

**ADVANCED
CEMENT
EVALUATION**

COMPANY WILLIAMS PRODUCTION CO
WELL RWF 312-19
FIELD RULISON
COUNTY GARFIELD
STATE CO

Location: SHL:2603'FSL & 0140'FWL S:19 T:06S R:94W
BHL:1573'FNL & 0251'FWL

Elevations: K.B.: 5845.5' R.T.: 5845' G.L.: 5823'

Date Processed	06/21/2010	Logs Processed	CAST-M
Job Number	201006134	Date Logged	06/20/2010
Interval Processed	655'-6474'	Type Fluid In Hole	WATER
Processed By	E. HUTTO	Location	G.J.
Processed At	DENVER RES		

---- COMPUTER PROCESSED PRODUCT ----

Fold Here

Service Ticket No.: 7444611		API Serial No.: 05045178060000		PGM Version:	
DIRECTIONAL INFORMATION					
Maximum Deviation		deg. @		KOP	
Remarks:					
BAKER HUGHES OPEN HOLE LOG DATED 4-SEPT-2009 IS THE PRIMARY LOG FOR THIS WELL.					
GR-CASTM RUN IN COMBINATION.					
SHORT JOINT: 5276'-5297'.					
SECOND STRING OF CASING FROM SURFACE-1153'.					
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.					
HALLIBURTON					

STANDARD CEMENT IMPEDANCE MAP

THE MAXIMUM IMPEDANCE FOR FREE GAS : 0.38 RED
THE MAXIMUM IMPEDANCE FOR LIQUID : 2.30 MEDIUM BLUE

THE MAXIMUM IMPEDANCE FOR LIQUID : 2.30 MEDIUM BLUE
 THE MAXIMUM IMPEDANCE FOR SOLID-LIQUID TRANSITION : 2.70 YELLOW
 THE MAXIMUM IMPEDANCE FOR LOW Z CEMENT : 3.85 LIGHT BROWN
 THE MAXIMUM IMPEDANCE FOR MED Z CEMENT : 5.00 DARK BROWN
 THE MINIMUM FOR HIGH Z CEMENT IS : 5.00 BLACK

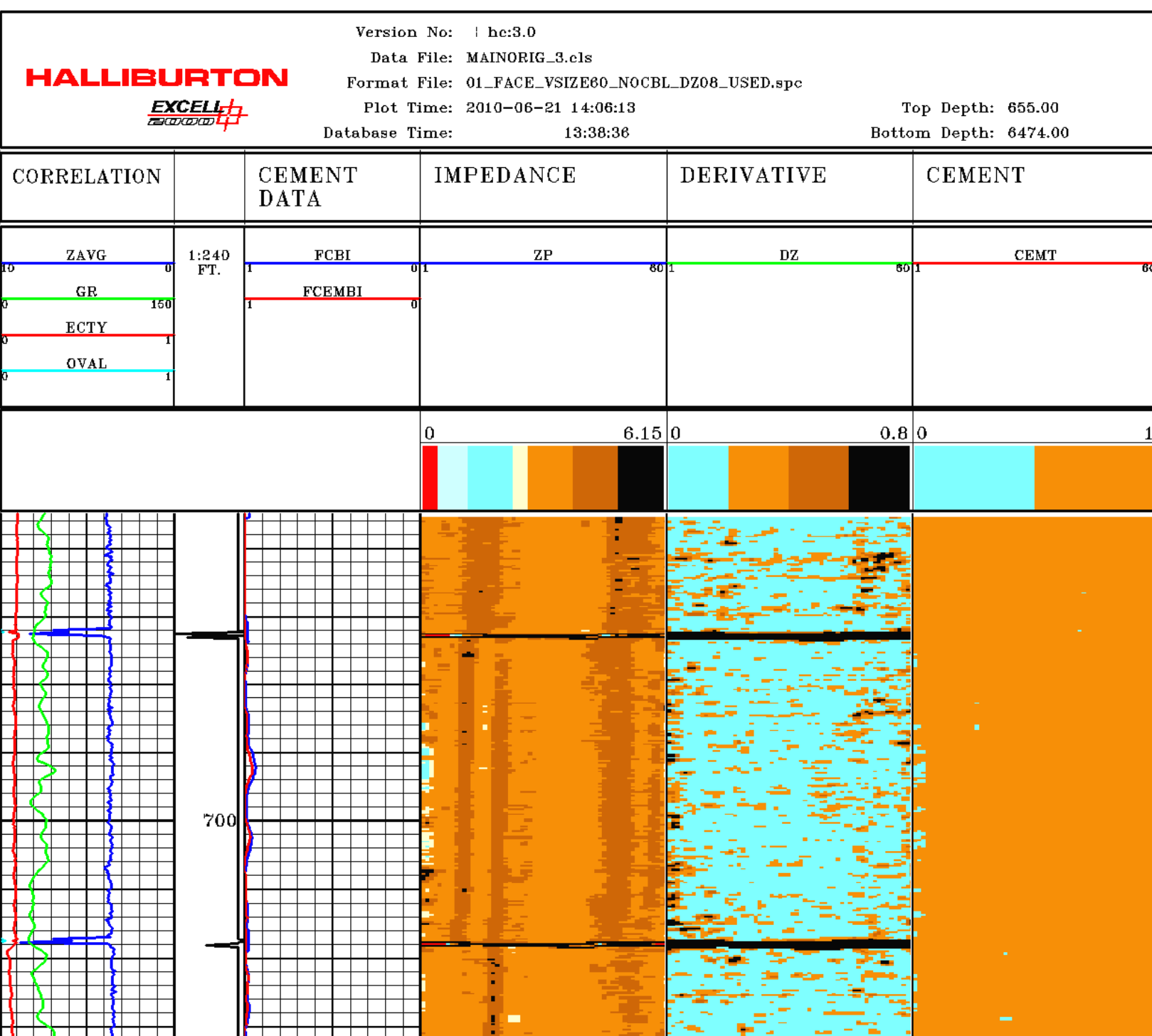
DERIVATIVE MAP

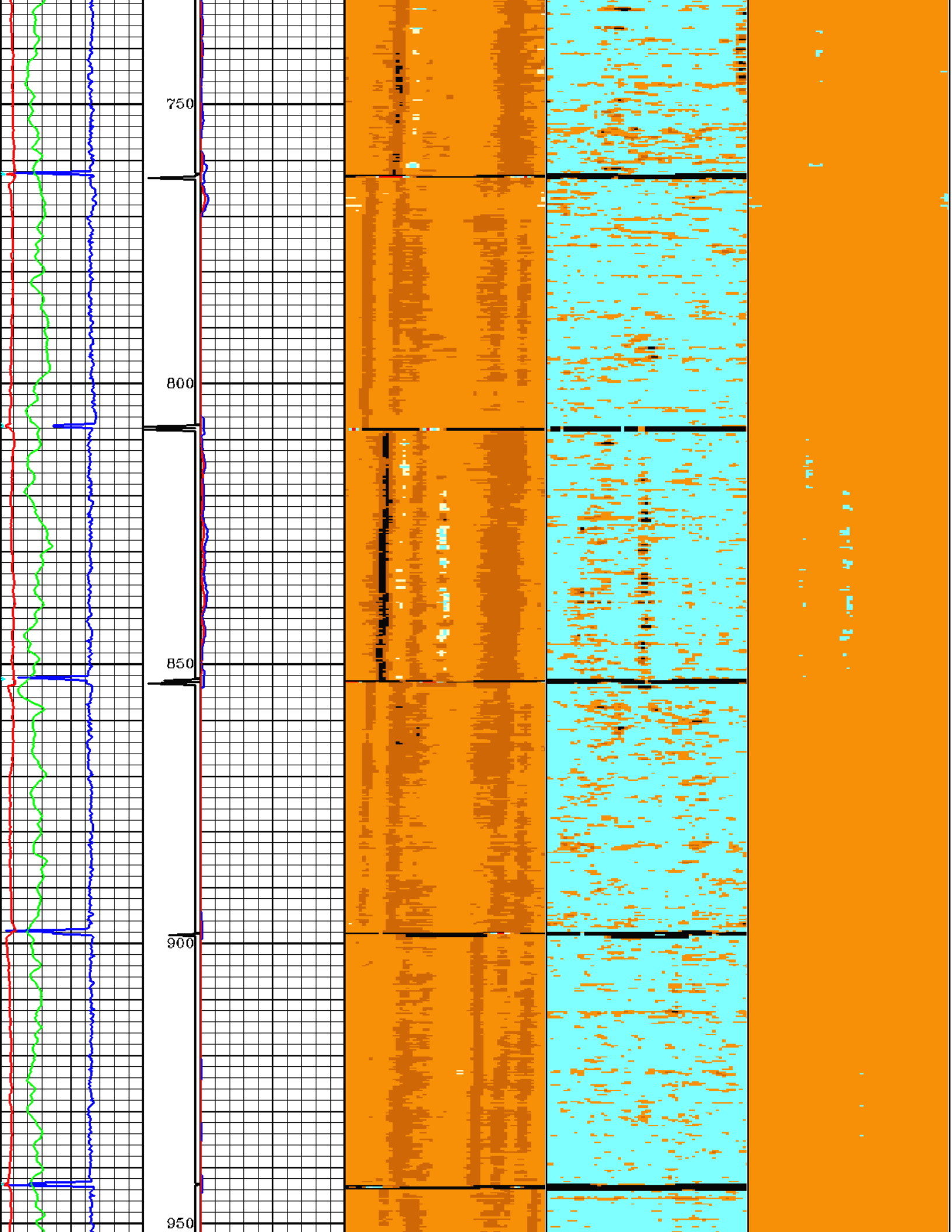
THE MAXIMUM DERIVATIVE FOR LIQUID : 0.20 MEDIUM BLUE
 THE MAXIMUM DERIVATIVE FOR LOW DERIVATIVE CEMENT : 0.40 LIGHT BROWN
 THE MAXIMUM DERIVATIVE FOR MED DERIVATIVE CEMENT : 0.60 DARK BROWN
 THE MINIMUM DERIVATIVE FOR HIGH DERIVATIVE CEMENT : 0.60 BLACK

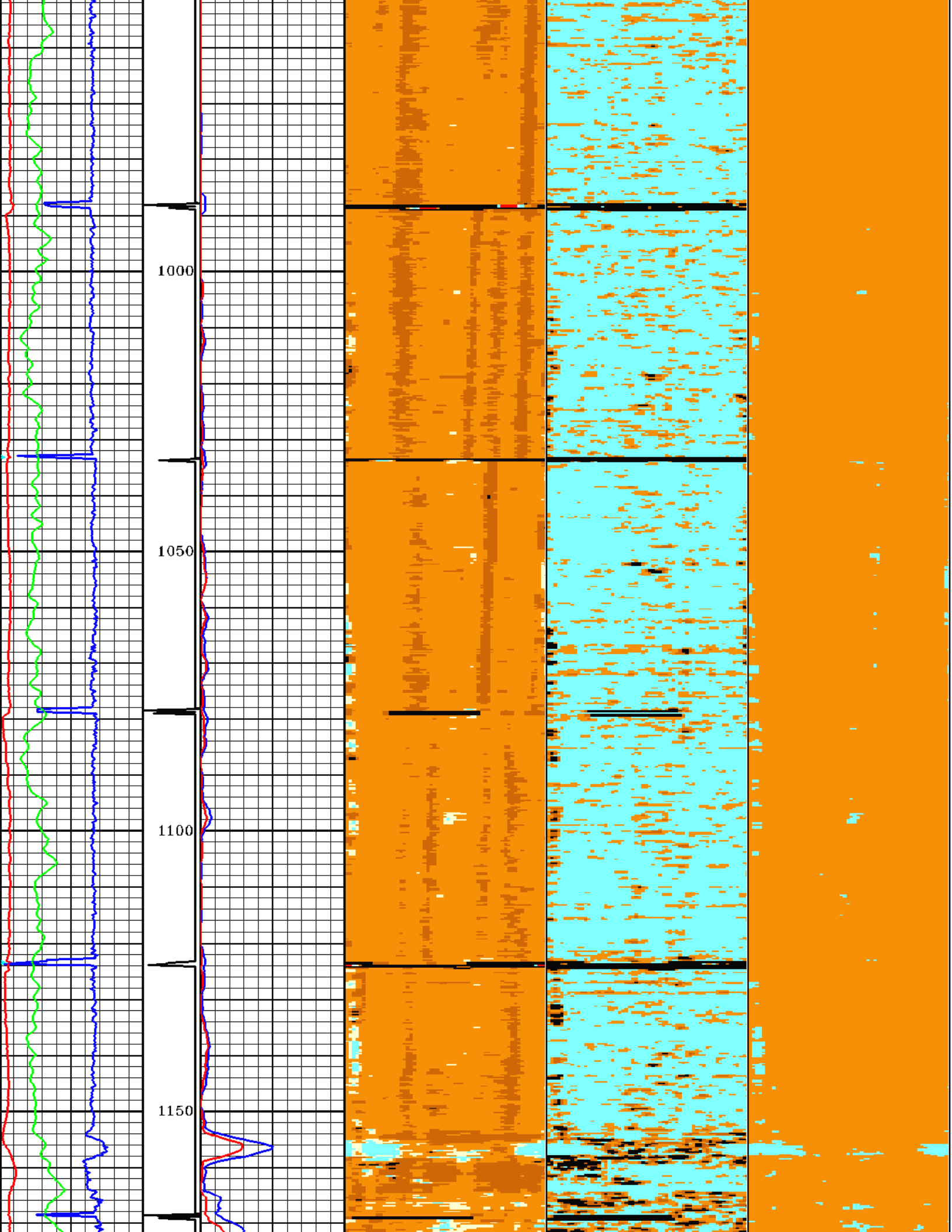
CEMENT MAP

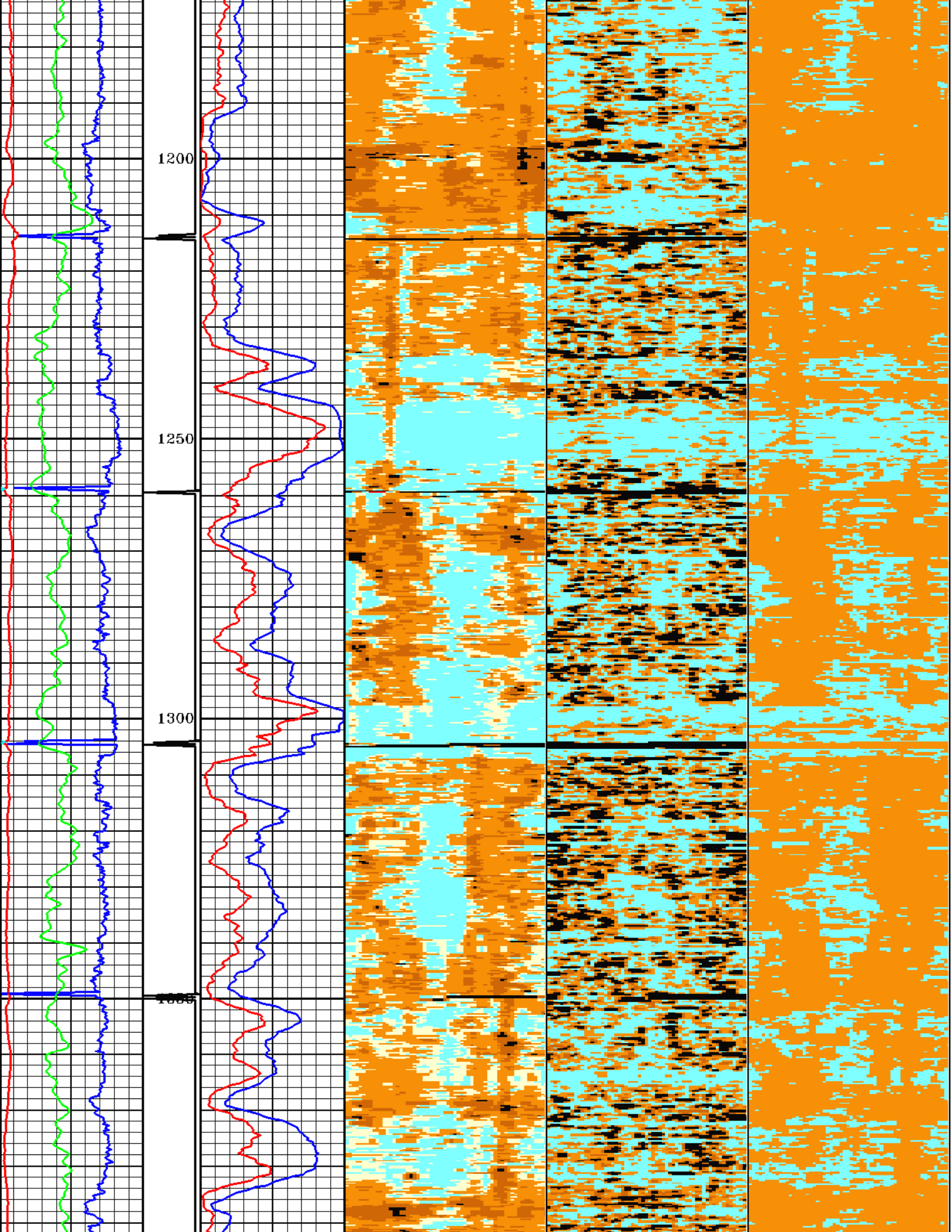
FOR FLUIDS DZ IS LESS THAN DZWAT OF : 0.20
 AND ZP IS LESS THAN CEMLM OF : 2.70

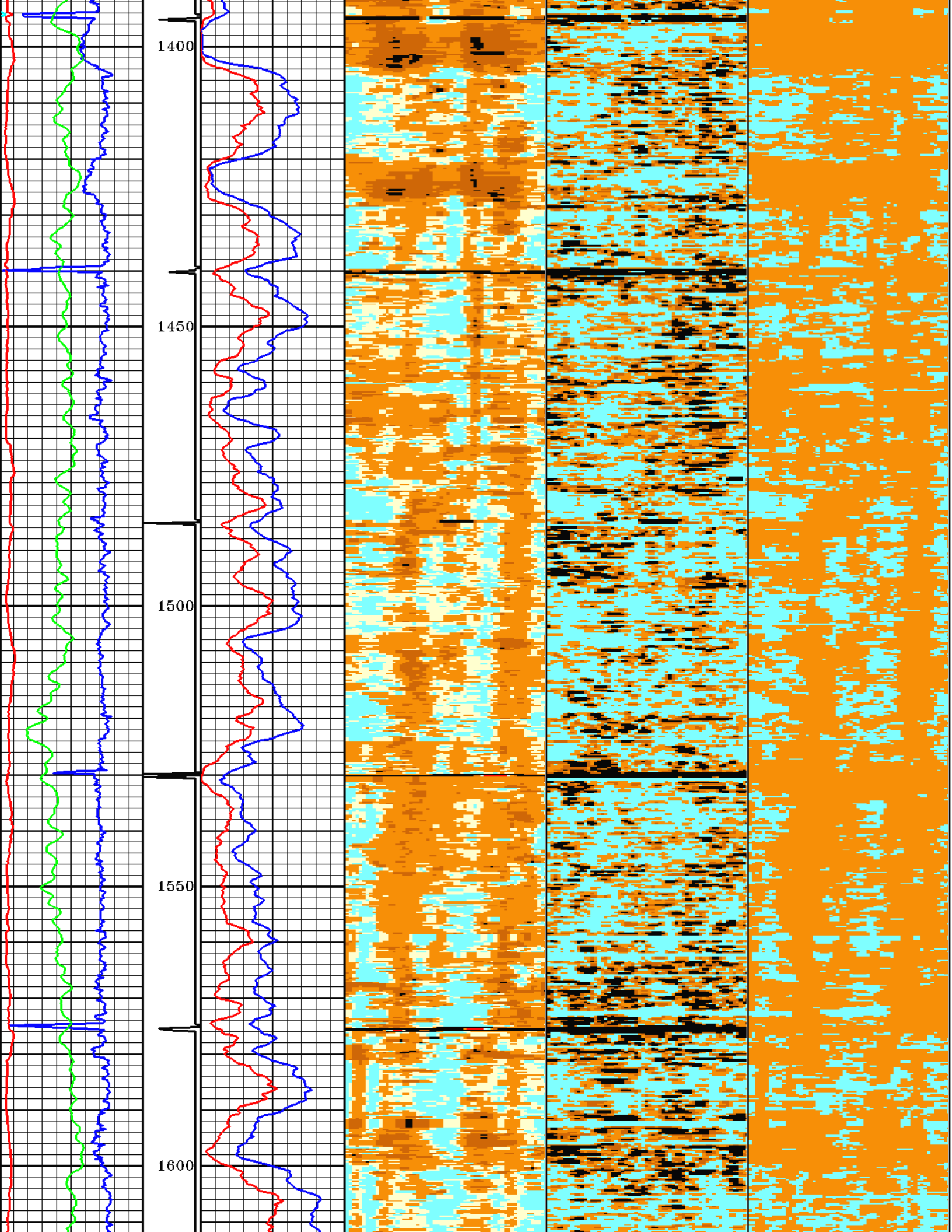
FLUIDS ARE MEDIUM BLUE WHILE SOLIDS OR CEMENTS ARE DARK BROWN

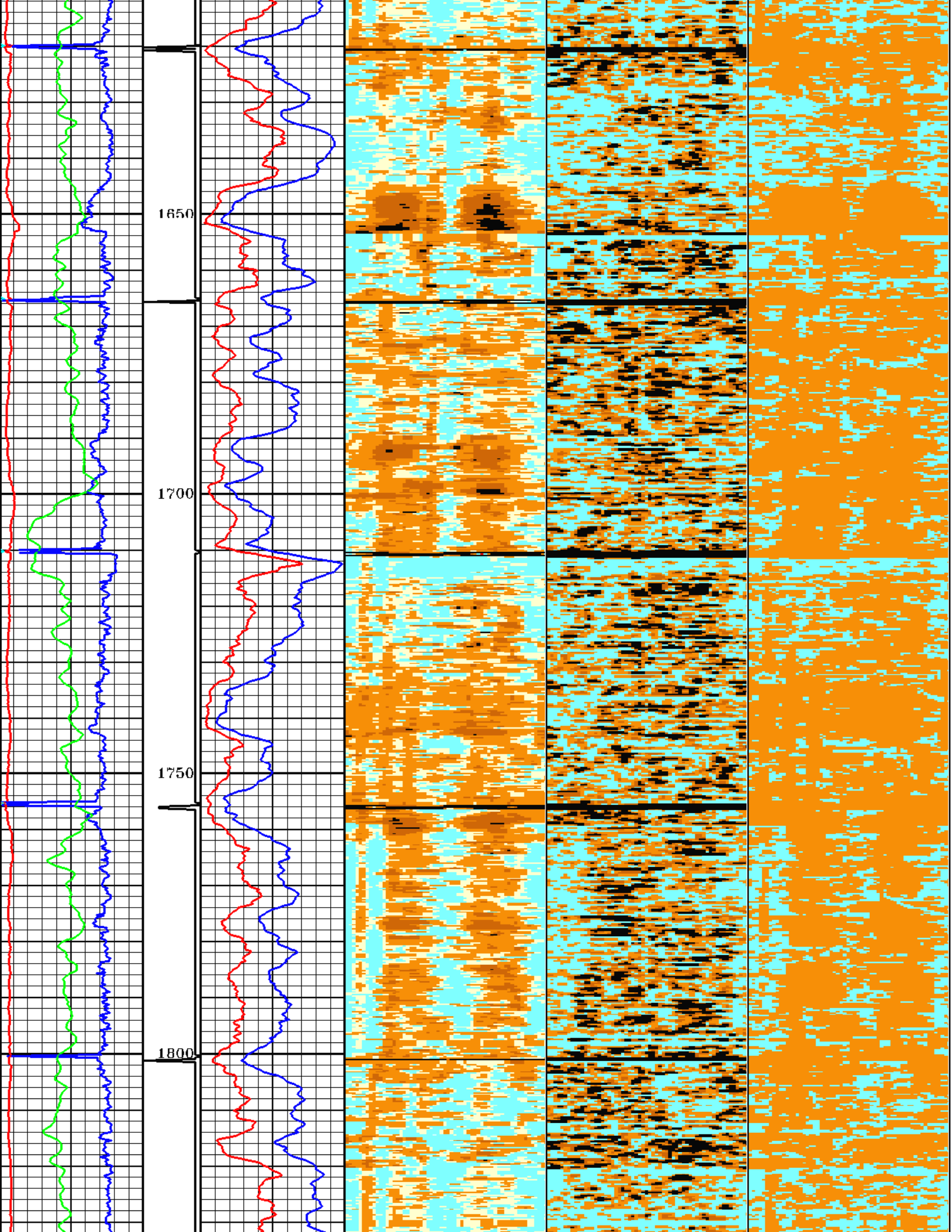


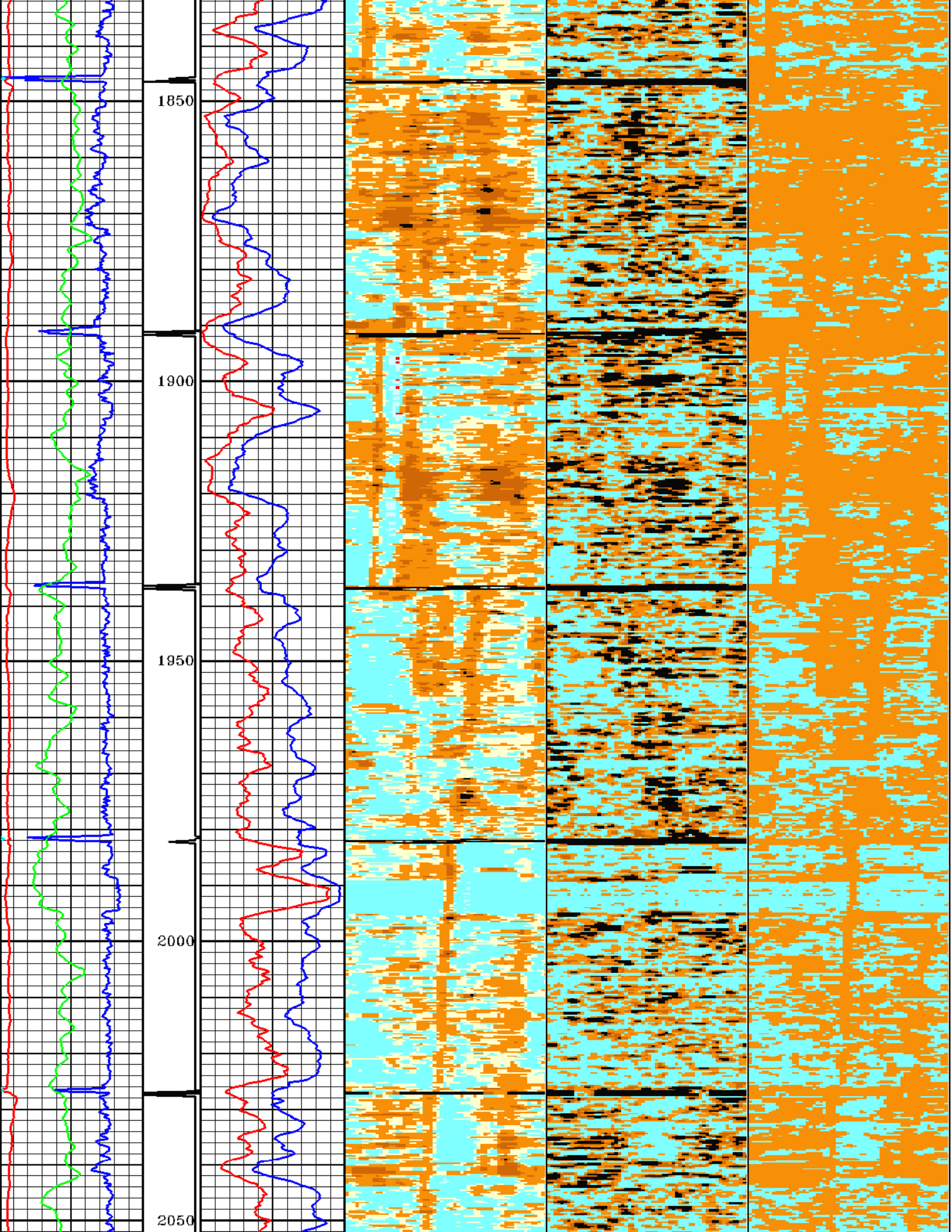


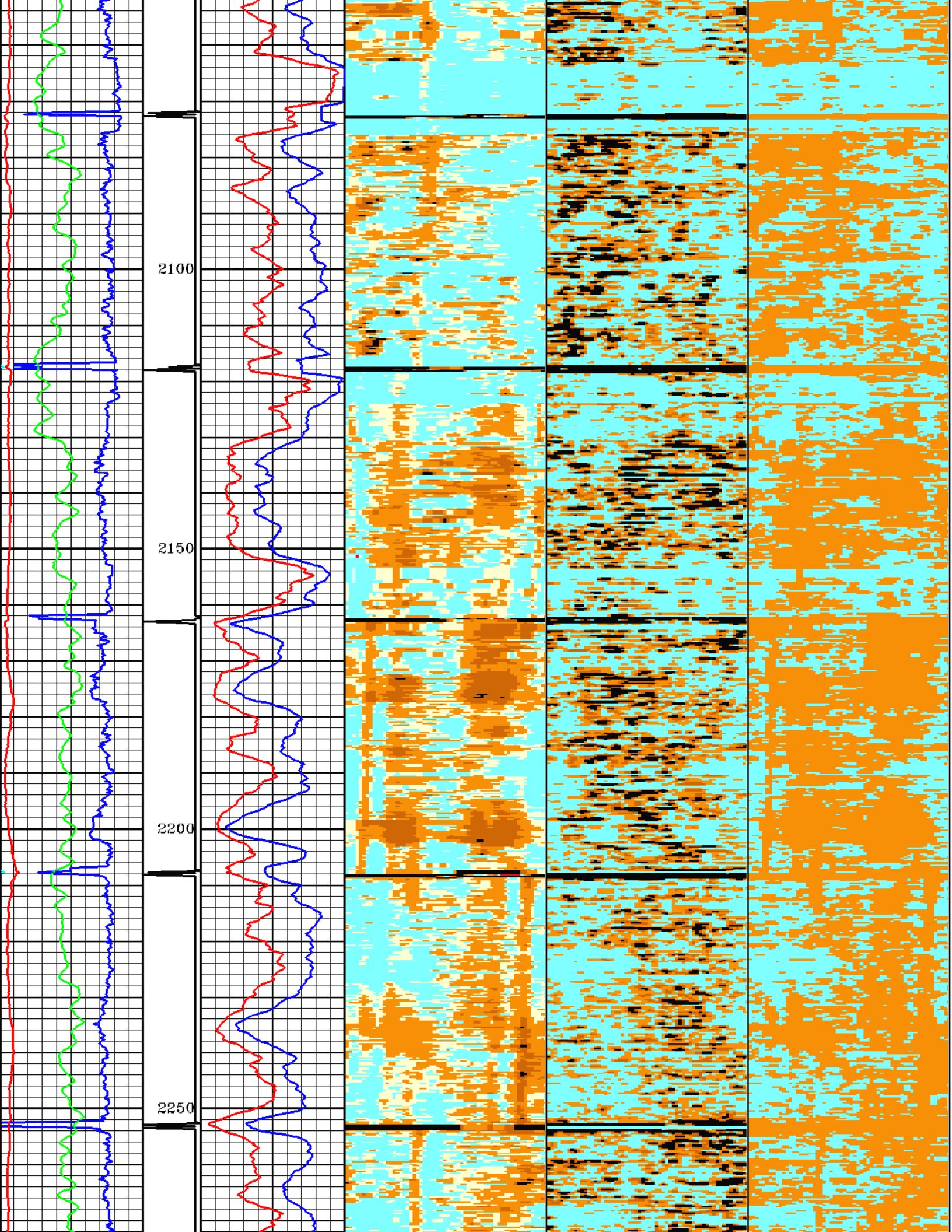


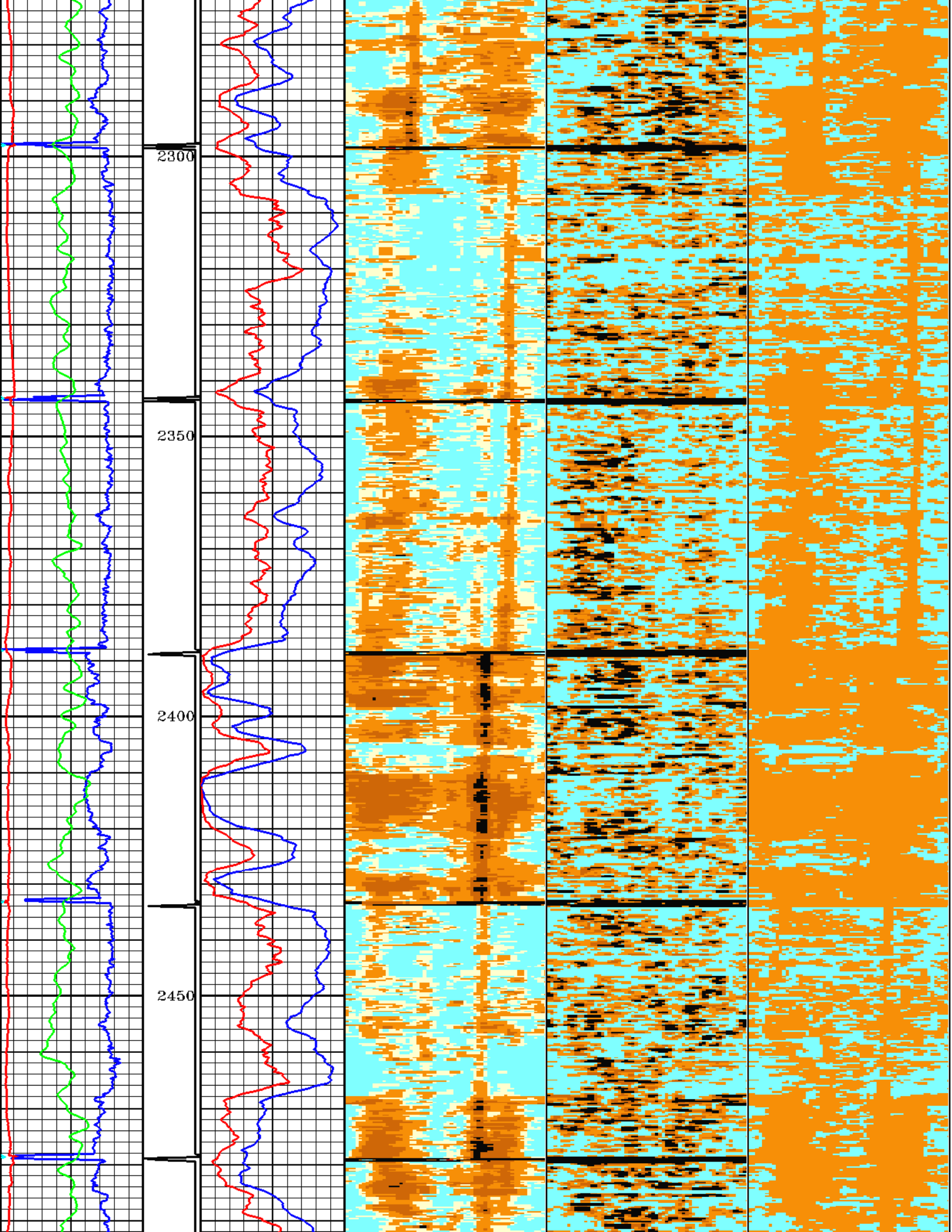


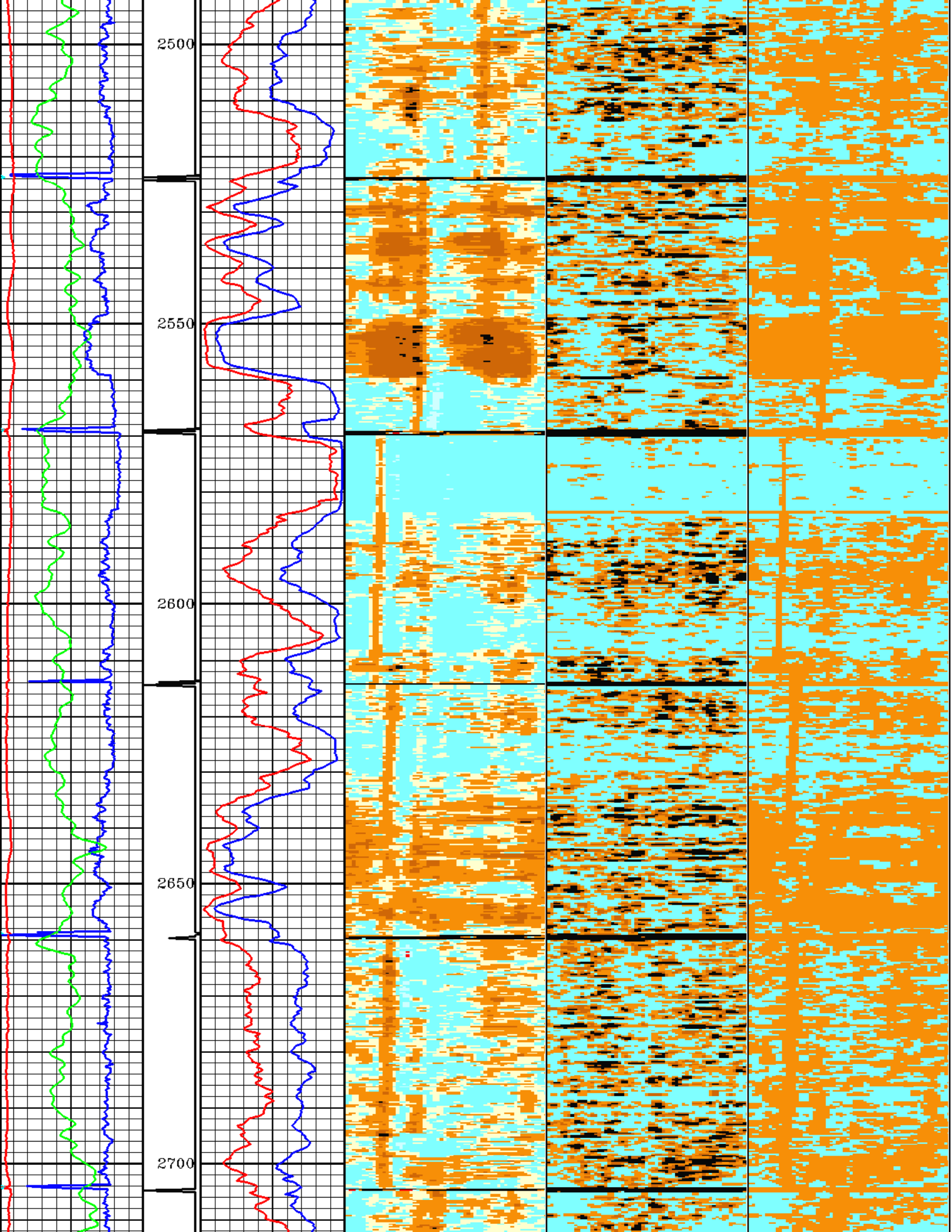


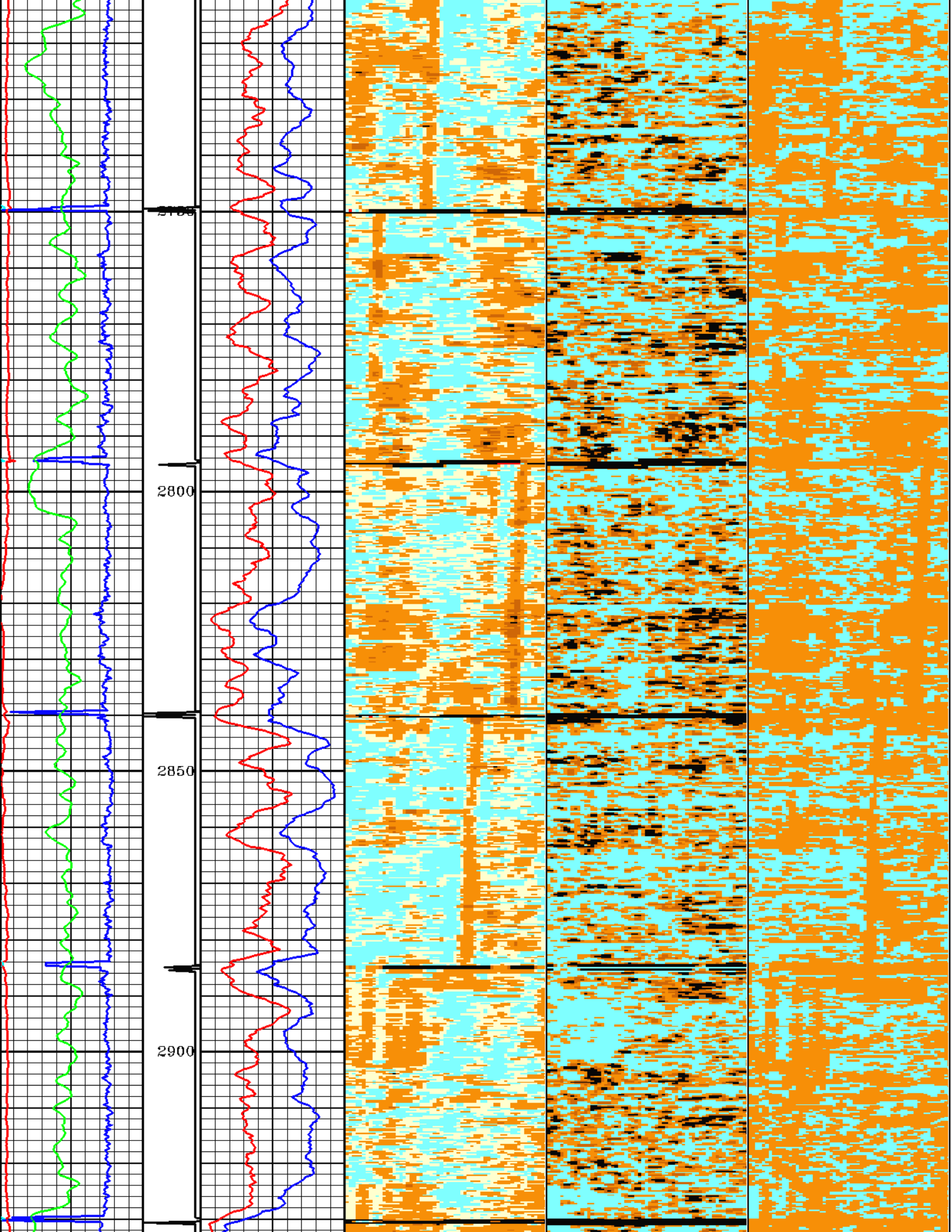


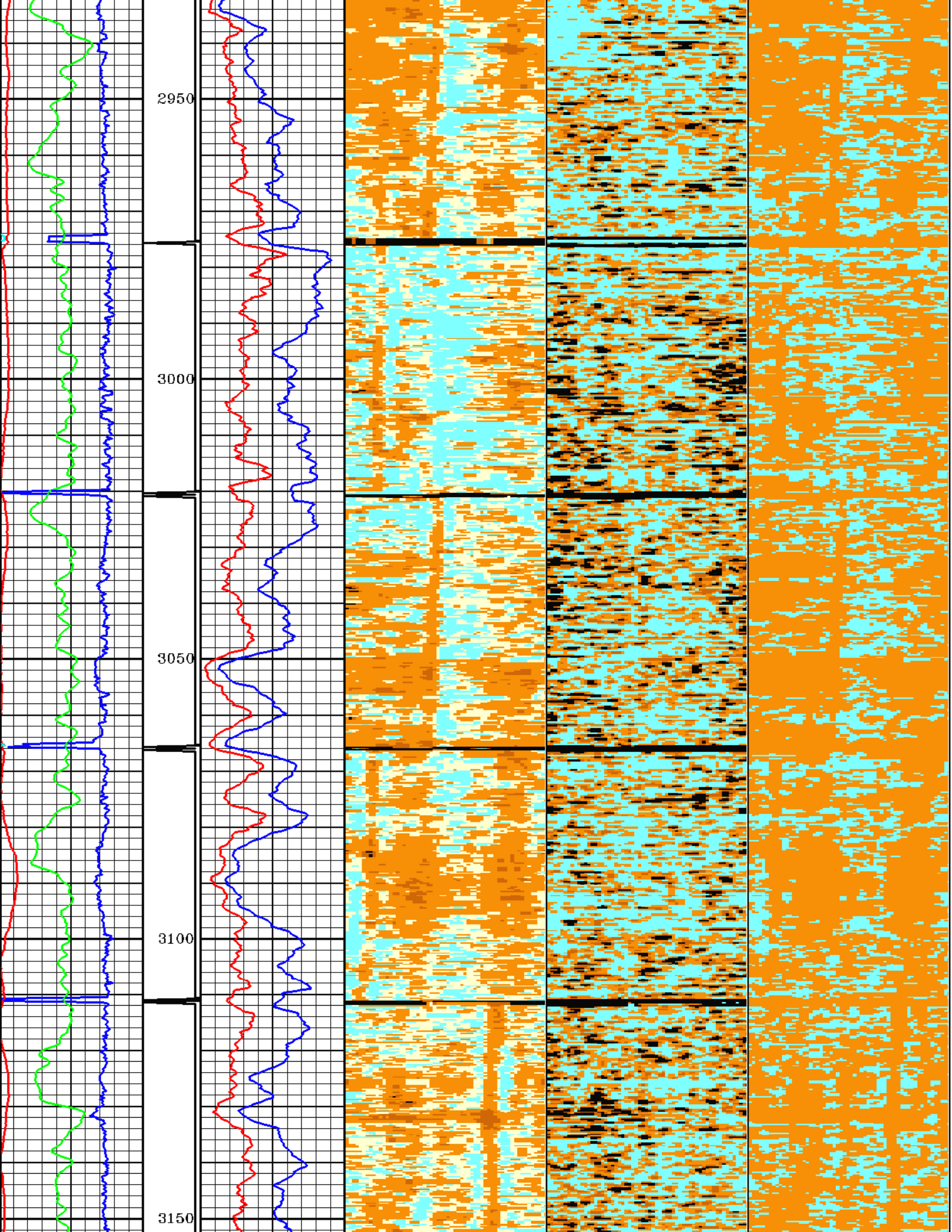


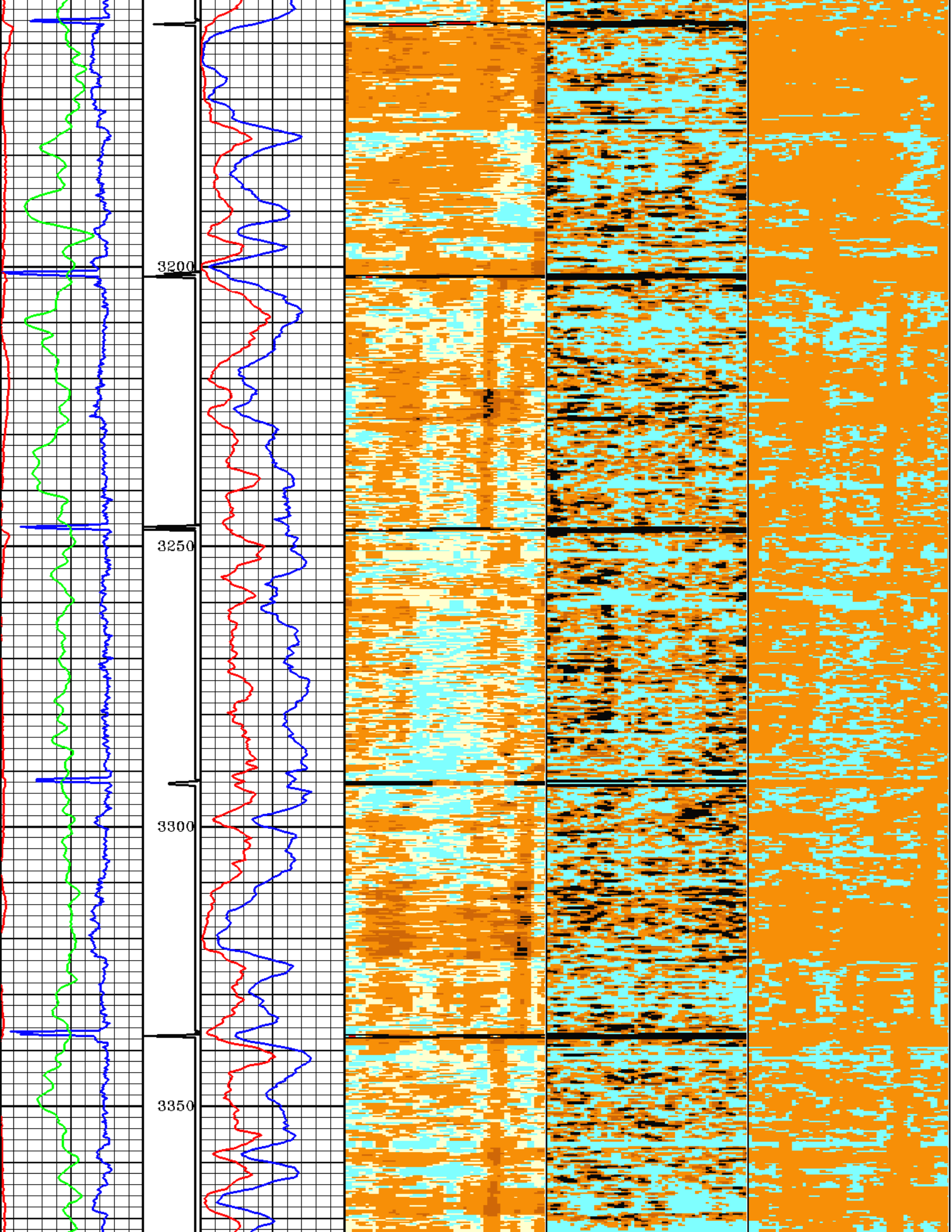


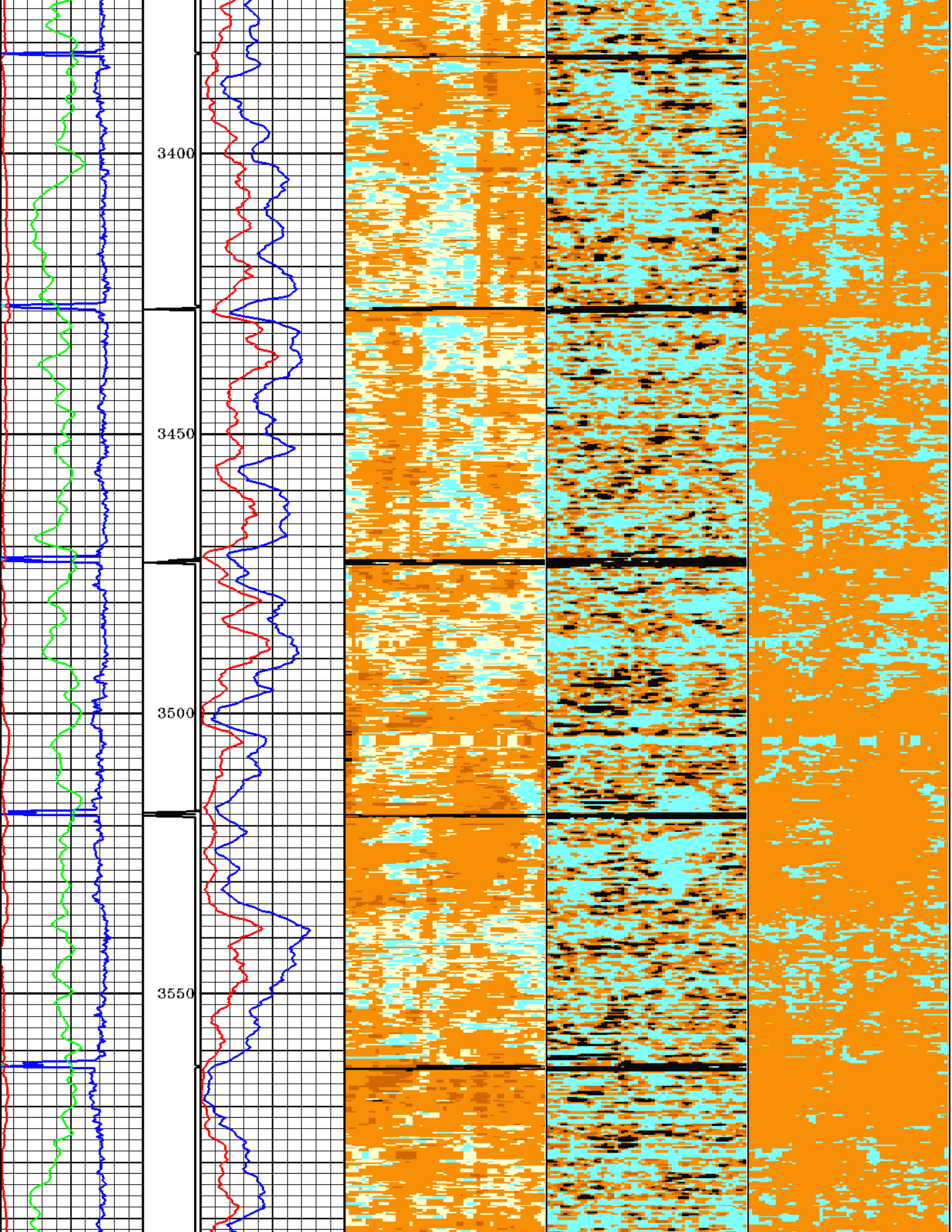


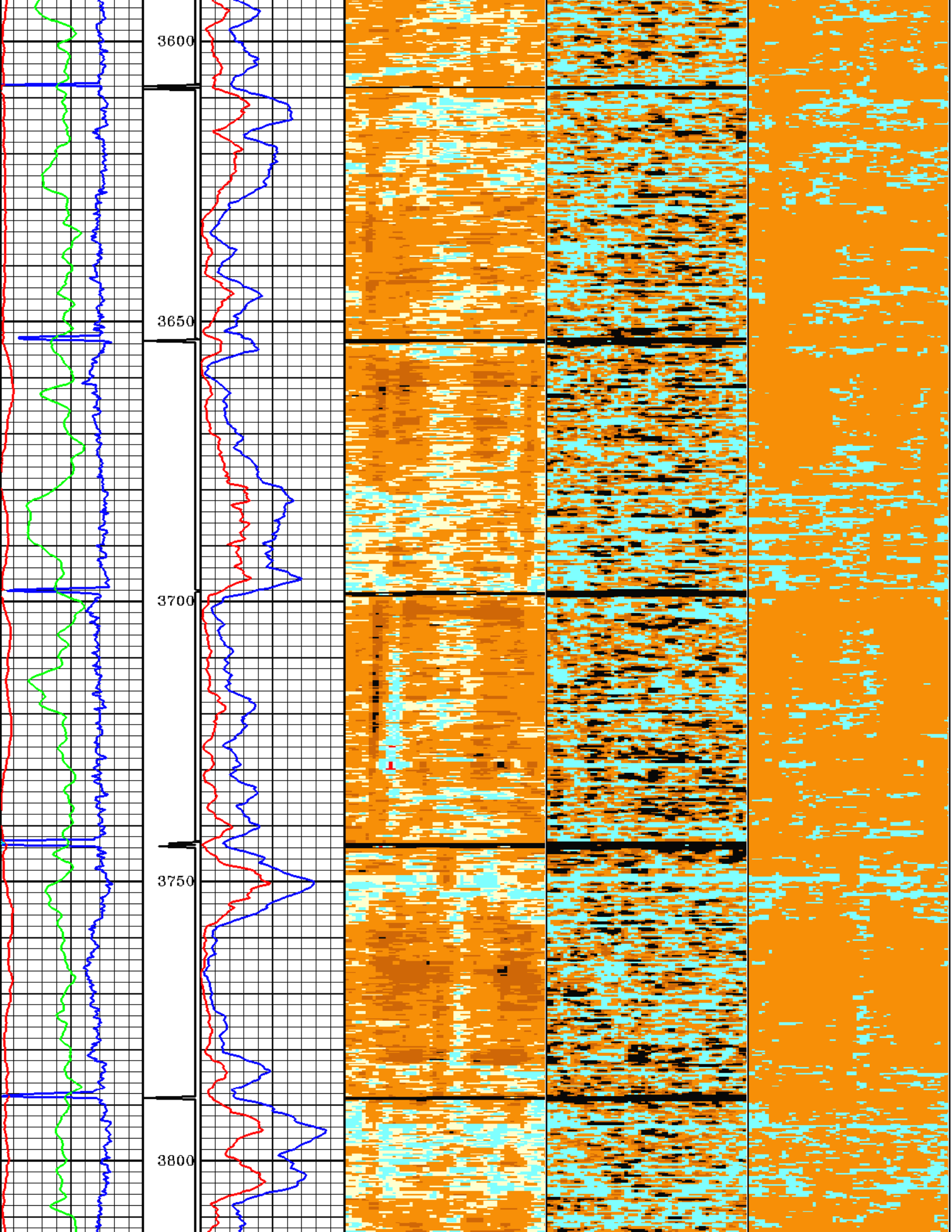


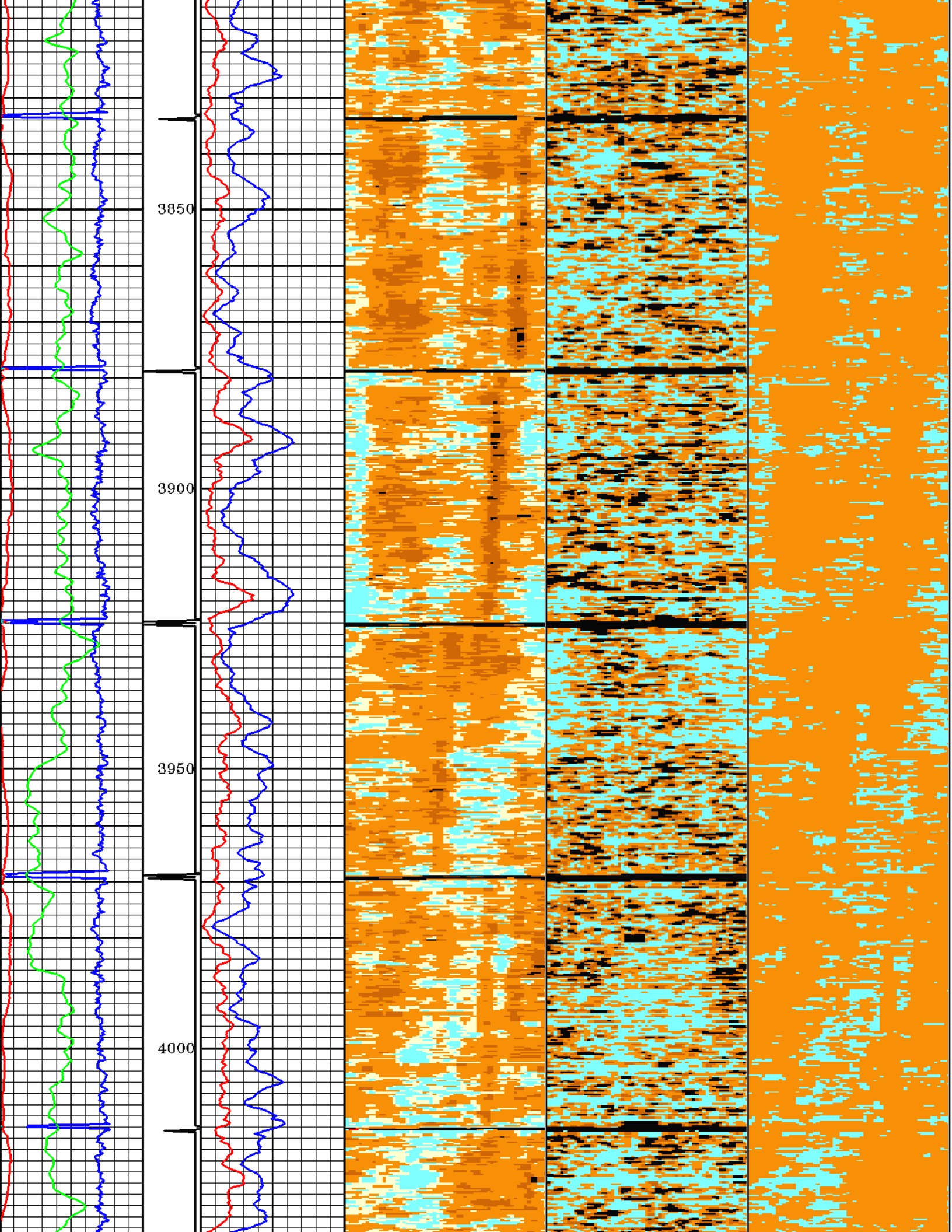


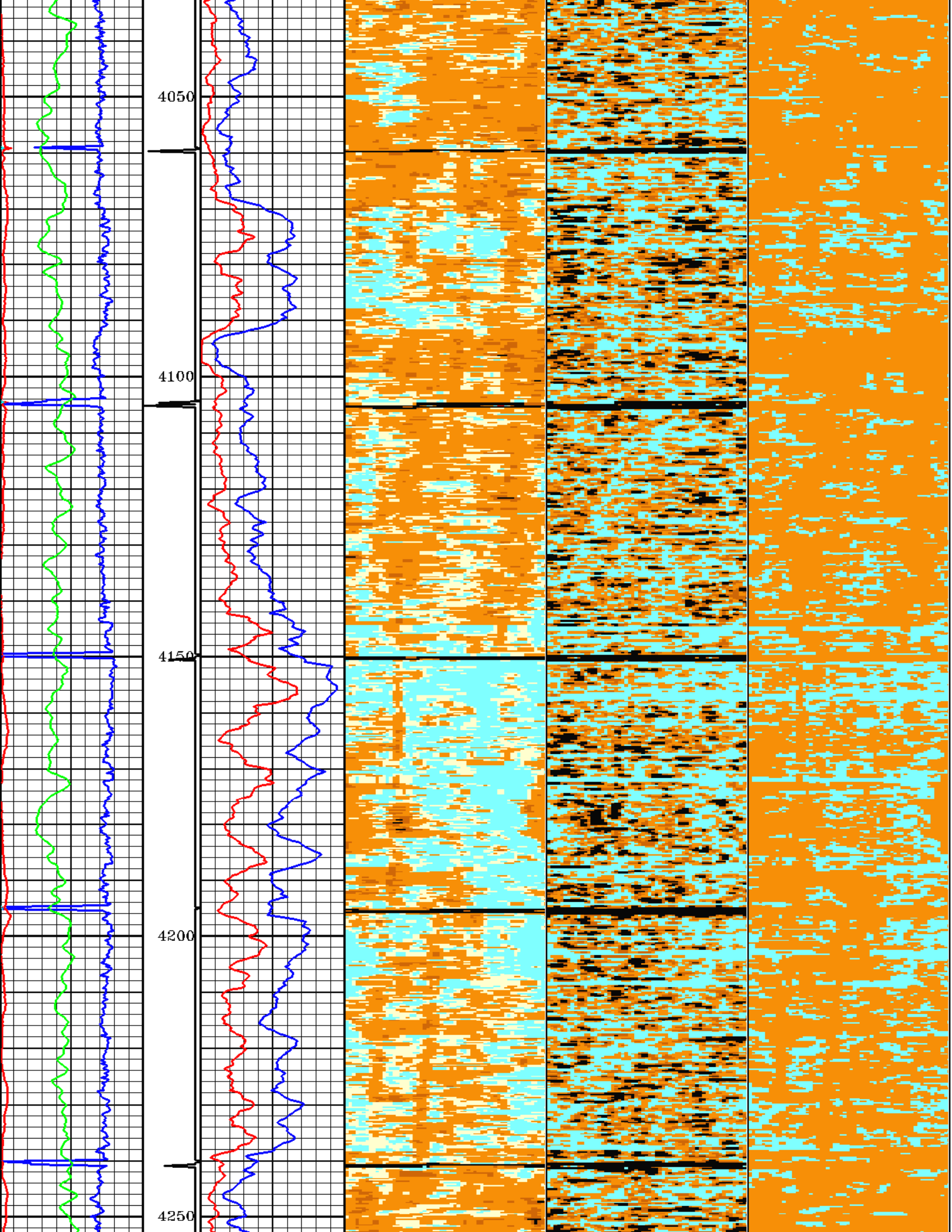


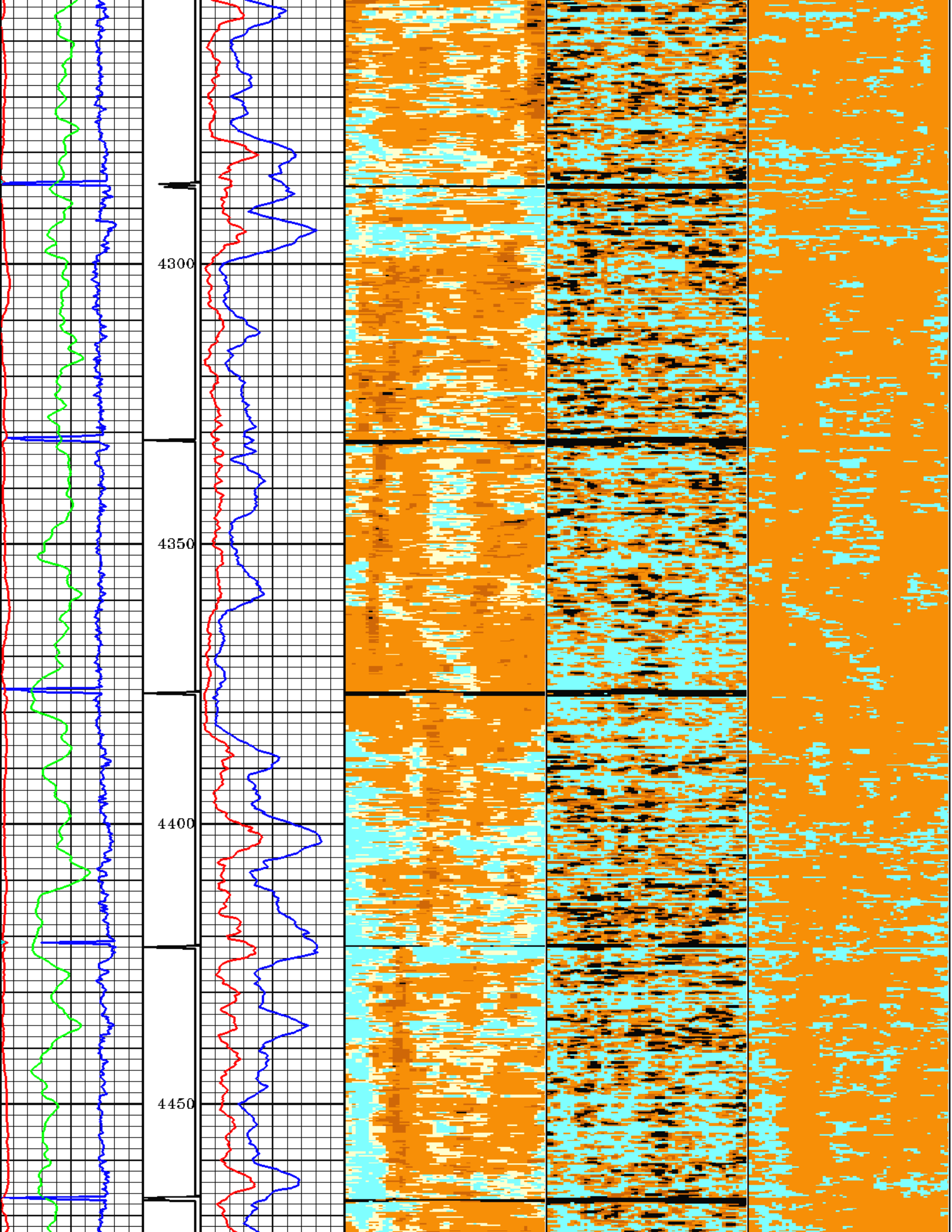


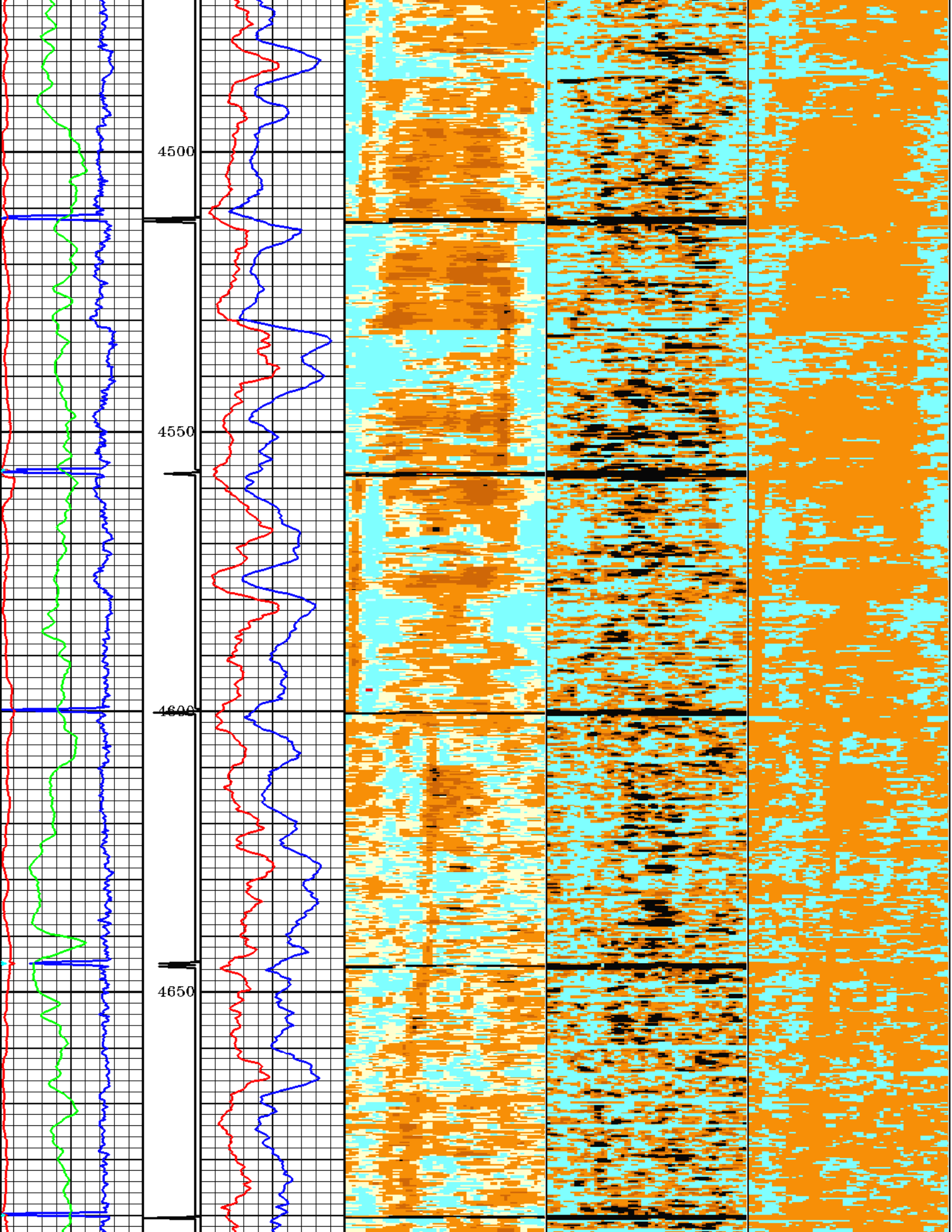


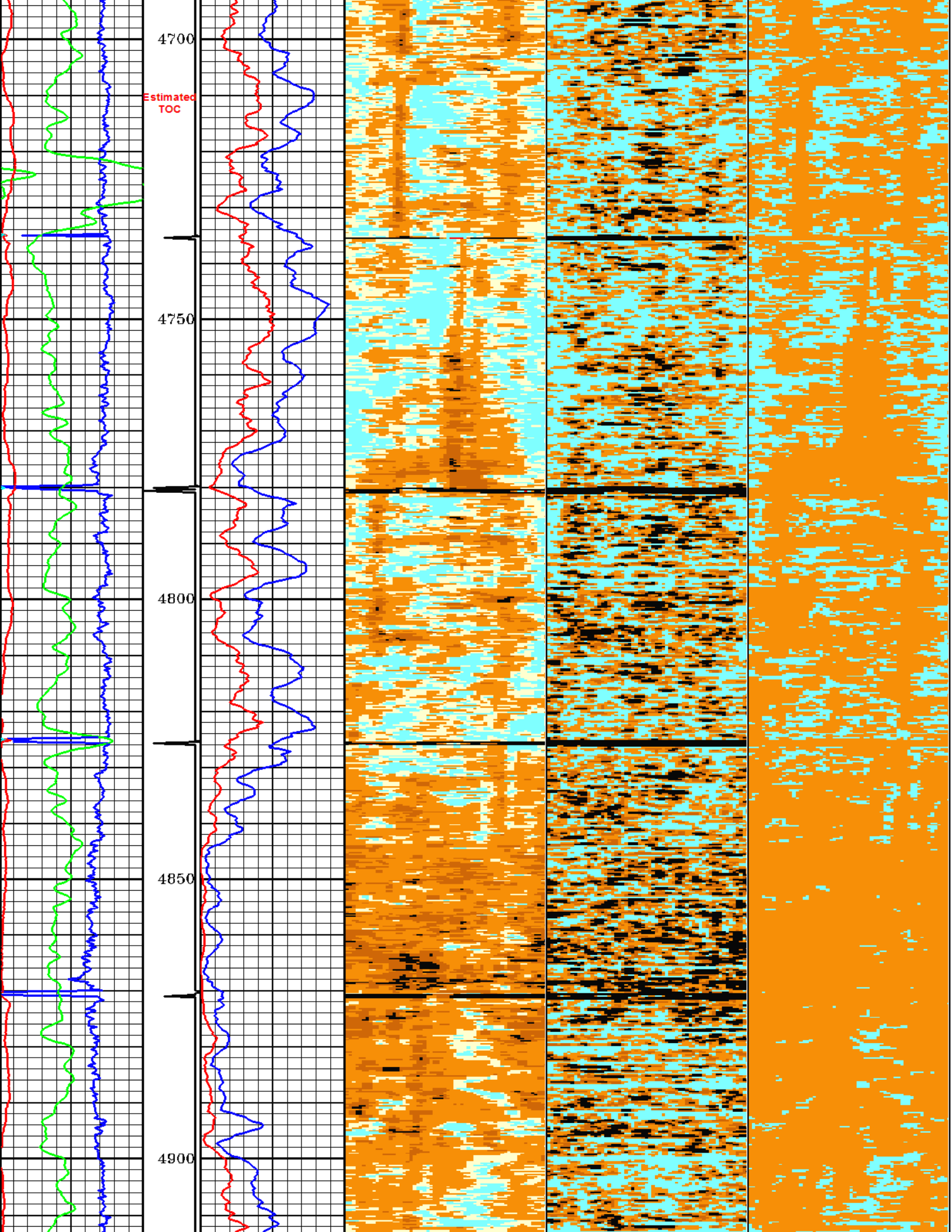


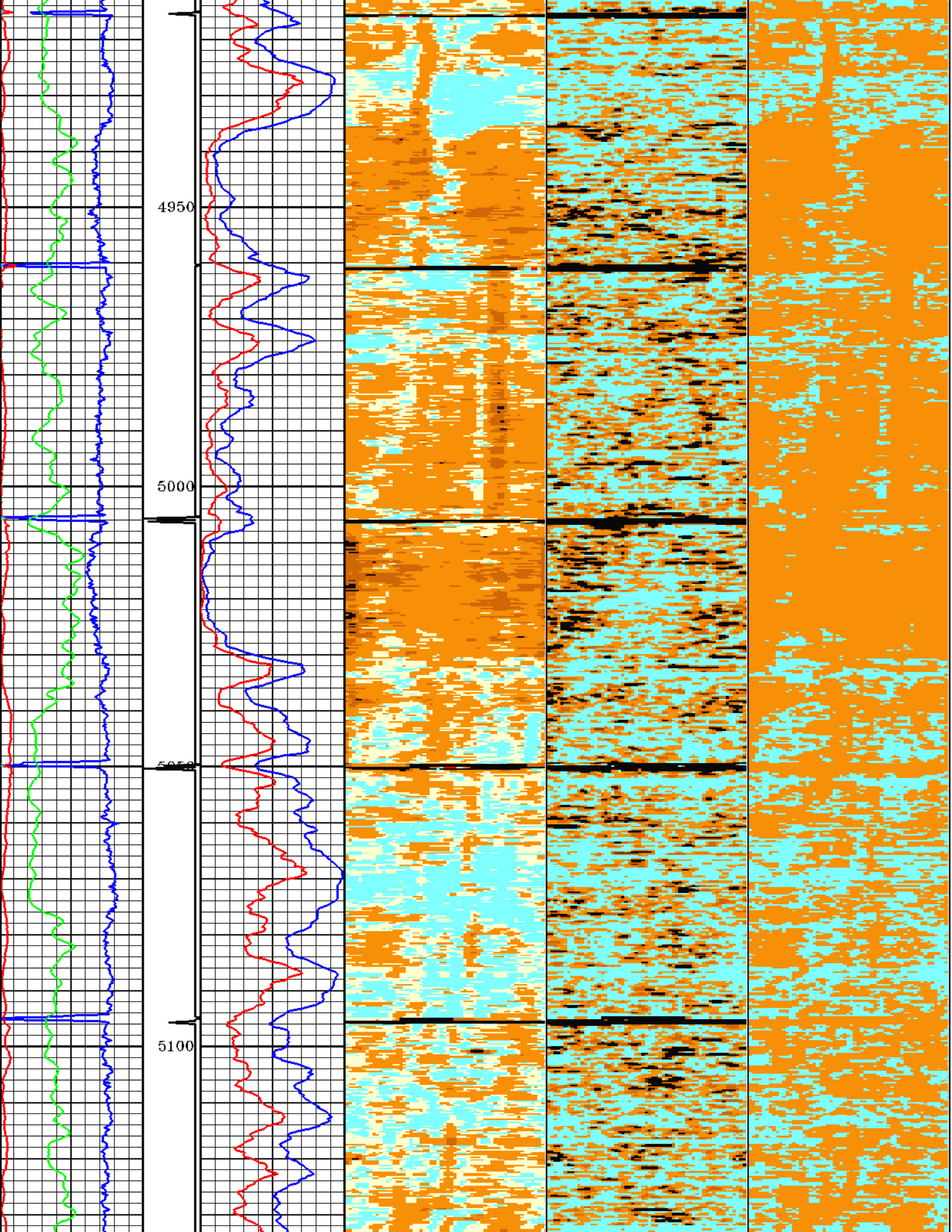


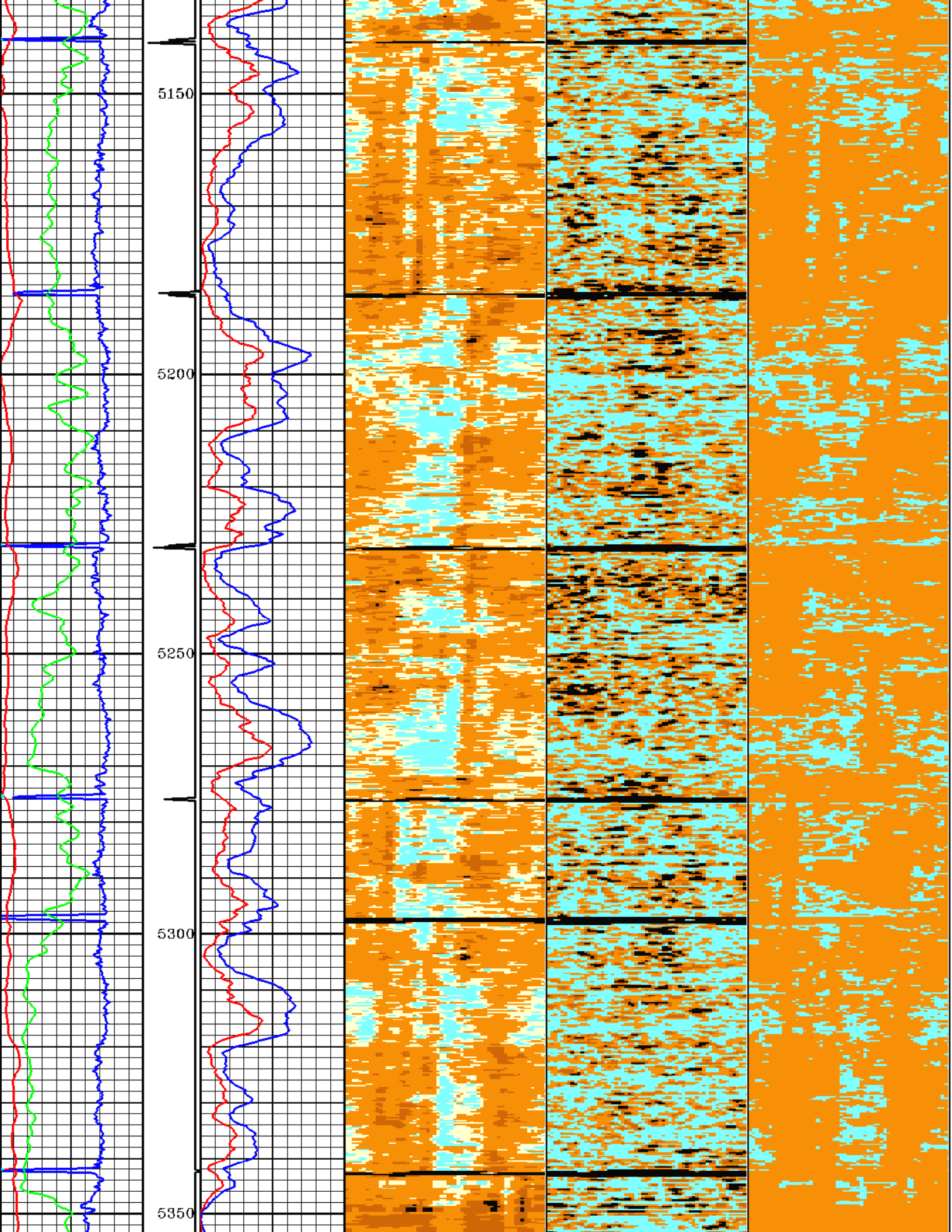


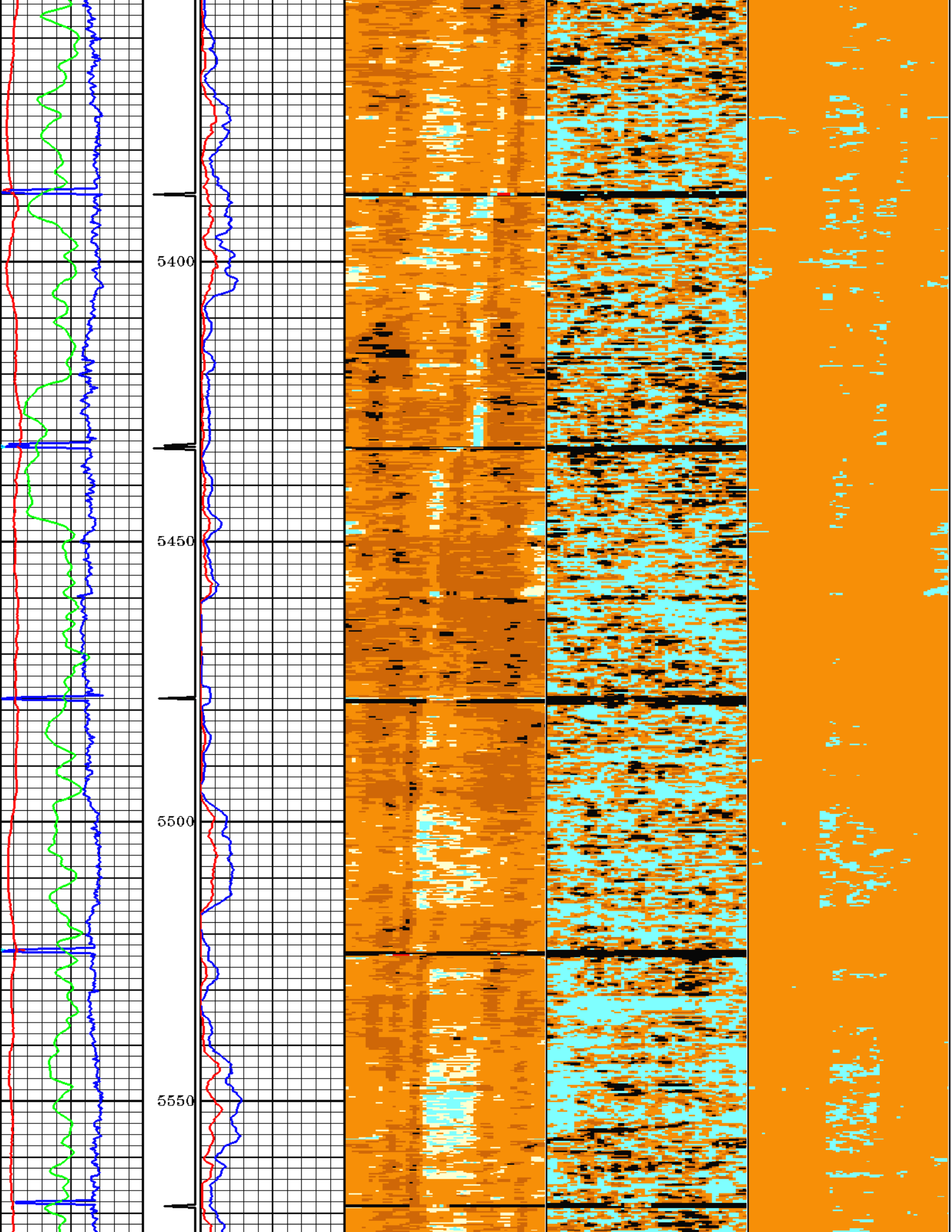


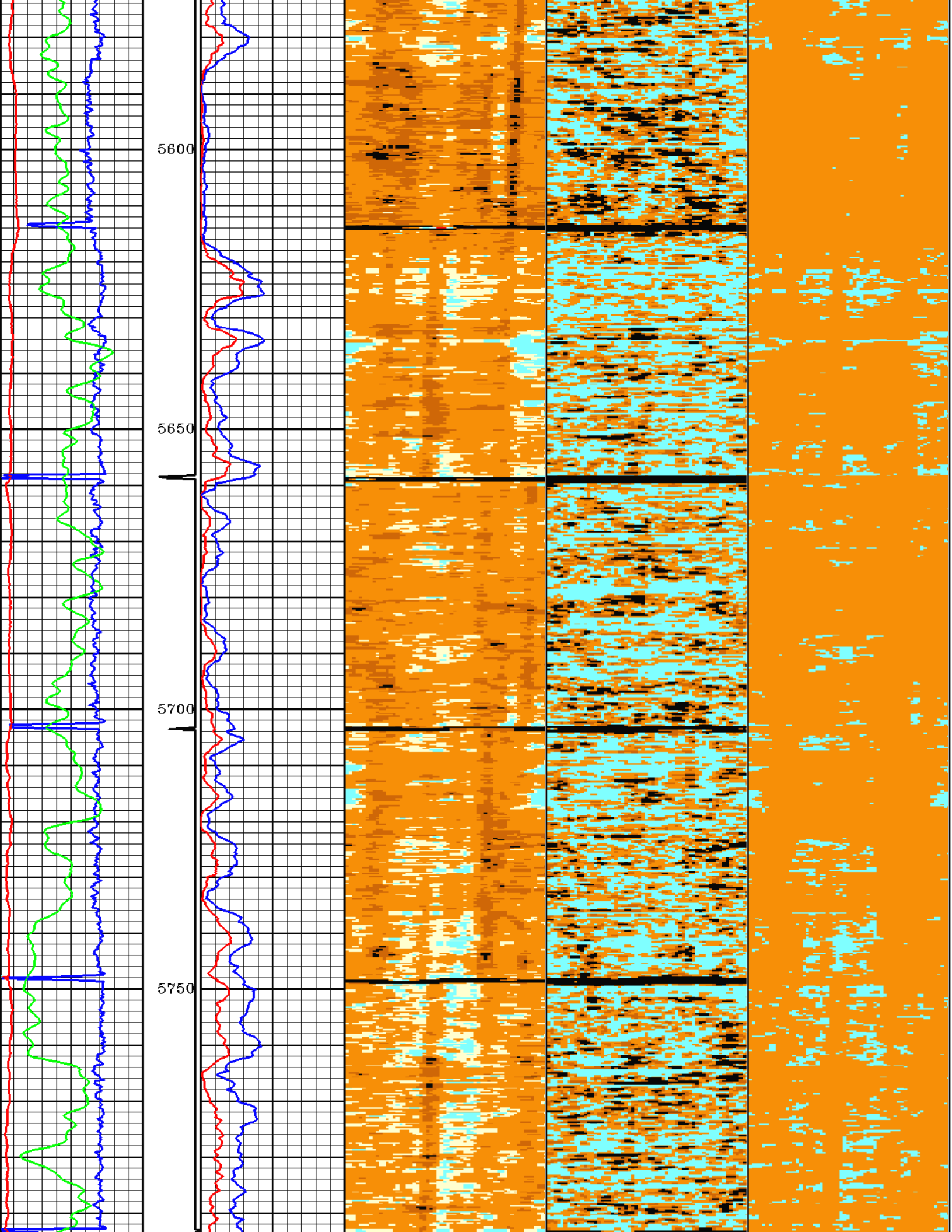


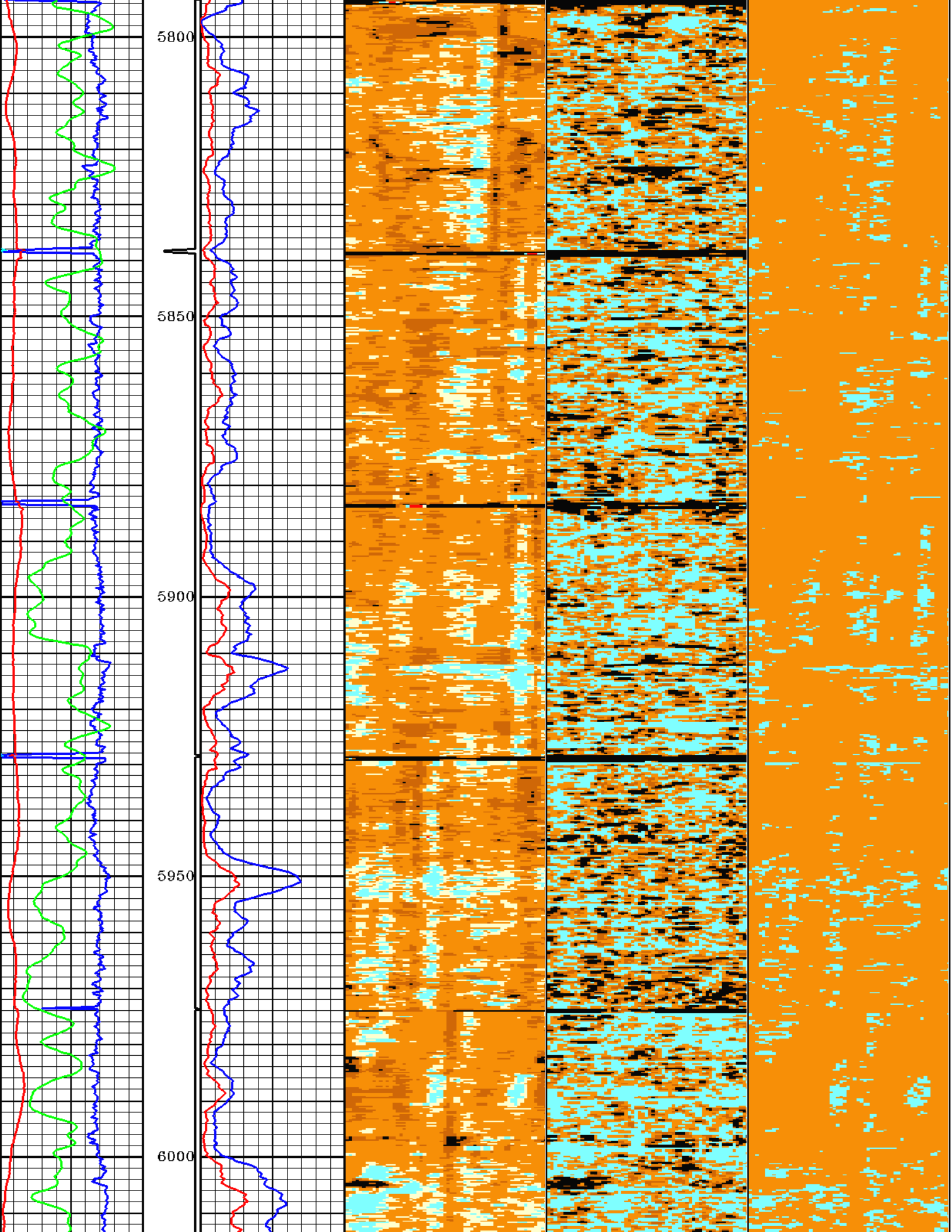


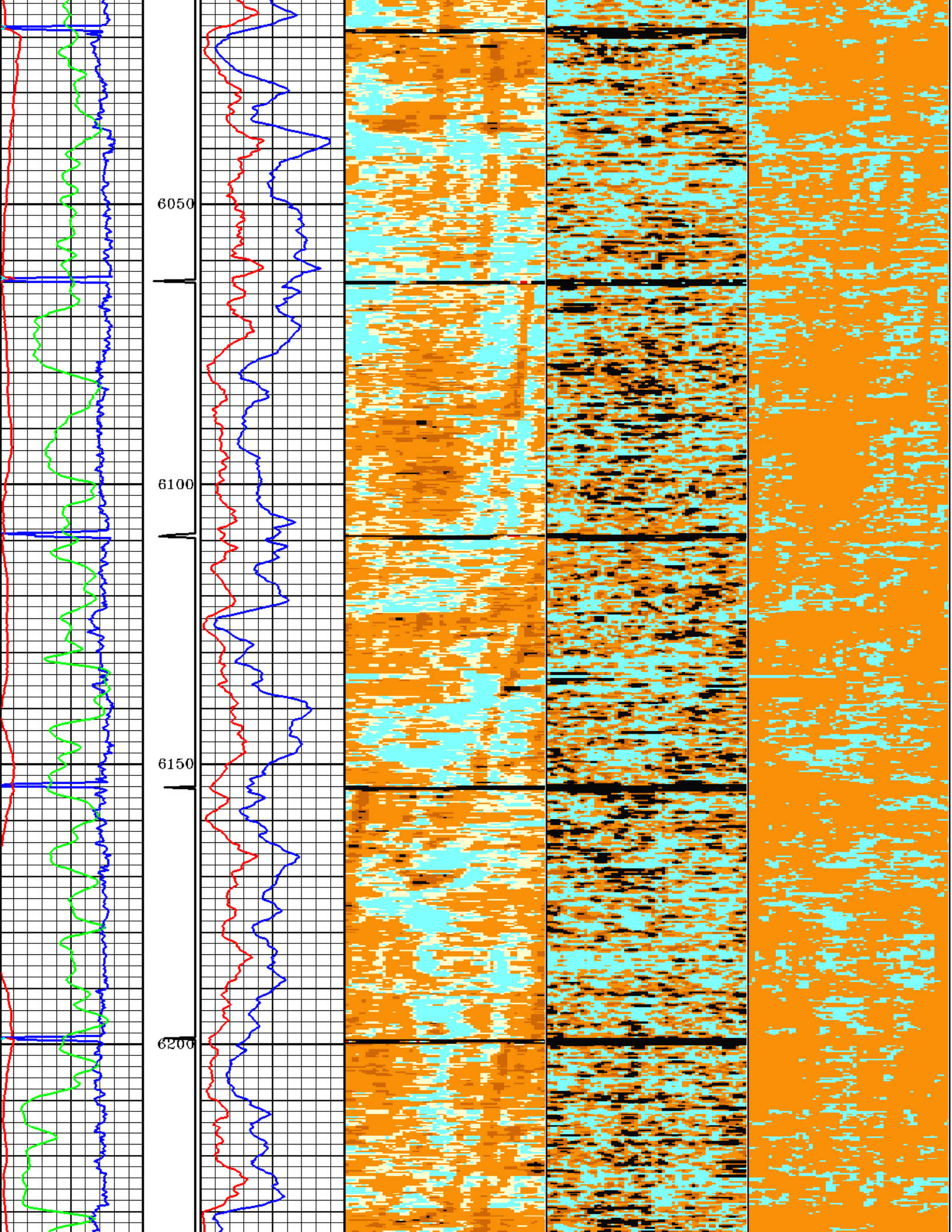


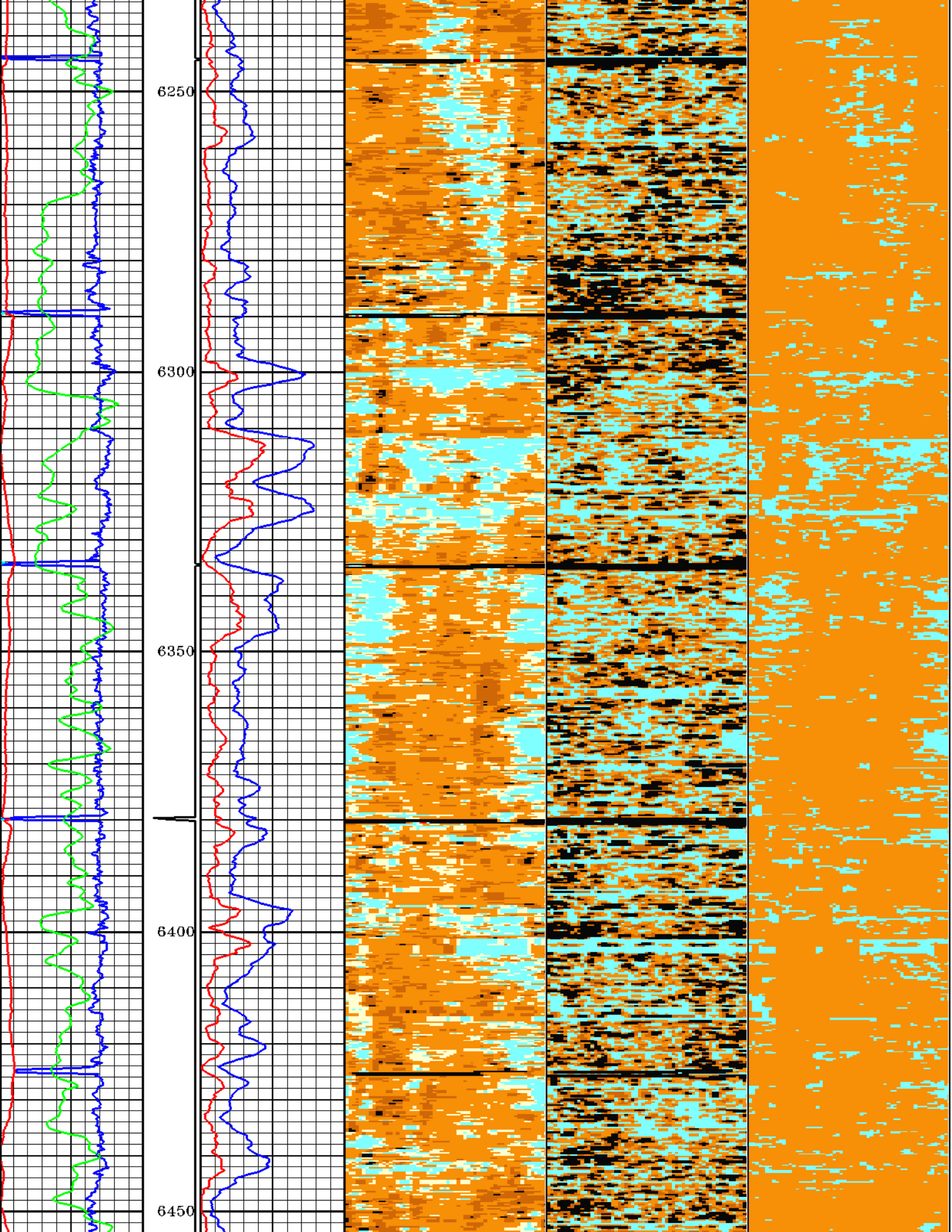


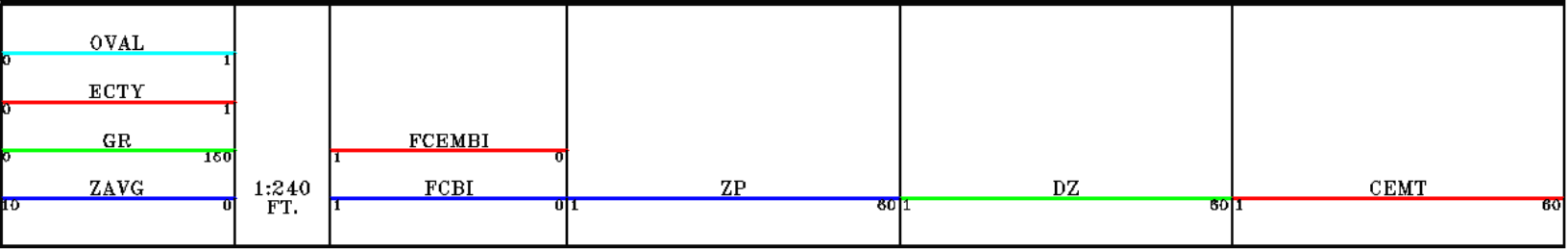
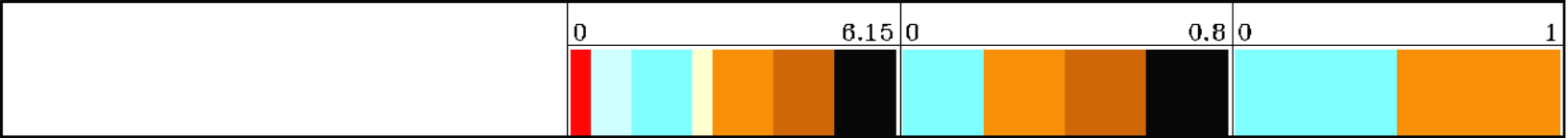
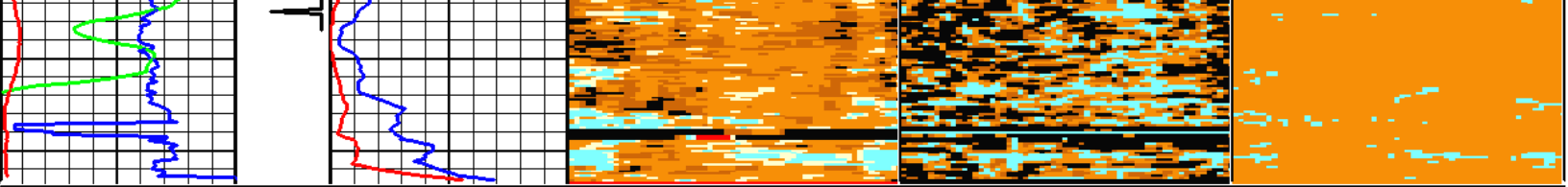












CORRELATION	CEMENT DATA	IMPEDANCE	DERIVATIVE	CEMENT
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Version No: | hc:3.0
Data File: MAINORIG_3.cls
Format File: 01_FACE_VSIZE60_NOCBL_DZ08_USED.spc
Plot Time: 2010-06-21 14:06:31
Database Time: 13:38:36

HALLIBURTON
EXCELL
2000

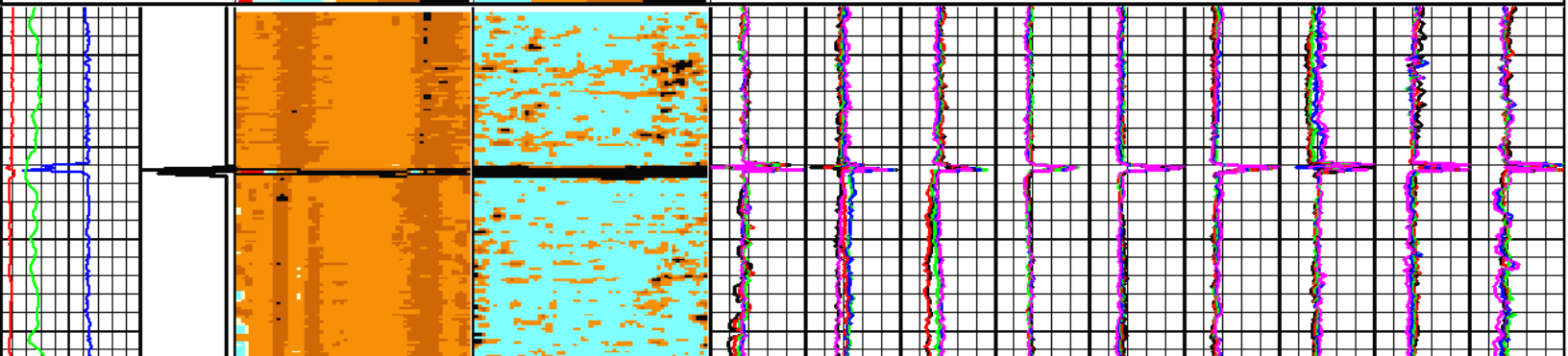
Top Depth: 655.00
Bottom Depth: 6474.00

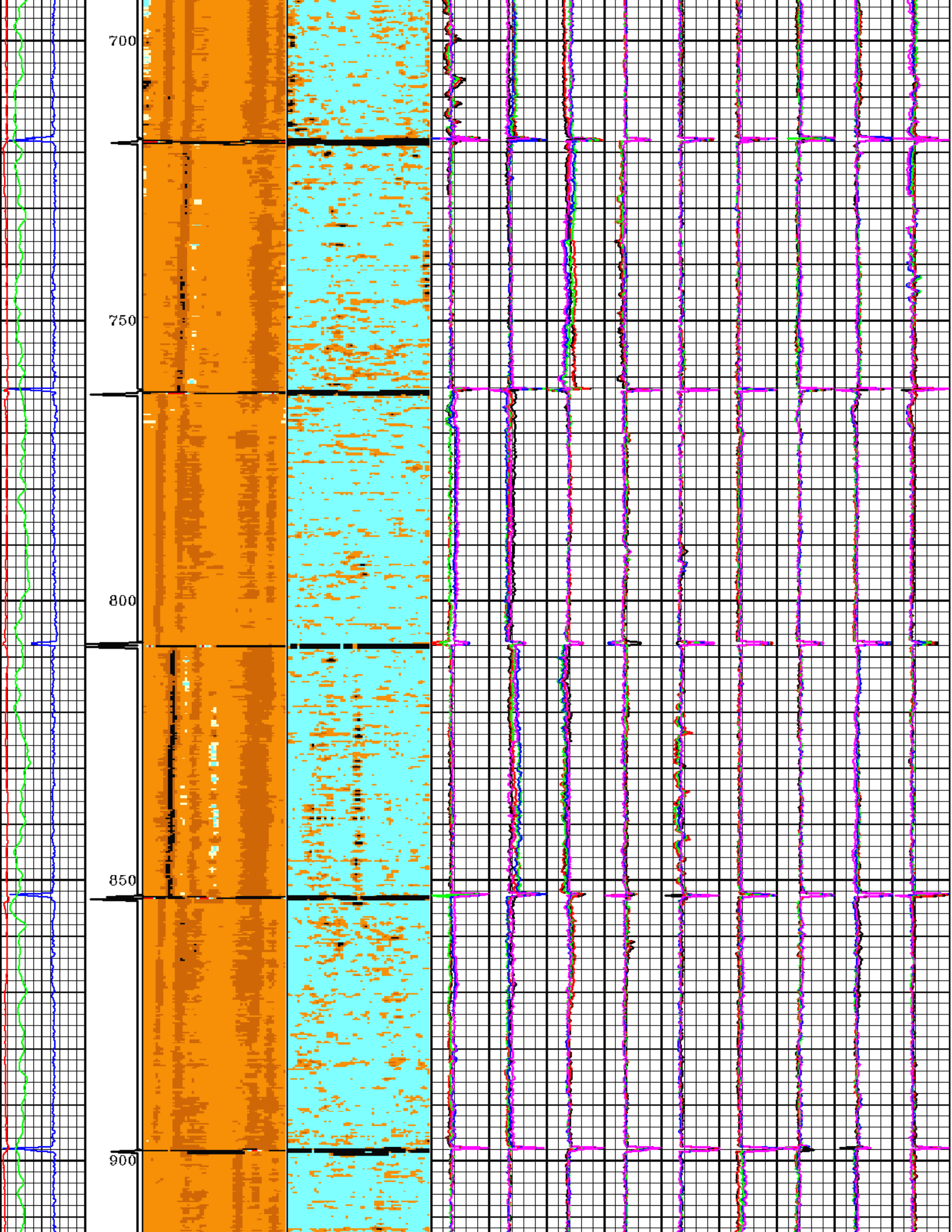
Version No: | hc:3.0
Data File: MAINORIG_3.cls
Format File: 01_ACE_SEG_CURVES_VSIZE60_DZ08_USED.spc
Plot Time: 2010-06-21 14:06:44
Database Time: 13:38:36

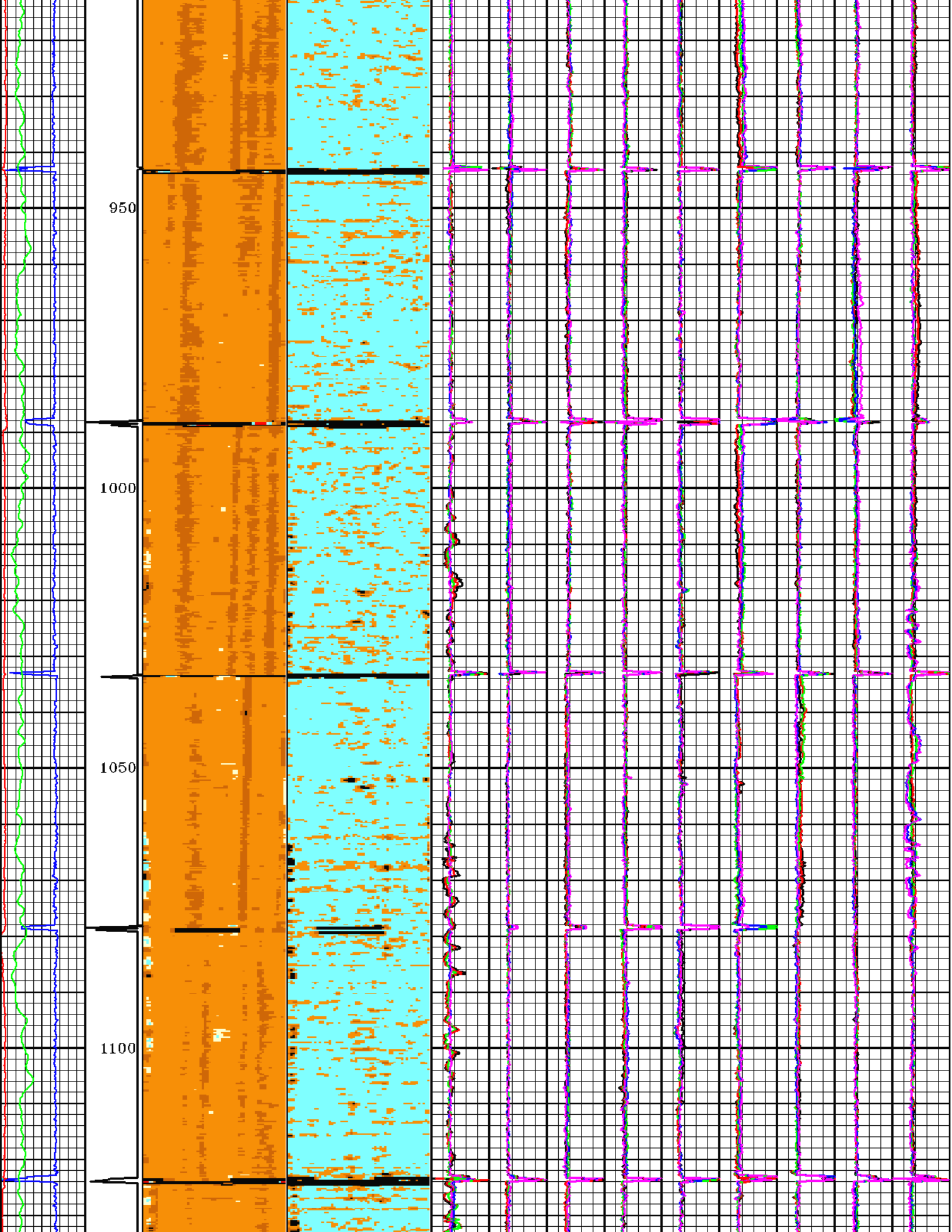
HALLIBURTON
EXCELL
2000

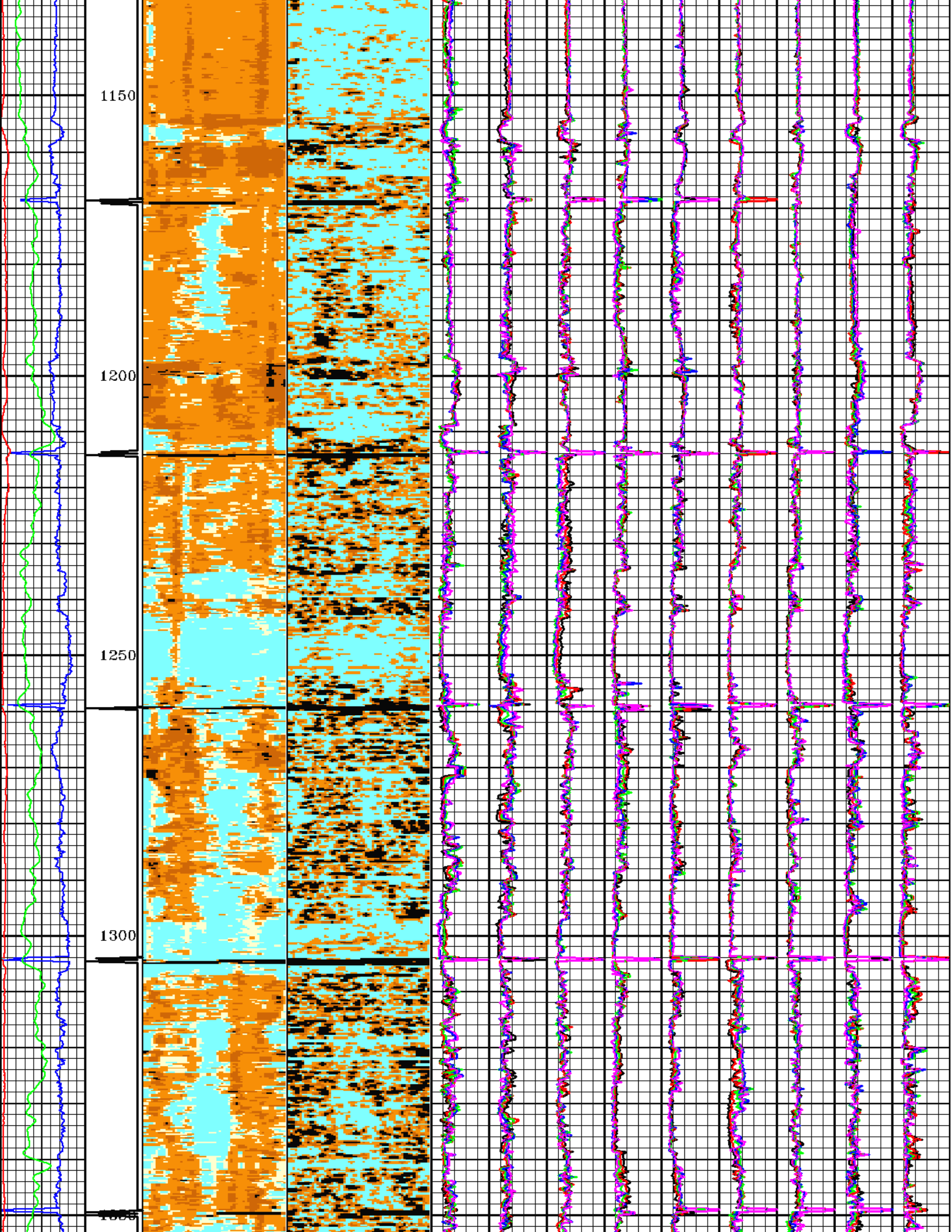
Top Depth: 655.00
Bottom Depth: 6474.00

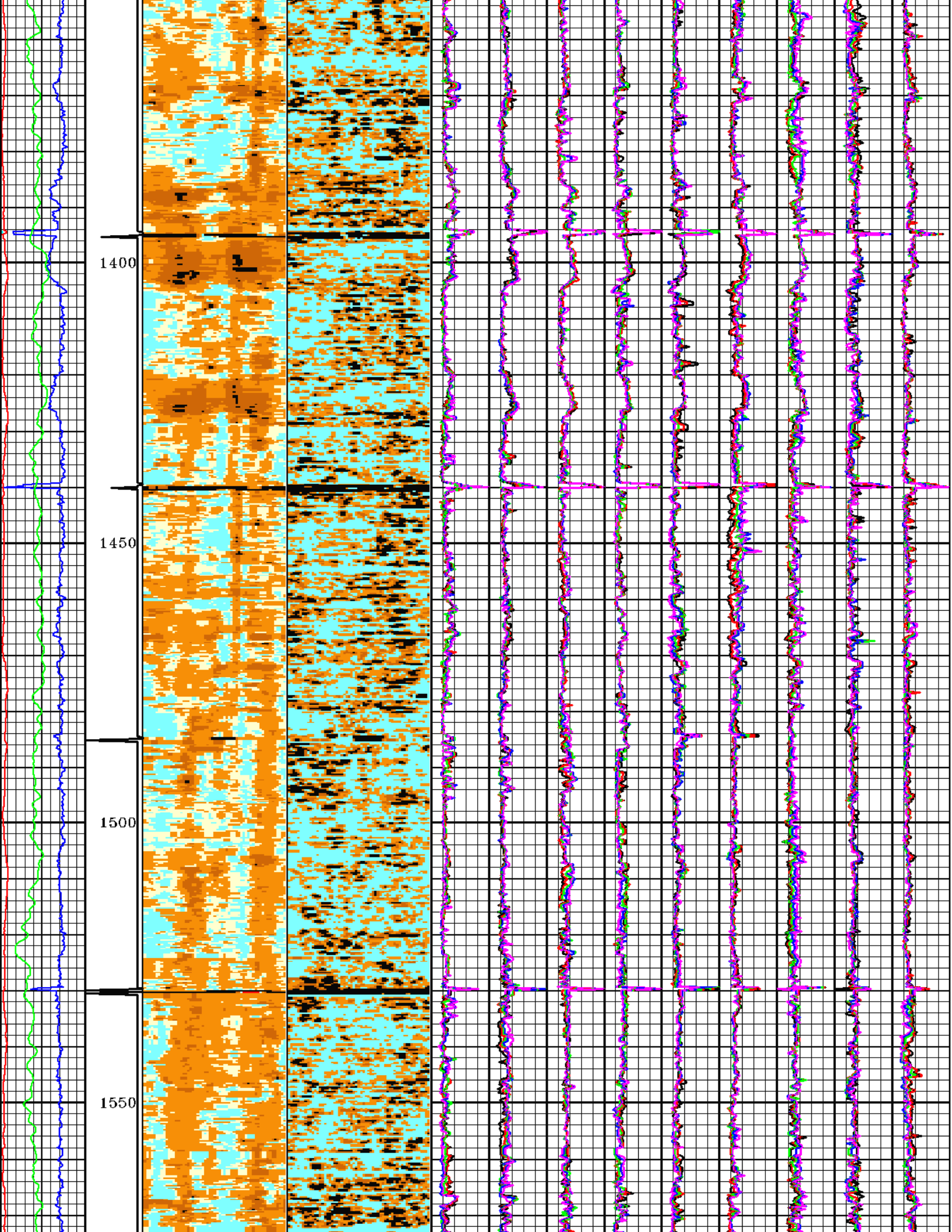
WELLBORE DATA		IMPEDANCE MAP	DZ	SEG. A	SEG. B	SEG. C	SEG. D	SEG. E	SEG. F	SEG. G	SEG. H	SEG. I
ECTY												
ZAVG	1:240 FT.	ZP	DZ	CA1	CB1	CC1	CD1	CE1	CF1	CG1	CH1	CI1
GR				CA2	CB2	CC2	CD2	CE2	CF2	CG2	CH2	CI2
ECTY				CA3	CB3	CC3	CD3	CE3	CF3	CG3	CH3	CI3
OVAL				CA4	CB4	CC4	CD4	CE4	CF4	CG4	CH4	CI4
				CA5	CB5	CC5	CD5	CE5	CF5	CG5	CH5	CI5

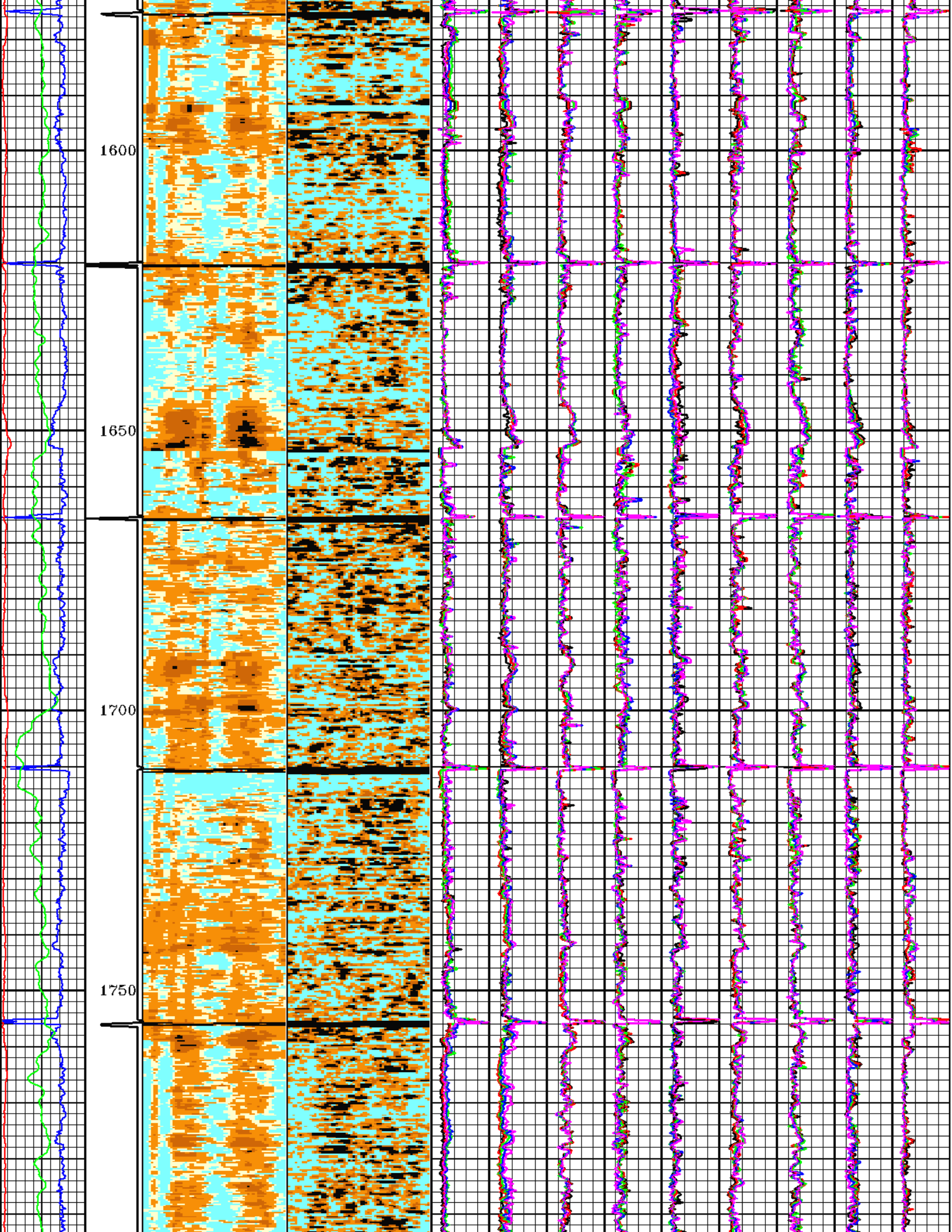


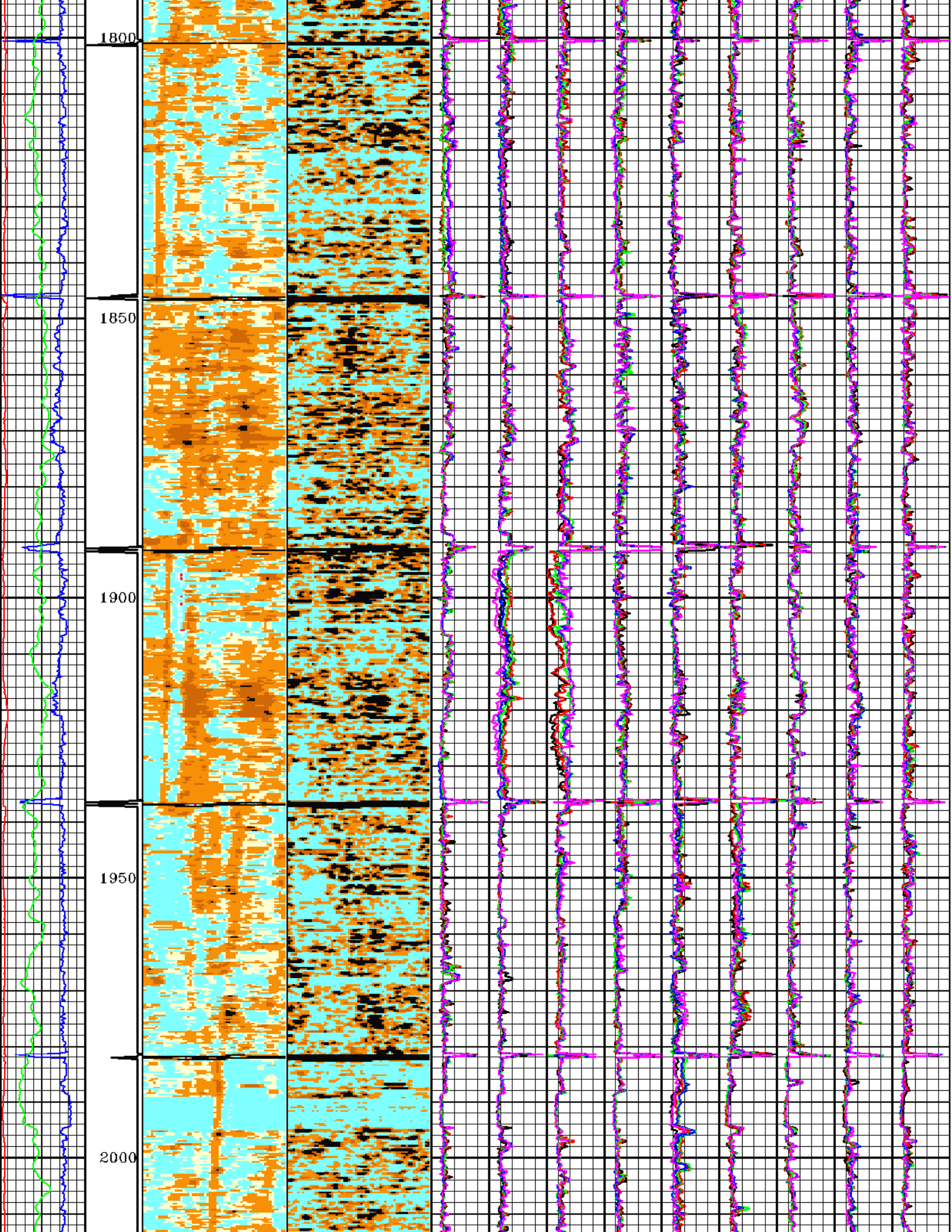


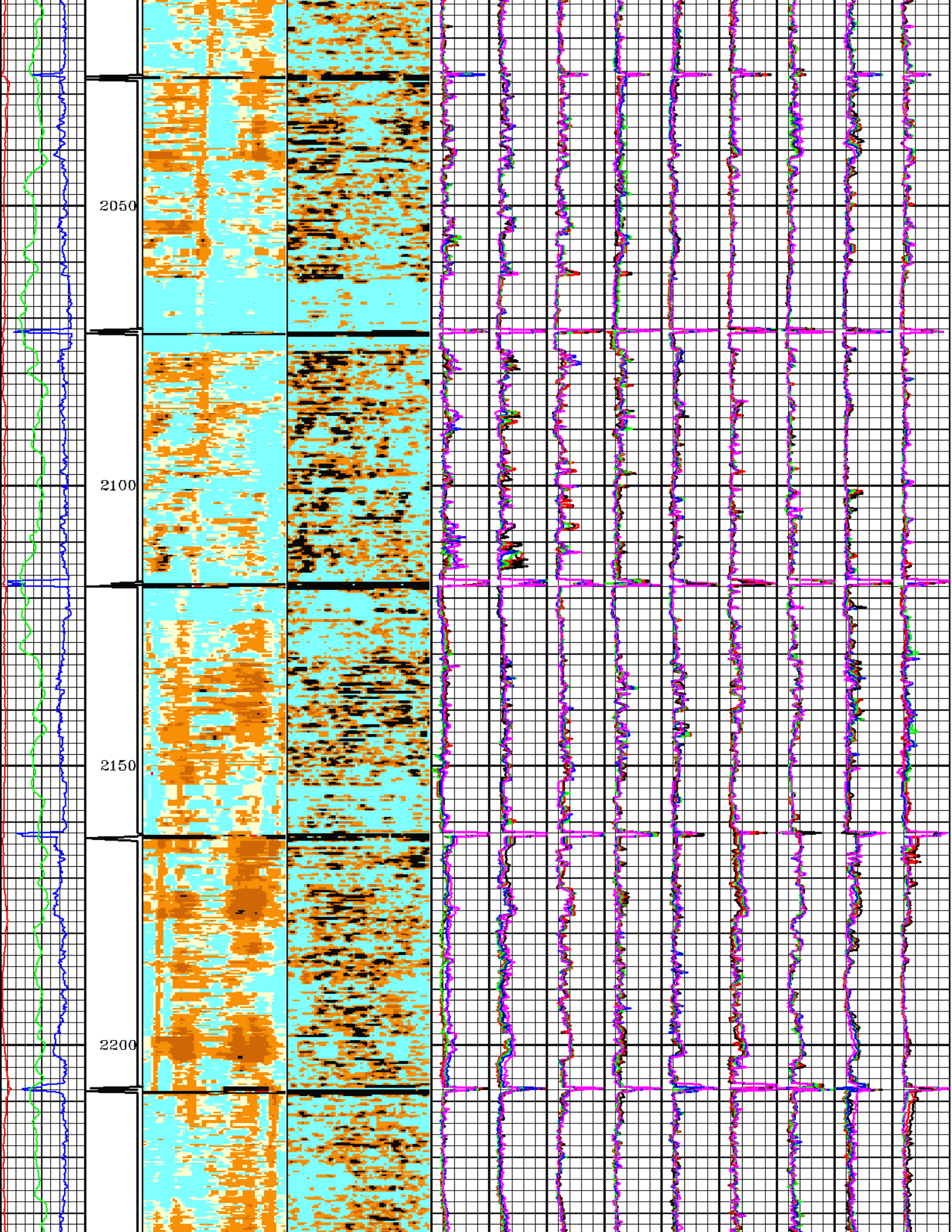


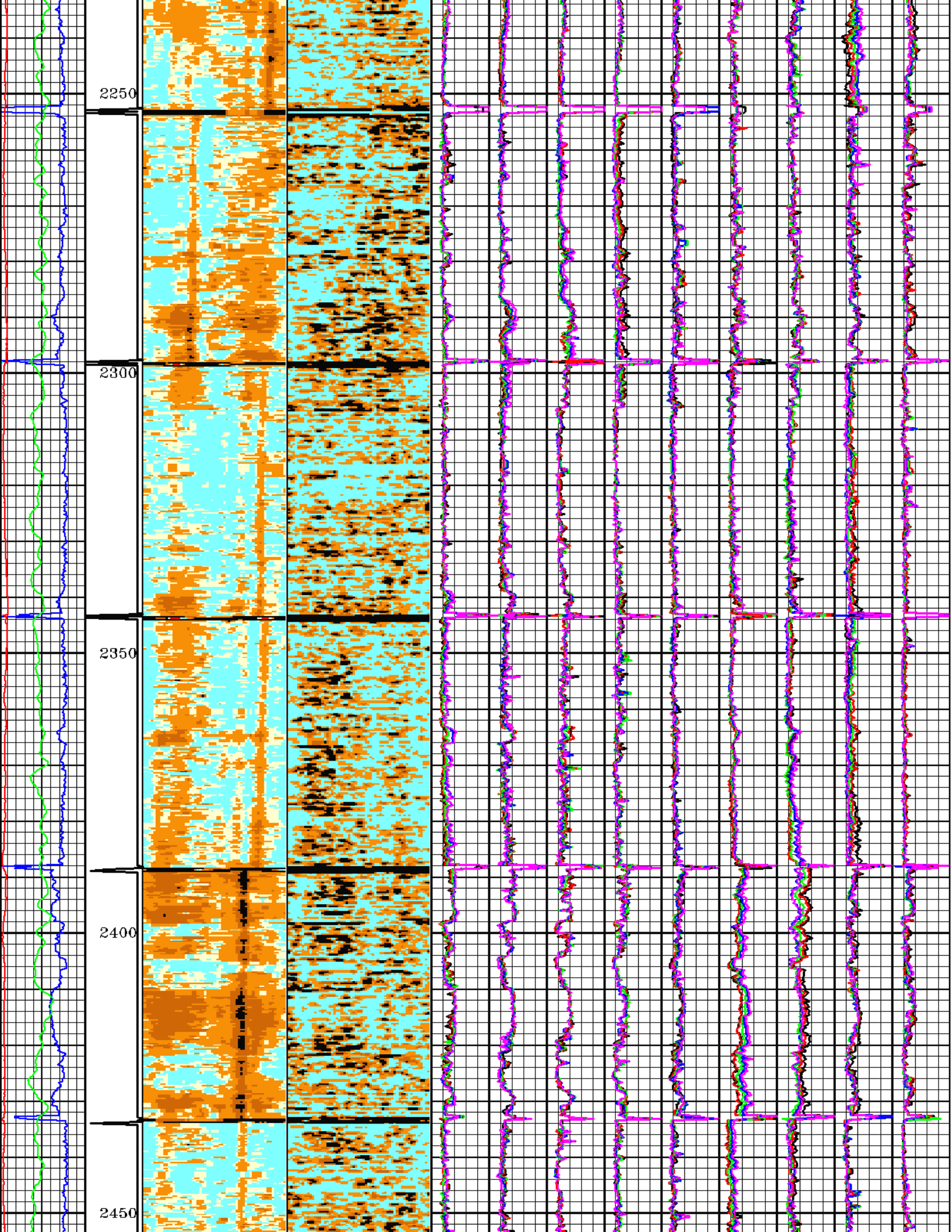


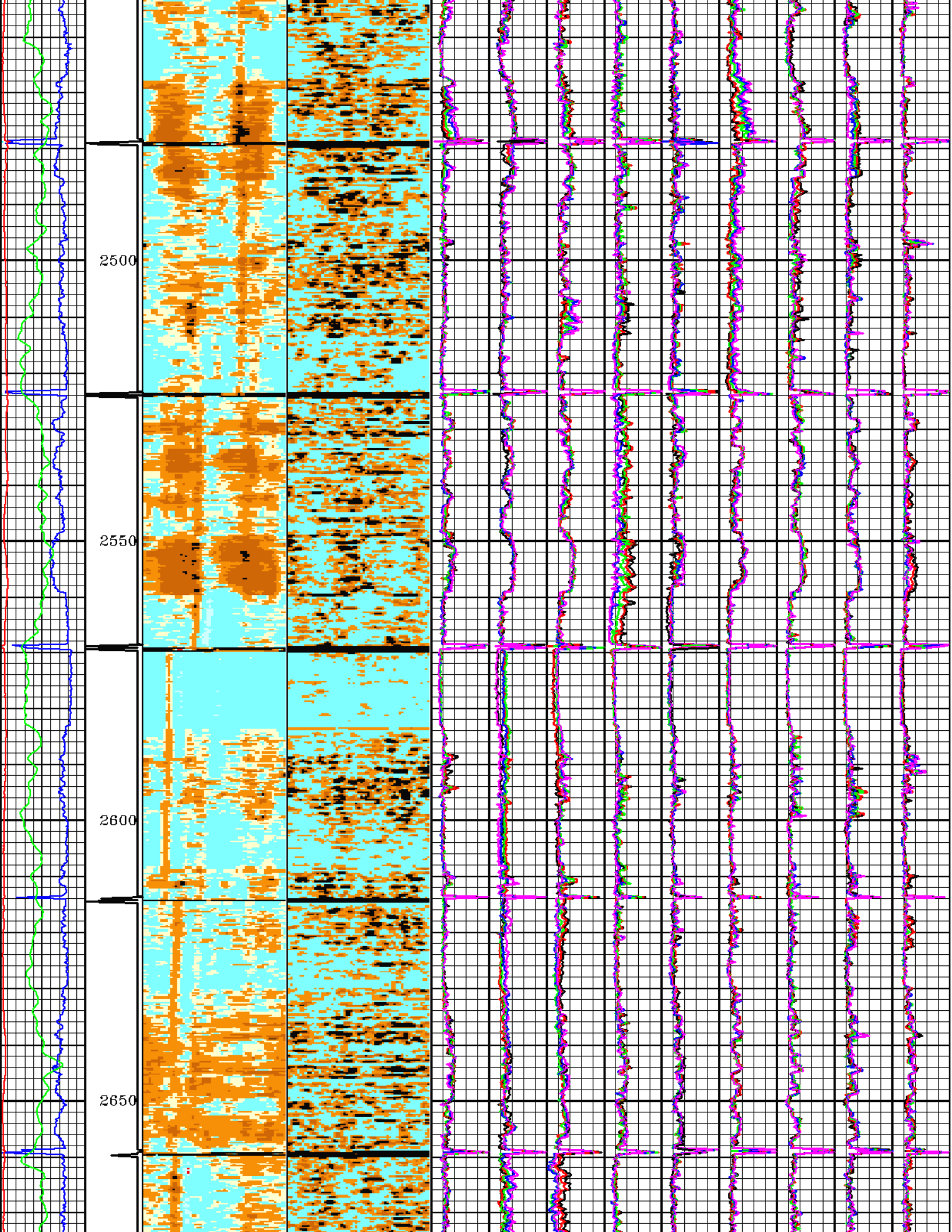


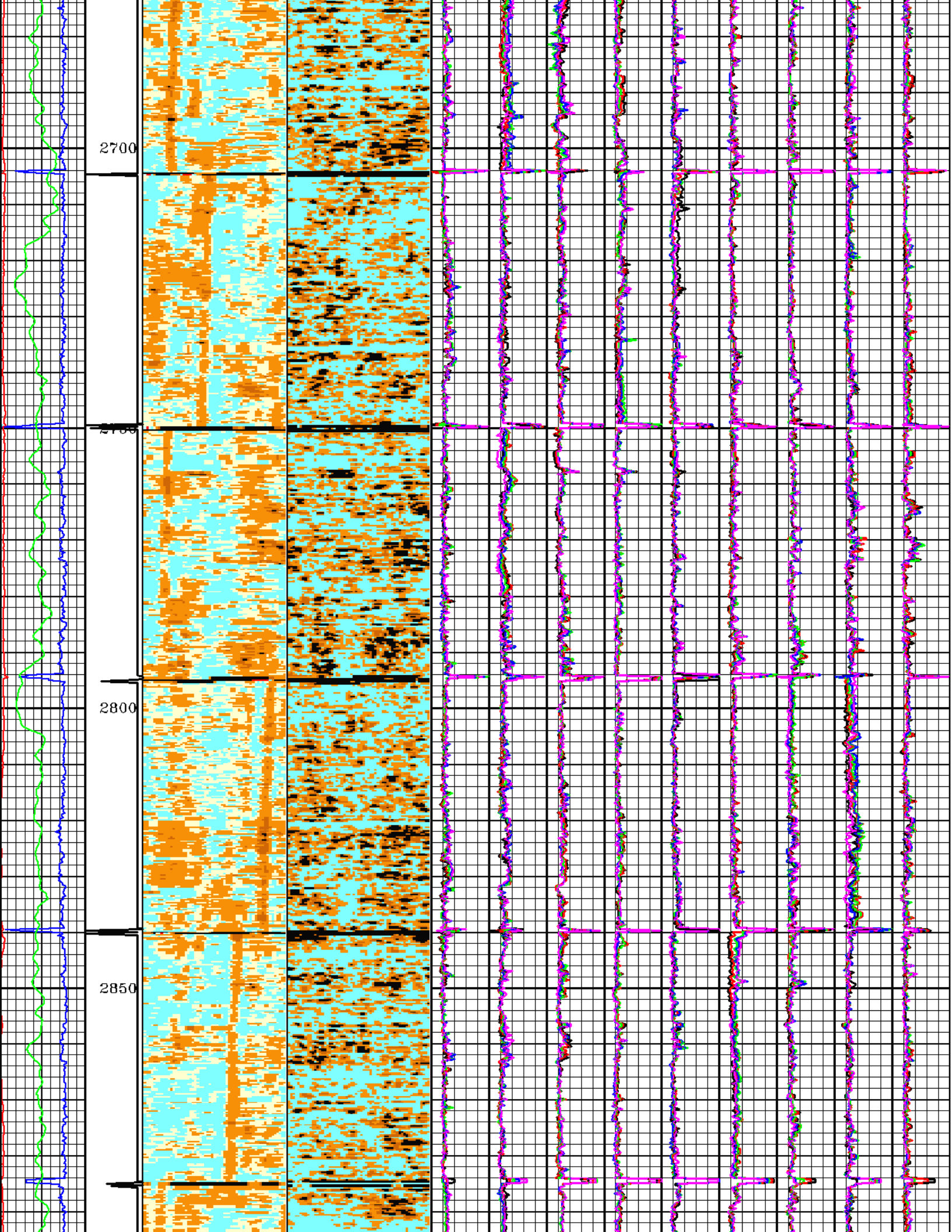


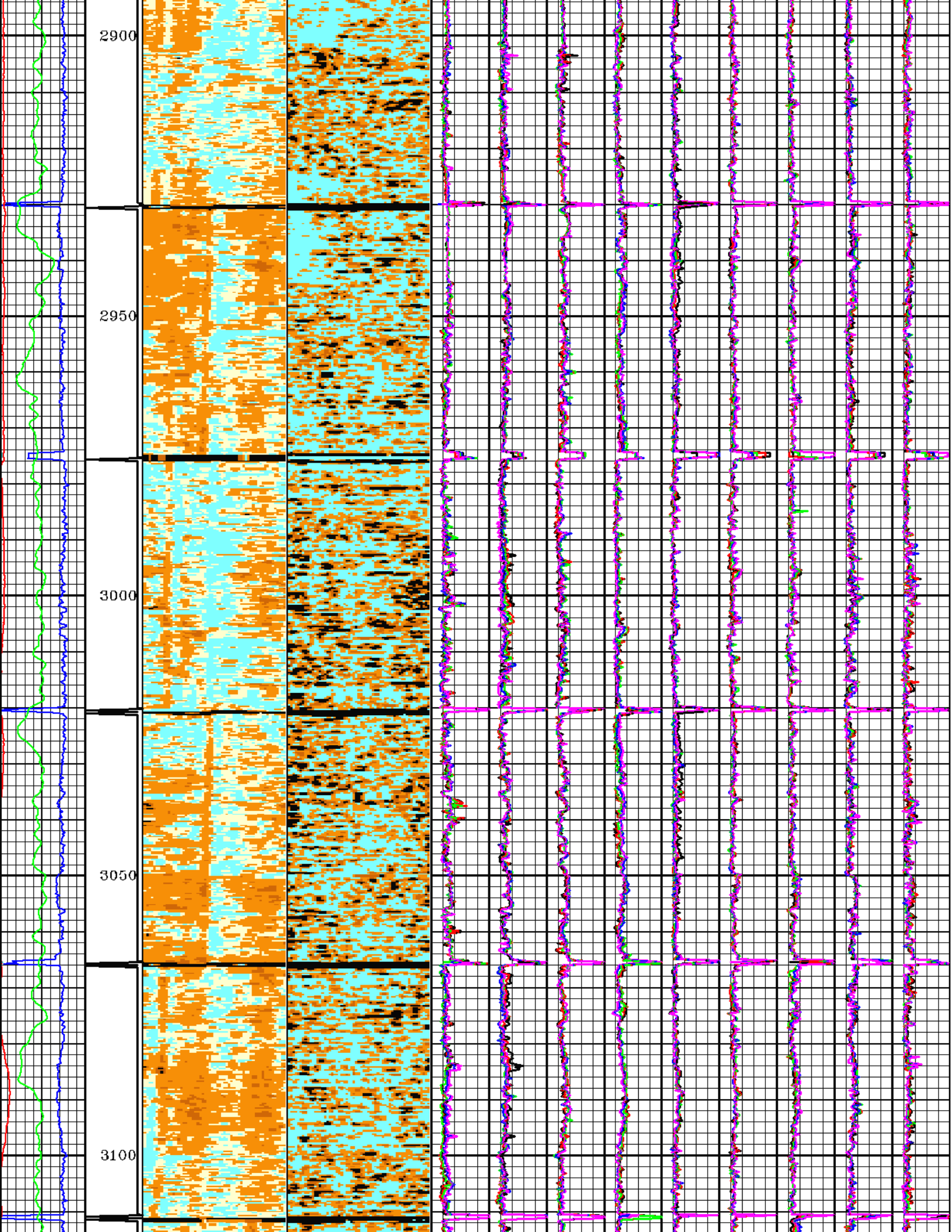


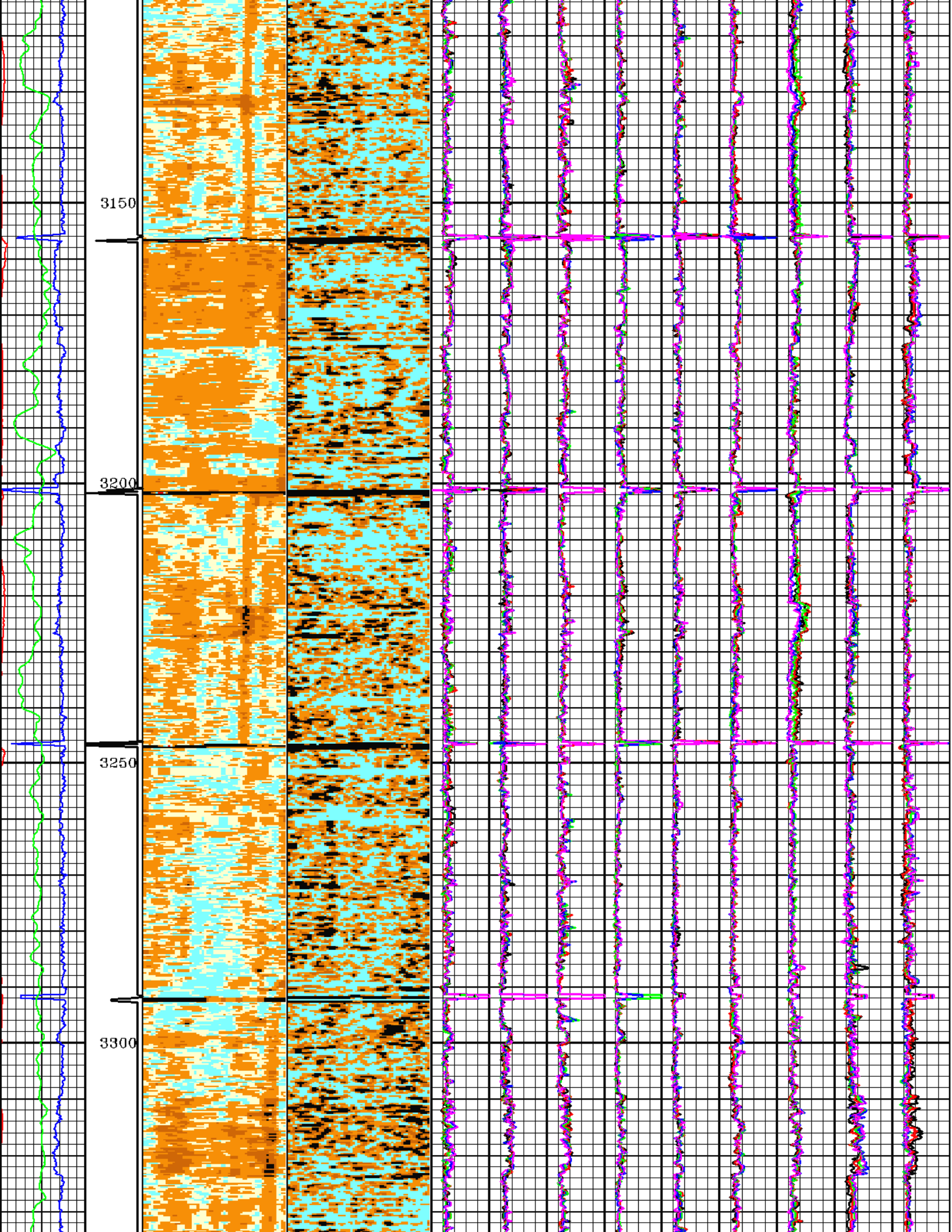


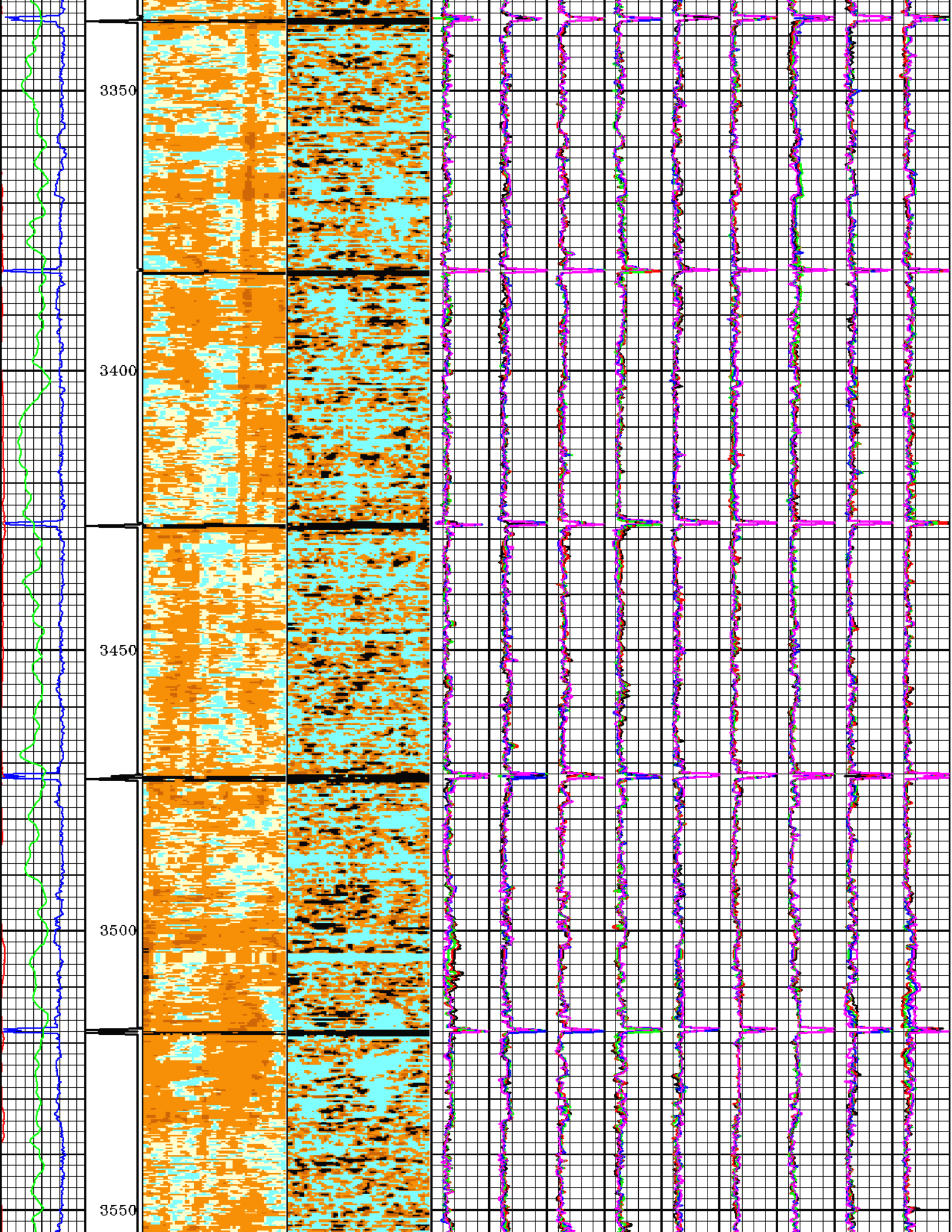


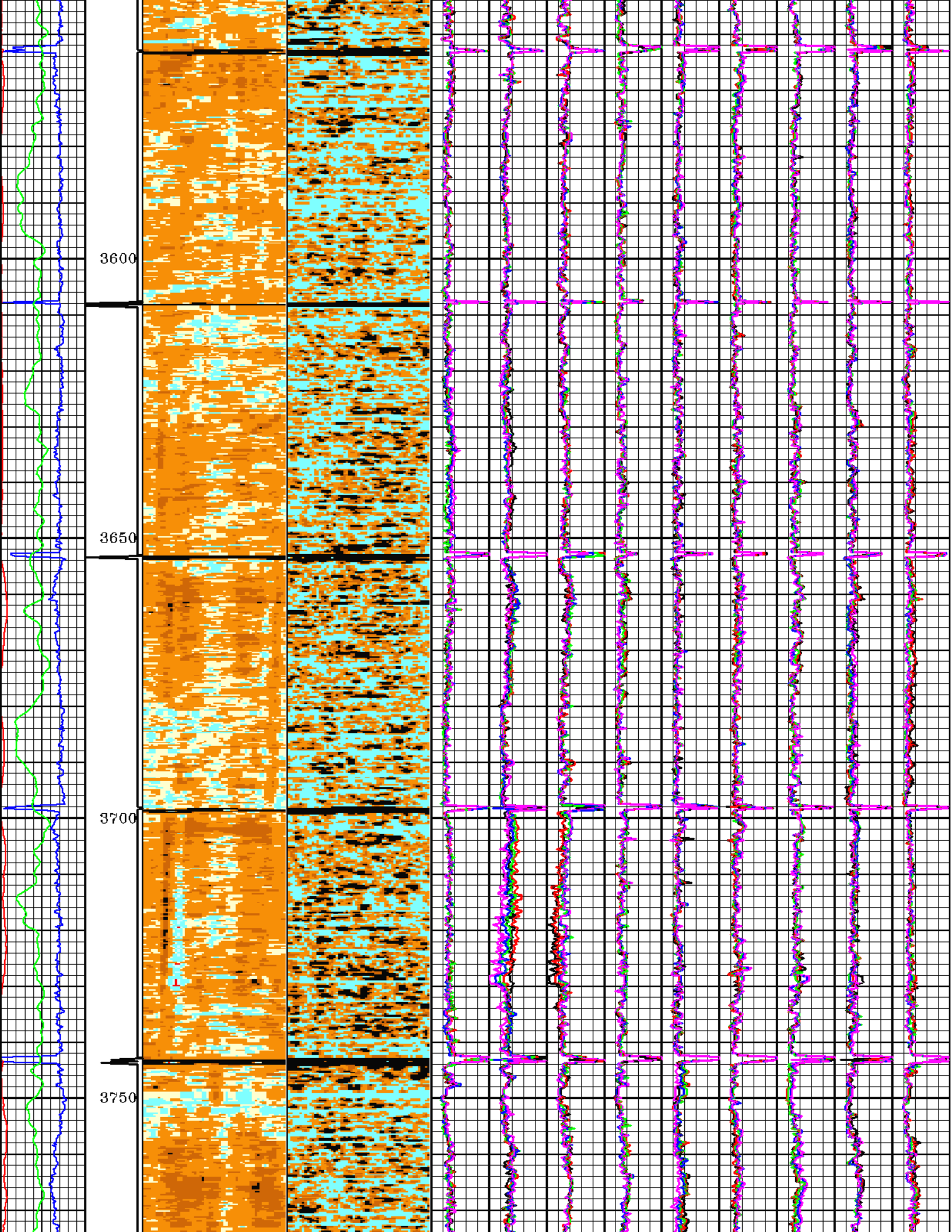


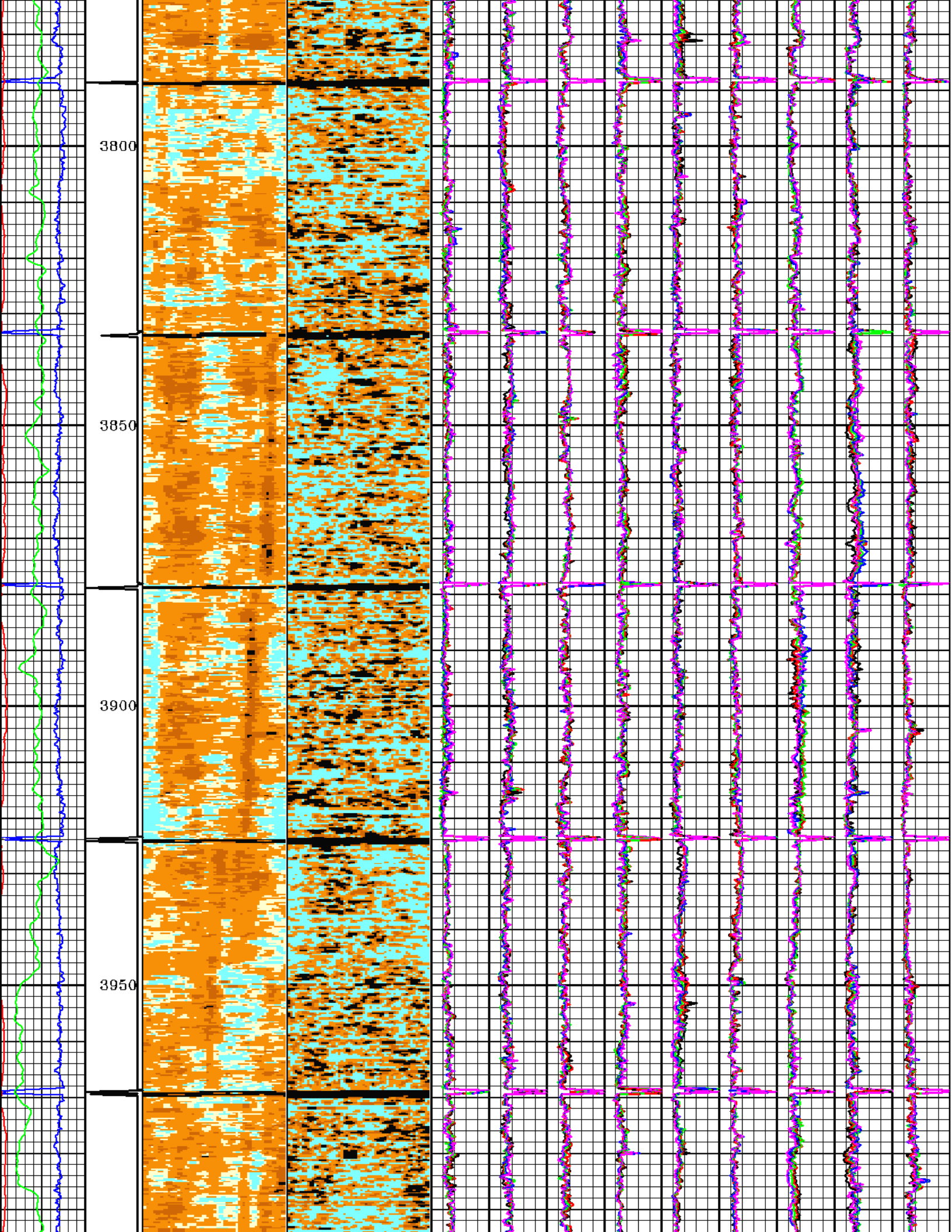


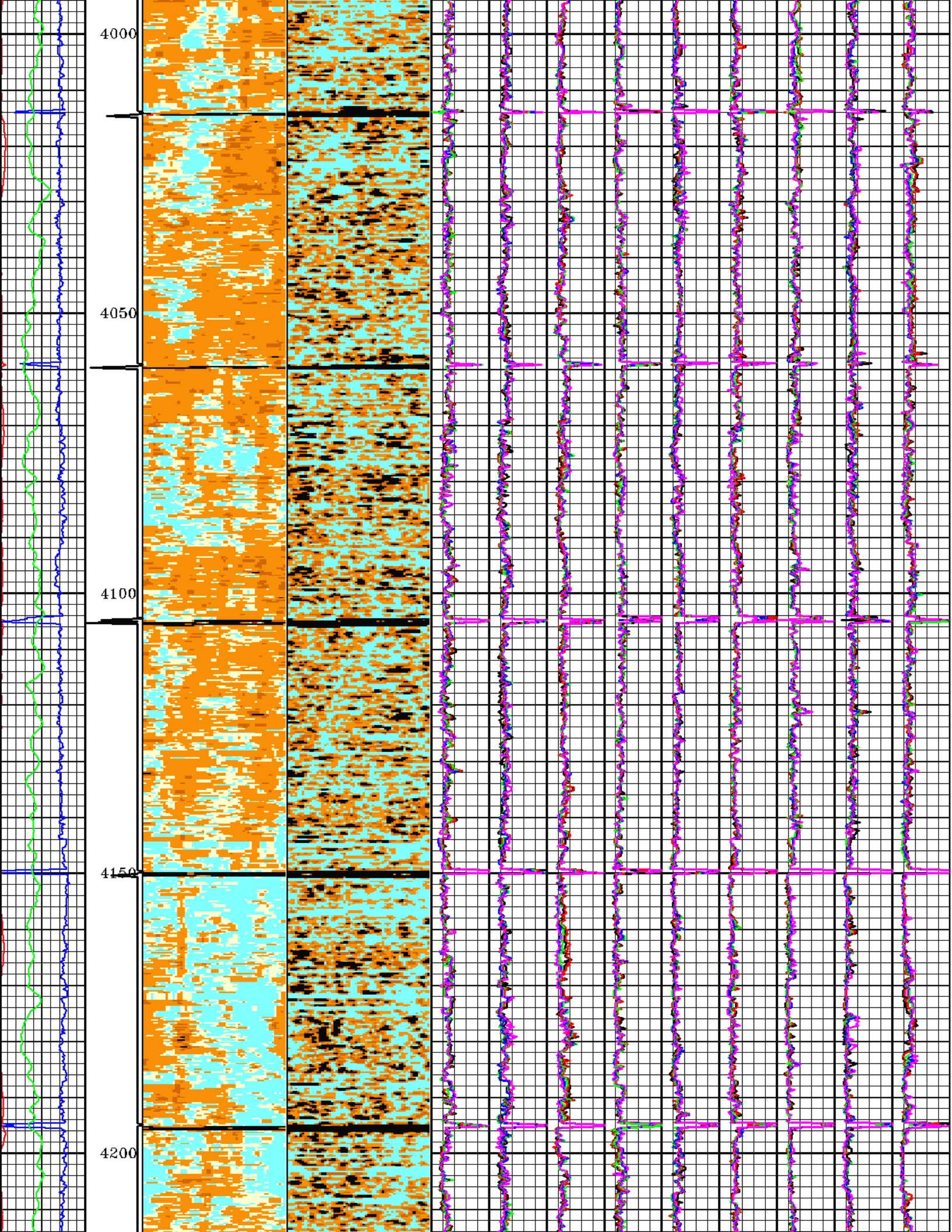


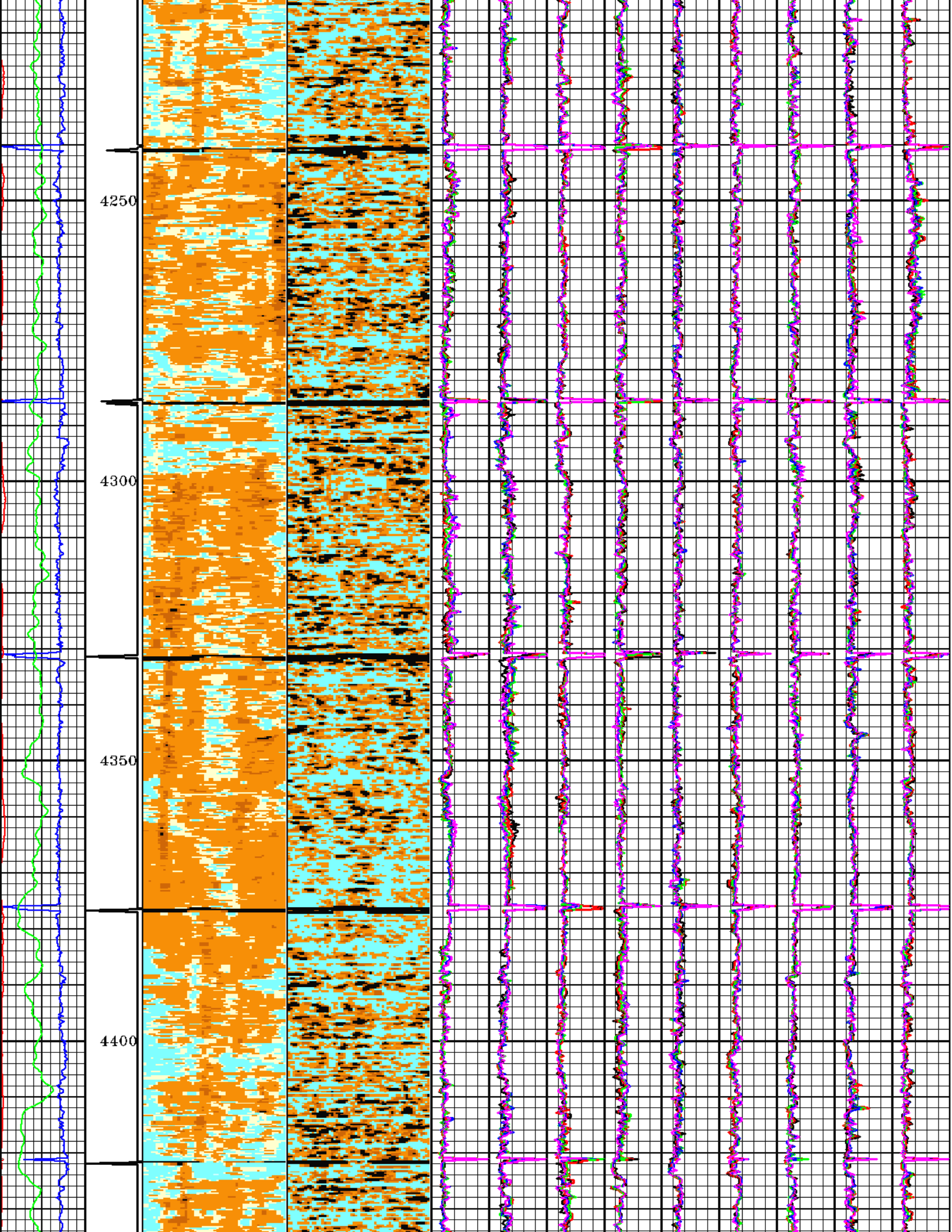


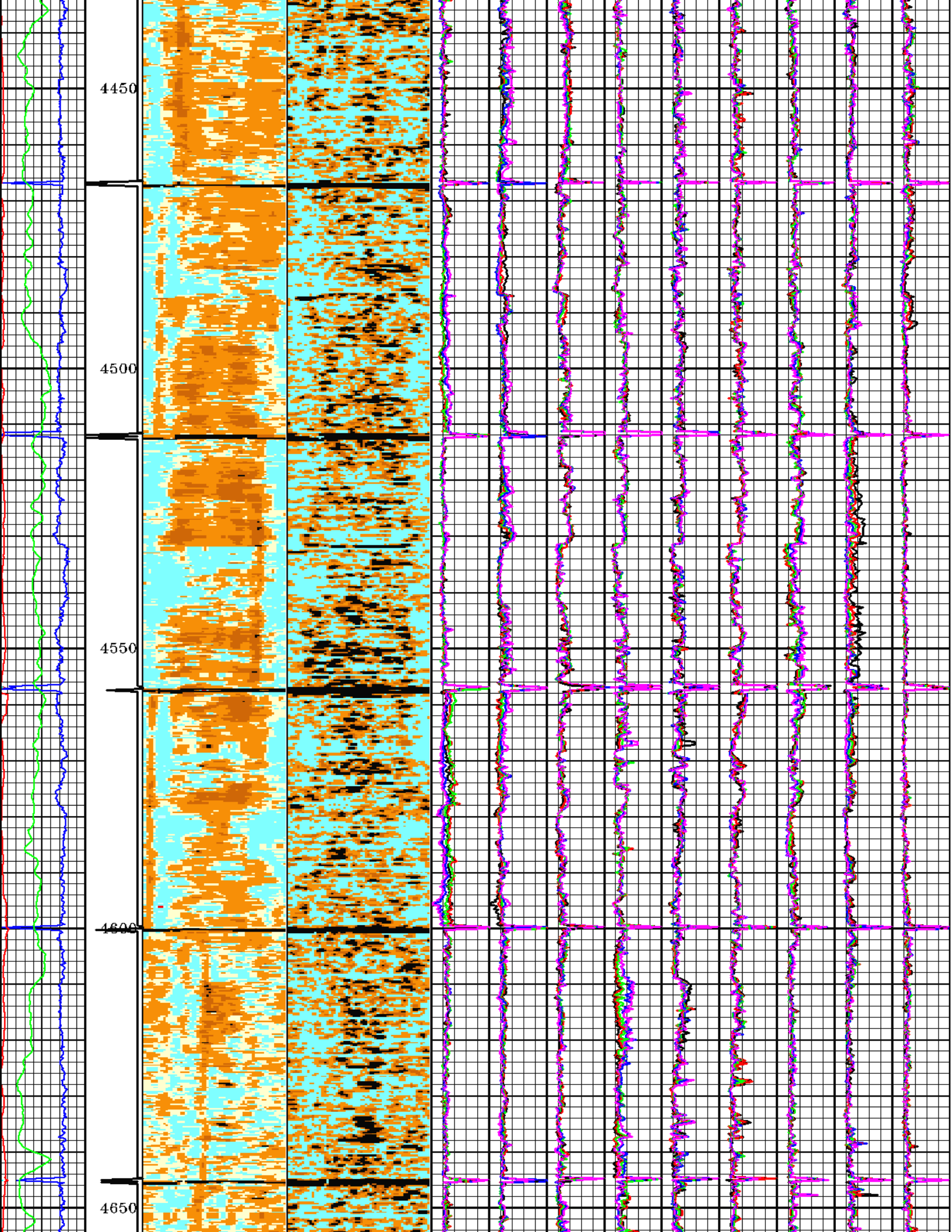


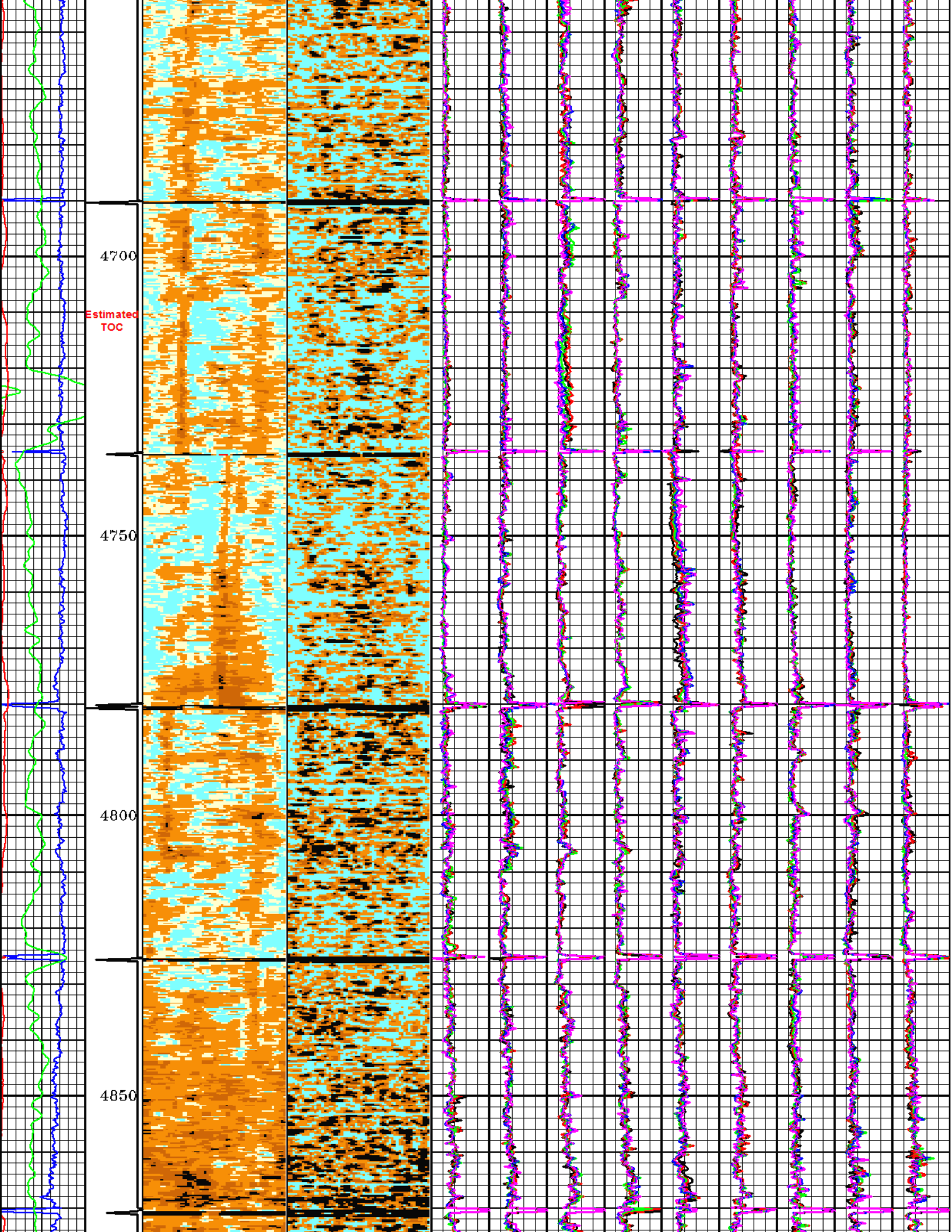


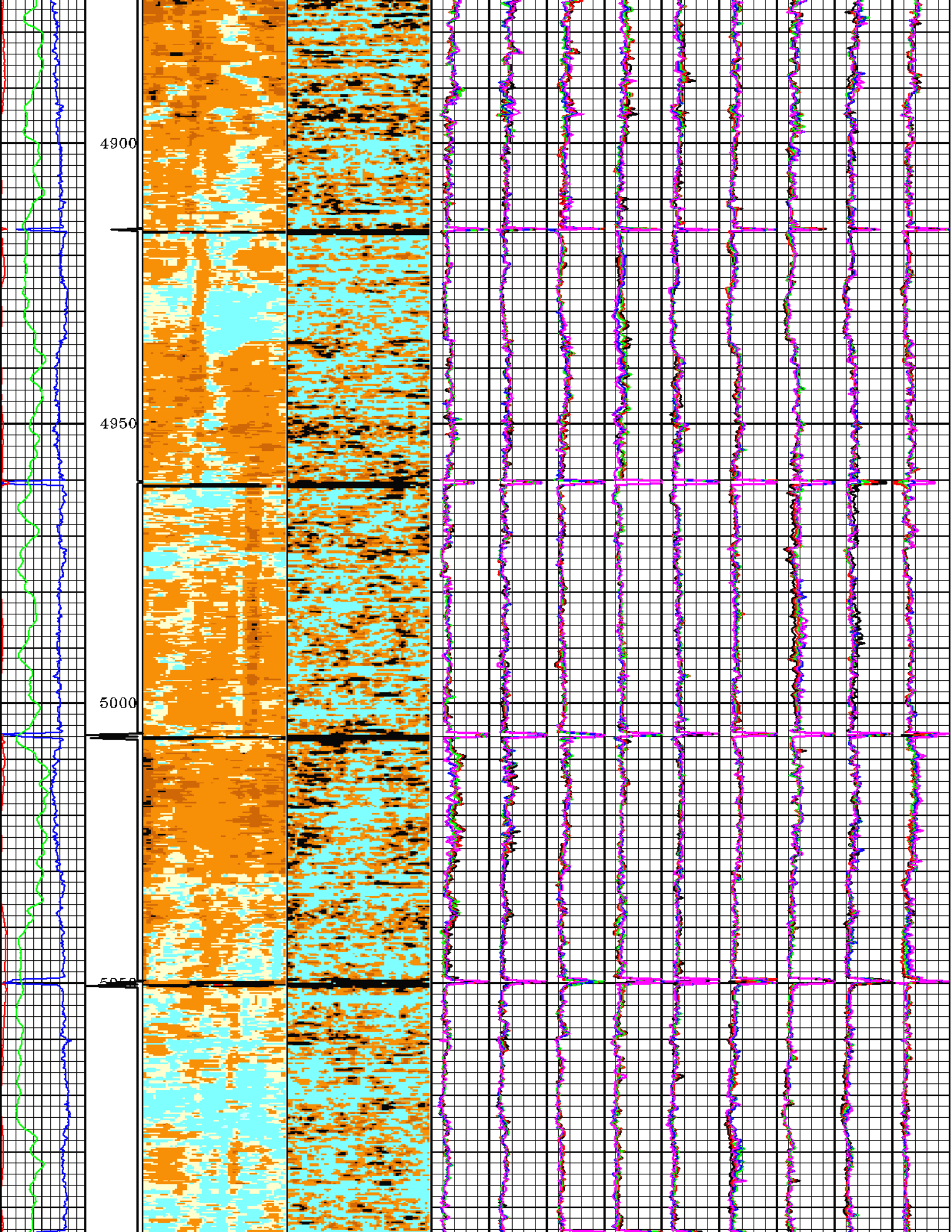


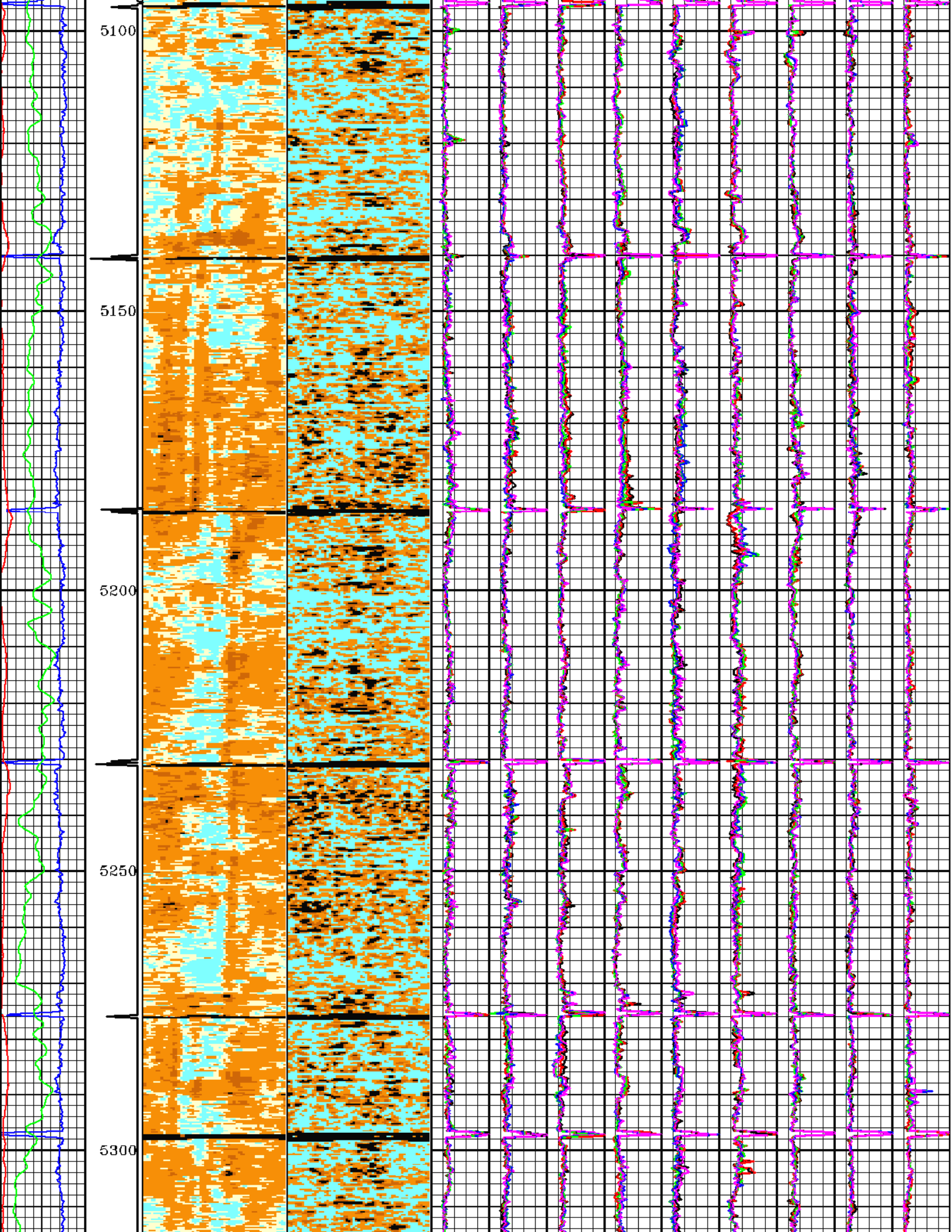


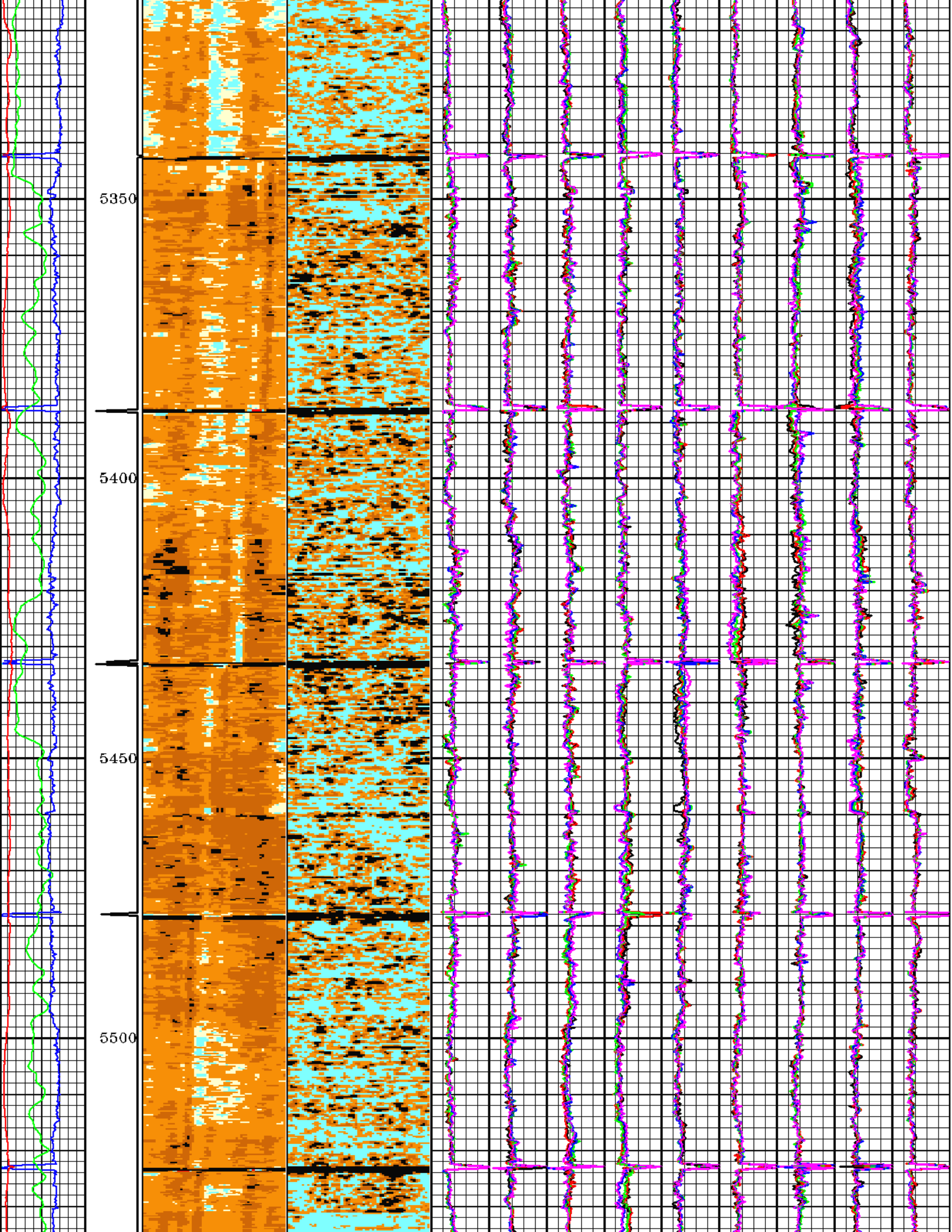


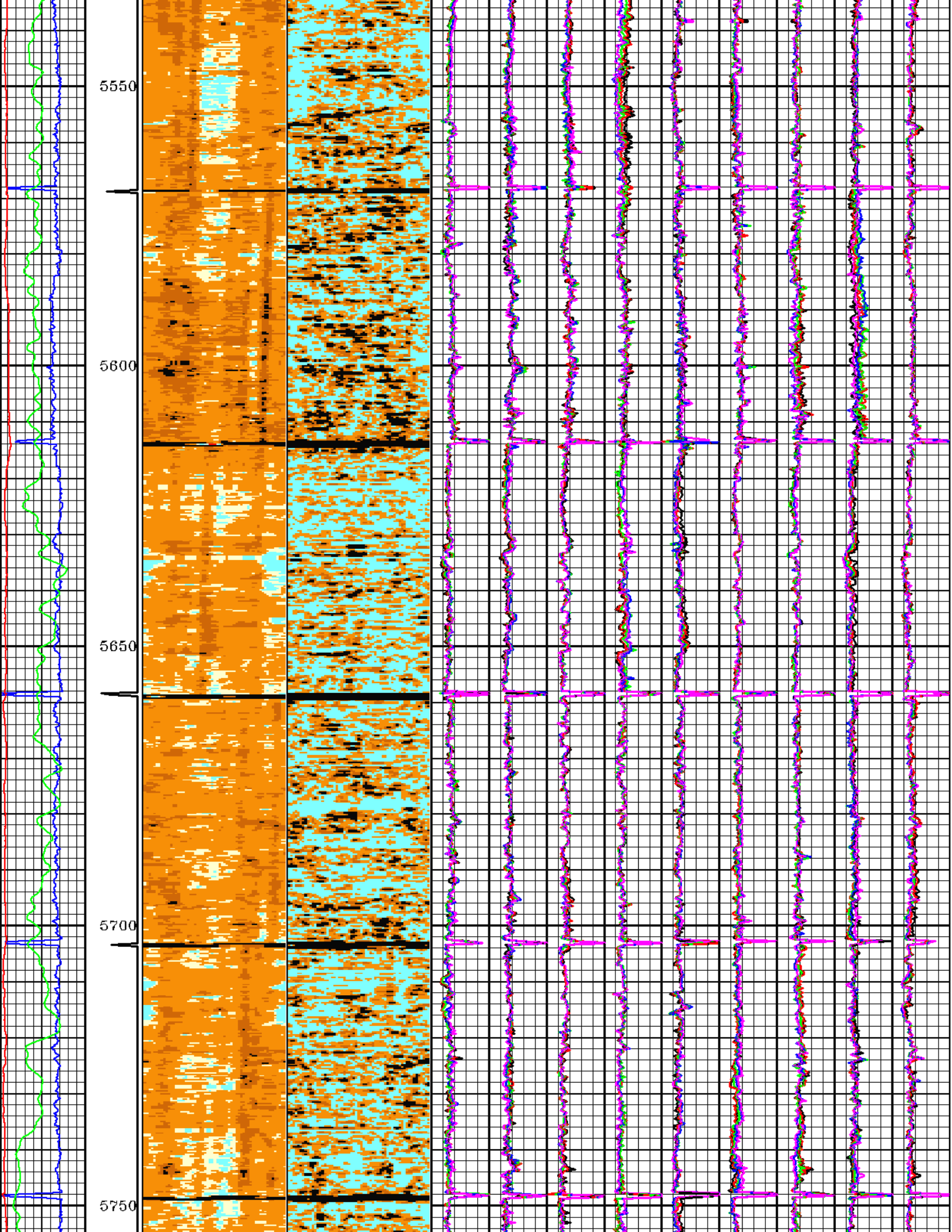


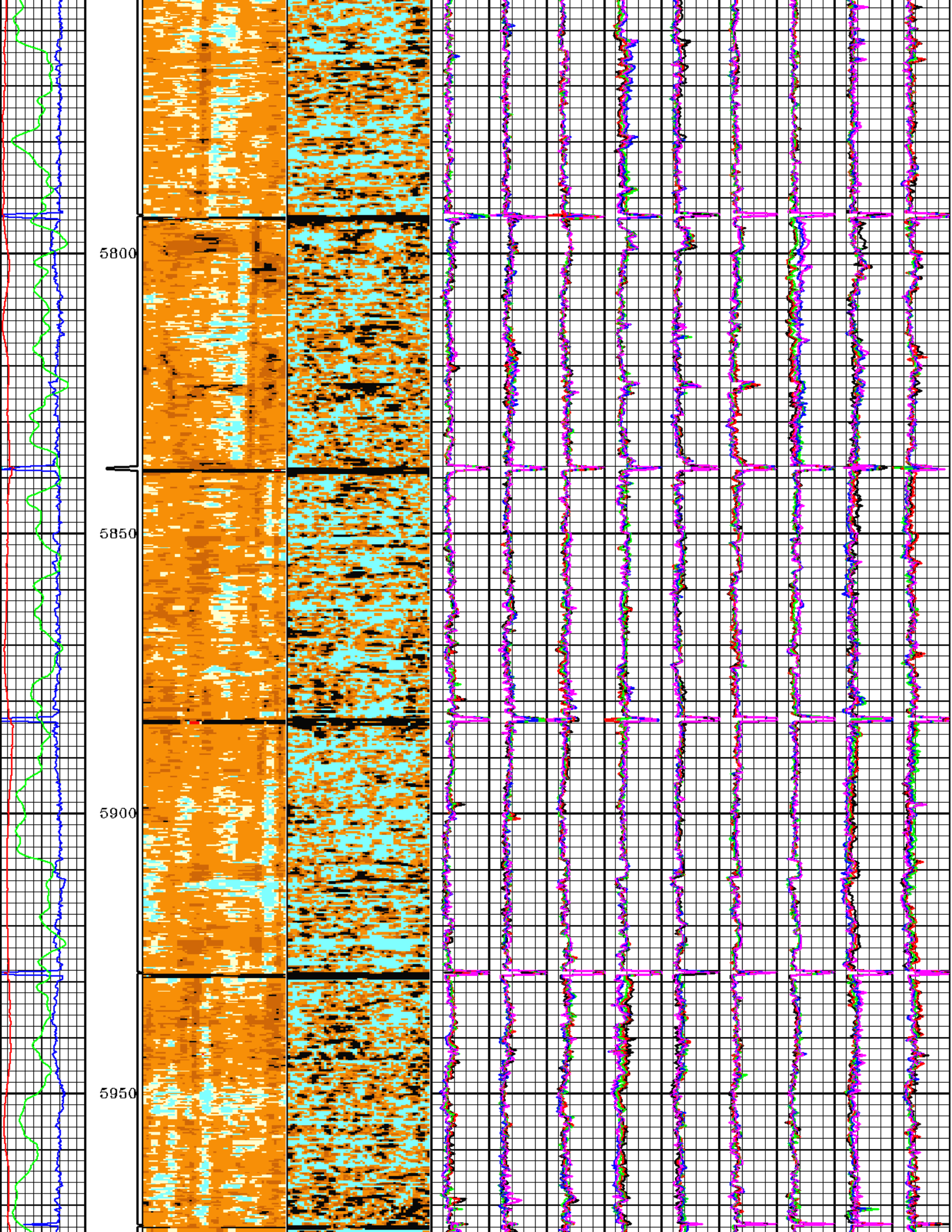


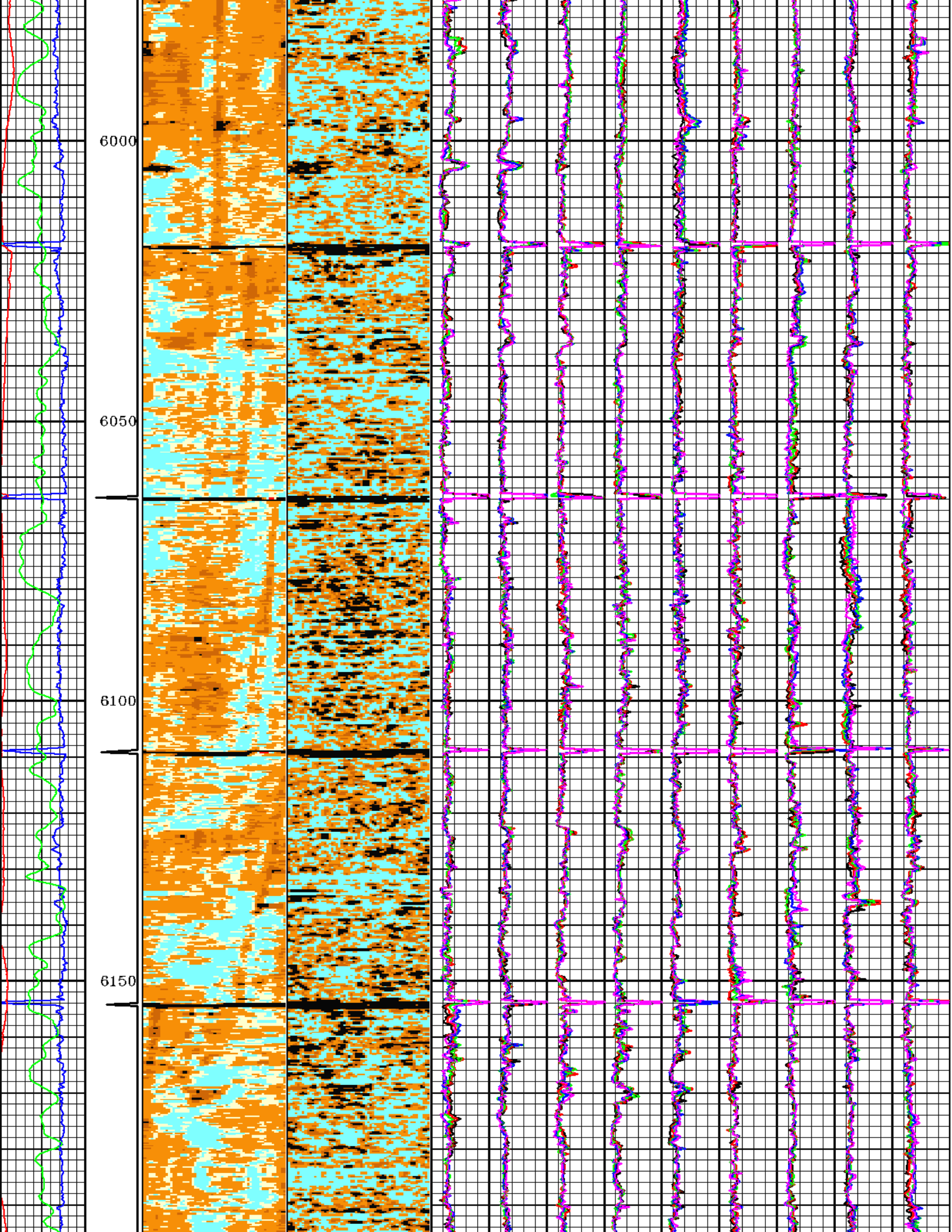


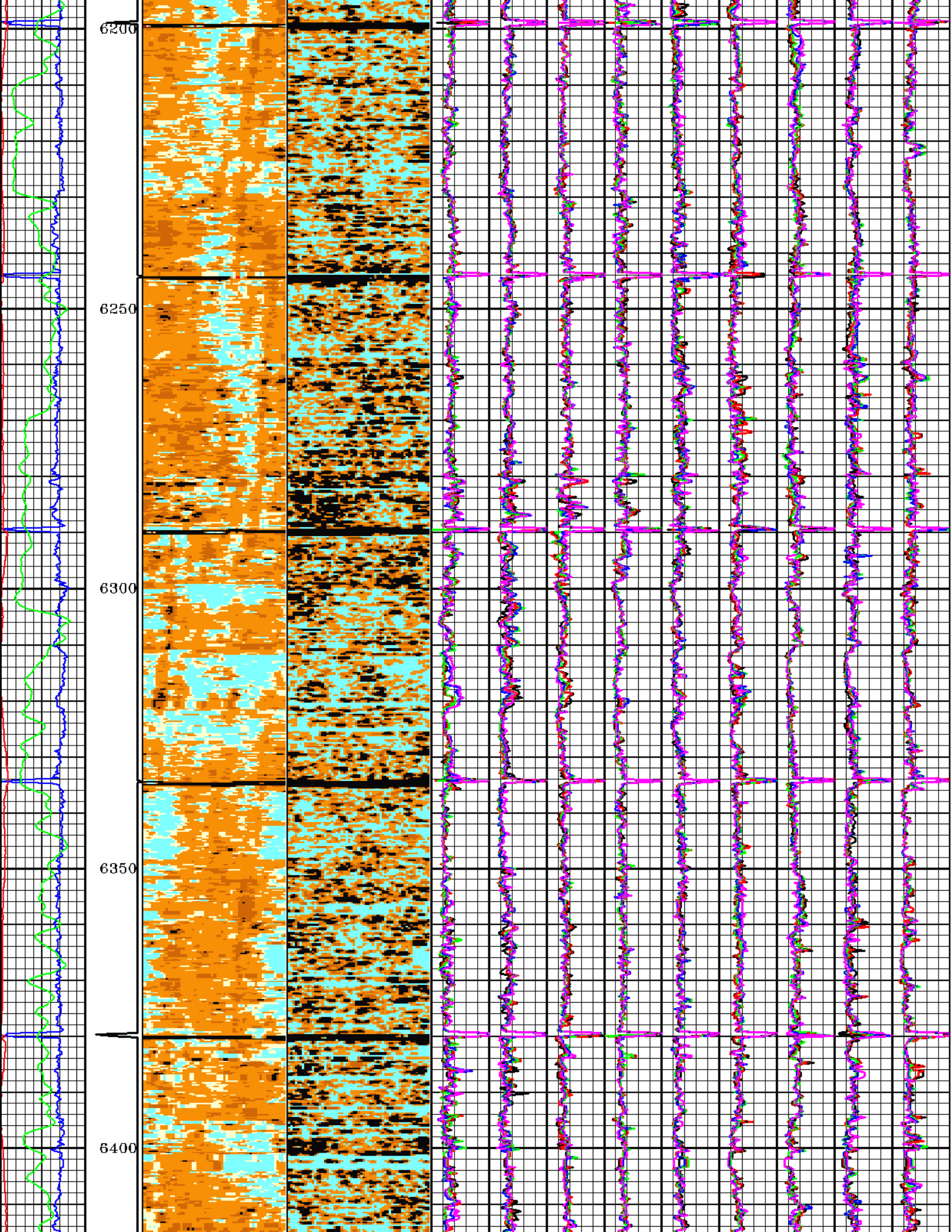


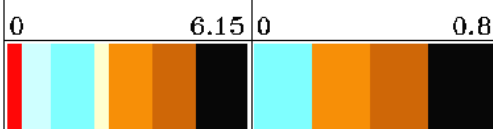
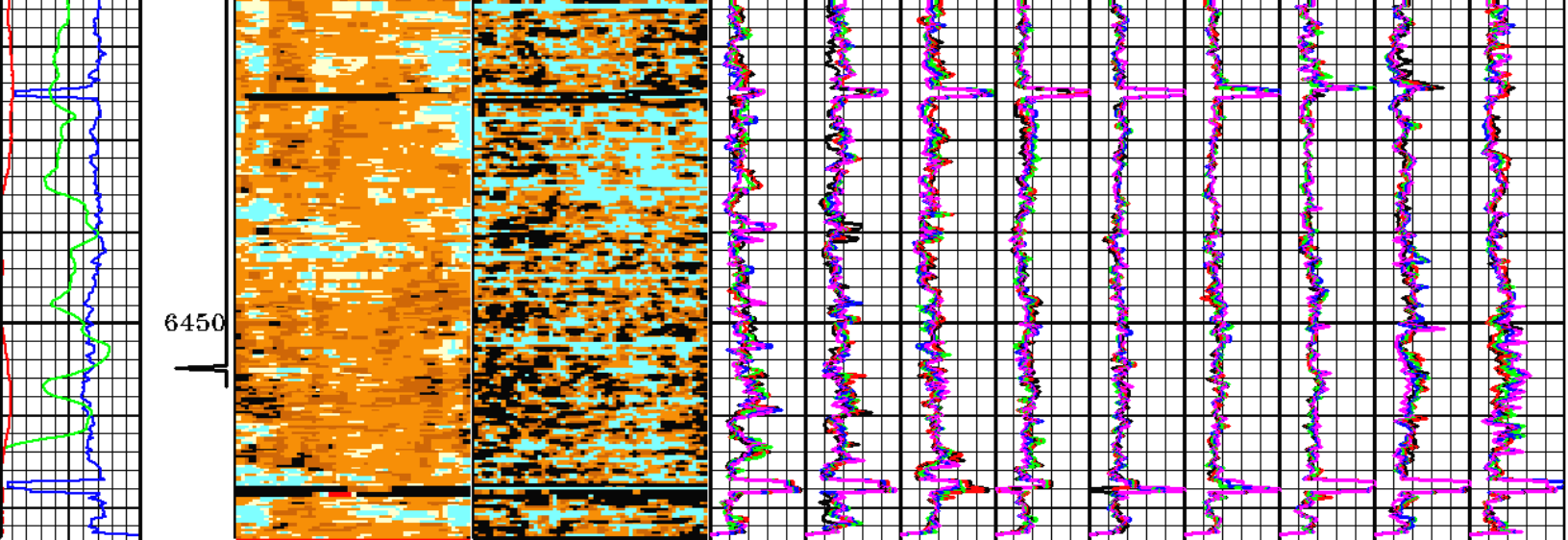












				CA5	CB5	CC5	CD5	CE5	CF5	CG5	CH5	CI5
0	1			0	10	0	10	0	10	0	10	0
OVAL				CA4	CB4	CC4	CD4	CE4	CF4	CG4	CH4	CI4
ECTY				0	10	0	10	0	10	0	10	0
GR				CA3	CB3	CC3	CD3	CE3	CF3	CG3	CH3	CI3
150				0	10	0	10	0	10	0	10	0
ZAVG				CA2	CB2	CC2	CD2	CE2	CF2	CG2	CH2	CI2
0				0	10	0	10	0	10	0	10	0
1:240				CA1	CB1	CC1	CD1	CE1	CF1	CG1	CH1	CI1
FT.				0	10	0	10	0	10	0	10	0
ECTY												
WELLBORE		IMPEDANCE MAP	DZ	SEG.	SEG.	SEG.	SEG.	SEG.	SEG.	SEG.	SEG.	SEG.
DATA				A	B	C	D	E	F	G	H	I

HALLIBURTON



Version No: | hc:3.0

Data File: MAINORIG_3.cls

Format File: 01_ACE_SEG_CURVES_VSIZE60_DZ08_USED.spc

Plot Time: 2010-06-21 14:07:12

Database Time: 13:38:36

Top Depth: 655.00

Bottom Depth: 6474.00

Parameter Report

21-Jun-2010 14:05: ?0G
Parameter File: C:/Work1/RWF_312_19/fastace.jbv.

Zone1 Zone2
0.00 20000.00
20000.00 Infinity


1:SETUP Group Parameters:

DZWAT	WATER LIMIT FOR DERIVATIVE & CEMENT	0.2000	0.3500
CEMLIM	LOWER LIMIT FOR CEMENT IN CEMENT MAP	2.7000	-----
VSIZE	VECTOR SIZE OF THE CAST CEMENT VECTOR	60.0000	100.0000
VCBL	VECTOR SIZE OF THE CBL WAVEFORM	500.0000	-----
CBIFILT	CBI FILTER, VERICAL RESOLUTION MATCH TO C	13.0000	-----
BPOPTION	0= NORMAL, 1= BP, 2=BP_SHELL, DIFFERENT CE	0.0000	-----
FLIPCENV	0= NORMAL(C,GC,L,GAS), 1= FLIP(GAS,L,GC, C	0.0000	-----
PAMPLIM	PAMP LIMIT, DZ=0 WHEN PAMP< PAMPLIM	-999.0000	-----

2:ZPBIN Group Parameters:

GASLIM	UPPER LIMIT FOR GAS IN CEMENT MAP	0.3800	-----
LIQILIM	UPPER LIMIT FOR LIQUID IN CEMENT MAP	2.3000	-----

ZLOWLIM	UPPER LIMIT FOR LOW Z IN CEMENT MAP	3.8500	-----
ZMEDLIM	UPPER LIMIT FOR MED Z IN CEMENT MAP	5.0000	-----

COMPANY	WILLIAMS PRODUCTION CO		
WELL	RWF 312-19		
FIELD	RULISON		
COUNTY	GARFIELD	STATE	CO
		ADVANCED CEMENT EVALUATION	

