

Company: Anadarko Petroleum Company

Well: Benson Farms 25C-19HZ

Field: Wattenberg

County: Weld State: Colorado

Ultrasonic Imager
Cement Evaluation
Gamma Ray - CCL

County: Weld
Field: Wattenberg
Location: NWSW Sec. 24, T3N, R68W
Well: Benson Farms 25C-19HZ
Company: Anadarko Petroleum Company

Location:			
NWSW Sec. 24, T3N, R68W SHL: 2165' FSL X 51' FWL		Elev.:	K.B. 4973.00 ft G.L. 4957.00 ft D.F. 4972.00 ft
Permanent Datum:	Ground Level	Elev.:	4957.00 f
Log Measured From:	Kelly Bushing	16.00 ft	above Perm.Datum
Drilling Measured From:	Kelly Bushing		
API Serial No.	Section:	Township:	Range:
05-123-39396-0000	24	3N	68W

Logging Date	12-Aug-2014
Run Number	Run 1 USIT
Depth Driller	14544.00 ft
Schlumberger Depth	14544.00 ft
Bottom Log Interval	6620.00 ft
Top Log Interval	
Casing Fluid Type	Brine
Salinity	
Density	8.4 lbm/gal
Fluid Level	0.00 ft
BIT/CASING/TUBING STRING	
Bit Size	8.75 in
From	0.00 ft
To	14544.00 ft
Casing/Tubing Size	7 in
Weight	26 lbm/ft
Grade	P110
From	0.00 ft
To	7646.00 ft
Max Recorded Temperatures	215 degF
Logger on Bottom	Time
Unit Number	Location:
Recorded By	Tim Hoffman
Witnessed By	Trevor Daniel

Disclaimer

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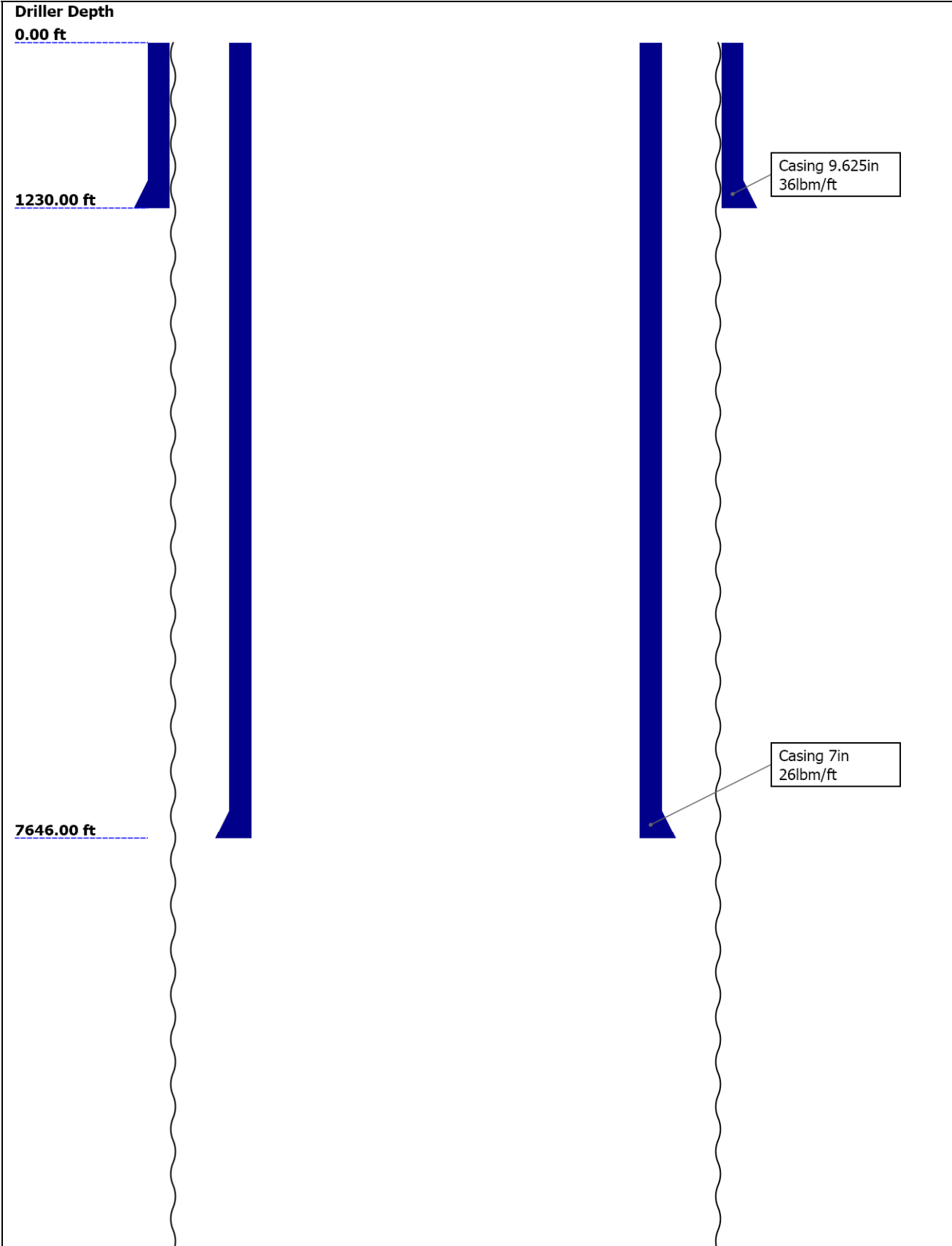
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Well Sketch





Borehole Size/Casing/Tubing Record

Bit						
Bit Size (in)	8.75					
Top Driller (ft)	0					
Top Logger (ft)	0					
Bottom Driller (ft)	14544					
Bottom Logger (ft)	14544					
Casing						
Size (in)	9.625	7				
Weight (lbm/ft)	36	26				
Inner Diameter (in)	8.921	6.276				
Grade	J55	P110				
Top Driller (ft)	0	0				
Top Logger (ft)	0	0				
Bottom Driller (ft)	1230	7646				
Bottom Logger (ft)	1230	7646				

Operational Run Summary

Parameter (unit)	Run1 USIT					
Date Log Started	12-Aug-2014					
Time Log Started	09:07:52					
Date Log Finished	12-Aug-2014					
Time Log Finished	12:57:36					
Top Log Interval (ft)	NaN					
Bottom Log Interval (ft)	6620.00					
Total Depth (ft)	14544.00					
Max Hole Deviation (deg)	0.00					
Azimuth of Max Deviation (deg)	0.00					
Bit Size (in)	8.750					
Logging Unit Number	3030					
Logging Unit Location	Ft. Morgan, CO					
Recorded By	Tim Hoffman					
Witnessed By	Trevor Daniel					
Service Order Number	CX03-00082					

Remarks and Equipment Summary

Run1 USIT: Toolstring			Run1 USIT: Remarks
Equip name Length LEH-QT:24 30.75 93 LEH-QT:2493		MP name Offset CTEM 26.94 HV 0.00 ToolStatus 24.84 TelStatus 24.84 GR 23.92 USI Sens 0.38 or TOOL_ZERO Head Position	This is the first run in hole Toolstring run as per tool sketch 12.0 ppg lead cement 13.0 ppg tail cement 0 PSI repeat pass (6620' to surface) 2800 PSI main pass (6620' to surface) Crew: Derrick Hunter, Aaron Weber, Gary Lapp
DTC-H:938 27.84 6 ECH-KC:1047 2 DTC-H:9386			
SGT-N:984 24.84 1 SGH-K:2693 SGD-TAA:213 65 SGC-TB:9841			
CME-AF 19.34			
USIT-E:928 15.54 ECH-MFA:19 03 USAC-A:928 USIS-A:1804 USSC-B USRS-B:875 USI-SENSOR			
Lengths are in ft Maximum Outer Diameter = 4.645 in Line: Sensor Location, Value: Gating Offset All measurements are relative to TOOL_ZERO			

Depth Summary

	Run1 USIT		
Depth Measuring Device			
Type	IDW-B		
Serial Number	6428		
Calibration Date	21-Apr-2014		
Calibrator Serial Number			
Calibration Cable Type	7-39P LXS		
Wheel Correction 1	-5		
Wheel Correction 2	-4		

Tension Device

Version Device

Type	CMTD-B/A		
Serial Number	2858		
Calibration Date	09-Aug-2014		
Calibrator Serial Number			
Number of Calibration Points	10		
Calibration Root Mean Square Error	24		
Calibration Peak Error	49		

Logging Cable

Type	7-39P-LXS		
Serial Number			
Length	18000.00 ft		
Conveyance Type	Wireline		
Rig Type			

Run1 USIT:Depth Control Parameters		Depth Control Remarks
Log Sequence	First Log In the Well	All Schlumberger depth control policies followed
Rig Up Length At Surface		IDW used as primary depth reference. Z-chart used as secondary
Rig Up Length At Bottom		
Rig Up Length Correction		
Stretch Correction		
Tool Zero Check At Surface		

Copy of USI Composite	
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USIT - Fluid Properties Measurement

Run Name	Pass Name	Start Depth(ft)	Stop Depth(ft)
Run 3	Log[4]:Up	6631.21	12.42

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 = "Manual".
CZMD uses ZMUD parameter zoned table below

Start Depth(ft)	Stop Depth(ft)	Start Value(Mrayl)	End Value(Mrayl)
0	200	1.67	1.67
200	400	1.67	1.67
400	700	1.68	1.68
700	1000	1.7	1.7
1000	1500	1.72	1.72
1500	2000	1.74	1.74
2000	2500	1.76	1.76
2500	3000	1.78	1.78
3000	4000	1.79	1.79
4000		1.8	1.8






Run1 USIT

2800 PSI Pass

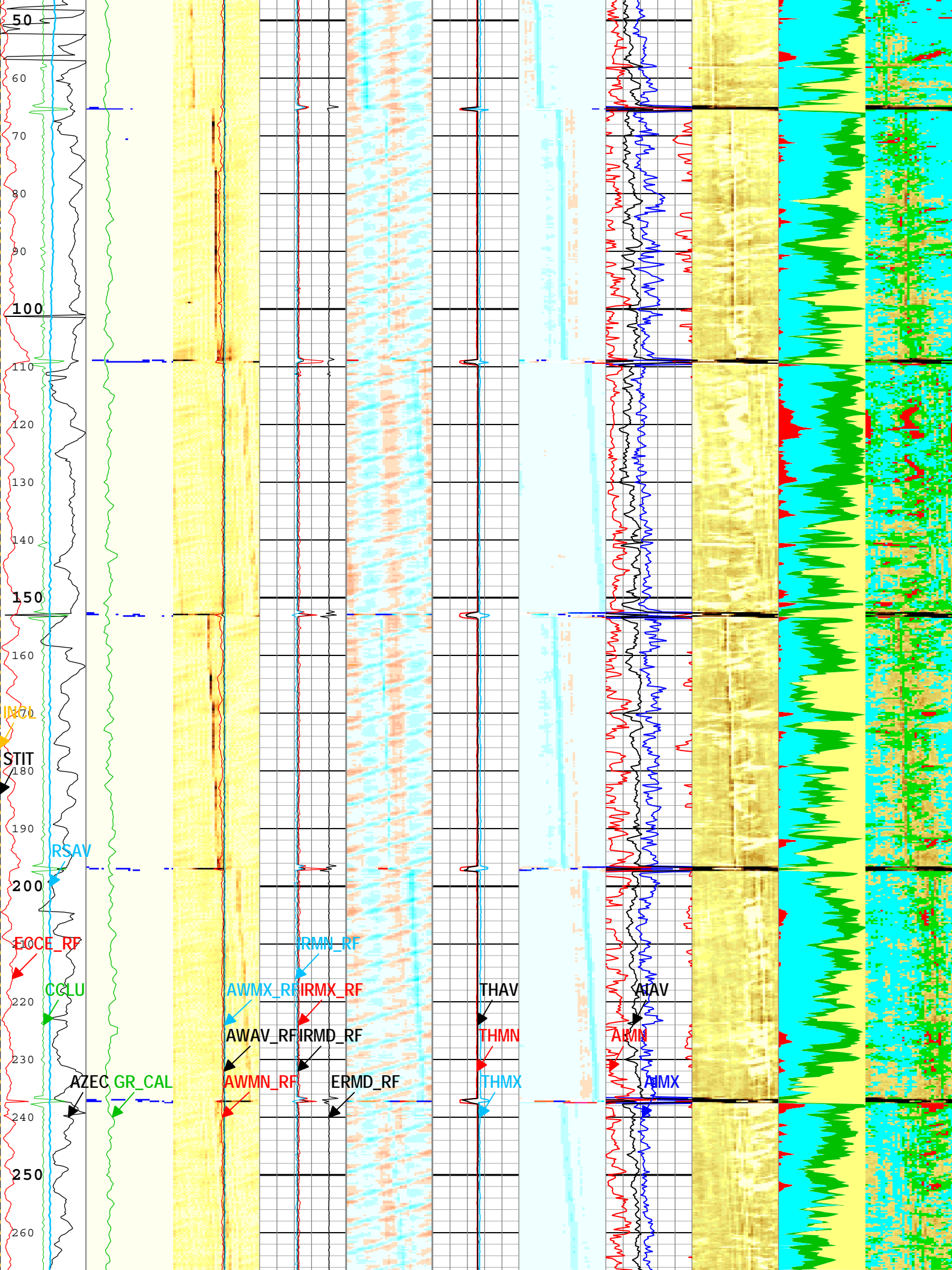
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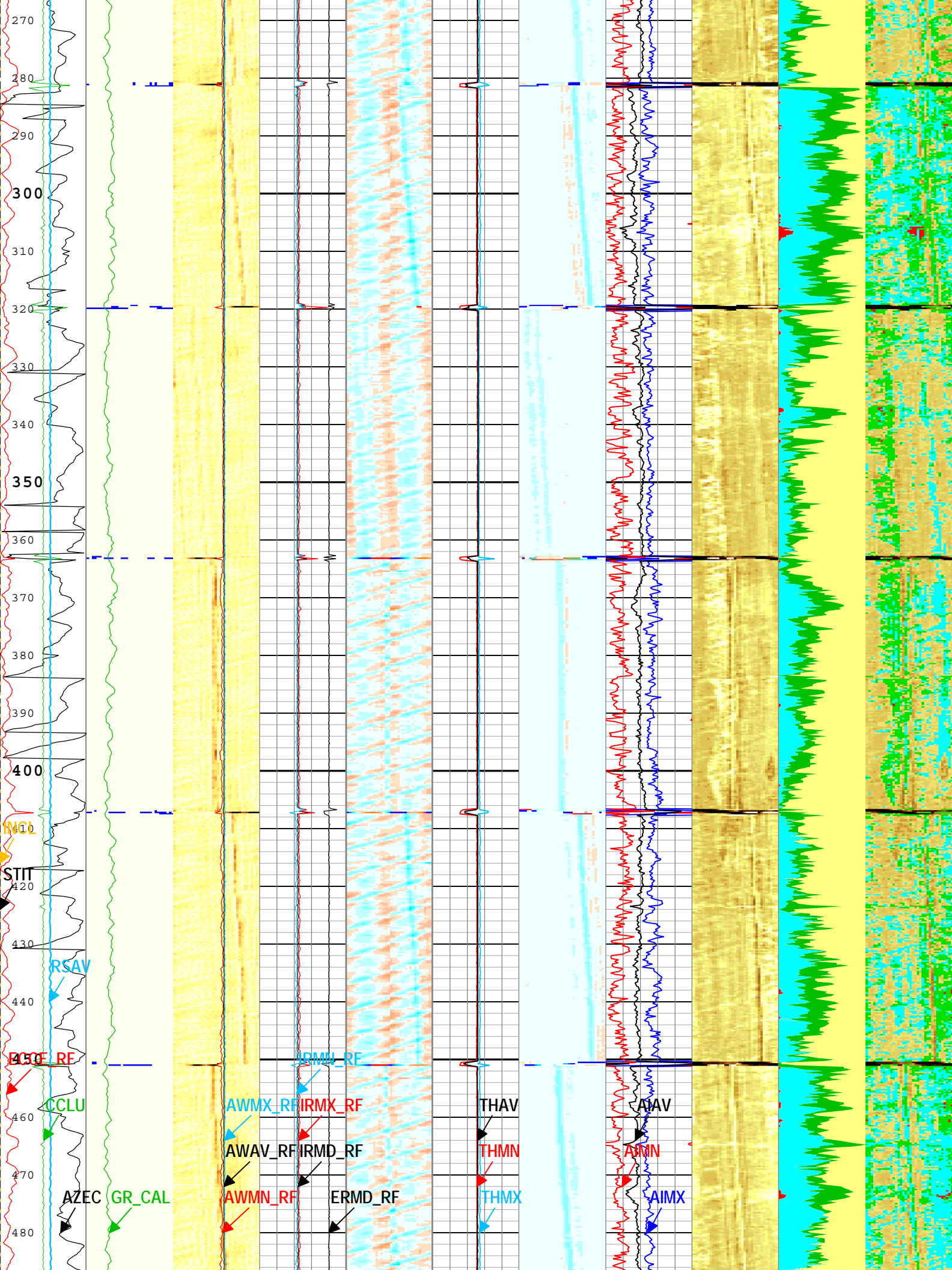
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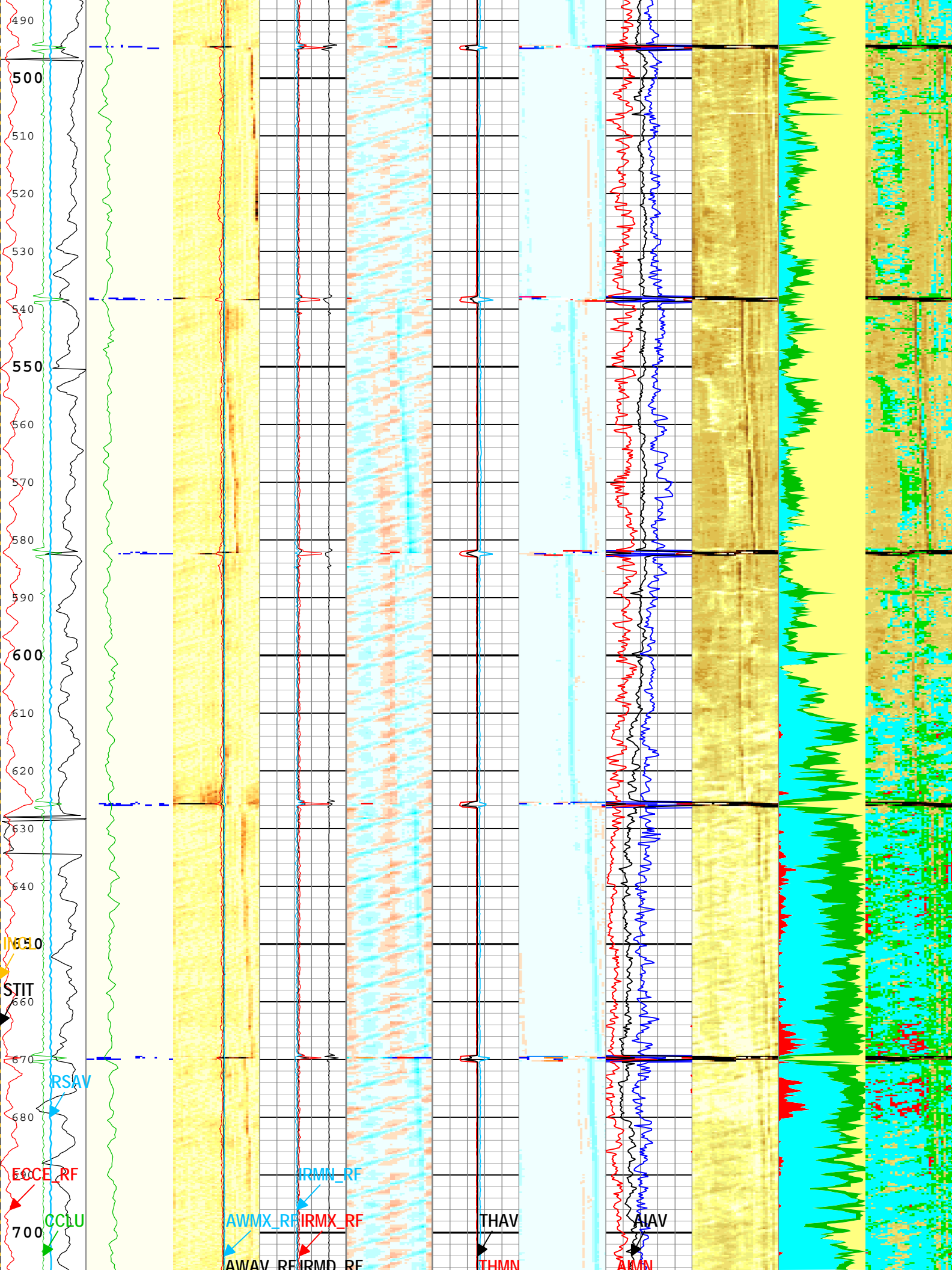
USIT Processing Flags (UFLG[0]) USIT-E

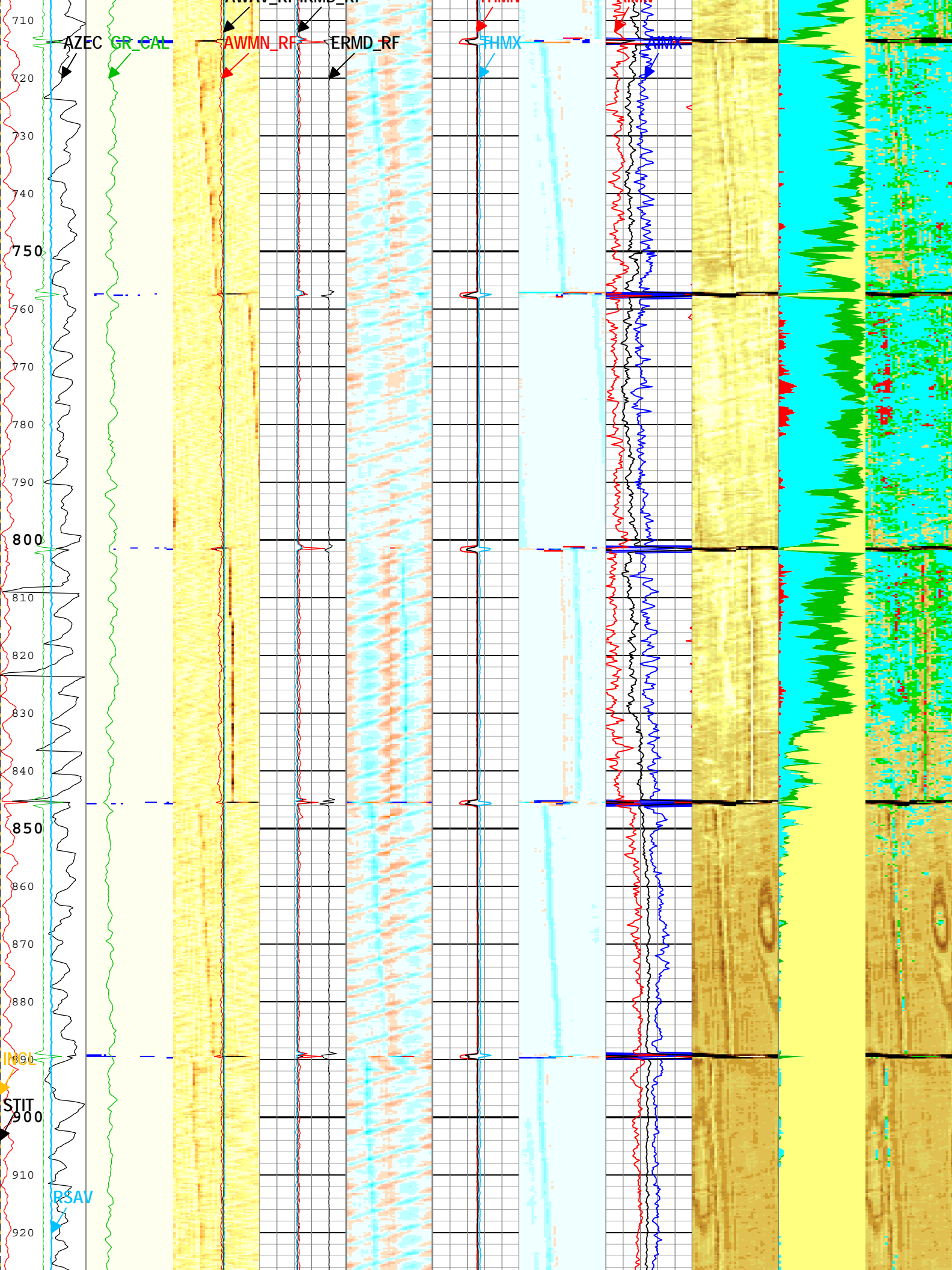
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|---|---|
| 1 - UFLG 1 Value within [0.0 - 1.5] - : |  UTIM Error |
| 2 - UFLG 2 Value within [1.5 - 2.5] - : |  Pulse Origin Not Detected |
| 3 - UFLG 3 Value within [2.5 - 3.5] - : |  WINLEN Error |
| 4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - : |  Casing Thickness Error |
| 5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10] - : |  Loop Processing Error |

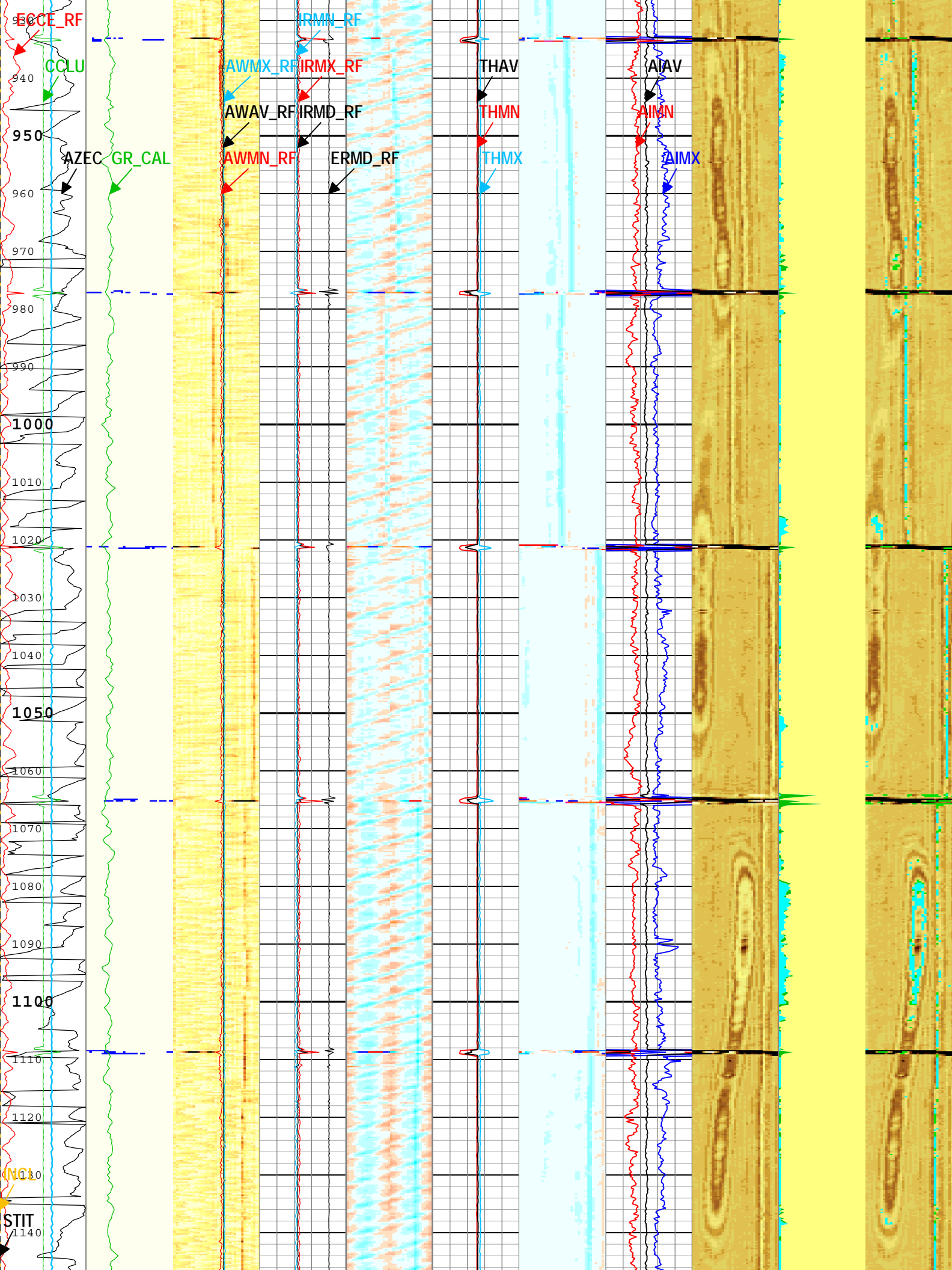
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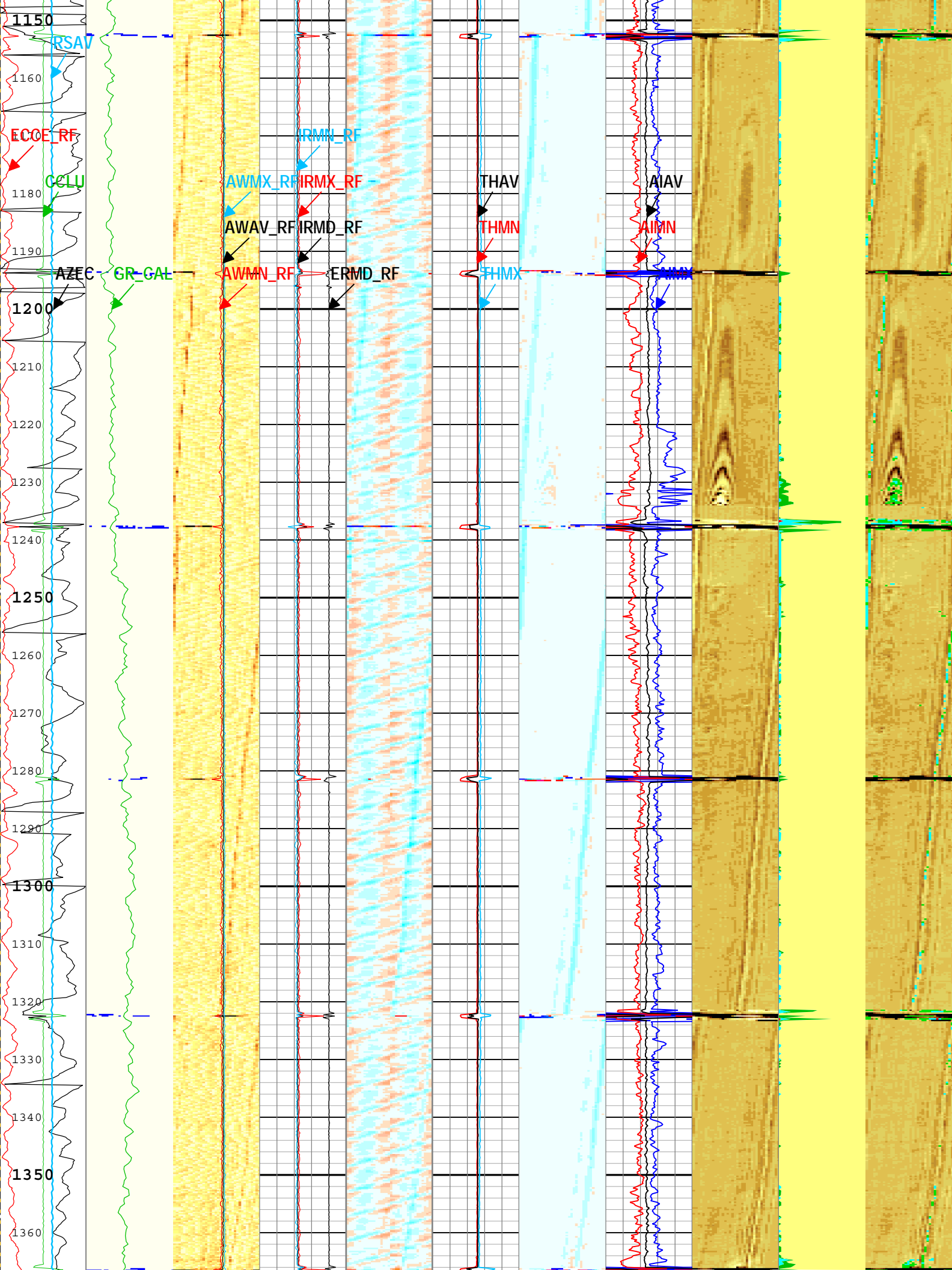


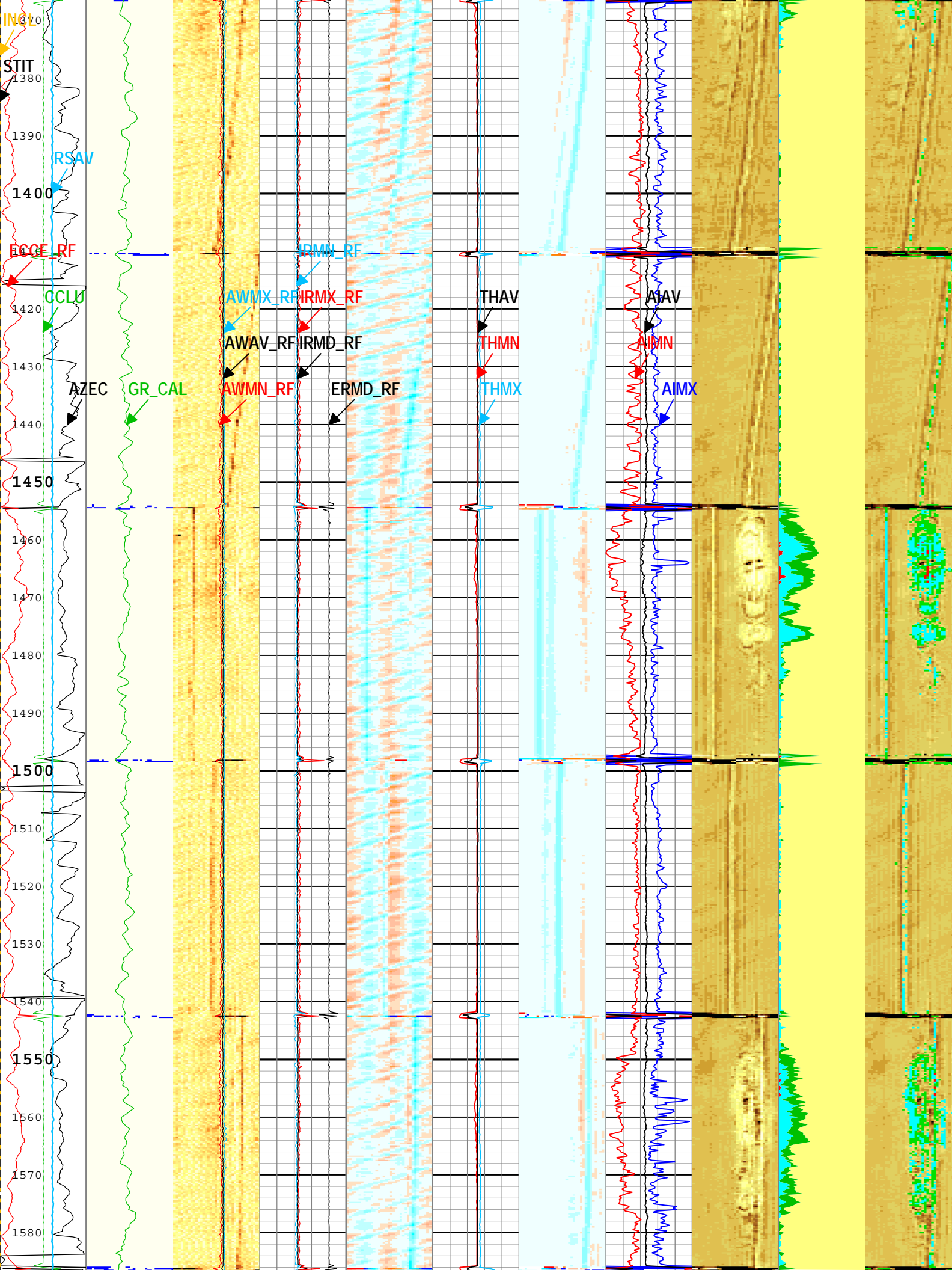


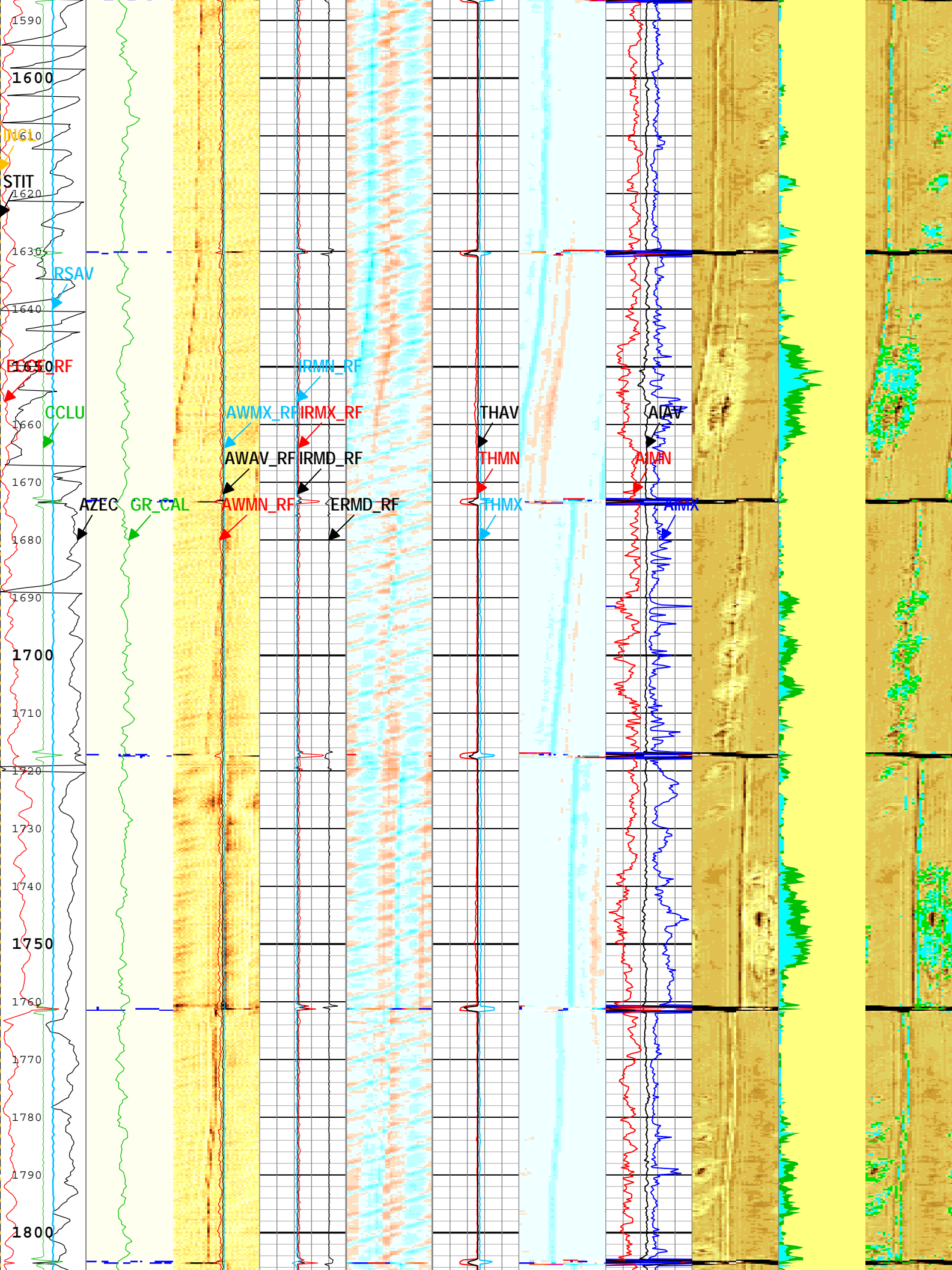


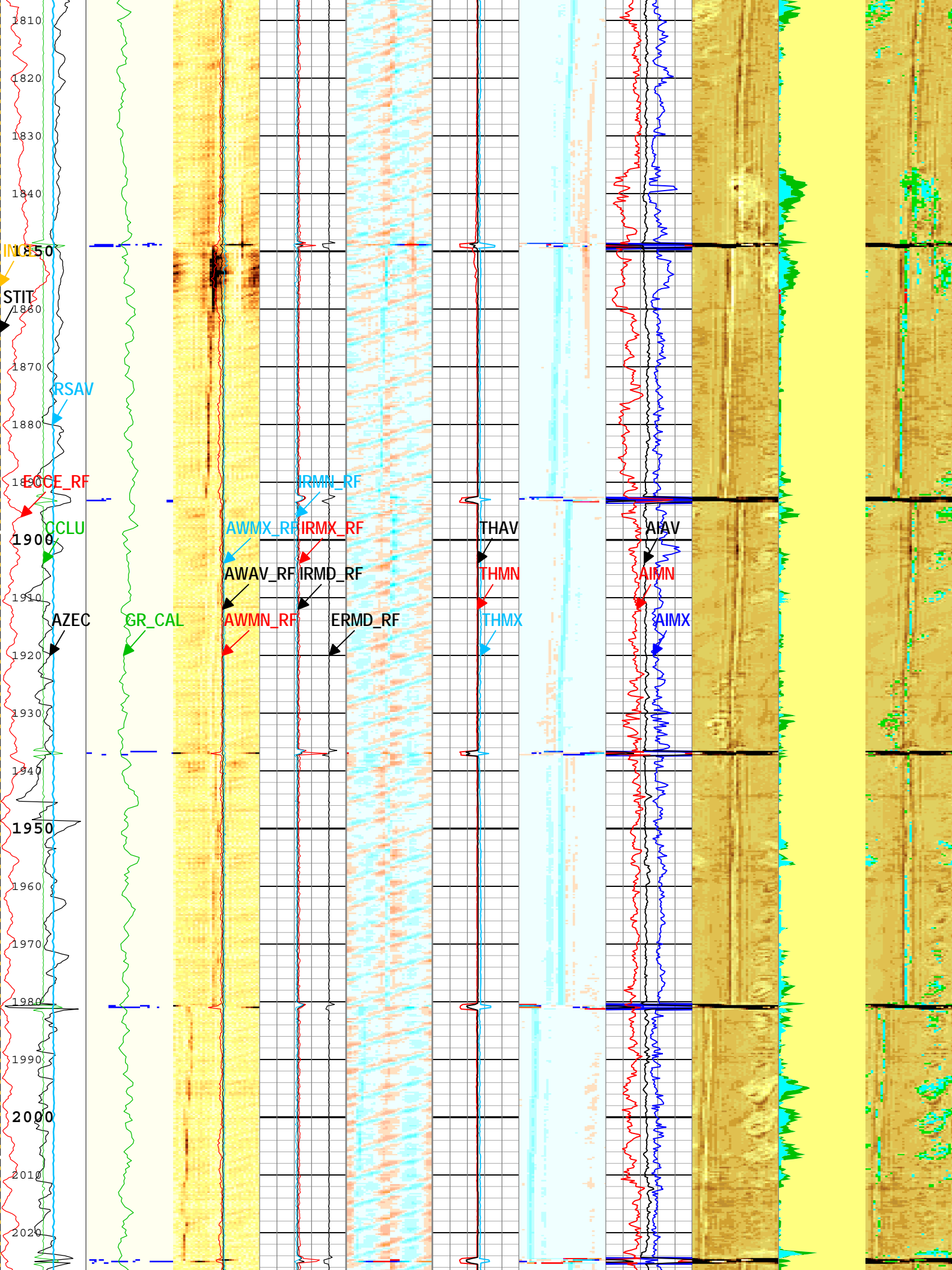


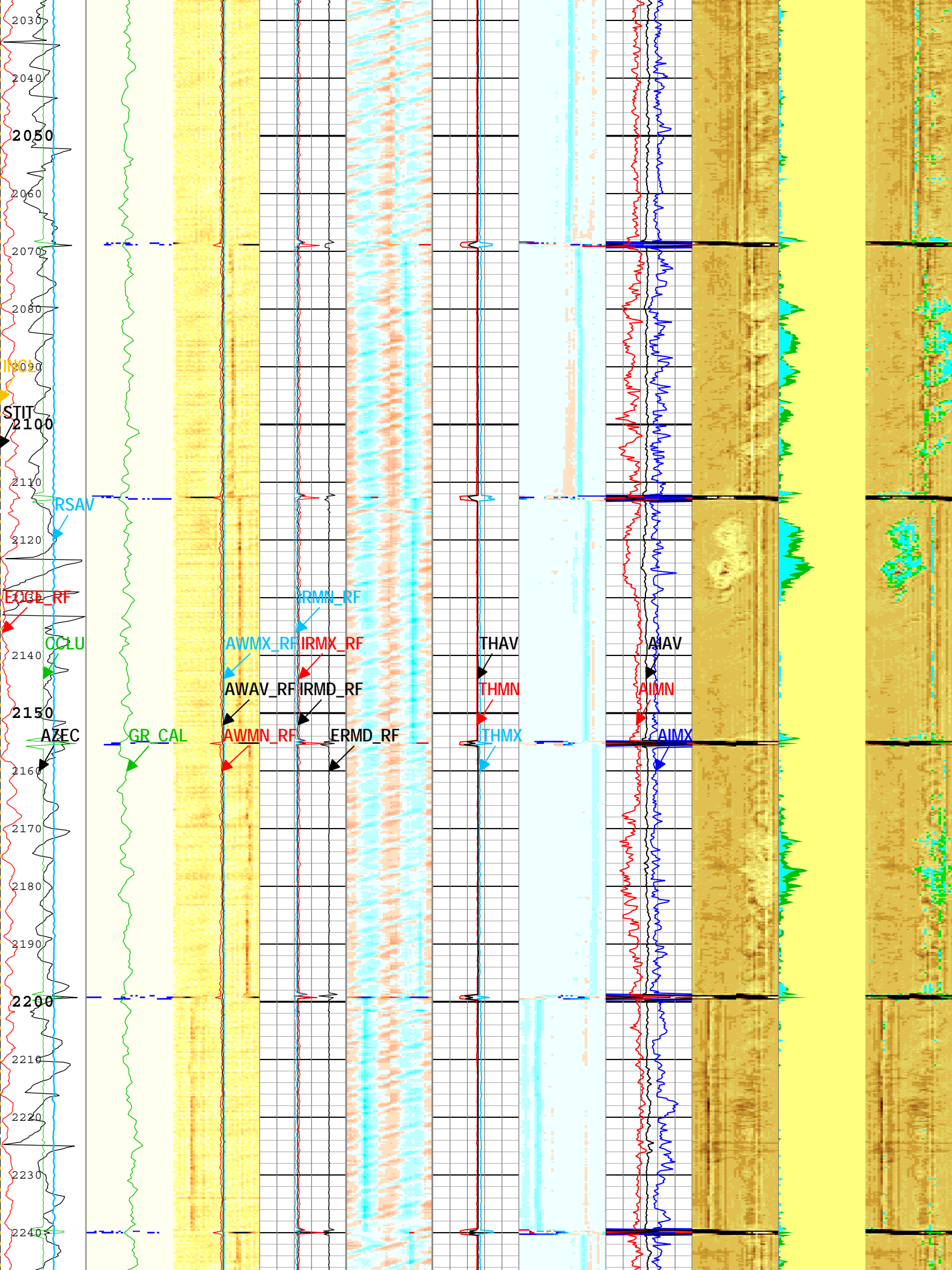


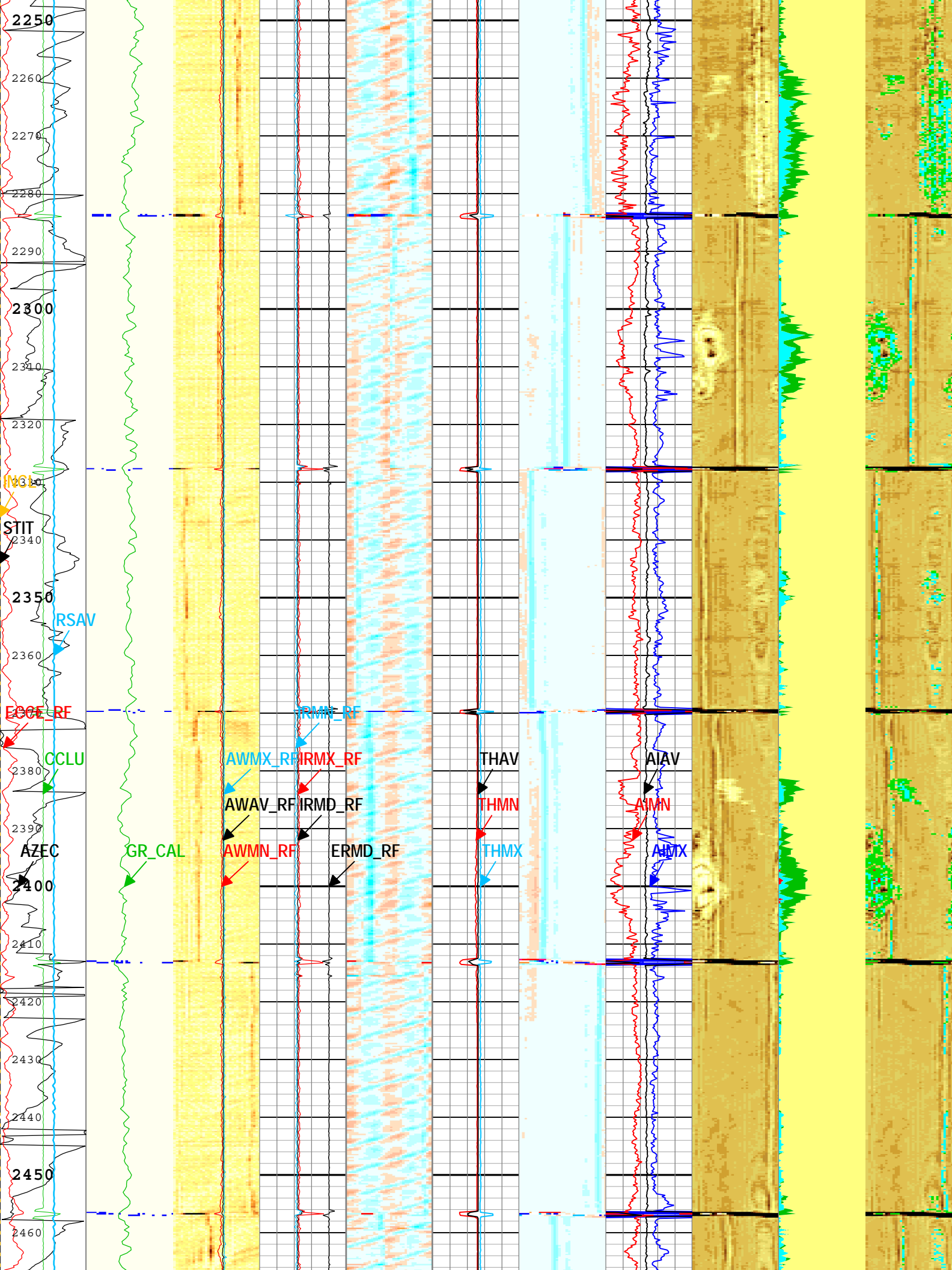


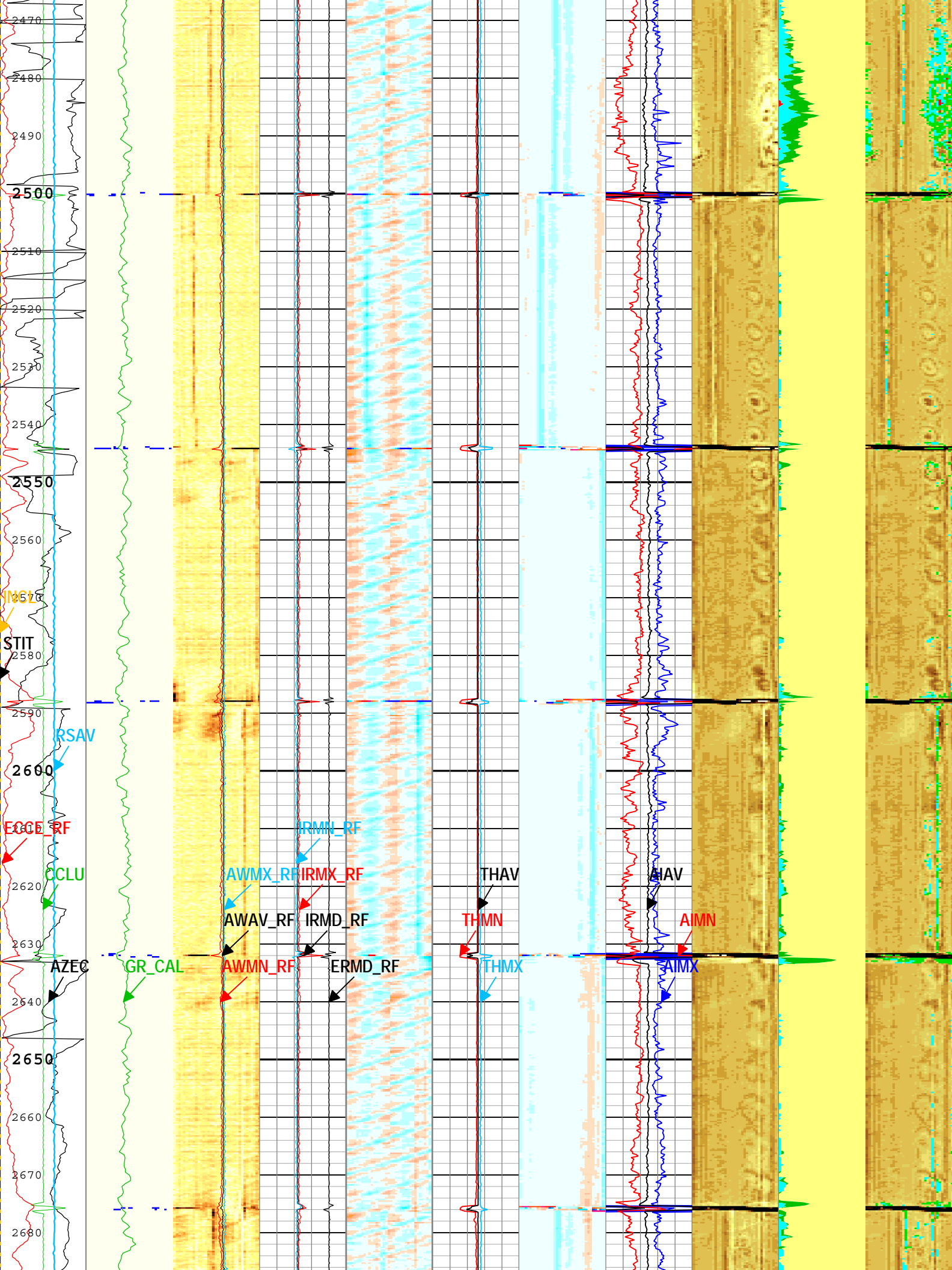


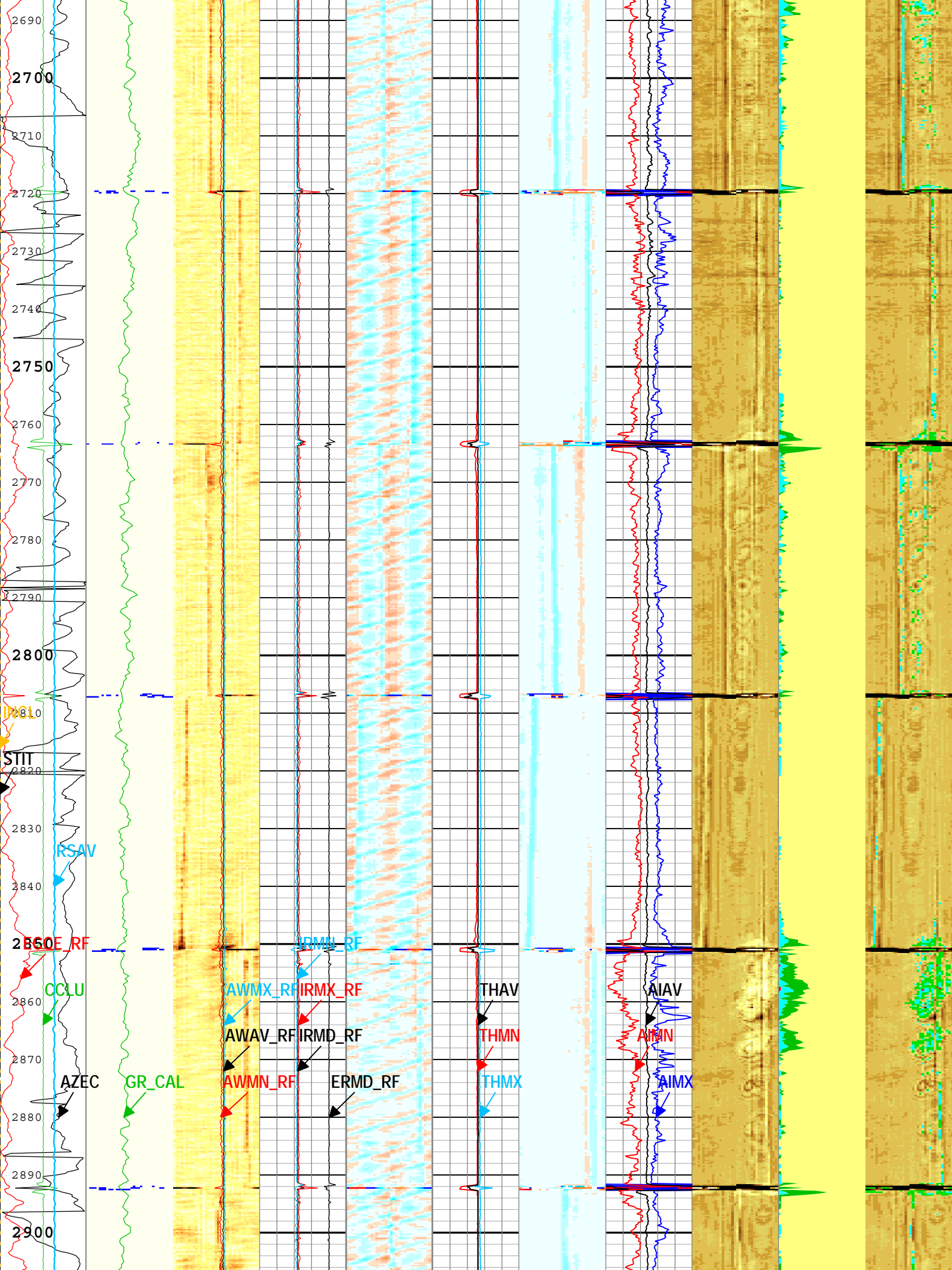


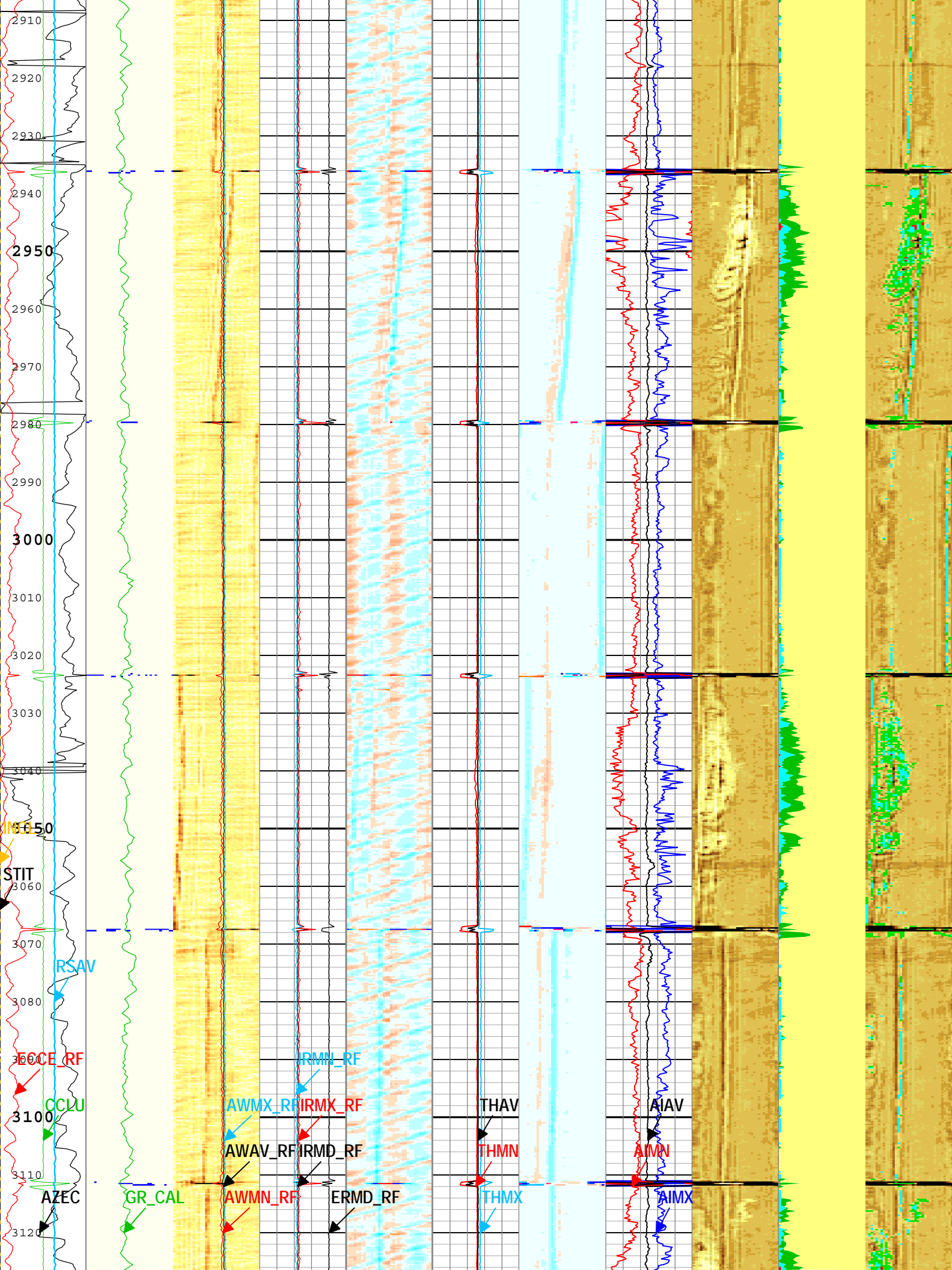


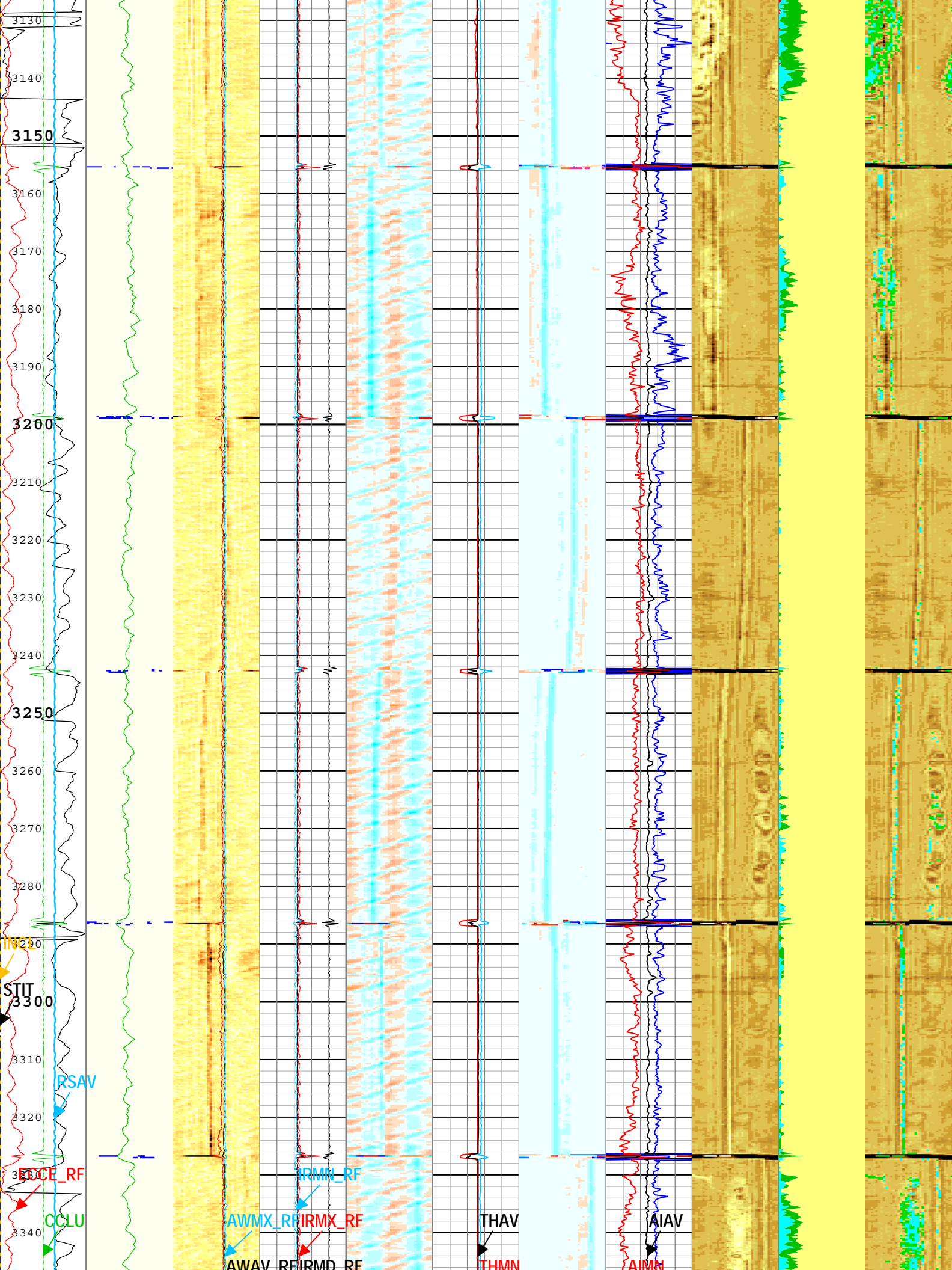


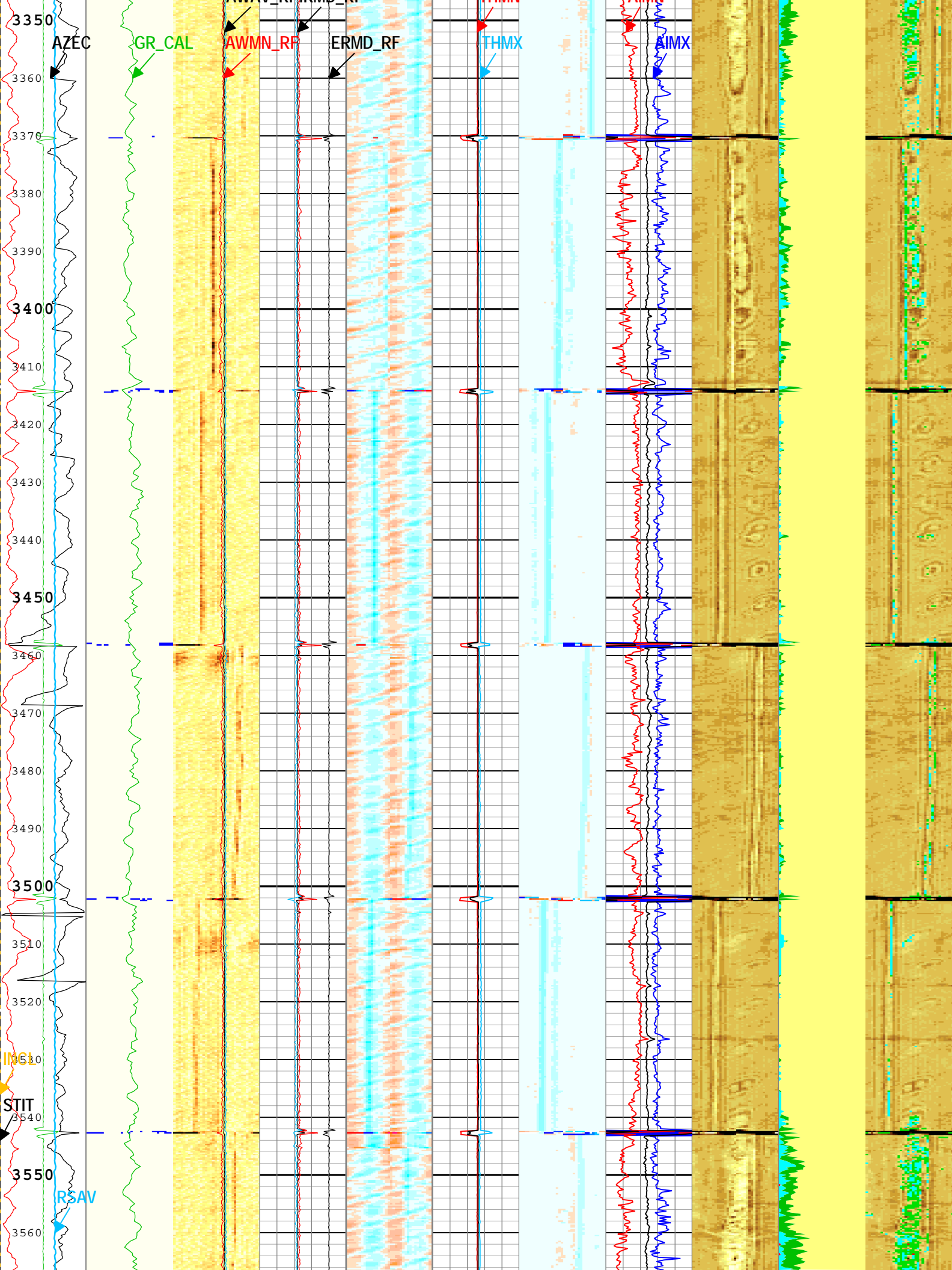


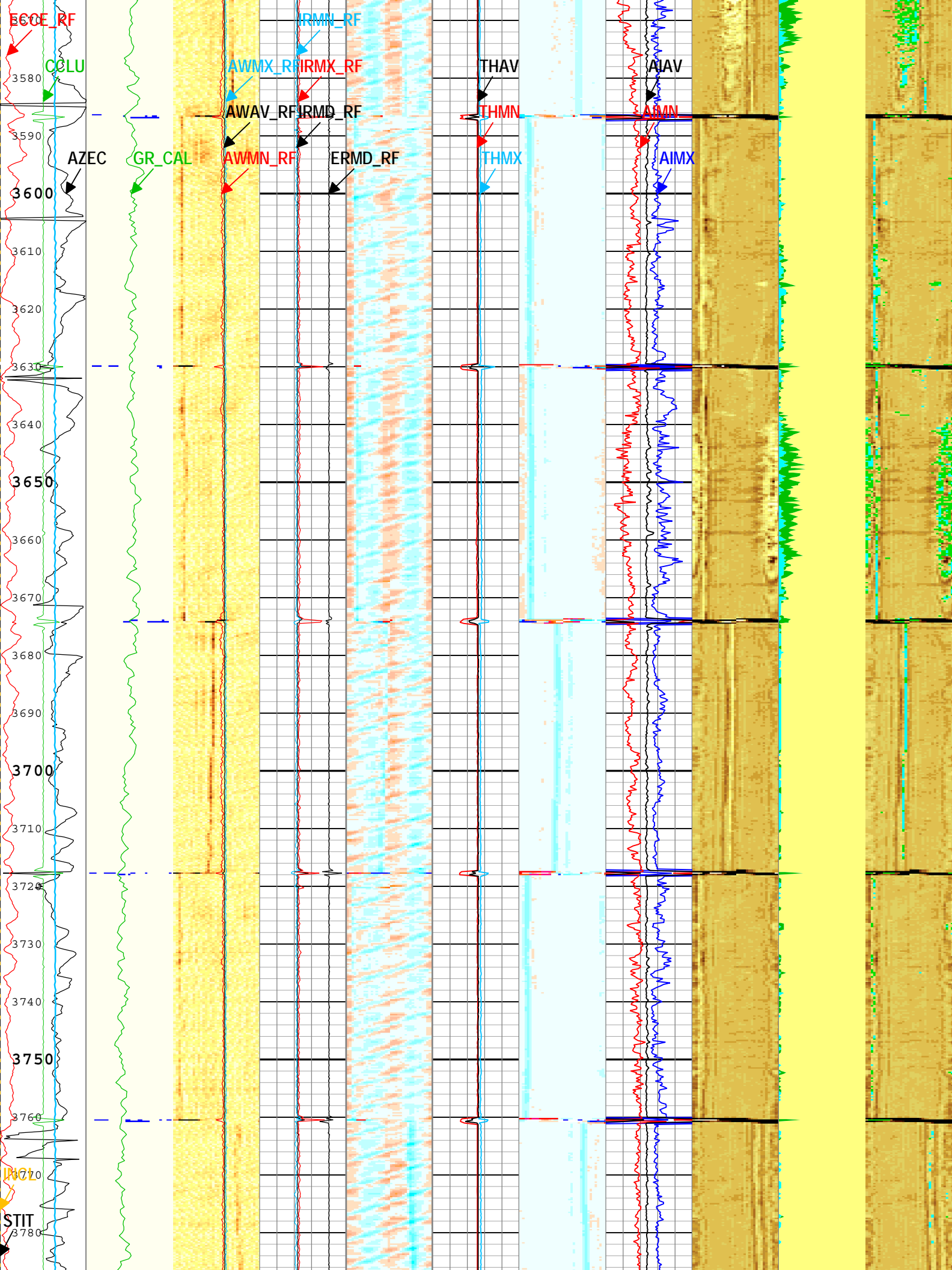


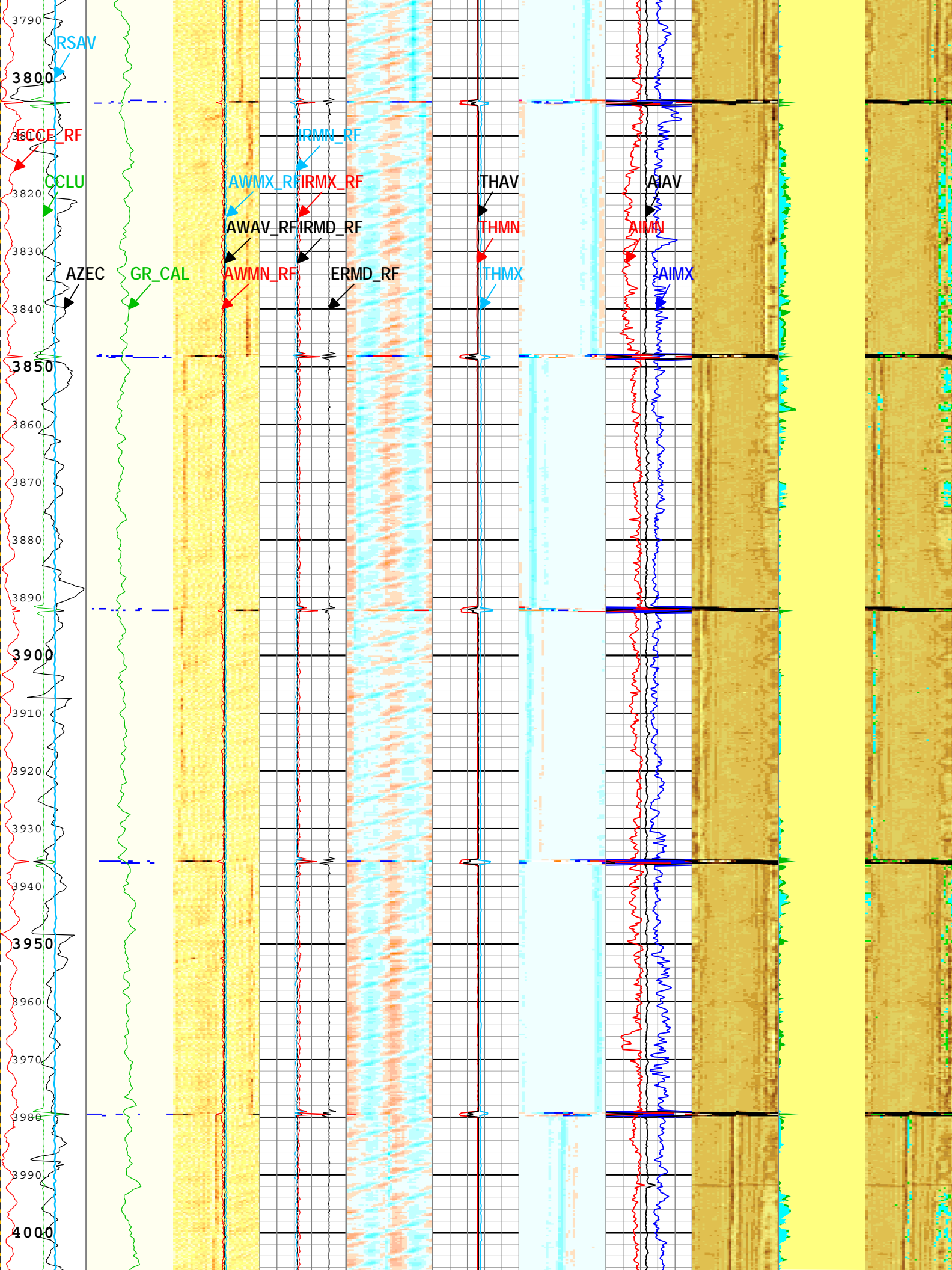


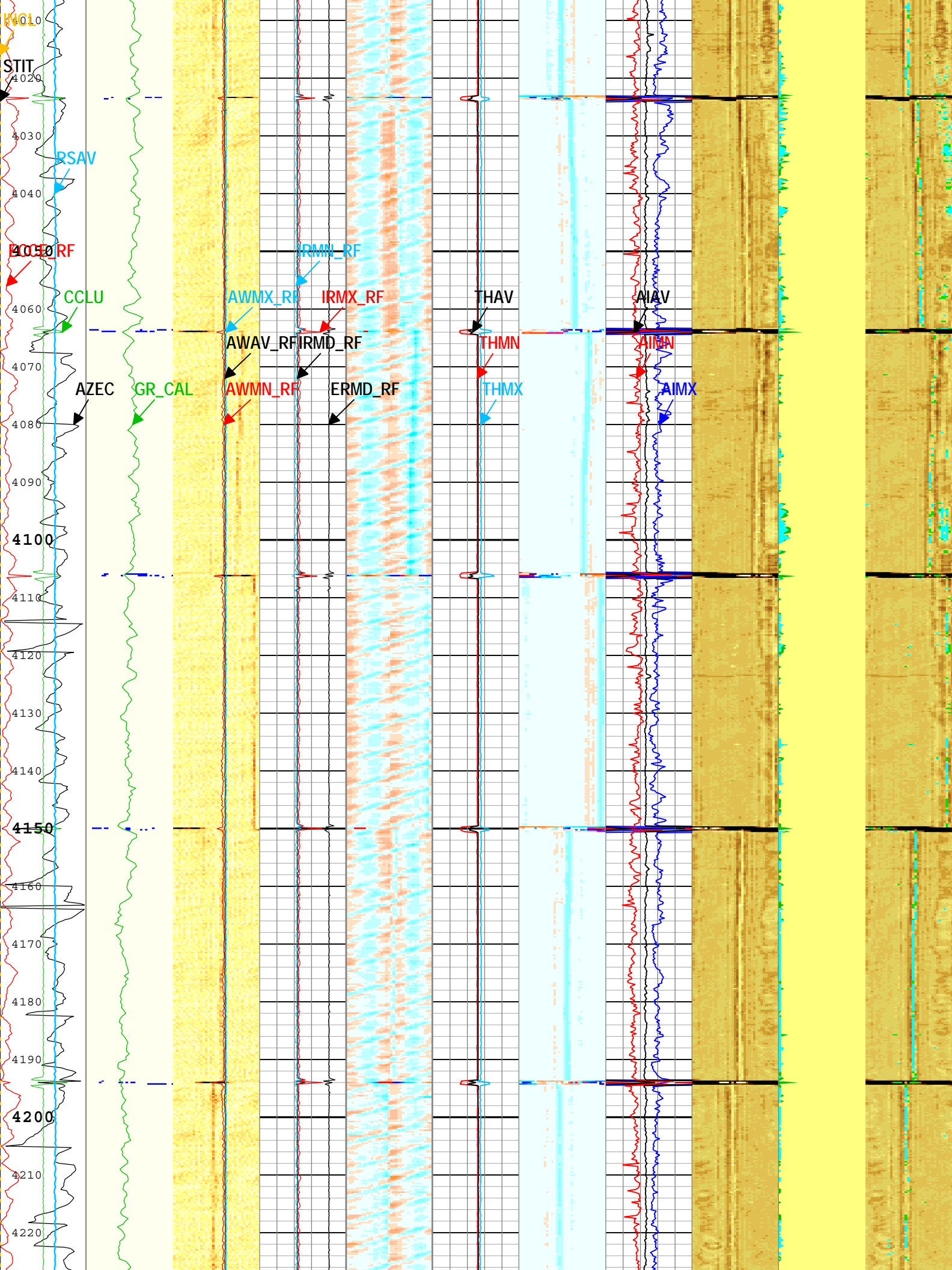


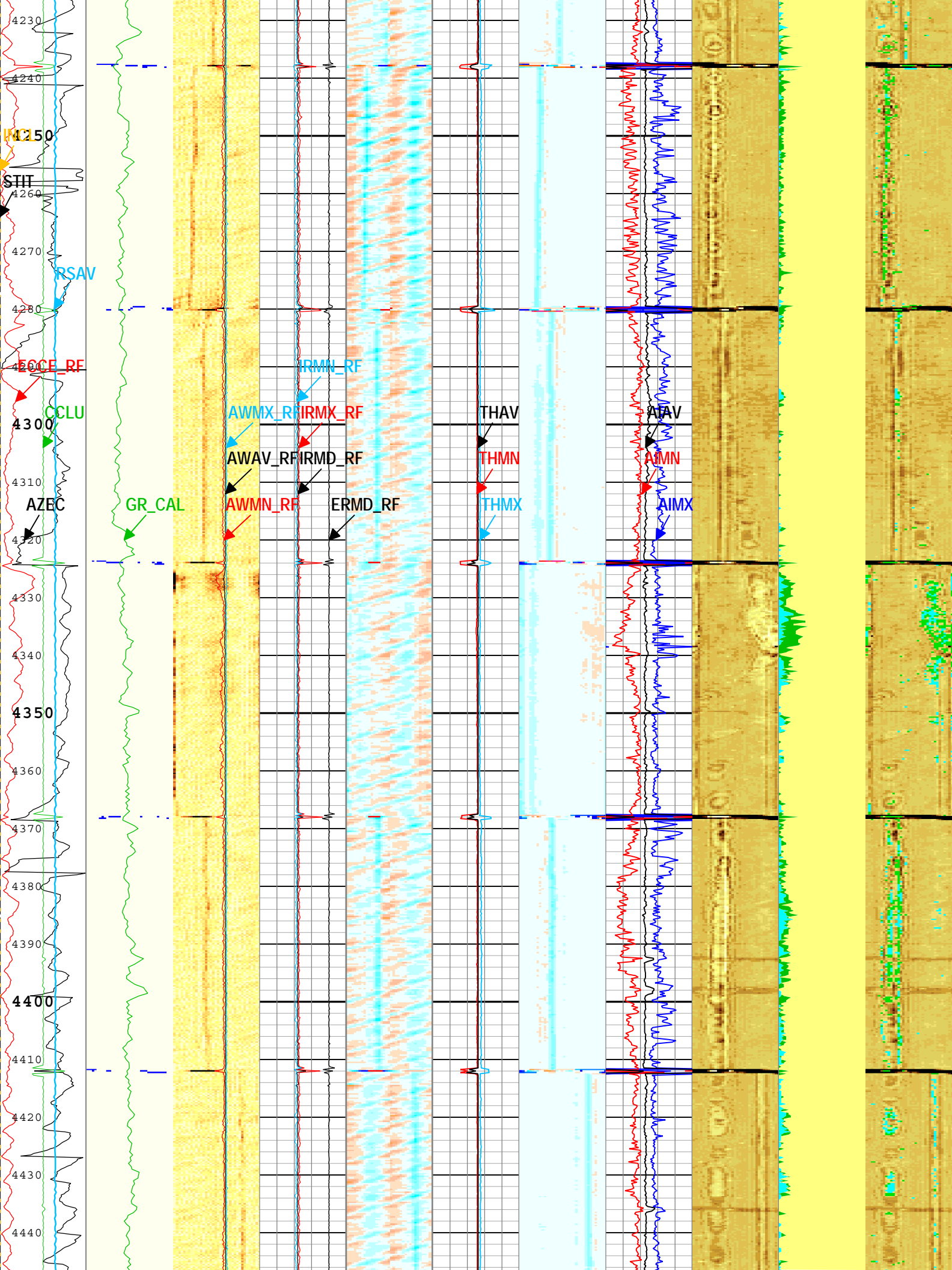


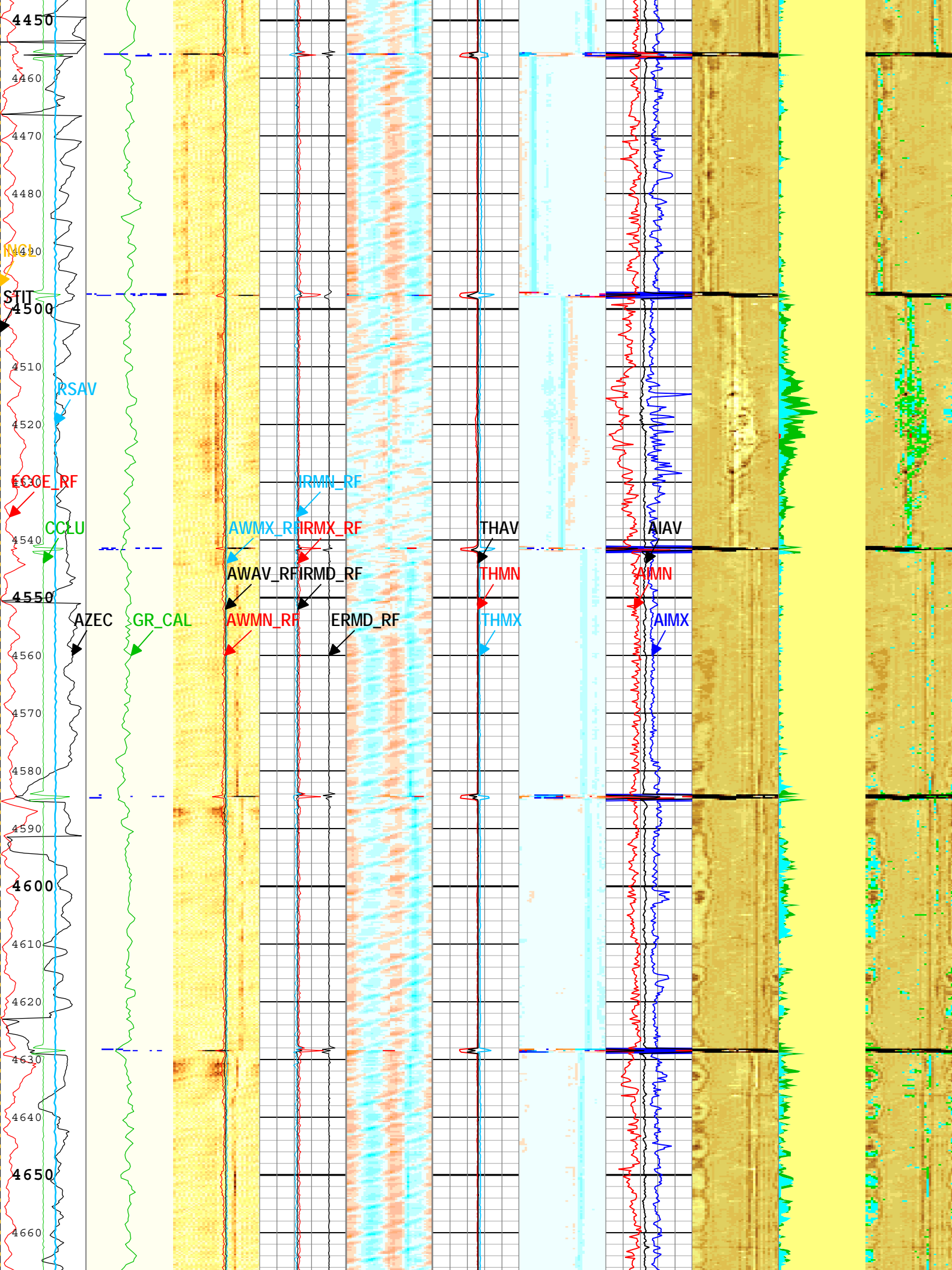


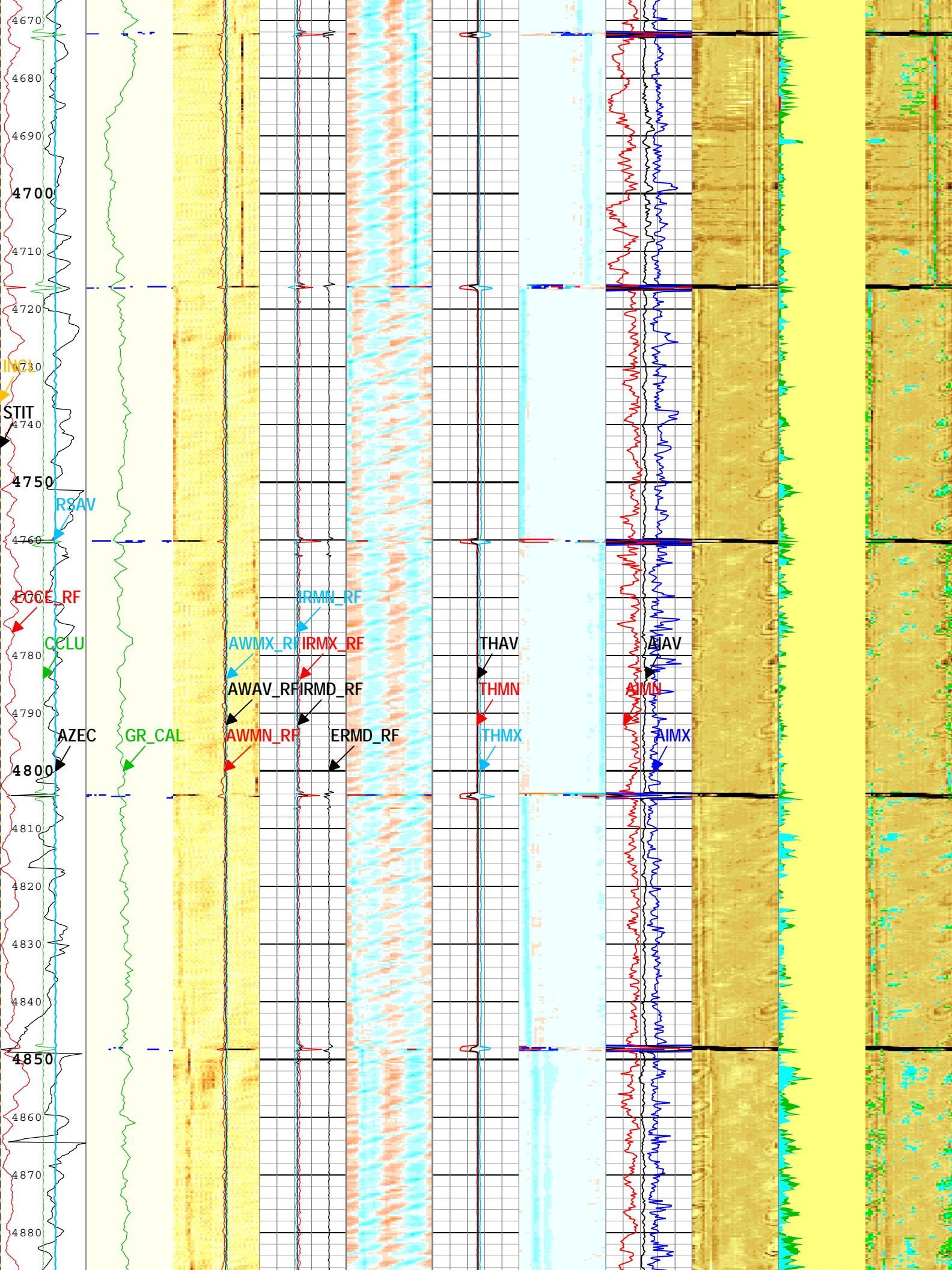


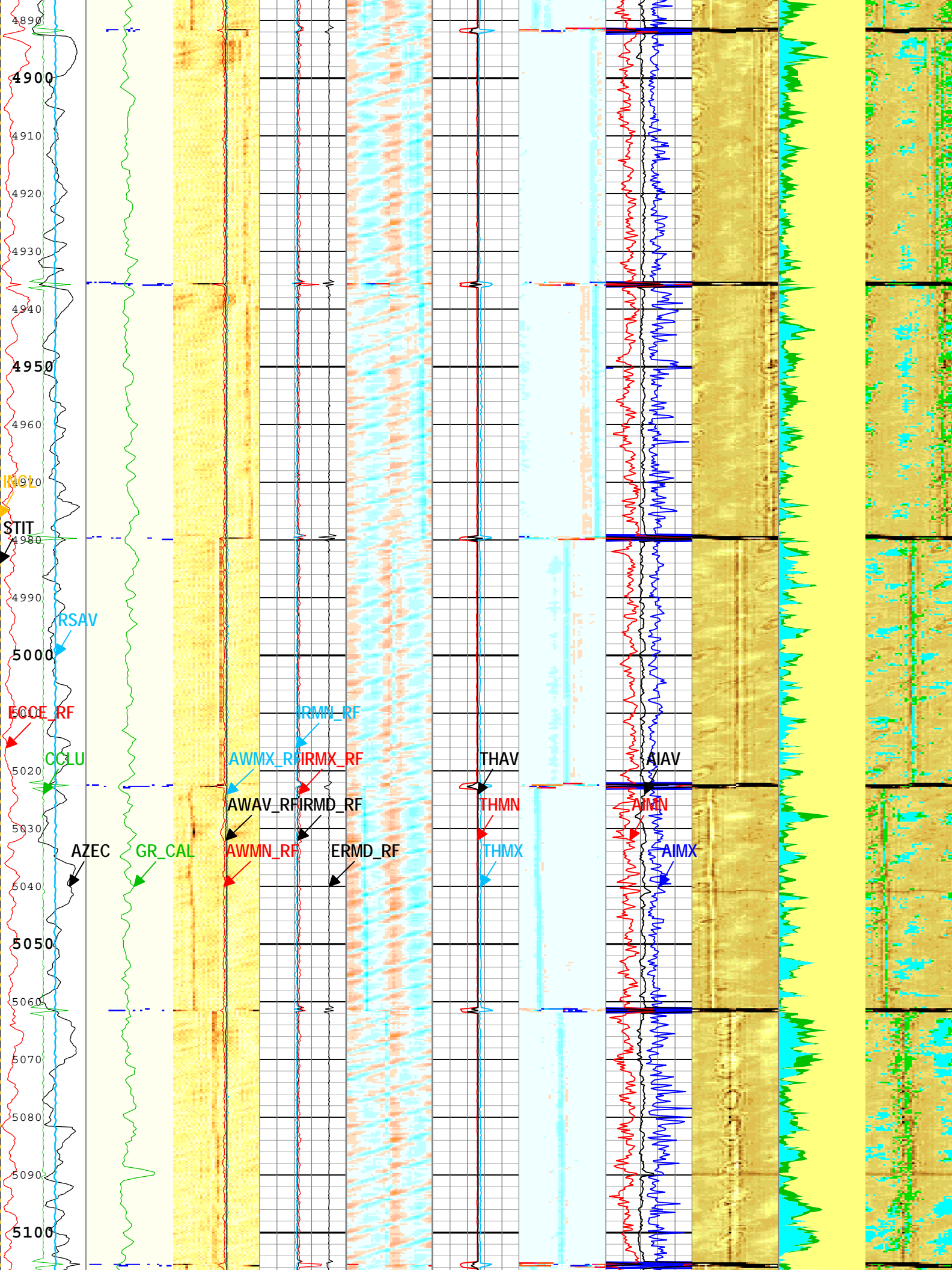


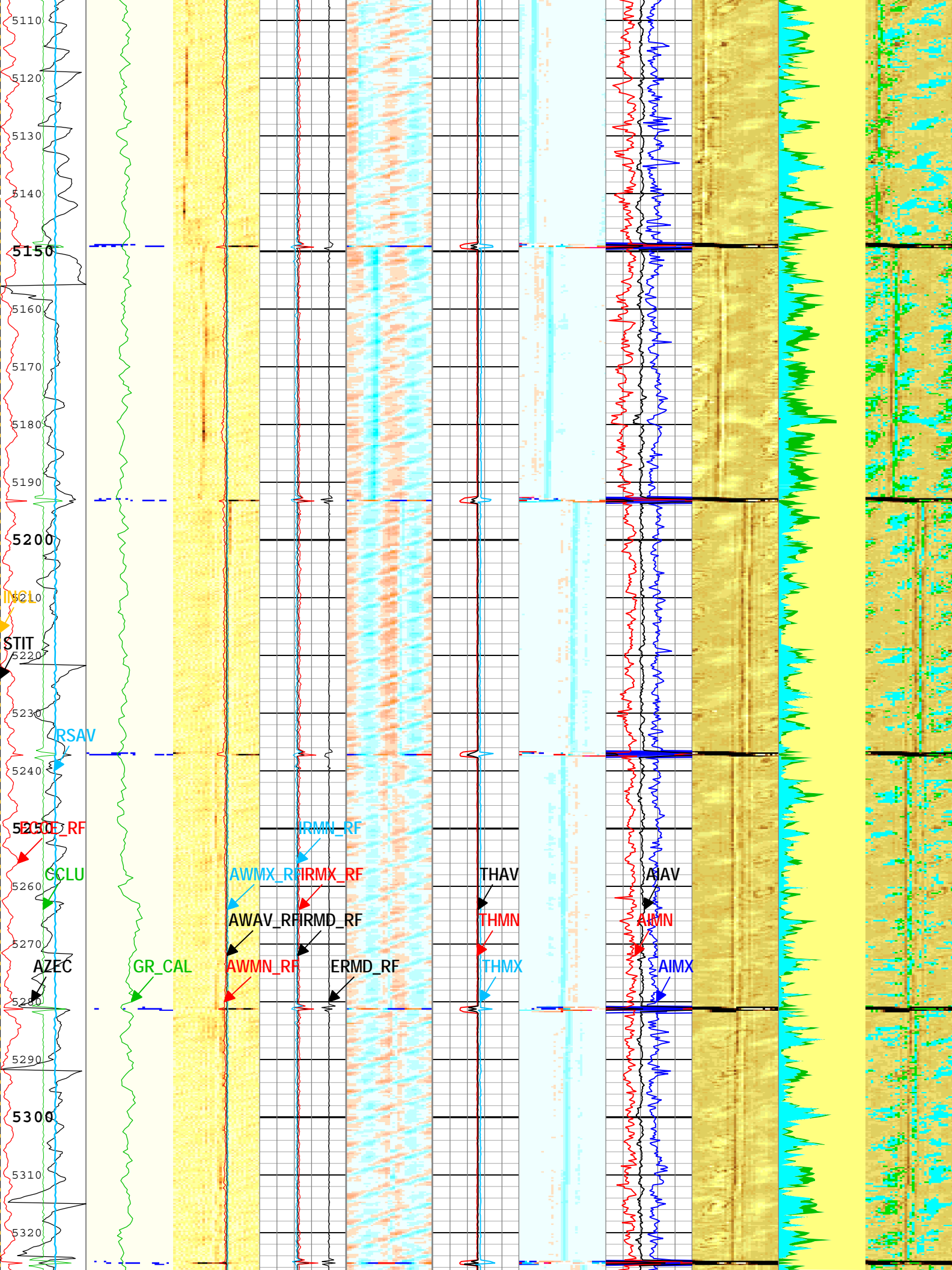


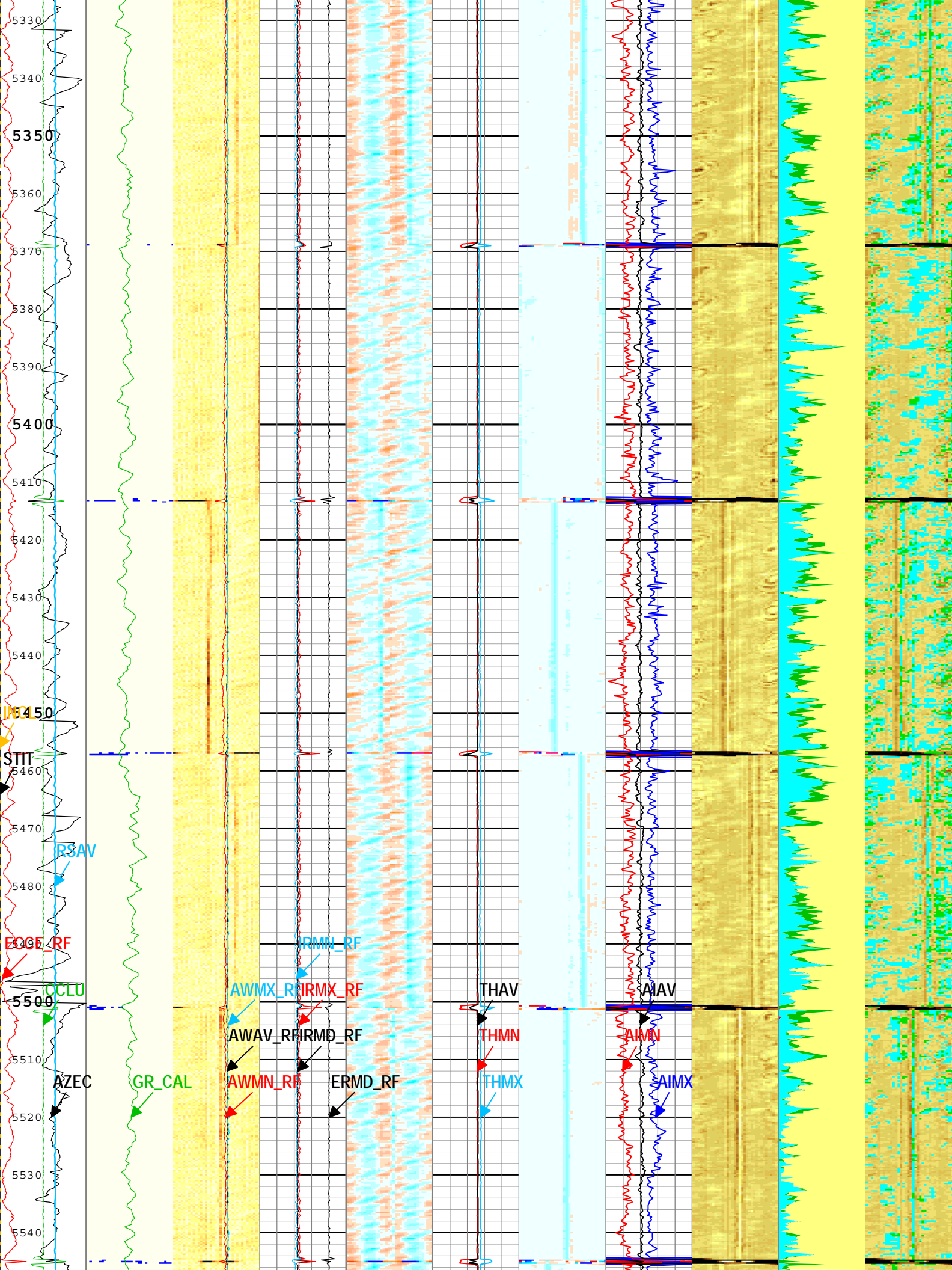


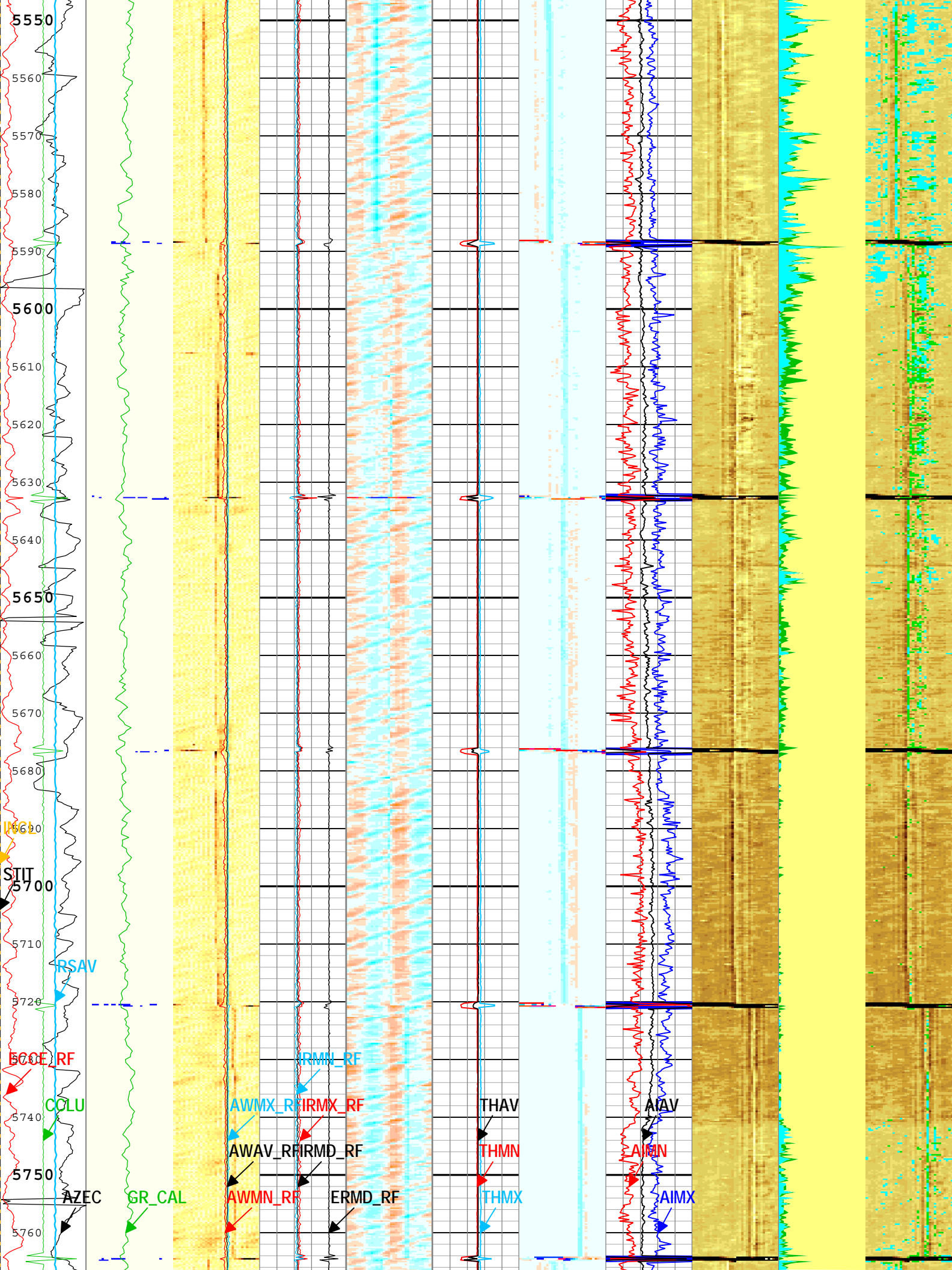


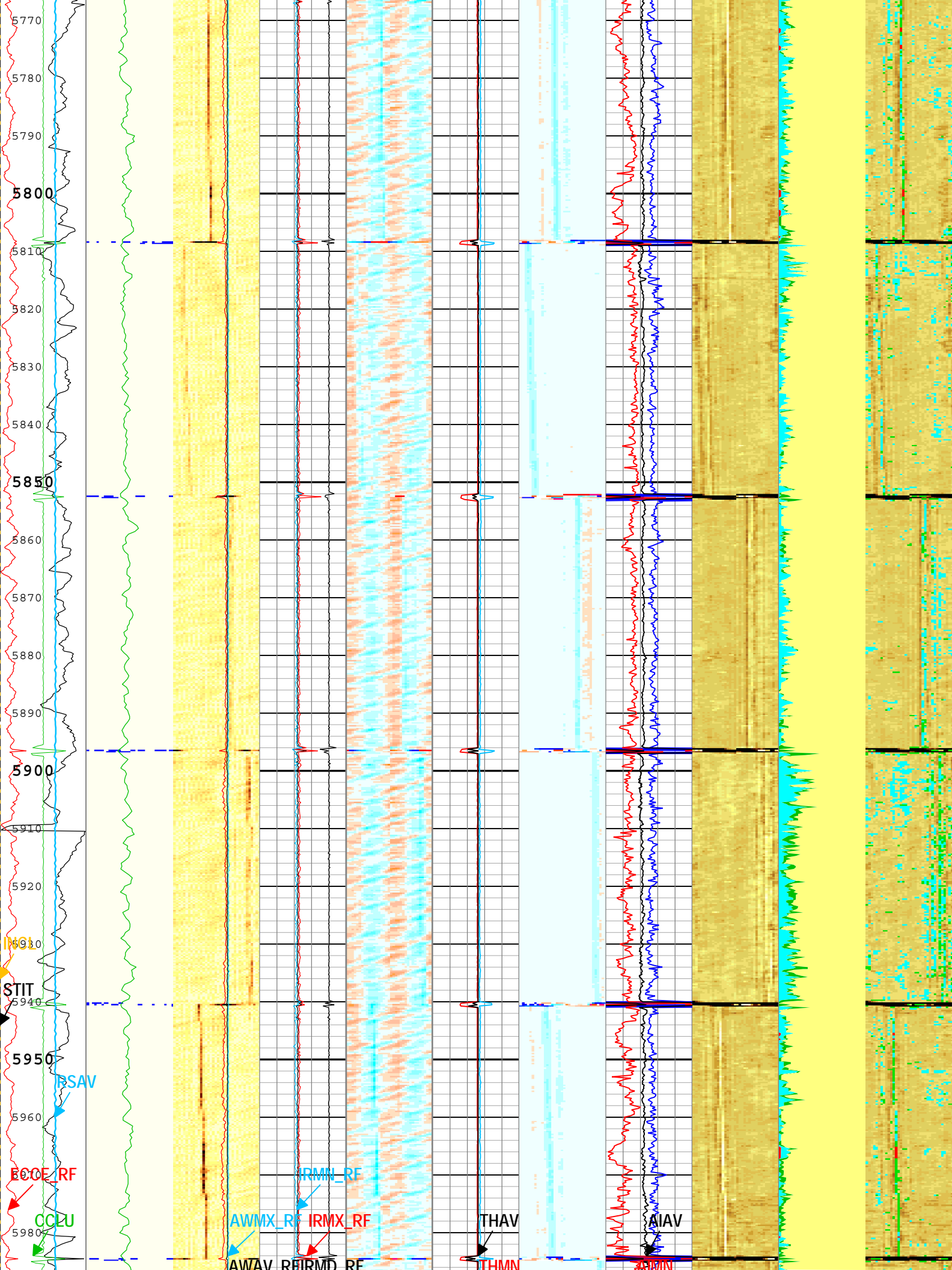


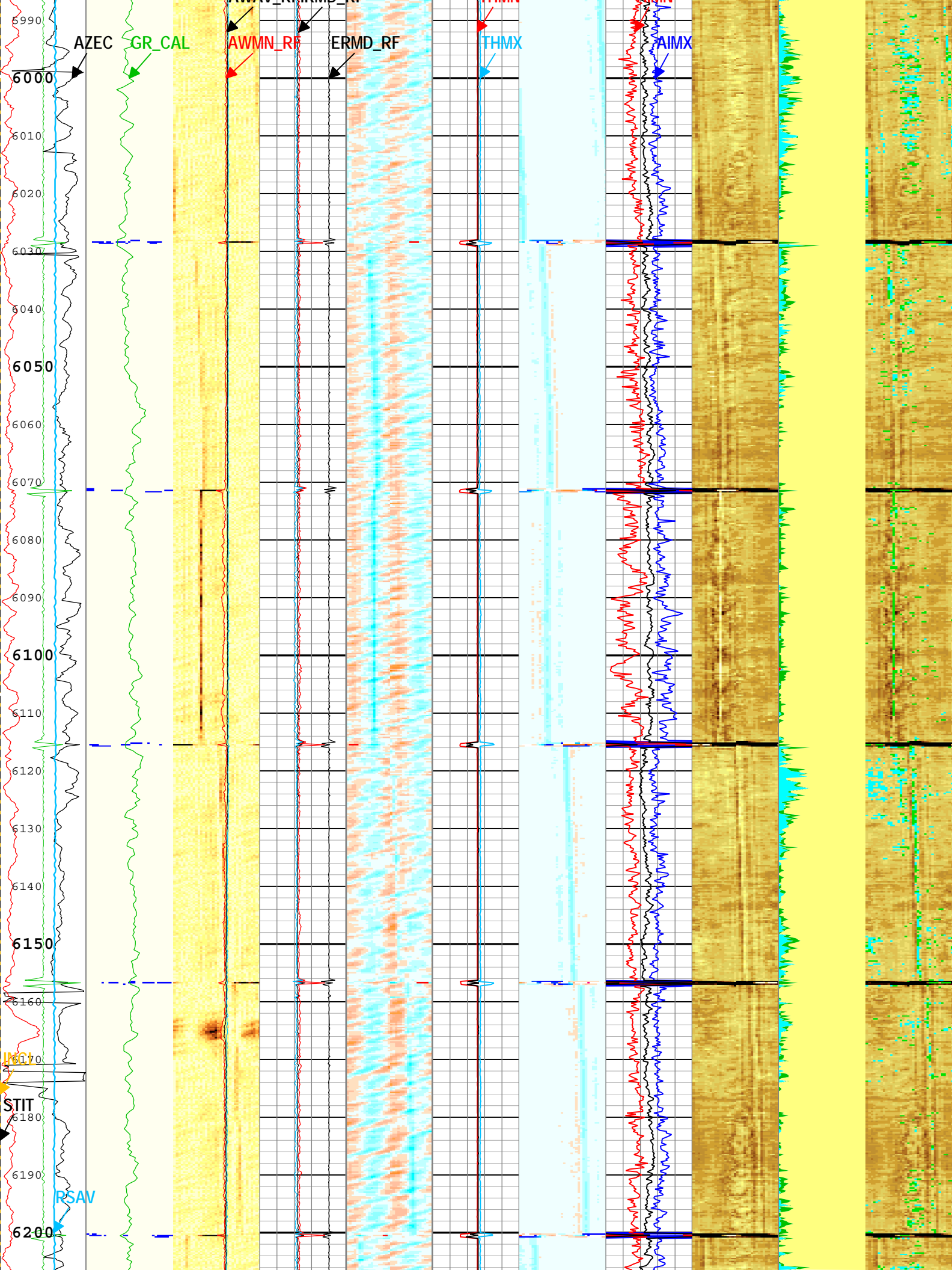


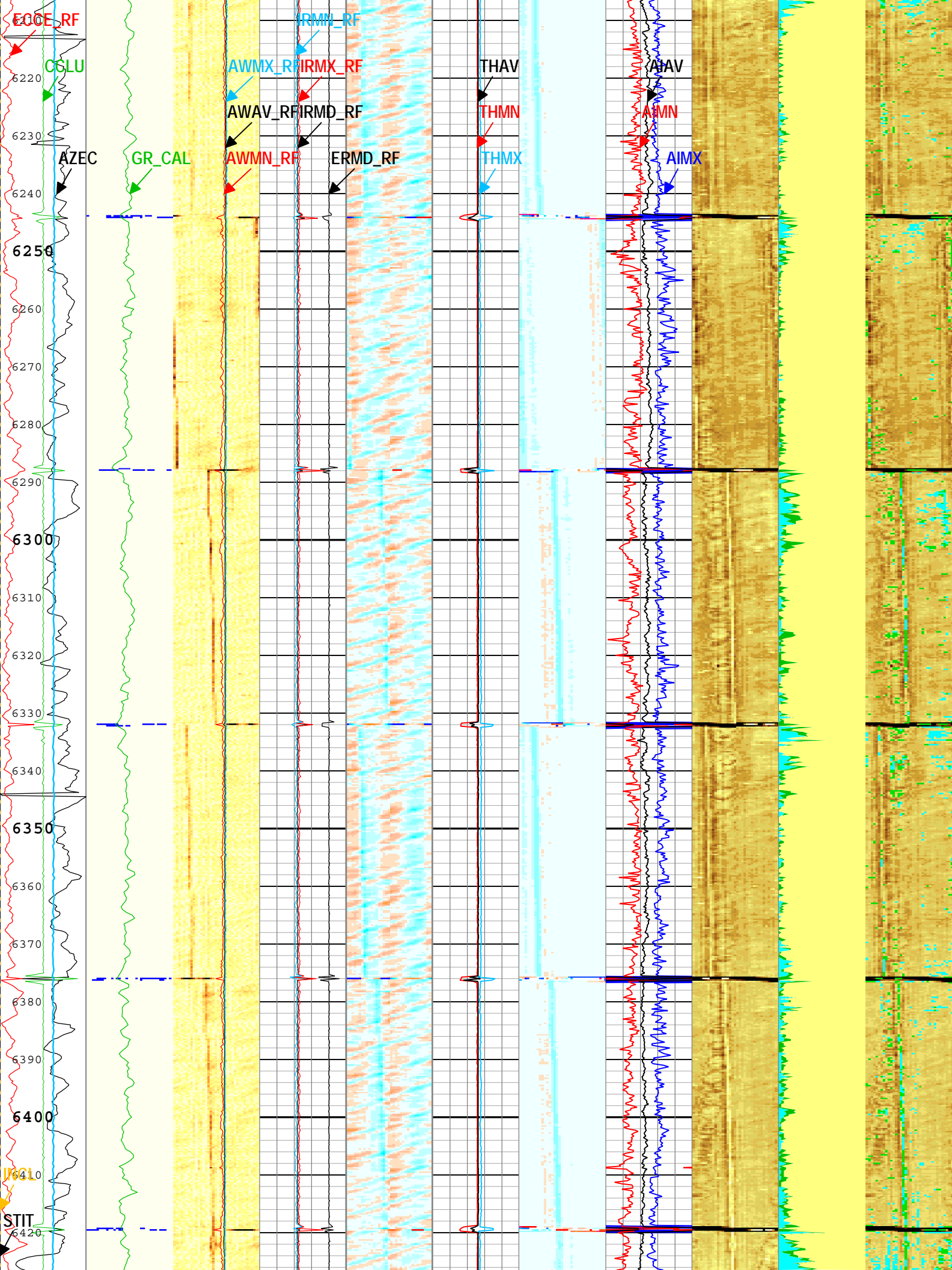


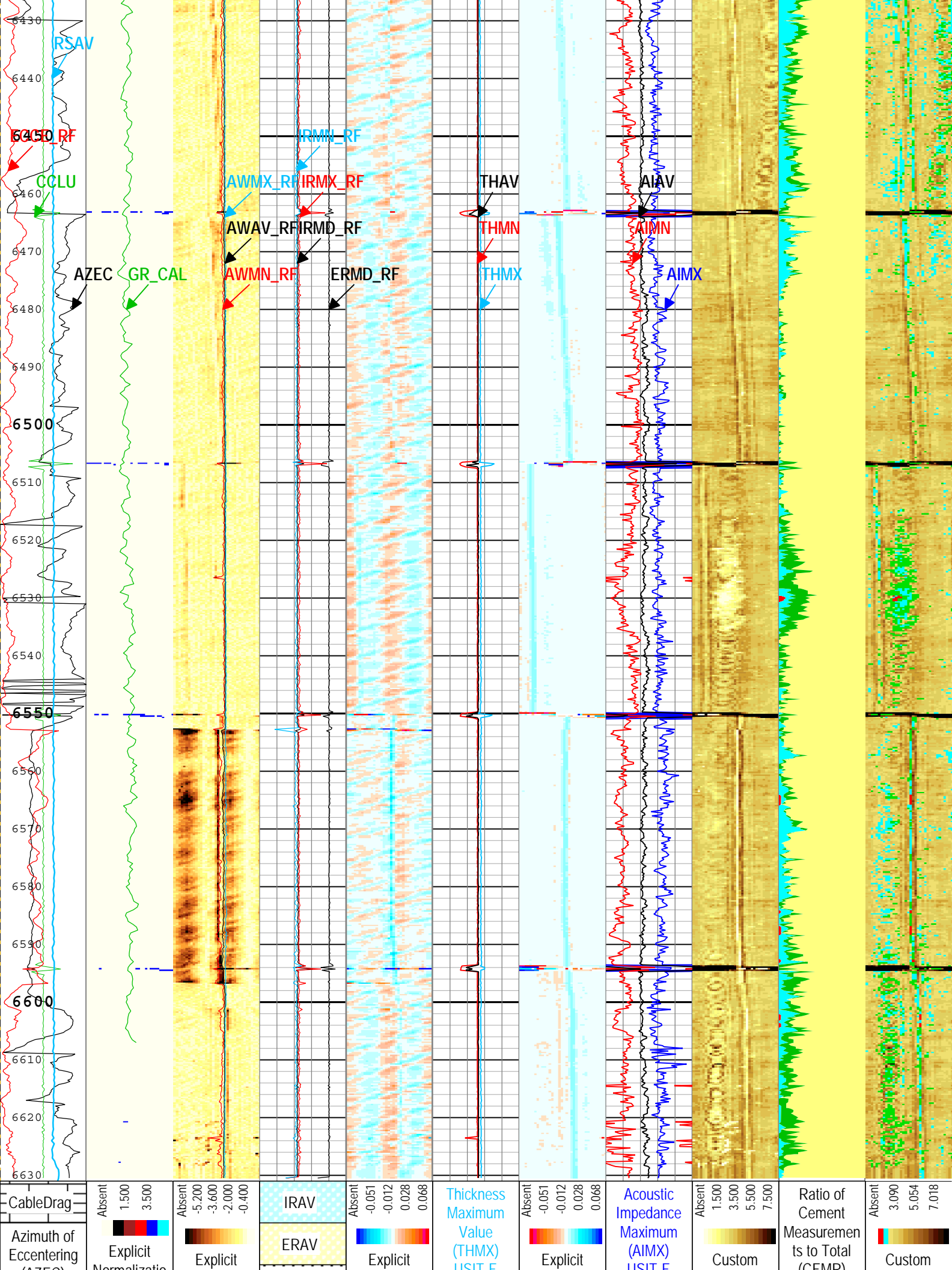












(AZEC) USIT-E	Normalizatio n	Normalizatio n	IRAV-ERA V	Normalizatio n	USIT-E 0.1 in 0.6	Normalizatio n	USIT-E -1 Mrayl 9	Normalizatio n	(CEMR) USIT-E	Normalizatio n
0 deg 360	USIT - USIT Processing Flags (UFLG) USIT-E	USIT - Amplitude of Unflagged Wave (AWBK_RF) USIT-E (dB)	Median of Unflagged External Radii (ERMD_RF) USIT-E	USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-E (in)	Thickness Minimum Value (THMN) USIT-E	USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-E (in)	Acoustic Impedance Minimum (AIMN) USIT-E	USIT - Acoustic Impedance (AIBK) USIT-E (Mrayl)	1 0	USIT - Acoustic Impedance (AIBK) USIT-E (Mrayl)
Casing Collar Locator Ultrasonic (CCLU) USIT-E	USIT Processing Flags (UFLG[0]) USIT-E	Minimum of Unflagged Wave Amplitude (AWMN_RF) USIT-E	2.7 in 3.7		0.1 in 0.6		-1 Mrayl 9		Micro-debond ing Ratio (MDR) USIT-E	Absent 2.599 4.563 6.527
-20 in 20	1 5	0 dB 75	Median Internal Radius of Casing Corrected for Eccentering (IRMD_RF) USIT-E		Thickness Average Value (THAV) USIT-E		Acoustic Impedance Average (AIAV) USIT-E		Ratio of Gas Measuremen ts to Total (GASR) USIT-E	Custom Normalizatio n
Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E	Calibrated Gamma Ray (GR_CAL) SGT-N	Average of Unflagged Wave Amplitude (AWAV_RF) USIT-E	2.7 in 3.7		0.1 in 0.6		-1 Mrayl 9		1 0	USIT - Acoustic Impedance With Micro-debond ing Image (AI_MDEBO ND_IMG) USIT-E (Mrayl)
0 in 0.5	0 gAPI 150	0 dB 75	Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E						Bonded	
Motor Revolution Speed (RSAV) USIT-E		Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E	2.7 in 3.7						Gas	
-8 c/s -6		0 dB 75	Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E						Liquid	
Motor Revolution Speed (RSAV) USIT-E		0 dB 75	2.7 in 3.7						Micro-debo nding	
6 c/s 8										
Stuck Tool Indicator, Total (STIT)										
0 ft 50										
Hole inclination (INCL)										
0 deg 100										

TIME_1900 - Time Marked every 60.00 (s)

USIT Processing Flags (UFLG[0]) USIT-E		
1 - UFLG 1 Value within [0.0 - 1.5] - :		UTIM Error
2 - UFLG 2 Value within [1.5 - 2.5] - :		Pulse Origin Not Detected
3 - UFLG 3 Value within [2.5 - 3.5] - :		WINLEN Error
4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - :		Casing Thickness Error
5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10] - :		Loop Processing Error

Description: USI Composite Format: USI Composite Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 14-Aug-2014 07:24:51

Channel Processing Parameters				
Parameter	Description	Tool	Value	Unit
AFVU	Automatic Fluid Velocity Update	USIT-E	On	
BARI	Barite Mud Presence Flag	Borehole	No	
BERJ	Bad Echo Rejection	USIT-E	On	
CASING_PRATIO	Casing Poisson Ratio	USIT-E	Standard Poisson ratio	
CMTY	Cement Type	USIT-E	Regular Cement	
CTHILGR	Nominal Casing Thickness - Zoned along logger depths	WLSESSION	0.352	in
DC_MDRF	Depth Correction Method	Depth Correction	Depth Correction	

DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	8.4	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	190	us/ft
ETIP	Elevation of the TIP above MSL	WLSESSION	4973	ft
FDII	FPM Data Interpolation Interval	USIT-E	0	ft
GR_MULTIPLIER	Gamma Ray Multiplier	SGT-N	1	
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	Depth Zoned	us
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	0	
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1	
OPLEV	USIT Remove Flagged Data Level	USIT-E	OPT2	
RAPID_OPTION	Rapid Access Computation Option	USIT-E	Off	
RCOD	Reference Calibrator Outer Diameter	USIT-E	7	in
RCSO	Reference Calibrator Standoff	USIT-E	1.181	in
RCTH	Reference Calibrator Thickness	USIT-E	0.295	in
SDNV	Number of Vertical Samples used for Micro-debonding Computation	USIT-E	5	
SDTHOR	Acoustic Impedance STD Horizontal Threshold for Micro-debonding	USIT-E	0.5	Mrayl
SdTVER	Acoustic Impedance STD Vertical Threshold for Micro-debonding	USIT-E	0.3	Mrayl
TCUB	T^3 Processing Level	USIT-E	Loop	
TD	Total Measured Depth	Borehole	14544	ft
THDH	Maximum Search Thickness (percentage of nominal)	USIT-E	130	%
THDL	Minimum Search Thickness (percentage of nominal)	USIT-E	70	%
UDFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	0	Mrayl
UFGDE	Fiberglass Density	USIT-E	16.27	lbm/gal
UFGPS	Fiberglass Processing Selection	USIT-E	No	
UFGVL	Fiberglass Velocity	USIT-E	9678.48	ft/s
USI_FSOD	USIT USI Fluid Slowness Fits Casing Outer Diameter	USIT-E	0_OFF	
USI_FVEL_SEL	USI Fluid Velocity Selection	USIT-E	Automatic	
USI_ZMUD_SEL	USI Mud Impedance Selection	USIT-E	Manual	
UTHDP	Thickness Detection Policy	USIT-E	Fundamental	
VCAS	Ultrasonic Transversal Velocity in Casing	USIT-E	51.4	us/ft
ZCAS	Acoustic Impedance of Casing	USIT-E	46.25	Mrayl
ZINI	Initial Estimate of Cement Impedance	USIT-E	-1	Mrayl
ZMUD	Acoustic Impedance of Mud	Borehole	Depth Zoned	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.6	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

Depth Zone Parameters			
Parameter	Value	Start (ft)	Stop (ft)
MEAS_WLEN	22.5	0	6631
ZMUD	1.67	0	400
ZMUD	1.68	400	700
ZMUD	1.7	700	1000
ZMUD	1.72	1000	1500
ZMUD	1.74	1500	2000
ZMUD	1.76	2000	2500
ZMUD	1.78	2500	3000

ZMUD	1.79	3000	4000
ZMUD	1.8	4000	6631

All depth are actual.

Tool Control Parameters				
Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	18	dB
DDT5	USIC Downhole Decimation for T5 only	USIT-E	0_NONE	
DOTF	Distance between Opposite Transducer Faces	USIT-E	2.874	in
EMXV	EMEX Voltage	USIT-E	55	V
HRES	Horizontal Resolution	USIT-E	10 deg	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	3600	ft/h
ULOG	Logging Objective	USIT-E	MEASUREMENT	
UMFR	Modulation Frequency	USIT-E	333333	Hz
USFR	Ultrasonic Sampling Frequency	USIT-E	500000	Hz
USI_UPAT	USIT Emission Pattern	USIT-E	Pattern 375 KHz	
USI_UWKM	USIT Working Mode	USIT-E	Uncompressed 10 deg at 3.0 in LF	
USIT_DEPTHLOG	Starting Depth Log for Ultrasonics	USIT-E	6620	ft
VRES	Vertical Resolution	USIT-E	3.0 in	
WINB	Window Begin Time	USIT-E	33.87	us
WINE	Window End Time	USIT-E	77.19	us

USI Goodwin	
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USIT - Fluid Properties Measurement			
Run Name	Pass Name	Start Depth(ft)	Stop Depth(ft)
Run 3	Log[4]:Up	6631.21	12.42

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 = "Manual".
CZMD uses ZMUD parameter zoned table below

Start Depth(ft)	Stop Depth(ft)	Start Value(Mrayl)	End Value(Mrayl)
0	200	1.67	1.67
200	400	1.67	1.67
400	700	1.68	1.68
700	1000	1.7	1.7
1000	1500	1.72	1.72
1500	2000	1.74	1.74
2000	2500	1.76	1.76
2500	3000	1.78	1.78
3000	4000	1.79	1.79
4000		1.8	1.8

Run1 USIT

USI Goodwin Compressed

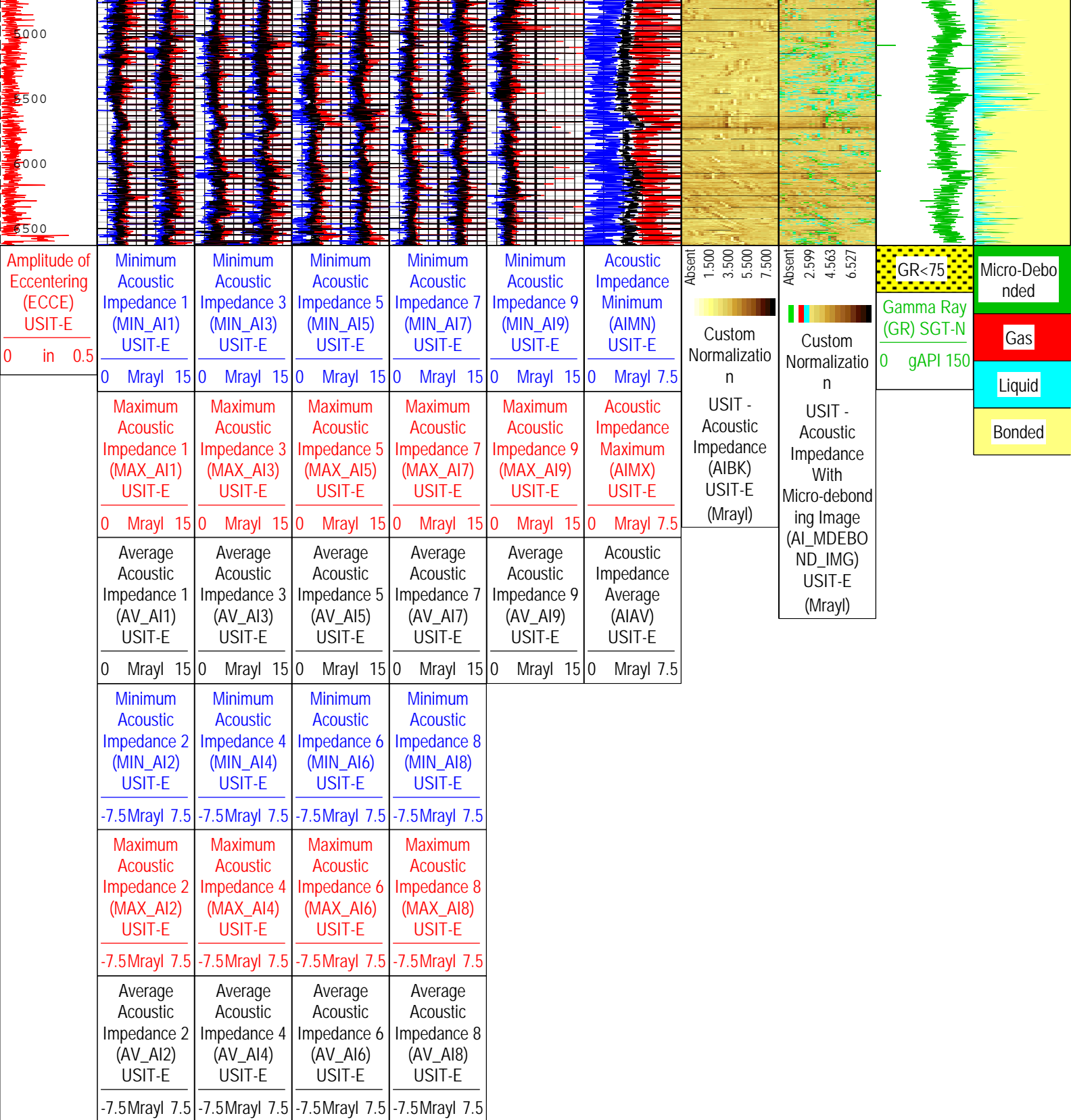
Log	Company:Anadarko Petroleum Company	Well:Benson Farms 25C-19HZ
		Run1 USIT: Log[4]:Up:S002

Description: USI Goodwin Format: USI Goodwin Index Scale: 0.1 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 14-Aug-2014 07:25:08

TIME_1900 - Time Marked every 60.00 (s)

Minimum Acoustic Impedance 1	Minimum Acoustic Impedance 3	Minimum Acoustic Impedance 5	Minimum Acoustic Impedance 7
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[illegible]



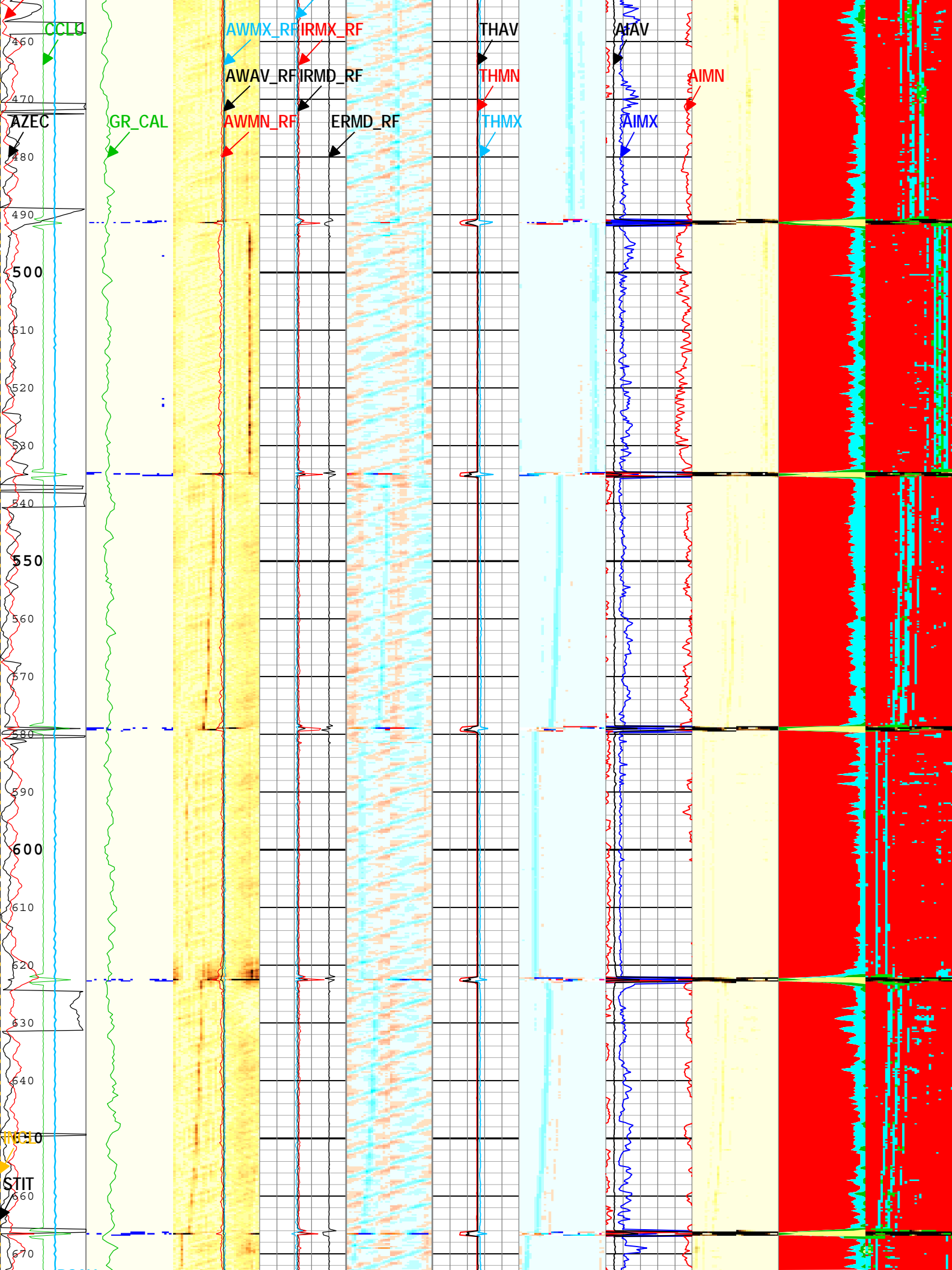
TIME_1900 - Time Marked every 60.00 (s)

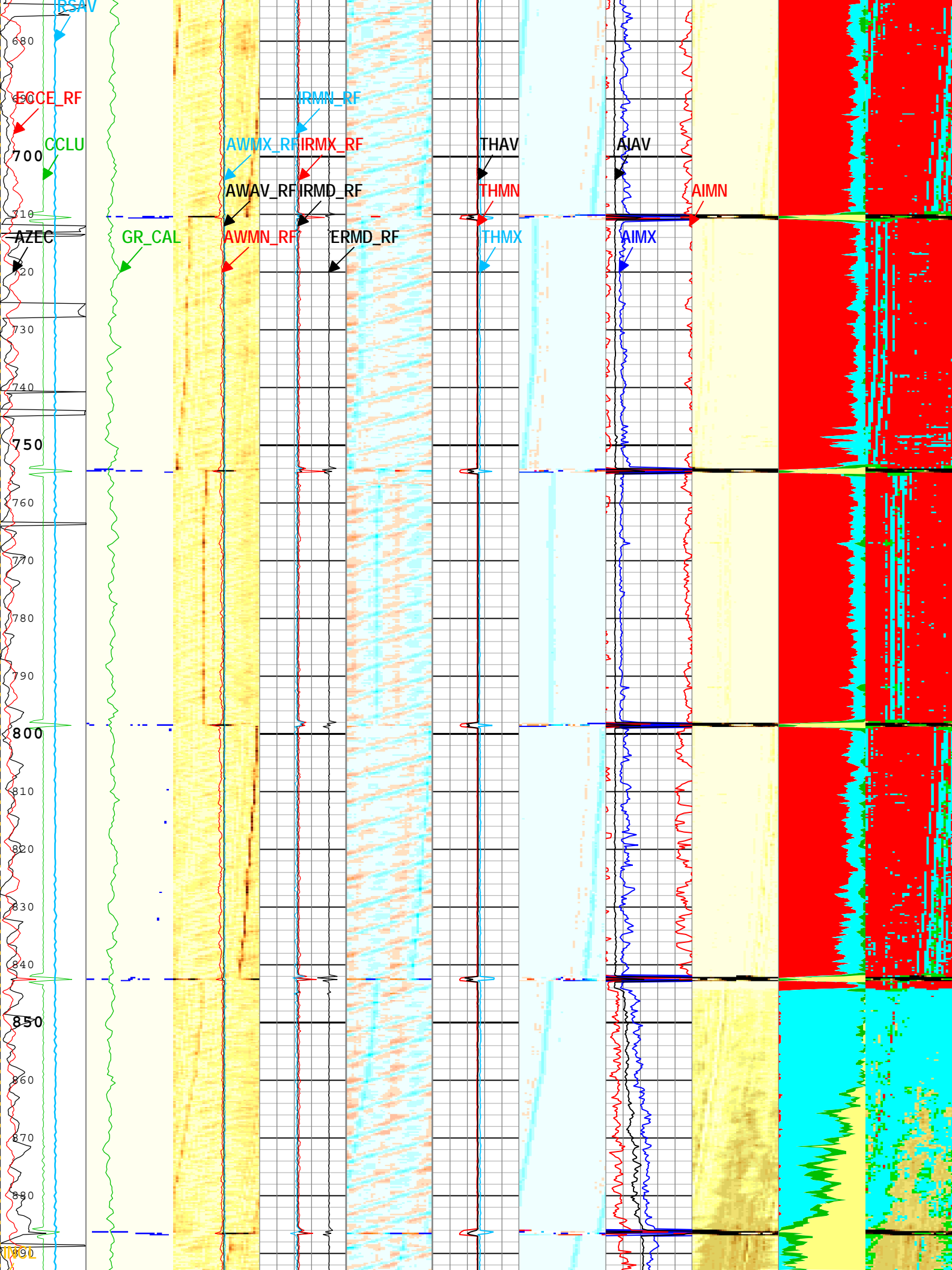
Description: USI Goodwin Format: USI Goodwin Index Scale: 0.1 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 14-Aug-2014 07:25:08

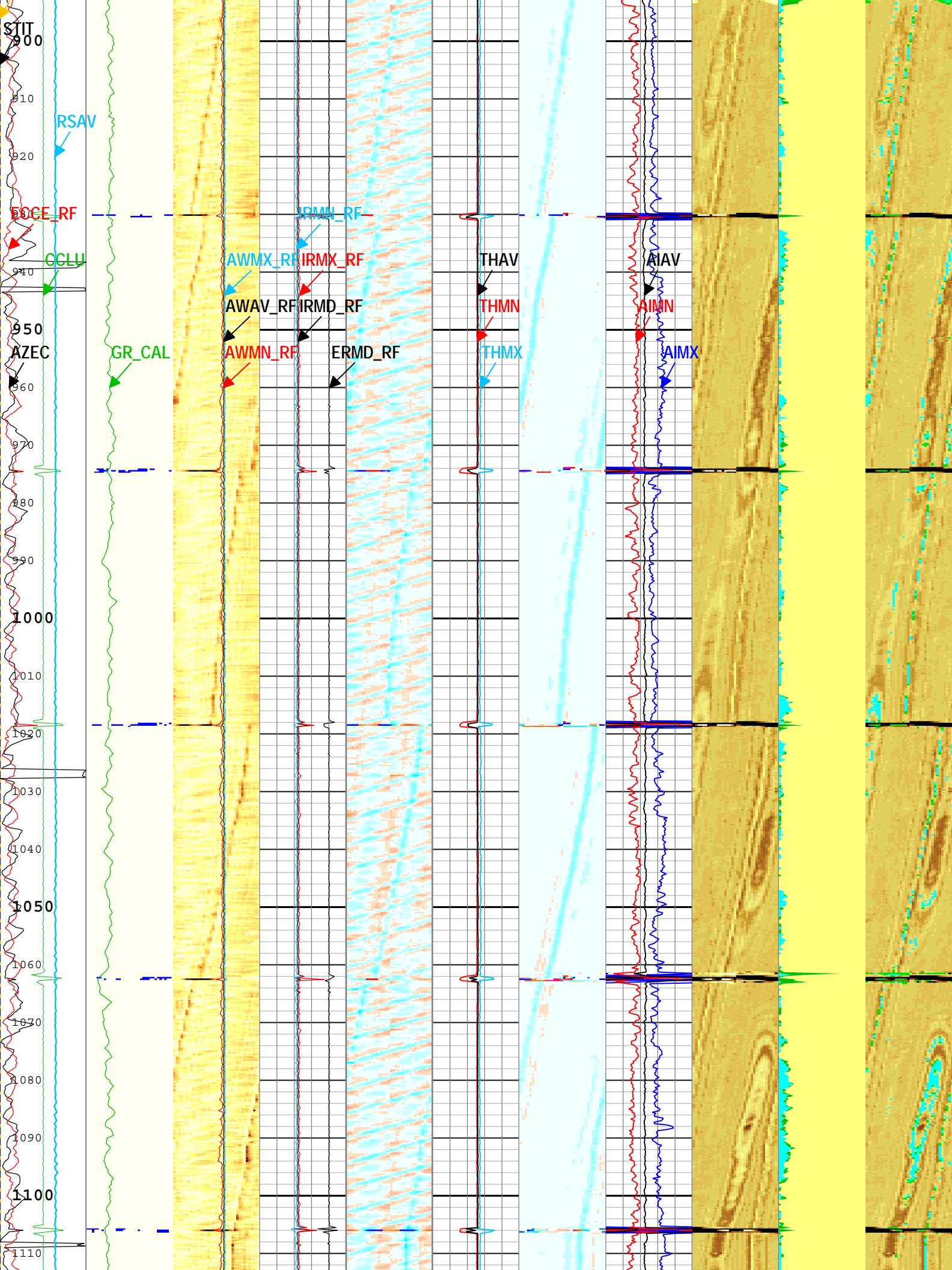
Copy of USI Composite			
USIT - Fluid Properties Measurement			
Run Name	Pass Name	Start Depth(ft)	Stop Depth(ft)
Run 3	Log[3]:Up	6626.22	301.97
Fluid Velocity = "Automatic". CFVL equals DFSL channel			
Start Depth(ft)	Stop Depth(ft)	Start Value(us/ft)	End Value(us/ft)
Mud Impedance = "Manual".			

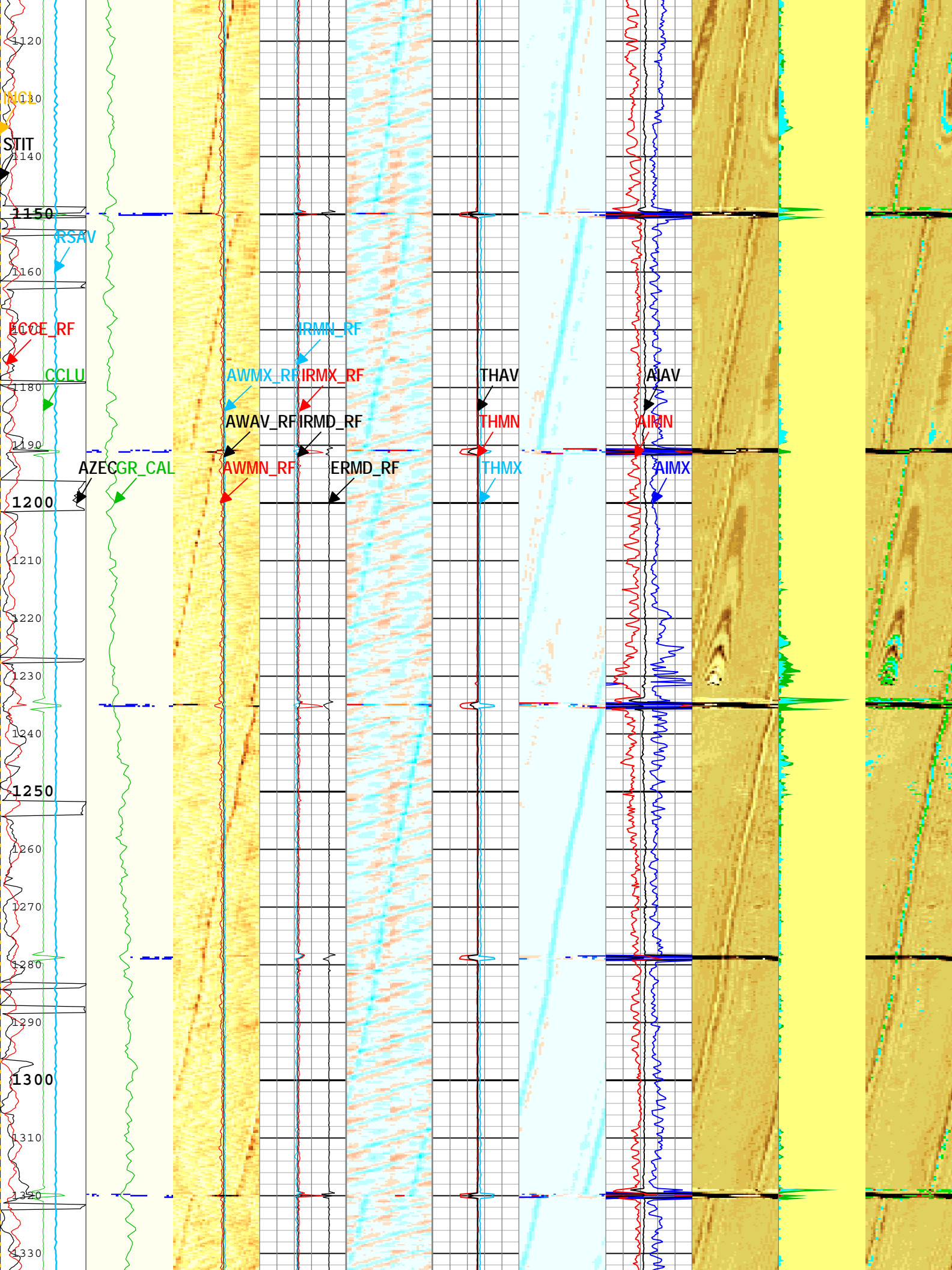
CZMD uses ZMUD parameter stored table below						
Start Depth(ft)	Stop Depth(ft)	Start Value(Mrayl)	End Value(Mrayl)			
0	200	1.67	1.67			
200	400	1.67	1.67			
400	700	1.68	1.68			
700	1000	1.7	1.7			
1000	1500	1.72	1.72			
1500	2000	1.74	1.74			
2000	2500	1.76	1.76			
2500	3000	1.78	1.78			
3000	4000	1.79	1.79			
4000		1.8	1.8			
Run1 USIT						
0 PSI Pass						
Log	Company:Anadarko Petroleum Company		Well:Benson Farms 25C-19HZ			
Run1 USIT: Log131:Up:S002						
Description: USI Composite Format: USI Composite Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 14-Aug-2014 07:25:12						
TIME_1900 - Time Marked every 60.00 (s)						
USIT Processing Flags (UFLG[0]) USIT-E						
1 - UFLG 1 Value within [0.0 - 1.5] - :			UTIM Error			
2 - UFLG 2 Value within [1.5 - 2.5] - :			Pulse Origin Not Detected			
3 - UFLG 3 Value within [2.5 - 3.5] - :			WINLEN Error			
4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - :			Casing Thickness Error			
5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10] - :			Loop Processing Error			
CableDrag						
Azimuth of Eccentering (AZEC) USIT-E						
0 deg 360						
Casing Collar Locator Ultrasonic (CCLU) USIT-E						
-20 in 20						
Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E						
0 in 0.5						
Motor Revolution Speed (RSAV) USIT-E						
-8 c/s -6						
Motor Revolution Speed (PSAV) USIT-E						
IRAV						
ERAV						
IRAV-ERAV						
Median of Unflagged External Radii (ERMD_RF) USIT-E						
2.7 in 3.7						
Median Internal Radius of Casing Corrected for Eccentering (IRMD_RF) USIT-E						
0.1 in 0.6						
Acoustic Impedance Maximum (AIMX) USIT-E						
-1 Mrayl 9						
Ratio of Cement Measurements to Total (CEMR) USIT-E						
1 0						
Micro-bonding Ratio (MDR) USIT-E						
1 0						
Ratio of Gas Measurements to Total						

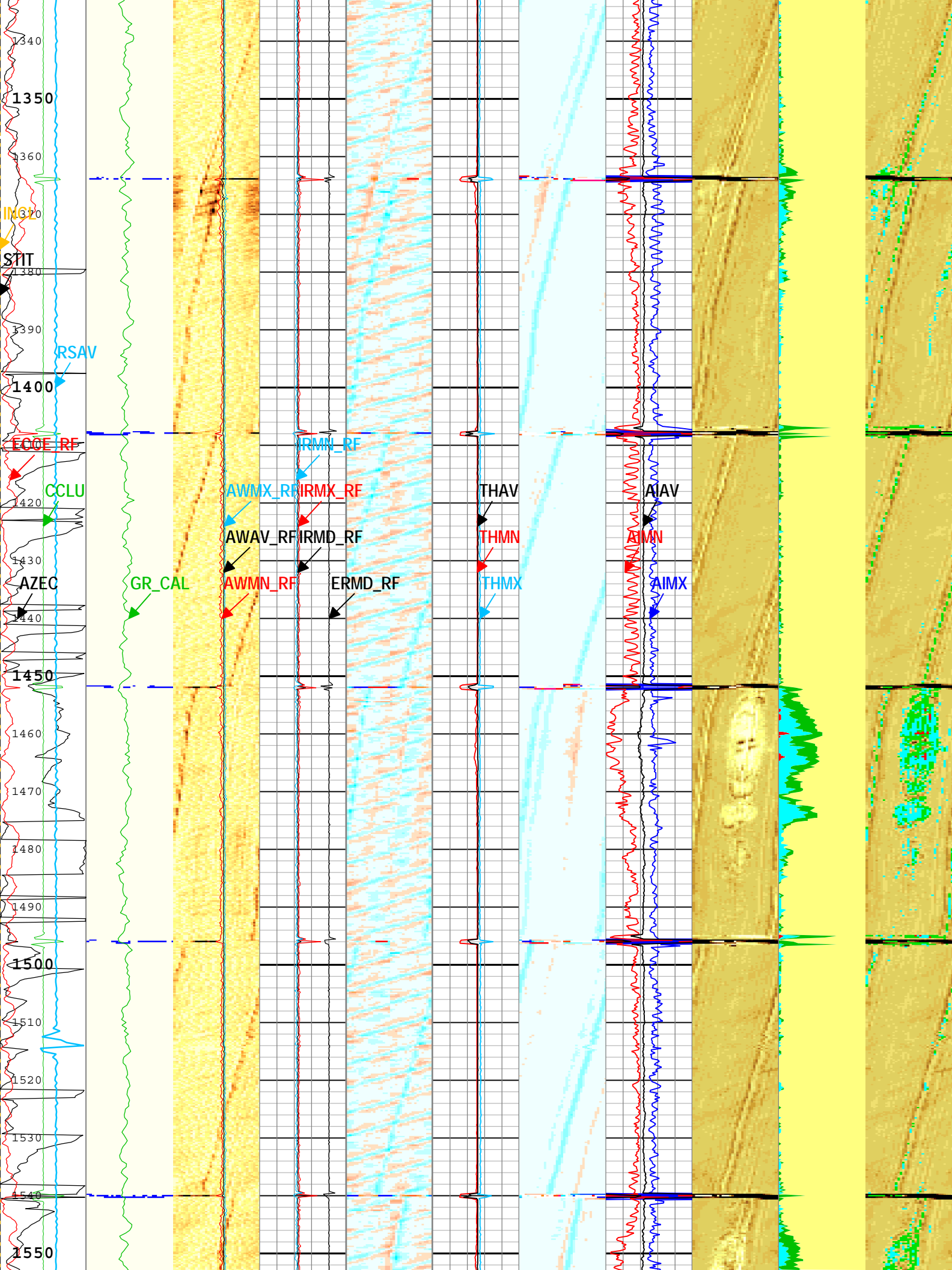
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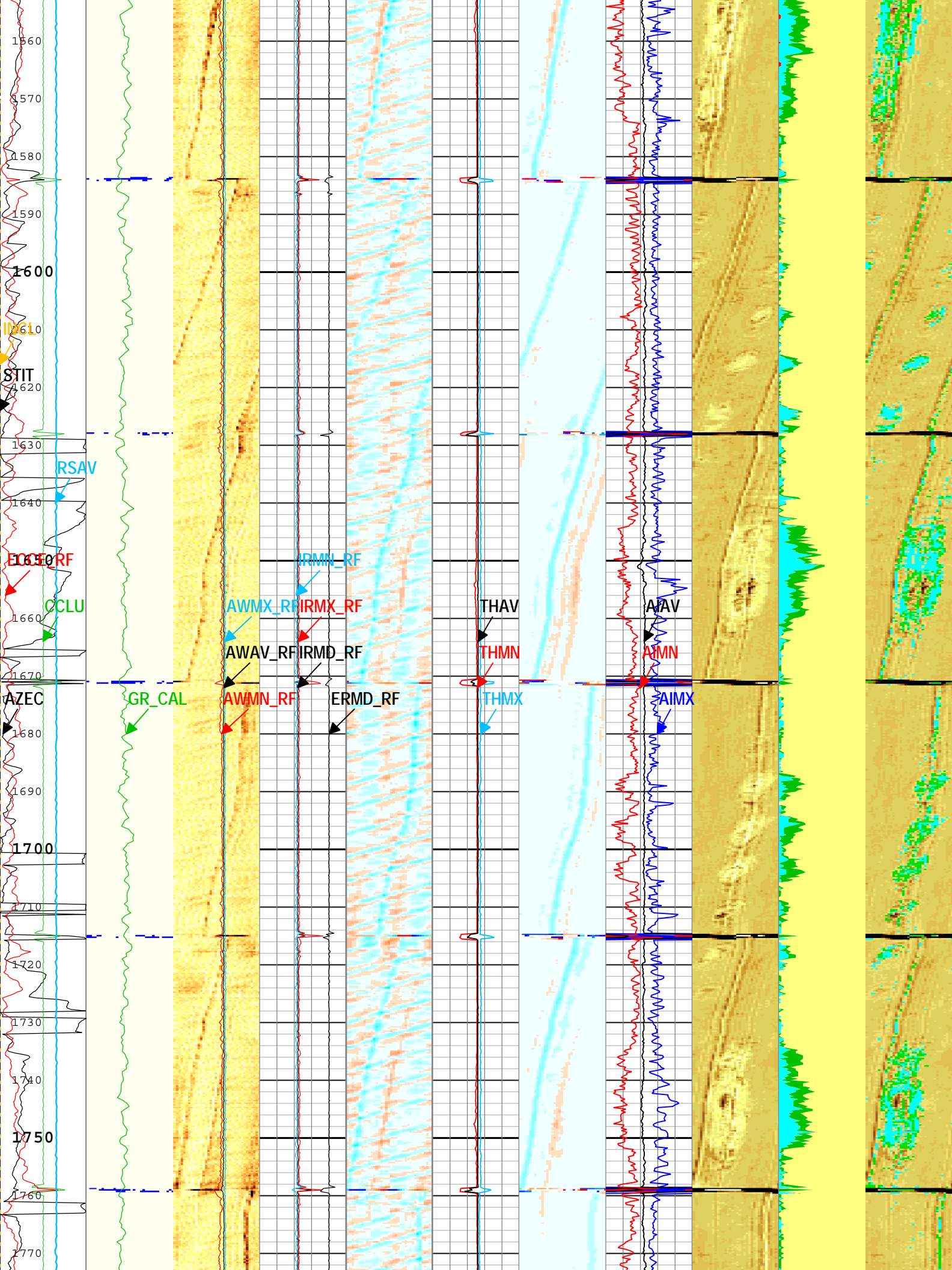


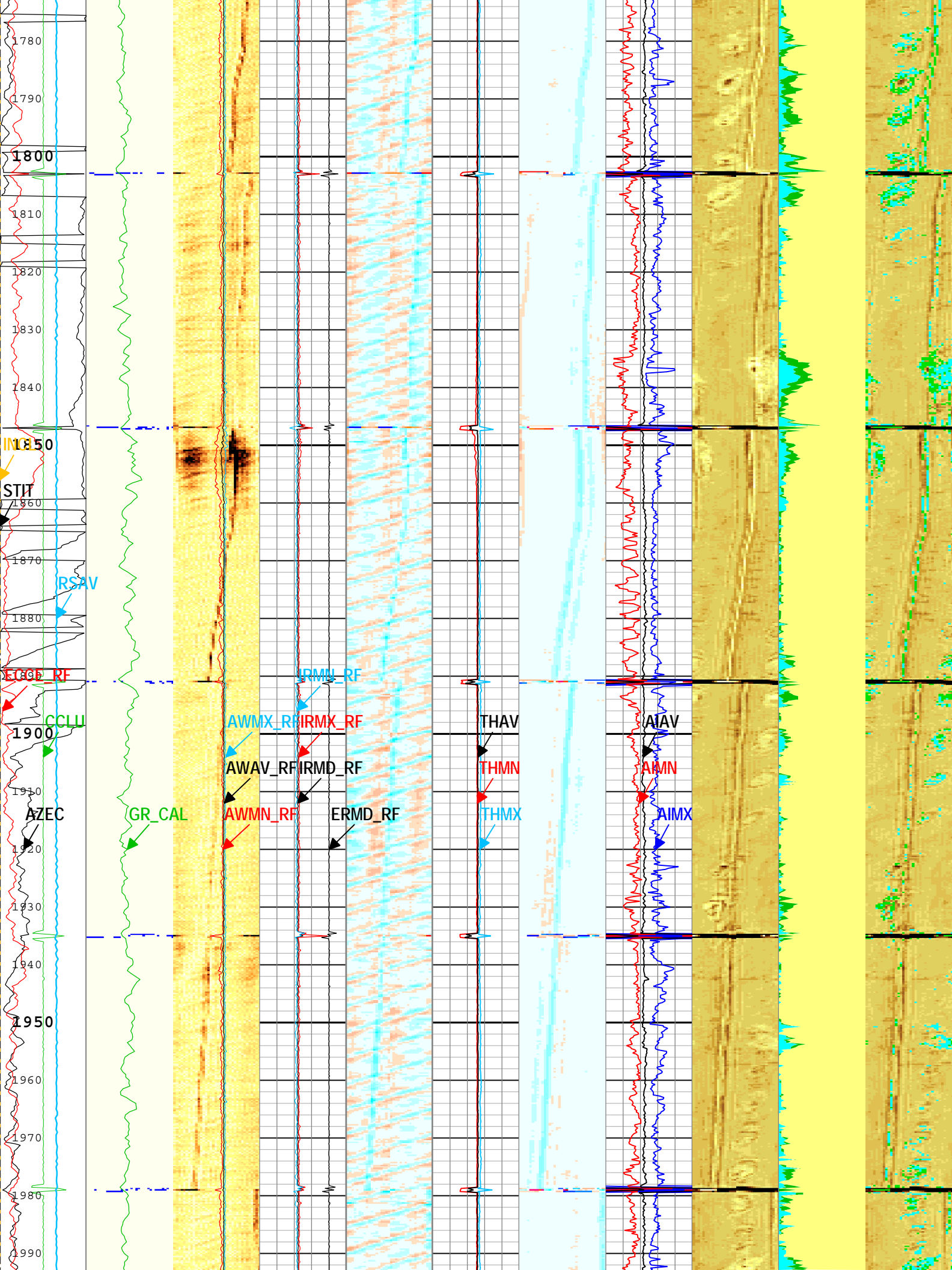


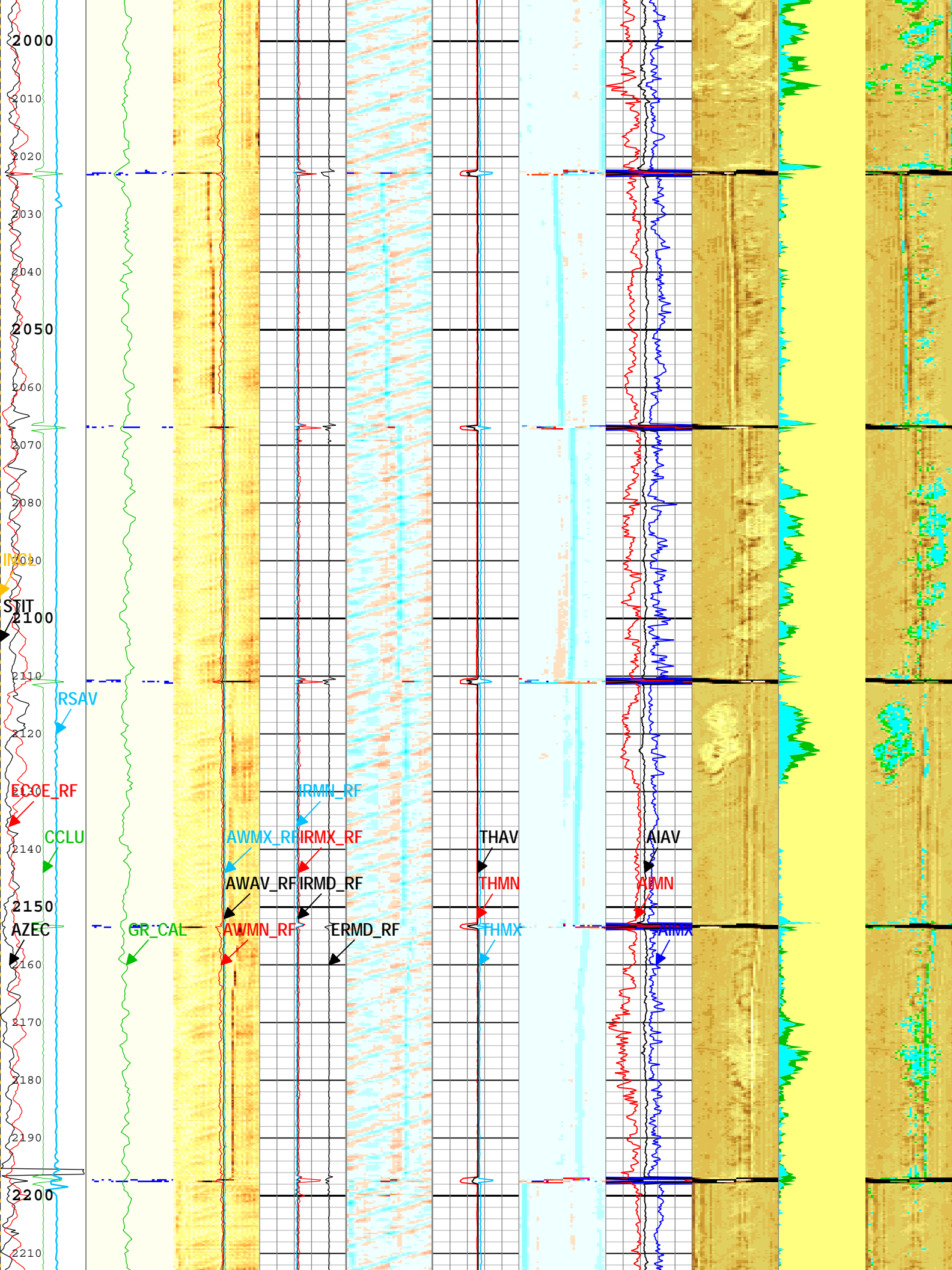


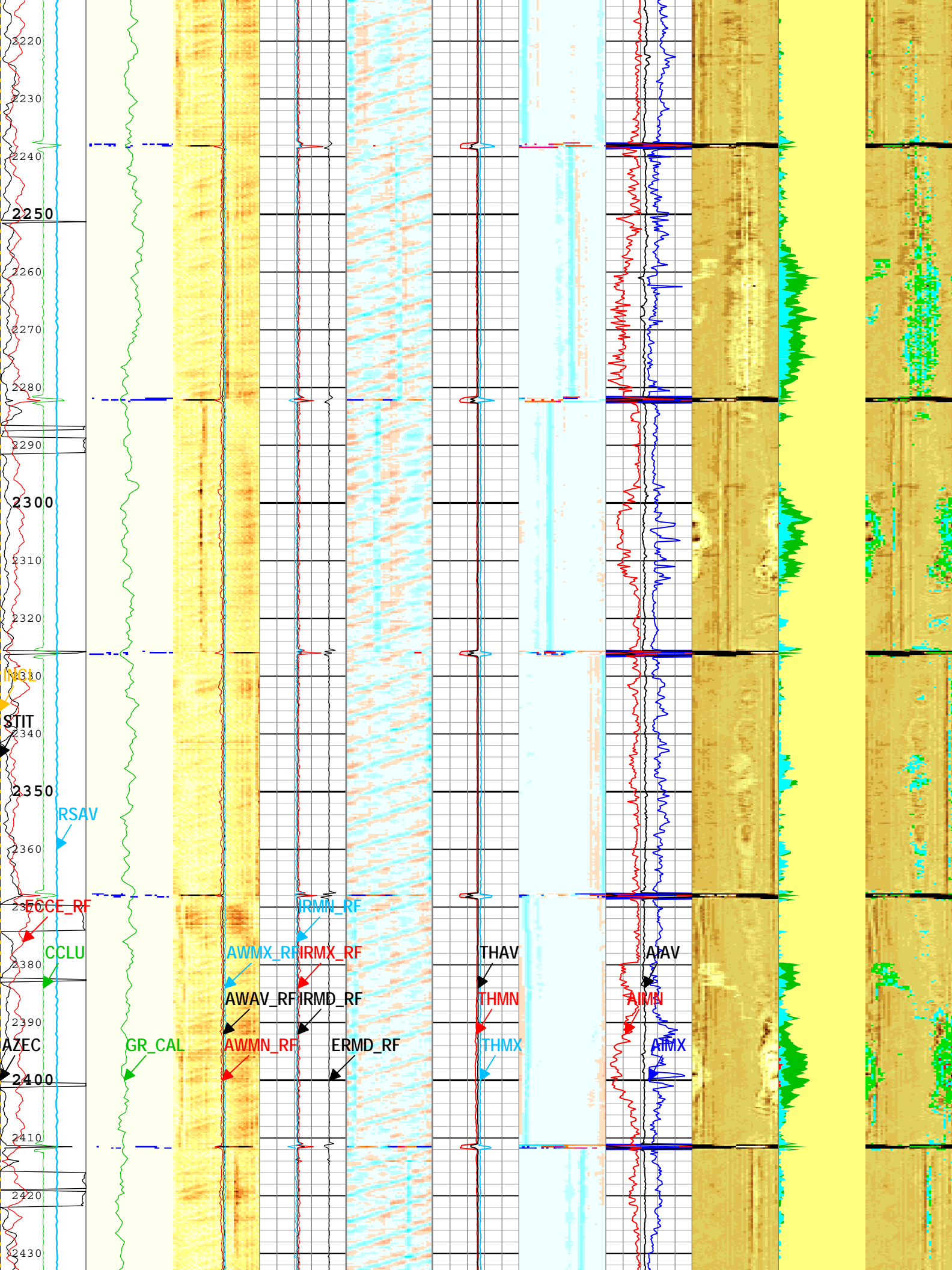


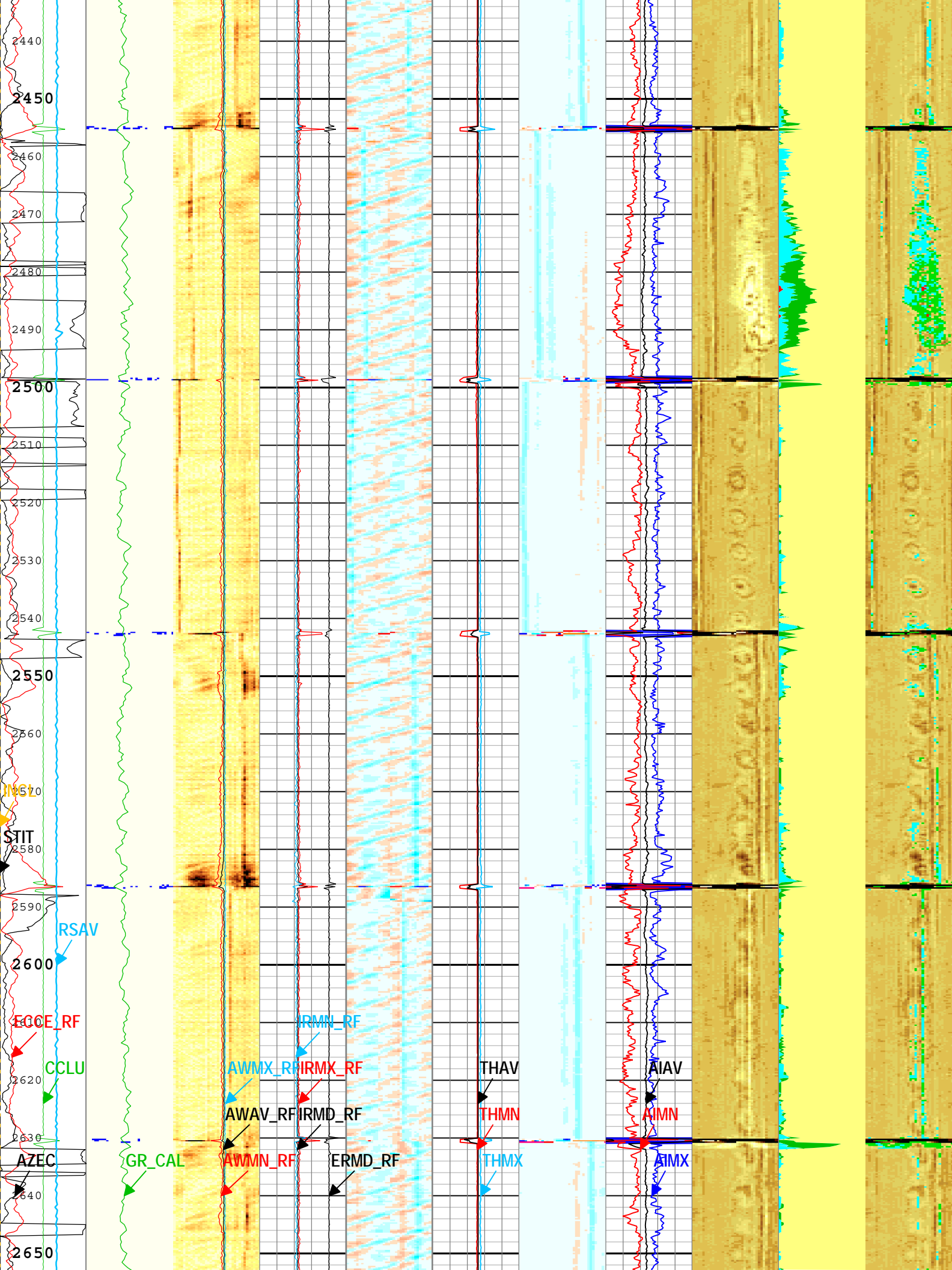


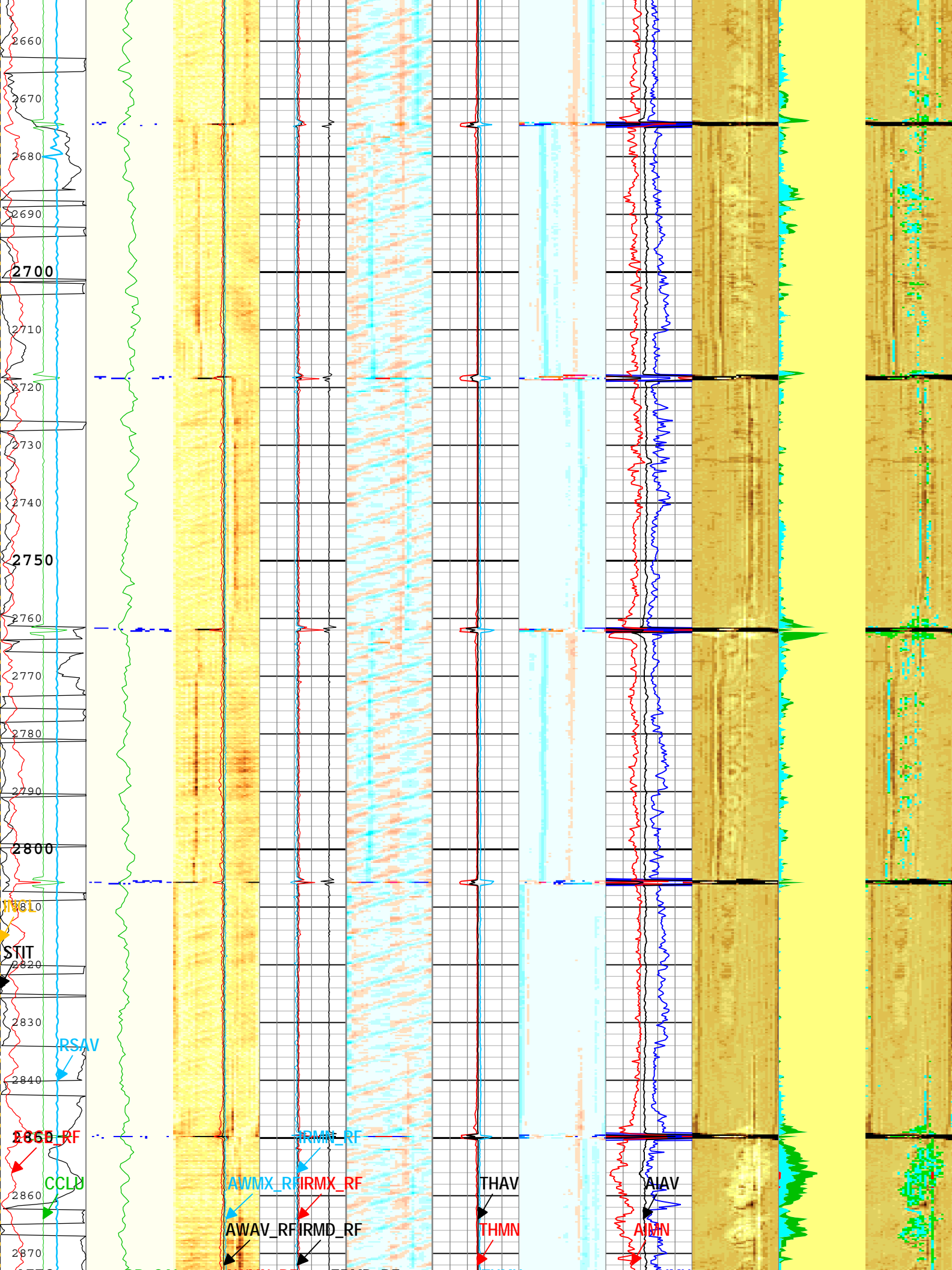


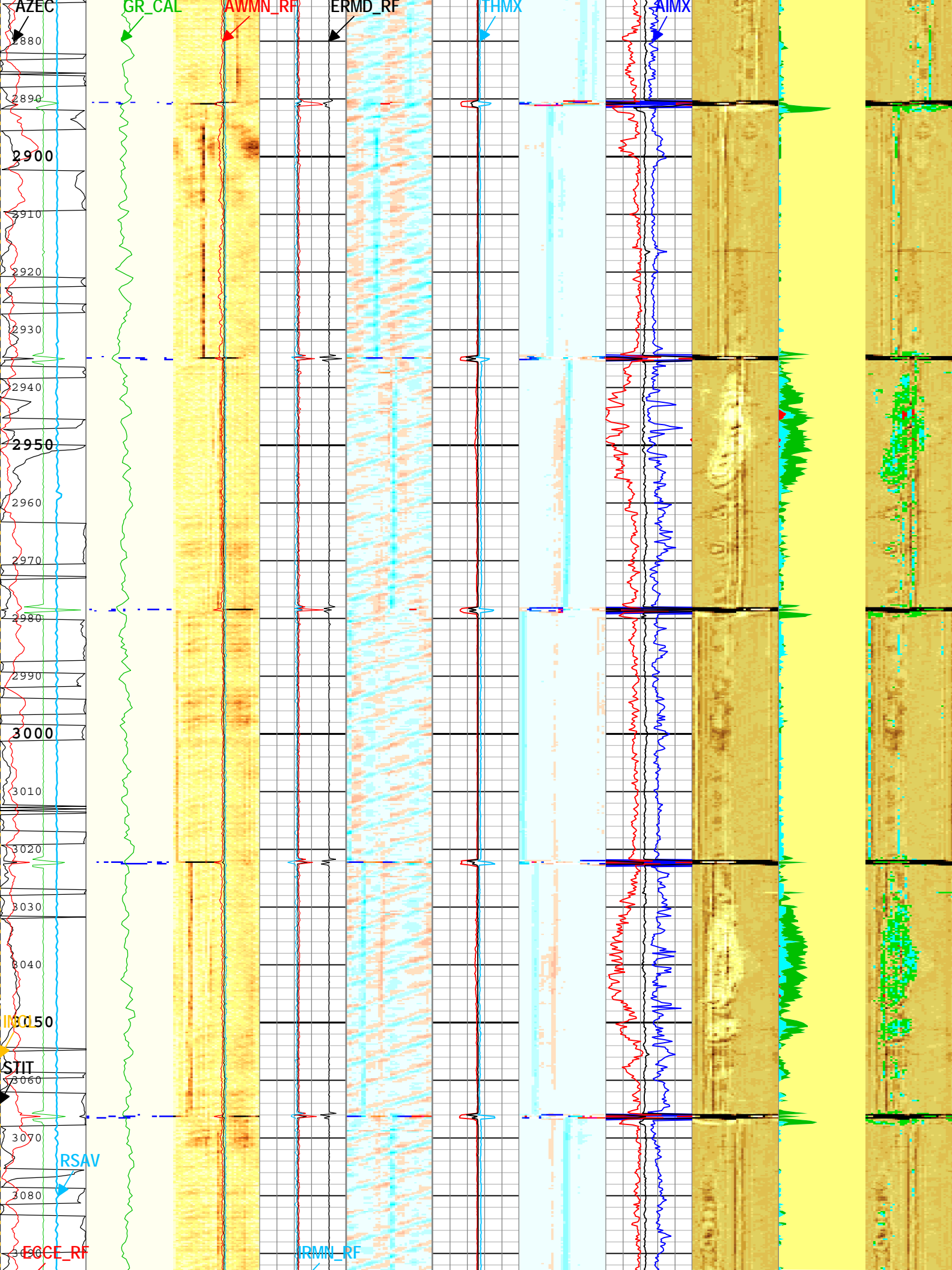


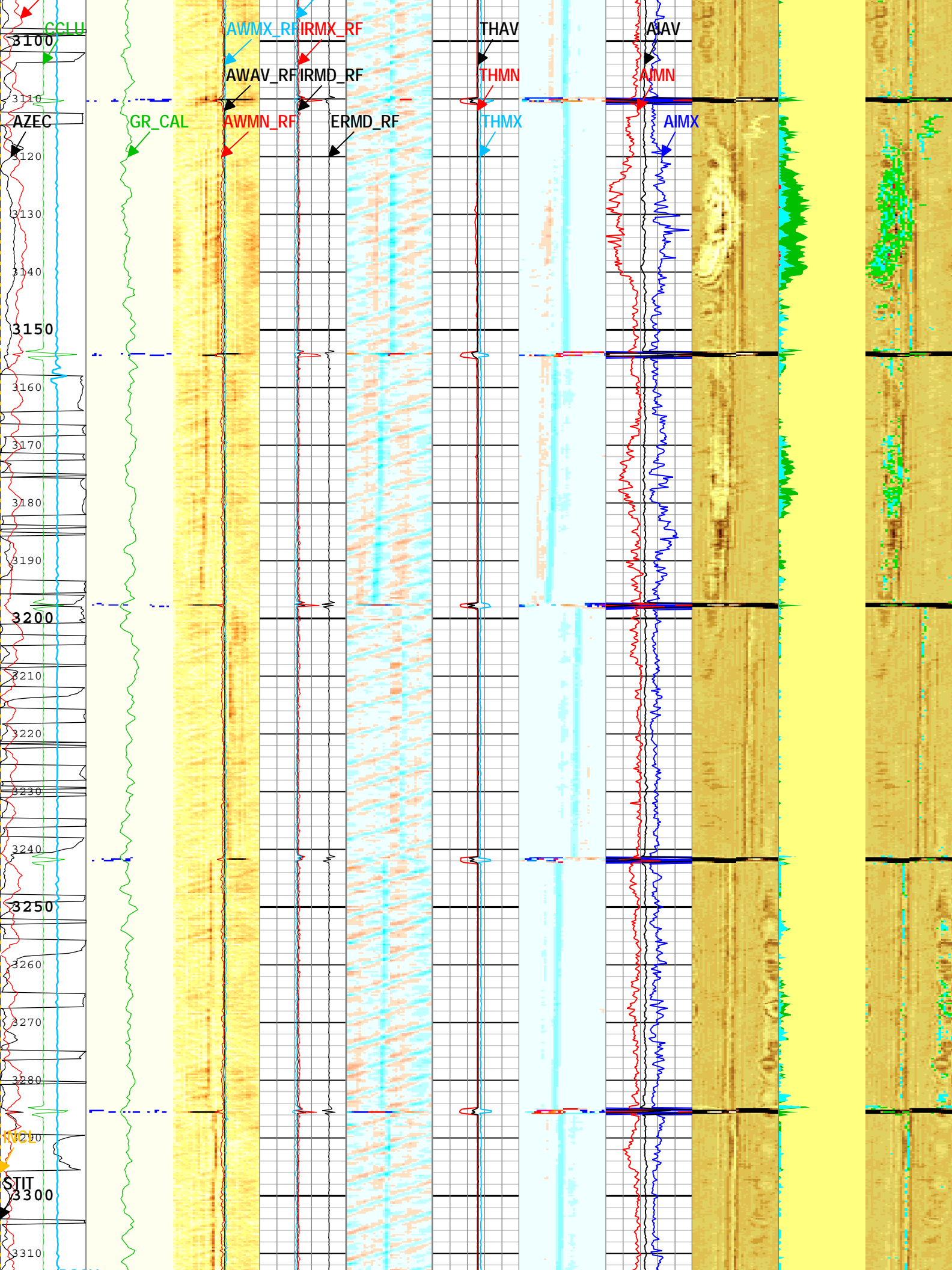


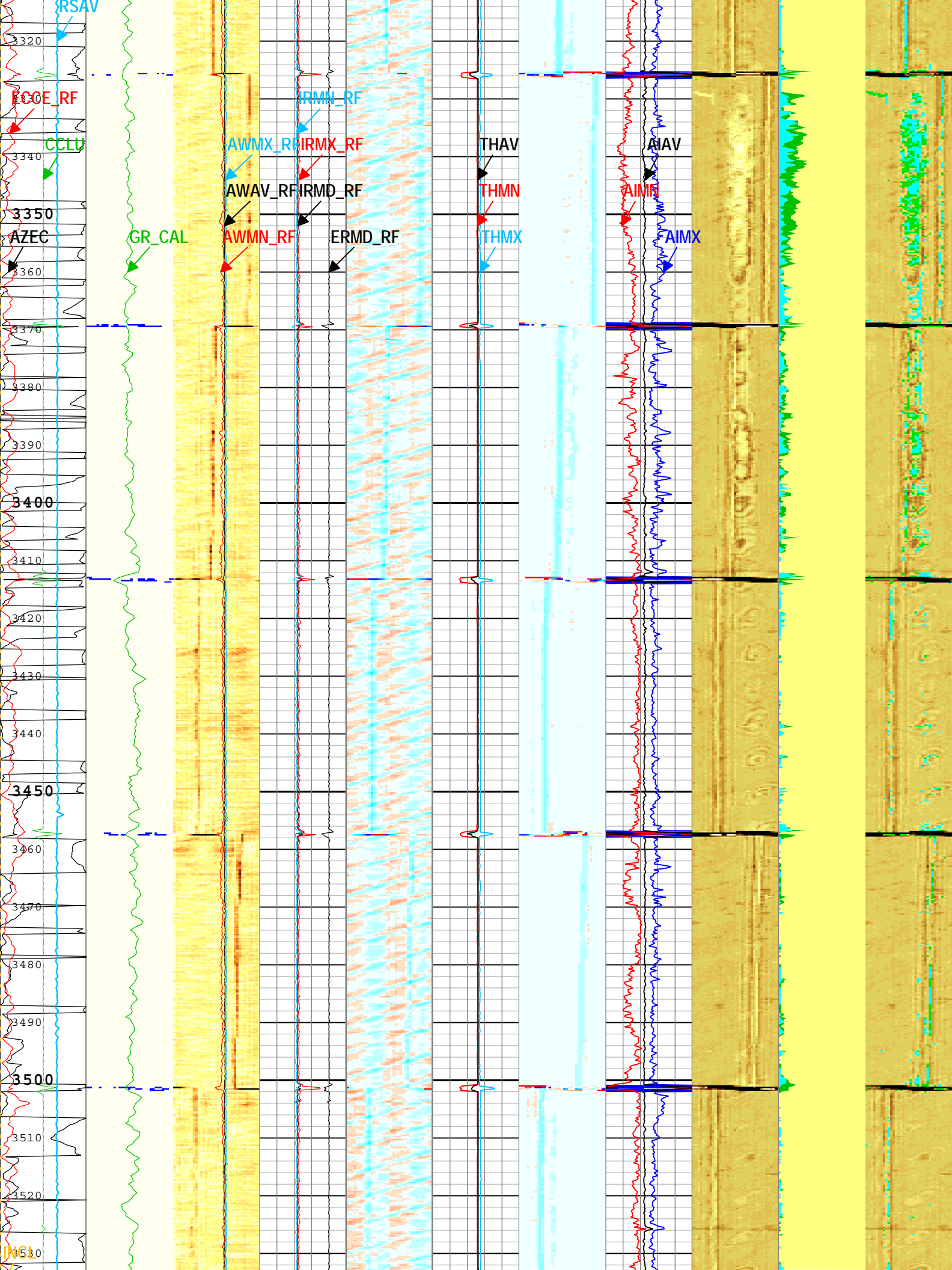


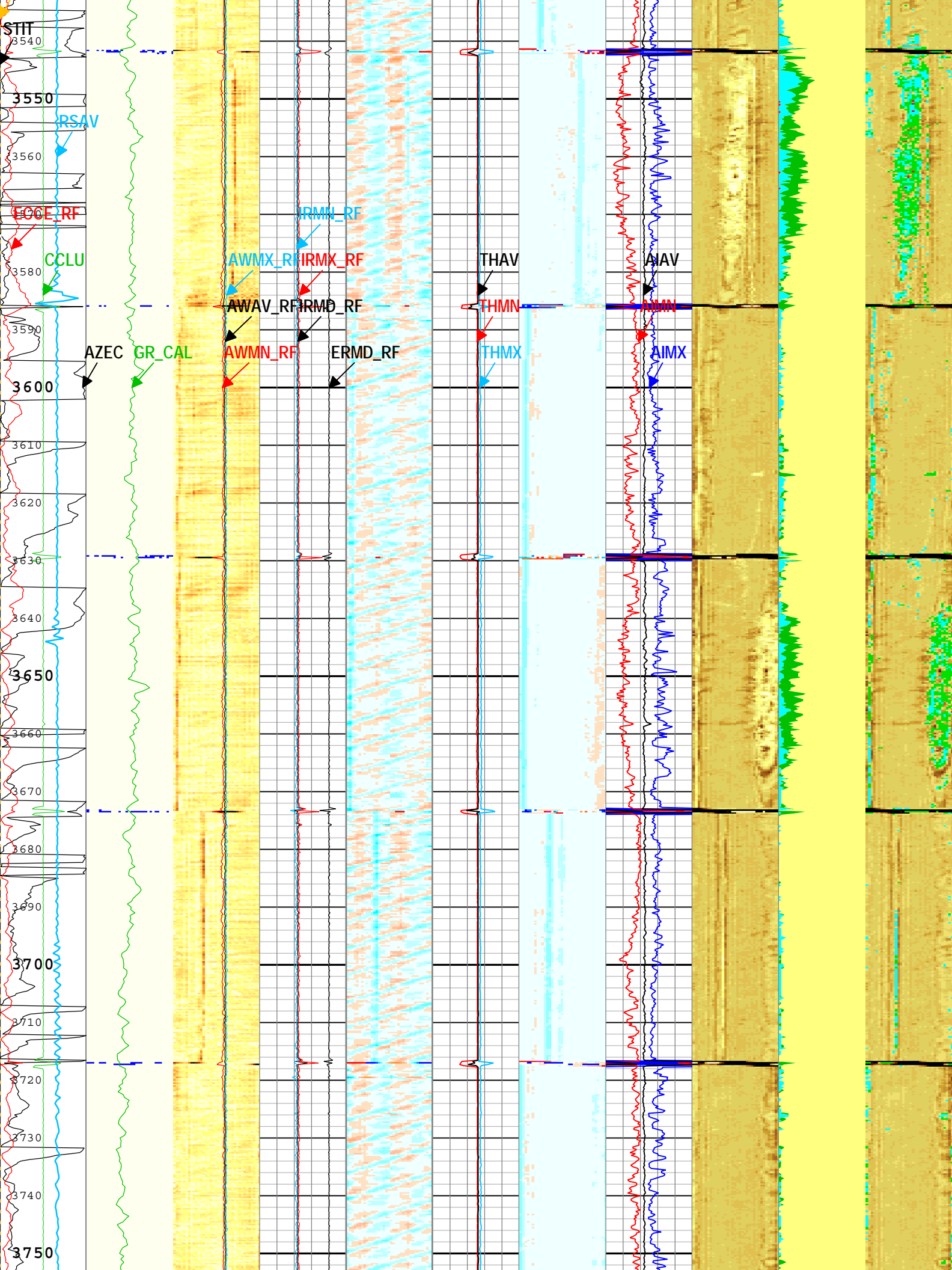


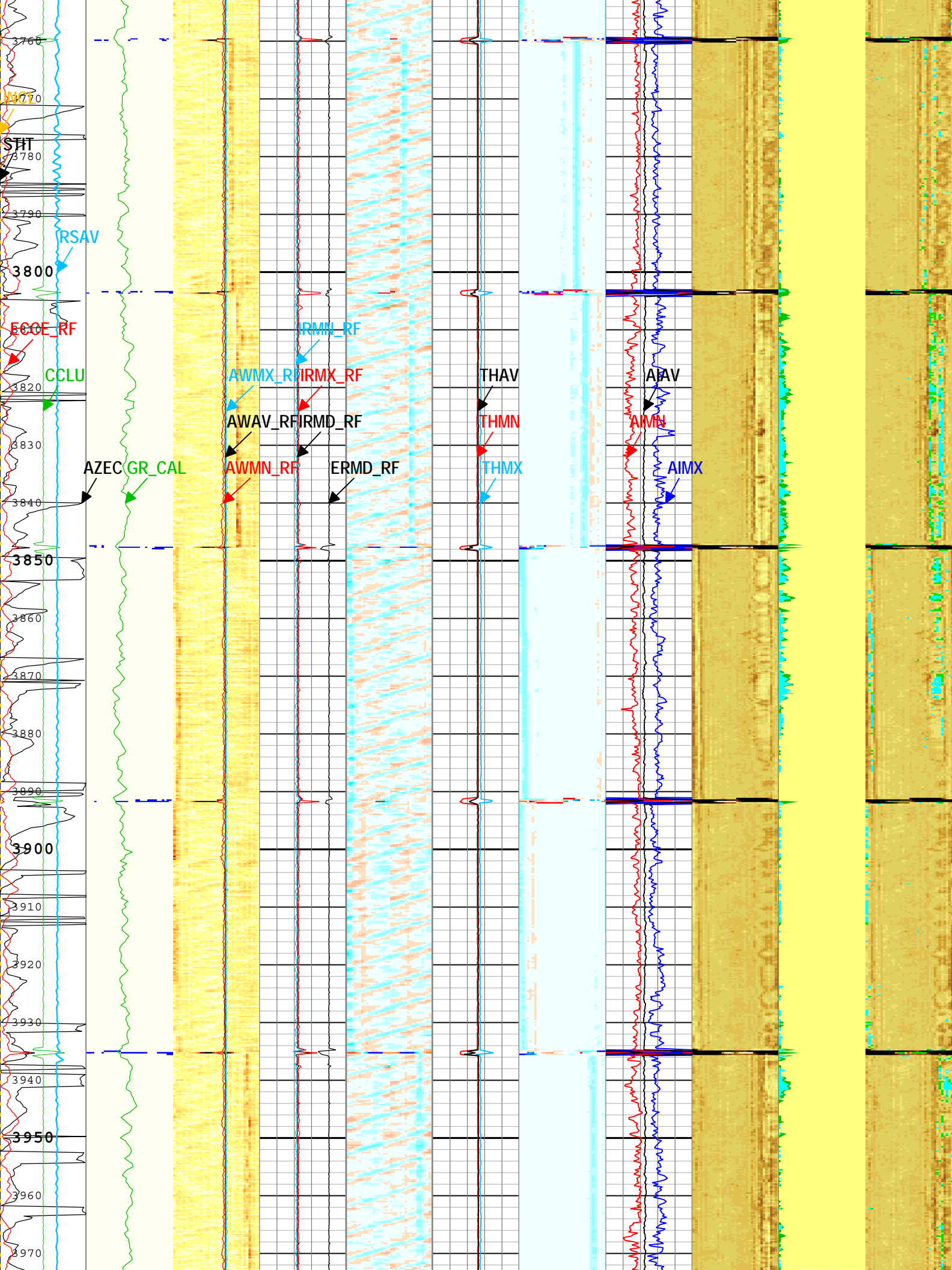


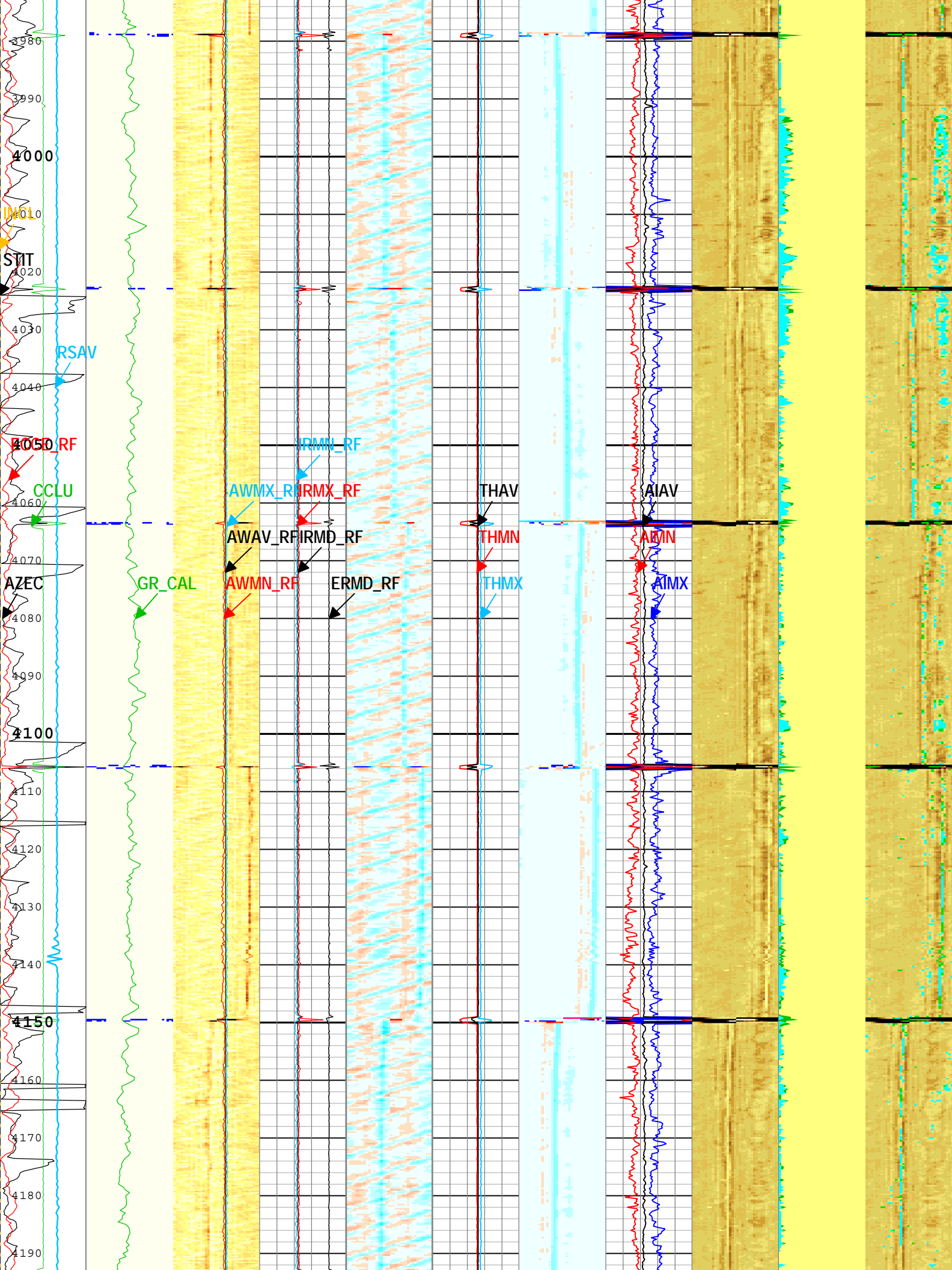


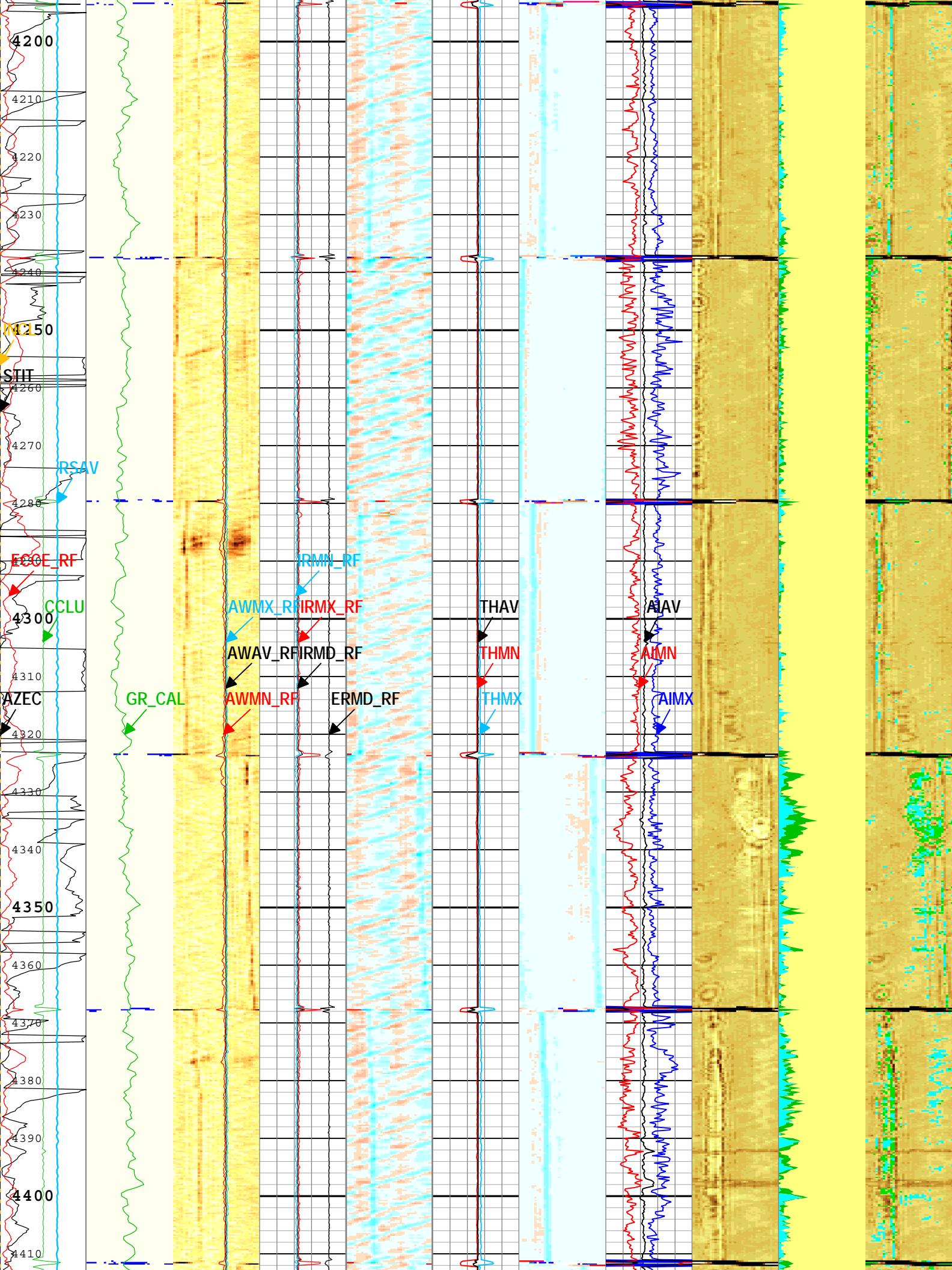


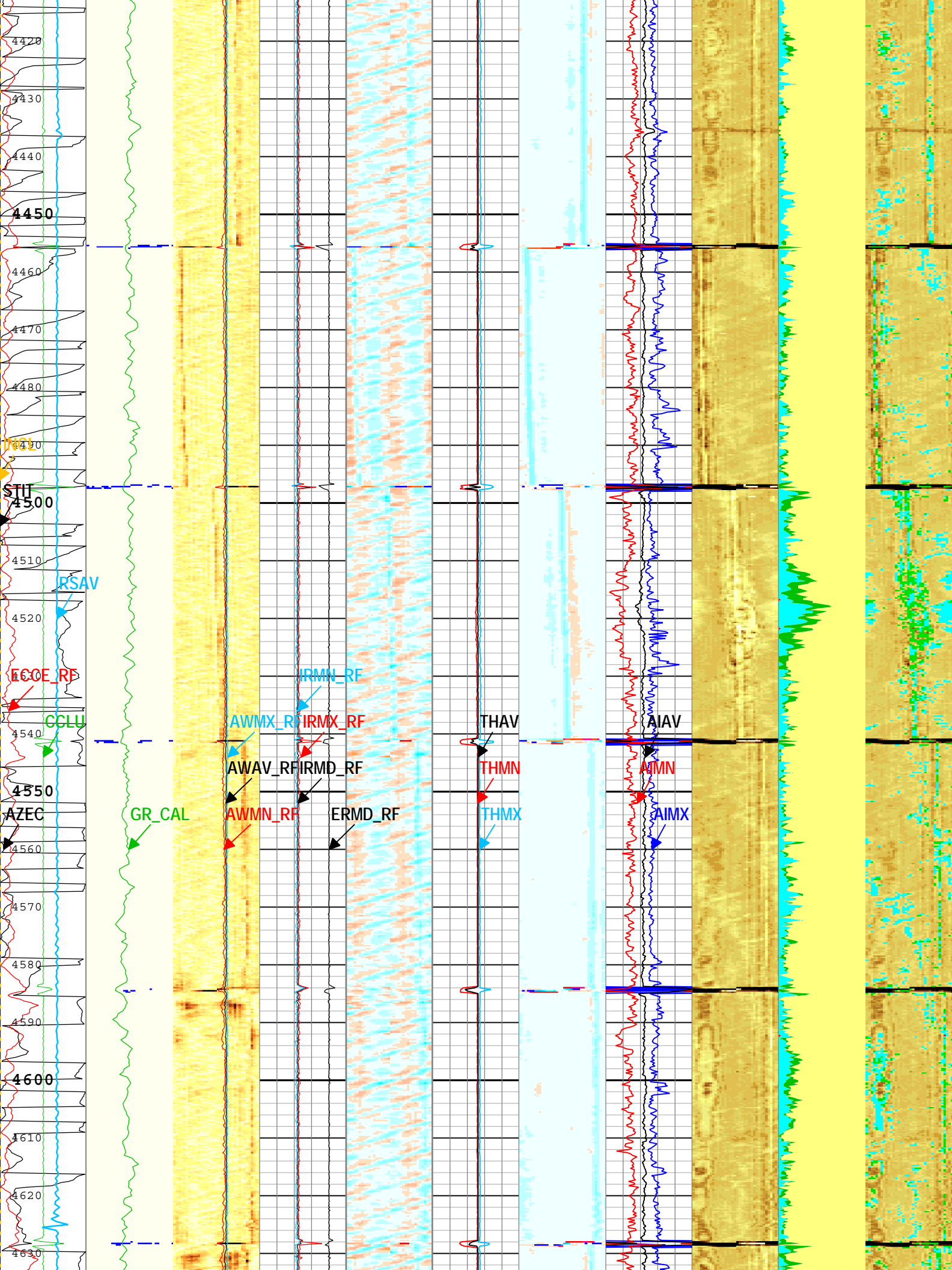


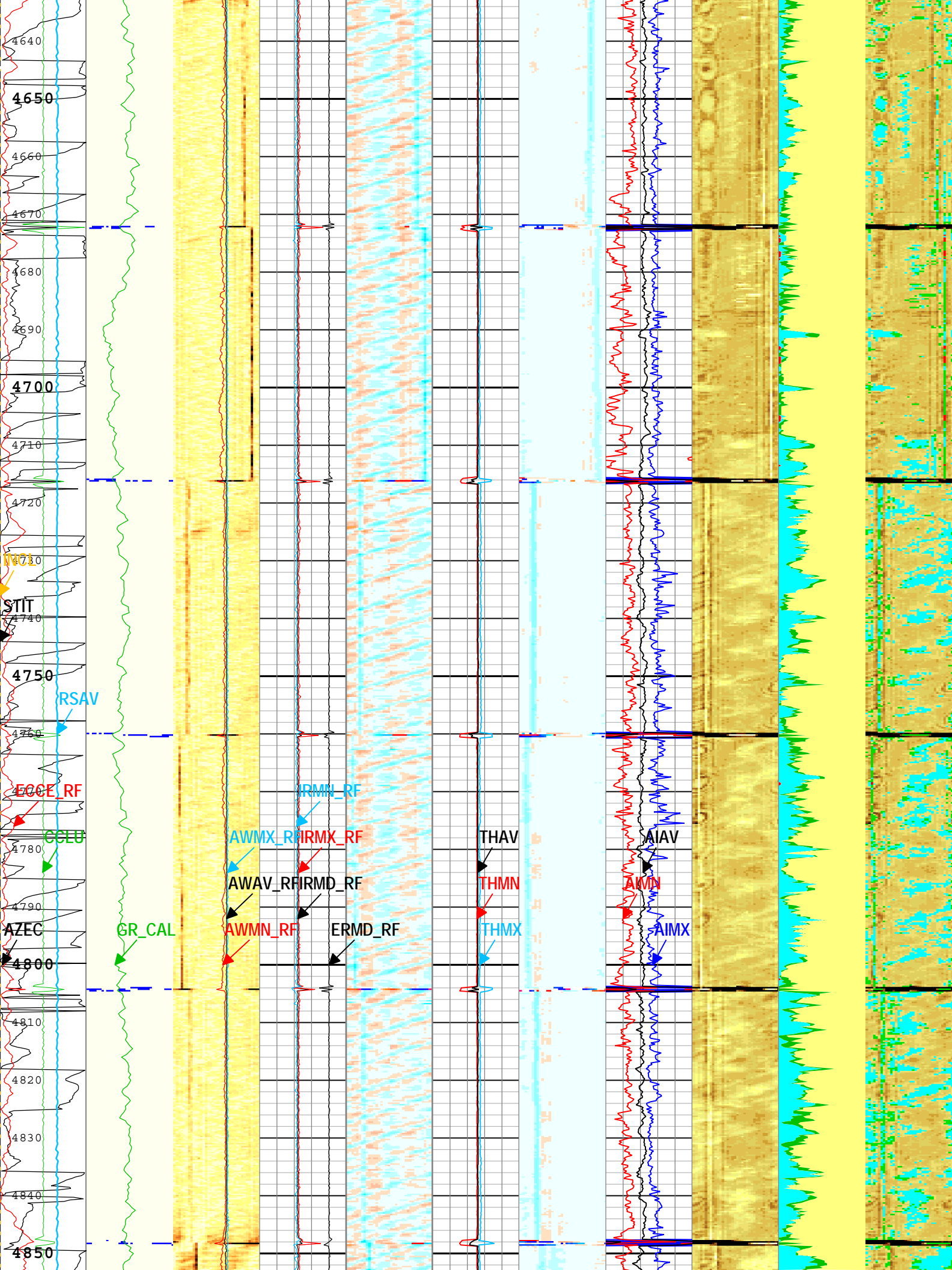


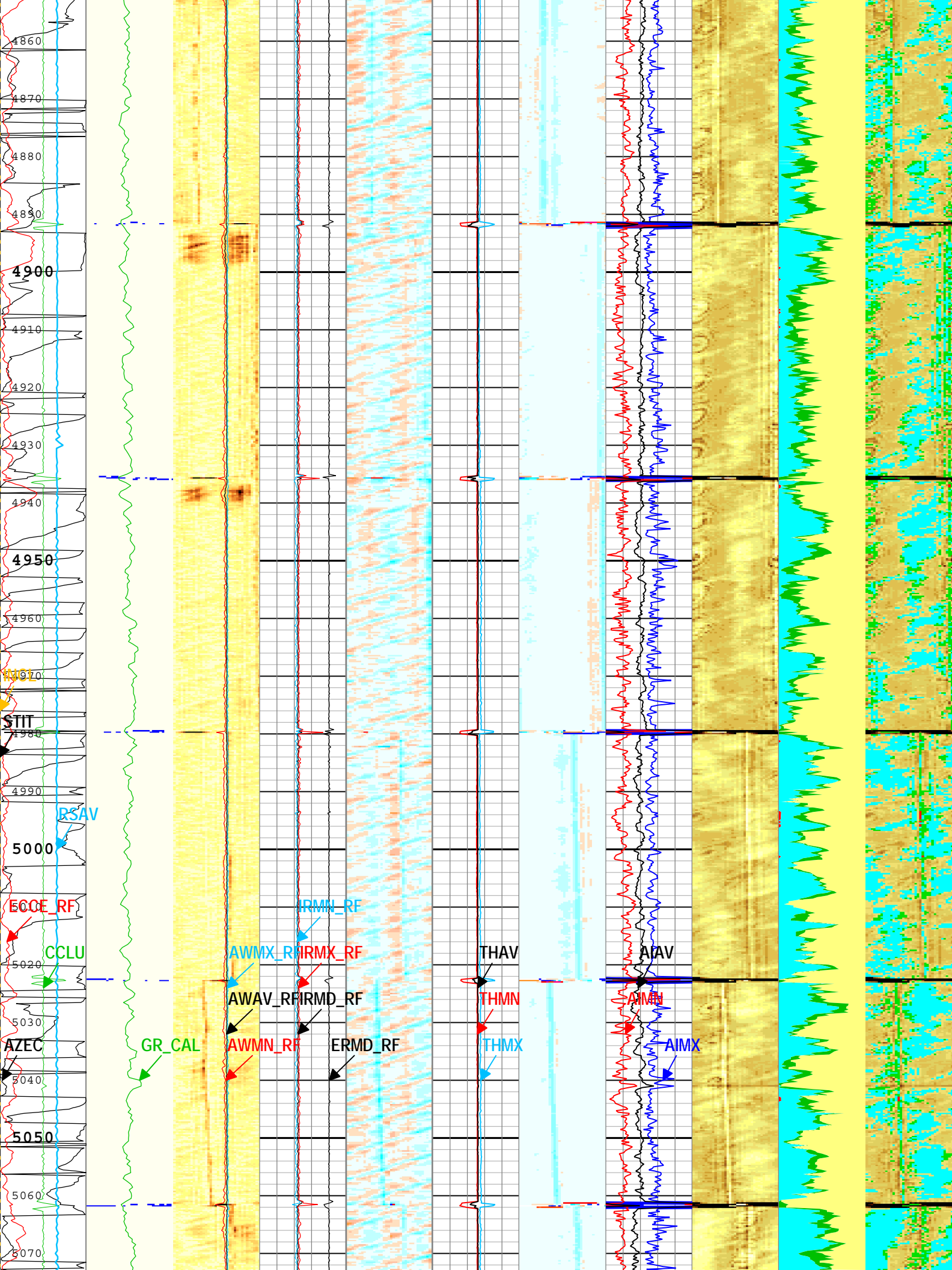


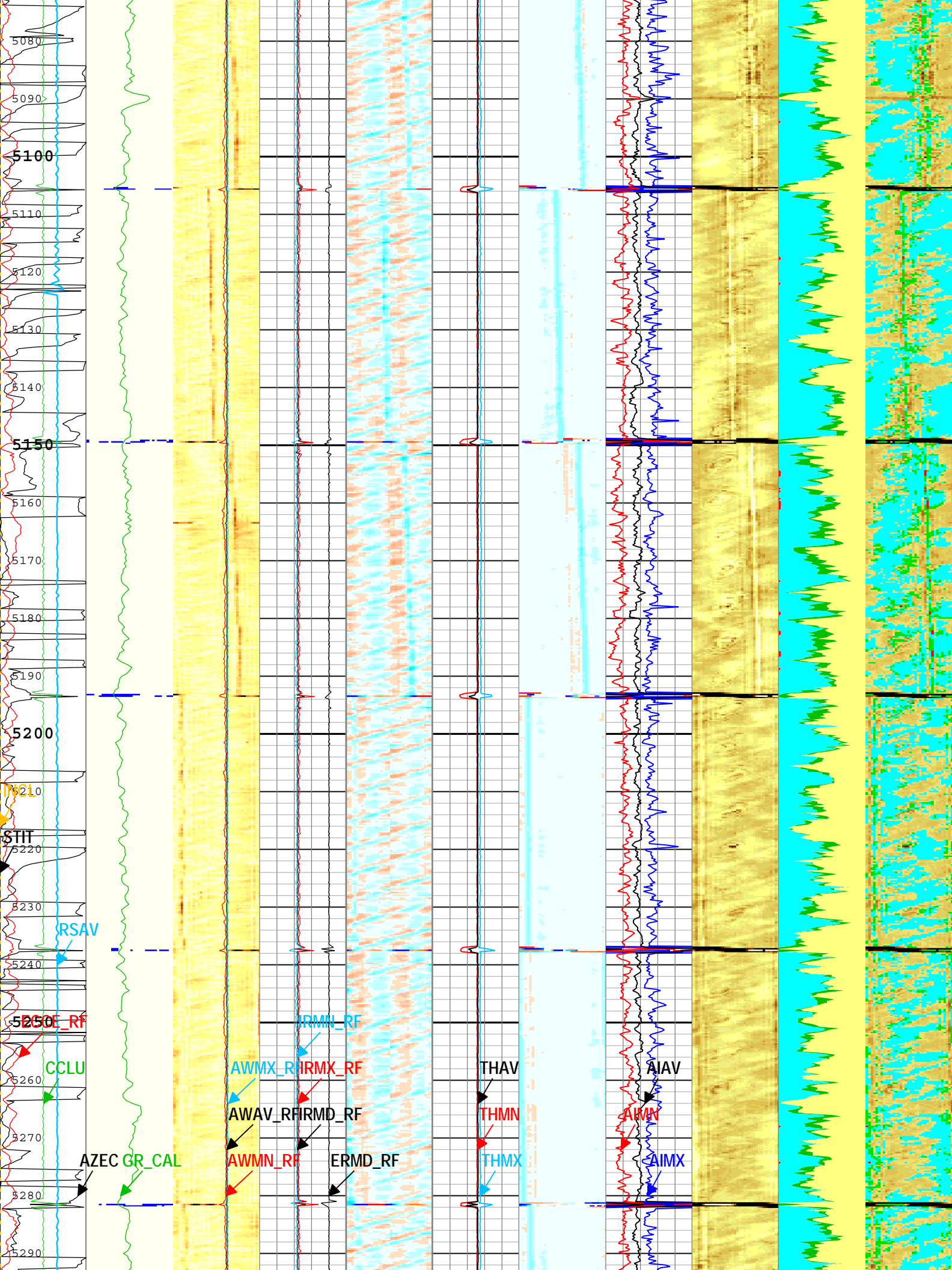


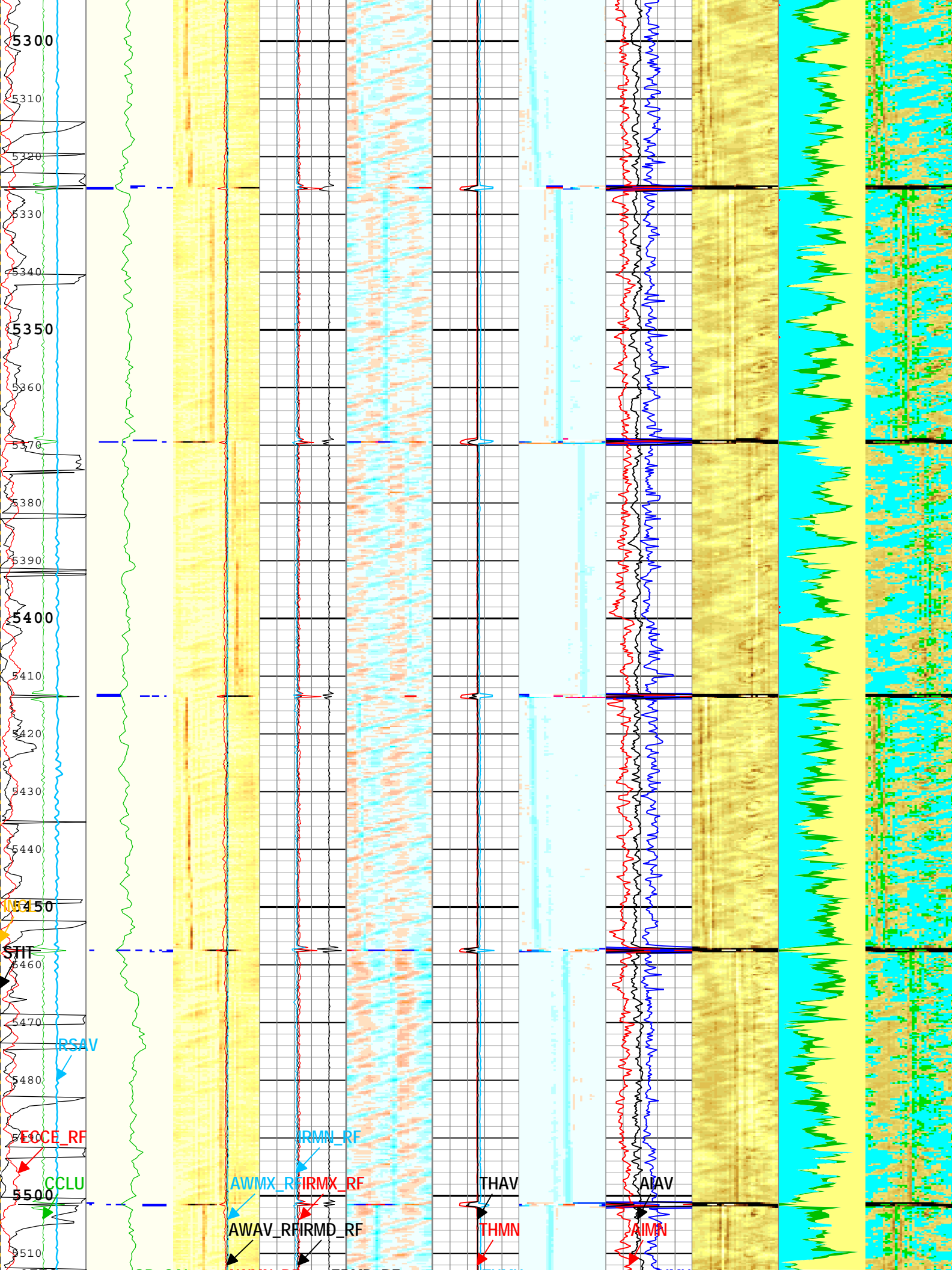


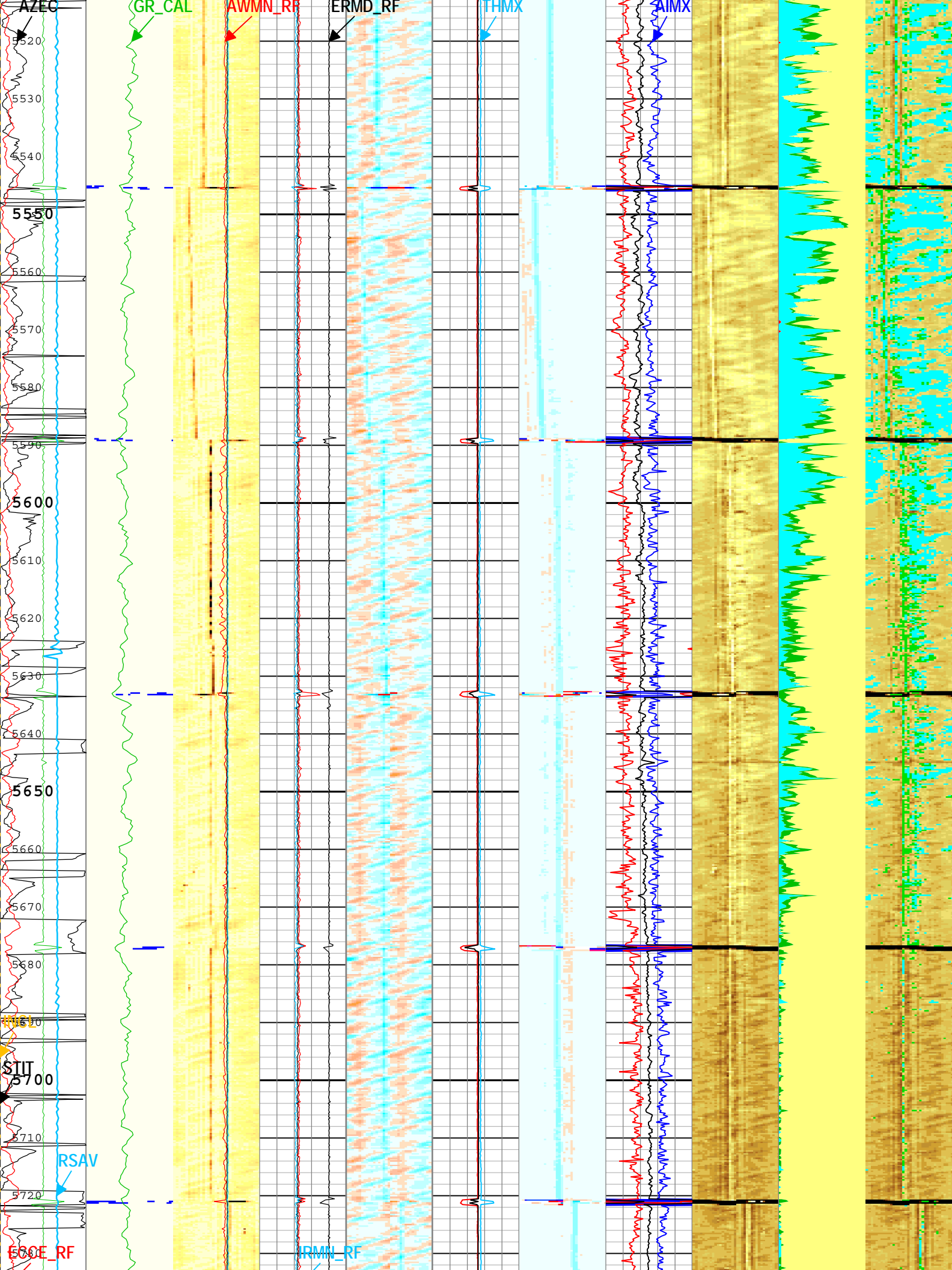


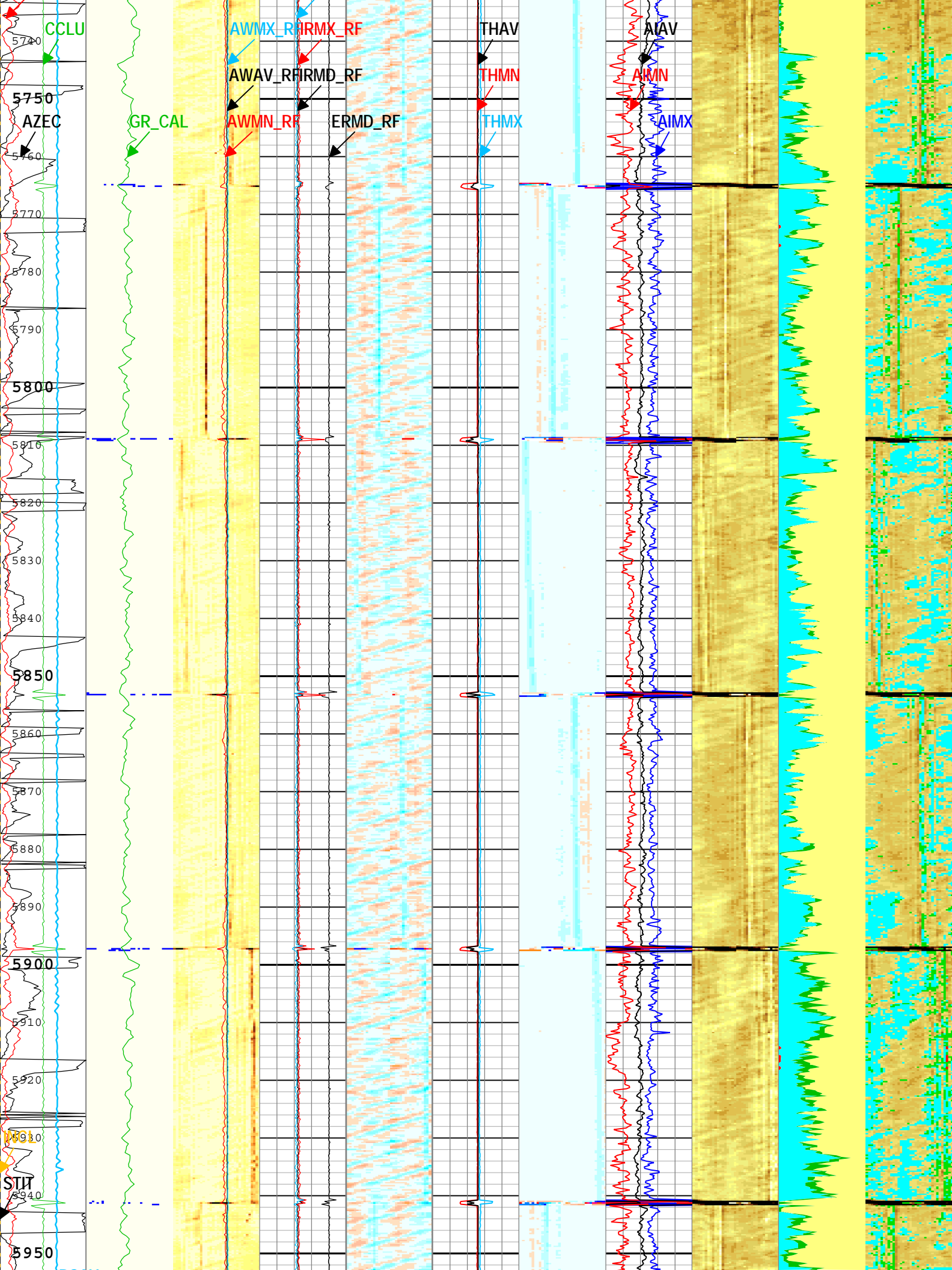


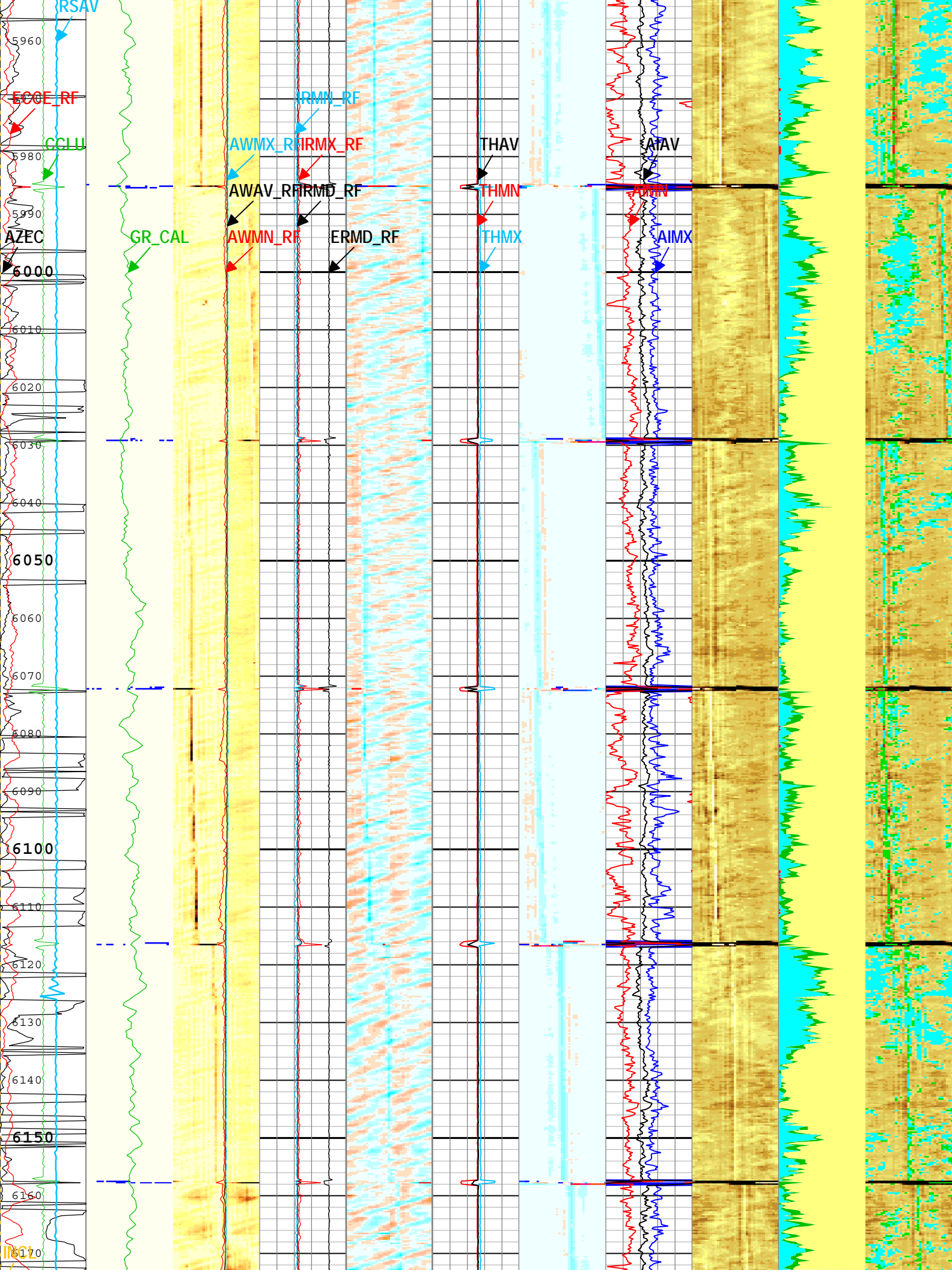


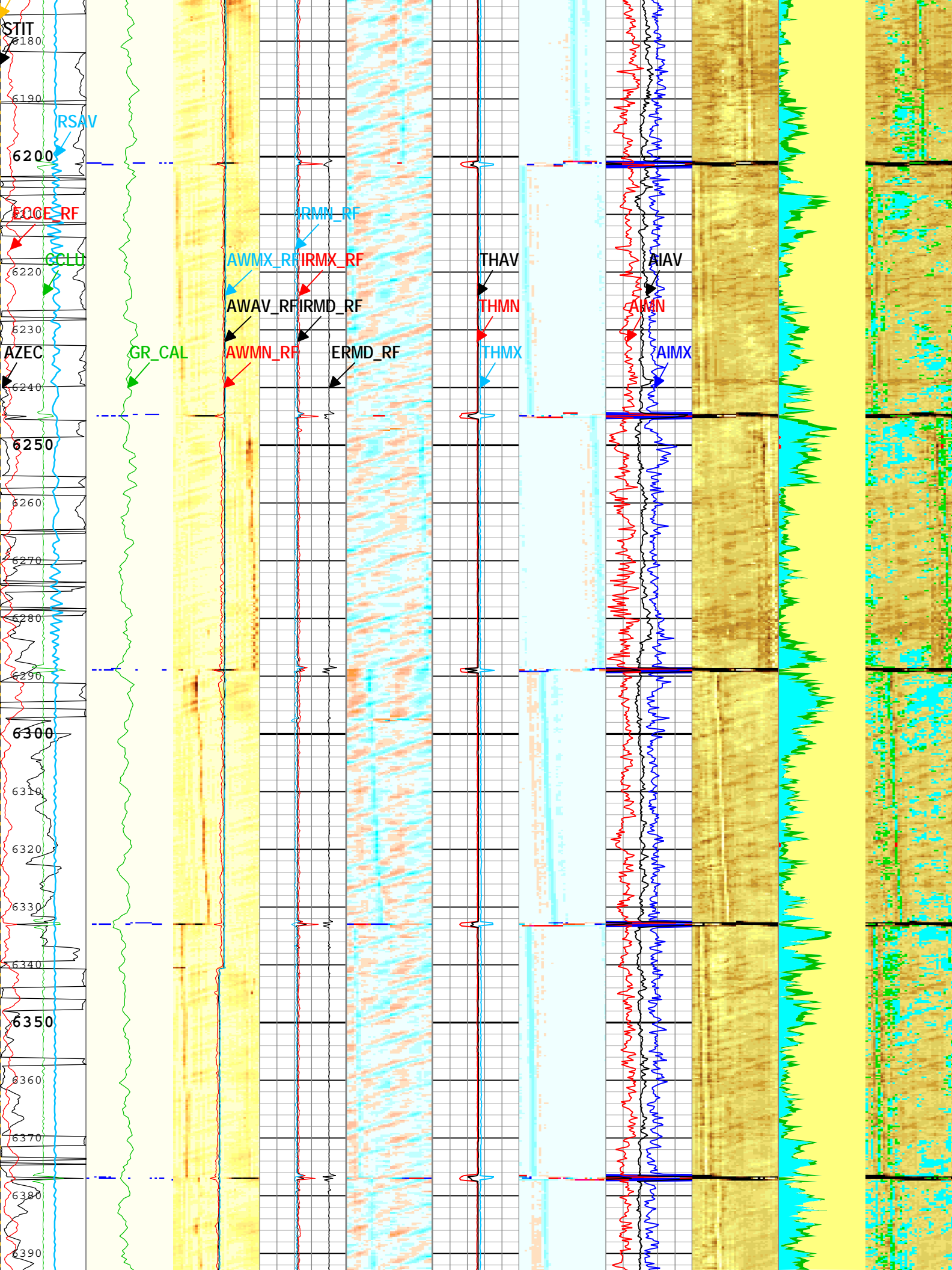


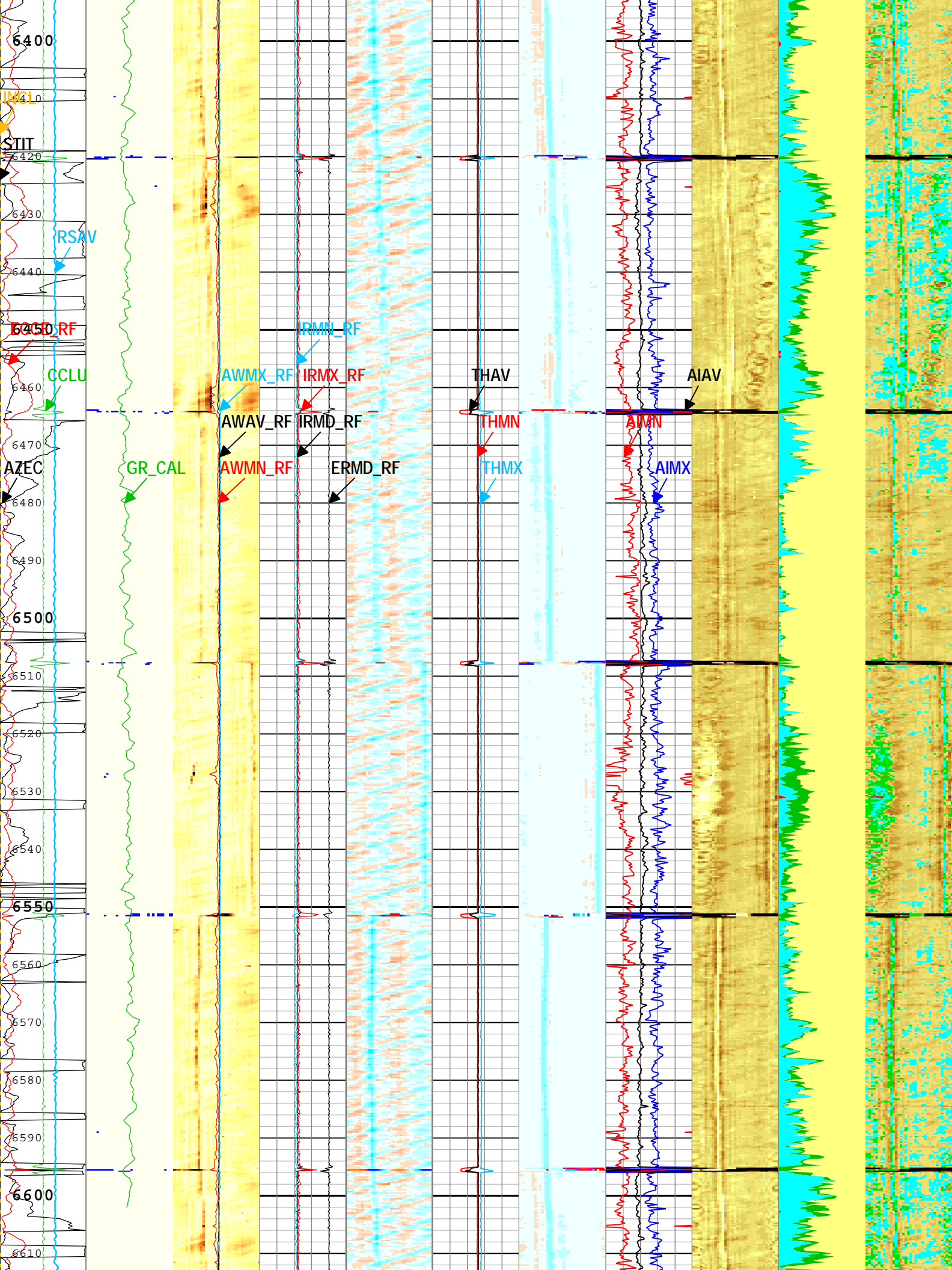


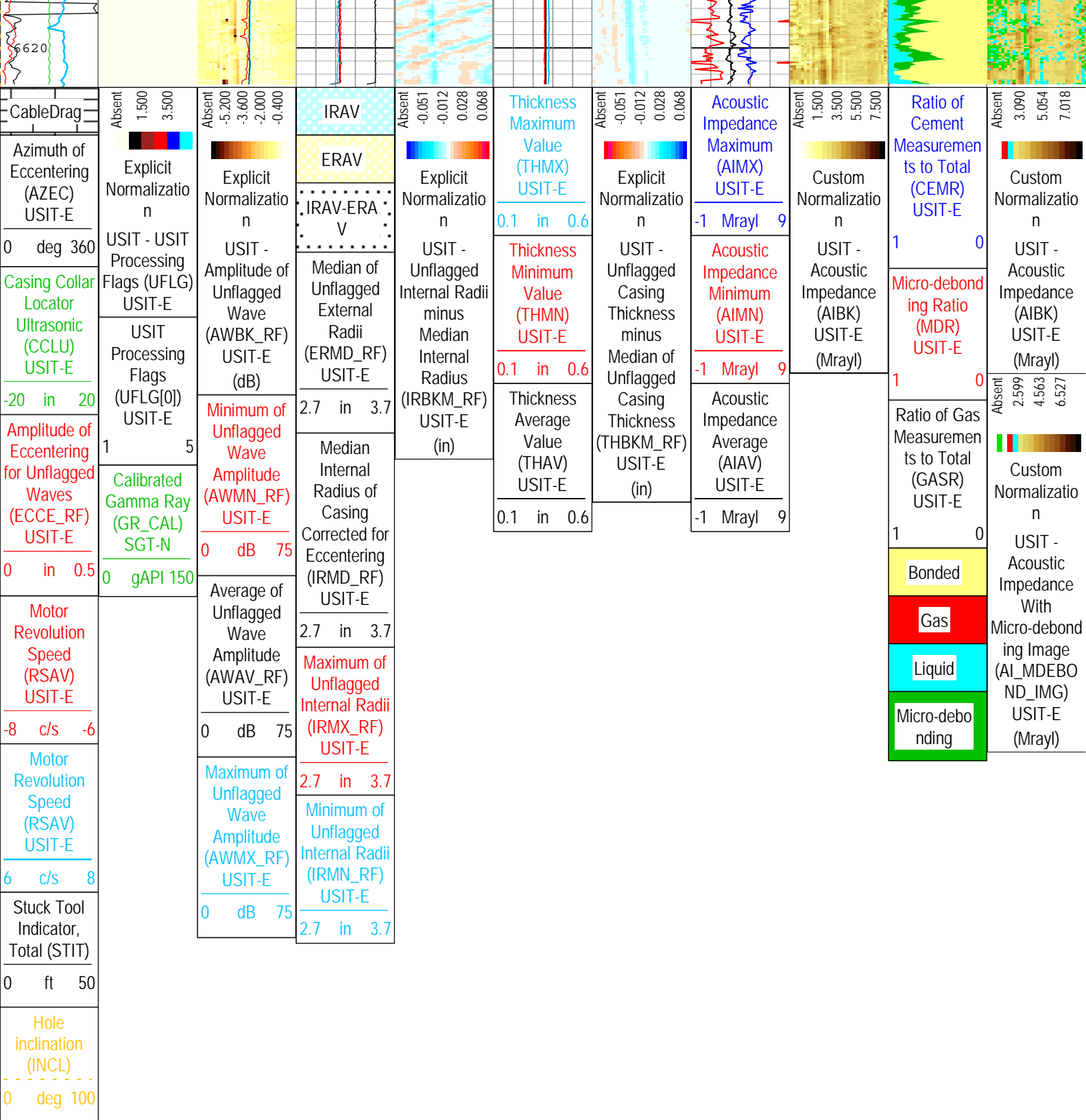












USIT Processing Flags (UFLG[0]) USIT-E

- 1 - UFLG 1 Value within [0.0 - 1.5] - : UTIM Error
- 2 - UFLG 2 Value within [1.5 - 2.5] - : Pulse Origin Not Detected
- 3 - UFLG 3 Value within [2.5 - 3.5] - : WINLEN Error
- 4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - : Casing Thickness Error
- 5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10] - : Loop Processing Error

TIME_1900 - Time Marked every 60.00 (s)

Description: USI Composite Format: USI Composite Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 14-Aug-2014 07:25:12

Channel Processing Parameters

Parameter	Description	Tool	Value	Unit
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AFVU	Automatic Fluid Velocity Update	USIT-E	On	
BARI	Barite Mud Presence Flag	Borehole	No	
BERJ	Bad Echo Rejection	USIT-E	On	
CASING_PRATIO	Casing Poisson Ratio	USIT-E	Standard Poisson ratio	
CMTY	Cement Type	USIT-E	Regular Cement	
CTHILGR	Nominal Casing Thickness - Zoned along logger depths	WLSESSION	0.352	in
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	8.4	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	190	us/ft
ETIP	Elevation of the TIP above MSL	WLSESSION	4973	ft
FDII	FPM Data Interpolation Interval	USIT-E	0	ft
GR_MULTIPLIER	Gamma Ray Multiplier	SGT-N	1	
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	Depth Zoned	us
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	0	
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1	
OPLEV	USIT Remove Flagged Data Level	USIT-E	OPT2	
RAPID_OPTION	Rapid Access Computation Option	USIT-E	Off	
RCOD	Reference Calibrator Outer Diameter	USIT-E	7	in
RCSO	Reference Calibrator Standoff	USIT-E	1.181	in
RCTH	Reference Calibrator Thickness	USIT-E	0.295	in
SDNV	Number of Vertical Samples used for Micro-debonding Computation	USIT-E	5	
SDTHOR	Acoustic Impedance STD Horizontal Threshold for Micro-debonding	USIT-E	0.5	Mrayl
SDTVER	Acoustic Impedance STD Vertical Threshold for Micro-debonding	USIT-E	0.3	Mrayl
TCUB	T^3 Processing Level	USIT-E	Loop	
TD	Total Measured Depth	Borehole	14544	ft
THDH	Maximum Search Thickness (percentage of nominal)	USIT-E	130	%
THDL	Minimum Search Thickness (percentage of nominal)	USIT-E	70	%
UDFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	0	Mrayl
UFGDE	Fiberglass Density	USIT-E	16.27	lbm/gal
UFGPS	Fiberglass Processing Selection	USIT-E	No	
UFGVL	Fiberglass Velocity	USIT-E	9678.48	ft/s
USI_FSOD	USIT USI Fluid Slowness Fits Casing Outer Diameter	USIT-E	0_OFF	
USI_FVEL_SEL	USI Fluid Velocity Selection	USIT-E	Automatic	
USI_ZMUD_SEL	USI Mud Impedance Selection	USIT-E	Manual	
UTHDP	Thickness Detection Policy	USIT-E	Fundamental	
VCAS	Ultrasonic Transversal Velocity in Casing	USIT-E	51.4	us/ft
ZCAS	Acoustic Impedance of Casing	USIT-E	46.25	Mrayl
ZINI	Initial Estimate of Cement Impedance	USIT-E	-1	Mrayl
ZMUD	Acoustic Impedance of Mud	Borehole	Depth Zoned	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.6	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

Depth Zone Parameters			
Parameter	Value	Start (ft)	Stop (ft)
MEAS_WLEN	22.5	278.5	6626
ZMUD	1.67	278.5	400

ZMUD	1.68	400	700
ZMUD	1.7	700	1000
ZMUD	1.72	1000	1500
ZMUD	1.74	1500	2000
ZMUD	1.76	2000	2500
ZMUD	1.78	2500	3000
ZMUD	1.79	3000	4000
ZMUD	1.8	4000	6626

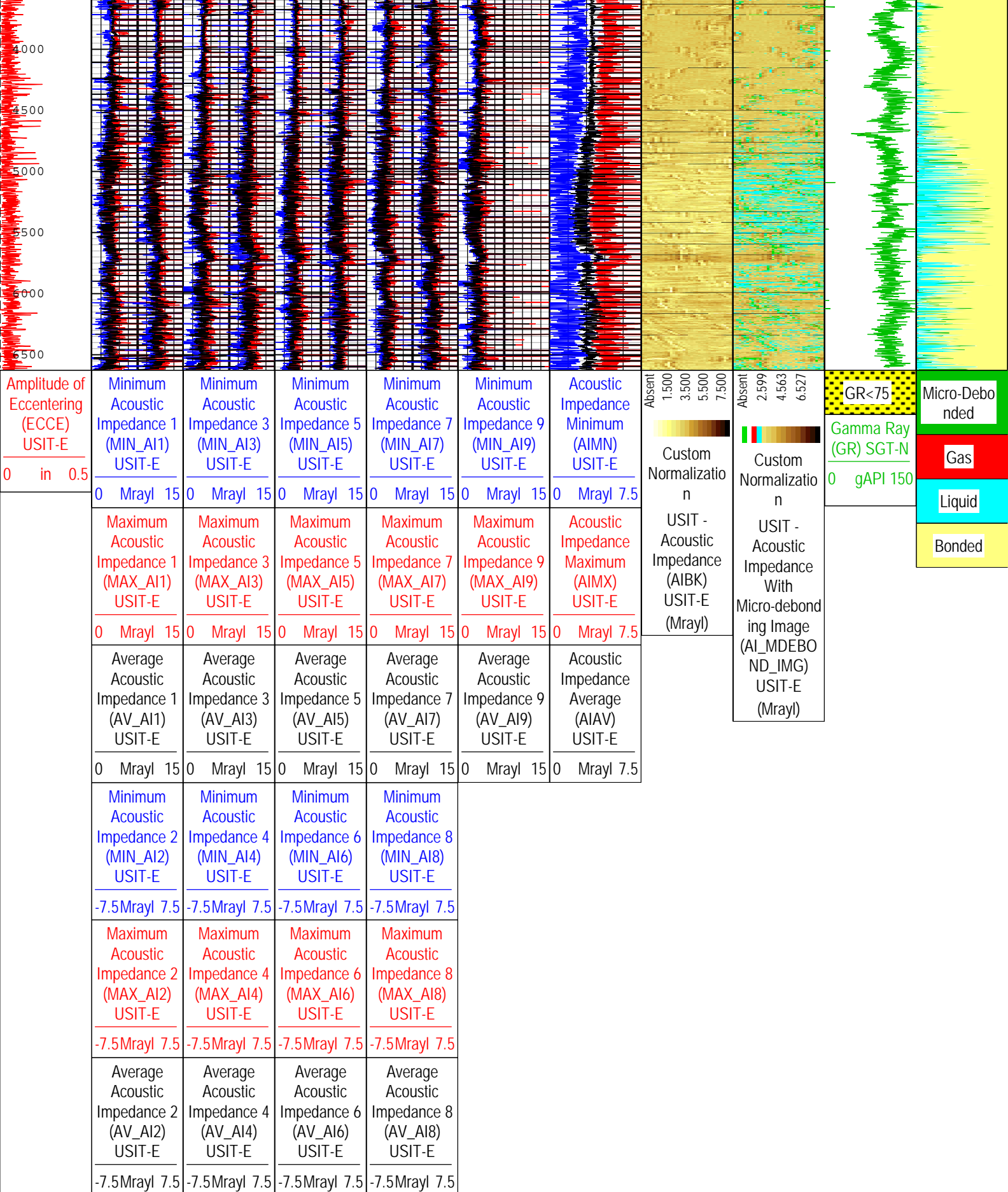
All depth are actual.

Tool Control Parameters				
Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	18	dB
DDT5	USIC Downhole Decimation for T5 only	USIT-E	0_NONE	
DOTF	Distance between Opposite Transducer Faces	USIT-E	2.874	in
EMXV	EMEX Voltage	USIT-E	55	V
HRES	Horizontal Resolution	USIT-E	10 deg	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	3600	ft/h
ULOG	Logging Objective	USIT-E	MEASUREMENT	
UMFR	Modulation Frequency	USIT-E	333333	Hz
USFR	Ultrasonic Sampling Frequency	USIT-E	500000	Hz
USI_UPAT	USIT Emission Pattern	USIT-E	Pattern 375 KHz	
USI_UWKM	USIT Working Mode	USIT-E	Uncompressed 10 deg at 3.0 in LF	
USIT_DEPTHLOG	Starting Depth Log for Ultrasonics	USIT-E	6620	ft
VRES	Vertical Resolution	USIT-E	3.0 in	
WINB	Window Begin Time	USIT-E	33.87	us
WINE	Window End Time	USIT-E	73.87	us

USI Goodwin			
USIT - Fluid Properties Measurement			
Run Name	Pass Name	Start Depth(ft)	Stop Depth(ft)
Run 3	Log[3]:Up	6626.22	301.97
Fluid Velocity = "Automatic". CFVL equals DFSL channel			
Start Depth(ft)	Stop Depth(ft)	Start Value(us/ft)	End Value(us/ft)
Mud Impedance = "Manual". CZMD uses ZMUD parameter zoned table below			
Start Depth(ft)	Stop Depth(ft)	Start Value(Mrayl)	End Value(Mrayl)
0	200	1.67	1.67
200	400	1.67	1.67
400	700	1.68	1.68
700	1000	1.7	1.7
1000	1500	1.72	1.72
1500	2000	1.74	1.74
2000	2500	1.76	1.76
2500	3000	1.78	1.78
3000	4000	1.79	1.79
4000		1.8	1.8
Run1 USIT			
0 PSI Pass			

TIME_1900 - Time Marked every 60.00 (s)

[illegible]



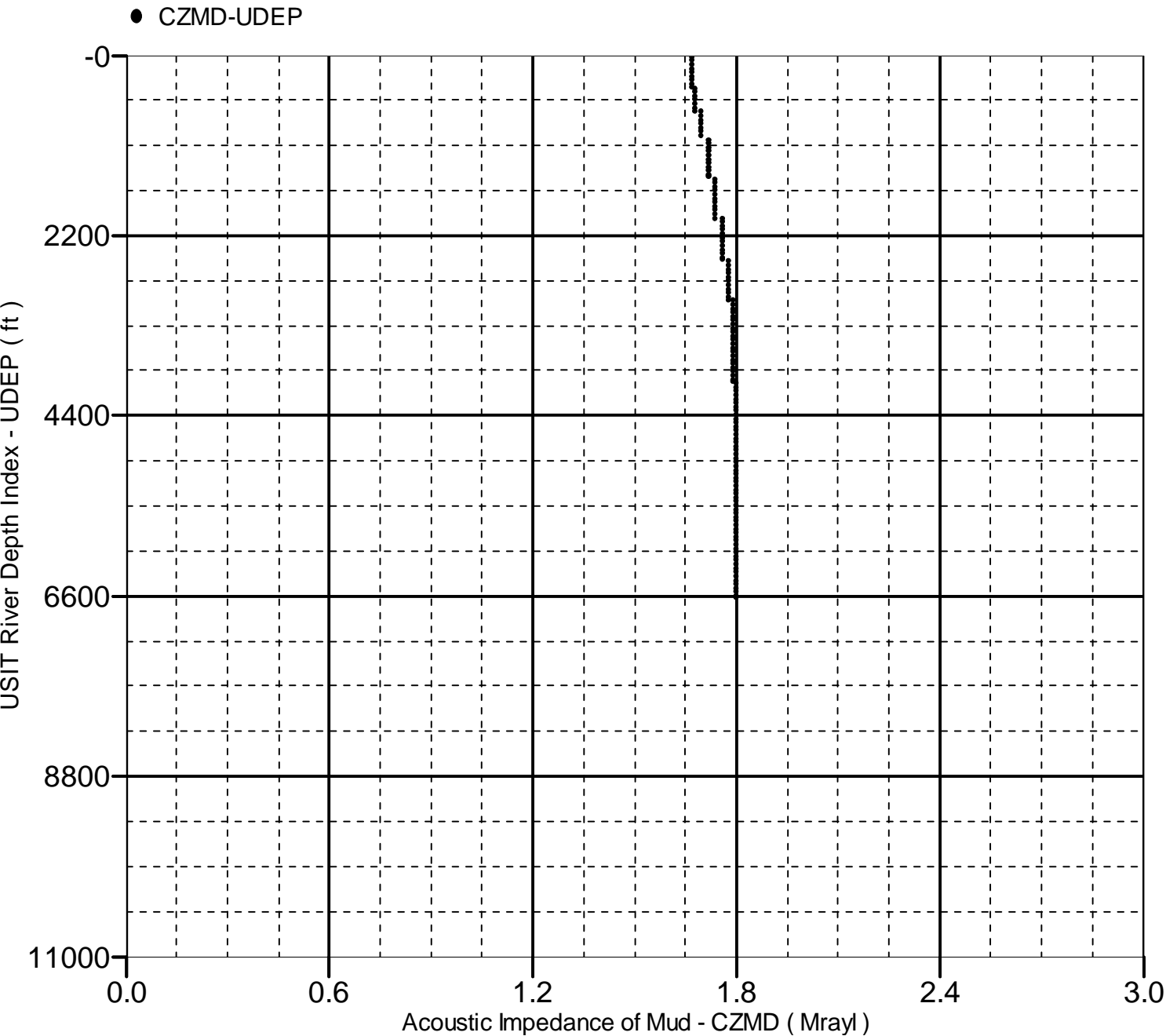
TIME_1900 - Time Marked every 60.00 (s)

Description: USI Goodwin Format: USI Goodwin Index Scale: 0.1 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 14-Aug-2014 07:25:27

Acoustic Impedance of Mud vs Depth

2D Cross Plot

Index Range: From 6630.75 to 12.25 ft



XYZ

Company: Anadarko Petroleum Company

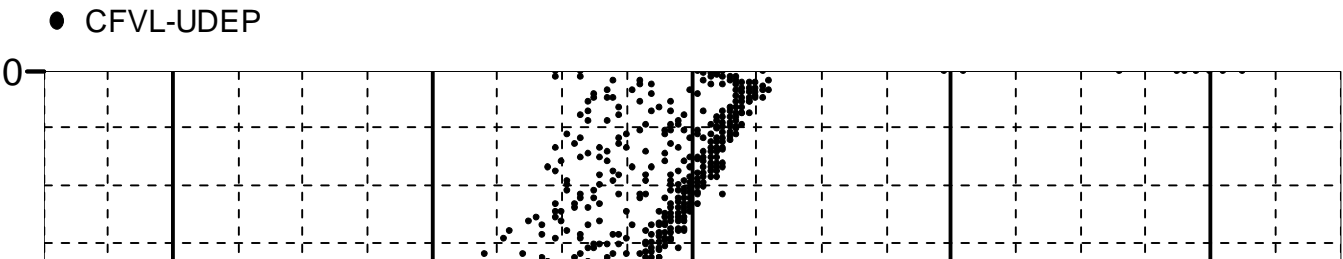
Well: Benson Farms 25C-19HZ

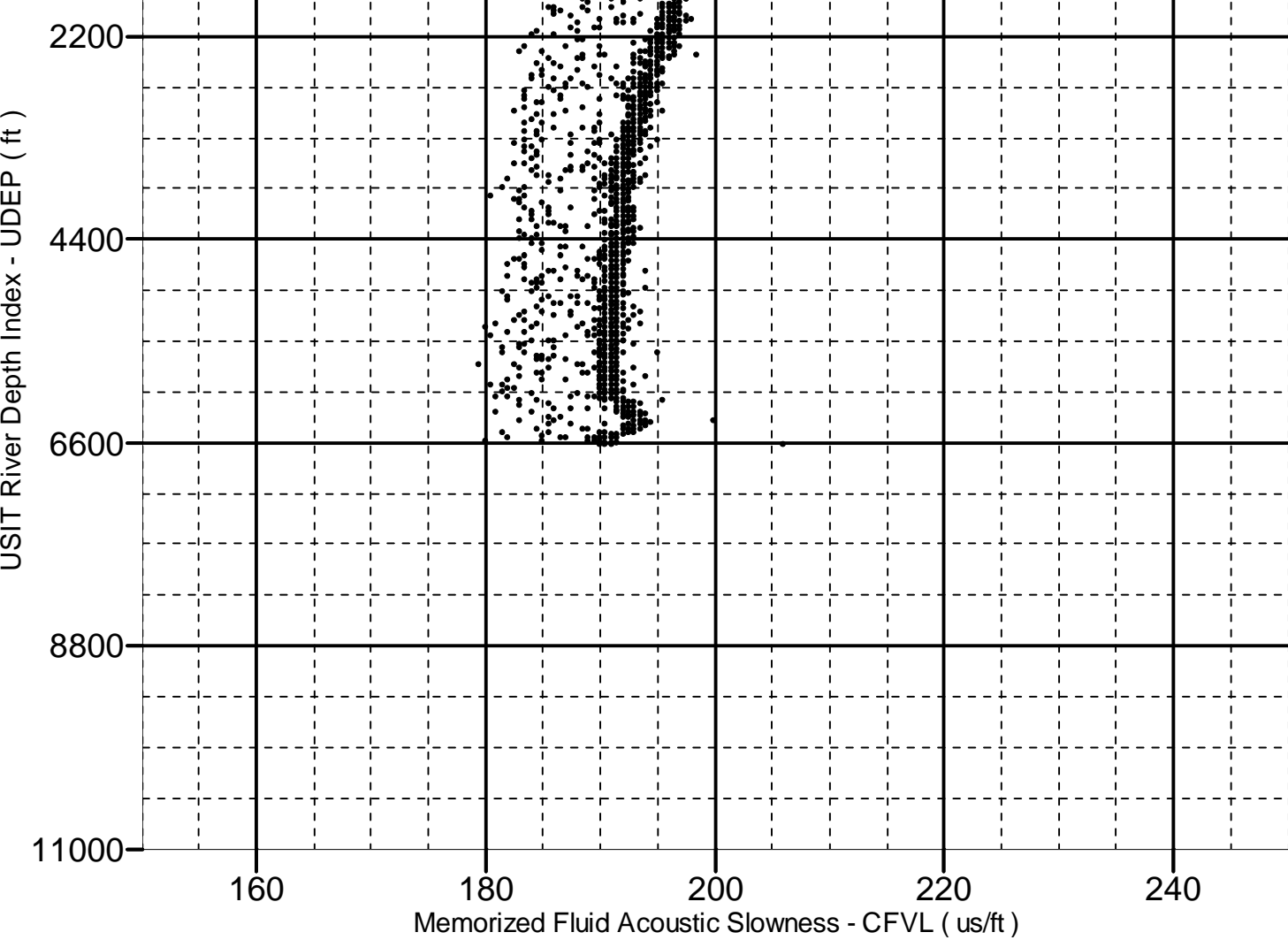
Run1 USIT: Log[4]:Up:S002

Fluid Acoustic Slowness vs Depth

2D Cross Plot

Index Range: From 6630.75 to 12.25 ft





Company:	Anadarko Petroleum Company	Schlumberger
Well:	Benson Farms 25C-19HZ	
Field:	Wattenberg	
County:	Weld	
State:	Colorado	
Ultrasonic Imager		
Cement Evaluation		
Gamma Ray - CCL		