

Company: Anadarko Petroleum Company

Well: Benson Farms 12C-23HZ

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 12C-23HZ
Company: Anadarko Petroleum Company

Location:			
NWSW Sec. 24, T3N, R68W		Elev.: K.B. 4973.00 ft	
SHL: 2015' FSL & 50' FWL		G.L. 4957.00 ft	
Lat/Long: 40.209896/-104.960550		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:
05-123-39397-0000	24	3N	68W

Logging Date	14-Aug-2014
Run Number	Run 1
Depth Driller	13356.00 ft
Schlumberger Depth	13356.00 ft
Bottom Log Interval	6735.00 ft
Top Log Interval	
Casing Fluid Type	Water
Salinity	
Density	8.4 lbm/gal
Fluid Level	8.00 ft
BIT/CASING/TUBING STRING	
Bit Size	6.13 in
From	7819.00 ft
To	13356.00 ft
Casing/Tubing Size	7 in
Weight	26 lbm/ft
Grade	P110
From	0.00 ft
To	7819.00 ft
Max Recorded Temperatures	203 degF
Logger on Bottom	14-Aug-2014 15:30:00
Unit Number	3030
Recorded By	Keri Ondrus
Witnessed By	Trevor Daniels

Disclaimer

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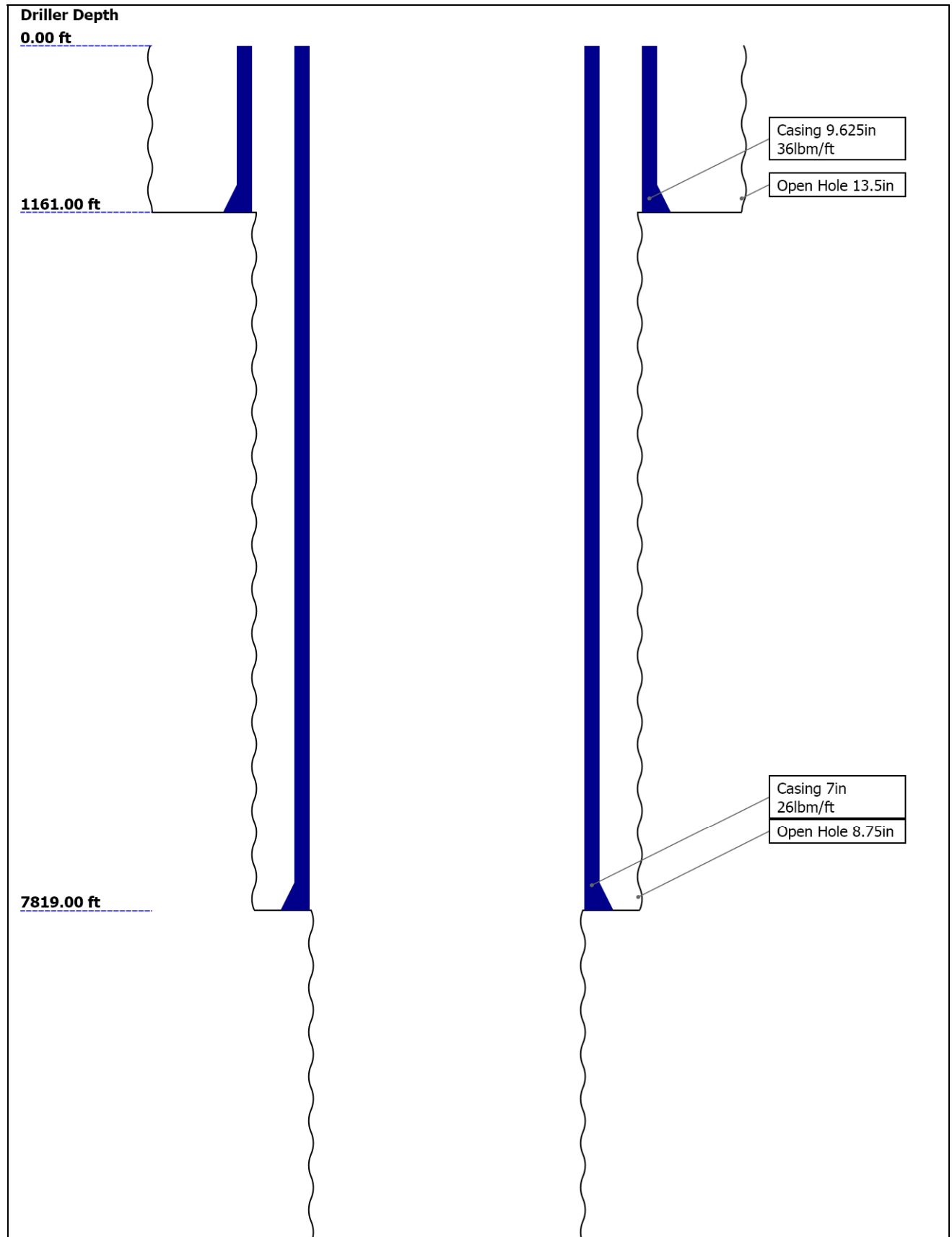
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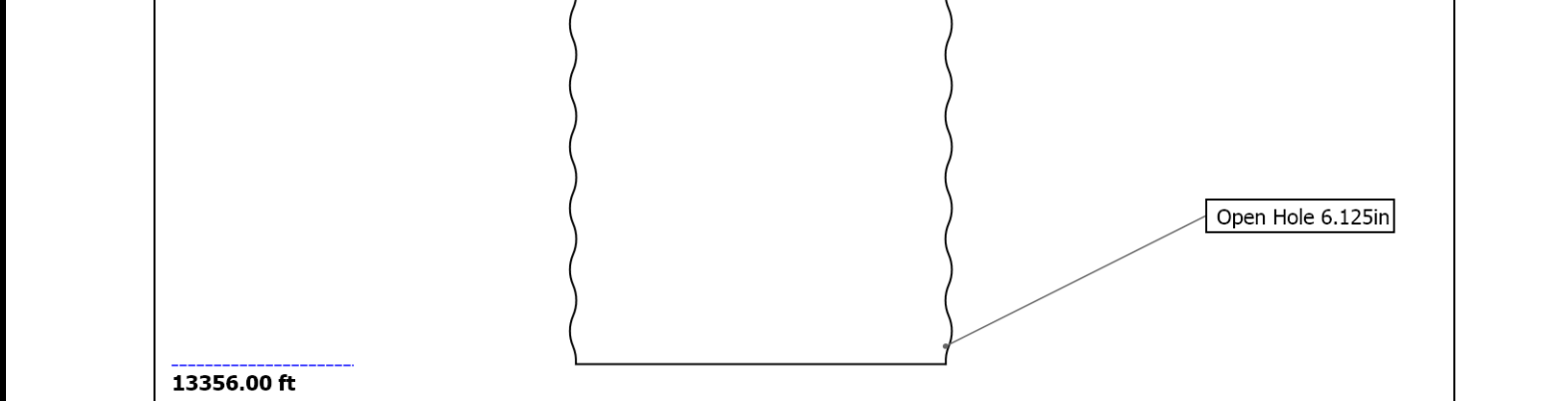
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Well Sketch





Borehole Size/Casing/Tubing Record

Bit						
Bit Size (in)	13.5	8.75	6.125			
Top Driller (ft)	0	1161	7819			
Top Logger (ft)	0	1161	7819			
Bottom Driller (ft)	1161	7819	13356			
Bottom Logger (ft)	1161	7819	13356			
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)	1161	7819				
Bottom Logger (ft)	1161	7819				

Operational Run Summary

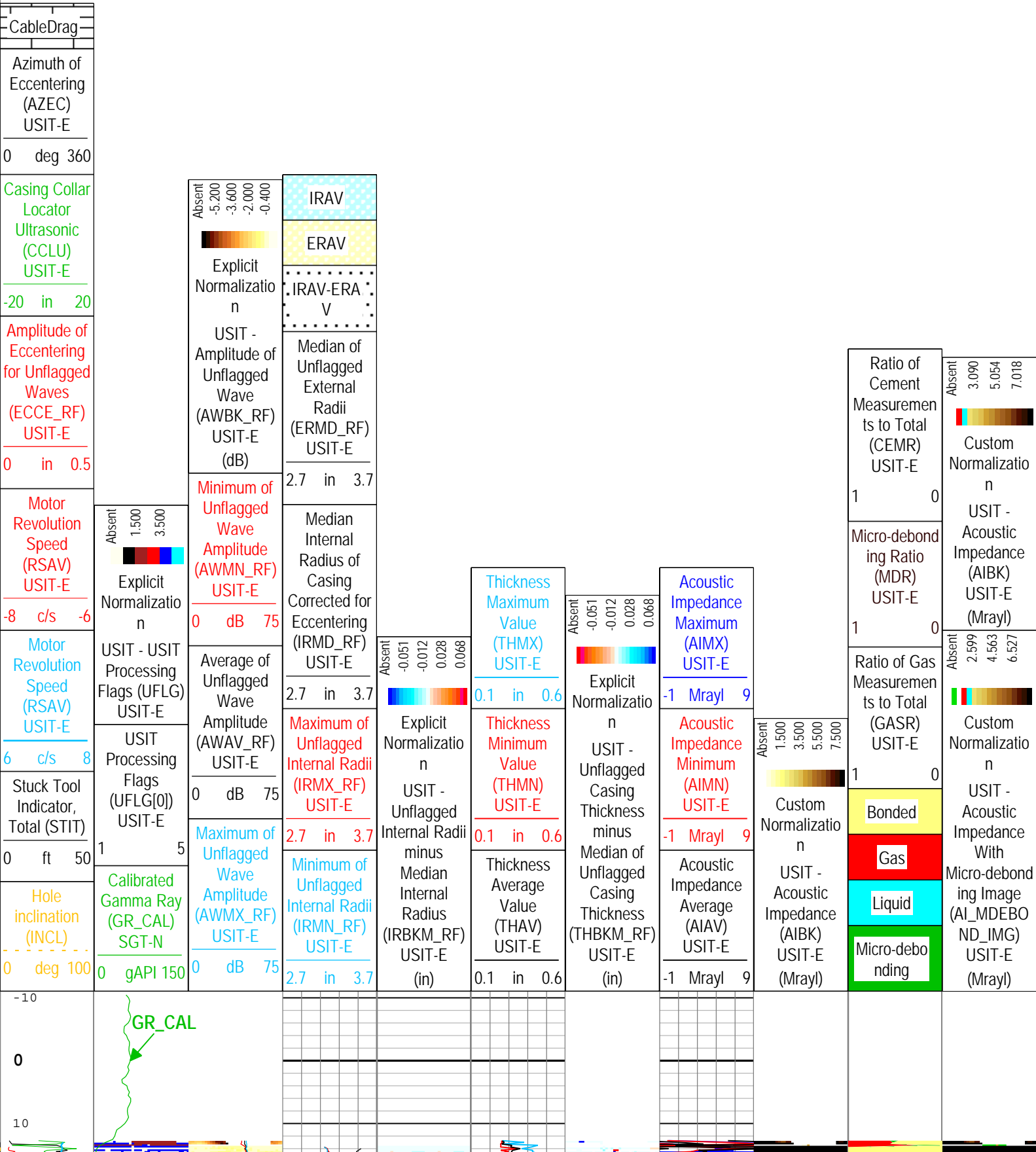
Parameter (unit)	Run 1					
Date Log Started	14-Aug-2014					
Time Log Started	13:02:30					
Date Log Finished	14-Aug-2014					
Time Log Finished	16:43:24					
Top Log Interval (ft)	NaN					
Bottom Log Interval (ft)	6735.00					
Total Depth (ft)	6735.00					
Max Hole Deviation (deg)	0.00					
Azimuth of Max Deviation (deg)	0.00					
Bit Size (in)	6.125					
Logging Unit Number	3030					
Logging Unit Location	Fort Morgan, CO					
Recorded By	Keri Ondrus					
Witnessed By	Trevor Daniels					
Service Order Number	BX19-00172					

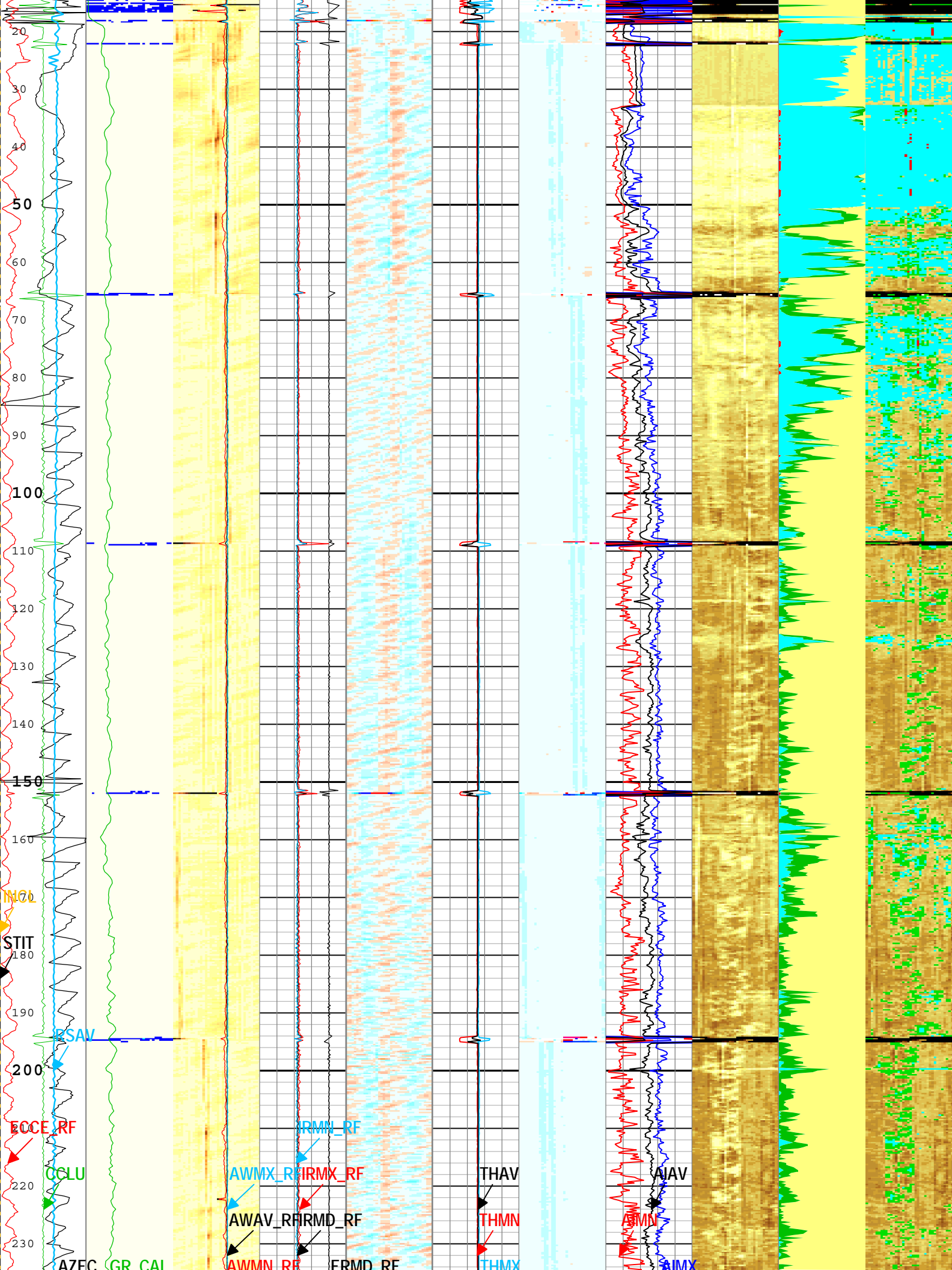
Service Order Number		BX15-00172					
Borehole Fluids							
Parameter(unit)	Run 1						
Fluid Type	Water						
Max Recorded Temperatures (degF)	203						
Salinity (ppm)	0						
Density (lbm/gal)	8.4						
Date Logger on Bottom	14-Aug-2014						
Time Logger on Bottom	15:30:00						
Total Solid (%)							
High Gravity Solids (%)							
Remarks and Equipment Summary							
Run 1: Toolstring		Run 1: Remarks					
<div>Equip name LengthMP name Offset</div> <div>LEH-QT:24 30.7593LEH-QT:2493</div> <div>DTC-H:938 27.846ECH-KC:10472DTC-H:9386</div> <div>SGT-N:984 24.841SGH-K:2693SGC-TB:9841SGD-TAA:21365</div> <div>CME-AF 19.34</div> <div>USIT-E:928 15.54ECH-MFA:1903USAC-A:928USIS-A:1804USSC-BUSRS-B:875USI-SENSOR</div> <div>USI Sens 0.38 or TOOL ZERO Head Ten</div> <div>Lengths are in ftMaximum Outer Diameter = 4.645 inLine Sensor Location - Value: Station Offset</div>		Toolstring run as per toolsketch.					
		Objective: Cement and Corrosion logs					
		Cemented by Schlumberger on 14-Jun-2014					
		8.33PPG wash, 8.4PPG CW-7 spacer, 11.0PPG MUDPUSH Express, 12.0PPG lead cement, 13.0PPG tail cement, 10.3PPG displa					
		Good returns throughout cement job, floats held.					
		Main pass run at 0 PSI and 2800 PSI.					
		4.5" liner top at 6745 feet.					
		Bottom log interval at 6735 feet to maintain distance from liner top.					
		Thank you for choosing Schlumberger Wireline.					
		SLB crew: Gary Lapp, Tyler Riter, Aaron Weber.					

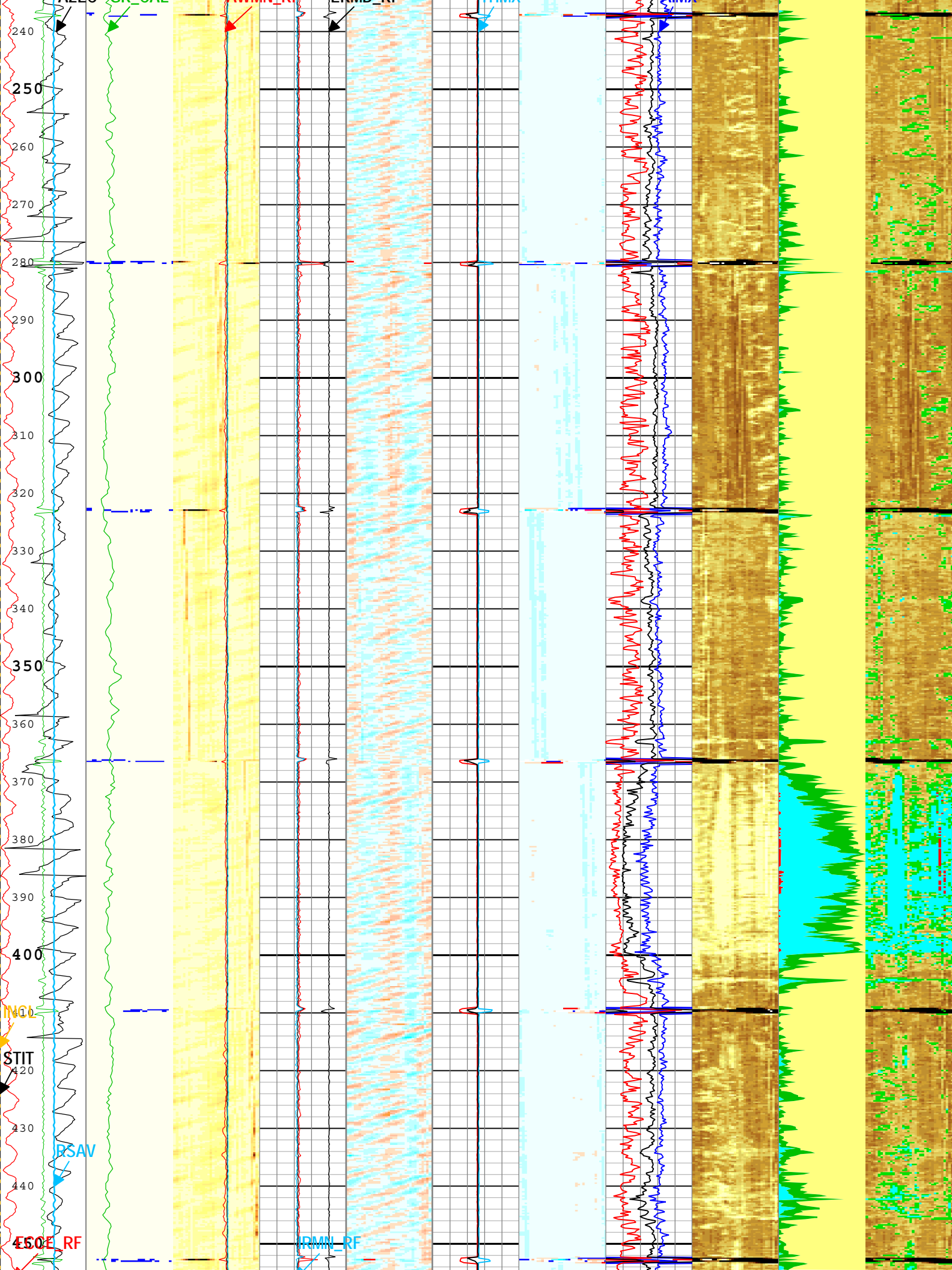
Line: Sensor Location, Value: Gating Onset All measurements are relative to TOOL_ZERO			
Depth Summary			
	Run 1		
Depth Measuring Device			
Type	IDW-B		
Serial Number	6428		
Calibration Date	21-Apr-2014		
Calibrator Serial Number			
Calibration Cable Type	7-39P LXS		
Wheel Correction 1	-5		
Wheel Correction 2	-4		
Tension Device			
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	Crane		
Run 1:Depth Control Parameters		Depth Control Remarks	
Log Sequence	First Log In the Well	All Schlumberger depth control procedures followed.	
Rig Up Length At Surface		IDW used as primary depth control device.	
Rig Up Length At Bottom		Z-chart used as secondary depth control device.	
Rig Up Length Correction			
Stretch Correction			
Tool Zero Check At Surface			
Copy of USI Composite			
USIT - Fluid Properties Measurement			
Run Name	Pass Name	Start Depth(ft)	Stop Depth(ft)
Run 1	Main[3]:Up	6744.01	12.92
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	1.82	1.82
200	1000	1.83	1.83
1000	2300	1.84	1.84
2300	3300	1.85	1.85
3300		1.86	1.86
Run 1			
2800 PSI Pass			
Log	Company:Anadarko Petroleum Company		Well:Benson Farms 12C-23HZ
	Run 1: Main[3]:Up:S004		
Description: USI Composite Format: USI Composite Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date:			

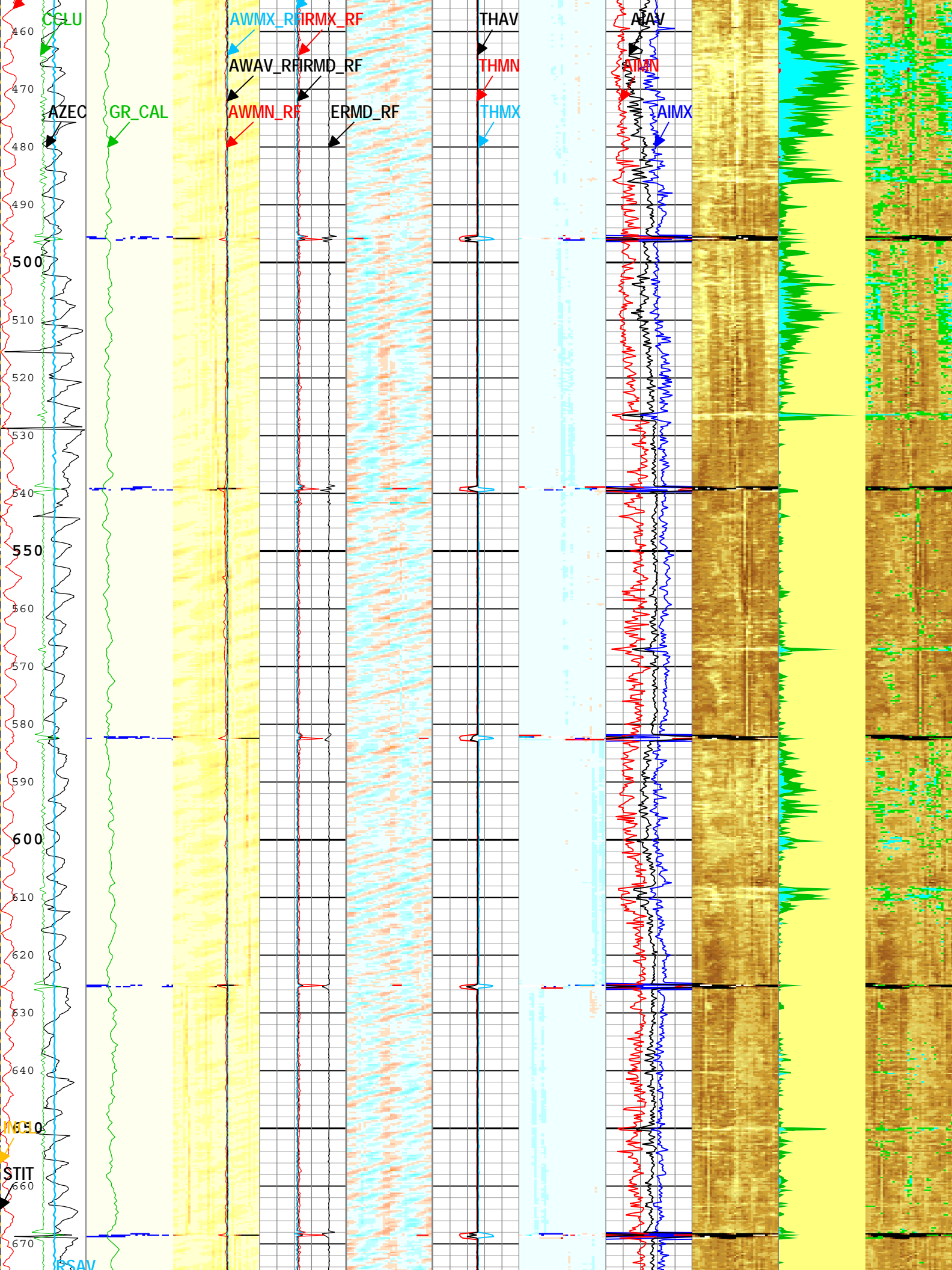
14-Aug-2014 17:16:41	
USIT Processing Flags (UFLG[0]) USIT-E	
1 - UFLG 1 Value within [0.0 - 1.5] - :	UTIM Error
2 - UFLG 2 Value within [1.5 - 2.5] - :	Pulse Origin Not Detected
3 - UFLG 3 Value within [2.5 - 3.5] - :	WINLEN Error
4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - :	Casing Thickness Error
5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10] - :	Loop Processing Error

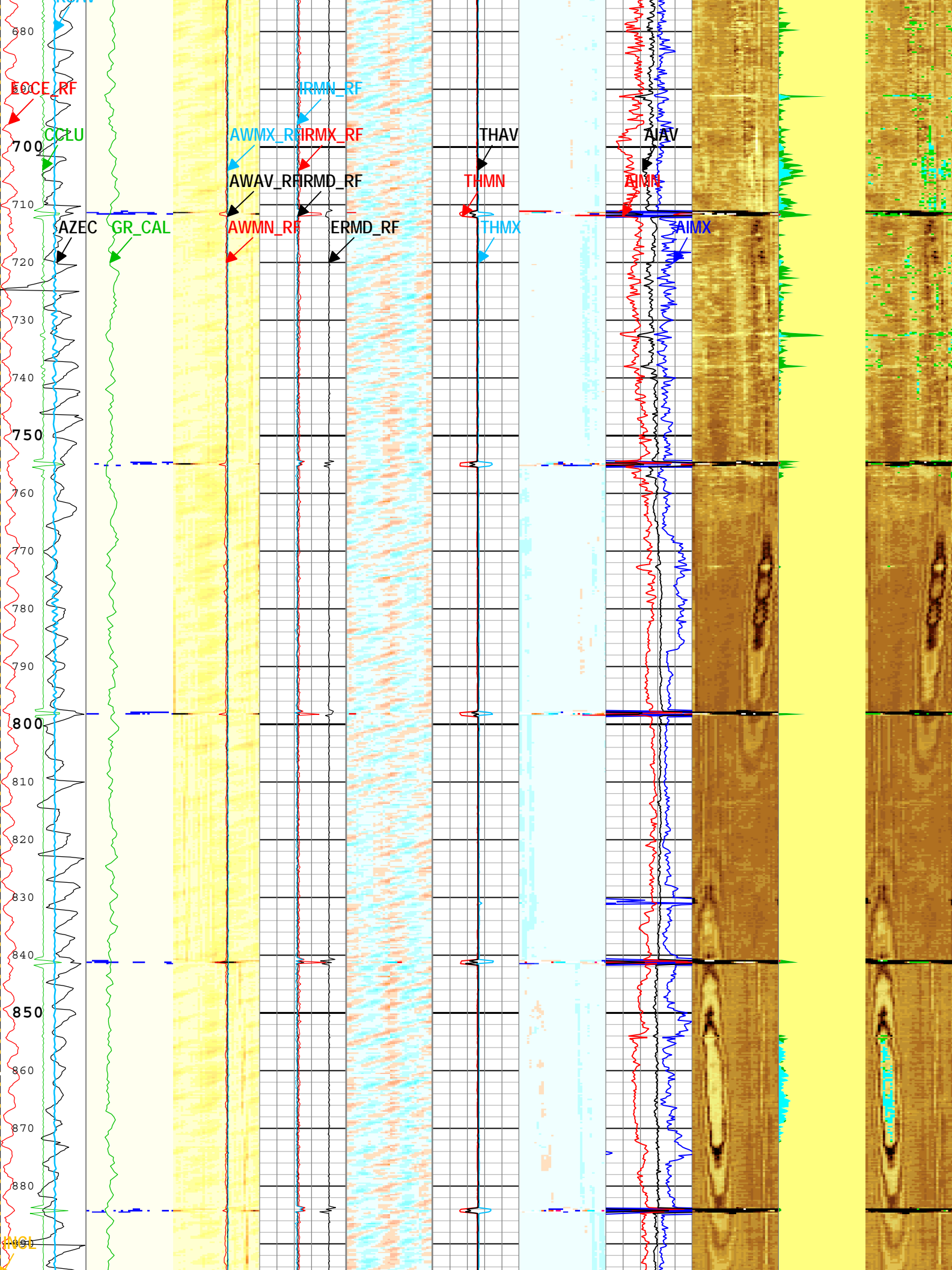
TIME_1900 - Time Marked every 60.00 (s)

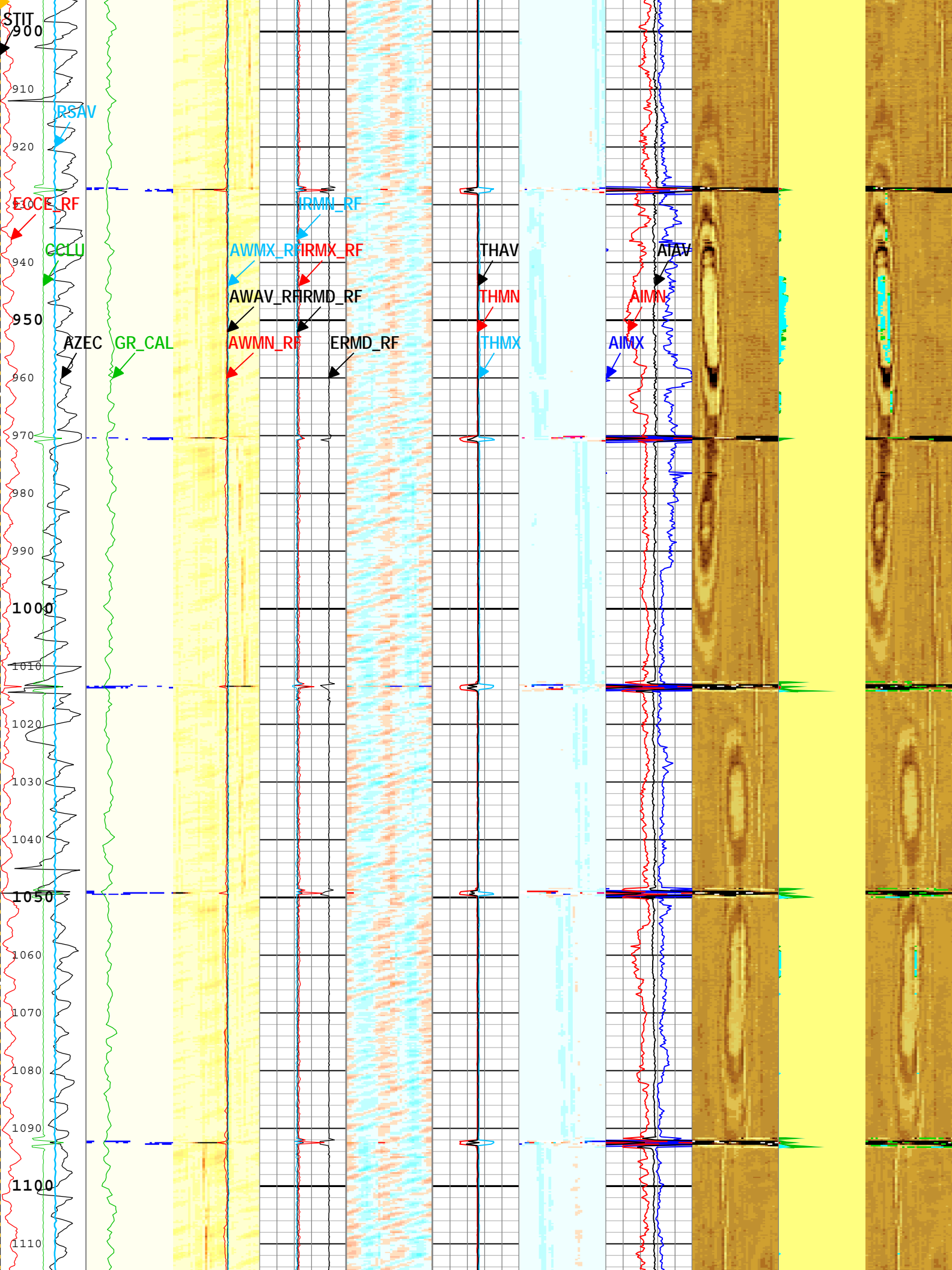


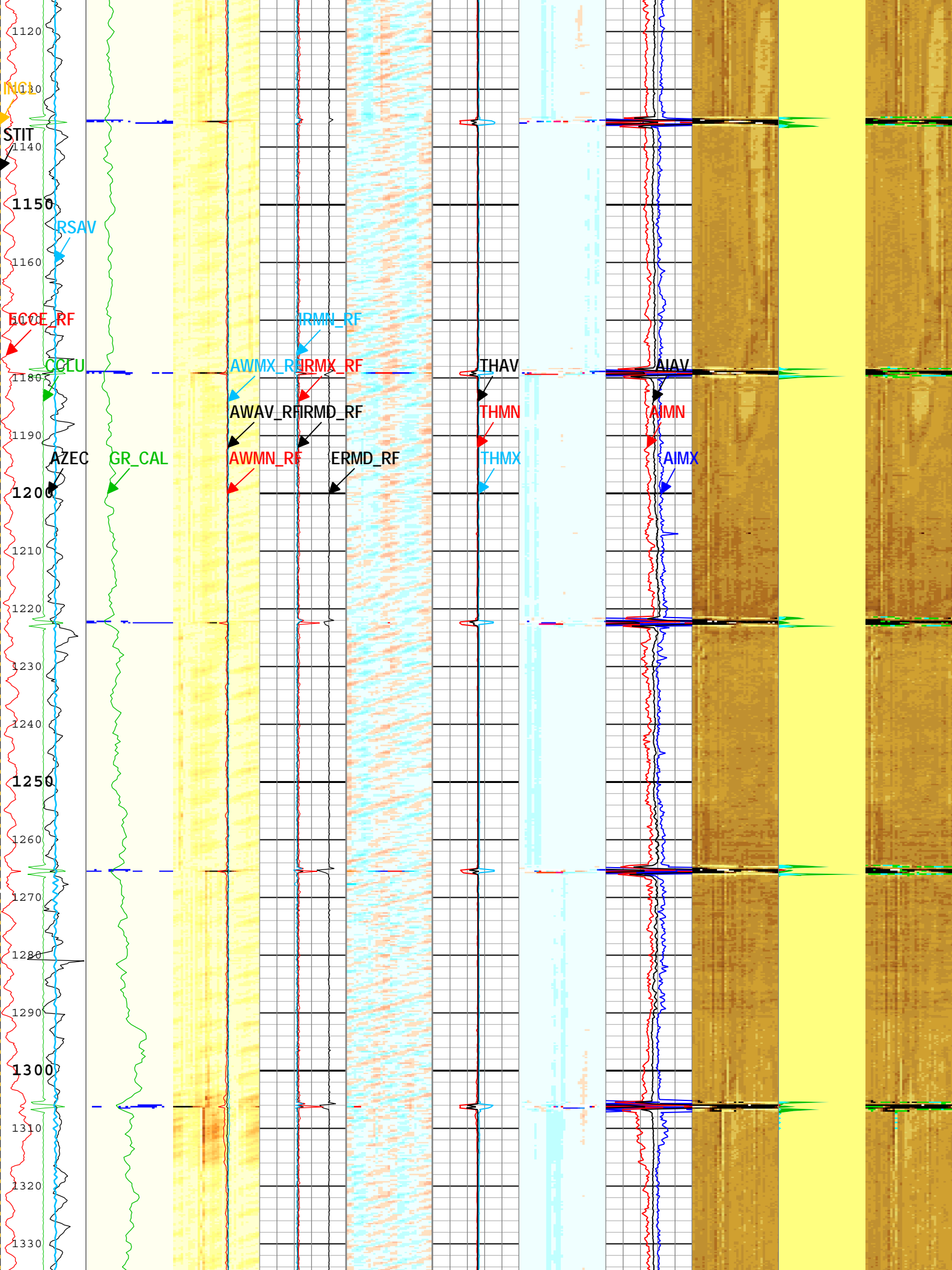


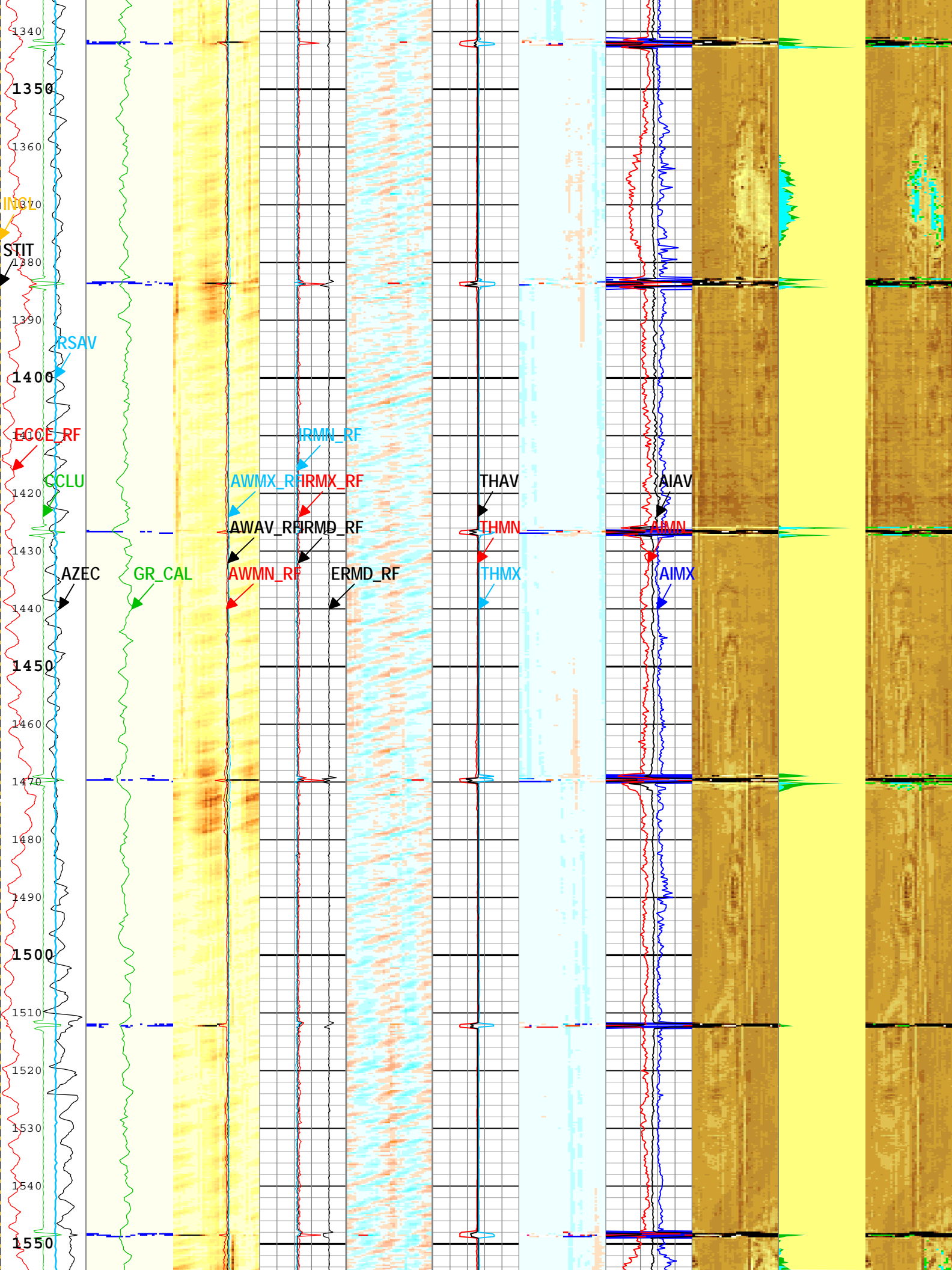


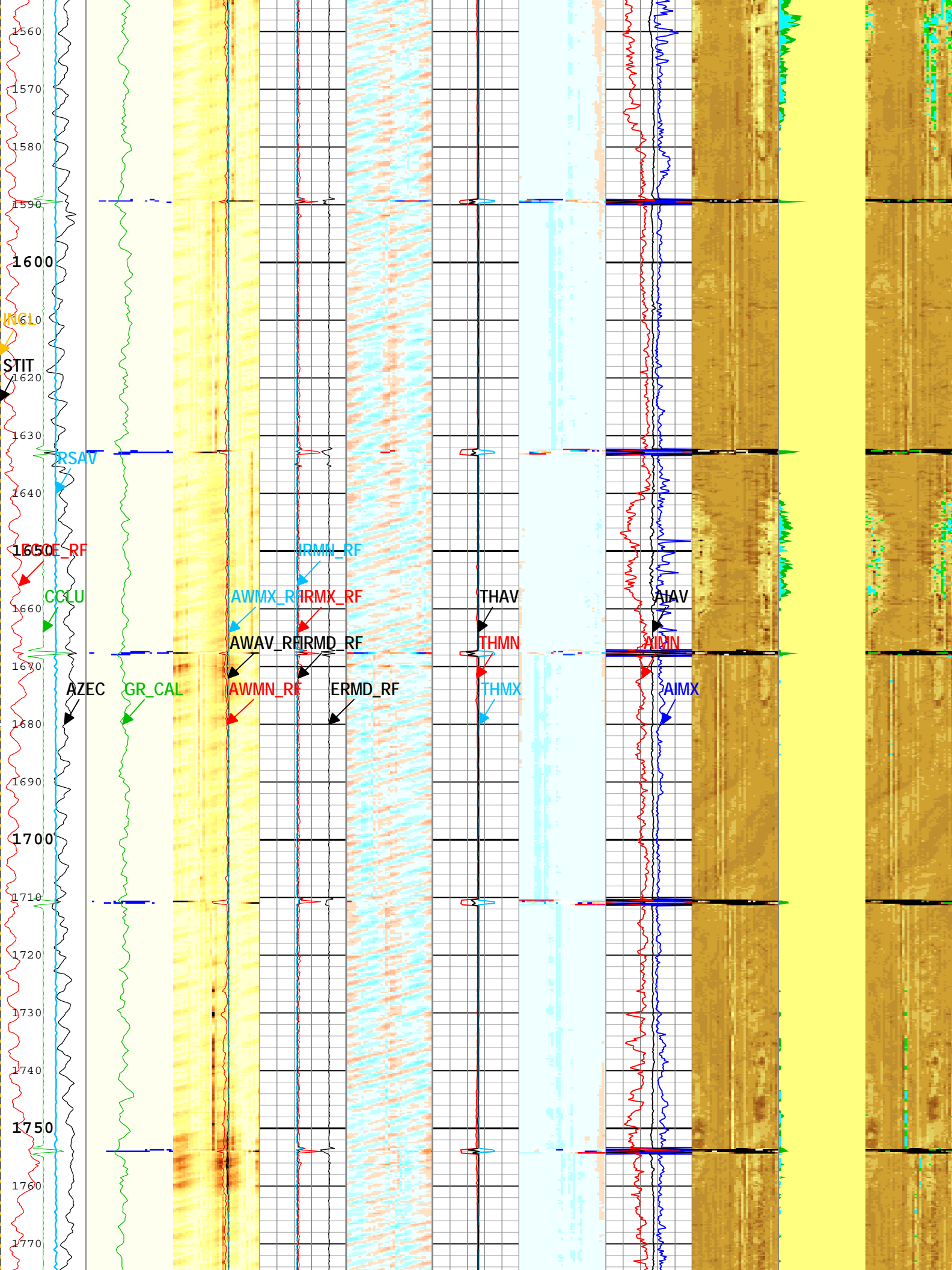


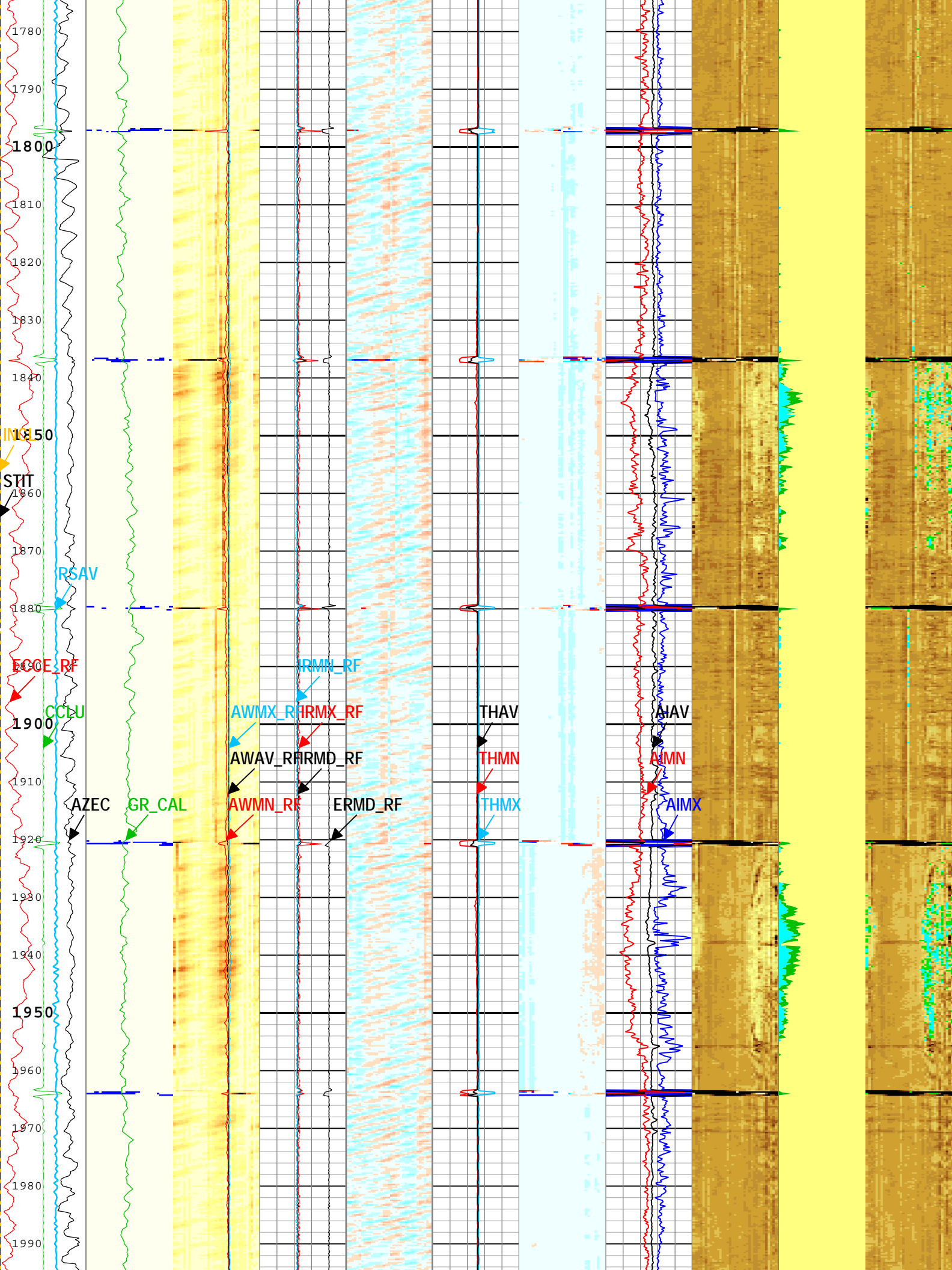


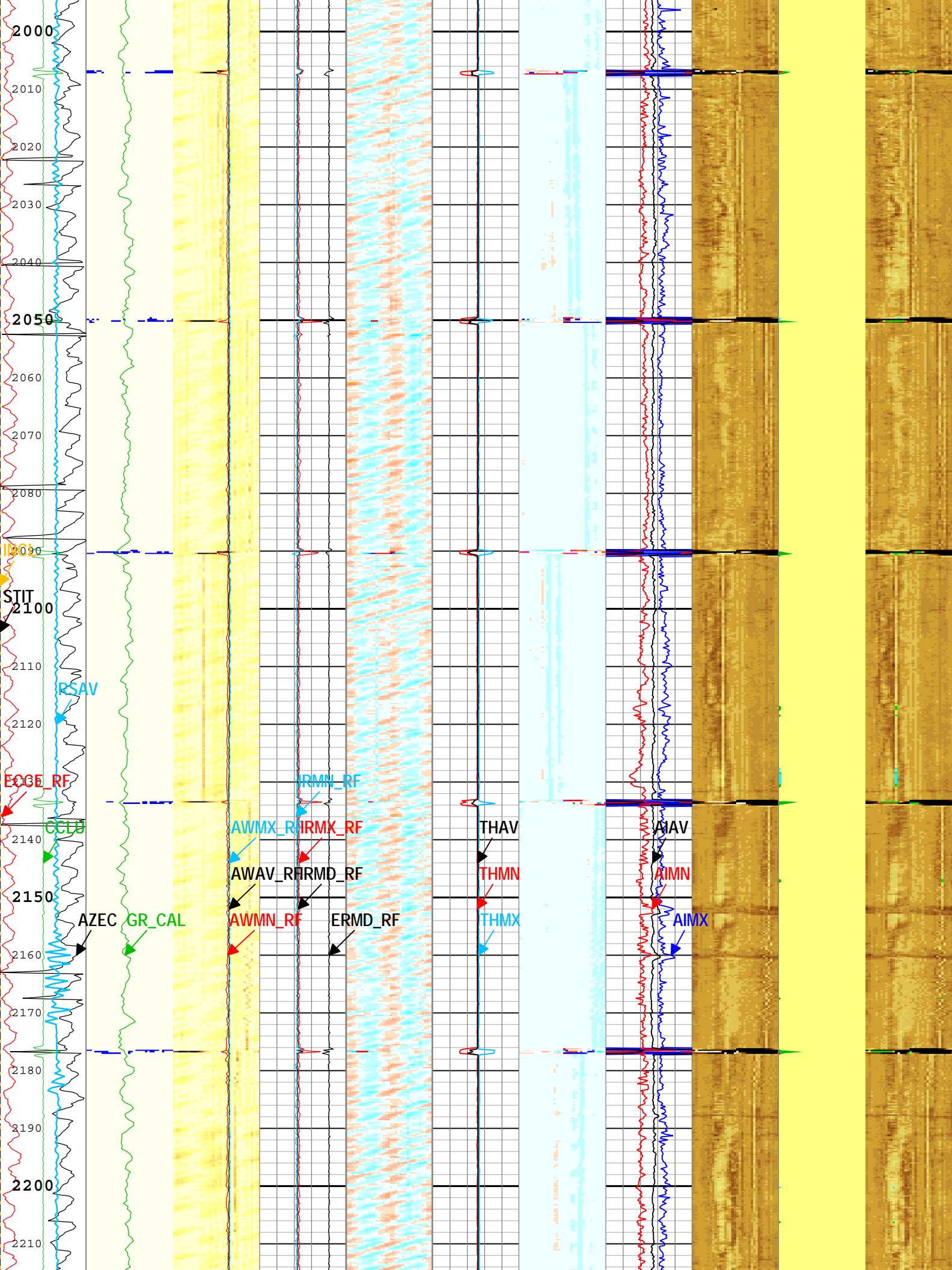


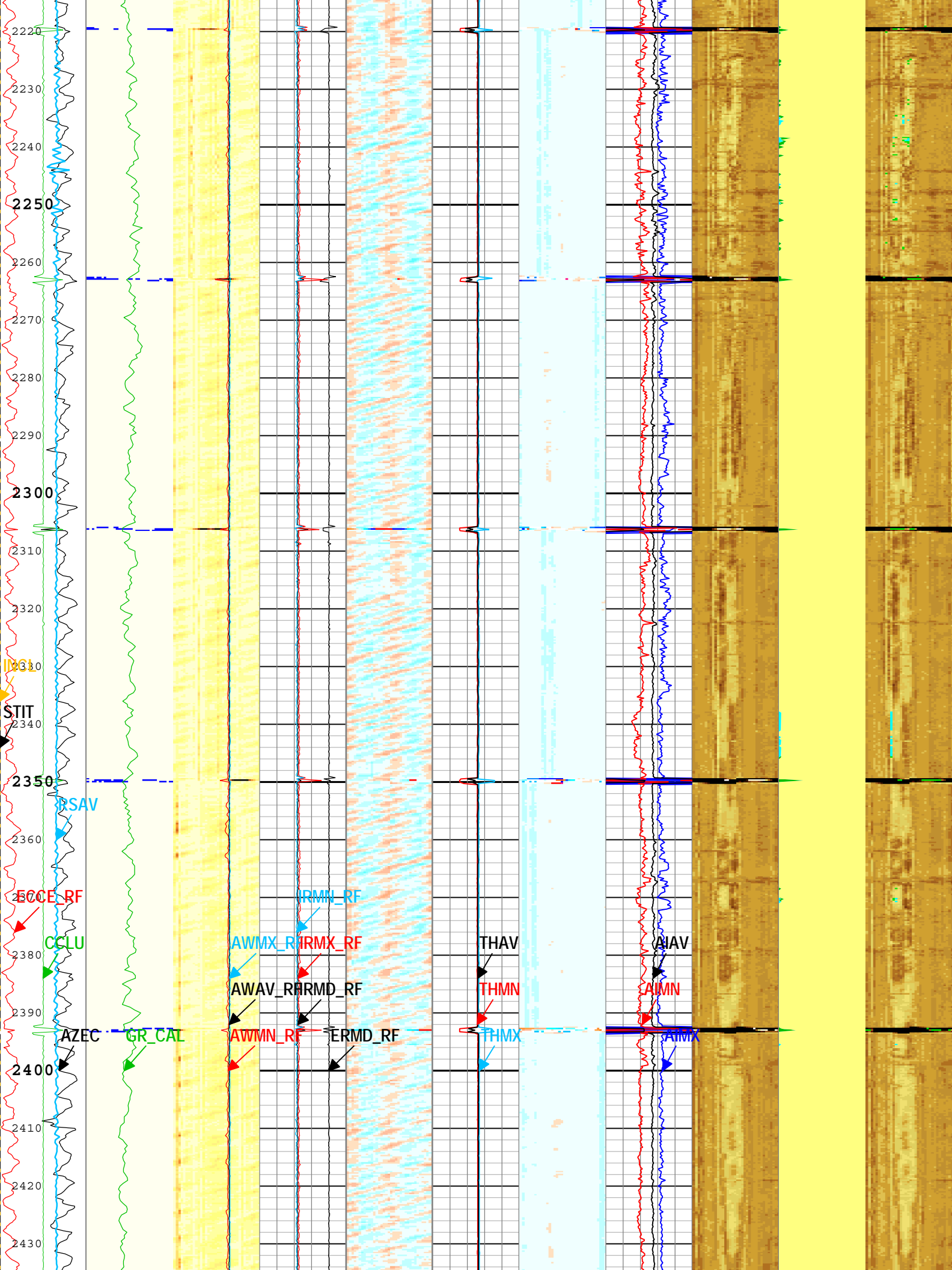


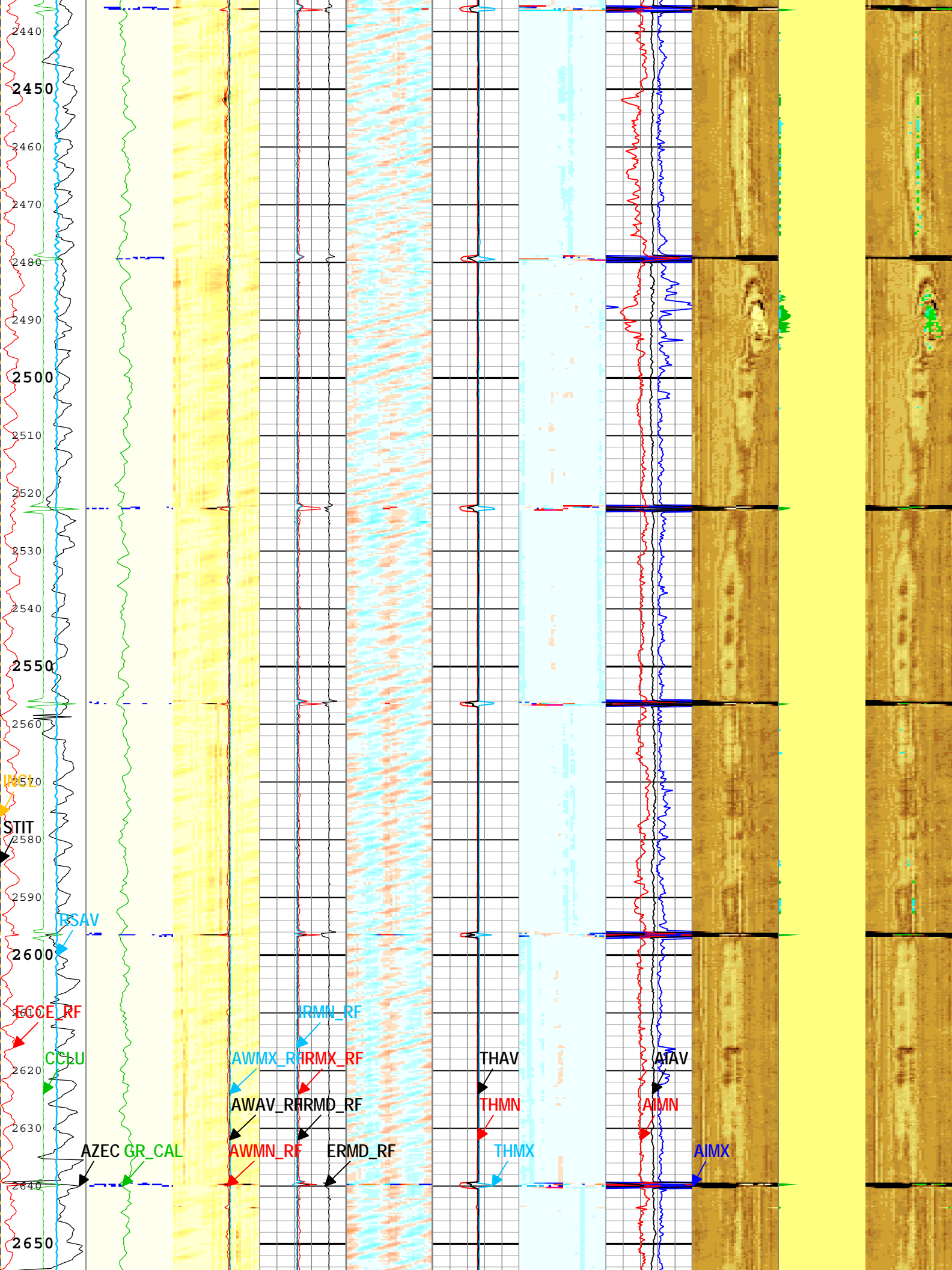


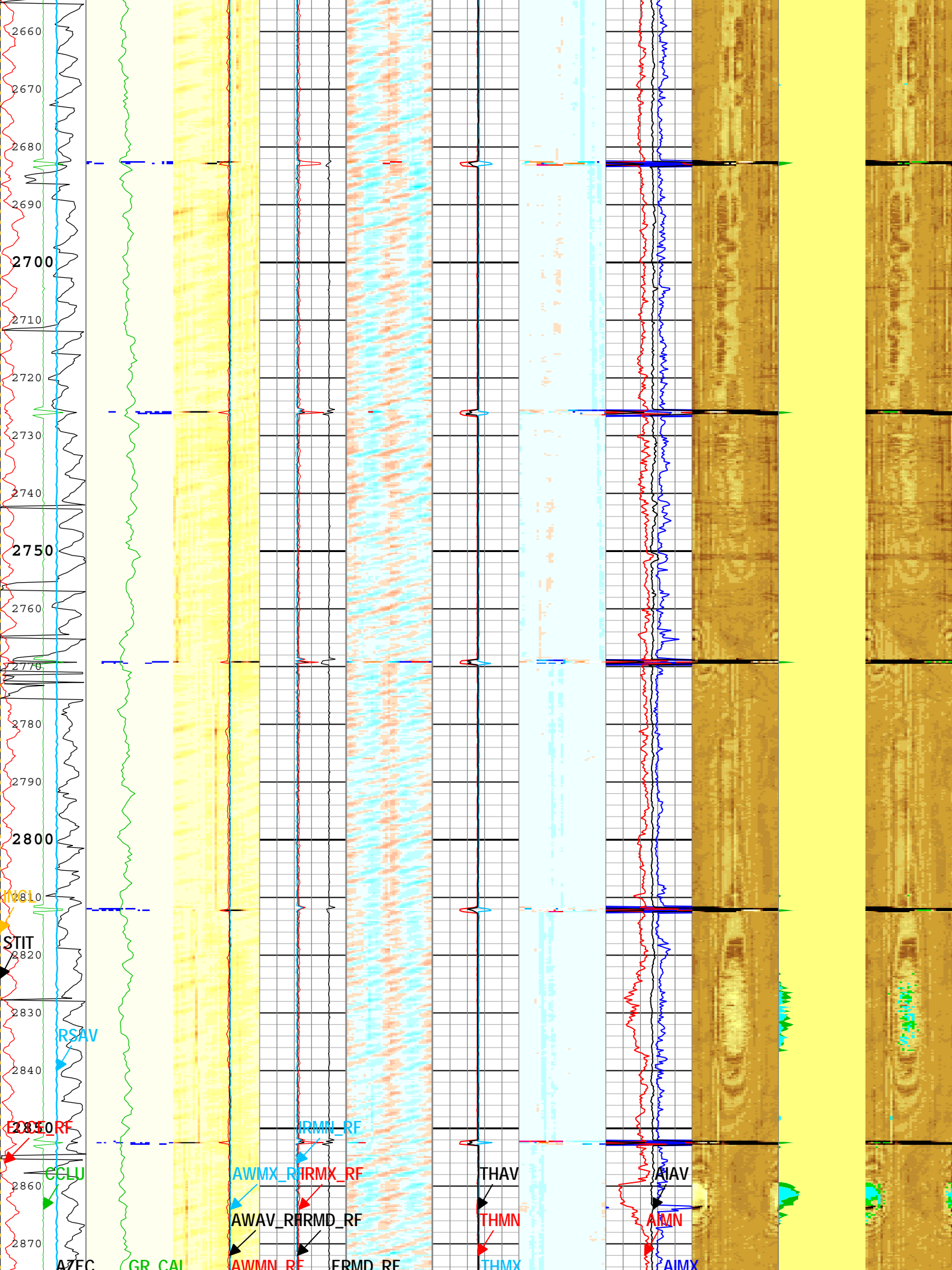


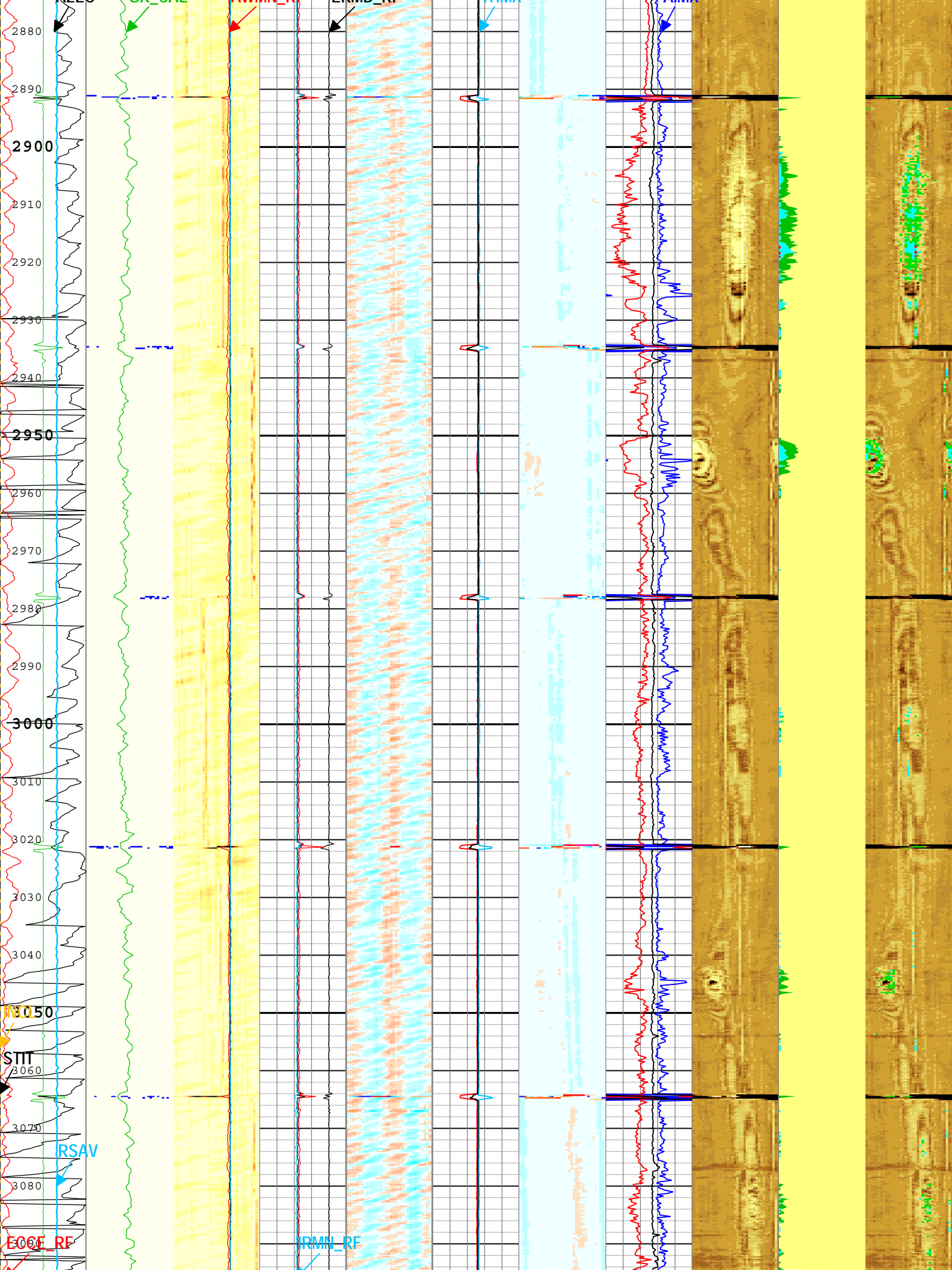


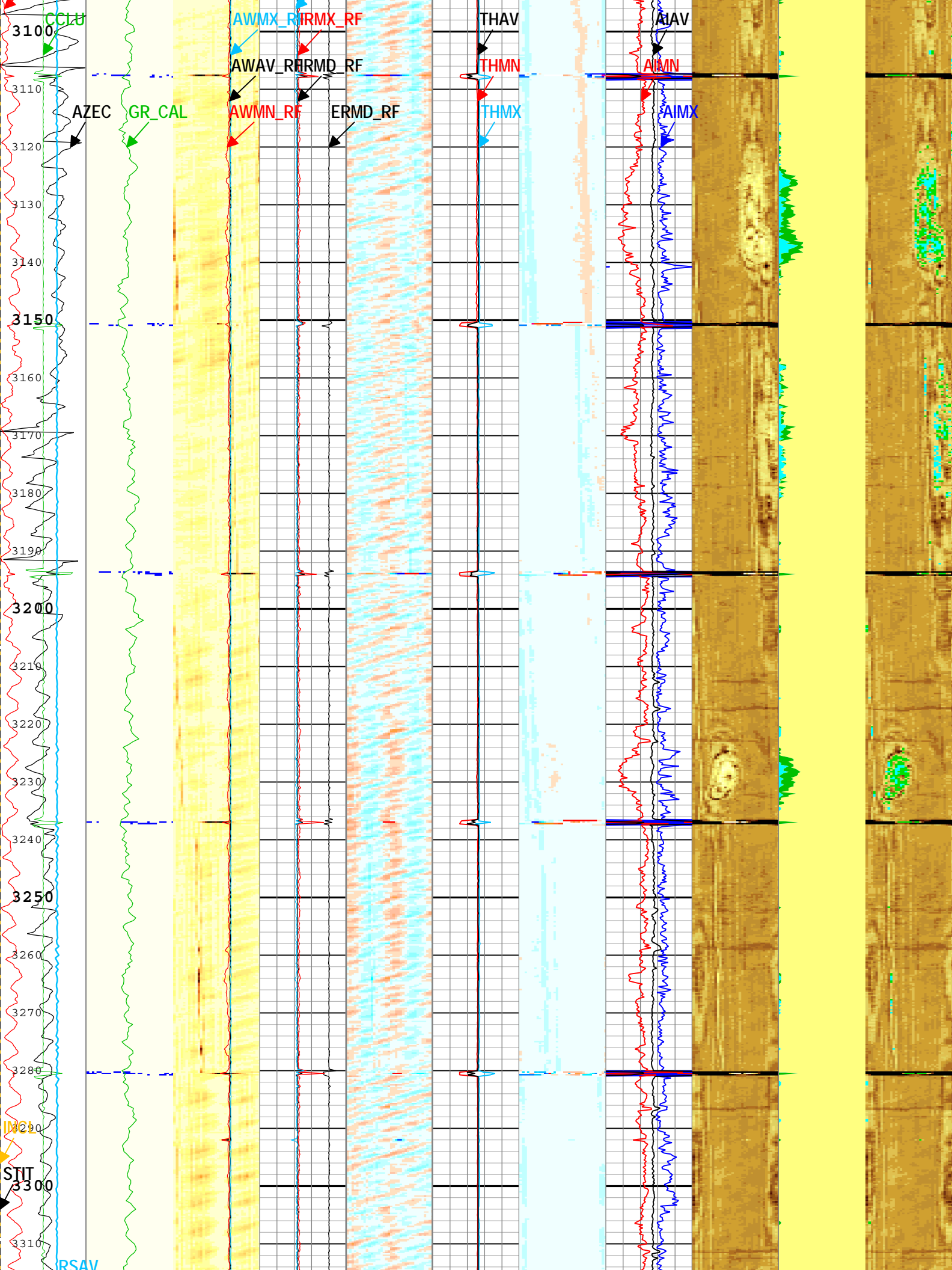


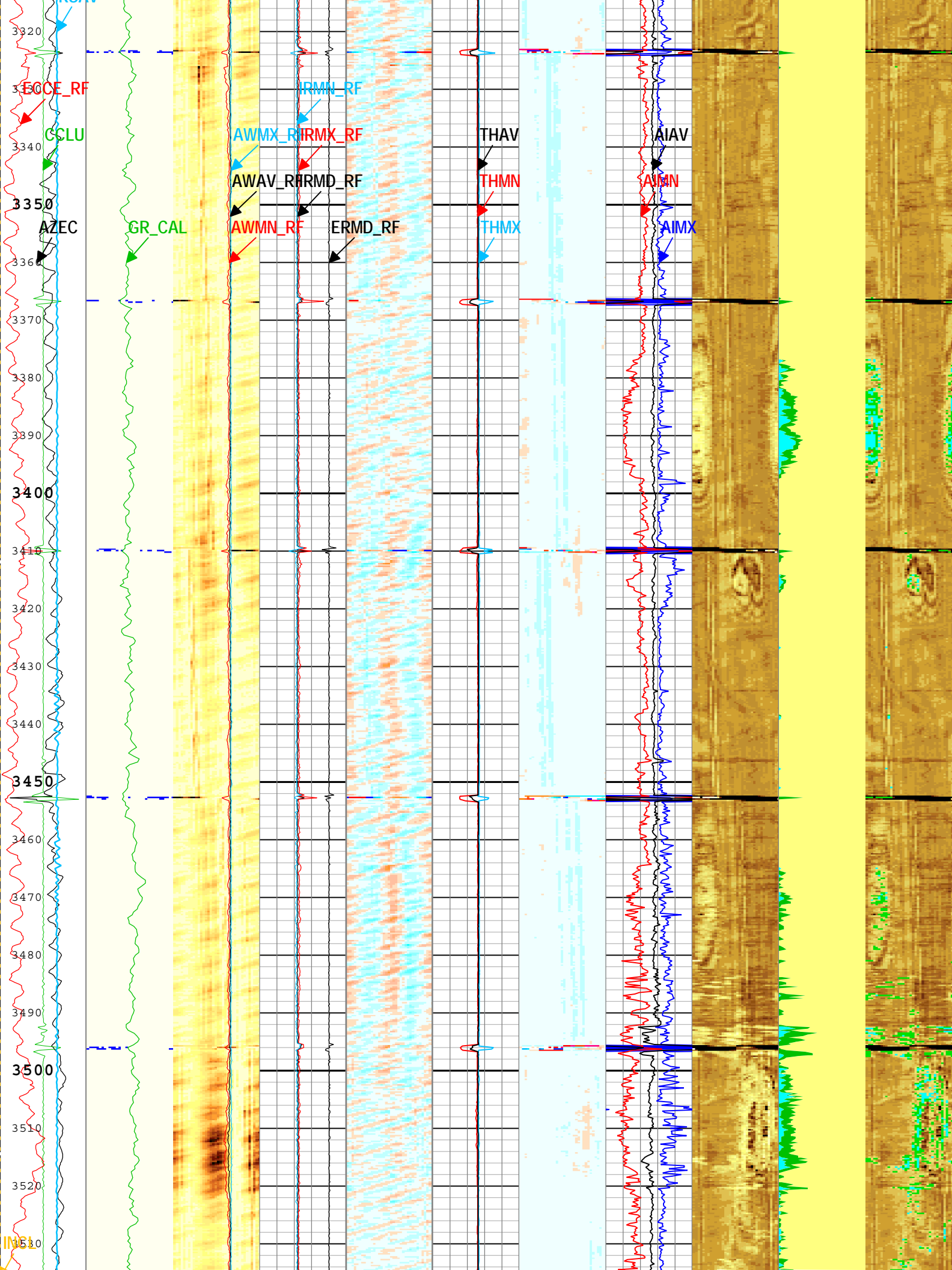


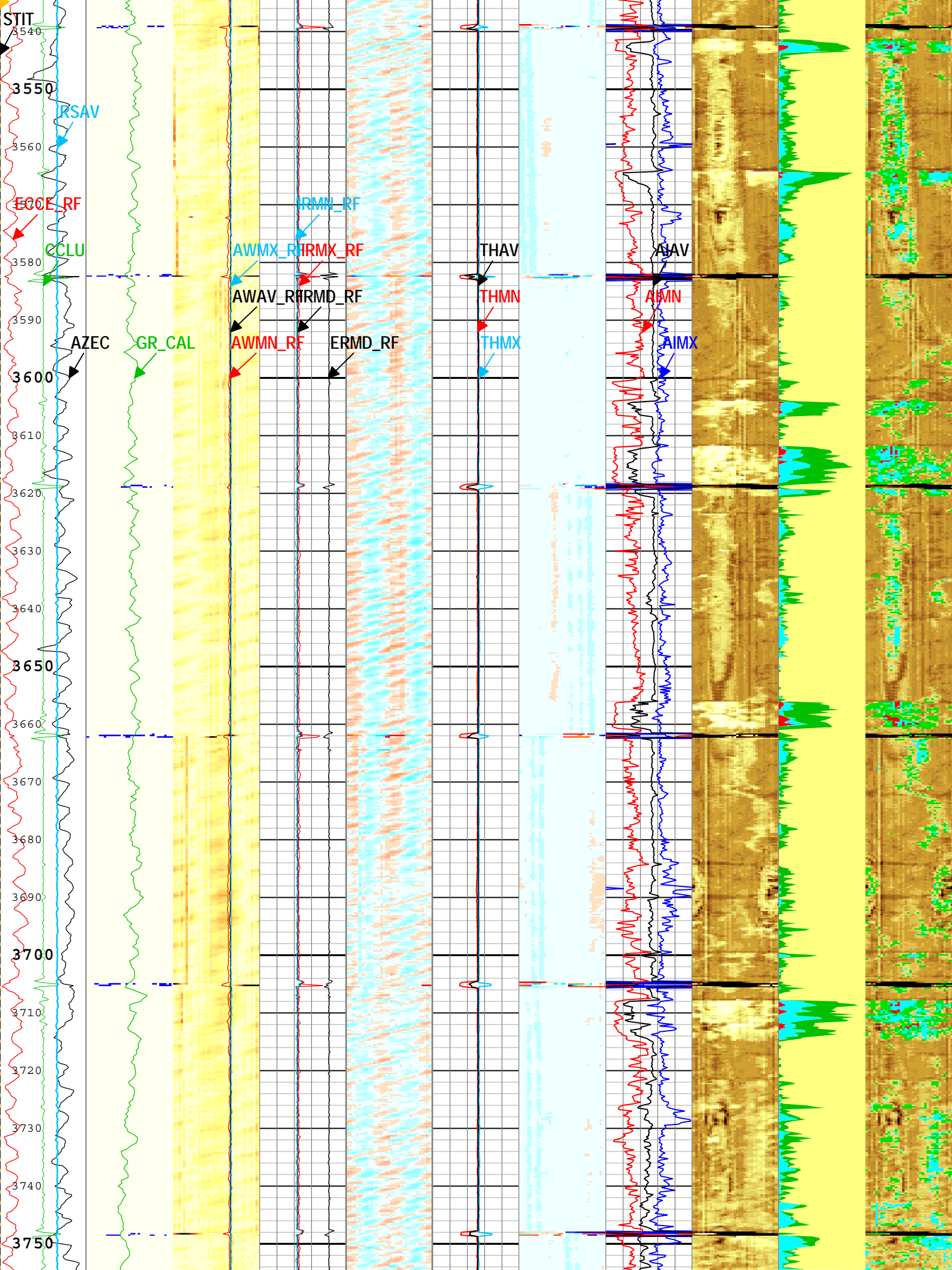


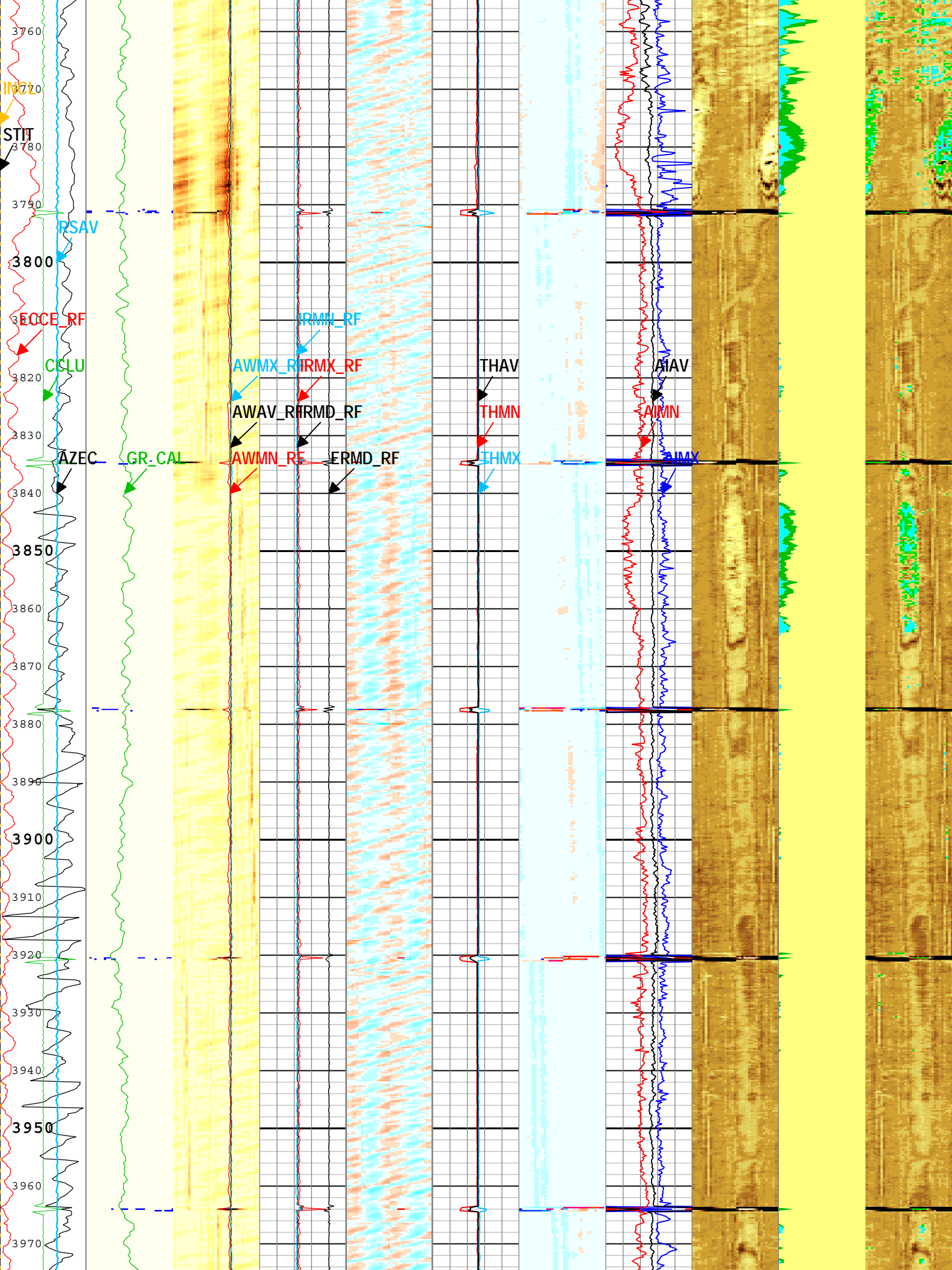


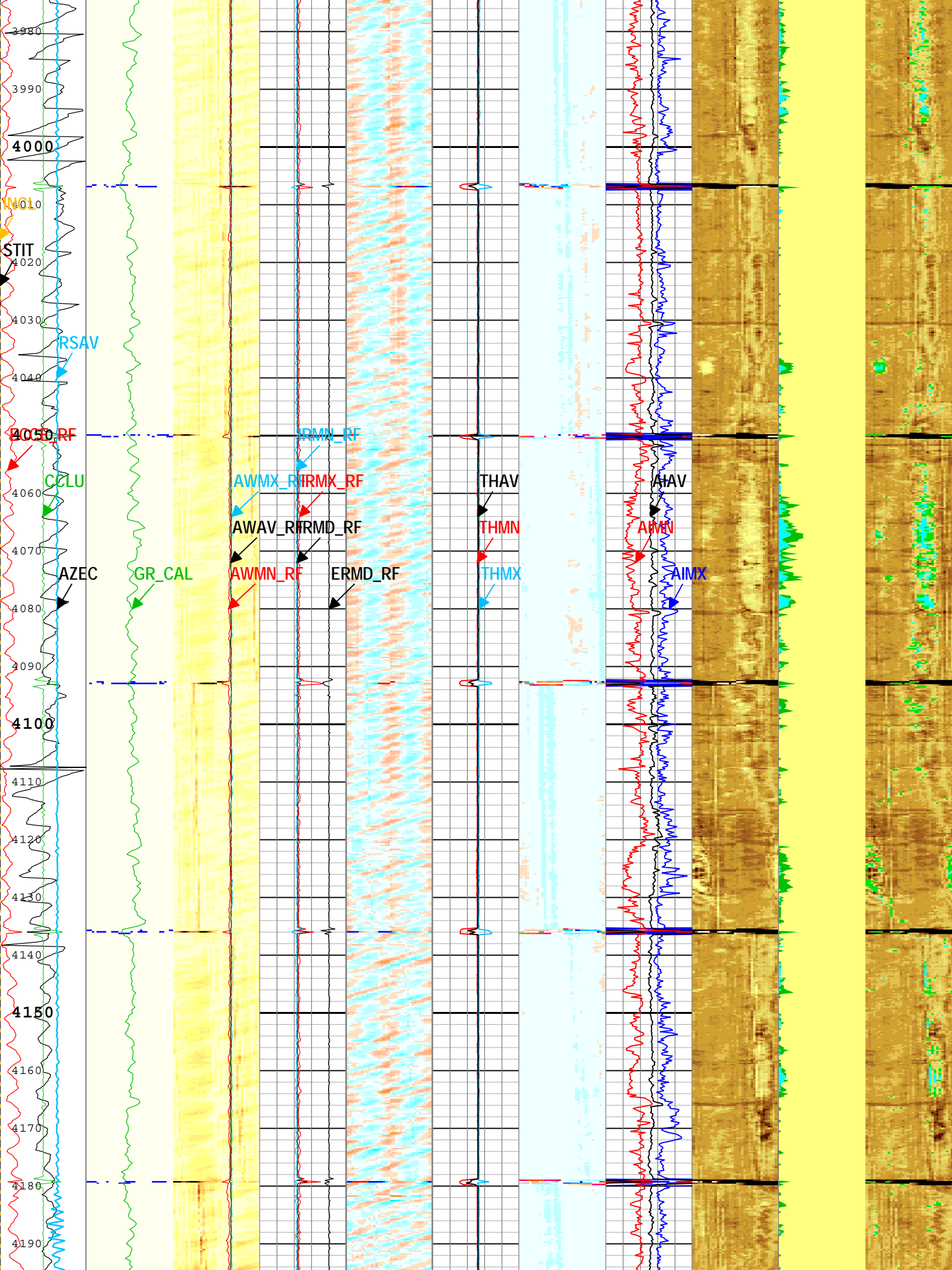


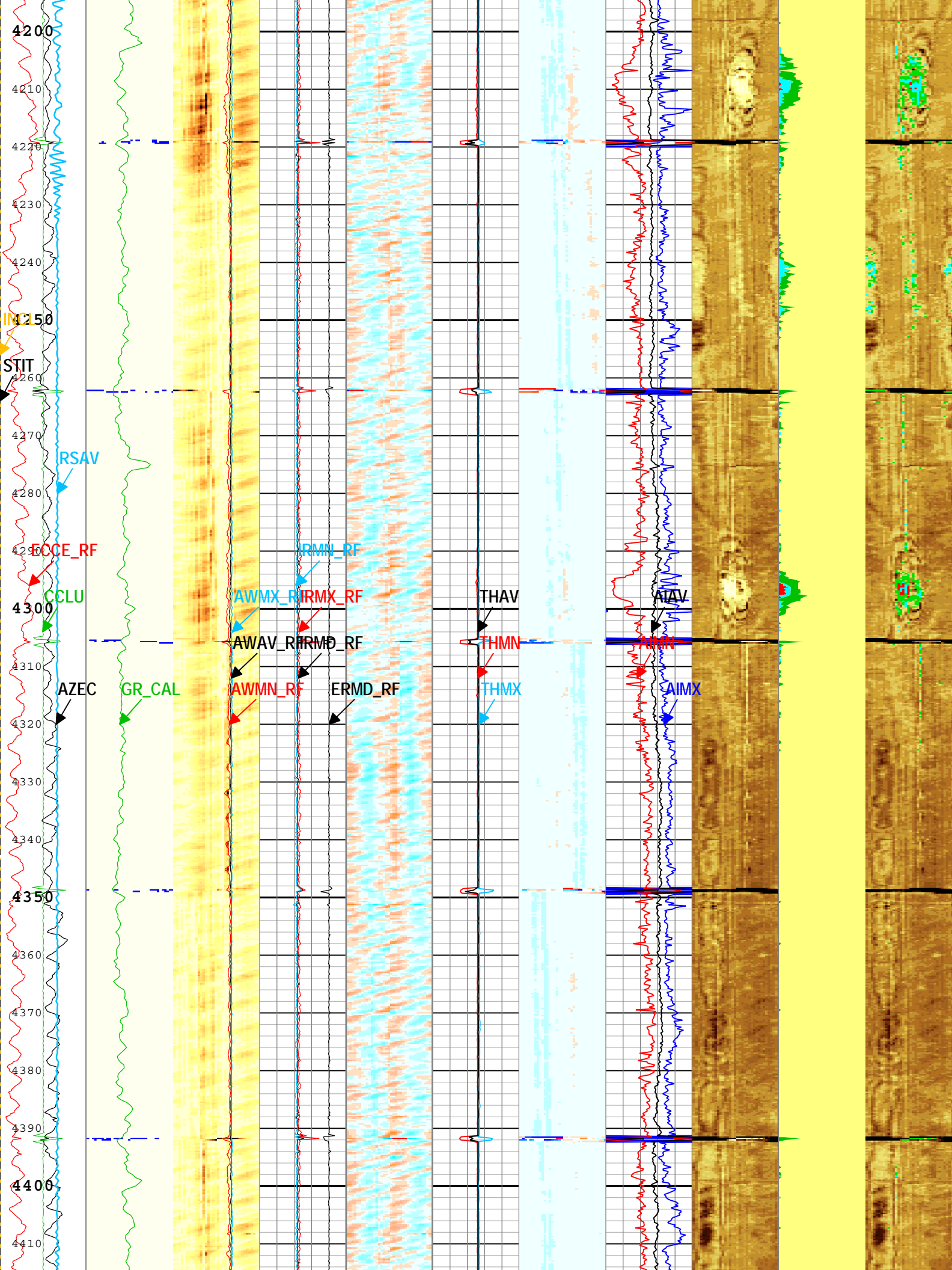


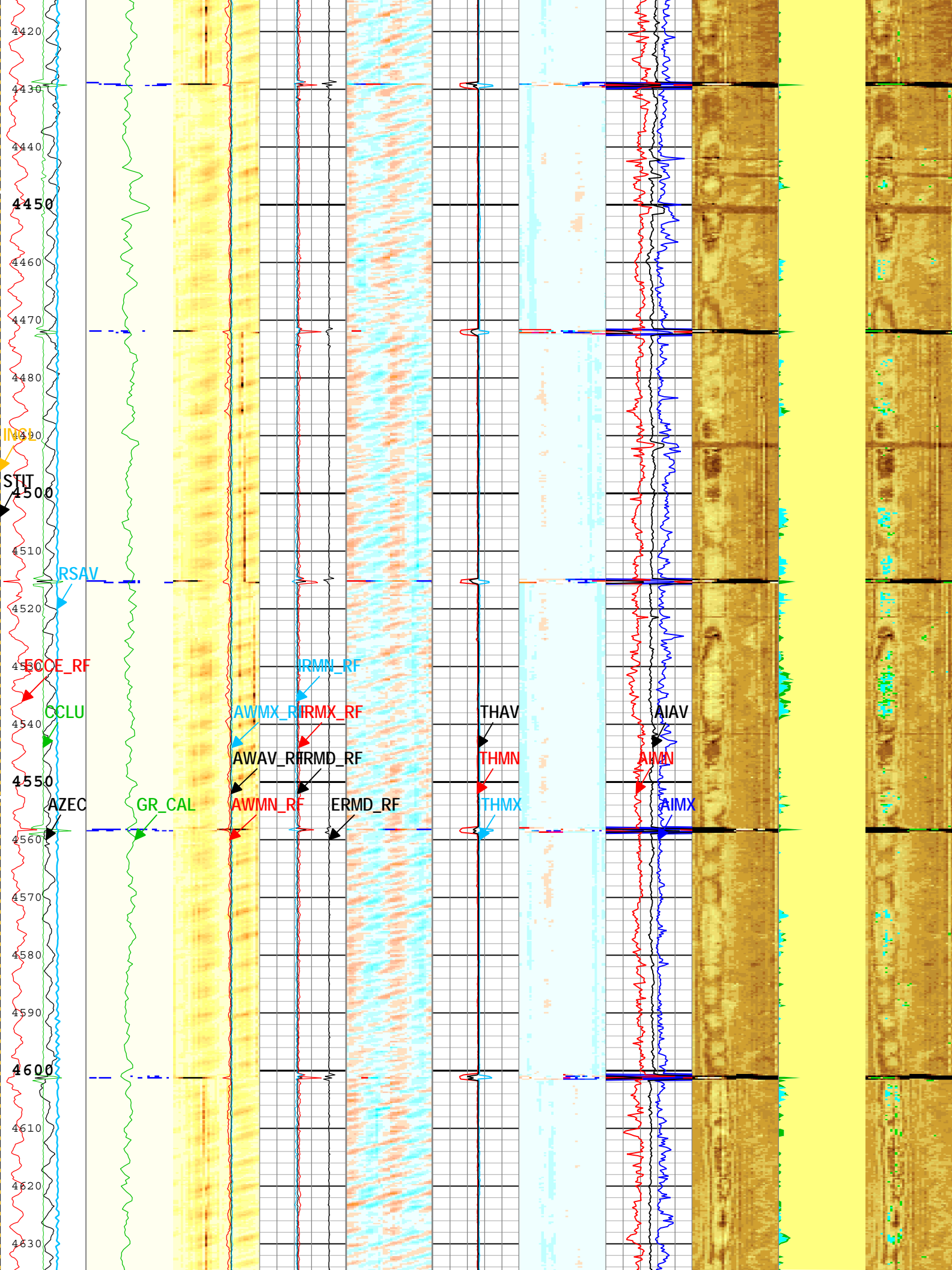


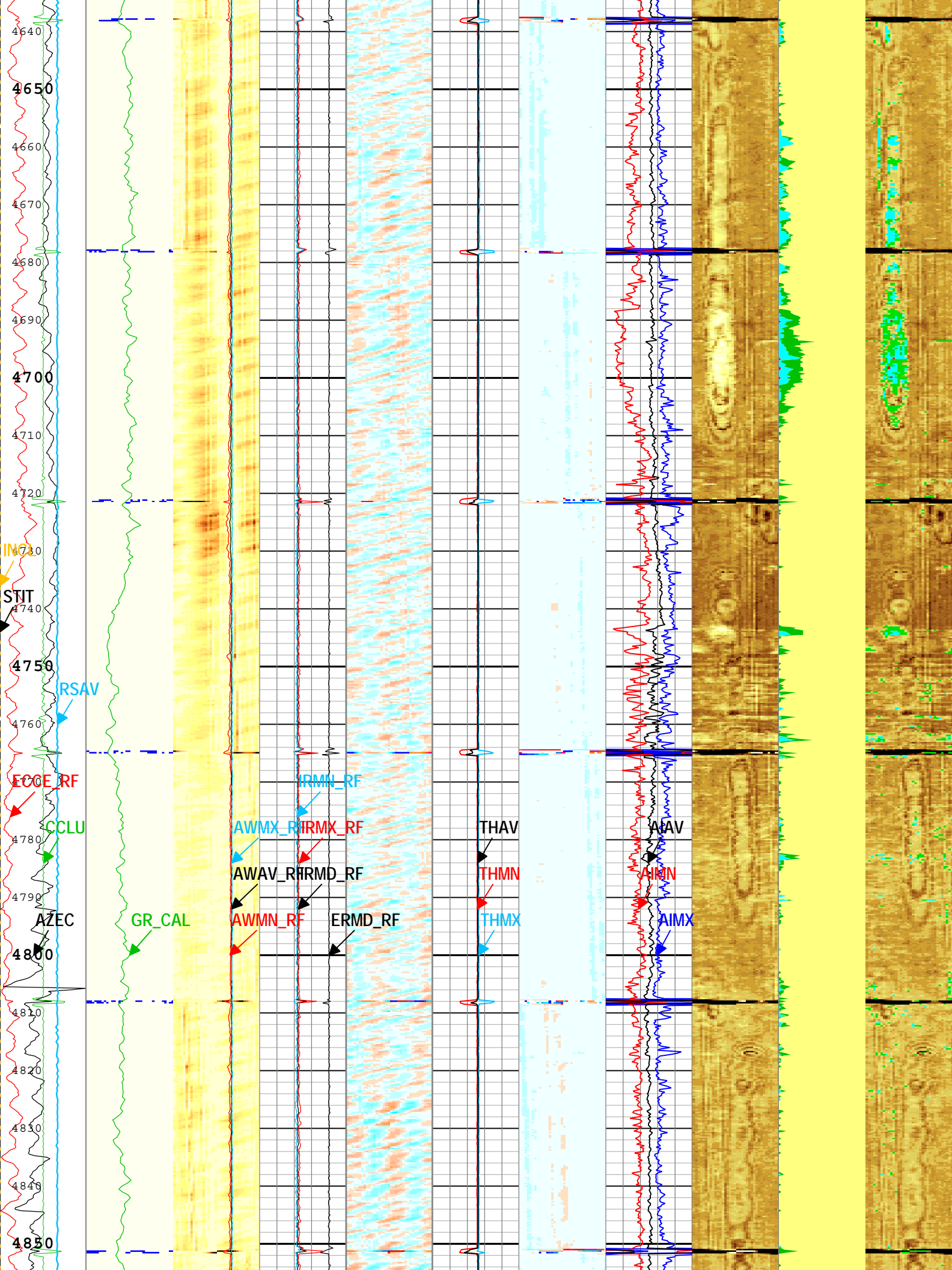


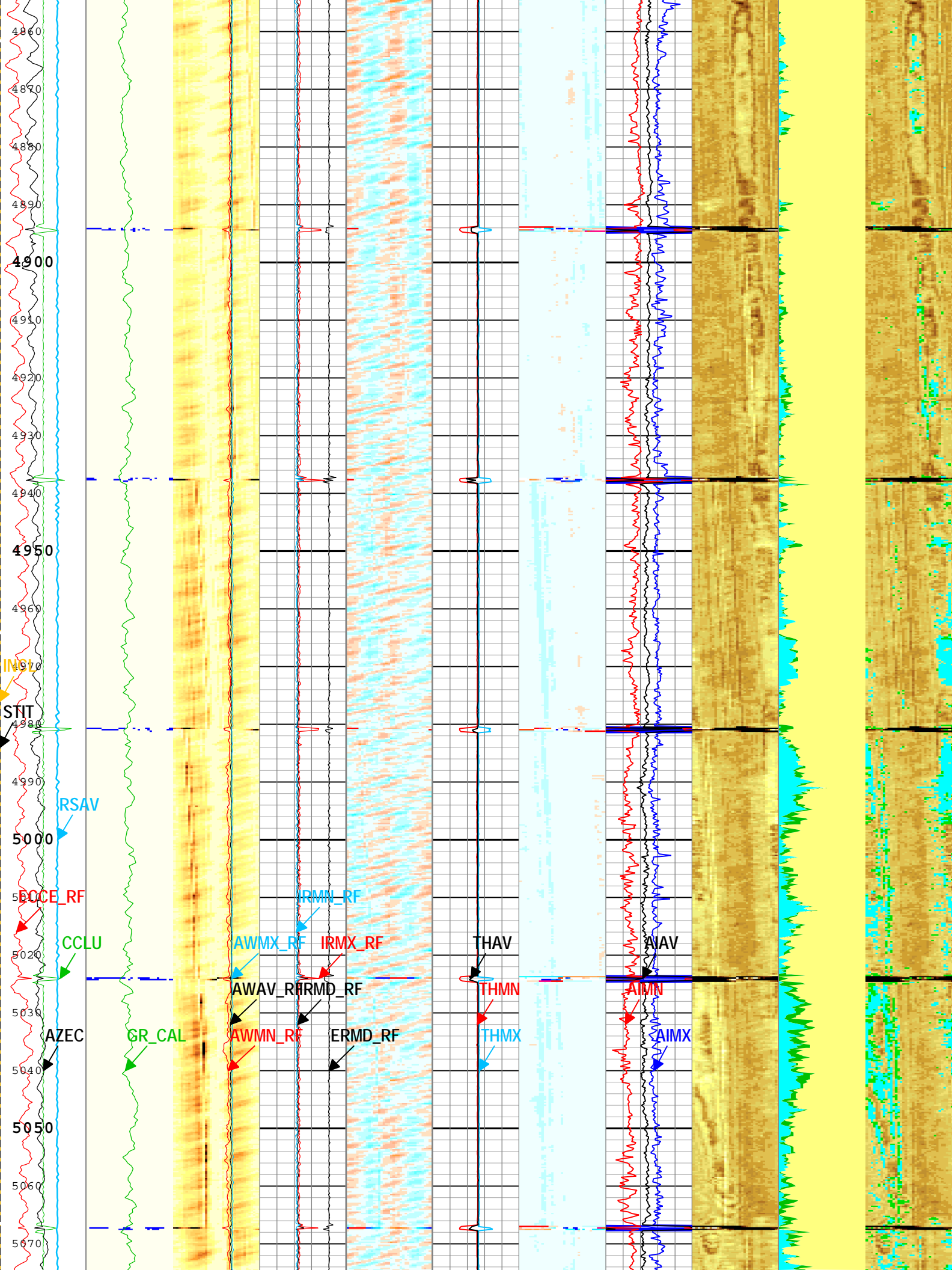


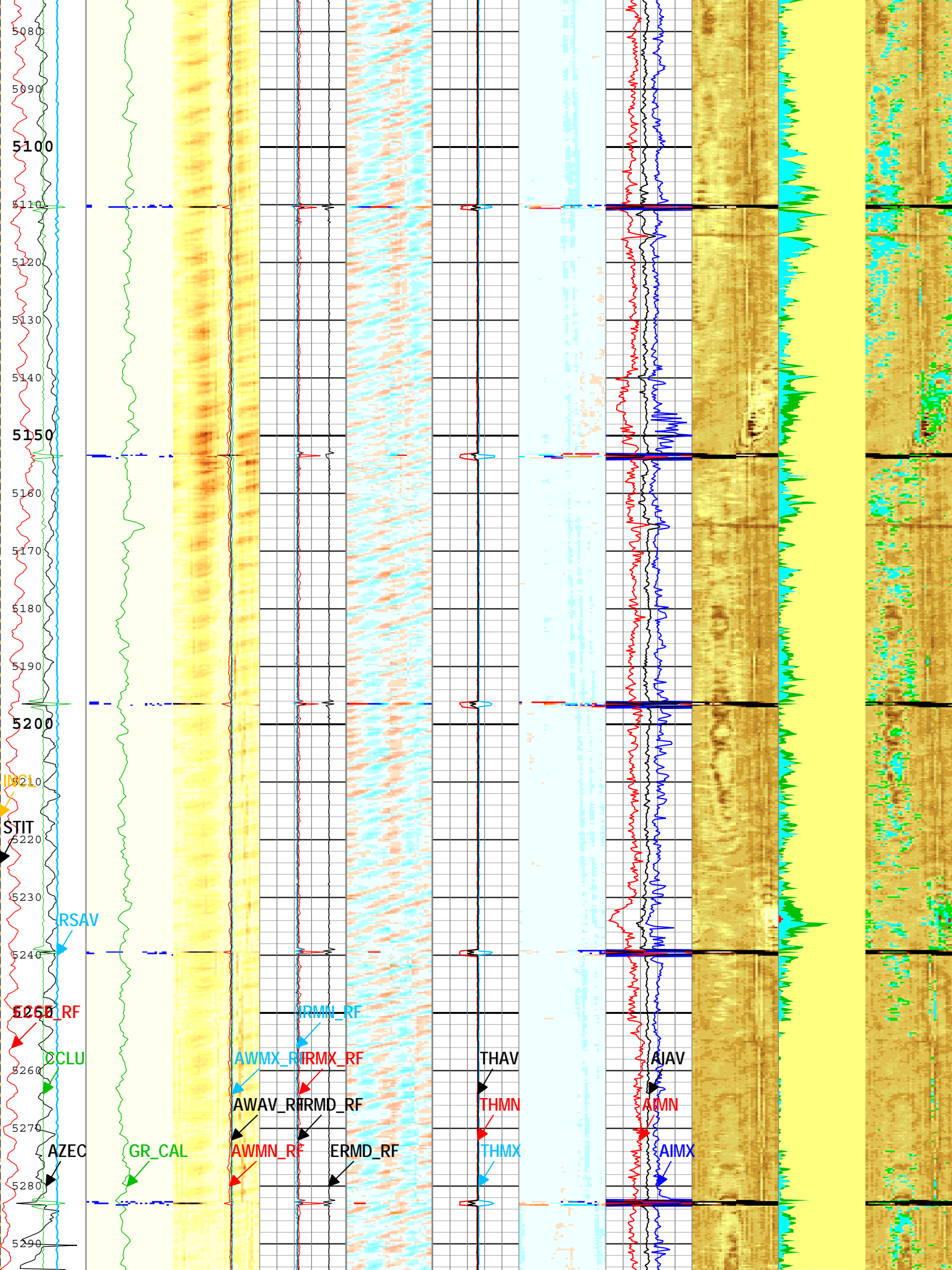


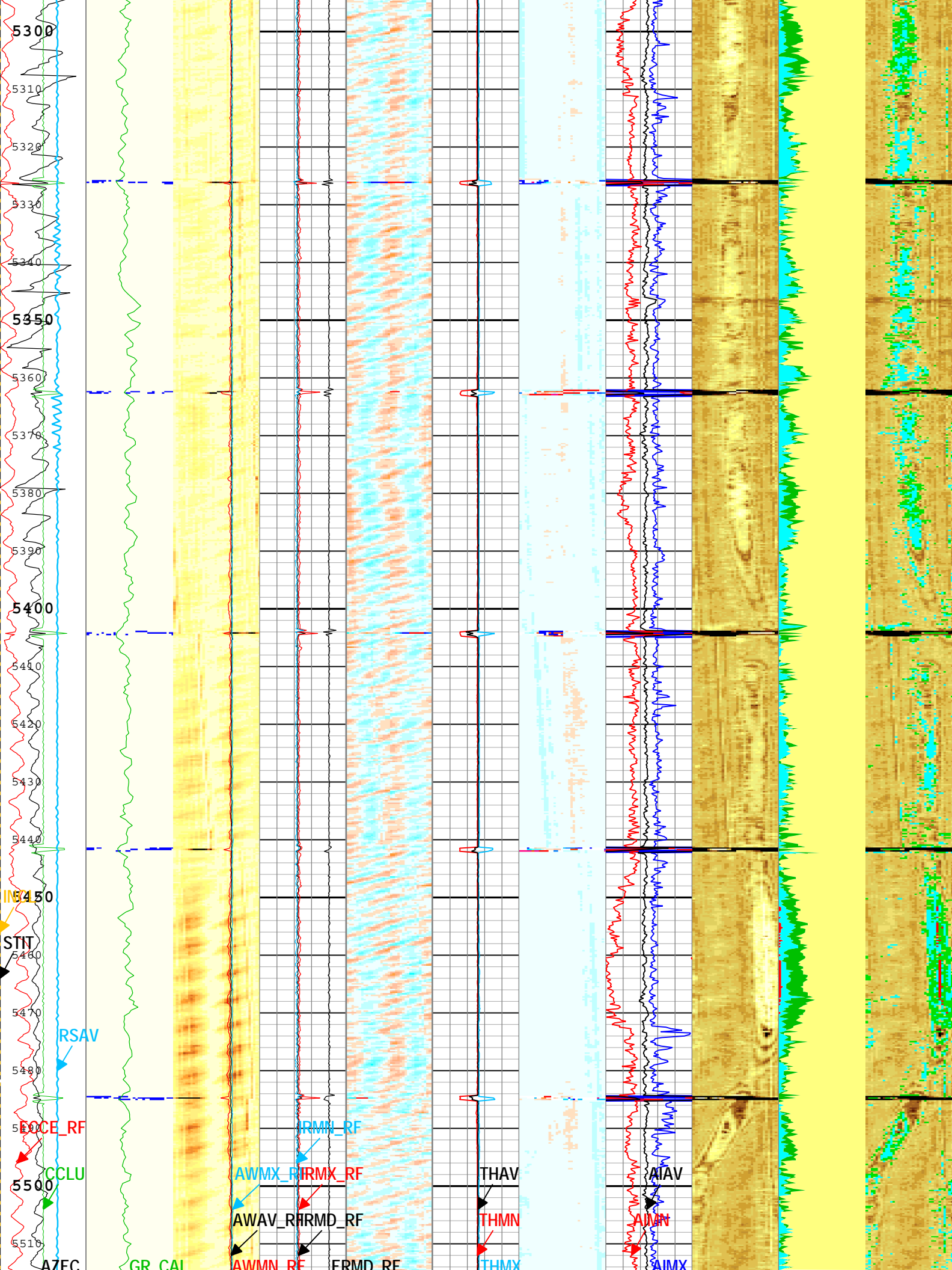


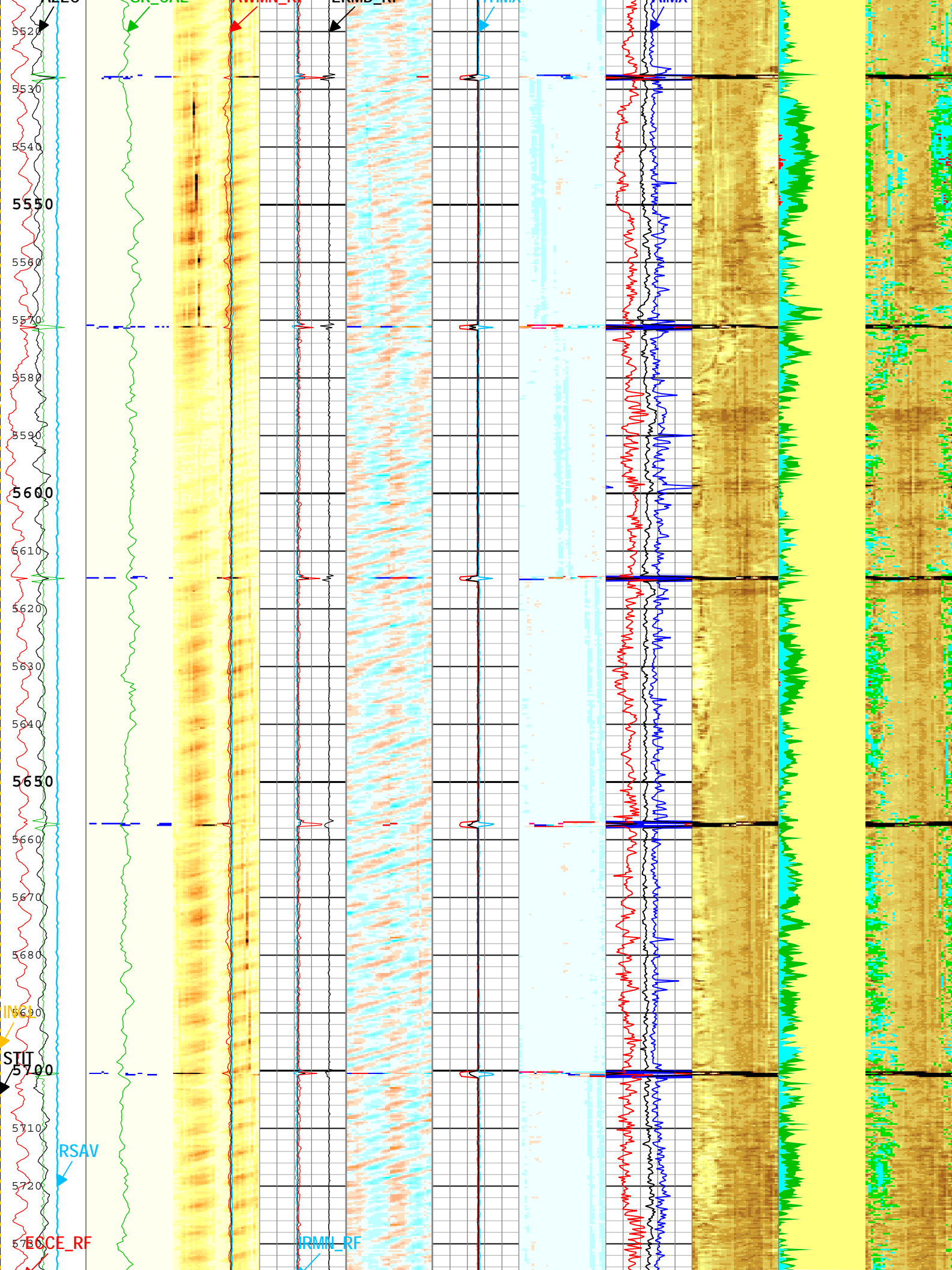


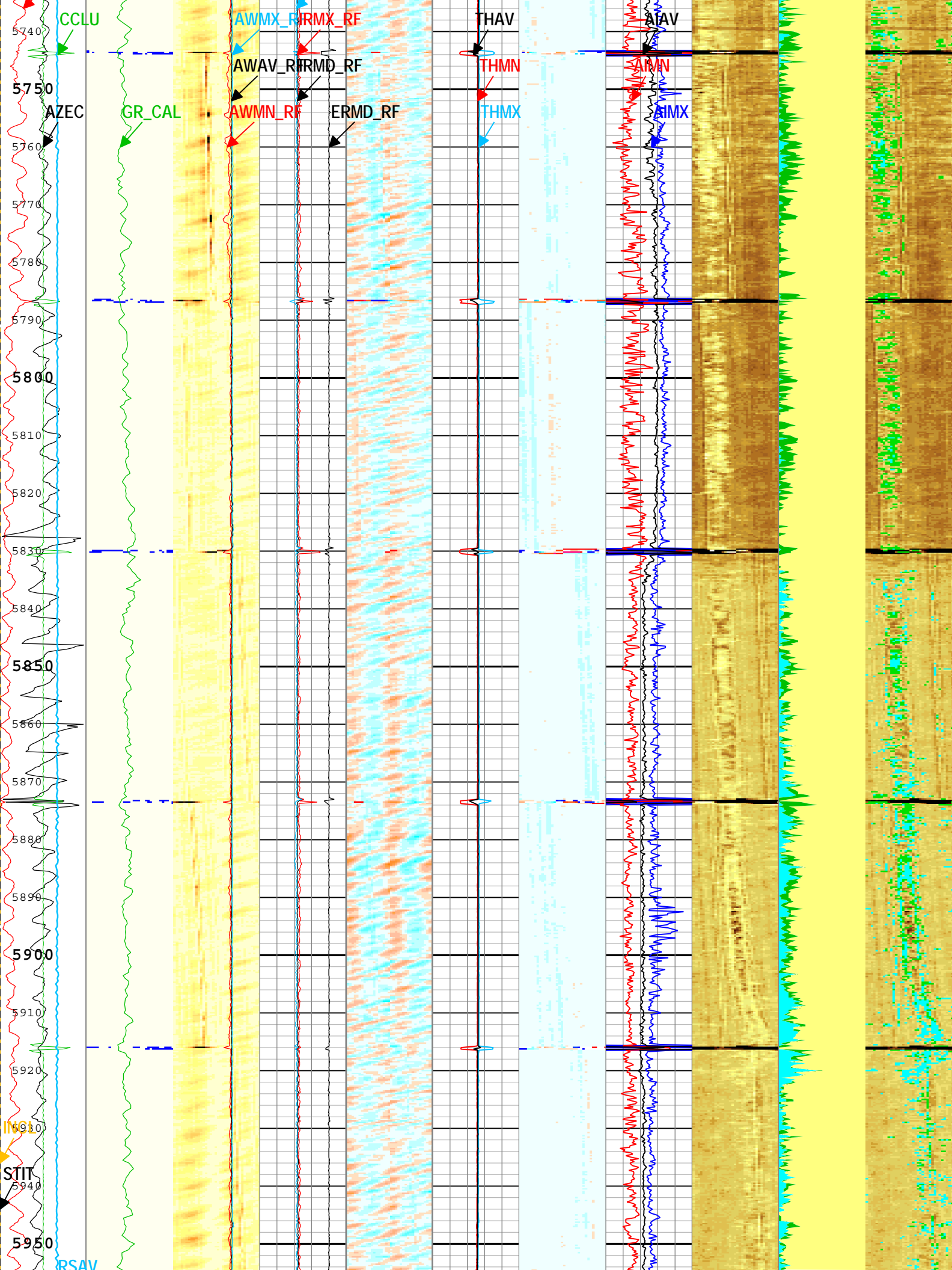


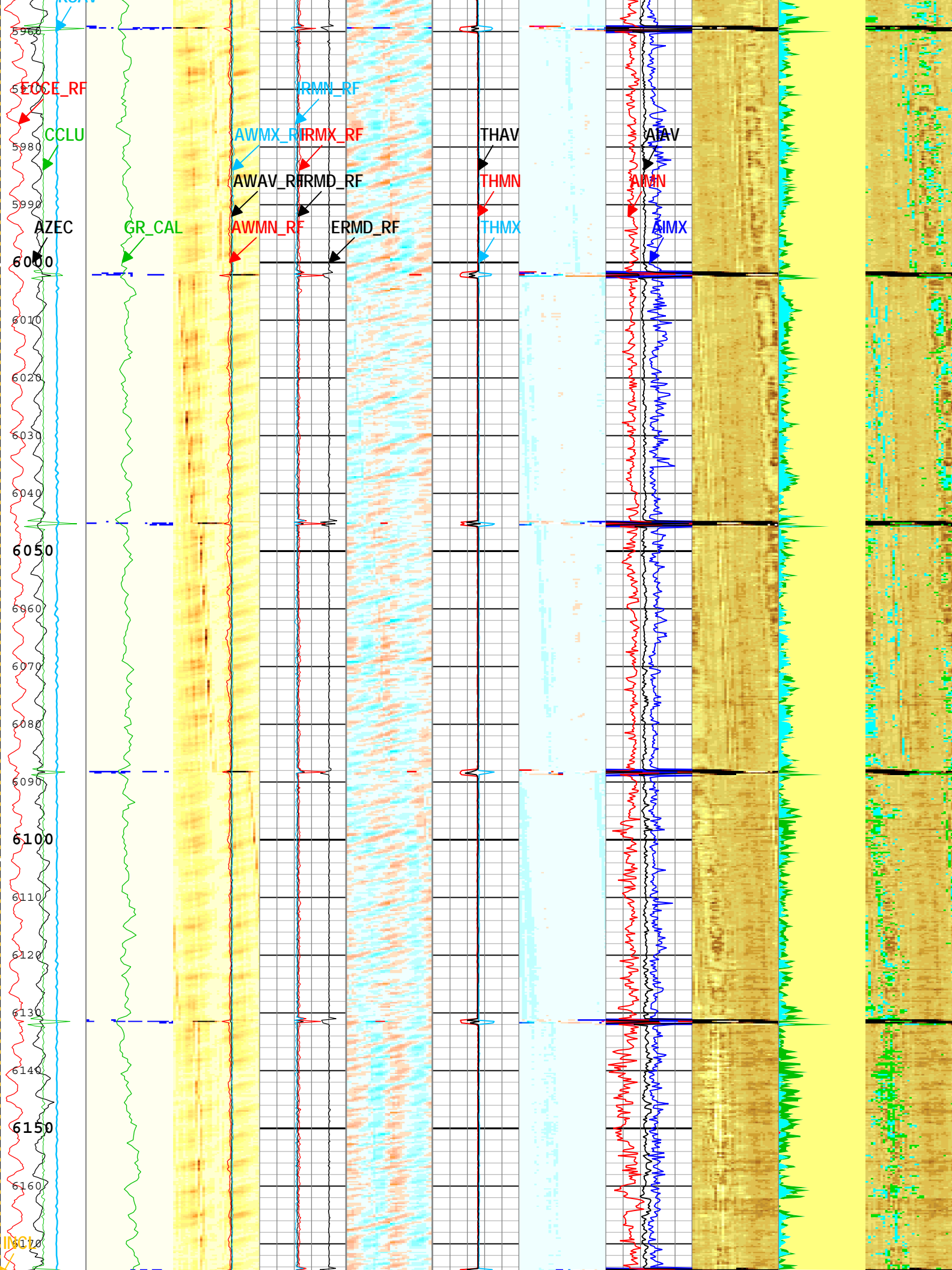


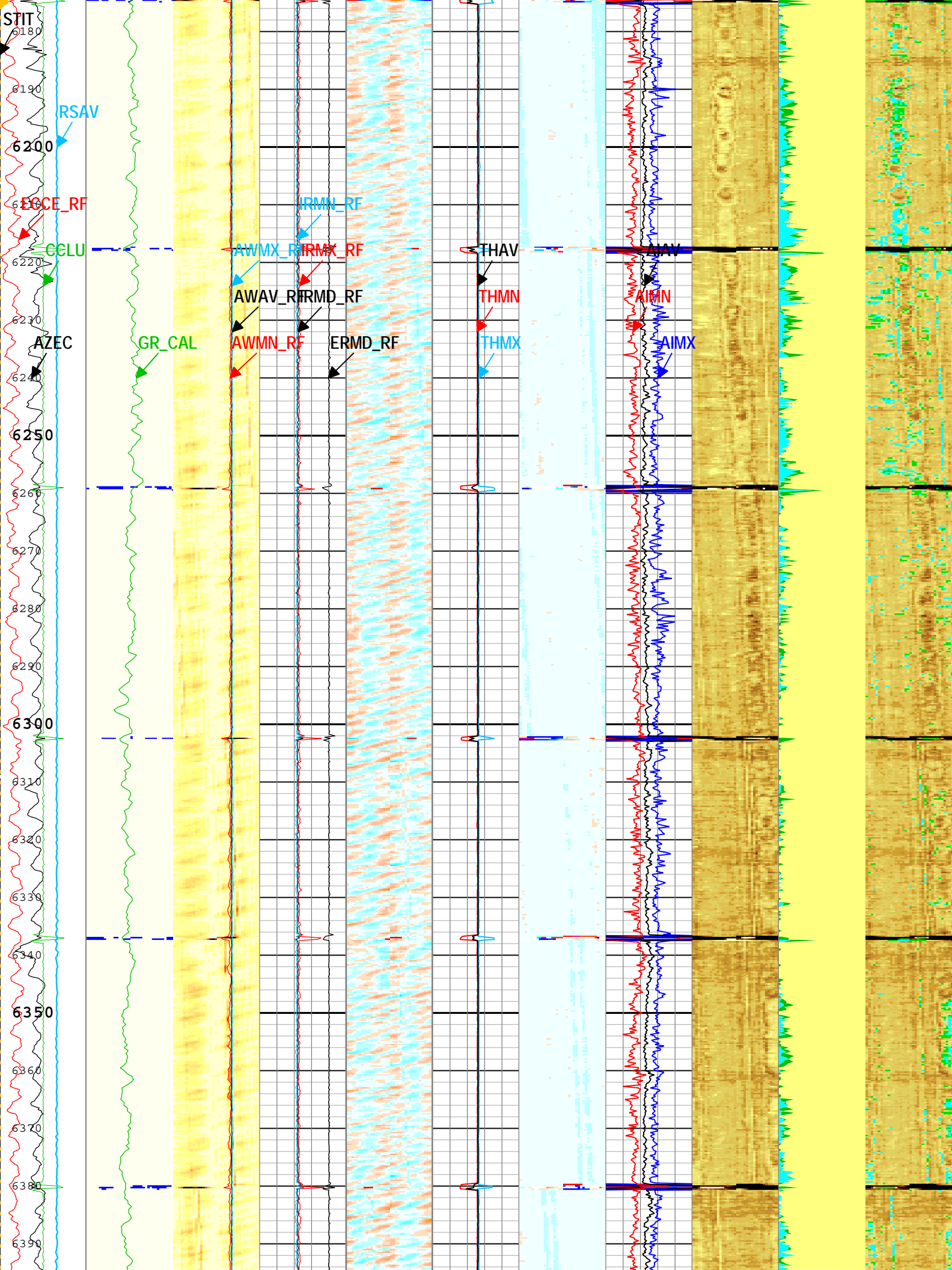


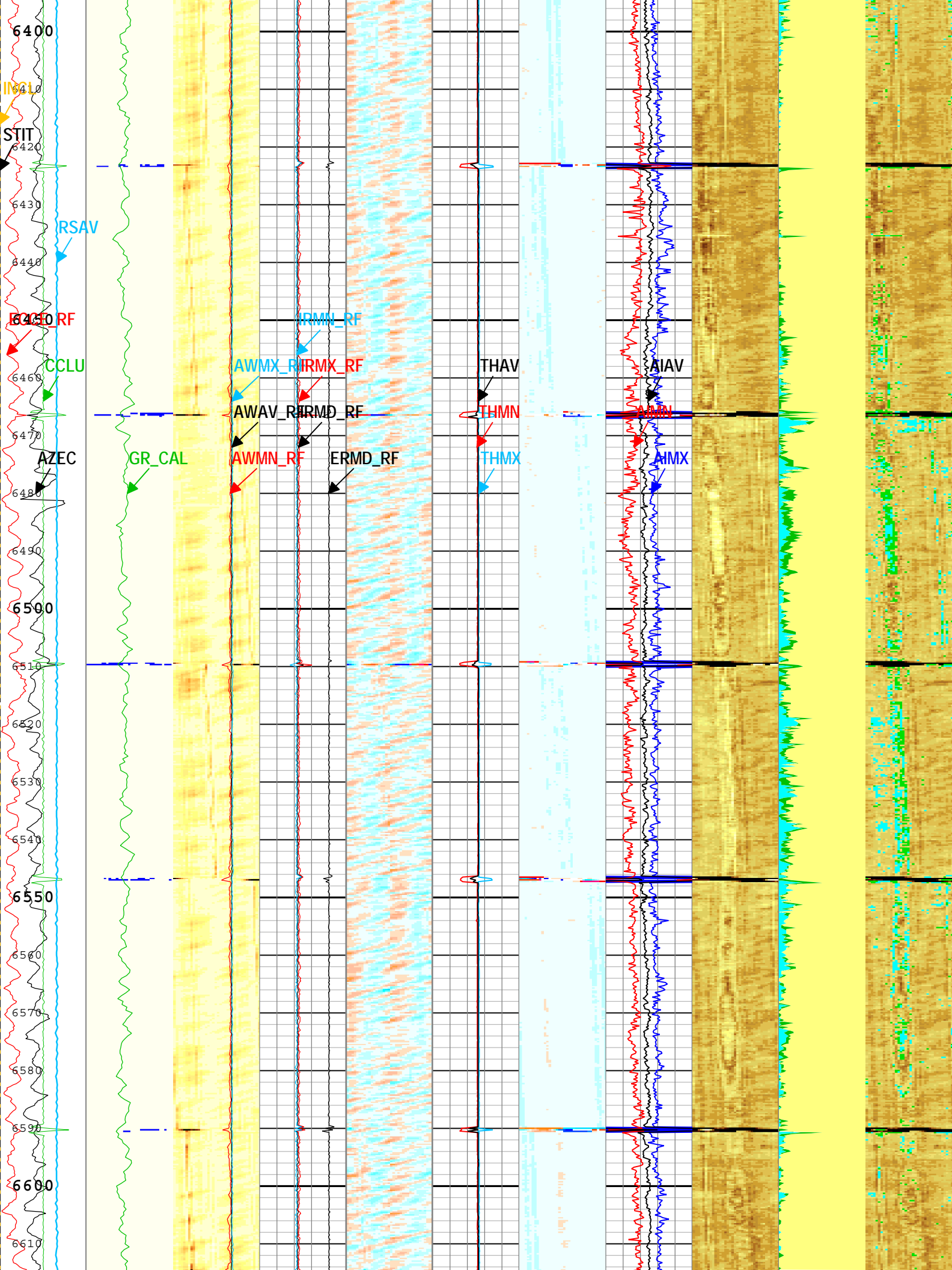


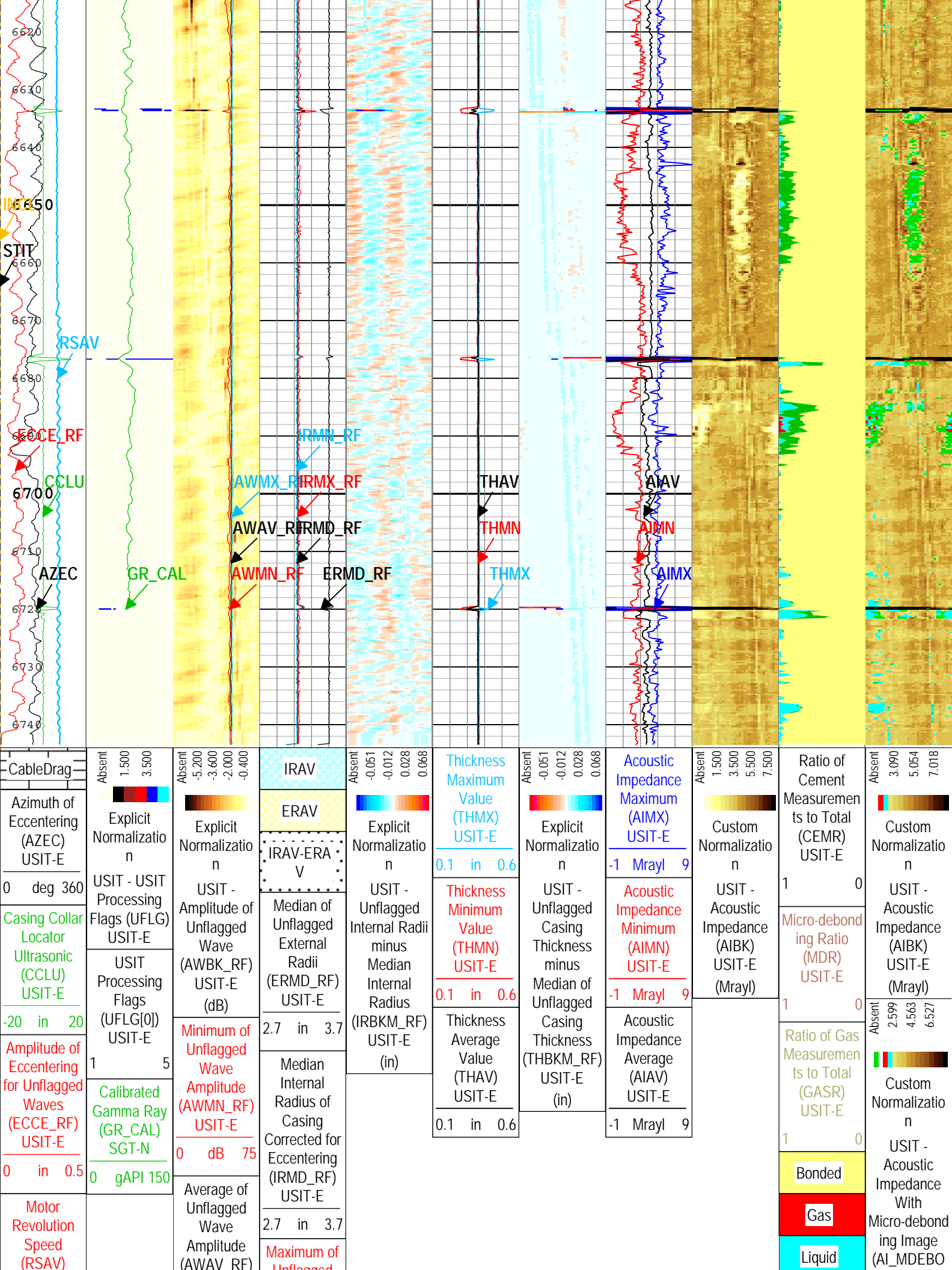












USIT-E	USIT-E	Unflagged Internal Radii (IRMX_RF) USIT-E	Micro-debonding	ND_IMG) USIT-E (Mrayl)
-8 c/s -6	0 dB 75	2.7 in 3.7		
Motor Revolution Speed (RSAV) USIT-E	Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E	Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E		
6 c/s 8	0 dB 75	2.7 in 3.7		
Stuck 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] - :
2 - UFLG 2 Value within [1.5 - 2.5] - :
3 - UFLG 3 Value within [2.5 - 3.5] - :
4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - :
5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10] - :
- UTIM Error

Pulse Origin Not Detected

WINLEN Error

Casing Thickness Error

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 17:16:41

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_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	206	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	0.205	in

RC1H	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	6735	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	6744
ZMUD	1.82	0	200
ZMUD	1.83	200	1000
ZMUD	1.84	1000	2300
ZMUD	1.85	2300	3300
ZMUD	1.86	3300	6744
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	48	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	Time Zoned	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	6740	ft
VRES	Vertical Resolution	USIT-E	3.0 in	
WINB	Window Begin Time	USIT-E	38.4	us
WINE	Window End Time	USIT-E	78.4	us

Time Zone Parameters					
Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
EMXV	125	14-Aug-2014 15:20:22	14-Aug-2014 15:31:37	6744.01	6728.13
EMXV	120	14-Aug-2014 15:31:37	14-Aug-2014 15:31:42	6728.13	6725.63
EMXV	115	14-Aug-2014 15:31:42	14-Aug-2014 15:31:44	6725.63	6724.52
EMXV	110	14-Aug-2014 15:31:44	14-Aug-2014 15:31:48	6724.52	6722.34
EMXV	105	14-Aug-2014 15:31:48	14-Aug-2014 15:31:50	6722.34	6721.22
EMXV	100	14-Aug-2014 15:31:50	14-Aug-2014 15:31:53	6721.22	6719.83
EMXV	95	14-Aug-2014 15:31:53	14-Aug-2014 15:31:55	6719.83	6718.74
EMXV	90	14-Aug-2014 15:31:55	14-Aug-2014 15:31:58	6718.74	6716.99
EMXV	85	14-Aug-2014 15:31:58	14-Aug-2014 15:32:00	6716.99	6716.04
EMXV	80	14-Aug-2014 15:32:00	14-Aug-2014 15:32:02	6716.04	6714.96
EMXV	75	14-Aug-2014 15:32:02	14-Aug-2014 15:32:04	6714.96	6713.72
EMXV	70	14-Aug-2014 15:32:04	14-Aug-2014 15:32:06	6713.72	6712.67
EMXV	65	14-Aug-2014 15:32:06	14-Aug-2014 15:32:08	6712.67	6711.28
EMXV	60	14-Aug-2014 15:32:08	14-Aug-2014 15:32:13	6711.28	6708.91
EMXV	55	14-Aug-2014 15:32:13	14-Aug-2014 15:32:16	6708.91	6707.08
EMXV	50	14-Aug-2014 15:32:16	14-Aug-2014 15:32:19	6707.08	6705.4
EMXV	45	14-Aug-2014 15:32:19	14-Aug-2014 15:32:22	6705.4	6703.65
EMXV	40	14-Aug-2014 15:32:22	14-Aug-2014 15:32:27	6703.65	6701.28
EMXV	35	14-Aug-2014 15:32:27	14-Aug-2014 15:32:32	6701.28	6698.46
EMXV	30	14-Aug-2014 15:32:32	14-Aug-2014 15:32:38	6698.46	6695.07
EMXV	25	14-Aug-2014 15:32:38	14-Aug-2014 15:32:41	6695.07	6693.63
EMXV	20	14-Aug-2014 15:32:41	14-Aug-2014 15:32:43	6693.63	6692.14
EMXV	15	14-Aug-2014 15:32:43	14-Aug-2014 15:32:47	6692.14	6689.94
EMXV	10	14-Aug-2014 15:32:47	14-Aug-2014 15:32:49	6689.94	6688.96
EMXV	5	14-Aug-2014 15:32:49	14-Aug-2014 15:32:50	6688.96	6688.33
EMXV	0	14-Aug-2014 15:32:50	14-Aug-2014 16:16:01	6688.33	2288.09
EMXV	3	14-Aug-2014 16:16:01	14-Aug-2014 16:16:05	2288.09	2281.52
EMXV	5	14-Aug-2014 16:16:05	14-Aug-2014 16:16:07	2281.52	2277.67
EMXV	8	14-Aug-2014 16:16:07	14-Aug-2014 16:16:11	2277.67	2271.35
EMXV	12	14-Aug-2014 16:16:11	14-Aug-2014 16:16:14	2271.35	2266.02
EMXV	15	14-Aug-2014 16:16:14	14-Aug-2014 16:16:16	2266.02	2261.84
EMXV	18	14-Aug-2014 16:16:16	14-Aug-2014 16:16:19	2261.84	2257.66
EMXV	21	14-Aug-2014 16:16:19	14-Aug-2014 16:16:26	2257.66	2245.66
EMXV	26	14-Aug-2014 16:16:26	14-Aug-2014 16:16:29	2245.66	2239.91
EMXV	29	14-Aug-2014 16:16:29	14-Aug-2014 16:16:33	2239.91	2234.03
EMXV	32	14-Aug-2014 16:16:33	14-Aug-2014 16:16:38	2234.03	2225.23
EMXV	35	14-Aug-2014 16:16:38	14-Aug-2014 16:16:41	2225.23	2220.16
EMXV	38	14-Aug-2014 16:16:41	14-Aug-2014 16:16:46	2220.16	2212.5
EMXV	42	14-Aug-2014 16:16:46	14-Aug-2014 16:16:49	2212.5	2207.29
EMXV	46	14-Aug-2014 16:16:49	14-Aug-2014 16:16:52	2207.29	2201.98
EMXV	50	14-Aug-2014 16:16:52	14-Aug-2014 16:20:21	2201.98	1847.24
EMXV	54	14-Aug-2014 16:20:21	14-Aug-2014 16:20:23	1847.24	1843.32

EMXV	58	14-Aug-2014 16:20:23	14-Aug-2014 16:20:26	1843.32	1838.81
EMXV	62	14-Aug-2014 16:20:26	14-Aug-2014 16:20:29	1838.81	1833.5
EMXV	66	14-Aug-2014 16:20:29	14-Aug-2014 16:20:32	1833.5	1828.98
EMXV	70	14-Aug-2014 16:20:32	14-Aug-2014 16:20:35	1828.98	1822.77
EMXV	73	14-Aug-2014 16:20:35	14-Aug-2014 16:20:39	1822.77	1816.43
EMXV	76	14-Aug-2014 16:20:39	14-Aug-2014 16:21:25	1816.43	1738.05
EMXV	79	14-Aug-2014 16:21:25	14-Aug-2014 16:21:28	1738.05	1732.96
EMXV	82	14-Aug-2014 16:21:28	14-Aug-2014 16:21:33	1732.96	1725.49
EMXV	85	14-Aug-2014 16:21:33	14-Aug-2014 16:21:36	1725.49	1719.63
EMXV	89	14-Aug-2014 16:21:36	14-Aug-2014 16:21:39	1719.63	1715.36
EMXV	93	14-Aug-2014 16:21:39	14-Aug-2014 16:22:02	1715.36	1676.2
EMXV	97	14-Aug-2014 16:22:02	14-Aug-2014 16:22:05	1676.2	1671.33
EMXV	102	14-Aug-2014 16:22:05	14-Aug-2014 16:22:07	1671.33	1666.91
EMXV	105	14-Aug-2014 16:22:07	14-Aug-2014 16:22:13	1666.91	1657.87
EMXV	108	14-Aug-2014 16:22:13	14-Aug-2014 16:22:15	1657.87	1652.98
EMXV	110	14-Aug-2014 16:22:15	14-Aug-2014 16:22:21	1652.98	1643.45
EMXV	113	14-Aug-2014 16:22:21	14-Aug-2014 16:22:24	1643.45	1638.28
EMXV	118	14-Aug-2014 16:22:24	14-Aug-2014 16:22:51	1638.28	1590.96
EMXV	121	14-Aug-2014 16:22:51	14-Aug-2014 16:23:02	1590.96	1571.93
EMXV	125	14-Aug-2014 16:23:02	14-Aug-2014 16:42:52	1571.93	12.92

All depth are at tool zero.

USI Goodwin

USIT - Fluid Properties Measurement

Run Name	Pass Name	Start Depth(ft)	Stop Depth(ft)
Run 1	Main[3]:Up	6744.01	12.92

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	1.82	1.82
200	1000	1.83	1.83
1000	2300	1.84	1.84
2300	3300	1.85	1.85
3300		1.86	1.86

Run 1

USI Goodwin Compressed

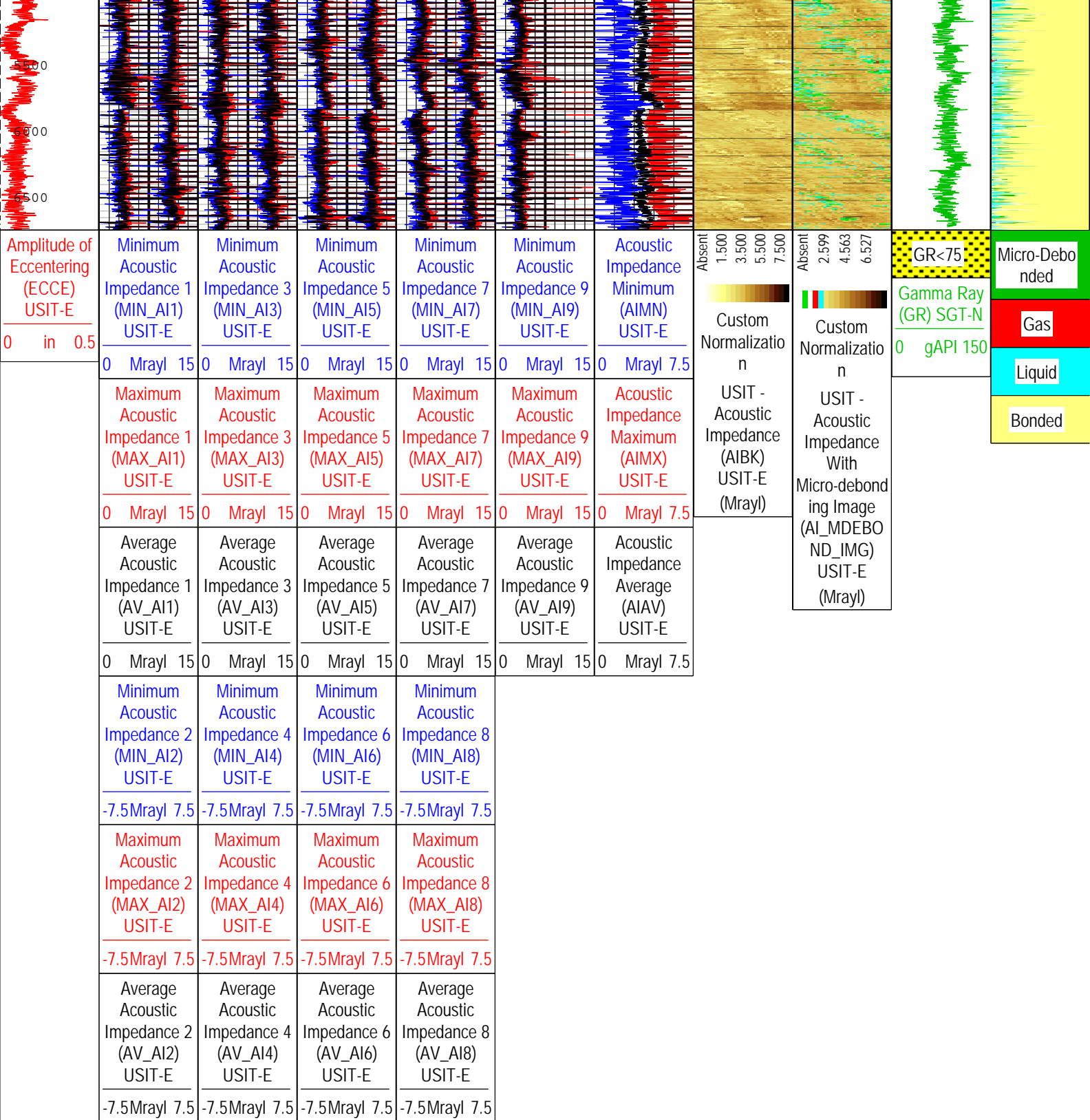
Log	Company:Anadarko Petroleum Company	Well:Benson Farms 12C-23HZ
		Run 1: Main[3]:Up:S004

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 17:16:51

TIME_1900 - Time Marked every 60.00 (s)

Minimum Acoustic Impedance 1 (MIN_AI1) USIT F	Minimum Acoustic Impedance 3 (MIN_AI3) USIT F	Minimum Acoustic Impedance 5 (MIN_AI5) USIT F	Minimum Acoustic Impedance 7 (MIN_AI7) USIT F
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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 17:16:51

Copy of USI Composite			
USIT - Fluid Properties Measurement			
Run Name	Pass Name	Start Depth(ft)	Stop Depth(ft)
Run 1	Main[2]:Up	6744.1	28.48
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	1.82	1.82
200	1000	1.83	1.83
1000	2300	1.84	1.84
2300	3300	1.85	1.85
3300		1.86	1.86

Run 1

0 PSI Pass

Log






Company:Anadarko Petroleum Company

Well:Benson Farms 12C-23HZ

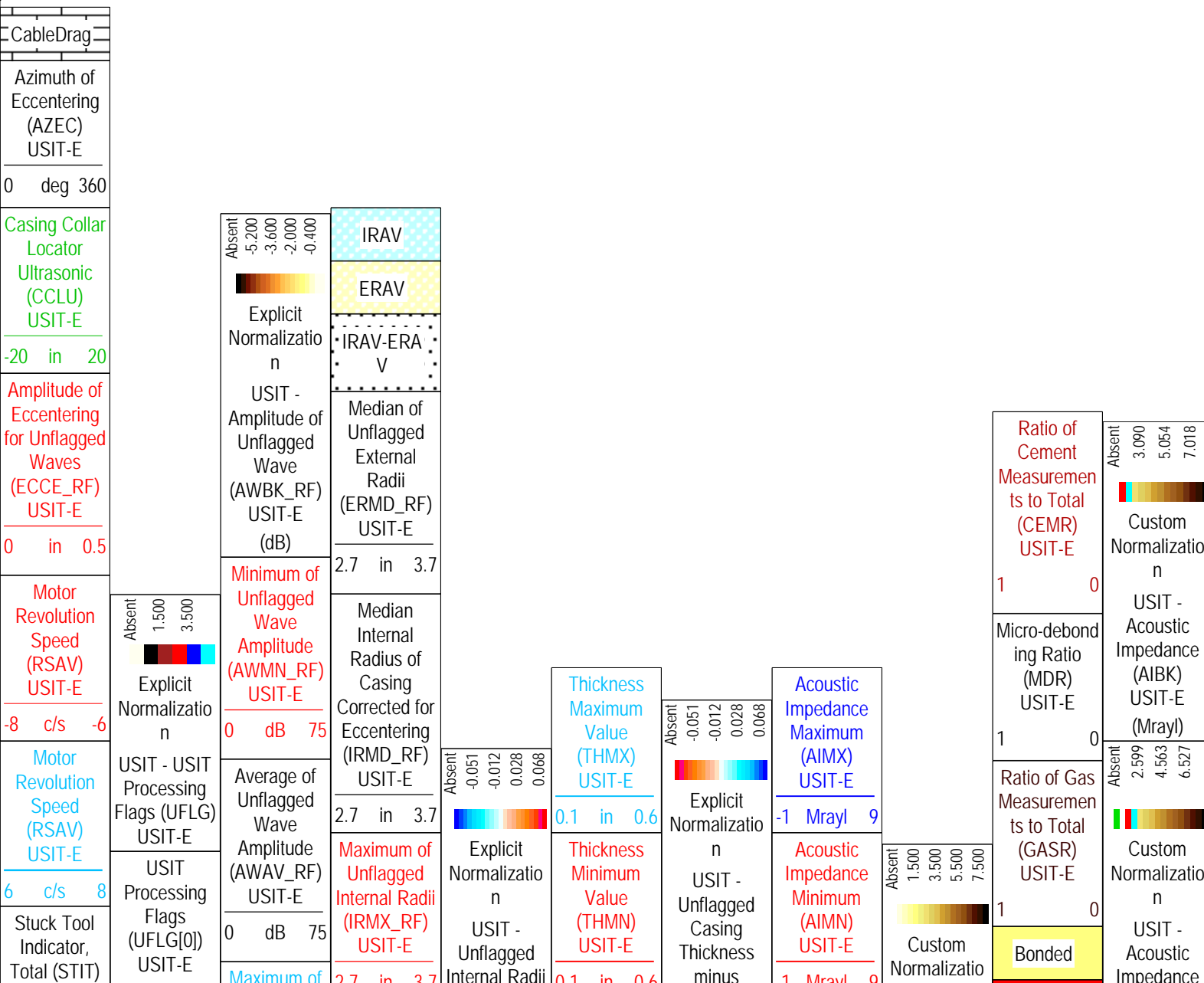
Run 1: Main[2]:Up:S004

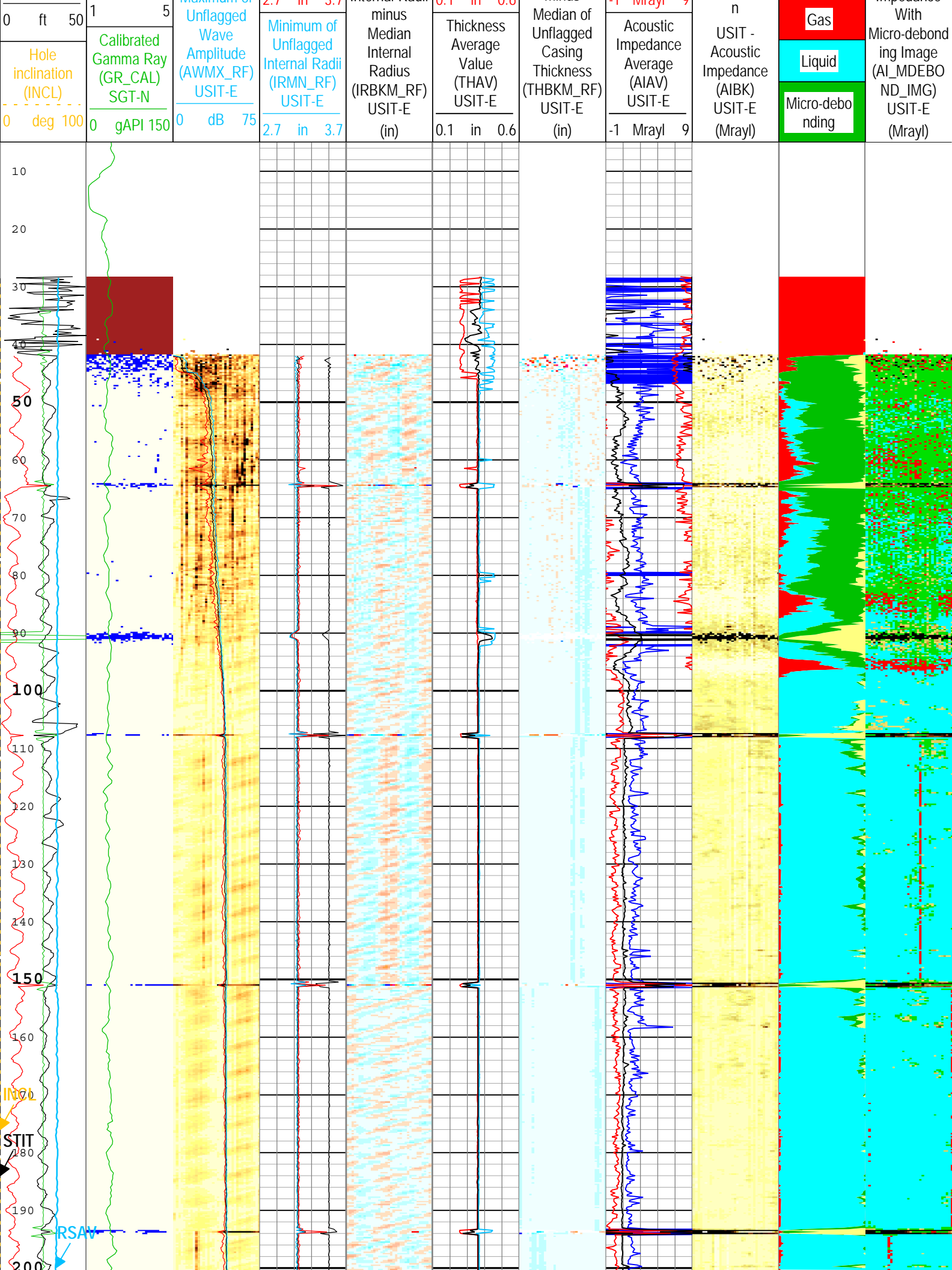
Description: USI Composite Format: USI Composite Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 14-Aug-2014 17:16:56

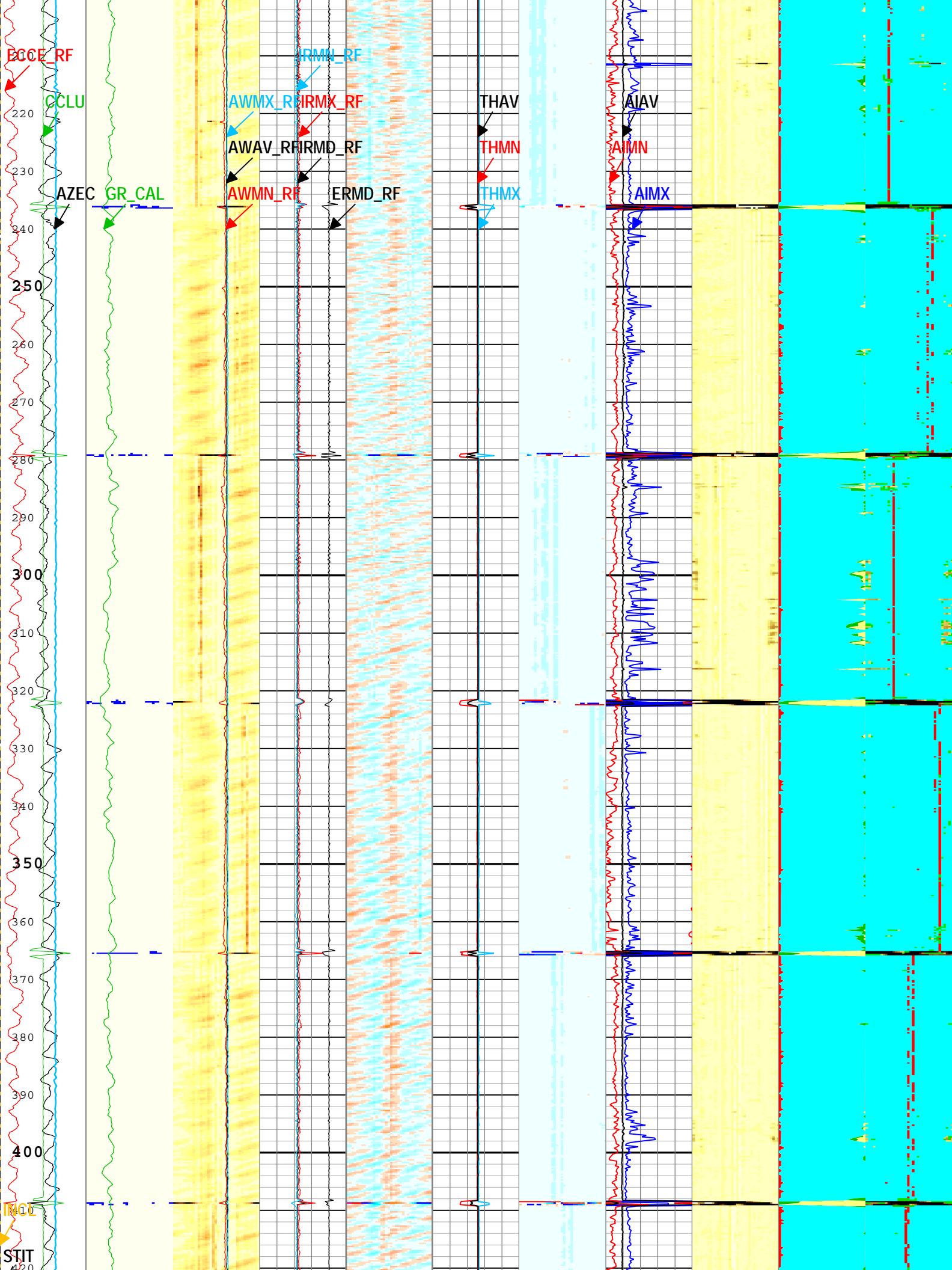
USIT Processing Flags (UFLG[0]) USIT-E

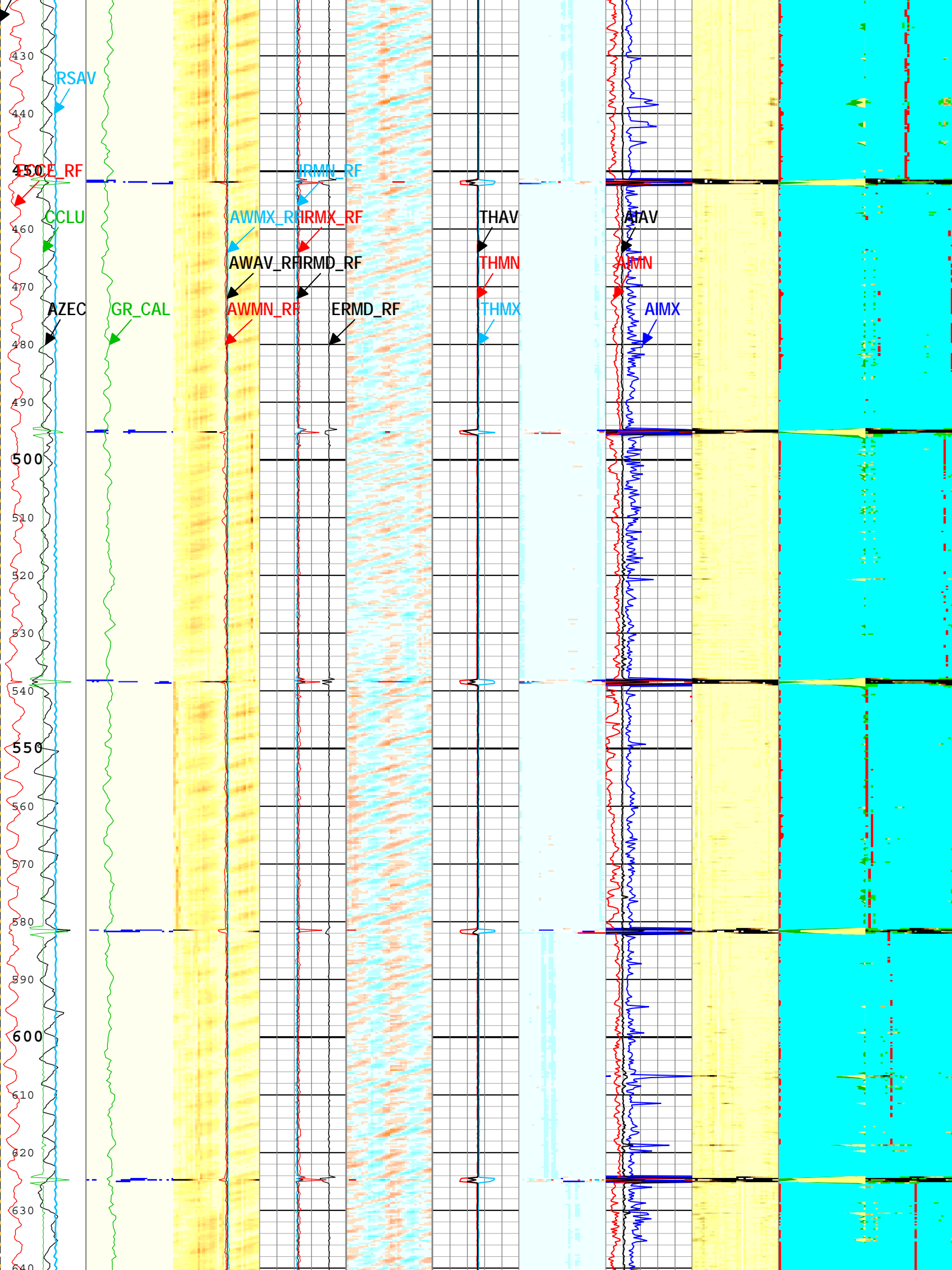
- 1 - UFLG 1 Value within [0.0 - 1.5] - :  UTIM Error
- 2 - UFLG 2 Value within [1.5 - 2.5] - :  Pulse Origin Not Detected
- 3 - UFLG 3 Value within [2.5 - 3.5] - :  WINLEN Error
- 4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - :  Casing Thickness Error
- 5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5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

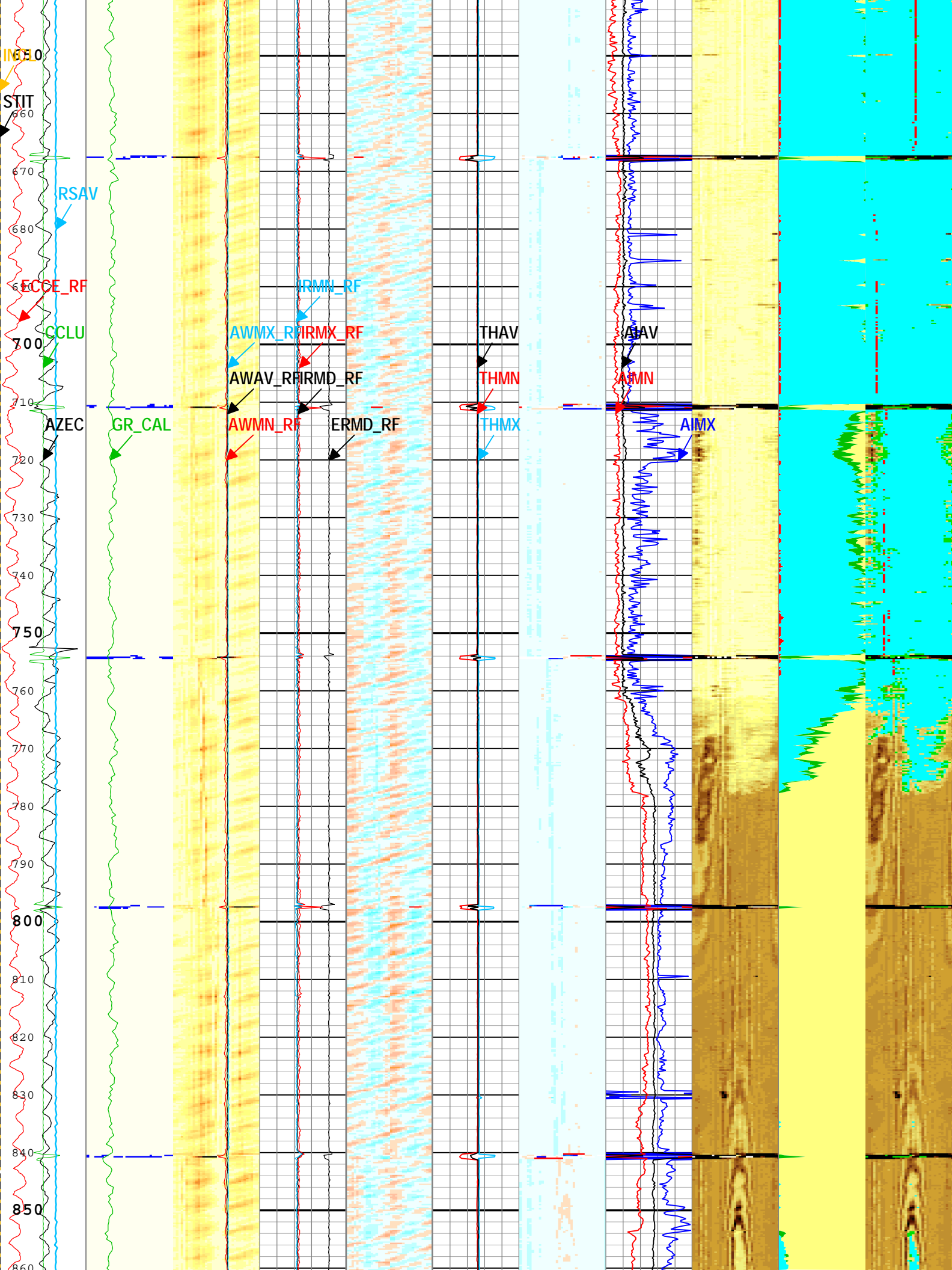
TIME_1900 - Time Marked every 60.00 (s)

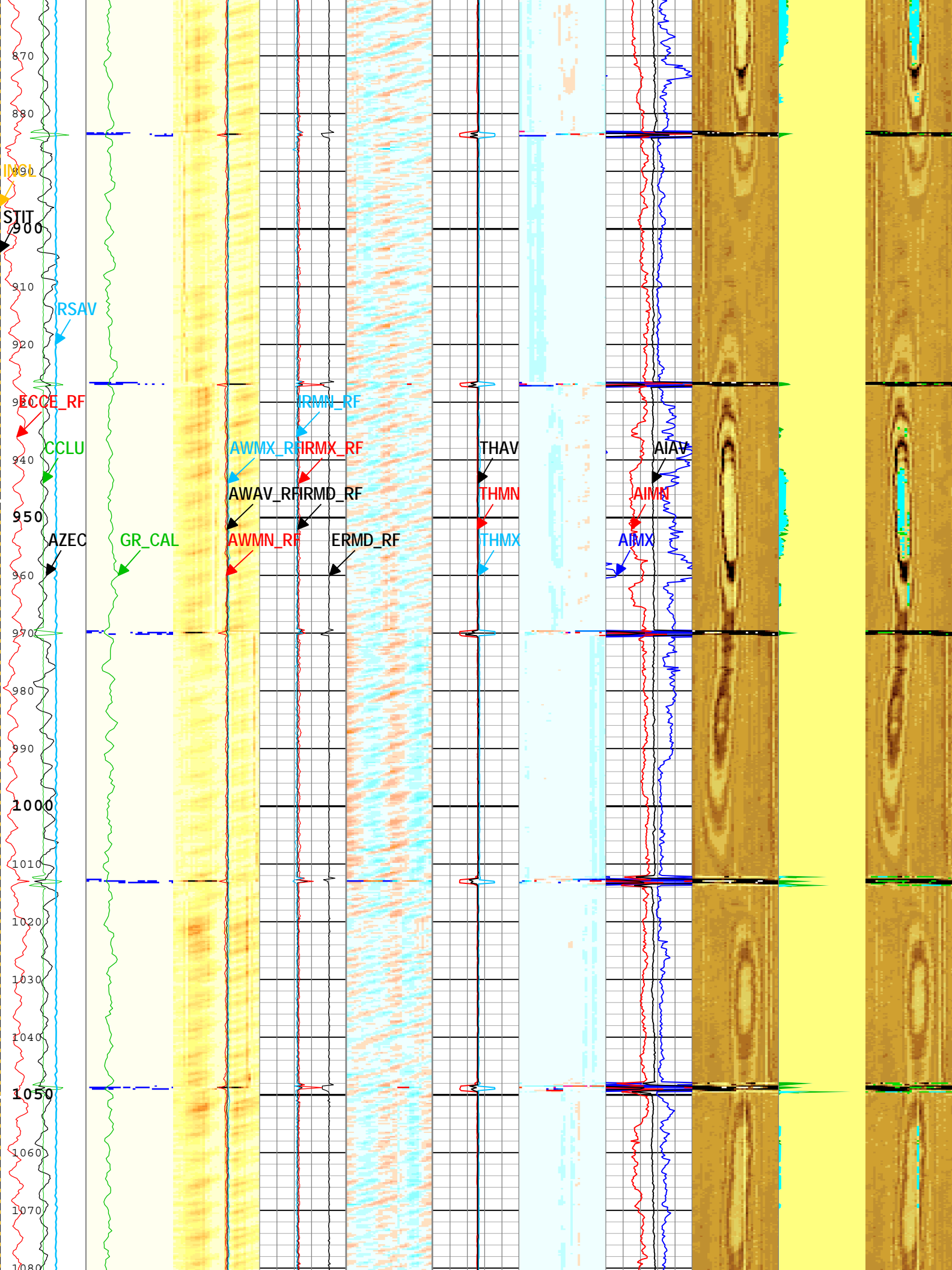


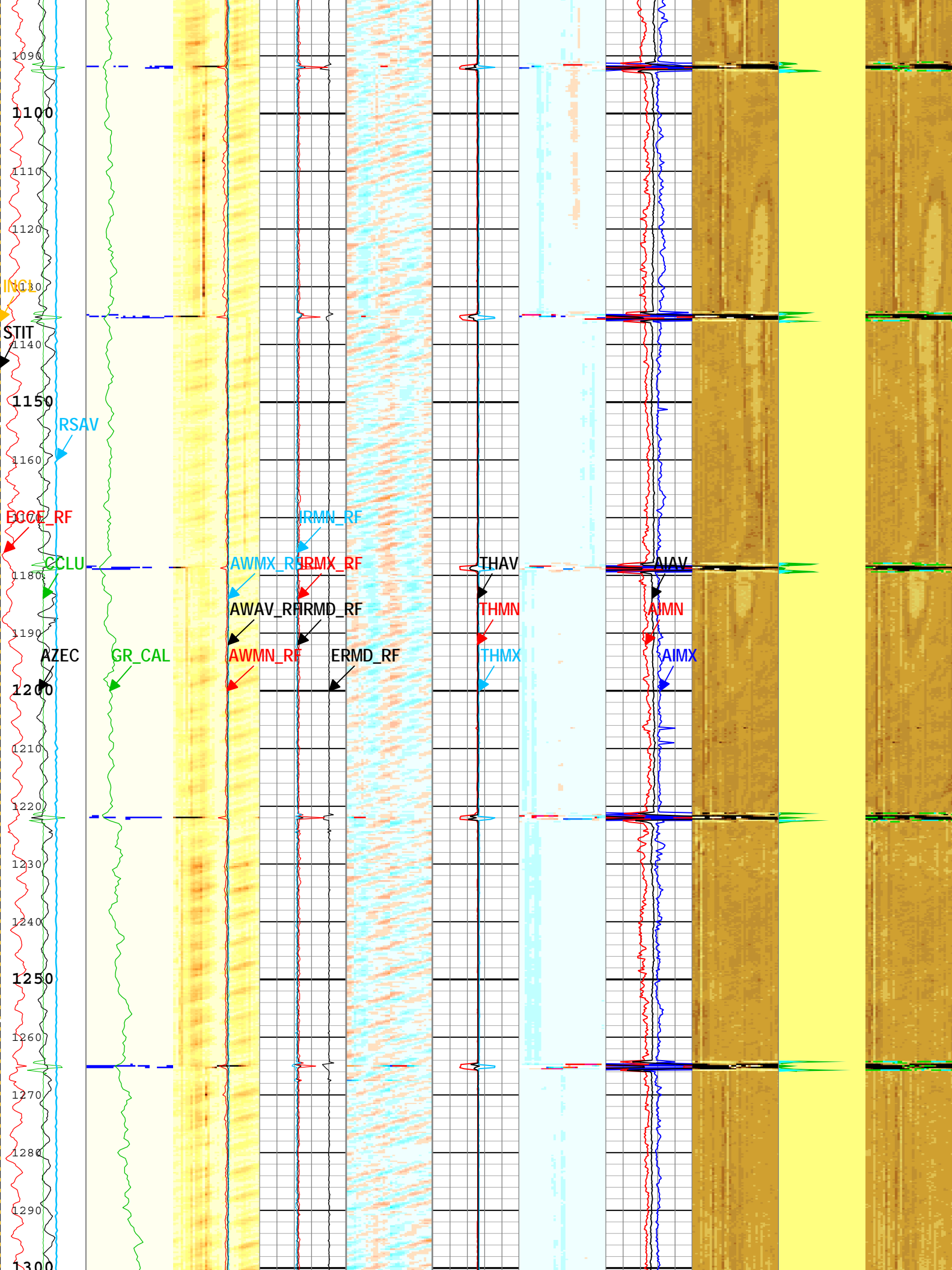


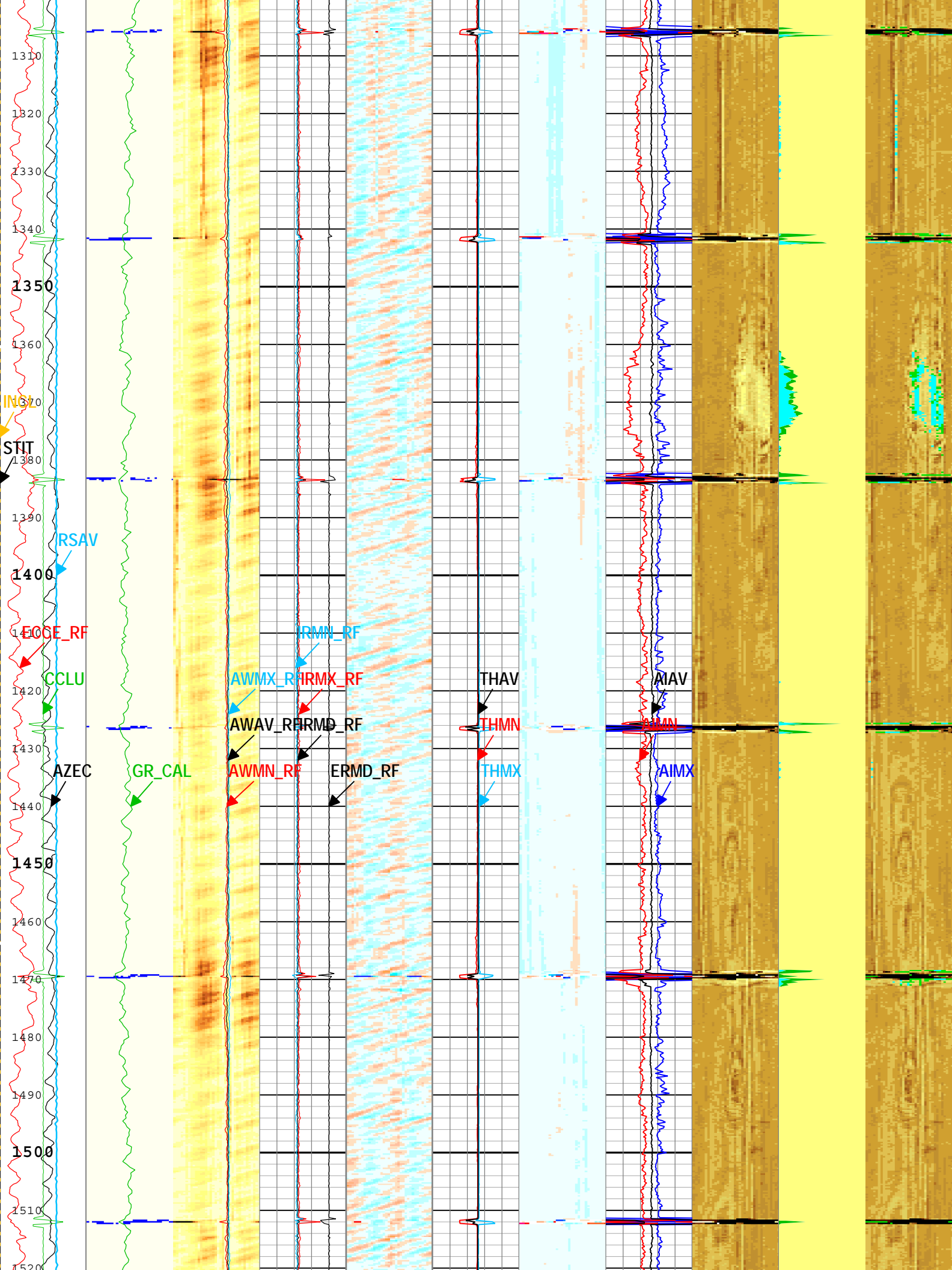


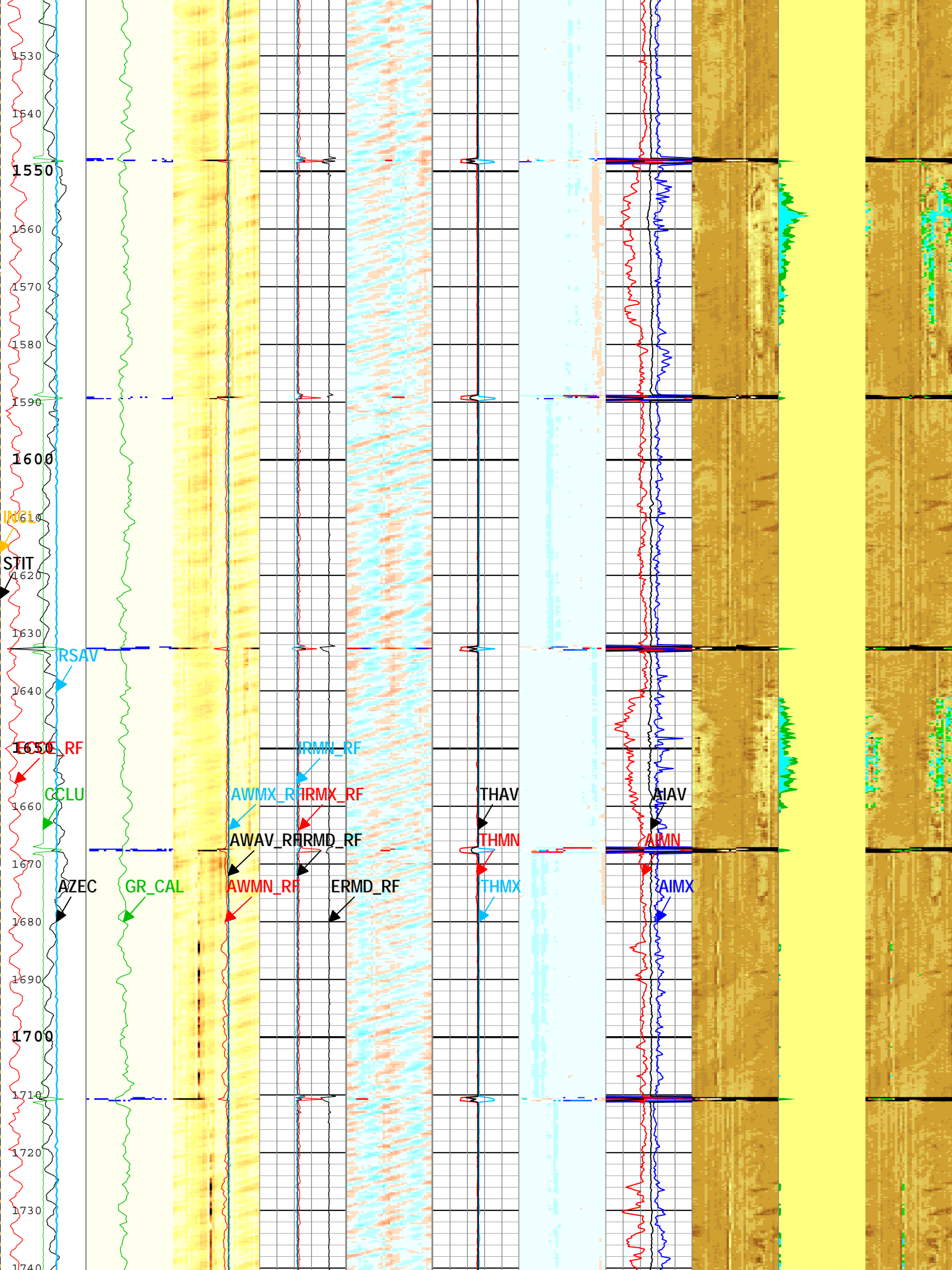


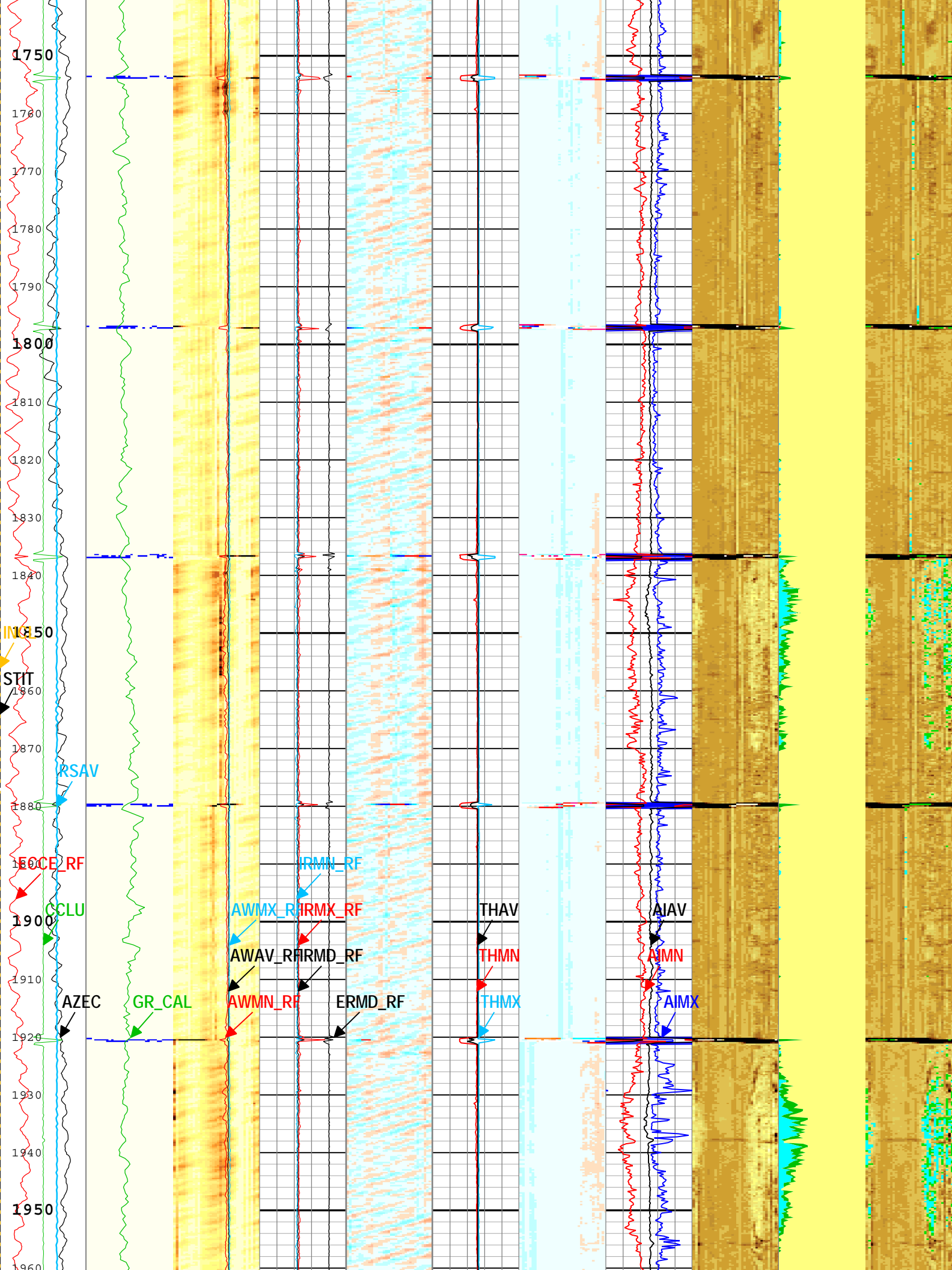


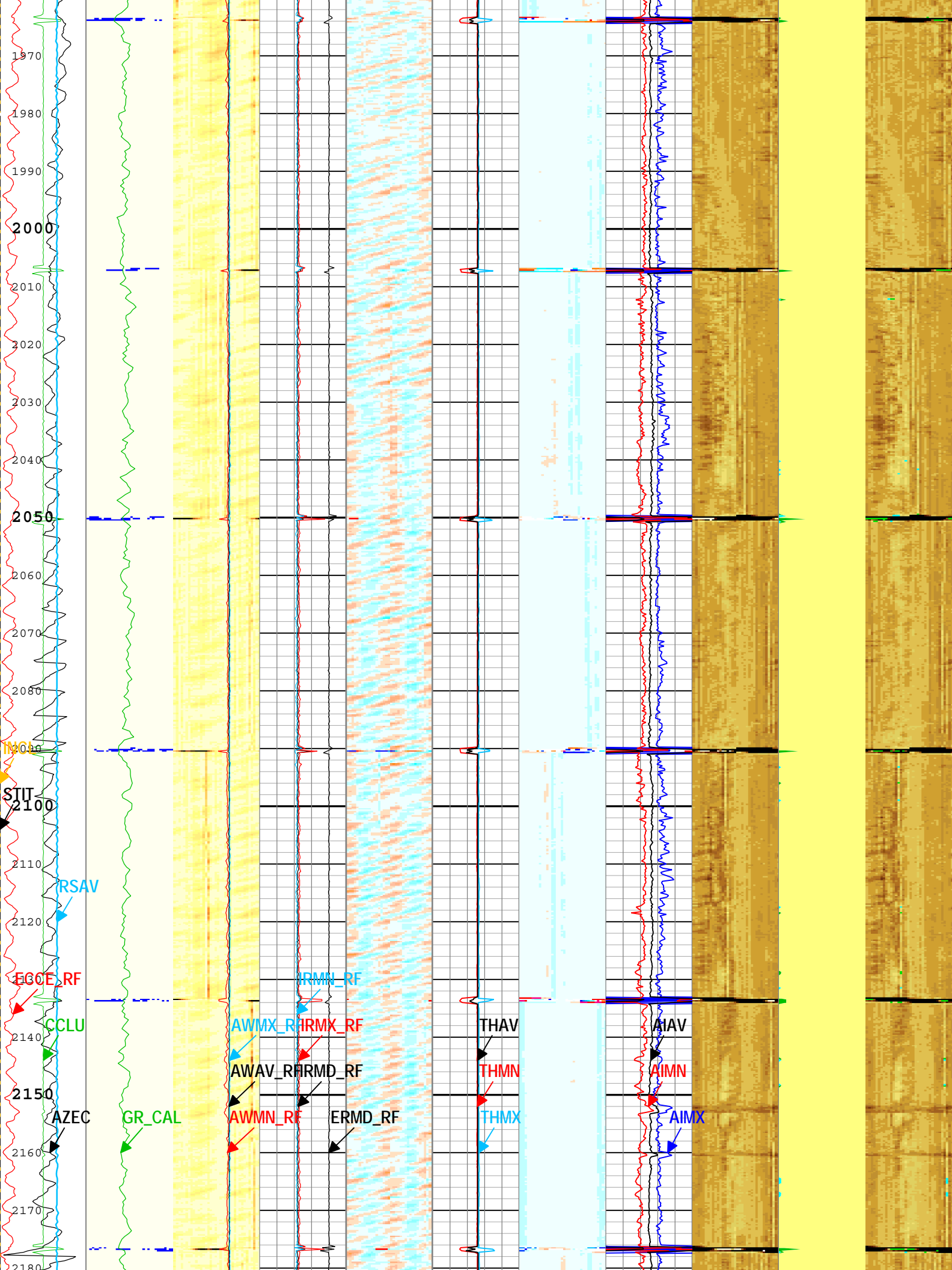


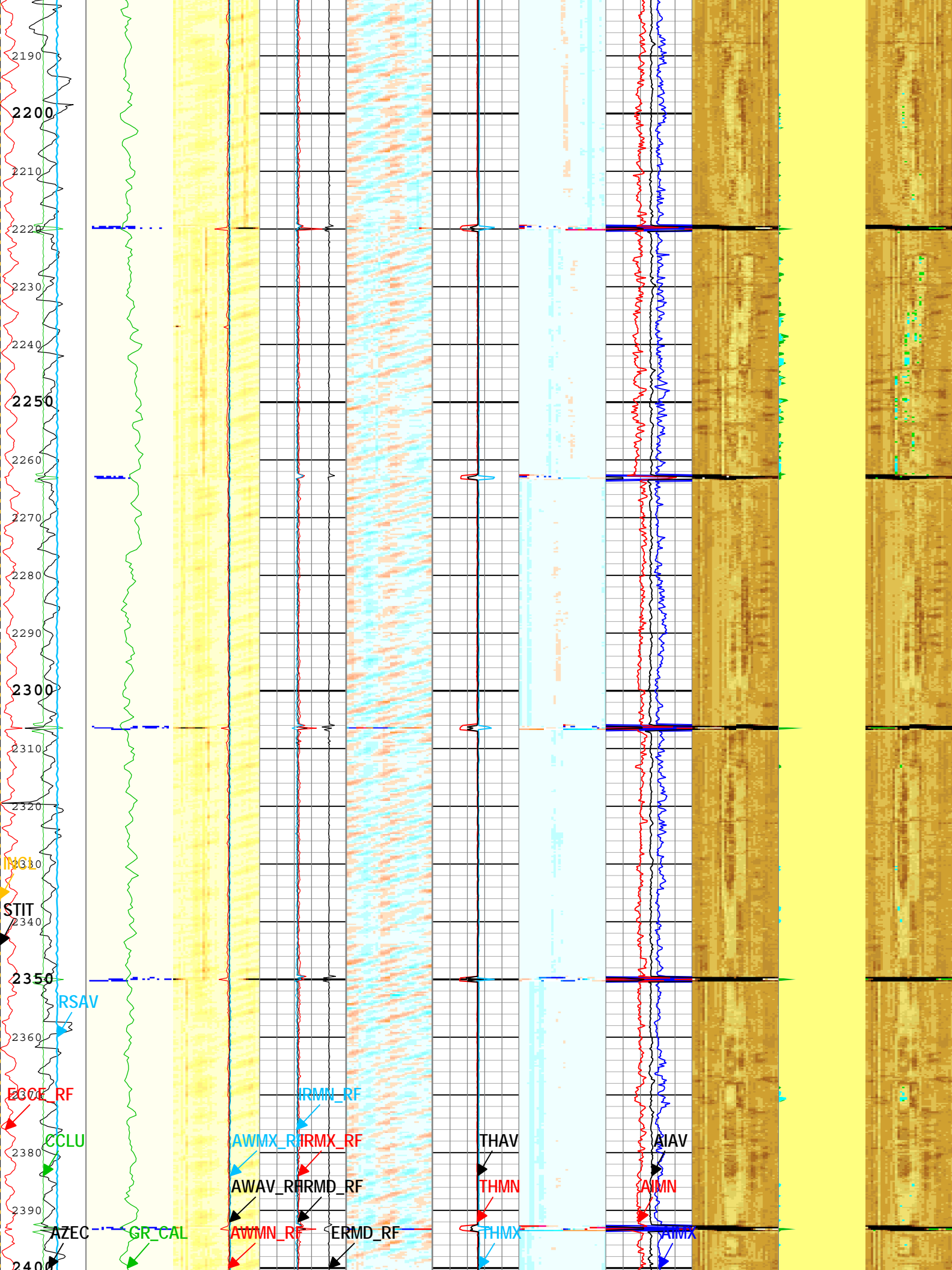


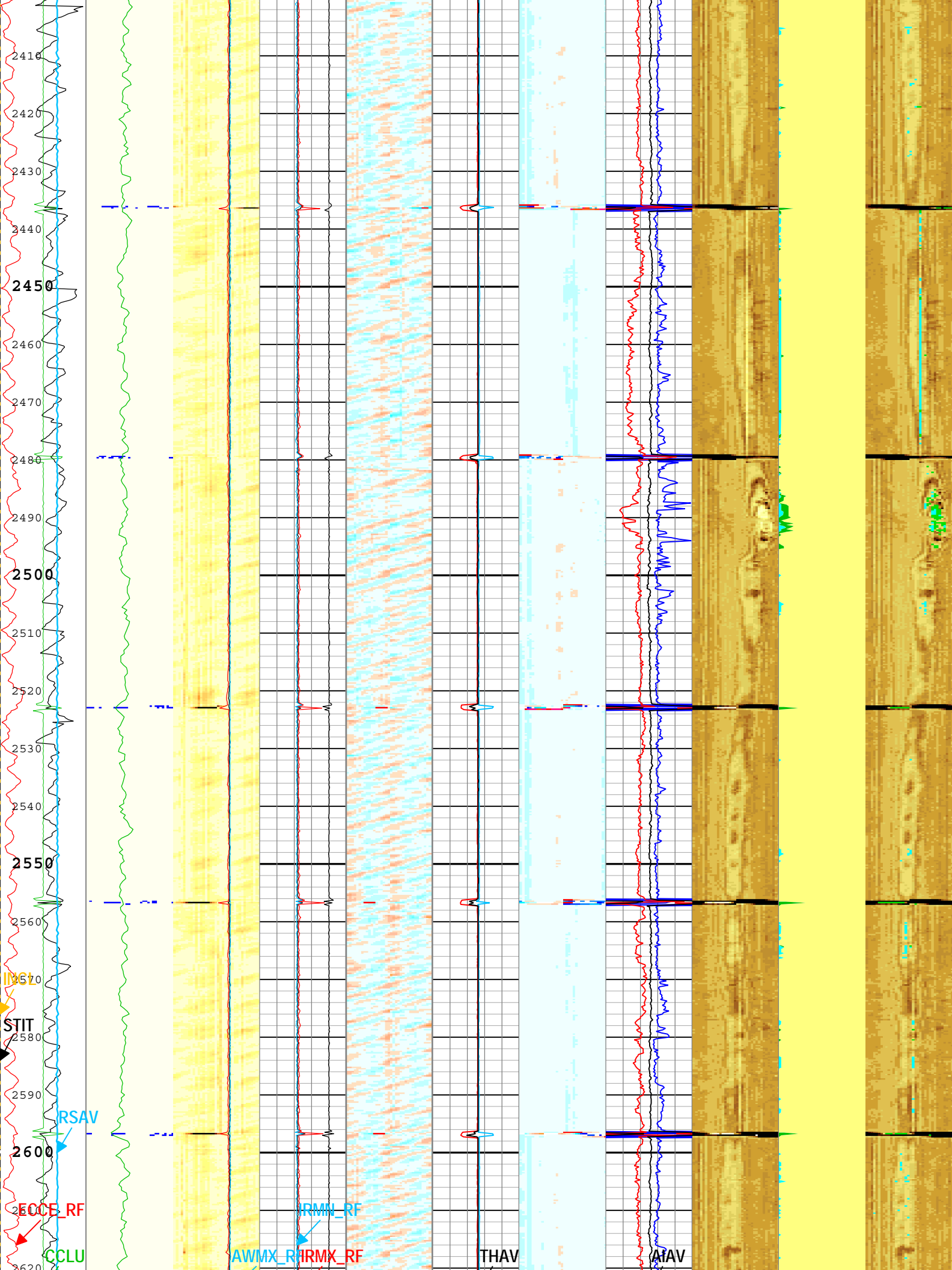


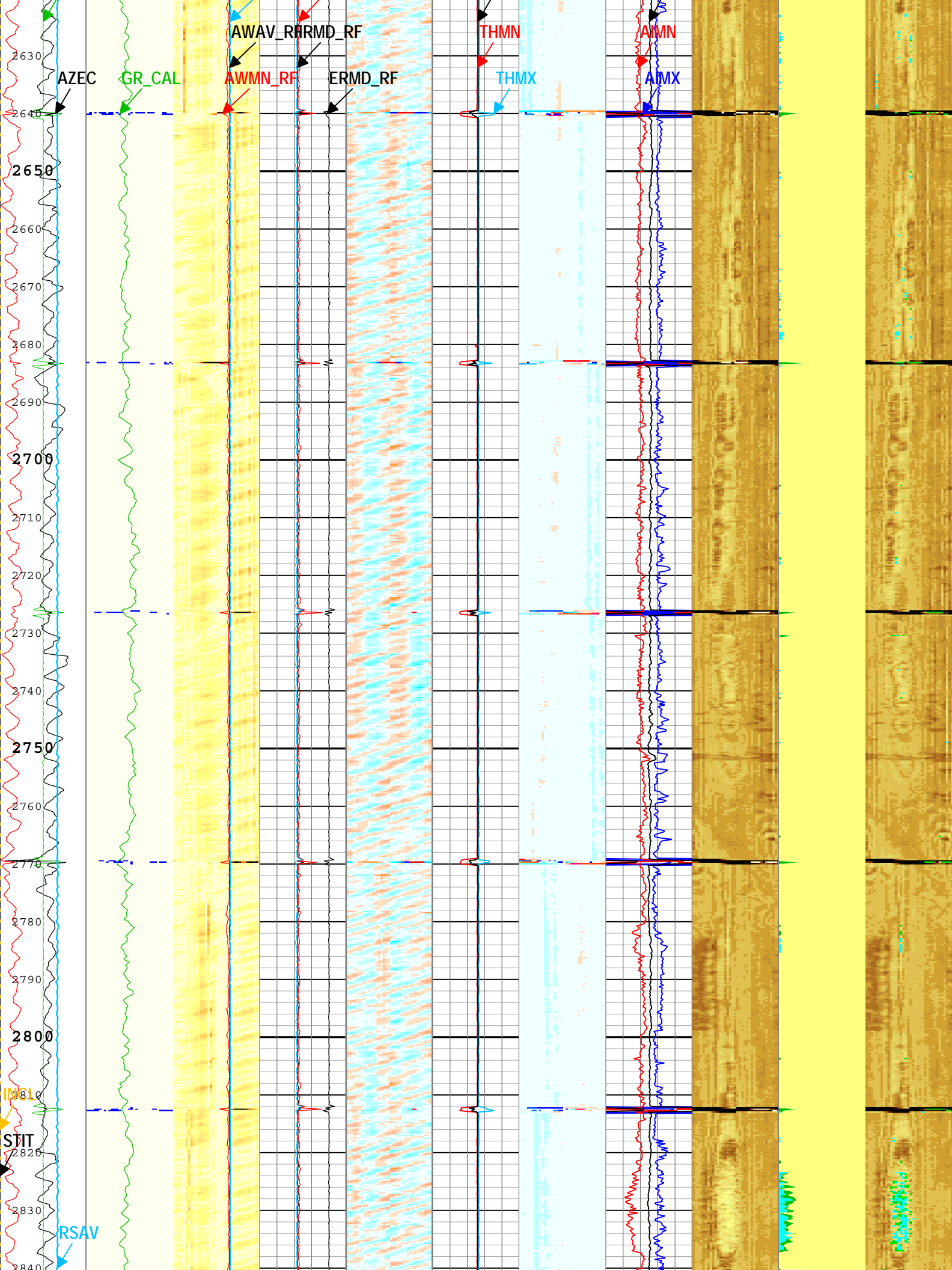


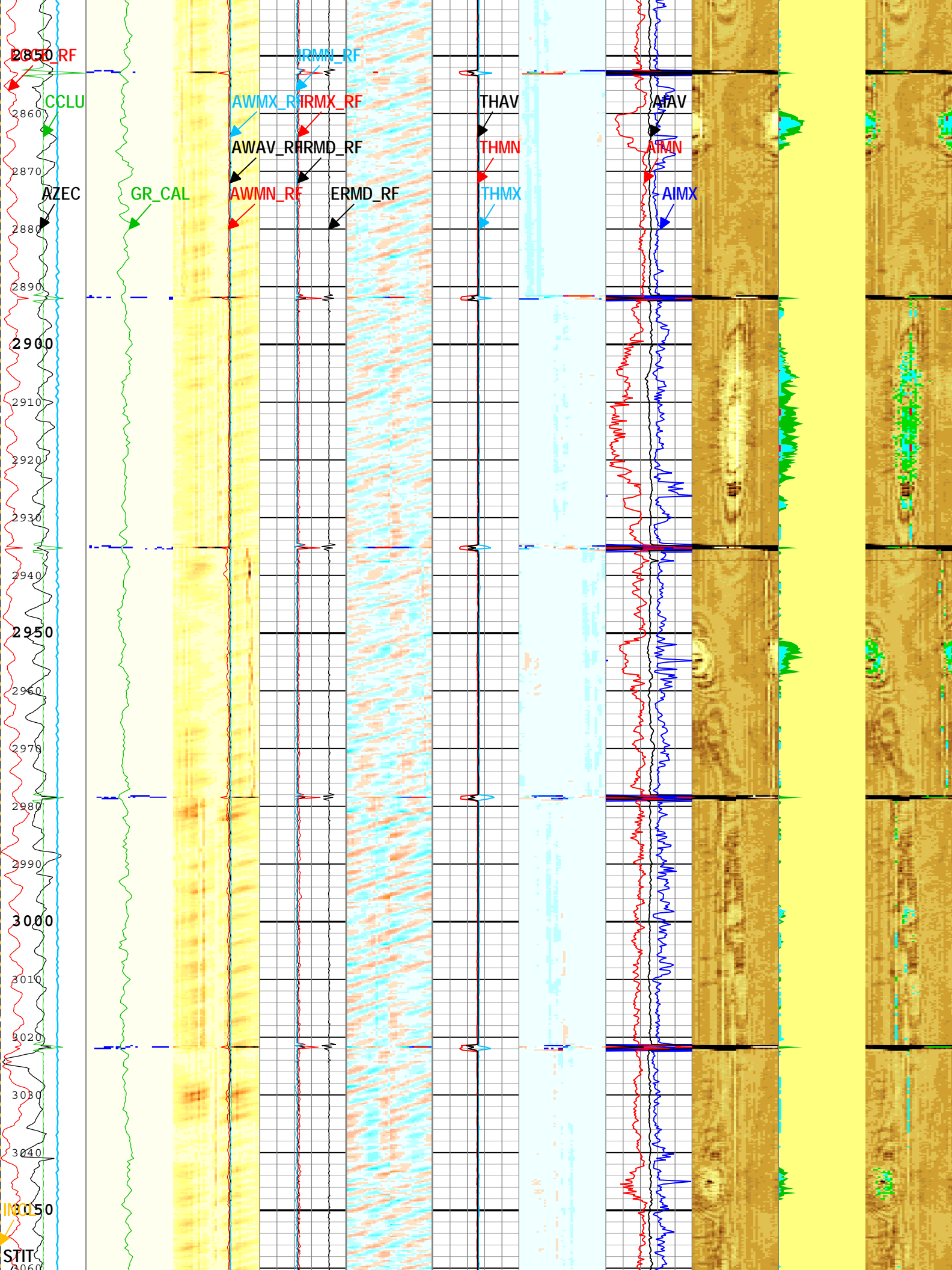


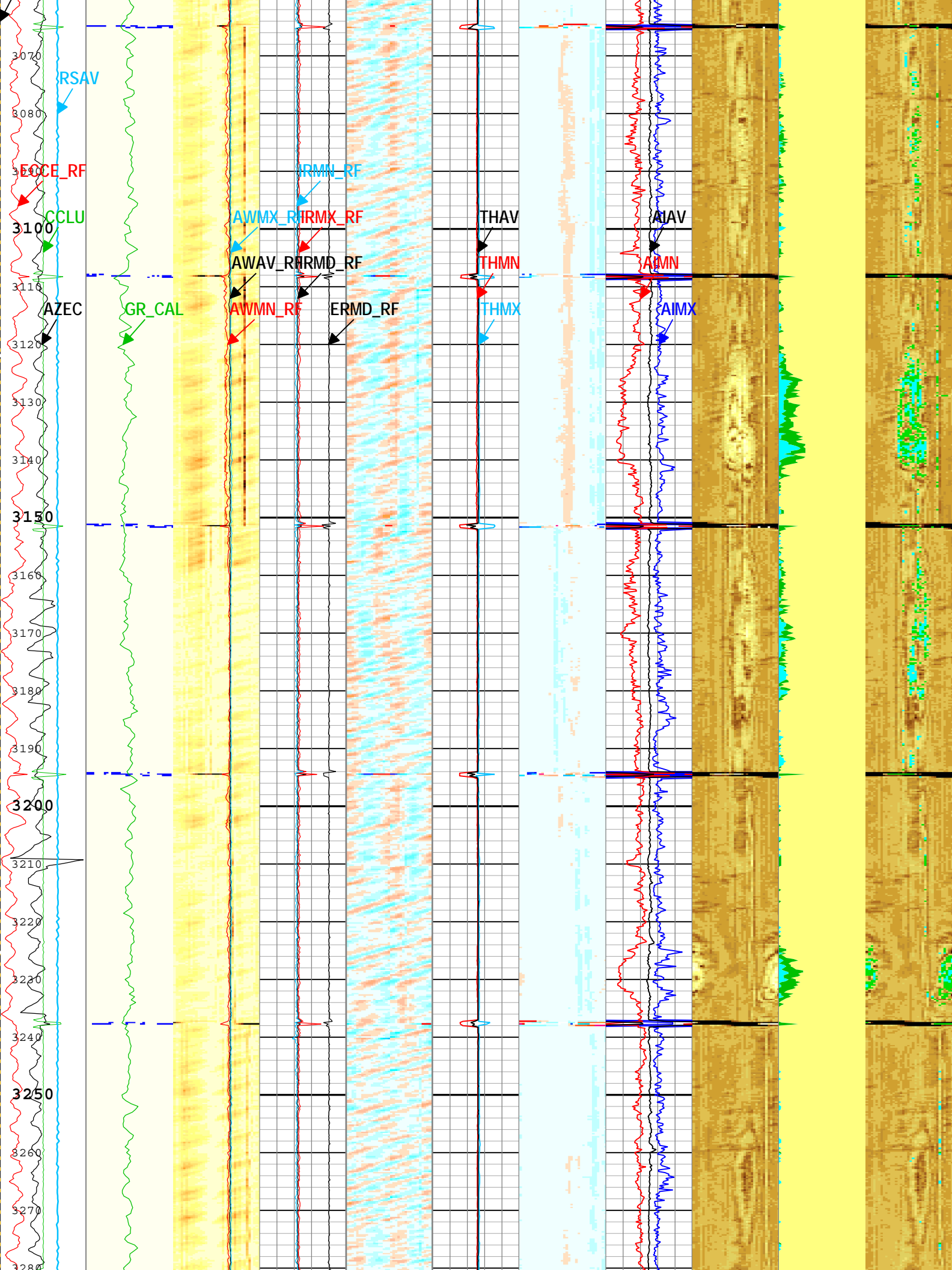


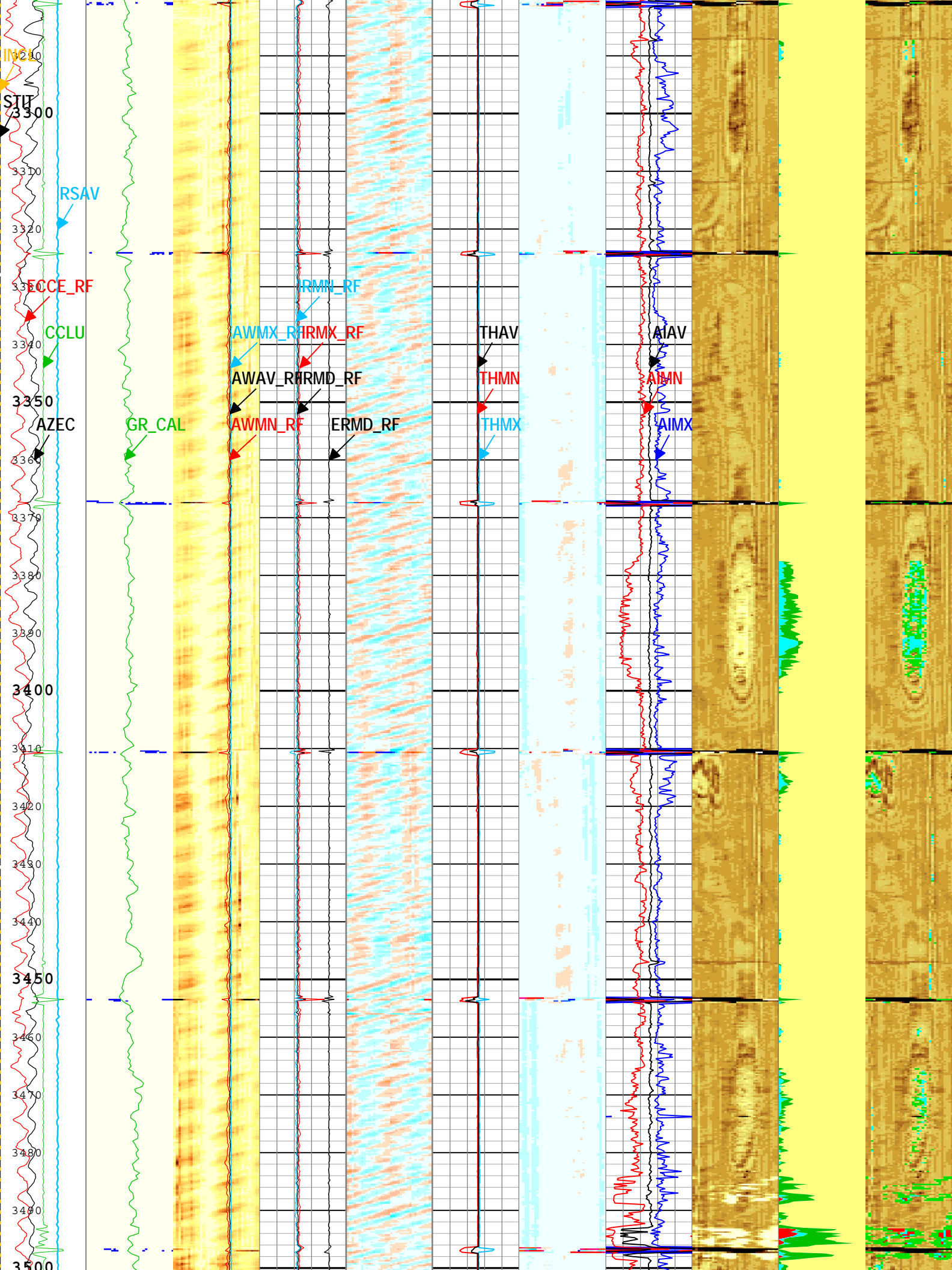


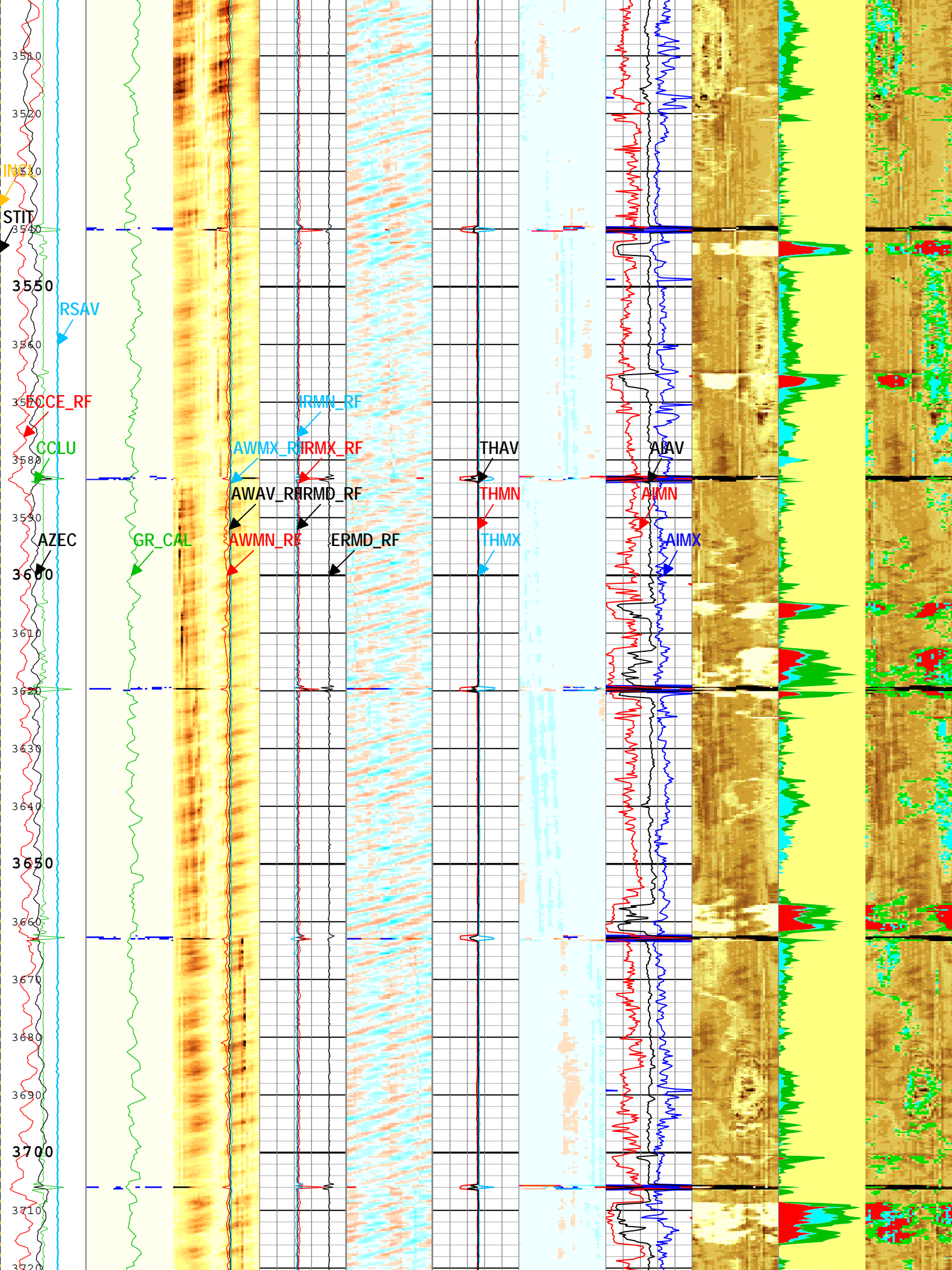


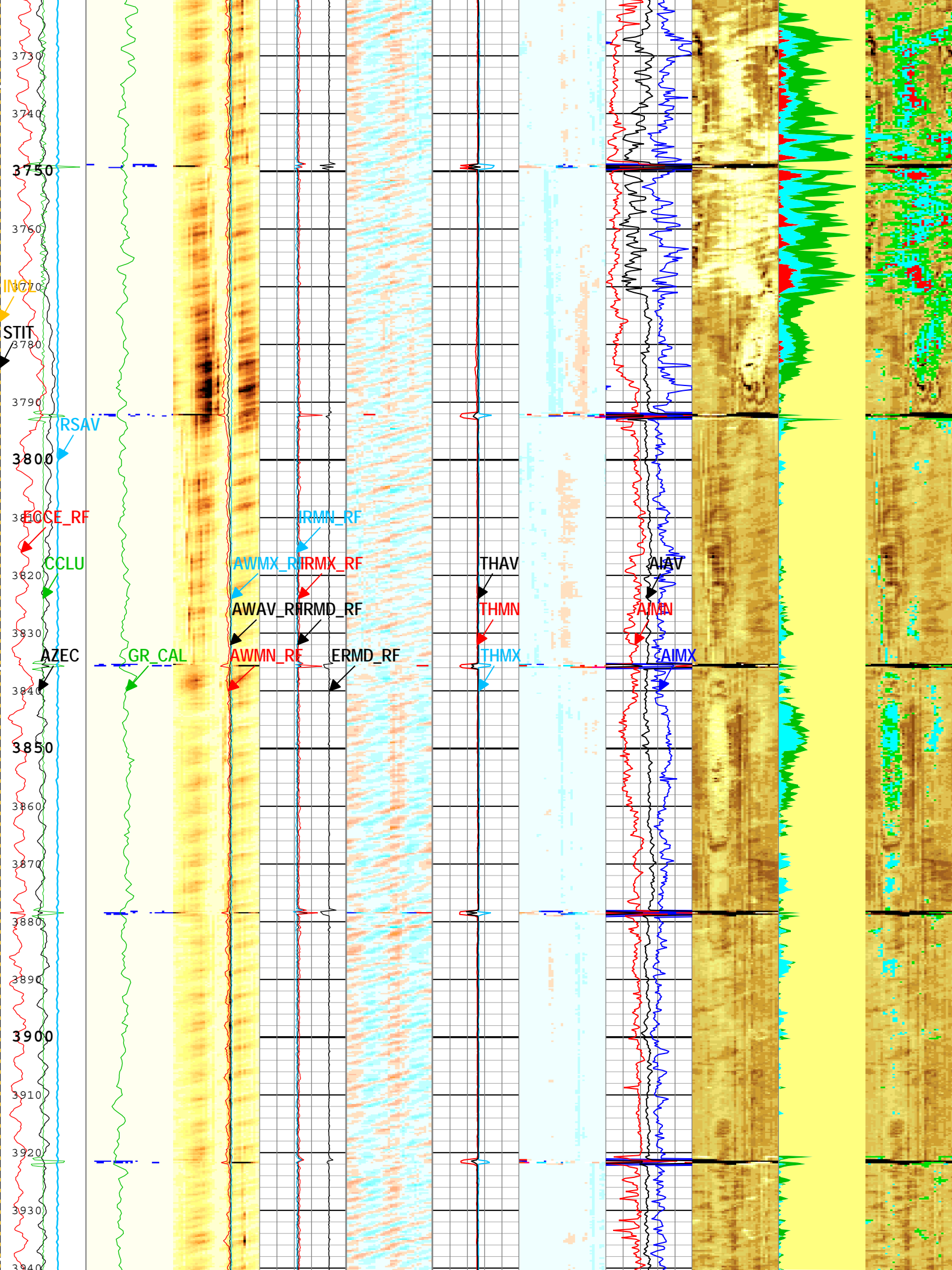


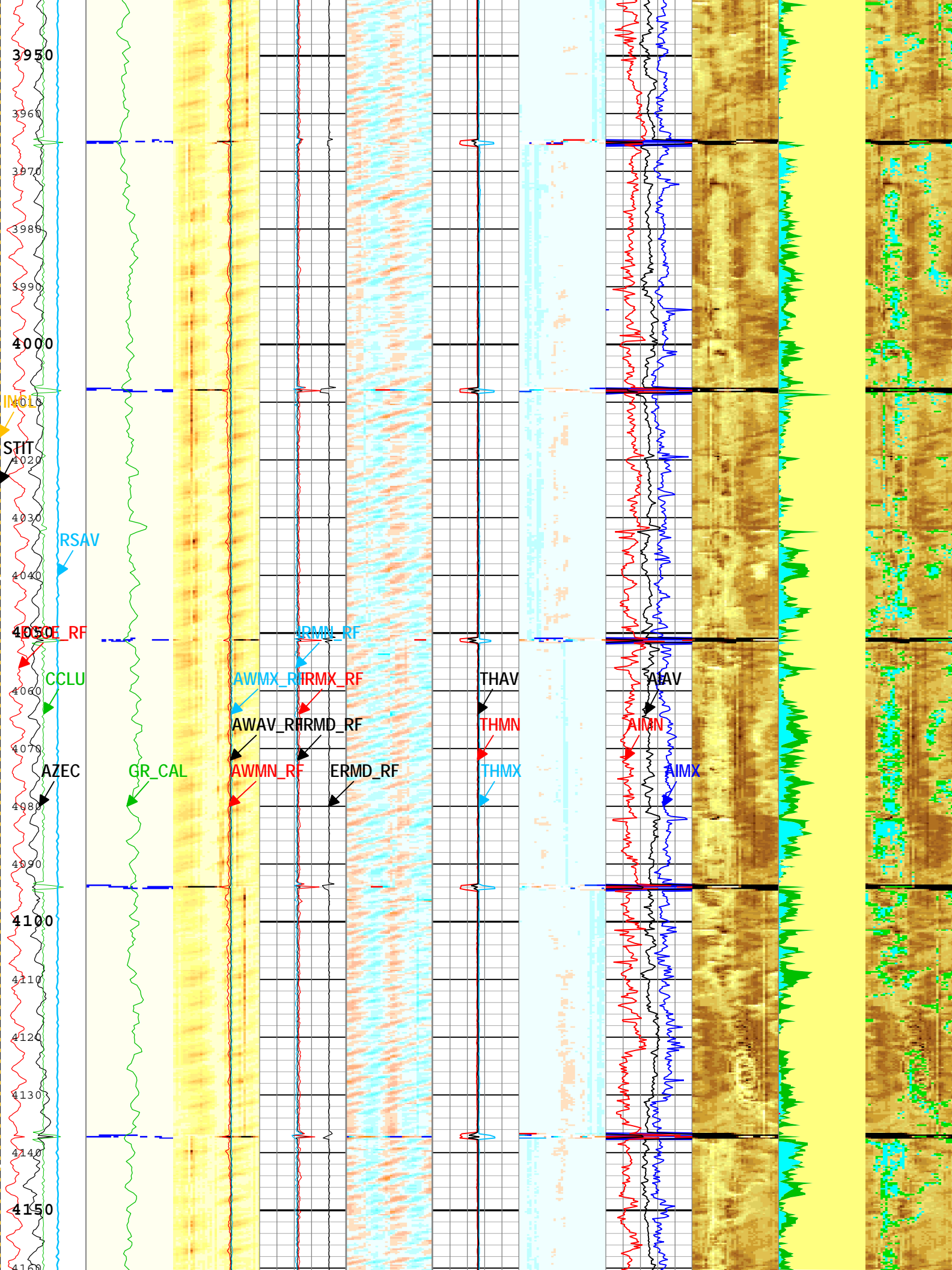


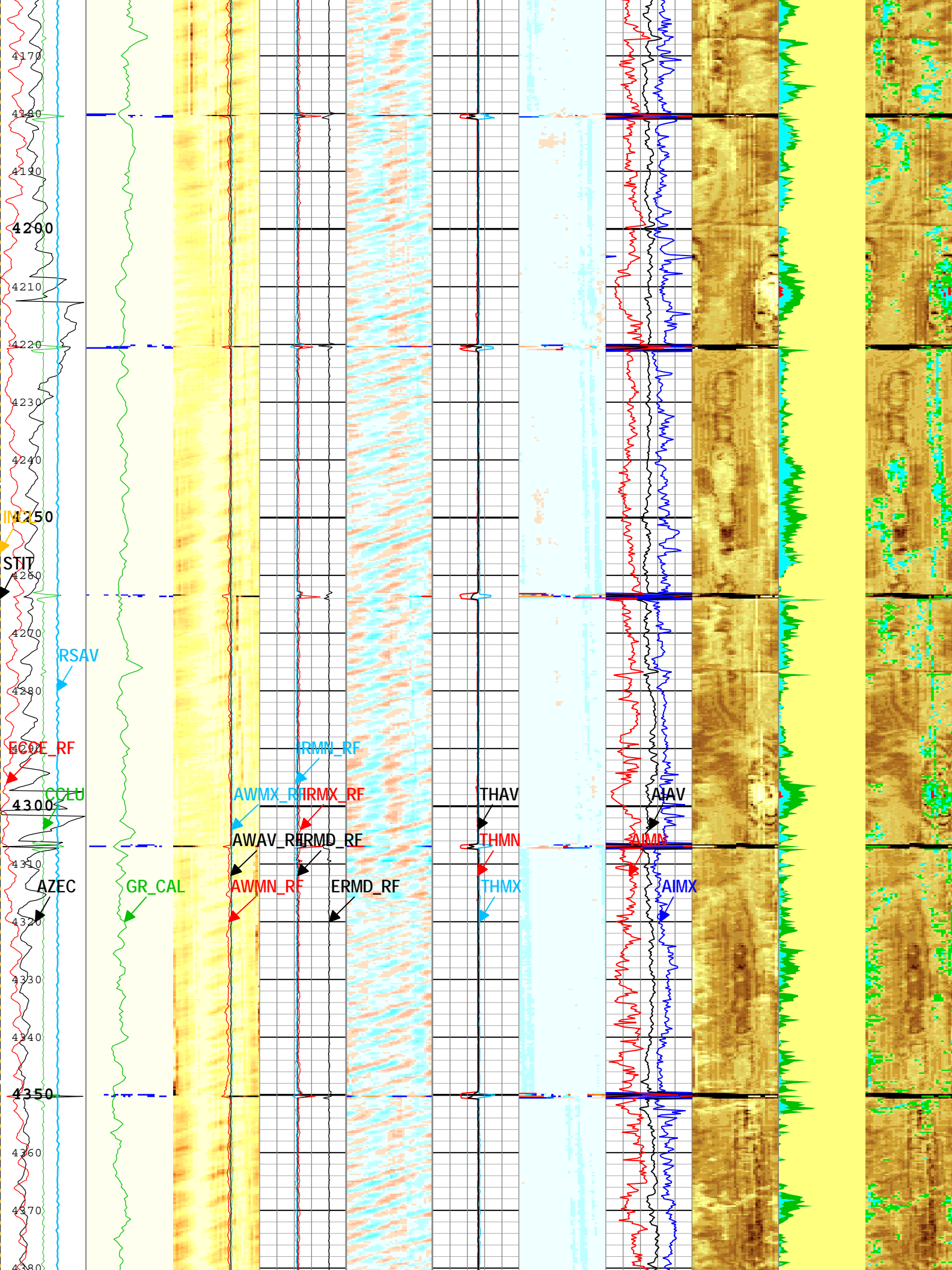


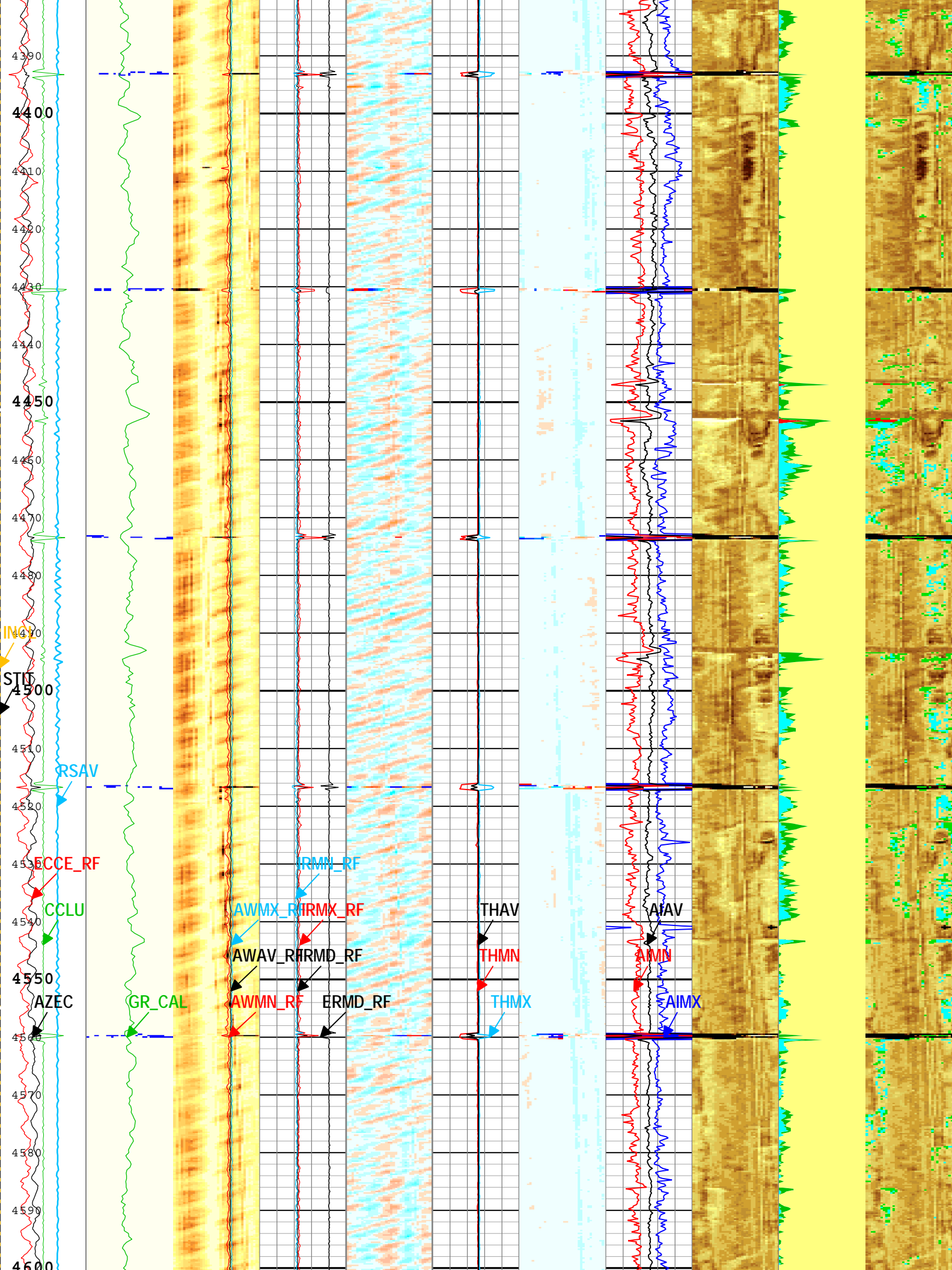


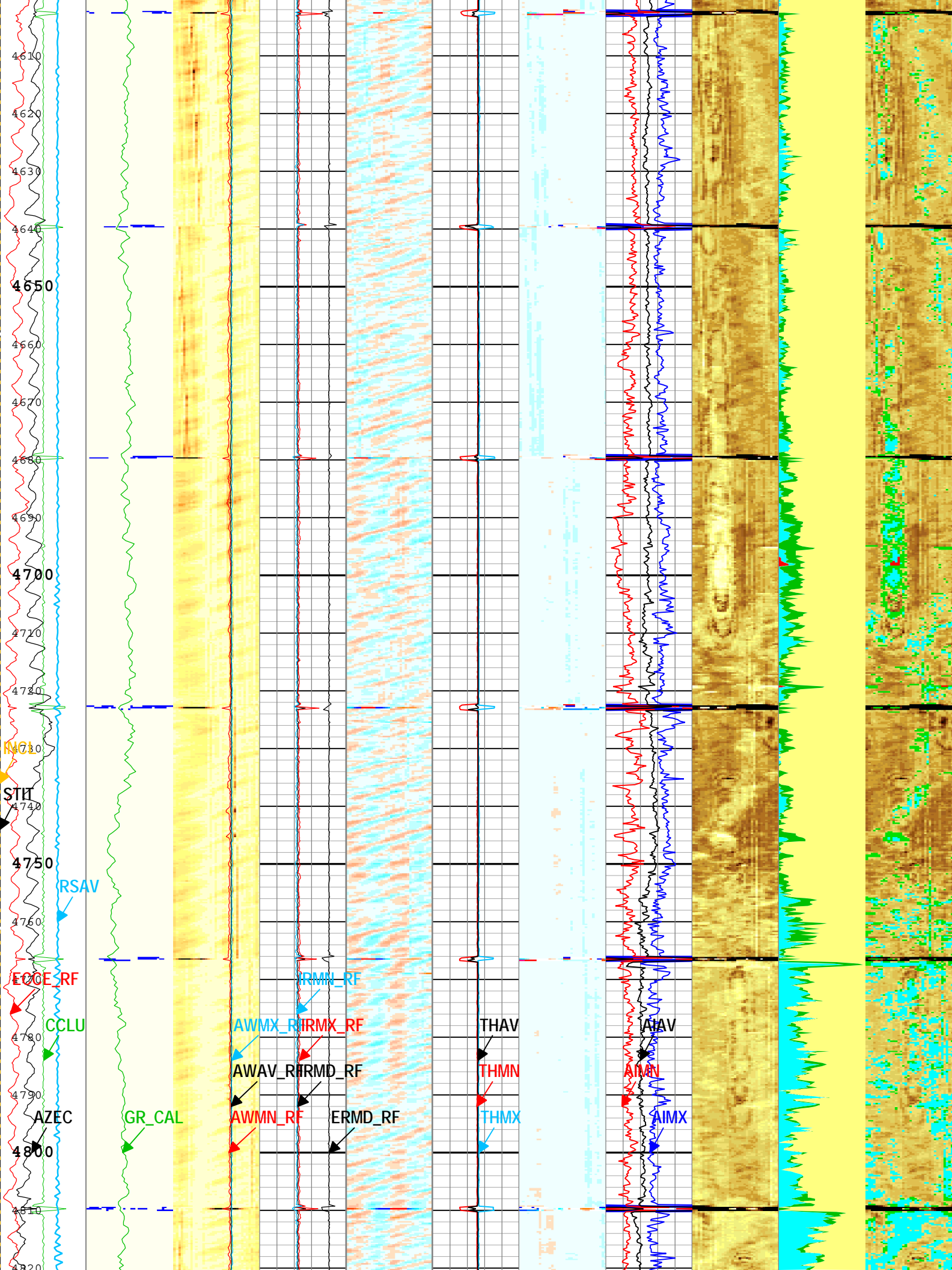


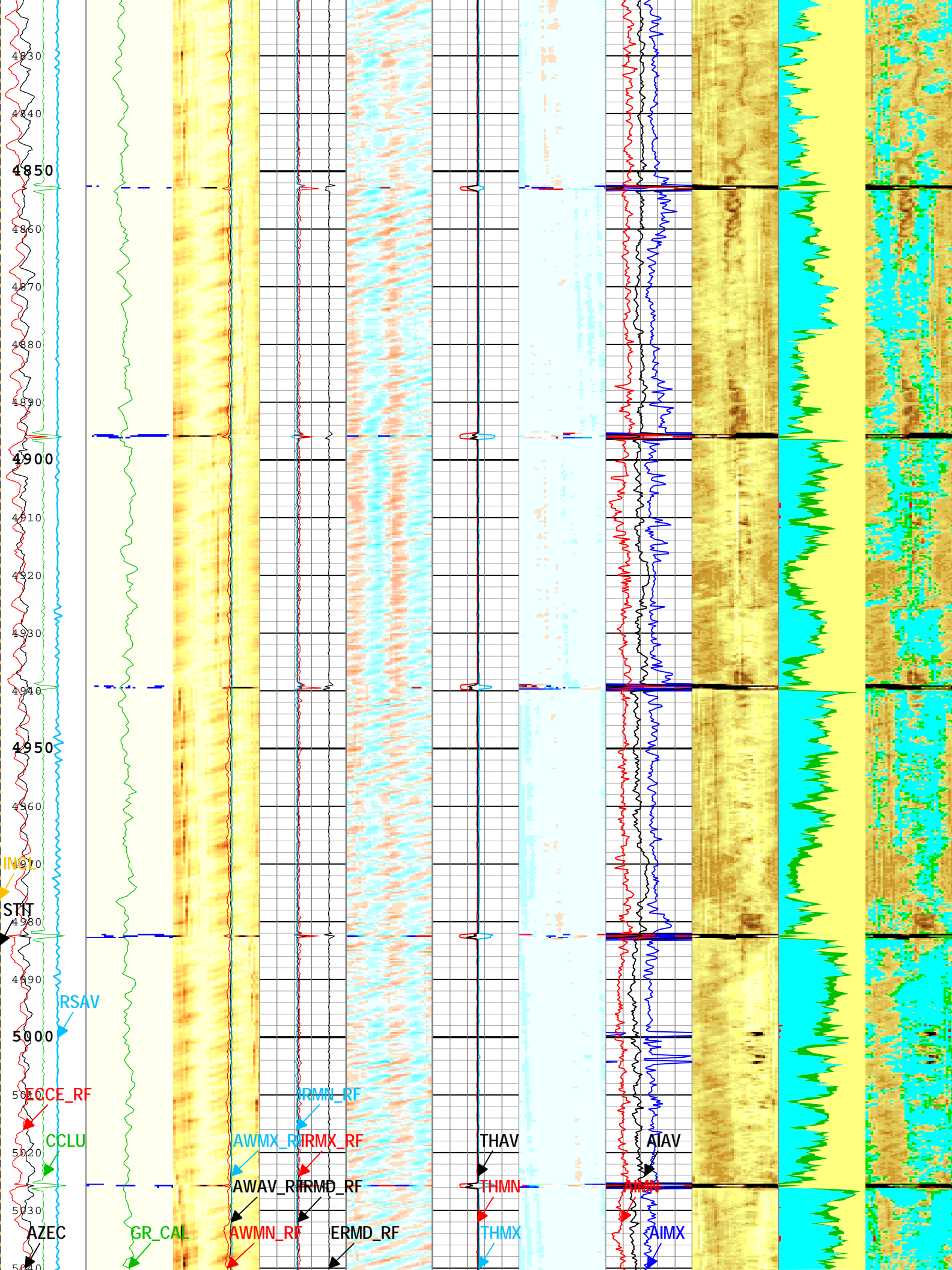


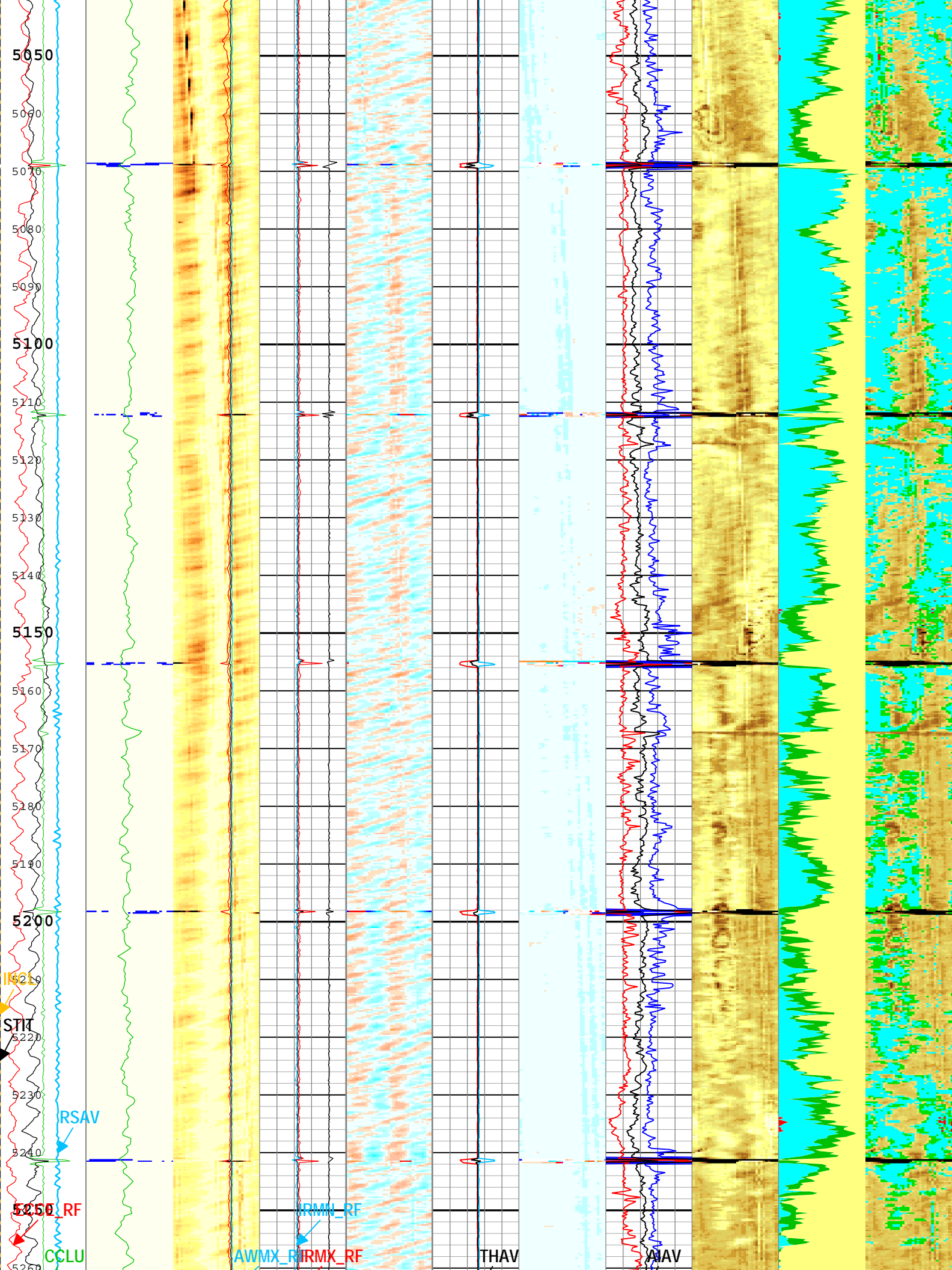


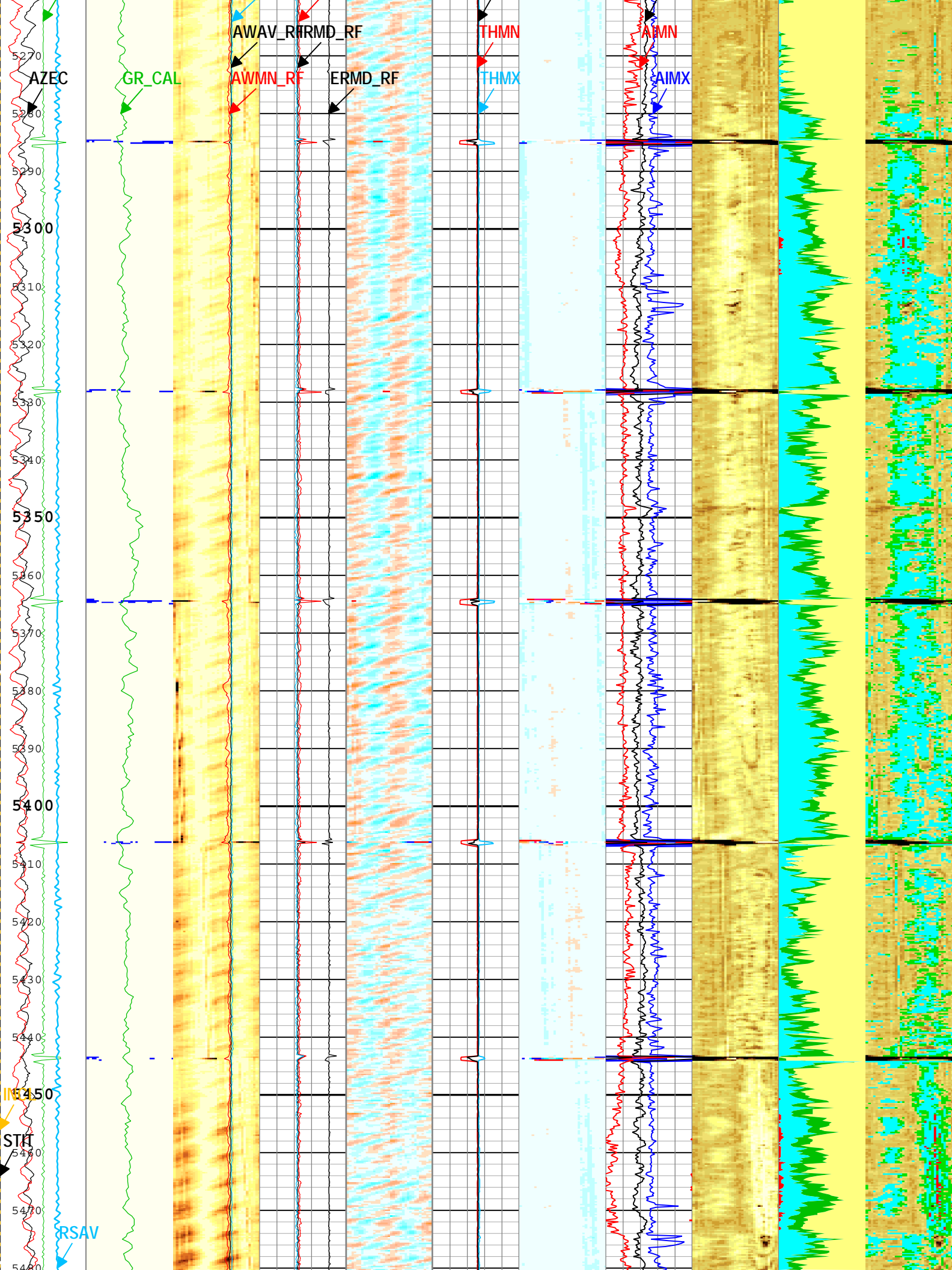


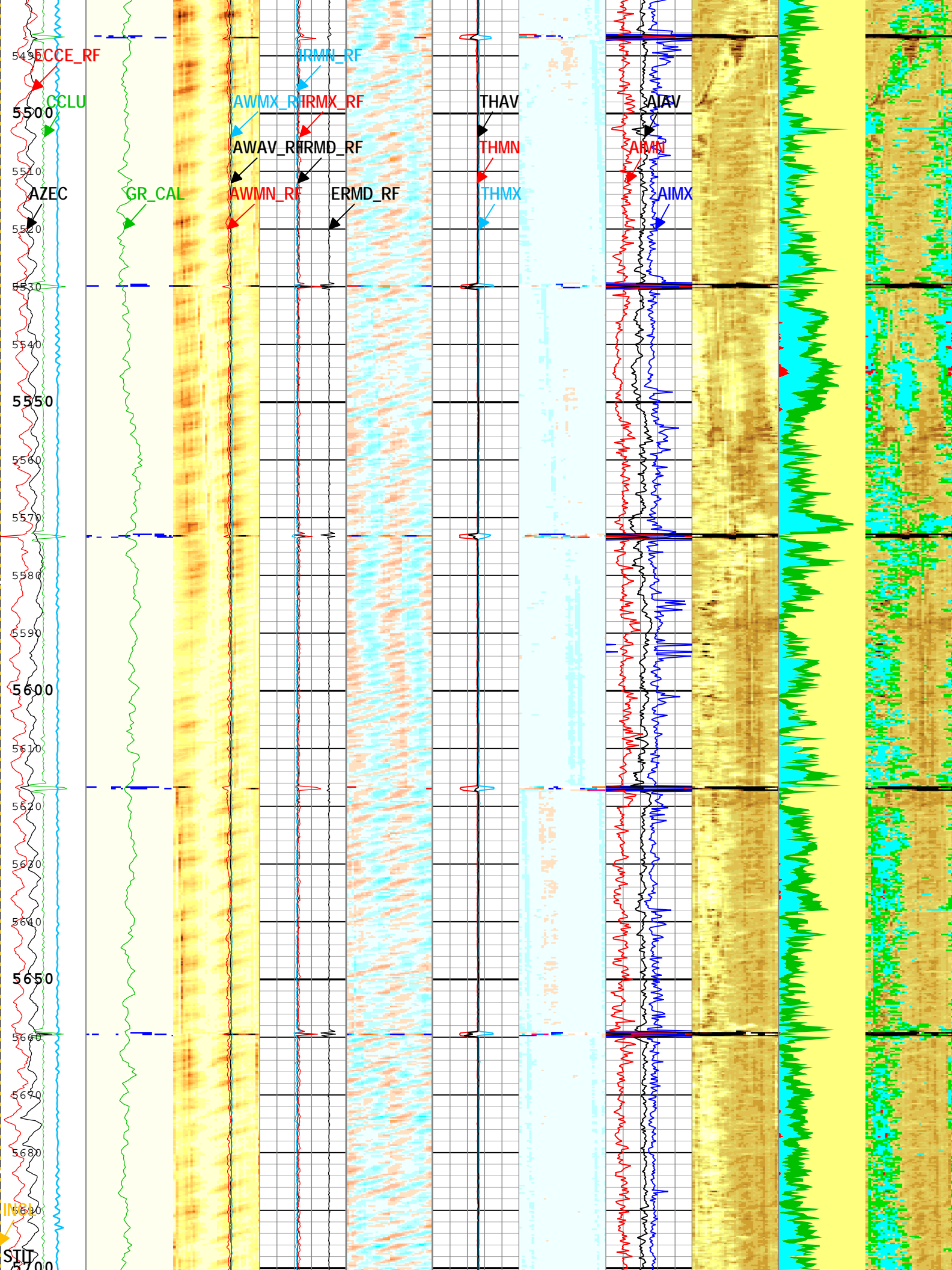


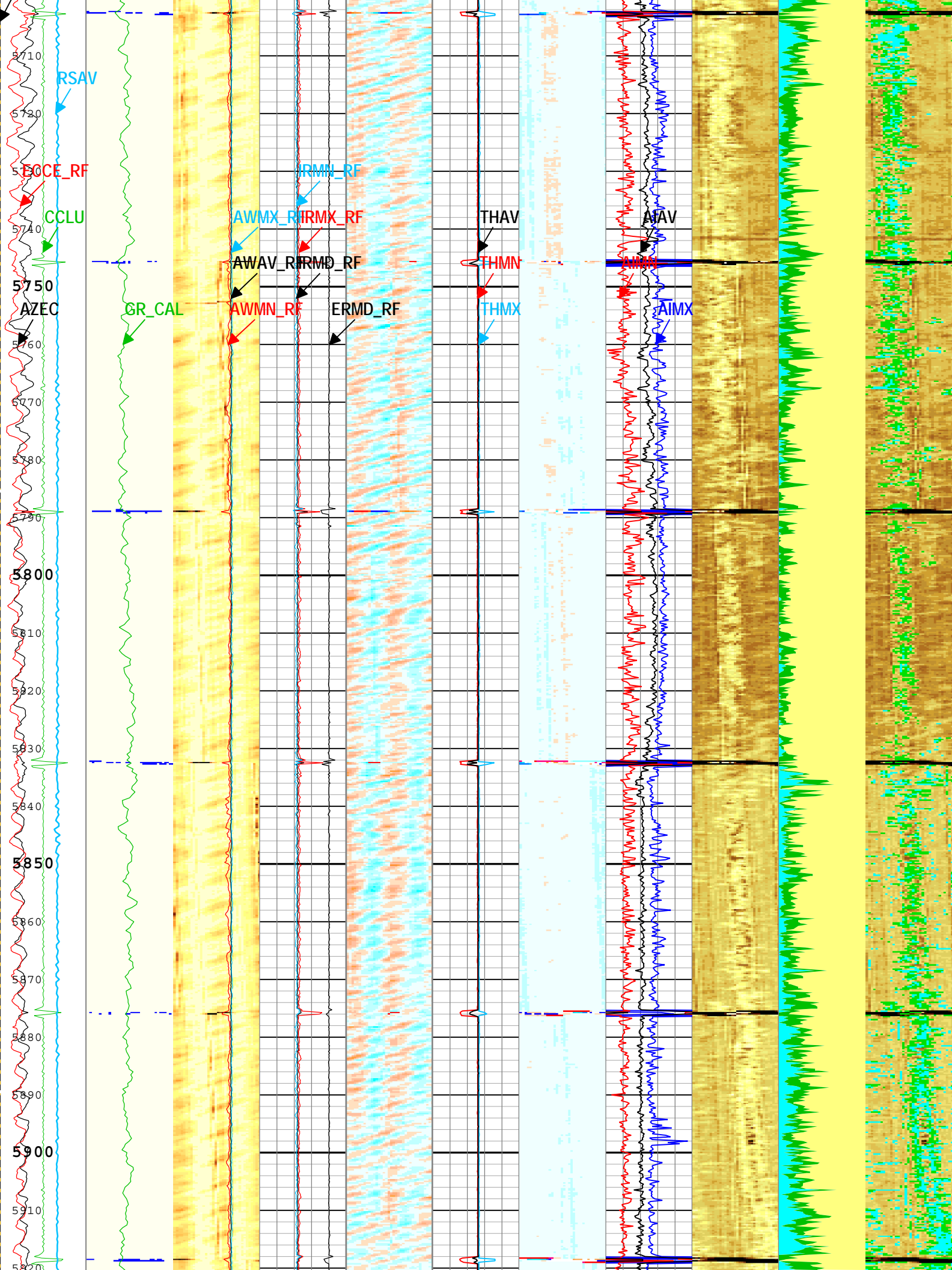


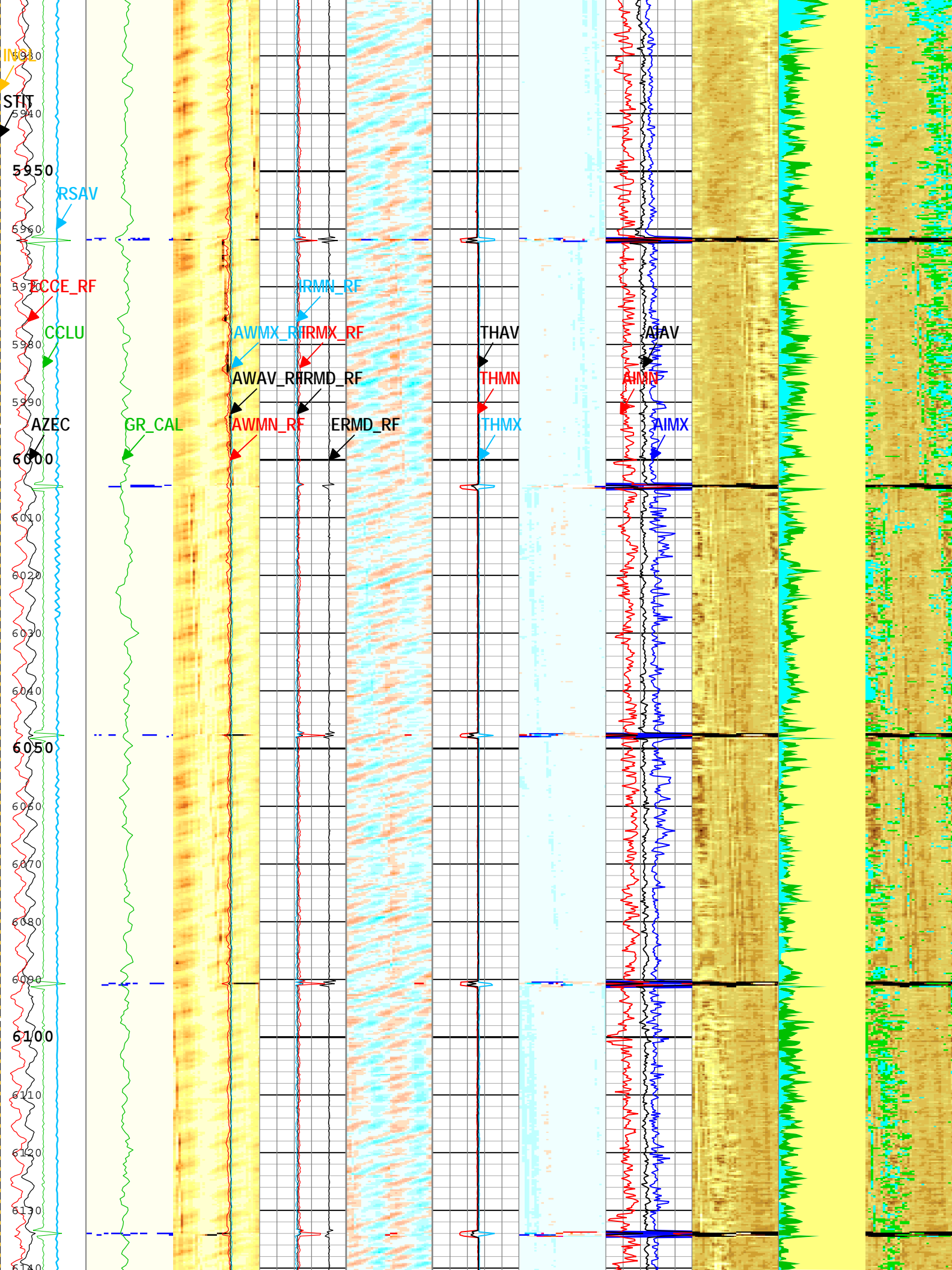


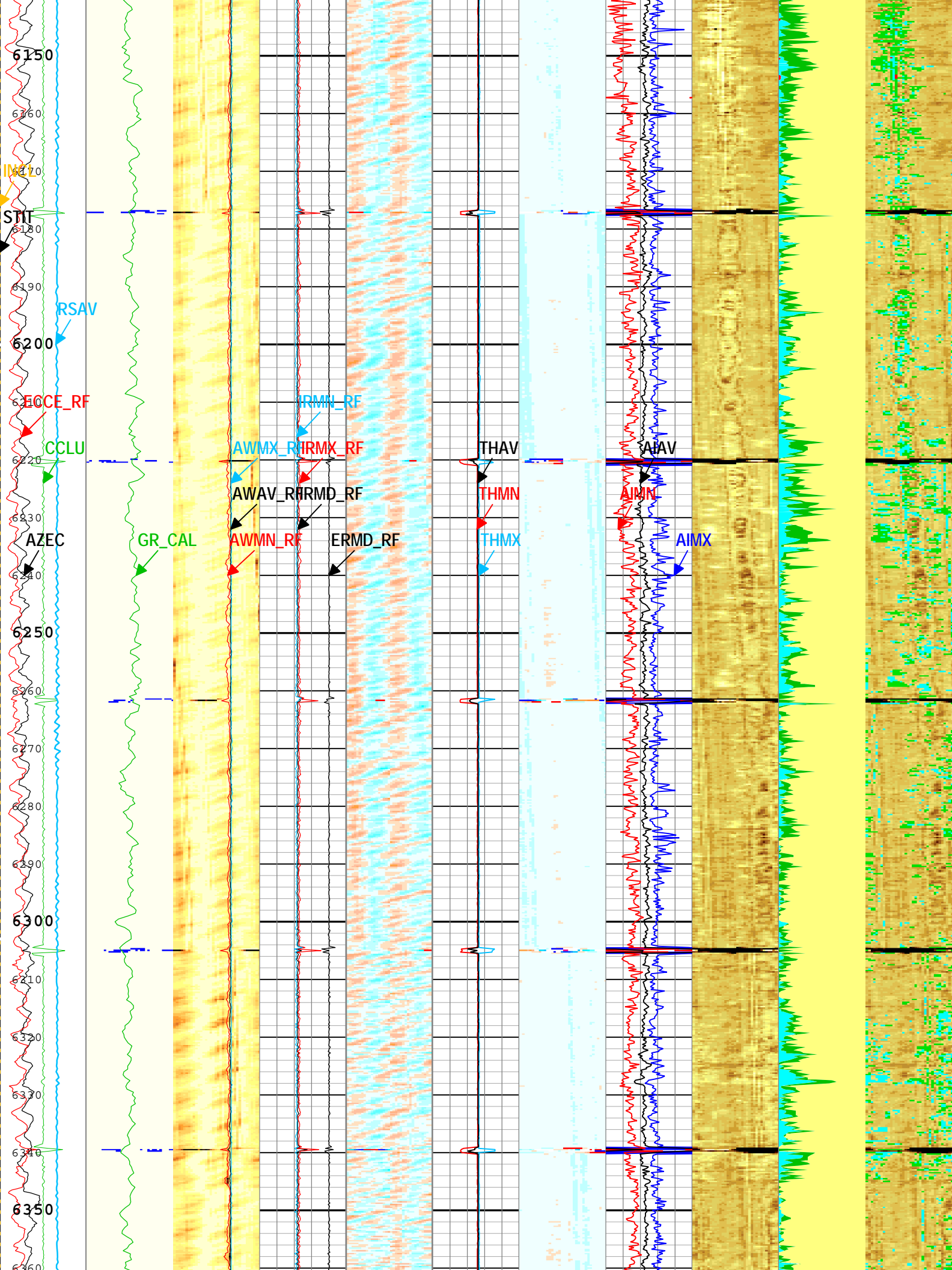


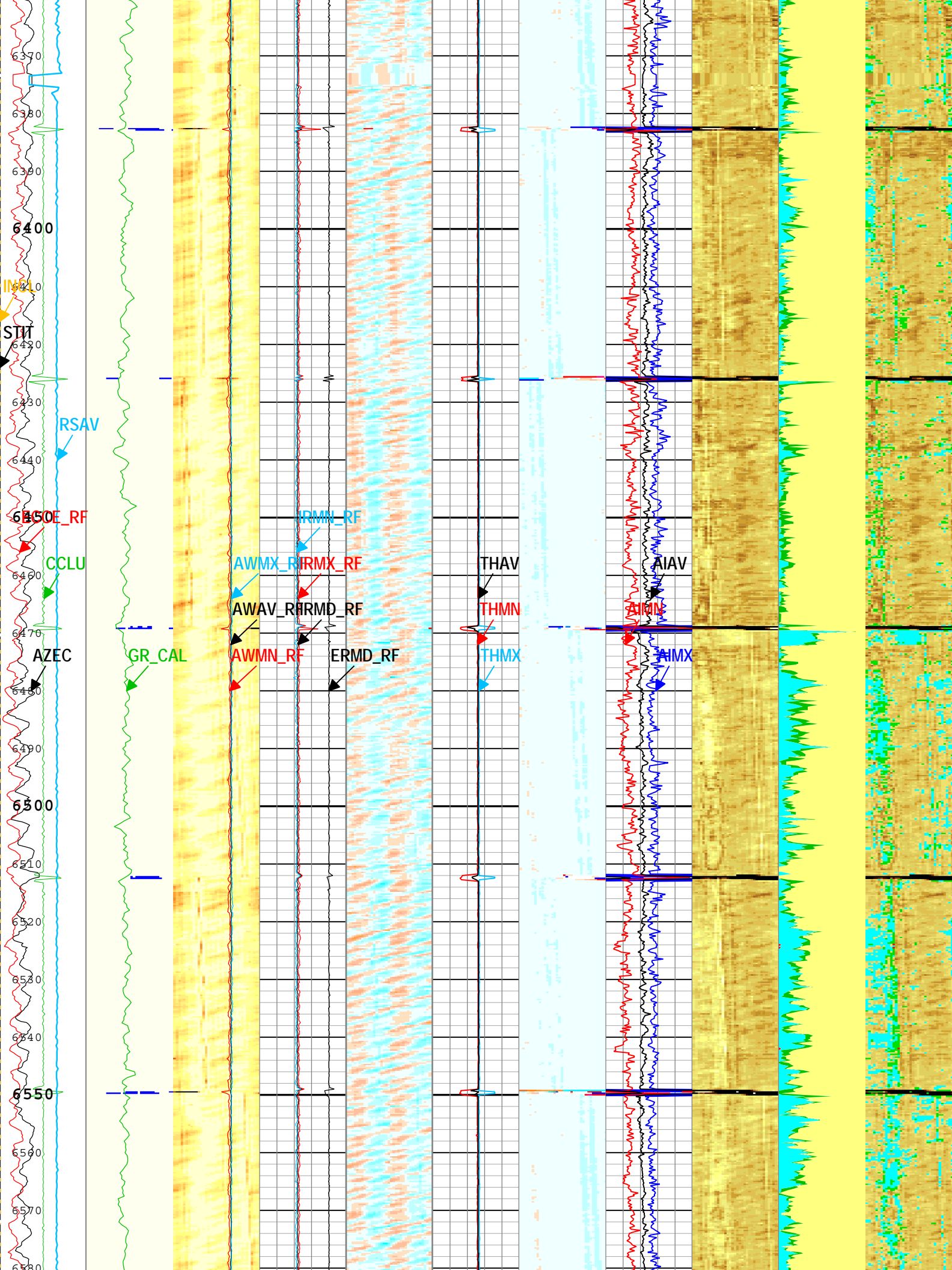


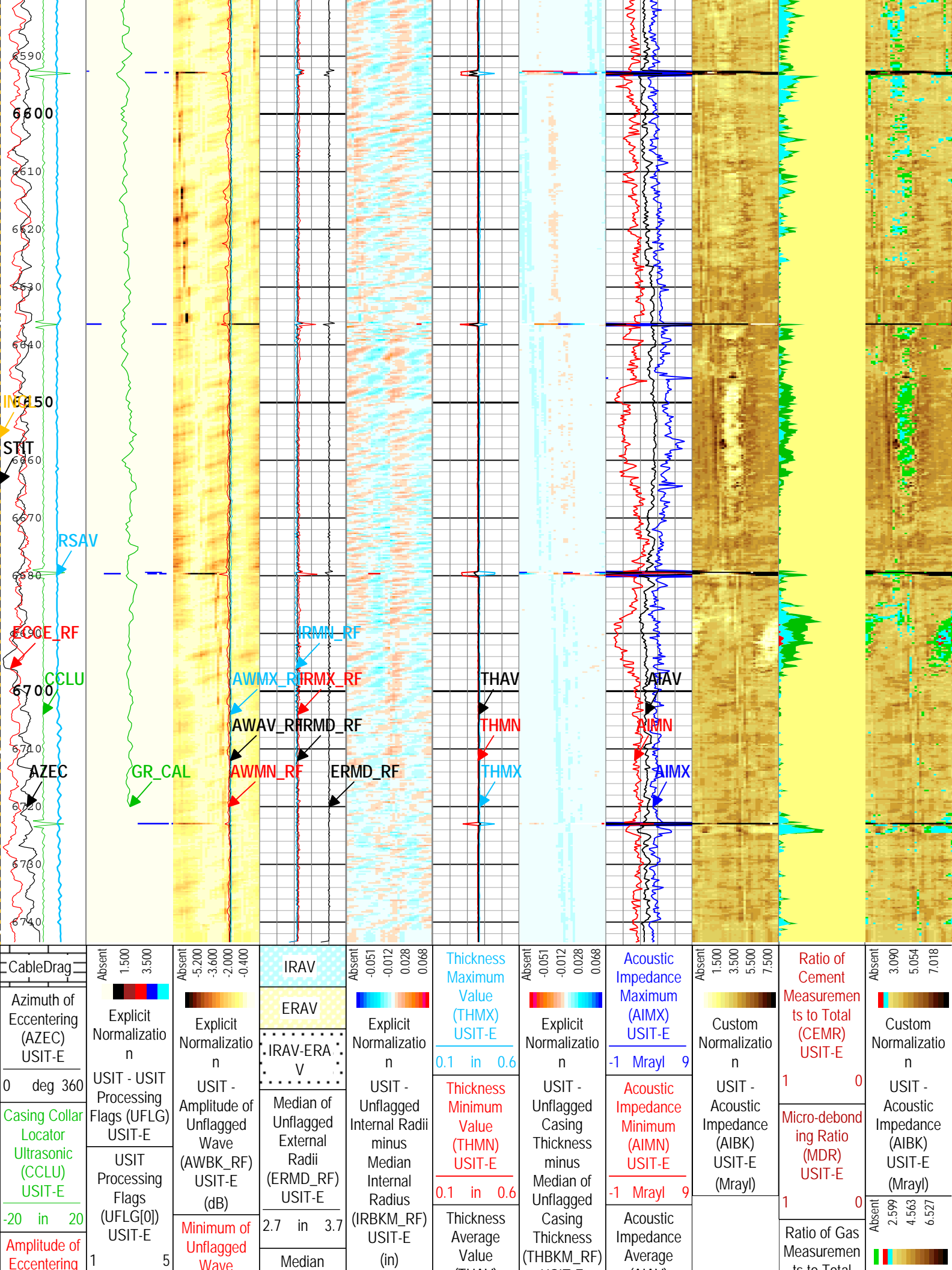












for Unflagged Waves (ECCE_RF) USIT-E	Calibrated Gamma Ray (GR_CAL) SGT-N	Amplitude (AWMN_RF) USIT-E	Internal Radius of Casing Corrected for Eccentering (IRMD_RF) USIT-E	(IHAV) USIT-E	USIT-E (in)	(AIAV) USIT-E	is to Total (GASR) USIT-E	Custom Normalization
0 in 0.5	0 gAPI 150	0 dB 75	2.7 in 3.7	0.1 in 0.6		-1 Mrayl 9	1 0	USIT - Acoustic Impedance With
Motor Revolution Speed (RSAV) USIT-E		Average of Unflagged Wave Amplitude (AWAV_RF) USIT-E	Maximum of Unflagged Internal Radii (IRMX_RF) USIT-E				Bonded	Micro-debonding Image (AI_MDEBOND_IMG)
-8 c/s -6		0 dB 75	2.7 in 3.7				Gas	USIT-E (Mrayl)
Motor Revolution Speed (RSAV) USIT-E		Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-E	Minimum of Unflagged Internal Radii (IRMN_RF) USIT-E				Liquid	
6 c/s 8		0 dB 75	2.7 in 3.7				Micro-debonding	
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] - :

2 - UFLG 2 Value within [1.5 - 2.5] - :

3 - UFLG 3 Value within [2.5 - 3.5] - :

4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - :

5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10] - :
- UTIM Error

Pulse Origin Not Detected

WINLEN Error

Casing Thickness Error

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 17:16:56

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_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	206	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	6735	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	5	6744
ZMUD	1.82	5	200
ZMUD	1.83	200	1000
ZMUD	1.84	1000	2300
ZMUD	1.85	2300	3300
ZMUD	1.86	3300	6744

Tool Control Parameters				
Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	48	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	Time Zoned	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	6740	ft
VRES	Vertical Resolution	USIT-E	3.0 in	
WINB	Window Begin Time	USIT-E	38.4	us
WINE	Window End Time	USIT-E	78.4	us

Time Zone Parameters					
Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
EMXV	123	14-Aug-2014 13:36:24	14-Aug-2014 13:37:30	6744.1	6727.42
EMXV	120	14-Aug-2014 13:37:30	14-Aug-2014 13:37:36	6727.42	6724.2
EMXV	118	14-Aug-2014 13:37:36	14-Aug-2014 13:43:18	6724.2	6439.64
EMXV	115	14-Aug-2014 13:43:18	14-Aug-2014 13:43:24	6439.64	6428.62
EMXV	112	14-Aug-2014 13:43:24	14-Aug-2014 13:49:44	6428.62	5811.94
EMXV	109	14-Aug-2014 13:49:44	14-Aug-2014 13:49:54	5811.94	5795.06
EMXV	105	14-Aug-2014 13:49:54	14-Aug-2014 13:50:02	5795.06	5780.45
EMXV	100	14-Aug-2014 13:50:02	14-Aug-2014 13:50:11	5780.45	5766.01
EMXV	95	14-Aug-2014 13:50:11	14-Aug-2014 13:50:19	5766.01	5751.96
EMXV	92	14-Aug-2014 13:50:19	14-Aug-2014 13:50:23	5751.96	5744.92
EMXV	90	14-Aug-2014 13:50:23	14-Aug-2014 13:50:27	5744.92	5739.02
EMXV	87	14-Aug-2014 13:50:27	14-Aug-2014 13:50:32	5739.02	5730.09
EMXV	84	14-Aug-2014 13:50:32	14-Aug-2014 13:50:35	5730.09	5725.34
EMXV	80	14-Aug-2014 13:50:35	14-Aug-2014 13:50:40	5725.34	5716.06
EMXV	75	14-Aug-2014 13:50:40	14-Aug-2014 13:50:47	5716.06	5705.19
EMXV	70	14-Aug-2014 13:50:47	14-Aug-2014 13:50:52	5705.19	5696.01
EMXV	65	14-Aug-2014 13:50:52	14-Aug-2014 13:50:56	5696.01	5689.88
EMXV	60	14-Aug-2014 13:50:56	14-Aug-2014 13:50:58	5689.88	5685.23
EMXV	55	14-Aug-2014 13:50:58	14-Aug-2014 13:51:03	5685.23	5677.07
EMXV	50	14-Aug-2014 13:51:03	14-Aug-2014 13:51:08	5677.07	5669.24
EMXV	45	14-Aug-2014 13:51:08	14-Aug-2014 13:51:16	5669.24	5655.03
EMXV	40	14-Aug-2014 13:51:16	14-Aug-2014 13:51:20	5655.03	5648.05
EMXV	35	14-Aug-2014 13:51:20	14-Aug-2014 13:51:29	5648.05	5633.78
EMXV	30	14-Aug-2014 13:51:29	14-Aug-2014 13:51:35	5633.78	5623.34
EMXV	26	14-Aug-2014 13:51:35	14-Aug-2014 13:51:38	5623.34	5617.59
EMXV	23	14-Aug-2014 13:51:38	14-Aug-2014 13:51:41	5617.59	5613.17
EMXV	20	14-Aug-2014 13:51:41	14-Aug-2014 13:51:46	5613.17	5603.64
EMXV	18	14-Aug-2014 13:51:46	14-Aug-2014 13:51:50	5603.64	5597.86
EMXV	16	14-Aug-2014 13:51:50	14-Aug-2014 13:51:53	5597.86	5591.77
EMXV	13	14-Aug-2014 13:51:53	14-Aug-2014 13:51:56	5591.77	5586.89
EMXV	10	14-Aug-2014 13:51:56	14-Aug-2014 13:52:04	5586.89	5573.96
EMXV	5	14-Aug-2014 13:52:04	14-Aug-2014 13:52:08	5573.96	5566.72
EMXV	0	14-Aug-2014 13:52:08	14-Aug-2014 14:46:31	5566.72	128.21
EMXV	5	14-Aug-2014 14:46:31	14-Aug-2014 14:46:37	128.21	124.8
EMXV	8	14-Aug-2014 14:46:37	14-Aug-2014 14:46:40	124.8	122.88

EMXV	10	14-Aug-2014 14:46:40	14-Aug-2014 14:46:44	122.88	120.63
EMXV	15	14-Aug-2014 14:46:44	14-Aug-2014 14:46:48	120.63	118.4
EMXV	20	14-Aug-2014 14:46:48	14-Aug-2014 14:46:51	118.4	116.45
EMXV	25	14-Aug-2014 14:46:51	14-Aug-2014 14:46:55	116.45	114.03
EMXV	30	14-Aug-2014 14:46:55	14-Aug-2014 14:46:59	114.03	111.86
EMXV	35	14-Aug-2014 14:46:59	14-Aug-2014 14:47:02	111.86	110.07
EMXV	40	14-Aug-2014 14:47:02	14-Aug-2014 14:47:06	110.07	107.89
EMXV	45	14-Aug-2014 14:47:06	14-Aug-2014 14:47:09	107.89	106.07
EMXV	50	14-Aug-2014 14:47:09	14-Aug-2014 14:47:12	106.07	104.64
EMXV	55	14-Aug-2014 14:47:12	14-Aug-2014 14:47:18	104.64	100.85
EMXV	60	14-Aug-2014 14:47:18	14-Aug-2014 14:47:22	100.85	98.74
EMXV	65	14-Aug-2014 14:47:22	14-Aug-2014 14:47:27	98.74	95.95
EMXV	70	14-Aug-2014 14:47:27	14-Aug-2014 14:47:32	95.95	93.23
EMXV	75	14-Aug-2014 14:47:32	14-Aug-2014 14:47:34	93.23	91.85
EMXV	80	14-Aug-2014 14:47:34	14-Aug-2014 14:47:37	91.85	89.97
EMXV	85	14-Aug-2014 14:47:37	14-Aug-2014 14:47:40	89.97	88.43
EMXV	90	14-Aug-2014 14:47:40	14-Aug-2014 14:47:44	88.43	85.96
EMXV	95	14-Aug-2014 14:47:44	14-Aug-2014 14:47:47	85.96	84.42
EMXV	100	14-Aug-2014 14:47:47	14-Aug-2014 14:47:49	84.42	83
EMXV	105	14-Aug-2014 14:47:49	14-Aug-2014 14:47:52	83	81.59
EMXV	110	14-Aug-2014 14:47:52	14-Aug-2014 14:47:55	81.59	79.91
EMXV	115	14-Aug-2014 14:47:55	14-Aug-2014 14:47:57	79.91	78.57
EMXV	120	14-Aug-2014 14:47:57	14-Aug-2014 14:48:00	78.57	76.95
EMXV	125	14-Aug-2014 14:48:00	14-Aug-2014 14:49:46	76.95	28.48

All depth are at tool zero.

USI Goodwin

USIT - Fluid Properties Measurement

Run Name	Pass Name	Start Depth(ft)	Stop Depth(ft)
Run 1	Main[2]:Up	6744.1	28.48

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	1.82	1.82
200	1000	1.83	1.83
1000	2300	1.84	1.84
2300	3300	1.85	1.85
3300		1.86	1.86

Run 1

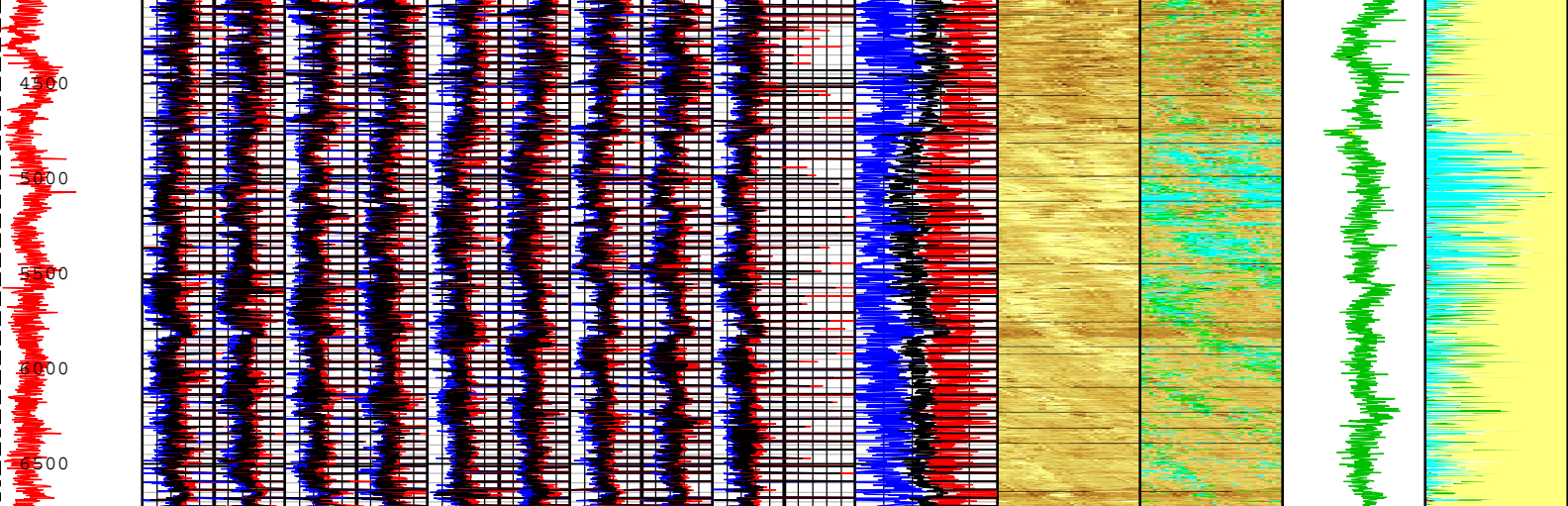
USI Goodwin Compressed

Log	Company:Anadarko Petroleum Company	Well:Benson Farms 12C-23HZ
		Run 1: Main[2]:Up:S004

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 17:17:07

Amplitude of
Eccentering
(ECCE)
USIT-E

Minimum Acoustic Impedance 1 (MIN_AI1) USIT-E		Minimum Acoustic Impedance 3 (MIN_AI3) USIT-E		Minimum Acoustic Impedance 5 (MIN_AI5) USIT-E		Minimum Acoustic Impedance 7 (MIN_AI7) USIT-E					
0	Mrayl 15	0	Mrayl 15	0	Mrayl 15	0	Mrayl 15				
Maximum Acoustic Impedance 1 (MAX_AI1) USIT-E		Maximum Acoustic Impedance 3 (MAX_AI3) USIT-E		Maximum Acoustic Impedance 5 (MAX_AI5) USIT-E		Maximum Acoustic Impedance 7 (MAX_AI7) USIT-E					
0	Mrayl 15	0	Mrayl 15	0	Mrayl 15	0	Mrayl 15				
Average Acoustic Impedance 1 (AV_AI1) USIT-E		Average Acoustic Impedance 3 (AV_AI3) USIT-E		Average Acoustic Impedance 5 (AV_AI5) USIT-E		Average Acoustic Impedance 7 (AV_AI7) USIT-E					
0	Mrayl 15	0	Mrayl 15	0	Mrayl 15	0	Mrayl 15				
Minimum Acoustic Impedance 2 (MIN_AI2) USIT-E		Minimum Acoustic Impedance 4 (MIN_AI4) USIT-E		Minimum Acoustic Impedance 6 (MIN_AI6) USIT-E		Minimum Acoustic Impedance 8 (MIN_AI8) USIT-E		Minimum Acoustic Impedance 9 (MIN_AI9) USIT-E		Acoustic Impedance Minimum (AIMN) USIT-E	
-7.5Mrayl 7.5		-7.5Mrayl 7.5		-7.5Mrayl 7.5		-7.5Mrayl 7.5		0 Mrayl 15		0 Mrayl 7.5	
Maximum Acoustic Impedance 2 (MAX_AI2) USIT-E		Maximum Acoustic Impedance 4 (MAX_AI4) USIT-E		Maximum Acoustic Impedance 6 (MAX_AI6) USIT-E		Maximum Acoustic Impedance 8 (MAX_AI8) USIT-E		Maximum Acoustic Impedance 9 (MAX_AI9) USIT-E		Acoustic Impedance Maximum (AIMX) USIT-E	
-7.5Mrayl 7.5		-7.5Mrayl 7.5		-7.5Mrayl 7.5		-7.5Mrayl 7.5		0 Mrayl 15		0 Mrayl 7.5	
Average Acoustic Impedance 2 (AV_AI2) USIT-E		Average Acoustic Impedance 4 (AV_AI4) USIT-E		Average Acoustic Impedance 6 (AV_AI6) USIT-E		Average Acoustic Impedance 8 (AV_AI8) USIT-E		Average Acoustic Impedance 9 (AV_AI9) USIT-E		Acoustic Impedance Average (AIAV) USIT-E	
-7.5Mrayl 7.5		-7.5Mrayl 7.5		-7.5Mrayl 7.5		-7.5Mrayl 7.5		0 Mrayl 15		0 Mrayl 7.5	
<div><div><div>Minimum Acoustic Impedance 1 (MIN_AI1) USIT-E</div><div>Maximum Acoustic Impedance 1 (MAX_AI1) USIT-E</div><div>Average Acoustic Impedance 1 (AV_AI1) USIT-E</div></div><div><div>Minimum Acoustic Impedance 2 (MIN_AI2) USIT-E</div><div>Maximum Acoustic Impedance 2 (MAX_AI2) USIT-E</div><div>Average Acoustic Impedance 2 (AV_AI2) USIT-E</div></div><div><div>Minimum Acoustic Impedance 3 (MIN_AI3) USIT-E</div><div>Maximum Acoustic Impedance 3 (MAX_AI3) USIT-E</div><div>Average Acoustic Impedance 3 (AV_AI3) USIT-E</div></div><div><div>Minimum Acoustic Impedance 4 (MIN_AI4) USIT-E</div><div>Maximum Acoustic Impedance 4 (MAX_AI4) USIT-E</div><div>Average Acoustic Impedance 4 (AV_AI4) USIT-E</div></div><div><div>Minimum Acoustic Impedance 5 (MIN_AI5) USIT-E</div><div>Maximum Acoustic Impedance 5 (MAX_AI5) USIT-E</div><div>Average Acoustic Impedance 5 (AV_AI5) USIT-E</div></div><div><div>Minimum Acoustic Impedance 6 (MIN_AI6) USIT-E</div><div>Maximum Acoustic Impedance 6 (MAX_AI6) USIT-E</div><div>Average Acoustic Impedance 6 (AV_AI6) USIT-E</div></div><div><div>Minimum Acoustic Impedance 7 (MIN_AI7) USIT-E</div><div>Maximum Acoustic Impedance 7 (MAX_AI7) USIT-E</div><div>Average Acoustic Impedance 7 (AV_AI7) USIT-E</div></div><div><div>Minimum Acoustic Impedance 8 (MIN_AI8) USIT-E</div><div>Maximum Acoustic Impedance 8 (MAX_AI8) USIT-E</div><div>Average Acoustic Impedance 8 (AV_AI8) USIT-E</div></div><div><div>Minimum Acoustic Impedance 9 (MIN_AI9) USIT-E</div><div>Maximum Acoustic Impedance 9 (MAX_AI9) USIT-E</div><div>Average Acoustic Impedance 9 (AV_AI9) USIT-E</div></div><div><div>Acoustic Impedance Minimum (AIMN) USIT-E</div><div>Acoustic Impedance Maximum (AIMX) USIT-E</div><div>Acoustic Impedance Average (AIAV) USIT-E</div></div></div> <div><div>Absent</div><div>2.599</div><div>4.563</div><div>6.527</div></div> <div><div>Custom Normalization</div><div>USIT - Acoustic Impedance With Micro-debonding Image (AI_MDEBOND_IMG) USIT-E (Mrayl)</div></div> <div><div>GR<75</div><div>Gamma Ray (GR) SGT-N</div><div>0 gAPI 150</div></div> <div><div>Micro-Debonded</div><div>Gas</div><div>Liquid</div><div>Bonded</div></div>											



Amplitude of Eccentering (ECCE) USIT-E 0 in 0.5	Minimum Acoustic Impedance 1 (MIN_AI1) USIT-E 0 Mrayl 15	Minimum Acoustic Impedance 3 (MIN_AI3) USIT-E 0 Mrayl 15	Minimum Acoustic Impedance 5 (MIN_AI5) USIT-E 0 Mrayl 15	Minimum Acoustic Impedance 7 (MIN_AI7) USIT-E 0 Mrayl 15	Minimum Acoustic Impedance 9 (MIN_AI9) USIT-E 0 Mrayl 15	Acoustic Impedance Minimum (AIMN) USIT-E 0 Mrayl 7.5	Absent 1.500 3.500 5.500 7.500 Custom Normalization	Absent 2.599 4.563 6.527 Custom Normalization	GR<75 Gamma Ray (GR) SGT-N 0 gAPI 150	Micro-Debonded Gas Liquid Bonded
	Maximum Acoustic Impedance 1 (MAX_AI1) USIT-E 0 Mrayl 15	Maximum Acoustic Impedance 3 (MAX_AI3) USIT-E 0 Mrayl 15	Maximum Acoustic Impedance 5 (MAX_AI5) USIT-E 0 Mrayl 15	Maximum Acoustic Impedance 7 (MAX_AI7) USIT-E 0 Mrayl 15	Maximum Acoustic Impedance 9 (MAX_AI9) USIT-E 0 Mrayl 15	Acoustic Impedance Maximum (AIMX) USIT-E 0 Mrayl 7.5	USIT - Acoustic Impedance (AIBK) USIT-E (Mrayl)	USIT - Acoustic Impedance With Micro-debonding Image (AI_MDEBOND_IMG) USIT-E (Mrayl)		
	Average Acoustic Impedance 1 (AV_AI1) USIT-E 0 Mrayl 15	Average Acoustic Impedance 3 (AV_AI3) USIT-E 0 Mrayl 15	Average Acoustic Impedance 5 (AV_AI5) USIT-E 0 Mrayl 15	Average Acoustic Impedance 7 (AV_AI7) USIT-E 0 Mrayl 15	Average Acoustic Impedance 9 (AV_AI9) USIT-E 0 Mrayl 15	Acoustic Impedance Average (AIAV) USIT-E 0 Mrayl 7.5				
	Minimum Acoustic Impedance 2 (MIN_AI2) USIT-E -7.5Mrayl 7.5	Minimum Acoustic Impedance 4 (MIN_AI4) USIT-E -7.5Mrayl 7.5	Minimum Acoustic Impedance 6 (MIN_AI6) USIT-E -7.5Mrayl 7.5	Minimum Acoustic Impedance 8 (MIN_AI8) USIT-E -7.5Mrayl 7.5						
	Maximum Acoustic Impedance 2 (MAX_AI2) USIT-E -7.5Mrayl 7.5	Maximum Acoustic Impedance 4 (MAX_AI4) USIT-E -7.5Mrayl 7.5	Maximum Acoustic Impedance 6 (MAX_AI6) USIT-E -7.5Mrayl 7.5	Maximum Acoustic Impedance 8 (MAX_AI8) USIT-E -7.5Mrayl 7.5						
	Average Acoustic Impedance 2 (AV_AI2) USIT-E -7.5Mrayl 7.5	Average Acoustic Impedance 4 (AV_AI4) USIT-E -7.5Mrayl 7.5	Average Acoustic Impedance 6 (AV_AI6) USIT-E -7.5Mrayl 7.5	Average Acoustic Impedance 8 (AV_AI8) USIT-E -7.5Mrayl 7.5						

TIME_1900 - Time Marked every 60.00 (s)

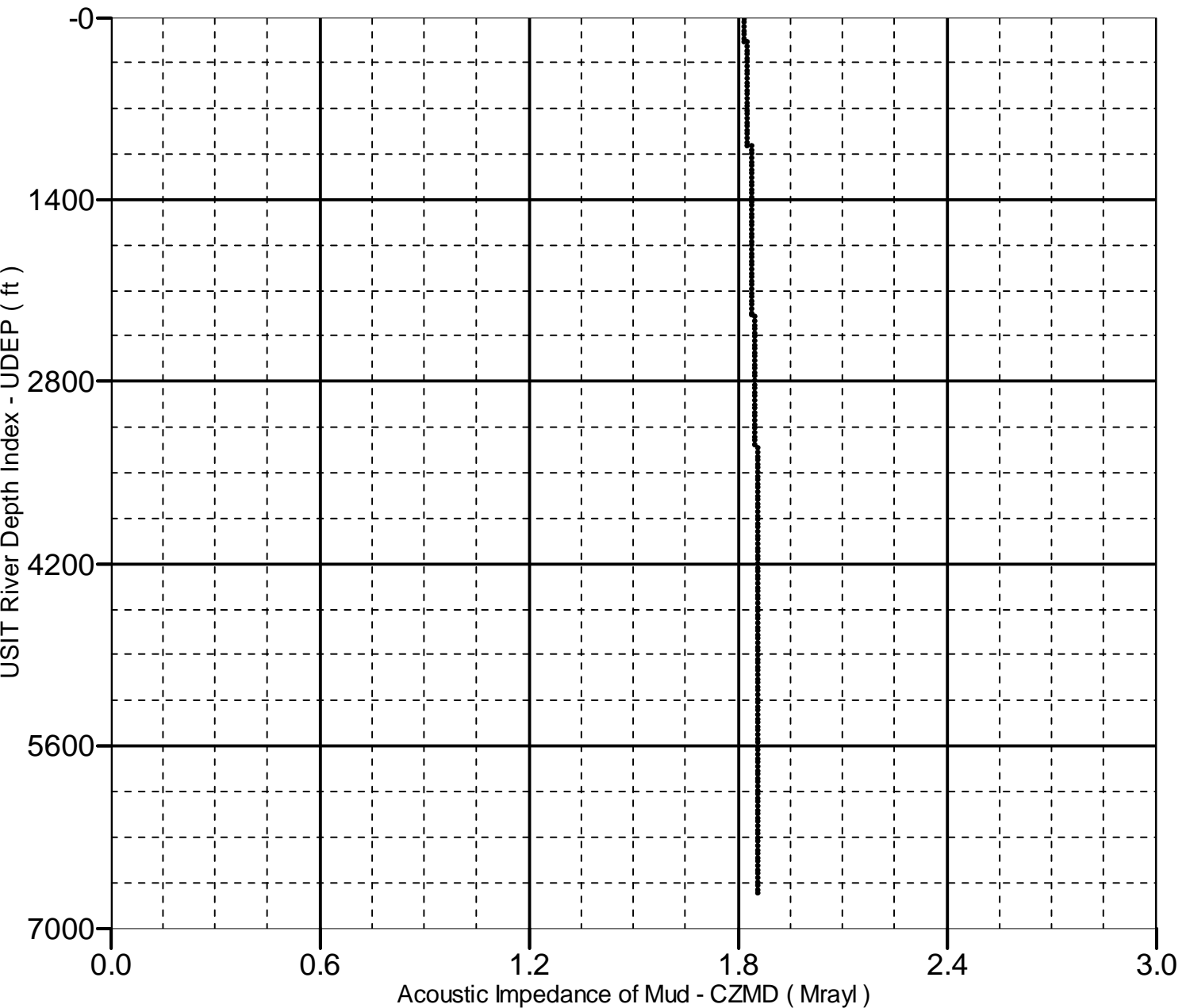
Description: USI Goodwin Format: USI Goodwin Index Scale: 0.1 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 14-Aug-2014 17:17:07

Acoustic Impedance of Mud vs Depth

2D Cross Plot

Index Range: From 6743.75 to 12.75 ft

● CZMD-UDEP



XYZ

Company: Anadarko Petroleum Company

Well: Benson Farms 12C-23HZ

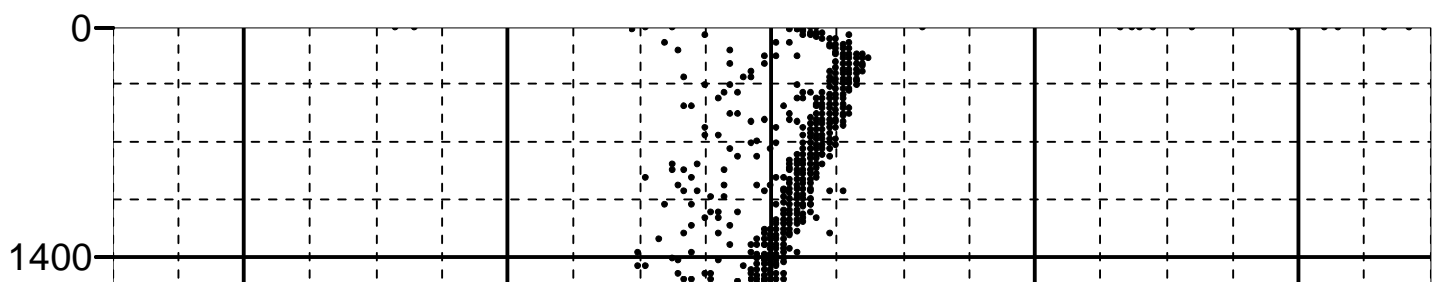
Run 1: Main[3]:Up:S004

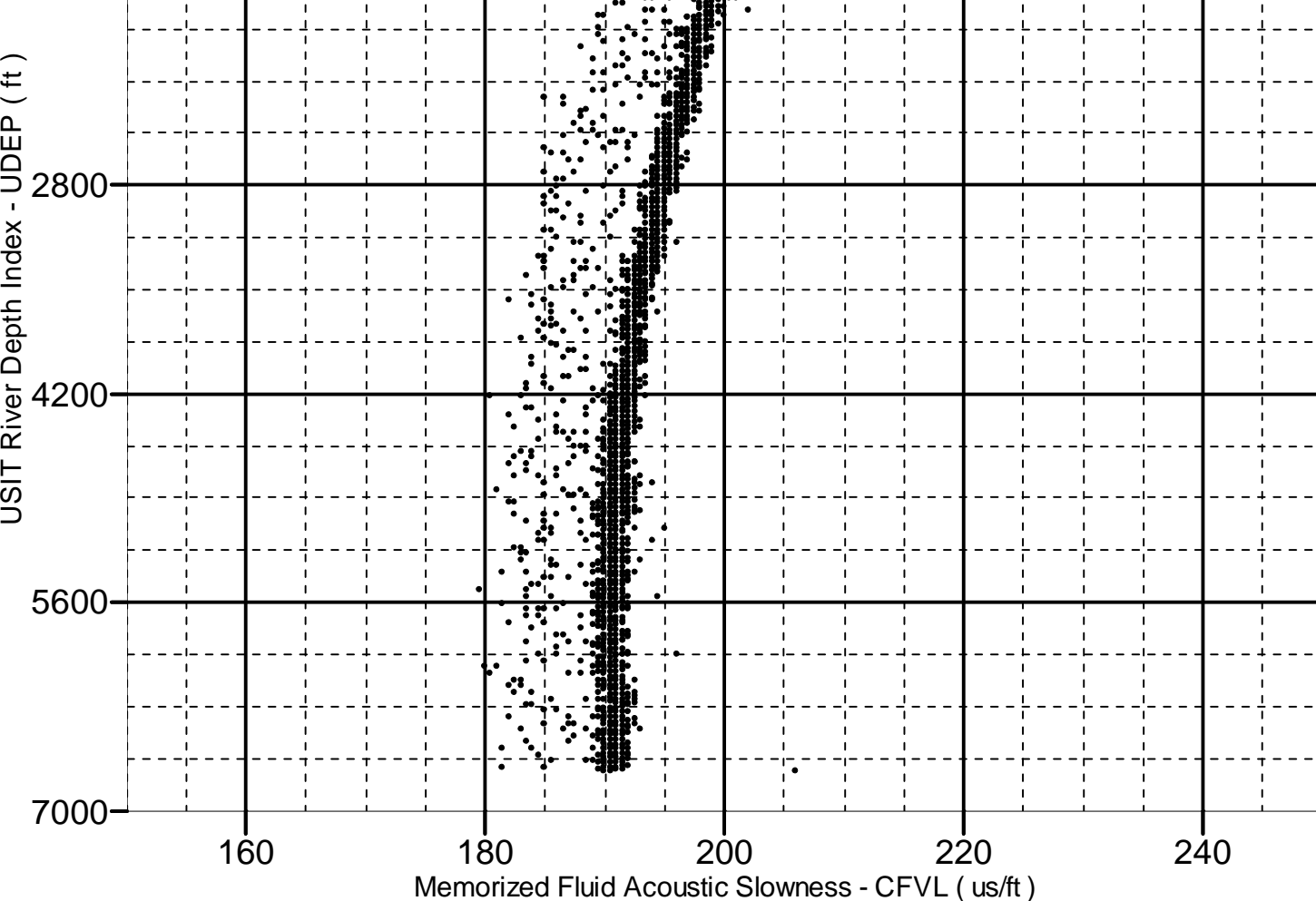
Fluid Acoustic Slowness vs Depth

2D Cross Plot

Index Range: From 6743.75 to 12.75 ft

● CFVL-UDEP





Company: Anadarko Petroleum Company

Schlumberger

Well: Benson Farms 12C-23HZ

Field: Wattenberg

County: Weld

State: Colorado

Ultrasonic Imager

Cement Evaluation

Gamma Ray - CCL