



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

Company Antero Resources

Well Axtel 1H

Field Utica

County Tyler

State WV

Location: API #: 47-095-02264
02153

Other Services

SEC TWP RGE

Elevation

Permanent Datum
Log Measured From Kelly Bushing 25' A.P.D.
Drilling Measured From Kelly Bushing

K.B.
D.F.
G.L.

Company Antero Resources
Well Axtel 1H
Field Utica
County Tyler
State WV

Date 21-Mar-2022

Run Number one

Depth Driller 24,393'

Depth Logger 7,540'

Bottom Logged Interval 7,552'

Top Log Interval Surface

Open Hole Size NA

Type Fluid Water

Density / Viscosity NA

Max. Recorded Temp. 153 Deg.F.

Estimated Cement Top 5,990'

Time Well Ready 15:30

Time Logger on Bottom 17:00

Equipment Number 138 (P1 G4)

Location Charleroi, PA

Recorded By Matt McNeilly

Witnessed By Chris Young

Run Number

Bit

From

To

Size

Wgt/Ft

Top

Bottom

Surface String

Prot. String

Production String 5 1/2" 23# Surface 24,329'

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

Marker Joint Found at 6,340' - 6,350'

Casing Tally Marker Joint at 6,442'-6,452'

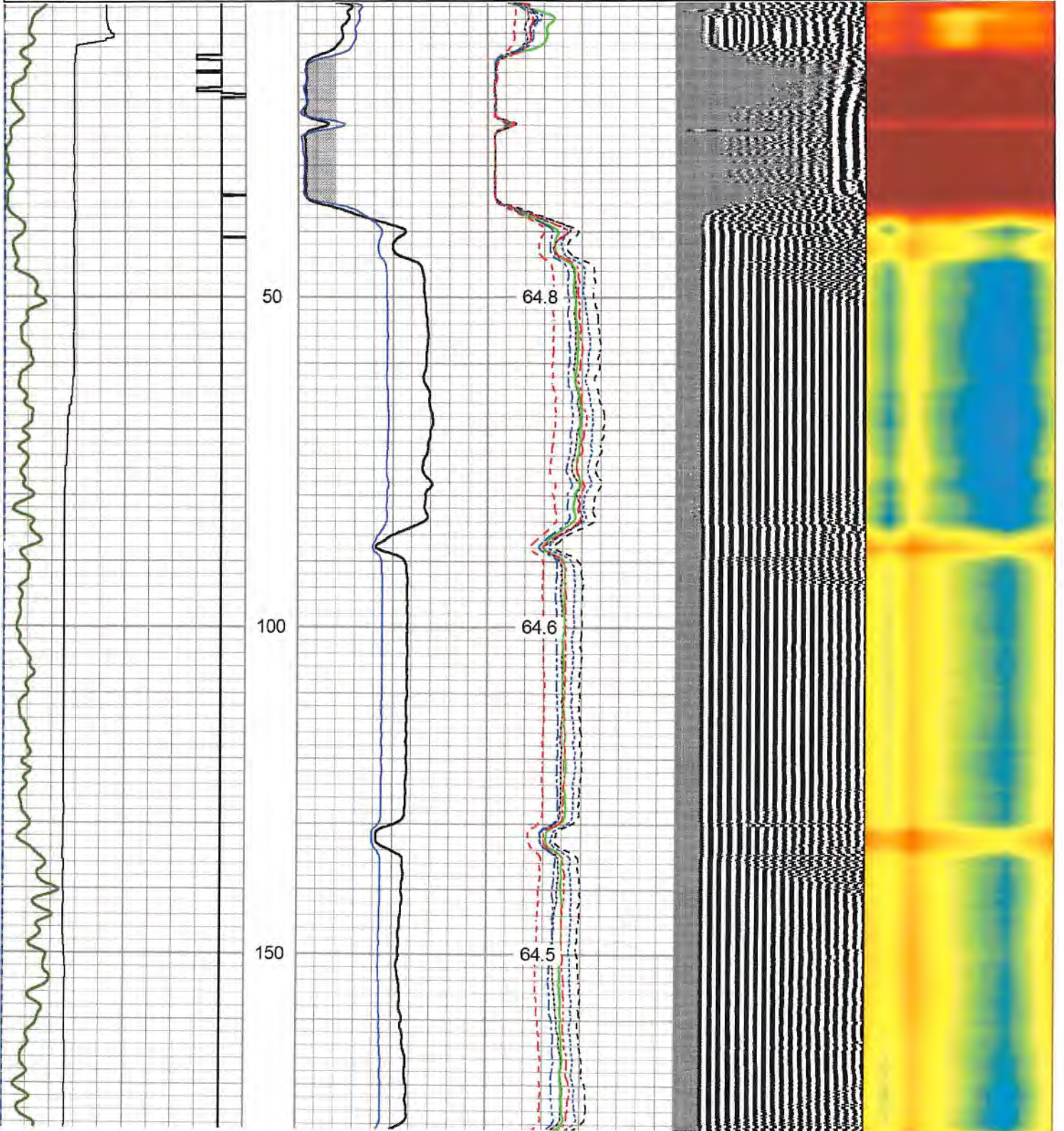
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Dataset Pathname utica/capital1h/run1/pass15.5
Presentation Format rcbl-bond index for antero 1020
Dataset Creation Thu Mar 24 14:54:06 2022
Charted by Depth in Feet scaled 1:240

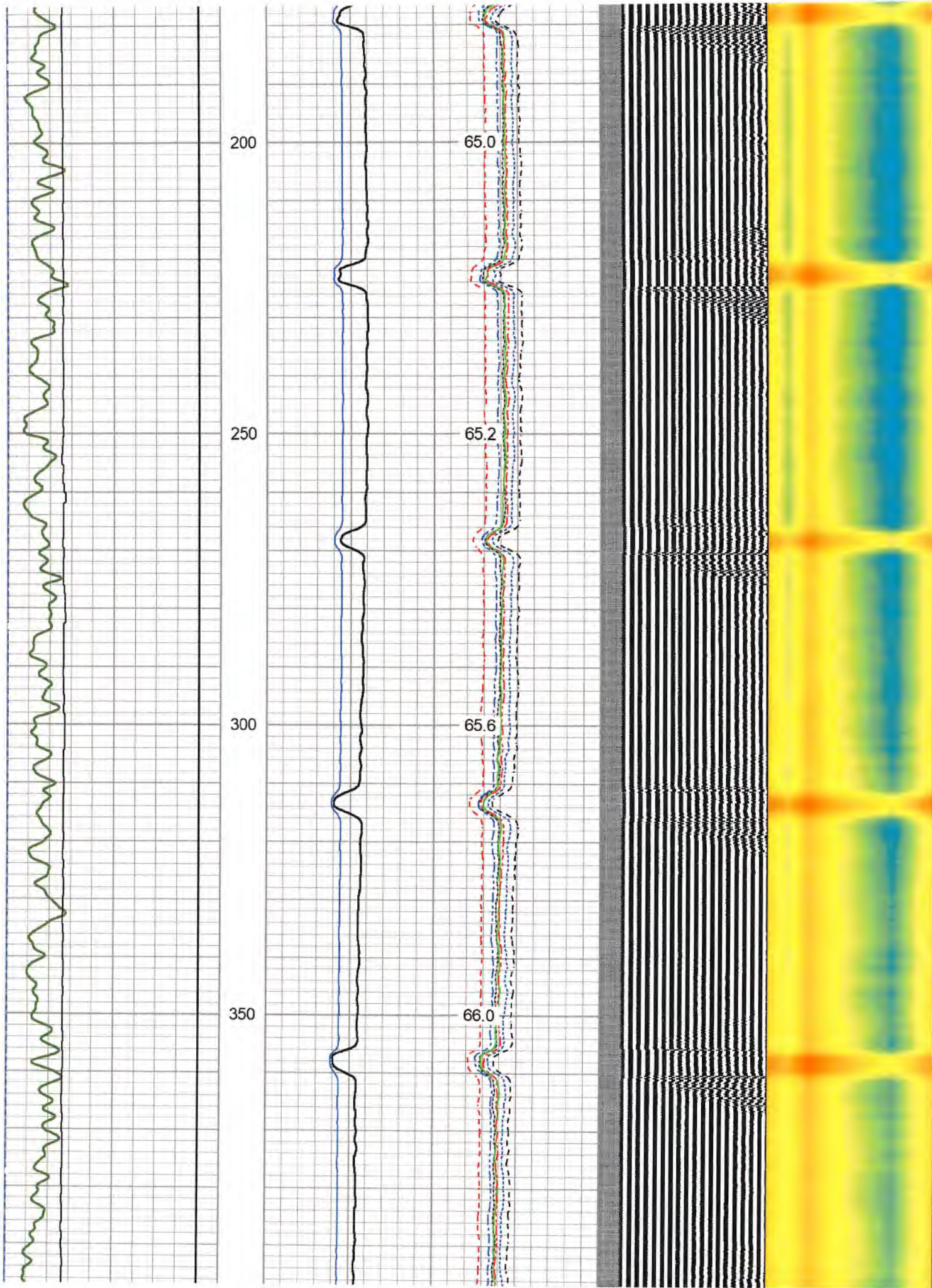
262	Travel Time (usec)	62
9	Casing Collar	-1
0	Gamma Ray (GAPI)	150
0	Line Tension (lb)	5000
-200	LSPD (ft/min)	200

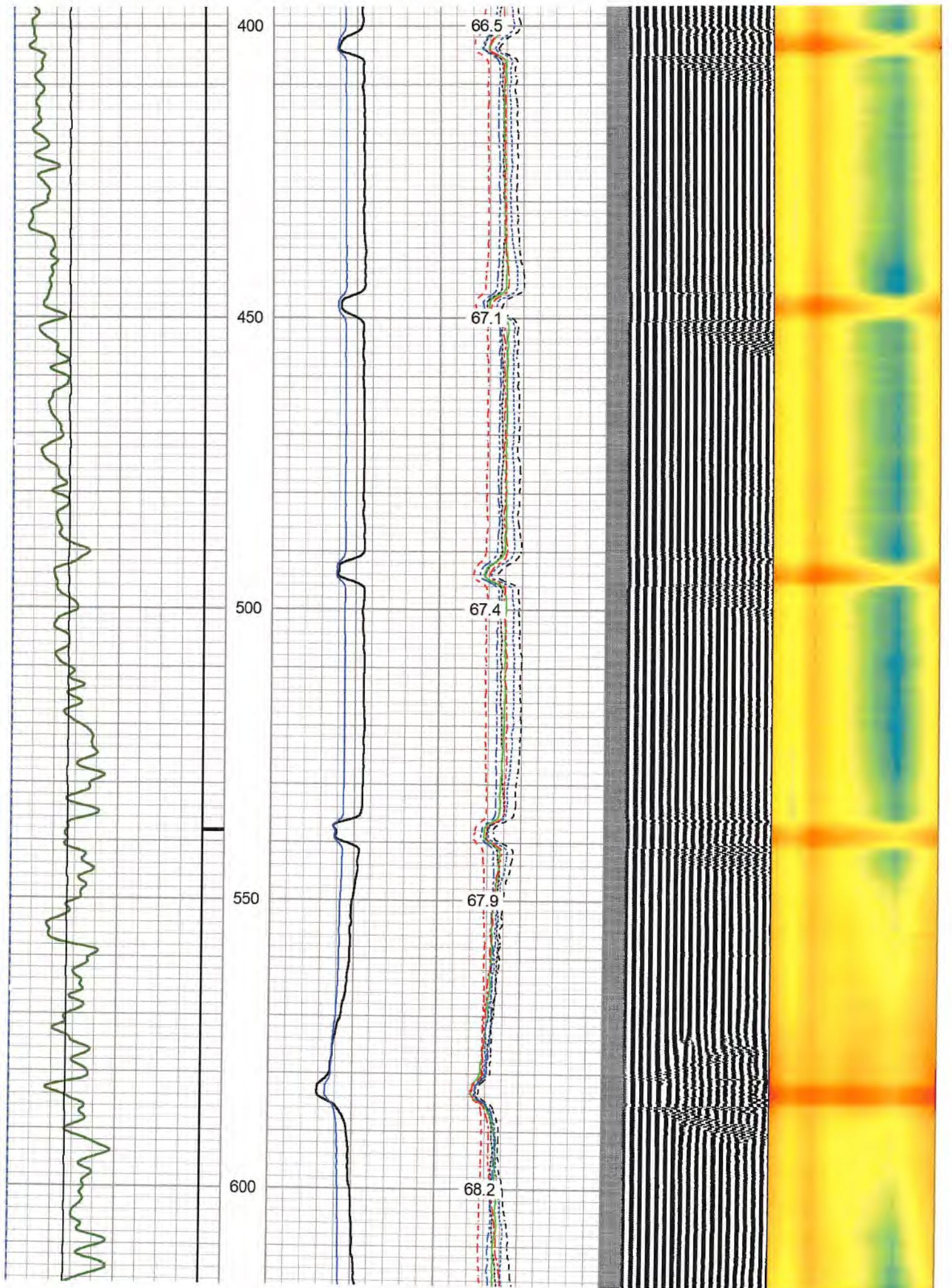
0	Amplitude (mV)	100	-5	Sector 1	150
1	BONDIX	0	-5	Sector 2	150
			-5	Sector 3	150
			-5	Sector 4	150
			-5	Sector 5	150
			-5	Sector 6	150
			-5	Sector 7	150
			-5	Sector 8	150

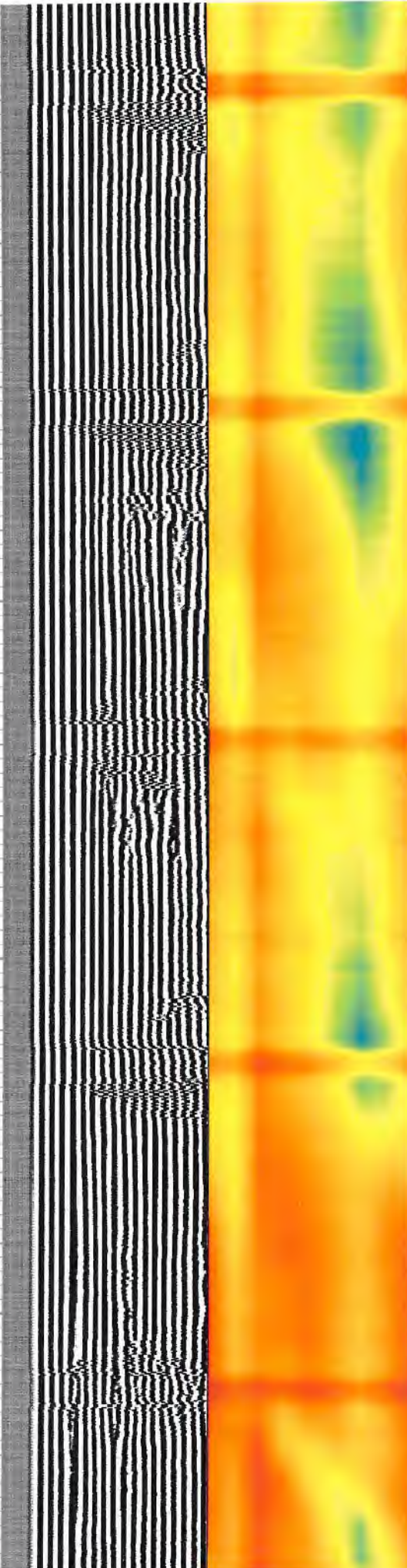
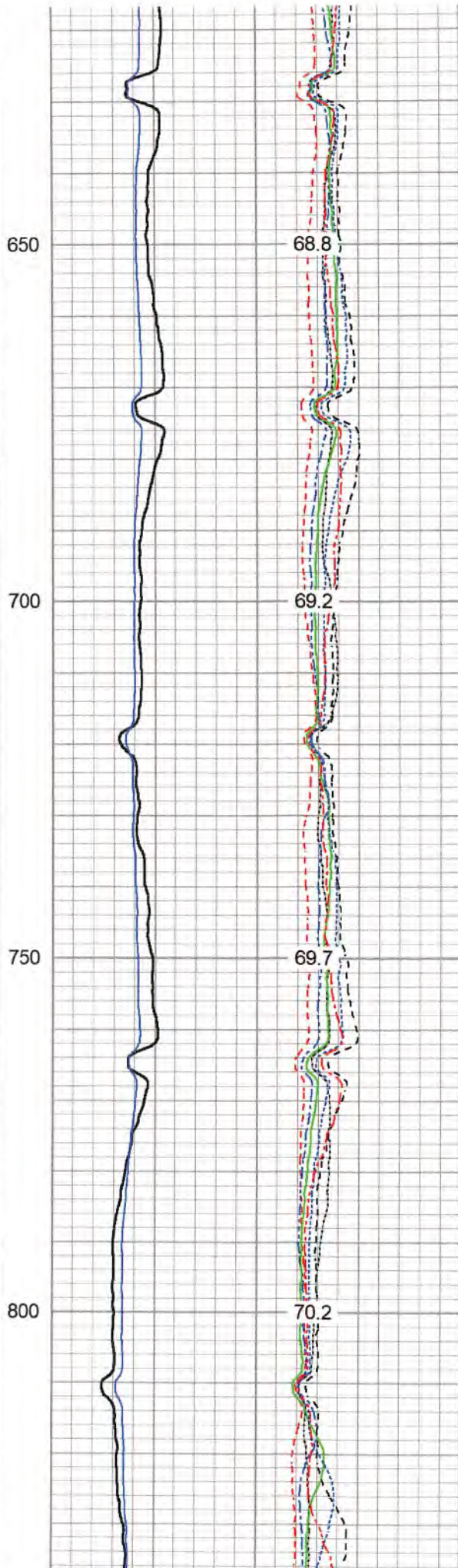
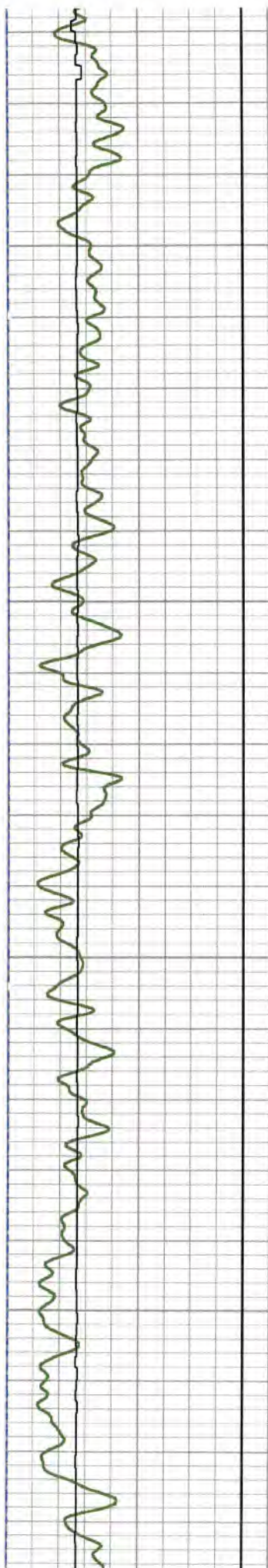
Variable Density 1 Cement Map 8
 200 (usec) 1200

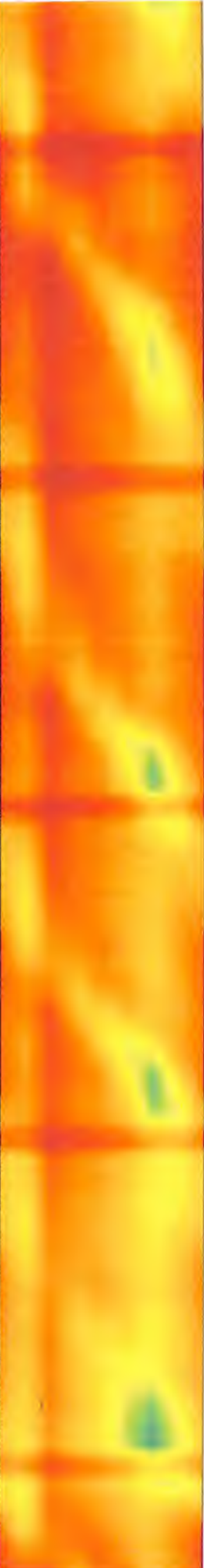
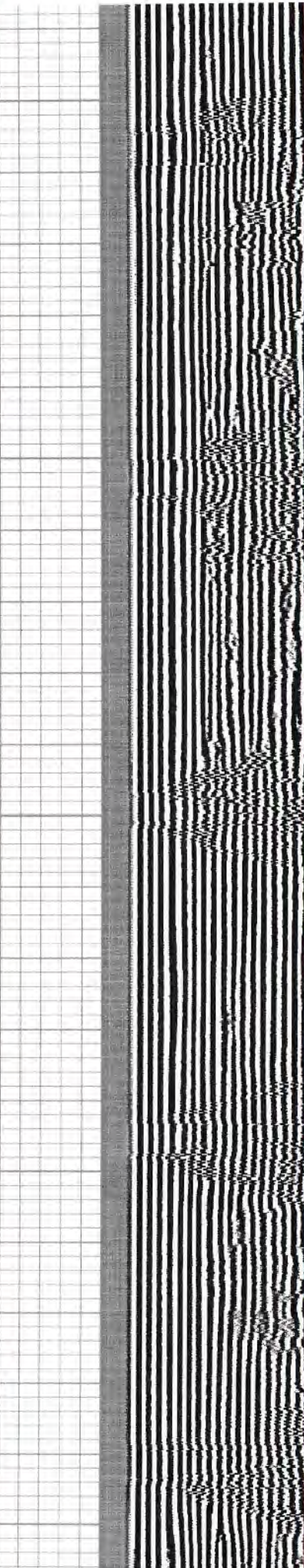
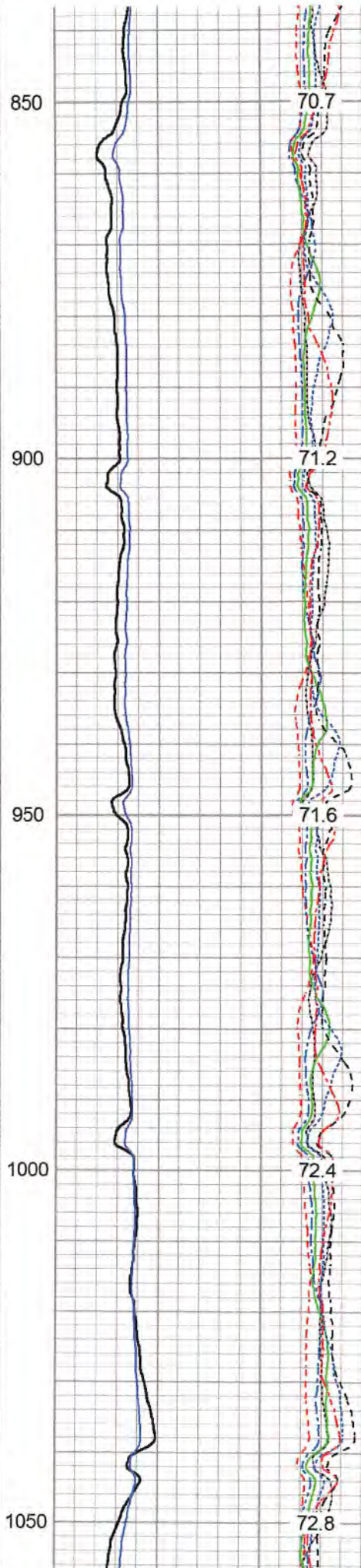
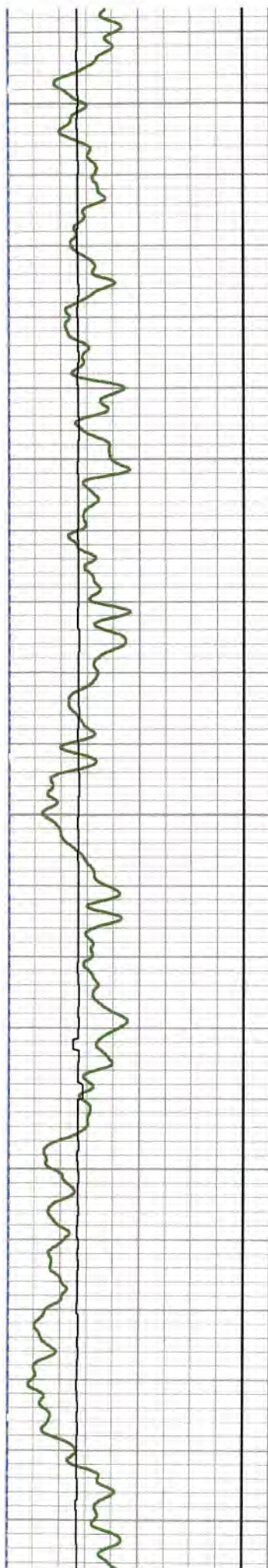
TEMP
(degF)

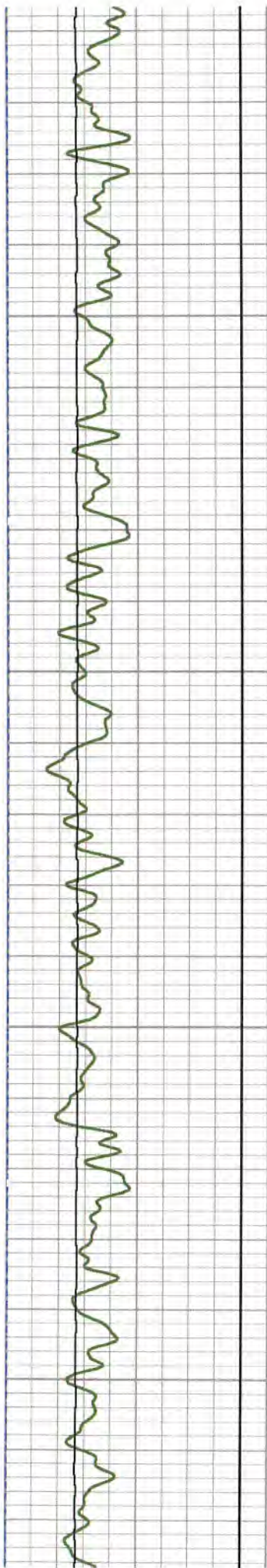










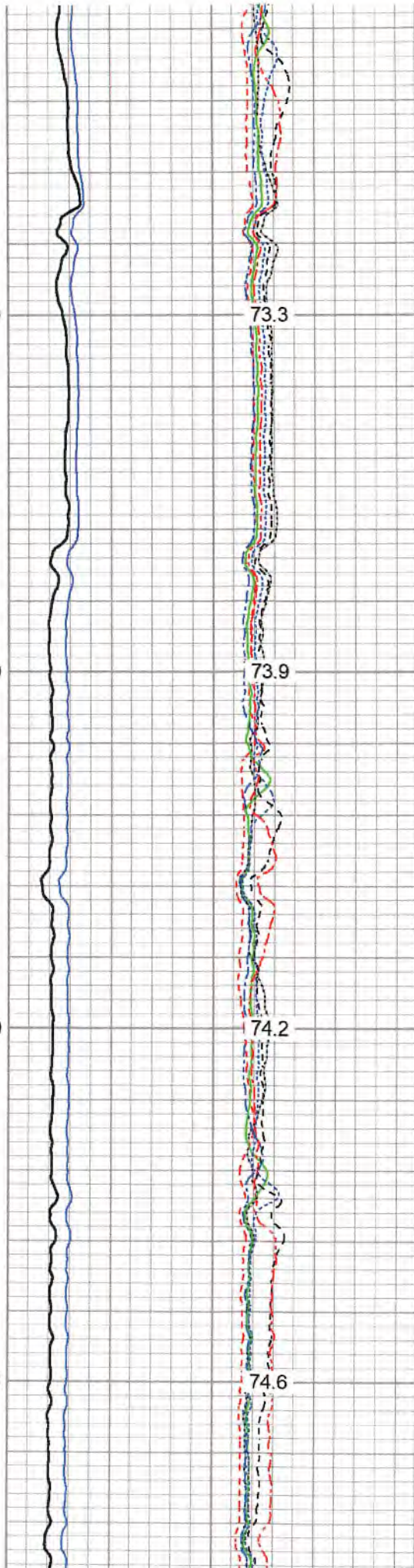


1100

1150

1200

1250

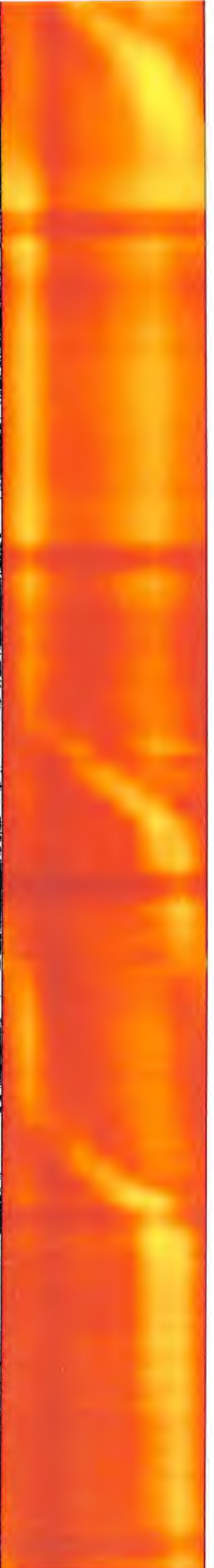
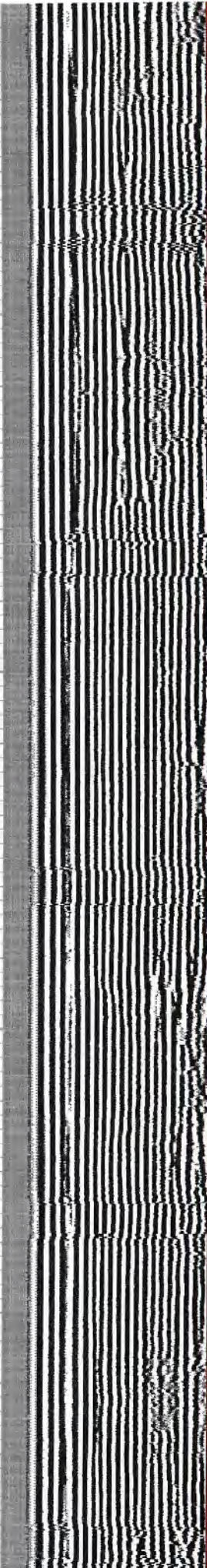


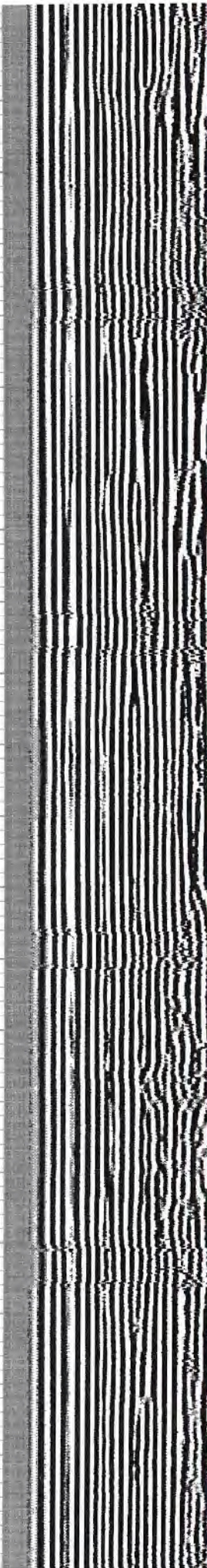
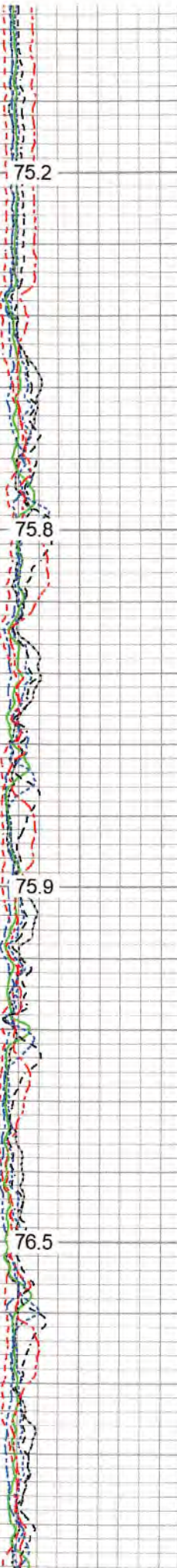
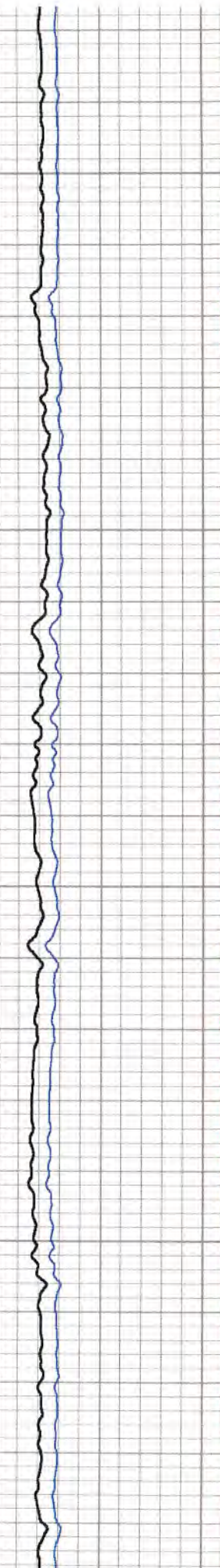
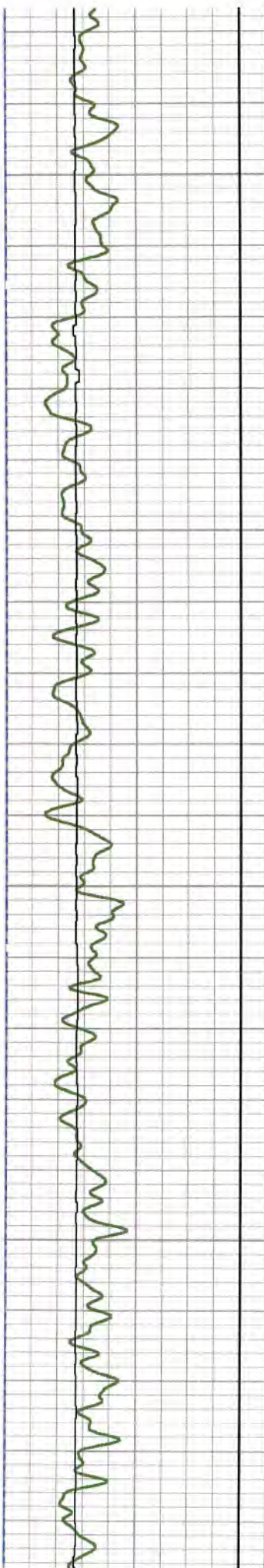
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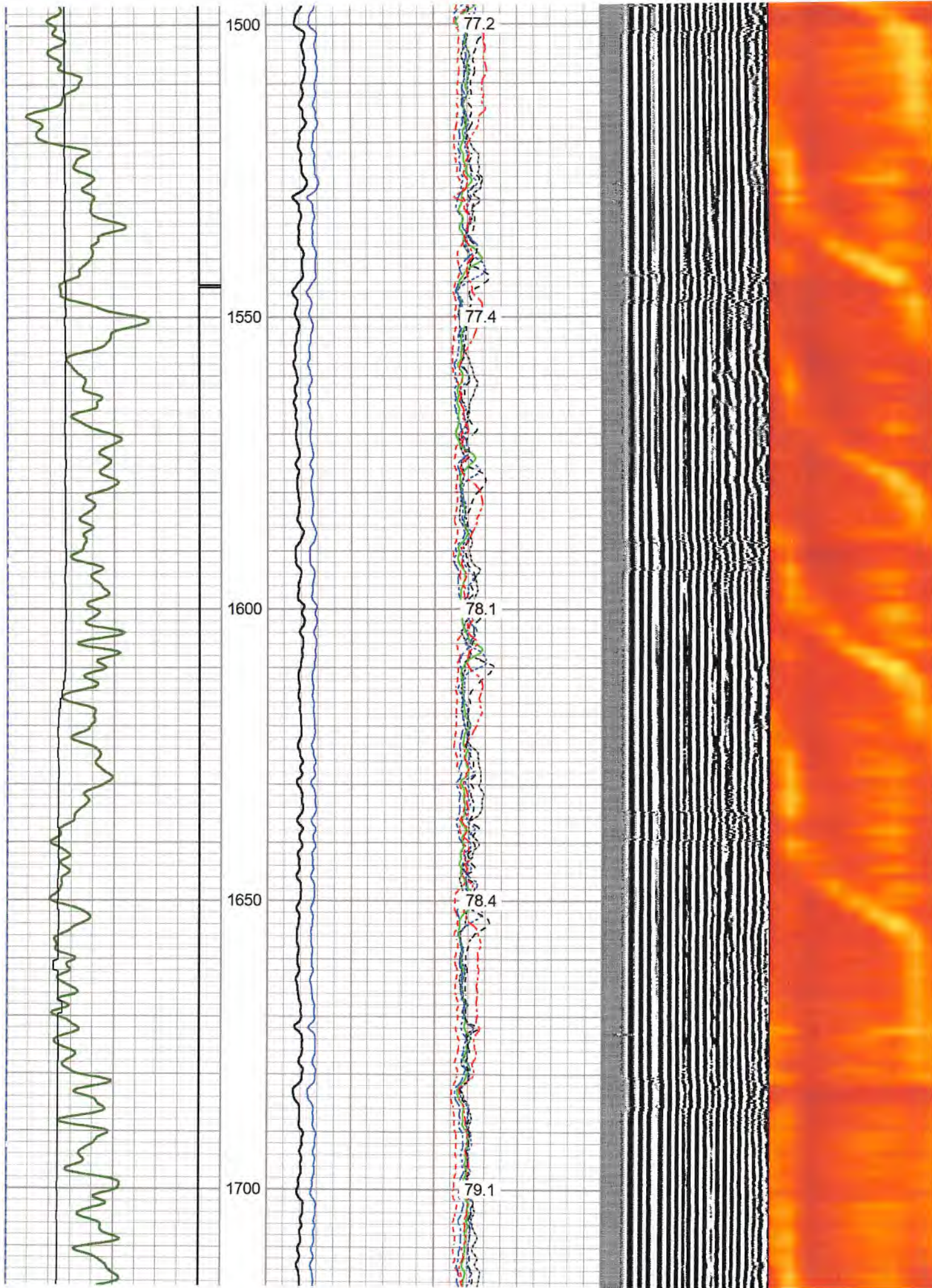
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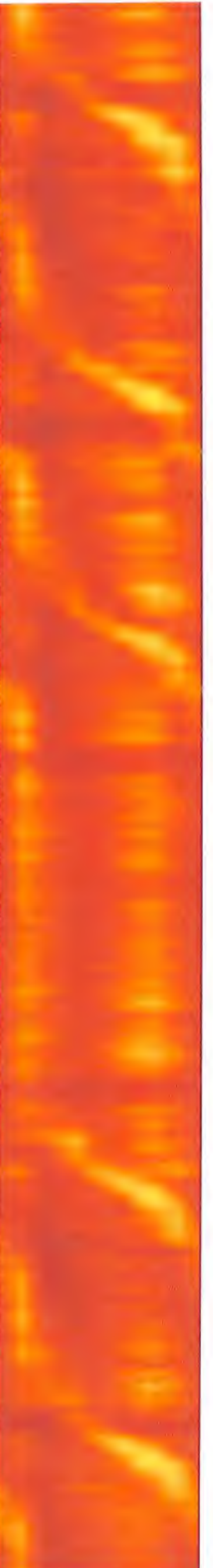
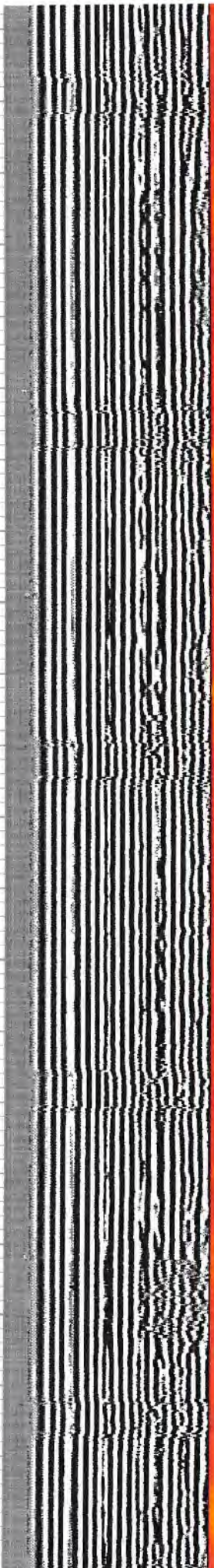
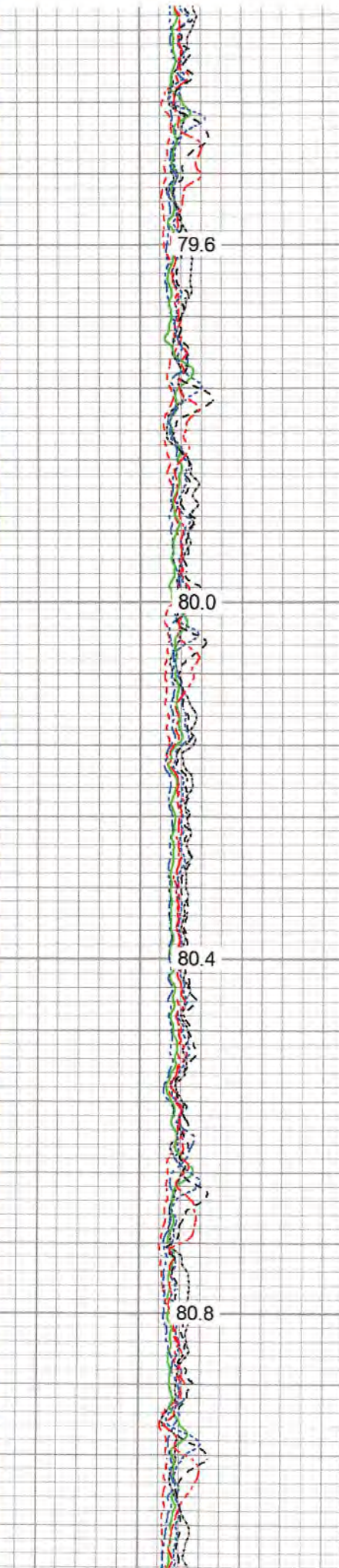
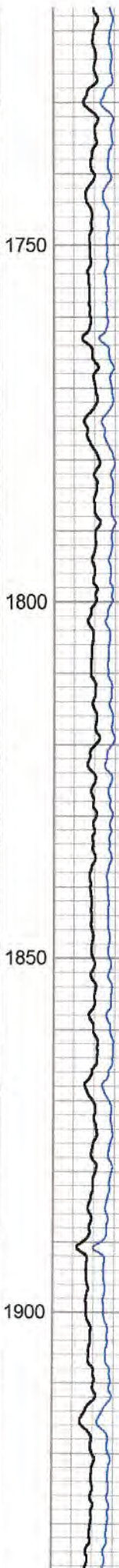
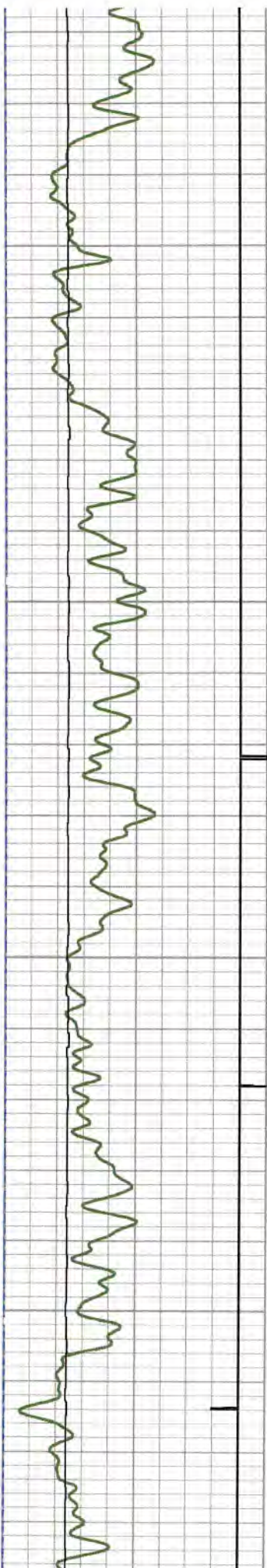
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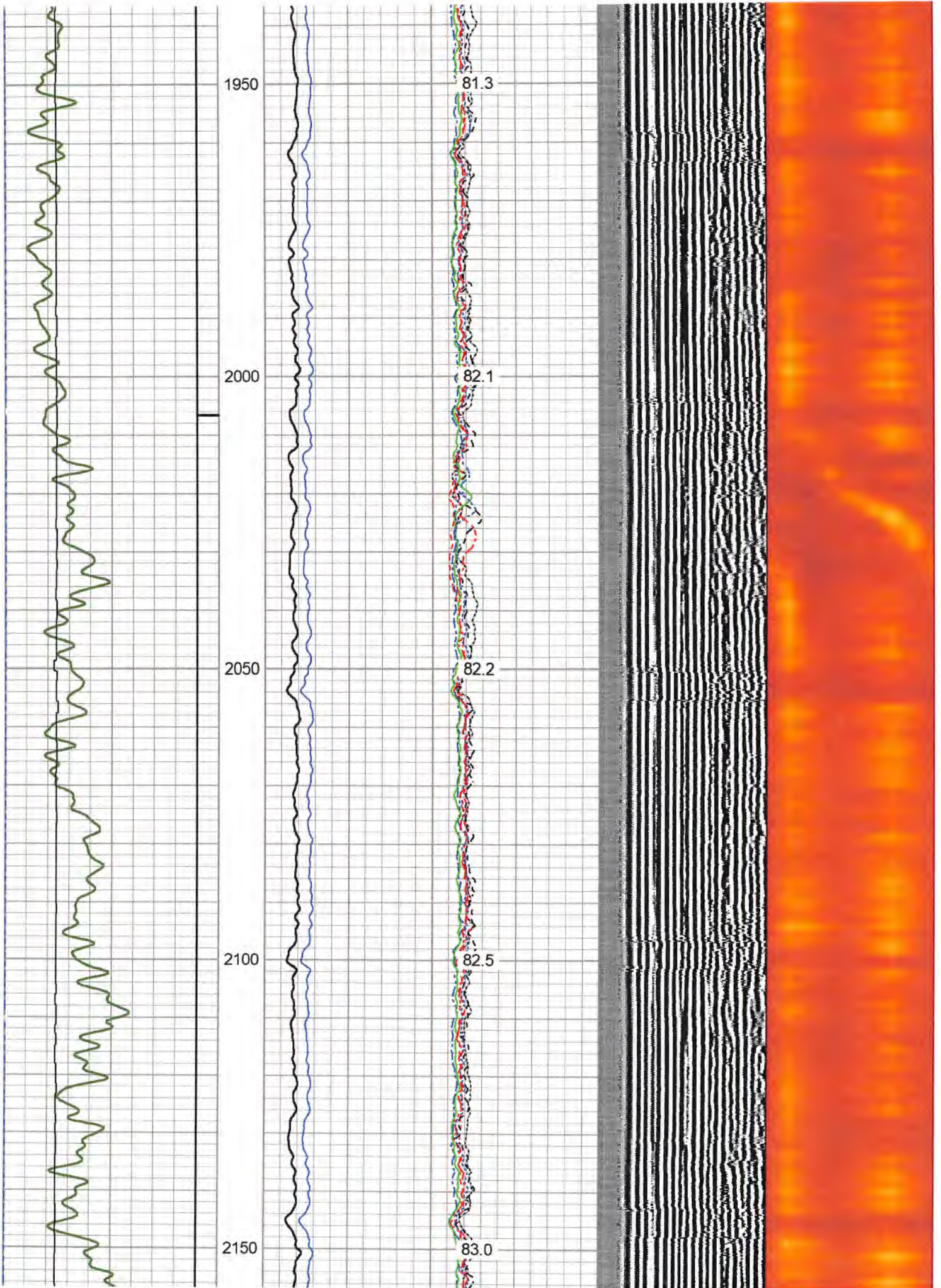
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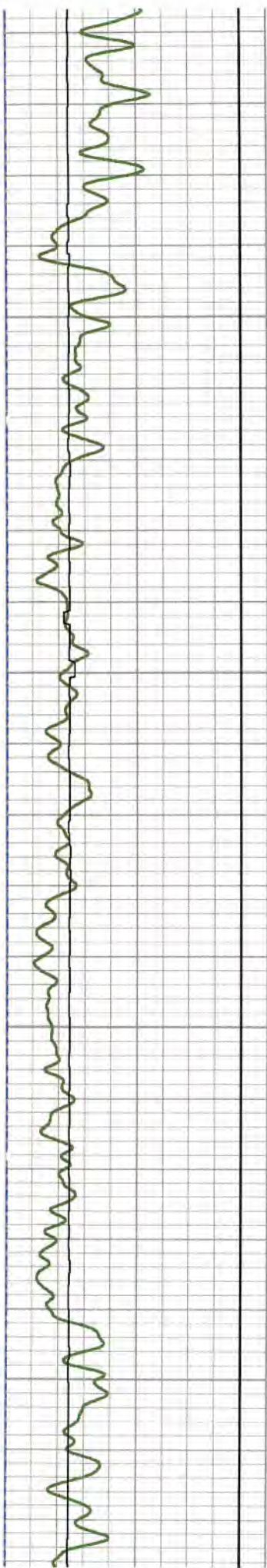




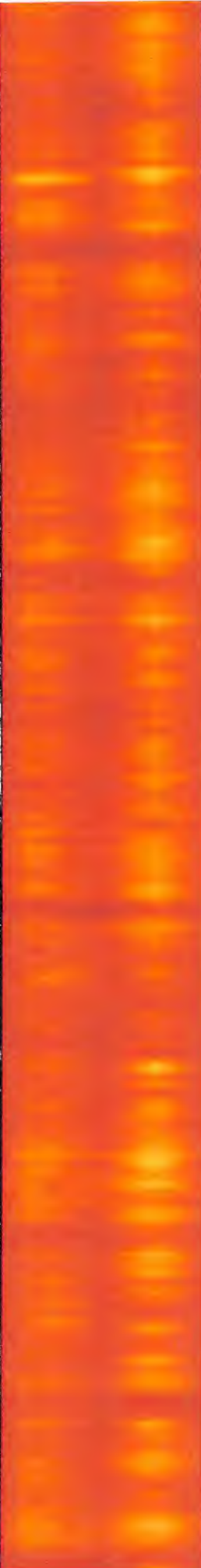
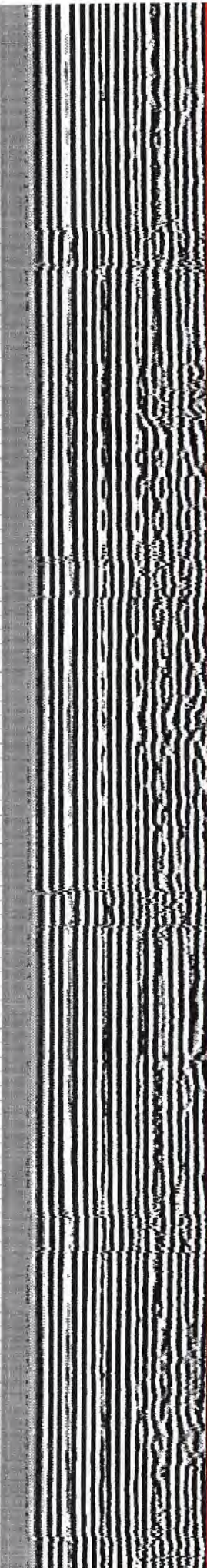
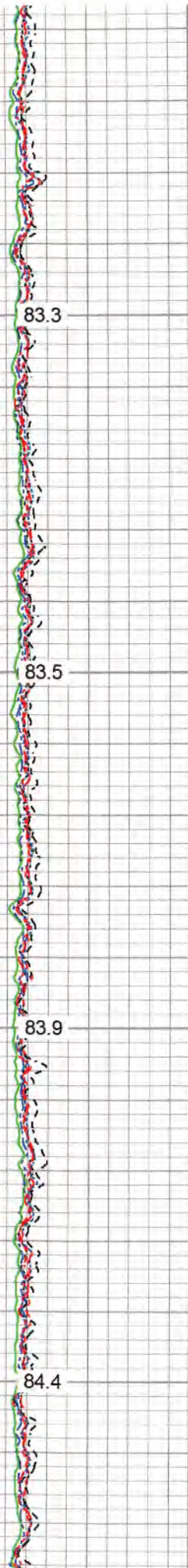
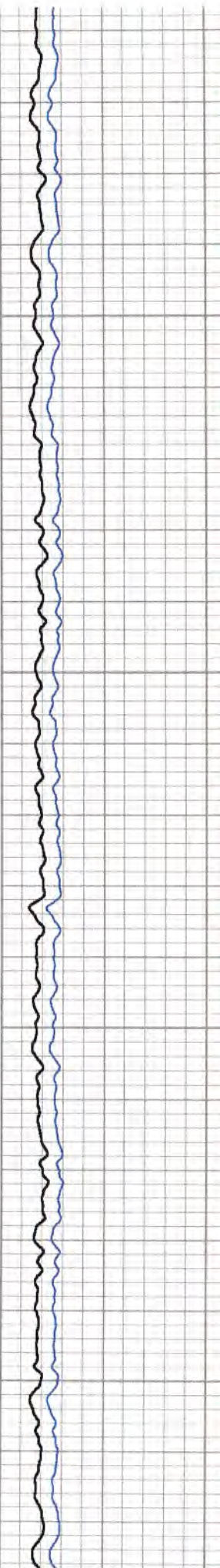








2200
2250
2300
2350

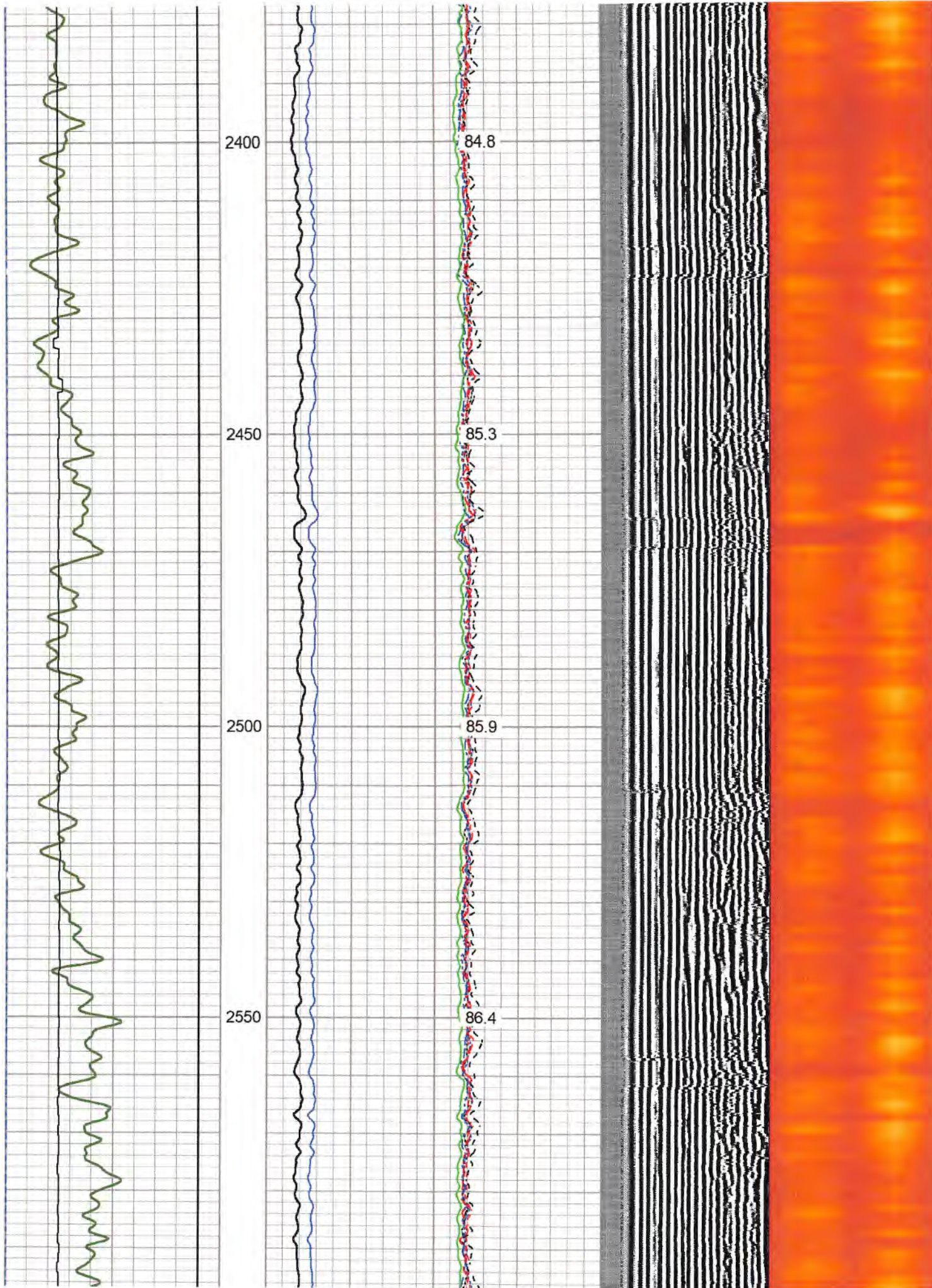


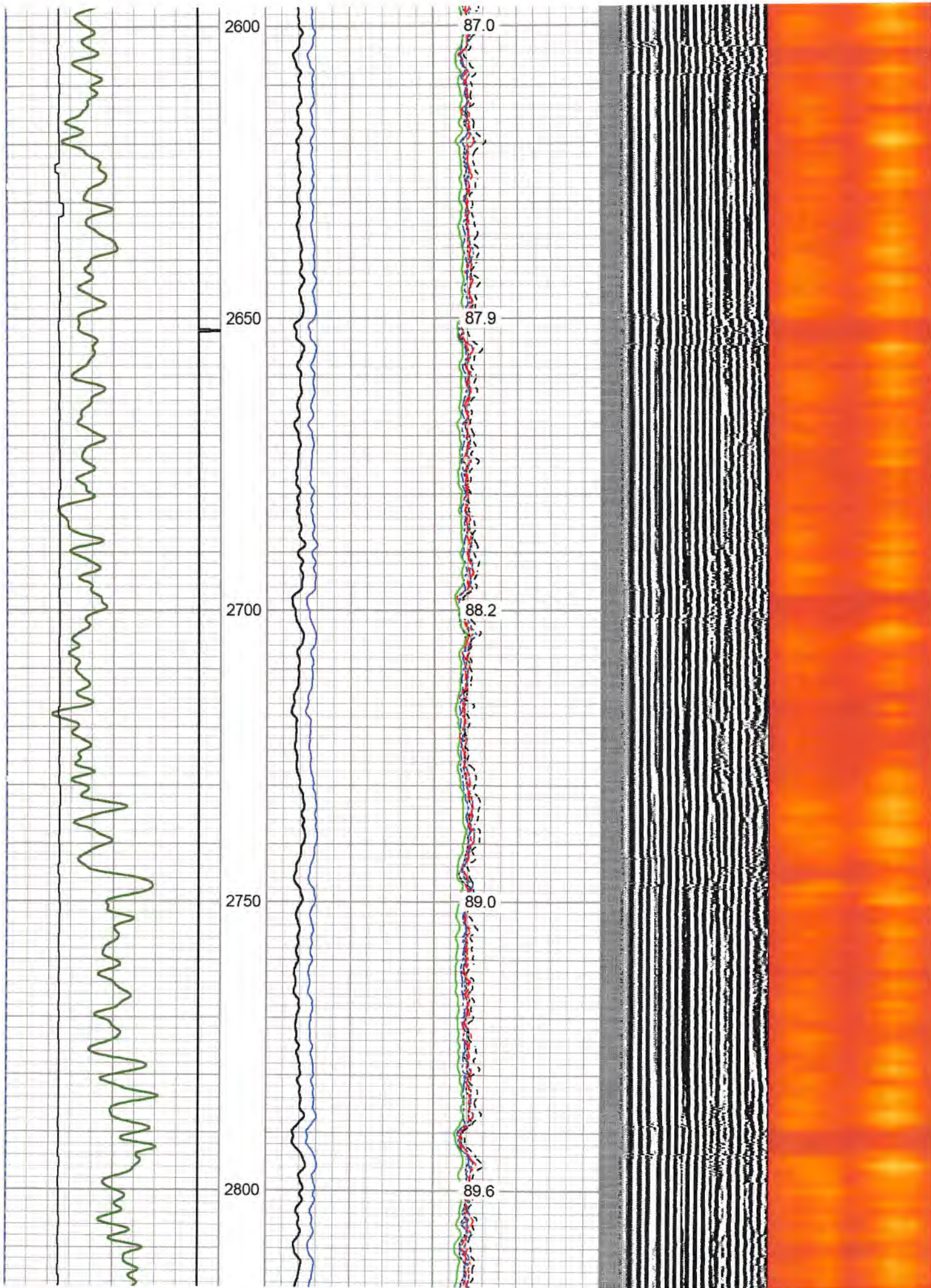
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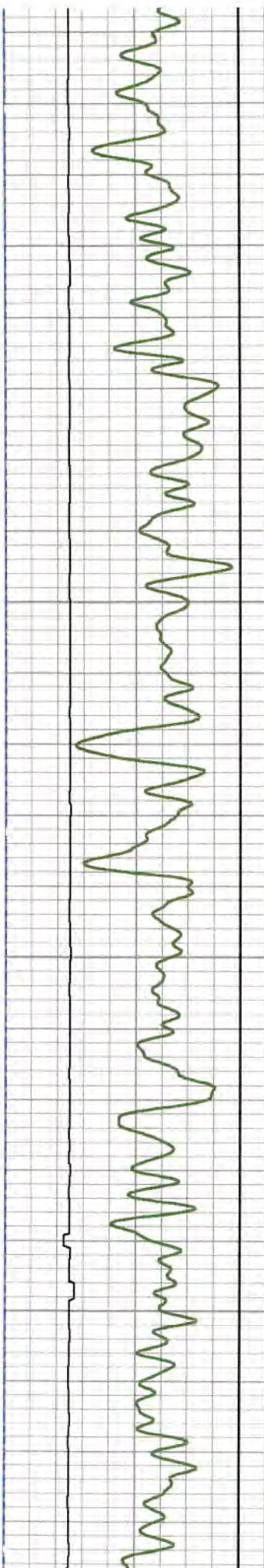
83.5

83.9

84.4





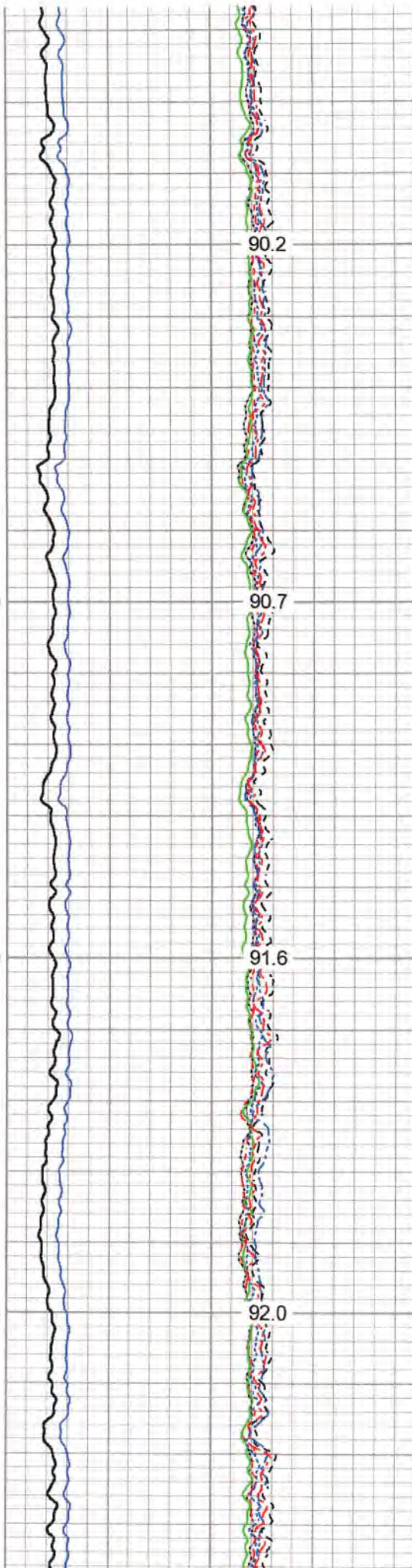


2850

2900

2950

3000

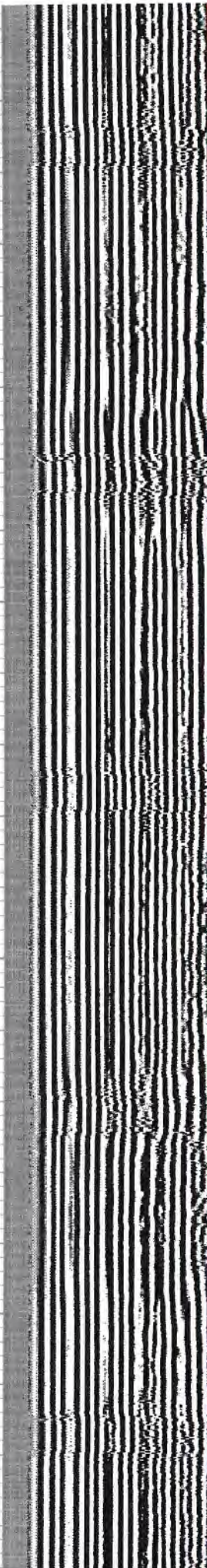


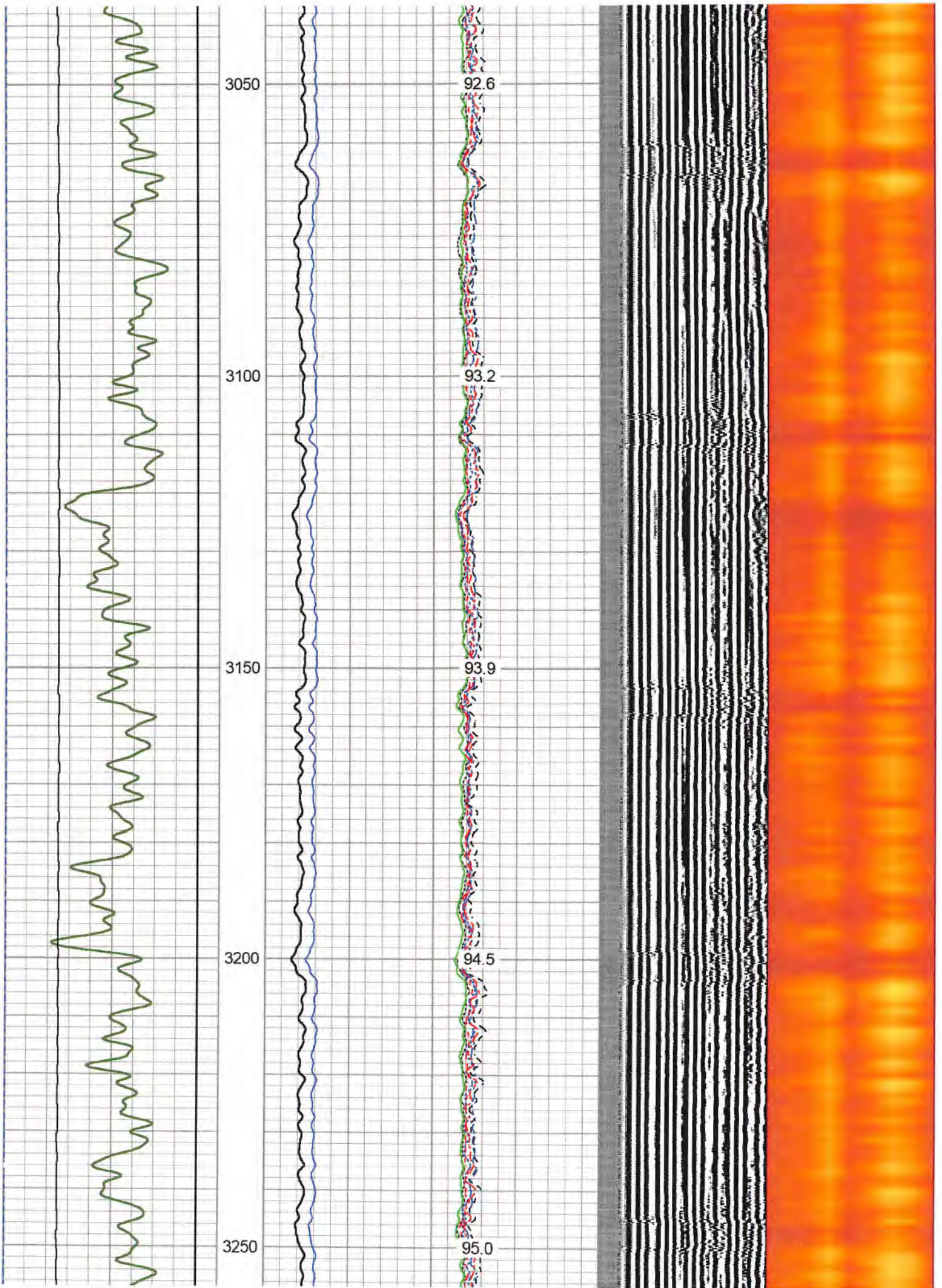
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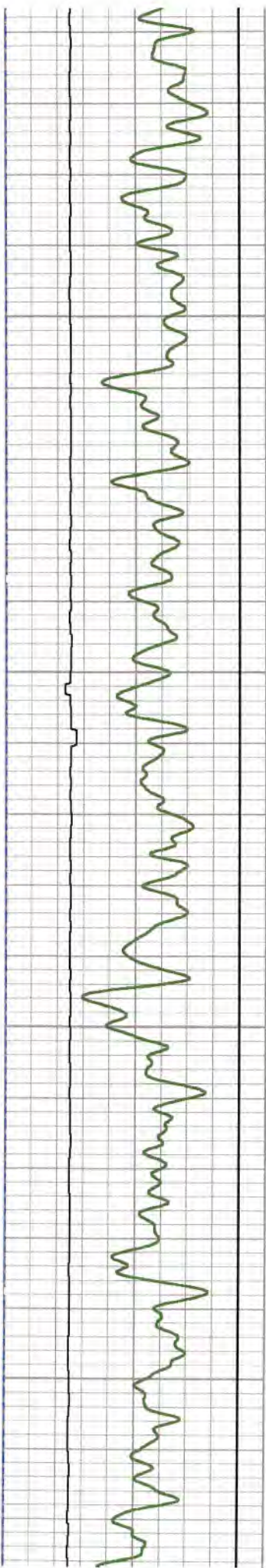
90.7

91.6

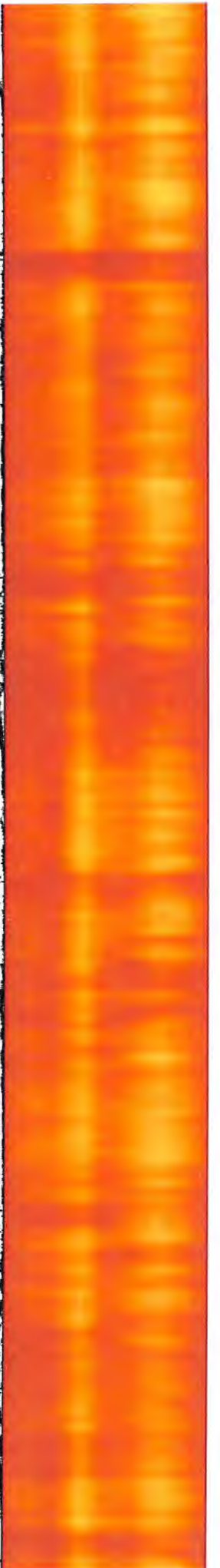
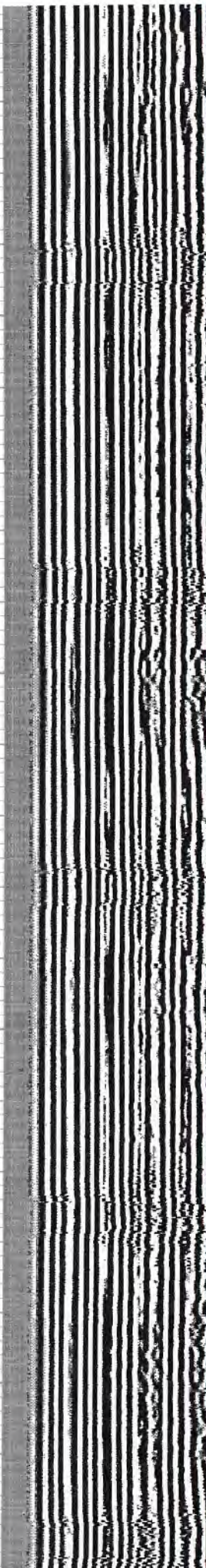
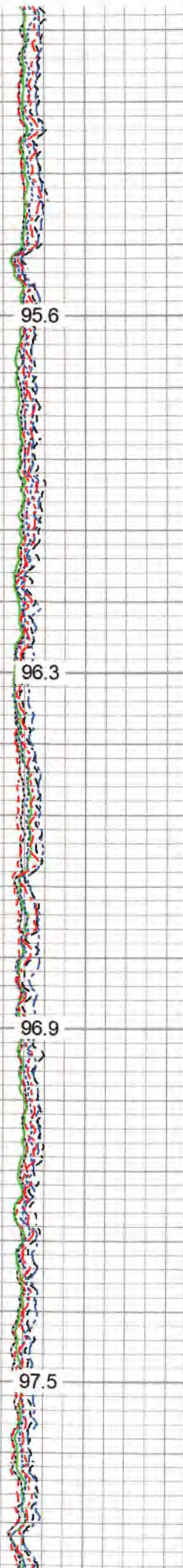
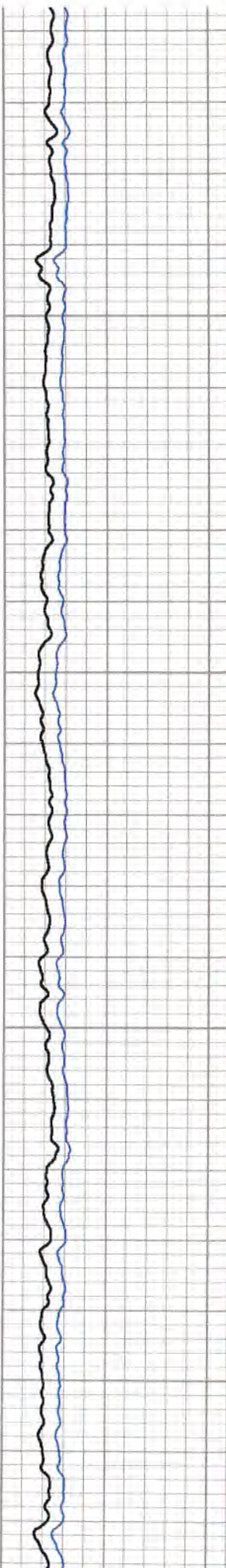
92.0







3300
3350
3400
3450

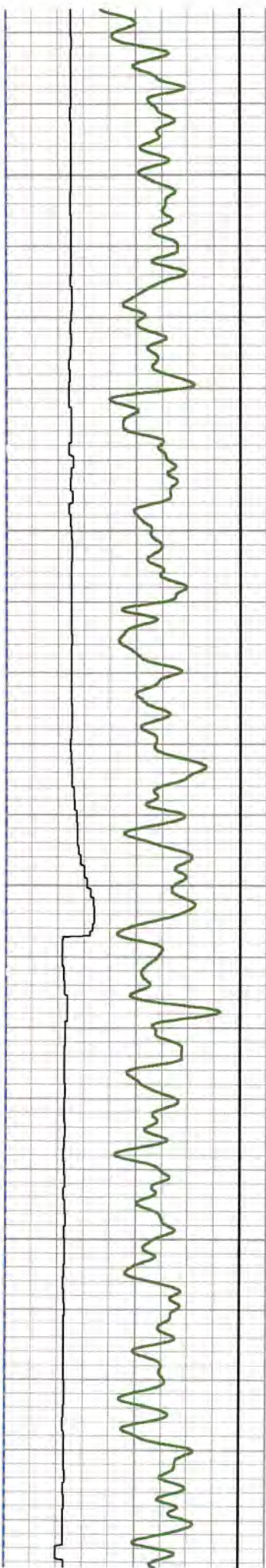


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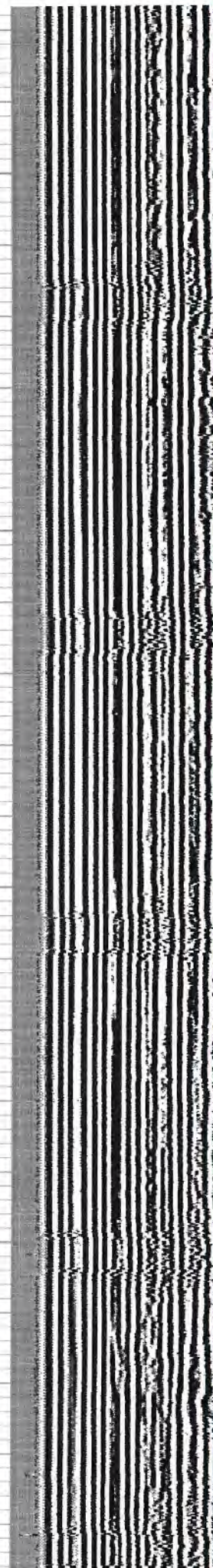
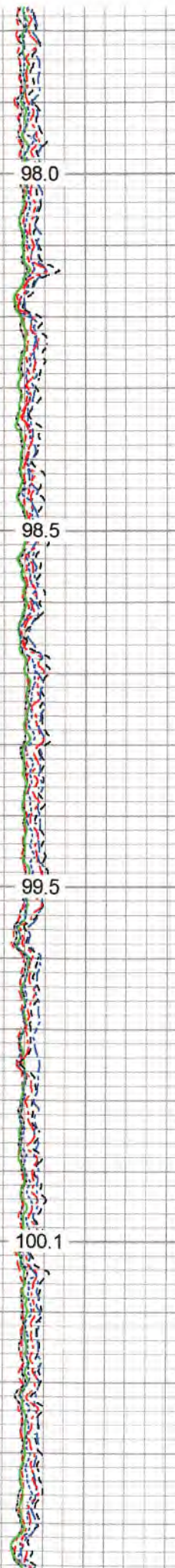
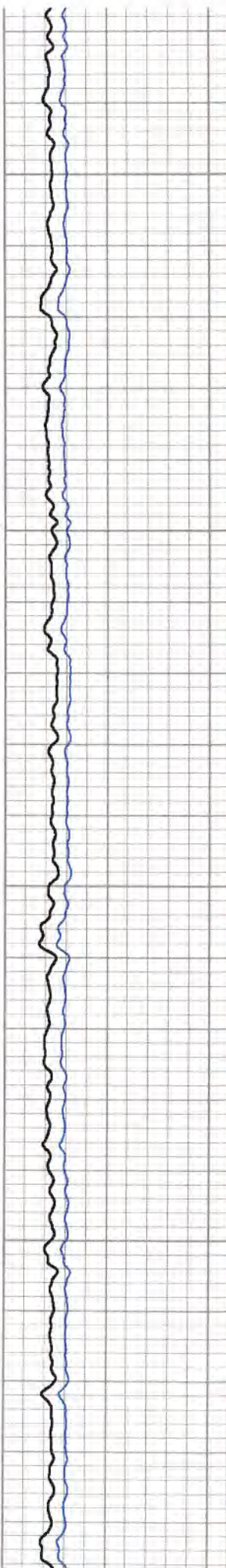
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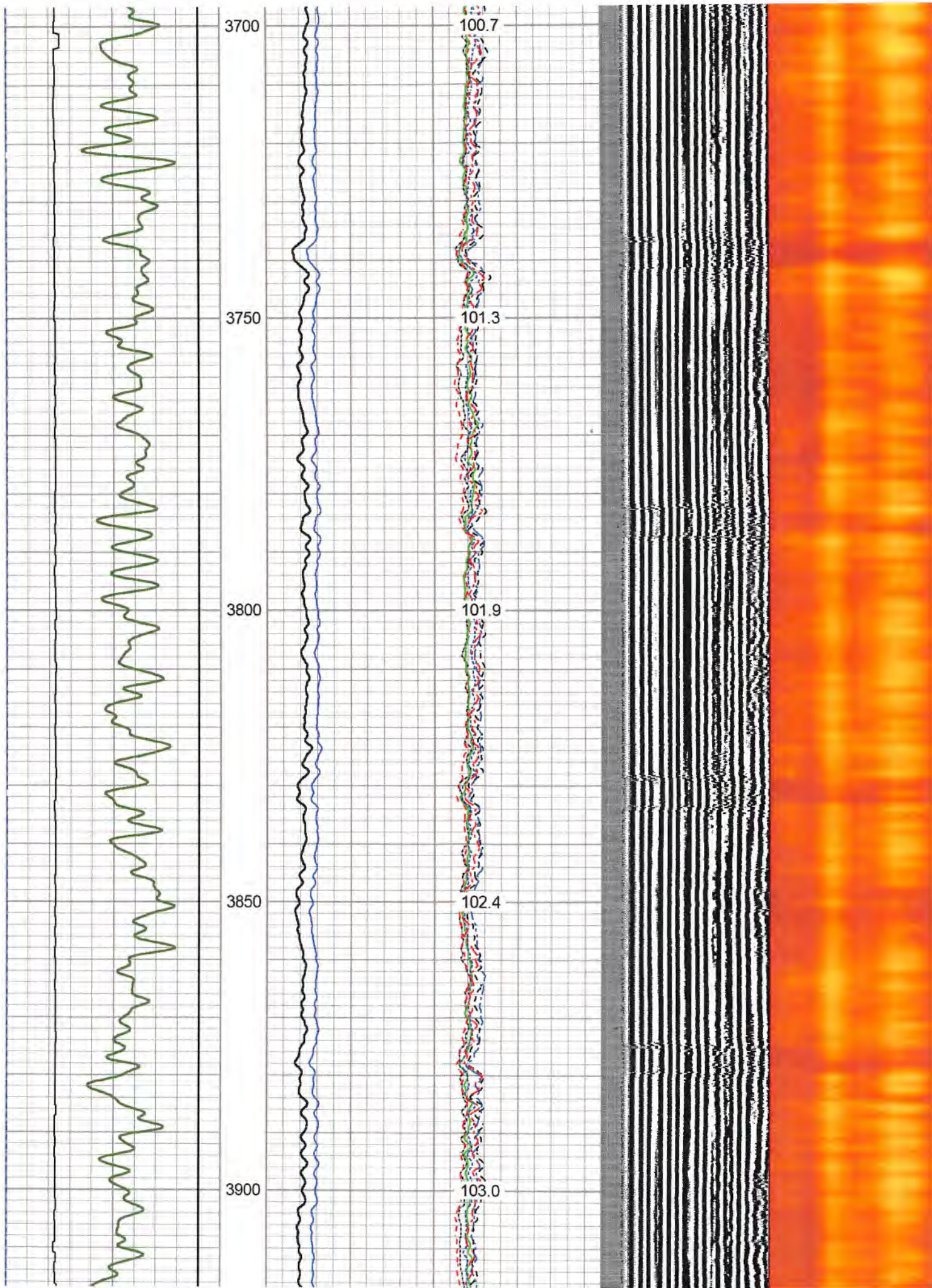
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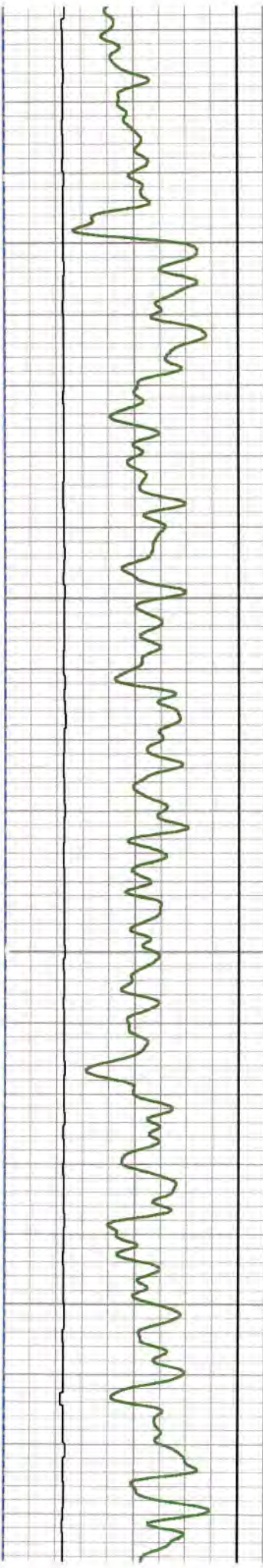
97.5



3500
3550
3600
3650





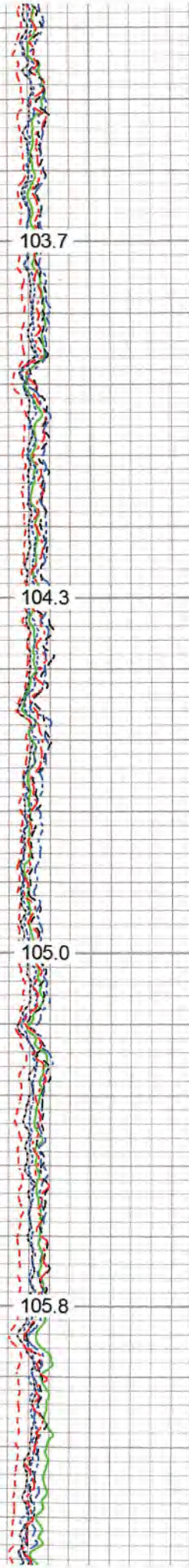
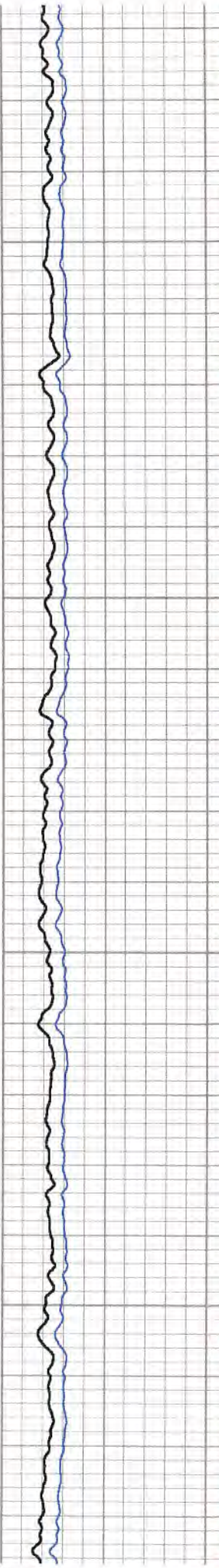


3950

4000

4050

4100

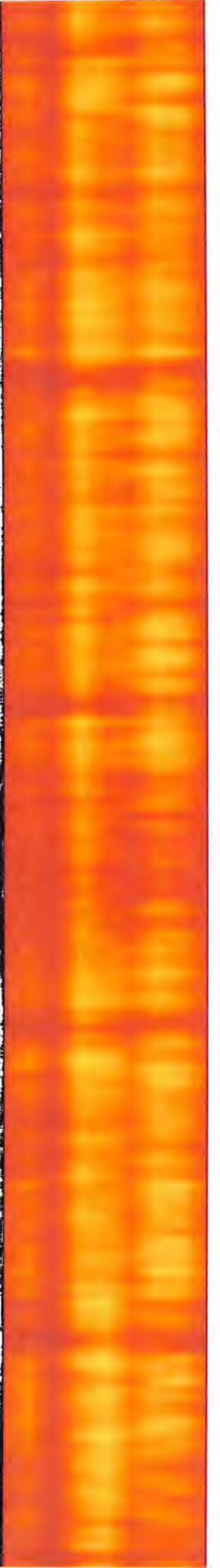
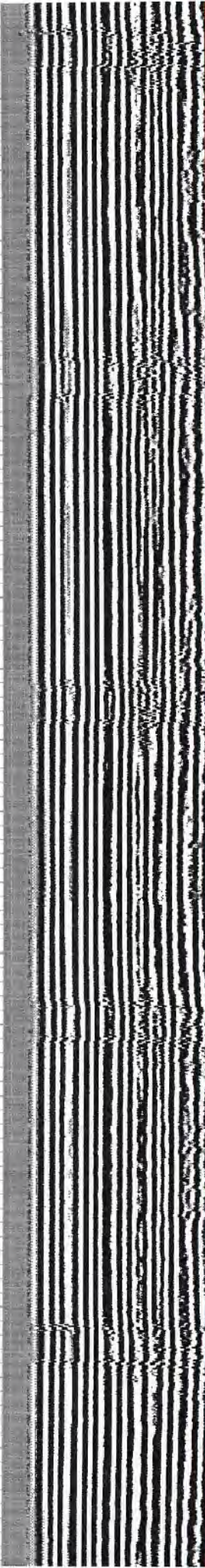


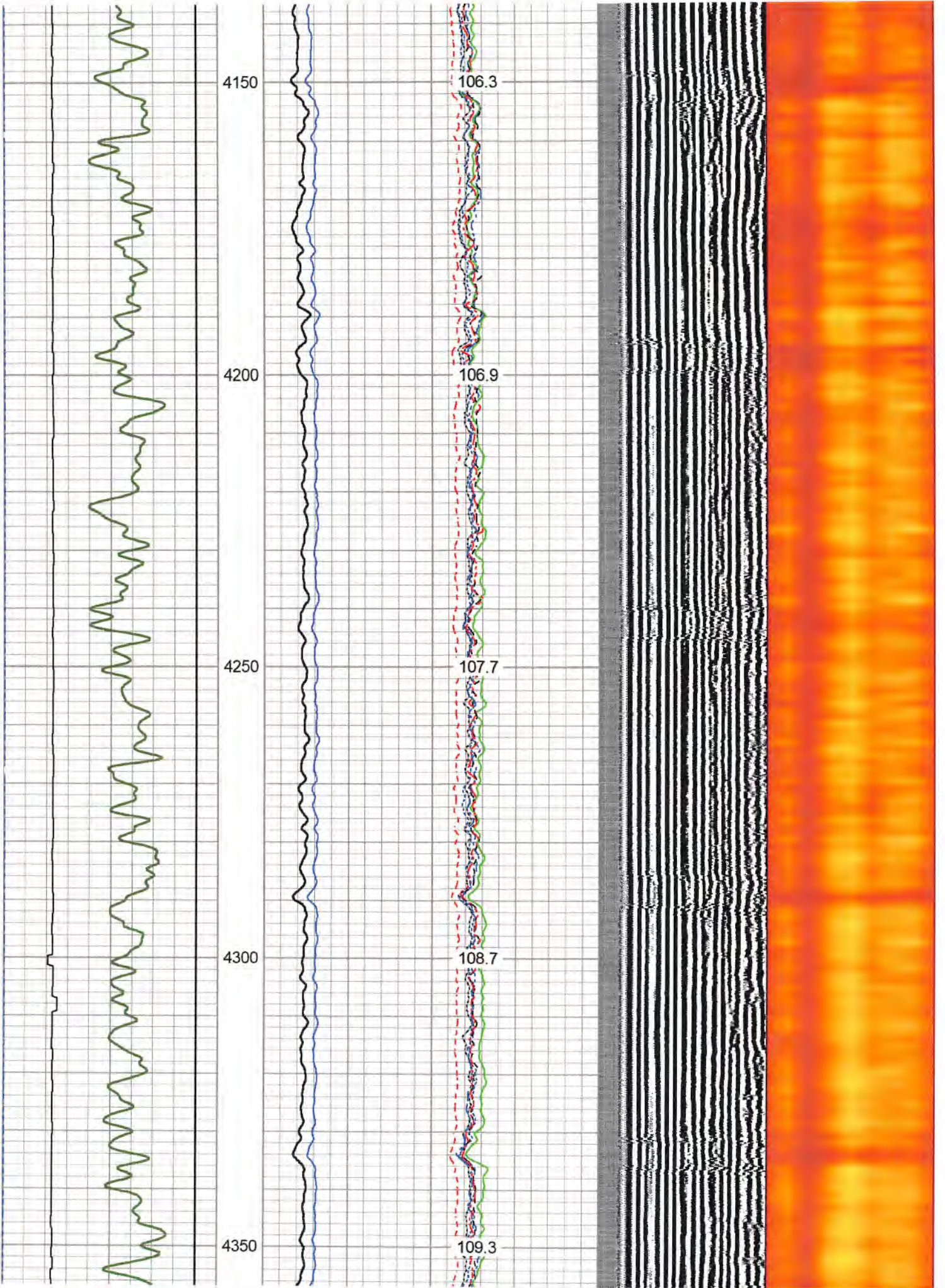
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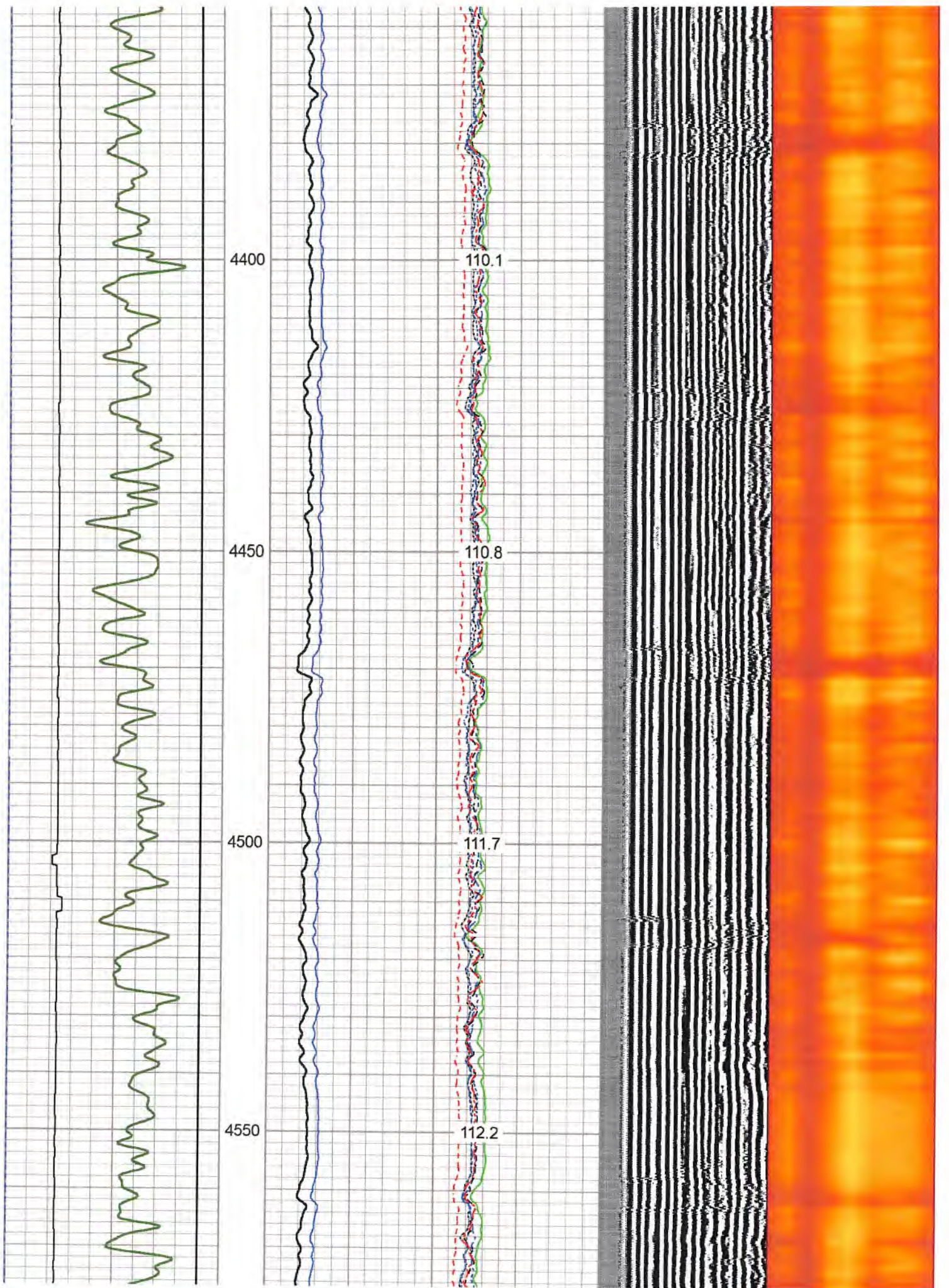
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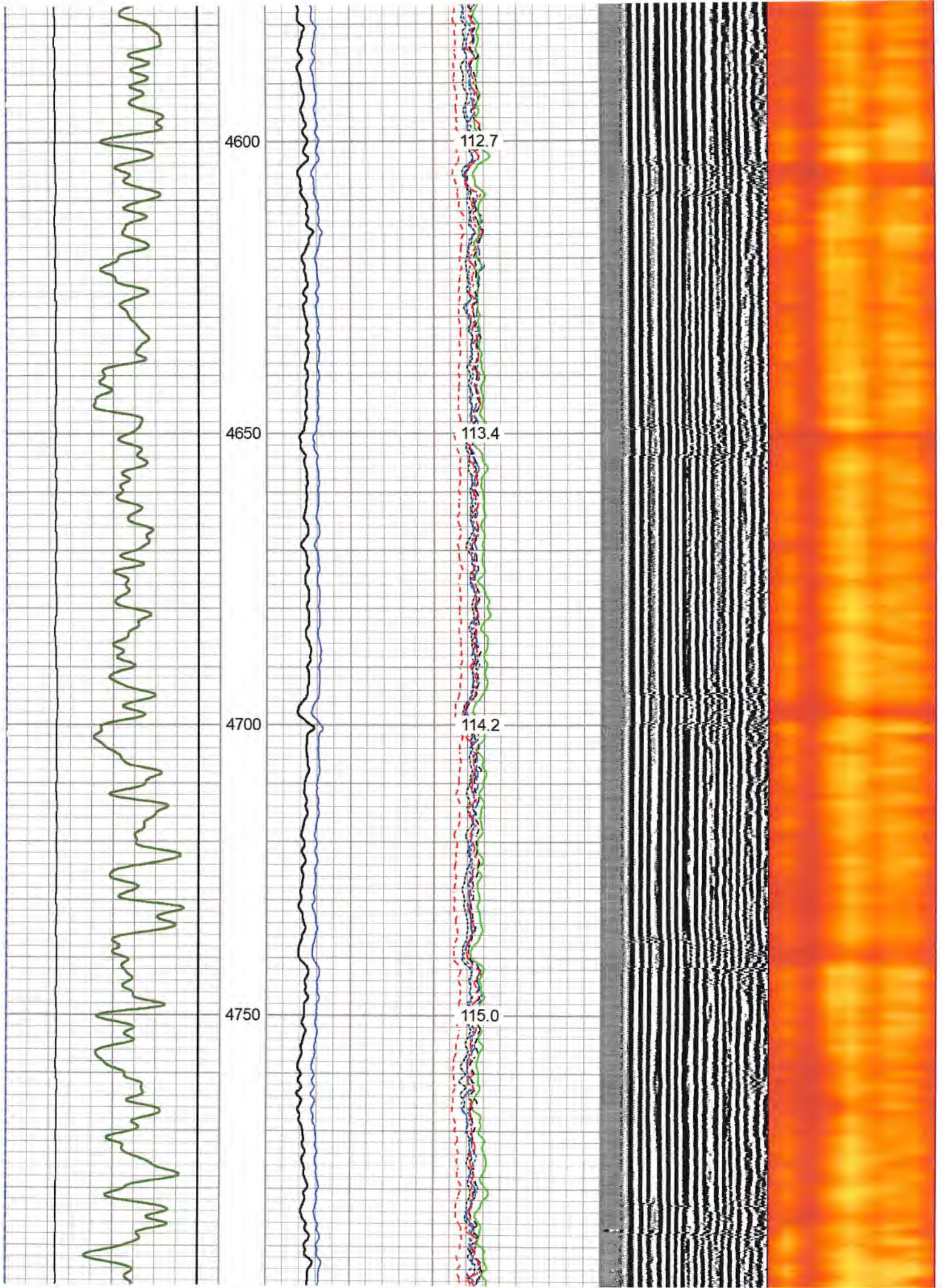
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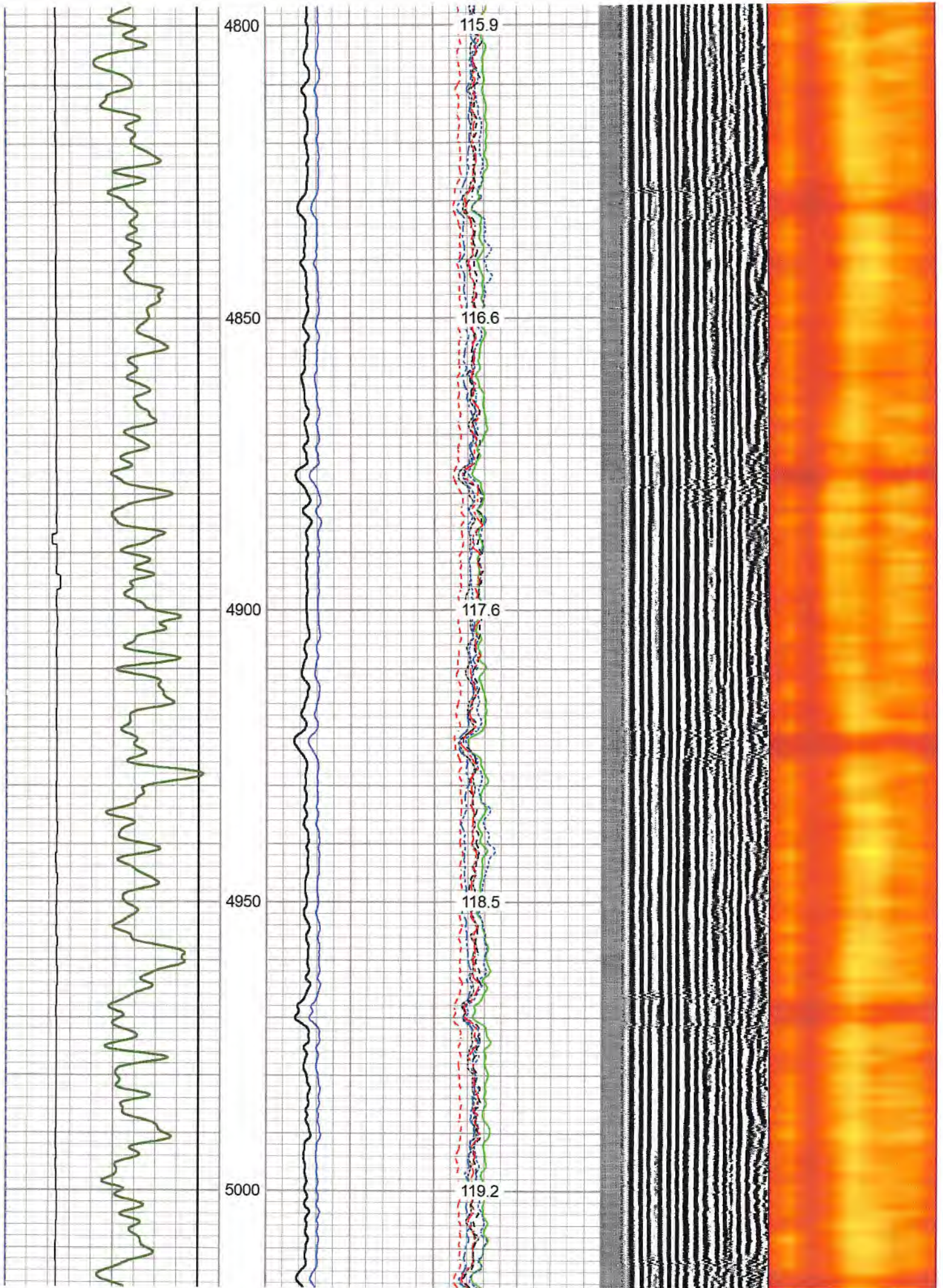
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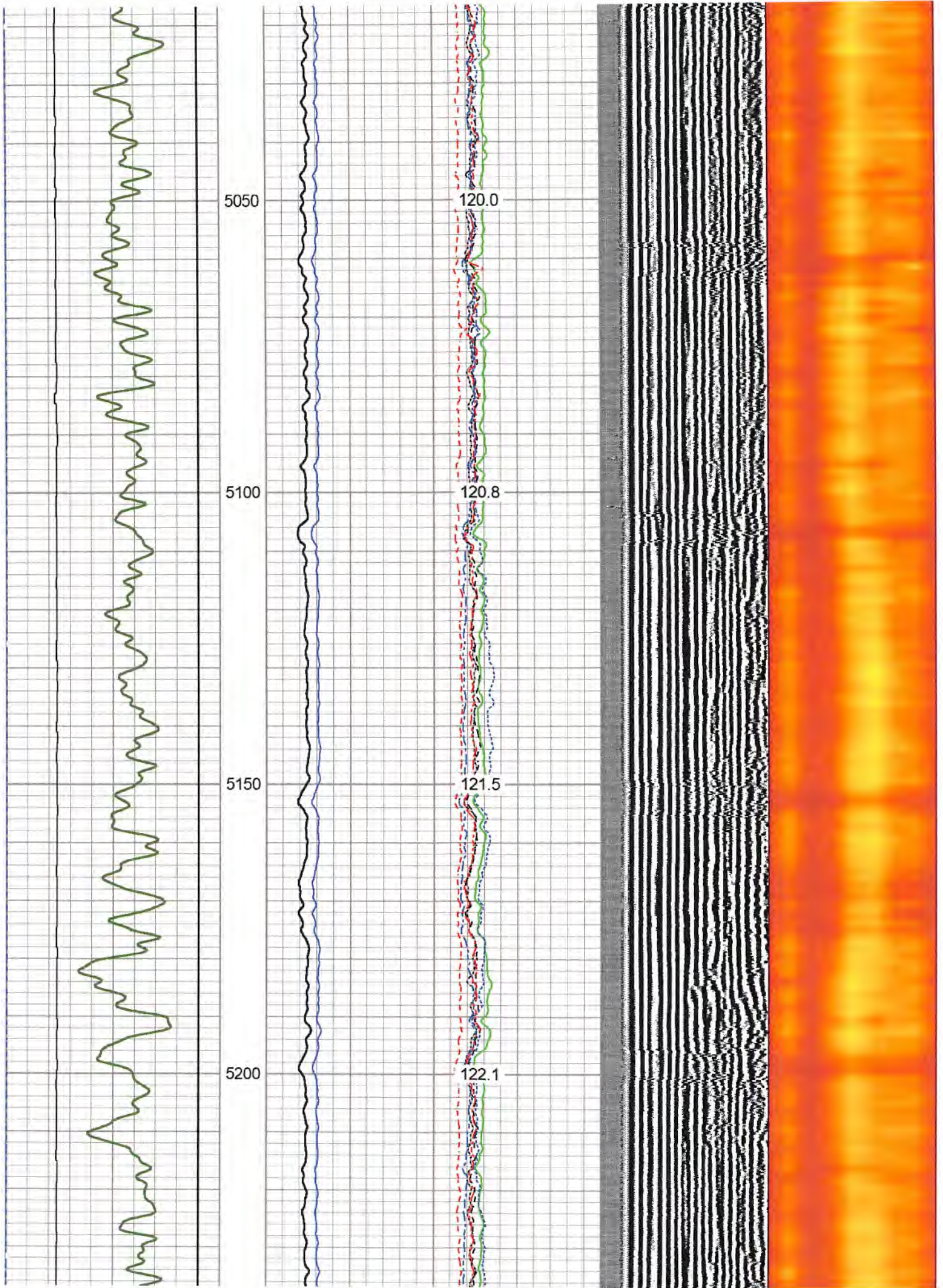


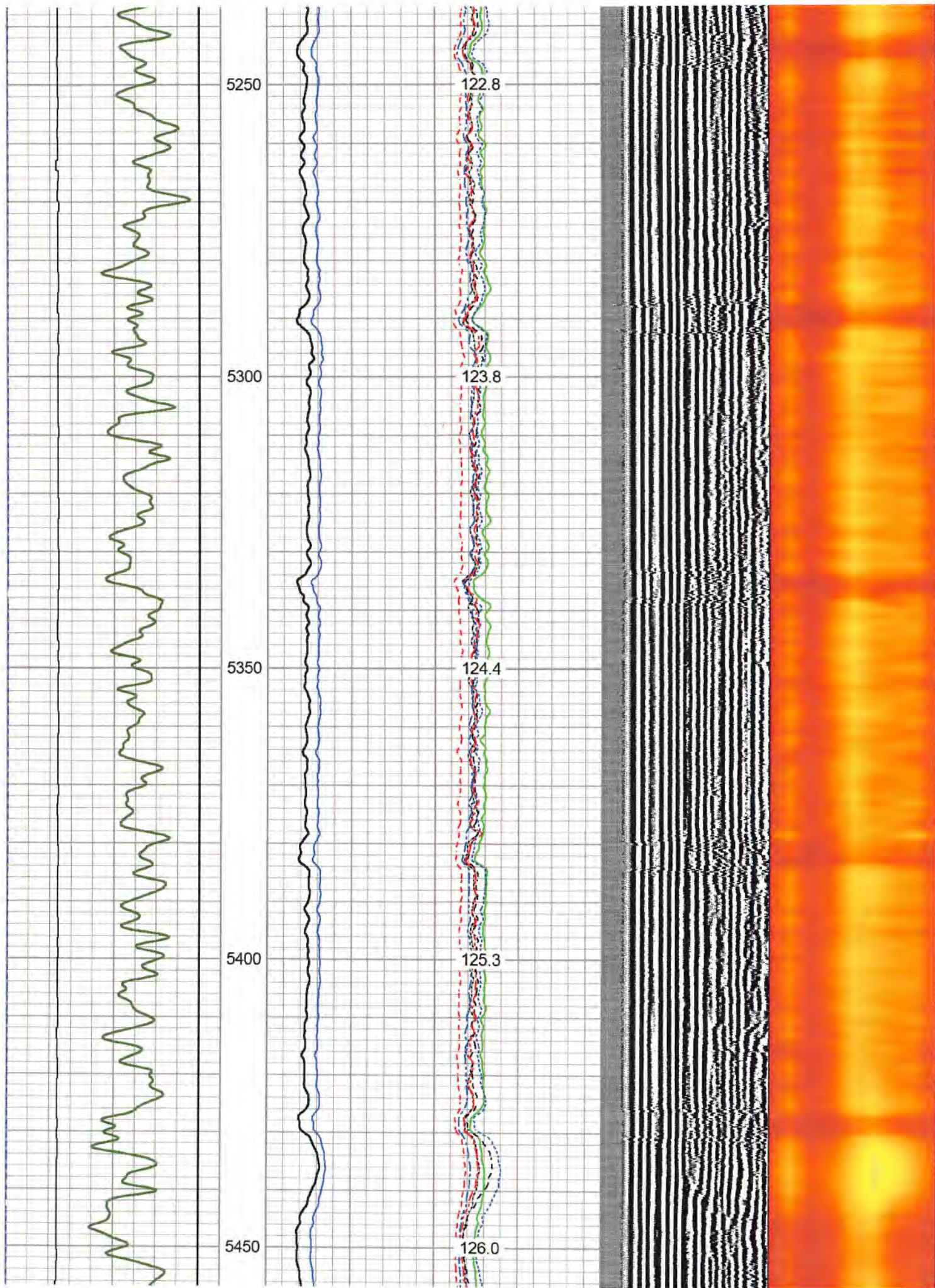


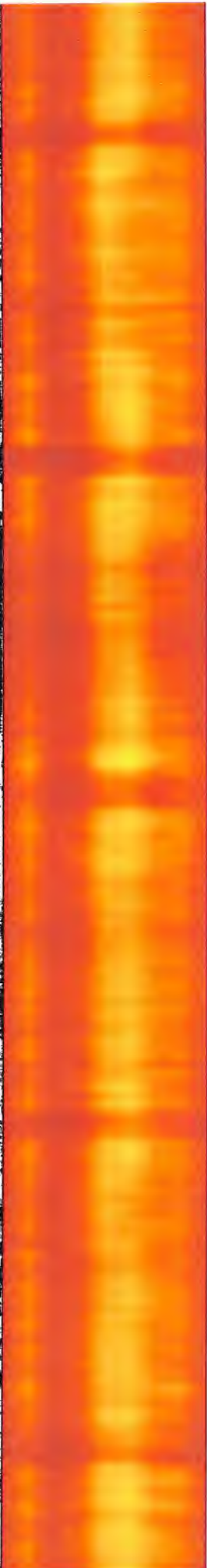
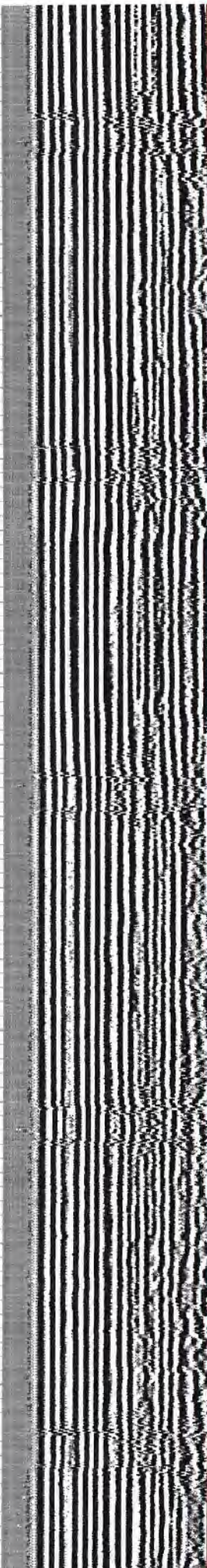
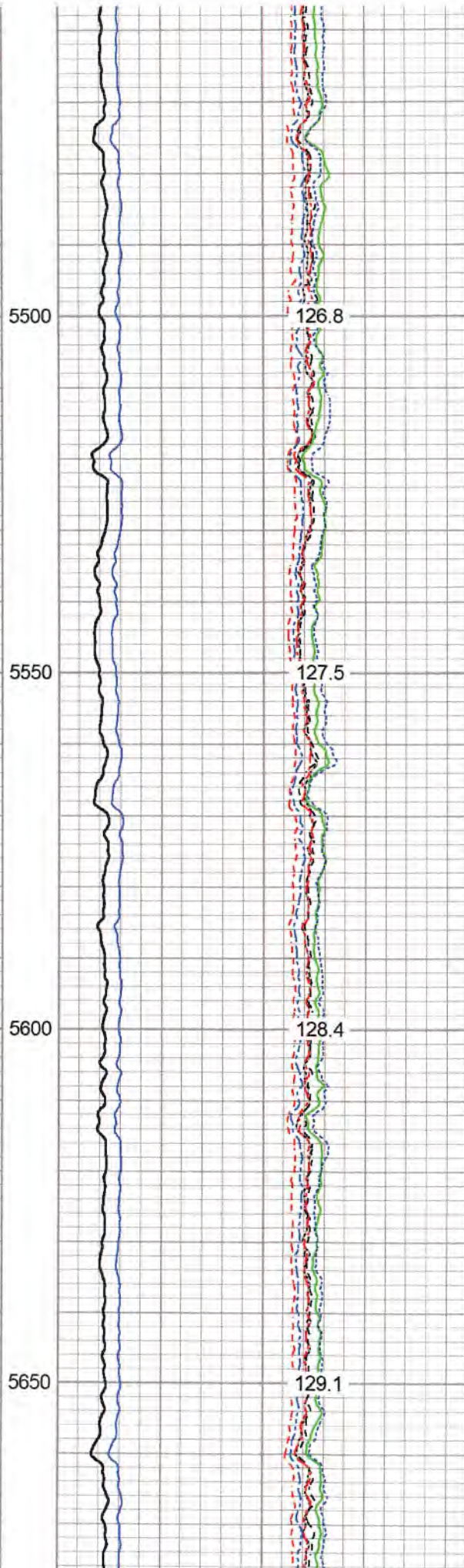
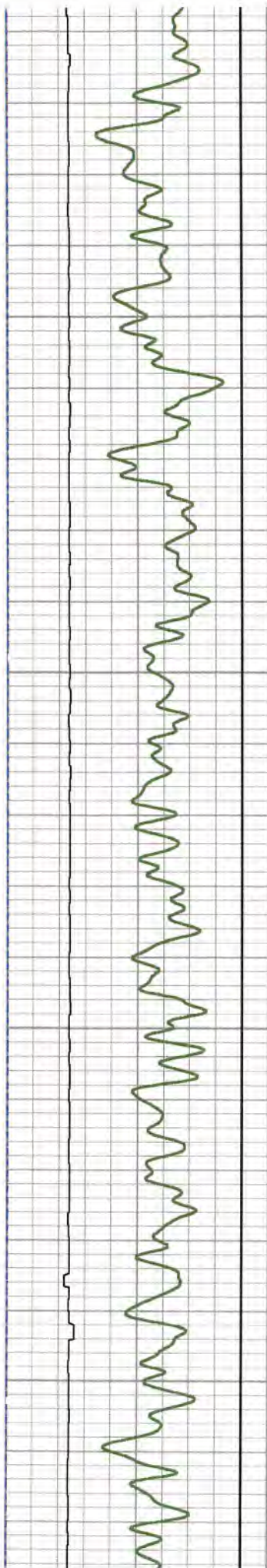


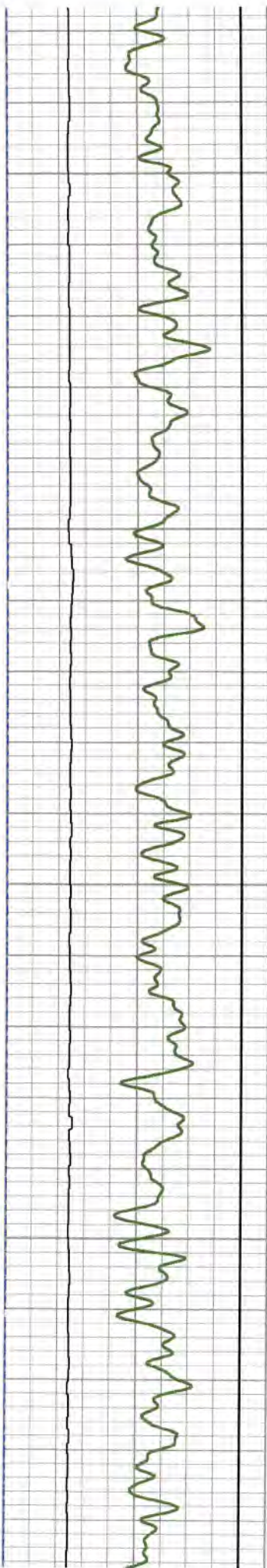










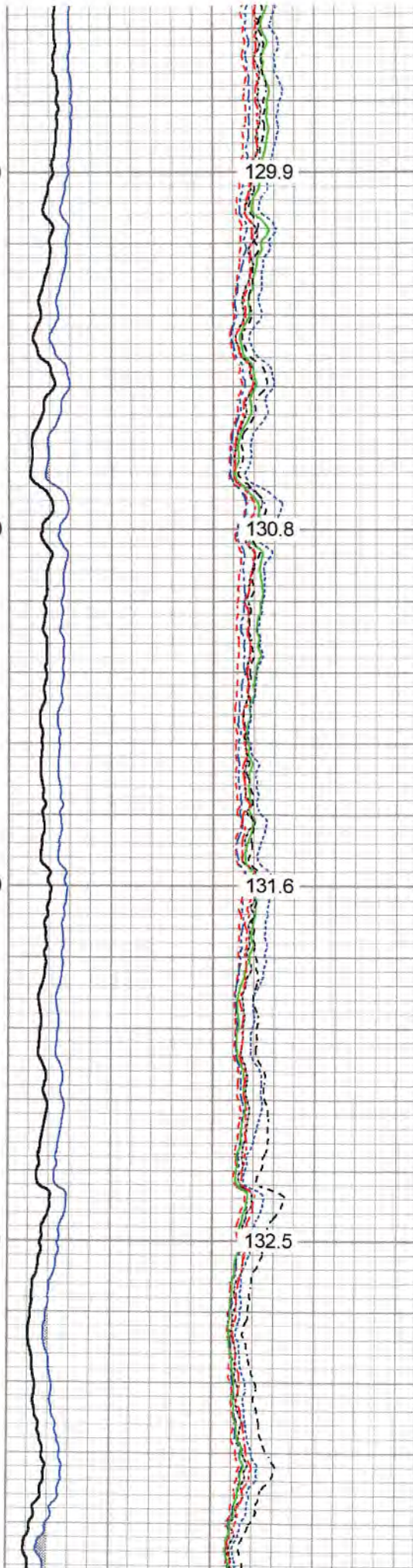


5700

5750

5800

5850

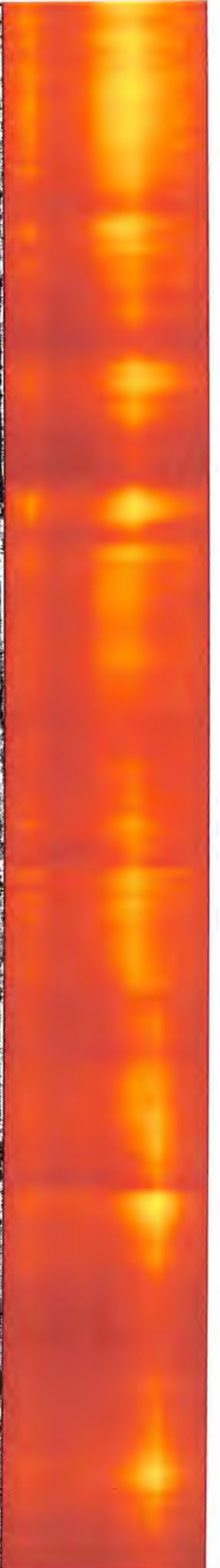
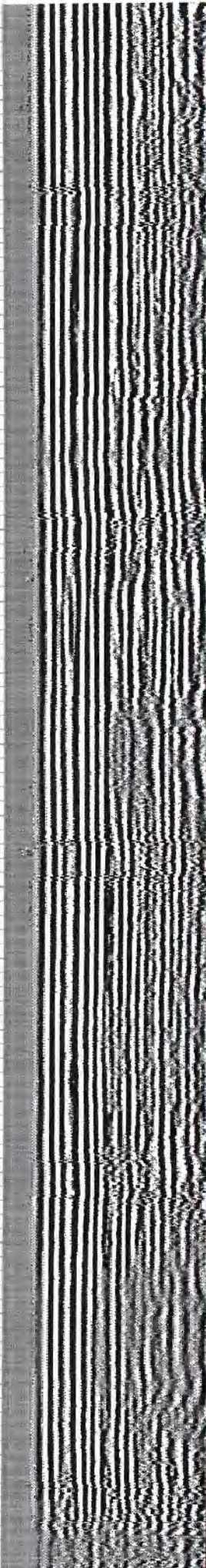


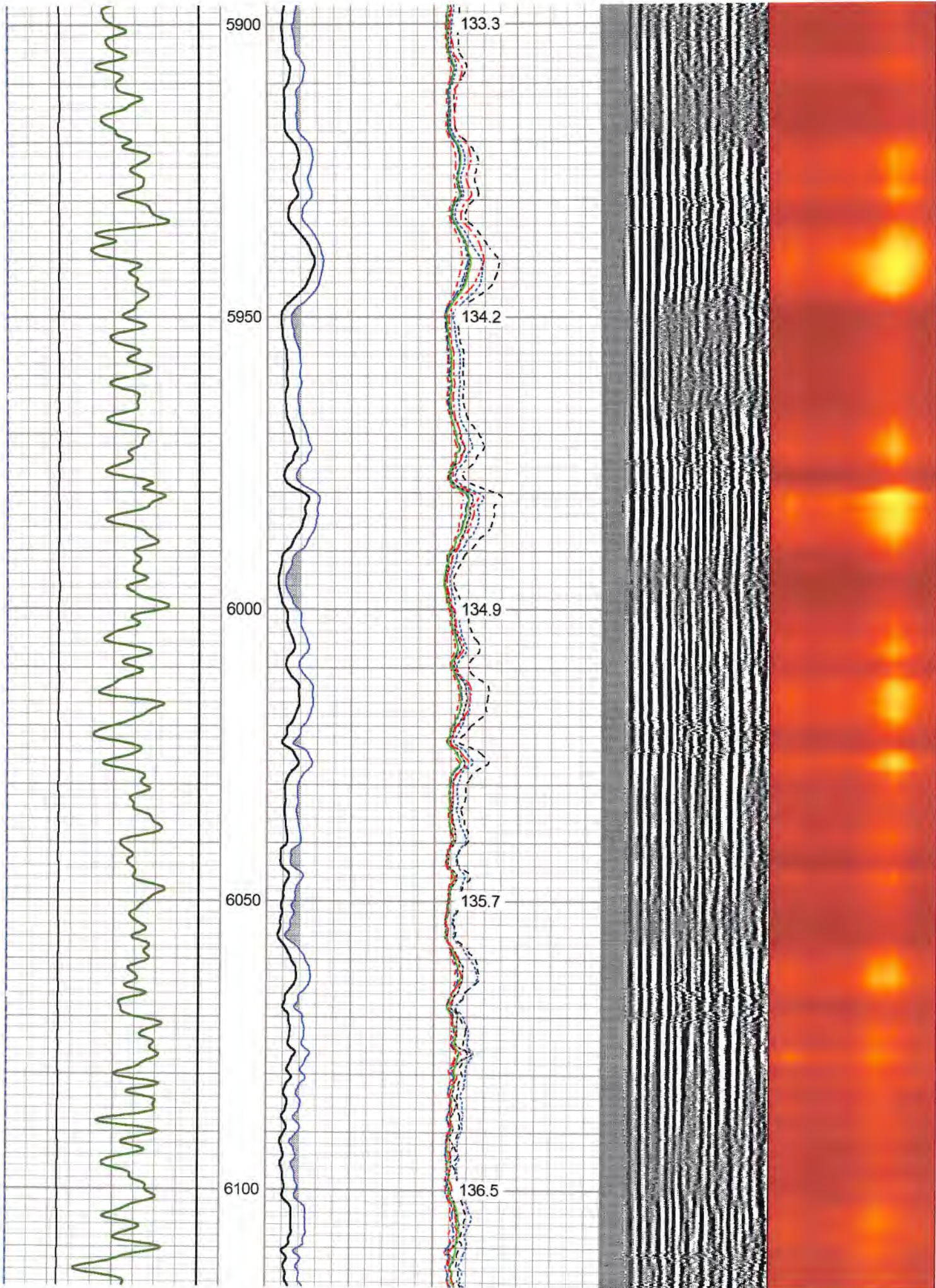
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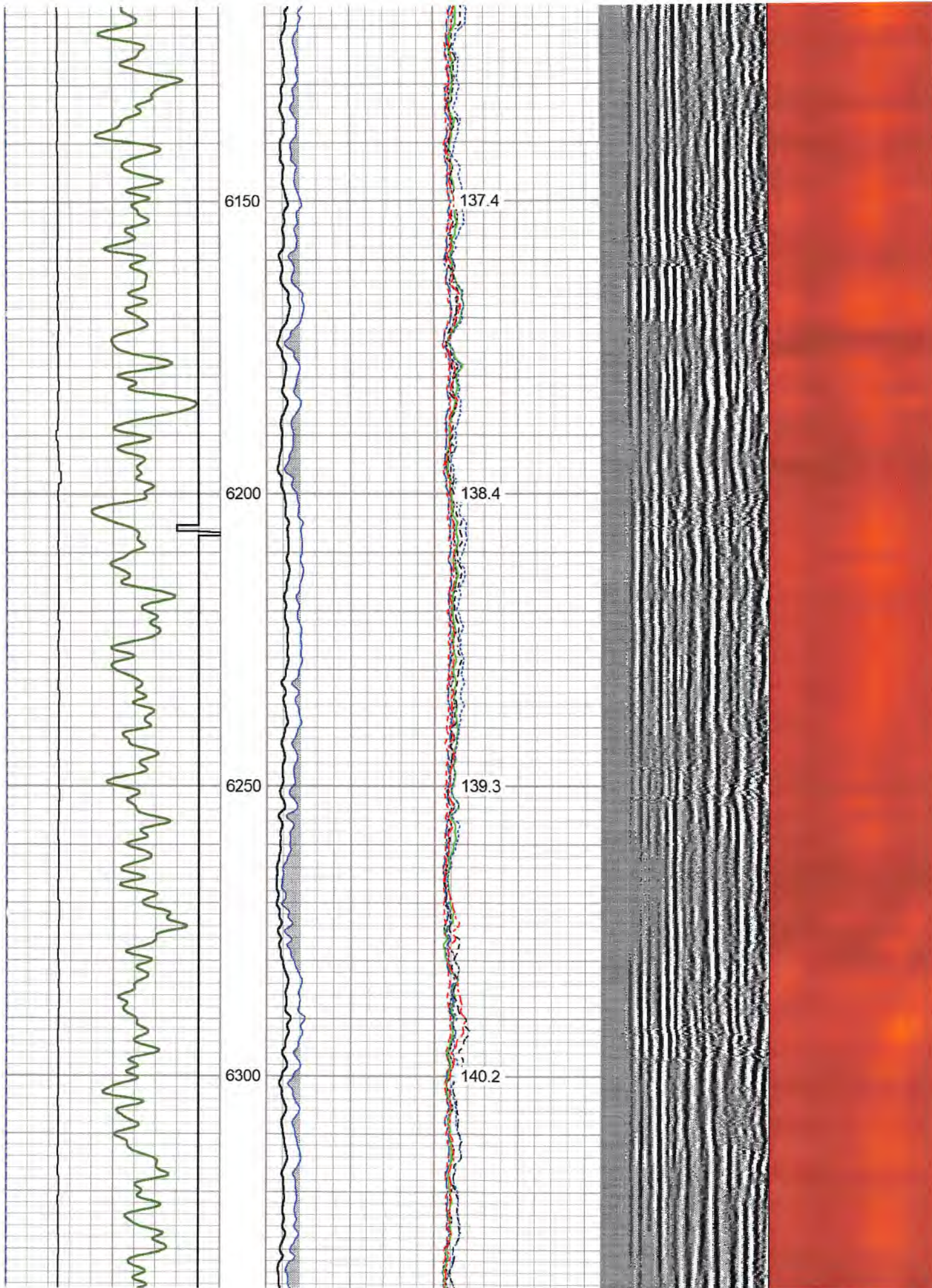
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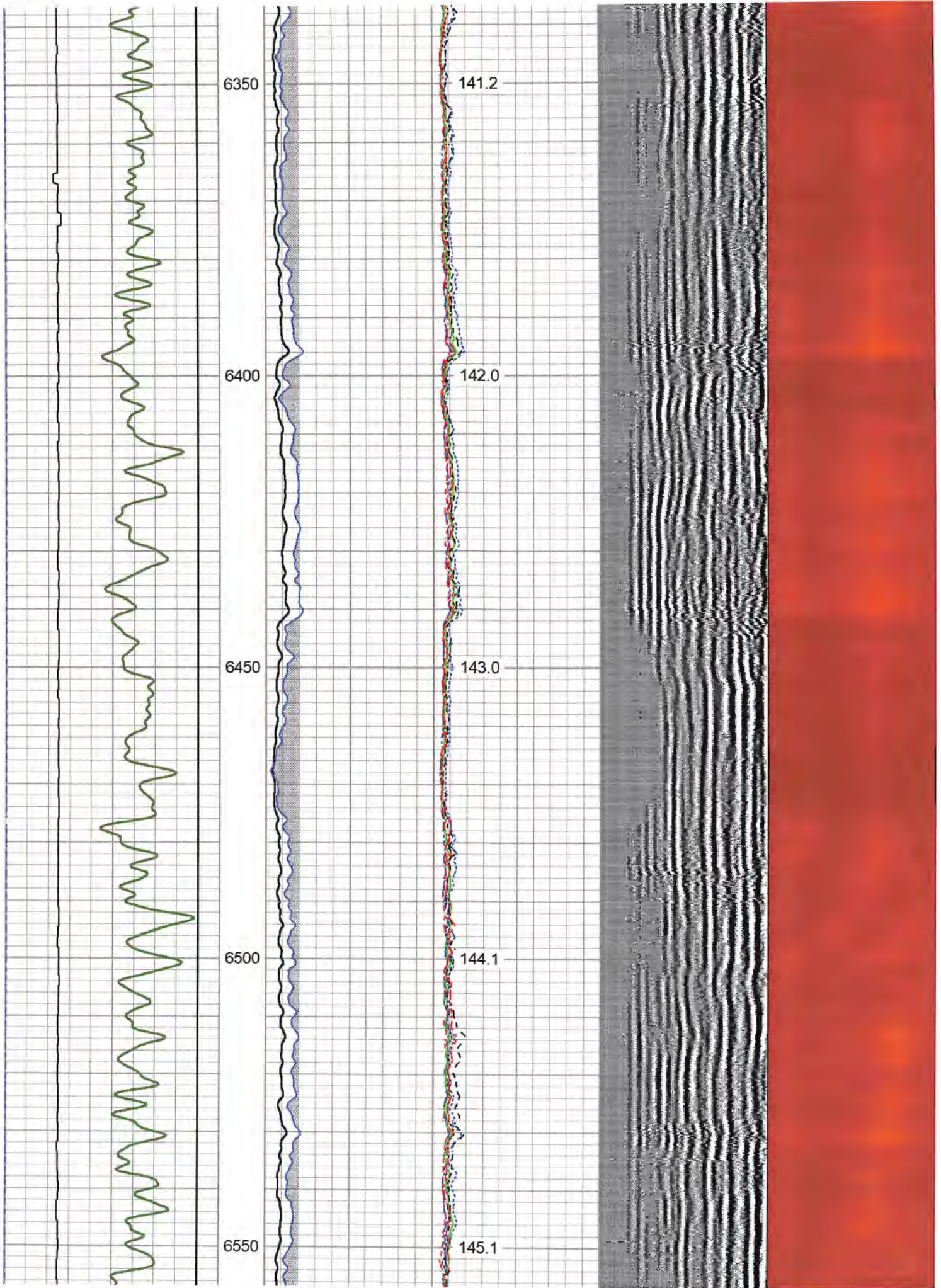
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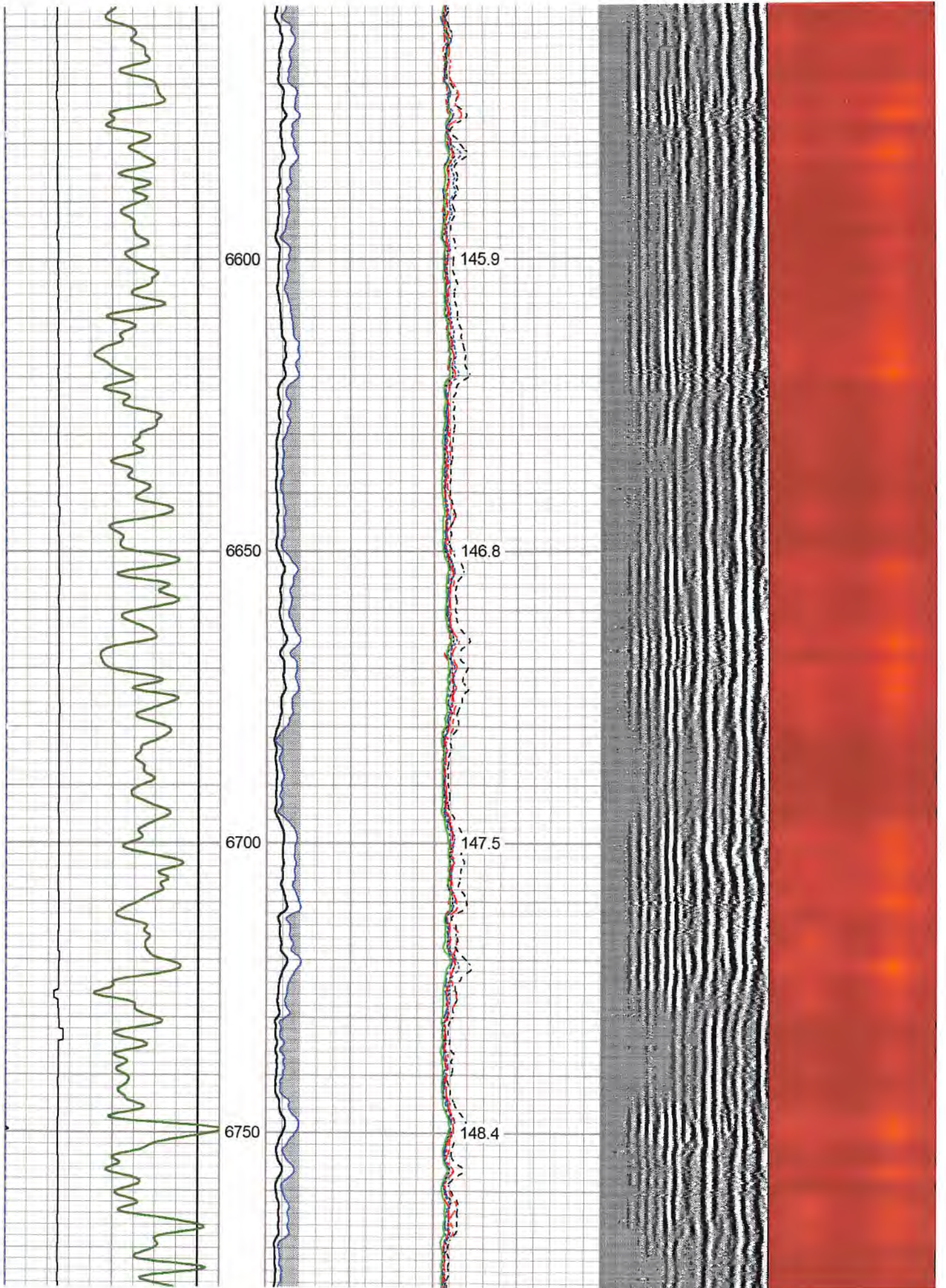
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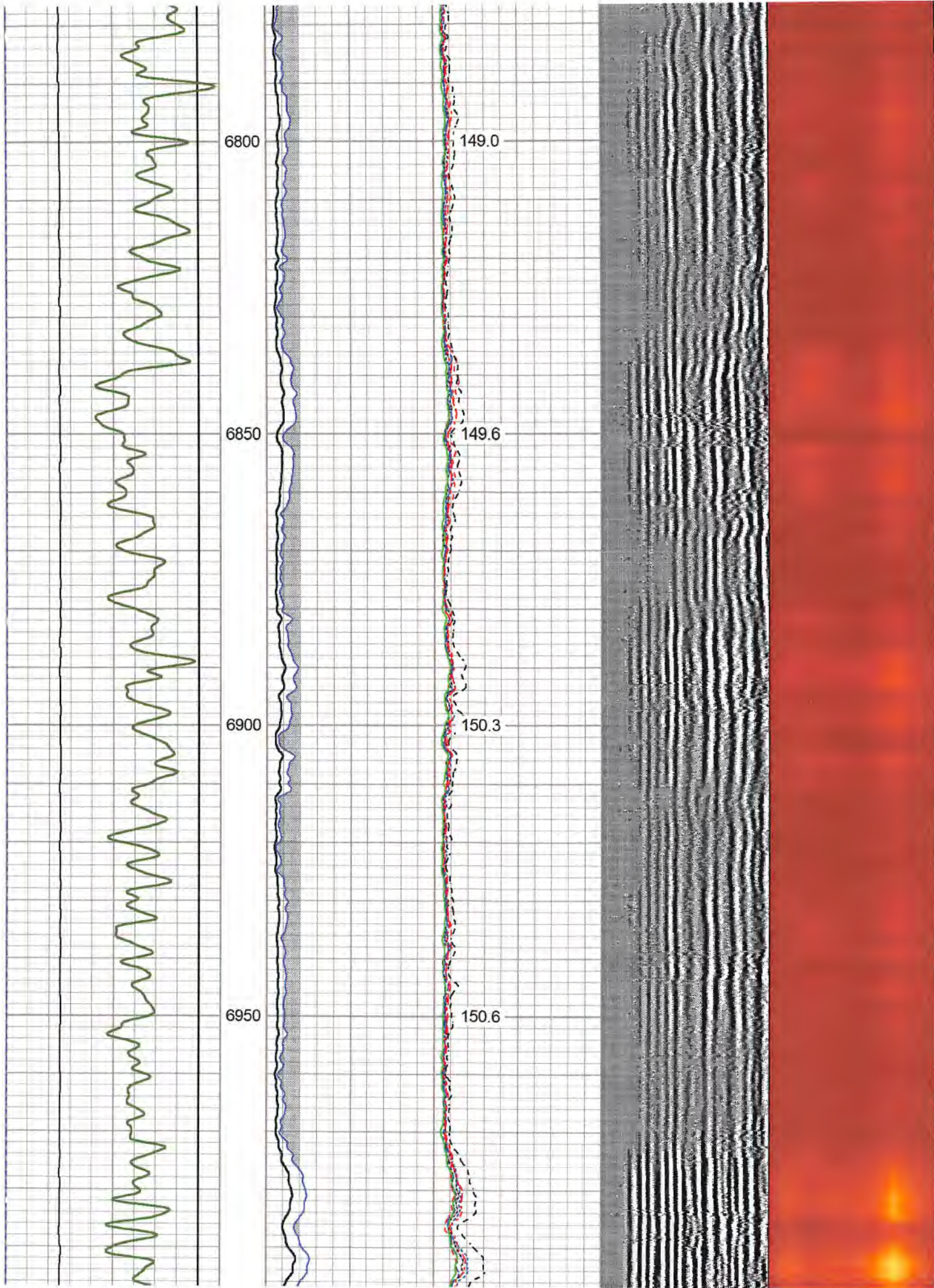


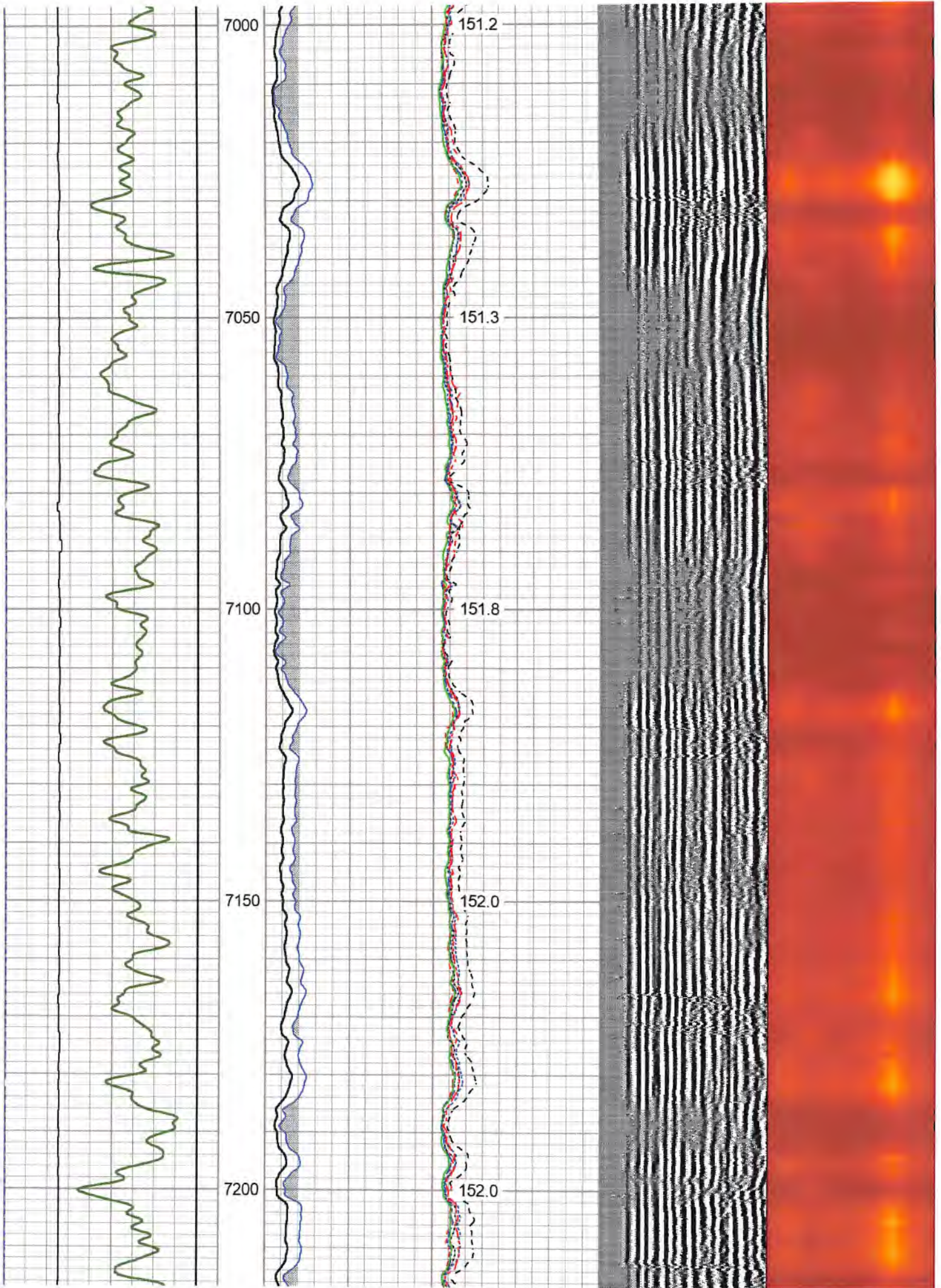


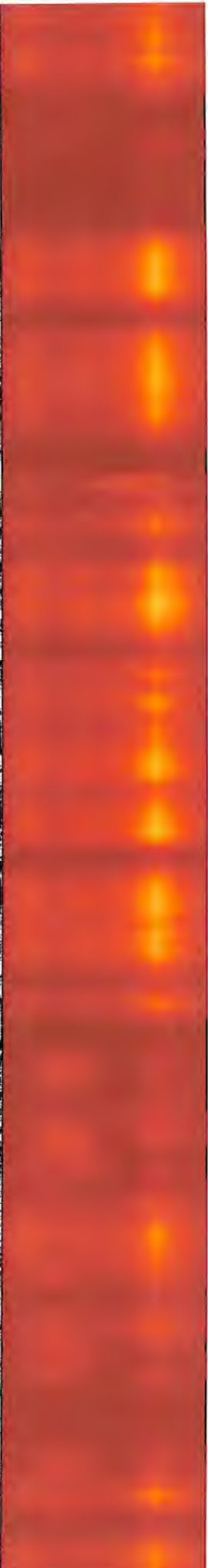
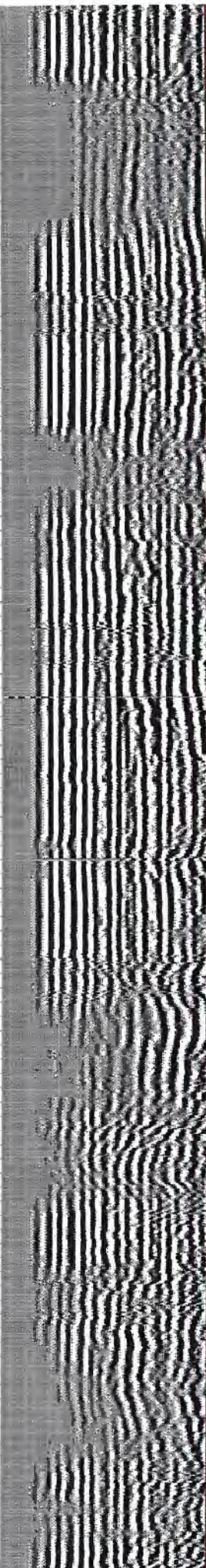
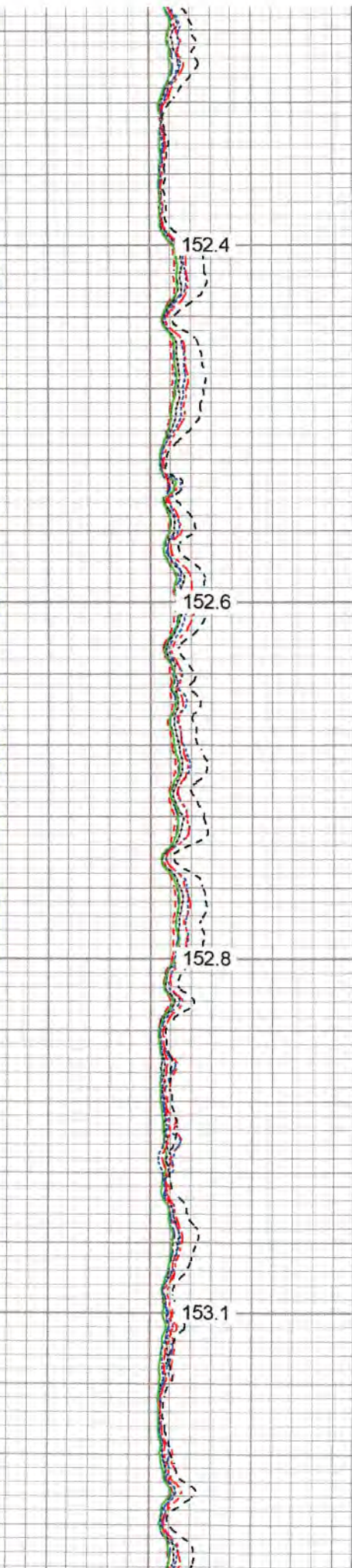
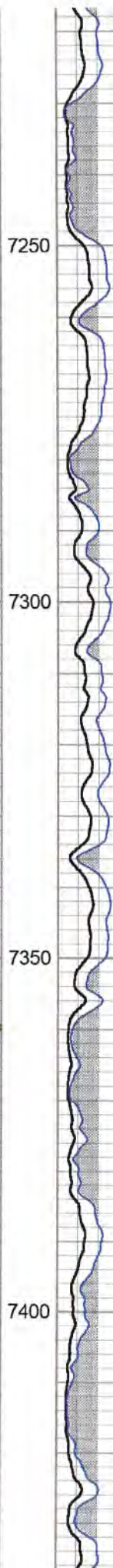
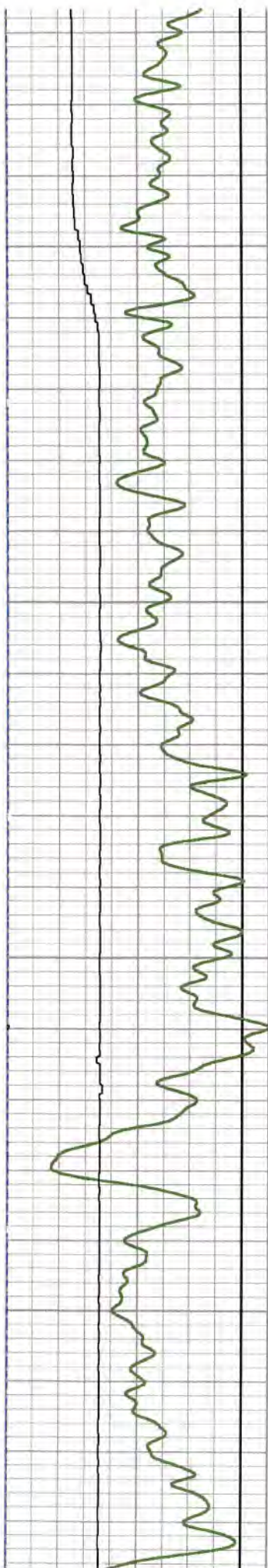


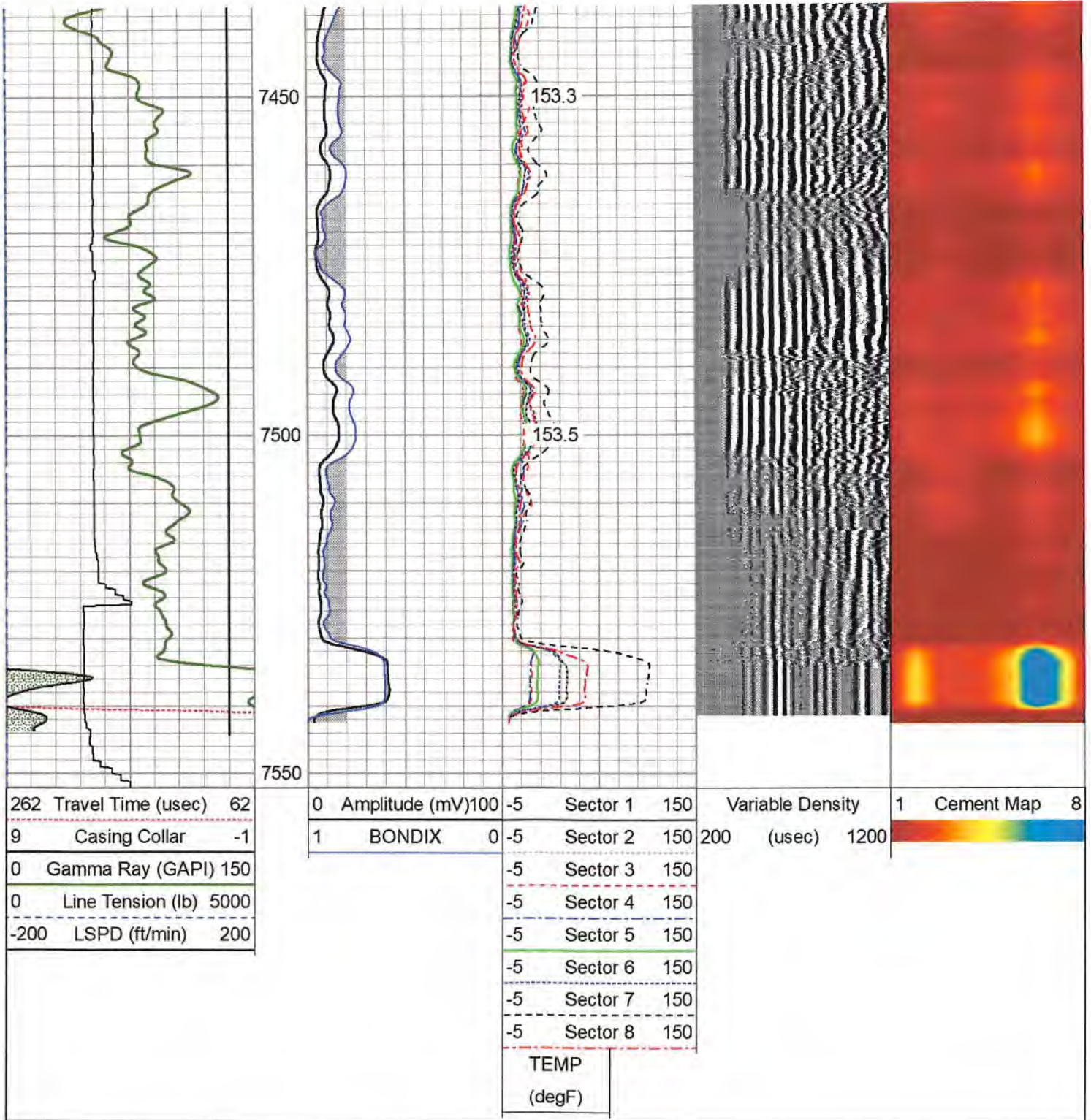




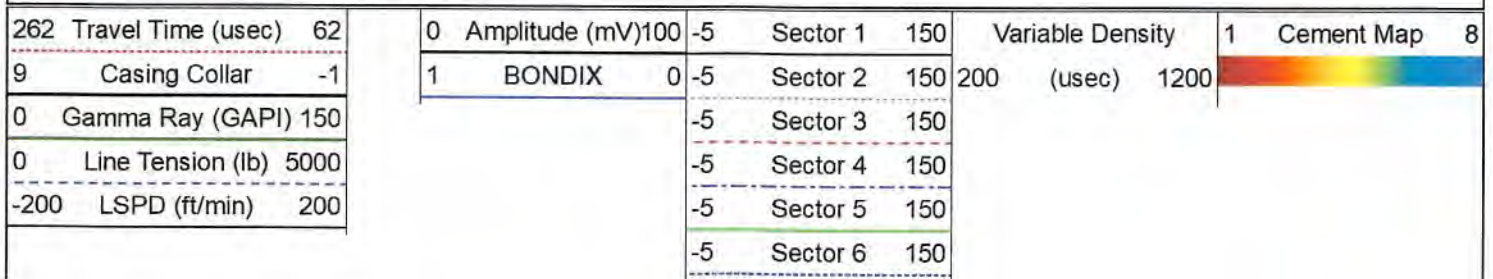








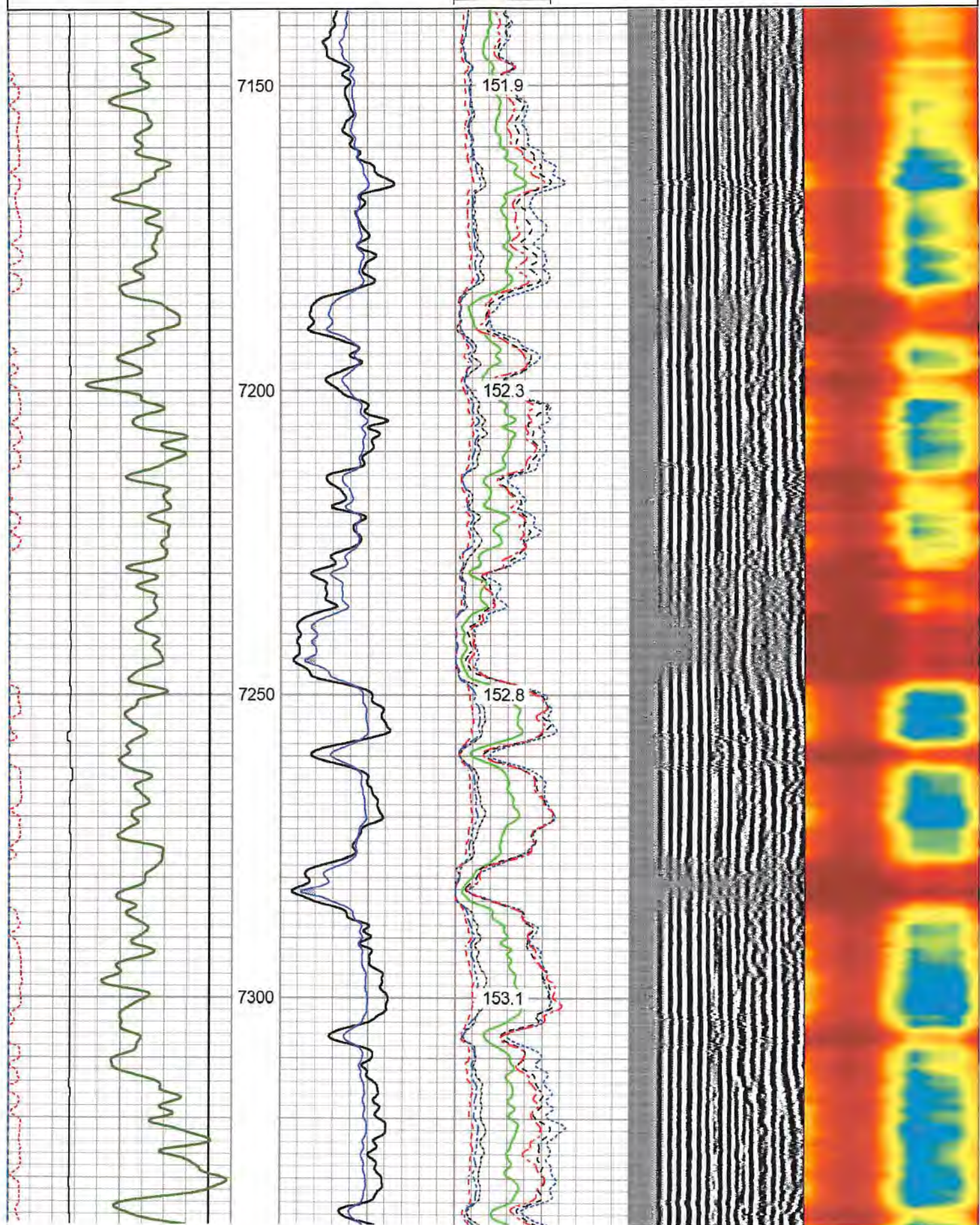
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 Dataset Pathname utica/capital1h/run1/pass13.3
 Presentation Format rcbl-bond index for antero 1020
 Dataset Creation Thu Mar 24 14:53:04 2022
 Charted by Depth in Feet scaled 1:240

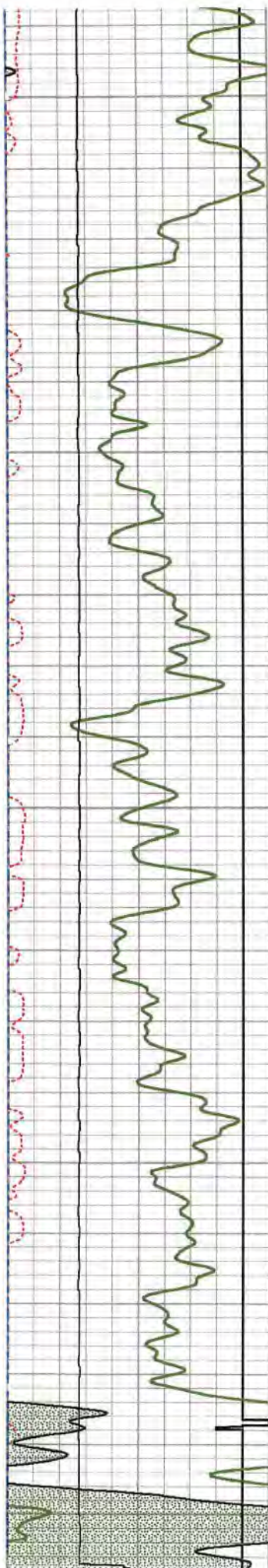


-5 Sector 7 150

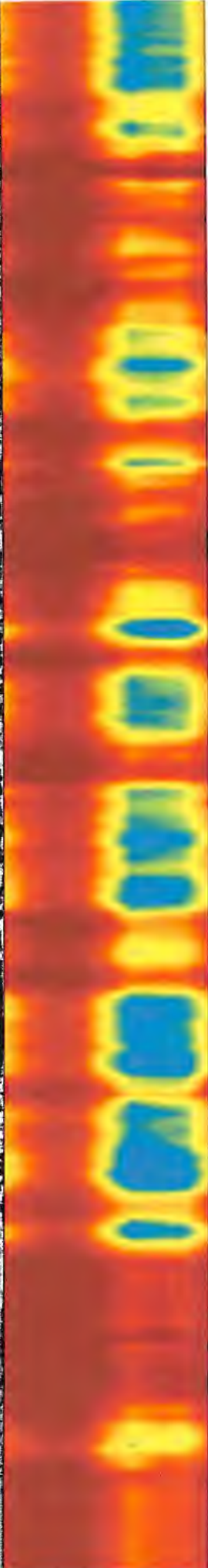
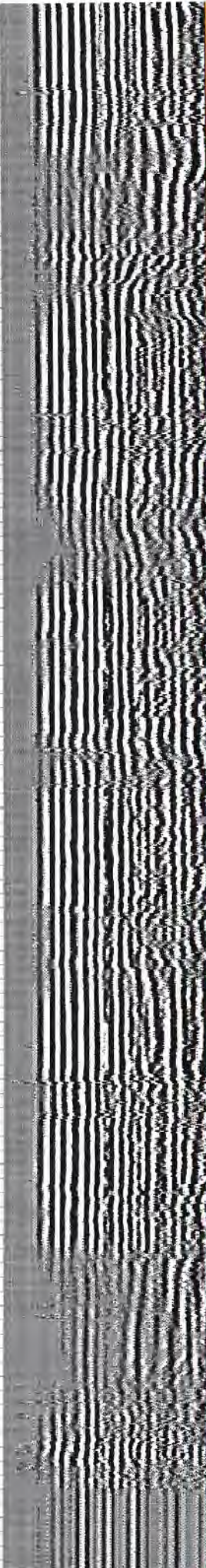
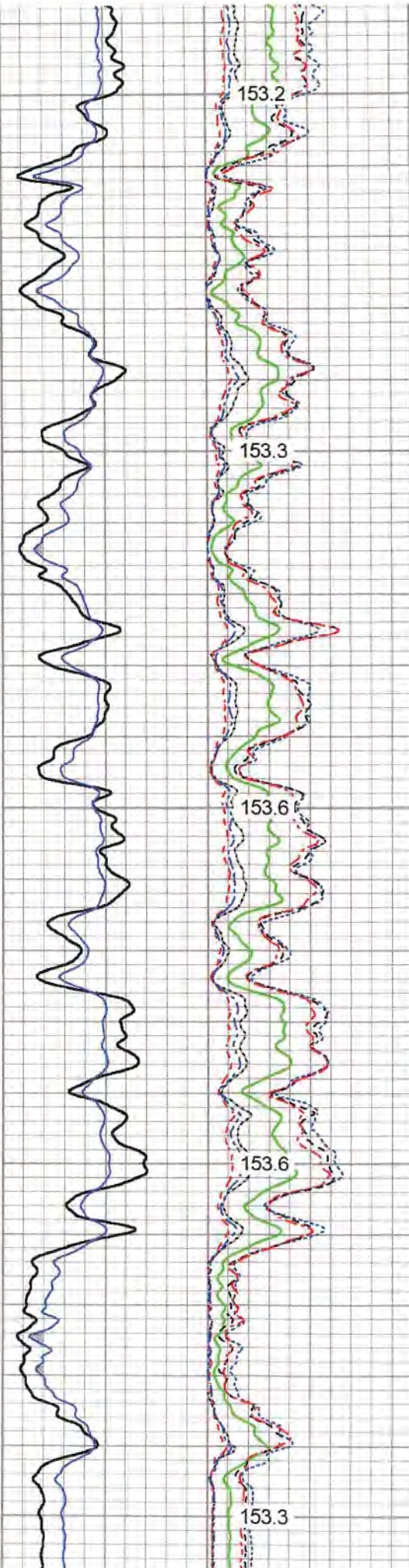
-5 Sector 8 150

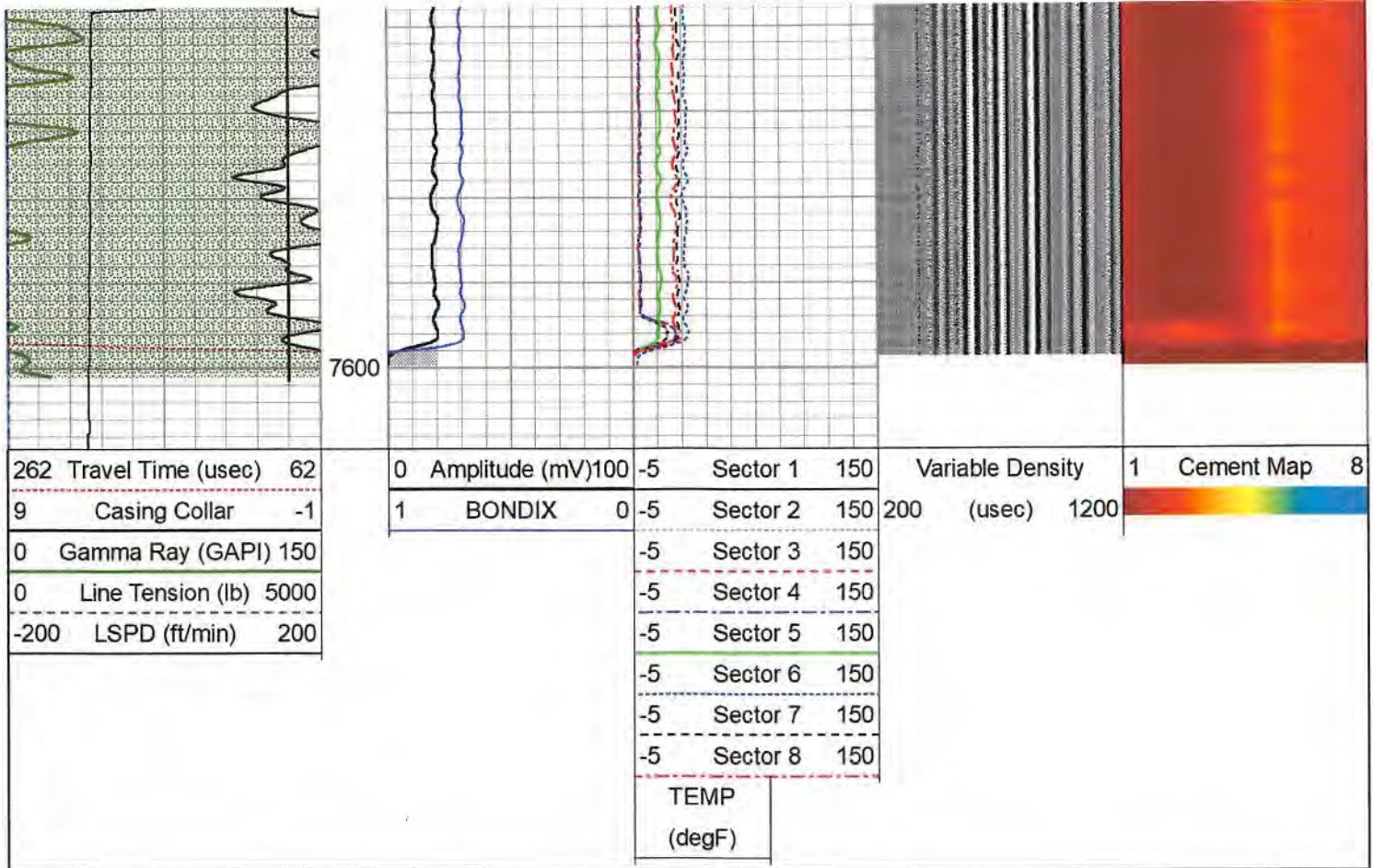
TEMP
(degF)





7350
7400
7450
7500
7550





Log Variables

DatabaseC:\ProgramData\Warrior\Data\antero_thin_air_axtel_1h_21_march_2022.db
Dataset utica/capital1h/run1/pass15.1/_vars_

Top - Bottom							
BHTEMP_Src	BOREID	BOTTEMP	CASEOD	CASETHCK	CASEWGHT	MAXAMPL	MINAMPL
TEMP	7.875	150	5.5	0.415	23	71.9	3.4
MINATTN	PERFS	PPT	SRFTEMP	TDEPTH			
9.6	No	260	70	7400			

Variable Description

BHTEMP_Src : BHTEMP Input Source Selector	MINAMPL : Minimum Amplitude
BOREID : Borehole I.D.	MINATTN : Minimum Attenuation
BOTTEMP : Bottom Hole Temperature	PERFS : Perforation Flag
CASEOD : Casing O.D.	PPT : Predicted Pipe Time
CASETHCK : Casing Thickness	SRFTEMP : Surface Temperature
CASEWGHT : Casing Weight	TDEPTH : Total Depth
MAXAMPL : Maximum Amplitude	

Calibration Report	
Database File	antero_thin_air_axtel_1h_21_march_2022.db
Dataset Pathname	utica/capital1h/run1/pass15.1
Dataset Creation	Mon Mar 21 18:31:38 2022
Gamma Ray Calibration Report	
Serial Number:	275
Tool Model:	Probe
	011107010000

Performed: Mon Mar 21 14:37:34 2022

Calibrator Value: 100.0 GAPI

Background Reading: 35.0 cps
 Calibrator Reading: 160.0 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: 205.158 ft

Master Calibration, performed (Derived):


	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.000	1.246	3.400	71.921	54.995	3.400
CAL	1.109	1.491				
5'	0.000	1.064	3.400	71.921	64.429	3.400
SUM						
S1	0.000	1.909	0.000	100.000	52.373	-0.000
S2	0.000	1.615	0.000	100.000	61.913	-0.001
S3	0.000	2.346	0.000	100.000	42.623	-0.002
S4	0.000	1.928	0.000	100.000	51.875	-0.002
S5	0.000	1.794	0.000	100.000	55.730	-0.000
S6	0.000	1.621	0.000	100.000	61.674	-0.001
S7	0.000	1.410	0.000	100.000	70.932	-0.001
S8	0.000	1.638	0.000	100.000	61.066	-0.001

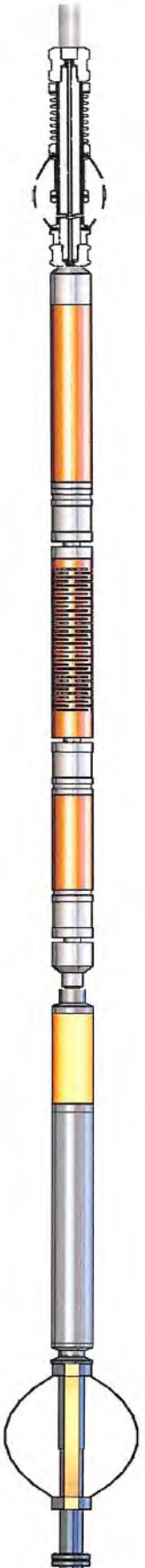
Internal Reference Calibration, performed (Not Performed):

	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	1.109	1.491	1.000	0.000

Air Zero Calibration, performed Mon Mar 21 15:14:33 2022:

	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

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			CID Ties	1.00	1.44	5.00

			CENT-Titan Titan 1 7/16" GO Cablehead	1.00	1.44	5.00
			CENT-Titn275Adj Titan 2 3/4" Adjustable Centralizer	2.86	2.75	35.00
Temp	14.10					
WVFS8	11.86		RBT-Probe275T (FW1312-32) Probe 2.75" Radial with Integral Temperature Sub	9.39	2.75	90.00
WVFS7	11.86					
WVFS6	11.86					
WVFS5	11.86					
WVFS4	11.86					
WVFS3	11.86					
WVFS2	11.86					
WVFS1	11.86					
WVF3FT	11.86					
WVF5FT	10.86					
HeadVolt	7.61					
WVFCAL	7.61					
CCL	6.71					
GR	5.38		GR-Probe (275) Probe 2 3/4" Logging Gamma Ray	4.78	2.75	57.00
			CENT-PTS275 2 3/4" Probe Centralizer	2.83	2.75	20.00

Dataset: antero_thin_air_axtel_1h_21_march_2022.db: utica/capital1h/run1/pass15.1
 Total length: 20.87 ft
 Total weight: 207.00 lb
 O.D.: 2.75 in



Nine

Company	Antero Resources
Well	Axtel 1H
Field	Utica
County	Tyler
State	WV