



Radial Cement Bond
Variable Density Log
W/ Temp/GammaRay/CCL

Company Antero Resources
Well Maggie 3H
Field Rabbit Ears
County Tyler
State West Virginia

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Well Maggie 3H
Field Rabbit Ears
County Tyler
State West Virginia

Location: API #: 47095026390000 Other Services N/A

Permanent Datum SEC N/A TWP N/A RGE N/A
Log Measured From Ground Level Elevation Kelly Bushing 25' A.P.D.
Drilling Measured From Kelly Bushing

Date	1-May-2020				
Run Number	One				
Depth Driller	17,142 ft.				
Depth Logger	7,048 ft.				
Bottom Logged Interval	7,048 ft				
Top Log Interval	Surface				
Open Hole Size	n/a				
Type Fluid	Freshwater				
Density / Viscosity	n/a				
Max. Recorded Temp.	158 deg F				
Estimated Cement Top	4,395 ft				
Time Well Ready	07:00				
Time Logger on Bottom	16:42				
Equipment Number	132				
Location	Marietta, Ohio				
Recorded By	Tom Weese				
Witnessed By	Chris Young				
Run Number	Borehole Record		Tubing Record		
	Bit	From	To	Size	Weight
					From
					To
Casing Record	Size	Wgt/Ft	Top	Bottom	
Surface String	13 3/8 in.	54.5 #	Surface	498 ft.	
Prot. String	9 5/8 in.	36 #	Surface	2,710 ft.	
Production String	5 1/2	20#	Surface	17,142 ft.	
Liner					
Marker Joint			5,936 ft.	5,946 ft.	

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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

Primary Log on Well

Log Correlated to Marker Joint at (5,936' - 5,946'
Depth Correction (-6)

Main Pass 0 PSI
Repeat Pass 0 PSI

Thank You For Using Nine Energy Wireline of Marietta, Ohio

RECEIVED
Office of Oil and Gas
SEP 22 2022
WV Department of
Environmental Protection

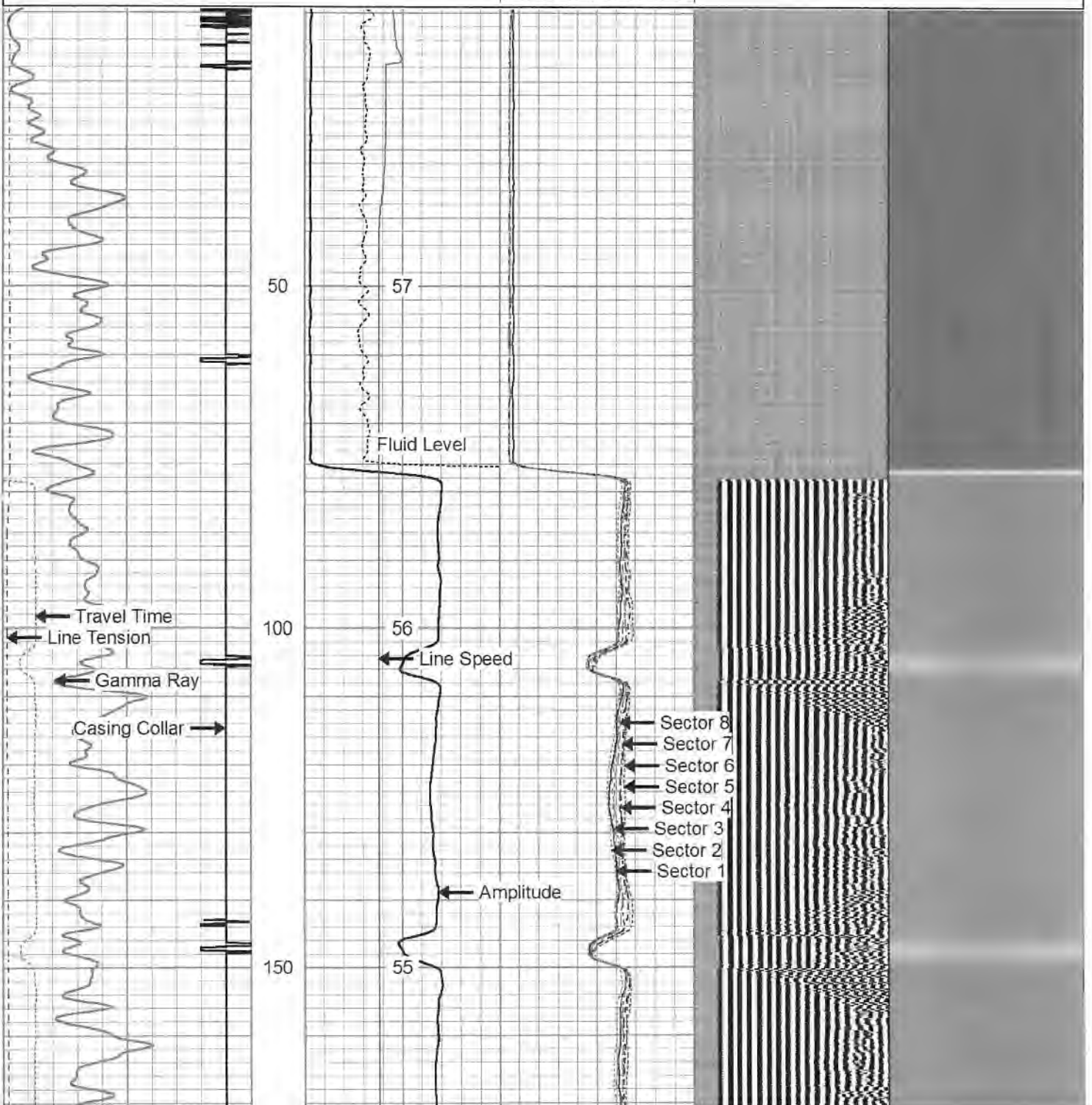


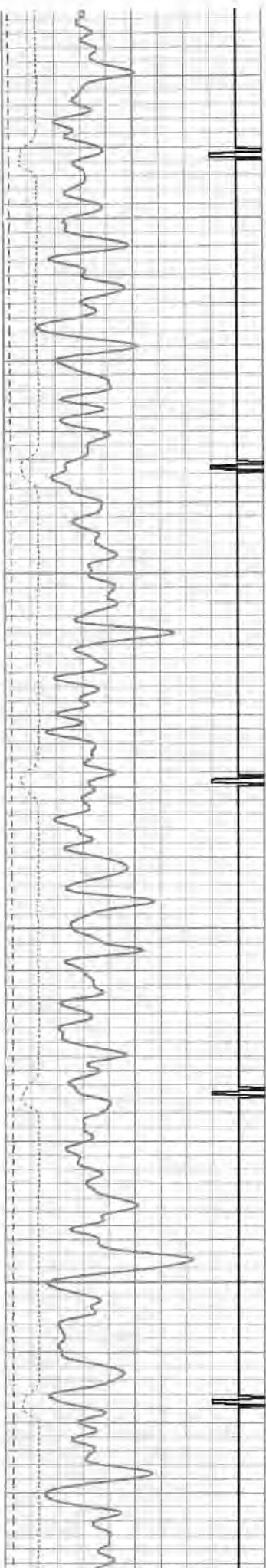
Main Pass 0 PSI

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 Presentation Format 9rcbl
 Dataset Creation Sat May 02 17:49:32 2020
 Charted by Depth in Feet scaled 1:240

270	Travel Time (usec)	200	0	Amplitude (mV)	100	-5	Sector 1	150	Variable Density	1	Cement Map	8
9	Casing Collar	-1		Amplified Amplitude		-5	Sector 2	150	200	(usec)	1200	
0	Gamma Ray (GAPI)	150	0	(mV)	10	-5	Sector 3	150				
0	Line Tension (lb)	5000		Line Speed		-5	Sector 4	150				
			-500	(ft/min)	500	-5	Sector 5	150				
				TEMP		-5	Sector 6	150				
				(degF)		-5	Sector 7	150				
						-5	Sector 8	150				





200

250

300

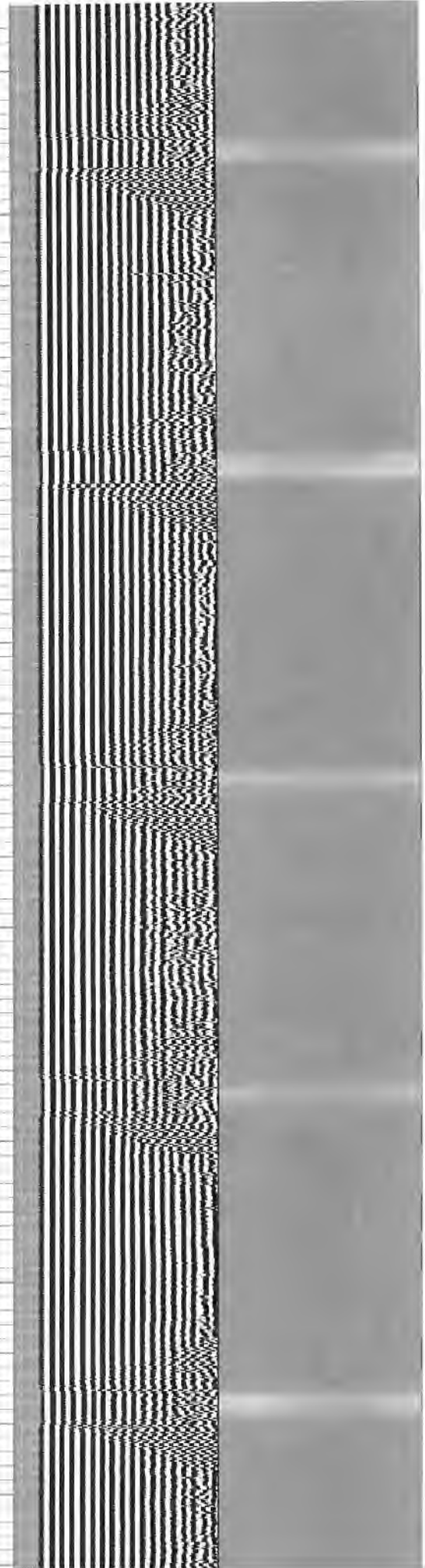
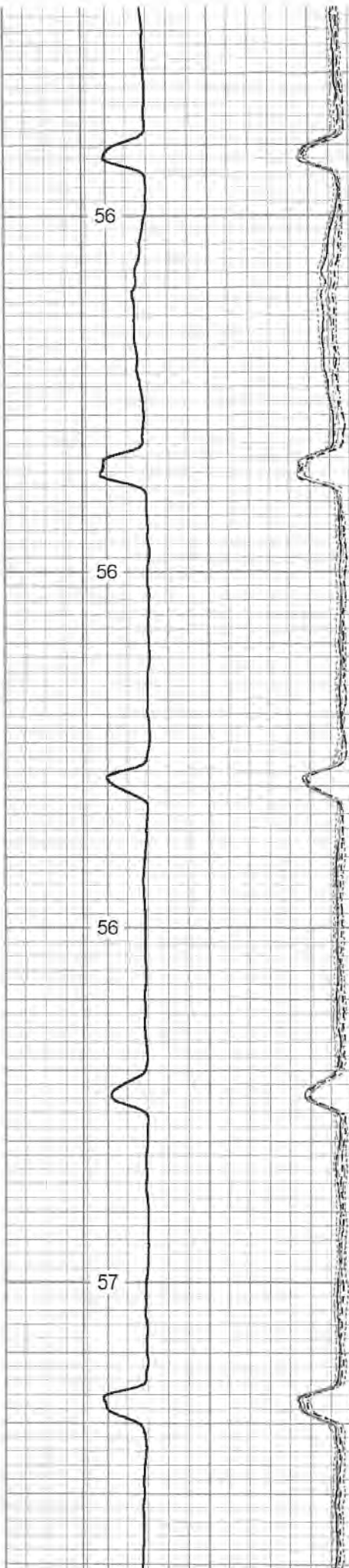
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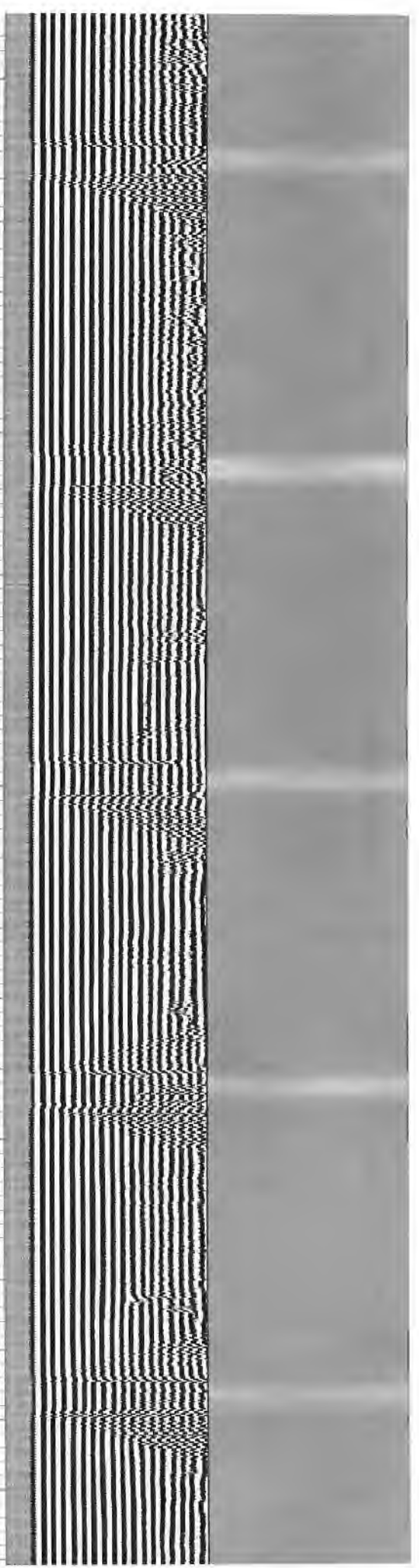
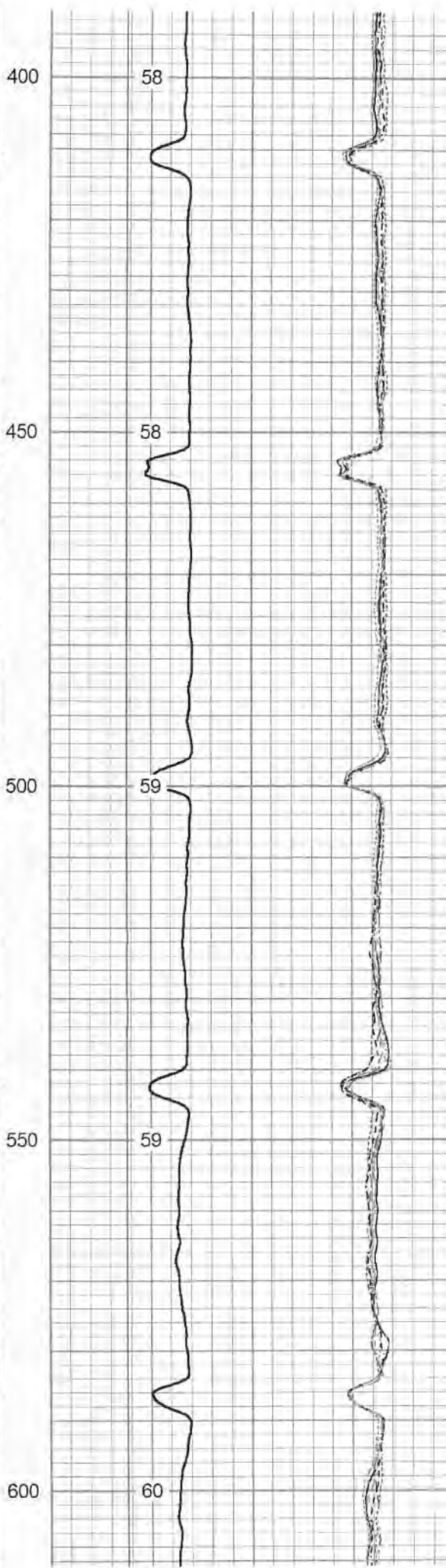
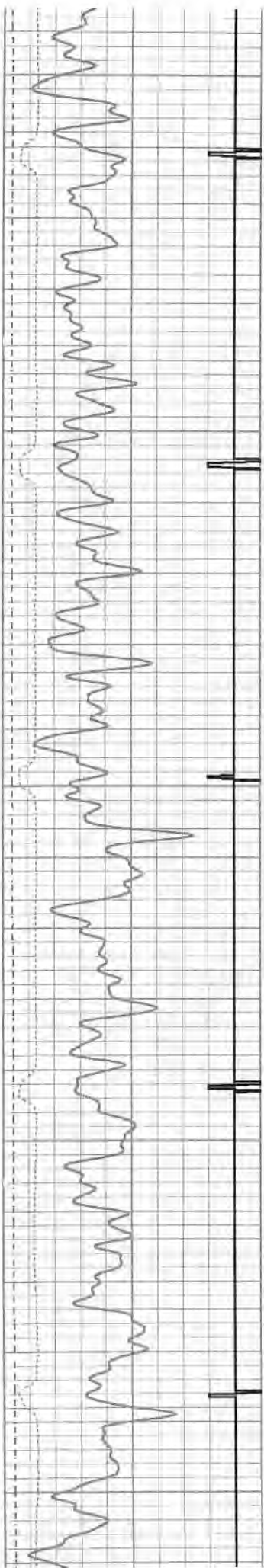
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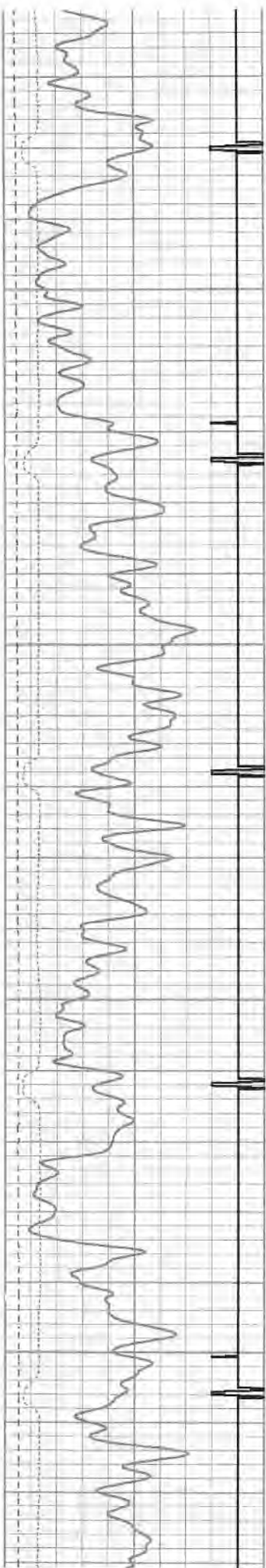
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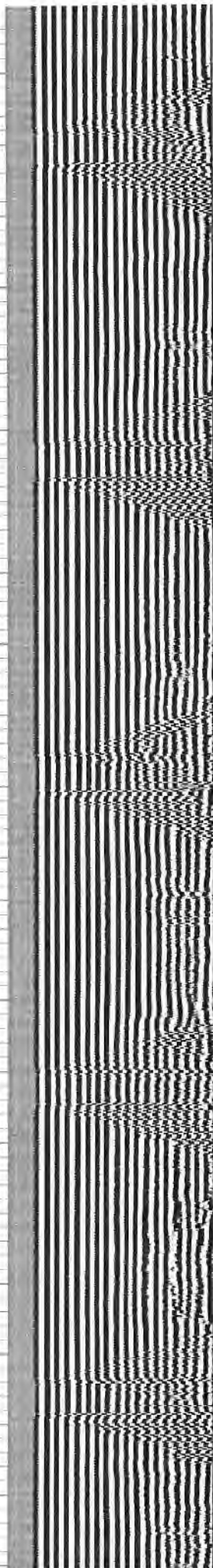
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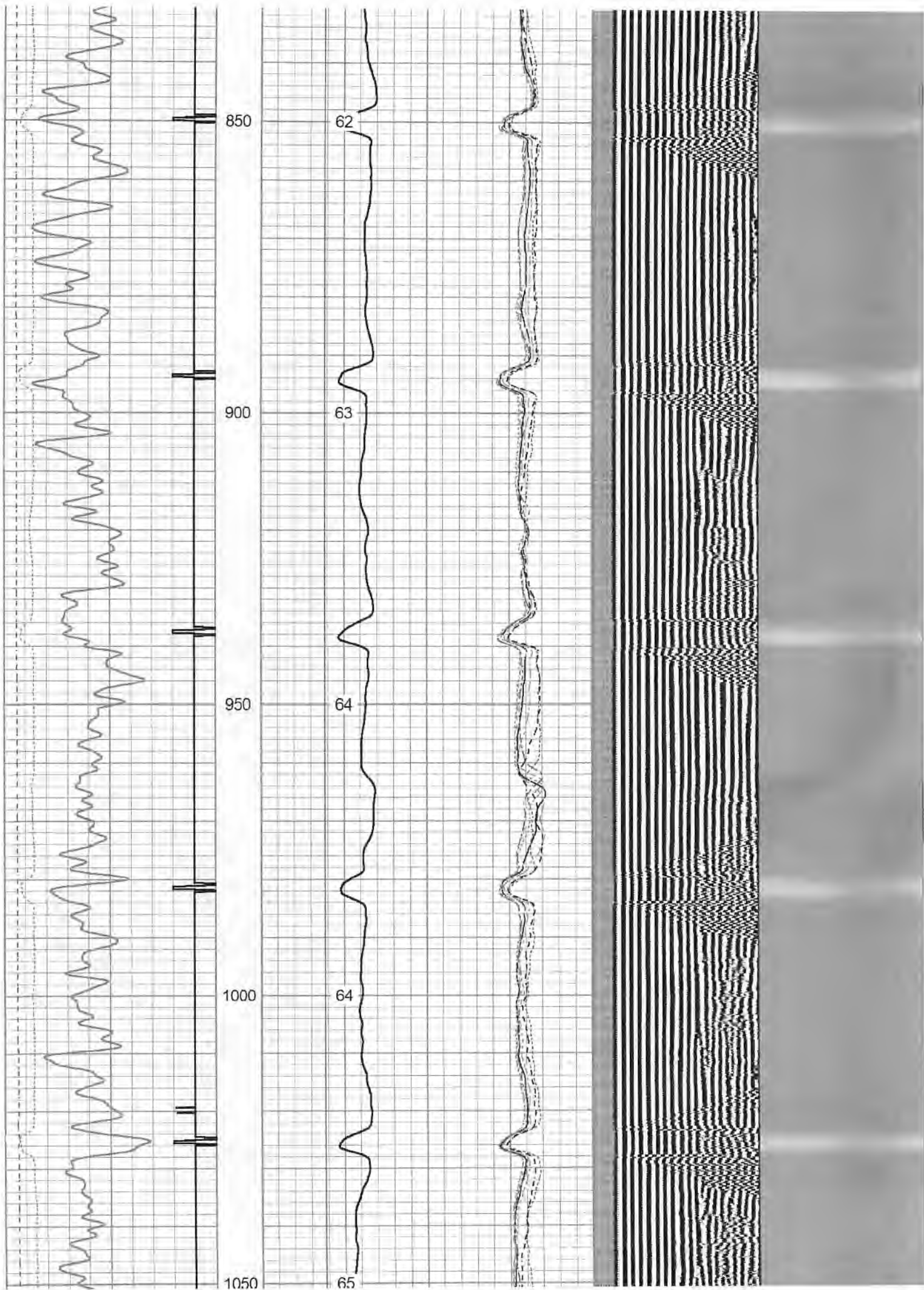
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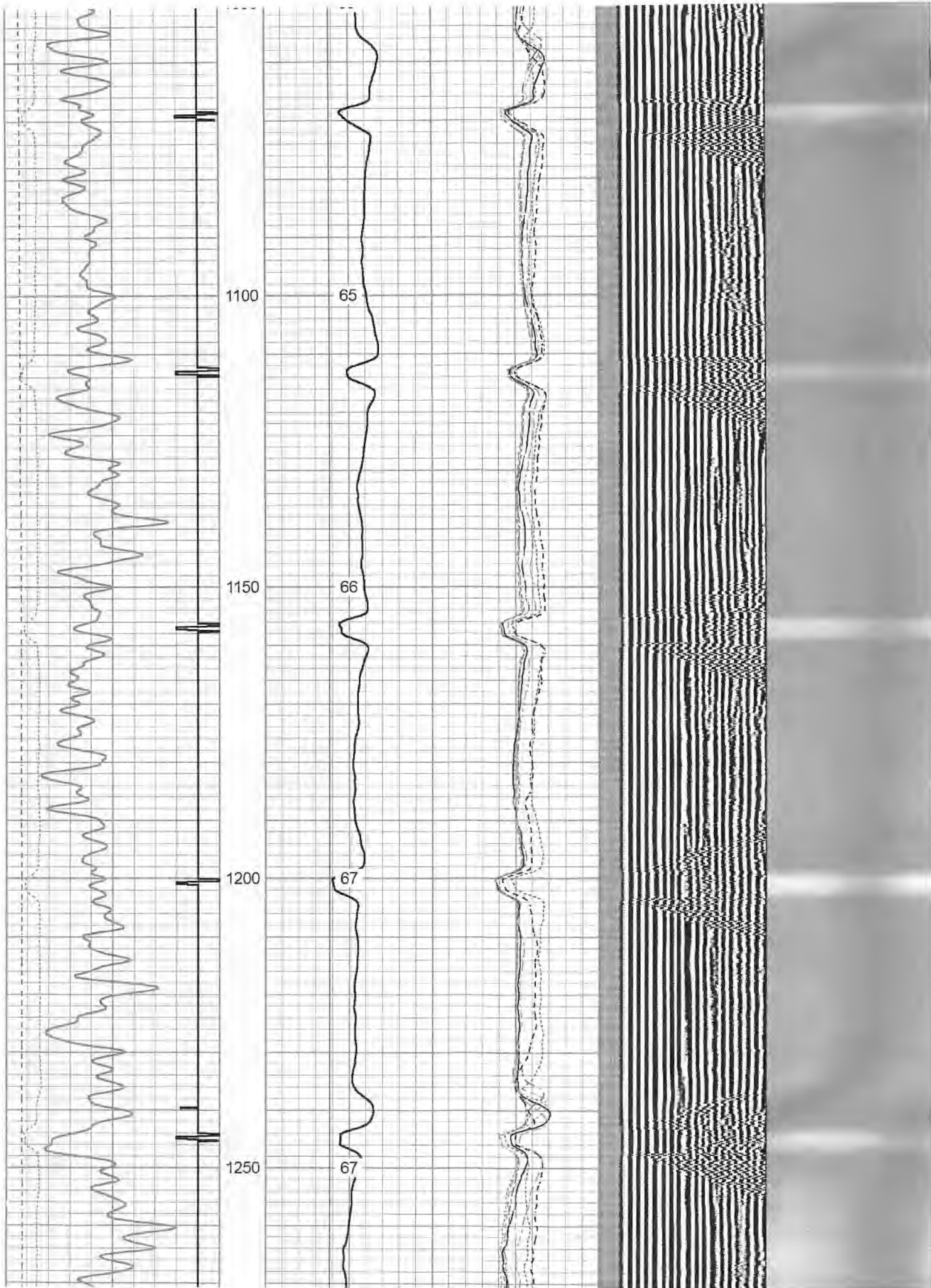
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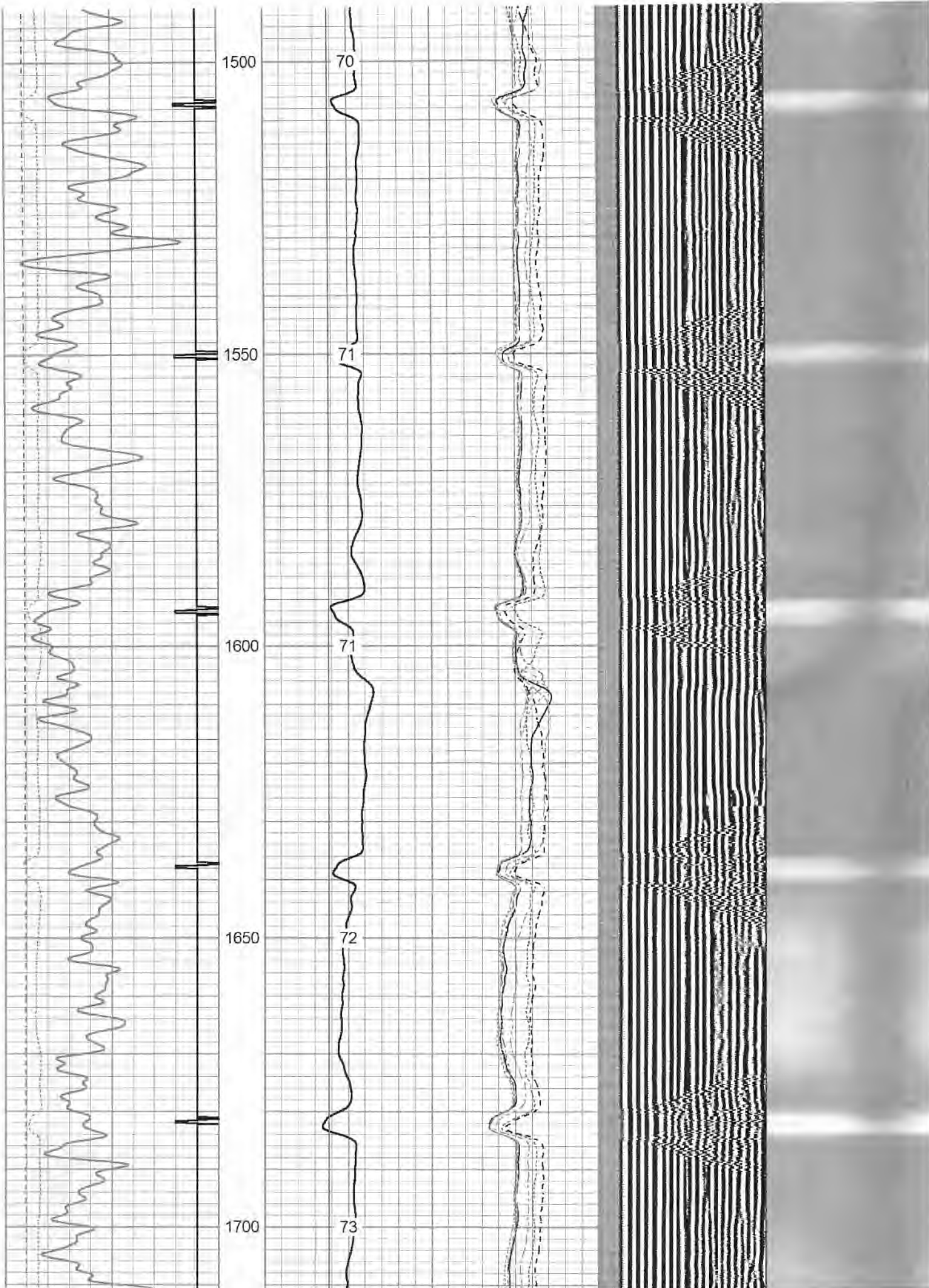
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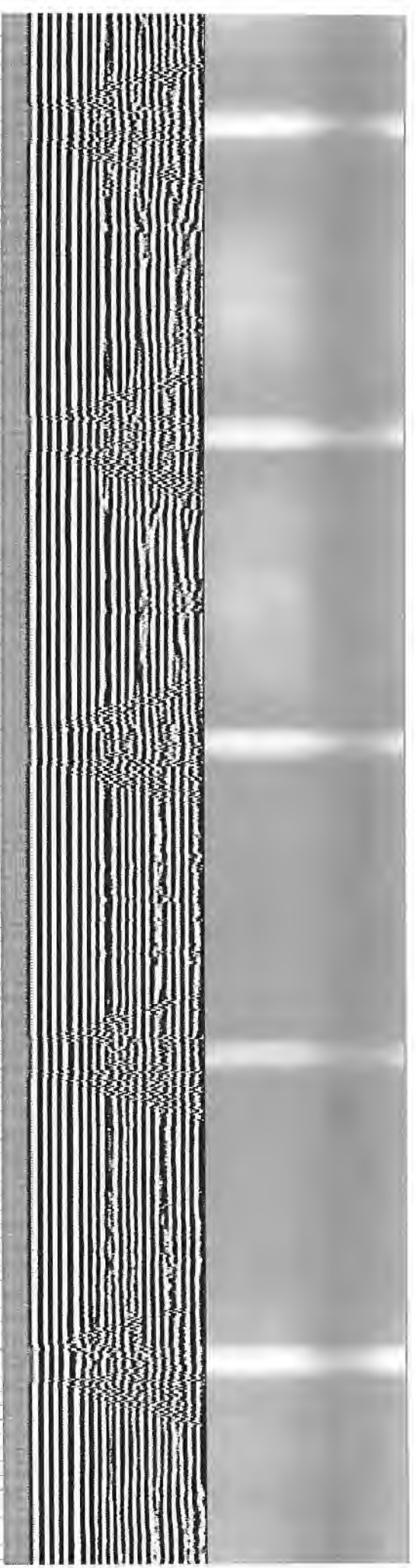
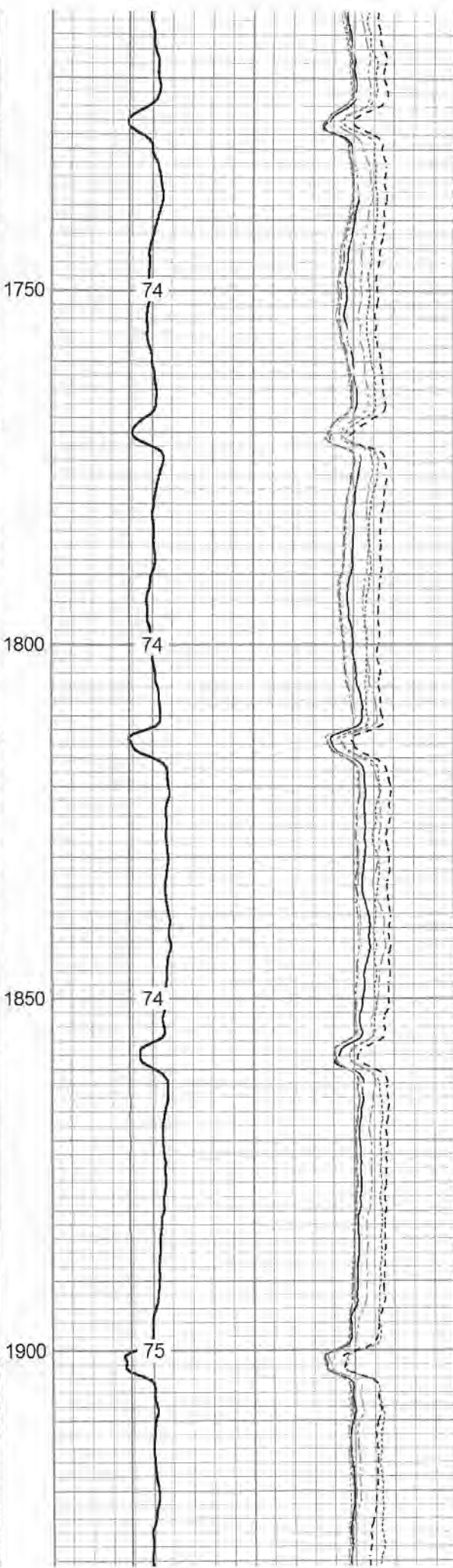
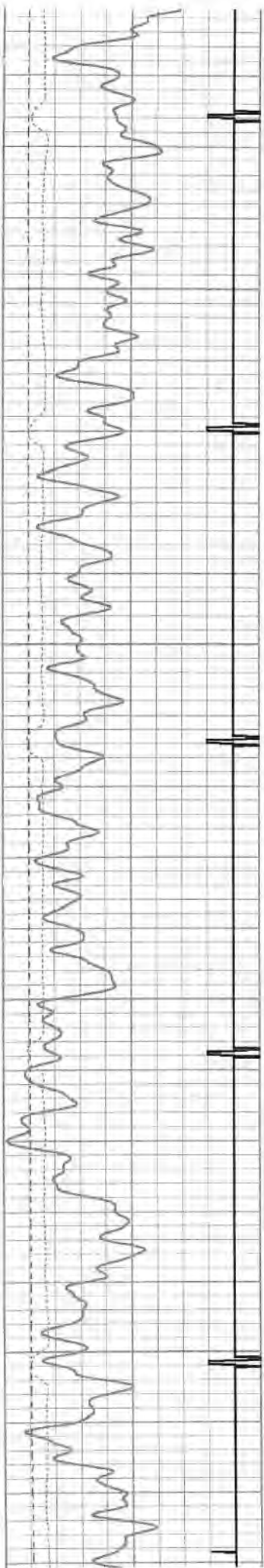


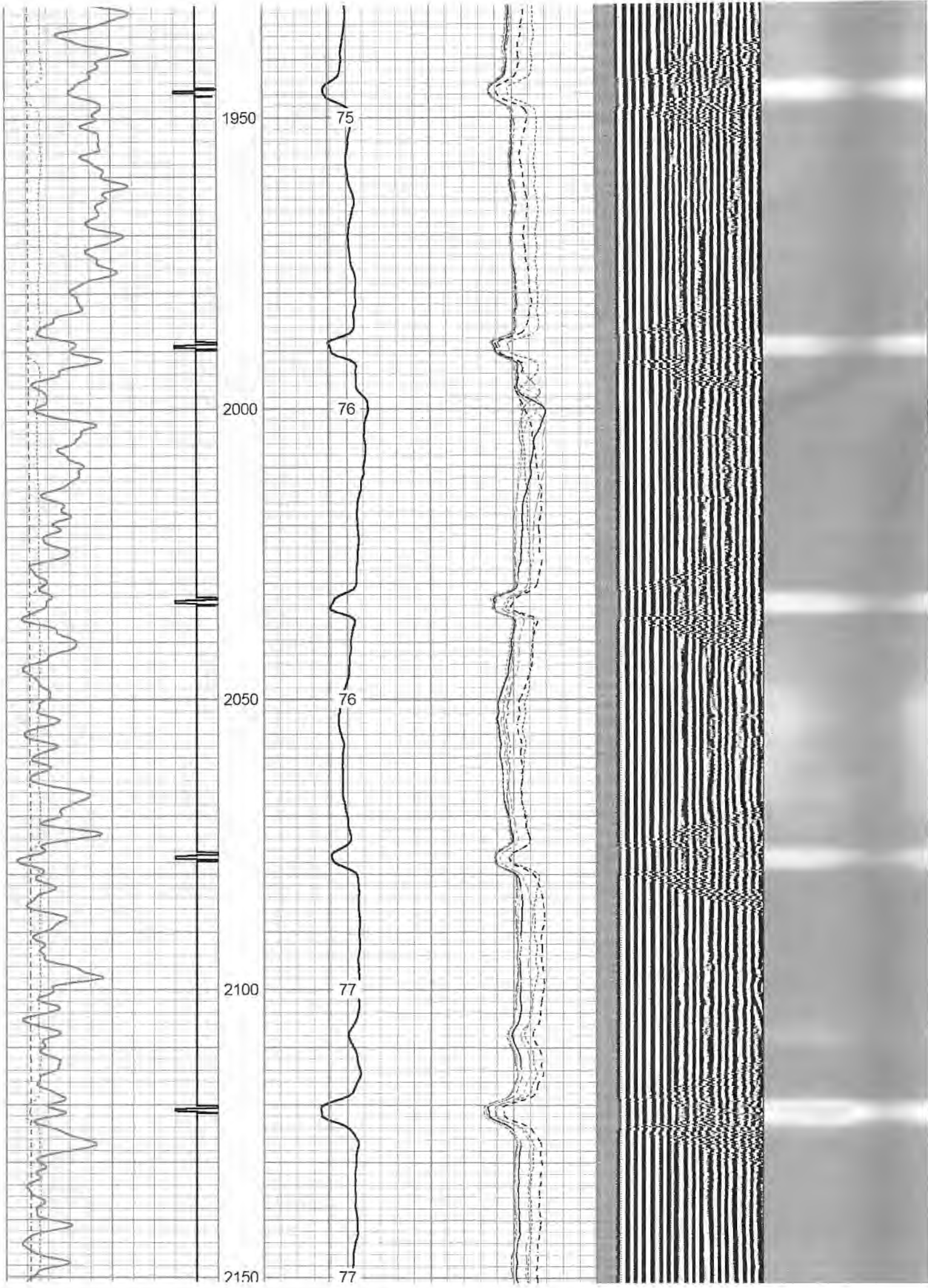




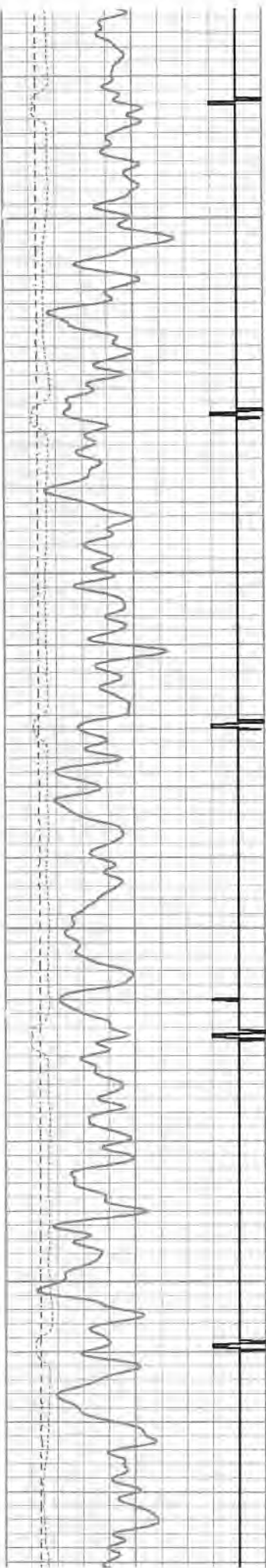










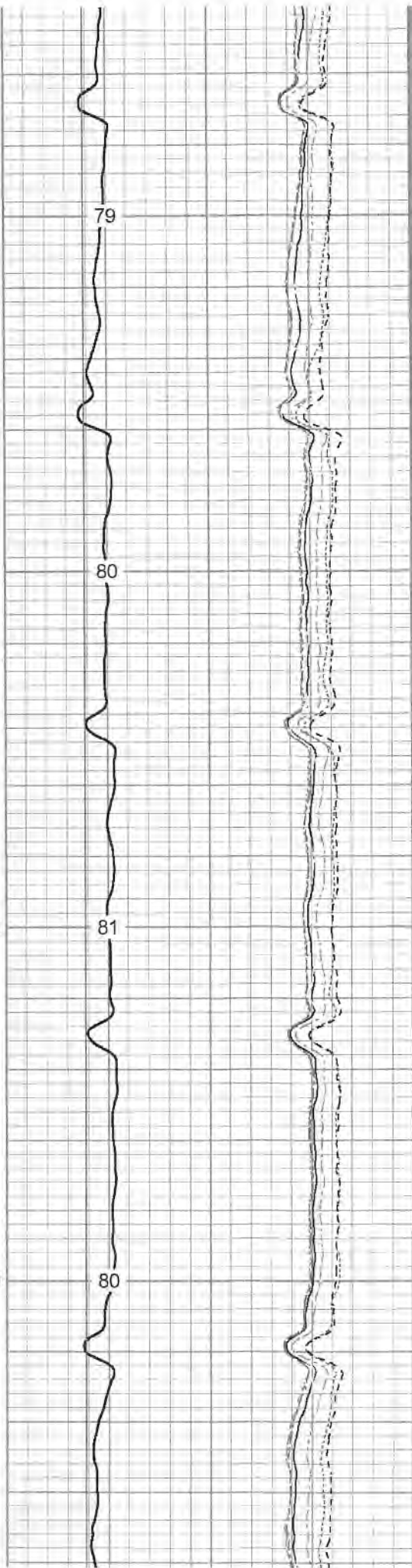


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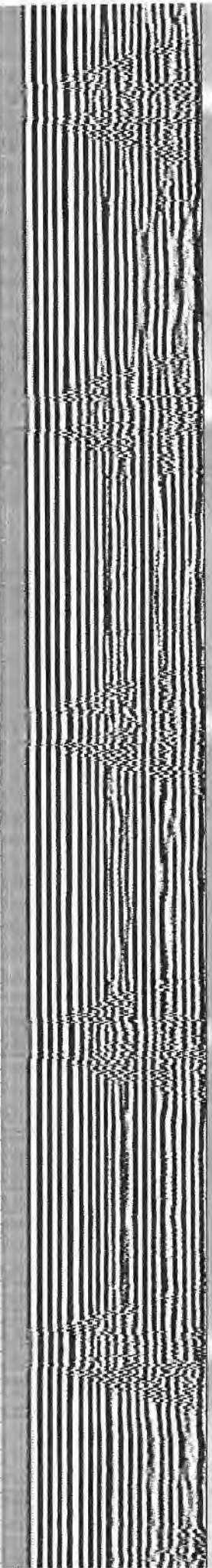


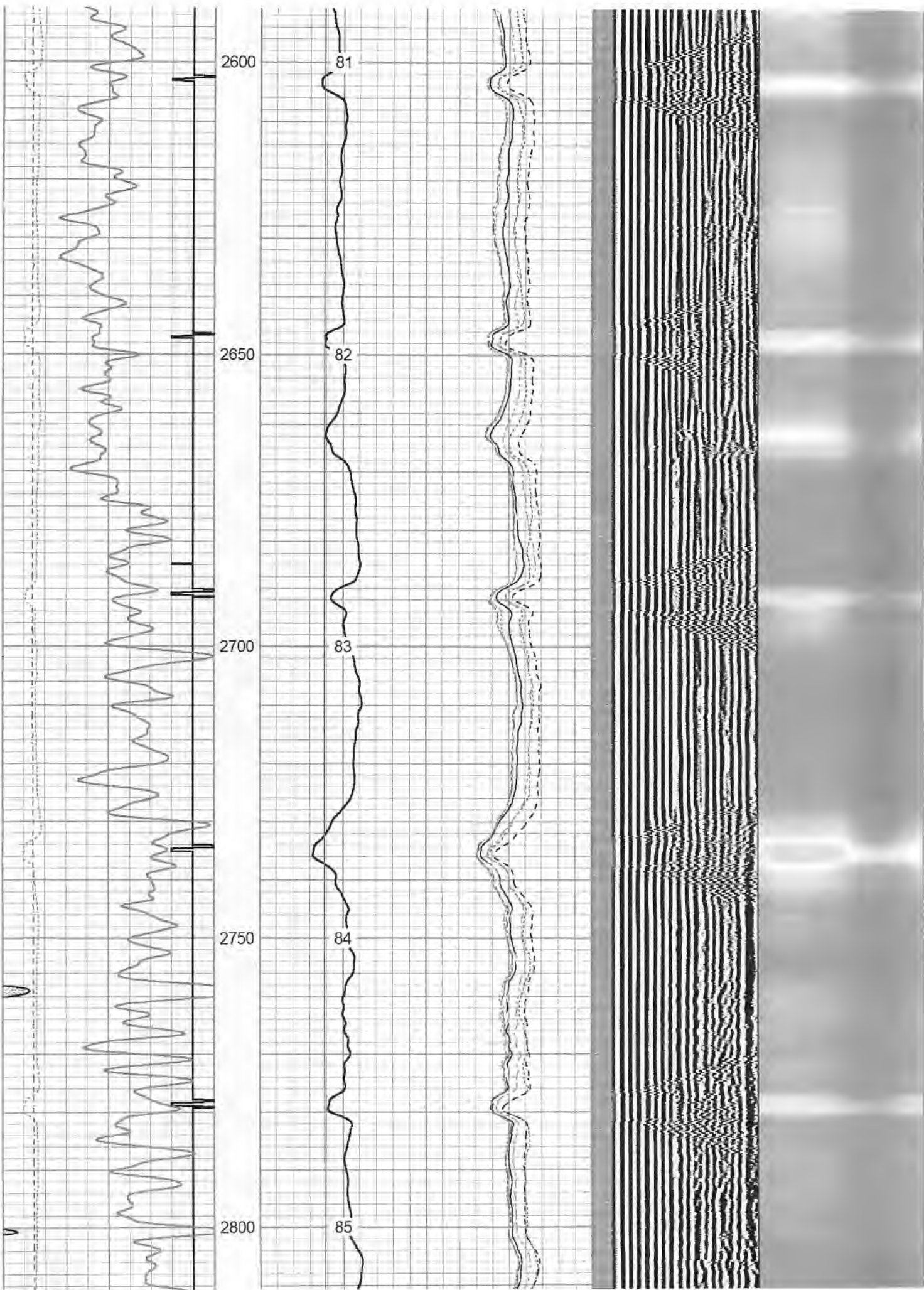
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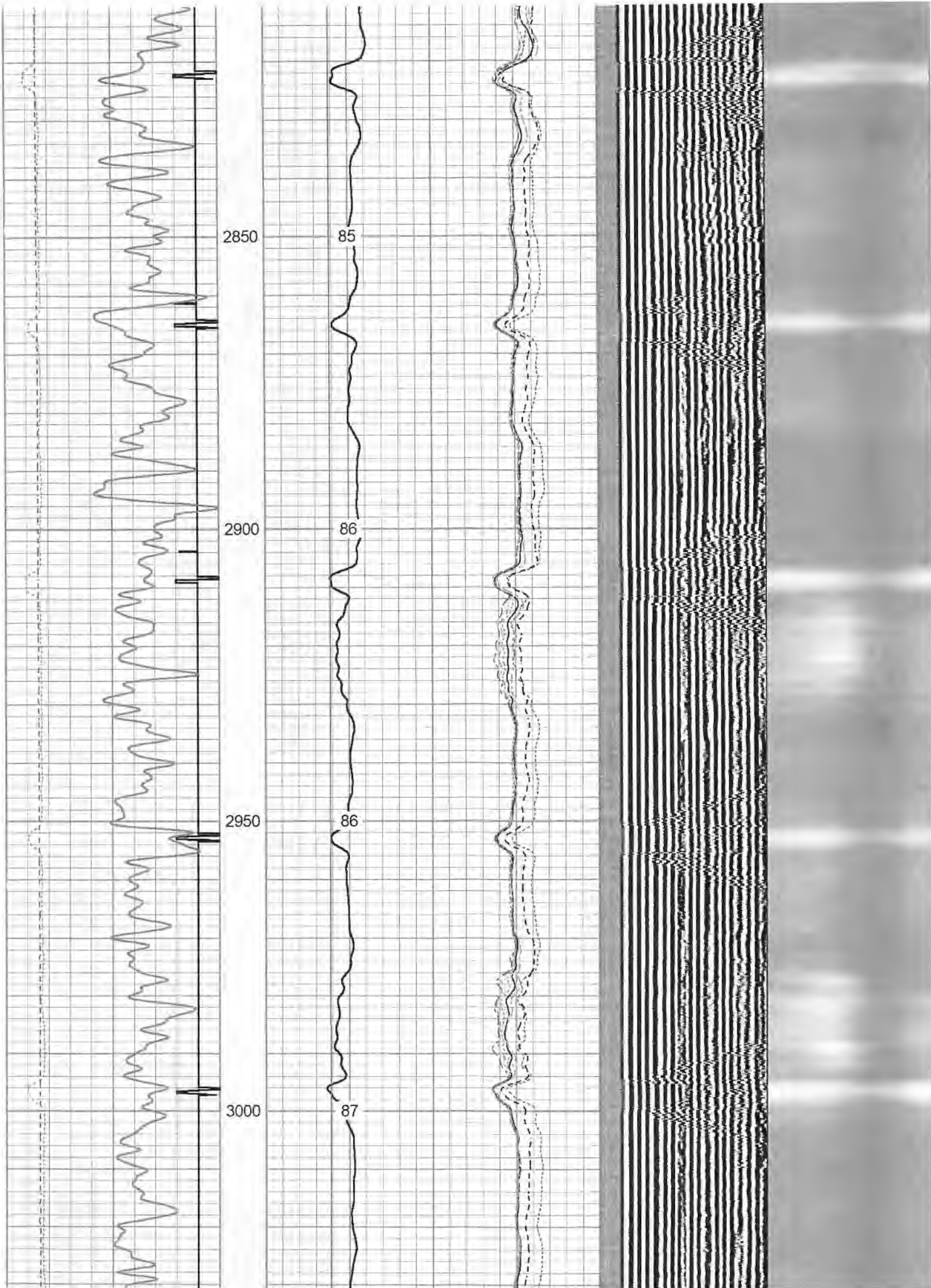
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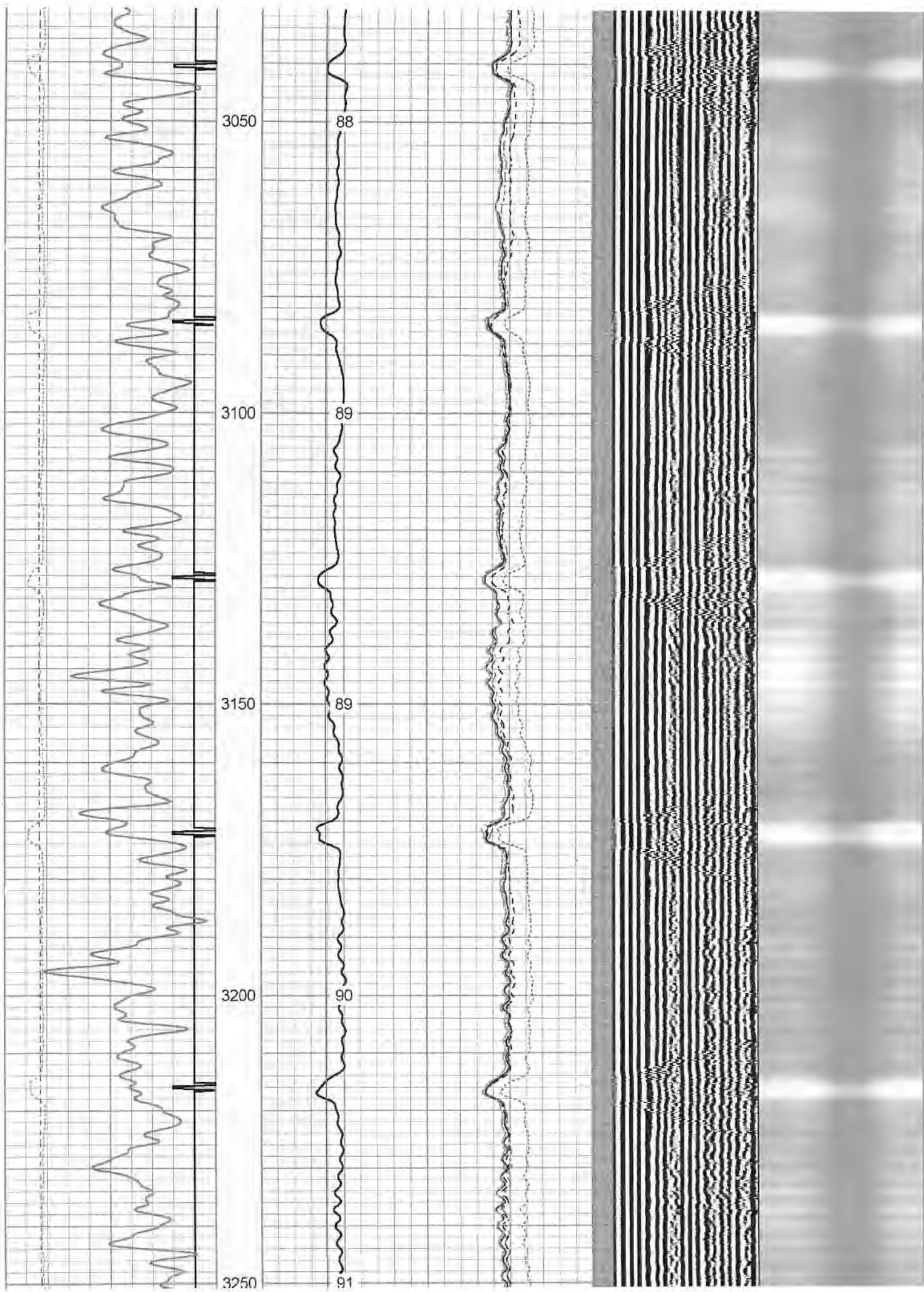
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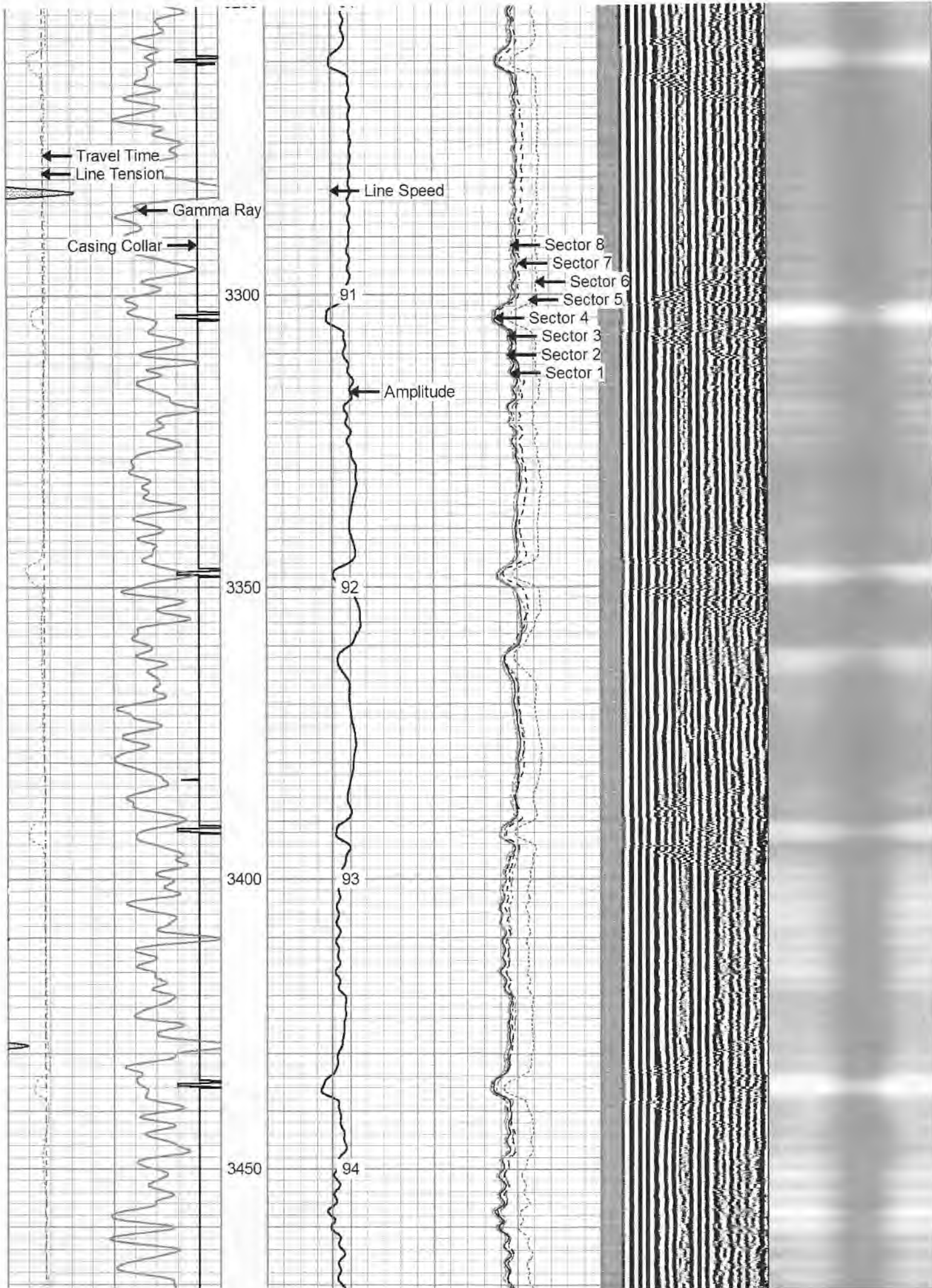
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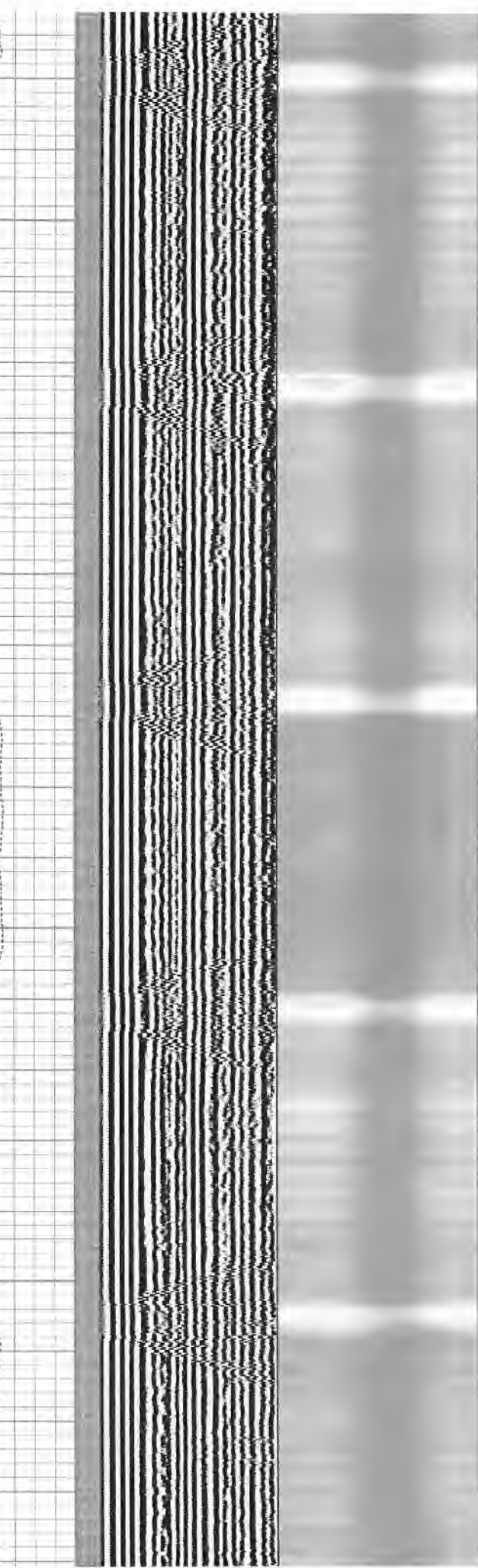
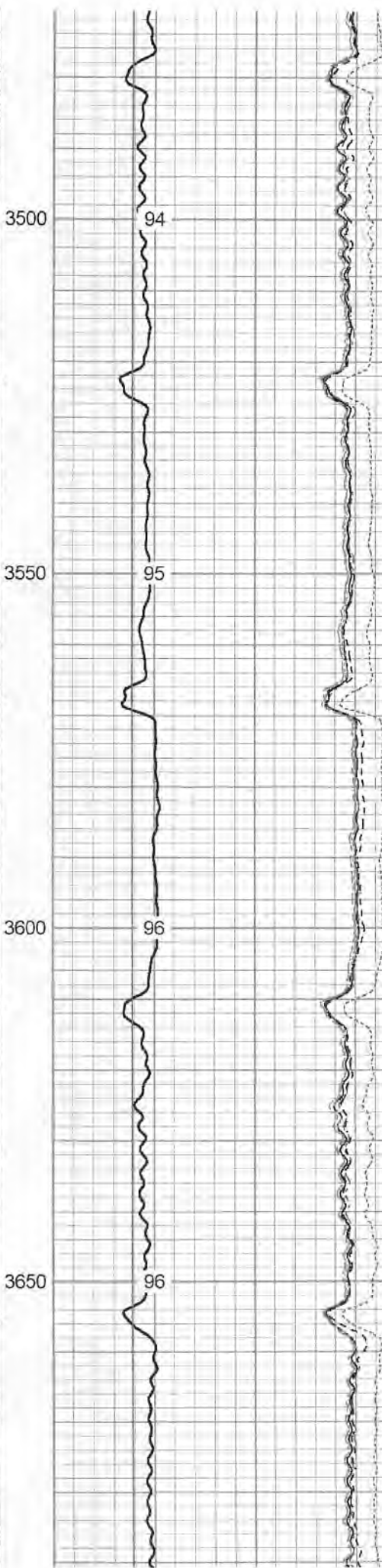
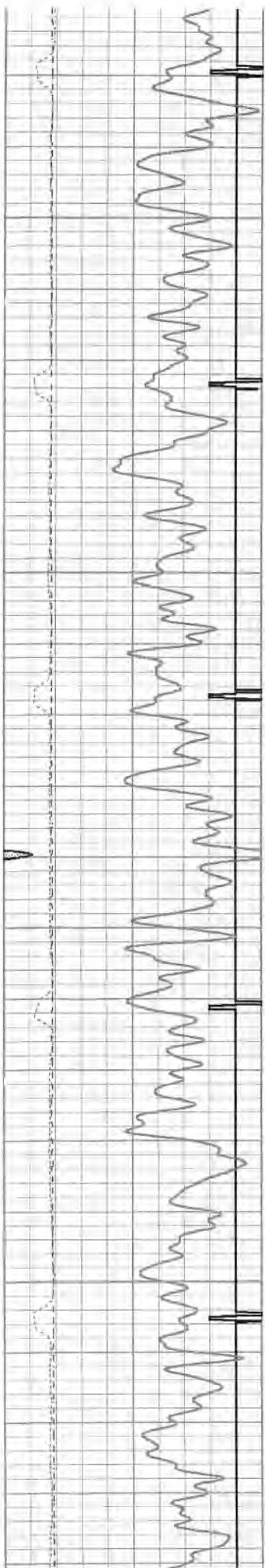


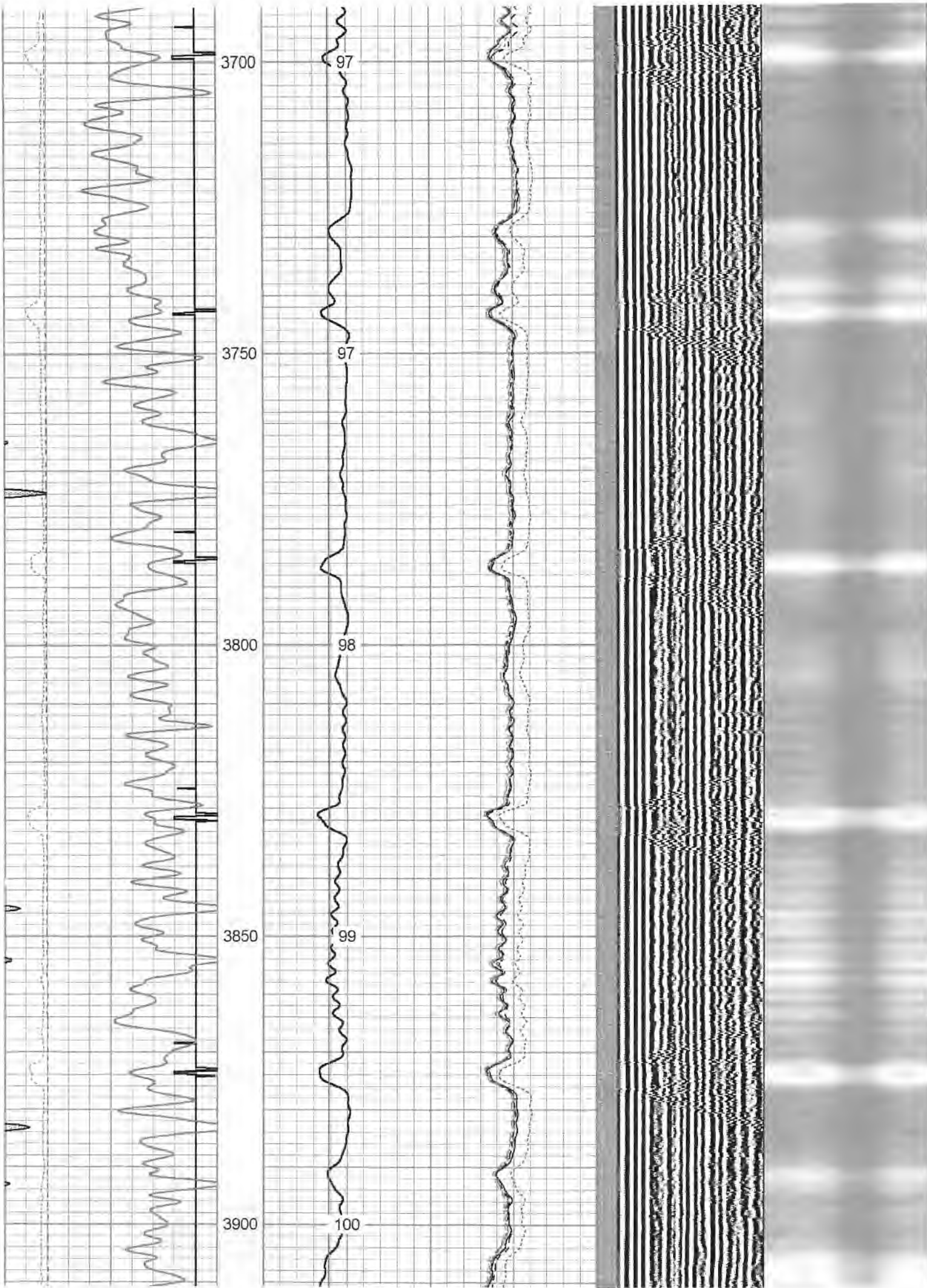


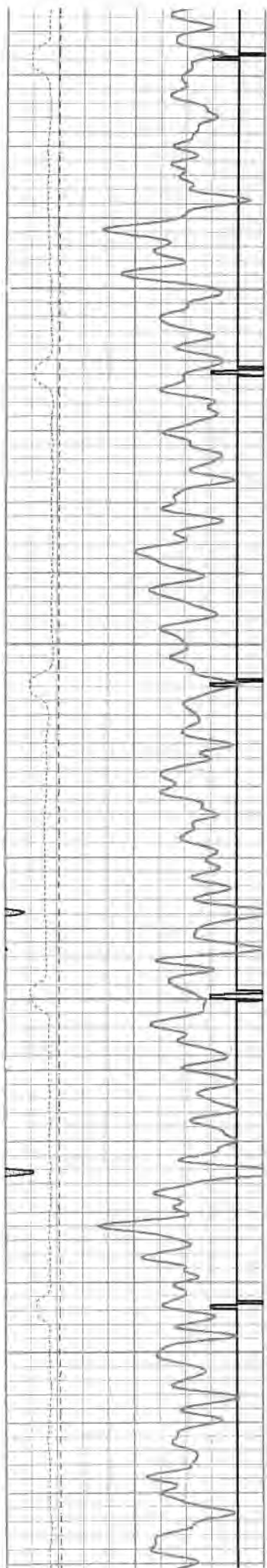












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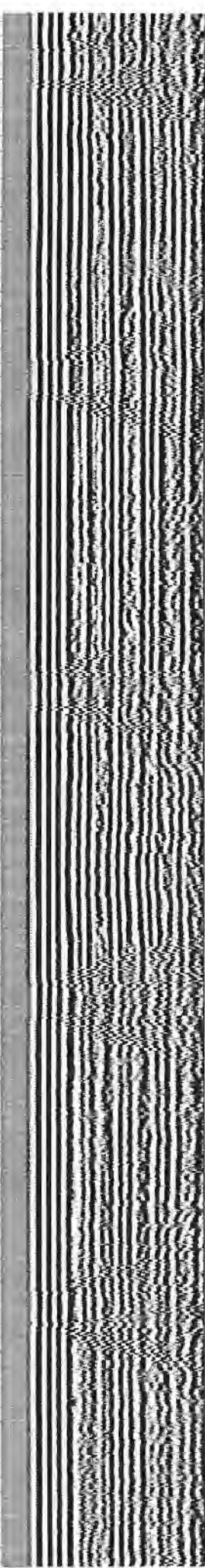
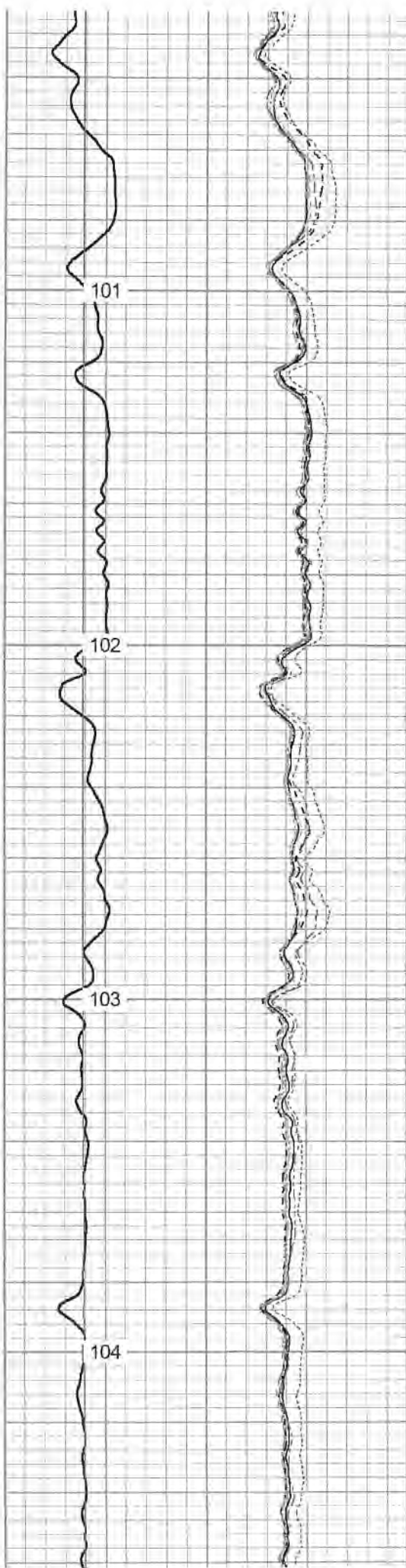
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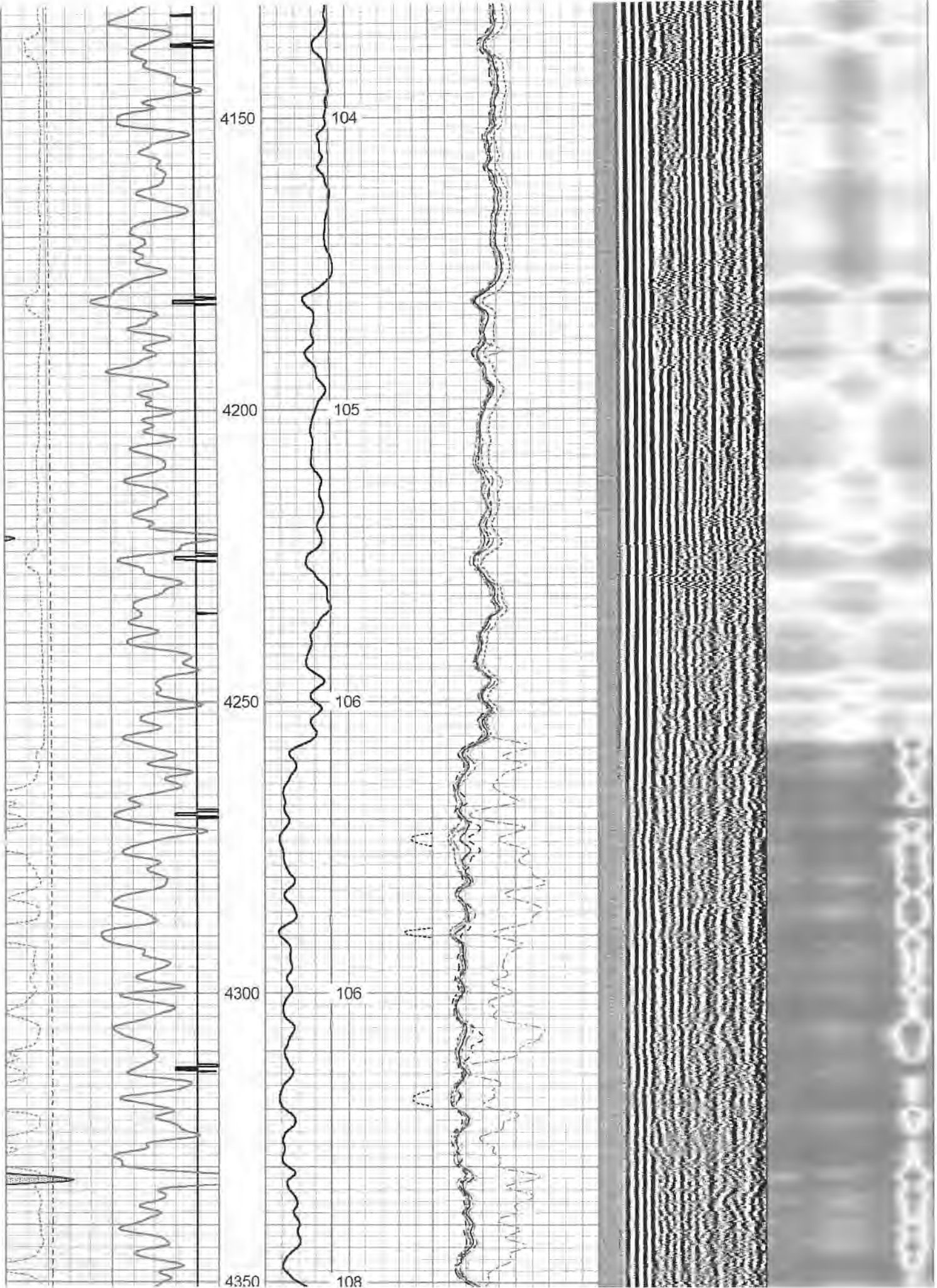
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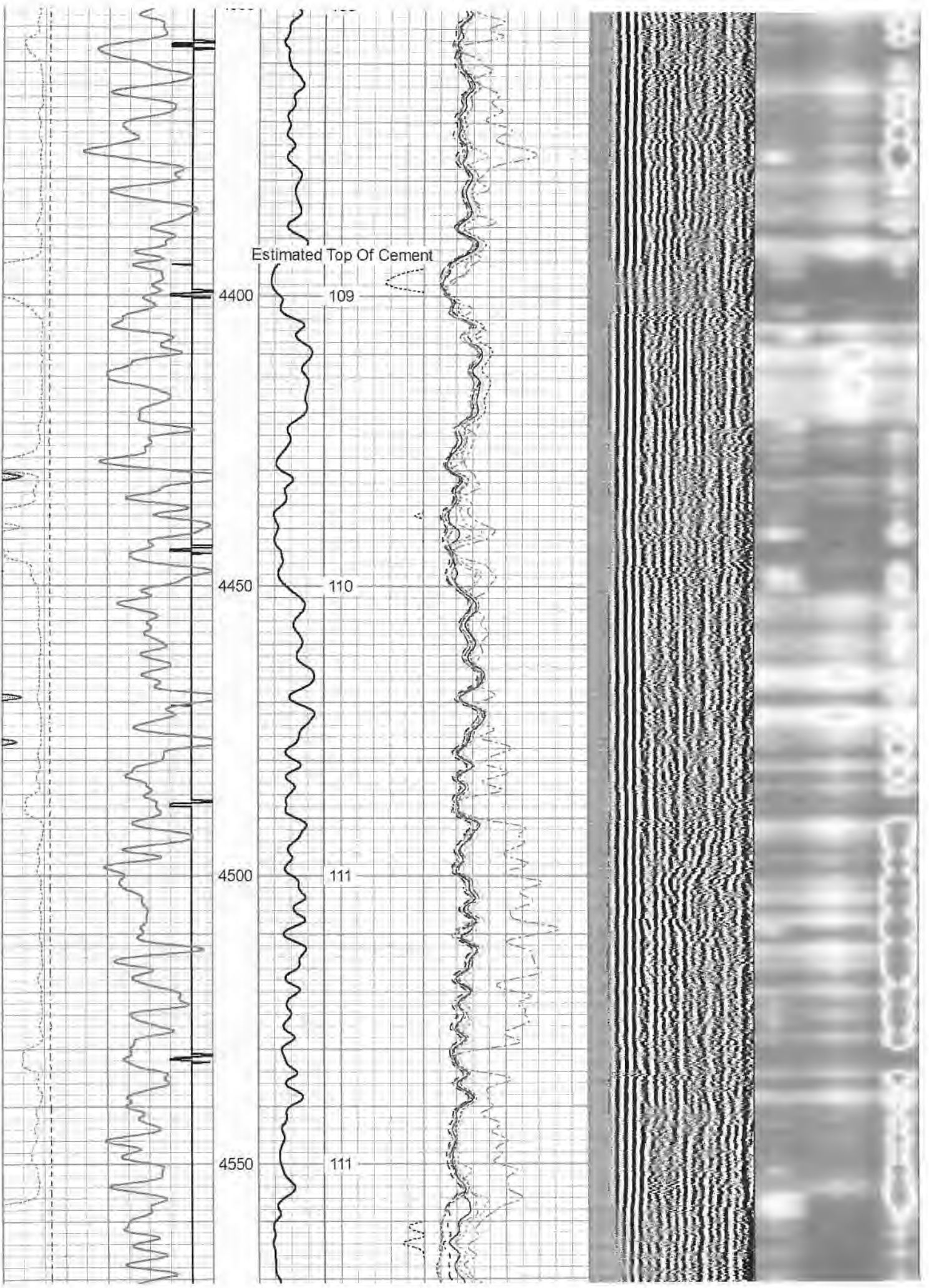
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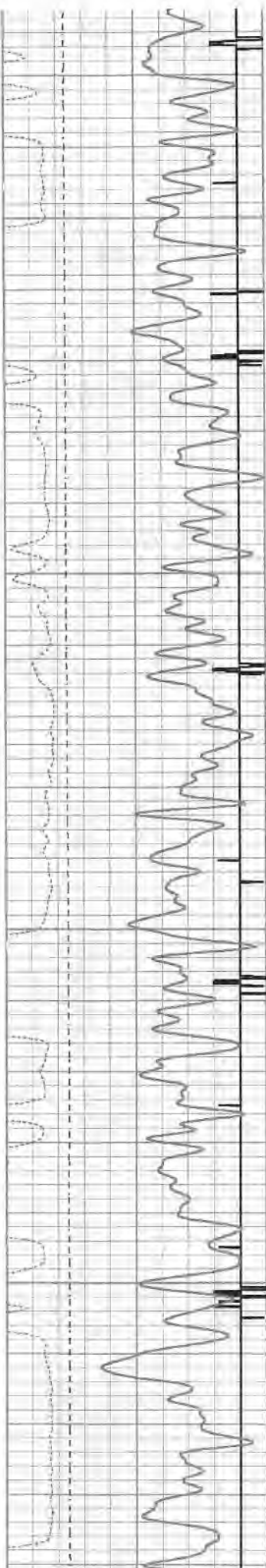
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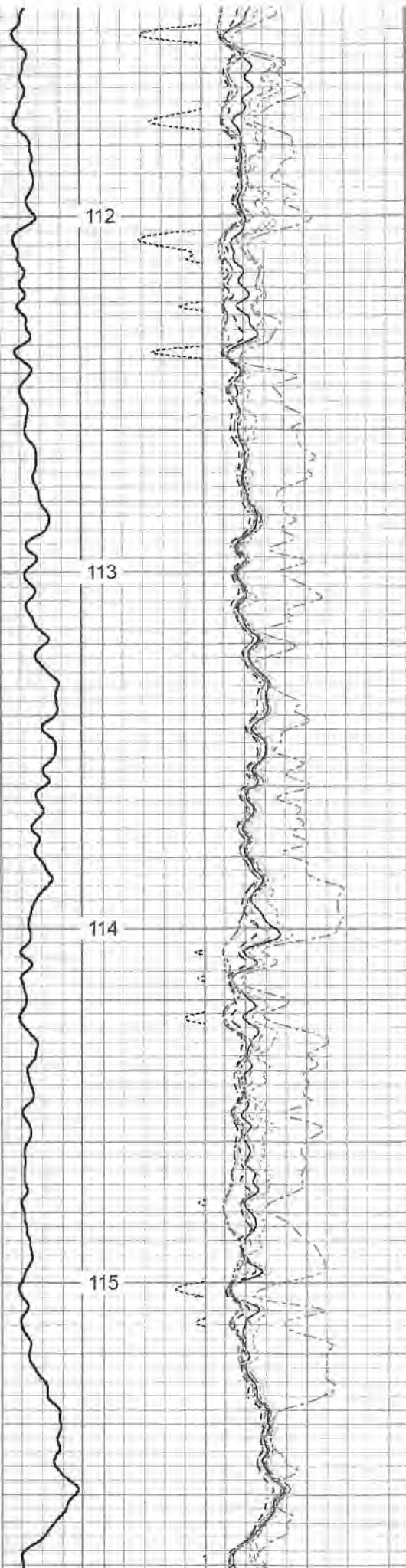




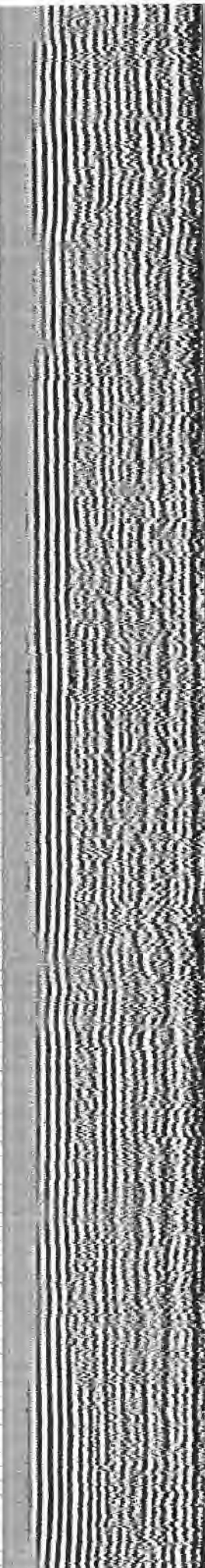


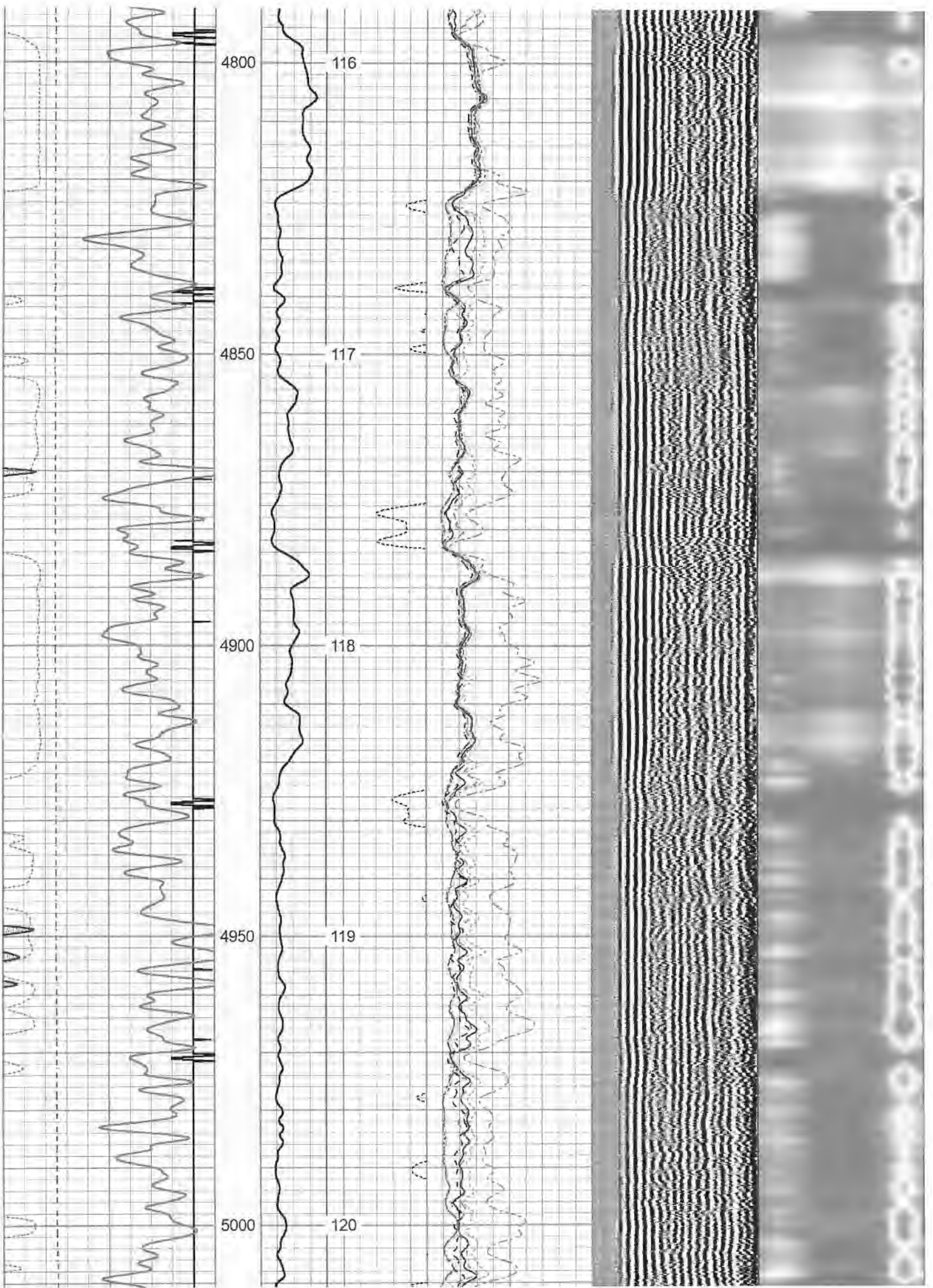


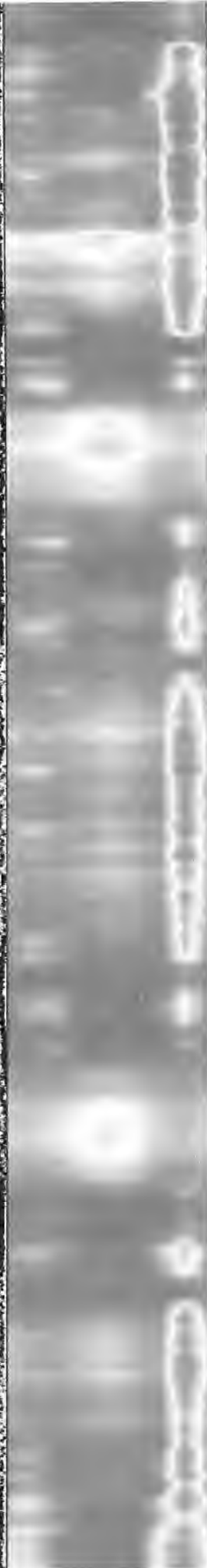
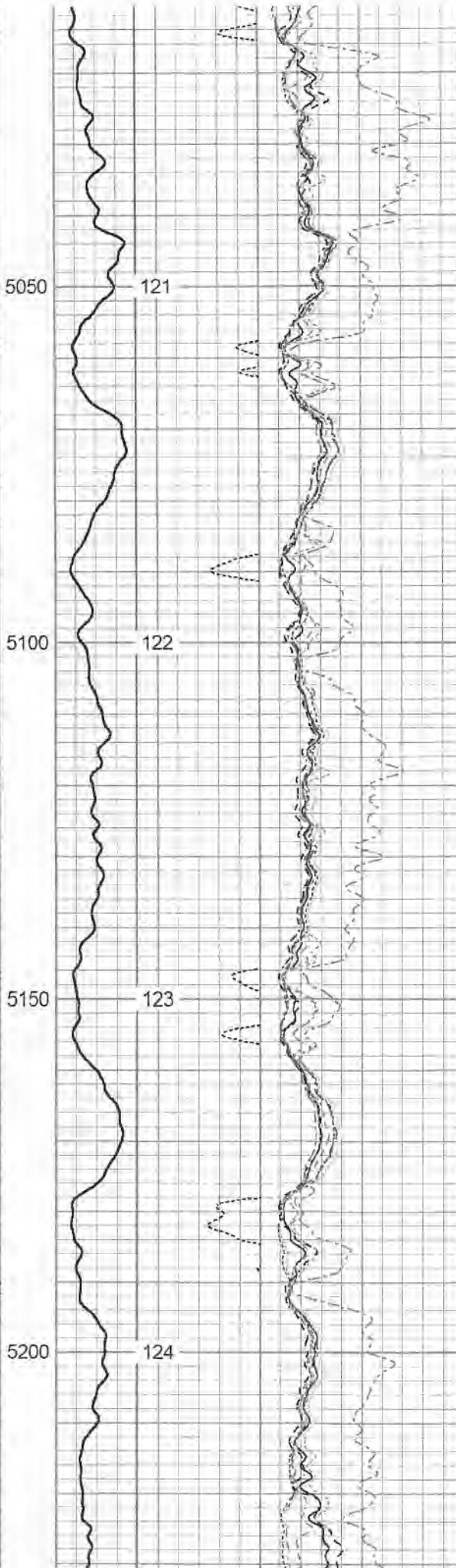
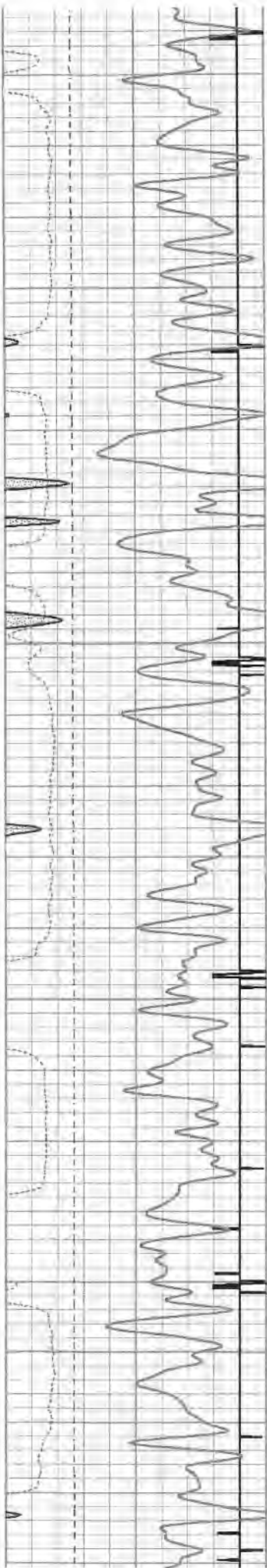
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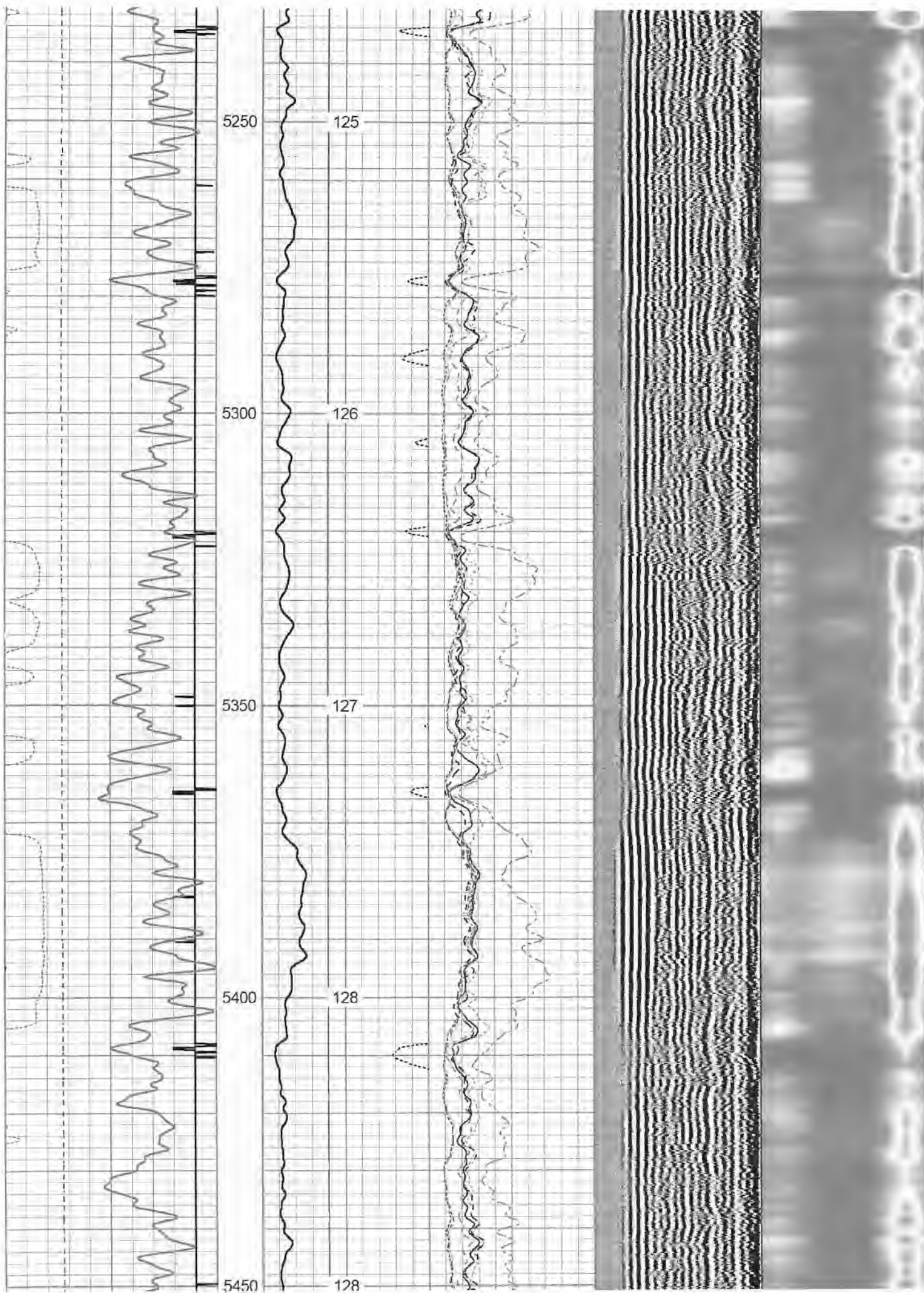


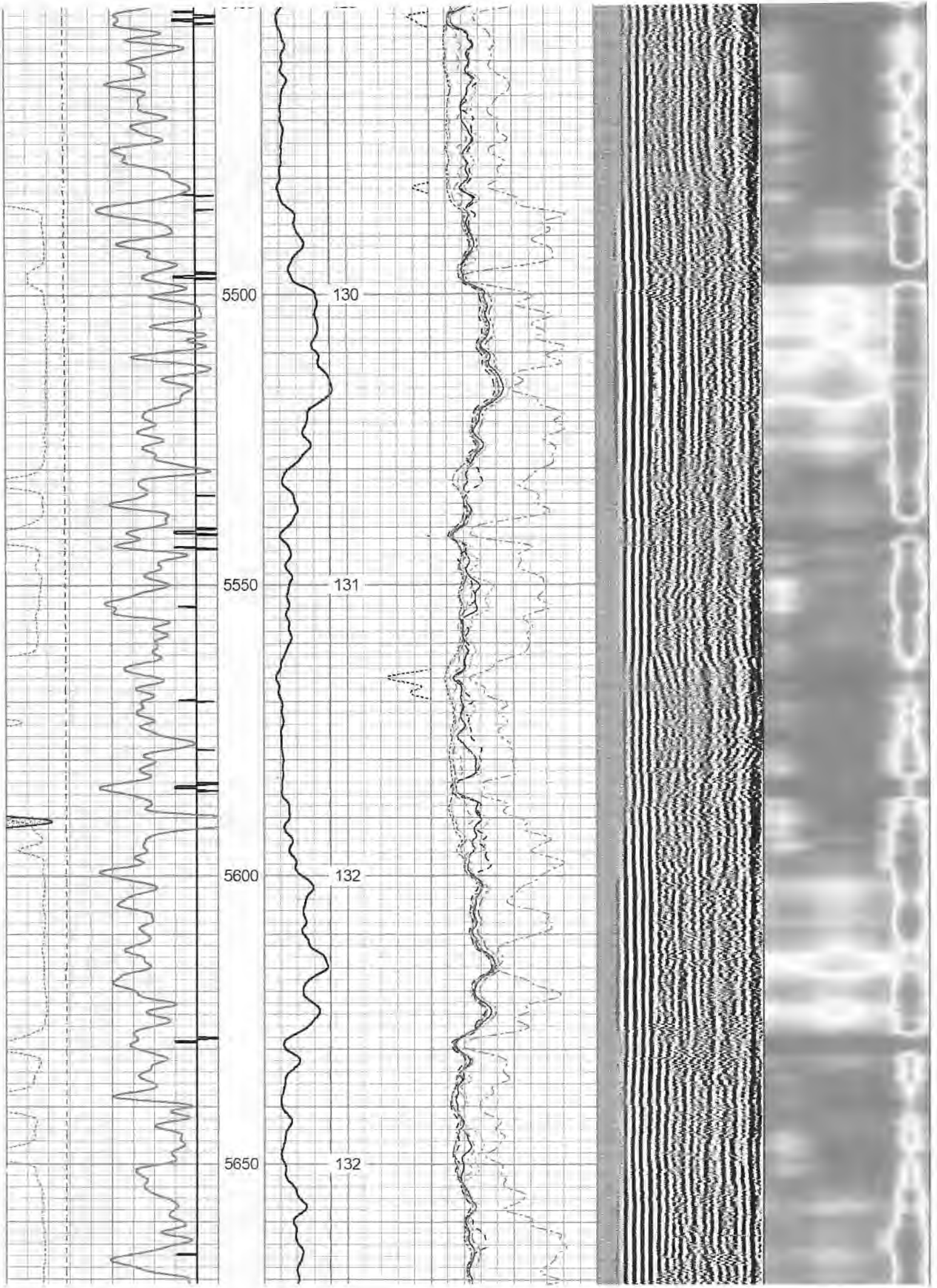
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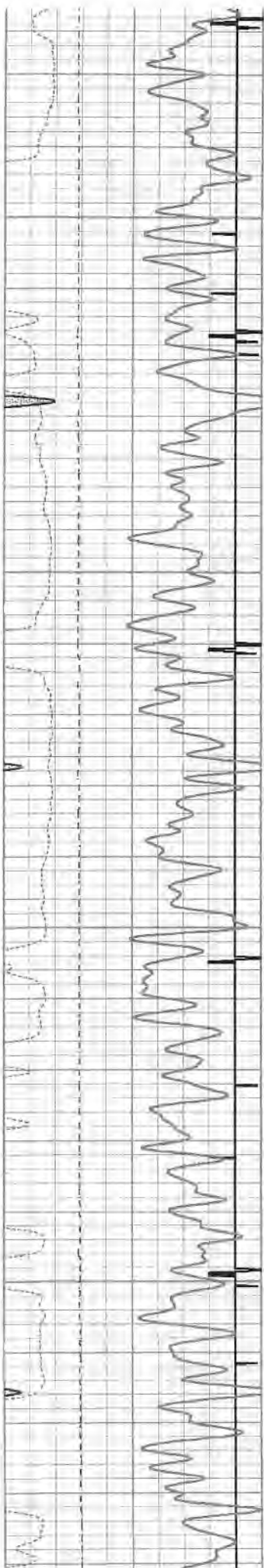




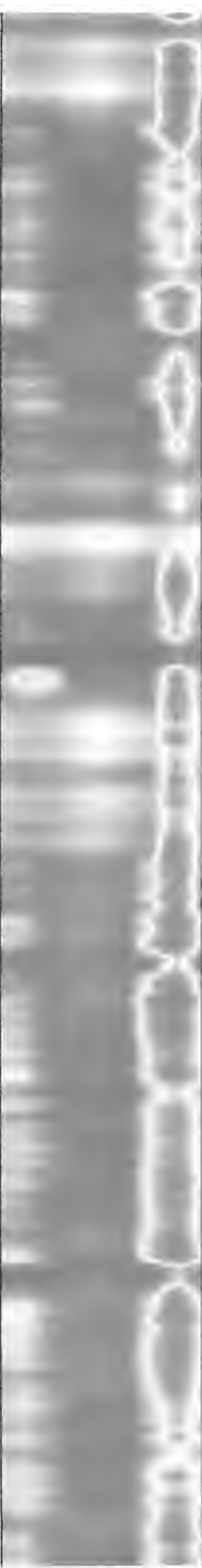
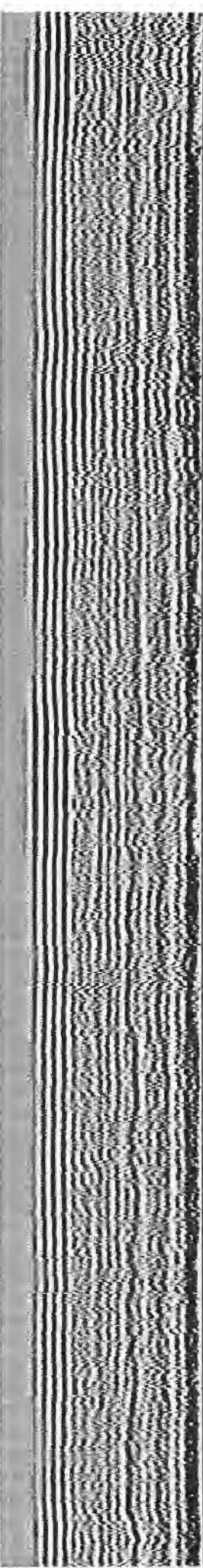
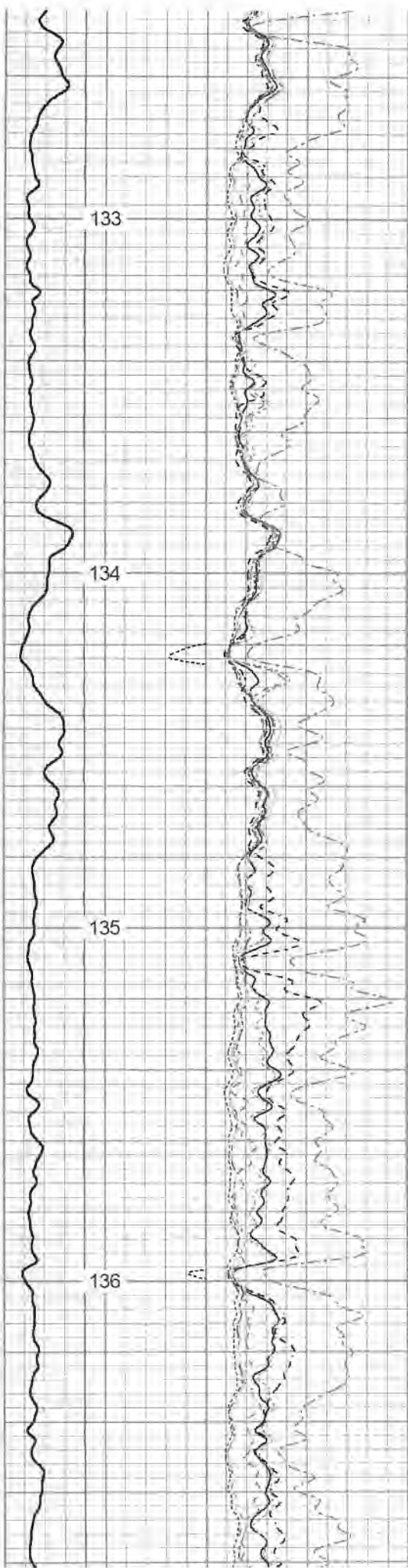


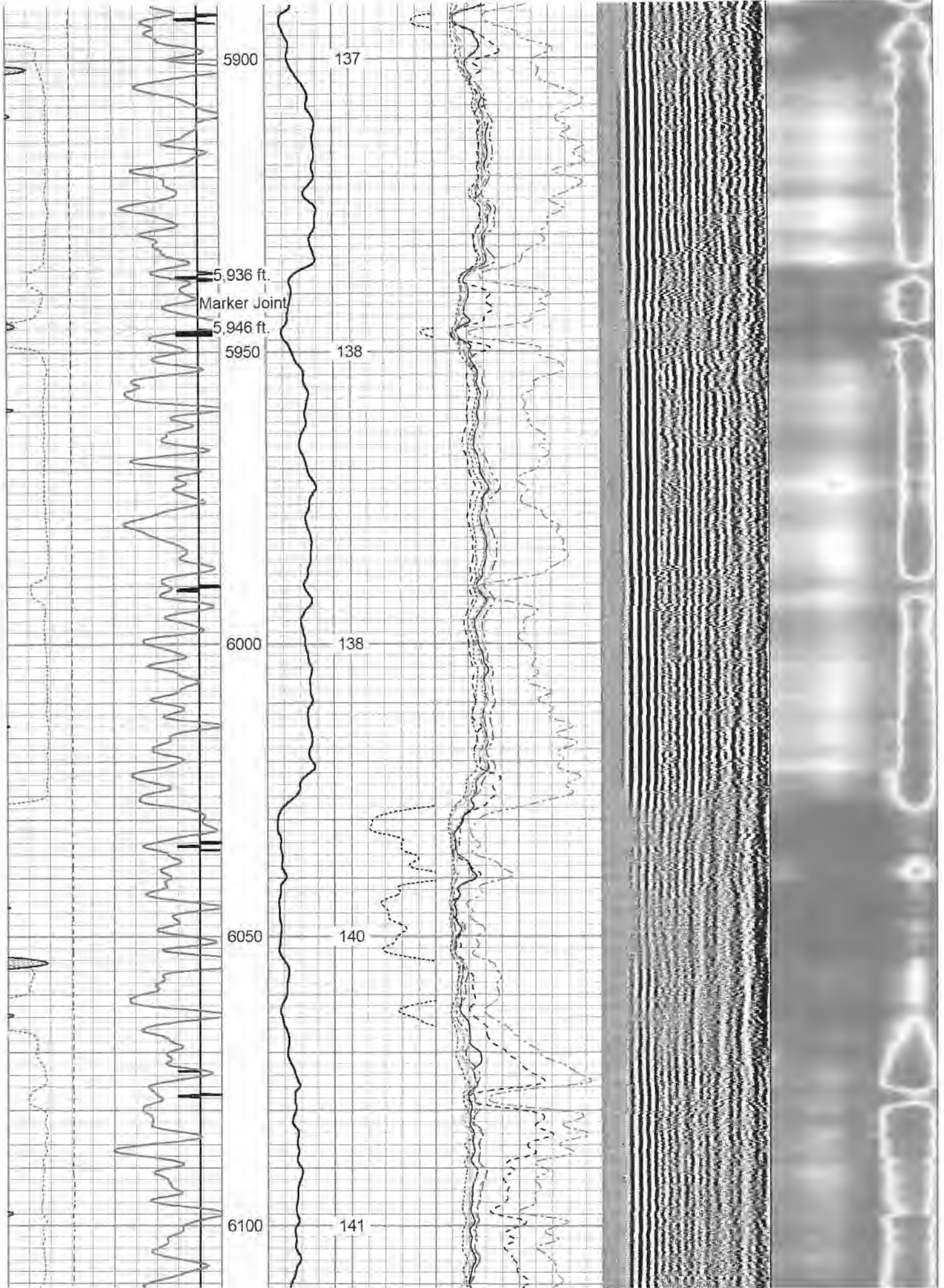


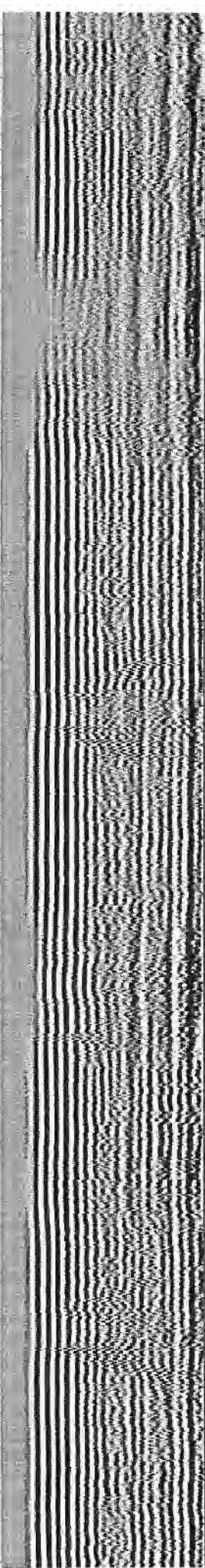
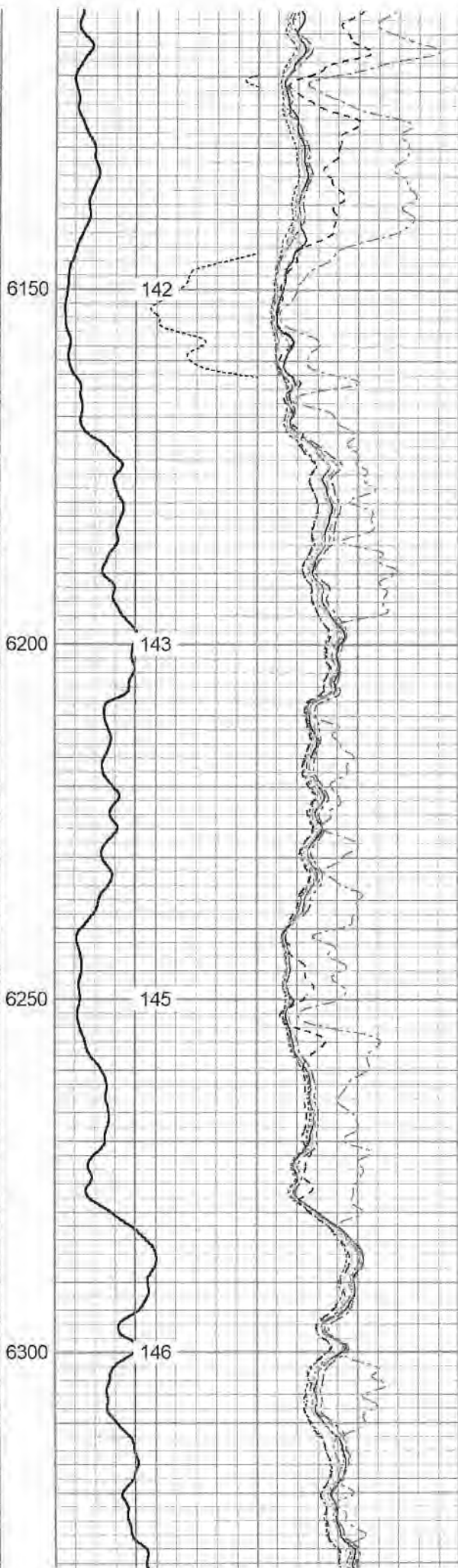
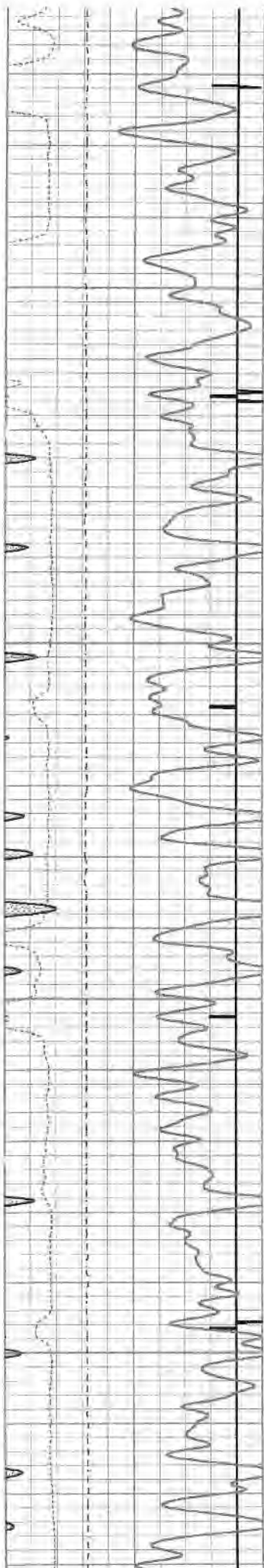


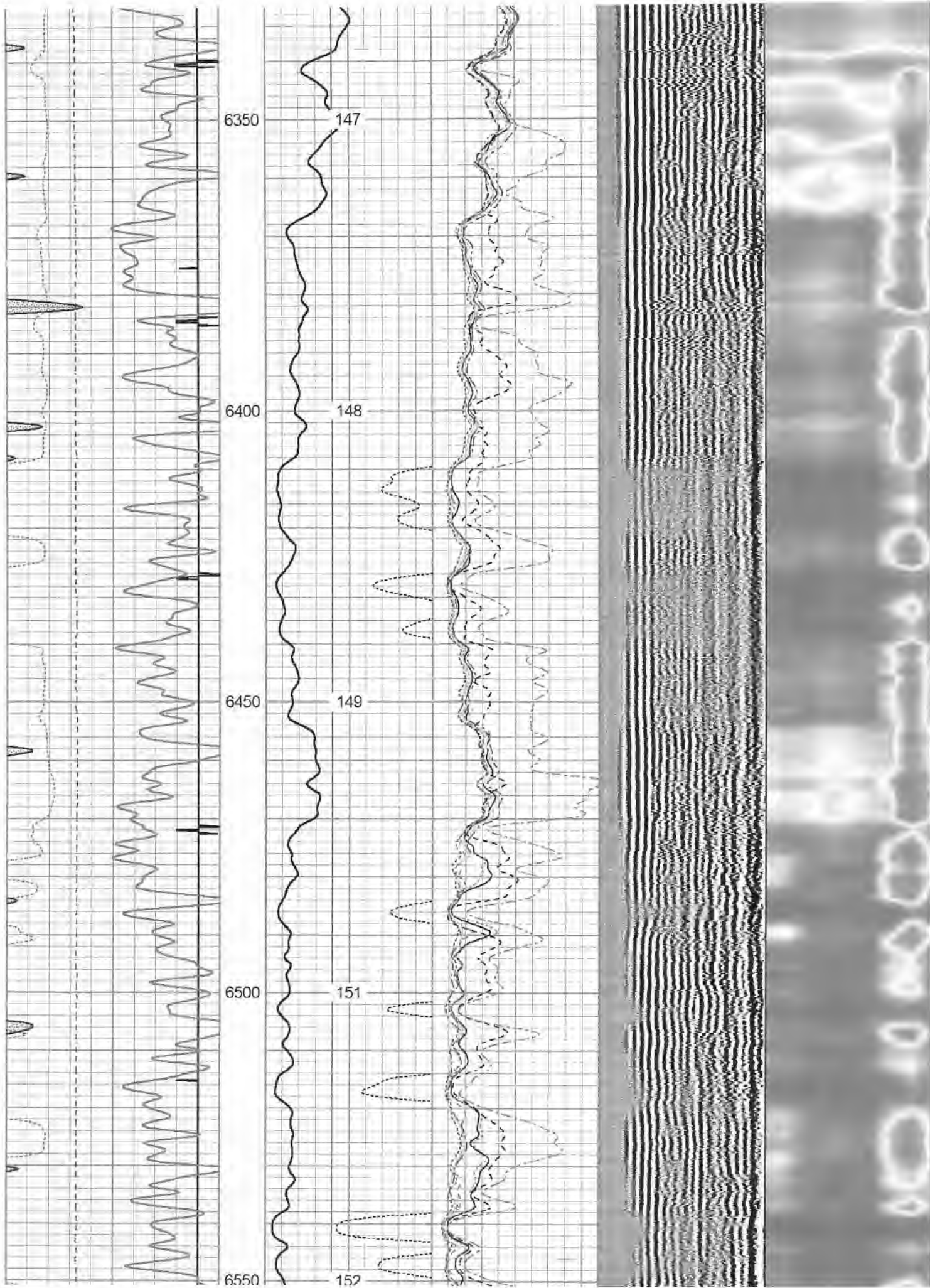


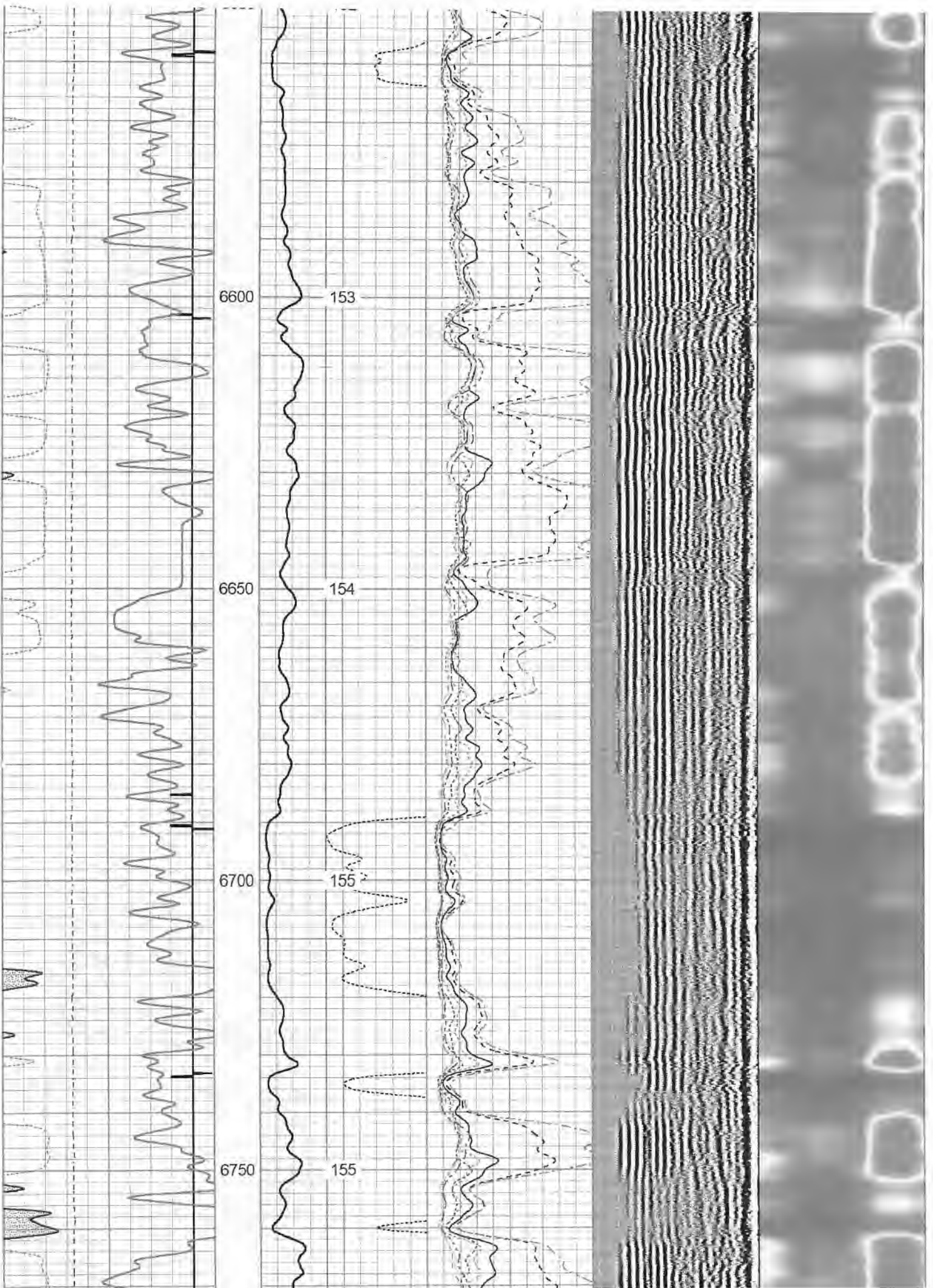
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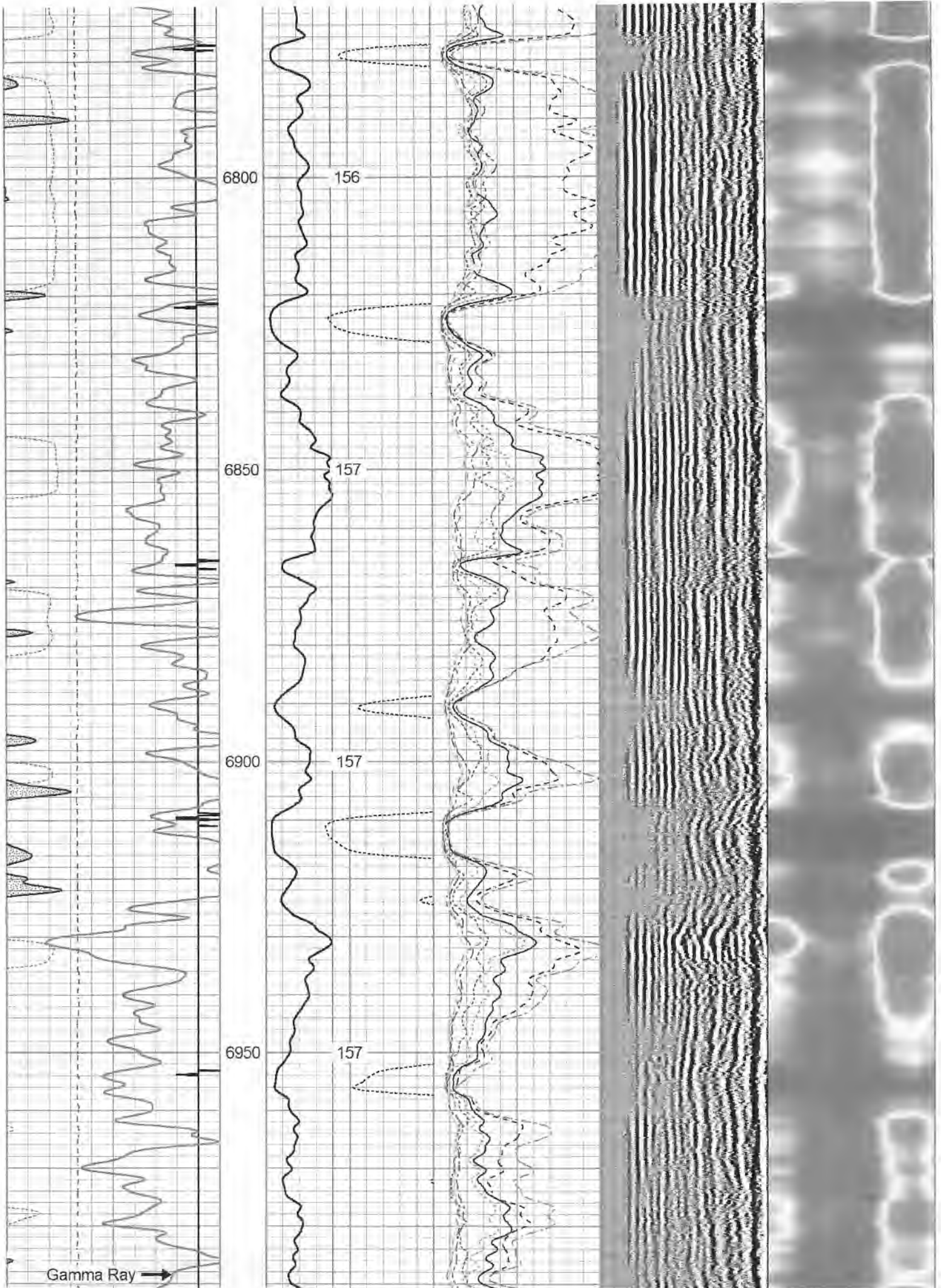


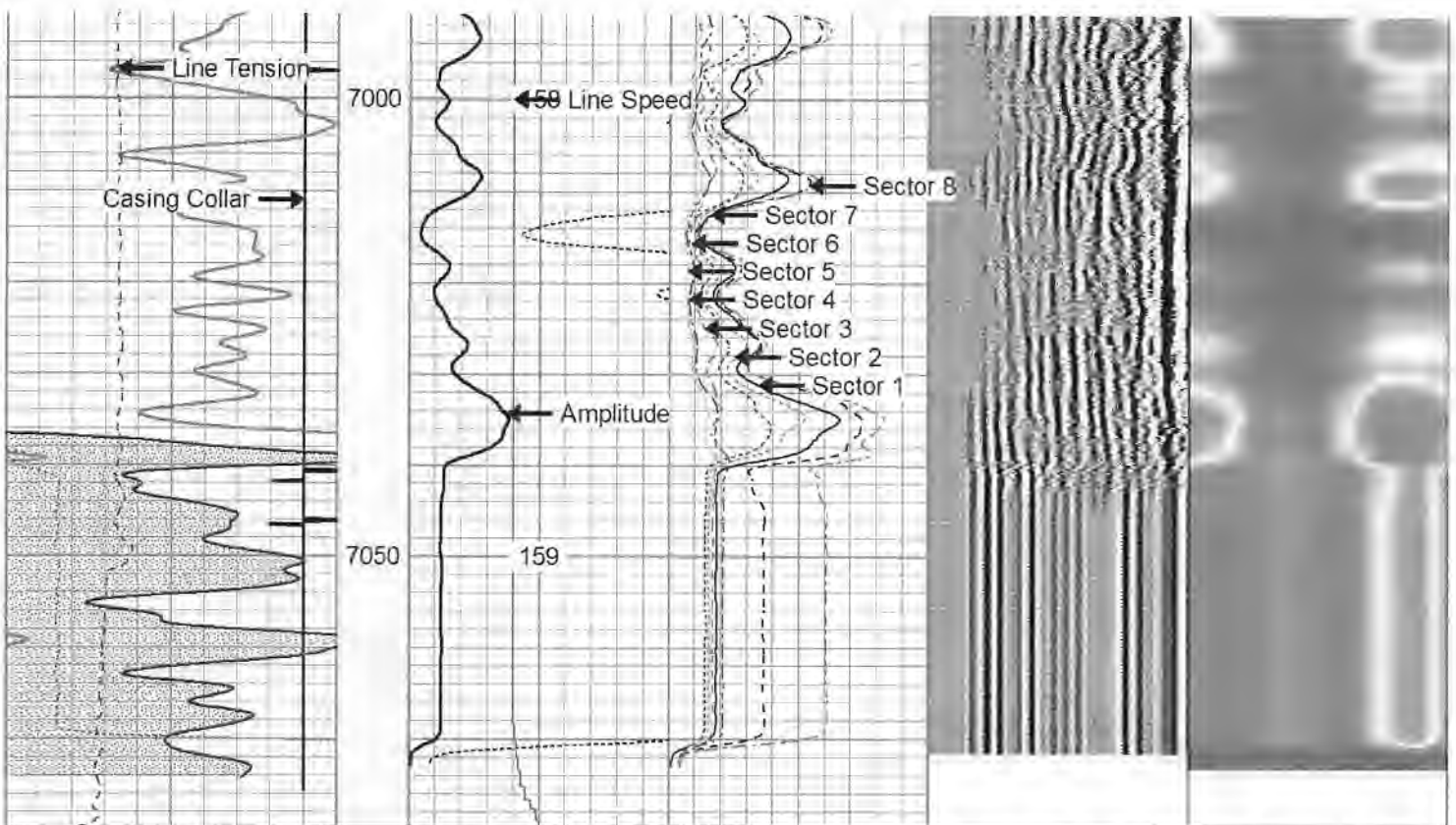













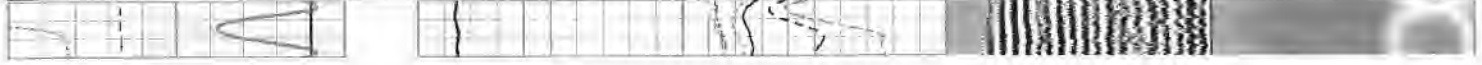
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9	Casing Collar	-1		Amplified Amplitude		-5	Sector 2	150	200 (usec)	1200		
0	Gamma Ray (GAPI)	150	0	(mV)	10	-5	Sector 3	150				
0	Line Tension (lb)	5000		Line Speed		-5	Sector 4	150				
			-500	(ft/min)	500	-5	Sector 5	150				
				TEMP		-5	Sector 6	150				
				(degF)		-5	Sector 7	150				
						-5	Sector 8	150				

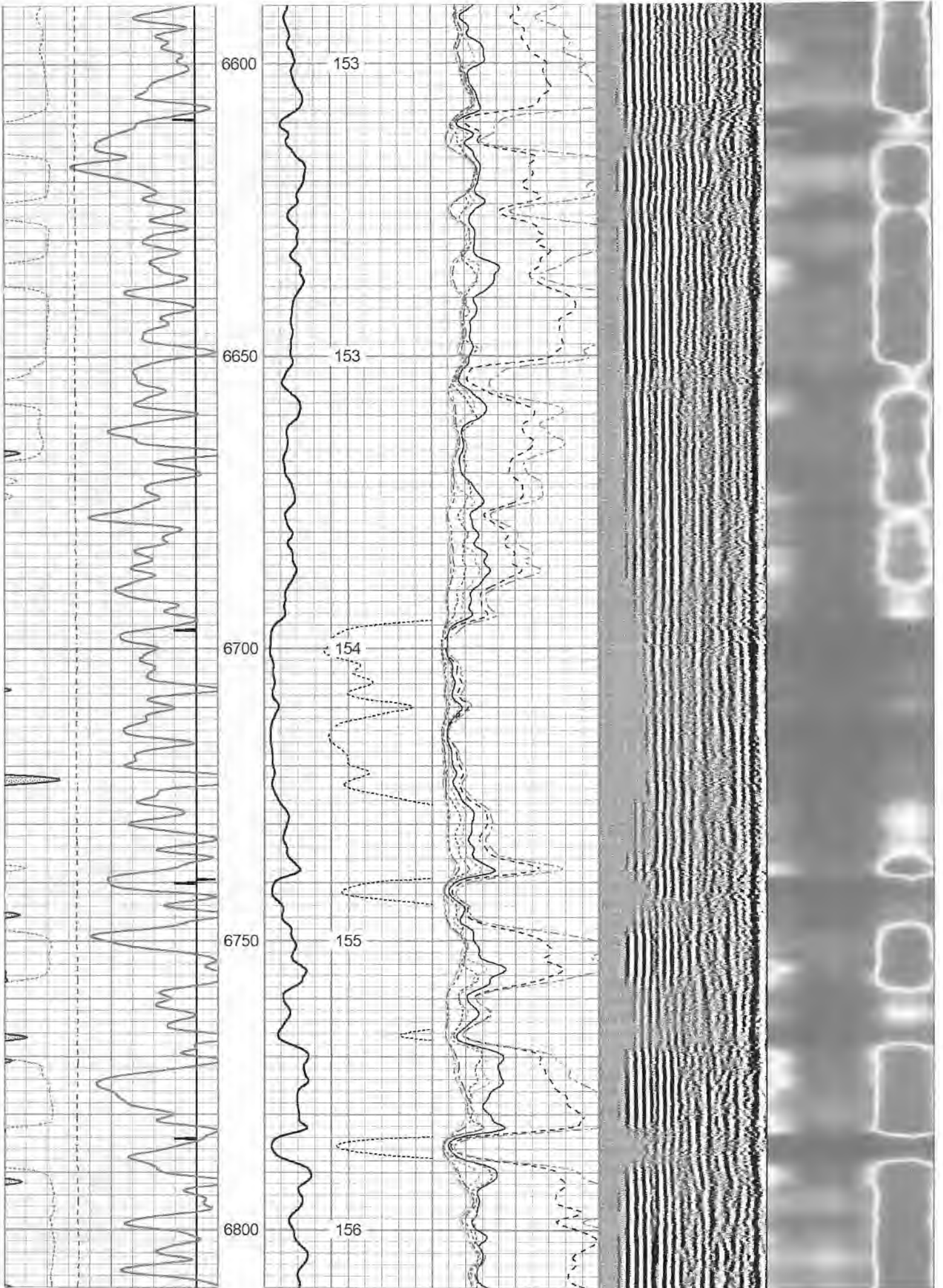


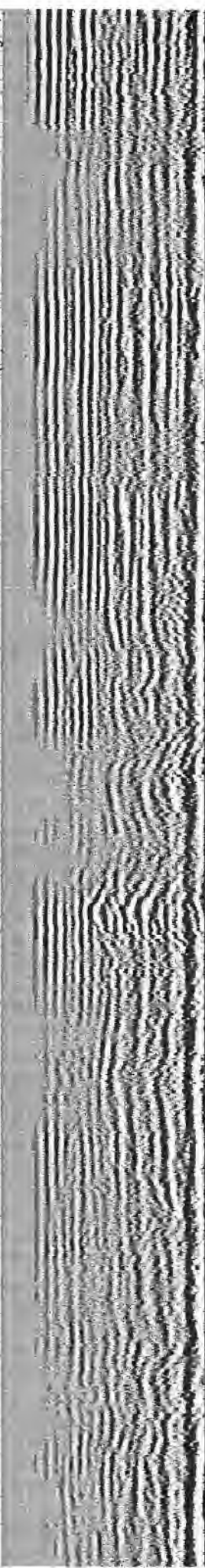
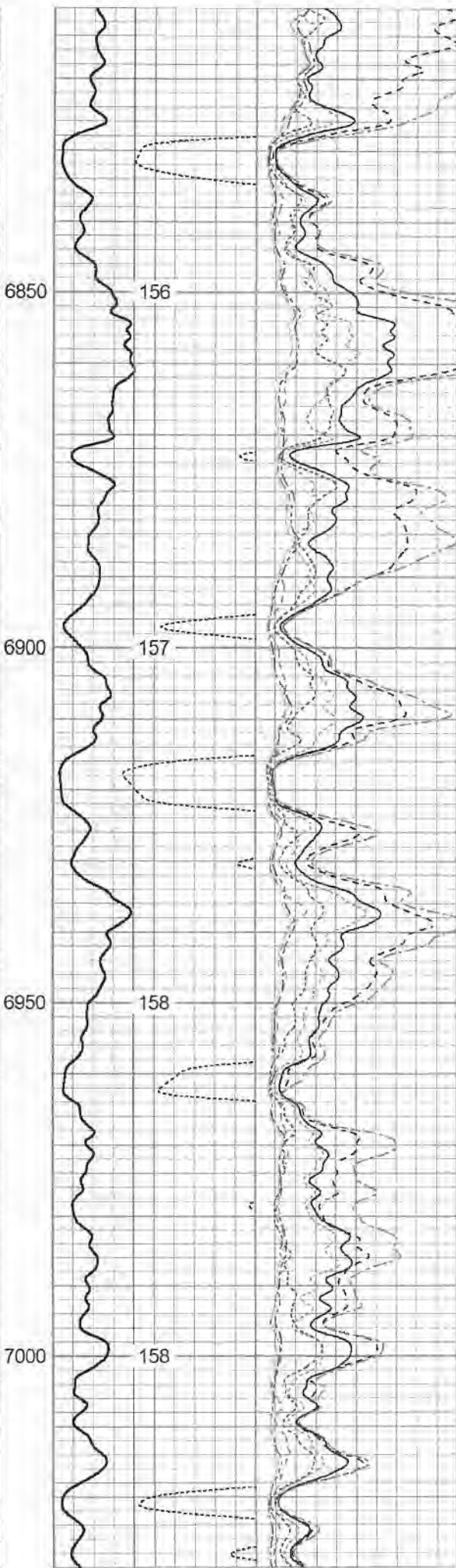
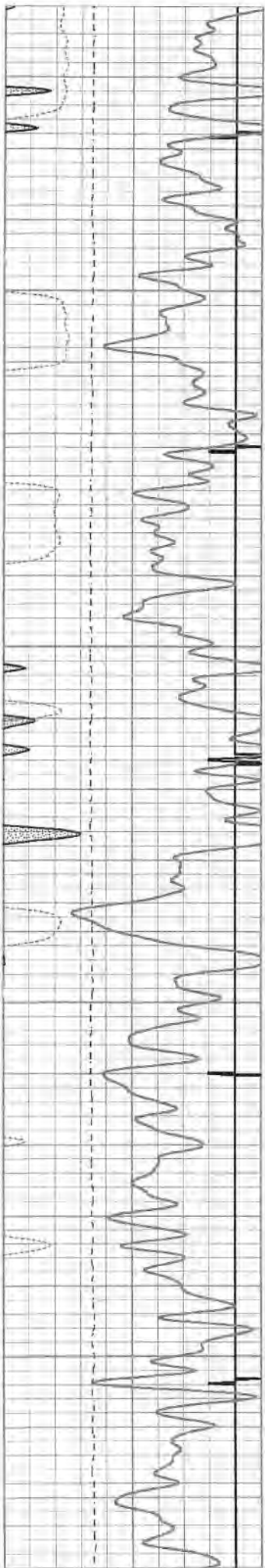
Repeat Pass 0 PSI

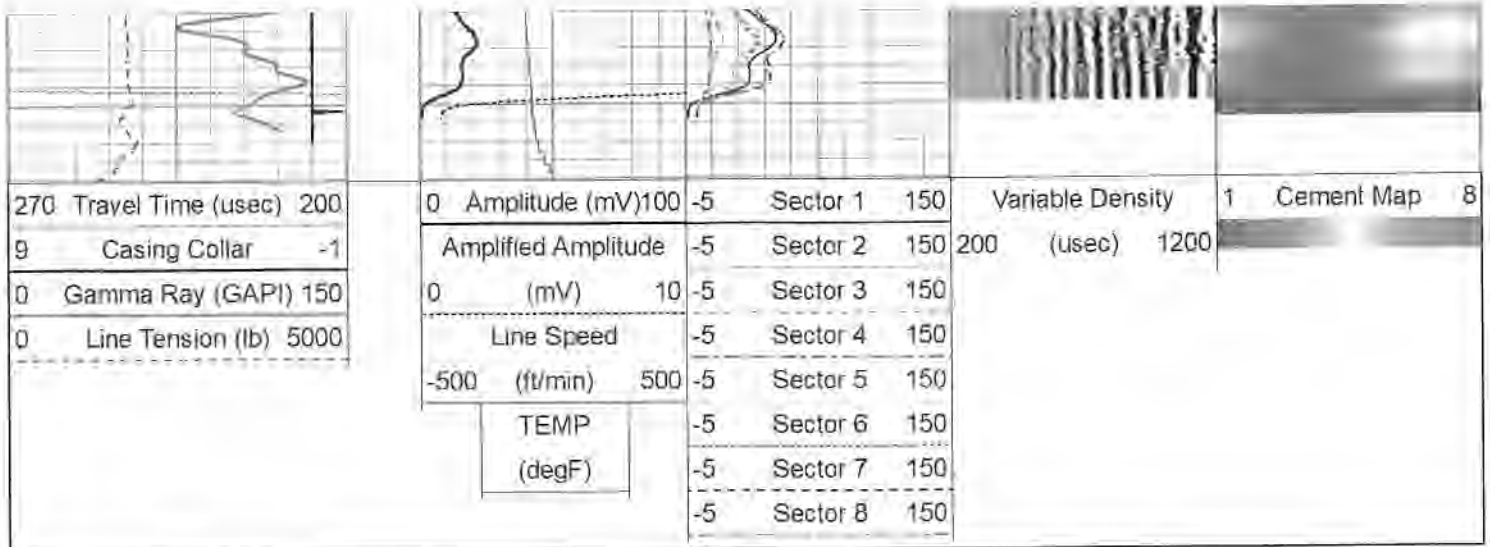
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 Dataset Pathname Rabbit_Ears/Maggie_3H/RCBL_1/pass2
 Presentation Format 9rcbl
 Dataset Creation Sat May 02 16:35:35 2020
 Charted by Depth in Feet scaled 1:240

270	Travel Time (usec)	200	0	Amplitude (mV)	100	-5	Sector 1	150	Variable Density	1	Cement Map	8
9	Casing Collar	-1		Amplified Amplitude		-5	Sector 2	150	200 (usec)	1200		
0	Gamma Ray (GAPI)	150	0	(mV)	10	-5	Sector 3	150				
0	Line Tension (lb)	5000		Line Speed		-5	Sector 4	150				
			-500	(ft/min)	500	-5	Sector 5	150				
				TEMP		-5	Sector 6	150				
				(degF)		-5	Sector 7	150				
						-5	Sector 8	150				









Log Variables

Database: C:\ProgramData\Warrior\Data\antero_gamehengeeast_maggie3h_rcbl_nineenergy_may_2020.db
 Dataset: Rabbit_Ears/Maggie_3H/RCBL_1/pass4.1/_vars_

Top - Bottom

BHTEMP_Src	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	CASEWGHT lb/ft	MAXAMPL mV	MINAMPL mV
TEMP	7.875	150	5.5	0.361	20	72	2.2
MINATTN db/ft	PERFS	PPT usec	SRFTEMP degF	TDEPTH ft			
10.8	No	0	0	0			

Variable Description

BHTEMP_Src : BHTEMP Input Source Selector
 BOREID : Borehole I.D.
 BOTTEMP : Bottom Hole Temperature
 CASEOD : Casing O.D.
 CASETHCK : Casing Thickness
 CASEWGHT : Casing Weight
 MAXAMPL : Maximum Amplitude

MINAMPL : Minimum Amplitude
 MINATTN : Minimum Attenuation
 PERFS : Perforation Flag
 PPT : Predicted Pipe Time
 SRFTEMP : Surface Temperature
 TDEPTH : Total Depth

Calibration Report

Database File: antero_gamehengeeast_maggie3h_rcbl_nineenergy_may_2_2020.db
 Dataset Pathname: Rabbit_Ears/Maggie_3H/RCBL_1/pass4.1
 Dataset Creation: Sat May 02 17:49:32 2020

Gamma Ray Calibration Report

Serial Number: FW1211-86
 Tool Model: Probe
 Performed: Thu Dec 19 22:27:19 2019

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 1.0 cps

Sensitivity: 0.8000 GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number: FW1312-32
 Tool Model: Probe275T

SM

Calibration Casing Diameter: 5.500 in
 Calibration Depth: 25.000 ft

Master Calibration, performed Sat May 02 16:28:58 2020:


	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.016	0.864	2.200	71.921	138.210	0.797
CAL	0.992	0.995				
5'	0.015	0.861	2.200	71.921	132.447	0.965
SUM						
S1	0.048	0.877	2.200	100.000	187.994	-3.459
S2	0.008	0.857	2.200	100.000	185.194	1.263
S3	0.006	0.846	2.200	100.000	186.416	1.489
S4	0.006	0.846	2.200	100.000	186.503	1.489
S5	0.005	0.854	2.200	100.000	185.297	1.578
S6	0.005	0.862	2.200	100.000	184.216	1.573
S7	0.005	0.857	2.200	100.000	184.798	1.627
S8	0.007	0.854	2.200	100.000	185.533	1.371

Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.992	0.995	1.000	0.000

Air Zero Calibration, performed Sat May 02 16:02:13 2020:

	Raw (v)		Calibrated (v)		Results	
	Zero		Zero		Gain	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

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			CHD-Titan Titan 1 7/16" GO Cablehead	1.00	1.44	5.00
			CENT-Overbody Antelope (SP-919-0233)	1.67	4.88	5.00

Temp	11.27					
WVFS8	9.03		RBT-Probe275T (FW1312-32) Probe 2.75" Radial with Integral Temperature Sub	9.39	2.75	90.00
WVFS7	9.03					
WVFS6	9.03					
WVFS5	9.03					
WVFS4	9.03					
WVFS3	9.03					
WVFS2	9.03					
WVFS1	9.03					
WVF3FT	9.03					
WVF5FT	8.03					
HeadVolt	4.78					
WVFCAL	4.78					
CCL	3.88					
GR	2.54		GR-Probe (FW1211-86) Probe 2 3/4" Logging Gamma Ray	4.78	2.75	57.00
			CENT-Overbody Antelope (SP-919-0233)	1.67	4.88	5.00

Dataset: antero_gamehengeeast_maggie3h_rcbl_nineenergy_may_2_2020.db: Rabbit_Ears/Maggie_3H/RCBL_1/pass4.1
 Total length: 15.17 ft
 Total weight: 162.00 lb
 O.D.: 4.88 in

	Company	Antero Resources
	Well	Maggie 3H
	Field	Rabbit Ears
	County	Tyler
	State	West Virginia