

HALLIBURTON										ACOUSTIC CEMENT BOND LOG CAST-M																			
Company WPX ENERGY Well STATE OF COLORADO KP 422-9 Field KOKOPELLI County GARFIELD State CO										Company WPX ENERGY Well STATE OF COLORADO KP 422-9 Field KOKOPELLI County GARFIELD State CO																			
Permanent Datum Log Measured From KB Drilling Measured From KB										GROUND LEVEL Elevation 5762' KB , 21 Ft. above perm. datum KB										Elevation K.B. 5783' D.F. 5782' G.L. 5762'									
Date @ Time Logged 31 AUG 2014 Run No. ONE Depth - Driller 6156' Depth - Logger 6080' Bottom - Logged Interval 6080' Top - Log Interval 100' Max. Recorded Temp. 198 DEG F										Type Fluid in Hole Density of Fluid Fluid Level Cement Top Est. Logged Equipment / Location Recorded by Witnessed by										WATER 8.4# SURFACE SEE LOG 11726117 / G.J. D. SOLIS J. BRADY									
CEMENTING DATA Date / Time Cemented Primary / Squeeze Expected Compressive Strength Cement Volume Cement Type / Weight Formulation Mud Type / Mud Wgt.										Surface String N/A psi@ hrs /										Protection String N/A psi@ hrs /									
Borehole Record Run Number ONE TWO										From SURFACE 8.75"										To 959' 6156'									
Size 9.625" 5.5"										Weight 32.3# 17.0#										From SURFACE 959' 6156'									
<<< 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																													
CORRELATED ON BOTTOM TO BAKER RADIAL ANALYSIS LOG DATED: 14 AUG 2014.																													
GR-CBL-CAST RAN IN COMBINATION.																													
LOG INTERVALS PER CUSTOMER REQUEST.																													
CAST RAN AS FOLLOWS: 3-5/8" HEAD, BROWN TRANSDUCER, CIM MODE, 54 SHOTS, 4 SCANS																													
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES.																													

Service Ticket No.		901632151		API No.		05-045-22219-0000		PGM Ver		14.05.12001	
The Well Name, Location, Borehole Description, and / or Cementing Data Furnished by Client											
EQUIPMENT DATA											
TELEMETRY			CEMENT BOND TOOL			CAST INSTRUMENT			CAST MANDREL		
Run No.	ONE		Run No.	ONE		Run No.	ONE		Run No.	ONE	
Serial No.	10998321		Serial No.	12386763		Serial No.	11521102		Serial No.	11510756	
Model No.	TTTC-U-002		Model No.	CBL-M		Model No.	CAST-M		Model No.	CAST-M	
Diameter	1.688"		Diameter	2.75"		Diameter	2.75"		Diameter	3.125"	
LOGGING DATA											
General Data											
Pass	Depths			Well Head		Speed		Logging Run Comments			
No	From		To		Pressure		Ft/Min				

No.	6080'	100'	2000#	50	MAIN LOG SECTION			
	GAMMA RAY		AMPLITUDE		MSG		ZMAP	
Pass	Scale		Scale		Scale		Scale	
No.	L	R	L	R	L	R	L	L
ONE	0	150	0	100	200	1160	0	6.15
DIRECTIONAL INFORMATION								
Maximum Deviation		N/A	deg. @	N/A	KOP	N/A		

HALLIBURTON

MAIN LOG SECTION

5" = 100'
2000 PSI

Database File

kp_422_9_cast.db

Dataset Pathname

MAIN1

Presentation Format

hcastcbl2

Dataset Creation

Sun Aug 31 10:41:21 2014

Charted by

Depth in Feet scaled 1:240

0

ECC (in)

1

0

OVAL (in)

0.2

0

GR (GAPI)

150

-1

DEV (deg)

90

ACCL

RB

(deg)

0

360

LTEN

(lb)

0

2500

0

AMP (mV)

100

0

AAMP (mV)

20

TT3FT

353

(usec)

253

200

MSG

1160

10

110

TT3FT

200

(usec)

1200

10

zc_av (MRayl)

0

10

zc_min (MRayl)

0

220

FTT (usec/ft)

120

10

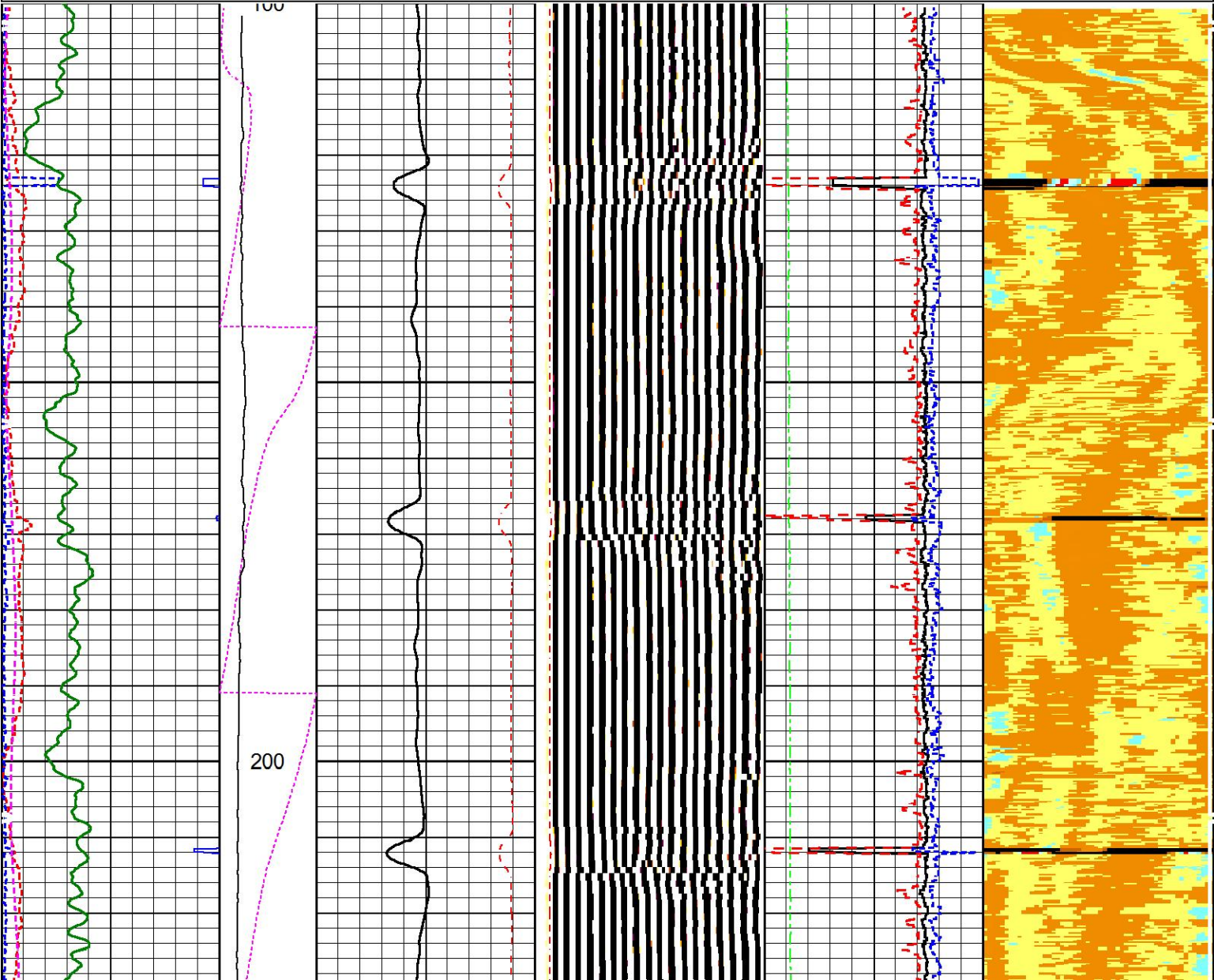
zc_max (MRayl)

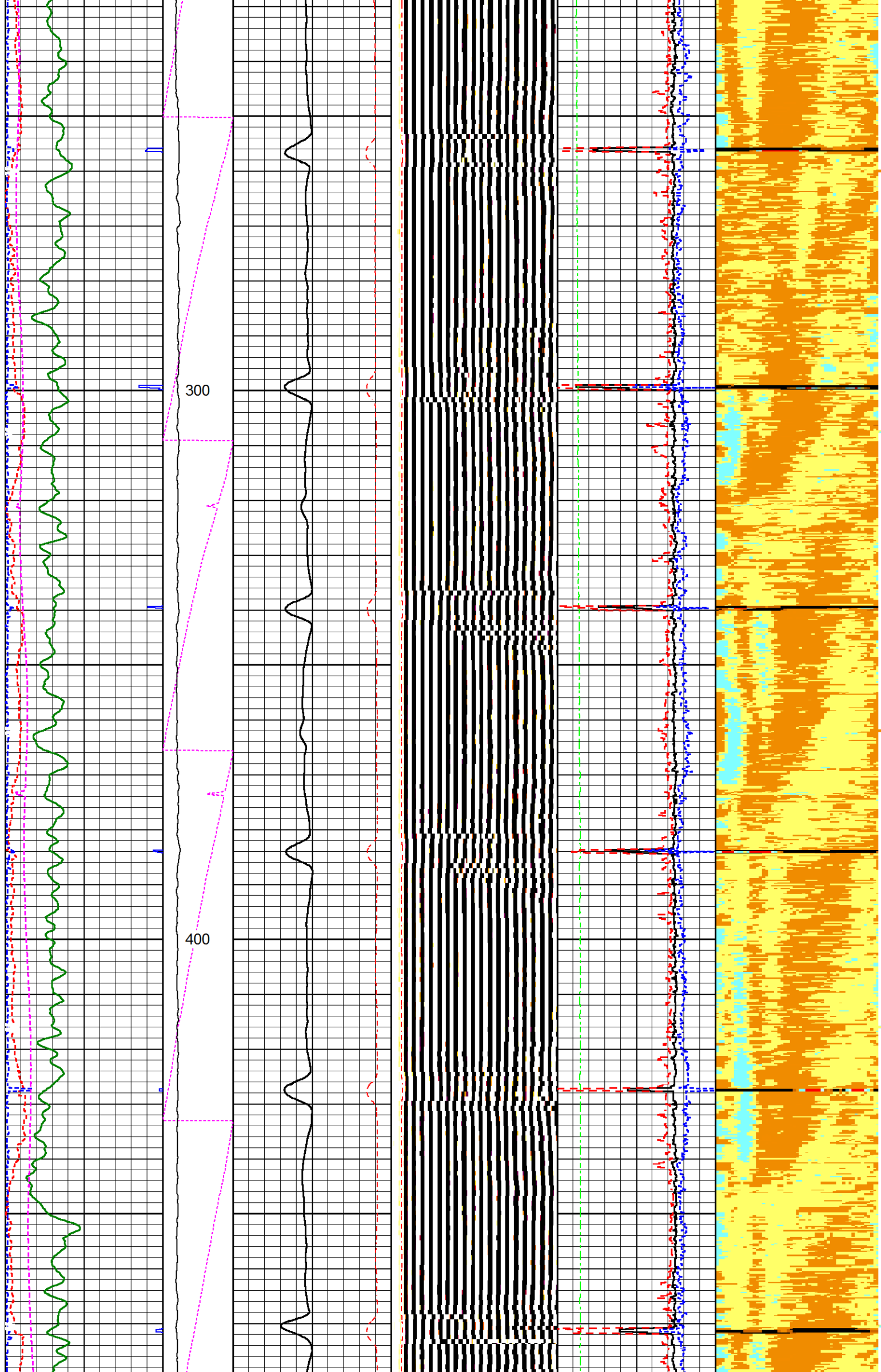
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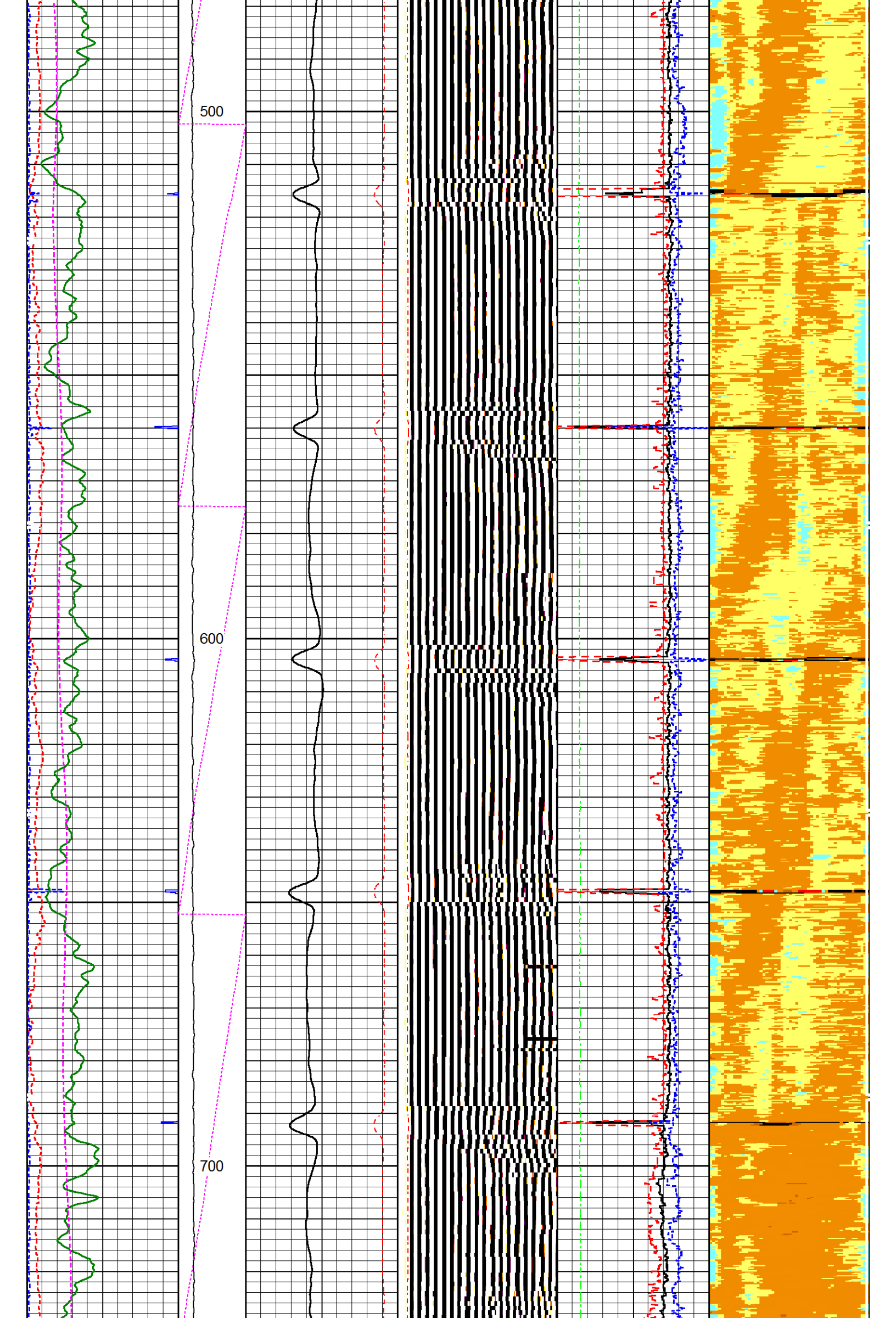
ZMAP

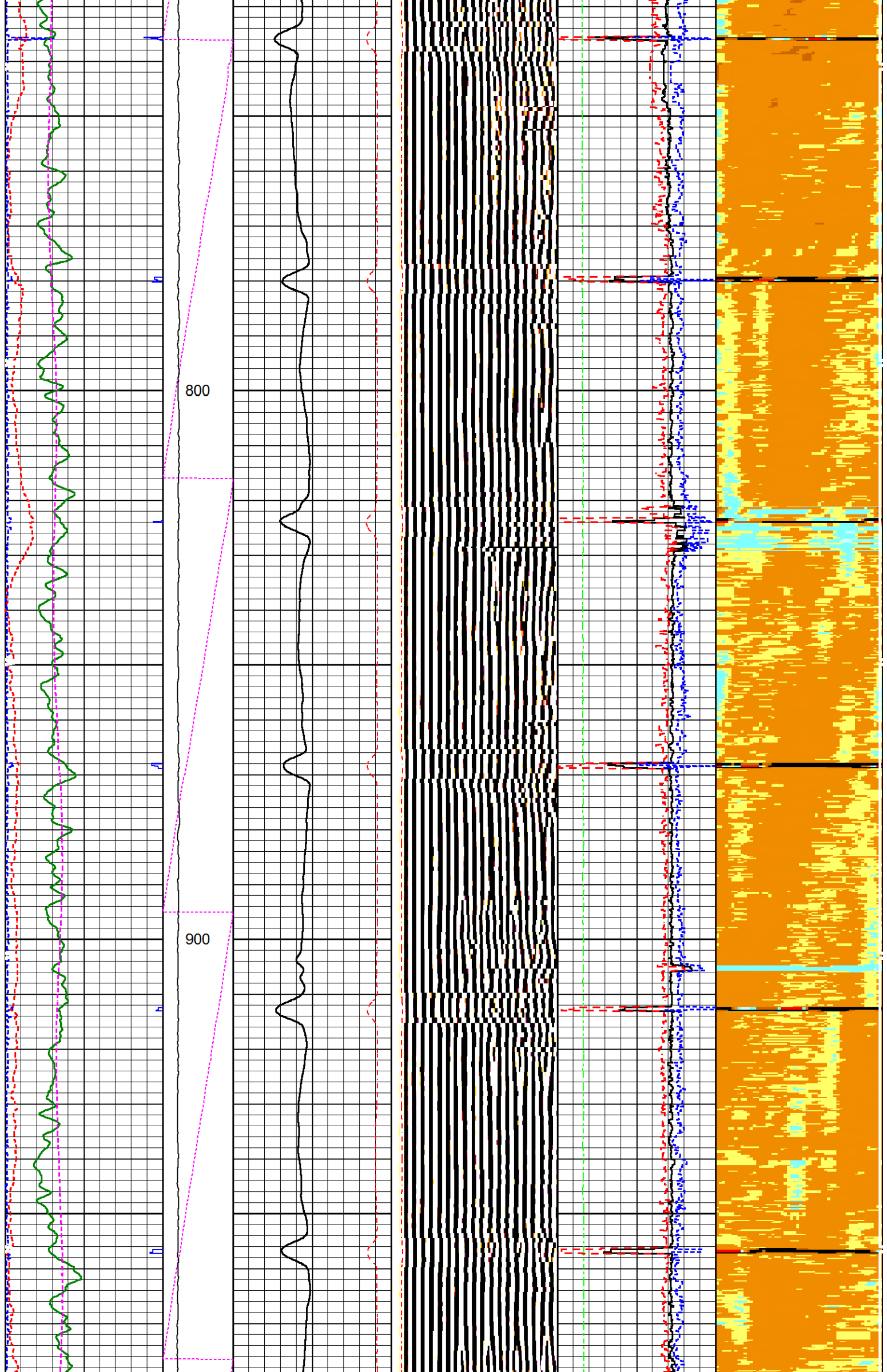
360

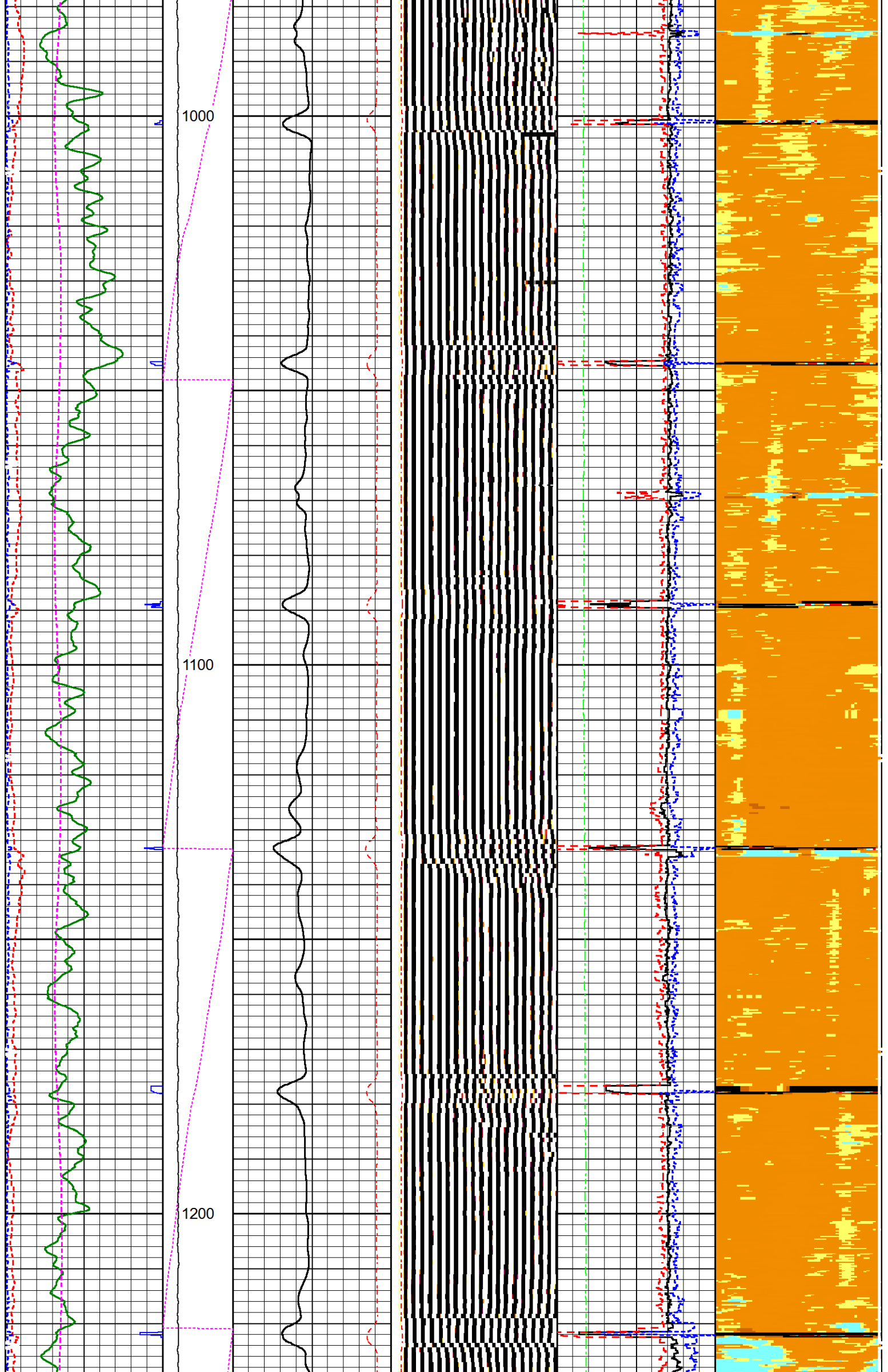
6.15

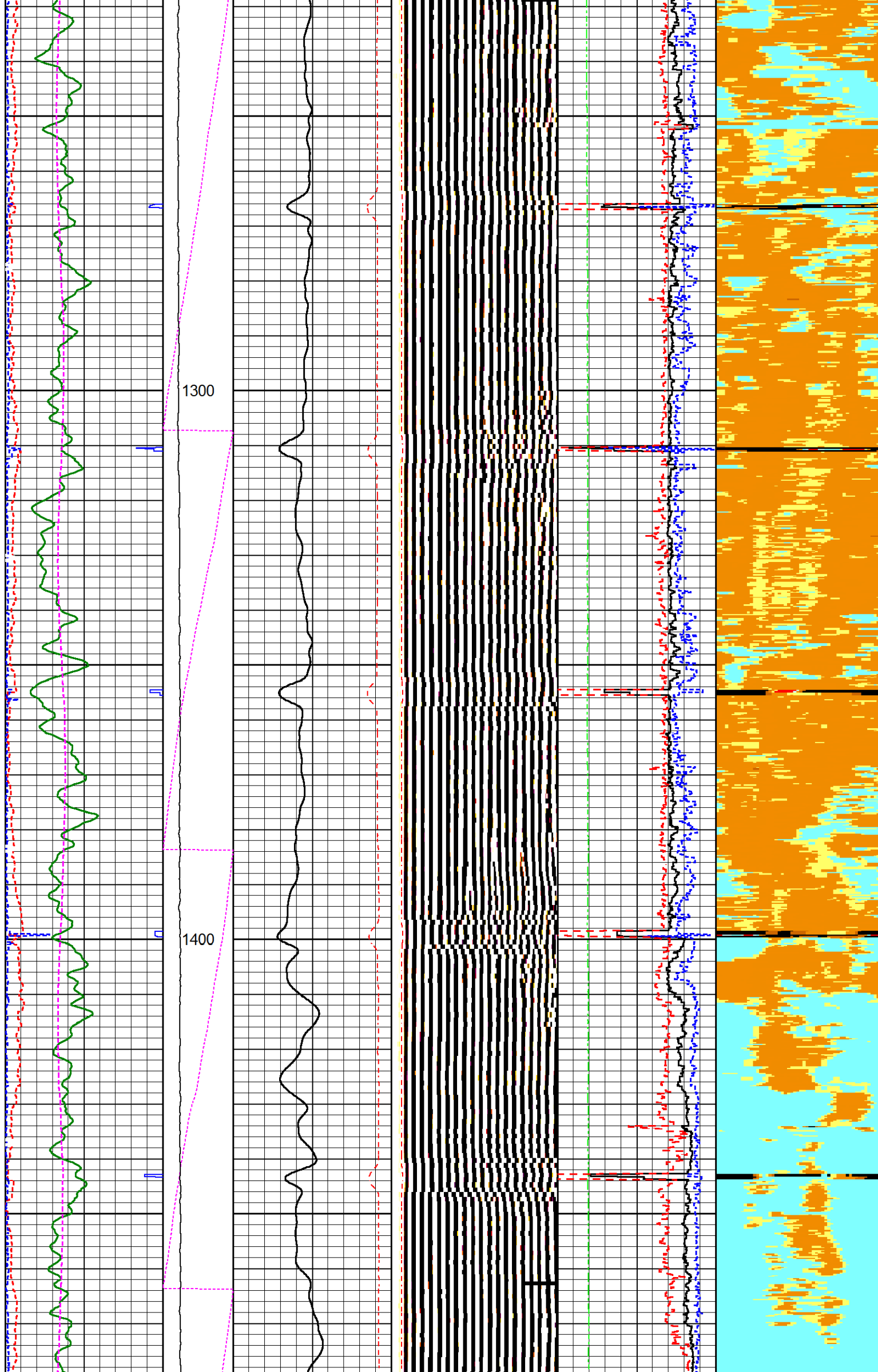


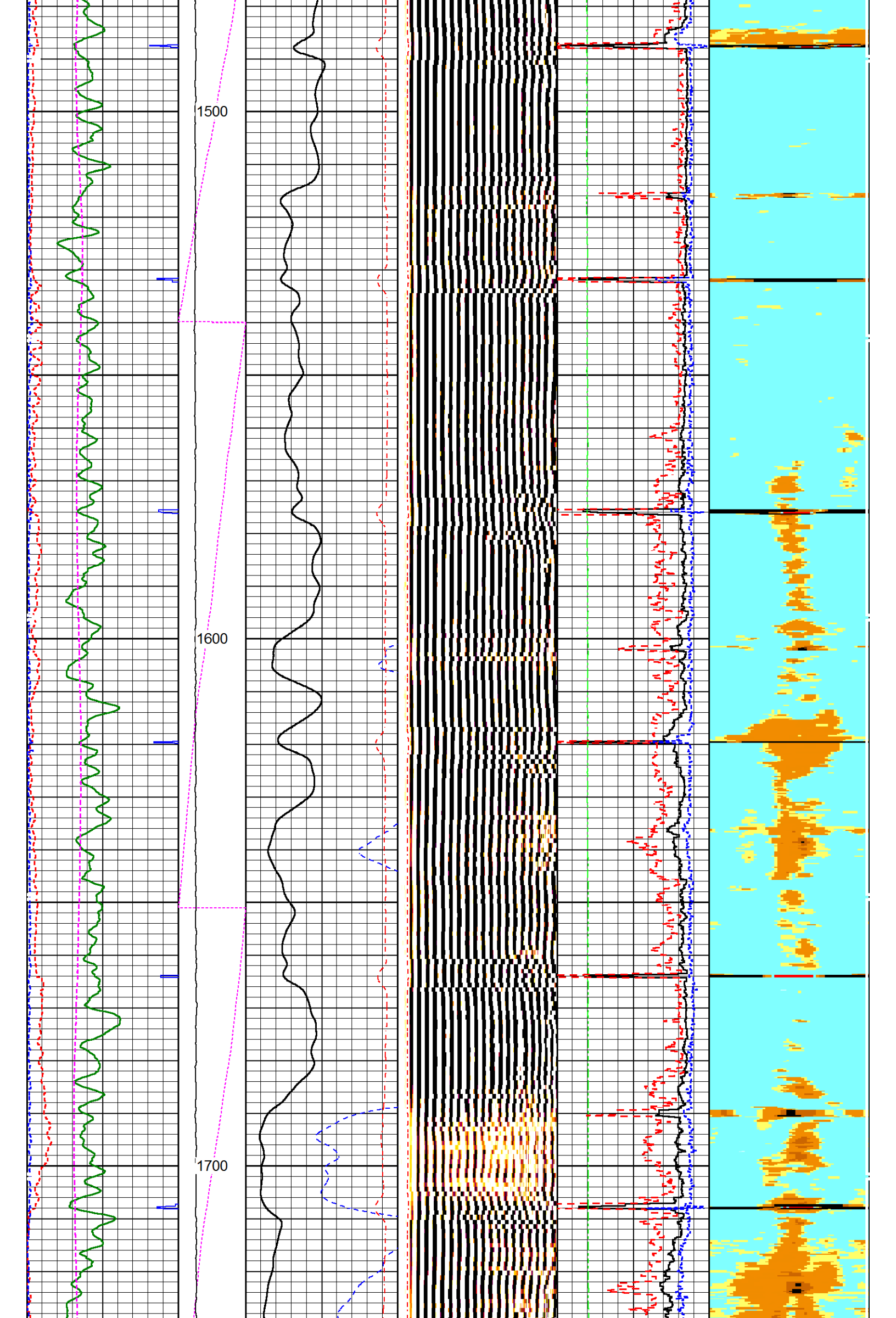


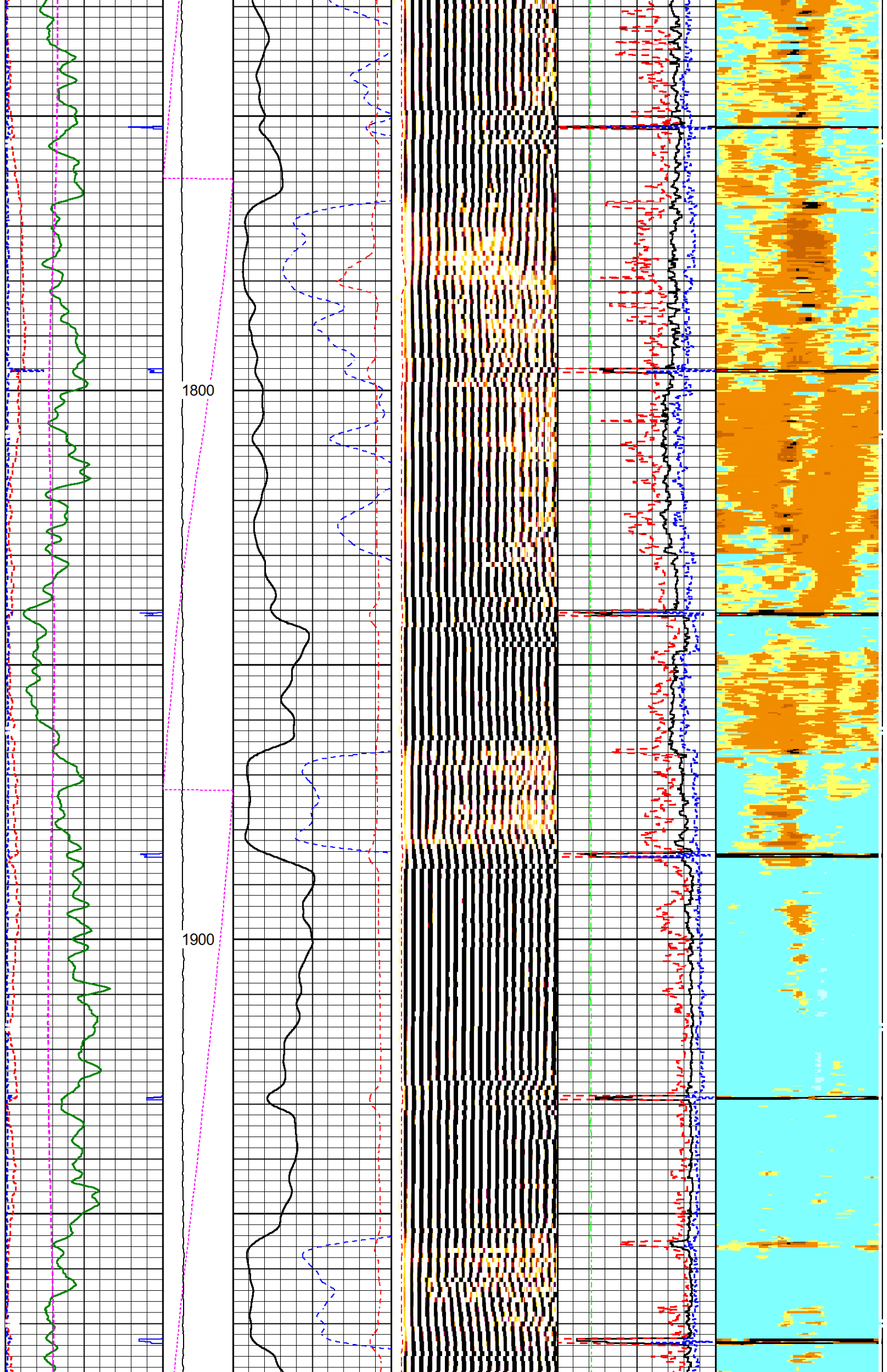


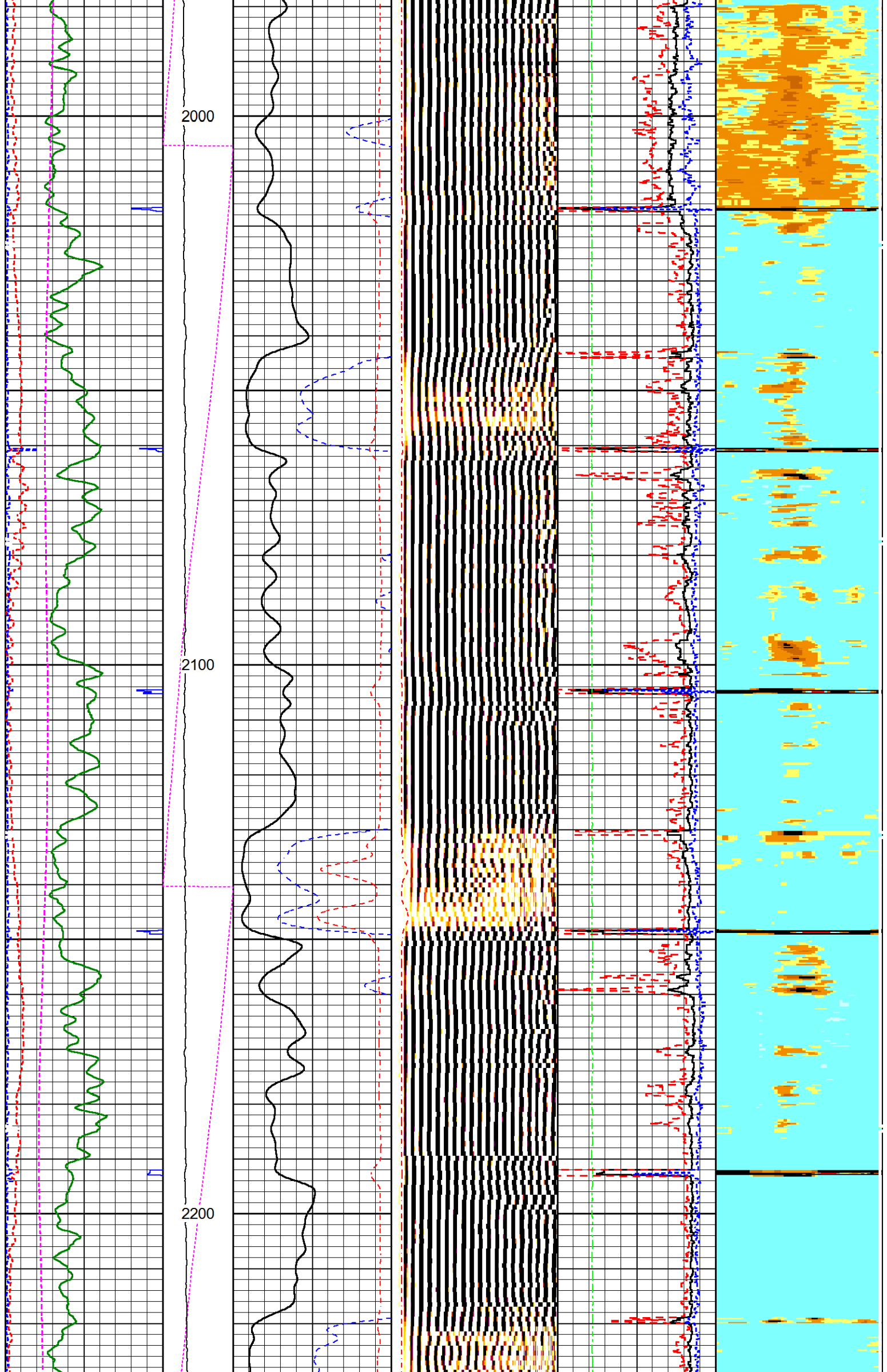


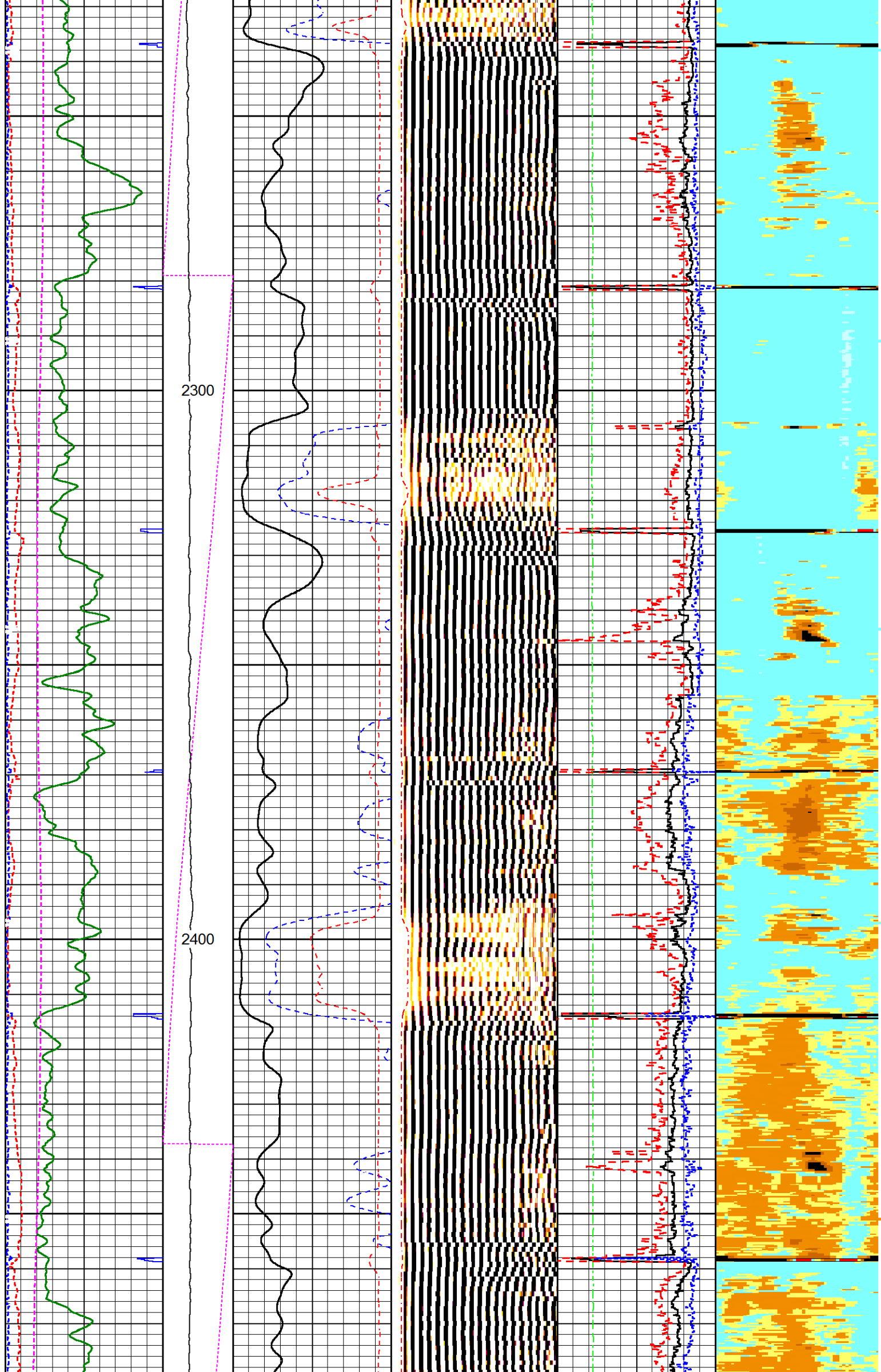


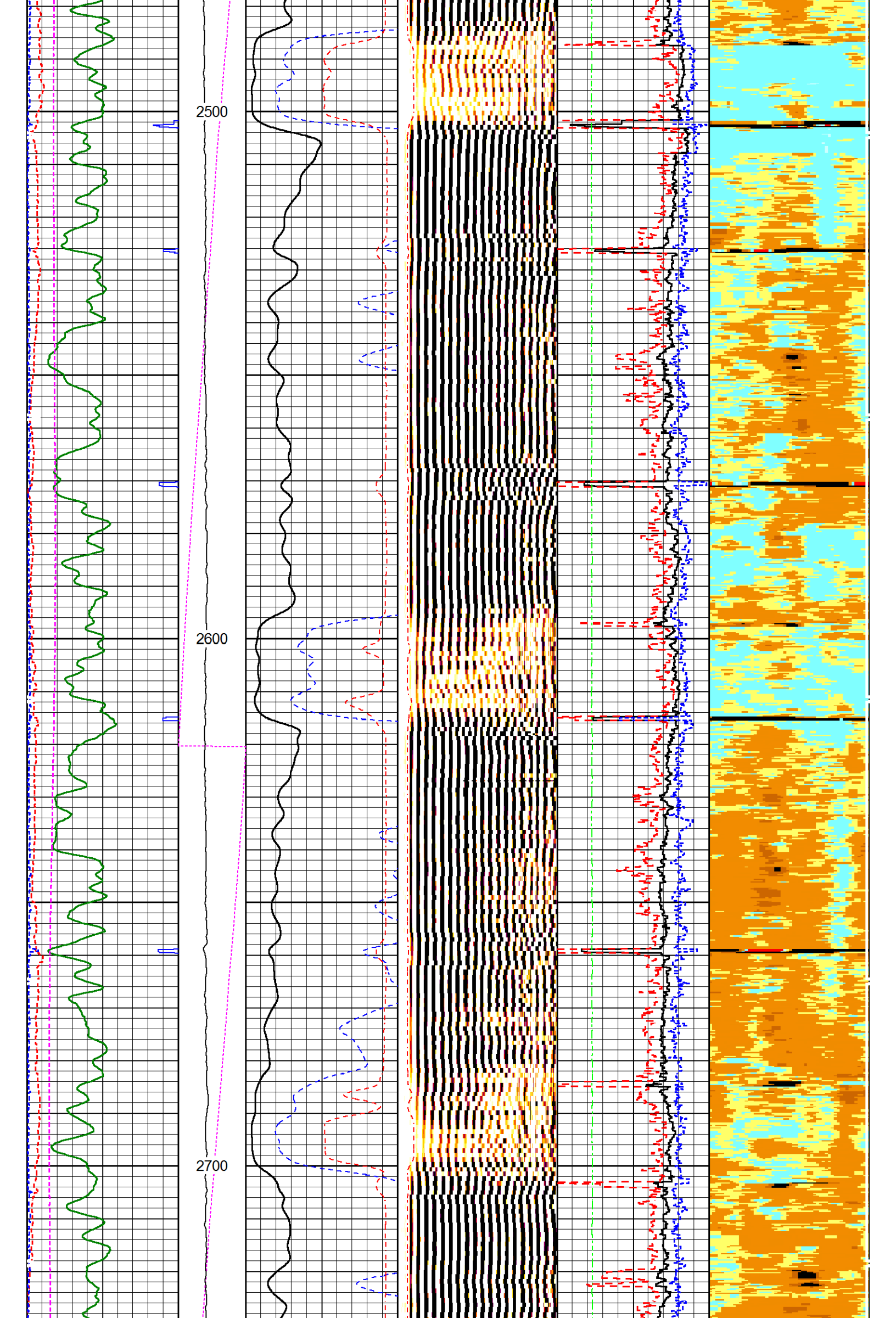


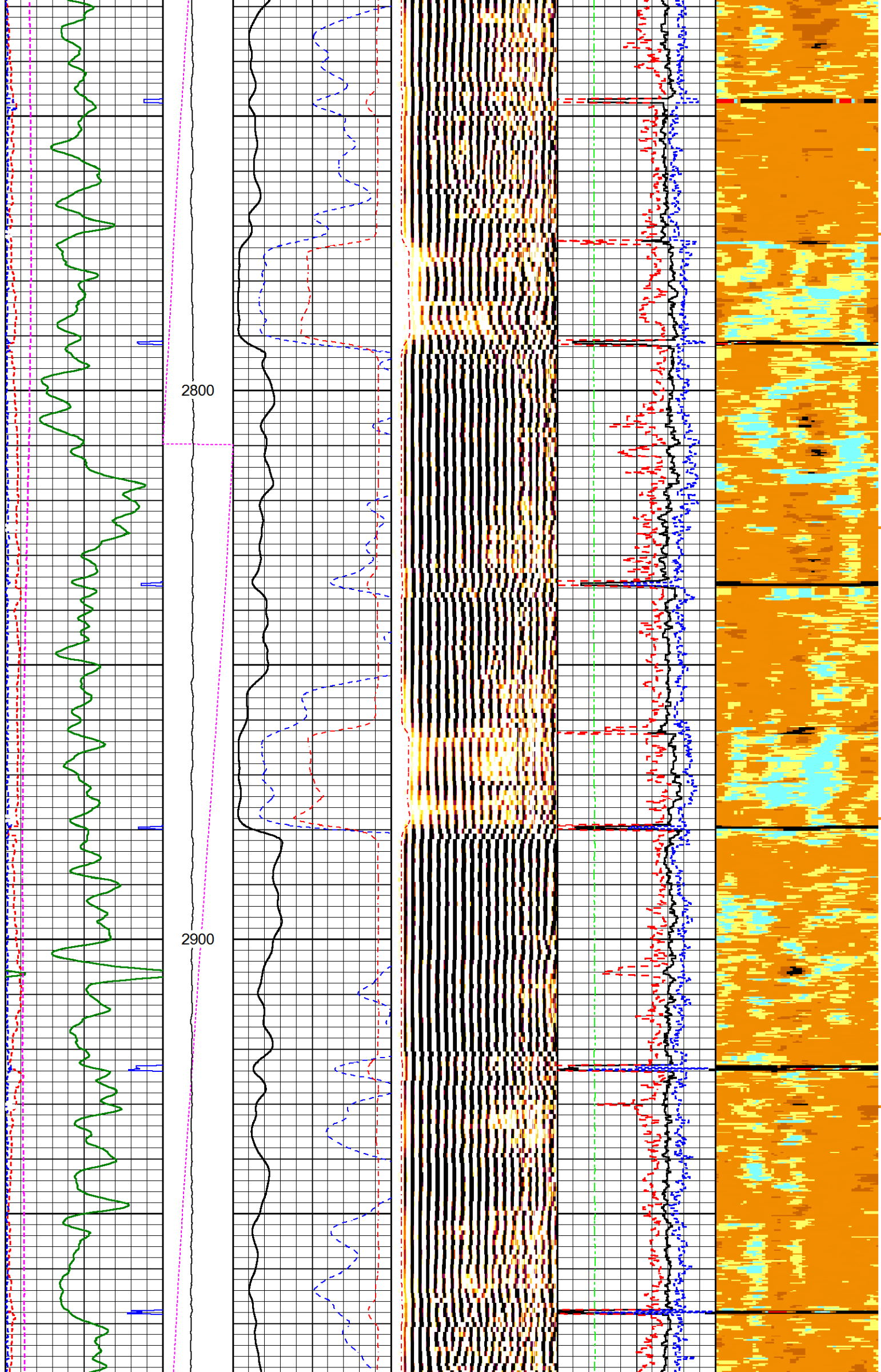


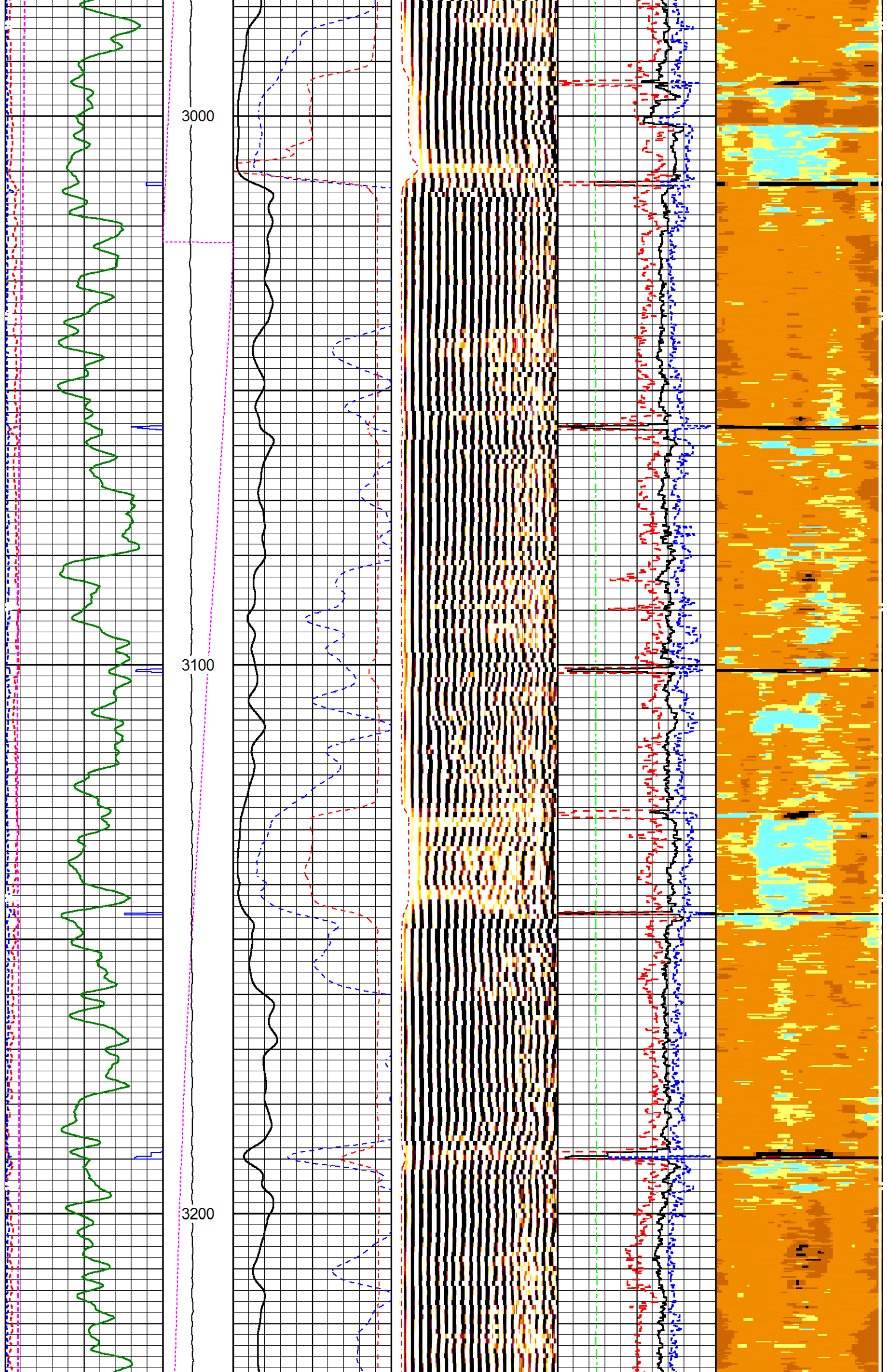


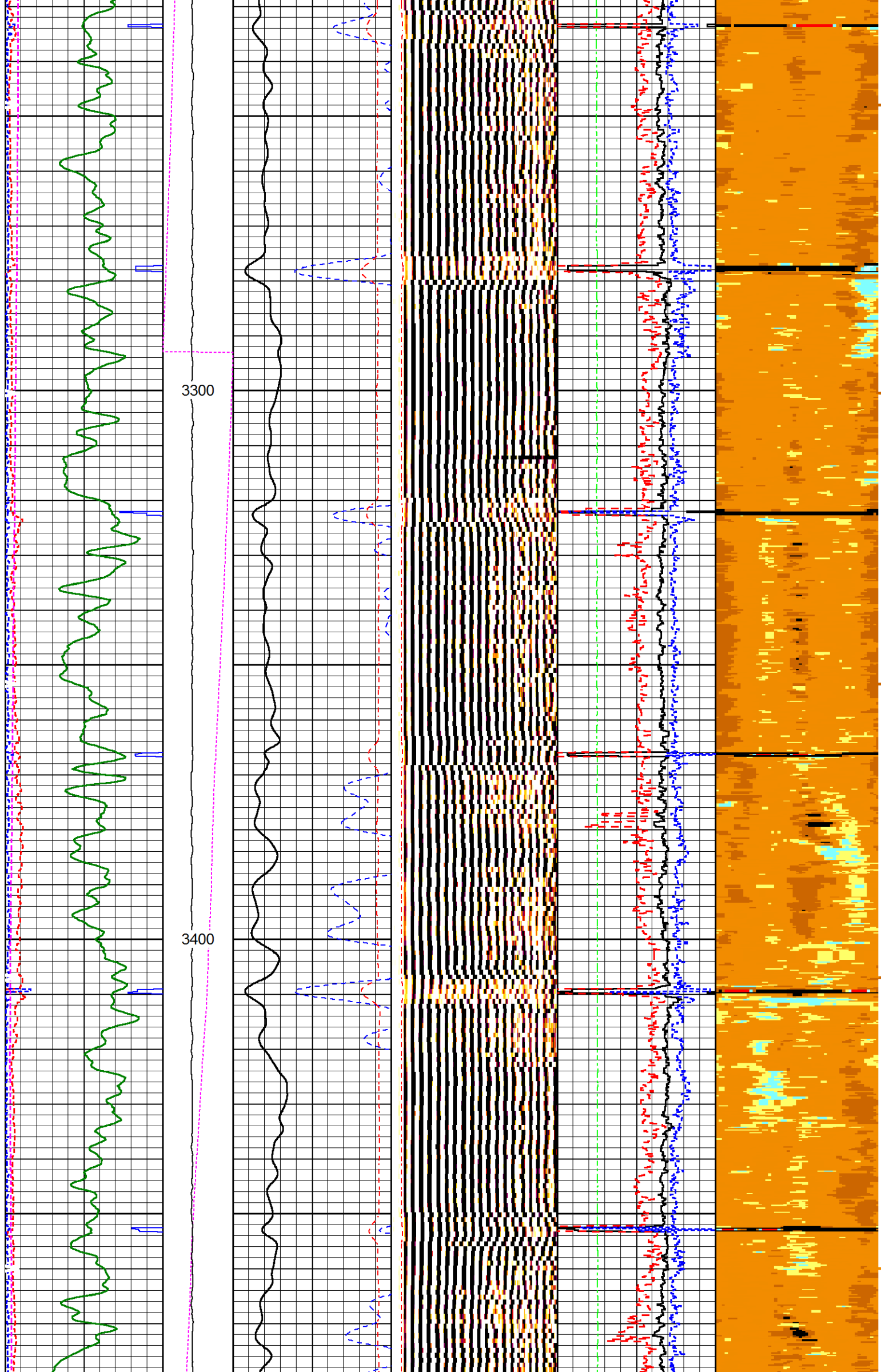


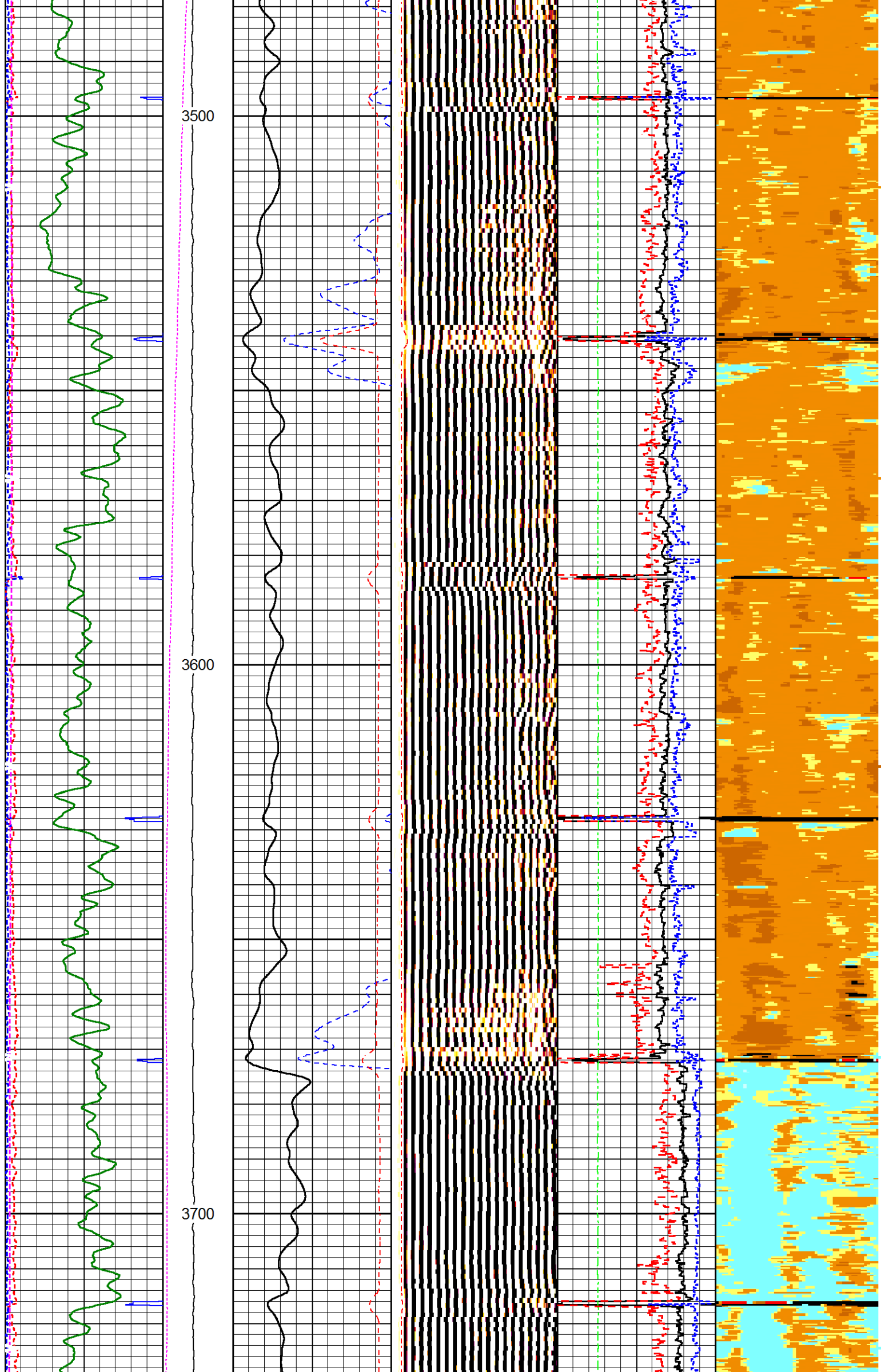


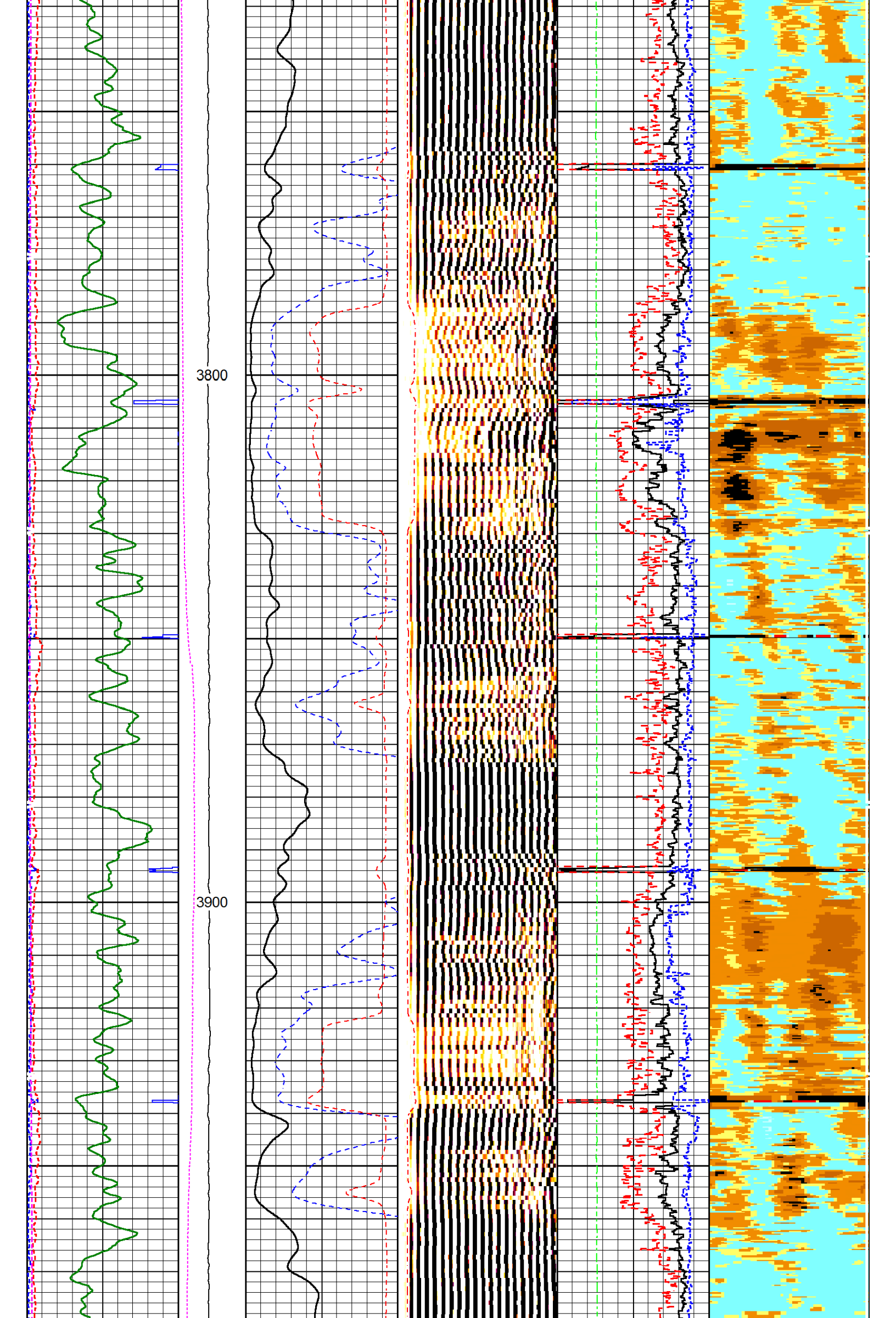


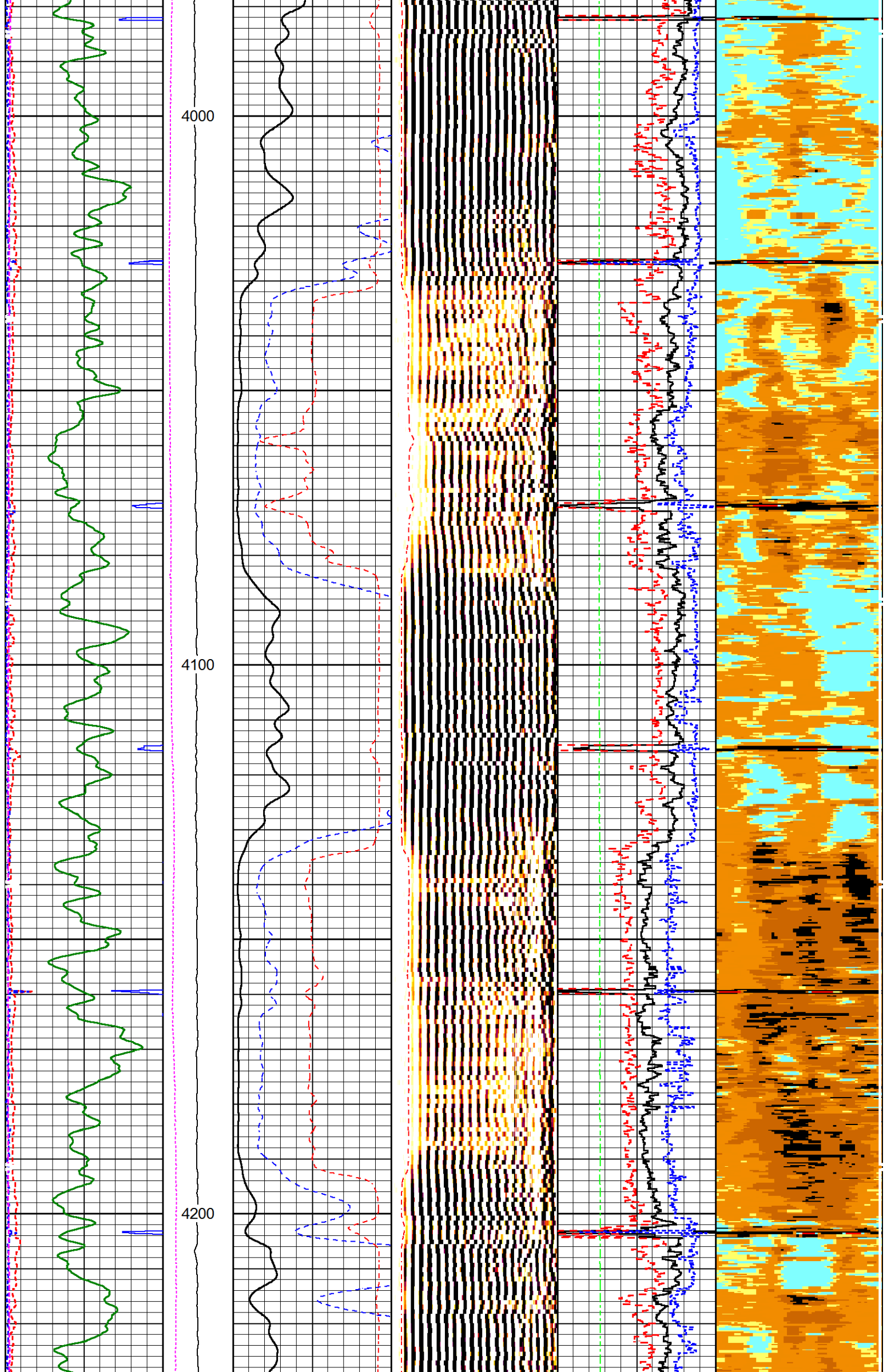


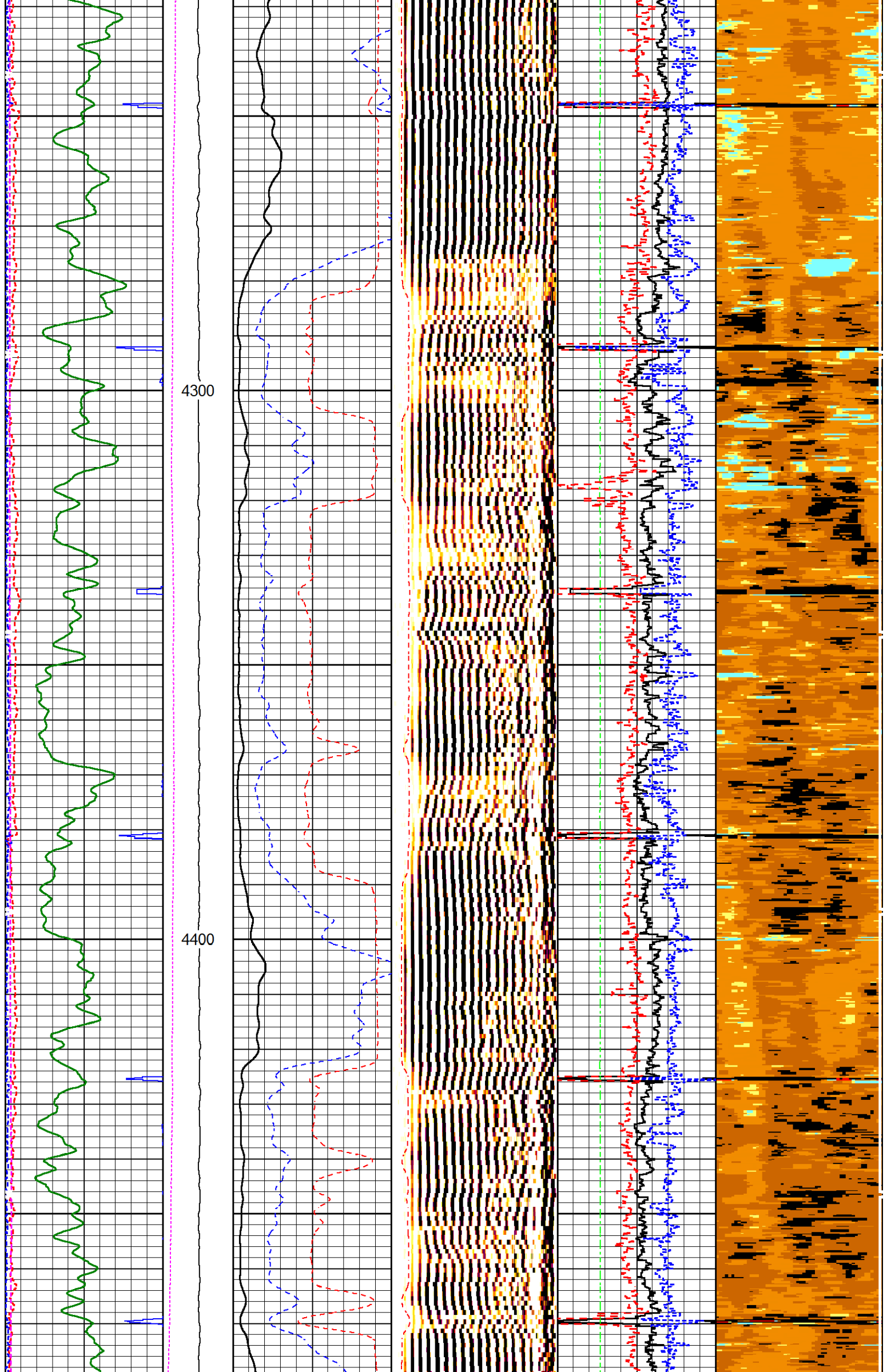


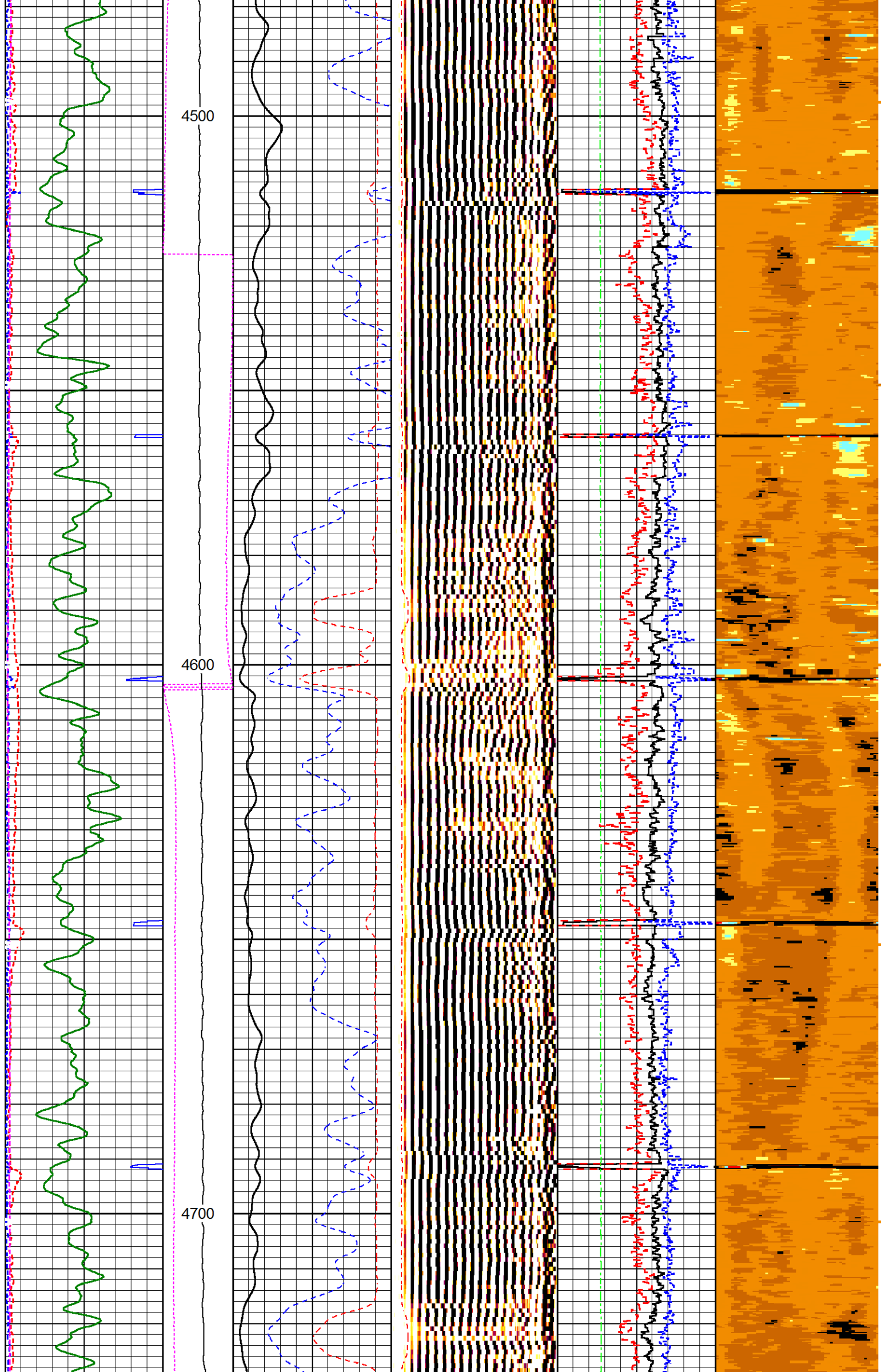


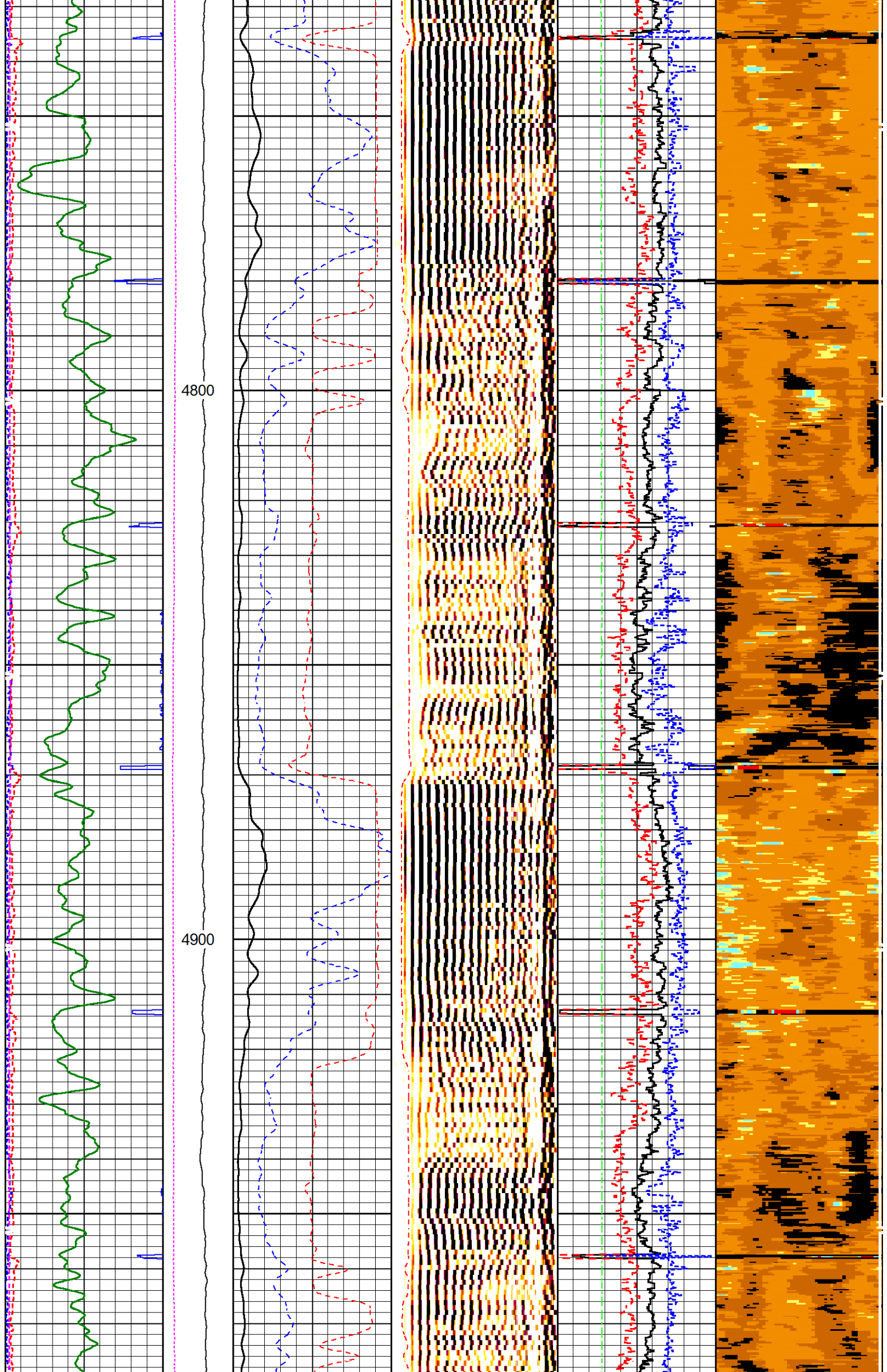


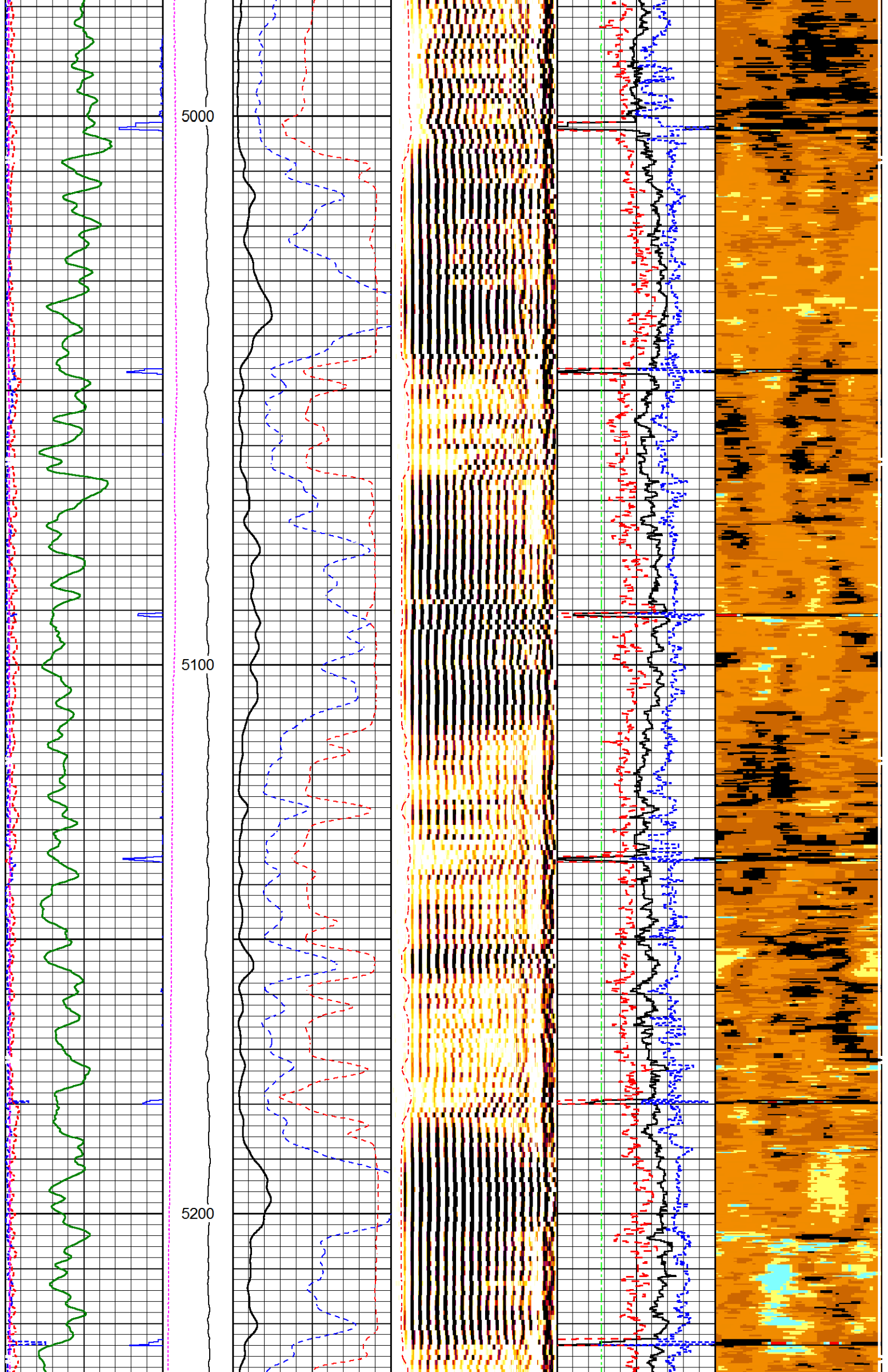


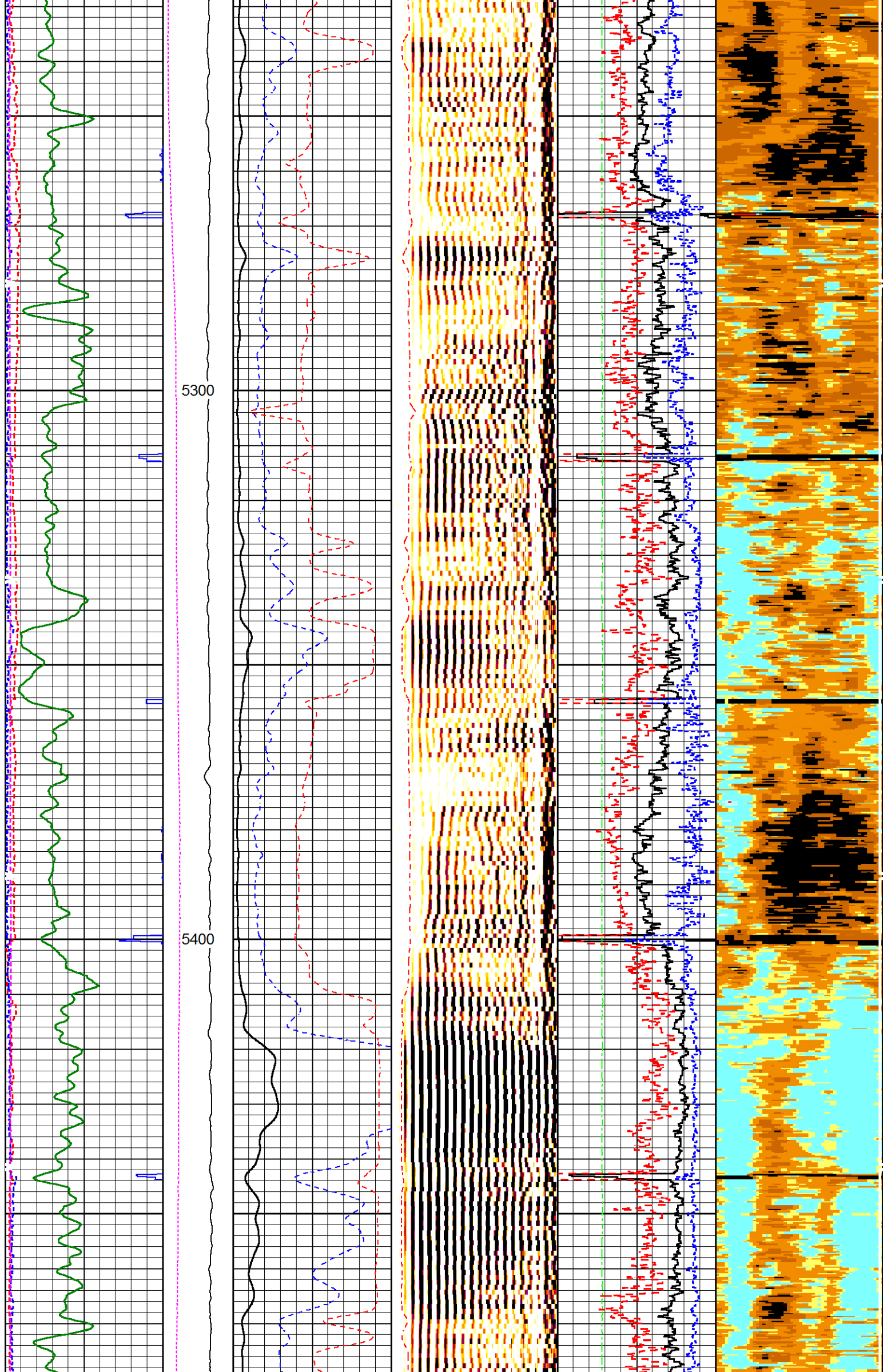


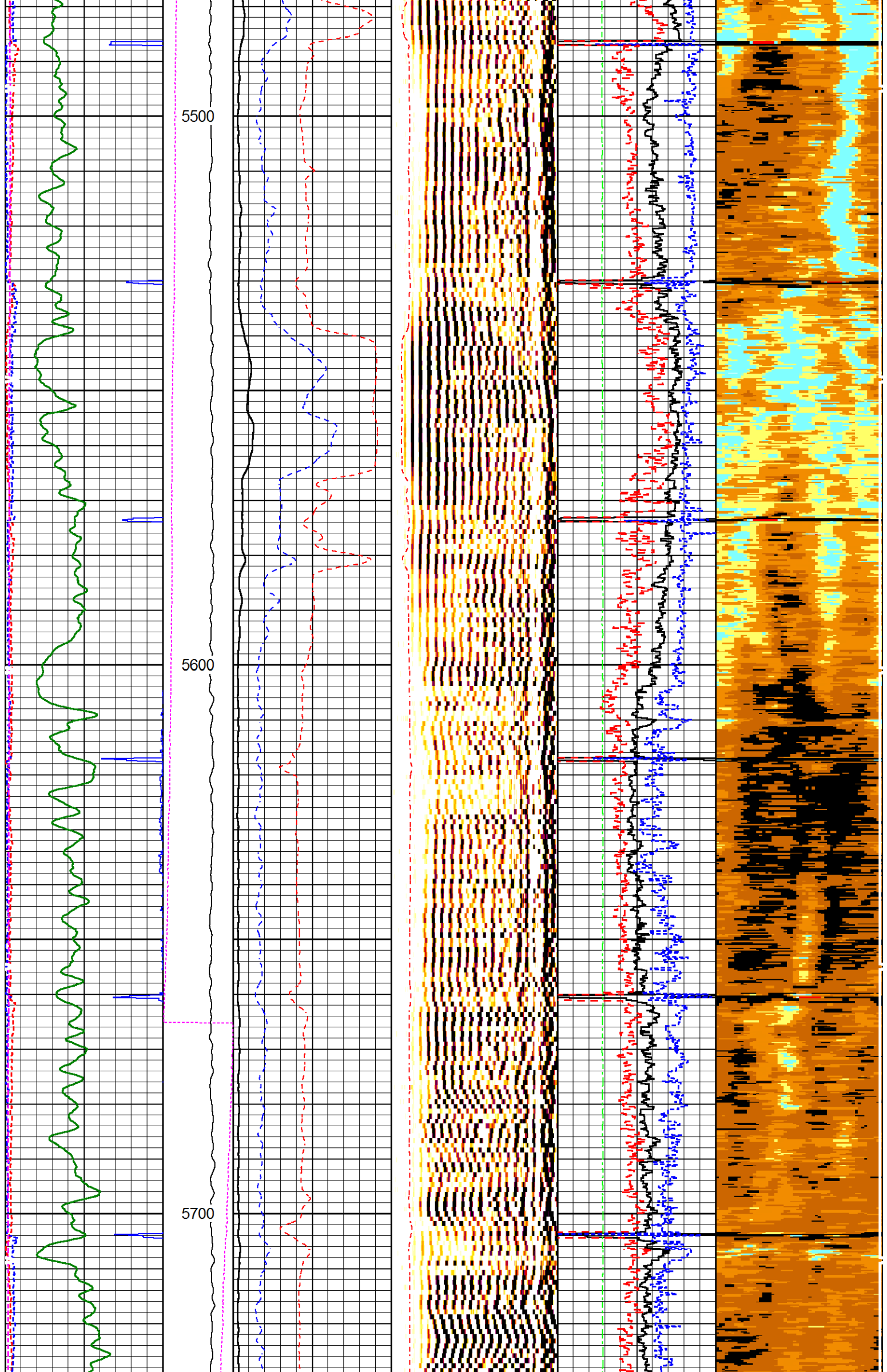


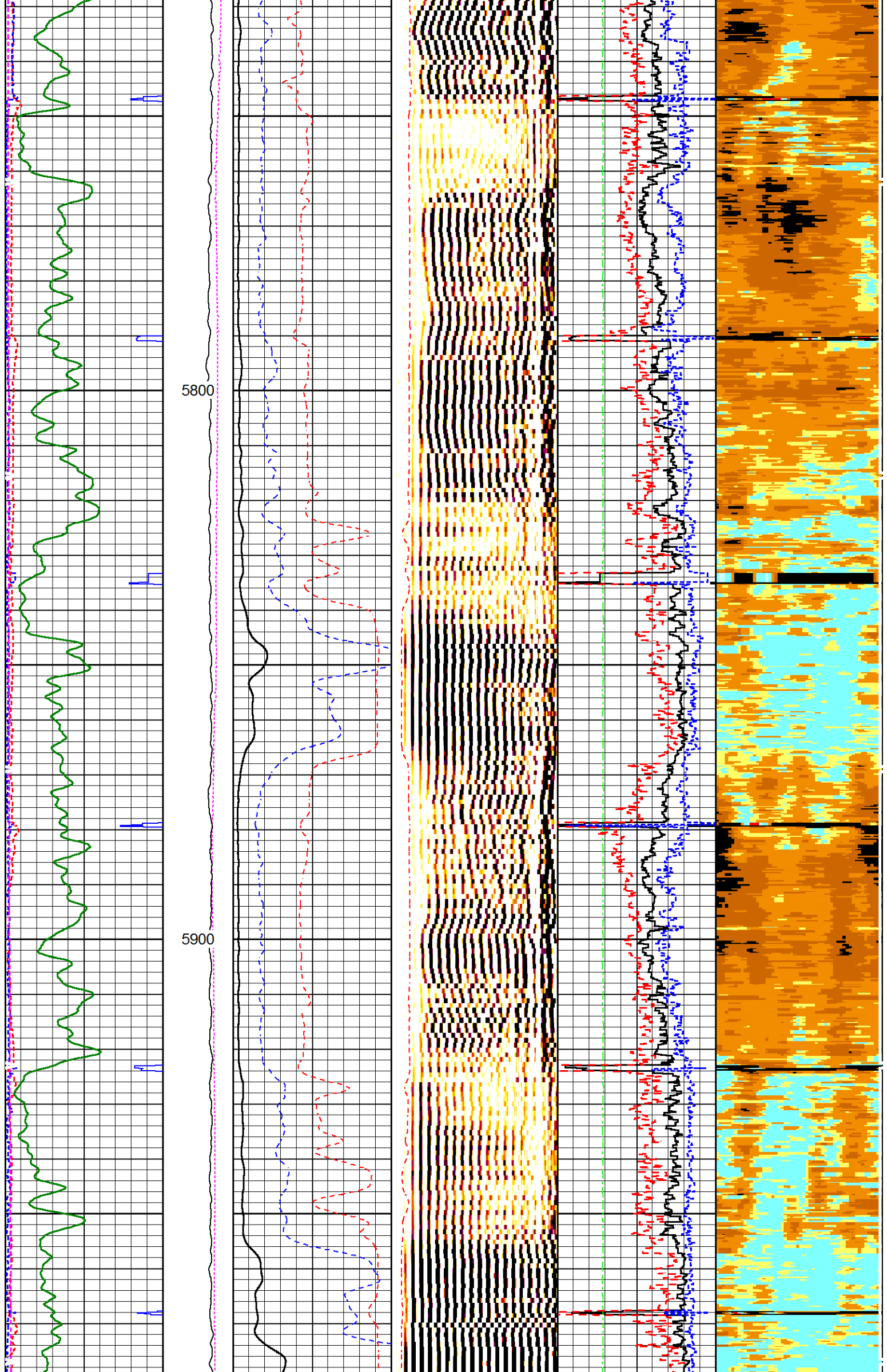


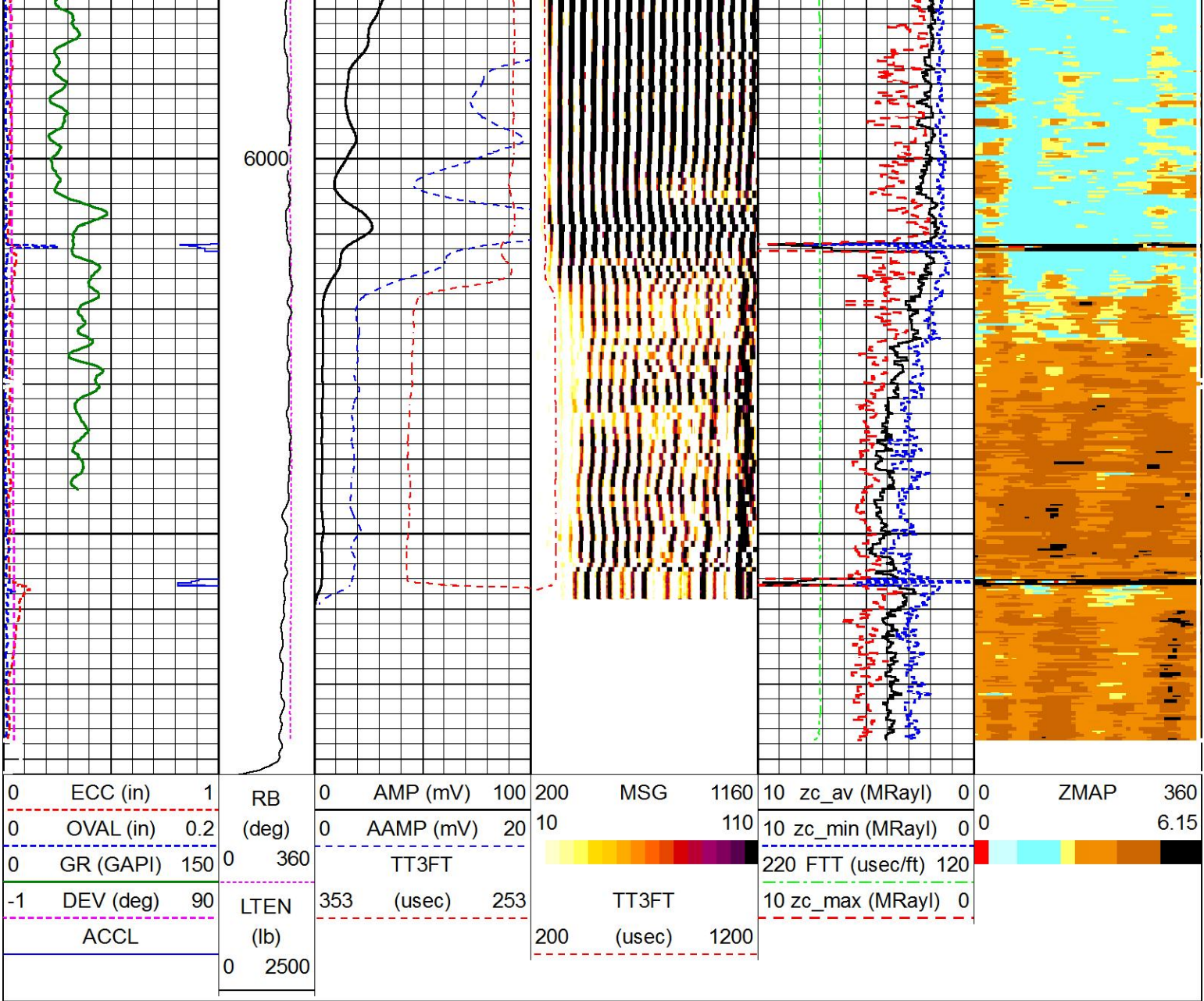












MAIN LOG SECTION

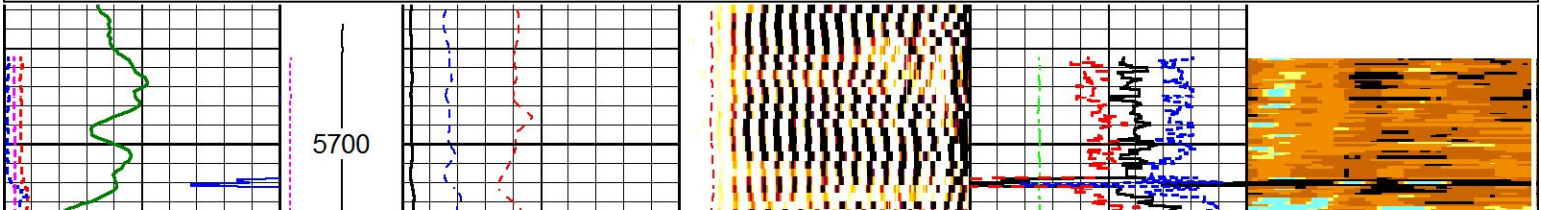
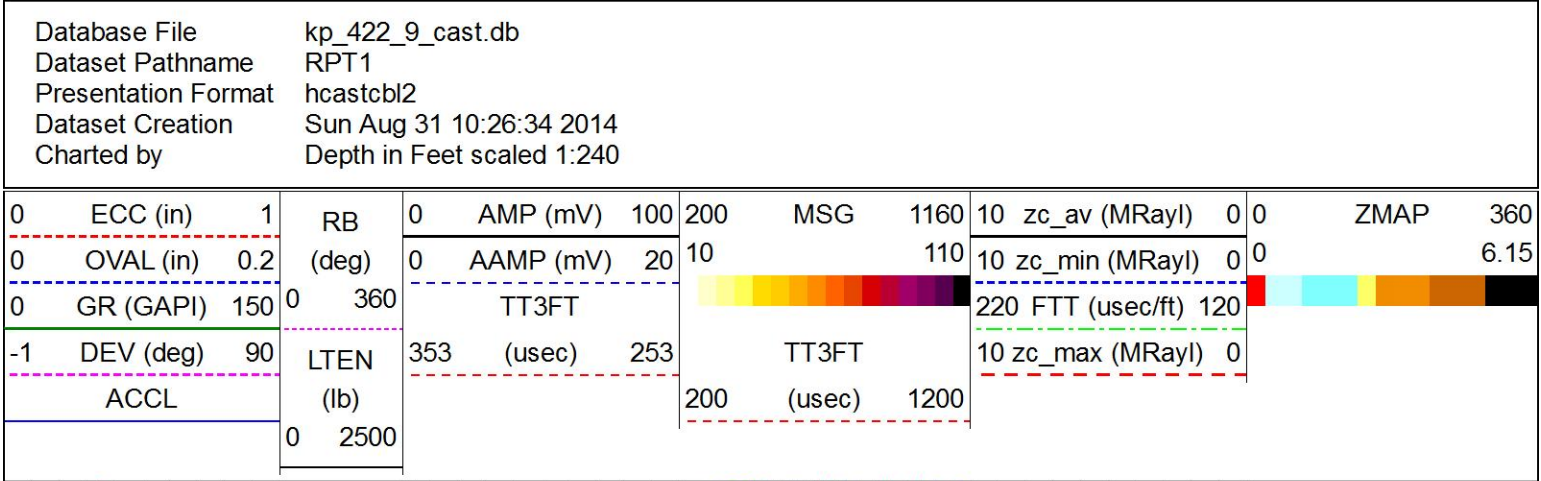
HALLIBURTON

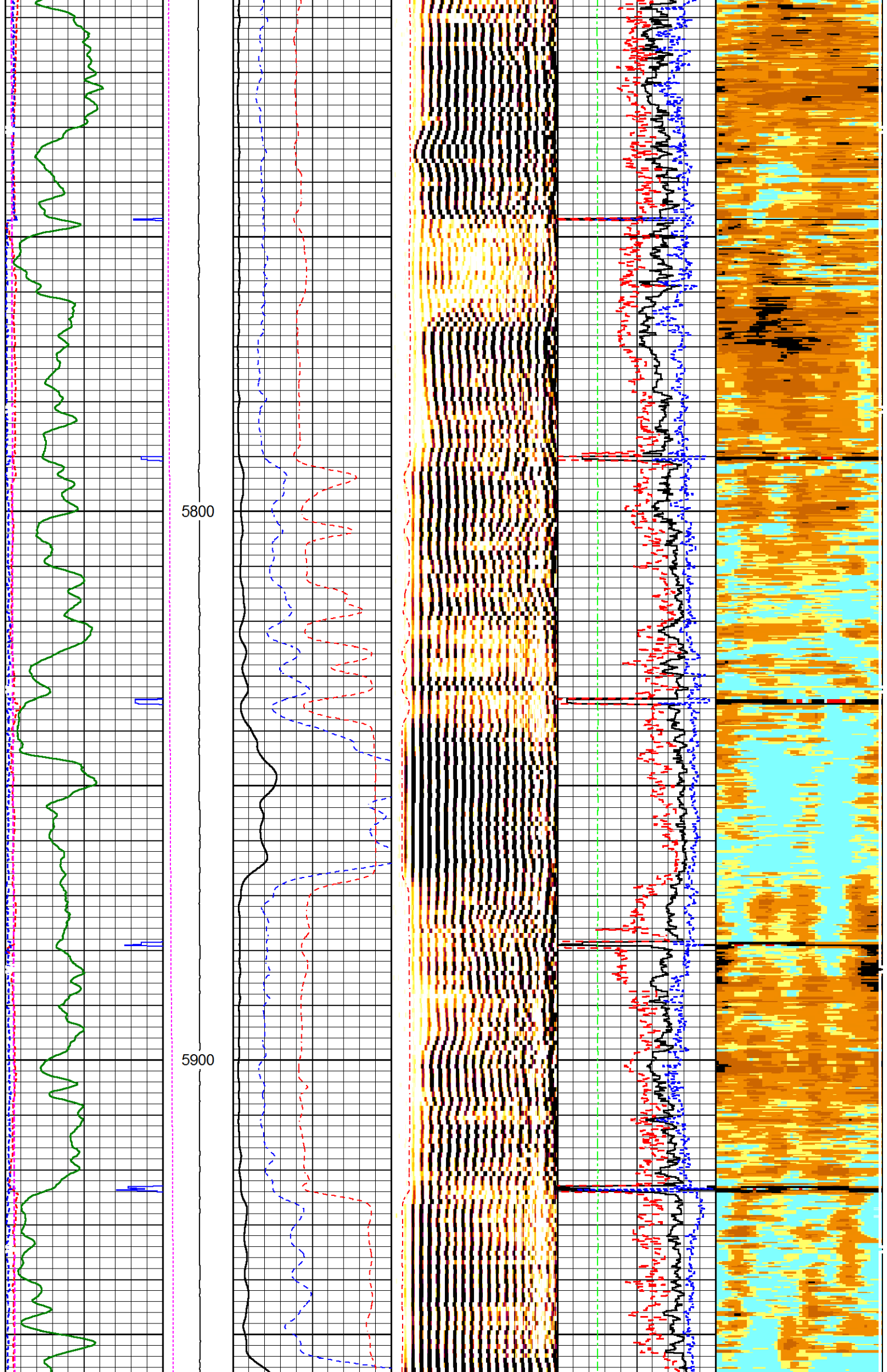
5" = 100'
2000 PSI

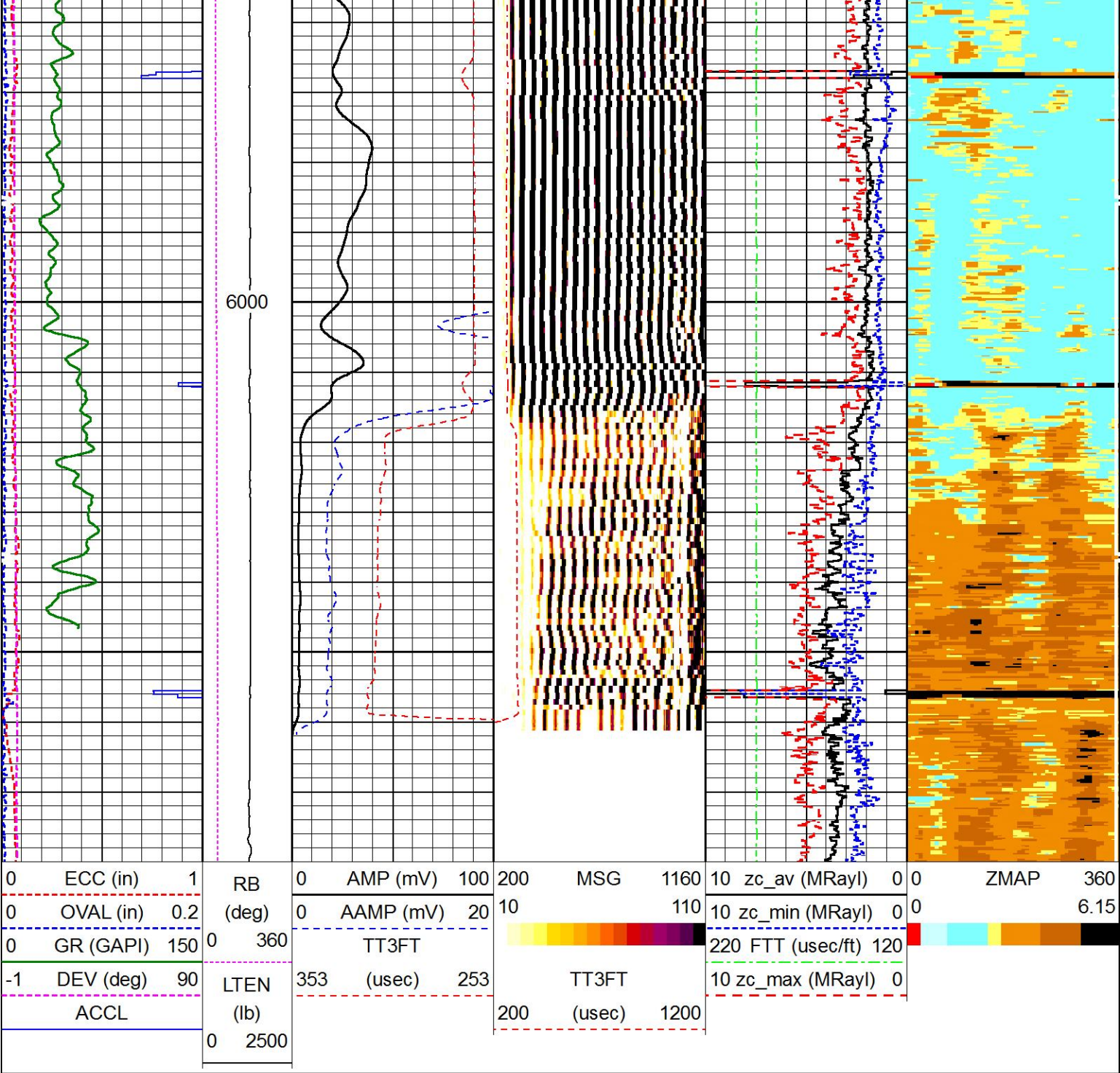
REPEAT LOG SECTION

HALLIBURTON

5" = 100'
0 PSI







REPEAT LOG SECTION

HALLIBURTON

5" = 100'
0 PSI

Log Variables

DatabaseD:\Warrior_data\kp_422_9_cast.db
Dataset field\well\run1\MAIN1

Top - Bottom

BHTEMP_Src	MSGGN	USERFTT u sec/ft	ZREF MRayl	CASEWGHT lb/ft	SRFTEMP degF	MudWgt lb/gal	CASETHCK in
1	1	0	1.7	17	0	8.4	0.304
CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BITSIZE in			
5.5	0	0	100	8.75			

Calibration Report

Database File kp_422_9_cast.db
Dataset Pathname MAIN1
Dataset Creation Sun Aug 31 10:41:21 2014

Serial-Model:		358EXT_756-3 5/8 EXT SCAN			
Calibration Performed:		Fri Aug 29 13:14:13 2014			
		Mudcell Transducer		Main Transducer	
		Measured	Expected	Measured	Expected
W/O Calibrator		47.80	44.00	N/A	N/A
W Calibrator		39.20	35.00	55.69	50.00
Calibrated Offsets					
		Value	Units		
TCAL		5.6923	usec		
MCAL		4.7997	usec		

XY Accelerometers Calibration Report						
Performed:	(Not Performed)					
	Low Read.	High Read.		Low Ref.	High Ref.	
X Accelerometer	0.000	1.000	gee	0.000	1.000	gee
Y Accelerometer	0.000	1.000	gee	0.000	1.000	gee




Cement Bond Log Shop Calibration Report		
Serial-Model:	12386763-A	
Calibration Performed:	Fri Aug 08 16:48:55 2014	
Free Pipe Calibration		
TT	Measured	Units
	263.0	usec
Amplitude	799.2	mV
Log Base Line	-4.5	mV
Calibration References and Gain		
Name	Value	Units
Pipe O.D.	5.500	in
Pipe Weight	17.0	lb/ft
Pipe Ref. Amp.	71.9	mV
Amp. Gain	0.089	



Gamma Ray Calibration Report	
Type / Serial:	002 / 10998321

SHOP CALIBRATION		Sun Aug 31 08:43:33 2014			
Background Calibrator	Counts/Sec.	Gain	Offset	Jig	Units
	40.1				cps
	323.1	1.4418			cps GAPI/cps
PRIMARY VERIFICATION		Sun Aug 31 08:46:08 2014			
Background Calibrator Difference	56.8				cps
	468.3				cps
				411.5	GAPI
BEFORE SURVEY VERIFICATION					
Background Calibrator Difference	0.0				cps
	0.0				cps
				0.0	GAPI

AFTER SURVEY VERIFICATION

Background	0.0		cps
Calibrator	0.0		cps
Difference		0.0	GAPI

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
CCL	38.47		STNDCH-STND_CH 1.4375 IN CABLE HEAD	1.13	1.44	1.00
GR	36.21					
Temp	26.49					
TT3FT	24.24					
AMP3FT	24.24					
WVF5FT	23.28					
TLINITCNT	19.76		TTTCU-002 (10998321) Through Tubing Telemetry Cartridge - Ultrawire	7.65	1.69	100.00
CbICTT	19.76					
CbICCsgWgt	19.76					
CbICCsgOD	19.76					
CbICamp	19.76					
CbIBLine	19.76					
CbITTTthresh	19.76		XHU-003 (11721044) Crossover Halliburton 1553 to Ultrawire	1.58	1.69	7.00
CbIAGate	19.76					
CbILWvCnt	19.76		CENT-CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00
CbICStat	19.76					
CbIIVolt	19.76					
CbIITemp	19.76					
CbISeqNum	19.76					
CbITStat	19.76					
WVF3FT	19.76					
MCWV	4.54					
HVOLTX	0.00		HCBLM-A (12386763) Halliburton HCBLM Tool	9.38	2.75	116.00
ITEMPX	0.00					
TSTAMP	0.00					
XHUCUR4	0.00					
XHUCUR3	0.00					
XHUCUR2	0.00					
XHUCUR1	0.00					
XHUSTAT	0.00					
XHUTEMP	0.00		CENT-CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00
XHUERR2	0.00					
XHUERR1	0.00					
TLINITCNT	0.00					
MSpd	0.00		TMDL_FLEX-FLEX TMDL FLEX	3.38	1.69	25.00
MCurr	0.00					
MVolt	0.00					
PsP400	0.00					
MTemp	0.00					
ITemp	0.00					
AccY2	0.00					
AccX2	0.00					
PsM15	0.00		HAL-CAST-M-ELECT-CAST-M-Elect (11527.572) CAST M ELECTRONIC	2.75	2.75	30.00
PsP15	0.00					
PsM5	0.00					
PsP5	0.00					
PsP3	0.00					
Ps0	0.00					
AccY1	0.00					
AccX1	0.00					
TStat	0.00					
LWV	0.00					
SCAN	0.00		HAL-CAST-M-3 5/8 EXT SCAN (358EXT_76.65) 3 5/8 EXT SCAN CASTM	76.65	3.13	276.00
LOCTIM	0.00					
UTCTIM	0.00					

LLMTEN	0.00					
Dataset: kp_422_9_cast.db: field/well/run1/MAIN1 Total length: 41.67 ft Total weight: 605.00 lb O.D.: 3.13 in						

Company	WPX ENERGY				
Well	STATE OF COLORADO KP 422-9				
Field	KOKOPELLI				
County	GARFIELD		State	CO	
HALLIBURTON	ACOUSTIC CEMENT BOND LOG CAST-M				