

Schlumberger

Company: Noble Energy Inc

Well: Scooter D 18-79HN

Field: Wattenberg

County: Weld

State: Colorado

Ultrasonic Imager  
Cement Evaluation

County: Weld

Field: Wattenberg

Location: NWNW Sec. 15, T3N, R64W

Well: Scooter D 18-79HN

Company: Noble Energy Inc

LOCATION

NWNW Sec. 15, T3N, R64W

SHL: 305' FNL X 657' FWL

Elev.: K.B.

G.L.

4811.00 ft

Permanent Datum: \_\_\_\_\_

Ground Level \_\_\_\_\_

Elev.: 4811.00 ft \_\_\_\_\_

Log Measured From: \_\_\_\_\_

Ground Level \_\_\_\_\_

0.00 ft above Perm. Datum

Drilling Measured From: \_\_\_\_\_

Kelly Bushing \_\_\_\_\_

API Serial No.

05-123-37980-000C

Section 18

Township 3N

Range 64W

PVT DATA			
Oil Density	Run 1	Run 2	Run 3
Water Salinity			
Gas Gravity			
Bo			
Bw			
1/Bg			
Bubble Point Pressure			
Bubble Point Temperature			
Solution GOR			
Maximum Deviation	90 deg		
CEMENTING DATA			
Primary/Squeeze	Primary		
Casing String No			
Lead Cement Type			
Volume			
Density			
Water Loss			
Additives			
Tail Cement Type			
Volume			
Density			
Water Loss			
Additives			
Expected Cement Top			

Logging Date	2-Jan-2014
Run Number	1
Depth Driller	12000 ft
Schlumberger Depth	7285 ft
Bottom Log Interval	7285 ft
Top Log Interval	0 ft
Casing Fluid Type	KCL Brine
Salinity	
Density	8.7 lbm/gal
Fluid Level	0 ft
BIT/CASING/TUBING STRING	
Bit Size	8.750 in
From	
To	
Casing/Tubing Size	7.000 in
Weight	26 lbm/ft
Grade	P-110
From	
To	
Maximum Recorded Temperatures	
Logger On Bottom	2-Jan-2014
Unit Number	3022
Location	Ft. Morgan, CO
Recorded By	Tim Hoffman
Witnessed By	Lewis Wandke

Logging Date	
Run Number	
Depth Driller	
Schlumberger Depth	
Bottom Log Interval	
Top Log Interval	
Casing Fluid Type	
Salinity	
Density	
Fluid Level	
BIT/CASING/TUBING STRING	
Bit Size	
From	
To	
Casing/Tubing Size	
Weight	
Grade	
From	
To	
Maximum Recorded Temperatures	
Logger On Bottom	
Unit Number	
Location	
Recorded By	
Witnessed By	

## DEPTH SUMMARY LISTING

Date Created: 2-JAN-2014 16:03:28

## Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW-B	Type:	CMTD-B/A	Type:	7-39P-LXS
Serial Number:	7249	Serial Number:	1109	Serial Number:	
Calibration Date:	12-Jun-2013	Calibration Date:	25-Nov-2013	Length:	15950 FT
Calibrator Serial Number:		Calibrator Serial Number:	78135	Conveyance Method:	Wireline
Calibration Cable Type:	7-39P-LXS	Number of Calibration Points:	10	Rig Type:	LAND
Wheel Correction 1:	-4	Calibration RMS:	22		
Wheel Correction 2:	-4	Calibration Peak Error:	37		

## Depth Control Parameters

Log Sequence:	First Log In the Well
Rig Up Length At Surface:	0.00 FT
Rig Up Length At Bottom:	0.00 FT
Rig Up Length Correction:	0.00 FT
<b>Stretch Correction:</b>	
Tool Zero Check At Surface:	


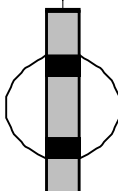

### Depth Control Remarks

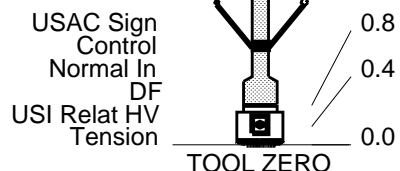
1. All Schlumberger depth policies followed.
2. IDW used as primary depth reference. Z-Chart used as secondary.
- 3.
- 4.
- 5.
- 6.

## DISCLAIMER

THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.

OTHER SERVICES1 OS1:   None OS2: OS3: OS4: OS5:	OTHER SERVICES2 OS1: OS2: OS3: OS4: OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
This is the first run in hole	
Toolstring run as per tool sketch	
Liner top set at 7311'	
Bridged in dogleg at 6740', logged out from there	

Repeat pass done without pressure						
Main pass done with 2,500 psi of pressure						
Lead cement – 12.5ppg Varicem B2						
Tail cement – 13.8ppg Expandacem B2						
Rig: Crane						
Crew: Jay Musgrave, Troy Ocanas						
RUN 1			RUN 2			
SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:			SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:			
CCN1-00037 19C2-270 0 ft						
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP	
EQUIPMENT DESCRIPTION						
RUN 1			RUN 2			
SURFACE EQUIPMENT						
GSR-U/Y WITM (DTS)-A						
DOWNHOLE EQUIPMENT						
LEH-QT LEH-QT		32.8				
DTC-H ECH-KC 10472 DTCH0-A DTCH1-A	CTEM  TelStatus ToolStatu	28.9 26.8				29.8
SGT-N SGH-K 2693 SGC-TB 9841 SGD-TAB 21365						26.8
Gamma Ray		25.9				
AH-CEN AH-CEN		21.3				
AH-107 AH-107 3906		17.5				
USIT-E ECH-MFA 1969 USAC-A 977 USIS-A 791		15.5				



MAXIMUM STRING DIAMETER 7.50 IN  
 MEASUREMENTS RELATIVE TO TOOL ZERO  
 ALL LENGTHS IN FEET

Company: Noble Energy Inc

Well: Scooter D 18-79HN

### Input DLIS Files

DEFAULT	USI_022PUP	FN:9	PRODUCER	02-Jan-2014 12:47	6754.5 FT	65.0 FT
---------	------------	------	----------	-------------------	-----------	---------

### Output DLIS Files

DEFAULT	USI_003PUP	FN:2	PRODUCER	04-Jan-2014 14:42
---------	------------	------	----------	-------------------

### OP System Version: 19C2-270

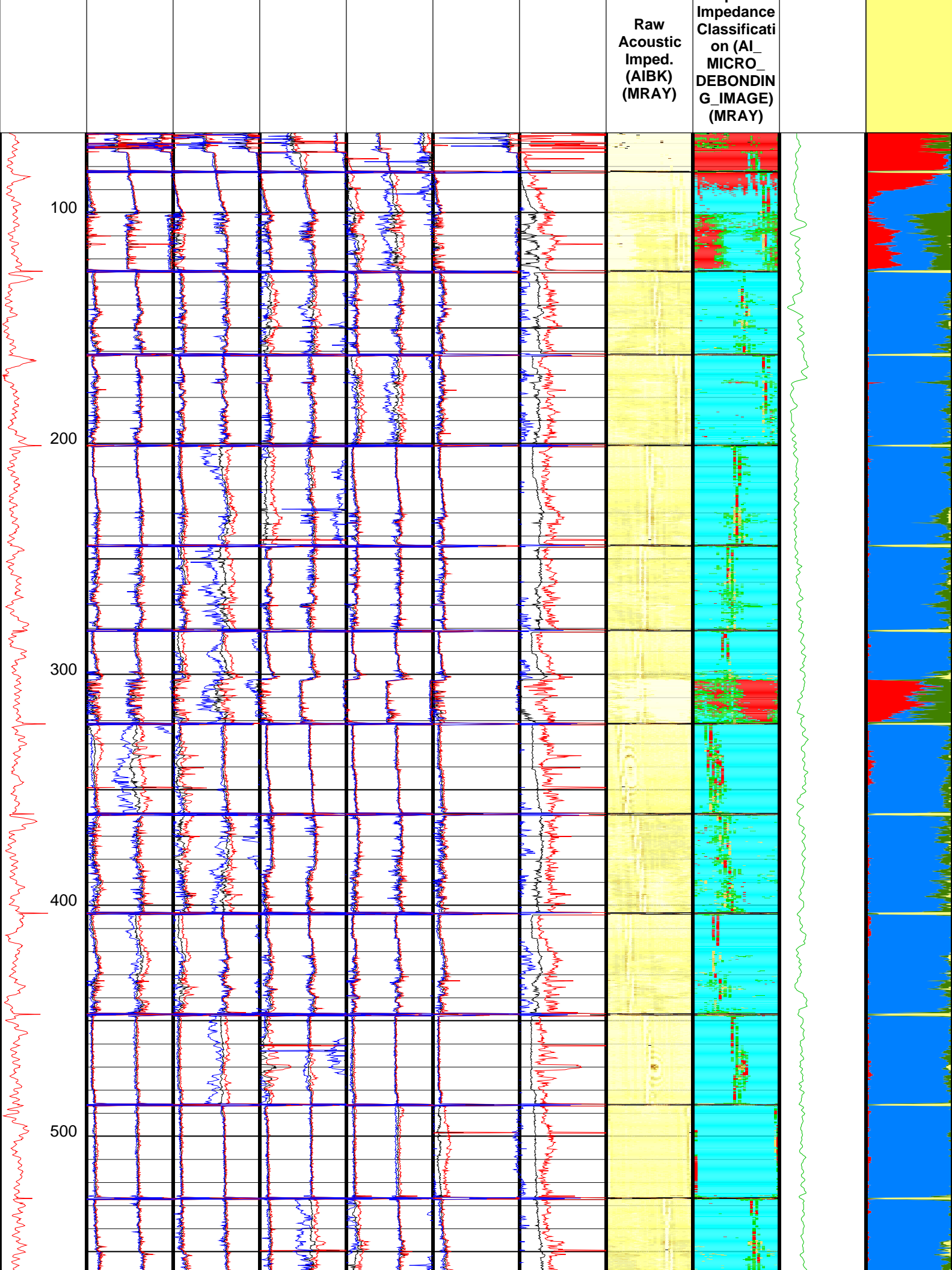
USIT-E	19C2-270	SGT-N	19C2-270
DTC-H	19C2-270		

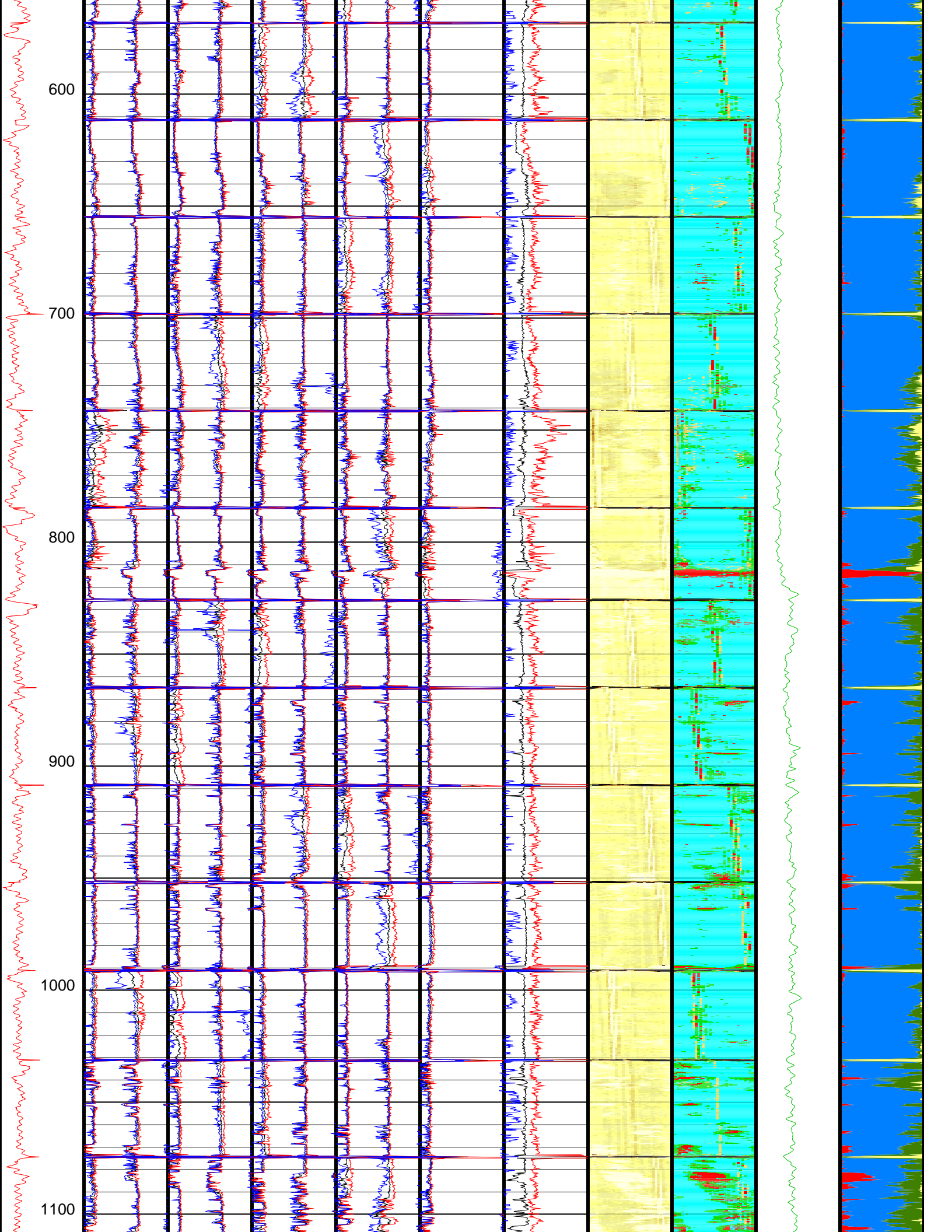
### Zoning of Mud Parameters

Depth	Fluid Velocity (DFVL)	Acoustic Impedance (ZMUD)
7000.00	191.00	1.70
6700.00	191.00	1.70
6500.00	190.00	1.71
6000.00	189.00	1.72
5500.00	189.00	1.72
5000.00	189.00	1.72
4500.00	190.00	1.71
4000.00	190.00	1.71

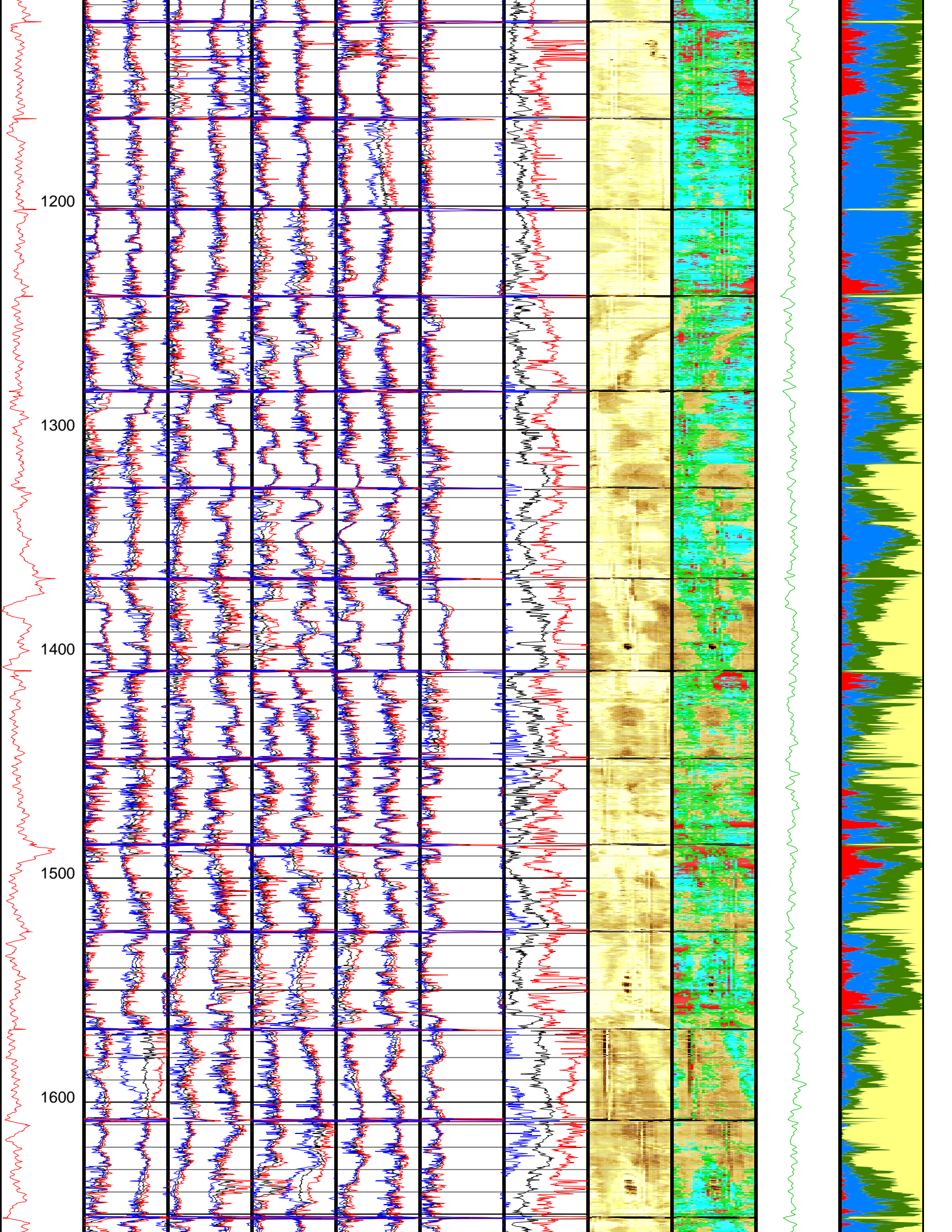




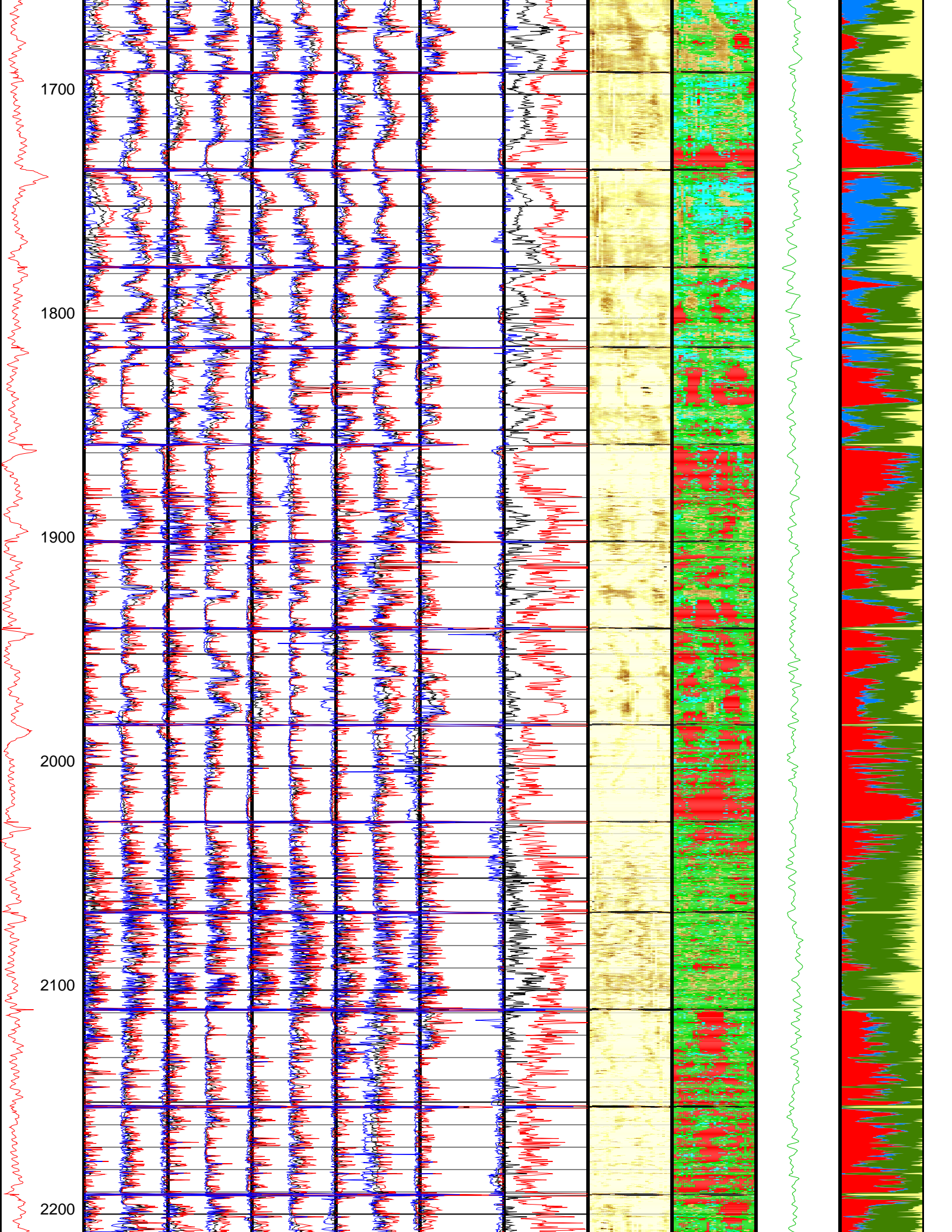




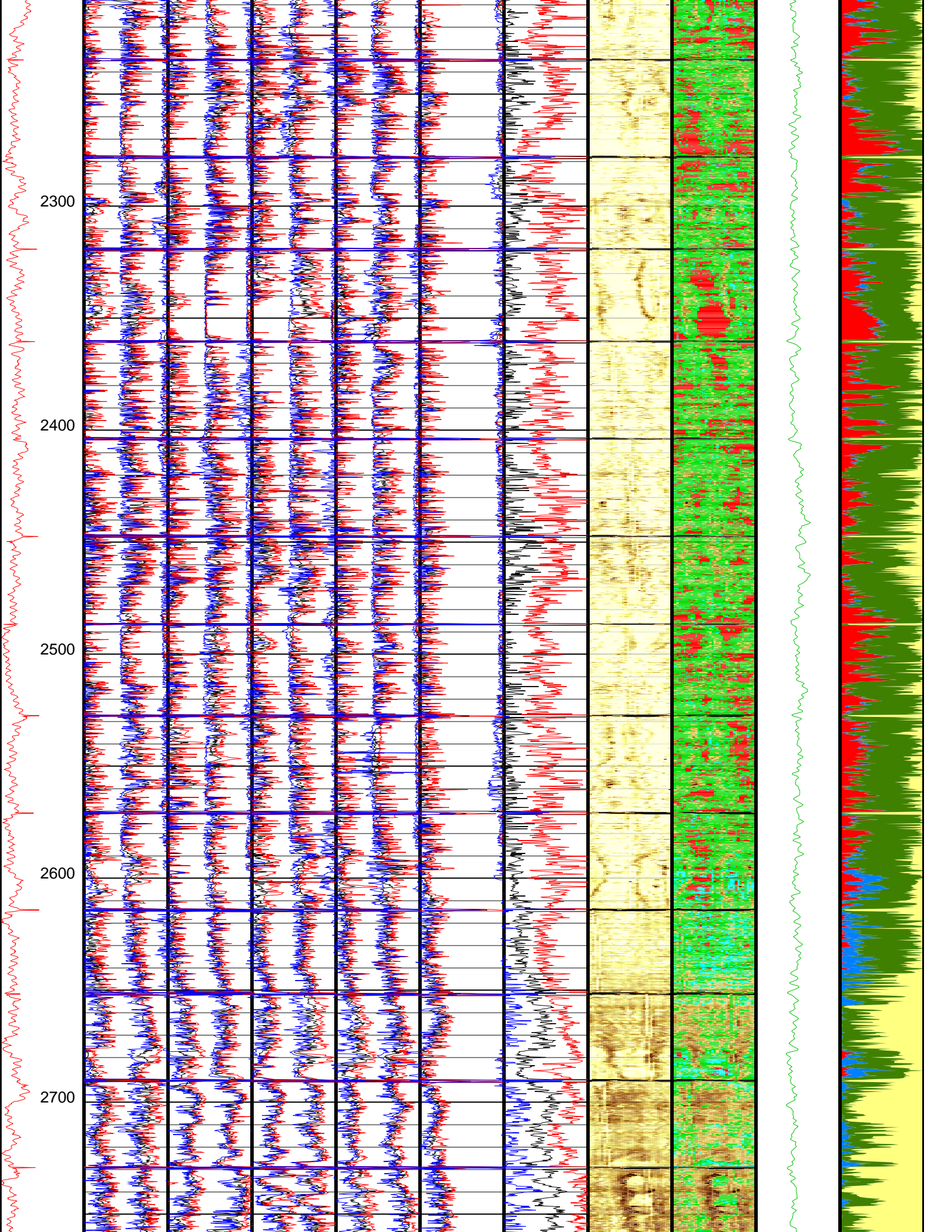




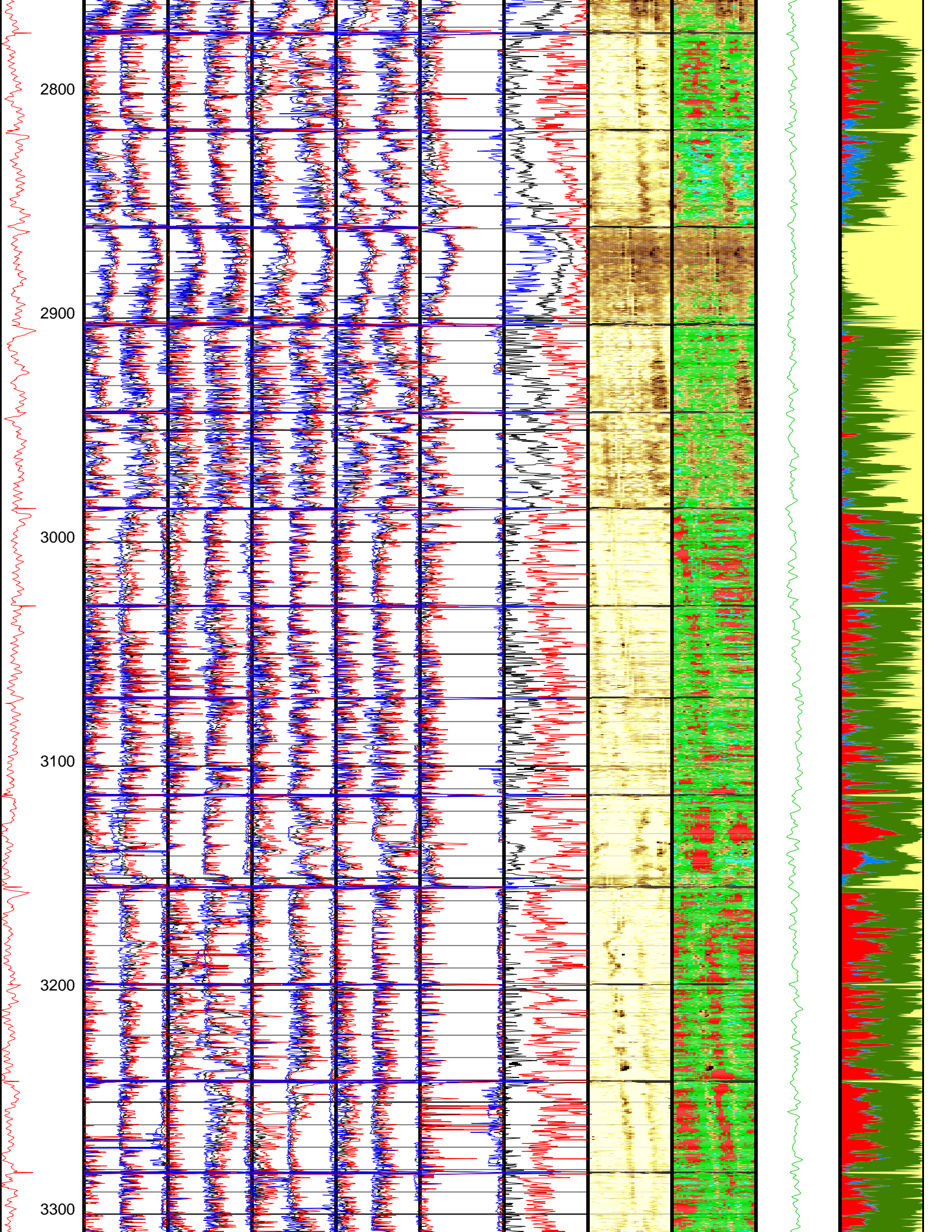




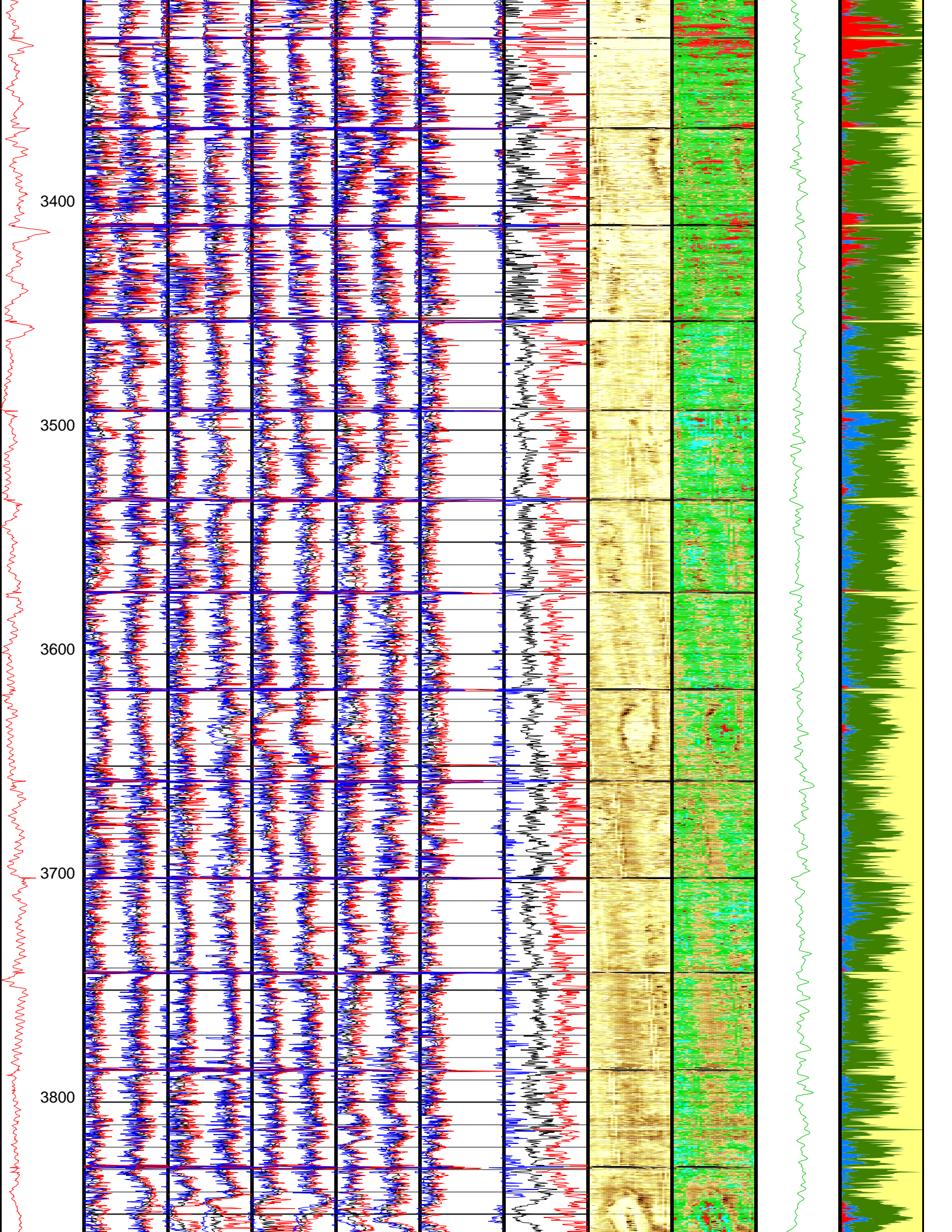




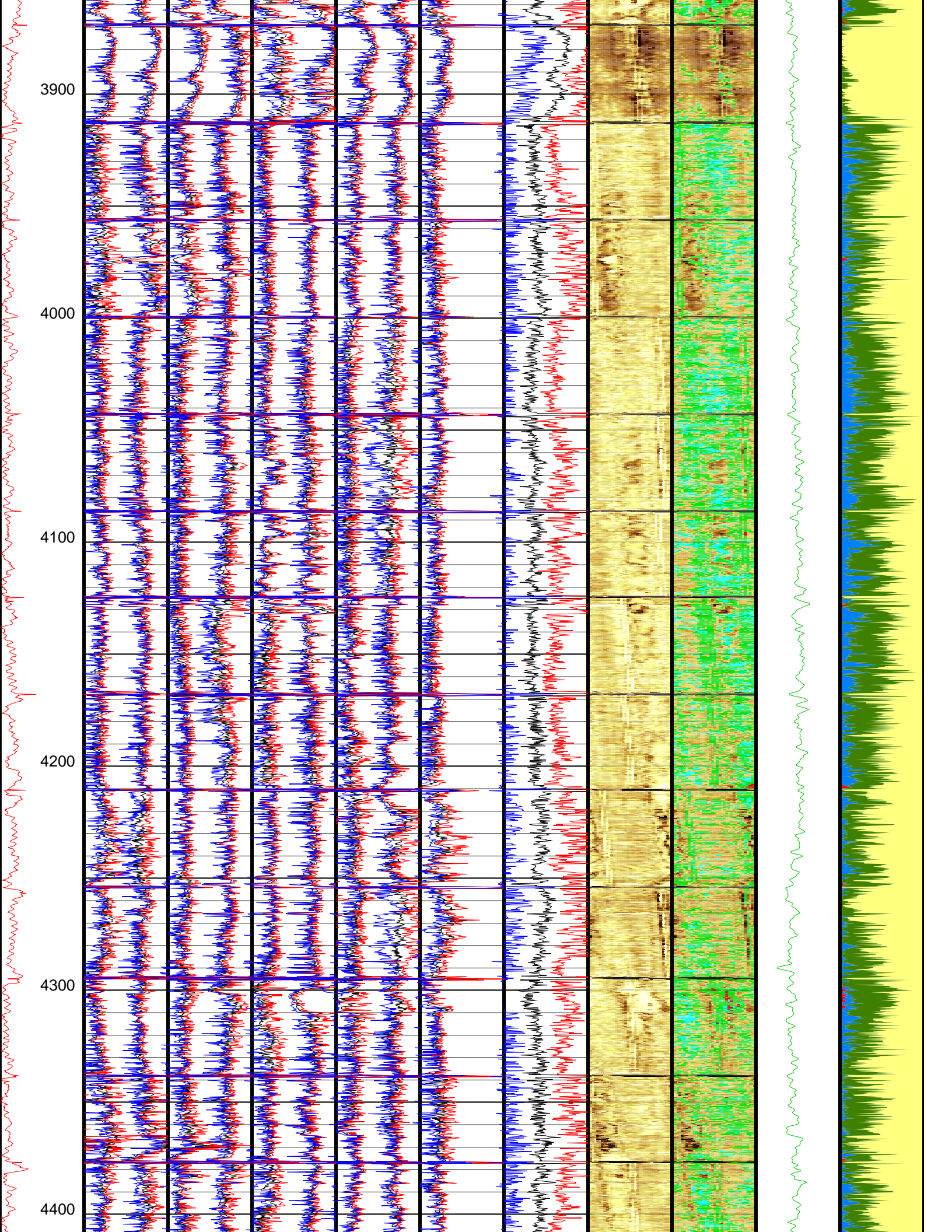




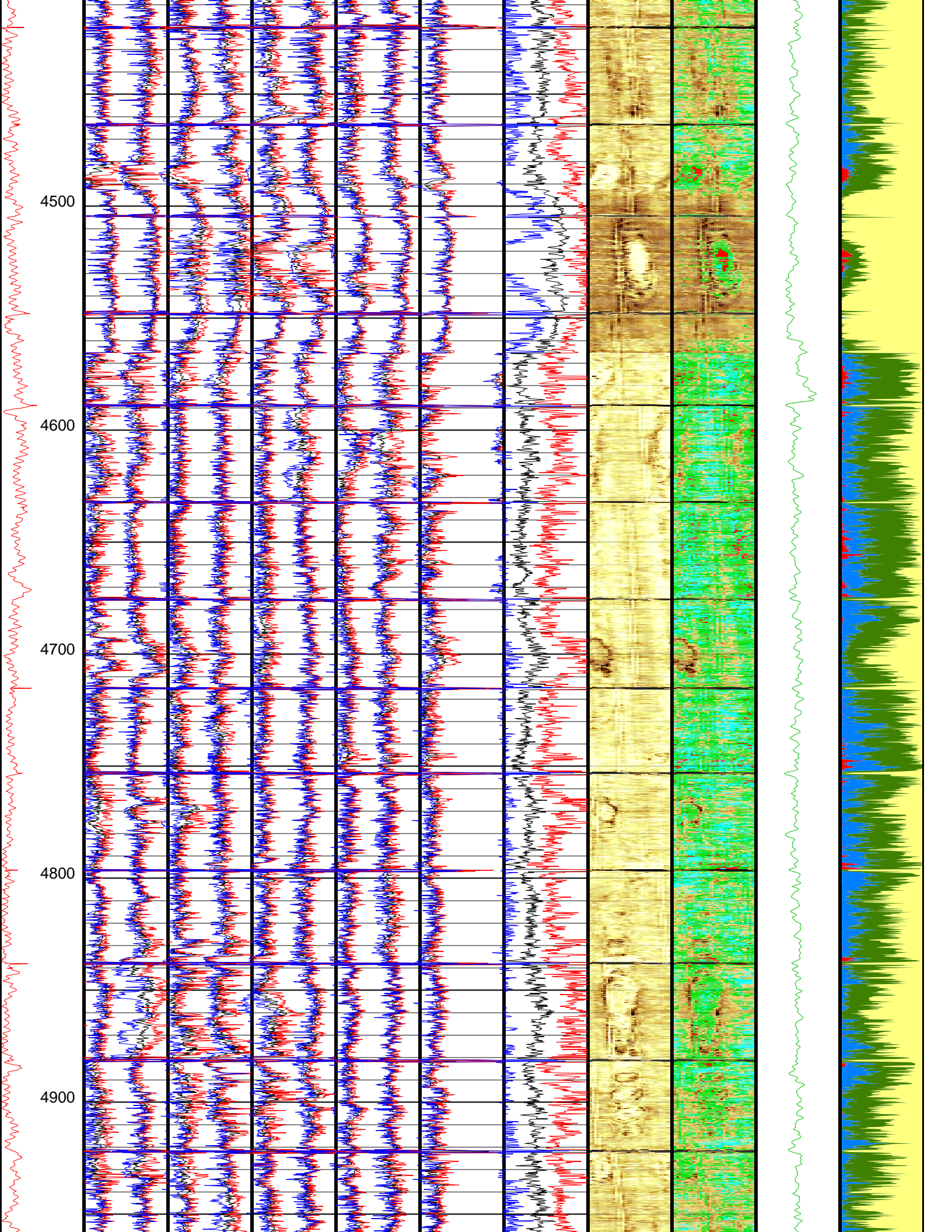




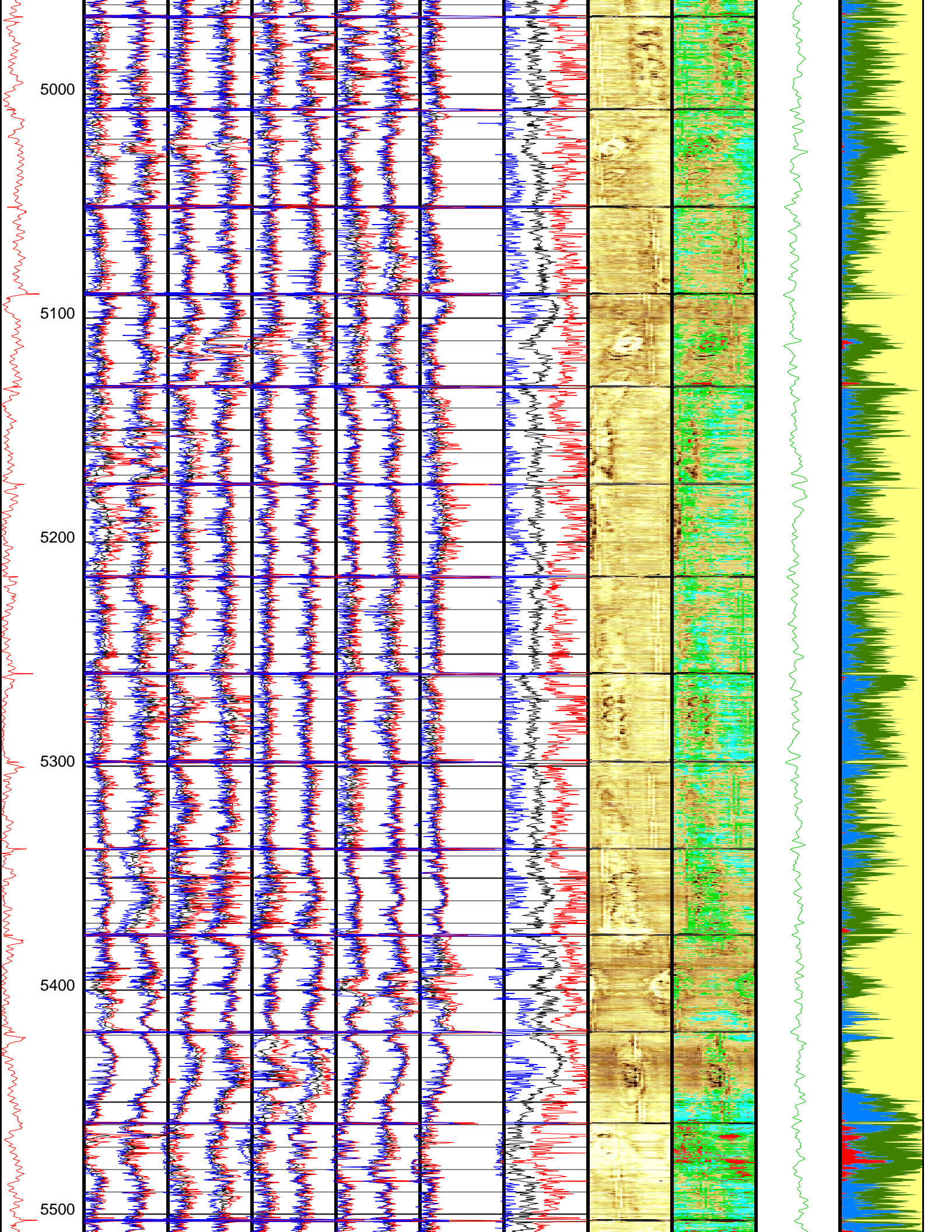




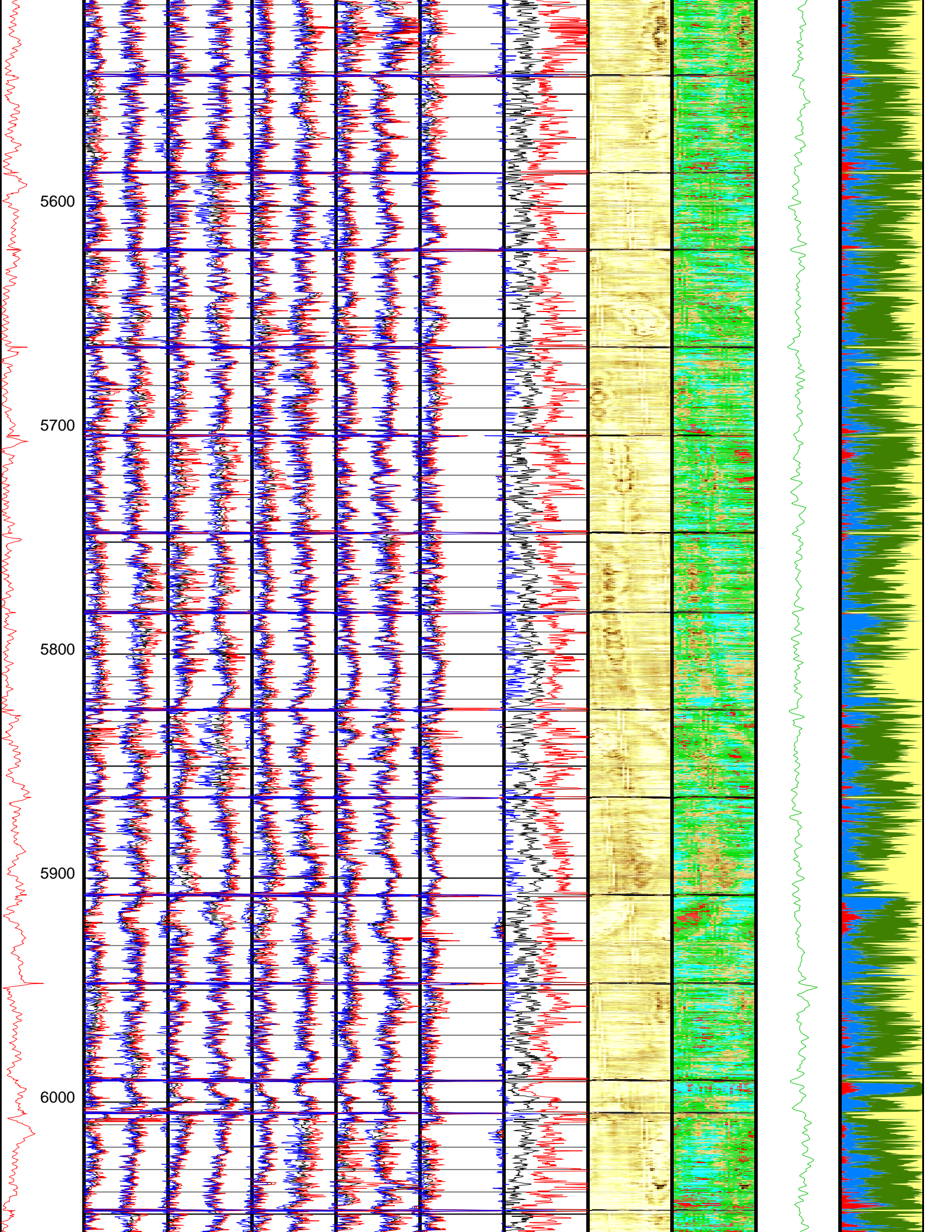




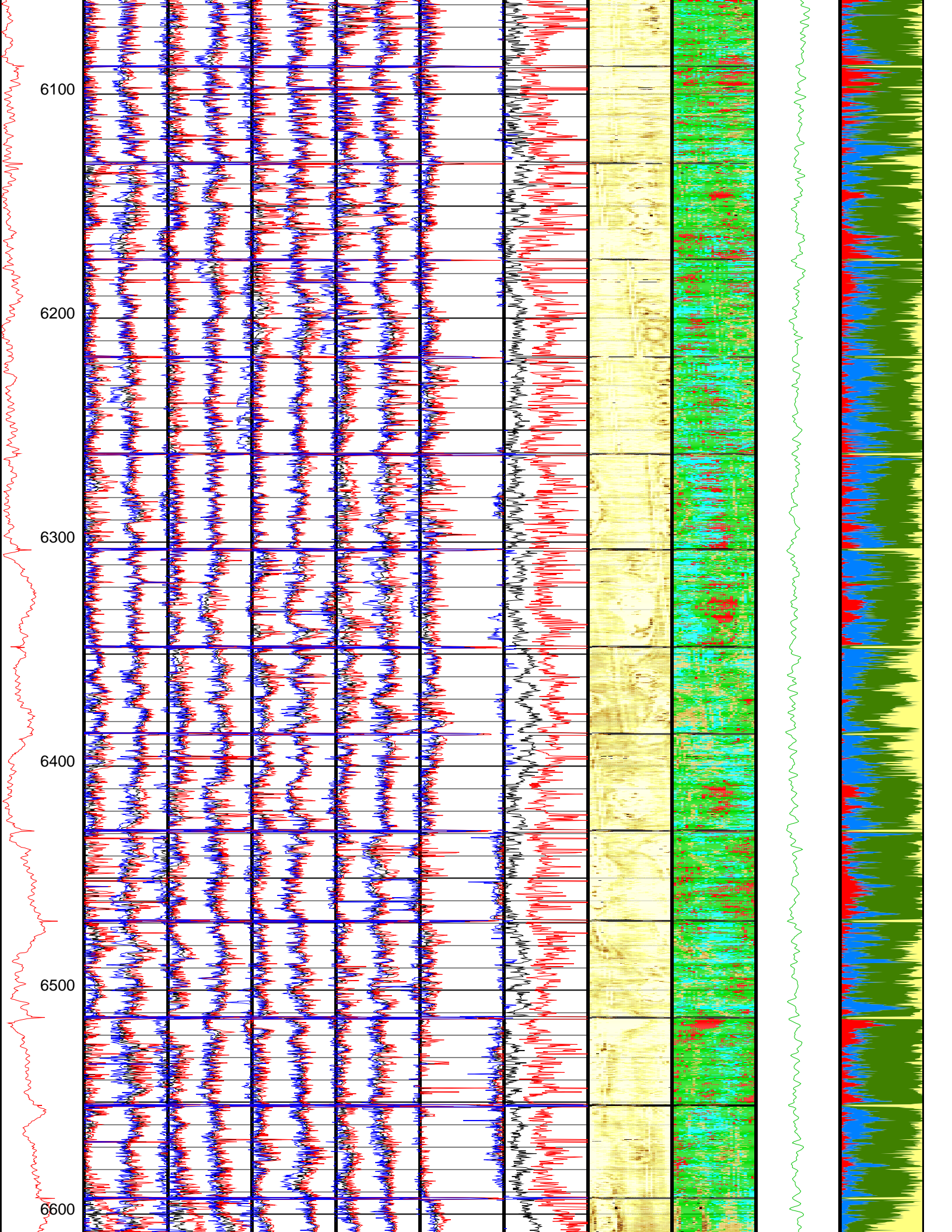


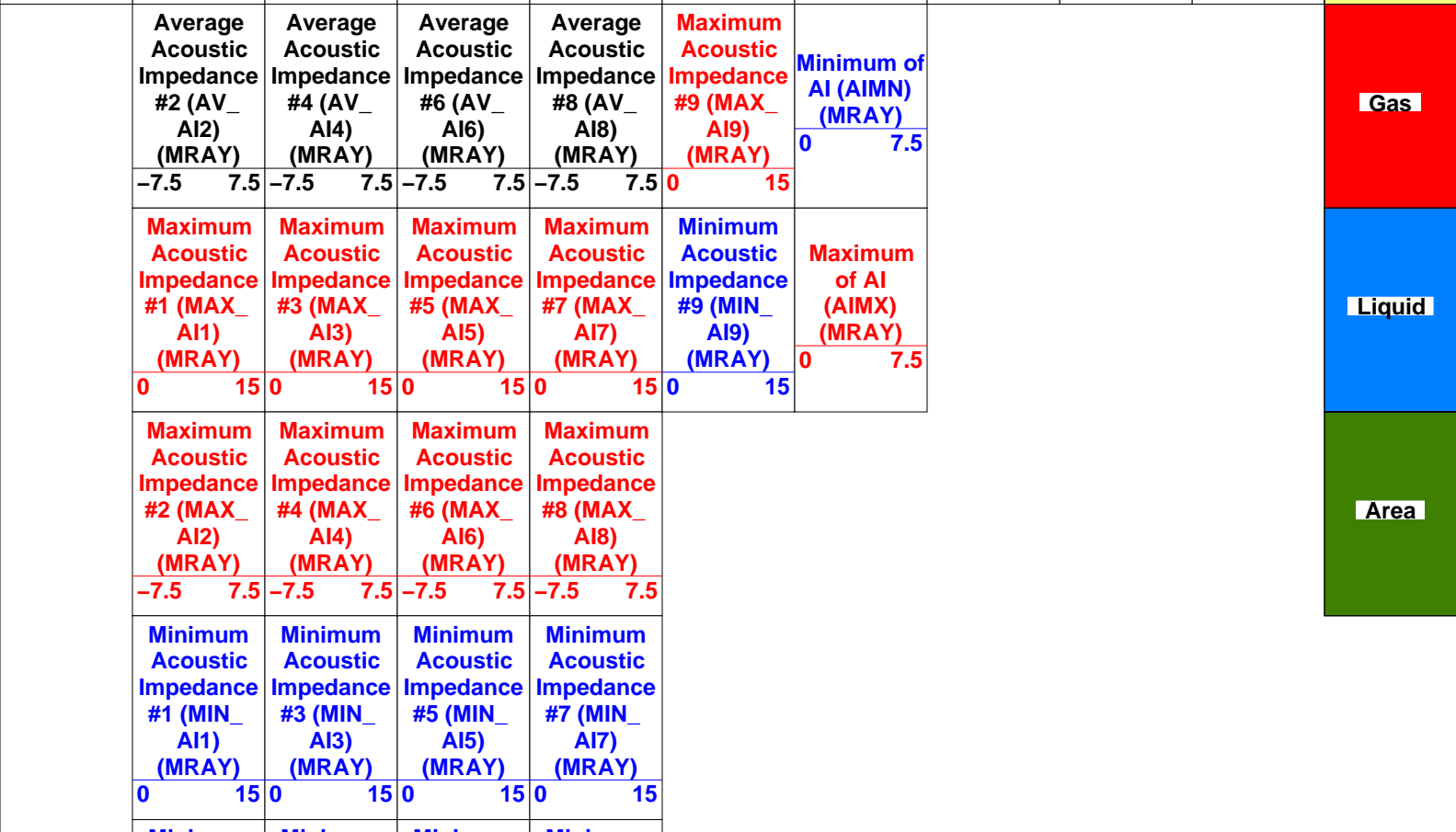
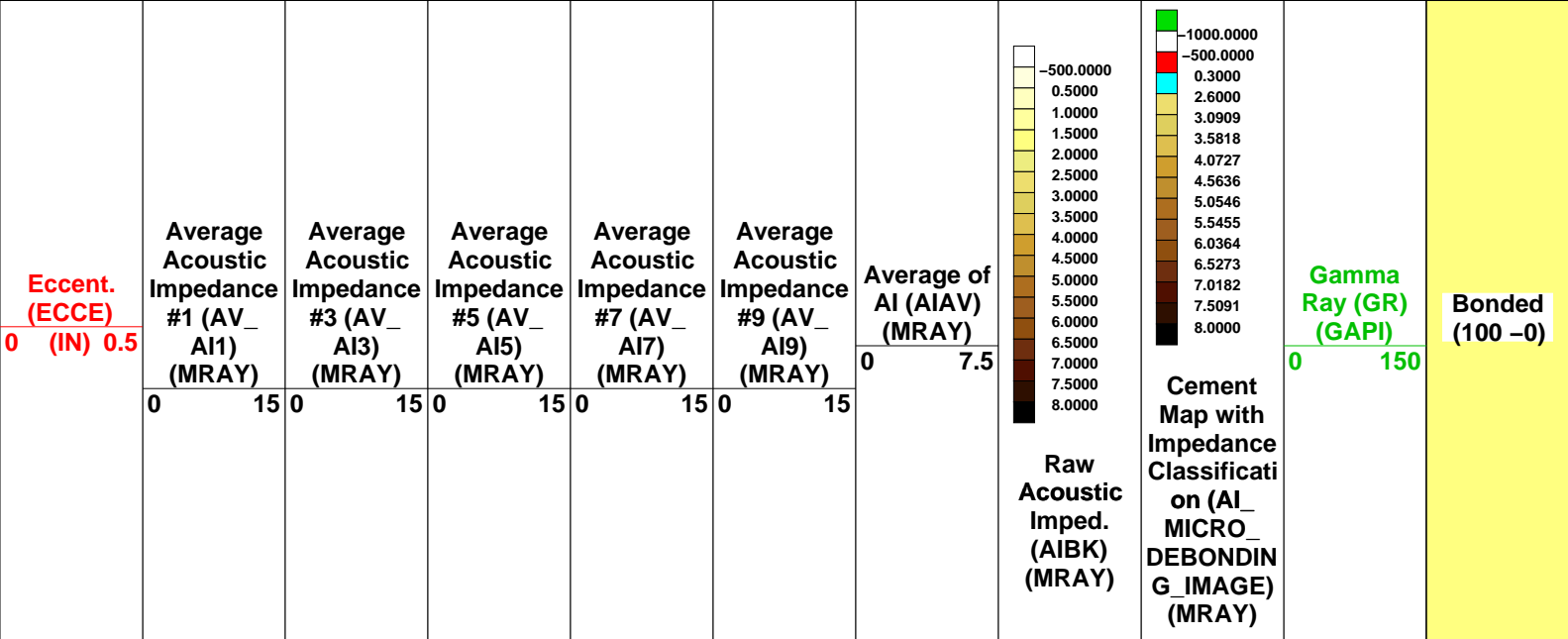
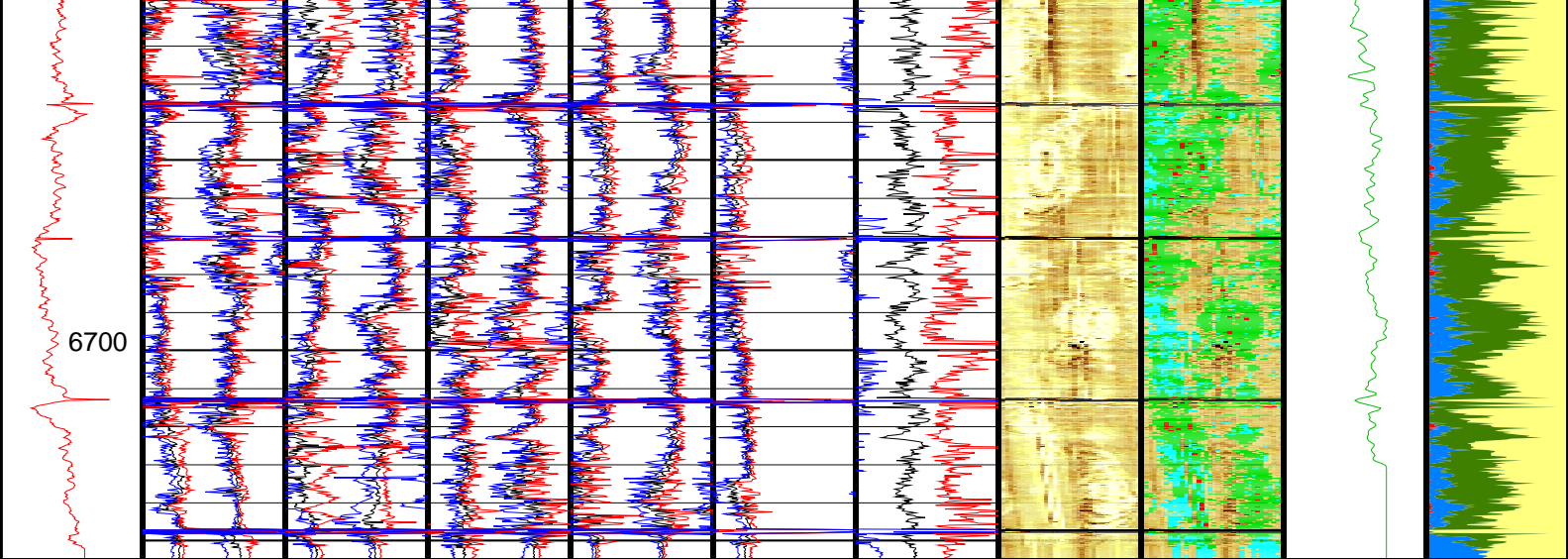












	Minimum Acoustic Impedance #2 (MIN_ AI2) (MRAY)	Minimum Acoustic Impedance #4 (MIN_ AI4) (MRAY)	Minimum Acoustic Impedance #6 (MIN_ AI6) (MRAY)	Minimum Acoustic Impedance #8 (MIN_ AI8) (MRAY)	
	-7.5 7.5	-7.5 7.5	-7.5 7.5	-7.5 7.5	
Format: USIT GOODWIN FOR STATE      Vertical Scale: 2" per 100'      Graphics File Created: 04-Jan-2014 14:42					
<div>OP System Version: 19C2-270</div> <div> <div>USIT-E      19C2-270      SGT-N      19C2-270</div> <div>DTC-H      19C2-270</div> </div>					
All USI Images are outside views					
USI :    LOW Frequency Compression Mode Used For Logging. Recommended casing thickness range for optimum cement impedance measurement : 0.27 to 0.6 IN.					
<div>Input DLIS Files</div> <div> <div>           DEFAULT      USI_022PUP      FN:9      PRODUCER      02-Jan-2014 12:47      6754.5 FT      65.0 FT         </div> </div> <div>Output DLIS Files</div> <div> <div>           DEFAULT      USI_003PUP      FN:2      PRODUCER      04-Jan-2014 14:42         </div> </div>					
<div> <div> <div>Company:    Noble Energy Inc</div> <div>Well:        Scooter D 18-79HN</div> <div>Field:       Wattenberg</div> <div>County:      Weld</div> <div>State:        Colorado</div> </div> <div>Schlumberger</div> </div>					
<div> <div>           Ultrasonic Imager            Cement Evaluation         </div> </div>					