



**RADIAL
BOND
LOG**

Company ANTERO RESOURCES
Well VISHNU 1H
Field RABBIT EARS
County TYLER
State WV

Company ANTERO RESOURCES
Well VISHNU 1H
Field RABBIT EARS
County TYLER State WV

Location: API #:

SEC TWP RGE

Permanent Datum GL Elevation 25'

Log Measured From KB

Drilling Measured From KB

Other Services
GR
CCL

Elevation
K.B. N/A
D.F. N/A
G.L. N/A

Date 9-MAY-2021

Run Number ONE

Depth Driller 23174'

Depth Logger 6906'

Bottom Logged Interval 6892'

Top Log Interval SURFACE

Open Hole Size 8 5/8"

Type Fluid FRESH WATER

Density / Viscosity 8.3#

Max. Recorded Temp. 144°F

Estimated Cement Top 5870'

Time Well Ready 11:50

Time Logger on Bottom 12:40

Equipment Number TK-111

Location CHARLEROI, PA

Recorded By D.JOSEPHIK

Witnessed By DANIEL MARTINEZ

Run Number Bit From To Size

Borehole Record

Run Number Bit From To Size

Run Number Bit From To Size

Run Number Bit From To Size

Run Number Bit From To Size

Run Number Bit From To Size

Run Number Bit From To Size

Run Number Bit From To Size

Run Number Bit From To Size

Run Number Bit From To Size

Tubing Record
Weight From To

Weight From To

Weight From To

Weight From To

Weight From To

Weight From To

Weight From To

Weight From To

Weight From To

Weight From To

<<< Fold Here >>>

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

Comments

**LOG CORRELATED TO MARKER JOINT PER CASING TALLY
MARKER JOINT @ 6036'-6046'**


**FREE PIPE= 71.9mv
BONDED PIPE= 2.2mv**

ETOC @ 5870'

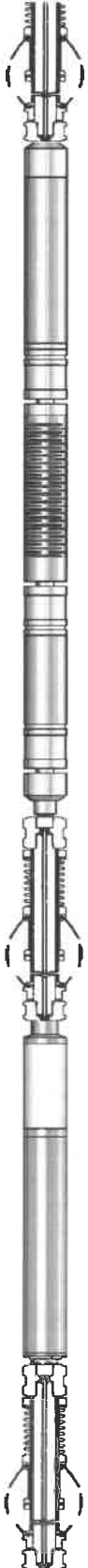

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FEB 10 2022

WV Department of
Environmental Protection

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			CHD-Titan Standard 1 7/16" Cable Head	1.02	1.44	1.00

SM

						
			CENT-Titn275Adj Titan 2 3/4" Adjustable Centralizer	2.86	2.75	35.00
HeadVolt	19.83					
Temp	16.98					
			RBT-Probe275T (FW1312-32) Probe 2.75" Radial with Integral Temperature Sub	9.39	2.75	90.00
WVFS8	14.75					
WVFS7	14.75					
WVFS6	14.75					
WVFS5	14.75					
WVFS4	14.75					
WVFS3	14.75					
WVFS2	14.75					
WVFS1	14.75					
WVF3FT	14.75					
WVF5FT	13.75					
WVFCAL	10.50					
HEADVOLT	10.50					
			CENT-Titn275Adj Titan 2 3/4" Adjustable Centralizer	2.86	2.75	35.00
CCL	6.73					
GR	5.40		GR-Probe (FW1211-86) Probe 2 3/4" Logging Gamma Ray	4.78	2.75	57.00
			CENT-Titn275Adj Titan 2 3/4" Adjustable Centralizer	2.86	2.75	35.00

Dataset: antero_vishnu_1h_may_9_2021_rcbl.db: field/well/run1/MAIN
 Total length: 23.77 ft
 Total weight: 253.00 lb
 O.D.: 2.75 in

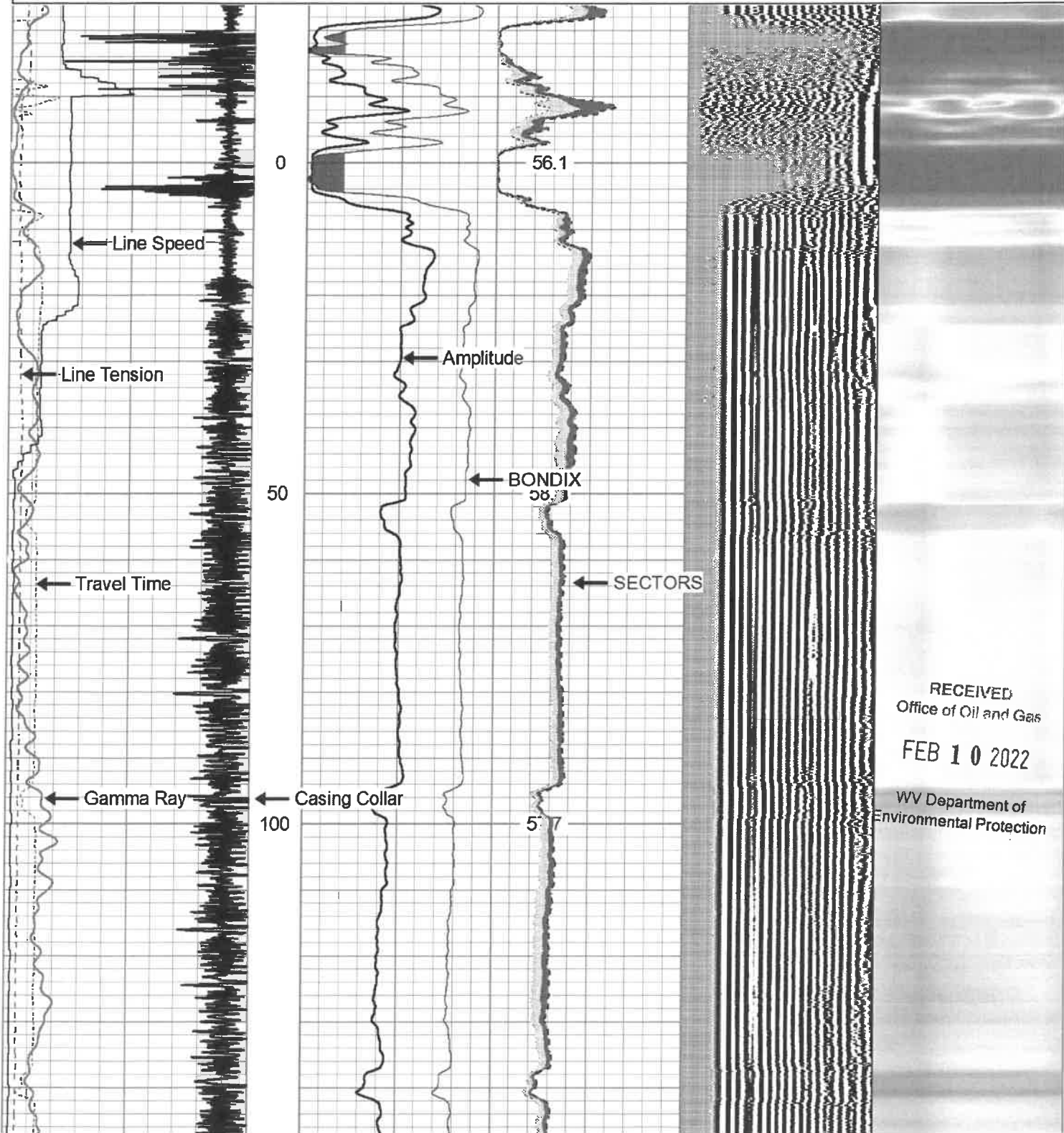


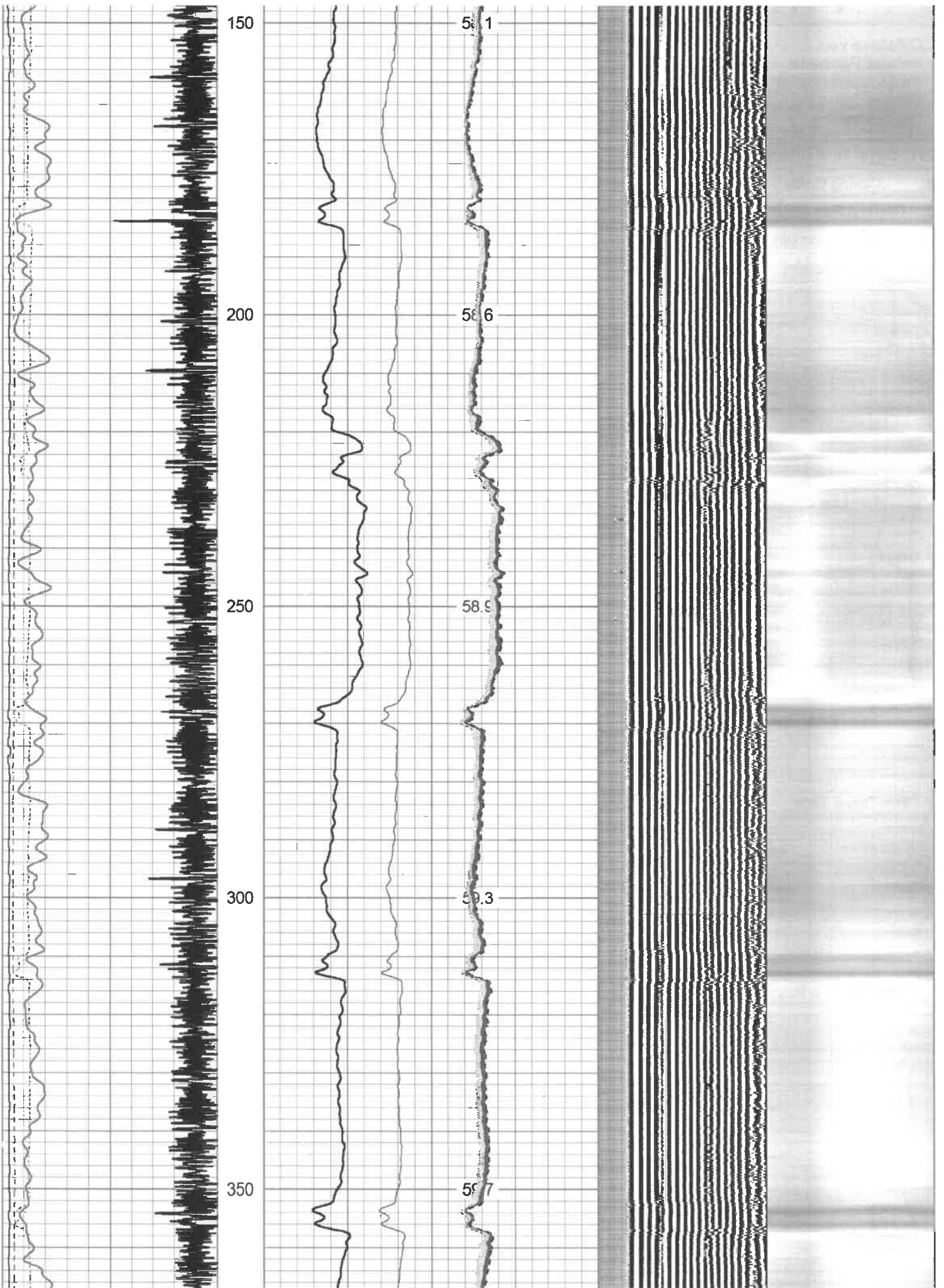
MAIN LOG

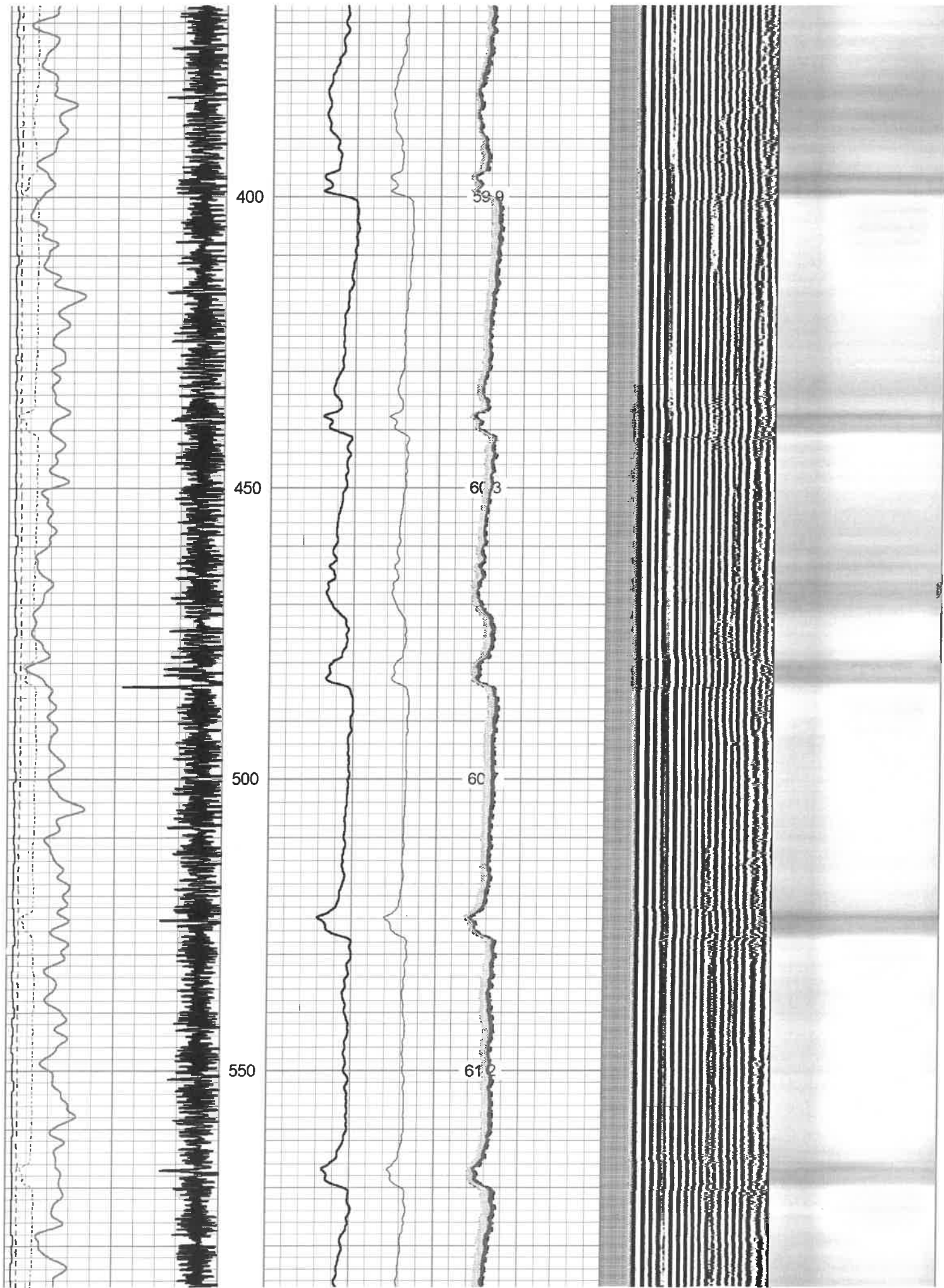
1500 PSI APPLIED

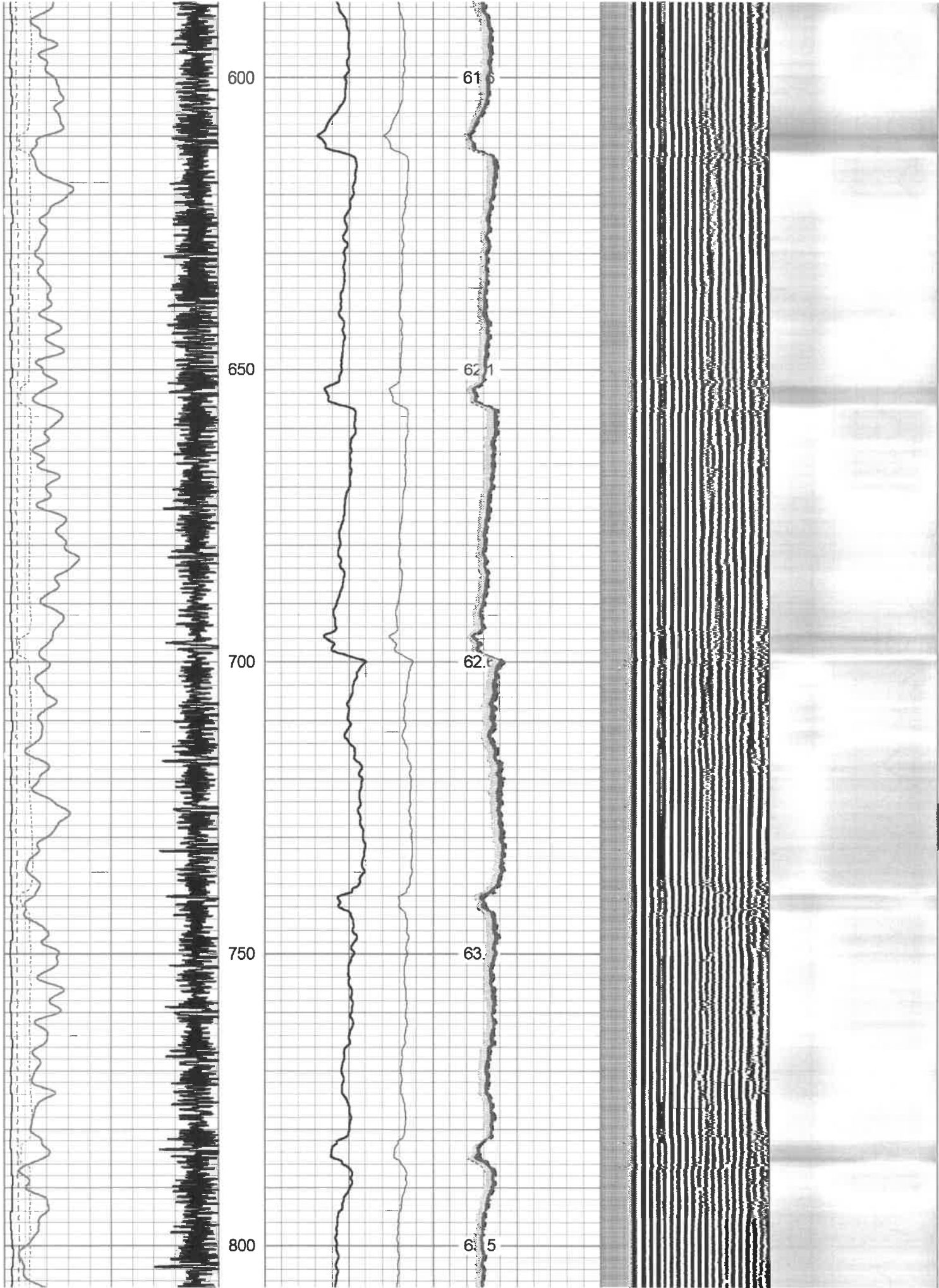
Database File antero_yishnu_1h_may_9_2021_rcbl.db
 Dataset Pathname MAIN
 Presentation Format scbl03
 Dataset Creation Sun May 09 13:13:21 2021
 Charted by Depth in Feet scaled 1:240

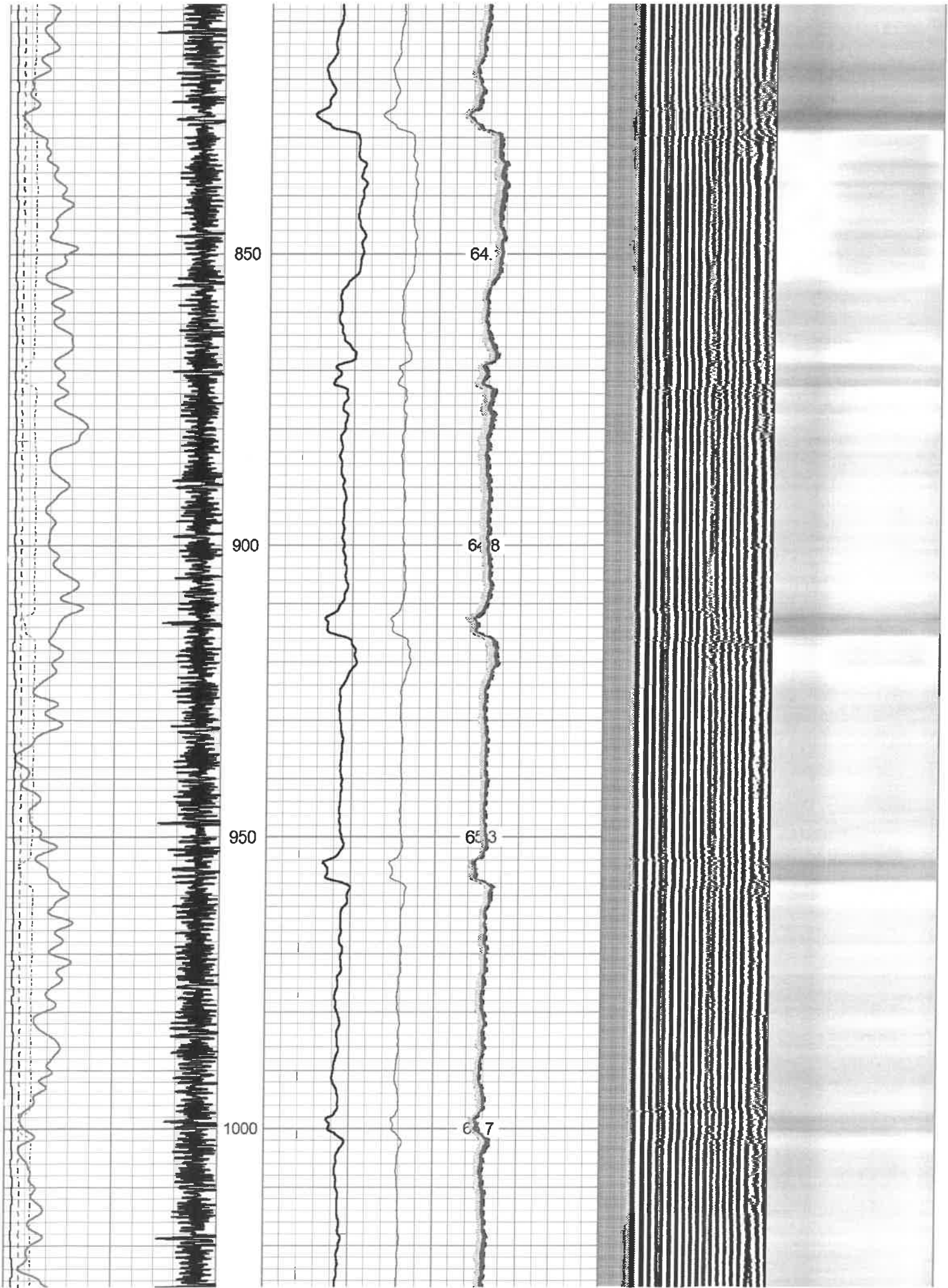
291	Travel Time (usec)	191	0	Amplitude (mV)	100	0	AMPMIN	150	Variable Density	1	Cement Map	8
9	Casing Collar	-1	1	BONDIX	0	0	AMPMAX	150	200 (usec)	1200		
0	Gamma Ray (GAPI)	150	0	AMPAVG	150							
0	Line Tension (lb)	5000		TEMP								
-100	LSPD (ft/min)	100		(degF)								

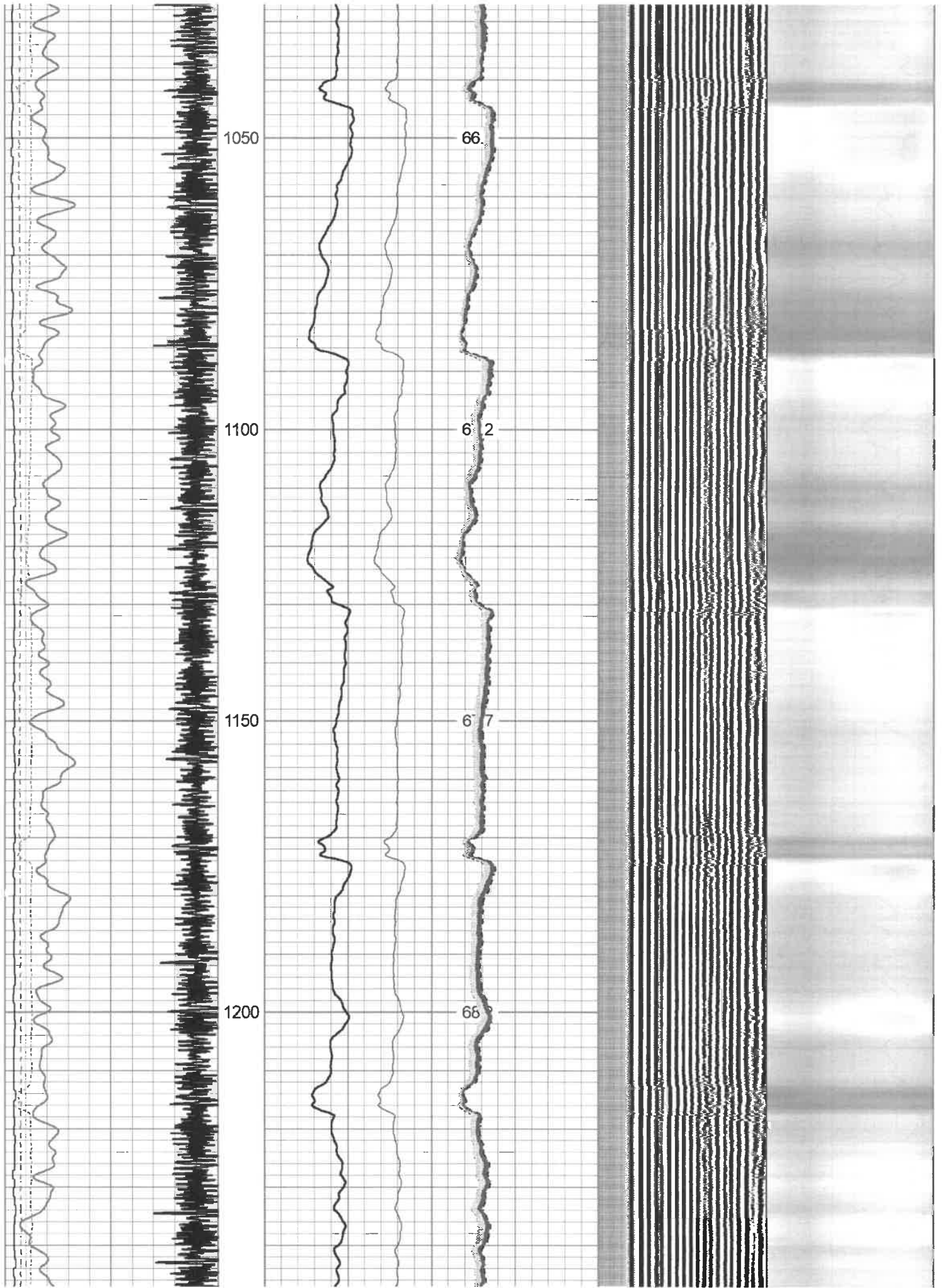


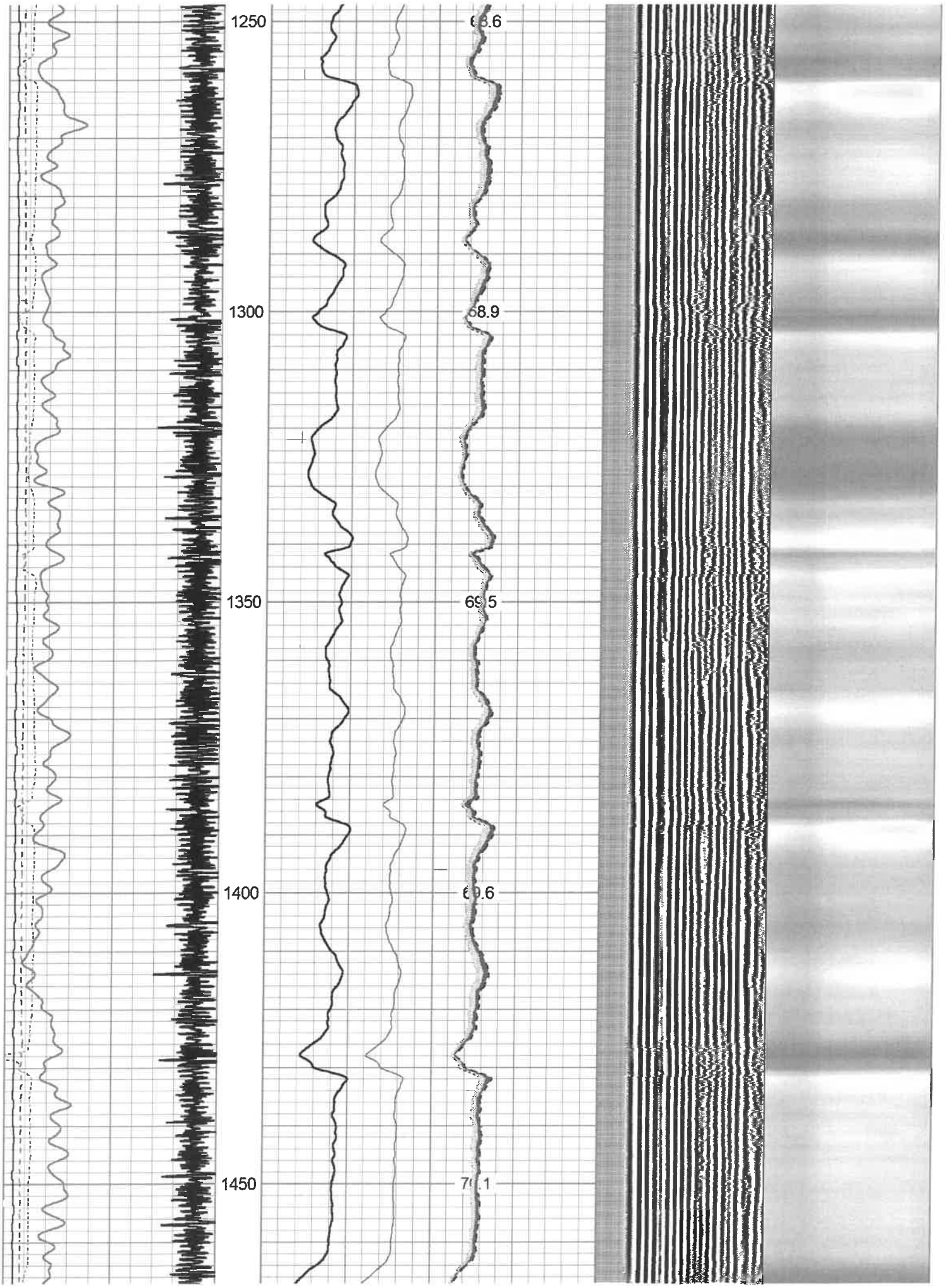


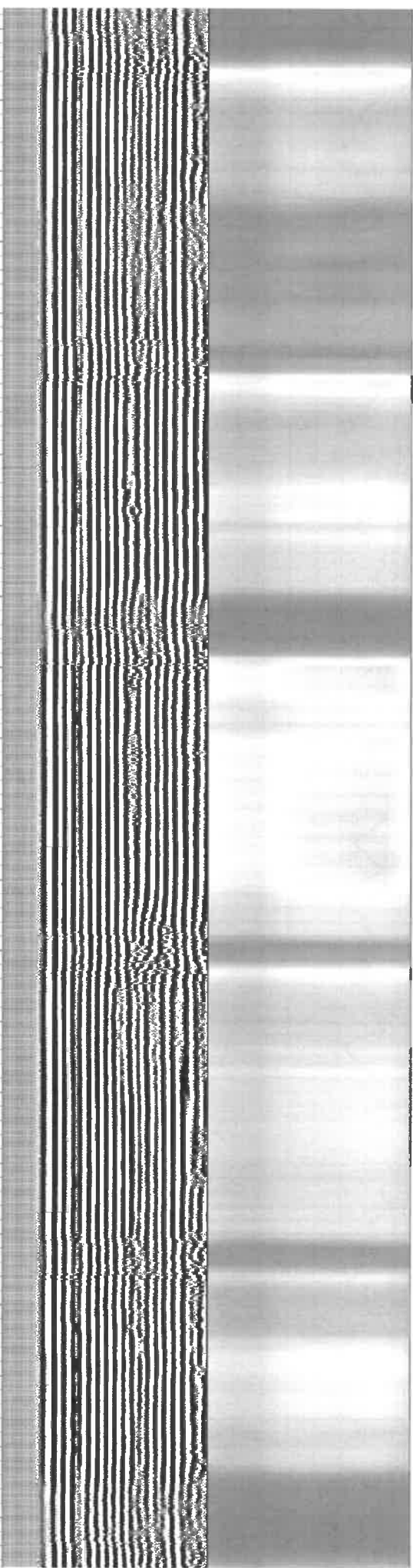
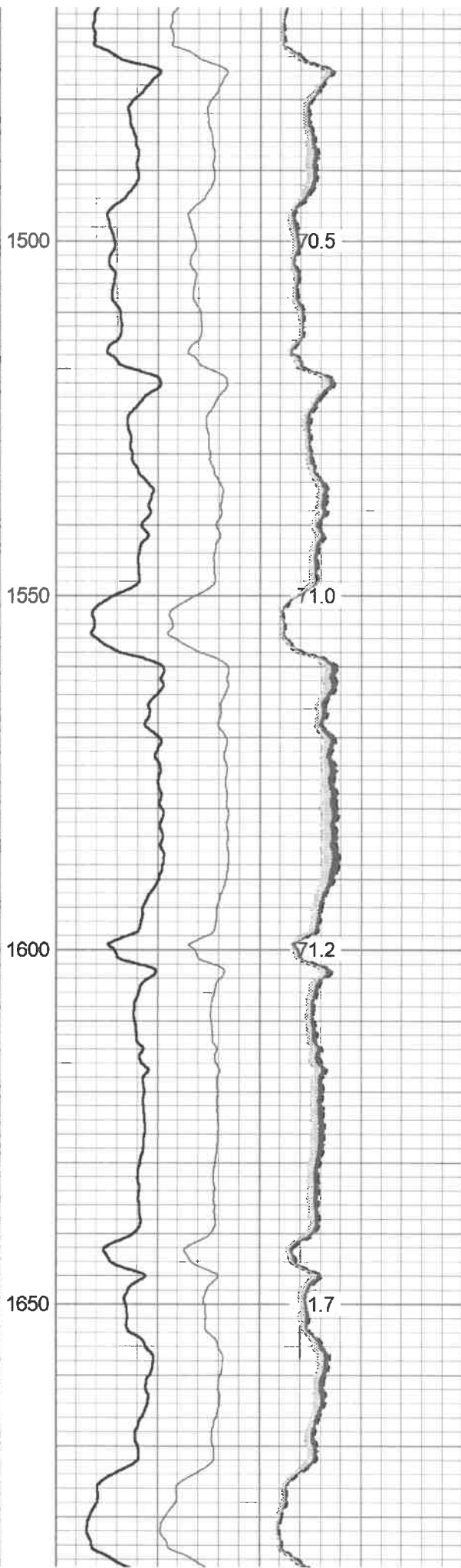
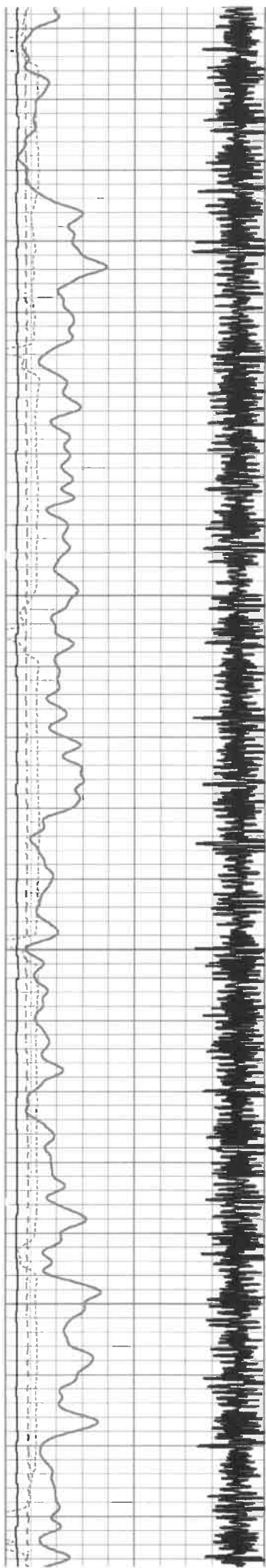


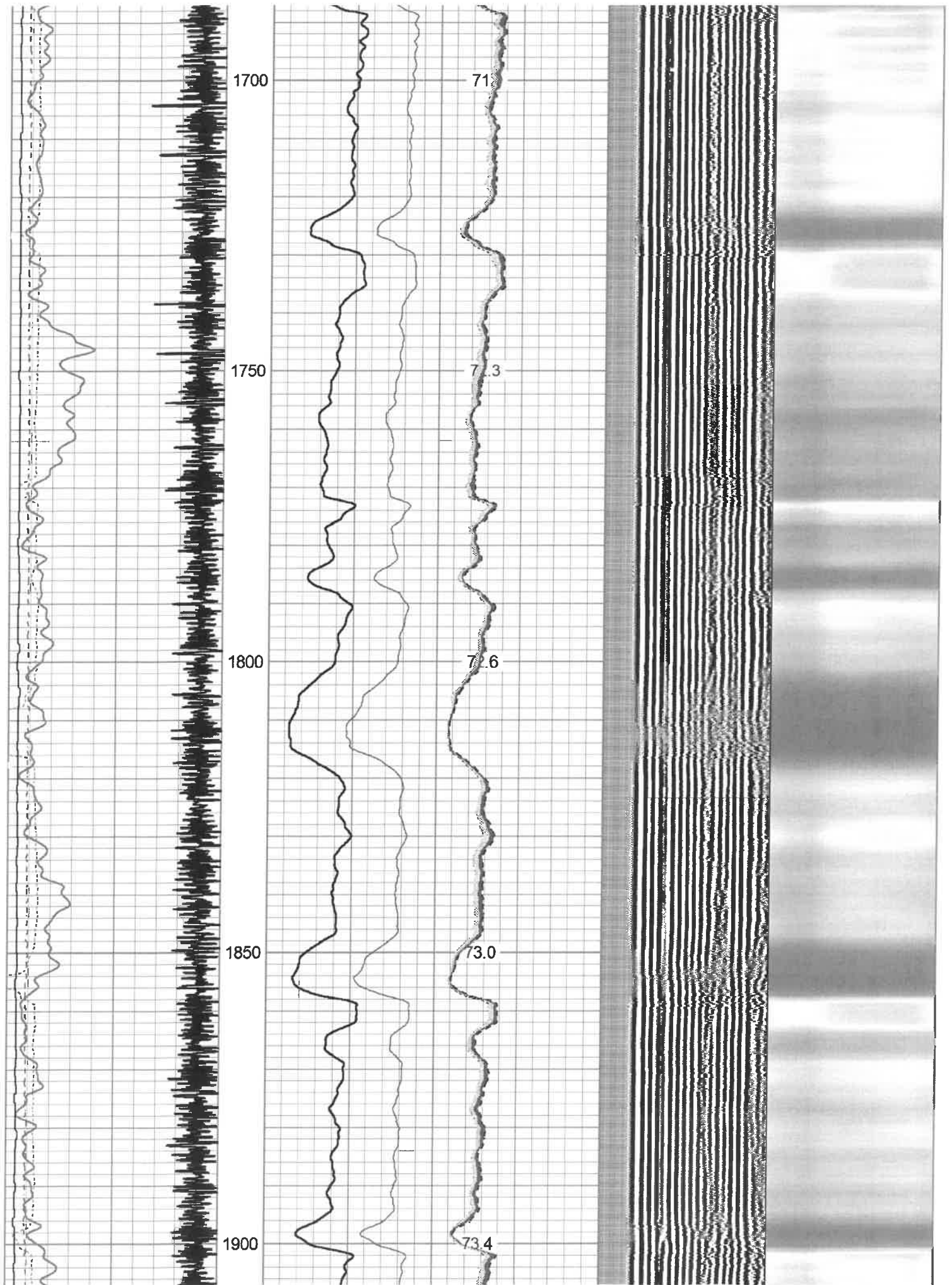


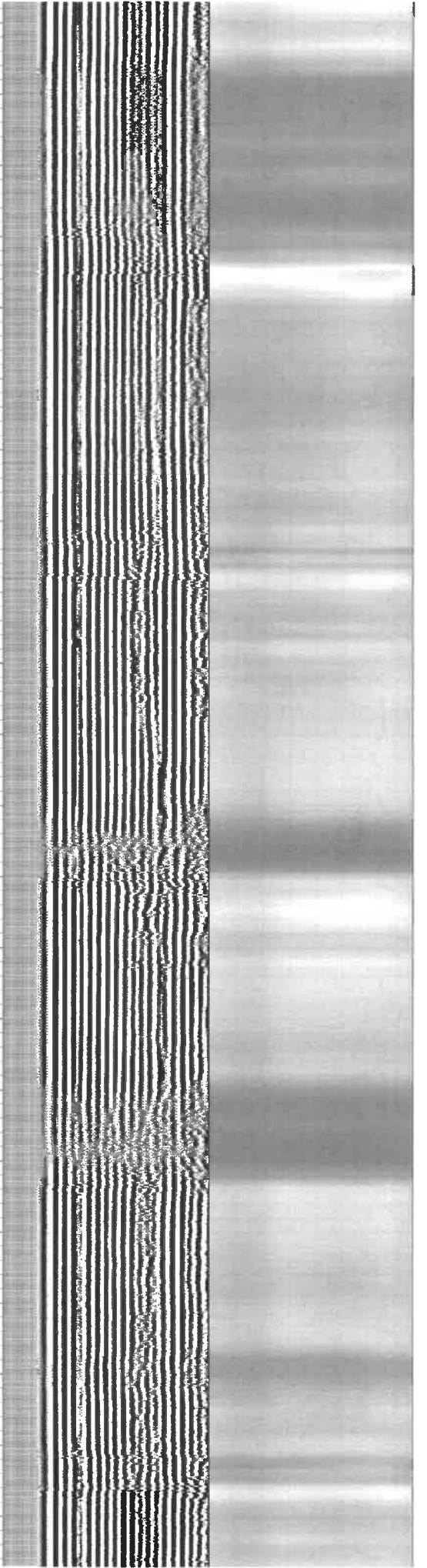
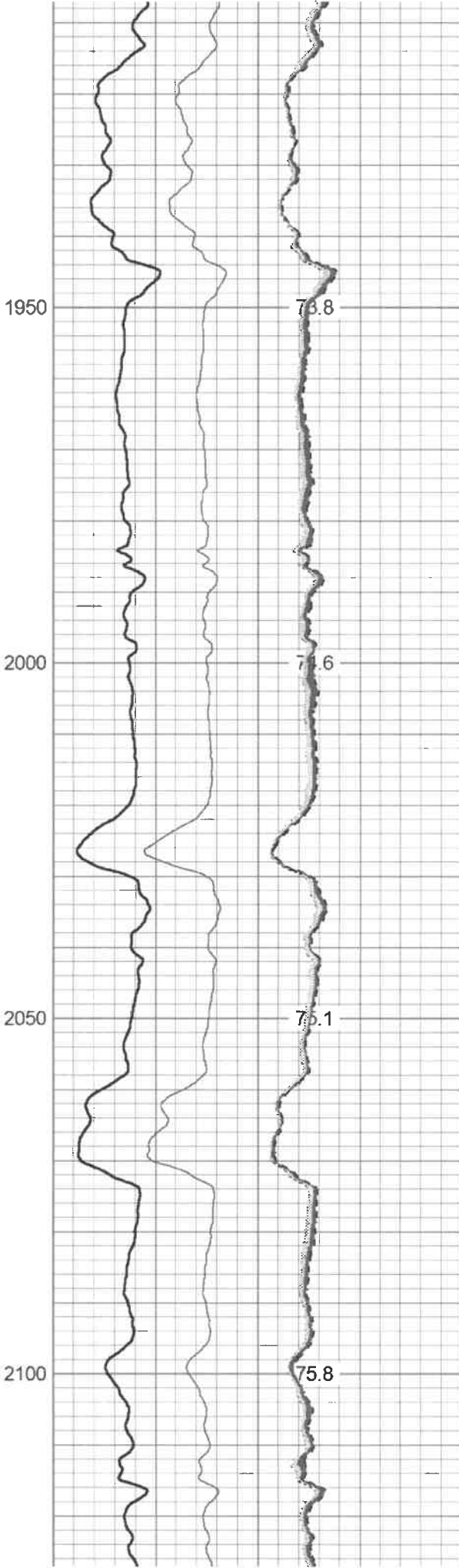
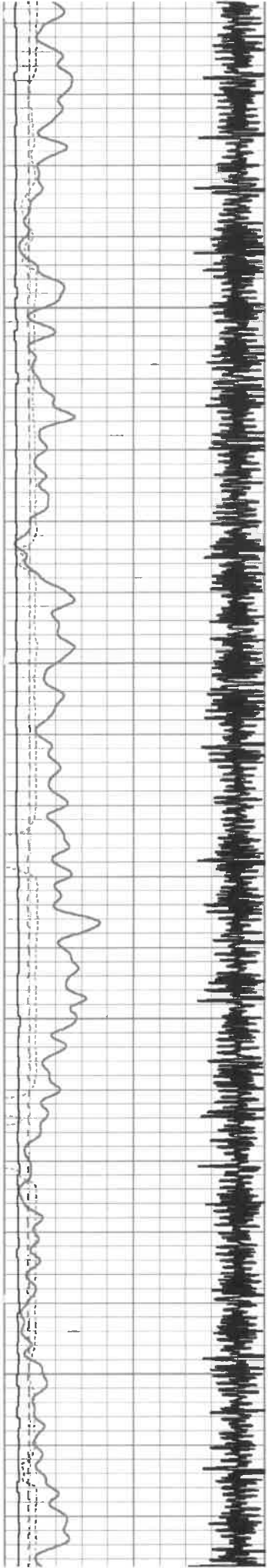


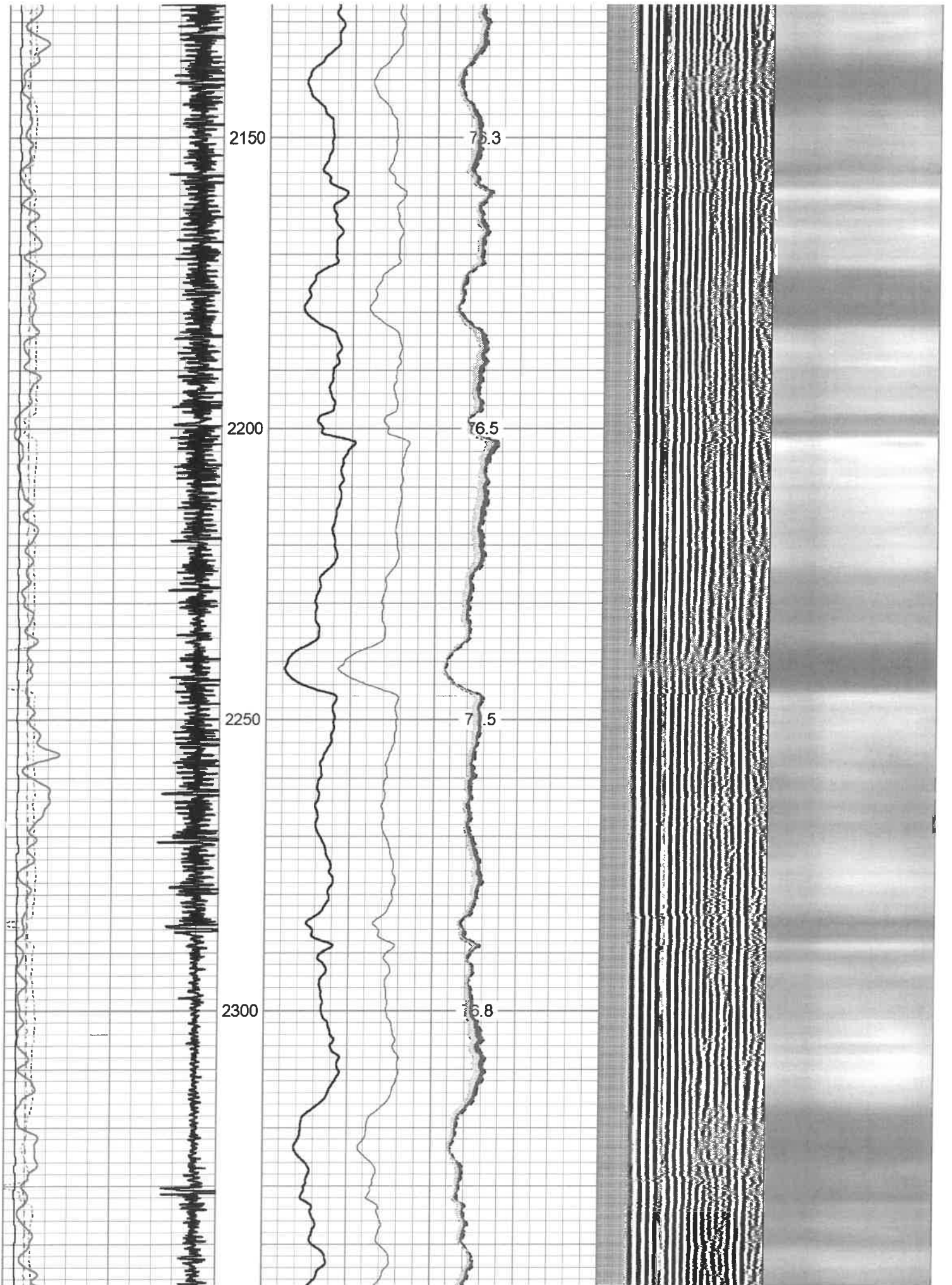


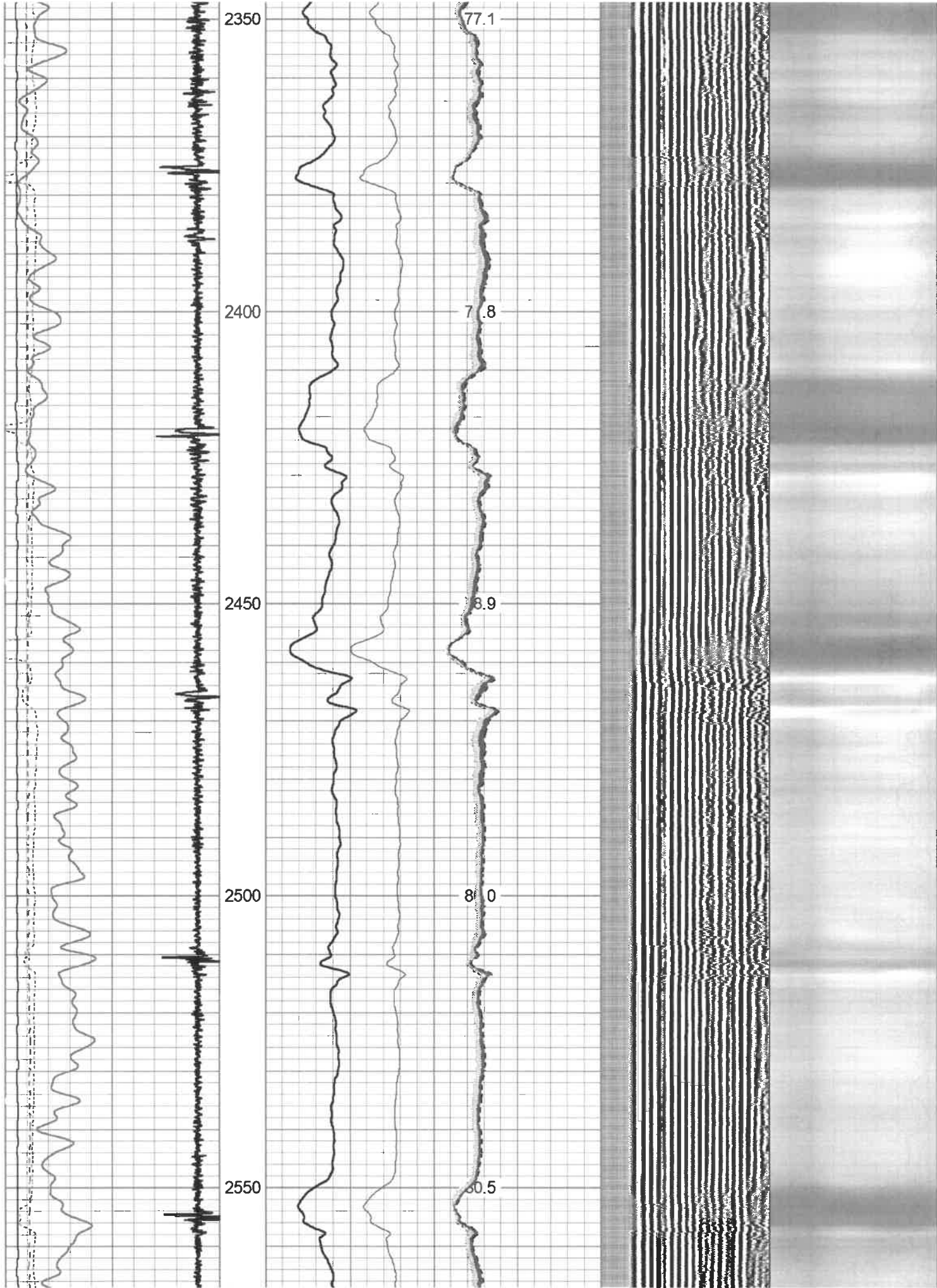


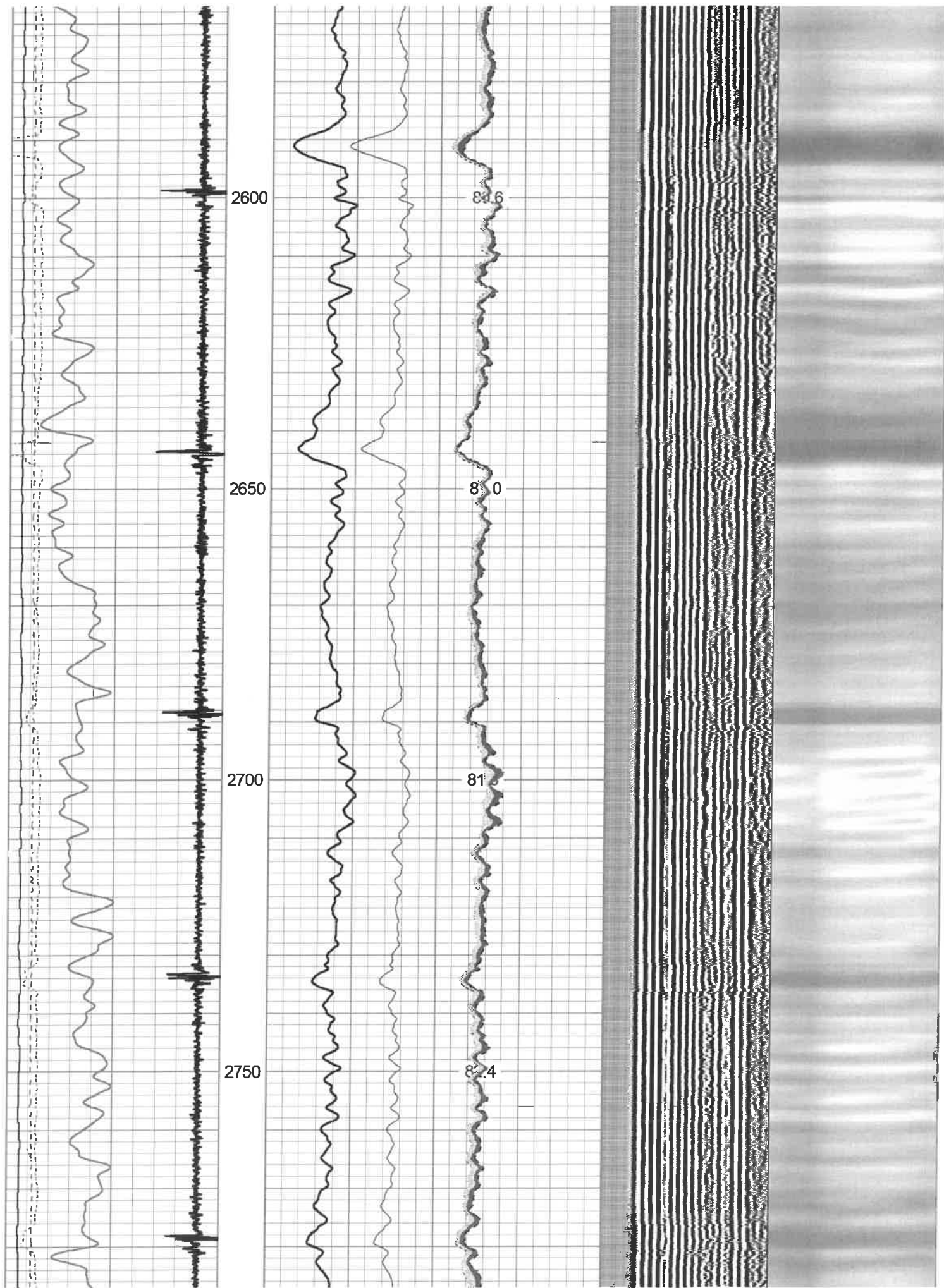


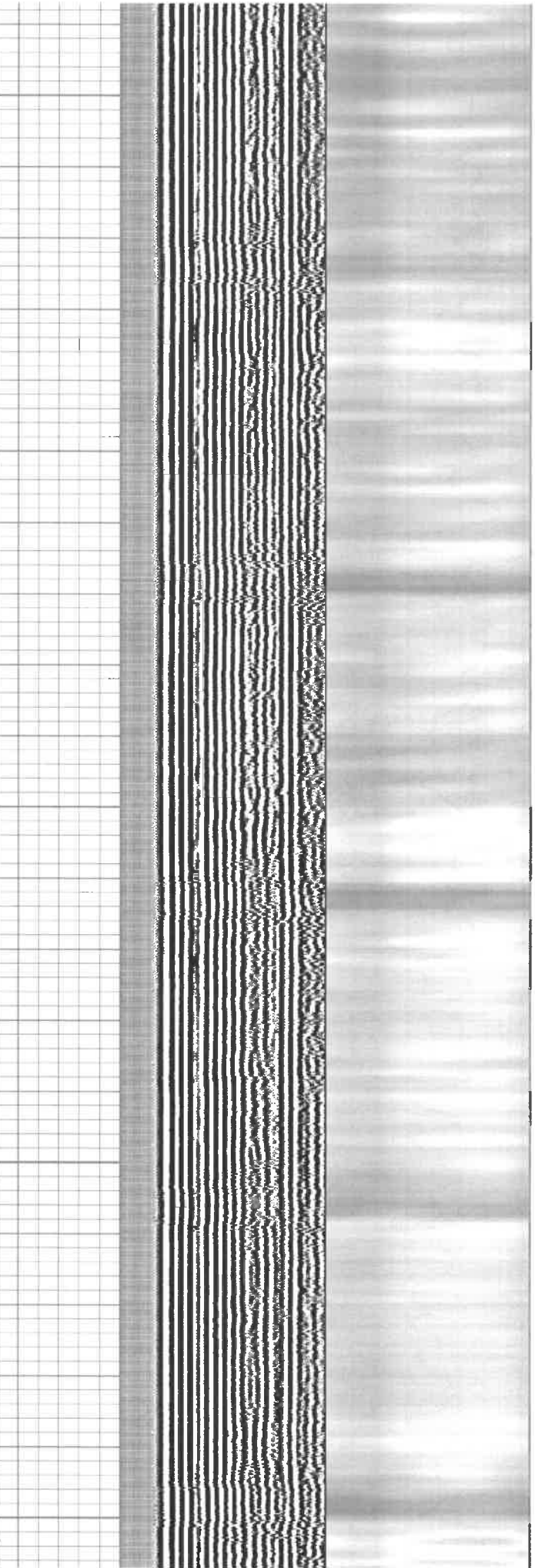
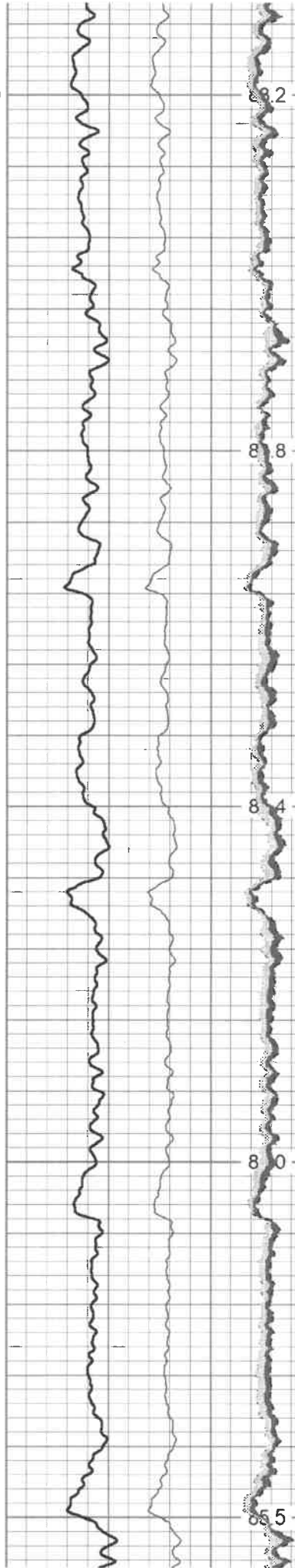
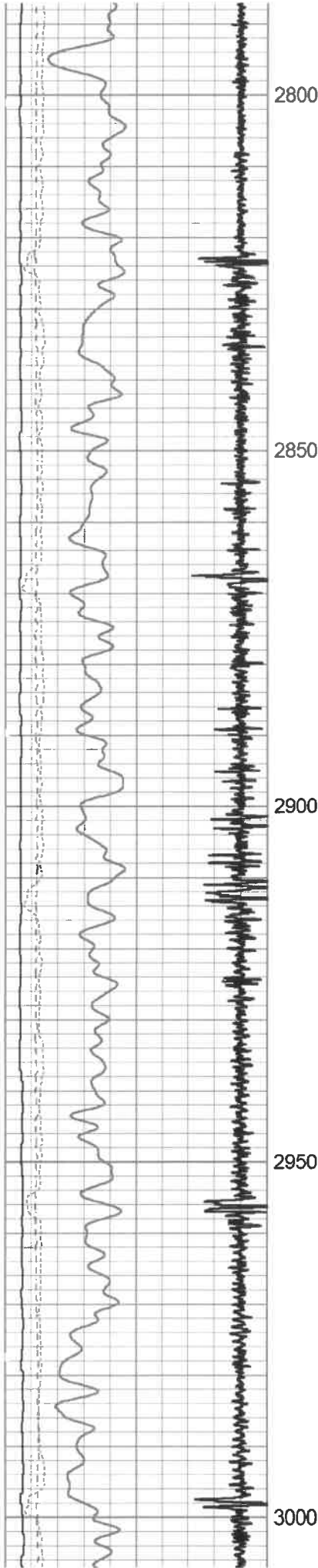


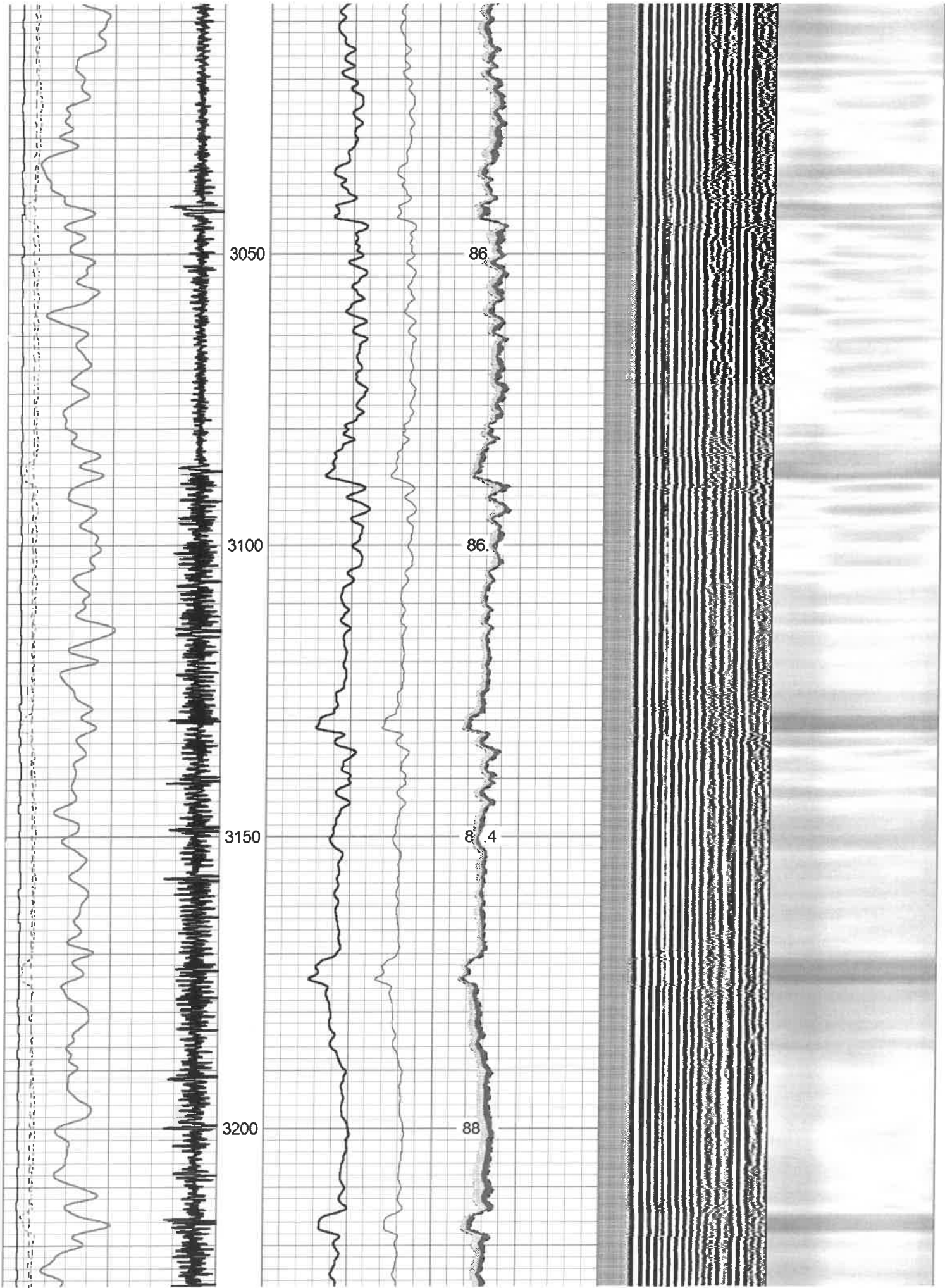


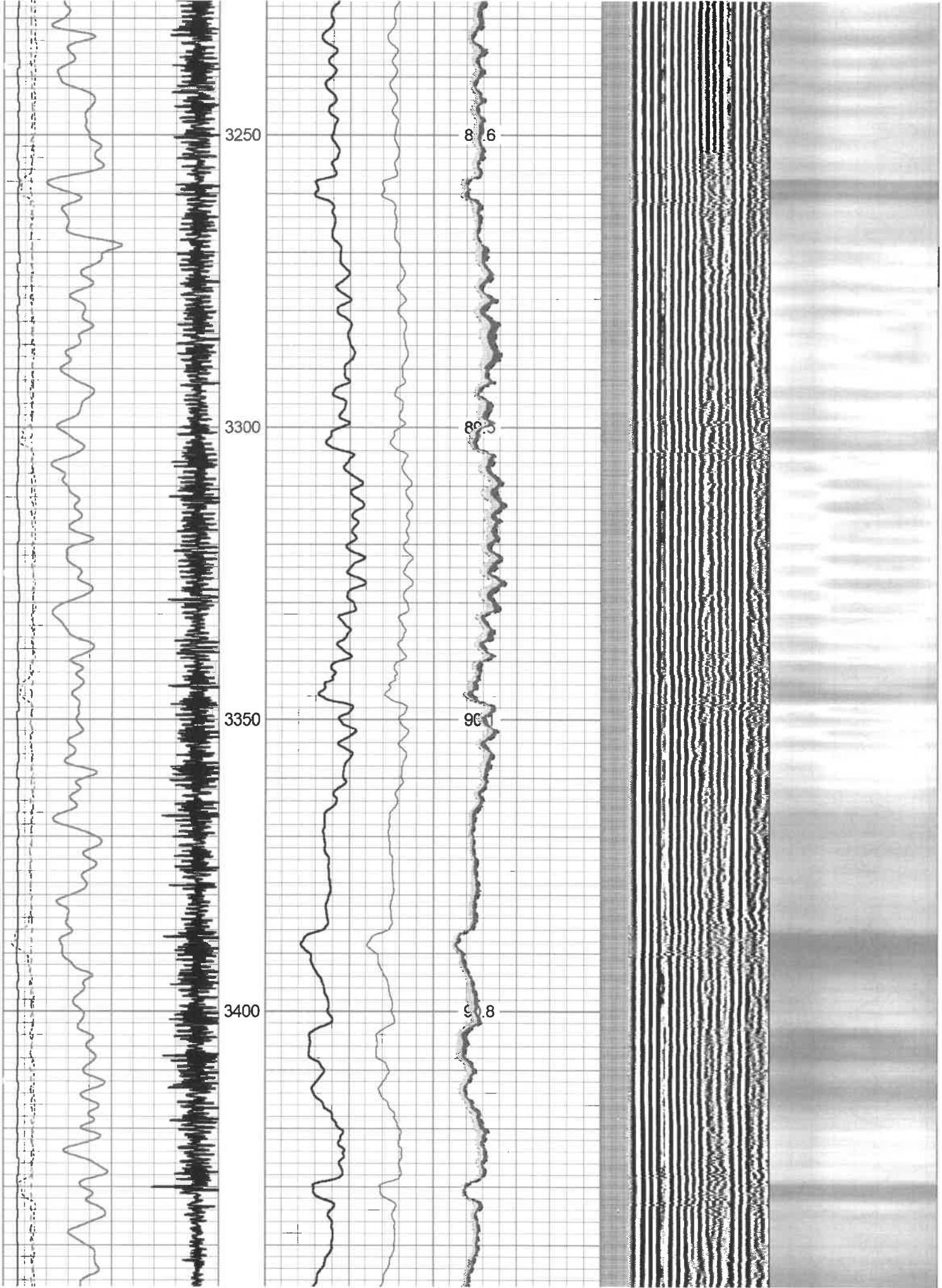




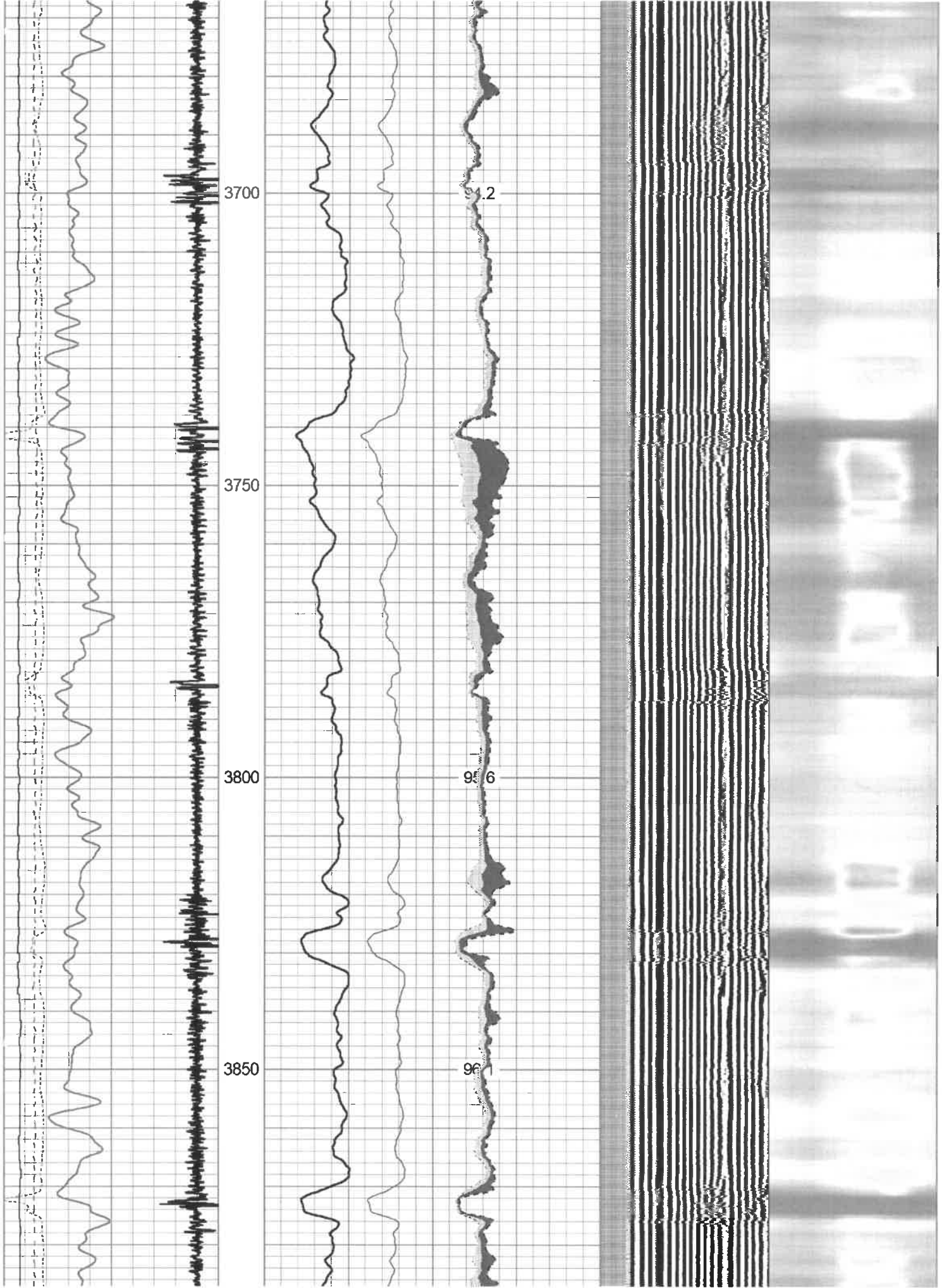


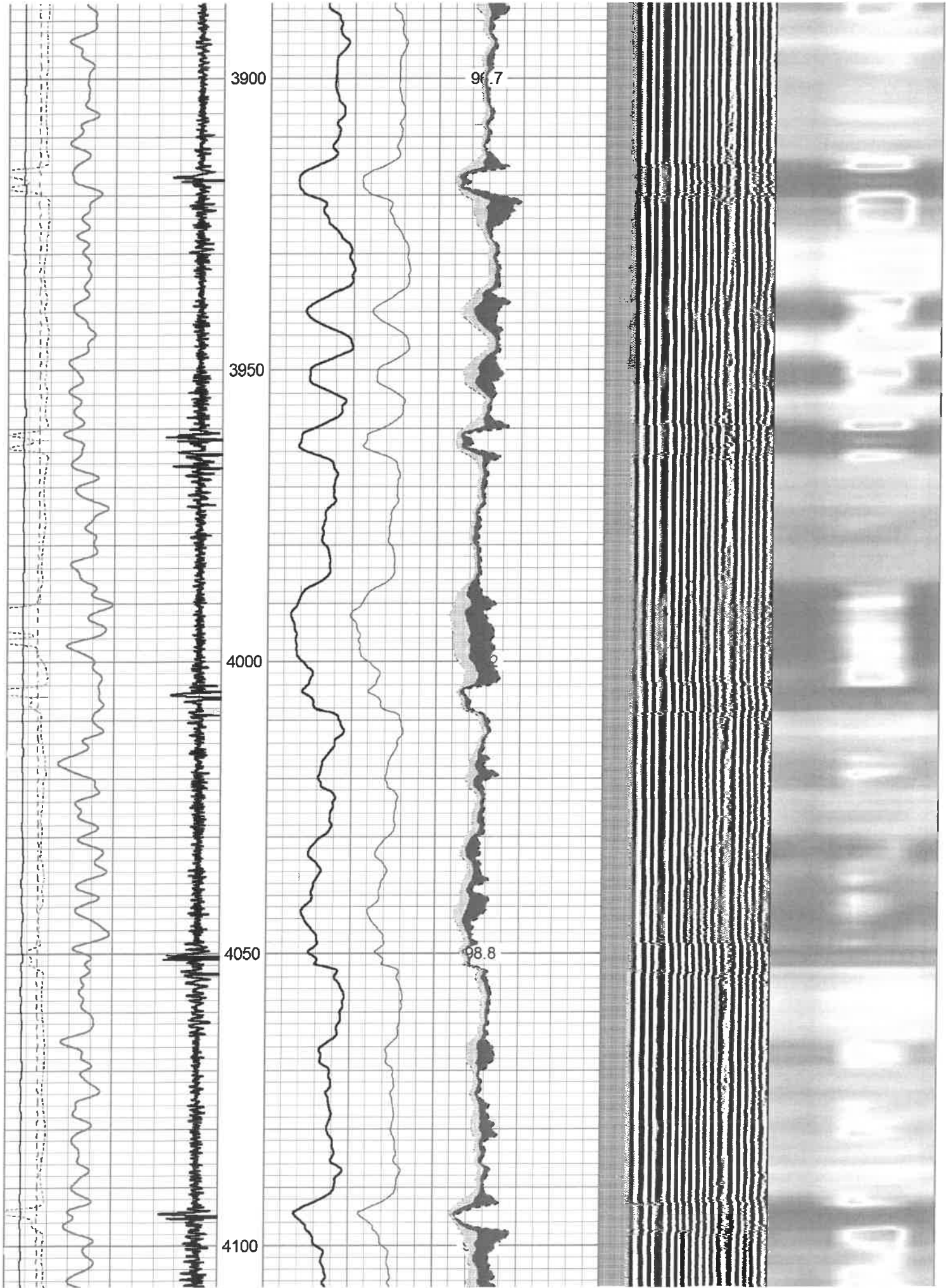


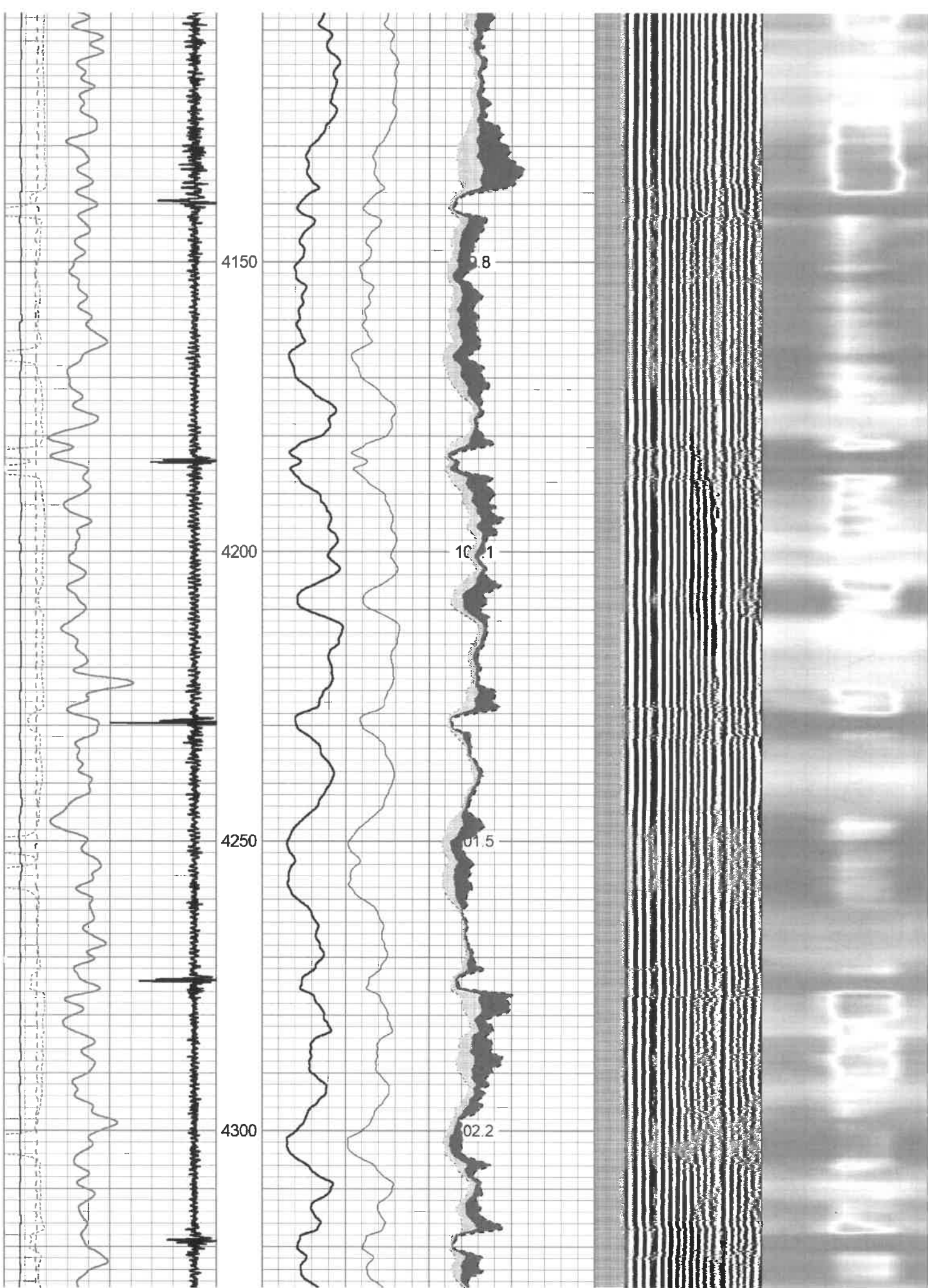


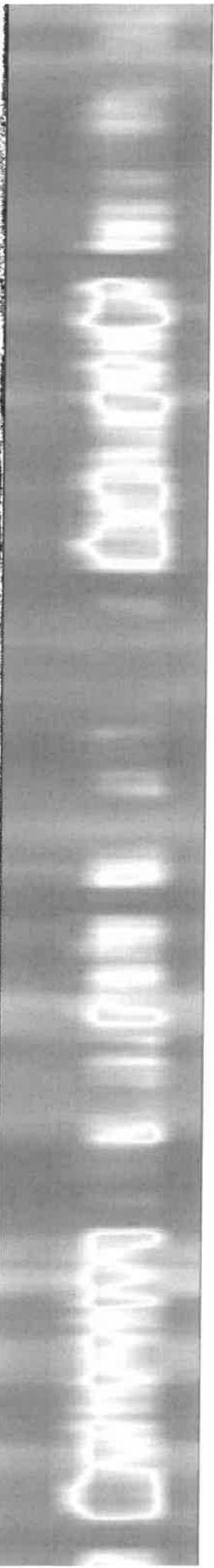
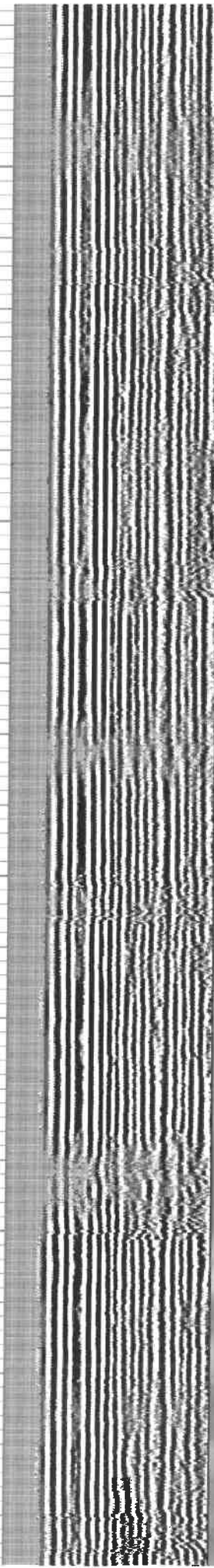
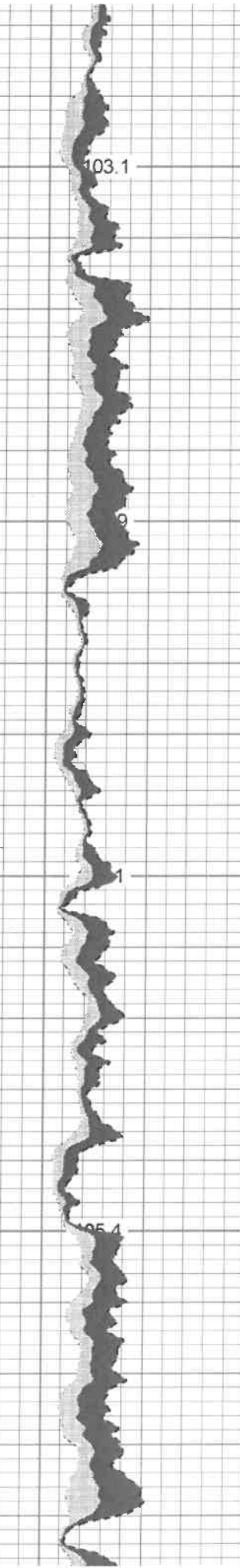
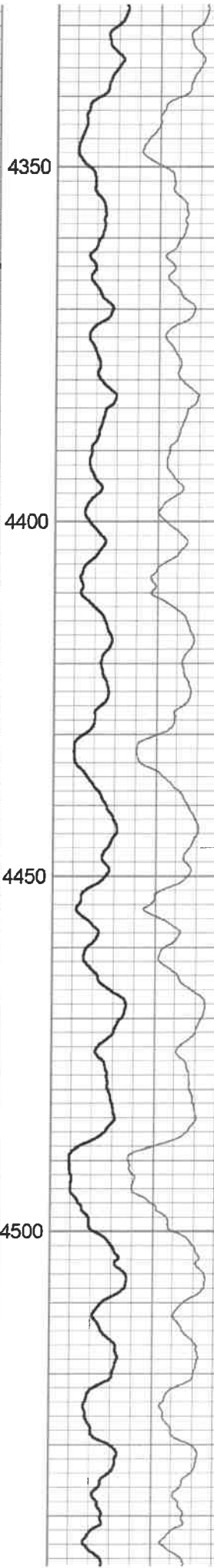
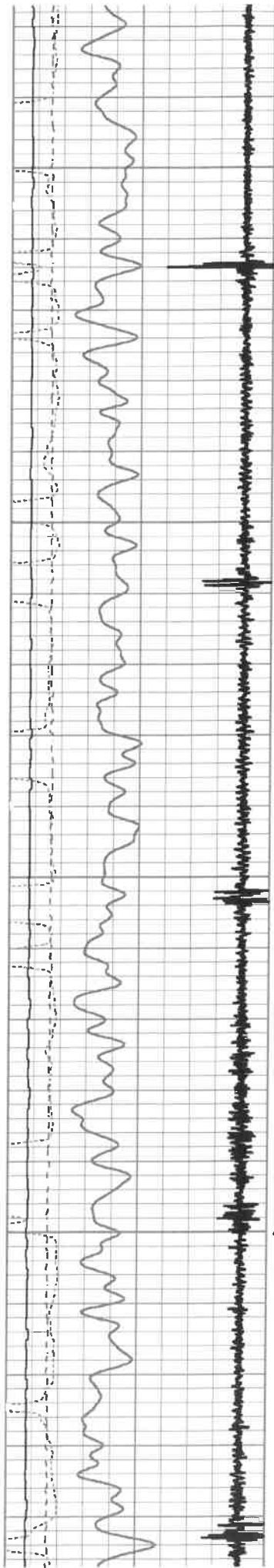


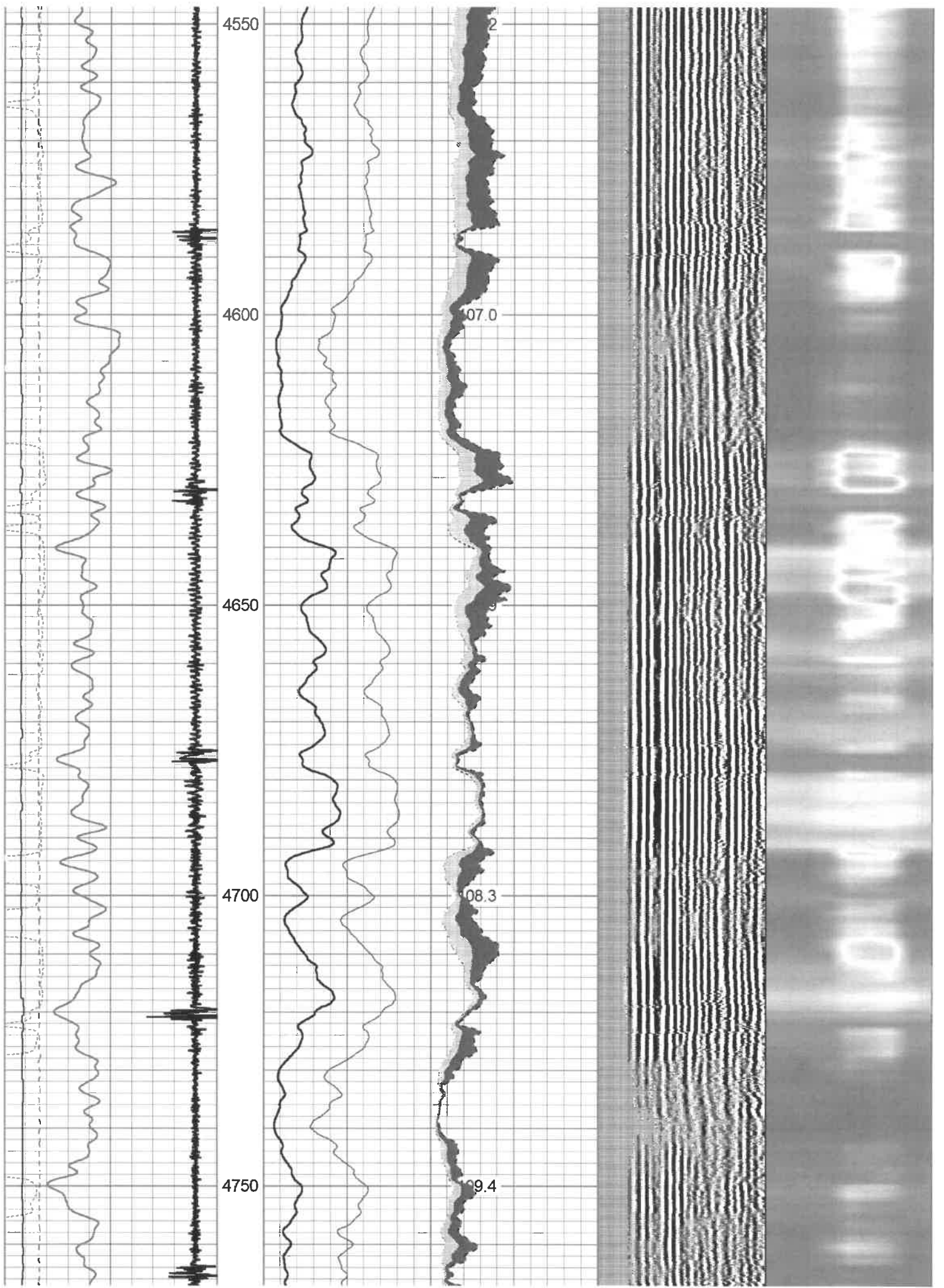


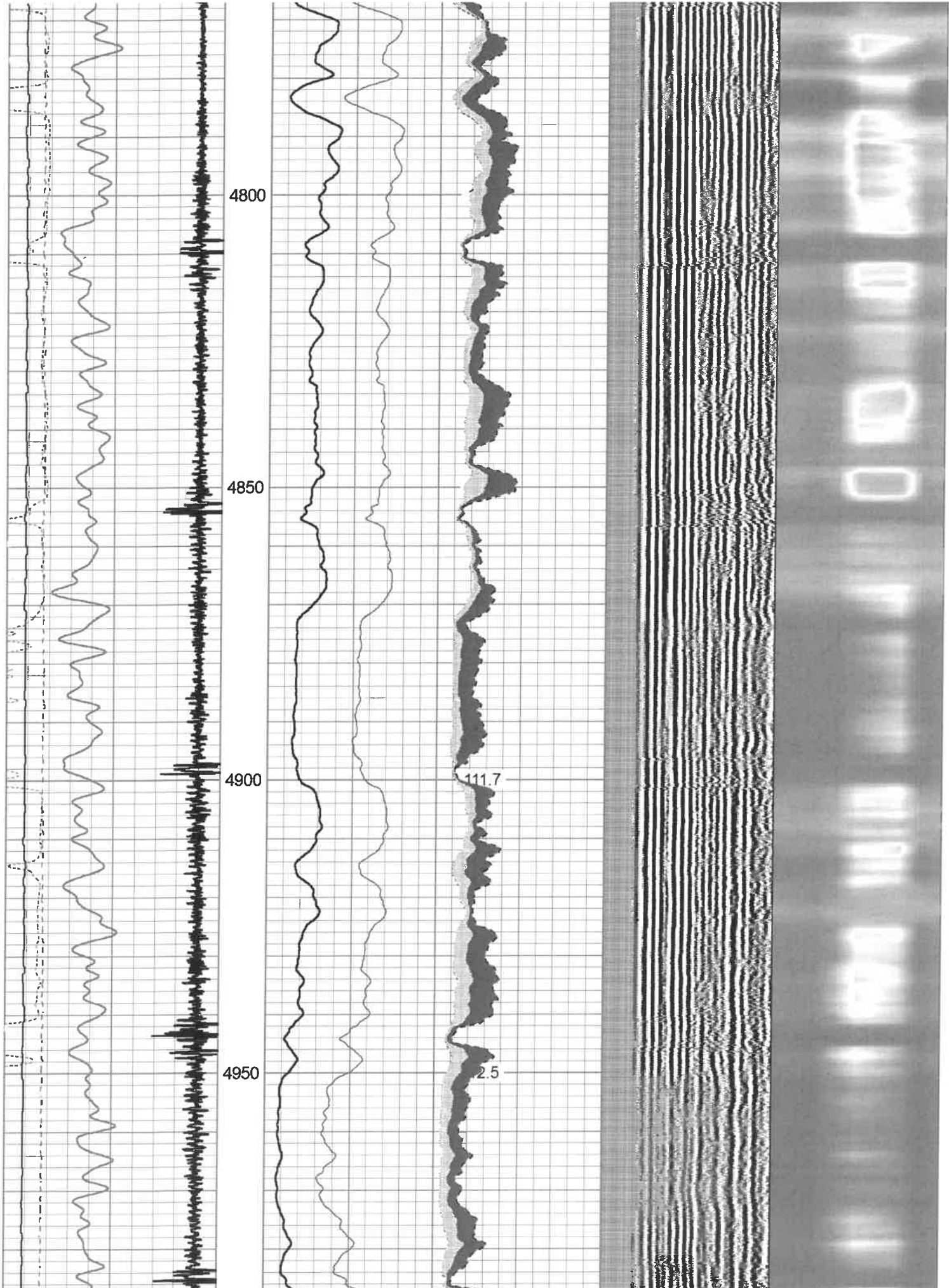


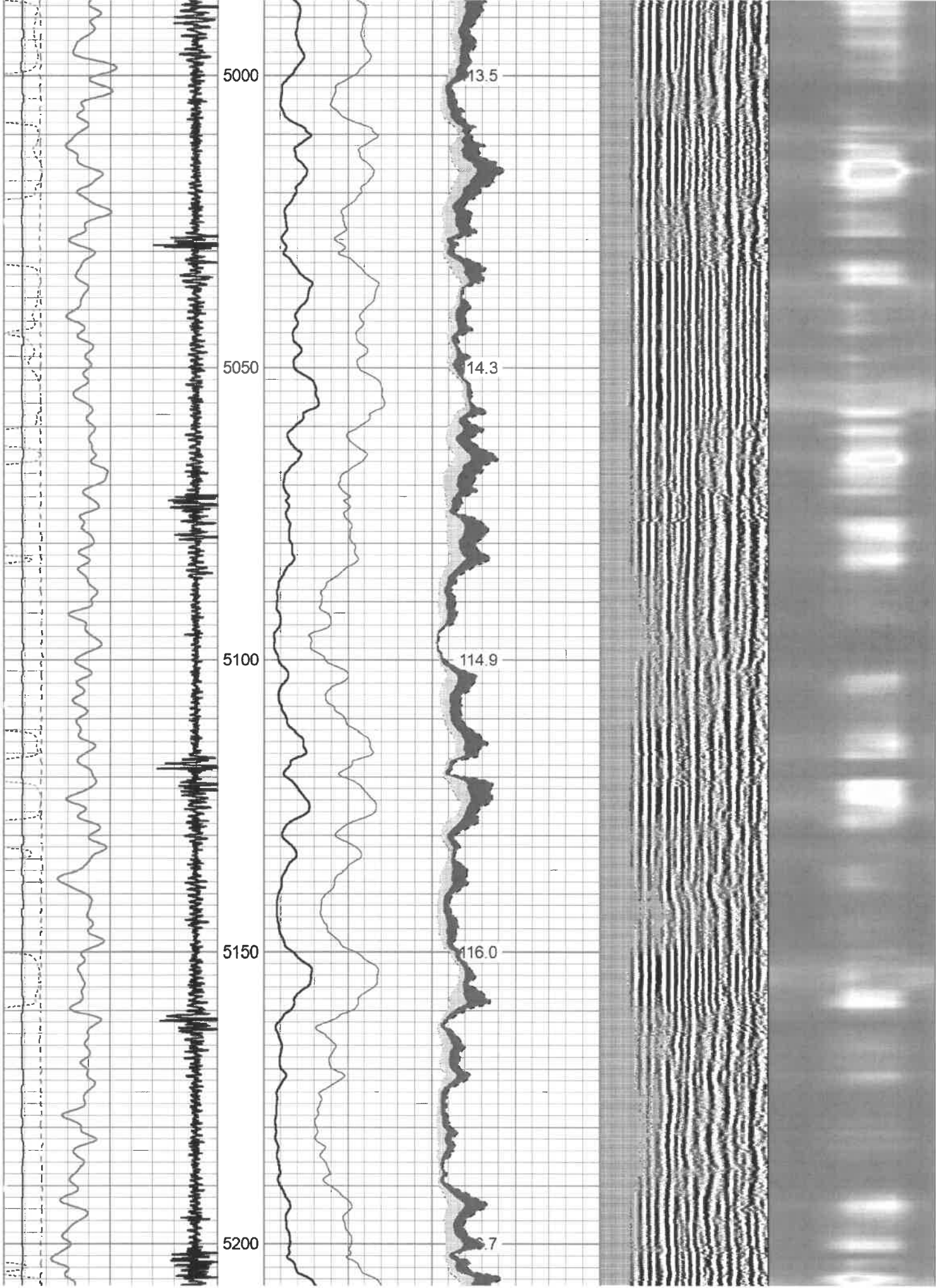


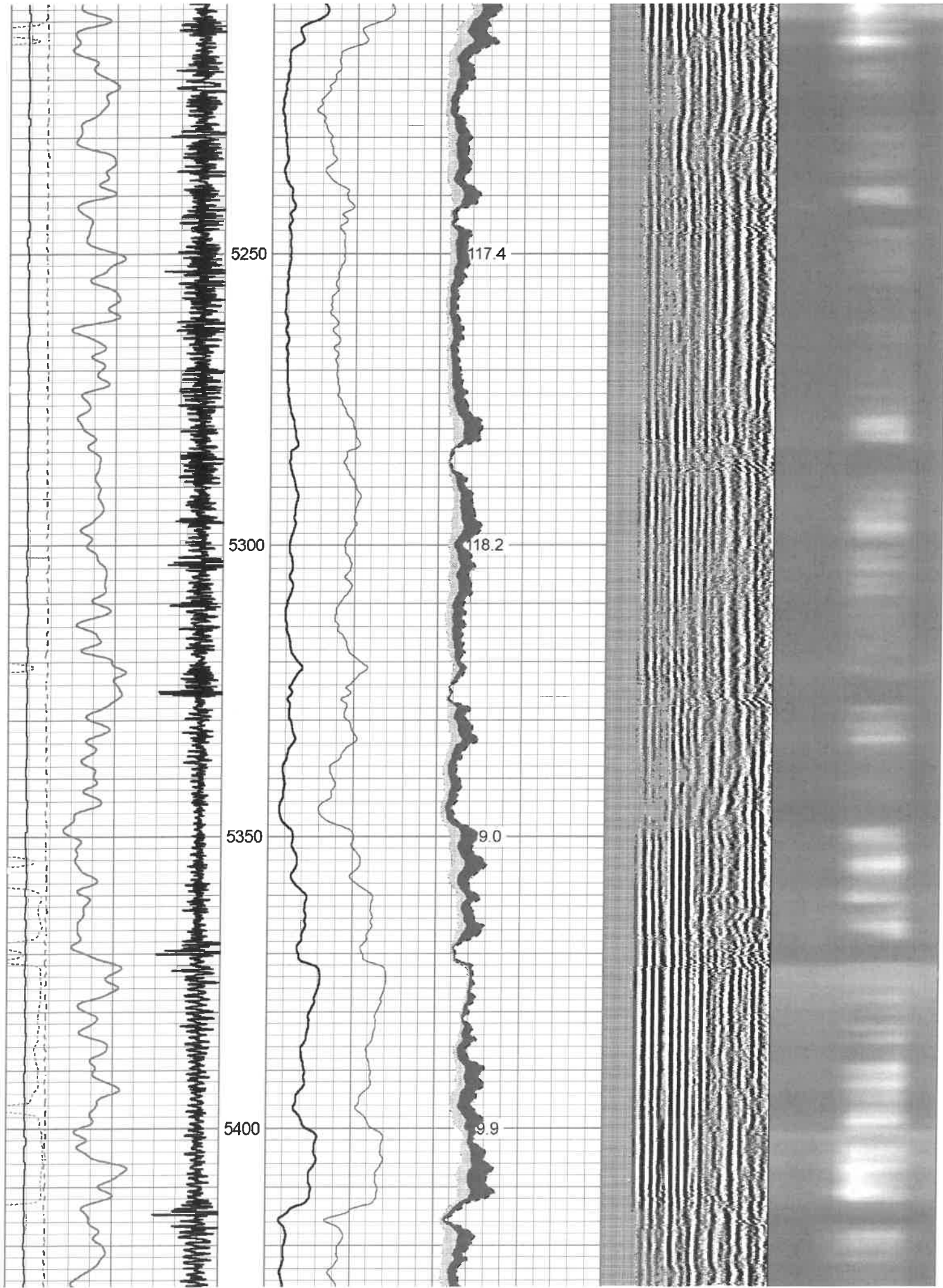


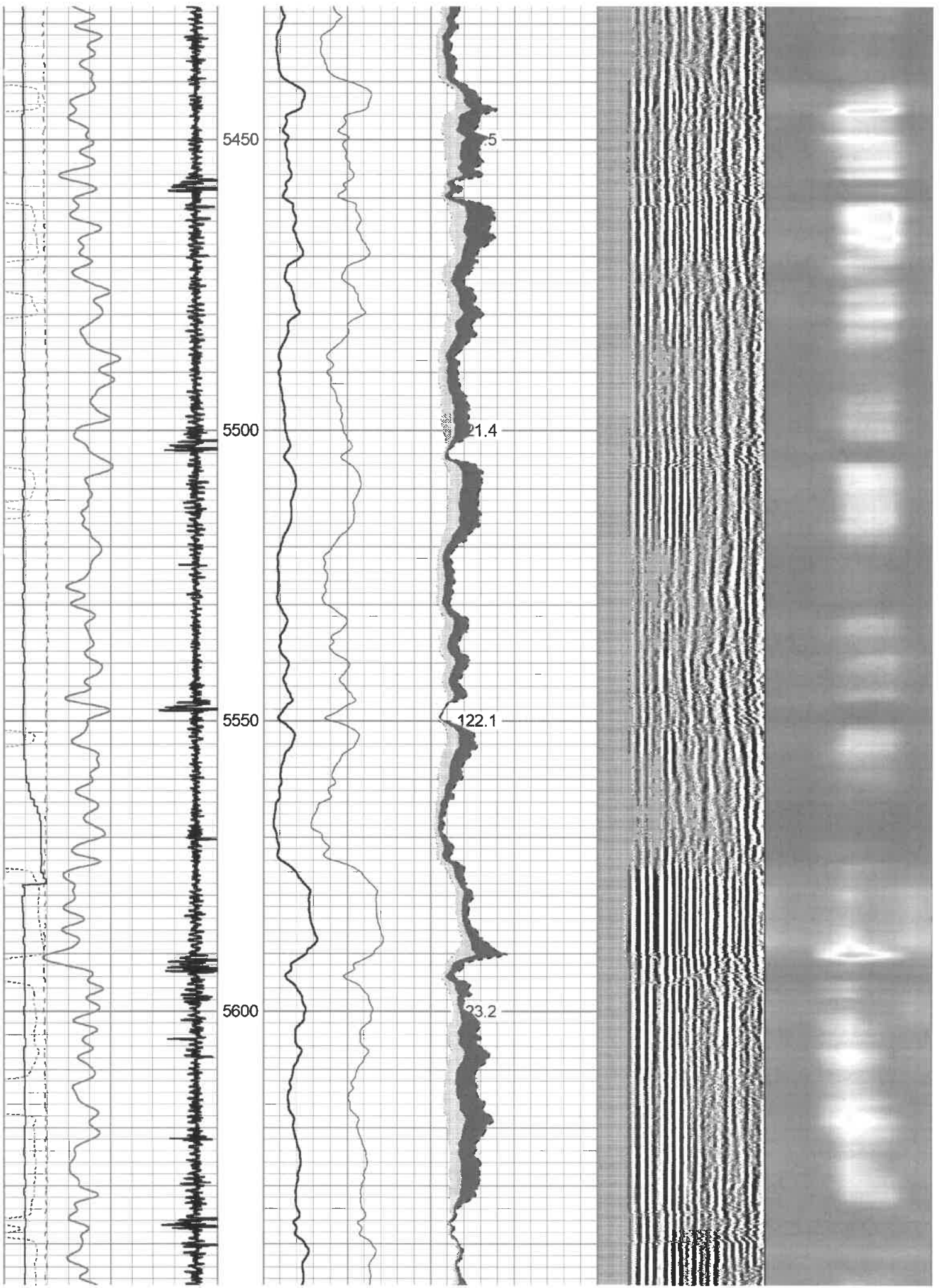


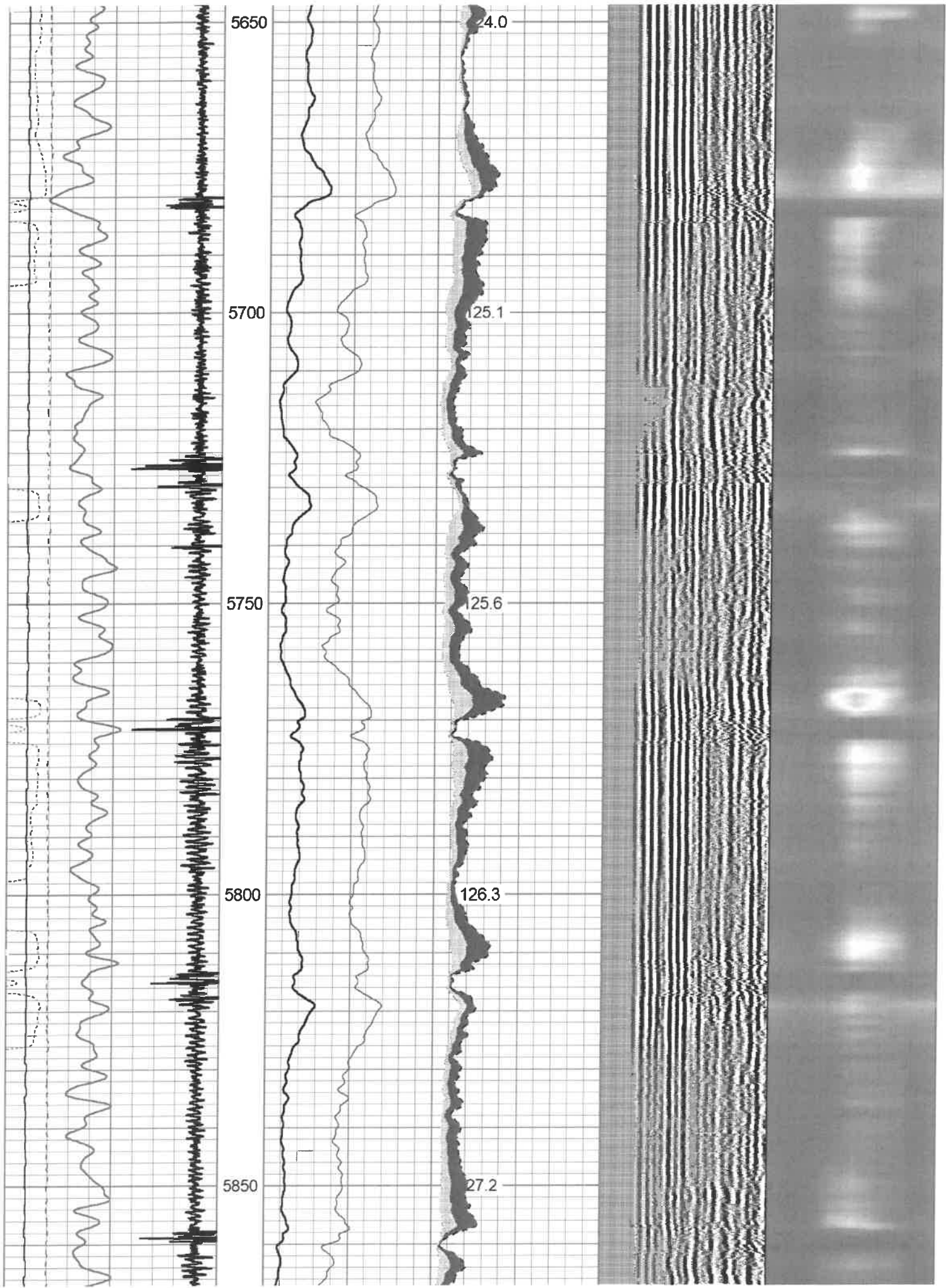


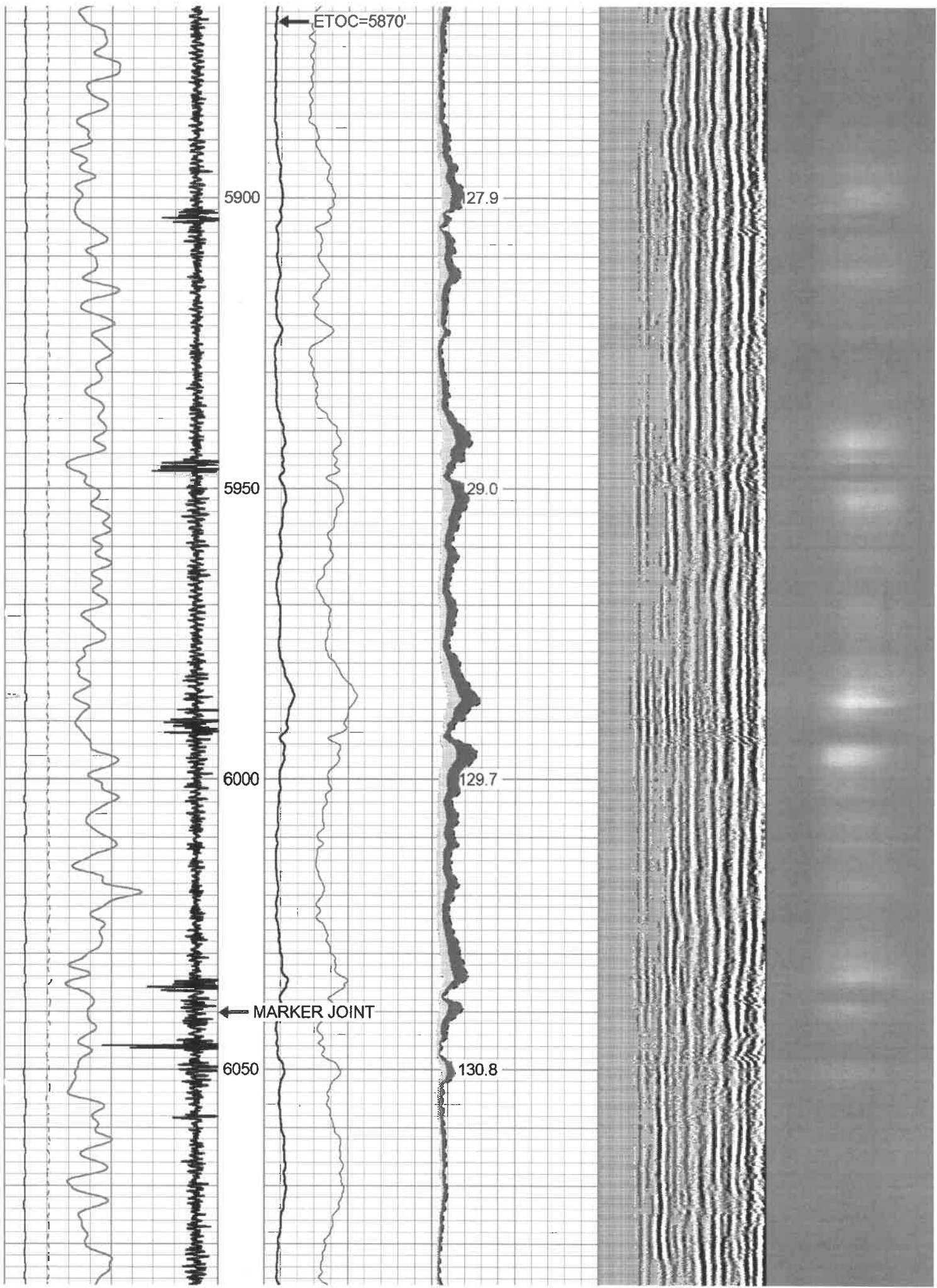


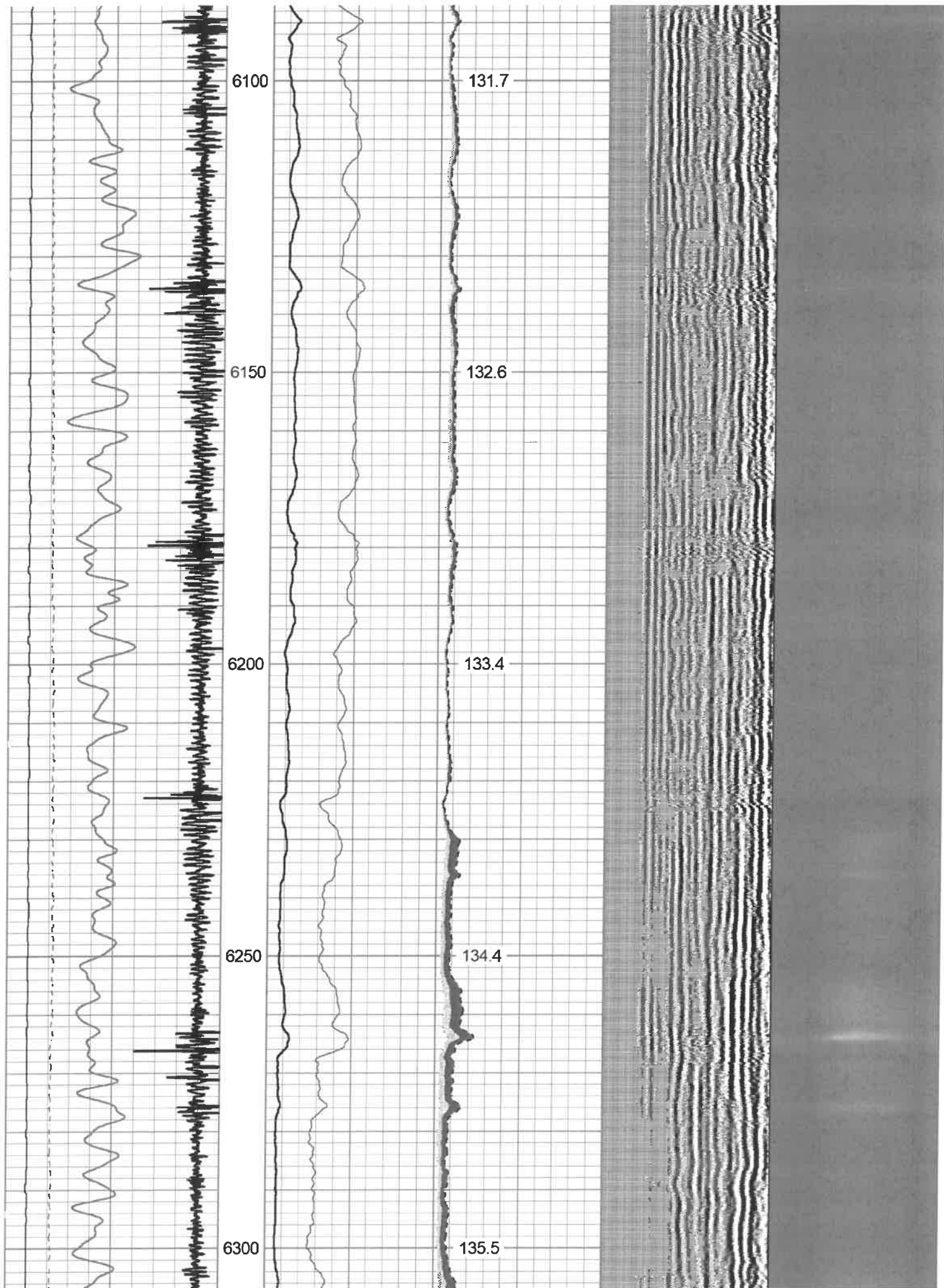


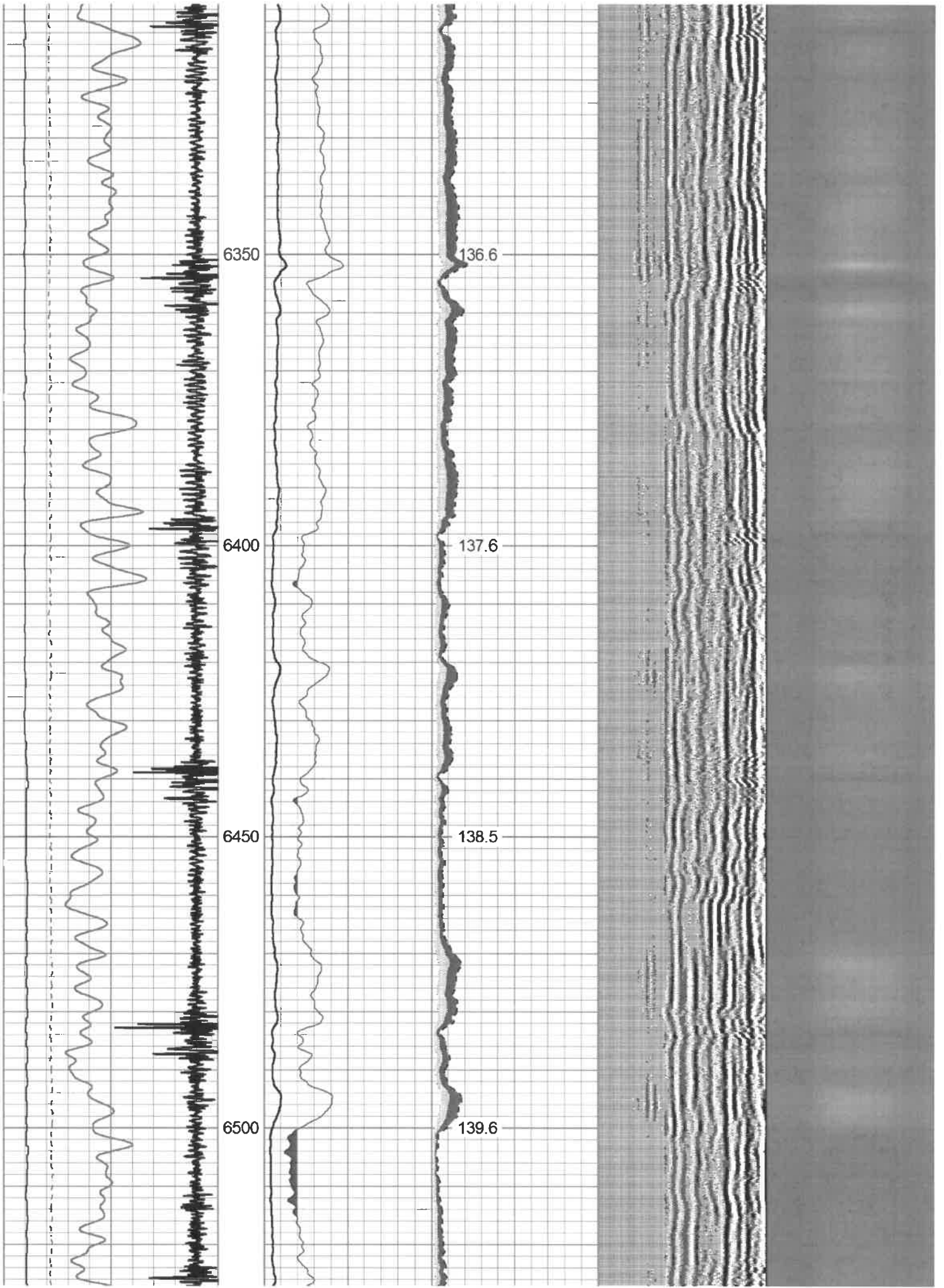


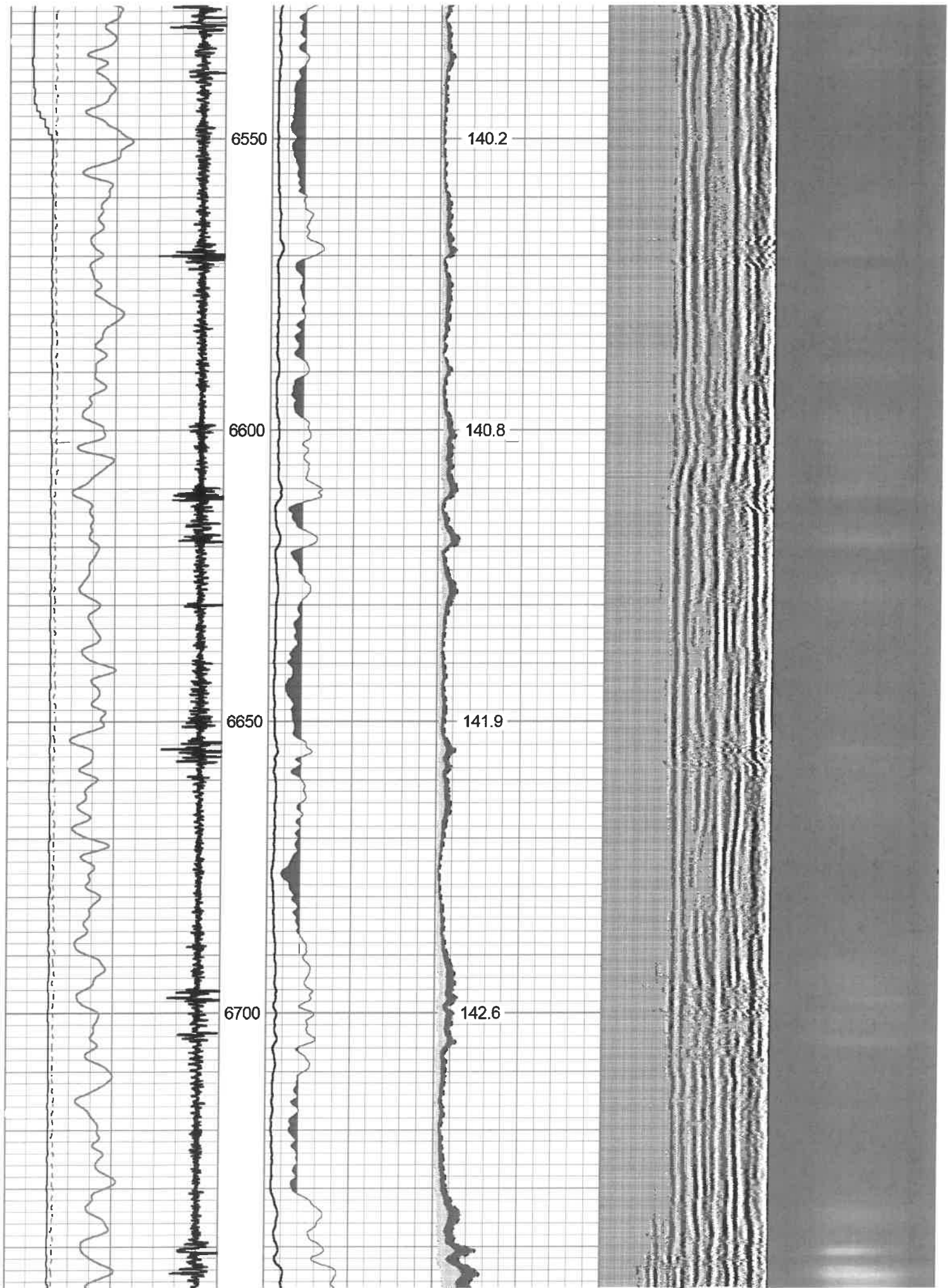


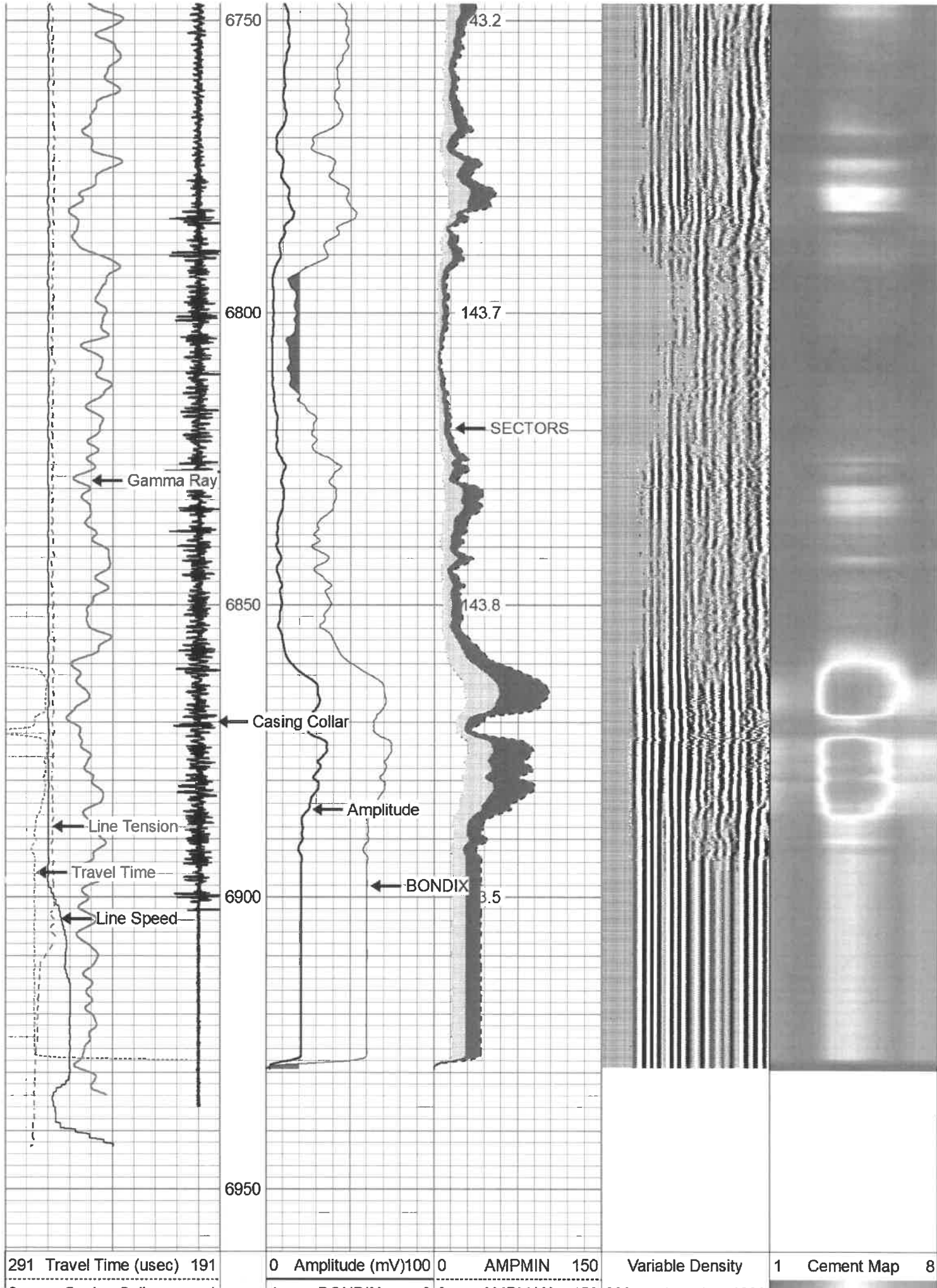













9	Casing Collar	-1	1	BONDIX	0	0	AMPMAX	150	200	(usec)	1200
0	Gamma Ray (GAPI)	150	0		0		AMPAVG	150			
0	Line Tension (lb)	5000					TEMP				
-100	LSPD (ft/min)	100					(degF)				

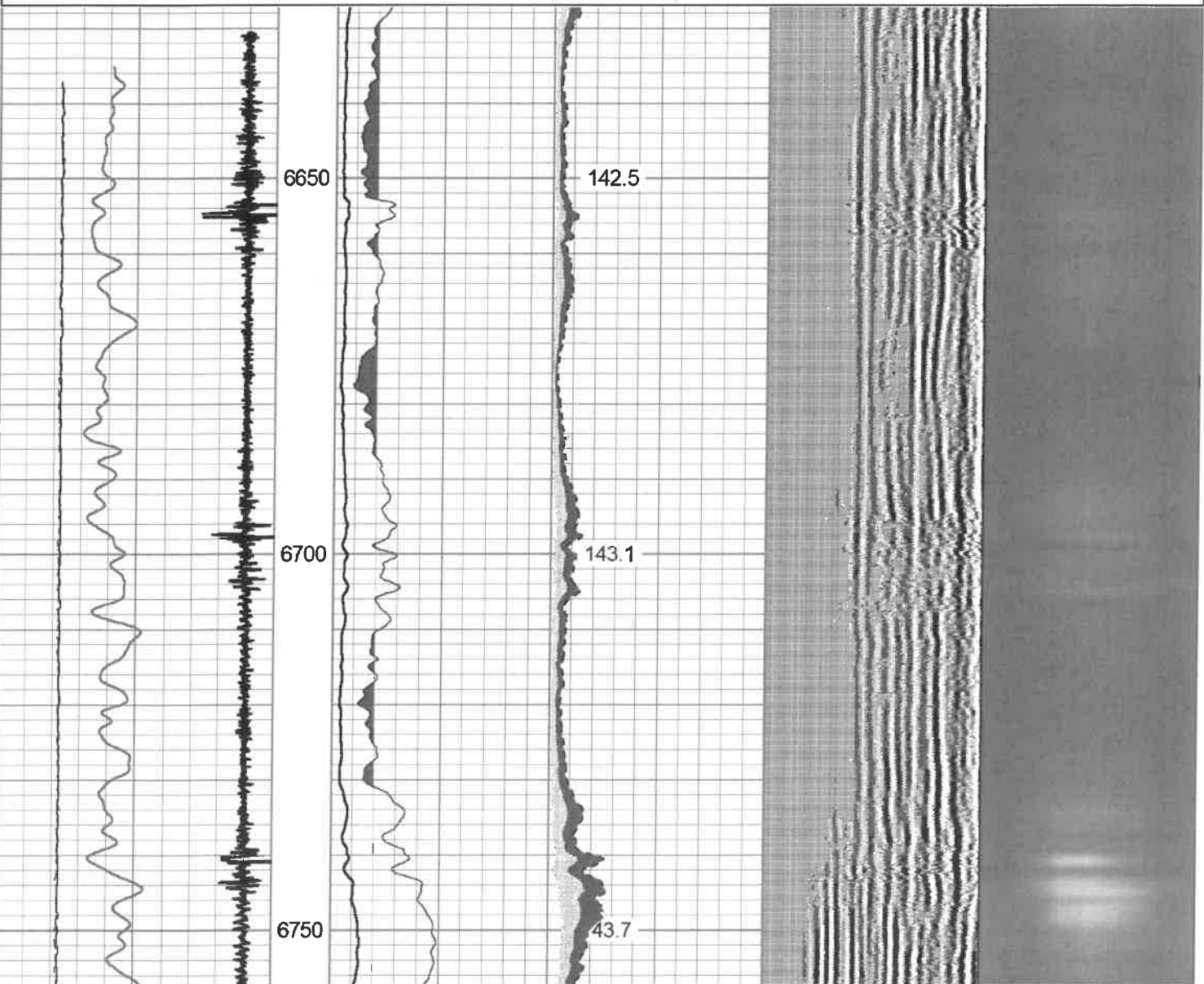


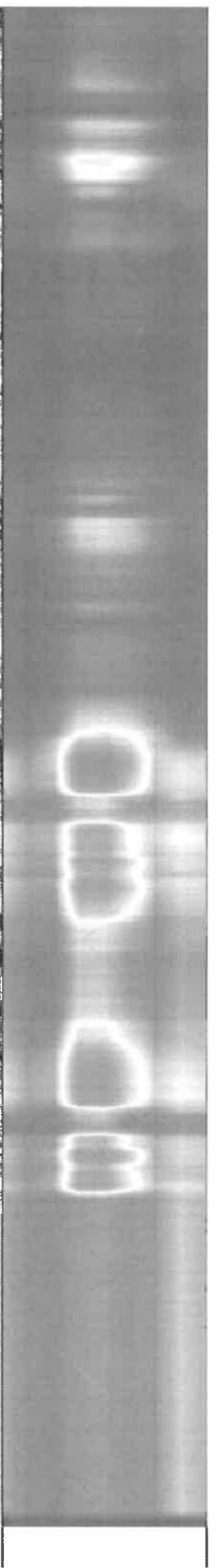
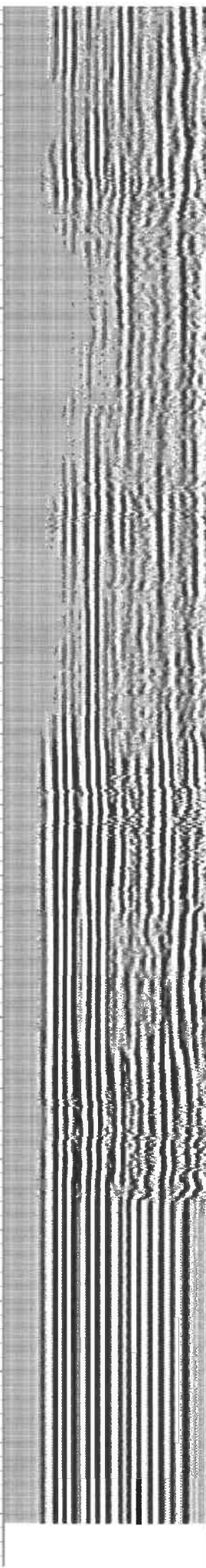
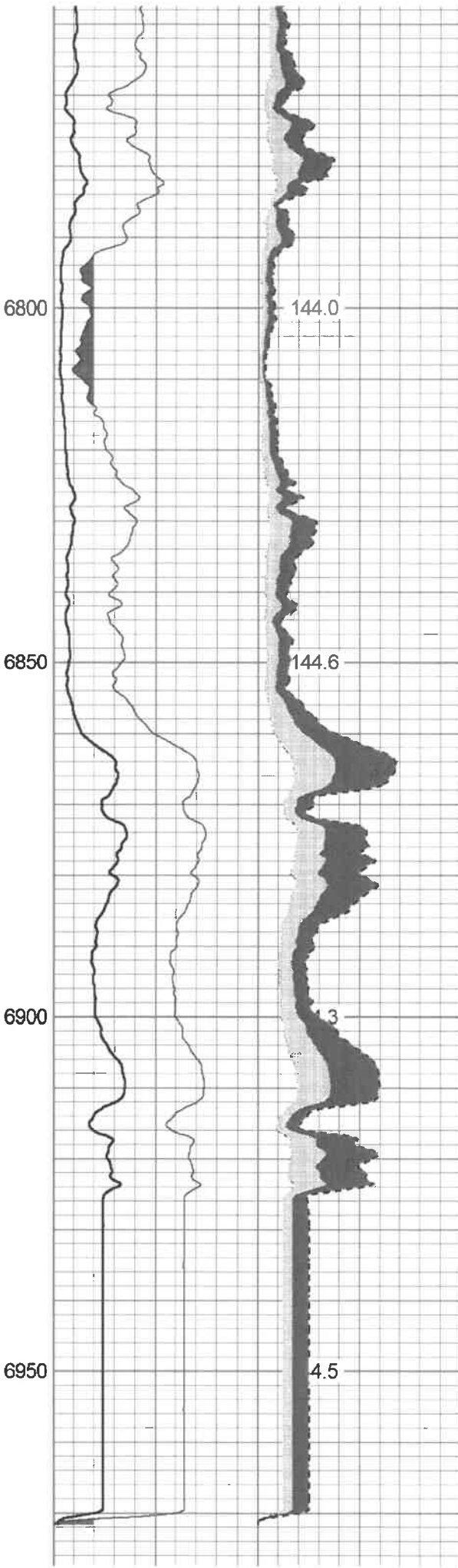
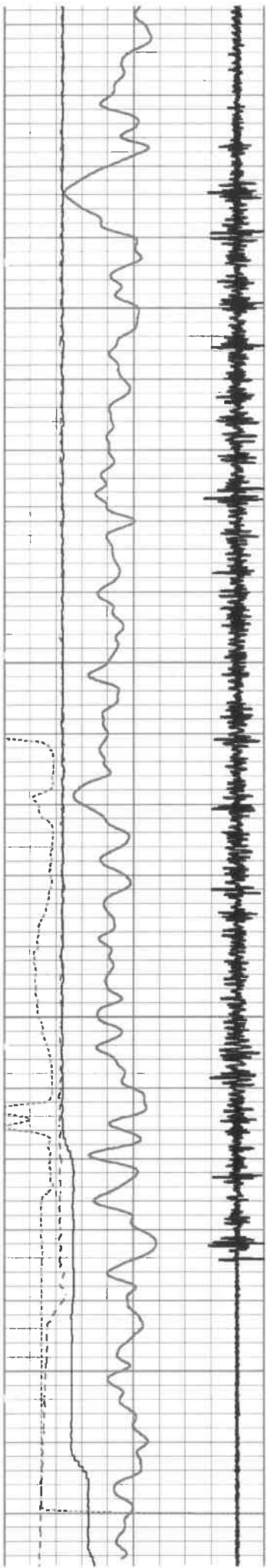
REPEAT LOG

1500 PSI APPLIED

Database File	antero_vishnu_1h_may_9_2021_rcbl.db
Dataset Pathname	REPEAT
Presentation Format	scbl03
Dataset Creation	Sun May 09 13:04:13 2021
Charted by	Depth in Feet scaled 1:240

291	Travel Time (usec)	191	0	Amplitude (mV)	100	0	AMPMIN	150	Variable Density	1	Cement Map	8
9	Casing Collar	-1	1	BONDIX	0	0	AMPMAX	150	200	(usec)	1200	
0	Gamma Ray (GAPI)	150	0		0		AMPAVG	150				
0	Line Tension (lb)	5000					TEMP					
-100	LSPD (ft/min)	100					(degF)					





291	Travel Time (usec)	191	0	Amplitude (mV)	100	0	AMPMIN	150	Variable Density	1	Cement Map	8
9	Casing Collar	-1	1	BONDIX	0	0	AMPMAX	150	200 (usec)	1200		
0	Gamma Ray (GAPI)	150				0	AMPAVG	150				
0	Line Tension (lb)	5000					TEMP					
-100	LSPD (ft/min)	100					(degF)					

Log Variables

DatabaseC:\ProgramData\Warrior\Data\antero_vishnu_1h_may_9_2021_rcbl.db
 Dataset field/well/run1/MAIN/_vars_

Top - Bottom

BHTEMP_Src	BOREID	BOTTEMP	CASEOD	CASETHCK	CASEWGHT	MAXAMPL	MINAMPL
TEMP	in 7.875	degF 100	in 5.5	in 0	lb/ft 20	mV 71.9	mV 2.2
MINATTN	PERFS	PPT	SRFTEMP	TDEPTH			
db/ft 0.8	No	usec 261	degF 0	ft 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_vishnu_1h_may_9_2021_rcbl.db
 Dataset Pathname MAIN
 Dataset Creation Sun May 09 13:13:21 2021

Gamma Ray Calibration Report

Serial Number: FW1211-86
 Tool Model: Probe
 Performed: Thu Oct 15 06:46:53 2020
 Calibrator Value: 1.0 GAPI
 Background Reading: 0.0 cps
 Calibrator Reading: 1.0 cps
 Sensitivity: 0.7000 GAPI/cps

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 WV Department of
 Environmental Protection

Segmented Cement Bond Log Calibration Report

Serial Number: FW1312-32
 Tool Model: Probe275T
 Calibration Casing Diameter: 5.500 in
 Calibration Depth: 768.217 ft

Master Calibration, performed Sun May 09 12:03:57 2021:

Raw (v)

Calibrated (mv)

Results

	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.001	1.149	2.200	71.921	60.723	2.161
CAL	0.001	0.755				
5'	0.001	1.136	2.200	71.921	61.442	2.144
SUM						
S1	0.001	1.680	0.000	71.921	42.841	-0.054
S2	0.001	1.814	0.000	71.921	39.681	-0.040
S3	0.001	1.444	0.000	71.921	49.838	-0.027
S4	0.001	1.169	0.000	71.921	61.570	-0.053
S5	0.001	1.194	0.000	71.921	60.290	-0.069
S6	0.001	1.197	0.000	71.921	60.119	-0.042
S7	0.001	1.113	0.000	71.921	64.681	-0.065
S8	0.001	1.161	0.000	71.921	61.998	-0.039

Internal Reference Calibration, performed Sat Apr 04 17:44:51 2020:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.001	0.755	1.000	0.000

Air Zero Calibration, performed Sun May 09 11:29:49 2021:

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



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