



**Radial Cement Bond
Variable Density Log
W/ Gamma/ CCL/ Temp**

Company Antero Resources
Well Clipper Unit 2H
Field South Canton
County Doddridge
State West Virginia

Location: API #: 47-017-06888
SEC TWP RGE
Permanent Datum M.S.L. Elevation 25.5'
Log Measured From C.F.
Drilling Measured From R.K.B.

Other Services
N/A
Elevation
K.B. 25.5'
D.F. 24.5'
G.L. 0'

Company Antero Resources
Well Clipper Unit 2H
Field South Canton
County Doddridge
State West Virginia

Date	04-Jan-2020		
Run Number	One		
Depth Driller	21,089'		
Depth Logger	7,928'		
Bottom Logged Interval	7,928'		
Top Log Interval	Surface		
Open Hole Size	8.75"		
Type Fluid	Water		
Density / Viscosity	8.4#		
Max. Recorded Temp.	153		
Estimated Cement Top	4,326'		
Time Well Ready	18:06		
Time Logger on Bottom	19:00		
Equipment Number	104		
Location	Bentleyville		
Recorded By	Doug Pearson		
Witnessed By	Jimmy		
Borehole Record			
Run Number	Bit	From	To
Tubing Record			
	Size	Weight	From To
Casing Record	Size	Wgt/Ft	Top Bottom
Surface String	13 3/8"	54.5#	Surface Surface
Prod. String	9 5/8"	36#	Surface Surface
Production String	5 1/2"	20#	Surface Surface
Liner			

<<< 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

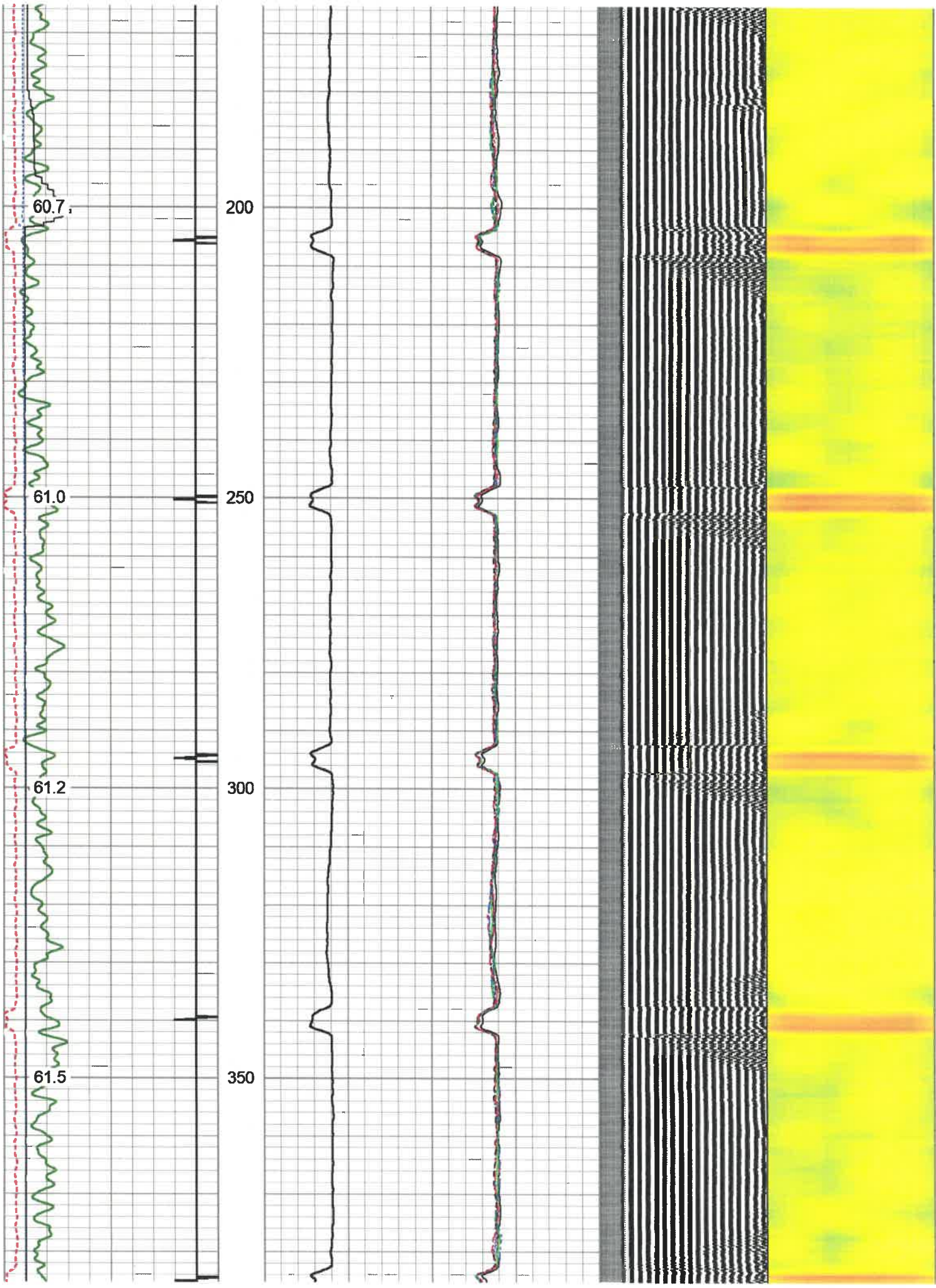
Log Correlated to Kelly Bushing as Per Customer Request.
Cementing Info Not Available Upon Request.
Depth Correction +37'.
Marker Joint located @ 6,576' - 6,586'.
Estimated Top of Cement @ 4,326'.
Thank You For Using Nine Energy Wireline of Bentleyville, Pa.

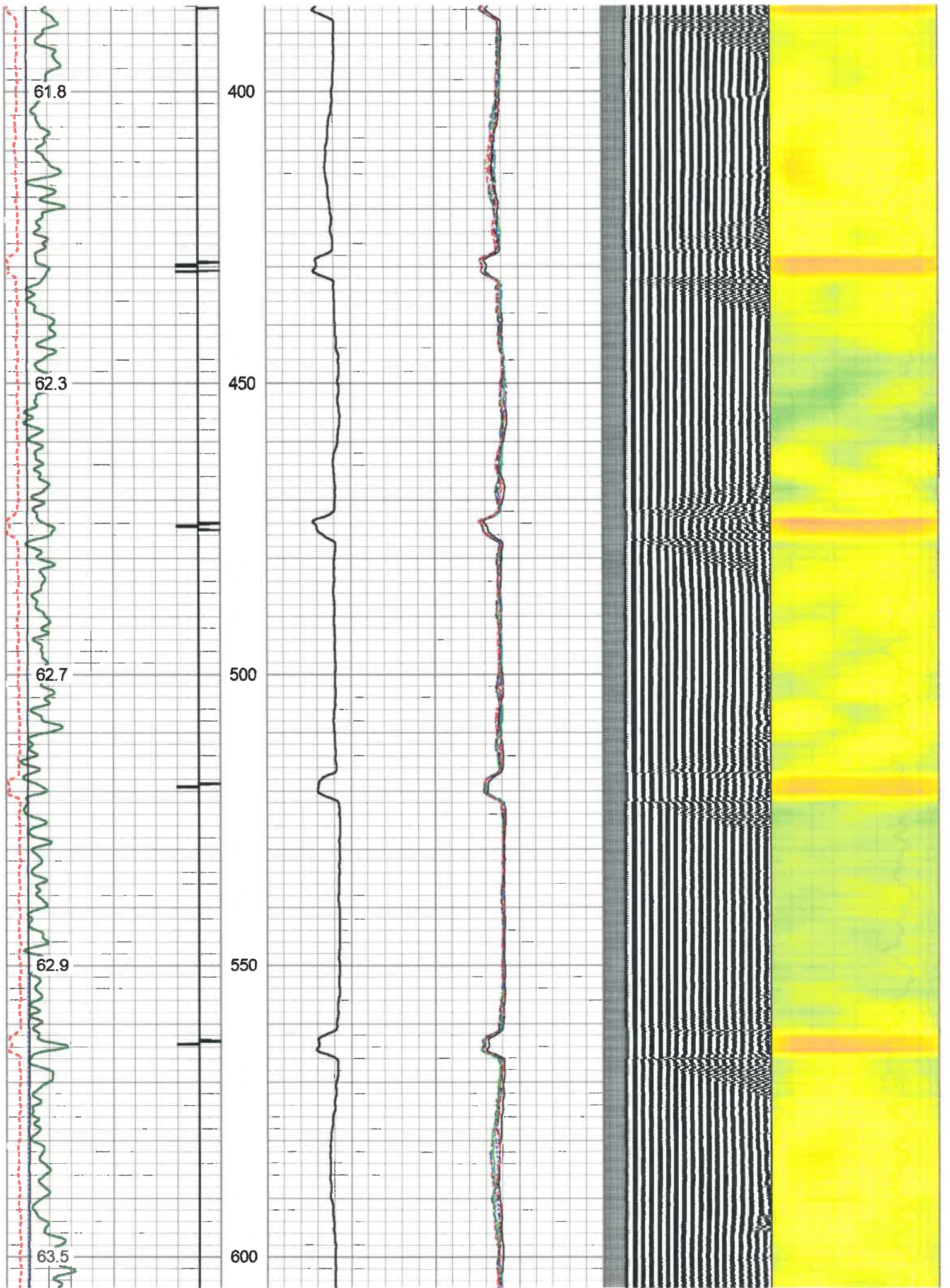
RECEIVED
Office of Oil and Gas
OCT 28 2020
WV Department of Environmental Protection
Environmental Protection

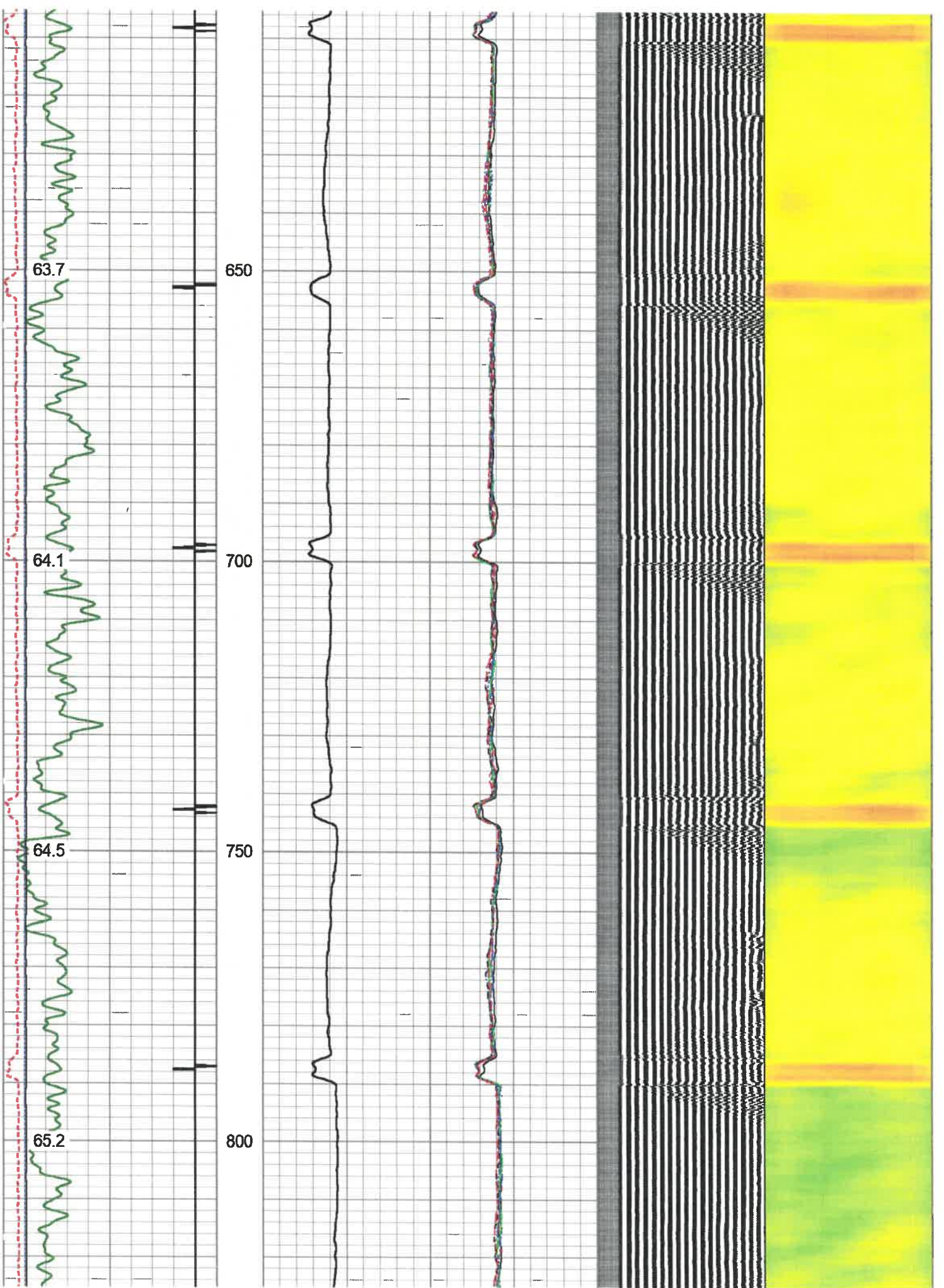


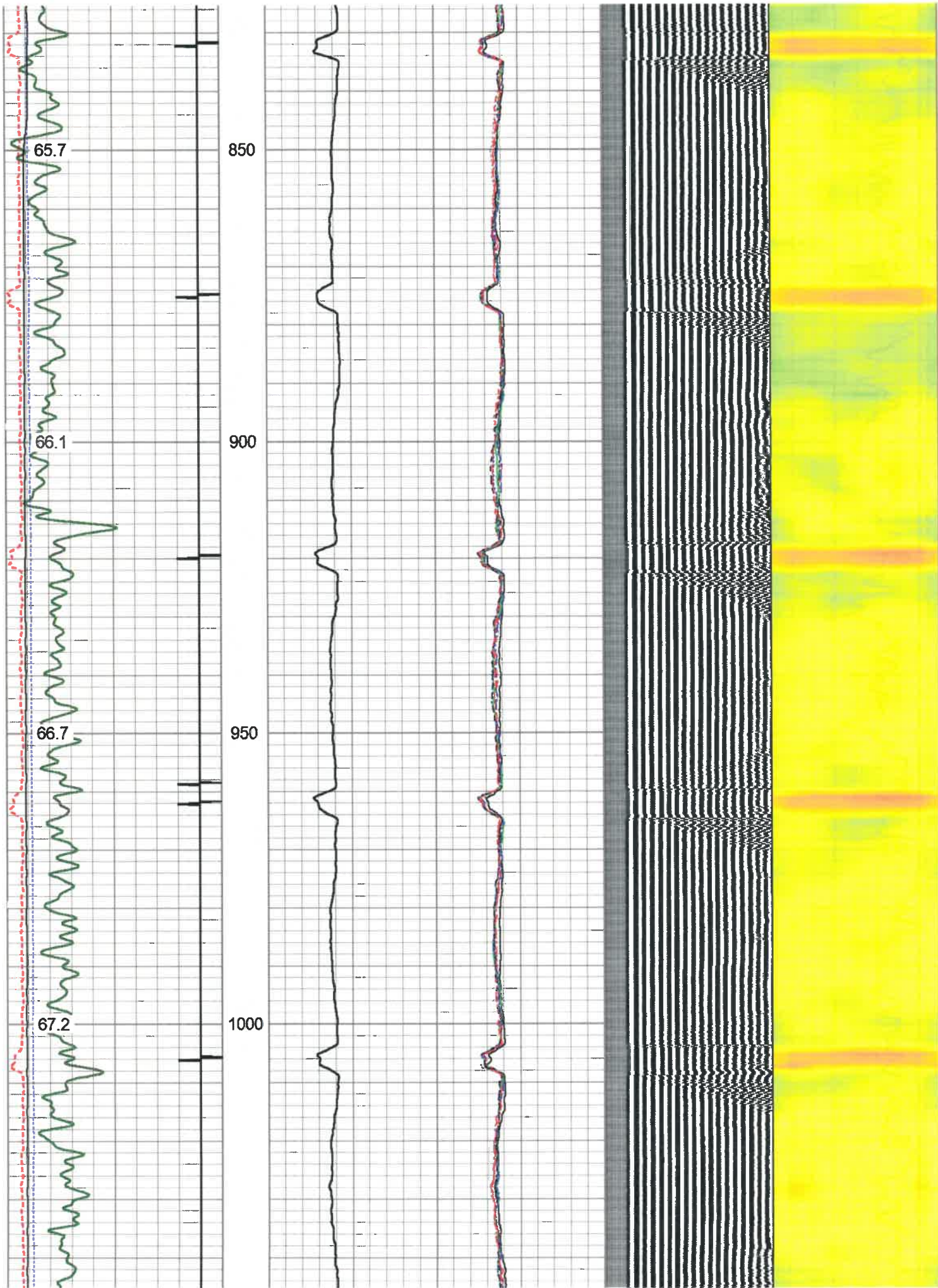
Main Pass

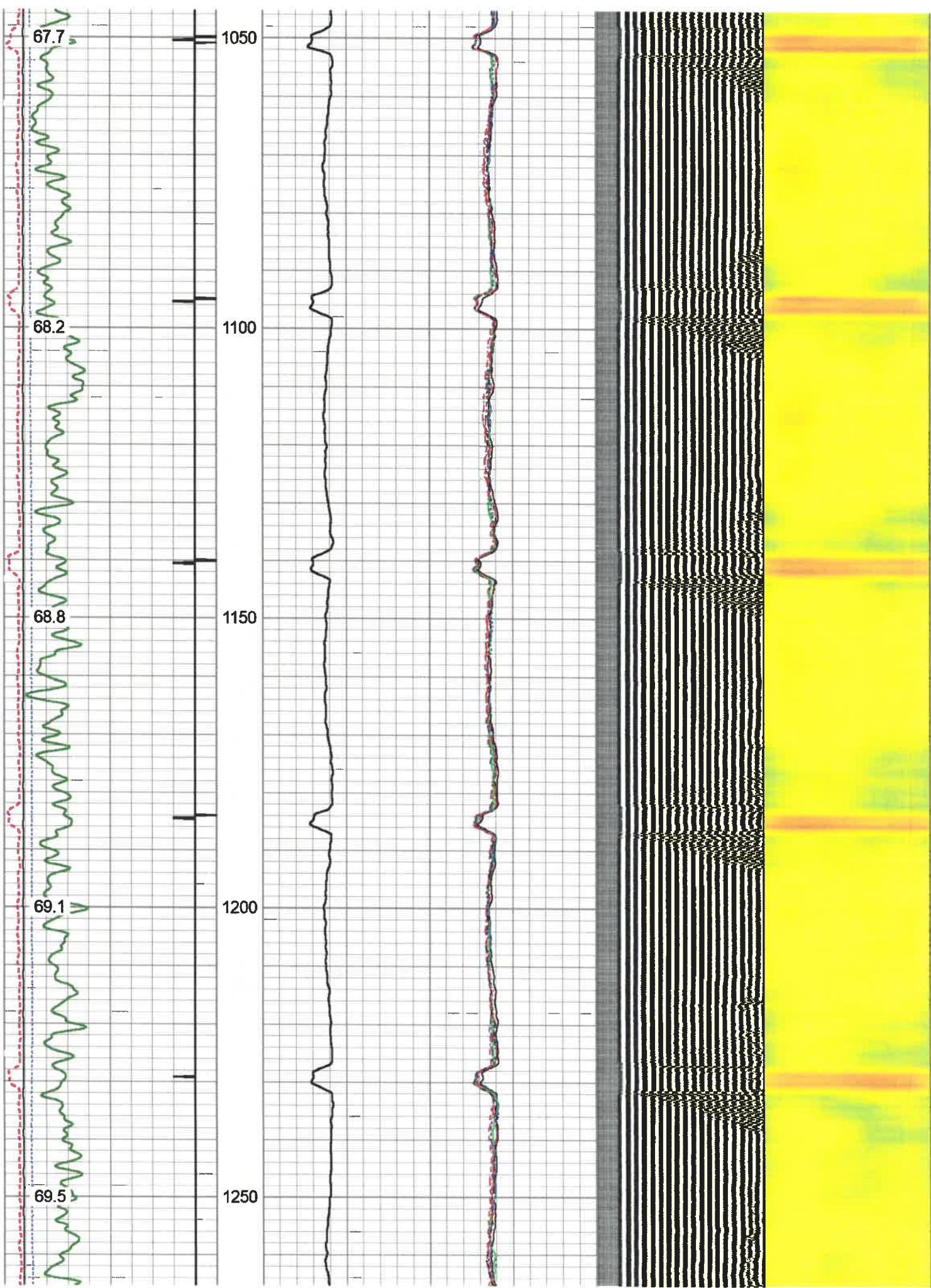
1,500 P.S.I.

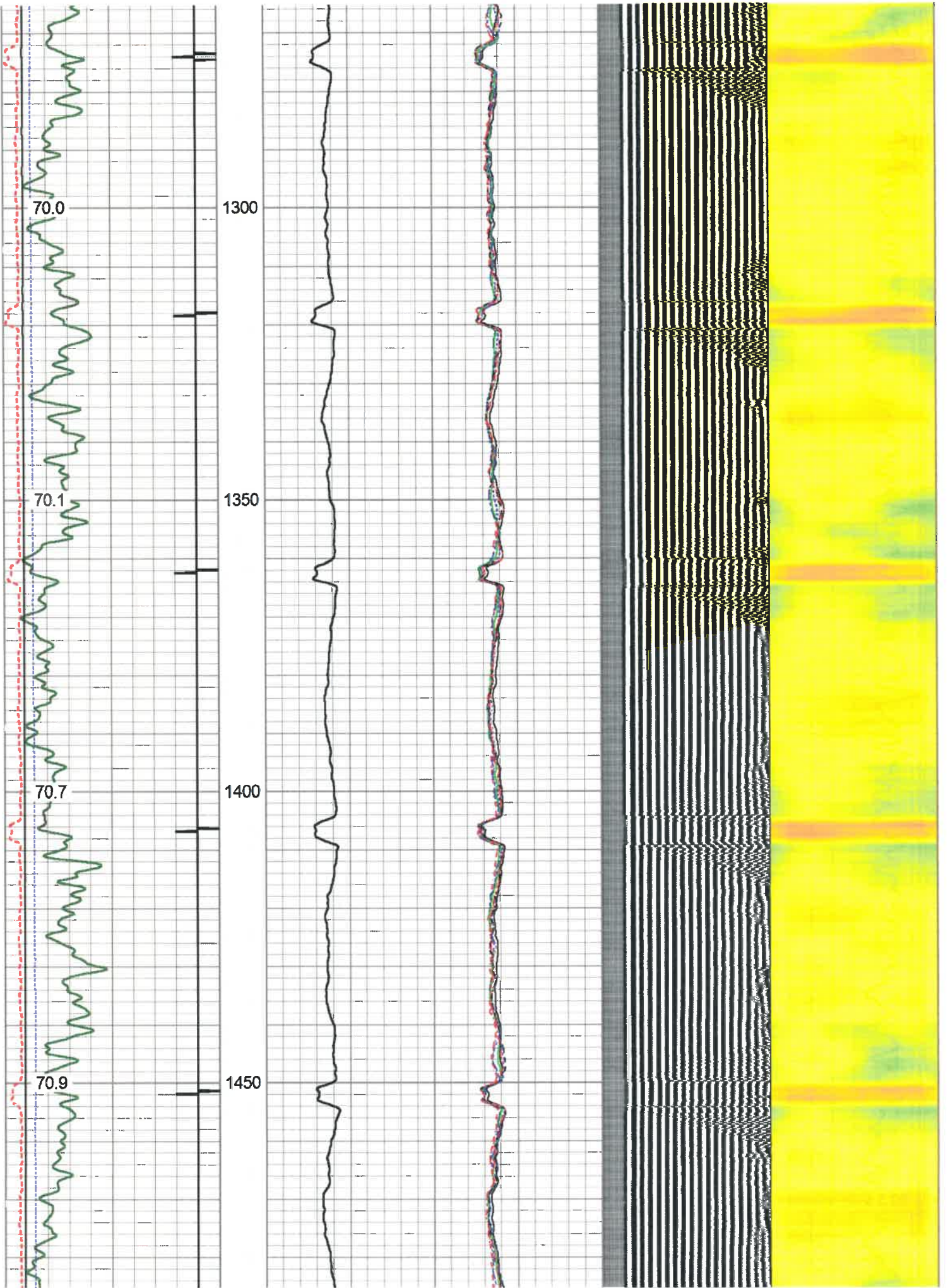


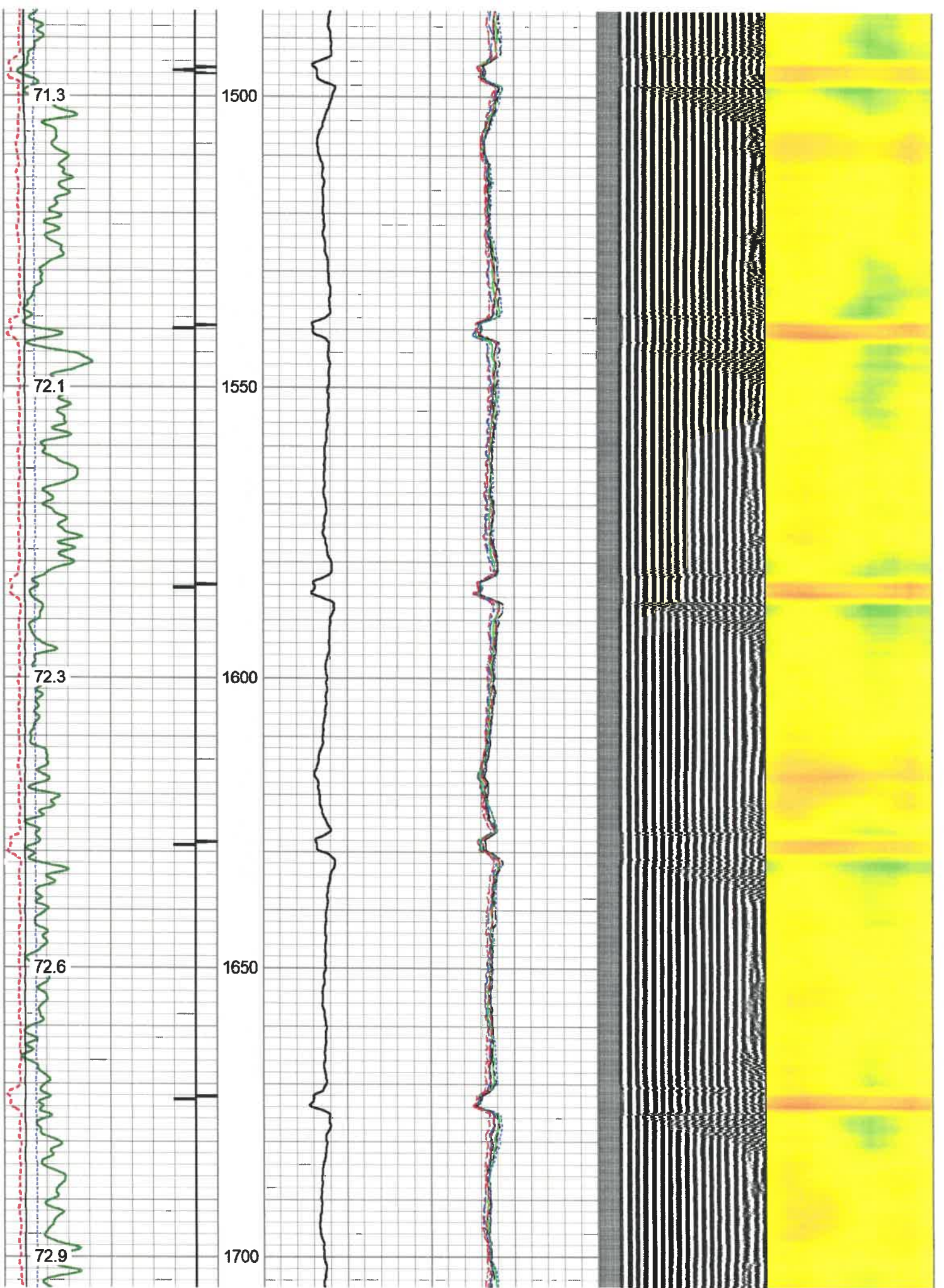


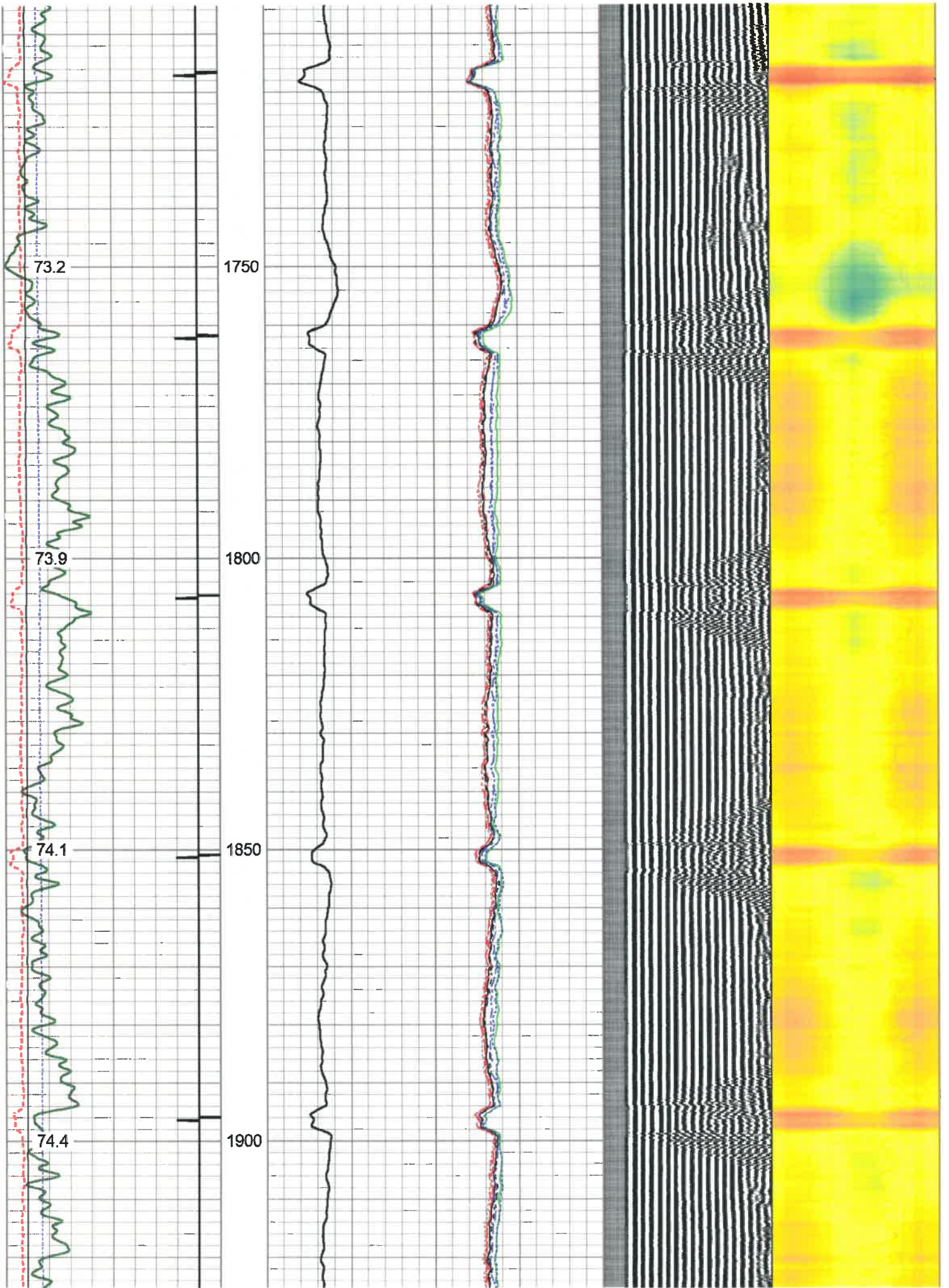


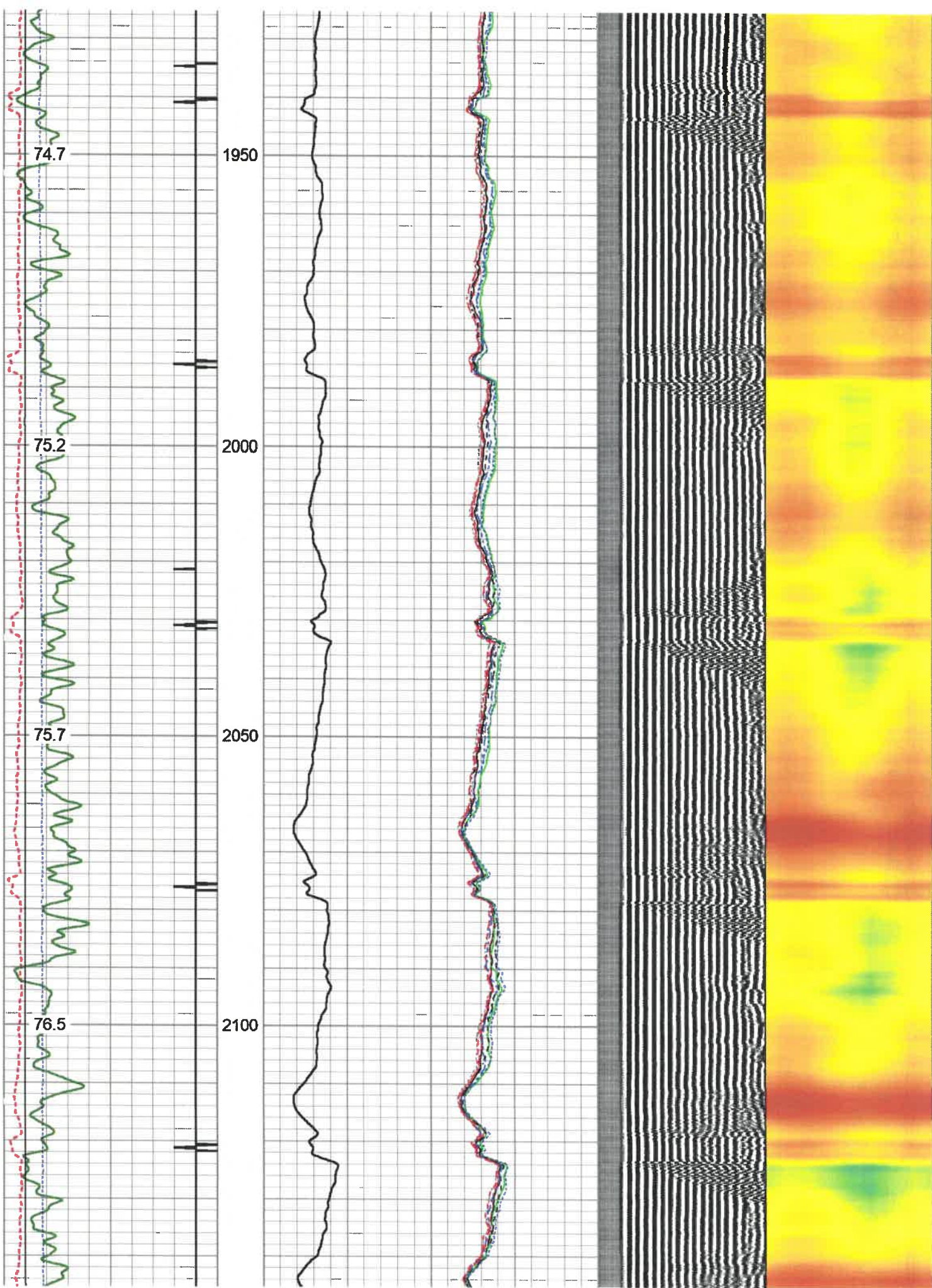


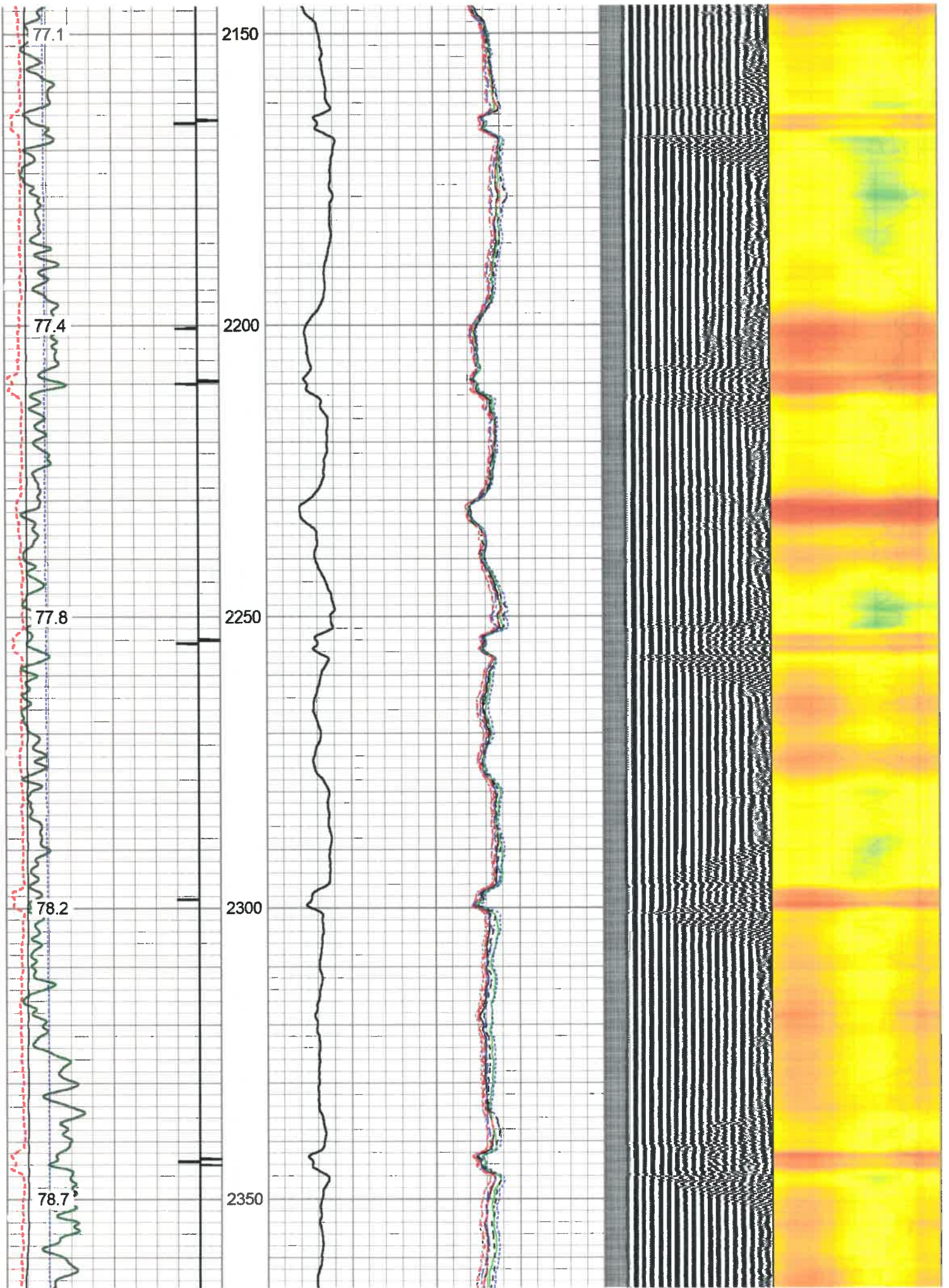


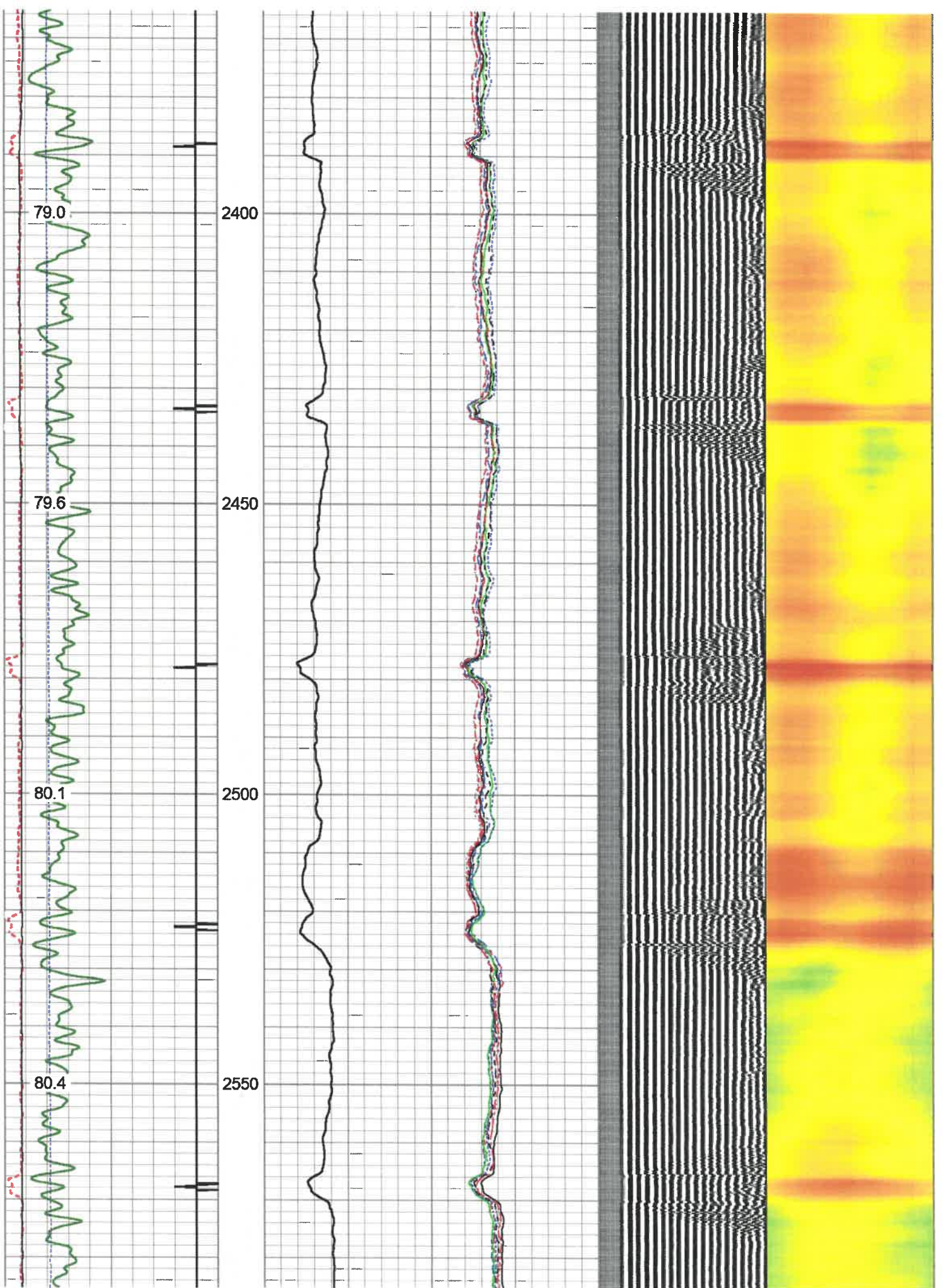


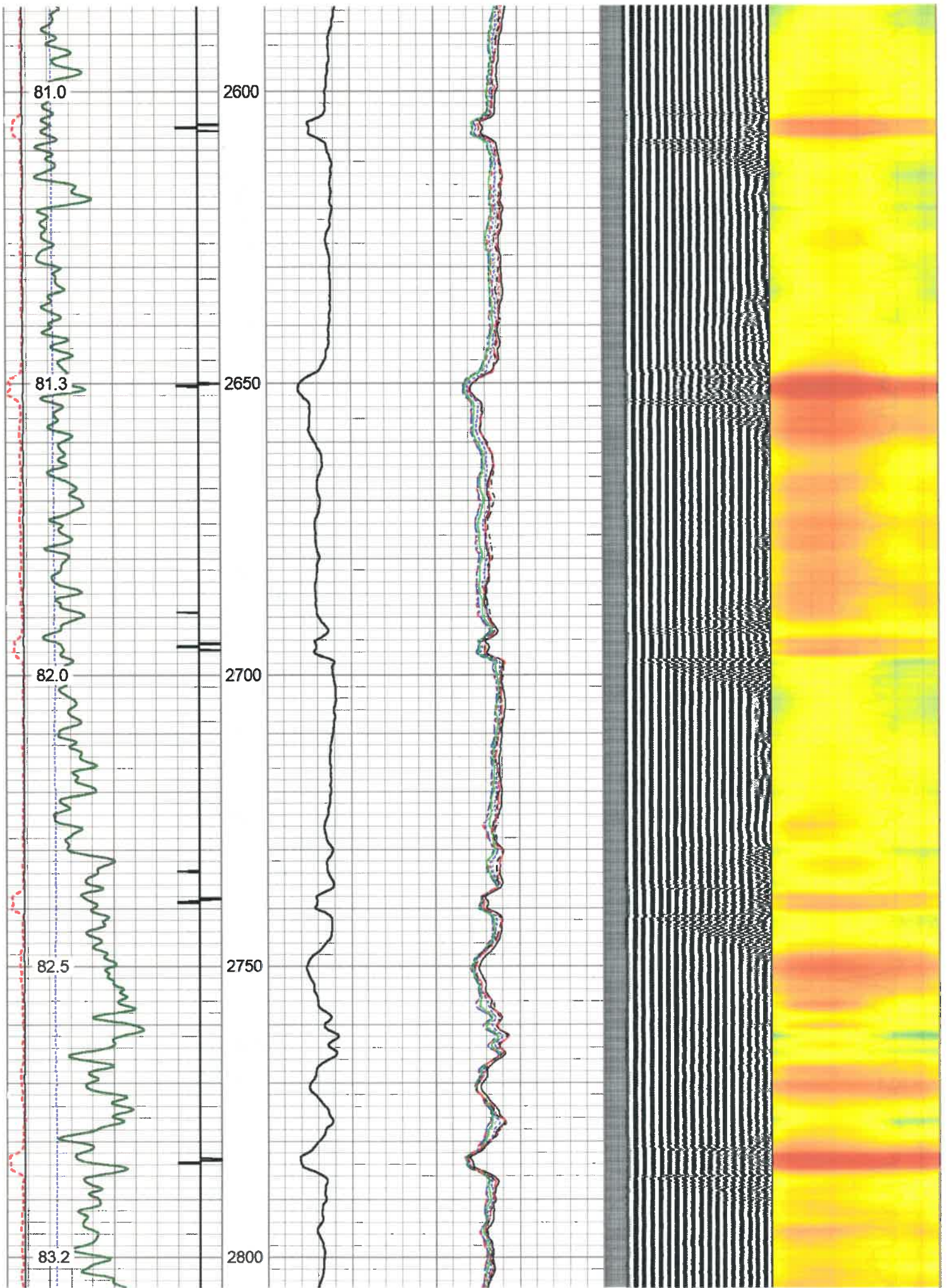


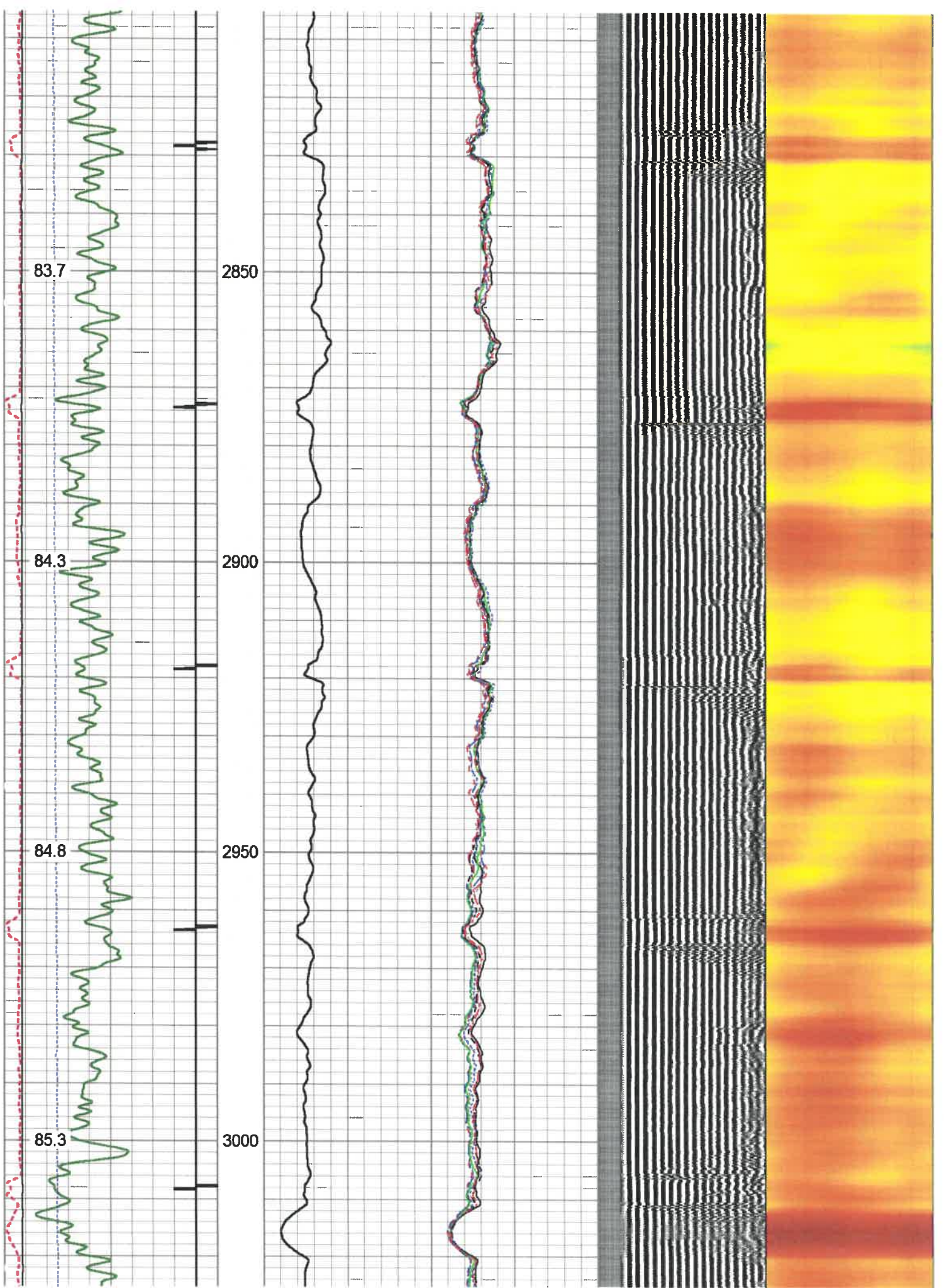


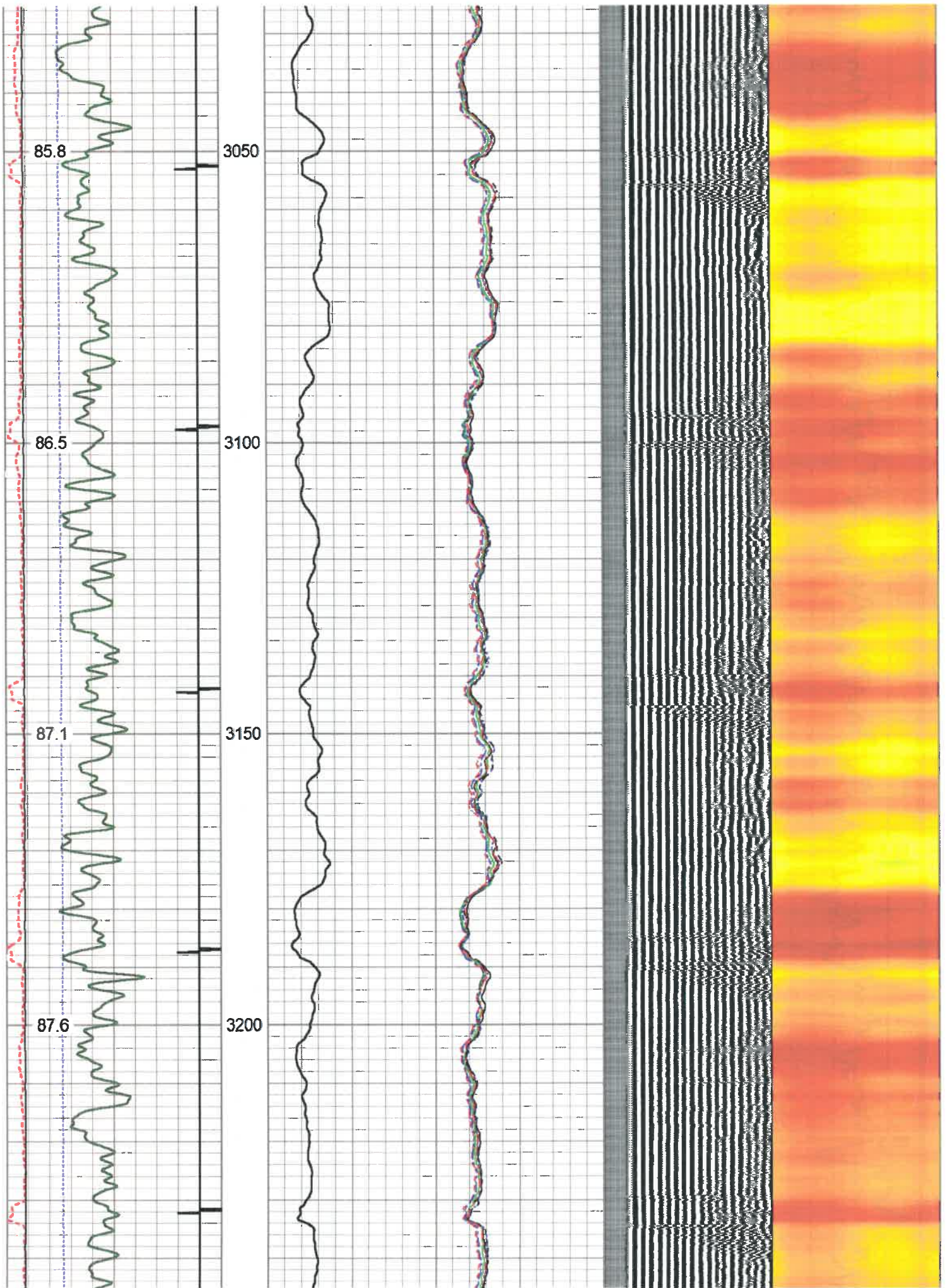


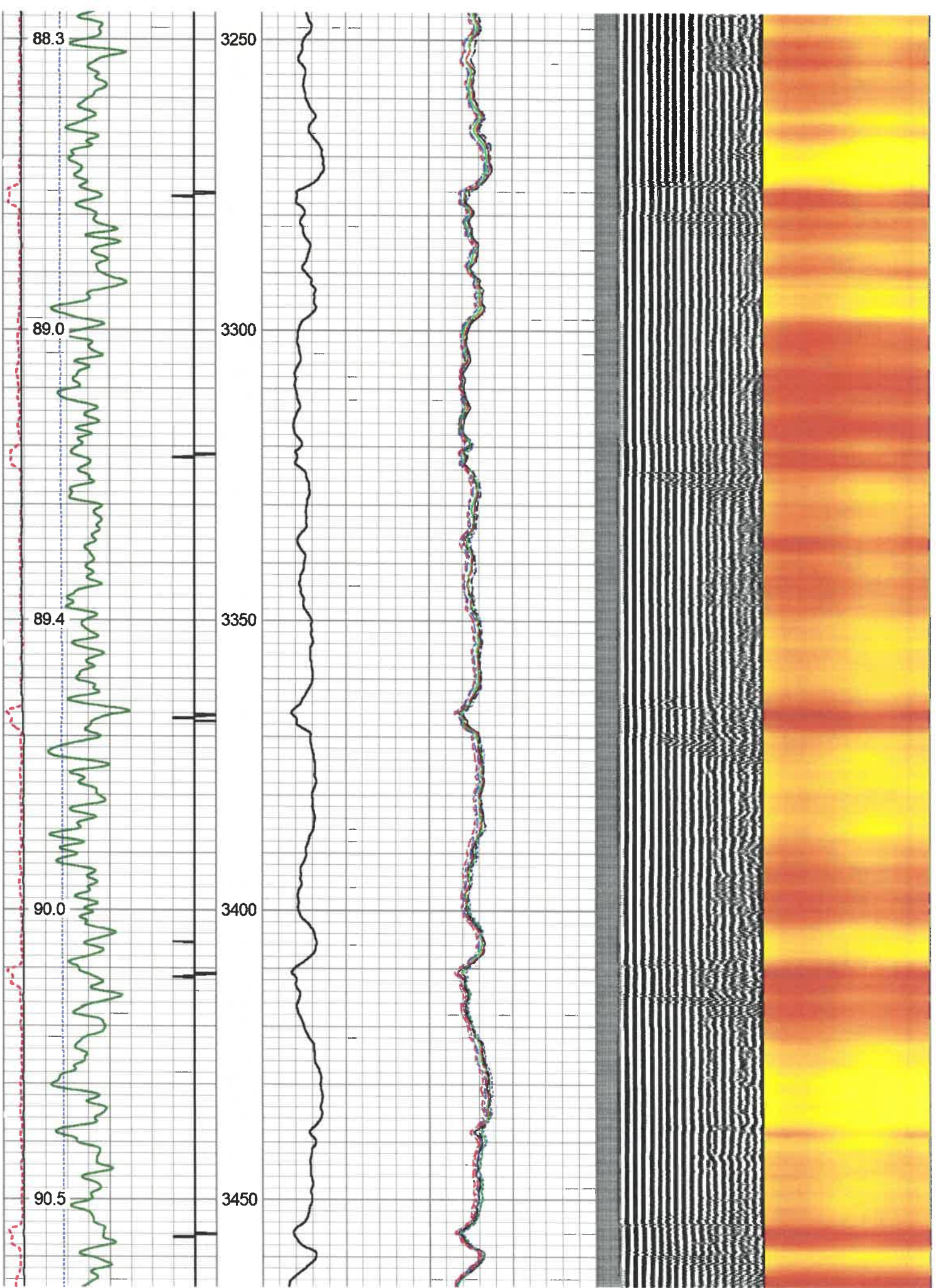


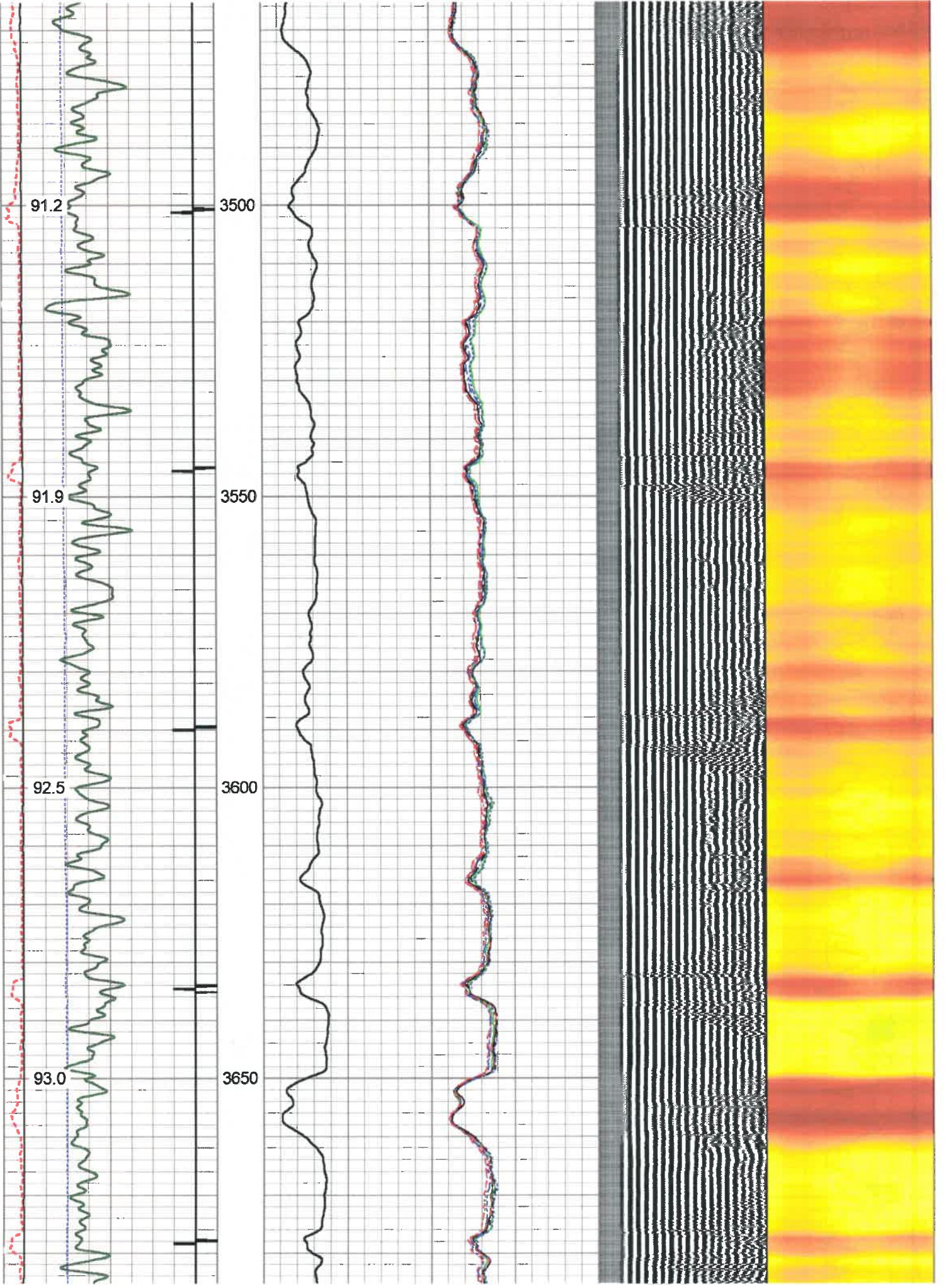


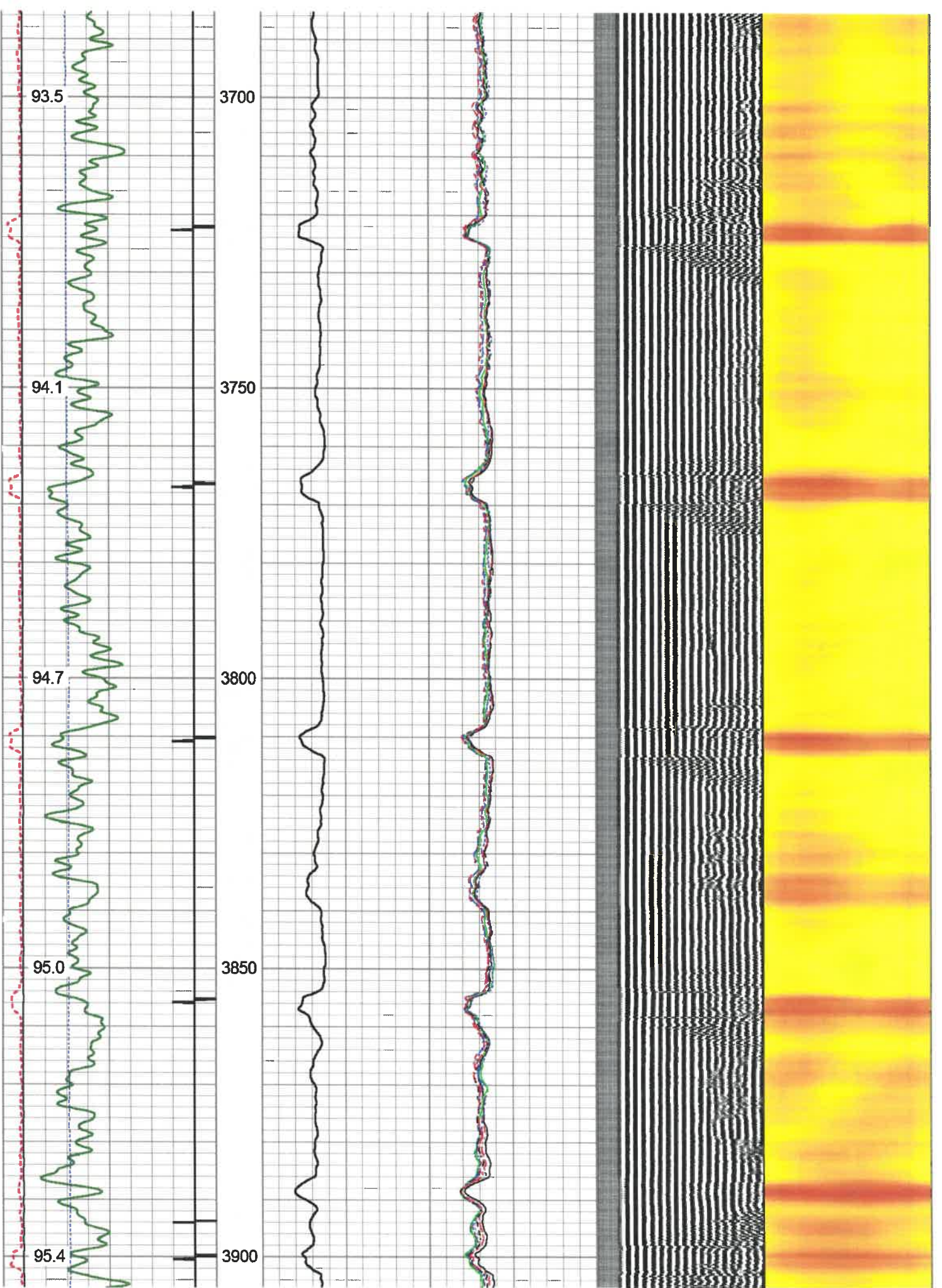


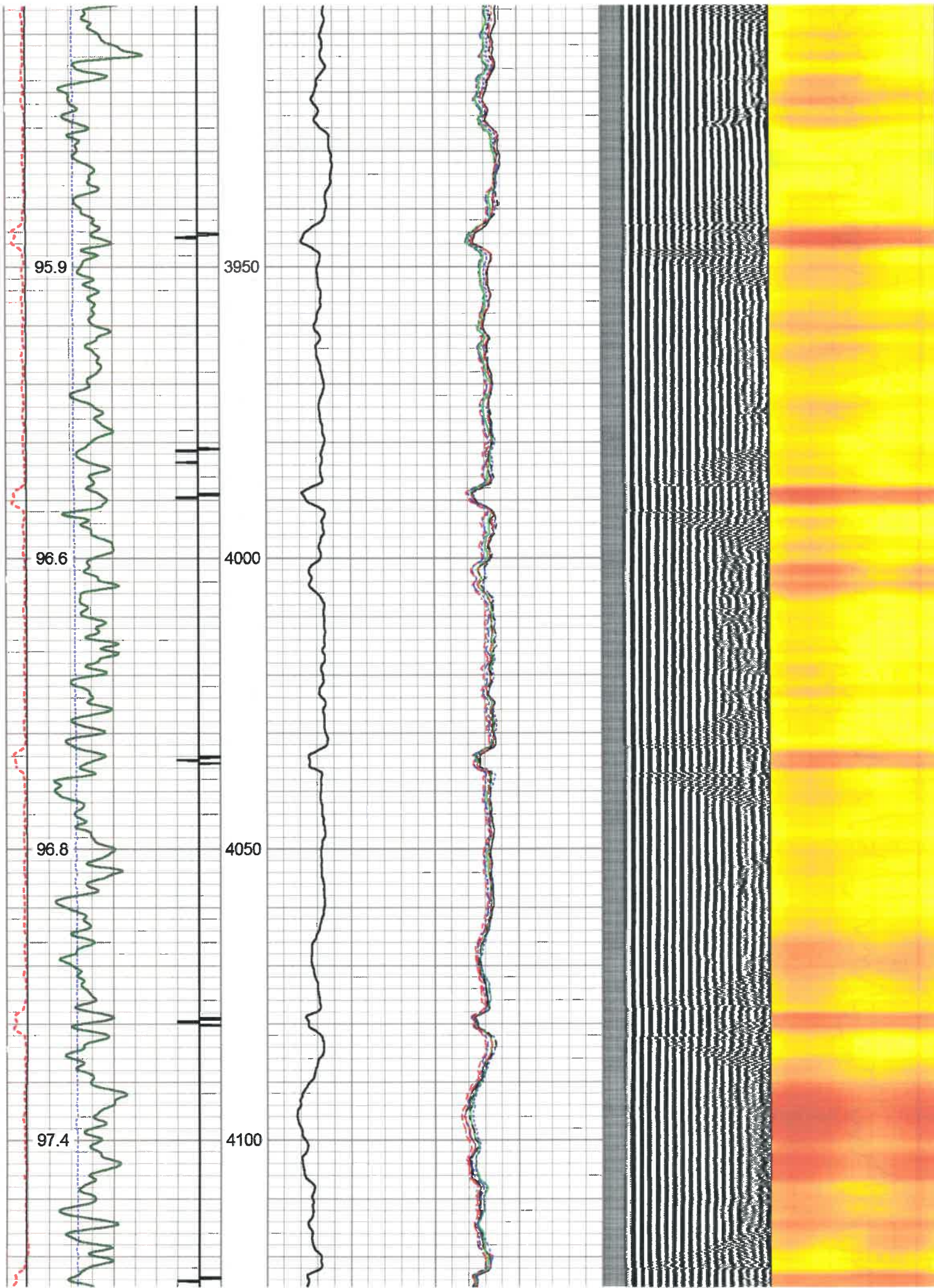


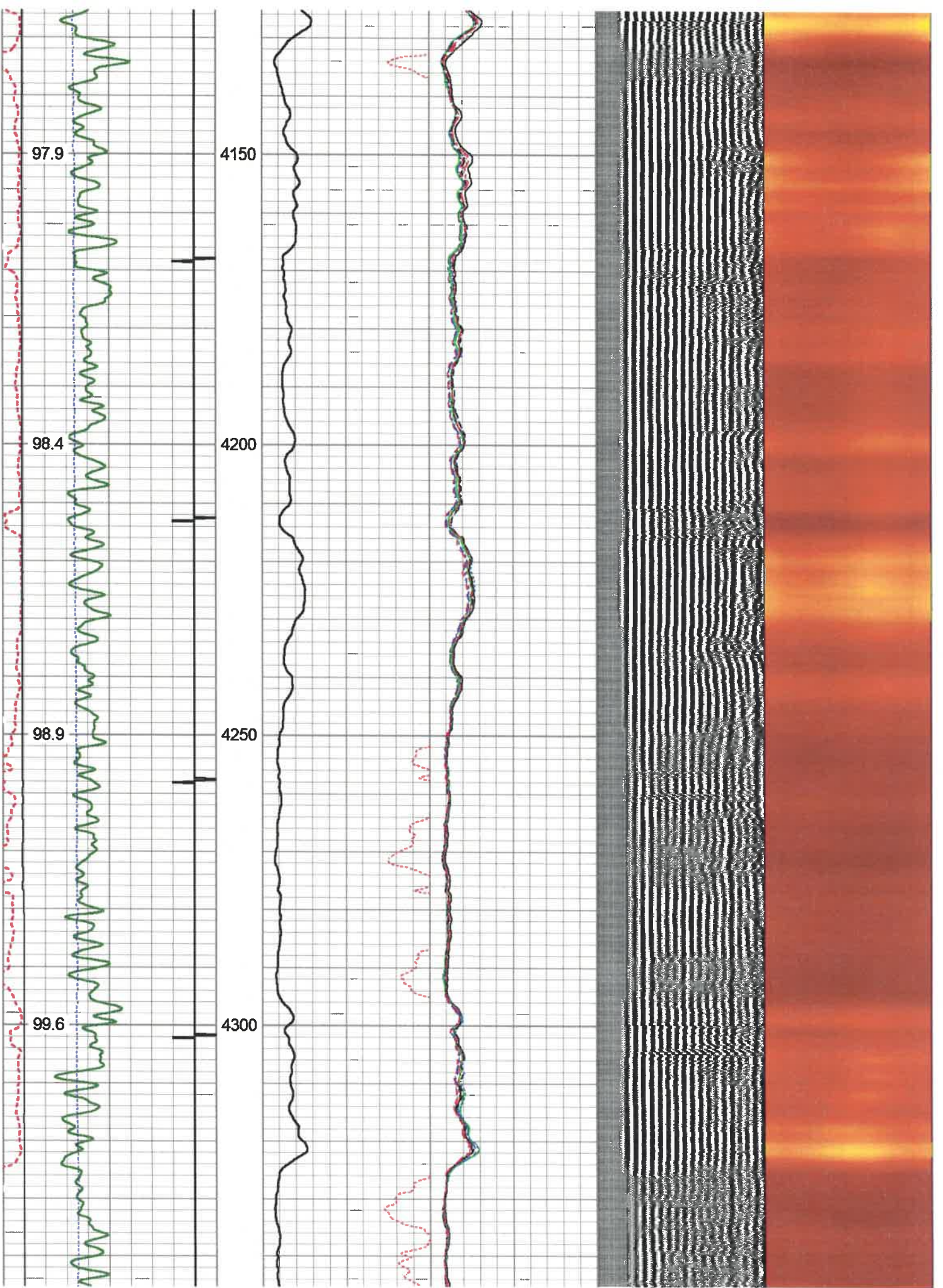


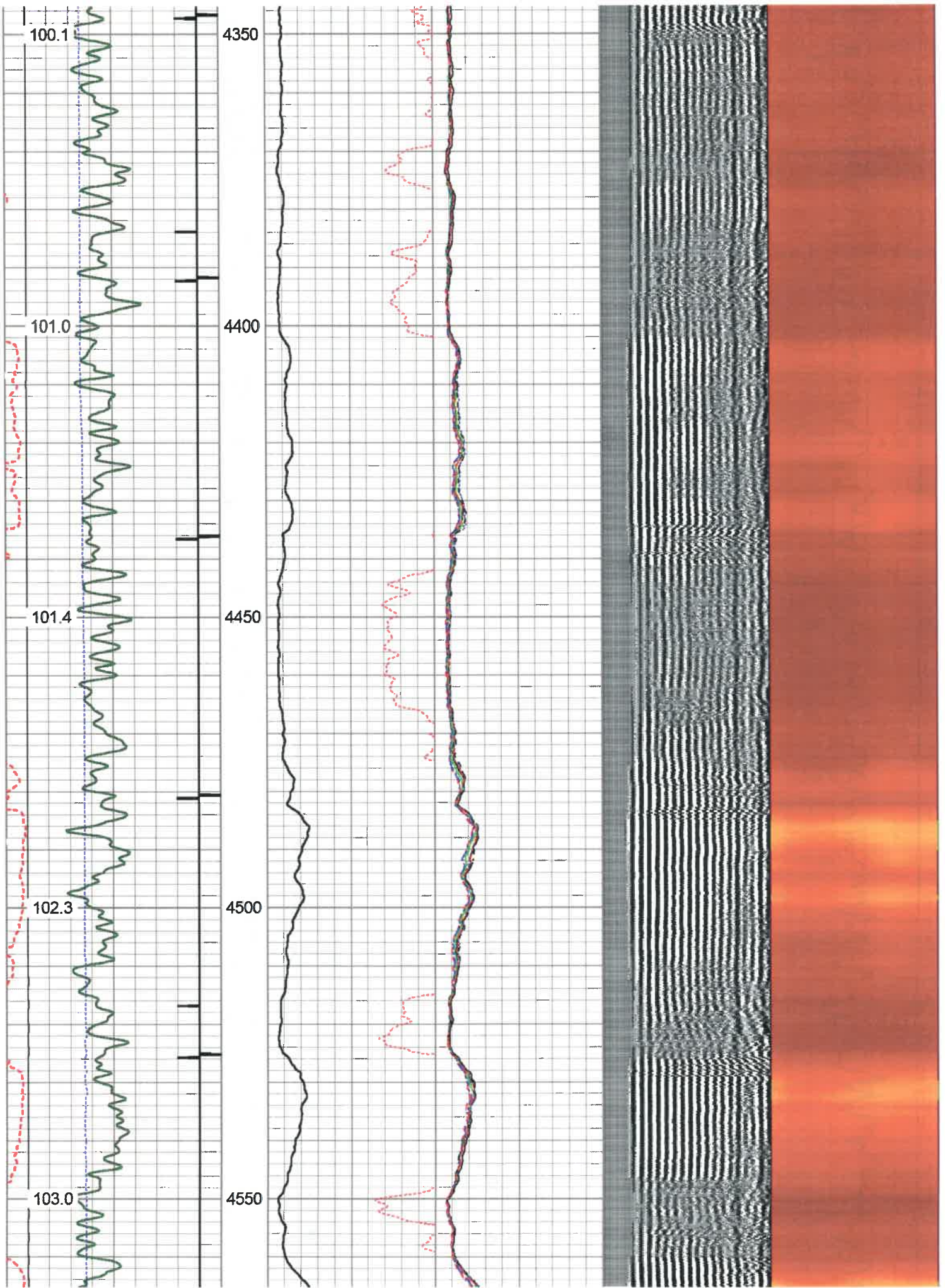


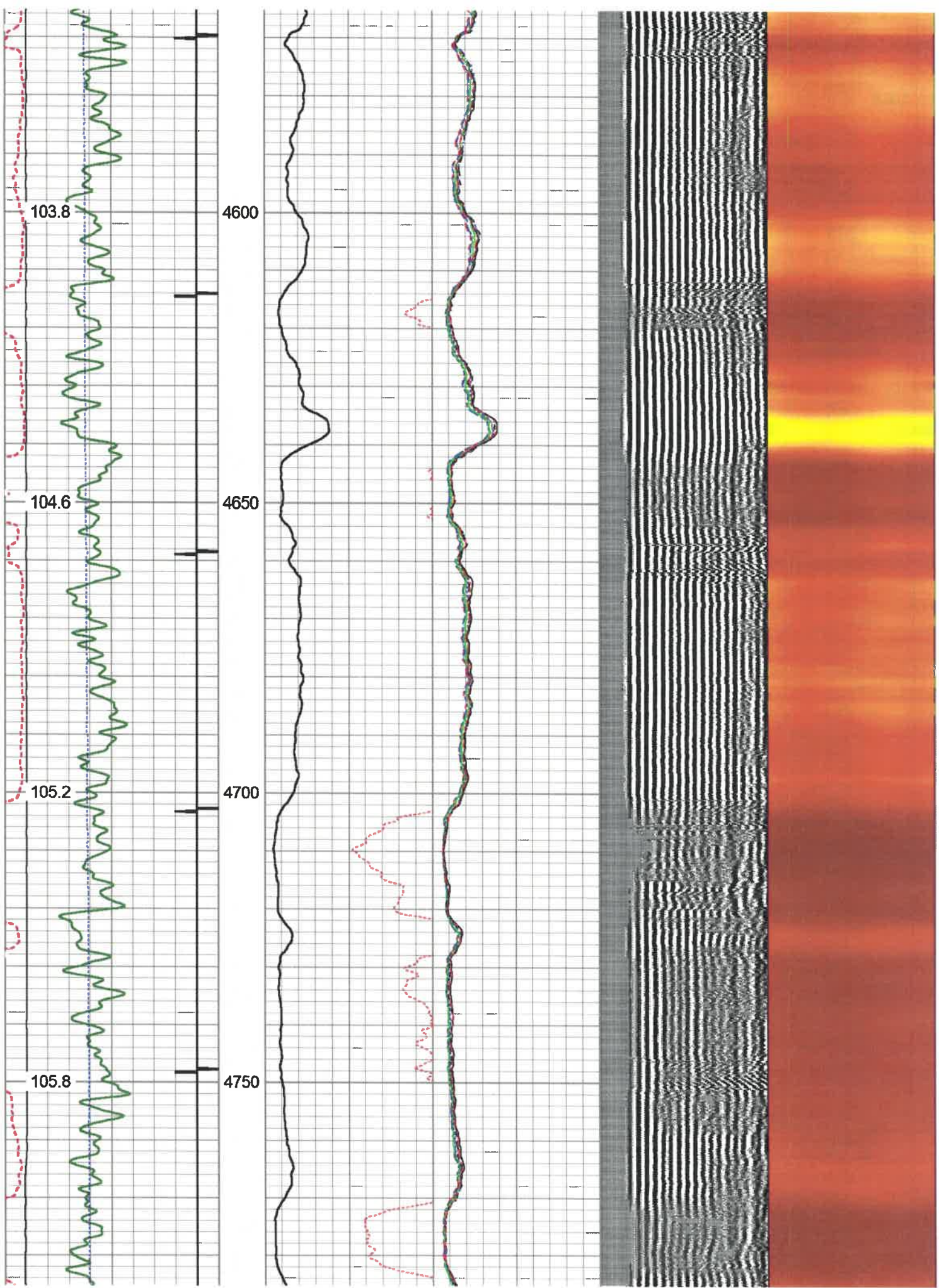


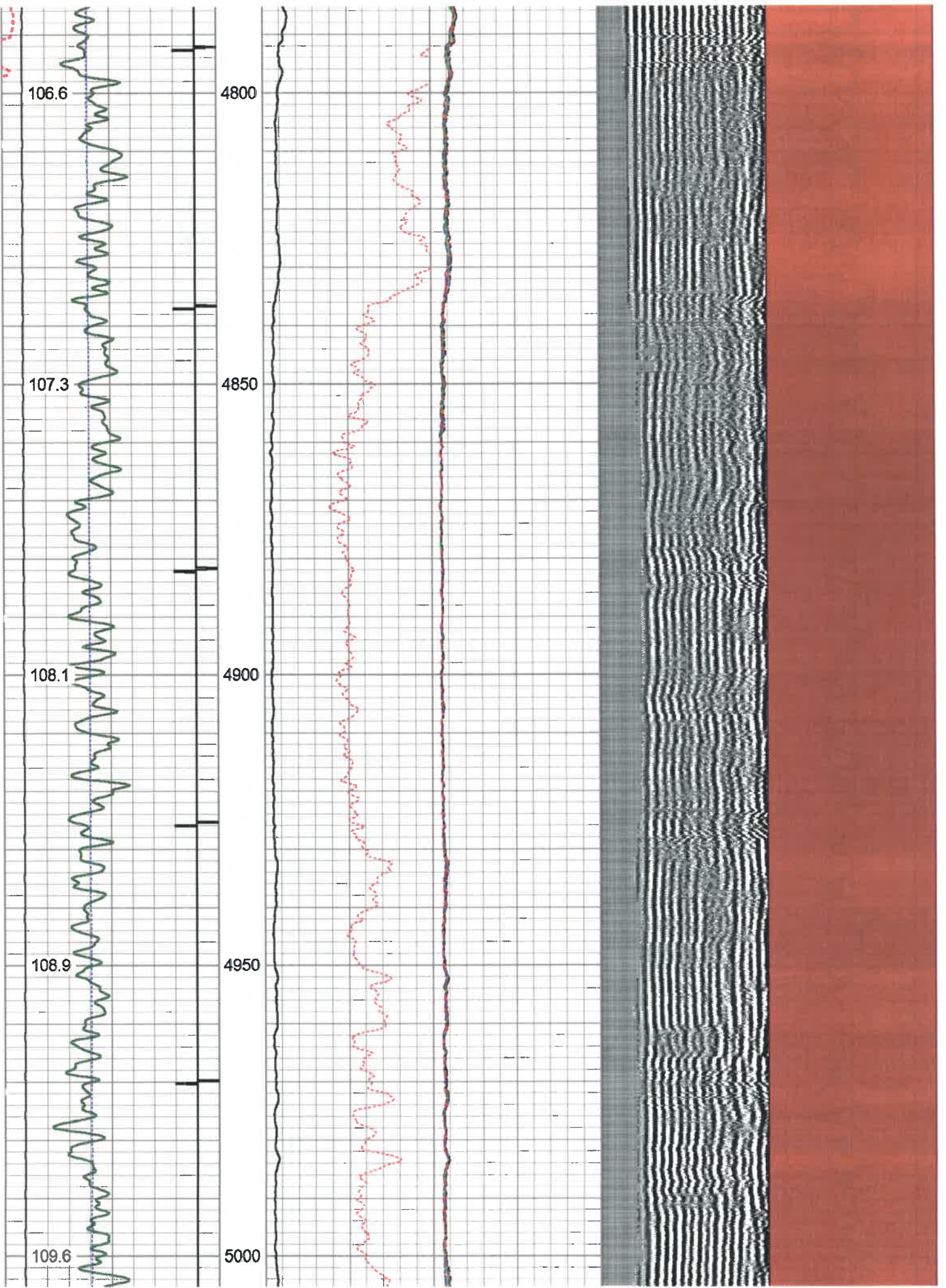


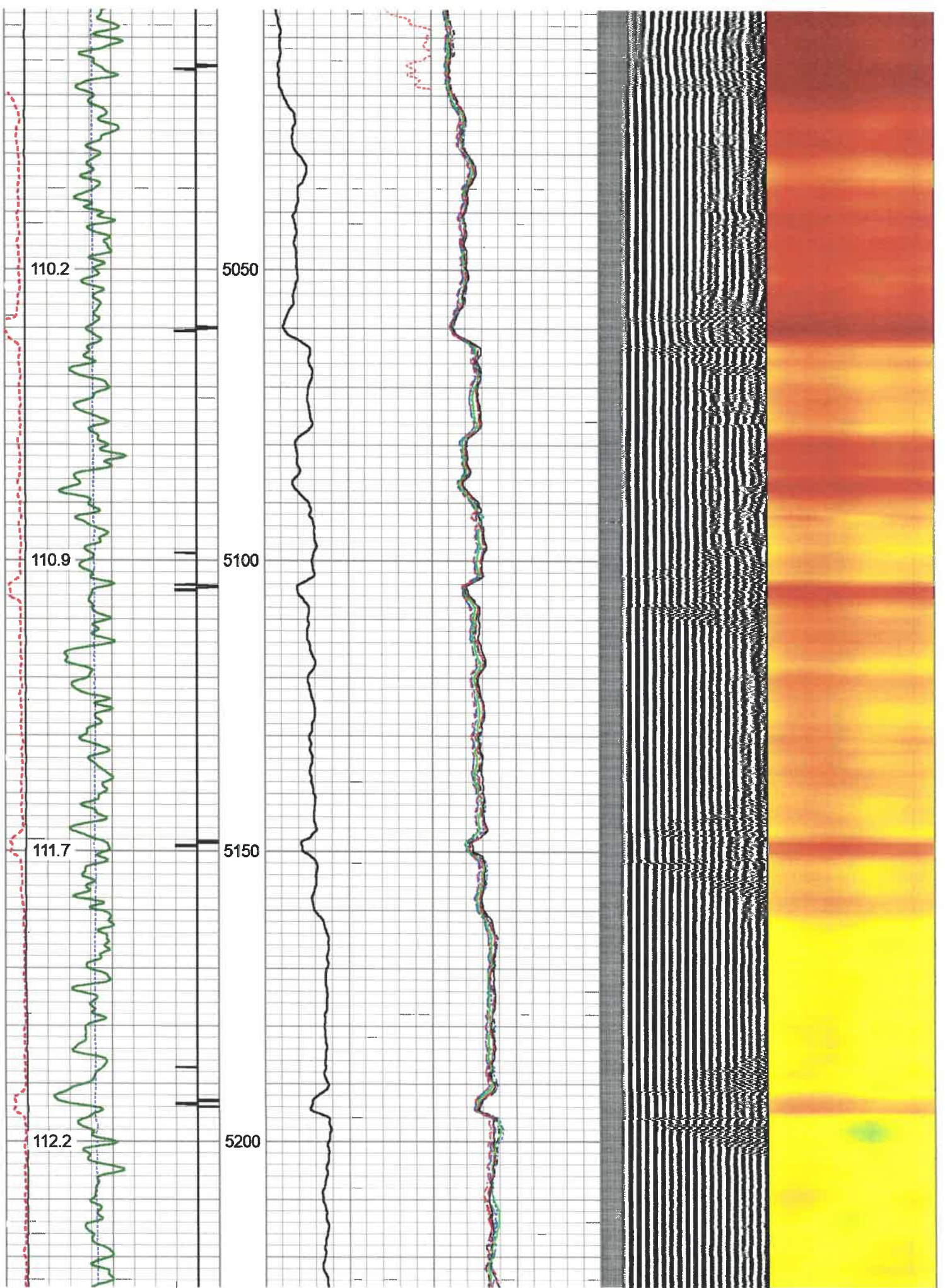


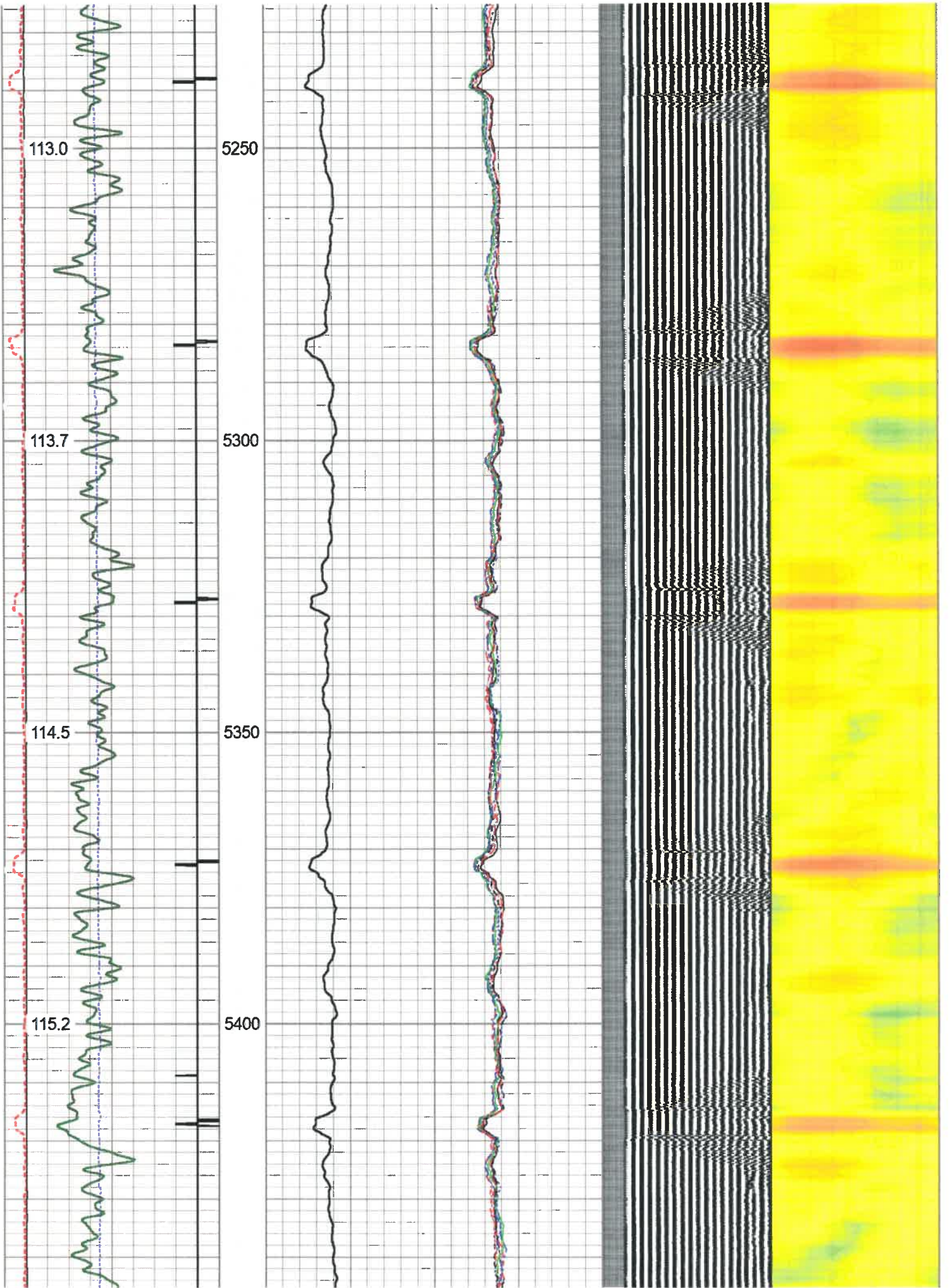


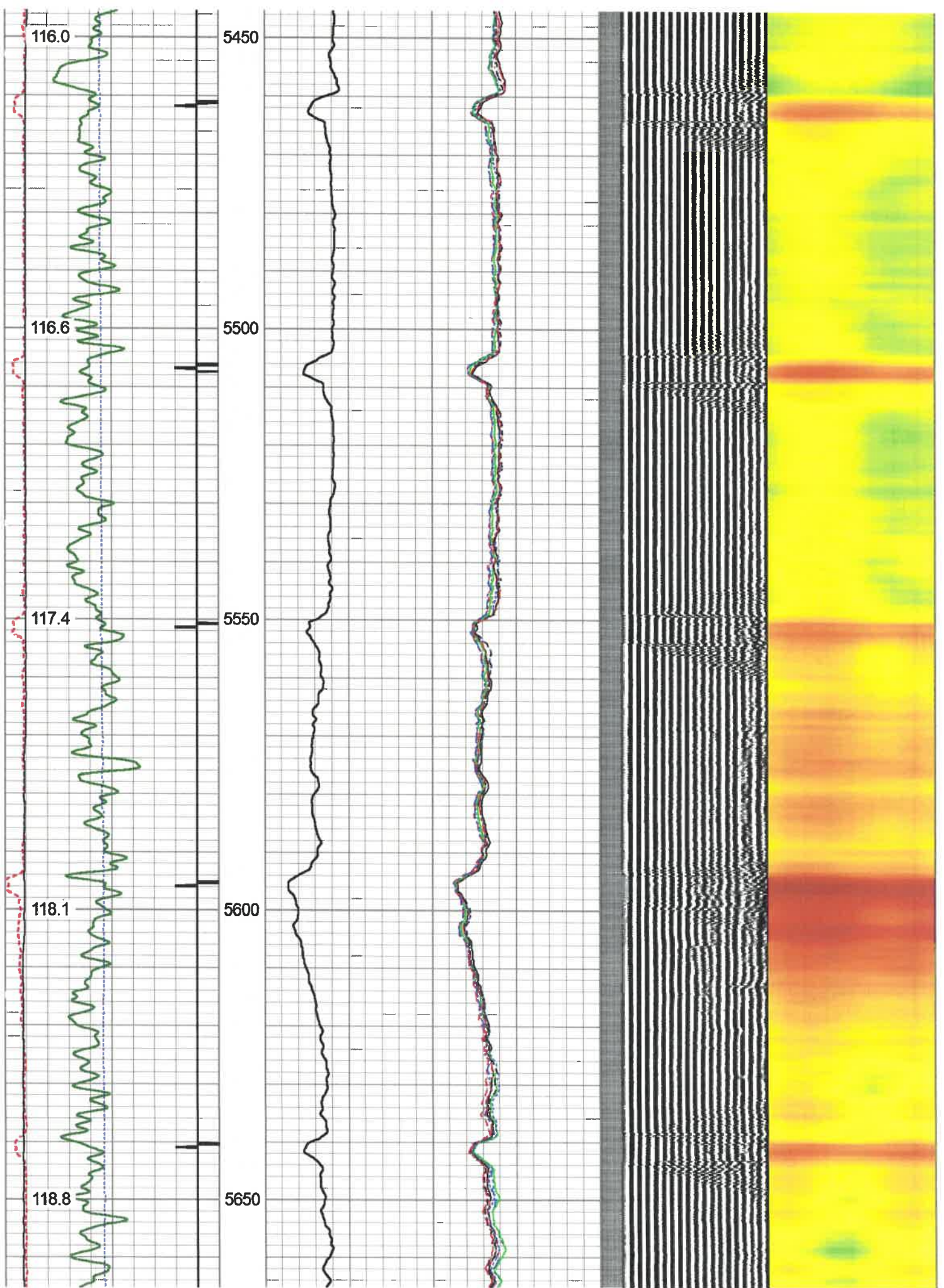


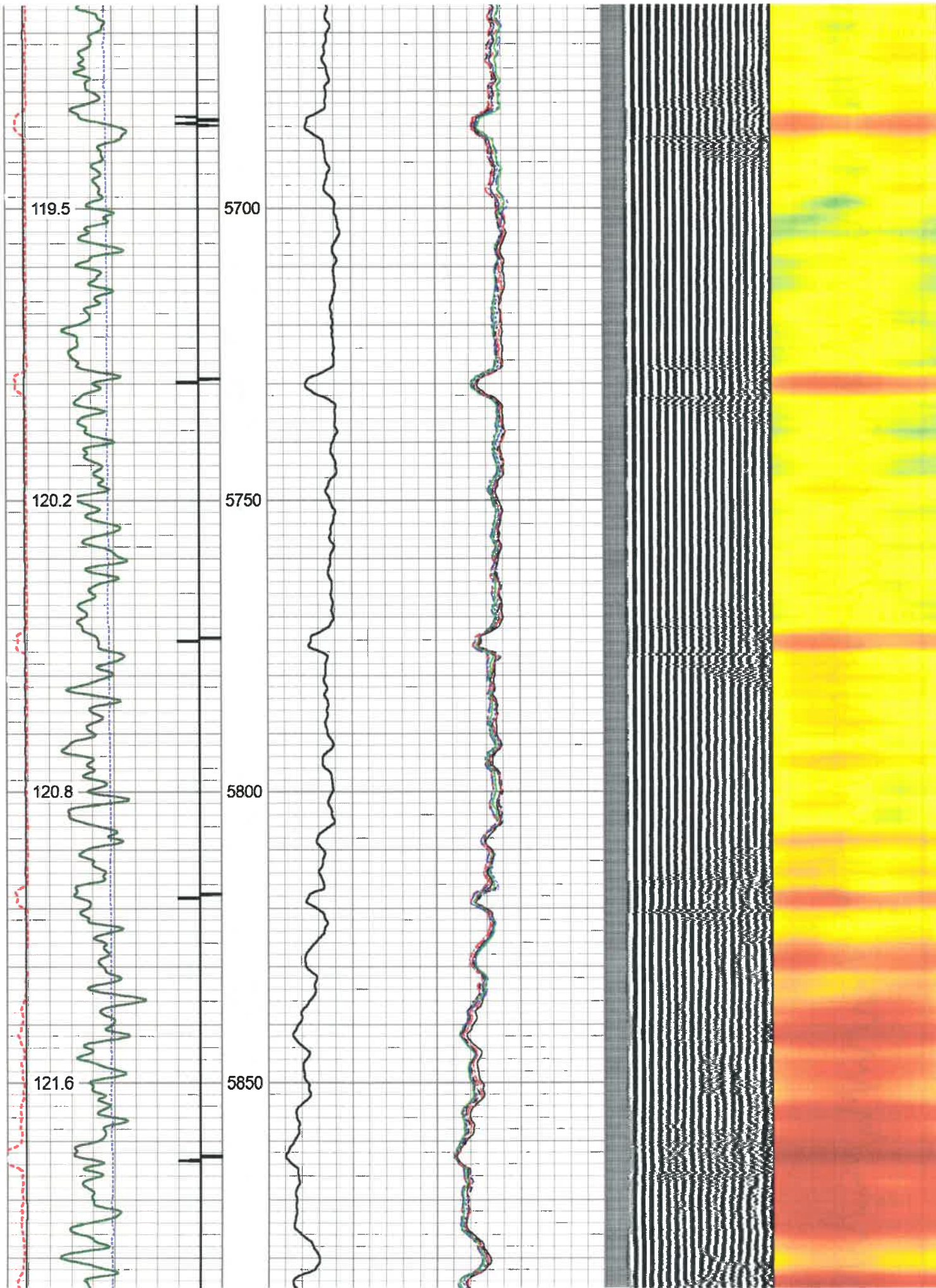


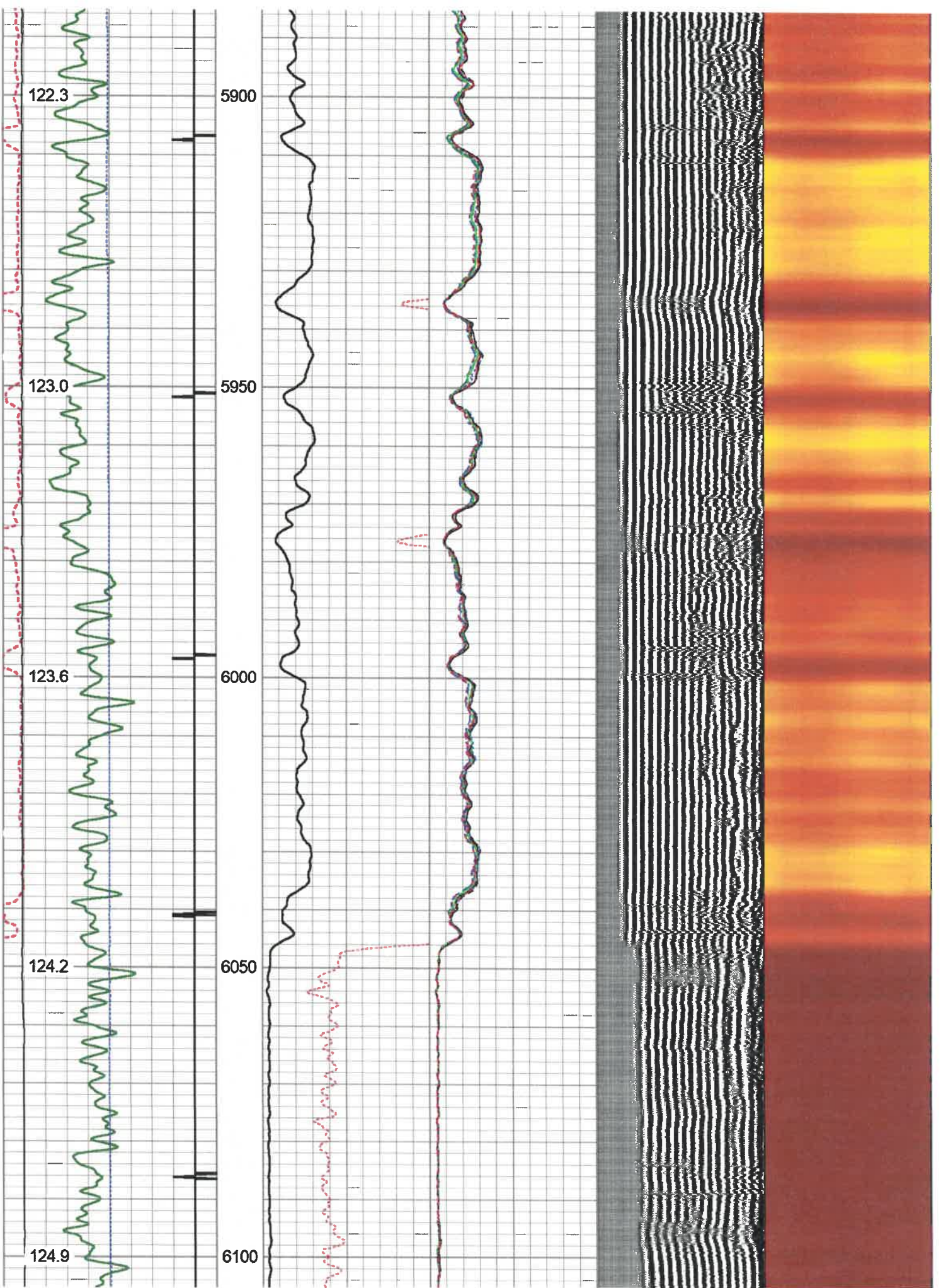


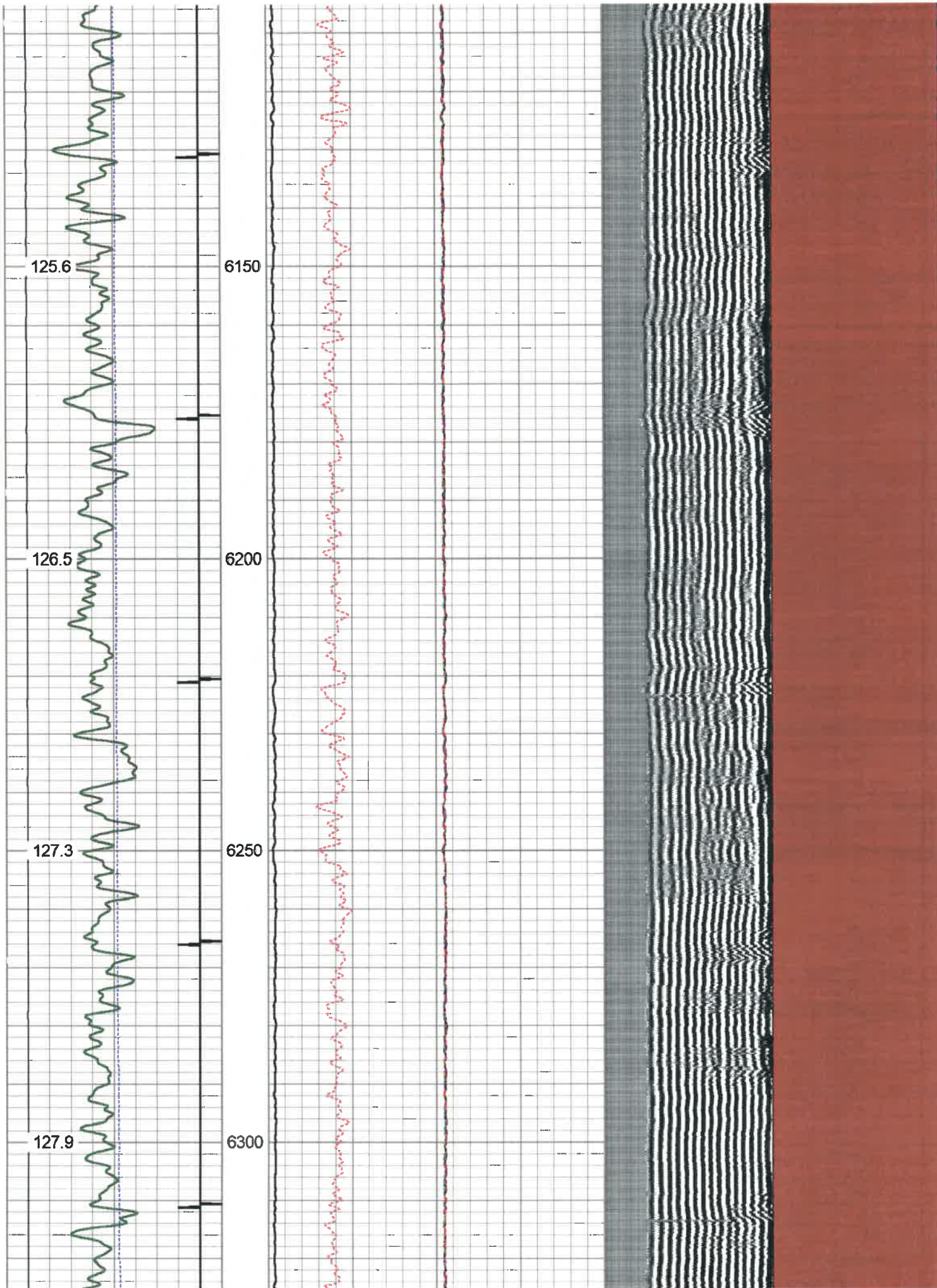


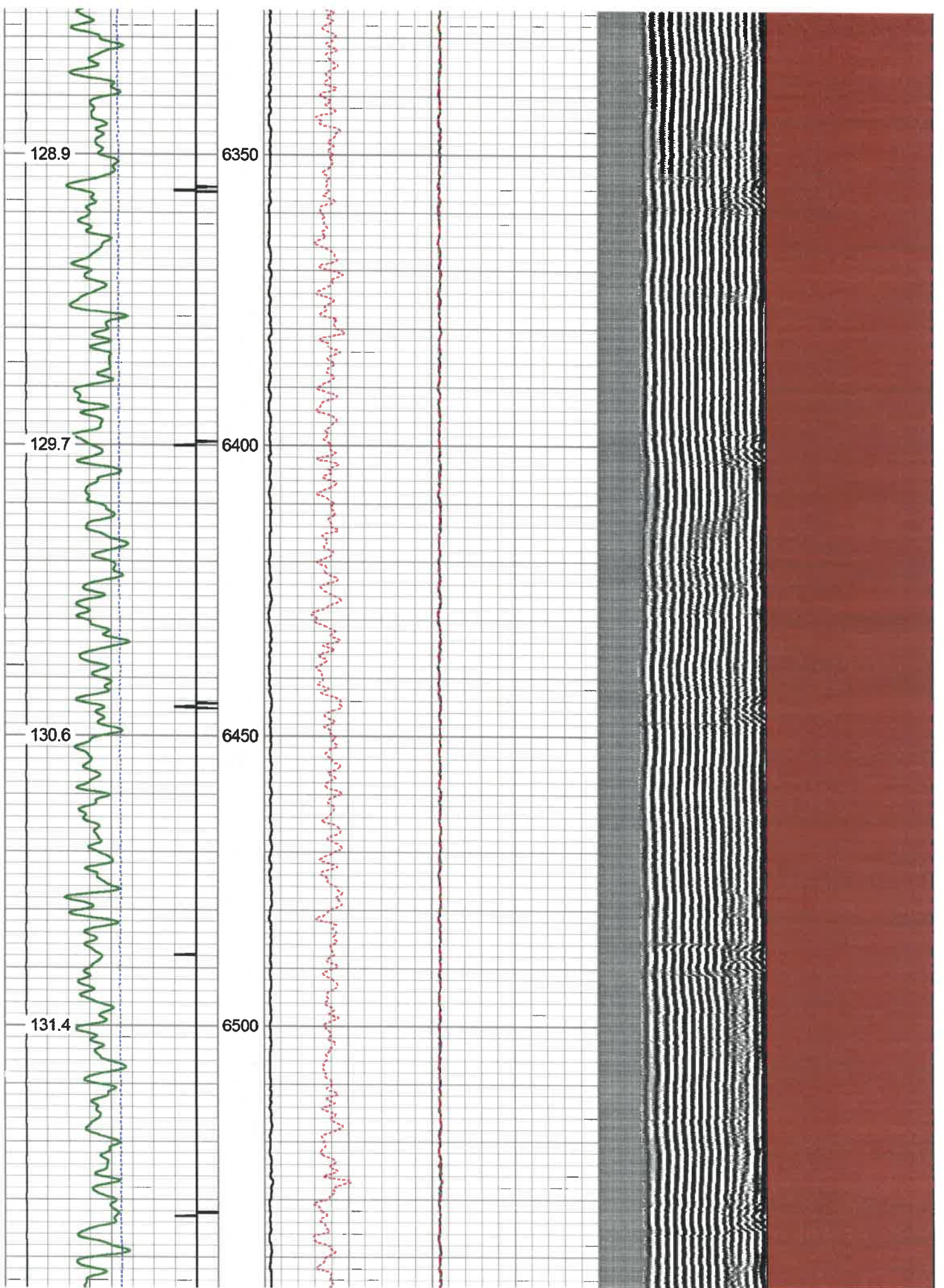


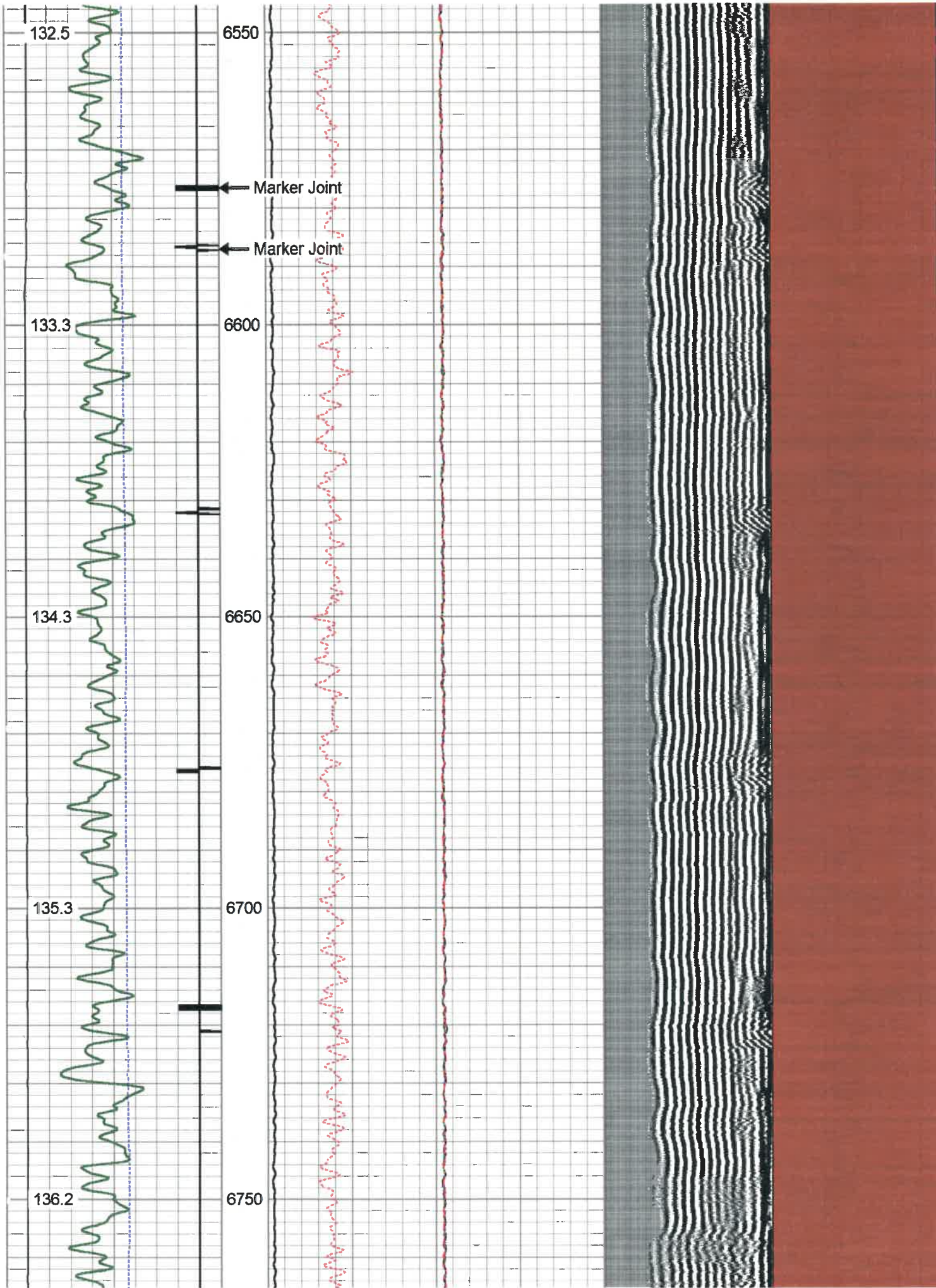


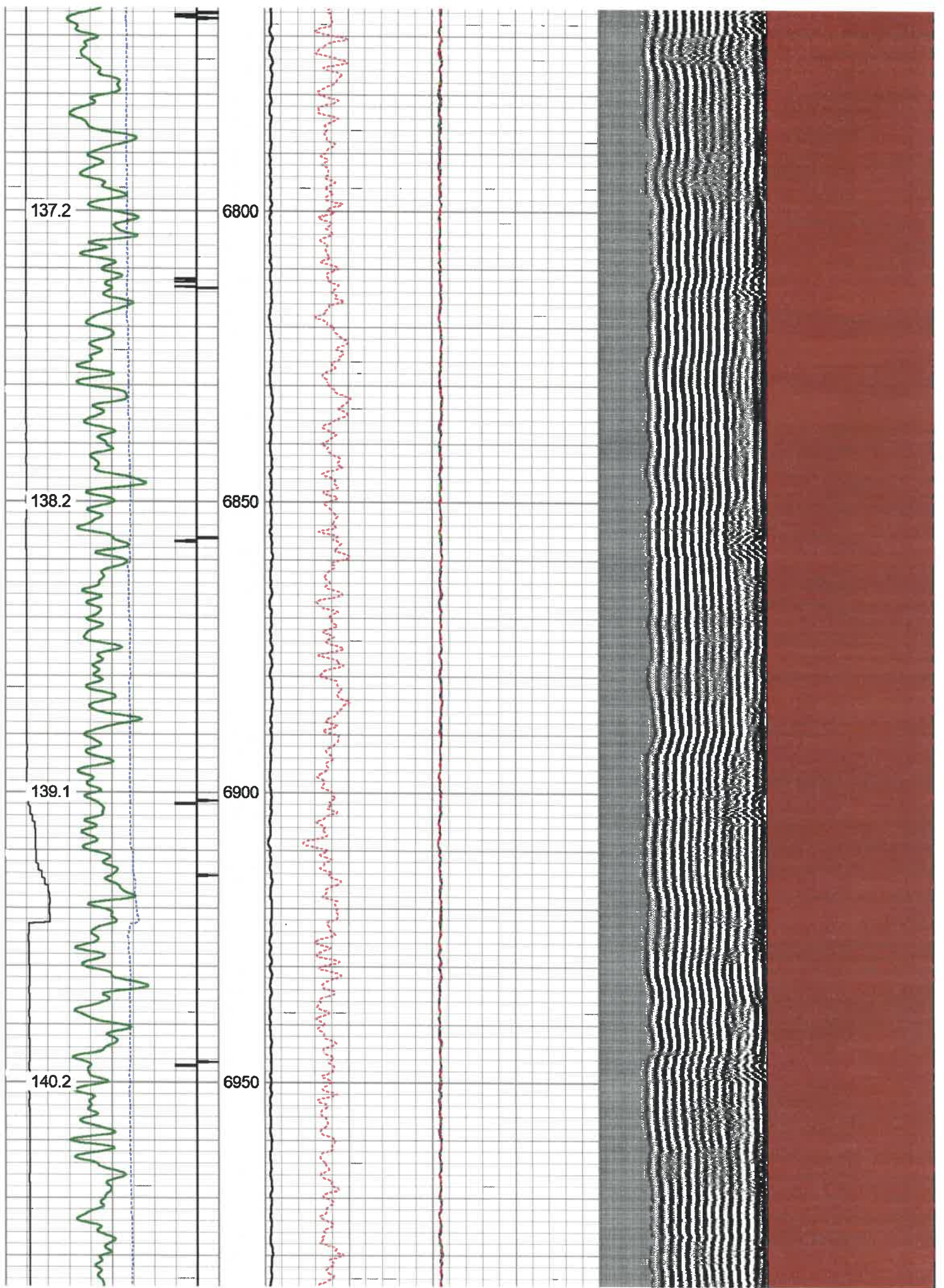


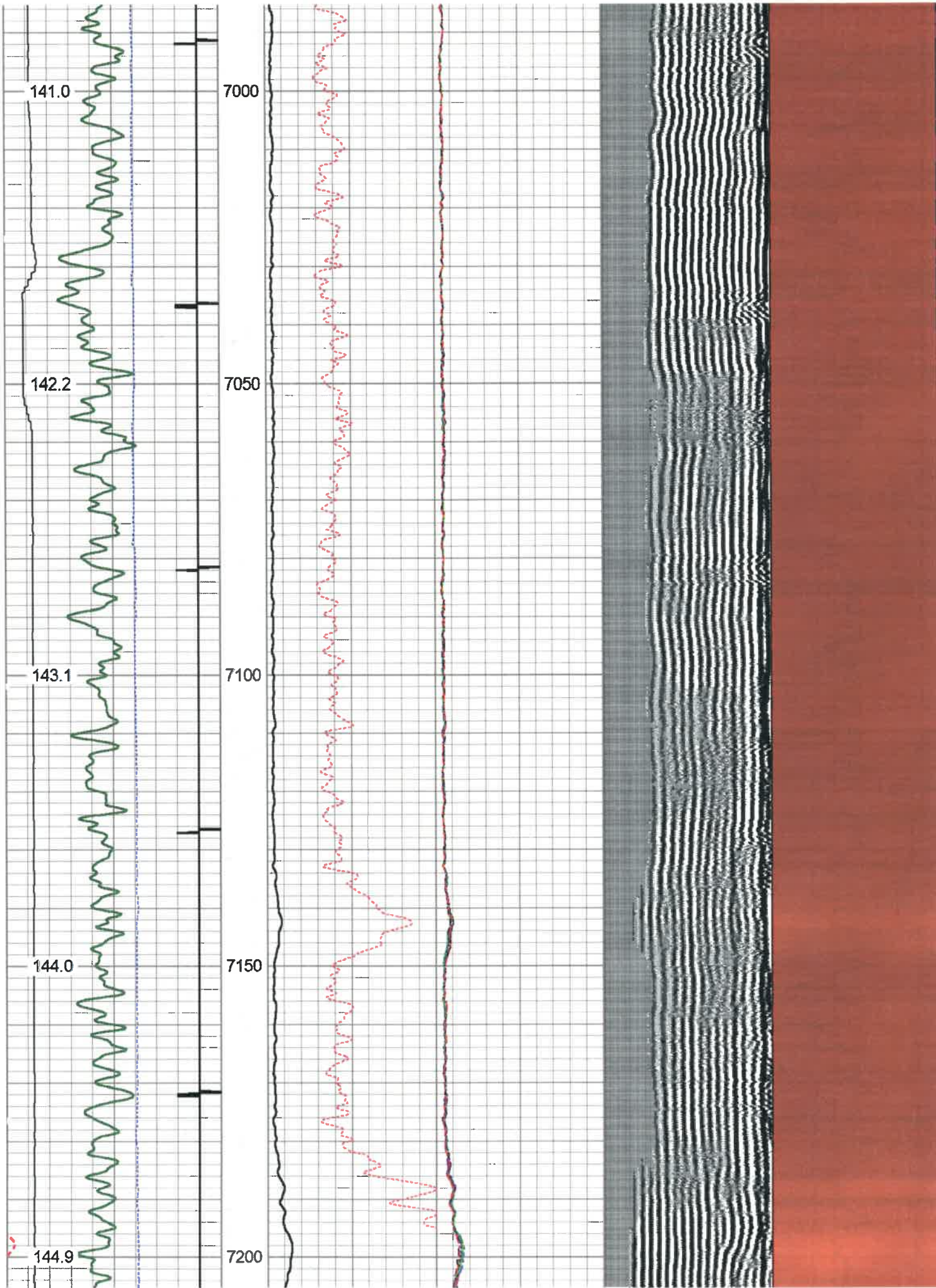


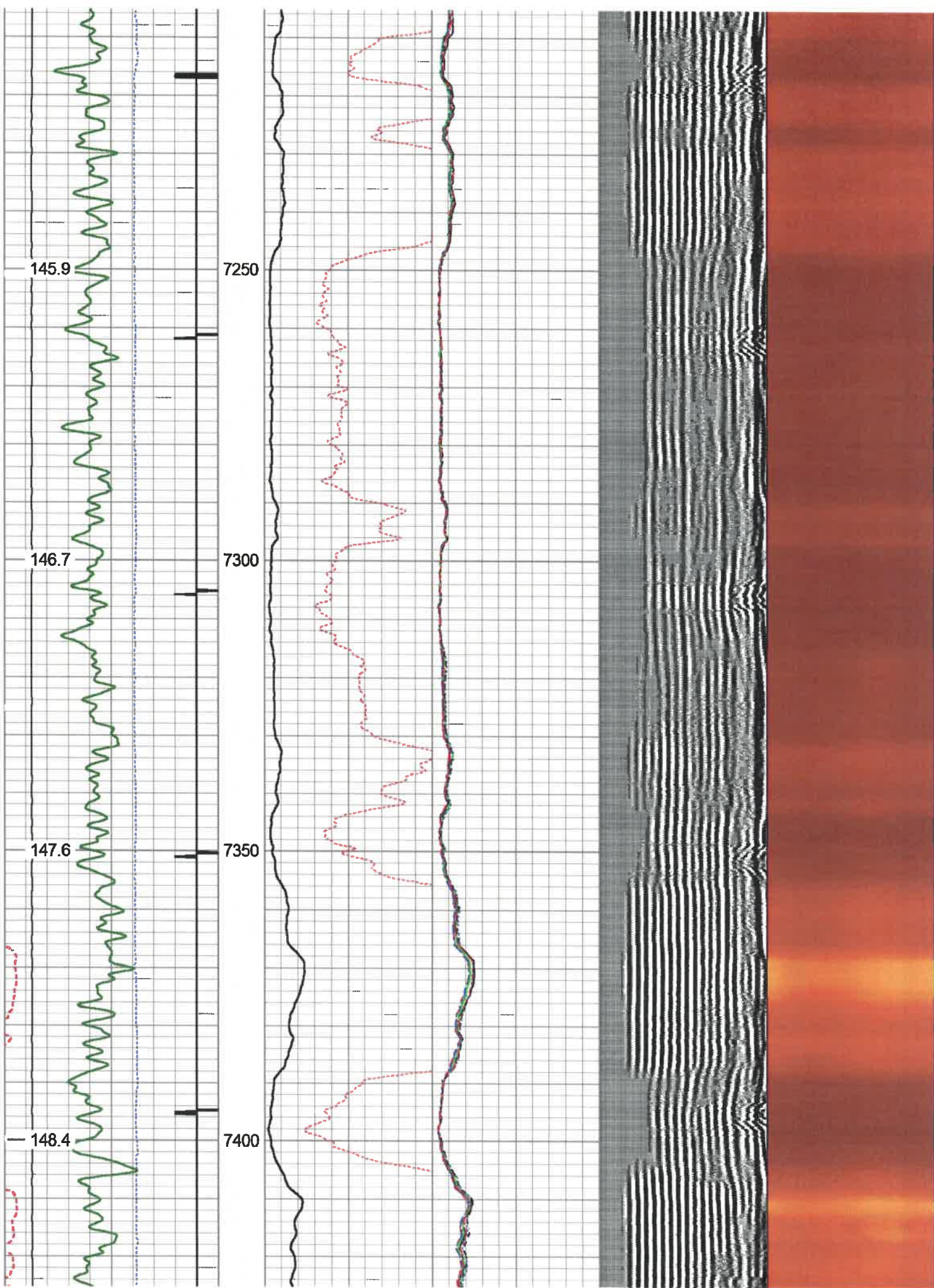


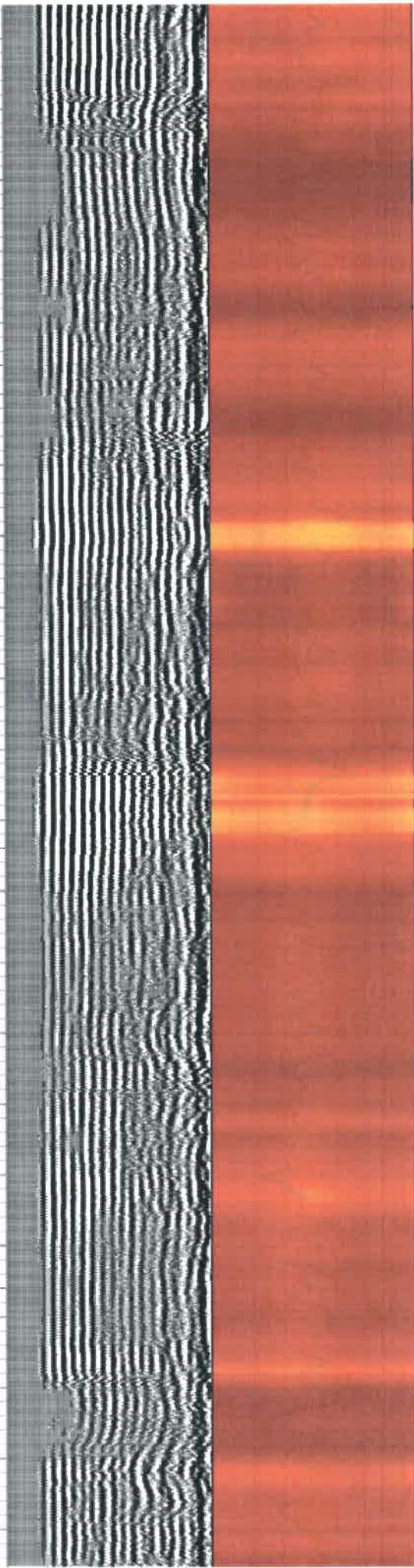
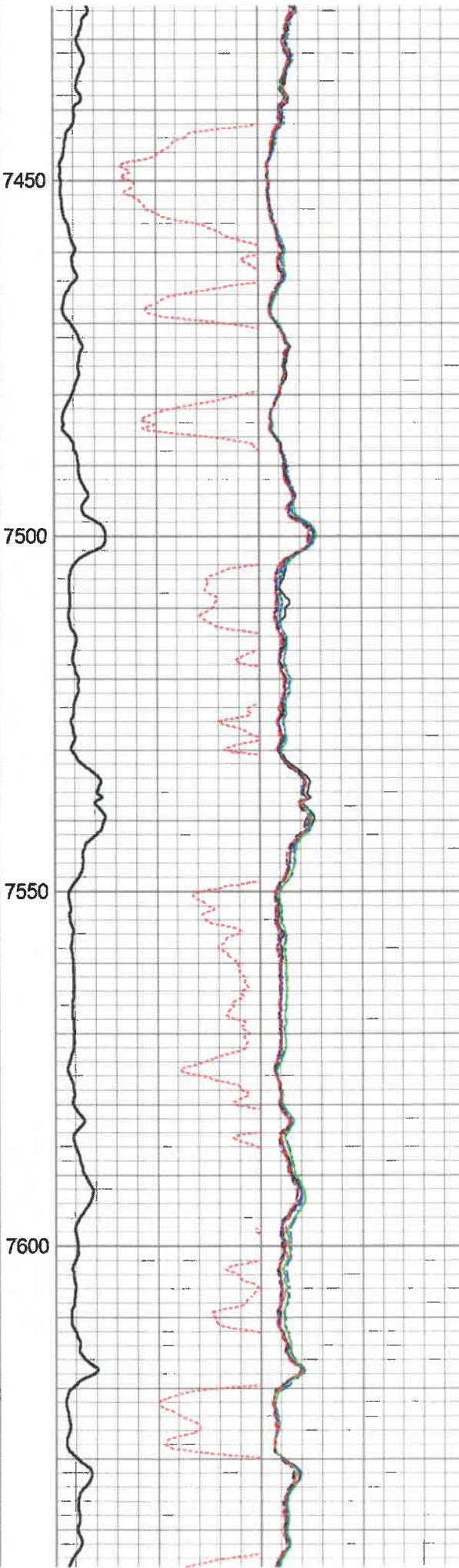
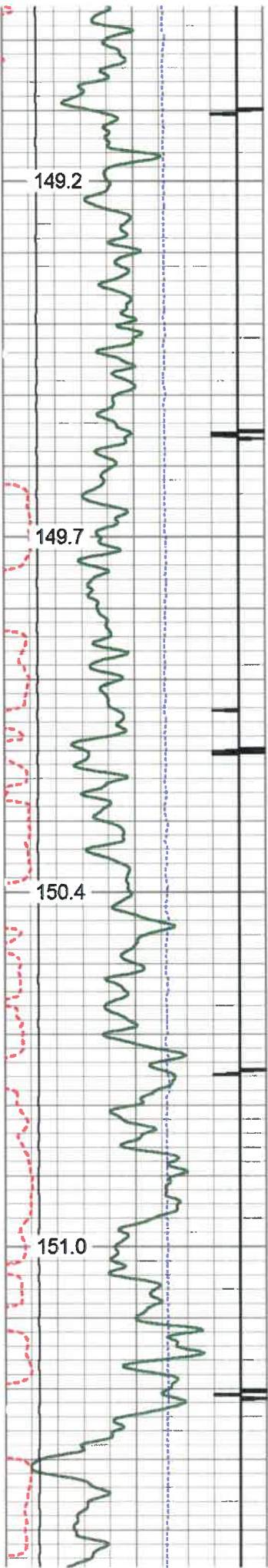


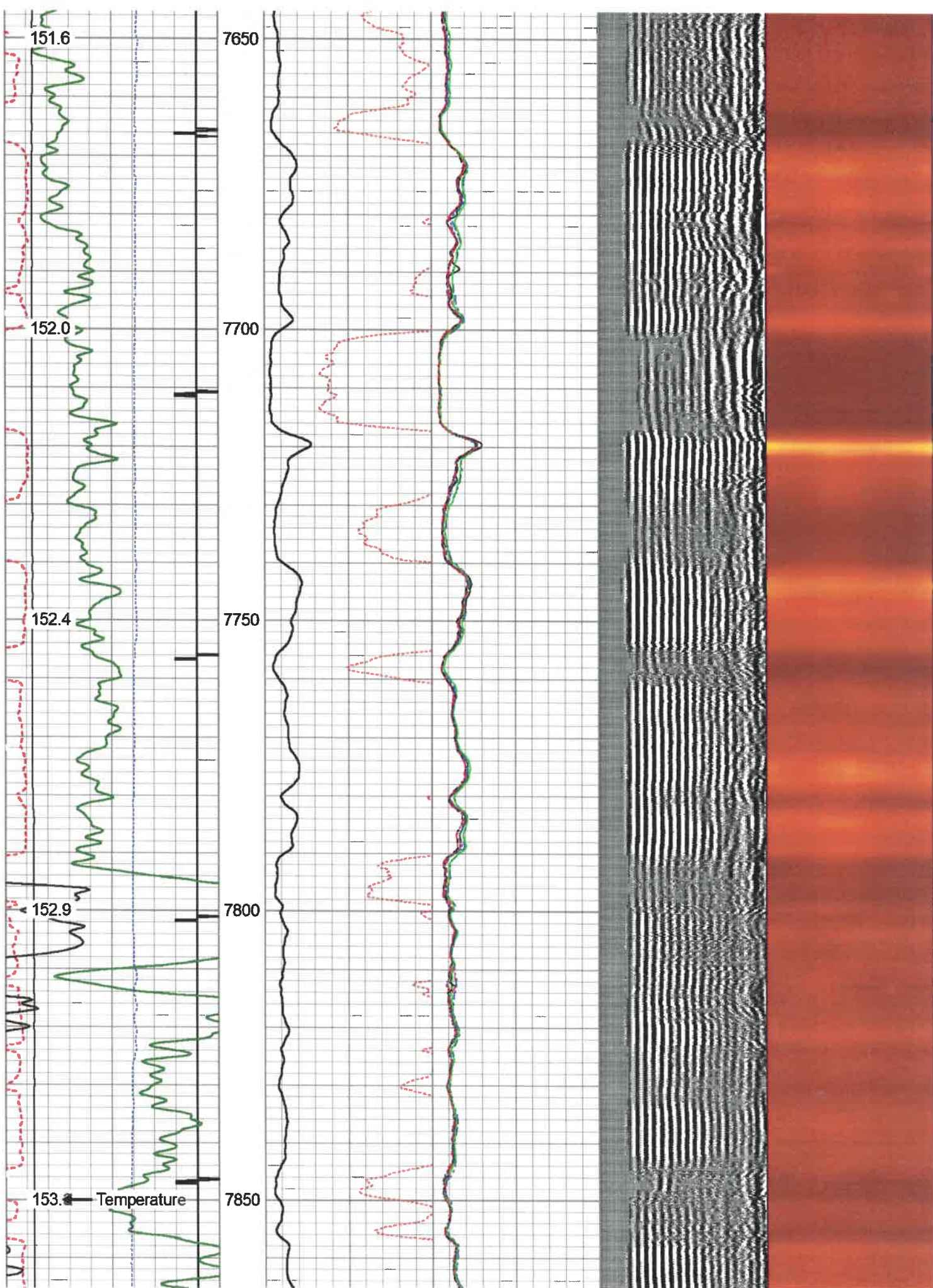


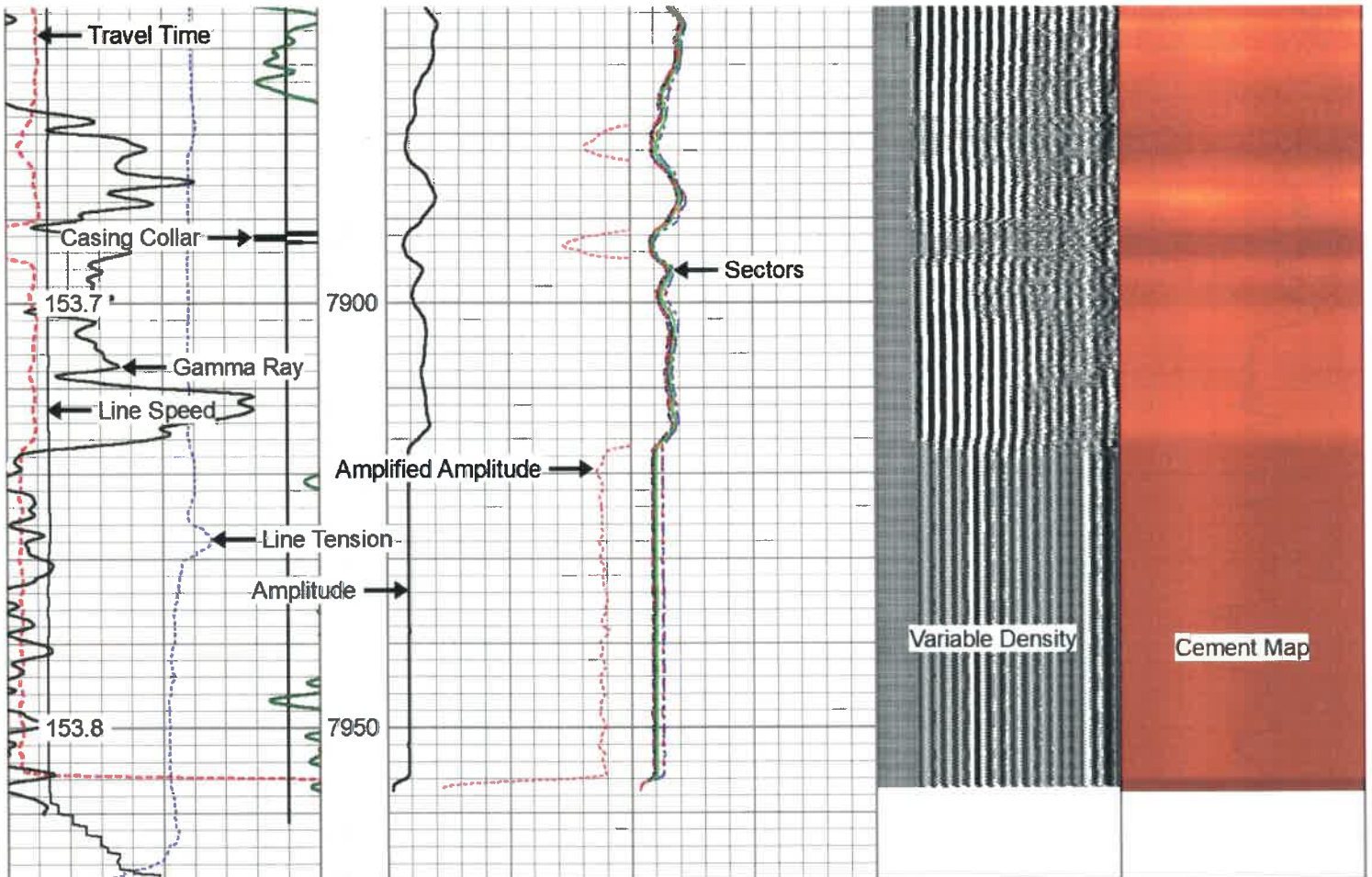












267	Travel Time (usec)	167	0	Amplitude (mV)	100	-5	Sector 1	150	Variable Density	1	Cement Map	8
Casing Collar			Amplified Amplitude	-5	Sector 2	150	200	(usec)	1200			
0	Gamma Ray (GAPI)	150	0	(mV)	10	-5	Sector 3	150				
0	LTEN (lb)	2500				-5	Sector 4	150				
-100	LSPD (ft/min)	100				-5	Sector 5	150				
Temp (degF)						-5	Sector 6	150				
						-5	Sector 7	150				
						-5	Sector 8	150				

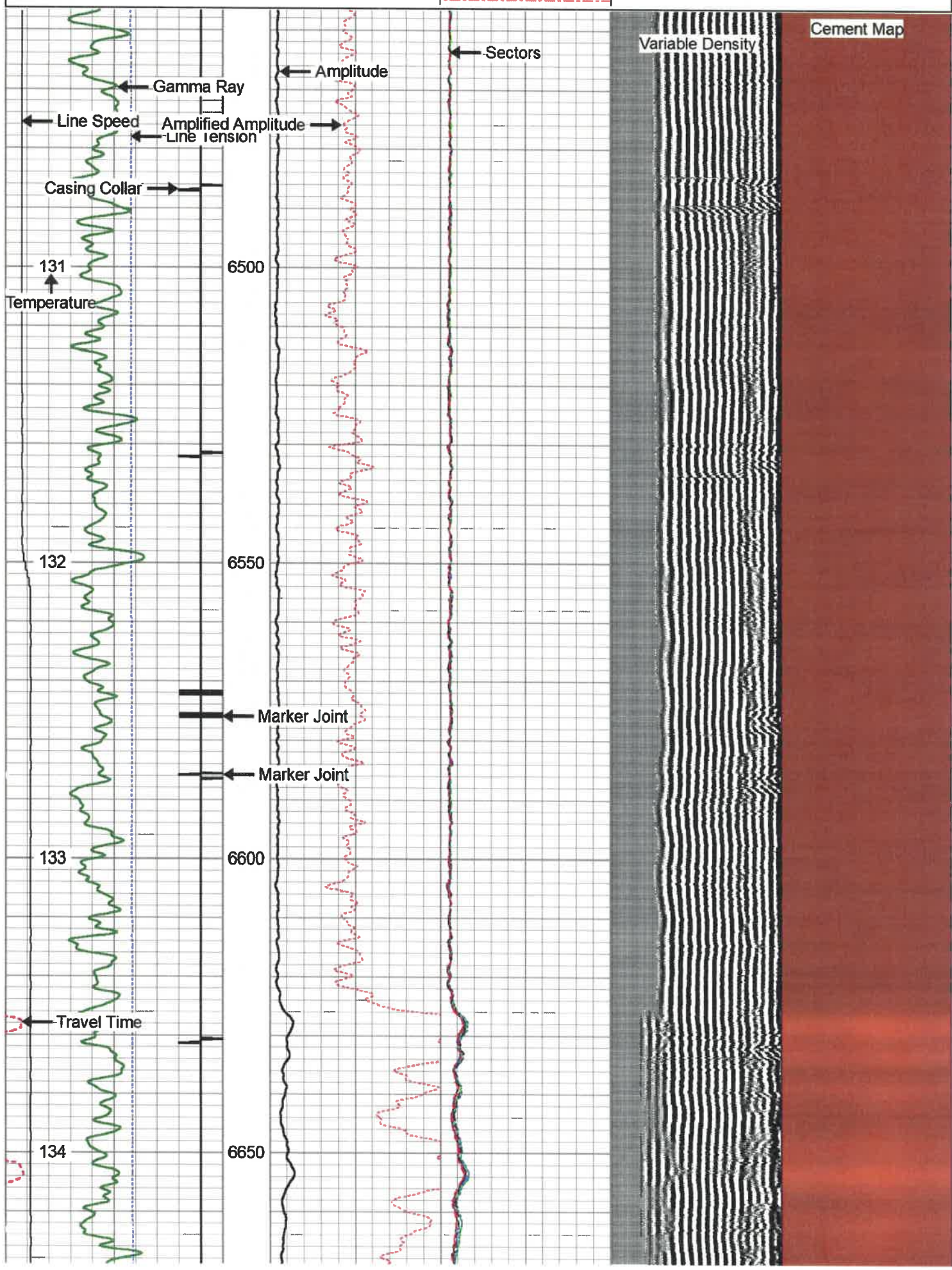


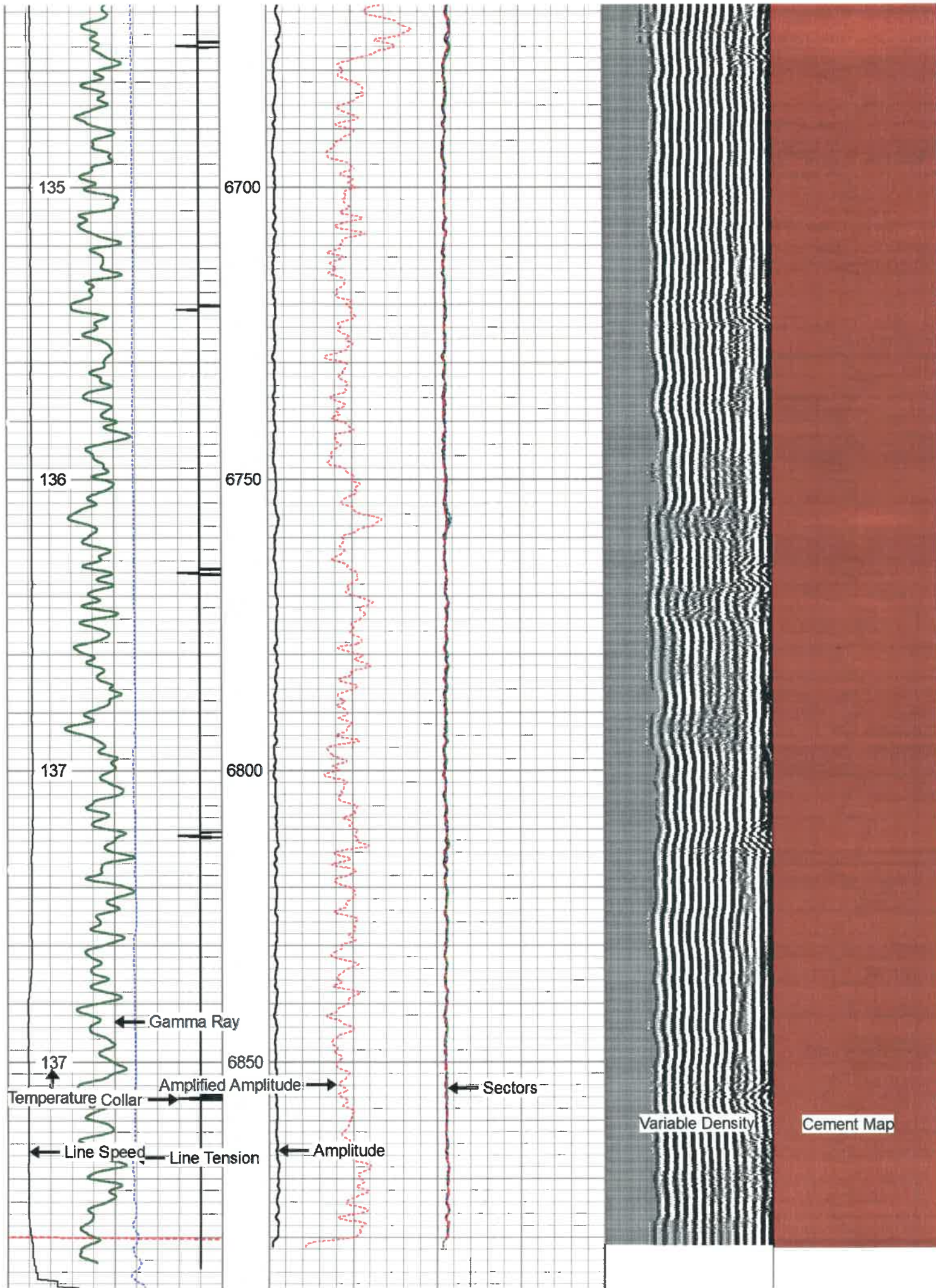
Repeat Pass


0 P.S.I.

Database File: antero_george_scott_clipper_2h_rcbl_nineenergy_04_jan_2020.db
 Dataset Pathname: south_canton/clipper2h/rcbl/pass2
 Presentation Format: rcbl 2
 Dataset Creation: Sat Jan 04 18:28:49 2020
 Charted by: Depth in Feet scaled 1:240

270	Travel Time (usec)	170	0	Amplitude (mV)	100	-5	Sector 1	150	Variable Density	1	Cement Map	8
Casing Collar			Amplified Amplitude	-5	Sector 2	150	200	(usec)	1200			
0	Gamma Ray (GAPI)	150	0	(mV)	10	-5	Sector 3	150				
0	LTEN (lb)	2500				-5	Sector 4	150				
-100	LSPD (ft/min)	100				-5	Sector 5	150				
Temp (degF)						-5	Sector 6	150				
						-5	Sector 7	150				





270 Travel Time (usec) 170	0 Amplitude (mV)100	-5	Sector 1	150	Variable Density	1	Cement Map	8
Casing Collar	Amplified Amplitude	-5	Sector 2	150	200 (usec)	1200		
0 Gamma Ray (GAPI) 150	0 (mV) 10	-5	Sector 3	150				
0 LTEN (lb) 2500		-5	Sector 4	150				
-100 LSPD (ft/min) 100		-5	Sector 5	150				
Temp		-5	Sector 6	150				
(degF)		-5	Sector 7	150				
		-5	Sector 8	150				

Log Variables

DatabaseC:\ProgramData\Warrior\Data\antero_george_scott_clipper_2h_rcbl_nineenergy_04_jan_2020.db
Dataset south_canton/clipper2h/rcbl/pass4/_vars_

Top - Bottom

BHTEMP_Src	BOREID	BOTTEMP	CASEOD	CASETHCK	CASEWGHT	MAXAMPL	MINAMPL
TEMP	in	degF	in	in	lb/ft	mV	mV
	8.75	152	5.5	0.361	20	72	2.2
MINATTN	PERFS	PPT	SRFTEMP	TDEPTH			
db/ft		usec	degF	ft			
10.6	No	261	45	7900			

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_george_scott_clipper_2h_rcbl_nineenergy_04_jan_2020.db
Dataset Pathname south_canton/clipper2h/rcbl/pass4
Dataset Creation Sat Jan 04 18:42:47 2020

Gamma Ray Calibration Report

Serial Number: FW1211-86
Tool Model: Probe
Performed: Sat Jan 04 04:26:07 2020

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.7000 GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number: FW1312-32
Tool Model: Probe275T

Calibration Casing Diameter: 5.500 in
Calibration Depth: 101.700 ft

Master Calibration, performed Sat Jan 04 12:47:59 2020.


	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.000	1.004	2.200	71.921	69.473	2.198
CAL	0.419	1.062				
5'	-0.002	0.889	2.200	71.921	78.259	2.356
SUM						
S1	0.000	0.960	0.000	100.000	104.203	-0.003
S2	0.000	1.081	0.000	100.000	92.534	-0.002
S3	0.000	1.065	0.000	100.000	93.922	-0.003
S4	0.000	1.045	0.000	100.000	95.652	-0.003
S5	0.000	1.006	0.000	100.000	99.406	-0.003
S6	0.000	0.948	0.000	100.000	105.537	-0.002
S7	0.000	0.924	0.000	100.000	108.257	-0.003
S8	0.000	0.967	0.000	100.000	103.434	-0.003

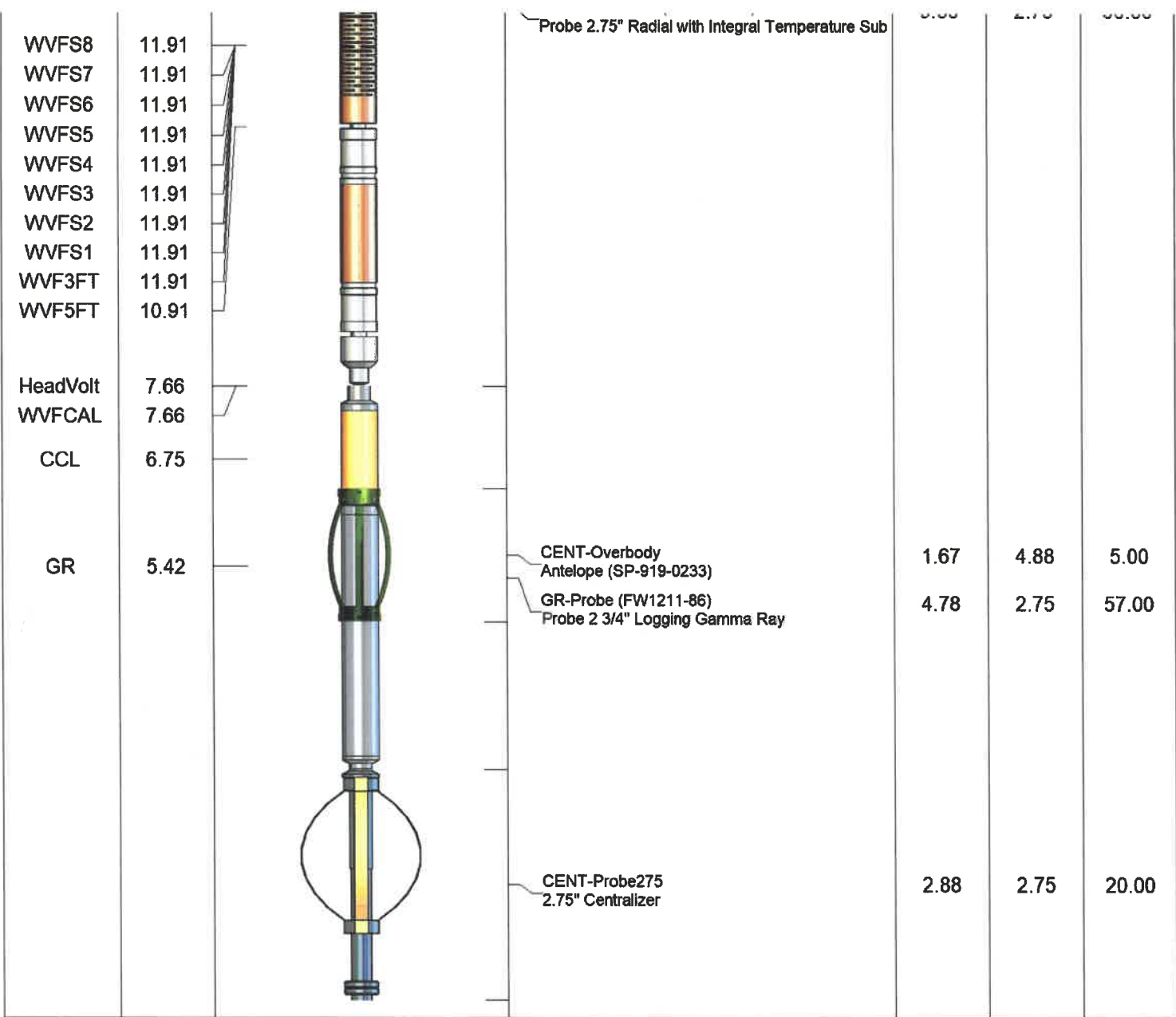
Internal Reference Calibration, performed Thu Sep 27 16:01:58 2018:

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.419	1.062	1.000	0.000


Air Zero Calibration, performed Fri Jan 03 15:06:42 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)
Temp	14.14		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
			RBT-Probe275T (FW1312-32)	0.39	2.75	0.00



Dataset: antero_george_scott_clipper_2h_rcbl_nineenergy_04_jan_2020.db: south_canton/clipper2h/rcbl/pass4.1
 Total length: 18.05 ft
 Total weight: 182.00 lb
 O.D.: 4.88 in

	Company	Antero Resources
	Well	Clipper Unit 2H
	Field	South Canton
	County	Doddridge
	State	West Virginia

