

Company: Bonanza Creek Energy

Well: State Antelope Y44-E14-13 HNB

Field: Wattenberg

County: Weld State: Colorado

UltraSonic Summary Print

| | |
|-------------------------|-------------------------------|
| County: | Weld |
| Field: | Wattenberg |
| Location: | SENE Sec. 13, T5N-R62W |
| Well: | State Antelope Y44-E14-13 HNB |
| Company: | Bonanza Creek Energy |
| Location: | |
| SENE Sec. 13, T5N-R62W | Elev.: K.B. 4590.00 ft |
| 2687 FNL 510' FEL | G.L. 4573.00 ft |
| | D.F. 4590.00 ft |
| Permanent Datum: | Ground Level |
| Log Measured From: | Kelly Bushing |
| Drilling Measured From: | Kelly Bushing |
| API Serial No. | Section: |
| 05-123-50287 | 13 |
| | Township: |
| | 5N |
| | Range: |
| | 62W |

| | |
|---------------------------|----------------|
| Logging Date | 24-Feb-2020 |
| Run Number | 1 |
| Depth Driller | 11709.00 ft |
| Schlumberger Depth | 11709.00 ft |
| Bottom Log Interval | 6380.00 ft |
| Top Log Interval | 100.00 ft |
| Casing Fluid Type | Water |
| Salinity | |
| Density | 8.6 lbm/gal |
| Fluid Level | 8.00 ft |
| BIT/CASING/TUBING STRING | |
| Bit Size | 9.88 in |
| From | 0.00 ft |
| To | 11709.00 ft |
| Casing/Tubing Size | 5.5 in |
| Weight | 20 lbm/ft |
| Grade | N/A |
| From | 0.00 ft |
| To | 11703.00 ft |
| Max Recorded Temperatures | 165.3 degF |
| Logger on Bottom | 24-Feb-2020 |
| Unit Number | 2801 |
| 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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10.5 Parameter Listing

11. 1 REPEAT

11.1 Integration Summary

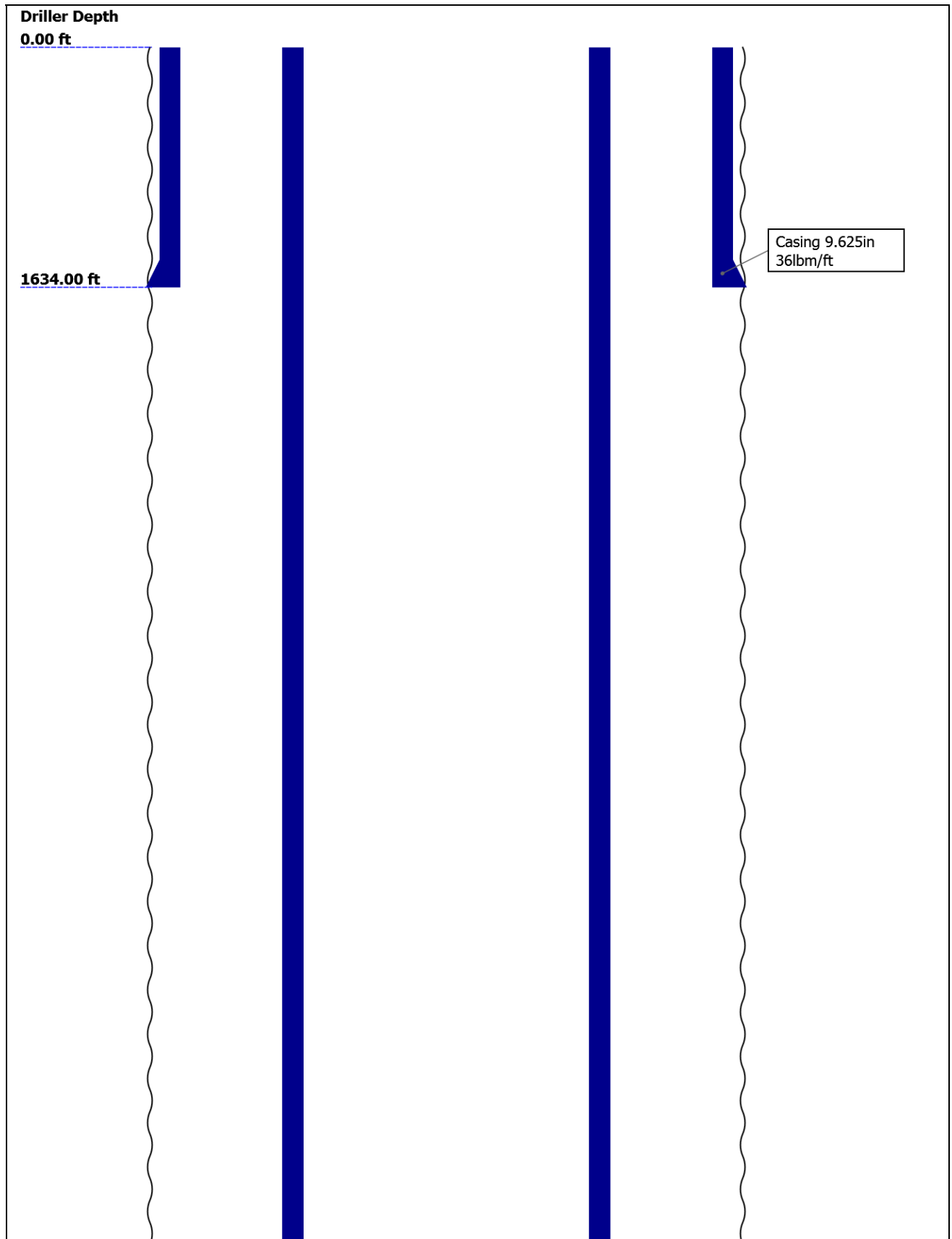
11.2 Composite Summary

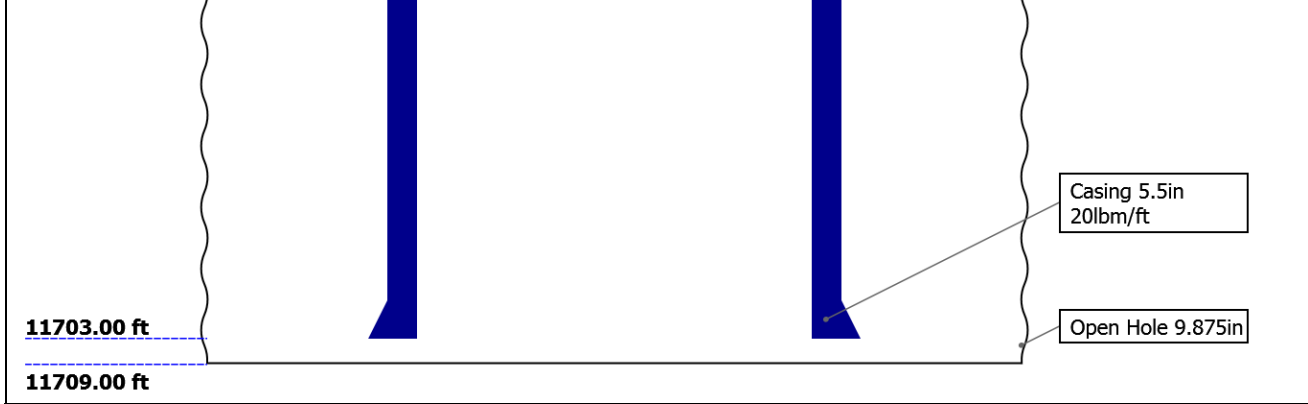
11.3 Log (USI Lvl 1)

11.4 Parameter Listing

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

Well Sketch




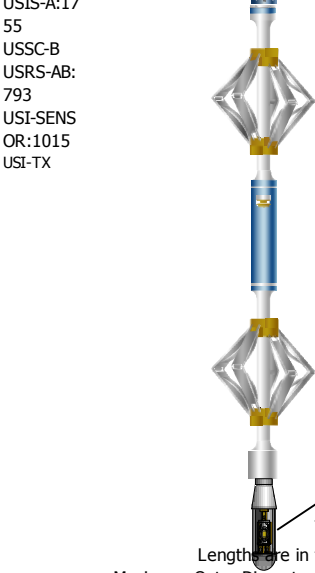


Borehole Size/Casing/Tubing Record

| | | | | | | |
|-----------------------|-------|-------|--|--|--|--|
| Bit | | | | | | |
| Bit Size (in) | 9.875 | | | | | |
| Top Driller (ft) | 0 | | | | | |
| Top Logger (ft) | 0 | | | | | |
| Bottom Driller (ft) | 11709 | | | | | |
| Bottom Logger (ft) | 11709 | | | | | |
| 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) | 1634 | 11703 | | | | |
| Bottom Logger (ft) | 1634 | 11703 | | | | |

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></div> <div><div>MP nameOffset</div><div>CTEM22.46</div><div>ACCZ0.00</div><div>HV0.00</div><div>Gamma Ray20.59</div><div>TelStatu s19.46</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

1

Depth Measuring Device

Type
Serial Number
Calibration Date
Calibrator Serial Number
Calibration Cable Type
Wheel Correction 1
Wheel Correction 2

IDW-B

0
0

Tension Device

Type
Serial Number
Calibration Date
Calibrator Serial Number
Number of Calibration Points

CMTD-B/A

0

Logging Cable

Type
Serial Number
Length
Conveyance Type
Rig Type

7-46NT-XS

24000.00 ft
Wireline

1:Depth Control Parameters

Log Sequence
Rig Up Length At Surface
Rig Up Length At Bottom
Rig Up Length Correction
Stretch Correction
Tool Zero Check At Surface

First Log In the Well

Depth Control Remarks

Schlumberger depth control procedures followed.
IDW used as primary depth control system.
Z-chart used as secondary depth control system.

USIT - Fluid Properties Measurement

| | | | |
|----------|-------------|----------|---------|
| Pressure | Temperature | Salinity | Density |
|----------|-------------|----------|---------|

| Run Name | Pass Name | Start Depth(ft) | Stop Depth(ft) |
|----------|-----------|-----------------|----------------|
| Run 1 | Log[3]:Up | 6385.83 | 50.94 |

Fluid Velocity = "Automatic".

CFVL equals DFSL channel

| Start Depth(ft) | Stop Depth(ft) | Start Value(us/ft) | End Value(us/ft) |
|-----------------|----------------|--------------------|------------------|
|-----------------|----------------|--------------------|------------------|

Mud Impedance = "Theoretical".

CZMD uses theoretical results.

MUD_N_THE=1.06

DFD=1.03g/cm3(8.60lbm/gal)

| Start Depth(ft) | Stop Depth(ft) | Start Value(Mrayl) | End Value(Mrayl) |
|-----------------|----------------|--------------------|------------------|
|-----------------|----------------|--------------------|------------------|

1

MAIN COMPRESSED

Pass Summary

| Run Name | Pass Objective | Direction | Top | Bottom | Start | Stop | DSC Mode | Depth Shift | Include Parallel Data |
|----------|----------------|-----------|----------|------------|-------------------------|------------------------|----------|-------------|-----------------------|
| 1 | Log[3]:Up | Up | 50.94 ft | 6385.83 ft | 24-Feb-2020 12:18:58 PM | 24-Feb-2020 1:05:35 PM | ON | 6.25 ft | No |

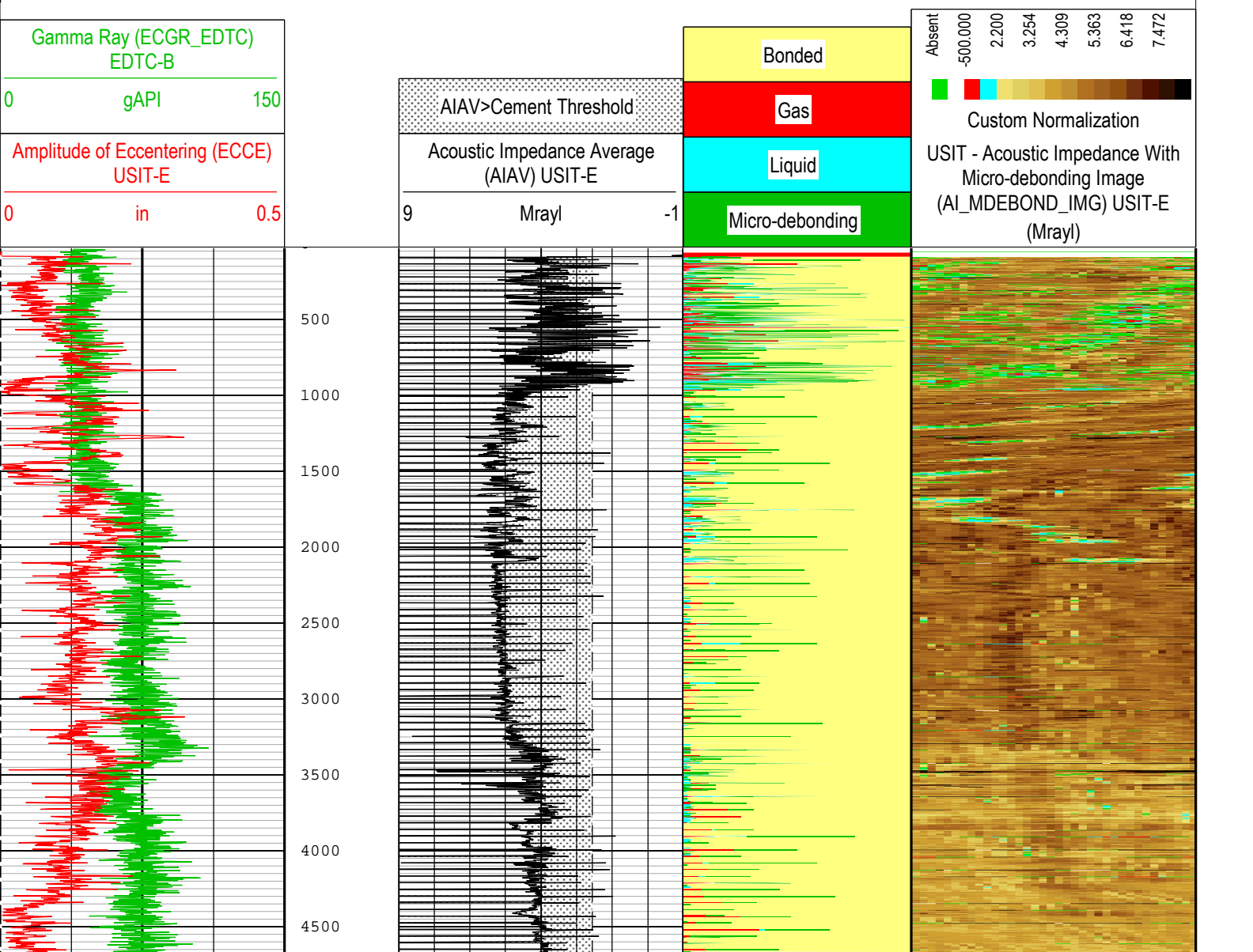
All depths are referenced to toolstring zero

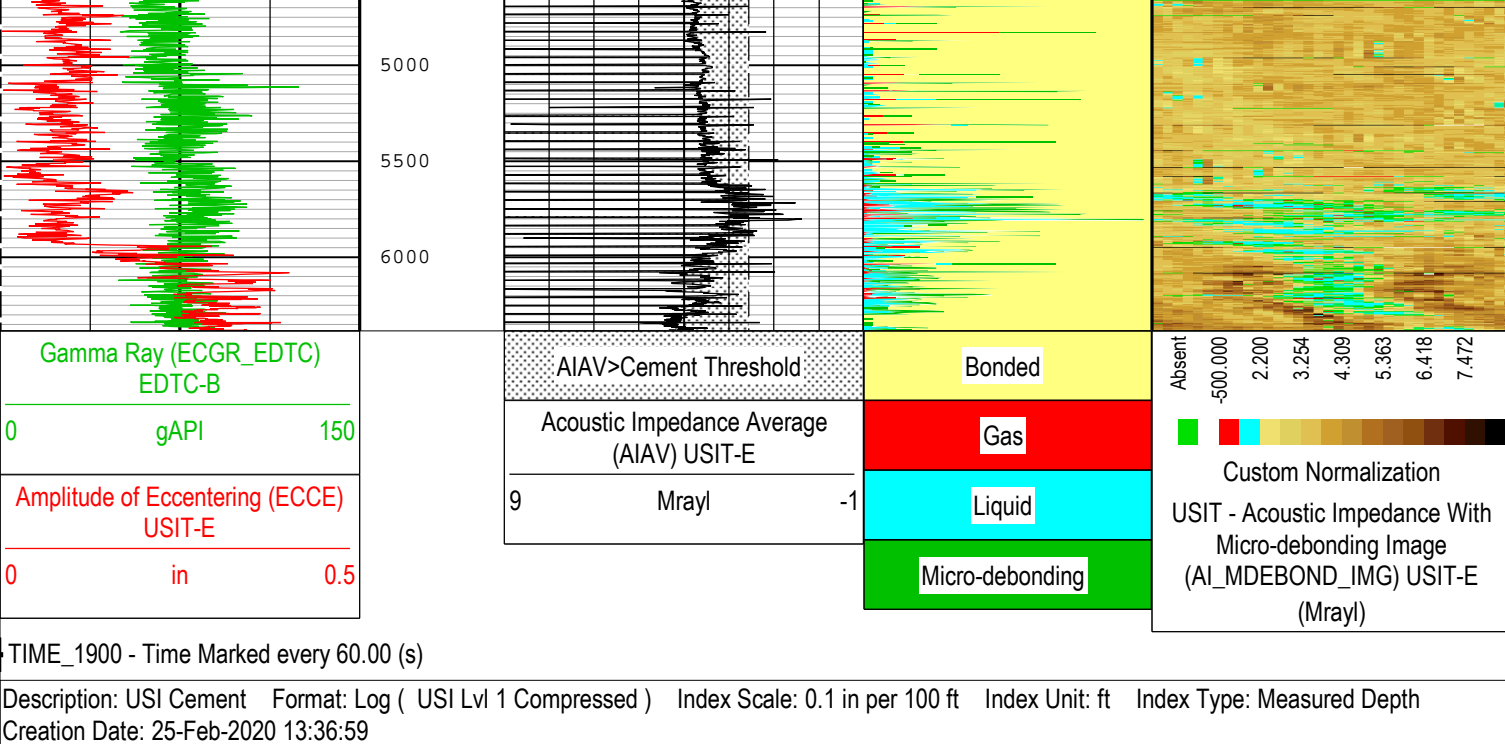
| | | |
|-----|------------------------------|------------------------------------|
| Log | Company:Bonanza Creek Energy | Well:State Antelope Y44-E14-13 HNB |
| | | 1: Log[3]:Up:S004 |

Description: USI Cement Format: Log (USI Lvl 1 Compressed) Index Scale: 0.1 in per 100 ft Index Unit: ft Index Type: Measured Depth

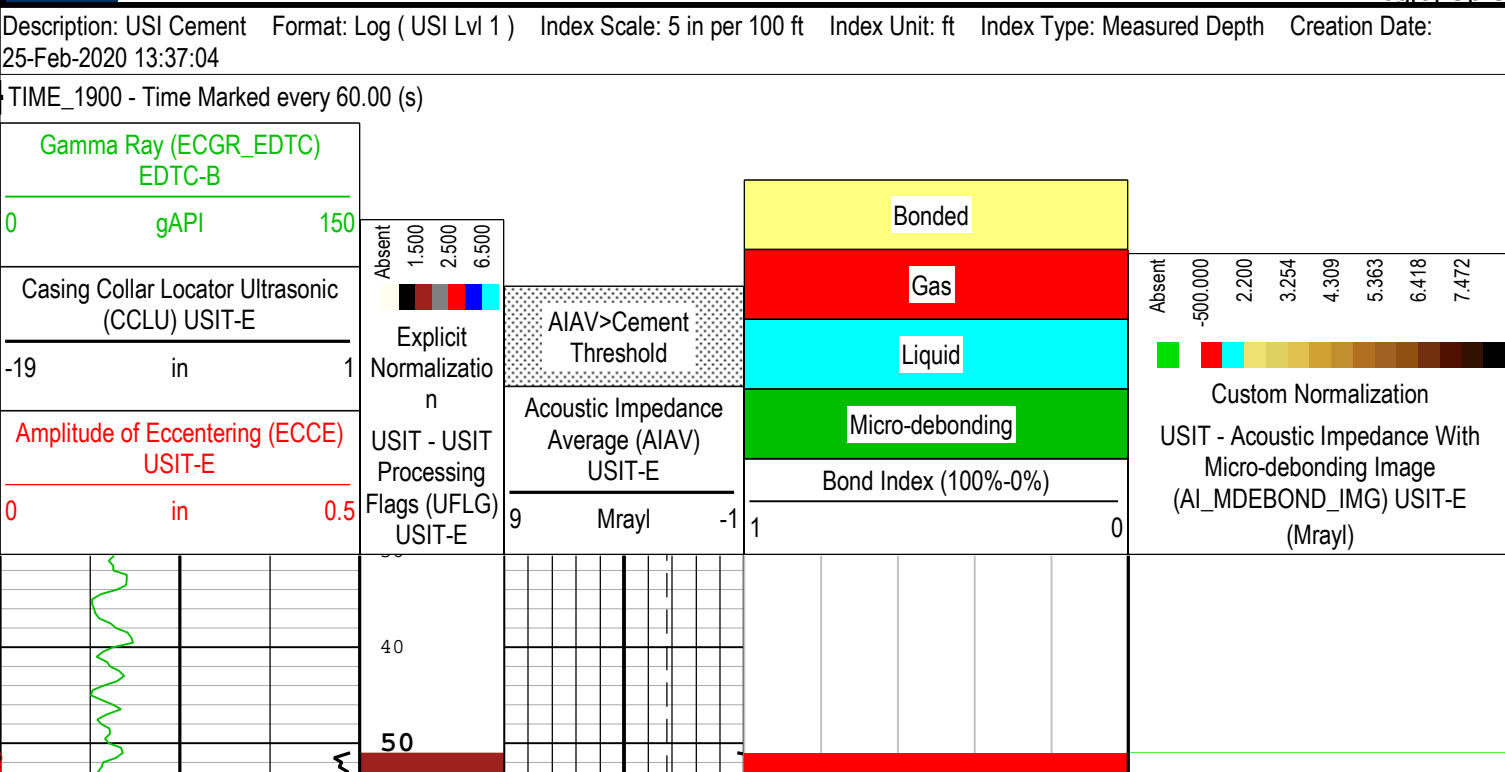
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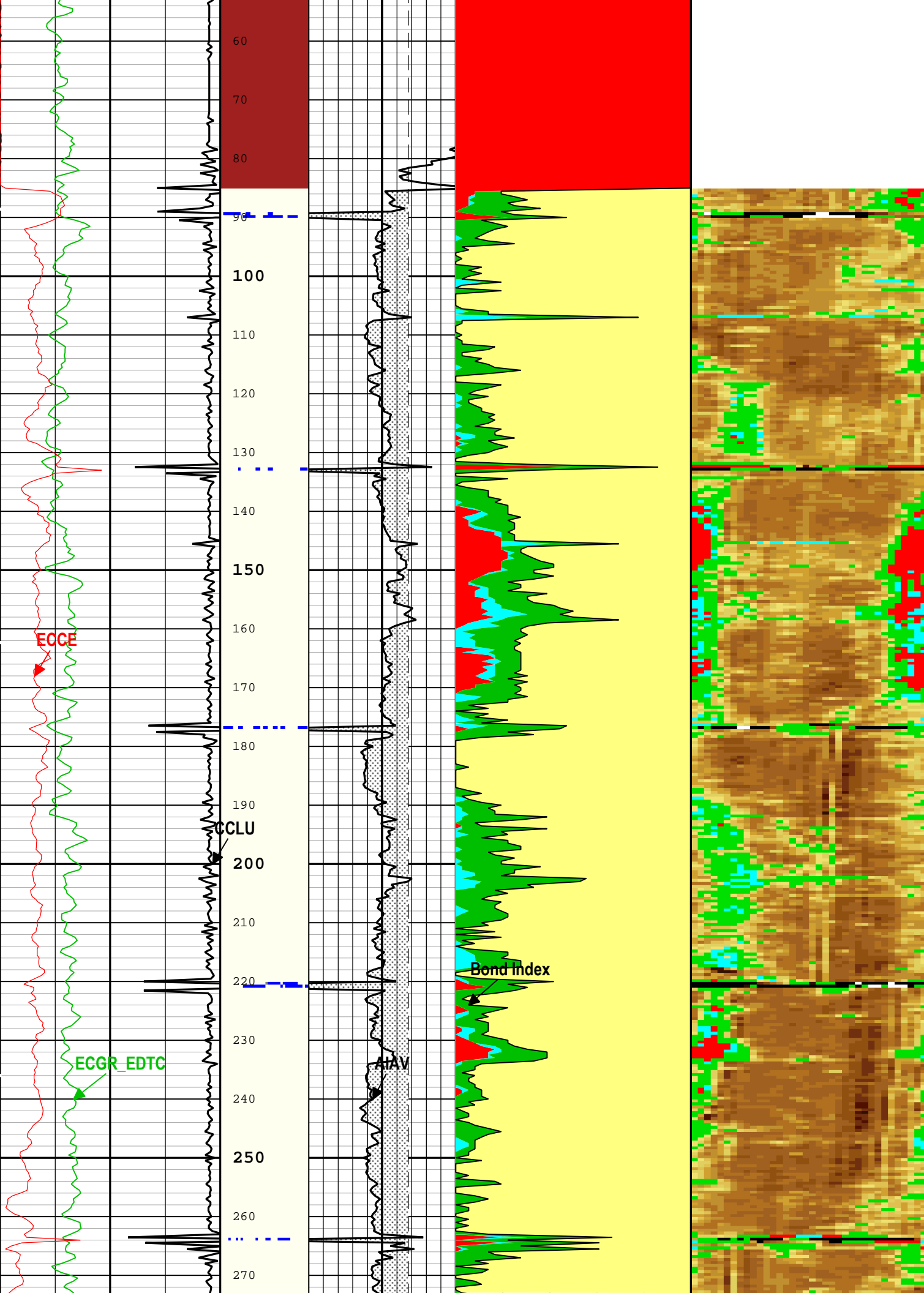
TIME_1900 - Time Marked every 60.00 (s)

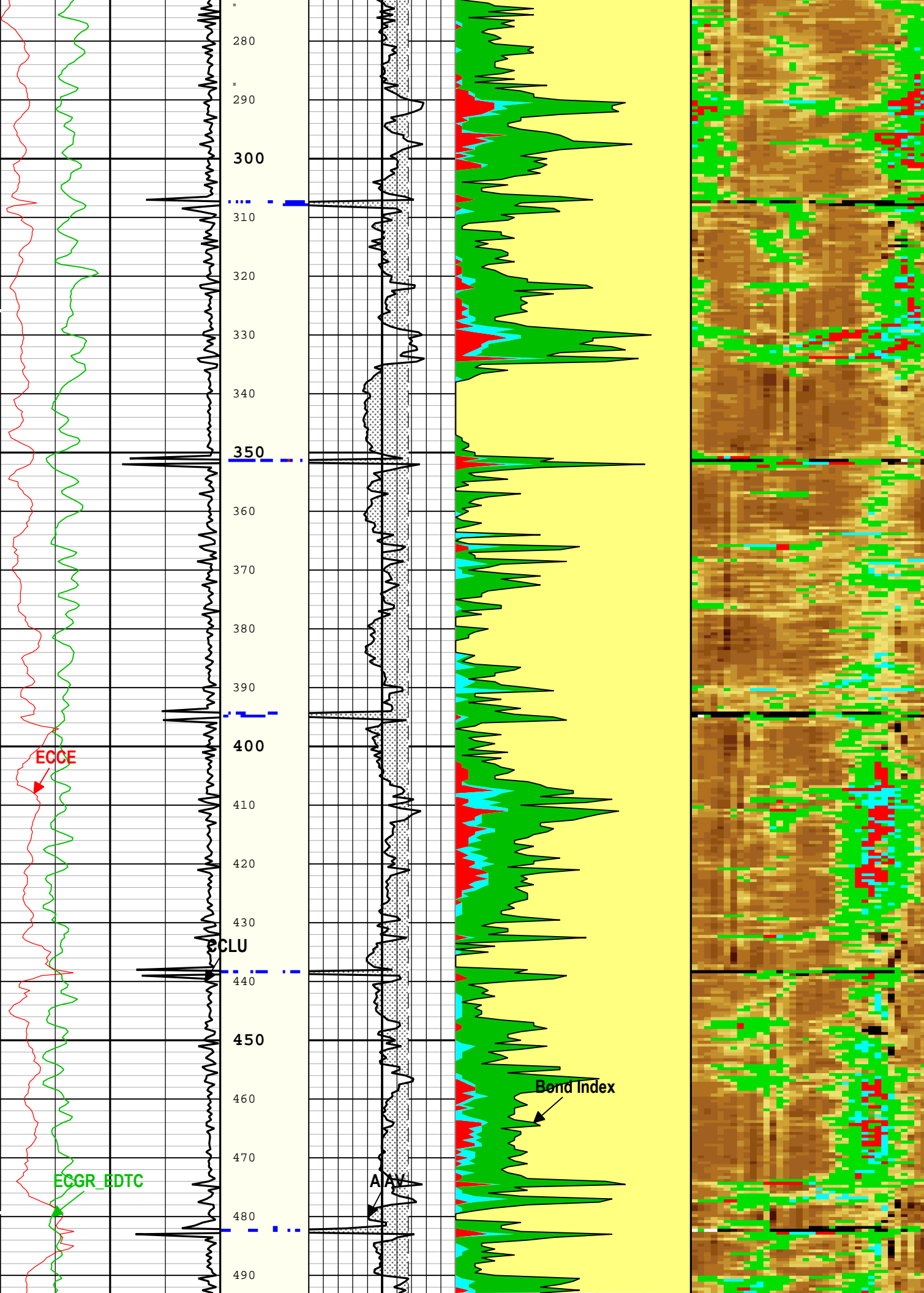


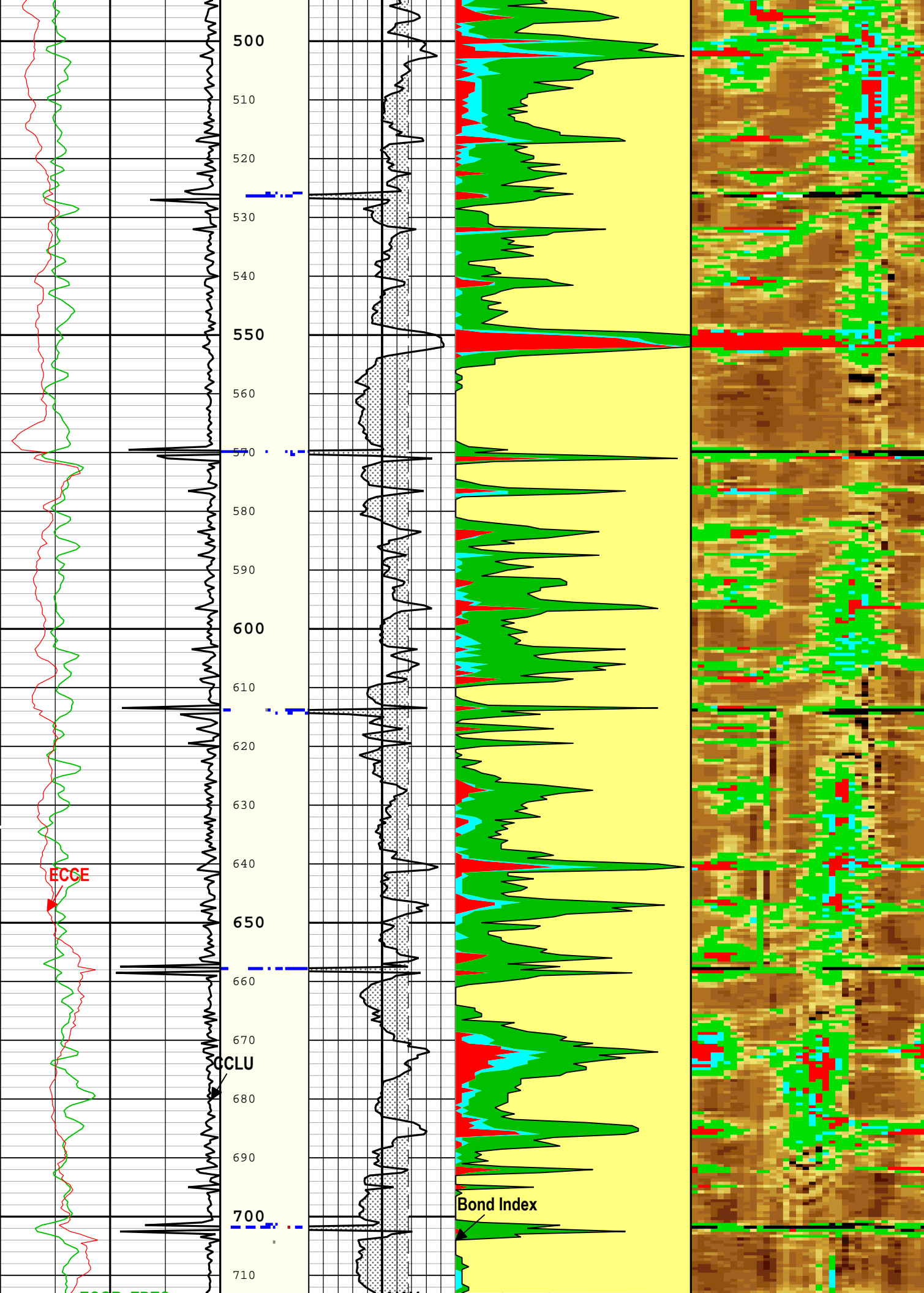


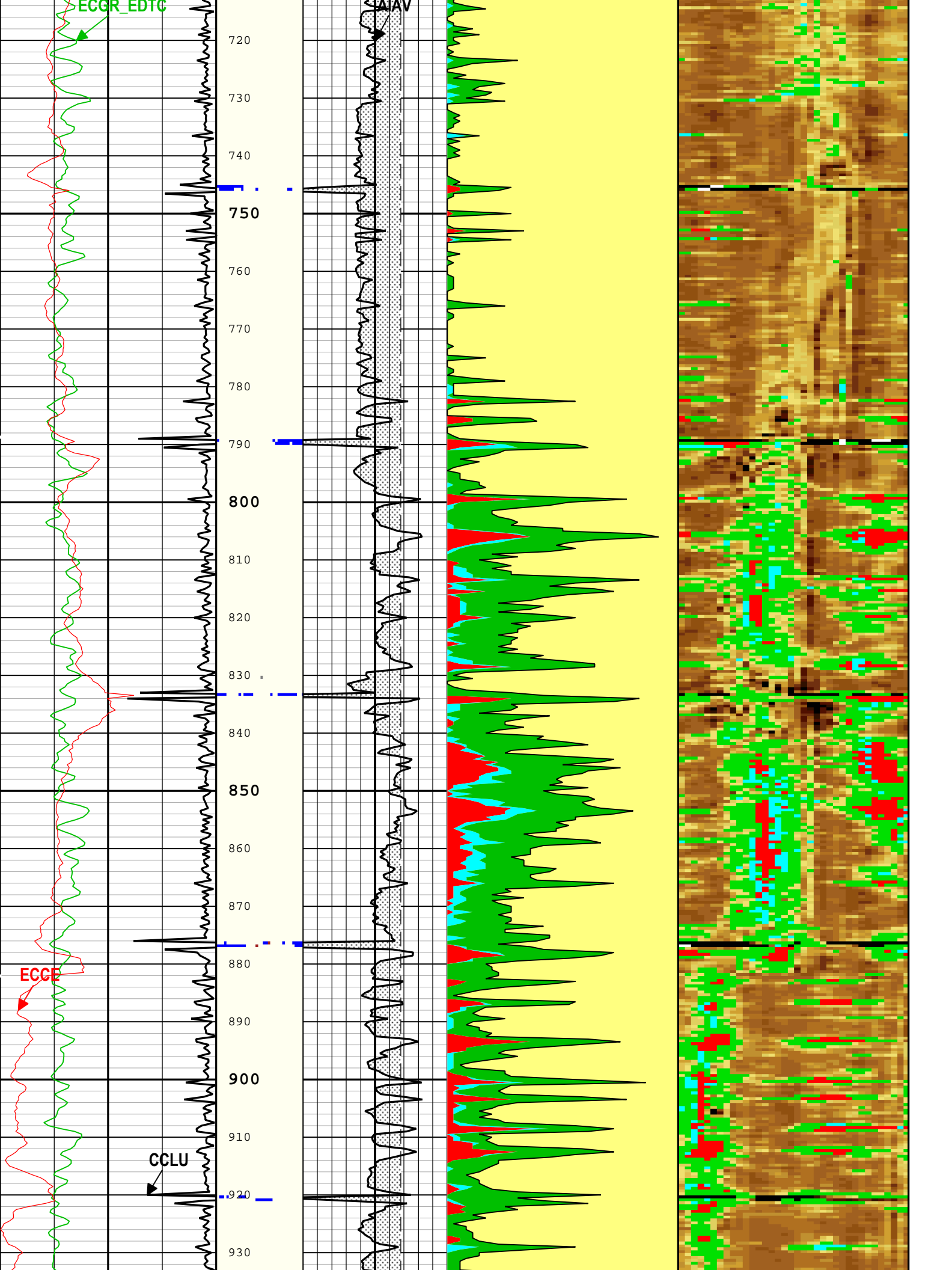
| 1 | | | | | | | | | |
|--|------------------------------|-----------|----------|------------|------------------------------------|------------------------|----------|-------------|-----------------------|
| MAIN | | | | | | | | | |
| Software Version | | | | | | | | | |
| Acquisition System | | | | | | 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[3]:Up | Up | 50.94 ft | 6385.83 ft | 24-Feb-2020 12:18:58 PM | 24-Feb-2020 1:05:35 PM | ON | 6.25 ft | No |
| All depths are referenced to toolstring zero | | | | | | | | | |
| Log | Company:Bonanza Creek Energy | | | | Well:State Antelope Y44-E14-13 HNB | | | | |
| | 1: Log[3]:Up:S004 | | | | | | | | |

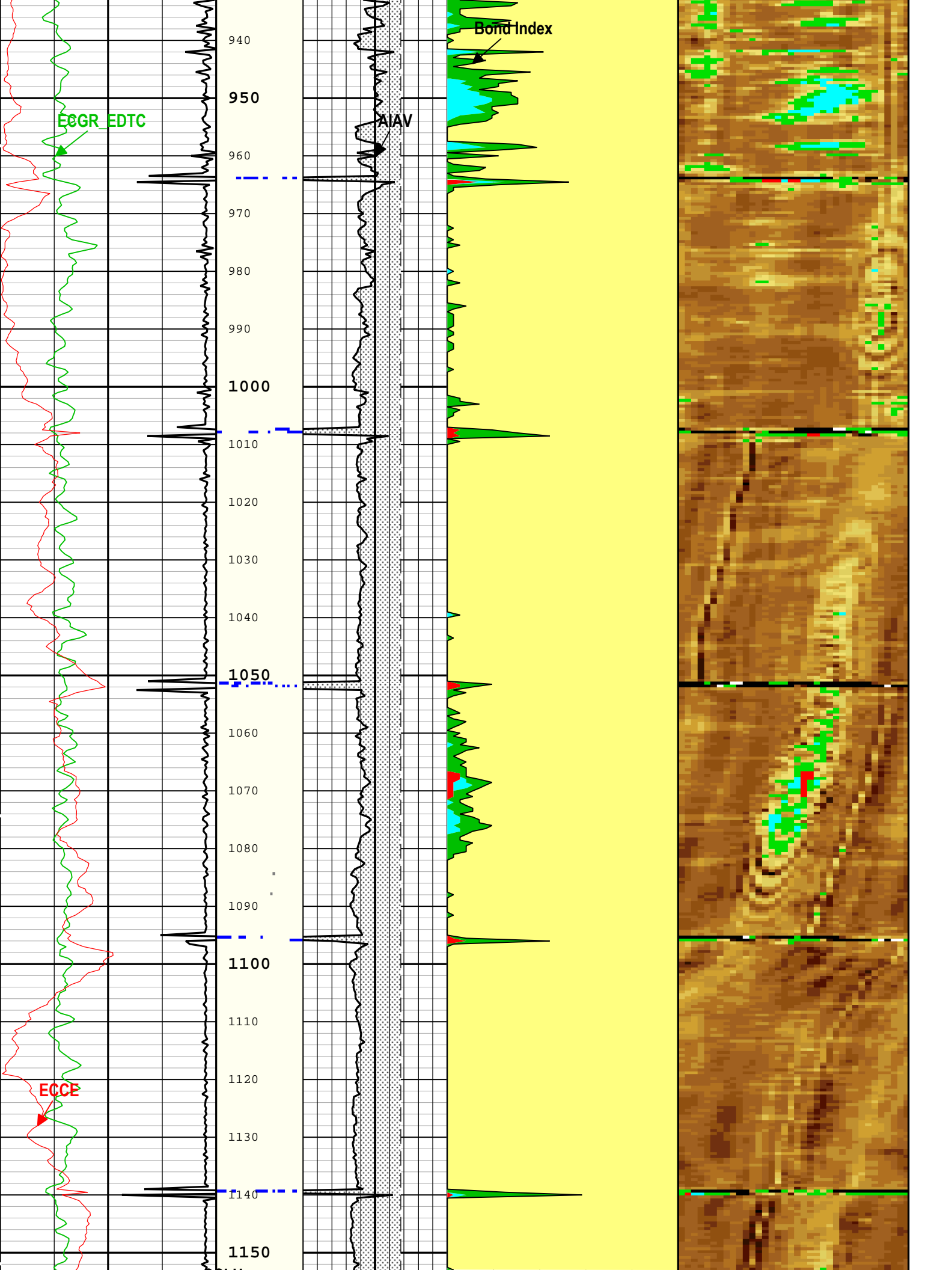


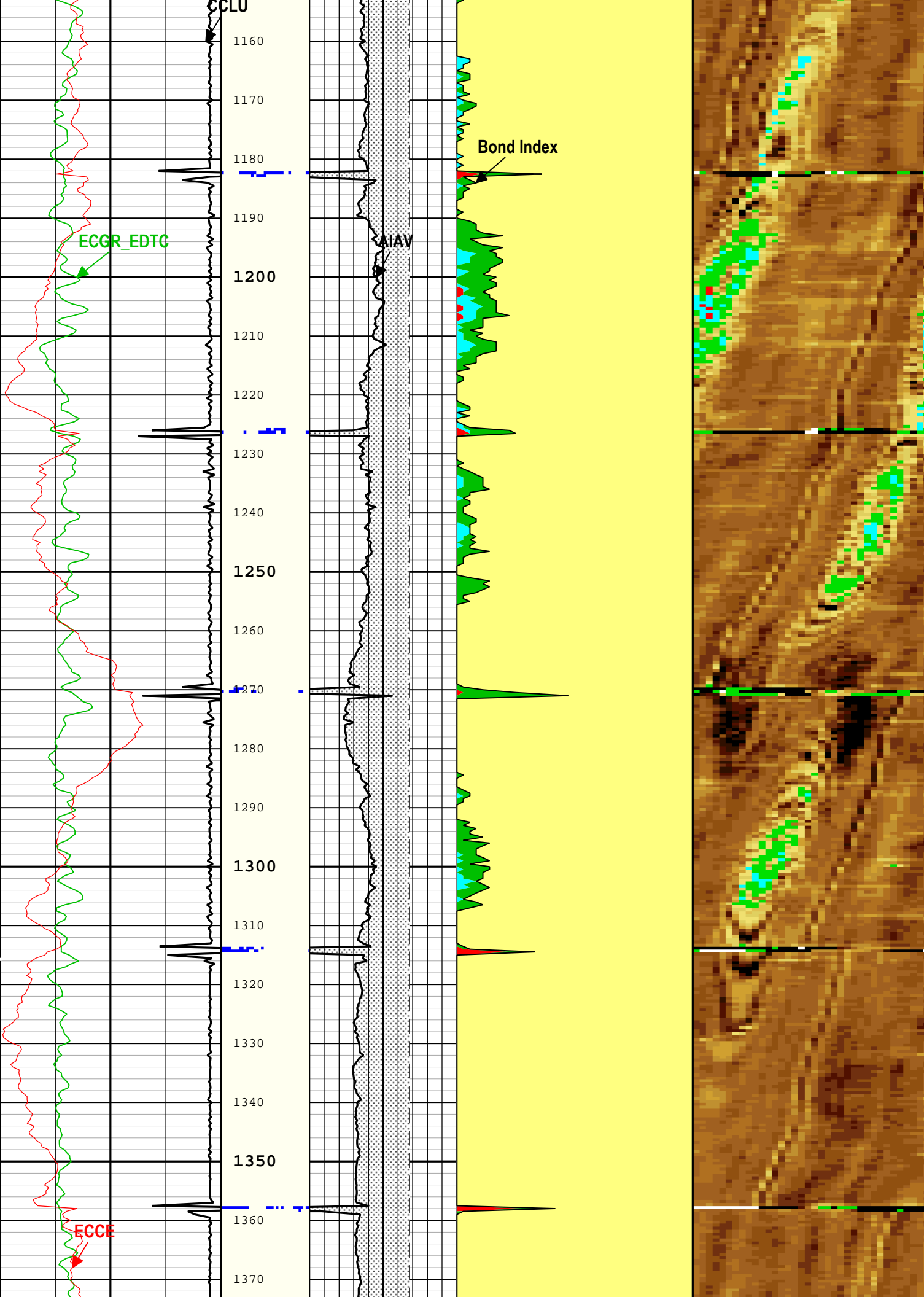


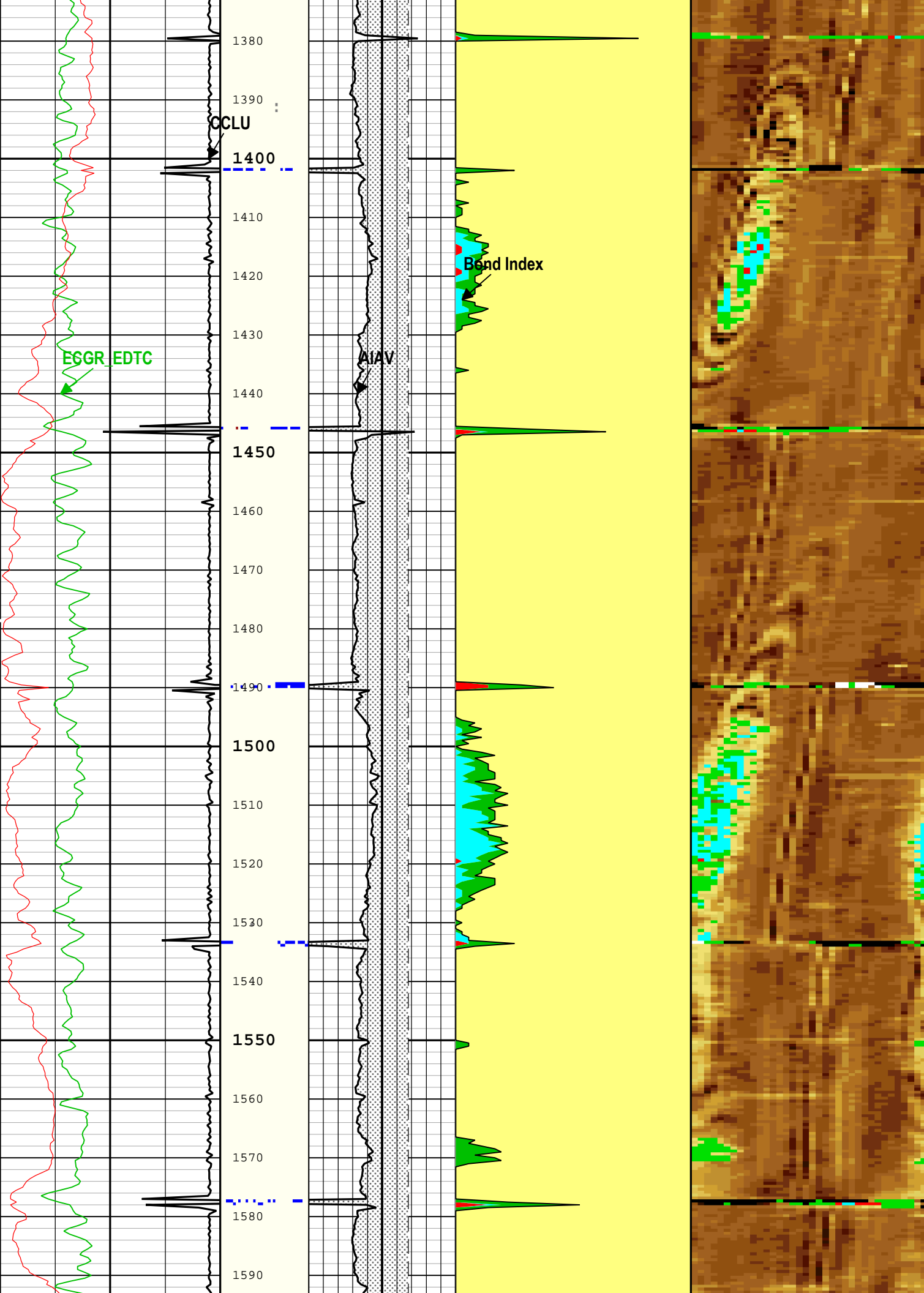


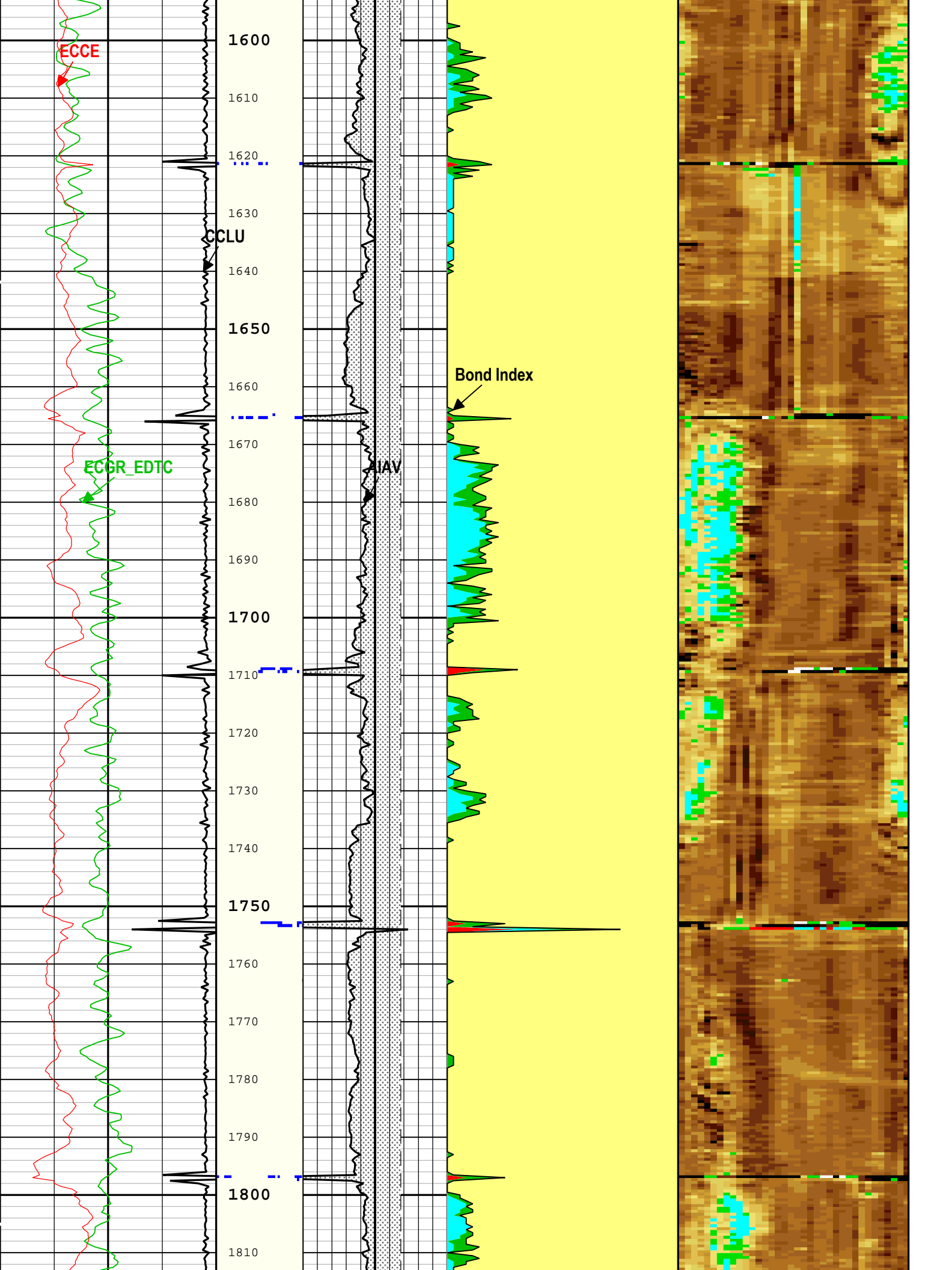


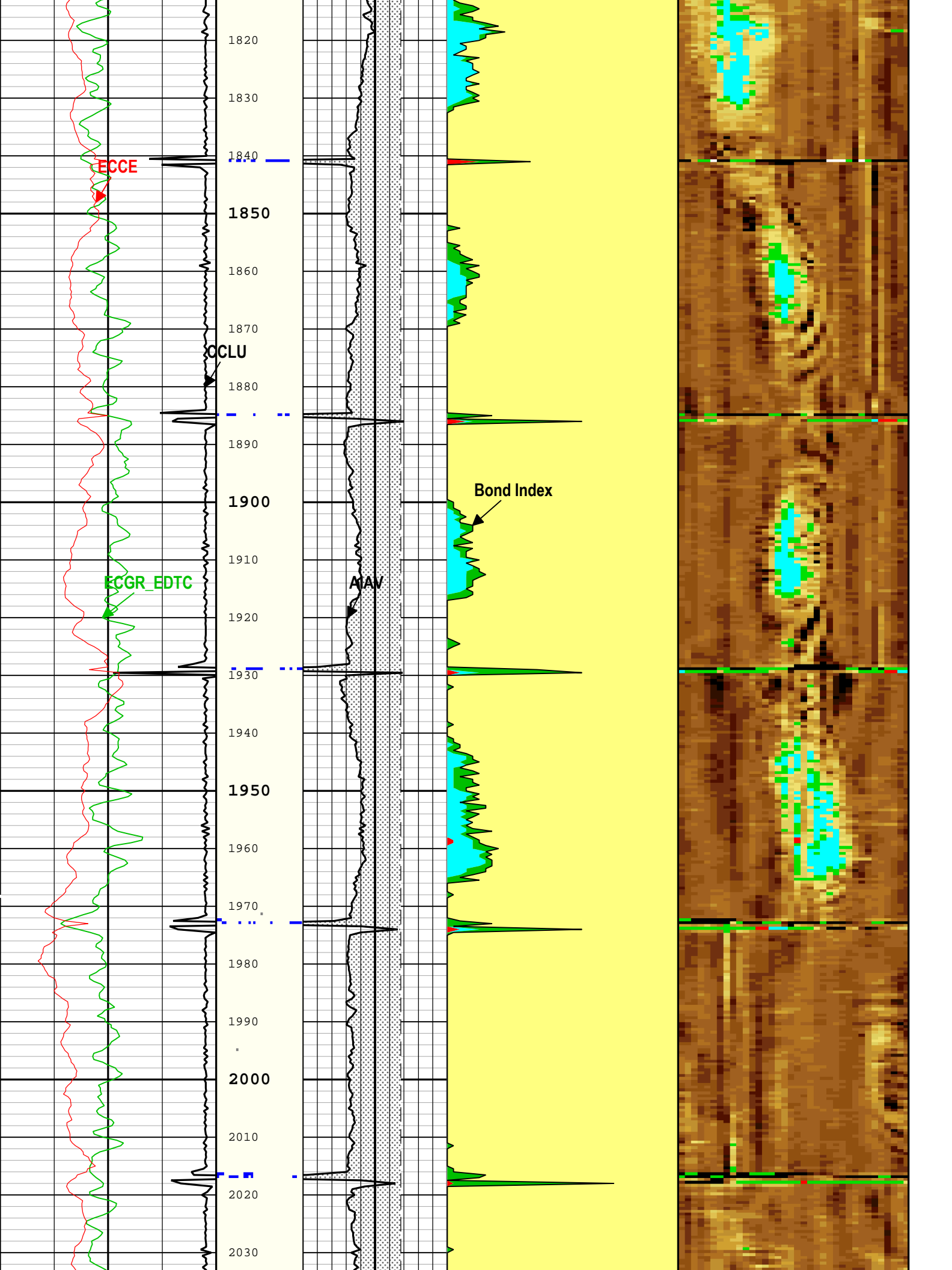


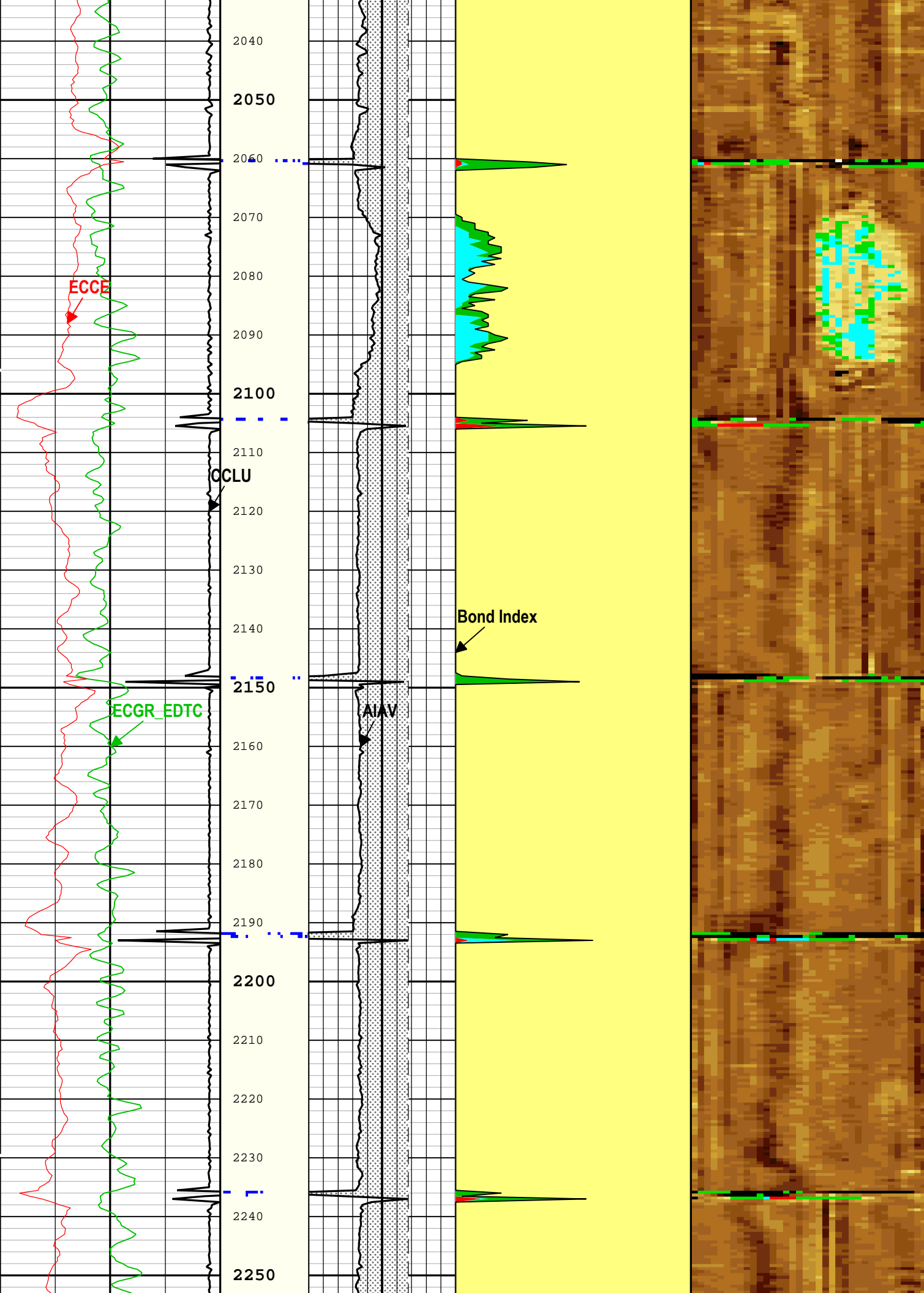


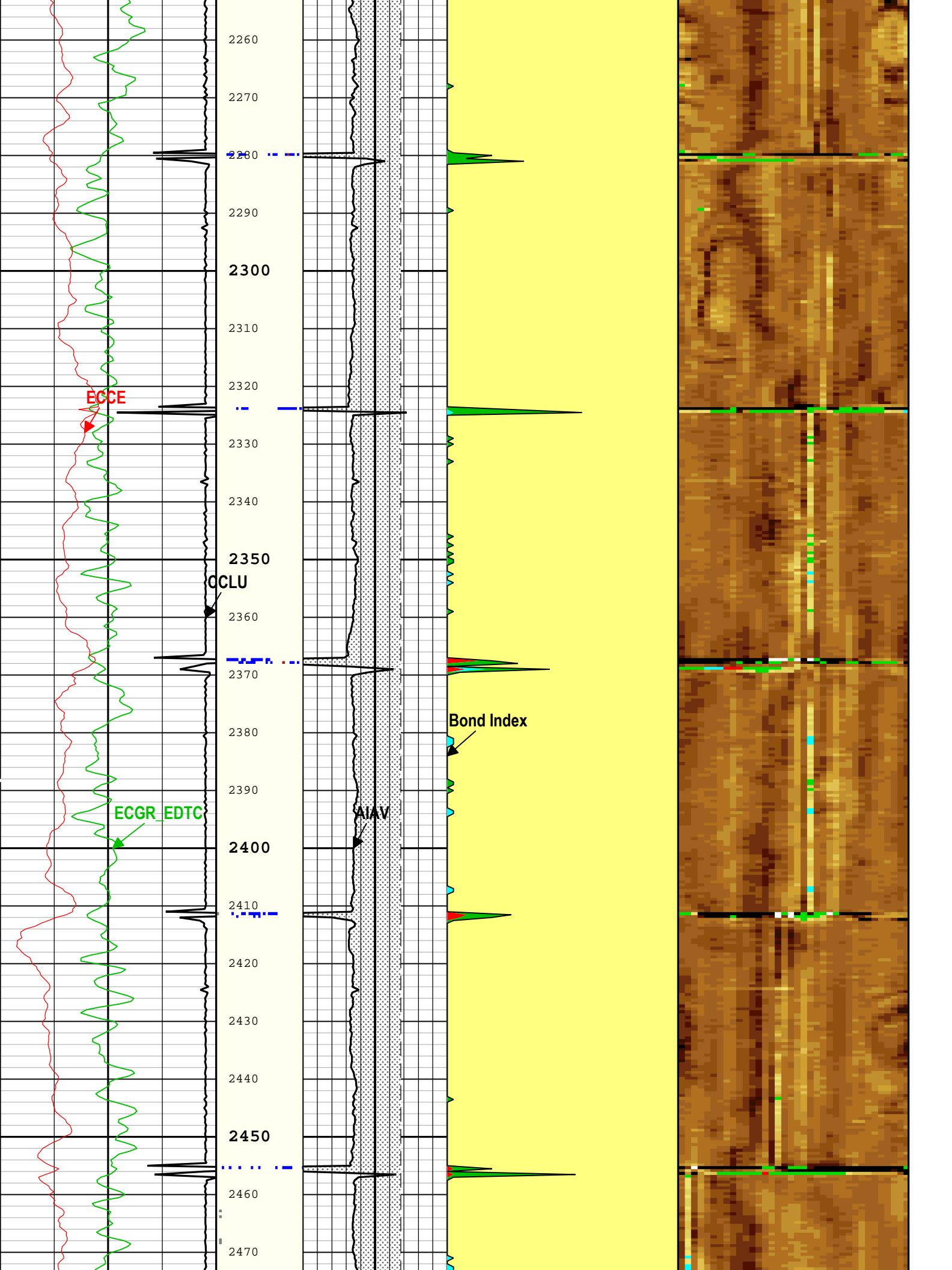


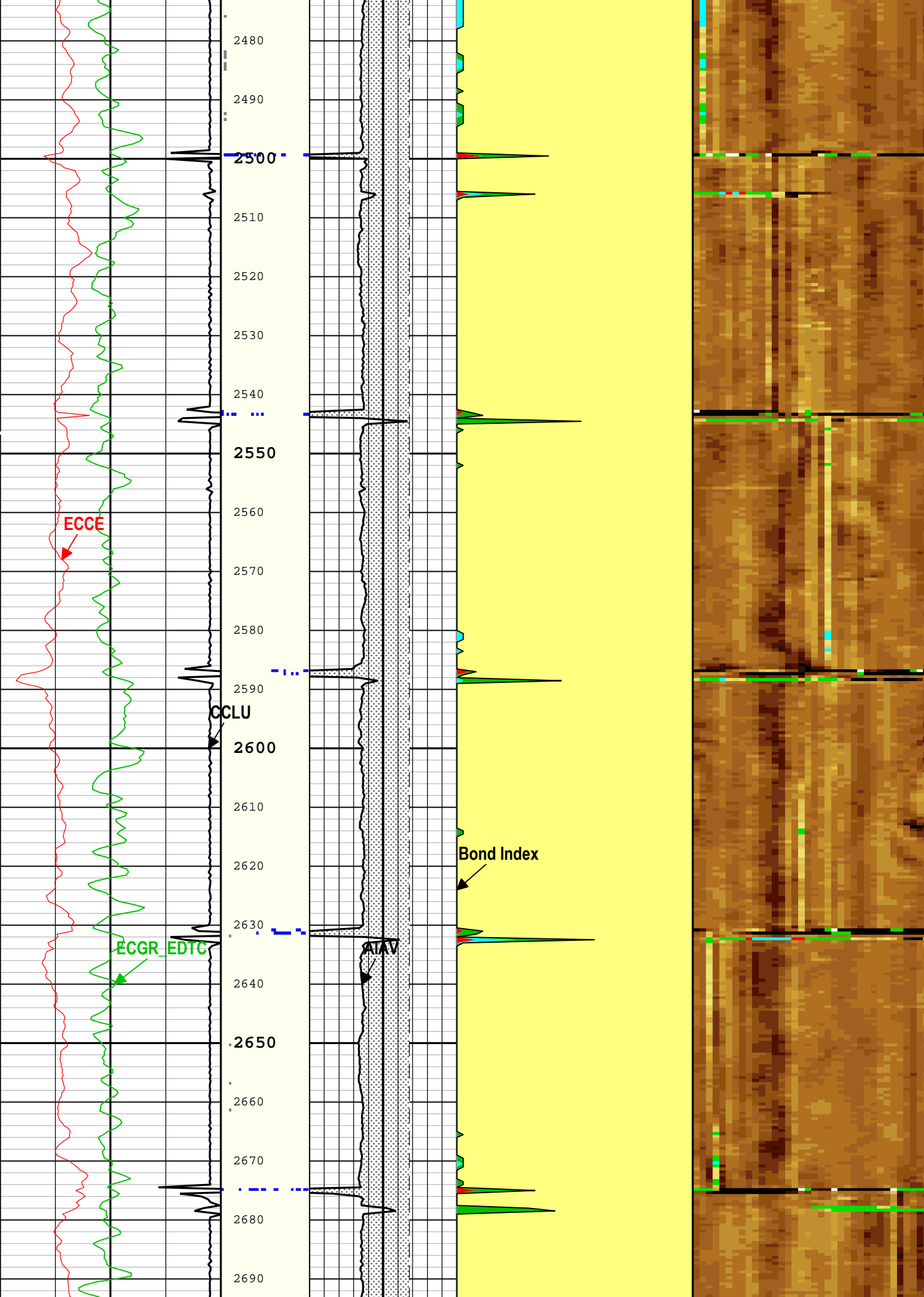


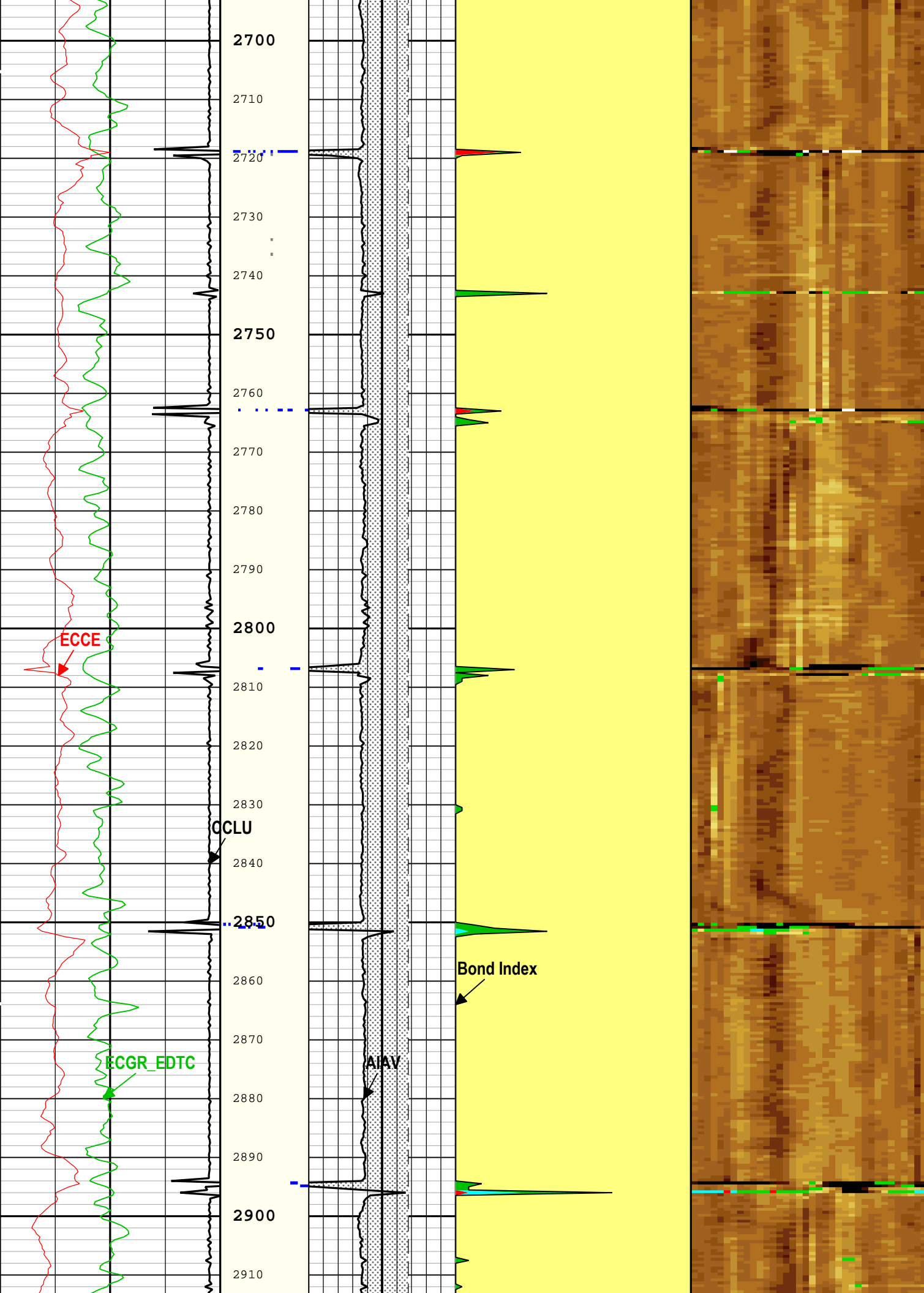


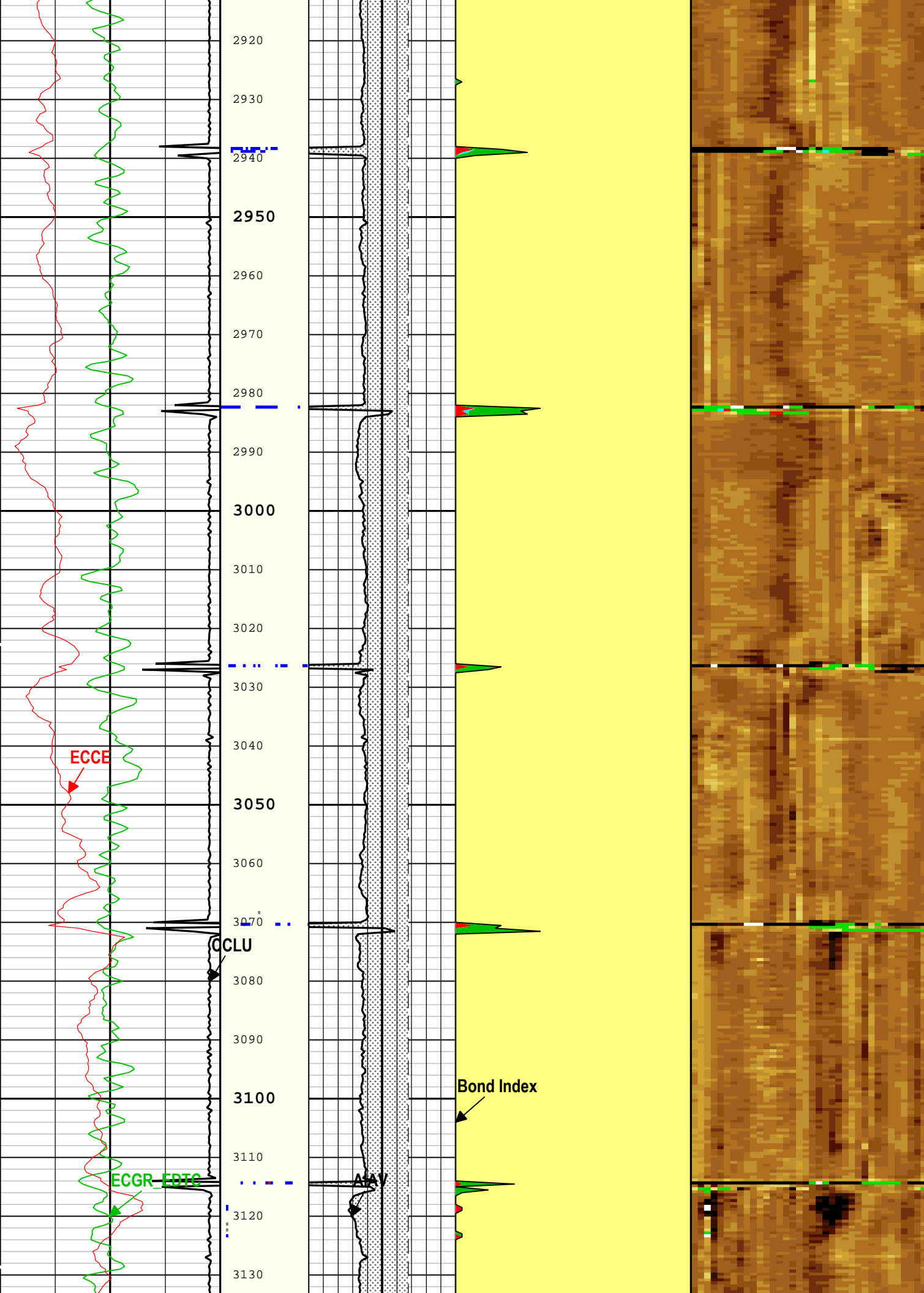


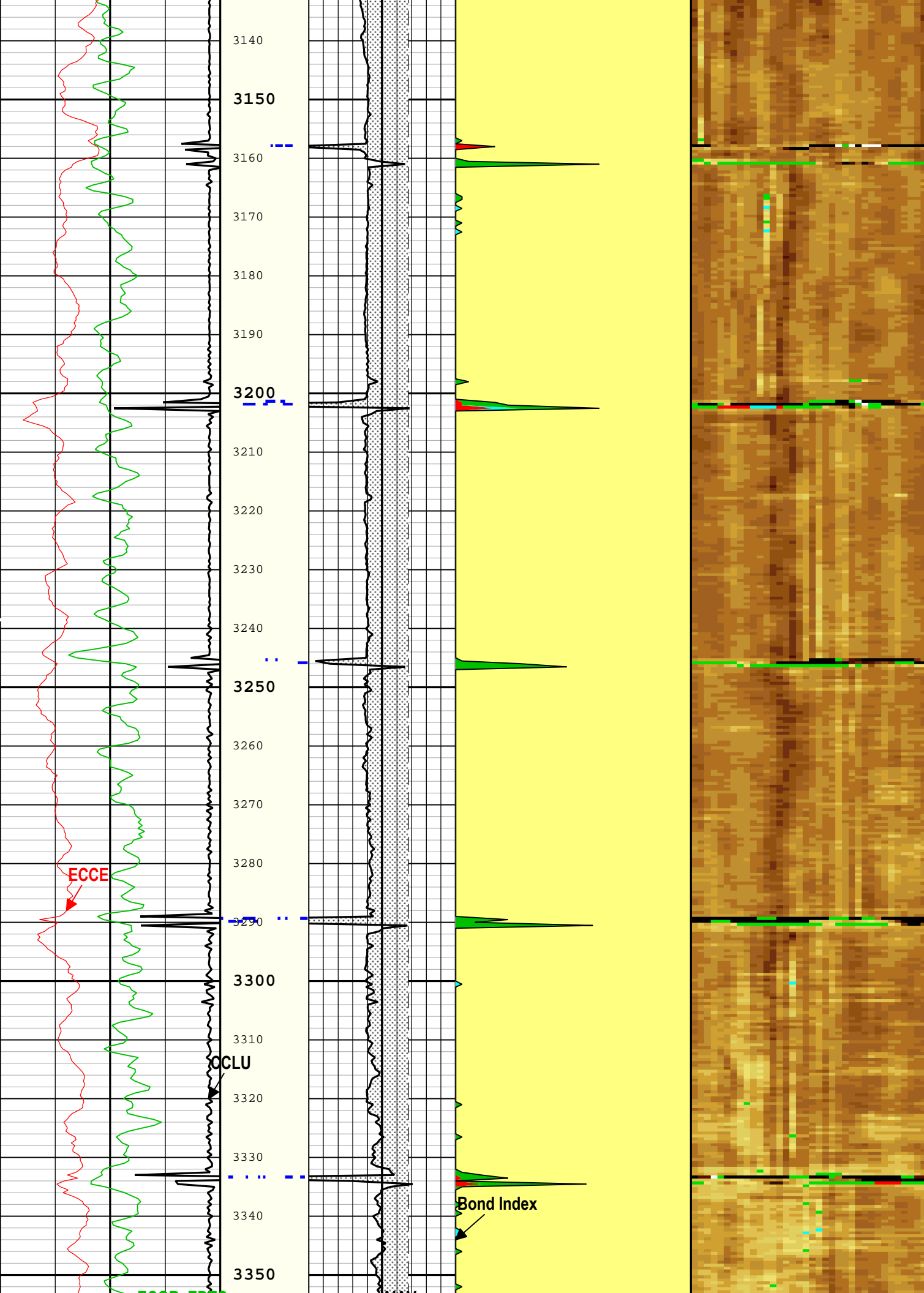


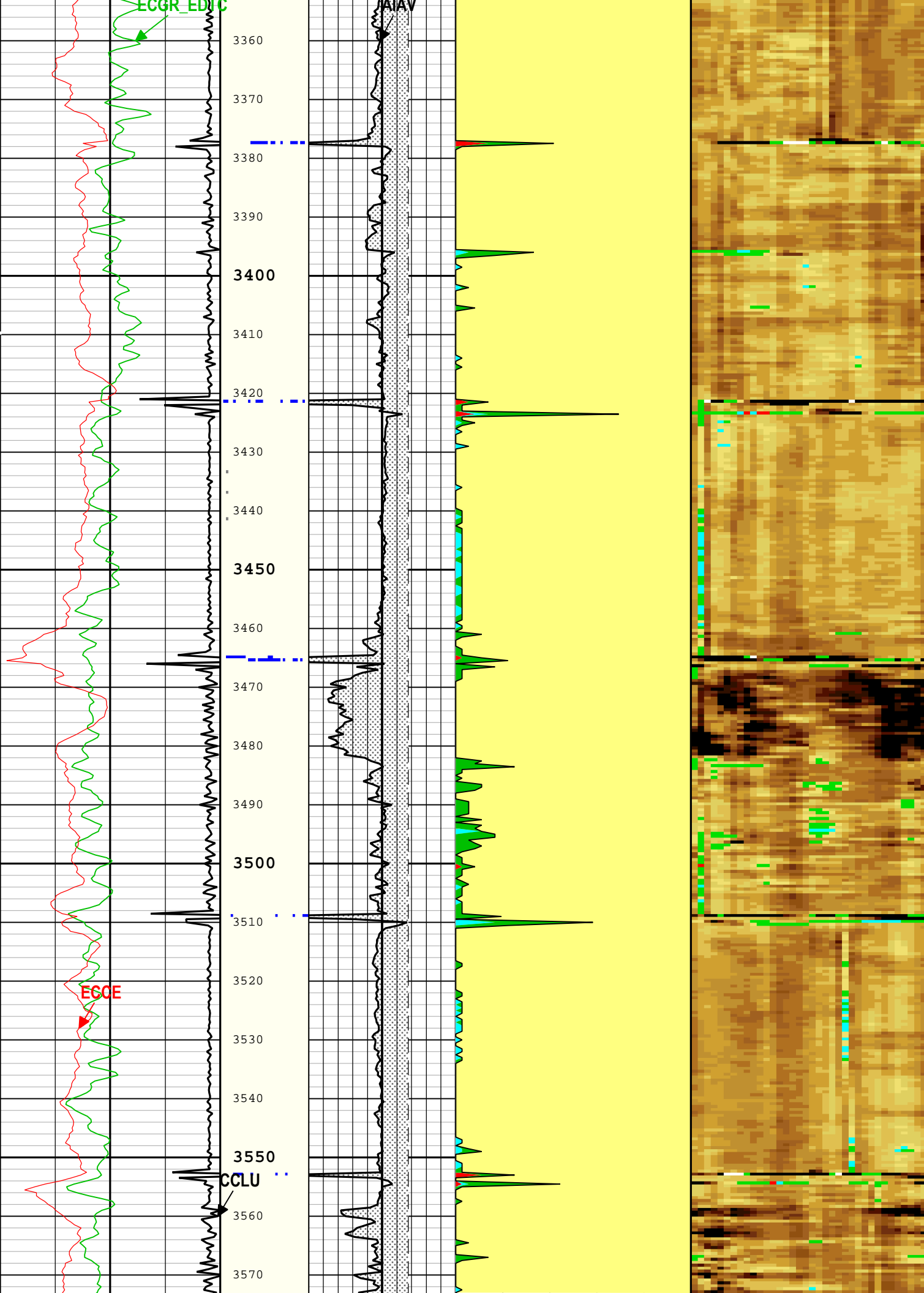


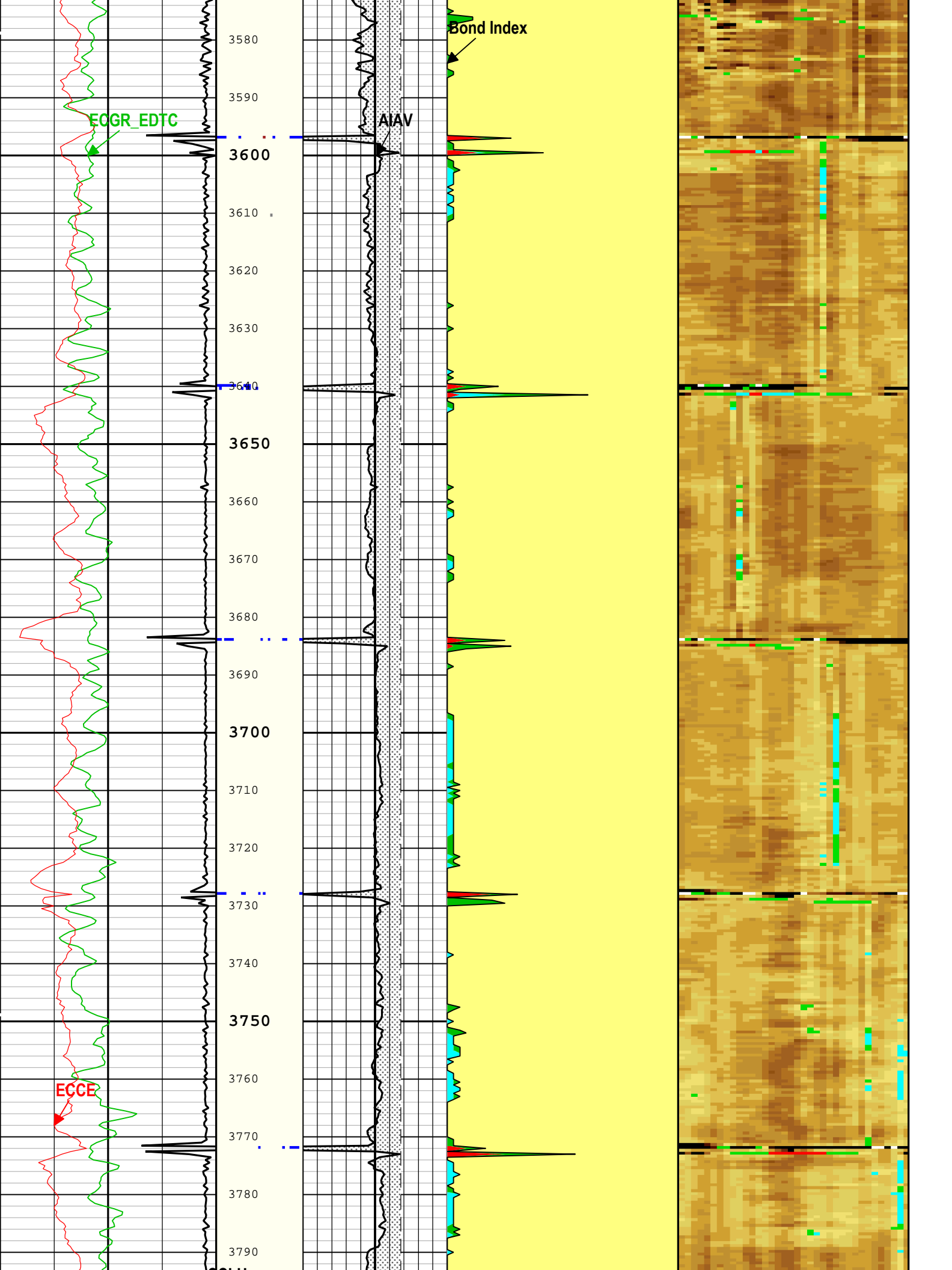


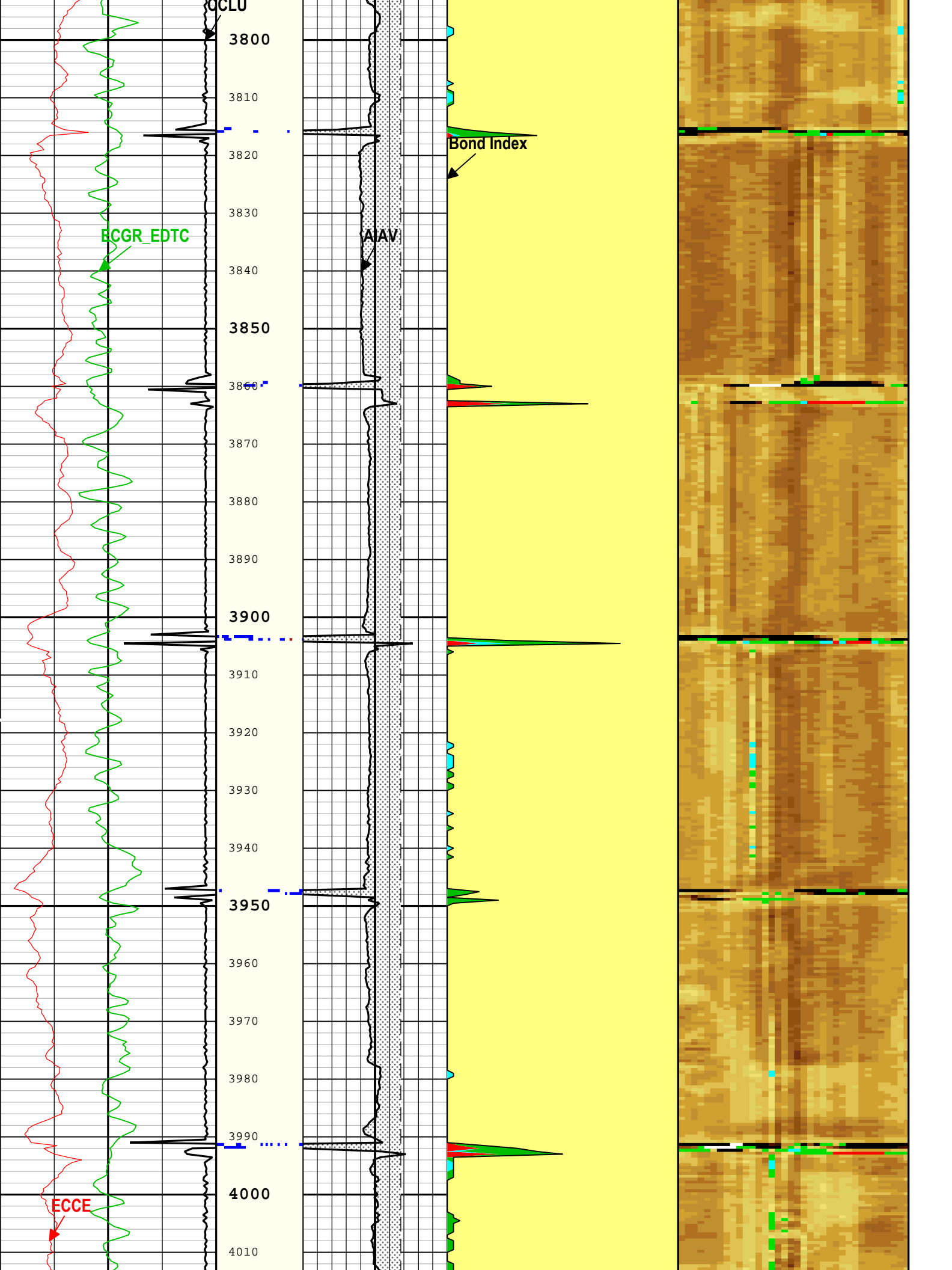


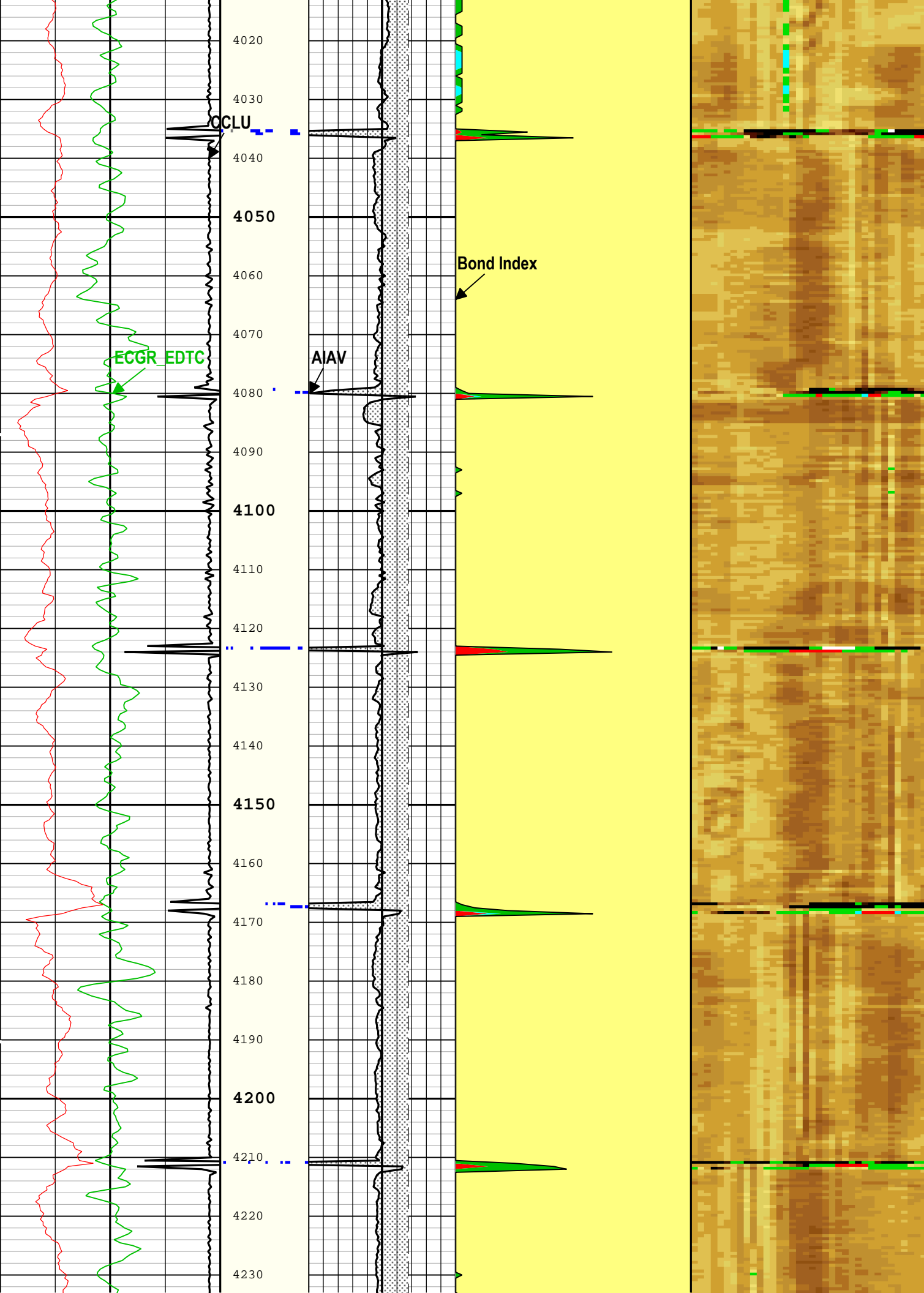


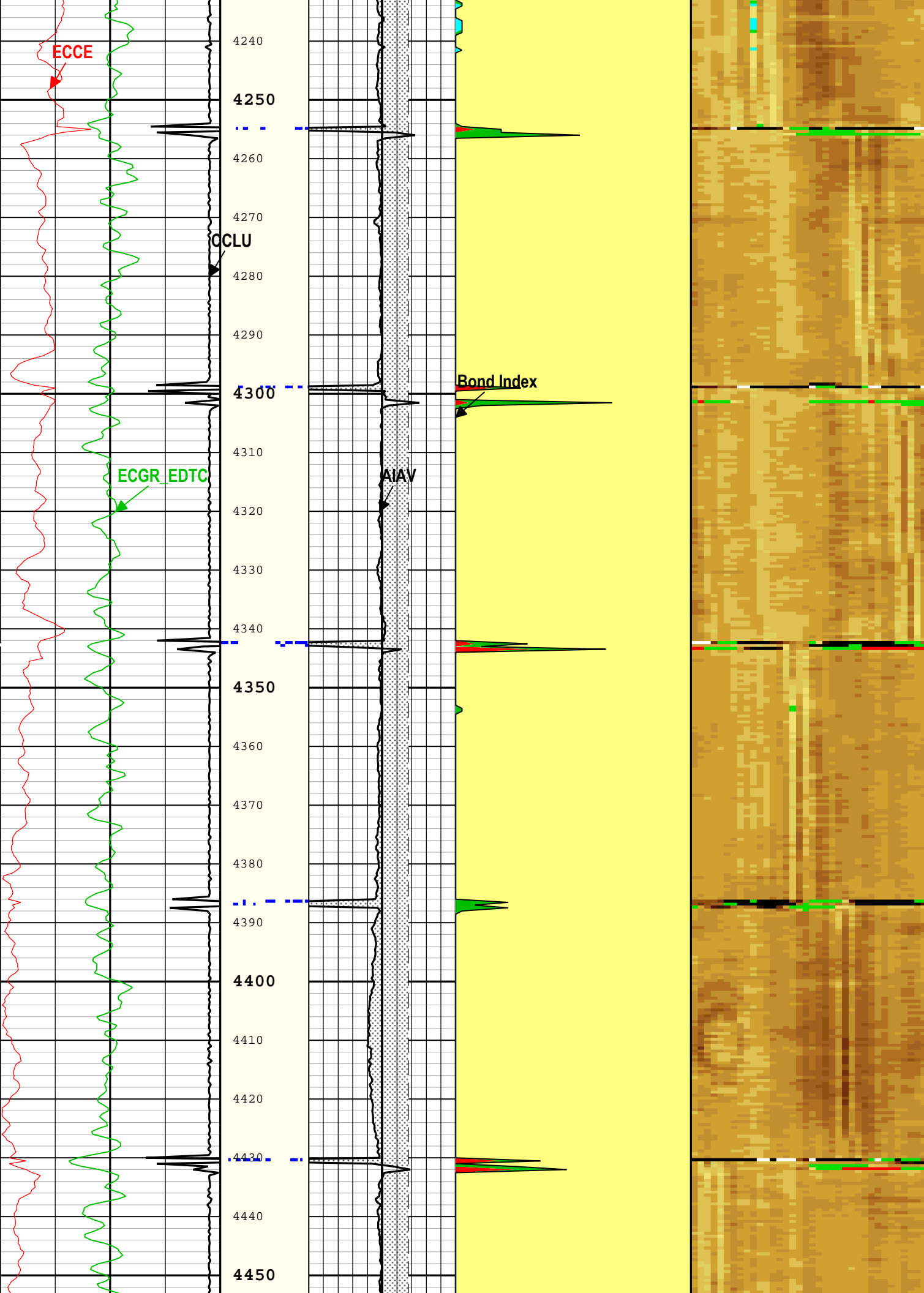


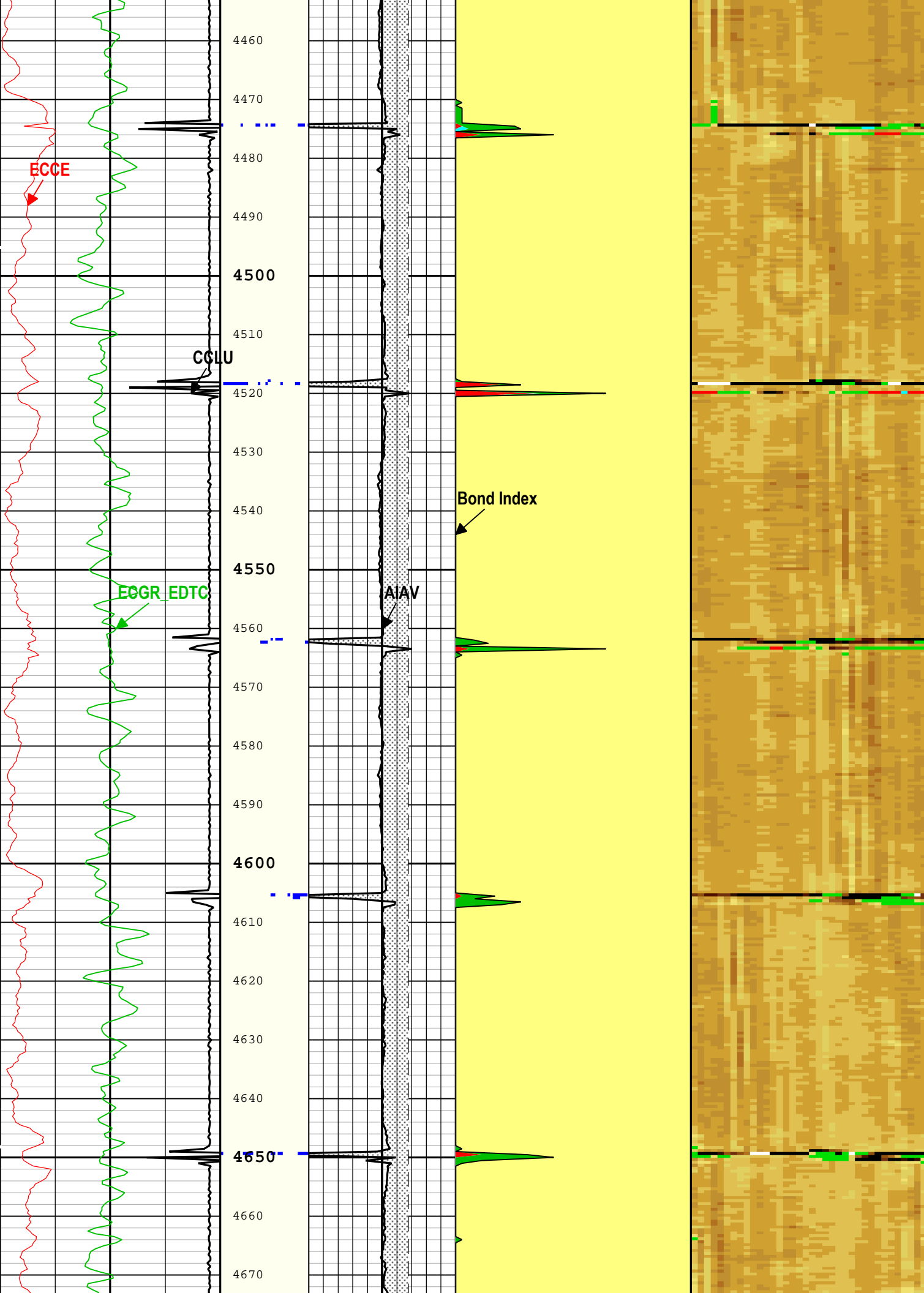


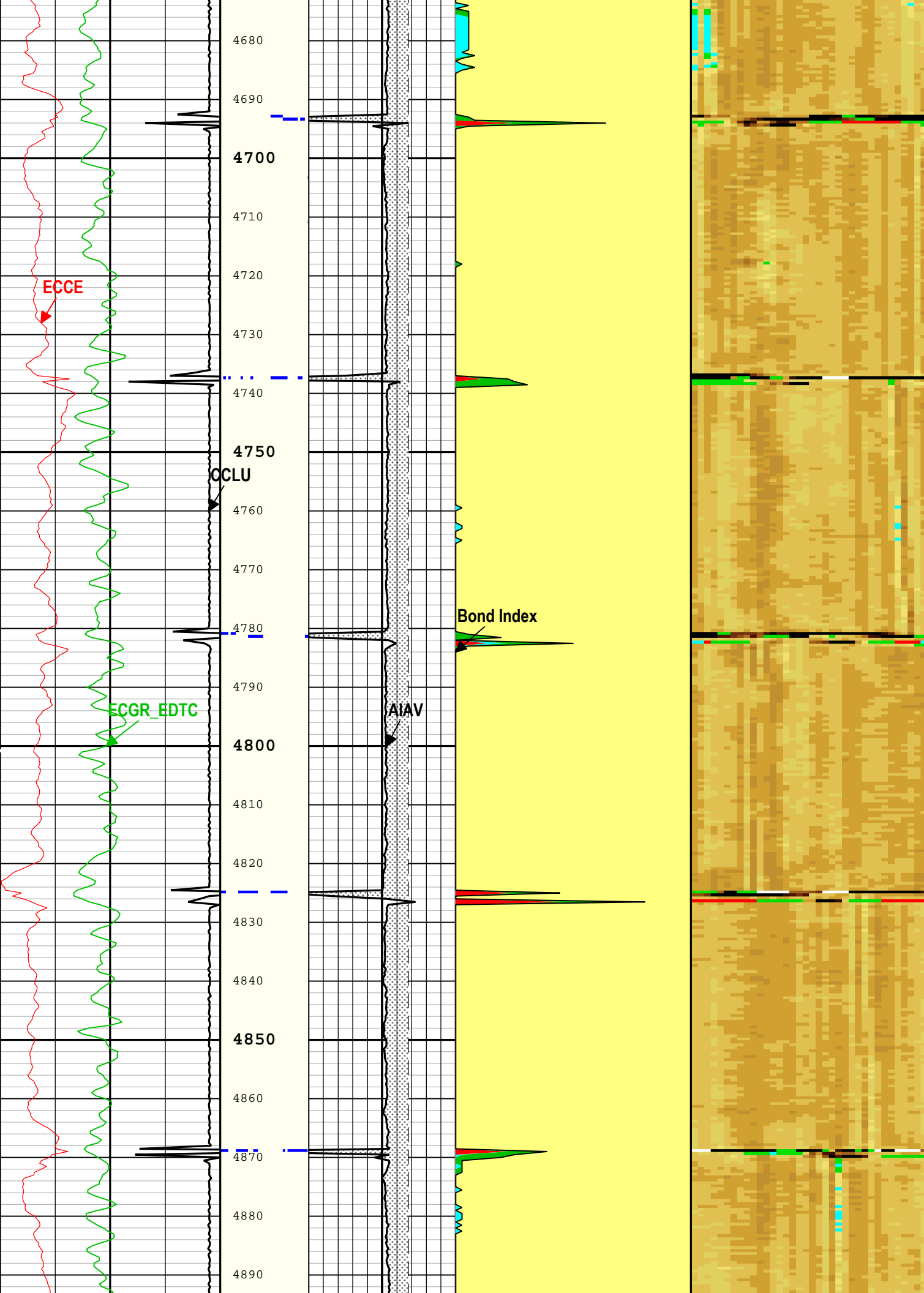


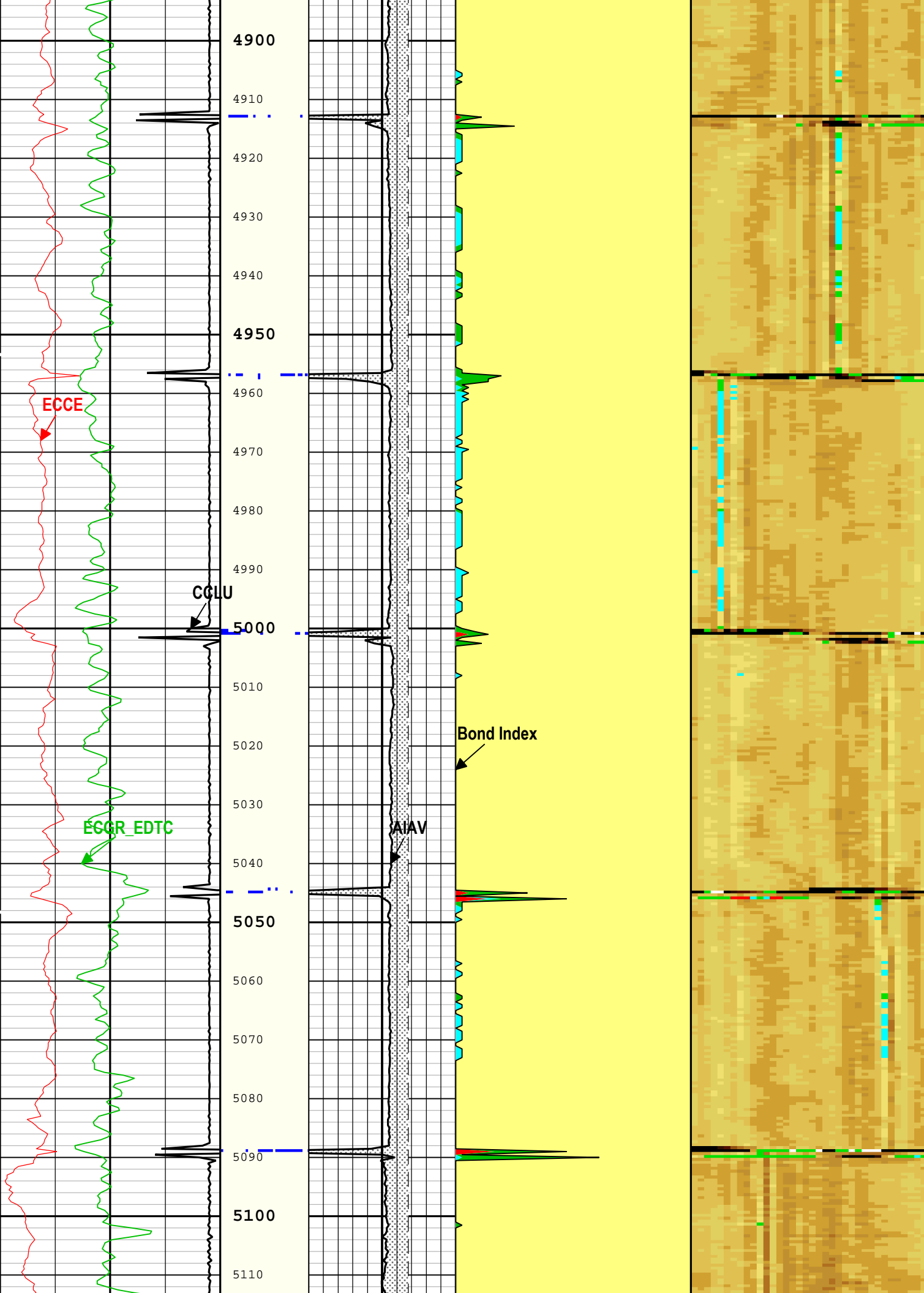


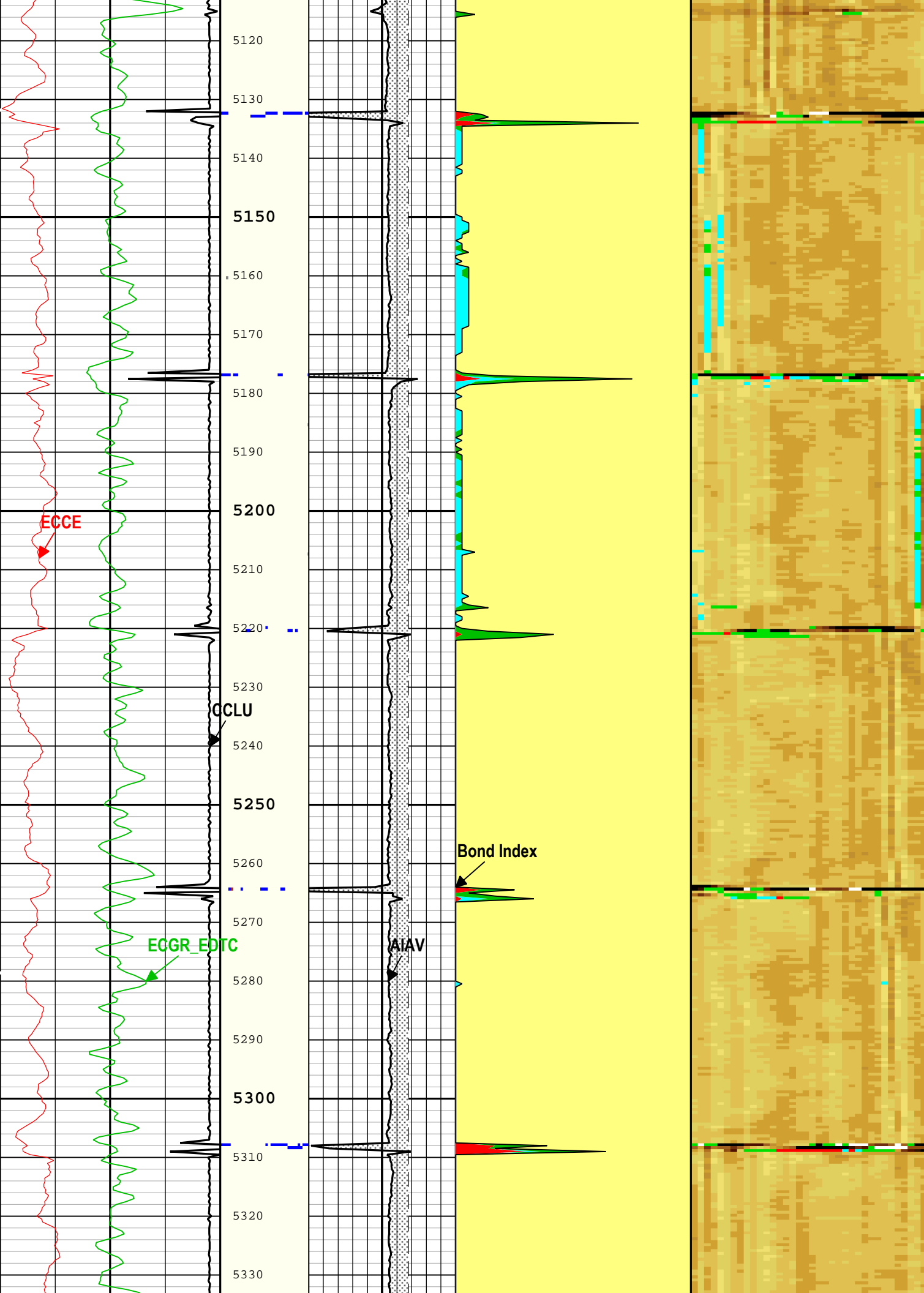


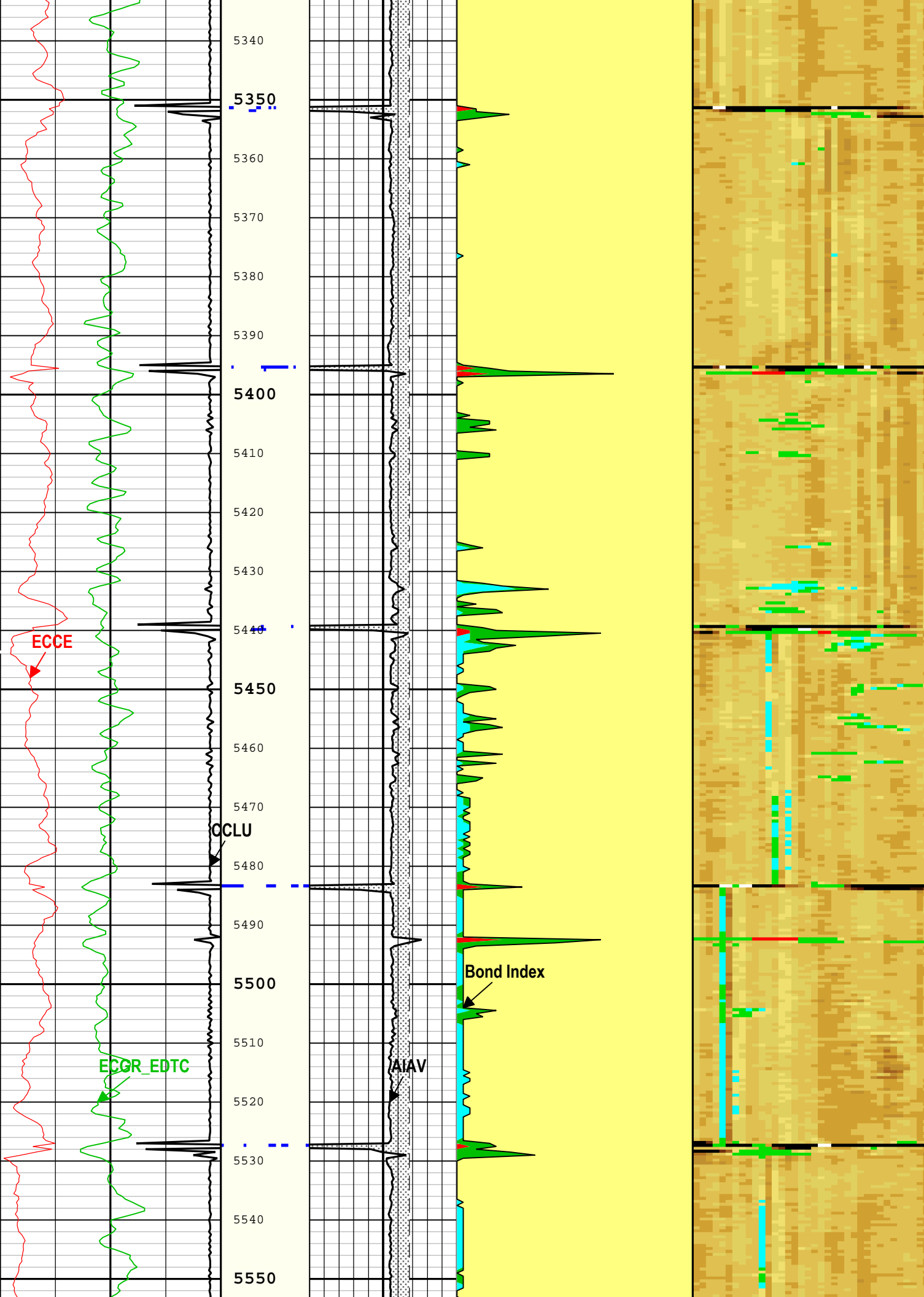


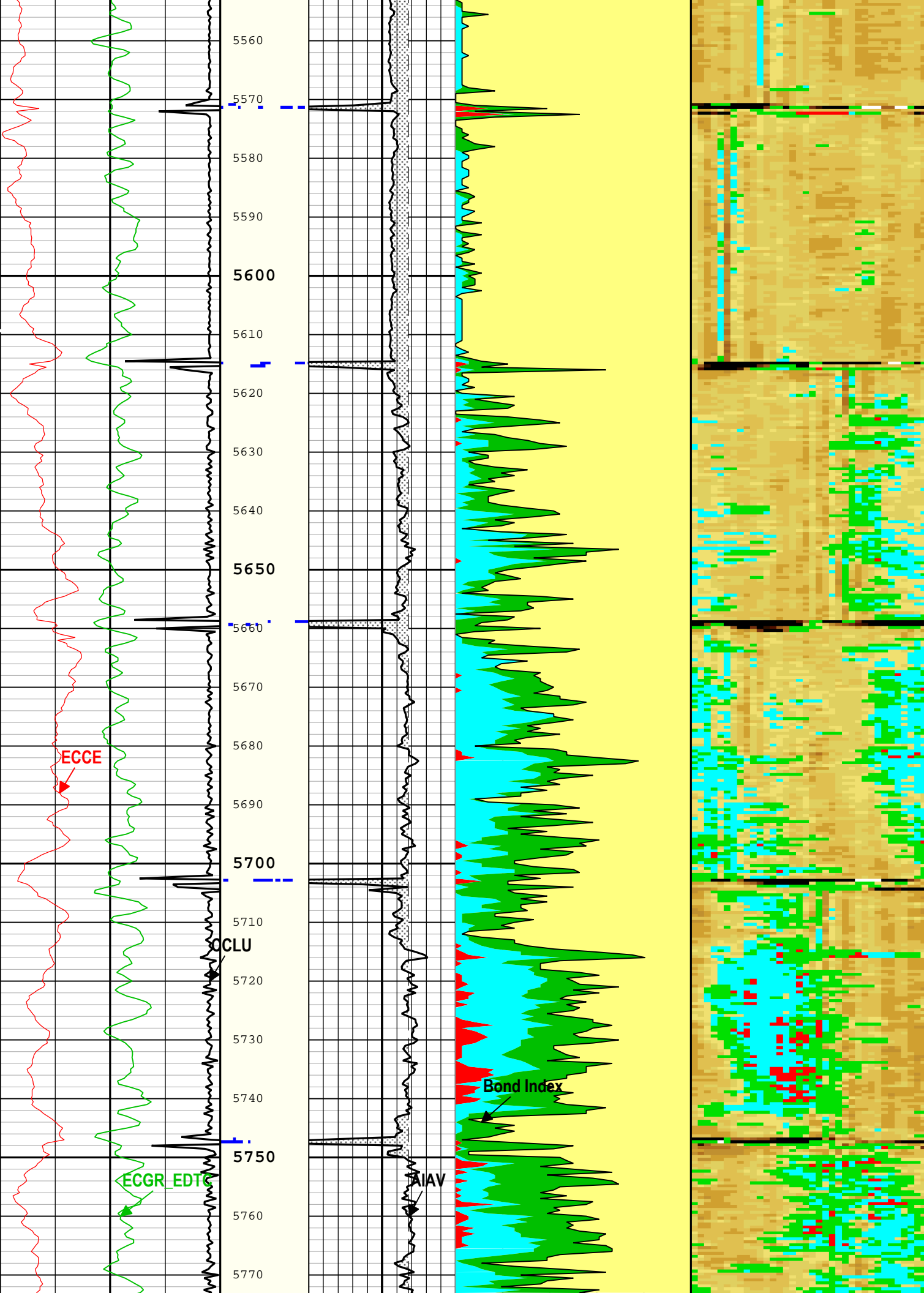


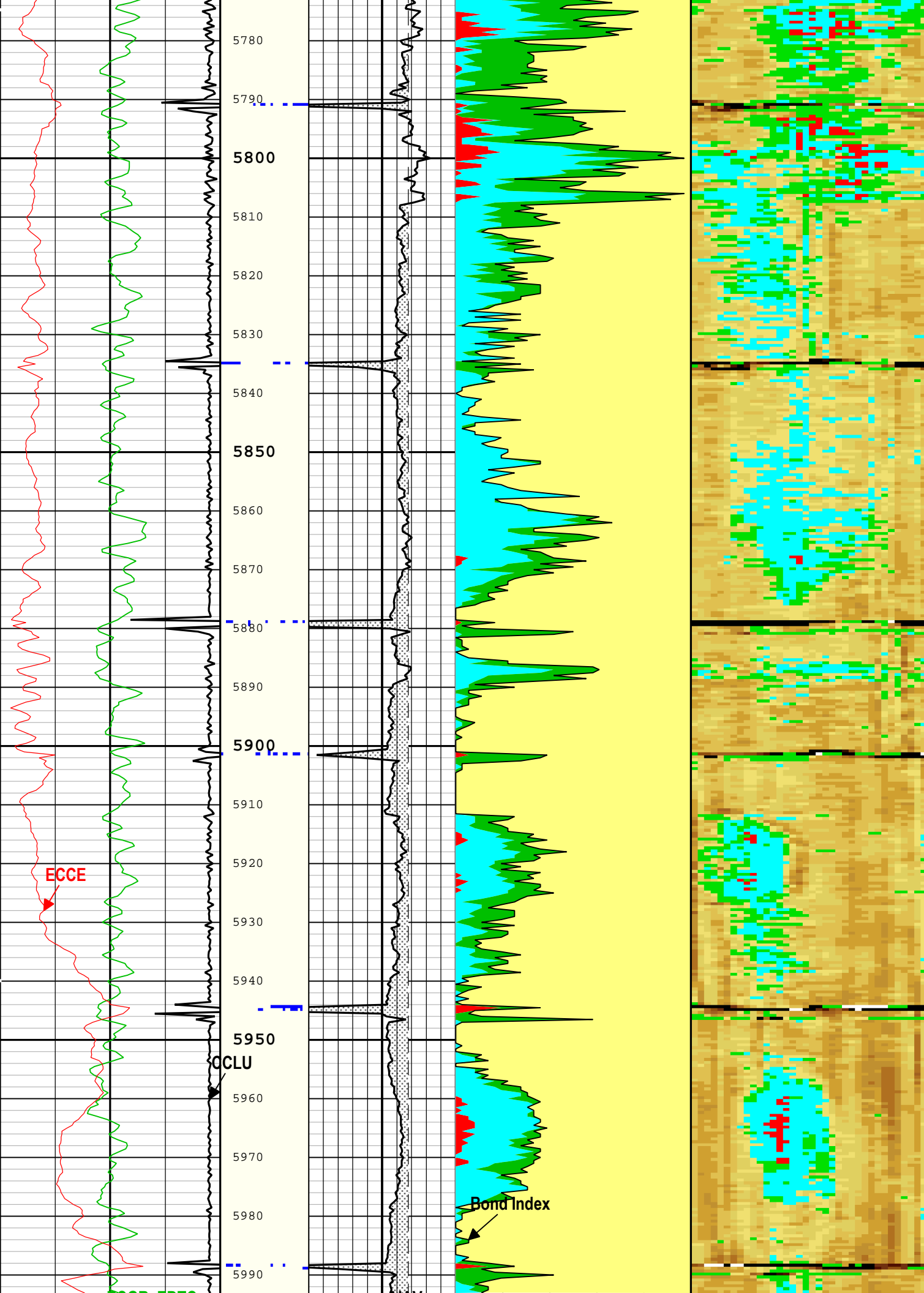


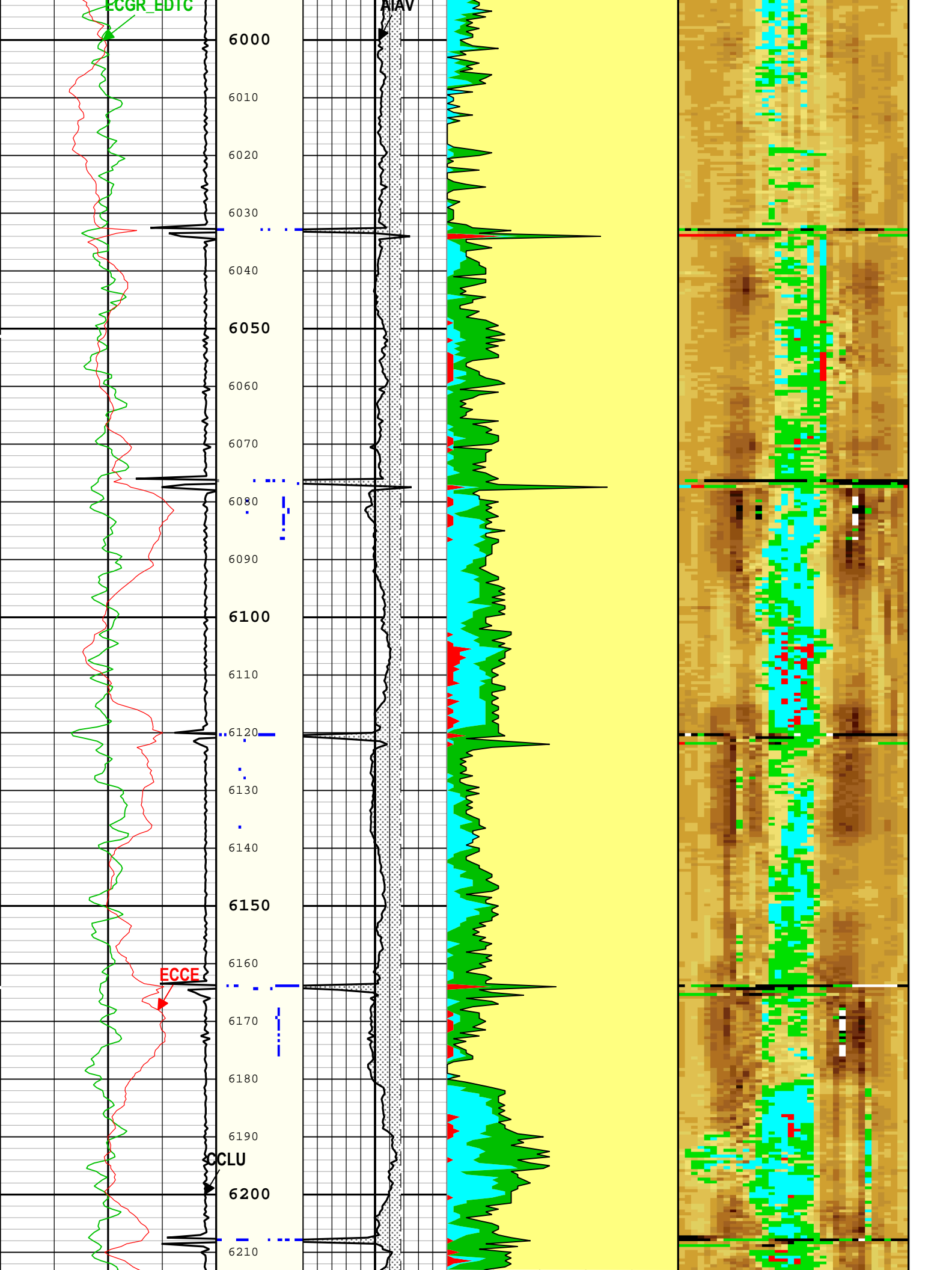


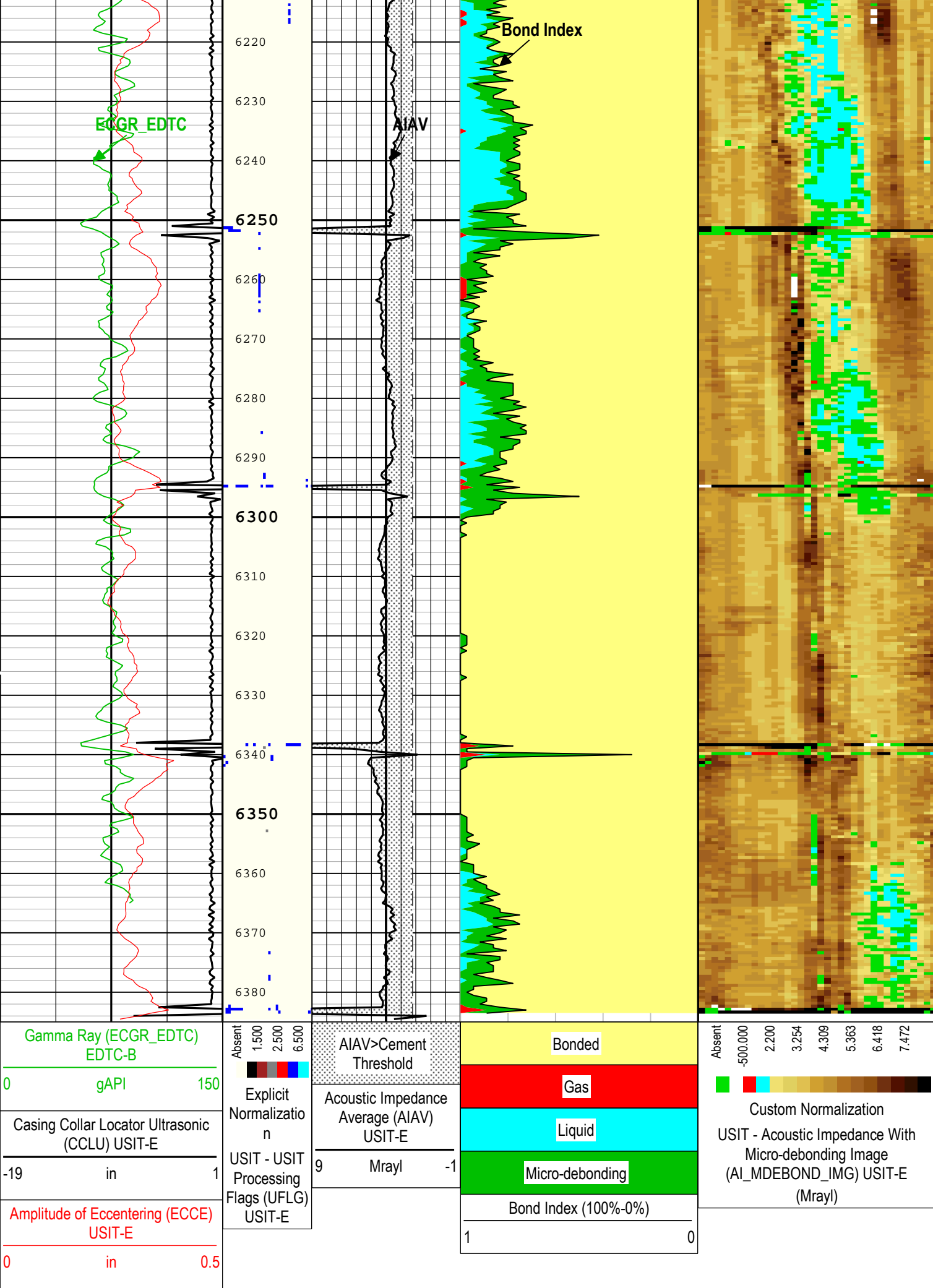












Channel Processing Parameters

1: 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 | 9.875 | in |
| CBLO | Casing Bottom (Logger) | WLSESSION | 11703 | 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 | 8.6 | 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_THE | Theoretical Mud Normalization Factor | USIT-E | 1.06 | |
| U-USIT_DFSZ | Drilling Fluid Specific Acoustic Impedance | USIT-E | 0 | Mrayl |
| USI_FVEL_SEL | USI Fluid Velocity Selection | USIT-E | Automatic | |
| USI_ZMUD_SEL | USI Mud Impedance Selection | USIT-E | Theoretical | |
| 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

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 | |
| 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 |

Time Zone Parameters

| Parameter | Value | Start Time | Stop Time | Start Depth (ft) | Stop Depth (ft) |
|-----------|-------|----------------------|----------------------|--------------------|-------------------|
| EMXV | 100 | 24-Feb-2020 12:18:58 | 24-Feb-2020 12:42:40 | 6385.83 | 3073.56 |
| EMXV | 50 | 24-Feb-2020 12:42:40 | 24-Feb-2020 12:43:17 | 3073.56 | 2975.7 |
| EMXV | 40 | 24-Feb-2020 12:43:17 | 24-Feb-2020 13:05:35 | 2975.7 | 50.94 |

All depth are at tool zero.

REPEAT

Pass Summary

| Run Name | Pass Objective | Direction | Top | Bottom | Start | Stop | DSC Mode | Depth Shift | Include Parallel Data |
|----------|----------------|-----------|------------|------------|-------------------------|-------------------------|----------|-------------|-----------------------|
| 1 | Log[1]:Up | Up | 1983.23 ft | 2535.53 ft | 24-Feb-2020 11:48:41 AM | 24-Feb-2020 11:52:48 AM | ON | 2.08 ft | No |

All depths are referenced to toolstring zero

Log

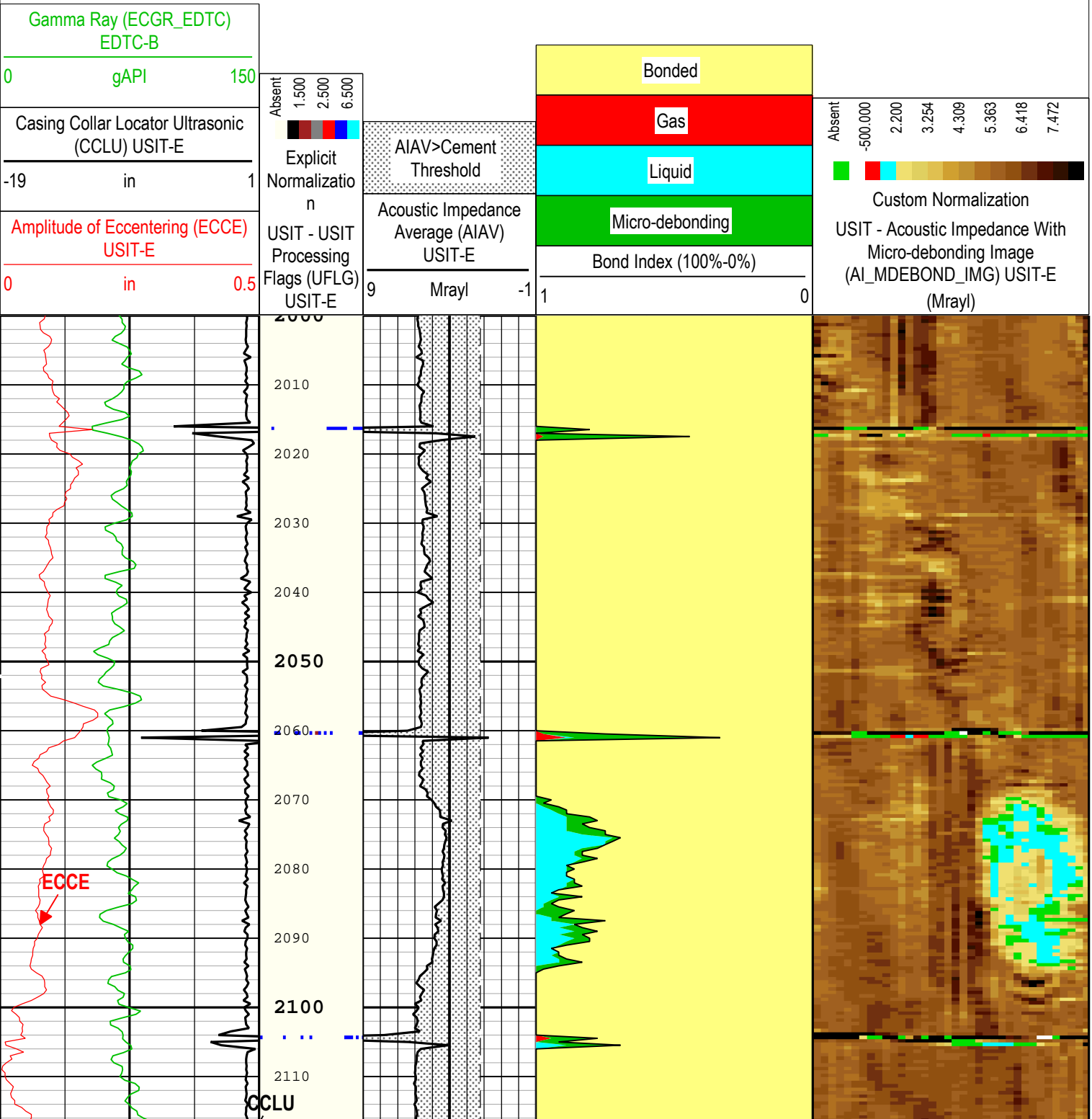
Company:Bonanza Creek Energy

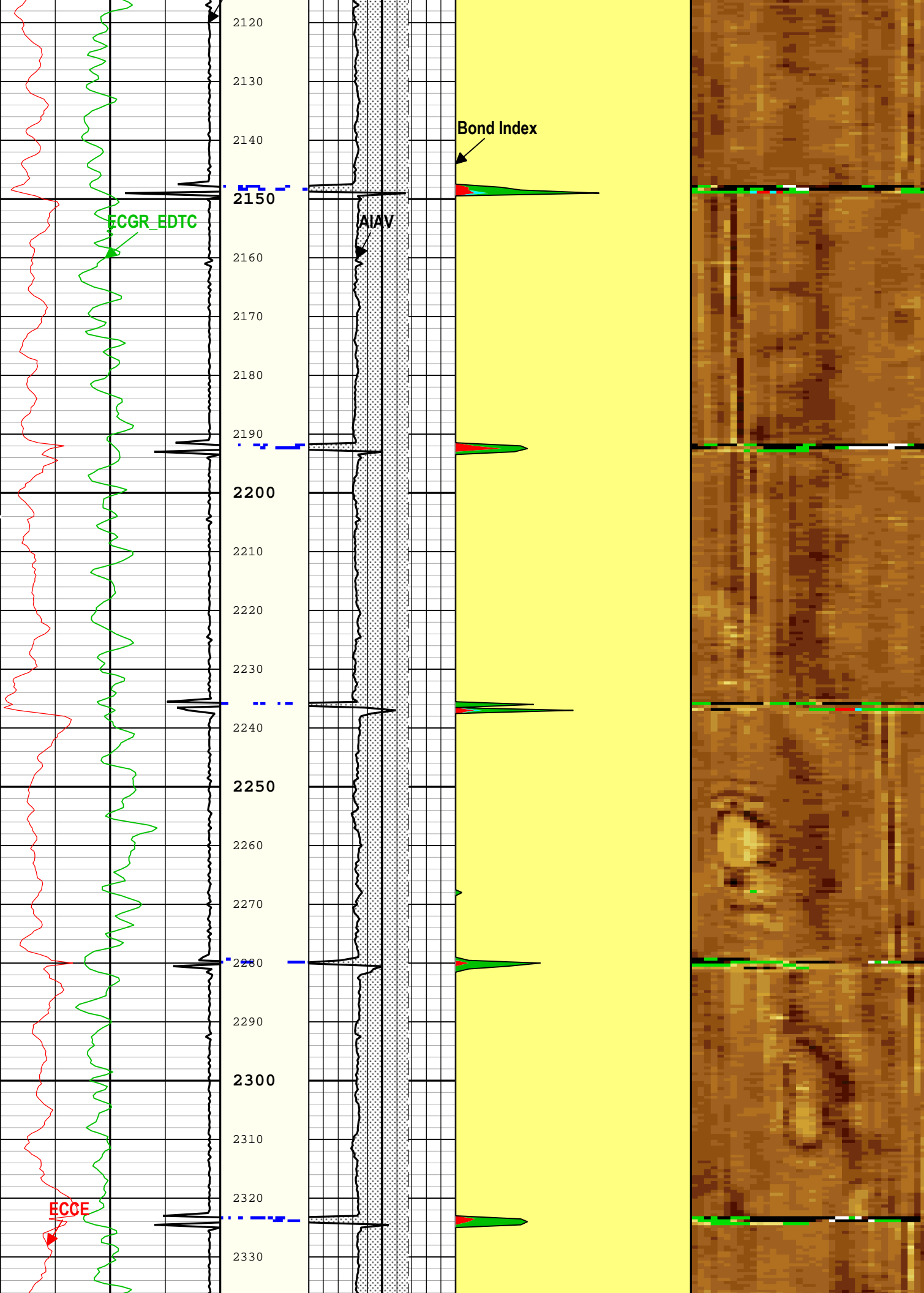
Well:State Antelope Y44-E14-13 HNB

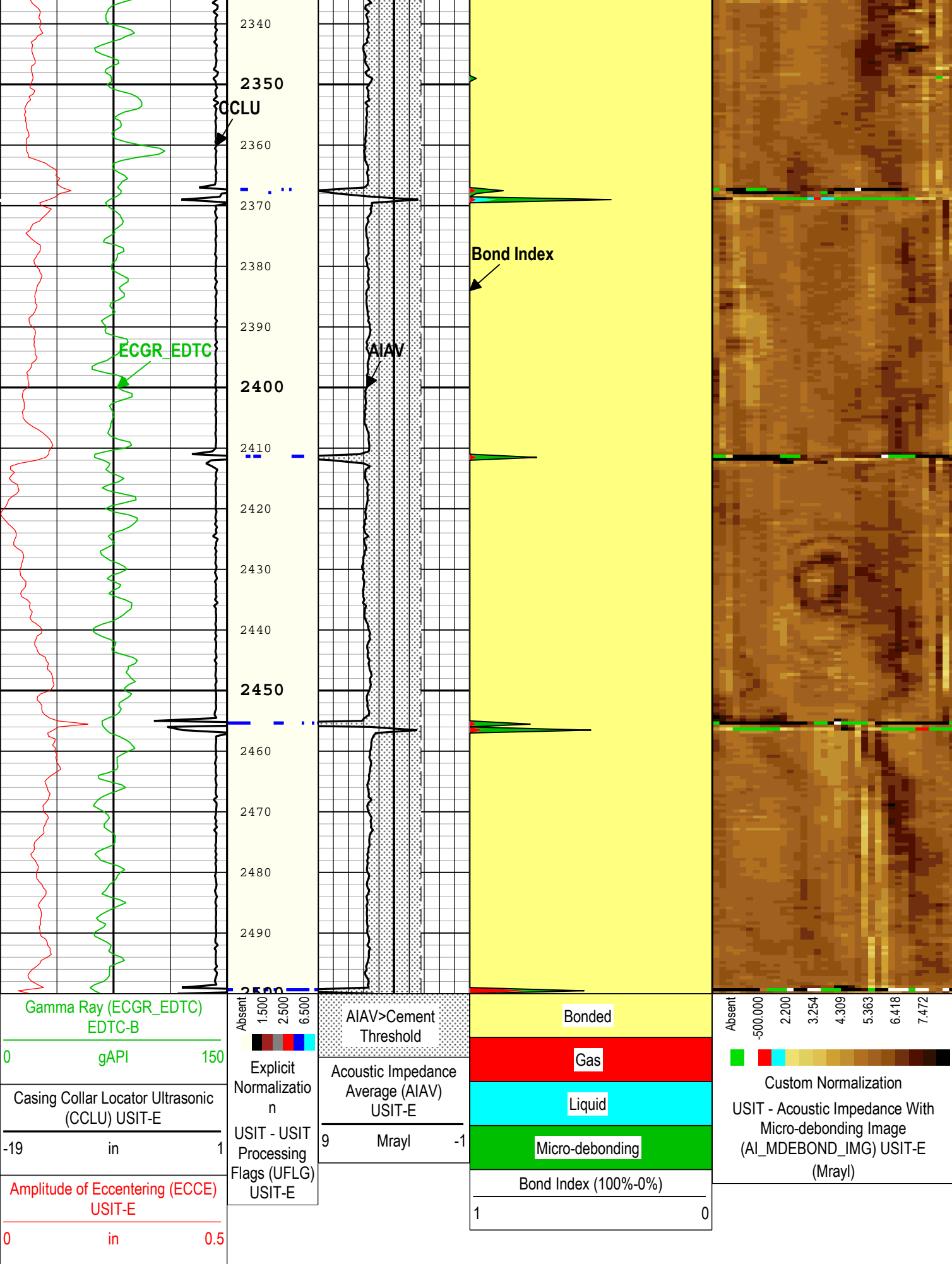
1: Log[1]:Up:S004

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 13:37:20

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 13:37:20

| 1: 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 | 9.875 | in |
| CBLO | Casing Bottom (Logger) | WLSESSION | 11703 | 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 | 8.6 | 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_THE | Theoretical Mud Normalization Factor | USIT-E | 1.06 | |
| U-USIT_DFSZ | Drilling Fluid Specific Acoustic Impedance | USIT-E | 0 | Mrayl |
| USI_FVEL_SEL | USI Fluid Velocity Selection | USIT-E | Automatic | |
| USI_ZMUD_SEL | USI Mud Impedance Selection | USIT-E | Theoretical | |
| 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 | | | | |
|-------------------------|-------------------------------|--------|-------------------------------|------|
| 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 Y44-E14-13 HNB
1: Log[3]:Up:S004

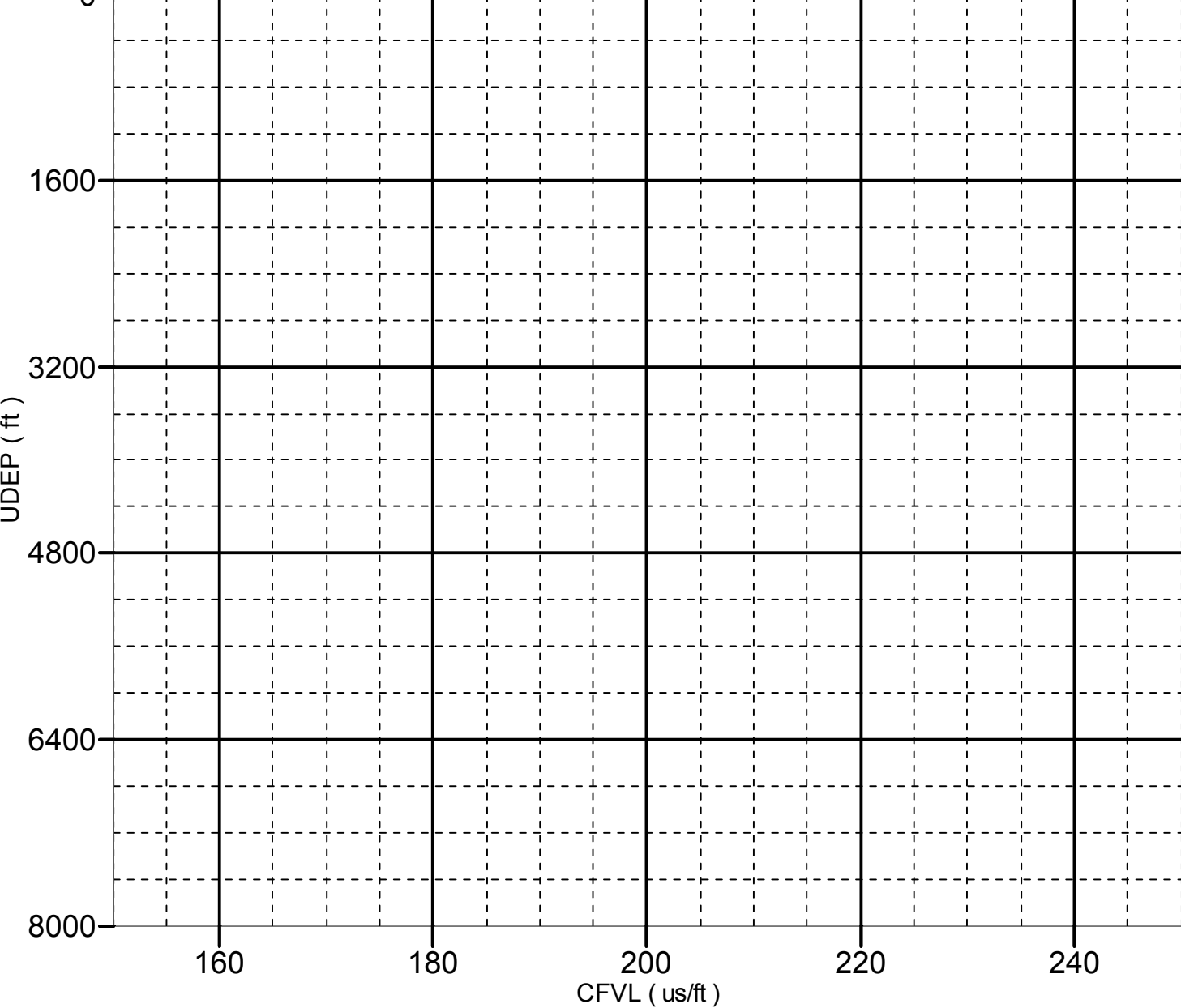
Fluid Acoustic Slowness vs Depth

2D Cross Plot

Index Range: From to ft

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



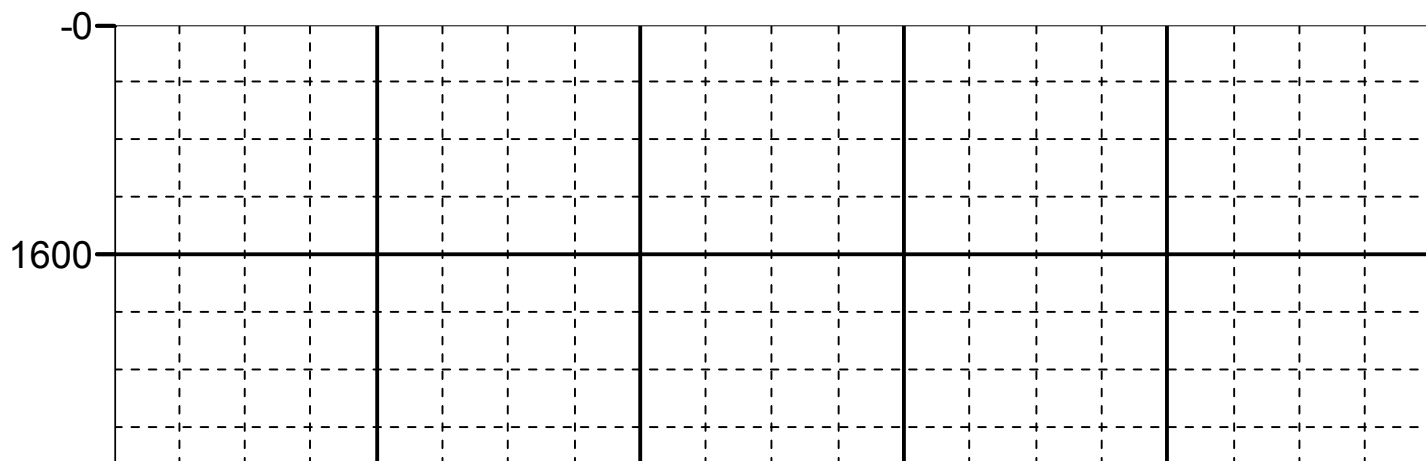


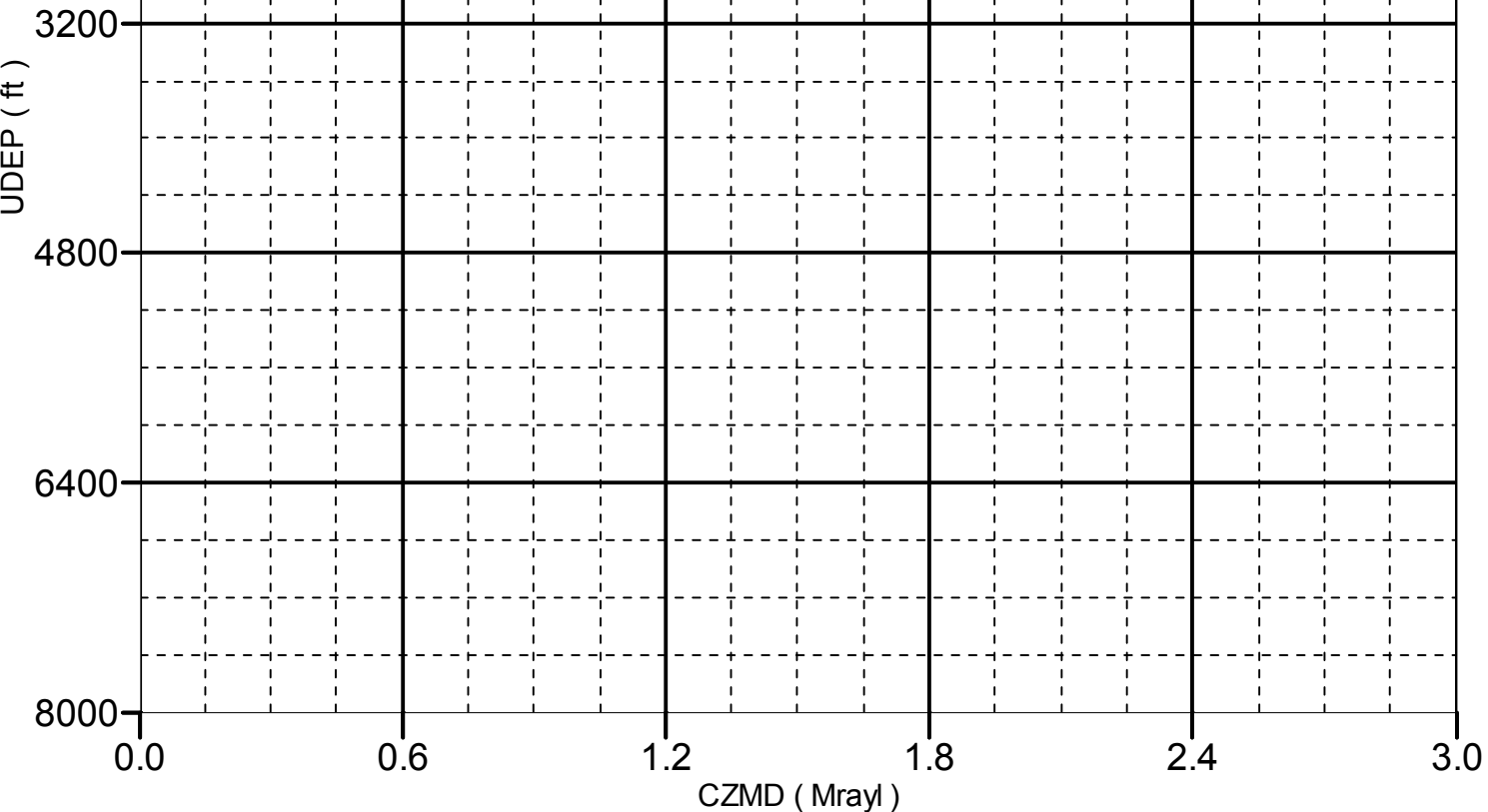
Acoustic Impedance of Mud vs Depth

2D Cross Plot

Index Range: From to ft

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





Company: Bonanza Creek Energy

Schlumberger

Well: State Antelope Y44-E14-13 HNB

Field: Wattenberg

County: Weld

State: Colorado

UltraSonic Summary Print

