Schlumberger

Company: Southern California Gas Company

Well: PORTER 69H

Field: ALISO CANYON

County: LOS ANGELES State: CALIFORNIA

County: LOS ANGELES
Field: ALISO CANYON
Location: X: 1937425 Y: 6393264
Well: PORTER 69H
Company: Southern California Gas Company

Cement Bond Log

Variable Density Log

Gamma Ray - CCL

Location: X: 1937425 Y: 6393264

Elev.: K.B. 2395.00 ft
G.L. 2366.00 ft
D.F.

Permanent Datum: Ground Level Elev.: 2366.00 f
Log Measured From: Kelly Bushing 29.00 ft above Perm.Datum
Drilling Measured From: Kelly Bushing

API Serial No.	Section:	Township:	Range:
04-037-24233-00	27	3N	16W

Logging Date		11-Jun-2016		11-Jun-2016	
Run Number		One		Surface	
Depth Driller		7450.00 ft		7450.00 ft	
Schlumberger Depth		7447.00 ft		7447.00 ft	
Bottom Log Interval		7447.00 ft		7447.00 ft	
Top Log Interval		29.00 ft		29.00 ft	
Casing Fluid Type		KCL WATER		KCL WATER	
Salinity					
Density		8.5 lbm/gal		8.5 lbm/gal	
Fluid Level		20.00 ft		8.00 ft	
BIT/CASING/TUBING STRING					
Bit Size		12.25 in		12.25 in	
From		859.00 ft		859.00 ft	
To		7980.00 ft		7980.00 ft	
Casing/Tubing Size		9.625 in		9.625 in	
Weight		47 lbm/ft		47 lbm/ft	
Grade		N80		N80	
From		0.00 ft		0.00 ft	
To		7960.00 ft		7960.00 ft	
Max Recorded Temperatures		162 degF			
Logger on Bottom	Time	11-Jun-2016	08:00:00	11-Jun-2016	14:00:00
Unit Number	Location:	3189	VENTURA	3189	VENTURA
Recorded By		John Lopez		John Lopez	
Witnessed By		Mr Tom McMahon		Mr Tom McMahon	

Disclaimer

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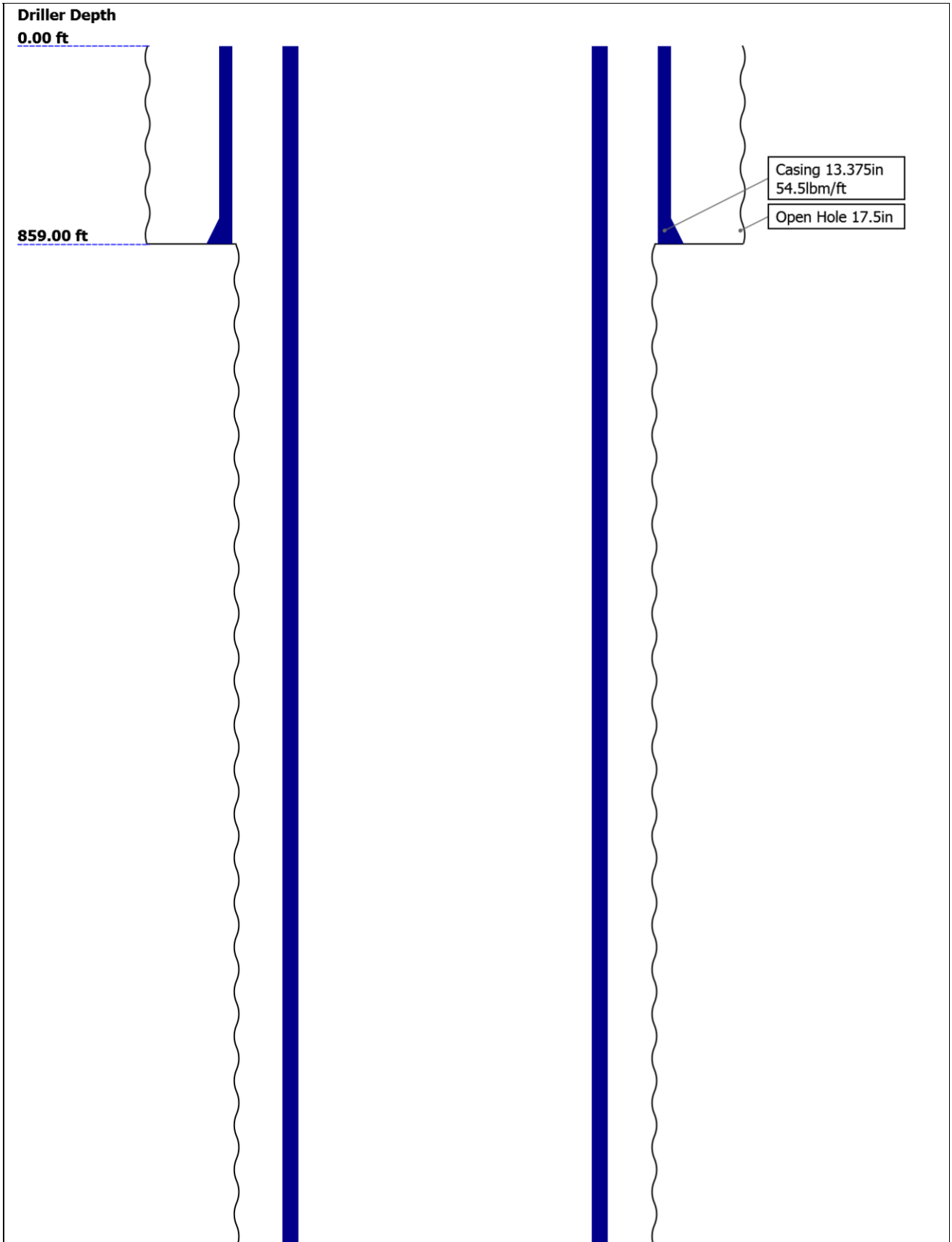
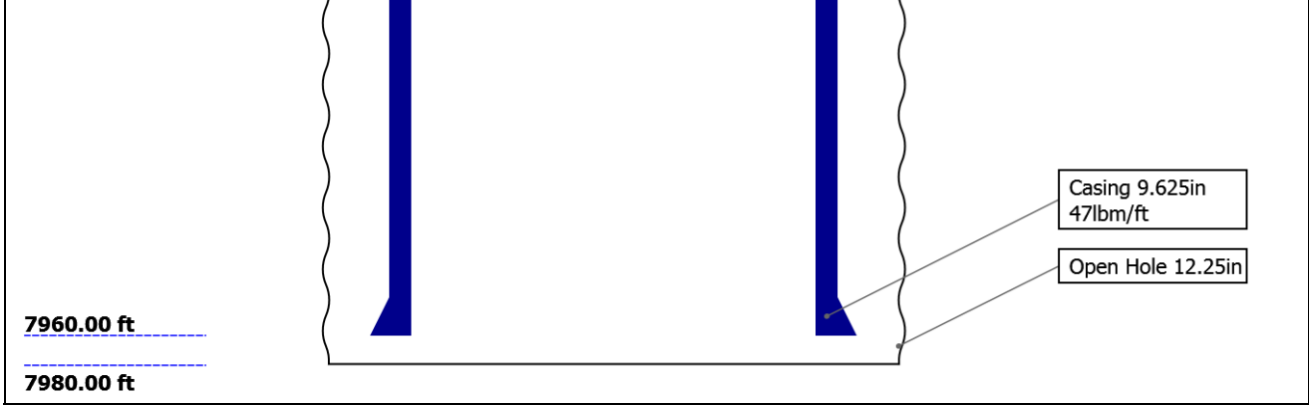
Well Sketch





Borehole Size/Casing/Tubing Record

Bit						
Bit Size (in)	17.5	12.25				
Top Driller (ft)	0	859				
Top Logger (ft)	0	859				
Bottom Driller (ft)	859	7980				
Bottom Logger (ft)	859	7980				
Casing						
Size (in)	13.375	9.625				
Weight (lbm/ft)	54.5	47				
Inner Diameter (in)	12.615	8.681				
Grade	J55	N80				
Top Driller (ft)	0	0				
Top Logger (ft)	0	0				
Bottom Driller (ft)	859	7960				
Bottom Logger (ft)	859	7960				

Remarks and Equipment Summary

One: Remarks	Surface: Remarks
Correlated to Schlumberger 2 inch / 100 ft Platform Express log dated 07-Dec-2001	
Crew: Coupart, Allen	
13 3/8" csg cemented with 164 bbls/ 618 sks cement	
9 5/8" csg cemented with 2712 ft3/ 1329 sks cement	
ECP located 7380 to 7399 ft, inflated with 230 ft3/ 200 sks	
Logging Objective: Cement and Corrosion	
No pressure applied during log, anomolies repeated in Very Hi-Res	
USIT logged in 10 deg 1.5 inch at 2800 fph, Hi-Res logged at 10 degree 0.6 inch at 1000 fph	
Bridge plug set at 7450, tagged at 7447, logged from 7447 to surface	
USIT surface data acquired on a separate pass and merged.	

One: Toolstring

Equip name	Length
LEH-QT:2	59.39
867	
LEH-QT:28	

MP name	Offset
Red	

Surface: Toolstring

67

DTC-H 56.47
ECH-KC
DTC-H

HGNS-H:3923 53.47
HGNH:4819
NSR-F:5002
NPV-N
HACCZ-H:3923
HMCA-H
HGNS-H:3923

AH-184[4] 44.06

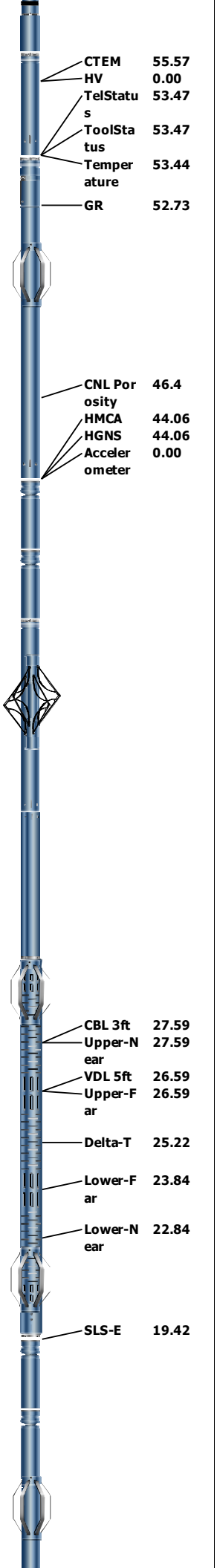
AH-184[3]:2985 42.06

DSLT-H:8236 40.06
ECH-KH:8678
DSLC-H:8236
SLS-E:1206

AH-184[2]:2882 19.42

AH-184[1]:6735 17.42

USIT-E:1764 15.42
ECH-MFA:1764
USAC-A:1



Equip name	Length
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LEH-QT:2867	
DTC-H	18.42
ECH-KC	
DTC-H	
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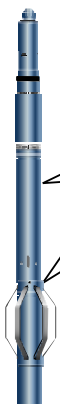
USAC-A:1	



MP name	Offset
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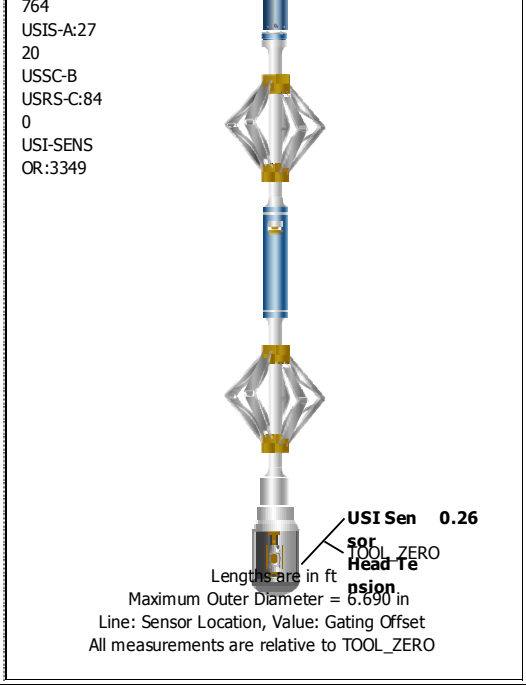
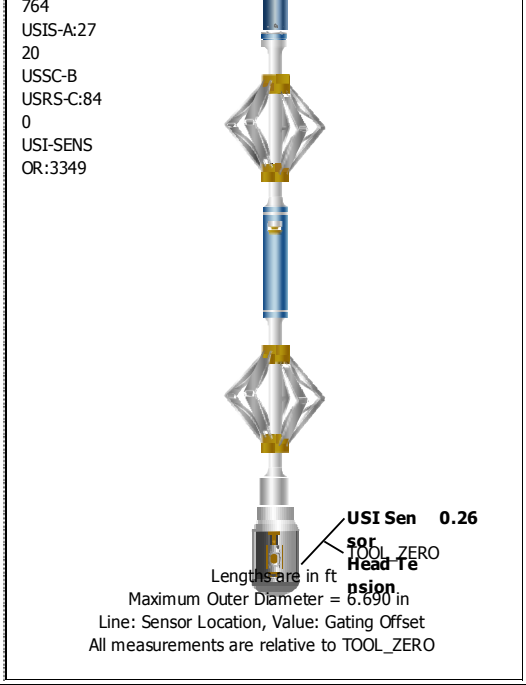




Job Event Summary

Event	Time	Duration	Interval	Remark
Log[1]:Down	Jun-11-2016 07:25	01:55:47	123.87 - 7456.72 ft	FPM
Log[2]:Up	Jun-11-2016 08:24	03:42:45	7447.48 - 71.28 ft	Main
Log[3]:Up	Jun-11-2016 11:49	00:25:08	7430 - 6993.18 ft	Hi Res
Log[4]:Up	Jun-11-2016 12:44	00:11:14	335.72 - 149.26 ft	Hi-Res
Run 2				Jun-11-2016 13:21
Log[1]:Up	Jun-11-2016 13:31	00:08:04	237.37 - 26.31 ft	surface

Composite 1

Main Pass 5 in = 100 ft

Software Version

Acquisition System	Version
Maxwell 2016 SP1	6.1.58882.3100

Computation	Description	Version
CEVAL	Sonic Cement Evaluation Computation Ensemble provides common Parameters and Channels	6.1.58882.3100
CSR Corrosion Summary Report (USI)	CSR Computation Application (USI)	6.1.58882.3100

SoftwareVersion_Tool	SoftwareVersion_Run Version	SoftwareVersion_Build Version
WAFE-SEC	Synergy SV451EC version 9.10	Synergy SV451EC version 9.10
WAFE-FEC	Synergy SV451EC version 9.10	Synergy SV451EC version 9.10
WAFE-TMDI	Synergy SV451EC version 46.19	Synergy SV451EC version 46.19

Tool Elements	Description	Software Version	Firmware Version
HGNS-H	HILT Gamma-Ray and Neutron Sonde, 150 degC	6.1.58882.3100	2.0
SLS-E	Sonic Logging Sonde E supports 3'-5'BHC DT and CBL/VDL	6.1.58882.3100	4.0
USI-SENSOR	USIT Transducer Element	6.1.58882.3100	DSP: v1.82

Composite Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[2]:Up	Up	71.28 ft	7447.48 ft	11-Jun-2016 8:24:01 AM	11-Jun-2016 11:06:47 AM	ON	2.00 ft	Yes
Surface	Log[1]:Up	Up	26.31 ft	237.37 ft	11-Jun-2016 1:31:39 PM	11-Jun-2016 1:39:44 PM	ON	0.00 ft	No

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:PORTER 69H

Composite 1:S005

Description: Sonic CBL with VDL Format: Log (Sonic CBL with VDL) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 11-Jun-2016 16:24:15

BIEP - Bond Index Event Pips DSLT-H[1]

TIME_1900 - Time Marked every 60.00 (s)

Transit Time for CBL (TT) DSLT-H[1]

480 us 280

Gamma Ray (GR)

0 gAPI 150

Instance - 1 (6" HGNS[1] RT) (ECGR)

Casing Collar Locator Ultrasonic (CCLU).2 USIT-E[1]

-19 in 1

Casing Collar Locator Ultrasonic (CCLU).1 USIT-E[1]

-19 in 1

Cable Tension (TENS)

10000 0 lbf

GoodBond From CBL to GOBO

CBL Amplitude (CBL) DSLT-H[1]

0 mV 20

CBL Amplitude (CBL) DSLT-H[1]

0 mV 100

Good Bond (GOBO)

0 mV 20

Min Amplitude Max

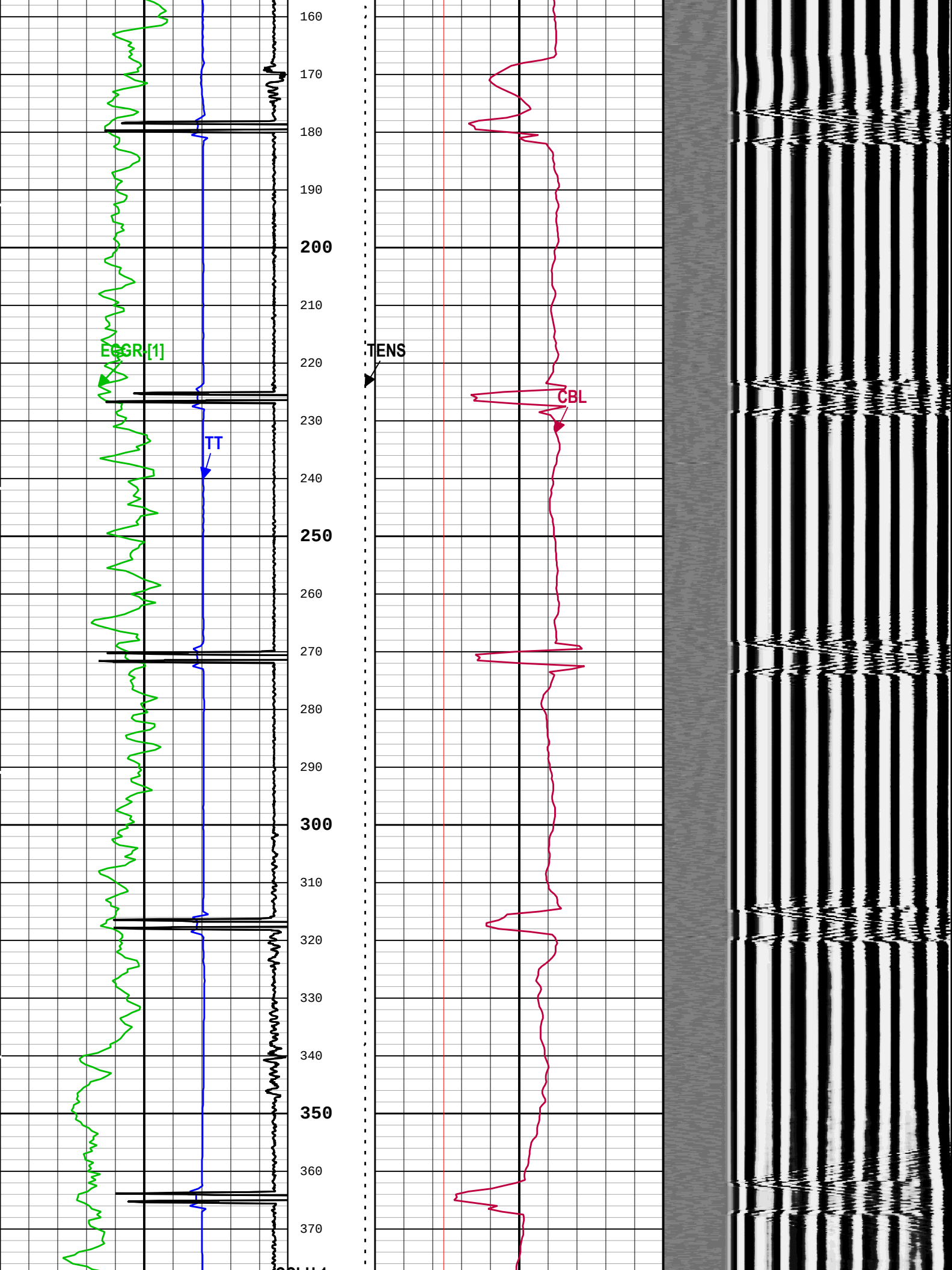
Variable Density Log - DSLT DSLT-H[1]

200 us 1200

20 30 40 **50** 60 70 80 90 **100** 110 120 130 140 **150**

CCLU.1

CCLU.2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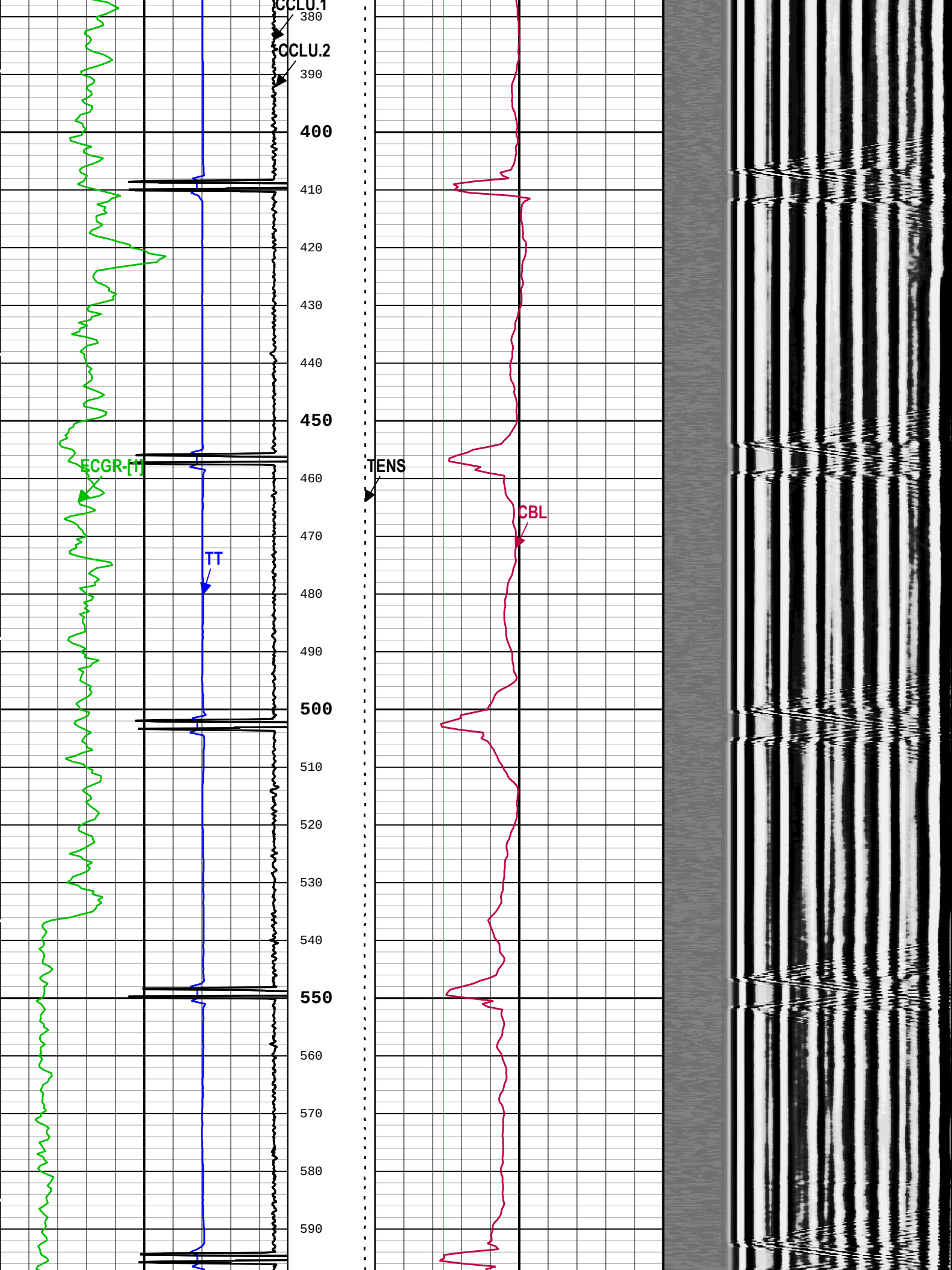
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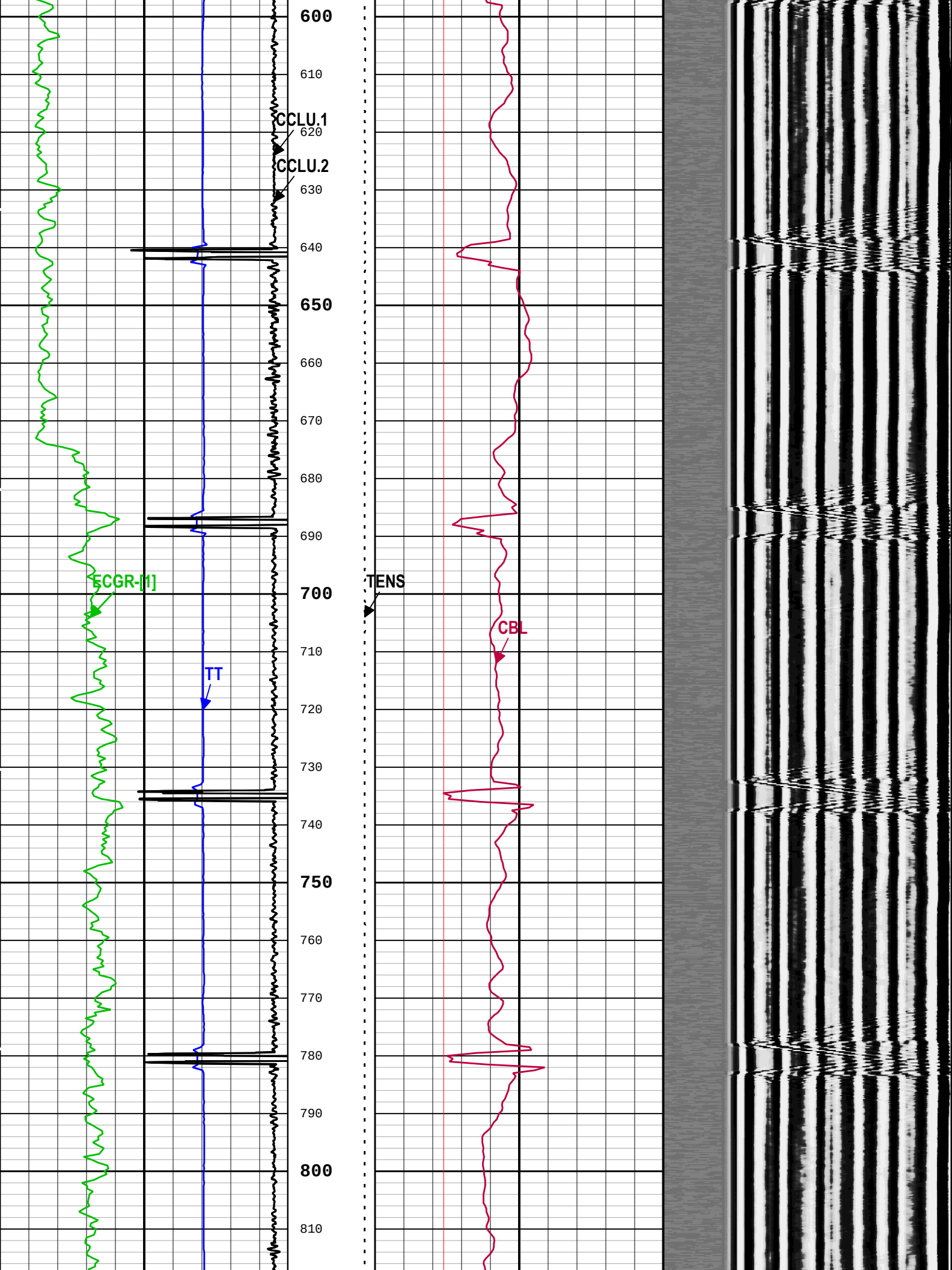
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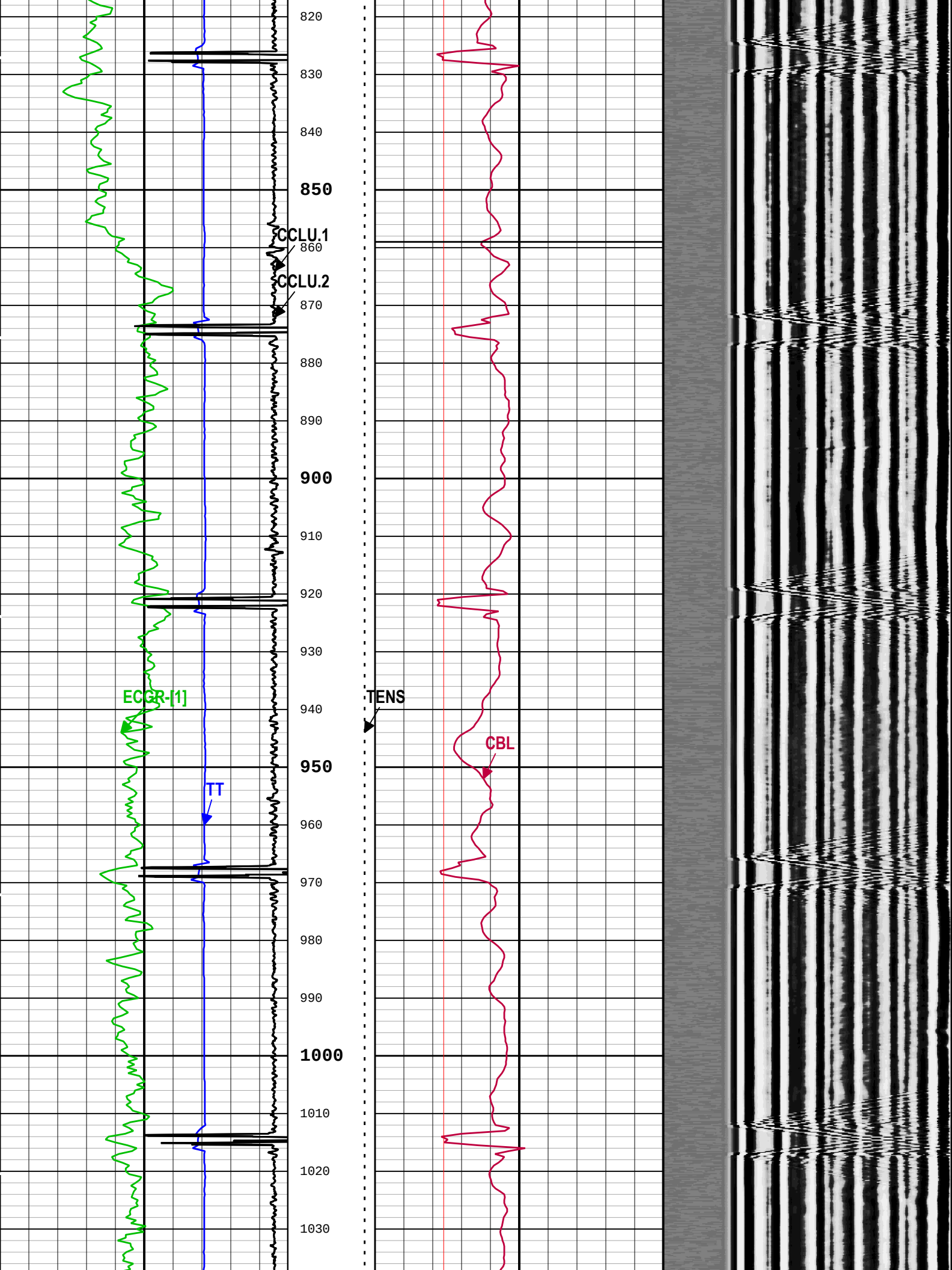
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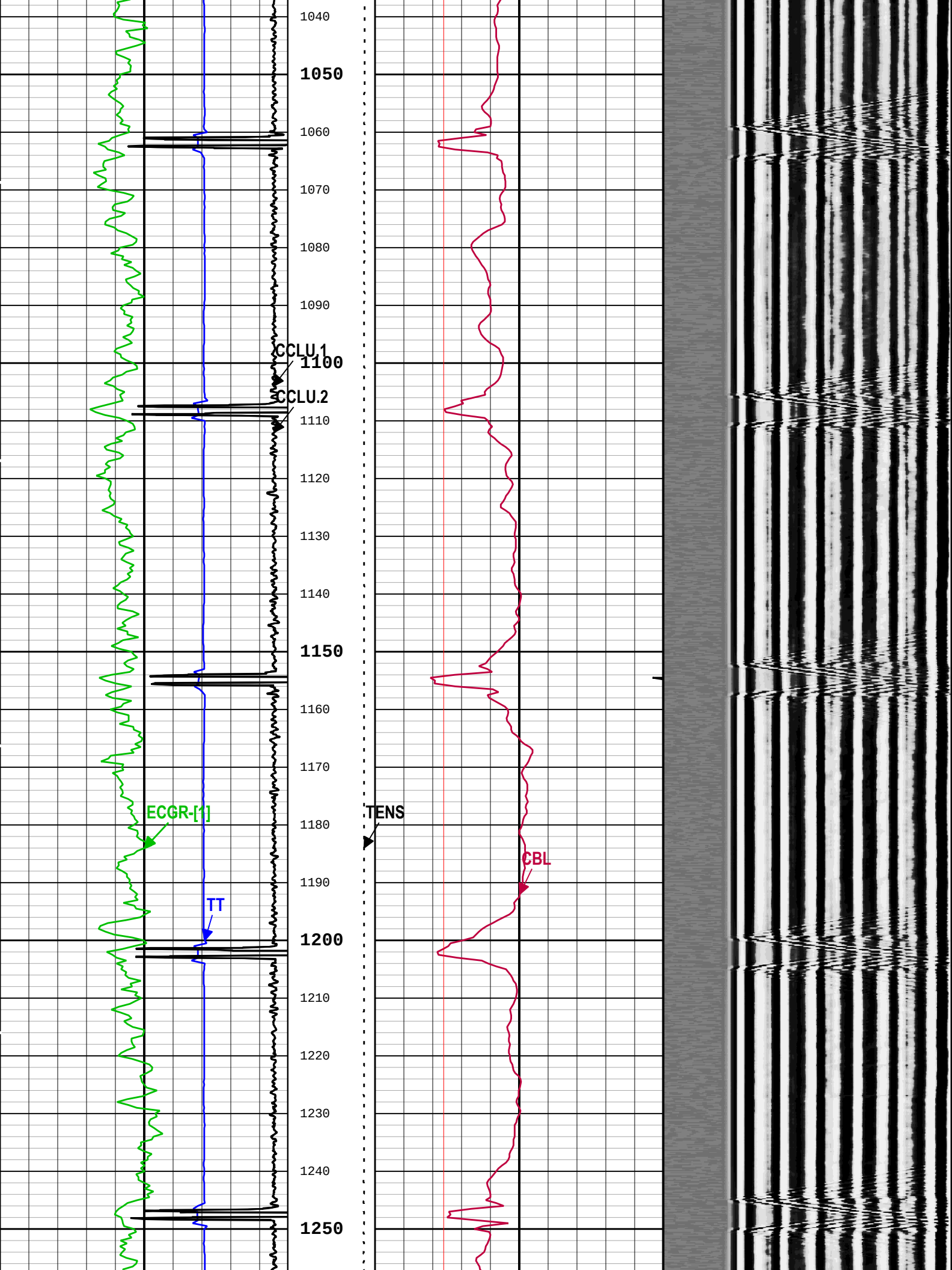
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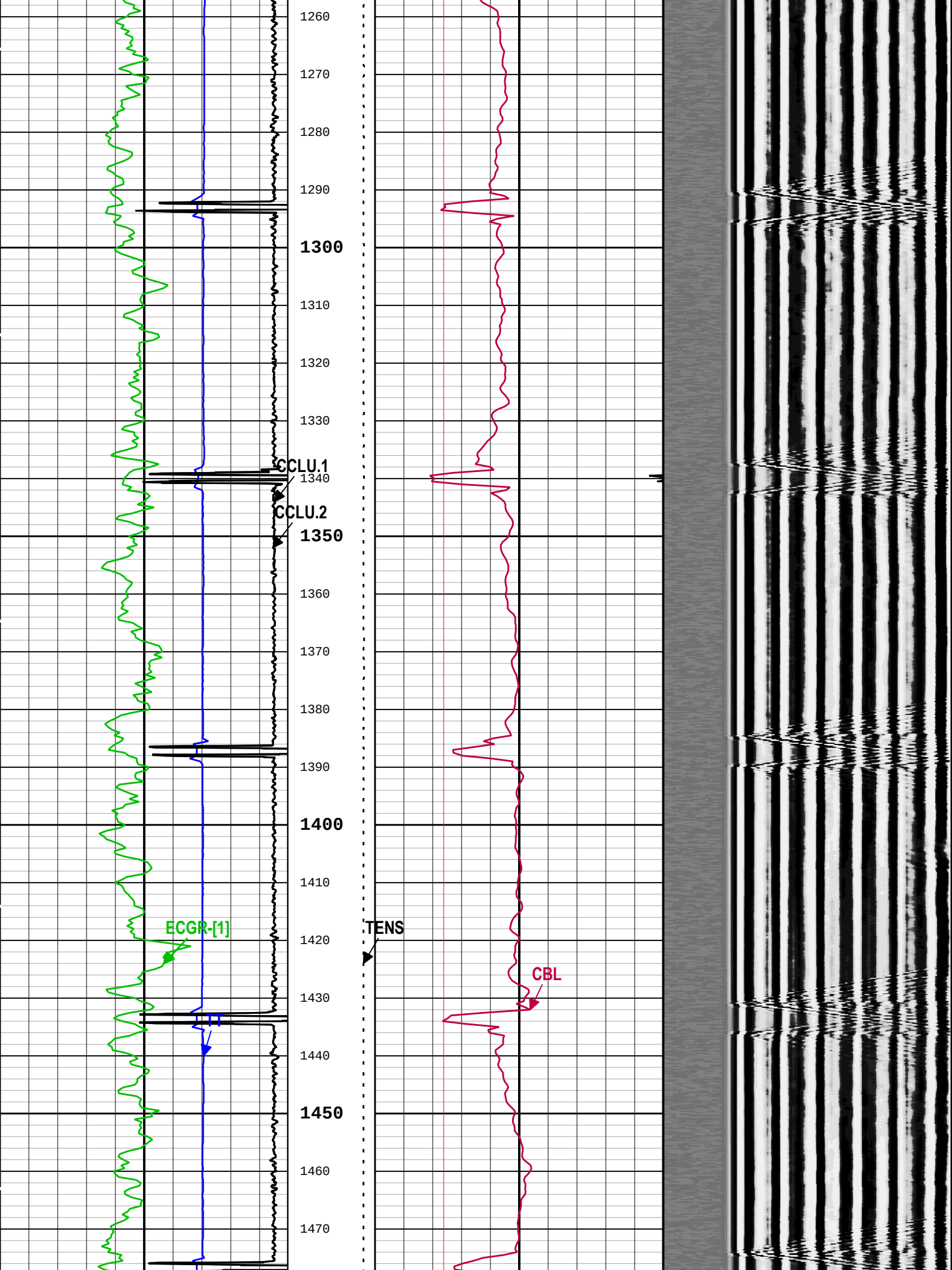
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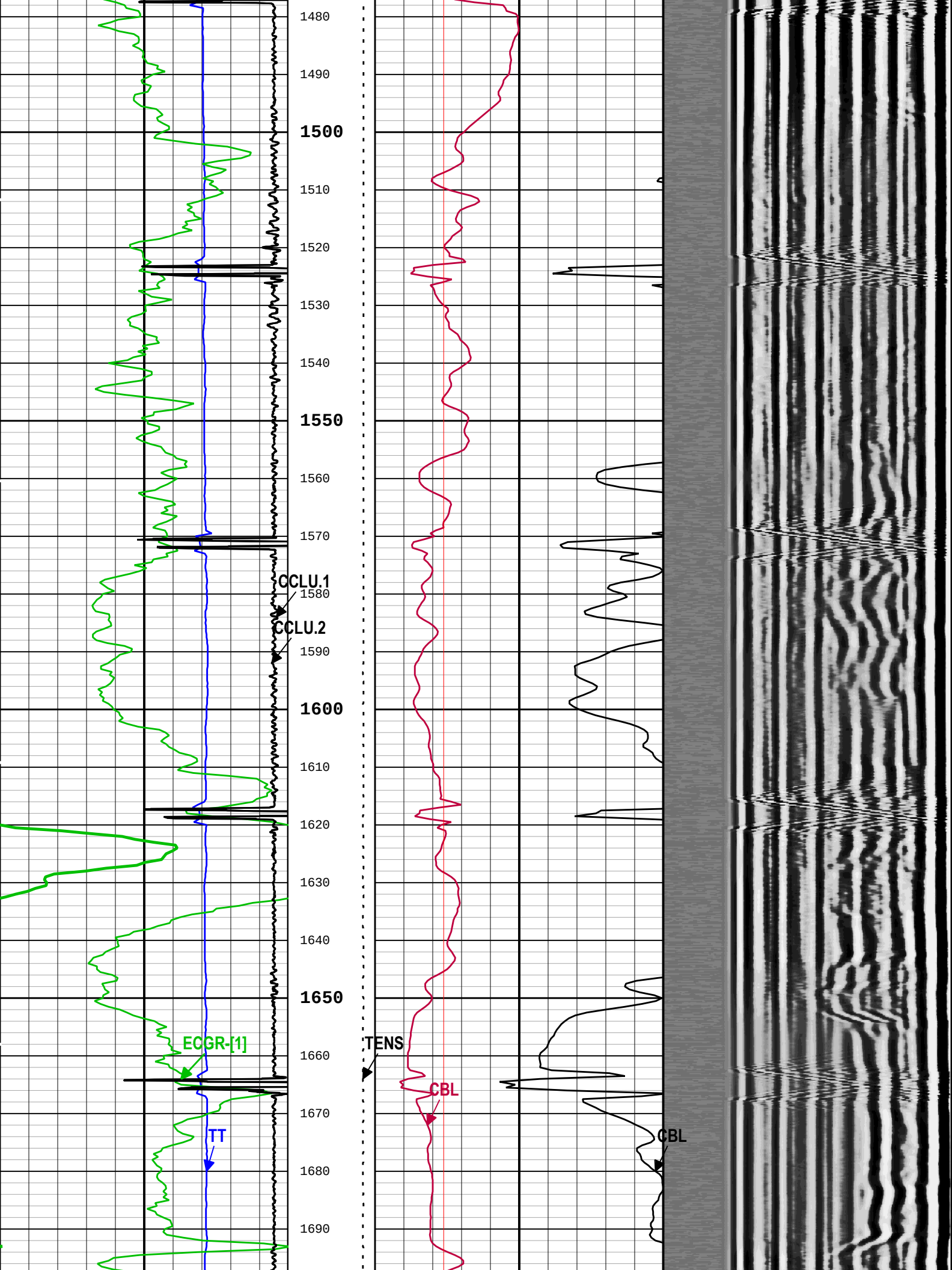
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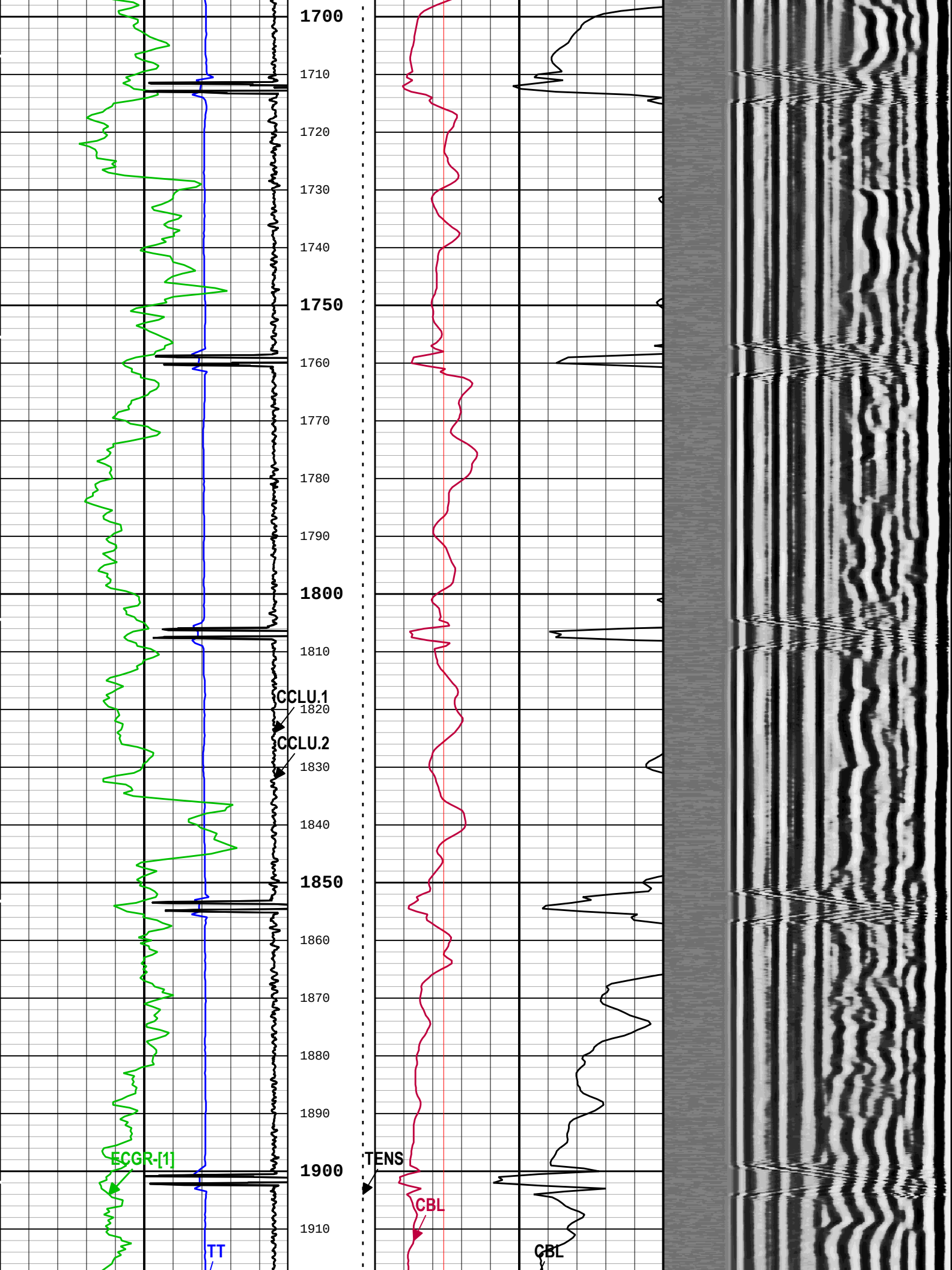
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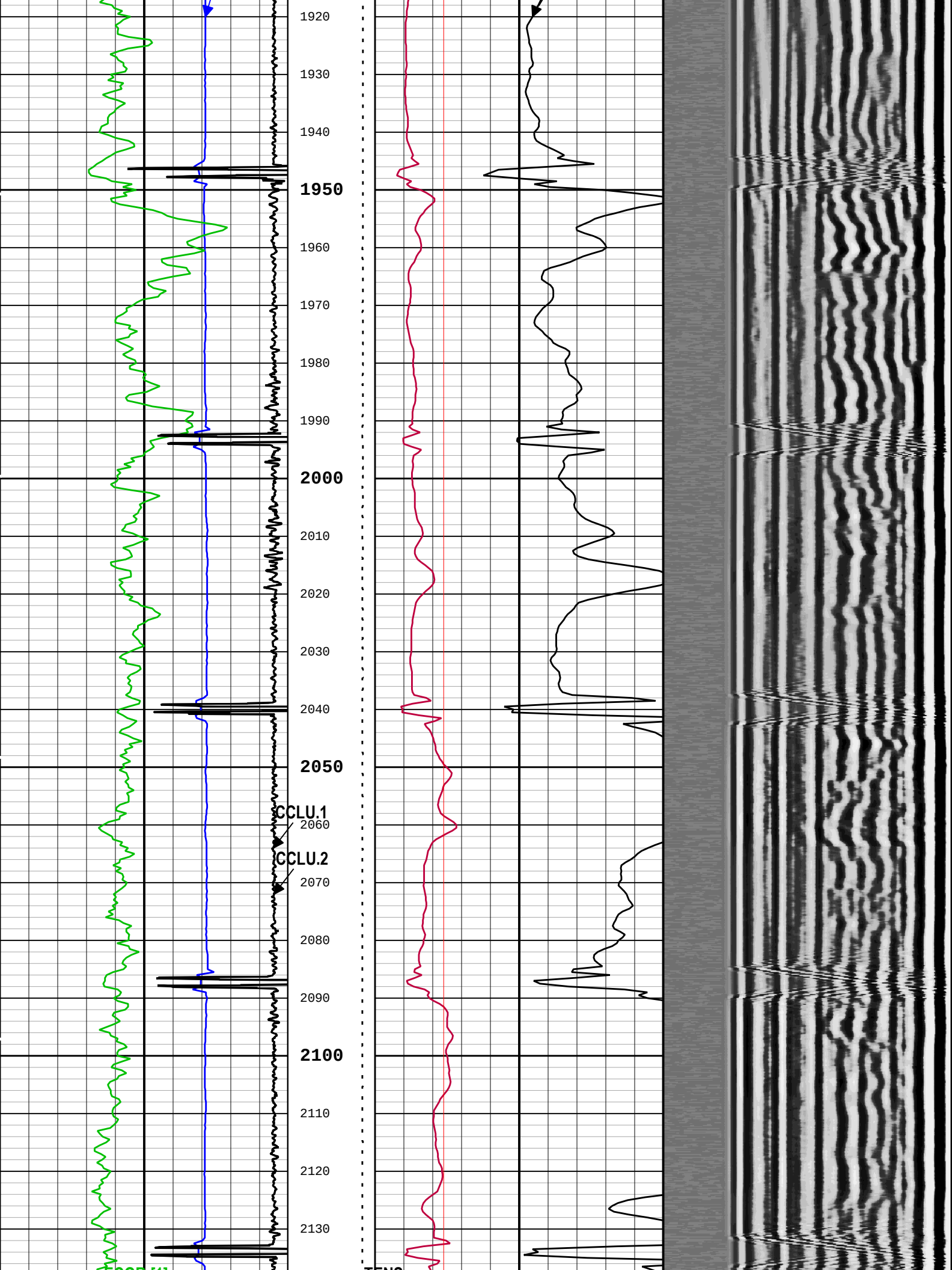
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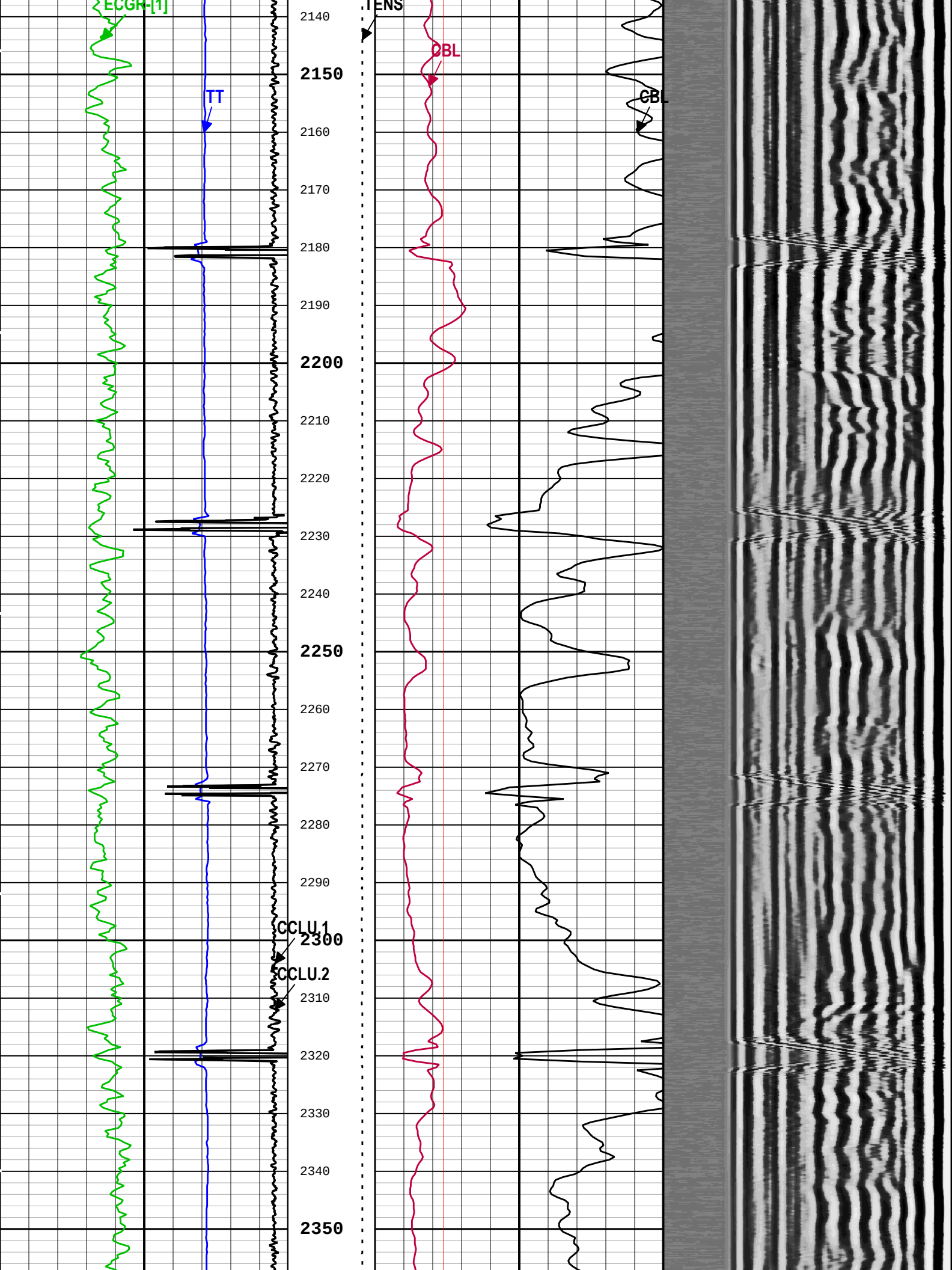
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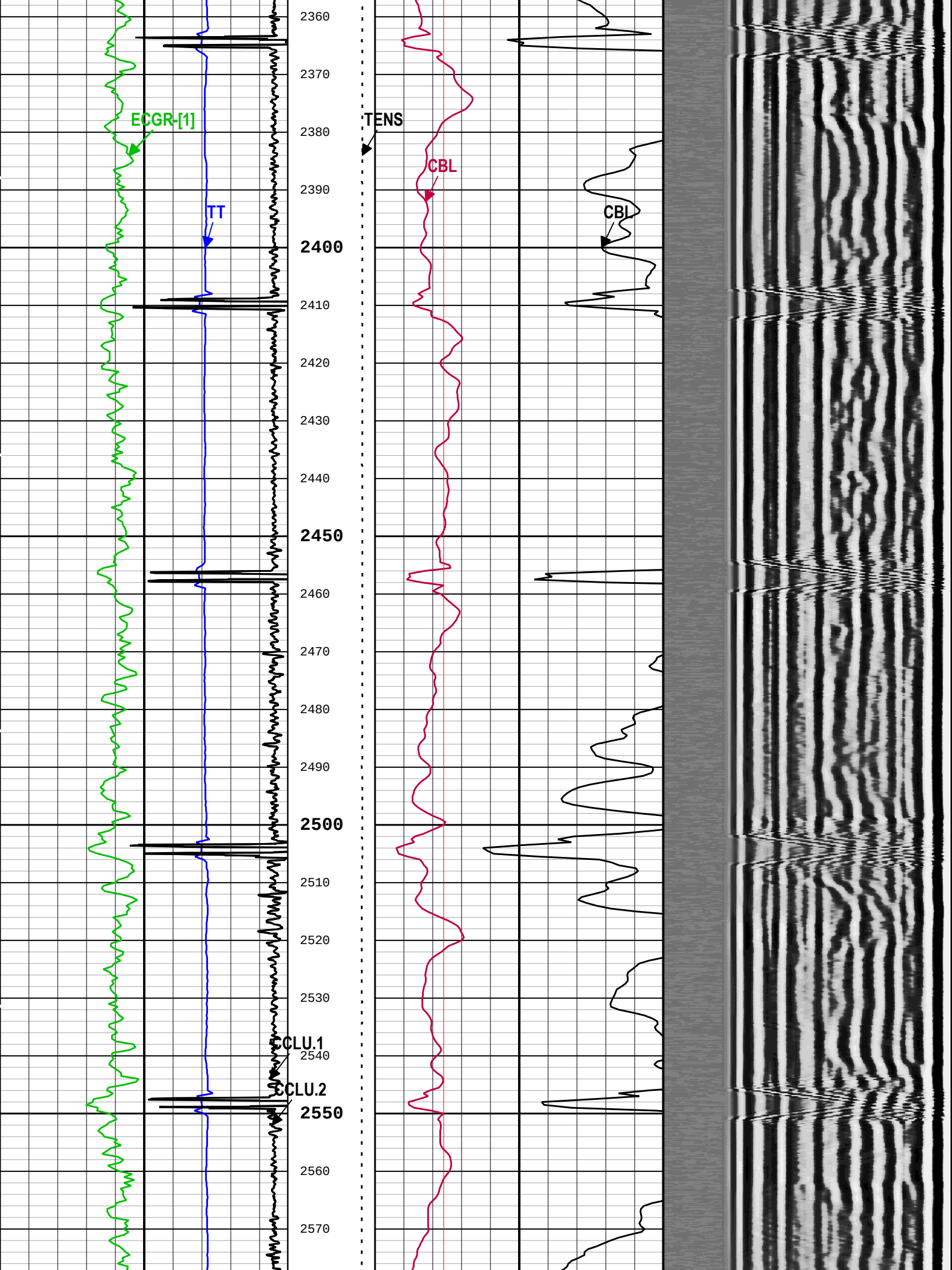
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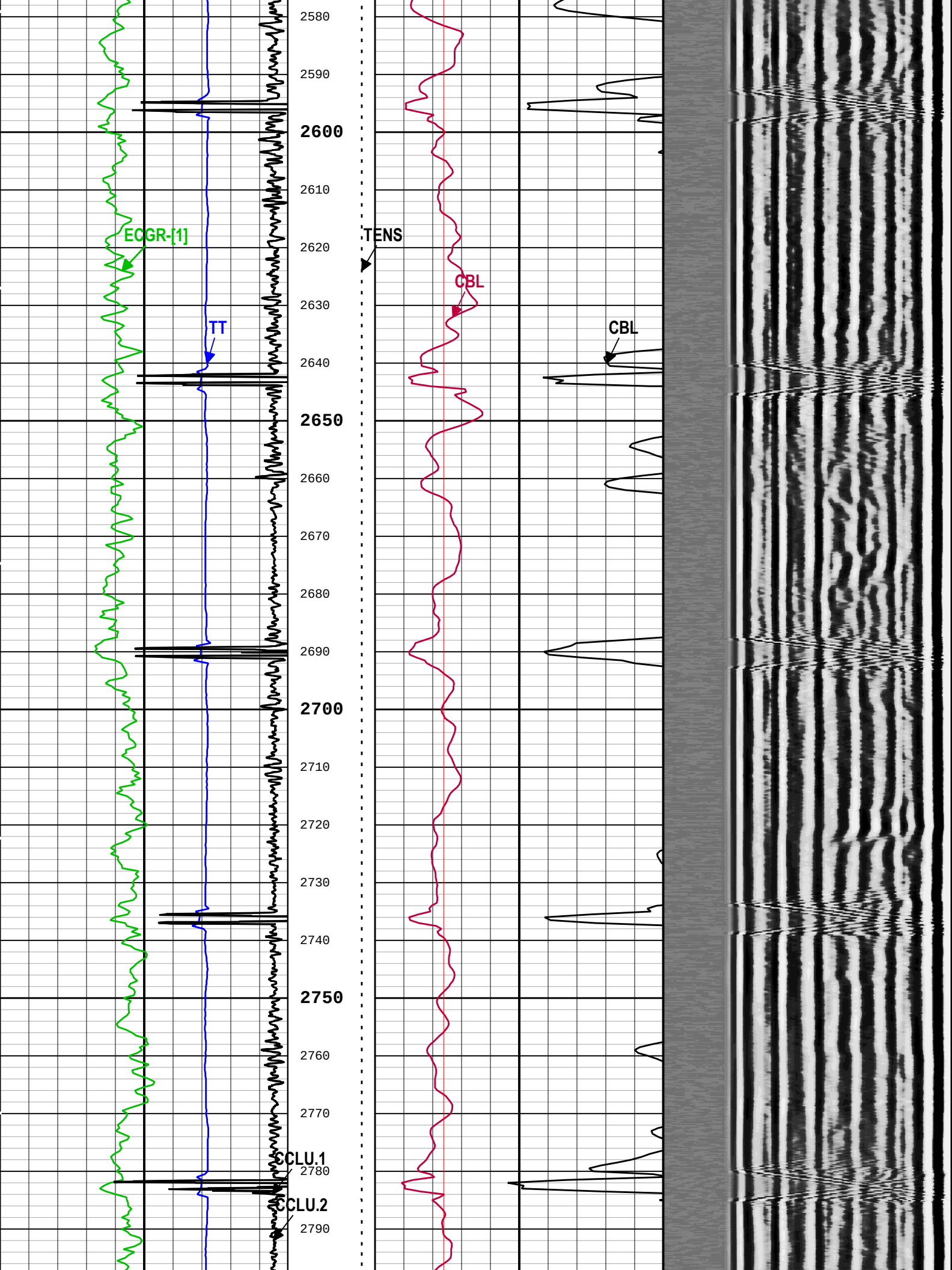
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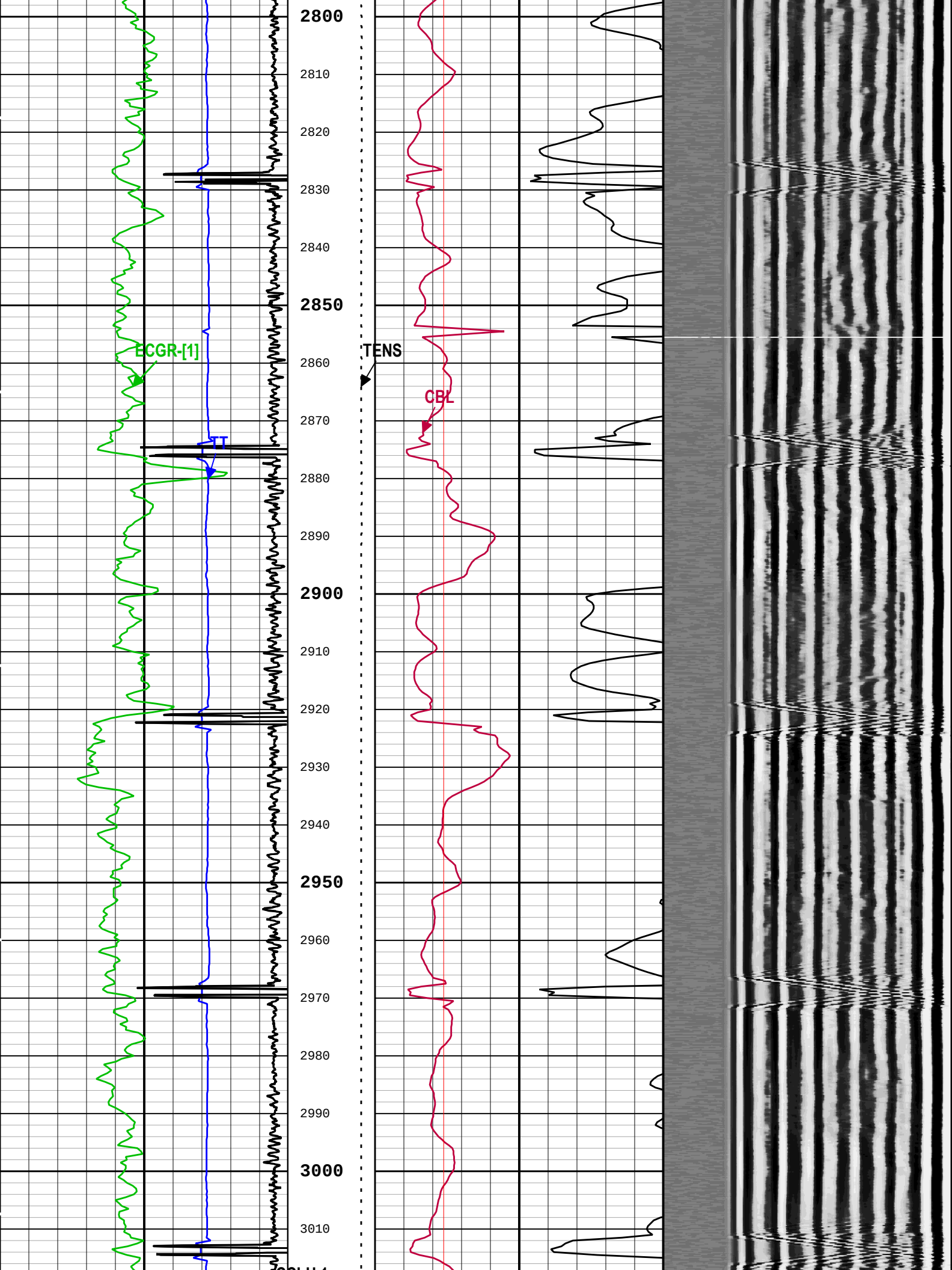
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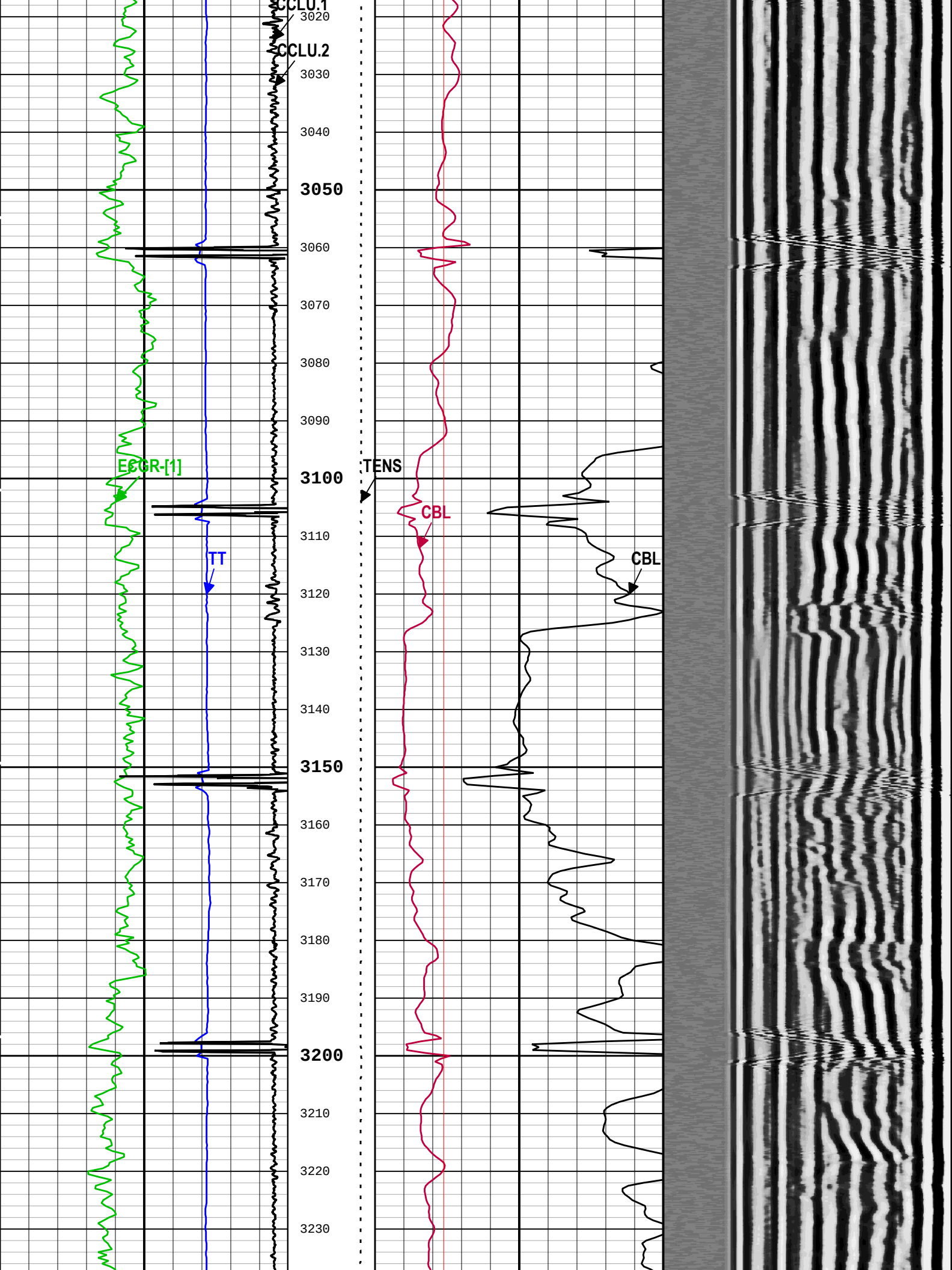
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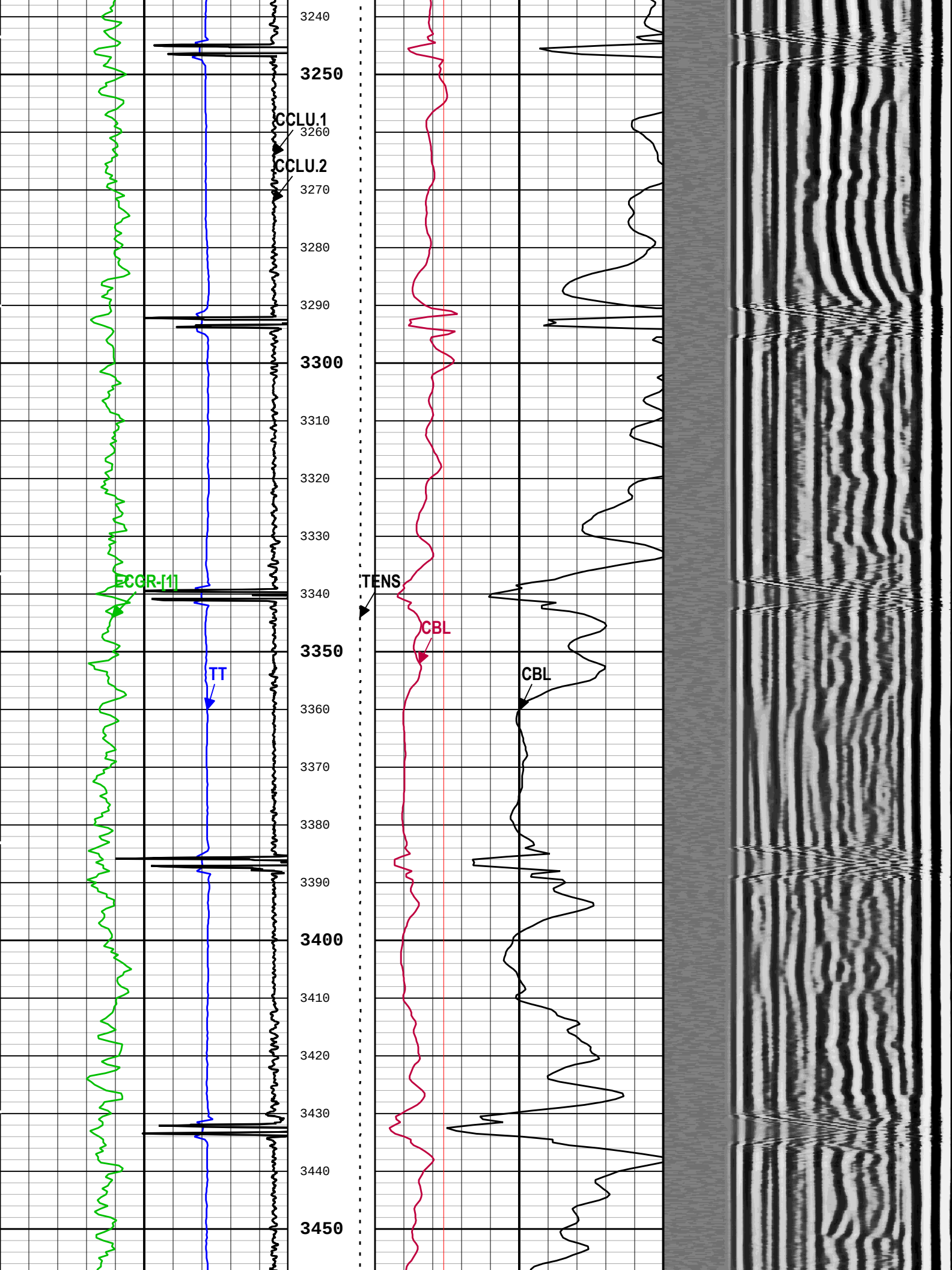
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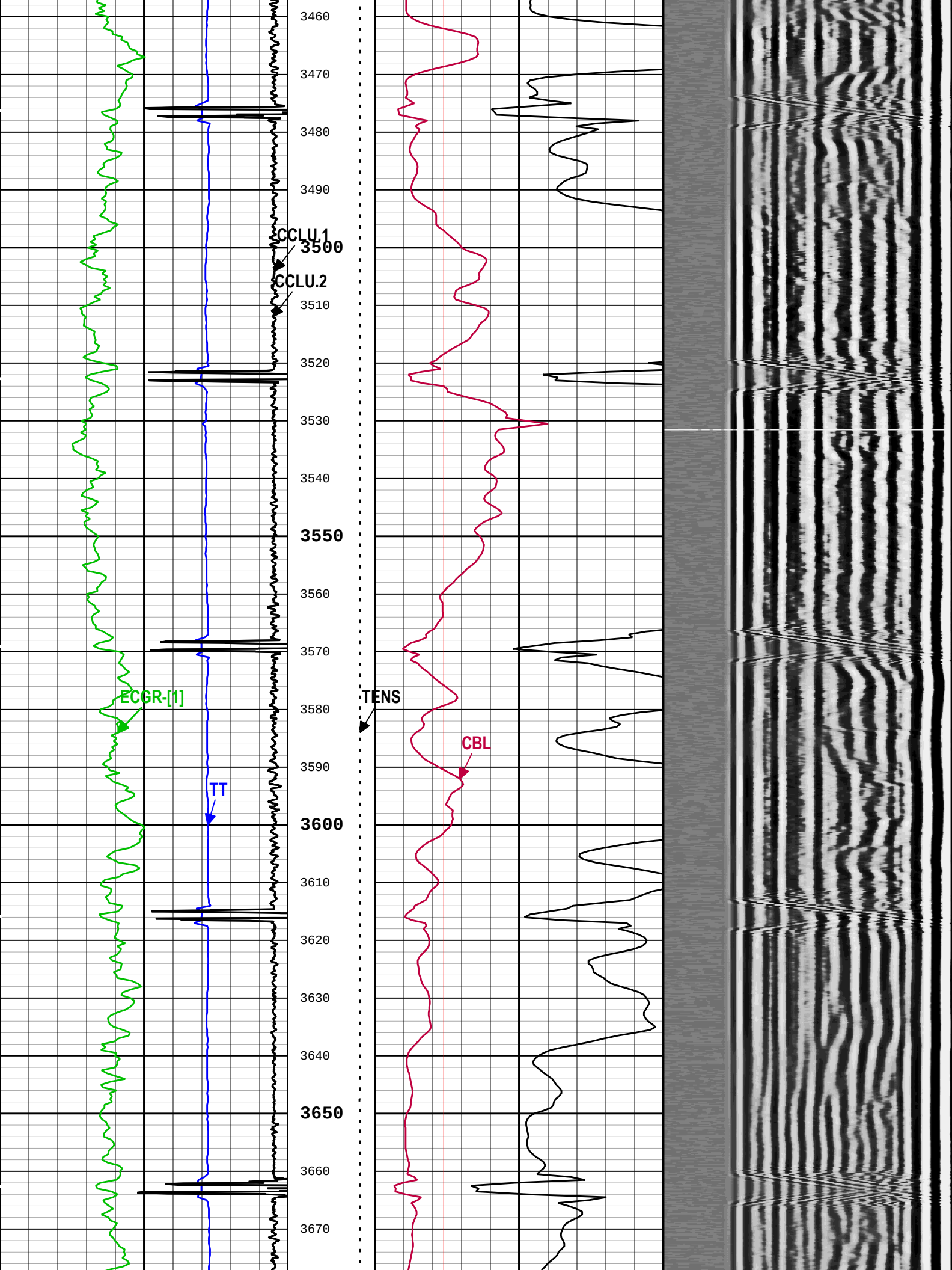
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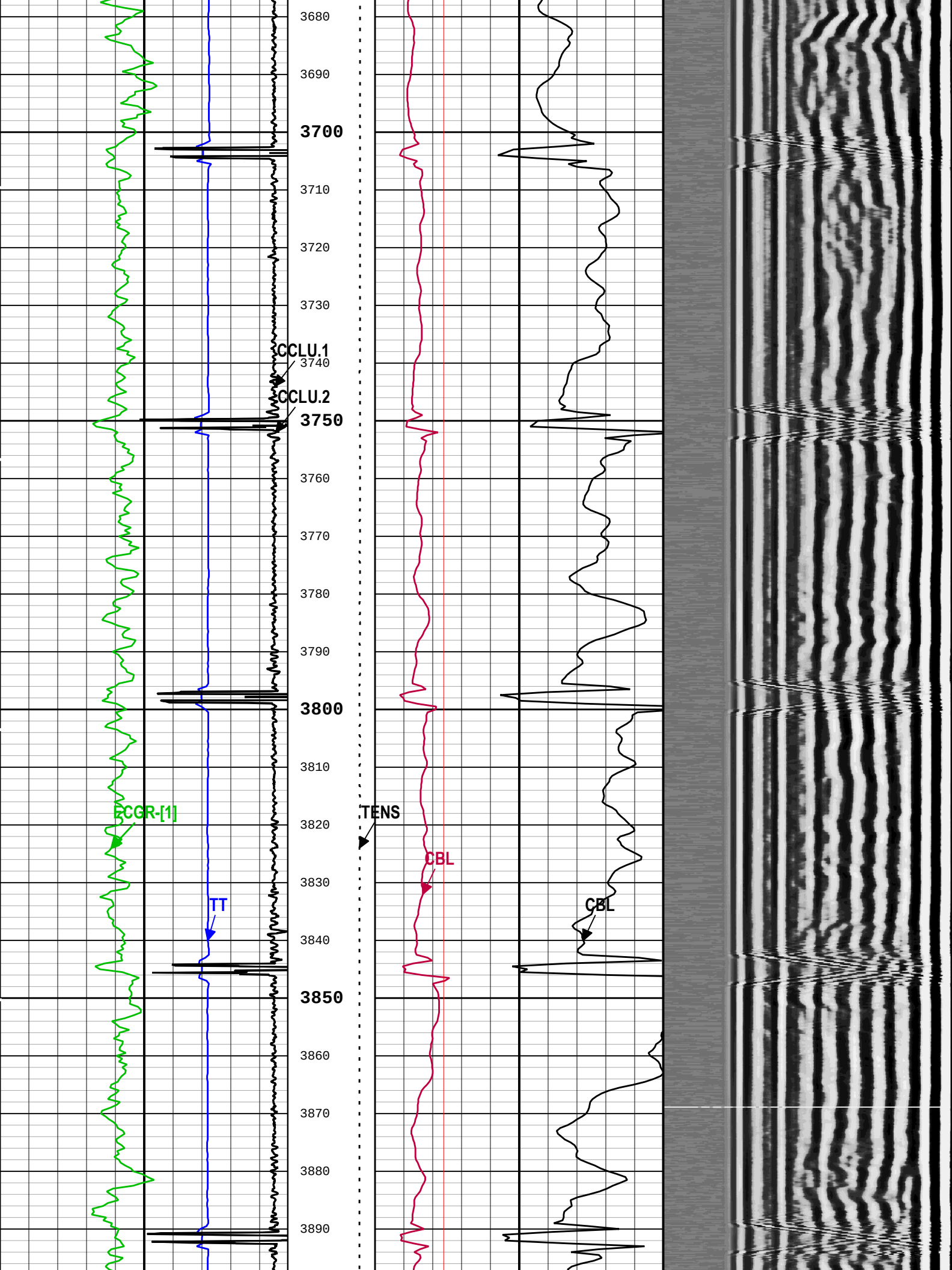
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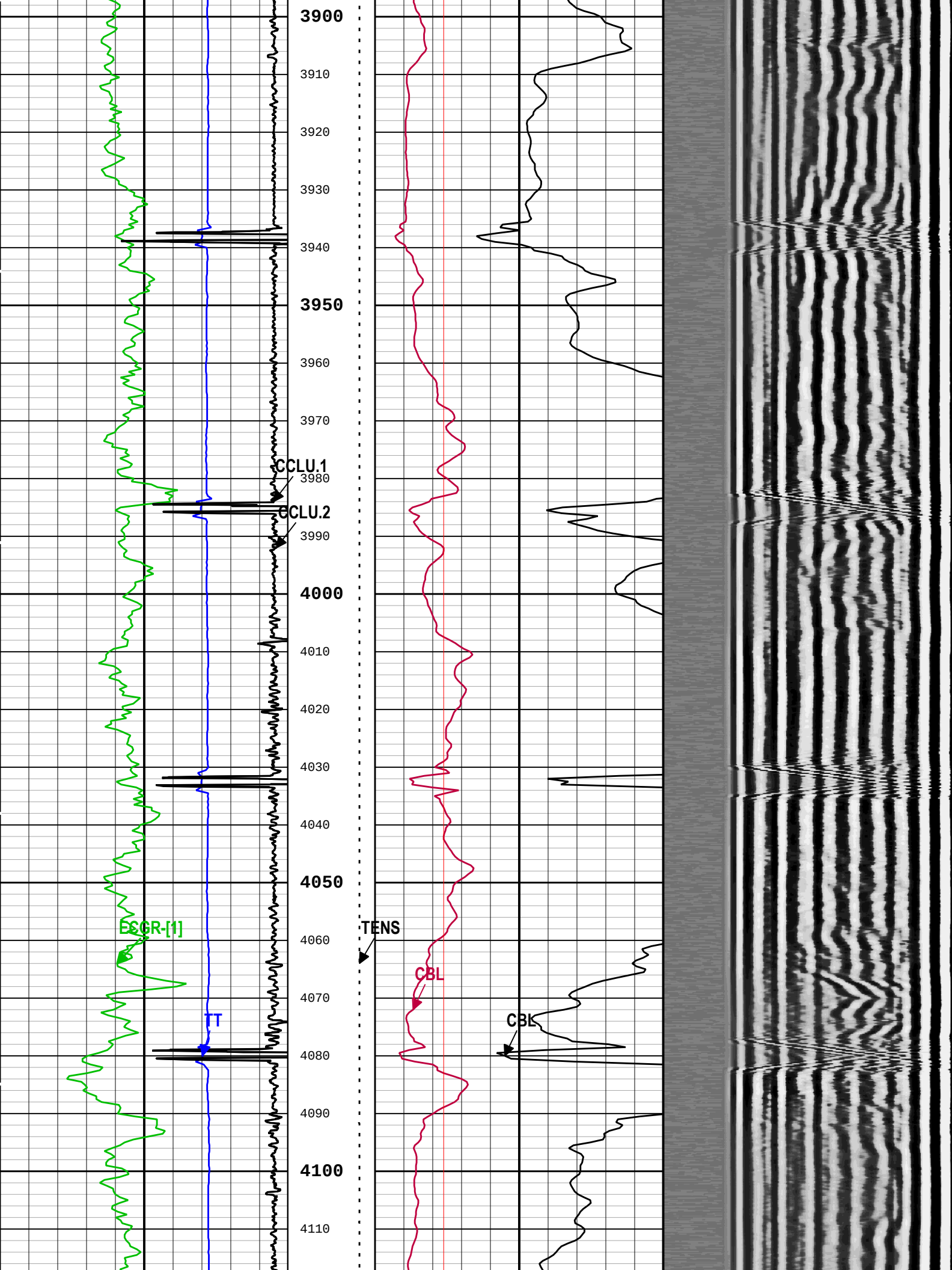
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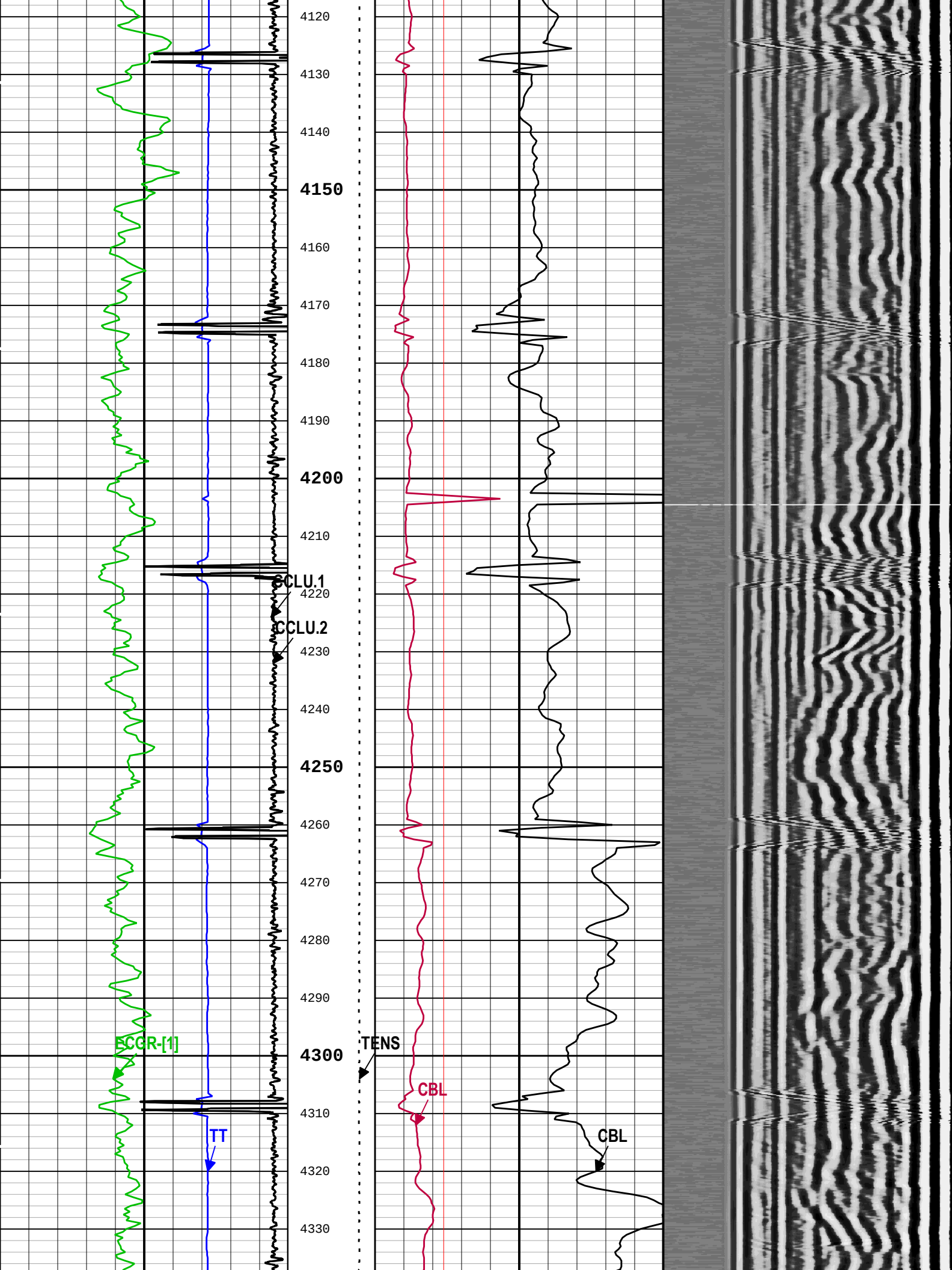
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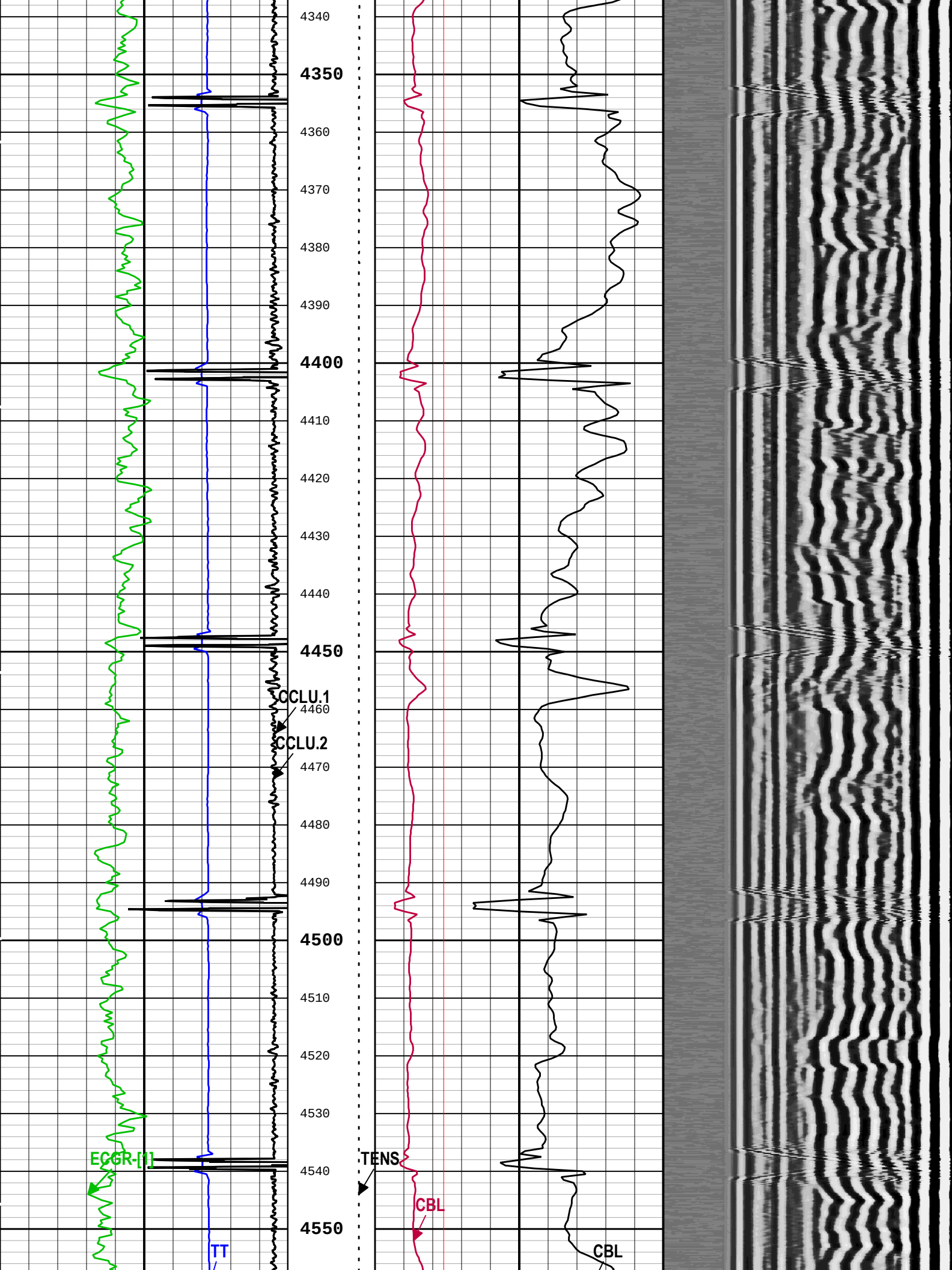
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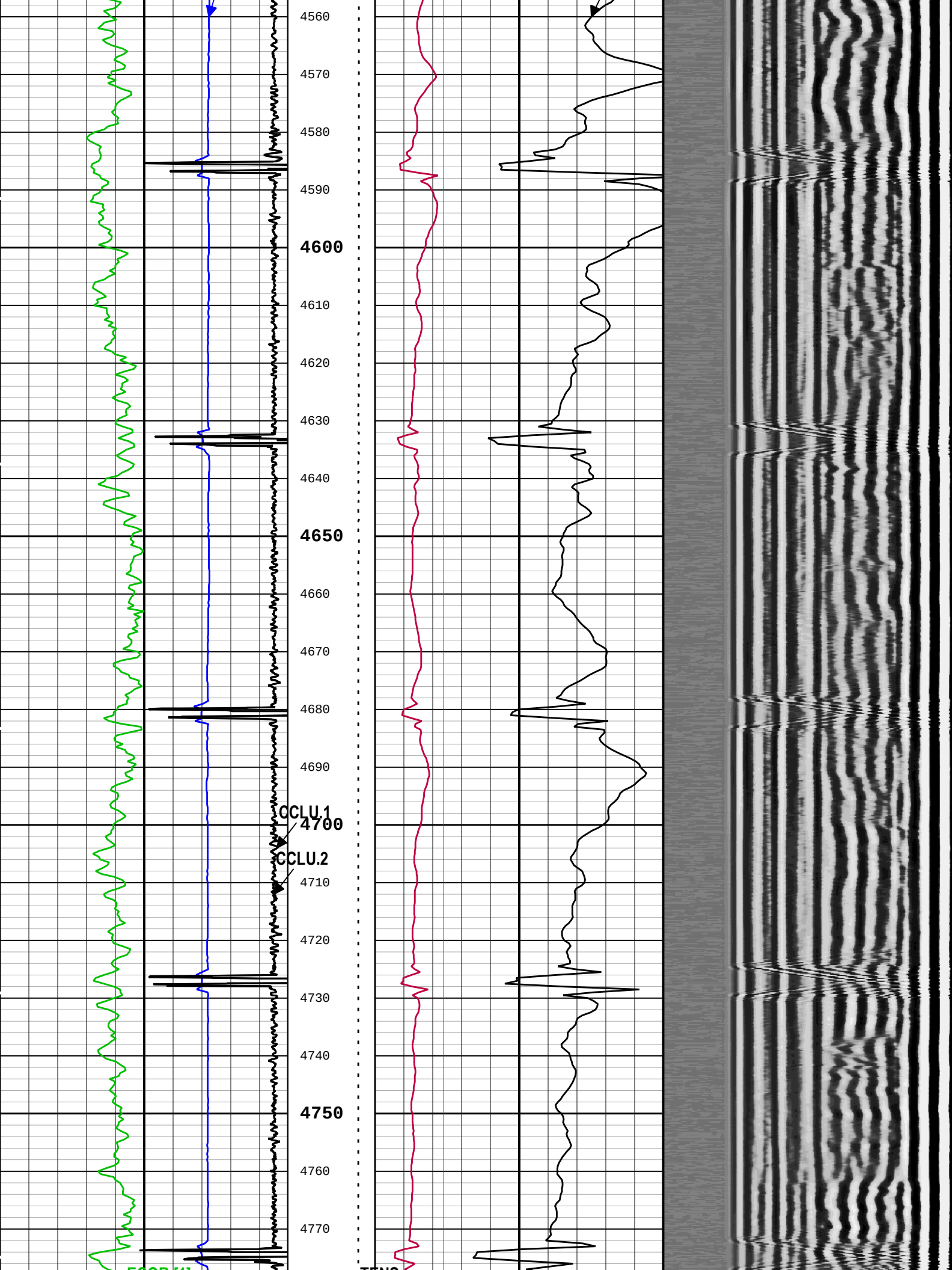
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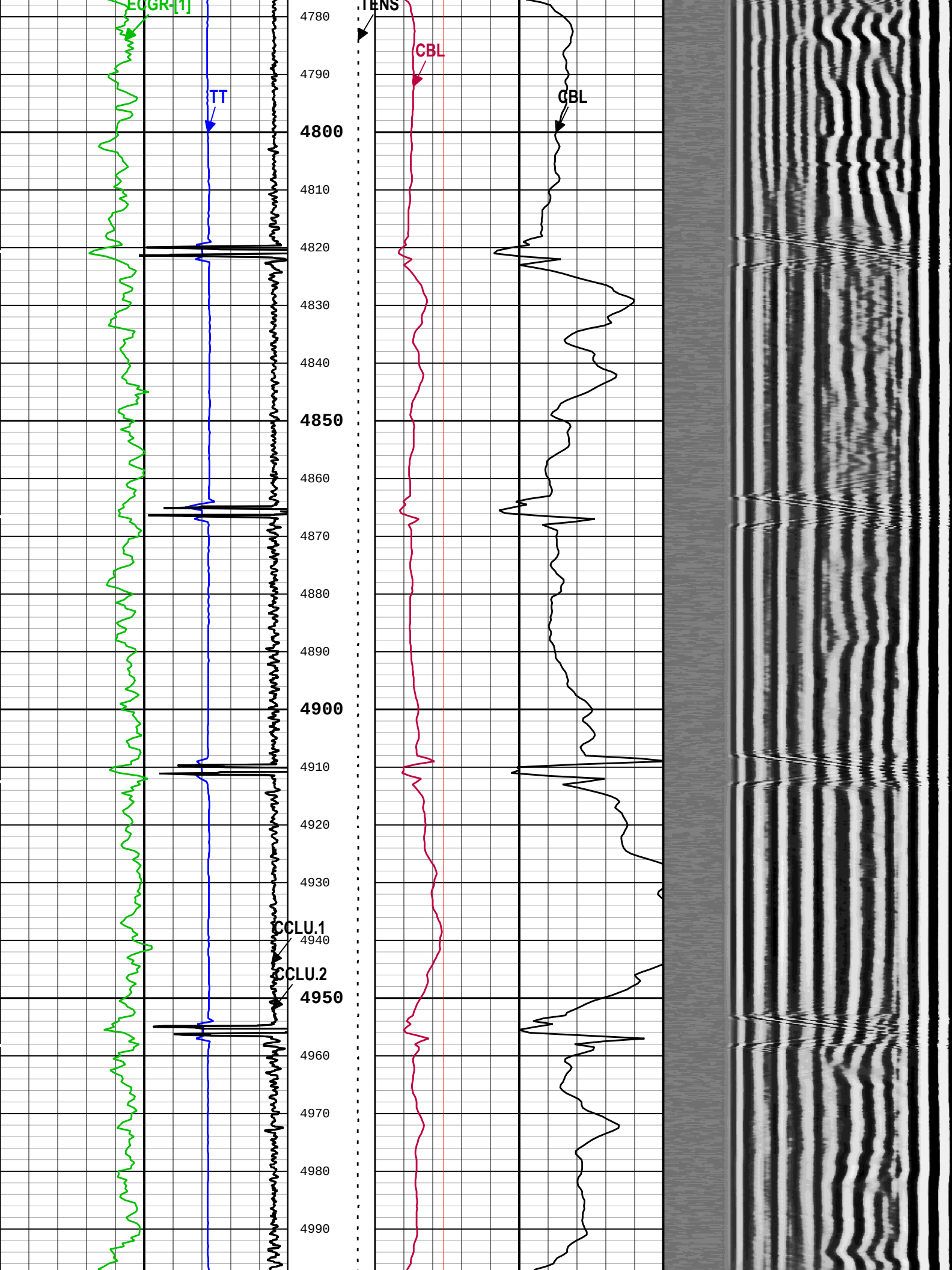
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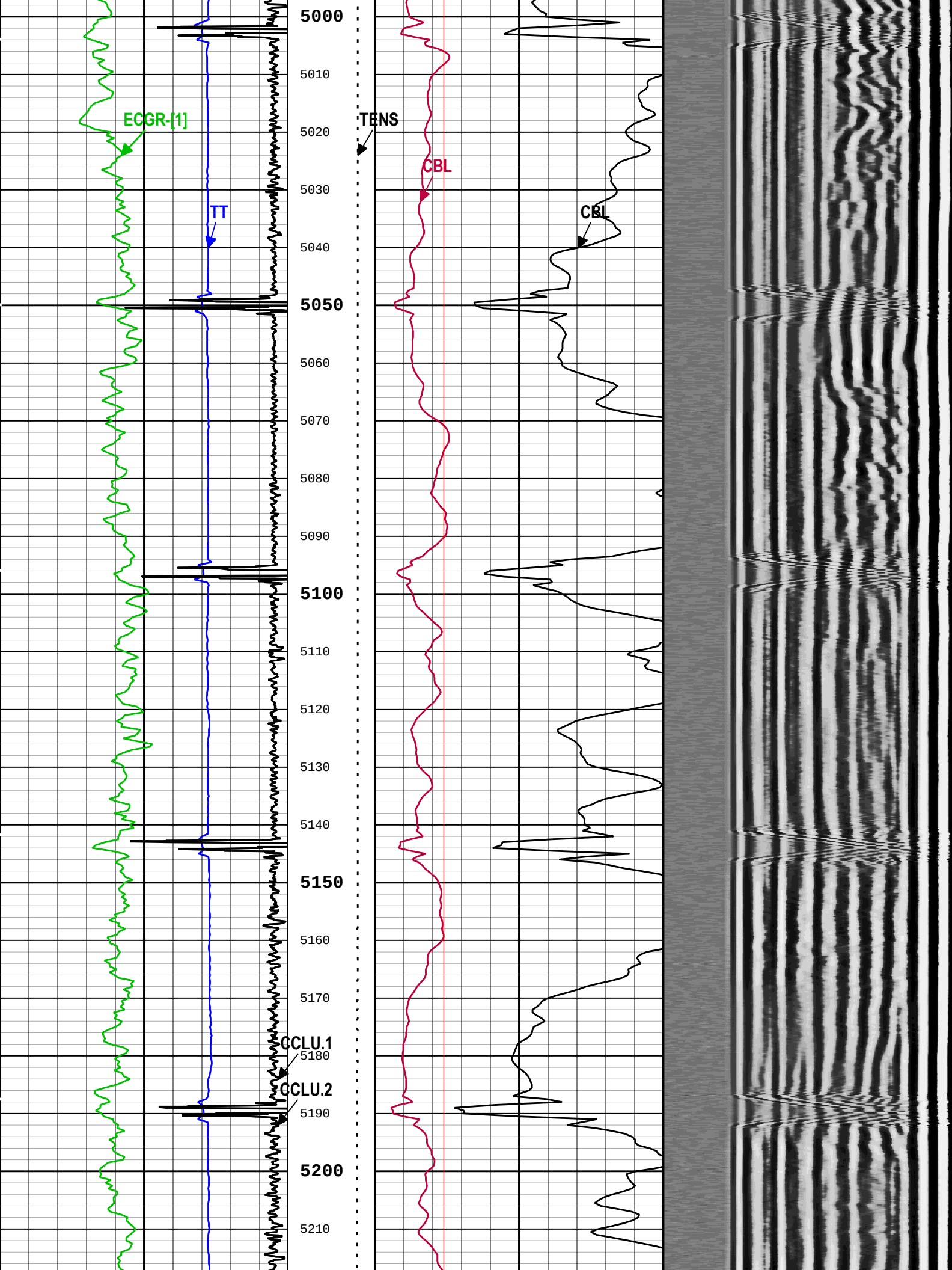
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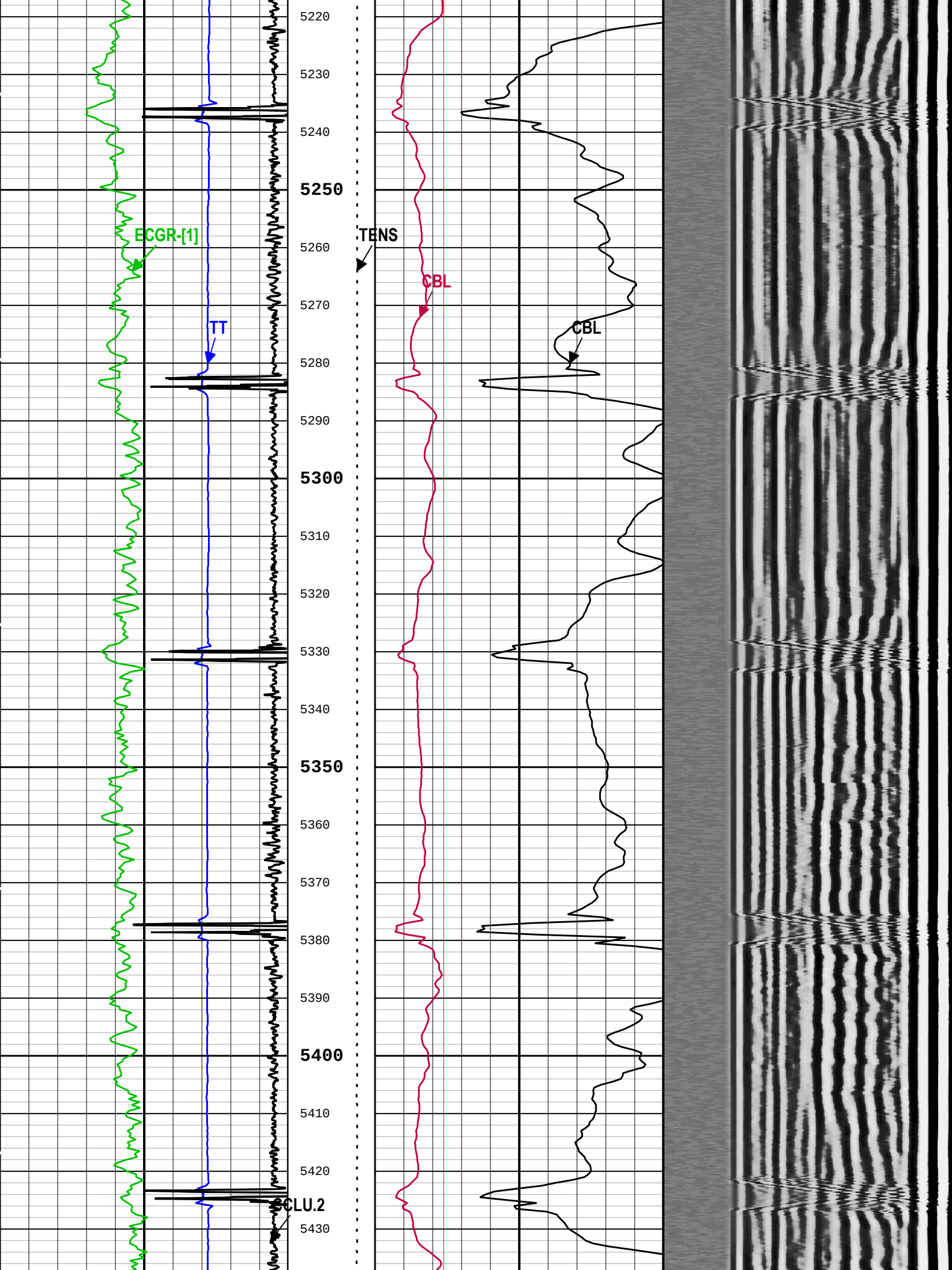
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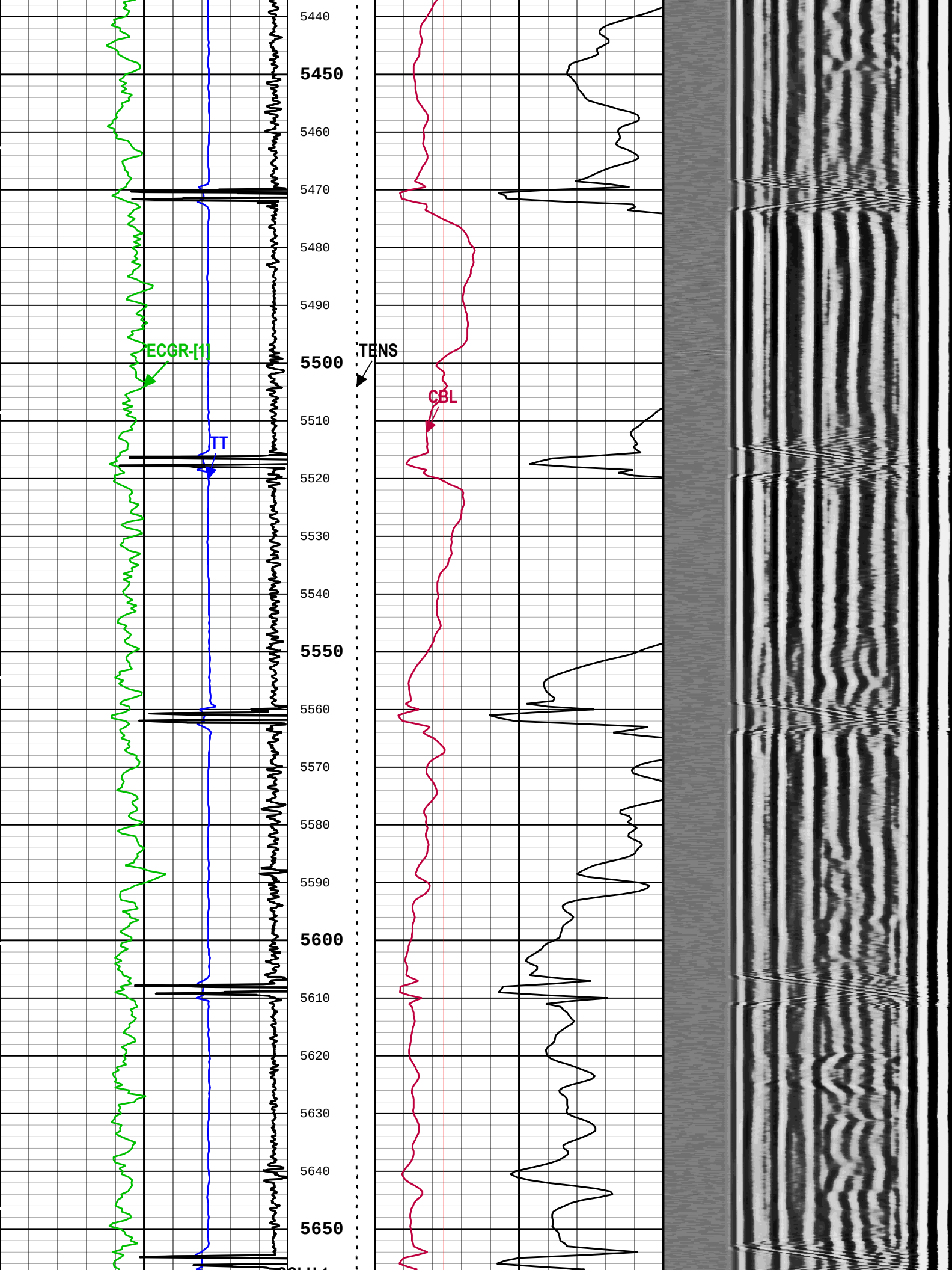
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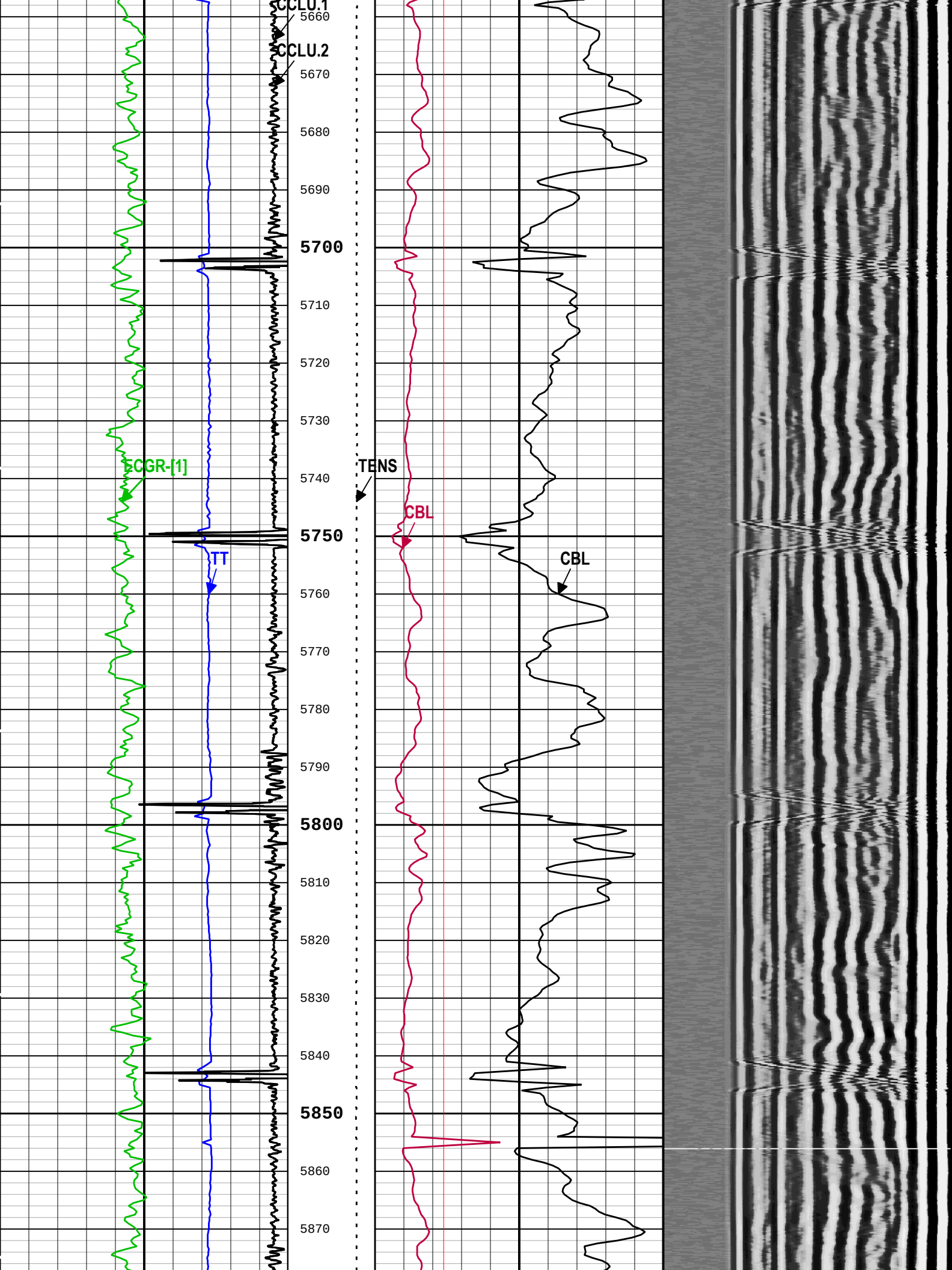
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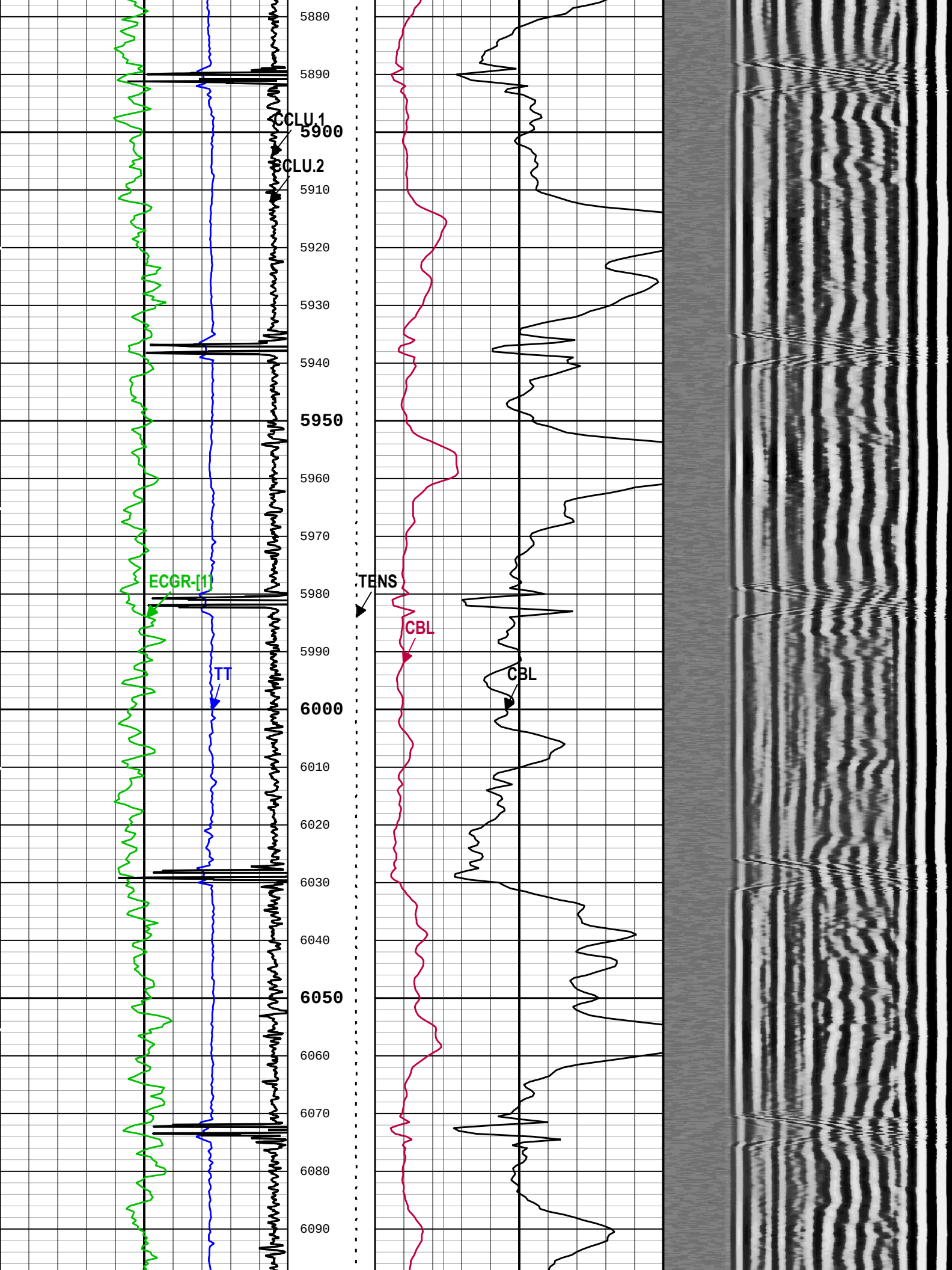
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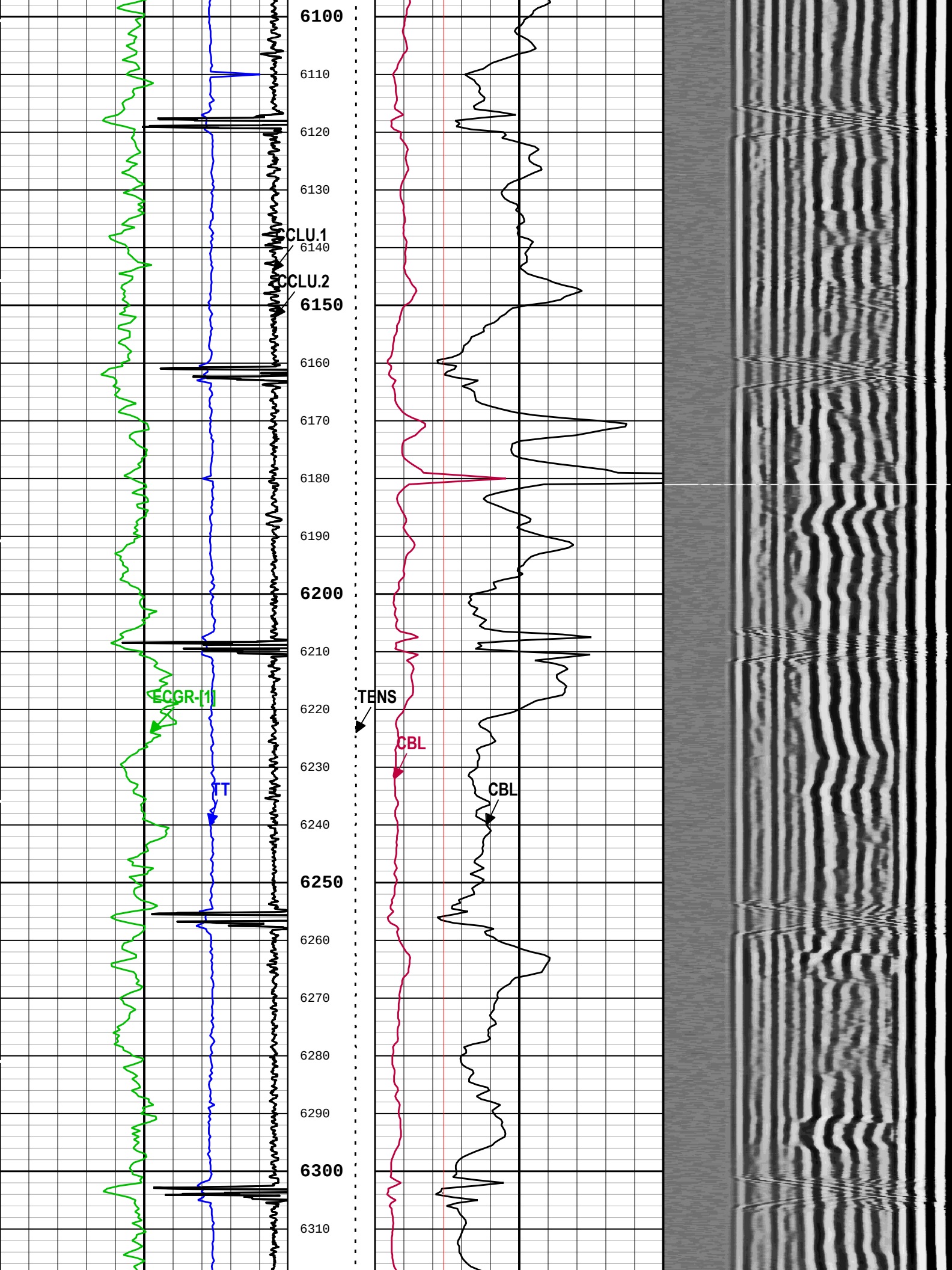
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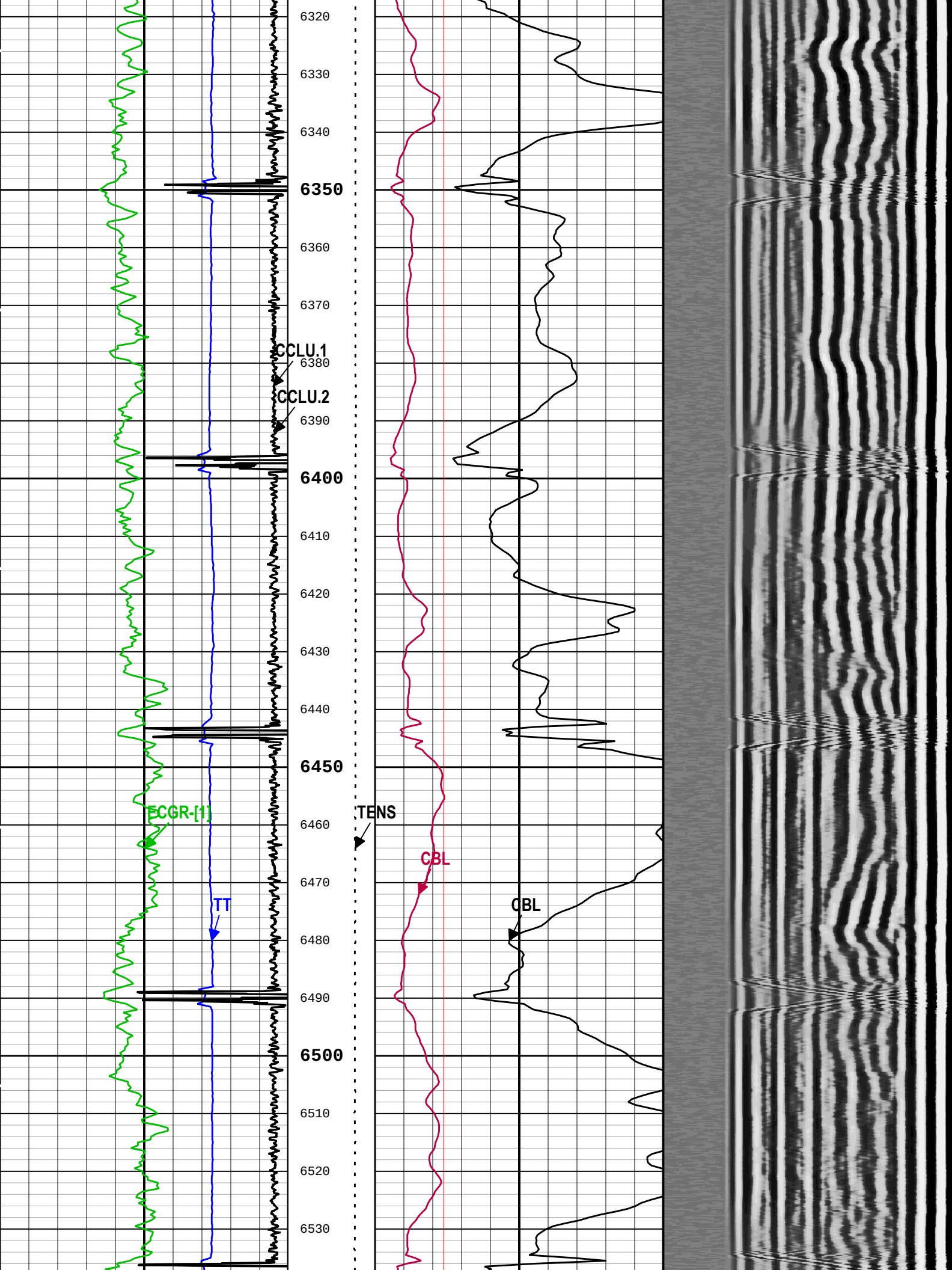
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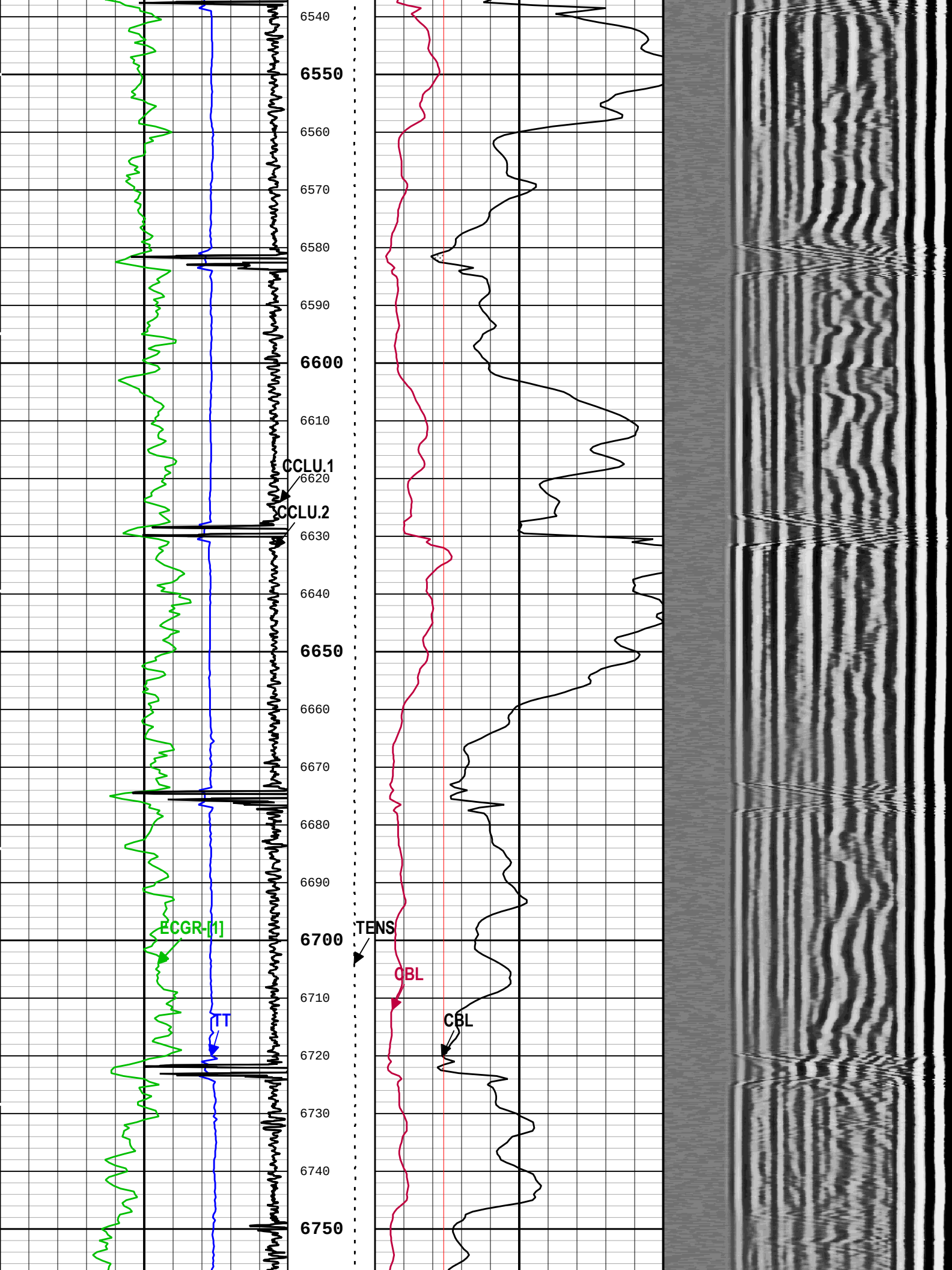
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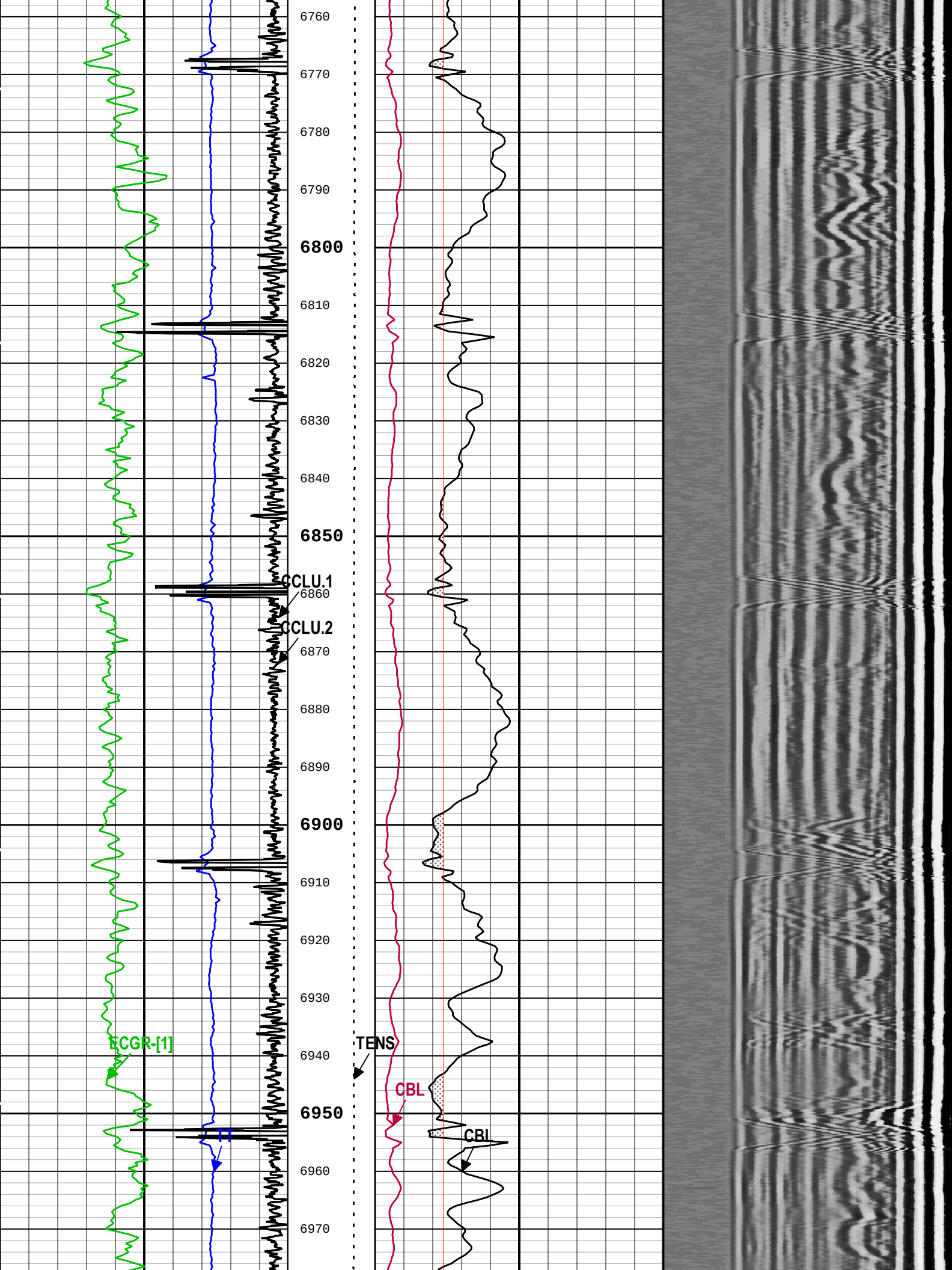
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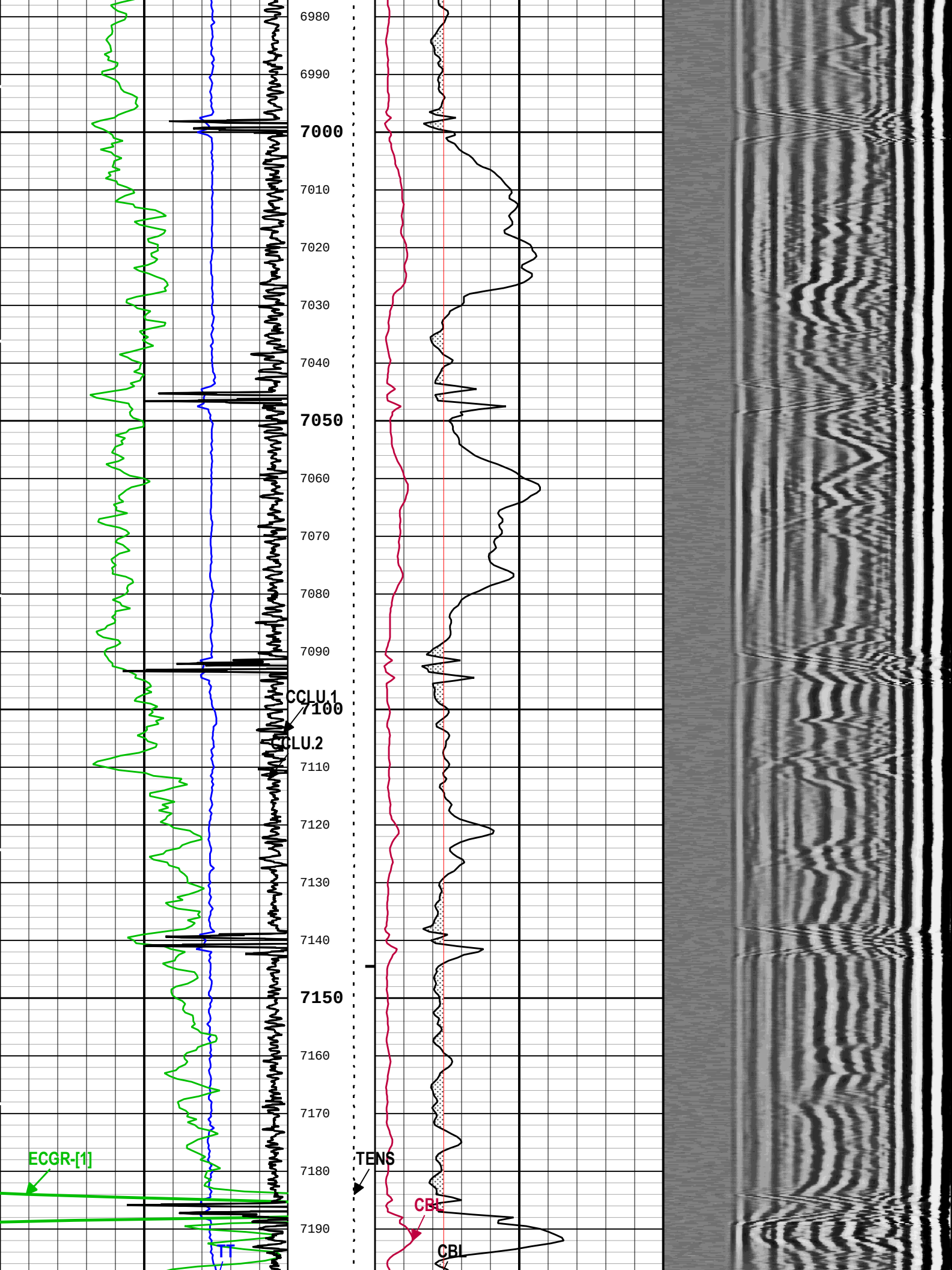
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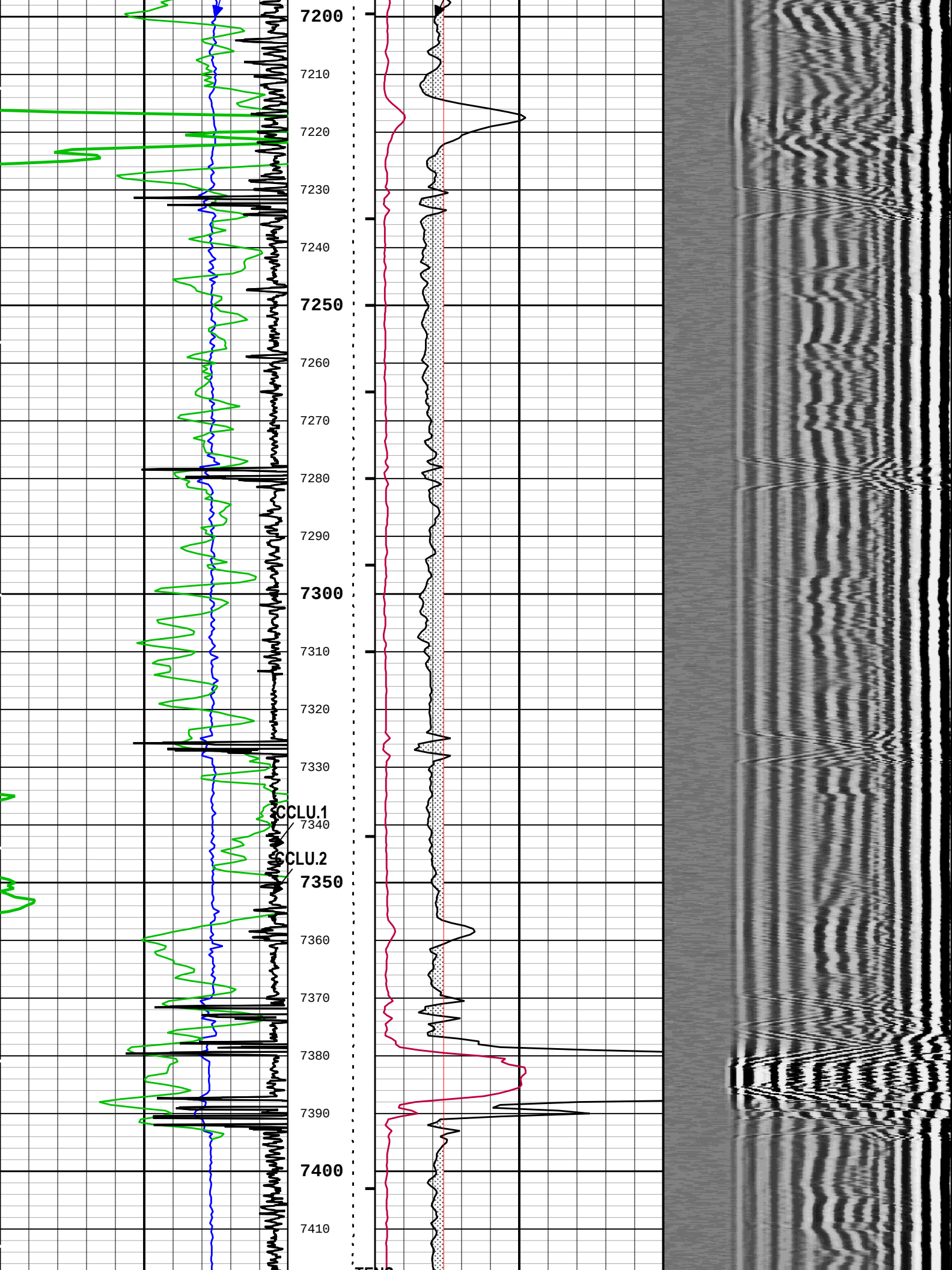
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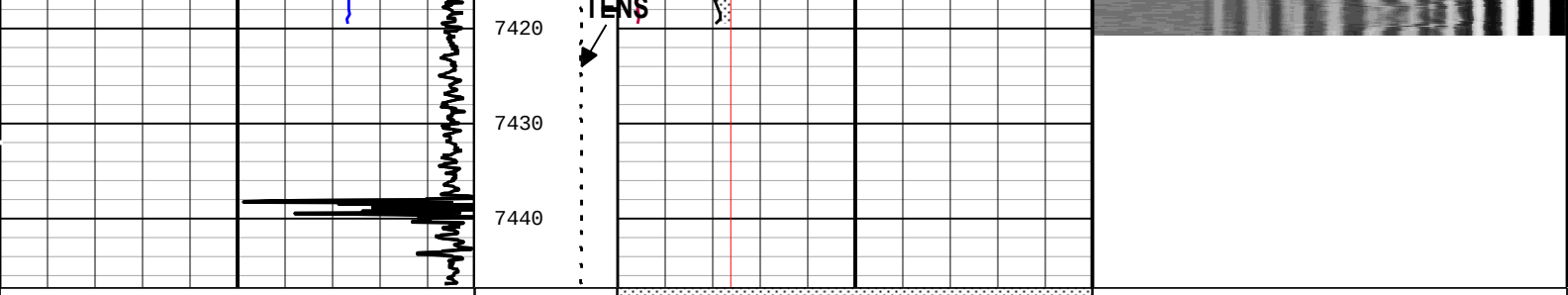


Transit Time for CBL (TT) DSLT-H[1]
480 us 280

Gamma Ray (GR)
0 gAPI 150
Instance - 1 (6" HGNS[1] RT) (ECGR)

Casing Collar Locator Ultrasonic (CCLU).2 USIT-E[1]
-19 in 1

Casing Collar Locator Ultrasonic (CCLU).1 USIT-E[1]
-19 in 1

Cable Tension (TENS)
10000 lbf 0

GoodBond From CBL to GOBO

CBL Amplitude (CBL) DSLT-H[1]
0 mV 20

CBL Amplitude (CBL) DSLT-H[1]
0 mV 100

Good Bond (GOBO)
0 mV 20

Min Amplitude Max

Variable Density Log - DSLT DSLT-H[1]
200 us 1200

TIME_1900 - Time Marked every 60.00 (s)

BIEP - Bond Index Event Pips DSLT-H[1]

Description: Sonic CBL with VDL Format: Log (Sonic CBL with VDL) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 11-Jun-2016 16:24:15

Channel Processing Parameters

One: Parameters

Parameter	Description	Tool	Value	Unit
AMSG	Auxiliary Minimum Sliding Gate	DSLT-H	140	us
ISSBAR	Barite Mud Presence Flag	Borehole	No	
BERJ	Bad Echo Rejection	USIT-E	On	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Cased	
BILI	Bond Index Level for Zone Isolation	DSLT-H	0.8	
BS	Bit Size	WLSESSION	Depth Zoned	in
CASING_PRATIO	Casing Poisson Ratio	USIT-E	Standard Poisson Ratio	
CBLG	CBL Gate Width	DSLT-H	100	us
CBLO	Casing Bottom (Logger)	WLSESSION	7960	ft
CBRA	CBL LQC Reference Amplitude in Free Pipe	DSLT-H	52	mV
CDEN	Cement Density	HGNS-H	2	g/cm3
CMCF	CBL Cement Type Compensation Factor	DSLT-H	1	
CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Regular Cement	
DETE	Delta-T Detection	DSLT-H	E1	
DFD	Drilling Fluid Density	Borehole	8.5	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	206	us/ft
FCF	CBL Fluid Compensation Factor	DSLT-H	1	
FDII	FPM Data Interpolation Interval	USIT-E	0	ft
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	BS	
GOBO_CURR	Good Bond in Arbitrary Cement	DSLT-H	4.74	mV
GR_MULTIPLIER	Gamma Ray Multiplier	HGNS-H	1	

HEMA	Hematite Presence Flag	Borehole	No	
ICE_PROCESS	ICE Processing	USIT-E	Yes	
IMAR	Image Rotation	USIT-E	Off	
MAHTR	Manual High Threshold Reference for first arrival detection	DSLT-H	120	
MATT_CURR	Maximum Attenuation in Arbitrary Cement	DSLT-H	9.3	dB/ft
MCI	Minimum Cemented Interval for Isolation	DSLT-H	Depth Zoned	ft
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	29.67	us
MNHTR	Minimum High Threshold Reference for first arrival detection	DSLT-H	100	
MSA	Minimum Sonic Amplitude	DSLT-H	2.61	mV
MSA_CURR	Minimum Sonic Amplitude in Arbitrary Cement	DSLT-H	2.61	mV
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	1.01	
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1	
NMSG	Near Minimum Sliding Gate	DSLT-H	285	us
NMXG	Near Maximum Sliding Gate	DSLT-H	950	us
NUMP	Number of Detection Passes	DSLT-H	2	
RCOD	Reference Calibrator Outer Diameter	USIT-E	7	in
RCSO	Reference Calibrator Standoff	USIT-E	1.378	in
RCTH	Reference Calibrator Thickness	USIT-E	0.295	in
SFAF	Sonic Formation Attenuation Factor	DSLT-H	3.25	dB/ft
SGAD	Sliding Gate Status	DSLT-H	Off	
SGCL	Sliding Gate Closing Delta-T	DSLT-H	130	us/ft
SGCW	Sliding Gate Closing Width	DSLT-H	25	us
SGDT	Sliding Gate Delta-T	DSLT-H	57	us/ft
SGW	Sliding Gate Width	DSLT-H	110	us
SLEV	Signal Level for AGC	DSLT-H	5000	mV
SOCN	Standoff Distance	HGNS-H	0.125	in
SOCO	Standoff Correction Option	HGNS-H	No	
TCUB	T^3 Processing Level	USIT-E	Loop	
THDH	Maximum Search Thickness (percentage of nominal)	USIT-E	130	%
THDL	Minimum Search Thickness (percentage of nominal)	USIT-E	70	%
HISC	Tool Position: Centered or Eccentered	HGNS-H	Eccentered	
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	0	Mrayl
UFGDE	Fiberglass Density	USIT-E	1.95	g/cm3
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	FreePipe Norm.	
THDP	Thickness Detection Policy	USIT-E	Fundamental	
VCAS	Ultrasonic Transversal Velocity in Casing	USIT-E	51.4	us/ft
VDLG	VDL Manual Gain	DSLT-H	5	
ZCAS	Acoustic Impedance of Casing	USIT-E	46.25	Mrayl
ZCMT	Acoustic Impedance of Cement	DSLT-H	6.8	Mrayl
ZCMT_NEAT	Acoustic Impedance of Cement in Neat Cement	DSLT-H	6.8	Mrayl
ZINI	Initial Estimate of Cement Impedance	USIT-E	-1	Mrayl
ZMUD	Acoustic Impedance of Mud	Borehole	1.48	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.6	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

OneDepth Zoned Parameters

Parameter	Value	Start (ft)	Stop (ft)

Parameter	Value	Start (ft)	Stop (ft)
BS	17.5	19.5	859
BS	12.25	859	7447.25
MCI	21.68	19.5	859
MCI	14.81	859	7447.25

All depth are actual.

Surface: Parameters

Parameter	Description	Tool	Value	Unit
ISSBAR	Barite Mud Presence Flag	Borehole	No	
BERJ	Bad Echo Rejection	USIT-E	On	
BS	Bit Size	WLSESSION	17.5	in
CASING_PRATIO	Casing Poisson Ratio	USIT-E	Standard Poisson Ratio	
CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Regular Cement	
DFD	Drilling Fluid Density	Borehole	8.5	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	206	us/ft
FDII	FPM Data Interpolation Interval	USIT-E	0	ft
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	29.67	us
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1	
RCOD	Reference Calibrator Outer Diameter	USIT-E	7	in
RCSO	Reference Calibrator Standoff	USIT-E	1.378	in
RCTH	Reference Calibrator Thickness	USIT-E	0.295	in
TCUB	T^3 Processing Level	USIT-E	Loop	
THDH	Maximum Search Thickness (percentage of nominal)	USIT-E	130	%
THDL	Minimum Search Thickness (percentage of nominal)	USIT-E	70	%
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	0	Mrayl
UFGDE	Fiberglass Density	USIT-E	1.95	g/cm3
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	Theoretical	
THDP	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	1.48	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.6	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

Tool Control Parameters

One: Parameters

Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	18	dB
DDEL	Digitizing Delay	DSLT-H	0	us
U-USIT_DDT5	USIC Downhole Decimation for T5 only	USIT-E	0_NONE	

DOT(DOS)	Distance between Opposite Transducer Faces	USIT-E	4.874	in
MODE	DSLT Acquisition Mode	DSLT-H	CBL	
RATE	DSLT Firing Rate	DSLT-H	15 Hz	
DTFS	DSLT Telemetry Frame Size	DSLT-H	536	
DWCO	Digitizer Word Count	DSLT-H	250	
EMXV	EMEX Voltage	USIT-E	Time Zoned	V
HRES	Horizontal Resolution	USIT-E	10 deg	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	3375	ft/h
MOTOR_PROTECT	Motor Protection	USIT-E	Off	
SDTH	Switch Down Threshold	DSLT-H	20000	
SGAI	Selectable Acquisition Gain	DSLT-H	x1	
SUTH	Switch Up Threshold	DSLT-H	1000	
TMUC	Type of Mud	USIT-E	BRI	
UACLV_PERM	Ultrasonic ACLV Permanent	USIT-E	No	
ULOG	Logging Objective	USIT-E	MEASUREMENT	
UMFR	Modulation Frequency	USIT-E	333333	Hz
USFR	Ultrasonic Sampling Frequency	USIT-E	500000	Hz
UPAT	USIT Emission Pattern	USIT-E	Pattern 500 KHz	
UWKM	USIT Working Mode	USIT-E	Uncompressed 10 deg at 1.5 in LF	
USIT_DEPTHLOG	Starting Depth Log for Ultrasonics	USIT-E	7450	ft
USSP	Ultrasonic Service	USIT-E	USI	
VRES	Vertical Resolution	USIT-E	1.5 in	
WINB	Window Begin Time	USIT-E	Time Zoned	us
WINE	Window End Time	USIT-E	85.35	us
WMOD	Waveform Firing Mode	DSLT-H	Full	

OneTime Zoned Parameters

Pass Log[2]:Up

Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
EMXV	42	11-Jun-2016 08:24:01	11-Jun-2016 08:27:02	7447.26	7379.62
EMXV	35	11-Jun-2016 08:27:02	11-Jun-2016 11:06:47	7379.62	72.22
WINB	45.35	11-Jun-2016 08:24:01	11-Jun-2016 08:30:05	7447.26	7252.65
WINB	43	11-Jun-2016 08:30:05	11-Jun-2016 11:06:47	7252.65	72.22

All depth are at tool zero.

Surface: Parameters

Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	18	dB
U-USIT_DDT5	USIC Downhole Decimation for T5 only	USIT-E	0_NONE	
DOT(DOS)	Distance between Opposite Transducer Faces	USIT-E	4.874	in
EMXV	EMEX Voltage	USIT-E	32	V
HRES	Horizontal Resolution	USIT-E	10 deg	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	3375	ft/h
MOTOR_PROTECT	Motor Protection	USIT-E	On	
TMUC	Type of Mud	USIT-E	BRI	
UACLV_PERM	Ultrasonic ACLV Permanent	USIT-E	No	
ULOG	Logging Objective	USIT-E	MEASUREMENT	
UMFR	Modulation Frequency	USIT-E	333333	Hz
USFR	Ultrasonic Sampling Frequency	USIT-E	500000	Hz

UPAT	USIT Emission Pattern	USIT-E	Pattern 500 KHz	
UWKM	USIT Working Mode	USIT-E	Uncompressed 10 deg at 1.5 in LF	
USIT_DEPTHLOG	Starting Depth Log for Ultrasonics	USIT-E	400	ft
USSP	Ultrasonic Service	USIT-E	USI	
VRES	Vertical Resolution	USIT-E	1.5 in	
WINB	Window Begin Time	USIT-E	45.35	us
WINE	Window End Time	USIT-E	85.35	us

One

Repeat Pass 5 in = 100 ft

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[3]:Up	Up	6993.18 ft	7430.00 ft	11-Jun-2016 11:49:36 AM	11-Jun-2016 12:14:45 PM	ON	9.33 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:PORTER 69H

One: Log[3]:Up:S005

Description: Sonic CBL with VDL Format: Log (Sonic CBL with VDL) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 11-Jun-2016 16:24:22

BIEP - Bond Index Event Pips DSLT-H

TIME_1900 - Time Marked every 60.00 (s)

Transit Time for CBL (TT) DSLT-H
480 us 280

Gamma Ray (GR)
0 gAPI 150

Instance - 1 (6" HGNS-H RT) (ECGR)

Casing Collar Locator Ultrasonic (CCLU) USIT-E
-19 in 1

GoodBond From CBL to GOBO

CBL Amplitude (CBL) DSLT-H
0 mV 20

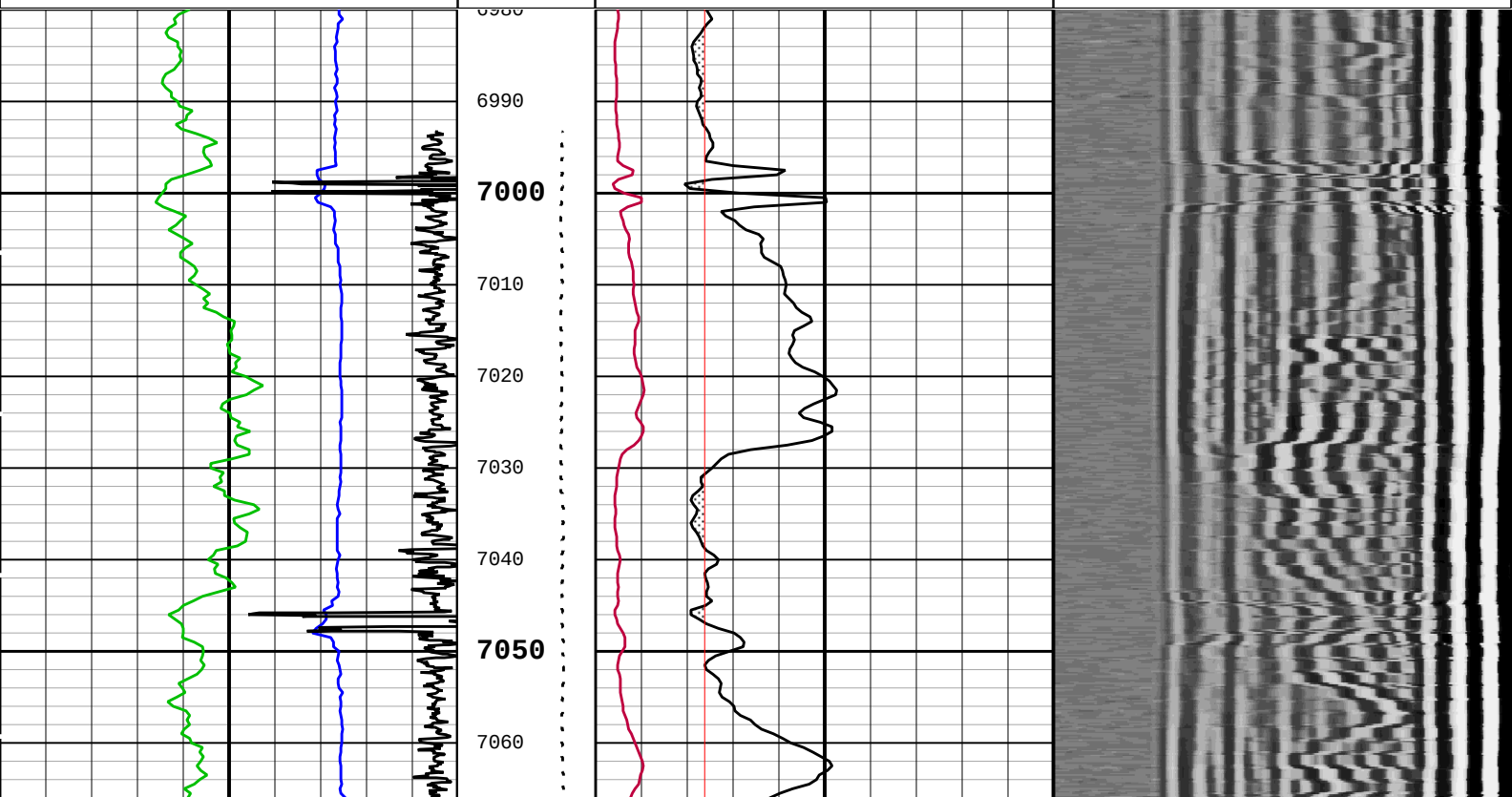
Cable Tension (TENS)
10000 0
lbf

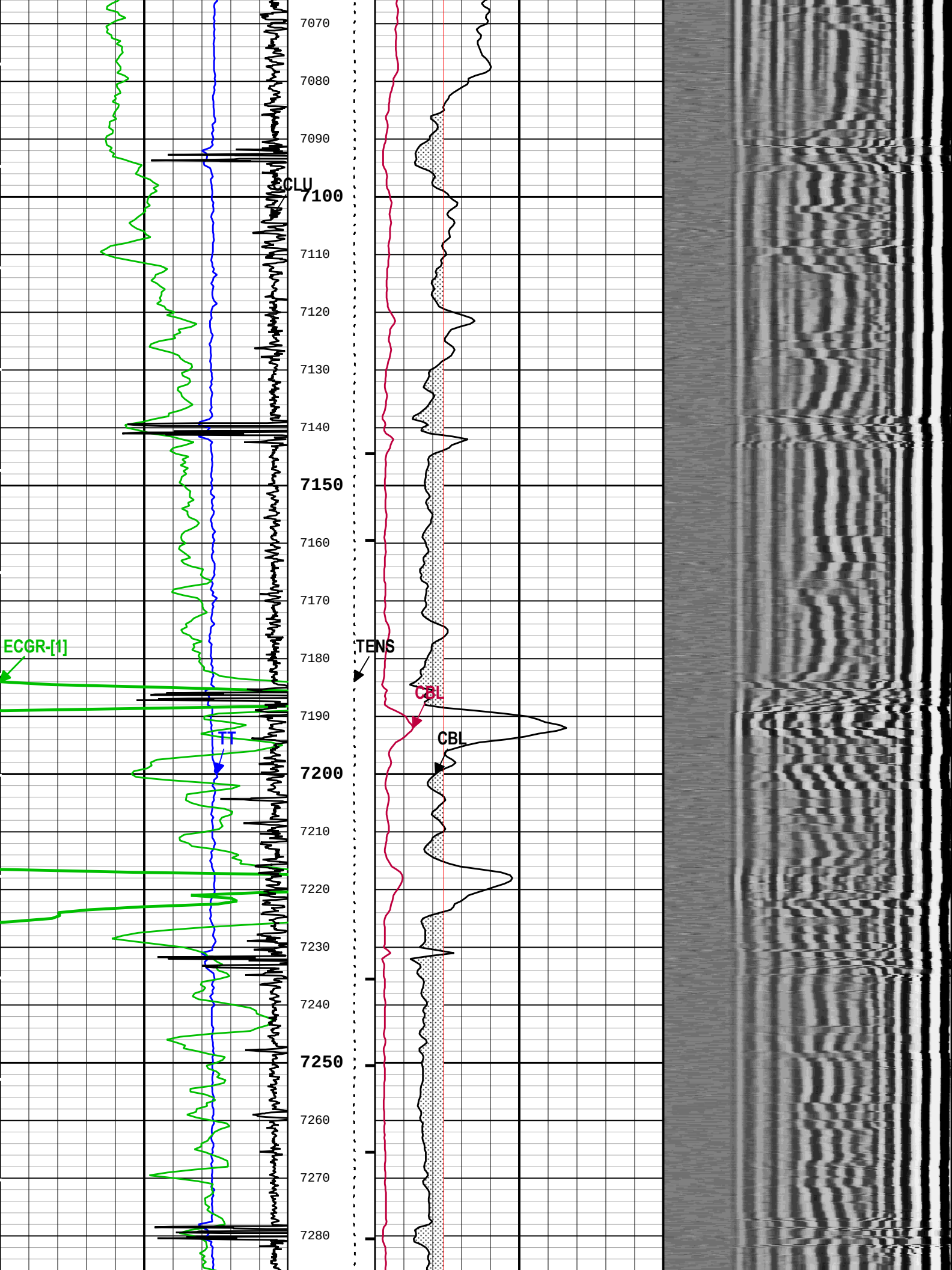
CBL Amplitude (CBL) DSLT-H
0 mV 100

Good Bond (GOBO)
0 mV 20

Min Amplitude Max

Variable Density Log - DSLT DSLT-H
200 us 1200

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7170
ECGR-[1]
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CBL
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TT
CBL
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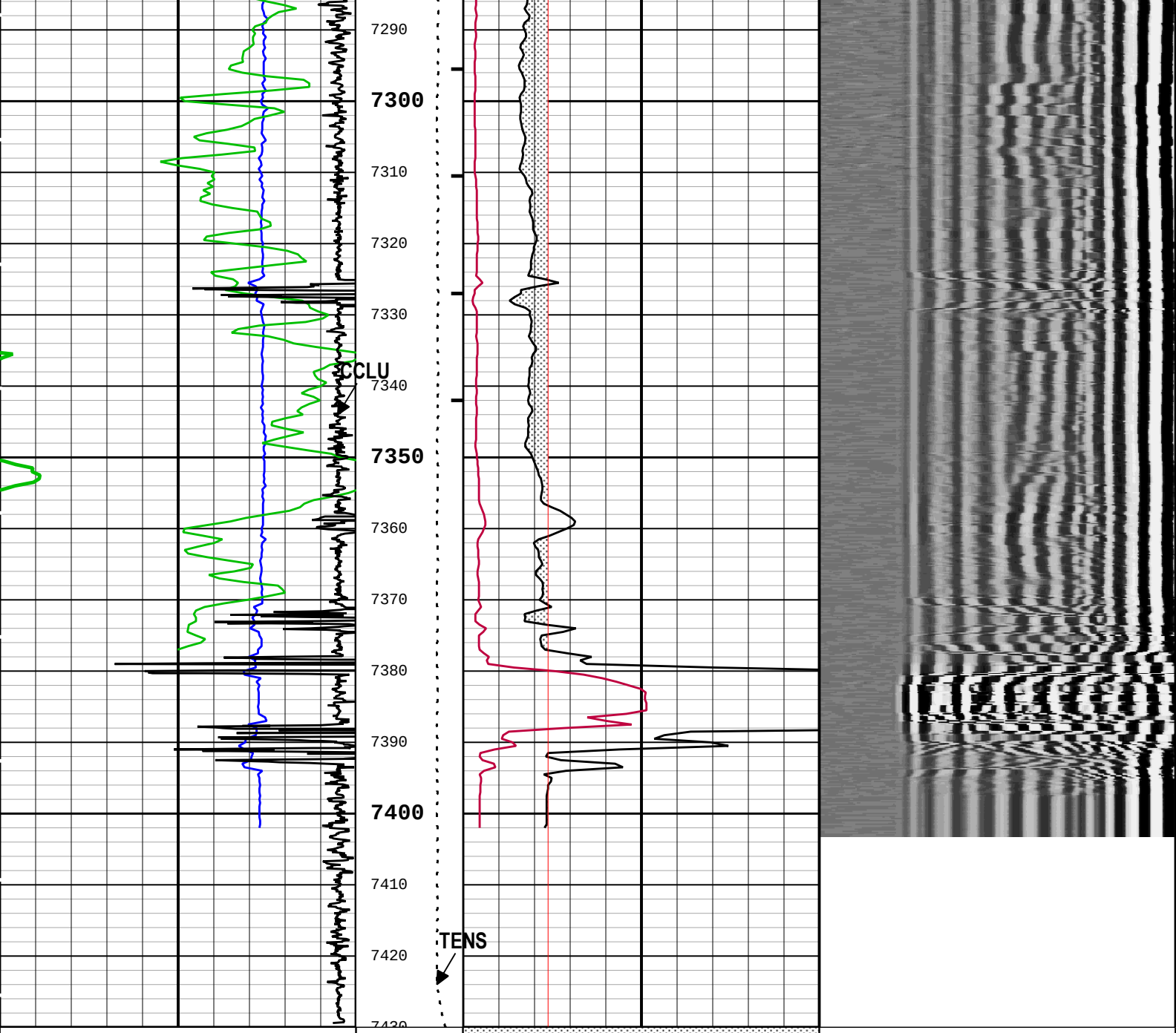
7270
7280



Transit Time for CBL (TT) DSLT-H
480 us 280

Gamma Ray (GR)
0 gAPI 150
Instance - 1 (6" HGNS-H RT) (ECGR)

Casing Collar Locator Ultrasonic (CCLU) USIT-E
-19 in 1

Cable Tension (TENS)
10000 0
lbf

GoodBond From CBL to GOBO

CBL Amplitude (CBL) DSLT-H
0 mV 20

CBL Amplitude (CBL) DSLT-H
0 mV 100

Good Bond (GOBO)
0 mV 20

Min Amplitude Max

Variable Density Log - DSLT DSLT-H
200 us 1200

TIME_1900 - Time Marked every 60.00 (s)

BIEP - Bond Index Event Pips DSLT-H

Description: Sonic CBL with VDL Format: Log (Sonic CBL with VDL) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 11-Jun-2016 16:24:22

USIT - Fluid Properties Measurement

Run Name	Pass Name	Start Depth(ft)	Stop Depth(ft)
Run 1	Log[2]:Up	7447.48	71.28

Fluid Velocity = "Automatic".
CFVL equals DFSL channel

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

Mud Impedance = "FreePipe Norm.".
Free Pipe normalization zone is : 111.39m(365.44ft) to 123.32m(404.61ft)
MUD_N_FRP = 1.01
DFD = 1.02g/cm3(8.50lbm/gal)
CZMD median computed in free pipe normalization interval = 1.53 MRayl

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

Composite 1

Main Pass 5 in = 100 ft

Composite Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[2]:Up	Up	71.28 ft	7447.48 ft	11-Jun-2016 8:24:01 AM	11-Jun-2016 11:06:47 AM	ON	2.00 ft	Yes
Surface	Log[1]:Up	Up	26.31 ft	237.37 ft	11-Jun-2016 1:31:39 PM	11-Jun-2016 1:39:44 PM	ON	0.00 ft	No

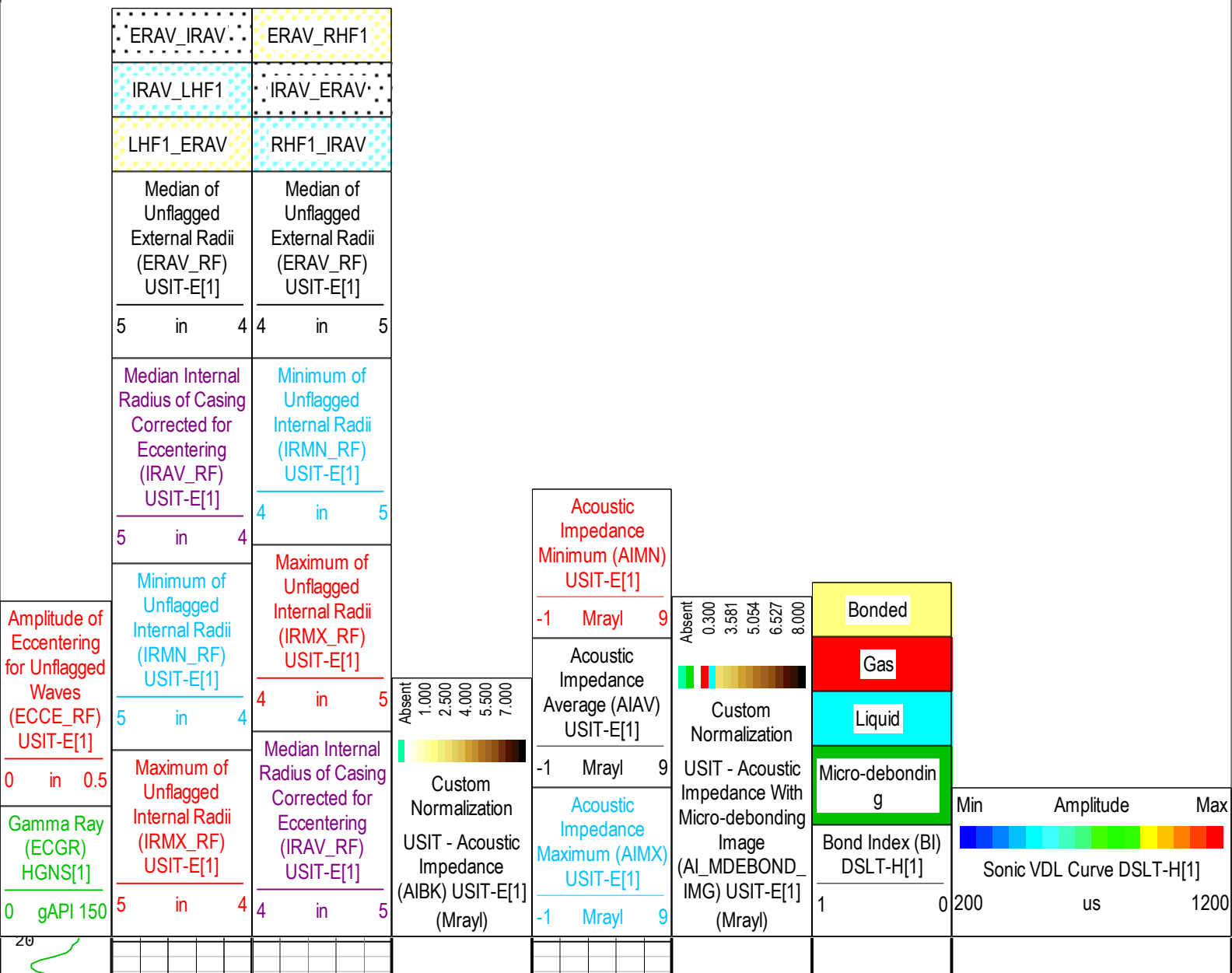
All depths are referenced to toolstring zero

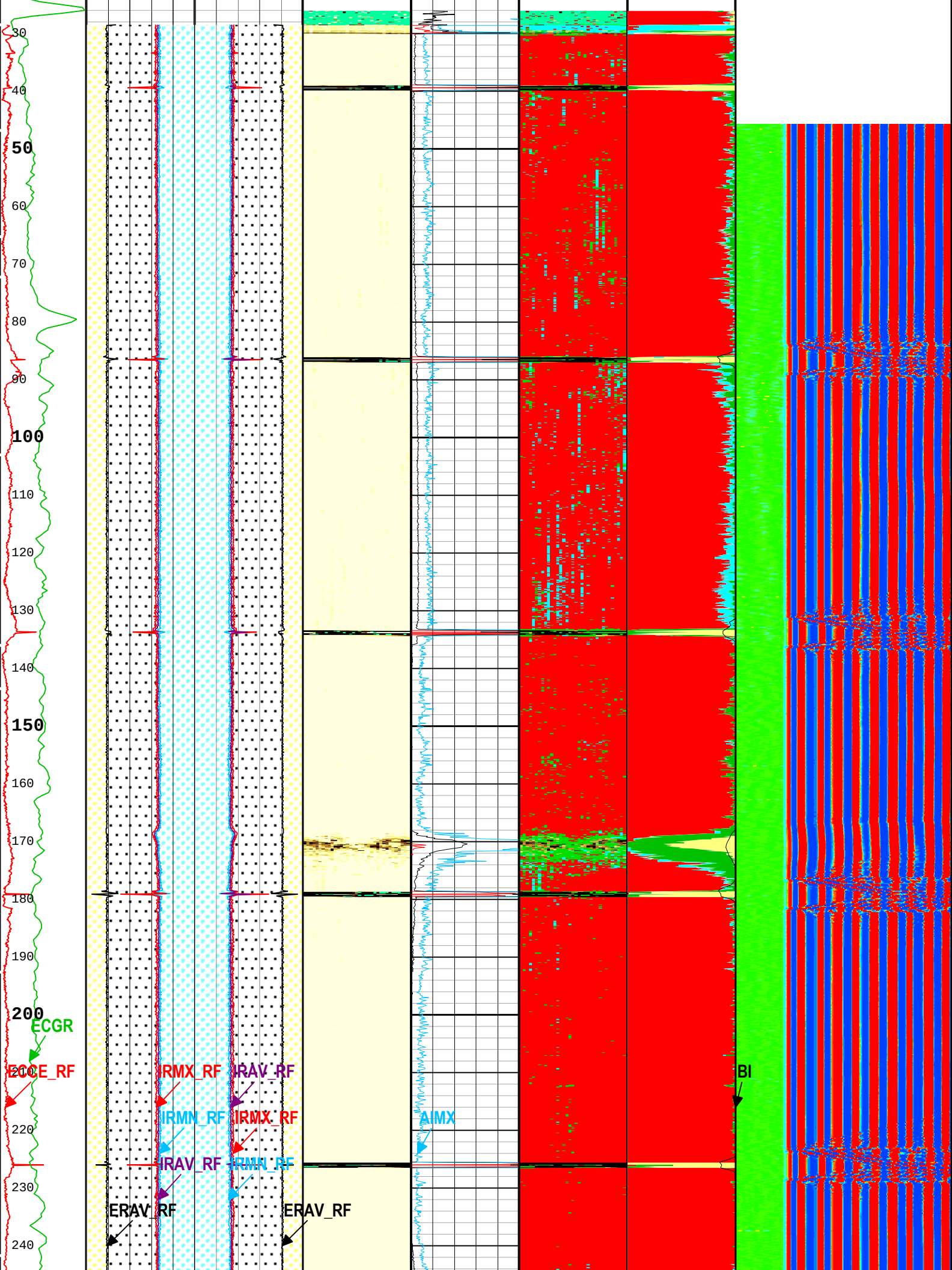
Log

Company:Southern California Gas Company Well:PORTER 69H
Composite 1:S005

Description: USI VDL Cement Format: Log (LBV1_USI-VDL (DSLT) Cement 9.625inch) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 11-Jun-2016 16:24:25

TIME_1900 - Time Marked every 60.00 (s)

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240
ECGR
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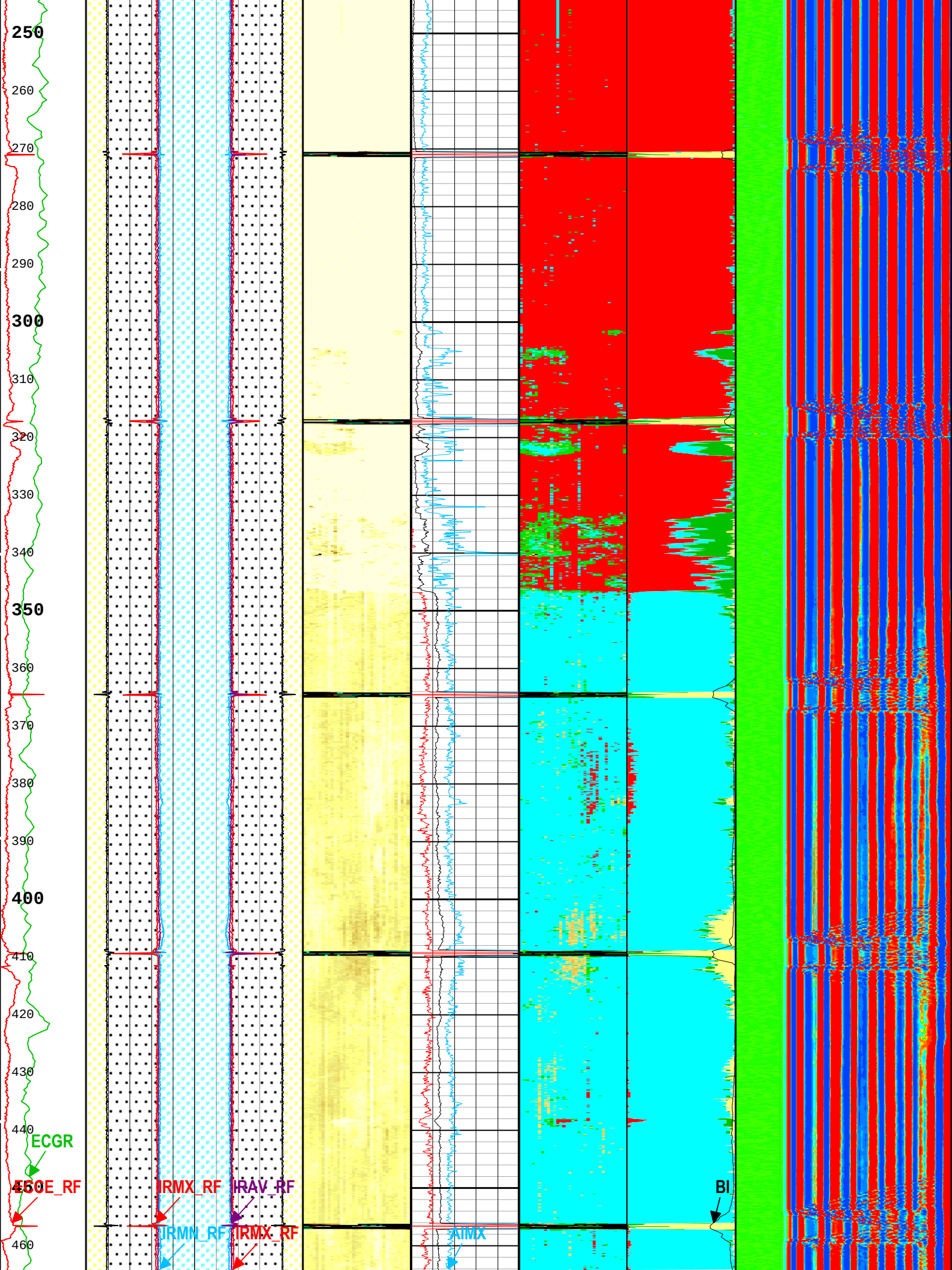
ERAV_RF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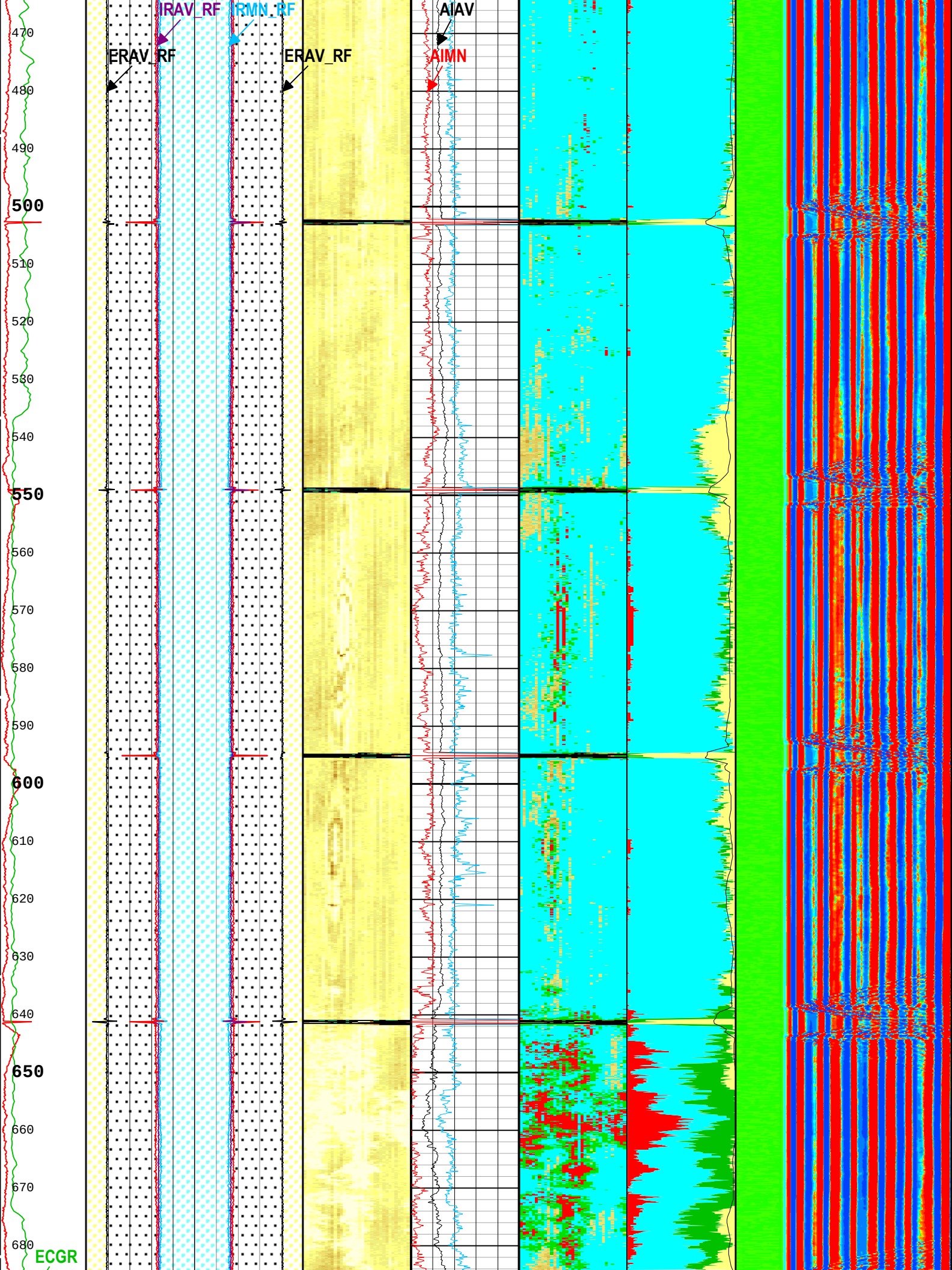
BI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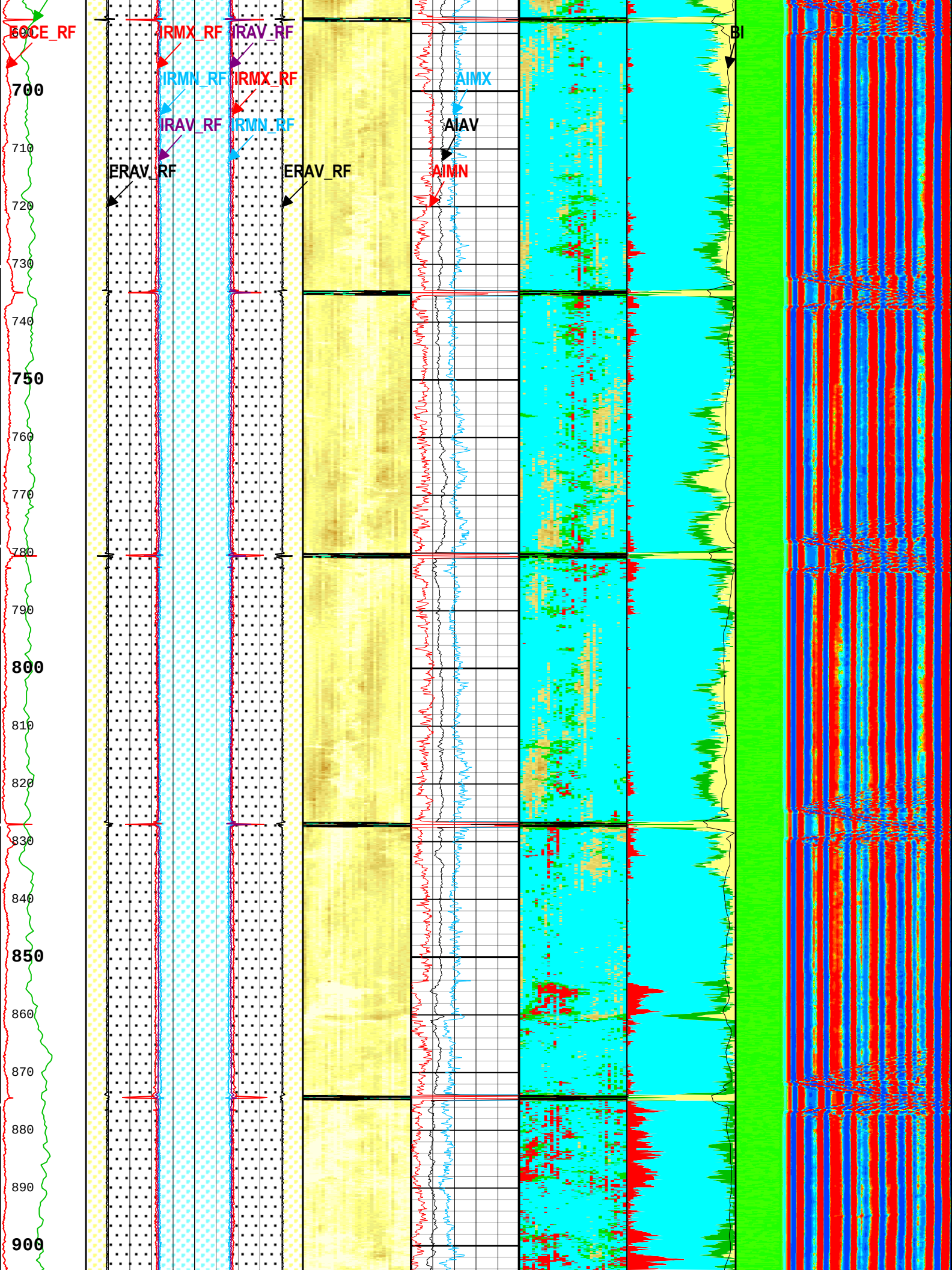
670
680
ECGR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IRMN_RF
ERAV_RF
ERAV_RF
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AIAV
AIMN
BI
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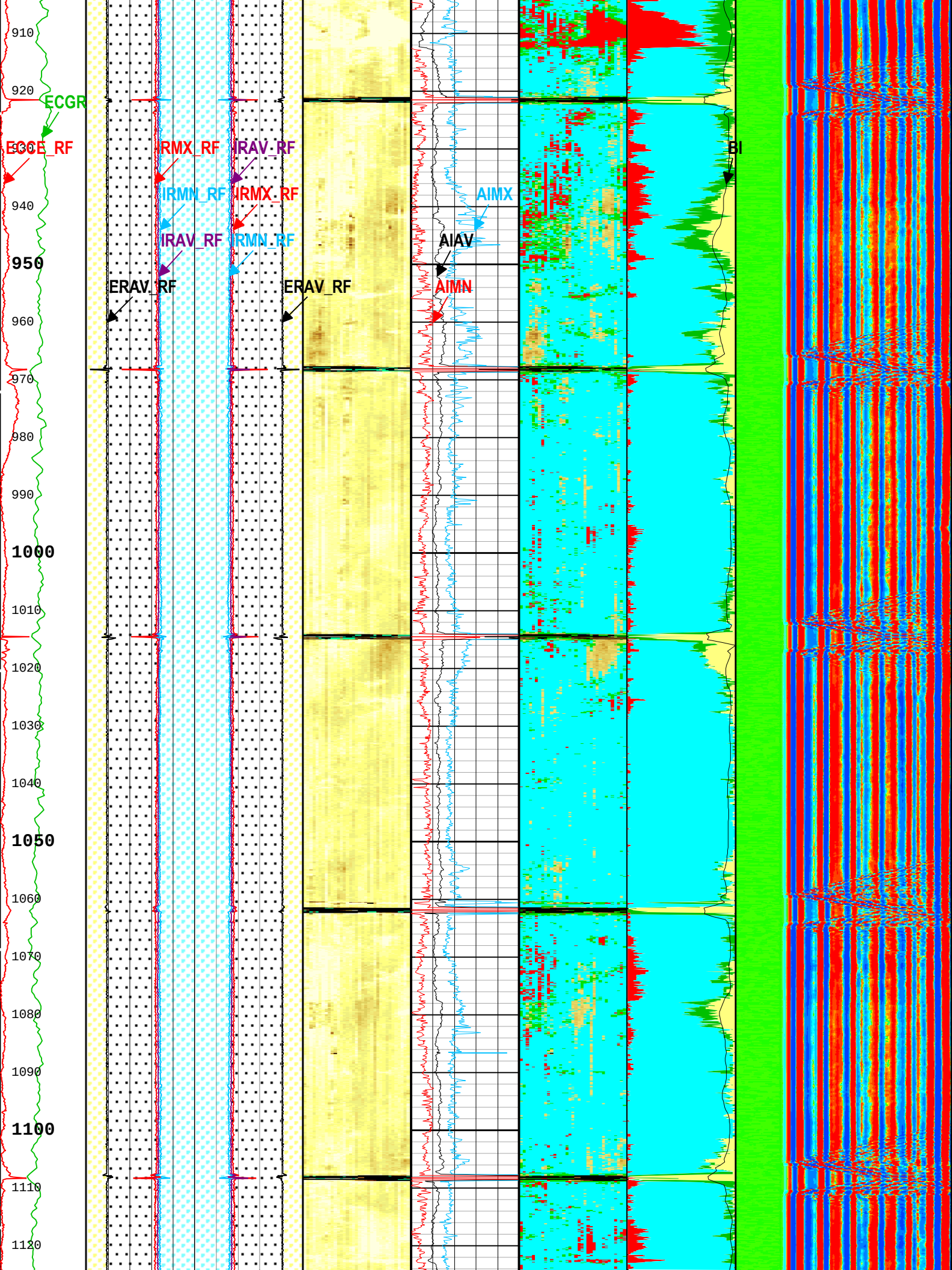
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980
990
1000
1010
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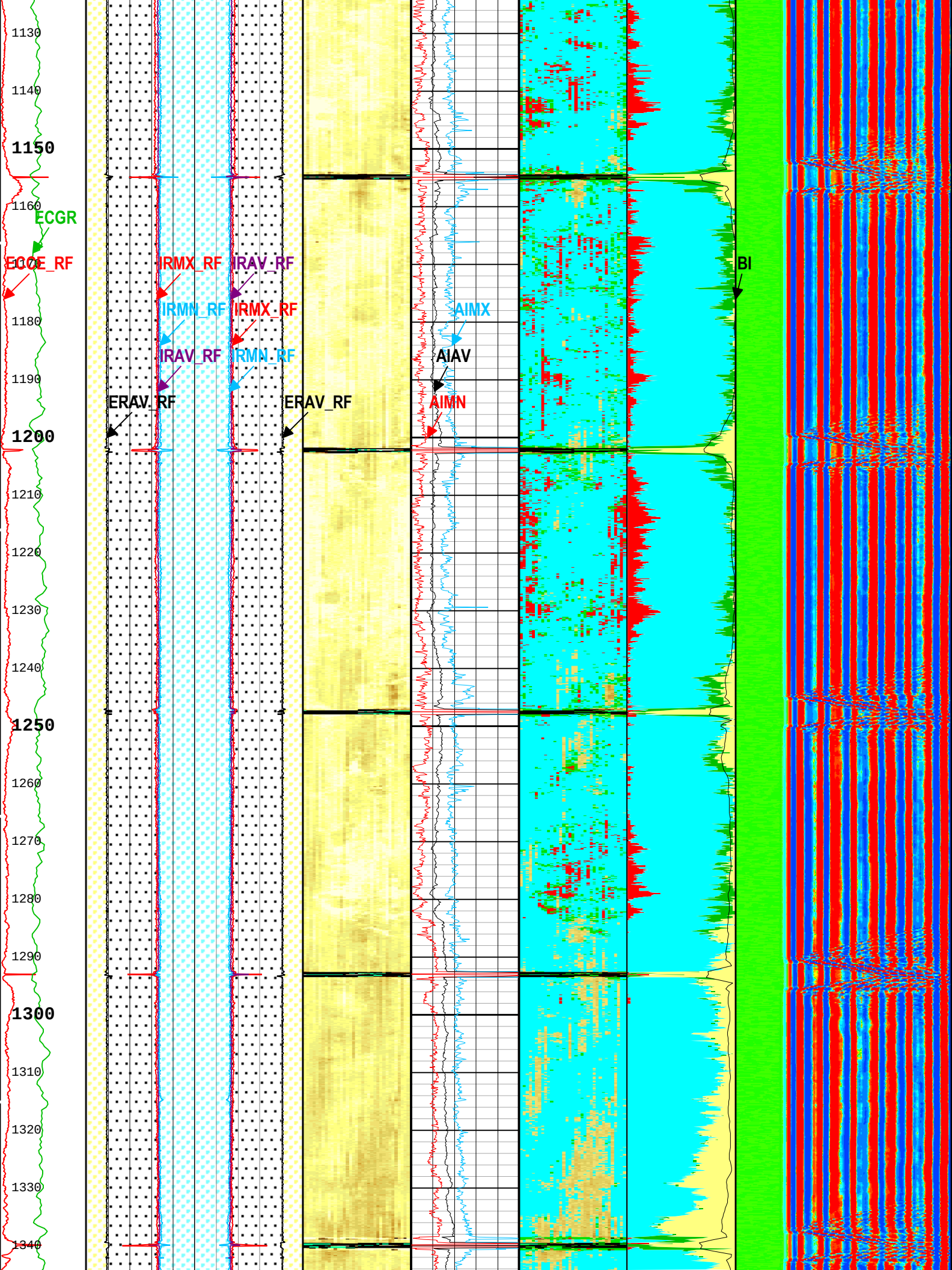
BI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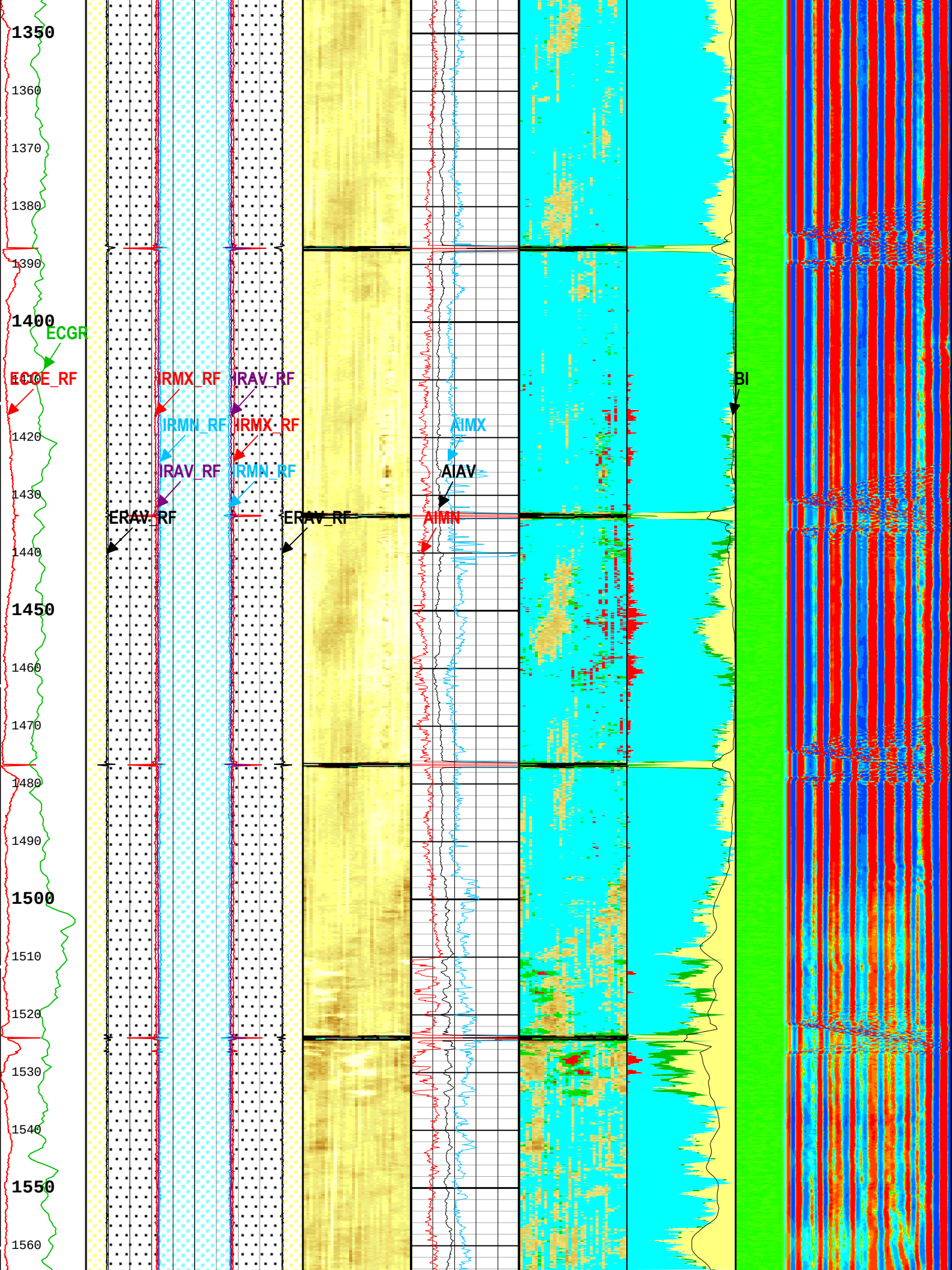
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IRMN_RF
AIAV
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ERAV_RF
AIMN
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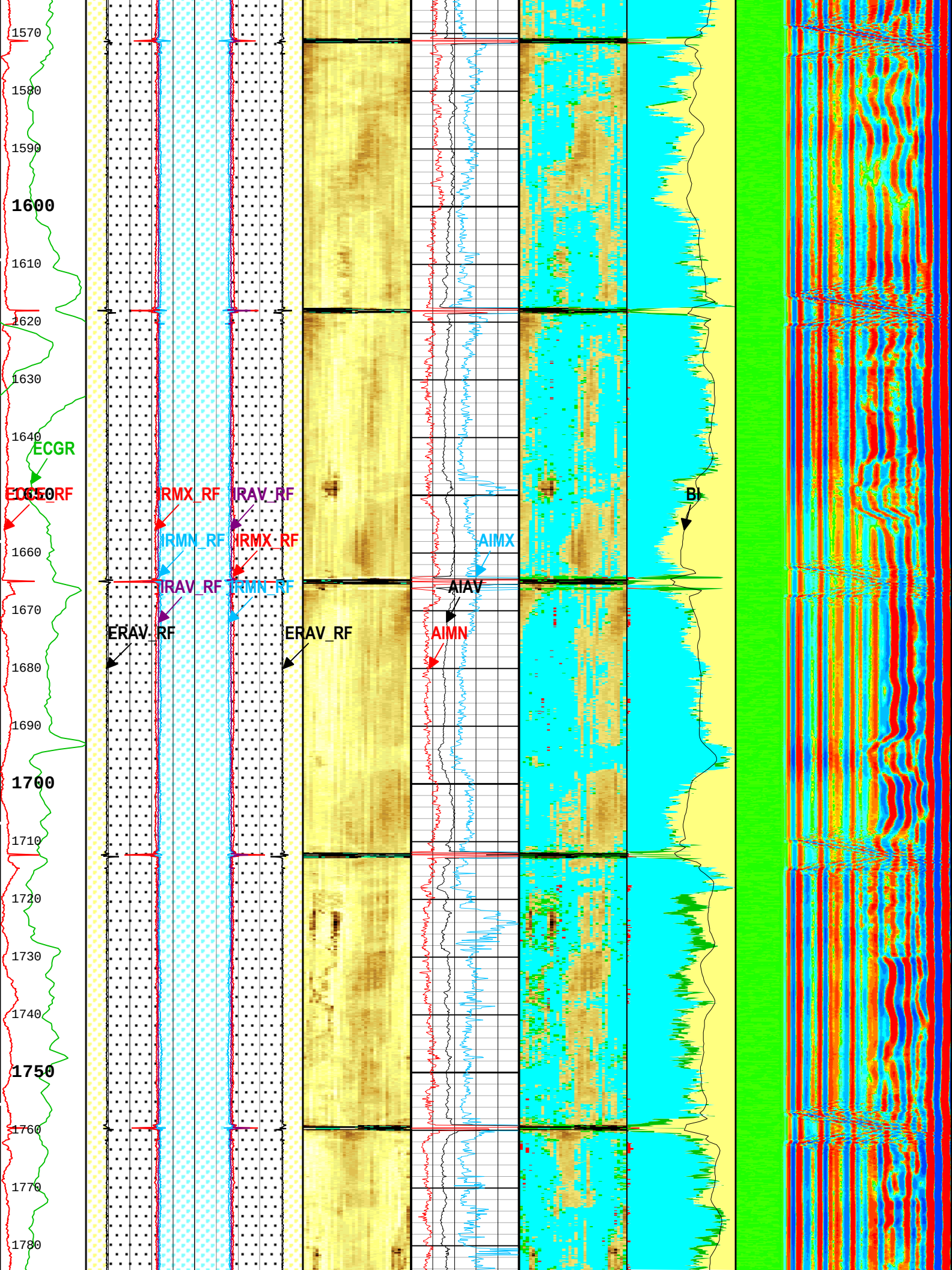
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1780
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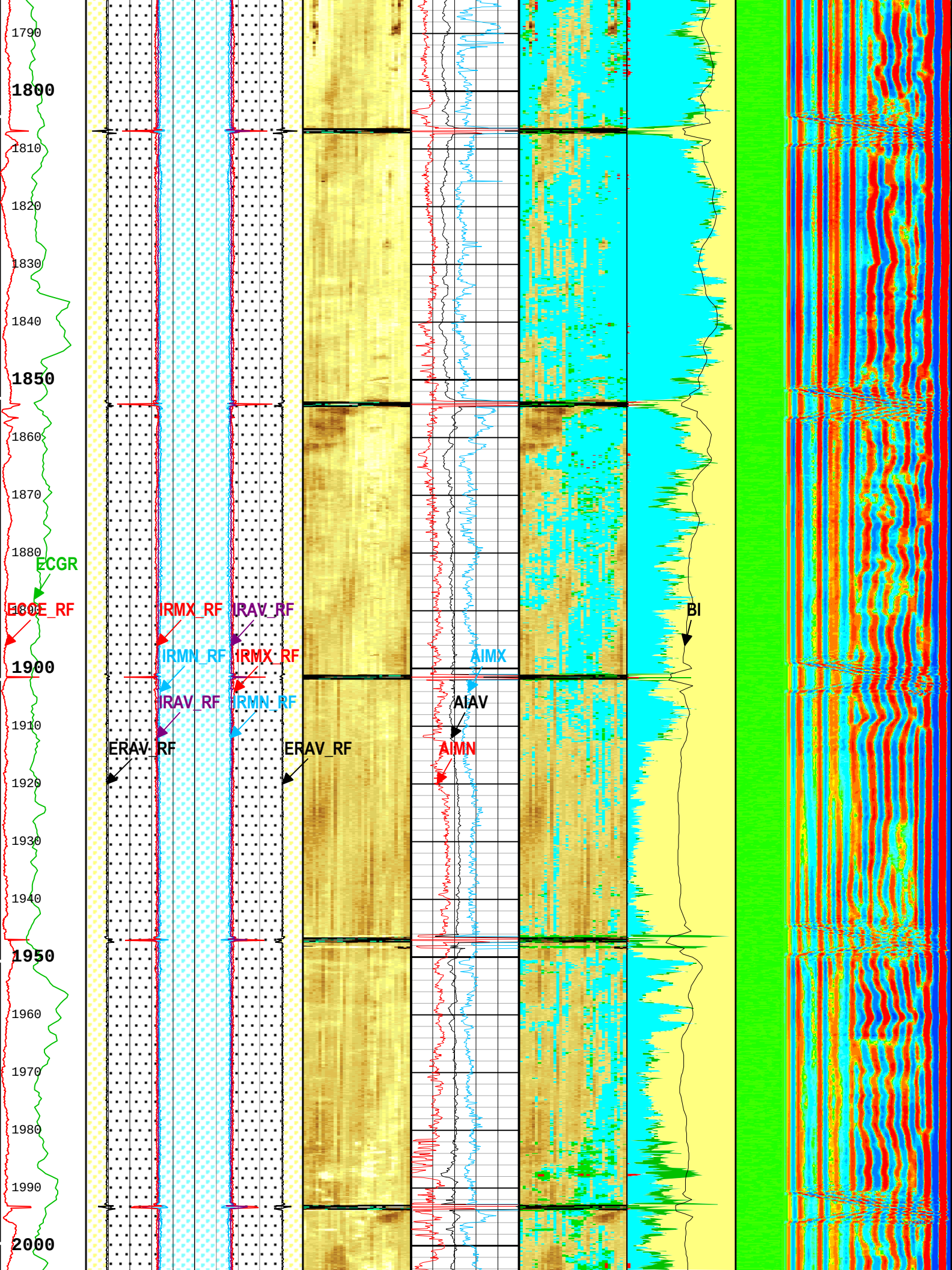
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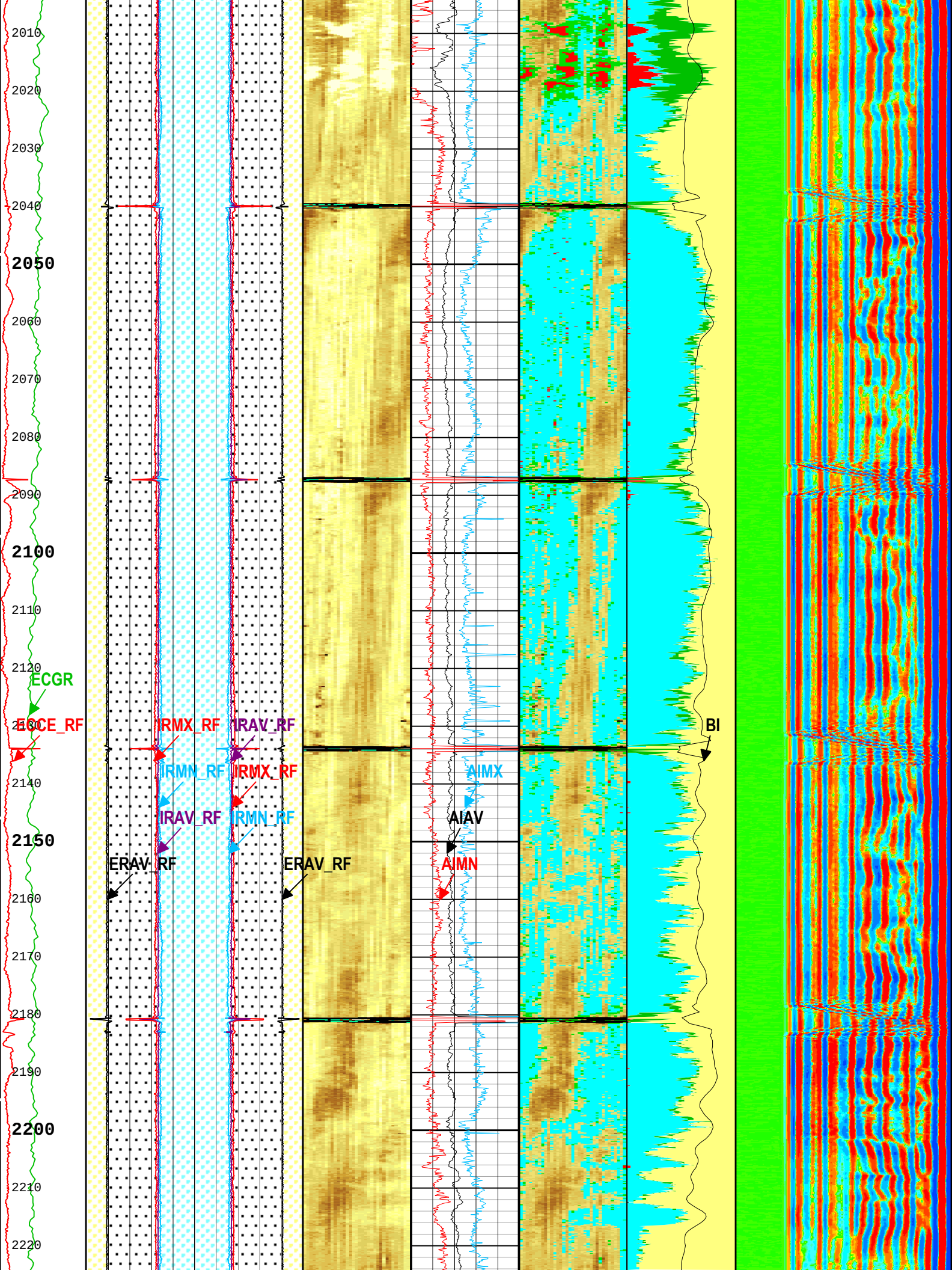
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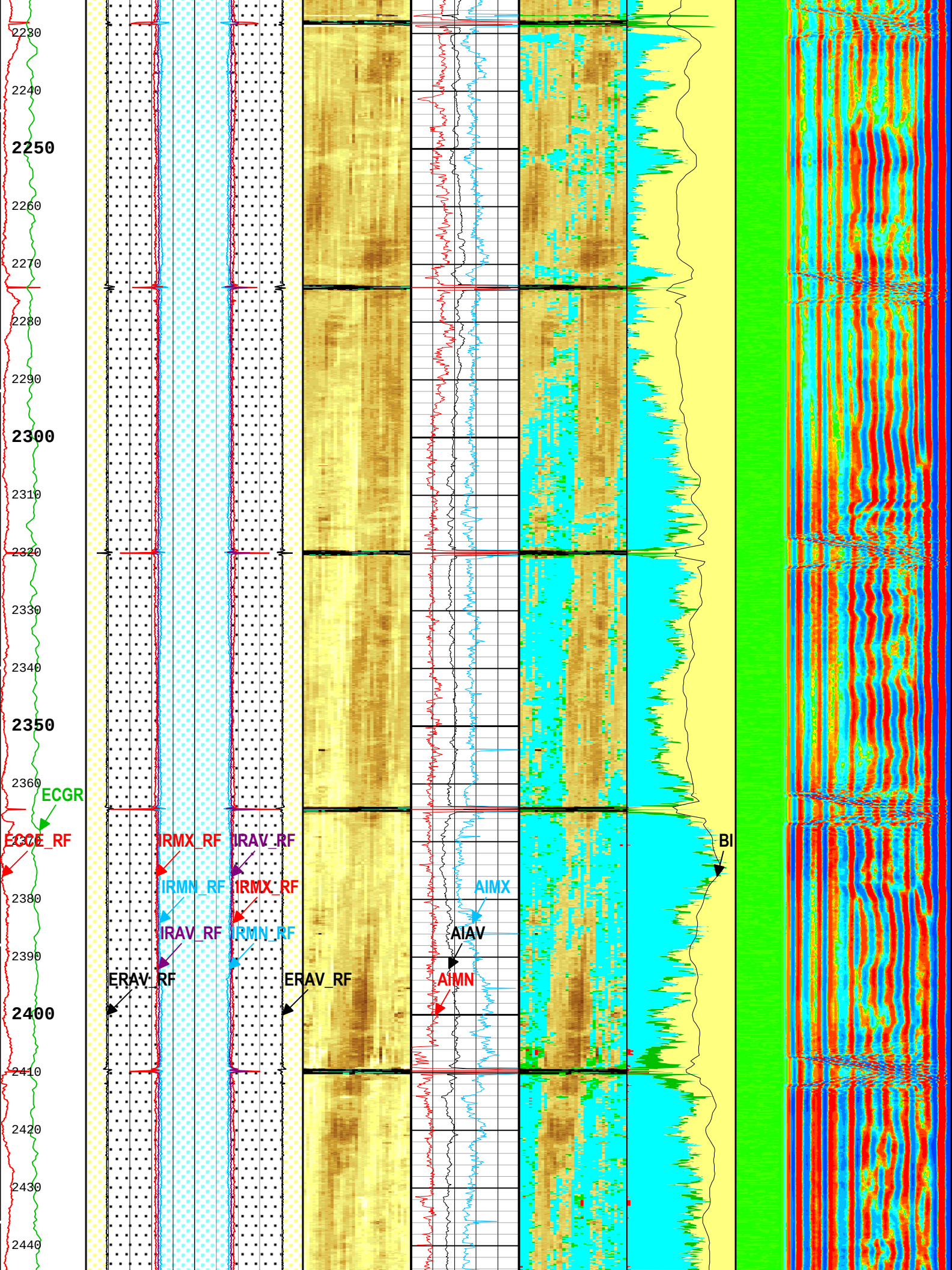
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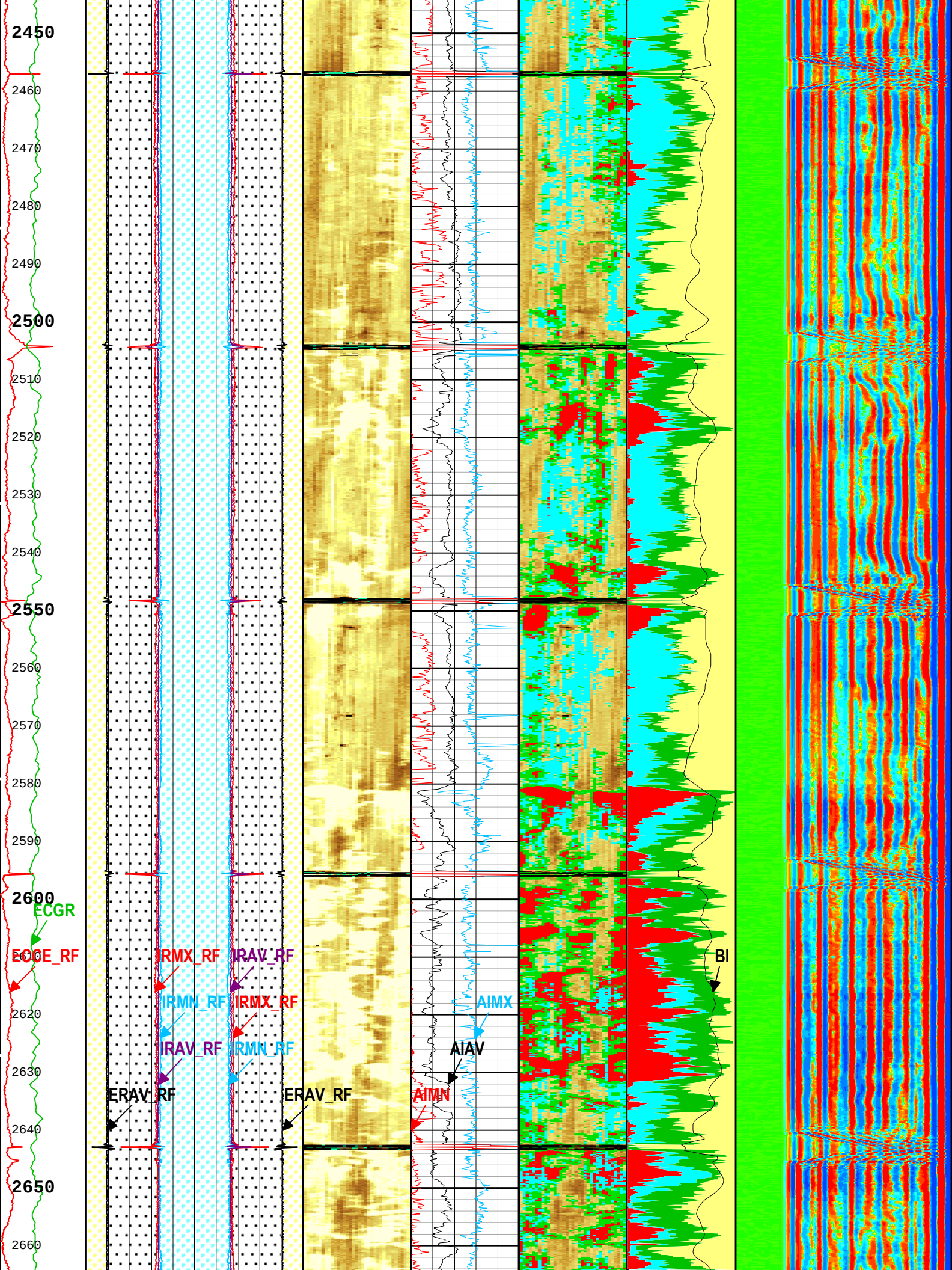
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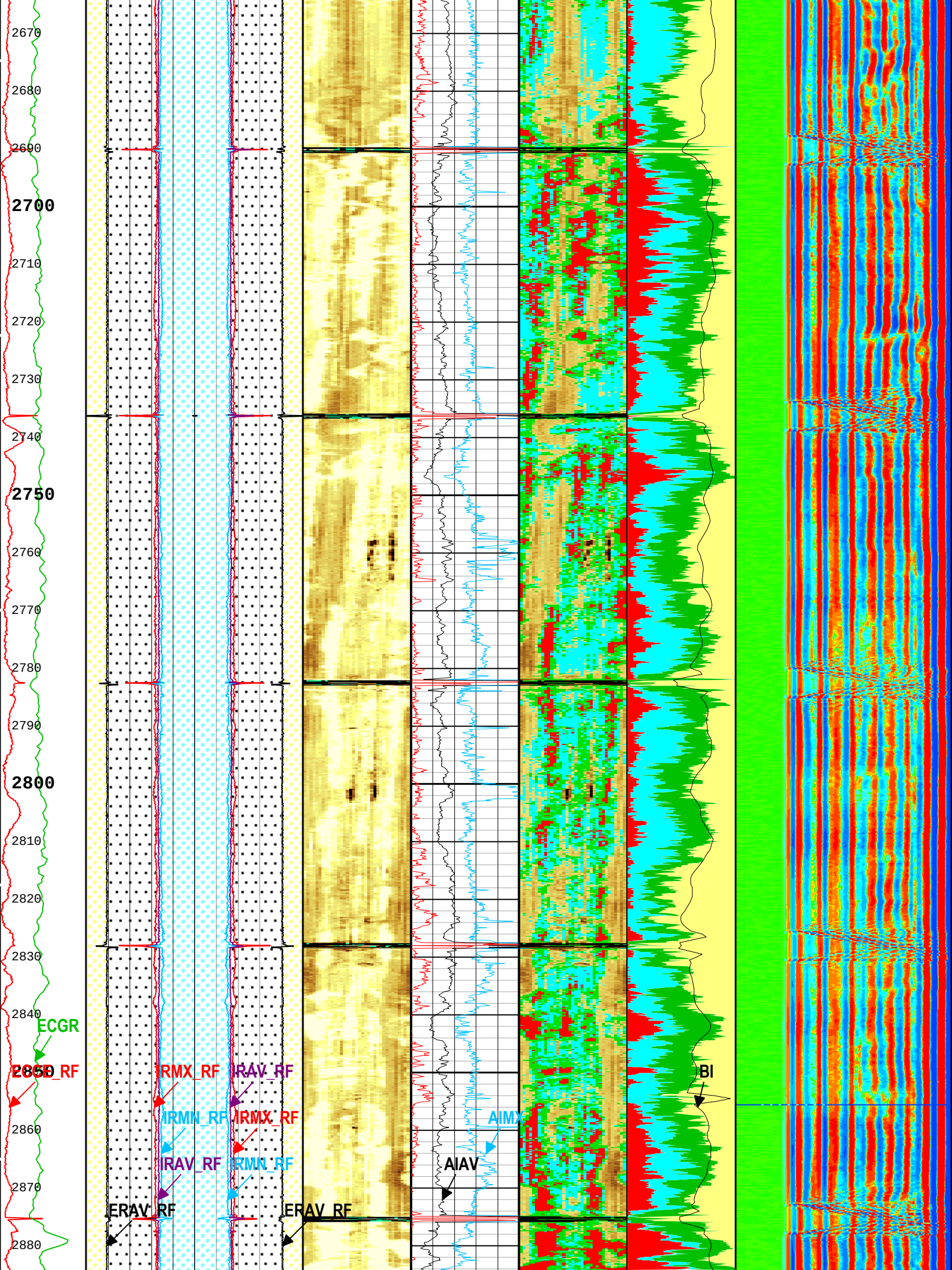
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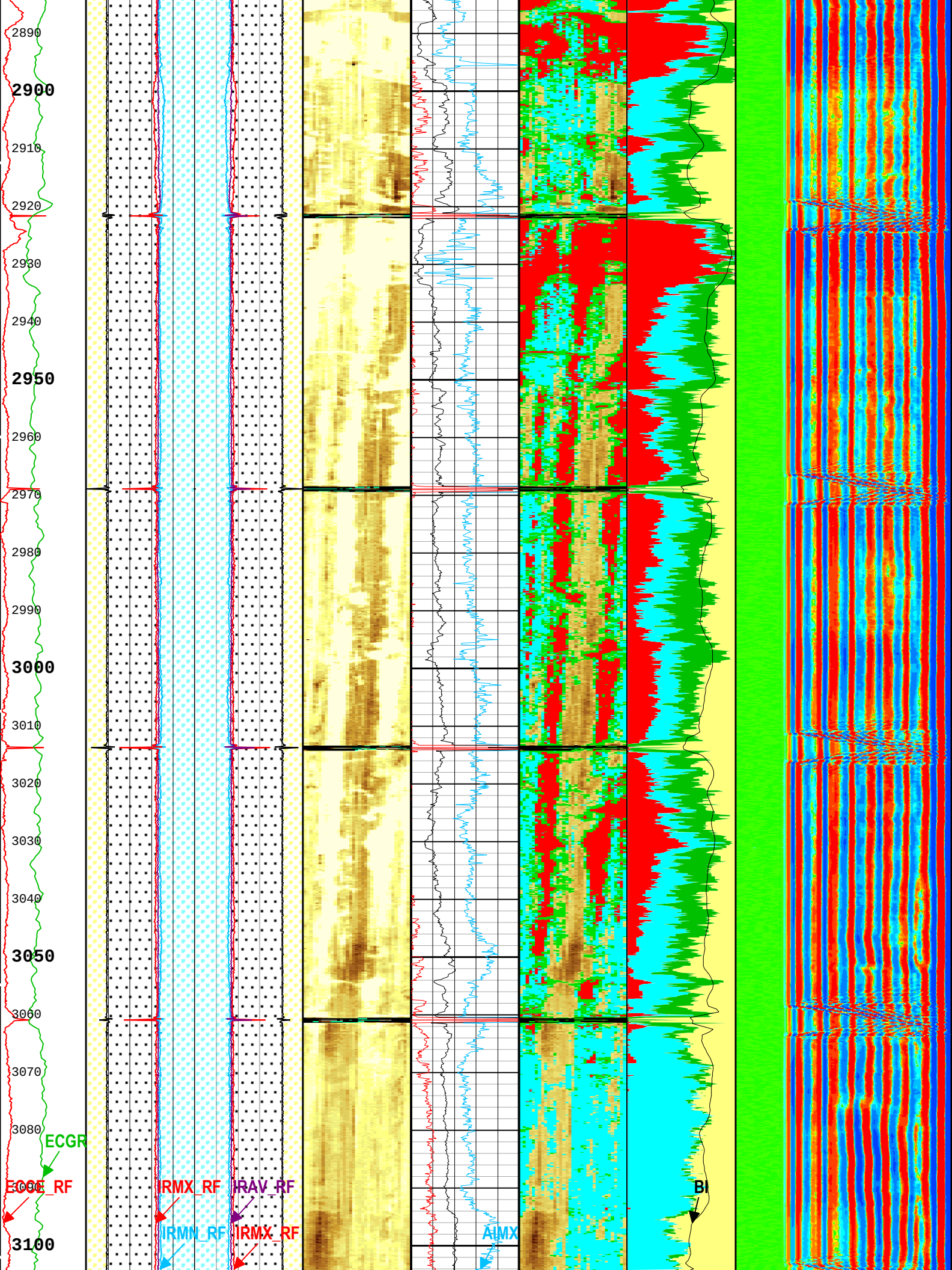
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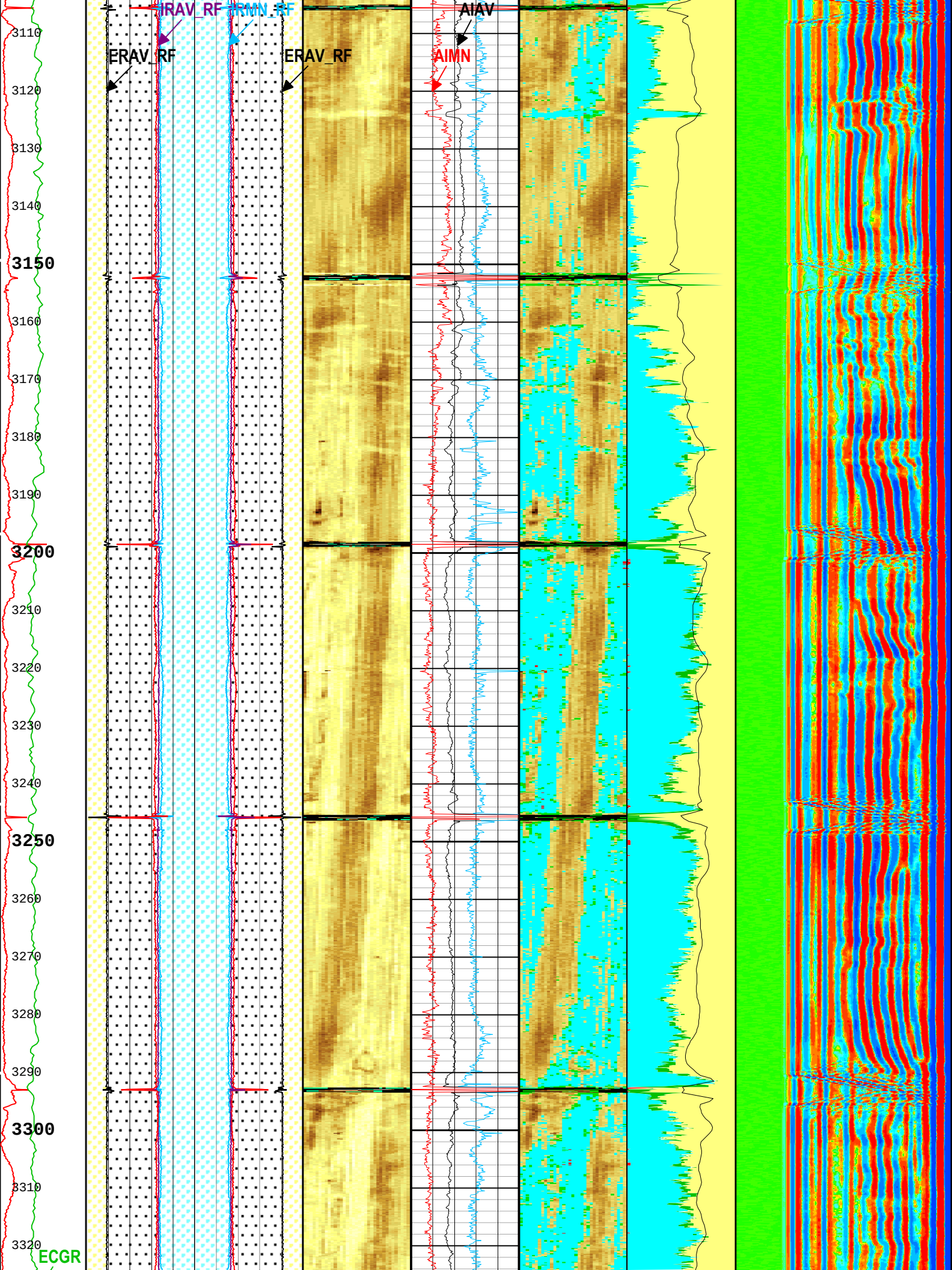
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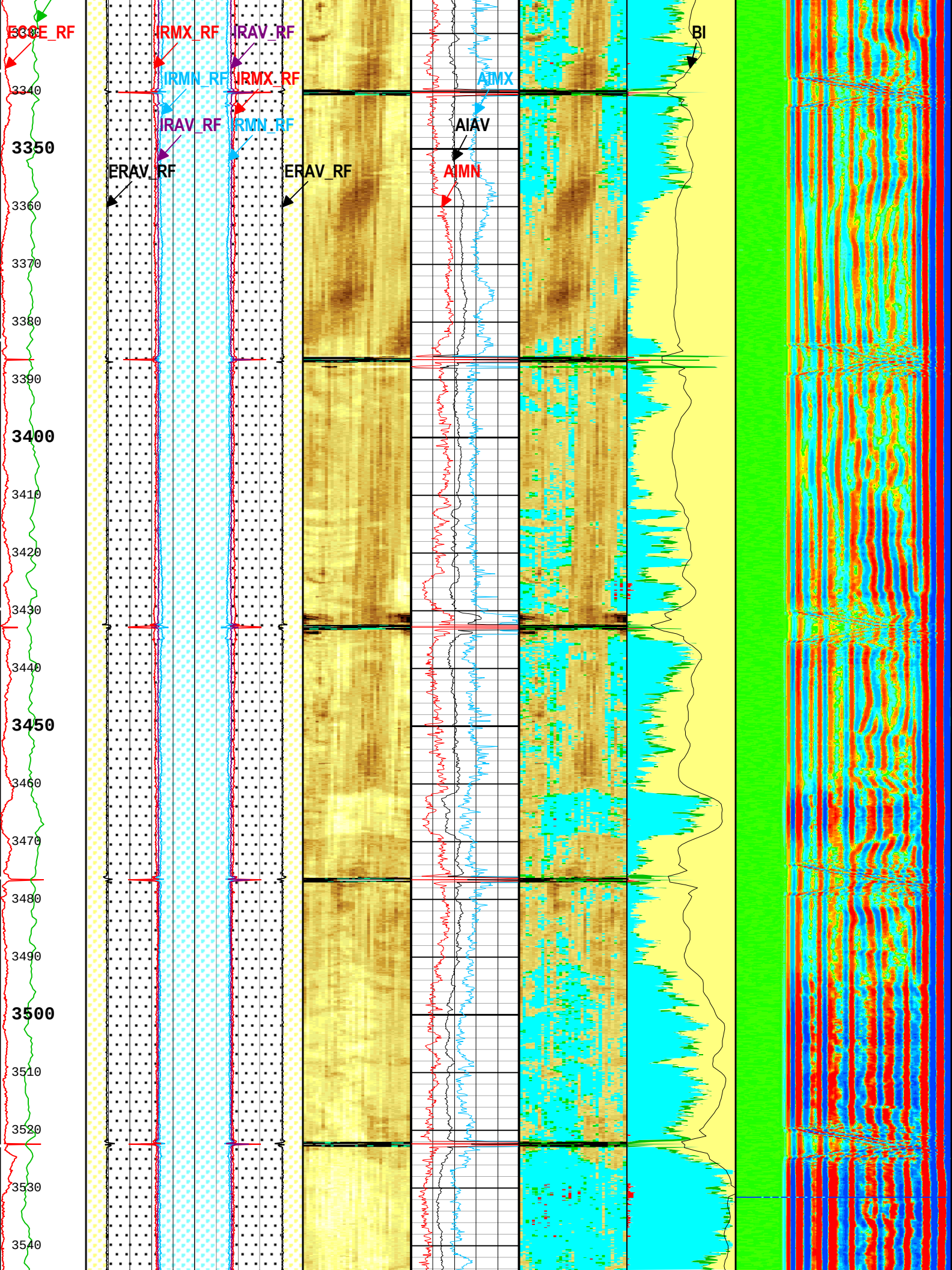
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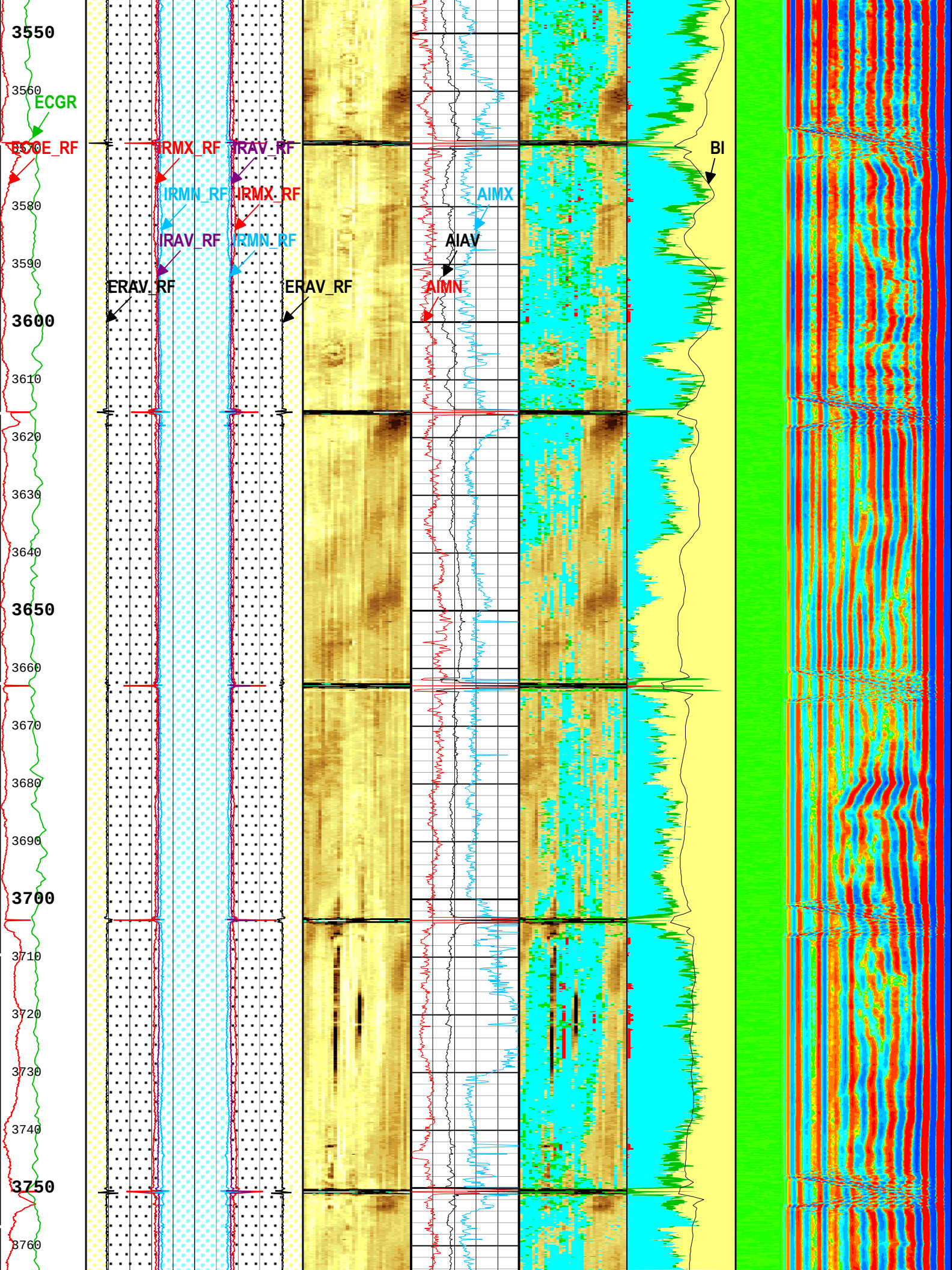
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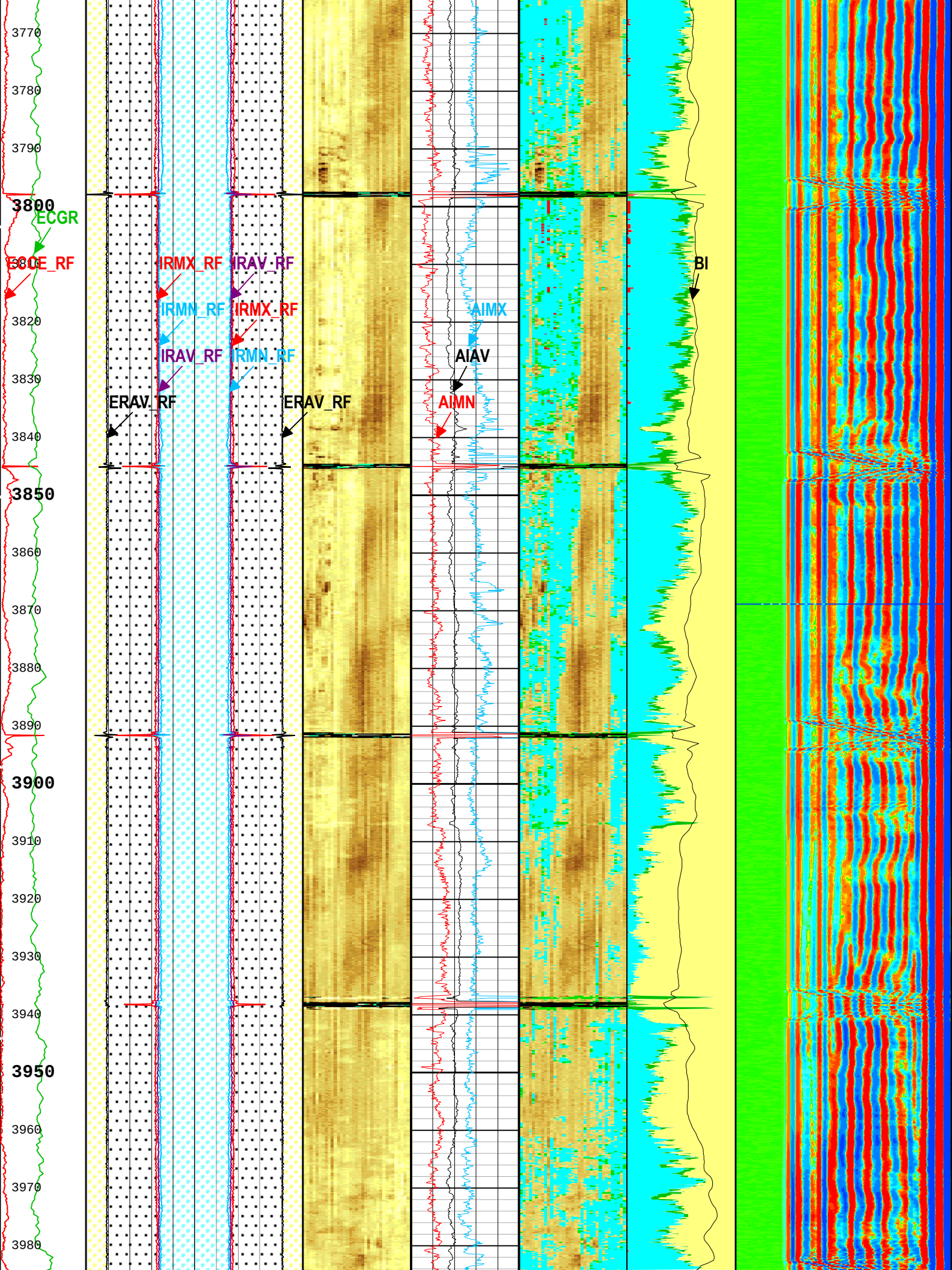
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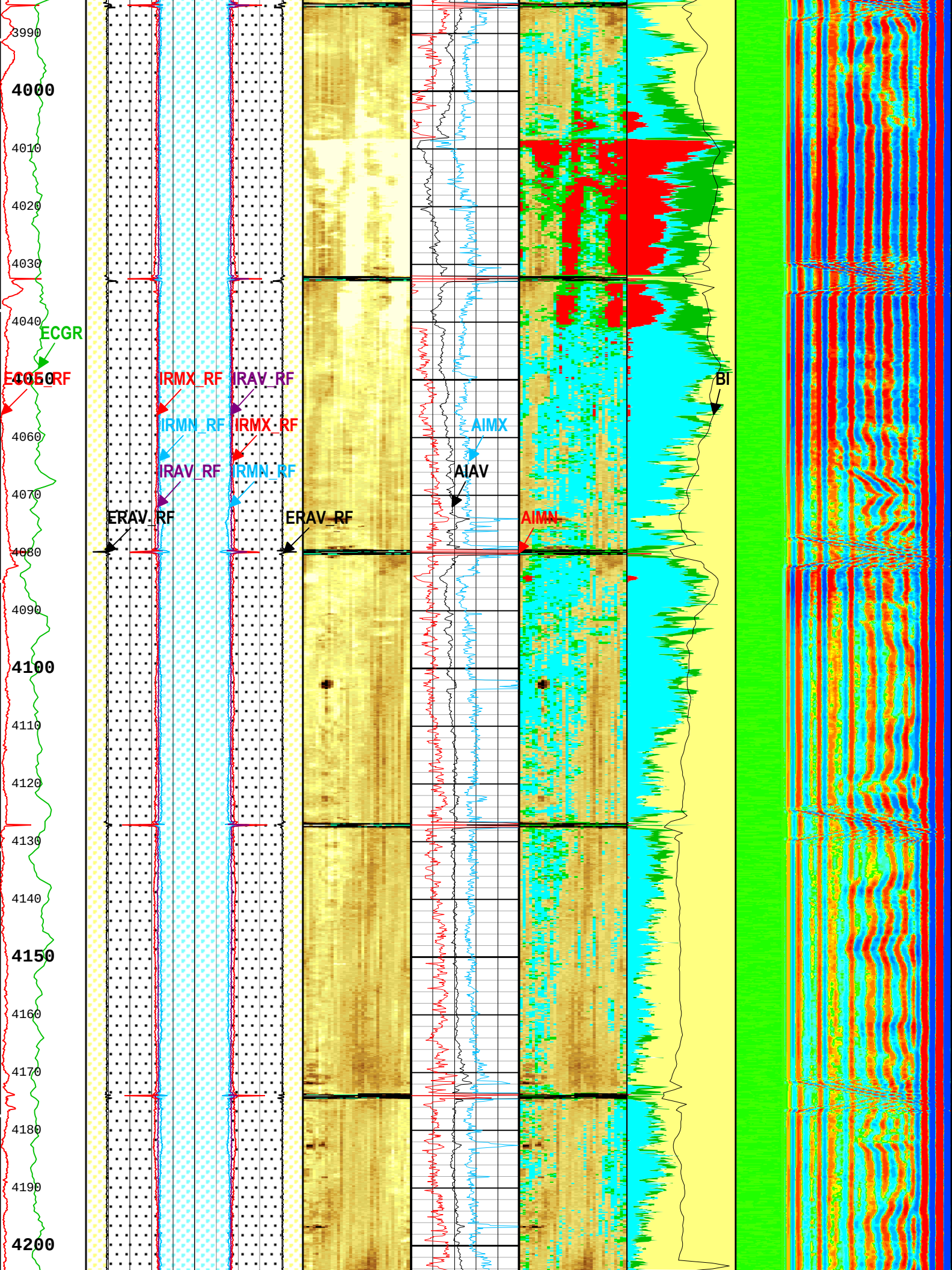
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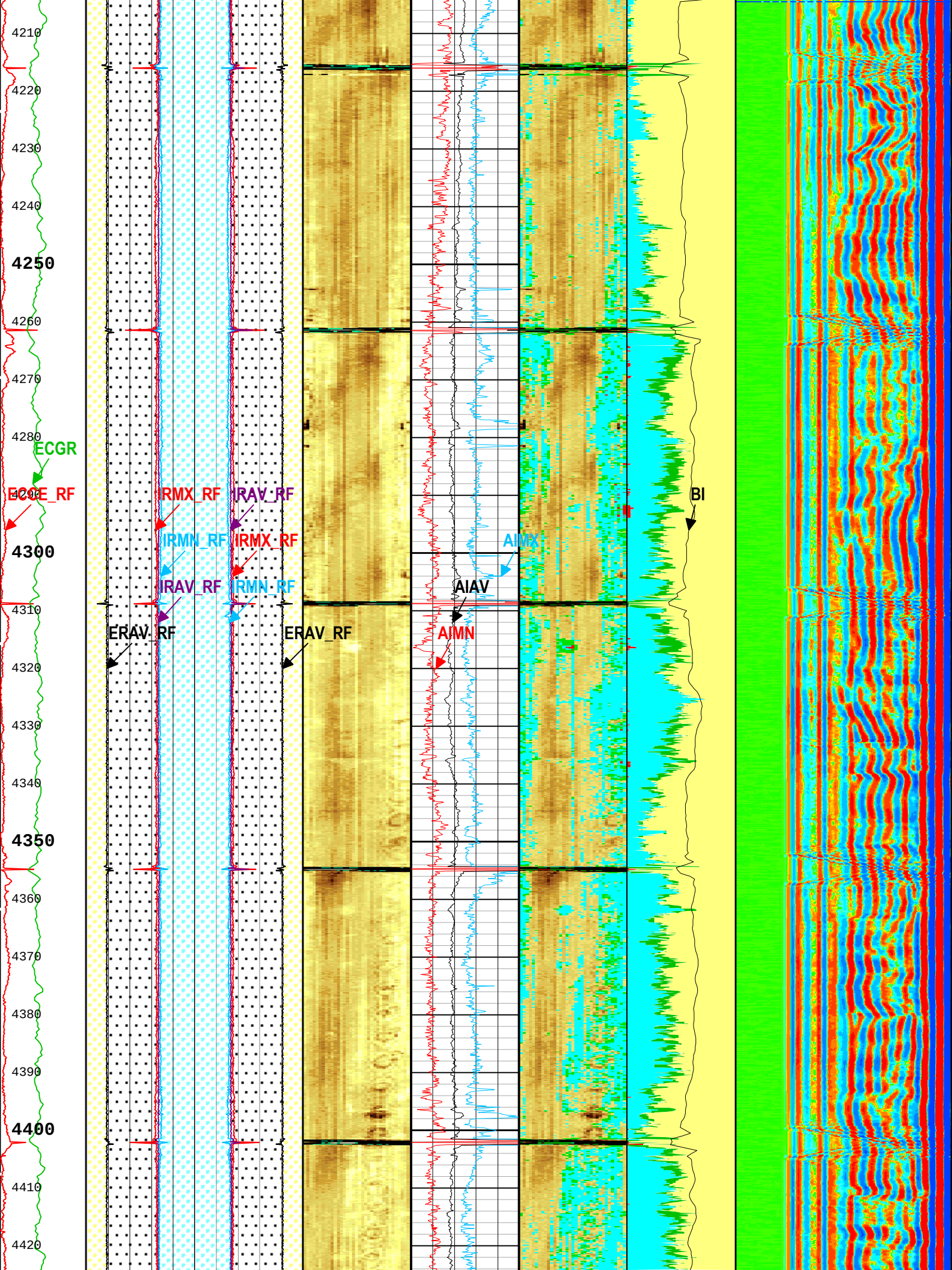
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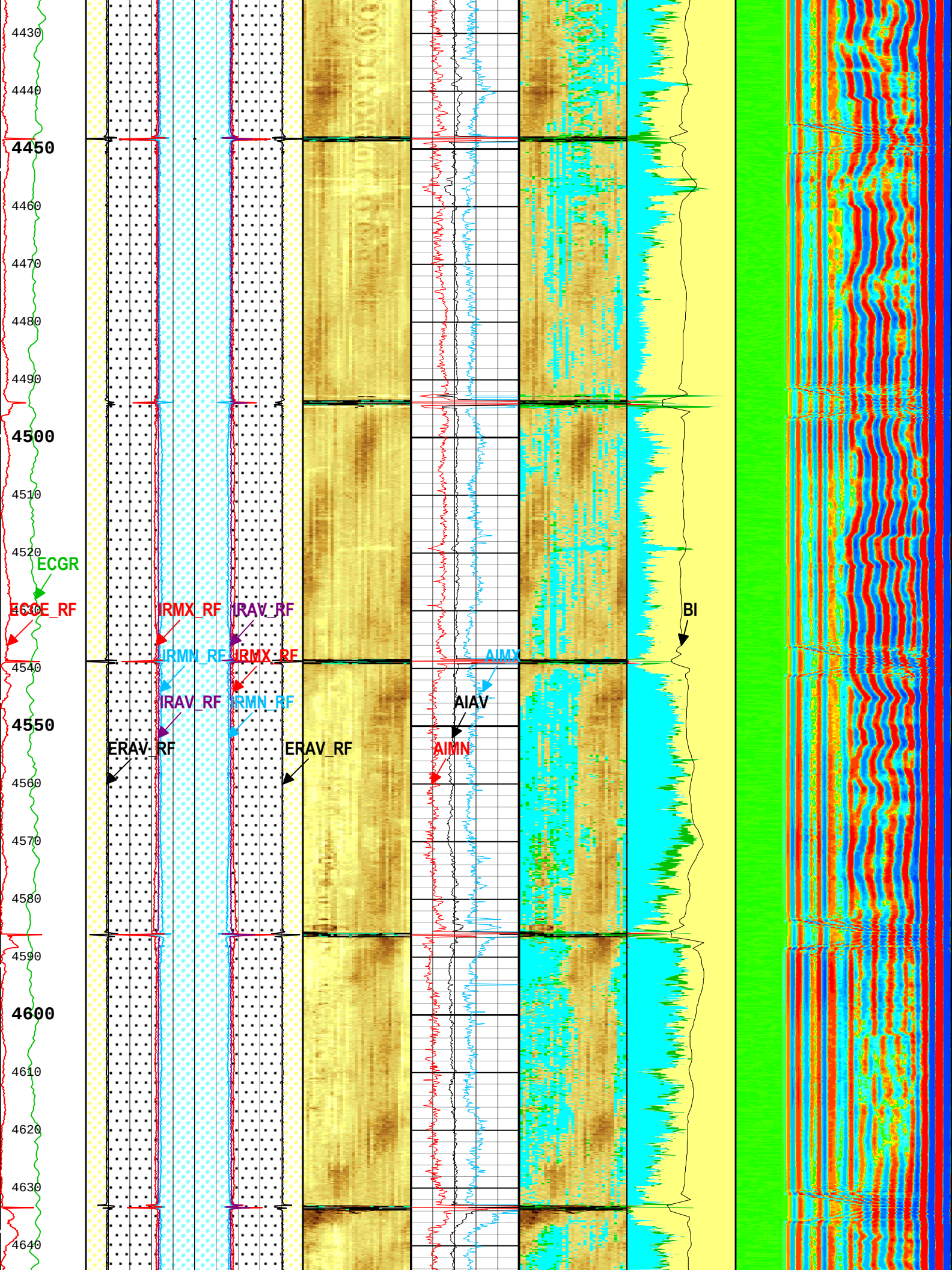
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4640
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ECOE_RF
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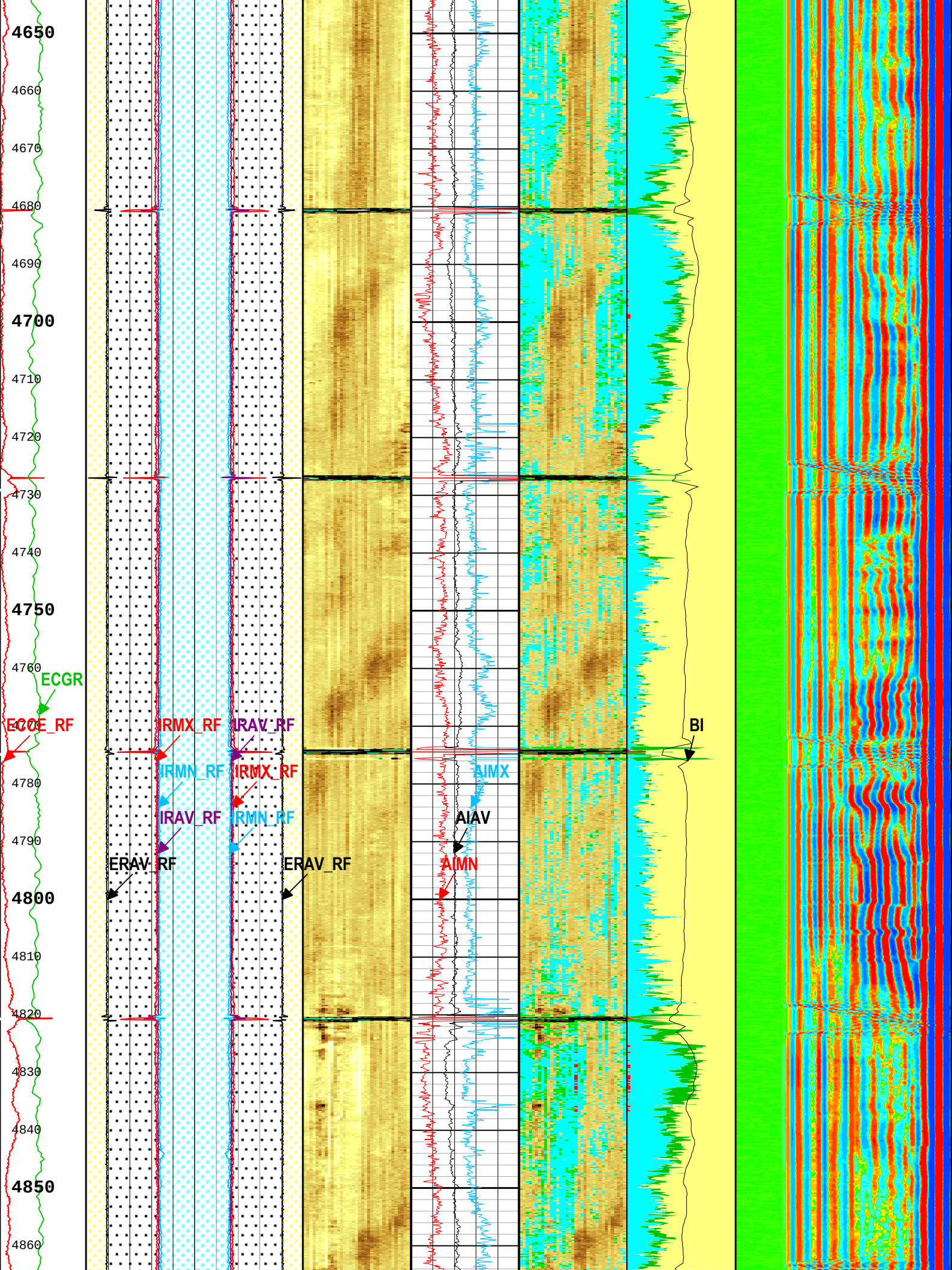
BI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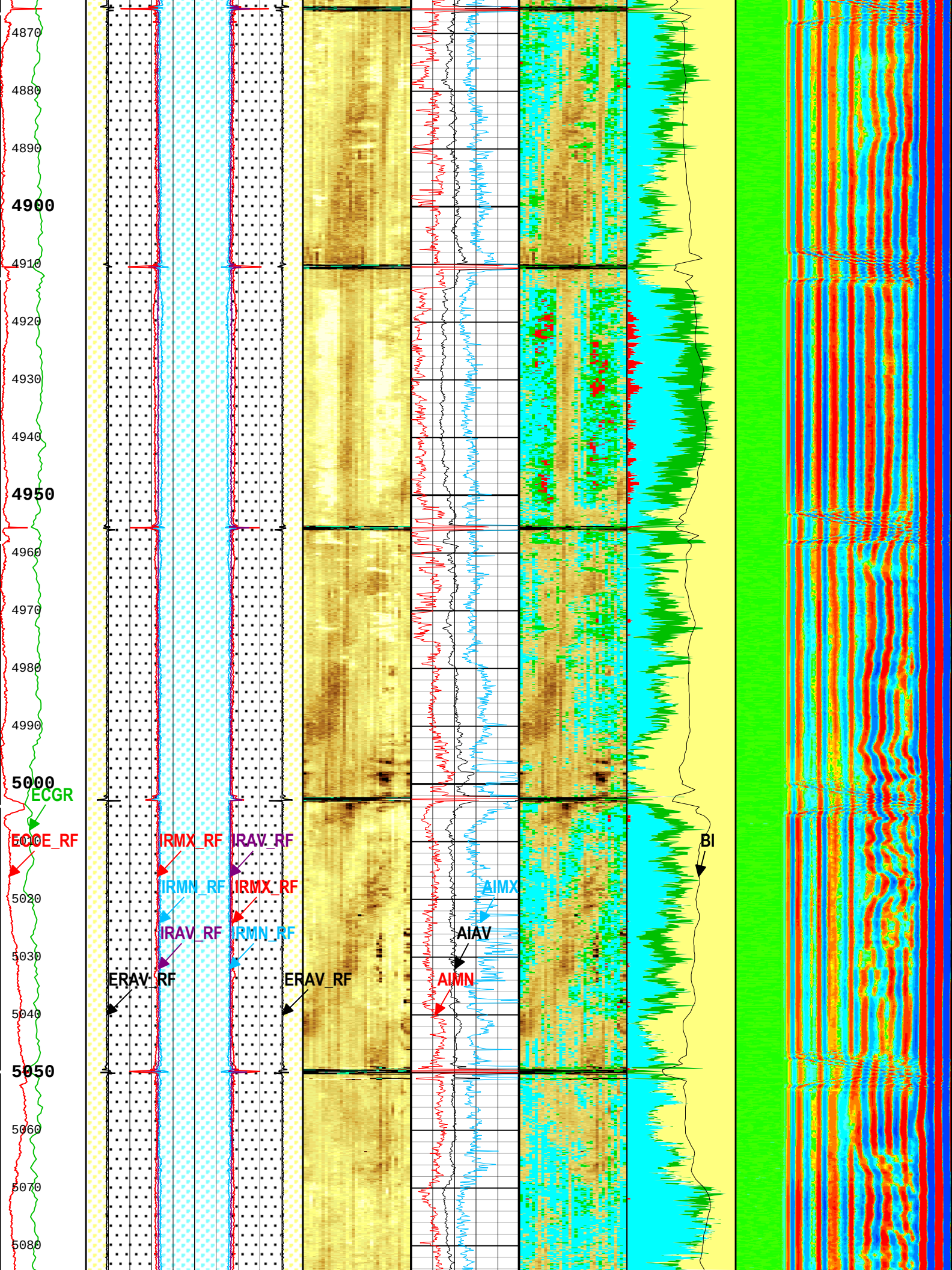
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AIMX
AIAV
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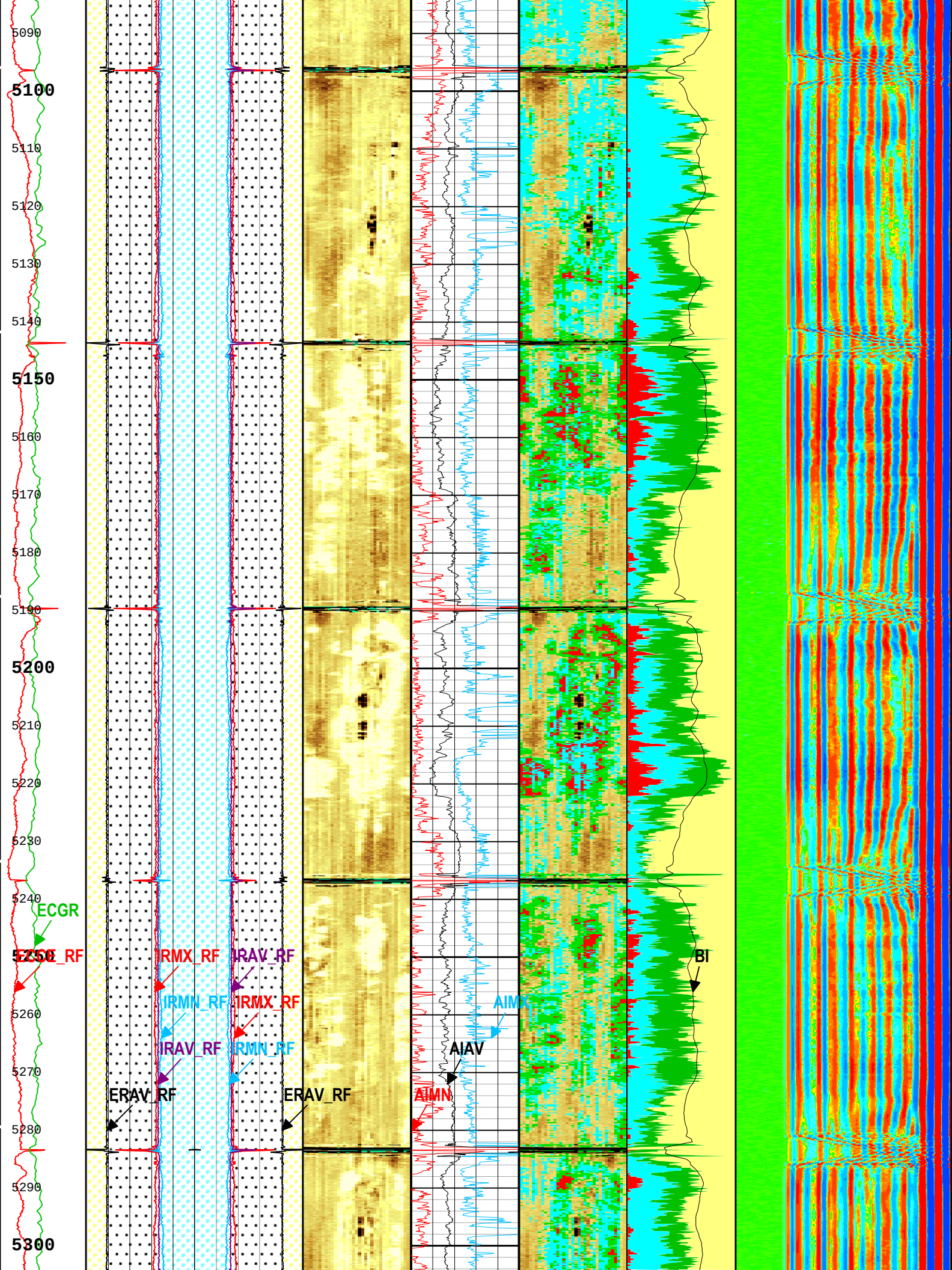
BI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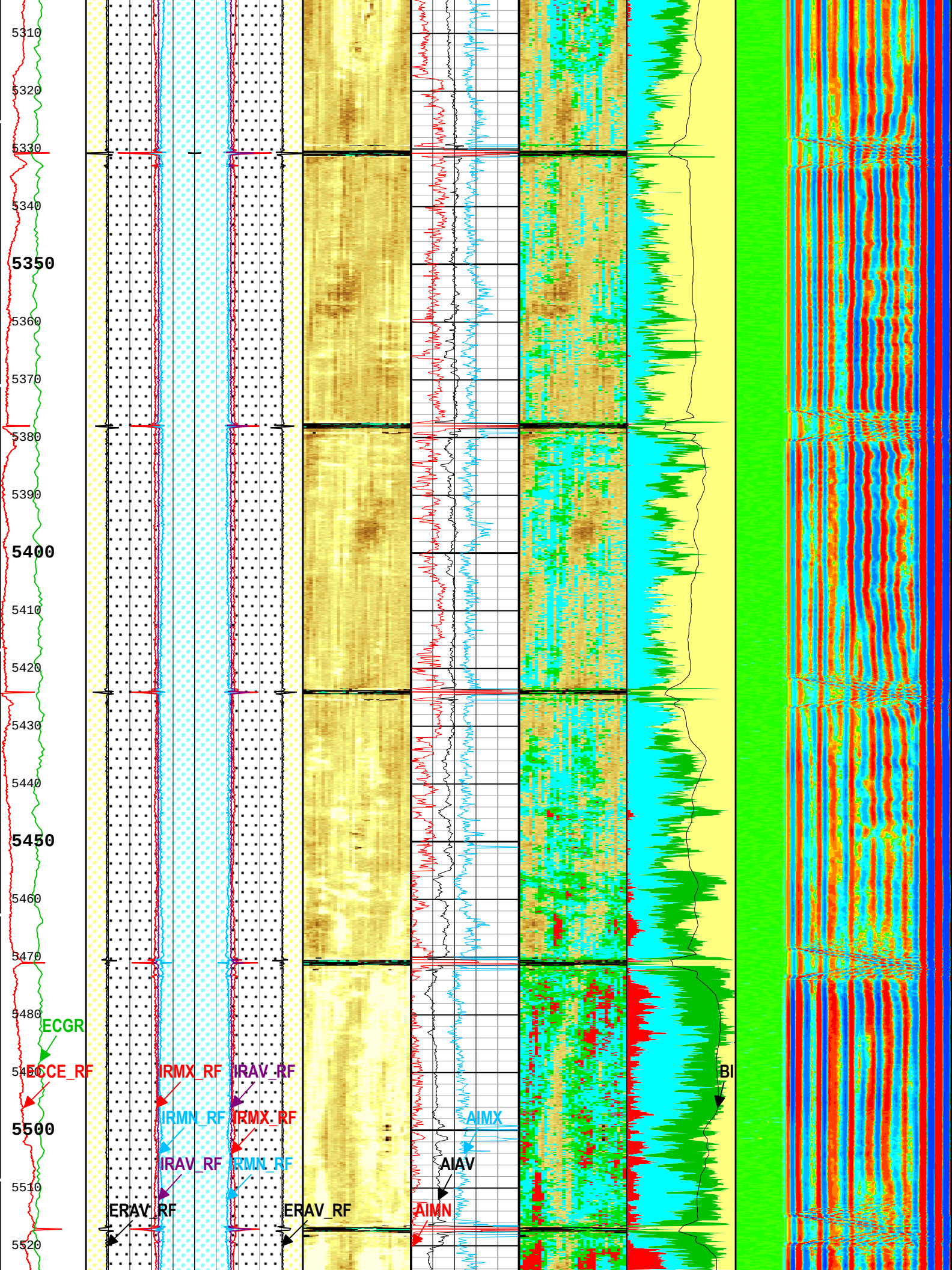
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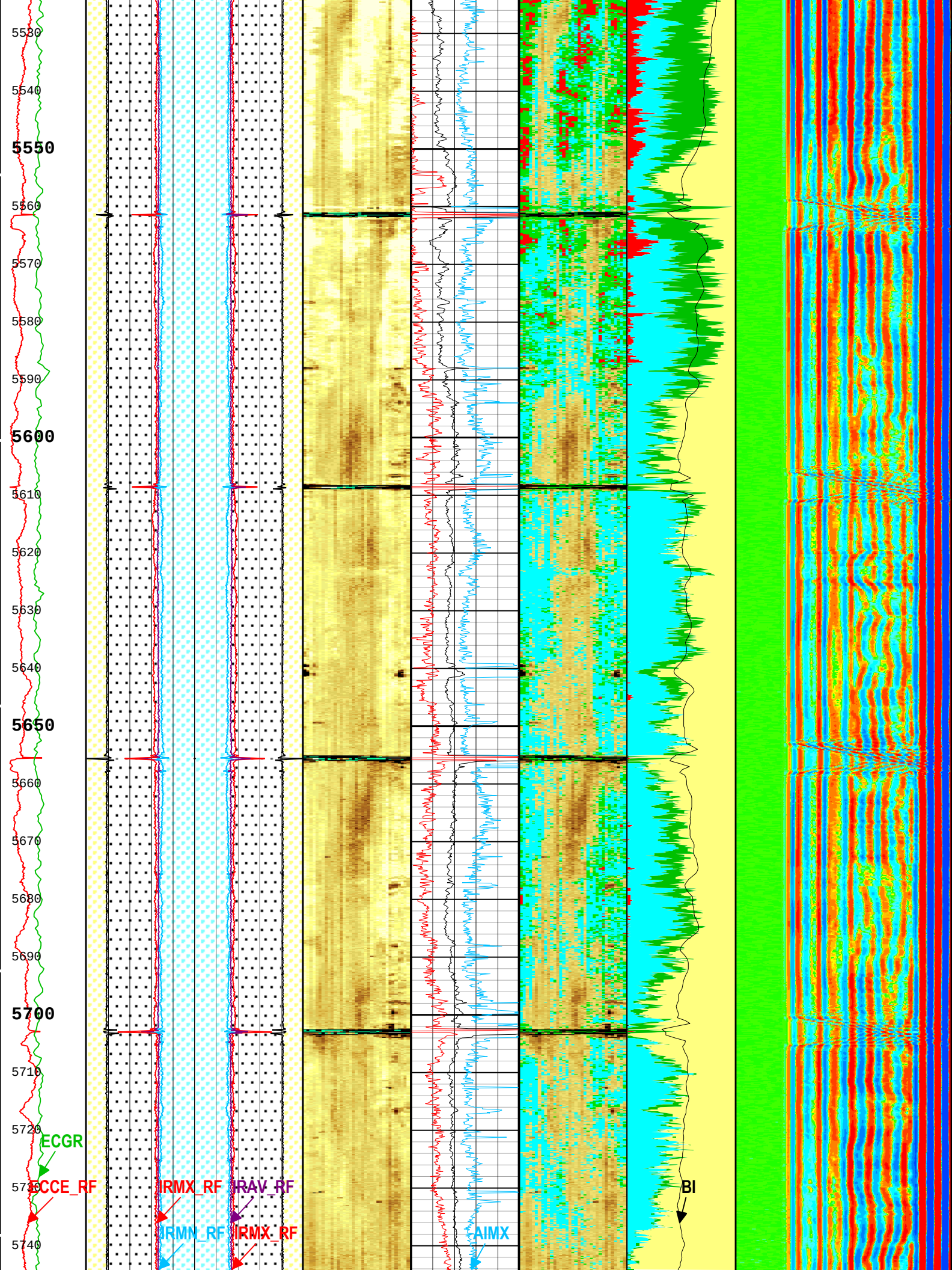
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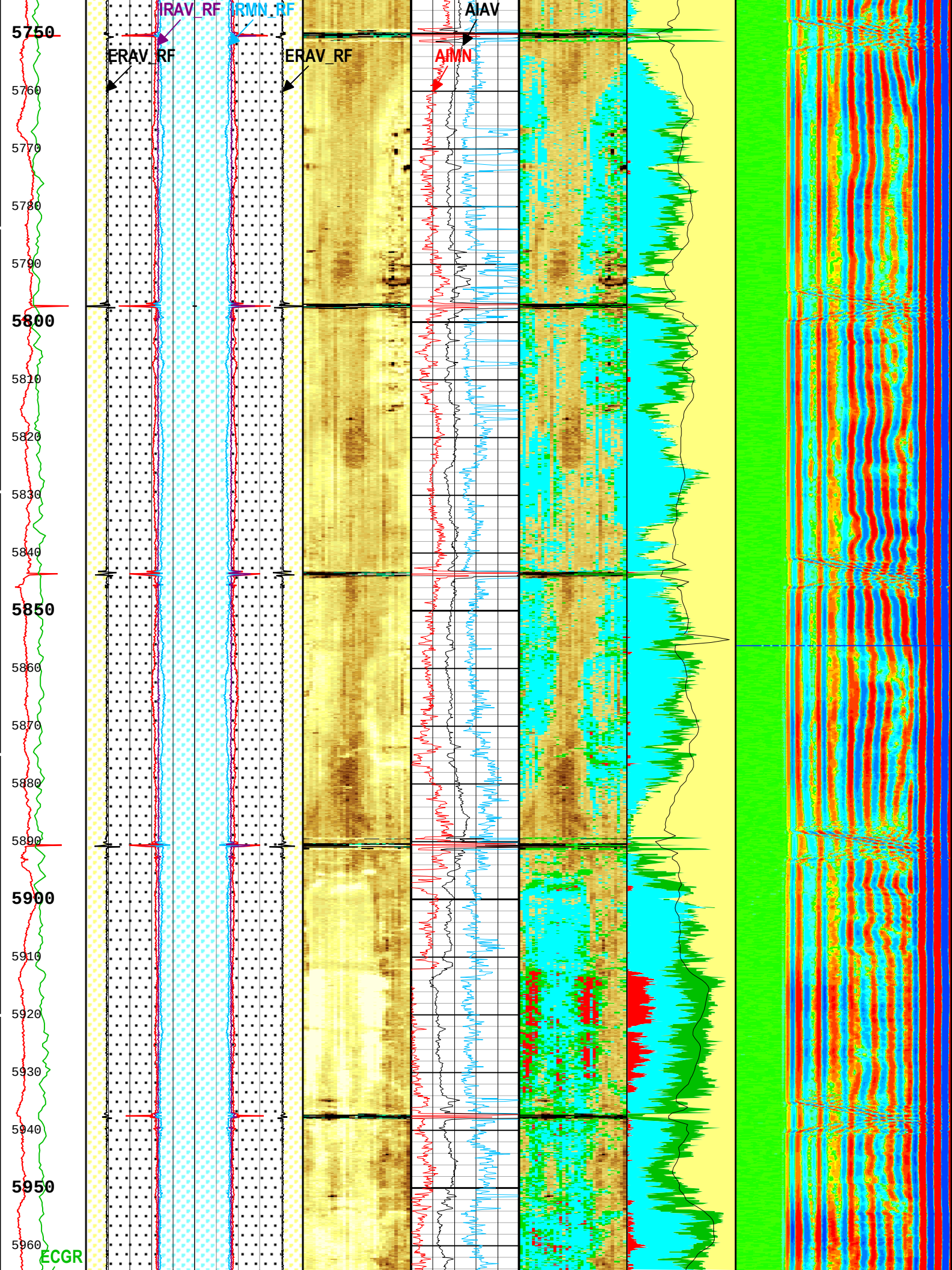
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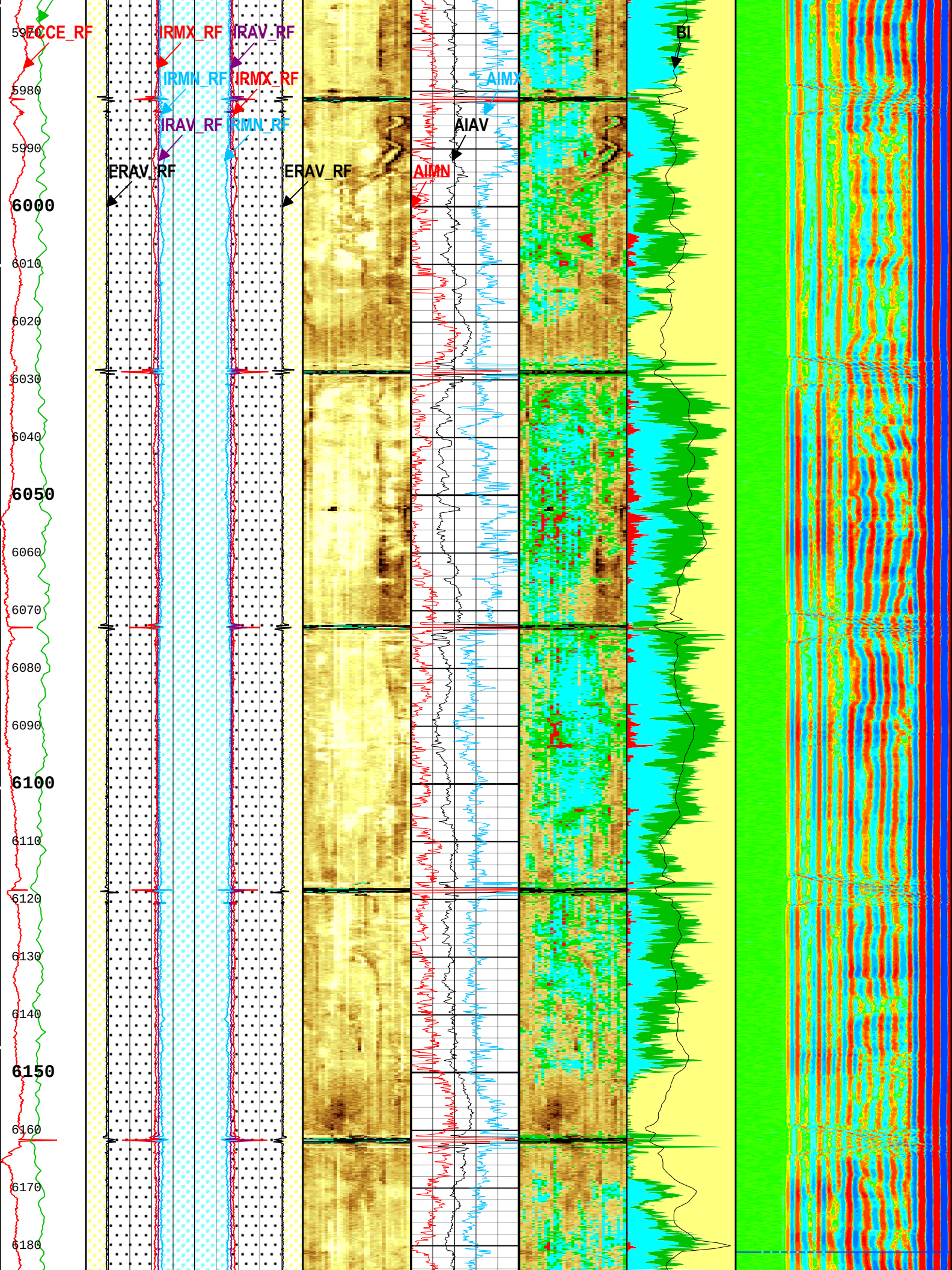
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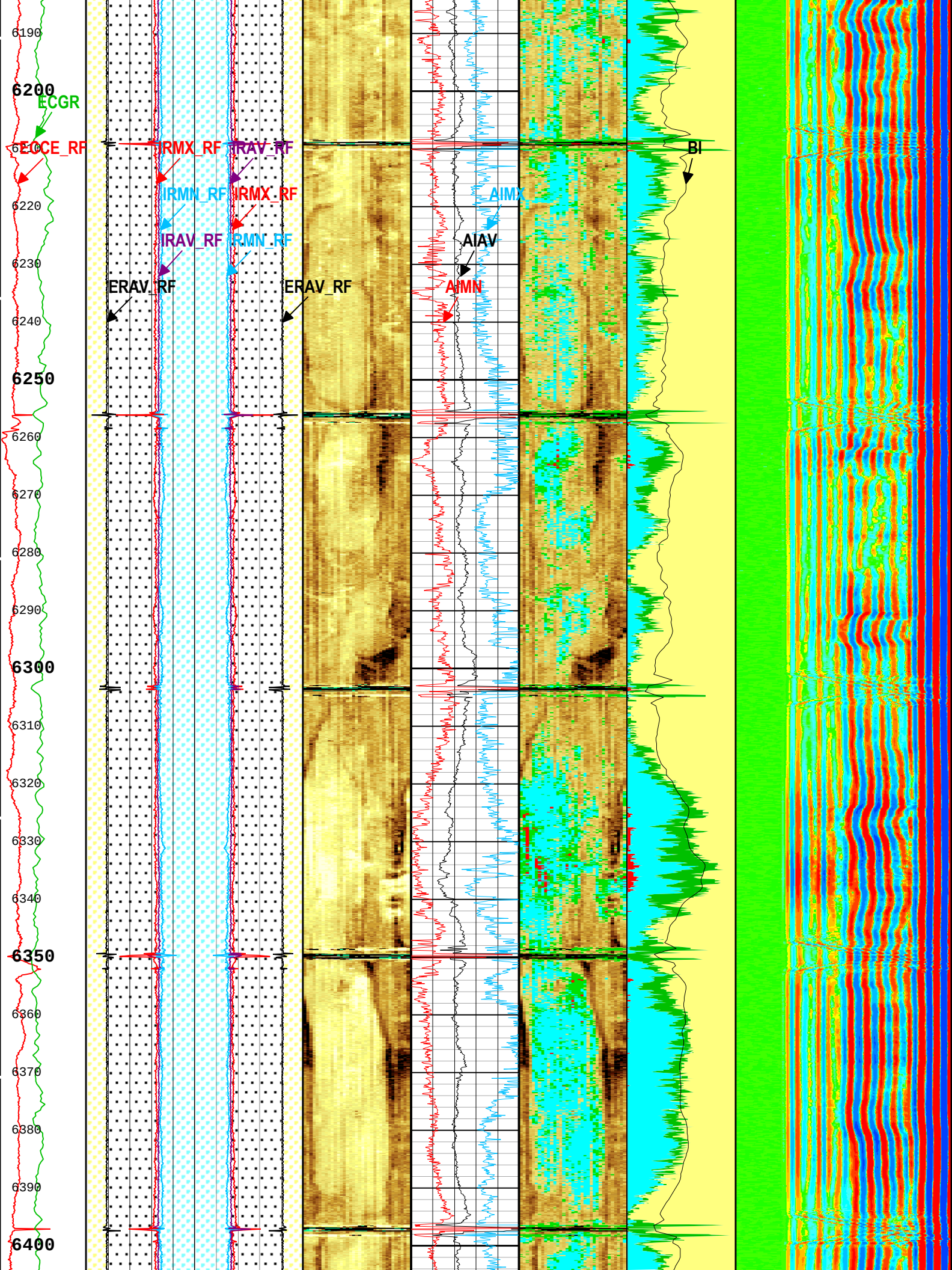
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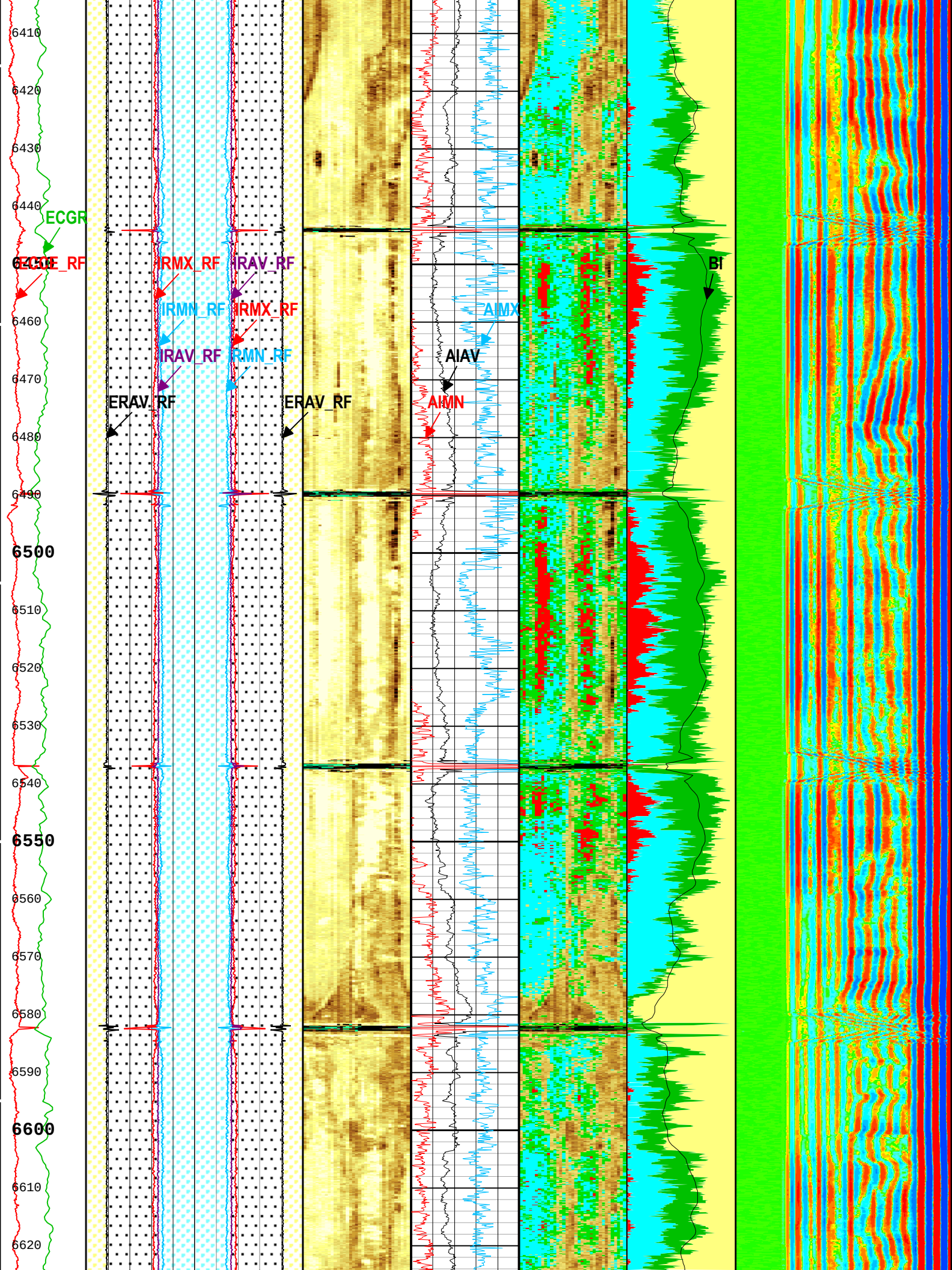
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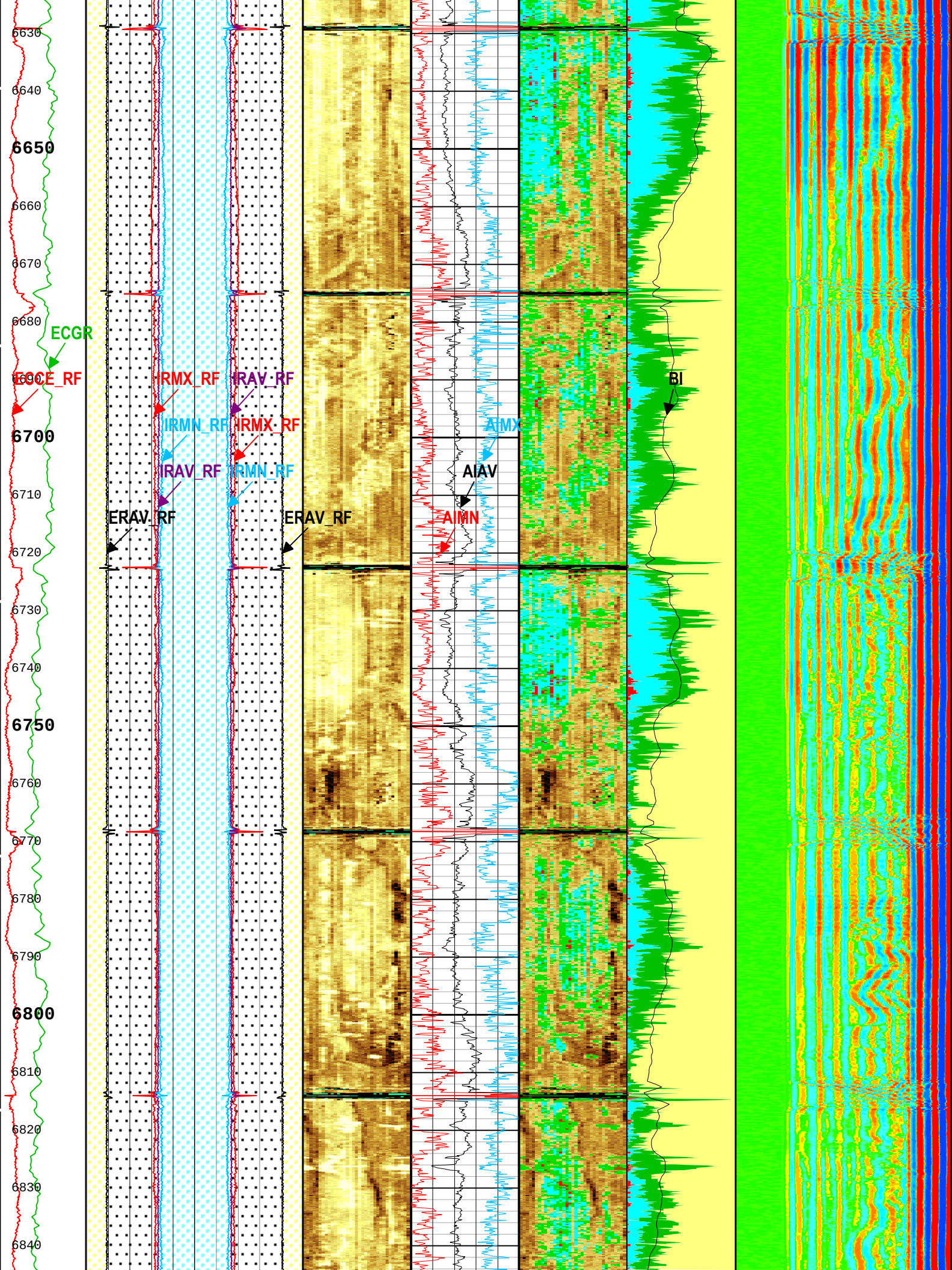
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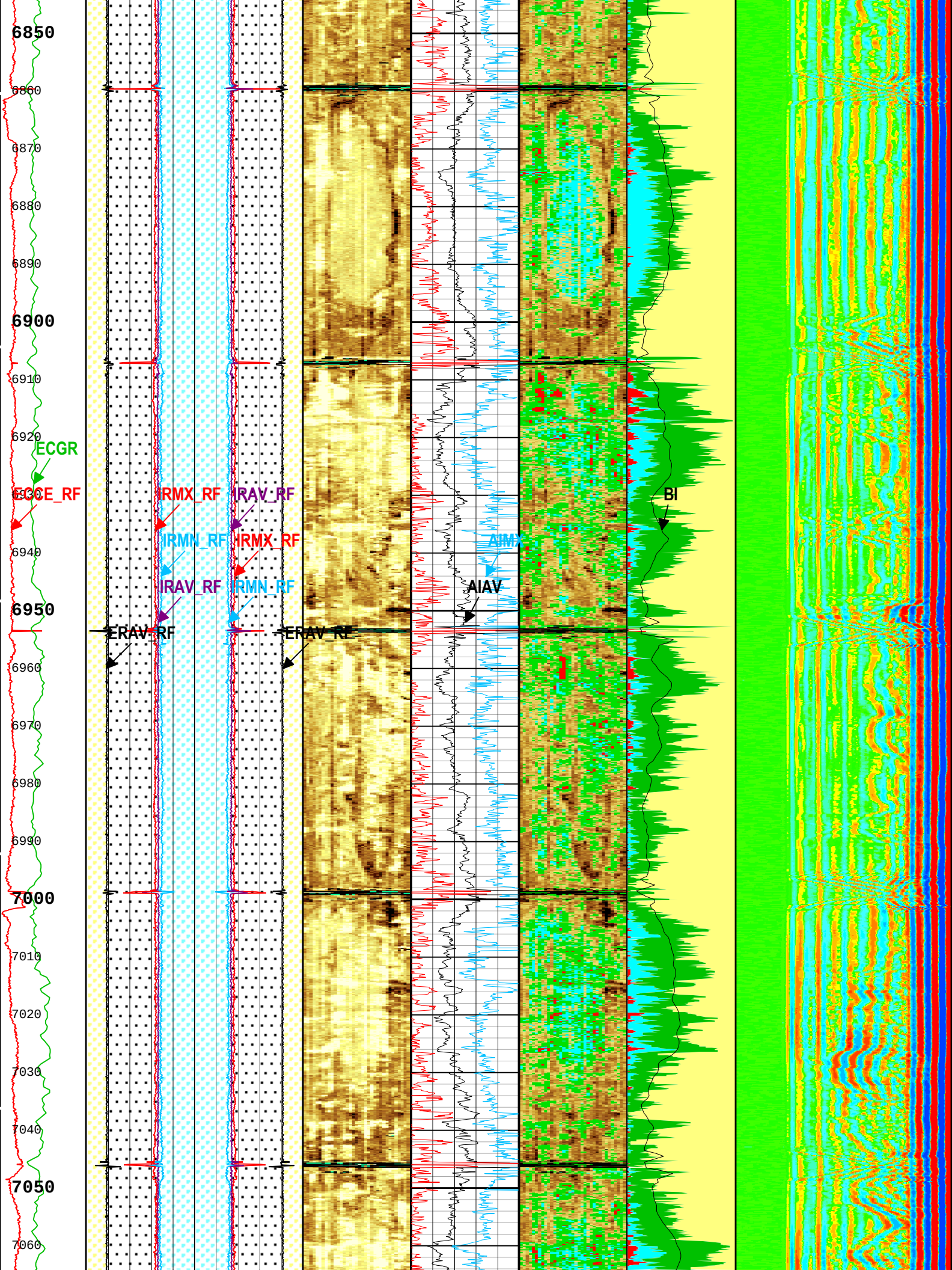
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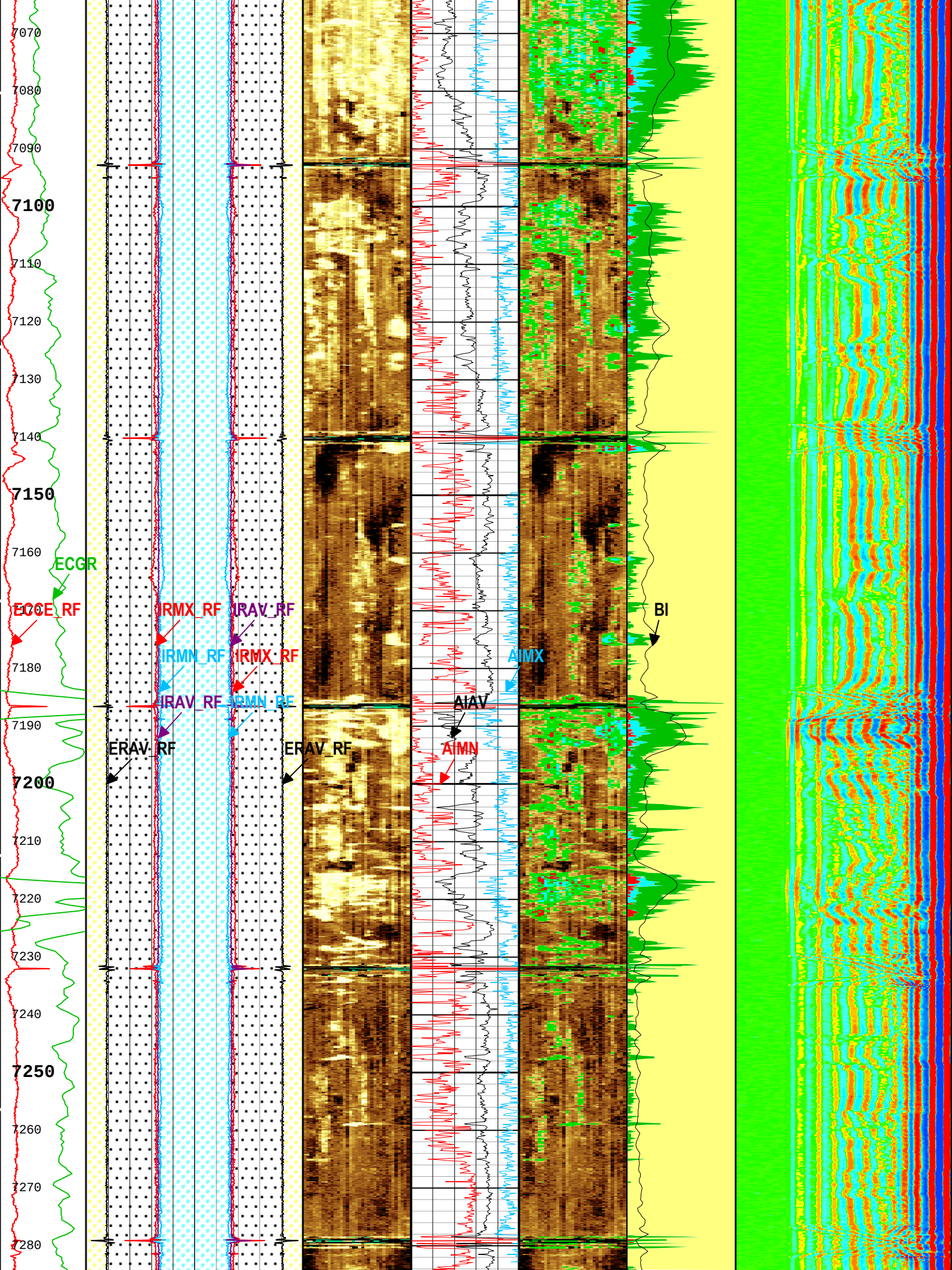
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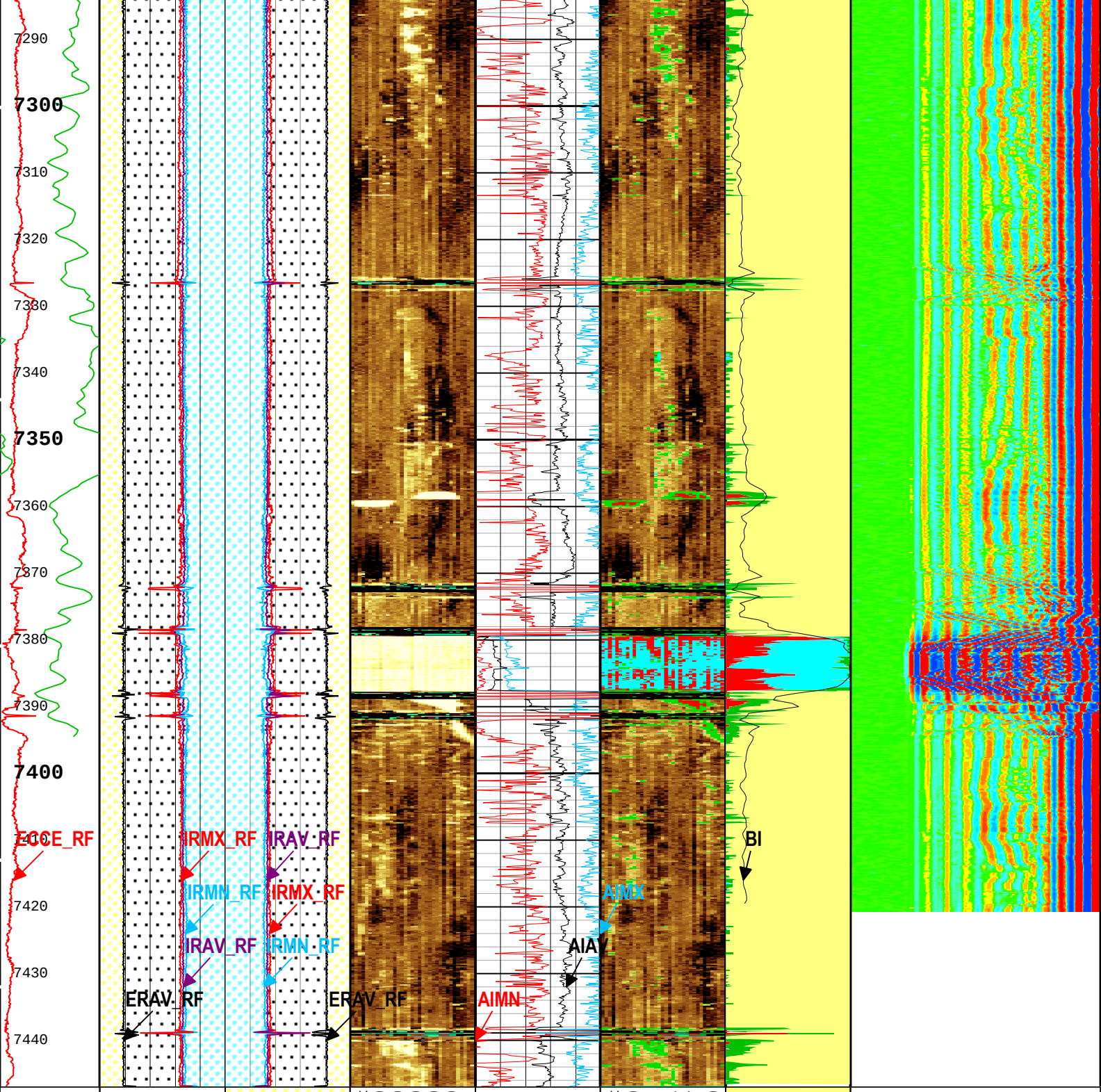


Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-E[1]

0 in 0.5

Gamma Ray (ECGR) HGNS[1]

0 gAPI 150

ERAV_IRAV

IRAV_LHF1

LHF1_ERAV

Median of Unflagged External Radii (ERAV_RF) USIT-E[1]

5 in 4

Median Internal Radius of Casing Corrected for

ERAV_RHF1

IRAV_ERAV

RHF1_IRAV

Median of Unflagged External Radii (ERAV_RF) USIT-E[1]

4 in 5

Minimum of Unflagged Internal Radii

Absent 1.000 2.500 4.000 5.500 7.000

Custom Normalization

USIT - Acoustic Impedance (AIBK) USIT-E[1] (Mrayl)

Acoustic Impedance Minimum (AIMN) USIT-E[1]

-1 Mrayl 9

Acoustic Impedance Average (AIAV) USIT-E[1]

-1 Mrayl 9

Acoustic Impedance Maximum (AIMX) USIT-E[1]

Absent 0.300 3.581 5.054 6.527 8.000

Custom Normalization

USIT - Acoustic Impedance With Micro-debonding Image (AI_MDEBOND_IMG) USIT-E[1] (Mrayl)

Bonded

Gas

Liquid

Micro-debonding

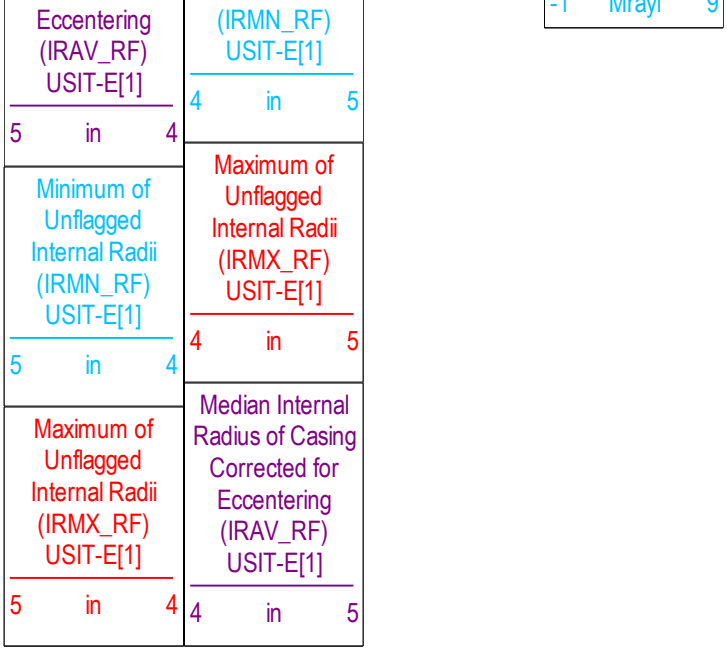
Bond Index (BI) DSLT-H[1]

1 0

Min Amplitude Max

Sonic VDL Curve DSLT-H[1]

200 us 1200



TIME_1900 - Time Marked every 60.00 (s)

Description: USI VDL Cement Format: Log (LBV1_USI-VDL (DSLT) Cement 9.625inch) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 11-Jun-2016 16:24:26

Company:	Southern California Gas Company
Well:	PORTER 69H
Field:	ALISO CANYON
County:	LOS ANGELES
State:	CALIFORNIA

Schlumberger

Cement Bond Log
Variable Density Log
Gamma Ray - CCL