

Company: Occidental Petroleum Corporation

Well: Bryant #8-30

Field: Spindle

Country: Weld Country: USA

Isolation Scanner  
Annulus  
Gamma Ray - CCL Log

County: Weld  
Field: Spindle  
Location: NESE  
Well: Bryant #8-30  
Company: Occidental Petroleum Corporation

Location:	Permanent Datum:	Ground Level	Elev.:	K.B.	4939.00 ft
	Log Measured From:	Kelly Bushing		G.L.	4924.00 ft
	Drilling Measured From:	Kelly Bushing		D.F.	
API Serial No.	Max.Hole Deviation		Elev.:	4924.00 f	
05-123-30118	0 deg			above Perm.Datum	
		Longitude:		Latitude:	
		-105.03823 degrees		40.107298 degrees	

Logging Date	26-Jul-2022
Run Number	One
Depth Driller	8388.00 ft
Schlumberger Depth	8388.00 ft
Bottom Log Interval	7000.00 ft
Top Log Interval	56.00 ft
Casing Fluid Type	Water
Salinity	
Density	8.5 lbm/gal
Fluid Level	8.00 ft
BIT/CASING/TUBING STRING	
Bit Size	7.87 in
From	748.00 ft
To	8388.00 ft
Casing/Tubing Size	4.5 in
Weight	11.6 lbm/ft
Grade	N/A
From	0.00 ft
To	7000.00 ft
Max Recorded Temperatures	
Logger on Bottom	Time
Unit Number	Location:
Recorded By	D. Hassan/ W. Hahn
Witnessed By	Jeremy Duty

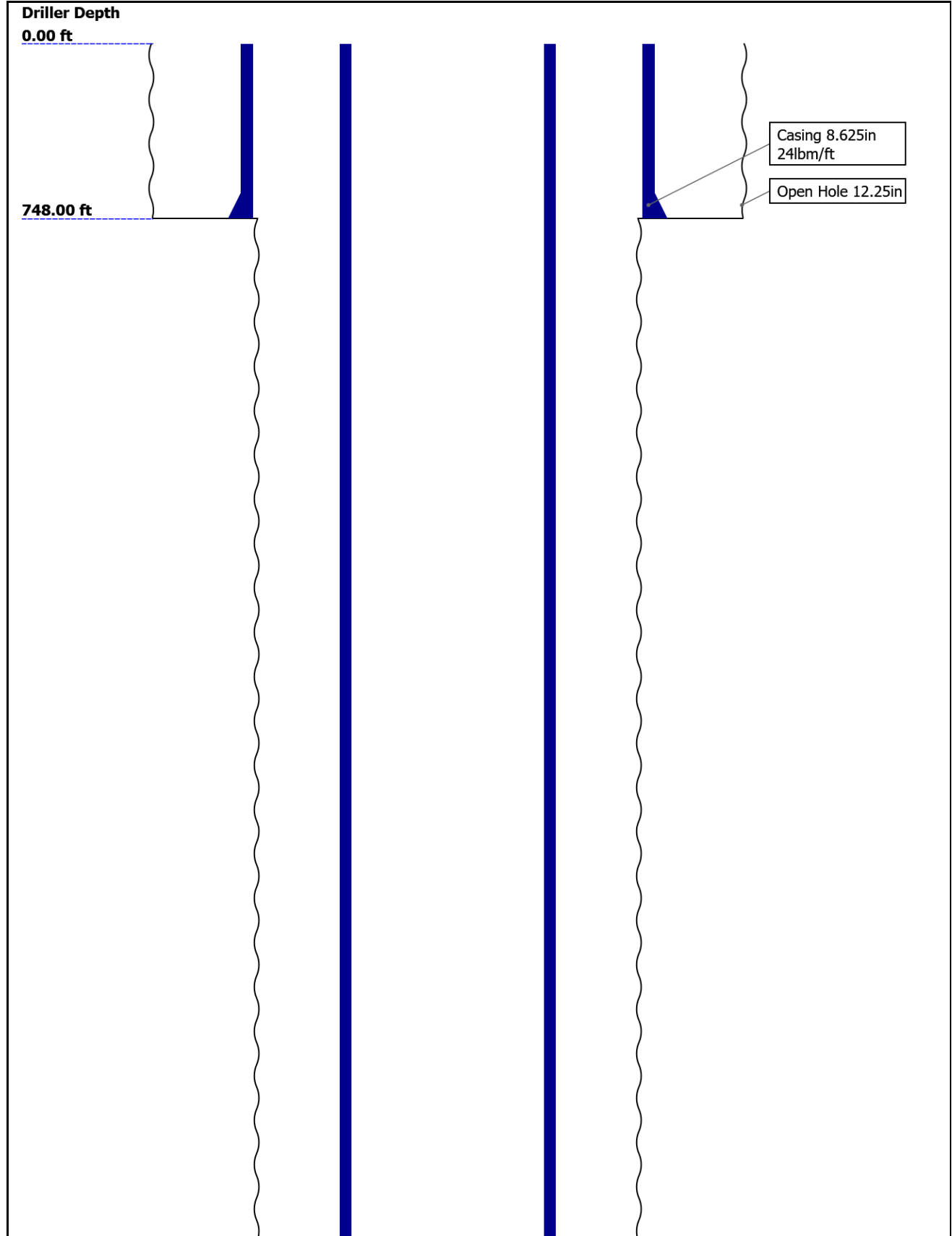
## Disclaimer

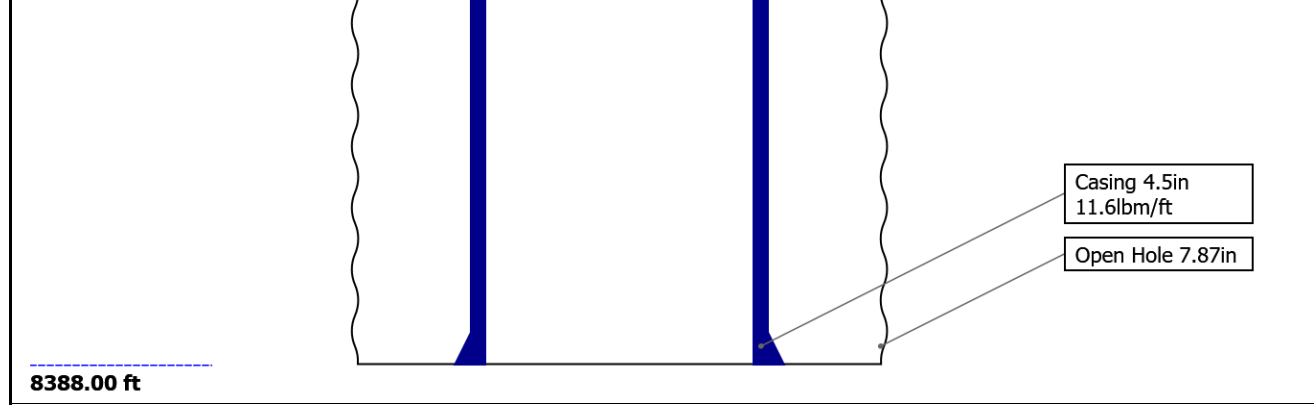
THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.

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# Well Sketch





## Borehole Size/Casing/Tubing Record

Bit					
Bit Size ( in )	12.25	7.87			
Top Driller ( ft )	0	748			
Top Logger ( ft )	0	748			
Bottom Driller ( ft )	748	8388			
Bottom Logger ( ft )	748	8388			
Casing					
Size ( in )	8.625	4.5			
Weight ( lbm/ft )	24	11.6			
Inner Diameter ( in )	8.097	4			
Grade	N/A	N/A			
Top Driller ( ft )	0	0			
Top Logger ( ft )	0	0			
Bottom Driller ( ft )	748	8388			
Bottom Logger ( ft )	748	7000			

## Remarks and Equipment Summary

### One: Toolstring

### One: Remarks

Equip name length  
LEH-QT 49.07  
LEH-QT

MP name Offset

EDTC-B: 45.58  
8350  
EDTH-B  
EDTG-A  
EDTC-B:  
8350

ASLT-B: 39.08  
8073  
ASLT-BB  
:8073



CTEM 42.08  
ACCZ 0.00  
HV 0.00  
Gamma Ray 40.21  
TelStatus 39.08

CBL\_U 32.55  
P

Thank you for choosing Schlumberger

Log was run for cement and casing evaluation

IBC-TX was used with IBC-A

Tool was run as per tool sketch

Pressure was applied at 500 psi

Crew: Derrick Hunter, John Price



Lengths are in ft  
 Maximum Outer Diameter = 3.800 in  
 Line: Sensor Location, Value: Gating Offset  
 All measurements are relative to TOOL\_ZERO

## Depth Summary

One

### Depth Measuring Device

Type	IDW-B
Serial Number	
Calibration Date	
Calibrator Serial Number	
Calibration Cable Type	
Wheel Correction 1	0
Wheel Correction 2	0

### Tension Device

Type	CMTD-B/A		
Serial Number			
Calibration Date			
Calibrator Serial Number			
Number of Calibration Points	0		

<b>Logging Cable</b>			
Type	7-46NT-XS		
Serial Number	1234		
Length	24000.00 ft		
Conveyance Type	Wireline		
Rig Type	Workoverrig		

<b>One:Depth Control Parameters</b>		<b>Depth Control Remarks</b>
Log Sequence	First Log In the Well	Schlumberger depth control procedures followed
Rig Up Length At Surface		IDW used as primary depth control system
Rig Up Length At Bottom		Z-Chart used as secondary depth control system
Rig Up Length Correction		
Stretch Correction		
Tool Zero Check At Surface		

### USIT - Fluid Properties Measurement

Run Name	Pass Name	Start Depth(ft)	Stop Depth(ft)
Run 2	Log[2]:Down	6004.67	7000.52

**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 = "Theoretical".**  
**CZMD uses theoretical results.**  
**MUD\_N\_THE=1.09**  
**DFD=1.02g/cm3(8.50lbm/gal)**

Start Depth(ft)	Stop Depth(ft)	Start Value(Mrayl)	End Value(Mrayl)
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## Composite 1

### Software Version

<b>Acquisition System</b>	<b>Version</b>
Maxwell 2021.1	11.1.211946.3100
Application Patch	Wireline_Hotfix-Mandatory-2021.1_11.1.216380 Wireline_NPD-ThruBit-2021.1_11.1.216465

### Composite Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[4]:Up	Up	3741.46 ft	6950.21 ft	26-Jul-2022 4:22:26 PM	26-Jul-2022 5:10:28 PM	ON	-4.23 ft	Yes

All depths are referenced to toolstring zero

<b>Log</b>	Company:Occidental Petroleum Corporation	Well:Bryant #8-30
		Composite 1:S007

Description: USI IBC ANNULUS    Format: Log ( USI IBC ANNULUS )    Index Scale: 5 in per 100 ft    Index Unit: ft    Index Type: Measured Depth    Creation Date: 27-Jul-2022 05:45:47

TIME\_1900 - Time Marked every 60.00 (s)

Cable Drag

Tool\_Tot.  
Drag

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

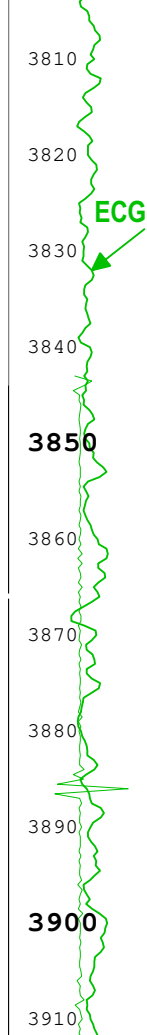
-20 in 20

Gamma Ray  
(ECGR\_EDT  
C)  
EDTC-B[1]

0 gAPI 150

Stuck Tool  
Indicator,  
Total (STIT)

0 ft 50

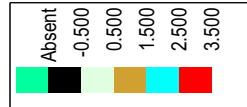
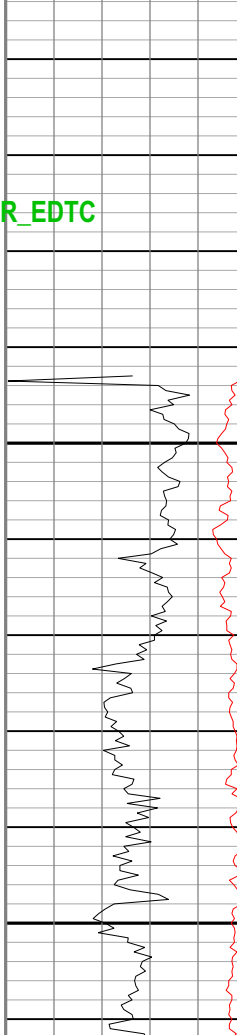


Casing Eccentering  
Azimuth  
(U-USIT\_UCEZ)  
USIT-E[1]

0 deg 360

Casing Centering  
Percentage  
(U-USIT\_UCCP)  
USIT-E[1]

0 % 100



Explicit Normalization  
USIT - SLG for Long  
and Short Axes of  
Annulus (A3ZSLG)  
USIT-E[1]

Annulus Thickness  
Minimum (UATN)  
USIT-E[1]

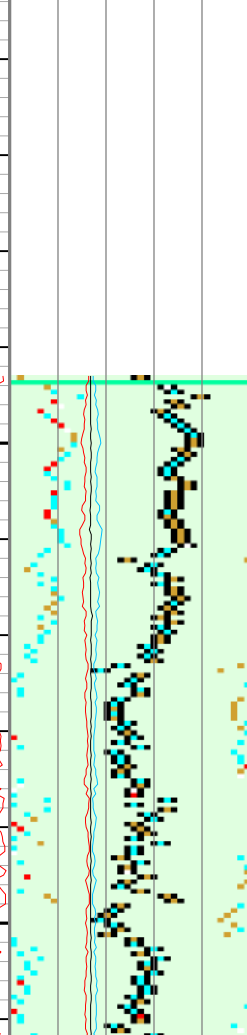
0 in 5

Annulus Thickness  
Average (UATV)  
USIT-E[1]

0 in 5

Annulus Thickness  
Maximum (UATX)  
USIT-E[1]

0 in 5



Internal Radius for  
Opposite Azimuth  
(A3OIR) USIT-E[1]

5 in 2.5

External Radius for  
Opposite Azimuth  
(A3OER) USIT-E[1]

5 in 2.5

Third Interface Radius  
for Opposite Azimuth  
(A3O3R) USIT-E[1]

5 in 2.5

Annulus Gas Shading  
Limit for Opposite  
Azimuth (A3OCG)  
USIT-E[1]

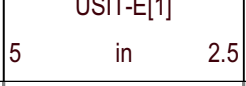
5 in 2.5

Annulus Liquid  
Shading Limit for  
Opposite Azimuth  
(A3OCL) USIT-E[1]

5 in 2.5

Annulus Solid Shading  
Limit for Opposite  
Azimuth (A3OCS)  
USIT-E[1]

5 in 2.5



Internal Radius for  
UCEZ Azimuth (A3ZIR)  
USIT-E[1]

2.5 in 5

External Radius for  
UCEZ Azimuth  
(A3ZER) USIT-E[1]

2.5 in 5

Third Interface Radius  
for UCEZ Azimuth  
(A3Z3R) USIT-E[1]

2.5 in 5

Annulus Gas Shading  
Limit for UCEZ  
Azimuth (A3ZCG)  
USIT-E[1]

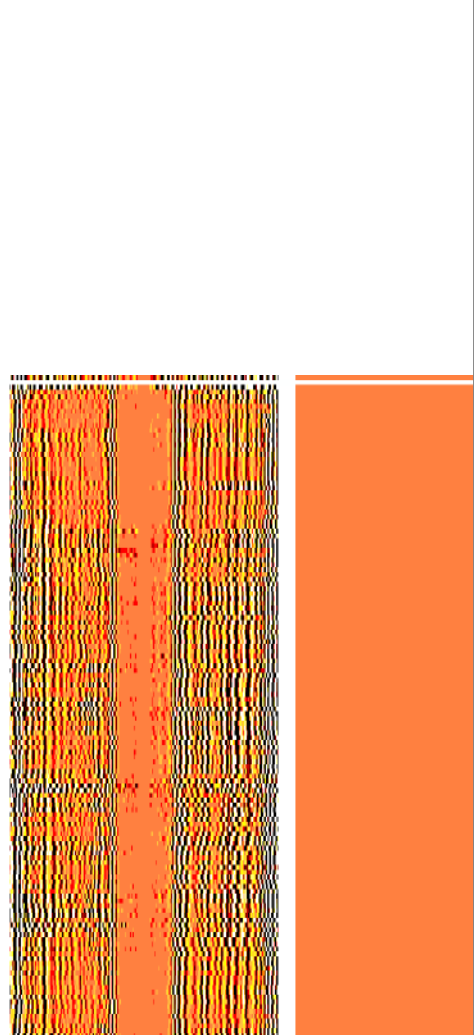
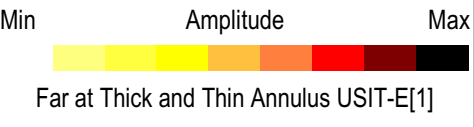
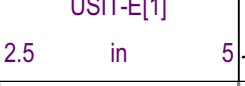
2.5 in 5

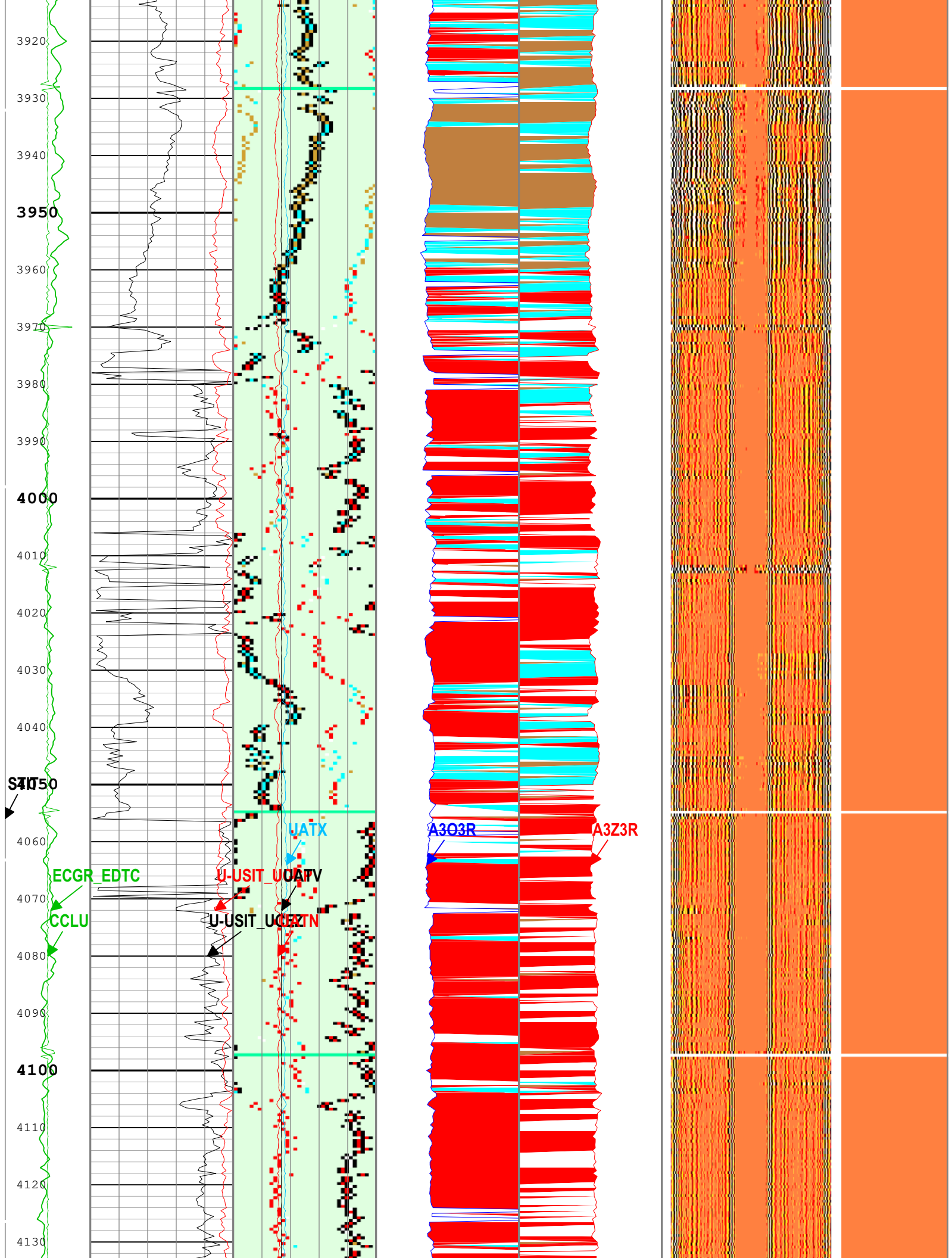
Annulus Liquid  
Shading Limit for  
UCEZ Azimuth  
(A3ZCL) USIT-E[1]

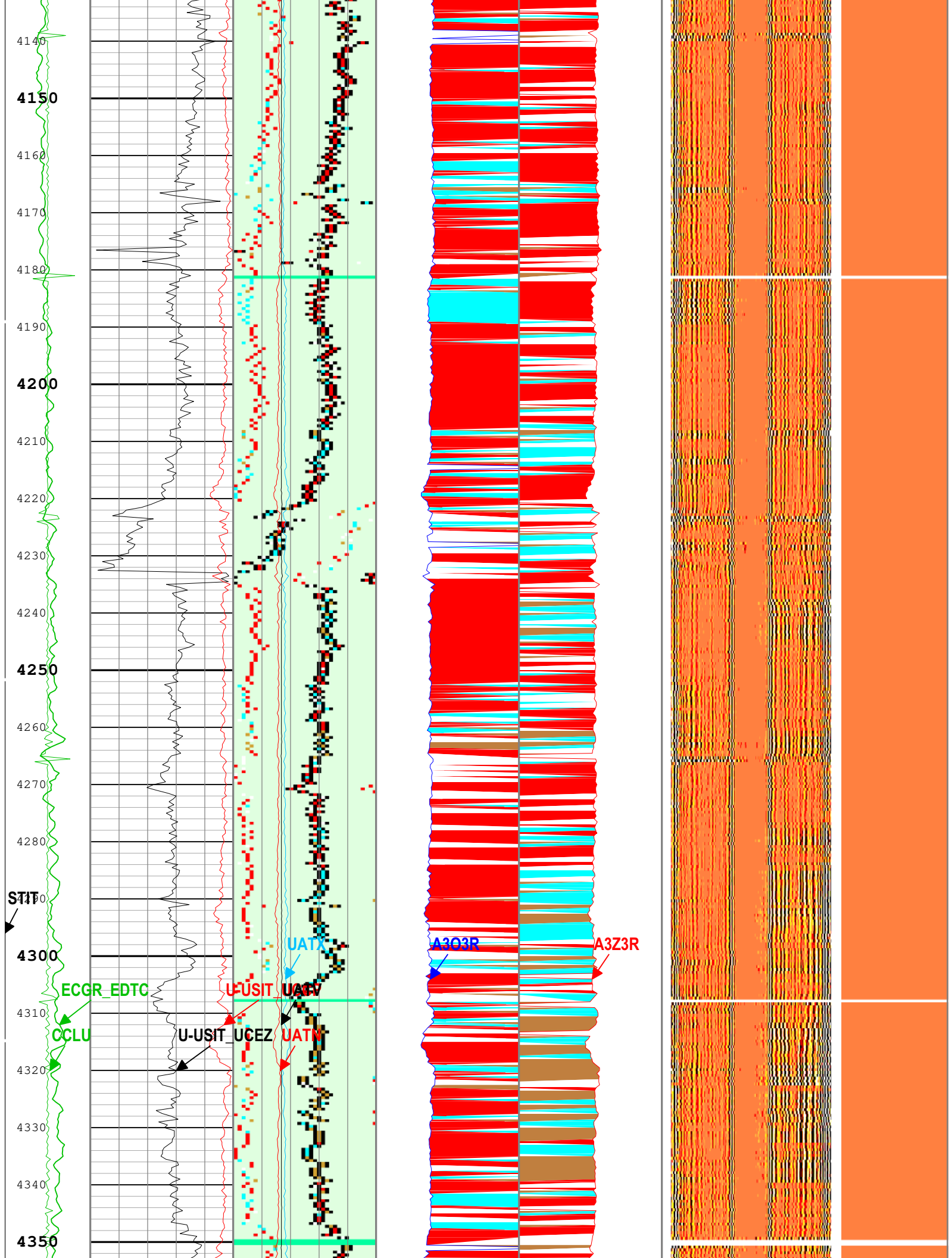
2.5 in 5

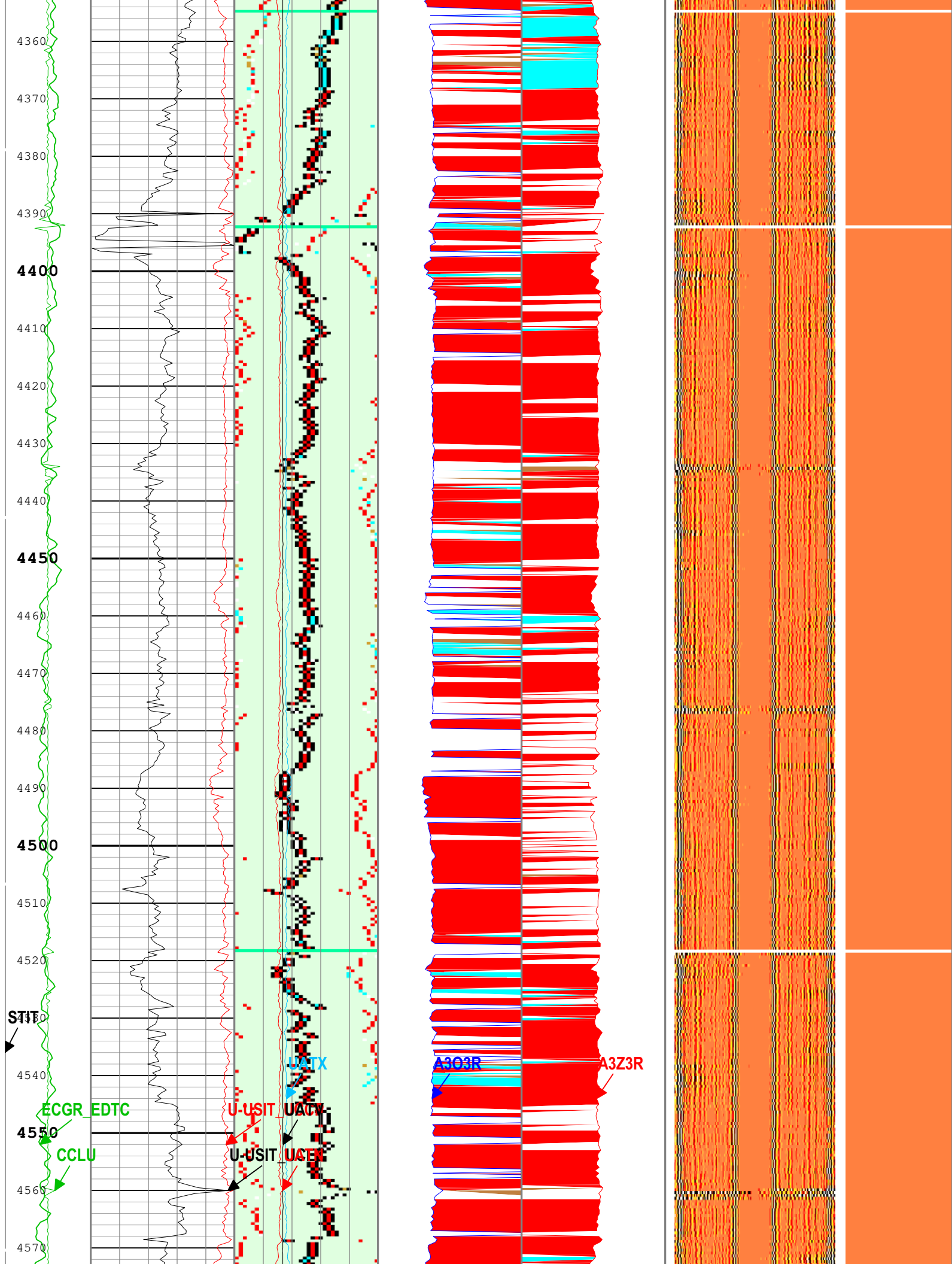
Annulus Solid Shading  
Limit for UCEZ  
Azimuth (A3ZCS)  
USIT-E[1]

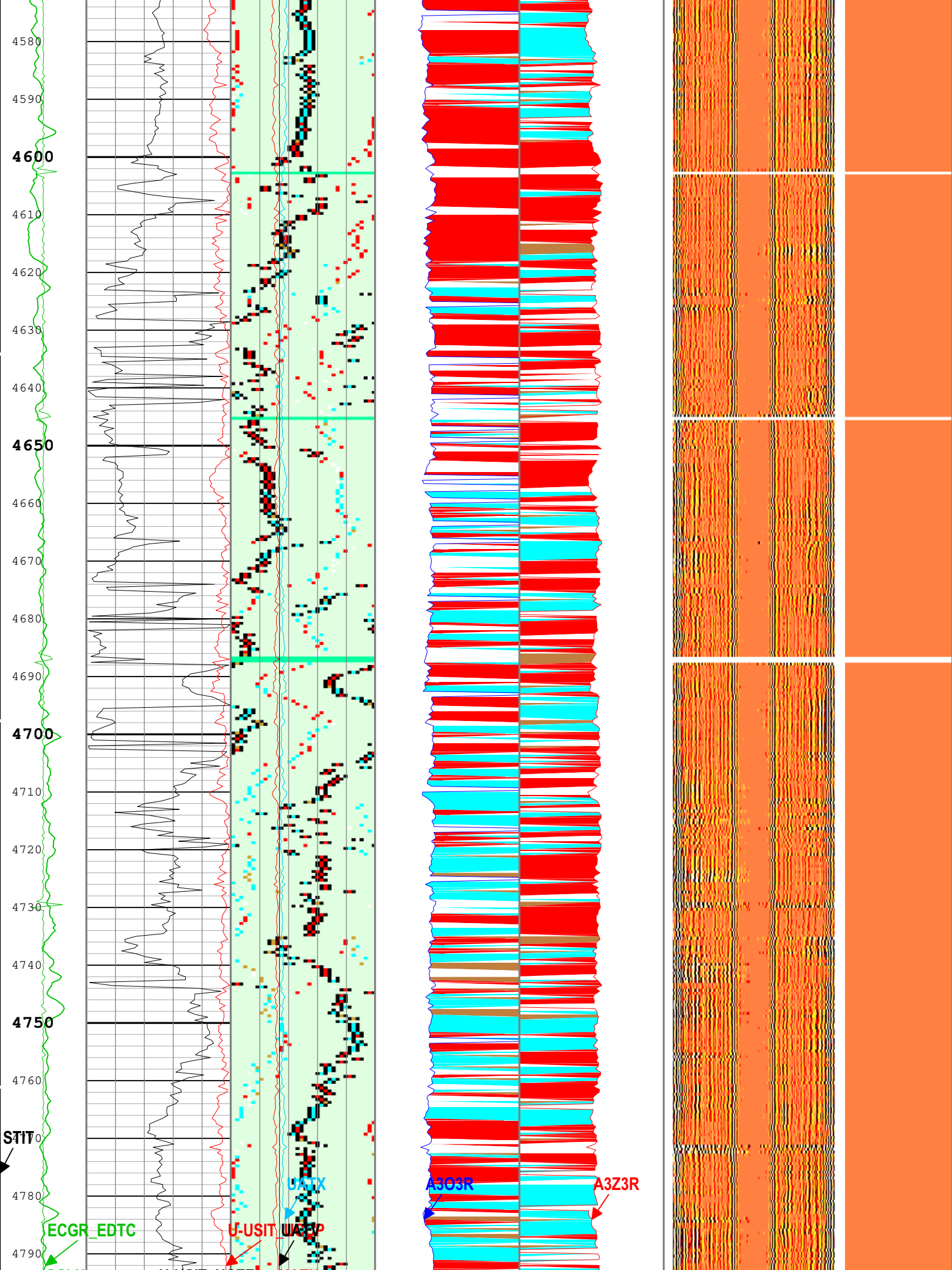
2.5 in 5











4580  
4590  
**4600**  
4610  
4620  
4630  
4640  
**4650**  
4660  
4670  
4680  
4690  
**4700**  
4710  
4720  
4730  
4740  
**4750**  
4760  
**STIT**  
4780  
4790

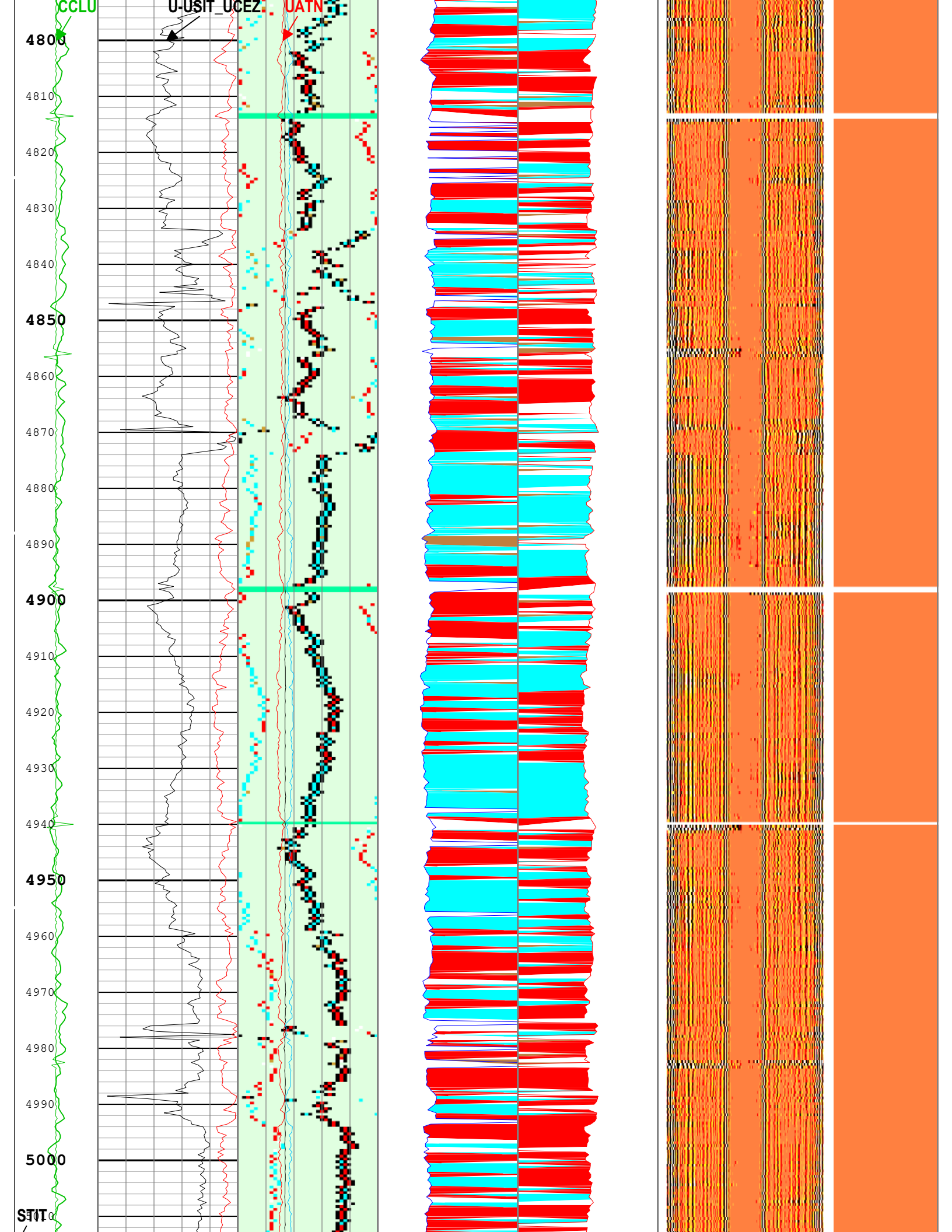
**ECGR\_EDTC**

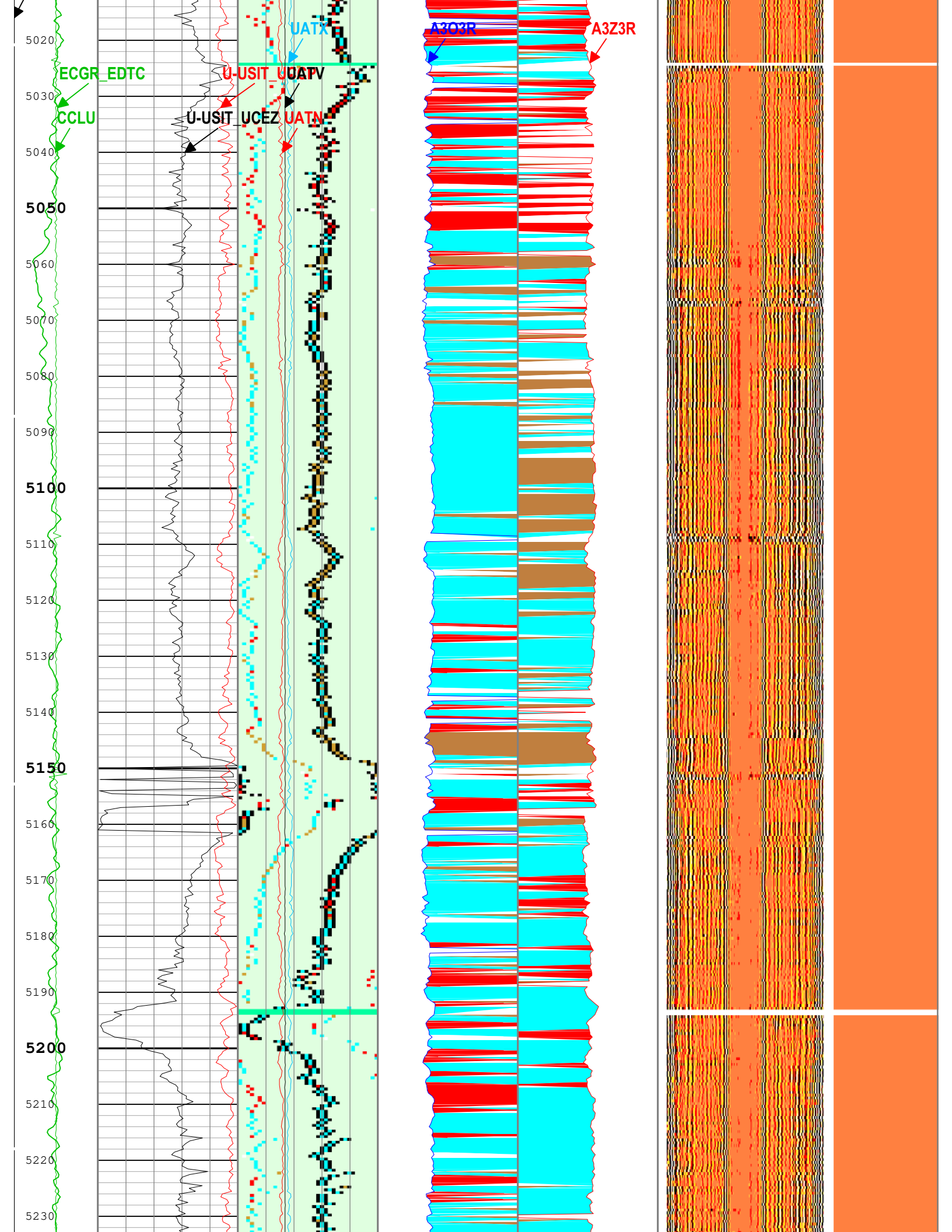
**U-USIT WAVEP**

**U-UX**

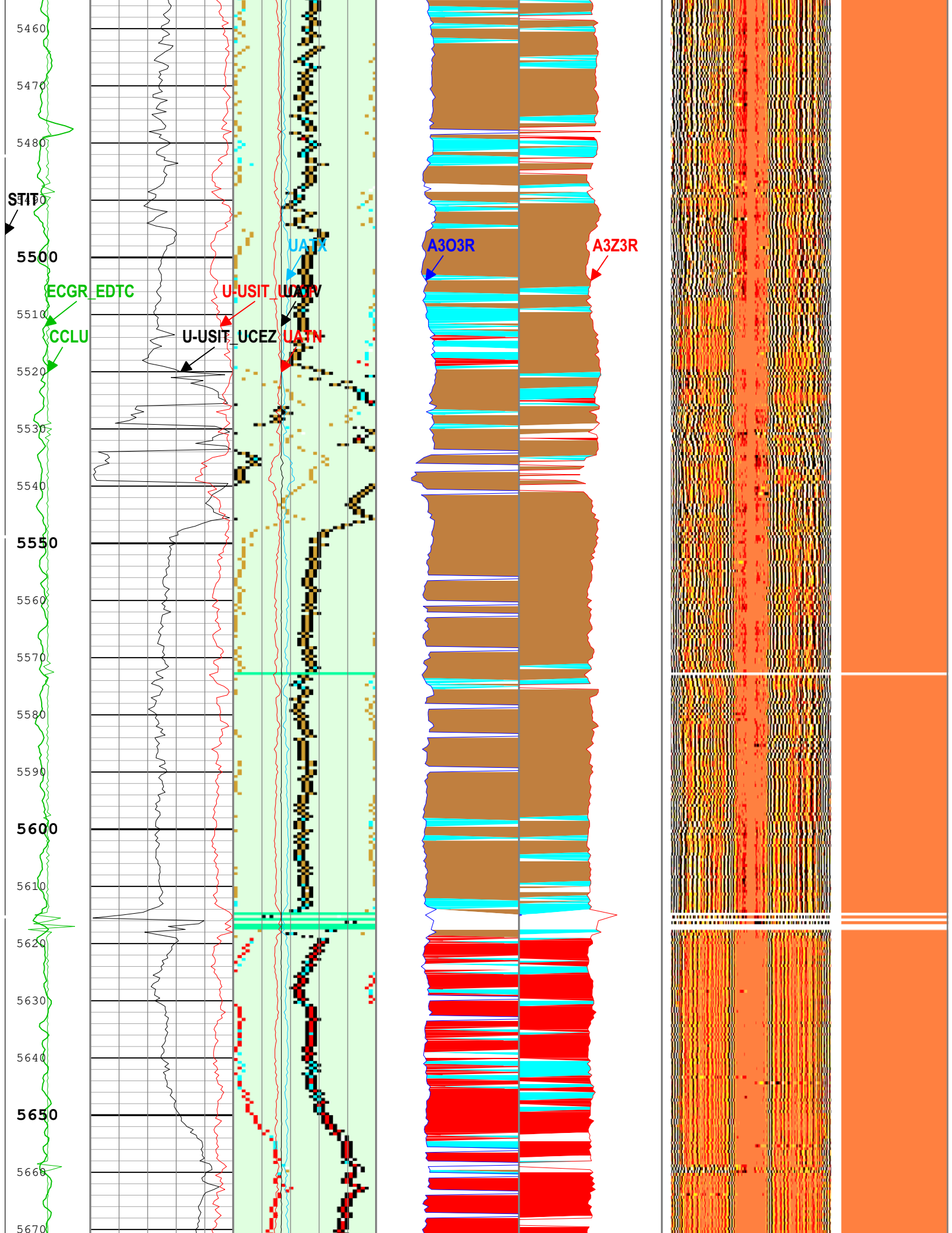
**A303R**

**A3Z3R**

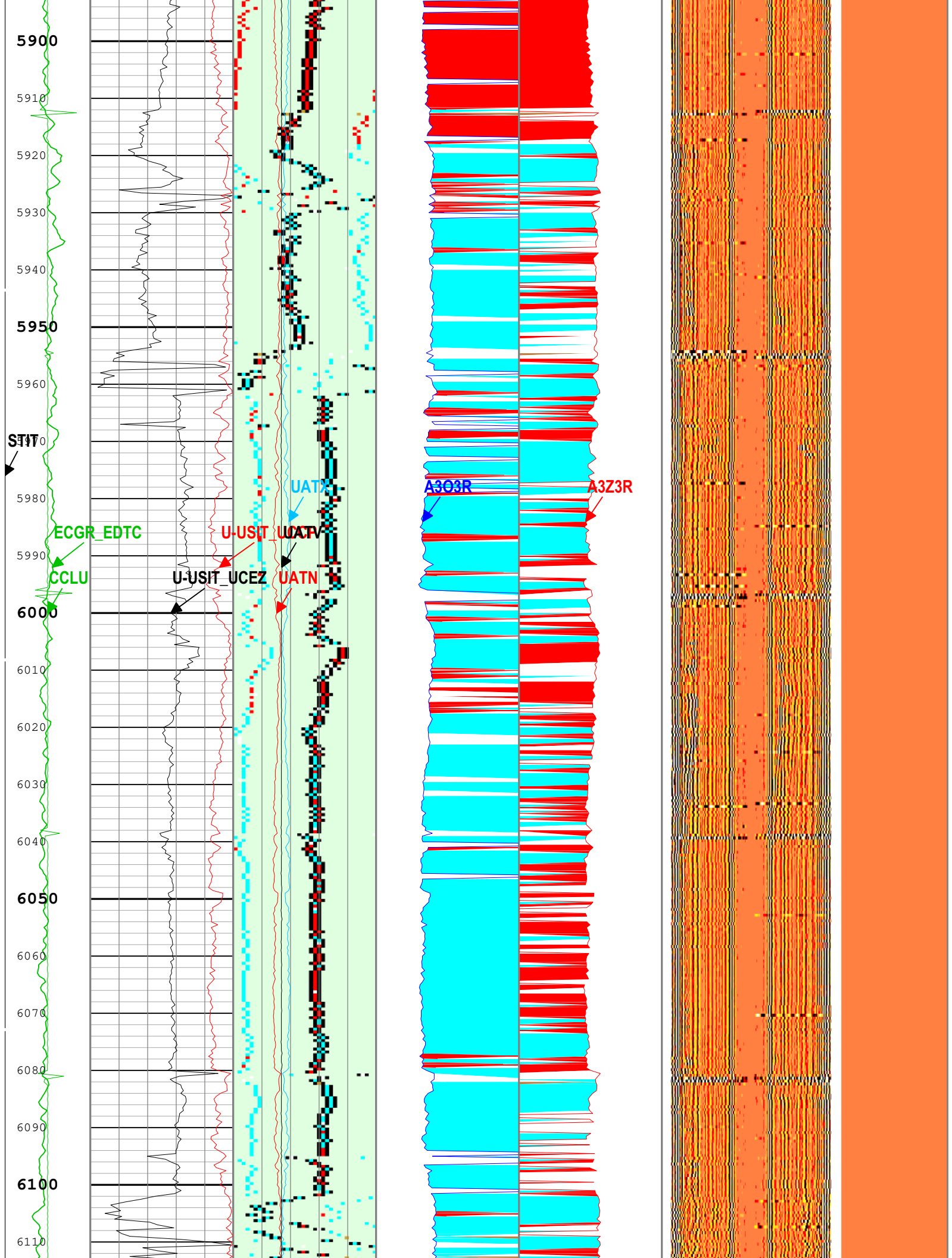


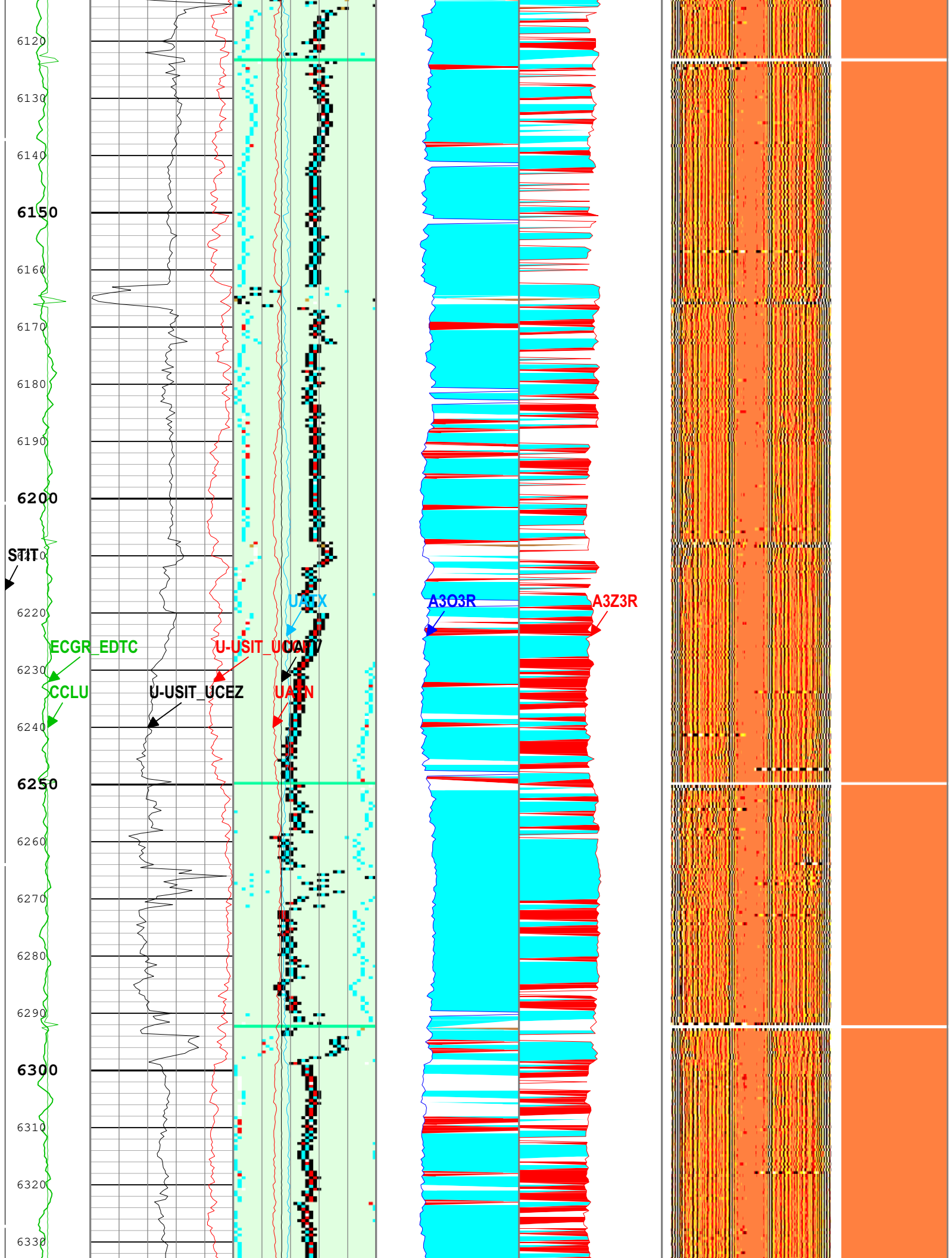


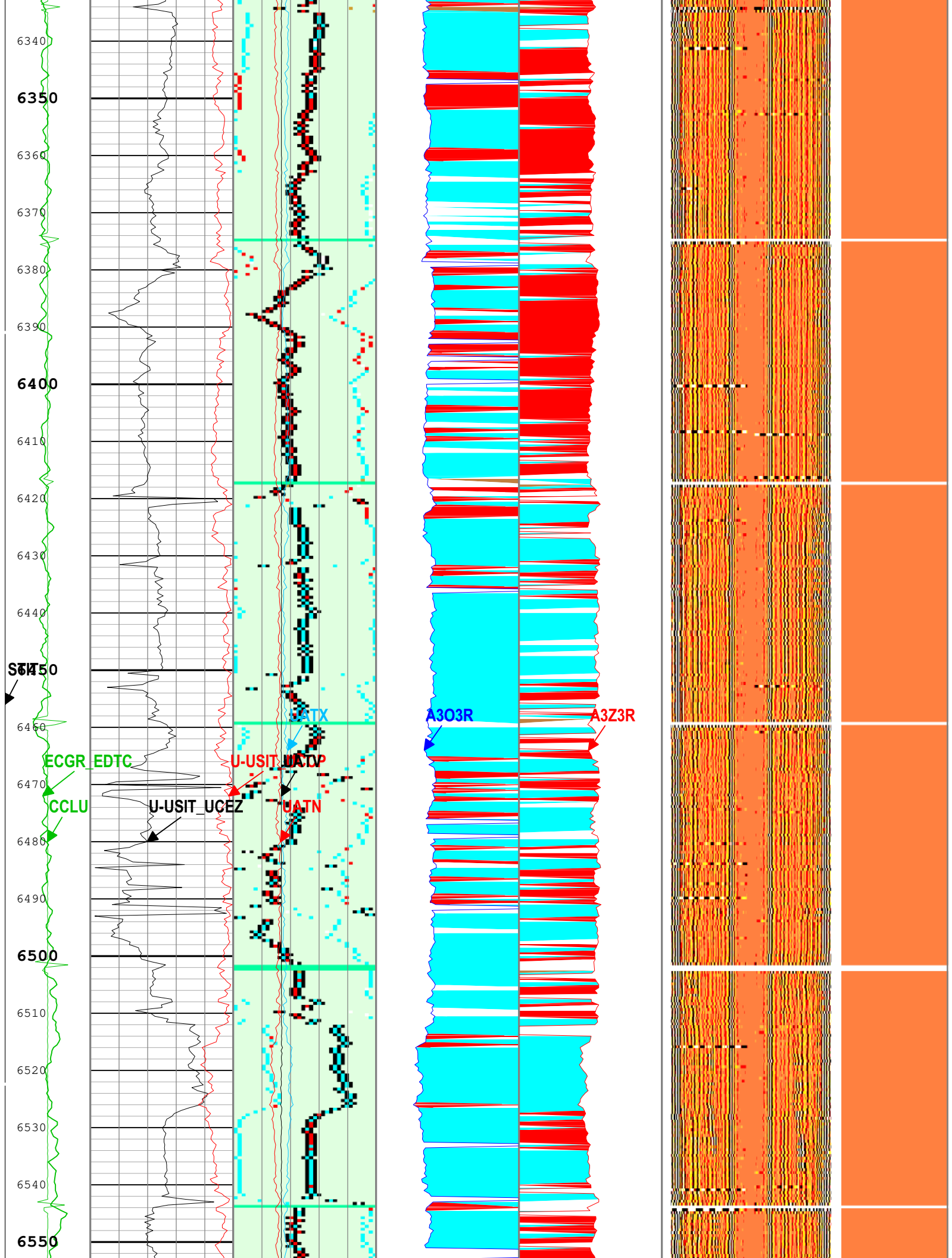


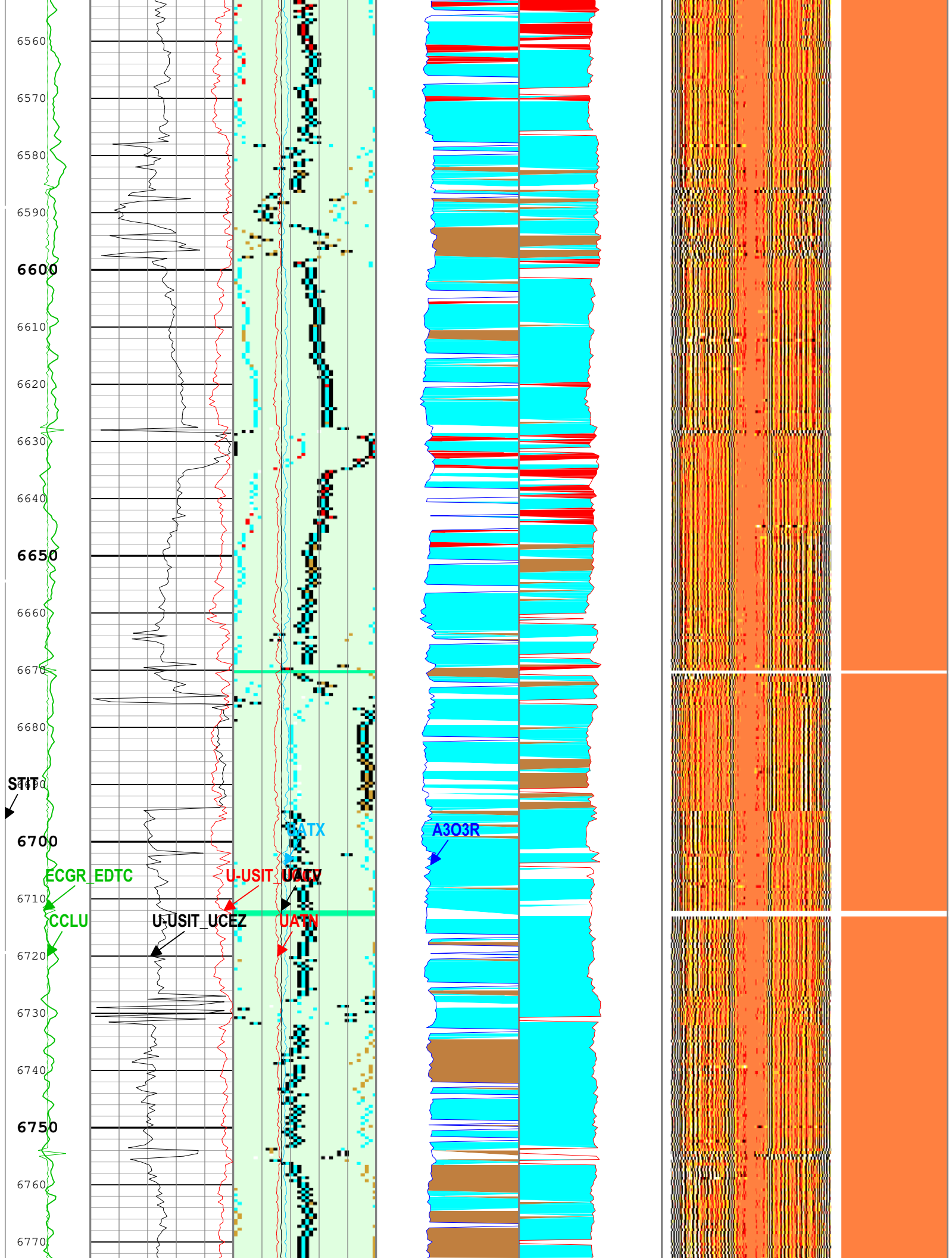


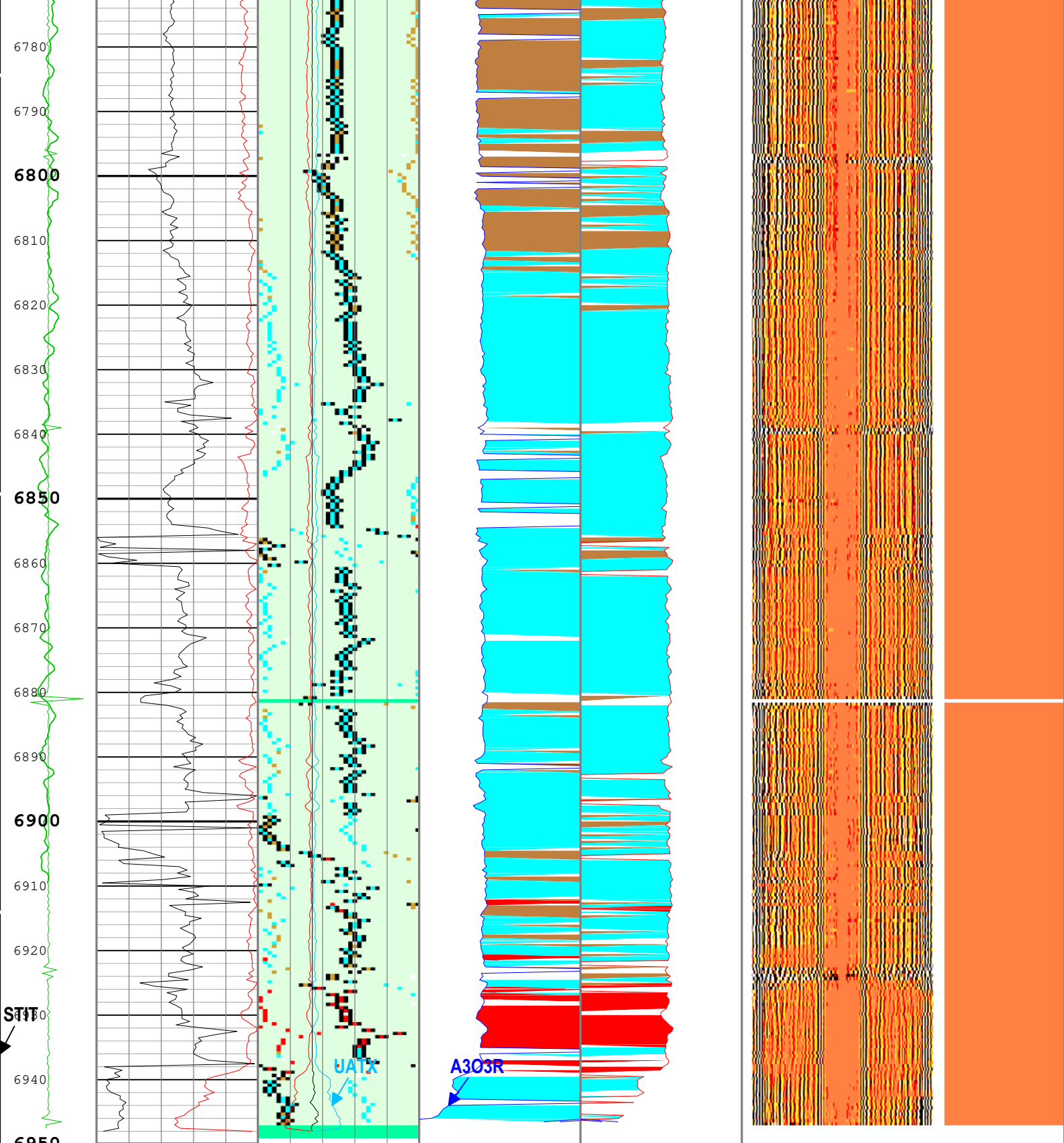












Cable Drag	Casing Eccentering Azimuth (U-USIT_UCEZ) USIT-E[1]	Absent -0.500 0.500 1.500 2.500 3.500	Internal Radius for Opposite Azimuth (A3OIR) USIT-E[1]	Internal Radius for UCEZ Azimuth (A3ZIR) USIT-E[1]	Min Amplitude Max
Tool Tot. Drag	deg 360	Explicit Normalization	5 in 2.5	2.5 in 5	Far at Thick and Thin Annulus USIT-E[1]
Casing Collar Locator Ultrasonic (CCLU) USIT-E[1]	Casing Centering Percentage (U-USIT_UCCP) USIT-E[1]	USIT - SLG for Long and Short Axes of Annulus (A3ZSLG) USIT-E[1]	External Radius for Opposite Azimuth (A3OER) USIT-E[1]	External Radius for UCEZ Azimuth (A3ZER) USIT-E[1]	us
-20 in 20	0 % 100	Annulus Thickness Minimum (UATN) USIT-E[1]	5 in 2.5	2.5 in 5	
Gamma Ray			Third Interface Radius for Opposite Azimuth	Third Interface Radius for UCEZ Azimuth	

Gamma Ray  
(ECGR\_EDT  
C)  
EDTC-B[1]  
0 gAPI 150

Stuck Tool  
Indicator,  
Total (STIT)  
0 ft 50

	(A303R) USIT-E[1]	5	in	2.5	(A3Z3R) USIT-E[1]	2.5	in	5
Annulus Thickness Average (UATV) USIT-E[1]		5	in	2.5		2.5	in	5
Annulus Gas Shading Limit for Opposite Azimuth (A30CG) USIT-E[1]		5	in	2.5	Annulus Gas Shading Limit for UCEZ Azimuth (A3ZCG) USIT-E[1]	2.5	in	5
Annulus Thickness Maximum (UATX) USIT-E[1]		5	in	2.5		2.5	in	5
Annulus Liquid Shading Limit for Opposite Azimuth (A3OCL) USIT-E[1]		5	in	2.5	Annulus Liquid Shading Limit for UCEZ Azimuth (A3ZCL) USIT-E[1]	2.5	in	5
Annulus Solid Shading Limit for Opposite Azimuth (A3OCS) USIT-E[1]		5	in	2.5	Annulus Solid Shading Limit for UCEZ Azimuth (A3ZCS) USIT-E[1]	2.5	in	5

TIME\_1900 - Time Marked every 60.00 (s)

Description: USI IBC ANNULUS Format: Log ( USI IBC ANNULUS ) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 27-Jul-2022 05:45:47

## Channel Processing Parameters

### One: Parameters

Parameter	Description	Tool	Value	Unit
BARI(ISSBAR)	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Cased	
BS	Bit Size	WLSESSION	7.87	in
CBLO	Casing Bottom (Logger)	WLSESSION	7000	ft
CDEN	Cement Density	USIT-E	0	lbm/gal
CDEN	Cement Density	EDTC-B	16.69	lbm/gal
CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Regular Cement	
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	8.5	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	203	us/ft
FD	Fluid Density	USIT-E	10	lbm/gal
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS(RT)	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	BS(RT)	
HEMA	Hematite Presence Flag	Borehole	No	
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	
IMAR	Image Rotation	USIT-E	Off	
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	15.37	us
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	0	
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-E	1.09	
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	1.76	Mrayl
U-USIT_UFAO	USIT Flexural Attenuation Offset	USIT-E	-30	dB/m
UFSFILT	Ultrasonic Flexural Surface Filter	USIT-E	LPF 250k	
U-USIT_UIAP	IBC Answer Product Enabled	USIT-E	ThirdInterfaceEcho	
ZMUD	Acoustic Impedance of Mud	Borehole	1.52	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.6	Mrayl

ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl
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## 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	54	dB
EMXV	EMEX Voltage	USIT-E	Time Zoned	V
IBC_ACQTYPE	IBC Acquisition type	USIT-E	1 MHz	
IBC_FLEXDBP	IBC Flex Duration Before Peak	USIT-E	30	us
ICE2_ACQ	Ultrasonic ICE2 Acquisition	USIT-E	Yes	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	4010	ft/h
UPAT	USIT Emission Pattern	USIT-E	Pattern 750 KHz	
UWKM	USIT Working Mode	USIT-E	10 deg at 6.0 in	
U-USIT_UTAN	Transducer Angles	USIT-E	33_DEG	
VRES	Vertical Resolution	USIT-E	6.0 in	

### OneTime Zoned Parameters

#### Pass Log[4]:Up

Parameter	Value	Start Time	Stop Time	Start Depth ( ft )	Stop Depth ( ft )
EMXV	65	26-Jul-2022 16:22:26	26-Jul-2022 17:10:04	6954.34	3861.25
EMXV	75	26-Jul-2022 17:10:04	26-Jul-2022 17:10:28	3861.25	3843.84

All depth are at tool zero.

Company: Occidental Petroleum Corporation

**Schlumberger**

Well: Bryant #8-30

Field: Spindle

County: Weld

Country: USA

Isolation Scanner

Annulus

Gamma Ray - CCL Log