

APPENDIX L

CEMENT BOND LOG

4 of 9

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 IBC SLG Format: Log (USI IBC SLG) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 15-Nov-2016 15:05:59				

Channel Processing Parameters				
4A: Parameters				
Parameter	Description	Tool	Value	Unit
ISSBAR	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Cased	
BS	Bit Size	WLSESSION	Depth Zoned	in
CBLG	CBL Gate Width	ASLT-B	50	us
CBLO	Casing Bottom (Logger)	WLSESSION	4696	ft
CBRA	CBL LQC Reference Amplitude in Free Pipe	ASLT-B	52	mV
CDEN	Cement Density	USIT-E	12.7	lbm/gal
CDEN	Cement Density	SGT-N	16.69	lbm/gal
CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Regular Cement	
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DETE	Delta-T Detection	ASLT-B	E 1	
DFAD	Slim Sonic DFAD Computation Control	ASLT-B	Surface	
DFD	Drilling Fluid Density	Borehole	Depth Zoned	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	182	us/ft
FCF	CBL Fluid Compensation Factor	ASLT-B	Depth Zoned	
FD	Fluid Density	USIT-E	10	lbm/gal
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	ASLT-B	3.94	mV
HEMA	Hematite Presence Flag	Borehole	No	
FSOD	USIT IBC Fluid Slowness Fits Casing Outer Diameter	USIT-E	0_OFF	
IBC_FVEL_SEL	IBC Fluid Velocity Selection	USIT-E	Automatic	
IBC_OFFSET_SEL	IBC Flexural Offset Selector	USIT-E	UFAO	
IBC_ZMUD_SEL	IBC Mud Impedance Selection	USIT-E	Theoretical	
ICE_PROCESS	ICE Processing	USIT-E	Yes	
IMAR	Image Rotation	USIT-E	Off	
MATT_CURR	Maximum Attenuation in Arbitrary Cement	ASLT-B	35.79	dB/m
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	24.64	us
MSA	Minimum Sonic Amplitude	ASLT-B	2.07	mV
MSA_CURR	Minimum Sonic Amplitude in Arbitrary Cement	ASLT-B	2.07	mV
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1.05	
NMSG	Near Minimum Sliding Gate	ASLT-B	335	us
U-USIT_OCDI	Outer Casing Diameter	USIT-E	0	in
U-USIT_OCSH	Outer Casing Shoe	USIT-E	0	ft

U-USIT_OCWE	Outer Casing Weight	USIT-E	0	lbm/ft
RUN_SNUM	Run Sequence Number	WSDRUN	1	
SGAD	Sliding Gate Status	ASLT-B	Off	
SGDT	Sliding Gate Delta-T	ASLT-B	57	us/ft
TD	Total Measured Depth	Borehole	4635	ft
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	2.07	Mrayl
U-USIT_UFAO	SIT Flexural Attenuation Offset	USIT-E	-29.09	dB/m
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
U-USIT_UIAP	IBC Answer Product Enabled	USIT-E	SolidLiquidGasMap	
ZMUD	Acoustic Impedance of Mud	Borehole	1.86	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.5	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

Depth Zone Parameters			
Parameter	Value	Start (ft)	Stop (ft)
BS	26	8	840
BS	17.5	840	2600
BS	12.25	2600	4637
DFD	9.6	8	300
DFD	9	300	2875
DFD	9.8	2875	4637
FCF	0.78	8	300
FCF	0.83	300	2875
FCF	0.76	2875	4637

All depth are actual.

Tool Control Parameters

4A: Parameters				
Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	48	dB
U-USIT_DDT5	USIC Downhole Decimation for T5 only	USIT-E	0_NONE	
EMXV	EMEX Voltage	USIT-E	Time Zoned	V
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	2700	ft/h
MODE	SSLT Firing Mode	ASLT-B	CBL	
RATE	Firing Rate	ASLT-B	4.46	Hz
TMUC	Type of Mud	USIT-E	BRI	
U-USIT_UFWB	Far Receiver Window Begin Time	USIT-E	Time Zoned	us
U-USIT_UFWE	Far Receiver Window End Time	USIT-E	Time Zoned	us
ULOG	Logging Objective	USIT-E	MEASUREMENT	
UMFR	Modulation Frequency	USIT-E	333333	Hz
U-USIT_UNWB	Near Receiver Window Begin Time	USIT-E	Time Zoned	us
U-USIT_UNWE	Near Receiver Window End Time	USIT-E	Time Zoned	us
USFR	Ultrasonic Sampling Frequency	USIT-E	500000	Hz
UPAT	USIT Emission Pattern	USIT-E	Pattern 375 KHz	
UWKM	USIT Working Mode	USIT-E	10 deg at 6.0 in LF	
USIT_DEPTHLOG	Starting Depth Log for Ultrasonics	USIT-E	4635	ft
U-USIT_UTAN	Transducer Angles	USIT-E	38_DEG	
VDM	SSLT VDL Display Mode	ASLT-B	R5	

VRES	Vertical Resolution	USIT-E	6.0 in	
WINB	Window Begin Time	USIT-E	44.08	us
WINE	Window End Time	USIT-E	Time Zoned	us

Time Zone Parameters					
Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
EMXV	65	15-Nov-2016 07:49:50	15-Nov-2016 08:25:58	4637.08	3312.12
EMXV	70	15-Nov-2016 08:25:58	15-Nov-2016 09:41:02	3312.12	494.91
EMXV	75	15-Nov-2016 09:41:02	15-Nov-2016 09:55:41	494.91	43.94
U-USIT_UFWB	135	15-Nov-2016 07:49:50	15-Nov-2016 07:51:22	4637.08	4596.05
U-USIT_UFWB	126.54	15-Nov-2016 07:51:22	15-Nov-2016 09:55:41	4596.05	43.94
U-USIT_UFWE	175	15-Nov-2016 07:49:50	15-Nov-2016 08:13:30	4637.08	3774.62
U-USIT_UFWE	172.35	15-Nov-2016 08:13:30	15-Nov-2016 09:55:41	3774.62	43.94
U-USIT_UNWB	104	15-Nov-2016 07:49:50	15-Nov-2016 07:51:03	4637.08	4608.24
U-USIT_UNWB	91.36	15-Nov-2016 07:51:03	15-Nov-2016 09:55:41	4608.24	43.94
U-USIT_UNWE	144	15-Nov-2016 07:49:50	15-Nov-2016 08:13:41	4637.08	3767.47
U-USIT_UNWE	139.63	15-Nov-2016 08:13:41	15-Nov-2016 09:55:41	3767.47	43.94
WINE	84.08	15-Nov-2016 07:49:50	15-Nov-2016 07:53:12	4637.08	4525.66
WINE	87.99	15-Nov-2016 07:53:12	15-Nov-2016 09:55:41	4525.66	43.94
All depth are at tool zero.					

4A					
Repeat Pass - 0psi					

Software Version	
Acquisition System	Version
Maxwell 2016 SP1	6.1.58882.3100
Application Patch	Wireline_Hotfix-Perfo-2016SP1_6.1.63773
	Wireline_Hotfix-RTB-2016SP1_6.1.68160
	Wireline_NPD-PNX-2016SP1_6.1.74487

Pass Summary									
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
4A	Repeat[2]:Up	Up	4206.23 ft	4629.52 ft	15-Nov-2016 7:19:23 AM	15-Nov-2016 7:30:34 AM	ON	0.00 ft	Yes

All depths are referenced to toolstring zero

Log	Company:DCP Midstream LP Well:Zia AGI D2 4A: Repeat[2]:Up:S016
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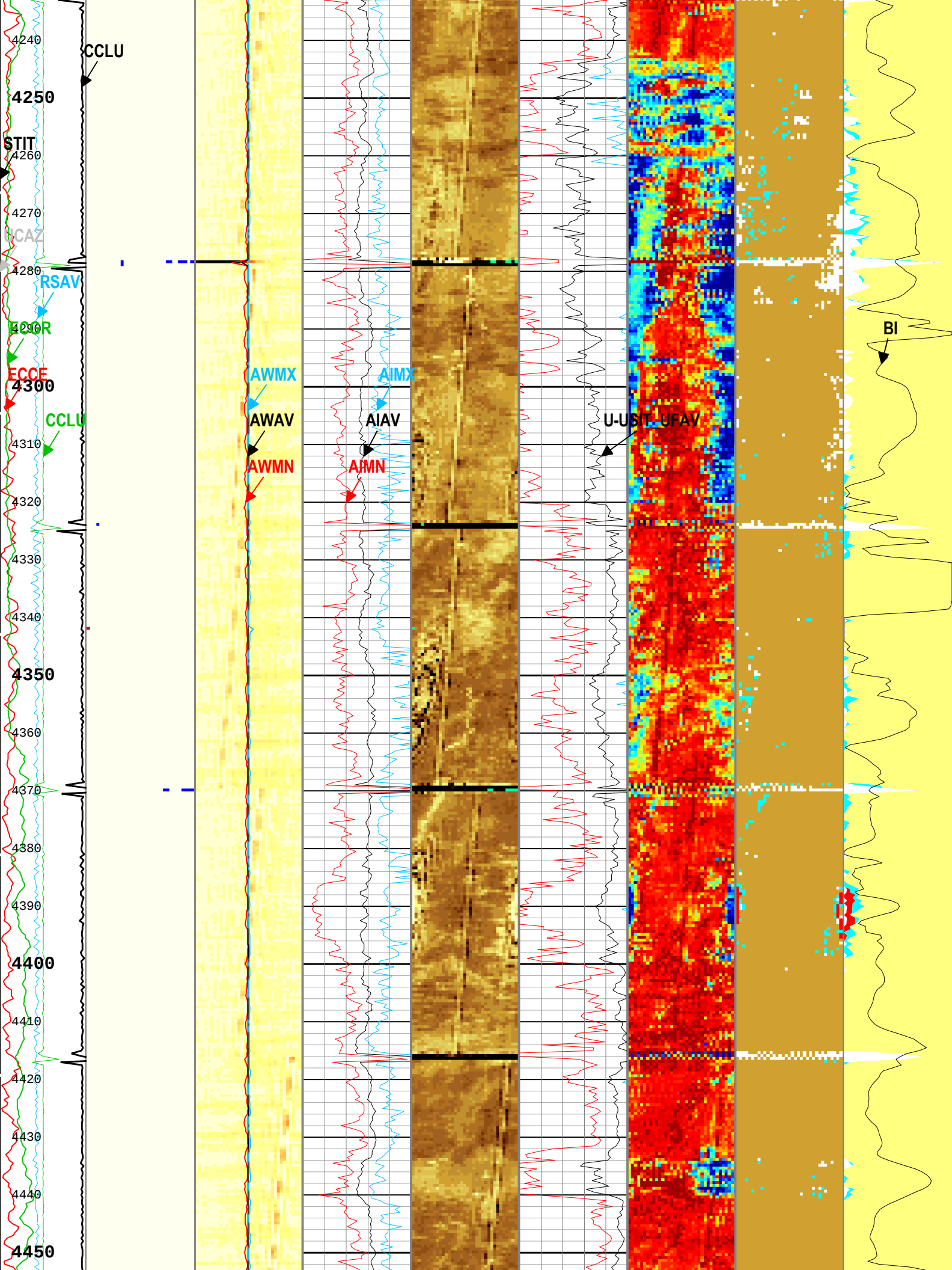
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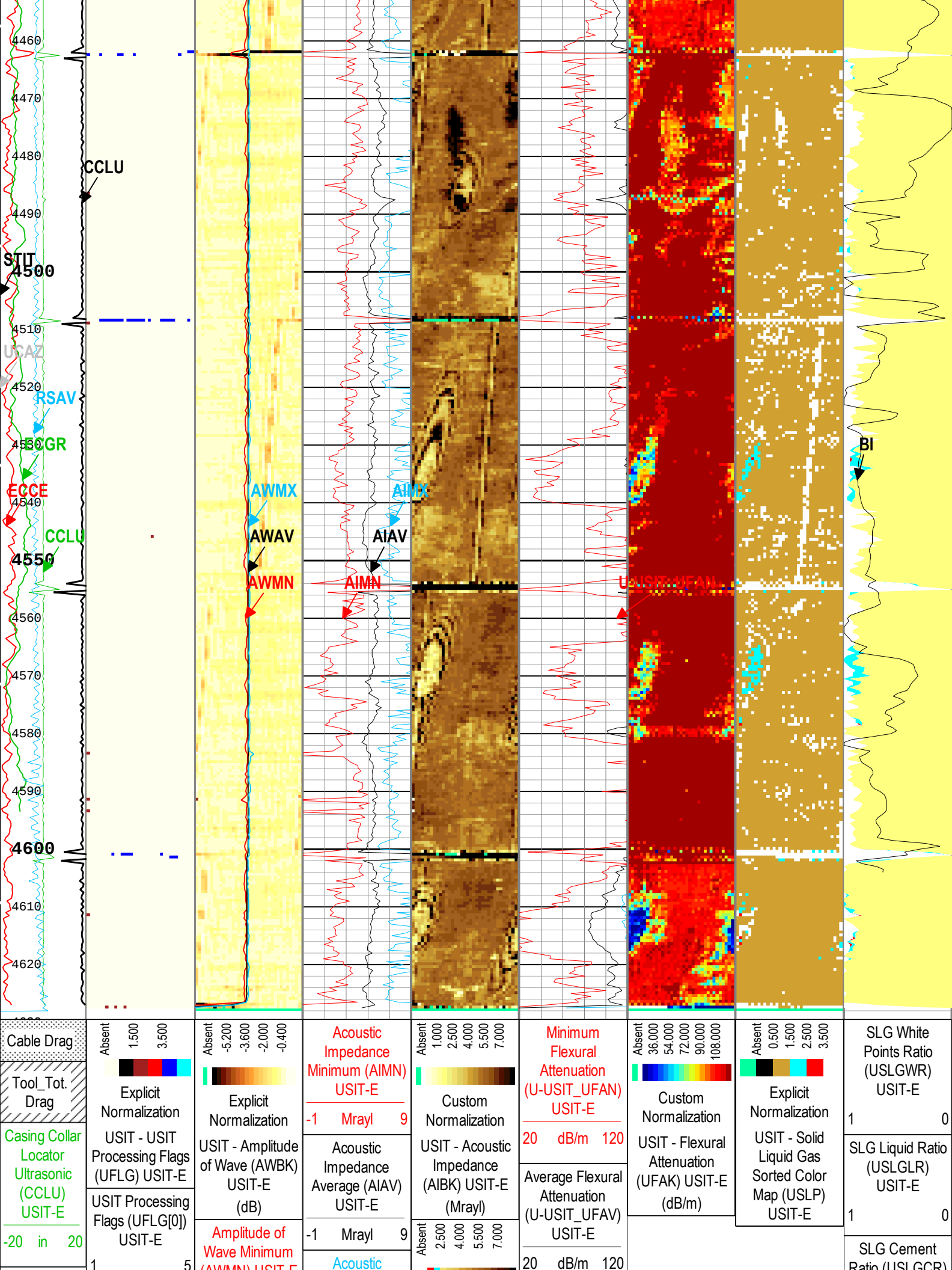
TIME_1900 - Time Marked every 60.00 (s)

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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

Cable Drag	
Tool Test	

Casing Collar Locator Ultrasonic (CCLU) USIT-E	-20 in 20
Amplitude of Eccentering (ECCE) USIT-E	0 in 0.5
Gamma Ray (ECGR) SGT-N	0 gAPI 150
Motor Revolution Speed (RSAV) USIT-E	6 c/s 7.5
Ultrasonic Azimuth (UCAZ) USIT-E	0 deg 360
Stuck Tool Indicator, Total (STIT)	0 ft 50
Casing Collar Locator Ultrasonic (CCLU) USIT-E	-19 in 1
SLG White Points Ratio (USLGWR) USIT-E	1 0
SLG Liquid Ratio (USLGLR) USIT-E	1 0
SLG Cement Ratio (USLGCR) USIT-E	1 0
White points	Gas
Liquid	
Cement	
Bond Index (BI) ASLT-B	1 0





Amplitude of Eccentering (ECCE) USIT-E	0 in 0.5	Amplitude of Wave Average (AWAV) USIT-E	0 dB 75	Impedance Maximum (AIMX) USIT-E	-1 Mrayl 9	Custom Normalization	USIT - Acoustic Impedance (AIBK) USIT-E (Mrayl)	Maximum Flexural Attenuation (U-USIT_UFAX) USIT-E	20 dB/m 120	Rate (USEGR) USIT-E	1 0
Gamma Ray (ECGR) SGT-N	0 gAPI 150	Amplitude of Wave Maximum (AWMX) USIT-E	0 dB 75							White points	
Motor Revolution Speed (RSAV) USIT-E	6 c/s 7.5									Gas	
Ultrasonic Azimuth (UCAZ) USIT-E	0 deg 360									Liquid	
Stuck Tool Indicator, Total (STIT)	0 ft 50									Cement	
Casing Collar Locator Ultrasonic (CCLU) USIT-E	-19 in 1									Bond Index (BI) ASLT-B	1 0

USIT Processing Flags (UFLG[0]) USIT-E	
1 - UFLG 1 Value within [0.0 - 1.5] - :	UTIM Error
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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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Description: USI IBC SLG Format: Log (USI IBC SLG) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 15-Nov-2016 15:06:08

Channel Processing Parameters				
4A: Parameters				
Parameter	Description	Tool	Value	Unit
ISSBAR	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Cased	
BS	Bit Size	WLSESSION	12.25	in
CBLG	CBL Gate Width	ASLT-B	50	us
CBLO	Casing Bottom (Logger)	WLSESSION	4696	ft
CBRA	CBL LQC Reference Amplitude in Free Pipe	ASLT-B	52	mV
CDEN	Cement Density	USIT-E	12.7	lbm/gal
CDEN	Cement Density	SGT-N	16.69	lbm/gal
CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Regular Cement	

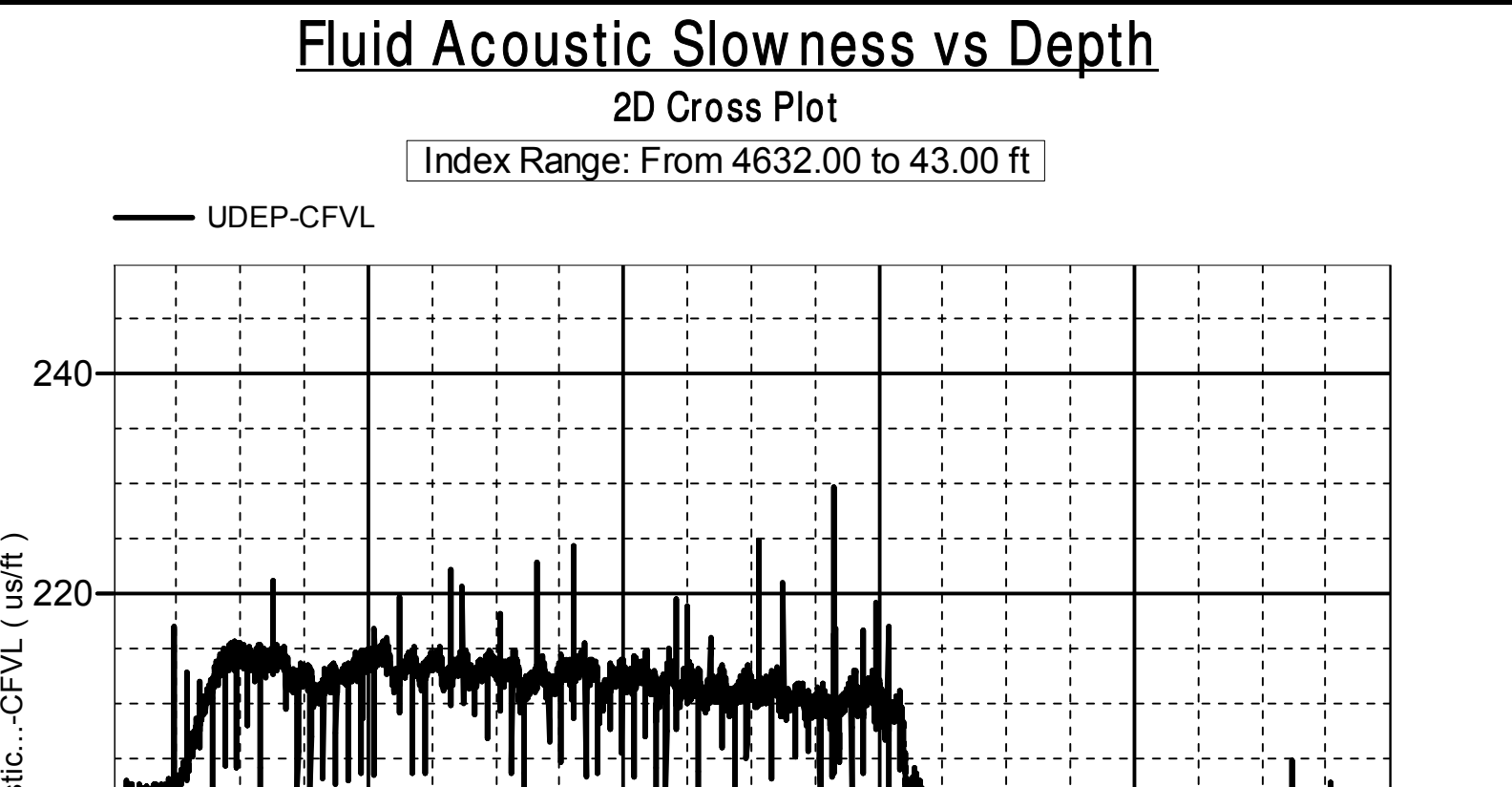
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DETE	Delta-T Detection	ASLT-B	E1	
DFAD	Slim Sonic DFAD Computation Control	ASLT-B	Surface	
DFD	Drilling Fluid Density	Borehole	9.8	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	182	us/ft
FCF	CBL Fluid Compensation Factor	ASLT-B	0.76	
FD	Fluid Density	USIT-E	10	lbm/gal
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	ASLT-B	3.94	mV
HEMA	Hematite Presence Flag	Borehole	No	
FSOD	USIT IBC Fluid Slowness Fits Casing Outer Diameter	USIT-E	0_OFF	
IBC_FVEL_SEL	IBC Fluid Velocity Selection	USIT-E	Automatic	
IBC_OFFSET_SEL	IBC Flexural Offset Selector	USIT-E	UFAO	
IBC_ZMUD_SEL	IBC Mud Impedance Selection	USIT-E	Theoretical	
ICE_PROCESS	ICE Processing	USIT-E	Yes	
IMAR	Image Rotation	USIT-E	Off	
MATT_CURR	Maximum Attenuation in Arbitrary Cement	ASLT-B	35.79	dB/m
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	24.64	us
MSA	Minimum Sonic Amplitude	ASLT-B	2.07	mV
MSA_CURR	Minimum Sonic Amplitude in Arbitrary Cement	ASLT-B	2.07	mV
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1.05	
NMSG	Near Minimum Sliding Gate	ASLT-B	335	us
U-USIT_OCDI	Outer Casing Diameter	USIT-E	0	in
U-USIT_OCSH	Outer Casing Shoe	USIT-E	0	ft
U-USIT_OCWE	Outer Casing Weight	USIT-E	0	lbm/ft
RUN_SNUM	Run Sequence Number	WSDRUN	1	
SGAD	Sliding Gate Status	ASLT-B	Off	
SGDT	Sliding Gate Delta-T	ASLT-B	57	us/ft
TD	Total Measured Depth	Borehole	4635	ft
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	2.07	Mrayl
U-USIT_UFAO	SIT Flexural Attenuation Offset	USIT-E	-29.09	dB/m
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
U-USIT_UIAP	IBC Answer Product Enabled	USIT-E	SolidLiquidGasMap	
ZMUD	Acoustic Impedance of Mud	Borehole	1.86	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.5	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

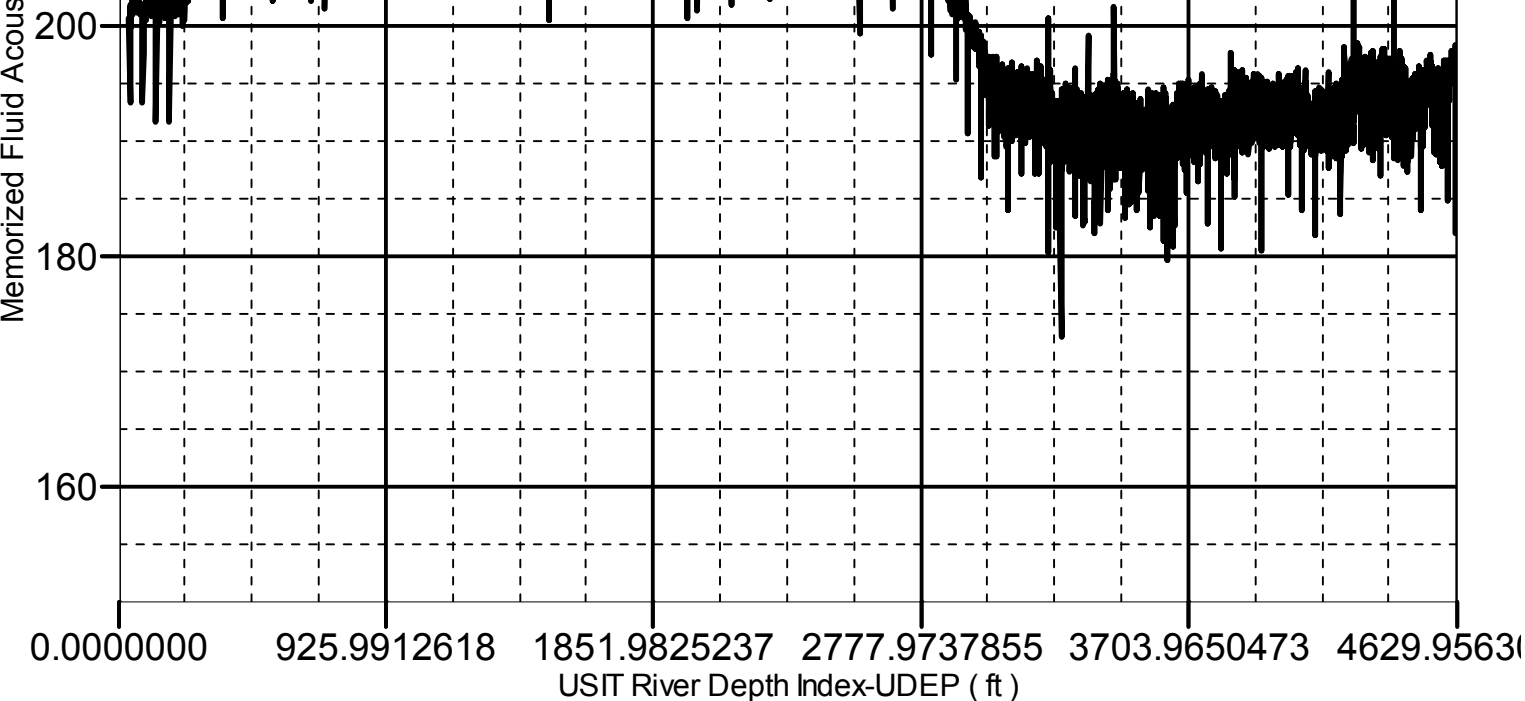
Tool Control Parameters				
4A: Parameters				
Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	48	dB
U-USIT_DDT5	USIC Downhole Decimation for T5 only	USIT-E	0_NONE	
EMXV	EMEX Voltage	USIT-E	Time Zoned	V
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	2700	ft/h

MODE	SSLT Firing Mode	ASLT-B	CBL	
RATE	Firing Rate	ASLT-B	4.46	Hz
TMUC	Type of Mud	USIT-E	BRI	
U-USIT_UFWB	Far Receiver Window Begin Time	USIT-E	Time Zoned	us
U-USIT_UFWE	Far Receiver Window End Time	USIT-E	175	us
ULOG	Logging Objective	USIT-E	MEASUREMENT	
UMFR	Modulation Frequency	USIT-E	333333	Hz
U-USIT_UNWB	Near Receiver Window Begin Time	USIT-E	Time Zoned	us
U-USIT_UNWE	Near Receiver Window End Time	USIT-E	144	us
USFR	Ultrasonic Sampling Frequency	USIT-E	500000	Hz
UPAT	USIT Emission Pattern	USIT-E	Pattern 375 KHz	
UWKM	USIT Working Mode	USIT-E	10 deg at 6.0 in LF	
USIT_DEPTHLOG	Starting Depth Log for Ultrasonics	USIT-E	4635	ft
U-USIT_UTAN	Transducer Angles	USIT-E	38_DEG	
VDM	SSLT VDL Display Mode	ASLT-B	R5	
VRES	Vertical Resolution	USIT-E	6.0 in	
WINB	Window Begin Time	USIT-E	44.08	us
WINE	Window End Time	USIT-E	84.08	us

Time Zone Parameters					
Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
EMXV	55	15-Nov-2016 07:19:23	15-Nov-2016 07:20:10	4629.52	4602.73
EMXV	60	15-Nov-2016 07:20:10	15-Nov-2016 07:30:34	4602.73	4206.23
U-USIT_UFWB	135	15-Nov-2016 07:19:23	15-Nov-2016 07:20:36	4629.52	4586.56
U-USIT_UFWB	128.17	15-Nov-2016 07:20:36	15-Nov-2016 07:30:34	4586.56	4206.23
U-USIT_UNWB	104	15-Nov-2016 07:19:23	15-Nov-2016 07:20:41	4629.52	4582.88
U-USIT_UNWB	97.9	15-Nov-2016 07:20:41	15-Nov-2016 07:30:34	4582.88	4206.23
All depth are at tool zero.					

XYZ	Company:DCP Midstream LP Well:Zia AGI D2 4A: Main[3]:Up:S016
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XYZ

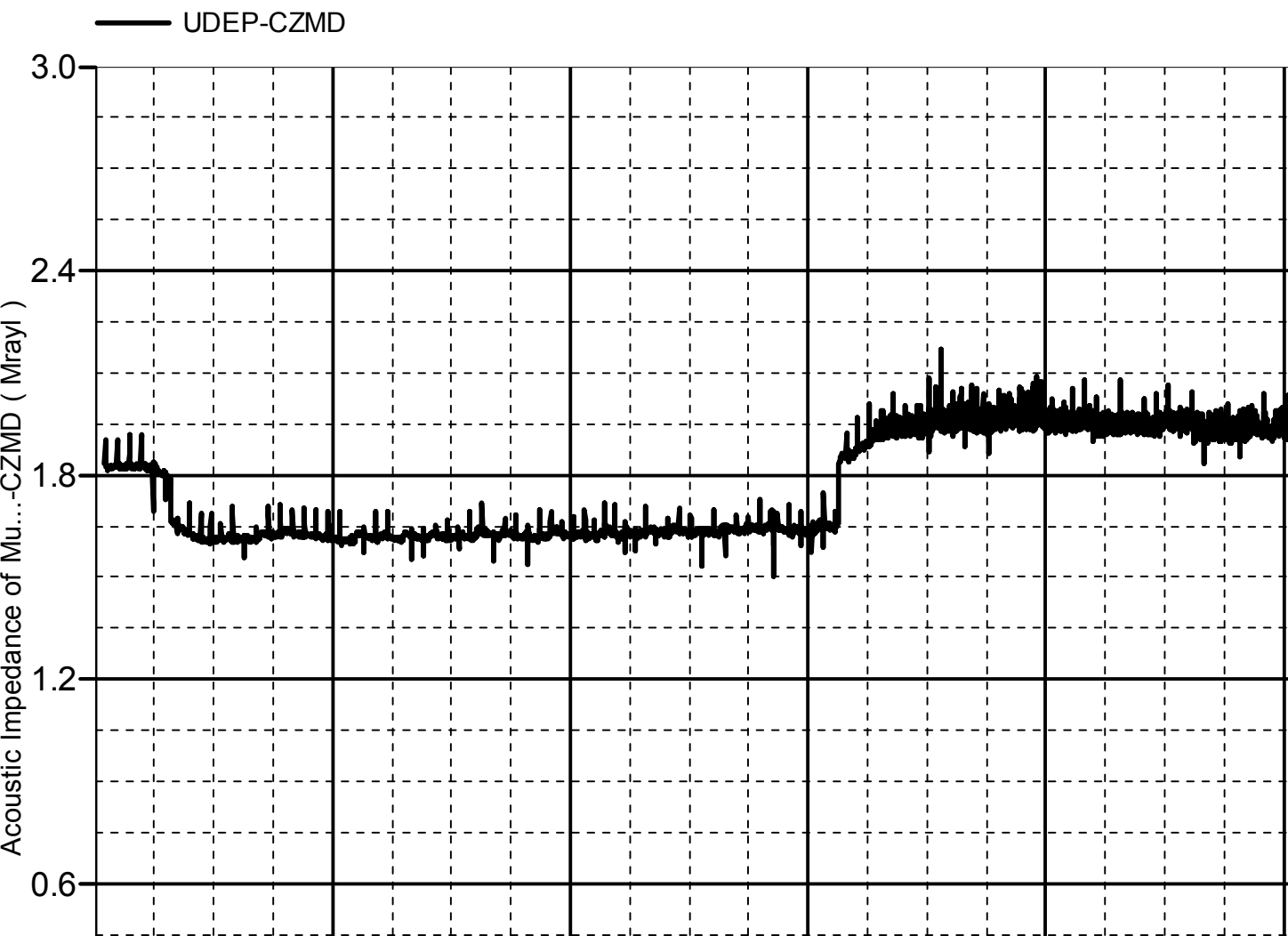
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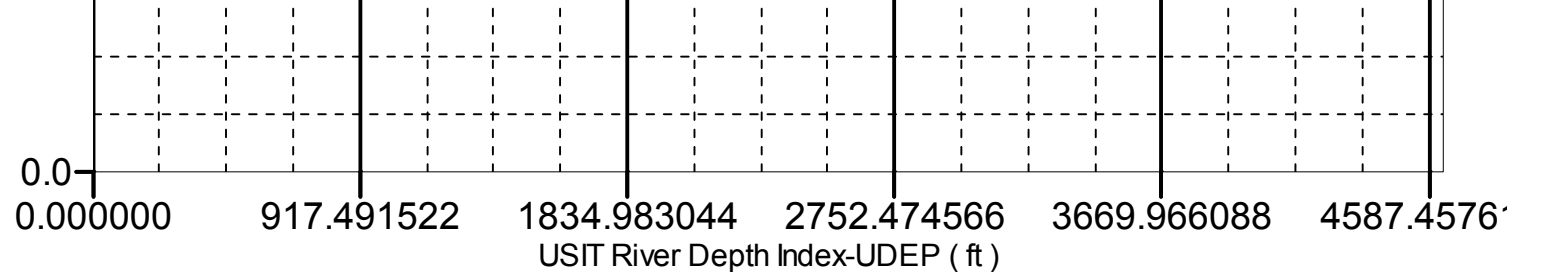
4A: Main[3]:Up:S016

Acoustic Impedance of Mud vs Depth

2D Cross Plot

Index Range: From 4636.00 to 43.00 ft





County:	Lea
State:	Texas
UltraSonic Imager	
Cement Evaluation	
Gamma Ray	

Company: DCP Midstream LP

Well: Zia AGI D2

Field: AGI Devonian Exploration

County: Lea State: Texas

VDL WIDE PRINT

County: Lea

Field: AGI Devonian Exploration

Location: 1893' FSL & 950' FWL

Well: Zia AGI D2

Company: DCP Midstream LP

Location:

1893' FSL & 950' FWL

Section: 19, Township: T19S, Abstract: R32E

Elev.: K.B. 7119.00 ft
G.L. 3547.00 ft
D.F. 7118.00 ft

Permanent Datum:

Log Measured From:

Drilling Measured From:

Ground Level

Kelly Bushing

Kelly Bushing

Elev.: 3547.00 f

3572.00 ft

above Perm.Datum

API Serial No.

30-025-42207

Section: 19

Township: T19S

Range: R32E

Logging Date

Run Number

Depth Driller

Schlumberger Depth

Bottom Log Interval

Top Log Interval

Casing Fluid Type

Salinity

Density

Fluid Level

BIT/CASING/TUBING STRING

Bit Size

From

To

Casing/Tubing Size

Weight

Grade

From

To

Max Recorded Temperatures

Logger on Bottom

Unit Number

Location:

Time

Recorded By

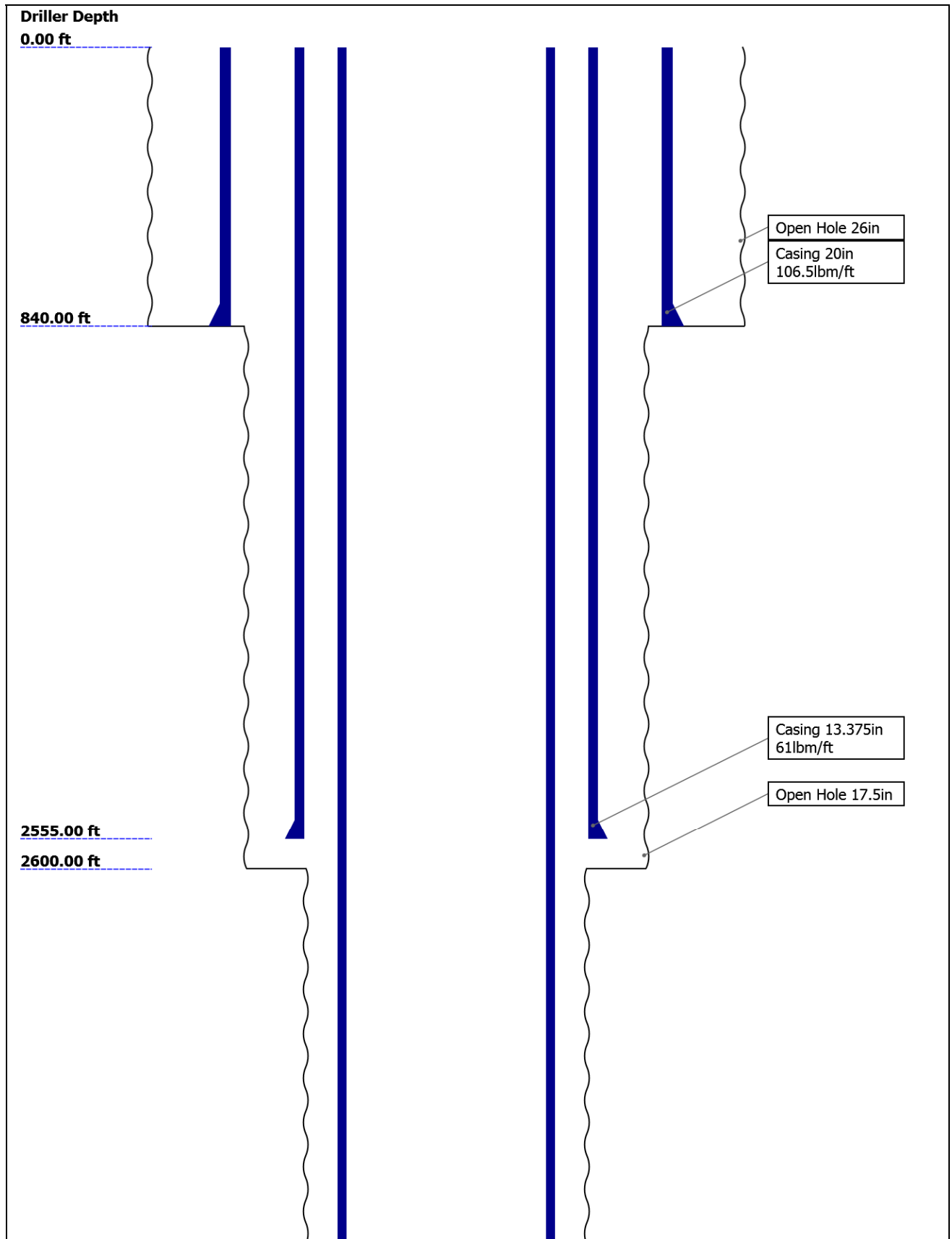
James Hunter

Disclaimer

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9.2 Composite Summary	
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9.4 Parameter Listing	

Well Sketch



4696.00 ft

4700.00 ft

Casing 9.625in
40lbm/ft

Open Hole 12.25in

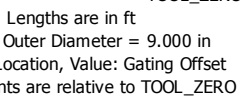
Borehole Size/Casing/Tubing Record

Bit						
Bit Size (in)	26	17.5	12.25			
Top Driller (ft)	0	840	2600			
Top Logger (ft)	0	840	2600			
Bottom Driller (ft)	840	2600	4700			
Bottom Logger (ft)	840	2600	4700			
Casing						
Size (in)	20	13.375	9.625			
Weight (lbm/ft)	106.5	61	40			
Inner Diameter (in)	19	12.515	8.835			
Grade	N/A	N/A	N/A			
Top Driller (ft)	0	0	0			
Top Logger (ft)	0	0	0			
Bottom Driller (ft)	840	2555	4696			
Bottom Logger (ft)	840	2555	4696			

Remarks and Equipment Summary

4A: Toolstring				4A: Remarks		
Equip name	Length	MP name	Offset	Logging Objective: Cement and corrosion evaluation from TD to Surface.		
LEH-QC	45.82			Toolstring run as per toolsketch. 2 gemcos used on ASLT.		
CAL-YA	43.37			SLB TD: 4635 ft.		
CAL-YA		CCL	42.57	Logs correlated to DV tool as per client.		
				No pressure applied as per client request.		
DTC-H	39.87			As per the client: drilling fluid Brine 9.25 # and 10# brine in annulus.		
ECH-KC		CTEM	38.97	No spacer used during cement job as per client.		
DTC-H		HV	0.00	Stage 1: Lead - 12.7 ppg and Tail - 14.8 ppg		
		TelStatus	36.87	DV tool at 2608 ft.		
		ToolStatus	36.87	Stage 2: Lead - 13.5 and Tail - 14.8 ppg		
SGT-N	36.87			Casing: 9.625 in. 40#.		
SGH-K		GR	35.95	Casing ER: 4.8125 in., IR: 4.8125 in., Thickness: 0.395 in.		
SGC-TB				Fluid Slowness: Automatic, Acoustic Impedence: Theoretical.		
SGD-TAA				2 fluid slowness using the 14.8 Fluid slowness		
ASLT-B	31.37					
ASLT-BB						

IBC main pass logged at 10deg 6in.



CMTD-B/A

Serial Number			
Calibration Date			
Calibrator Serial Number			
Number of Calibration Points	0		

Logging Cable			
Type	7-46NT-XS		
Serial Number			
Length	24000.00 ft		
Conveyance Type	Wireline		
Rig Type	Triple		

4A:Depth Control Parameters		Depth Control Remarks	
Log Sequence	Subsequent Trip To the Well	Schlumberger Wireline Depth Precedures followed.	
Reference Log Name		IDW used as primary depth control device.	
Reference Log Run Number		Z-Chart used as secondary depth control.	
Reference Log Date		Log correlated to DV tool as per client request.	
Subsequent Trip Down Log Correction	5.00 ft		

4A

Main Pass - 1500psi

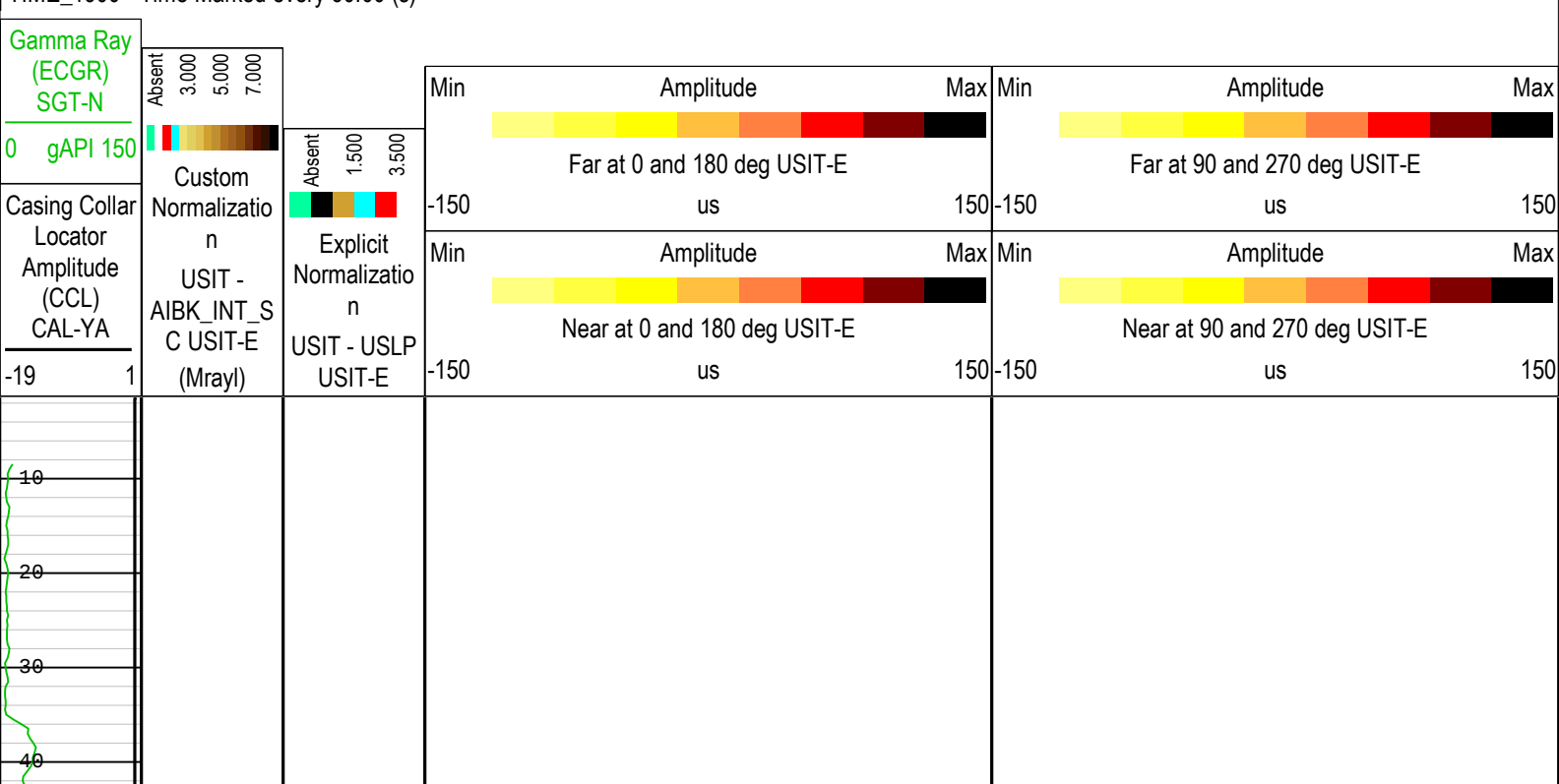
Pass Summary									
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
4A	Main[3]:Up	Up	43.94 ft	4637.08 ft	15-Nov-2016 7:49:50 AM	15-Nov-2016 9:55:41 AM	ON	5.00 ft	Yes

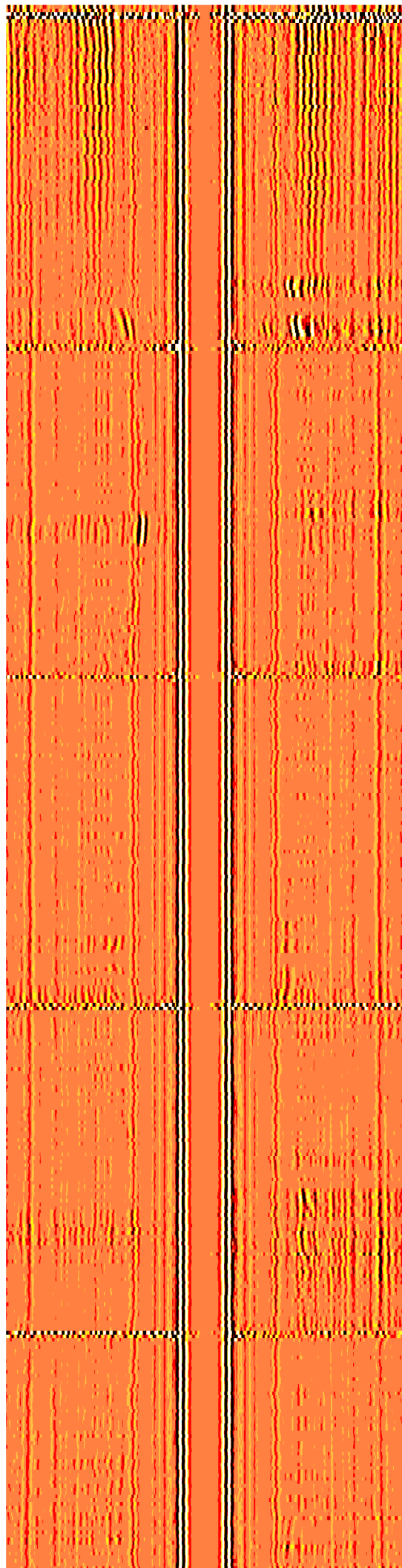
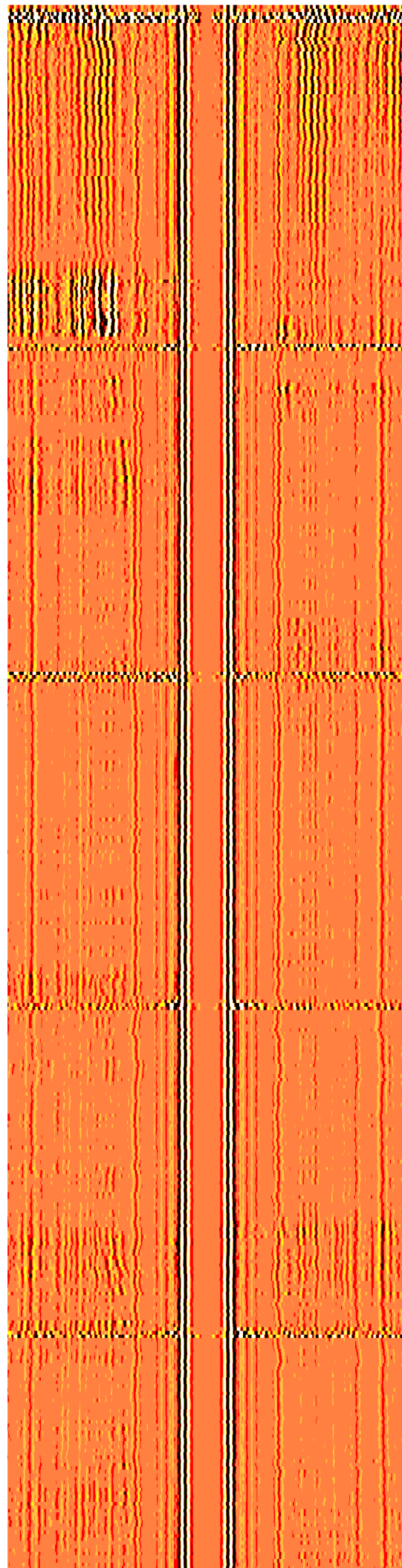
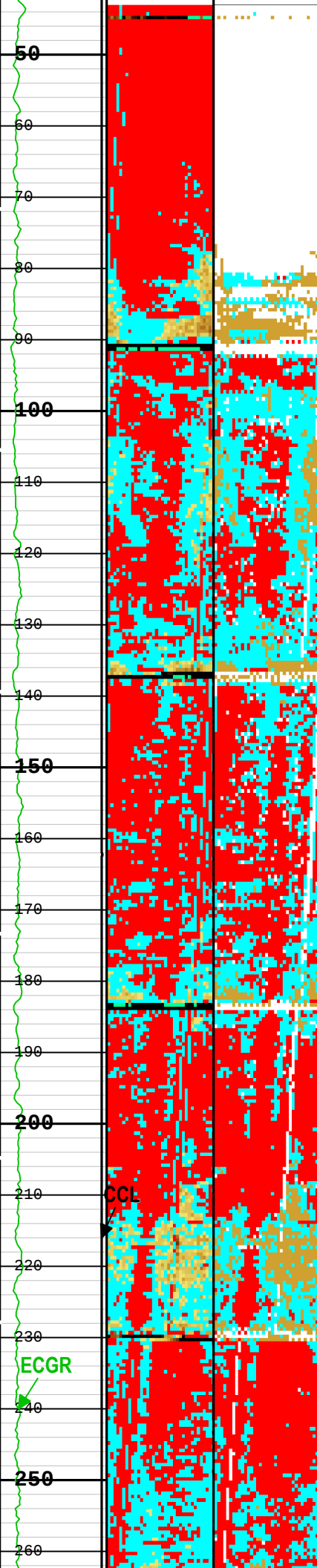
All depths are referenced to toolstring zero

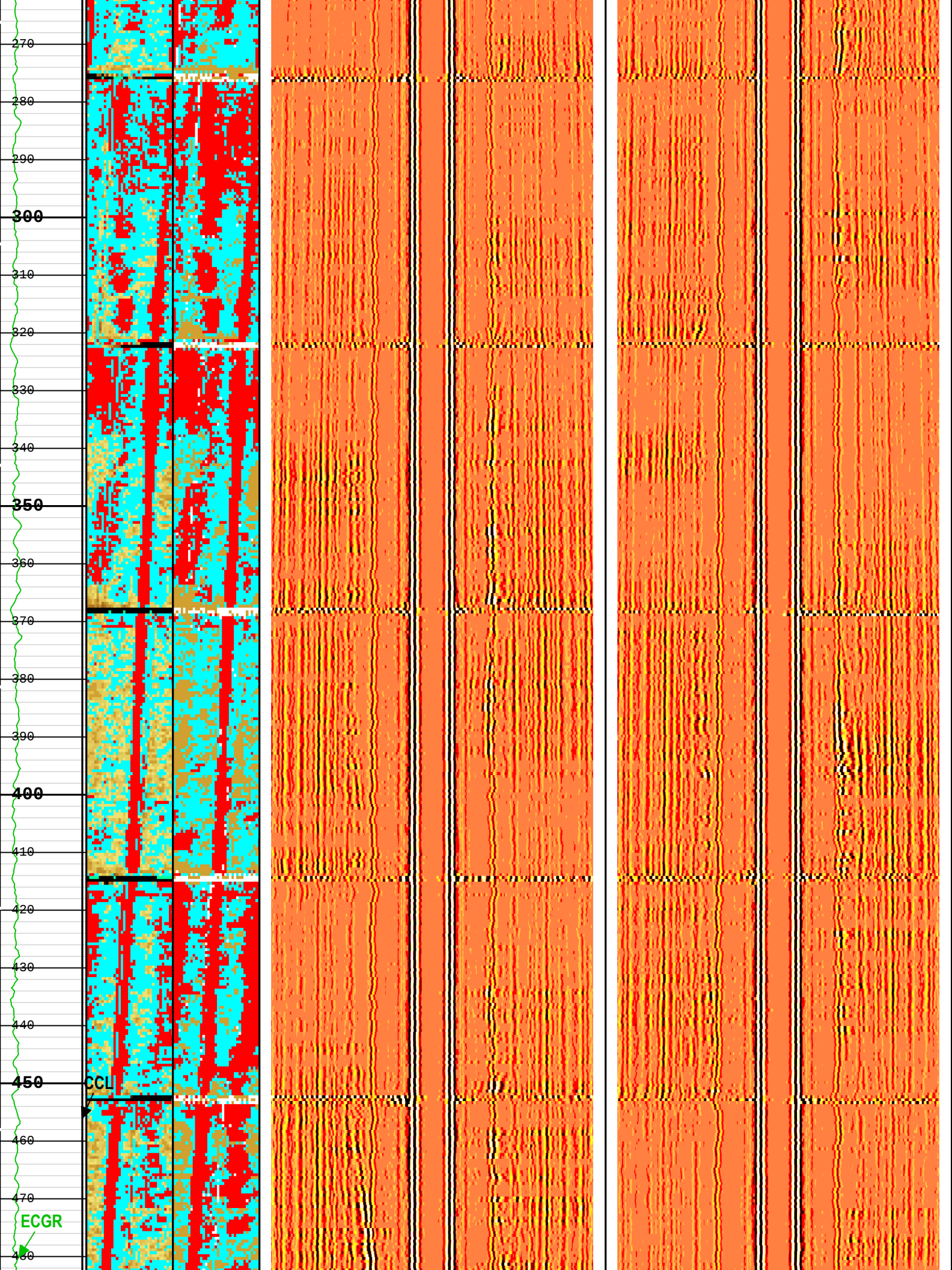
Log	Company:DCP Midstream LP Well:Zia AGI D2 4A: Main[3]:Up:S016
-----	--

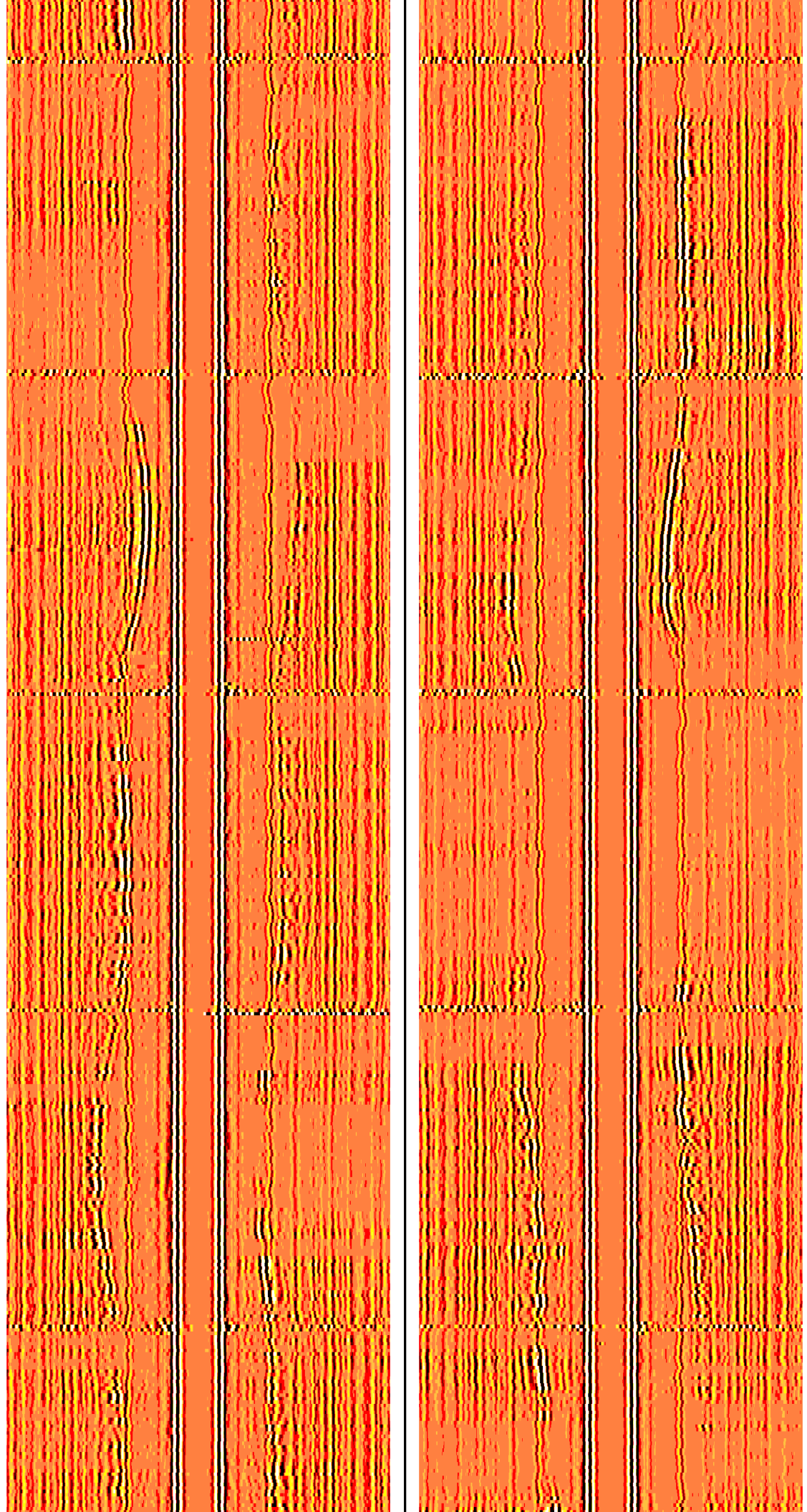
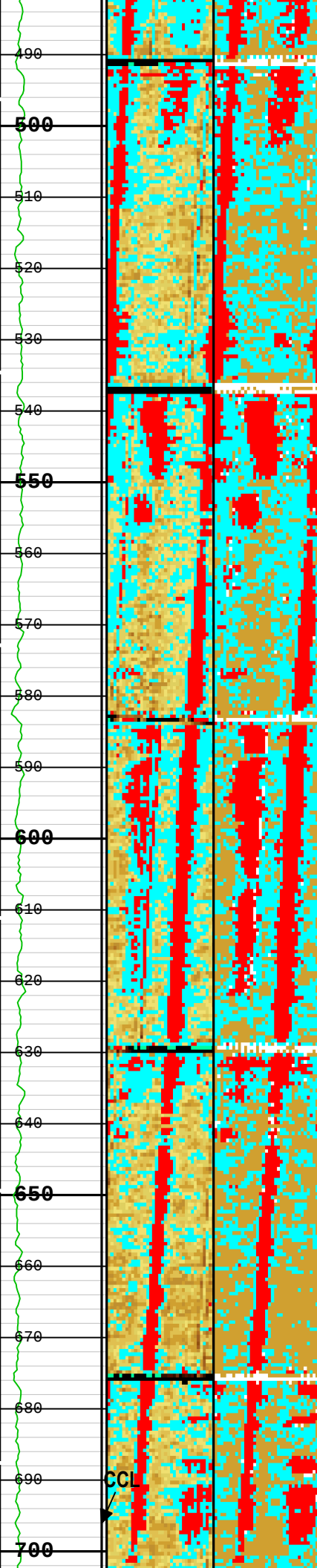
Description: USI IBC VDL WIDE Format: Log (USI IBC VDL WIDE) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 15-Nov-2016 15:15:21

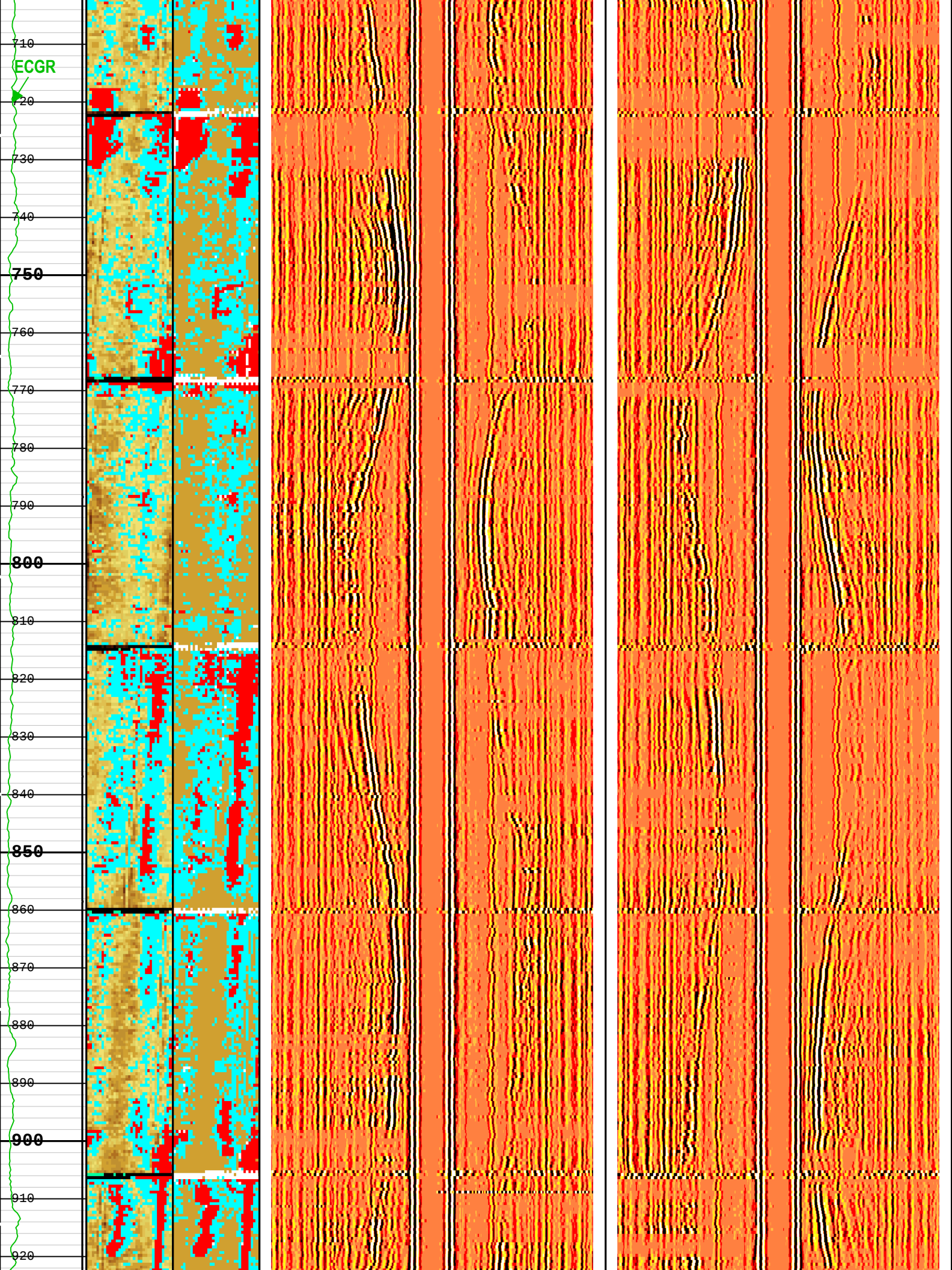
TIME_1900 - Time Marked every 60.00 (s)

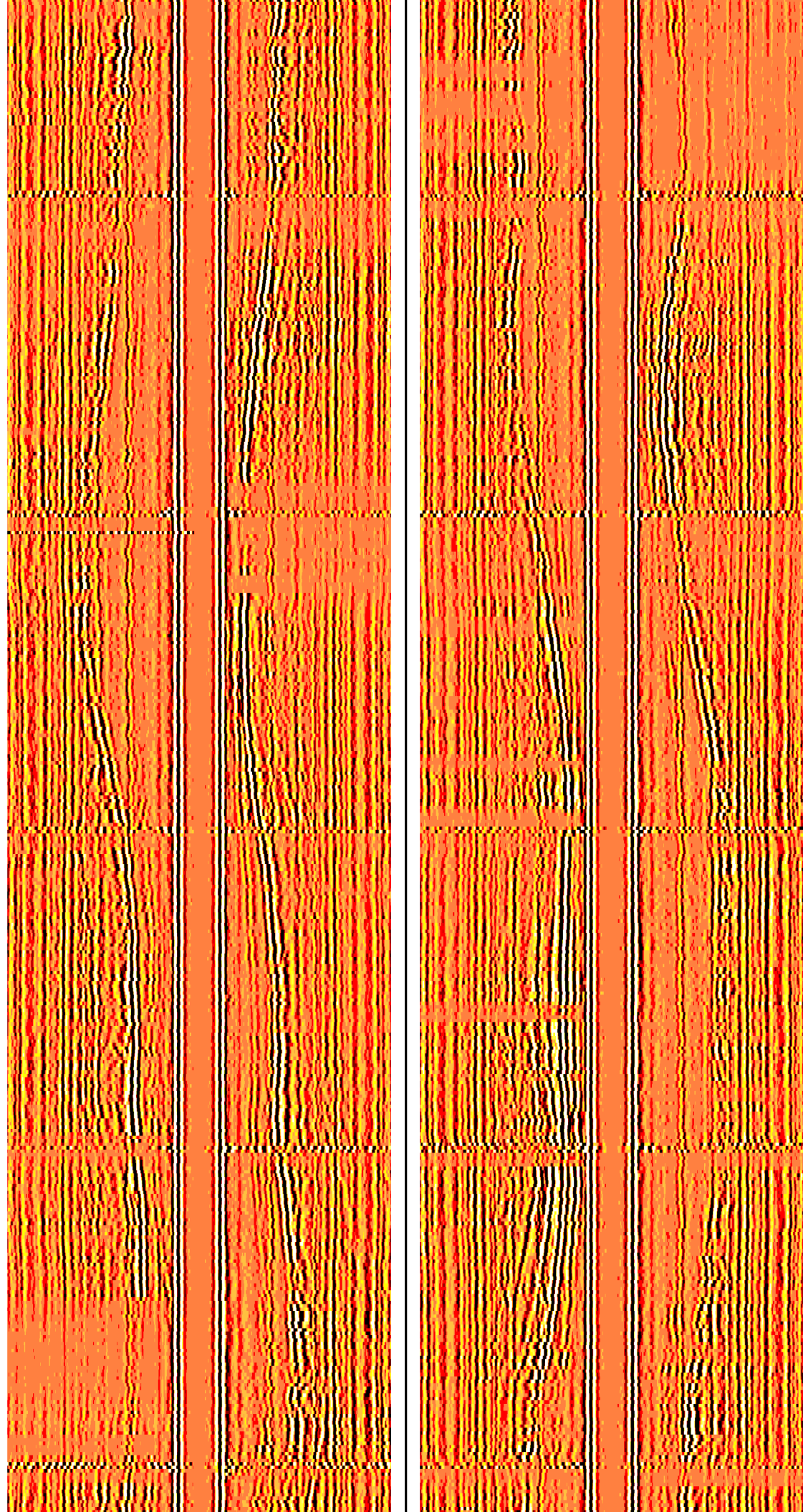
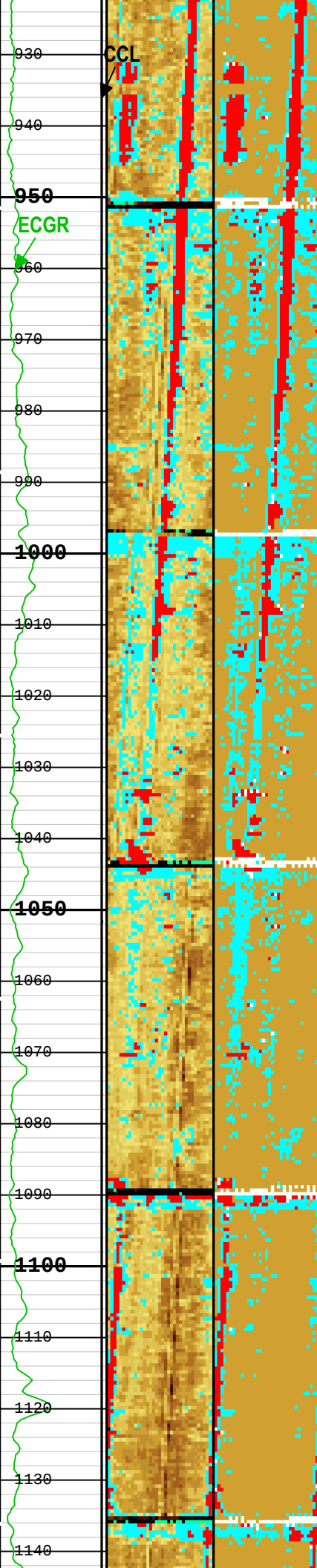


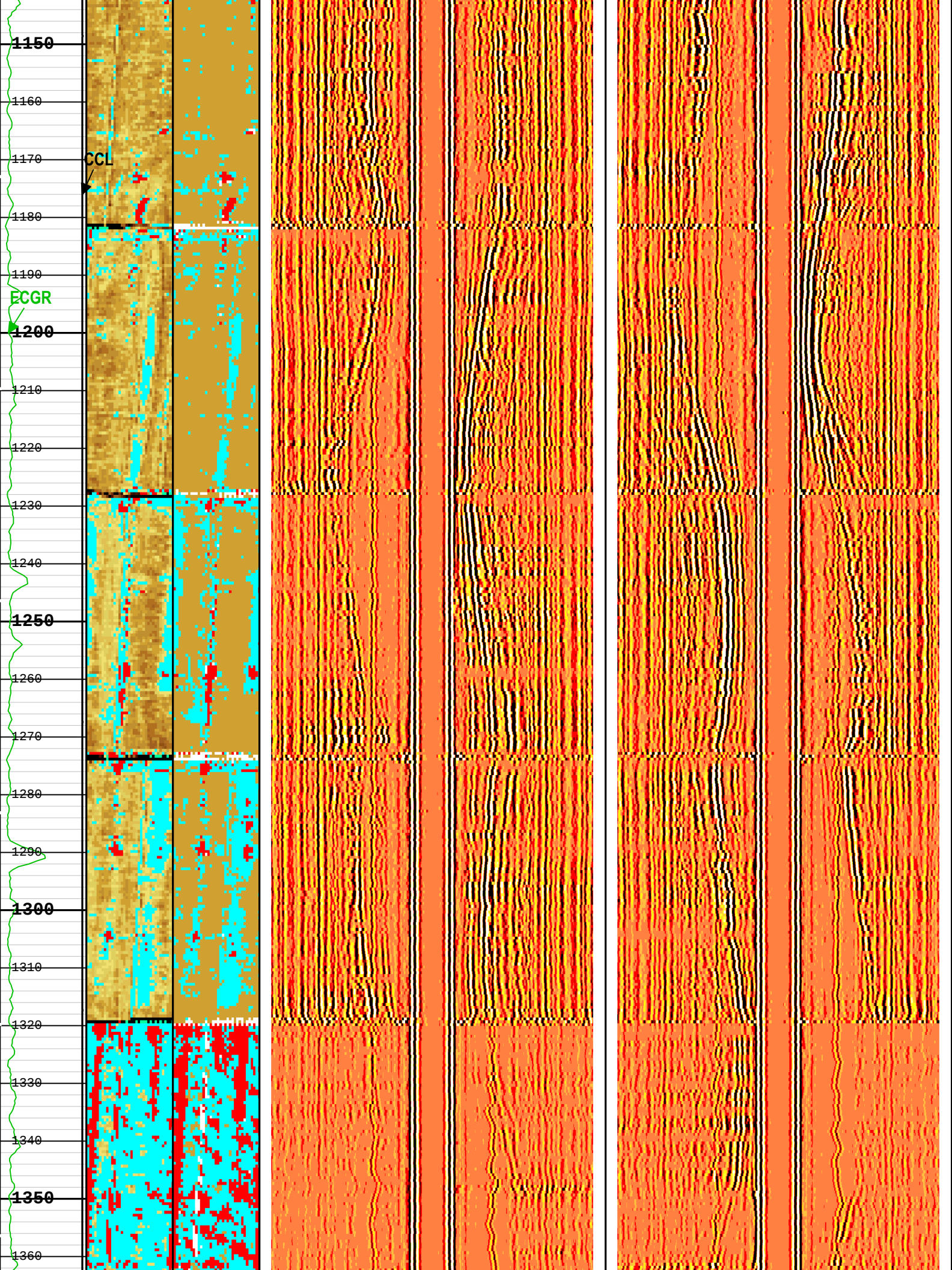


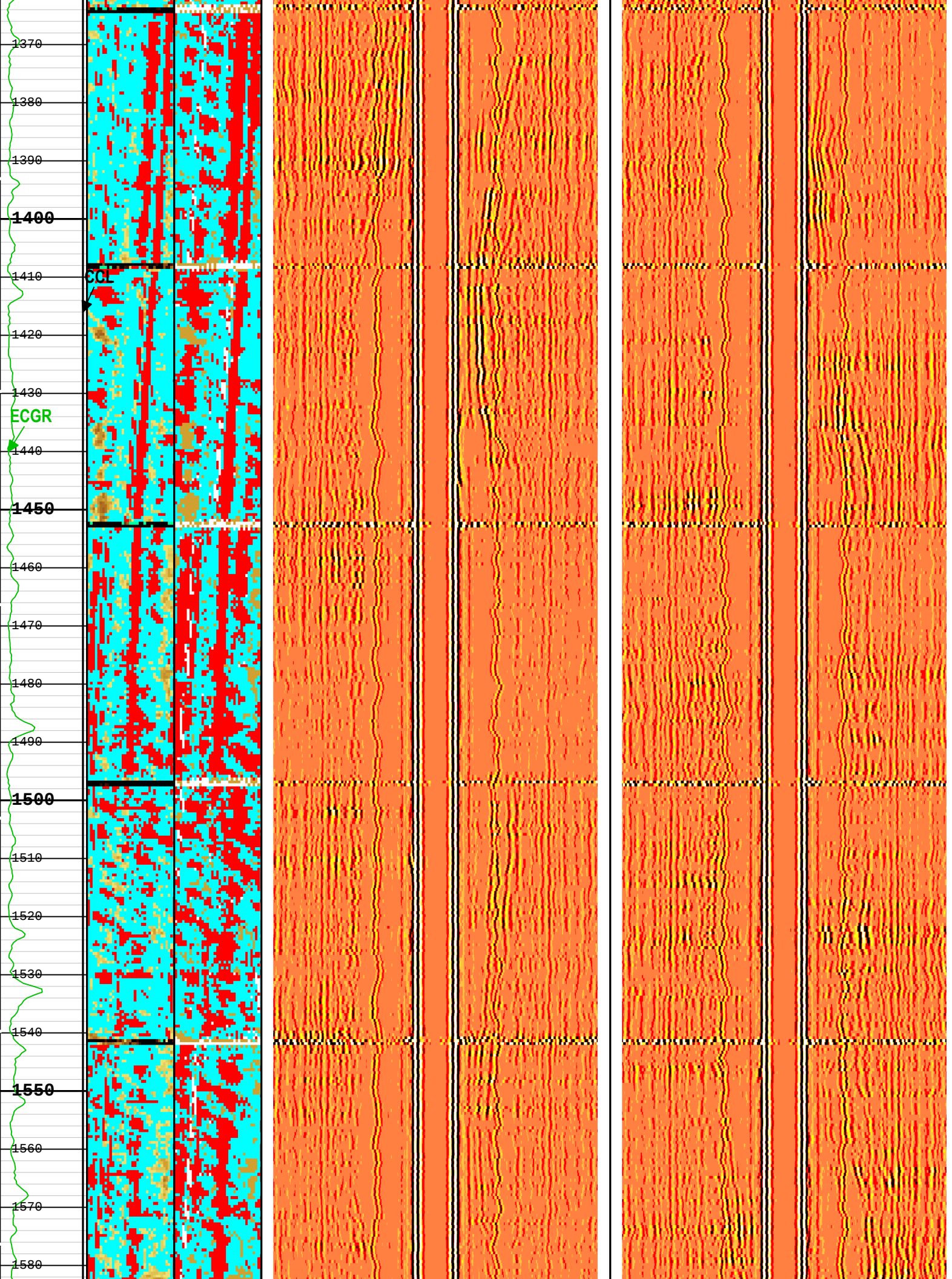


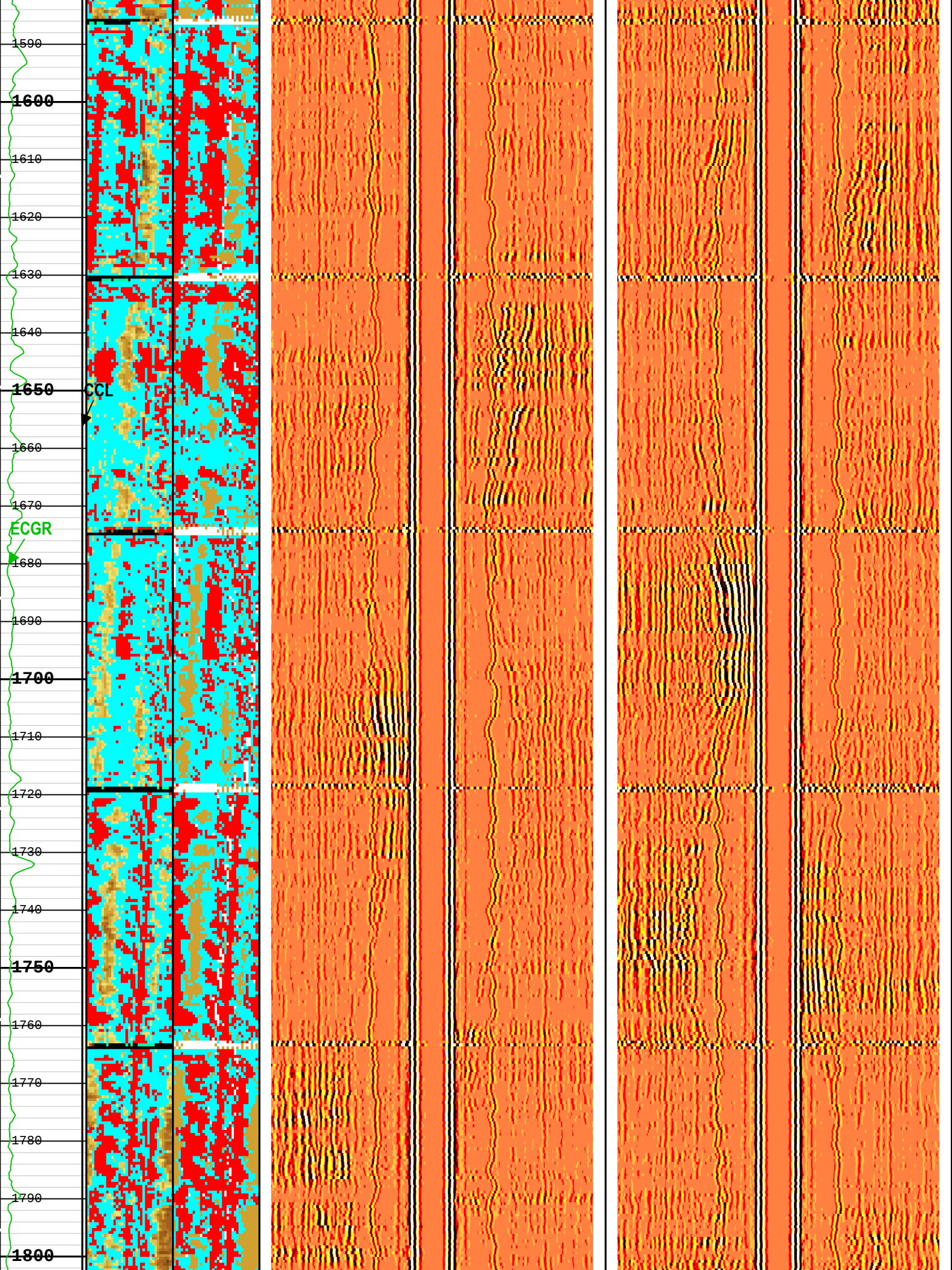


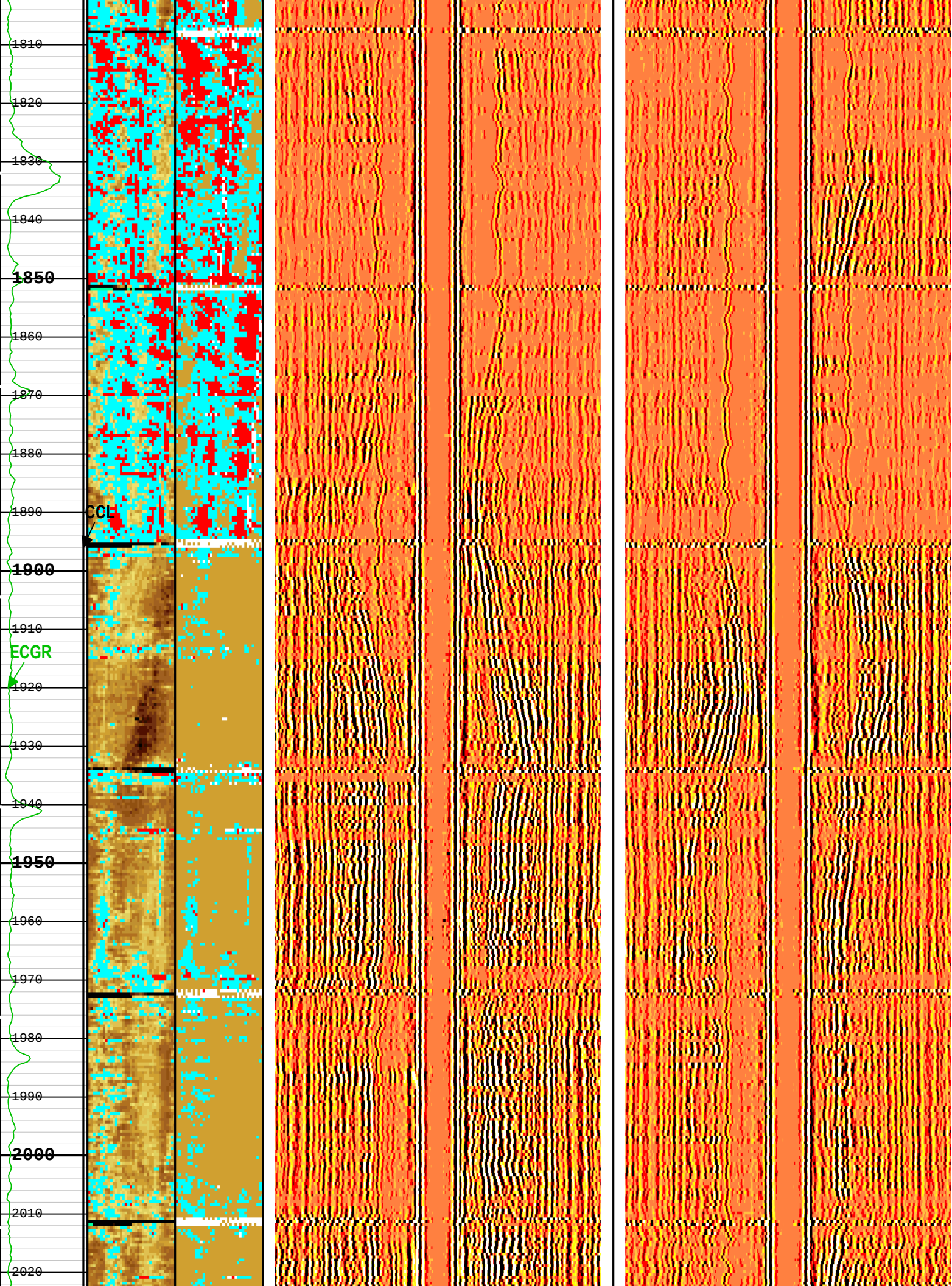


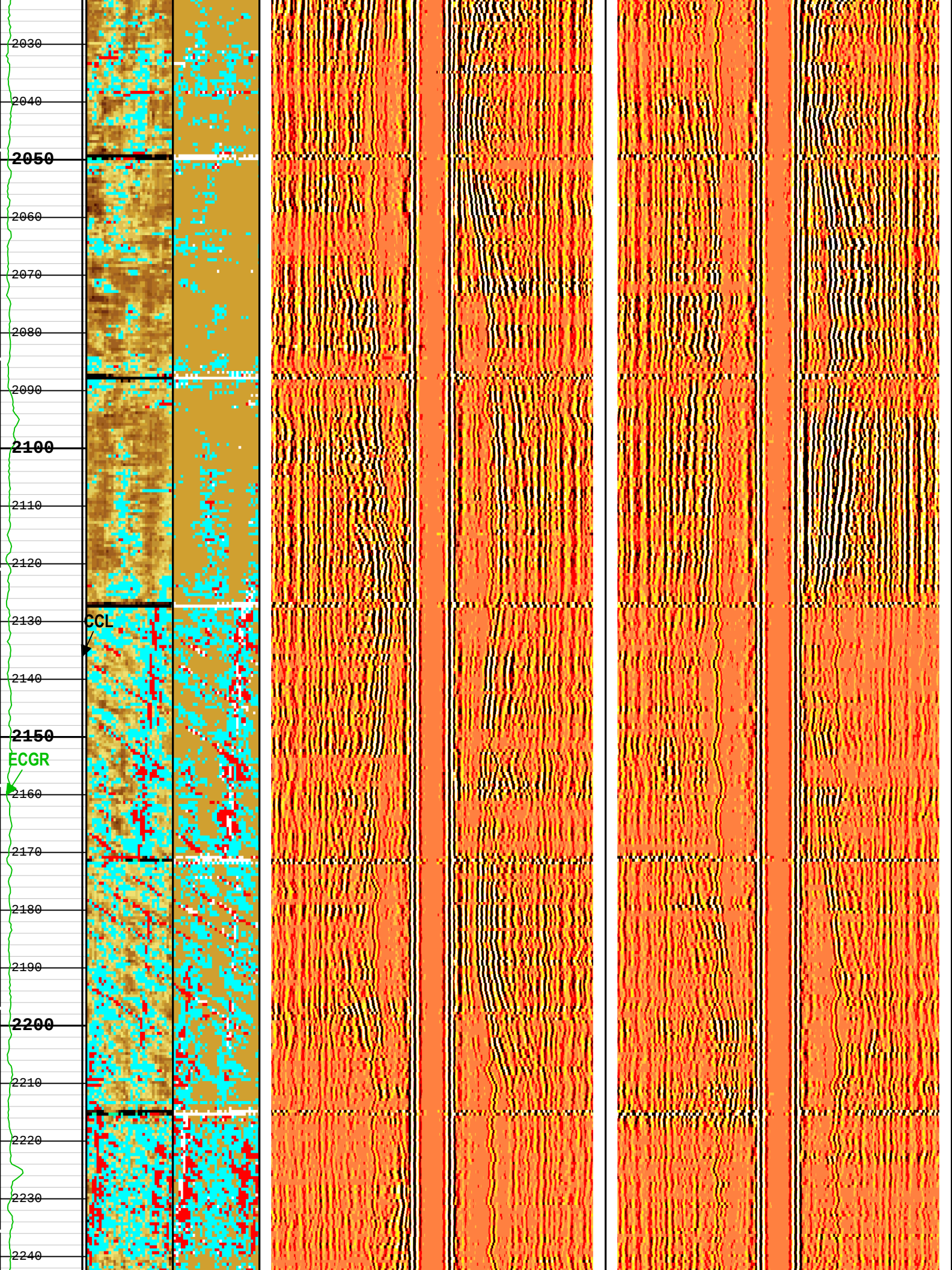


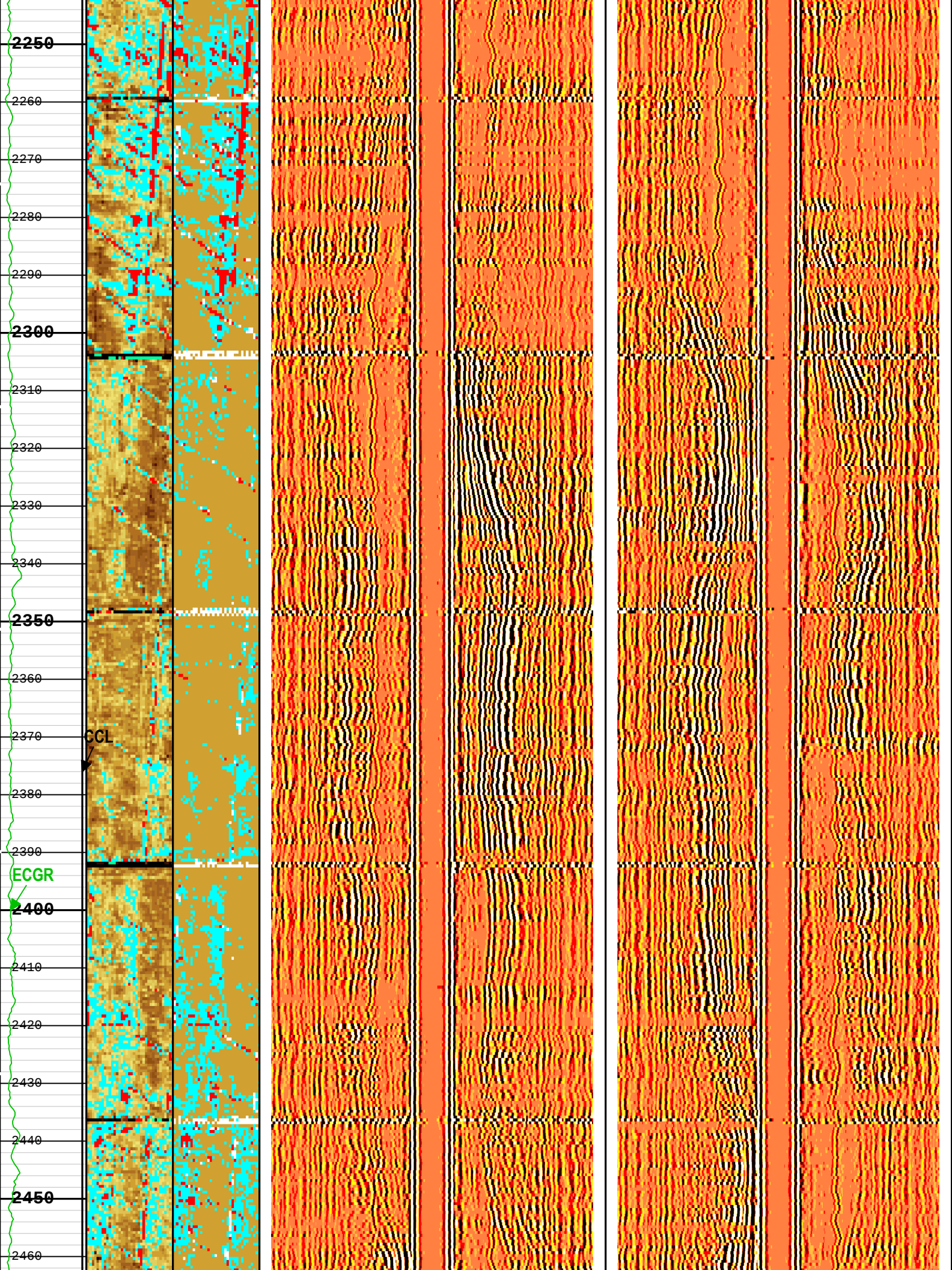


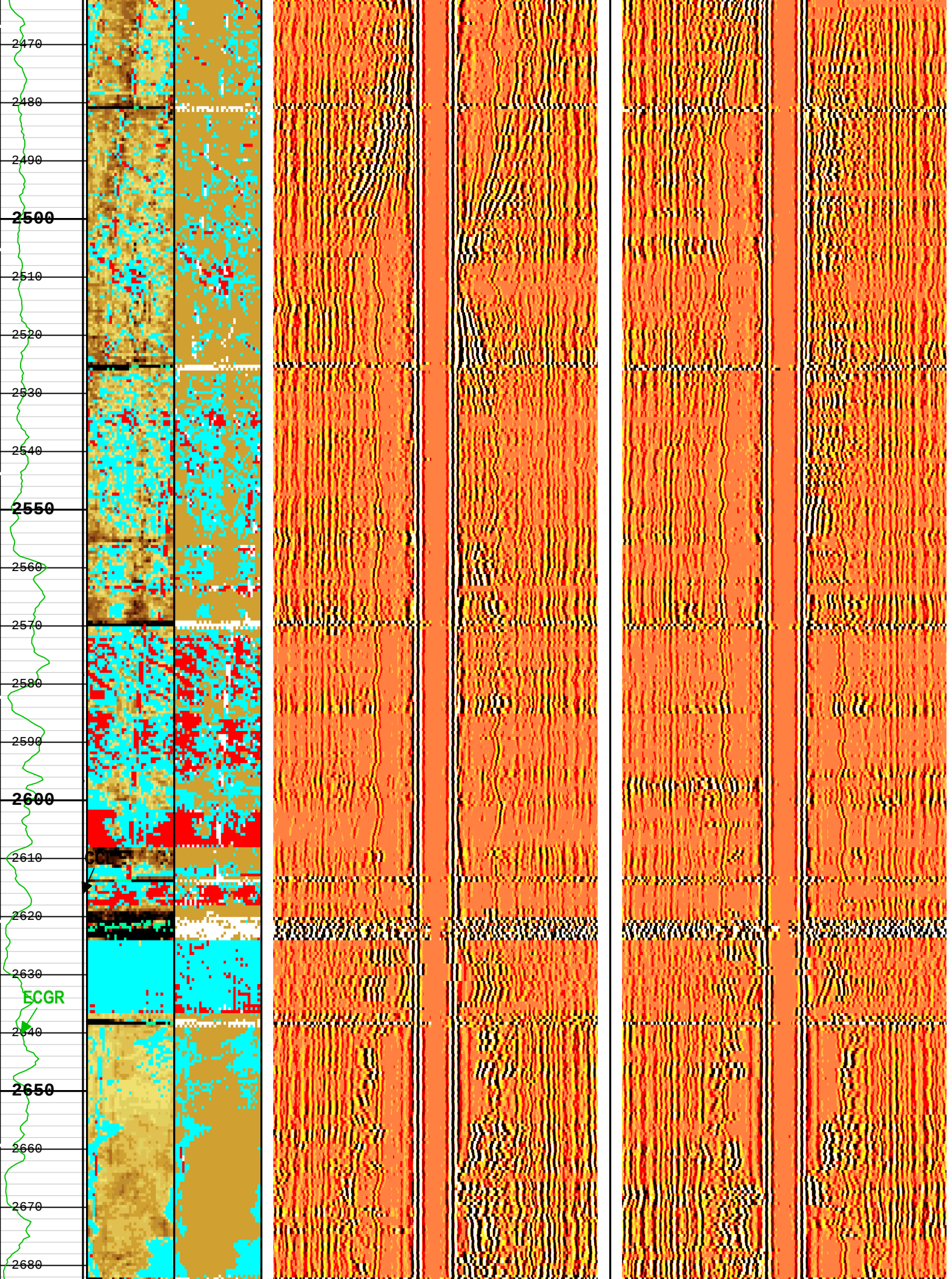


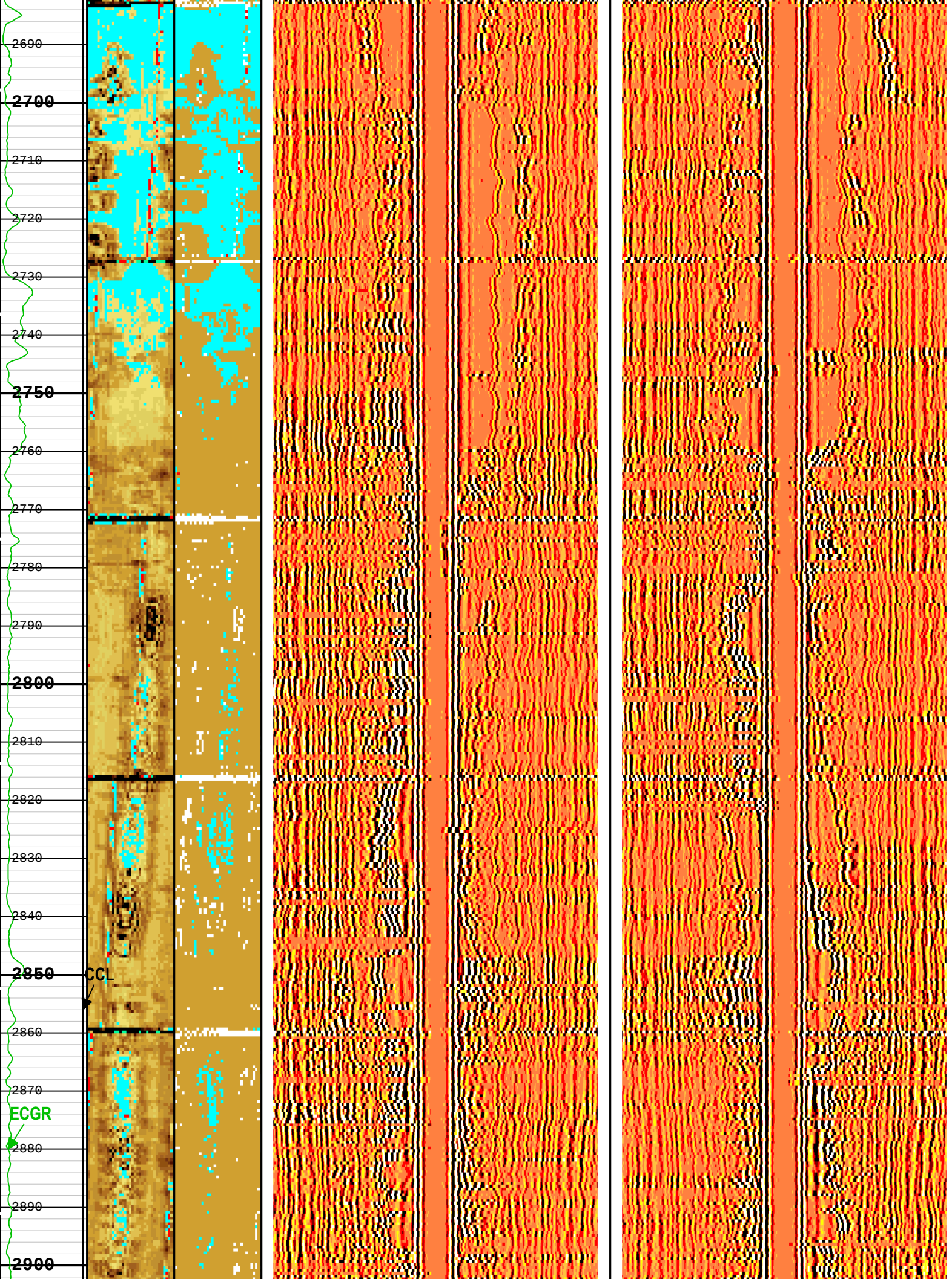


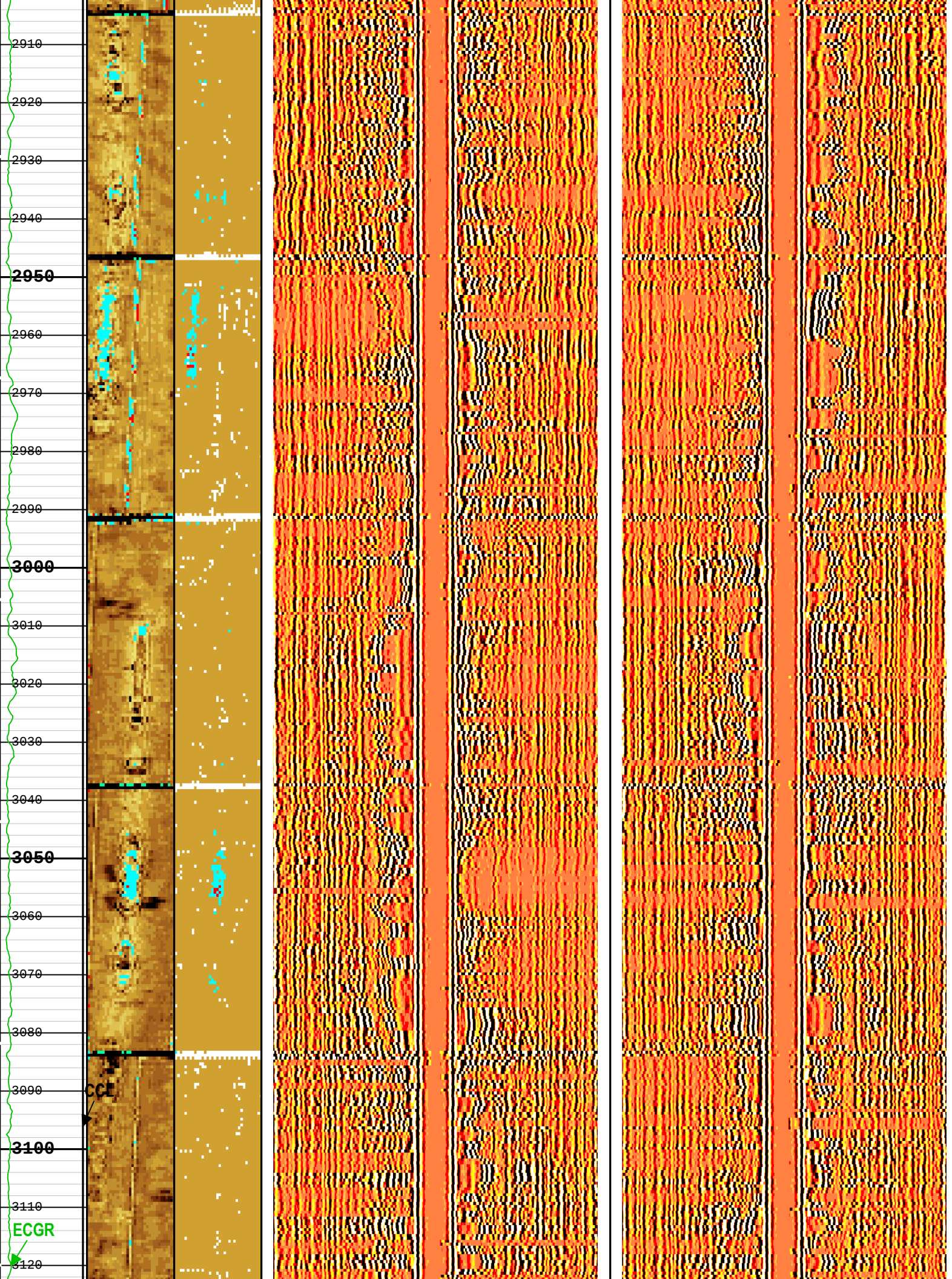


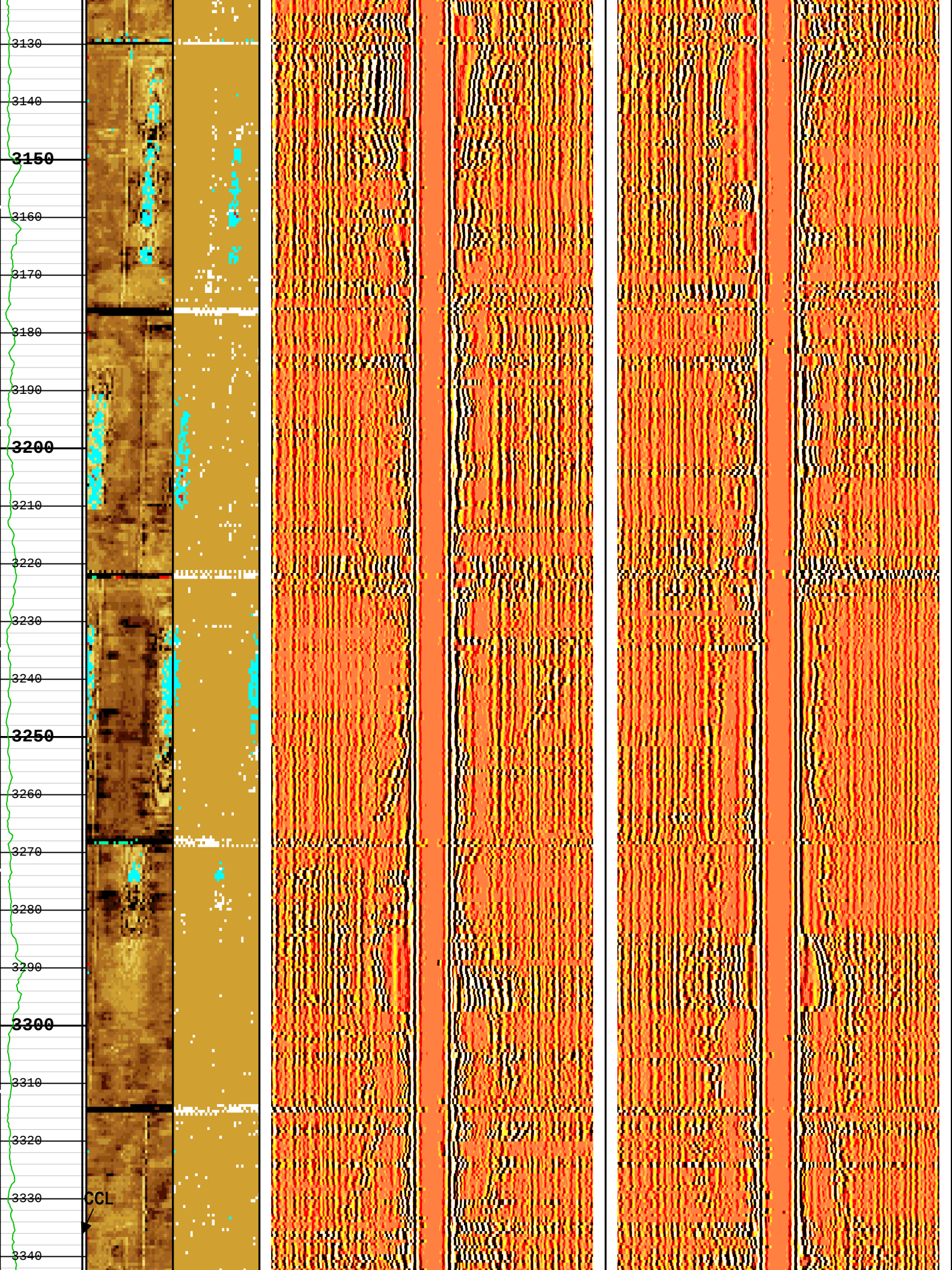


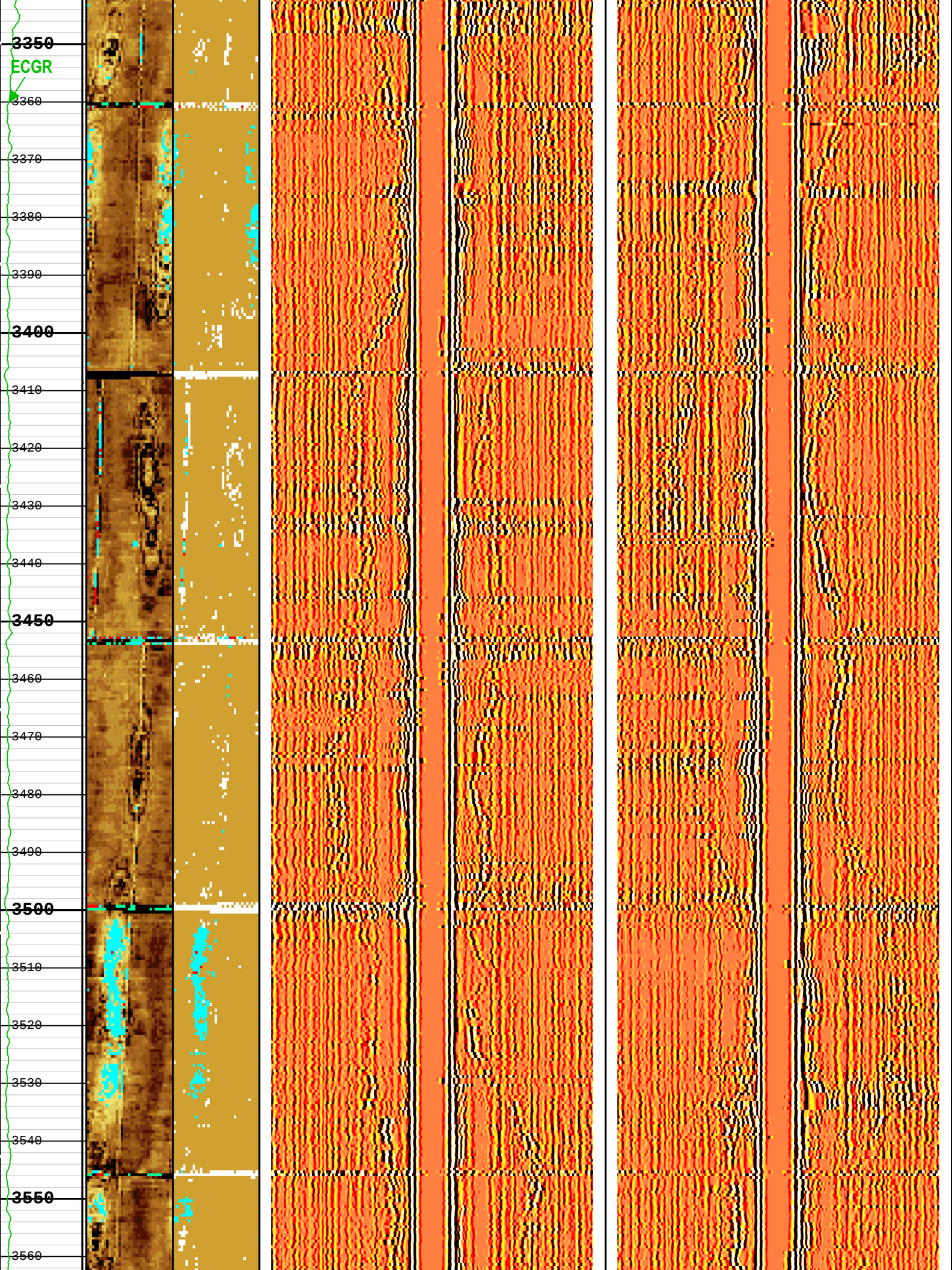


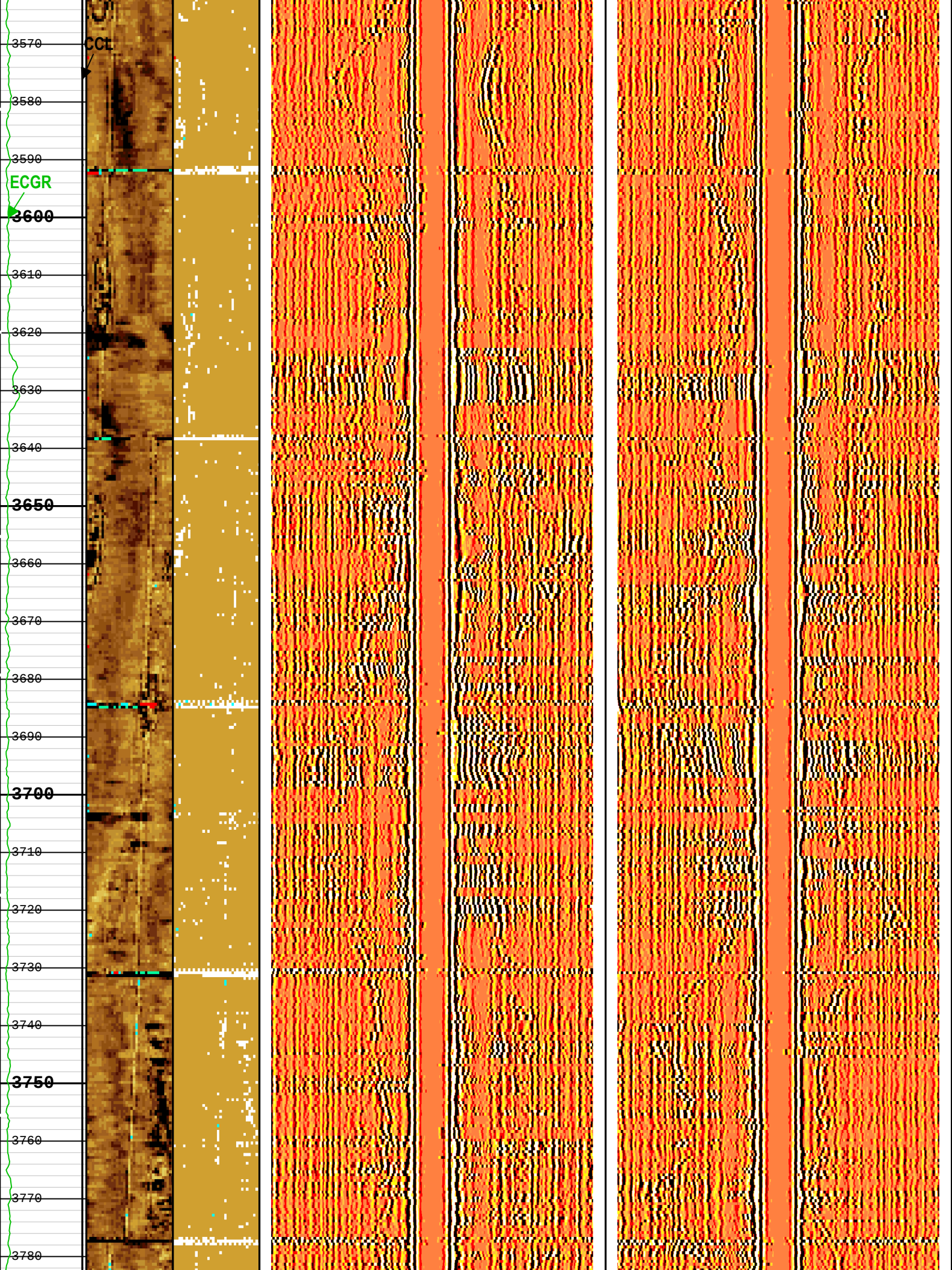


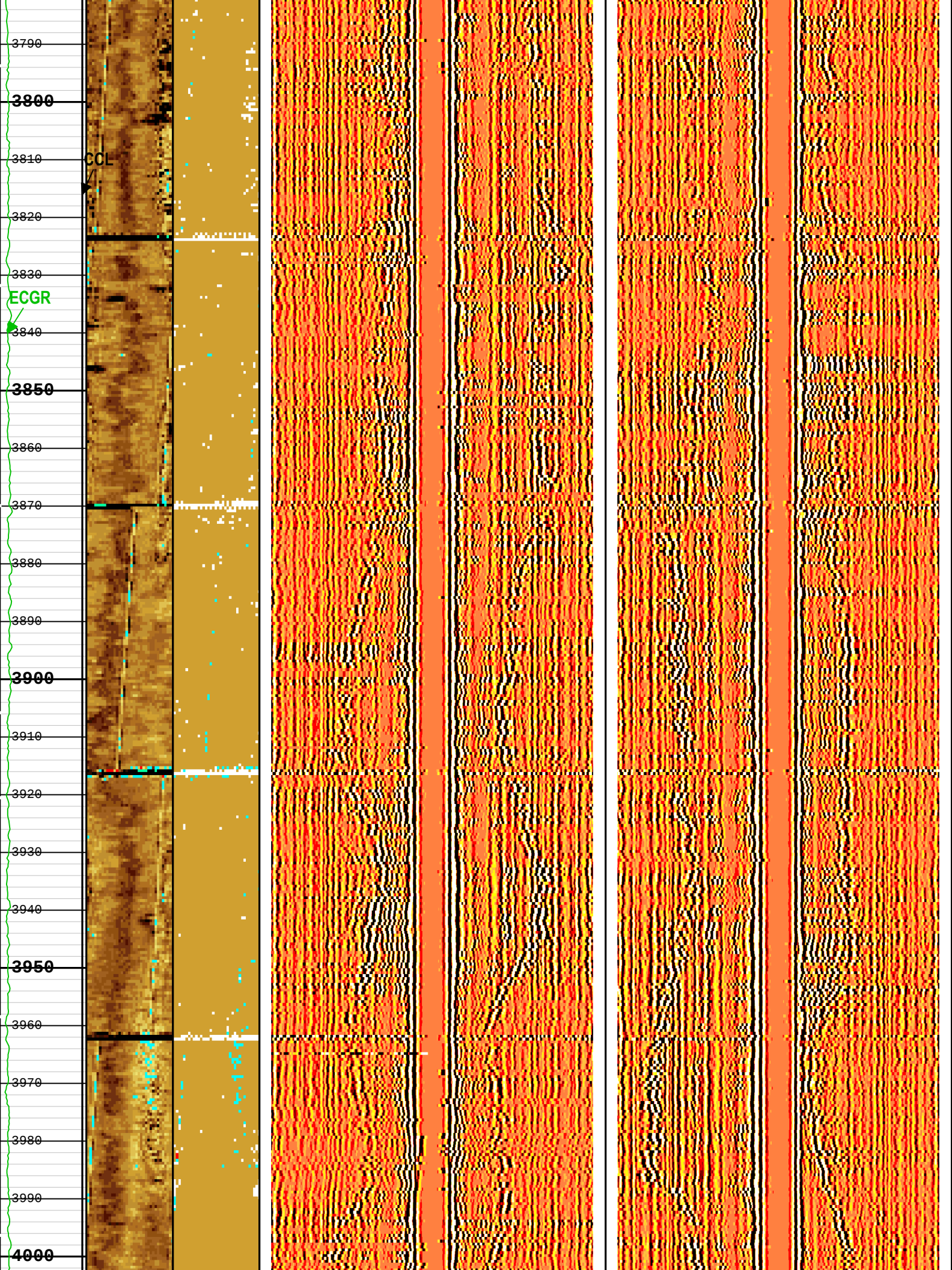


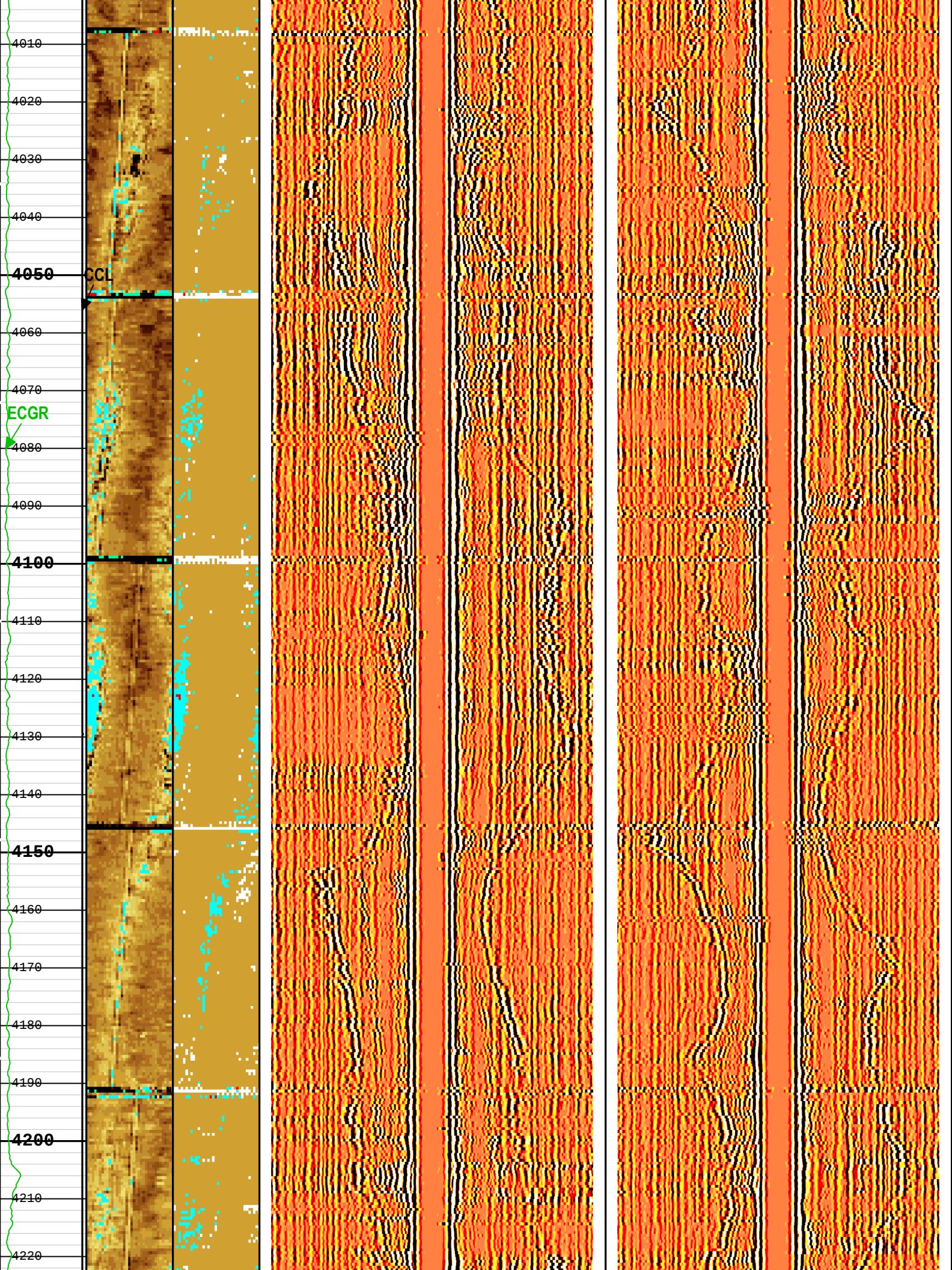


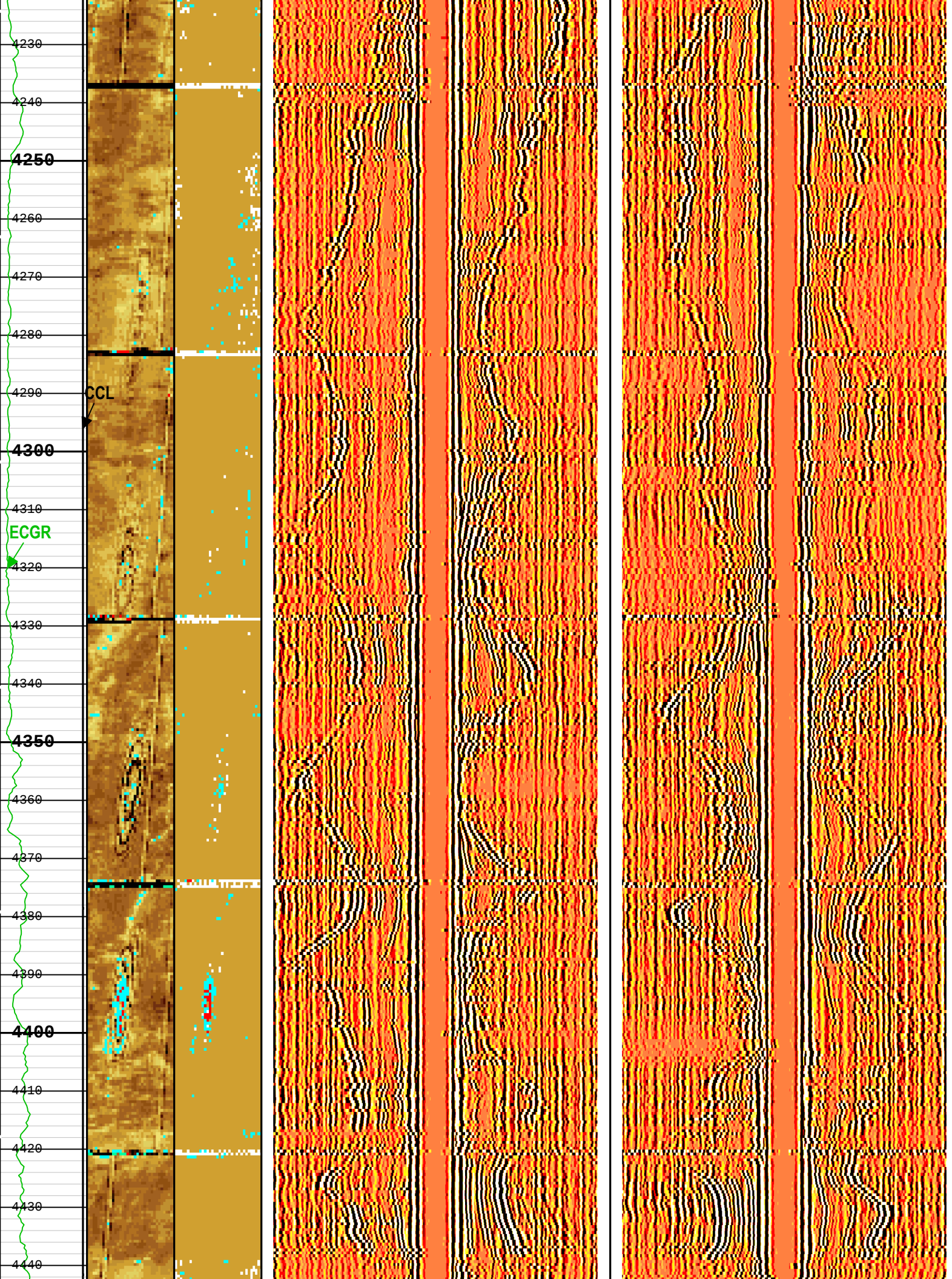


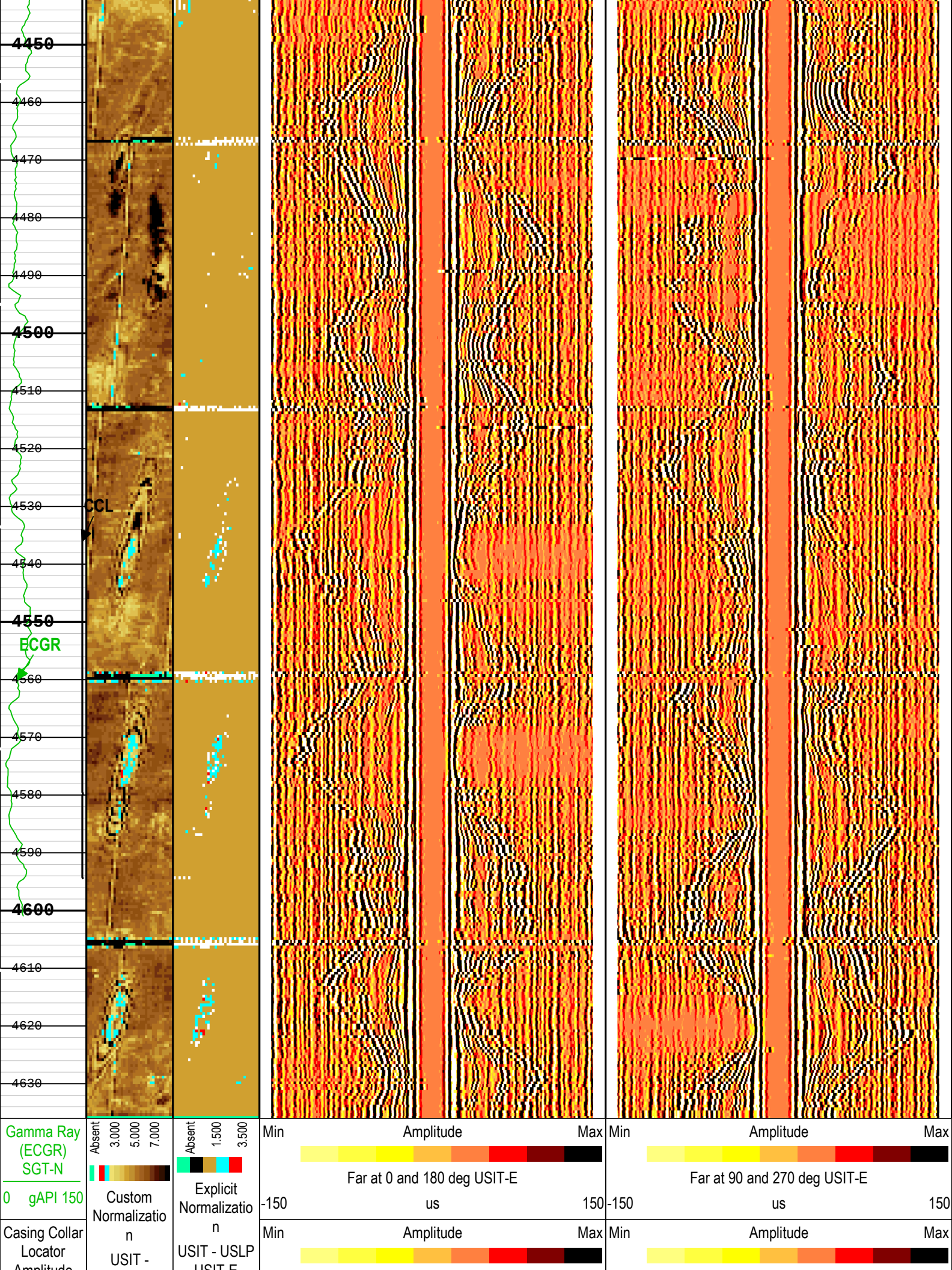












Amplitude (CCL) CAL-YA	AIBK_INT_S C USIT-E (Mrayl)	USIT-E	Near at 0 and 180 deg USIT-E	us	150	-150	Near at 90 and 270 deg USIT-E	us	150
-19	1								

TIME_1900 - Time Marked every 60.00 (s)

Description: USI IBC VDL WIDE Format: Log (USI IBC VDL WIDE) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 15-Nov-2016 15:15:21

Channel Processing Parameters				
4A: Parameters				
Parameter	Description	Tool	Value	Unit
ISSBAR	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Cased	
BS	Bit Size	WLSESSION	Depth Zoned	in
CBLO	Casing Bottom (Logger)	WLSESSION	4696	ft
CCL_MULTIPLIER	Casing Collar Locator Multiplier	CAL-YA	1	
CDEN	Cement Density	USIT-E	12.7	lbm/gal
CDEN	Cement Density	SGT-N	16.69	lbm/gal
CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Regular Cement	
DFD	Drilling Fluid Density	Borehole	Depth Zoned	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	182	us/ft
FD	Fluid Density	USIT-E	10	lbm/gal
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	
HEMA	Hematite Presence Flag	Borehole	No	
FSOD	USIT IBC Fluid Slowness Fits Casing Outer Diameter	USIT-E	0_OFF	
IBC_FVEL_SEL	IBC Fluid Velocity Selection	USIT-E	Automatic	
IBC_OFFSET_SEL	IBC Flexural Offset Selector	USIT-E	UFAO	
IBC_ZMUD_SEL	IBC Mud Impedance Selection	USIT-E	Theoretical	
ICE_PROCESS	ICE Processing	USIT-E	Yes	
IMAR	Image Rotation	USIT-E	Off	
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	24.64	us
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1.05	
U-USIT_OCDI	Outer Casing Diameter	USIT-E	0	in
U-USIT_OCSH	Outer Casing Shoe	USIT-E	0	ft
U-USIT_OCWE	Outer Casing Weight	USIT-E	0	lbm/ft
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	2.07	Mrayl
U-USIT_UFAO	SIT Flexural Attenuation Offset	USIT-E	-29.09	dB/m
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
U-USIT_UIAP	IBC Answer Product Enabled	USIT-E	SolidLiquidGasMap	
ZMUD	Acoustic Impedance of Mud	Borehole	1.86	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.5	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

Depth Zone Parameters			
Parameter	Value	Start (ft)	Stop (ft)
BS	26	1.42	840
BS	17.5	840	2600

BS	12.25	2600	4636
DFD	9.6	1.42	300
DFD	9	300	2875
DFD	9.8	2875	4636

All depth are actual.

Tool Control Parameters

4A: Parameters

Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	48	dB
U-USIT_DDT5	USIC Downhole Decimation for T5 only	USIT-E	0_NONE	
EMXV	EMEX Voltage	USIT-E	Time Zoned	V
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	2700	ft/h
TMUC	Type of Mud	USIT-E	BRI	
U-USIT_UFWB	Far Receiver Window Begin Time	USIT-E	Time Zoned	us
U-USIT_UFWE	Far Receiver Window End Time	USIT-E	Time Zoned	us
ULOG	Logging Objective	USIT-E	MEASUREMENT	
UMFR	Modulation Frequency	USIT-E	333333	Hz
U-USIT_UNWB	Near Receiver Window Begin Time	USIT-E	Time Zoned	us
U-USIT_UNWE	Near Receiver Window End Time	USIT-E	Time Zoned	us
USFR	Ultrasonic Sampling Frequency	USIT-E	500000	Hz
UPAT	USIT Emission Pattern	USIT-E	Pattern 375 KHz	
UWKM	USIT Working Mode	USIT-E	10 deg at 6.0 in LF	
USIT_DEPTHLOG	Starting Depth Log for Ultrasonics	USIT-E	4635	ft
U-USIT_UTAN	Transducer Angles	USIT-E	38_DEG	
VRES	Vertical Resolution	USIT-E	6.0 in	
WINB	Window Begin Time	USIT-E	44.08	us
WINE	Window End Time	USIT-E	Time Zoned	us

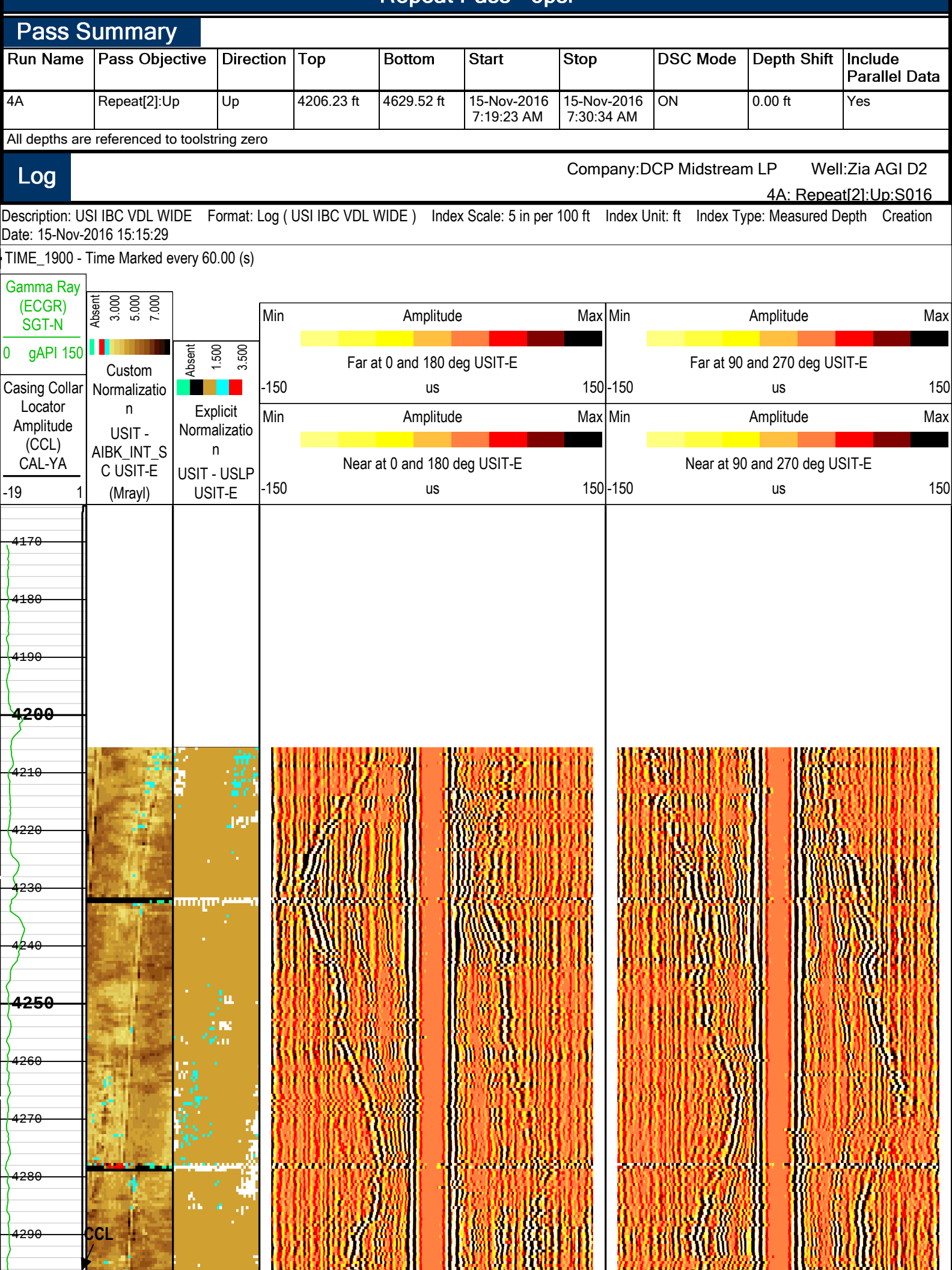
Time Zone Parameters

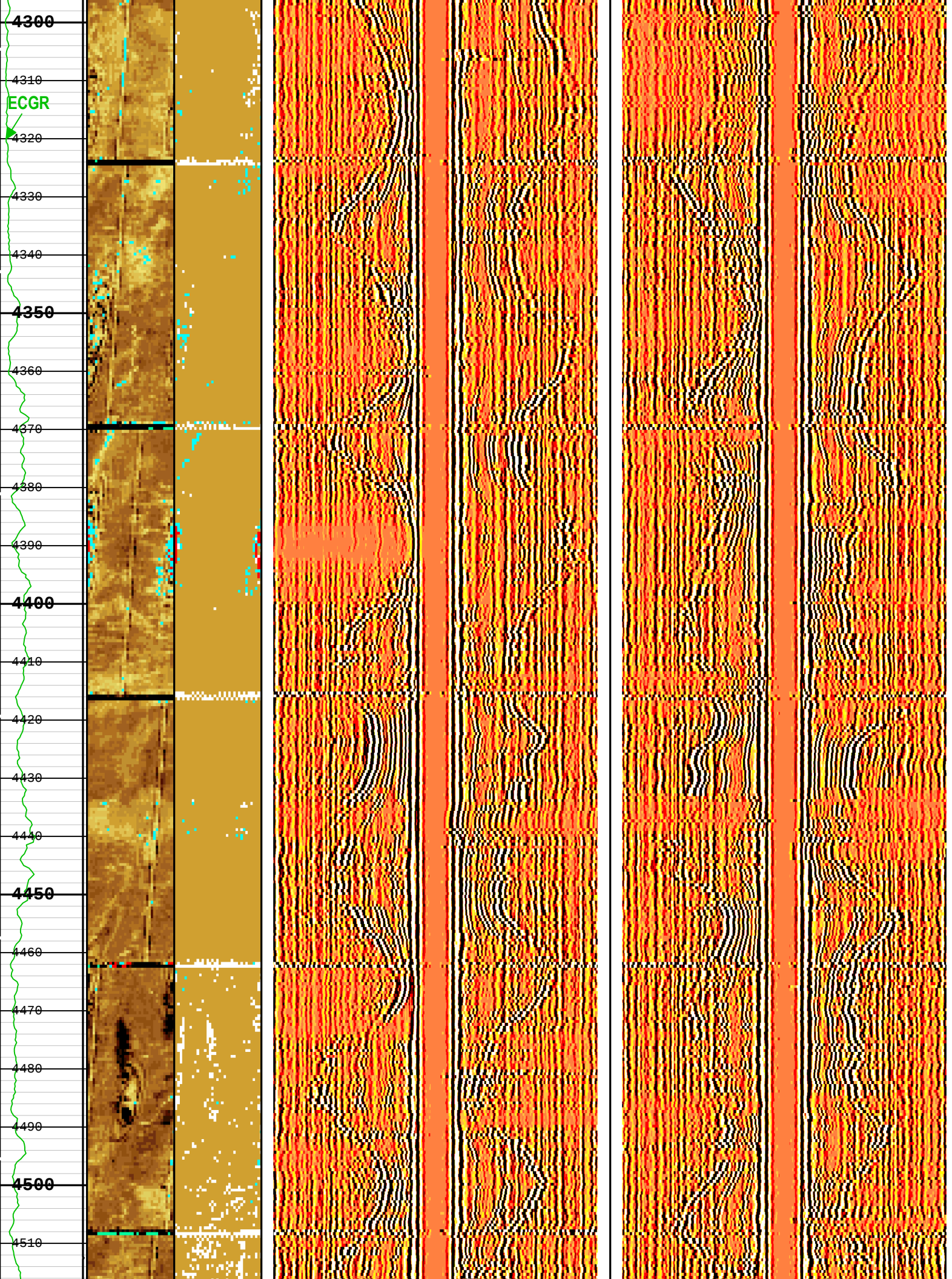
Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
EMXV	65	15-Nov-2016 07:49:50	15-Nov-2016 08:25:58	4637.08	3312.12
EMXV	70	15-Nov-2016 08:25:58	15-Nov-2016 09:41:02	3312.12	494.91
EMXV	75	15-Nov-2016 09:41:02	15-Nov-2016 09:55:41	494.91	43.94
U-USIT_UFWB	135	15-Nov-2016 07:49:50	15-Nov-2016 07:51:22	4637.08	4596.05
U-USIT_UFWB	126.54	15-Nov-2016 07:51:22	15-Nov-2016 09:55:41	4596.05	43.94
U-USIT_UFWE	175	15-Nov-2016 07:49:50	15-Nov-2016 08:13:30	4637.08	3774.62
U-USIT_UFWE	172.35	15-Nov-2016 08:13:30	15-Nov-2016 09:55:41	3774.62	43.94
U-USIT_UNWB	104	15-Nov-2016 07:49:50	15-Nov-2016 07:51:03	4637.08	4608.24
U-USIT_UNWB	91.36	15-Nov-2016 07:51:03	15-Nov-2016 09:55:41	4608.24	43.94
U-USIT_UNWE	144	15-Nov-2016 07:49:50	15-Nov-2016 08:13:41	4637.08	3767.47
U-USIT_UNWE	139.63	15-Nov-2016 08:13:41	15-Nov-2016 09:55:41	3767.47	43.94
WINE	84.08	15-Nov-2016 07:49:50	15-Nov-2016 07:53:12	4637.08	4525.66
WINE	87.99	15-Nov-2016 07:53:12	15-Nov-2016 09:55:41	4525.66	43.94

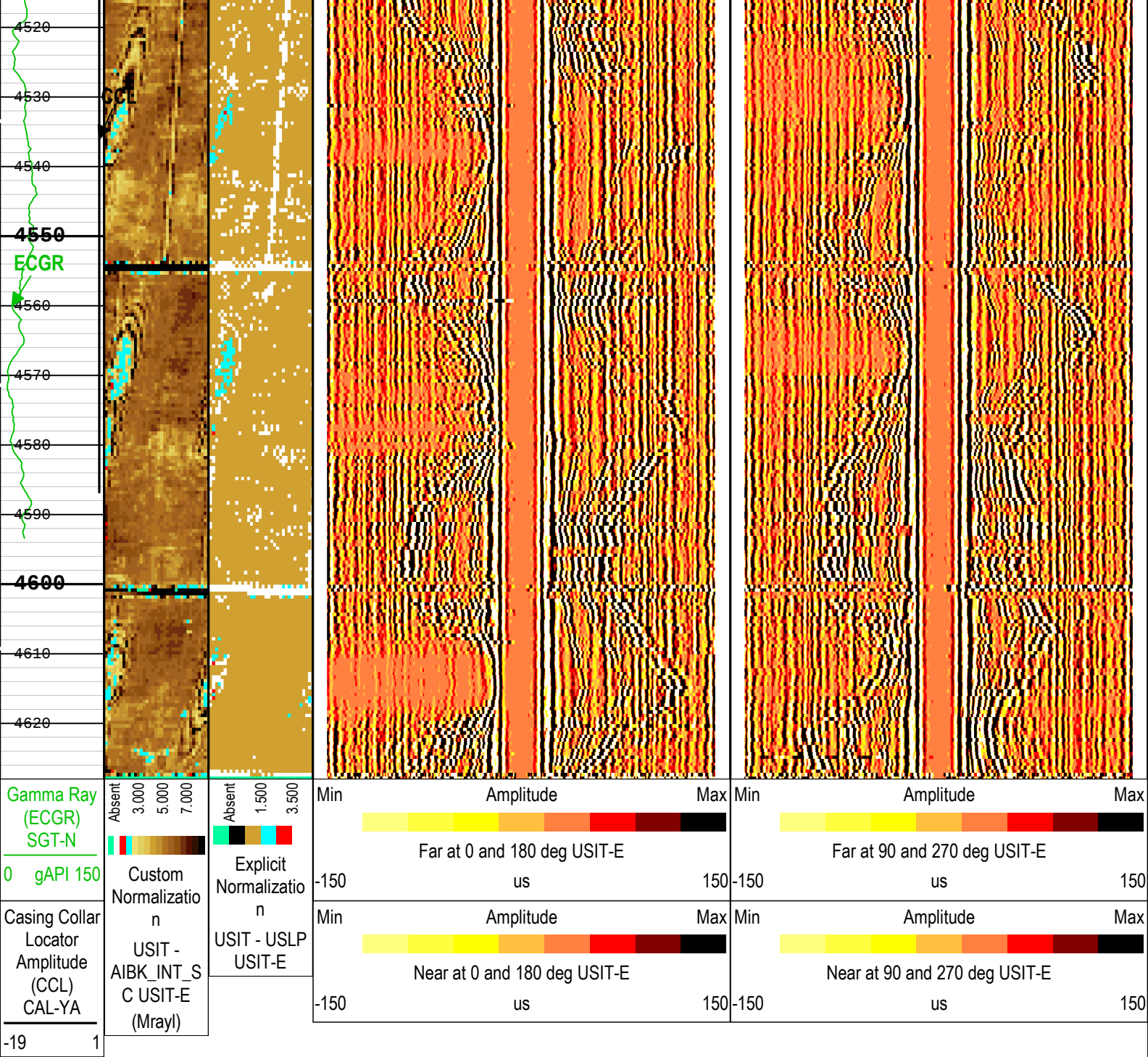
All depth are at tool zero.

4A

Repeat Pass - Onsi







TIME_1900 - Time Marked every 60.00 (s)

Description: USI IBC VDL WIDE Format: Log (USI IBC VDL WIDE) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 15-Nov-2016 15:15:29

Channel Processing Parameters				
4A: Parameters				
Parameter	Description	Tool	Value	Unit
ISSBAR	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Cased	
BS	Bit Size	WLSESSION	12.25	in
CBLO	Casing Bottom (Logger)	WLSESSION	4696	ft
CCL_MULTIPLIER	Casing Collar Locator Multiplier	CAL-YA	1	
CDEN	Cement Density	USIT-E	12.7	lbm/gal
CDEN	Cement Density	SGT-N	16.69	lbm/gal
CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Regular Cement	
DFD	Drilling Fluid Density	Borehole	9.8	lbm/gal

DFT	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	182	us/ft
FD	Fluid Density	USIT-E	10	lbm/gal
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	
HEMA	Hematite Presence Flag	Borehole	No	
FSOD	USIT IBC Fluid Slowness Fits Casing Outer Diameter	USIT-E	0_OFF	
IBC_FVEL_SEL	IBC Fluid Velocity Selection	USIT-E	Automatic	
IBC_OFFSET_SEL	IBC Flexural Offset Selector	USIT-E	UFAO	
IBC_ZMUD_SEL	IBC Mud Impedance Selection	USIT-E	Theoretical	
ICE_PROCESS	ICE Processing	USIT-E	Yes	
IMAR	Image Rotation	USIT-E	Off	
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	24.64	us
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1.05	
U-USIT_OCDI	Outer Casing Diameter	USIT-E	0	in
U-USIT_OCSH	Outer Casing Shoe	USIT-E	0	ft
U-USIT_OCWE	Outer Casing Weight	USIT-E	0	lbm/ft
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	2.07	Mrayl
U-USIT_UFAO	SIT Flexural Attenuation Offset	USIT-E	-29.09	dB/m
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
U-USIT_UIAP	IBC Answer Product Enabled	USIT-E	SolidLiquidGasMap	
ZMUD	Acoustic Impedance of Mud	Borehole	1.86	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.5	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

Tool Control Parameters

4A: Parameters

Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	48	dB
U-USIT_DDT5	USIC Downhole Decimation for T5 only	USIT-E	0_NONE	
EMXV	EMEX Voltage	USIT-E	Time Zoned	V
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	2700	ft/h
TMUC	Type of Mud	USIT-E	BRI	
U-USIT_UFWB	Far Receiver Window Begin Time	USIT-E	Time Zoned	us
U-USIT_UFWE	Far Receiver Window End Time	USIT-E	175	us
ULOG	Logging Objective	USIT-E	MEASUREMENT	
UMFR	Modulation Frequency	USIT-E	333333	Hz
U-USIT_UNWB	Near Receiver Window Begin Time	USIT-E	Time Zoned	us
U-USIT_UNWE	Near Receiver Window End Time	USIT-E	144	us
USFR	Ultrasonic Sampling Frequency	USIT-E	500000	Hz
UPAT	USIT Emission Pattern	USIT-E	Pattern 375 KHz	
UWKM	USIT Working Mode	USIT-E	10 deg at 6.0 in LF	
USIT_DEPTHLOG	Starting Depth Log for Ultrasonics	USIT-E	4635	ft
U-USIT_UTAN	Transducer Angles	USIT-E	38_DEG	
VRES	Vertical Resolution	USIT-E	6.0 in	
WINB	Window Begin Time	USIT-E	44.08	us

WINE	Window End Time	USIT-E	84.08	us	
Time Zone Parameters					
Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
EMXV	55	15-Nov-2016 07:19:23	15-Nov-2016 07:20:10	4629.52	4602.73
EMXV	60	15-Nov-2016 07:20:10	15-Nov-2016 07:30:34	4602.73	4206.23
U-USIT_UFWB	135	15-Nov-2016 07:19:23	15-Nov-2016 07:20:36	4629.52	4586.56
U-USIT_UFWB	128.17	15-Nov-2016 07:20:36	15-Nov-2016 07:30:34	4586.56	4206.23
U-USIT_UNWB	104	15-Nov-2016 07:19:23	15-Nov-2016 07:20:41	4629.52	4582.88
U-USIT_UNWB	97.9	15-Nov-2016 07:20:41	15-Nov-2016 07:30:34	4582.88	4206.23
All depth are at tool zero.					

Company:	DCP Midstream LP	Schlumberger
Well:	Zia AGI D2	
Field:	AGI Devonian Exploration	
County:	Lea	
State:	Texas	
VDL WIDE PRINT		