

Company: Bonanza Creek Energy

Well: State Antelope V-B-13 HNB

Field: Wattenberg

County: Weld State: CO

UltraSonic Summary Print

County:	Weld			
Field:	Wattenberg			
Location:	SENE Sec. 13, T5N-R62W			
Well:	State Antelope V-B-13 HNB			
Company:	Bonanza Creek Energy			
API Serial No. 05-123-50288	Location:			
	Permanent Datum: Log Measured From: Drilling Measured From:	SENE Sec. 13, T5N-R62W 2607' FNL 510' FEL		
		Ground Level Kelly Bushing Kelly Bushing	Elev.: 17.00 ft above Perm. Datum	
			K.B. G.L. D.F.	4590.00 ft 4573.00 ft 4590.00 ft
Section: 13	Township: 5N	Range: 62W		

Logging Date	25-Feb-2020			
Run Number	1			
Depth Driller	11376.00 ft			
Schlumberger Depth	11376.00 ft			
Bottom Log Interval	6220.00 ft			
Top Log Interval	100.00 ft			
Casing Driller Size @ Depth	5.5 in @ 11366.00 ft			
Casing Schlumberger	11366 ft			
Bit Size	9.875 in			
Type Fluid In Hole	Water			
Density	8.4 lbm/gal			
Fluid Loss	PH			
Source of Sample	Active Tank			
RM @ Meas Temp	0.2 ohm.m @ 68 degF			
RMF @ Meas Temp	0.15 ohm.m @ 68 degF			
RMC @ Meas Temp				
Source RMF	RMC	Pressed		
RM @ BHT	RMF @ BHT	0.07 @ 212 0.05 @ 212		
Max Recorded Temperatures				
Circulation Stopped	Time			
Logger on Bottom	Time	25-Feb-2020	11:30:00	
Unit Number	Location:	2801	Fort Morgan	
Recorded By	Richard Villaverde			
Witnessed By	Kurt Dodge			

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 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.

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10. 1 MAIN

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11. 1 REPEAT

11.1 Integration Summary

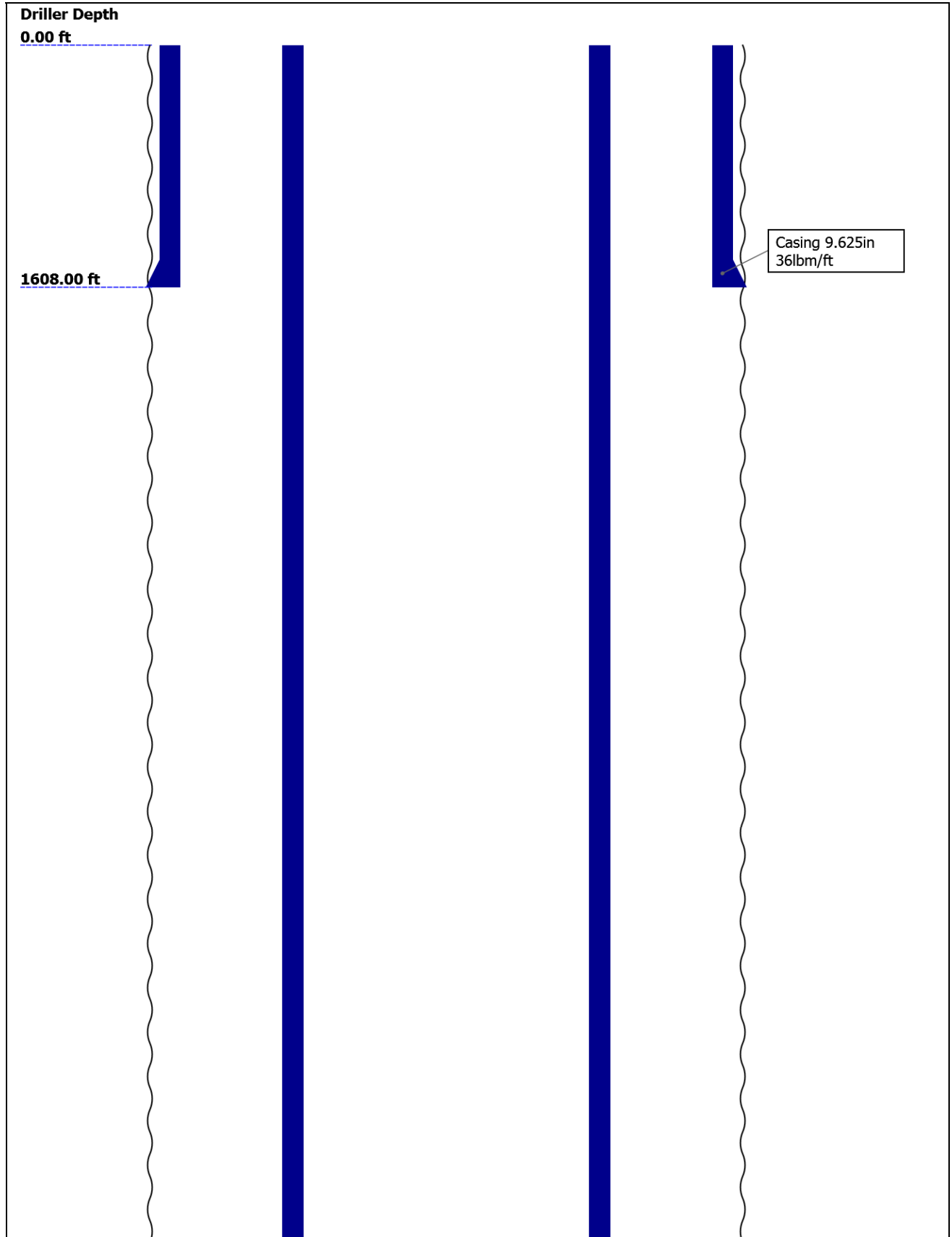
11.2 Composite Summary

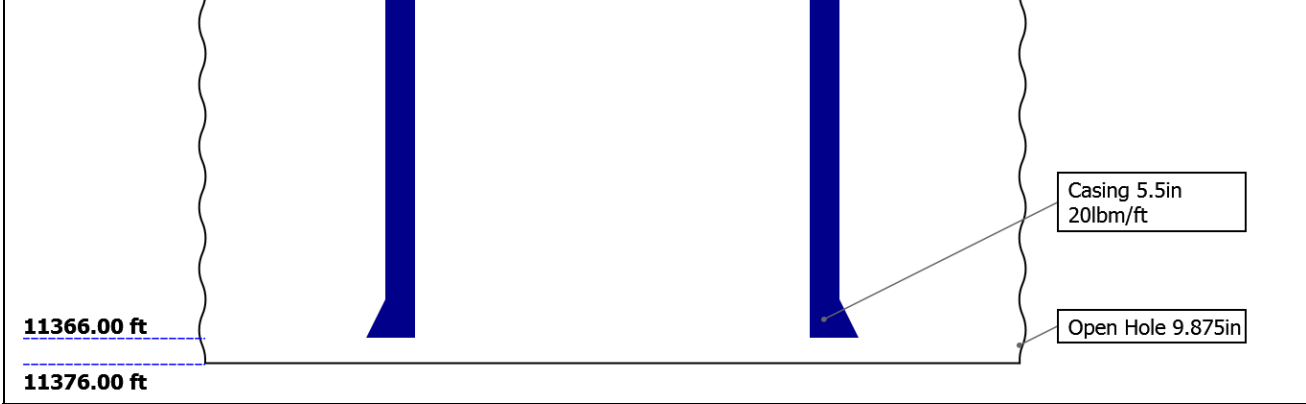
11.3 Log (USI Lvl 1)

11.4 Parameter Listing

12. XYZ (USI Fluid Acoustic Slowness vs Depth 3.0 in)

Well Sketch



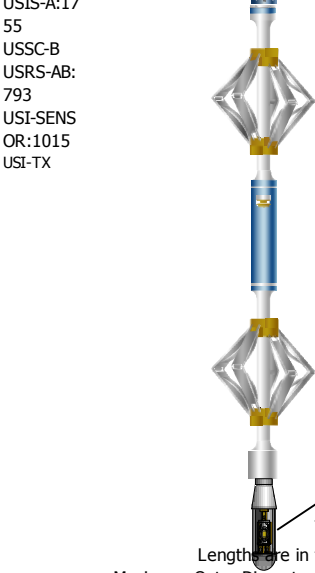


Borehole Size/Casing/Tubing Record

Bit						
Bit Size (in)	9.875					
Top Driller (ft)	0					
Top Logger (ft)	0					
Bottom Driller (ft)	11376					
Bottom Logger (ft)	11376					
Casing						
Size (in)	9.625	5.5				
Weight (lbm/ft)	36	20				
Inner Diameter (in)	8.921	4.778				
Grade	N/A	N/A				
Top Driller (ft)	0	0				
Top Logger (ft)	0	0				
Bottom Driller (ft)	1608	11366				
Bottom Logger (ft)	1608	11366				

Remarks and Equipment Summary

1: Toolstring				1: Remarks	
<div><div><div>Equip nameLength</div><div>LEH-QT29.44</div><div>LEH-QT</div></div><div><div>EDTC-B25.96</div><div>EDTH-B</div><div>EDTG-A</div><div>EDTC-B</div></div><div><div>AH-184[2]19.46</div><div>AH-184[1]17.46</div><div>USIT-E:184315.46</div><div>ECH-MFA:2828</div><div>USAC-A:1843</div><div>USIT-A:17</div></div></div> <div><p>CTEM 22.46 ACCZ 0.00 HV 0.00 Gamma Ray 20.59 TelStatu s 19.46</p></div>	Logging Objective: Casing and Cement				
	Tool was run as per tool sketch.				
	All logging intervals as per client request.				
	USIT ran on 10 deg 6 inch resolution for Main and Repeat passes.				



Depth Summary

1

Depth Measuring Device

Type	IDW-B
Serial Number	
Calibration Date	
Calibrator Serial Number	
Calibration Cable Type	
Wheel Correction 1	0
Wheel Correction 2	0

Tension Device

Type	CMTD-B/A
Serial Number	
Calibration Date	
Calibrator Serial Number	
Number of Calibration Points	0

Logging Cable

Type	7-46NT-XS
Serial Number	
Length	24000.00 ft
Conveyance Type	Wireline
Rig Type	

1:Depth Control Parameters

Log Sequence	First Log In the Well
Rig Up Length At Surface	
Rig Up Length At Bottom	
Rig Up Length Correction	
Stretch Correction	
Tool Zero Check At Surface	

Depth Control Remarks

All Schlumberger depth control guidelines followed.
IDW used as primary depth control device.
Z-Chart used as secondary depth control device.

USIT - Fluid Properties Measurement

Run Name	Pass Name	Start Depth(ft)	Stop Depth(ft)
Run 1	Log[4]:Up	6236.46	68.85

Fluid Velocity = "Automatic".
CFVL equals DFSL channel

Start Depth(ft)	Stop Depth(ft)	Start Value(us/ft)	End Value(us/ft)
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Mud Impedance = "FreePipe Norm."
Free Pipe normalization zone is : 41.49m(136.12ft) to 43.77m(143.62ft)
MUD_N_FRP = 1.16
DFD = 1.01g/cm3(8.40lbm/gal)
CZMD median computed in free pipe normalization interval = 1.66 MRayl

Start Depth(ft)	Stop Depth(ft)	Start Value(Mrayl)	End Value(Mrayl)
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1

MAIN COMPRESSED

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
1	Log[4]:Up	Up	68.85 ft	6236.46 ft	25-Feb-2020 11:32:08 AM	25-Feb-2020 12:13:26 PM	ON	5.08 ft	No

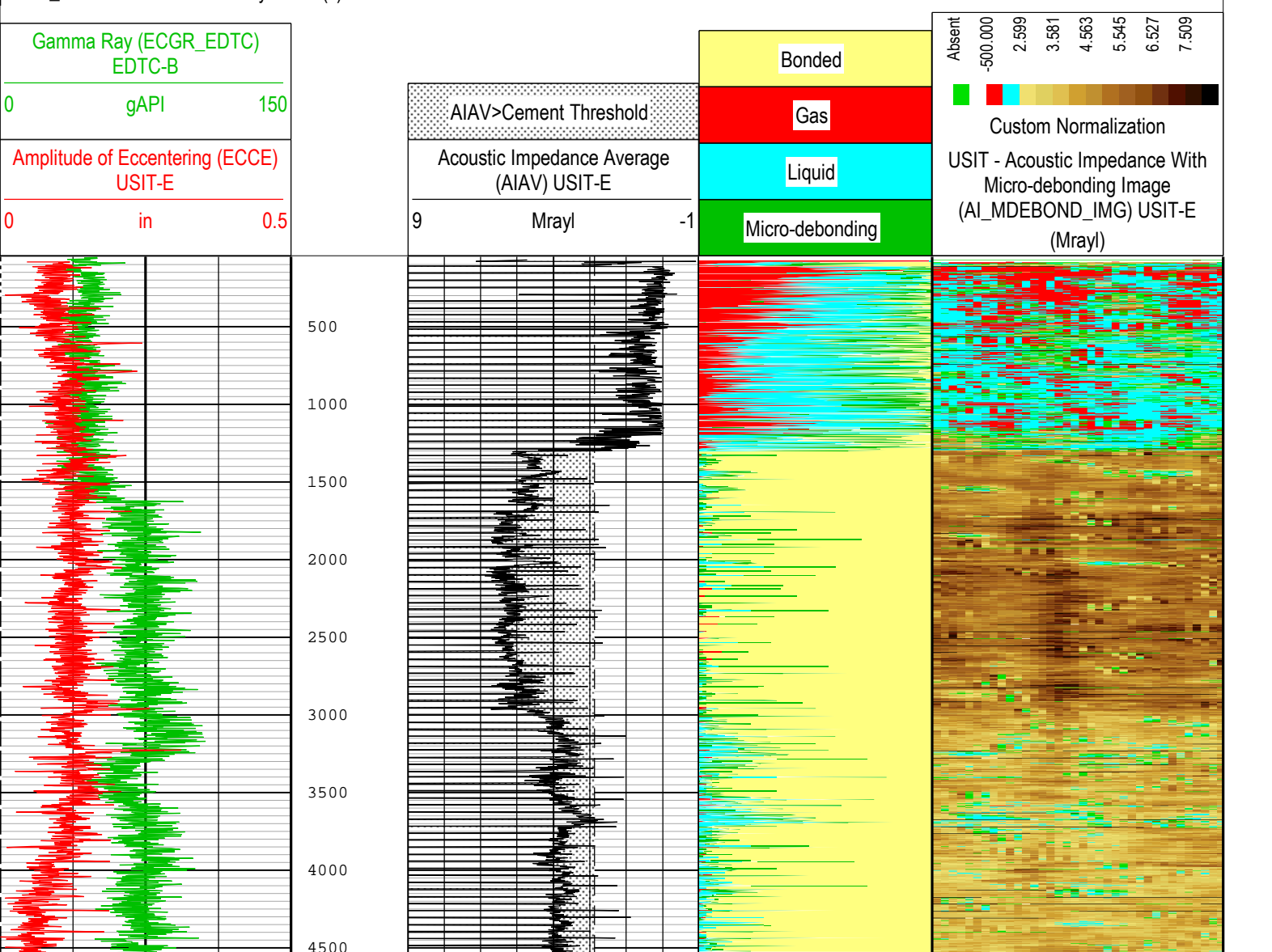
All depths are referenced to toolstring zero

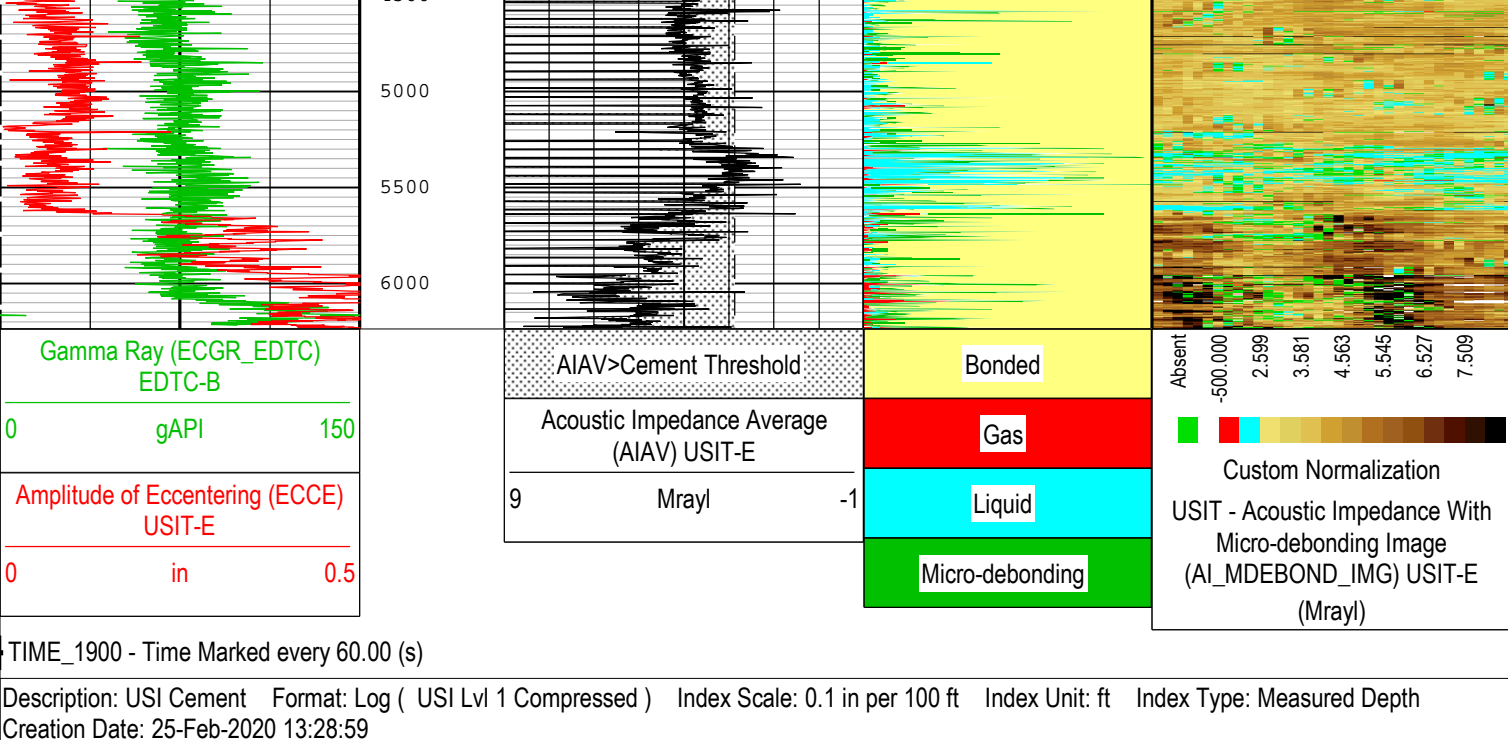
Log	Company:Bonanza Creek Energy	Well:State Antelope Y-B-13 HNB
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1: Log[4]:Up:S005

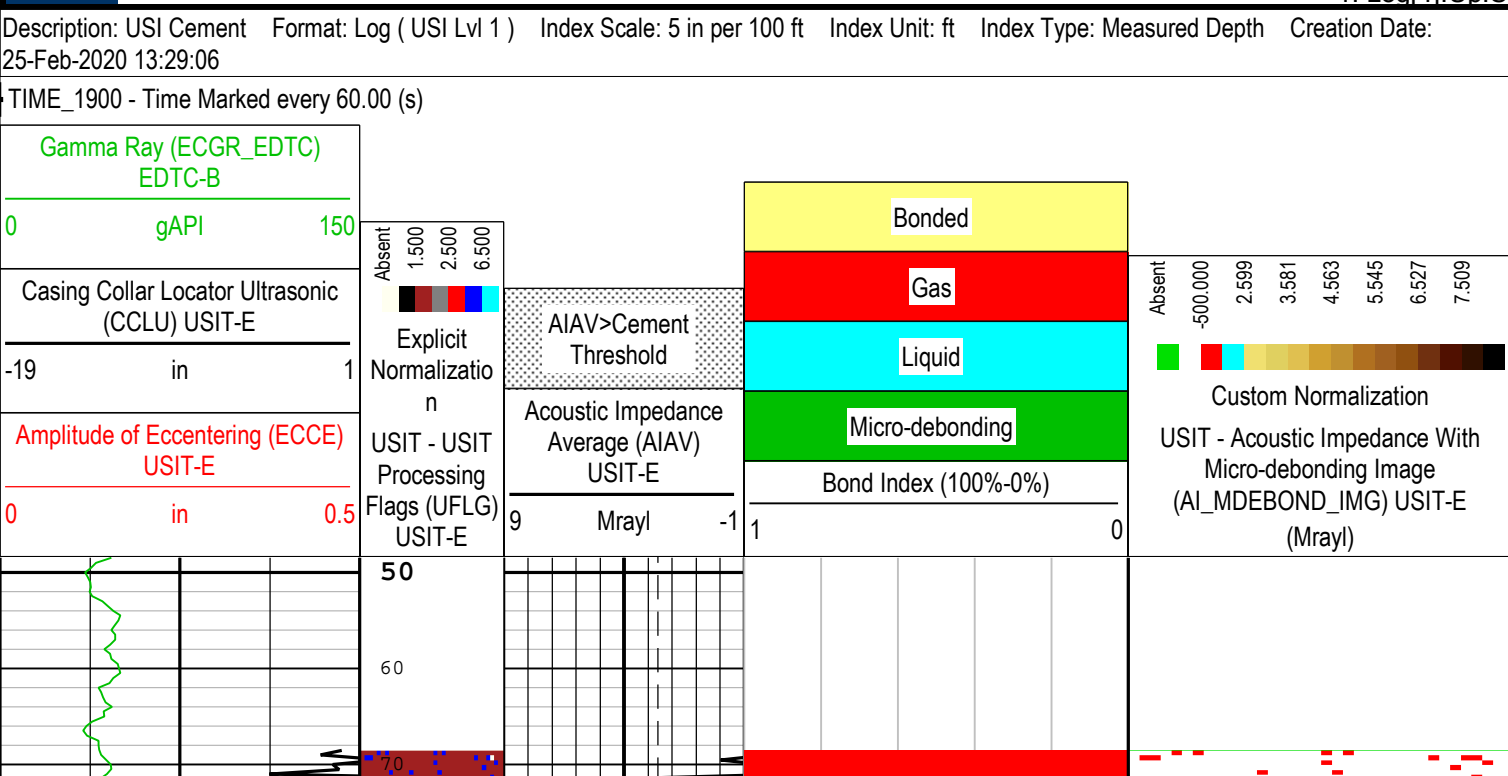
Description: USI Cement Format: Log (USI Lvl 1 Compressed) Index Scale: 0.1 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 25-Feb-2020 13:28:59

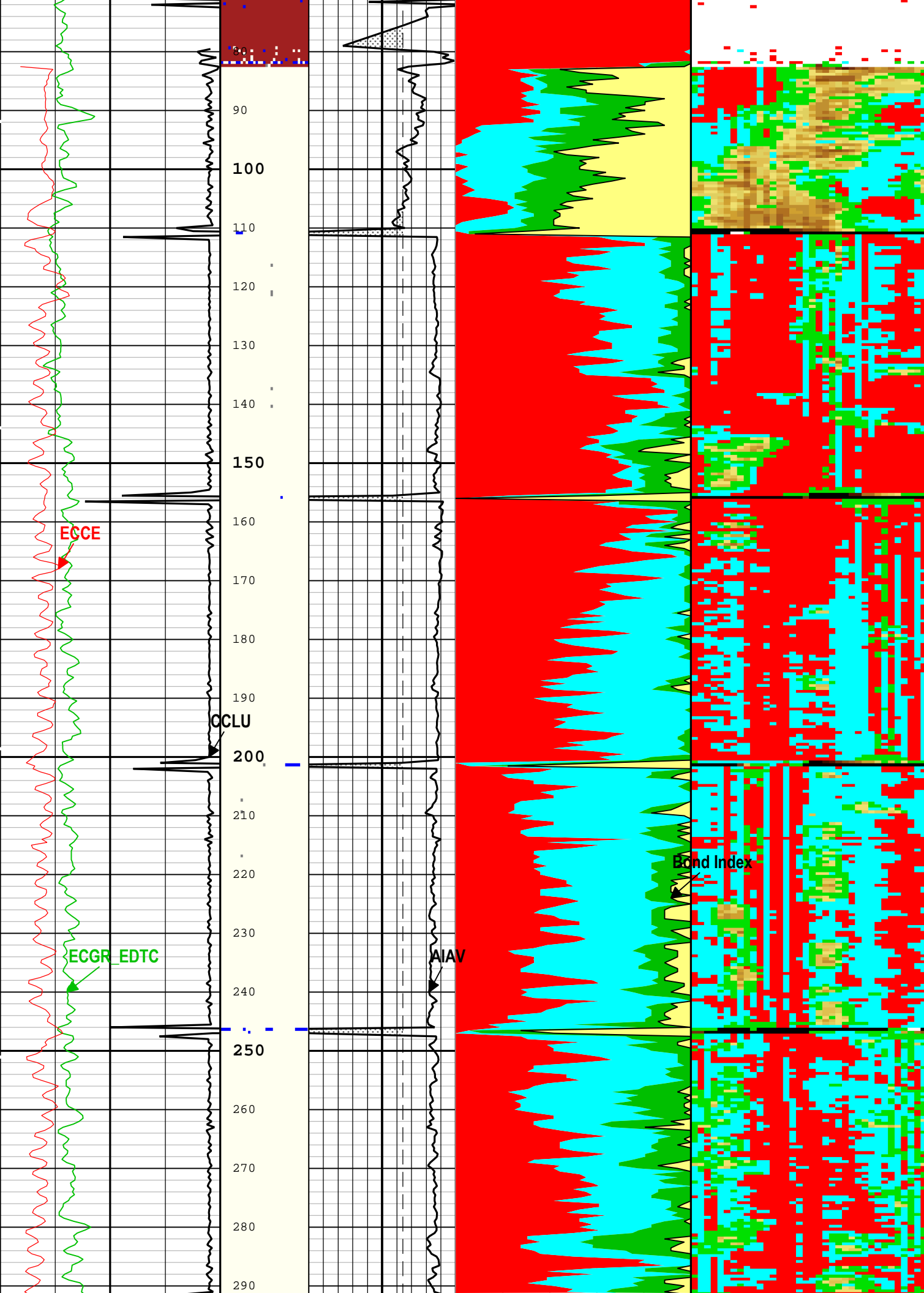
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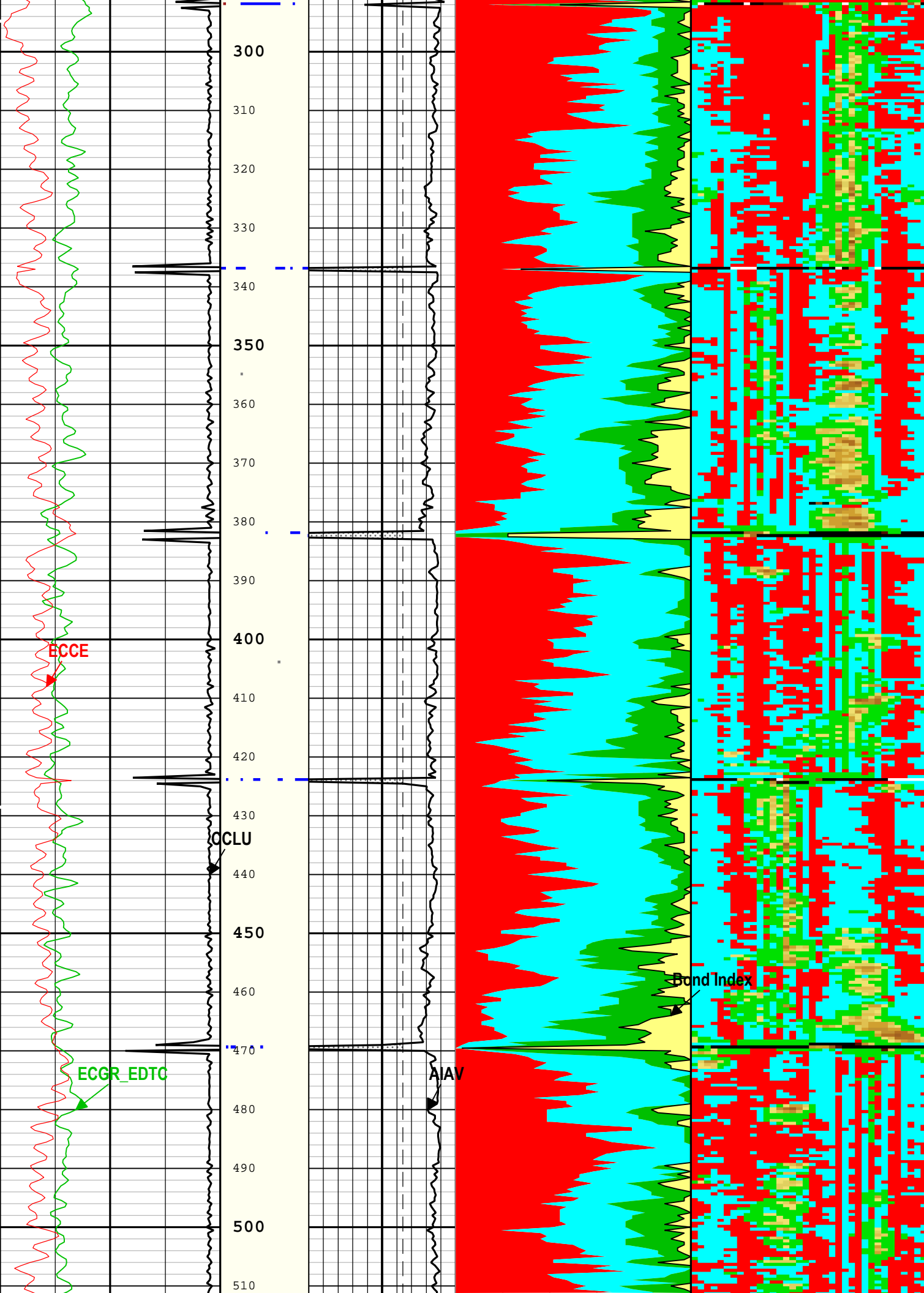


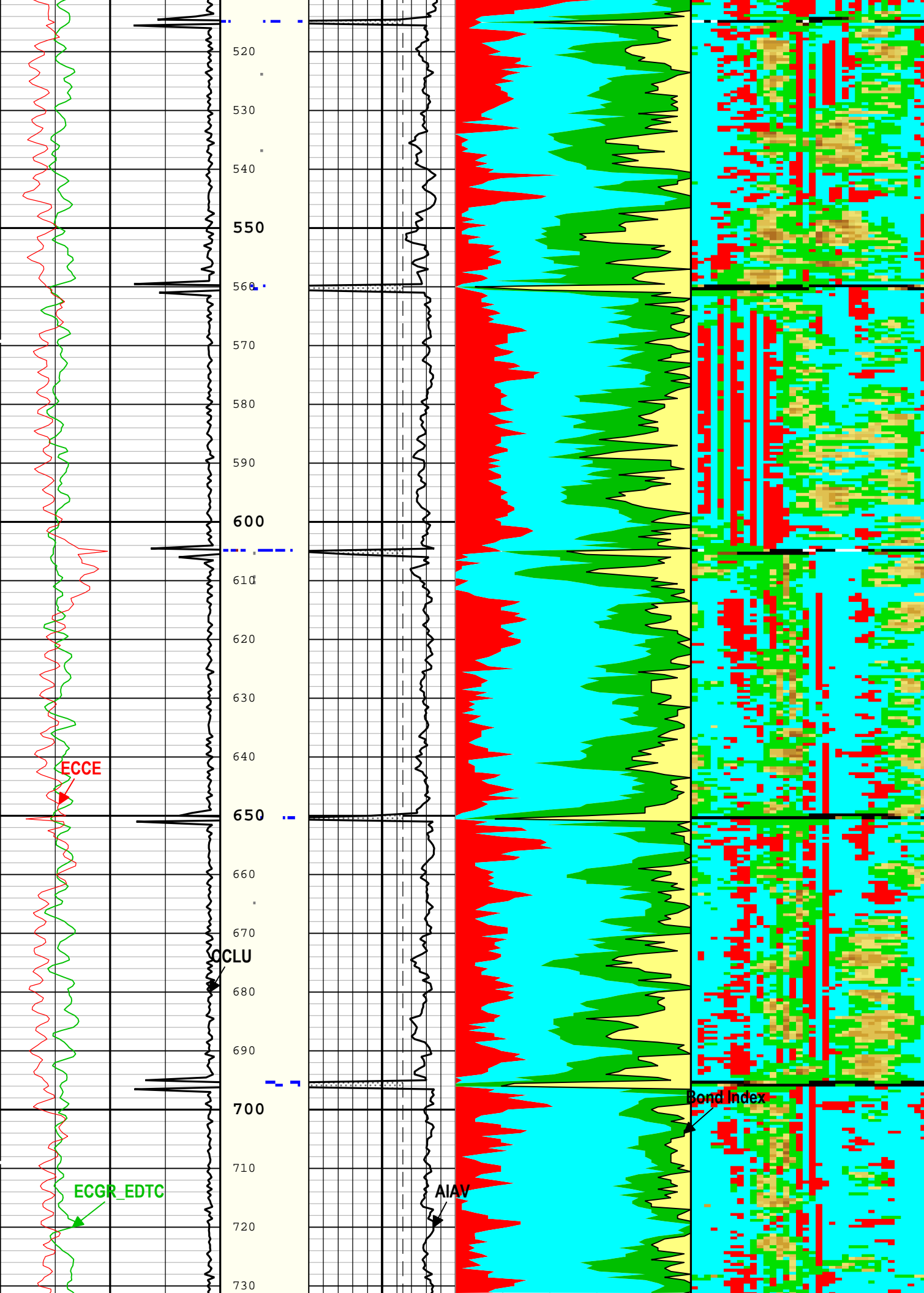


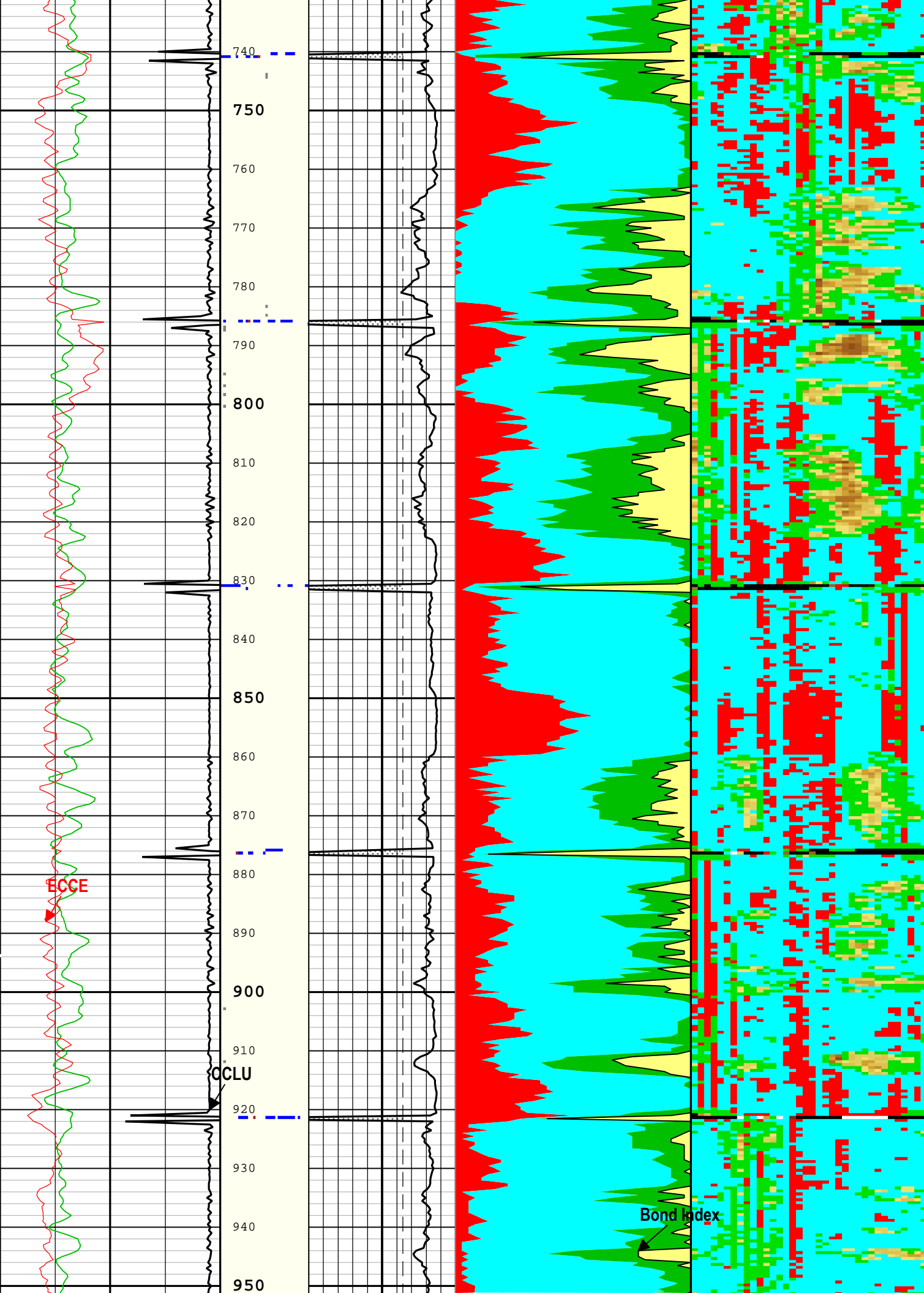
1									
MAIN									
Software Version									
Acquisition System						Version			
Maxwell 2019						9.0.106845.3100			
Pass Summary									
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
1	Log[4]:Up	Up	68.85 ft	6236.46 ft	25-Feb-2020 11:32:08 AM	25-Feb-2020 12:13:26 PM	ON	5.08 ft	No
All depths are referenced to toolstring zero									
Log					Company:Bonanza Creek Energy		Well:State Antelope Y-B-13 HNB		
1: Log[4]:Up:S005									

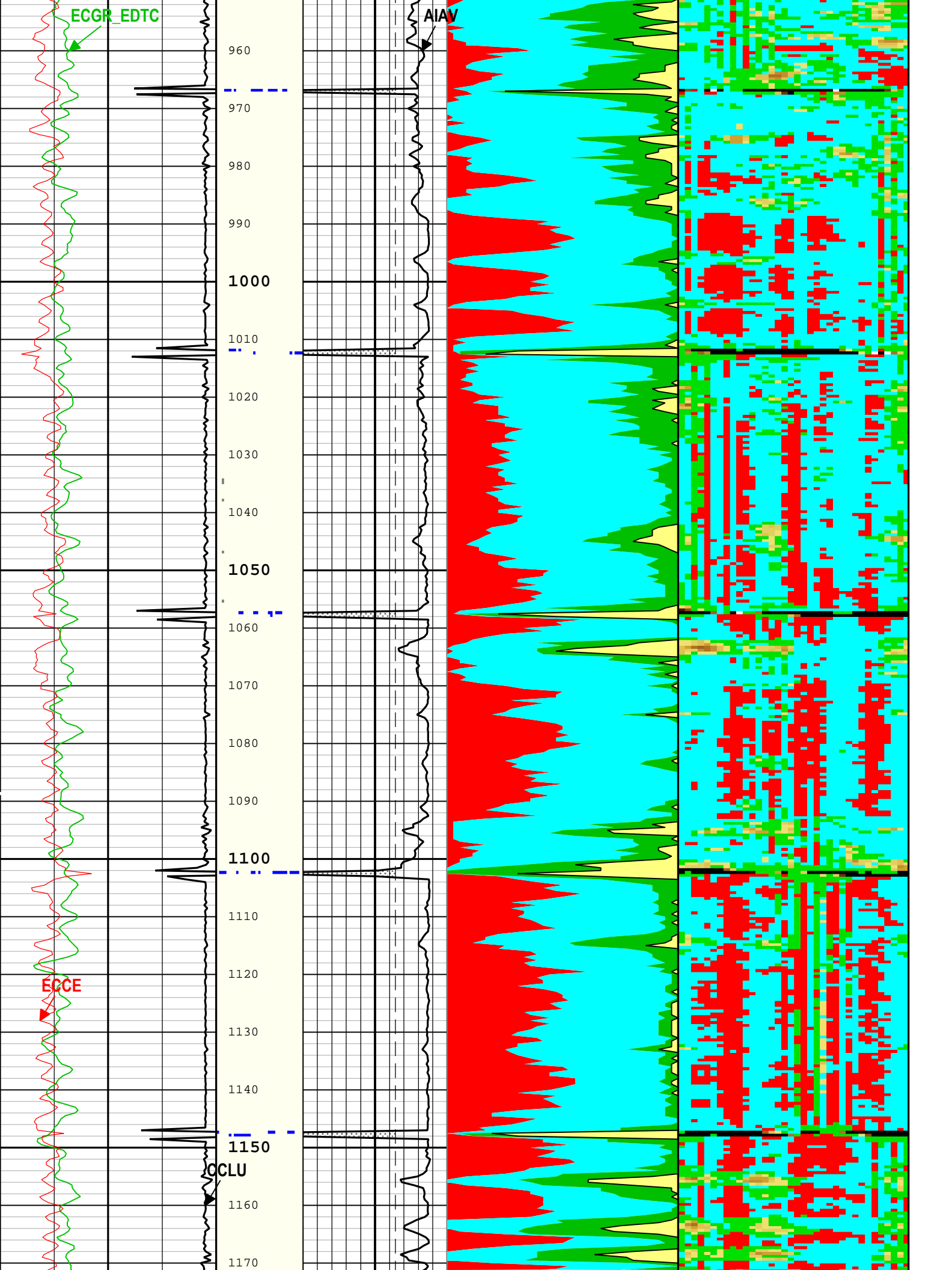


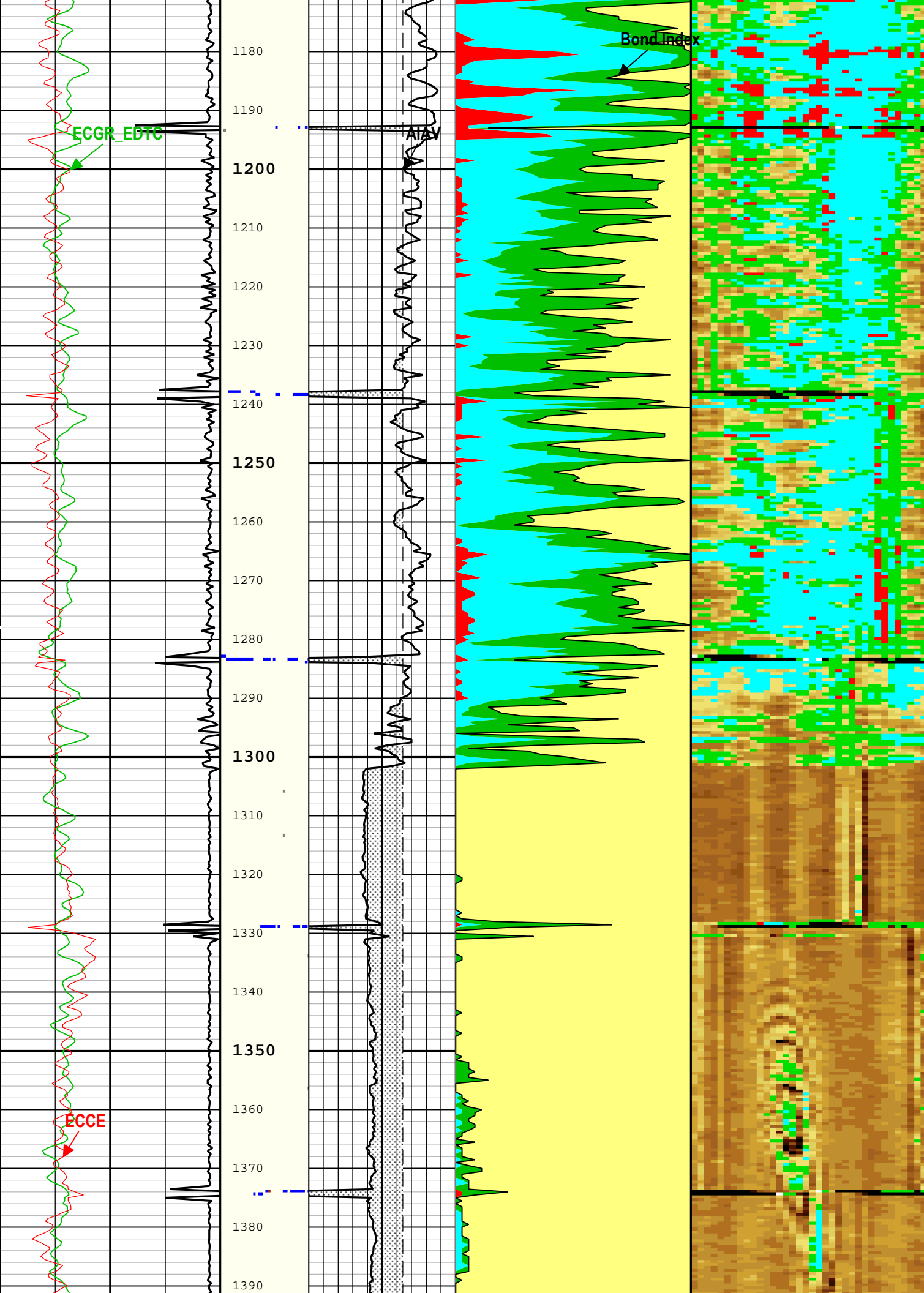


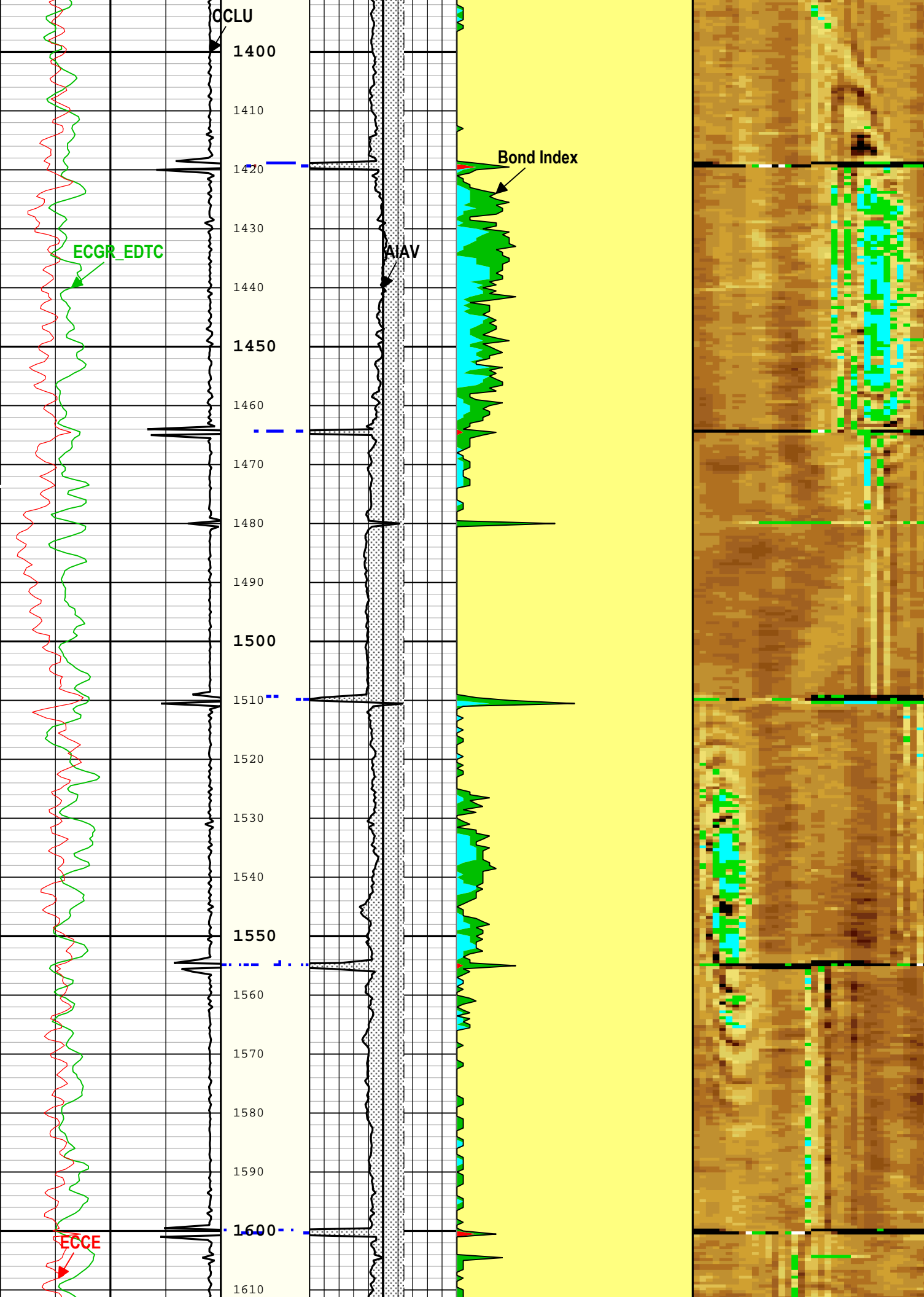


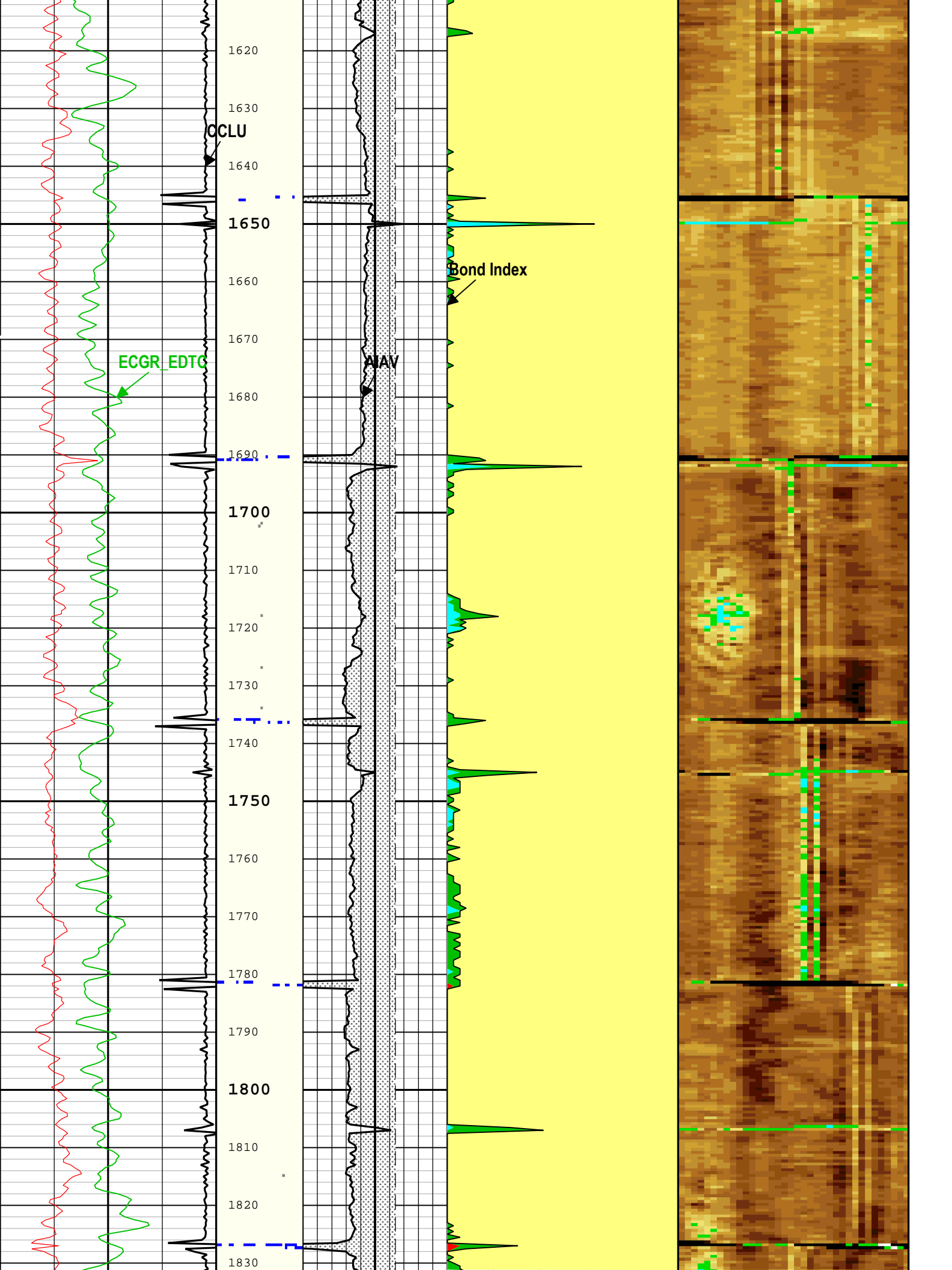


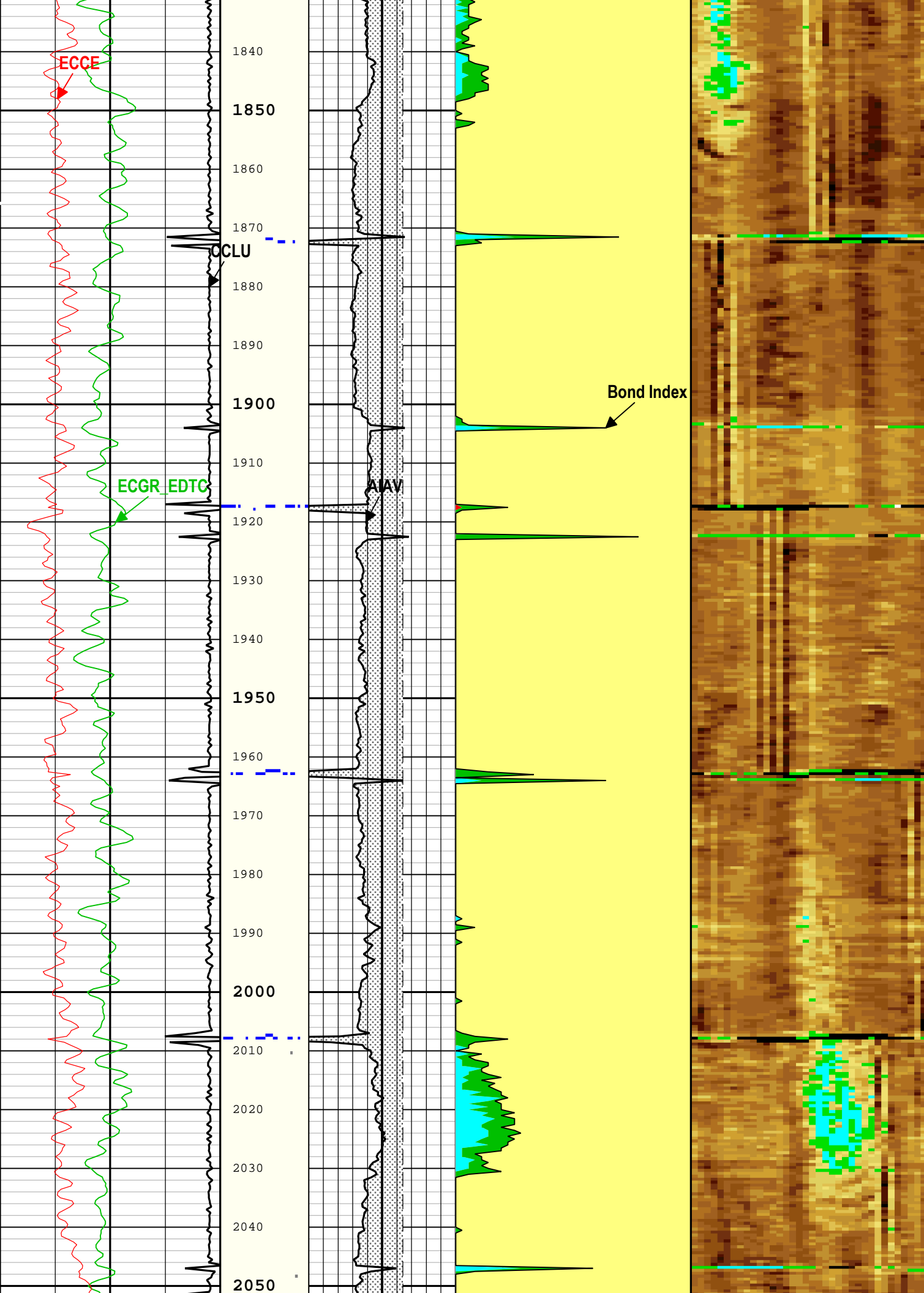


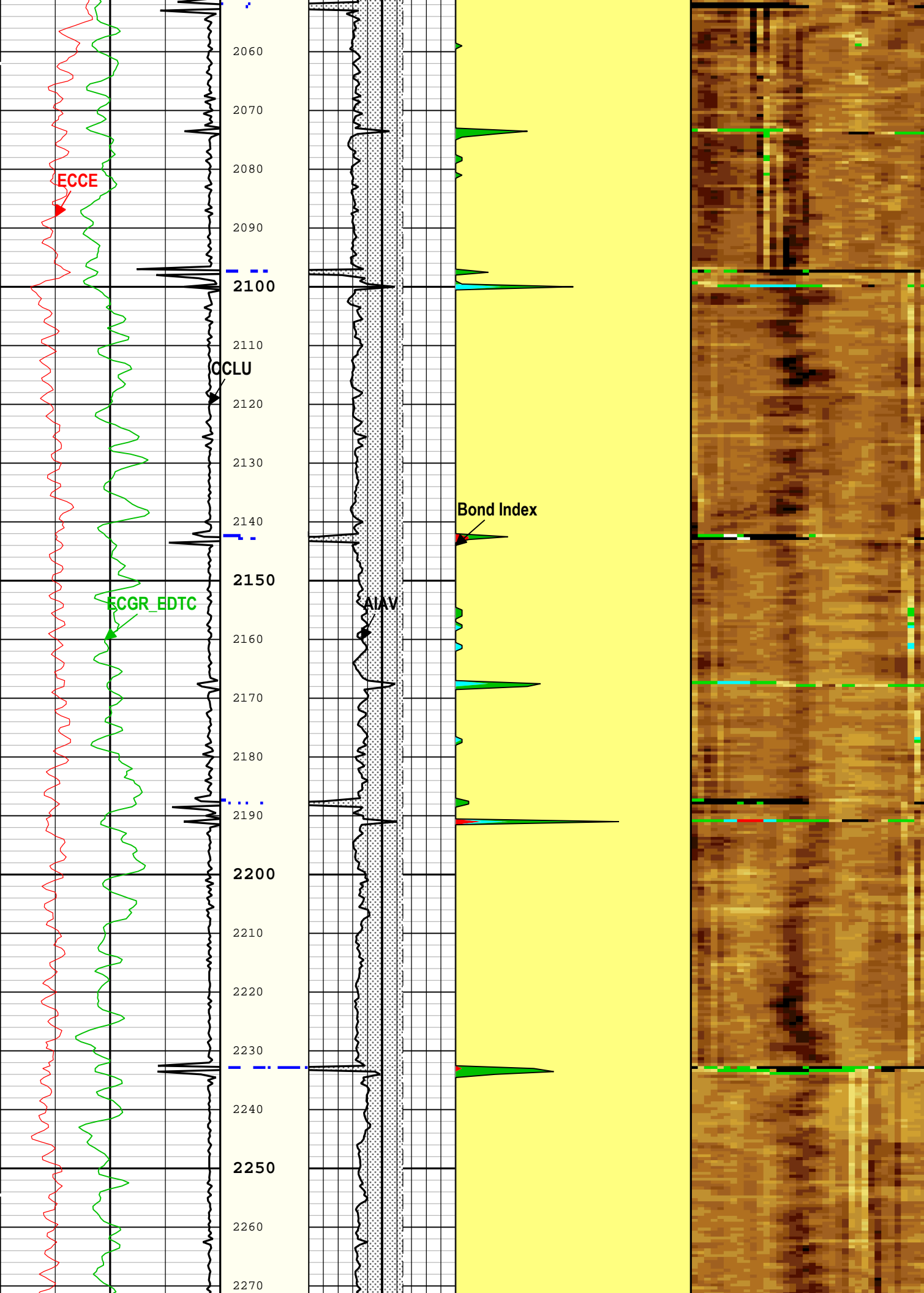


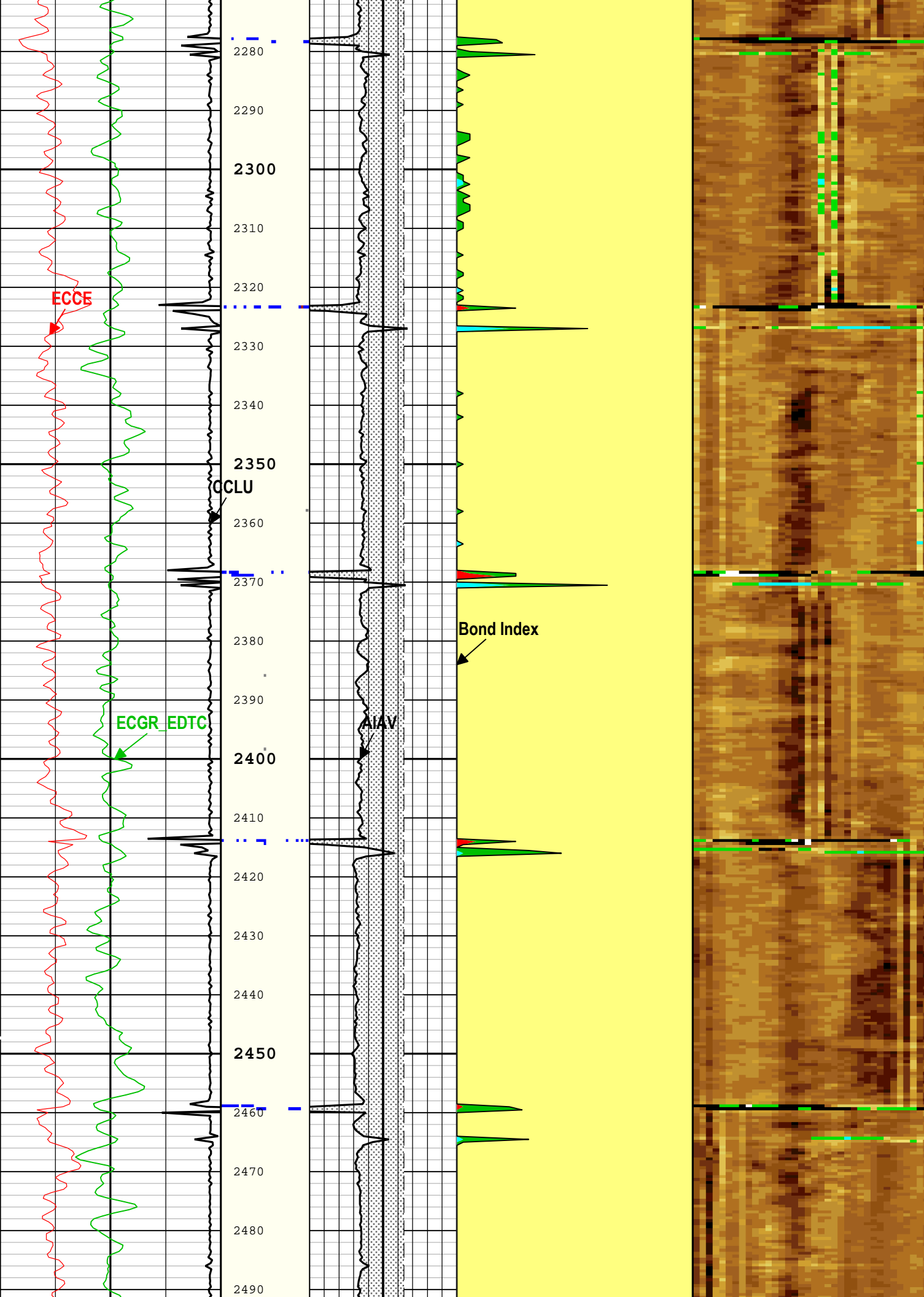


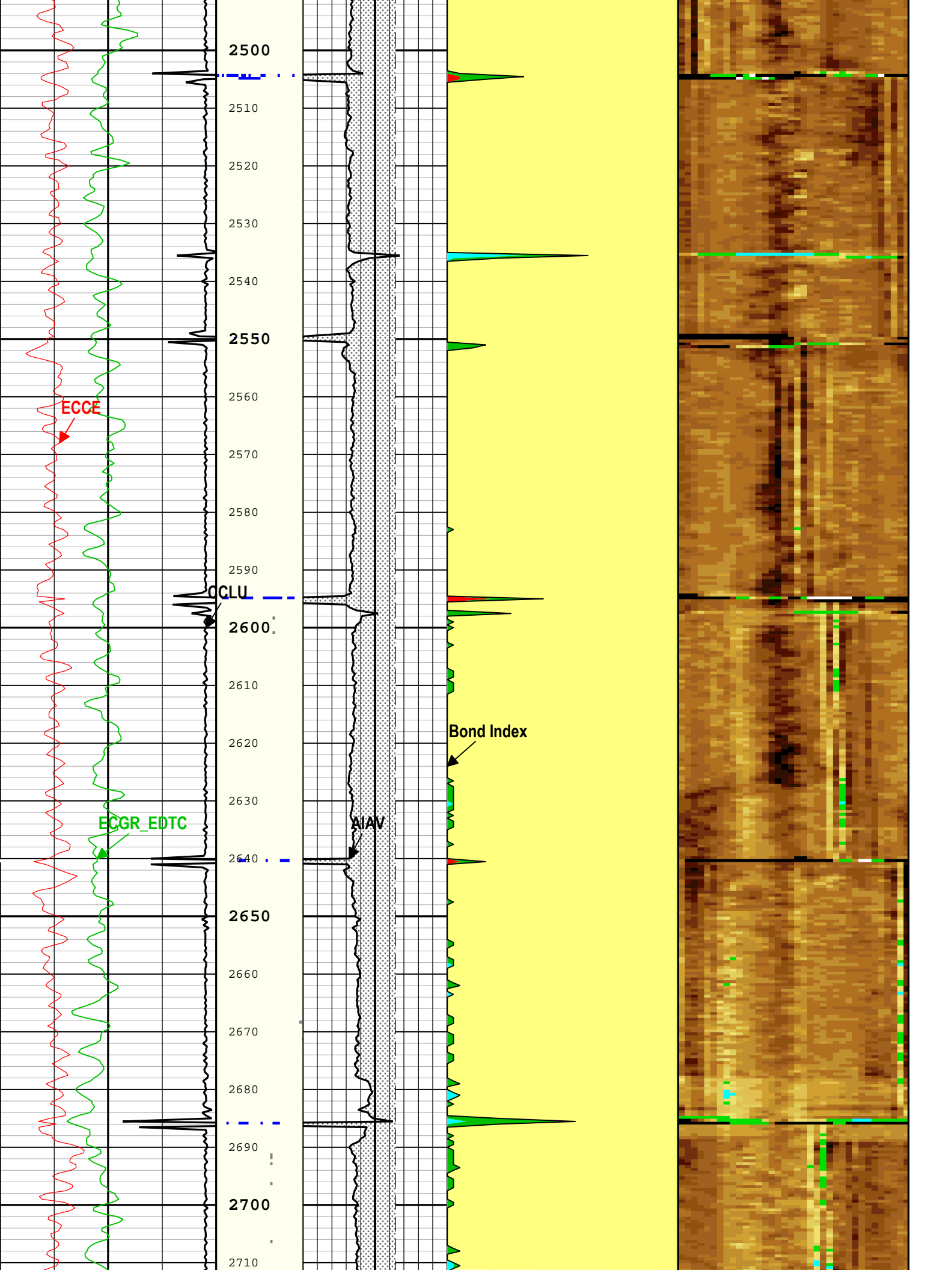


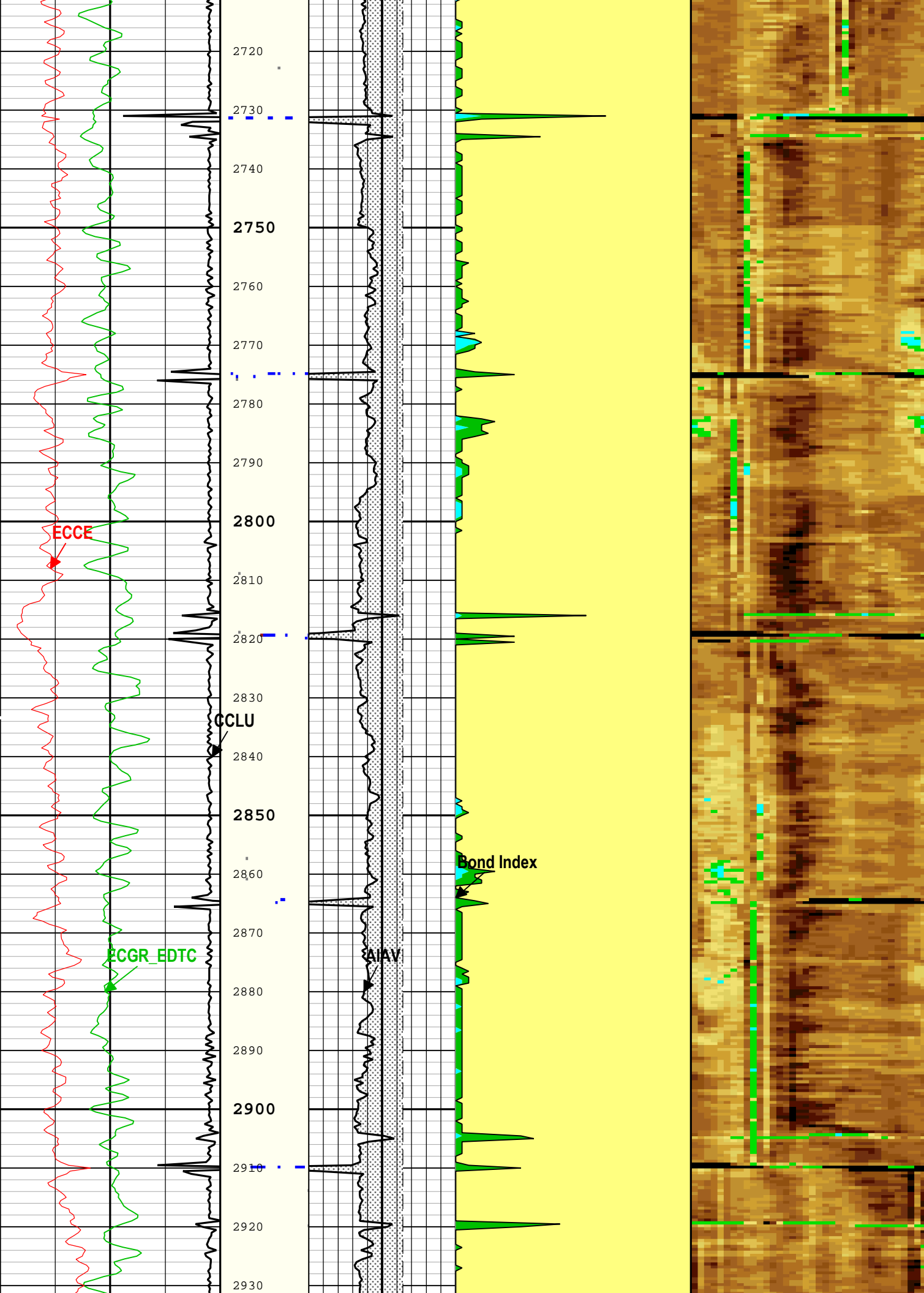


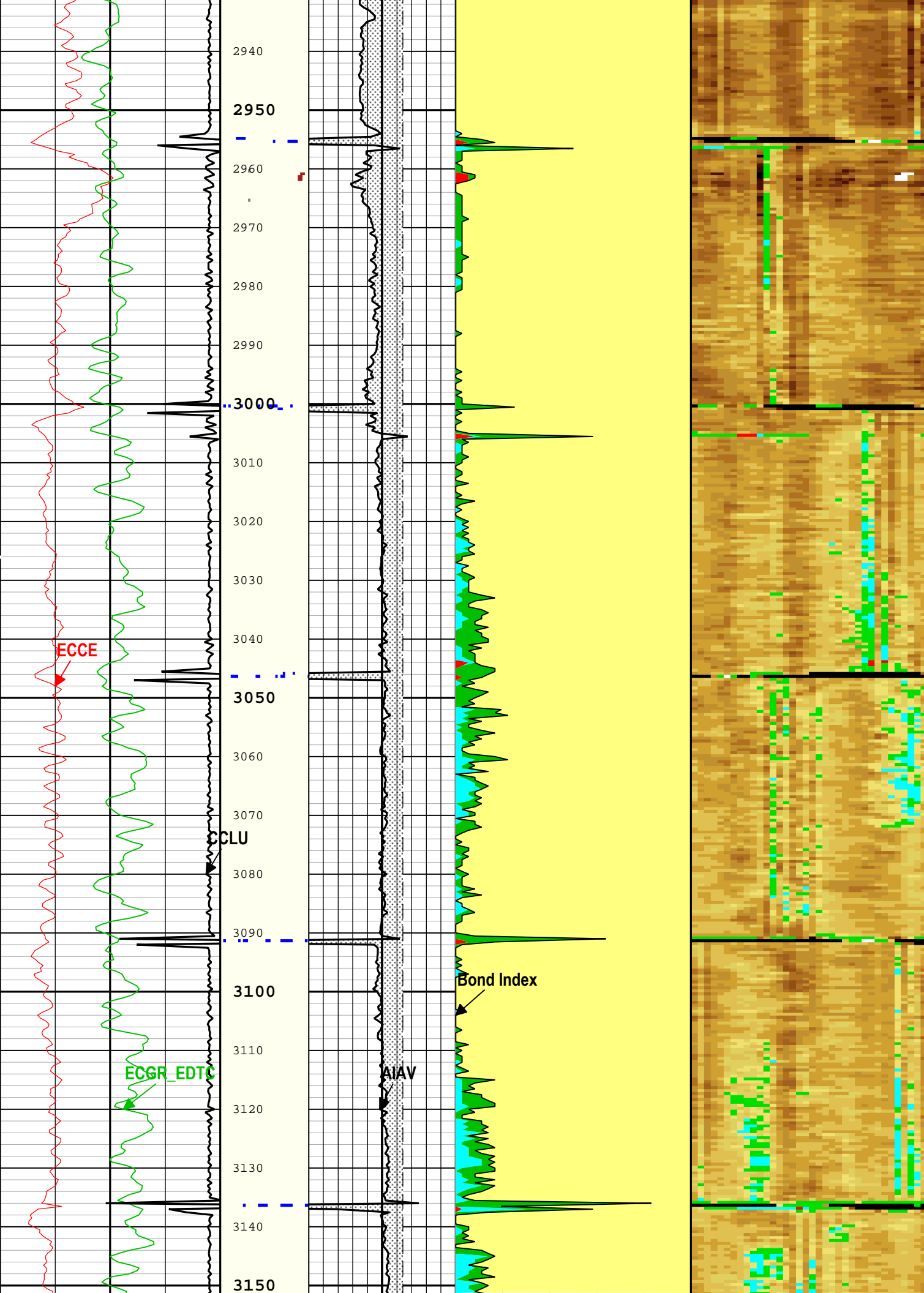


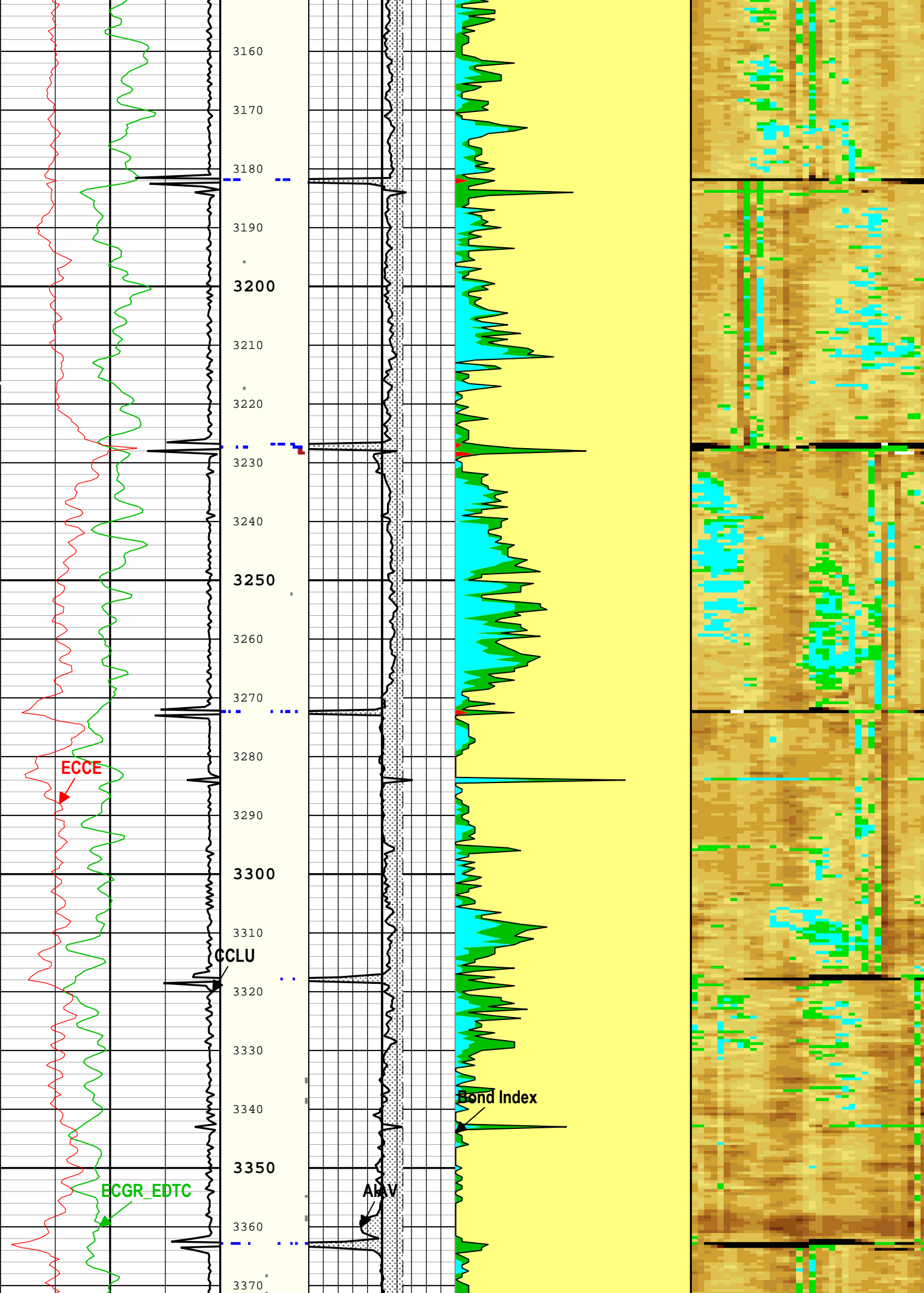


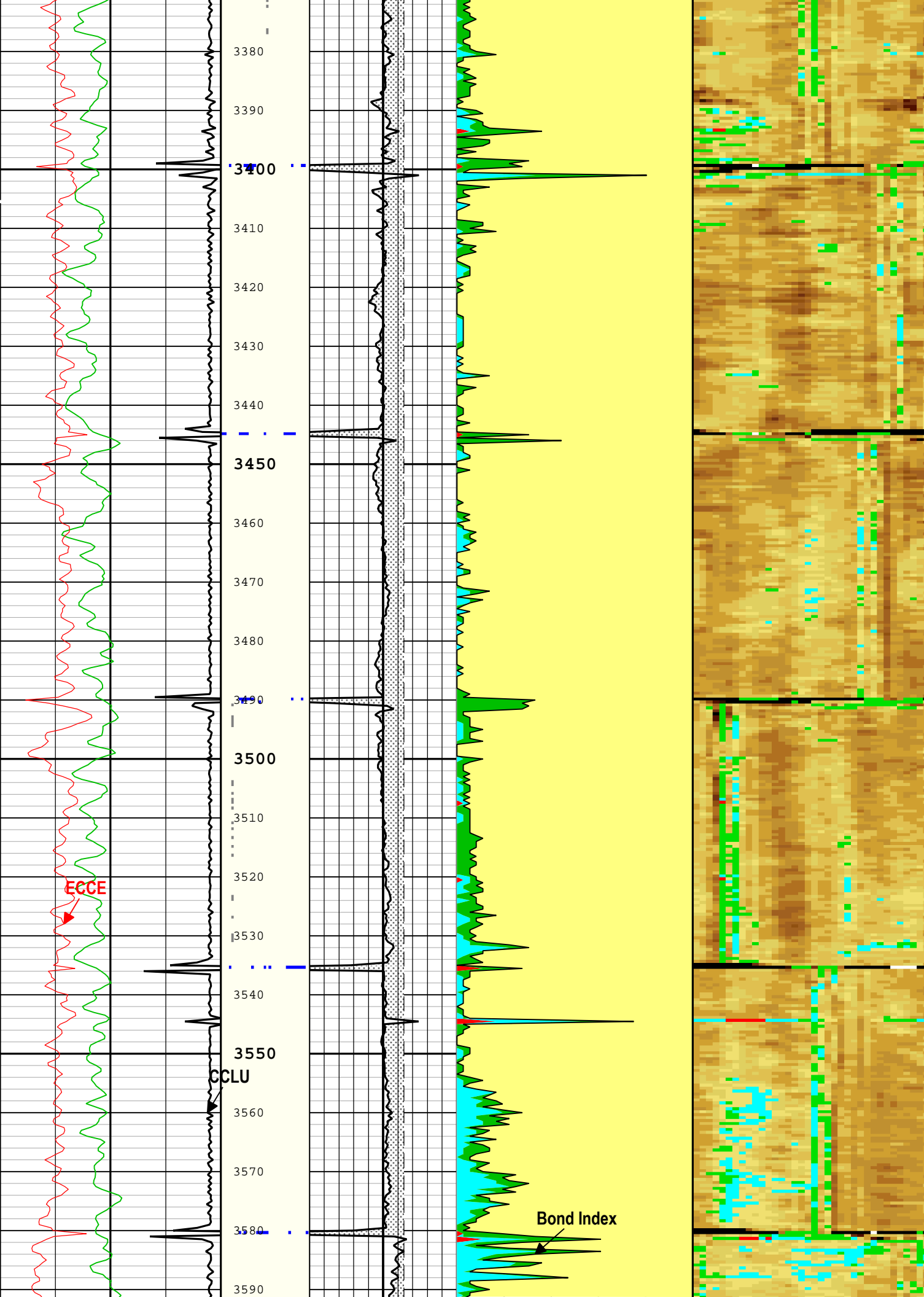


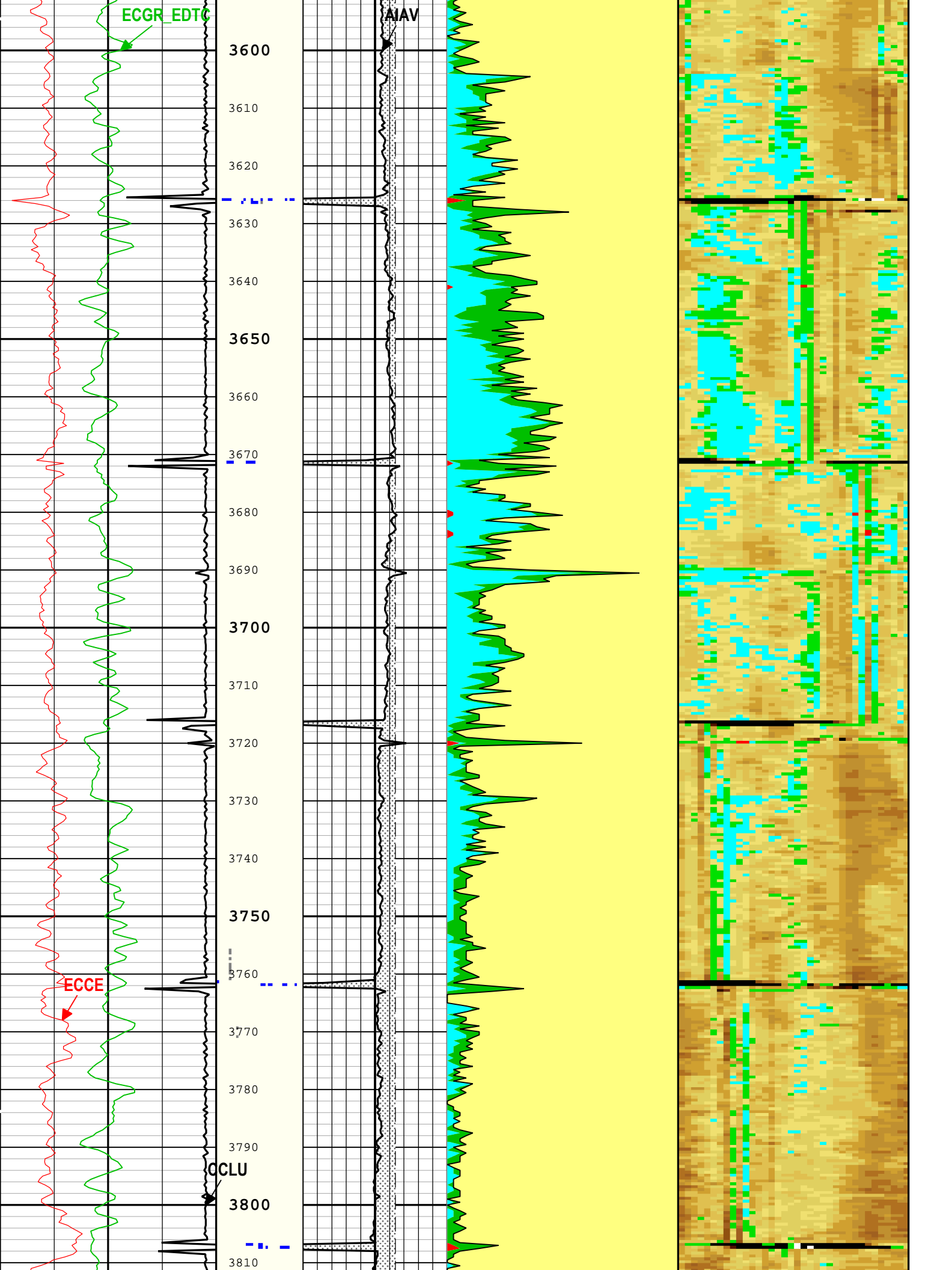


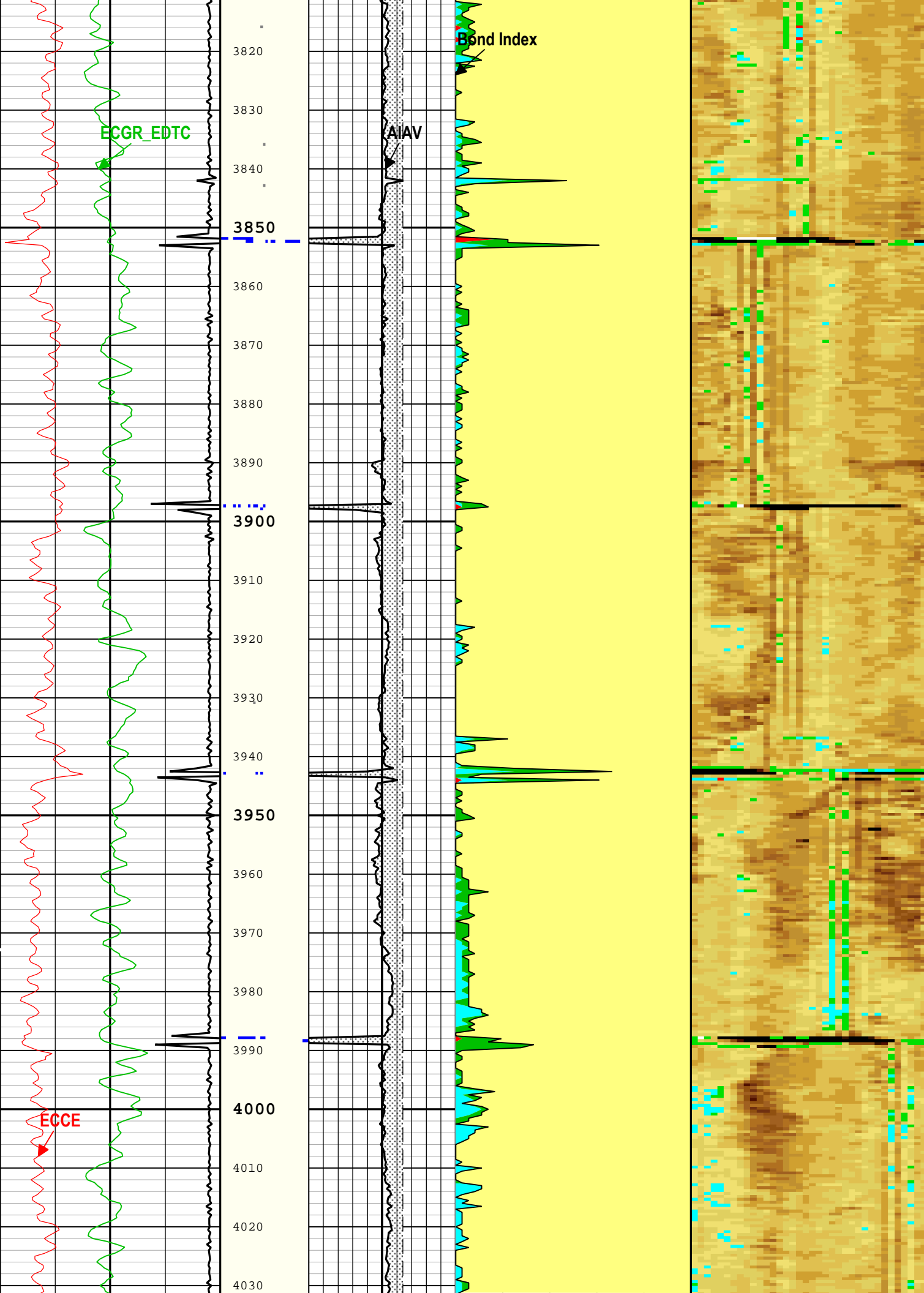


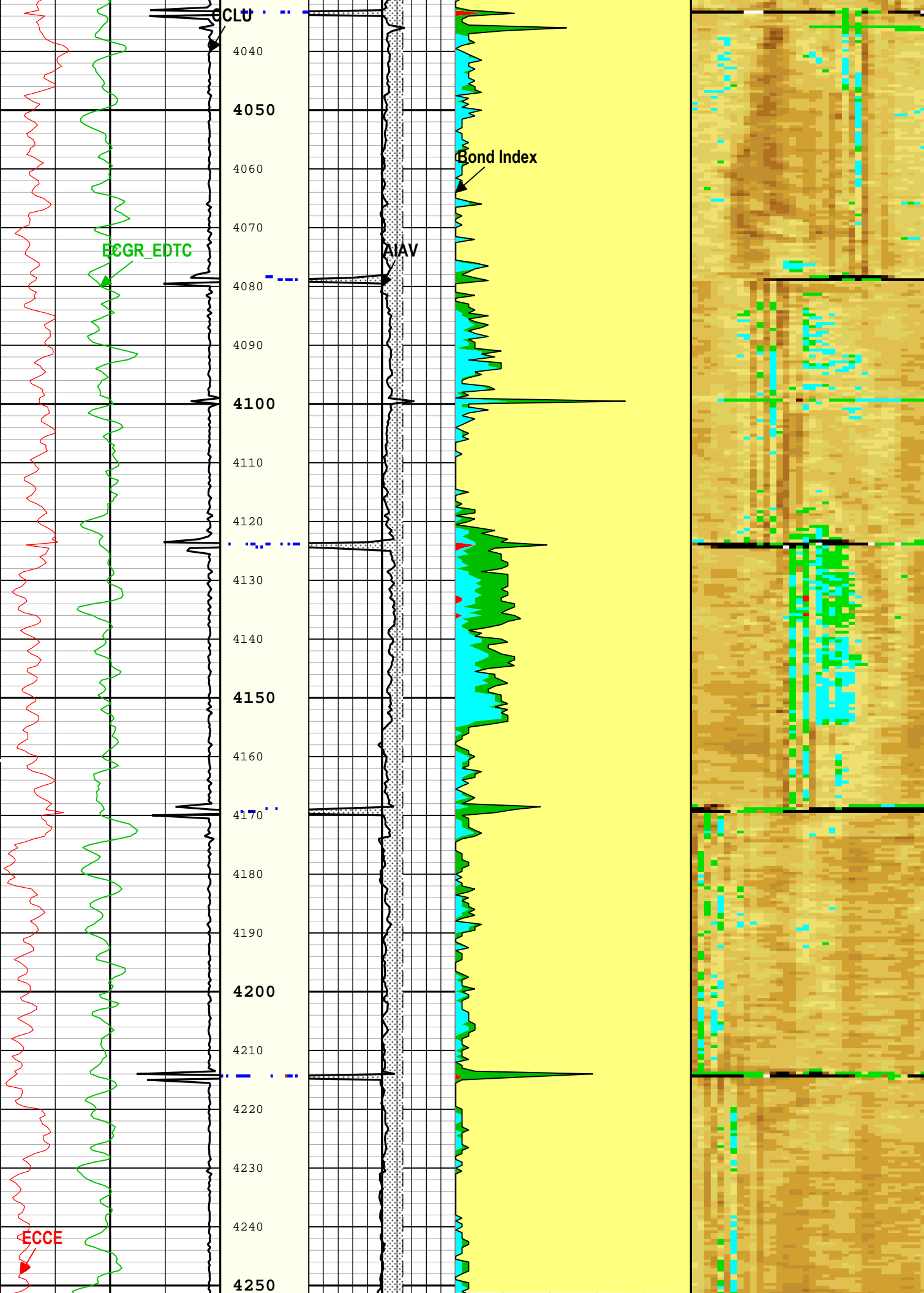


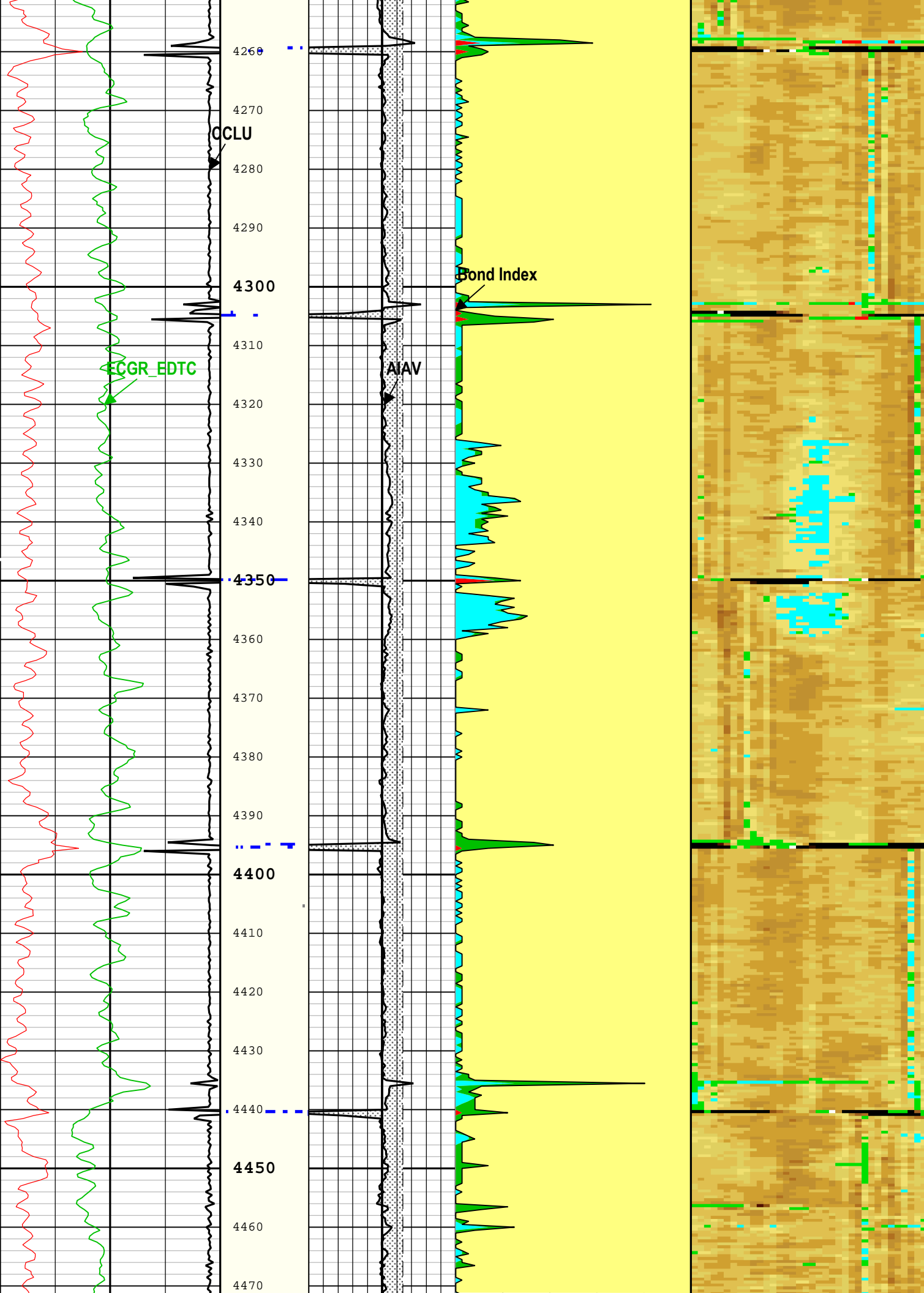


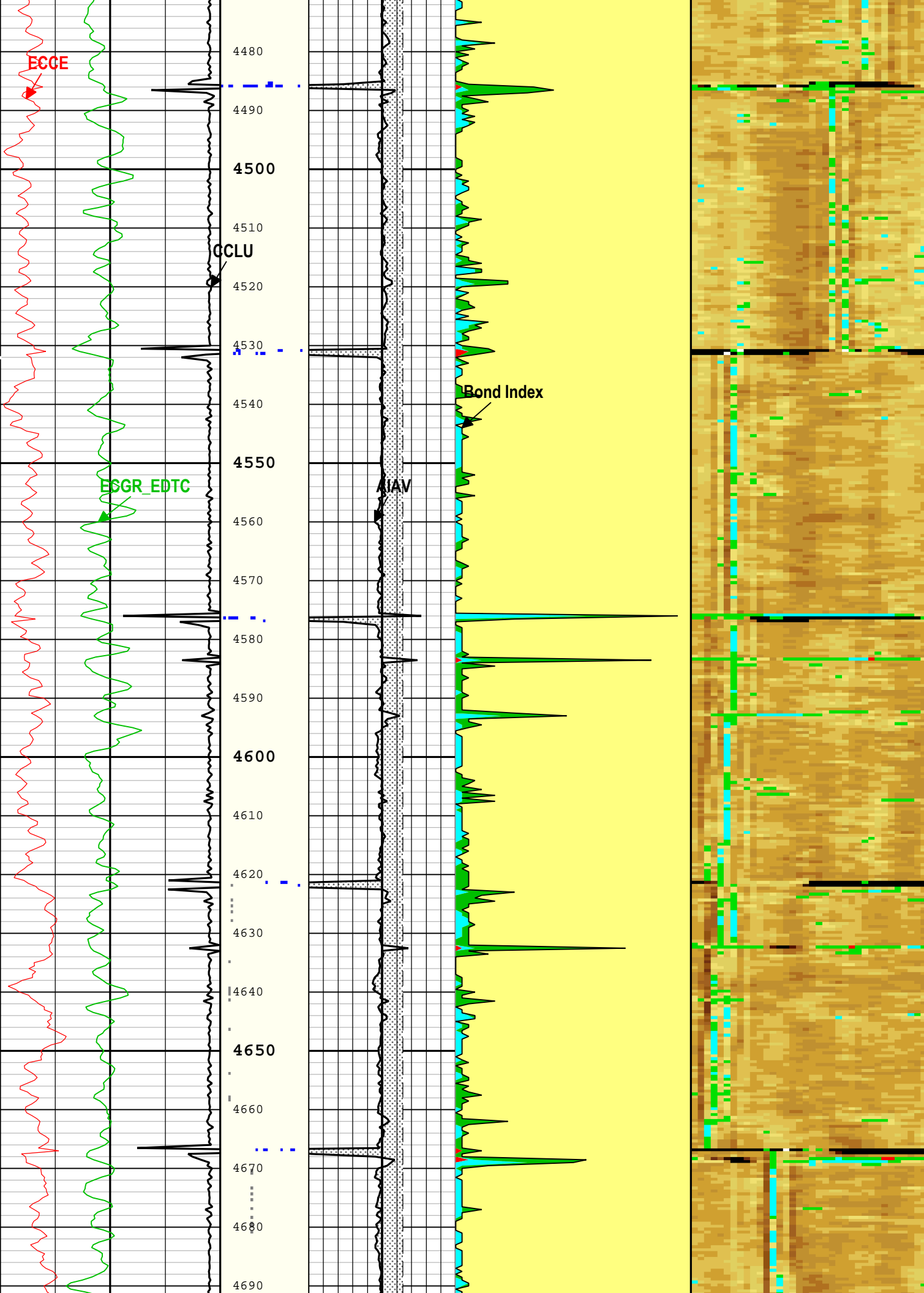


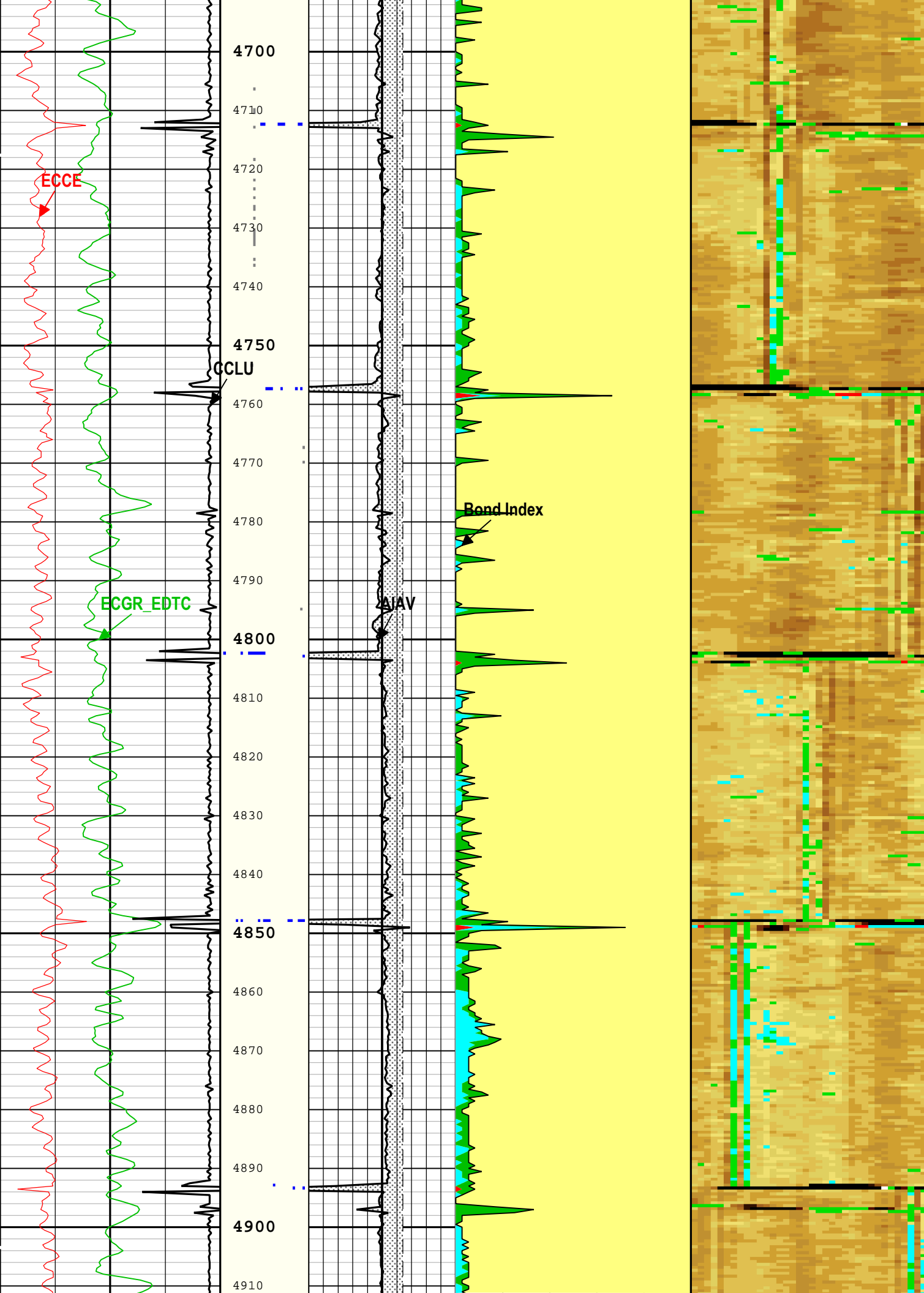


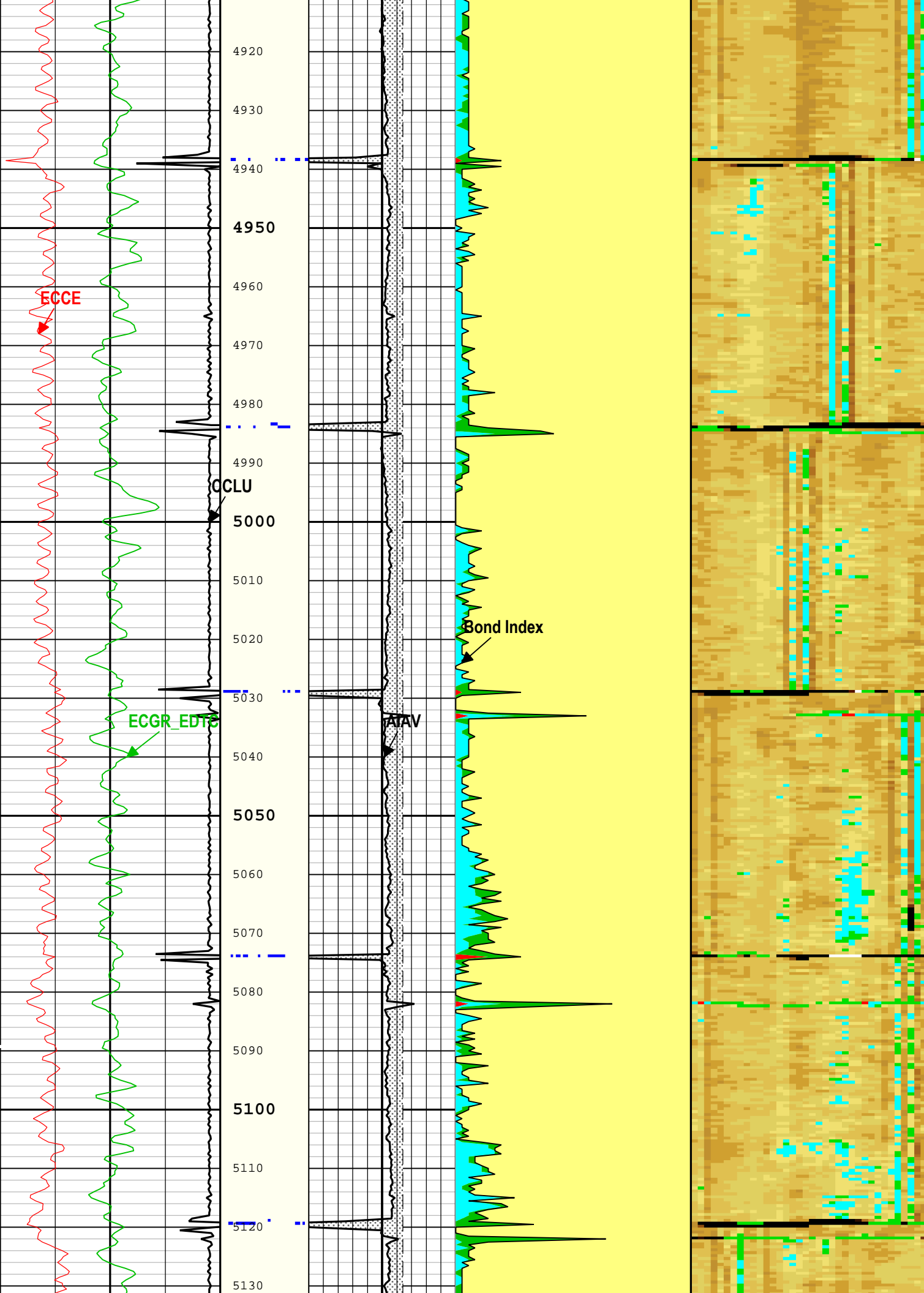


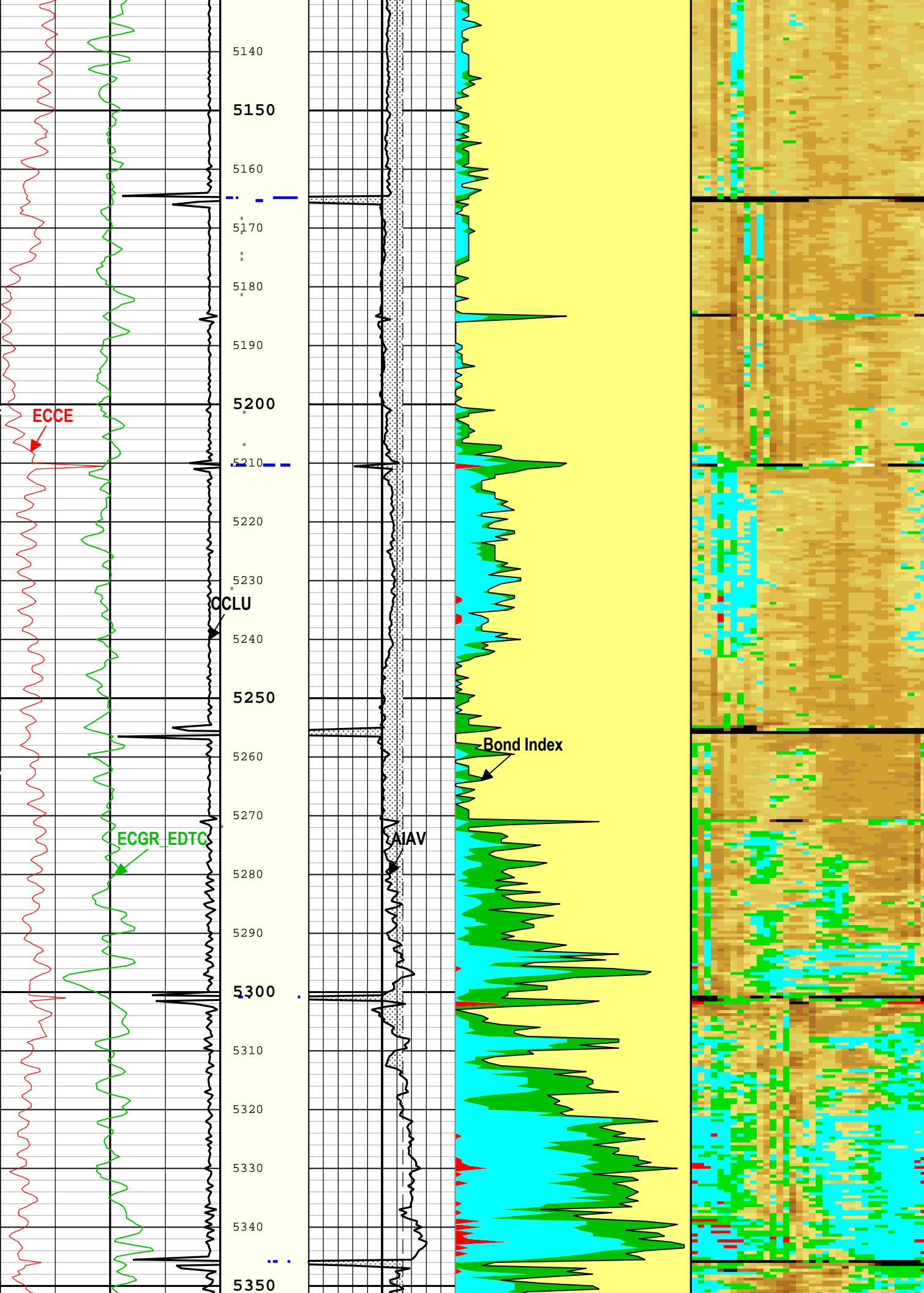


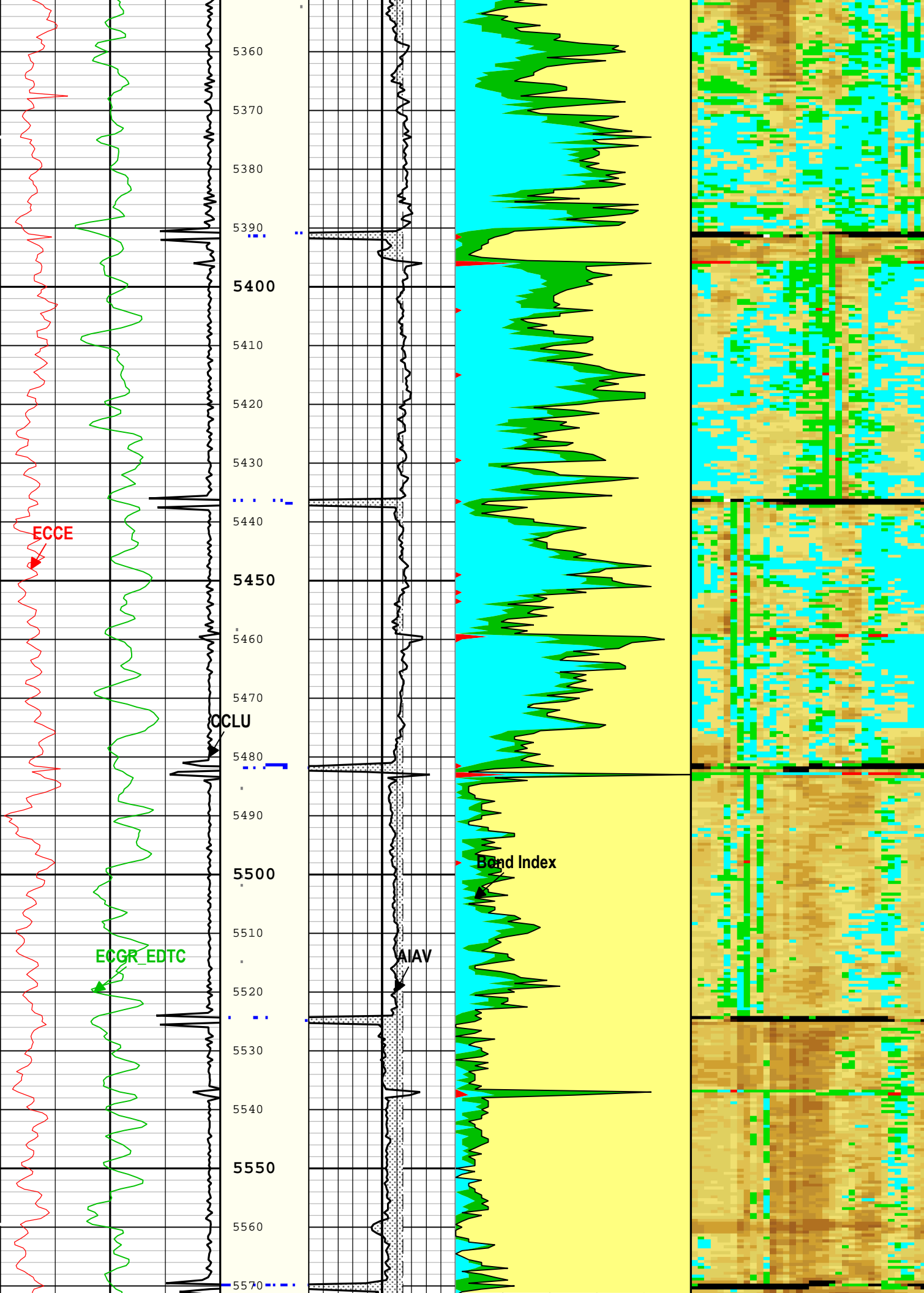


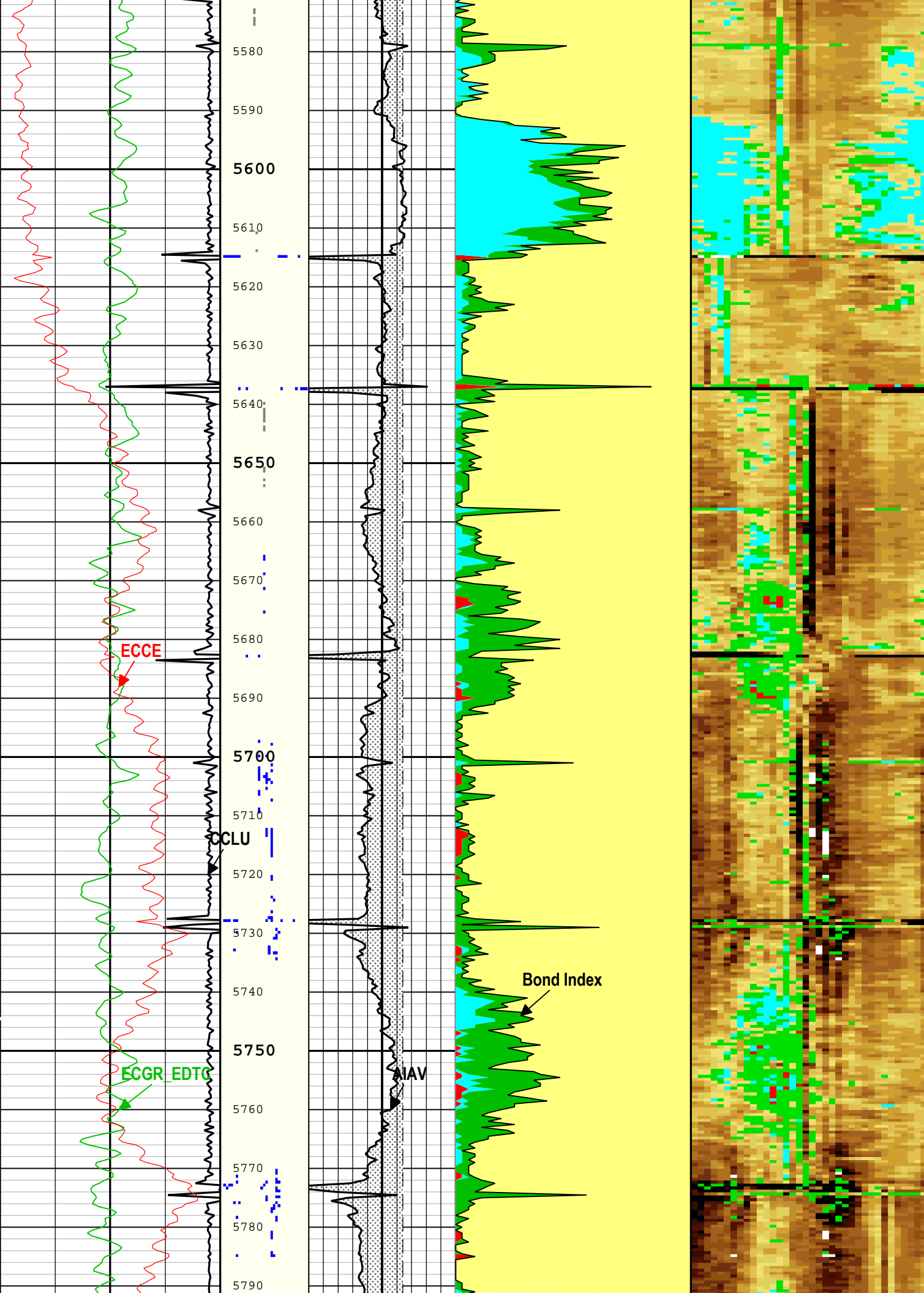


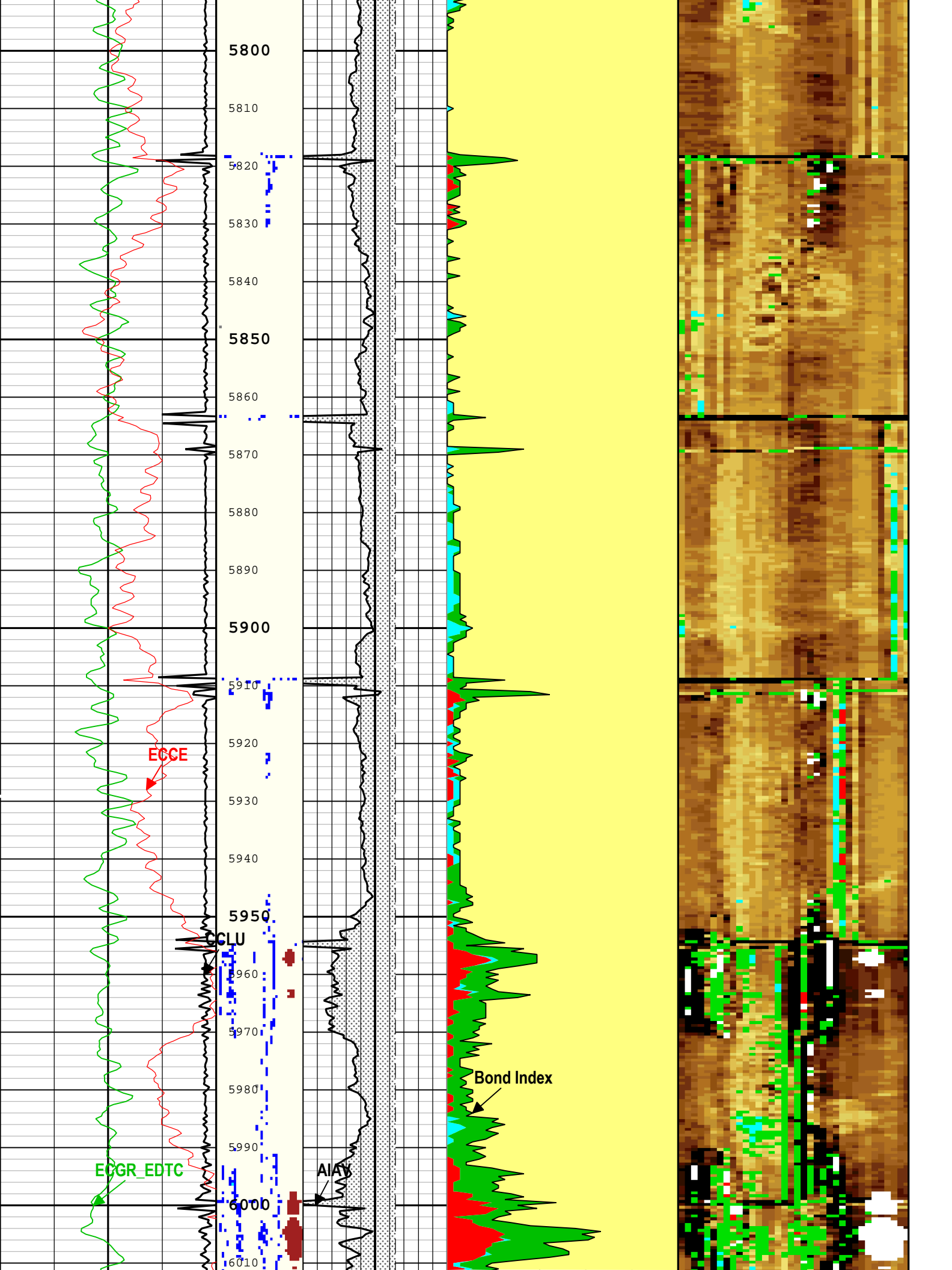


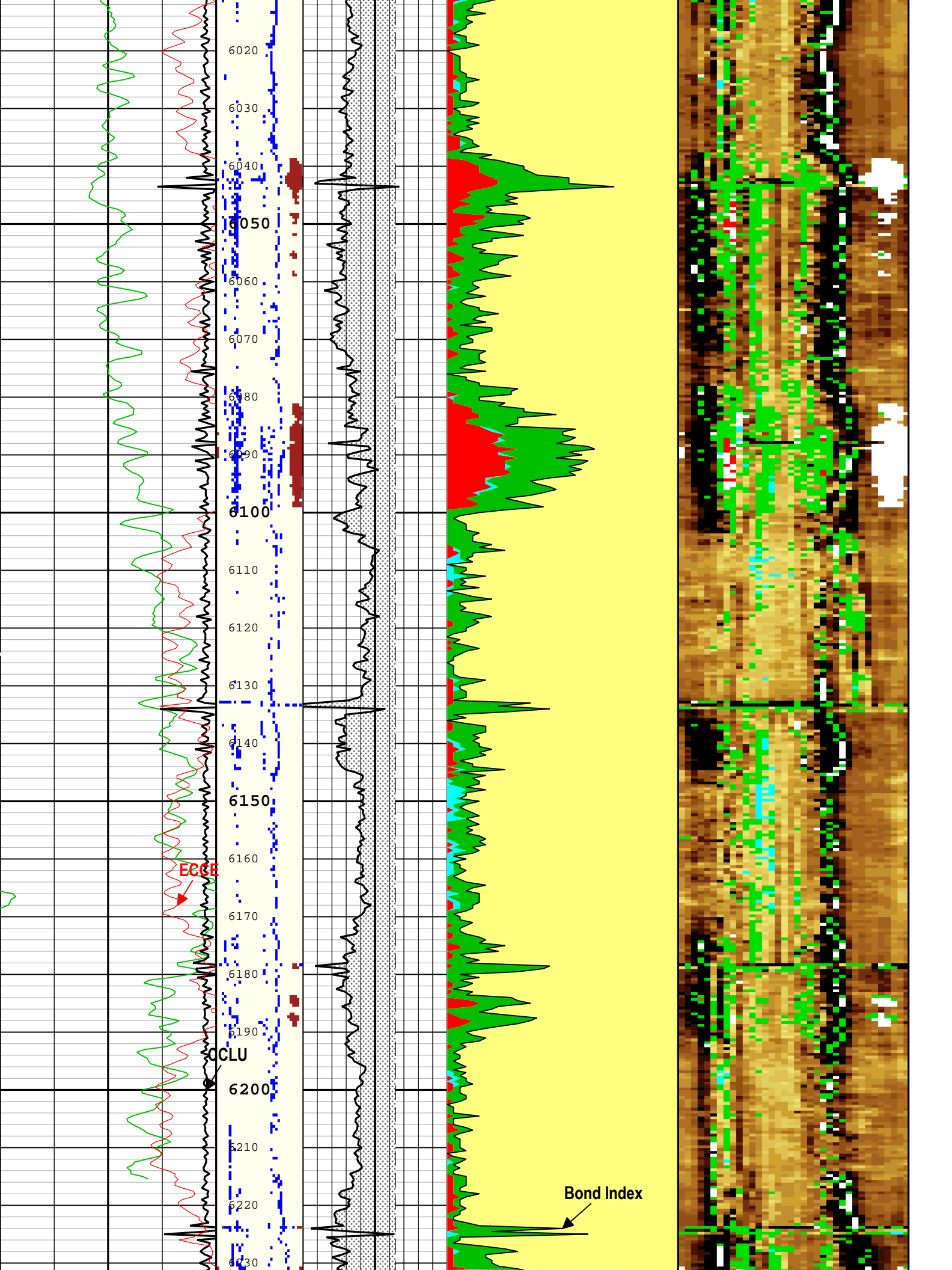


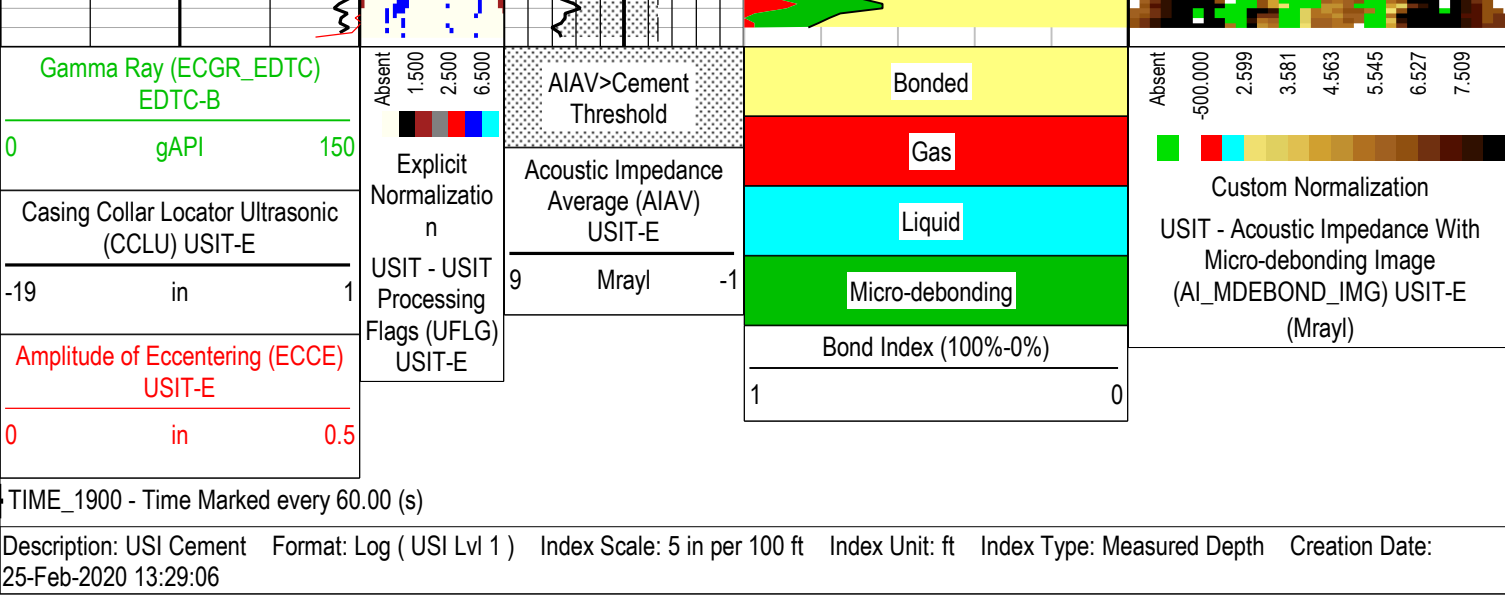












Channel Processing Parameters

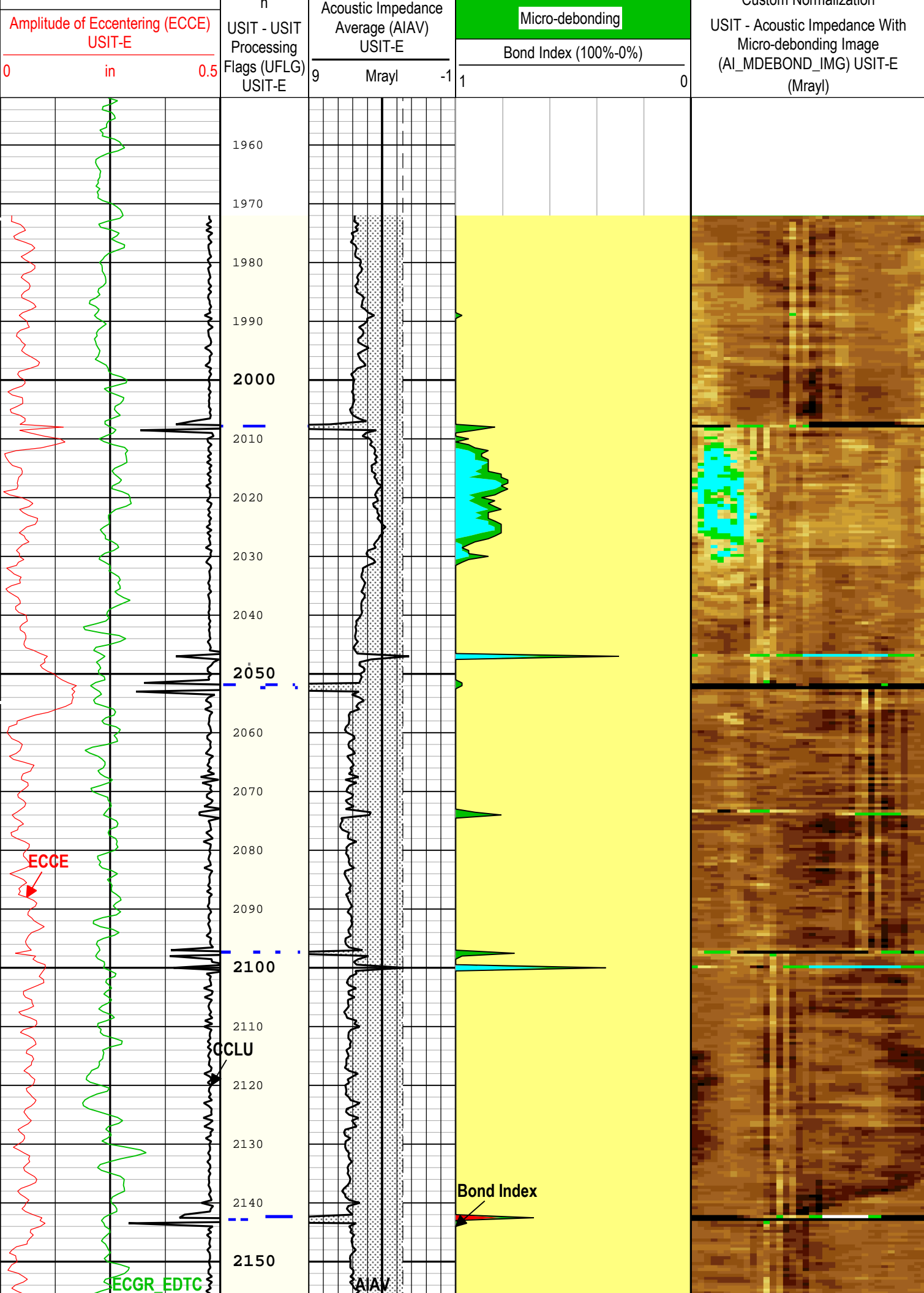
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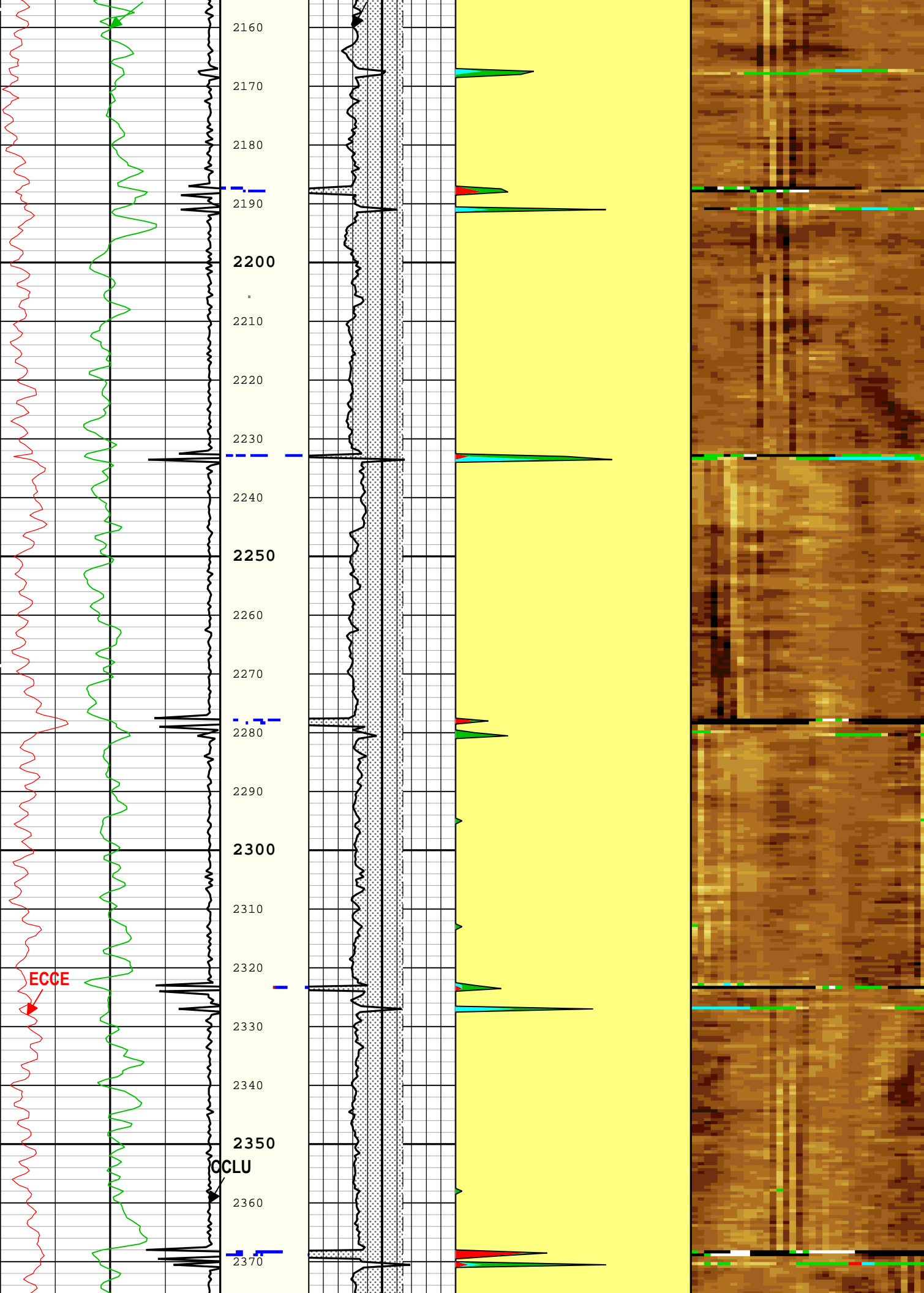
Parameter	Description	Tool	Value	Unit
BARI(ISSBAR)	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Cased	
BS	Bit Size	WLSESSION	9.875	in
CBLO	Casing Bottom (Logger)	WLSESSION	11366	ft
CDEN	Cement Density	EDTC-B	16.69	lbm/gal
CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Regular Cement	
DFD	Drilling Fluid Density	Borehole	8.4	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	206	us/ft
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS(RT)	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	BS(RT)	
HEMA	Hematite Presence Flag	Borehole	No	
ICE_PROCESS	ICE Processing	USIT-E	Yes	
IMAR	Image Rotation	USIT-E	Off	
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	22.44	us
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	1.16	
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	1.64	Mrayl
USI_FVEL_SEL	USI Fluid Velocity Selection	USIT-E	Automatic	
USI_ZMUD_SEL	USI Mud Impedance Selection	USIT-E	FreePipe Norm.	
ZMUD	Acoustic Impedance of Mud	Borehole	1.48	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.6	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

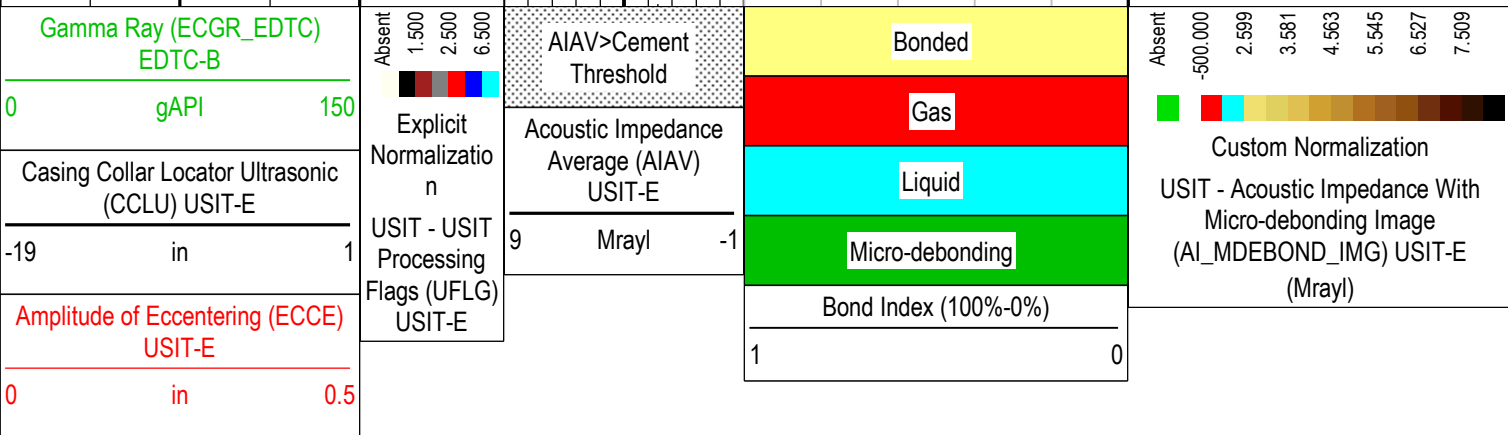
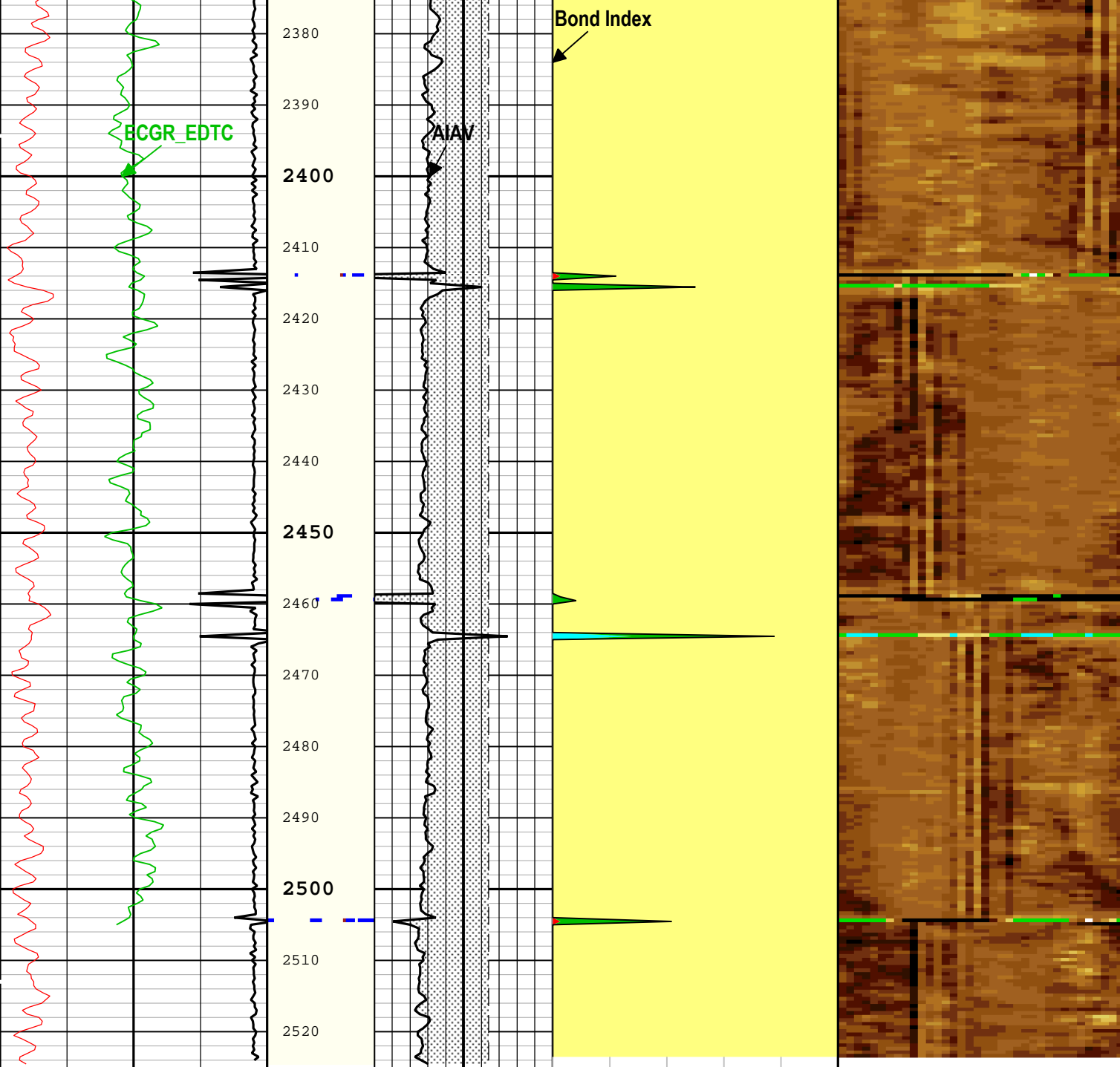
Tool Control Parameters

1: Parameters

Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	48	dB
EMXV	EMEX Voltage	USIT-E	Time Zoned	V
HRES	Horizontal Resolution	USIT-E	10 deg	
ICE2_ACQ	Ultrasonic ICE2 Acquisition	USIT-E	Yes	
ULOG	Logging Objective	USIT-E	MEASUREMENT	







TIME_1900 - Time Marked every 60.00 (s)

Description: USI Cement Format: Log (USI Lvl 1) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 25-Feb-2020 13:29:29

Channel Processing Parameters

1: Parameters

Parameter	Description	Tool	Value	Unit
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ICE_PROCESS	ICE Processing	USIT-E	Yes	
IMAR	Image Rotation	USIT-E	Off	
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	22.44	us
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	1.16	
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	1.64	Mrayl
USI_FVEL_SEL	USI Fluid Velocity Selection	USIT-E	Automatic	
USI_ZMUD_SEL	USI Mud Impedance Selection	USIT-E	FreePipe Norm.	
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ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.6	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

Tool Control Parameters

1: Parameters

Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	48	dB
EMXV	EMEX Voltage	USIT-E	50	V
HRES	Horizontal Resolution	USIT-E	10 deg	
ICE2_ACQ	Ultrasonic ICE2 Acquisition	USIT-E	Yes	
ULOG	Logging Objective	USIT-E	MEASUREMENT	
USFR	Ultrasonic Sampling Frequency	USIT-E	666667	Hz
UPAT	USIT Emission Pattern	USIT-E	Pattern 375 KHz	
UWKM	USIT Working Mode	USIT-E	Uncompressed 10 deg at 6.0 in	
WINB	Window Begin Time	USIT-E	31.88	us
WINE	Window End Time	USIT-E	71.88	us

XYZ

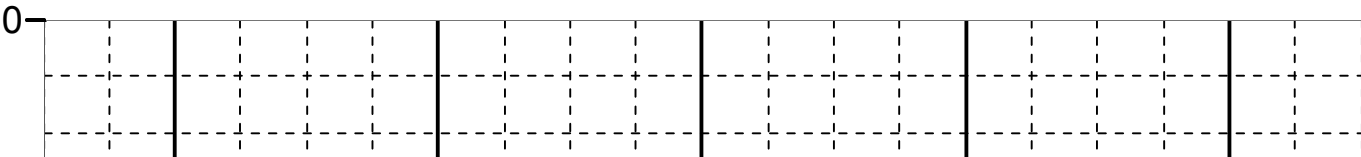
Company:Bonanza Creek Energy Well:State Antelope Y-B-13 HNB
1: Log[4]:Up:S005

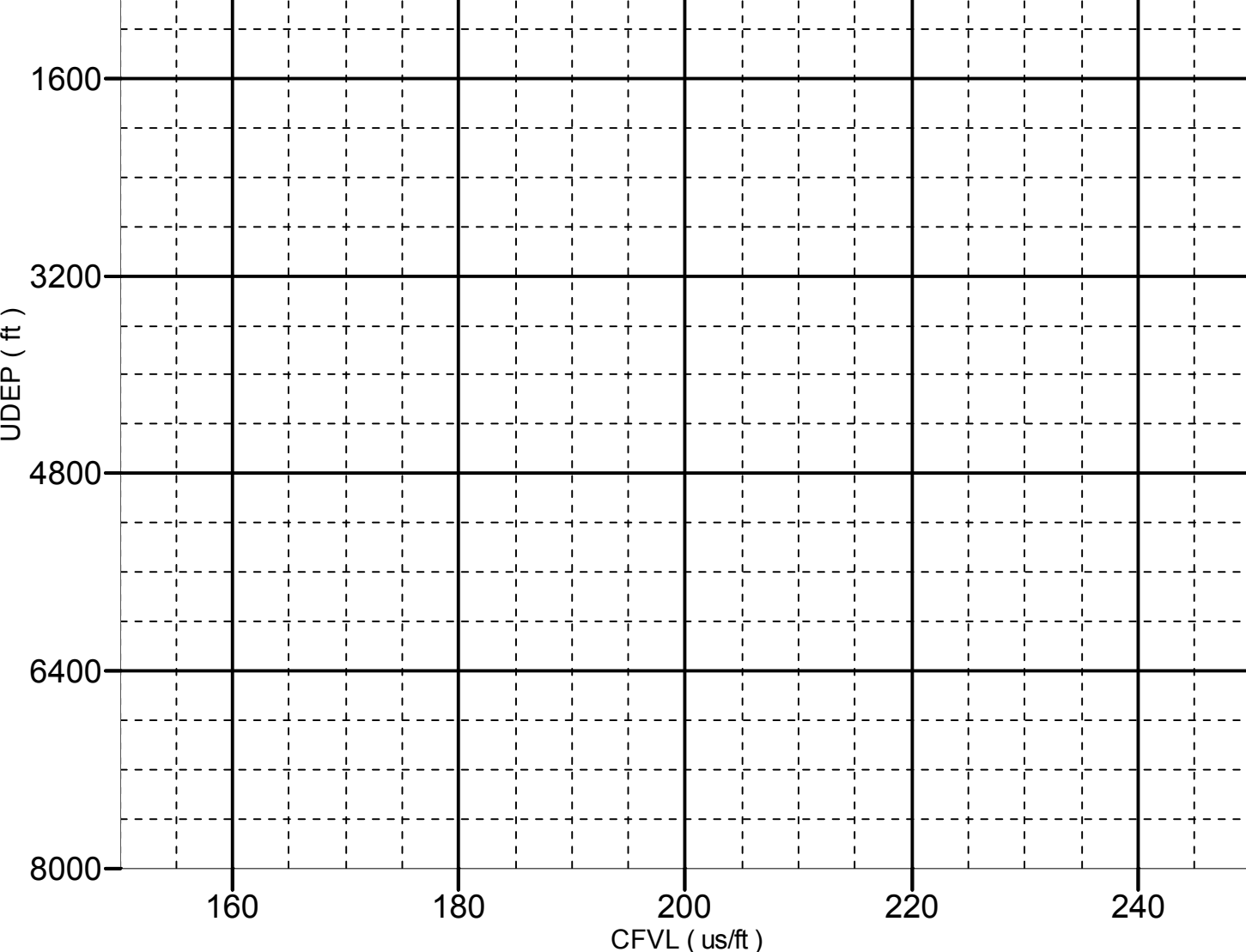
Fluid Acoustic Slowness vs Depth

2D Cross Plot

Index Range: From to ft

- CFVL-UDEP (CFVL,UDEP : Data Not Found)



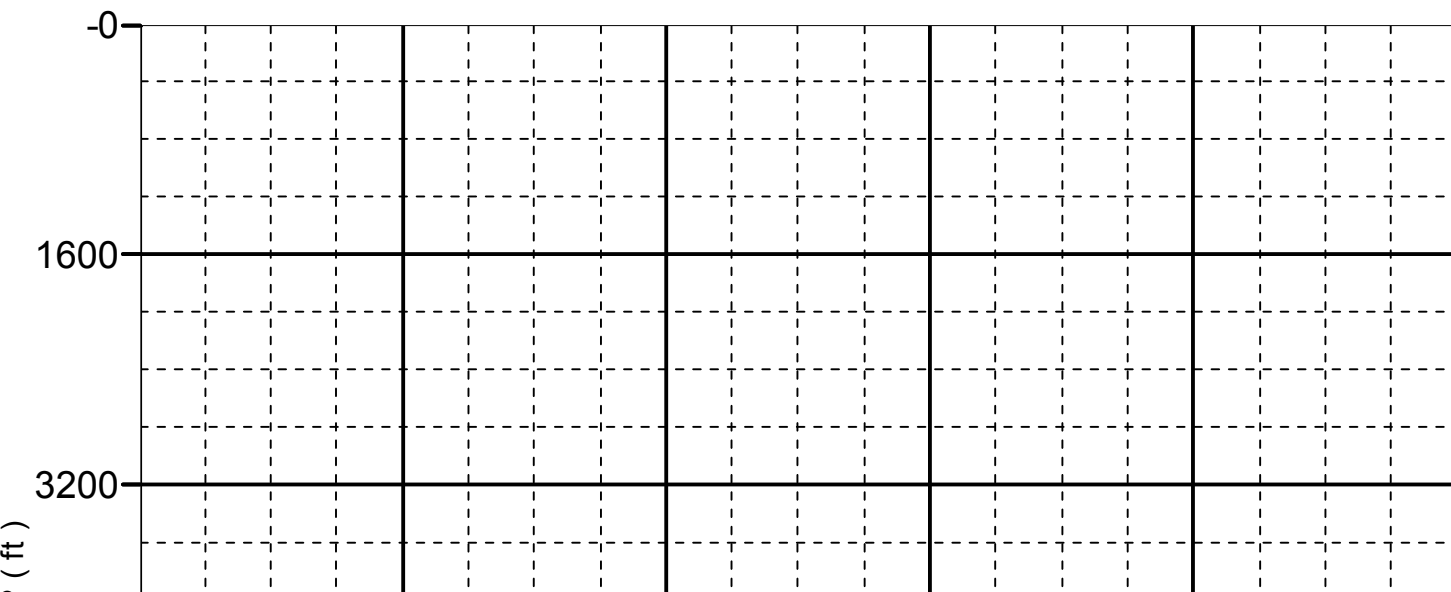


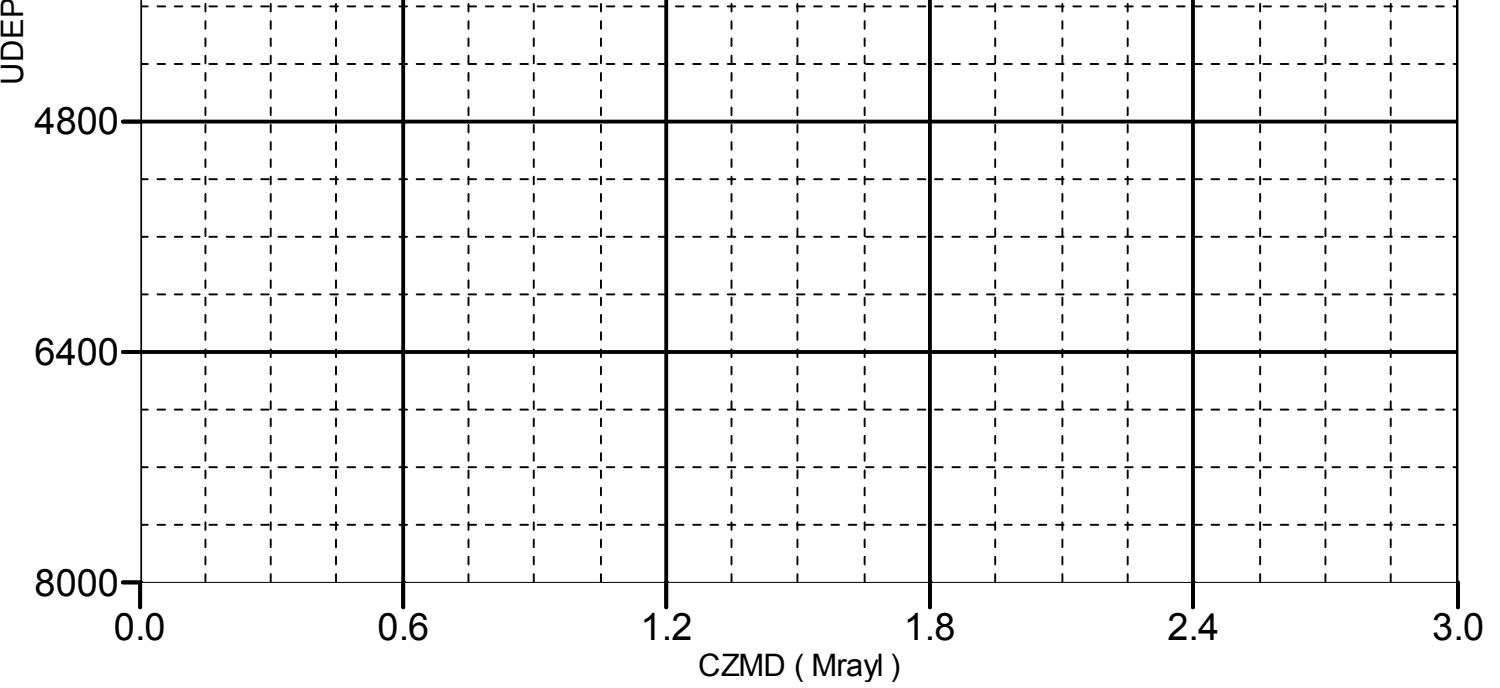
Acoustic Impedance of Mud vs Depth

2D Cross Plot

Index Range: From to ft

● CZMD-UDEP (CZMD,UDEP : Data Not Found)





Company: Bonanza Creek Energy

Schlumberger

Well: State Antelope Y-B-13 HNB

Field: Wattenberg

County: Weld

State: CO

UltraSonic Summary Print

