

RADIAL CEMENT BOND LOG

Company				EXTRACTION OIL & GAS INC			
Well				COYOTE TRAILS 33W-15-9C			
Field				WATTENBERG			
County		WELD		State		CO	
Company EXTRACTION OIL & GAS INC Well COYOTE TRAILS 33W-15-9C Field WATTENBERG County WELD State CO				API No.: 051234825300 Serv #: 905846290 Other Services Location: SURFACE HOLE LOCATION: 1150' FSL & 2355' FEL SWSE LATITUDE: 40.017978 LONGITUDE: -105.007474 NONE			
Permanent Datum				GROUND LEVEL Elevation 5274'			
Log Measured From				KB , 20 Ft. above perm. datum			
Drilling Measured From				KB			
Date @ Time Logged				23-JULY-19 @ 02:00			
Run No.		ONE		Type Fluid in Hole		FRESH WATER	
Depth - Driller		16670'		Density of Fluid		8.3	
Depth - Logger		8707'		Fluid Level		SURFACE	
Bottom - Logged Interval		8699'		Cement Top Est. Logged Equipment / Location		SURFACE	
Top - Log Interval		1500'		Recorded by		A. NICCOLI	
Max. Recorded Temp.		208 F		Witnessed by		M. TORRES	
CEMENTING DATA				Protection		Production	
Date / Time Cemented		String		String		String	
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
ONE	12.25	SURFACE	1500	9.625	36#	0	2400
TWO	8.5	1500	16670	5.5	20#	0	16670

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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 WHICH 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

CBL - GR - CCL RAN IN COMBINATION.

LOG RECORDED WITH 0 PSI WELLHEAD PRESSURE.

LOG CORRELATED TO GROUND LEVEL.

BOND INDEX CALCULATED FOR 3000 PSI COMPRESSIVE STRENGTH CEMENT.

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES.

Service Ticket No.	905846290	API No.	051234825300	PGM Ver	WARRIOR 8
The Well Name, Location, Borehole Description, and / or Cementing Data Furnished by Client					
EQUIPMENT DATA					
RCBL		GAMMA CCL			
Run No.	ONE	Run No.	ONE	Run No.	
Serial No.	11577056	Serial No.	11021927	Serial No.	
Model No.	PROBE	Model No.	PROBE	Model No.	
Diameter	2.75	Diameter	2.75	Diameter	
LOGGING DATA					
General Data					
Pass	Depths		Well Head	Speed	Logging Run Comments
No	From	To	Pressure	Ft/Min	

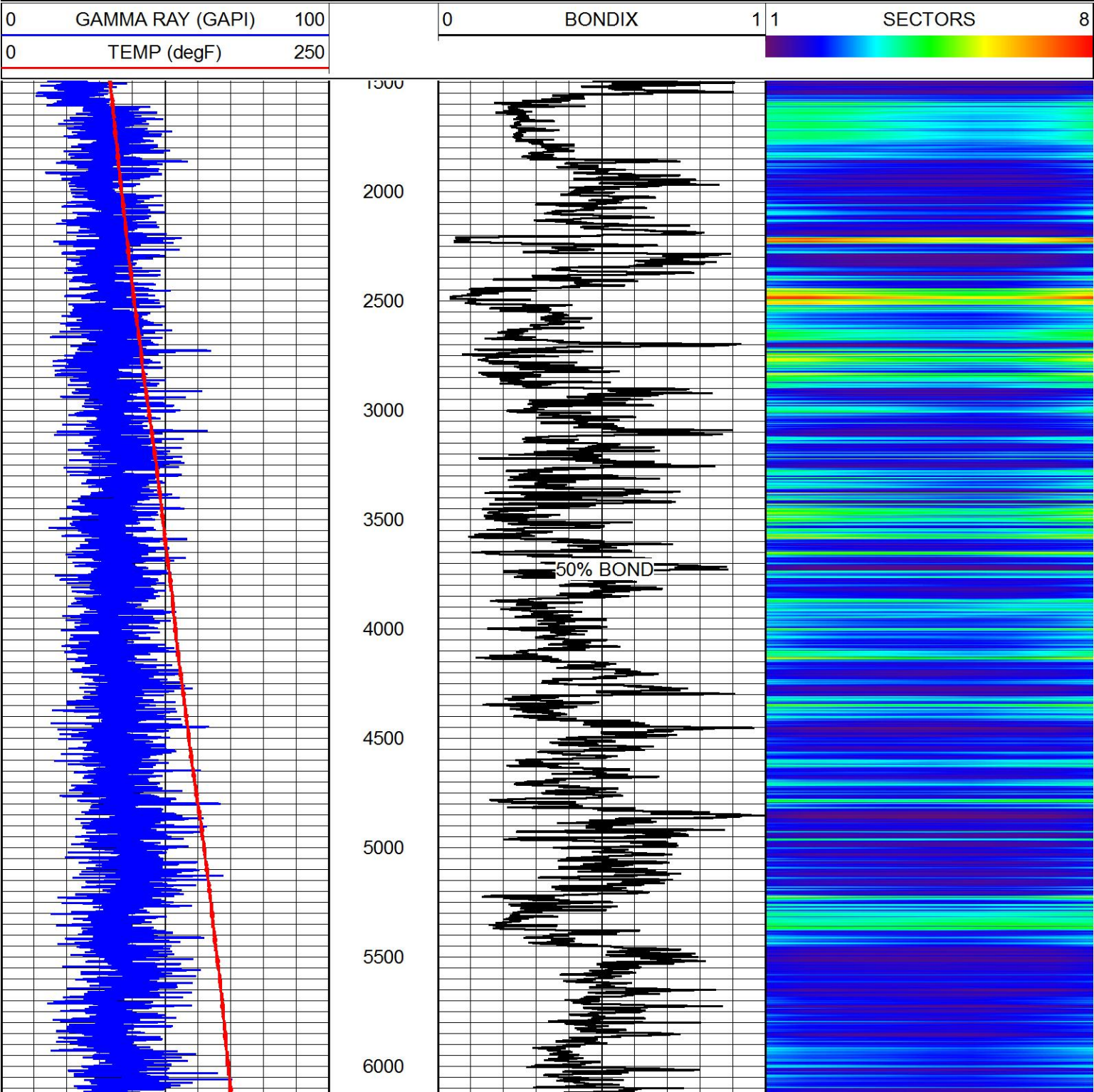
ONE	KOP	SURFACE	0 PSI	80	MINIMAL FREE PIPE			
	GAMMA RAY		AMPLITUDE		VDL		RADIAL MAP	
Pass	Scale		Scale		Scale		Scale	
No.	L	R	L	R	L	R	L	L
ONE	0	100	0	100	200	1200	1	8
DIRECTIONAL INFORMATION								
Maximum Deviation		90	deg. @		KOP	8211		

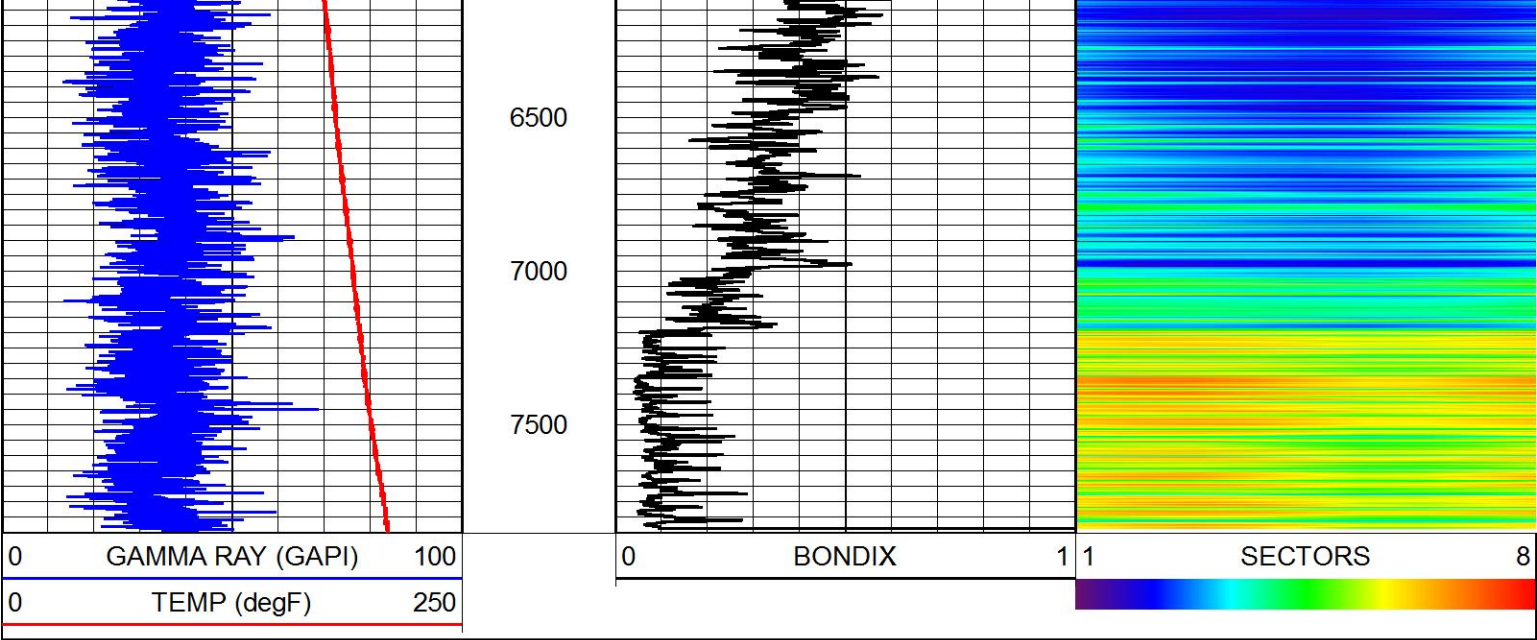
HALLIBURTON

BOND INDEX

1:7500

Database File	extraction coyote trails 33w_15_9c.db
Dataset Pathname	Coyote_Trails/33W-15-9C/run1/MAIN.1
Presentation Format	!BONDI~1
Dataset Creation	Tue Jul 23 04:56:19 2019
Charted by	Depth in Feet scaled 1:7500





BOND INDEX

1:7500

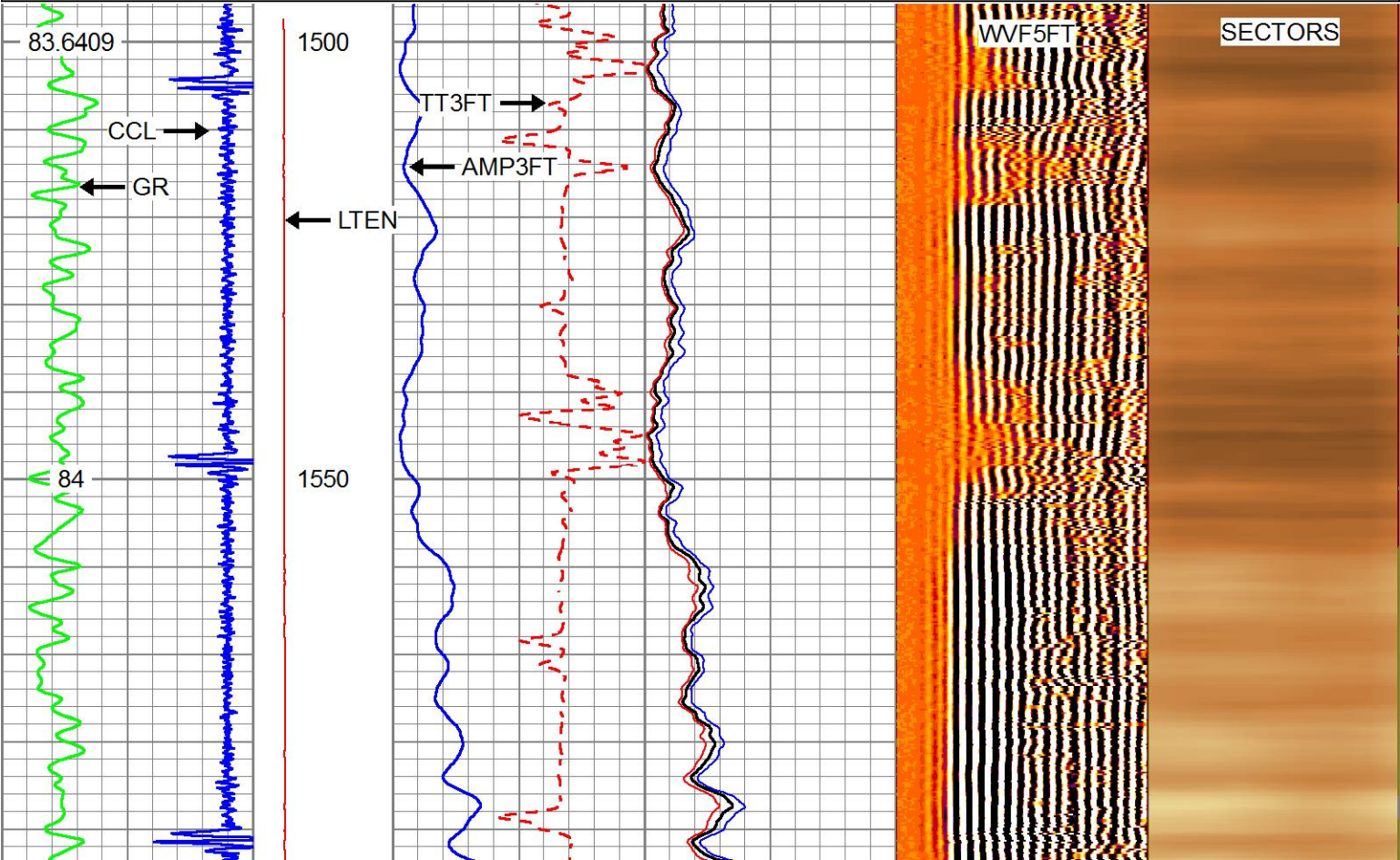
HALLIBURTON

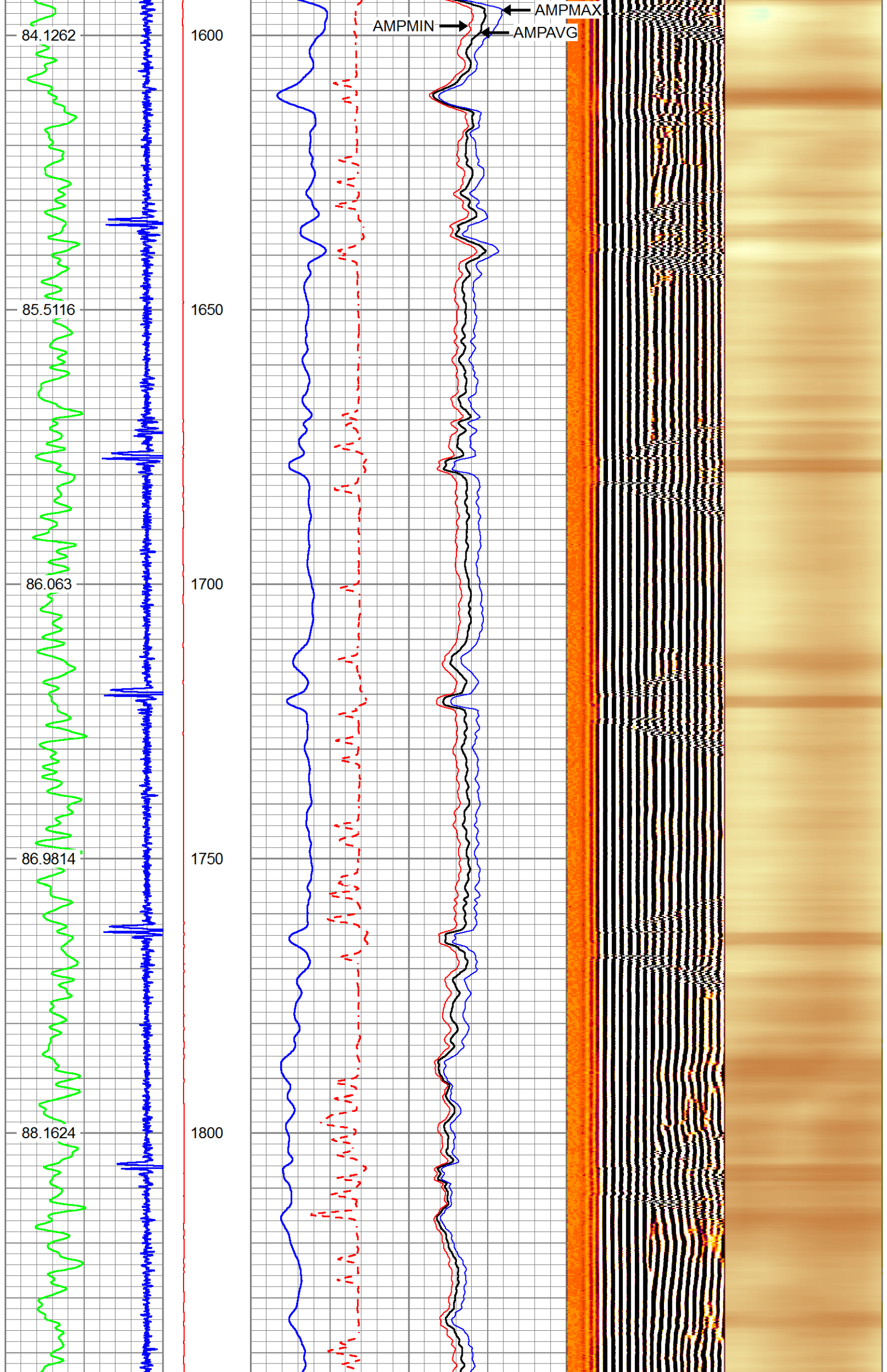
MAIN PASS

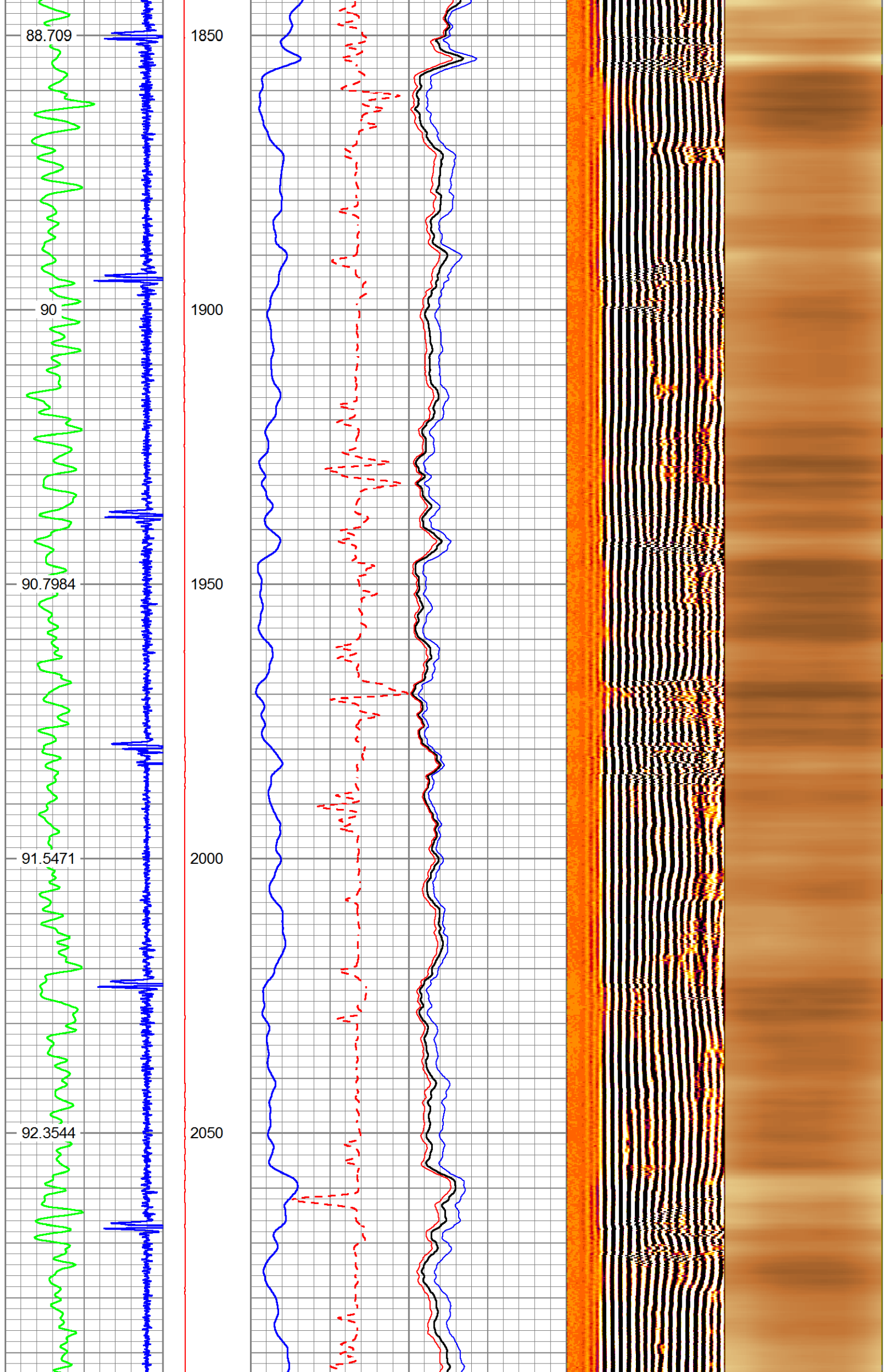
5"=100'

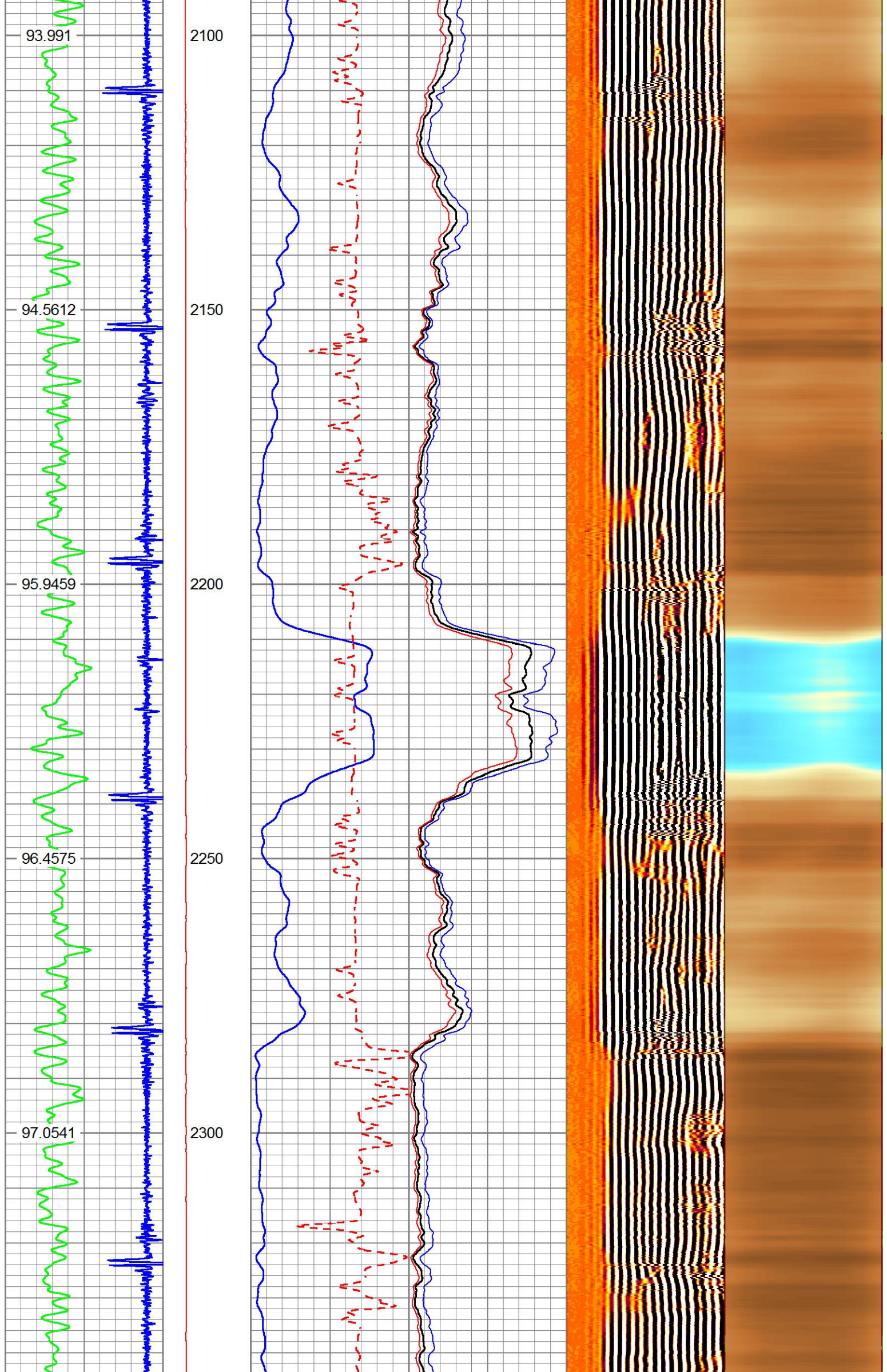
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Dataset Pathname Coyote_Trails/33W-15-9C/run1/MAIN
Presentation Format extraction rcbl
Dataset Creation Tue Jul 23 02:32:53 2019
Charted by Depth in Feet scaled 1:240

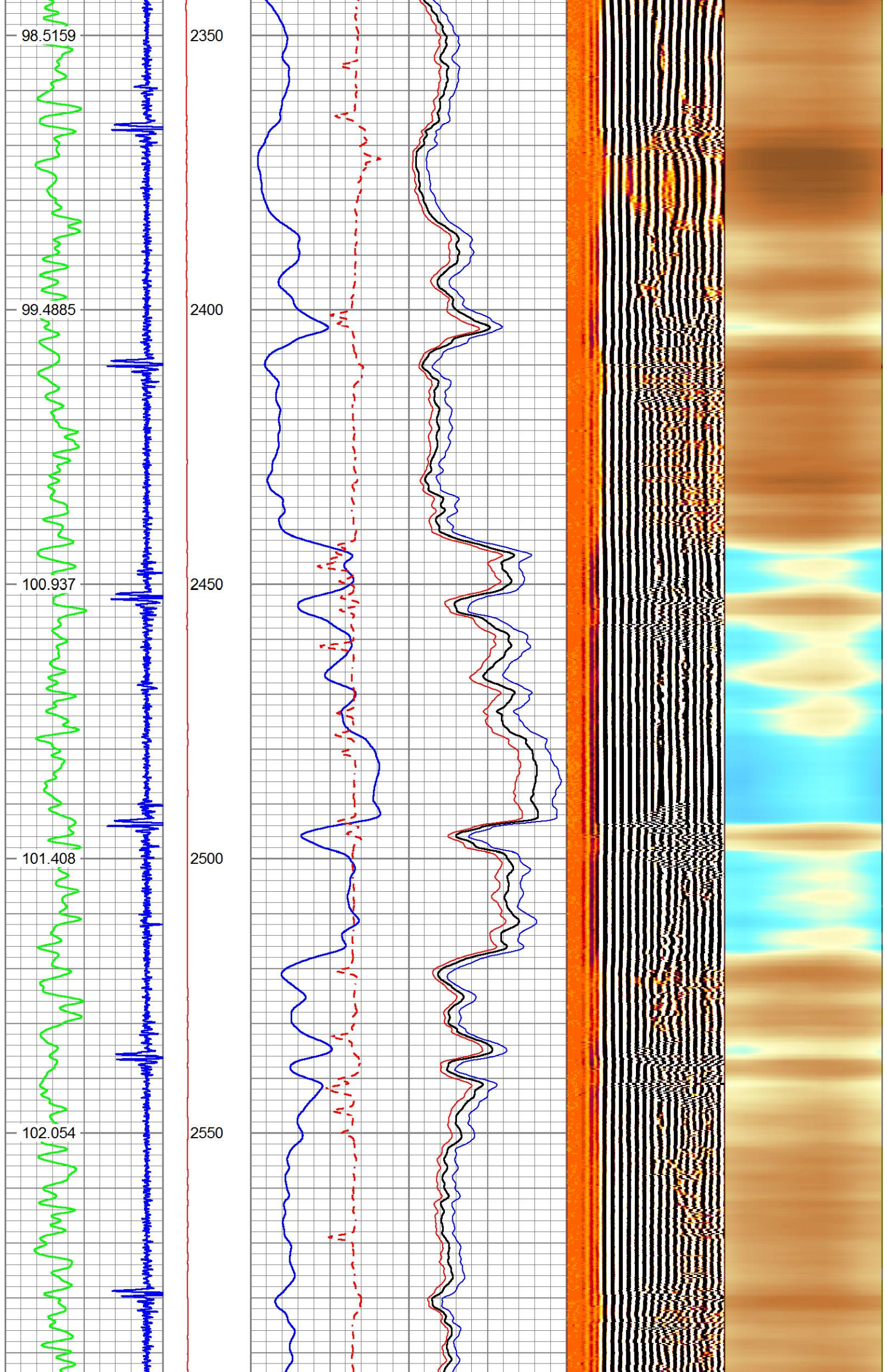
9	CCL	-1	LTEN	0	AMP (mV)	100	0	AMPAVG	100	200	VDL (usec)	1200	1	RADIAL MAP	8
0	GR (GAPI)	100	0	(lb/2000)	Travel Time		0	AMPMAX	100						
	TEMP				200	(usec)	300	0	AMPMIN	100					
	(degF)														

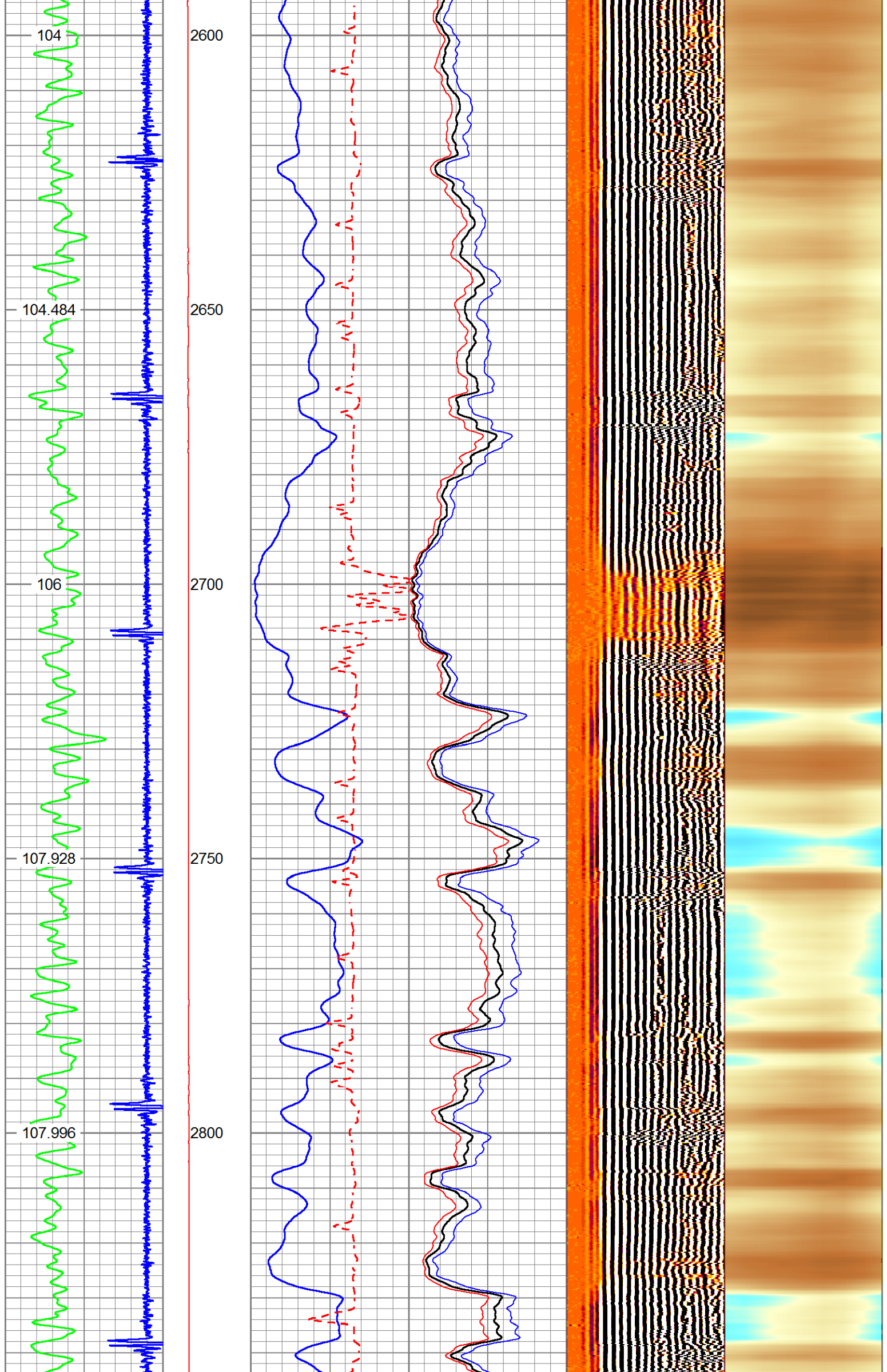


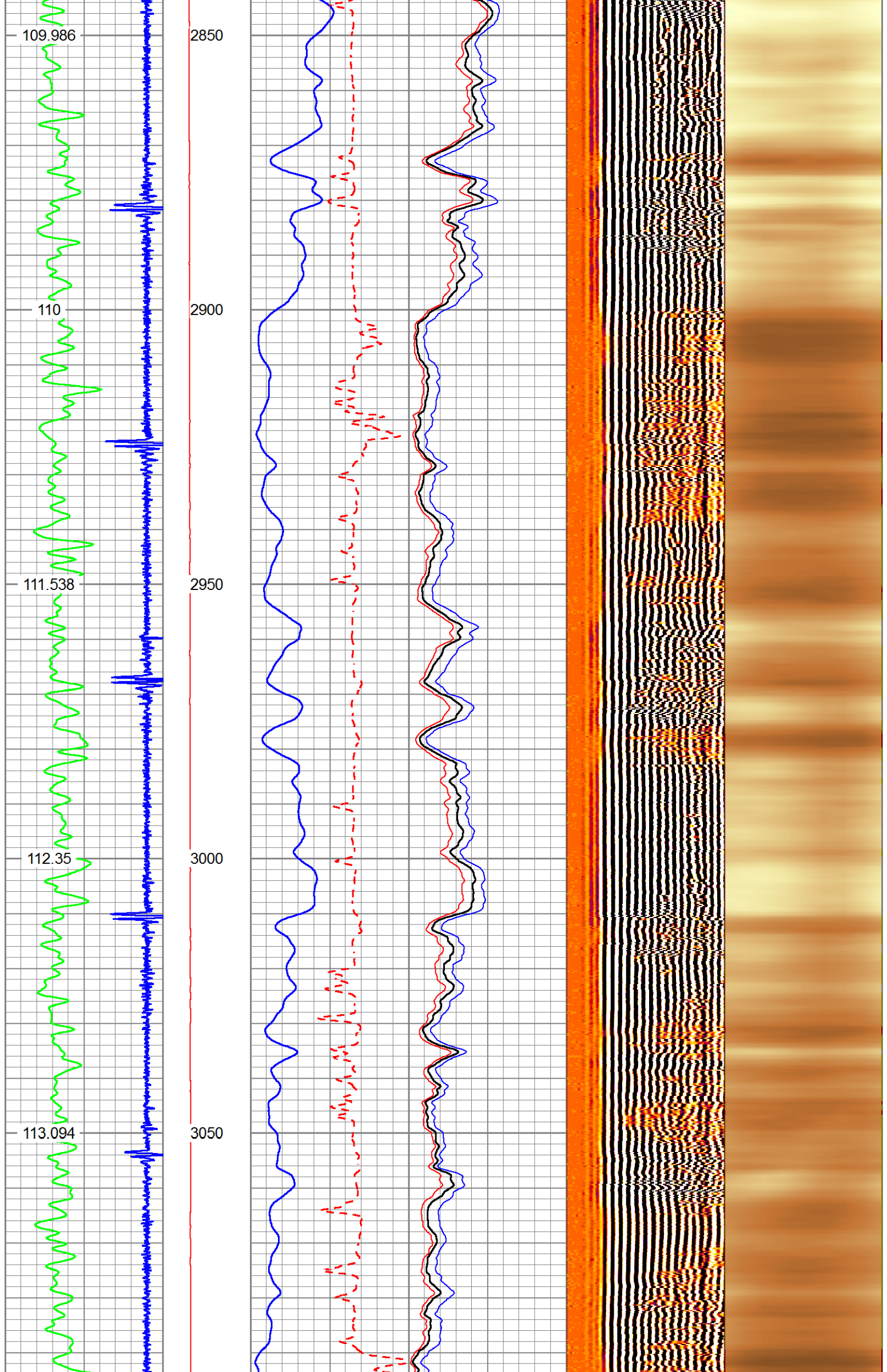


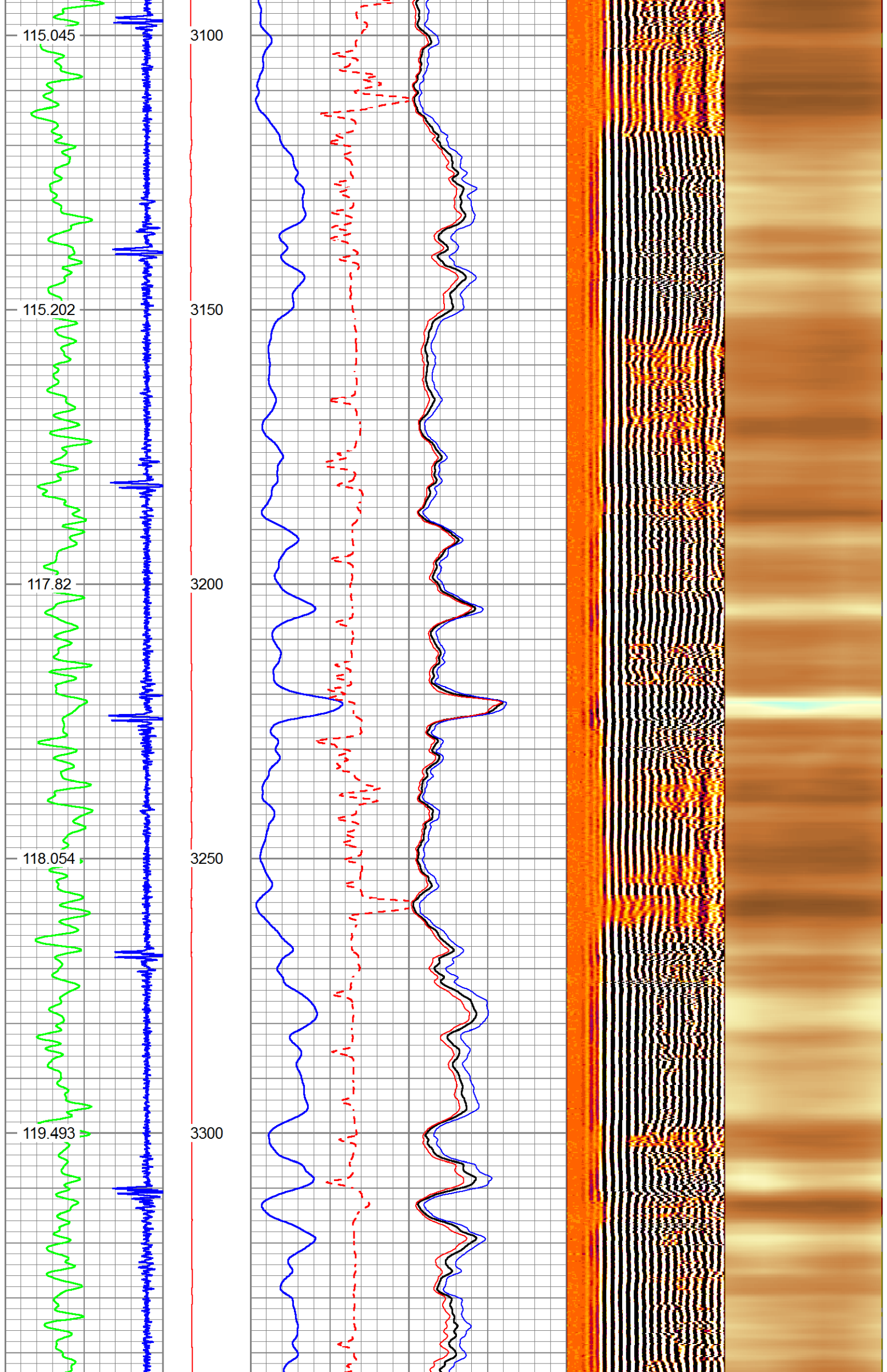


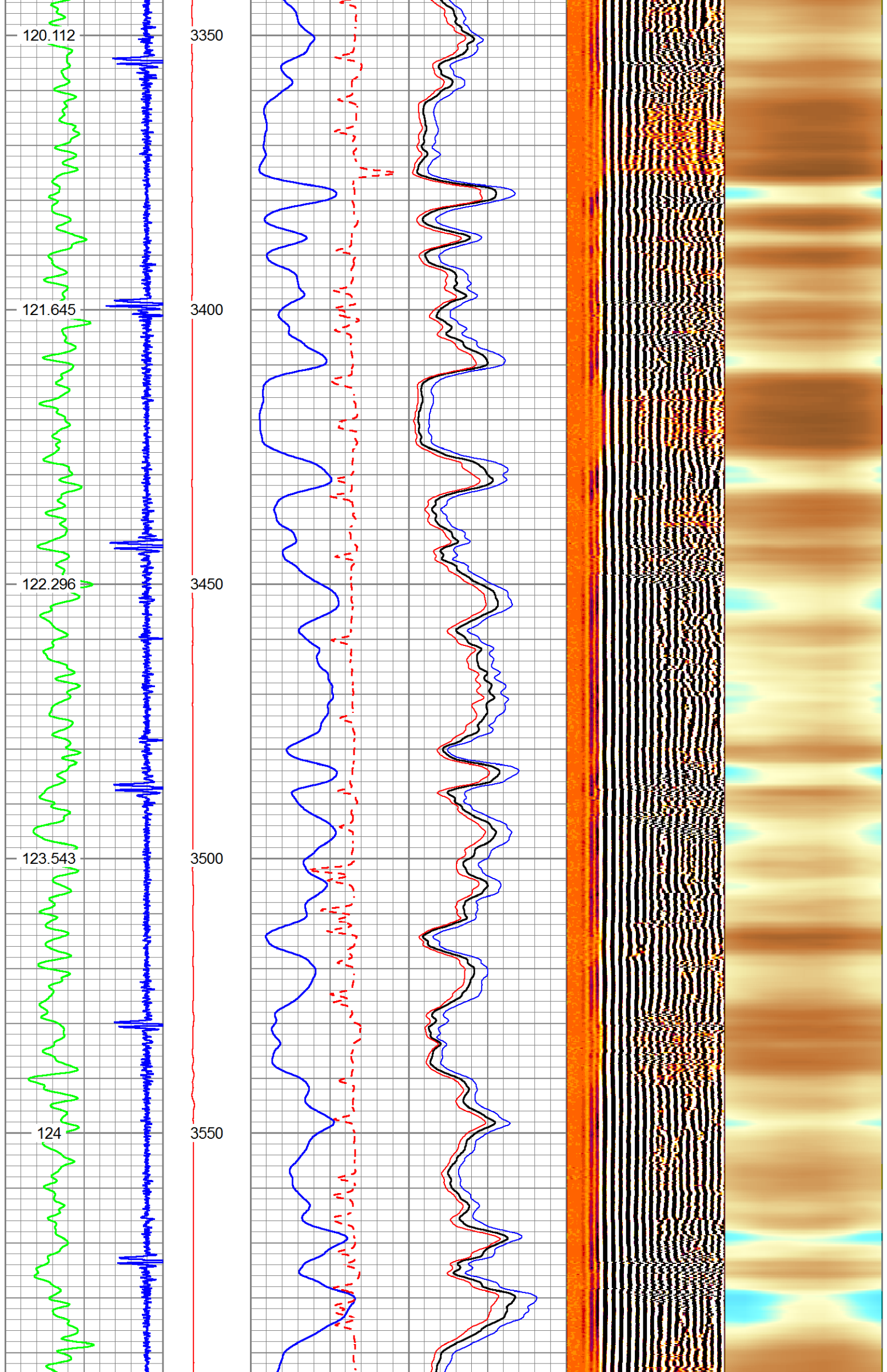


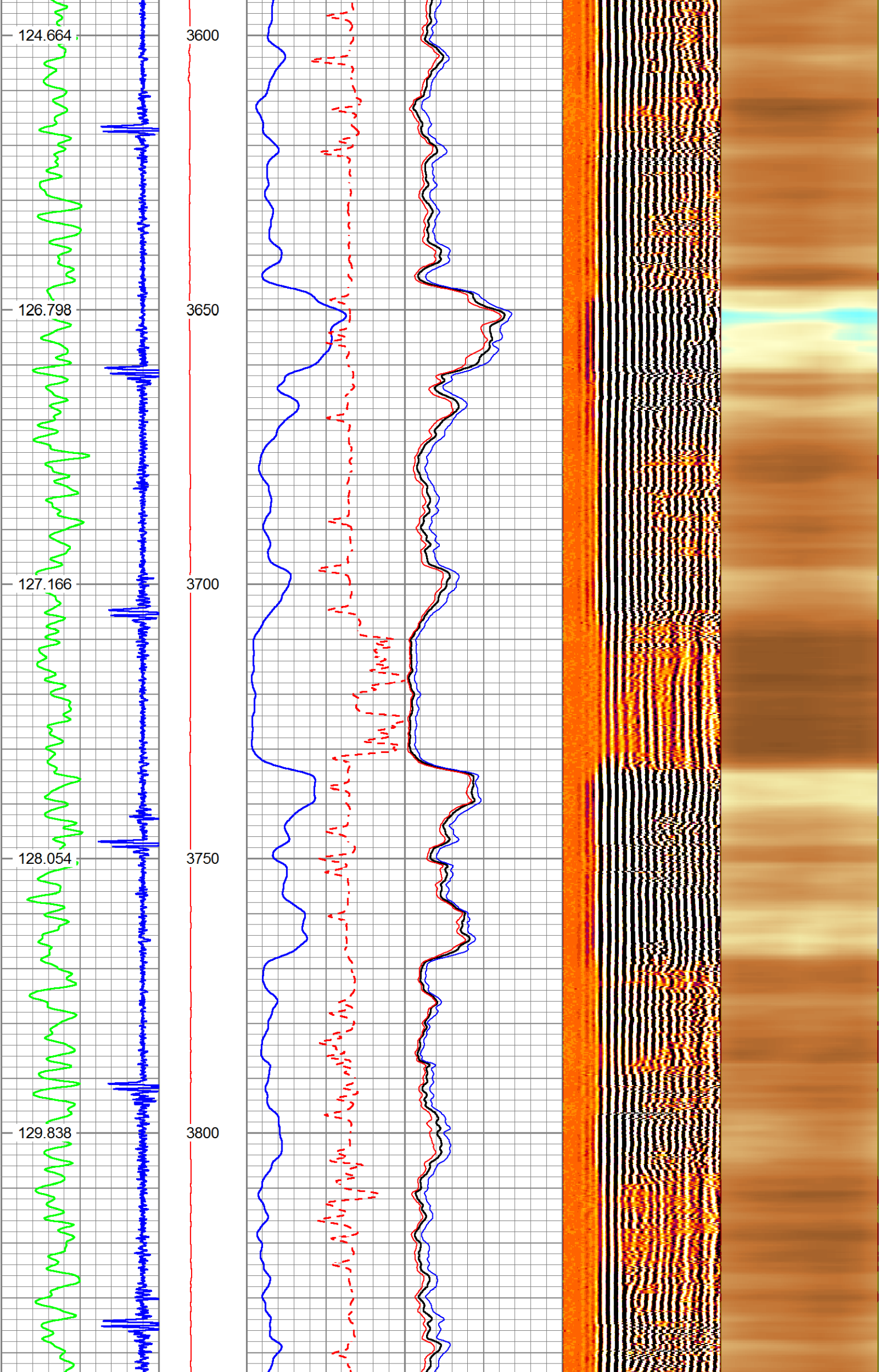


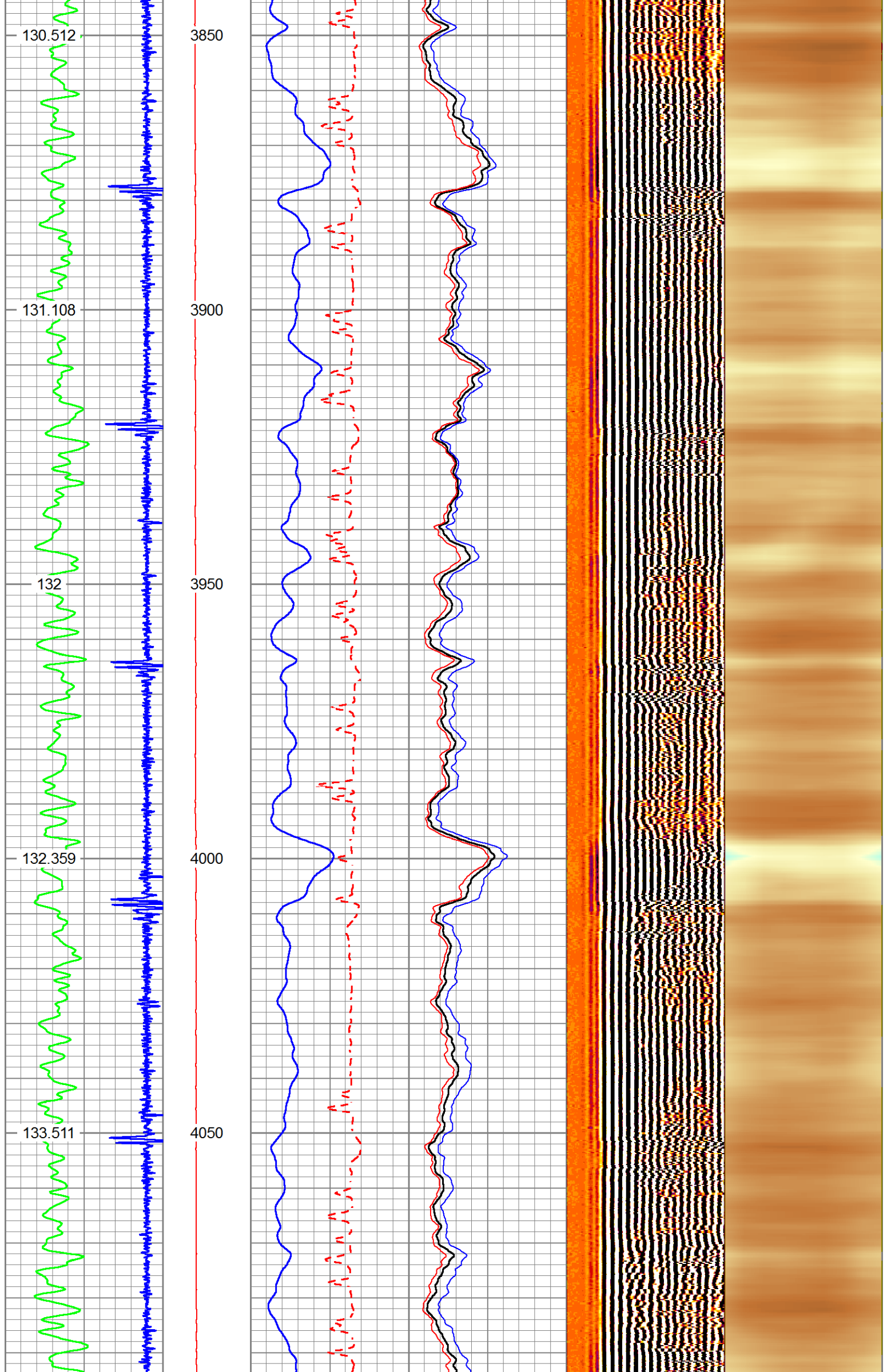


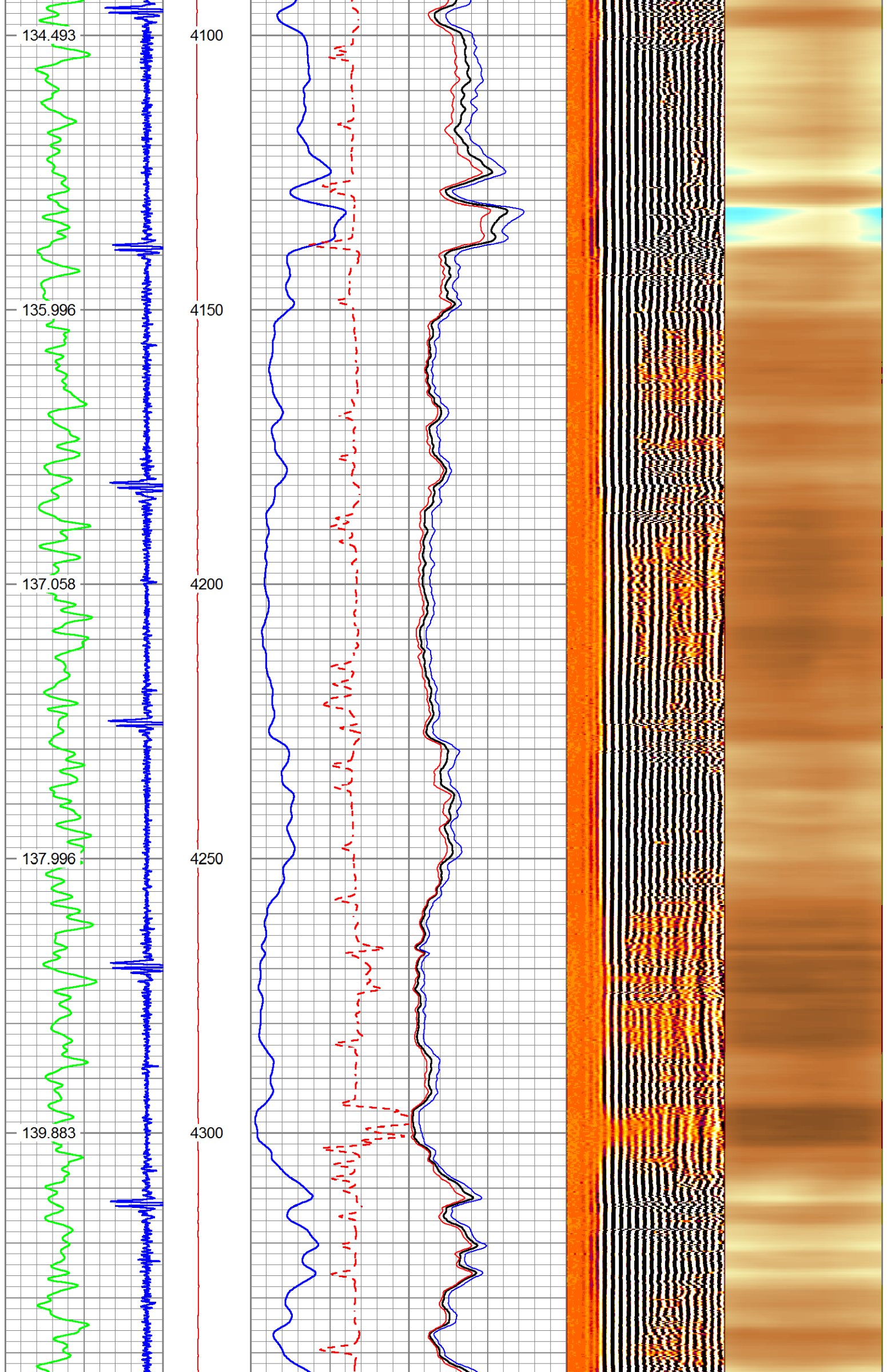


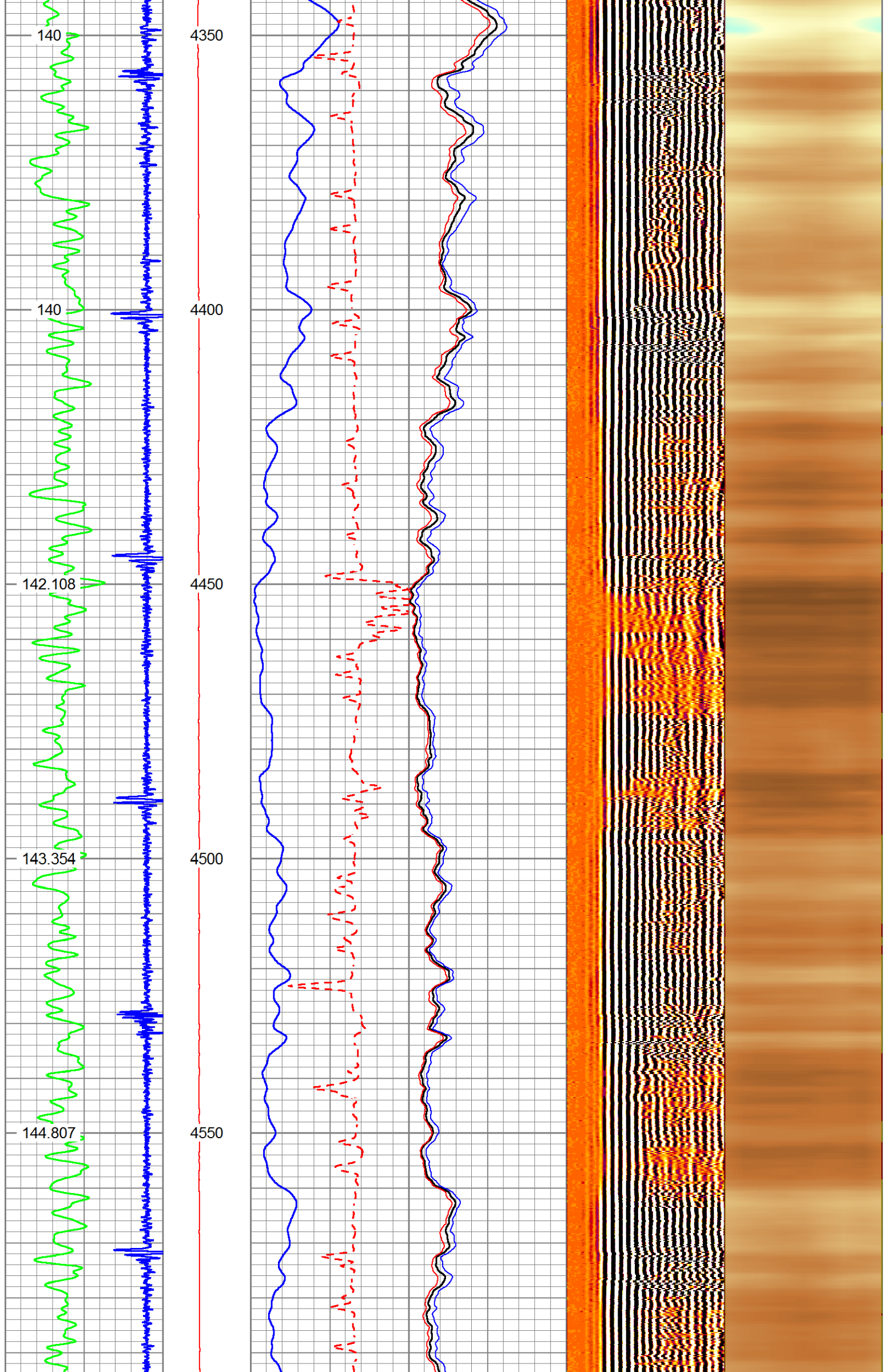


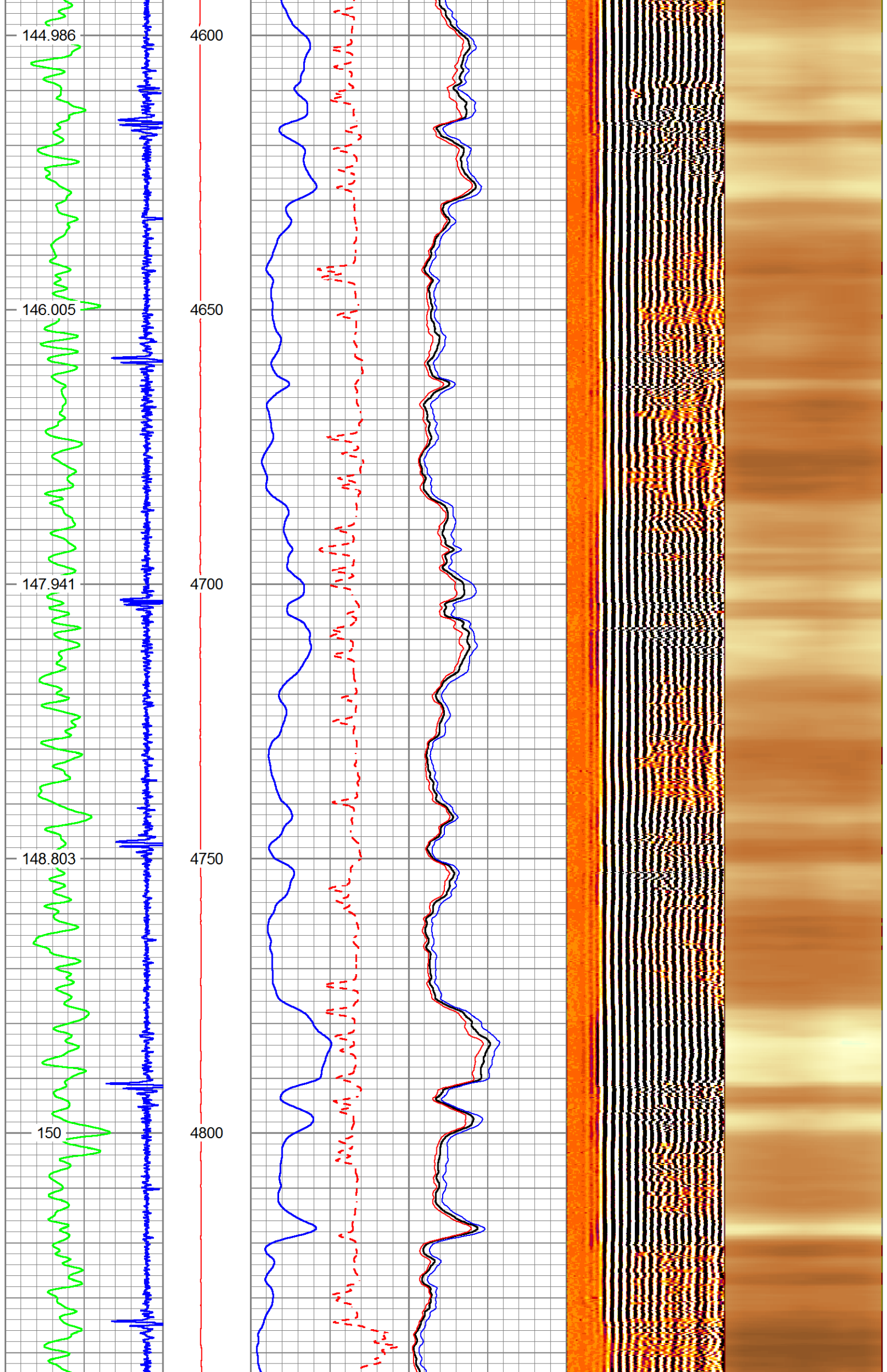


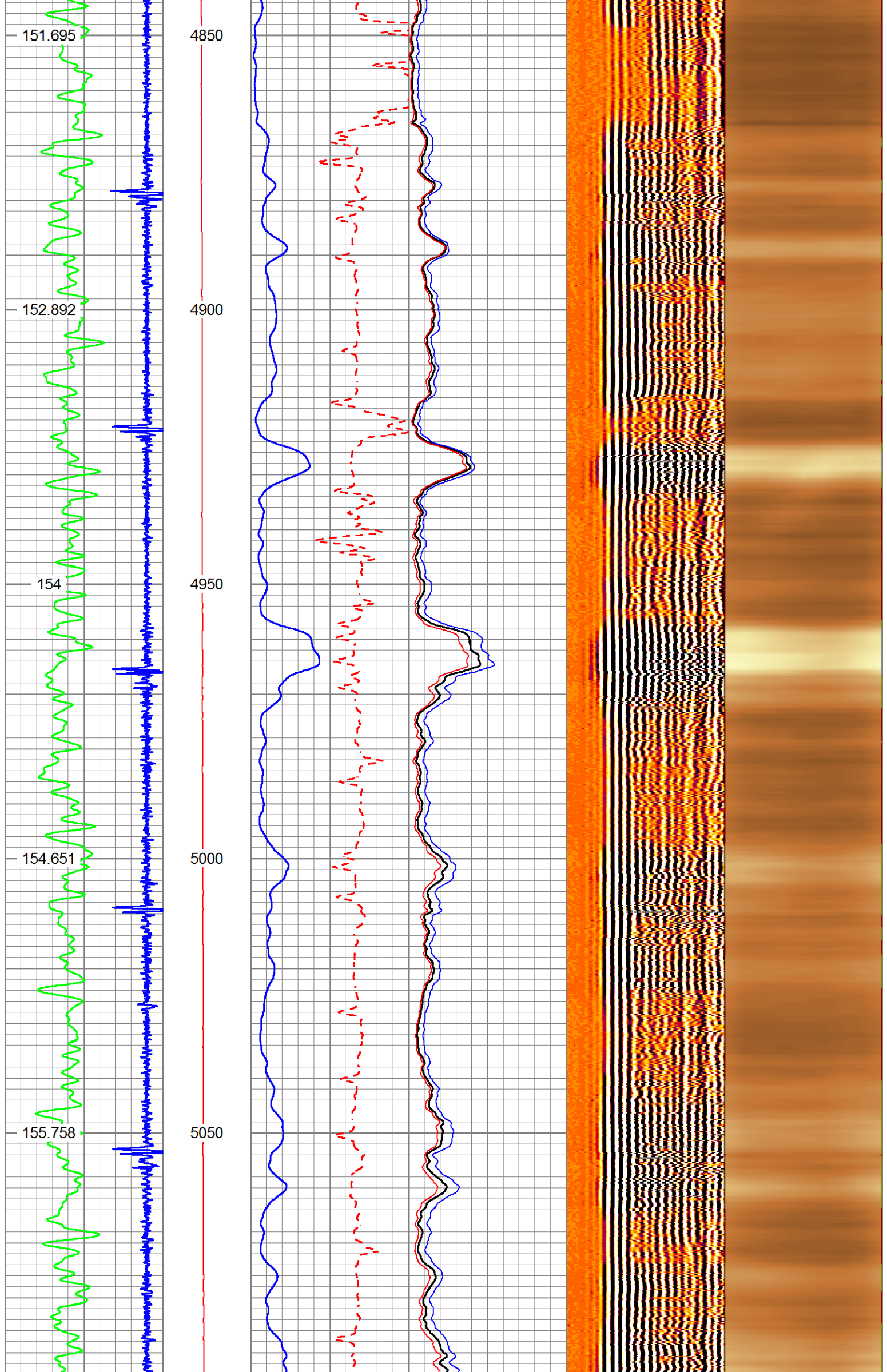


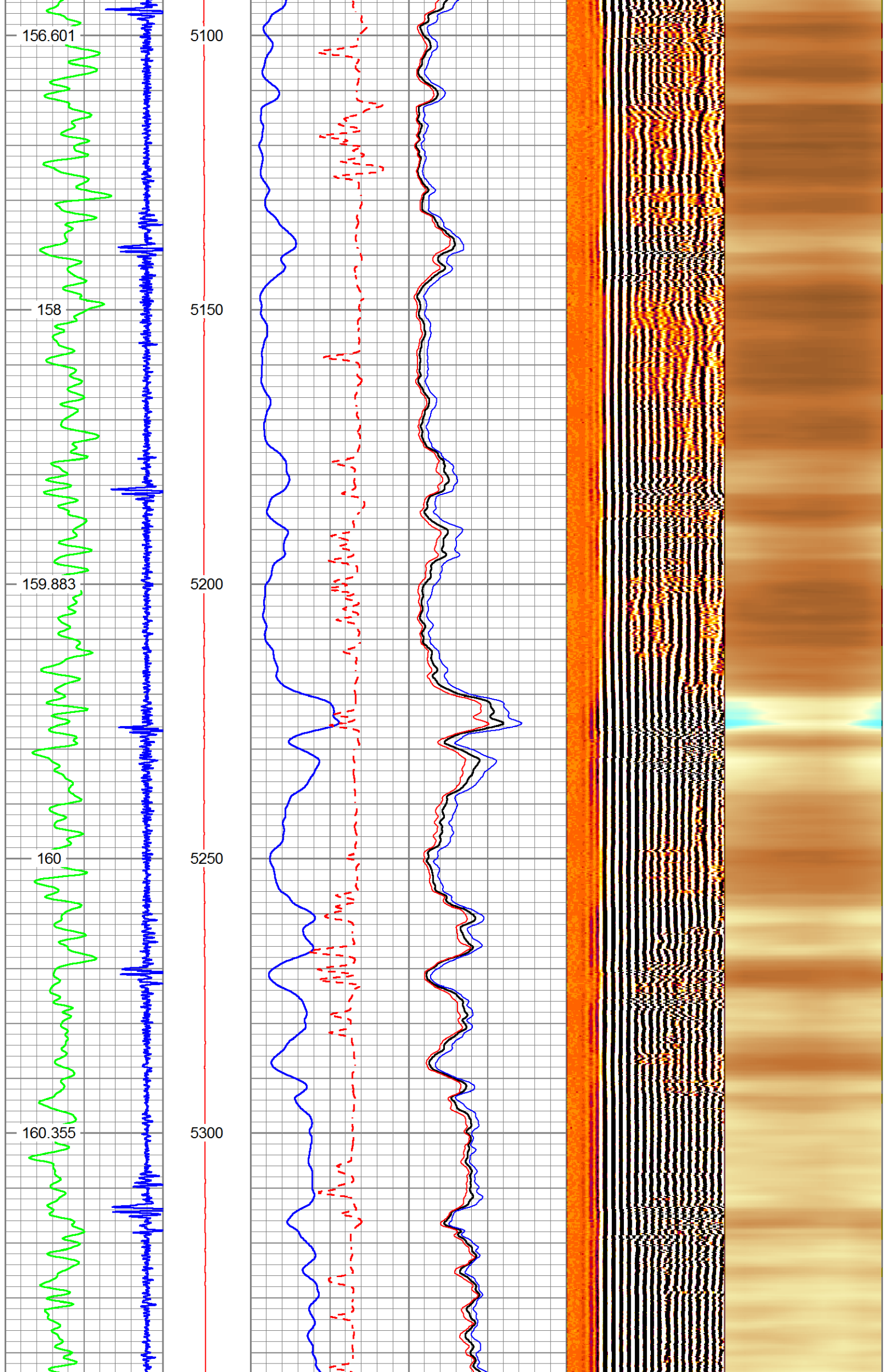


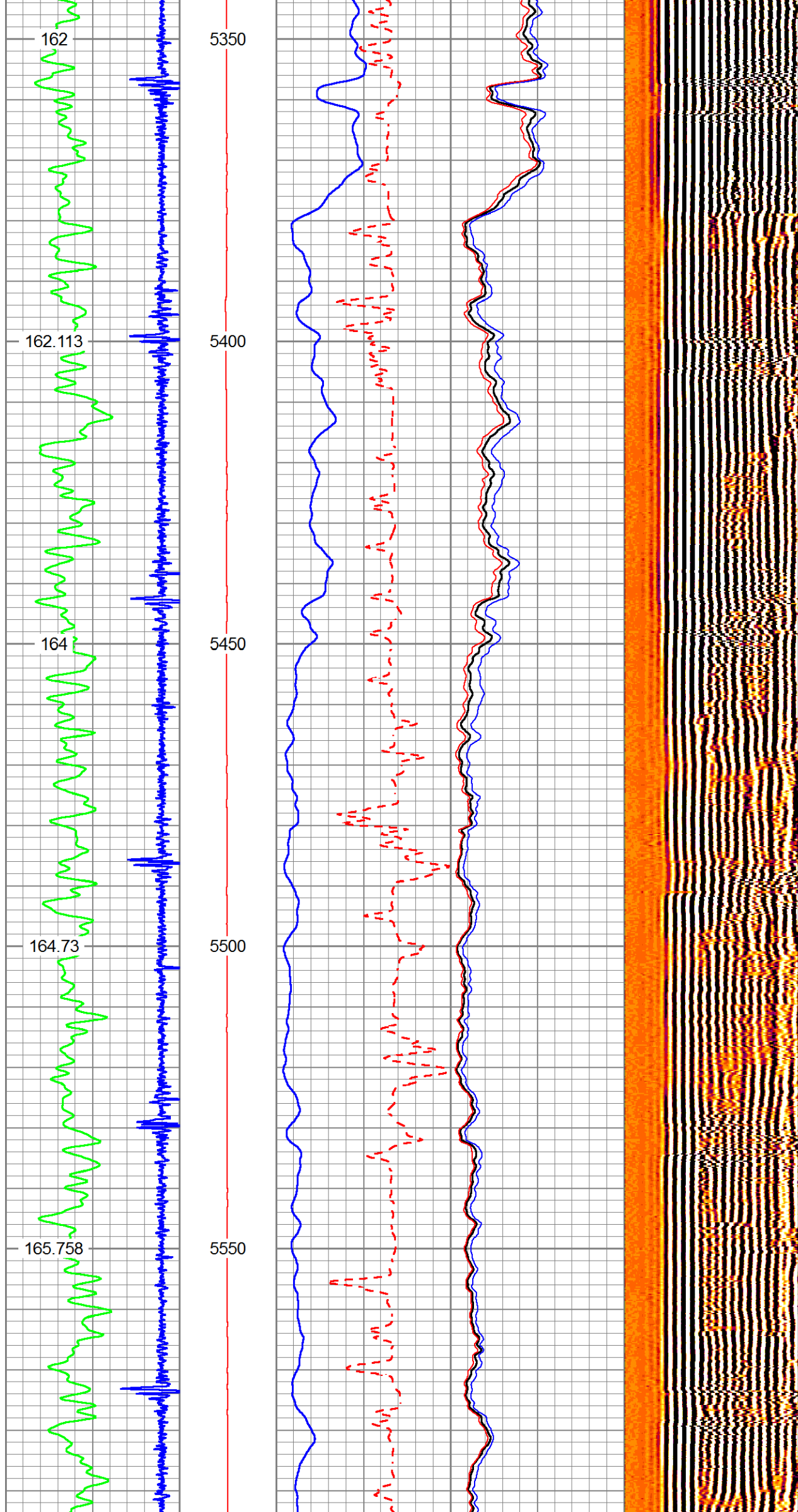


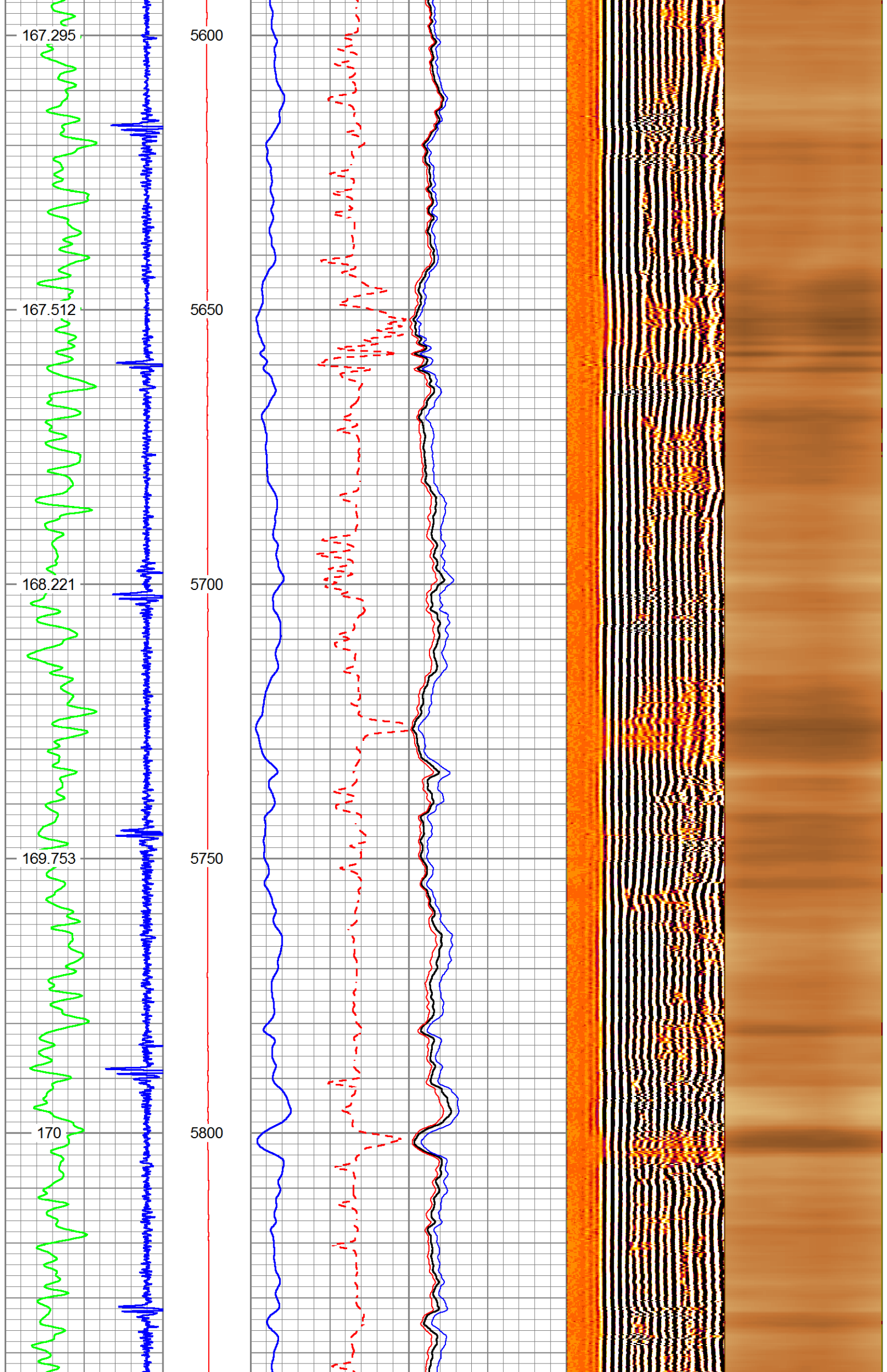


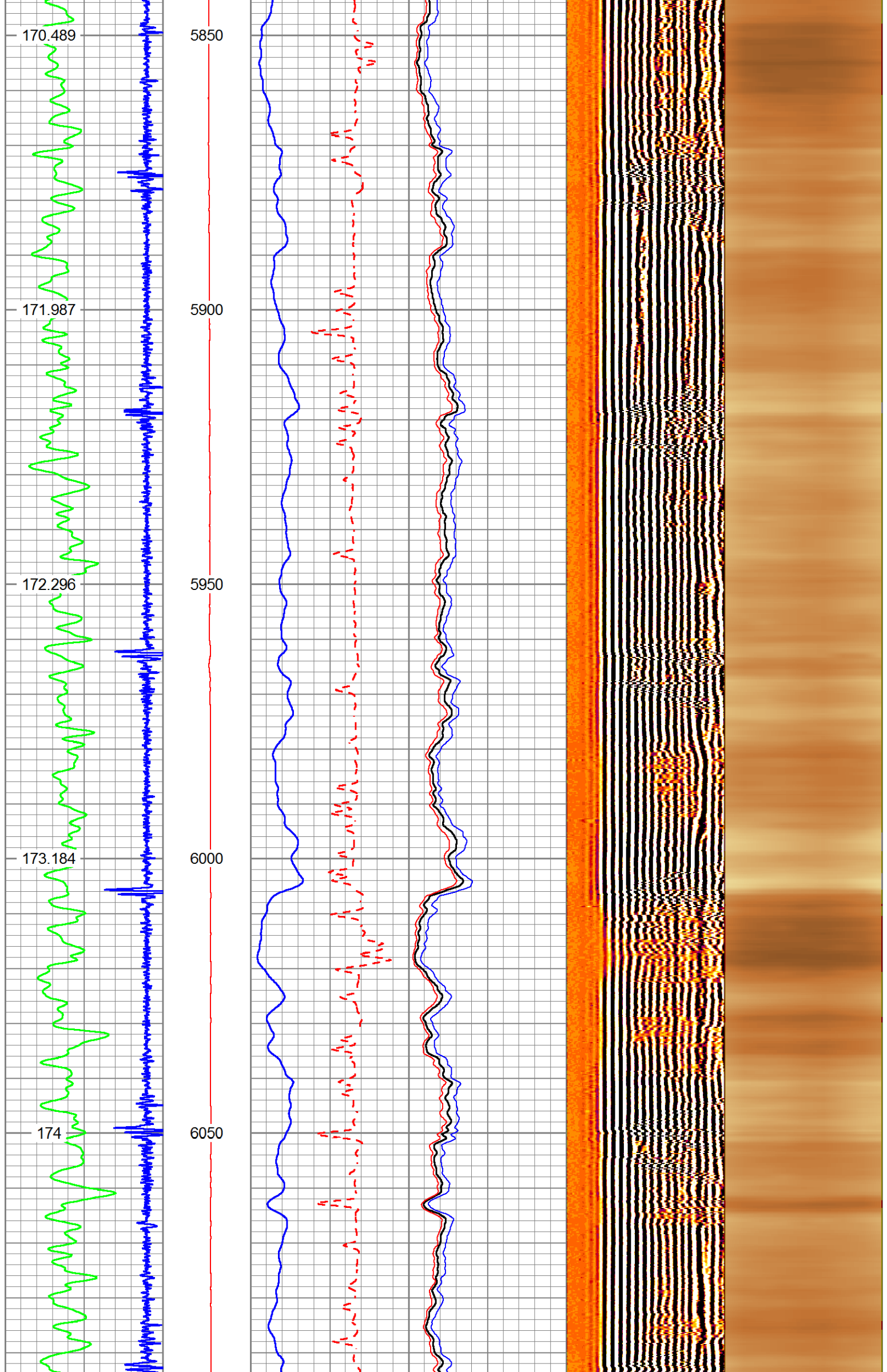


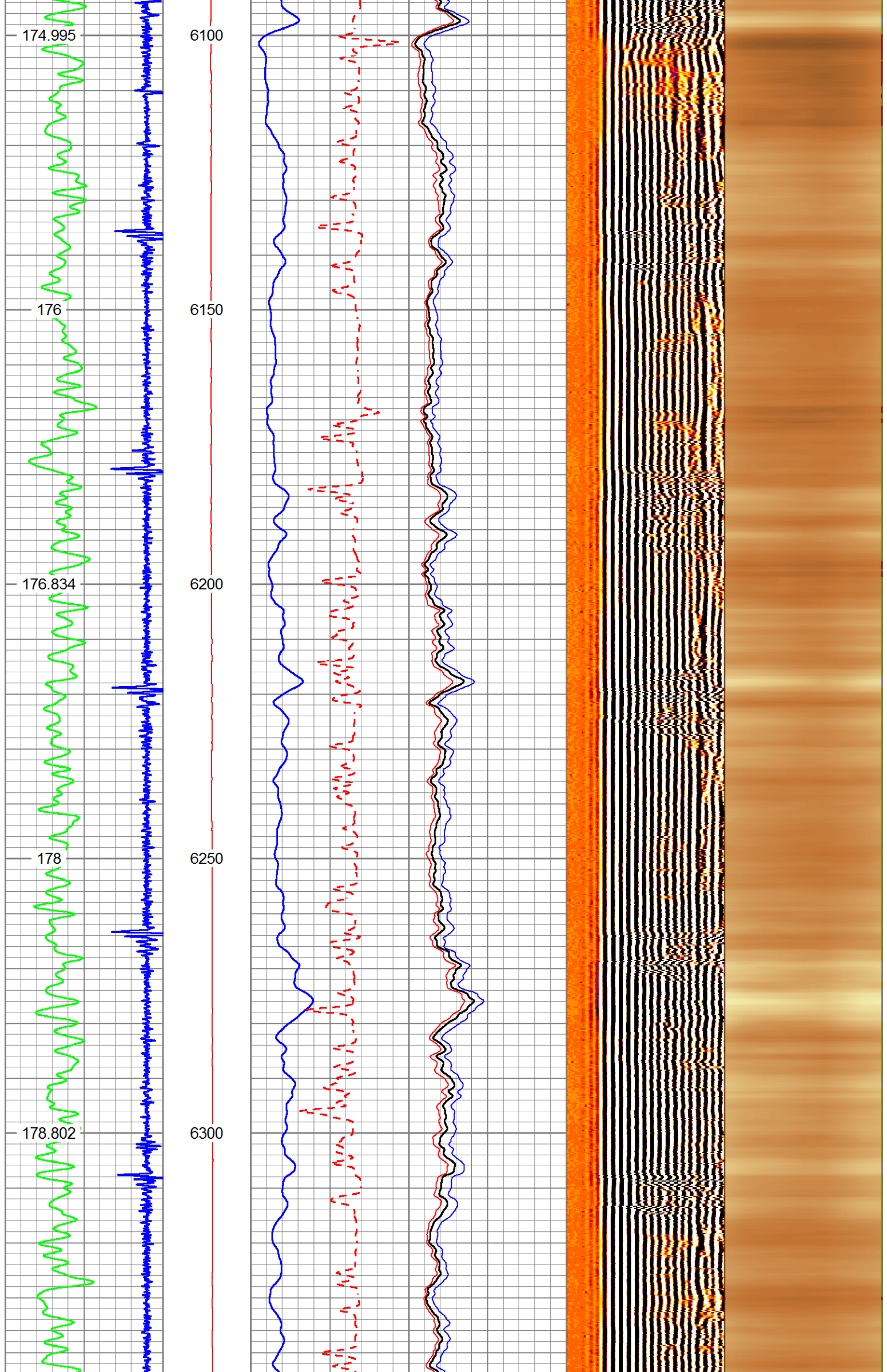


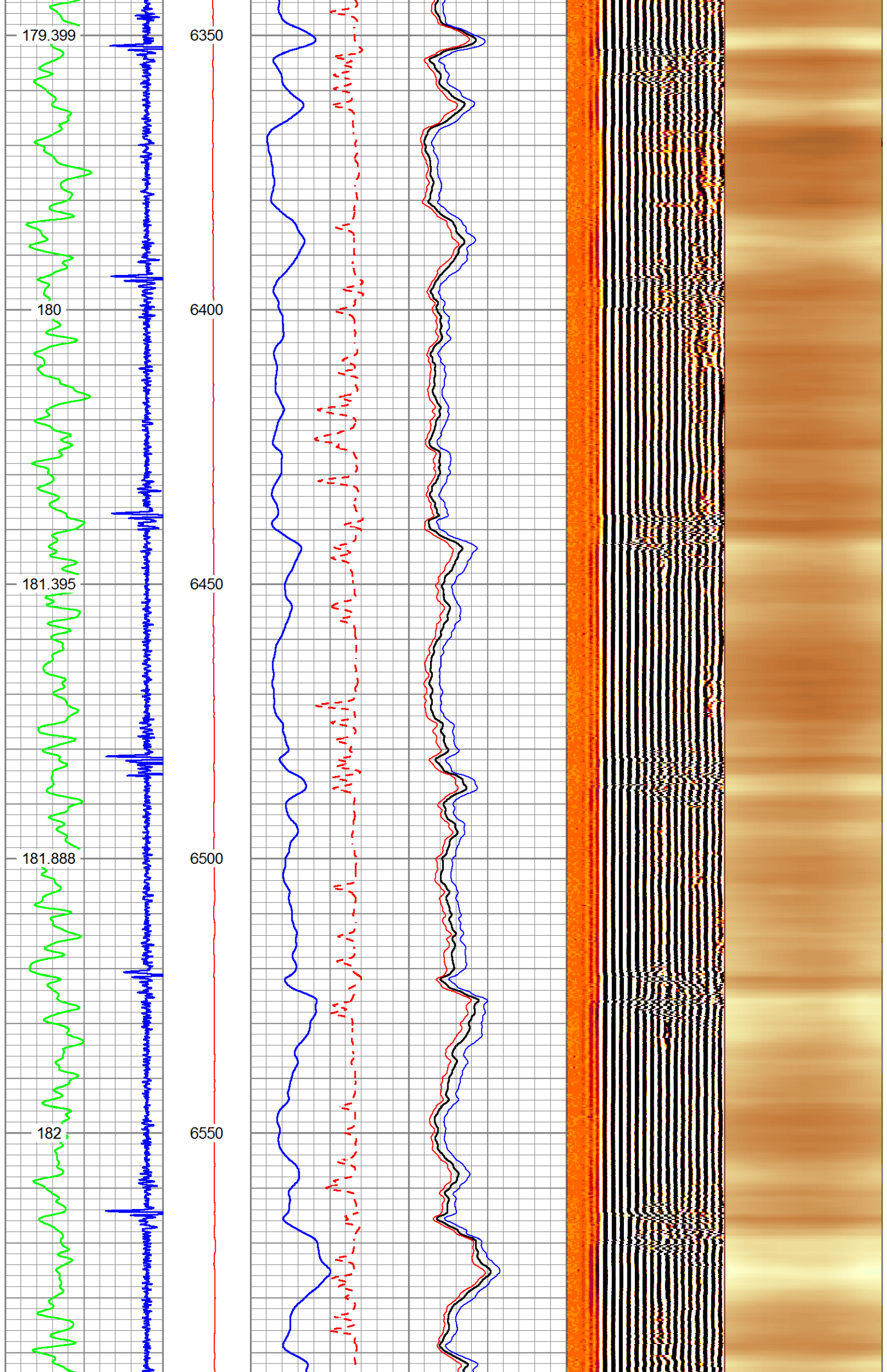


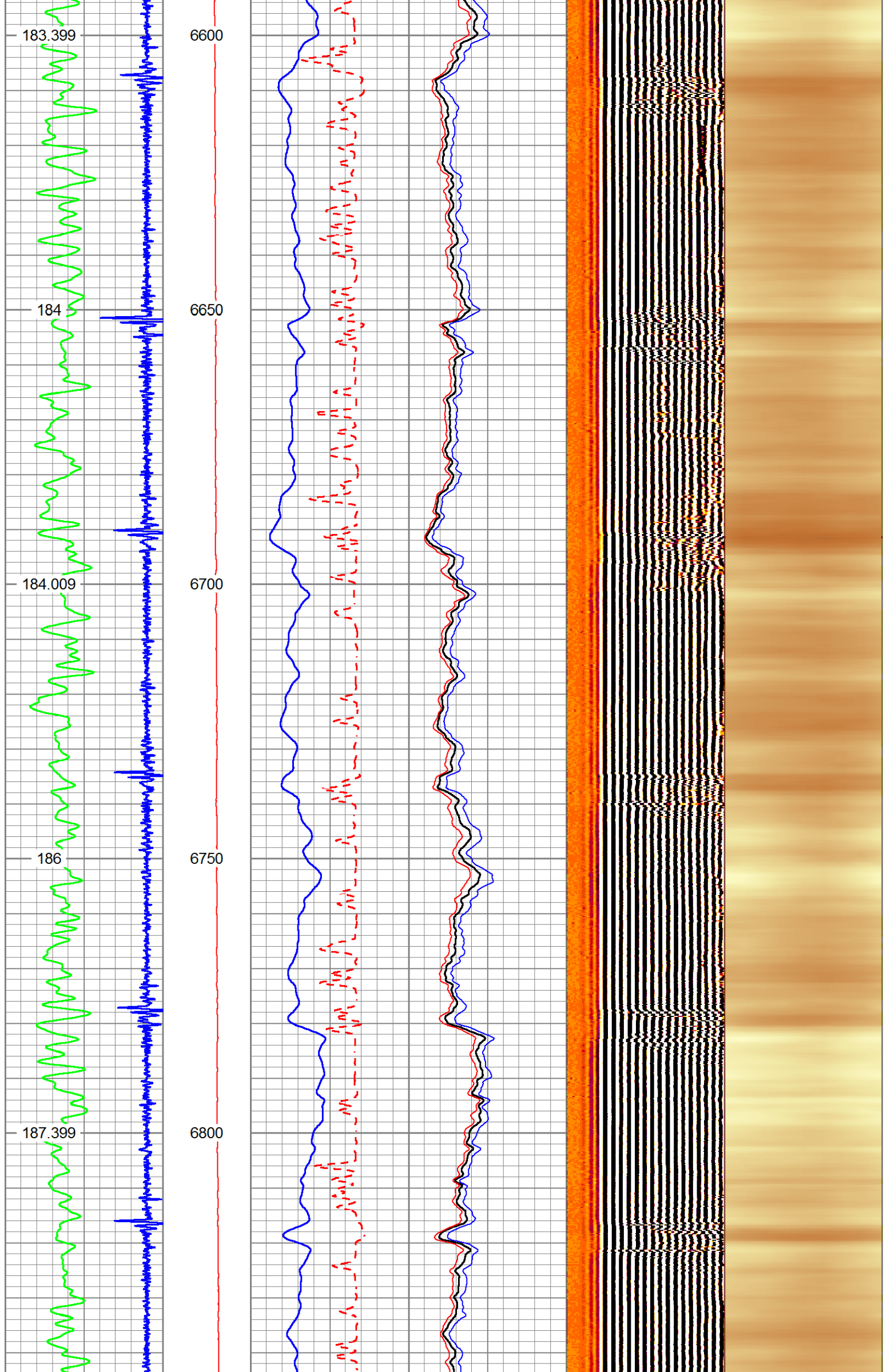


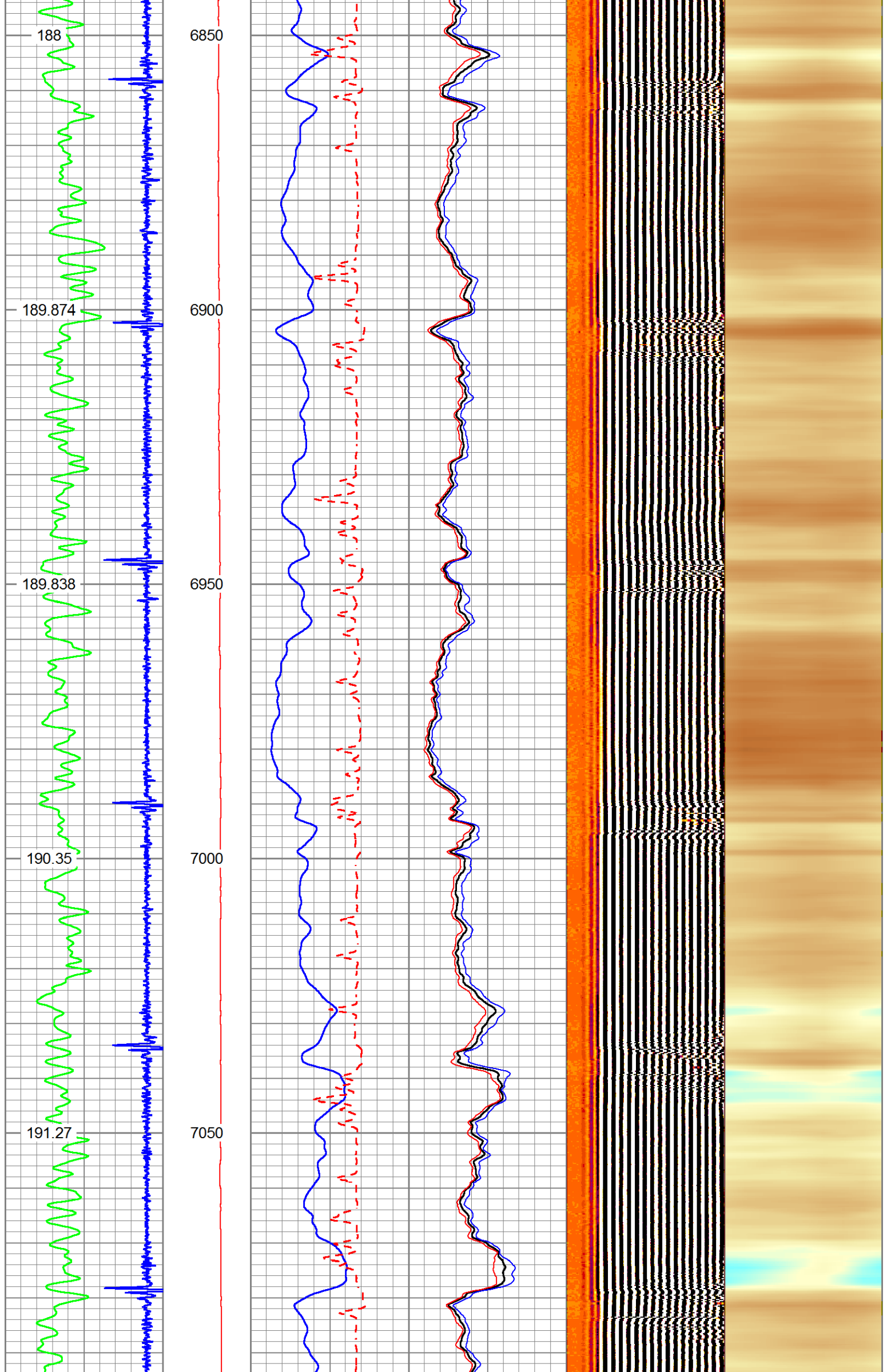


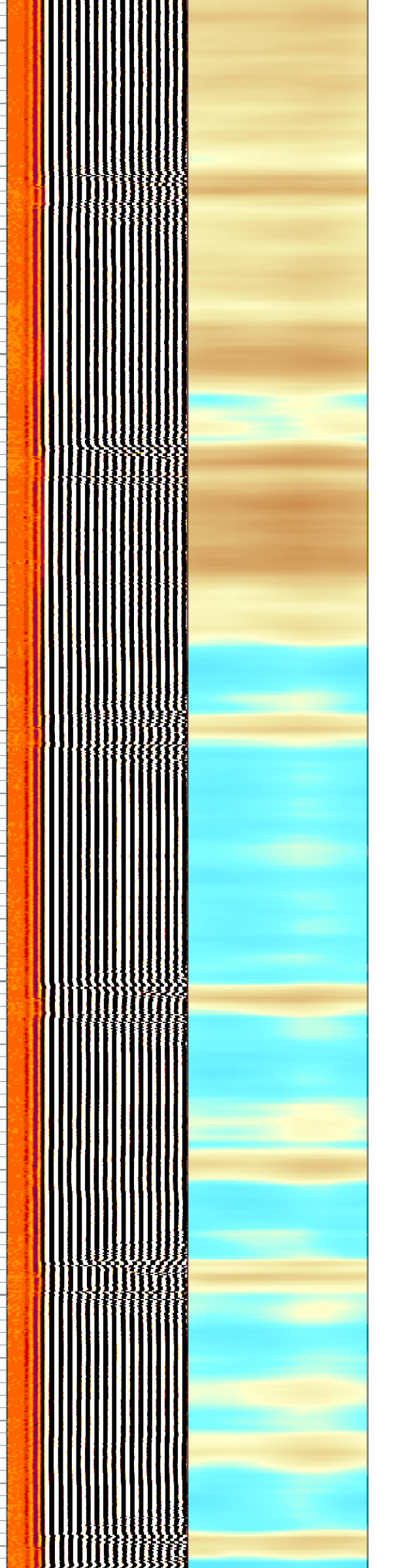
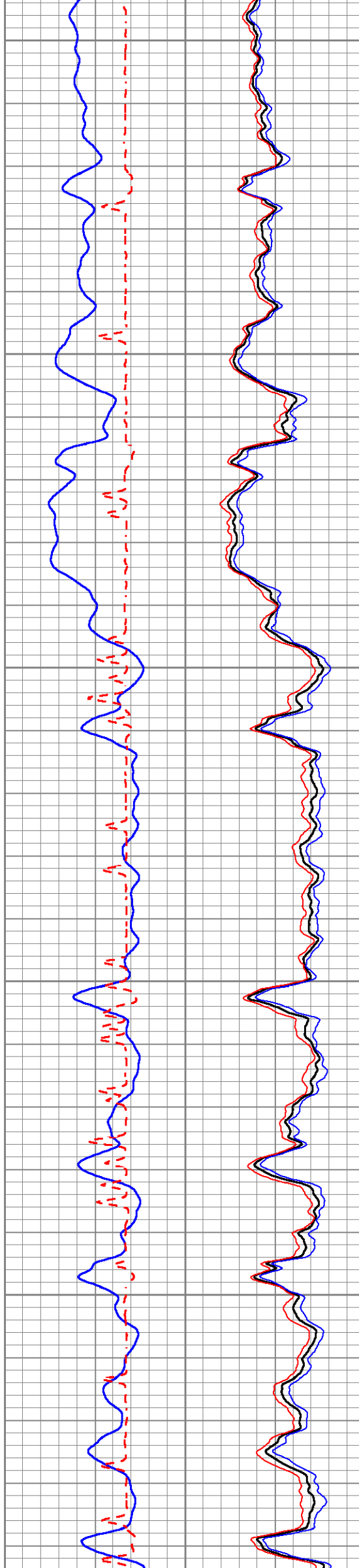
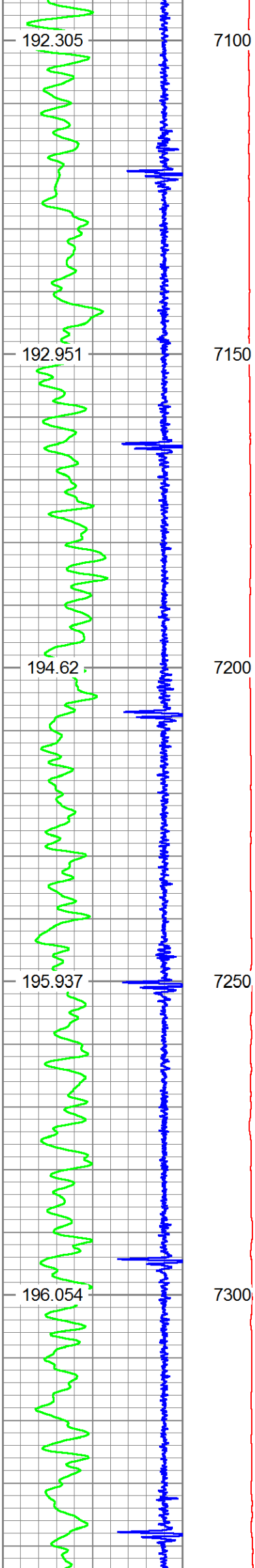


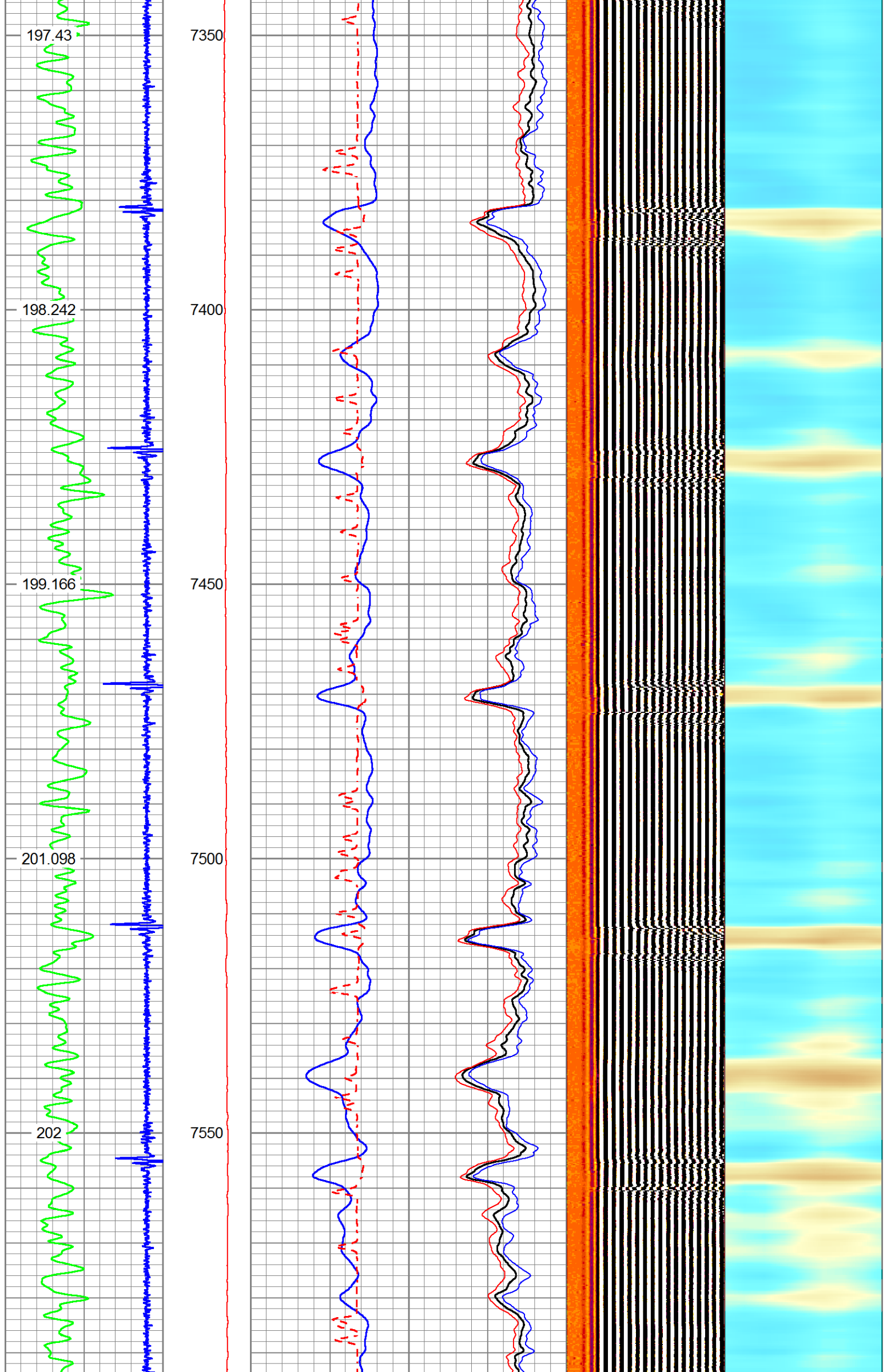


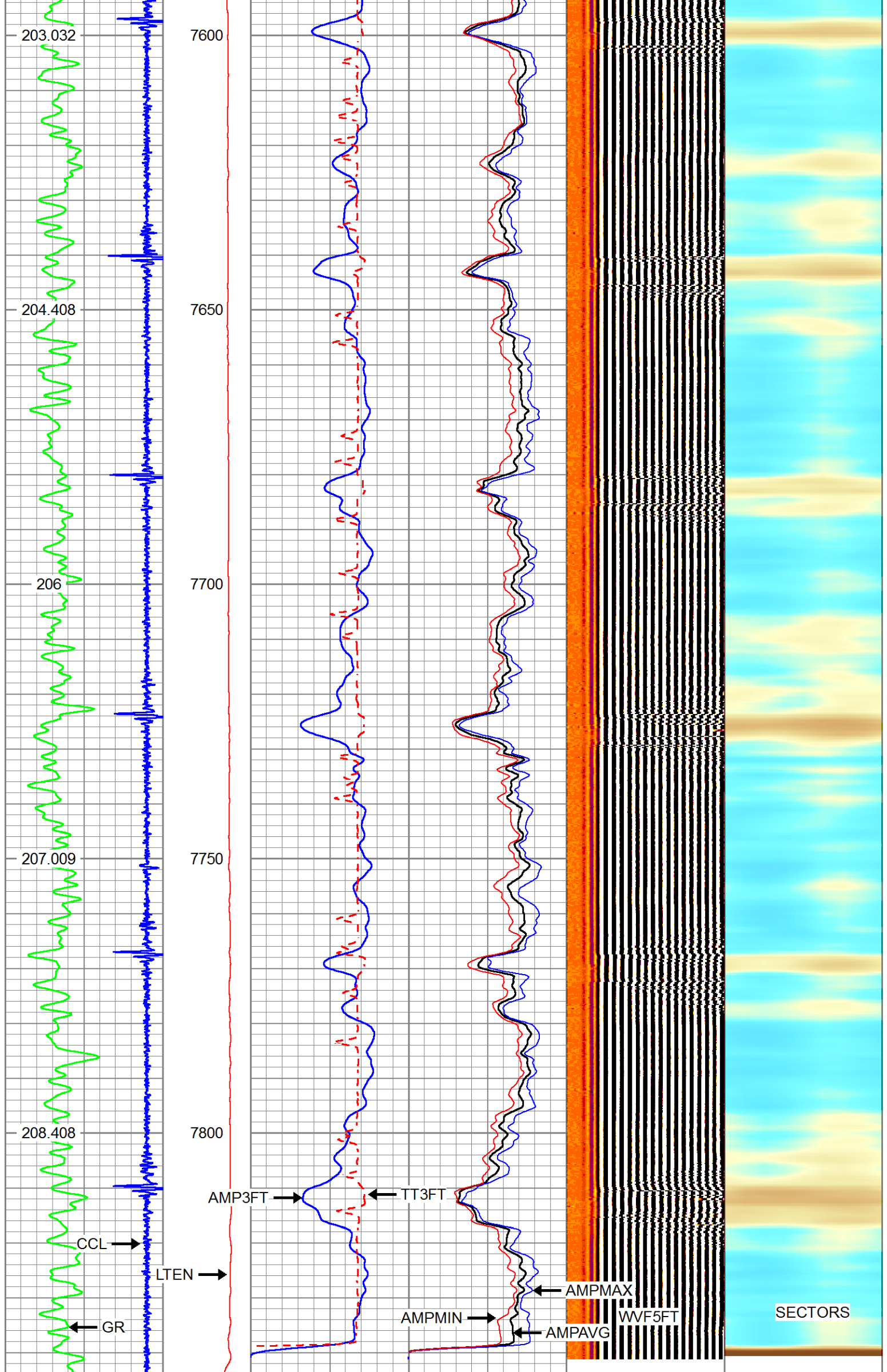


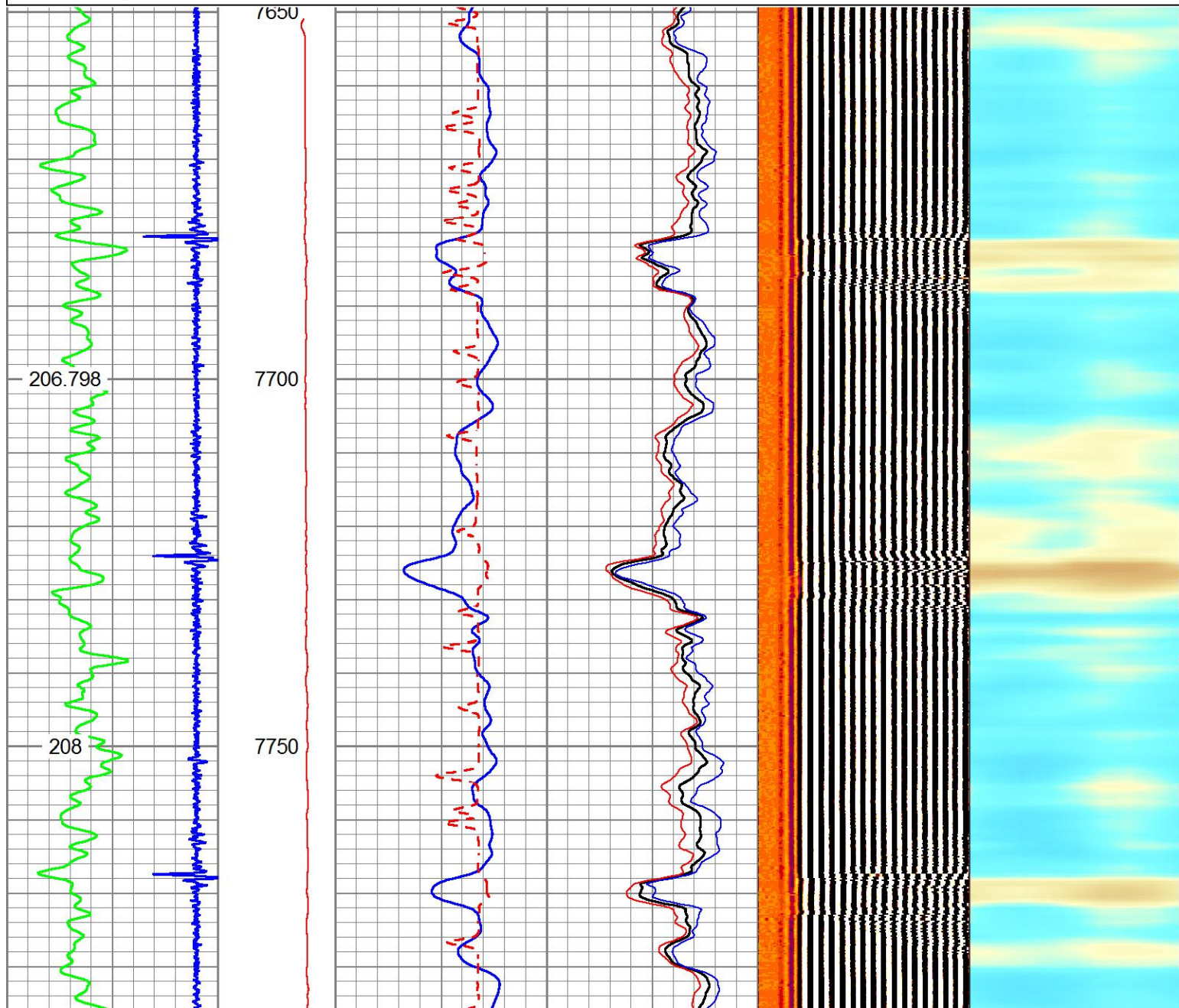
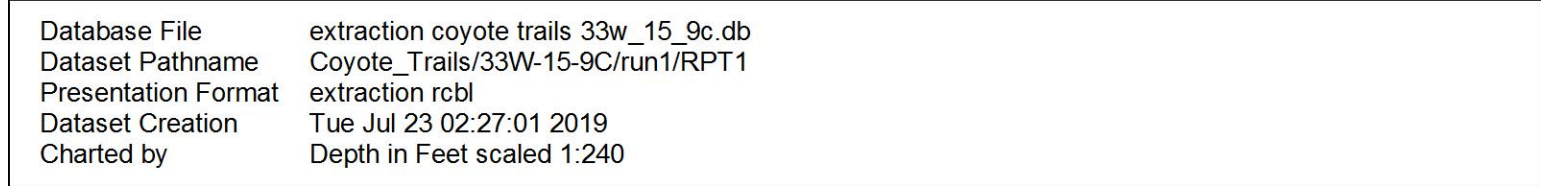


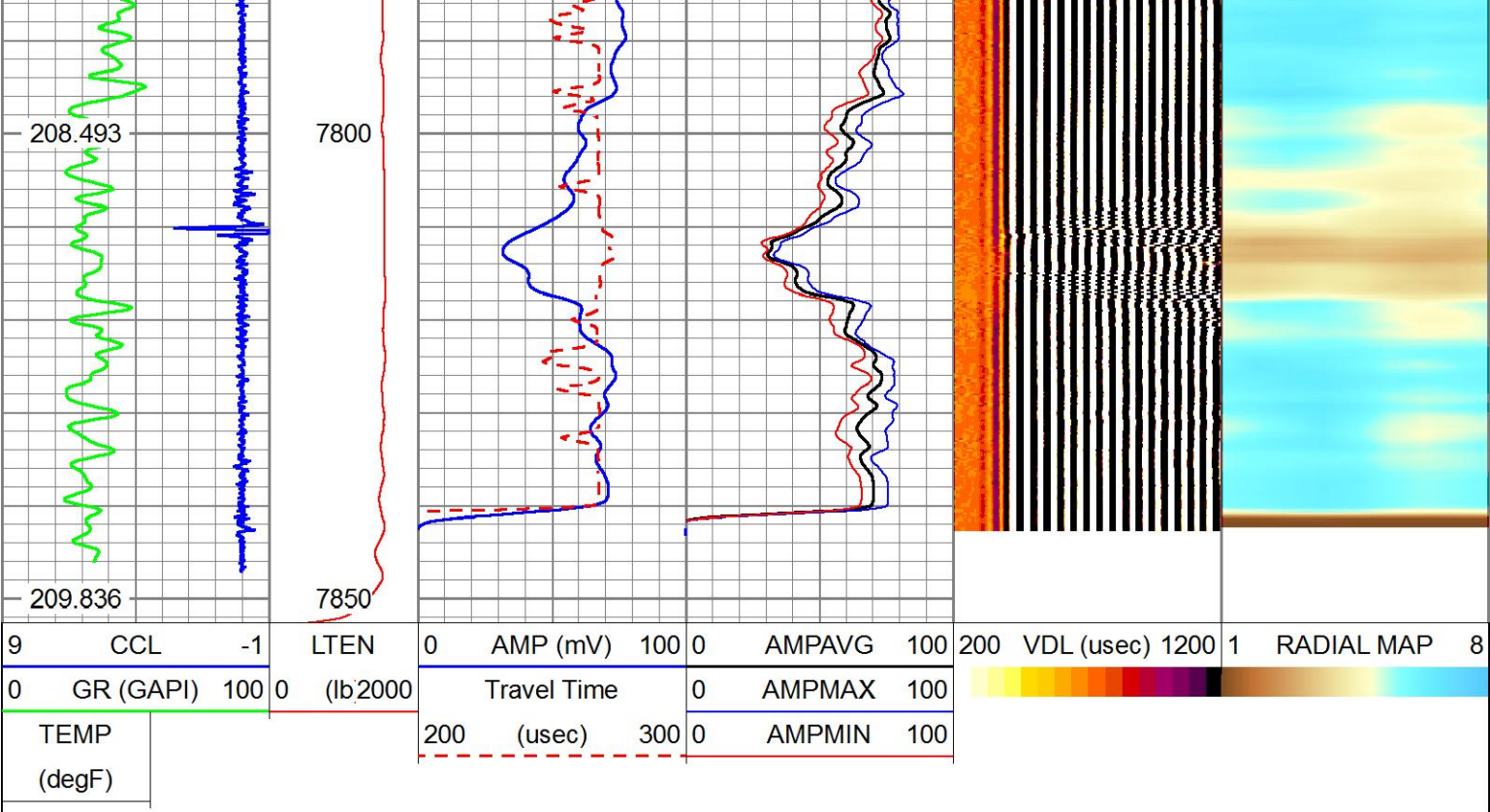












HALLIBURTON

REPEAT PASS

5"=100'

Log Variables

DatabaseC:\ProgramData\Warrior\Data\extraction coyote trails 33w_15_9c.db
Dataset Coyote_Trails\33W-15-9C\run1\MAIN_vars_

Top - Bottom

BHTEMP_Src	BITSIZE	BOTTEMP	CASEOD	CASETHCK	CASEWGHT	MAXAMPL	MINAMPL
TEMP	in	degF	in	in	lb/ft	mV	mV
	7.875	100	5.5	0.361	20	72	2
MINATTN	MudWgt	PERFS	PPT	SRFTEMP	TDEPTH		
db/ft	lb/gal		usec	degF	ft		
0.8	8.3	0	212	70	16000		

Calibration Report					
Database File	extraction coyote trails 33w_15_9c.db				
Dataset Pathname	Coyote_Trails/33W-15-9C/run1/MAIN				
Dataset Creation	Tue Jul 23 02:32:53 2019				
Temperature Calibration Report					
Serial Number:	001				
Tool Model:	T_Temp				
Performed:	Mon Apr 04 13:27:25 2011				
	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:		probe275dig / pr050806			
SHOP CALIBRATION		Tue Nov 01 09:40:24 2005			
	Counts/Sec	Gain	Offset	.lig	Units



Background	79.3			cps
Calibrator	459.5			cps
		0.6312		GAPI/cps
PRIMARY VERIFICATION		00:00:00		
Background	48.3			cps
Calibrator	288.5			cps
Difference			240.2	GAPI
BEFORE SURVEY VERIFICATION		00:00:00		
Background	47.8			cps
Calibrator	290.6			cps
Difference			242.8	GAPI
AFTER SURVEY VERIFICATION		00:00:00		
Background	35.8			cps
Calibrator	286.1			cps
Difference			250.2	GAPI

Segmented Cement Bond Log Calibration Report				
Serial Number:	051010			
Tool Model:	Probe			
Calibration Casing Diameter:	5.500	in		
Calibration Depth:	7684.985	ft		

Master Calibration, performed Mon Jul 22 17:24:06 2019:						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.012	0.541	1.000	72.000	134.177	-0.559
CAL	0.012	0.660				
5'	0.017	0.246	1.000	72.000	310.369	-4.372
SUM						
S1	0.011	0.641	0.000	72.000	114.296	-1.226
S2	0.010	0.610	0.000	72.000	120.105	-1.248
S3	0.011	0.576	0.000	72.000	127.397	-1.345
S4	0.011	0.554	0.000	72.000	132.482	-1.423
S5	0.011	0.542	0.000	72.000	135.567	-1.519
S6	0.011	0.534	0.000	72.000	137.748	-1.549
S7	0.011	0.538	0.000	72.000	136.752	-1.559
S8	0.011	0.564	0.000	72.000	130.115	-1.415

Internal Reference Calibration, performed Tue Oct 11 09:01:28 2005:						
	Raw (v)		Calibrated (v)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
CAL	0.000	0.000	0.012	0.660	1.000	0.000

Air Zero Calibration, performed Mon Jul 22 15:56:42 2019:						
	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)
WVFCAL WVF3FT	11.94		CHD-1-7/16 (12345678) Monocable Head Assembly	1.28	1.44	1.50
			CENT-Probe_275 Probe 2 3/4 Centralizer	2.88	2.75	20.00
			RBT_PRB275-Probe (051010) Probe Radii Bond Tool with Digital Telemetry	8.33	2.75	90.00
WVF5FT	9.94					
CCL	5.40		CENT-Probe_275 Probe 2 3/4 Centralizer	2.88	2.75	20.00
GR	4.02		GR_PRB275-probe275dig (pr050806) Probe Digital Gamma CCL	4.75	2.75	57.00
TEMP	0.42		TEMP-T_Temp (001) Titan 1.375 Temp Tool	1.48	1.38	5.00

O.D.:		2.75 in	
Company	EXTRACTION OIL & GAS INC		
Well	COYOTE TRAILS 33W-15-9C		
Field	WATTENBERG		
County	WELD	State	CO
HALLIBURTON	RADIAL CEMENT BOND LOG		