

HALLIBURTON

RADIAL CEMENT
BOND LOG

Company		EXTRACTION OIL & GAS INC	
Well		COYOTE TRAILS 33W-15-10N	
Field		WATTENBERG	
County		WELD	State CO
Permanent Datum Log Measured From Drilling Measured From		Company EXTRACTION OIL & GAS INC	
		Well COYOTE TRAILS 33W-15-10N	
		Field WATTENBERG	
		County WELD	
		State CO	
API No.: 051234825200		Serv #: 905846071	
Location: SURFACE HOLE LOCATION: 1149' FSL & 2337' FEL SWSE		Other Services	
LATITUDE: 40.017977 LONGITUDE: -105.007410		NONE	
Sec: 28 Twp: 1N Rge: 68W			
GROUND LEVEL Elevation 5274'		Elevation	
KB , 20 Ft. above perm. datum		K.B. 5294' D.F. 5294' G.L. 5274'	
Date @ Time Logged 22-JUL-Y-19 @17:00		Type Fluid in Hole FRESH WATER	
Run No. ONE		Density of Fluid 8.3	
Depth - Driller 16609'		Fluid Level SURFACE	
Depth - Logger 8707'		Cement Top Est. Logged SURFACE	
Bottom - Logged Interval 8699'		Equipment / Location 11014931 / BRIGHTON	
Top - Log Interval 1500'		Recorded by A. NICCOLI	
Max. Recorded Temp. 242 F		Witnessed by M. TORRES	
CEMENTING DATA		Surface Protection String	
Date / Time Cemented		Production String	
Primary / Squeeze		Liner	
Expected Compressive Strength		psi@ hrs	
Cement Volume		psi@ hrs	
Cement Type / Weight		psi@ hrs	
Formulation		psi@ hrs	
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 16609	5.5 20 0 16609

<<< Fold Here >>>

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.

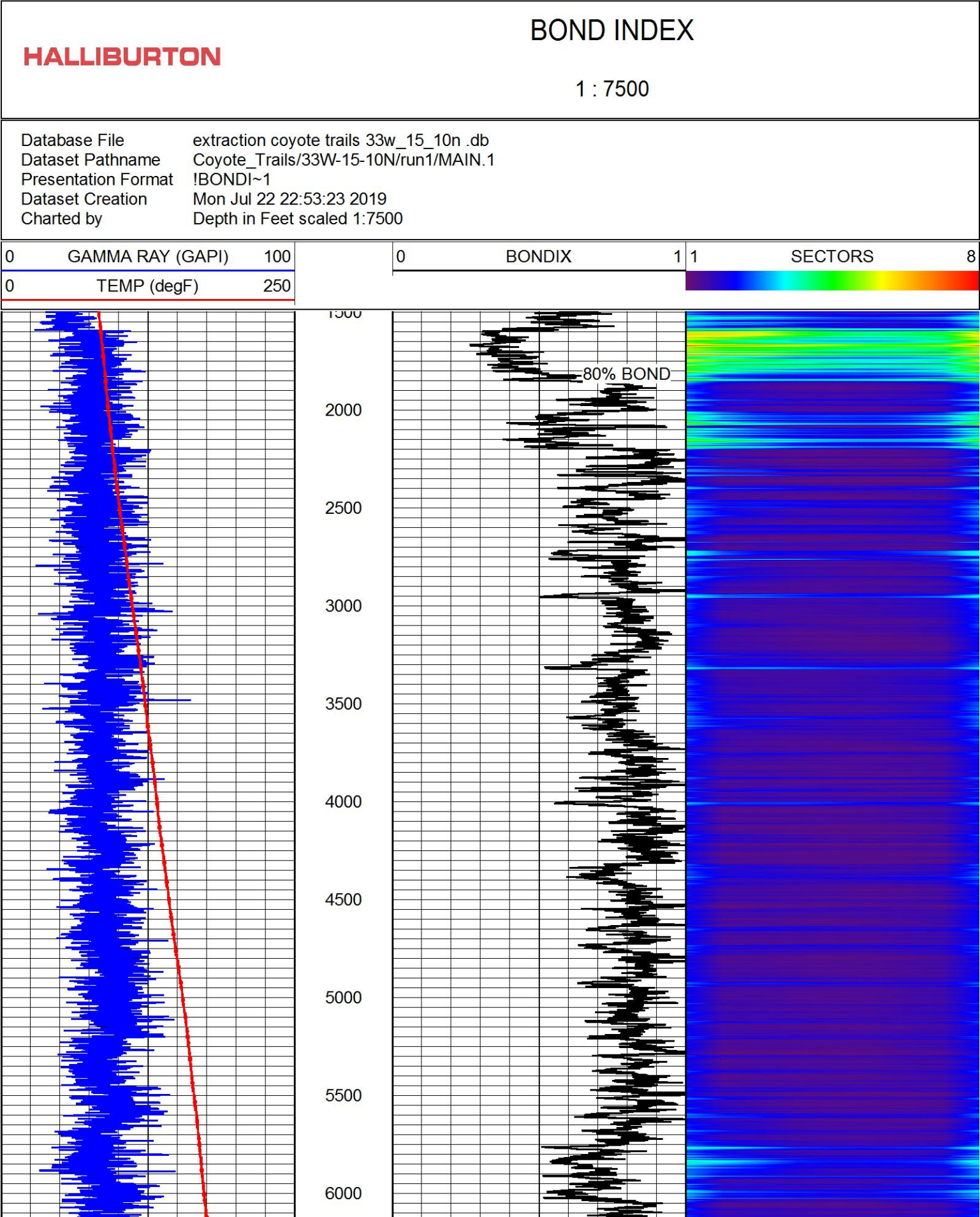
LOG CORRELATED TO GROUND LEVEL.

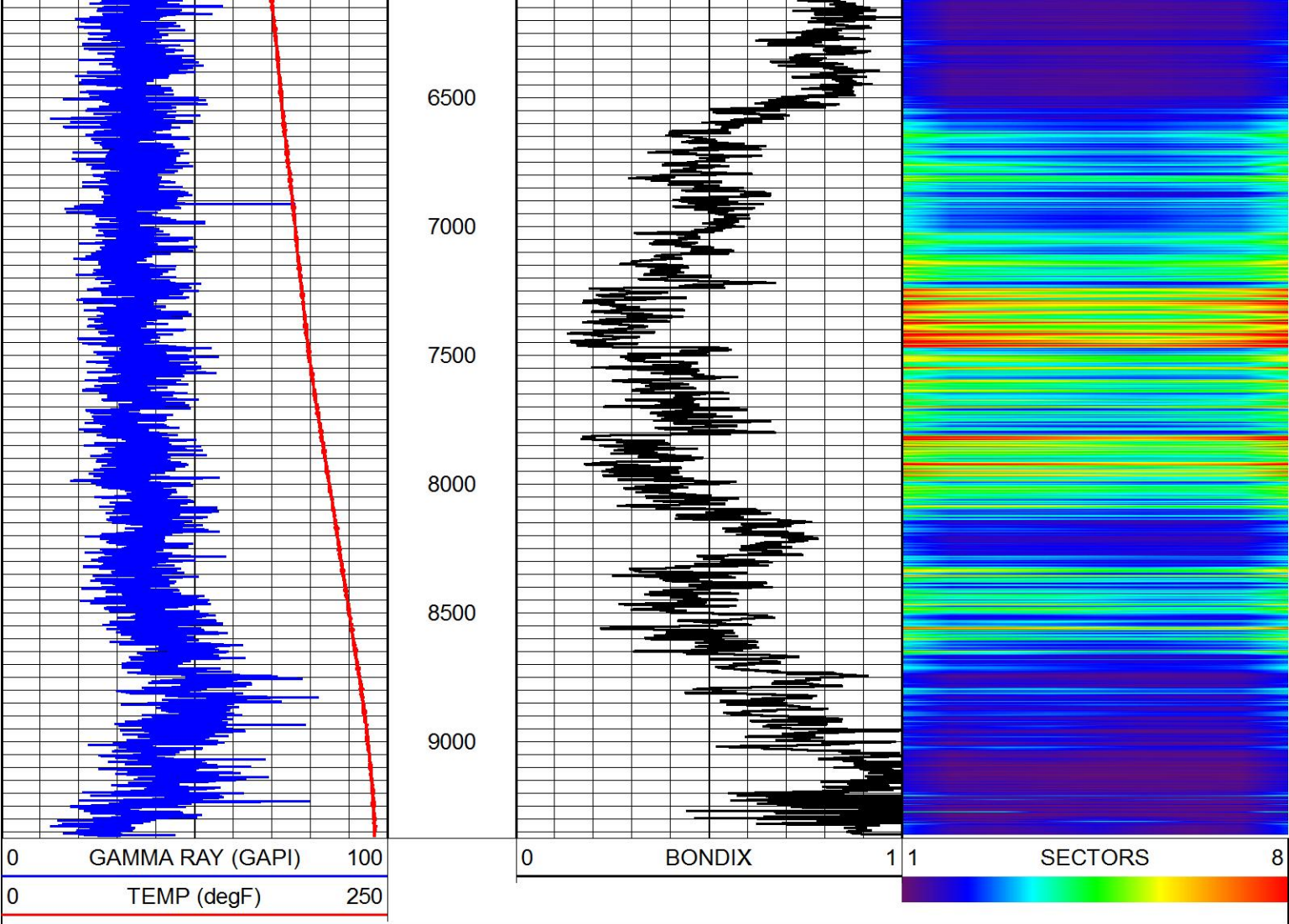
BOND INDEX CALCULATED FOR 3000 PSI COMPRESSIVE STRENGTH CEMENT.

THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES.

Service Ticket No.	905846071	API No.	051234825200	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	8650		





BOND INDEX

HALLIBURTON

1 : 7500

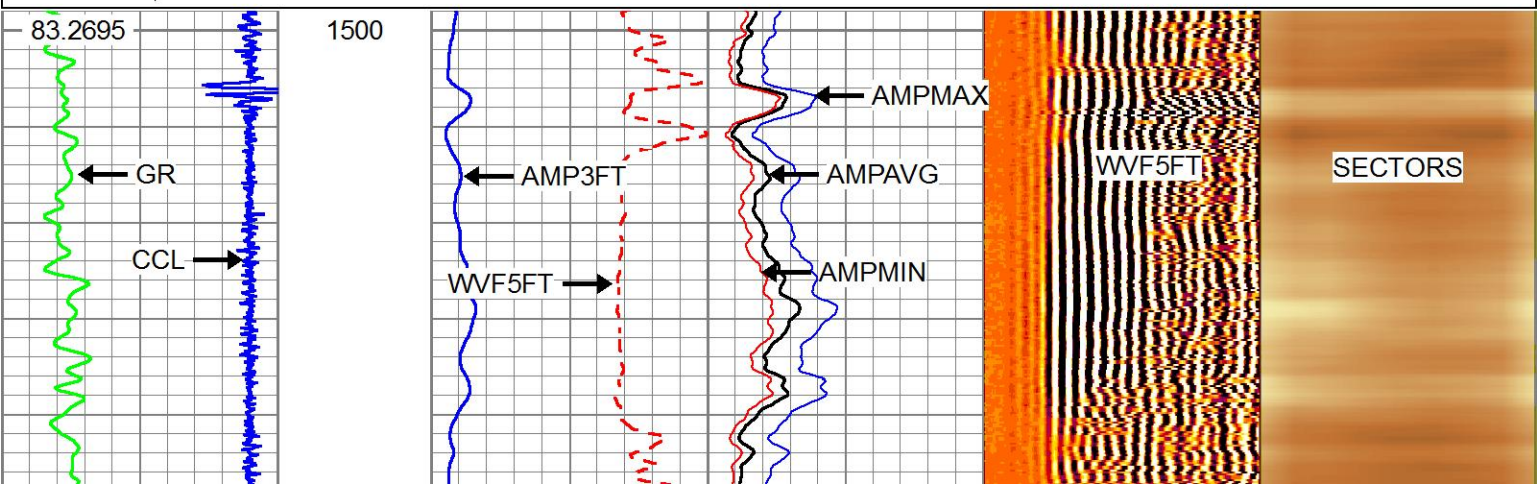
MAIN PASS

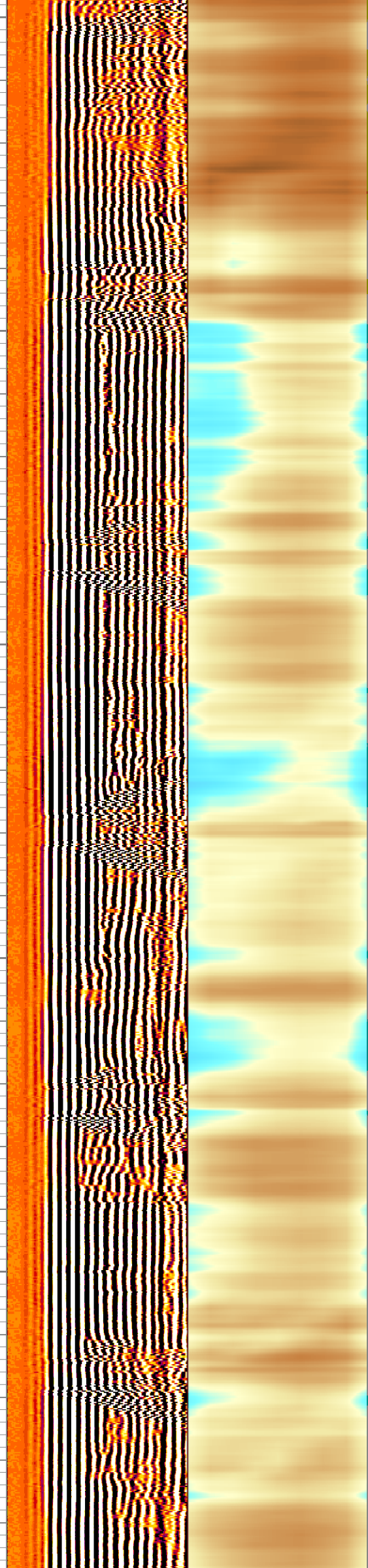
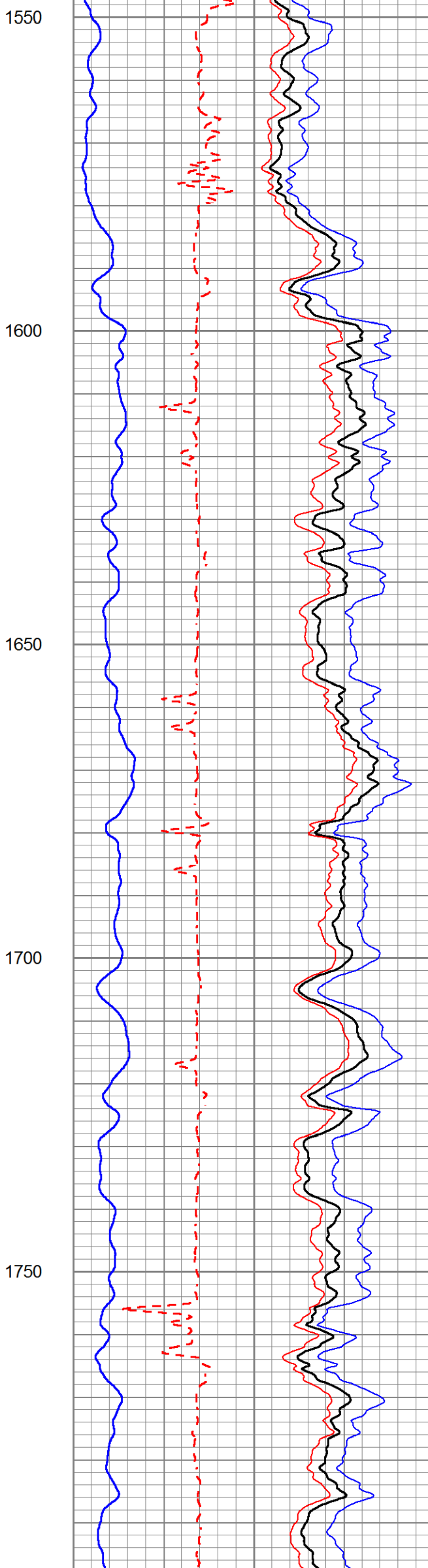
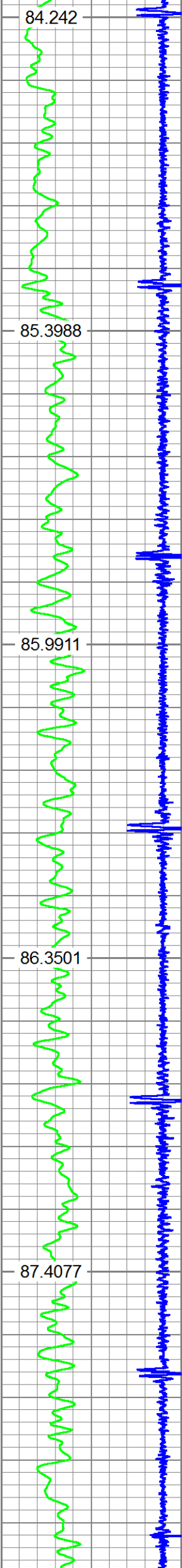
HALLIBURTON

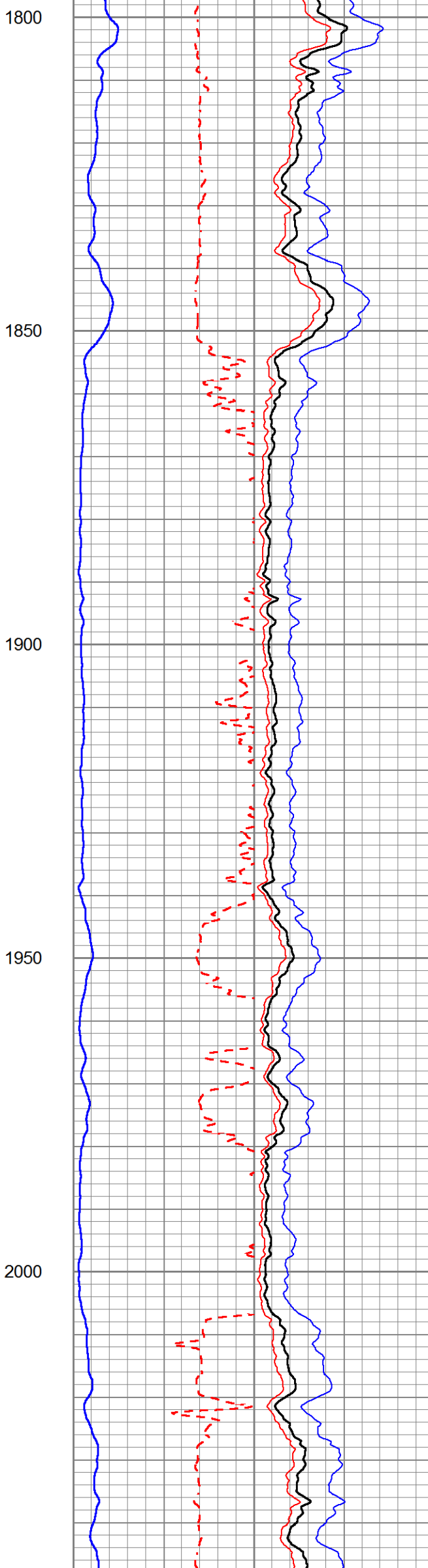
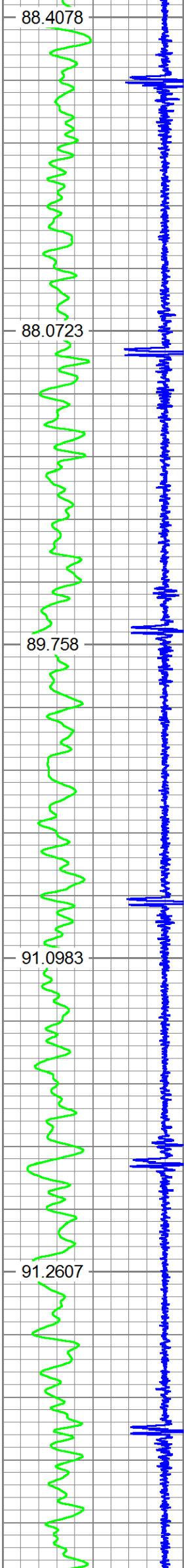
5" = 100'

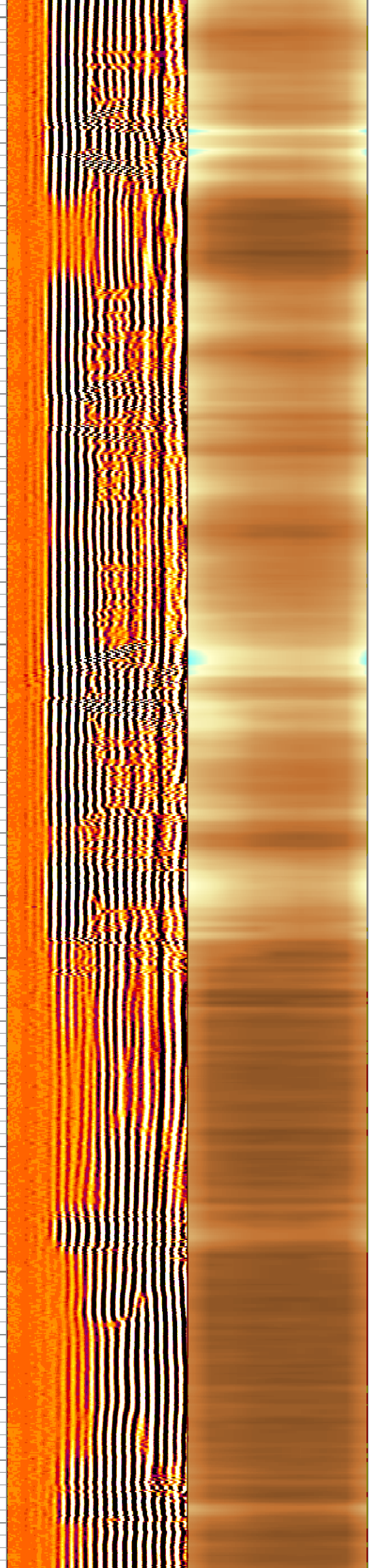
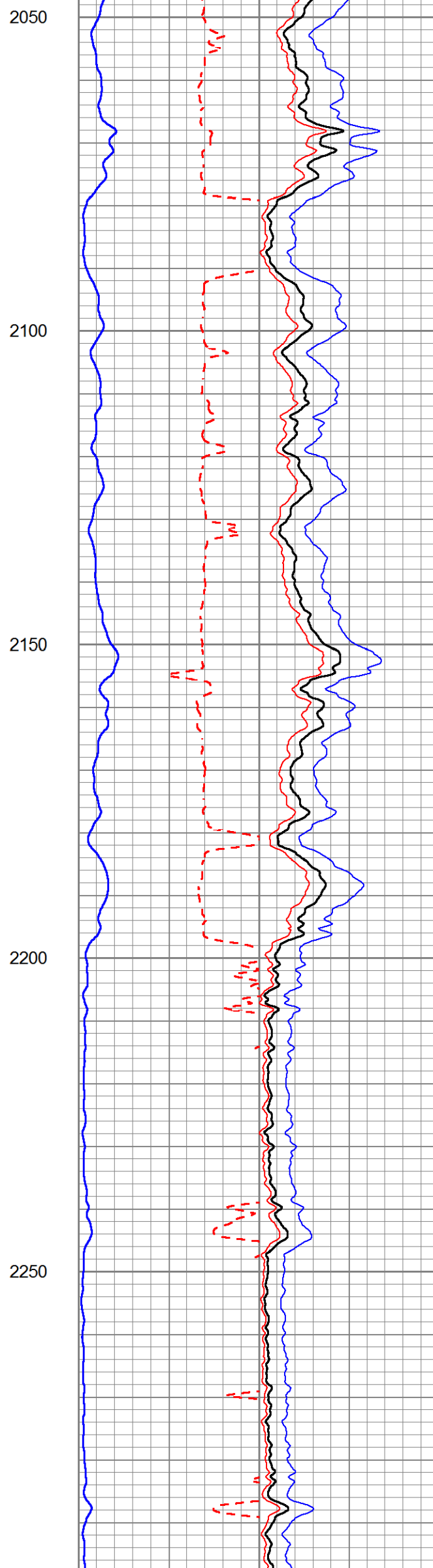
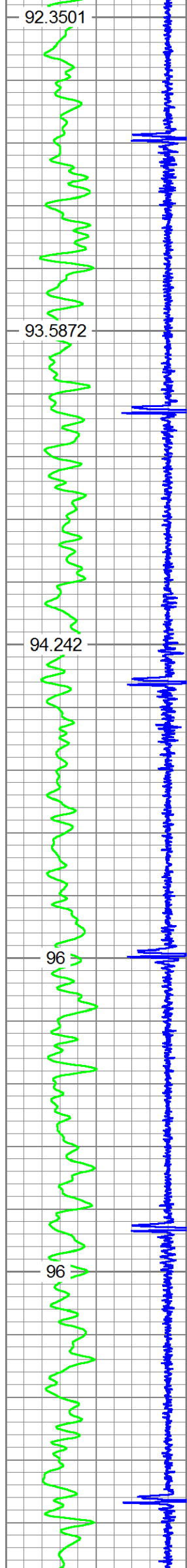
Database File	extraction coyote trails 33w_15_10n .db
Dataset Pathname	Coyote_Trails/33W-15-10N/run1/MAIN
Presentation Format	EXTRAC~1
Dataset Creation	Mon Jul 22 22:22:32 2019
Charted by	Depth in Feet scaled 1:240

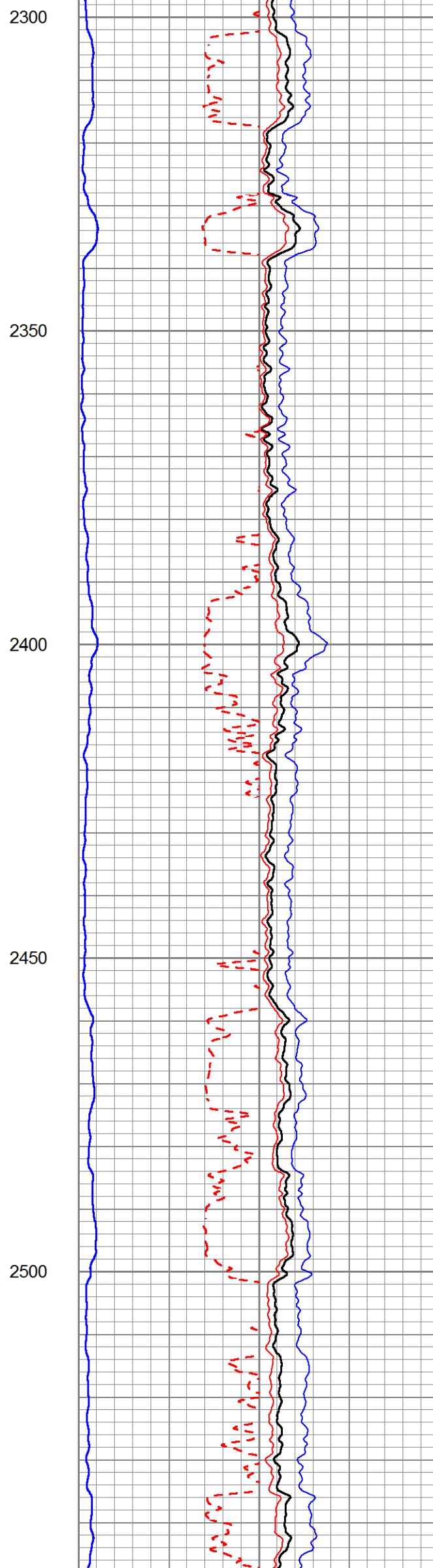
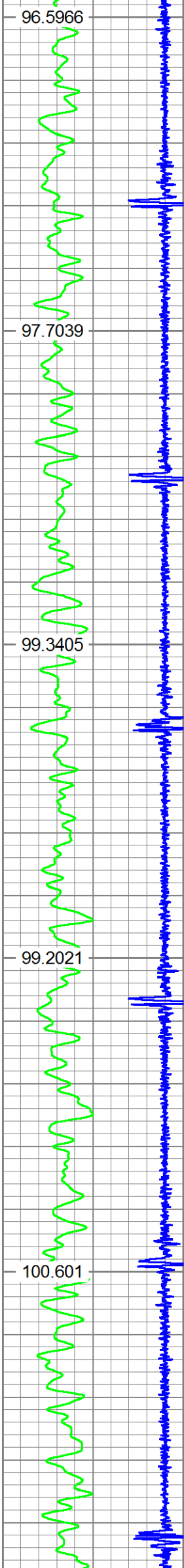
9 CCL -1	LTEN 0	AMP (mV) 100	0 AMPAVG 100	200 VDL (usec) 1200	1 RADIAL MAP 8
0 GR (GAPI) 100	0 (lb/2000)	Travel Time	0 AMPMAX 100		
TEMP (degF)		200 (usec) 300	0 AMPMIN 100		

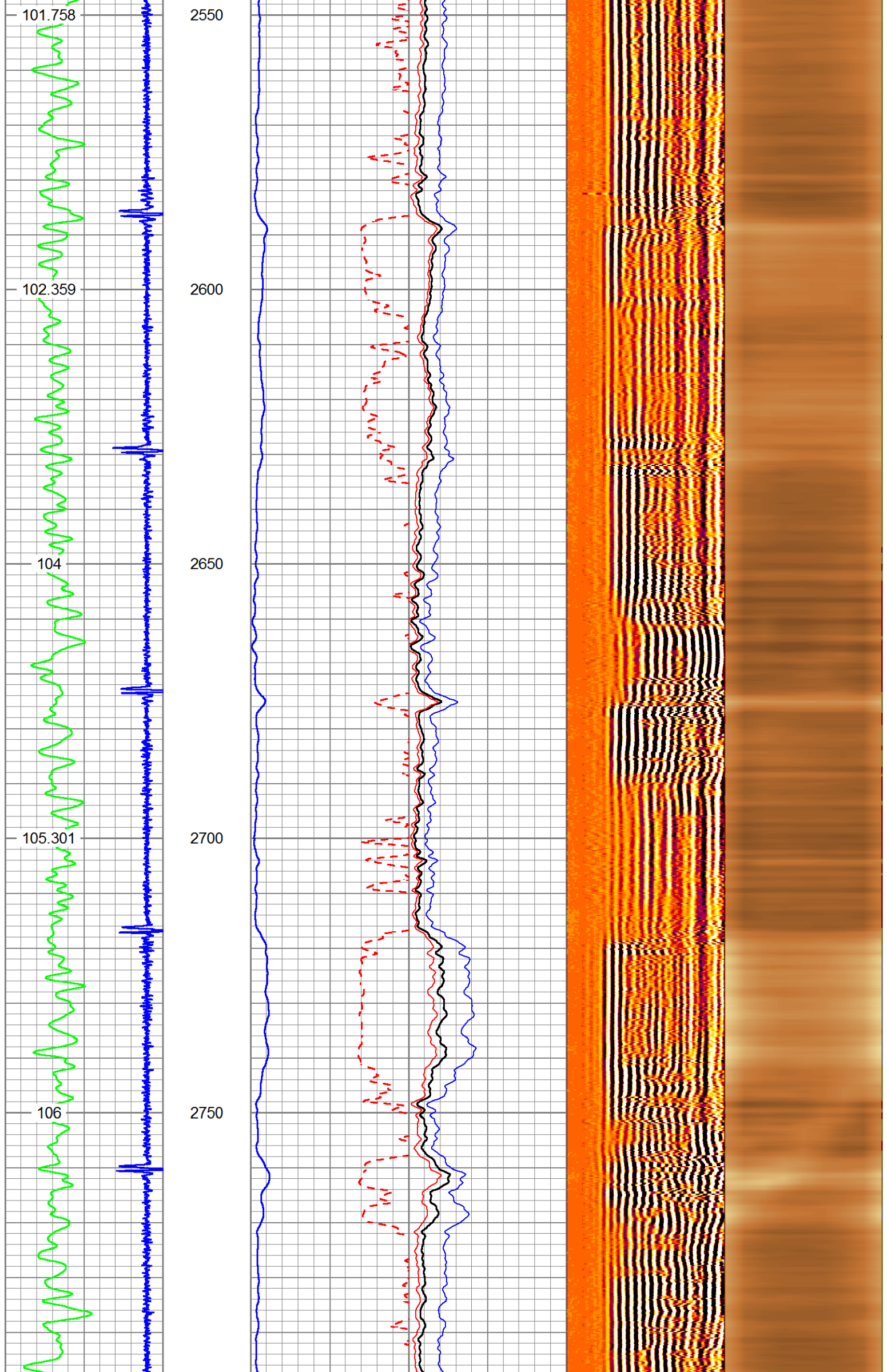


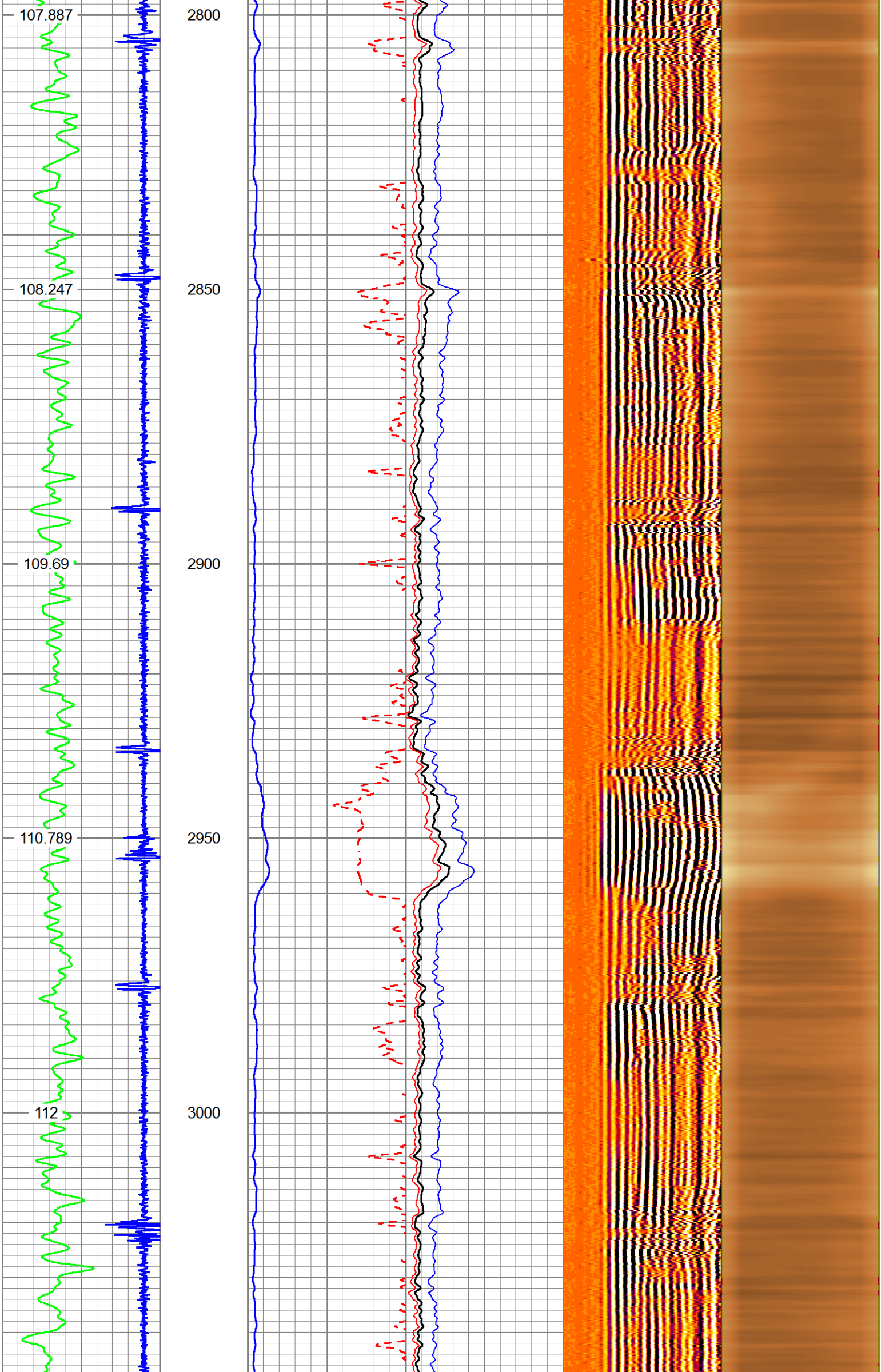


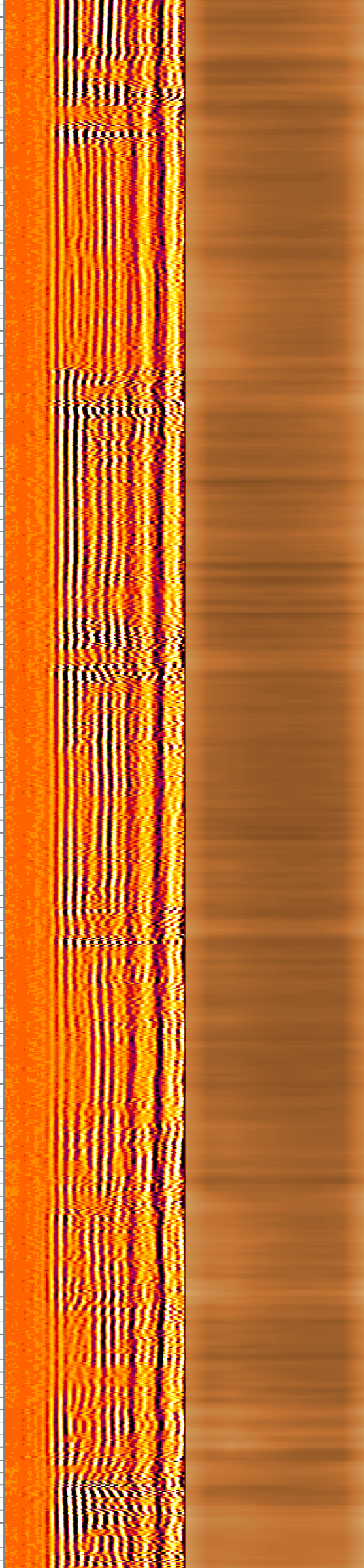
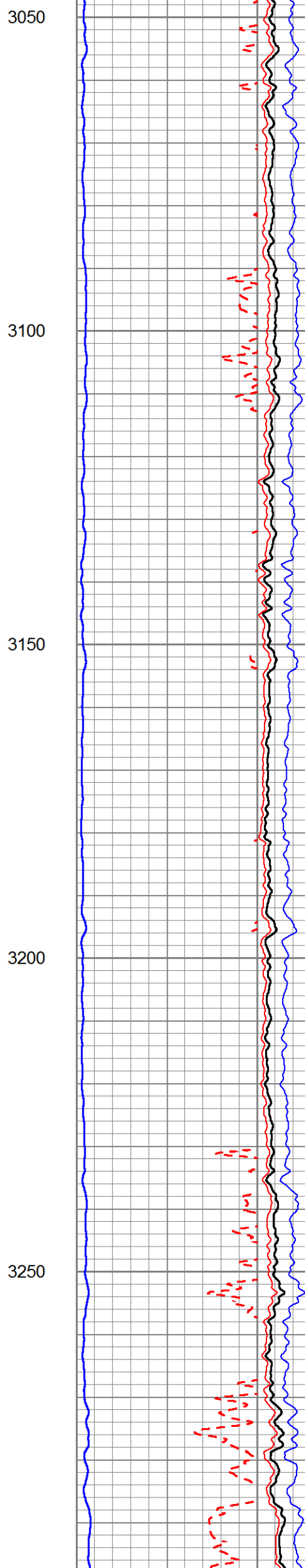
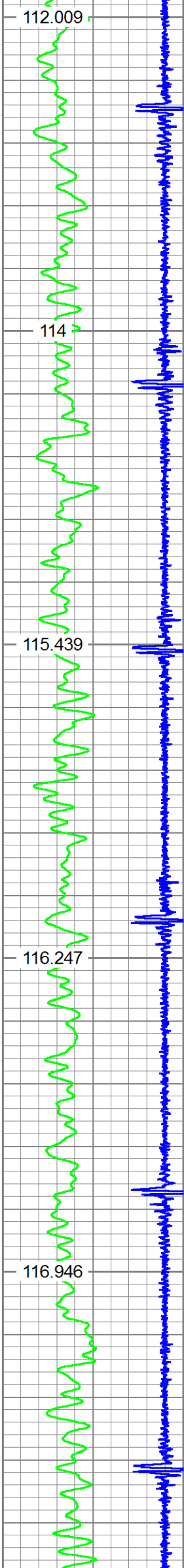


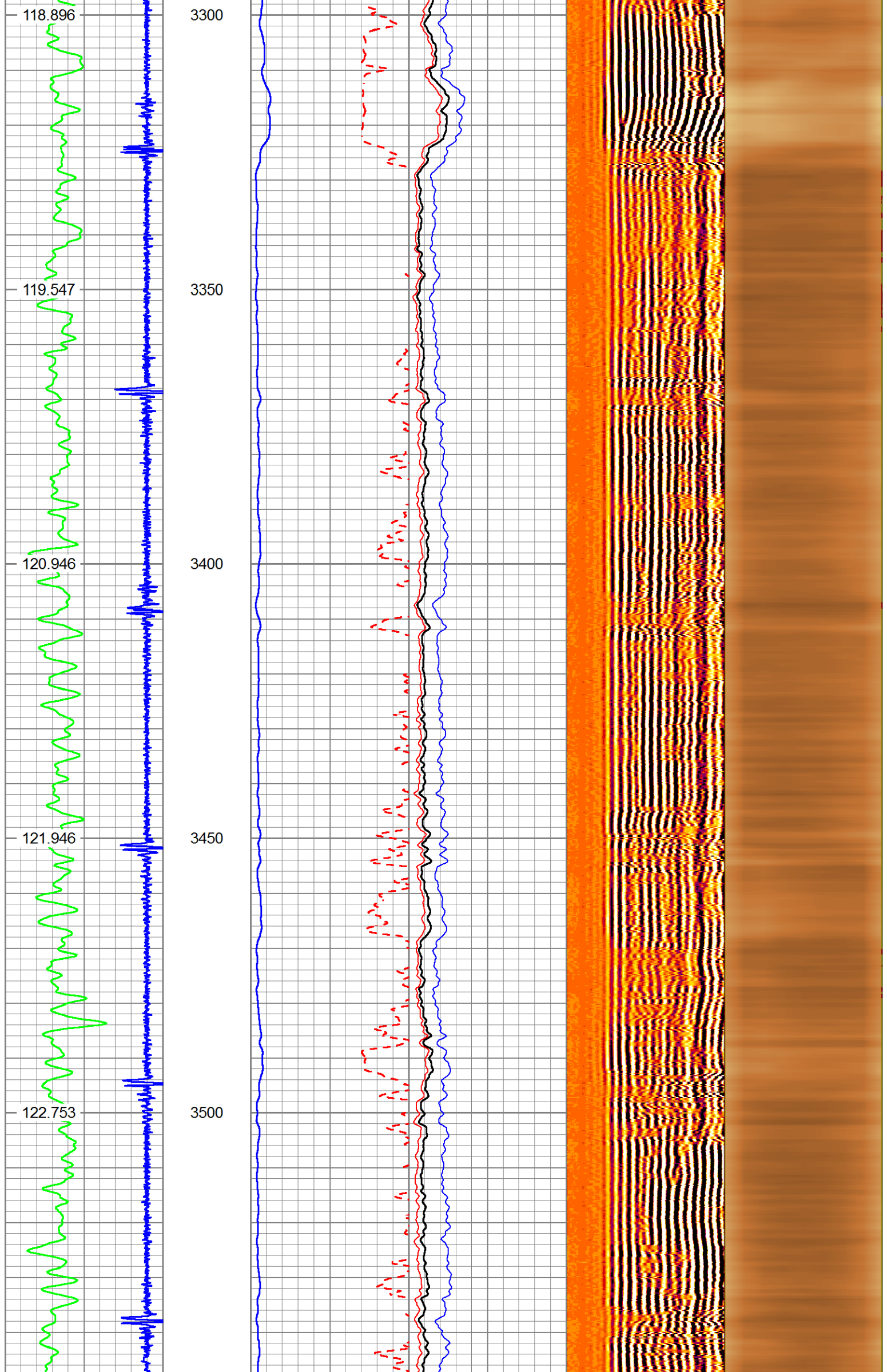


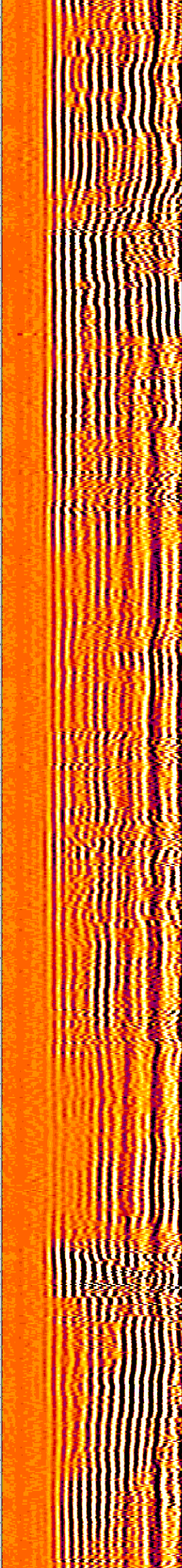
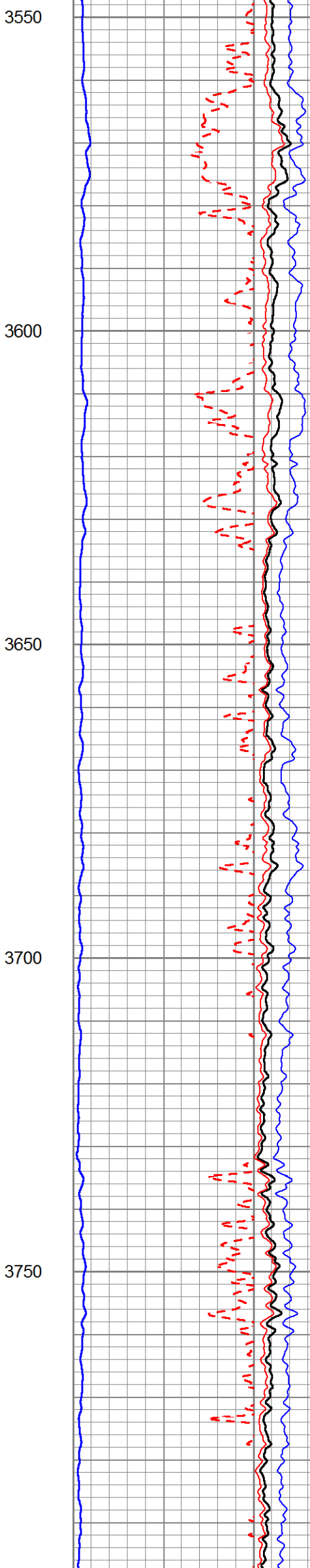
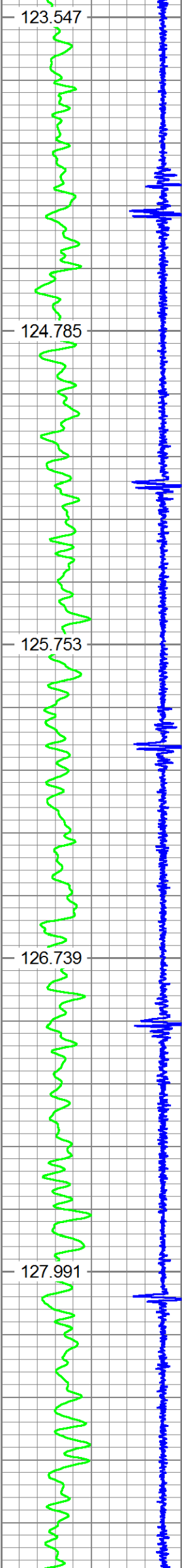


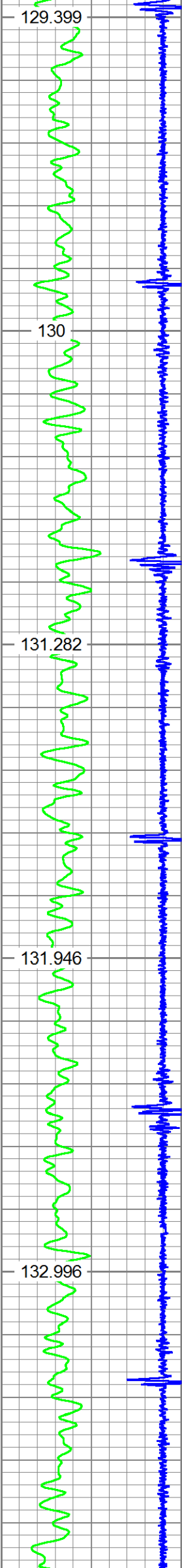




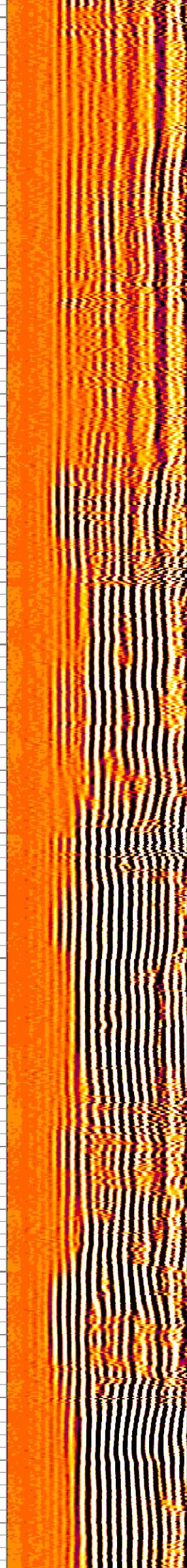
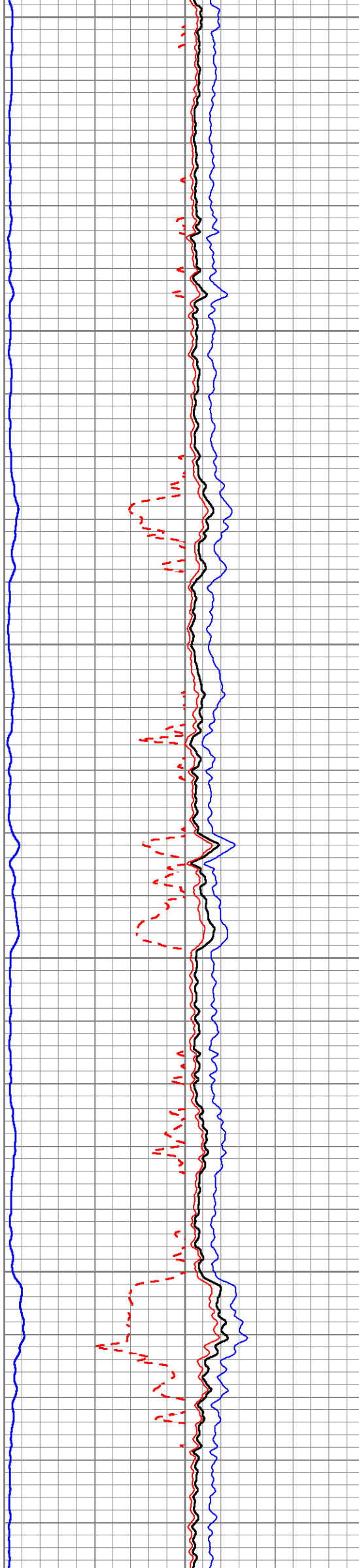


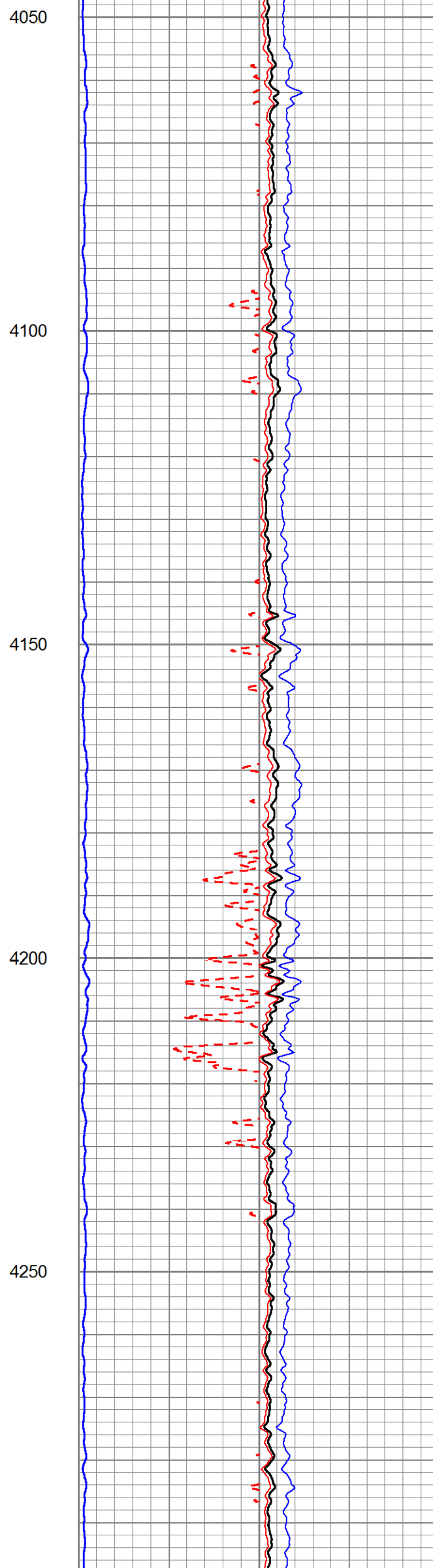
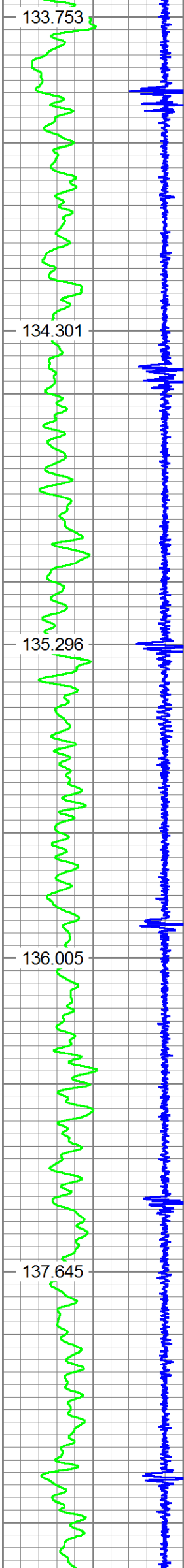


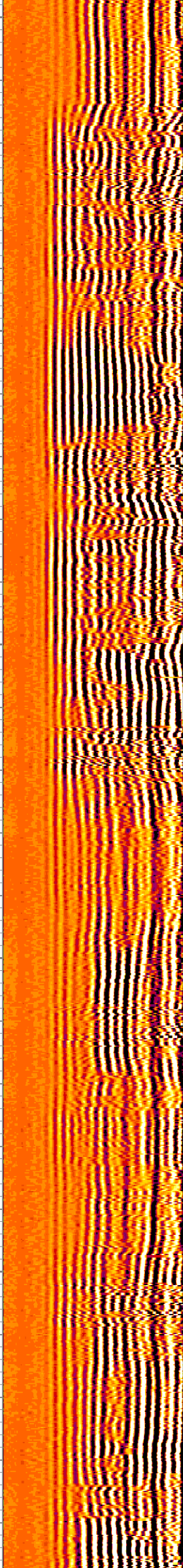
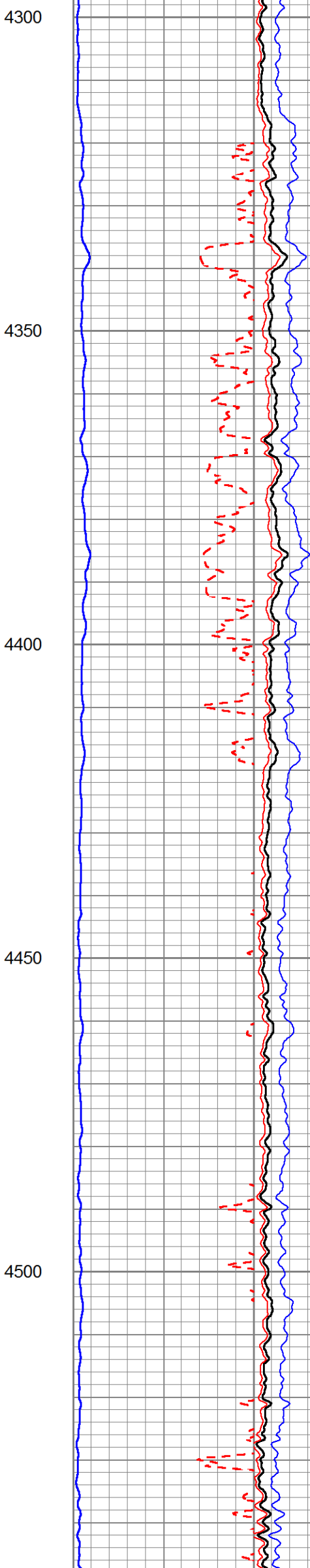
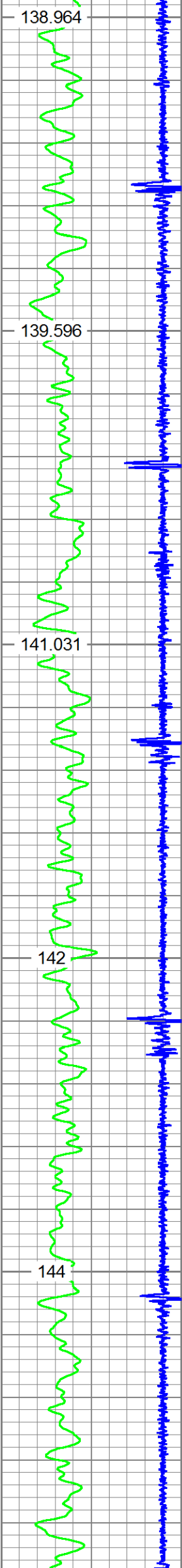


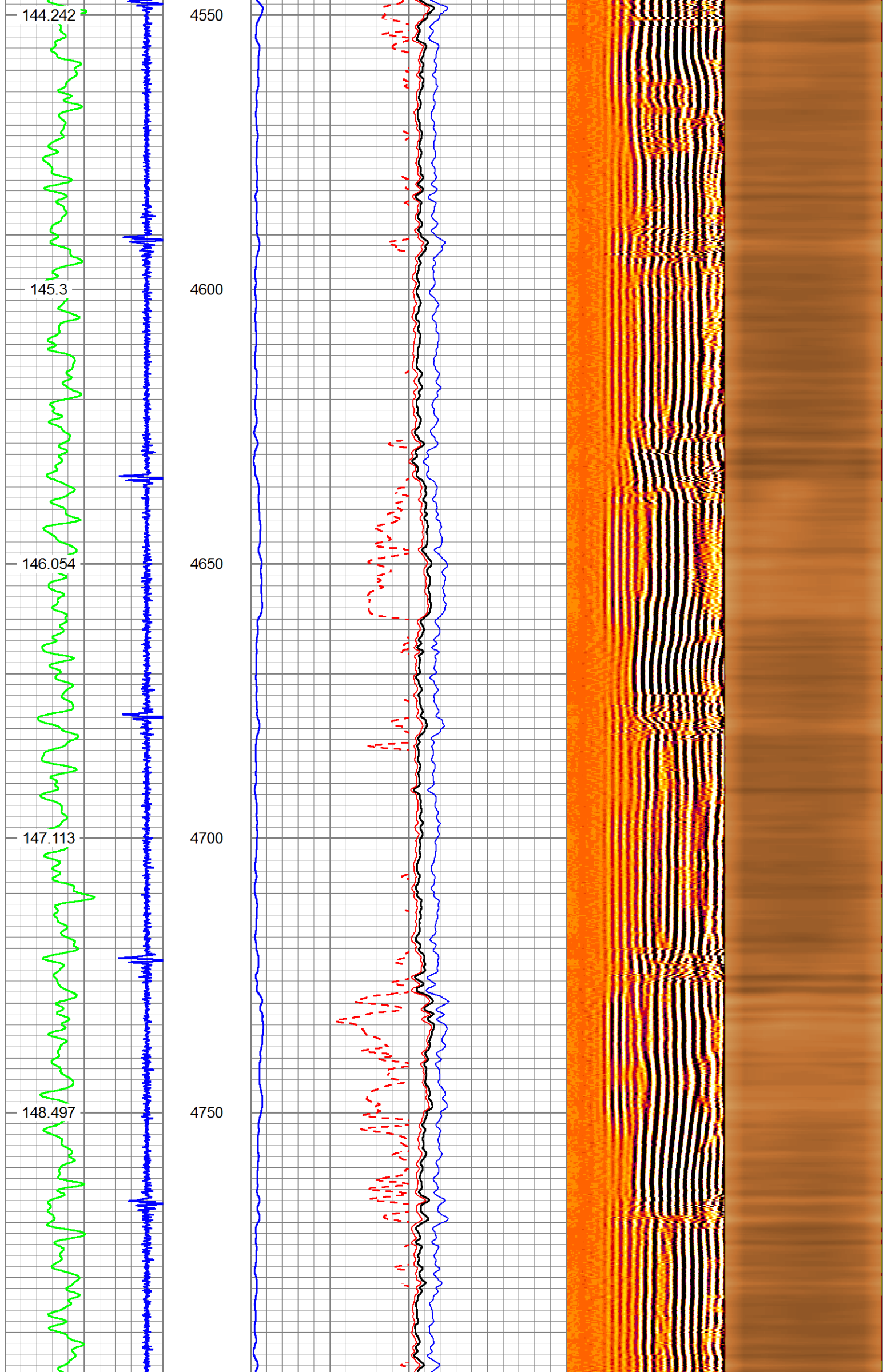


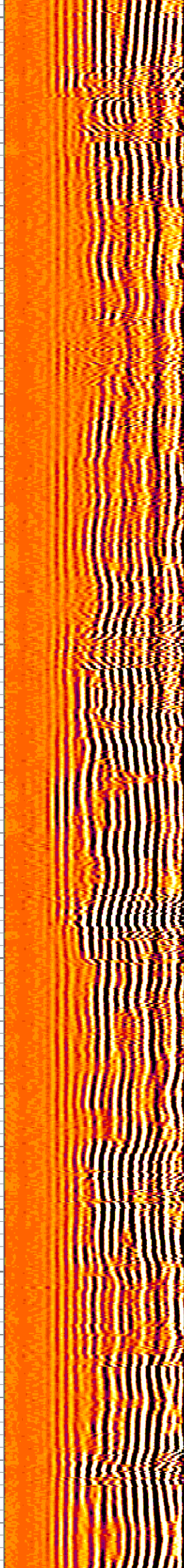
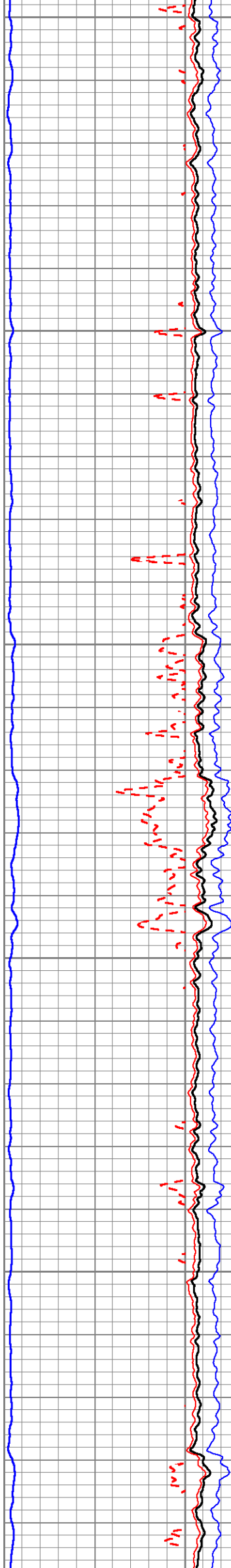
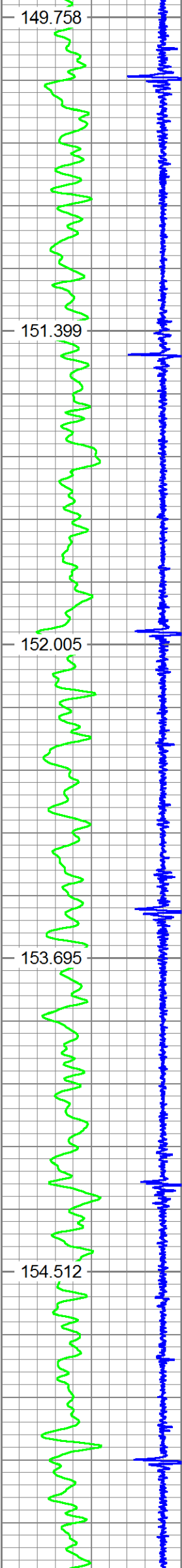
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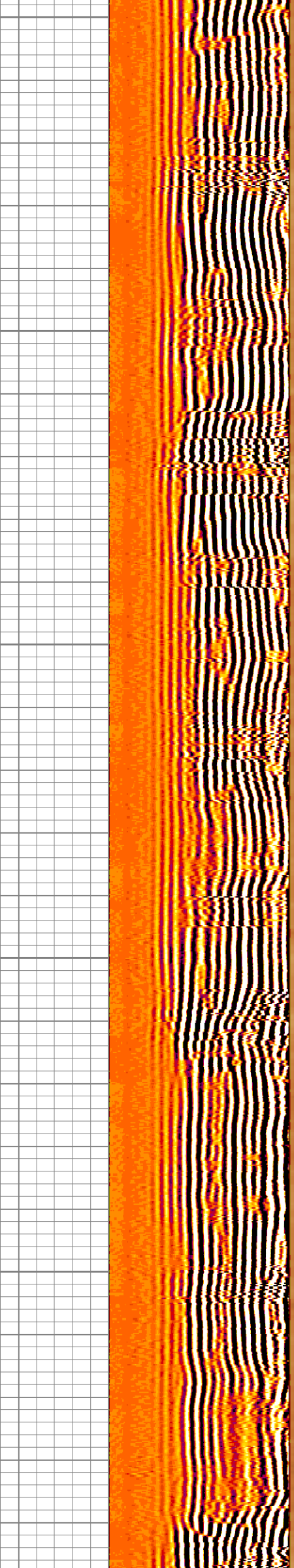
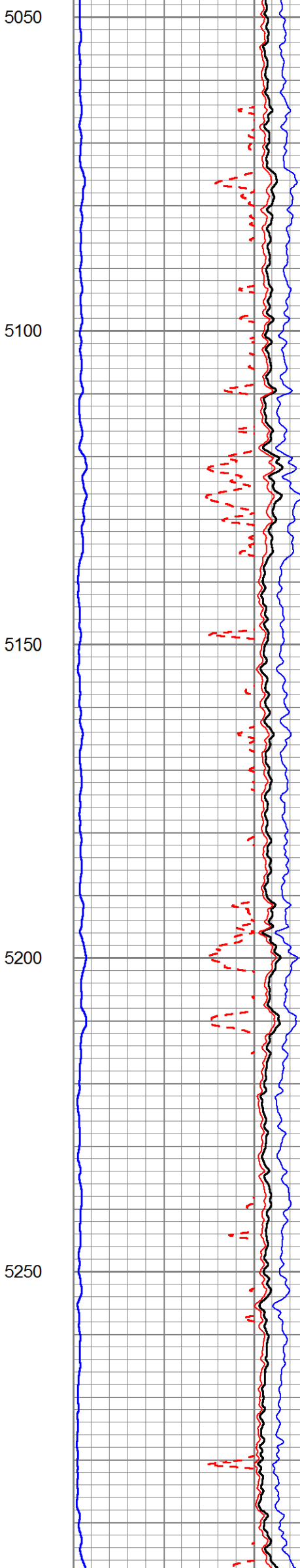
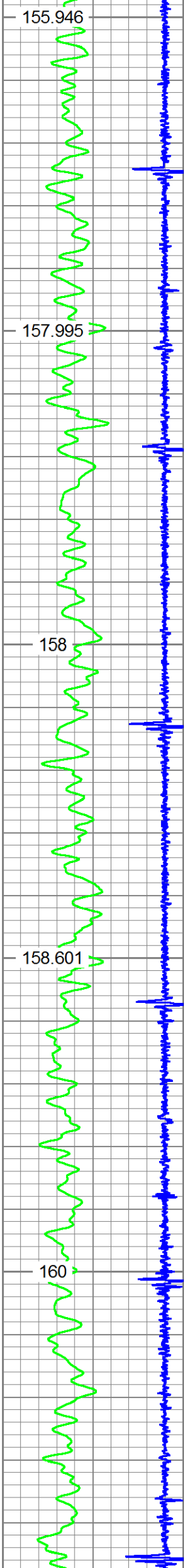


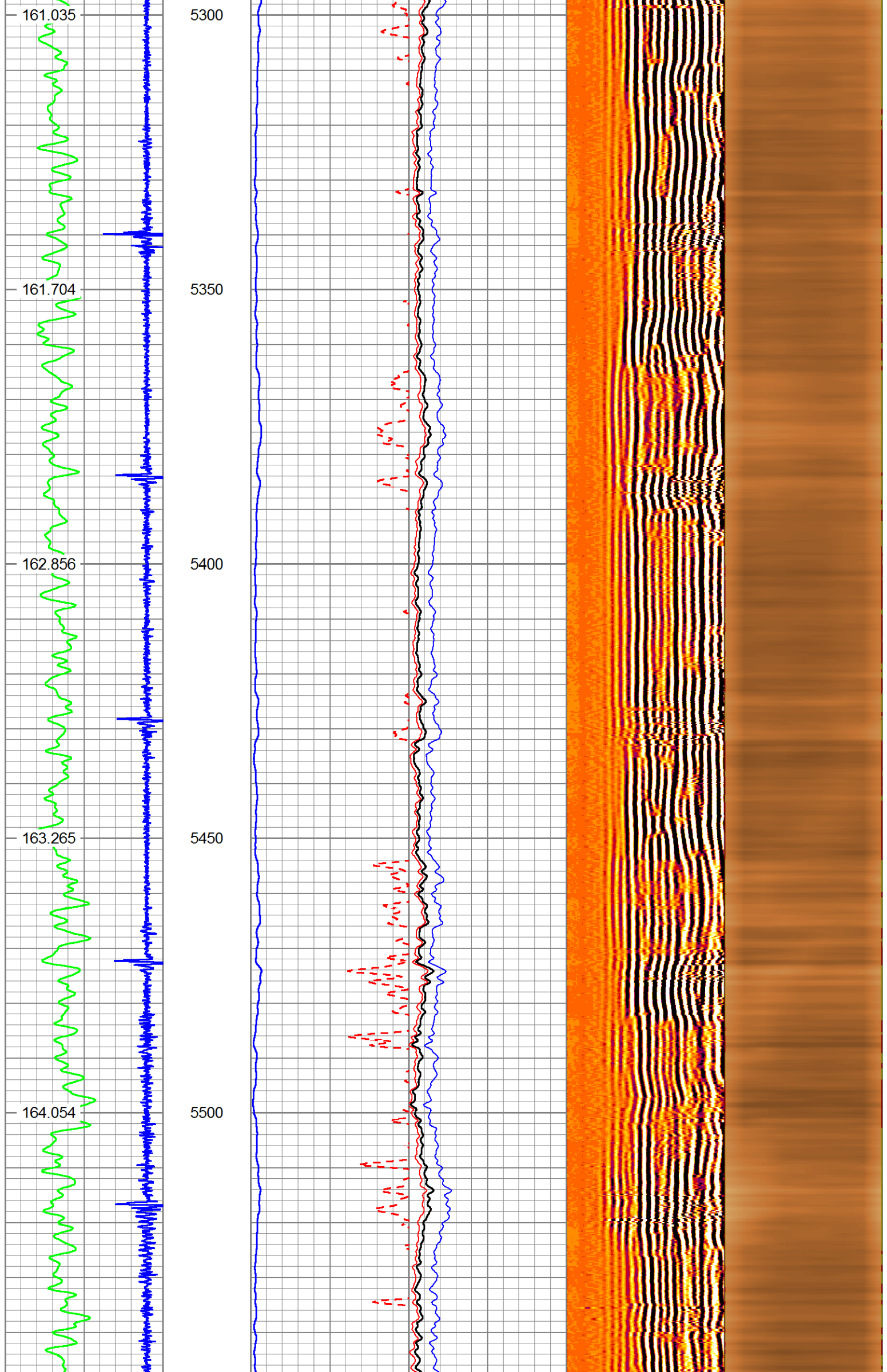


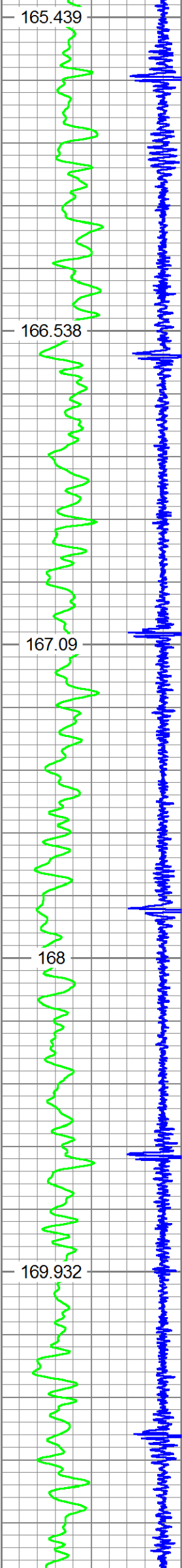




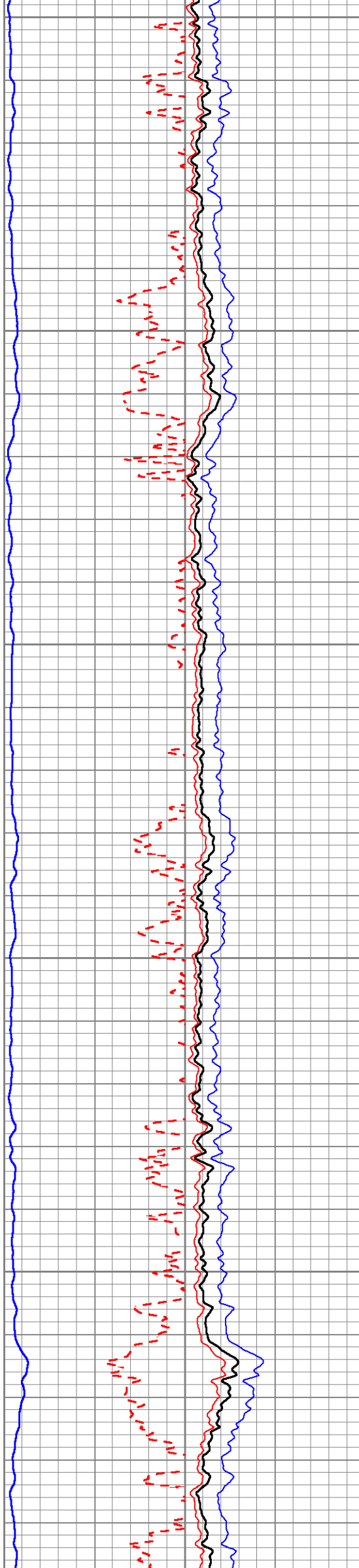


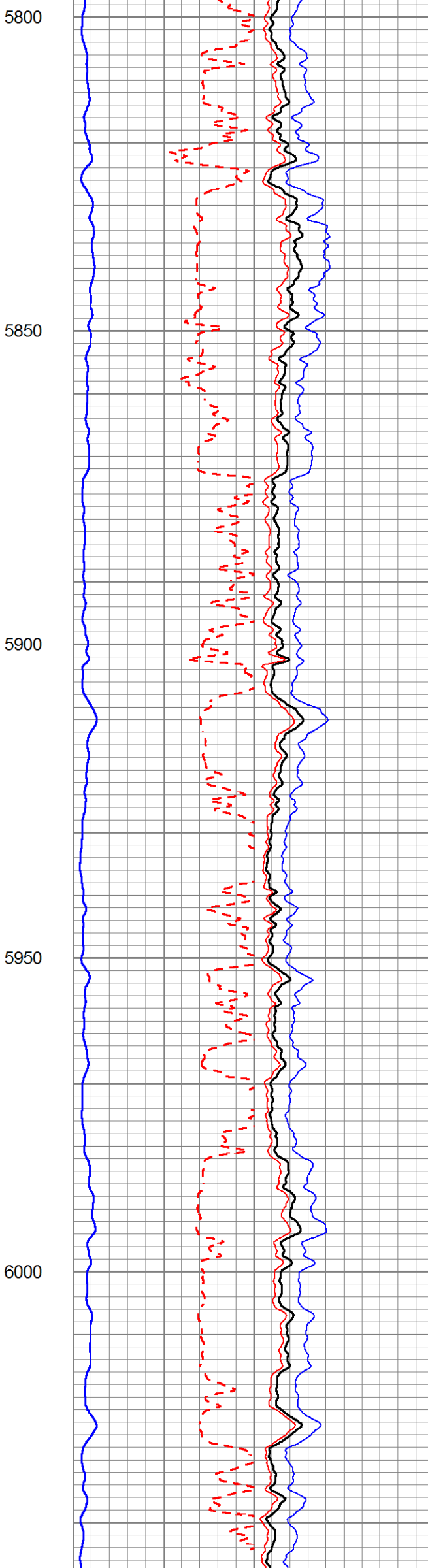
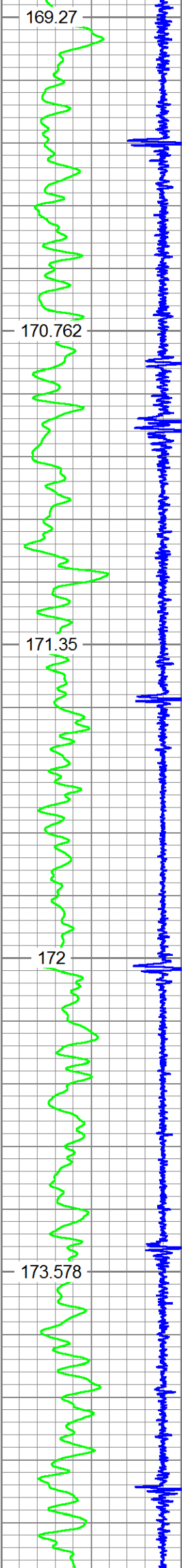


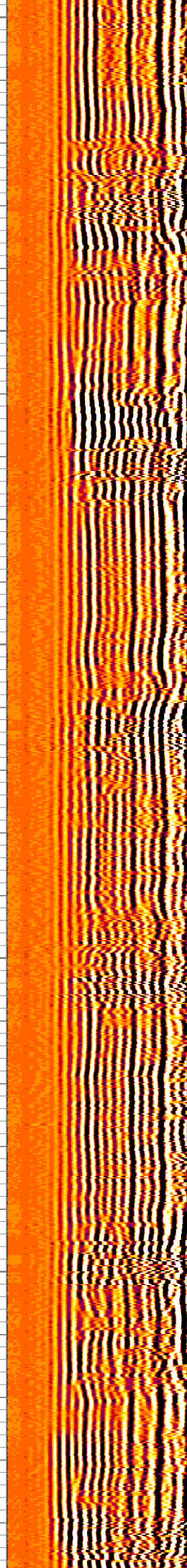
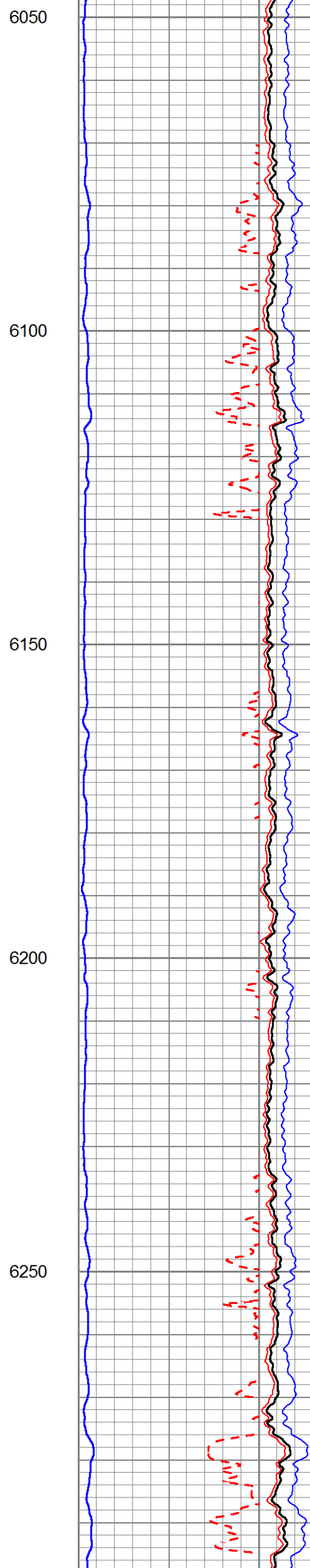
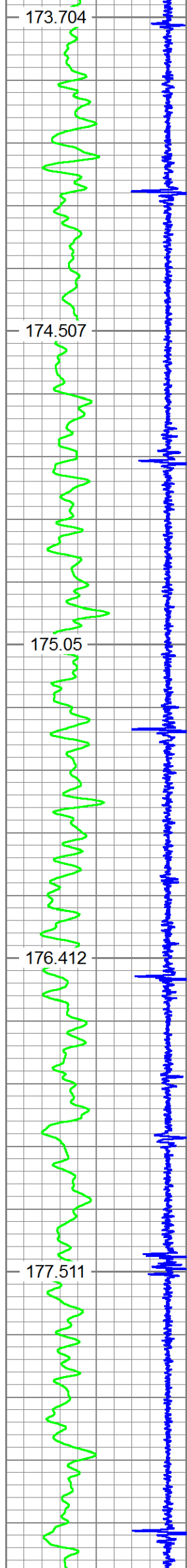


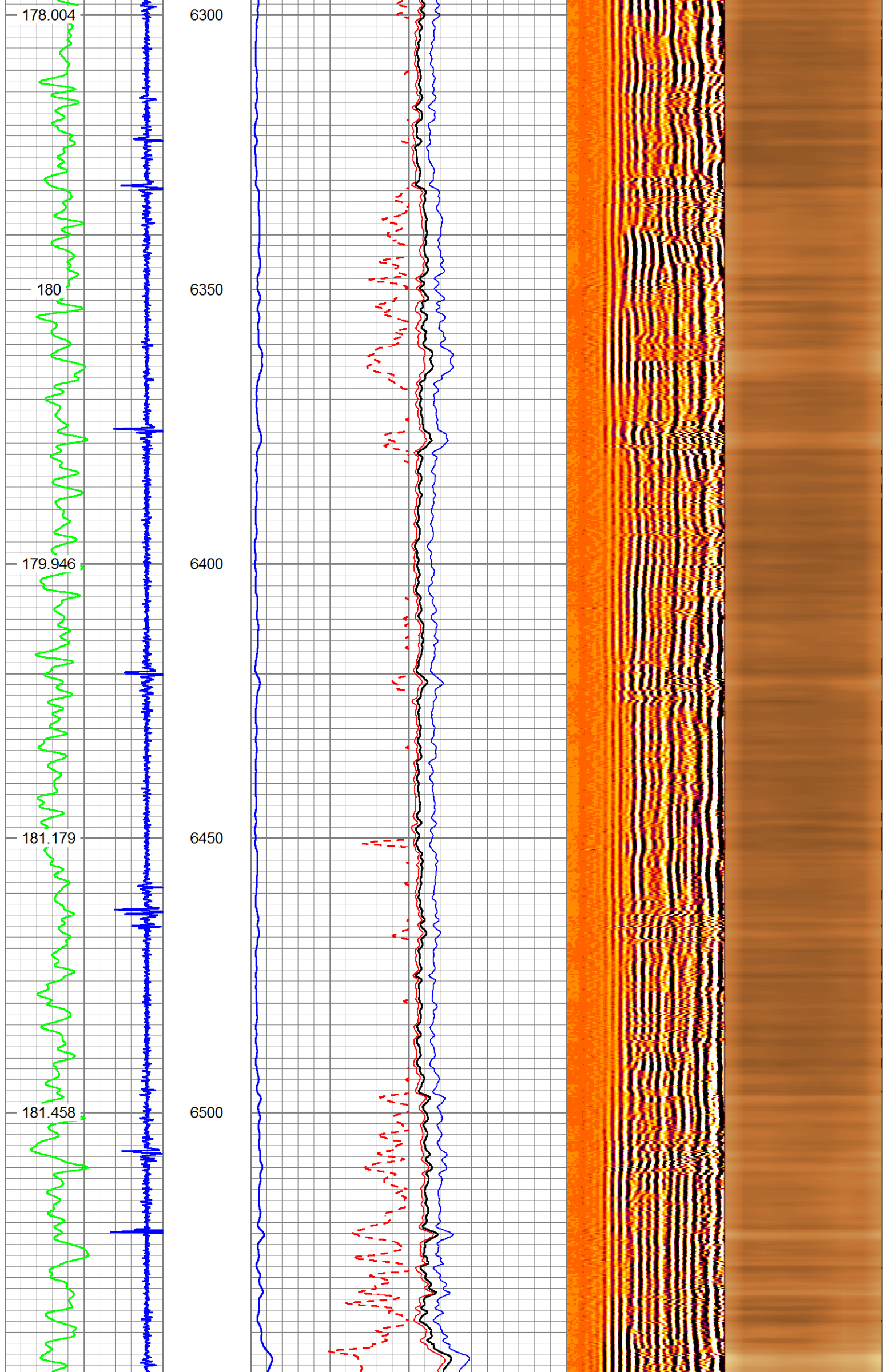


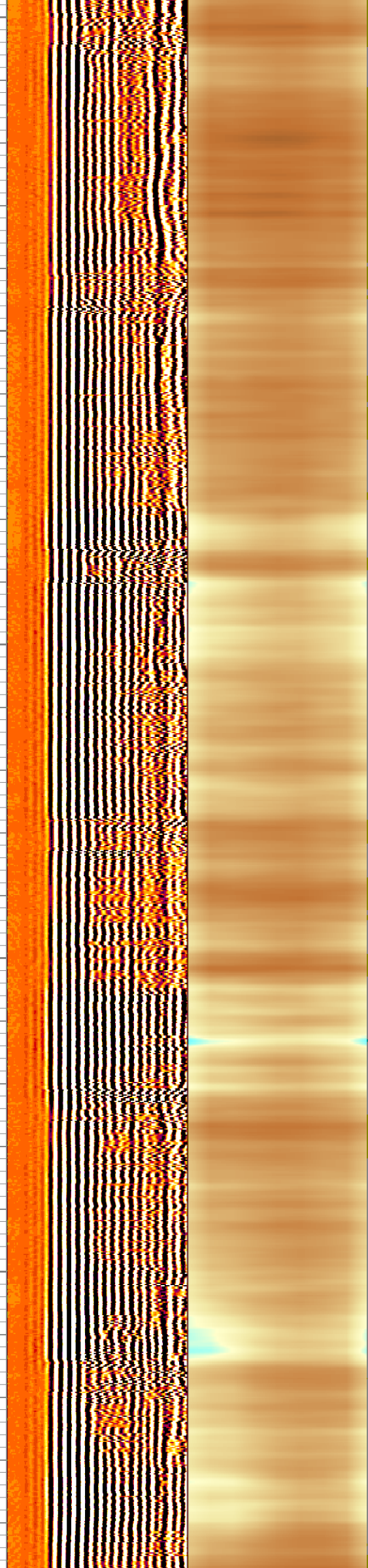
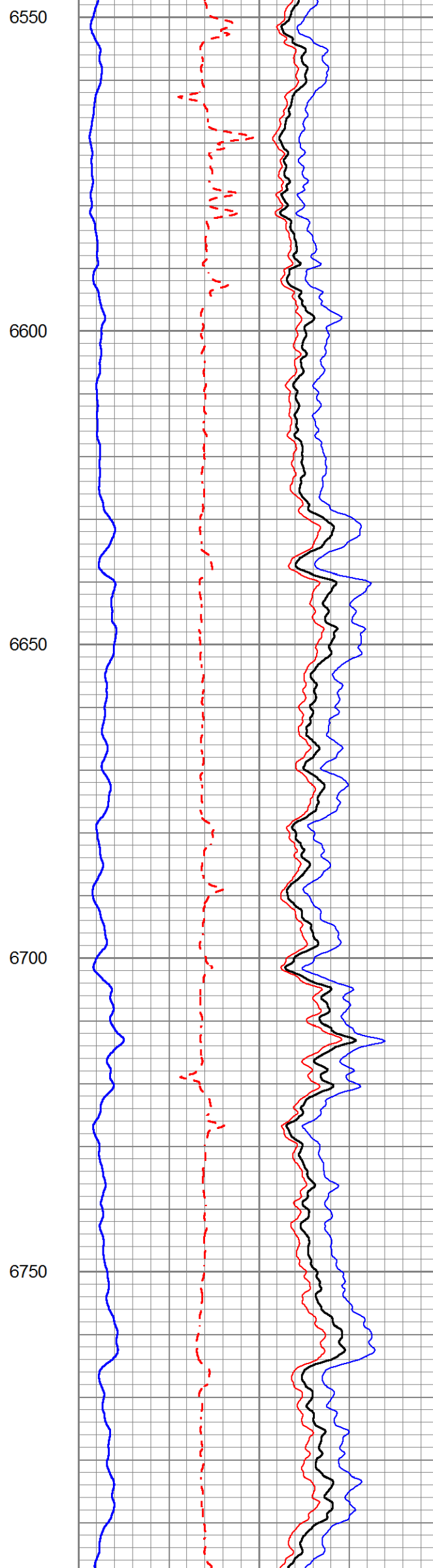
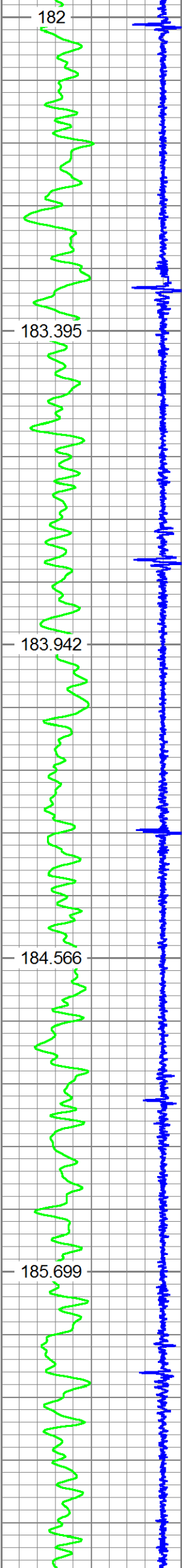
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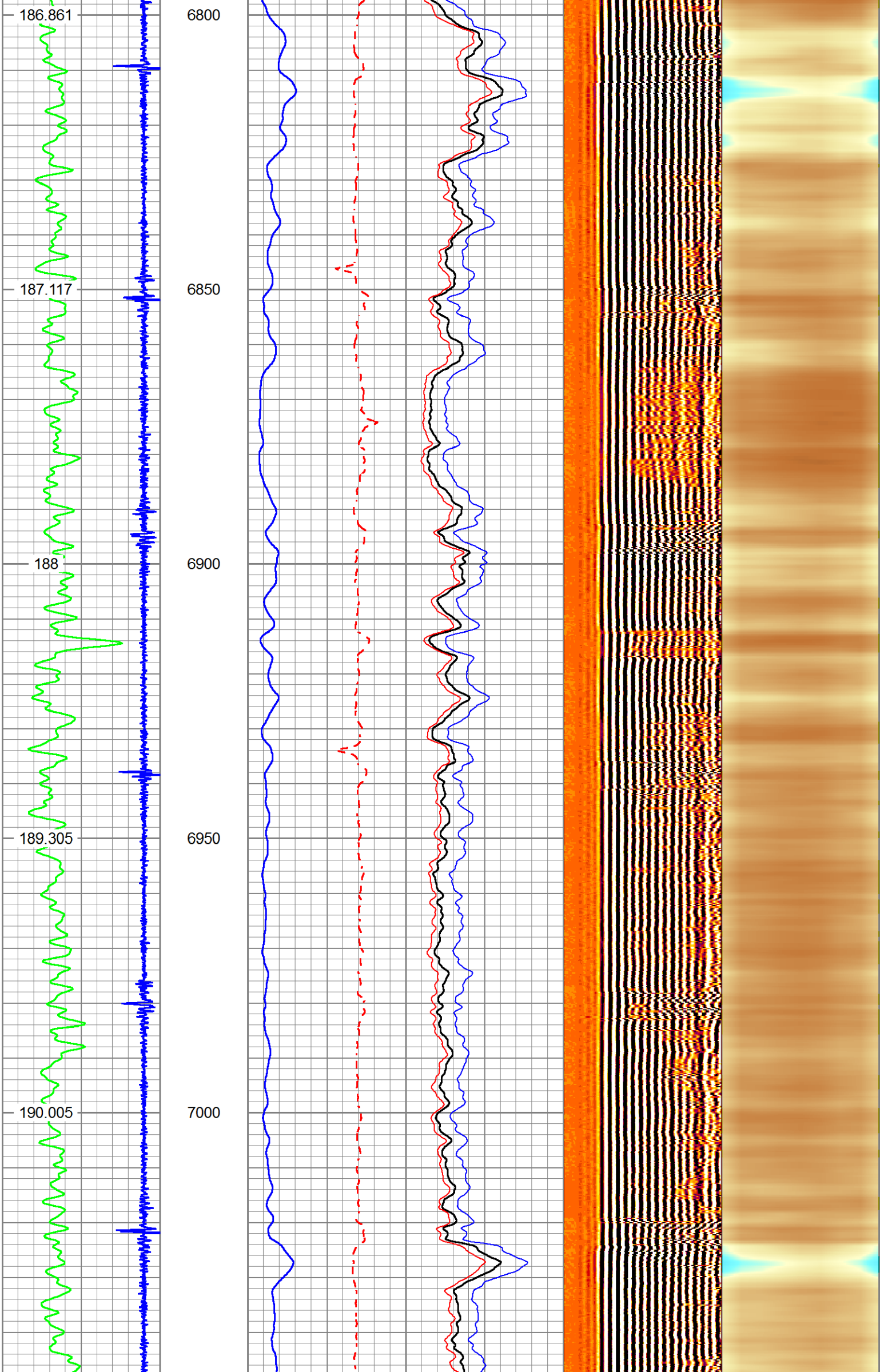


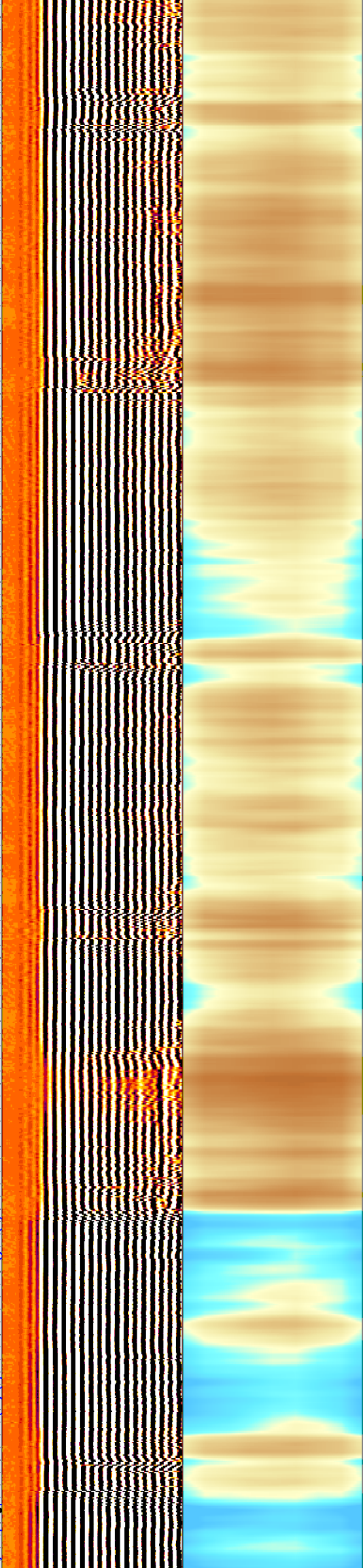
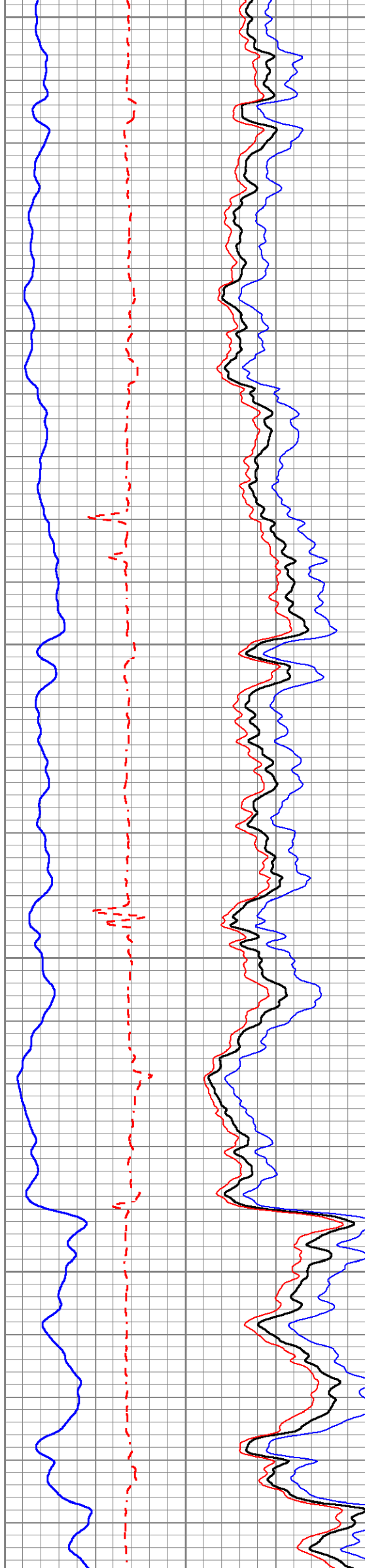
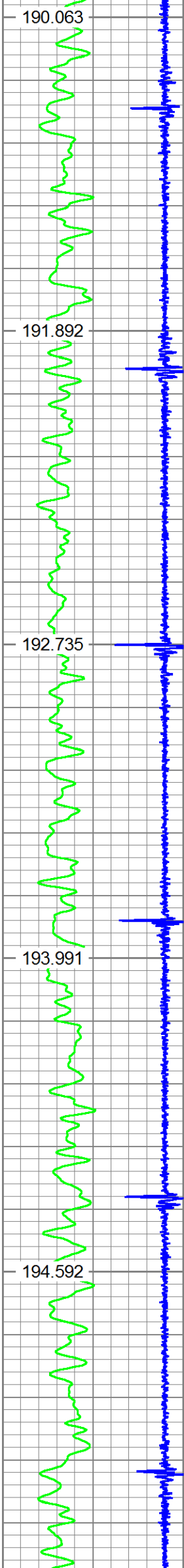


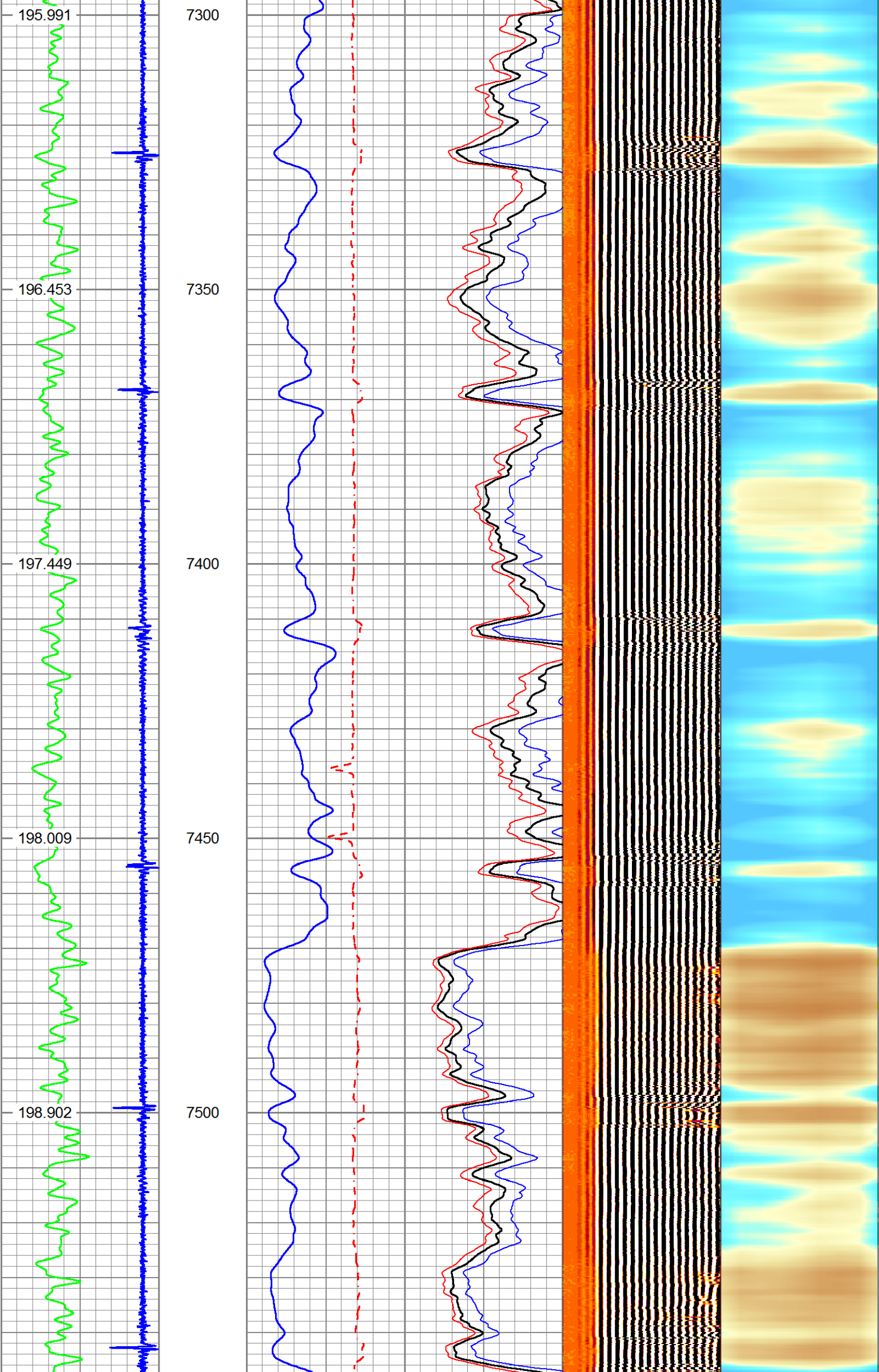


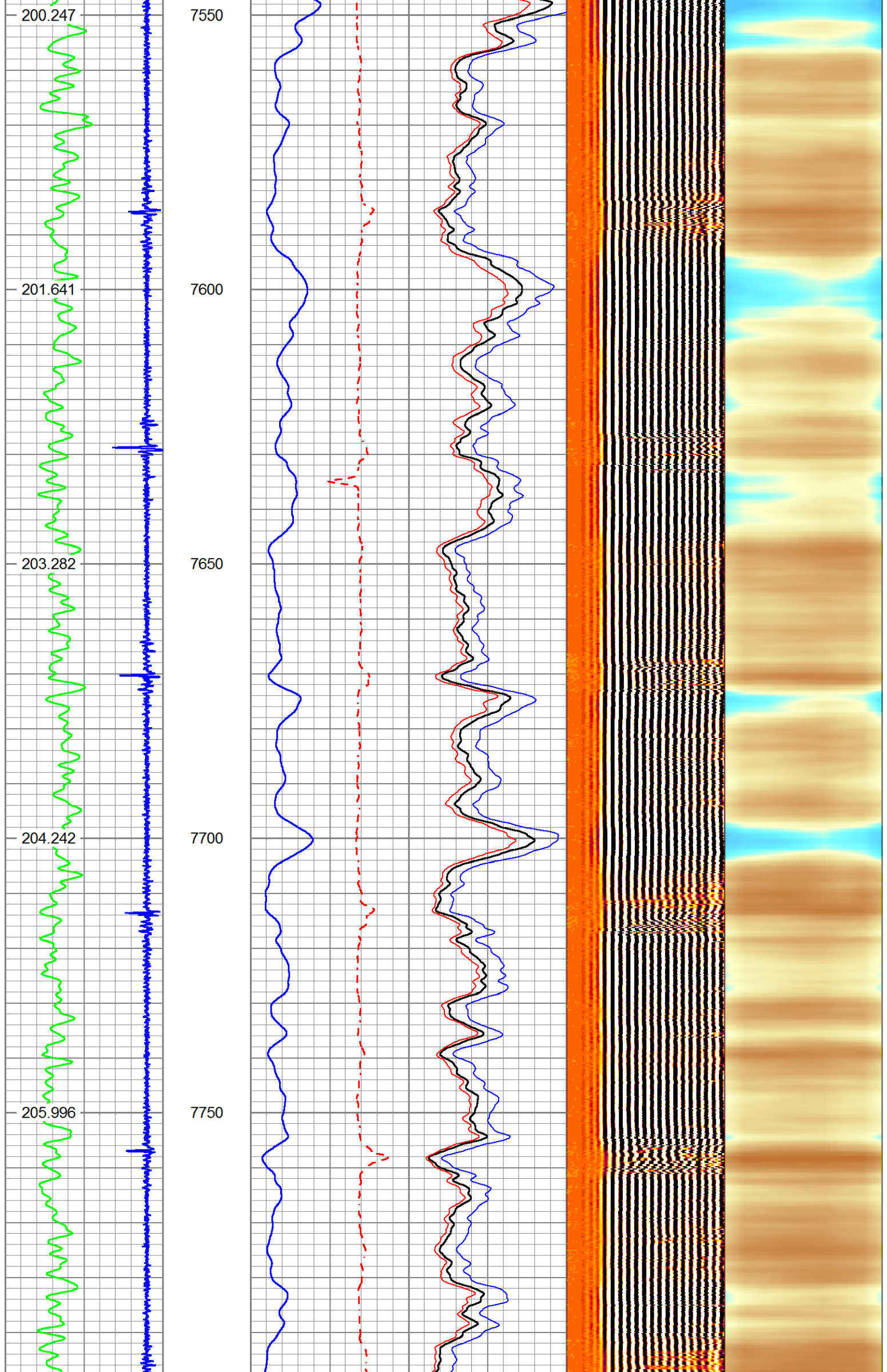


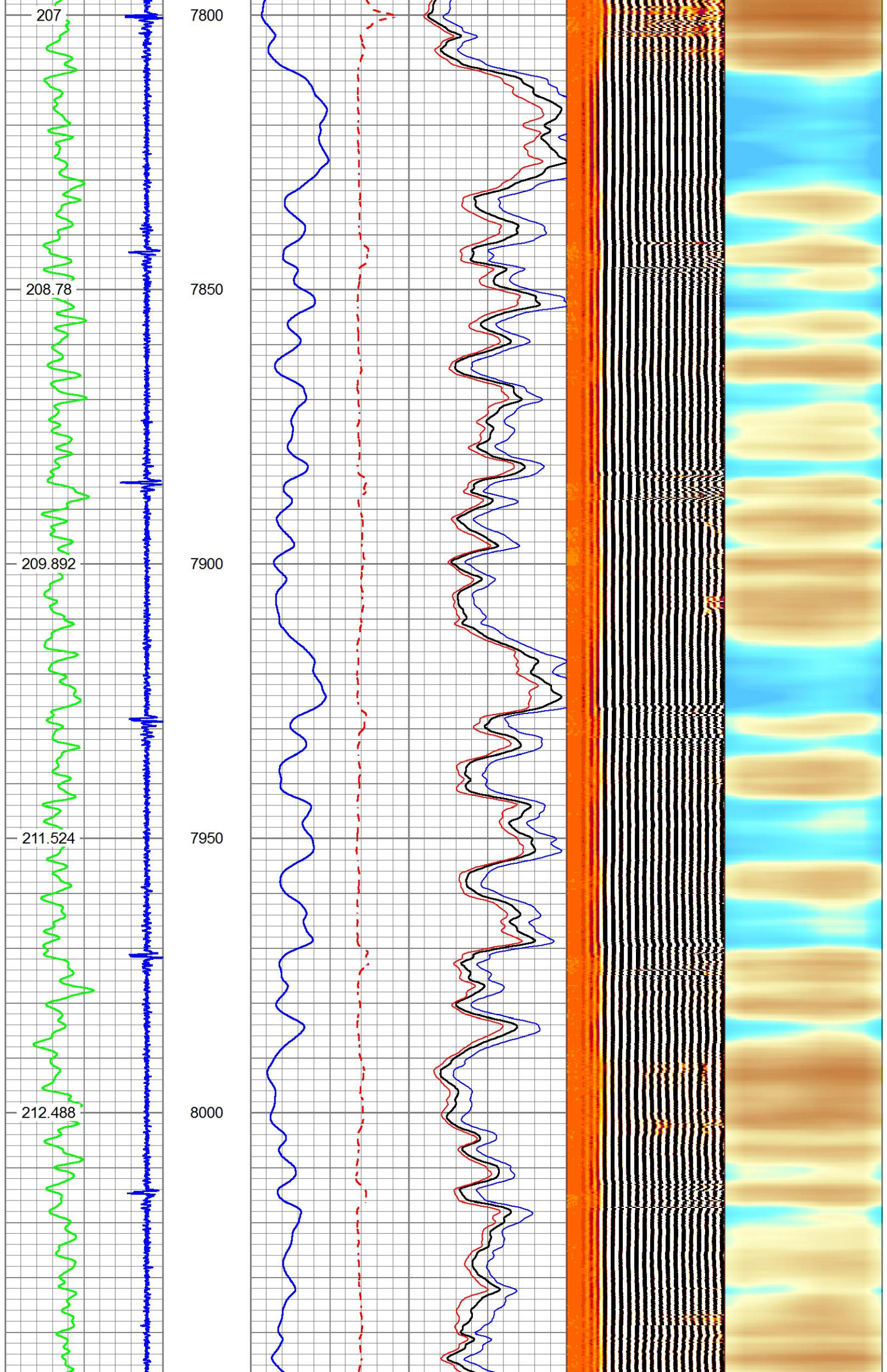


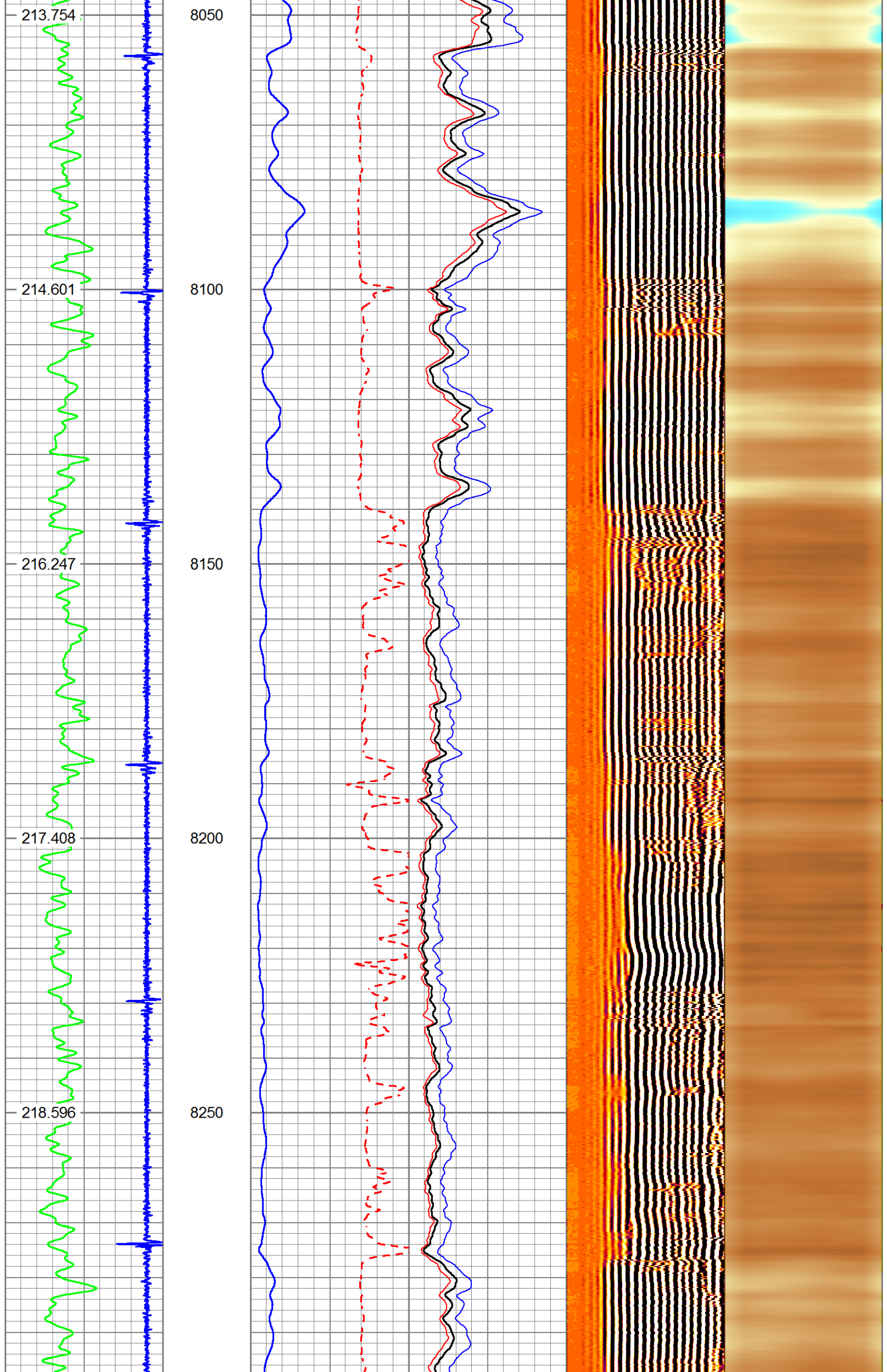


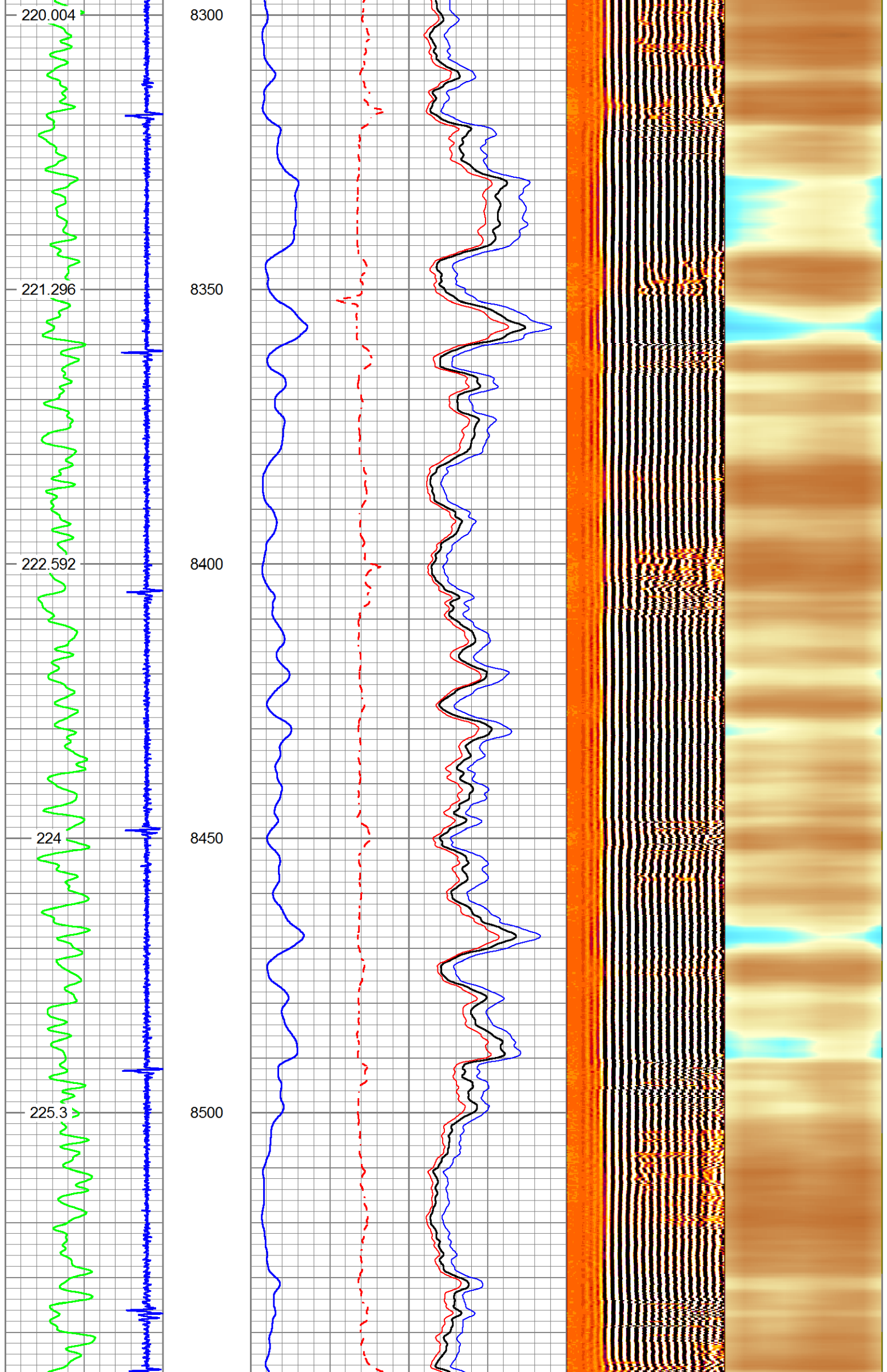


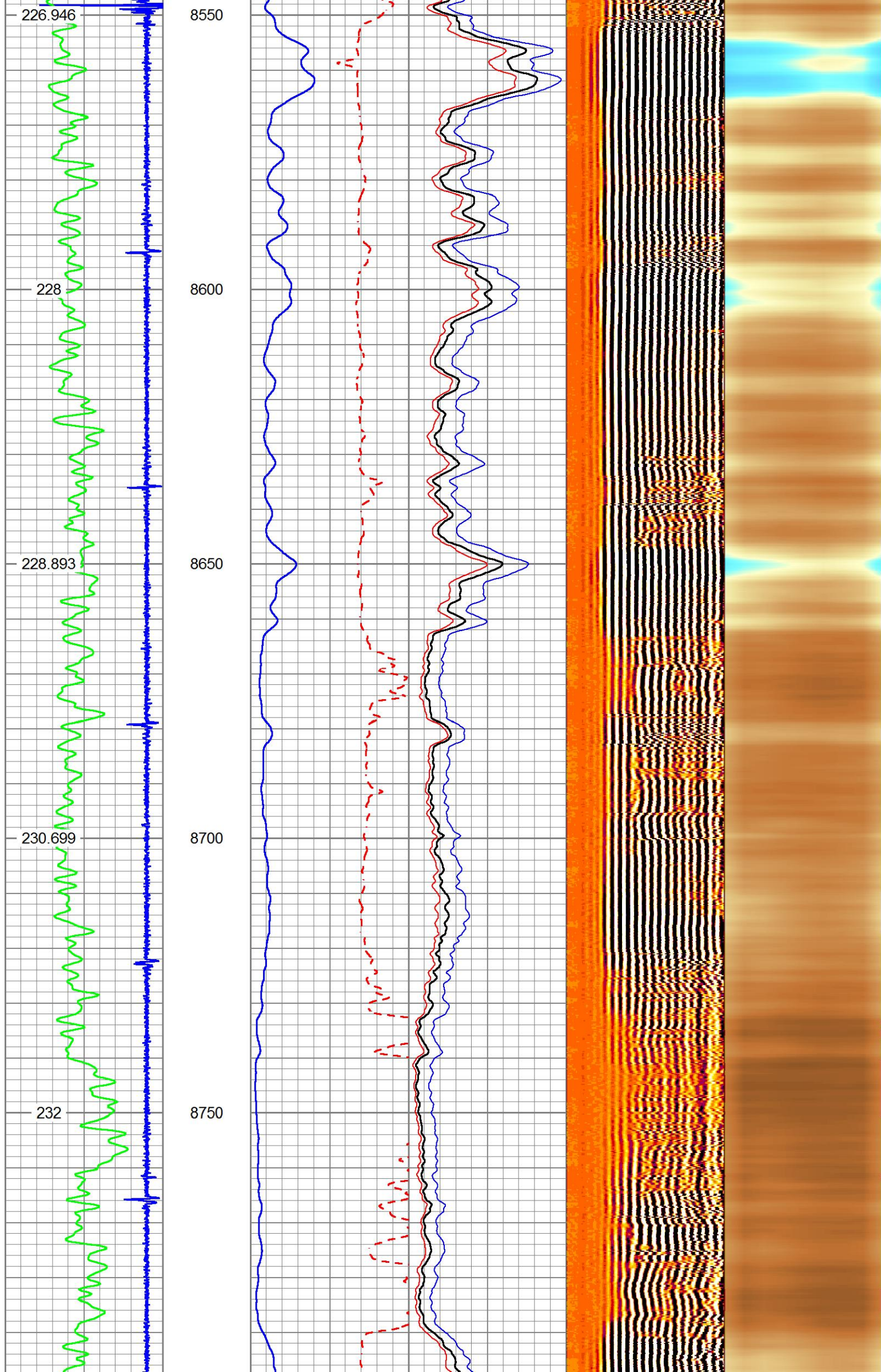


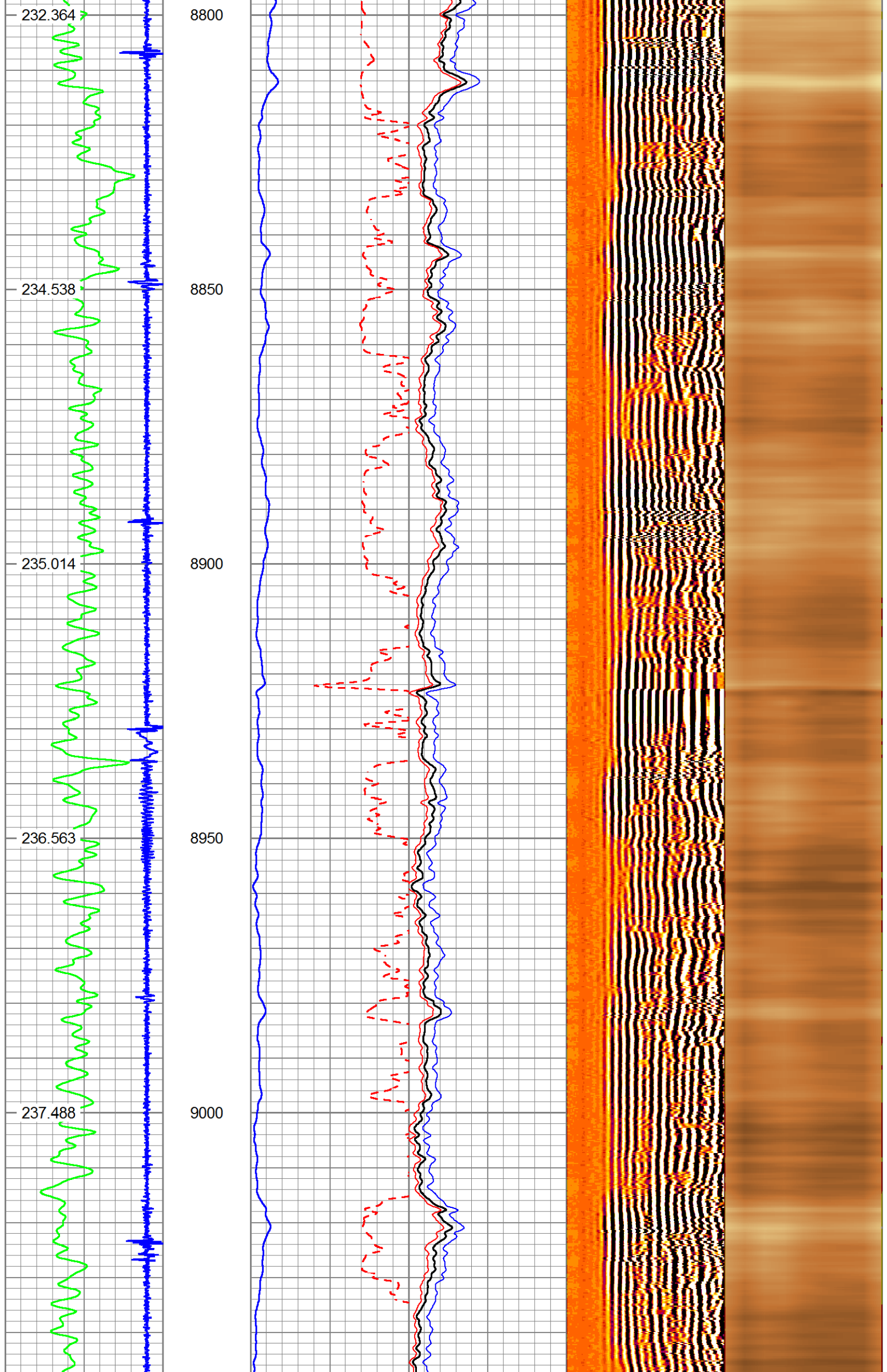


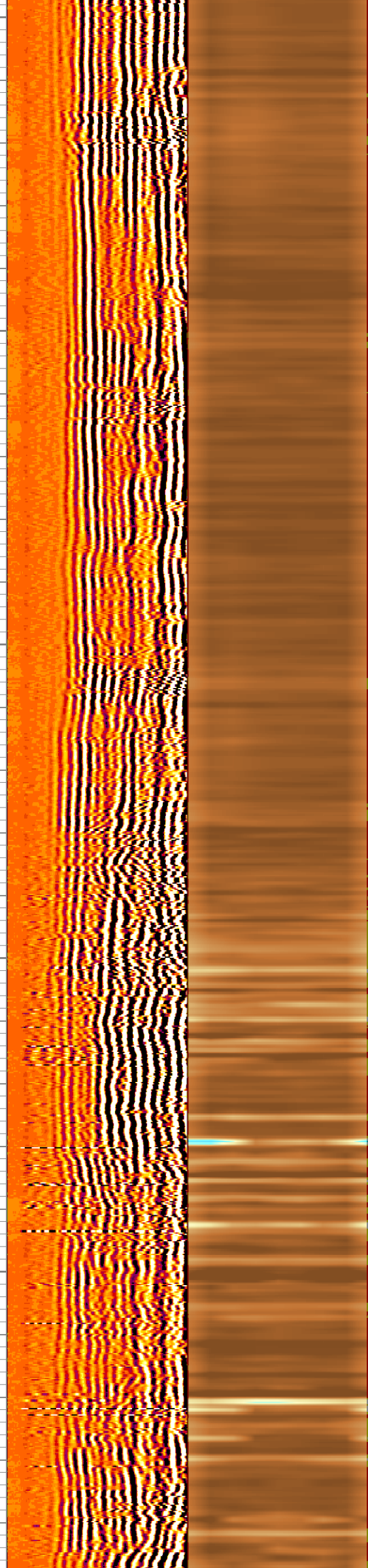
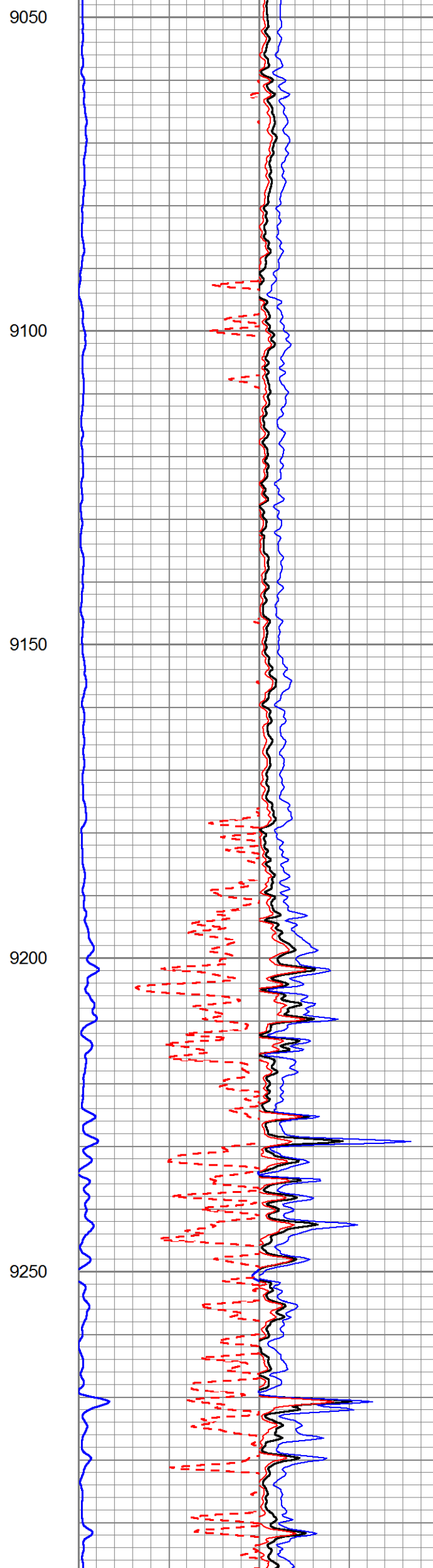
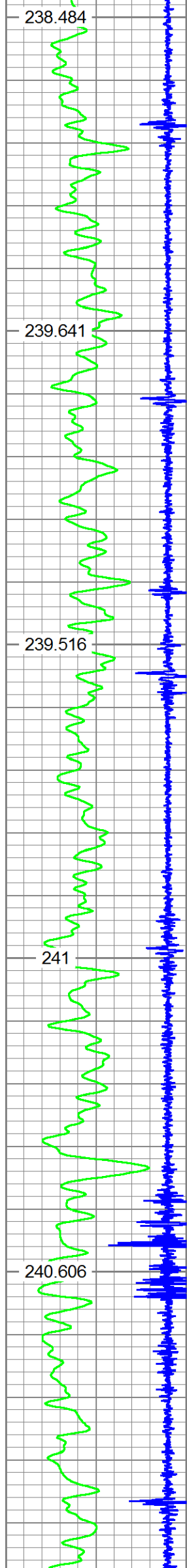


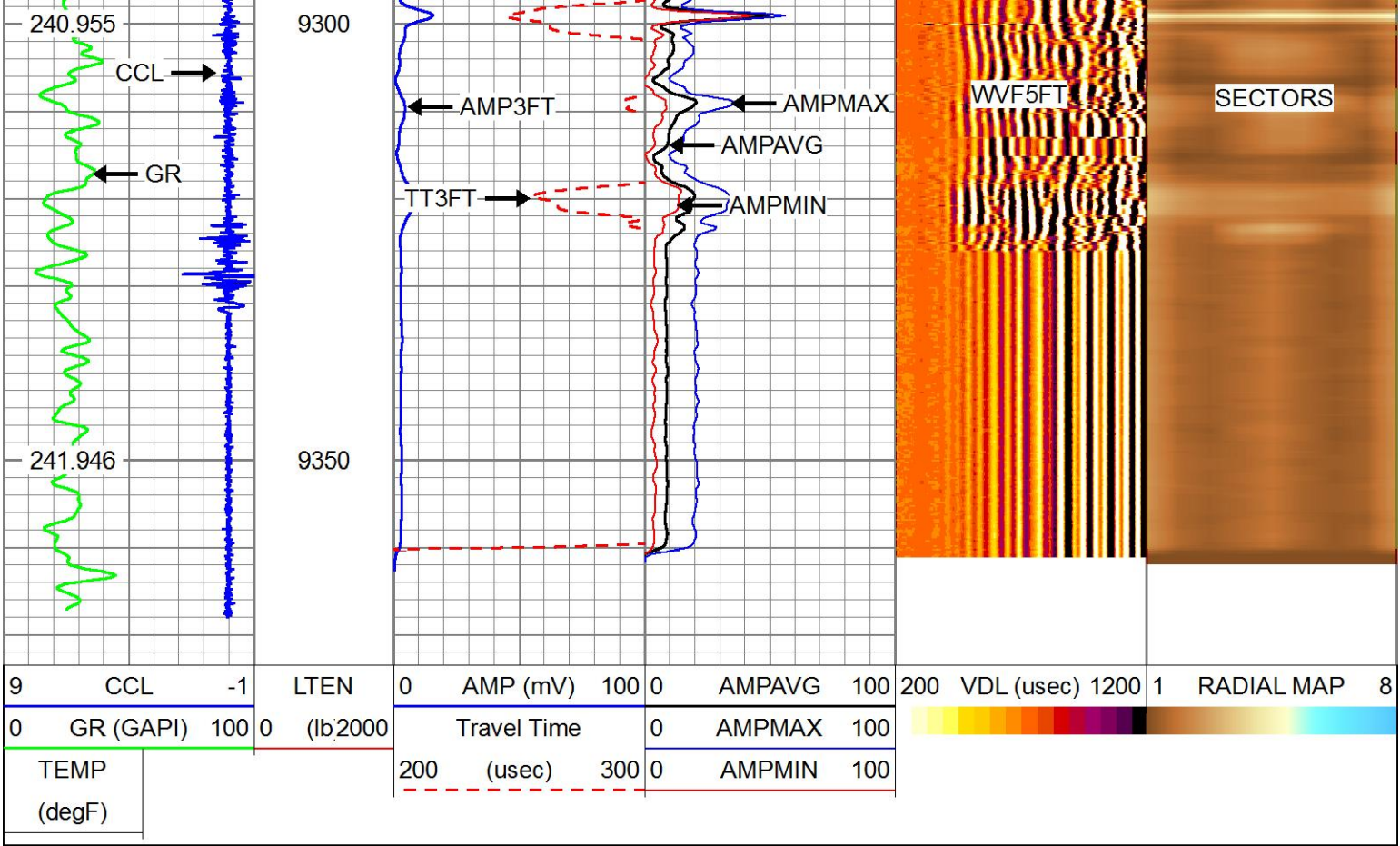












MAIN PASS

HALLIBURTON

5" = 100'

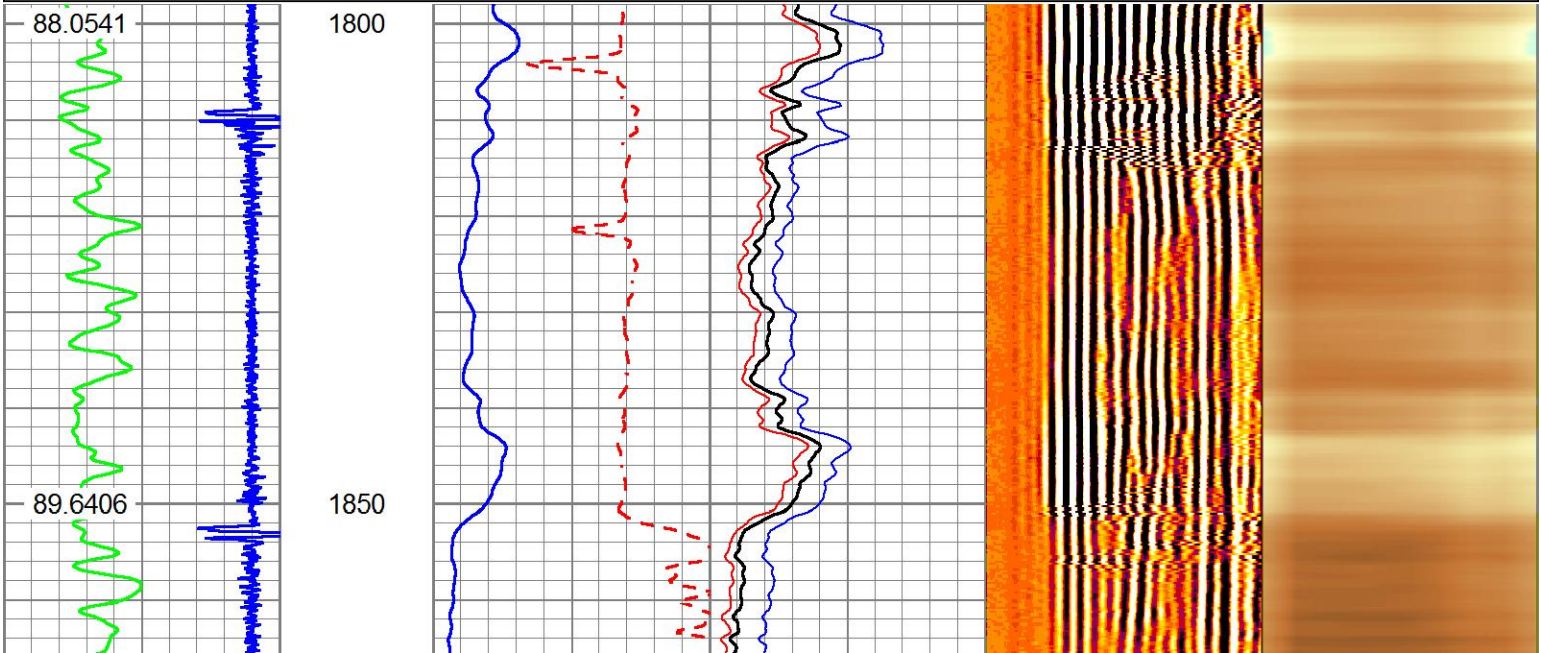
REPEAT PASS

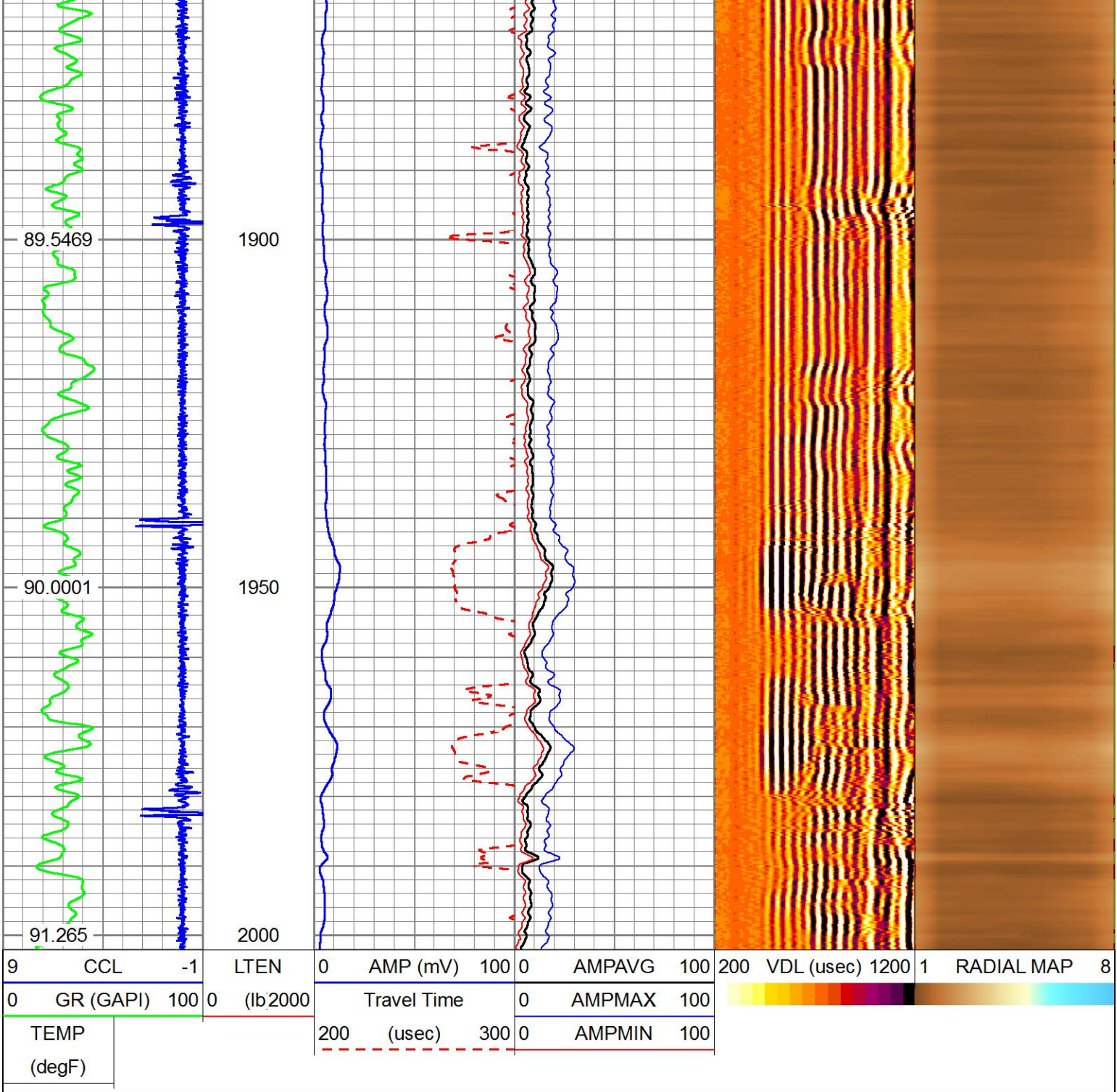
HALLIBURTON

5" = 100'

Database File
Dataset Pathname
Presentation Format
Dataset Creation
Charted by

extraction coyote trails 33w_15_10n .db
Coyote_Trails/33W-15-10N/run1/RPT
EXTRAC~1
Mon Jul 22 15:34:19 2019
Depth in Feet scaled 1:240





Log Variables

DatabaseC:\ProgramData\Warrior\Data\extraction coyote trails 33w_15_10n .db
Dataset Coyote_Trails\33W-15-10N\run1\MAIN_vars_

Top - Bottom

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

Calibration Report

Database File extraction coyote trails 33w_15_10n .db
Dataset Pathname Coyote_Trails\33W-15-10N\run1\MAIN
Dataset Creation Mon Jul 22 22:22:32 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

Serial Number:

pr050806

Tool Model:

probe275dig

Performed:

Tue Nov 01 09:40:24 2005

Calibrator Value:

240.0

GAPI

Background Reading:

79.3

cps

Calibrator Reading:

459.5

cps

Sensitivity:

0.6312

GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number:

051010

Tool Model:

Probe

Calibration Casing Diameter:

5.500

in

Calibration Depth:

0.000

ft

Master Calibration, performed Tue Oct 11 09:02:38 2005:

	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	310.370	-4.372
SUM						
S1	0.011	0.396	0.000	100.000	259.364	-2.783
S2	0.010	0.402	0.000	100.000	255.187	-2.651
S3	0.011	0.398	0.000	100.000	257.894	-2.723
S4	0.011	0.391	0.000	100.000	263.146	-2.827
S5	0.011	0.391	0.000	100.000	263.341	-2.951
S6	0.011	0.392	0.000	100.000	262.615	-2.952
S7	0.011	0.388	0.000	100.000	265.380	-3.026
S8	0.011	0.404	0.000	100.000	254.181	-2.765



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	0.398	1.000	0.000

Air Zero Calibration, performed Mon Jul 22 11:26:11 2019:

	Raw (v)		Calibrated (v)		Results
	Zero		Zero		Offset
3'	0.004		0.000		0.007
5'	0.004		0.000		0.013
SUM					
S1	0.001		0.000		0.010
S2	0.008		0.000		0.003
S3	0.003		0.000		0.008

S4	0.004	0.000	0.007
S5	0.004	0.000	0.008
S6	0.003	0.000	0.008
S7	0.003	0.000	0.008
S8	0.003	0.000	0.008

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
WVFCAL WVF3FT WVF5FT	13.29		CENT-Probe_275 Probe 2 3/4 Centralizer	2.88	2.75	20.00
	13.29		RBT_PRB275-Probe (051010) Probe Radii Bond Tool with Digital Telemetry	8.33	2.75	90.00
	12.29					
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

ITEM	SIZE				
Dataset: extraction coyote trails 33w_15_10n .db: Coyote_Trails/33W-15-10N/run1/MAIN Total length: 20.31 ft Total weight: 192.00 lb O.D.: 2.75 in					

Company	EXTRACTION OIL & GAS INC			
Well	COYOTE TRAILS 33W-15-10N			
Field	WATTENBERG			
County	WELD	State	CO	
HALLIBURTON	RADIAL CEMENT BOND LOG			