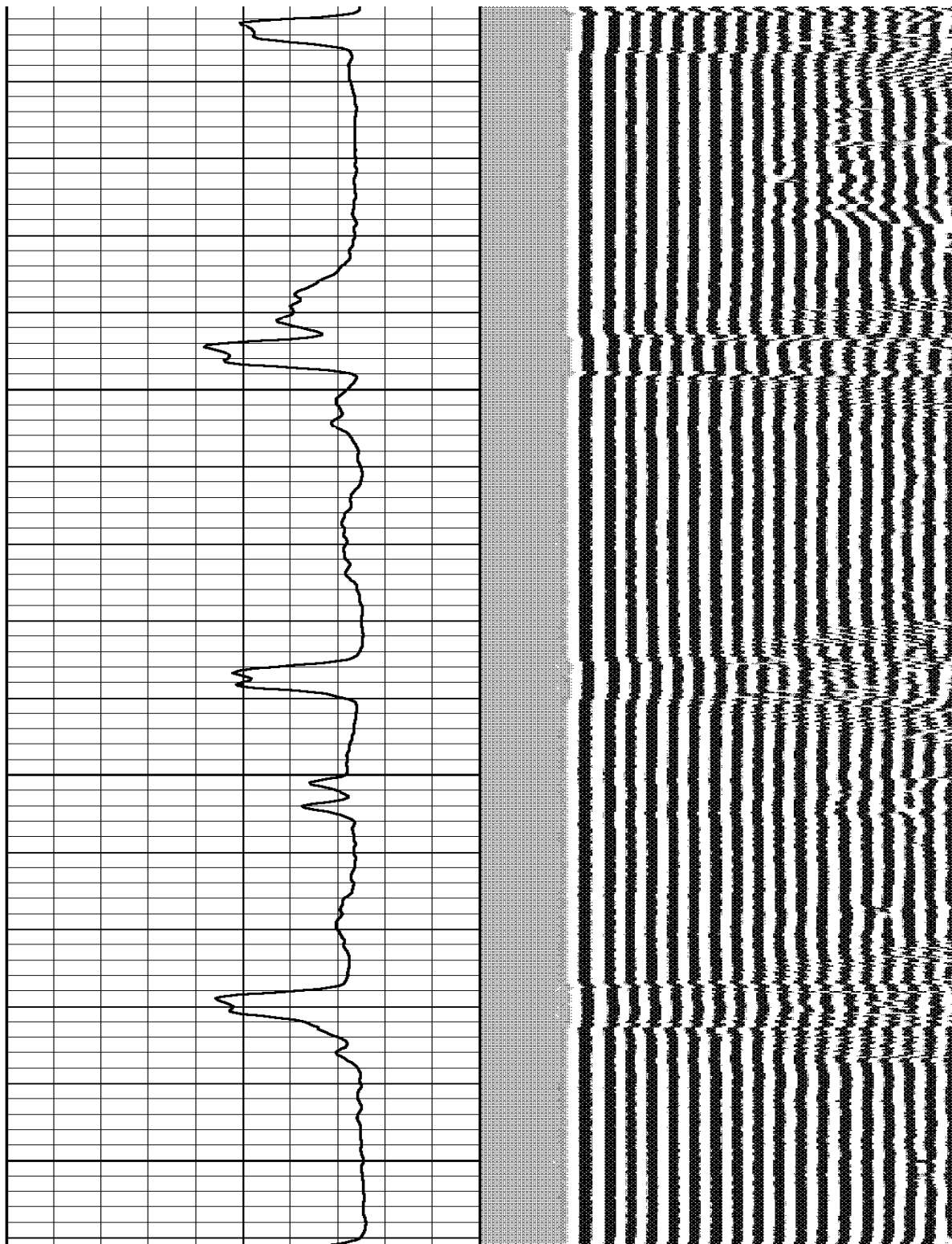
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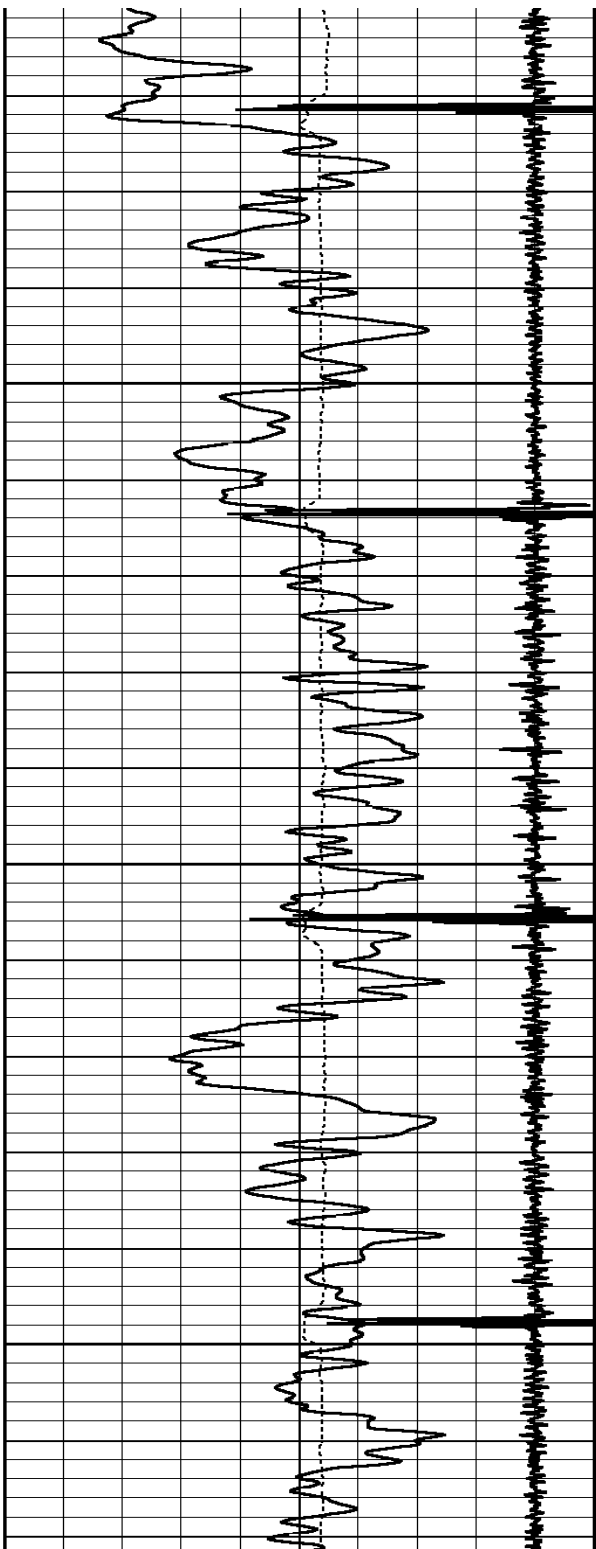
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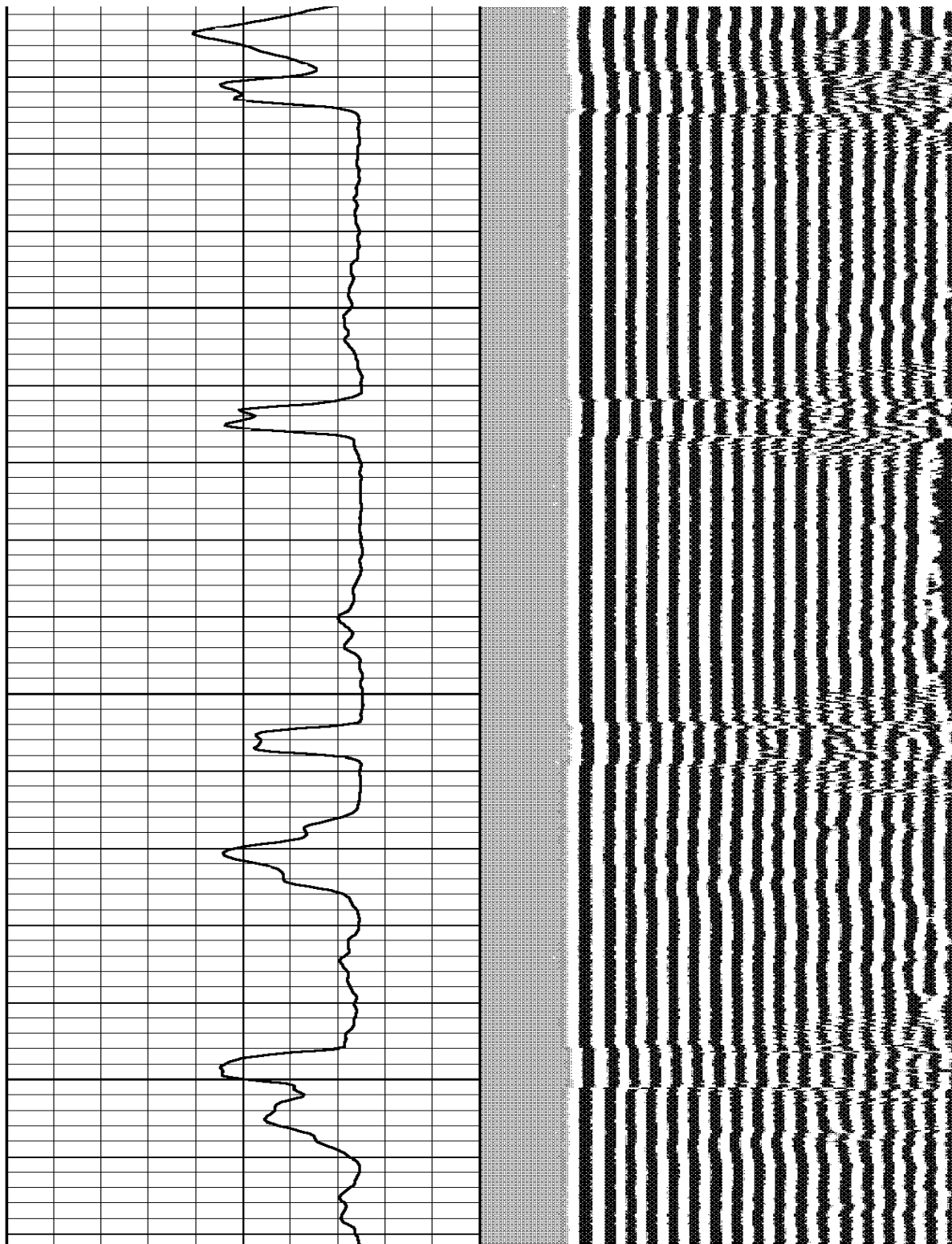


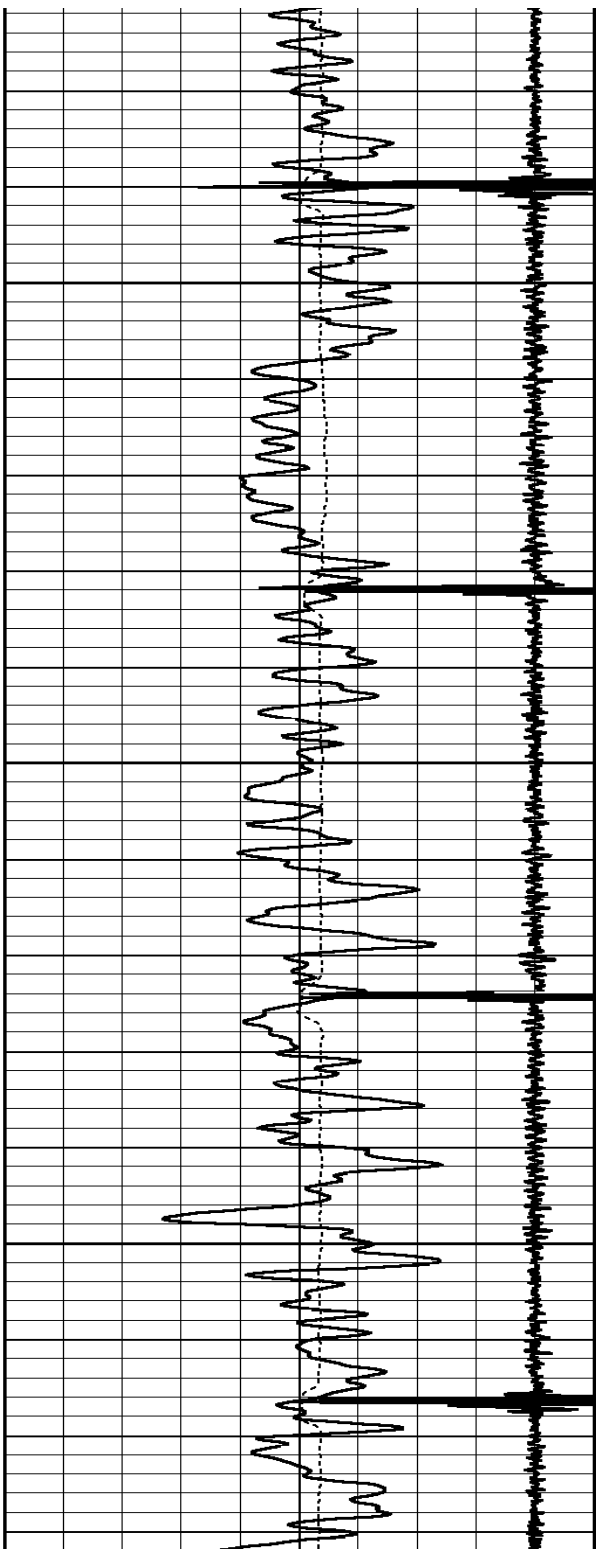


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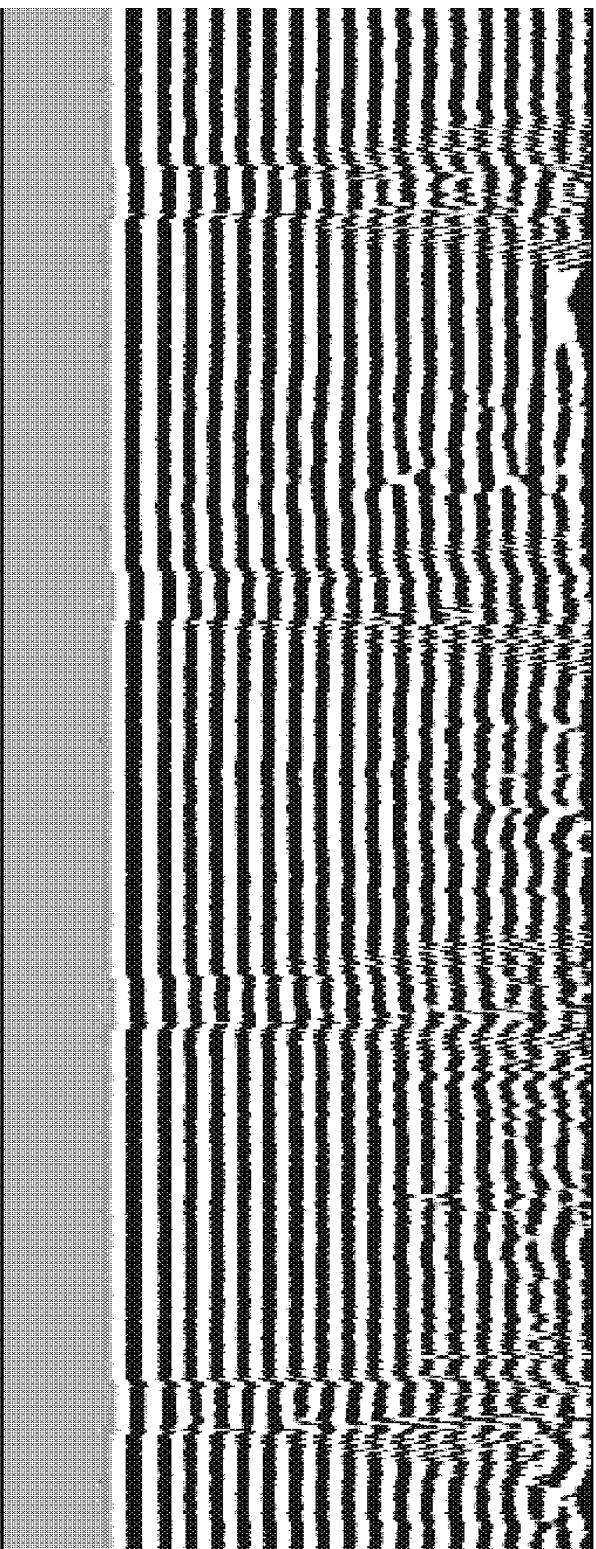
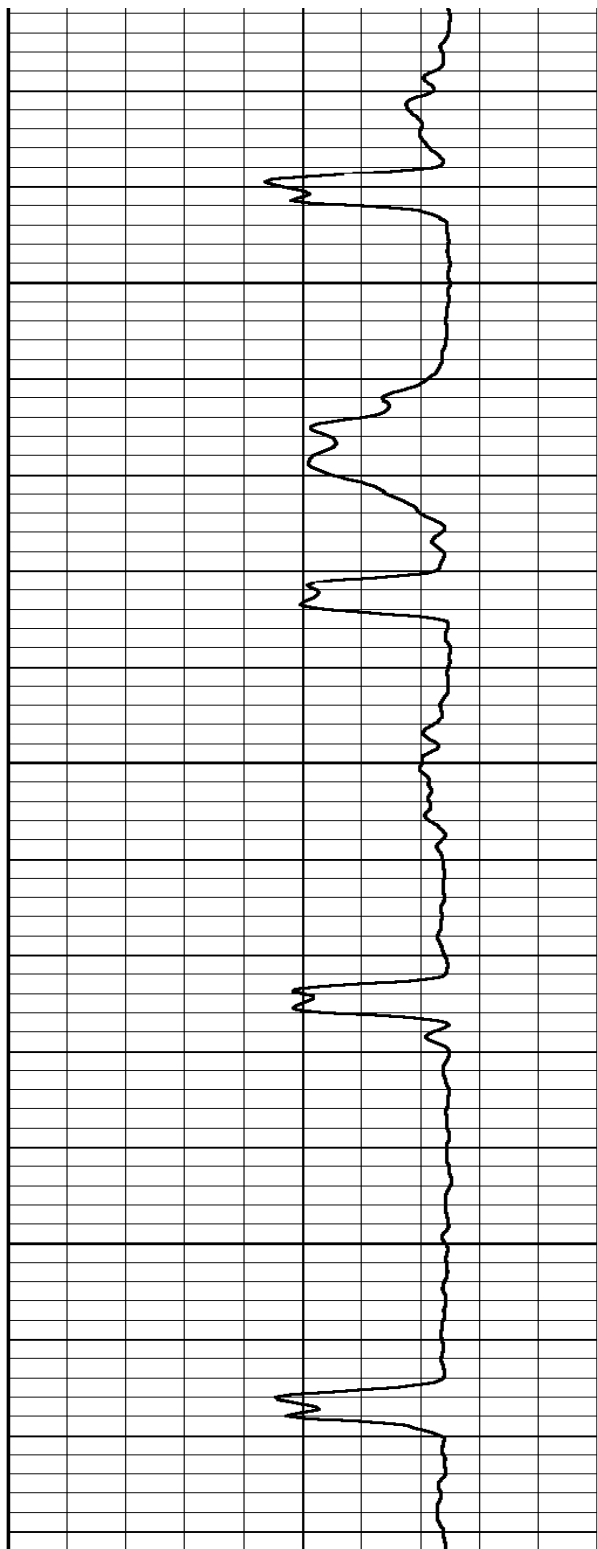


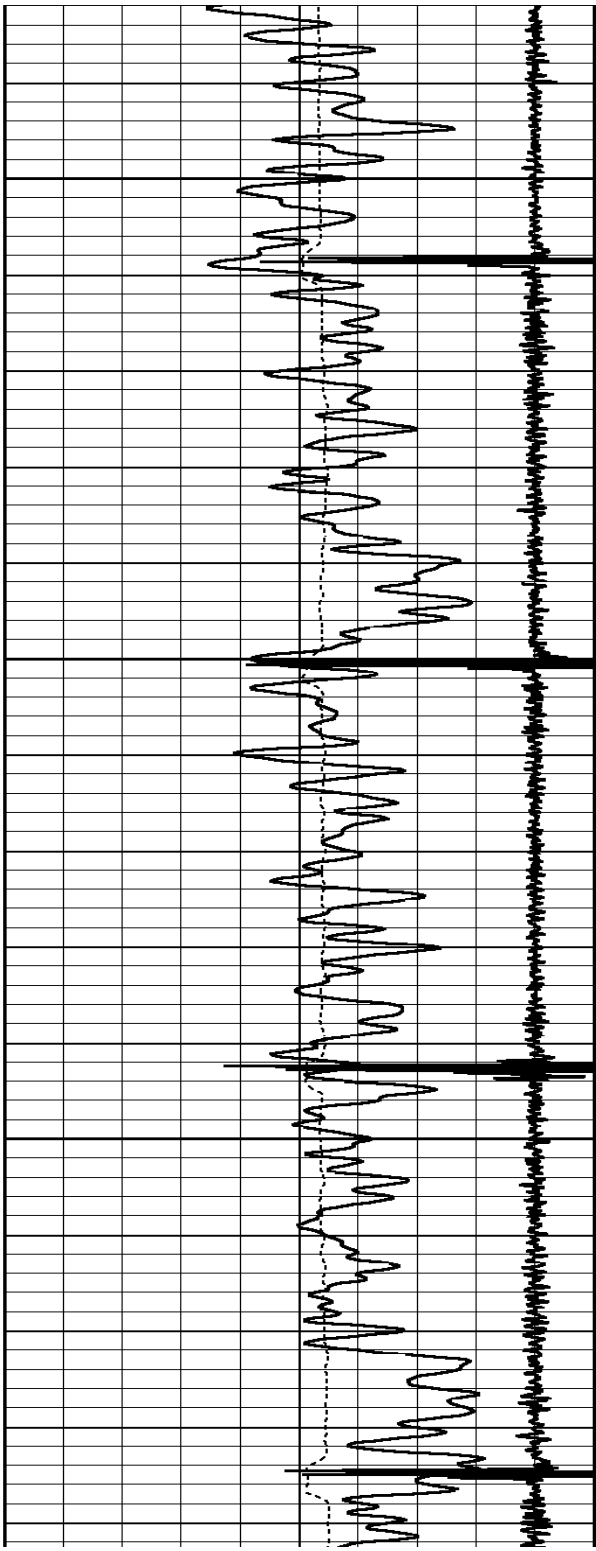


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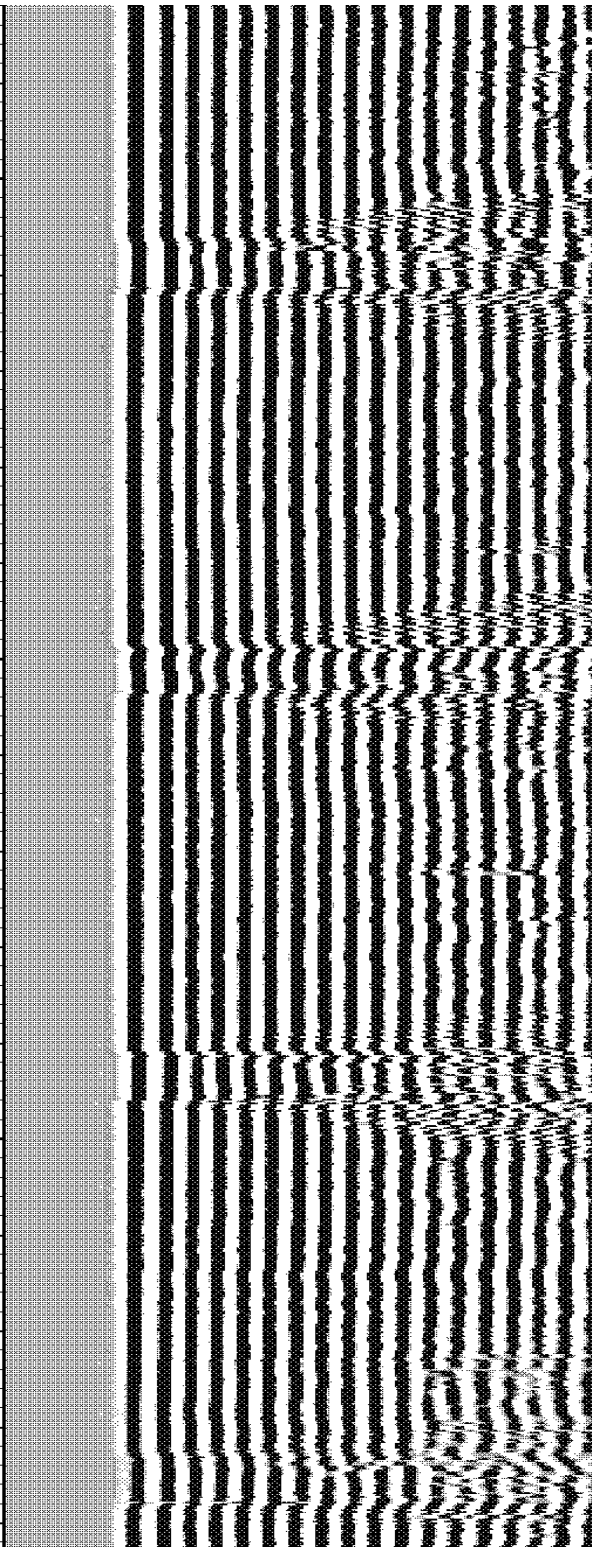
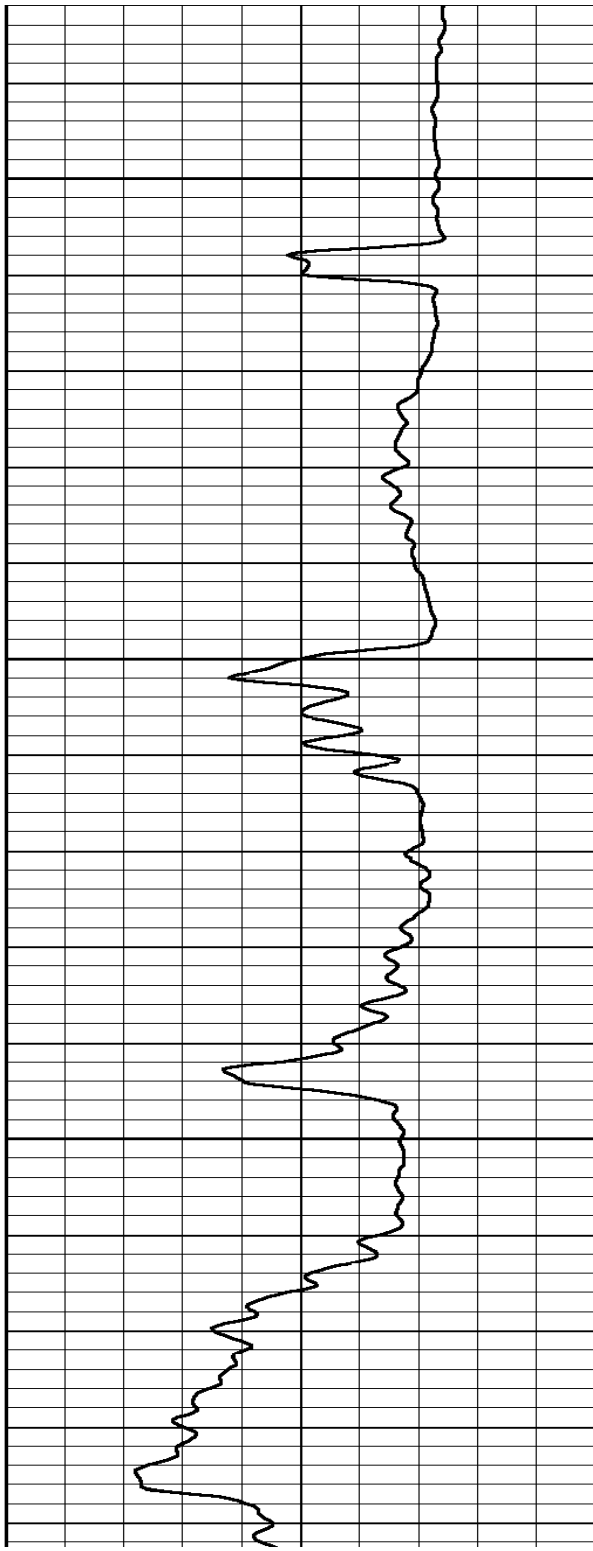


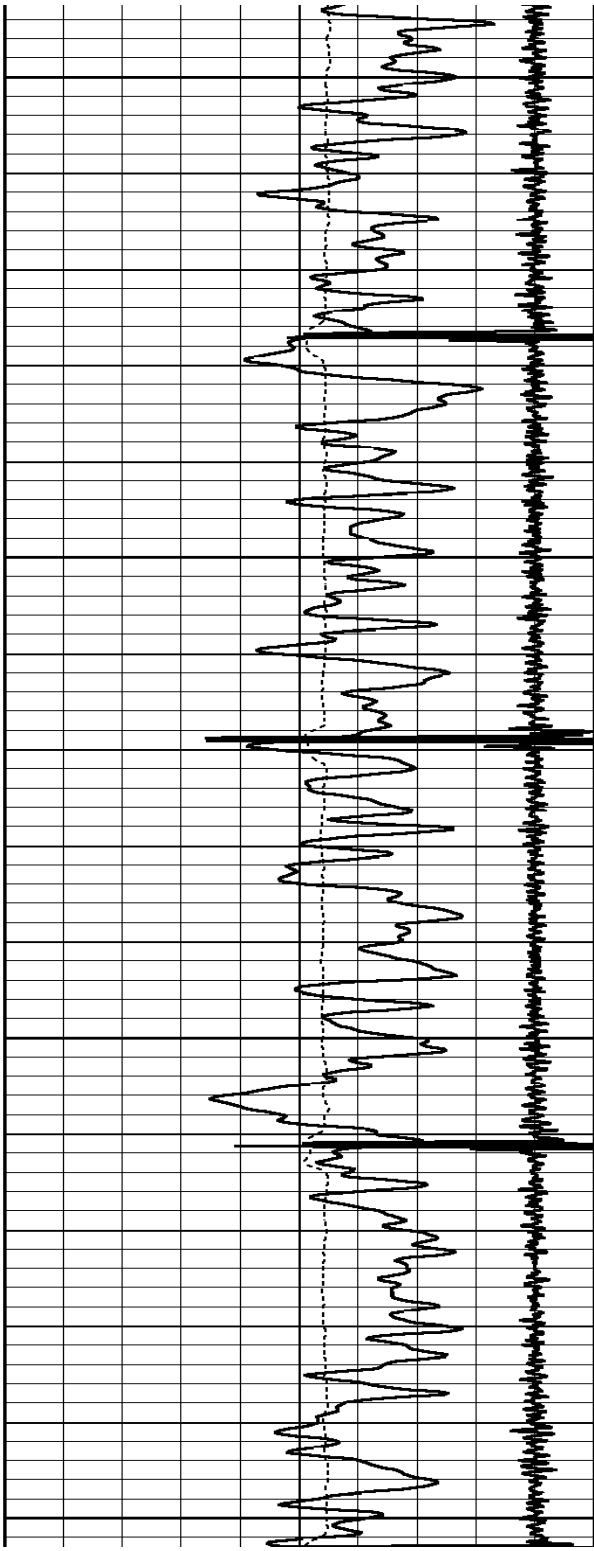


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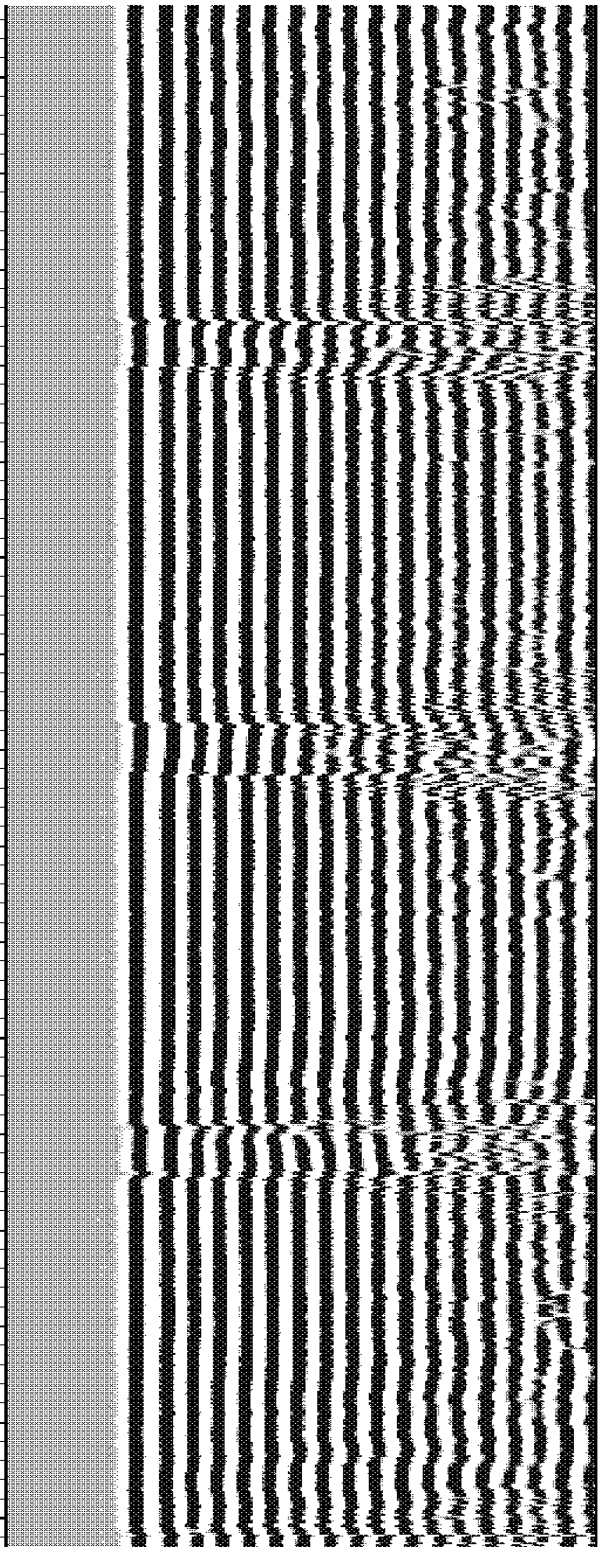
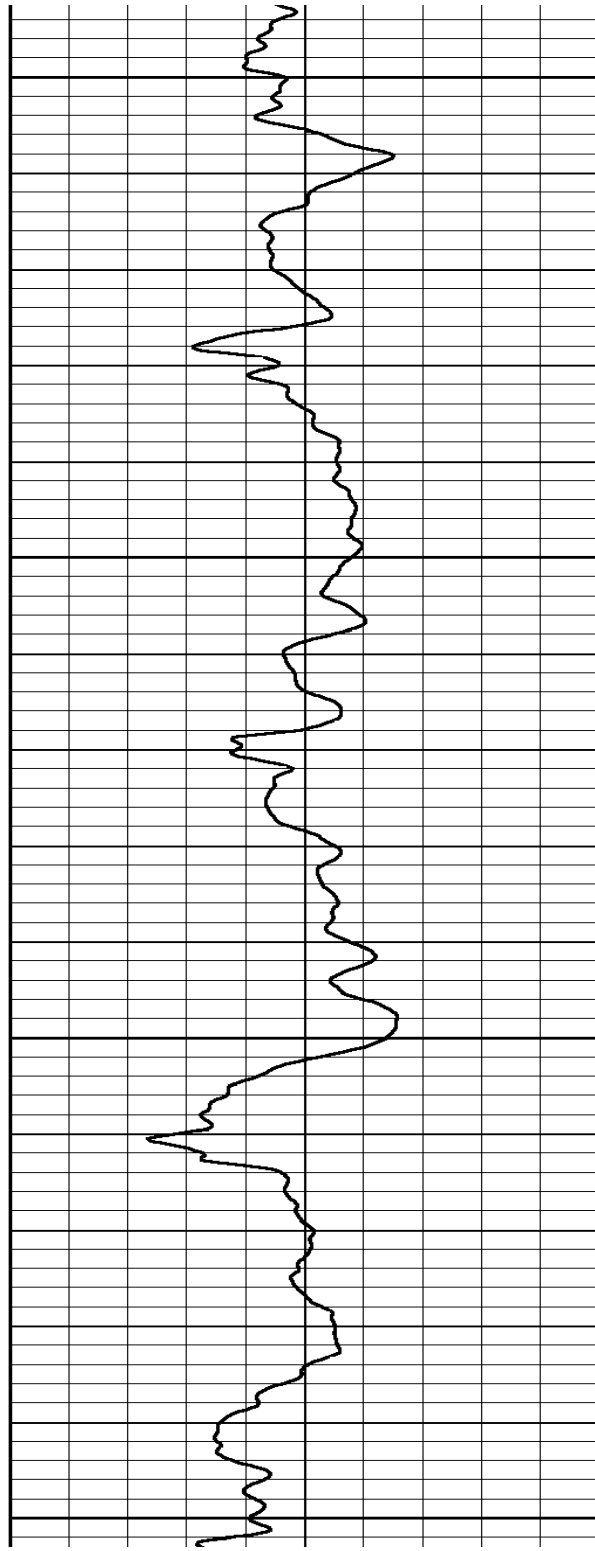


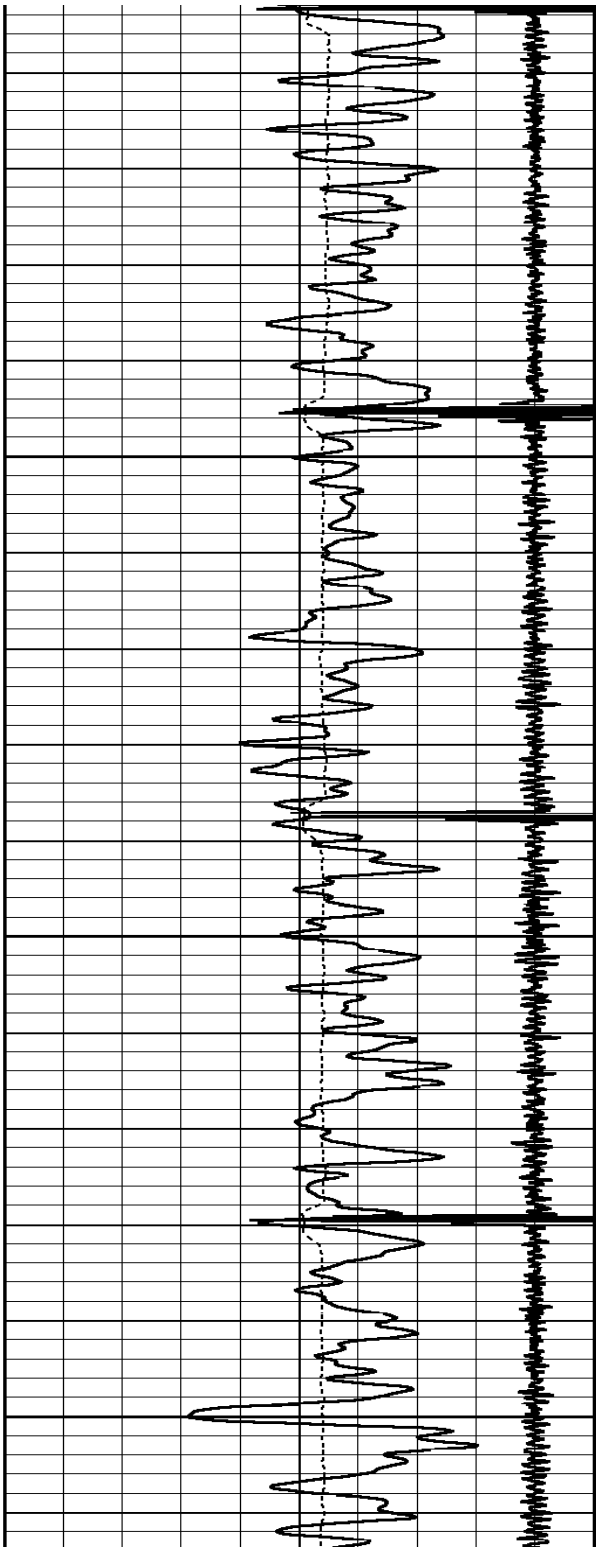
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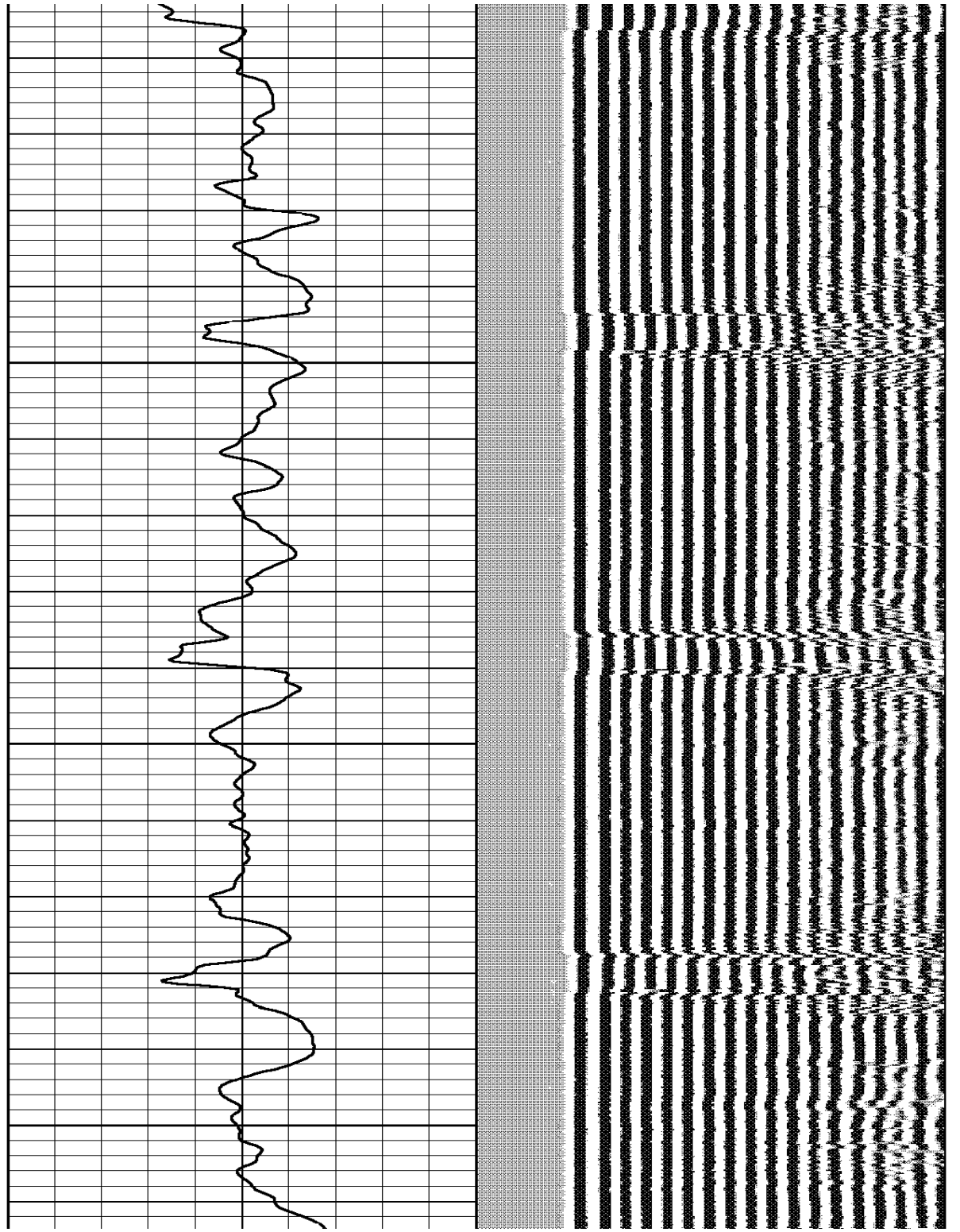


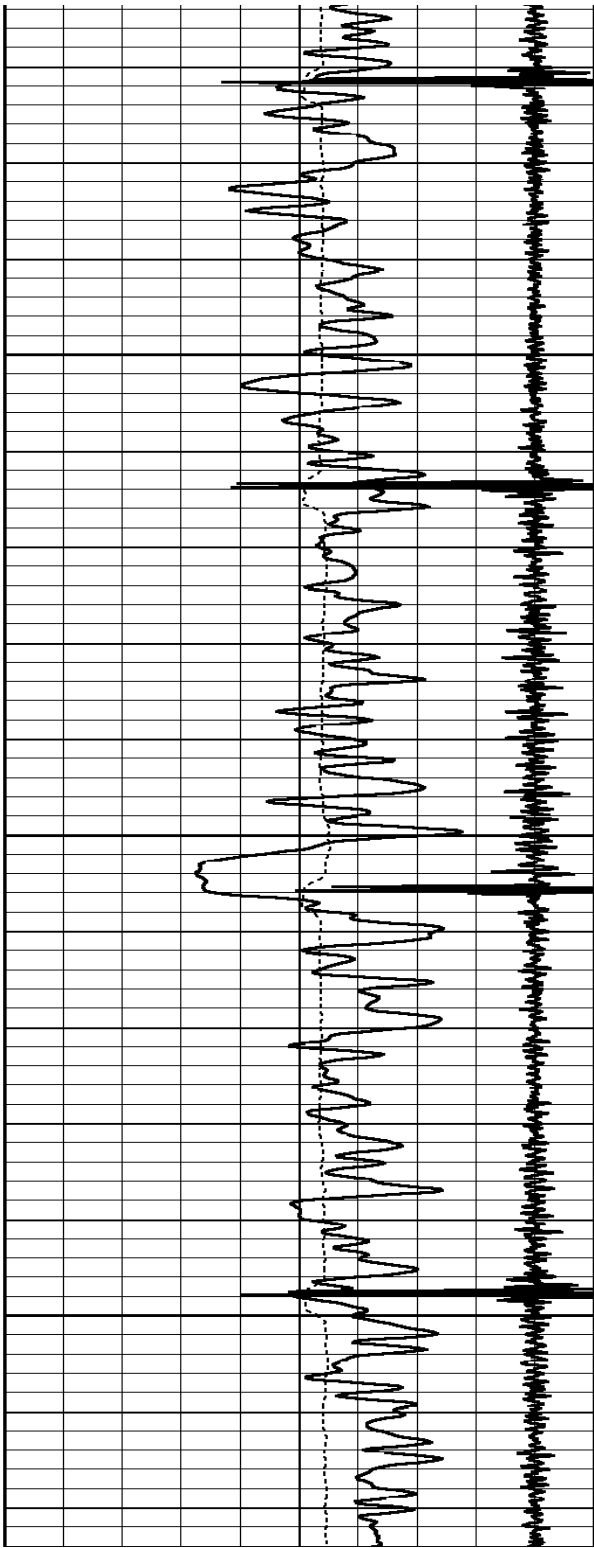


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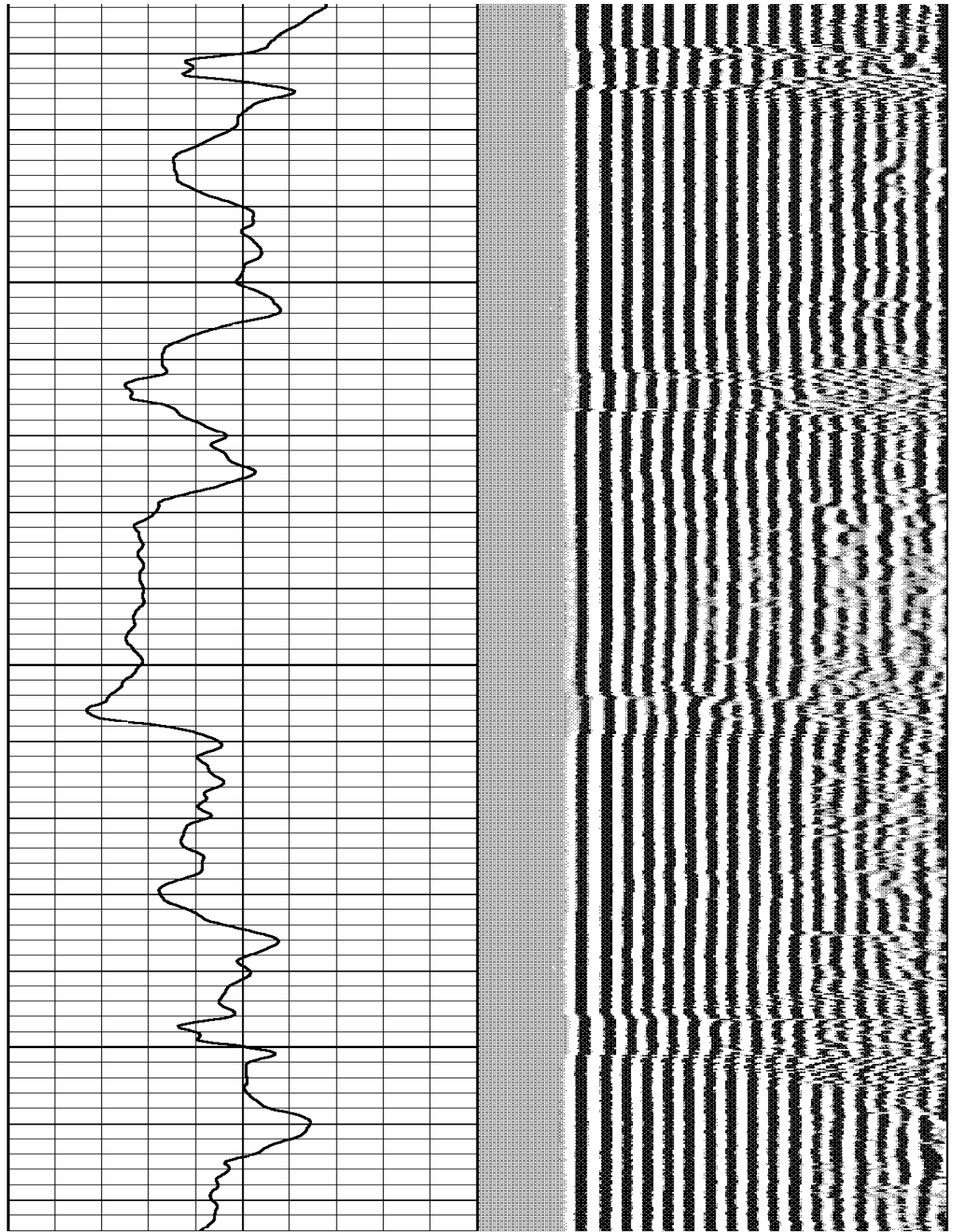


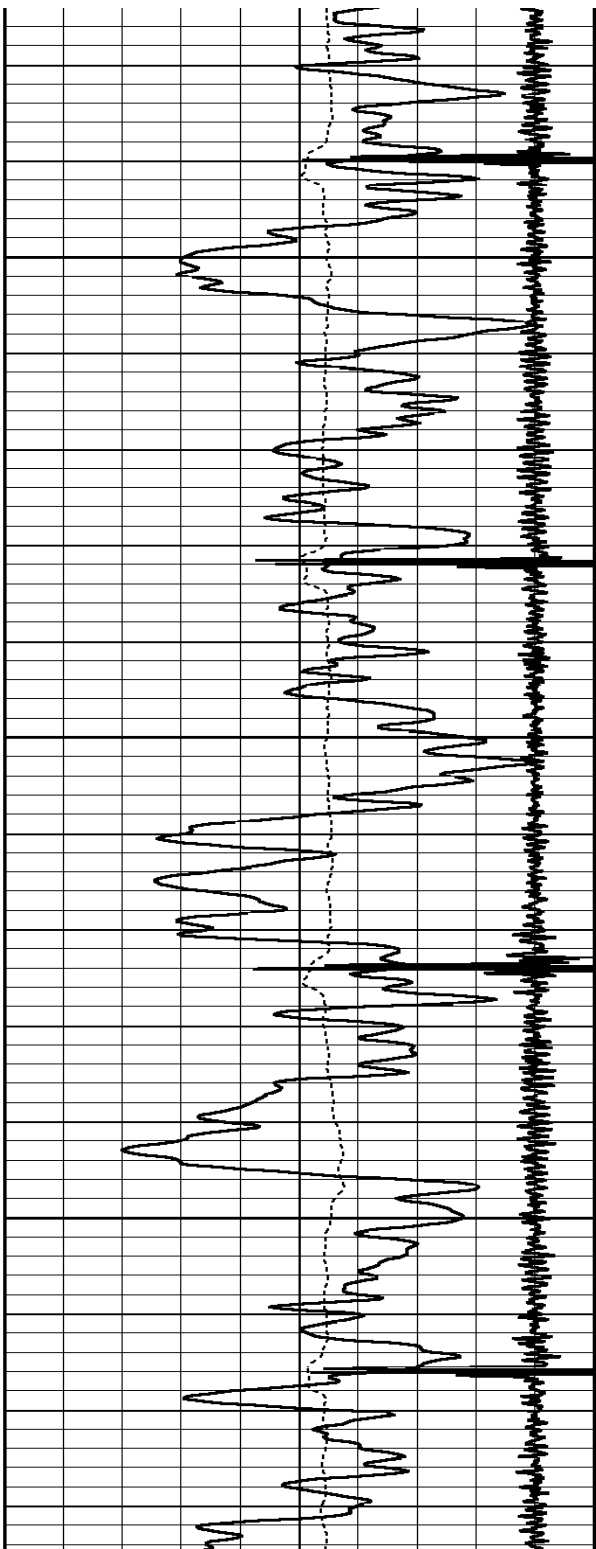


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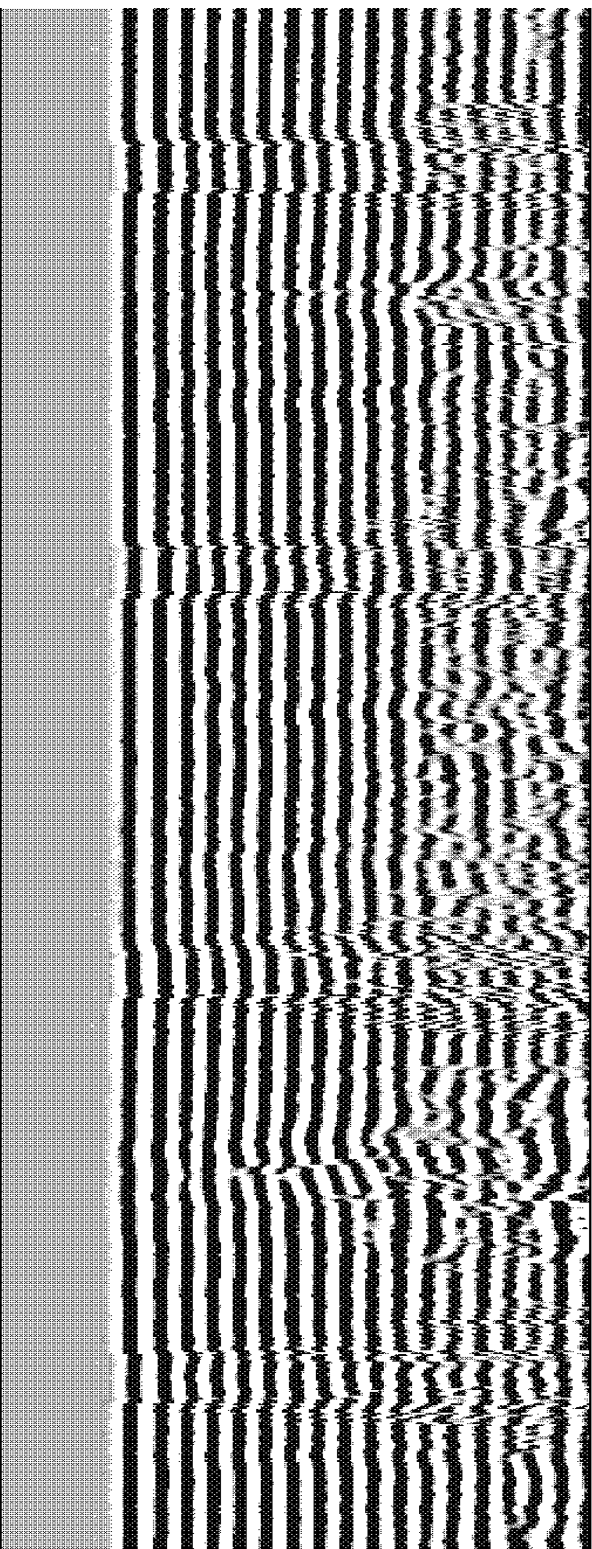
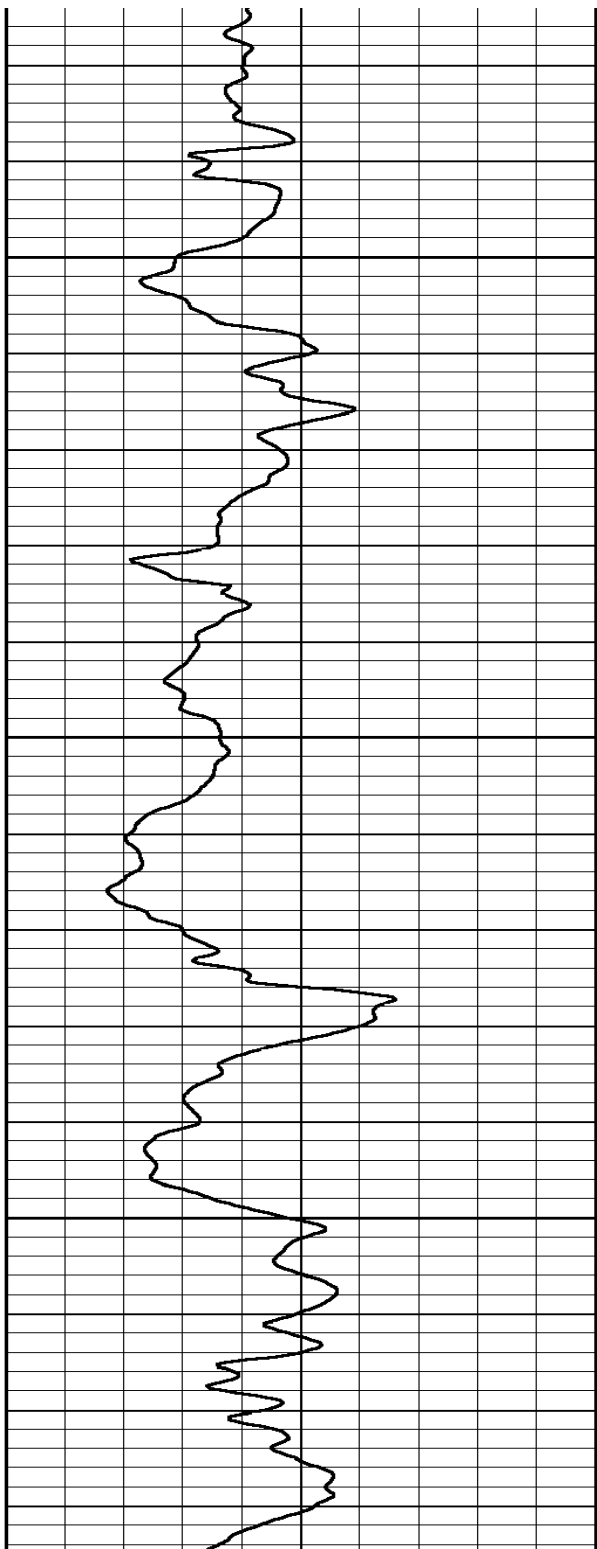


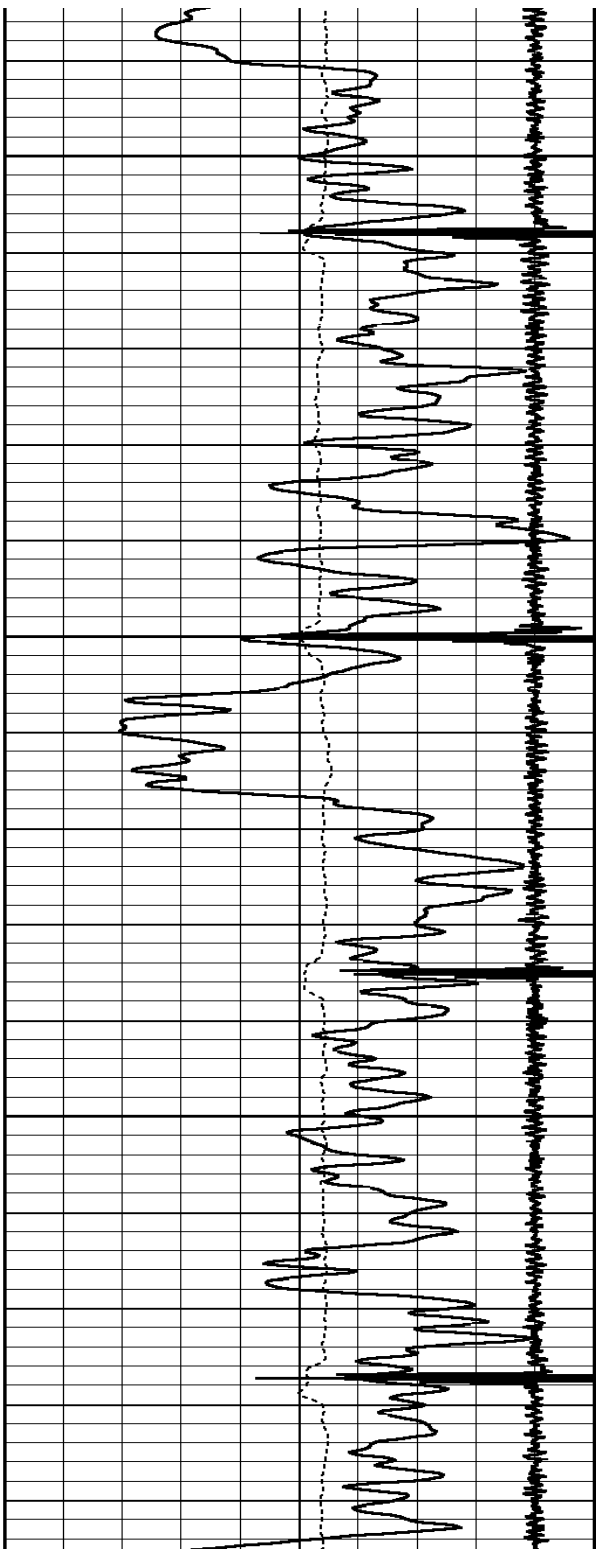


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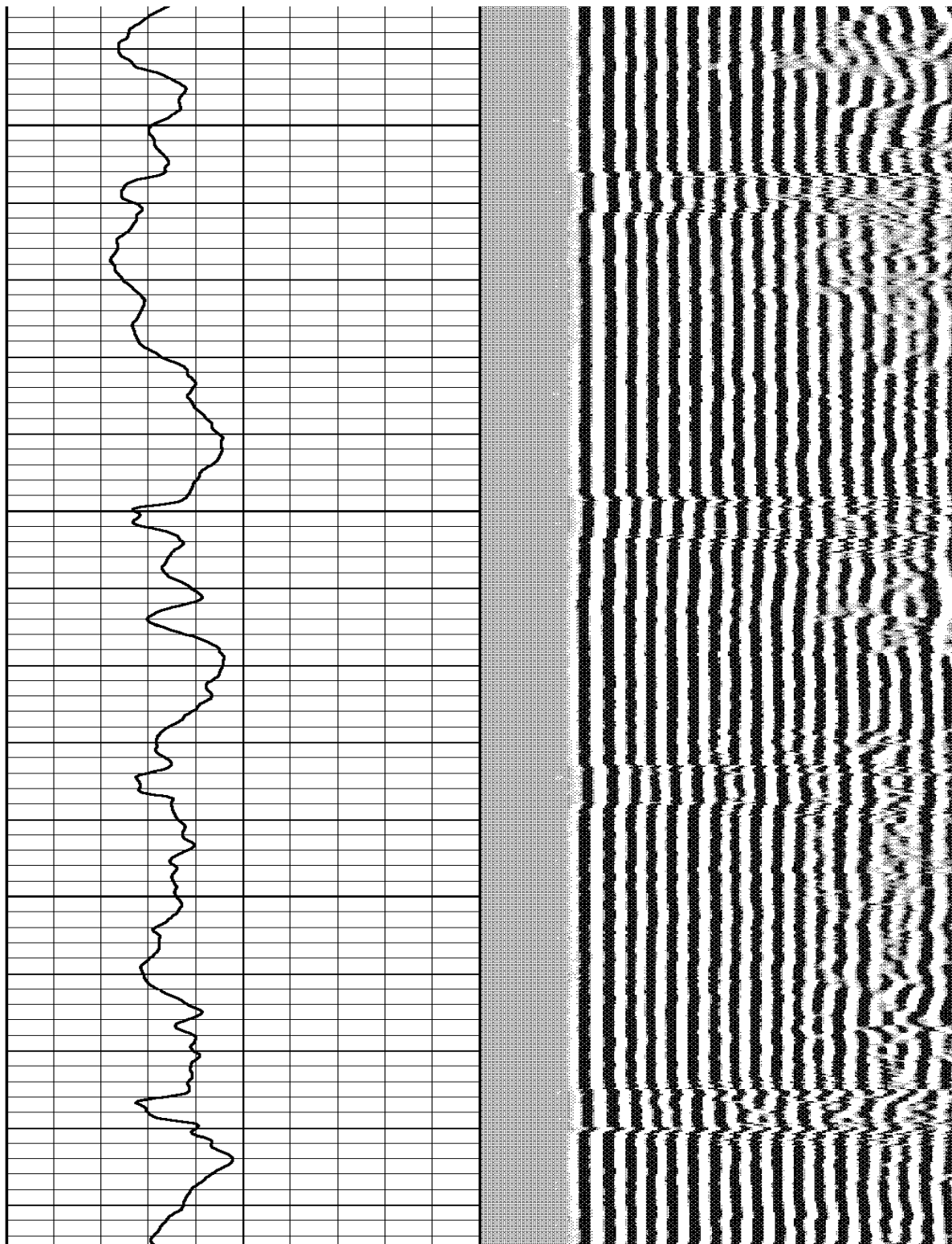


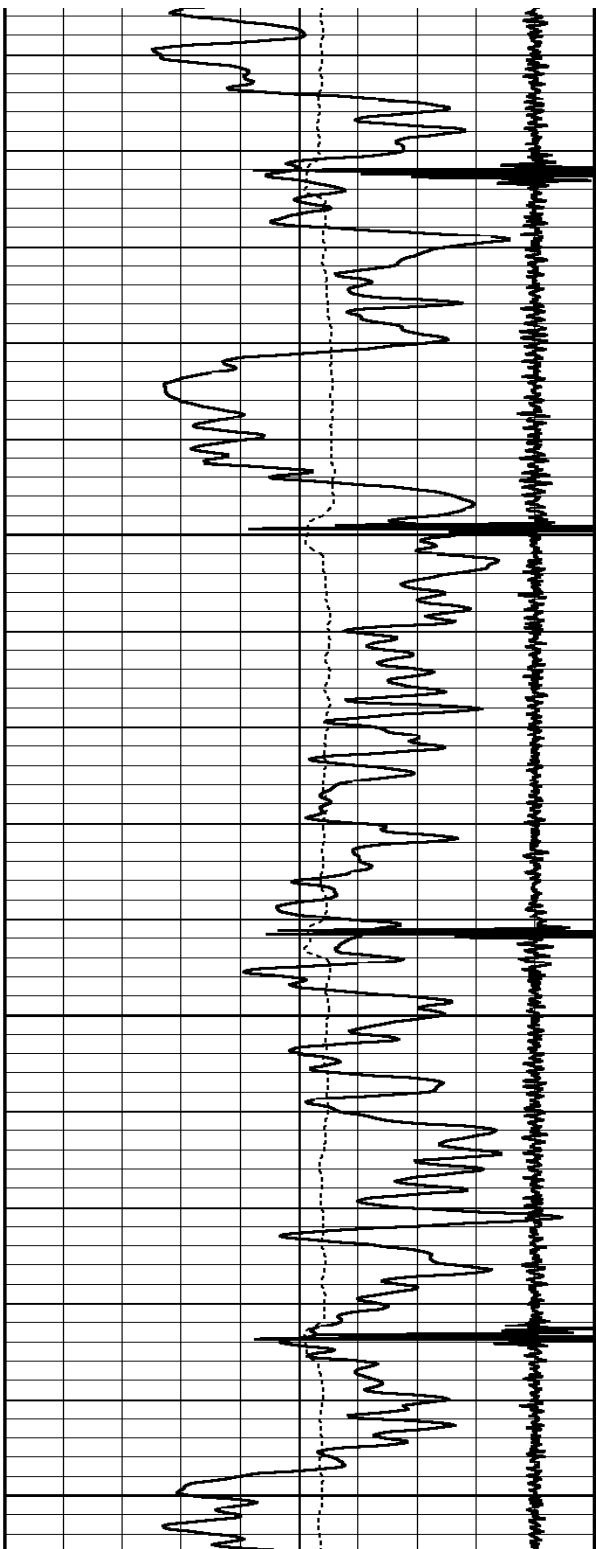


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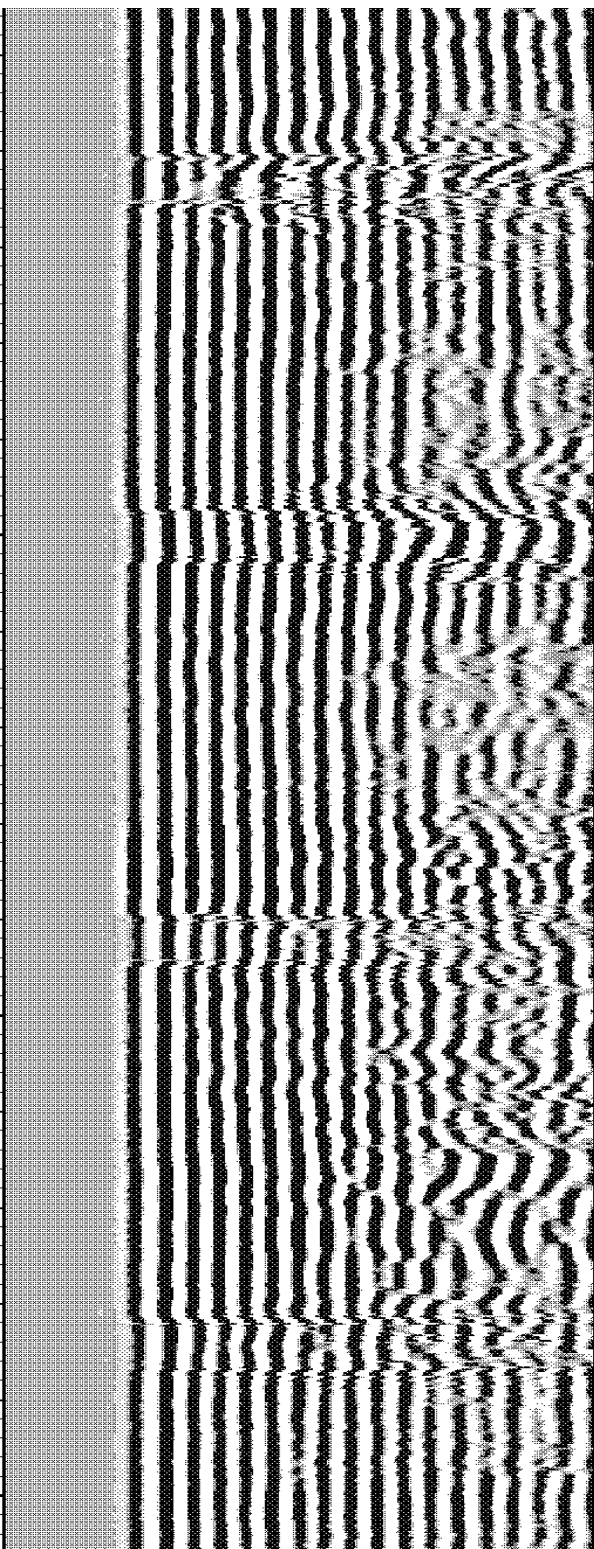
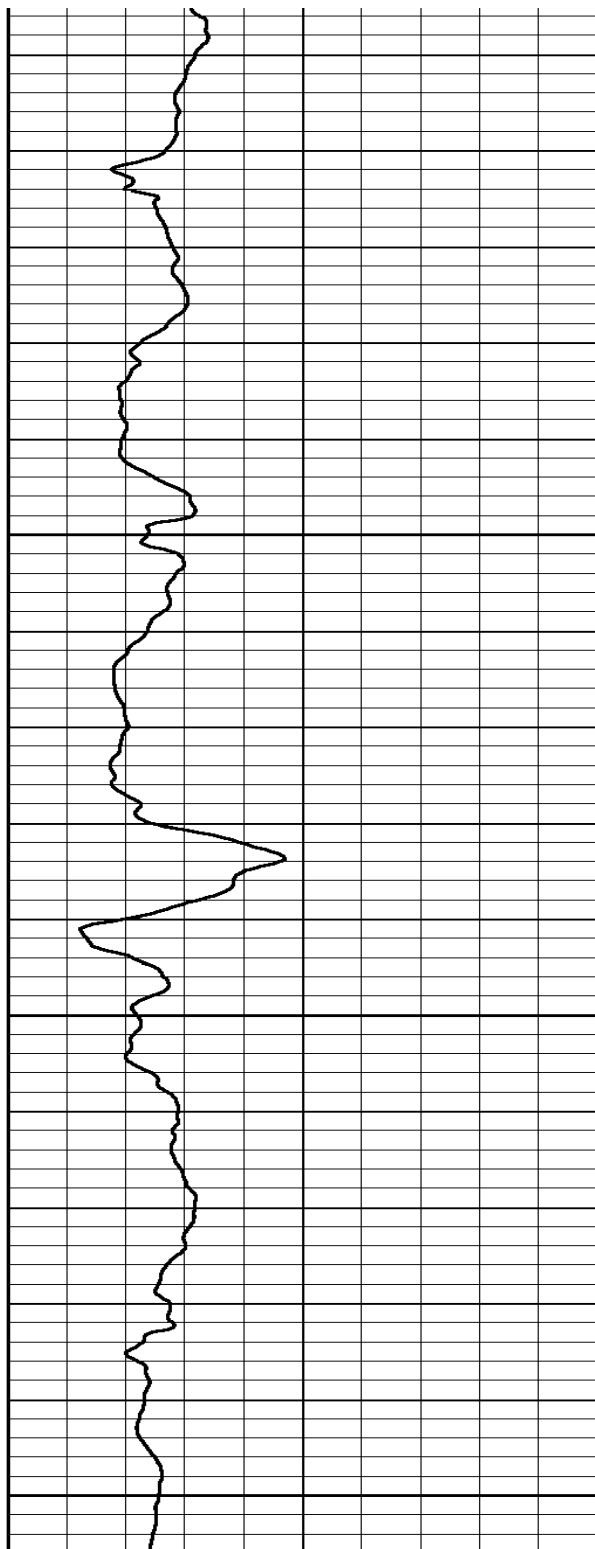


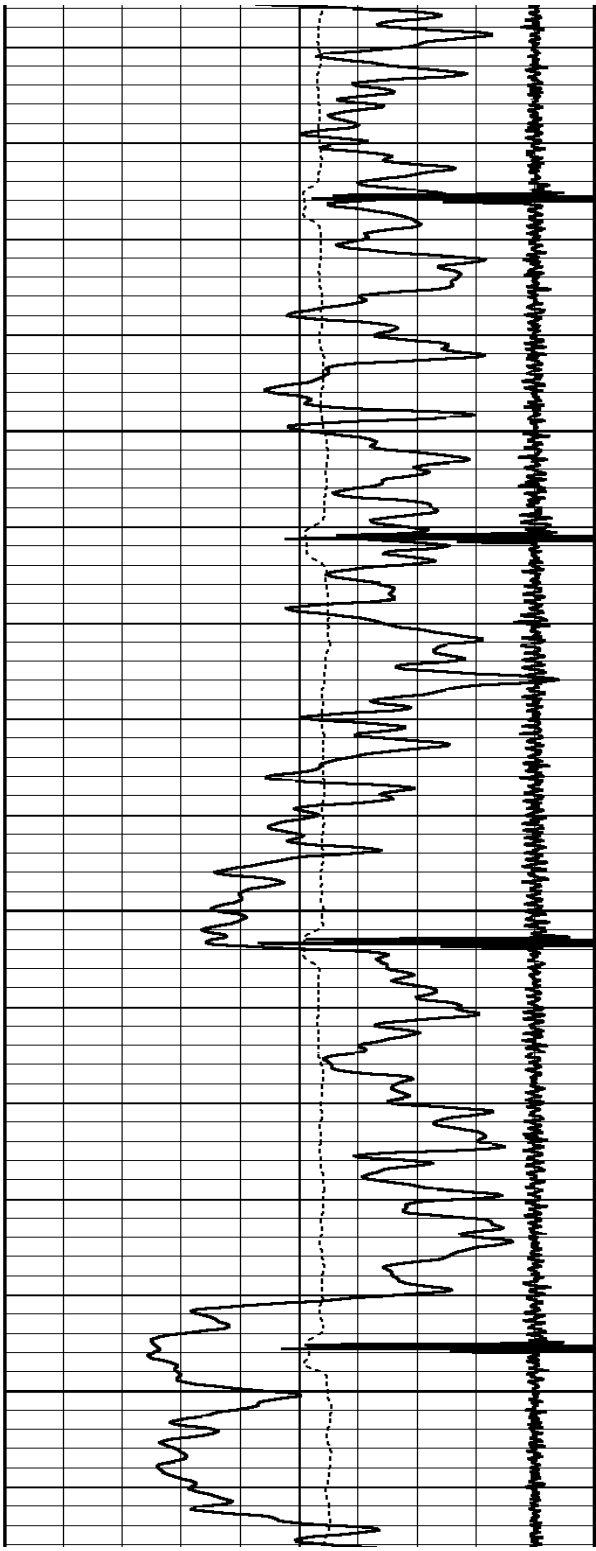
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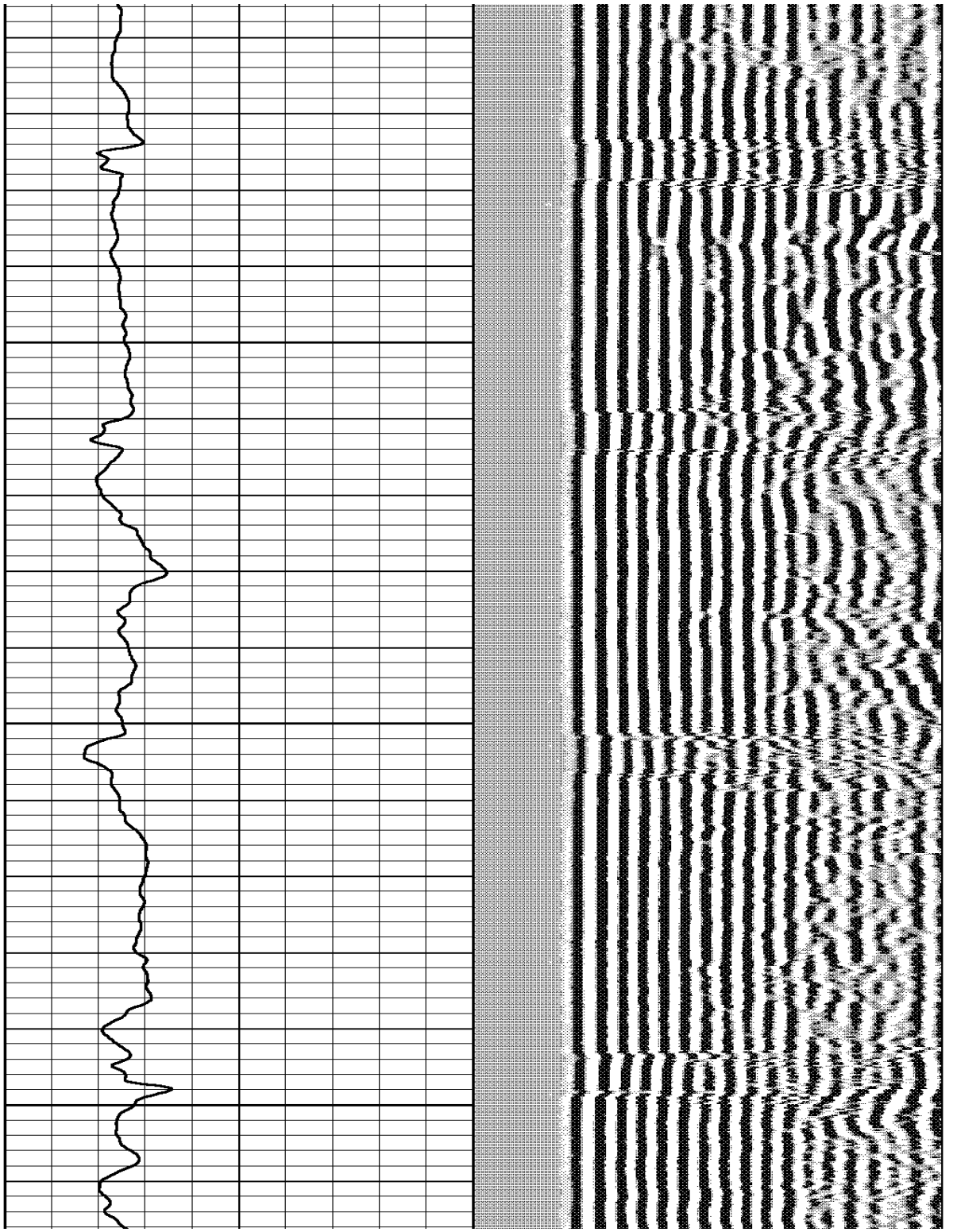


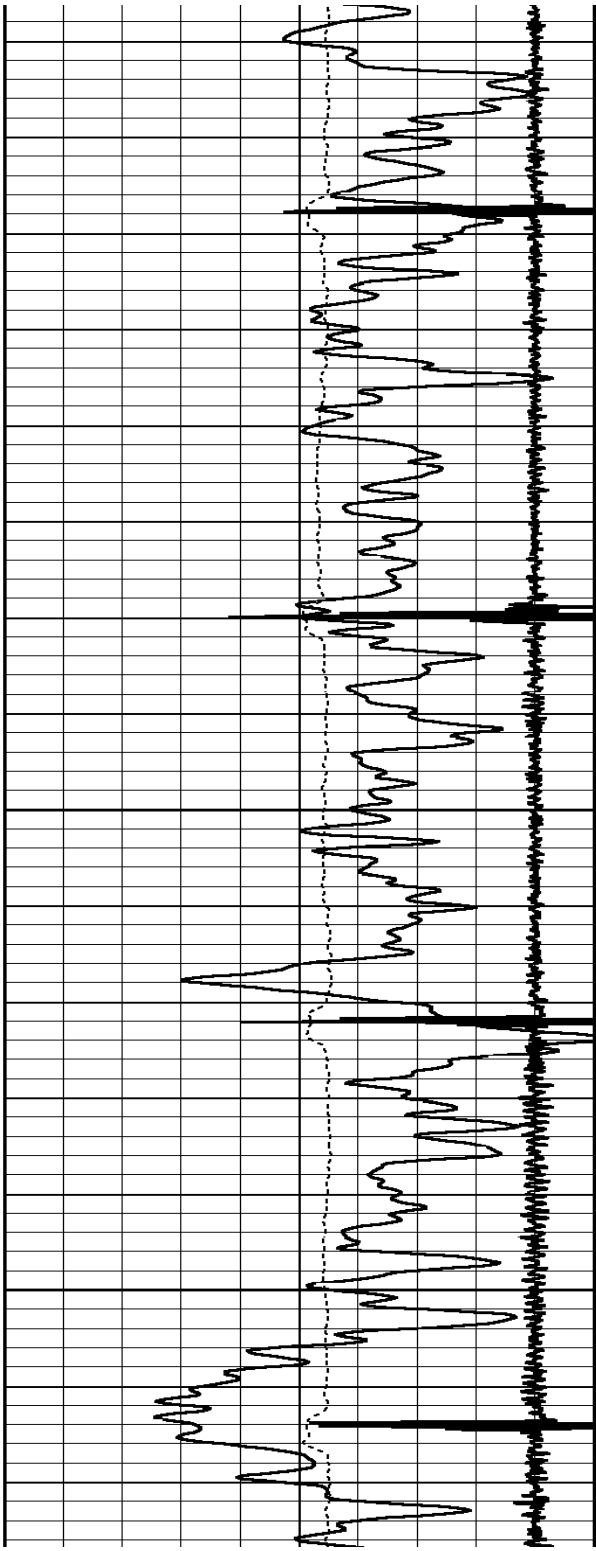


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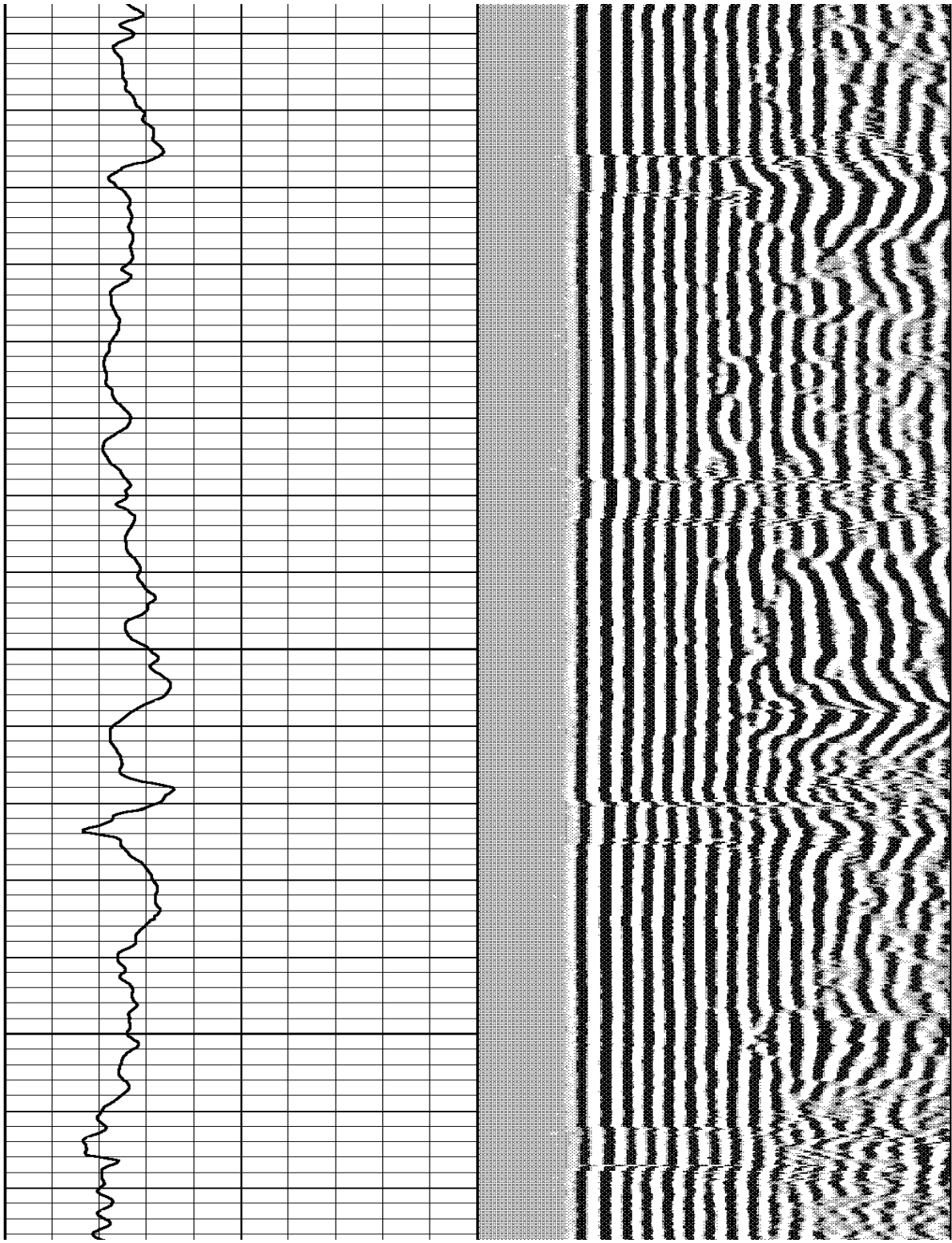


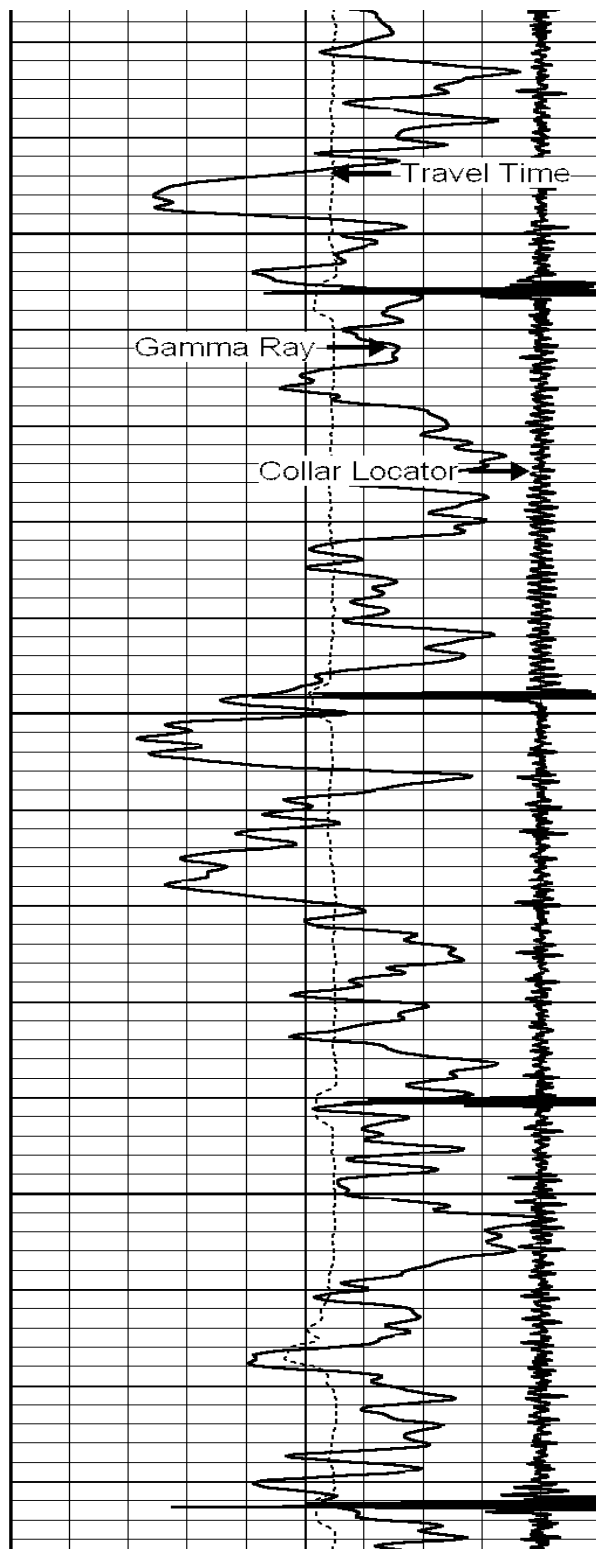


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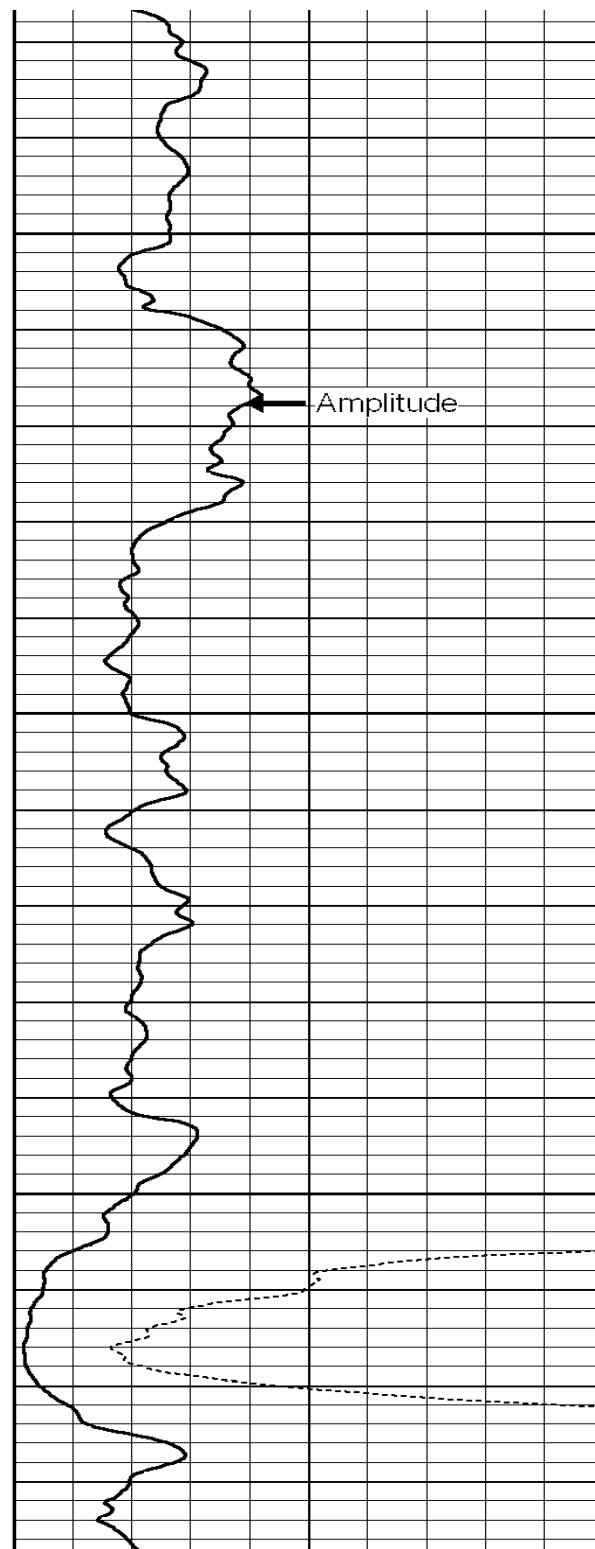




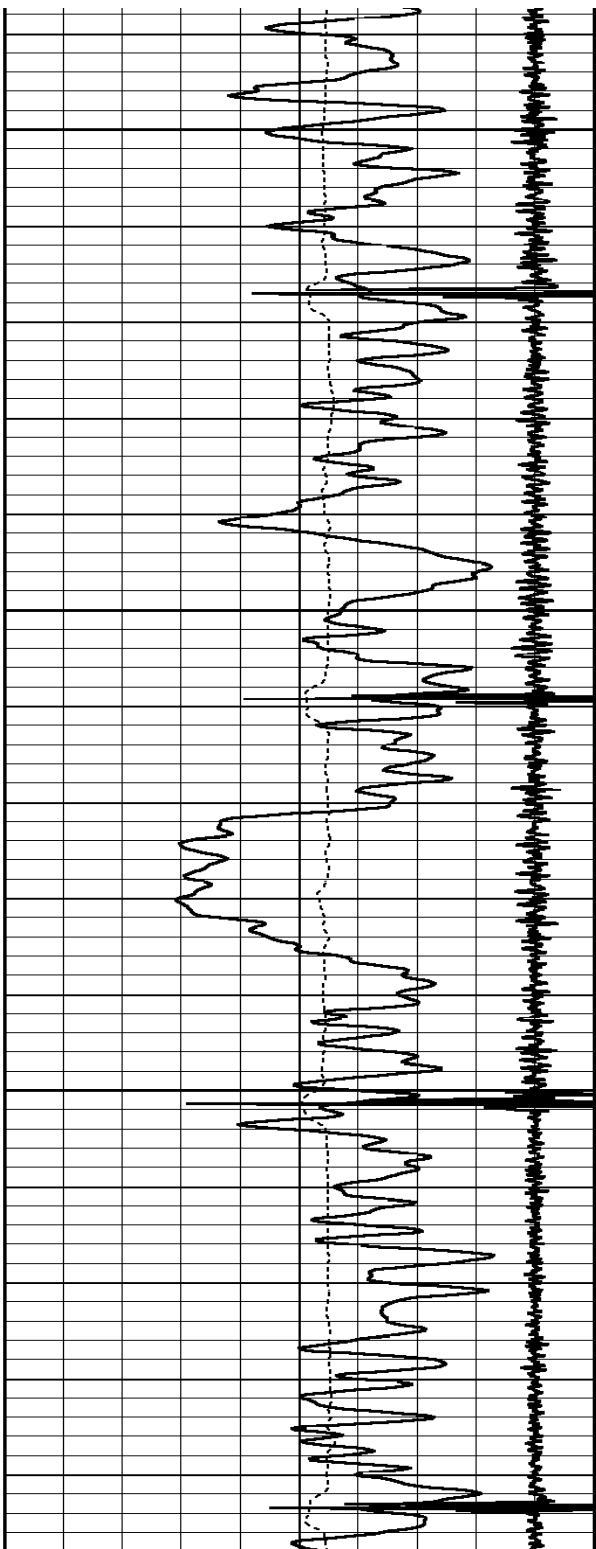
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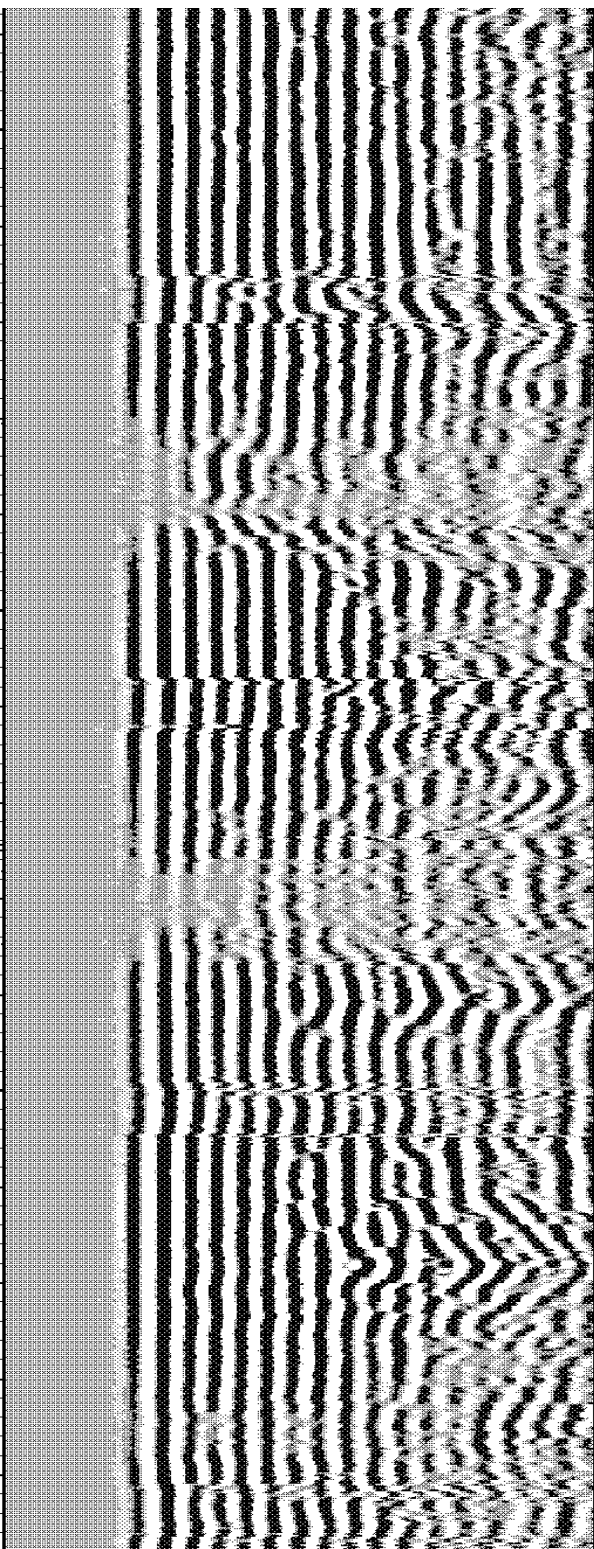
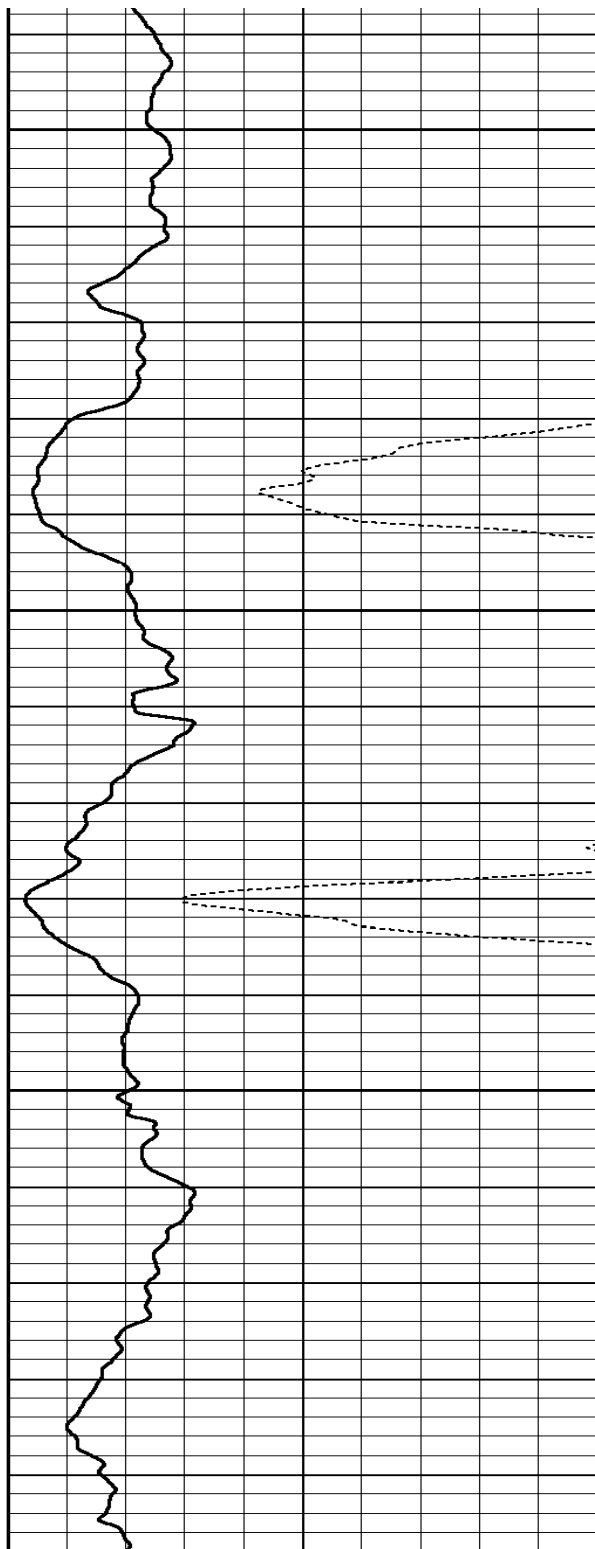
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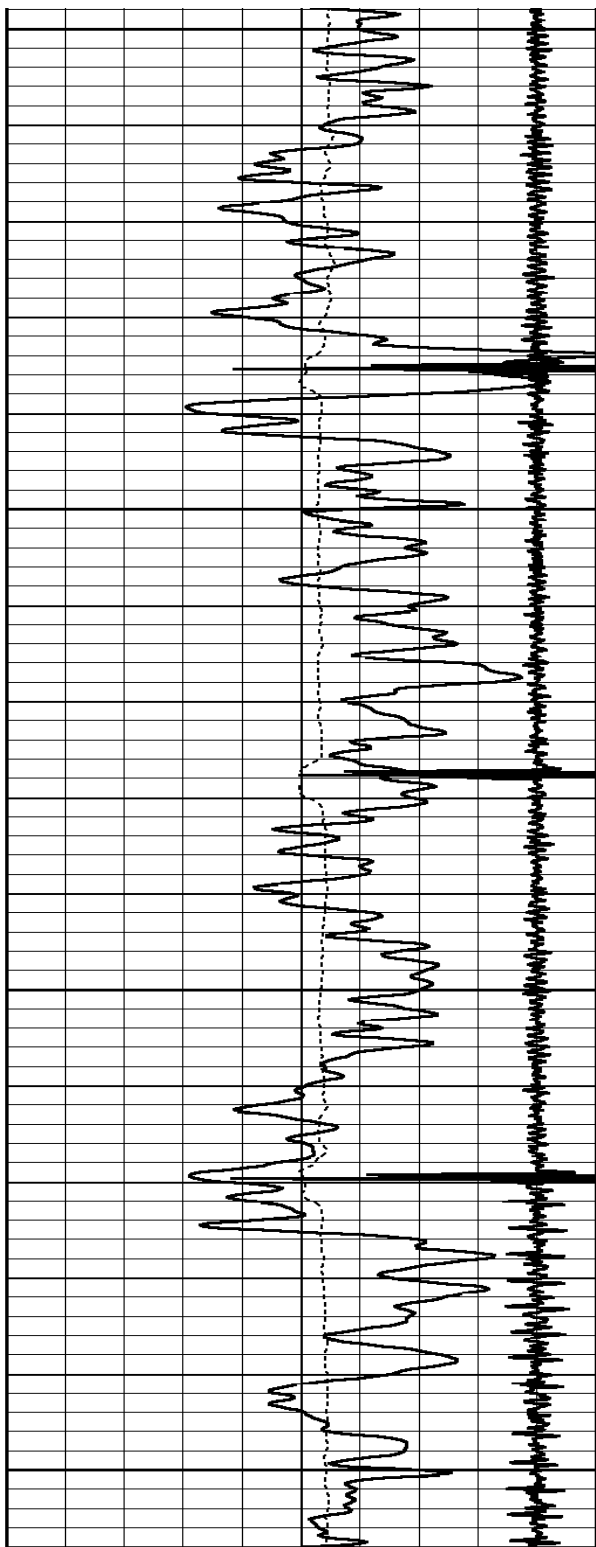


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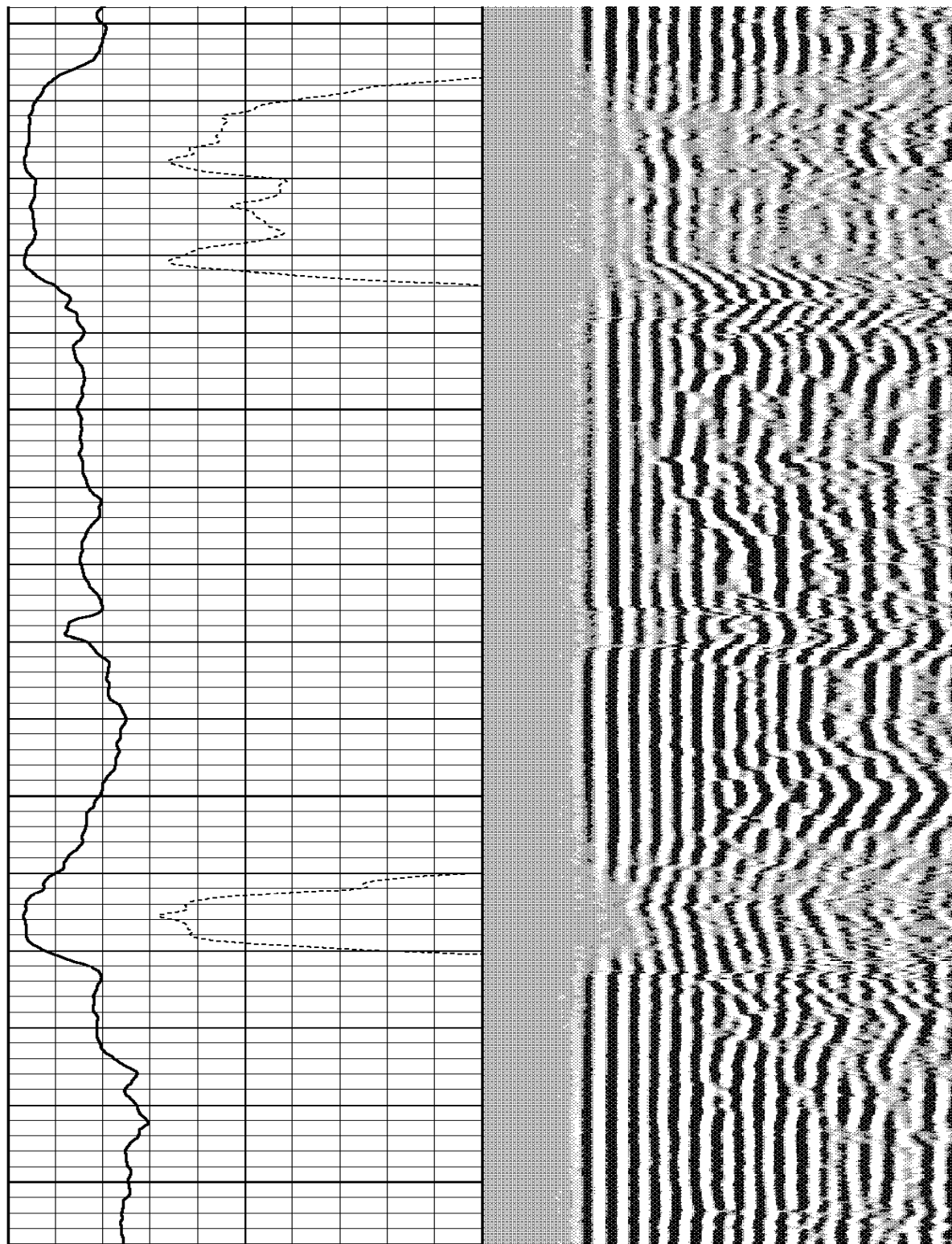


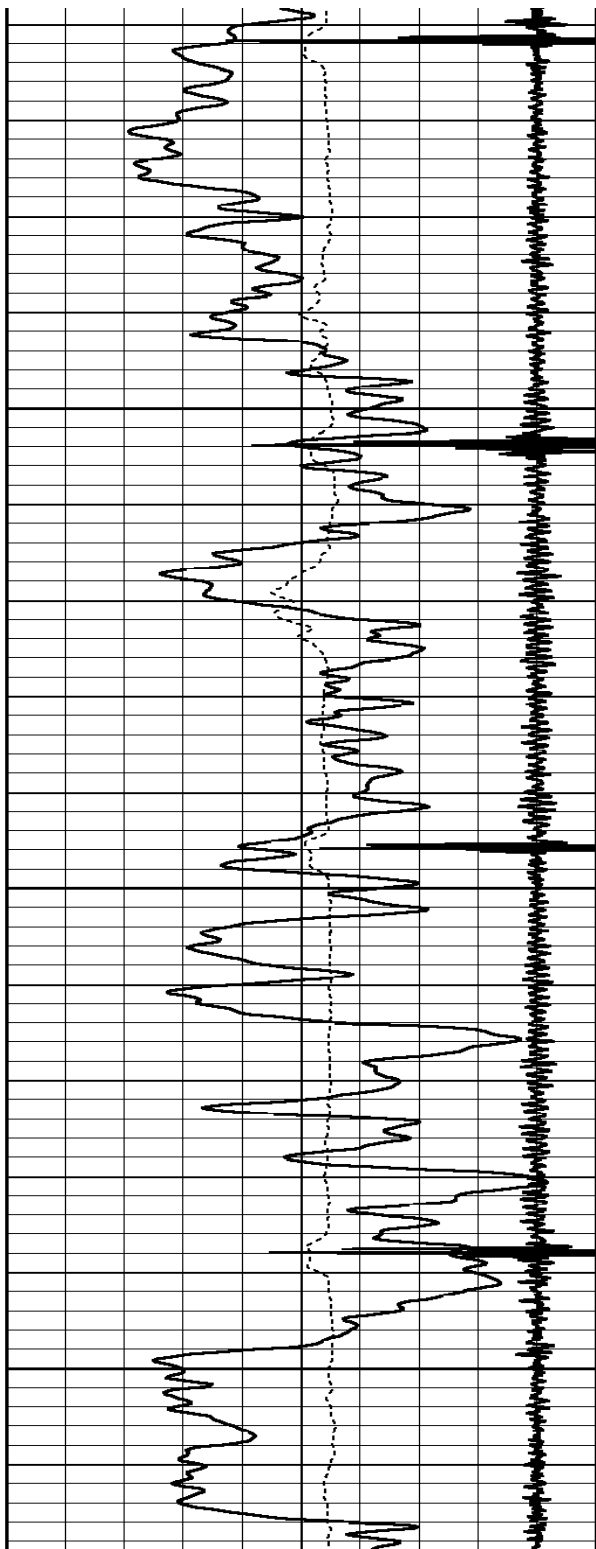
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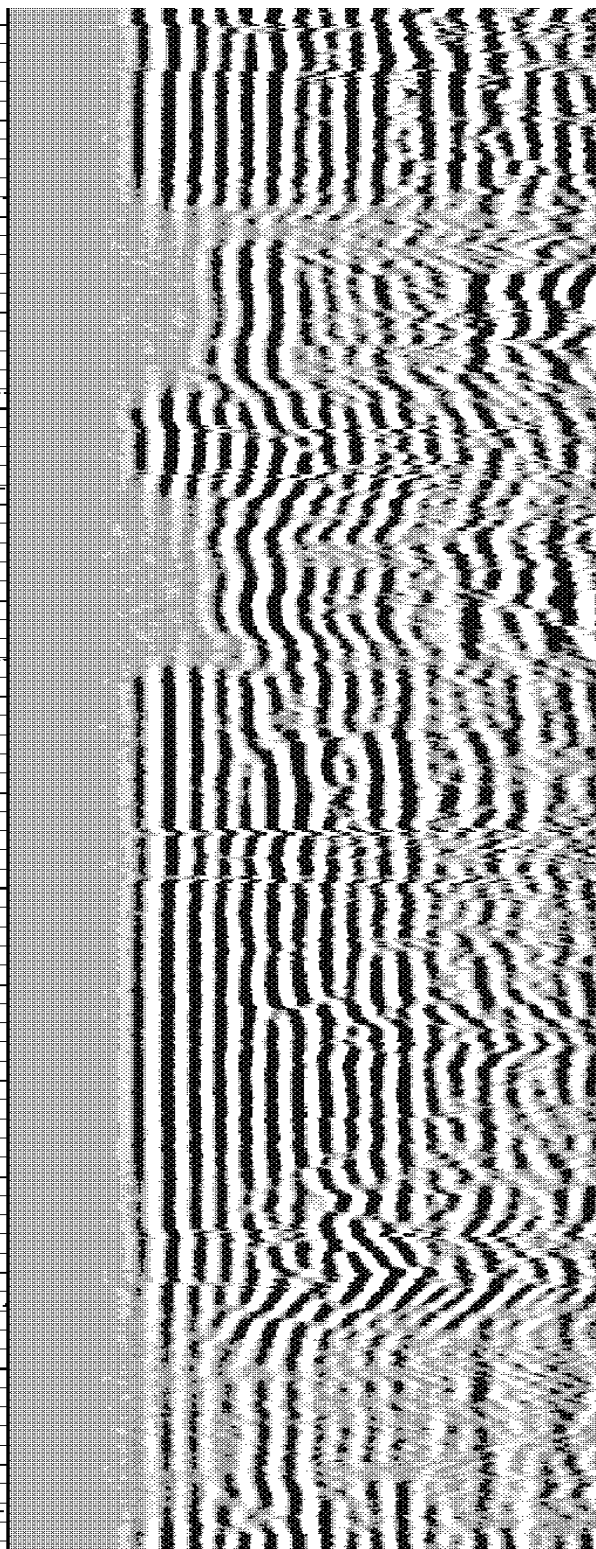
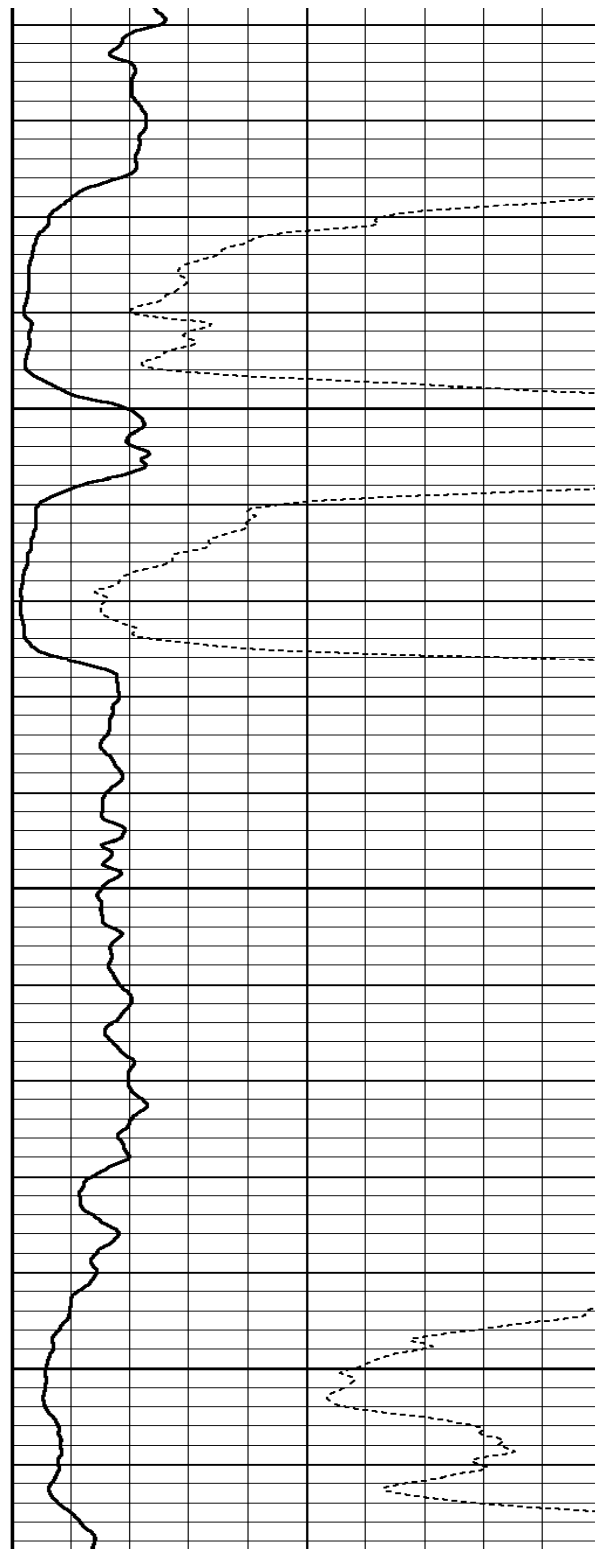


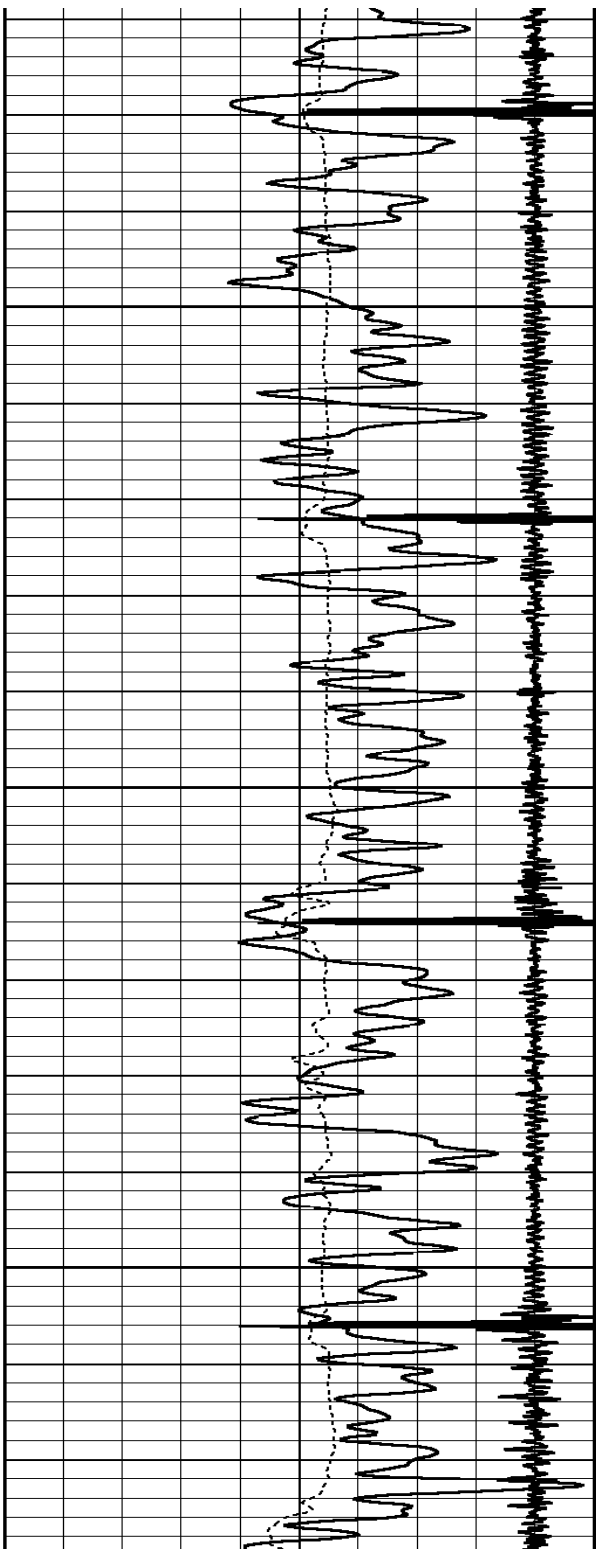


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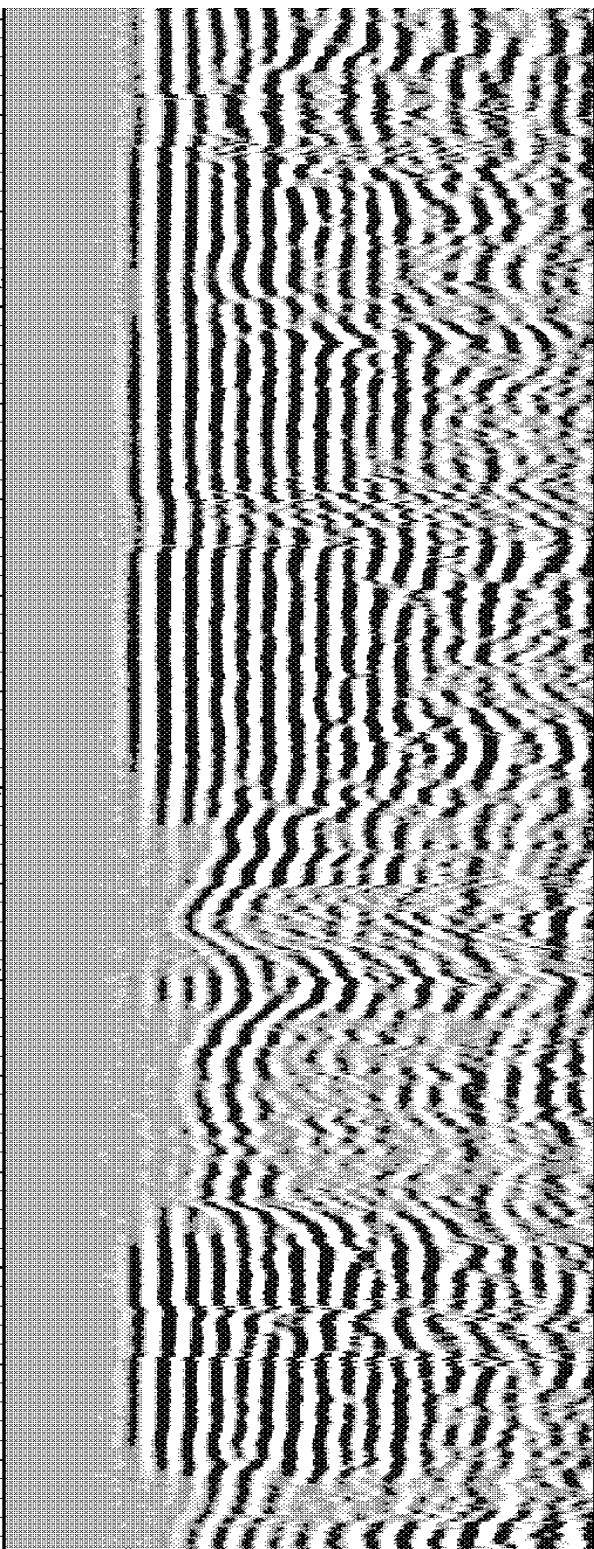
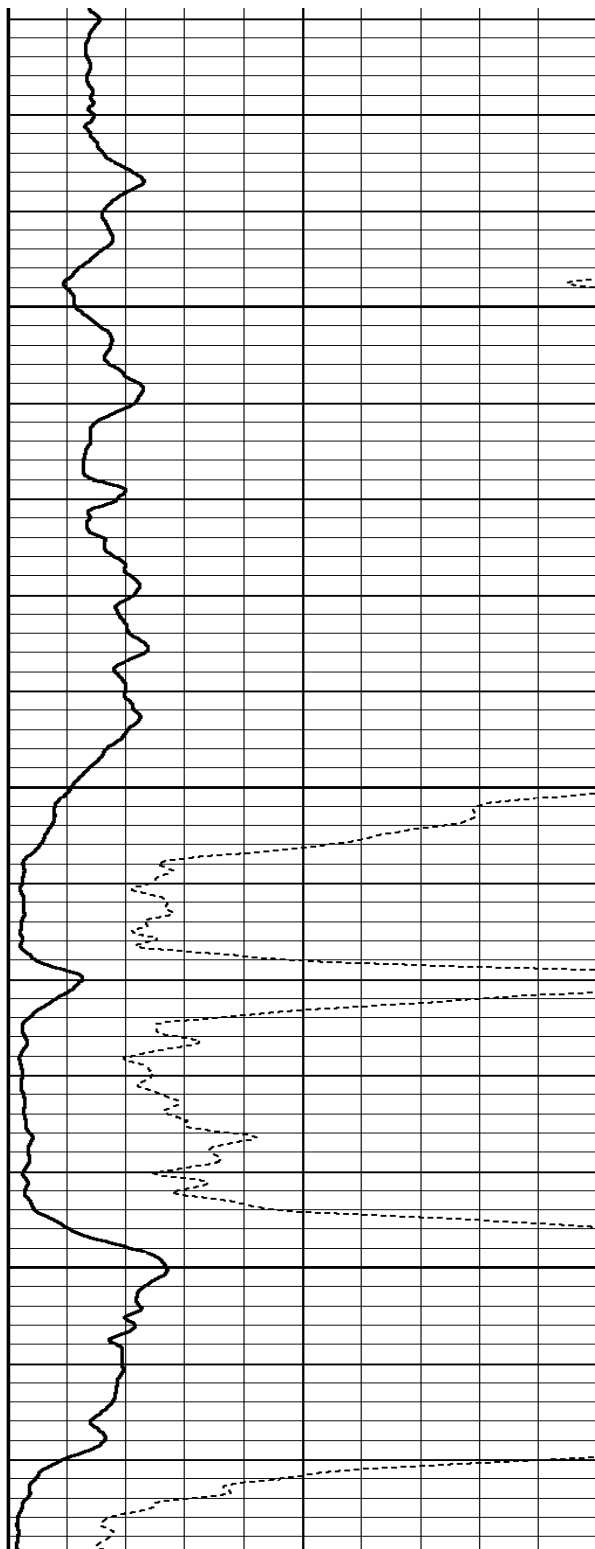


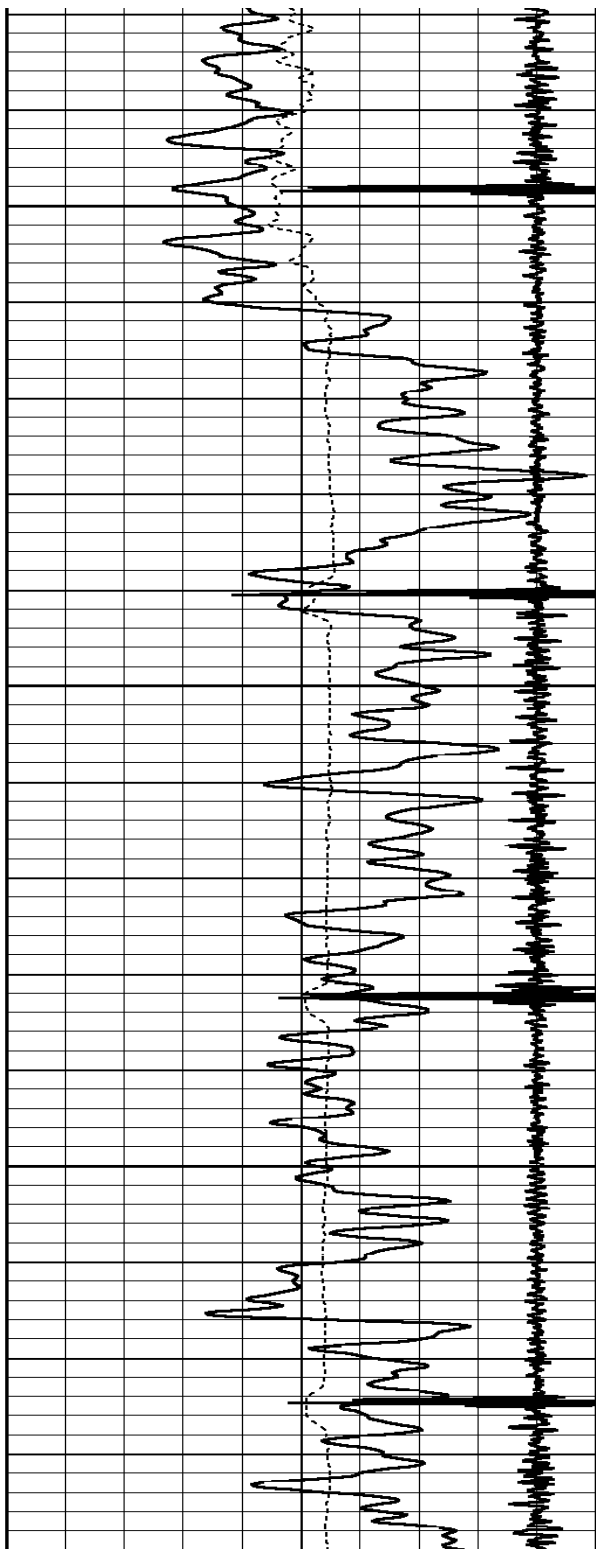


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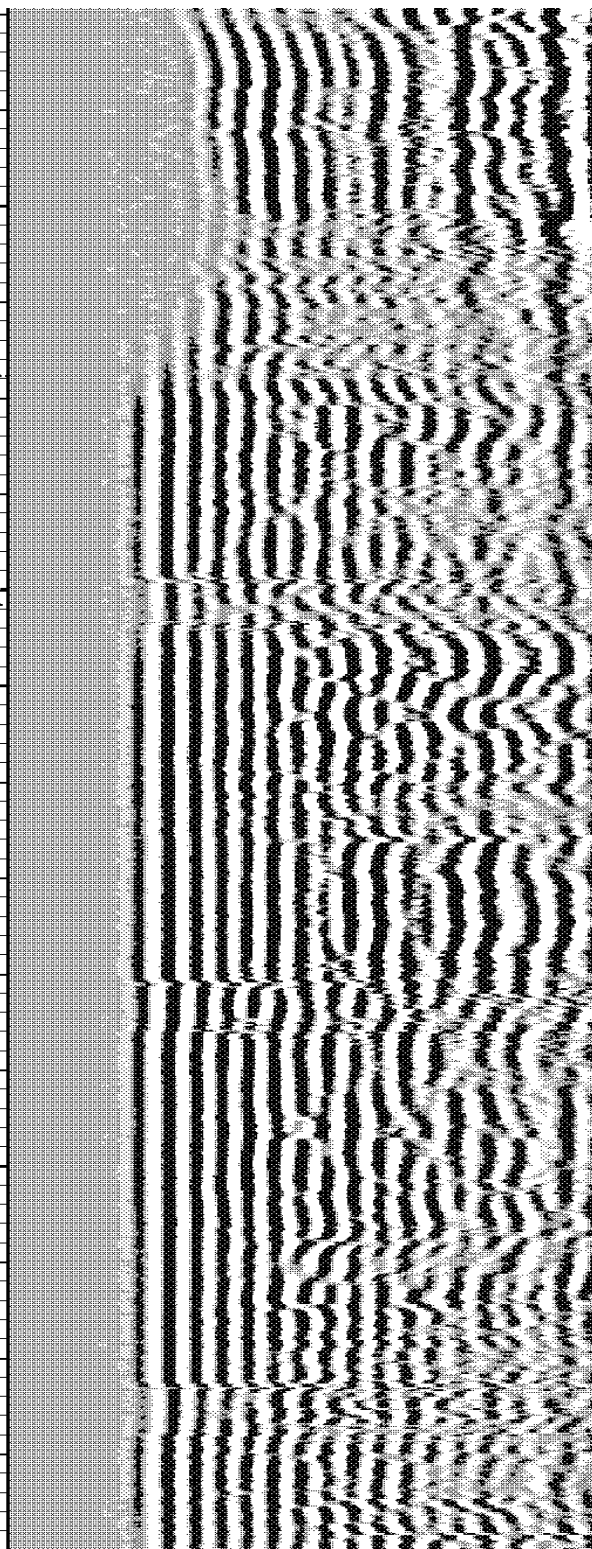
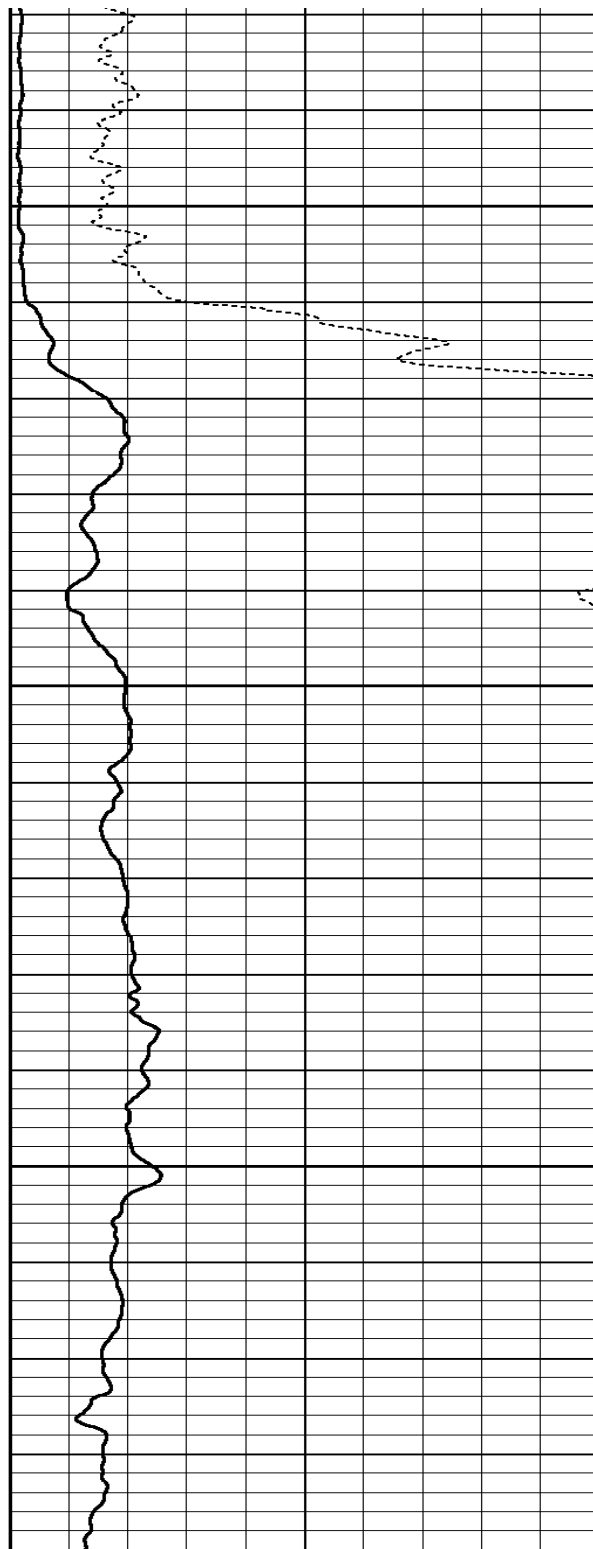


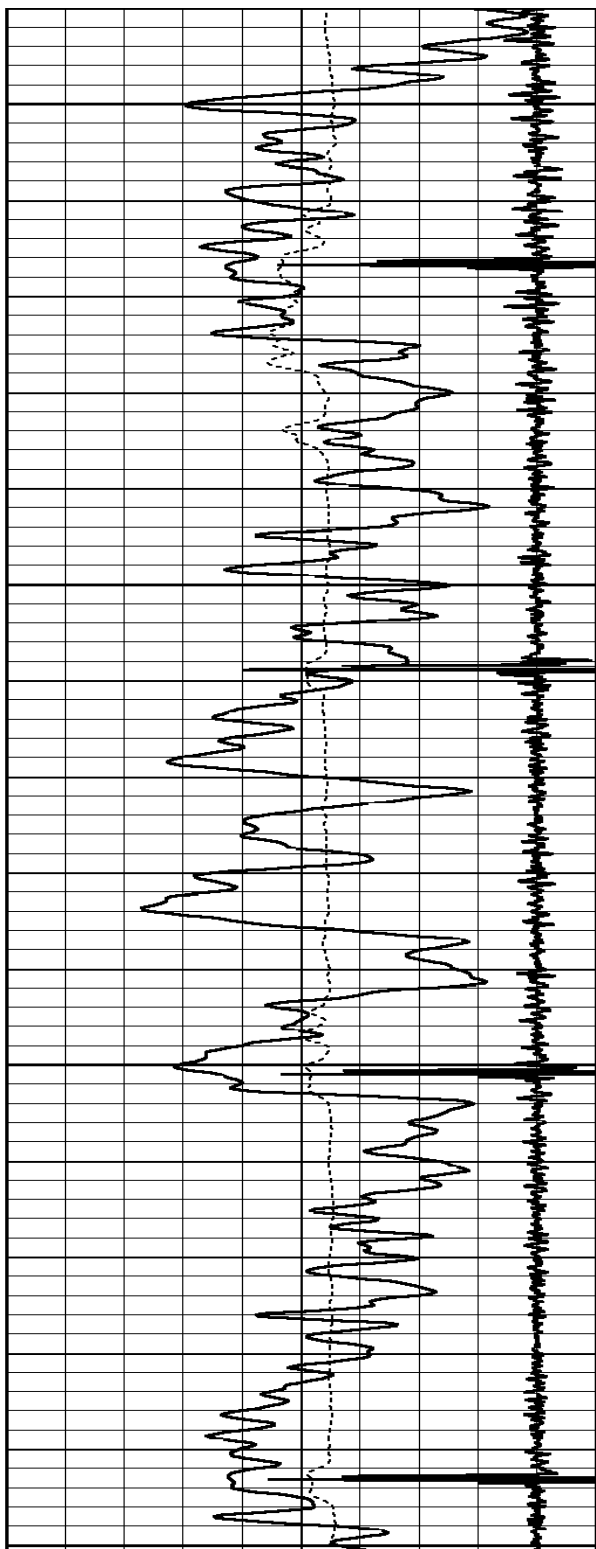


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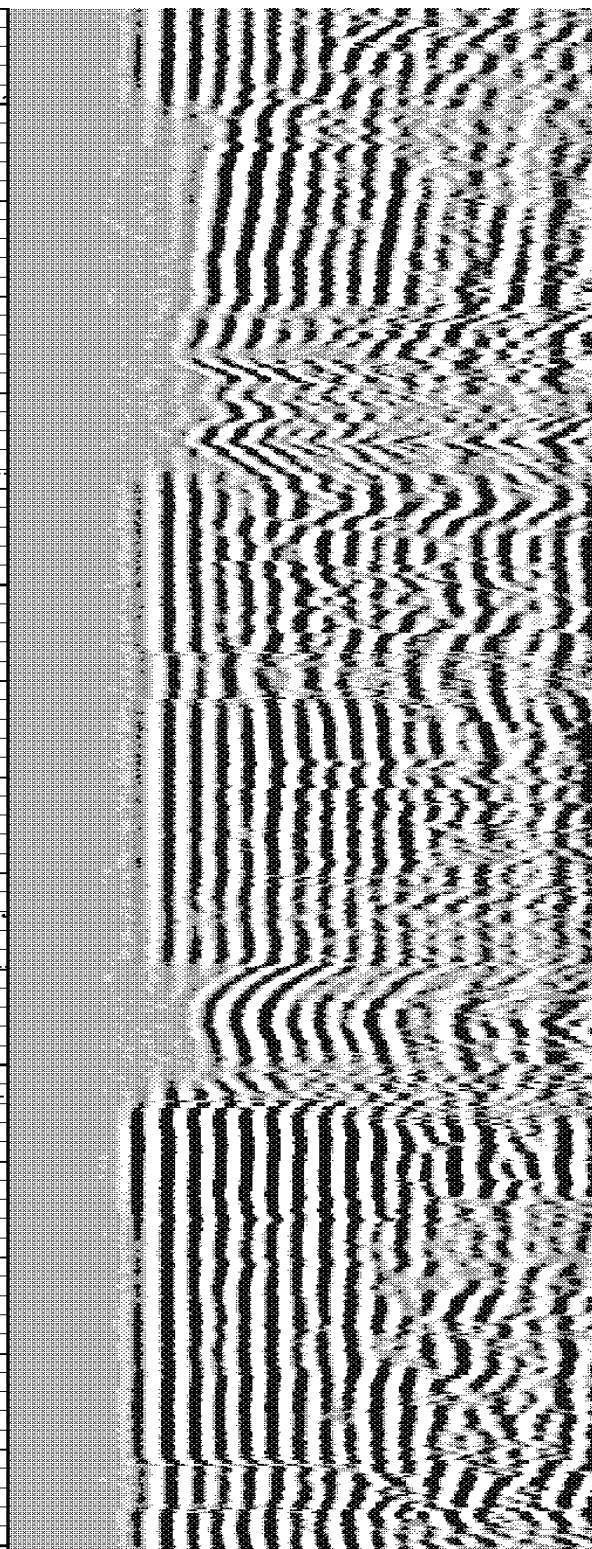
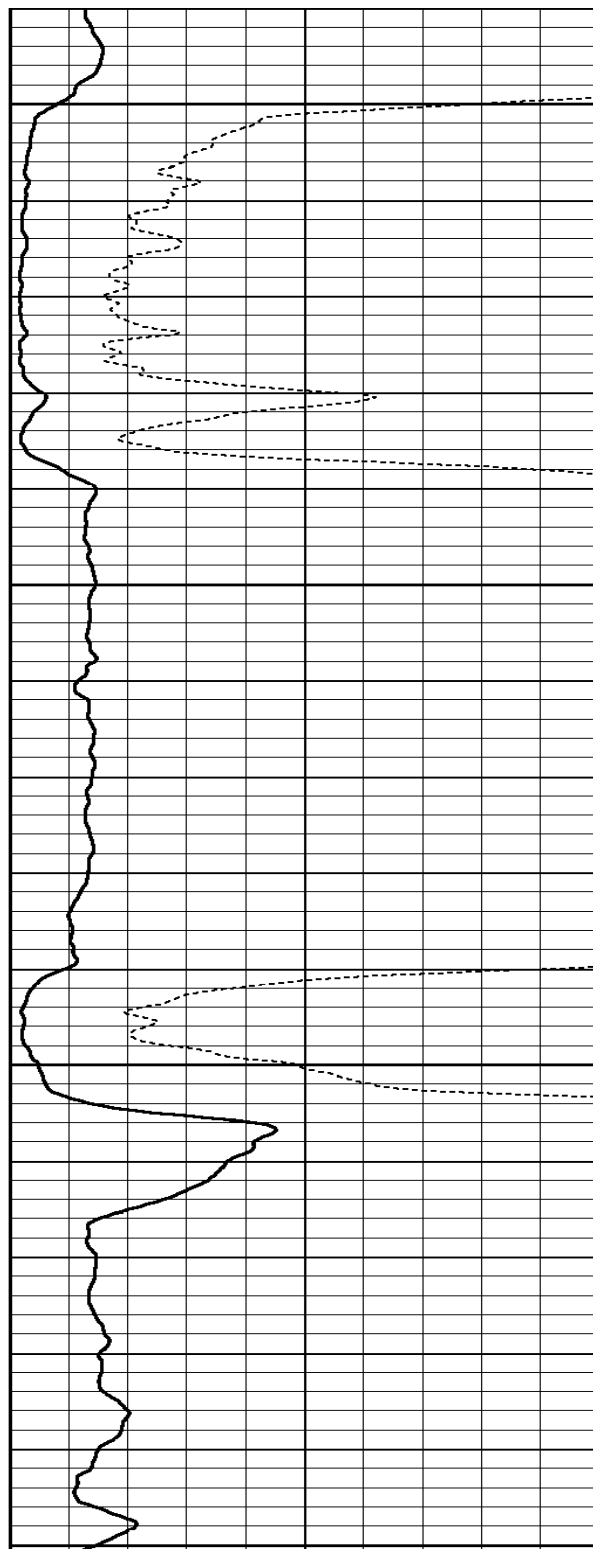


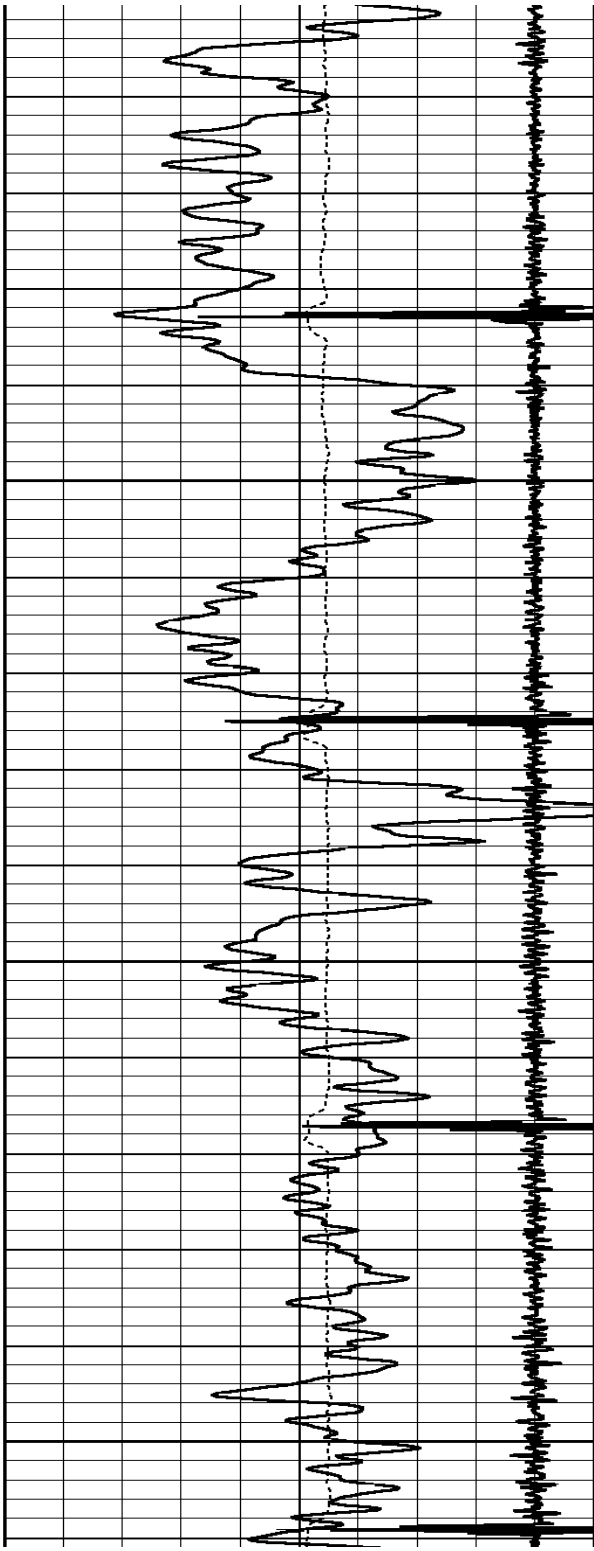
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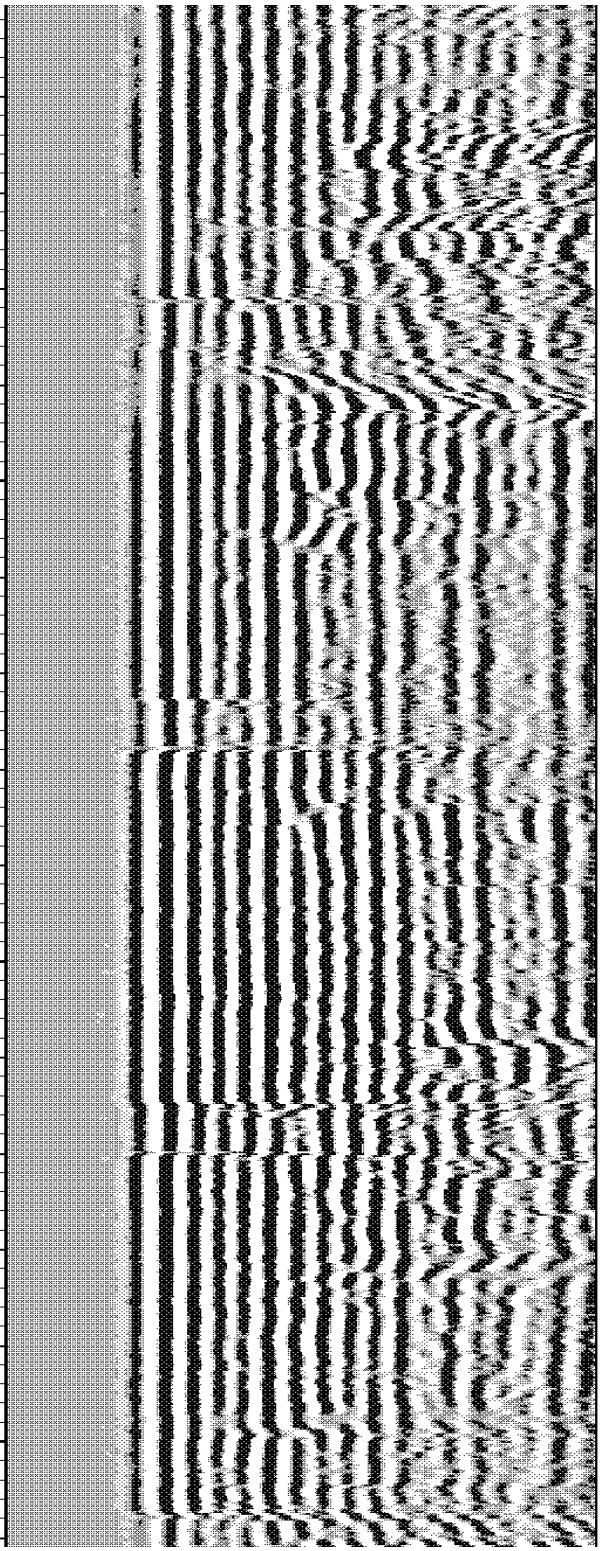
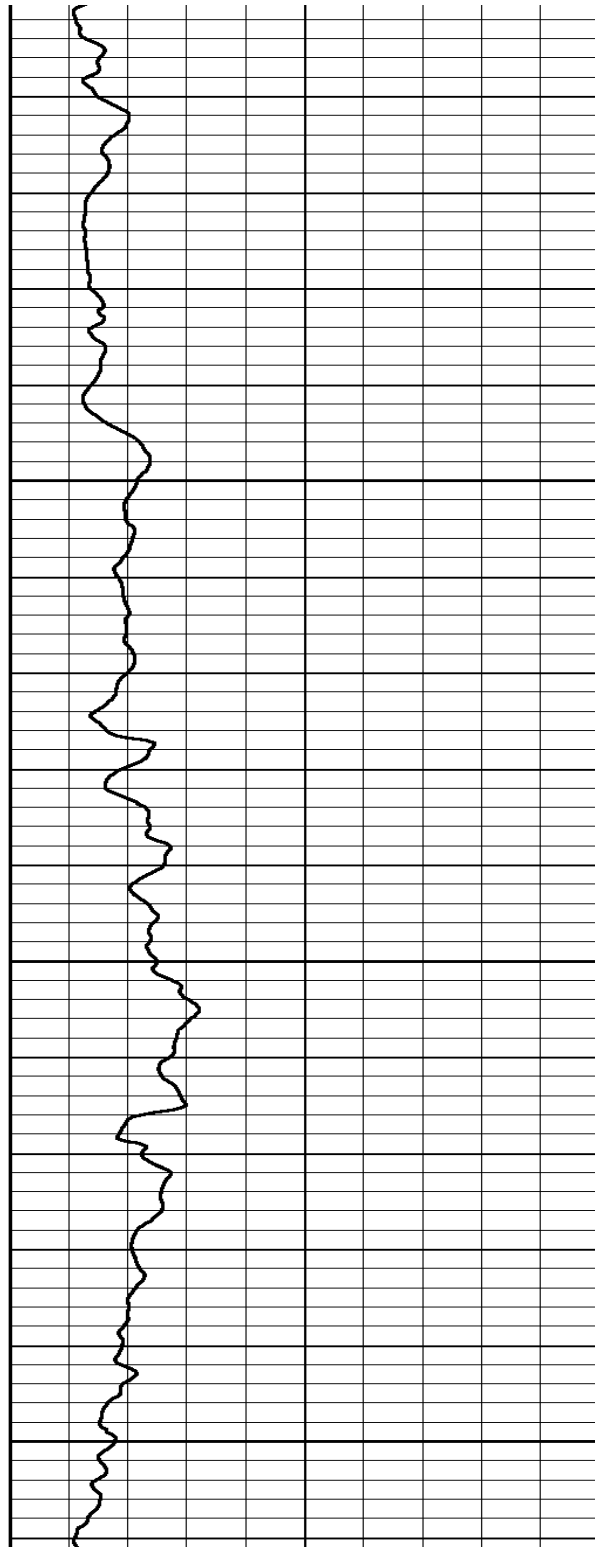
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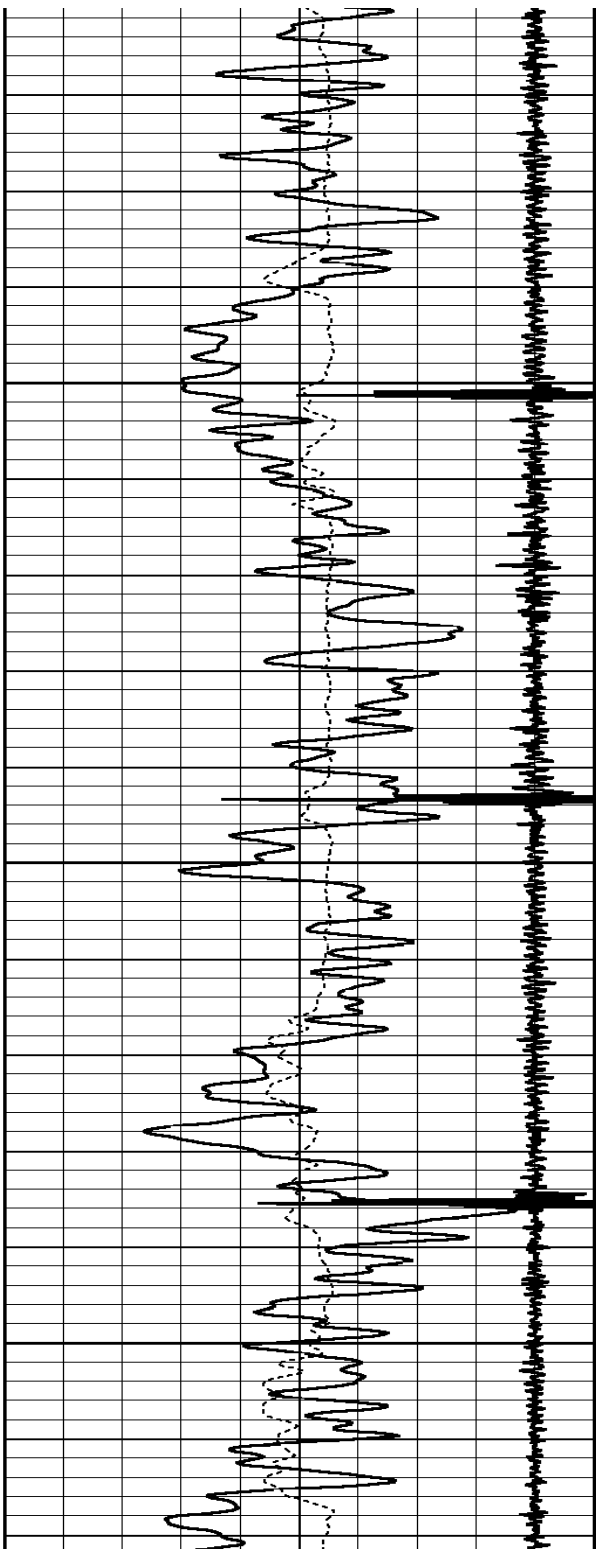
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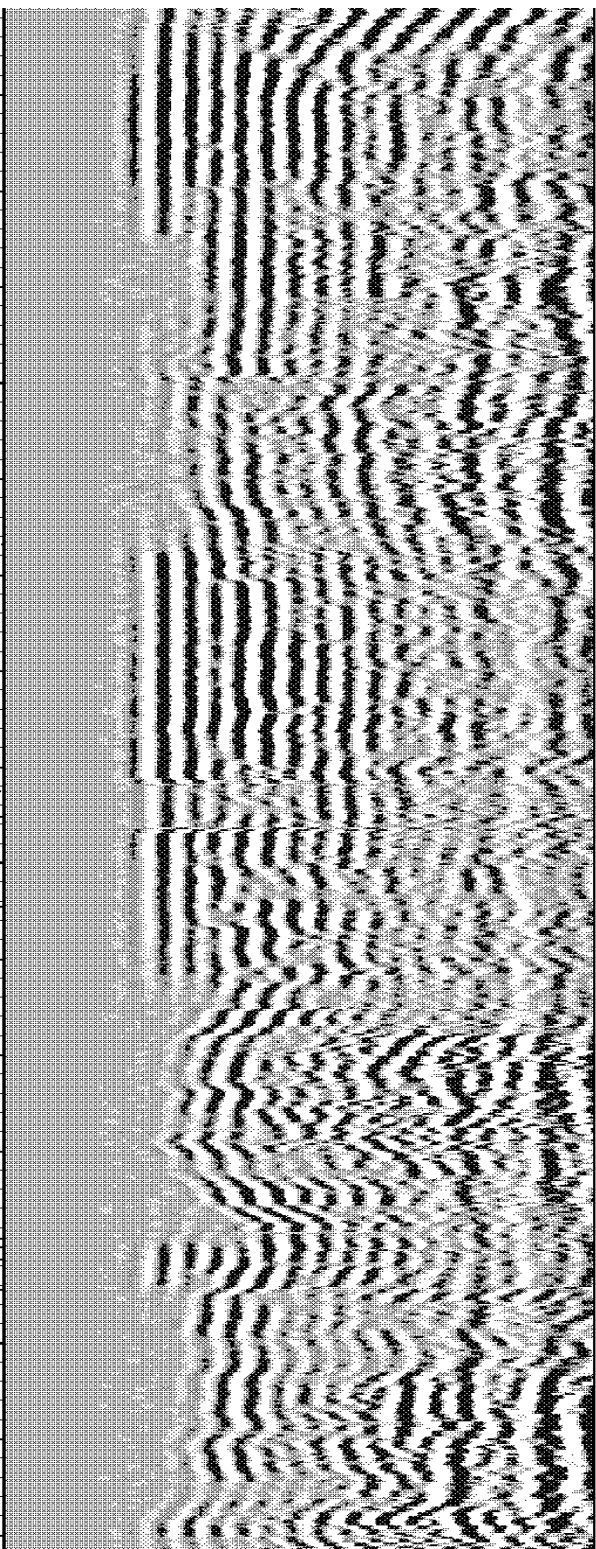
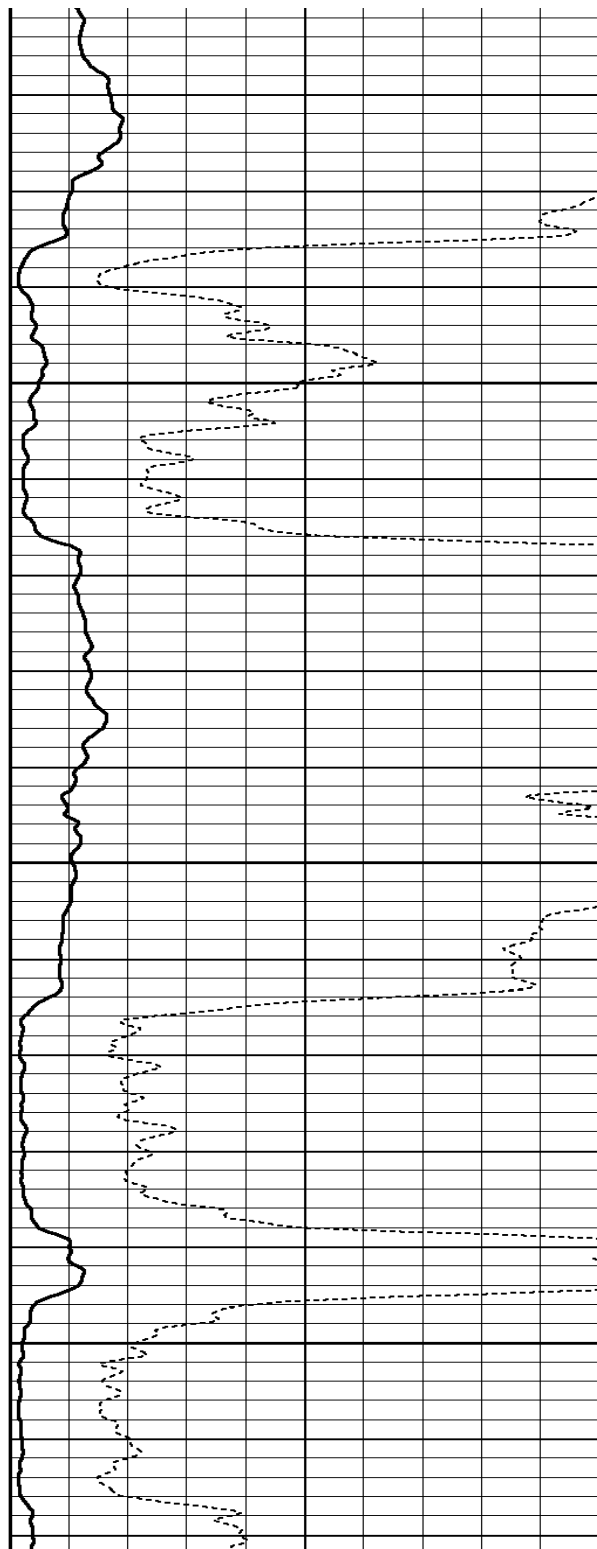


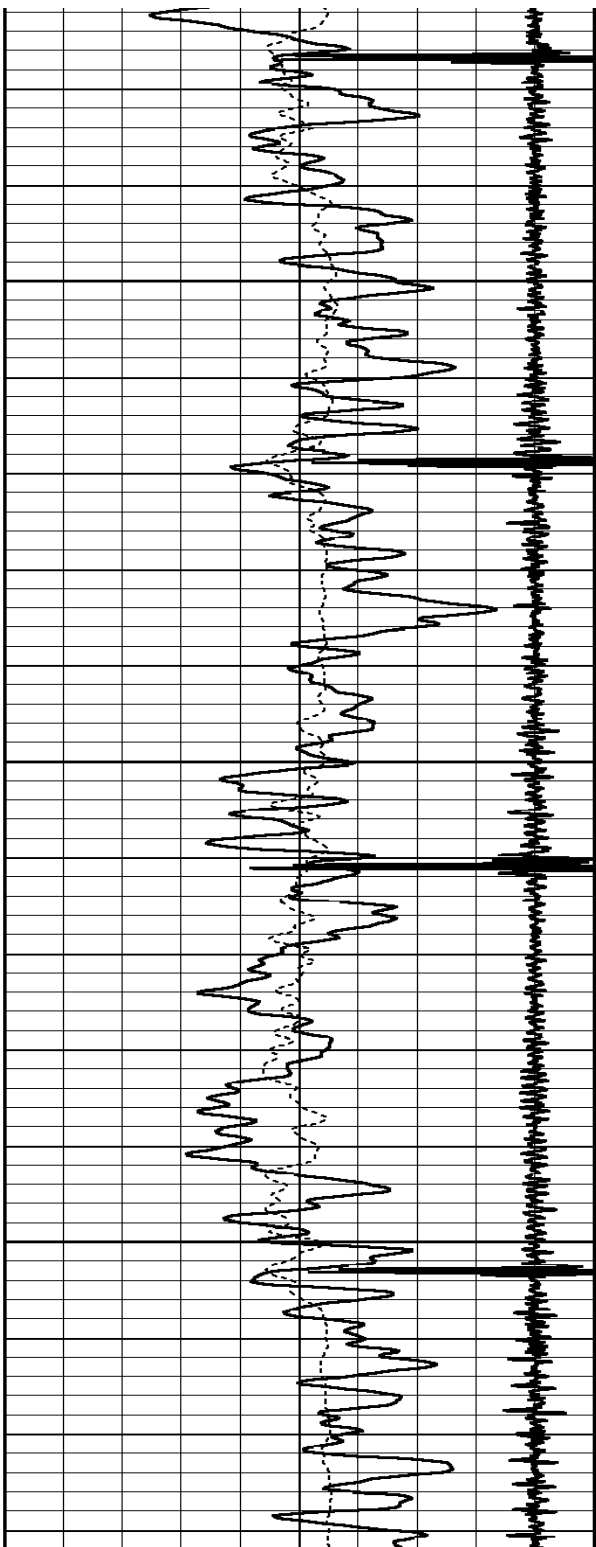


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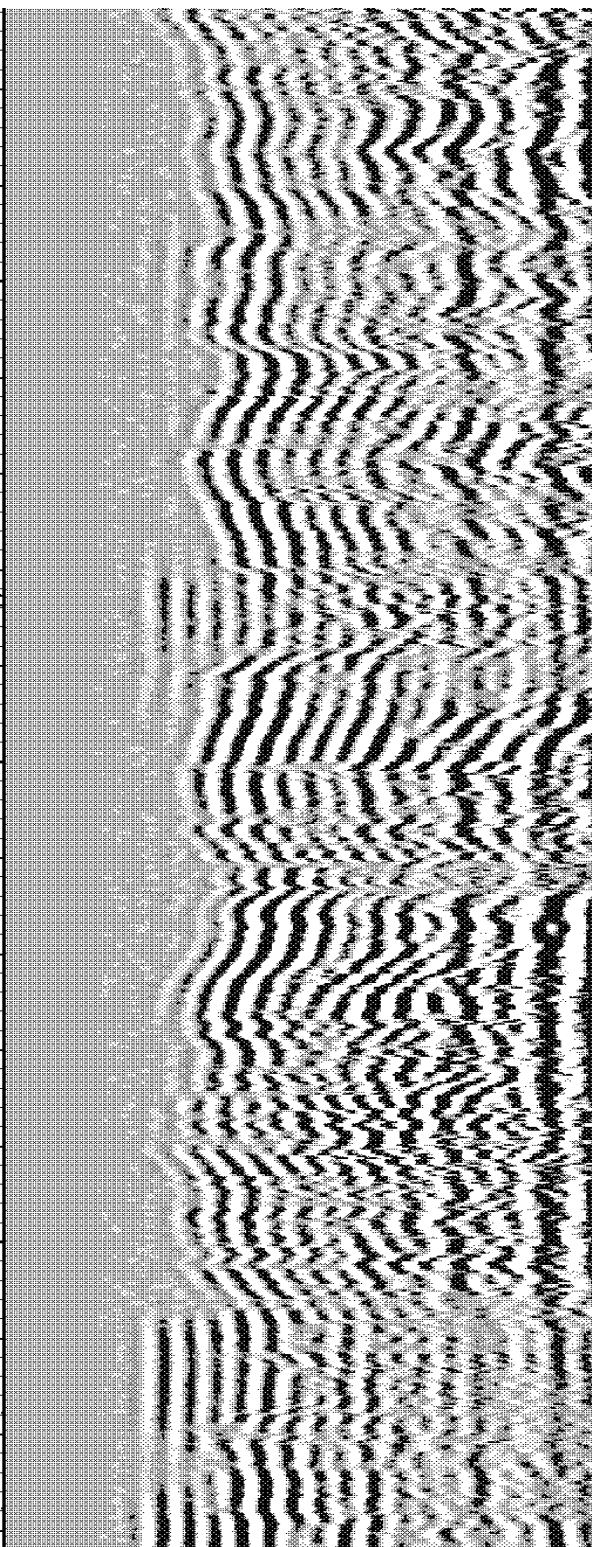
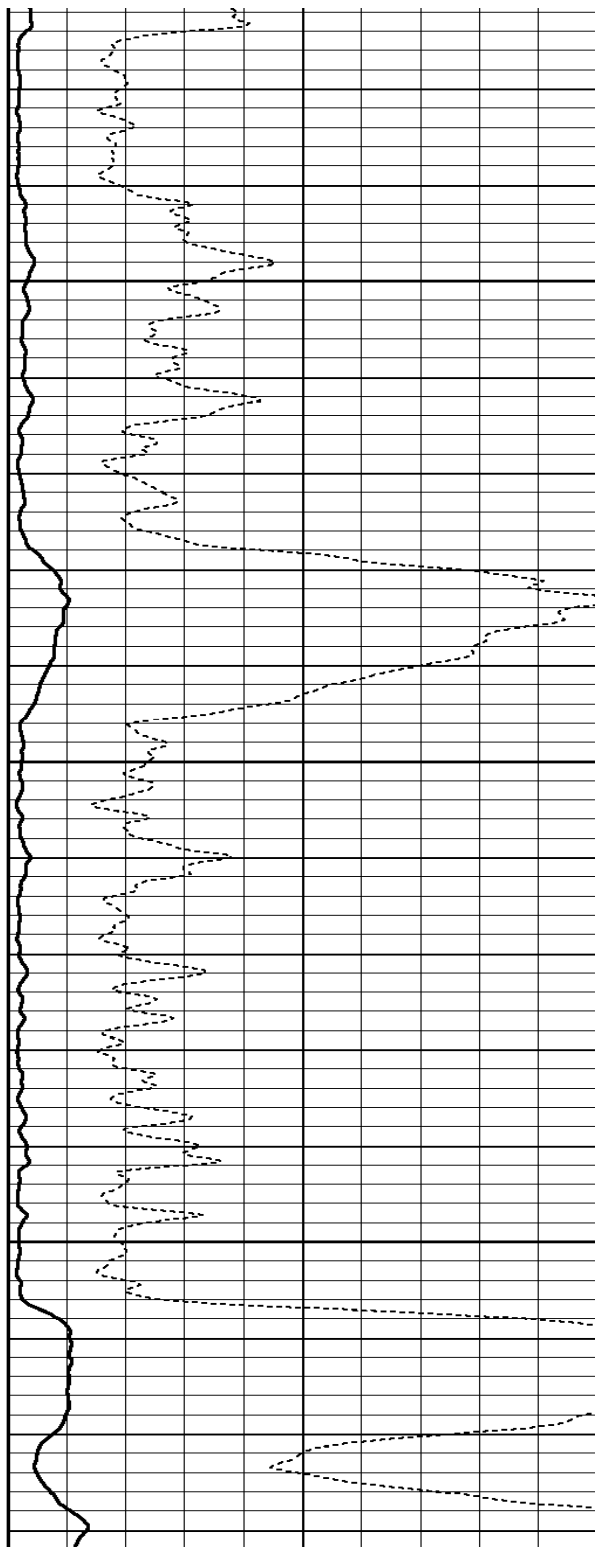


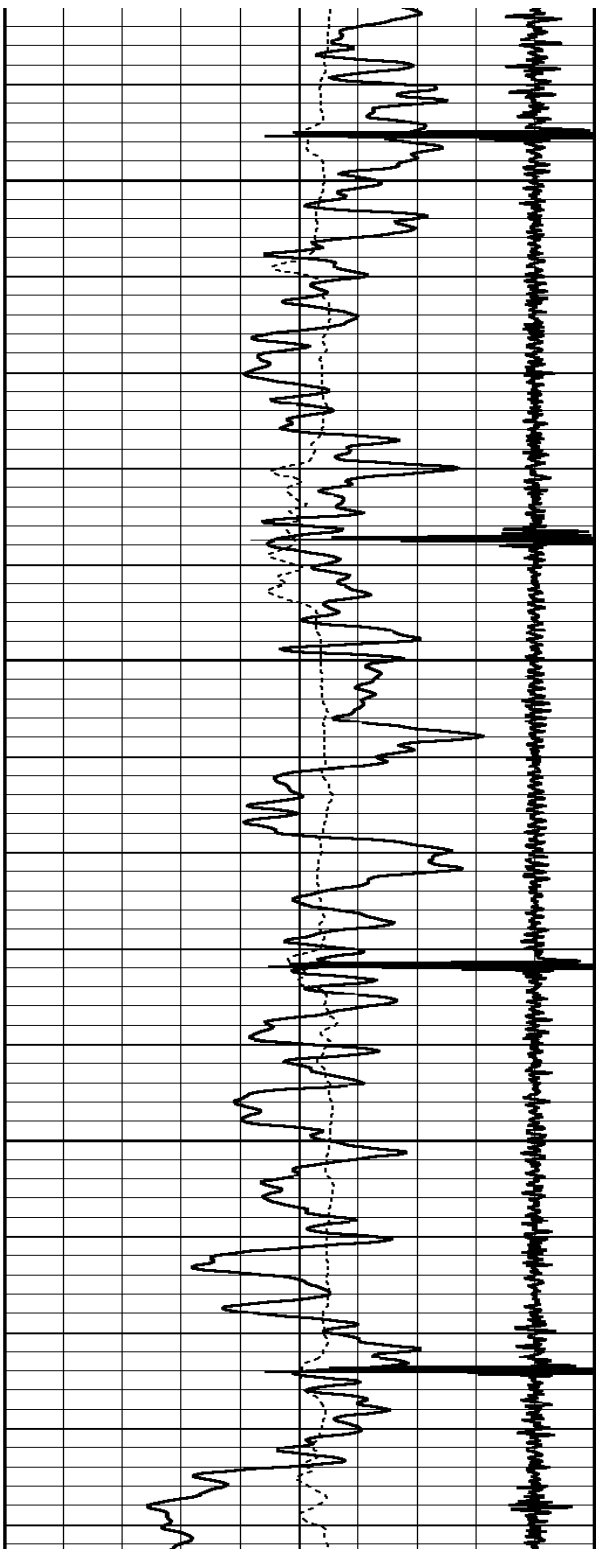


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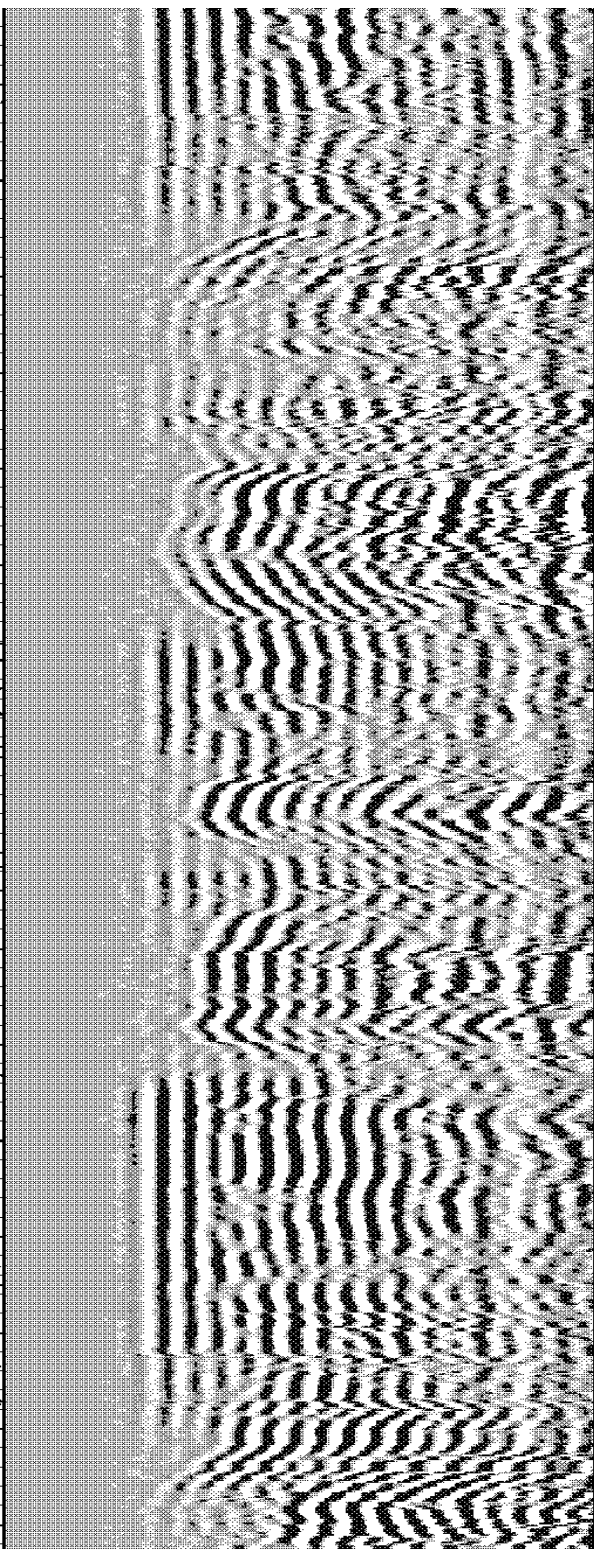
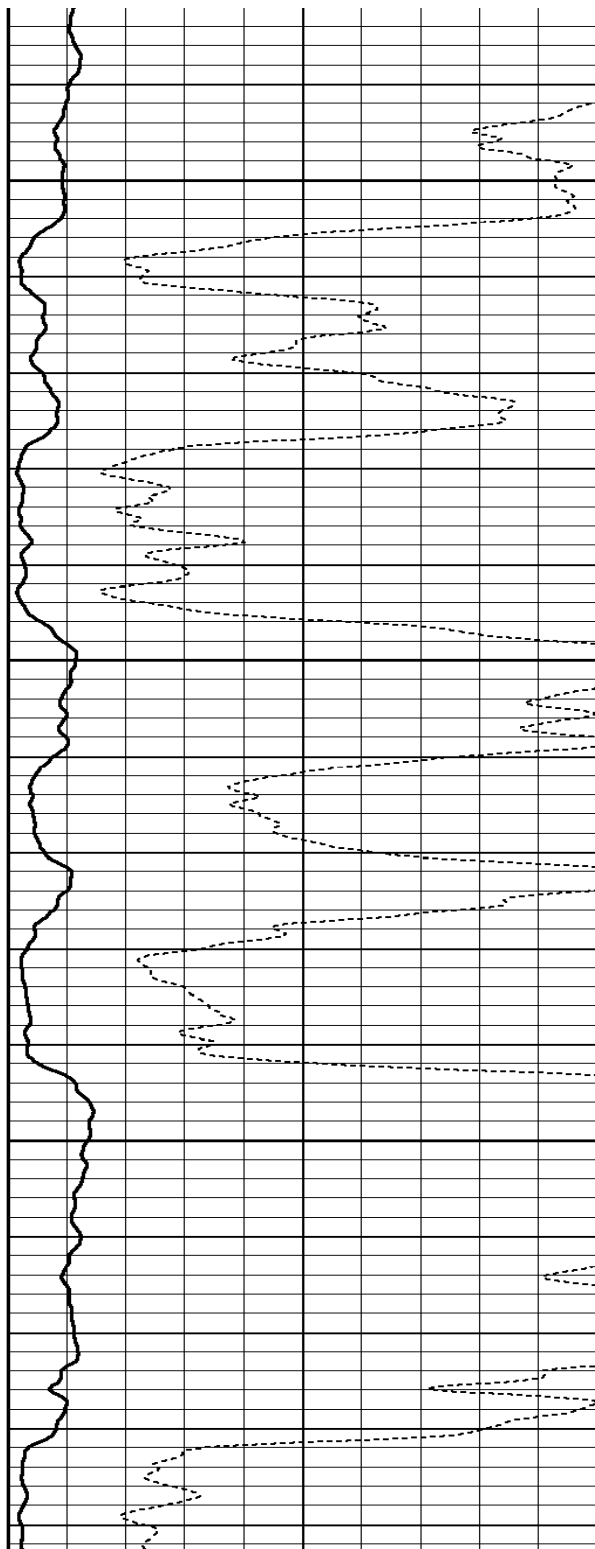


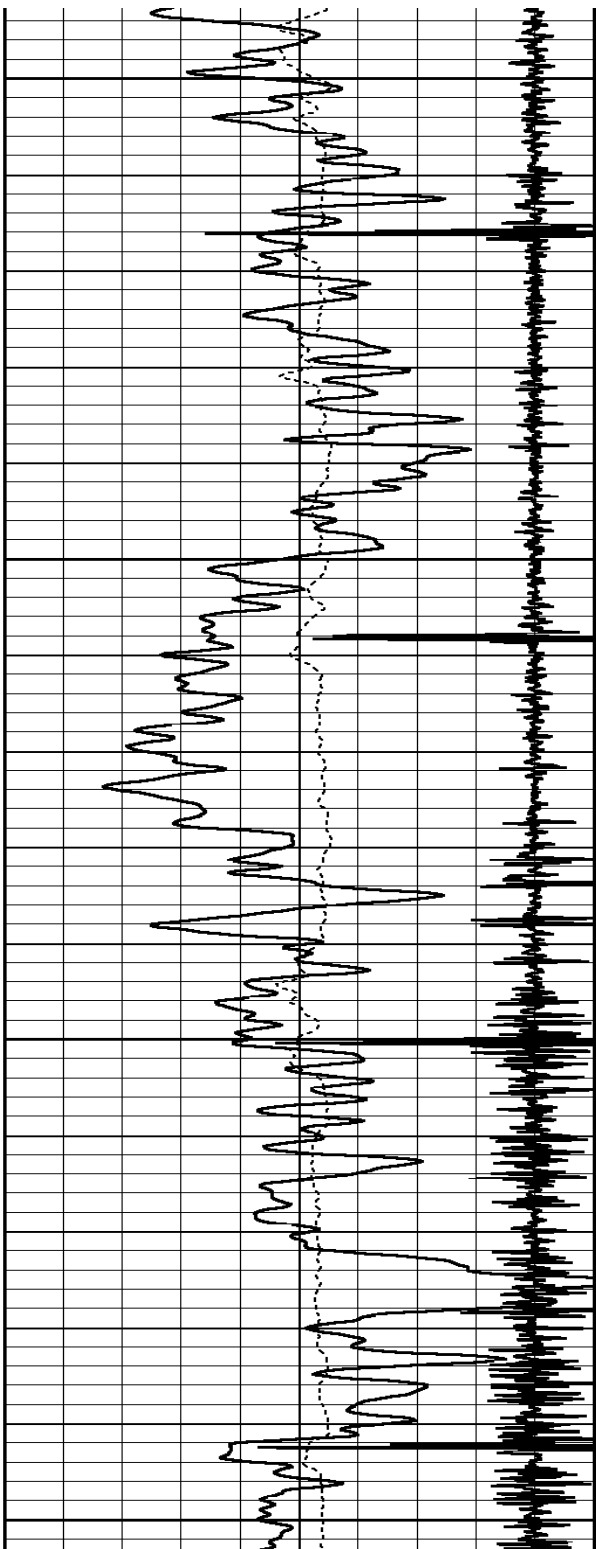


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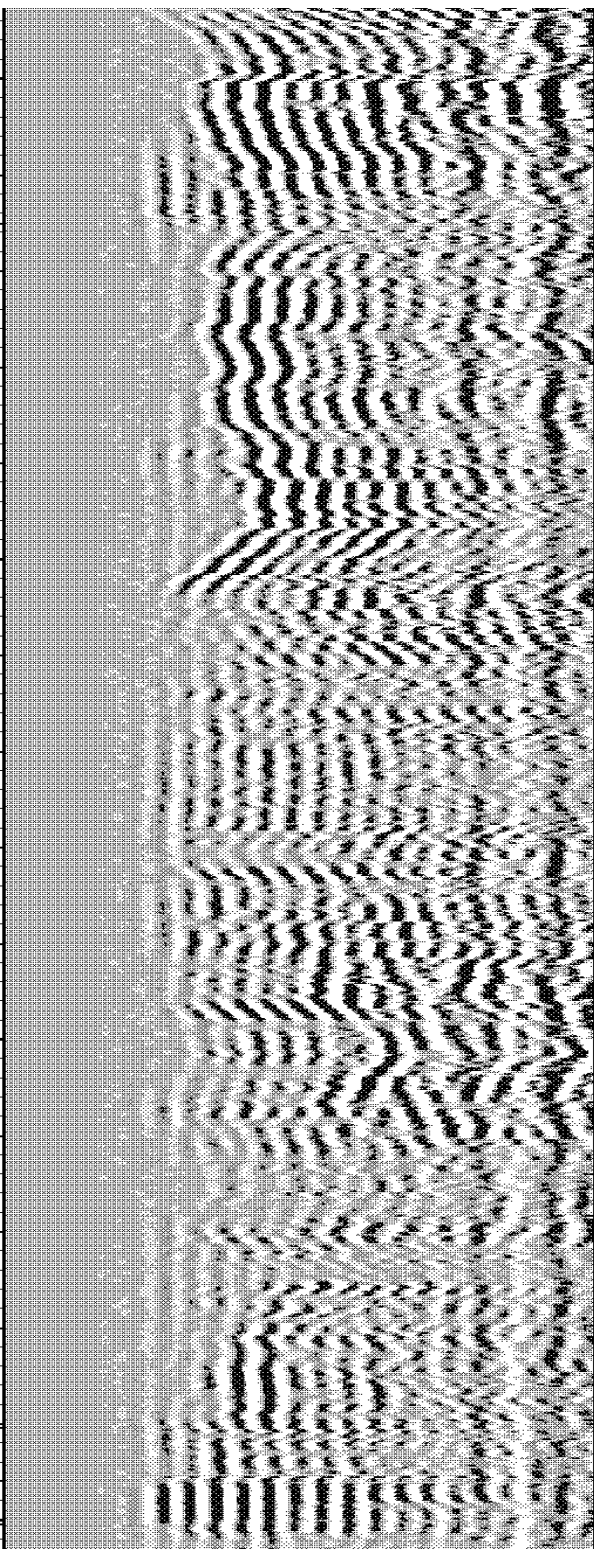
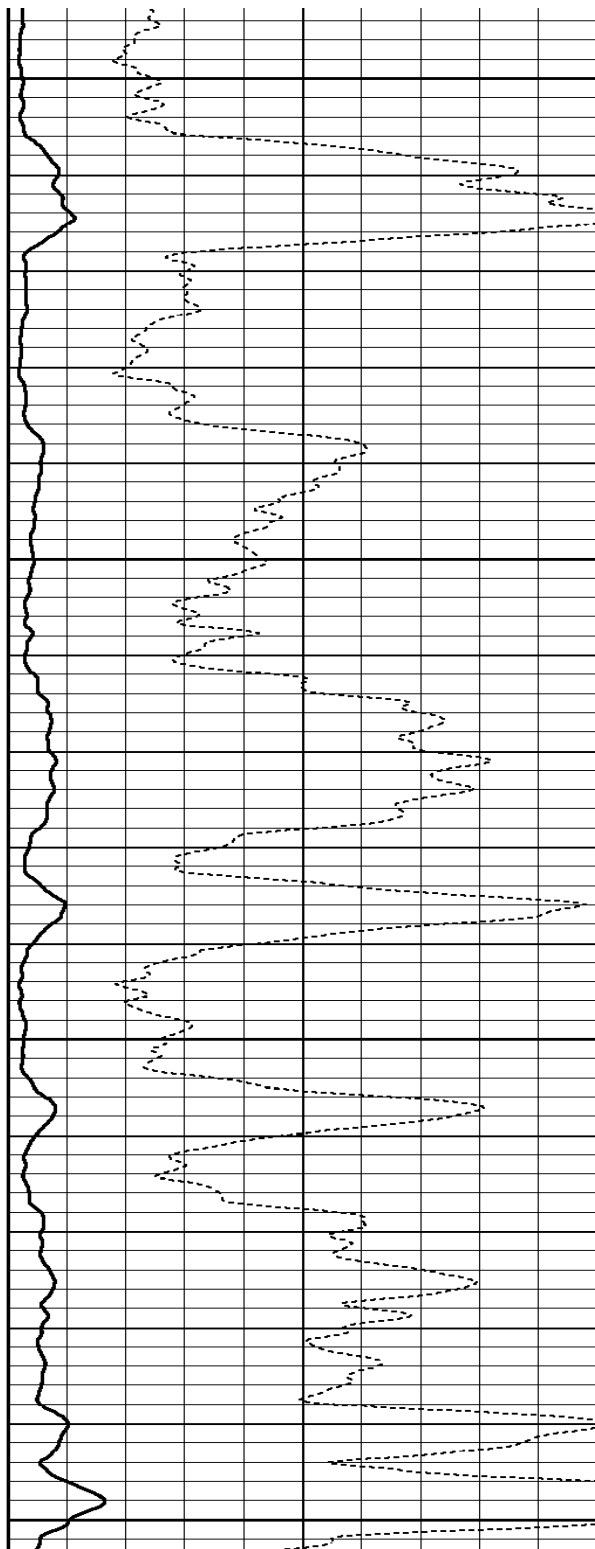


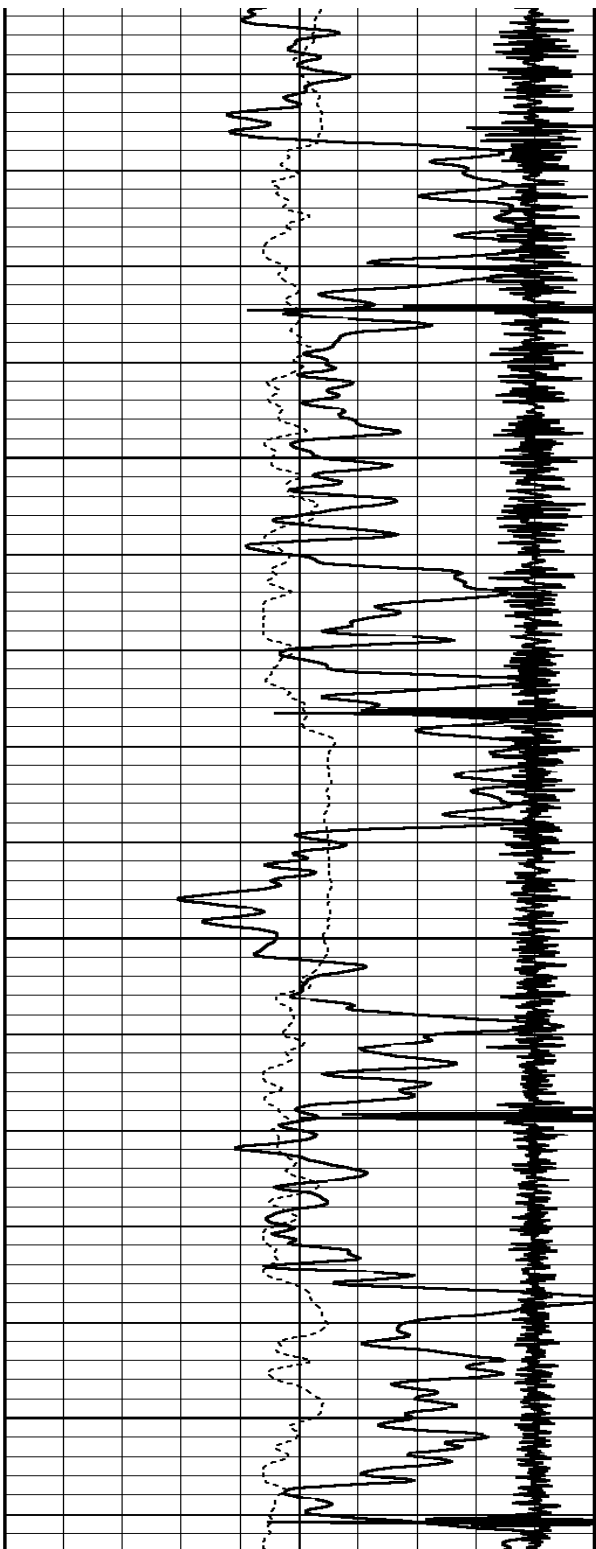
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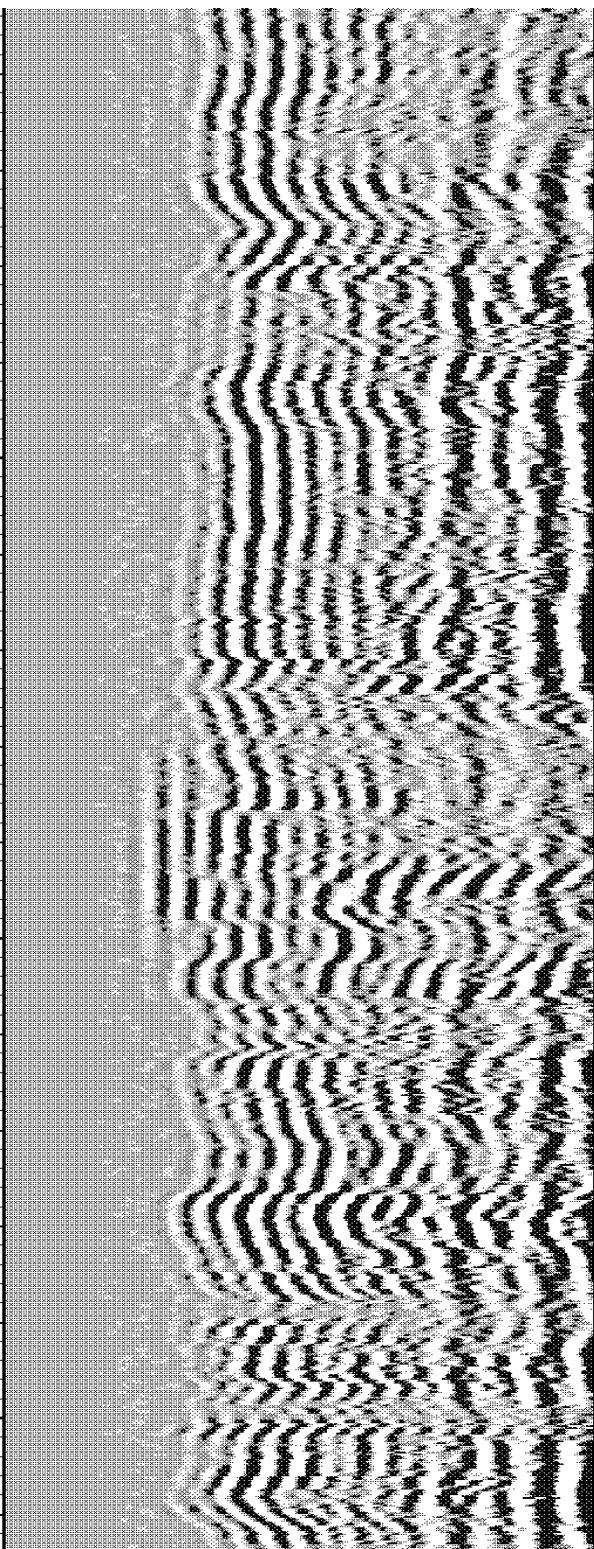
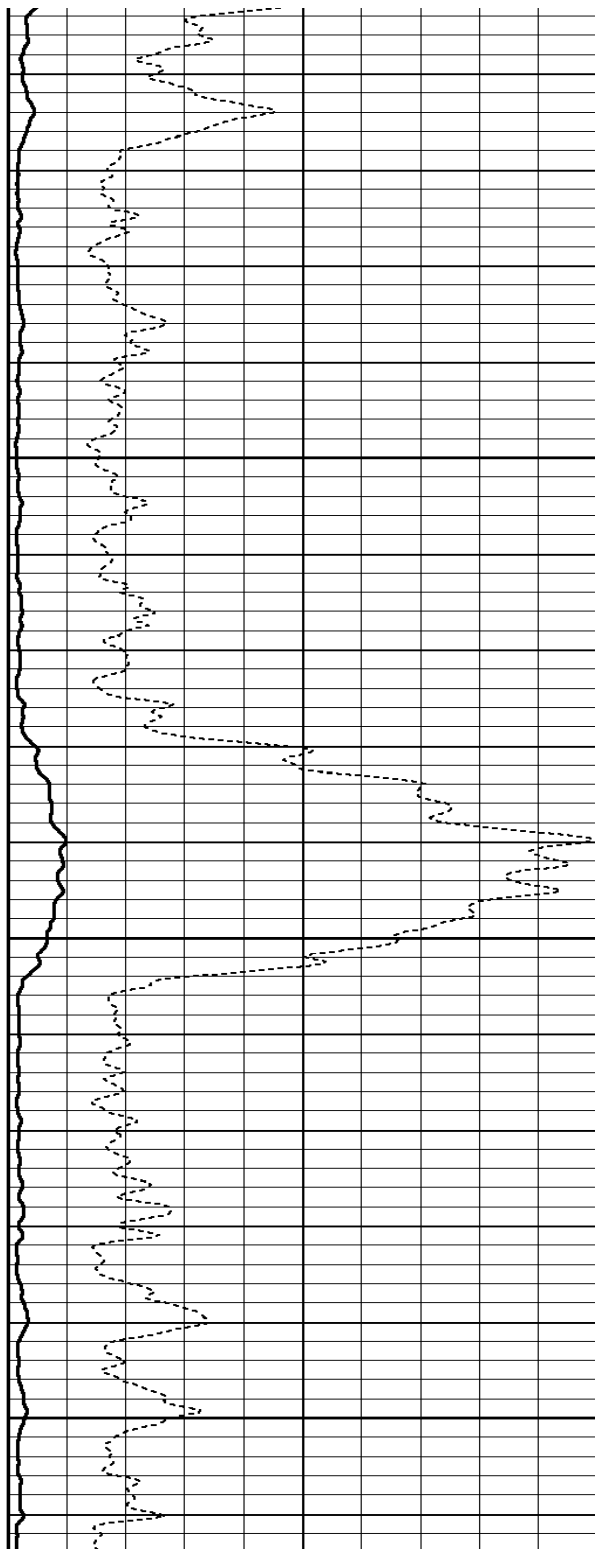


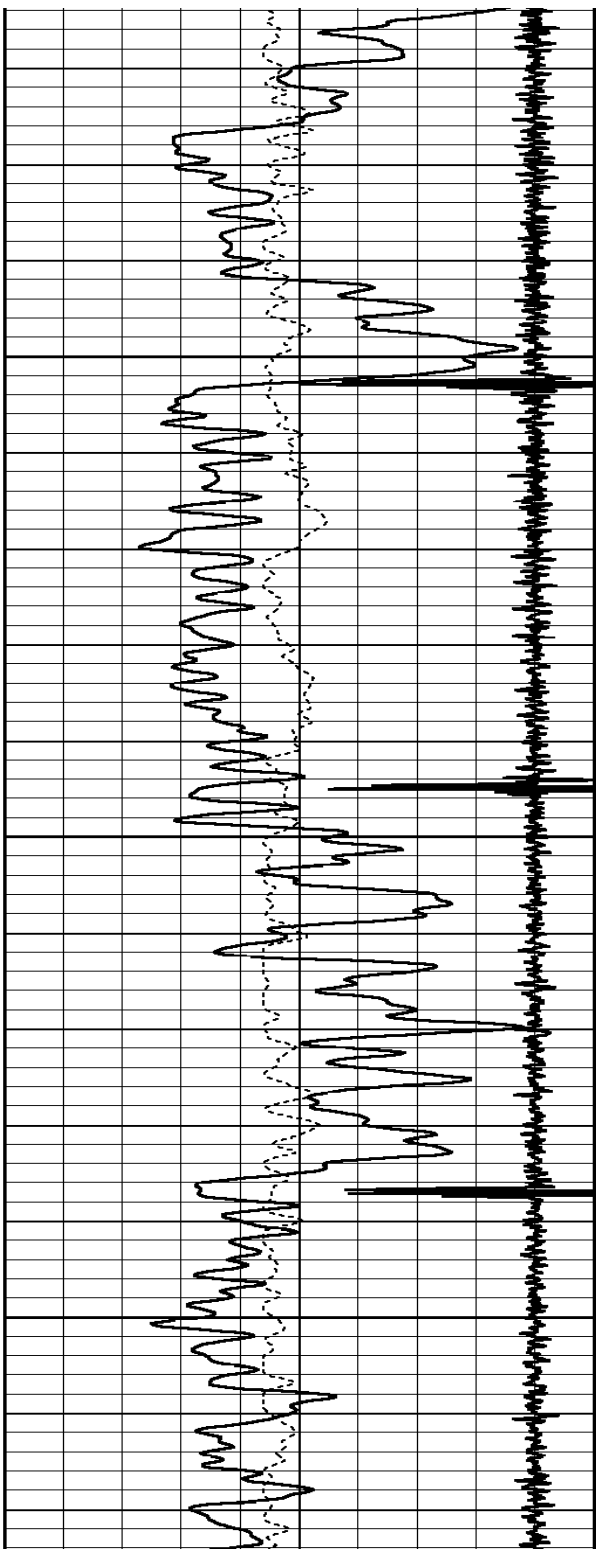


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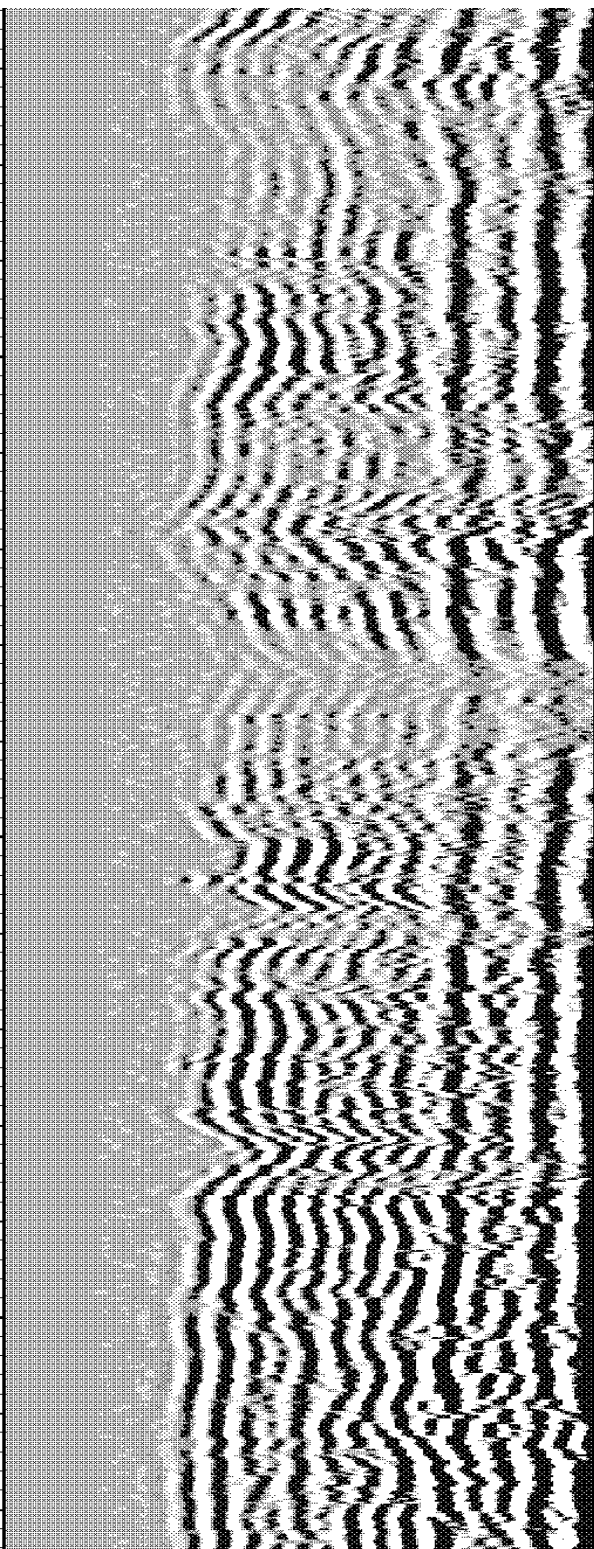
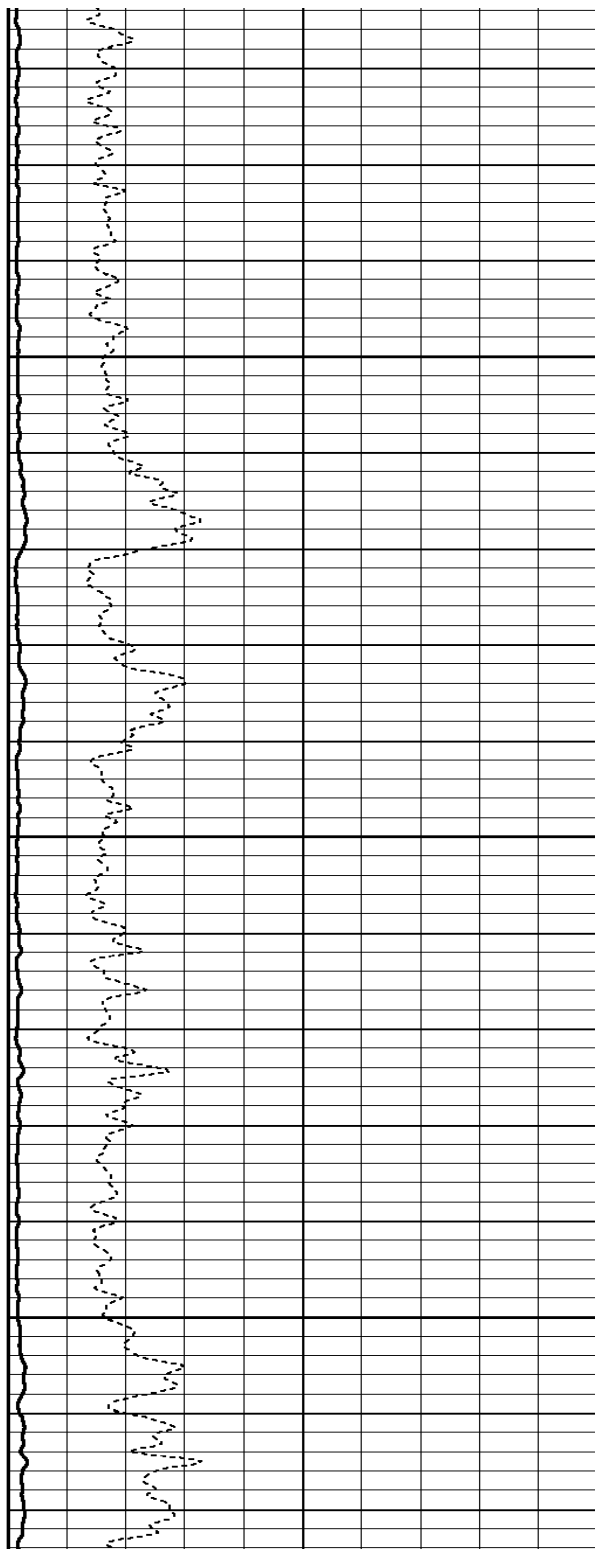


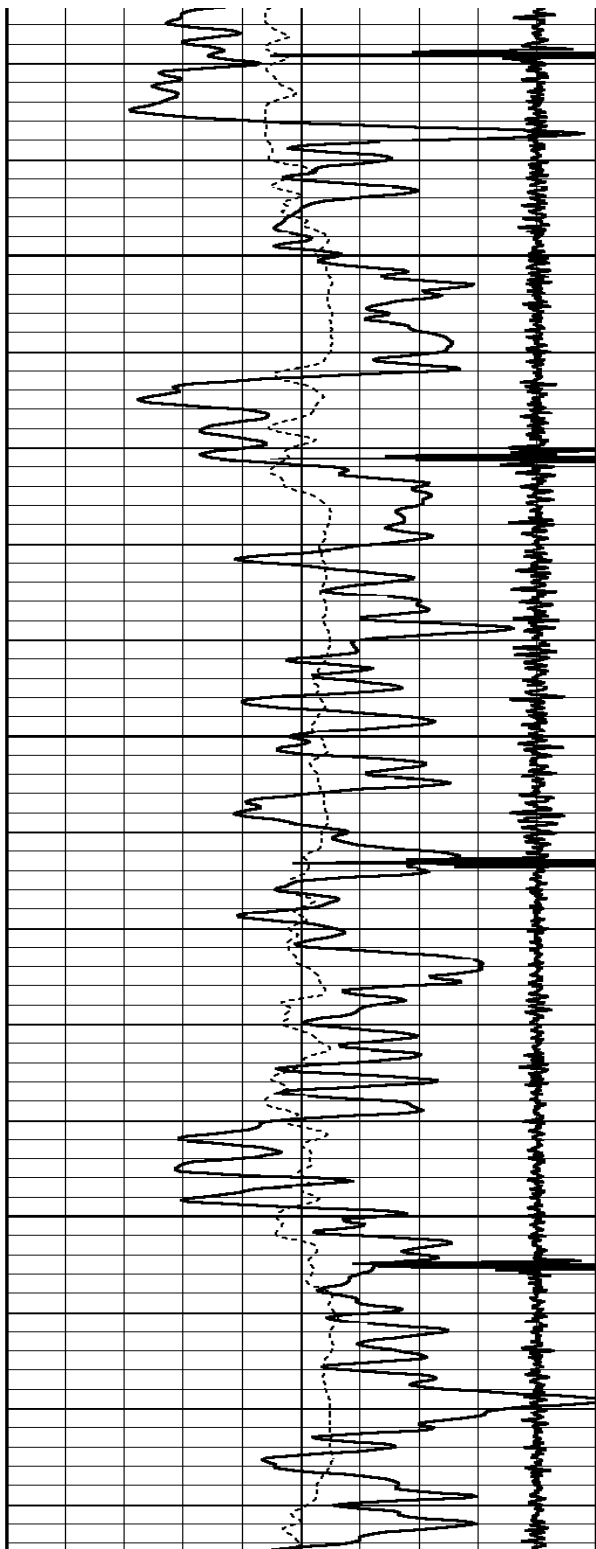


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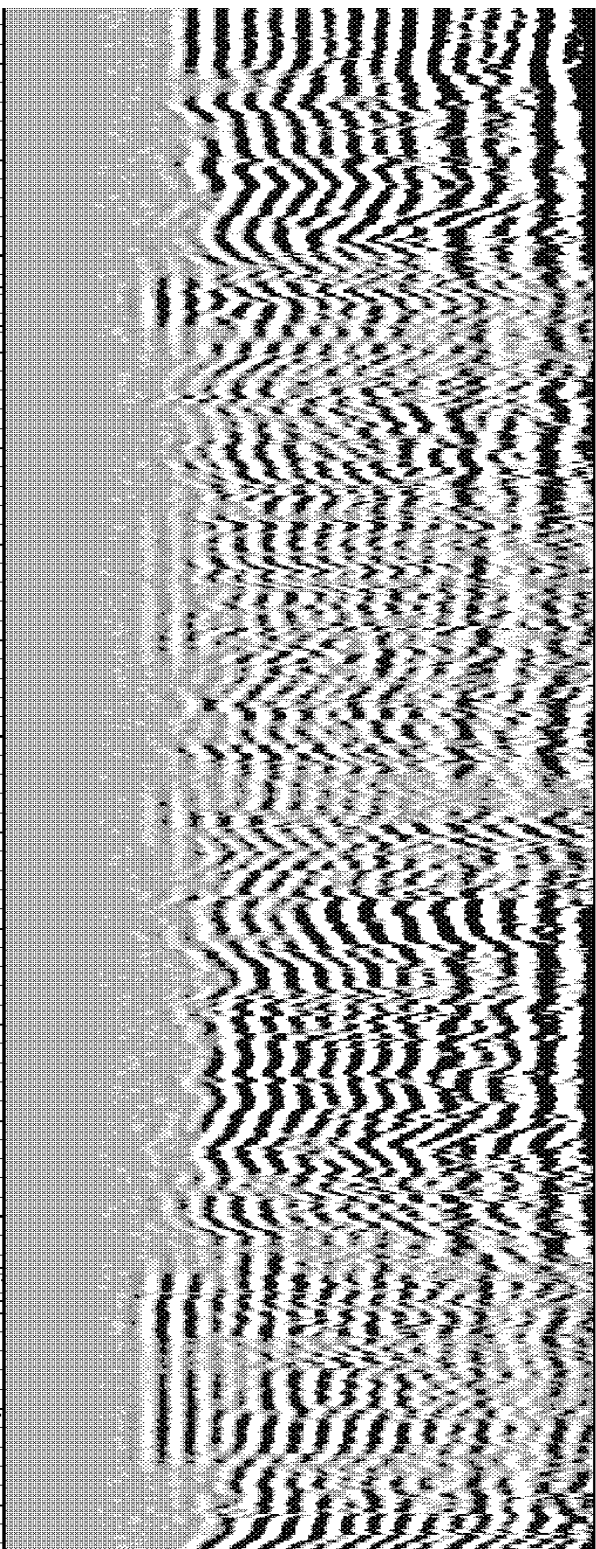
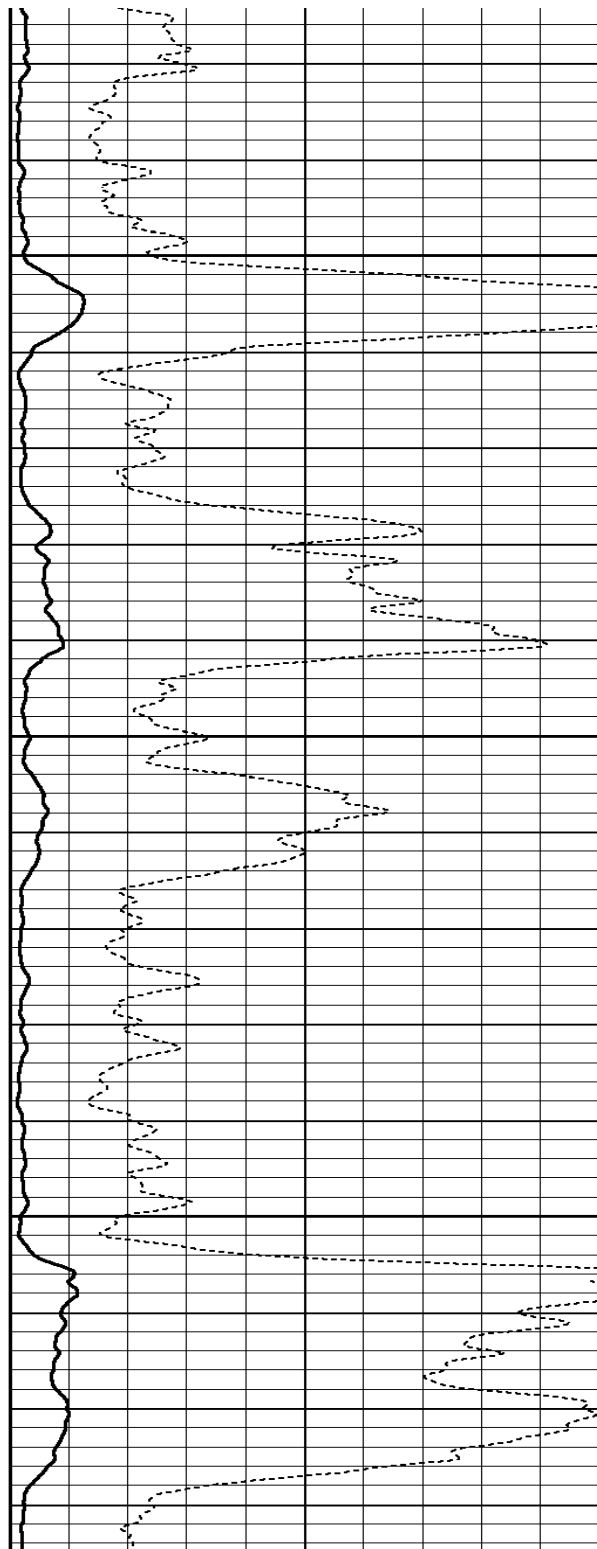


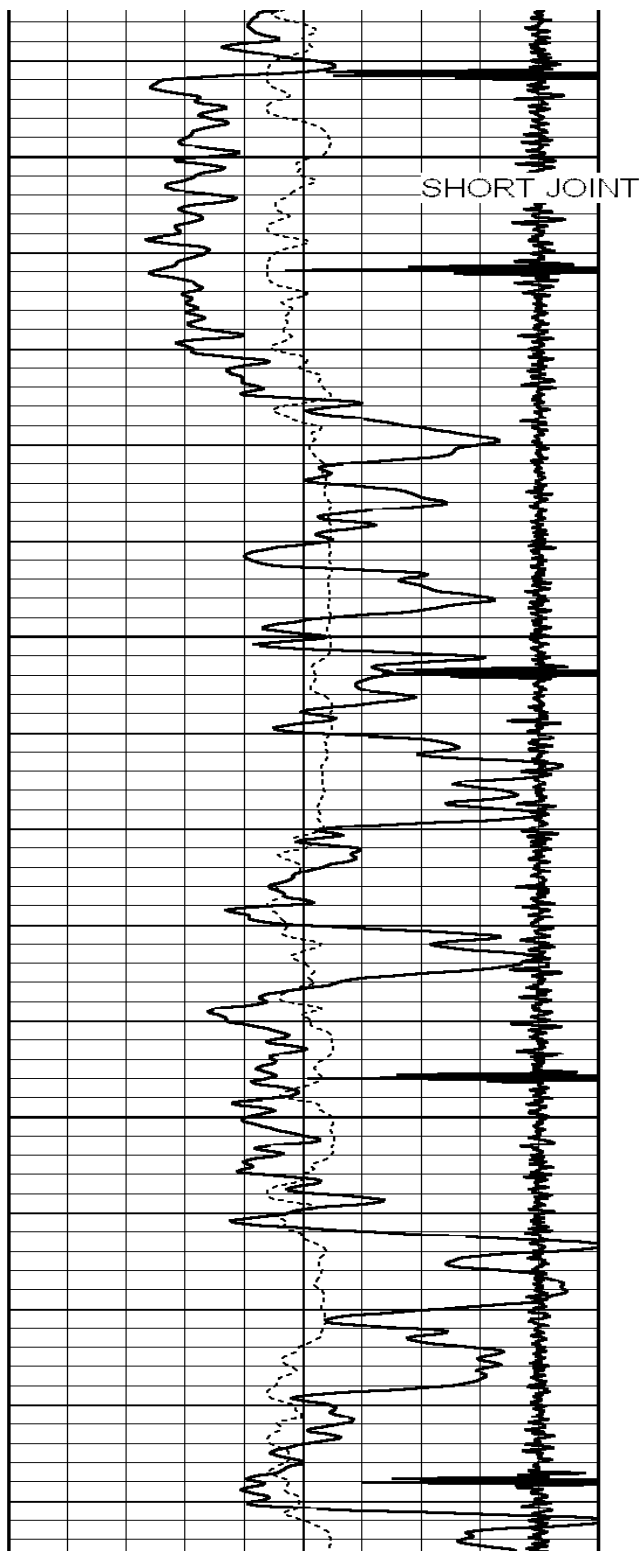


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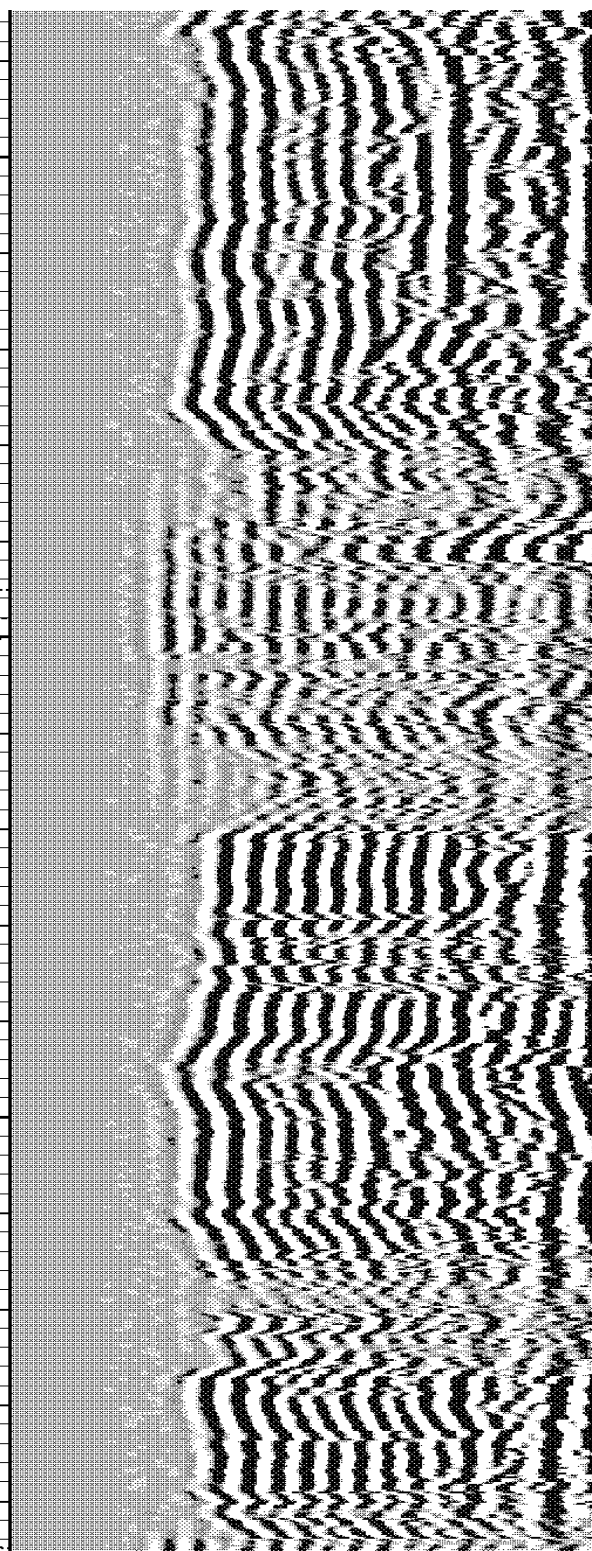
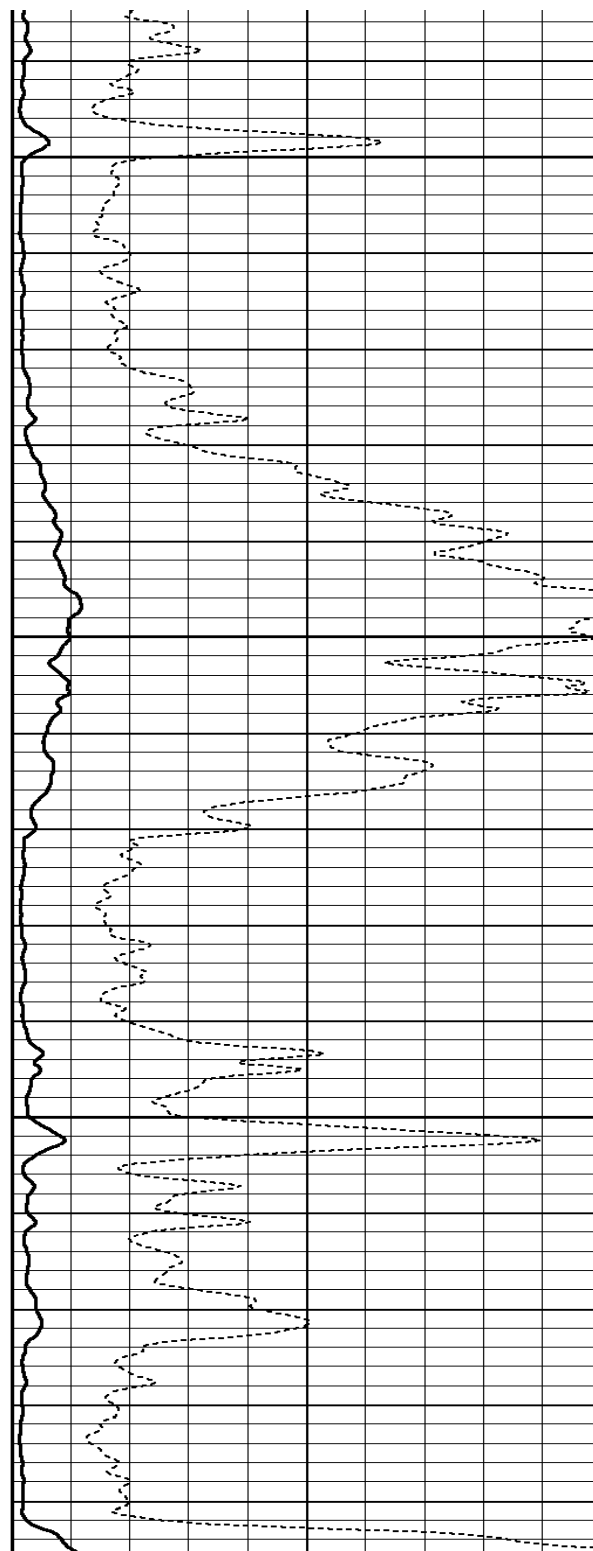


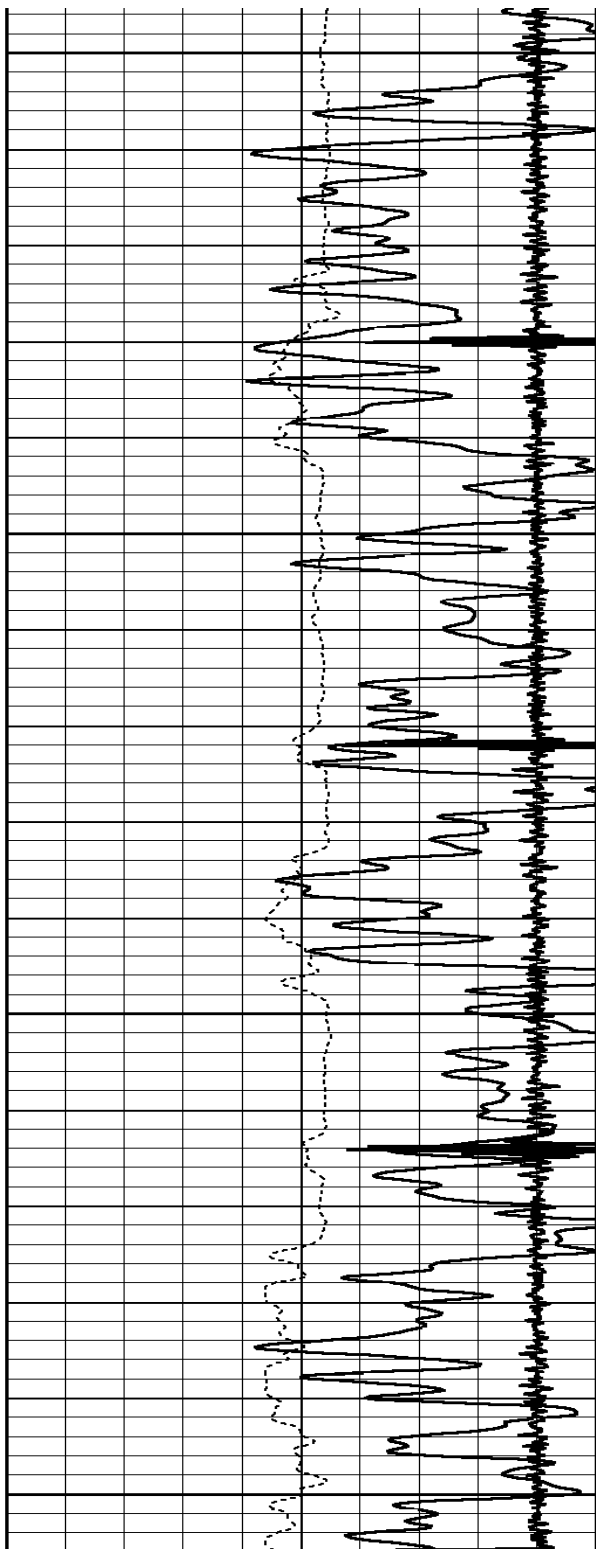


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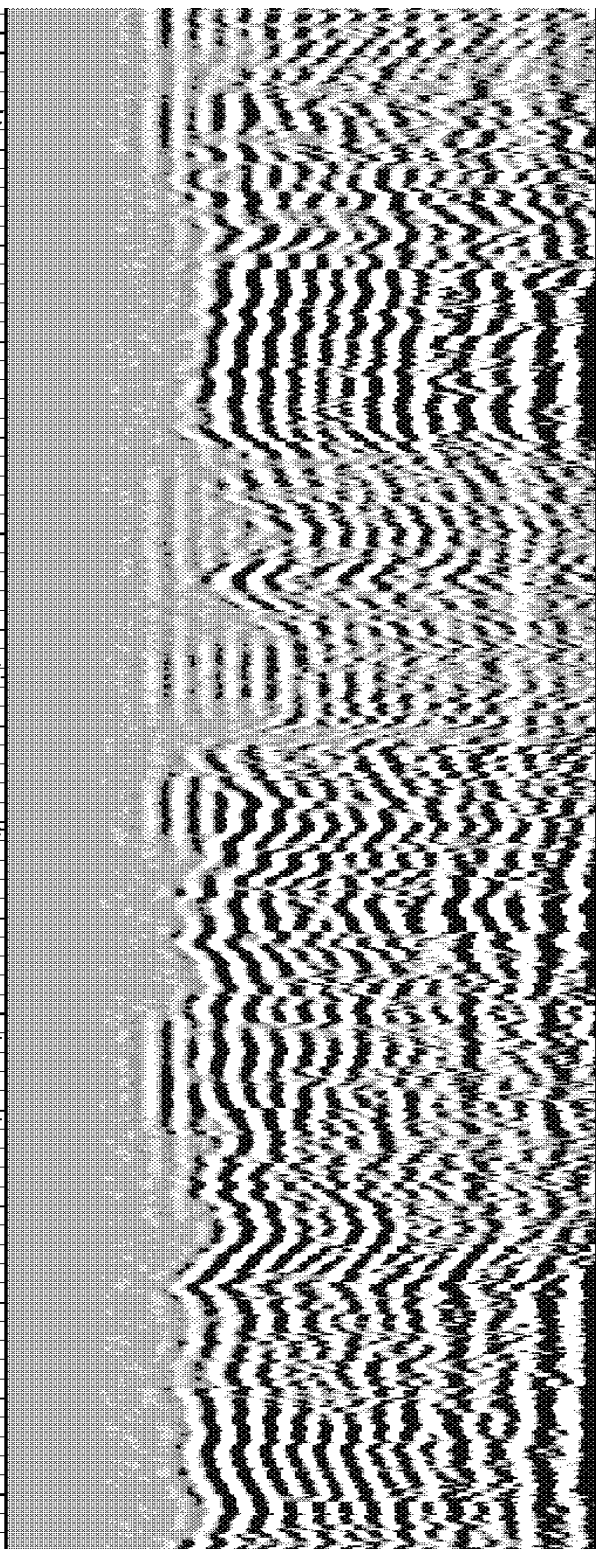
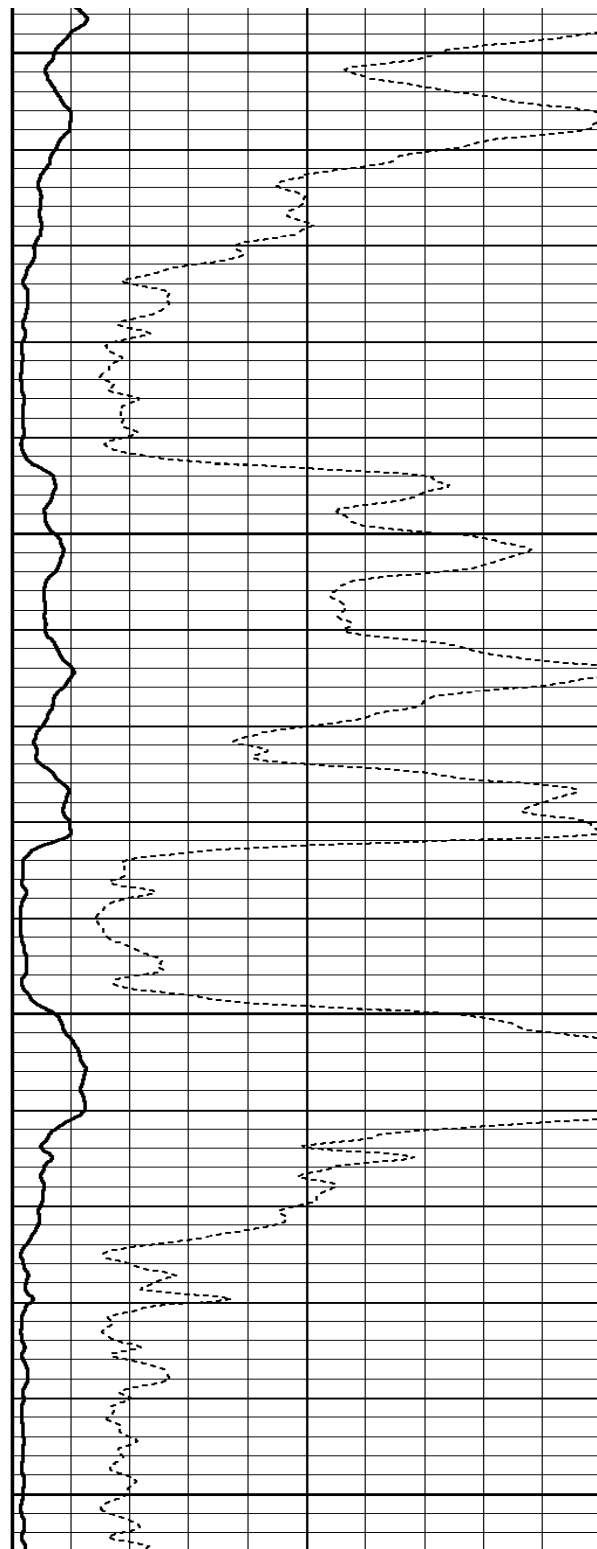


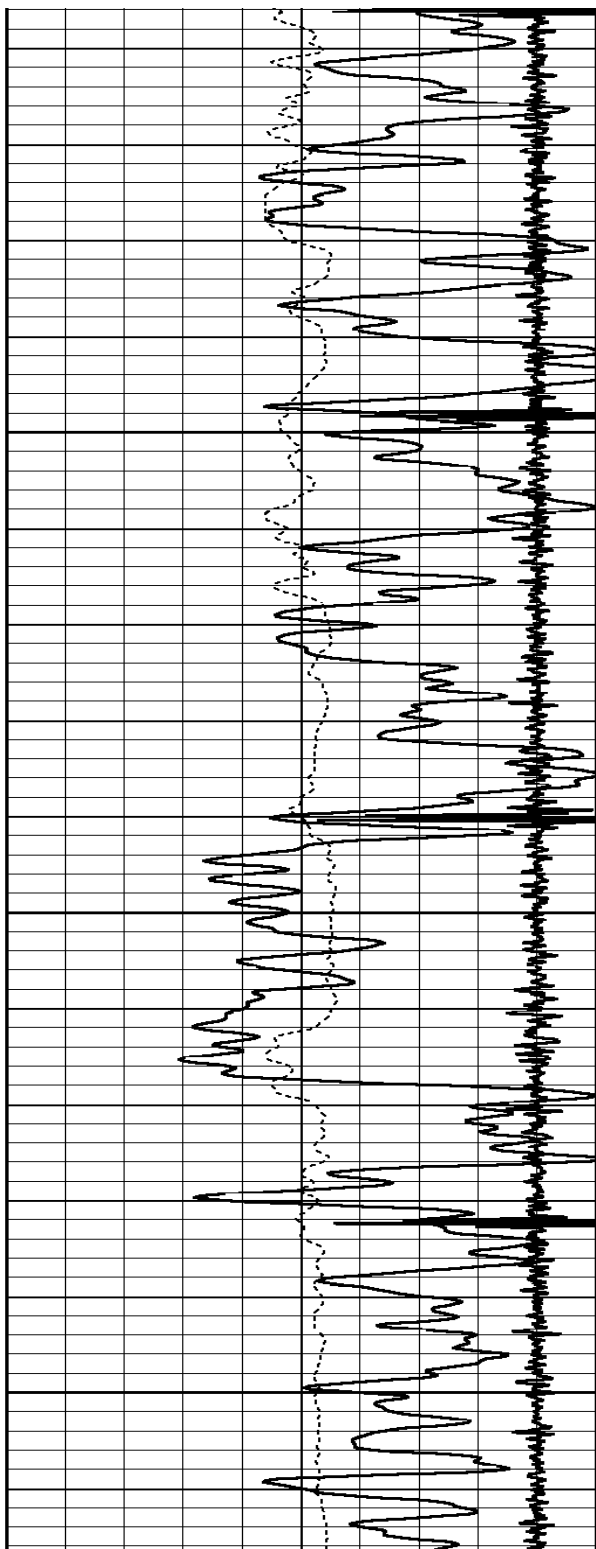
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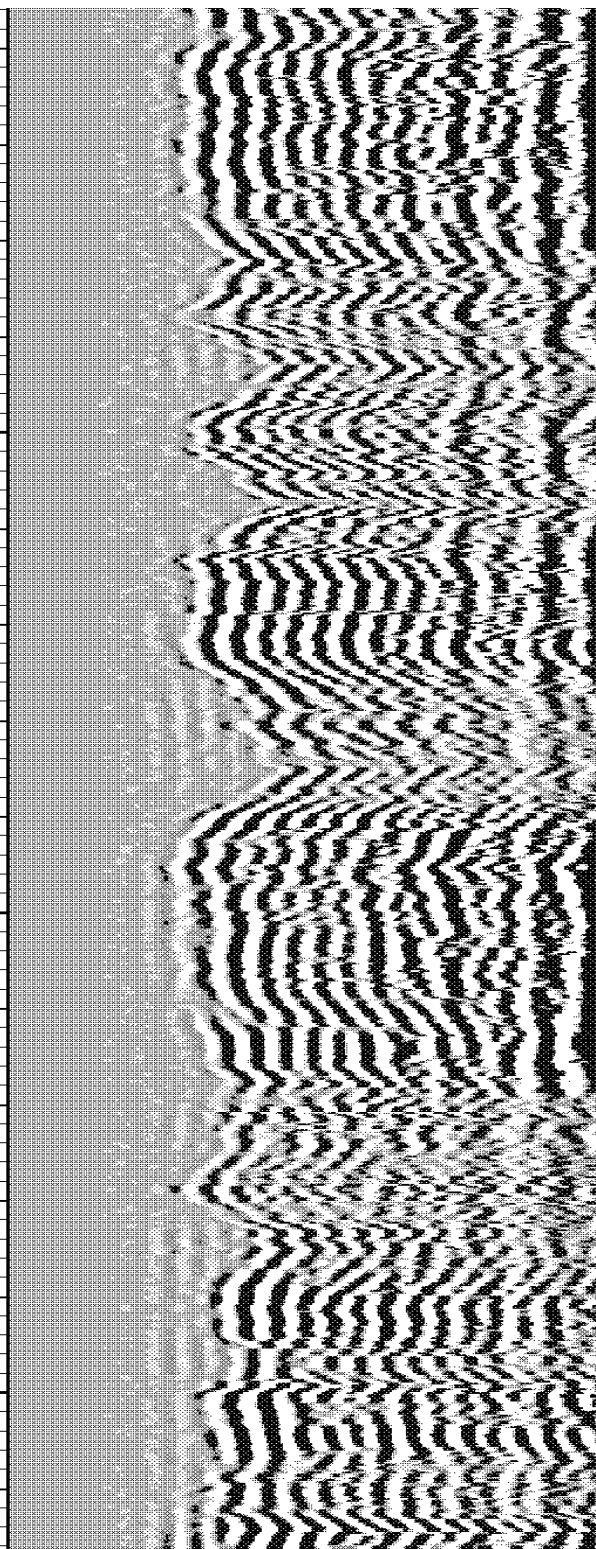
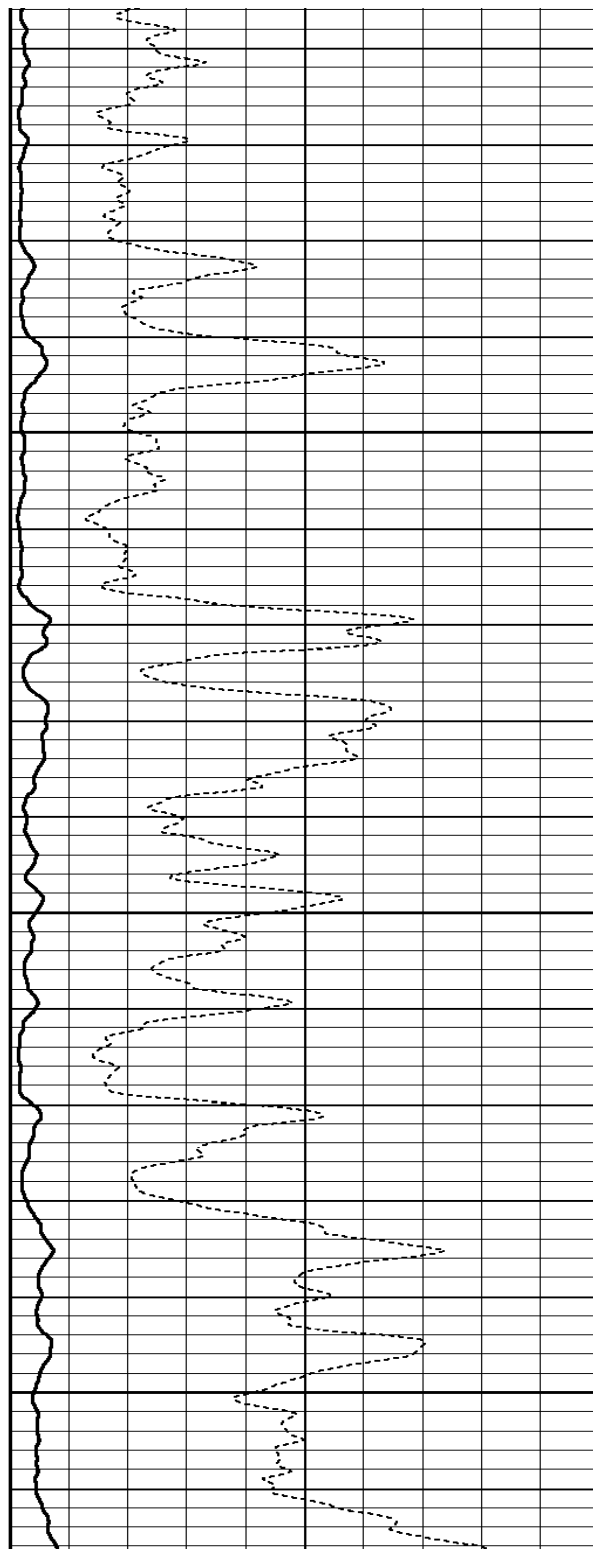


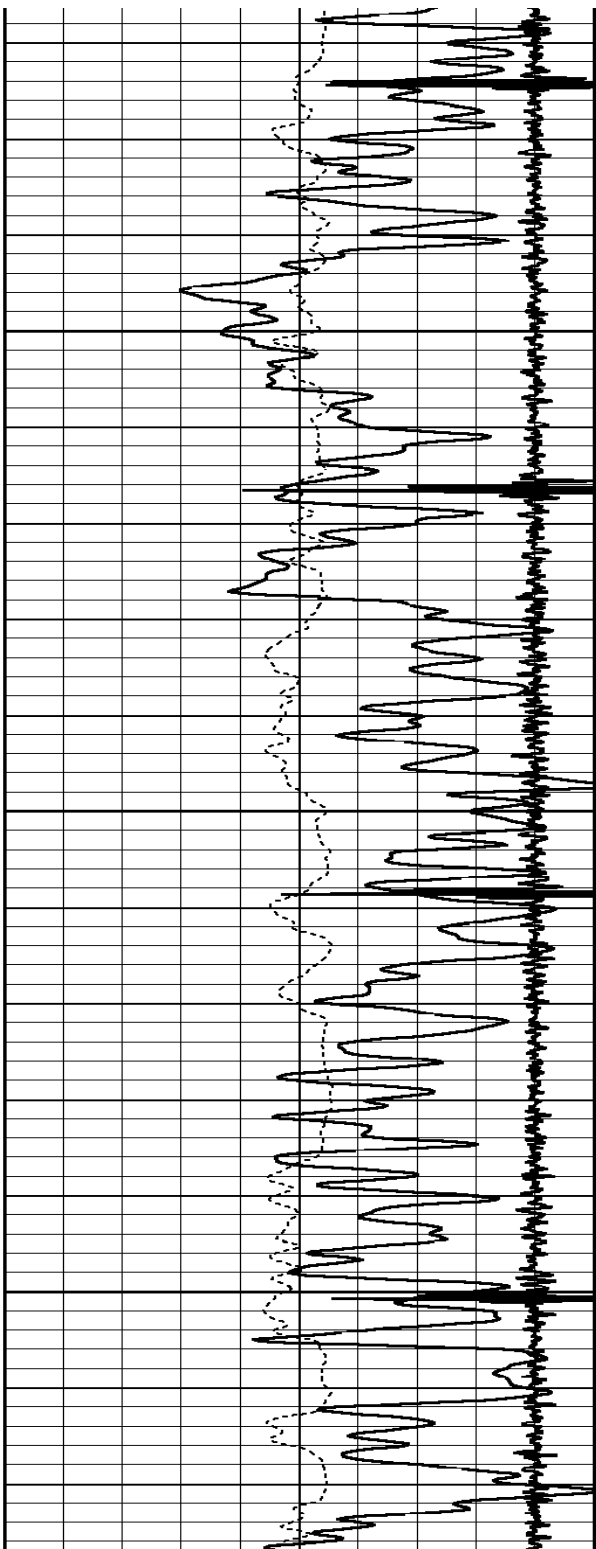


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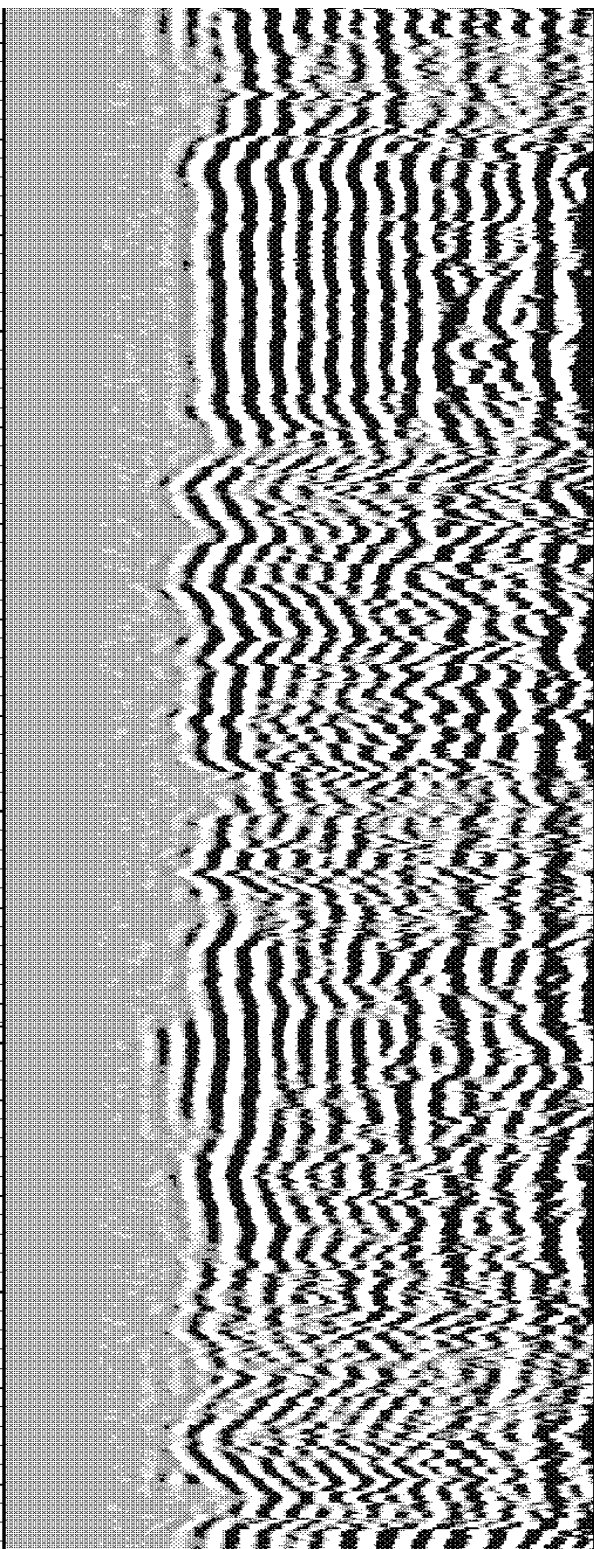
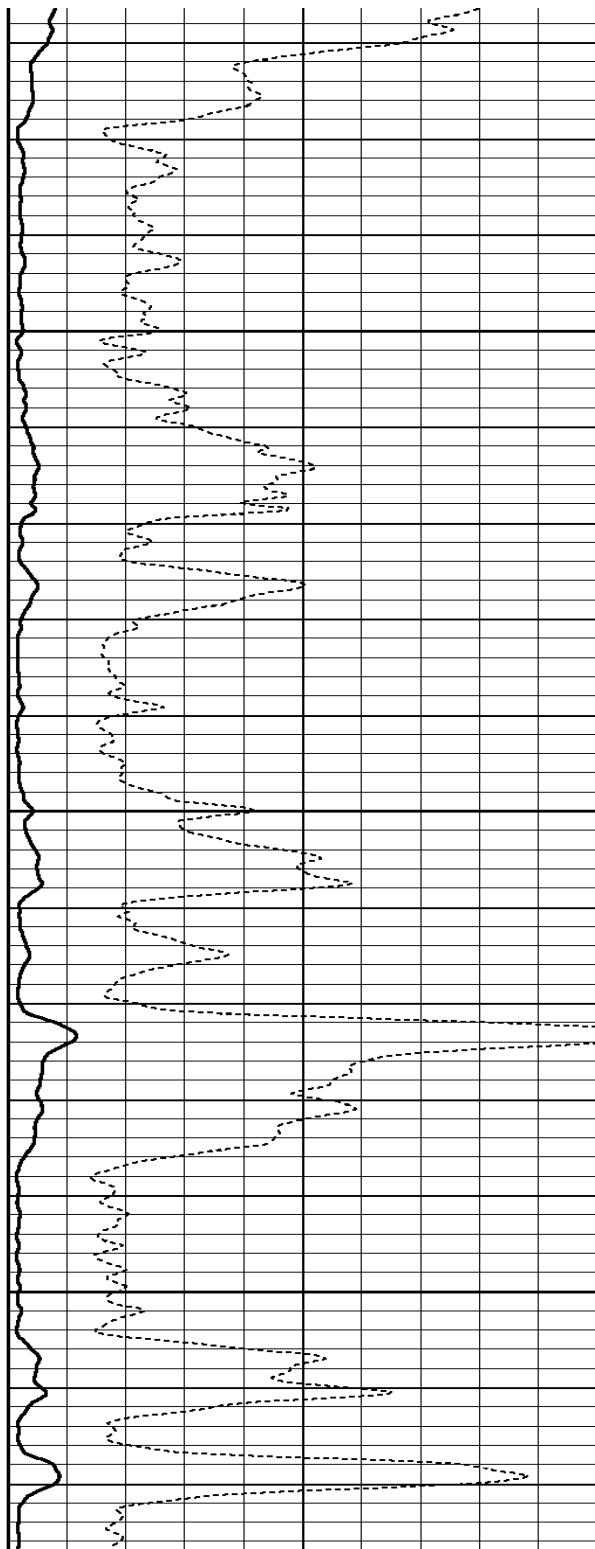


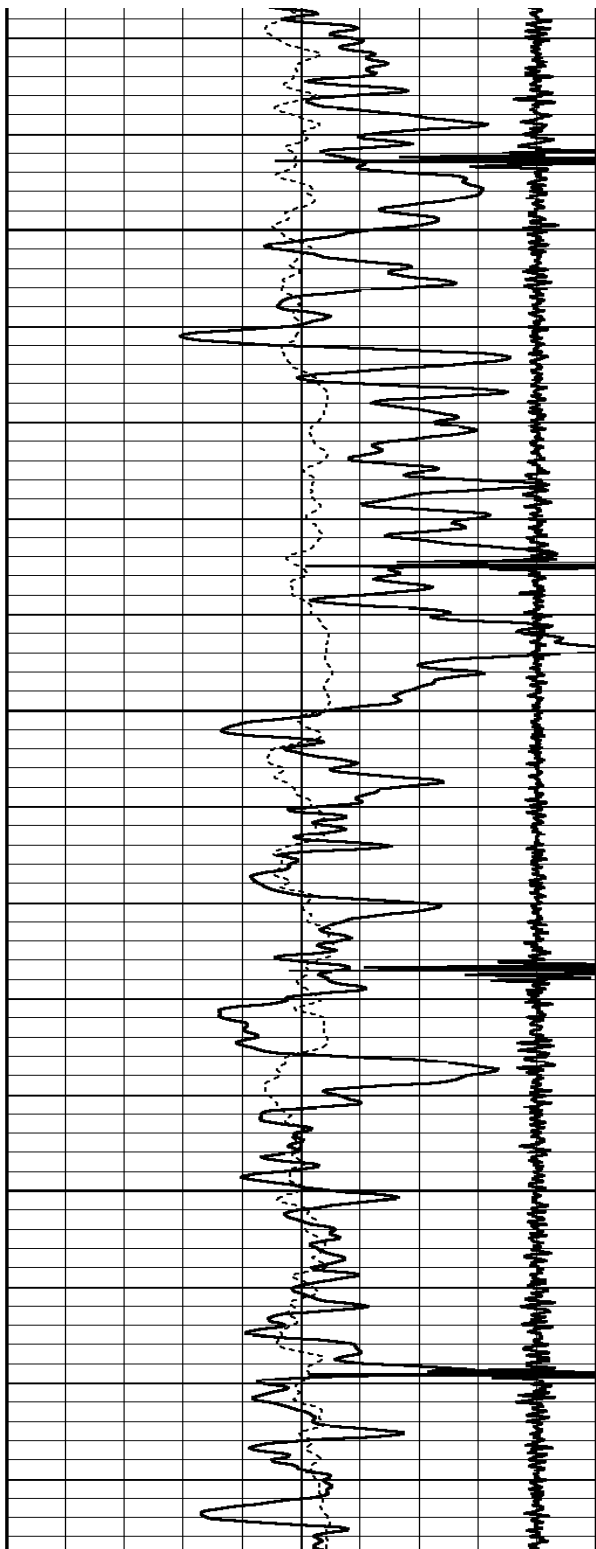


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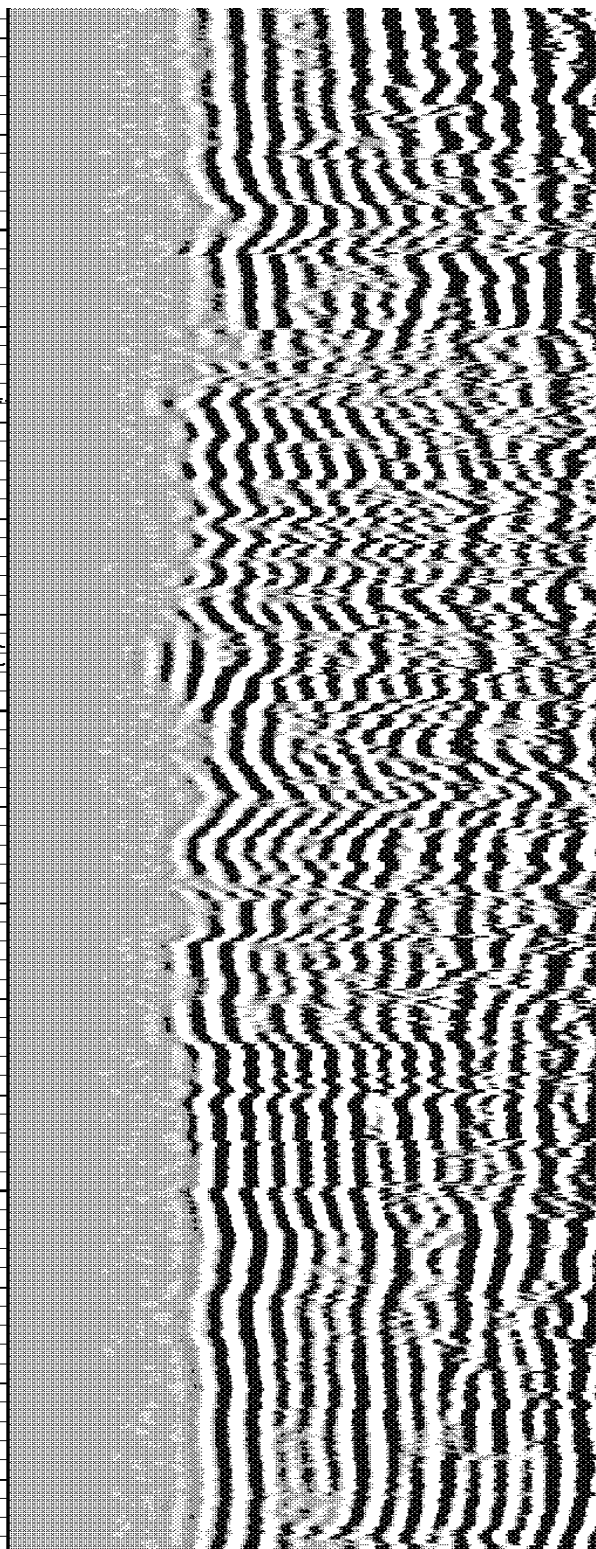
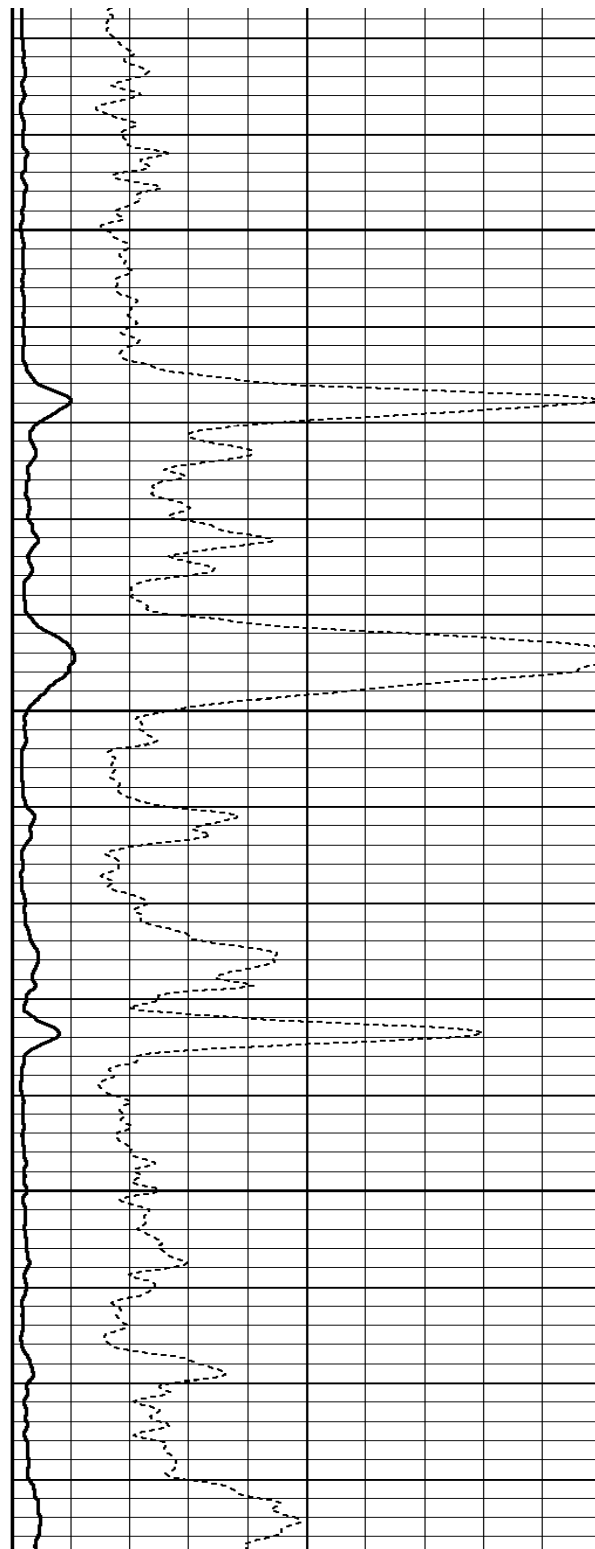


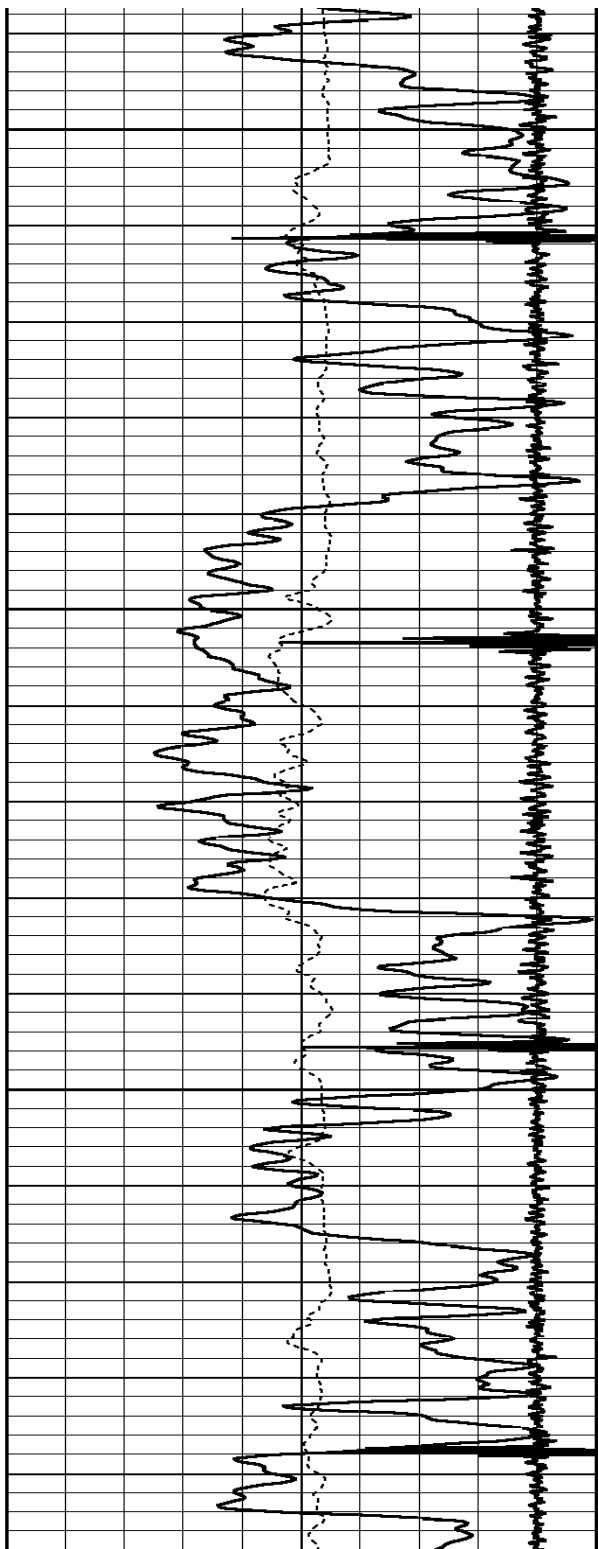


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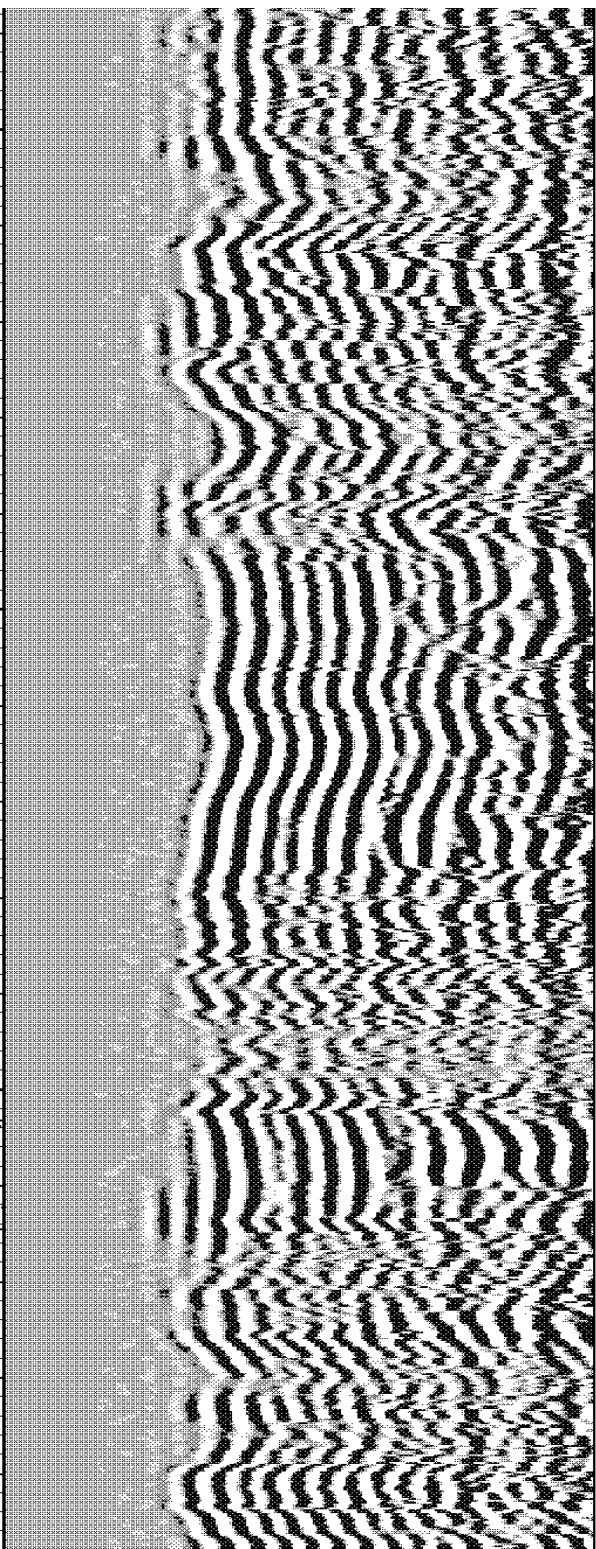
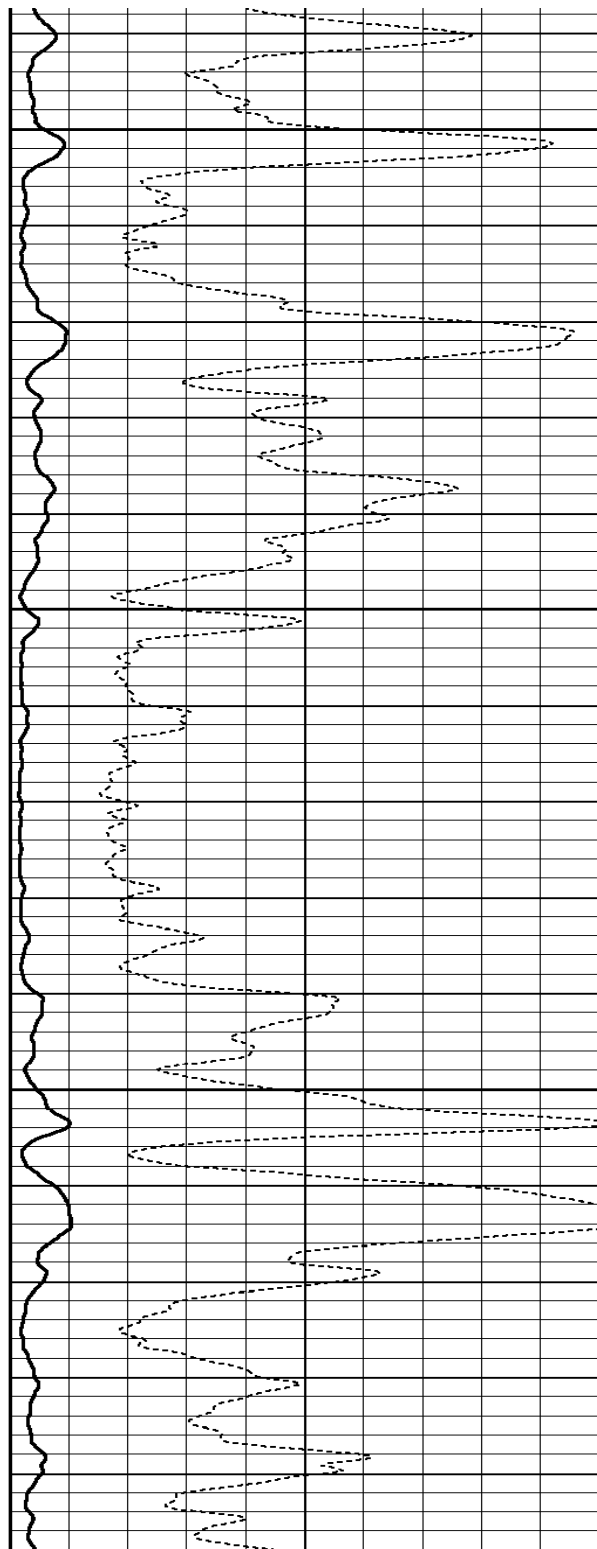


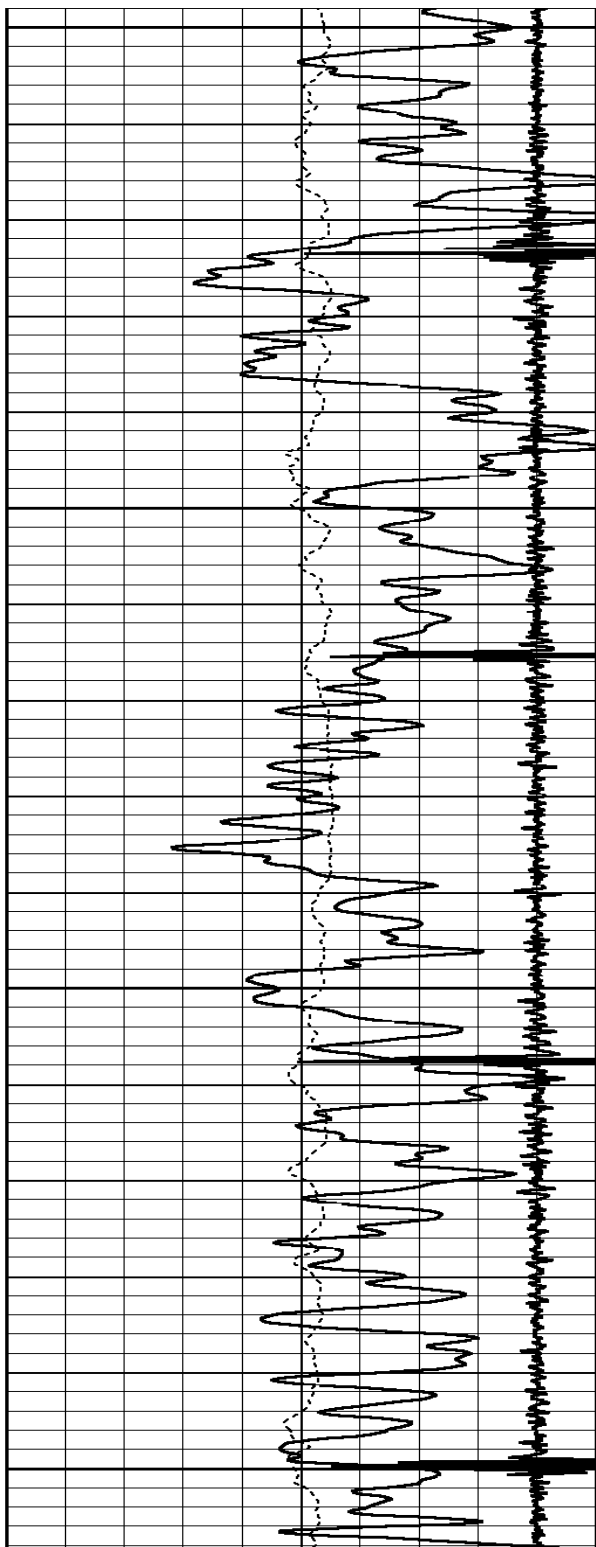


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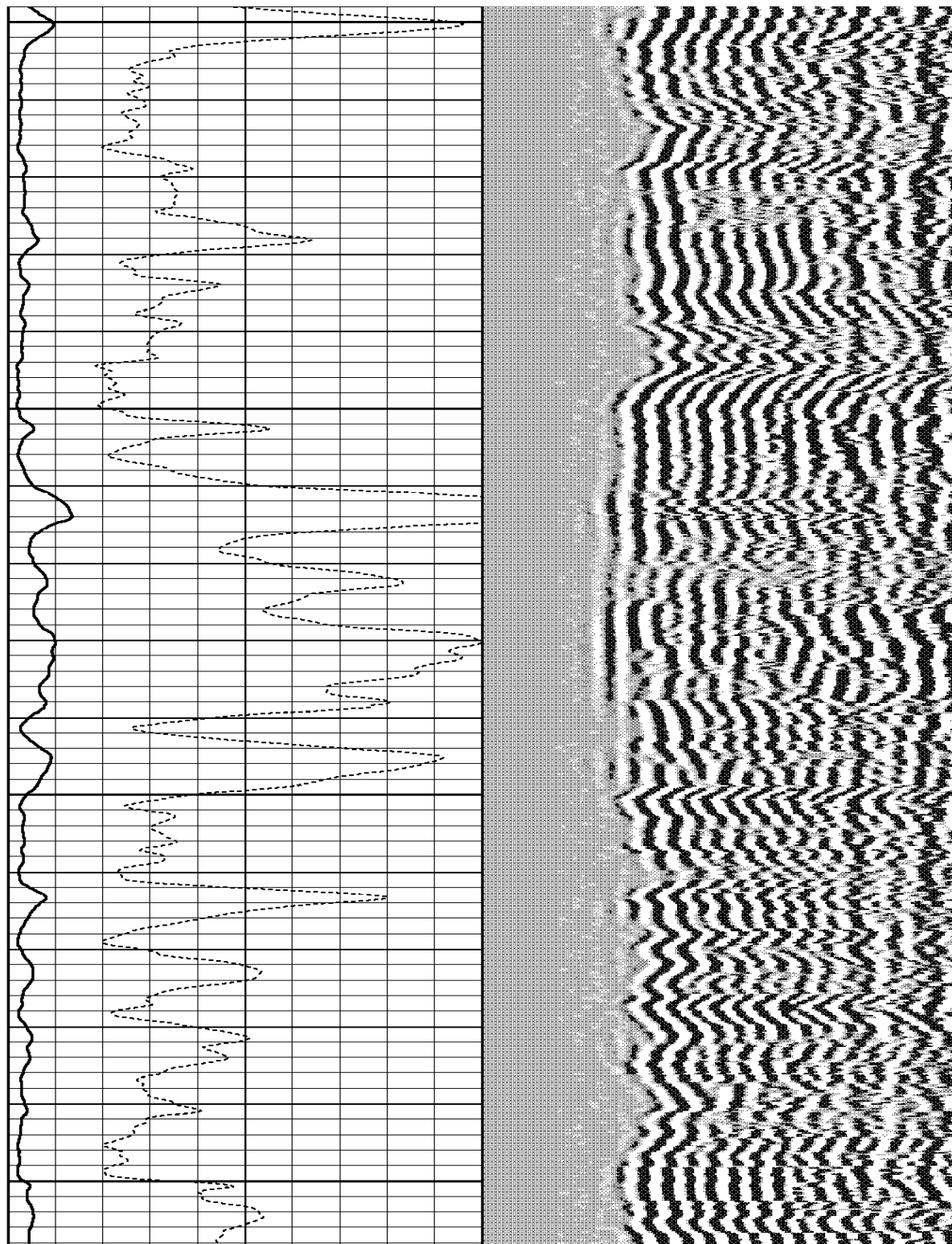


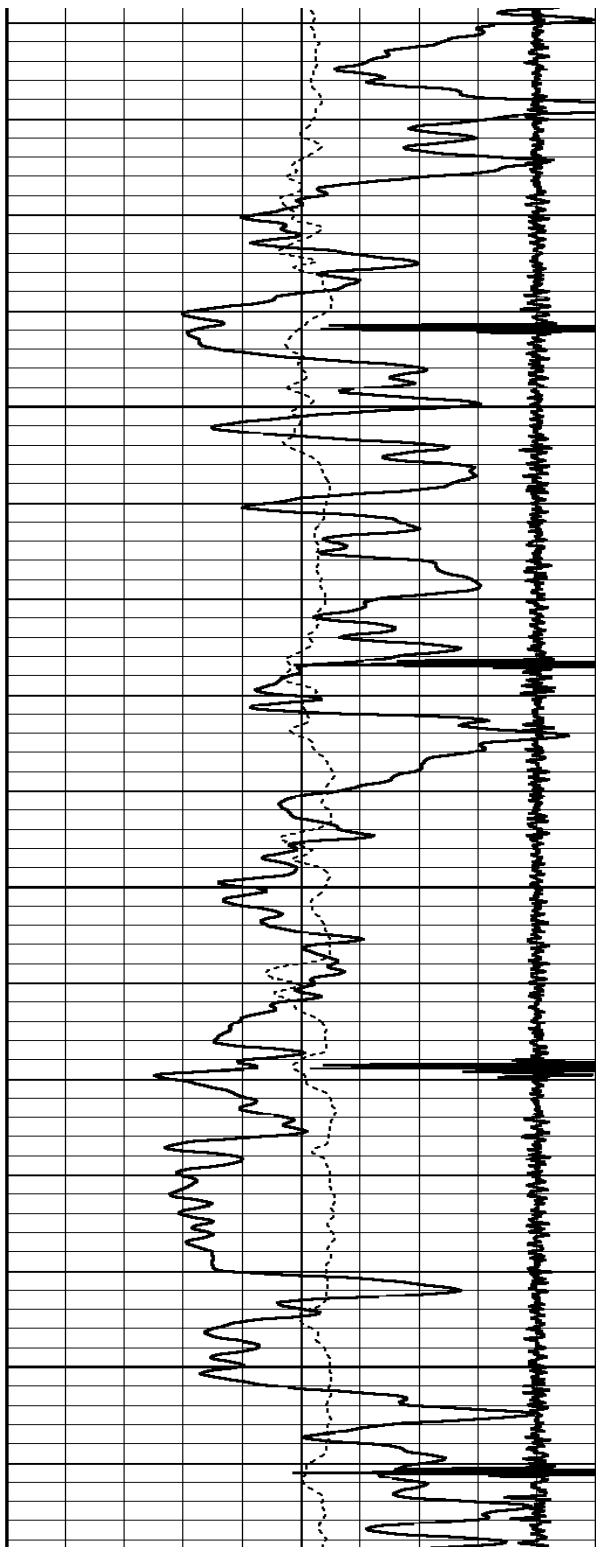
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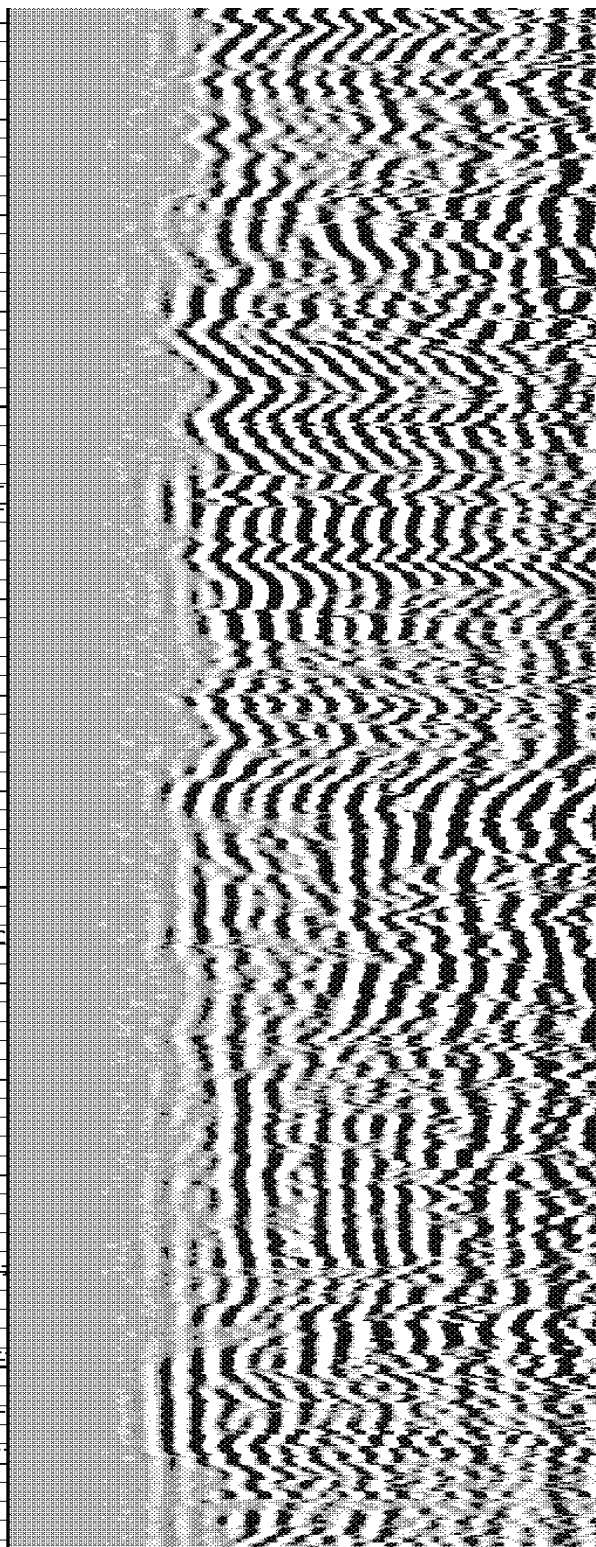
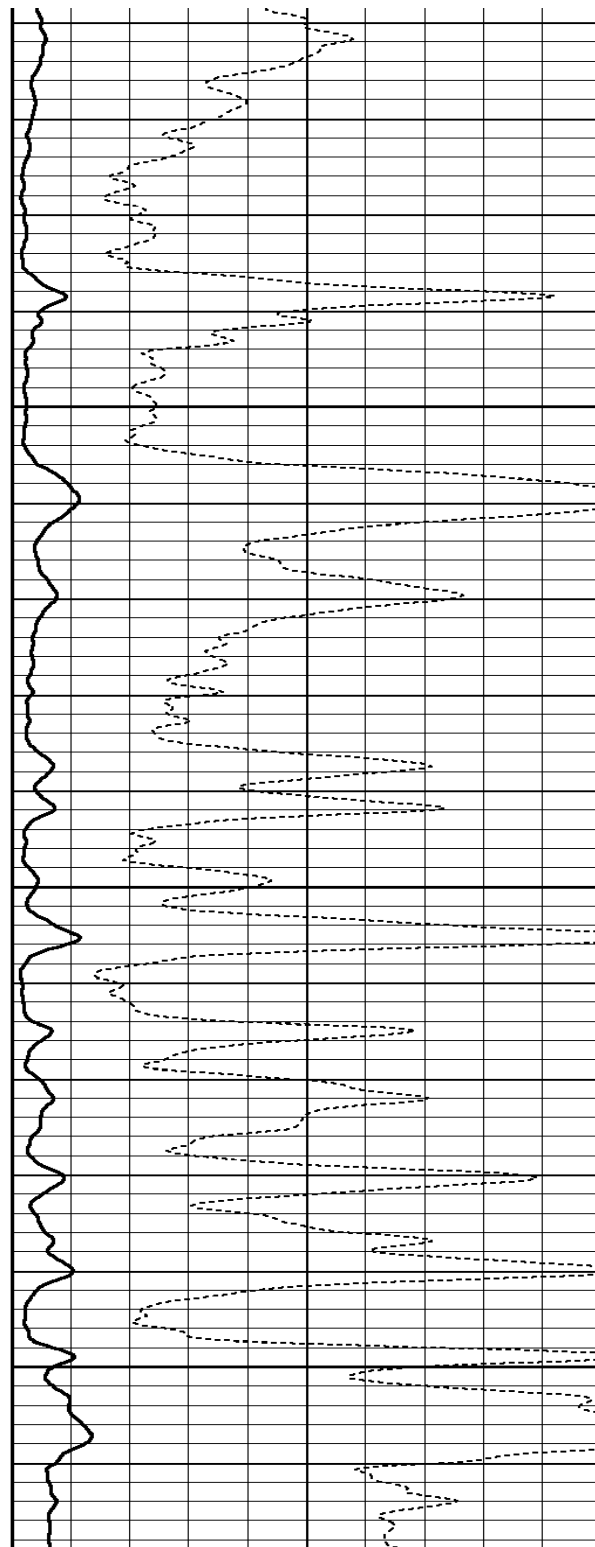


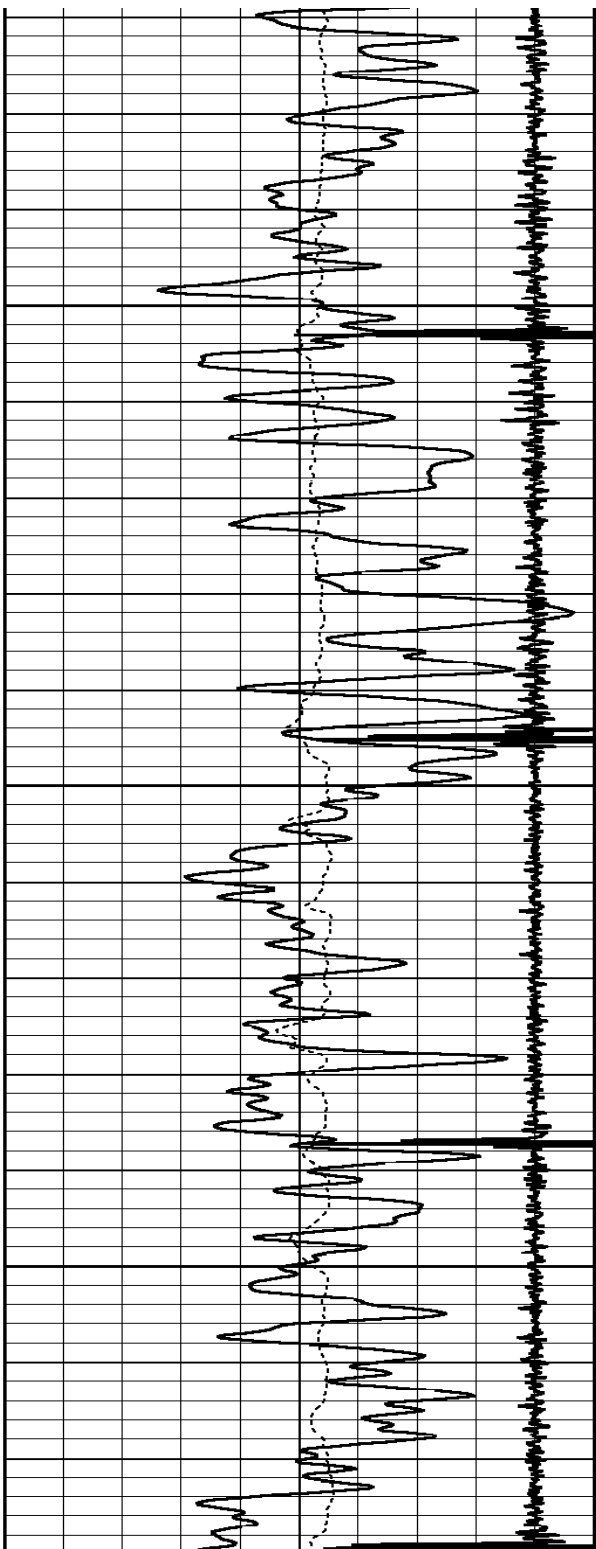


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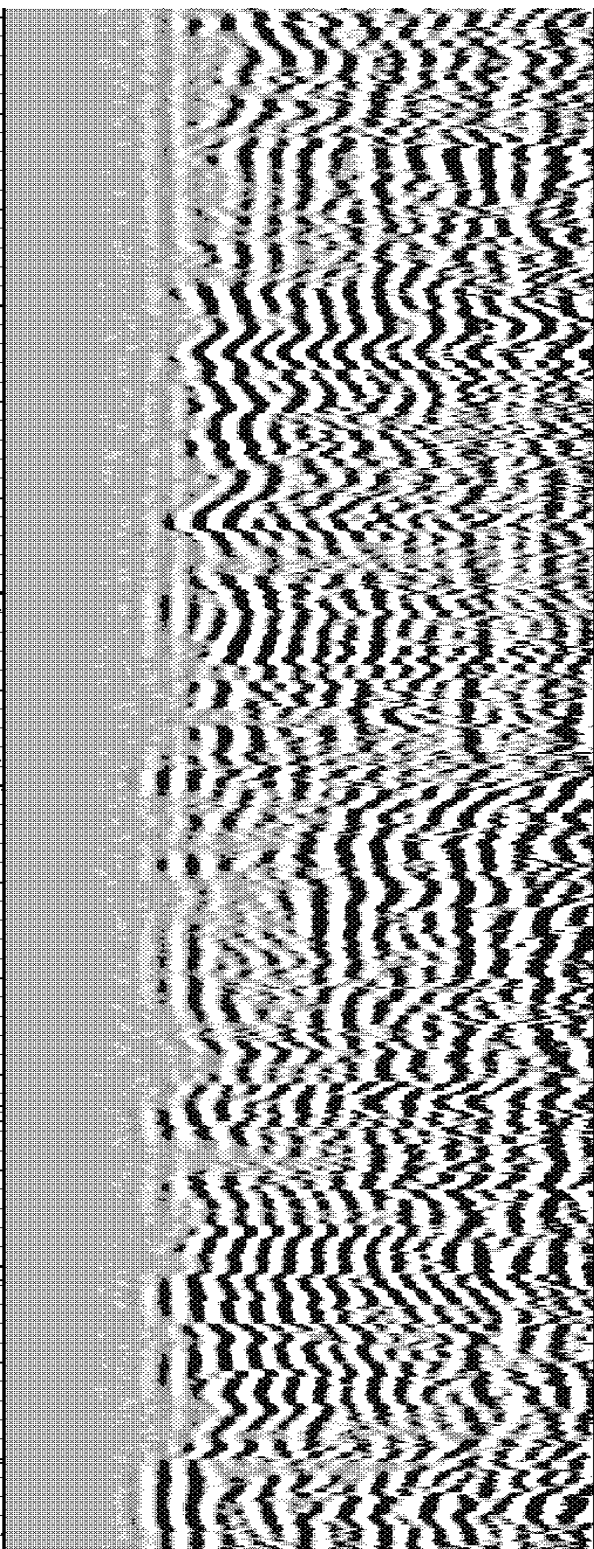
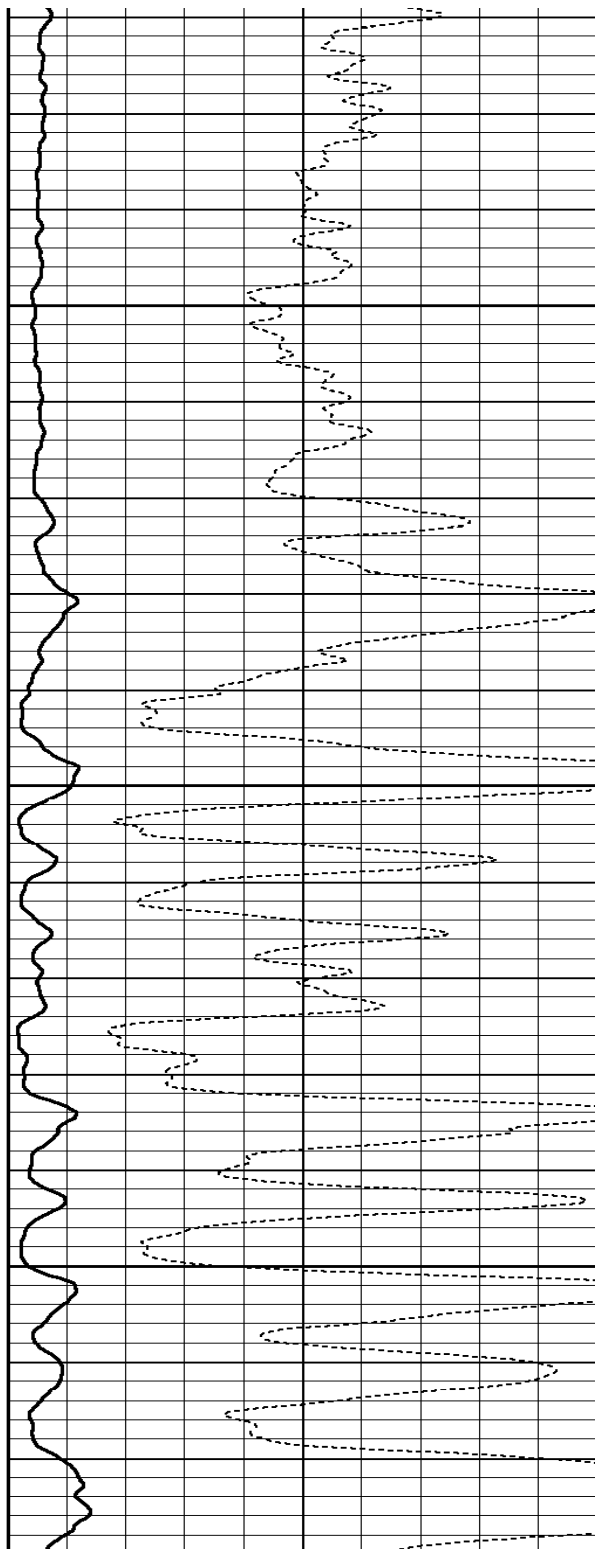


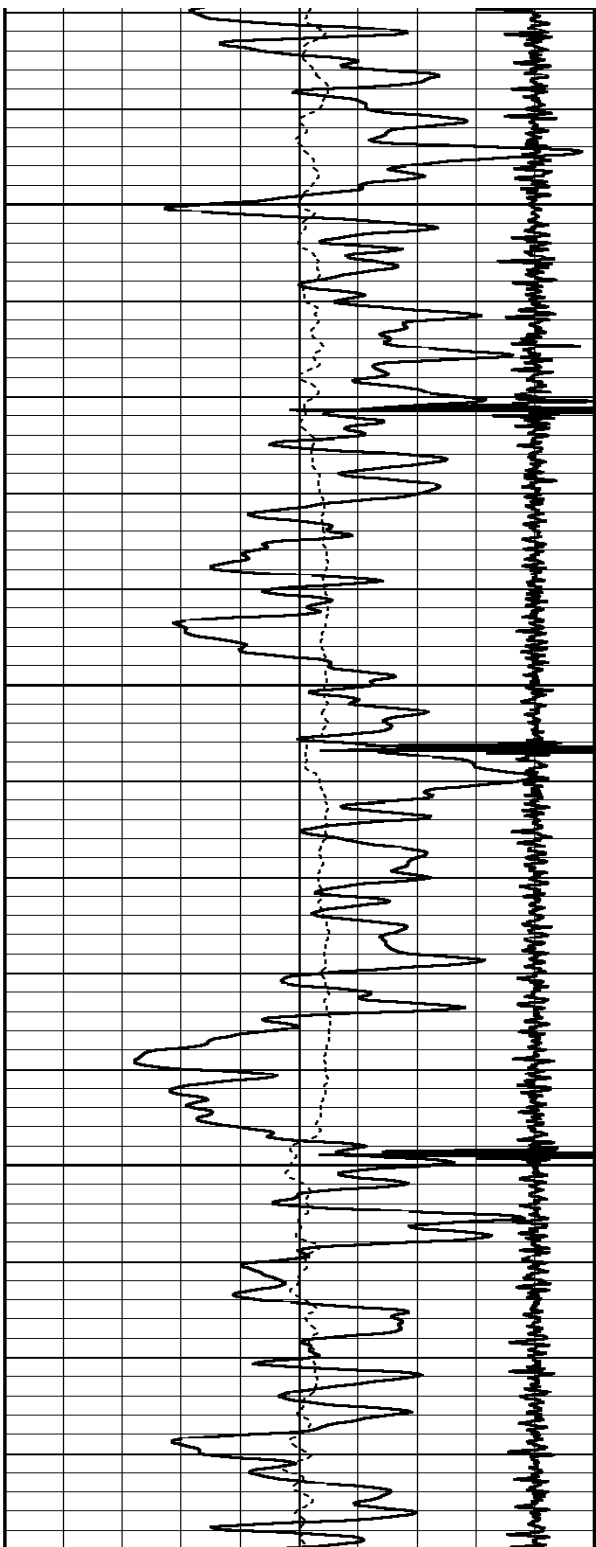


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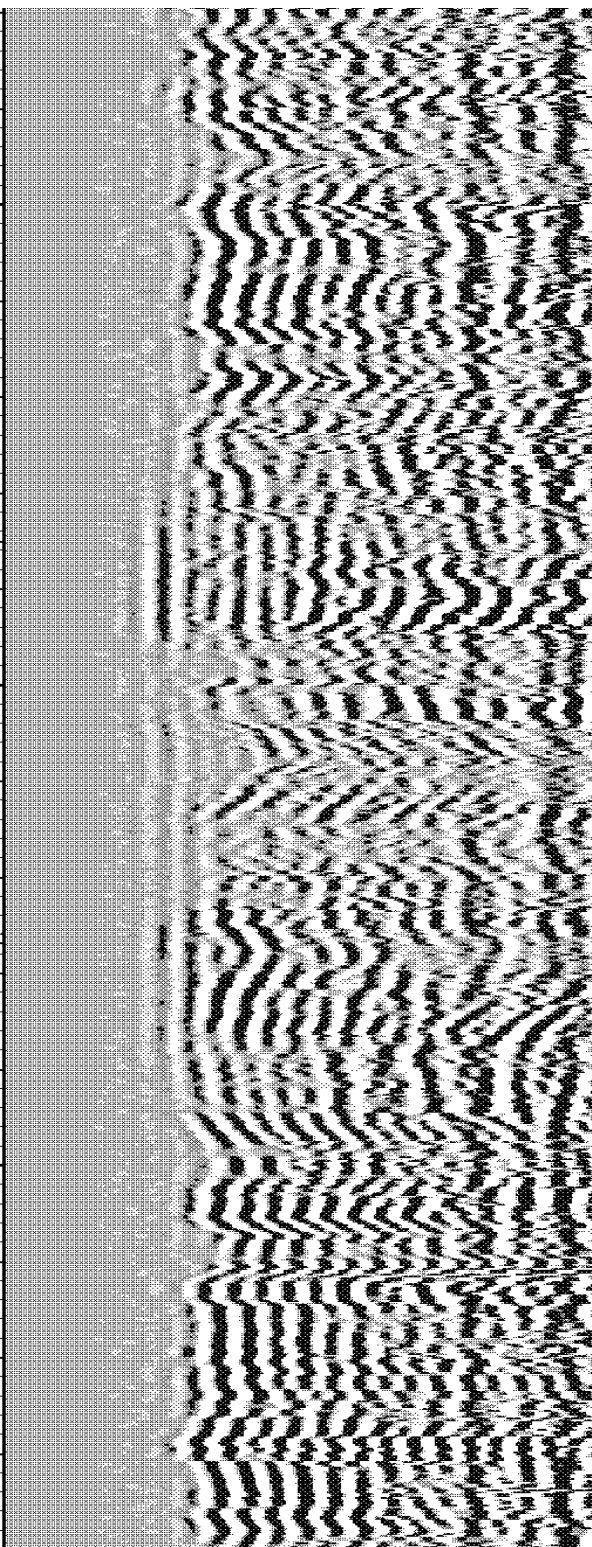
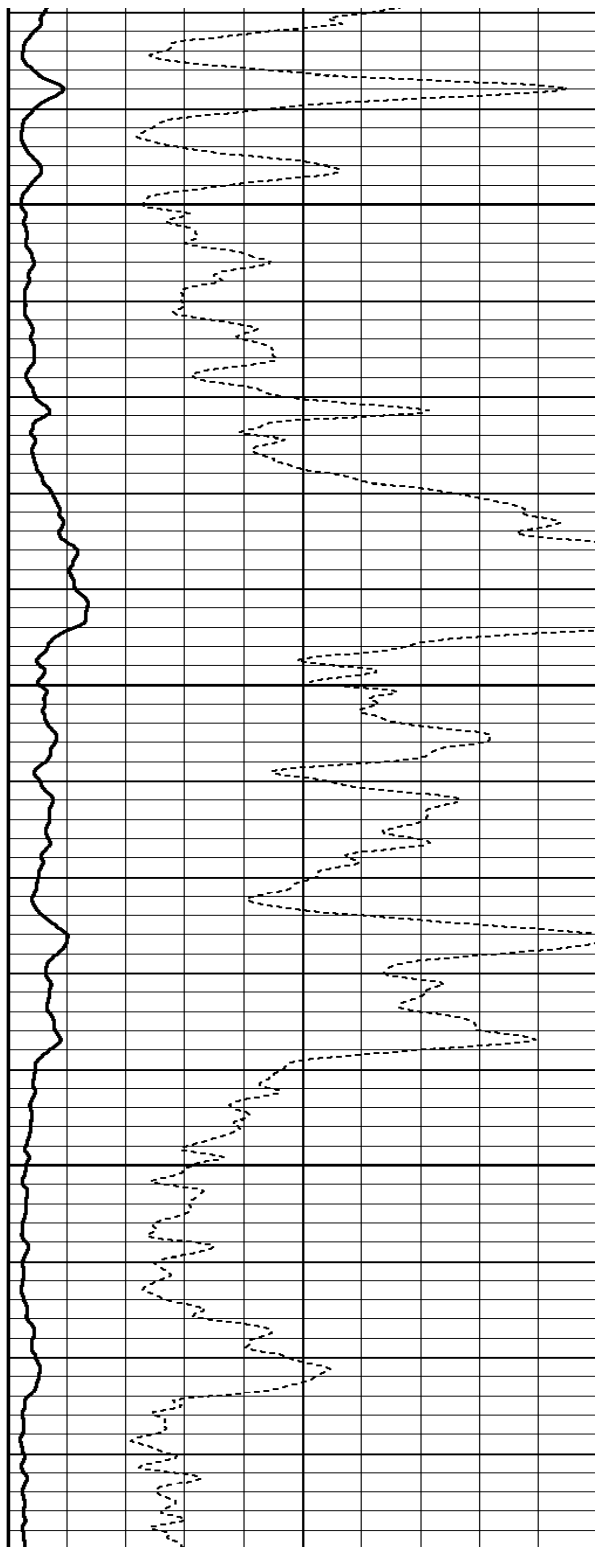


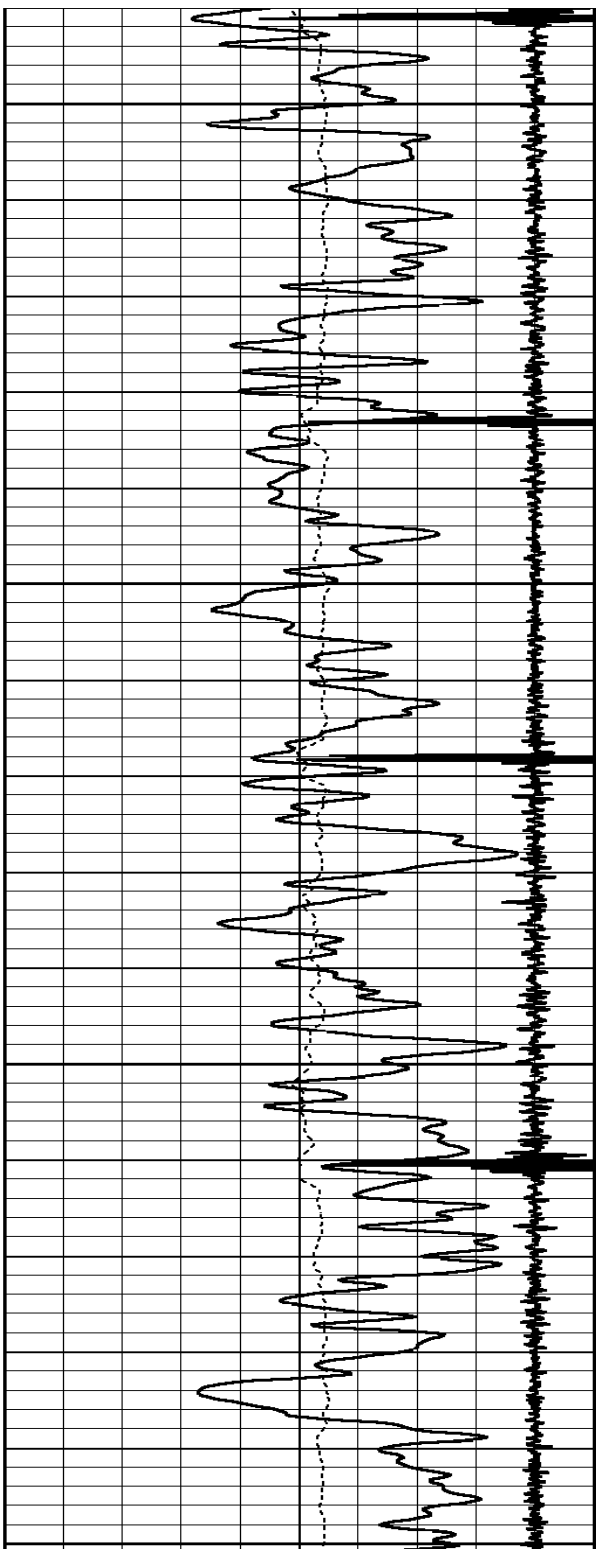


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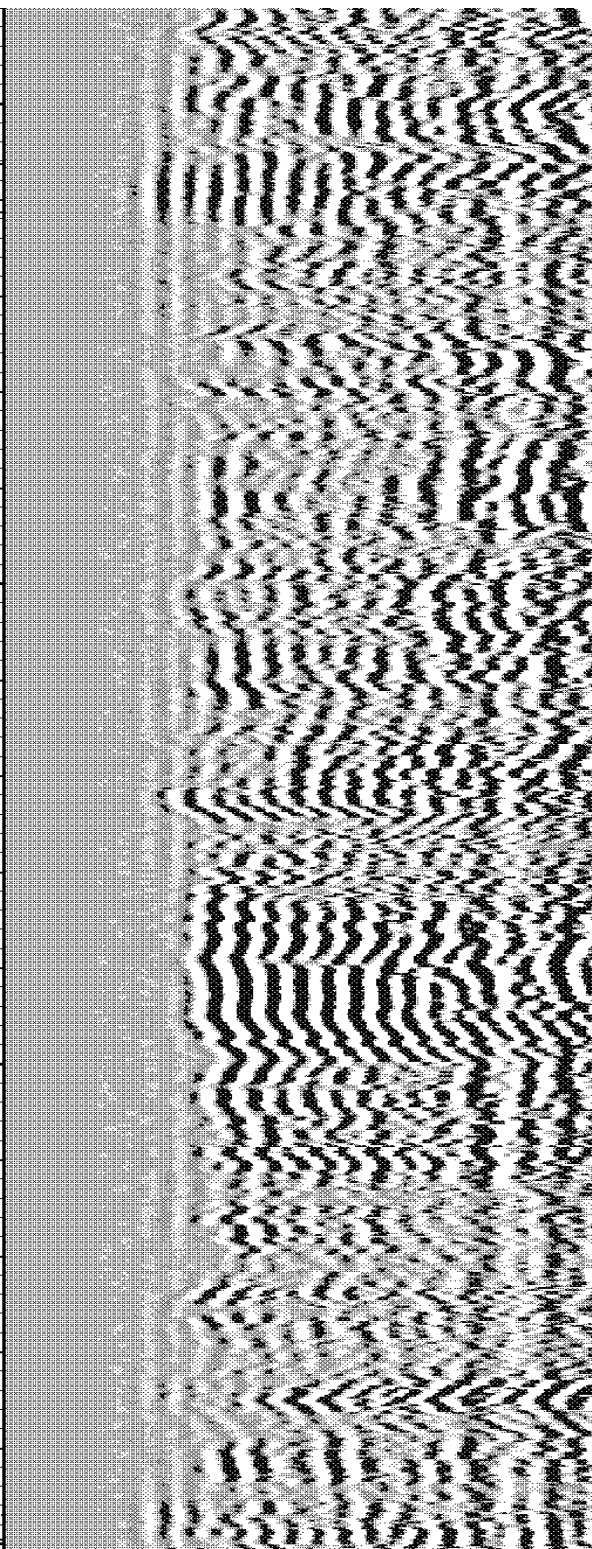
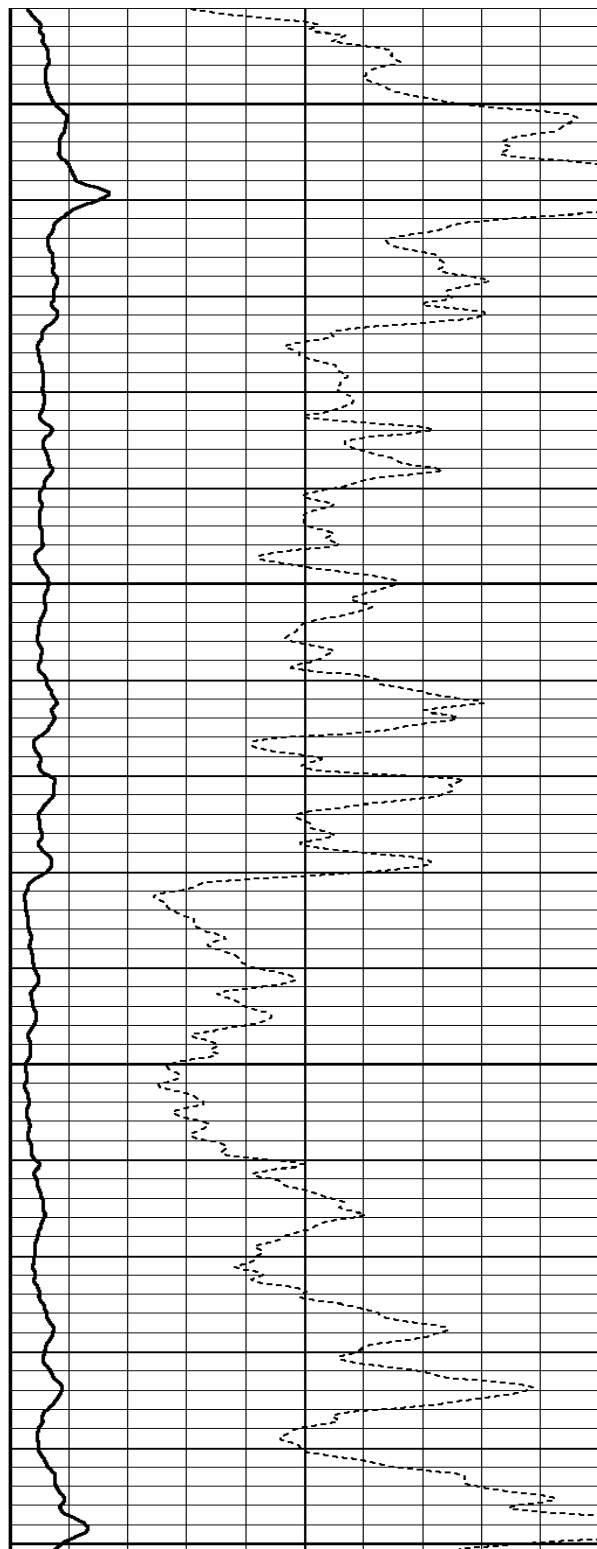


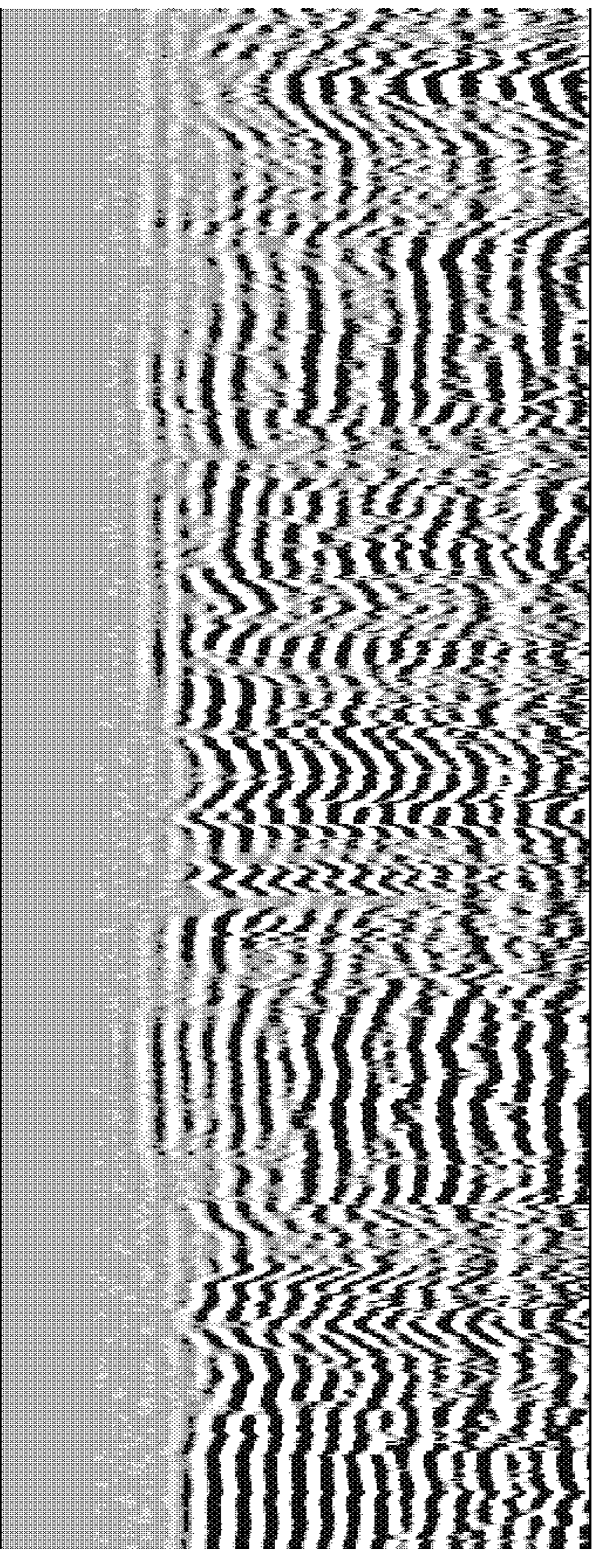
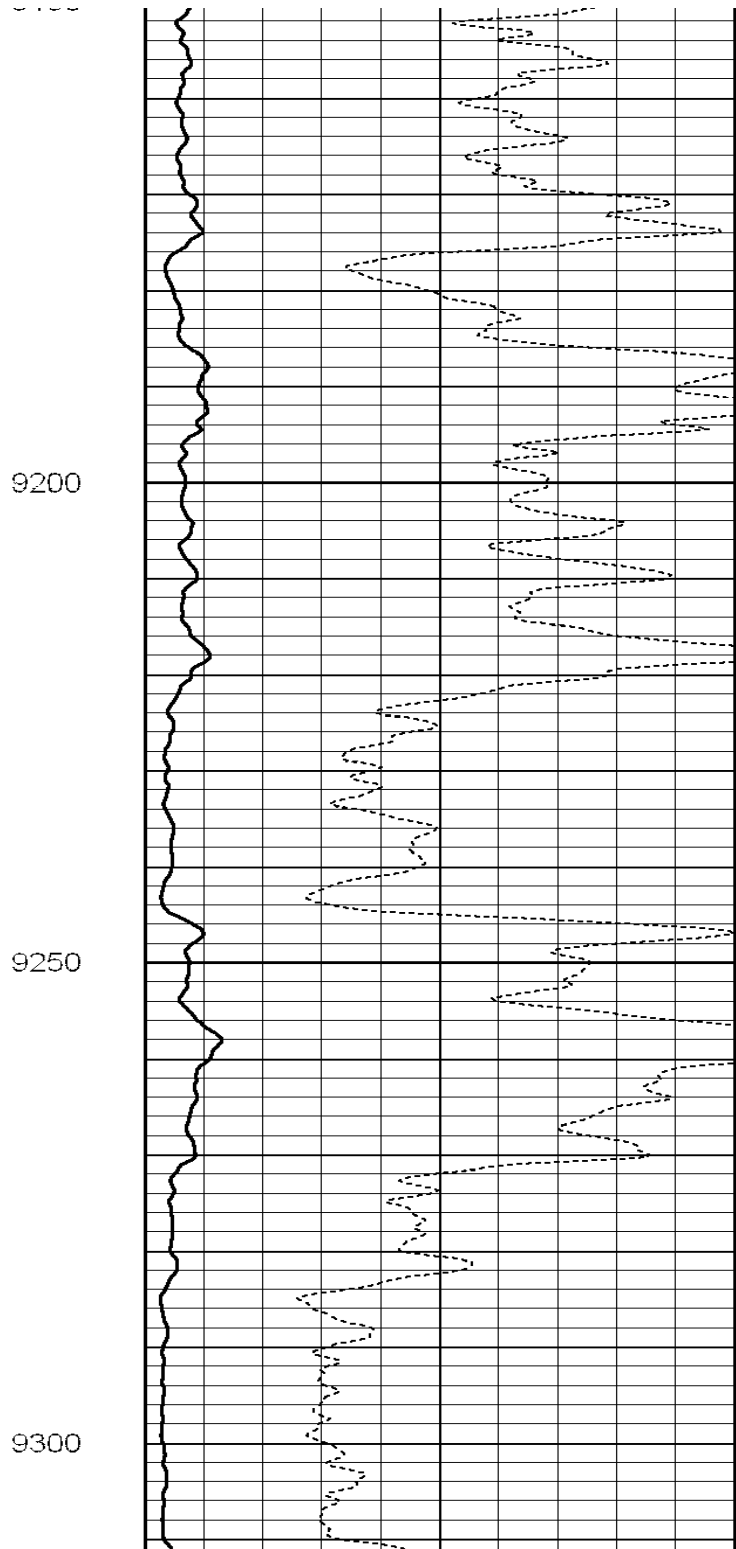
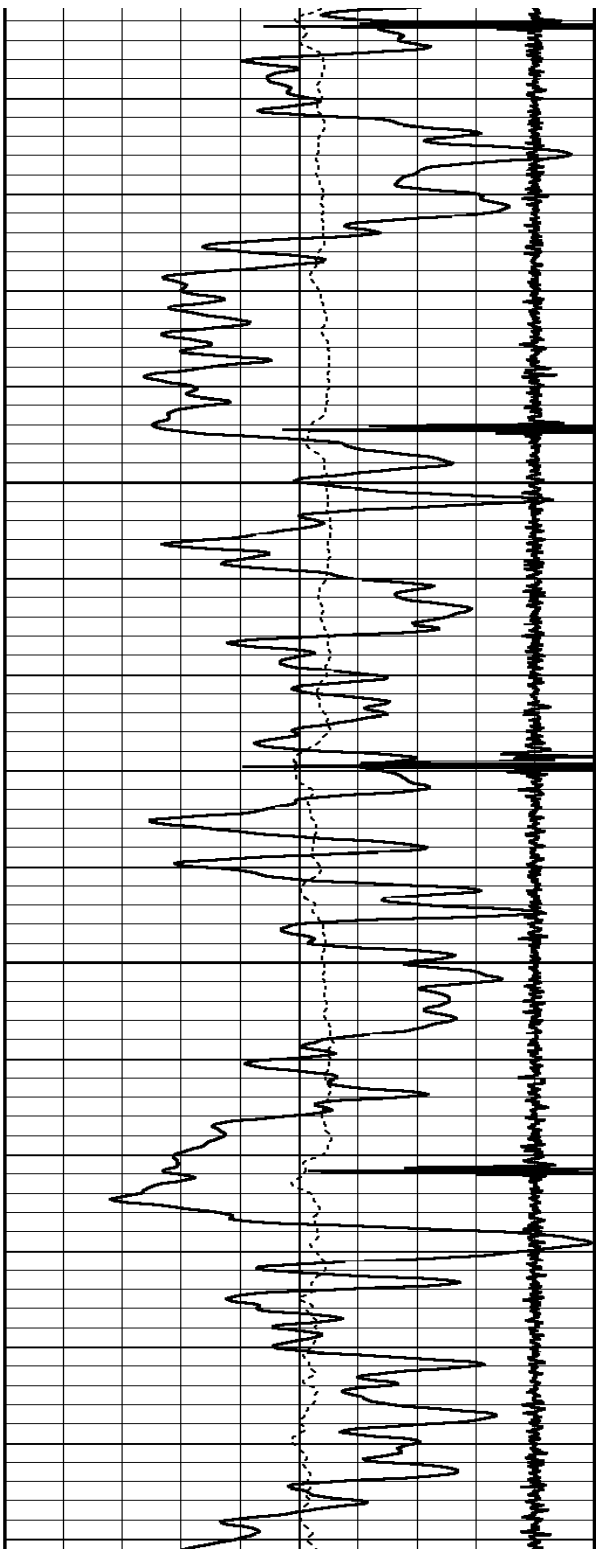
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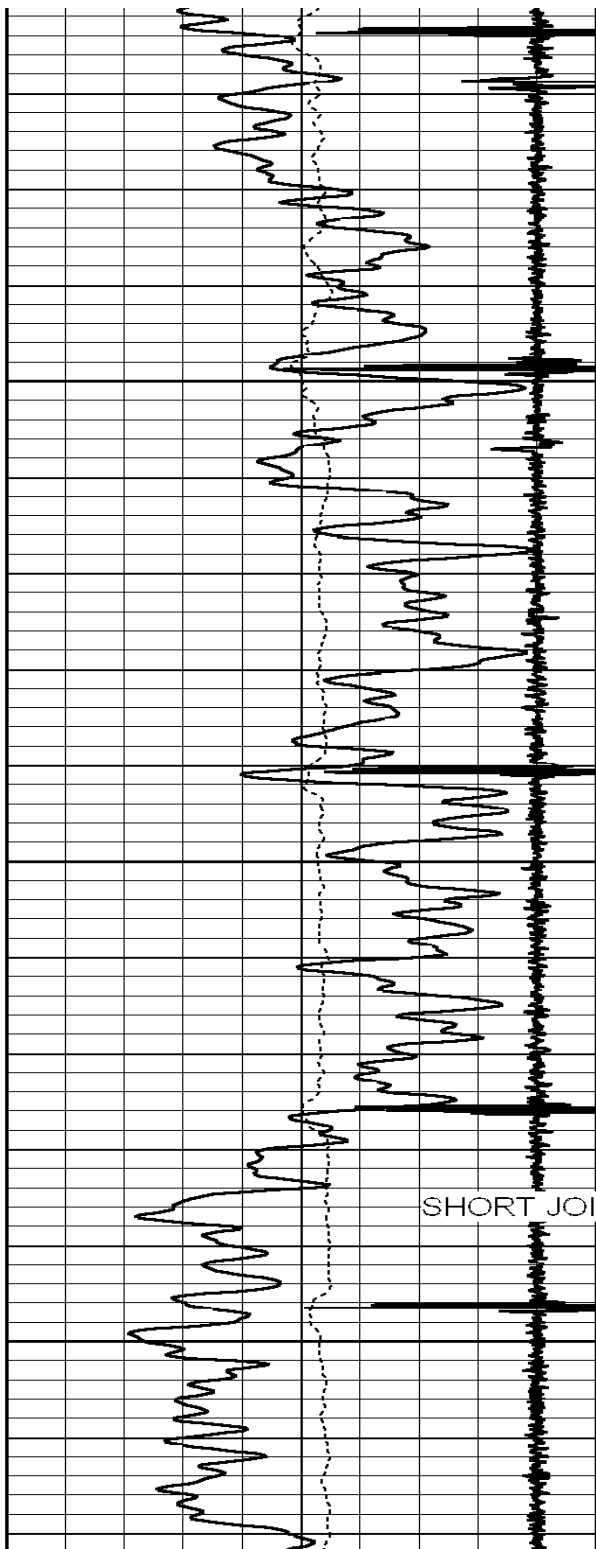
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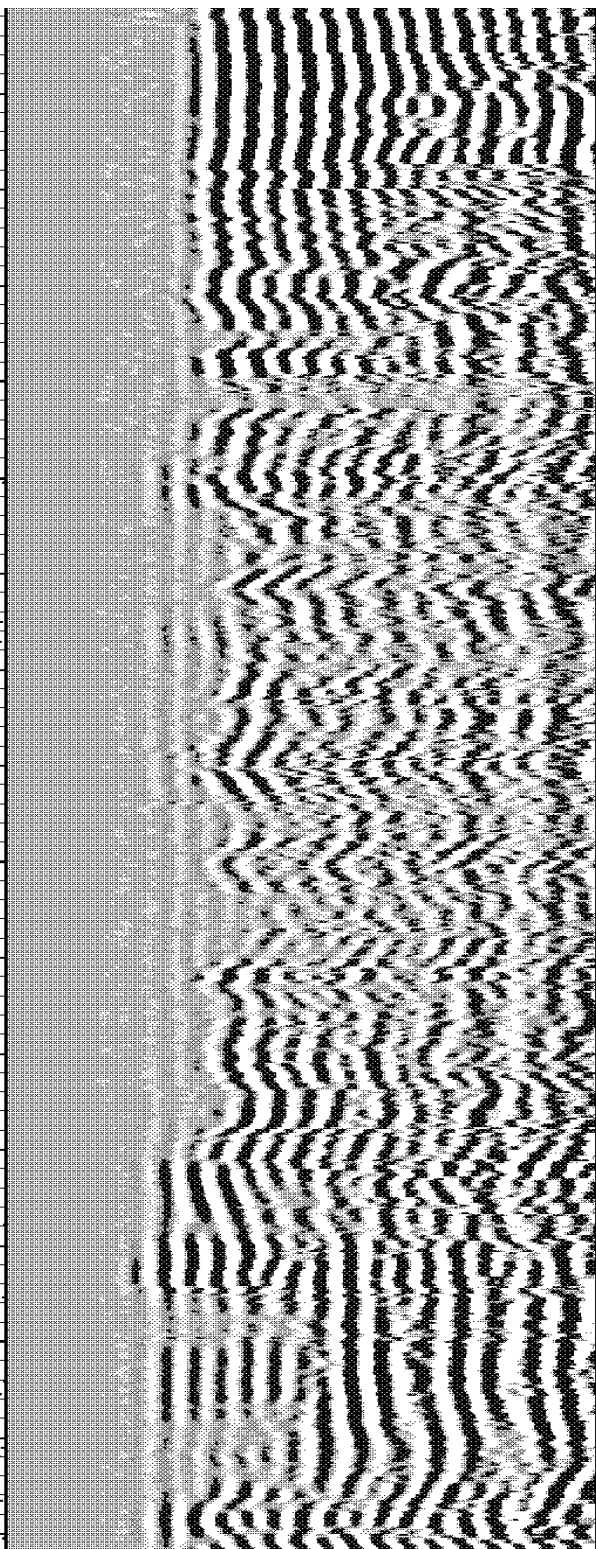
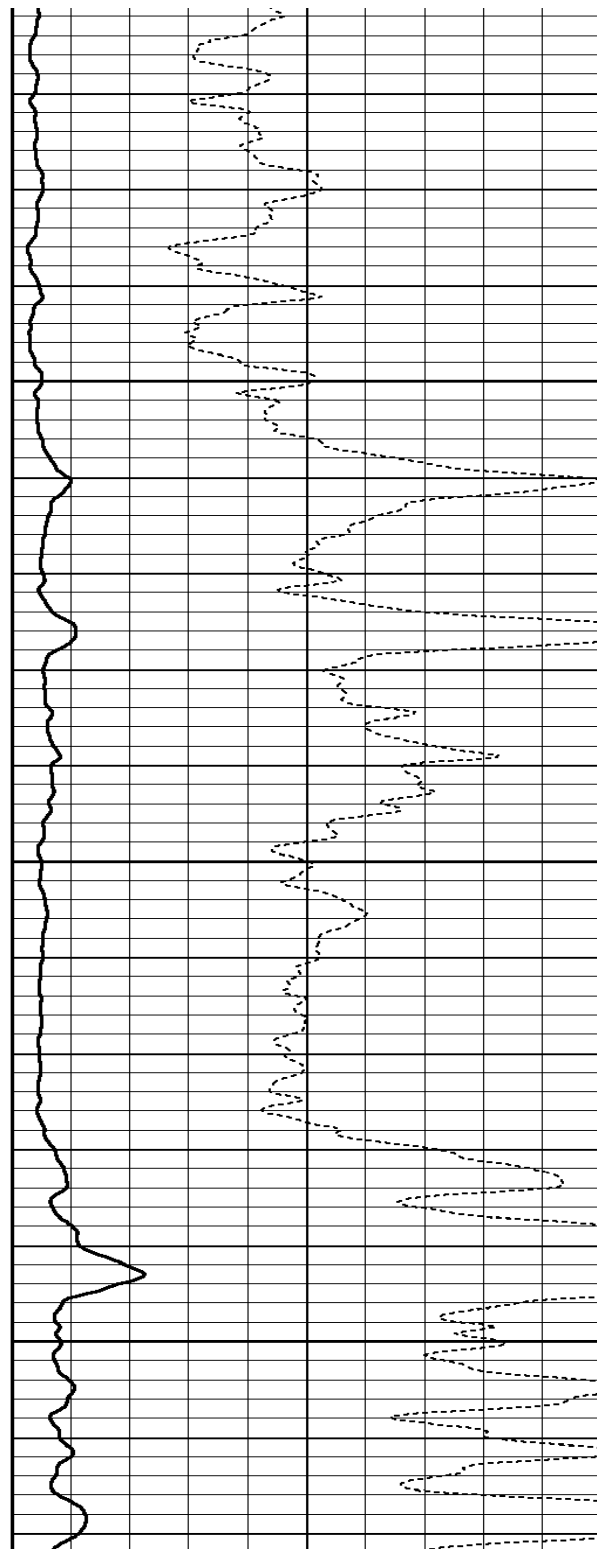


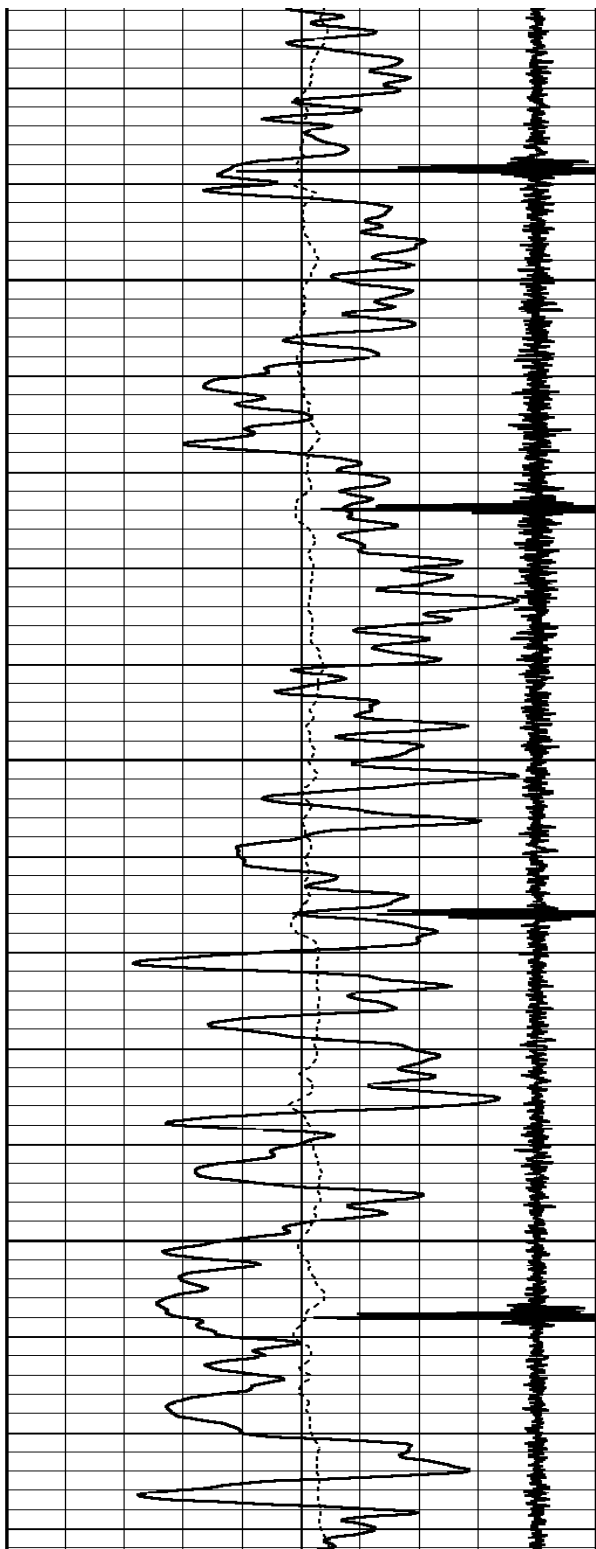
SHORT JOINT

9350

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9450

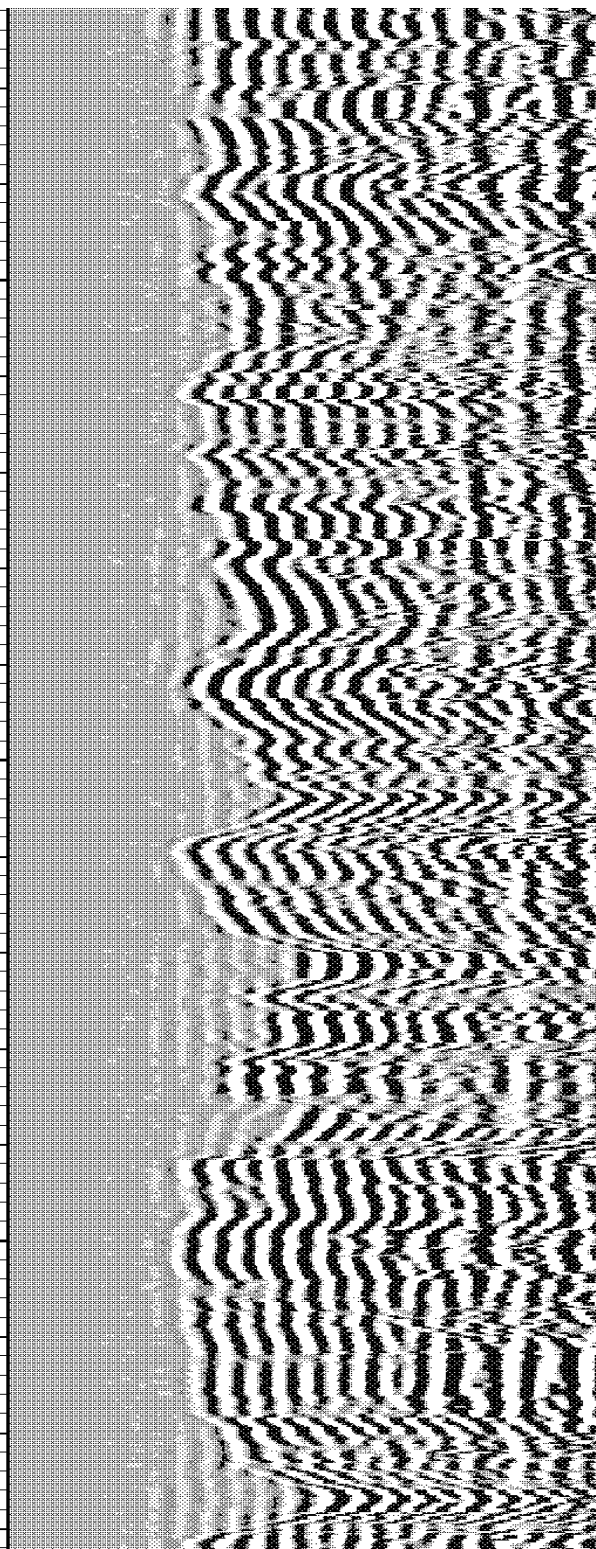
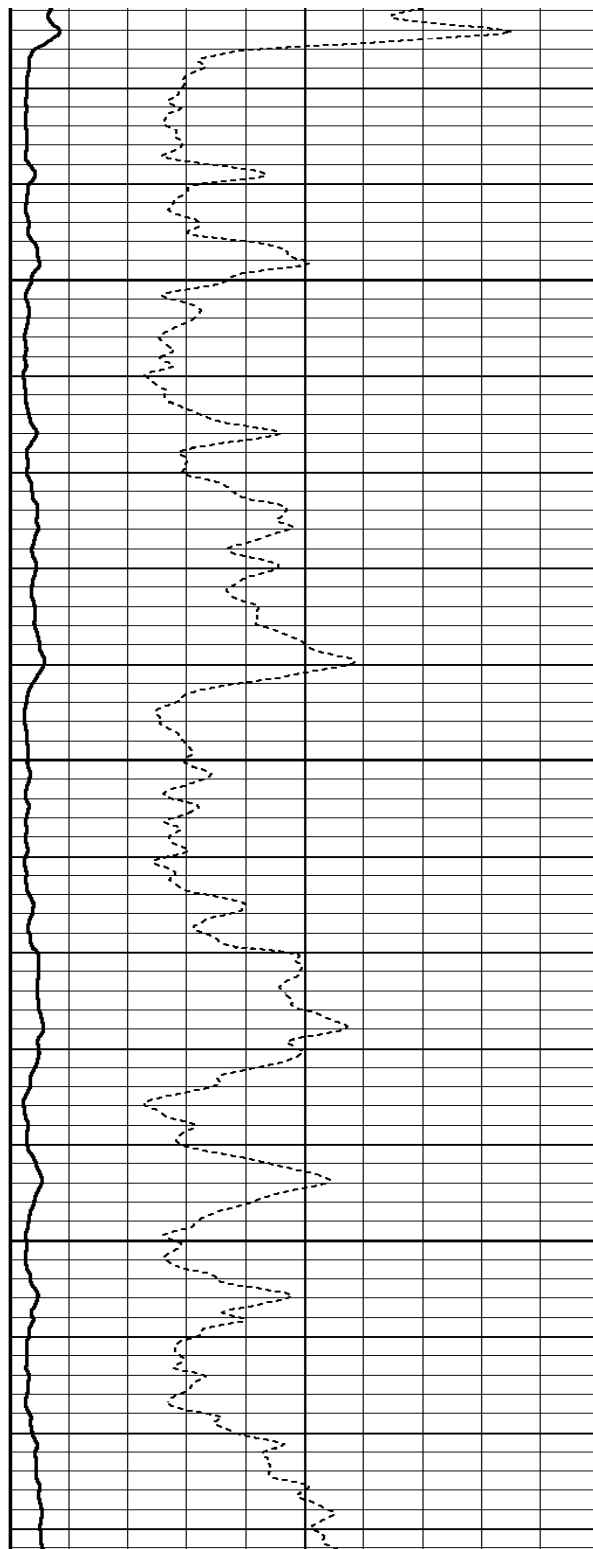


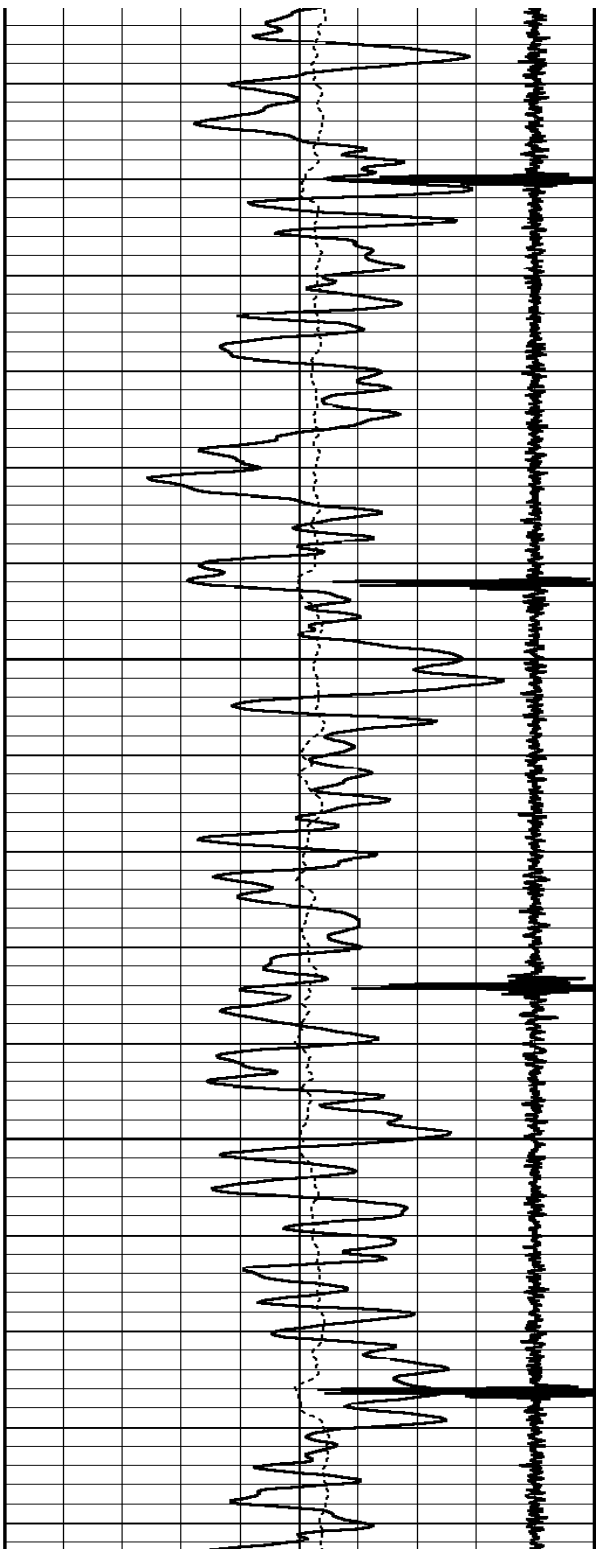


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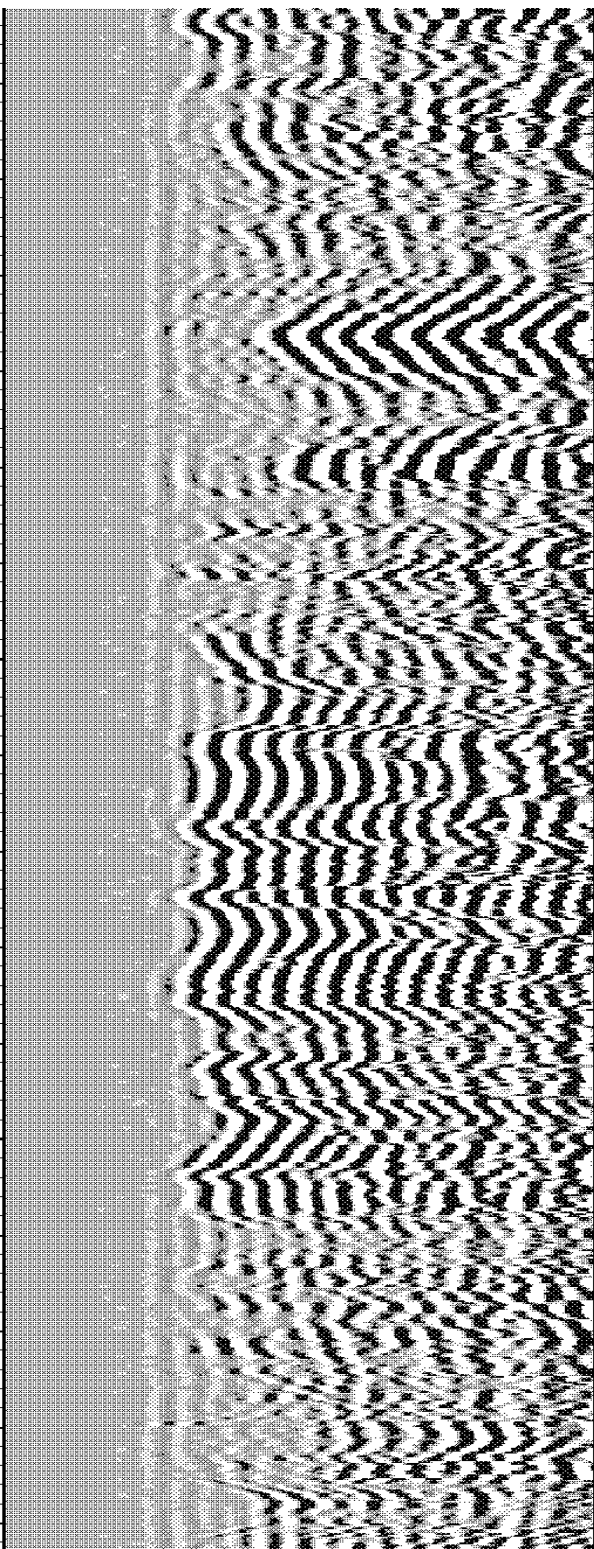
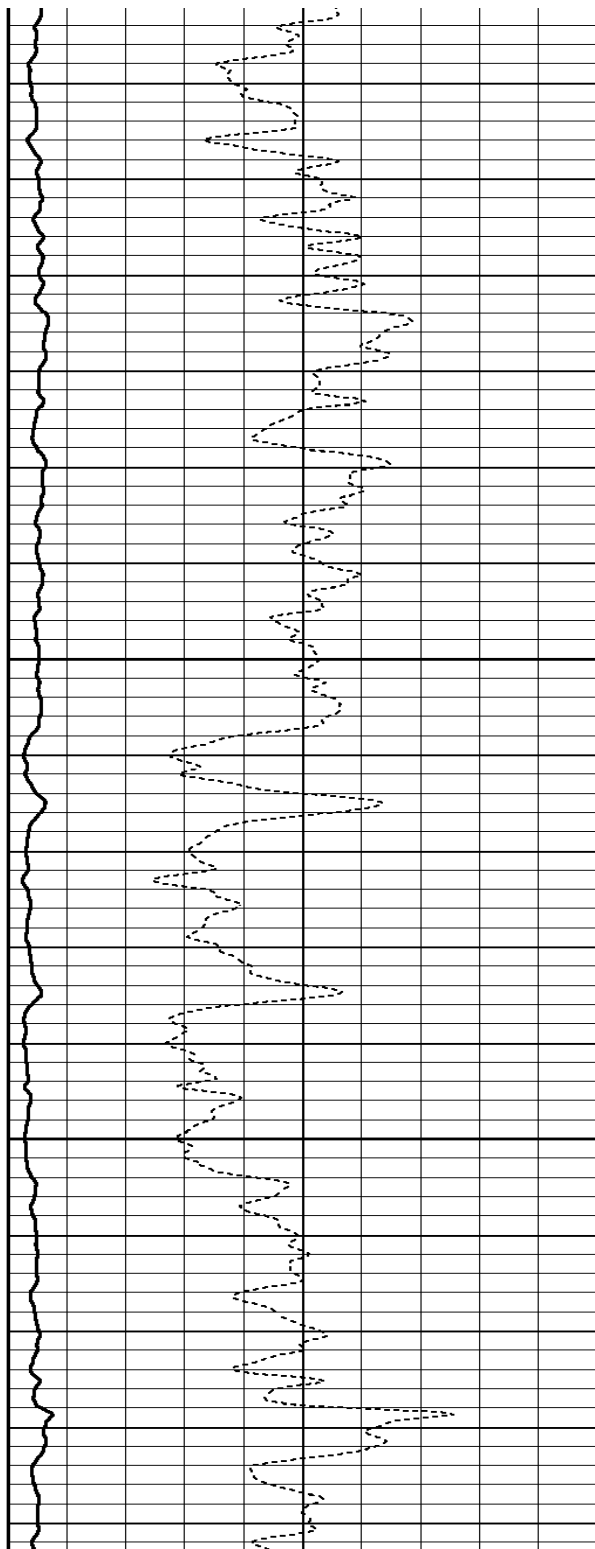


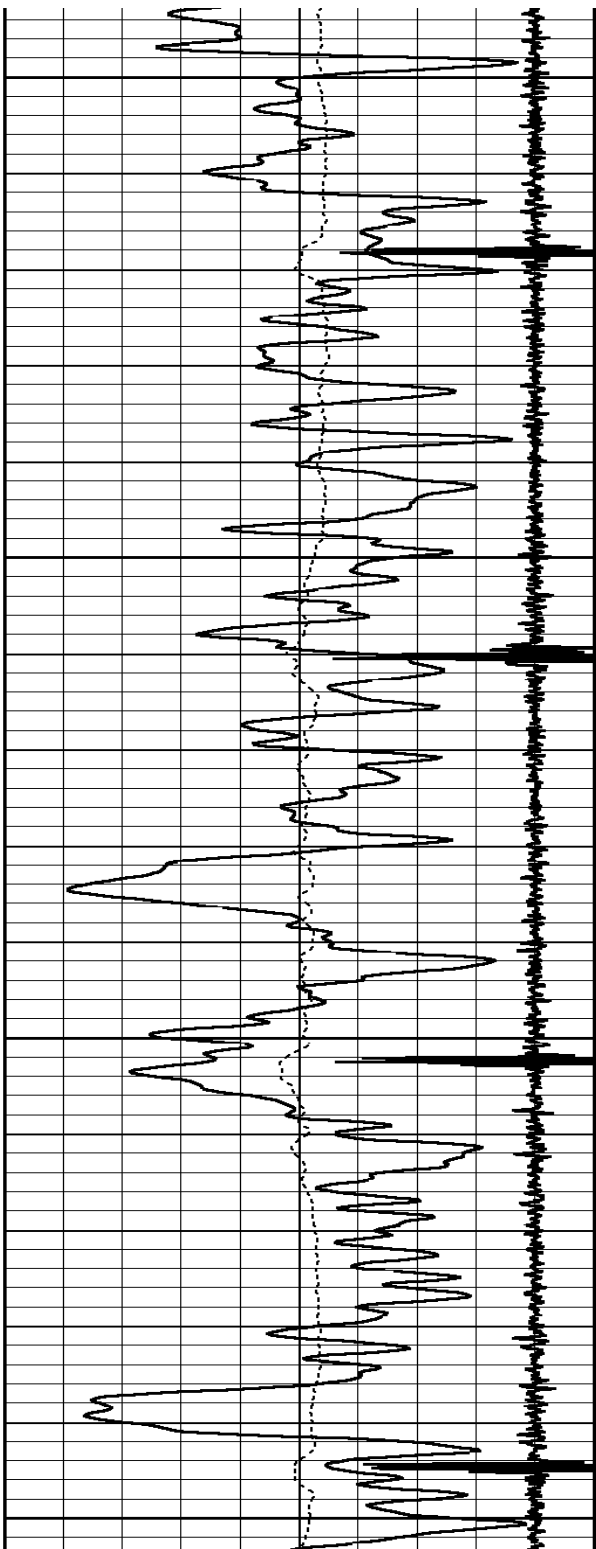


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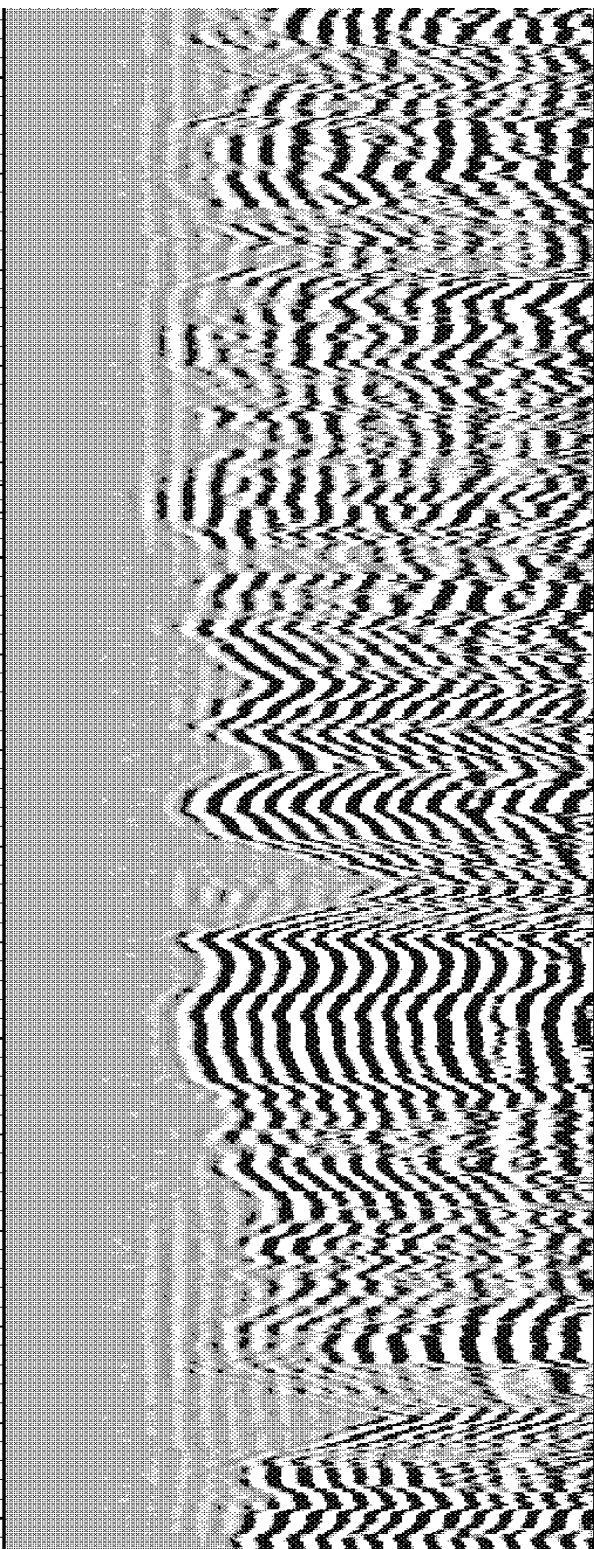
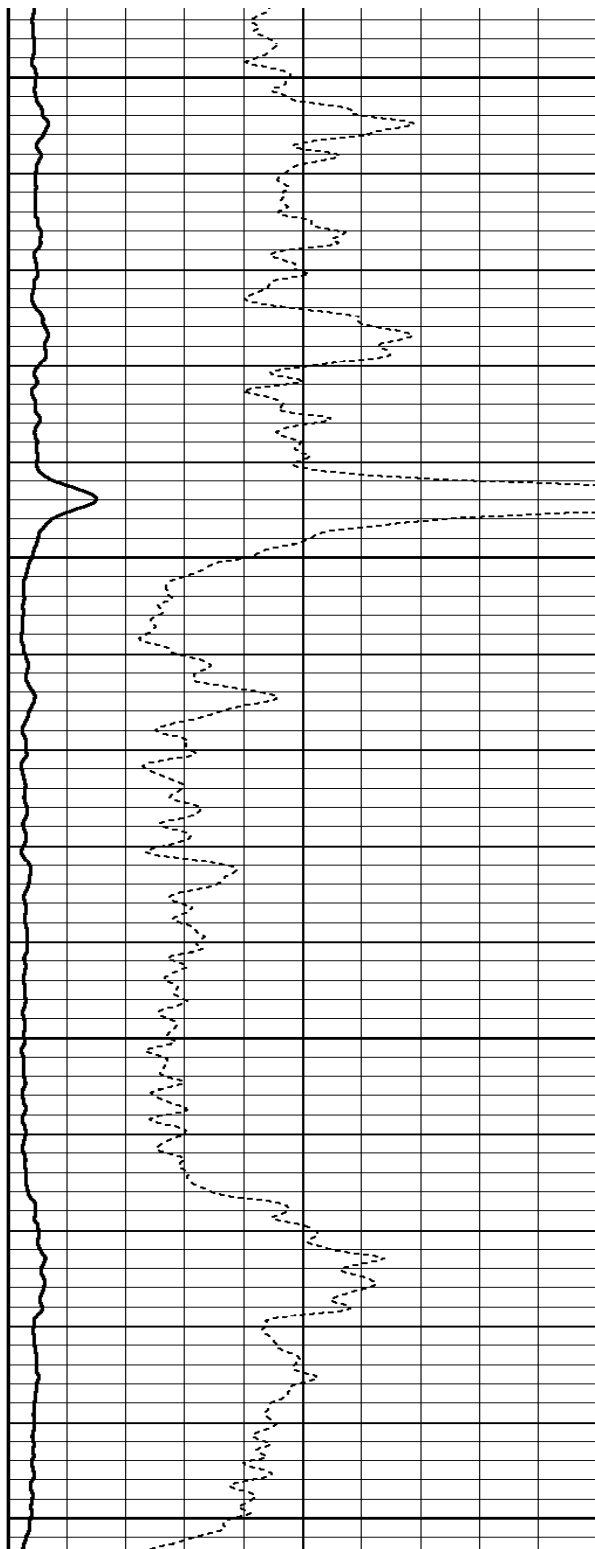


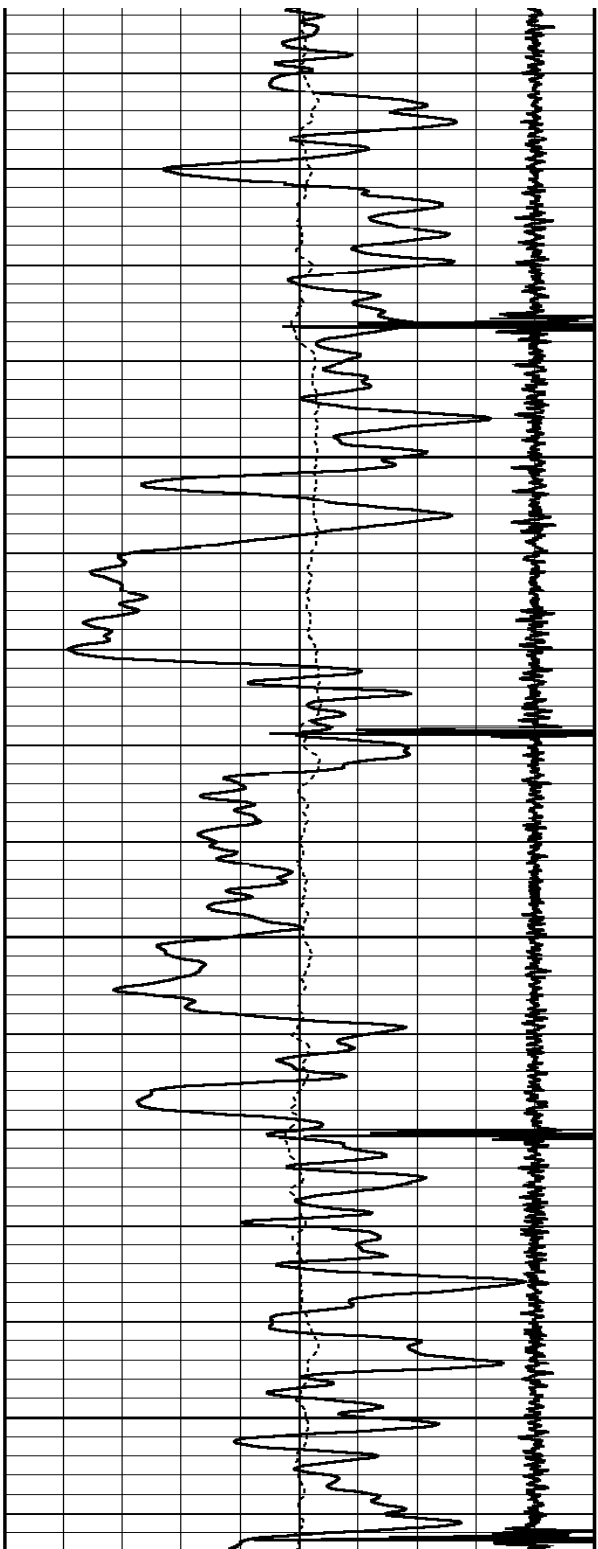
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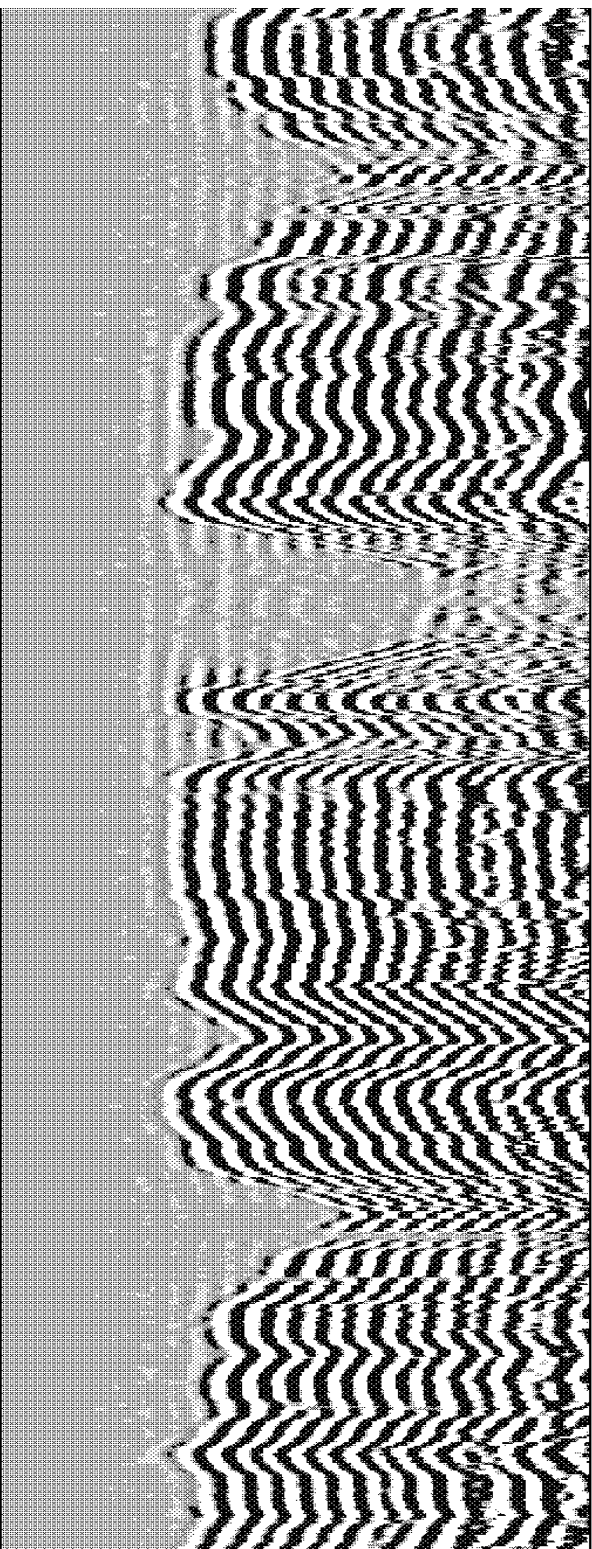
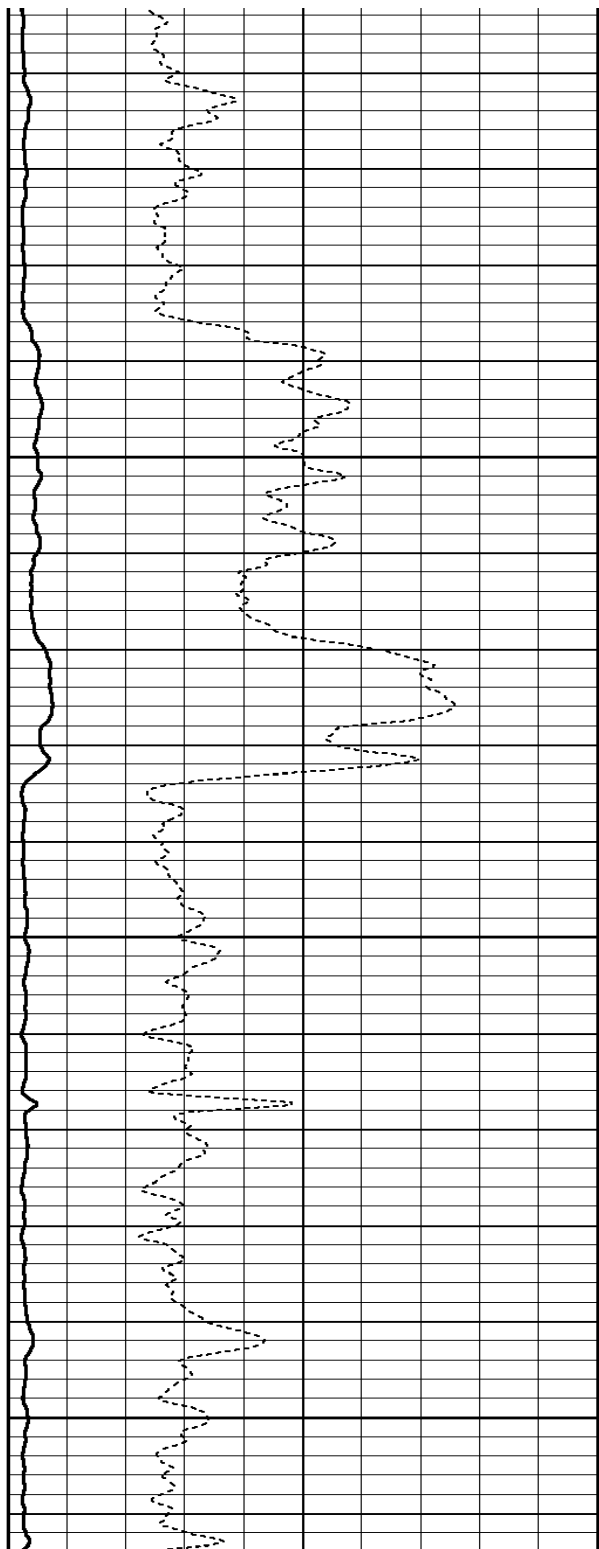


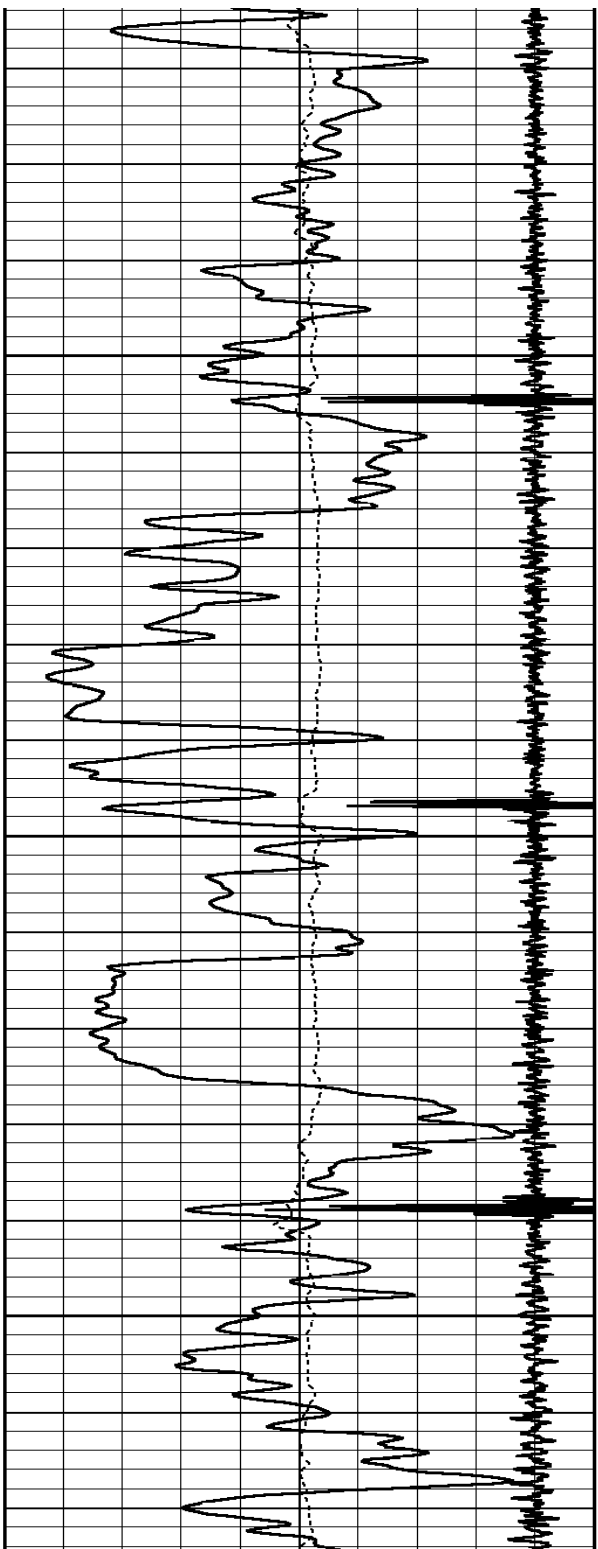


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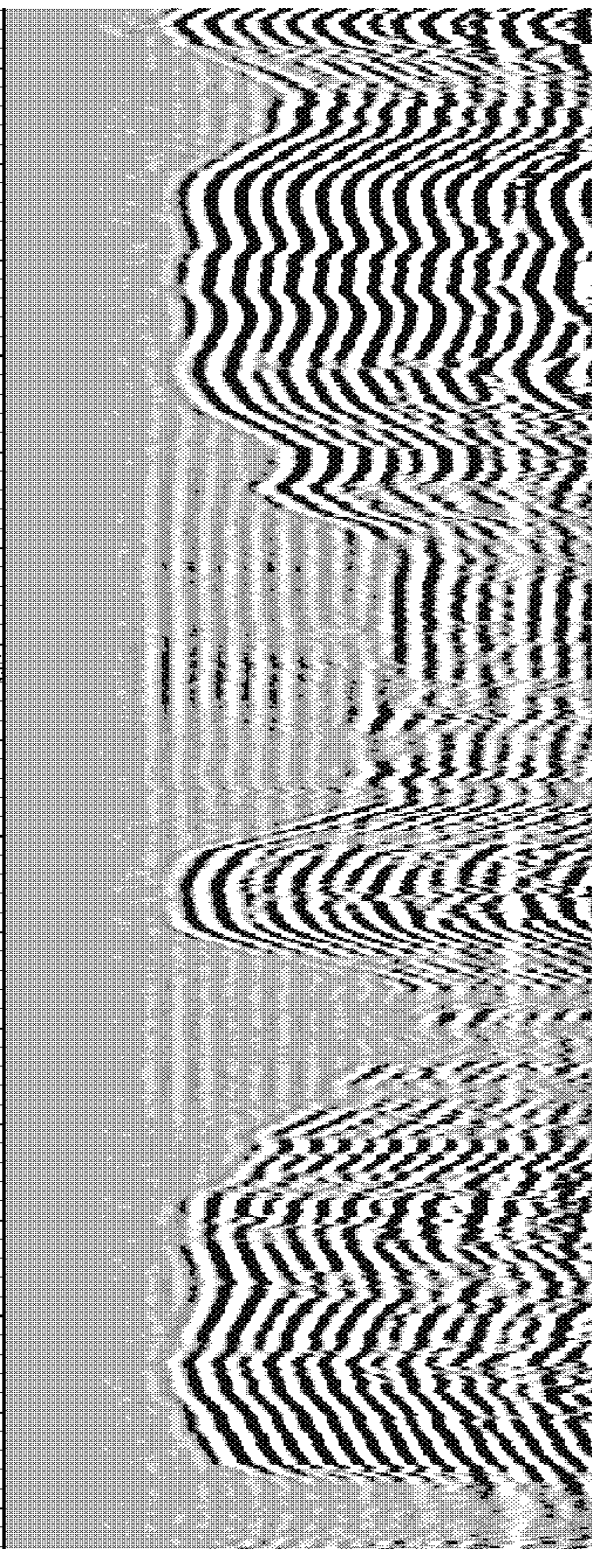
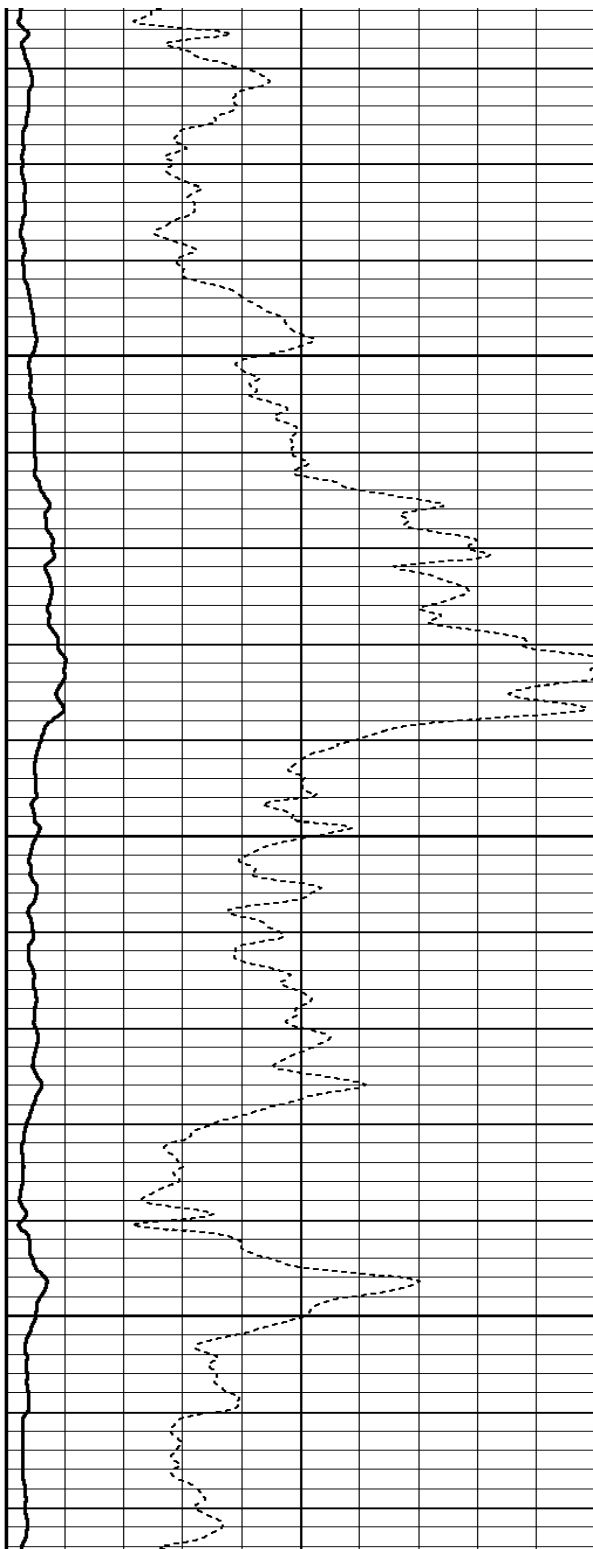


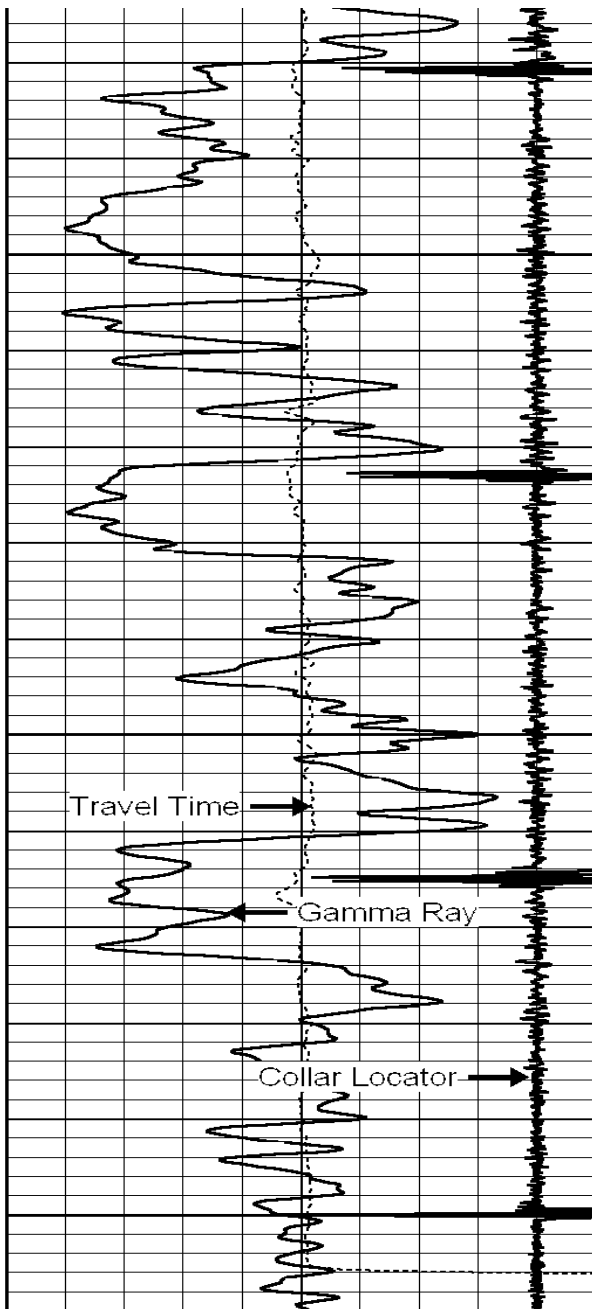


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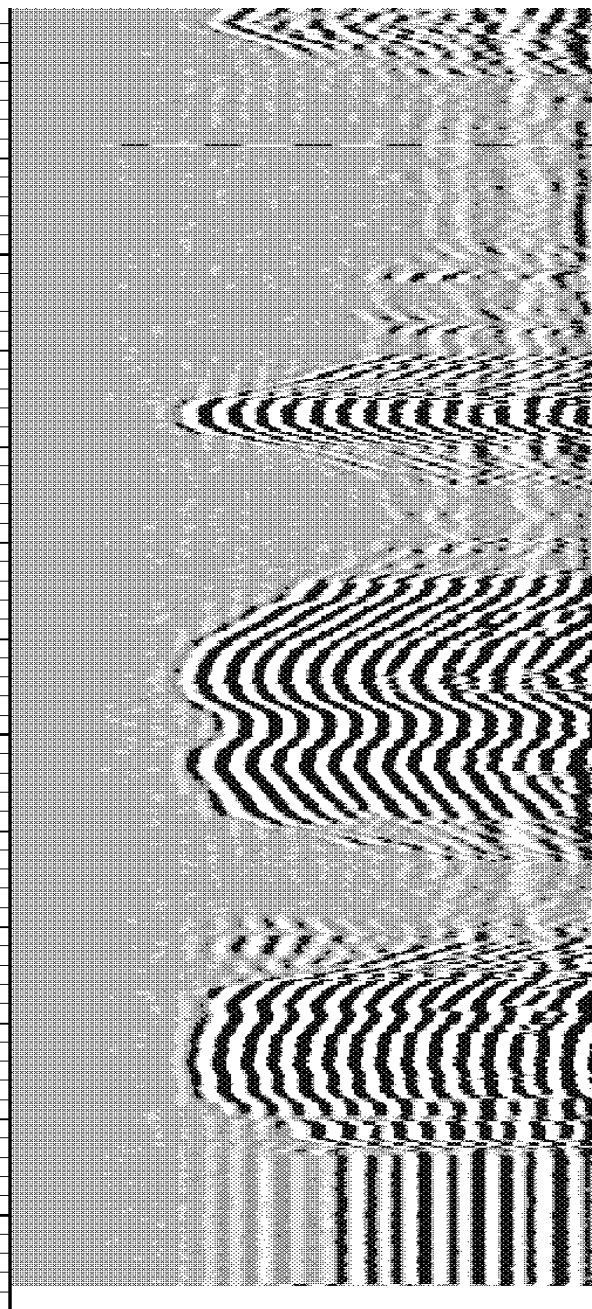
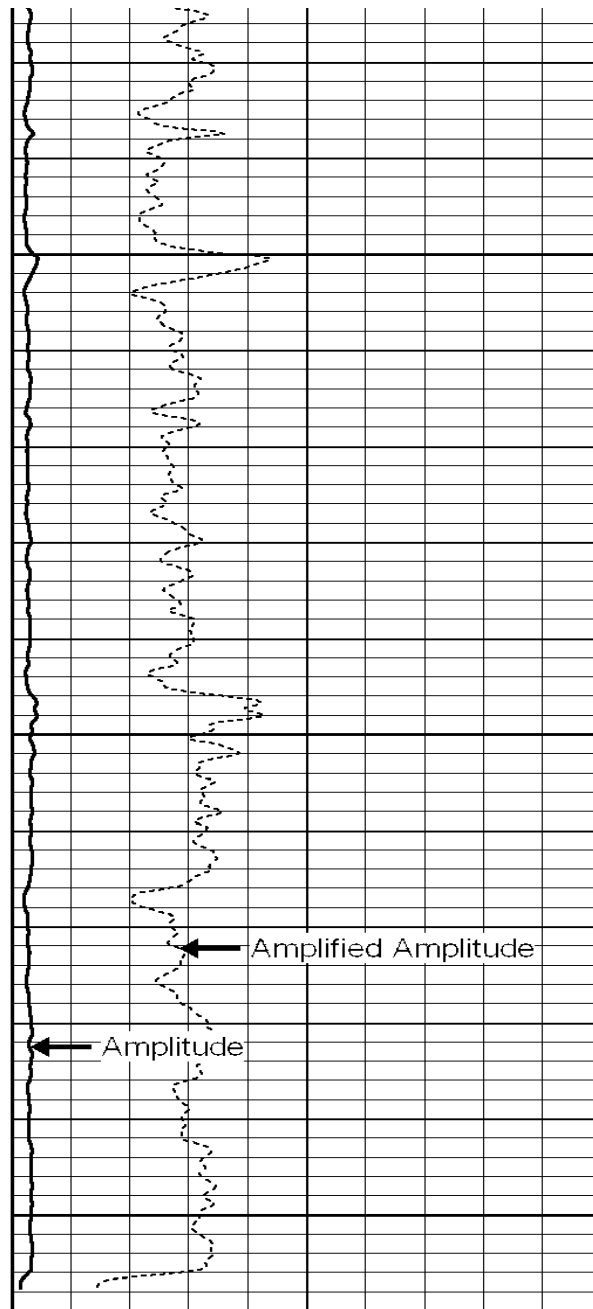
10300

10350

10400

T.D.

Line Tension	0	Amplitude (mV)	100
(lb)2000	0	Amplified Amplitude (mV)	10



400	Travel Time (usec)	200
9	Collar Locator	-1
0	GR (GAPI)	200

200	Variable Density	1200
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HALLIBURTON

ACOUSTIC CEMENT BOND LOG

MAIN PASS
5" = 100'

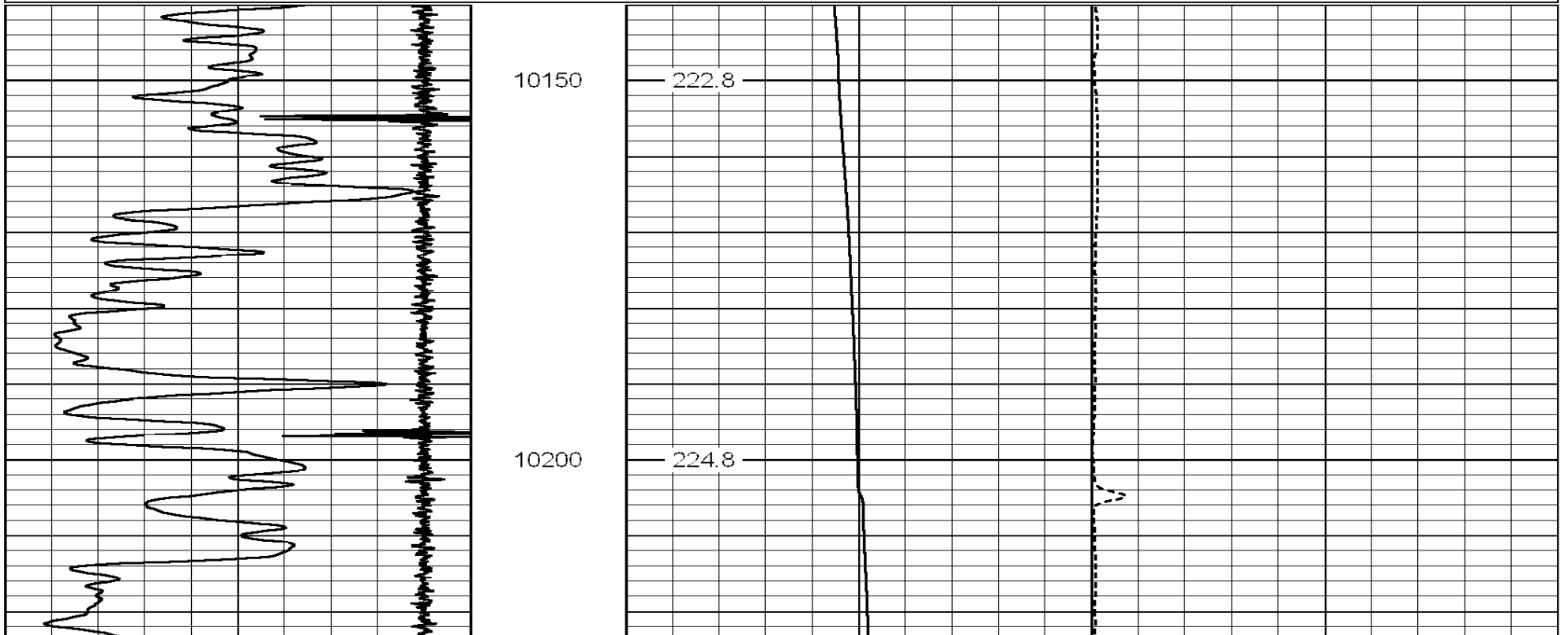
HALLIBURTON

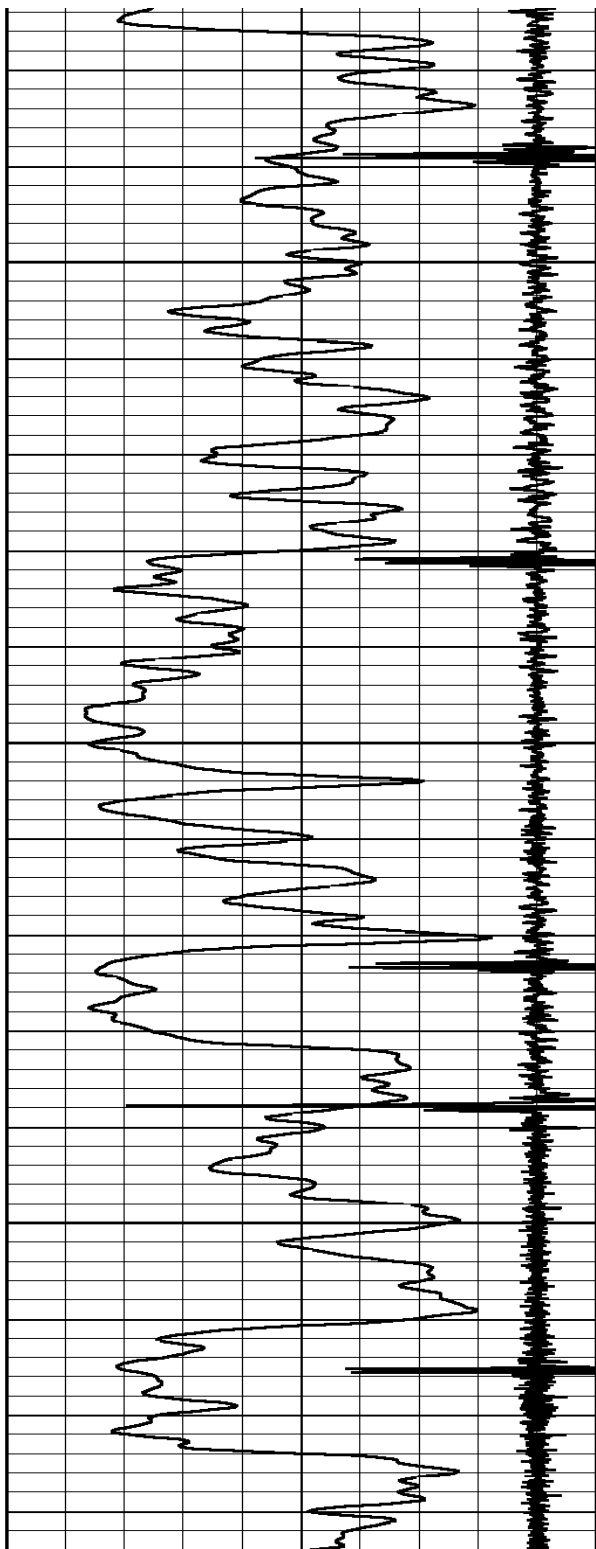
ACOUSTIC CEMENT BOND LOG

REPEAT PASS
5" = 100'

Database File: lar_s_leverich_18_05d.db
Dataset Pathname: cbl1/repeat1
Presentation Format: temp
Dataset Creation: Thu Apr 02 20:07:49 2009 by Log Halliburton Casedho
Charted by: Depth in Feet scaled 1:240

0	GR (GAPI)	200	0	TEMP (degF)	100
9	CCL	-1	-5	DTMP (degF)	5

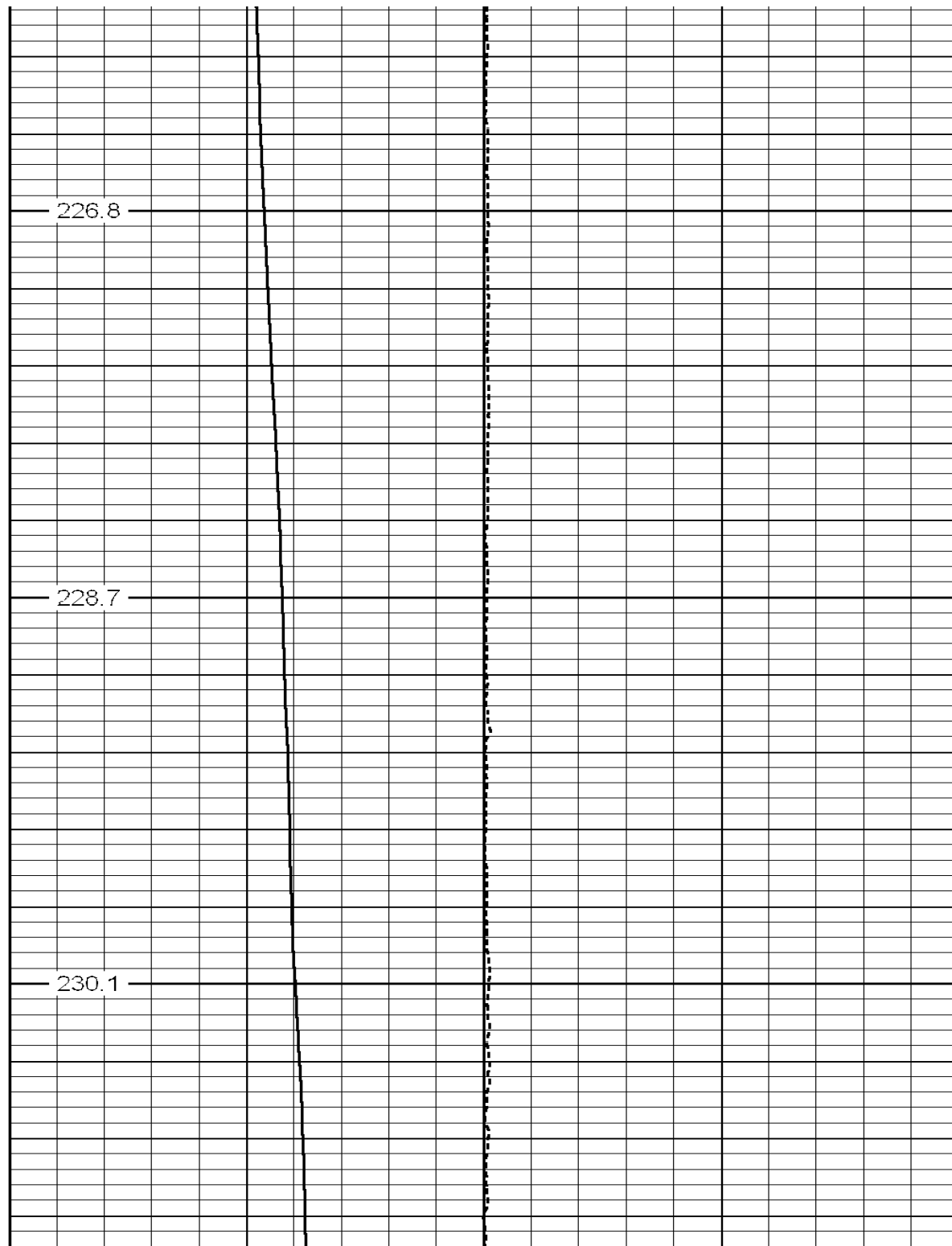




10250

10300

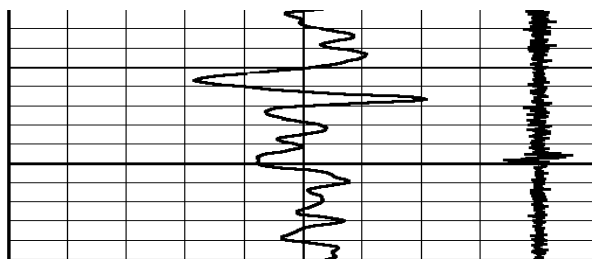
10350



226.8

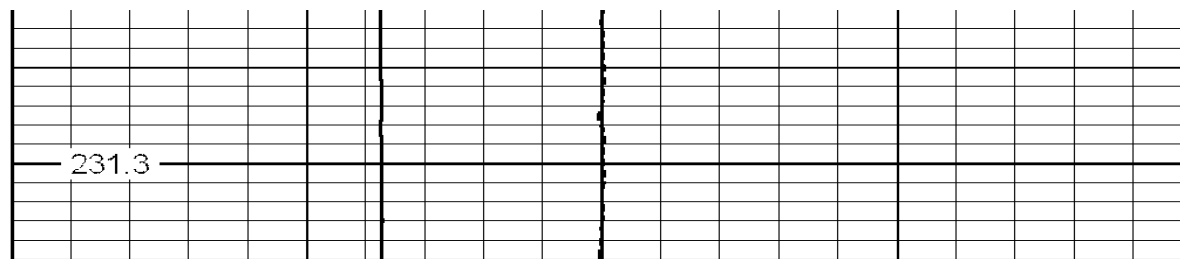
228.7

230.1



10400

0 GR (GAPI) 200
9 CCL -1



231.3

0 TEMP (degF) 100
-5 DTMP (degF) 5

ACOUSTIC CEMENT BOND LOG

HALLIBURTON

REPEAT PASS

5" = 100'

Calibration Report

Database File: lar_s_leverich_18_05d.db
Dataset Pathname: cbl1/cbl_main2
Dataset Creation: Thu Apr 02 23:51:48 2009

Temperature Calibration Report

Serial Number: 0001
Tool Model: 1.375TEMP
Performed: Fri Jul 05 03:18:21 1996

	Reference	Reading
Low Reference:	0.00 degF	0.00 cps
High Reference:	1.00 degF	1.00 cps

Gain: 0.10
Offset: 0.00
Delta Spacing: 1

Gamma Ray Calibration Report

Type / Serial: Probe / 061018

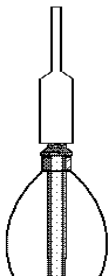

SHOP CALIBRATION

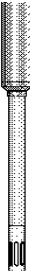
Thu Apr 02 17:09:29 2009

	Counts/Sec.	Gain	Offset	Jig	Units
Background	27.7				cps
Calibrator	200.1				cps

		1.4617		GAPI/cps
PRIMARY VERIFICATION		Thu Apr 02 17:11:03 2009		
Background	37.2			cps
Calibrator	291.0			cps
Difference		253.8		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
Difference		0.0		GAPI

Cement Bond Log Calibration Report				
Serial Number:	061115			
Tool Model:	Probe			
Performed:	Thu Apr 02 17:23:40 2009			
Depth:	55.35	ft		
Casing Diameter:	4.5	in		
	3' Spacing		5' Spacing	
Signal Zero:	1		1	mV
Calibrated Amplitude:	82		82	mV
Reading at Signal Zero:	-0.0102295		-0.00805664	V
Reading in Free Pipe:	1.77527		1.57498	V
Gain:	45.3655		51.1676	
Offset:	1.46407		1.41224	

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
			STND_CH 1.4375 IN CABLE HEAD	1.50	1.44	1.00
			GENT_Probe (PT. MONO2)	2.88	2.75	35.00

TEMP LLMTEN	0.58 0.00		TEMP-1.375TEMP (0001) Temperature Tool	1.88	1.38	30.00
Dataset: lar_s_leverich_18_05d.db: field/well/cbl1/cbl_main2 Total Length: 22.60 ft Total Weight: 191.00 lb O.D. 2.75 in						

Company	LARAMIE ENERGY		
Well	SOUTH LEVERICH 18-05D		
Field	RULISON		
County	GARFIELD	State	CO
HALLIBURTON		ACOUSTIC CEMENT BOND LOG	