



PIONEER
Pioneer Energy Services

**CEMENT BOND LOG
WITH GAMMA RAY**

Comp. KERR-MCGEE OIL AND GAS
Well C A FORD UNIT 2
Field WATTENBERG
Co. WELD
State COLORADO

Company **KERR-MCGEE OIL AND GAS**
Well **C A FORD UNIT 2**
Field **WATTENBERG**
County **WELD** State **COLORADO**

Location: **SE SE** API #: 05-123-10279-00 Other Services
990' FSL & 990' FEL
LAT: 40.13380 LONG: -104.77640
SEC 16 TWP 2N RGE 66W
Permanent Datum **GL** Elevation **4973'**
Log Measured From **GL** 13' Above Perm. Datum
Drilling Measured From **KB** Elevation **4986'**
D.F. **GL** 4973'

Date of Service	02/23/2018			
Run Number	ONE			
Depth Driller or P8TD	8080'			
Depth Logger	7420'			
Bottom Log Interval	7414'			
Top Log Interval	SURFACE			
Open Hole Size	7-7/8"			
Type Fluid	WATER			
Fluid Level	SURFACE			
Fluid Density	8.3			
Max. Recorded Temperature	NOT RECORDED			
Max. Wellhead Pressure	ZERO			
Wellhead Connection	PUMP IN TEE			
Estimated Cement Top	7276'			
Unit Number	P-53			
Wireline Size	9/32"			
Location	FORT MORGAN CO.			
Recorded By	P. LOPEZ			
Witnessed By	MR. JORGE MONTELOONGO			
Tubing Record	Size	WV/Ft	Top	Bottom
Surface Casing	8.63	24	SURFACE	293'
Production Casing	4.50	10.50 & 11.60	SURFACE	8080'
Liner Record				

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All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, LLC will not 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.

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.
ALL WIRELINE DEPTH

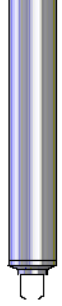

THANK YOU FOR USING PIONEER ENERGY SERVICES!


Your Pioneer Energy Services Crew		Tool Data - Services	Serial Number
Engineer: P. LOPEZ		RBL-DC	130584
Operator: D. MARSHALL		RAMMA RAY CCL	111212
Operator: E. ESTRADA			
Operator:			

Top - Bottom

BHTEMP_Src TEMP	PPT usec 0	CASEWGHT lb/ft 10.5	MAXAMPL mV 0	MINAMPL mV 1	MINATTN db/ft 0.08	SRFTEMP degF 0
CASETHCK in 0	CASEOD in 4.5	PERFS 0	TDEPTH ft 0	BOTTEMP degF 150	BOREID in 7.875	

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)	
			Cable Head-Titan 143 1 7/16" Titan Cable Head	1.03	1.43	2.00	
			Centralizer-275 Probe 2 3/4" Probe Adjustable Spring Centralizer	2.88	2.75	15.00	
TEMP	14.44						
WVFS8	12.21			SCBL-275 Probe w Temp New Mod (13058.9.17) Probe Radii Bond Tool with Temperature		2.75	95.00
WVFS7	12.21						
WVFS6	12.21						
WVFS5	12.21						
WVFS4	12.21						
WVFS3	12.21						
WVFS2	12.21						
WVFS1	12.21						
WVFCAL	12.21						
WVF3FT	12.21						
WVF5FT	11.21						
HEADVOLT	7.96						
			Centralizer-275 Probe 2 3/4" Probe Adjustable Spring Centralizer	2.88	2.75	15.00	
CCL	4.19						

GR	2.85		GR_CCL-275 Probe GR-CCL-6-Pin (1112124.81 Probe 2 3/4" Gamma Ray / CCL 6-pin	2.75	60.00
			Bullnose-Titan GO Pin Pressure Cap	0.27	1.00
Dataset:		anadarko_c a ford unit 2_0512310279_20180223_scb1.db: field/well/run1/pass8			
Total length:		21.03 ft			
Total weight:		188.00 lb			
O.D.:		2.75 in			



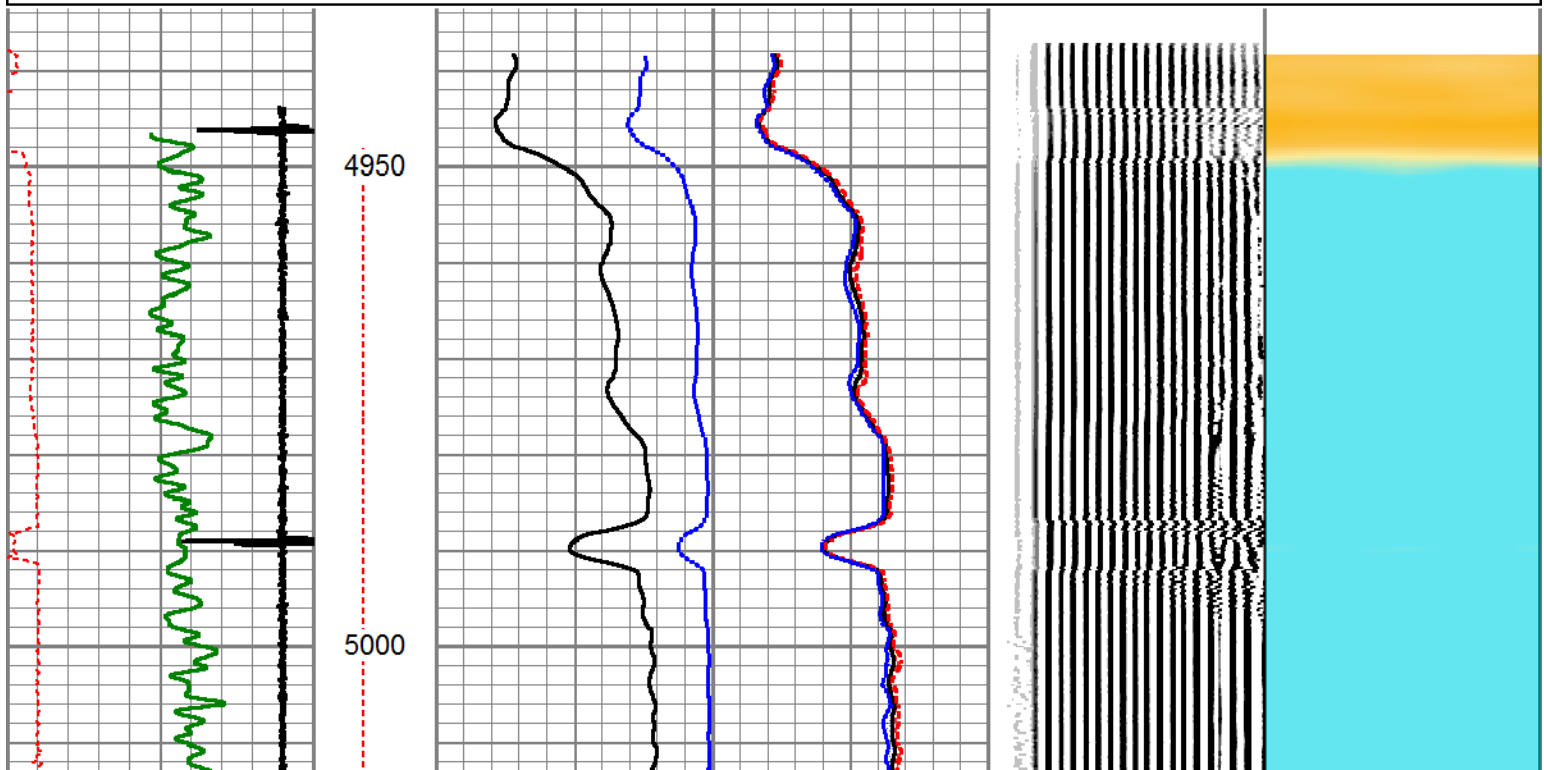
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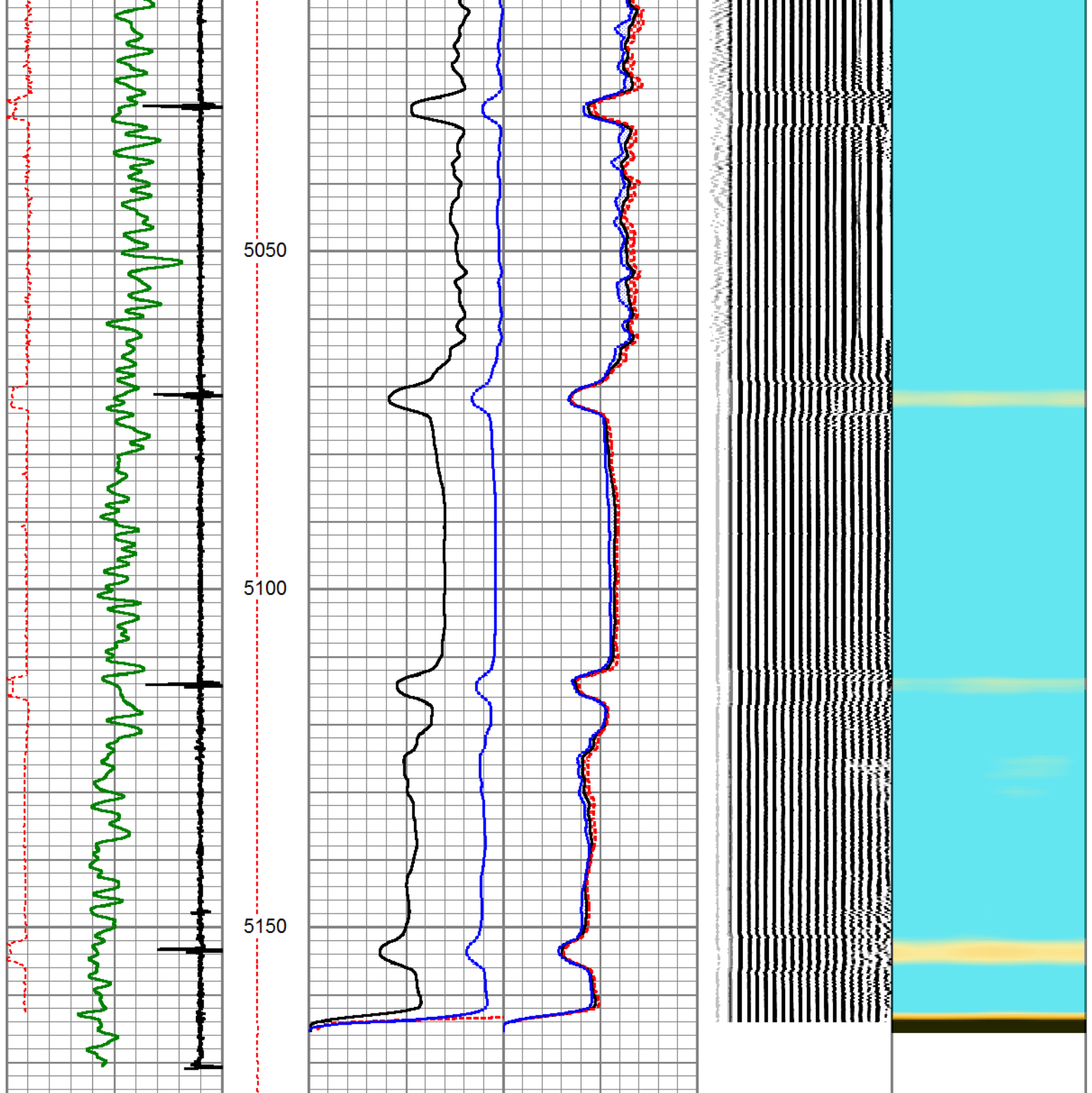
FREE PIPE SECTION

ZERO PSI APPLIED AT SURFACE

Database File	anadarko_c a ford unit 2_0512310279_20180223_scb1.db
Dataset Pathname	pass4
Presentation Format	pinr_scb1
Dataset Creation	Fri Feb 23 12:03:33 2018
Charted by	Depth in Feet scaled 1:240

3' Travel Time	Line Tension	3' Amplitude (mV)	Sector Amplitude Average	200	VDL	1200	1	Sector Map	8
255 (usec)	0 (12000)	0	0				10		60
-9 Collar Locator		3' Amplified Amplitude X 5	Sector Amplitude Maximum						
Gamma Ray		0 (mV)	0						
0 (GAPI)		1 Bond Index	0						
			Sector Amplitude Minimum						
			0						



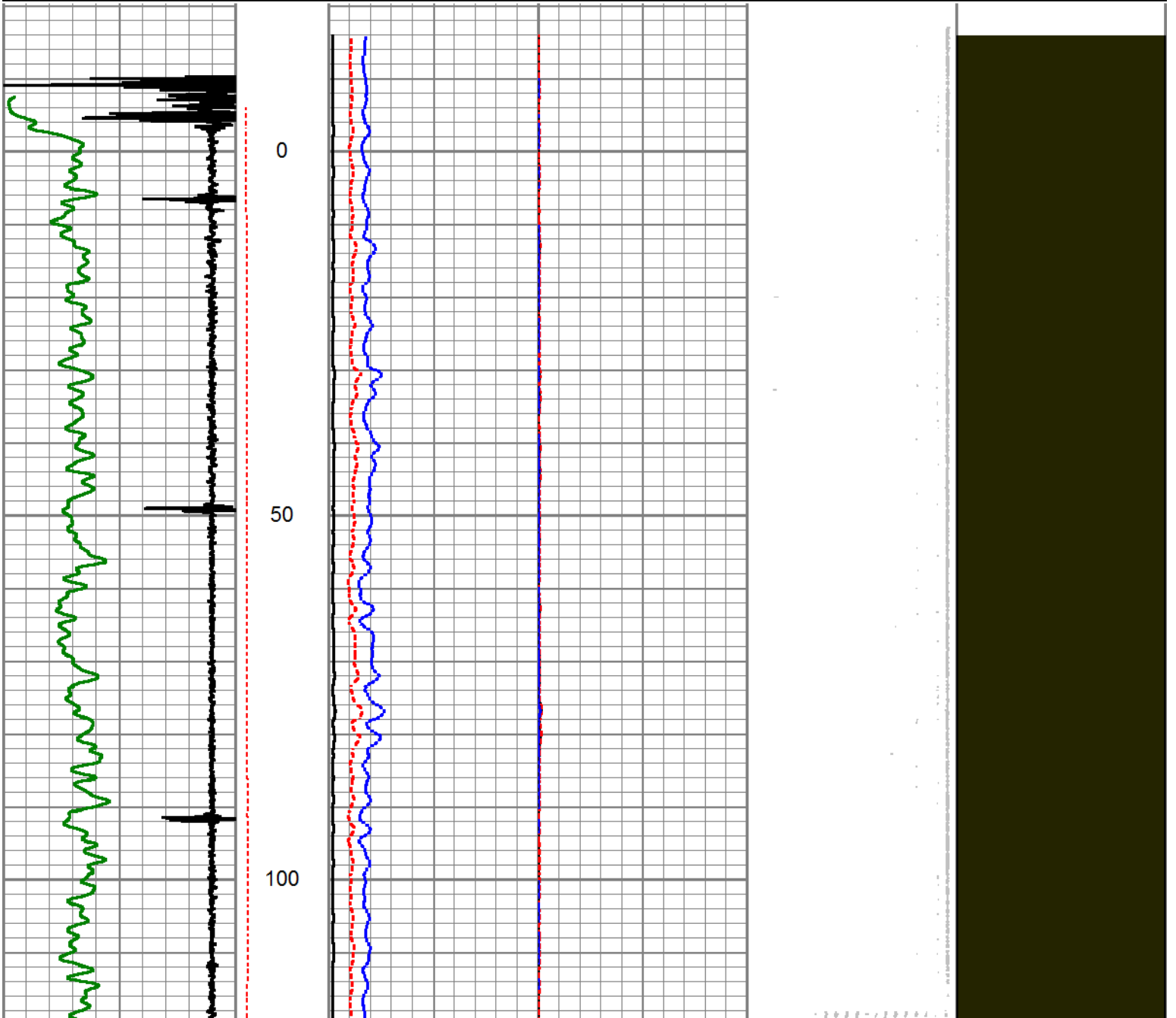


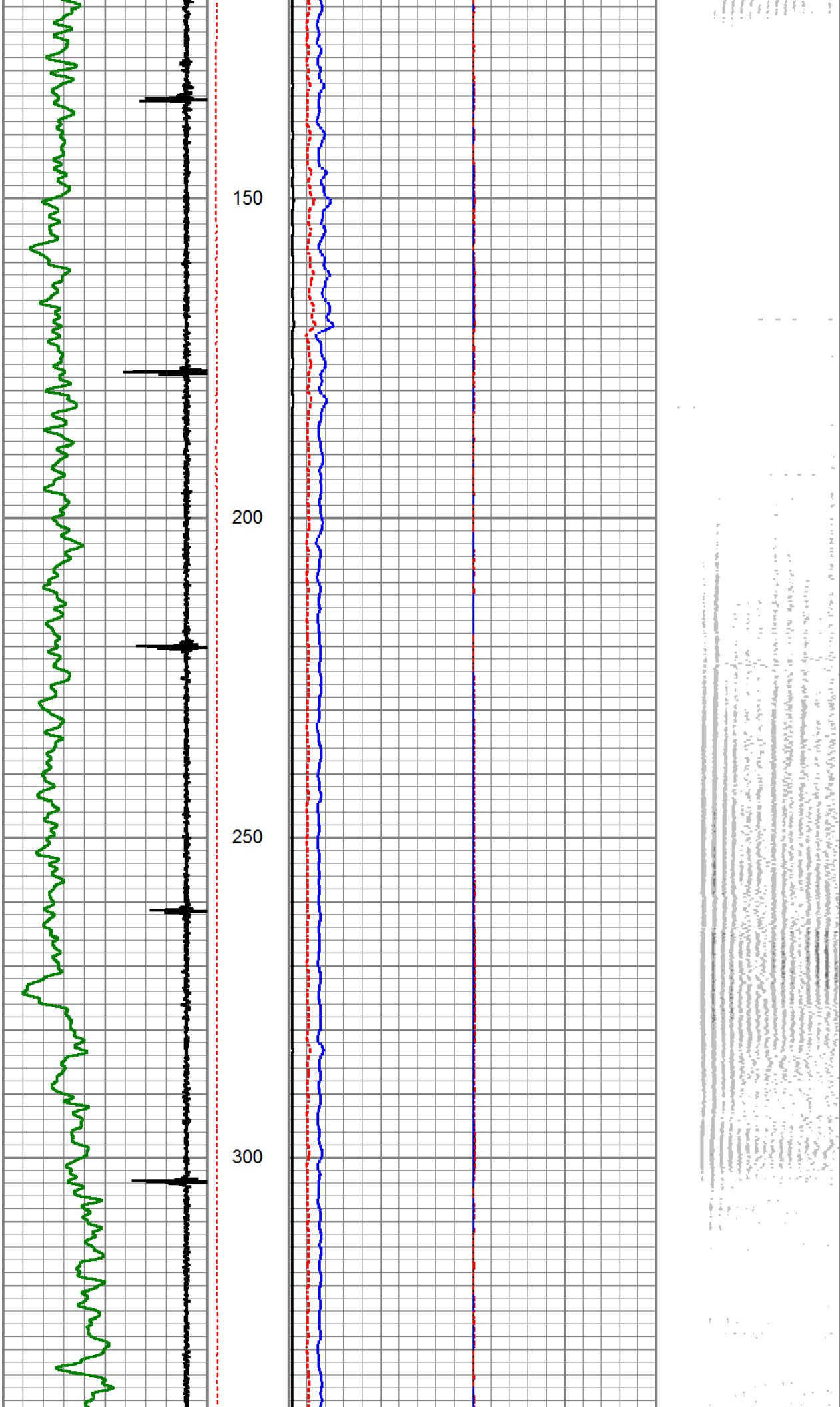
3' Travel Time		Line Tension	3' Amplitude (mV)		Sector Amplitude Average	200	VDL	1200	1	Sector Map	8
255	(usec)		155	0	100	0			10		60
-9 Collar Locator		0 (I2000)	3' Amplified Amplitude X 5 (mV)		Sector Amplitude Maximum						
0	(GAPI)		150	0	20	0					
Gamma Ray			Bond Index		Sector Amplitude Minimum						
0			1	0	0						
					0						

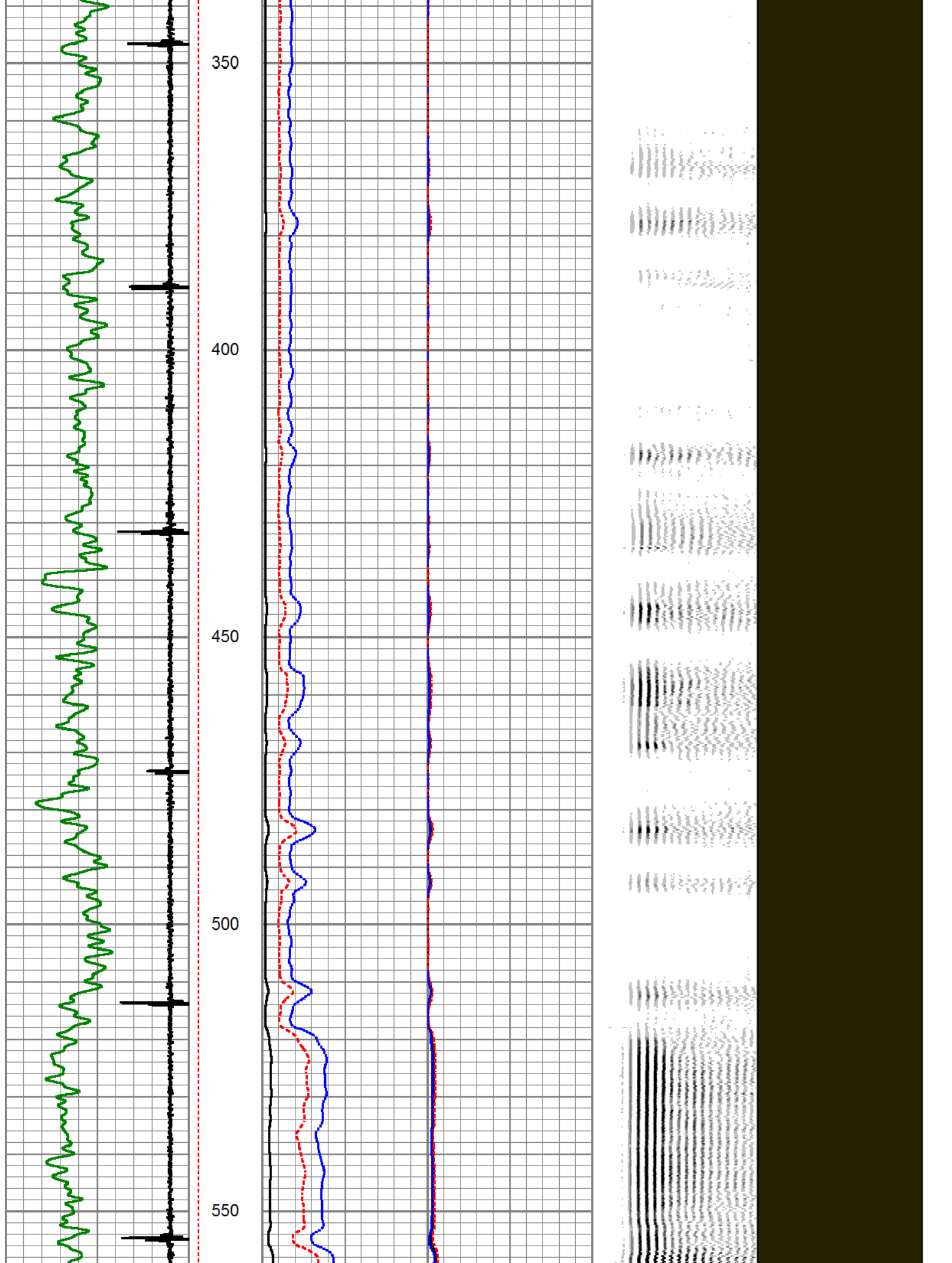


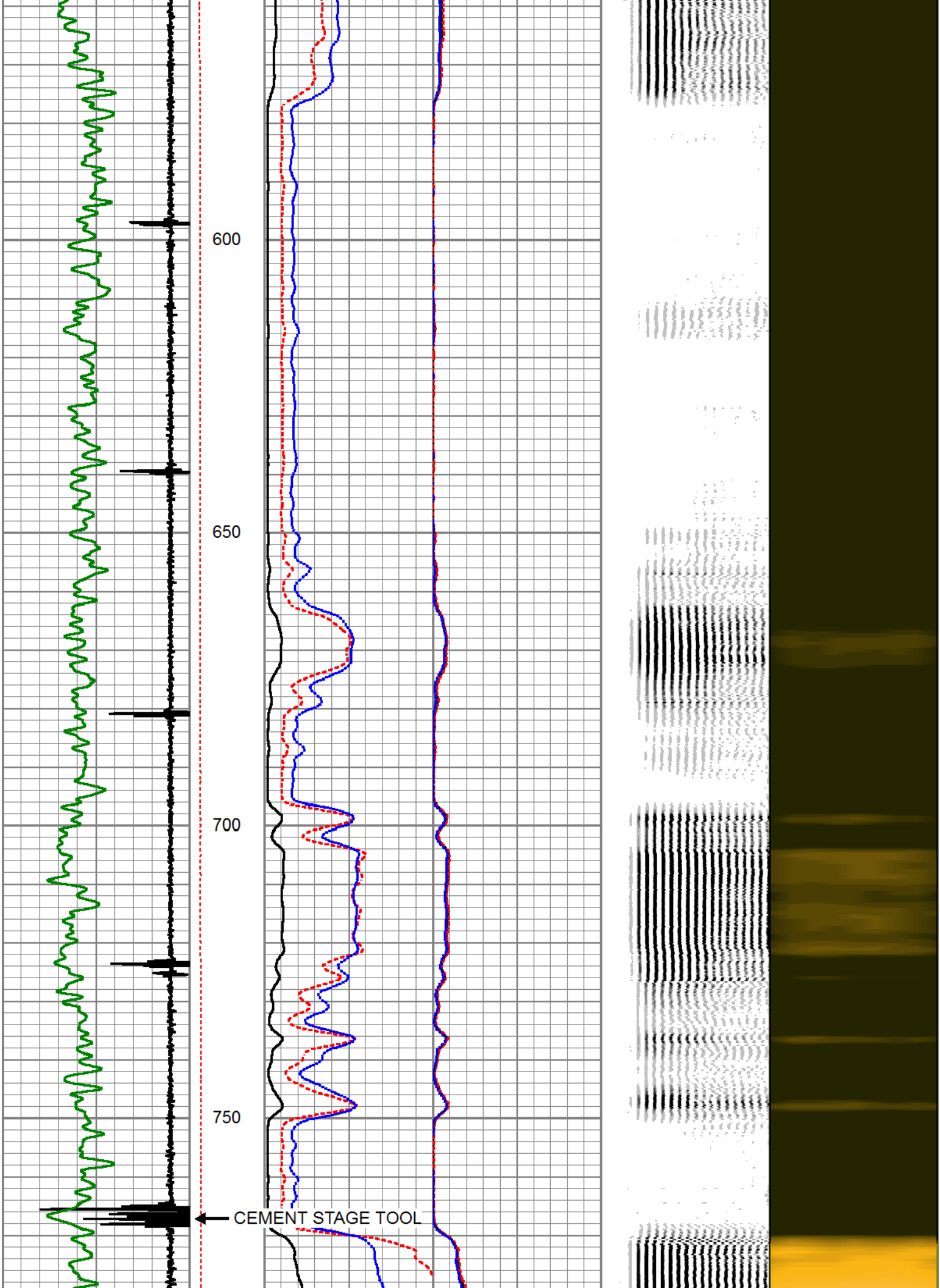
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 Dataset Pathname pass8
 Presentation Format pinr_scbl
 Dataset Creation Fri Feb 23 12:21:30 2018
 Charted by Depth in Feet scaled 1:240

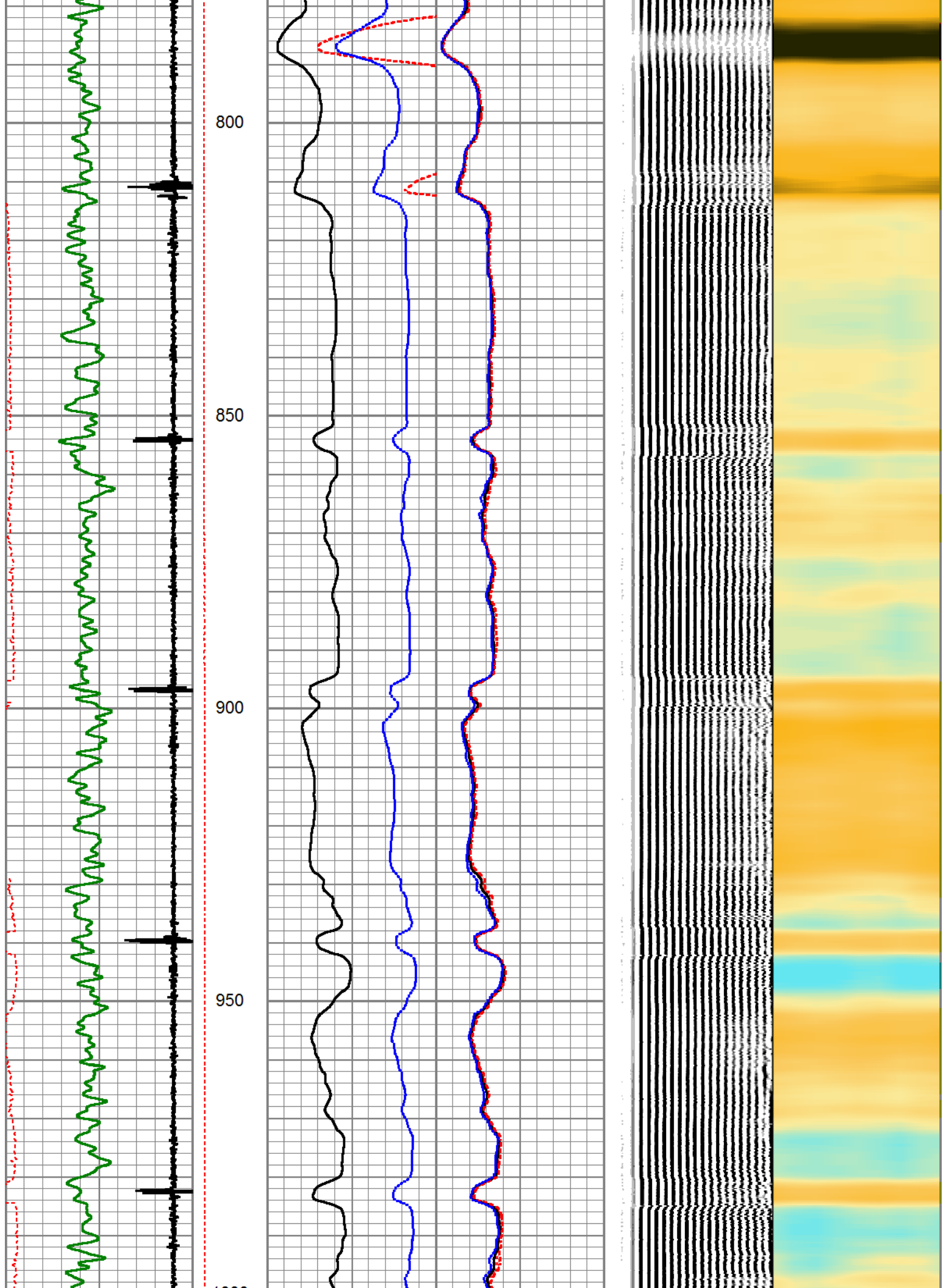
3' Travel Time	Line Tension	3' Amplitude (mV)	Sector Amplitude Average	200	VDL	1200	1	Sector Map	8
255 (usec)	0 (I2000)	0 100	0 150				10		60
-9 Collar Locator		3' Amplified Amplitude X 5	Sector Amplitude Maximum						
Gamma Ray		0 (mV) 20	0 150						
0 (GAPI) 180		1 Bond Index 0	Sector Amplitude Minimum						
			0 150						

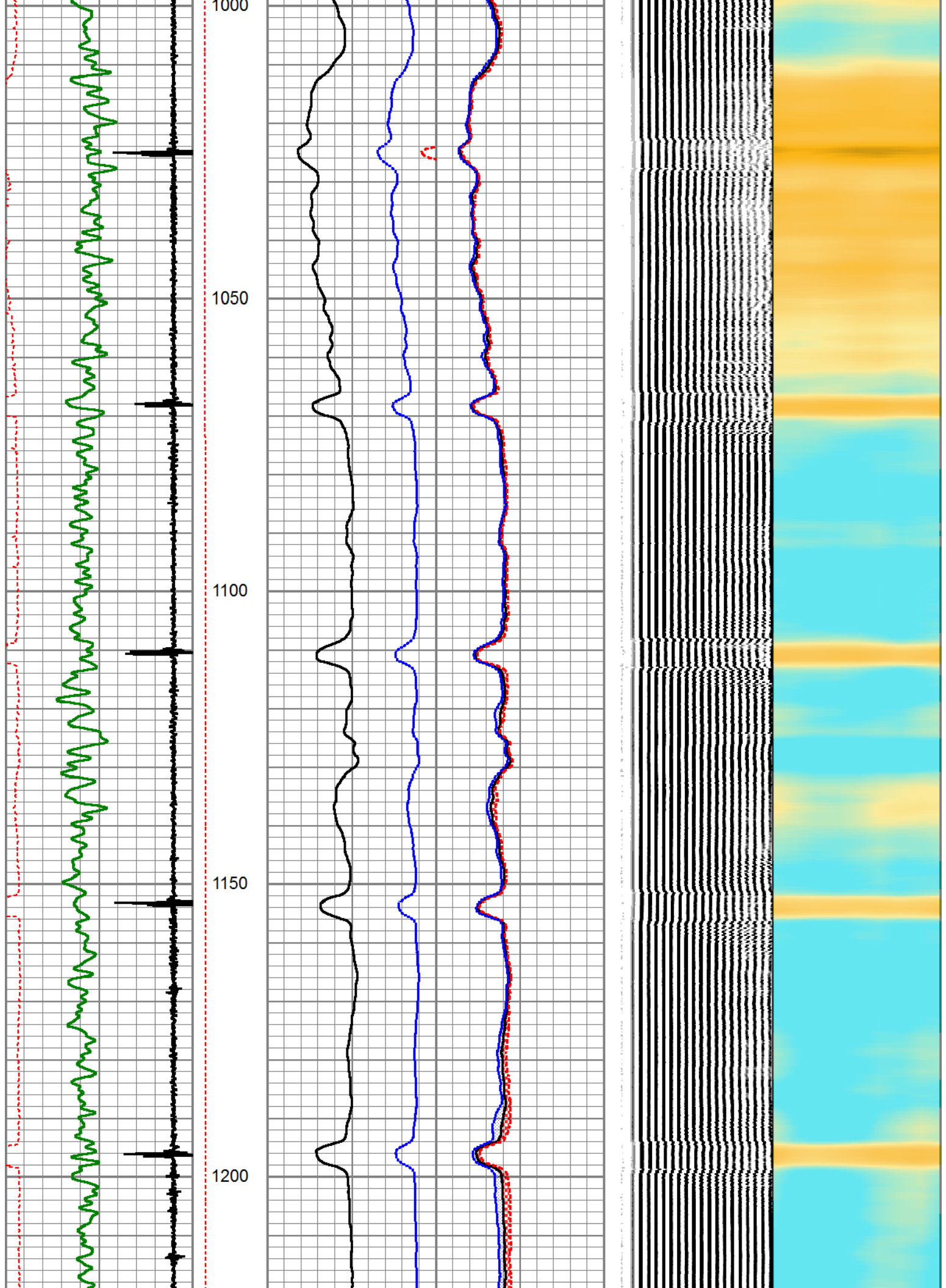


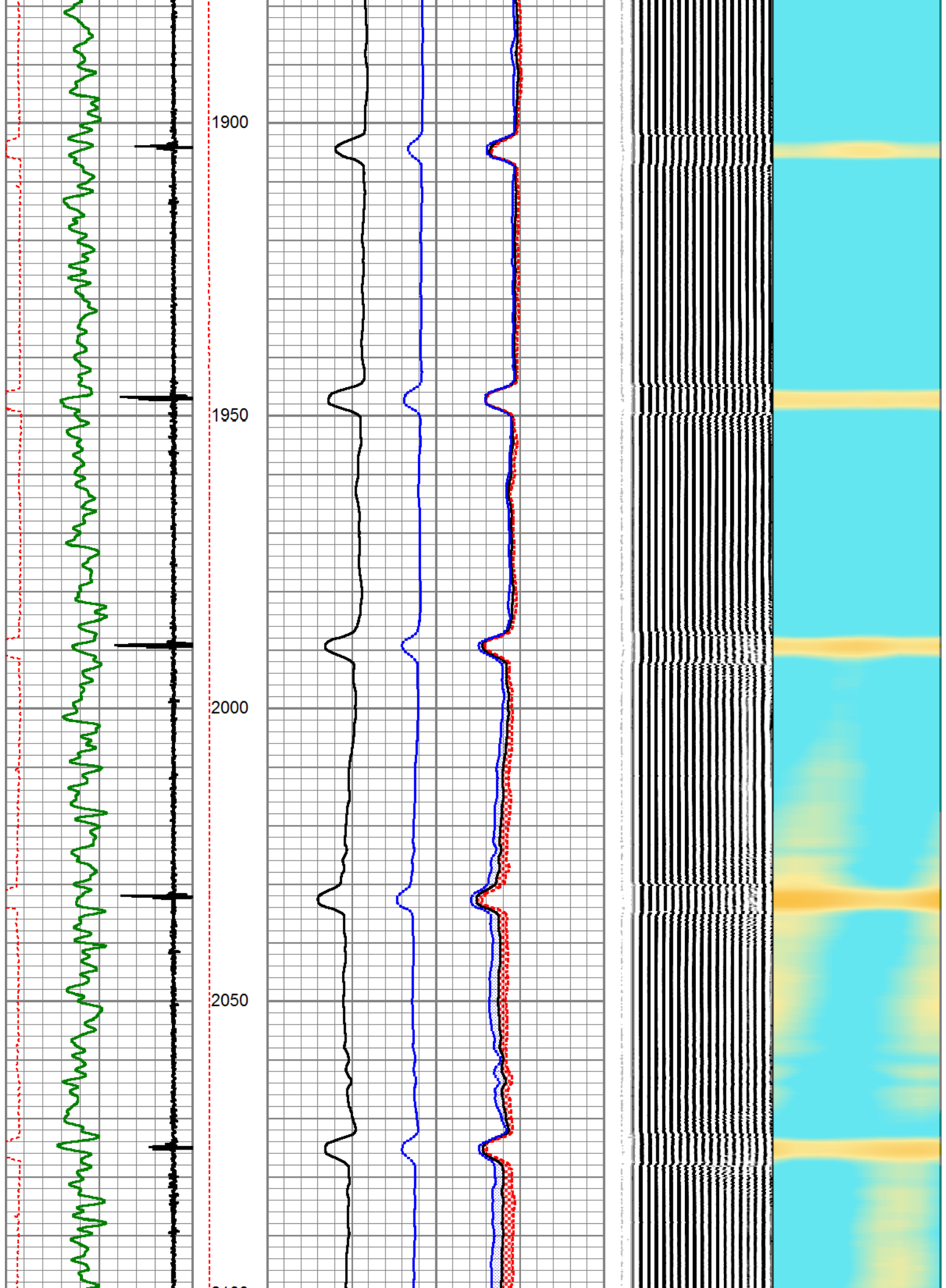


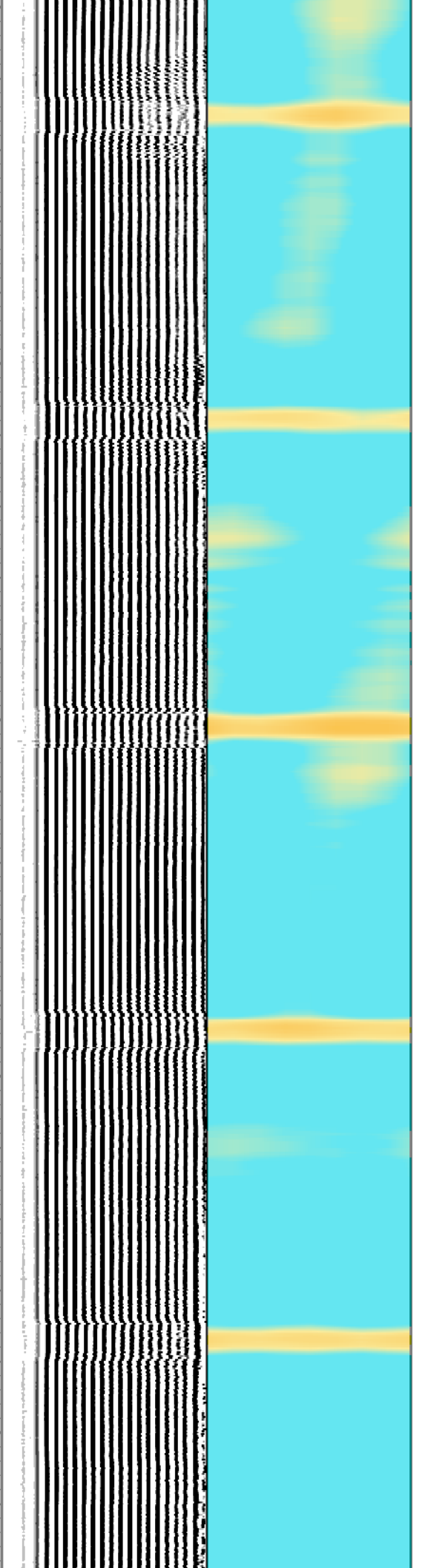
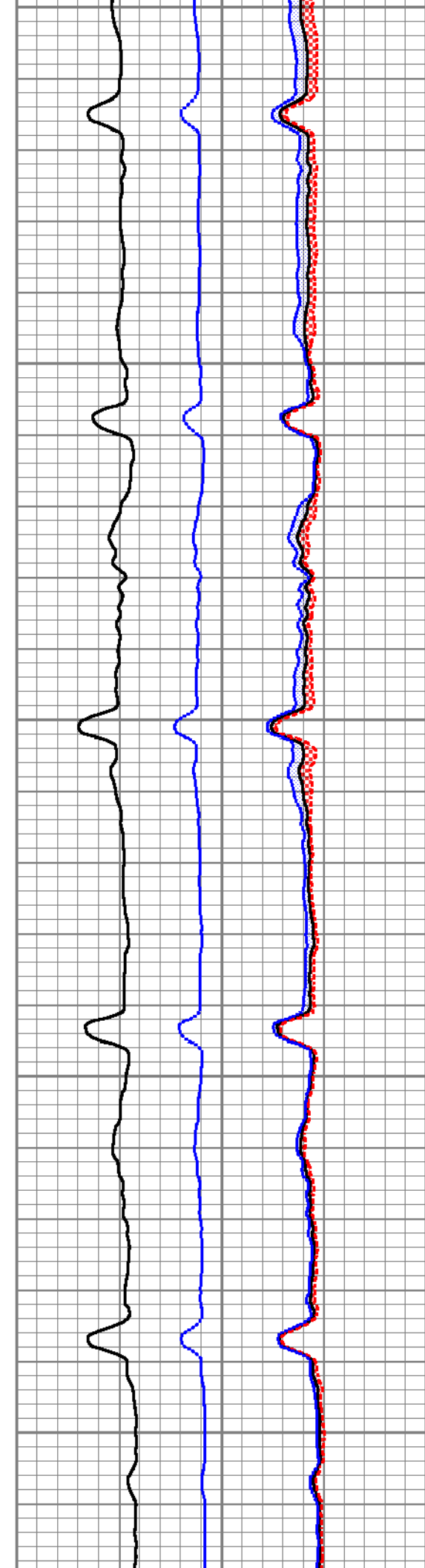
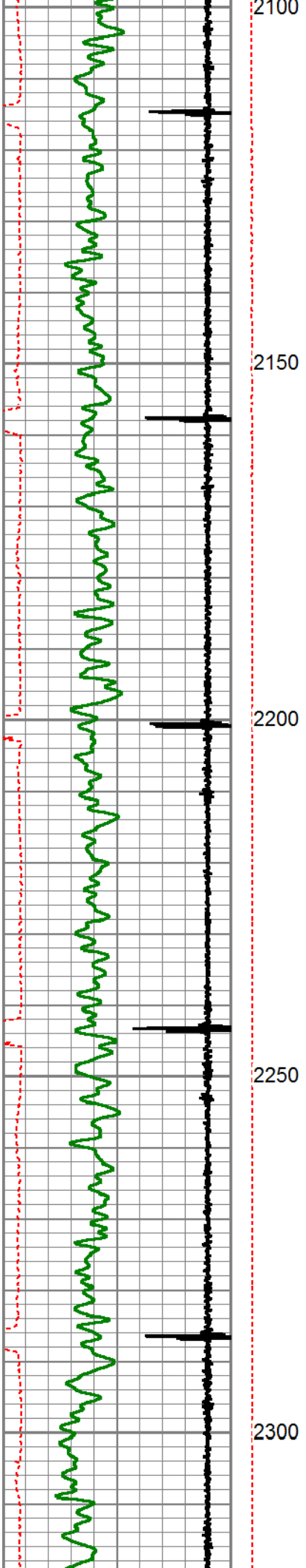


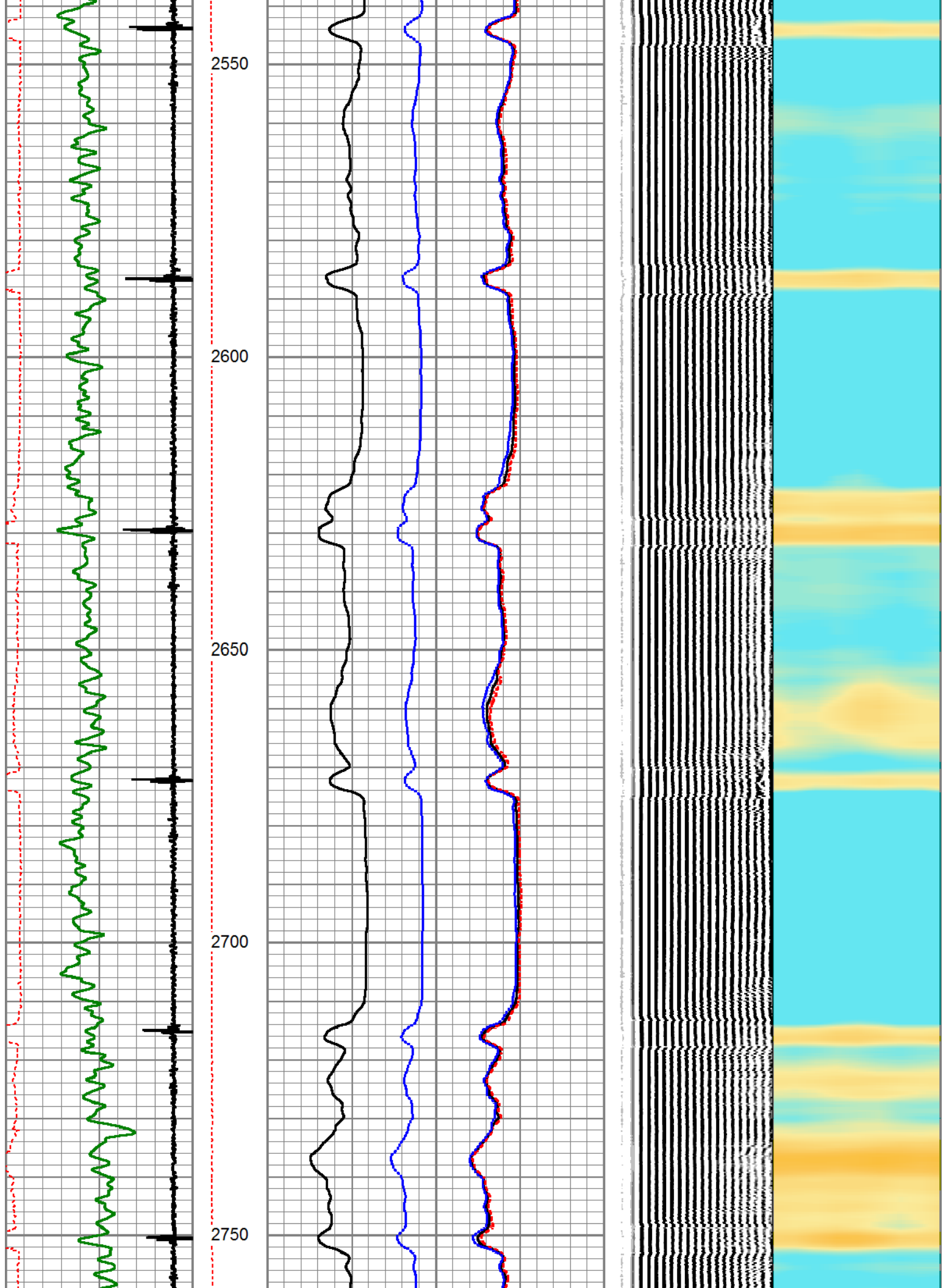


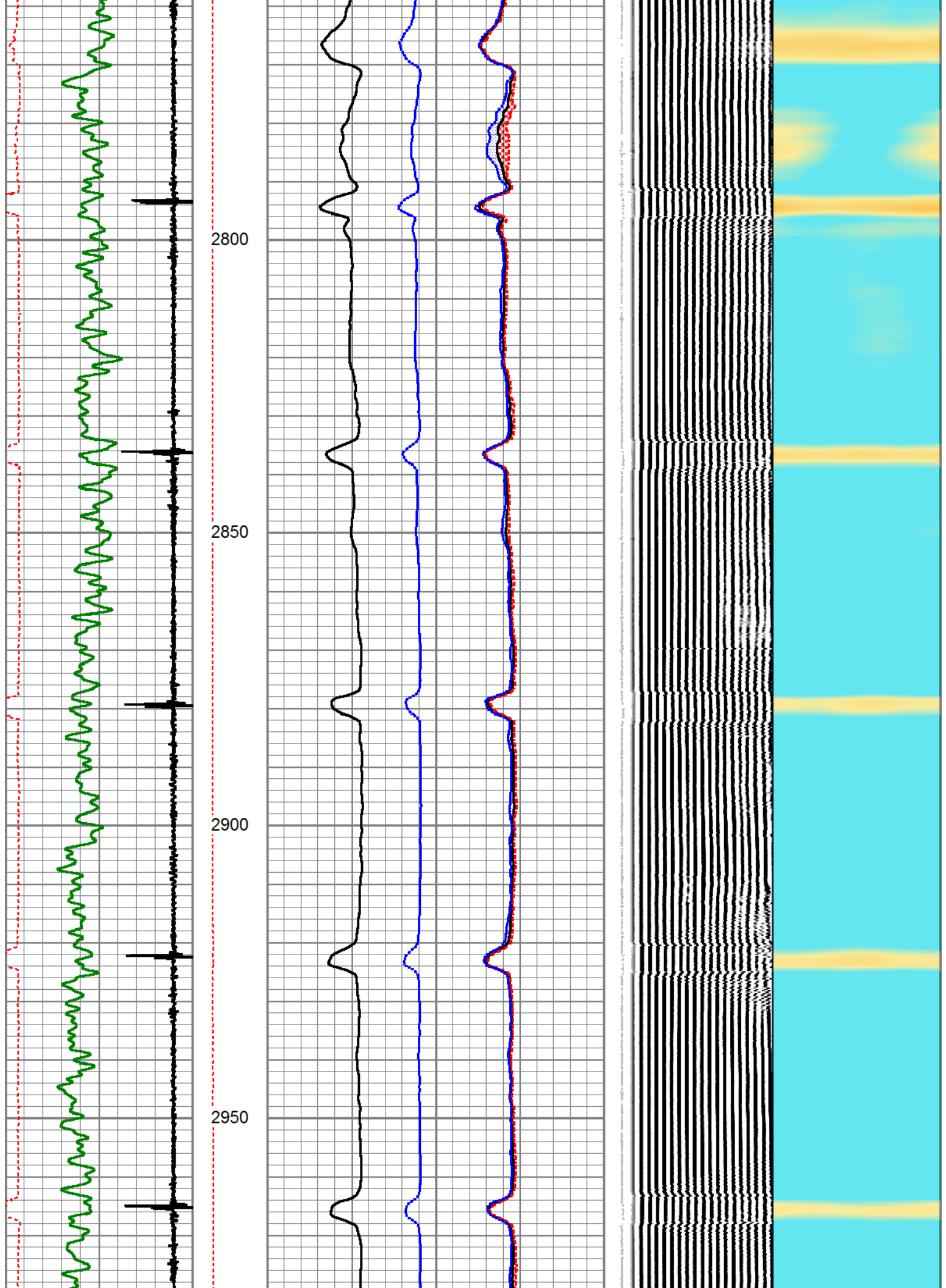


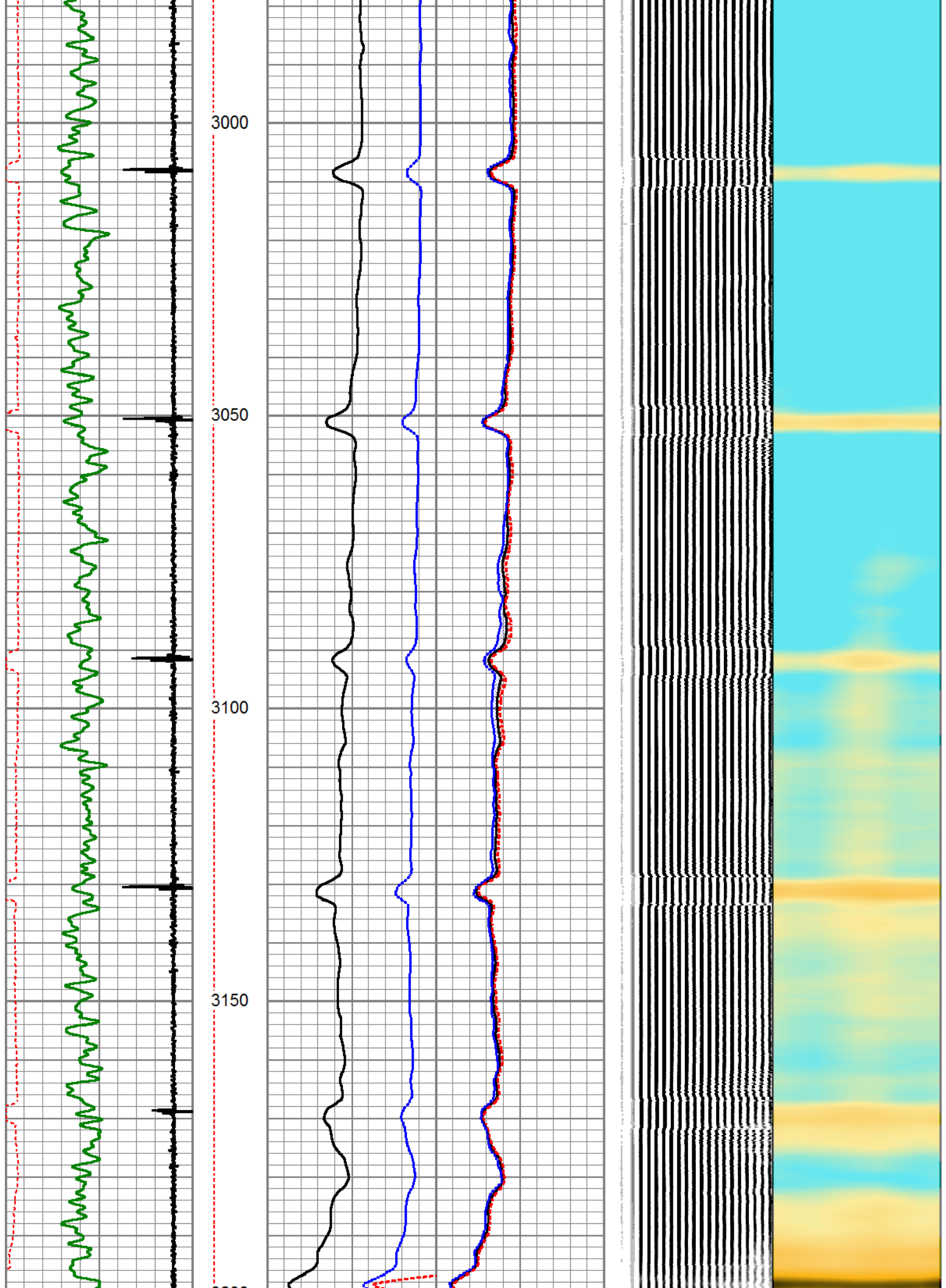


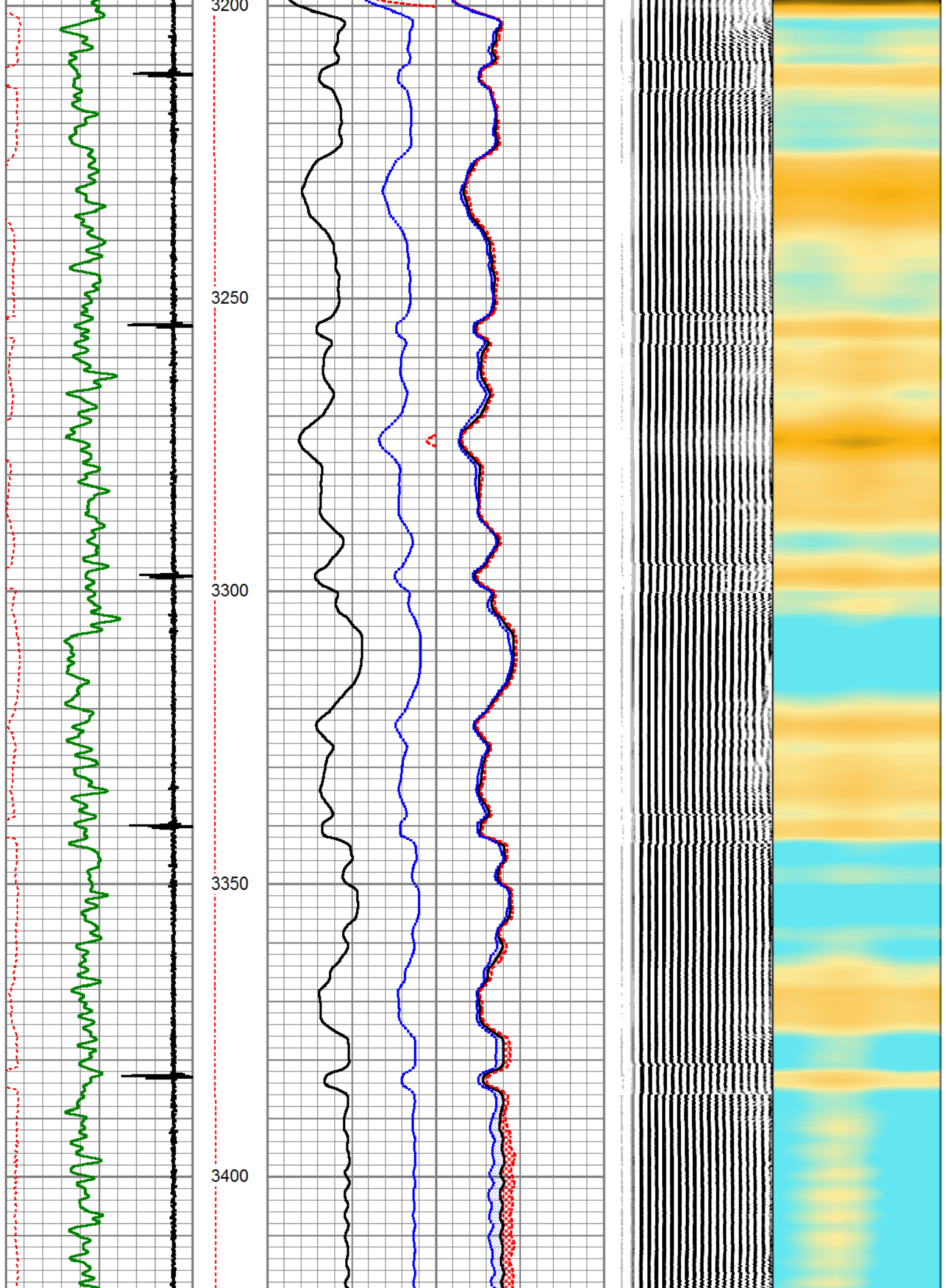


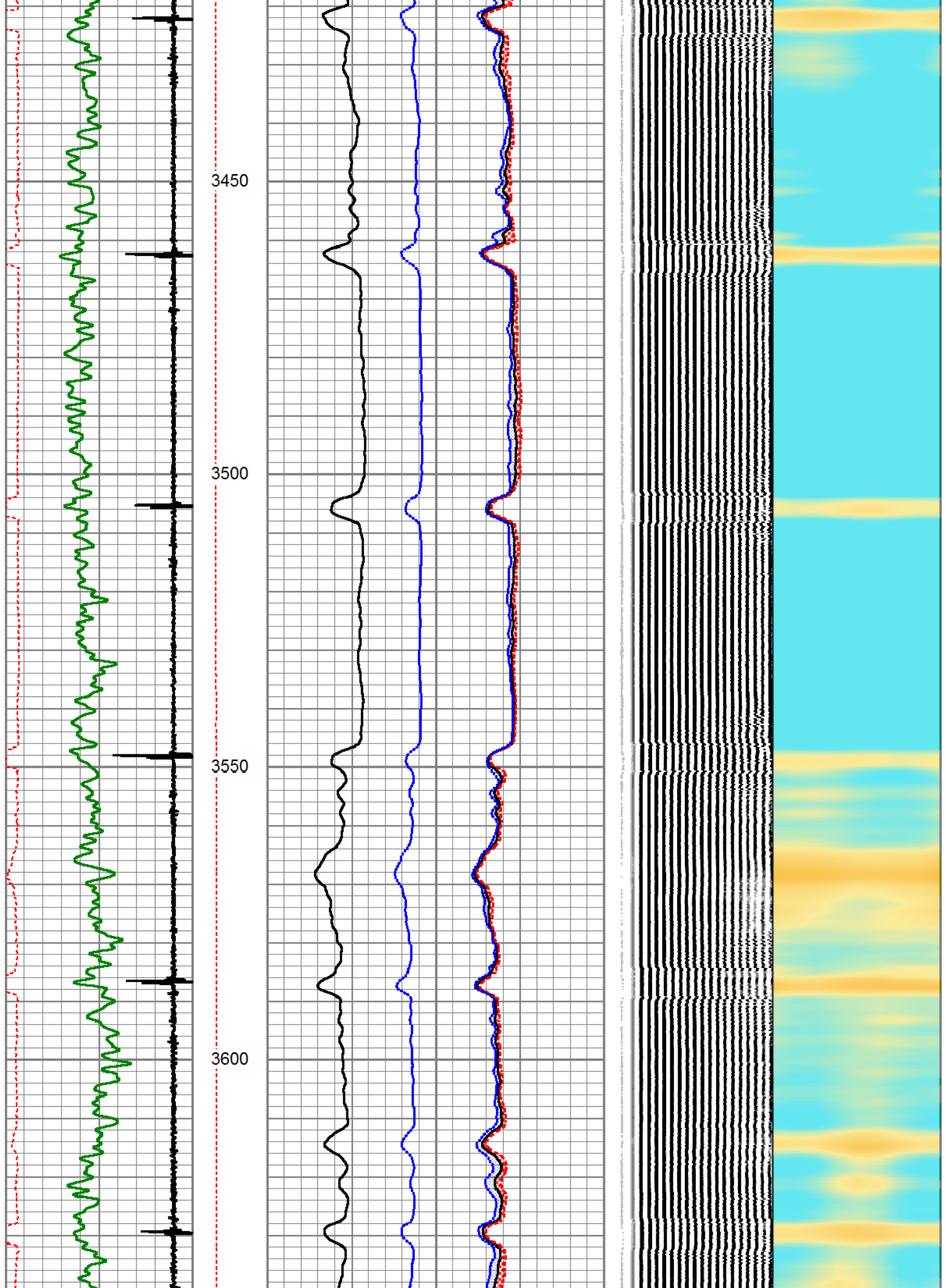


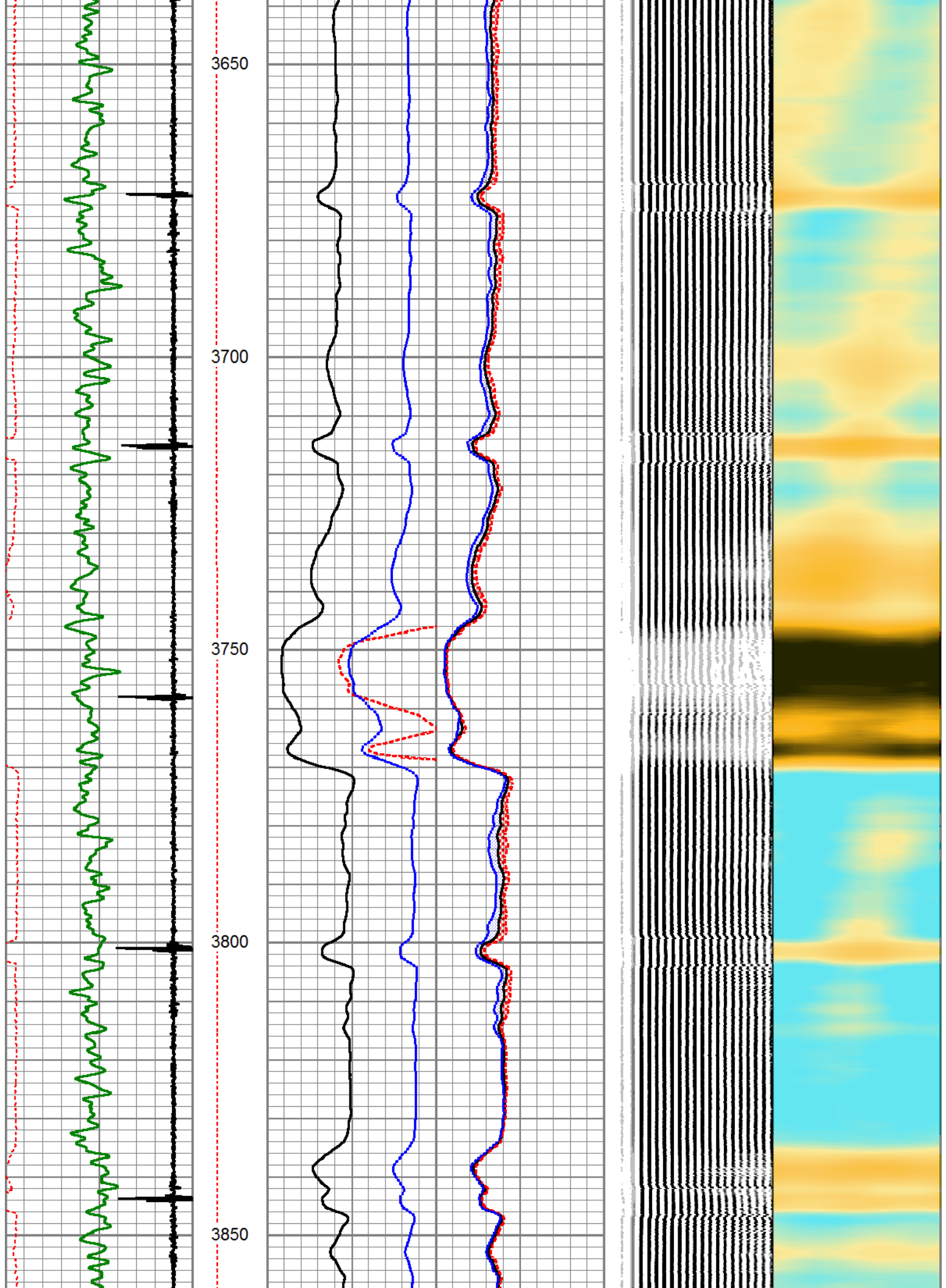


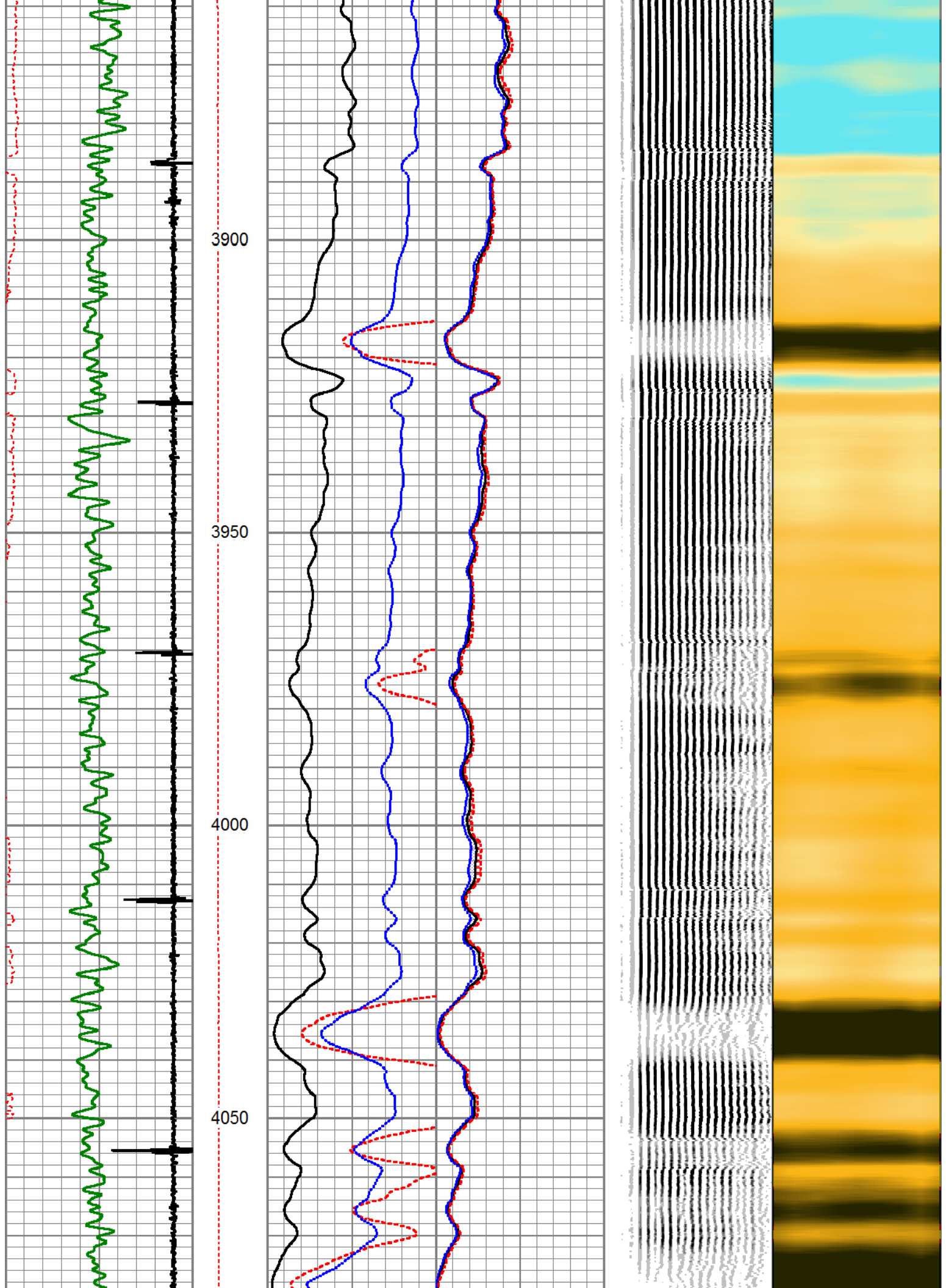


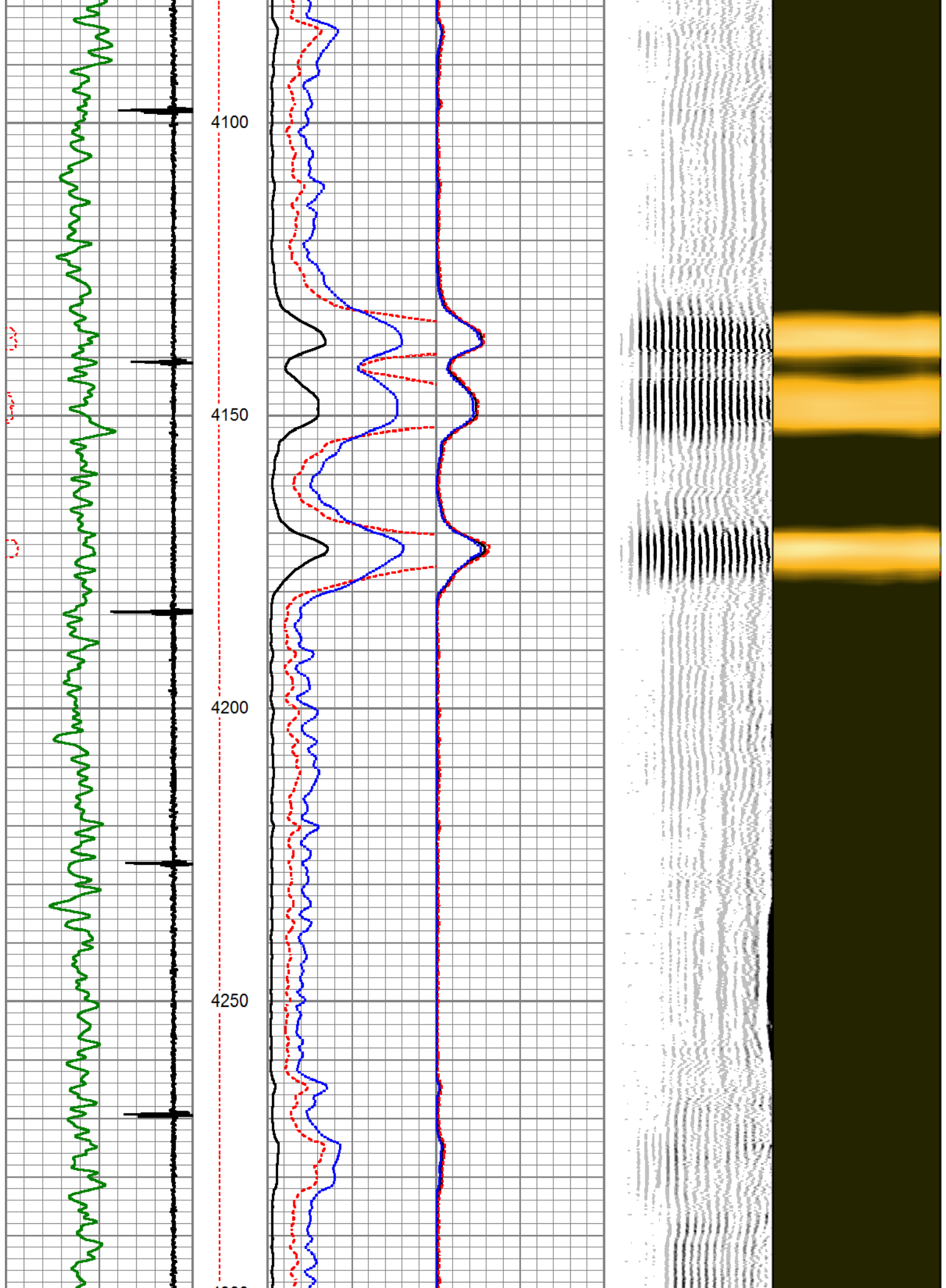


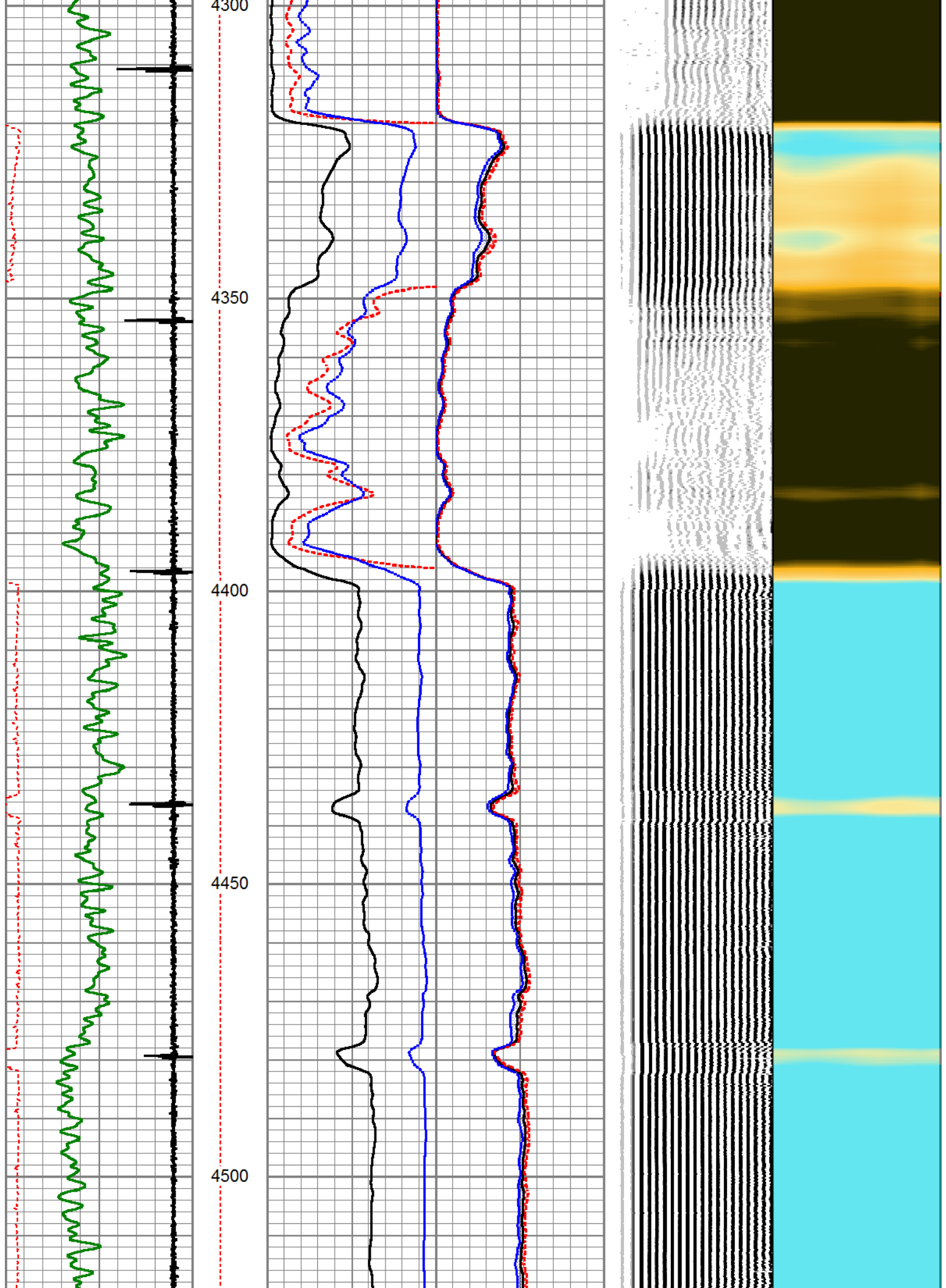


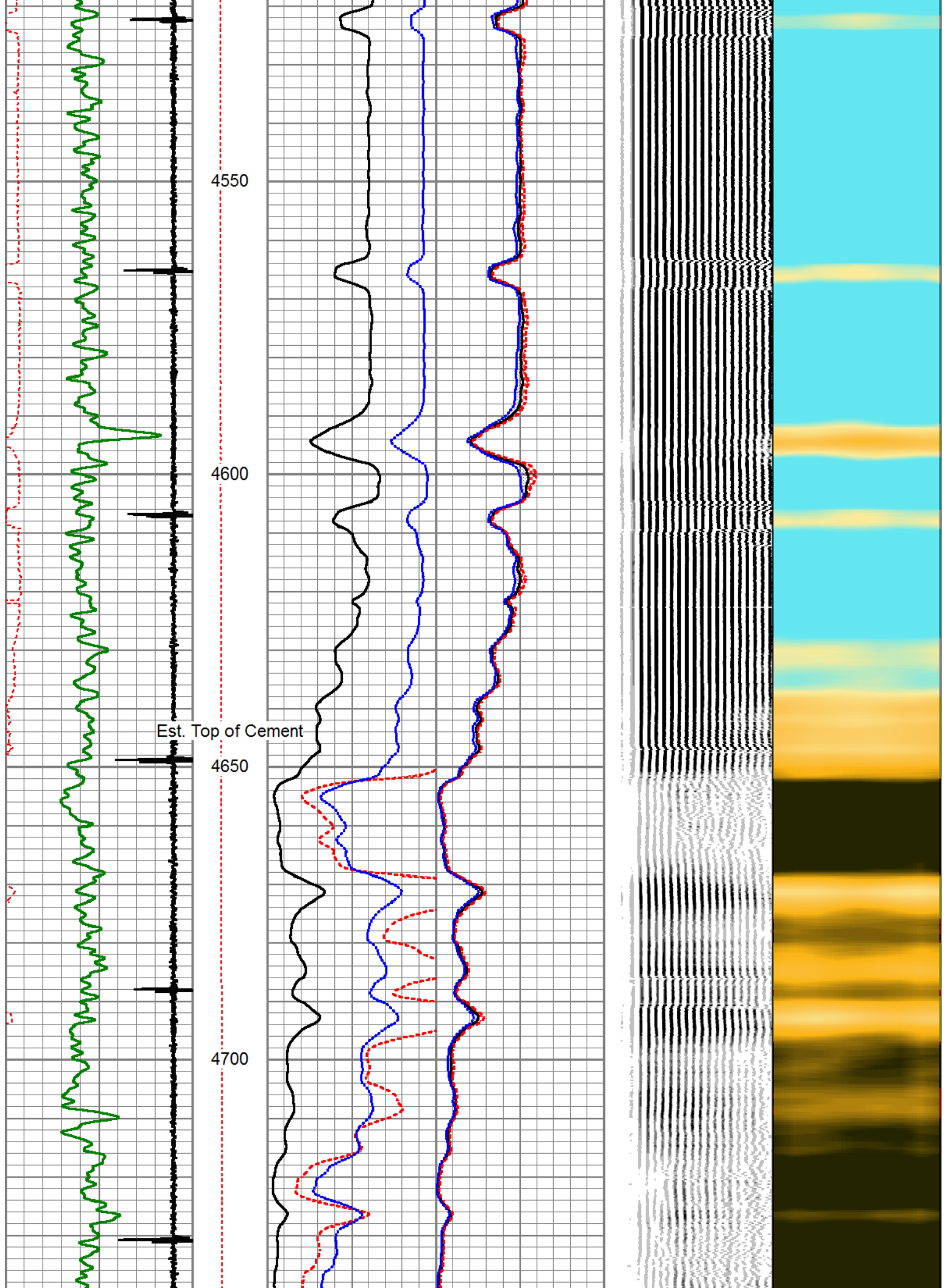


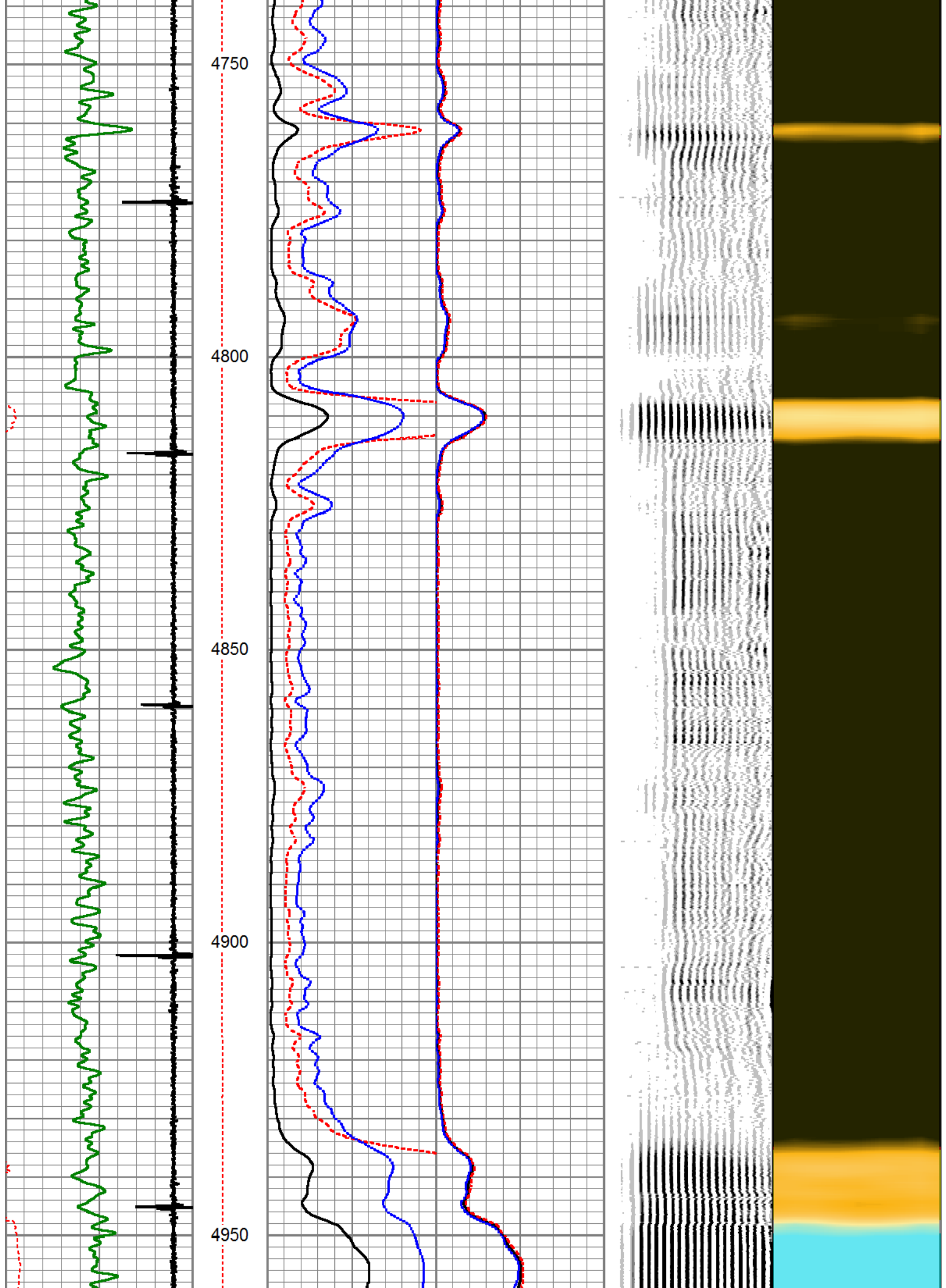


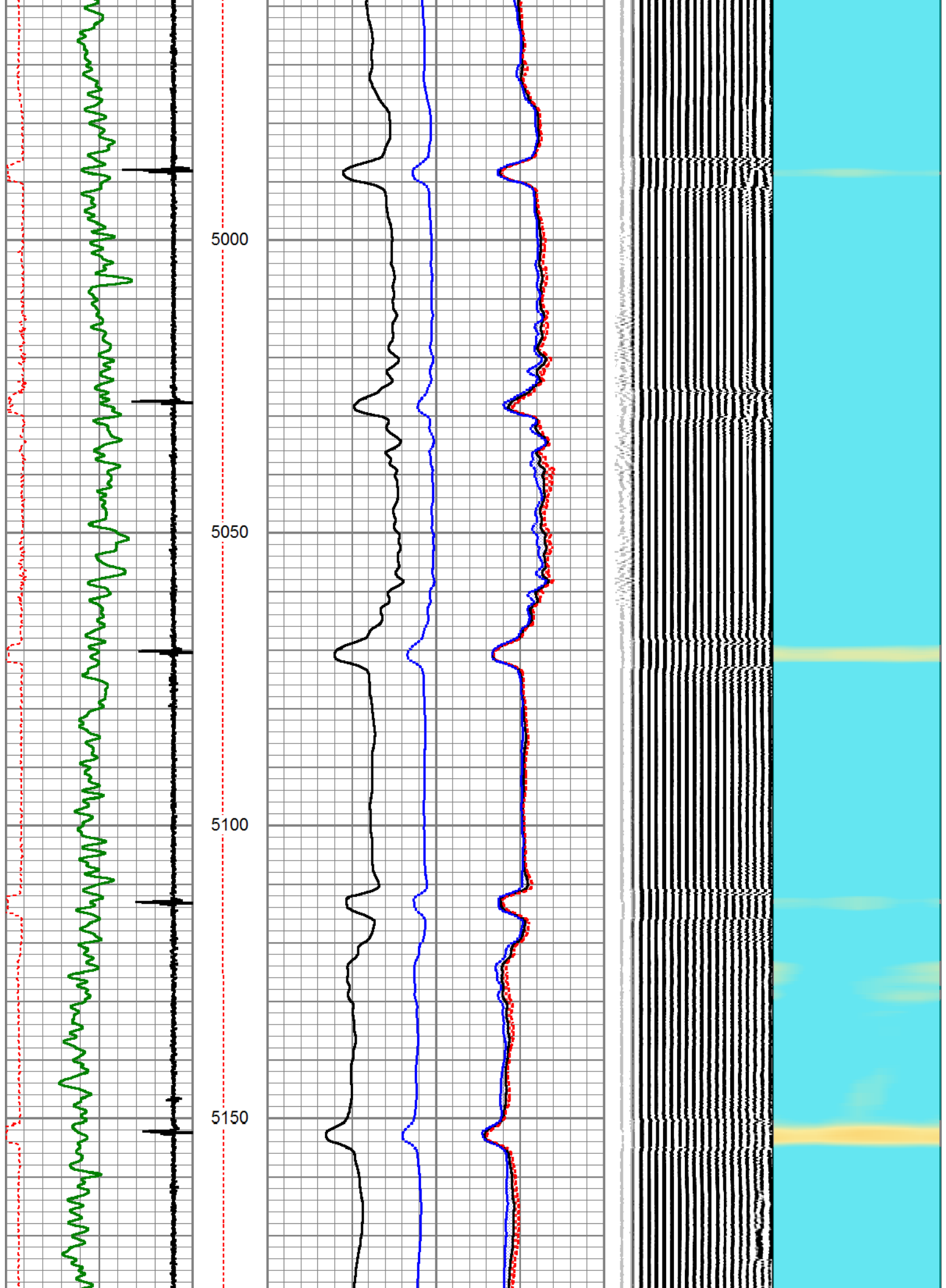


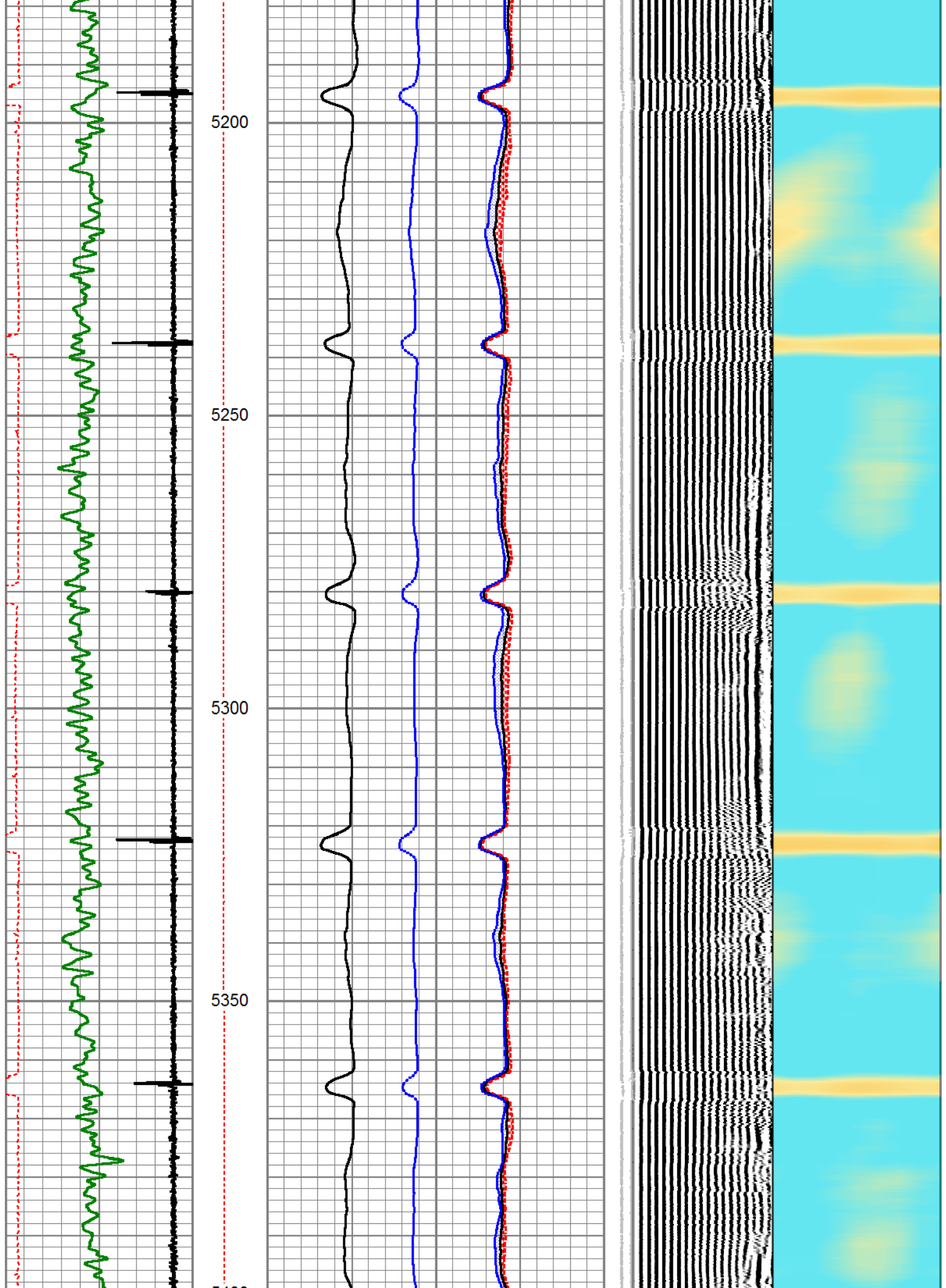


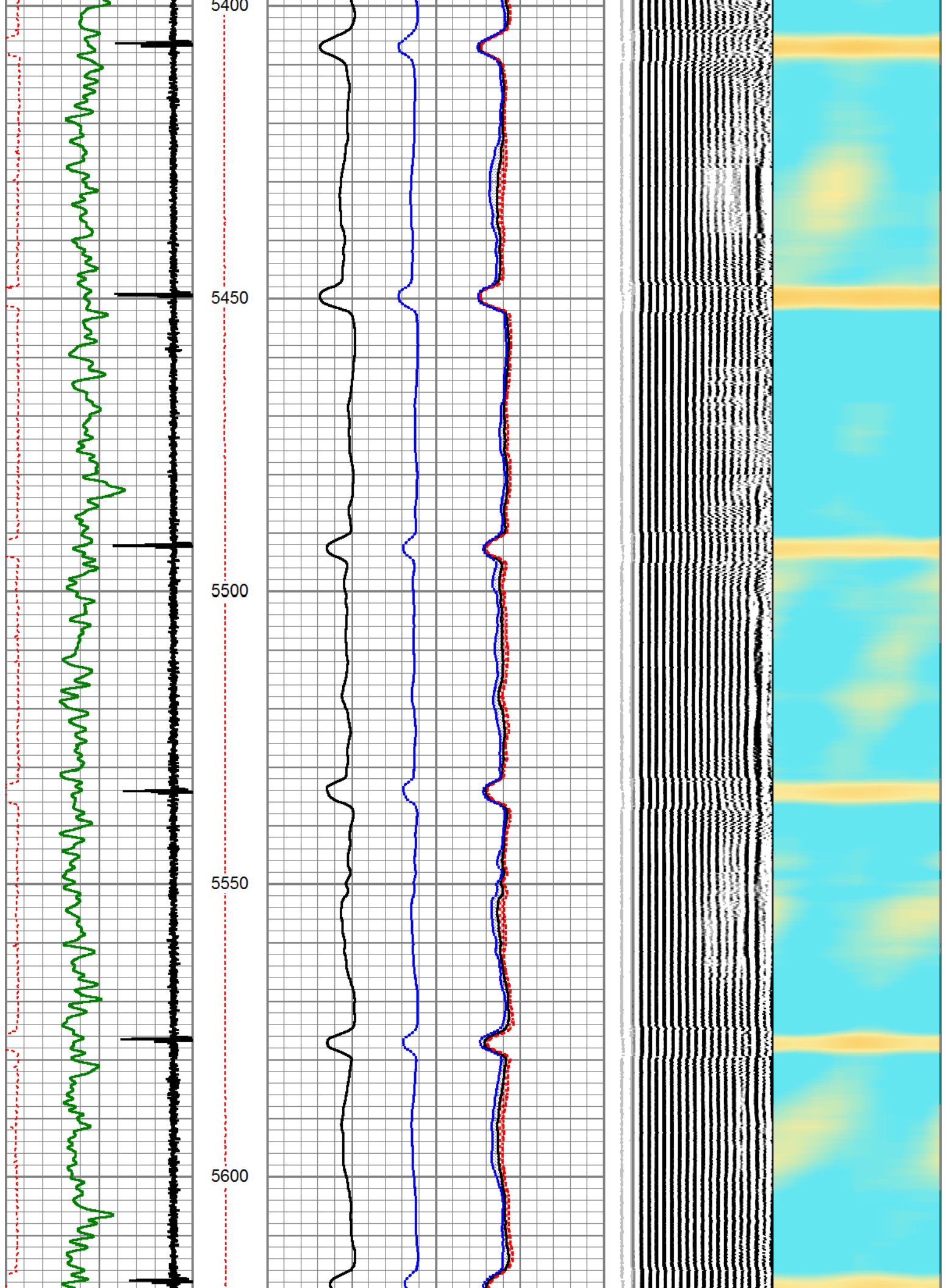


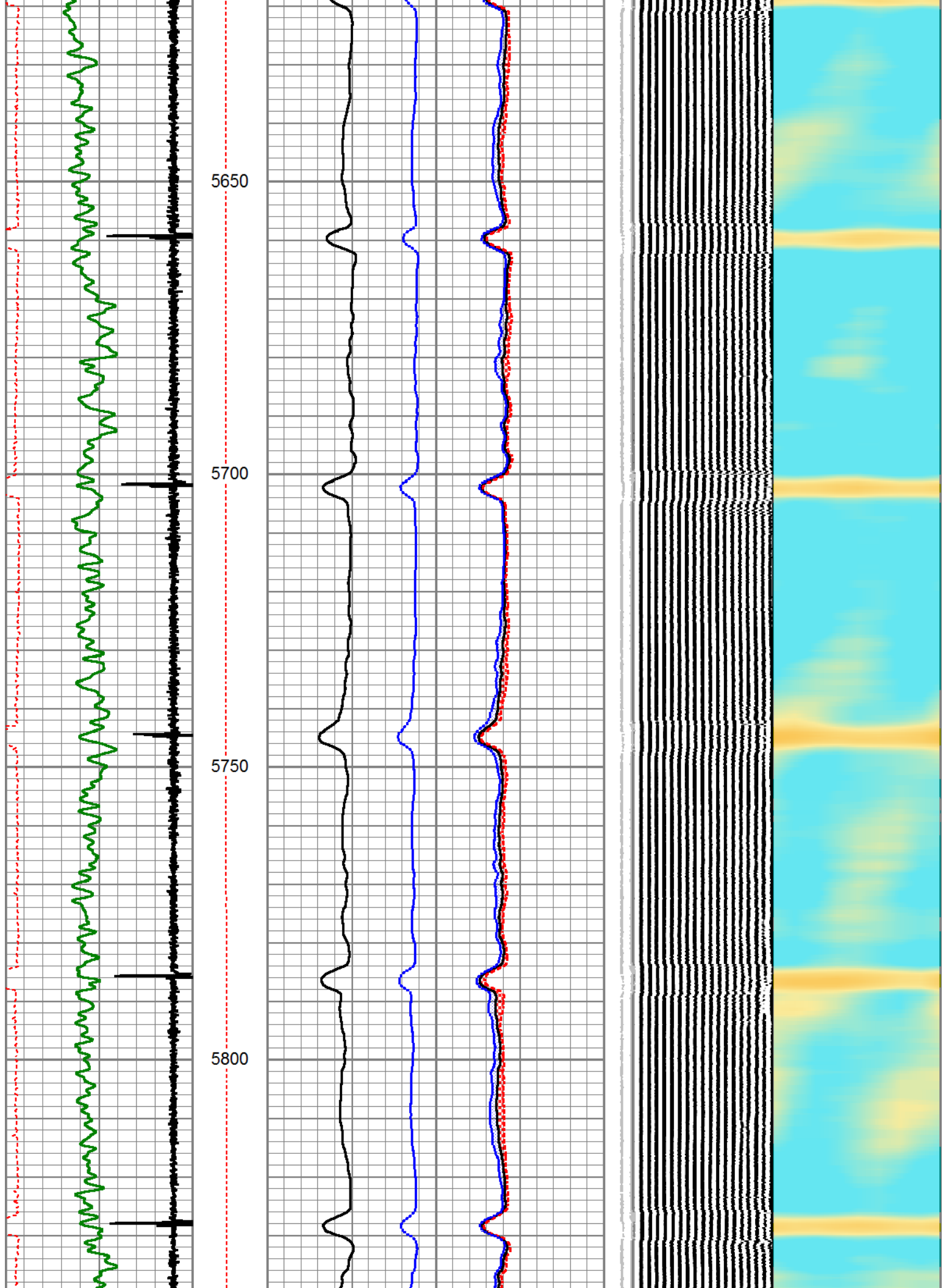


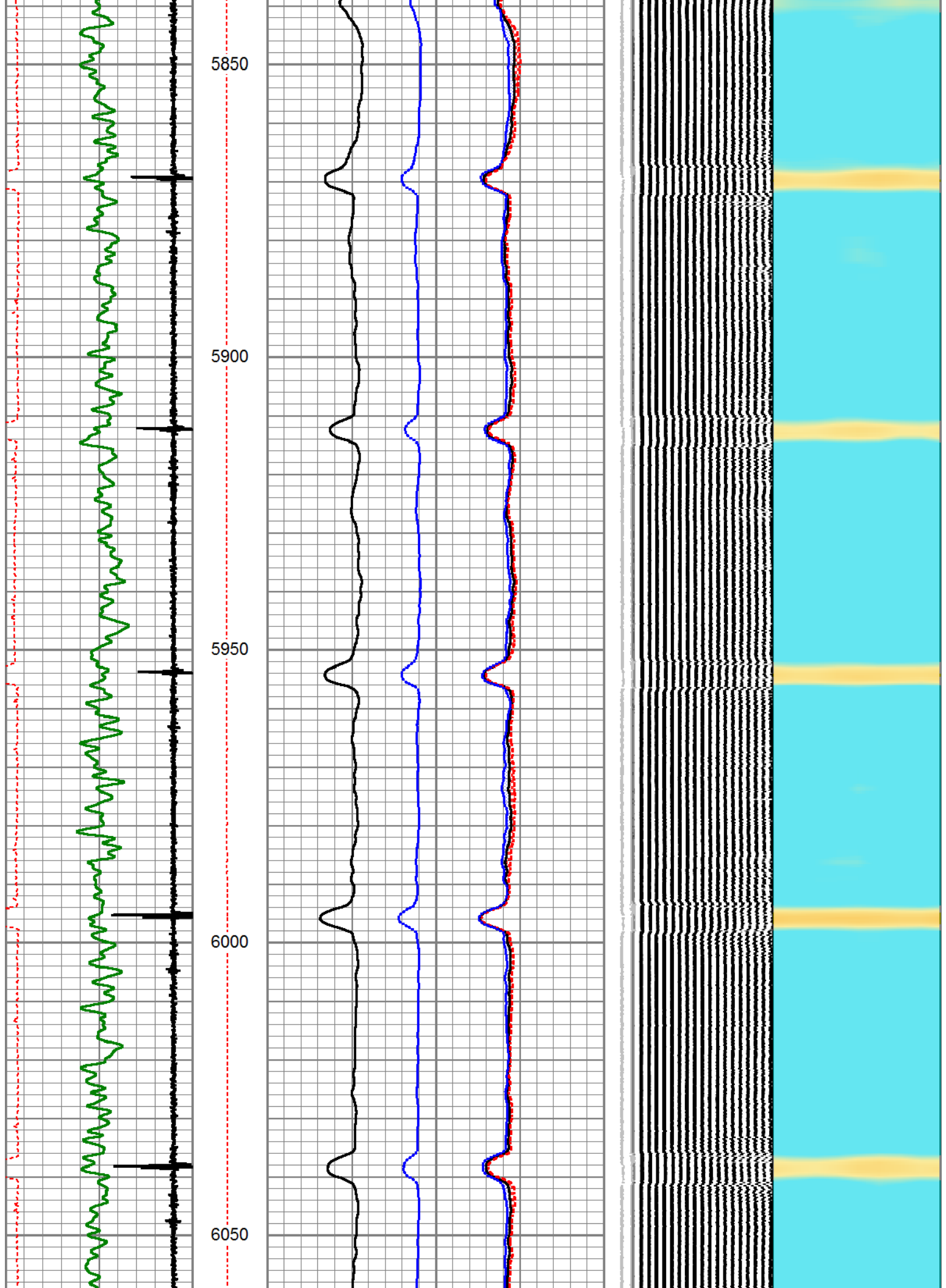


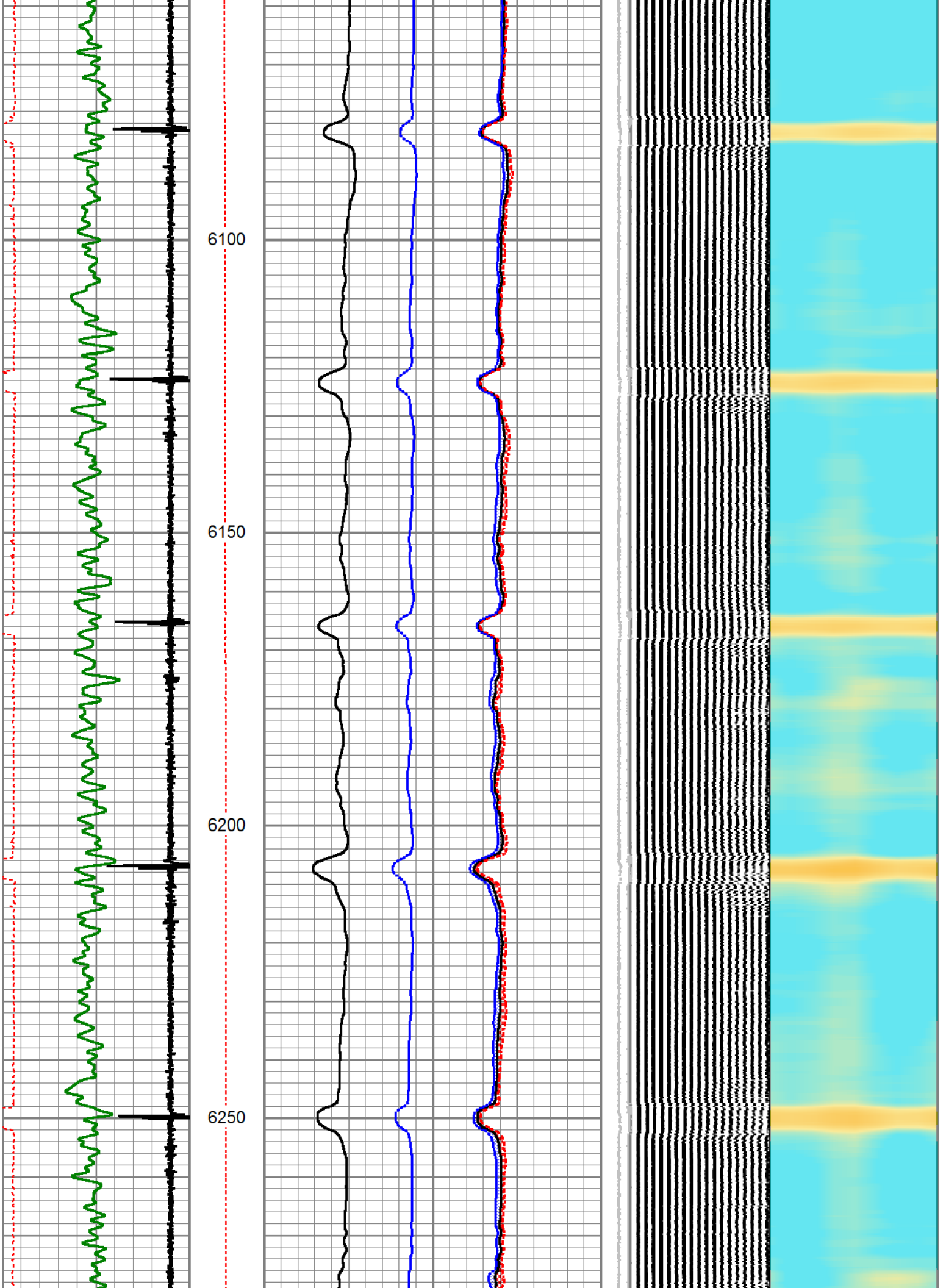


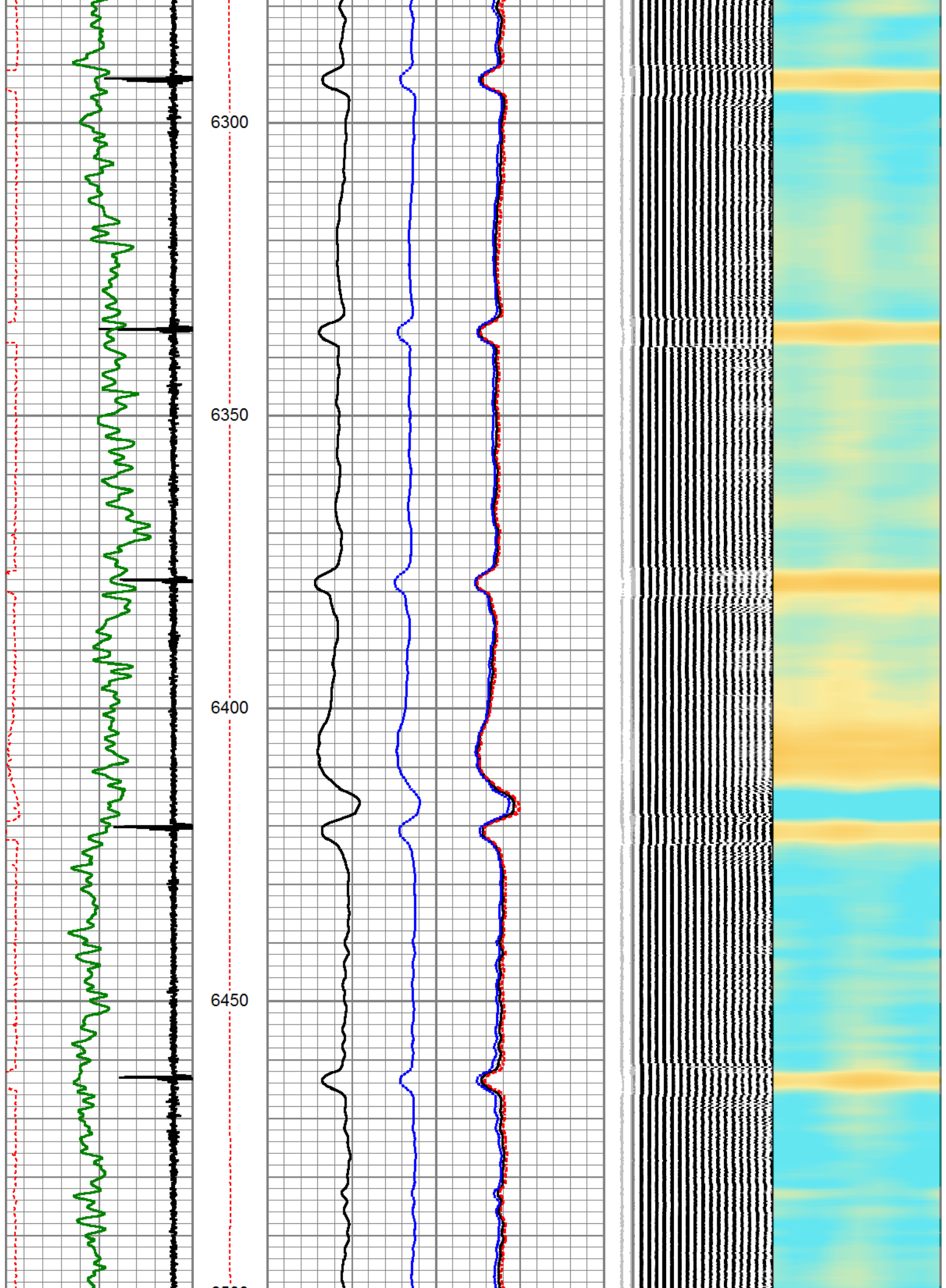


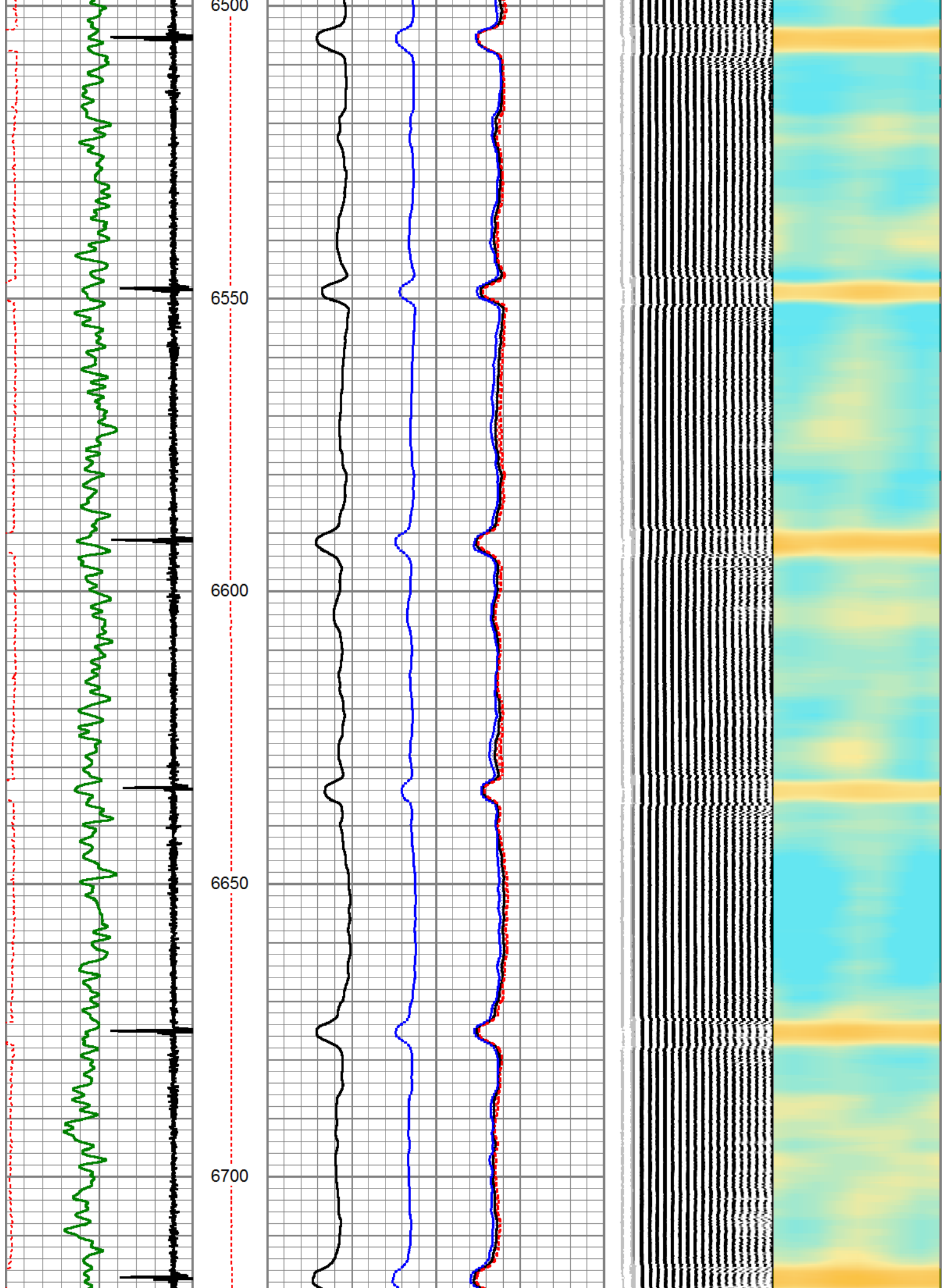


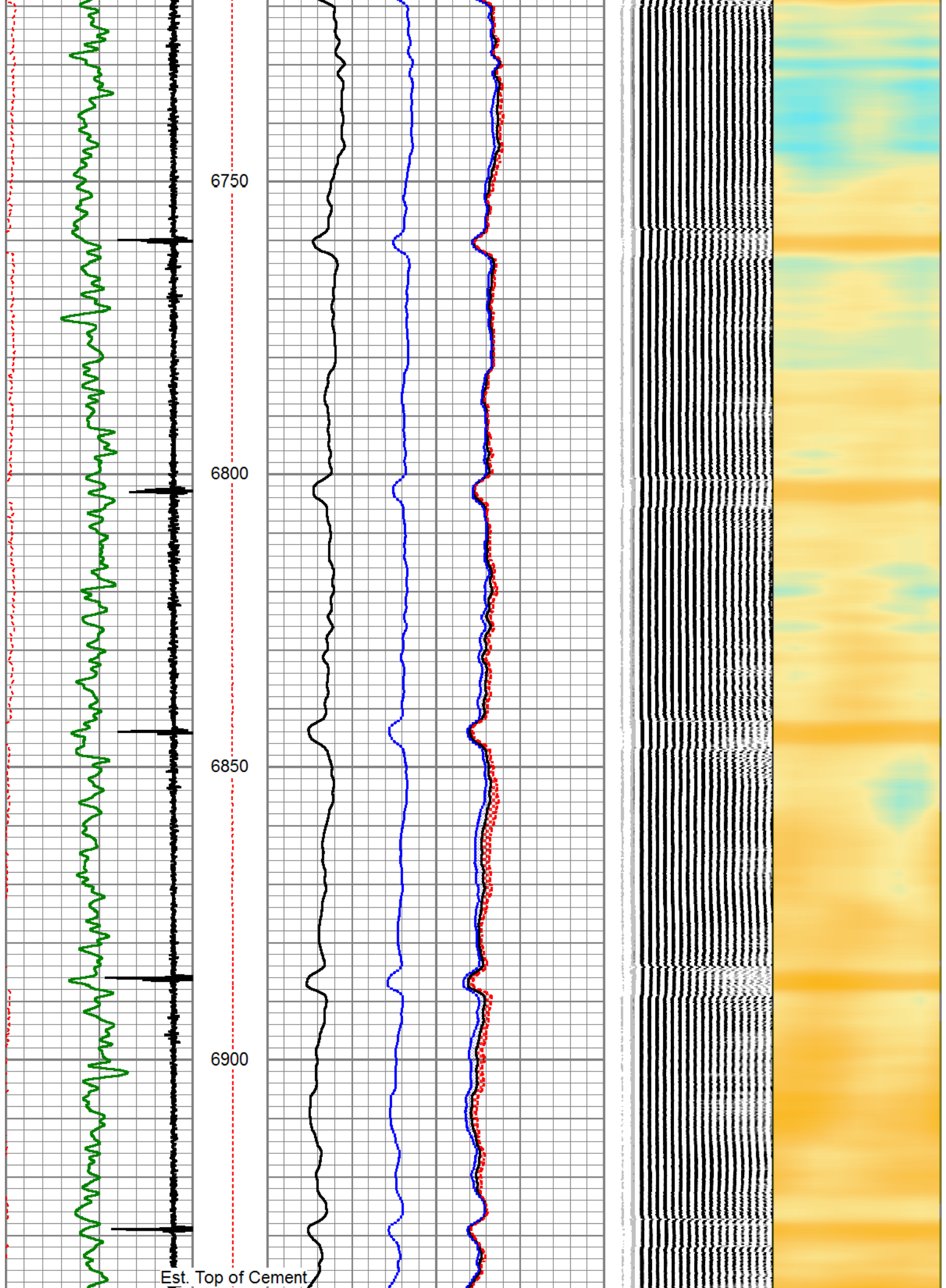


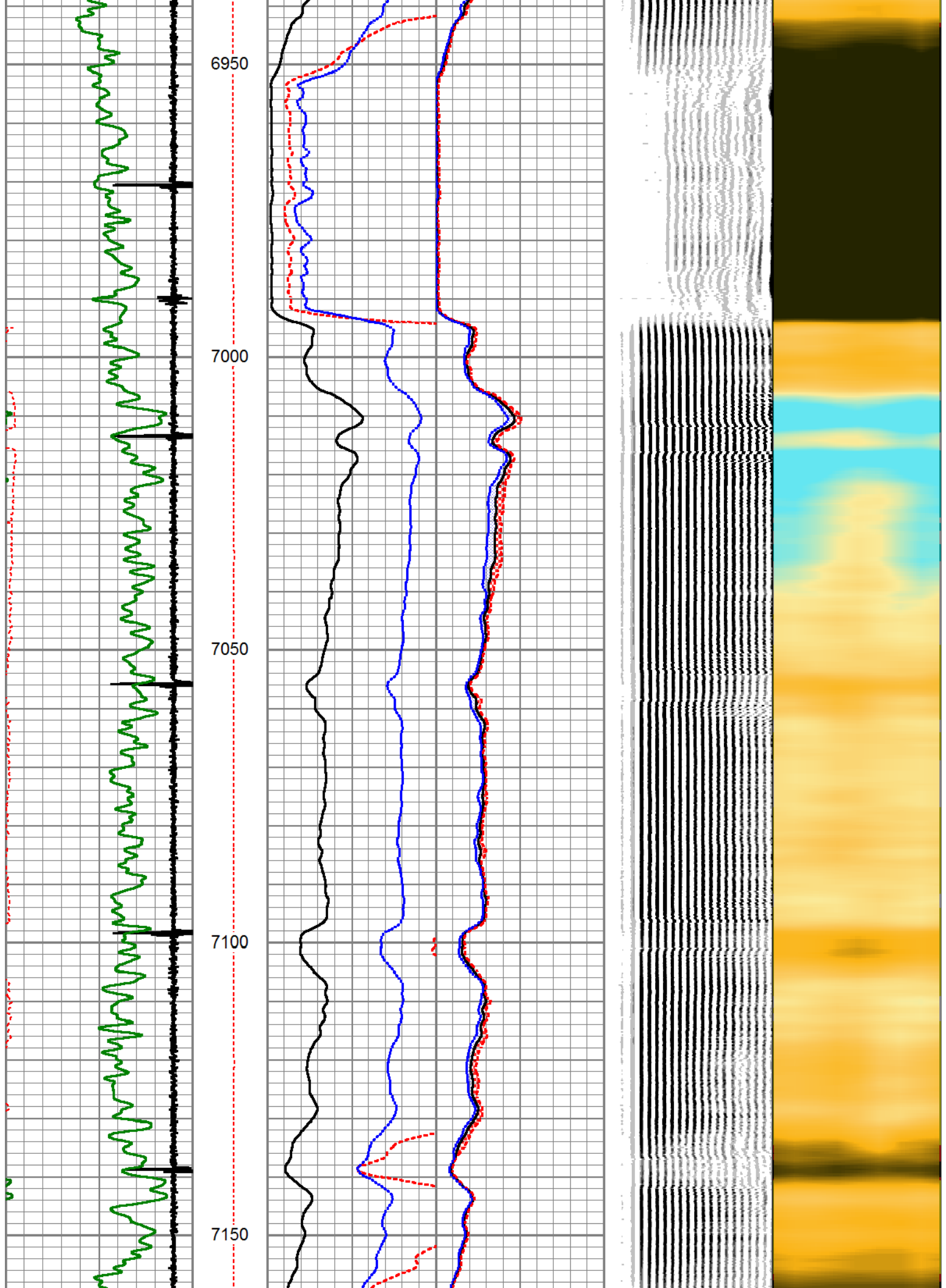


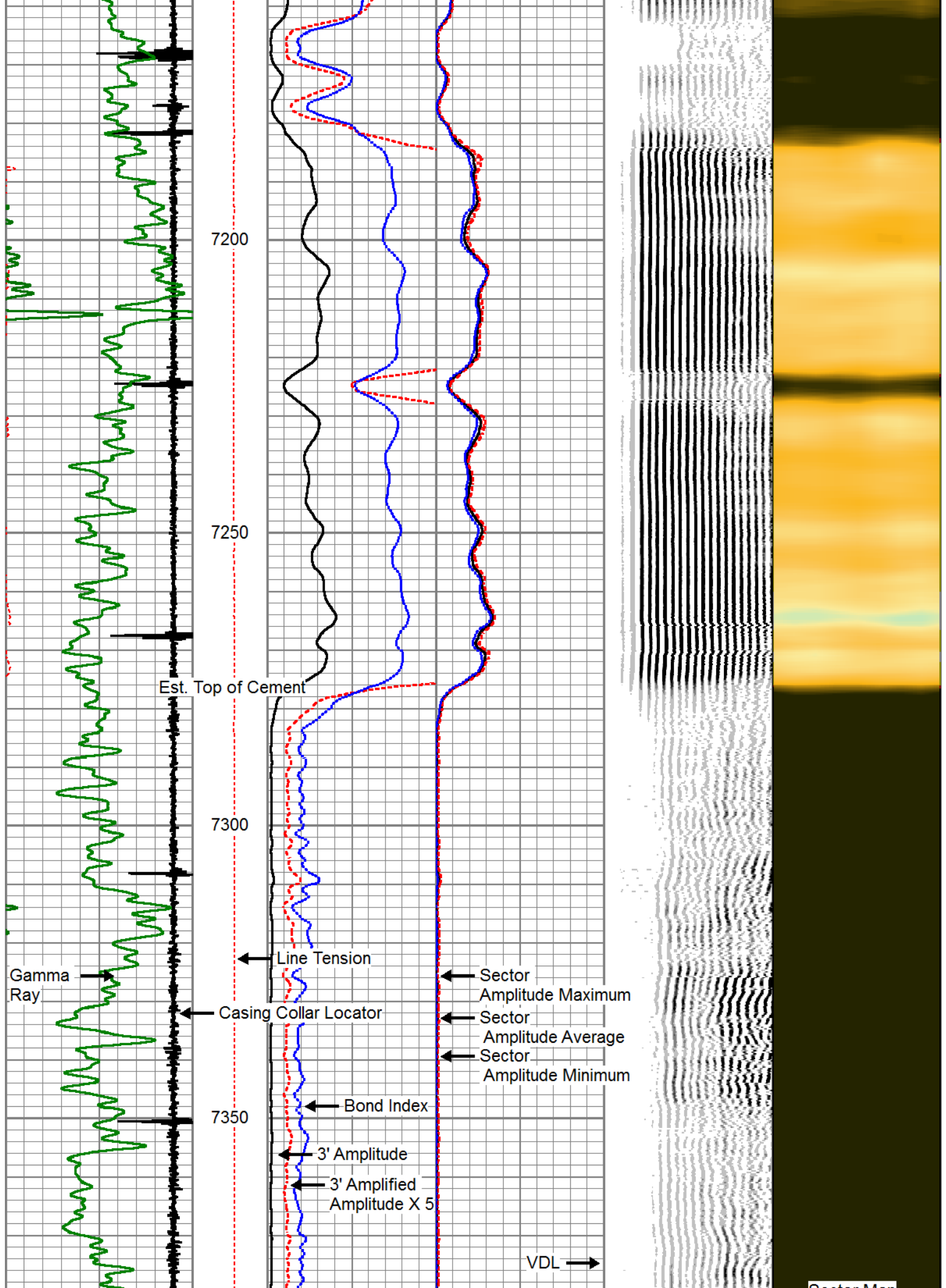


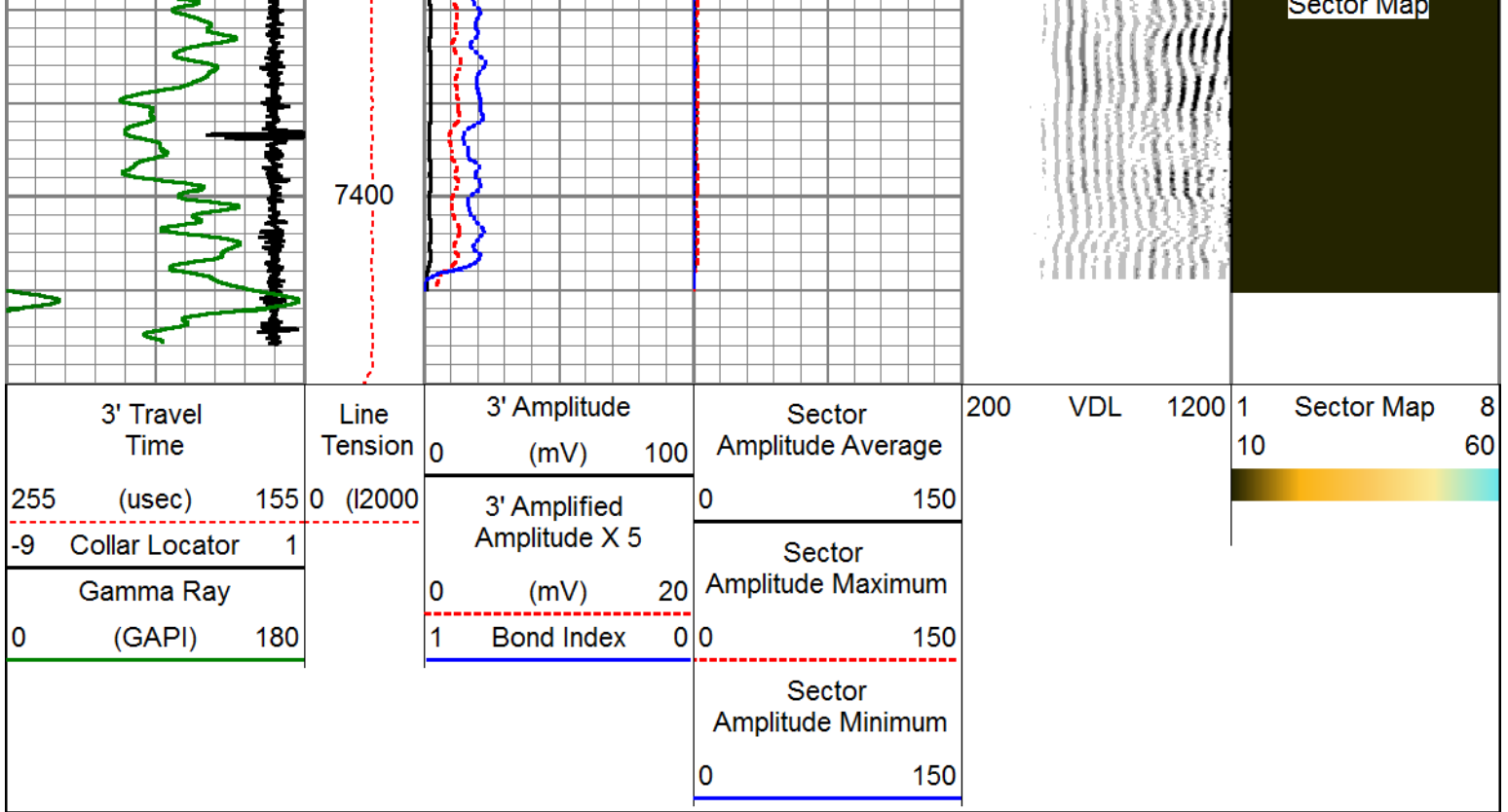








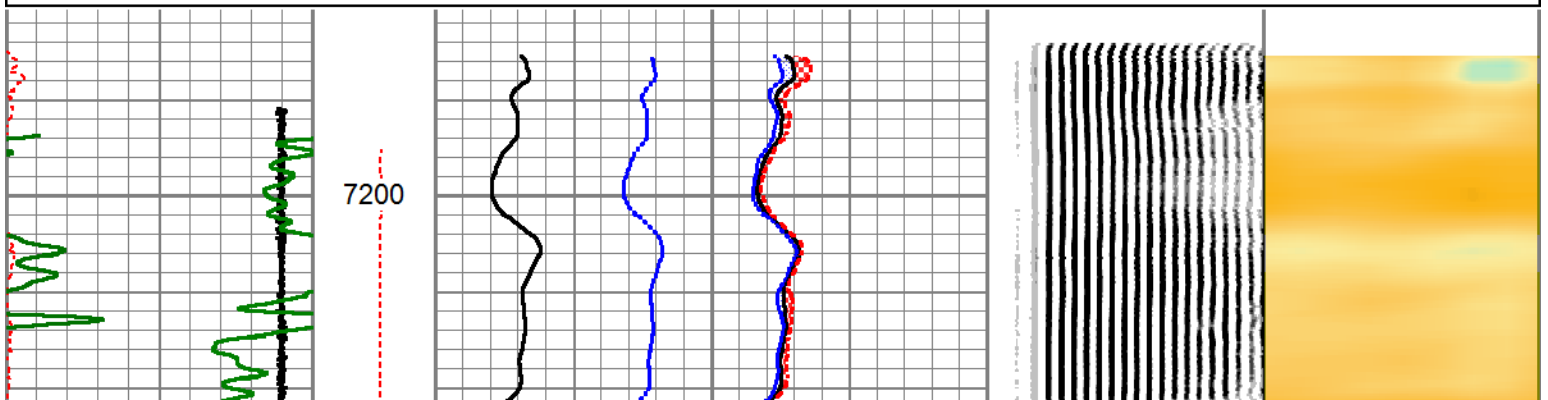
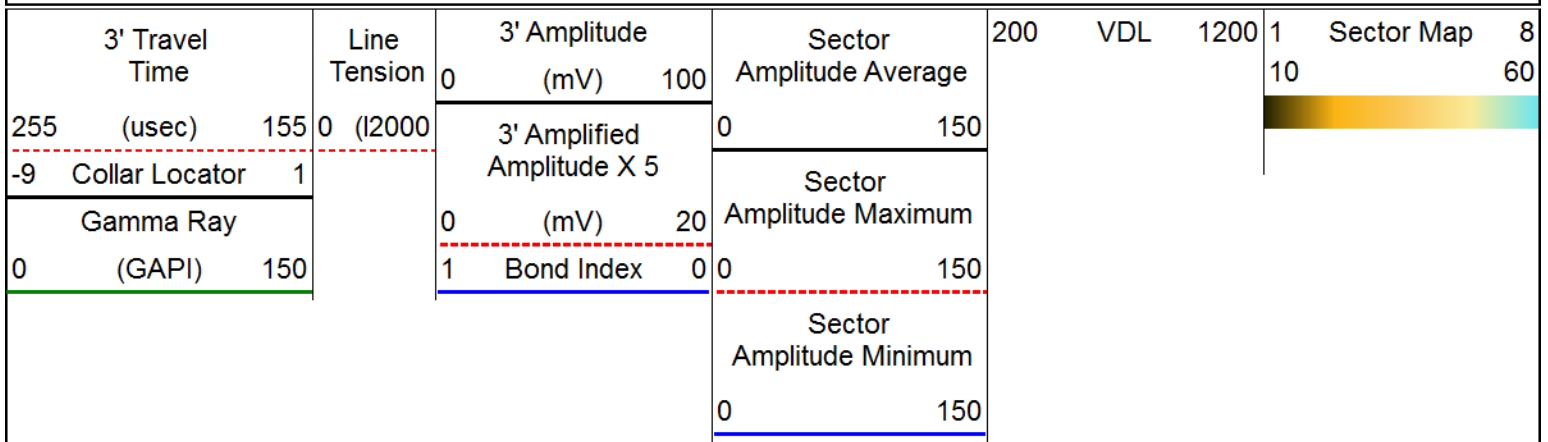


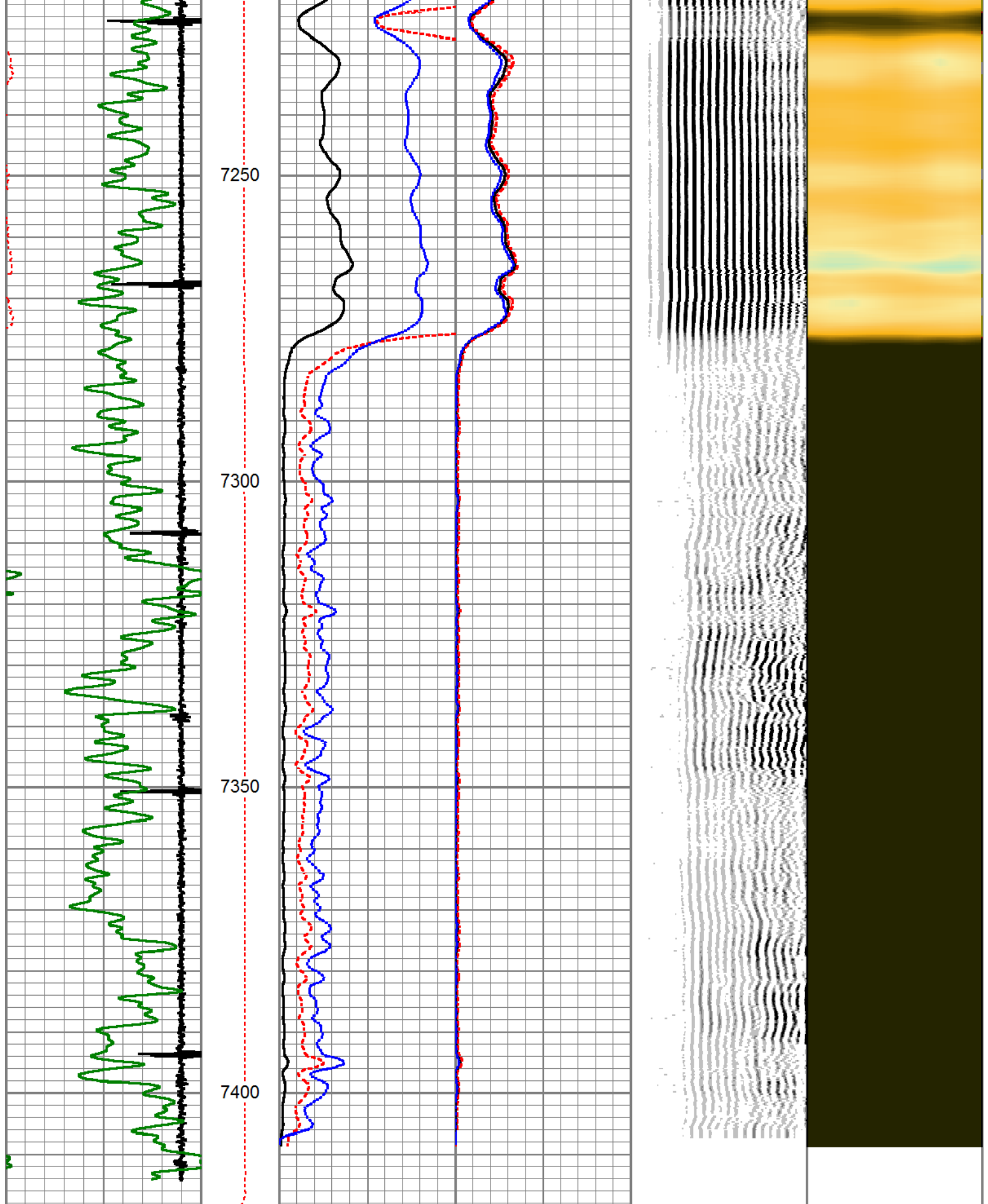


REPEAT SECTION

ZERO PSI APPLIED AT SURFACE

Database File anadarko_c a ford unit 2_0512310279_20180223_scb1.db
 Dataset Pathname pass6
 Presentation Format pinr_scb1
 Dataset Creation Fri Feb 23 12:16:16 2018
 Charted by Depth in Feet scaled 1:240





3' Travel Time	Line Tension	3' Amplitude (mV)	Sector Amplitude Average	200	VDL	1200	1	Sector Map	8
255 (usec)	0 (12000)	0 100	0 150				10		60
-9 Collar Locator		3' Amplified Amplitude X 5	Sector Amplitude Maximum						
Gamma Ray		0 20							

0	(GAPI)	150	0	Bond Index	0	0	150
				Sector Amplitude Minimum			
				0 150			

Calibration Report

Database File anadarko_c a ford unit 2_0512310279_20180223_scl.db
Dataset Pathname pass8
Dataset Creation Fri Feb 23 12:21:30 2018

Gamma Ray Calibration Report

Serial Number: 111212
Tool Model: 275 Probe GR-CCL-6-Pin
Performed: Thu Feb 15 08:53:47 2018

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.6600 GAPI/cps

Segmented Cement Bond Log Calibration Report

Serial Number: 130584
Tool Model: 275 Probe w Temp New Mod

Calibration Casing Diameter: 4.500 in
Calibration Depth: 5021.032 ft

Master Calibration, performed Fri Feb 23 12:02:13 2018:

	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3'	0.000	1.043	1.000	81.196	76.889	1.000
CAL	0.000	1.053				
5'	0.000	0.741	1.000	81.196	108.180	1.000
SUM						
S1	0.000	0.998	0.000	100.000	100.186	0.000
S2	0.000	1.010	0.000	100.000	98.997	0.000
S3	0.000	1.036	0.000	100.000	96.512	0.000
S4	0.000	1.111	0.000	100.000	90.023	0.000
S5	0.000	1.173	0.000	100.000	85.234	0.000
S6	0.000	1.148	0.000	100.000	87.117	0.000
S7	0.000	1.041	0.000	100.000	96.079	0.000
S8	0.000	1.033	0.000	100.000	96.812	0.000

Temperature Calibration Report

Serial Number: 130584
Tool Model: 275 Probe w Temp New Mod
Performed: (Not Performed)

	Reference	Reading
Low Reference:	0.00 degF	0.00 degF

Low Reference:	0.00	degF	0.00	degF
High Reference:	1.00	degF	1.00	degF
Gain:	1.00			
Offset:	0.00			
Delta Spacing	1			



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Company	KERR-MCGEE OIL AND GAS ONSHORE LP
Well	C A FORD UNIT 2
Field	WATTENBERG
County	WELD
State	COLORADO