

Schlumberger									
Company:		Bonanza Creek Energy							
Well:		State Antelope Y-E-13 HNC							
Field:		Wattenberg							
County:		Weld		State:		Colorado			
UltraSonic Summary Print									
County:		Weld		State:		Colorado			
Field:		Wattenberg		State:		Colorado			
Location:		SENE Sec. 13, T5N-R62W		Elev.:		K.B. 4590.00 ft			
Well:		2699' FNL 510' FEL		G.L.		4573.00 ft			
Company:		Bonanza Creek Energy		D.F.		4590.00 ft			
Location:		Permanent Datum:		Ground Level		Elev.:			
Log Measured From:		Kelly Bushing		Kelly Bushing		17.00 ft			
Drilling Measured From:		Kelly Bushing		Kelly Bushing		above Perm. Datum			
API Serial No.		Section:		Township:		Range:			
05-123-50291		13		5N		62W			
Logging Date		24-Feb-2020							
Run Number		One							
Depth Driller		12471.00 ft							
Schlumberger Depth		12471.00 ft							
Bottom Log Interval		66920.00 ft							
Top Log Interval		100.00 ft							
Casing Fluid Type		Water							
Salinity									
Density		8.4 lbm/gal							
Fluid Level		8.00 ft							
BIT/CASING/TUBING STRING									
Bit Size		8.50 in							
From		0.00 ft							
To		12471.00 ft							
Casing/Tubing Size		5.5 in							
Weight		20 lbm/ft							
Grade		N/A							
From		0.00 ft							
To		12471.00 ft							
Max Recorded Temperatures		197 degF							
Logger on Bottom		24-Feb-2020		09:45:00					
Unit Number		2801		Fort Morgan					
Recorded By		Alan Tolentino							
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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11. One REPEAT

11.1 Integration Summary

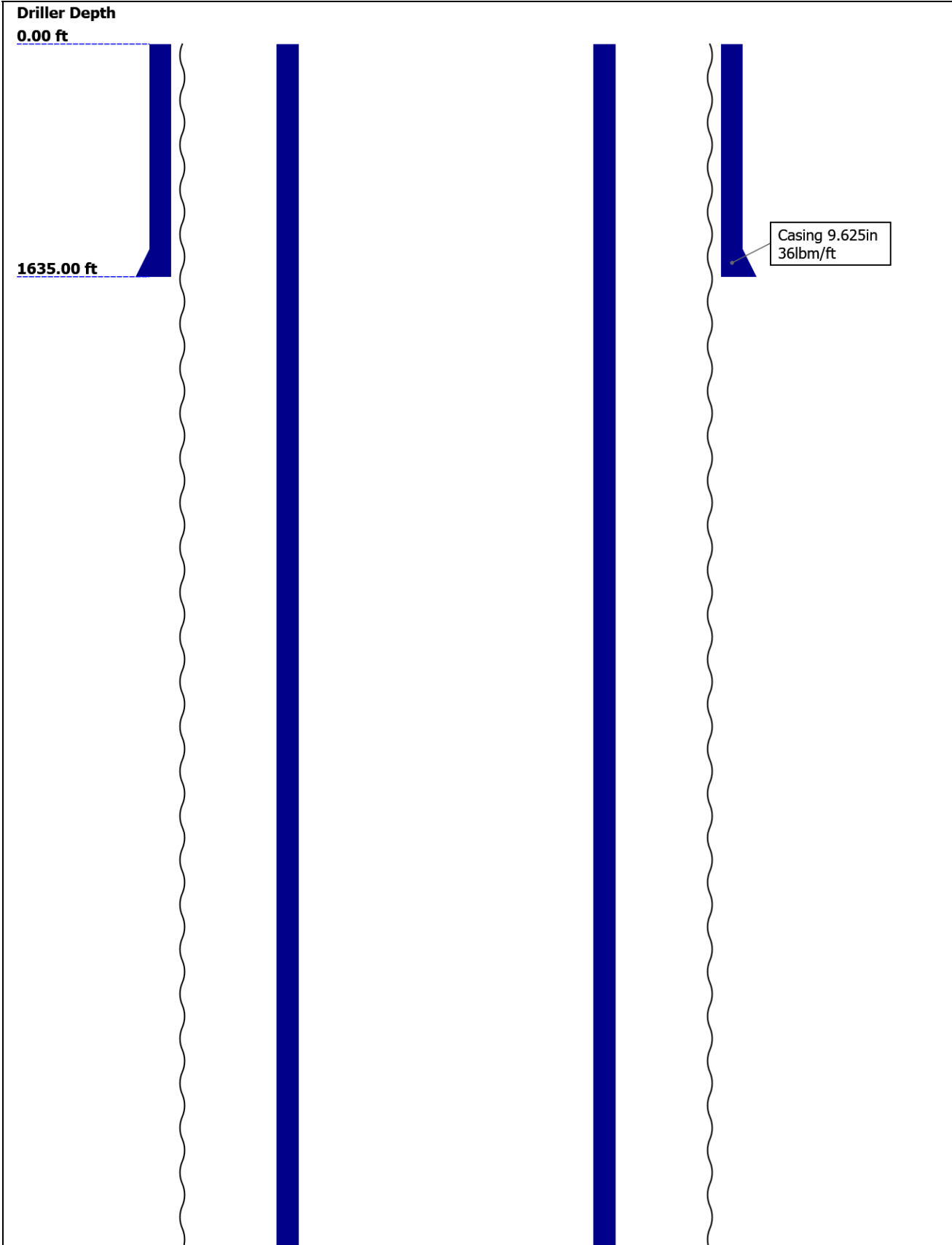
11.2 Composite Summary

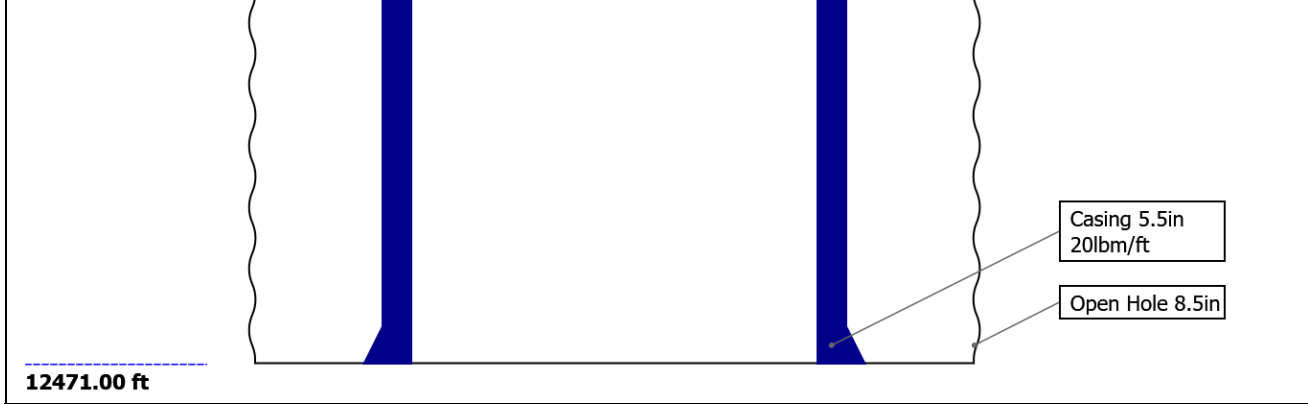
11.3 Log (USI Lvl 1)

11.4 Parameter Listing

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

Well Sketch




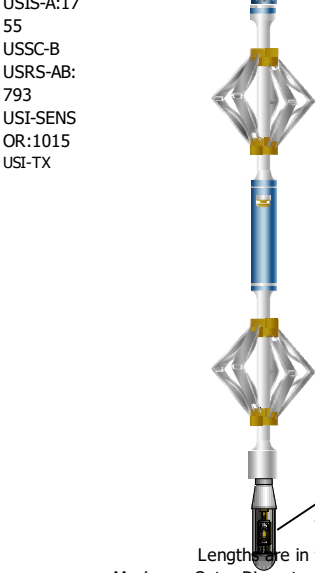


Borehole Size/Casing/Tubing Record

Bit						
Bit Size (in)	8.5					
Top Driller (ft)	0					
Top Logger (ft)	0					
Bottom Driller (ft)	12471					
Bottom Logger (ft)	12471					
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)	1635	12471				
Bottom Logger (ft)	1635	12471				

Remarks and Equipment Summary

One: Toolstring				One: 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><div><div>CTEM22.46</div><div>ACCZ0.00</div><div>HV0.00</div><div>Gamma20.59</div><div>Ray</div><div>TelStatu19.46</div><div>s</div></div></div>	Logging objective: Casing and cement evaluation.				
	Tool was run as per tool sketch.				
	All logging intervals as per client request.				
	USIT ran on 10deg 6" resolution for main and repeat passes.				



Depth Summary

One			
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			
One:Depth Control Parameters		Depth Control Remarks	
Log Sequence	First Log In the Well	Schlumberger depth control procedures followed. IDW used as primary depth control system. Z-chart used as secondary control system.	
Rig Up Length At Surface			
Rig Up Length At Bottom			
Rig Up Length Correction			
Stretch Correction			
Tool Zero Check At Surface			

USIT - Fluid Properties Measurement

Run Name	Pass Name	Start Depth(ft)	Stop Depth(ft)
Run 1	Log[3]:Up	6995.48	43.49

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 : 55.59m(182.39ft) to 58.45m(191.77ft)
MUD_N_FRP = 1.06
DFD = 1.01g/cm3(8.40lbm/gal)
CZMD median computed in free pipe normalization interval = 1.52 MRayl

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

MAIN COMPRESSED

Pass Summary

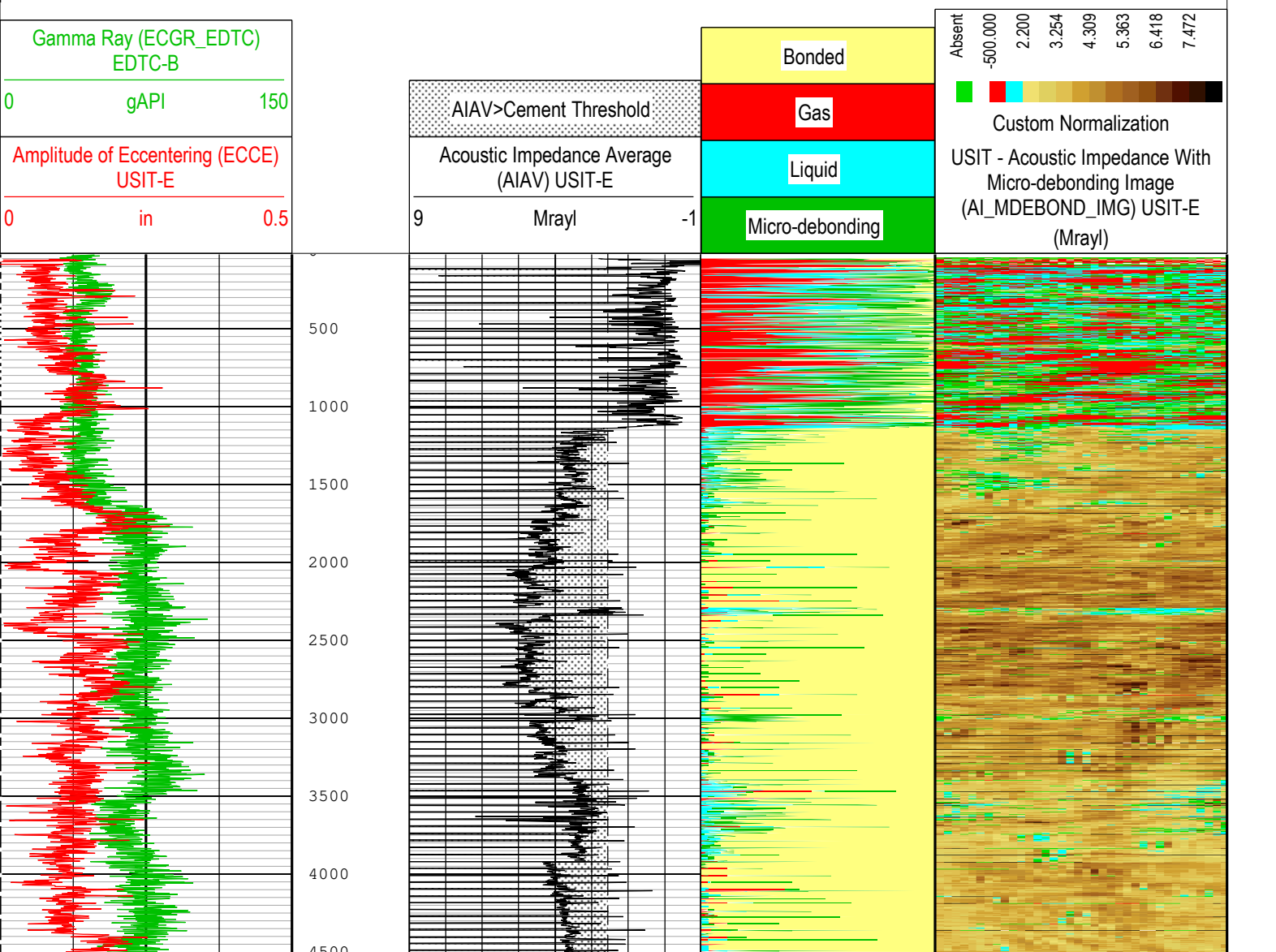
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[3]:Up	Up	43.49 ft	6995.48 ft	24-Feb-2020 9:49:59 AM	24-Feb-2020 11:01:42 AM	ON	6.09 ft	Yes

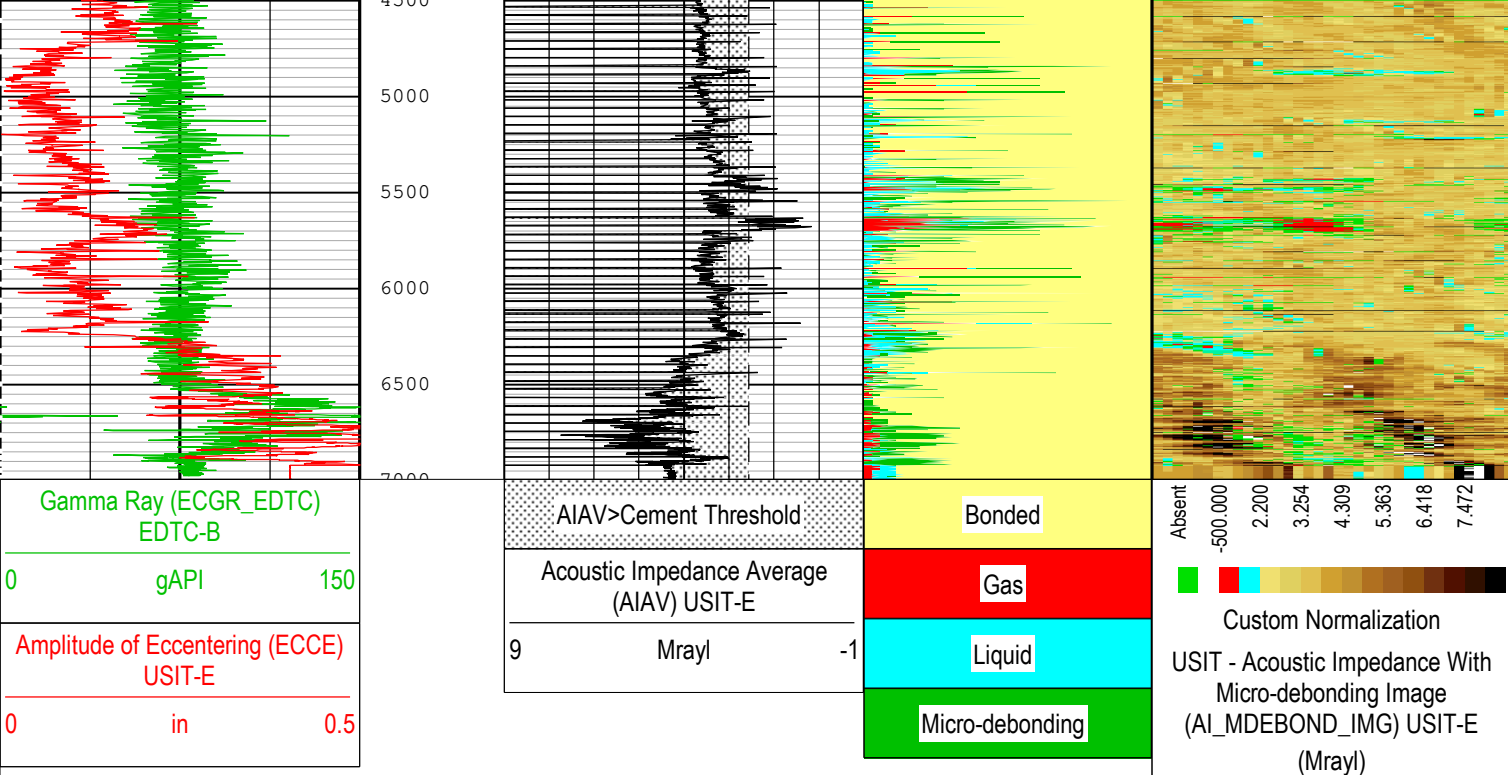
All depths are referenced to toolstring zero

Log	Company:Bonanza Creek Energy	Well:State Antelope Y-E-13 HNC
		One: Log[3]: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 12:22:48

TIME_1900 - Time Marked every 60.00 (s)





TIME_1900 - Time Marked every 60.00 (s)

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 12:22:48

One

MAIN

Software Version

Acquisition System	Version
Maxwell 2019.2	9.2.113335.3100

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[3]:Up	Up	43.49 ft	6995.48 ft	24-Feb-2020 9:49:59 AM	24-Feb-2020 11:01:42 AM	ON	6.09 ft	Yes

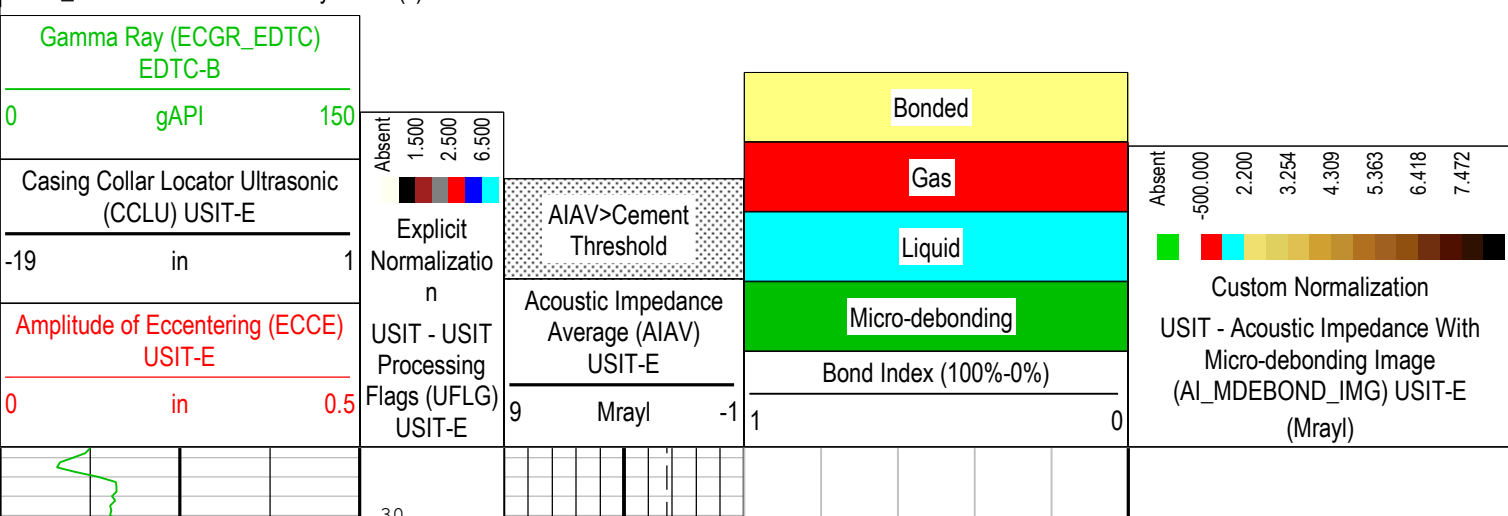
All depths are referenced to toolstring zero

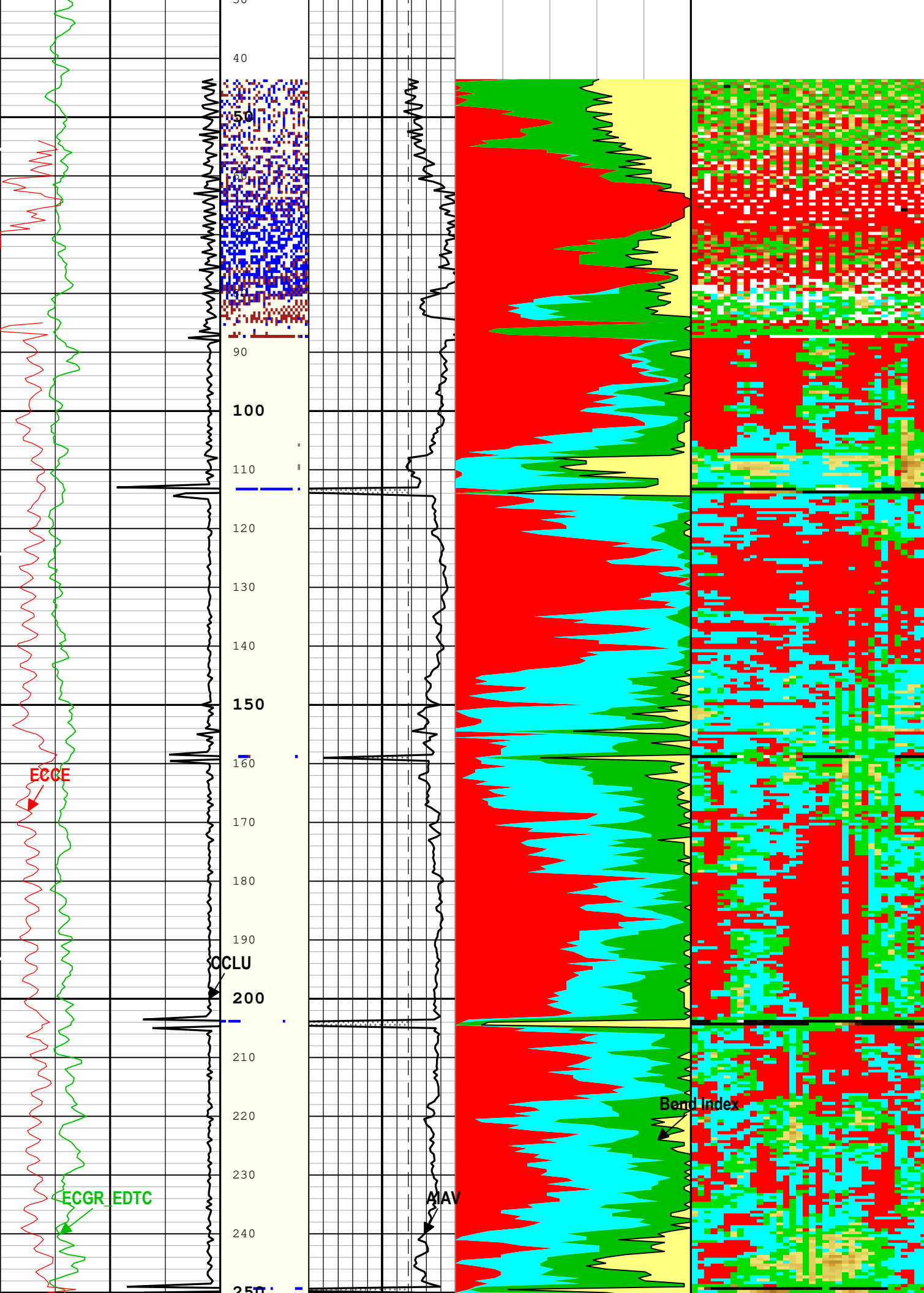
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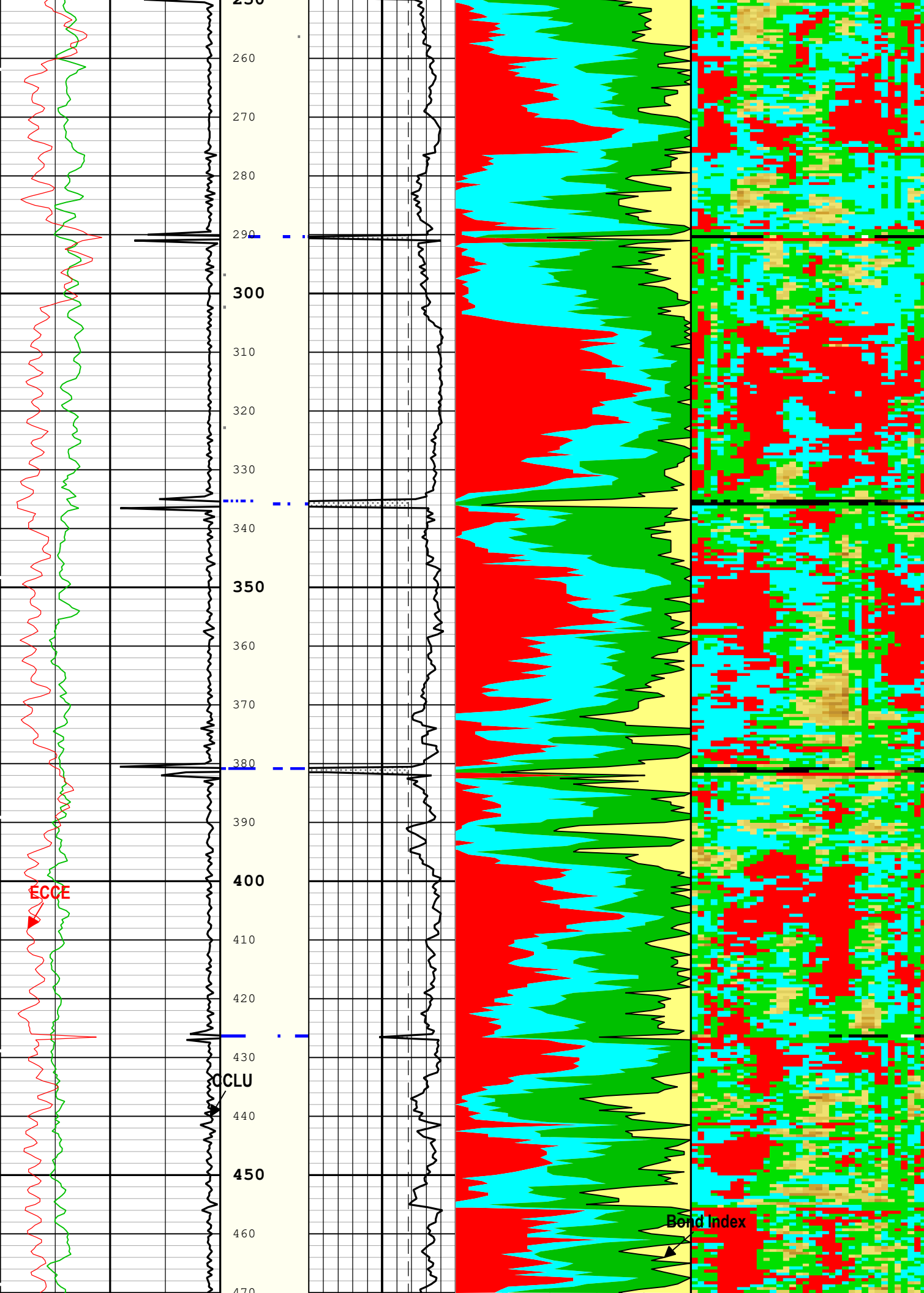
Company: Bonanza Creek Energy Well: State Antelope Y-E-13 HNC
One: Log[3]:Up:S005

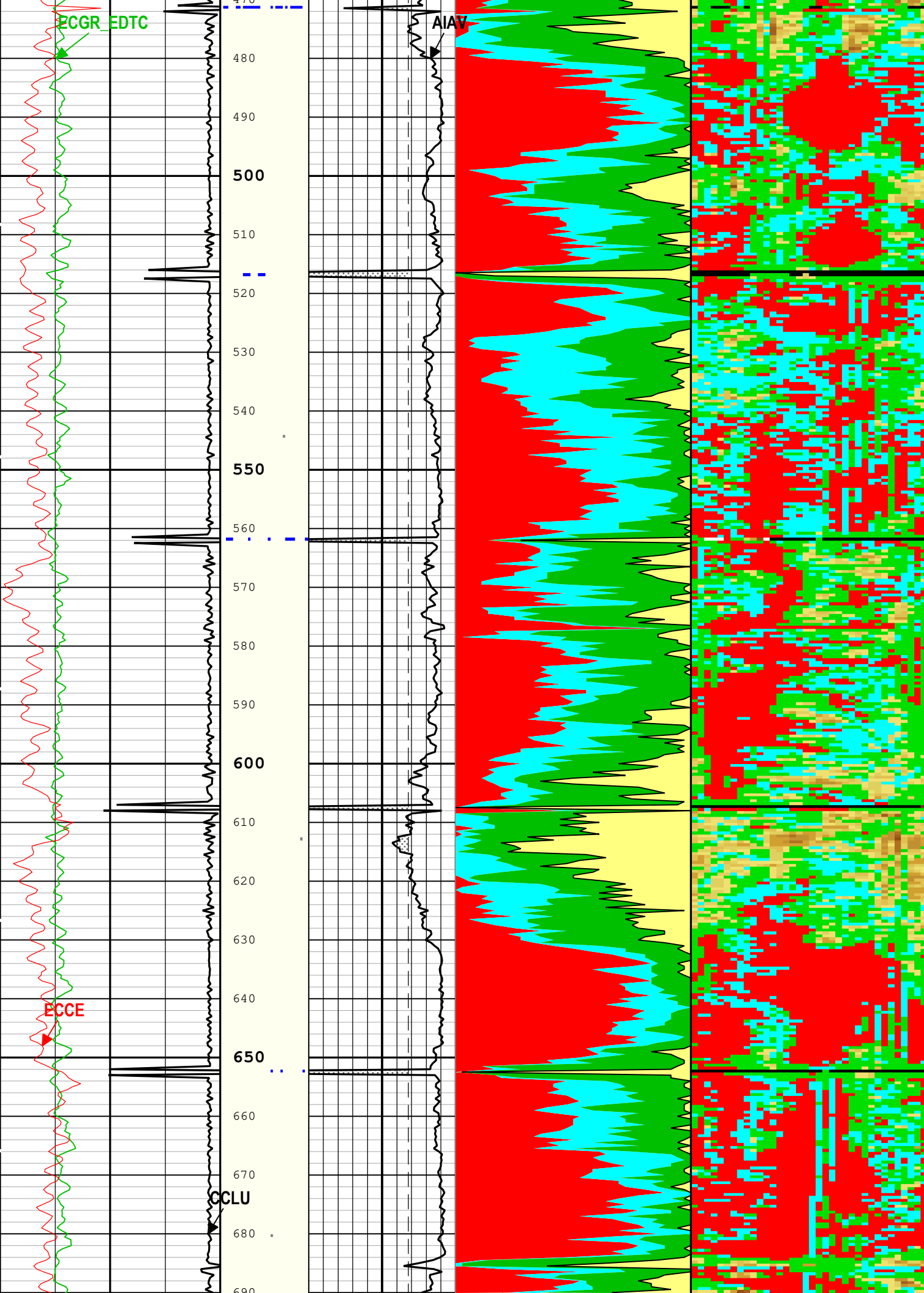
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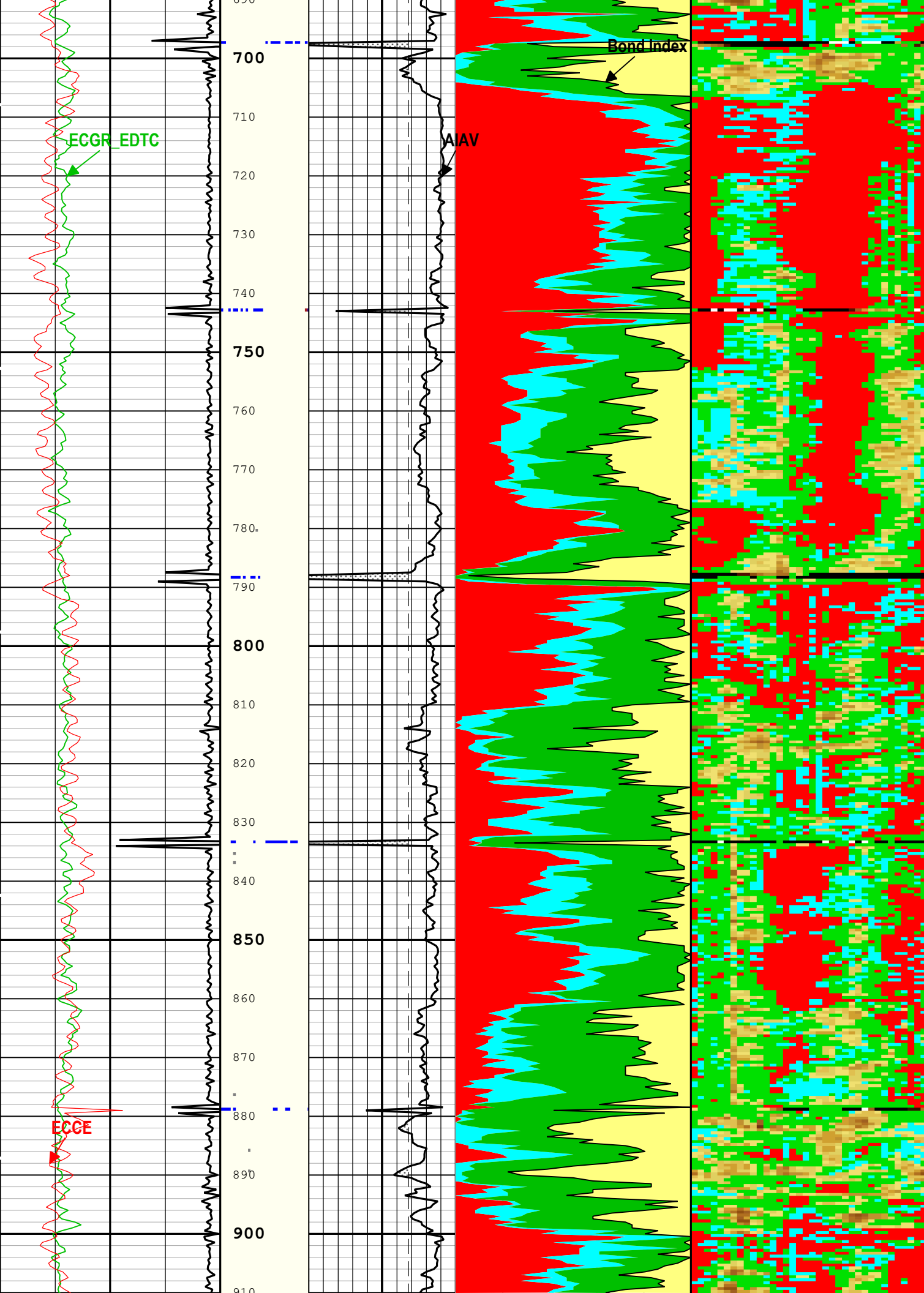
TIME_1900 - Time Marked every 60.00 (s)

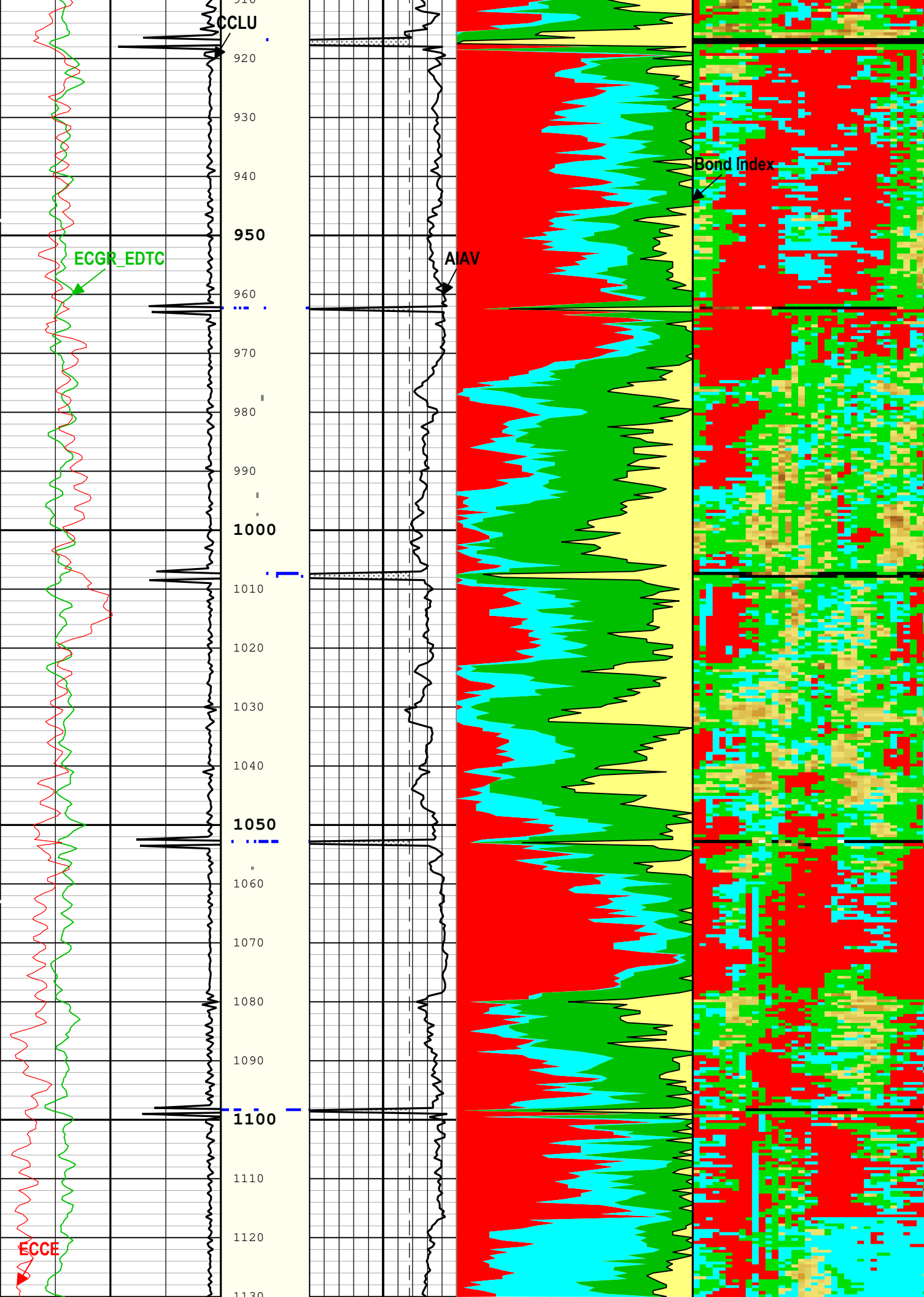


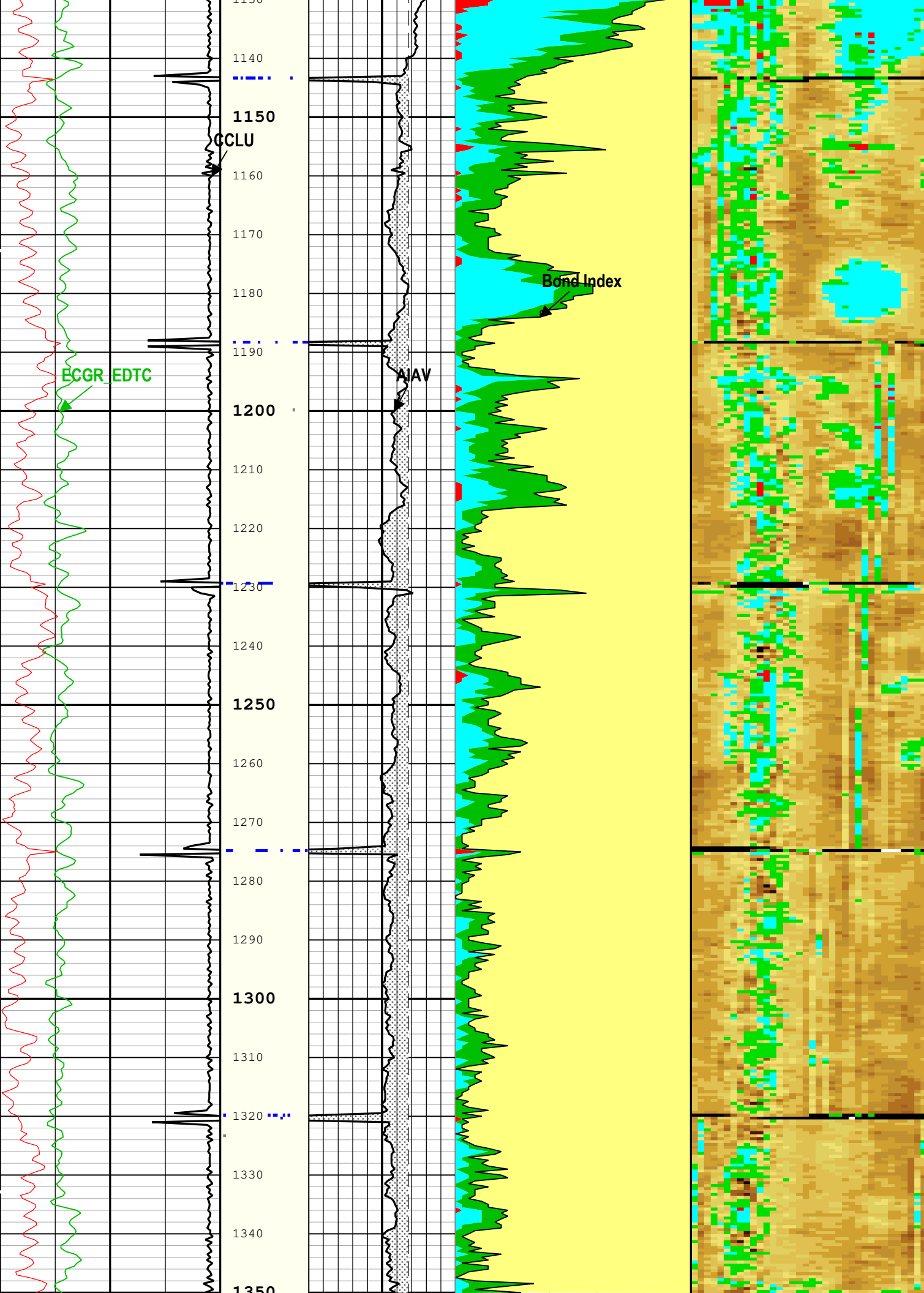


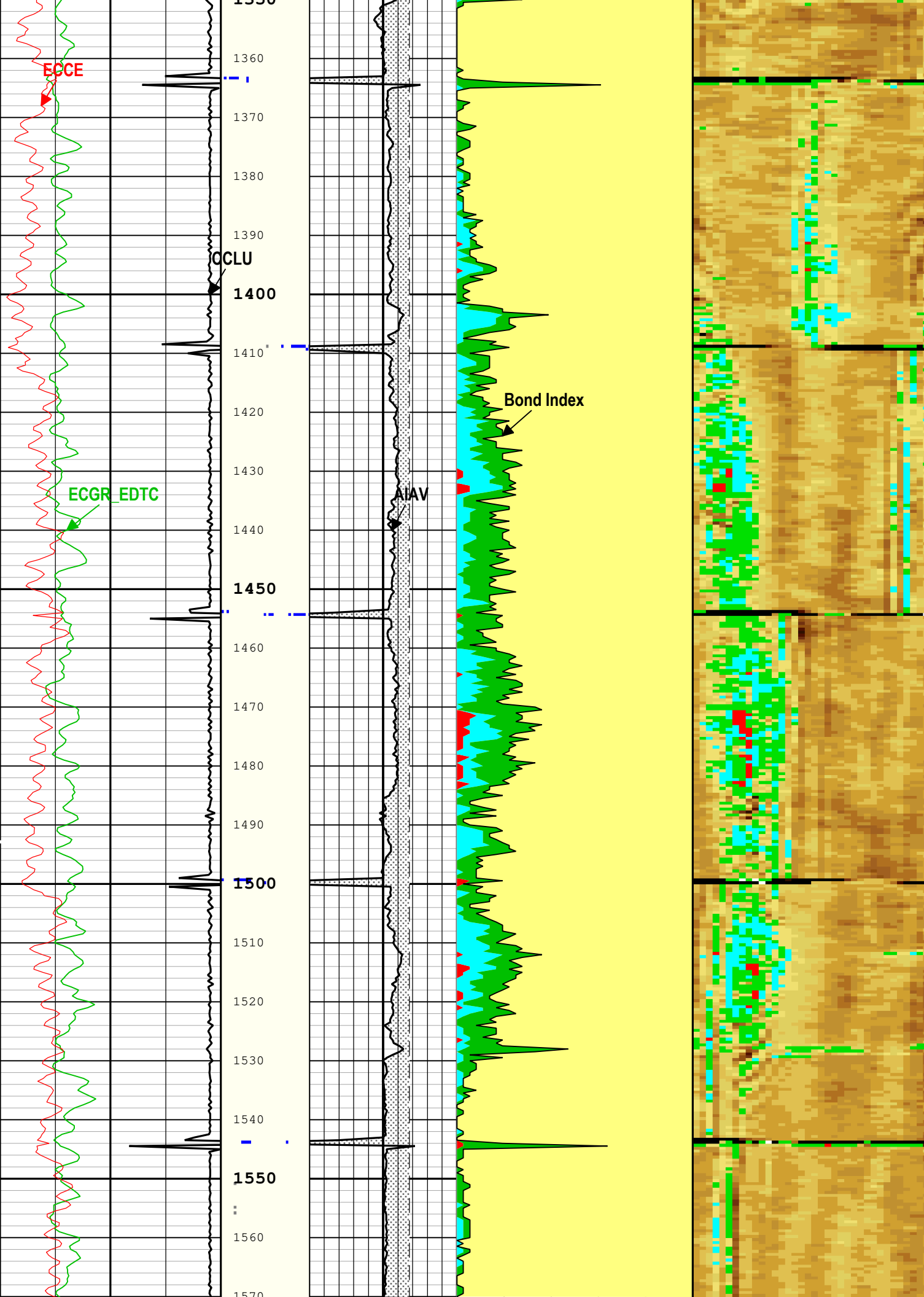


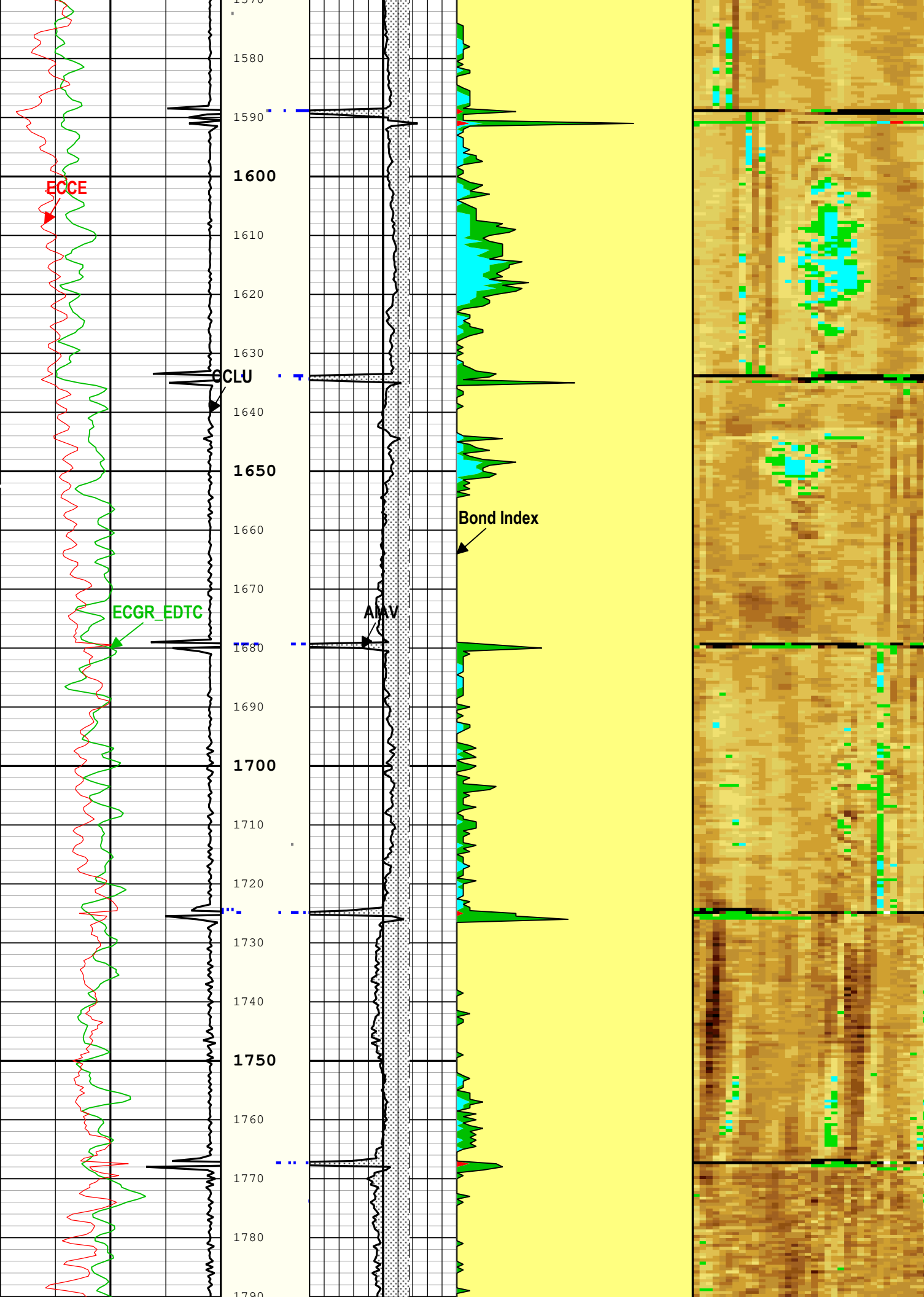


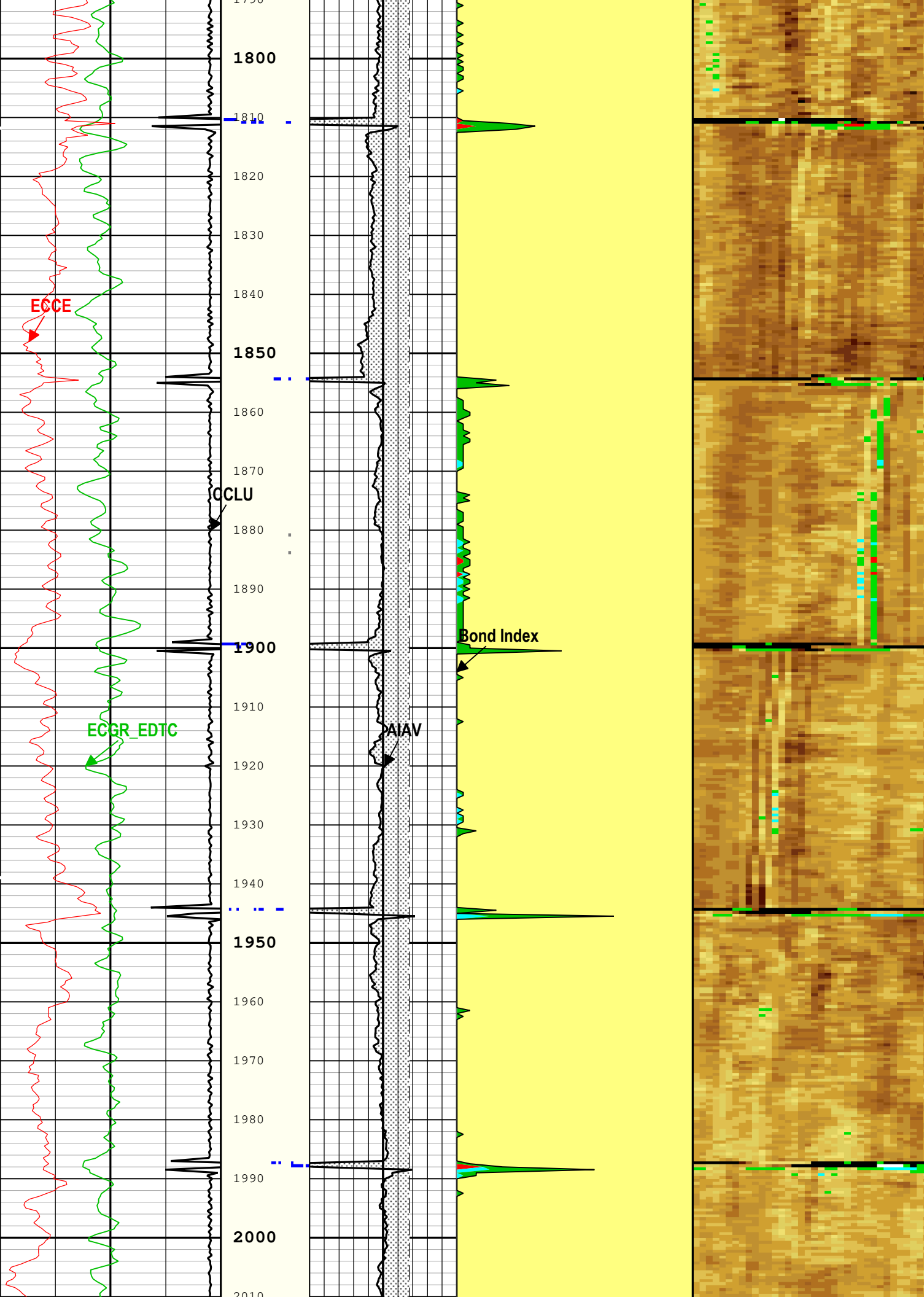


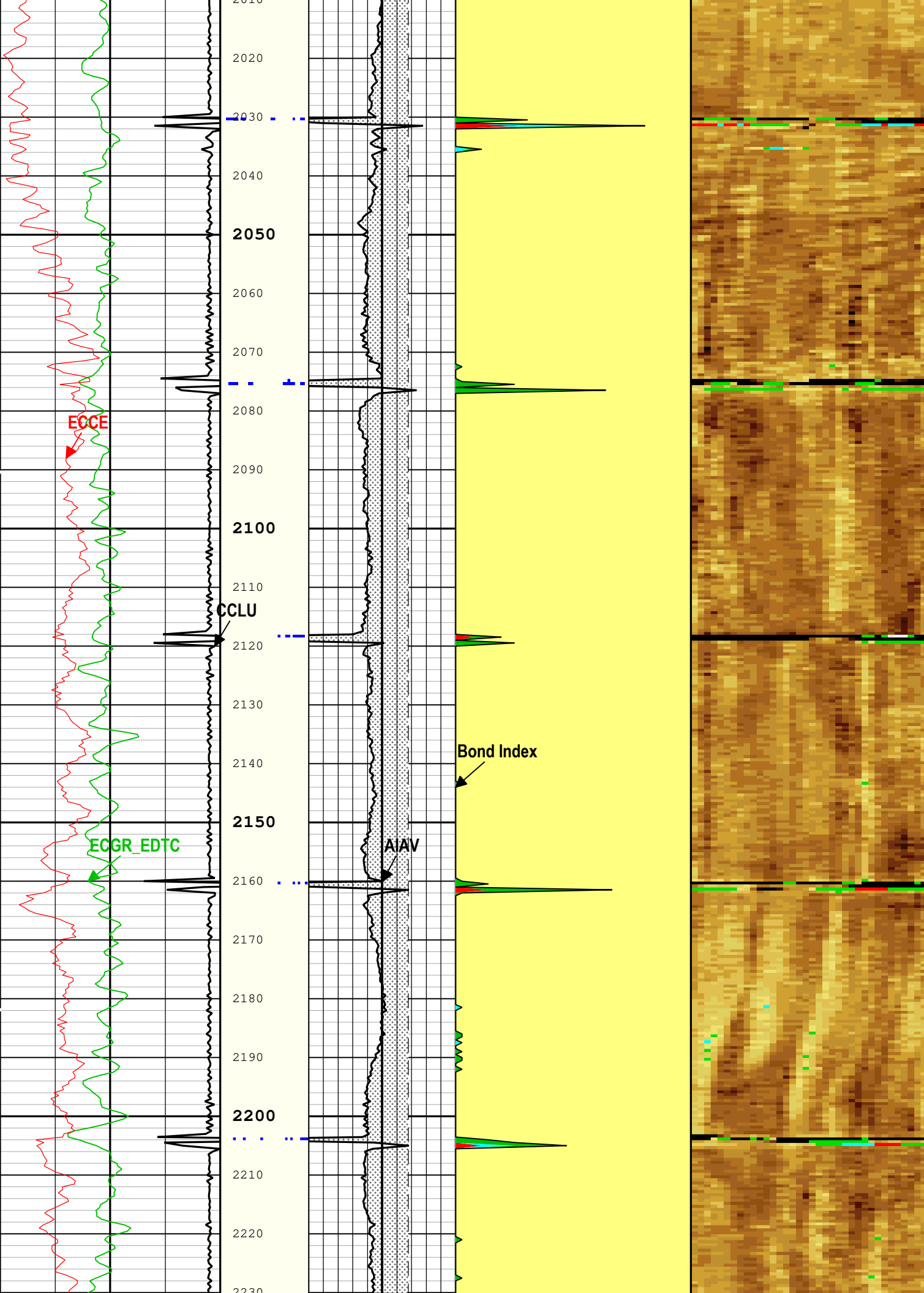


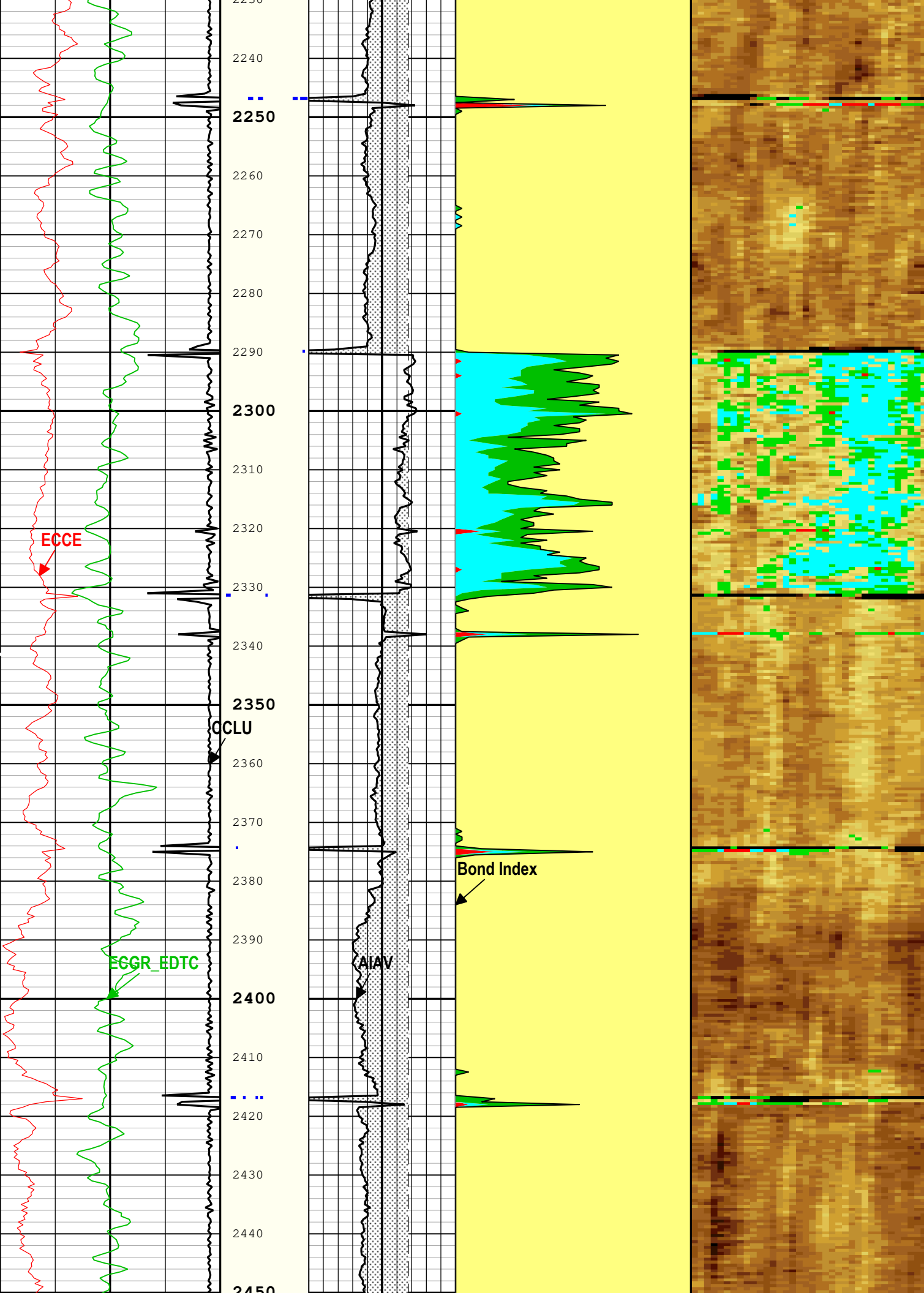


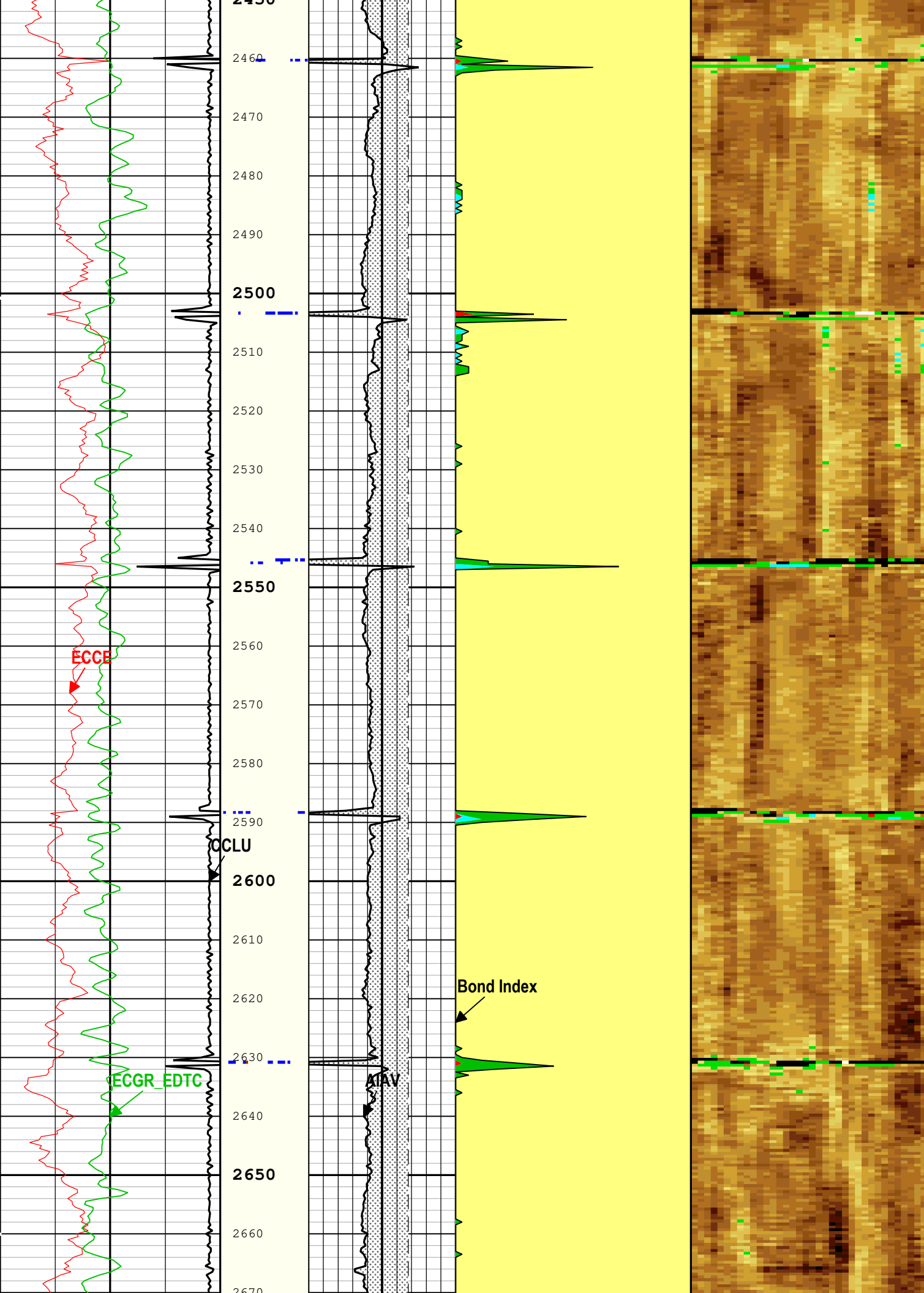


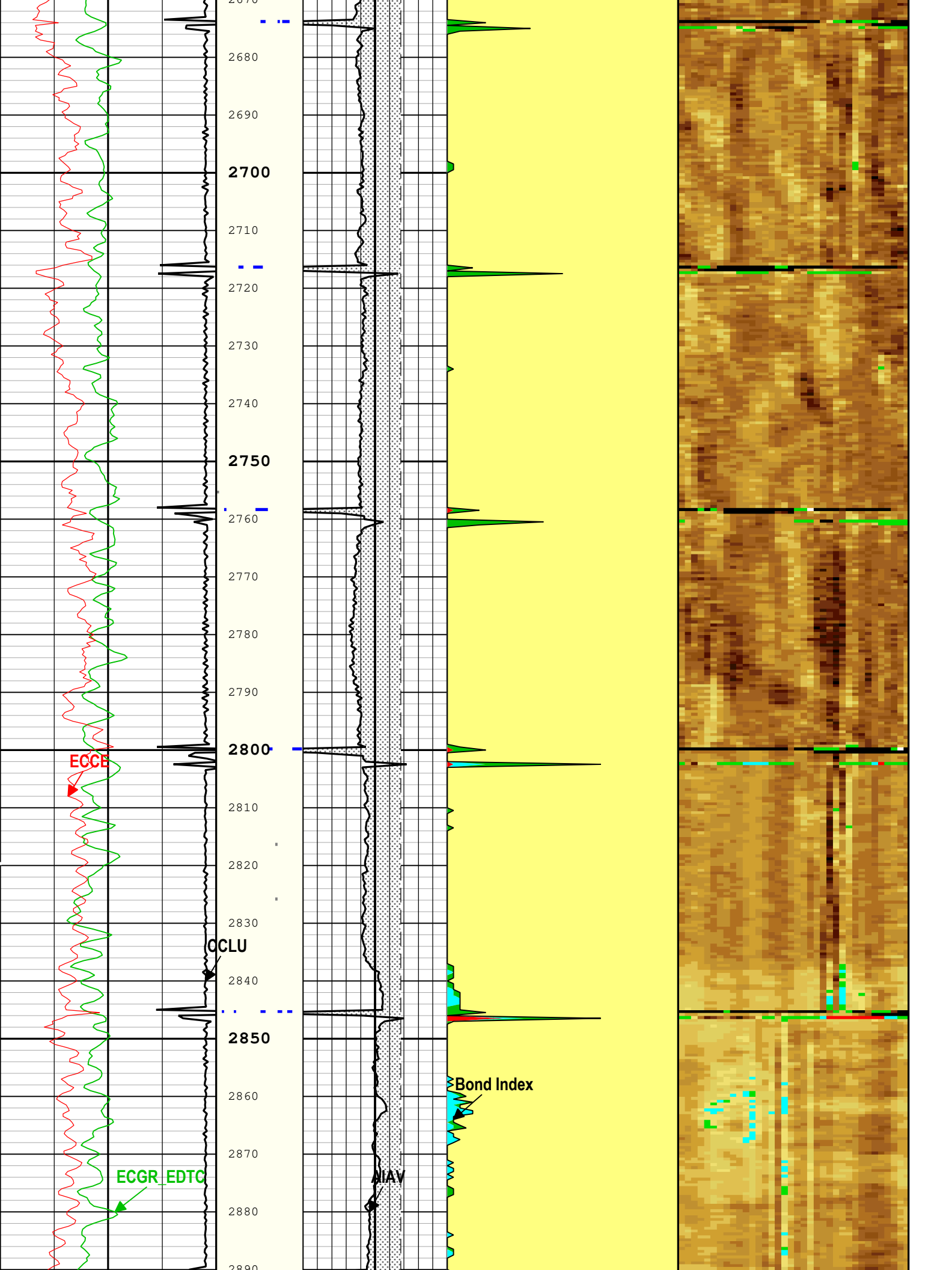


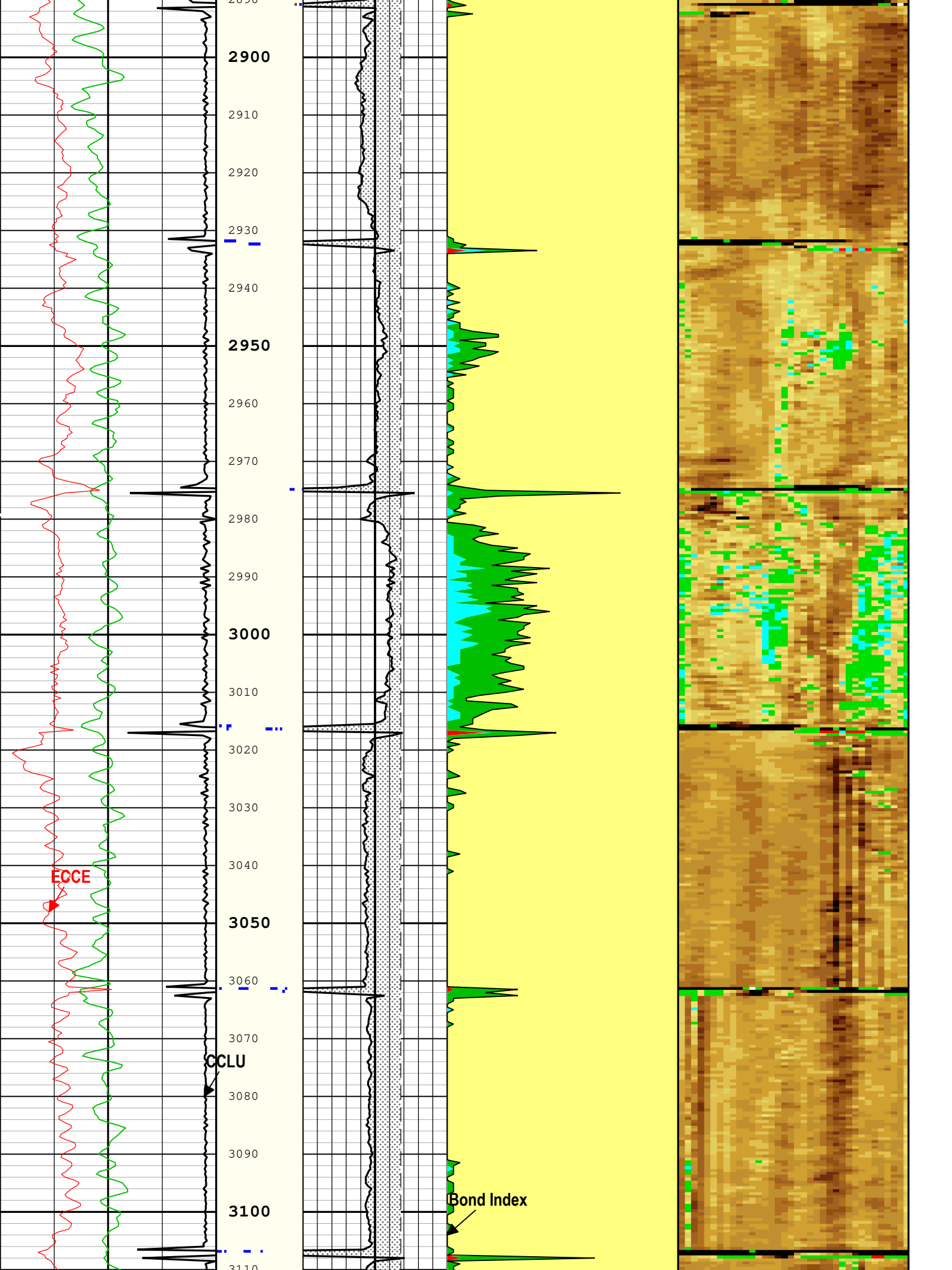


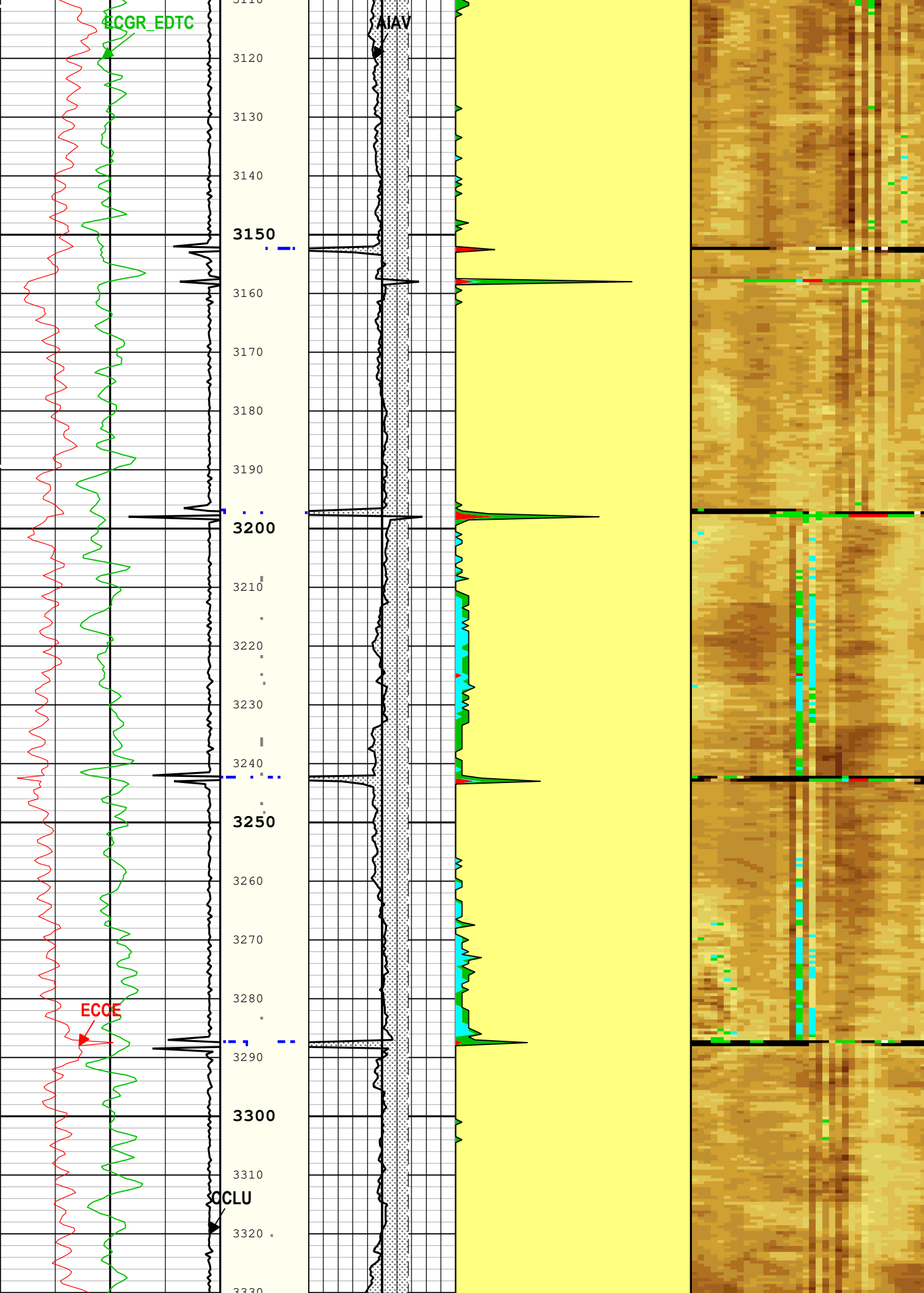


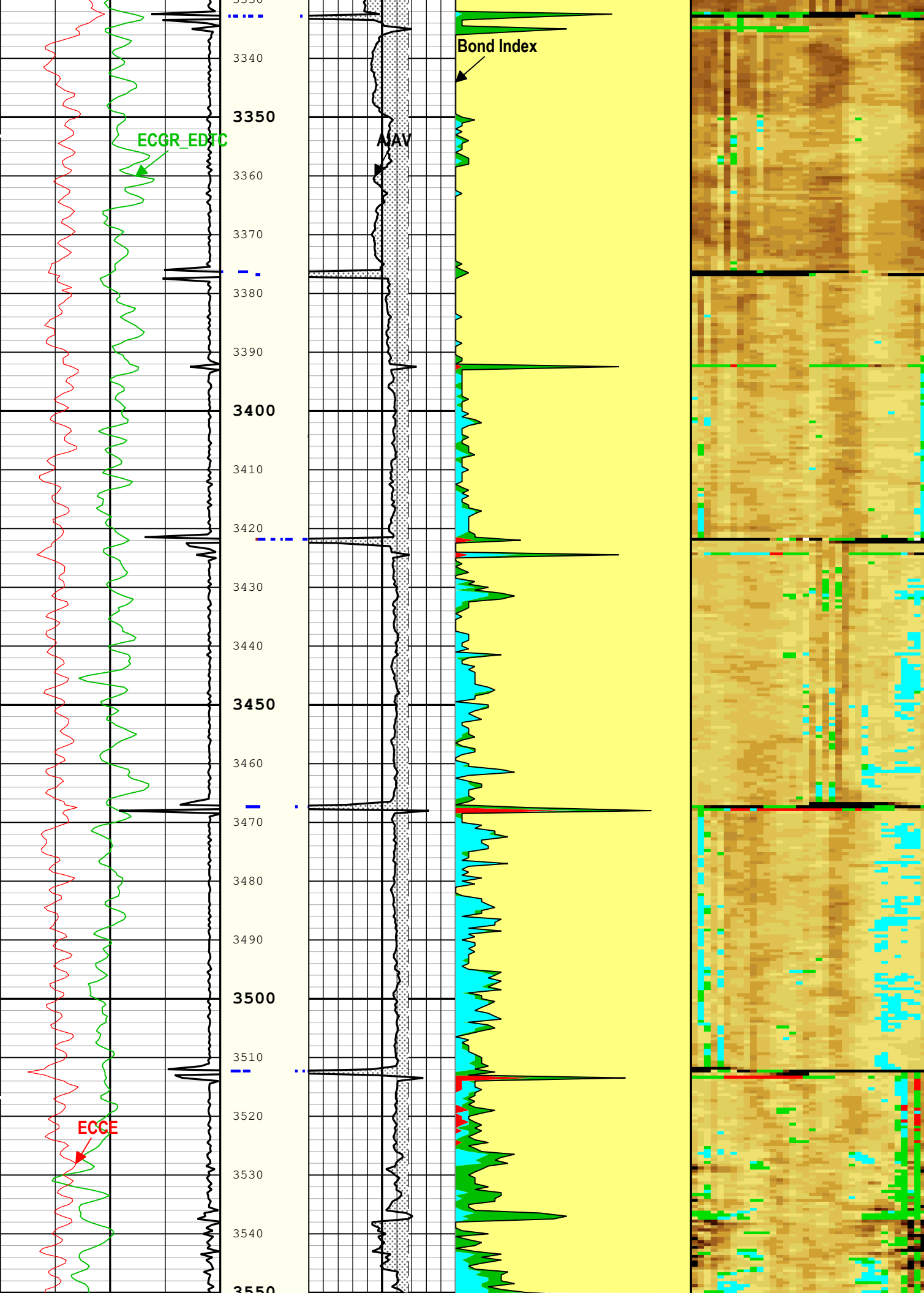


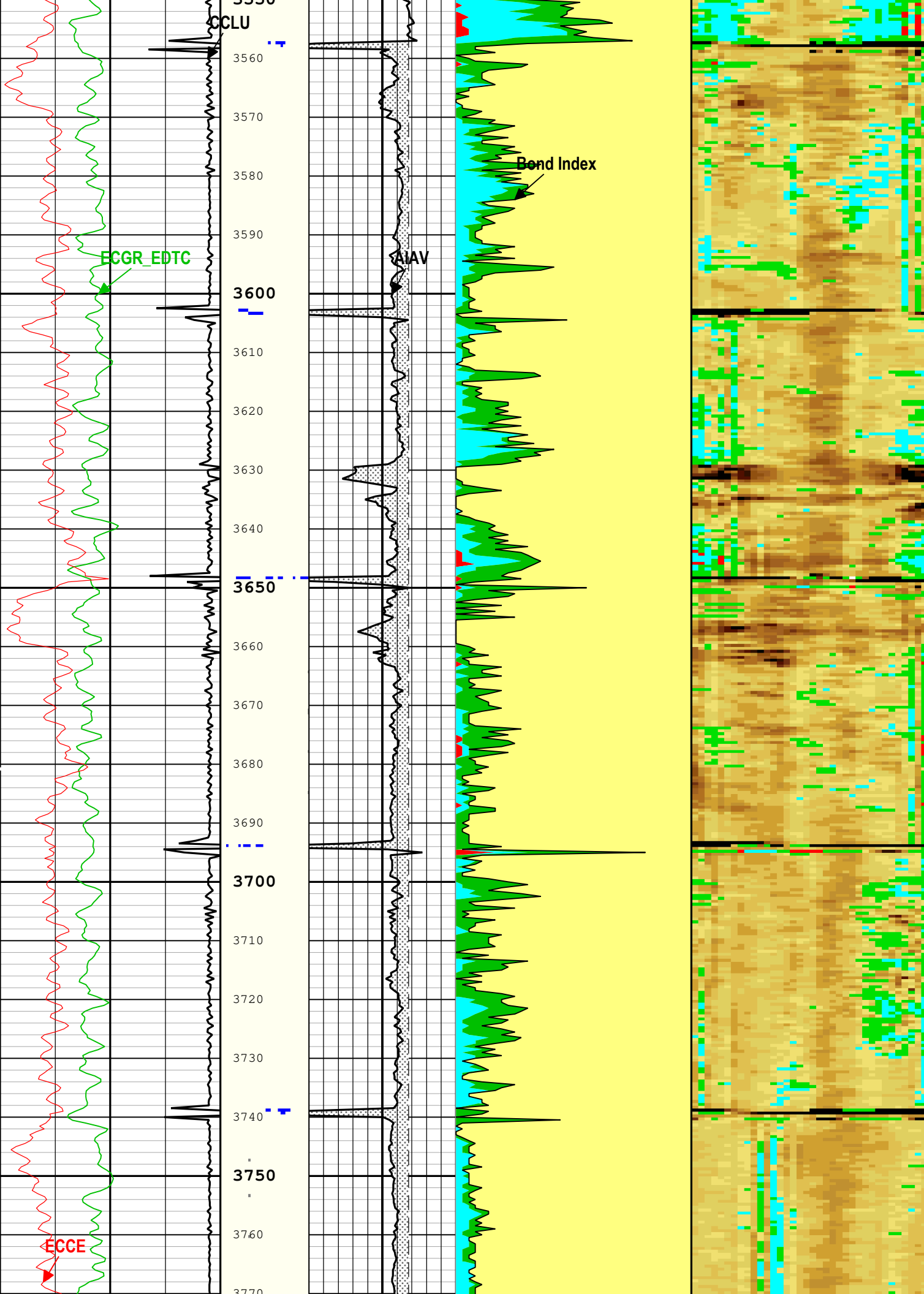


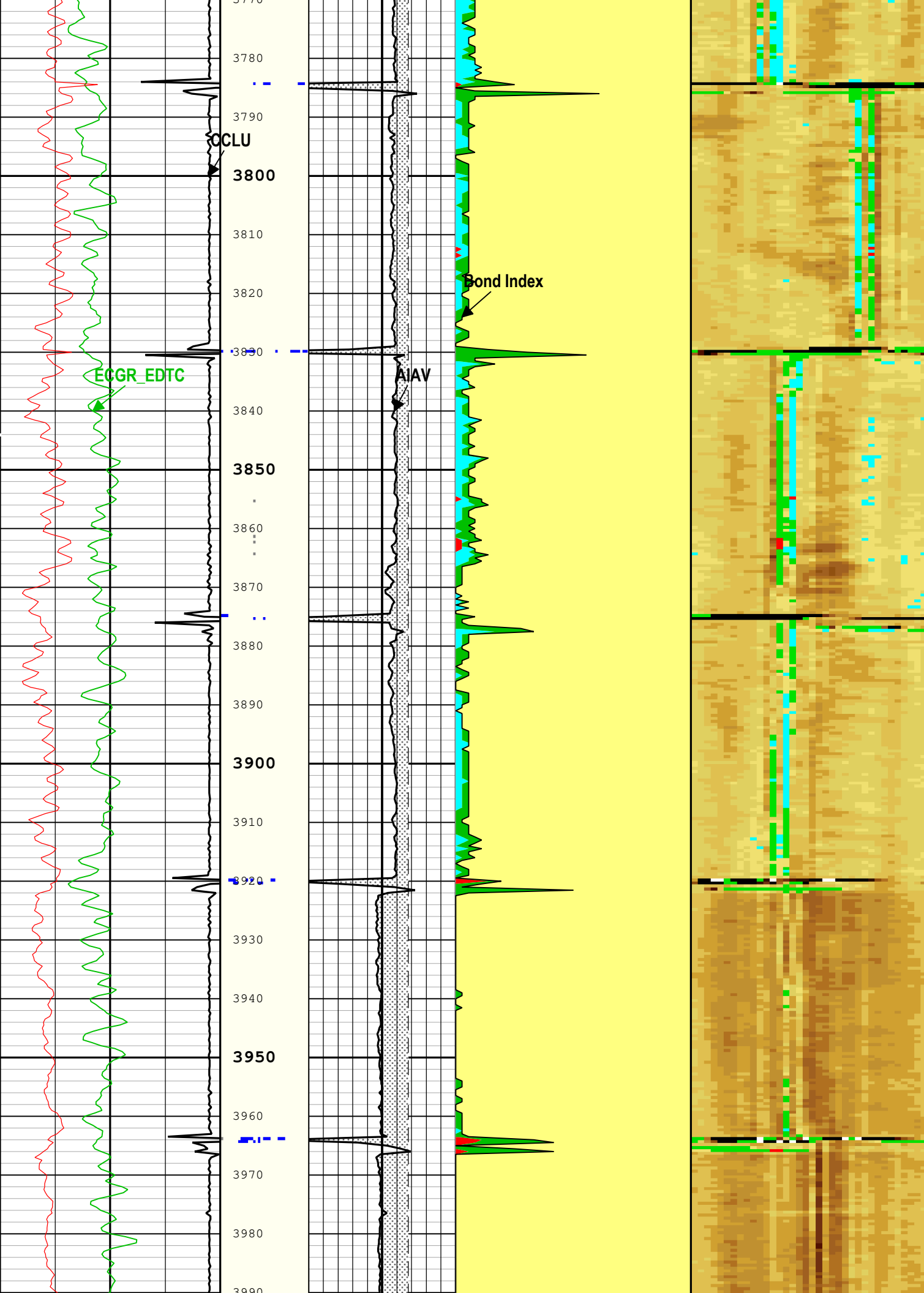


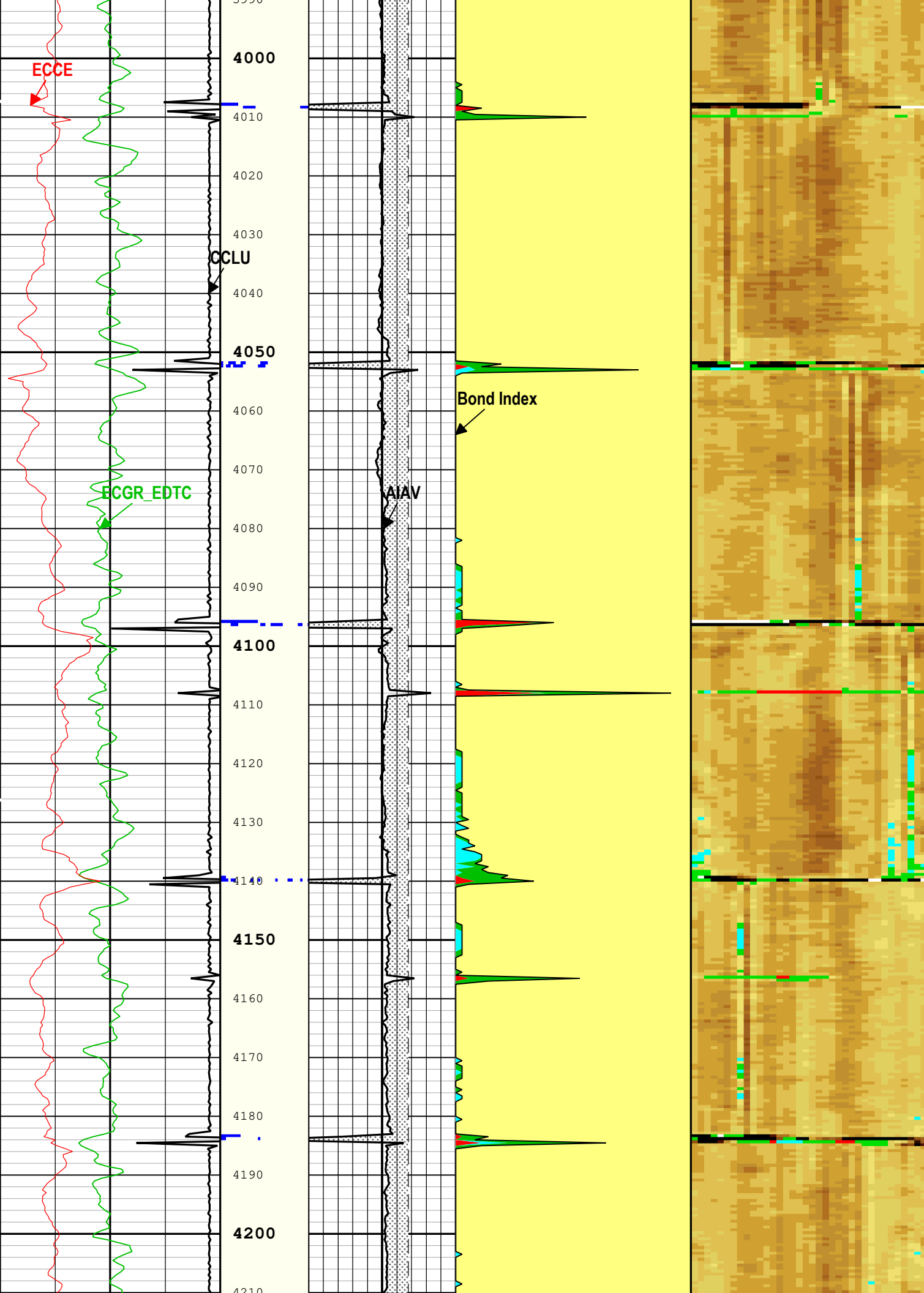


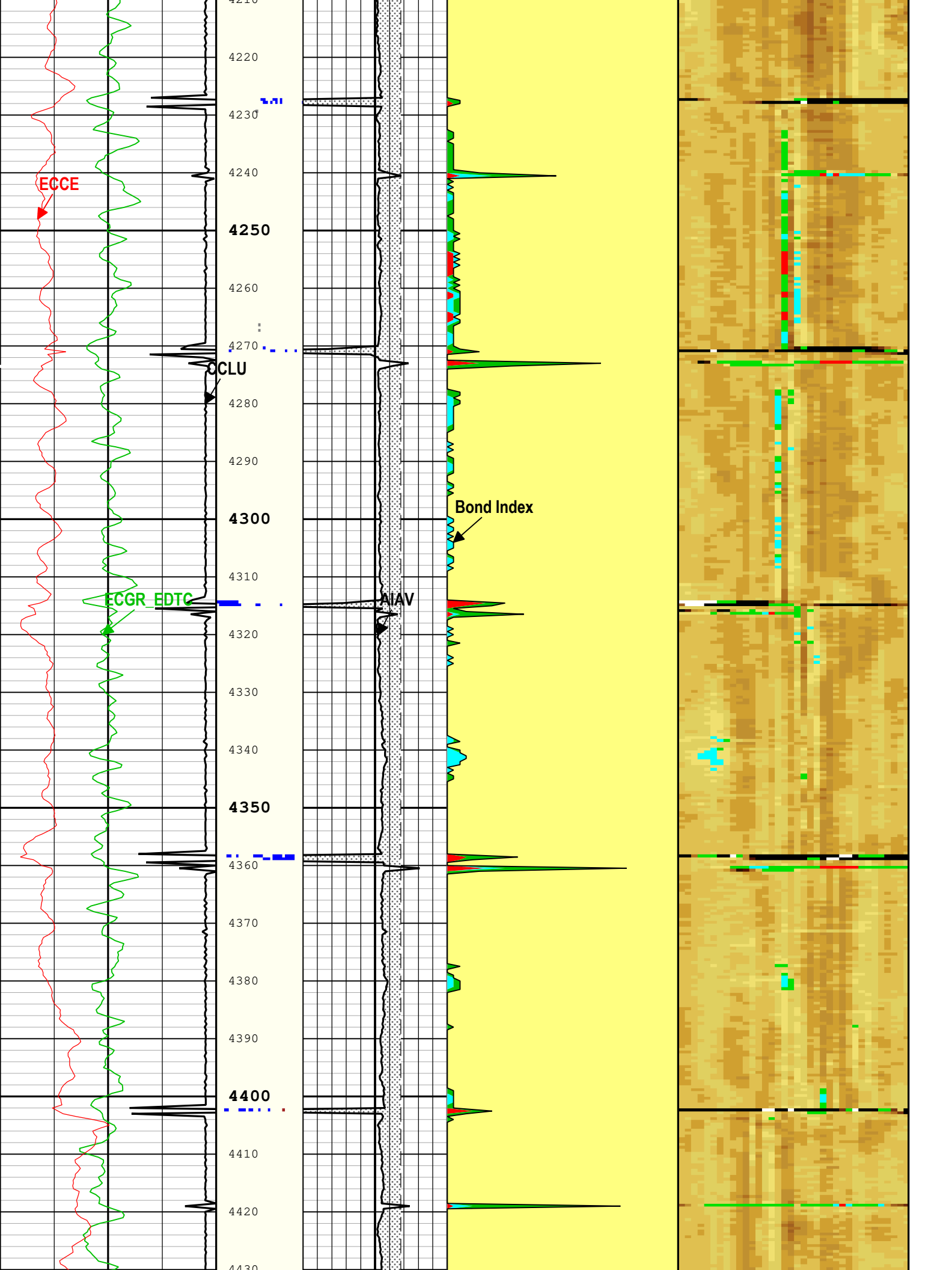


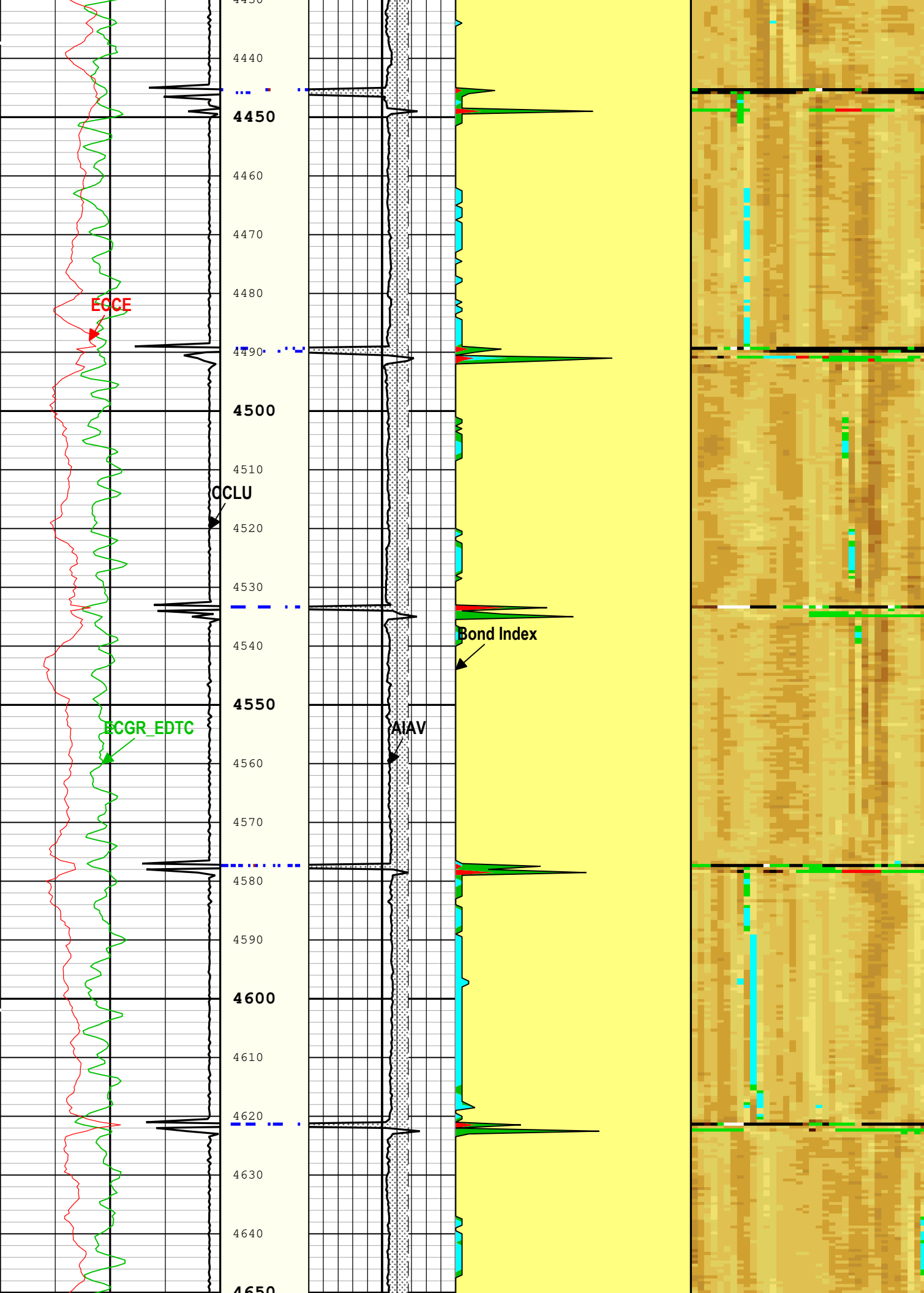


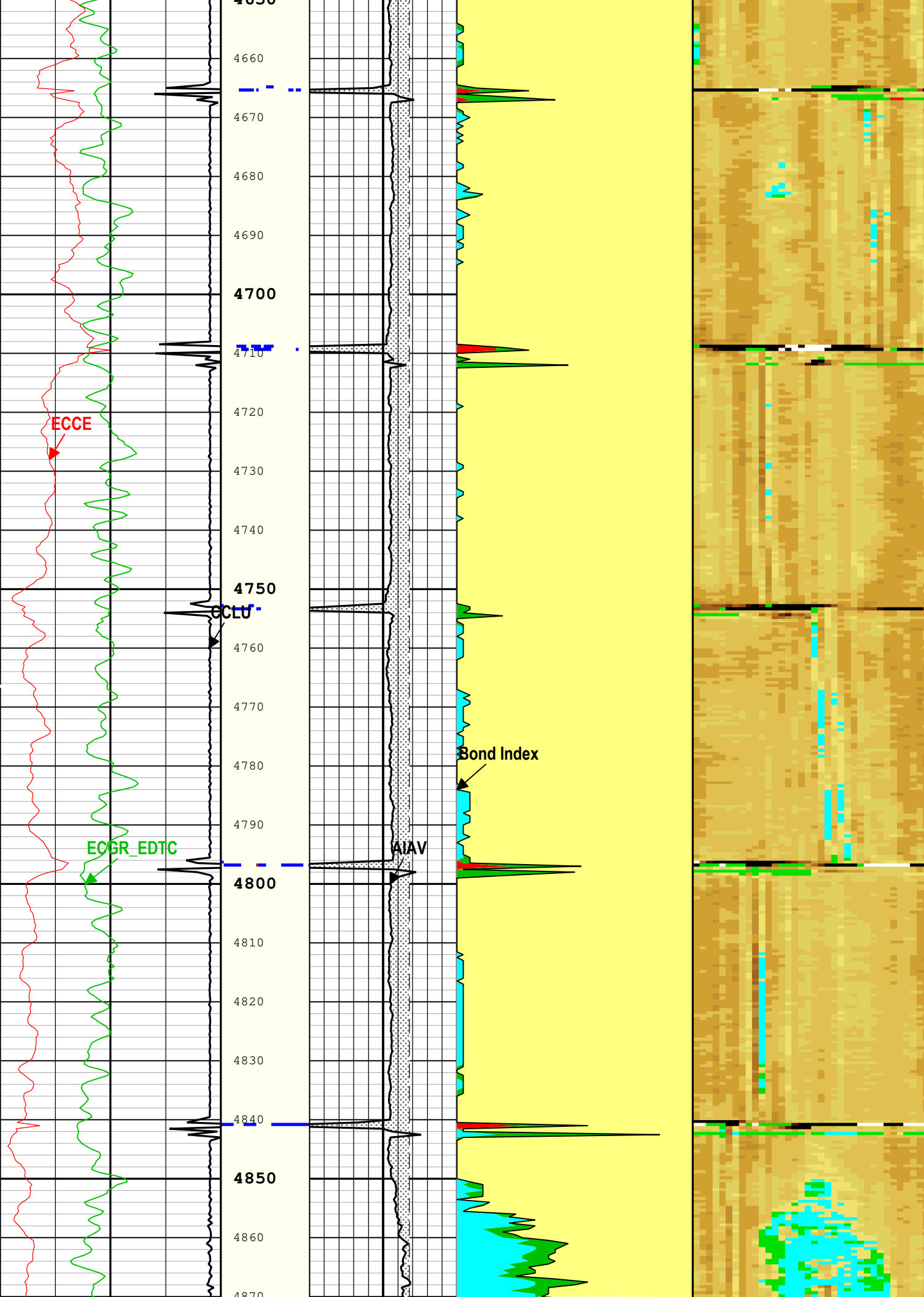


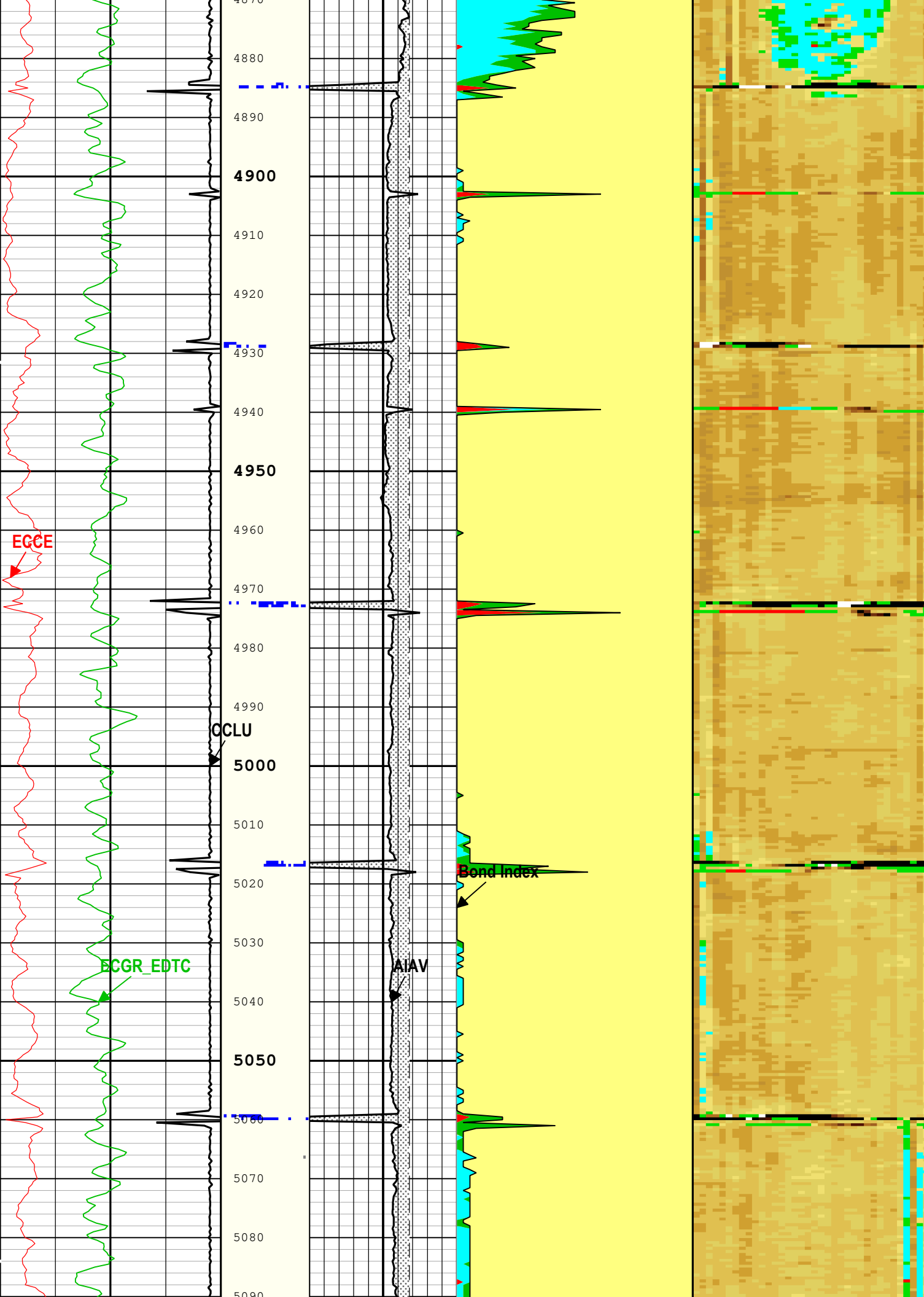


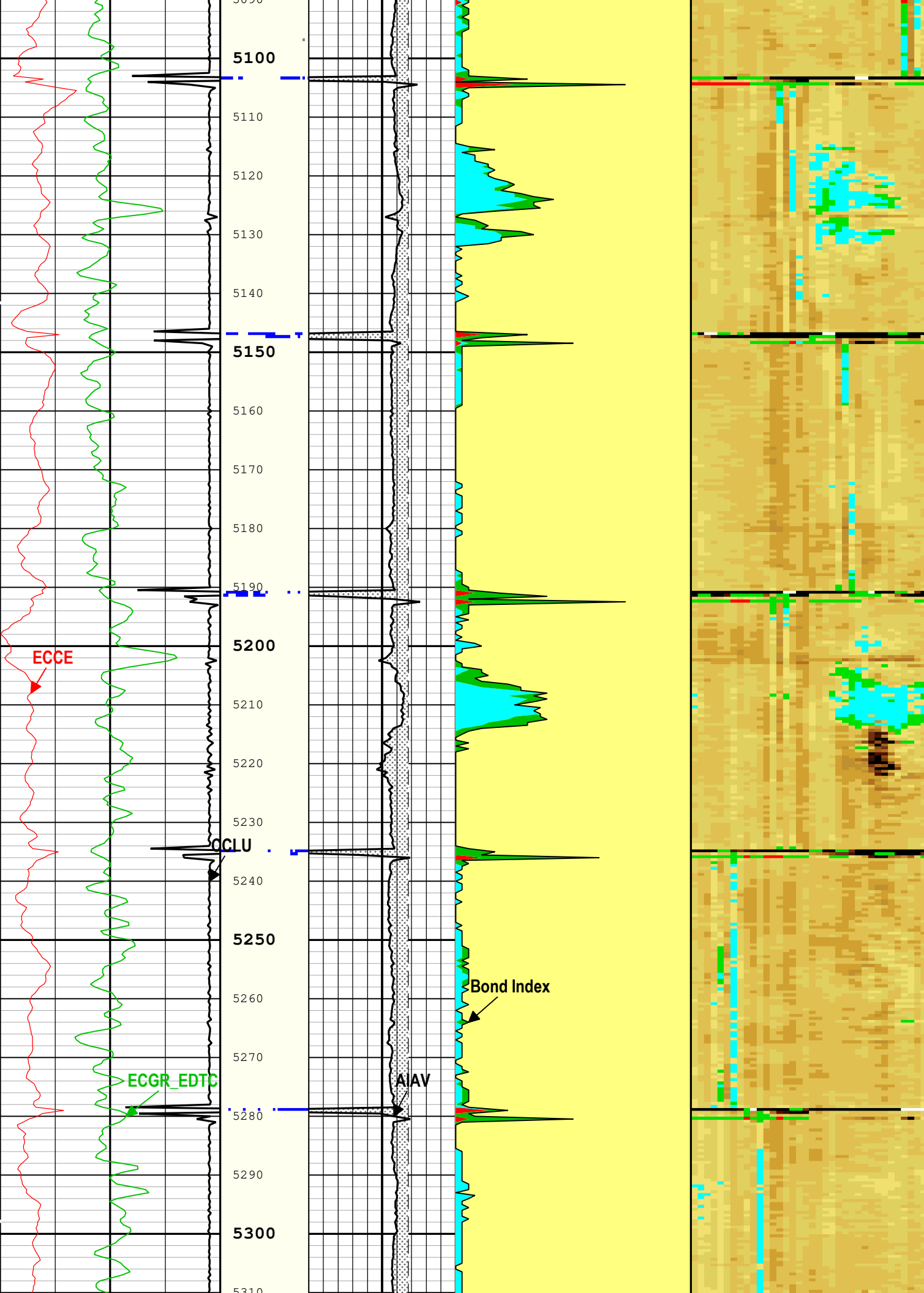


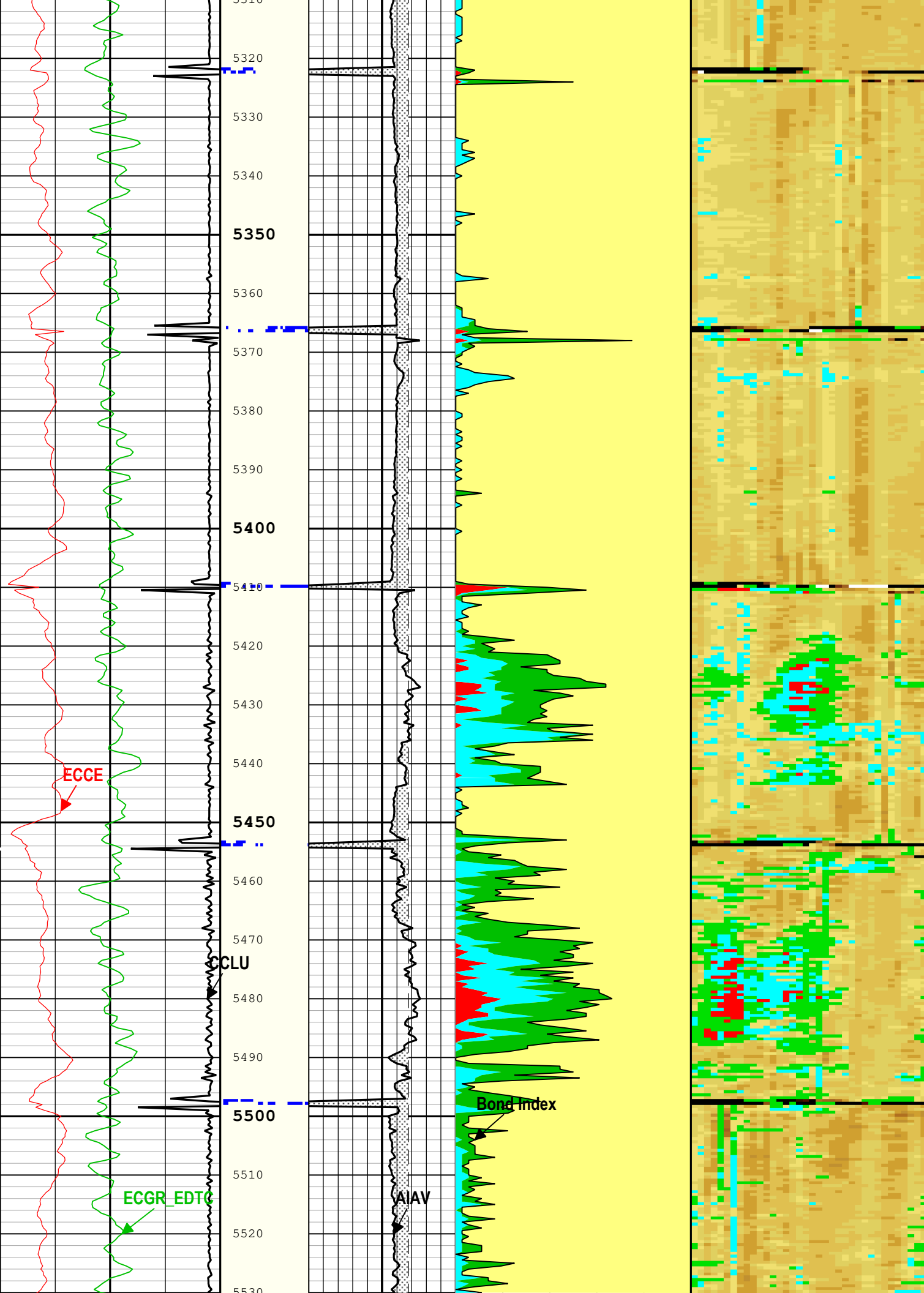


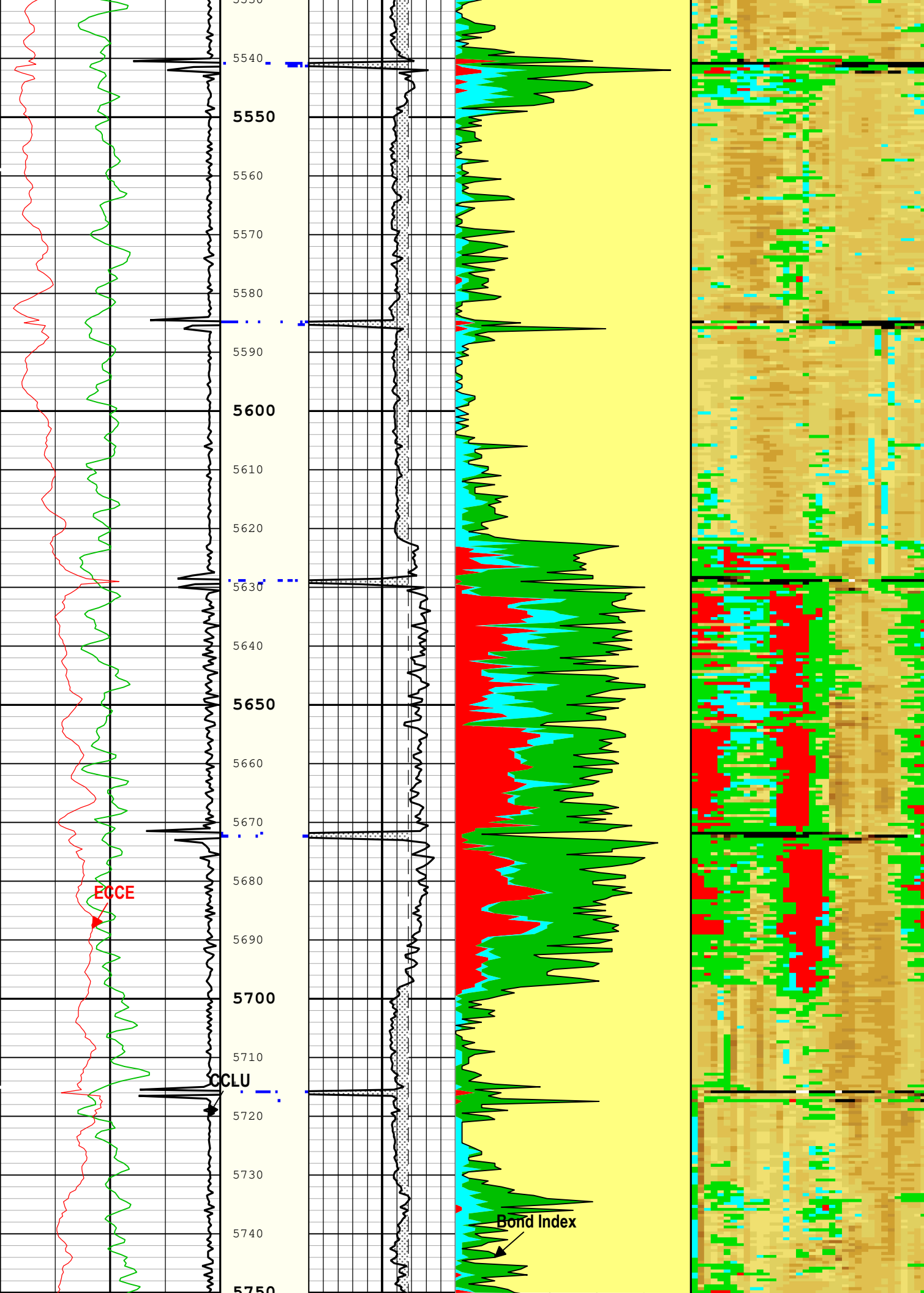


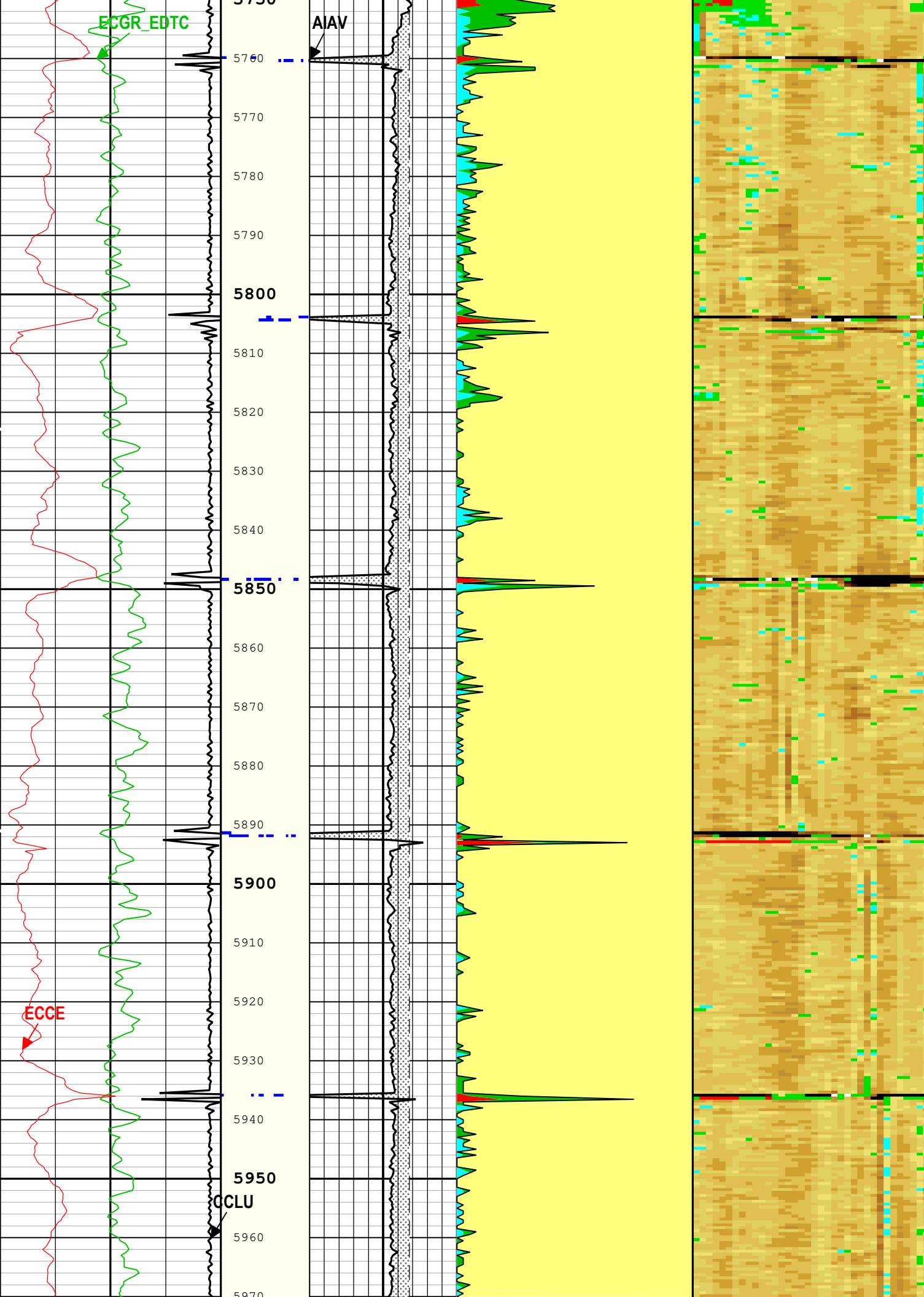


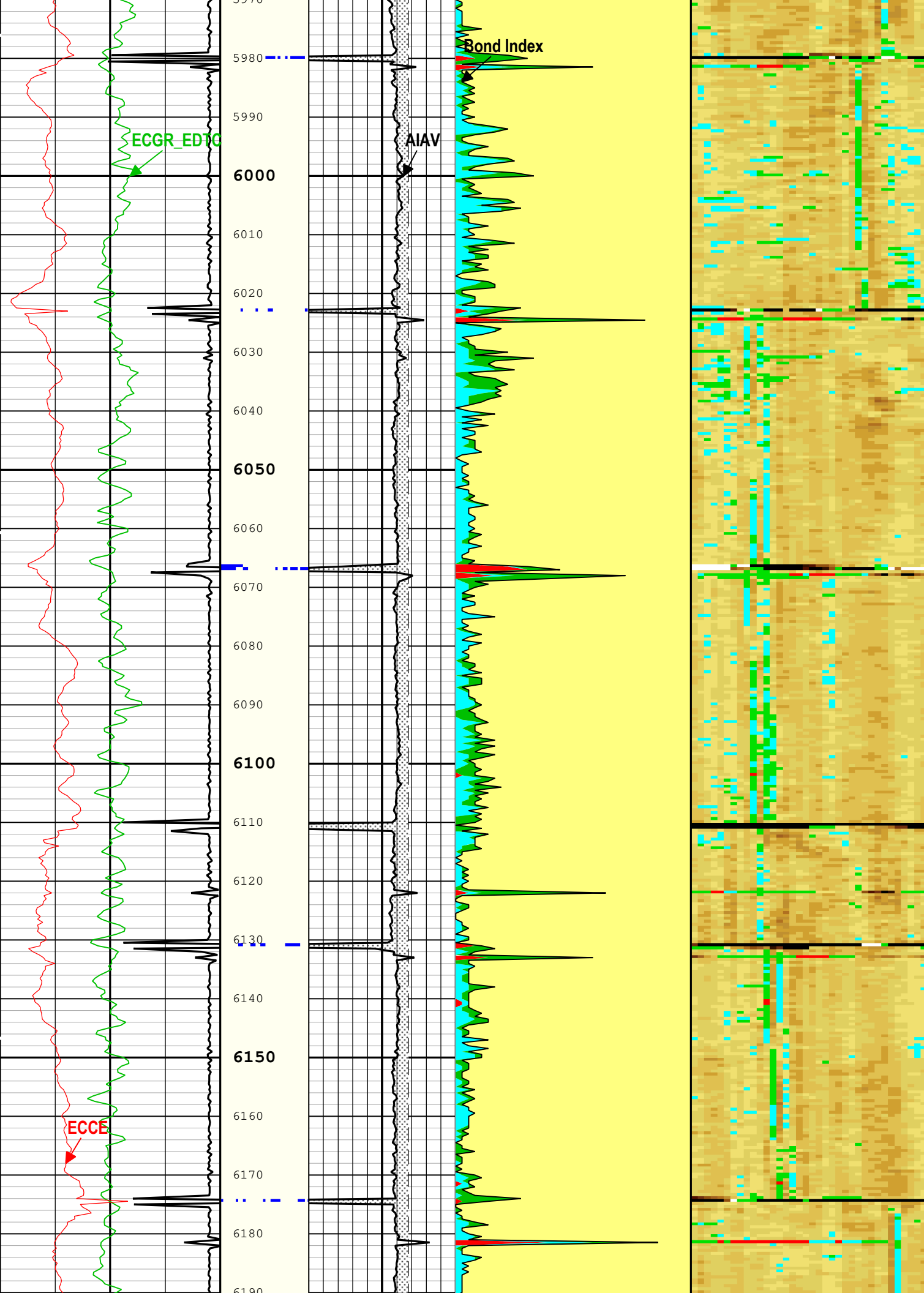


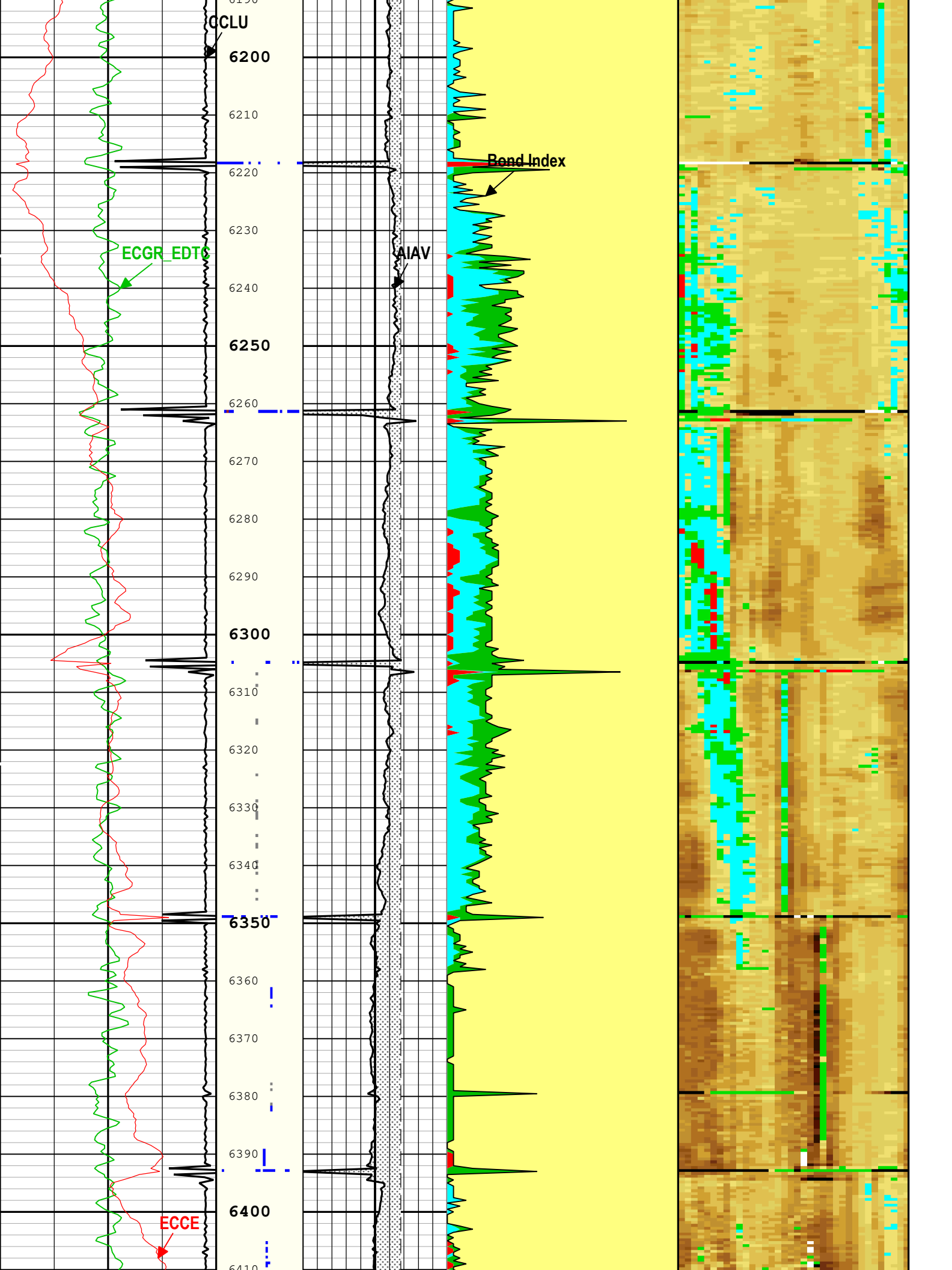


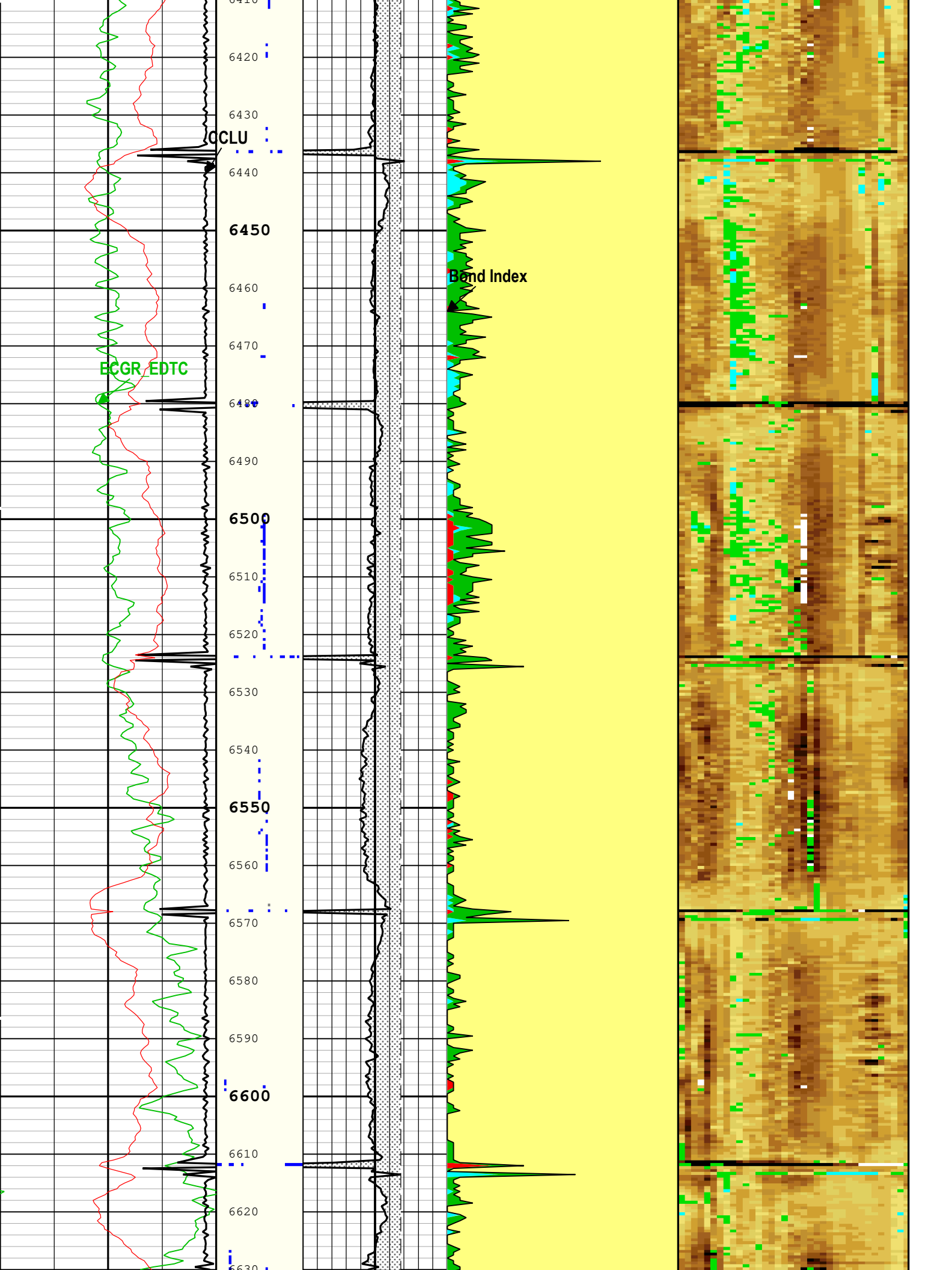


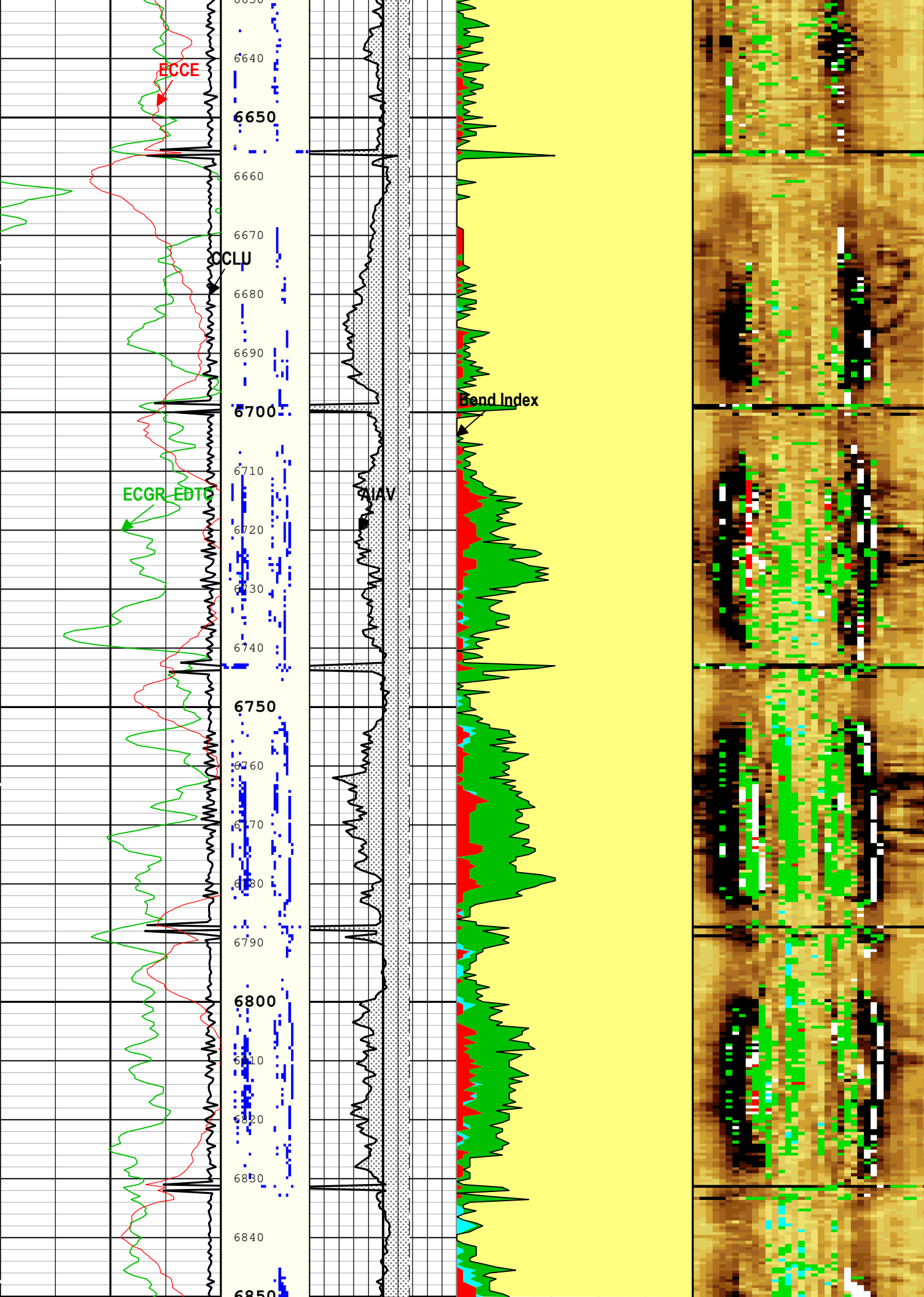


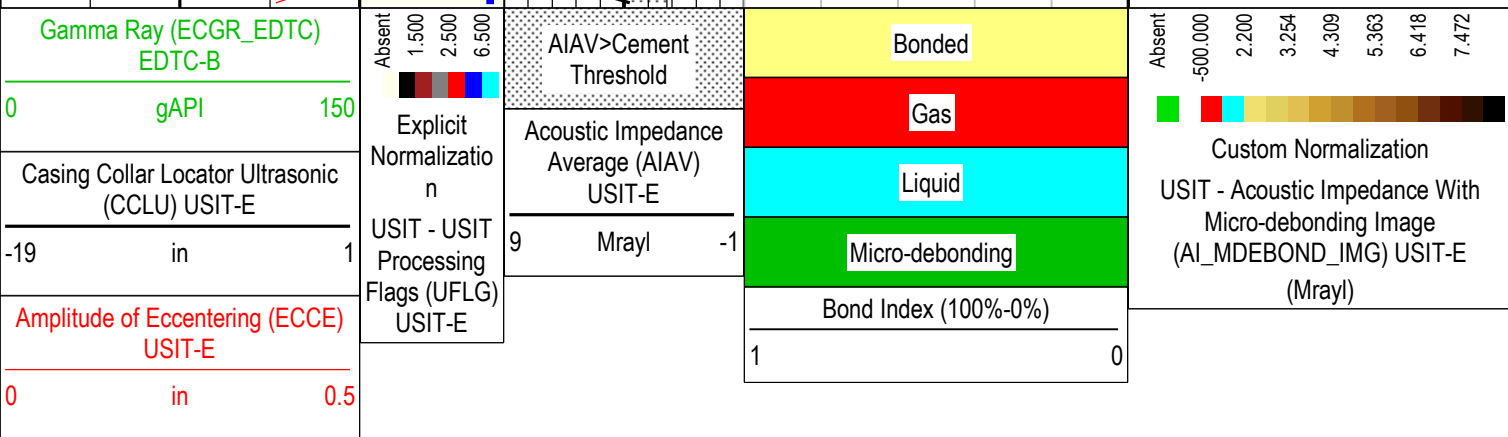
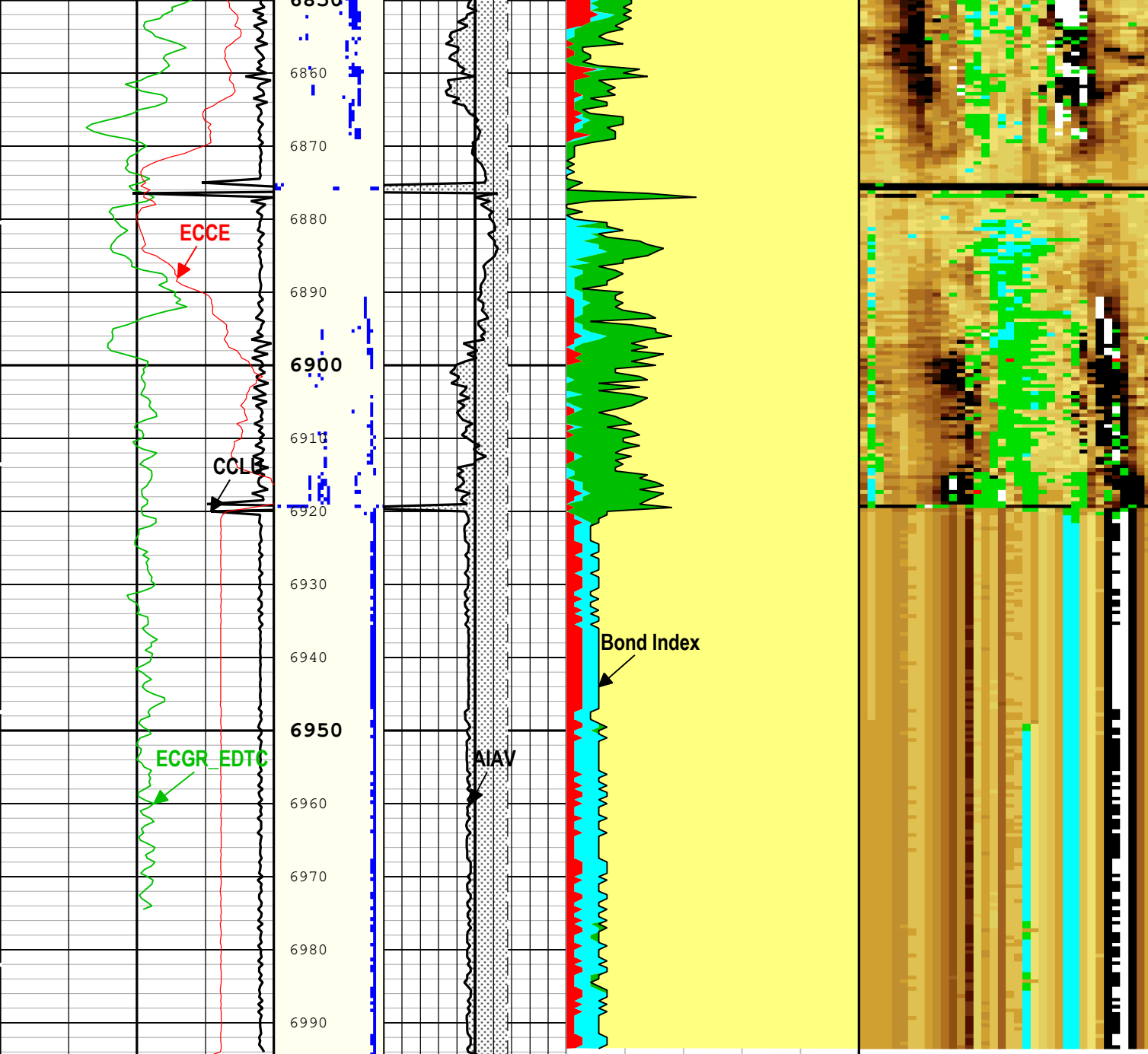












TIME_1900 - Time Marked every 60.00 (s)

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 12:22:52

Channel Processing Parameters

One: Parameters

Parameter	Description	Tool	Value	Unit
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BARI(ISSBAR)	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Cased	
BS	Bit Size	WLSESSION	8.5	in
CBLO	Casing Bottom (Logger)	WLSESSION	12471	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	
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	1.06	
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1.14	
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	1.61	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	2.2	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

Tool Control Parameters

One: 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	
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	Time Zoned	us
WINE	Window End Time	USIT-E	Time Zoned	us

Time Zone Parameters

Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
EMXV	90	24-Feb-2020 09:49:59	24-Feb-2020 09:52:56	6995.48	6949.76
EMXV	110	24-Feb-2020 09:52:56	24-Feb-2020 09:57:09	6949.76	6748.78
EMXV	120	24-Feb-2020 09:57:09	24-Feb-2020 10:02:21	6748.78	6291.22
EMXV	100	24-Feb-2020 10:02:21	24-Feb-2020 10:03:33	6291.22	6184.92
EMXV	90	24-Feb-2020 10:03:33	24-Feb-2020 10:03:48	6184.92	6163.38
EMXV	80	24-Feb-2020 10:03:48	24-Feb-2020 10:04:09	6163.38	6132.54
EMXV	70	24-Feb-2020 10:04:09	24-Feb-2020 10:04:59	6132.54	6061.5
EMXV	50	24-Feb-2020 10:04:59	24-Feb-2020 10:07:32	6061.5	5862.97
EMXV	40	24-Feb-2020 10:07:32	24-Feb-2020 11:01:42	5862.97	43.49
WINB	31.88	24-Feb-2020 09:49:59	24-Feb-2020 09:52:09	6995.48	6976.42

WINB	31.88	24-Feb-2020 09:52:09	24-Feb-2020 09:52:09	6995.48	6976.42
WINB	28.49	24-Feb-2020 09:52:09	24-Feb-2020 09:53:13	6976.42	6940.03
WINB	25.35	24-Feb-2020 09:53:13	24-Feb-2020 11:01:42	6940.03	43.49
WINE	71.88	24-Feb-2020 09:49:59	24-Feb-2020 09:52:41	6995.48	6957.91
WINE	75.23	24-Feb-2020 09:52:41	24-Feb-2020 09:54:29	6957.91	6897.15
WINE	77.32	24-Feb-2020 09:54:29	24-Feb-2020 11:01:42	6897.15	43.49

All depth are at tool zero.

One

REPEAT

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[1]:Up	Up	1946.02 ft	2513.35 ft	24-Feb-2020 9:01:56 AM	24-Feb-2020 9:08:24 AM	ON	1.04 ft	Yes

All depths are referenced to toolstring zero

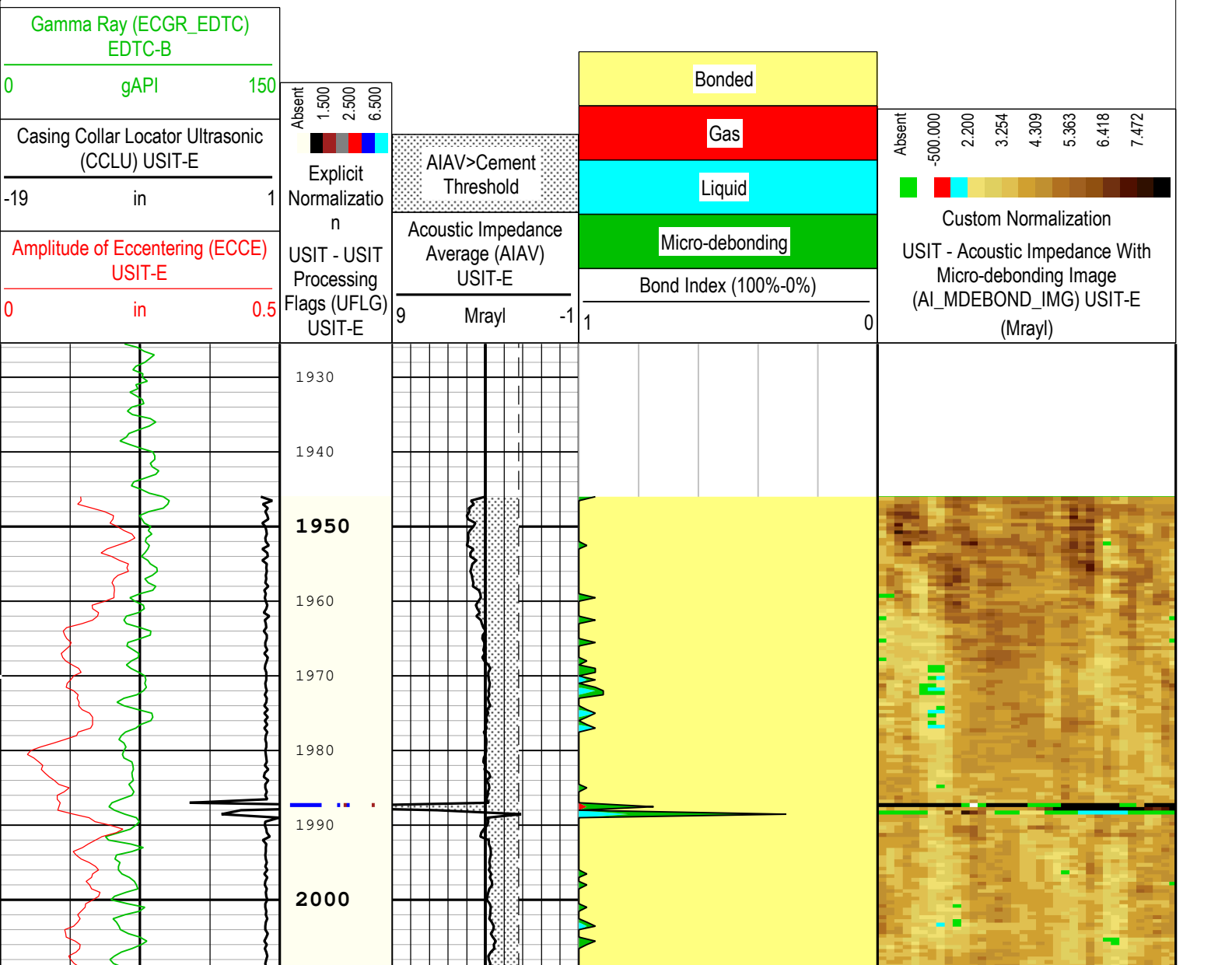
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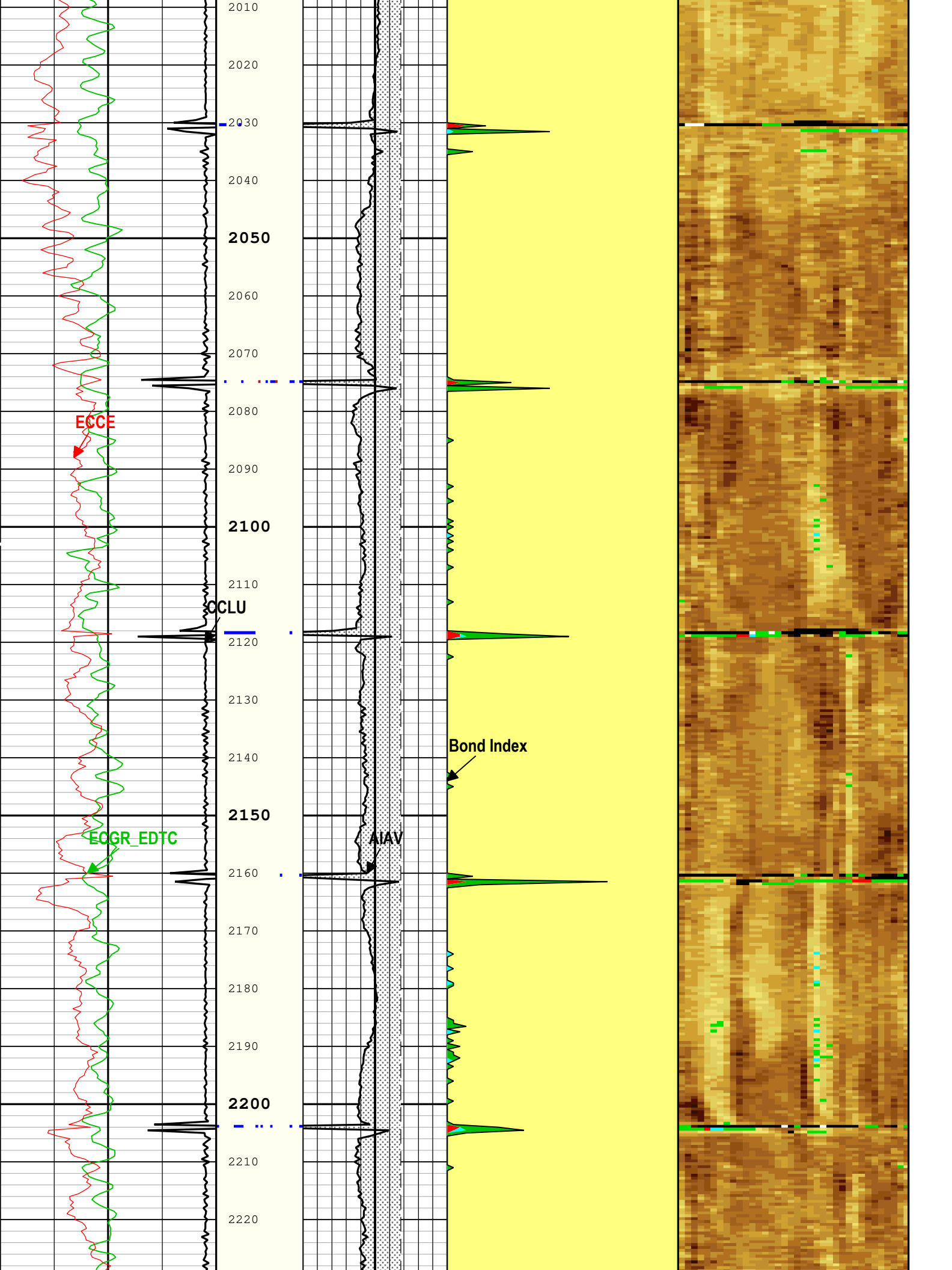
Company:Bonanza Creek EnergyWell:State Antelope Y-E-13 HNC

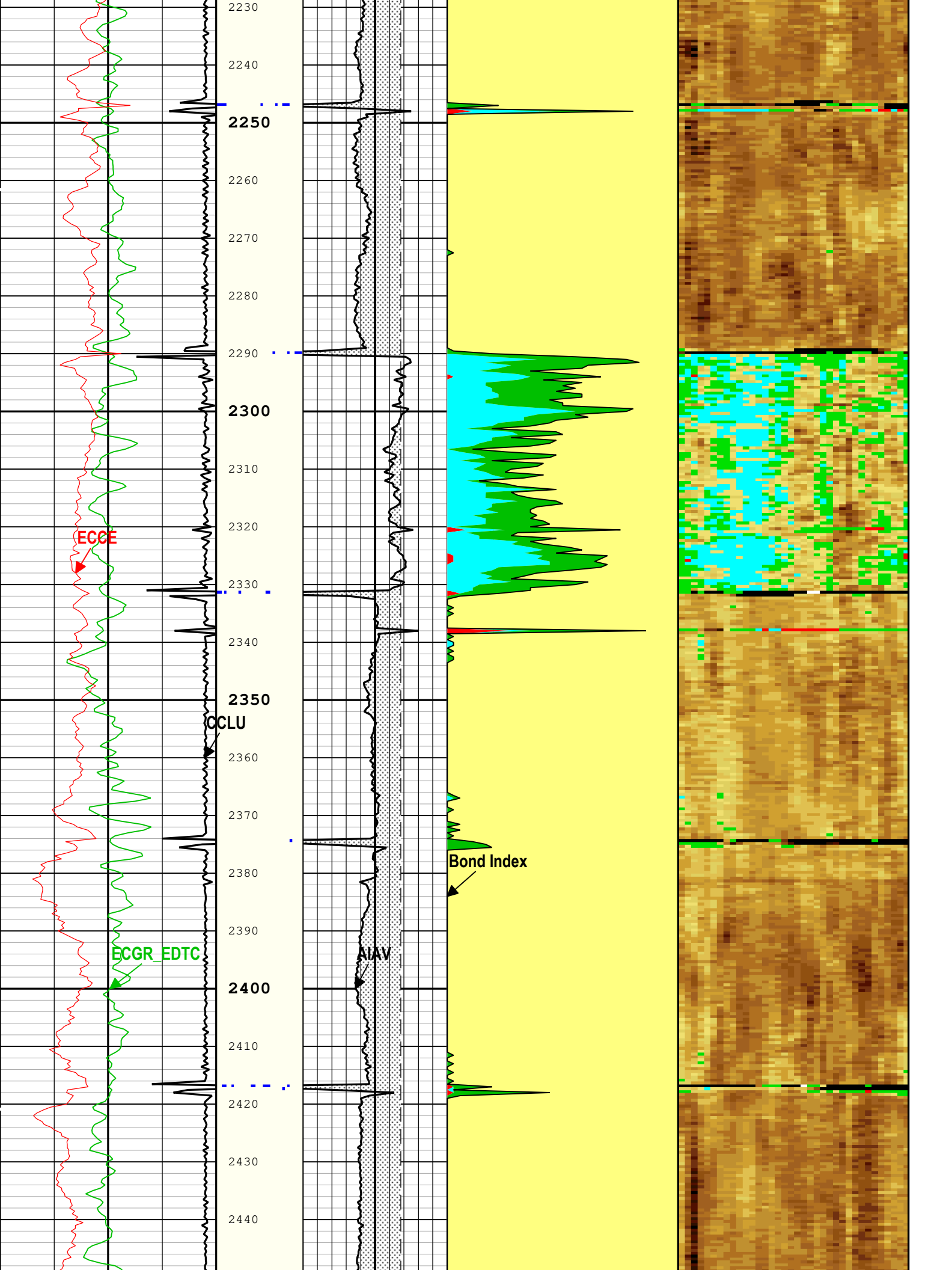
One: Log[1]:Up:S005

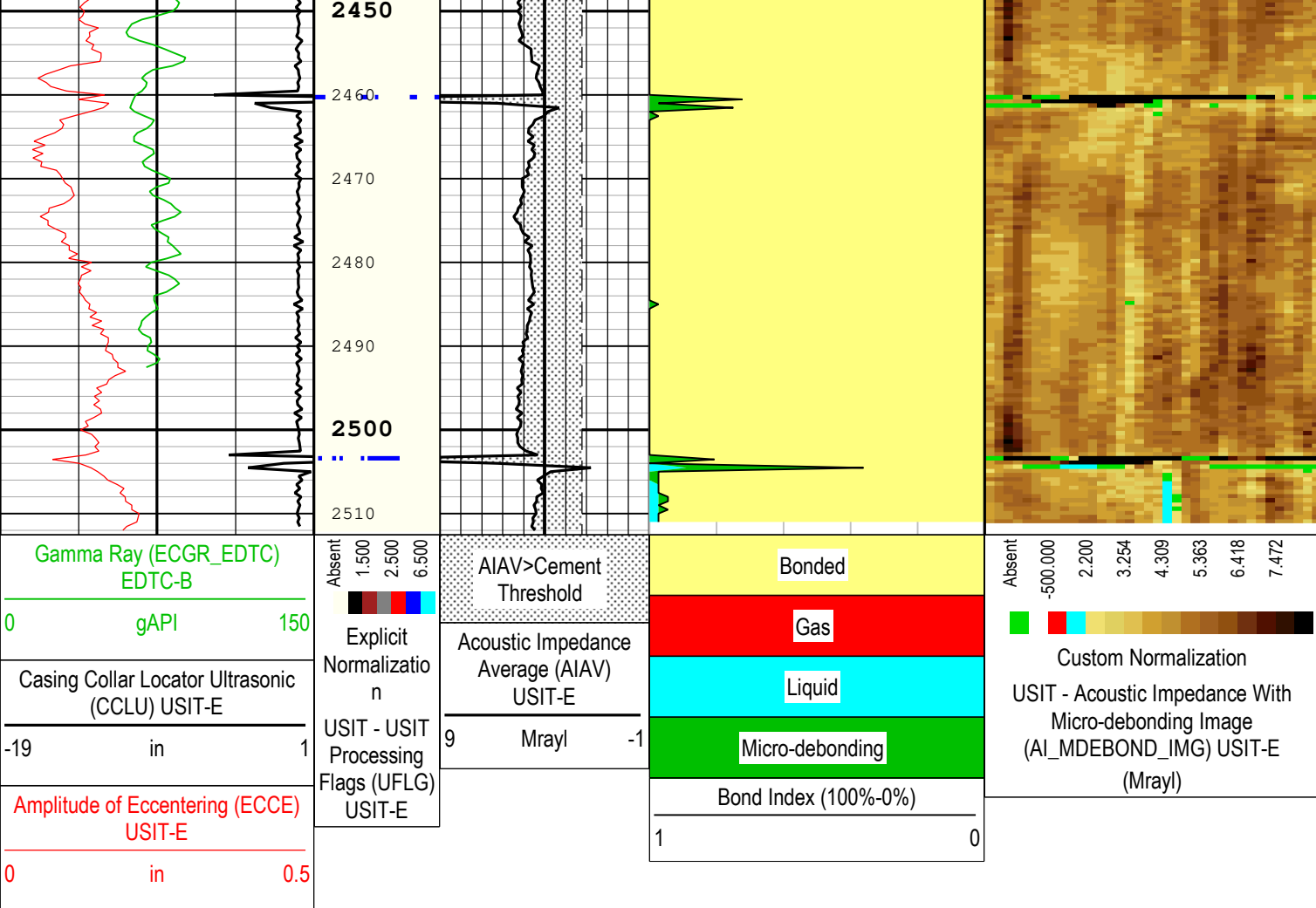
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TIME_1900 - Time Marked every 60.00 (s)









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 12:23:06

Channel Processing Parameters

One: Parameters

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	8.5	in
CBLO	Casing Bottom (Logger)	WLSESSION	12471	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	
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	1.06	
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1.14	
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	1.61	Mrayl
USI_FVEL_SEL	USI Fluid Velocity Selection	USIT-E	Automatic	
USI_ZMUD_SEL	USI Mud Impedance Selection	USIT-E	FreePipe Norm.	

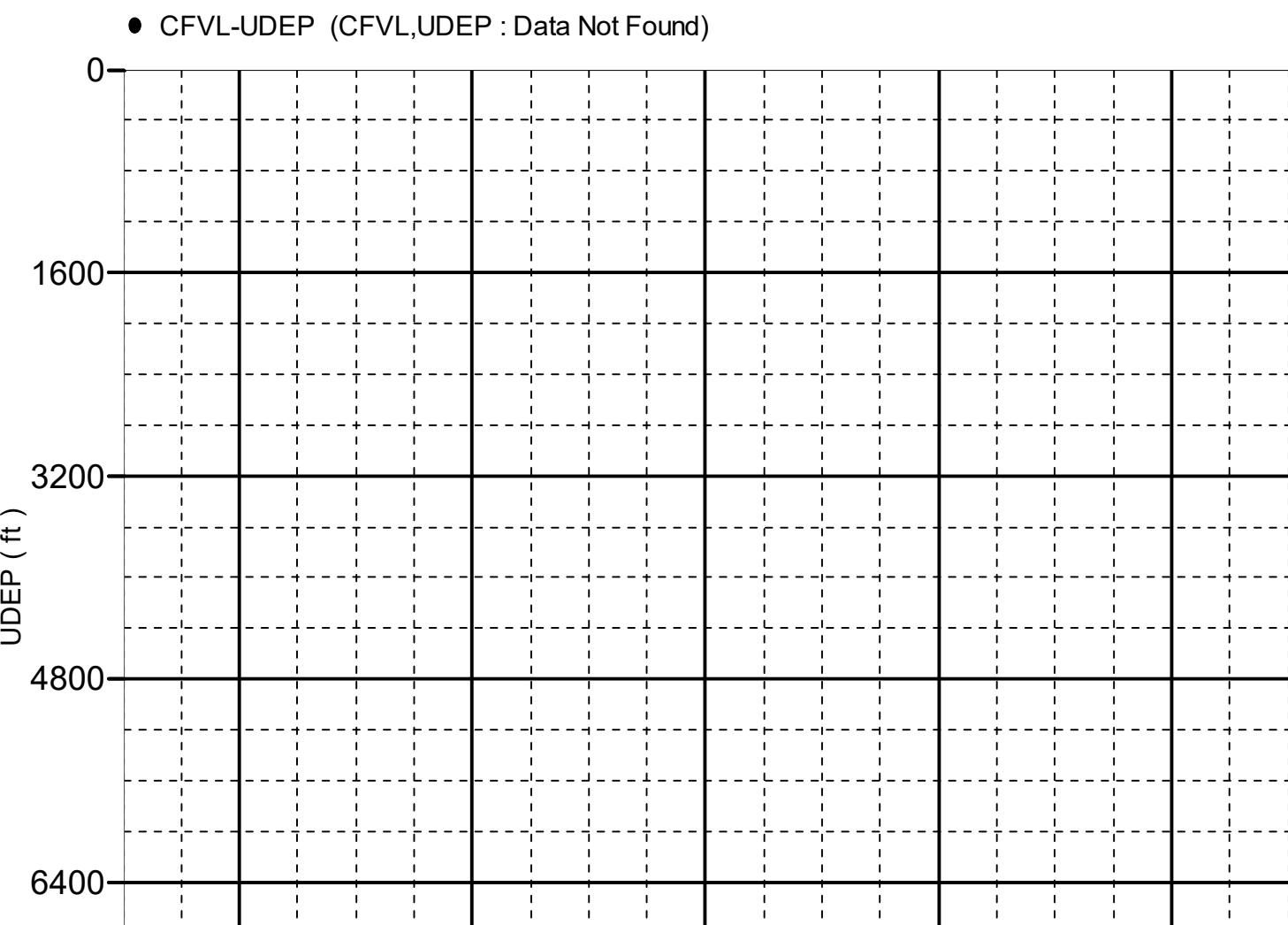
ZMUD	Acoustic Impedance of Mud	Borehole	1.48	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.2	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

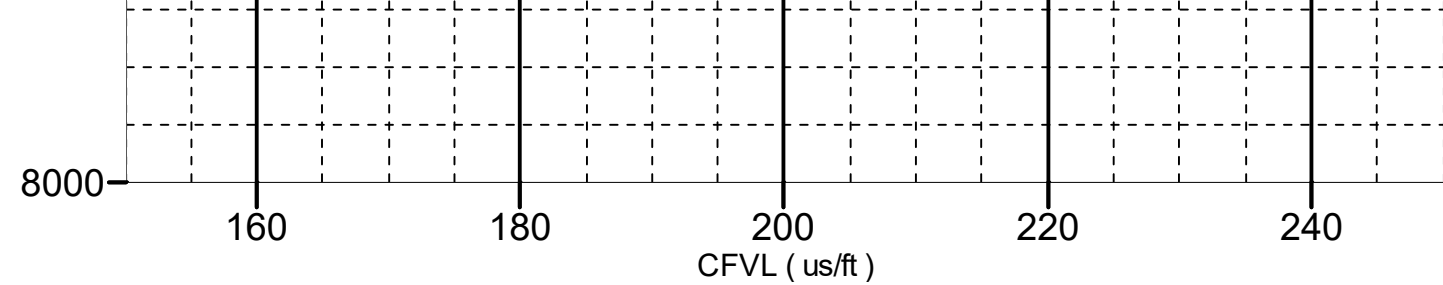
Tool Control Parameters				
One: Parameters				
Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	48	dB
EMXV	EMEX Voltage	USIT-E	50	V
HRES	Horizontal Resolution	USIT-E	10 deg	
ICE2_ACQ	Ultrasonic ICE2 Acquisition	USIT-E	Yes	
ULOG	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-E-13 HNC One: Log[3]:Up:S005			

Fluid Acoustic Slowness vs Depth

2D Cross Plot

Index Range: From to ft





XYZ

Company:Bonanza Creek Energy Well:State Antelope Y-E-13 HNC

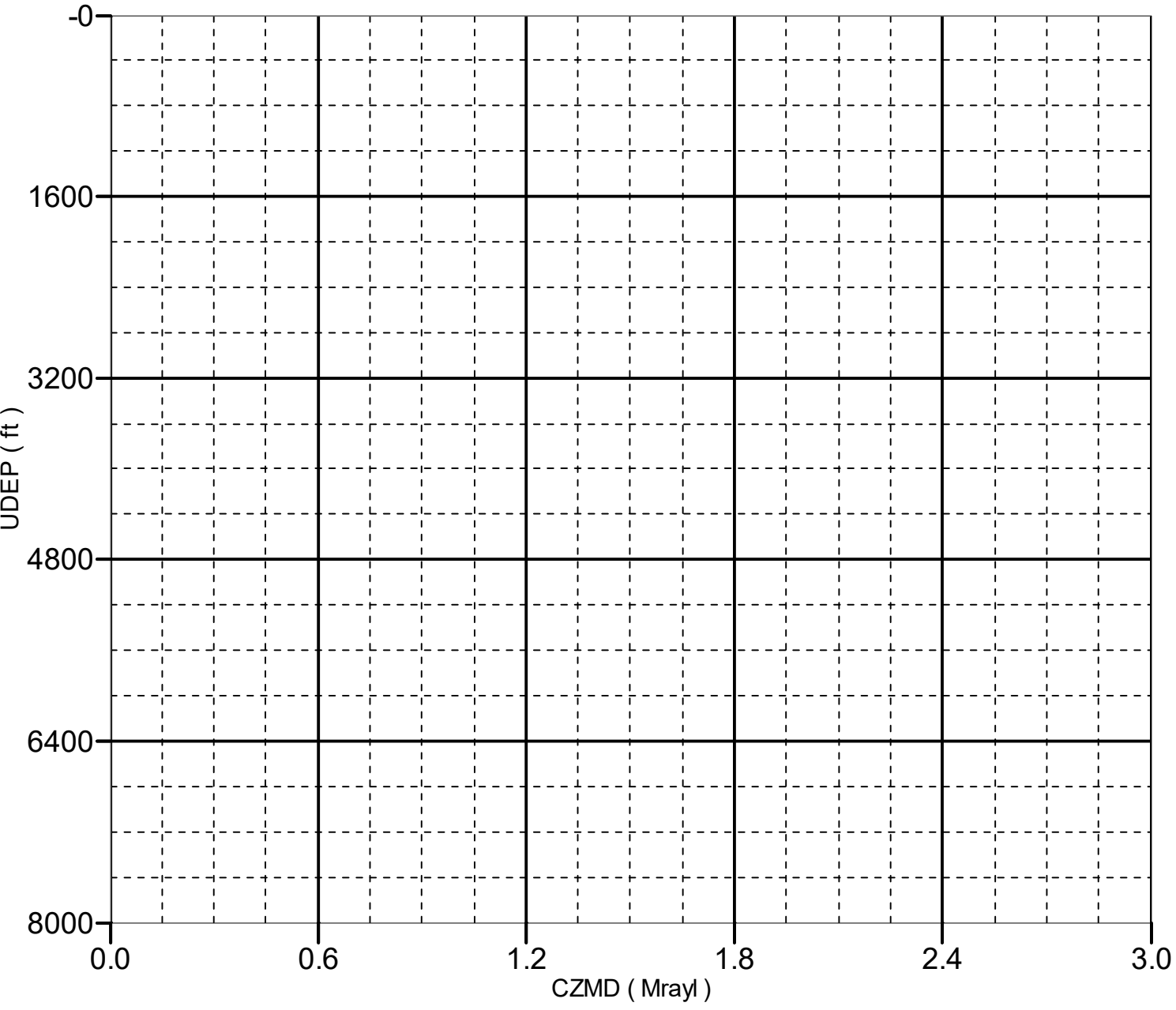
One: Log[3]:Up:S005

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-E-13 HNC	
Field:	Wattenberg	
County:	Weld	
State:	Colorado	

UltraSonic Summary Print