Schlumberger

Company: Southern California Gas Company

Well: Standard Sesnon 4B

Field: Aliso Canyon

County: Los Angeles State: California

County: Los Angeles
Field: Aliso Canyon
Location: North: 34.314788
Well: Standard Sesnon 4B
Company: Southern California Gas Company

Ultrasonic Imager

Gamma Ray - CCL

Location:

North: 34.314788		Elev.: K.B.	2910.50 ft
West: 118.571823		G.L.	2888.00 ft
NAD 83		D.F.	
Permanent Datum:	Ground Level	Elev.:	2888.00 f
Log Measured From:	Kelly Bushing	22.50 ft	above Perm.Datum
Drilling Measured From:	Kelly Bushing		

API Serial No.	Section:	Township:	Range:
037-30460	27	3N	16W

Logging Date		02-Oct-2015		03-Oct-2015
Run Number		Two		Two
Depth Driller		8892.00 ft		8892.00 ft
Schlumberger Depth		8760.00 ft		8890.00 ft
Bottom Log Interval		8760.00 ft		8887.00 ft
Top Log Interval		28.00 ft		8760.00 ft
Casing Fluid Type		PolyTek+		PolyTek+
Salinity		15900 ppm		15900 ppm
Density		9 lbm/gal		9 lbm/gal
Fluid Level		28.00 ft		28.00 ft
BIT/CASING/TUBING STRING				
Bit Size		14.00 in		14.00 in
From		1436.00 ft		1436.00 ft
To		8760.00 ft		8890.00 ft
Casing/Tubing Size		9.625 in		9.625 in
Weight		47 lbm/ft		47 lbm/ft
Grade		N/A		N/A
From		22.50 ft		22.50 ft
To		8887.00 ft		8887.00 ft
Max Recorded Temperatures		165.6 degF		173.4 degF
Logger on Bottom	Time	02-Oct-2015 22:08:00		03-Oct-2015 14:19:00
Unit Number	Location:	2222 Long Beach		2222 Long Beach
Recorded By		Benjamin Kohner		Benjamin Kohner
Witnessed By		Kevin Katolas		Kevin Katolas

Disclaimer

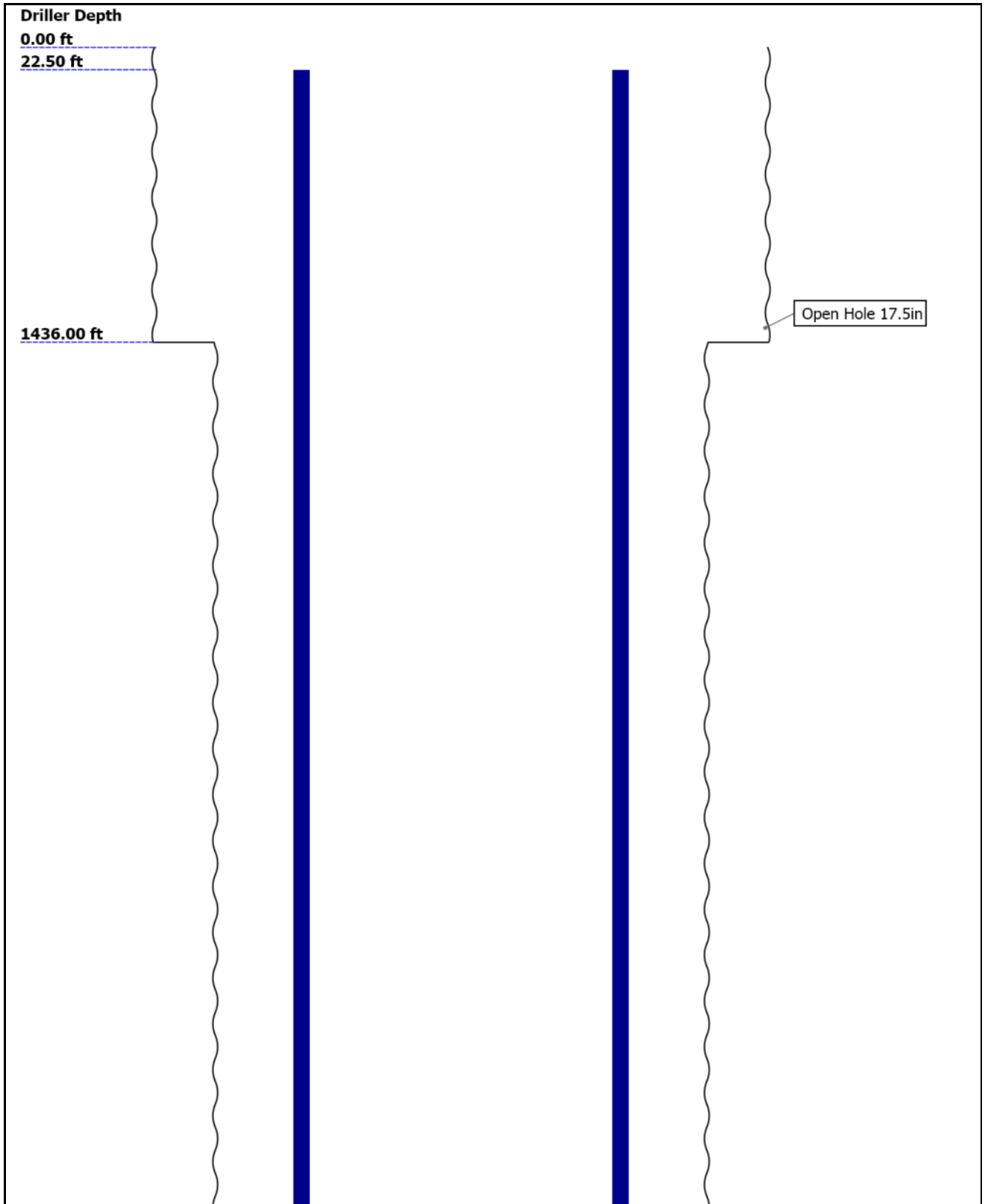
THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (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.

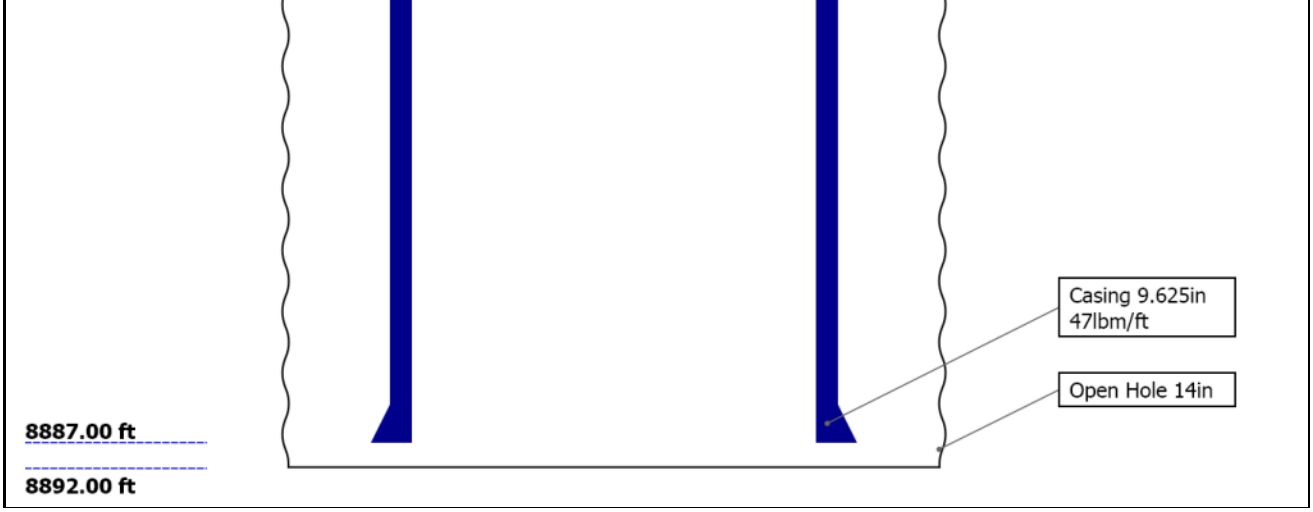
Contents

1. Header
2. Disclaimer
3. Contents
4. Well Sketch
5. Borehole Size/Casing/Tubing Record
6. Remarks and Equipment Summary
7. Depth Summary
8. Job Event Summary
9. Two GR-CCL Correlation 5 IN = 100 FT
   9.1 Integration Summary
   9.2 Composite Summary
   9.3 Log (Import (2) of GR-CCLU Correlation)
10. Two GR-CCL Correlation Bottom Section 5 IN = 100 FT
   10.1 Integration Summary
   10.2 Composite Summary
   10.3 Log (Import (2) of GR-CCLU Correlation)
13.3 Log (Import of UCRC_USI Composite 9.625inch)
14. Two Cement Log 2 IN = 100 FT
   14.1 Integration Summary
   14.2 Composite Summary
   14.3 Log (Import of UCRC_USI Cement 9.625inch)
15. Two Cement Log Bottom Section 2 IN = 100 FT
   15.1 Integration Summary
   15.2 Composite Summary
   15.3 Log (Import of UCRC_USI Cement 9.625inch)
16. Two USIT Goodwin Compressed
   16.1 Integration Summary
   16.2 Software Version
   16.3 Composite Summary
   16.4 Log (Import of UCRC_Long Beach Custom Goodwin)
17. Two USIT Goodwin Compressed Bottom Section
   17.1 Integration Summary

11. USI Fluid Properties Measurement
12. Two Main Pass 5 IN = 100 FT
12.1 Integration Summary
12.2 Software Version
12.3 Composite Summary
12.4 Log (Import of UCRC_USI Composite 9.625inch)
12.5 Parameter Listing
13. Two Bottom Section 5 IN = 100 FT
13.1 Integration Summary
13.2 Composite Summary
17.2 Software Version
17.3 Composite Summary
17.4 Log (Import of UCRC_Long Beach Custom Goodwin)
18. XYZ (USI Fluid Acoustic Slowness vs Depth)
19. XYZ (USI Theoretical Acoustic impedance of mud vs Depth)
20. Tail

Well Sketch





Borehole Size/Casing/Tubing Record

Bit						
Bit Size (in)	17.5	14				
Top Driller (ft)	0	1436				
Top Logger (ft)	0	1436				
Bottom Driller (ft)	1436	8892				
Bottom Logger (ft)	1436	8890				
Casing						
Size (in)	9.625					
Weight (lbm/ft)	47					
Inner Diameter (in)	8.681					
Grade	N/A					
Top Driller (ft)	22.5					
Top Logger (ft)	22.5					
Bottom Driller (ft)	8887					
Bottom Logger (ft)	8887					

Remarks and Equipment Summary

Rig: Ensign 587

Toolstring ran as per toolsketch.

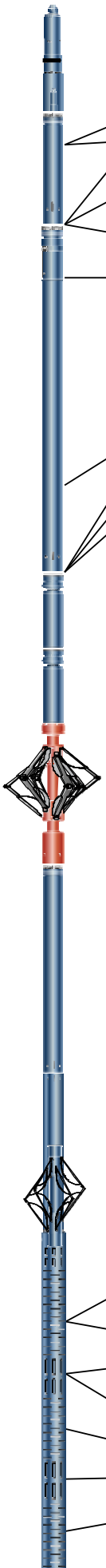
Log correlated to Schlumberger Platform Express dated 9/25/15.

Two: Remarks	Two: Remarks
Two centralizers on USIS and two CME-Y used to centralize ultrasonic tool.	Two centralizers on USIS and one CME-Y used to centralize ultrasonic tool.
One CME-Y and two inline centralizers used to centralize CBL tool.	Two CME-Y and two inline centralizers used to centralize CBL tool.
USIT logged in 5 deg, 0.6 inch working mode.	Could not get to bottom in previous run with USRS-C (OD=6.69"). Ran back in with USRS-B (OD=5.18") and got to bottom.
ICE processing used with FVEL=AUTO, ZMUD=Free Pipe Adjustment done from 1400-1420 in gas pocket (Zannular=.01).	ICE processing used with FVEL=AUTO, ZMUD=Free Pipe Adjustment done from 1400-1420 in gas pocket (Zannular=.01).
Max recorded temperature: 165.6 degF.	Max. temperature: 173.4 degF.
Cement information: Lead 13.5 ppg Class G ETOL: 22 ft. Tail: 14.8 ppg Class G ETOT: 6,087 ft. Preflush: 8.5 ppg mud flush.	Cement information: Lead 13.5 ppg Class G ETOL: 22 ft. Tail: 14.8 ppg Class G ETOT: 6,087 ft. Preflush: 8.5 ppg mud flush.
	Several casing collapses observed from 8750-8860'.
Schlumberger crew: S. Alvarez, J. Chumley.	Schlumberger crew: S. Alvarez, J. Chumley.

Thank you for choosing Schlumberger!

Two: Toolstring

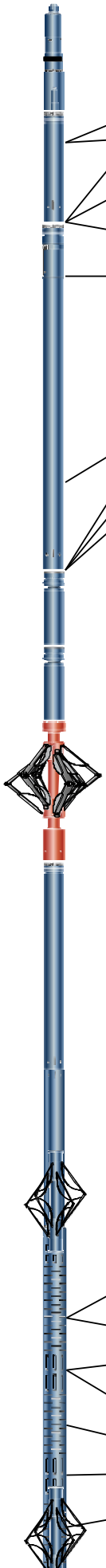
Equip name	Length	MP name	Offset
LEH-QT: 3390 (LEH-QT: 3390)	73.98	Electrical Release	
DTC-H:8577 (ECH-KC: 1400, DTC-H:8577)	71.07	CTEM	70.17
		HV	0.00
		TelStatus	68.07
		ToolStatus	68.07
HGNS-H:3923 (HGNH:4819, NSR-F:5002, NPV-N, HACCZ-H:3923, HMCA-H, HGNS-H:3923)	68.07	Temperature	68.04
		GR	67.33
		CNL Porosity	60.99
		HMCA	58.66
		HGNS	58.66
		Accelerometer	0.00
AH-184[4]:2985	58.66		
AH-184[3]:6735	56.66		
CME-AF[2]:5892	54.66		
DSLT-H:8236 (ECH-KH: 8678, DSLC-H: 8236, SLS-E:1206)	50.87		
		CBL 3ft	38.4
		Upper-Near	38.4
		VDL 5ft	37.4
		Upper-Far	37.4
		Delta-T	36.02
		Lower-Far	34.65
		Lower-Near	33.65

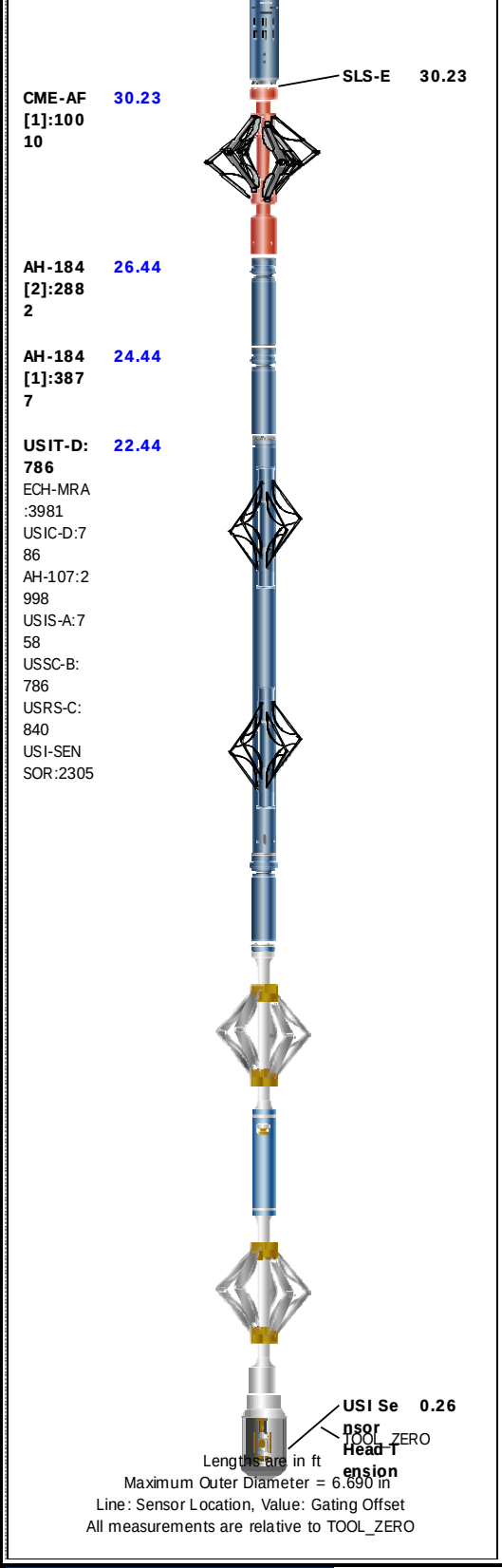


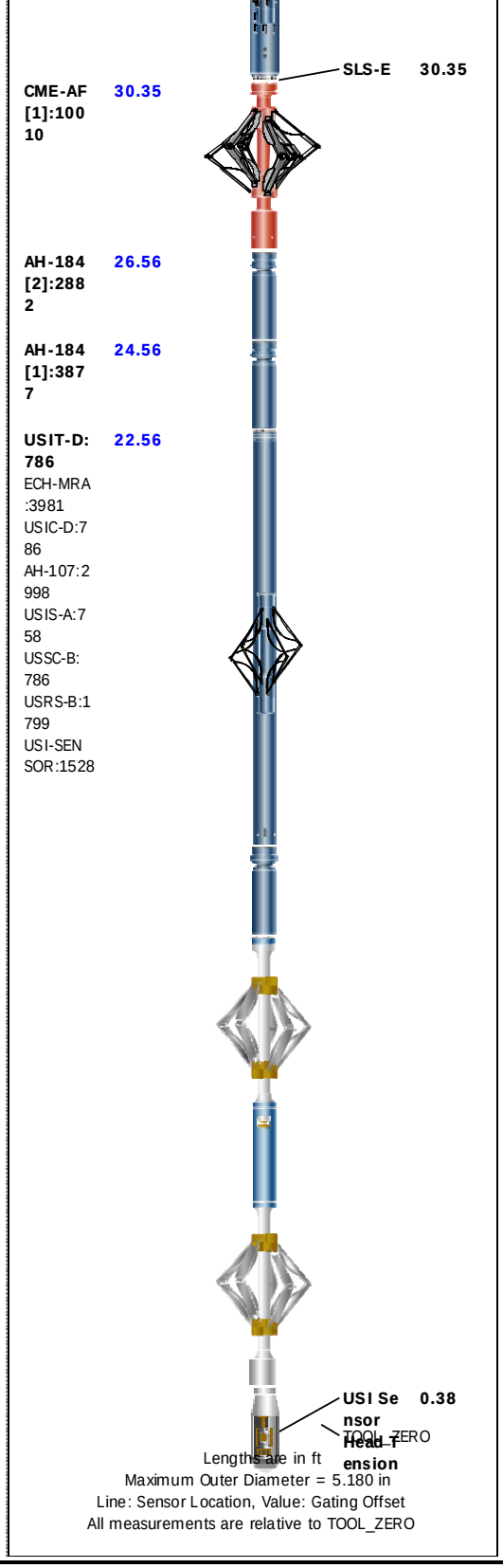
Thank you for choosing Schlumberger!

Two: Toolstring

Equip name	Length	MP name	Offset
LEH-QT: 3390 (LEH-QT: 3390)	74.11	Electrical Release	
DTC-H:8577 (ECH-KC: 1400, DTC-H:8577)	71.19	CTEM	70.29
		HV	0.00
		TelStatus	68.19
		ToolStatus	68.19
HGNS-H:3923 (HGNH:4819, NPV-N, NSR-F:5002, HGNS-H: 3923, HACCZ-H:3923, HMCA-H)	68.19	Temperature	68.16
		GR	67.45
		CNL Porosity	61.11
		HMCA	58.78
		HGNS	58.78
		Accelerometer	0.00
AH-184[4]:2985	58.78		
AH-184[3]:6735	56.78		
CME-AF[2]:5892	54.78		
DSLT-H:8236 (ECH-KH: 8678, DSLC-H: 8236, SLS-E:1206)	50.99		
		CBL 3ft	38.52
		Upper-Near	38.52
		VDL 5ft	37.52
		Upper-Far	37.52
		Delta-T	36.14
		Lower-Far	34.77
		Lower-Near	33.77







Depth Summary

	Two	Two	
Depth Measuring Device			
Type	IDW-JA	IDW-JA	
Serial Number	6919	6919	
Calibration Date	25-Mar-2015	25-Mar-2015	
Calibrator Serial Number			
Calibration Cable Type	7-46 PXS	7-46 PXS	
Wheel Correction 1	-3	-3	
Wheel Correction 2	-3	-3	
Tension Device			
Type	CMTD-B/A	CMTD-B/A	

Type	CMTD-B/A	CMTD-B/A	
Serial Number	137	137	
Calibration Date	19-Aug-2015	19-Aug-2015	
Calibrator Serial Number	78138A	78138A	
Number of Calibration Points	10	10	
Calibration Root Mean Square Error	18	18	
Calibration Peak Error	32	32	

Logging Cable

Type	7-46P-XS	7-46P-XS	
Serial Number	U713010	U713010	
Length	23010.00 ft	23010.00 ft	
Conveyance Type	Wireline	Wireline	
Rig Type			

Two:Depth Control Parameters		Depth Control Remarks
Log Sequence	Subsequent Trip To the Well	All Schlumberger depth control procedures followed.
Reference Log Name	Platform Express	IDW used as primary depth reference, Z-Chart used as secondary.
Reference Log Run Number	One	
Reference Log Date	25-Sep-2015	
Subsequent Trip Down Log Correction		

Two:Depth Control Parameters		Depth Control Remarks
Log Sequence	Subsequent Trip To the Well	All Schlumberger depth control procedures followed.
Reference Log Name	Platform Express	IDW used as primary depth reference, Z-Chart used as secondary.
Reference Log Run Number	One	
Reference Log Date	25-Sep-2015	
Subsequent Trip Down Log Correction		

Job Event Summary

Event	Time	Duration	Interval	Remark
Log[1]:Down	Oct-02-2015 20:20	00:17:48	85.06 - 2082.11 ft	
Log[2]:Up	Oct-02-2015 20:39	00:21:54	2066.27 - 765.25 ft	Surface Repeat Pass
Log[3]:Up	Oct-02-2015 21:08	00:09:18	1775.16 - 1455.62 ft	
Log[4]:Down	Oct-02-2015 21:20	01:46:30	1468.23 - 8771.06 ft	FPM
Log[5]:Up	Oct-02-2015 22:09	15:58:03	8762.49 - 17.6 ft	Main Pass
Run 2	Oct-03-2015 13:05			Could not get to bottom with Run 1, but on smaller USI sub and ran back in hole
Log [1] Down	Oct-03-2015 14:40			FPM
Log [2] Up	Oct-03-2015 15:33			Main pass - got past obstruction to casing shoe

Two

GR-CCL Correlation 5 IN = 100 FT

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Two	Log[5]:Up	Up	17.60 ft	8762.49 ft	02-Oct-2015 10:09:30 PM	03-Oct-2015 1:07:34 PM	ON	12.00 ft	Yes

All depths are referenced to toolstring zero

Log

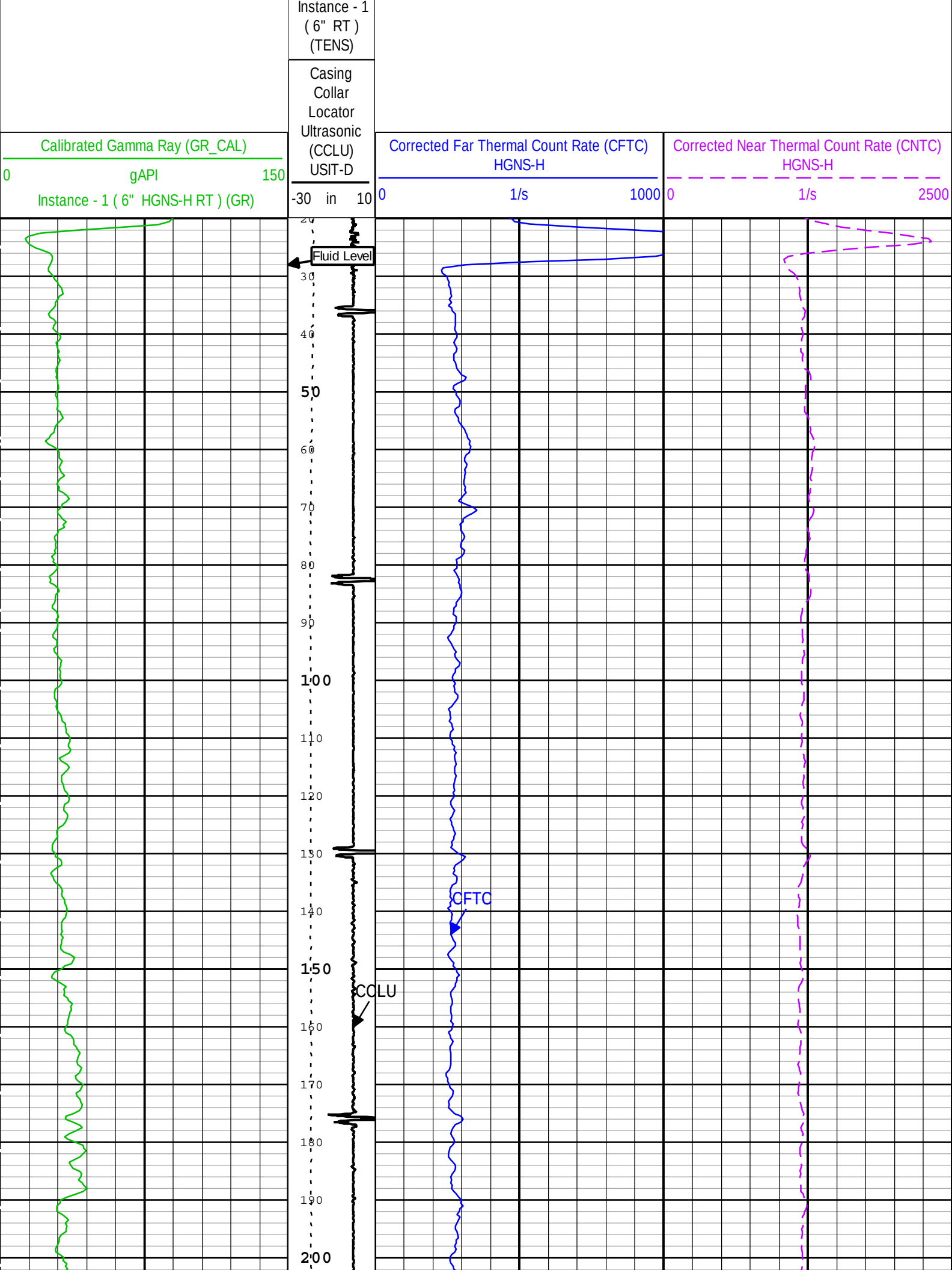
Company:Southern California Gas Company Well:Standard Sesnon 4B

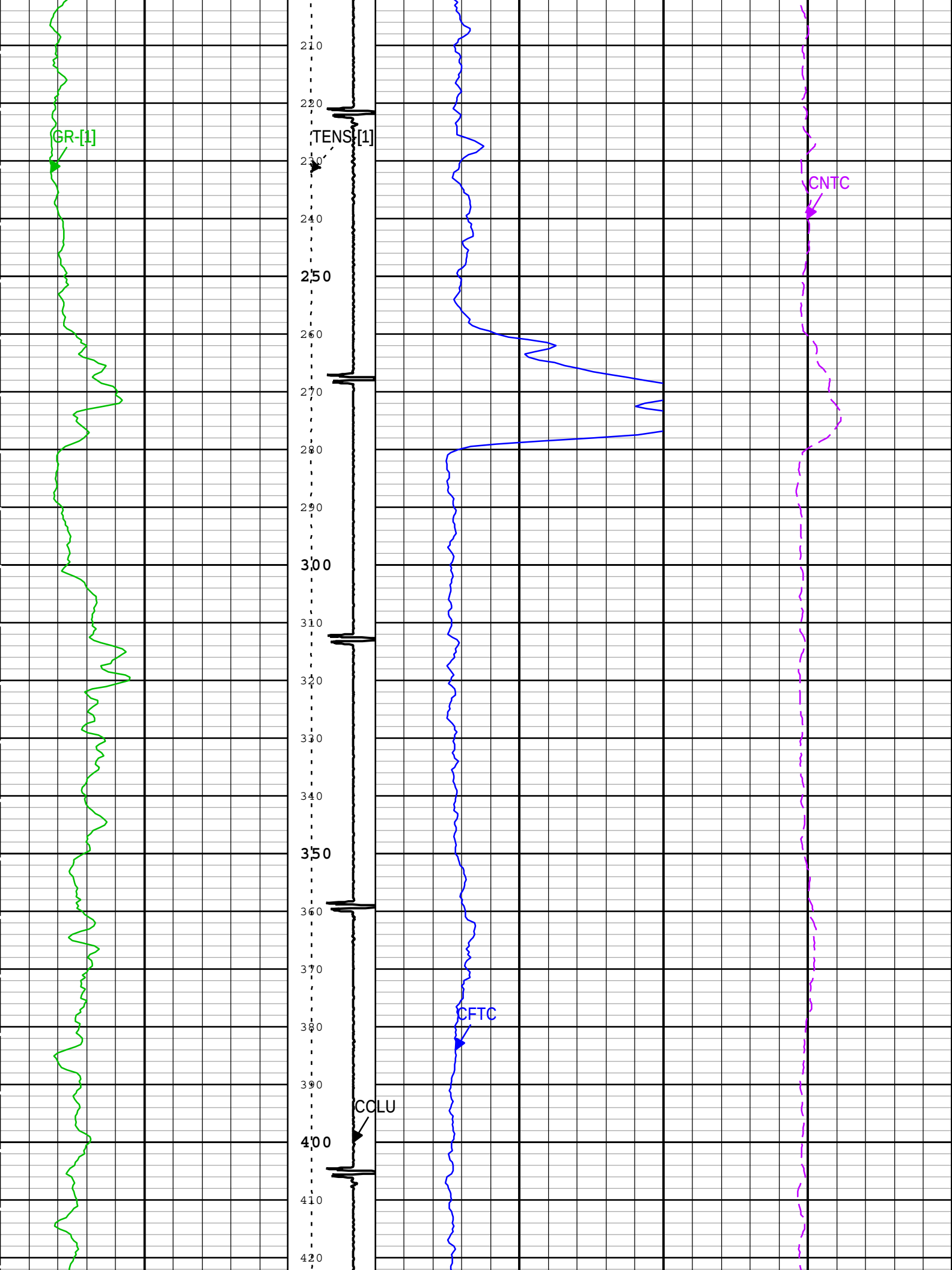
Two: Log[5]:Up:S016

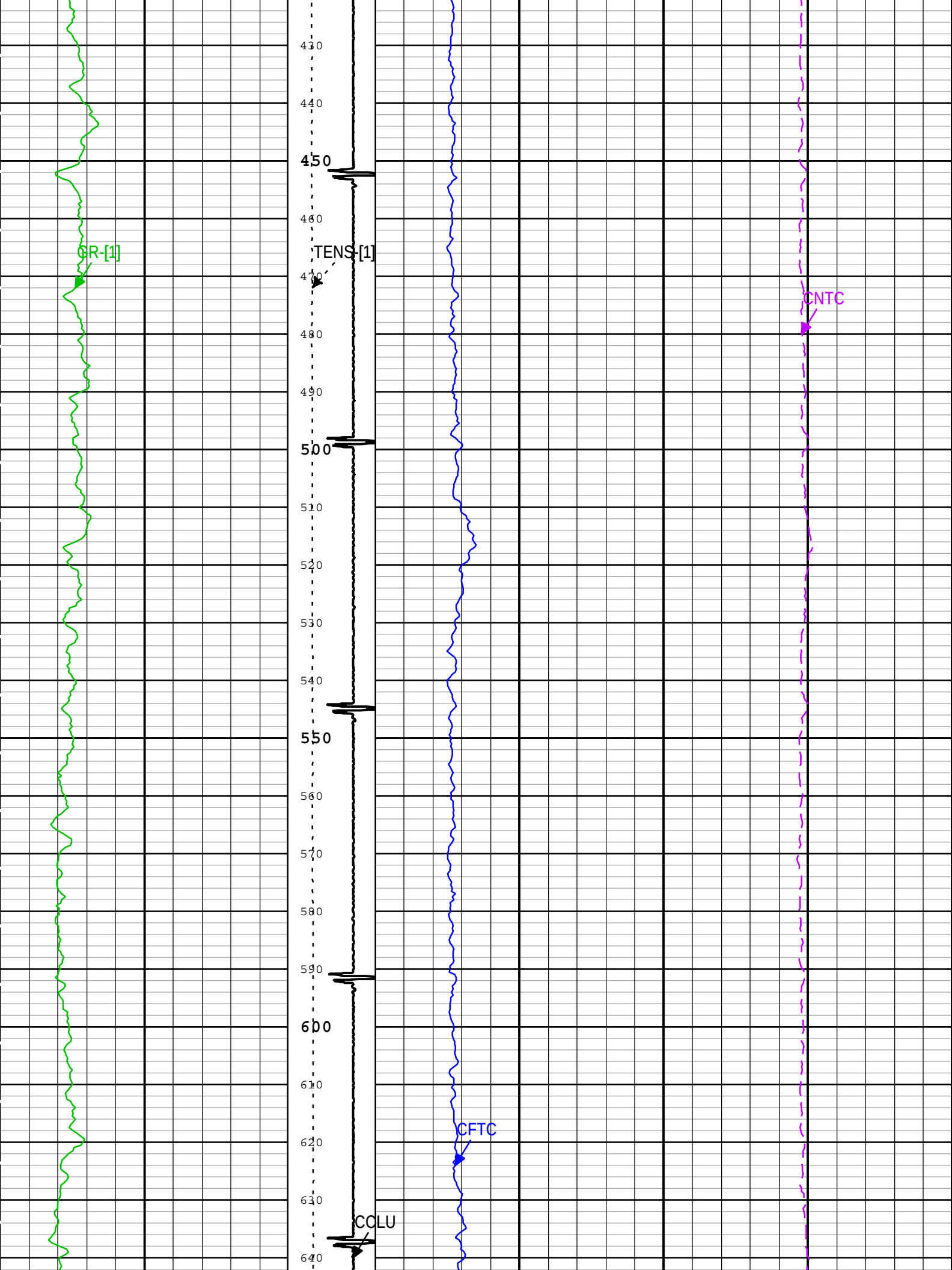
Description: Format: Log (Import (2) of GR-CCLU Correlation) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 04-Oct-2015 02:18:14

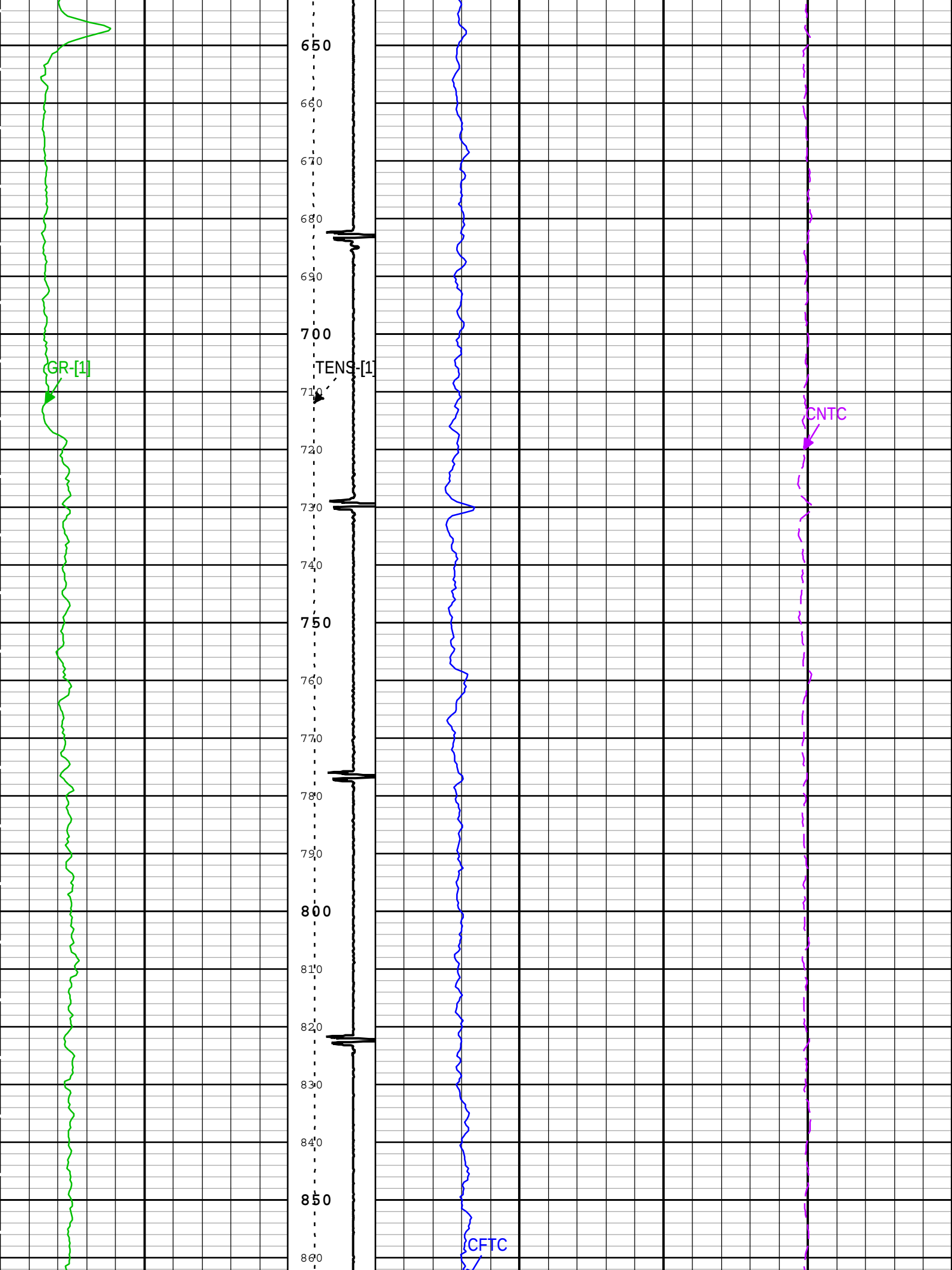
TIME_1900 - Time Marked every 60.00 (s)

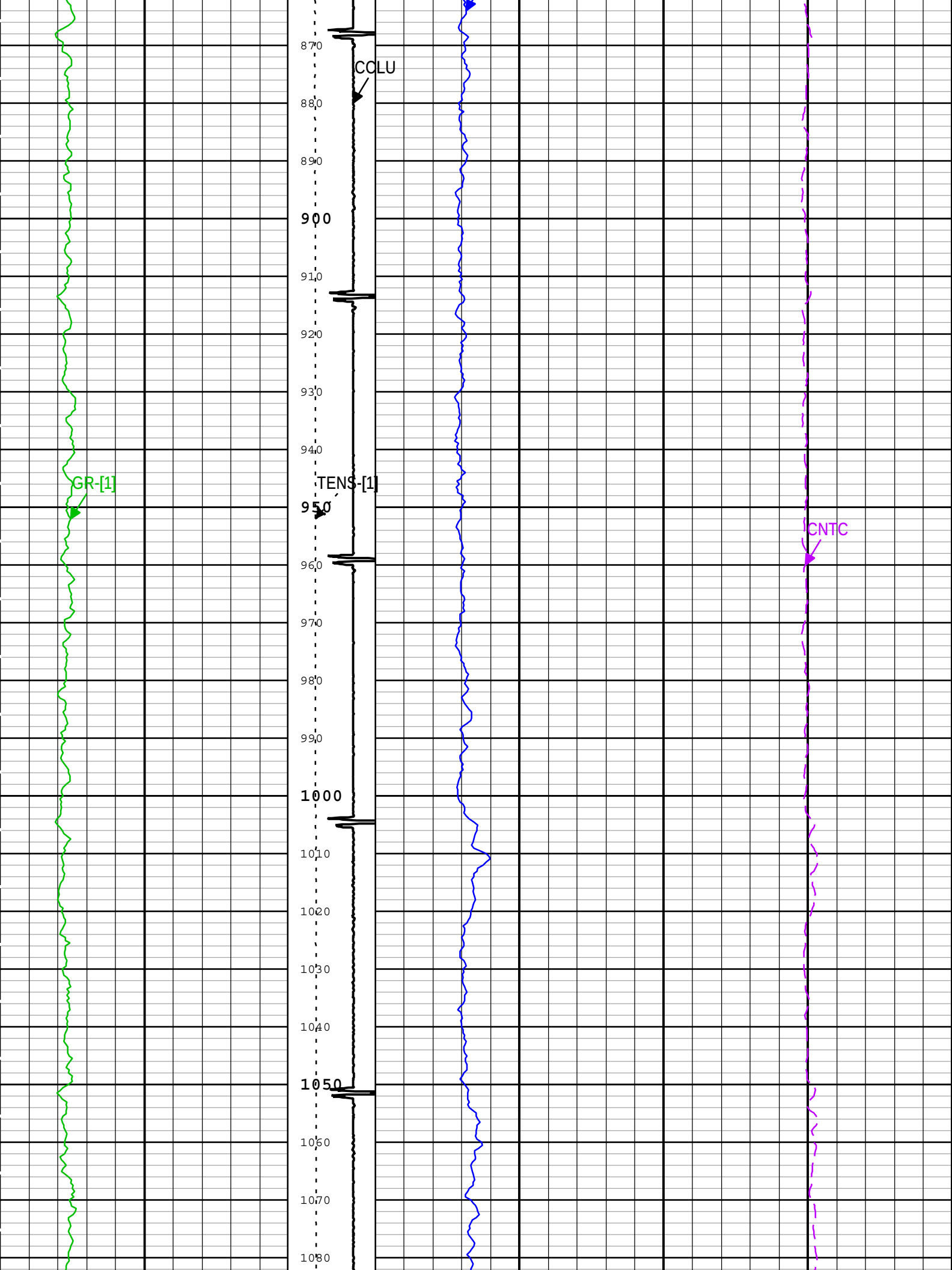
Cable Tension (TENS)
0 lbf 5000

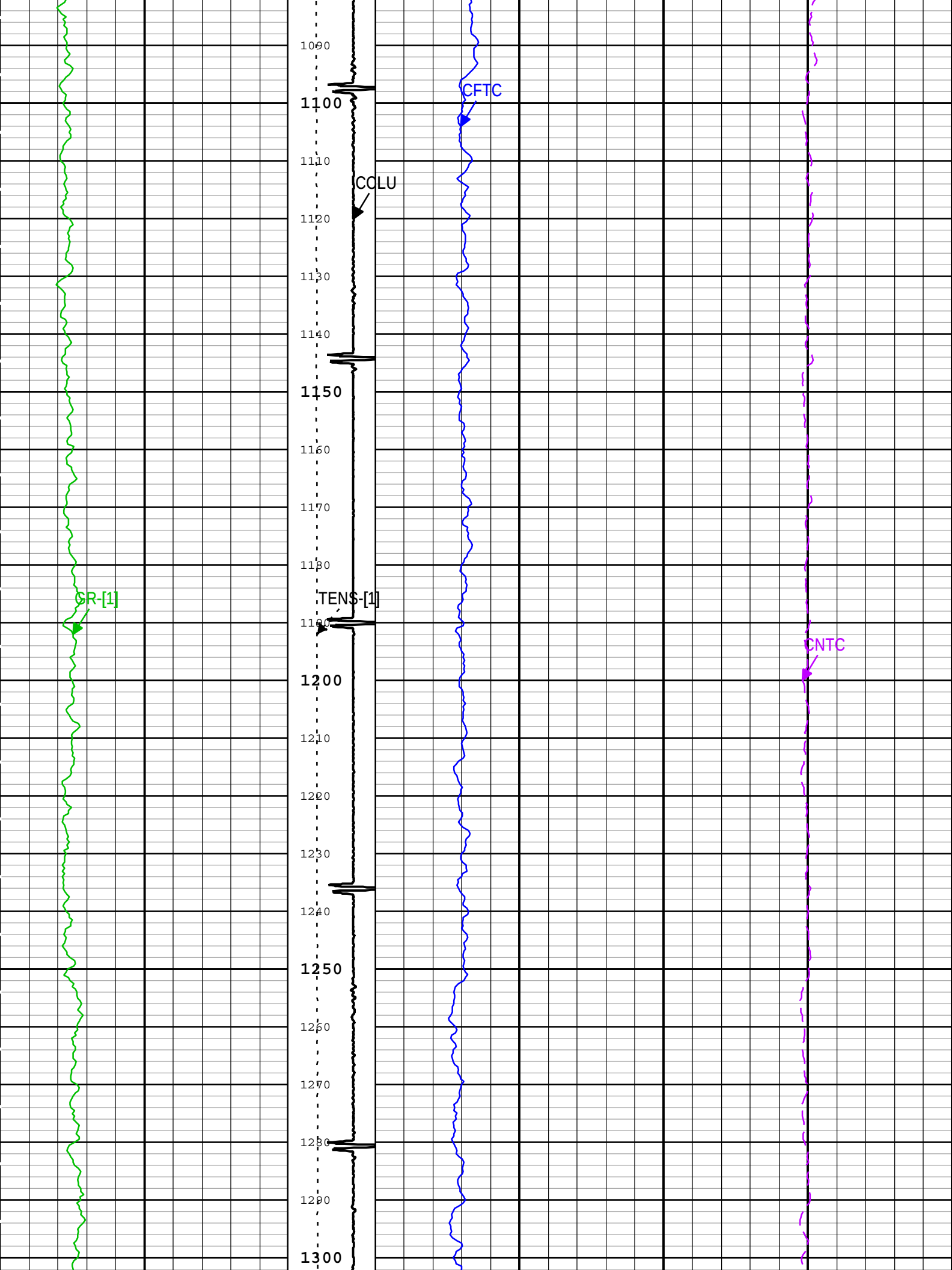

Instance - 1 (6" RT) (TENS)
Casing Collar Locator Ultrasonic (CCLU) USIT-D
-30 in 10
Calibrated Gamma Ray (GR_CAL)
0 gAPI 150
Instance - 1 (6" HGNS-H RT) (GR)
Corrected Far Thermal Count Rate (CFTC) HGNS-H
0 1/s 1000
Corrected Near Thermal Count Rate (CNTC) HGNS-H
0 1/s 2500
Fluid Level
CFTC
CCLU
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
200

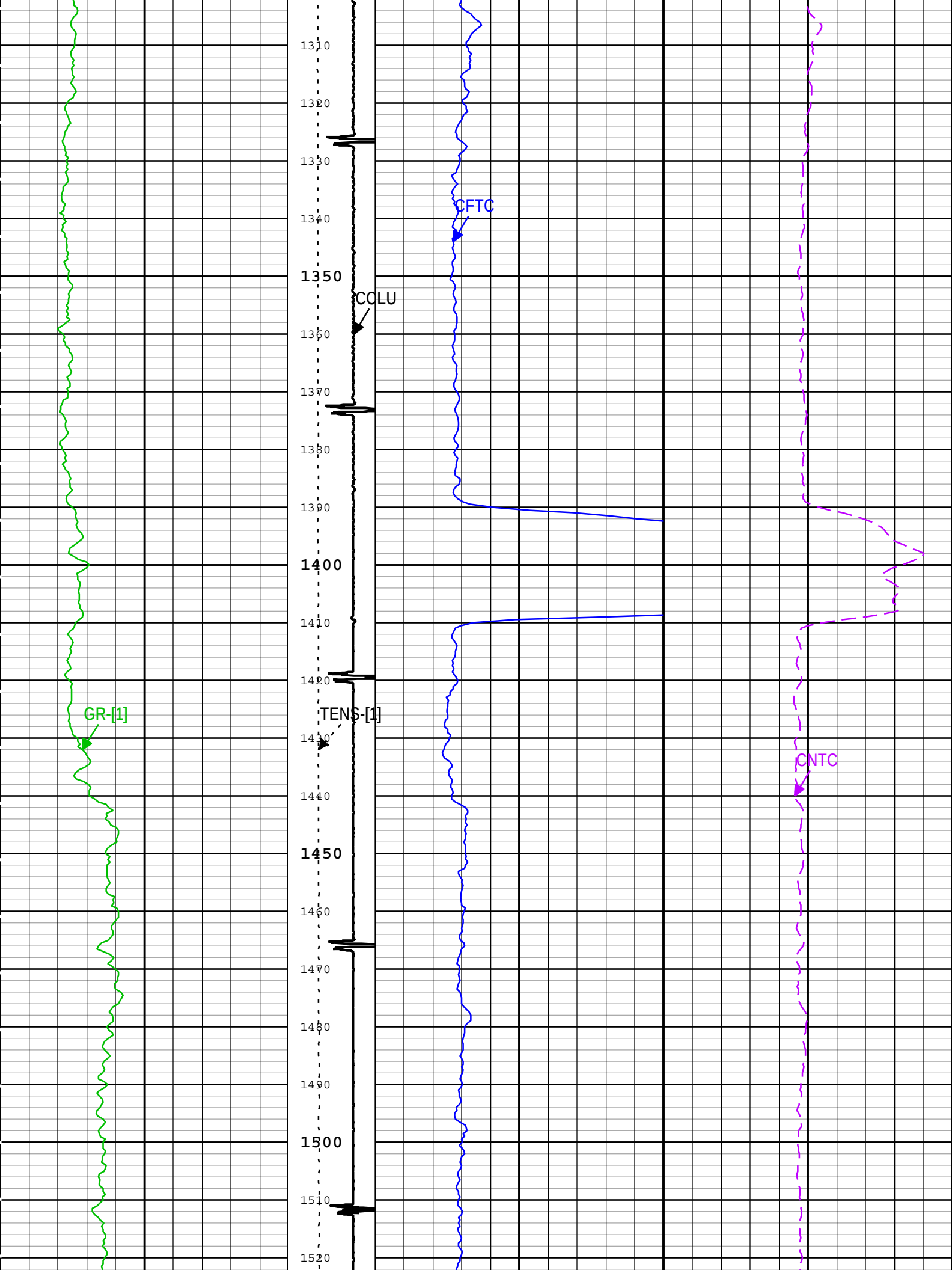

GR-[1]
TENS-[1]
CNTC
CFTC
COLU
210
220
230
240
250
260
270
280
290
300
310
320
330
340
350
360
370
380
390
400
410
420

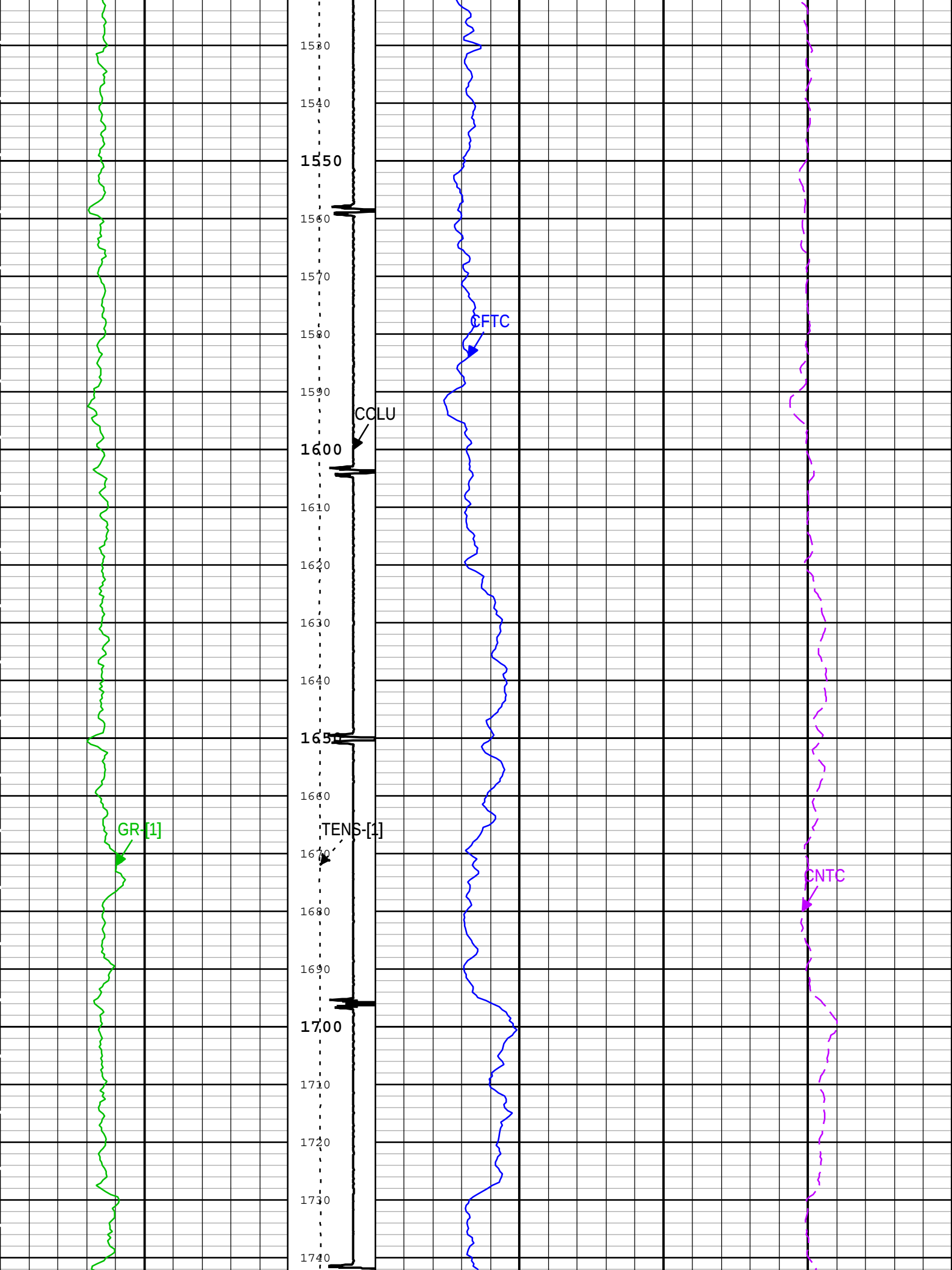

GR-[1]
TENS-[1]
CNTC
CFTC
CCLU
430
440
450
460
470
480
490
500
510
520
530
540
550
560
570
580
590
600
610
620
630
640

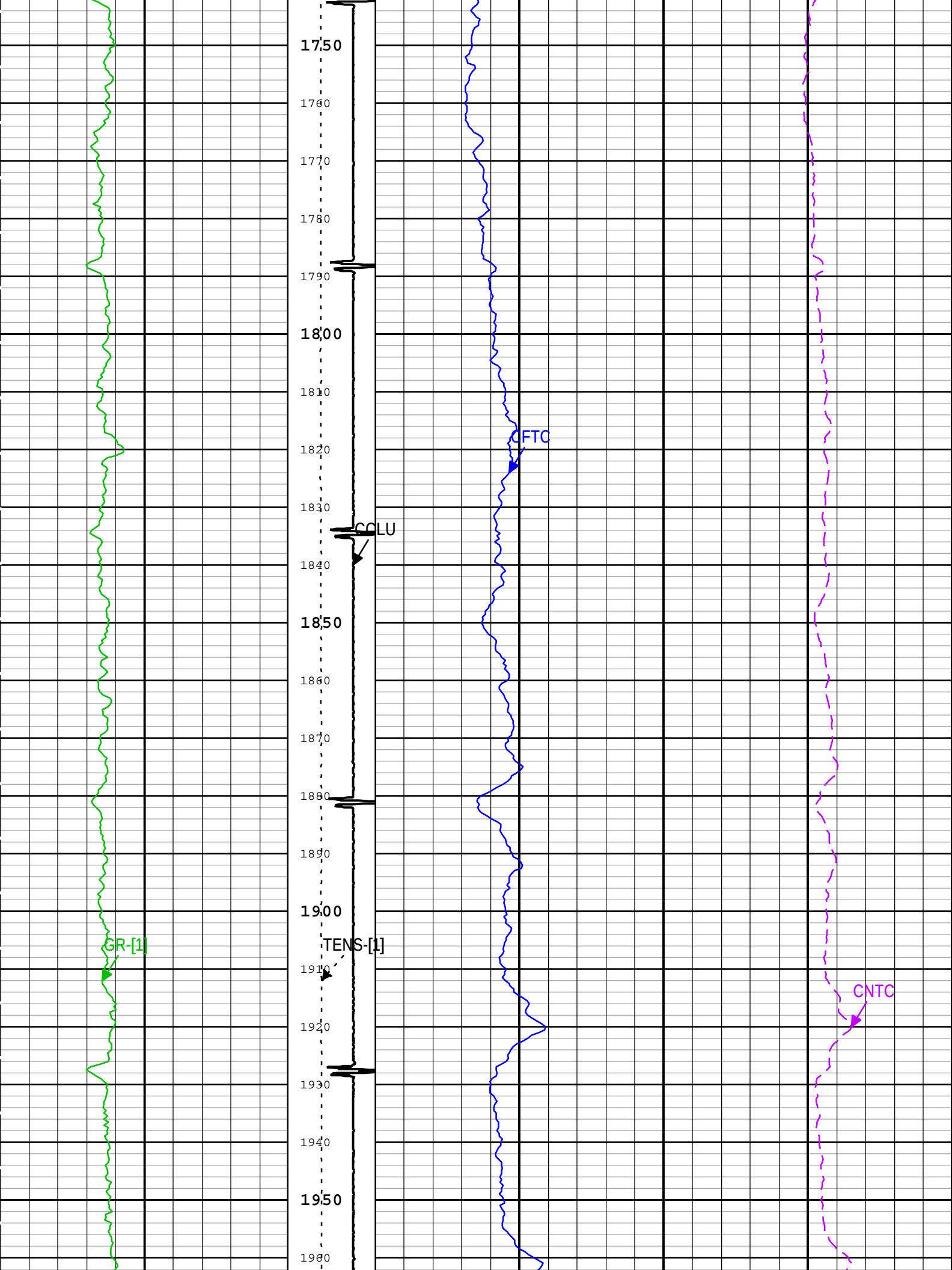

GR-[1]
TENS-[1]
CNTC
CFTC
650
660
670
680
690
700
710
720
730
740
750
760
770
780
790
800
810
820
830
840
850
860

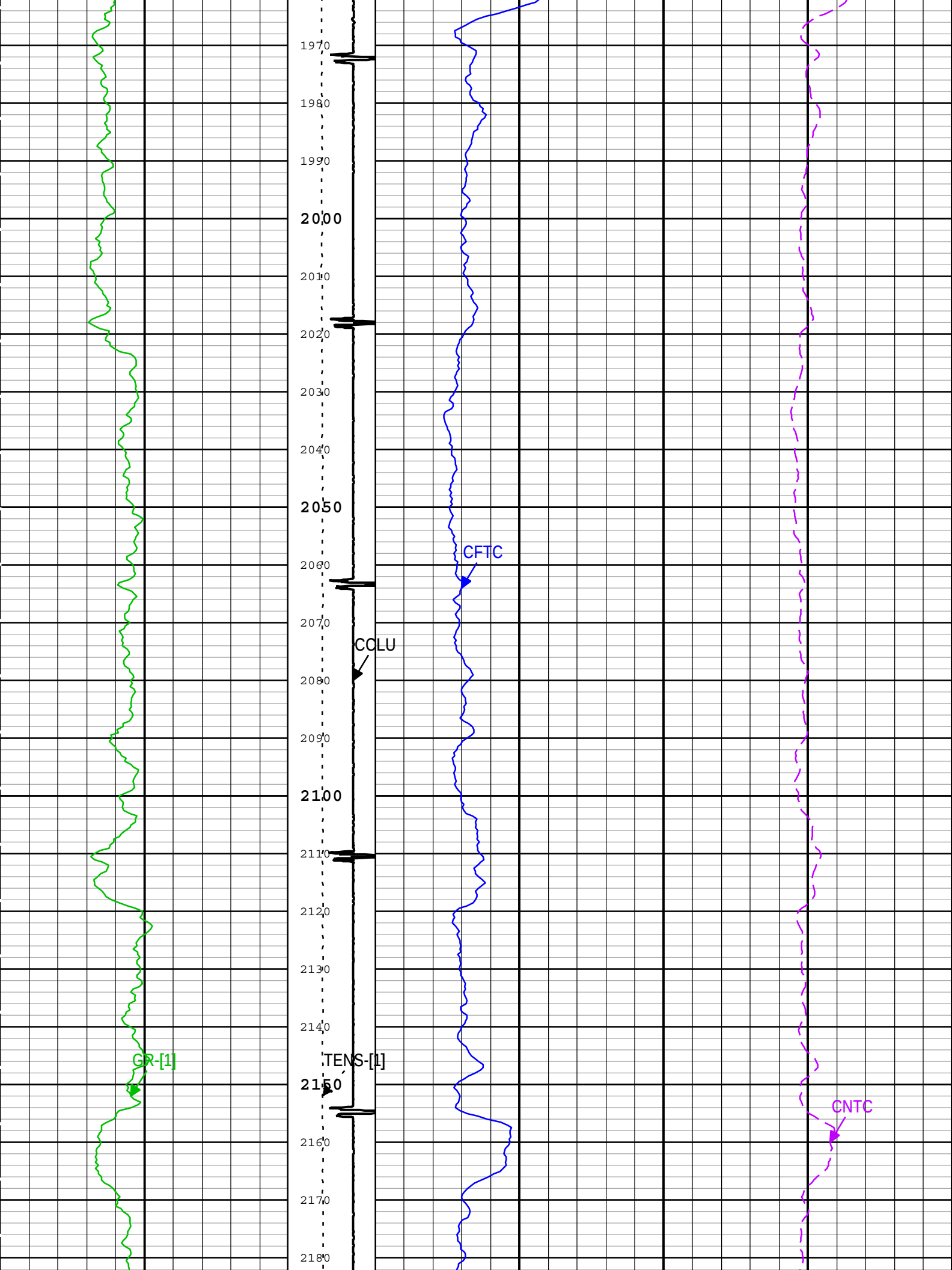

870
880
890
900
910
920
930
940
950
960
970
980
990
1000
1010
1020
1030
1040
1050
1060
1070
1080
COLU
GR-[1]
TENS-[1]
CNTC

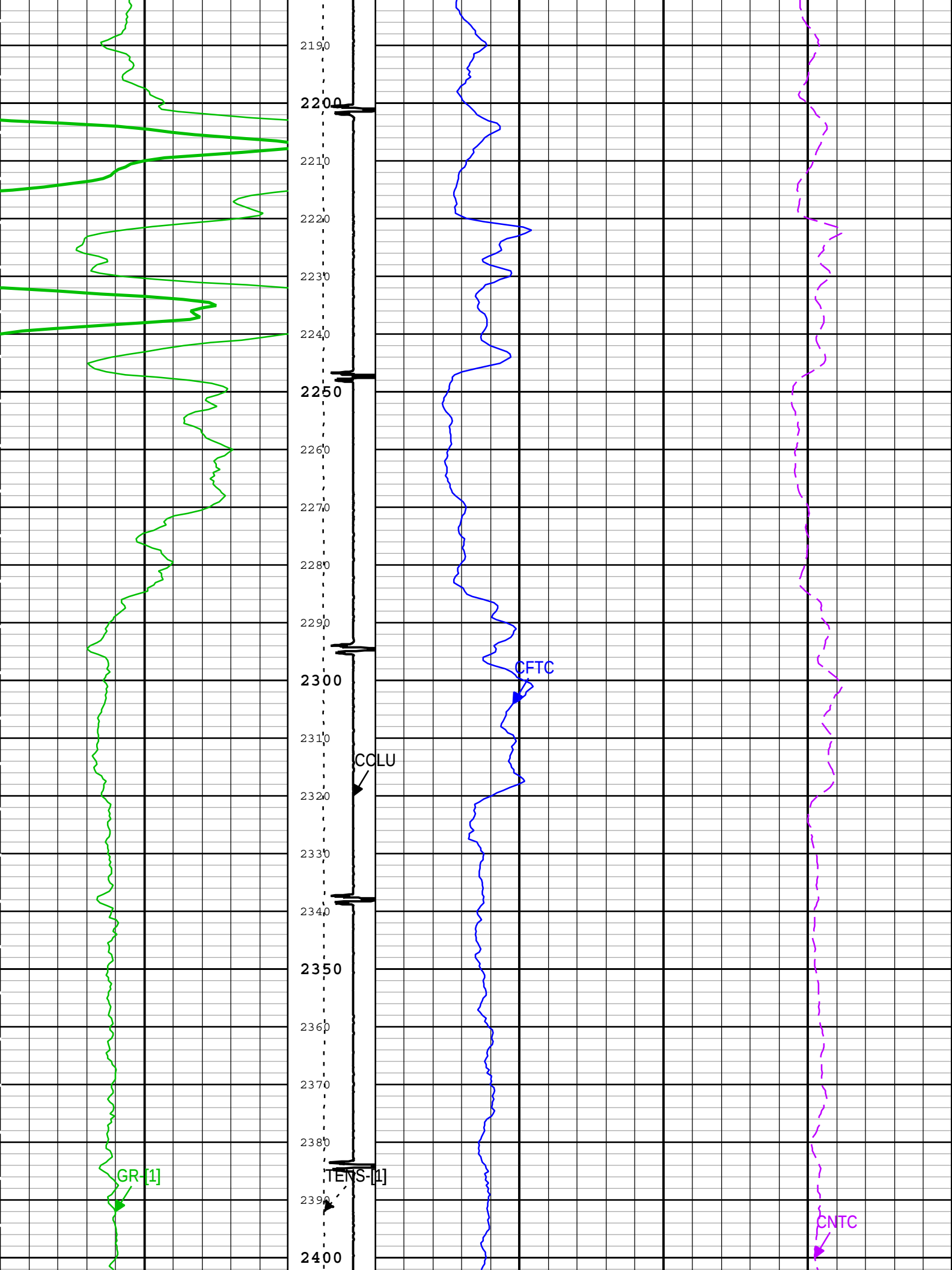

1090
1100
1110
1120
1130
1140
1150
1160
1170
1180
1190
1200
1210
1220
1230
1240
1250
1260
1270
1280
1290
1300
CFTC
CCLU
CR-[1]
TENS-[1]
CNTC

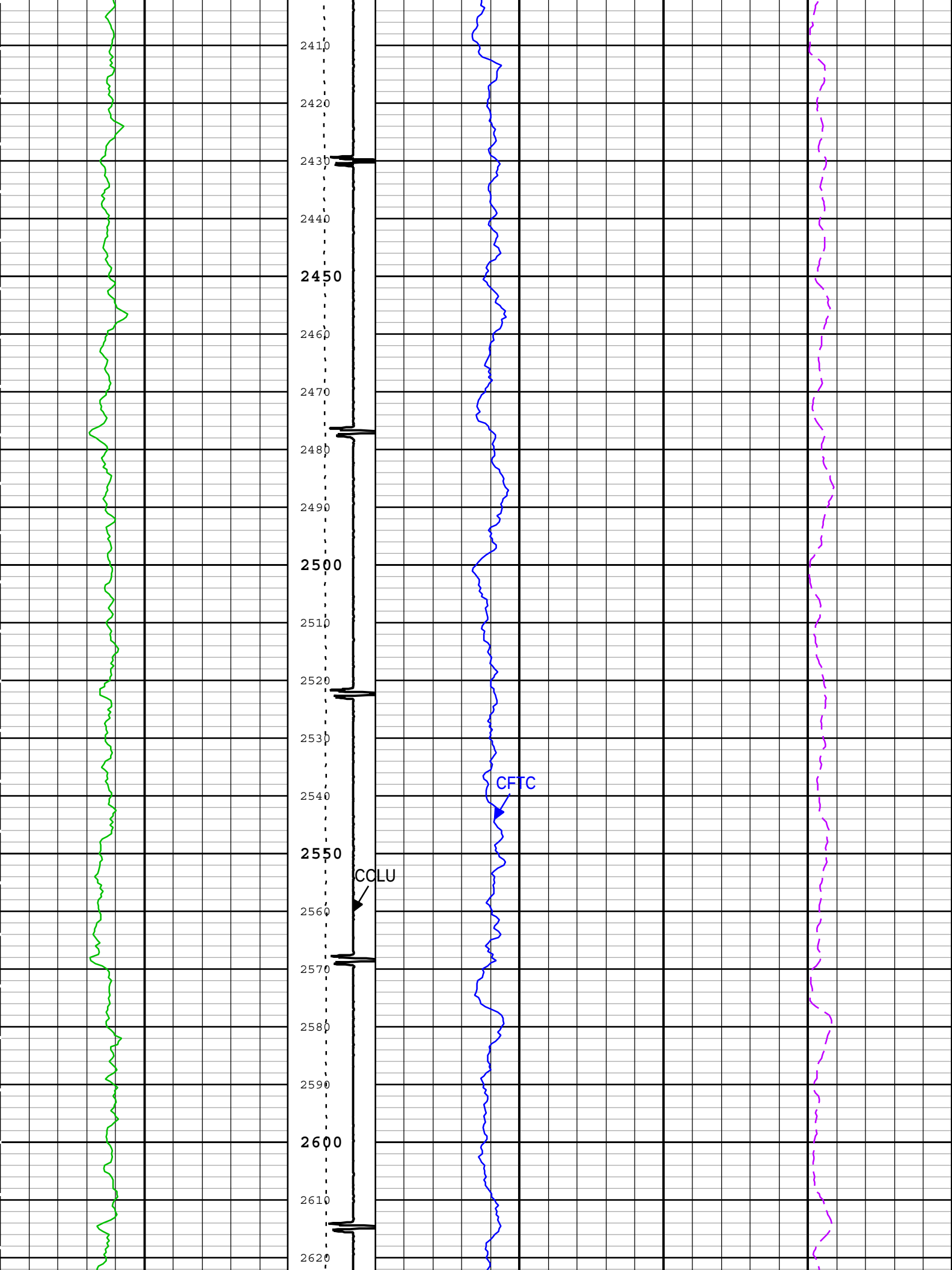

1310
1320
1330
1340
1350
1360
1370
1380
1390
1400
1410
1420
1430
1440
1450
1460
1470
1480
1490
1500
1510
1520
CFTC
COLU
GR-[1]
TENS-[1]
CNTC

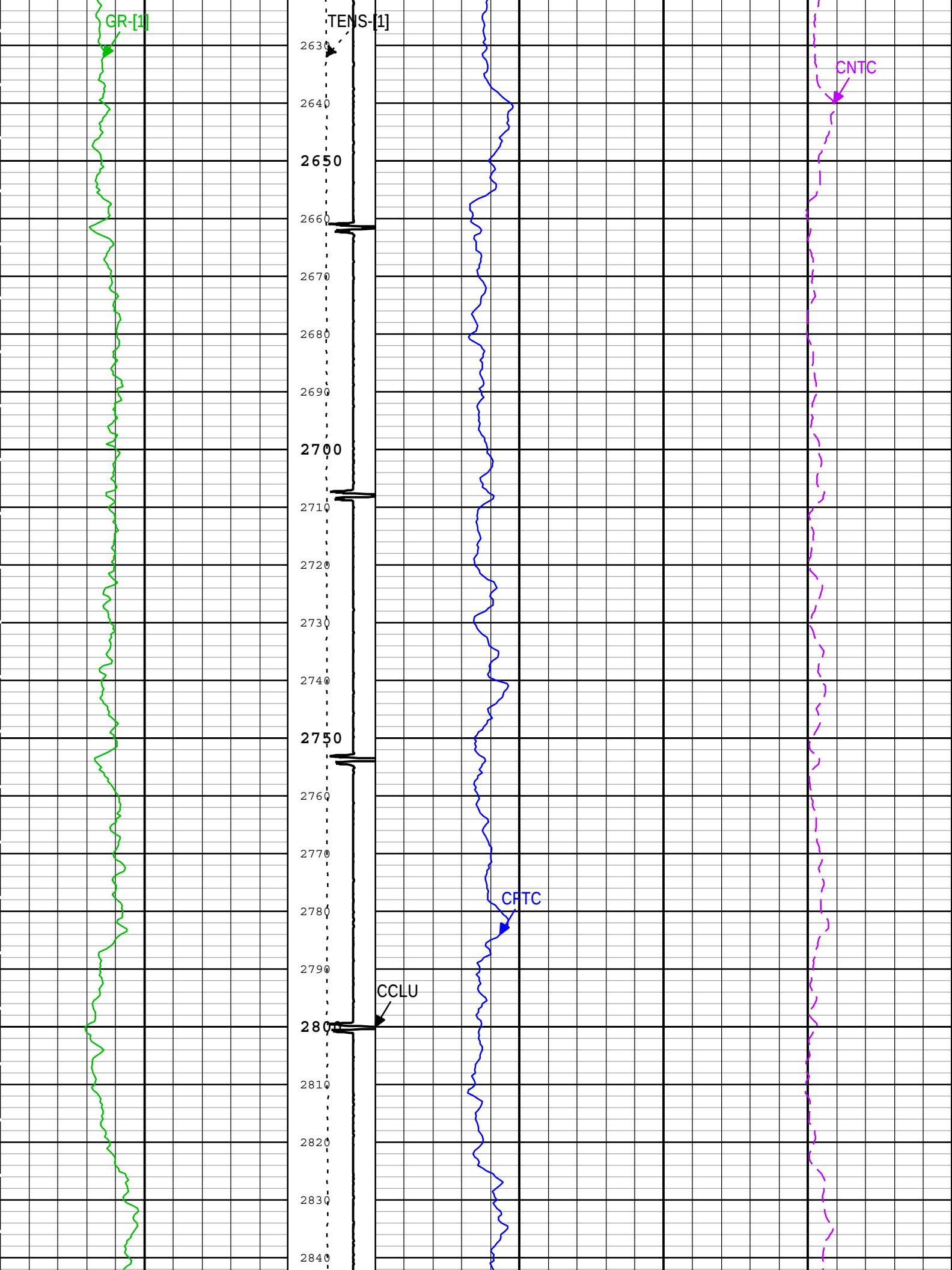

1530
1540
1550
1560
1570
1580
1590
1600
1610
1620
1630
1640
1650
1660
1670
1680
1690
1700
1710
1720
1730
1740
CFTC
CCLU
GR-[1]
TENS-[1]
CNTC

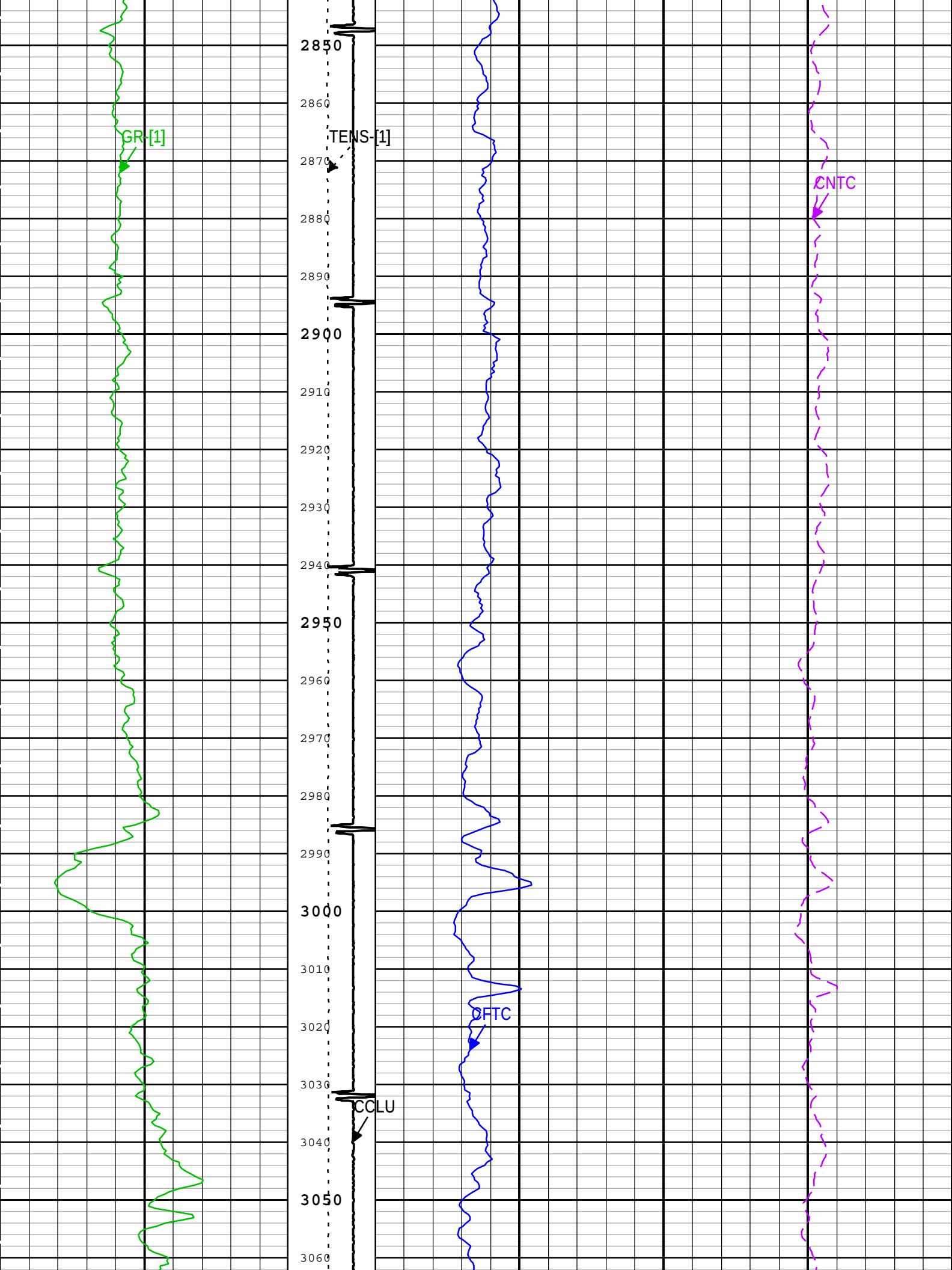

1750
1760
1770
1780
1790
1800
1810
1820
1830
1840
1850
1860
1870
1880
1890
1900
1910
1920
1930
1940
1950
1960
CFTC
CCLU
GR-[1]
TENS-[1]
CNTC

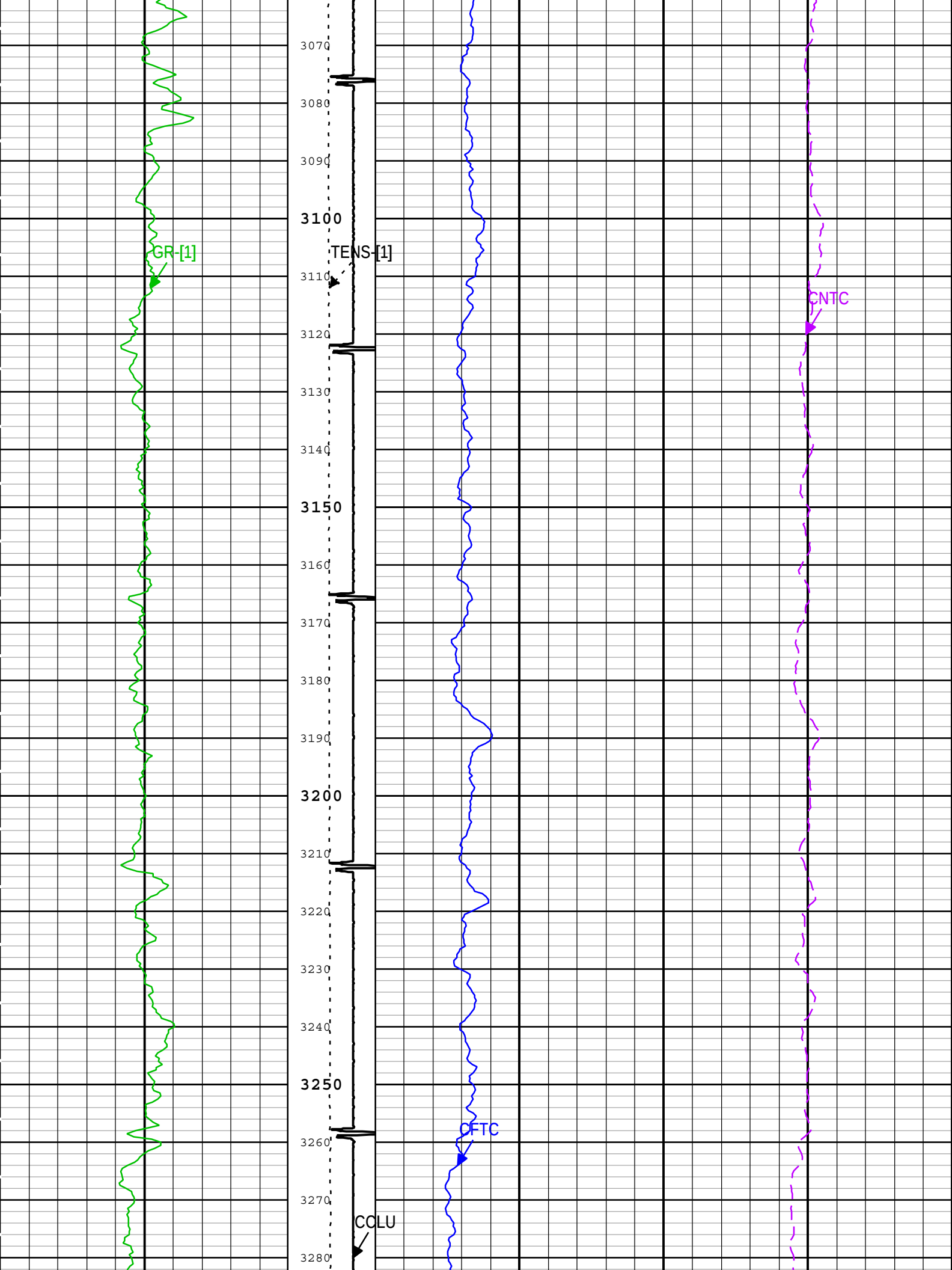

1970
1980
1990
2000
2010
2020
2030
2040
2050
2060
2070
2080
2090
2100
2110
2120
2130
2140
2150
2160
2170
2180
CFTC
CCLU
GR-[1]
TENS-[1]
CNTC

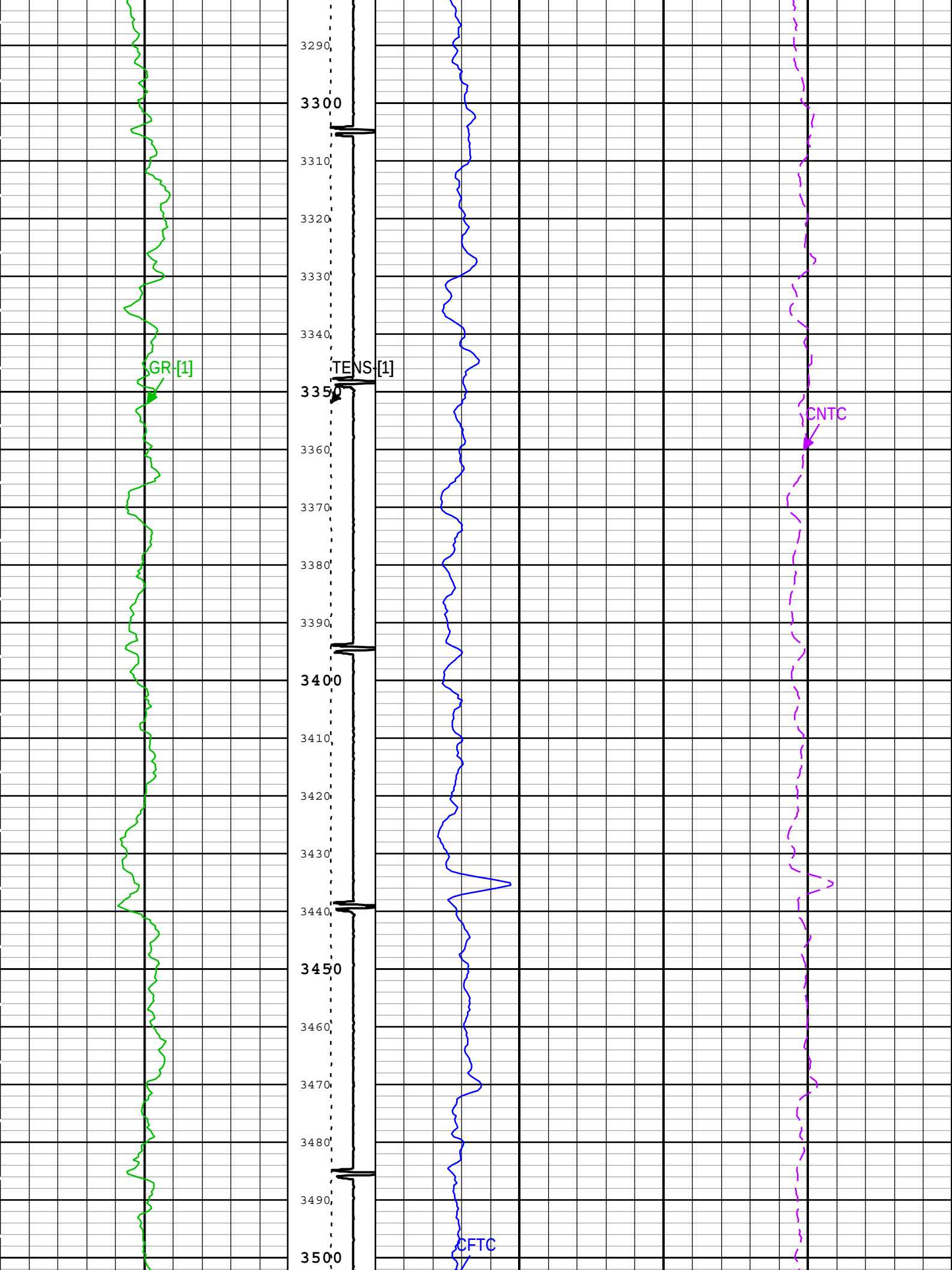

2190
2200
2210
2220
2230
2240
2250
2260
2270
2280
2290
2300
2310
2320
2330
2340
2350
2360
2370
2380
2390
2400
CFTC
COLU
GR-[1]
TENS-[1]
CNTC

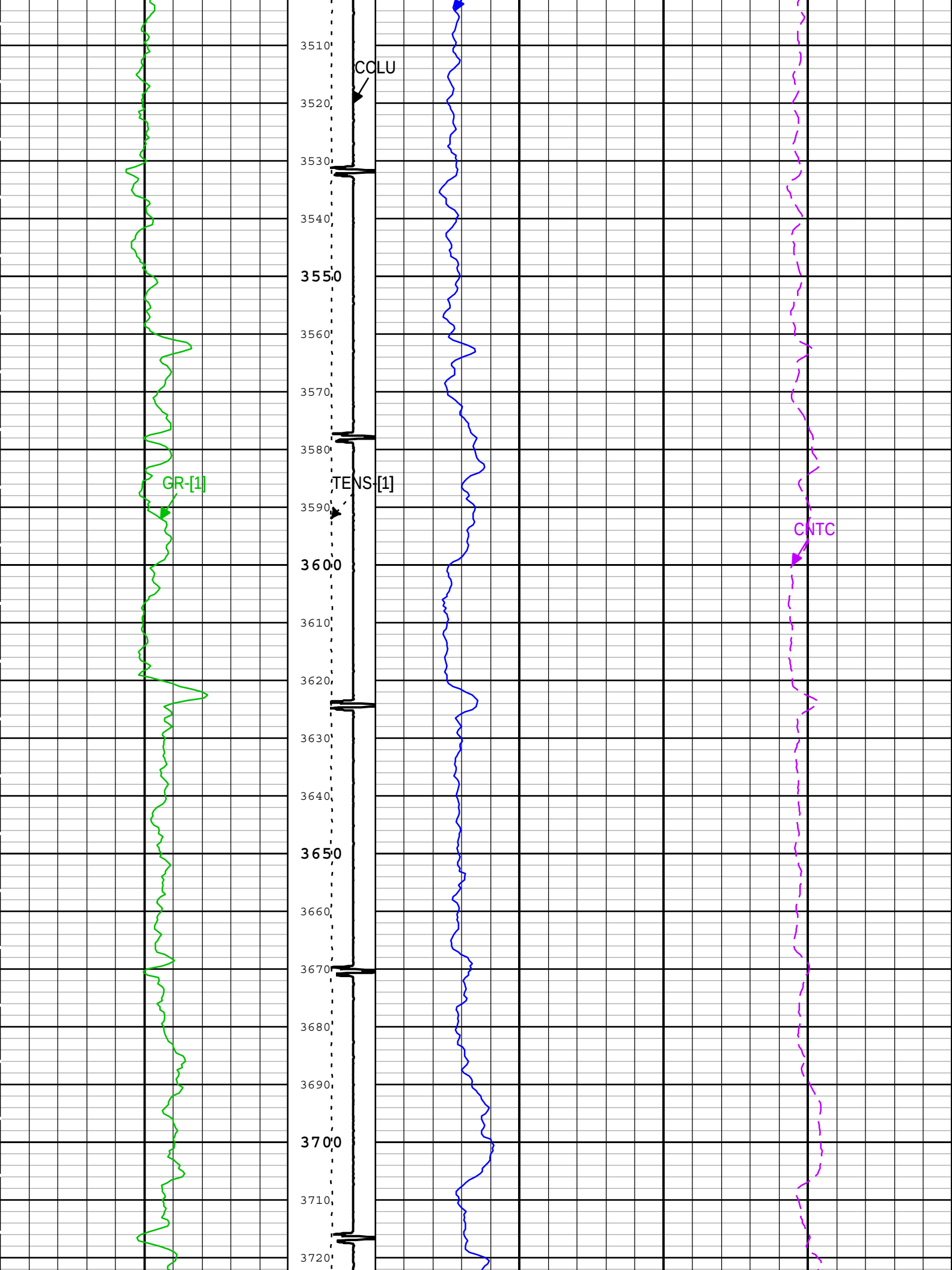

2410
2420
2430
2440
2450
2460
2470
2480
2490
2500
2510
2520
2530
2540
2550
2560
2570
2580
2590
2600
2610
2620
CFTC
COLU

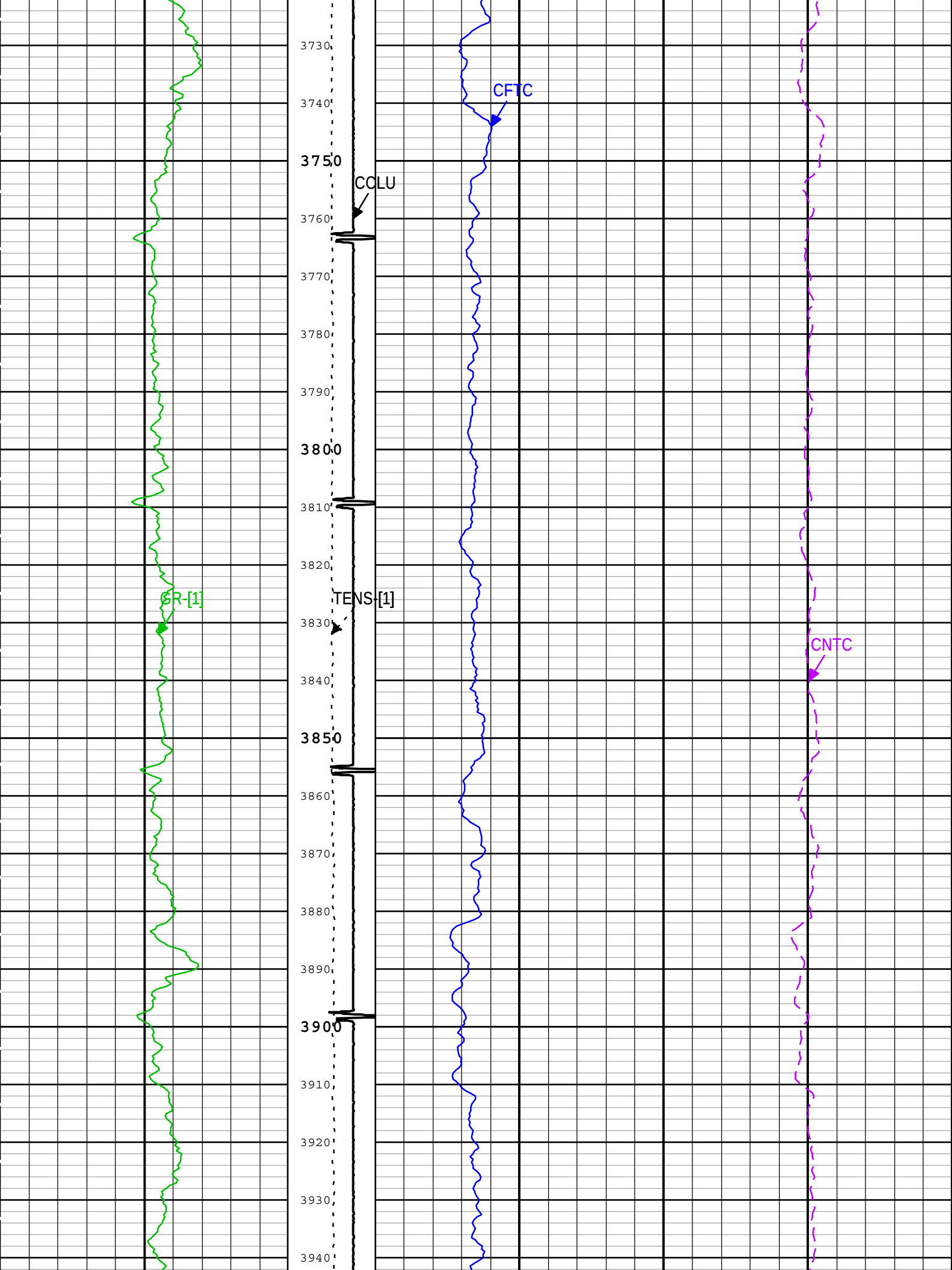

GR-[1]
TENS-[1]
CNTC
CFTC
CCLU
2630
2640
2650
2660
2670
2680
2690
2700
2710
2720
2730
2740
2750
2760
2770
2780
2790
2800
2810
2820
2830
2840

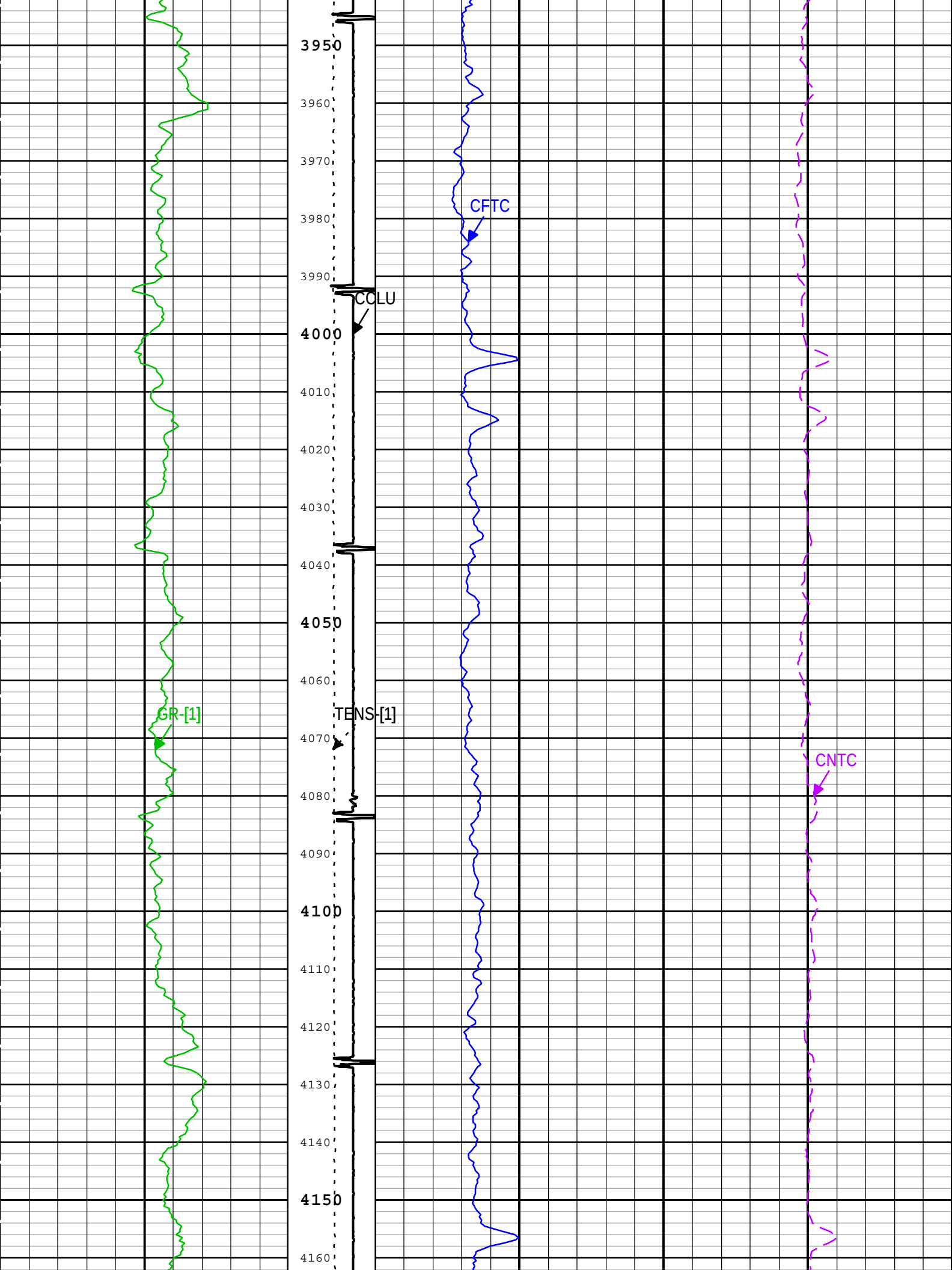

GR-[1]
TENS-[1]
CNTC
CFTC
CCLU
2850
2860
2870
2880
2890
2900
2910
2920
2930
2940
2950
2960
2970
2980
2990
3000
3010
3020
3030
3040
3050
3060

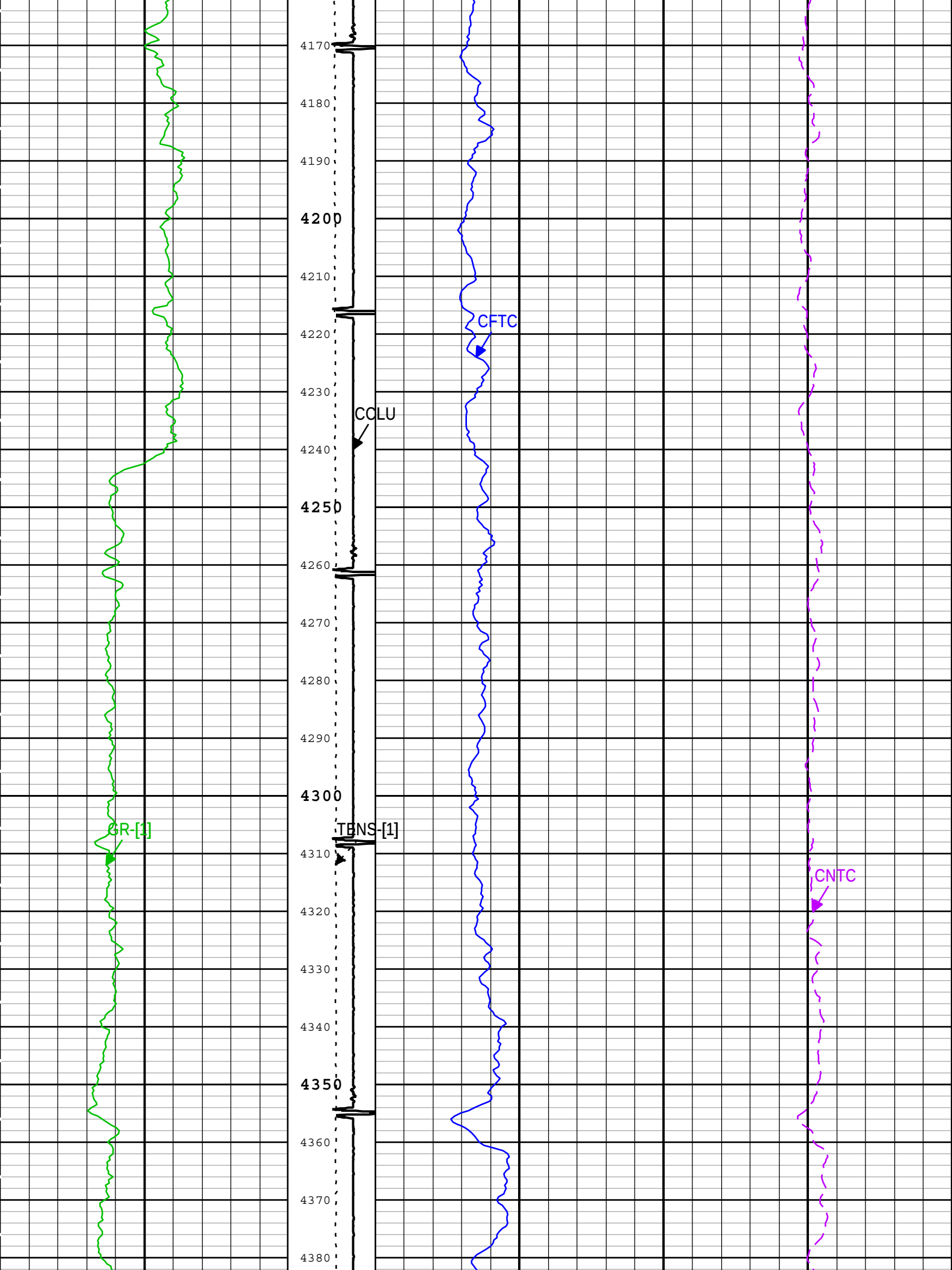

GR-[1]
TENS-[1]
CNTC
CFTC
CCLU
3070
3080
3090
3100
3110
3120
3130
3140
3150
3160
3170
3180
3190
3200
3210
3220
3230
3240
3250
3260
3270
3280

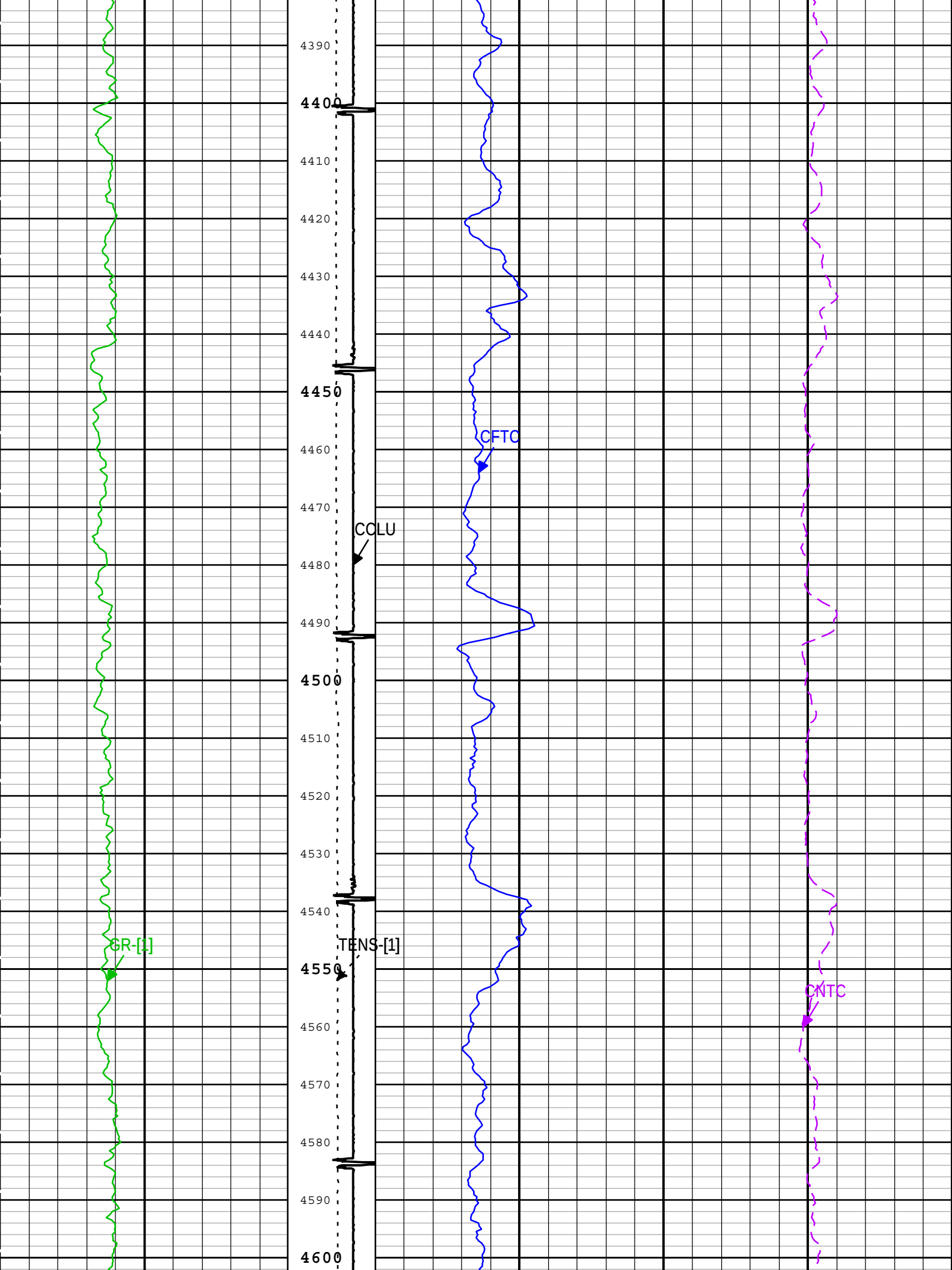

GR-[1]
TENS-[1]
CNTC
CFTC
3290
3300
3310
3320
3330
3340
3350
3360
3370
3380
3390
3400
3410
3420
3430
3440
3450
3460
3470
3480
3490
3500

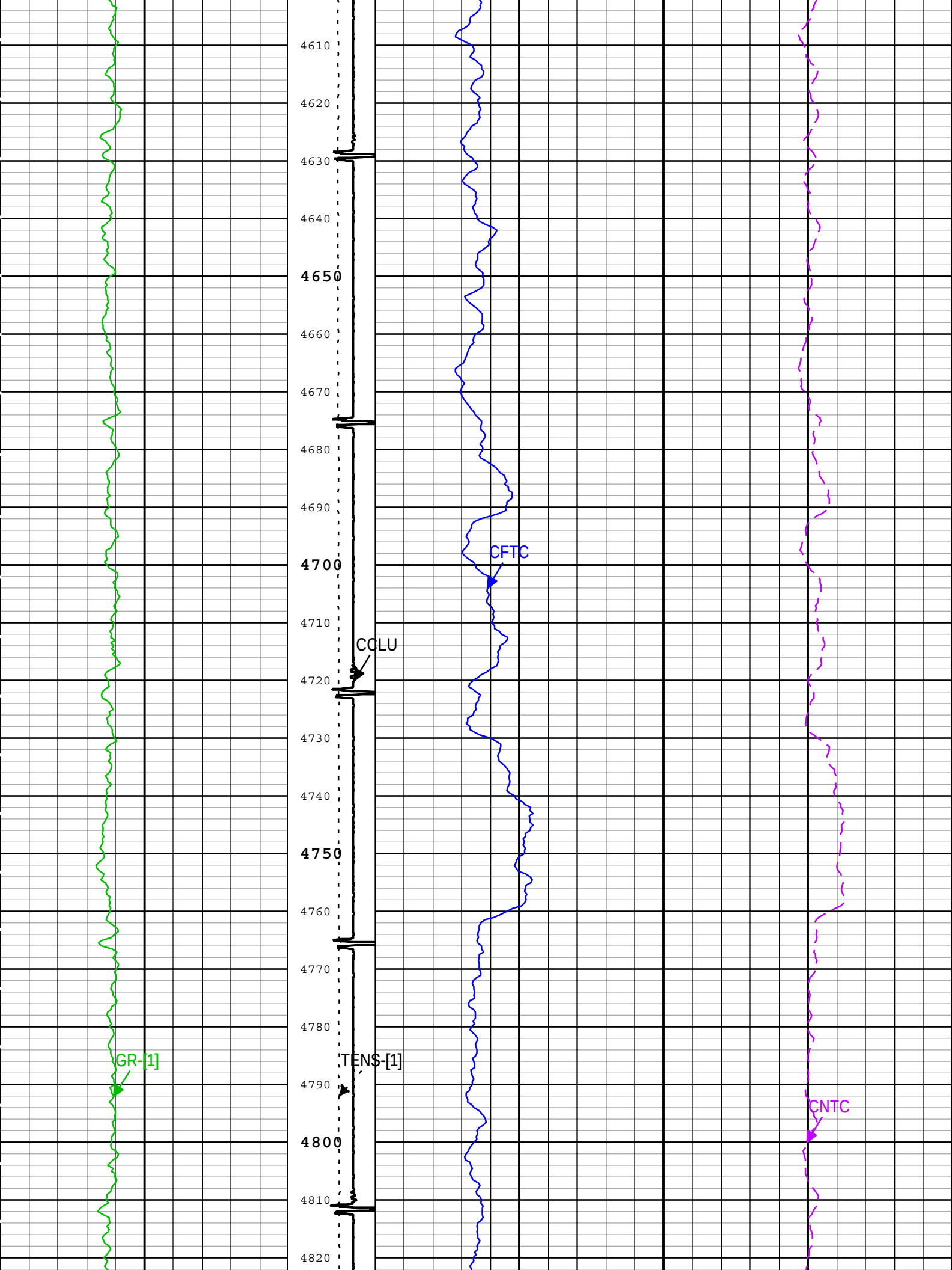

3510
3520
3530
3540
3550
3560
3570
3580
3590
3600
3610
3620
3630
3640
3650
3660
3670
3680
3690
3700
3710
3720
COLU
GR-[1]
TENS-[1]
CNTC

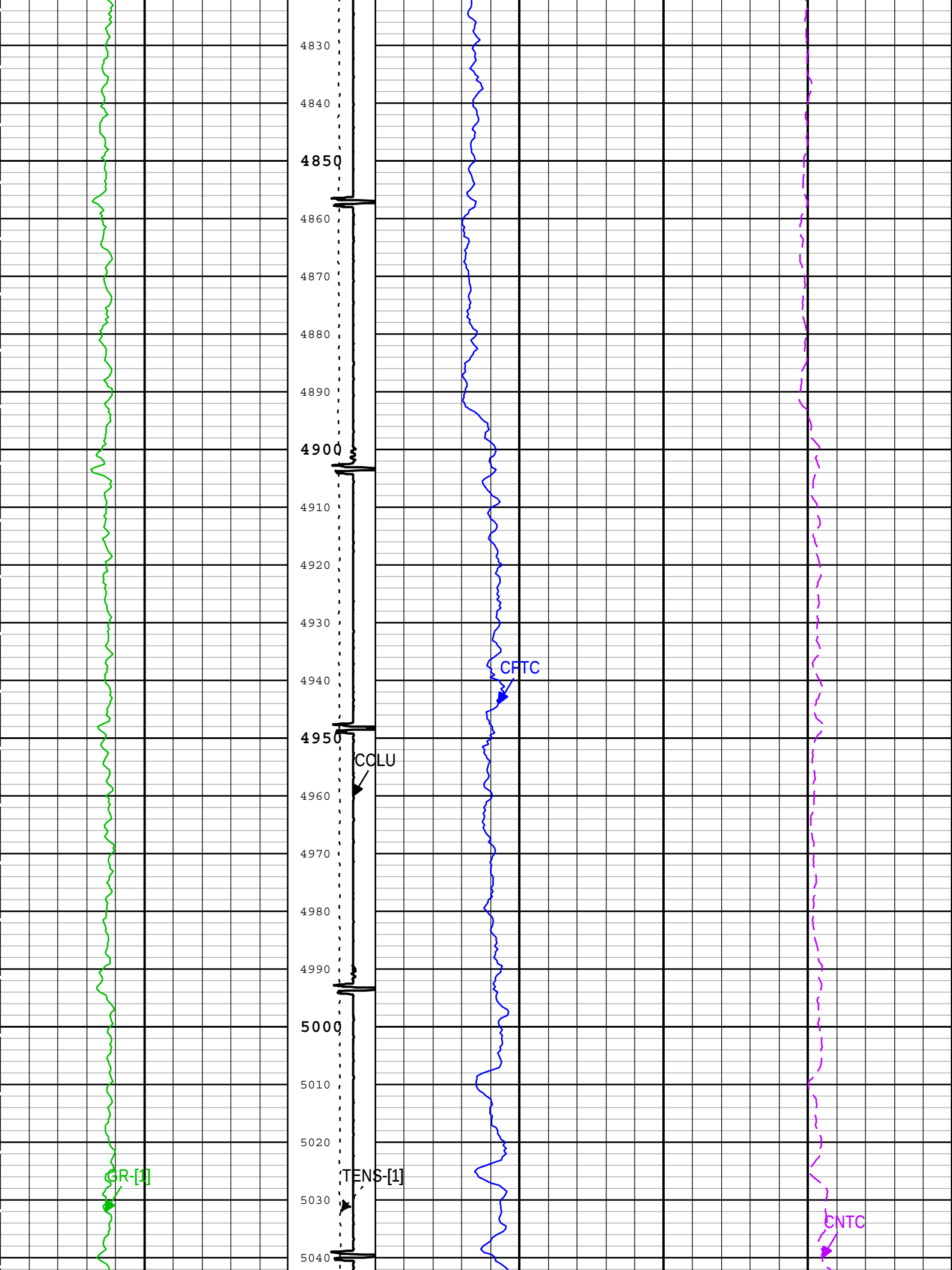

3730
3740
3750
3760
3770
3780
3790
3800
3810
3820
3830
3840
3850
3860
3870
3880
3890
3900
3910
3920
3930
3940
CFTC
COLU
GR-[1]
TENS-[1]
CNTC

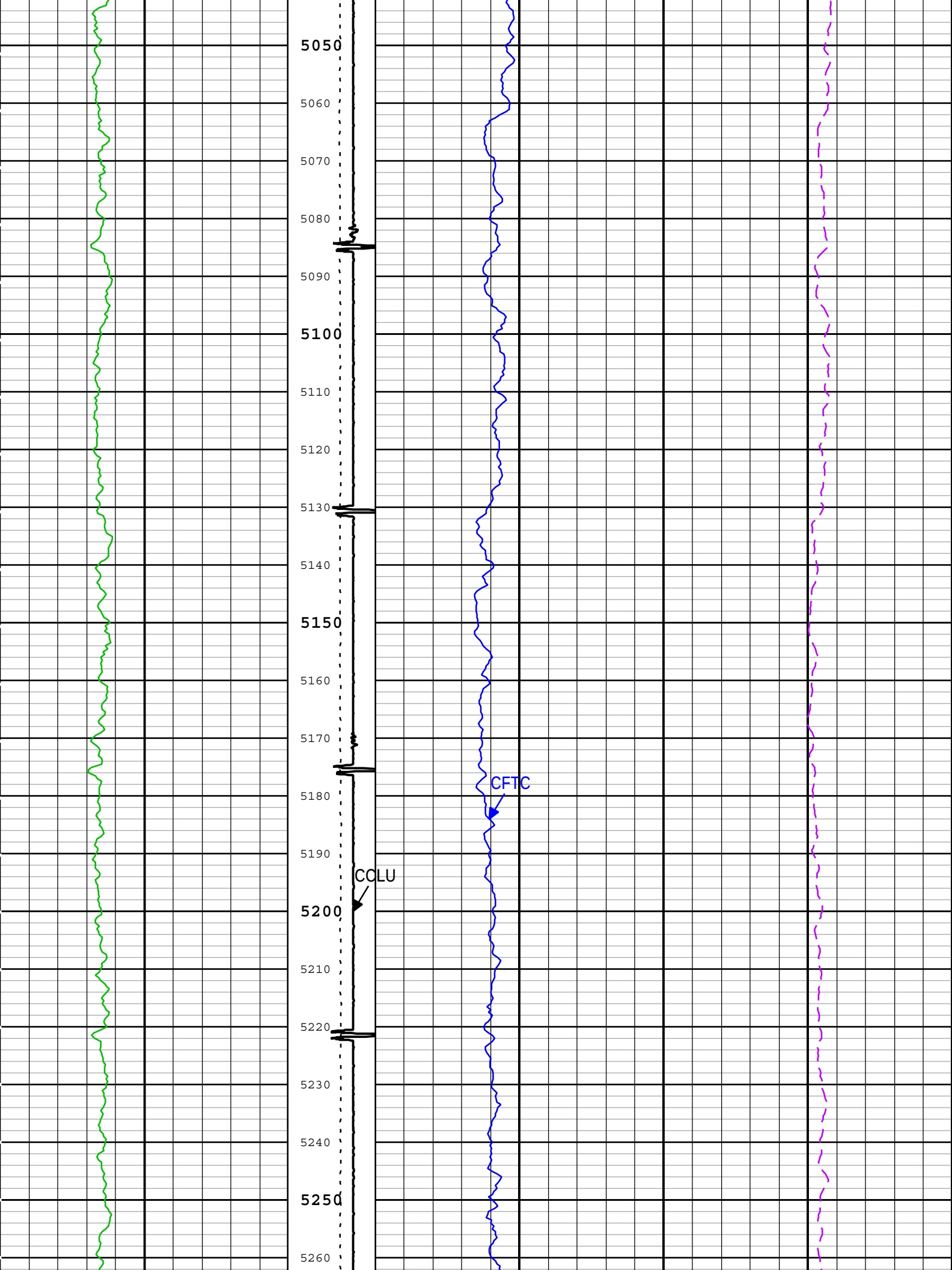

3950
3960
3970
3980
3990
4000
4010
4020
4030
4040
4050
4060
4070
4080
4090
4100
4110
4120
4130
4140
4150
4160
CFTC
CCLU
GR-[1]
TENS-[1]
CNTC

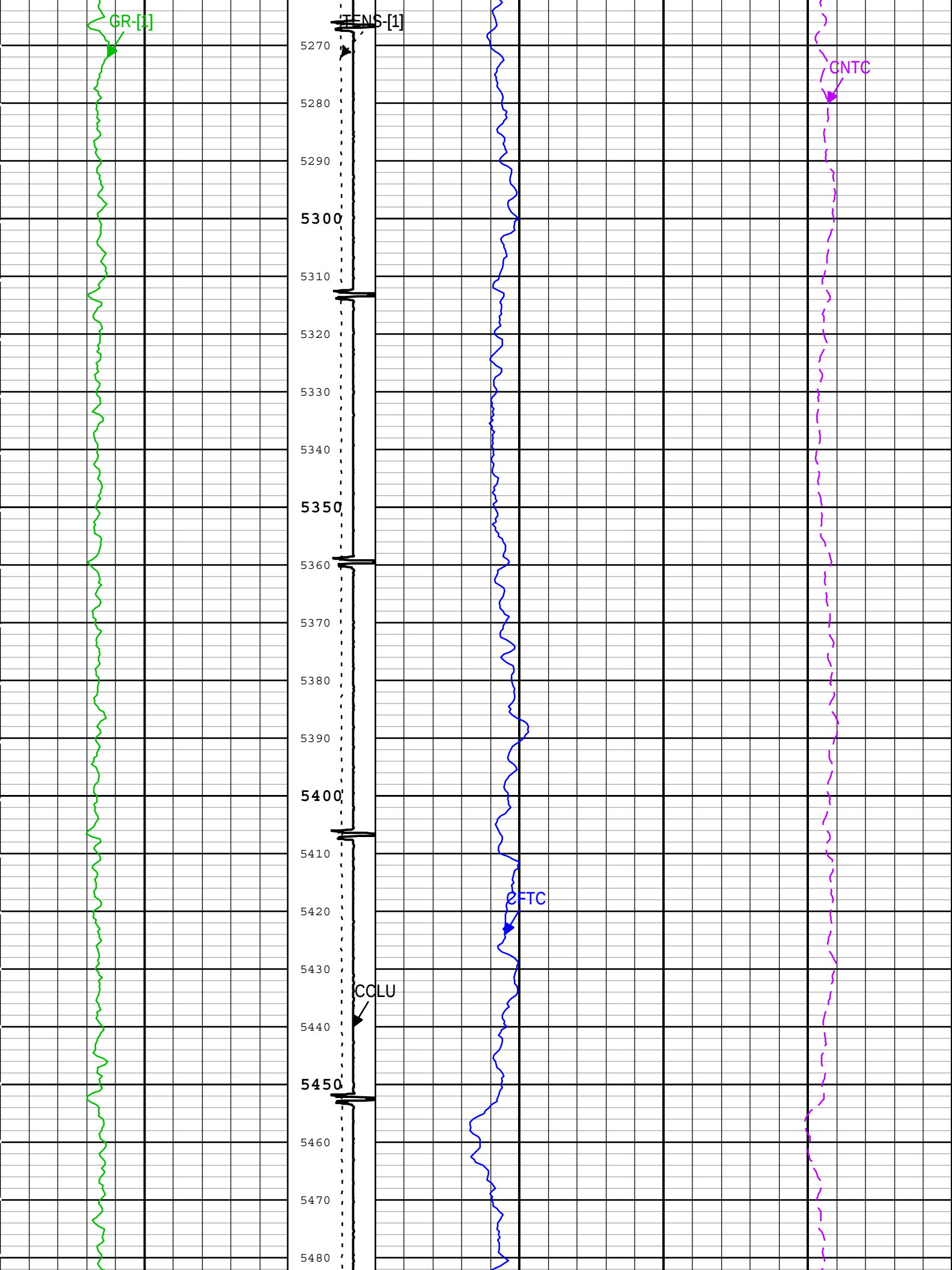

4170
4180
4190
4200
4210
4220
4230
4240
4250
4260
4270
4280
4290
4300
4310
4320
4330
4340
4350
4360
4370
4380
CFTC
CCLU
GR-[1]
TENS-[1]
CNTC

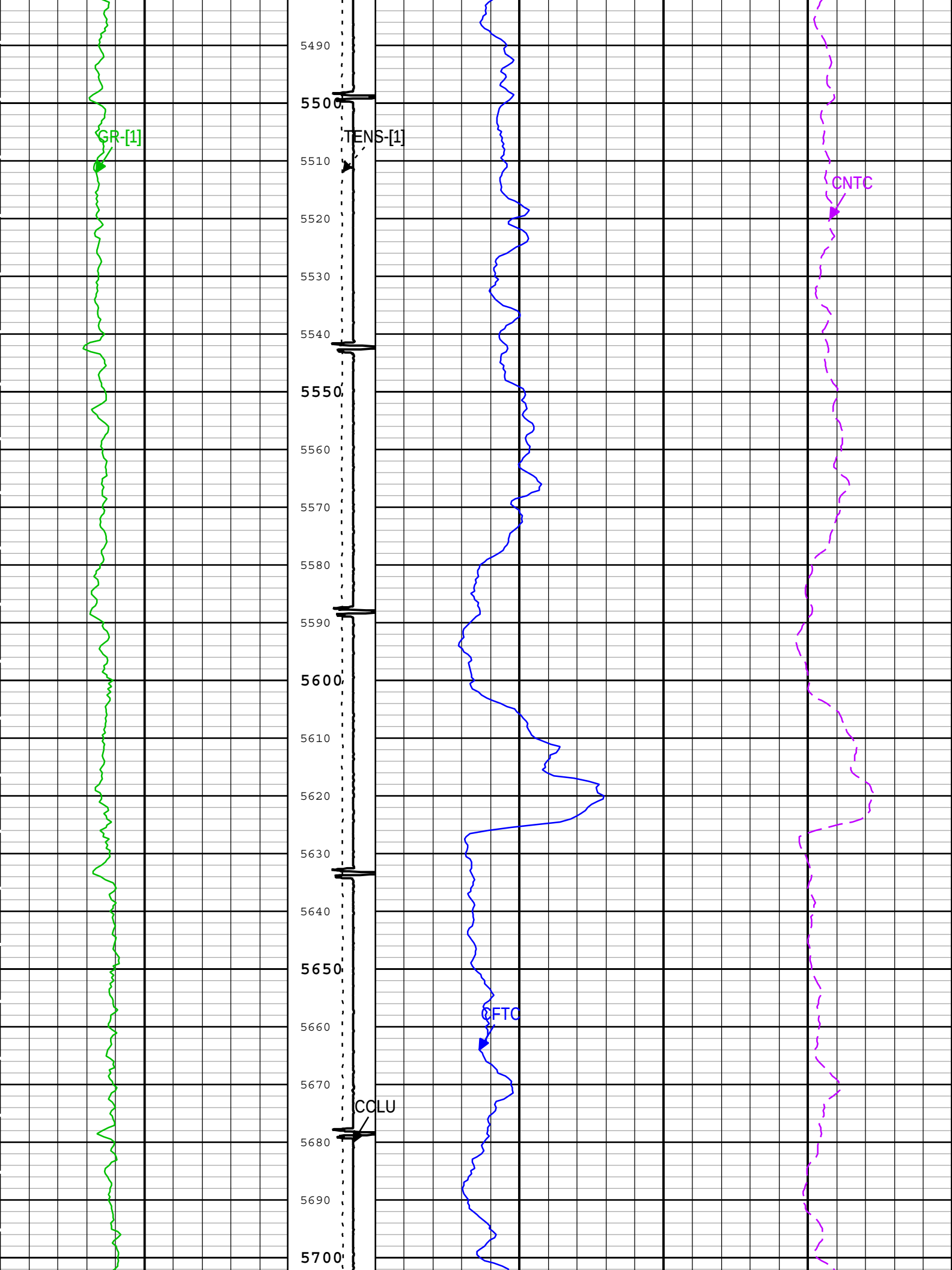

4390
4400
4410
4420
4430
4440
4450
4460
4470
4480
4490
4500
4510
4520
4530
4540
4550
4560
4570
4580
4590
4600
CFTC
CCLU
GR-[1]
TENS-[1]
CNTC

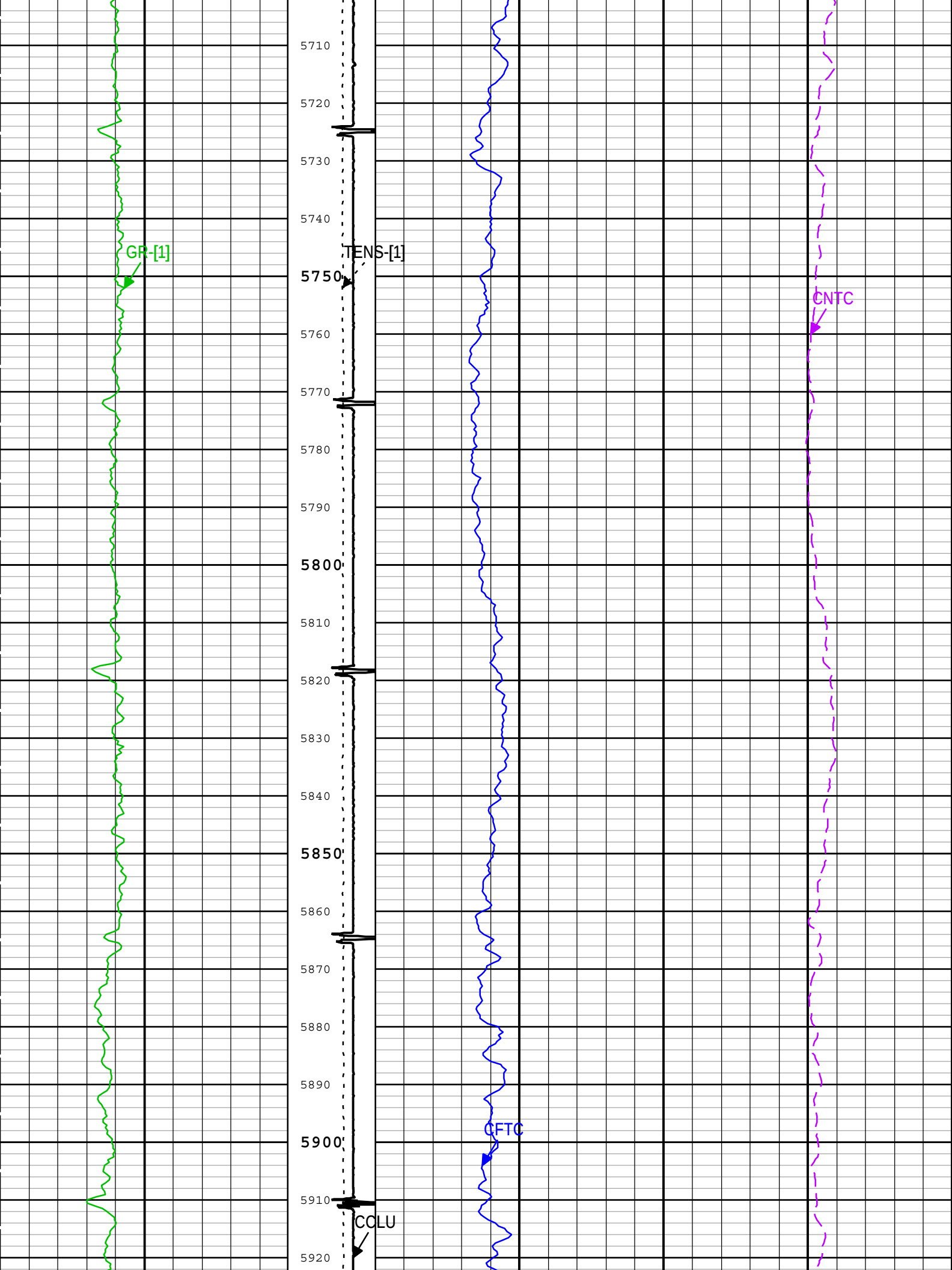

4610
4620
4630
4640
4650
4660
4670
4680
4690
4700
4710
4720
4730
4740
4750
4760
4770
4780
4790
4800
4810
4820
CFTC
CCLU
GR-[1]
TENS-[1]
CNTC

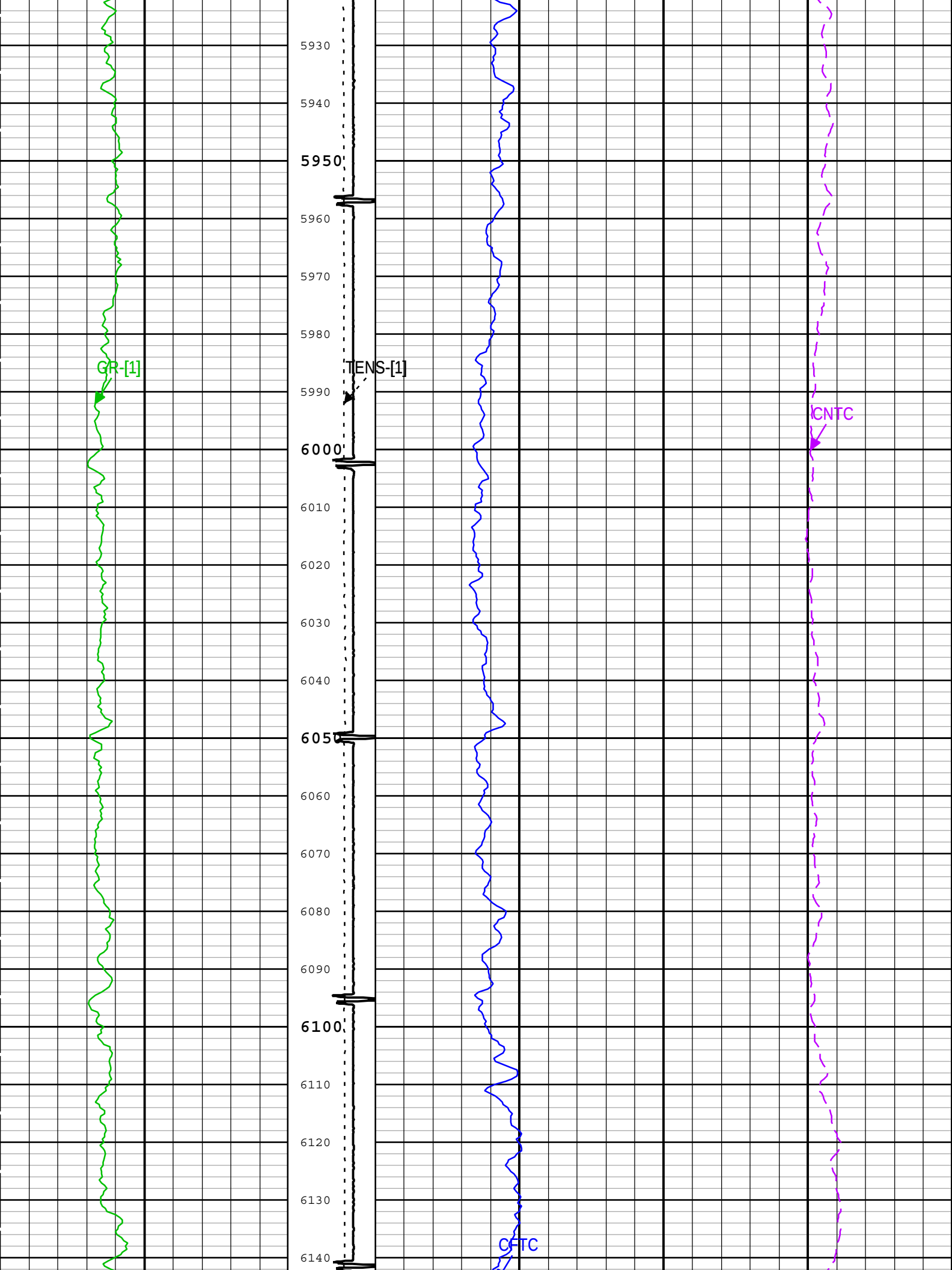

4830
4840
4850
4860
4870
4880
4890
4900
4910
4920
4930
4940
4950
4960
4970
4980
4990
5000
5010
5020
5030
5040
CFTC
COLU
GR-[1]
TENS-[1]
CNTC

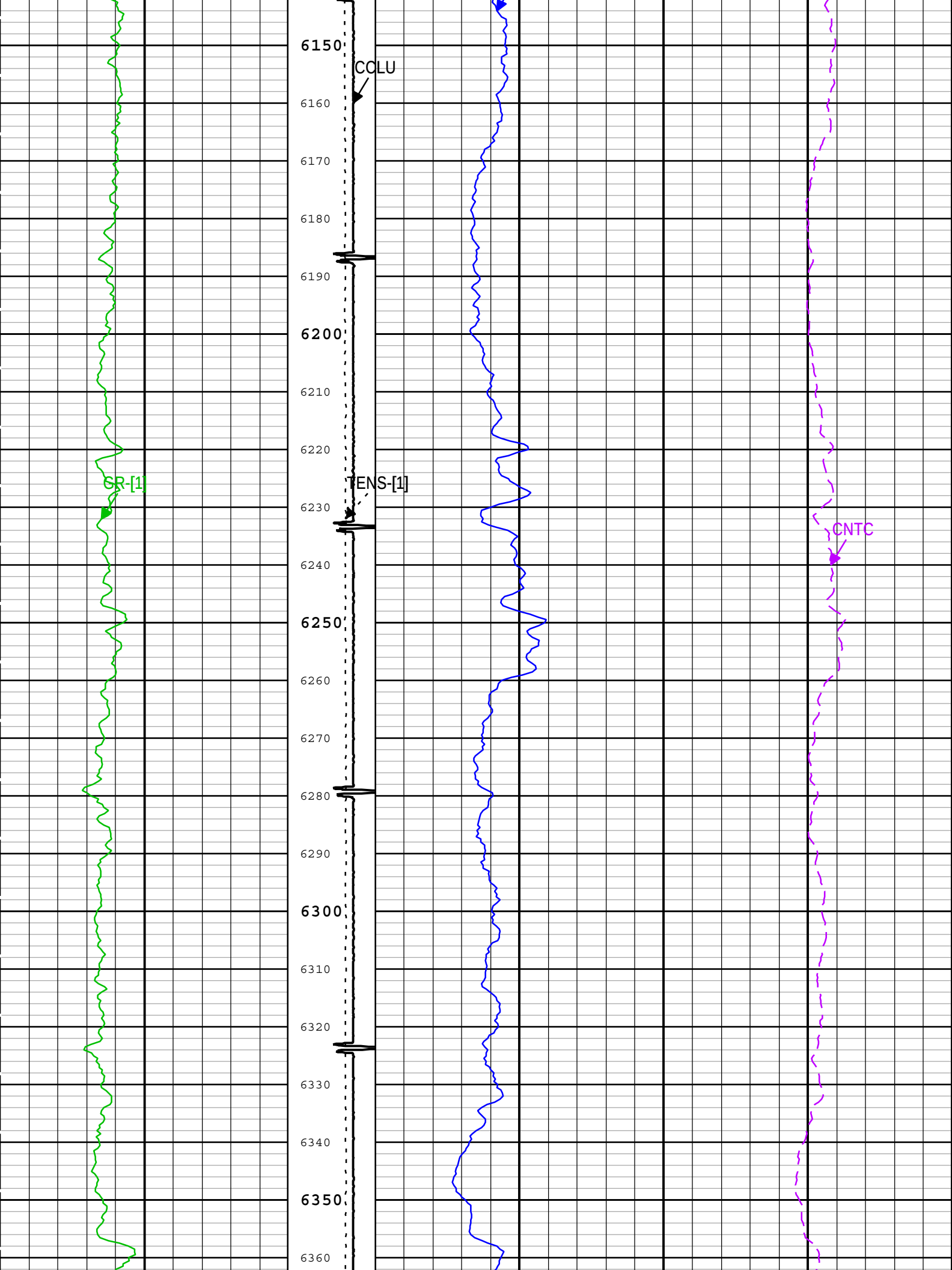

5050
5060
5070
5080
5090
5100
5110
5120
5130
5140
5150
5160
5170
5180
5190
5200
5210
5220
5230
5240
5250
5260
CFTC
COLU

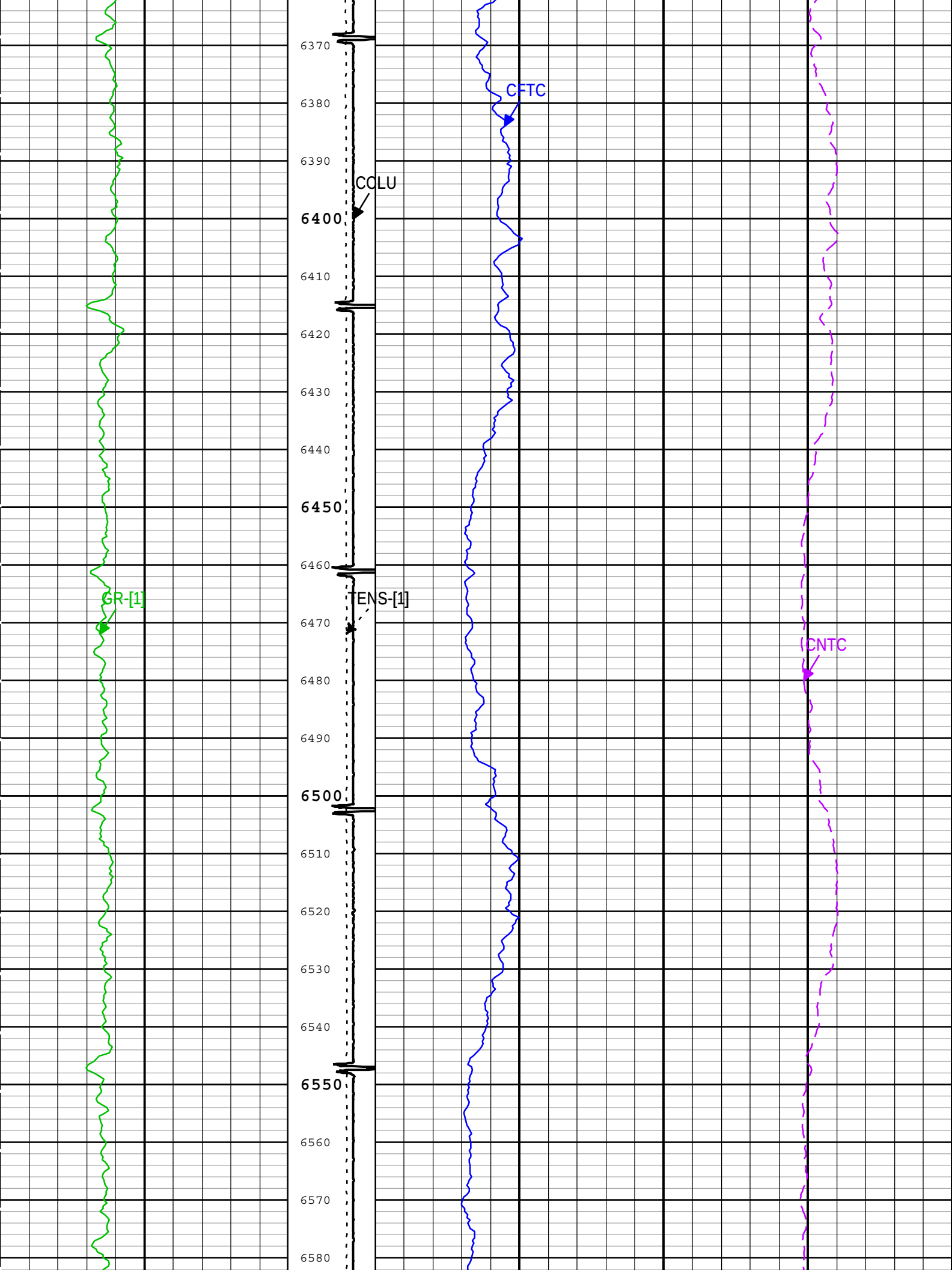

GR-[1]
TENS-[1]
CNTC
CFTC
COLU
5270
5280
5290
5300
5310
5320
5330
5340
5350
5360
5370
5380
5390
5400
5410
5420
5430
5440
5450
5460
5470
5480

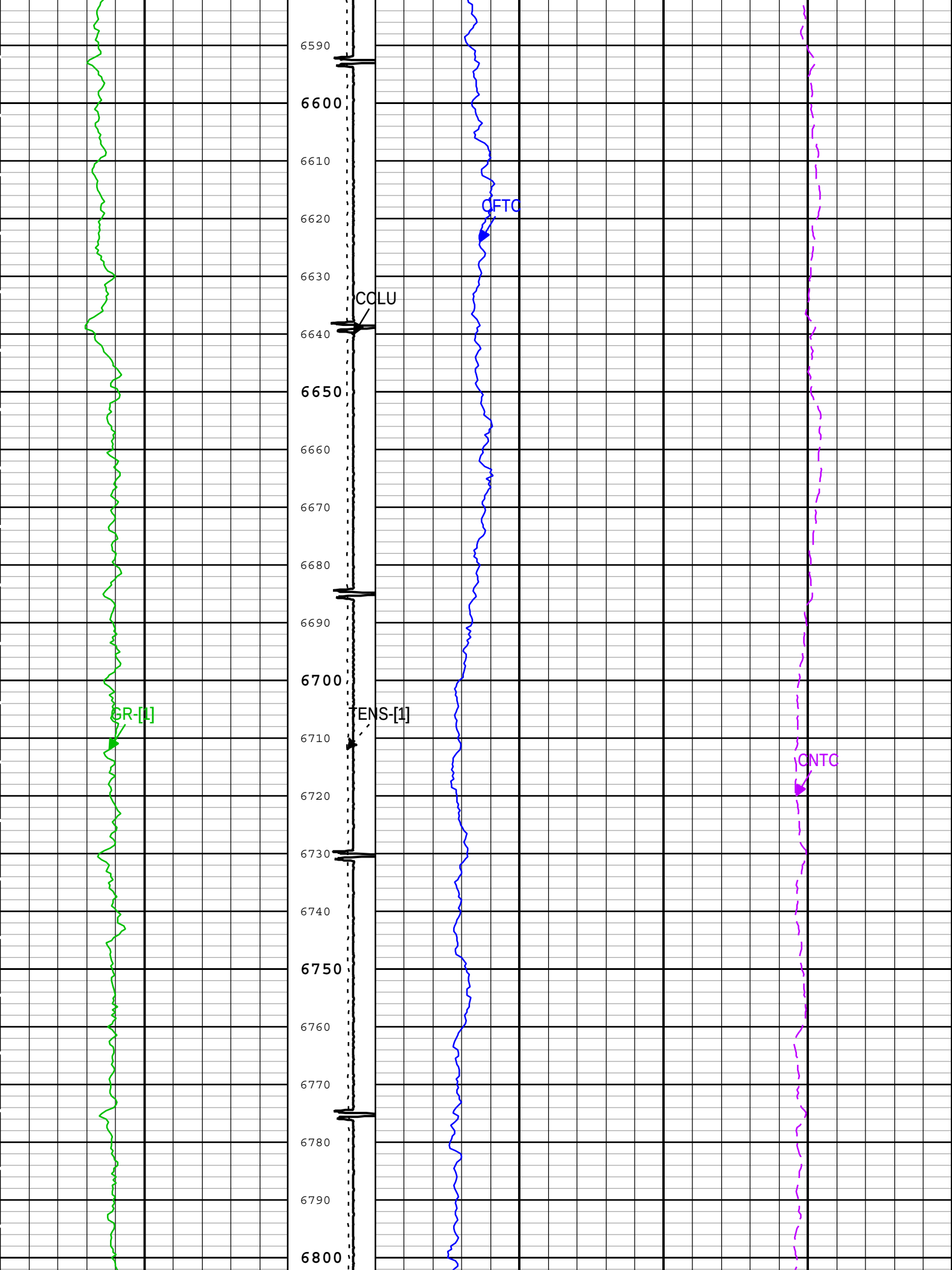

GR-[1]
TENS-[1]
CNTC
CFTC
COLU
5490
5500
5510
5520
5530
5540
5550
5560
5570
5580
5590
5600
5610
5620
5630
5640
5650
5660
5670
5680
5690
5700

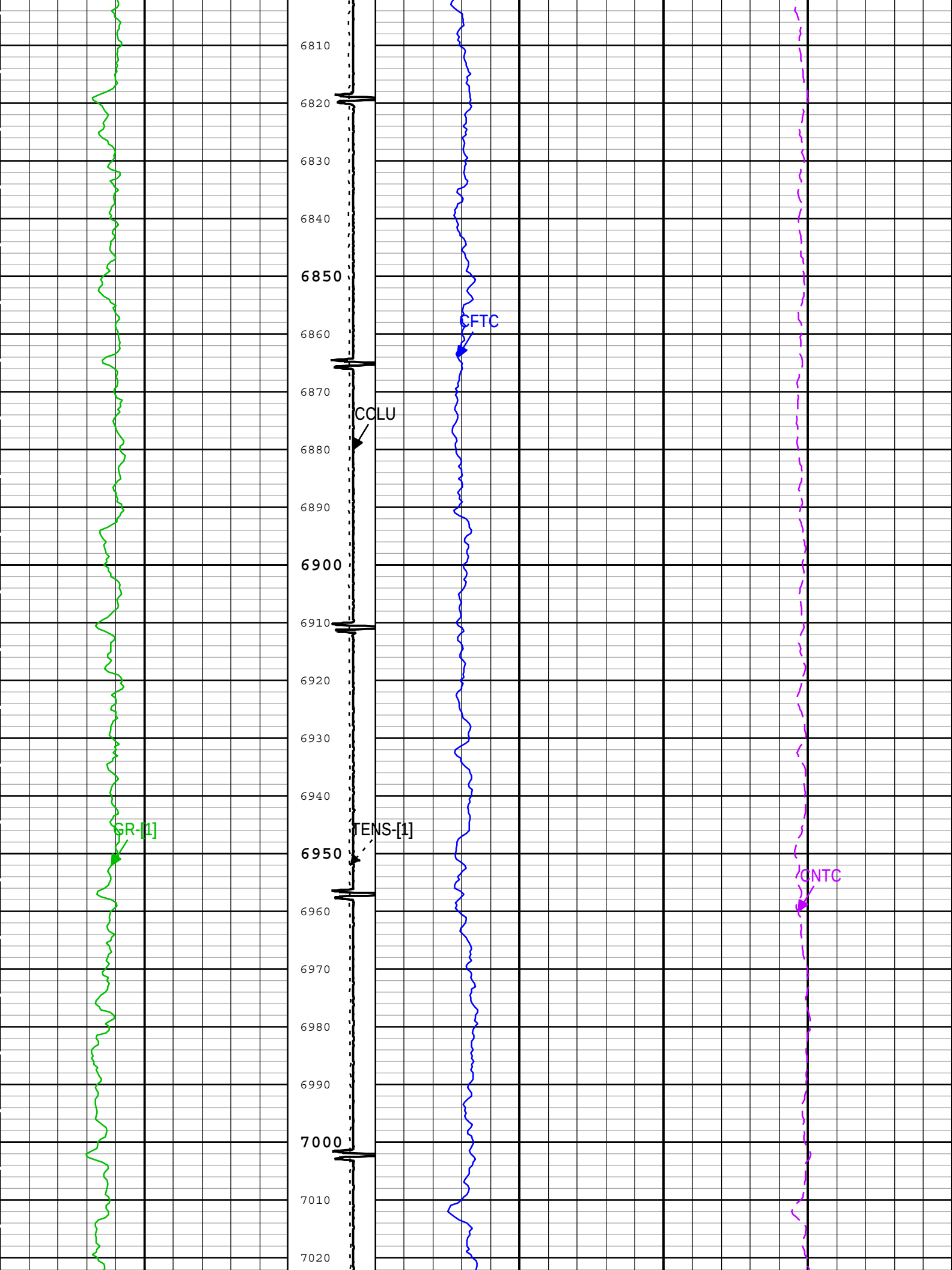

GR-[1]
TENS-[1]
CNTC
CFTC
CCLU
5710
5720
5730
5740
5750
5760
5770
5780
5790
5800
5810
5820
5830
5840
5850
5860
5870
5880
5890
5900
5910
5920

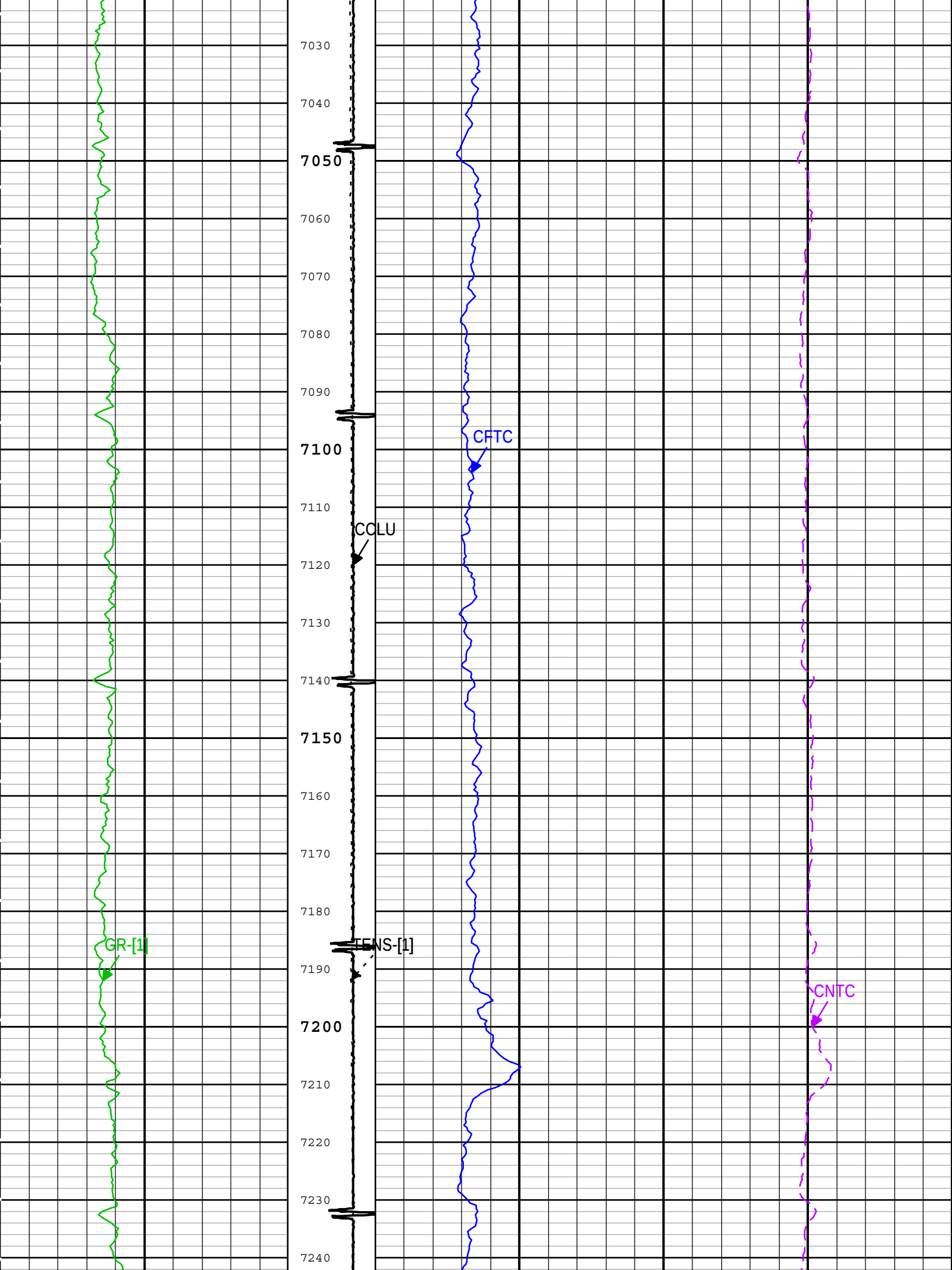

GR-[1]
TENS-[1]
CNTC
CFTC
5930
5940
5950
5960
5970
5980
5990
6000
6010
6020
6030
6040
6050
6060
6070
6080
6090
6100
6110
6120
6130
6140

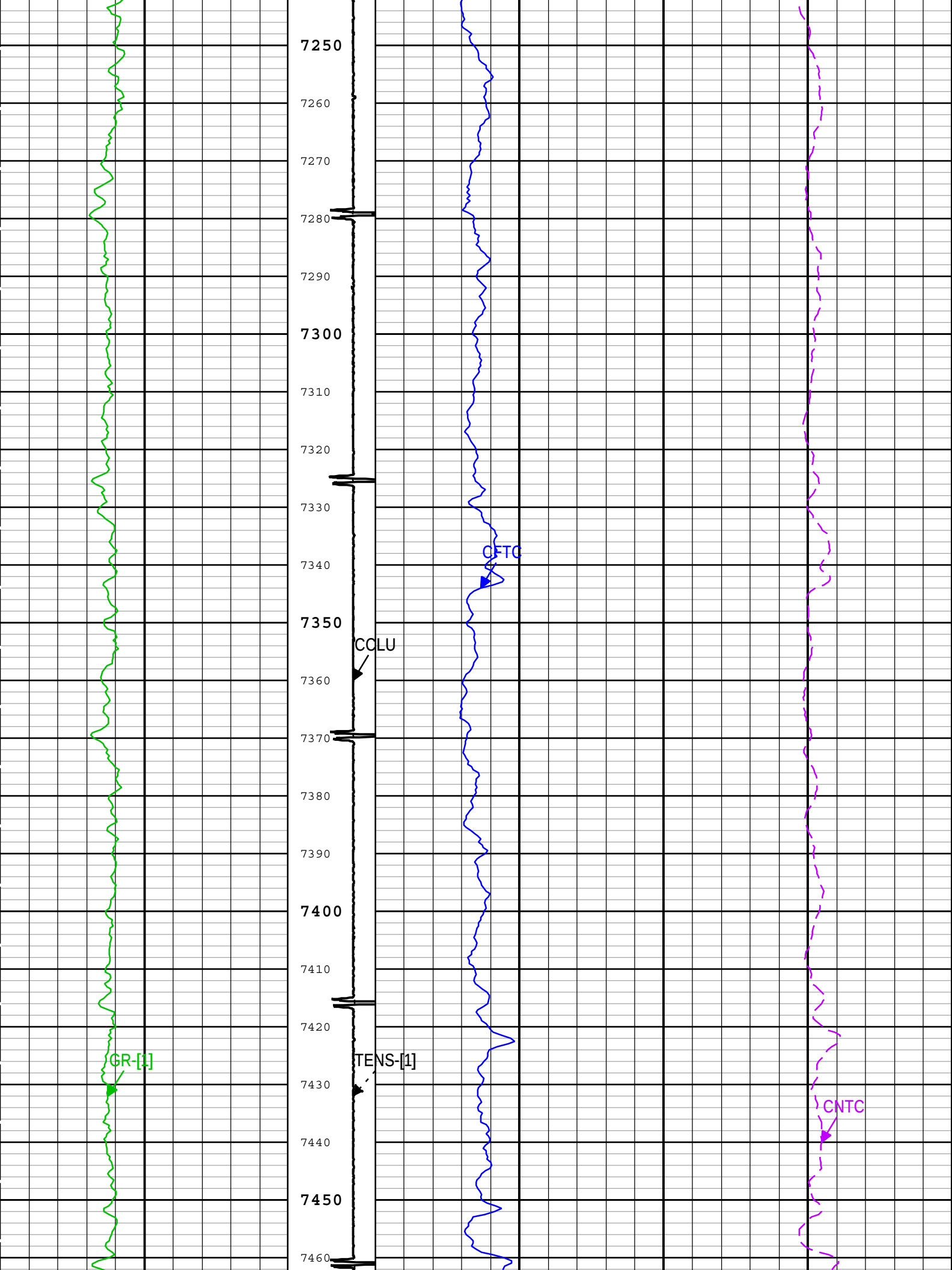

6150
6160
6170
6180
6190
6200
6210
6220
6230
6240
6250
6260
6270
6280
6290
6300
6310
6320
6330
6340
6350
6360
COLU
GR-[1]
TENS-[1]
CNTC

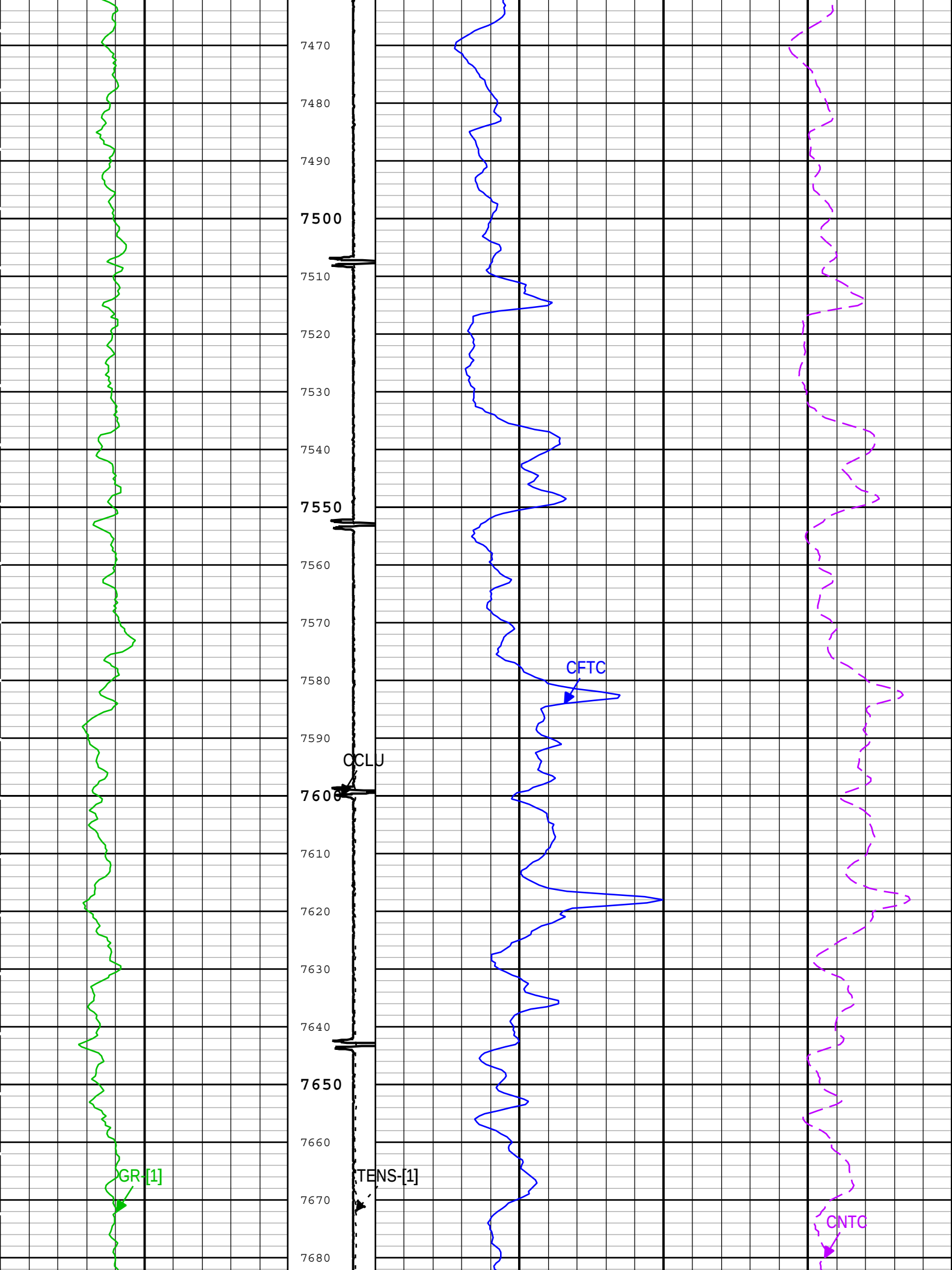

6370
6380
6390
6400
6410
6420
6430
6440
6450
6460
6470
6480
6490
6500
6510
6520
6530
6540
6550
6560
6570
6580
CFTC
CCLU
GR-[1]
TENS-[1]
CNTC

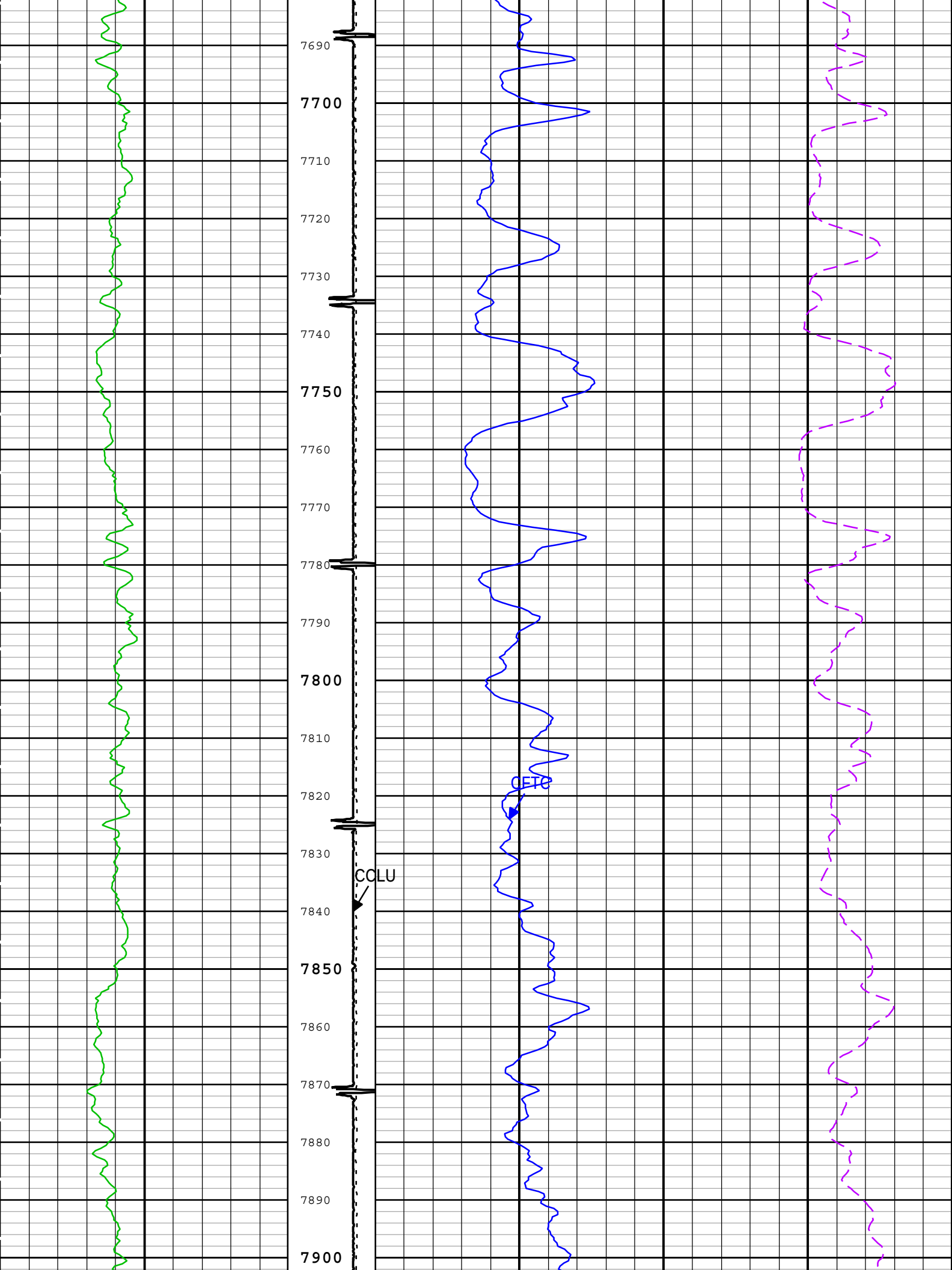

6590
6600
6610
6620
6630
6640
6650
6660
6670
6680
6690
6700
6710
6720
6730
6740
6750
6760
6770
6780
6790
6800
CFTC
COLU
GR-[1]
TENS-[1]
CNTC

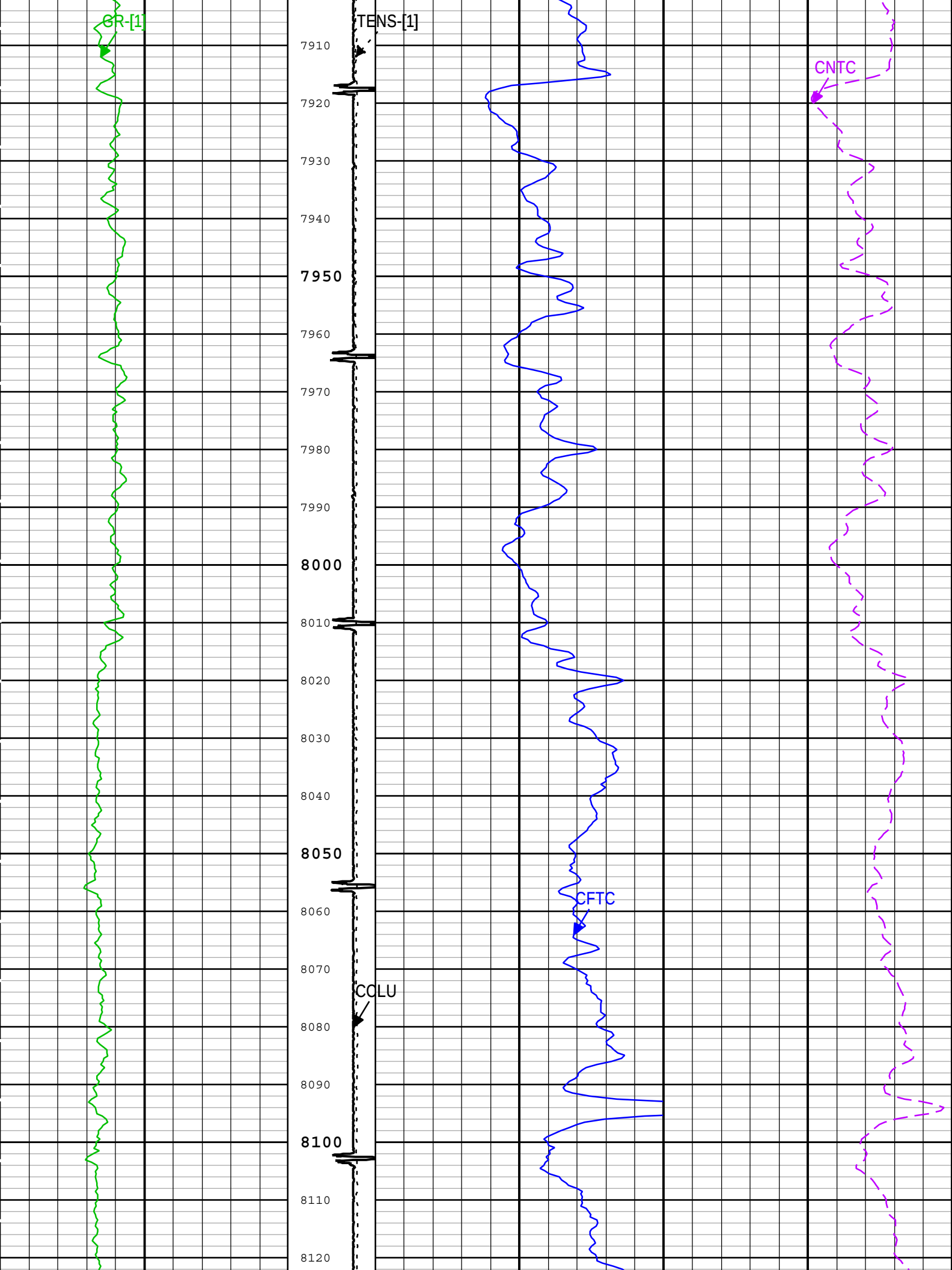

6810
6820
6830
6840
6850
6860
6870
6880
6890
6900
6910
6920
6930
6940
6950
6960
6970
6980
6990
7000
7010
7020
CFTC
CCLU
GR-[1]
TENS-[1]
CNTC

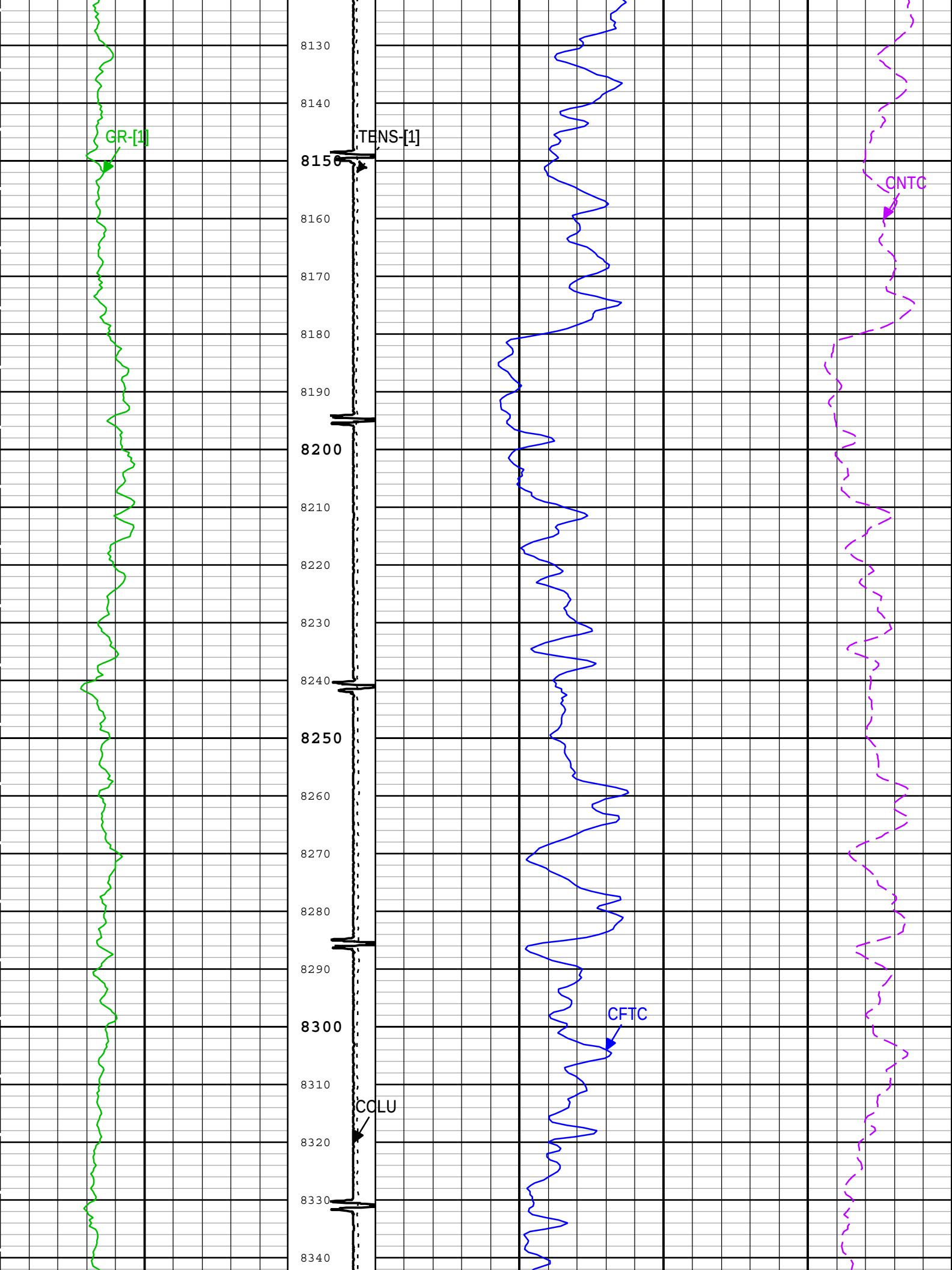

7030
7040
7050
7060
7070
7080
7090
7100
7110
7120
7130
7140
7150
7160
7170
7180
7190
7200
7210
7220
7230
7240
CFTC
CCLU
GR-[1]
TENS-[1]
CNTC

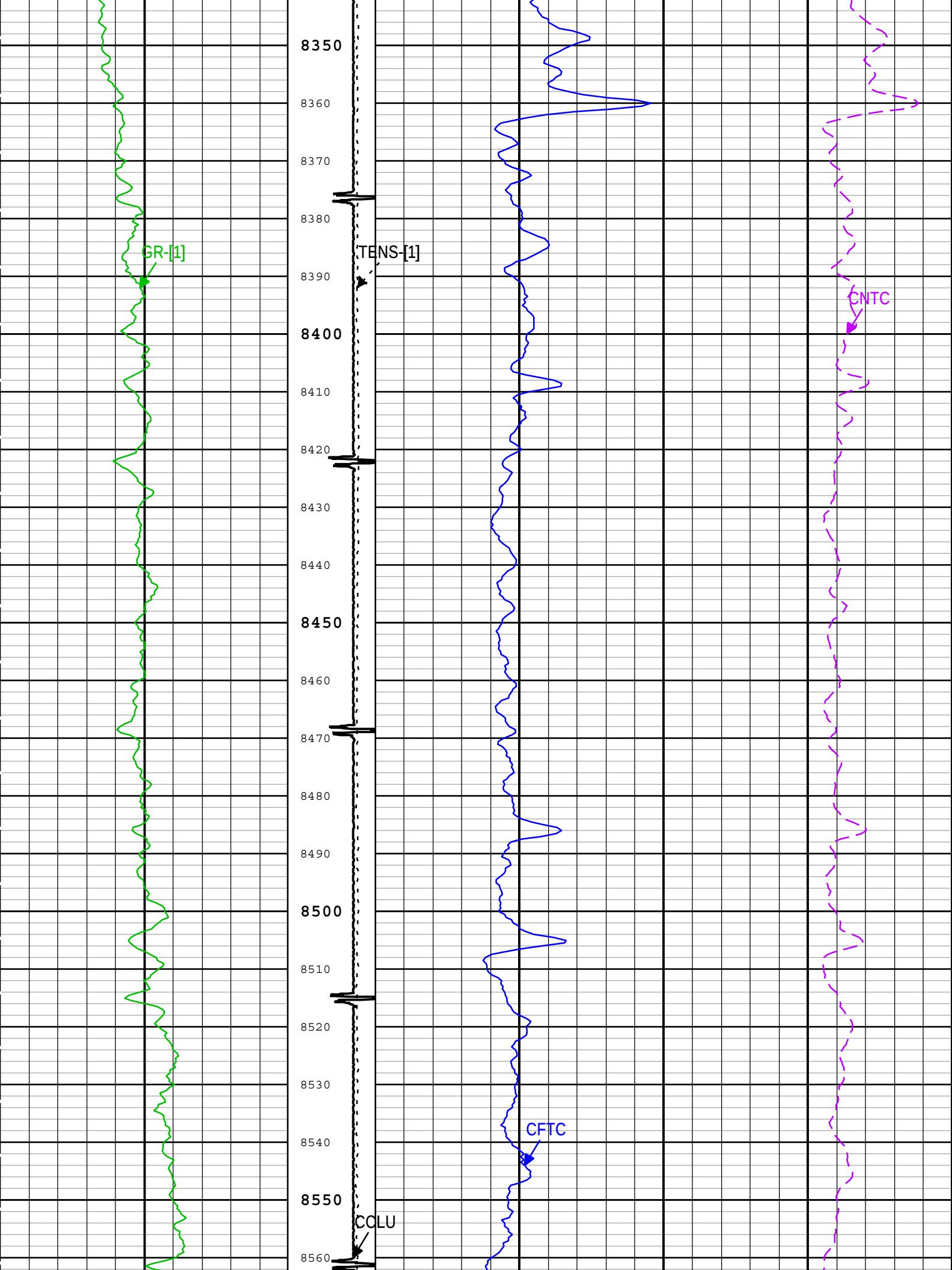

7250
7260
7270
7280
7290
7300
7310
7320
7330
7340
7350
7360
7370
7380
7390
7400
7410
7420
7430
7440
7450
7460
CFTC
COLU
GR-[1]
TENS-[1]
CNTC

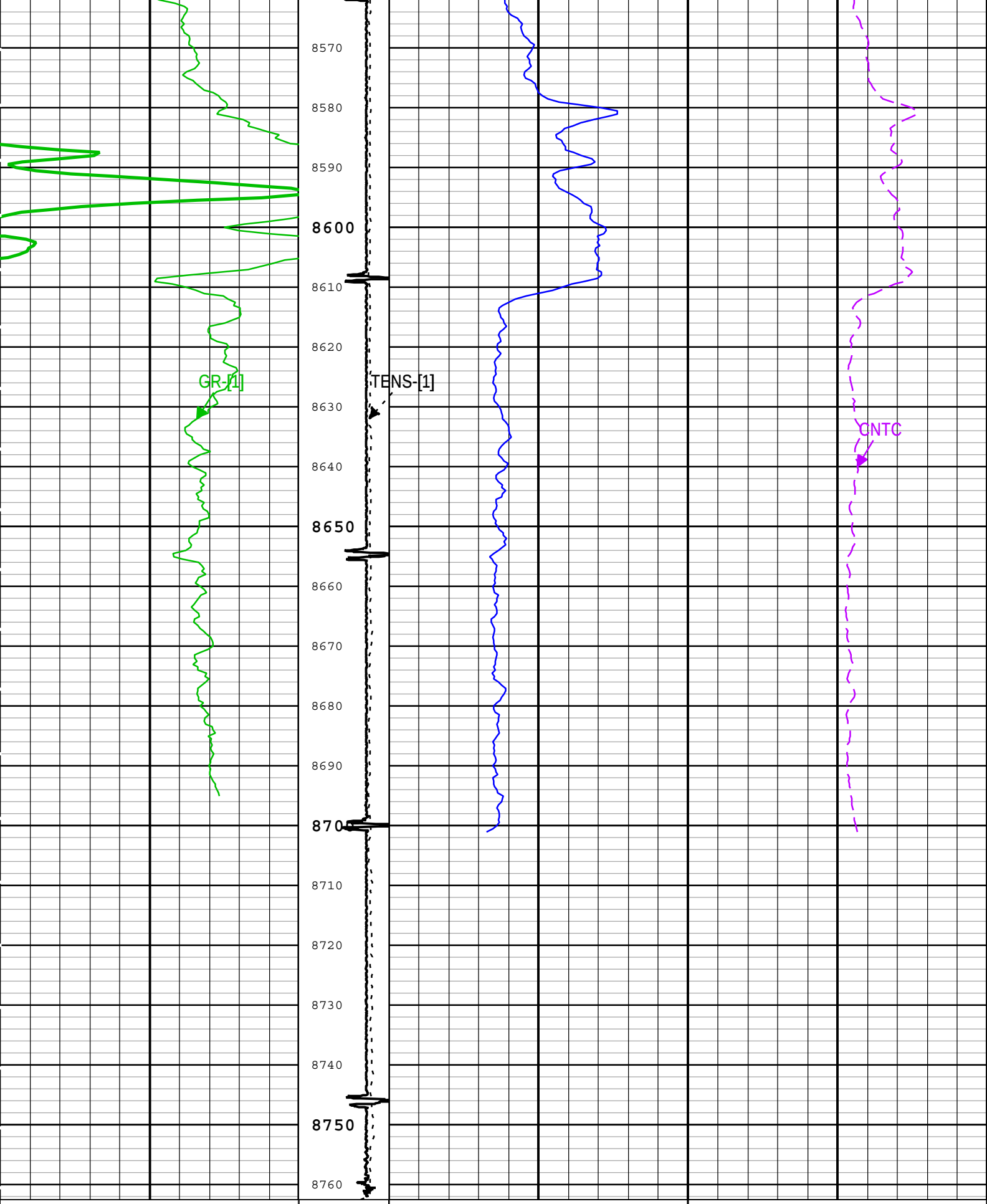

7470
7480
7490
7500
7510
7520
7530
7540
7550
7560
7570
7580
7590
7600
7610
7620
7630
7640
7650
7660
7670
7680
CFTC
CCLU
GR-[1]
TENS-[1]
CNTC


7690
7700
7710
7720
7730
7740
7750
7760
7770
7780
7790
7800
7810
7820
7830
7840
7850
7860
7870
7880
7890
7900
CFTC
COLU


GR-[1]
TENS-[1]
CNTC
CFTC
CCLU
7910
7920
7930
7940
7950
7960
7970
7980
7990
8000
8010
8020
8030
8040
8050
8060
8070
8080
8090
8100
8110
8120


GR-[1]
TENS-[1]
CNTC
CFTC
COLU
8130
8140
8150
8160
8170
8180
8190
8200
8210
8220
8230
8240
8250
8260
8270
8280
8290
8300
8310
8320
8330
8340


GR-[1]
TENS-[1]
CNTC
CFTC
CCLU
8350
8360
8370
8380
8390
8400
8410
8420
8430
8440
8450
8460
8470
8480
8490
8500
8510
8520
8530
8540
8550
8560



Calibrated Gamma Ray (GR_CAL)	Cable Tension (TENS)	Corrected Far Thermal Count Rate (CFTC) HGNS-H	Corrected Near Thermal Count Rate (CNTC) HGNS-H
0 gAPI 150	0 lbf 5000	0 1/s 1000	0 1/s 2500
Instance - 1 (6" HGNS-H RT) (GR)	Instance - 1		

(6" RT)
(TENS)

Casing
Collar
Locator
Ultrasonic
(CCLU)
USIT-D

-30 in 10

TIME_1900 - Time Marked every 60.00 (s)

Description: Format: Log (Import (2) of GR-CCLU Correlation) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 04-Oct-2015 02:18:14

Two

GR-CCL Correlation Bottom Section 5 IN = 100 FT

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Two	Log[2]:Up	Up	8563.26 ft	8904.38 ft	03-Oct-2015 2:39:08 PM	03-Oct-2015 3:13:51 PM	ON	16.20 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Standard Sesnon 4B

Two: Log[2]:Up:S016

Description: Format: Log (Import (2) of GR-CCLU Correlation) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 04-Oct-2015 02:18:17

TIME_1900 - Time Marked every 60.00 (s)

Cable
Tension
(TENS)

0 lbf 5000

Instance - 1
(6" RT)
(TENS)

Casing
Collar
Locator
Ultrasonic
(CCLU)
USIT-D

-30 in 10

Calibrated Gamma Ray (GR_CAL)

0 gAPI 150

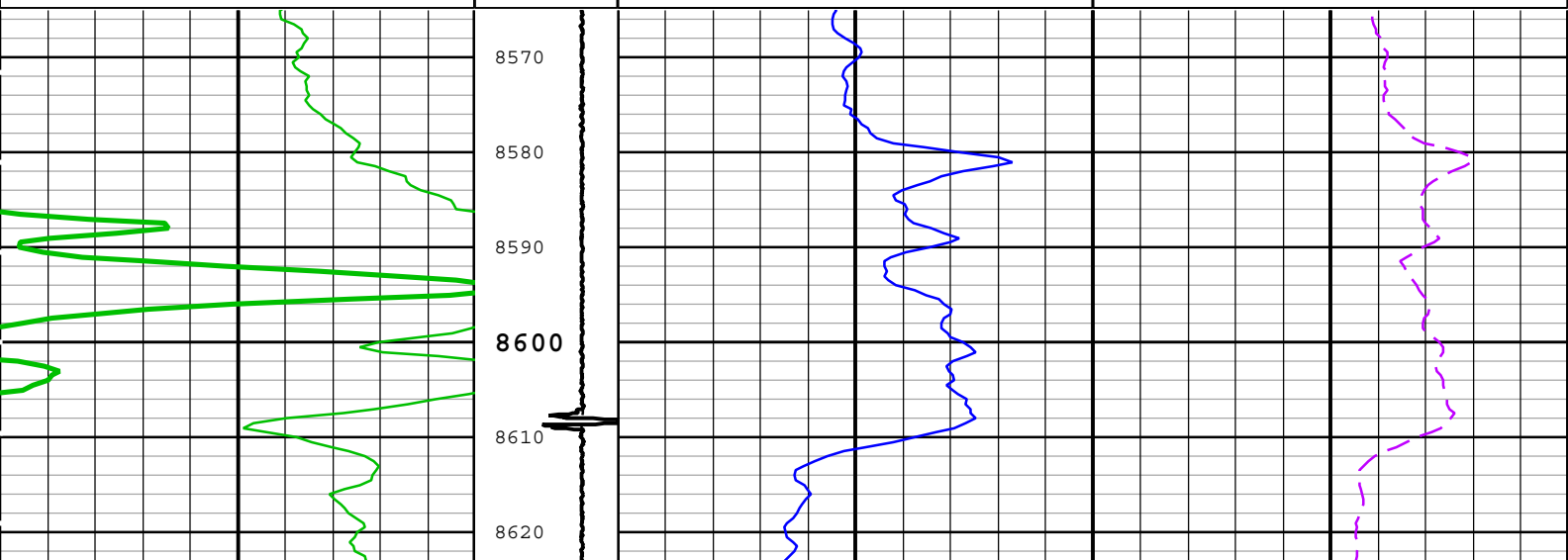
Instance - 1 (6" HGNS-H RT) (GR)

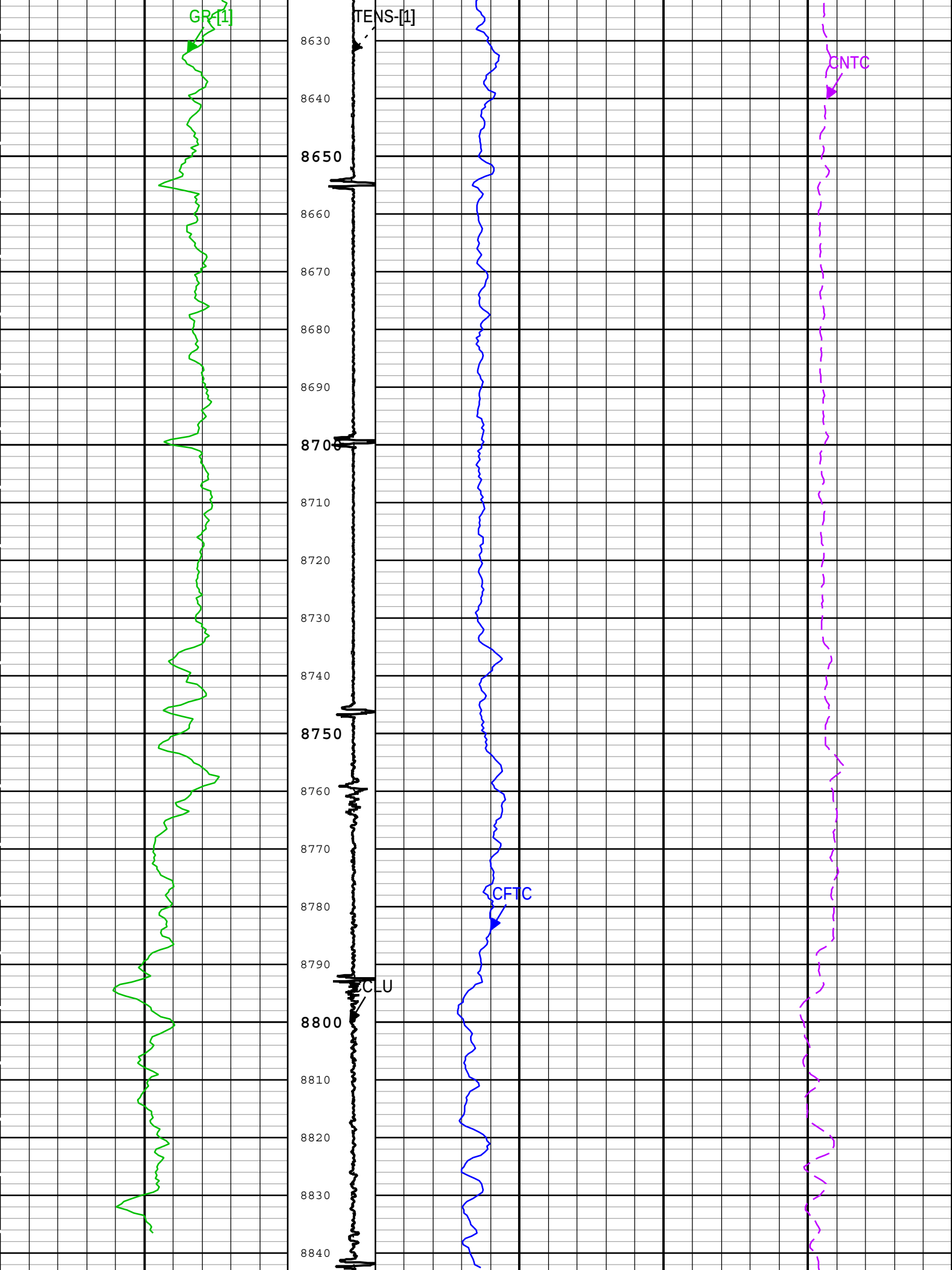
Corrected Far Thermal Count Rate (CFTC)
HGNS-H

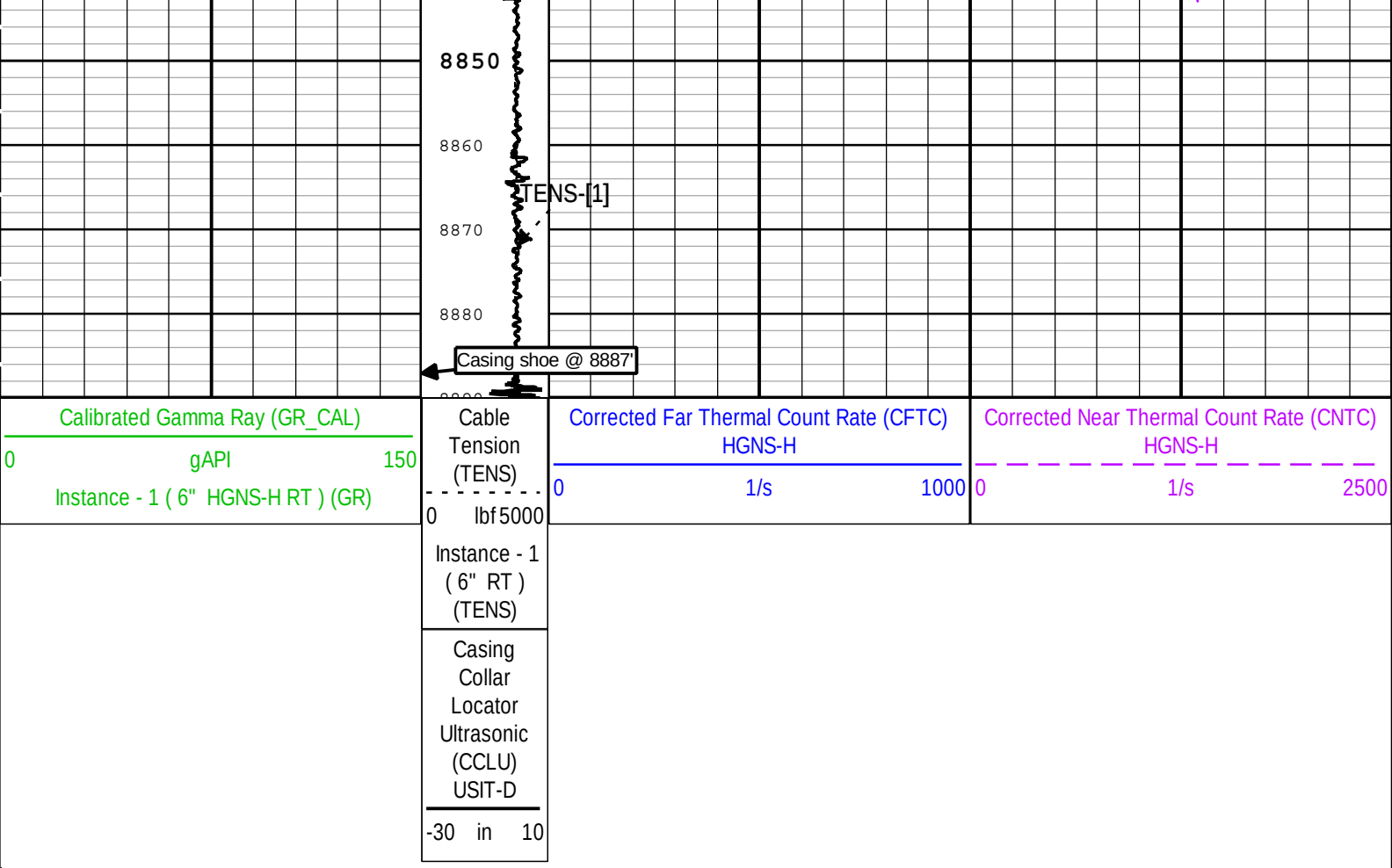
0 1/s 1000

Corrected Near Thermal Count Rate (CNTC)
HGNS-H

0 1/s 2500




GR-[1]
TENS-[1]
CNTC
CFTC
CCLU
8630
8640
8650
8660
8670
8680
8690
8700
8710
8720
8730
8740
8750
8760
8770
8780
8790
8800
8810
8820
8830
8840



Description: Format: Log (Import (2) of GR-CCLU Correlation) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 04-Oct-2015 02:18:17

USIT - Fluid Properties Measurement

Run Name	Pass Name	Start Depth(ft)	Stop Depth(ft)
Run 1	Log[5]:Up	8762.49	17.60

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 : 426.82m(1400.32ft) to 433.45m(1422.07ft)
MUD_N_FRP = 1.17
DFD = 1.08g/cm3(9.00lbm/gal)
CZMD median computed in free pipe normalization interval = 1.92 MRayl

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

Two

Main Pass 5 IN = 100 FT

Software Version

Acquisition System	Version
Maxwell	5.2.40401.3100

Computation	Description	Version
CEVAL	Sonic Cement Evaluation Computation Ensemble provides common Parameters and Channels	5.2.40401.3100
Cementation	Cementation Computation Application	5.2.40401.3100
CORROSION Ensemble	CORROSION Ensemble	5.2.40401.3100

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**
SLS-E	Sonic Logging Sonde E supports 3'-5'BHC DT and CBL/VDL	5.2.40401.3100	4.0
USI-SENSOR	USIT Transducer Element	5.2.40401.3100	DHC: P321616

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Two	Log[5]:Up	Up	17.60 ft	8762.49 ft	02-Oct-2015 10:09:30 PM	03-Oct-2015 1:07:34 PM	ON	12.00 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Standard Sesnon 4B

Two: Log[5]:Up:S016

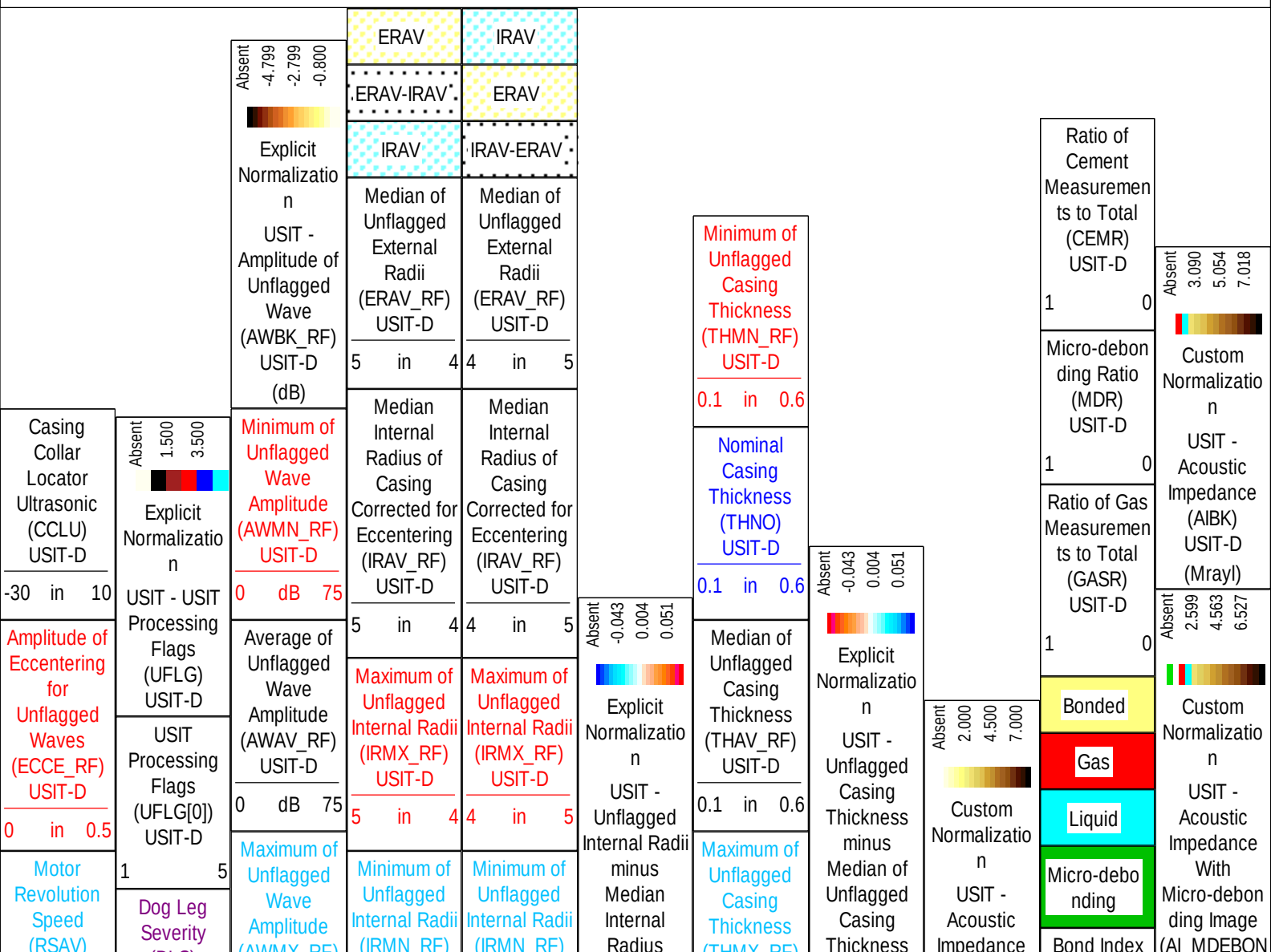
Description: USI Composite Format: Log (Import of UCRC_USI Composite 9.625inch) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 04-Oct-2015 02:18:23

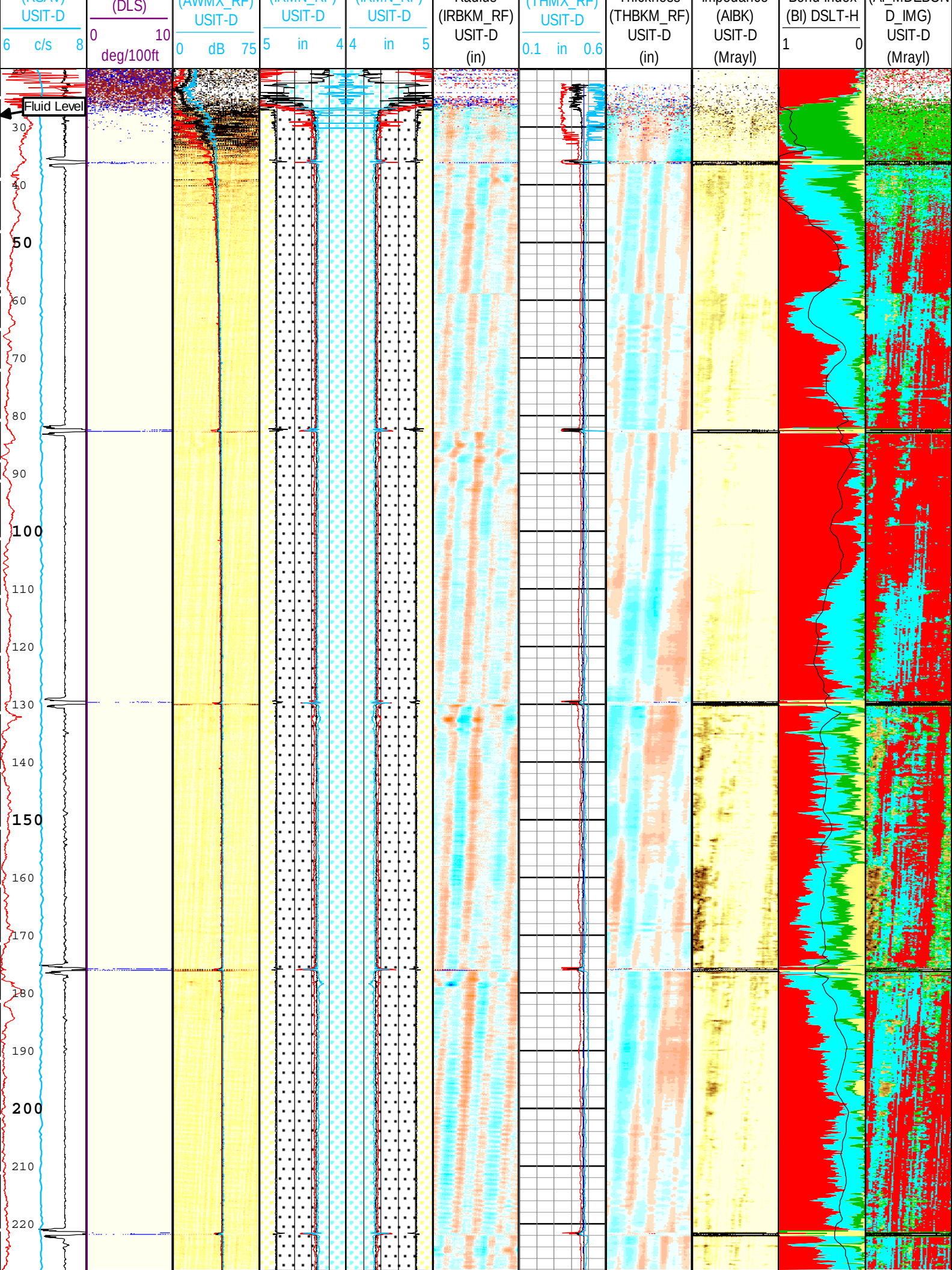
TIME_1900 - Time Marked every 60.00 (s)

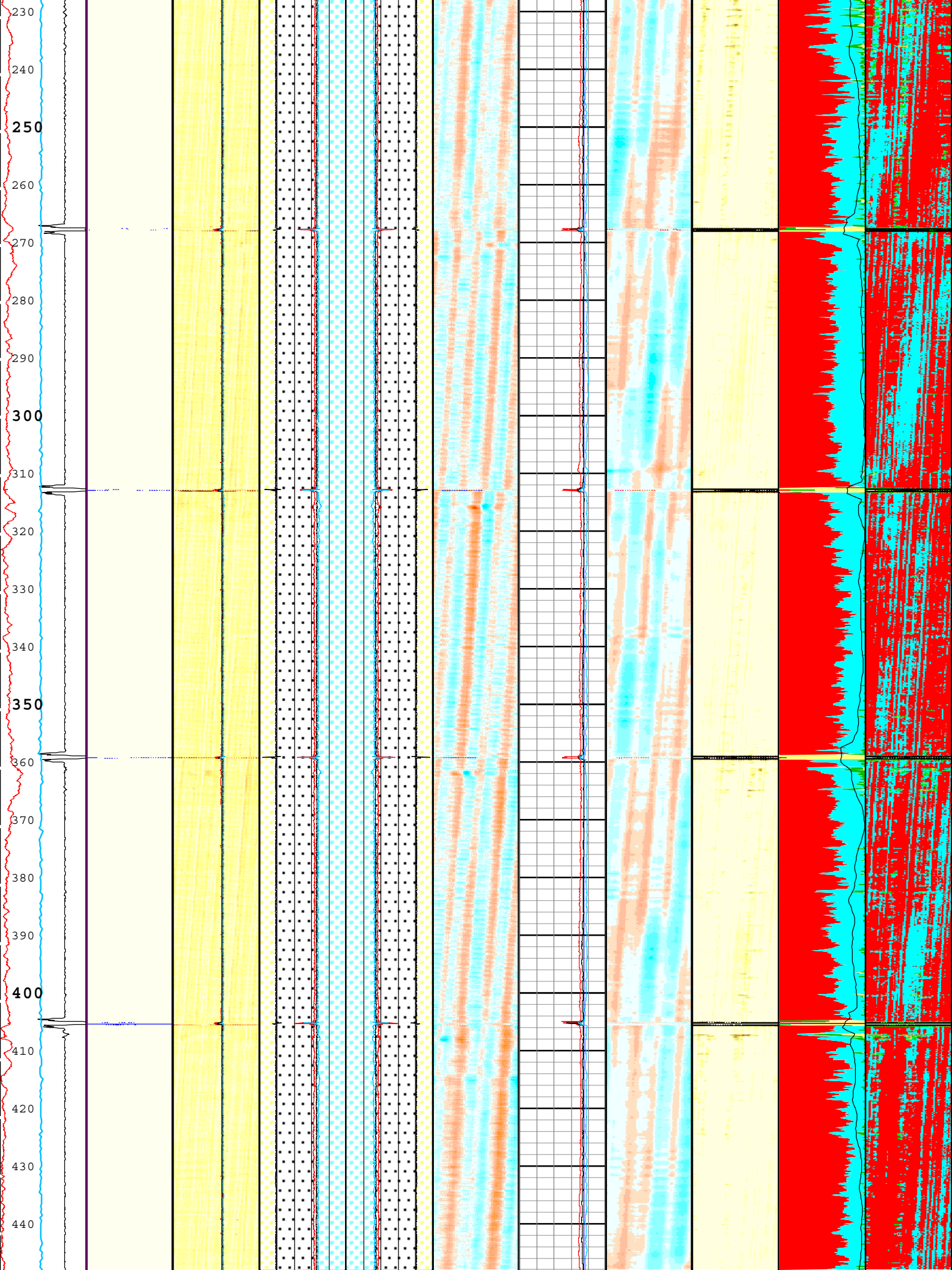
USIT Processing Flags (UFLG[0]) USIT-D

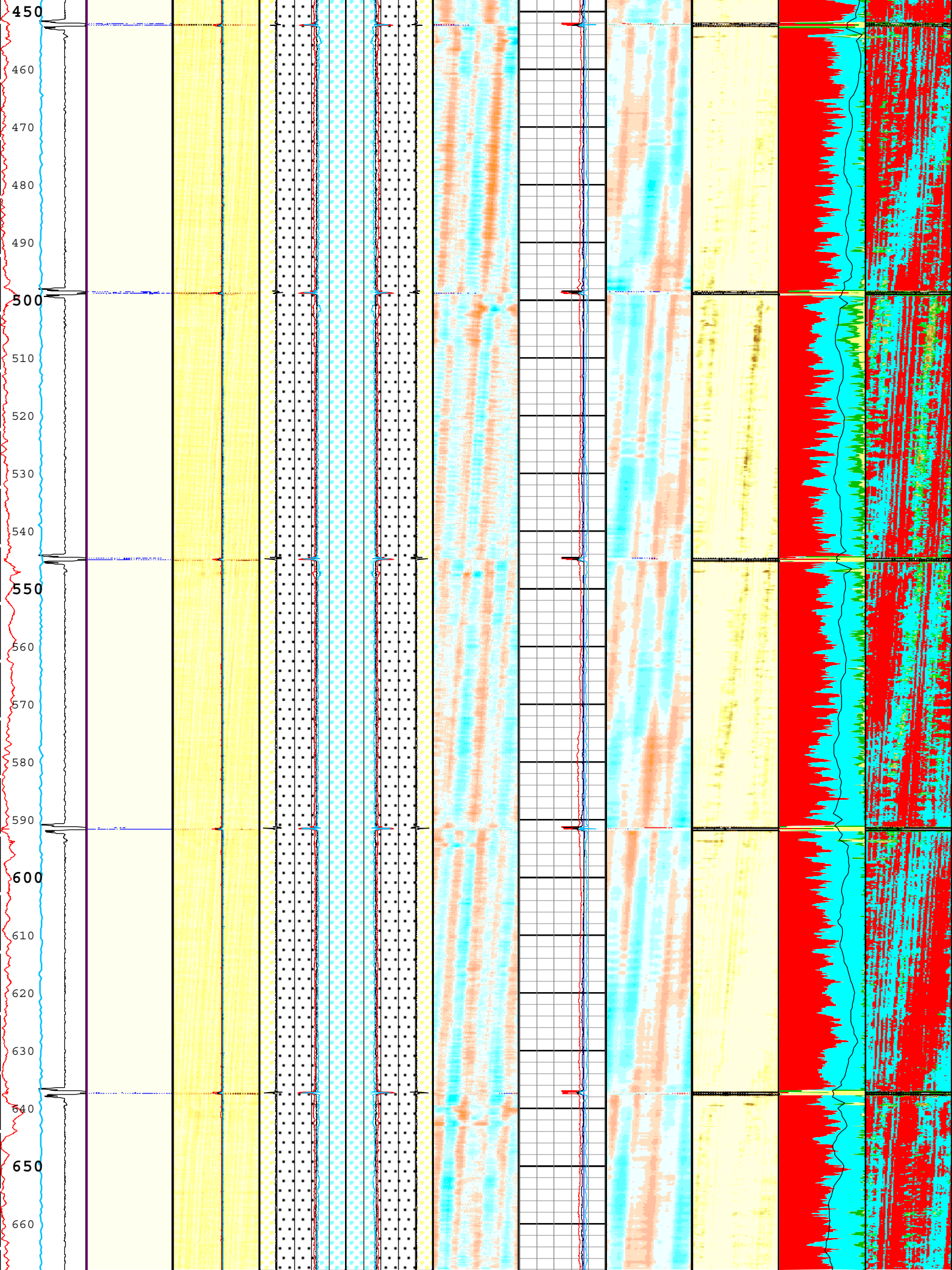
1 - UFLG 1 Value within [0.0 - 1.5] - :
2 - UFLG 2 Value within [1.5 - 2.5] - :
3 - UFLG 3 Value within [2.5 - 3.5] - :
4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - :
5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10] - :

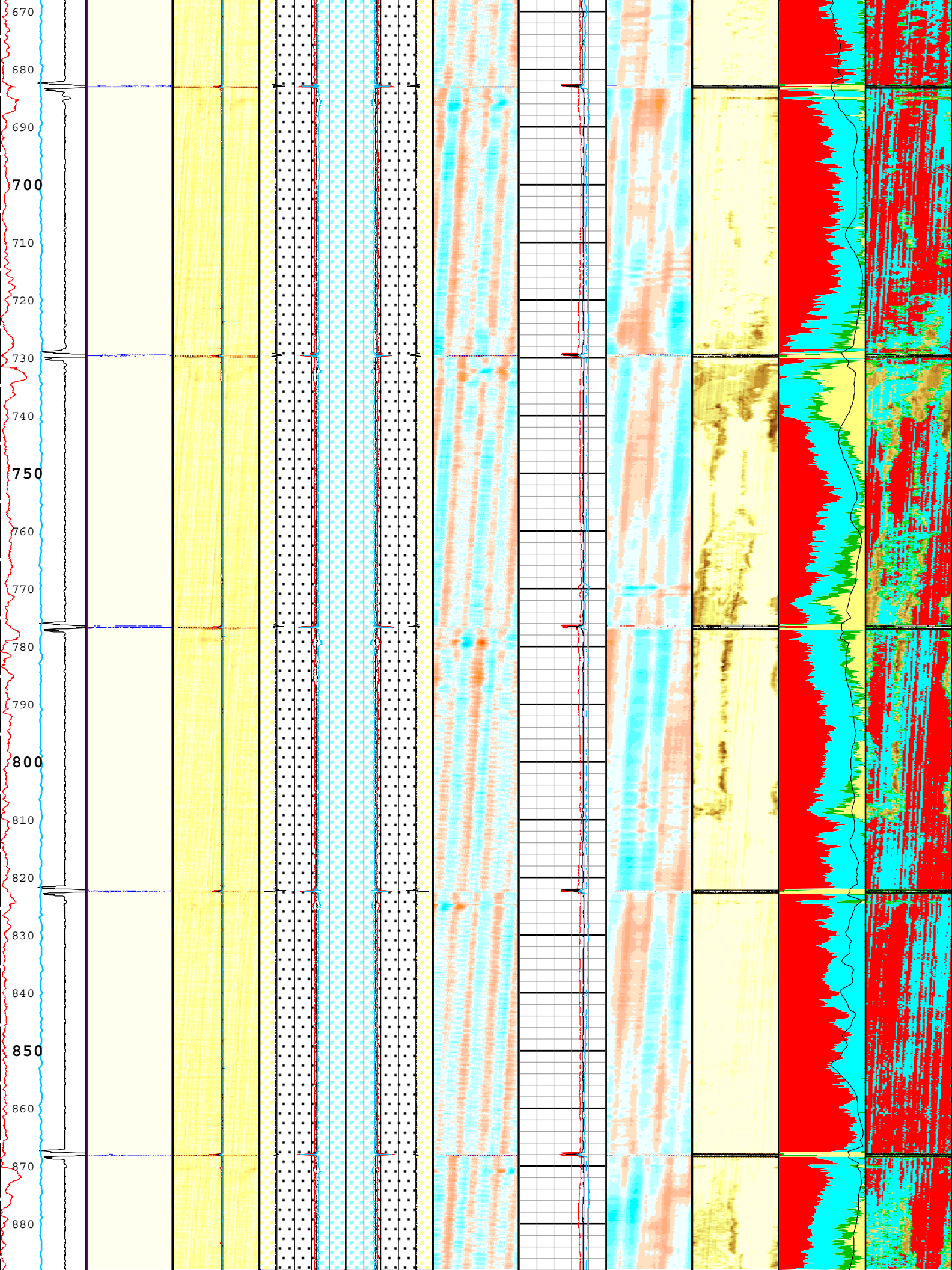
- UTIM Error
- Pulse Origin Not Detected
- WINLEN Error
- Casing Thickness Error
- Loop Processing Error

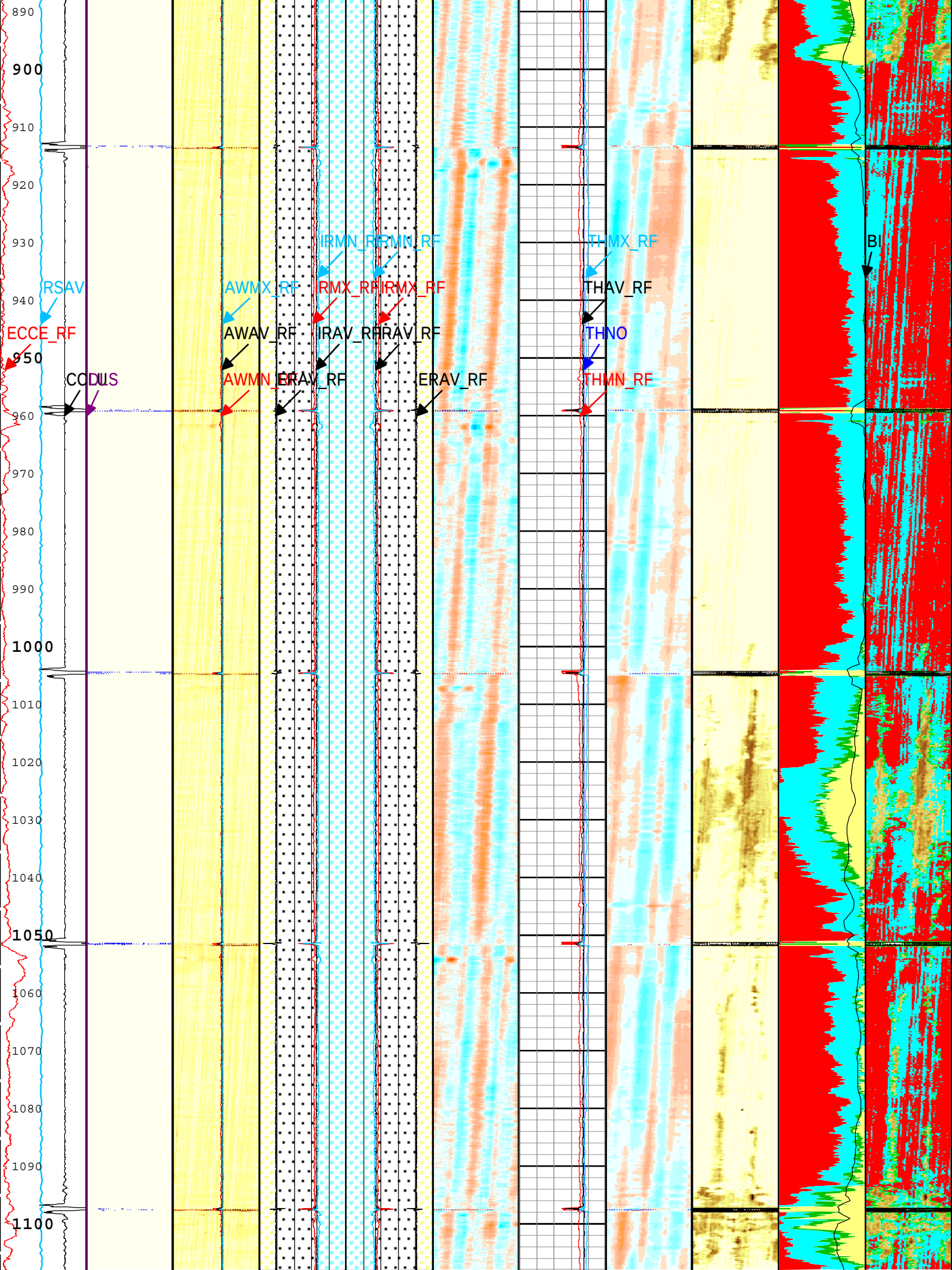


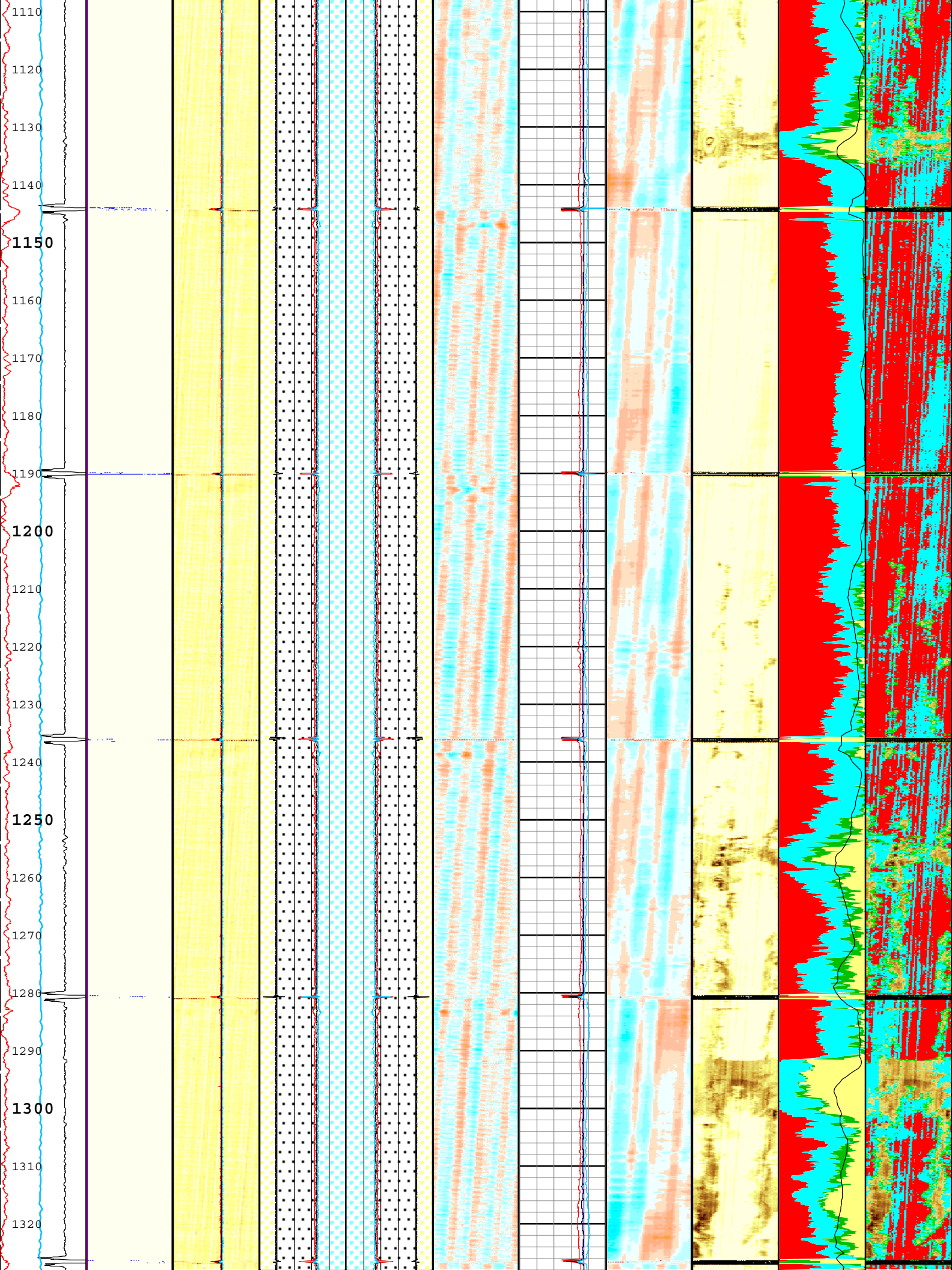

USIT-D
6 c/s 8
(DLS)
0 10
deg/100ft
(AWMX_RF)
USIT-D
0 dB 75
USIT-D
5 in 4
USIT-D
4 in 5
Radius
(IRBKM_RF)
USIT-D
(in)
(THMX_RF)
USIT-D
0.1 in 0.6
Thickness
(THBKM_RF)
USIT-D
(in)
Impedance
(AIBK)
USIT-D
(Mrayl)
Bond Index
(BI) DSLT-H
1 0
(AI_MBEBON
D_IMG)
USIT-D
(Mrayl)
Fluid Level
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
200
210
220

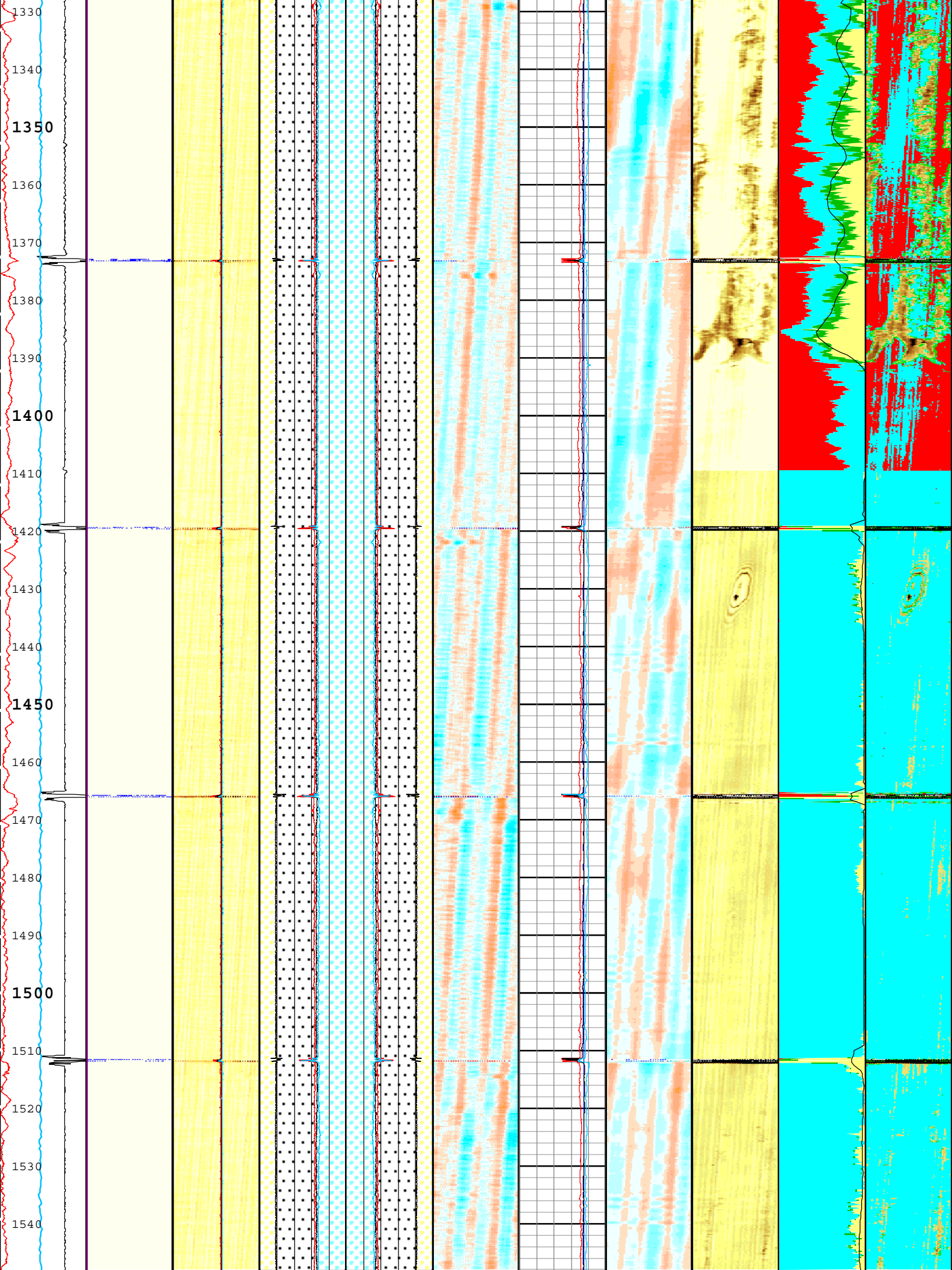

230
240
250
260
270
280
290
300
310
320
330
340
350
360
370
380
390
400
410
420
430
440

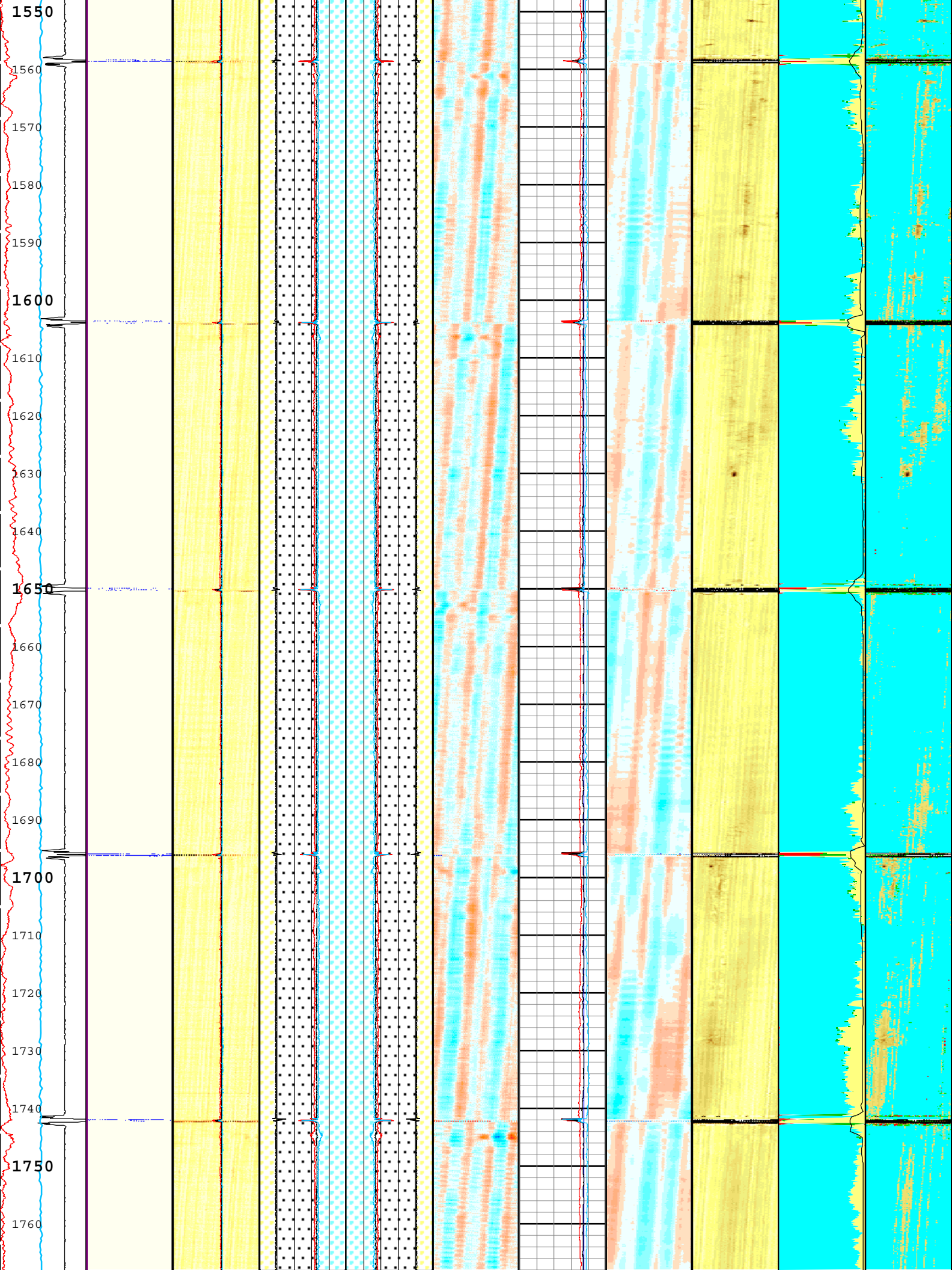

450
460
470
480
490
500
510
520
530
540
550
560
570
580
590
600
610
620
630
640
650
660

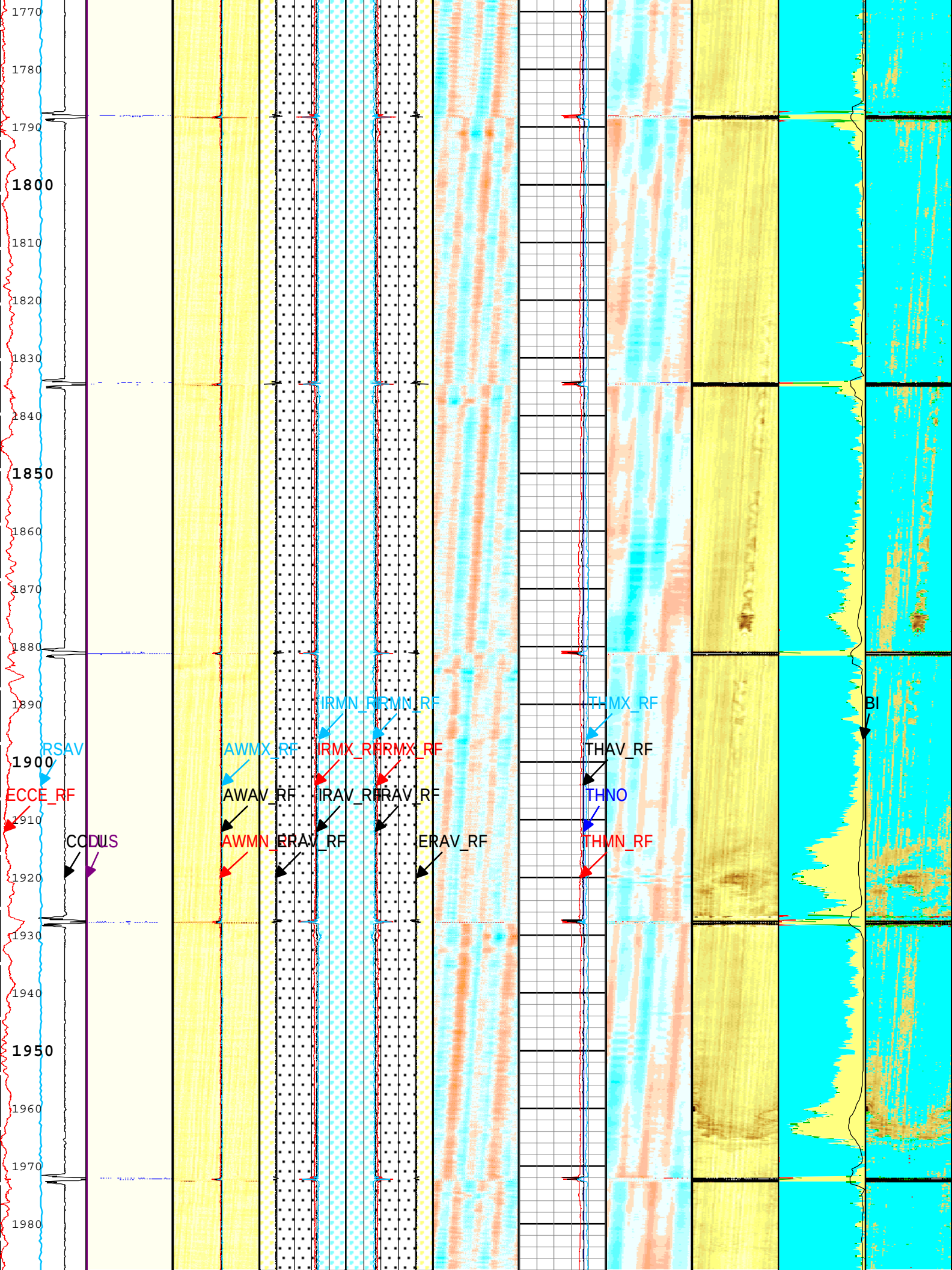

670
680
690
700
710
720
730
740
750
760
770
780
790
800
810
820
830
840
850
860
870
880

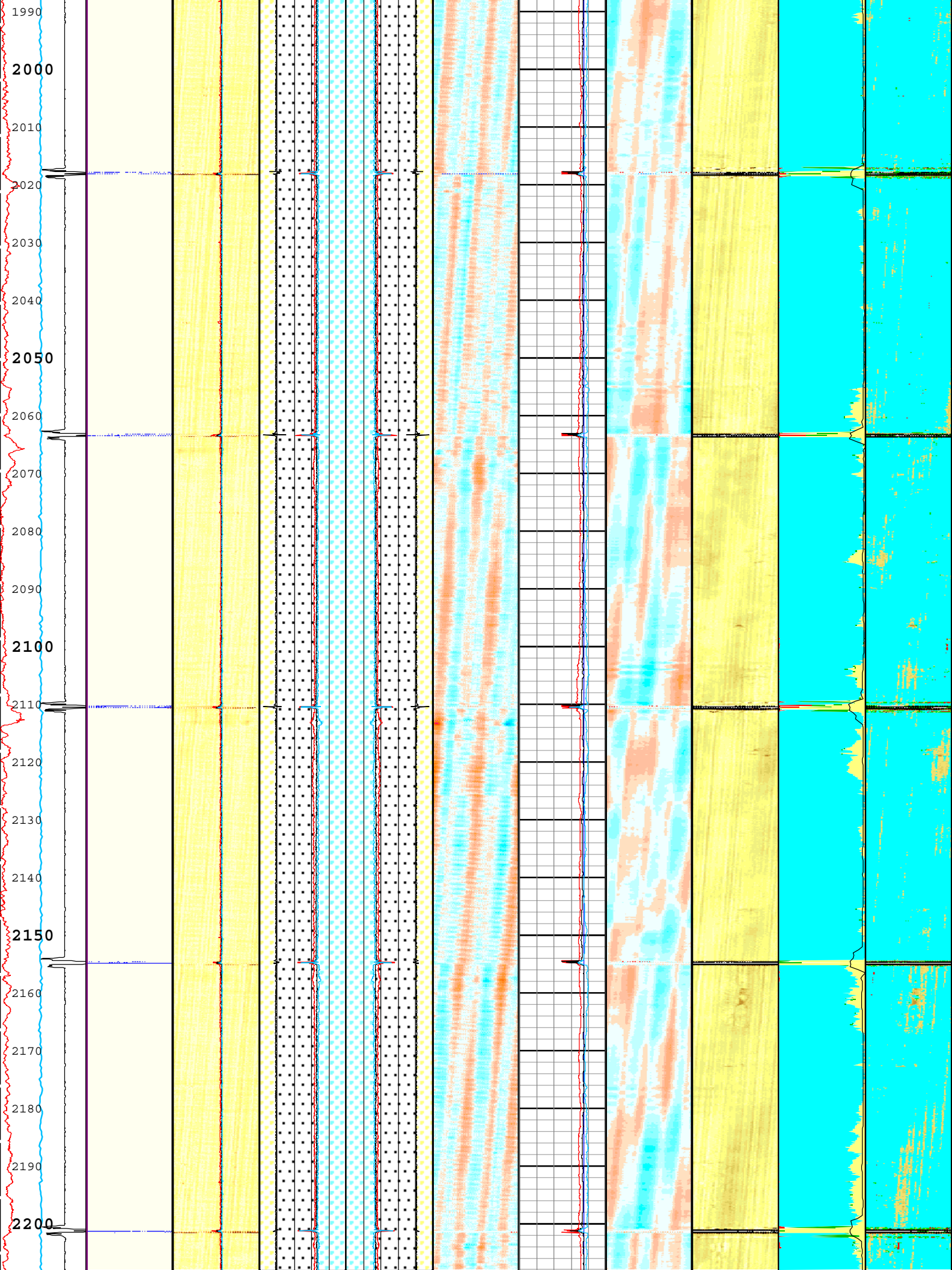

890
900
910
920
930
940
950
960
970
980
990
1000
1010
1020
1030
1040
1050
1060
1070
1080
1090
1100
RSAV
ECCE_RF
CODLUS
AWMX_RF
AWAV_RF
AWMN_RF
IRMN_RF
IRMX_RF
IRAV_RF
ERAV_RF
IRMN_RF
IRMX_RF
IRAV_RF
ERAV_RF
THMX_RF
THAV_RF
THNO
THMN_RF
BI

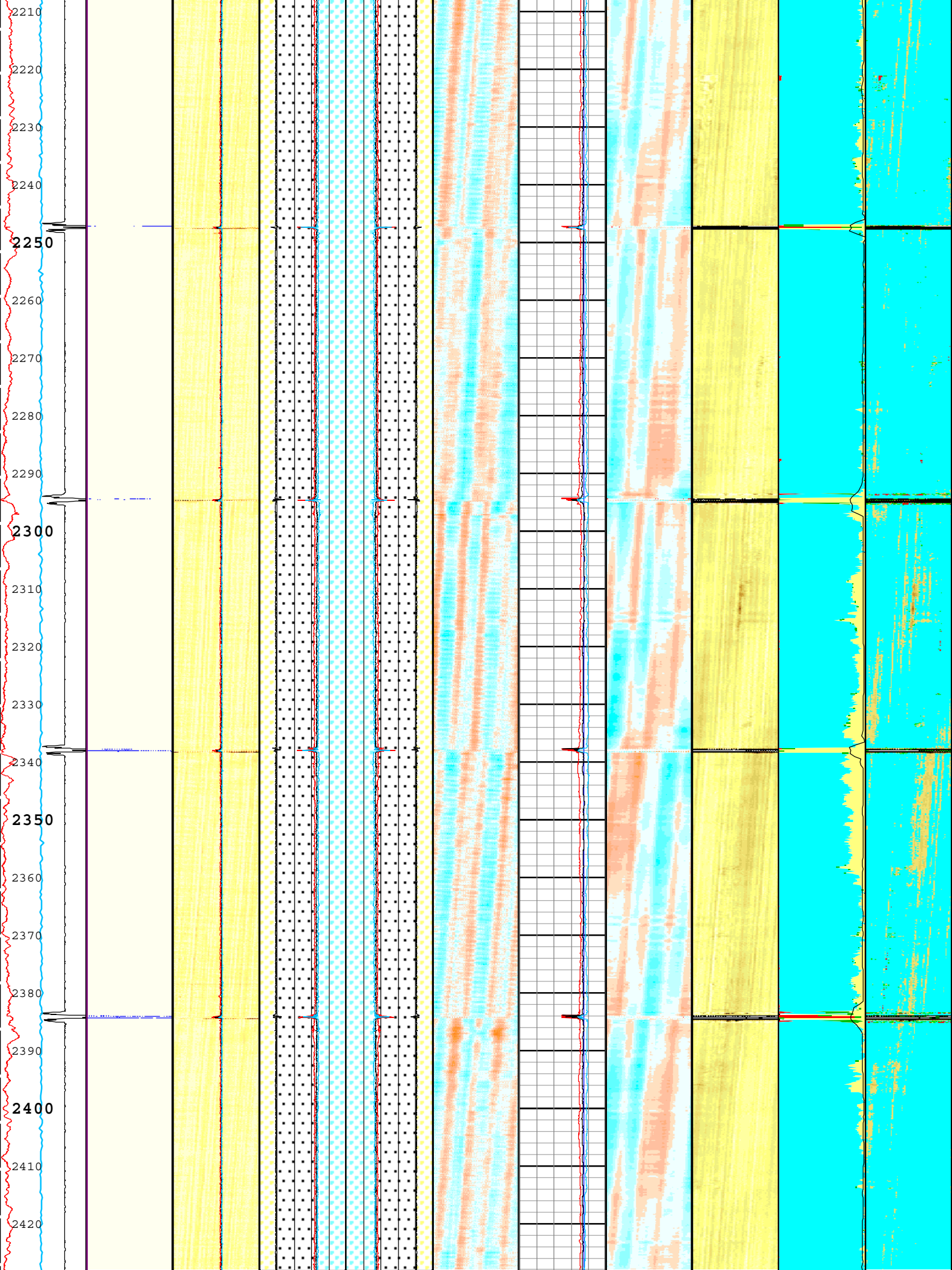

1110
1120
1130
1140
1150
1160
1170
1180
1190
1200
1210
1220
1230
1240
1250
1260
1270
1280
1290
1300
1310
1320

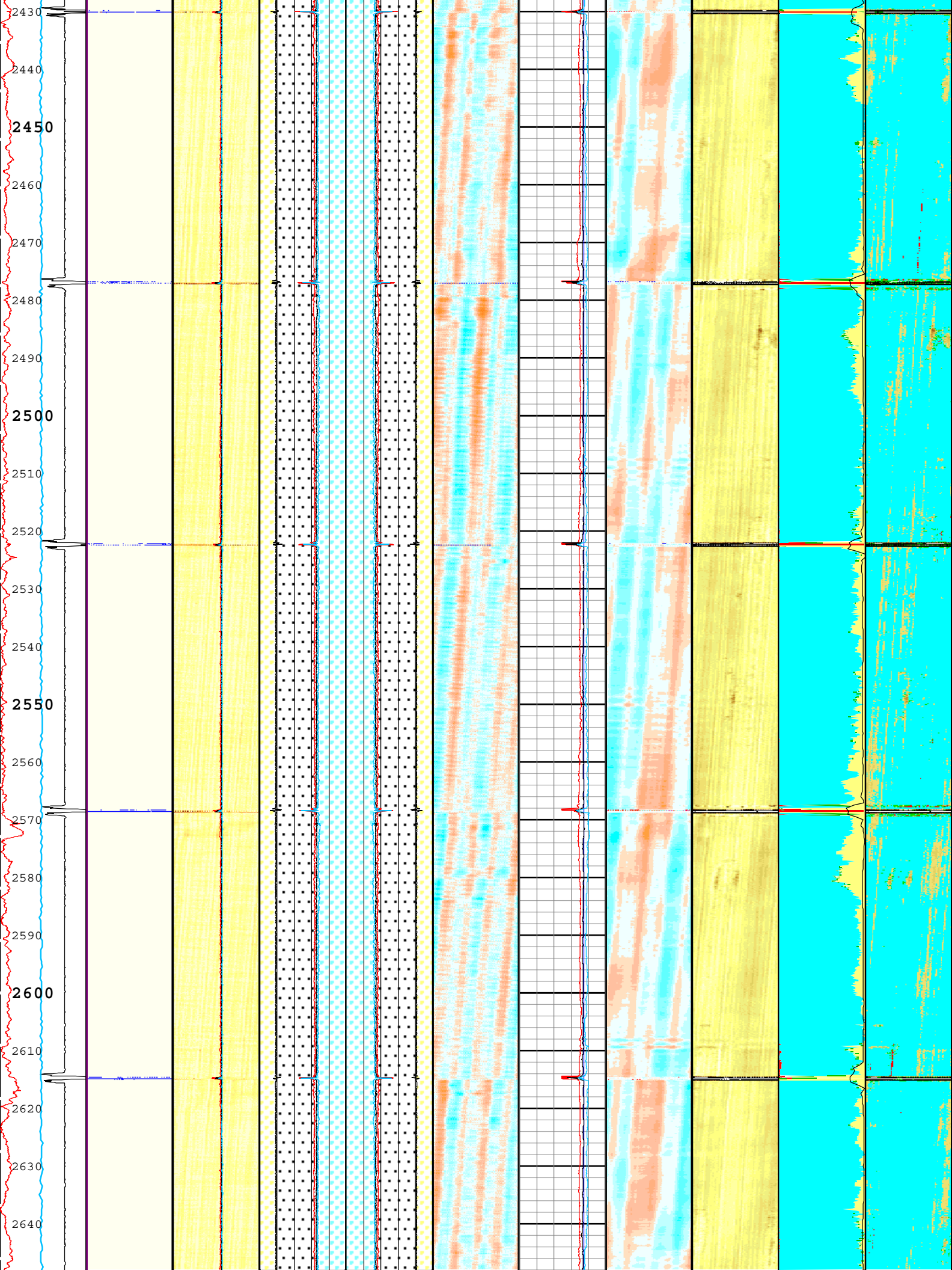

1330
1340
1350
1360
1370
1380
1390
1400
1410
1420
1430
1440
1450
1460
1470
1480
1490
1500
1510
1520
1530
1540

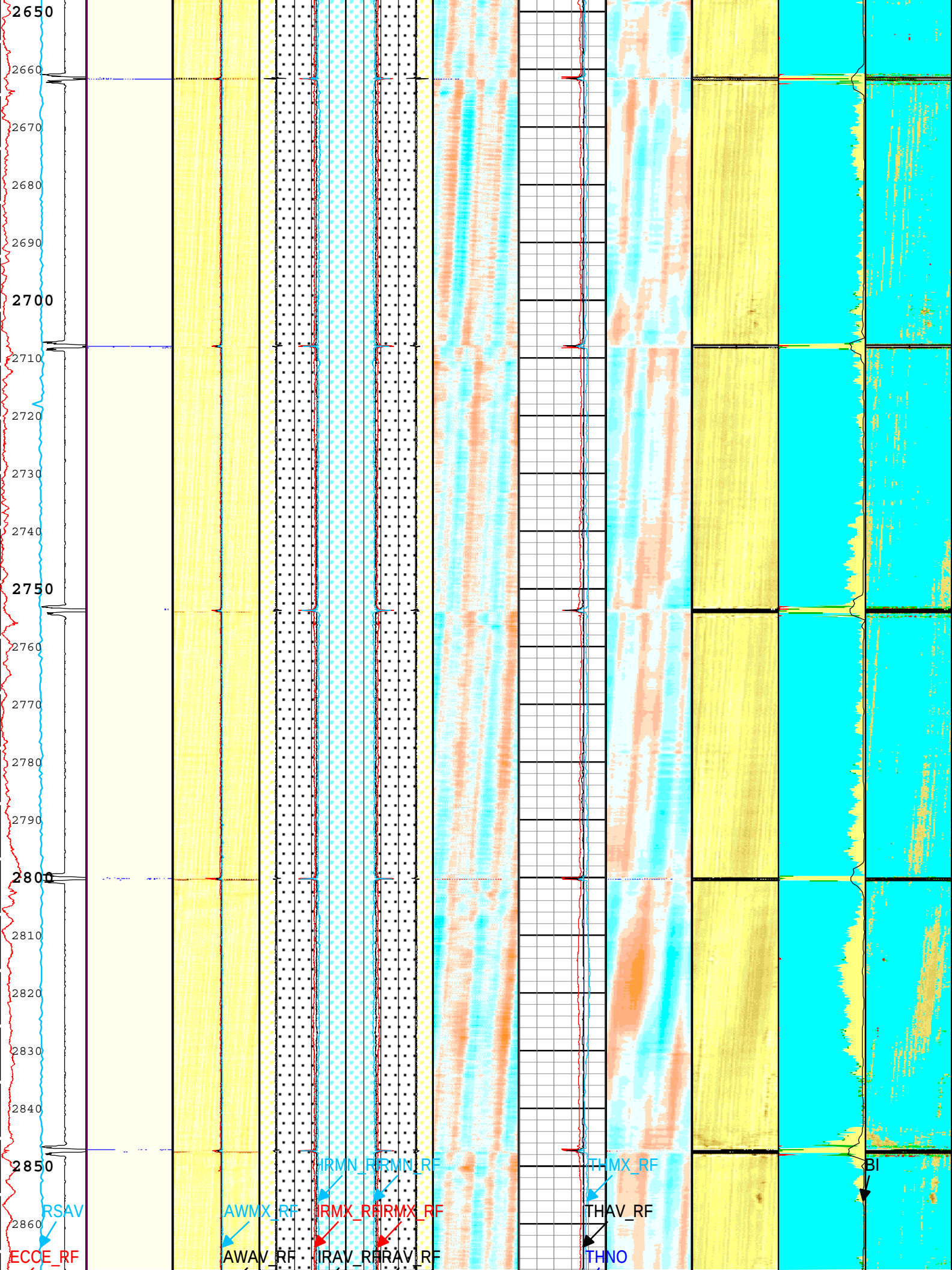

1550
1560
1570
1580
1590
1600
1610
1620
1630
1640
1650
1660
1670
1680
1690
1700
1710
1720
1730
1740
1750
1760

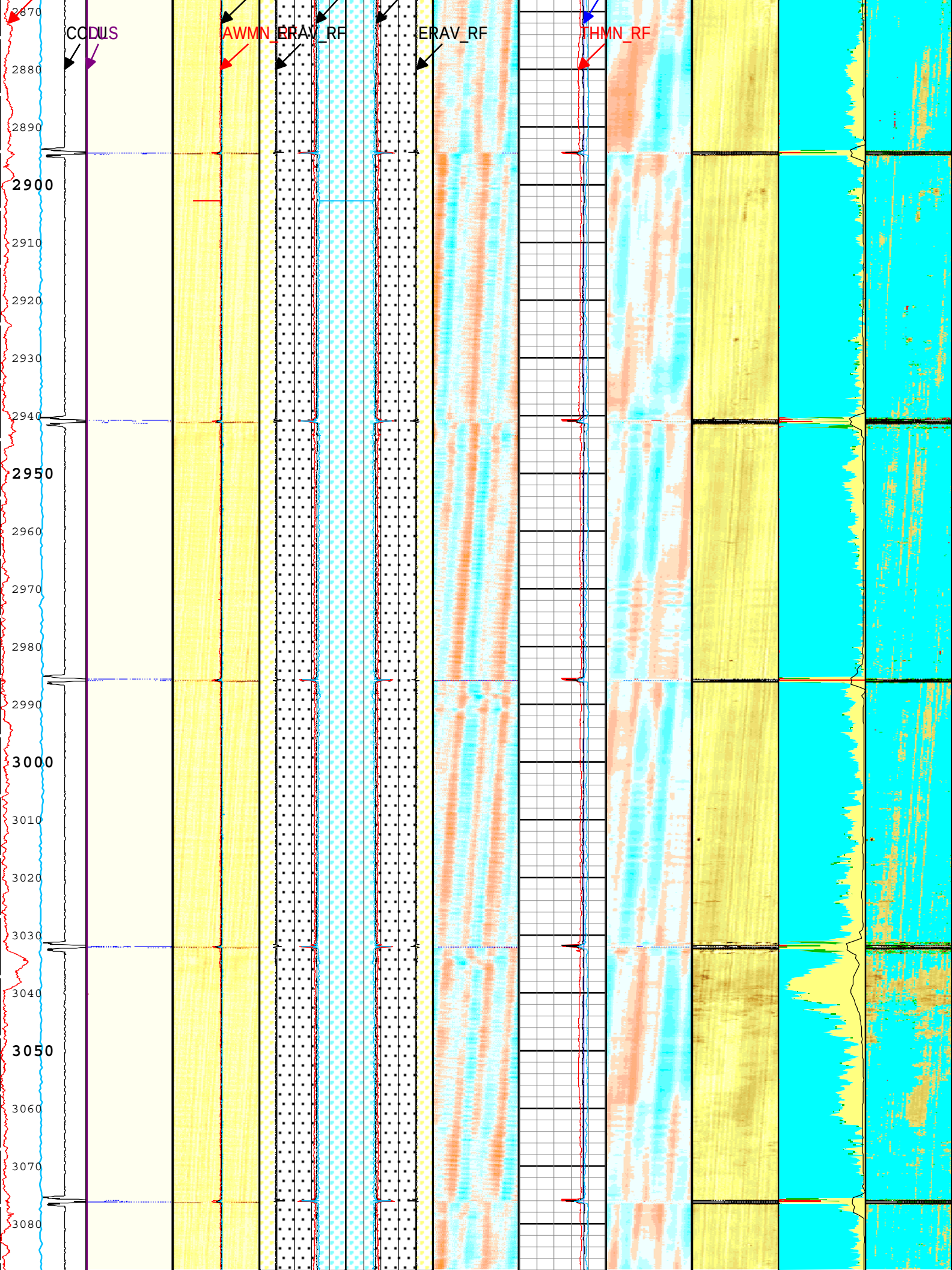

1770
1780
1790
1800
1810
1820
1830
1840
1850
1860
1870
1880
1890
1900
1910
1920
1930
1940
1950
1960
1970
1980
RSAV
ECCE_RF
CODUS
AWMX_RF
AWAV_RF
AWMN_RF
IRMN_RF
IRMX_RF
IRAV_RF
ERAV_RF
IRMN_RF
IRMX_RF
IRAV_RF
ERAV_RF
THMX_RF
THAV_RF
THNO
THMN_RF
BI

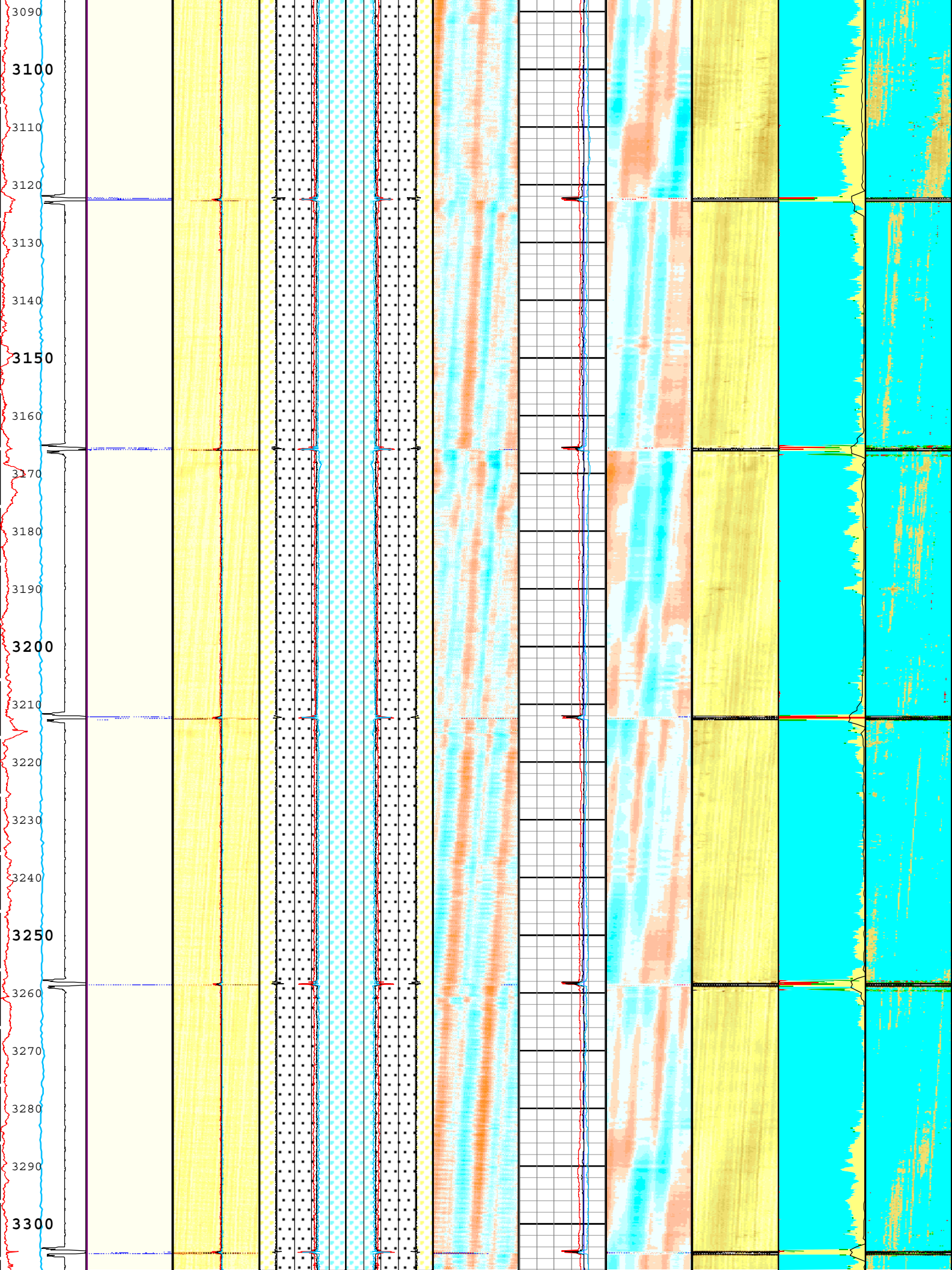

1990
2000
2010
2020
2030
2040
2050
2060
2070
2080
2090
2100
2110
2120
2130
2140
2150
2160
2170
2180
2190
2200

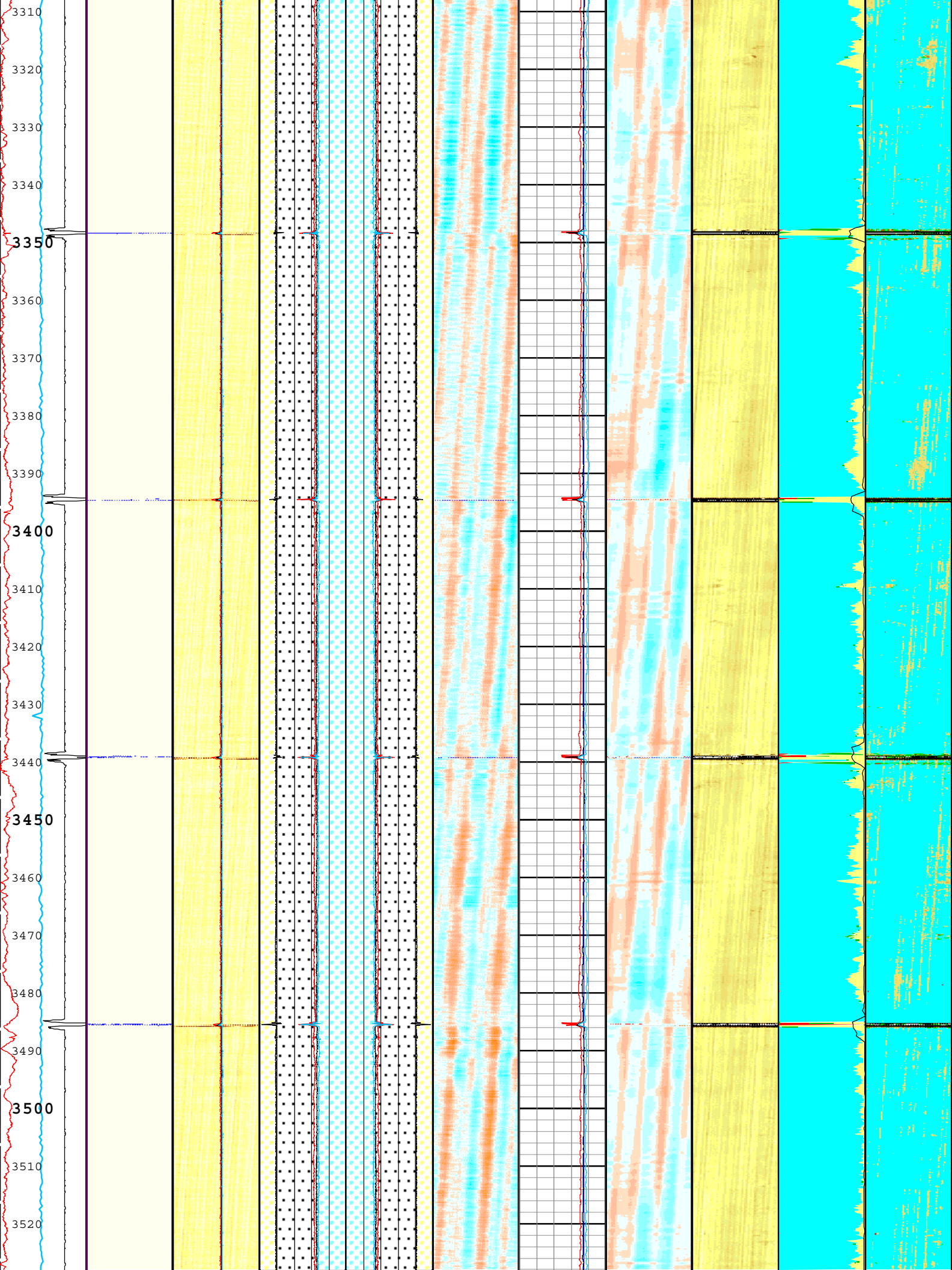

2210
2220
2230
2240
2250
2260
2270
2280
2290
2300
2310
2320
2330
2340
2350
2360
2370
2380
2390
2400
2410
2420

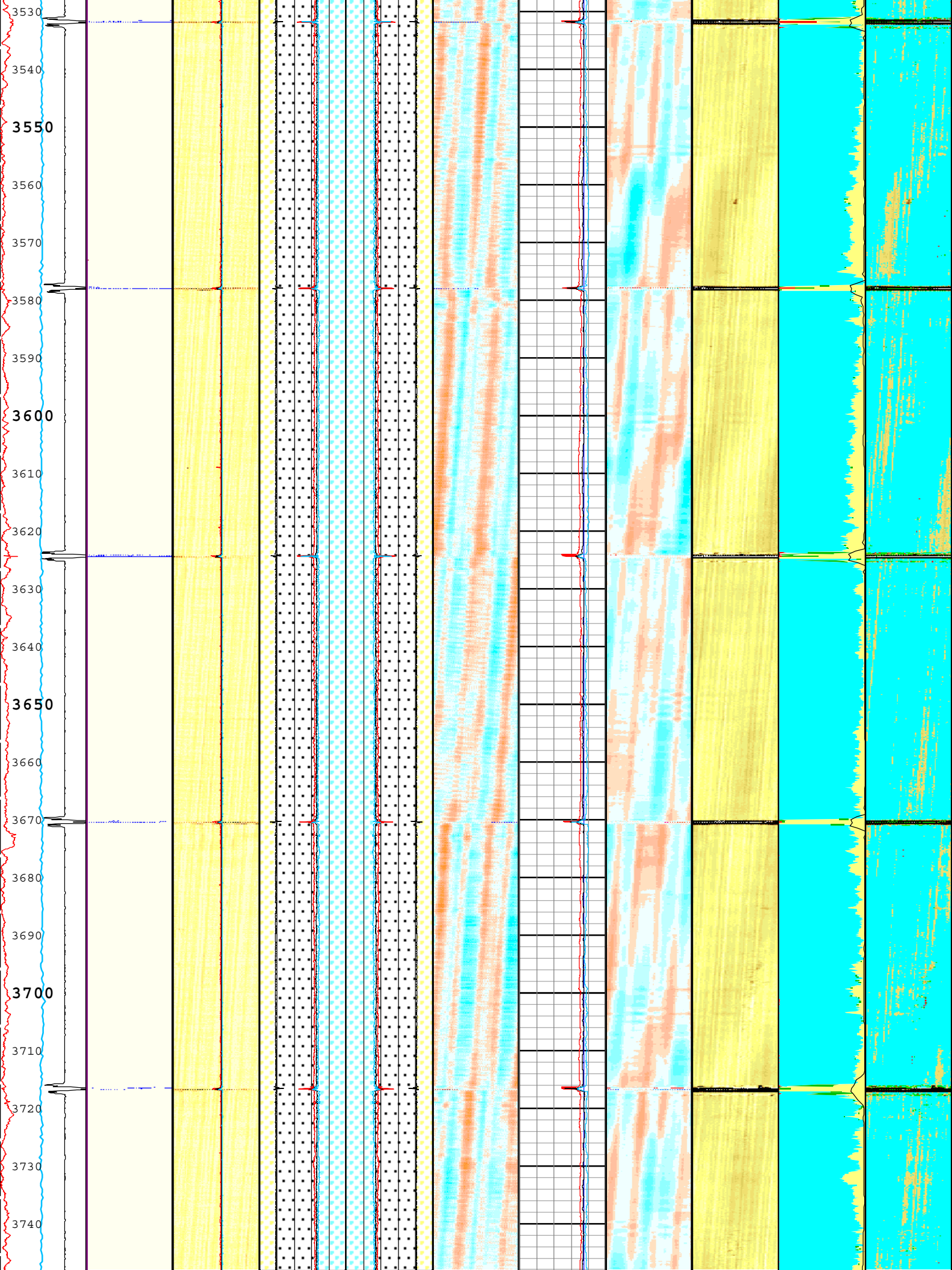

2430
2440
2450
2460
2470
2480
2490
2500
2510
2520
2530
2540
2550
2560
2570
2580
2590
2600
2610
2620
2630
2640

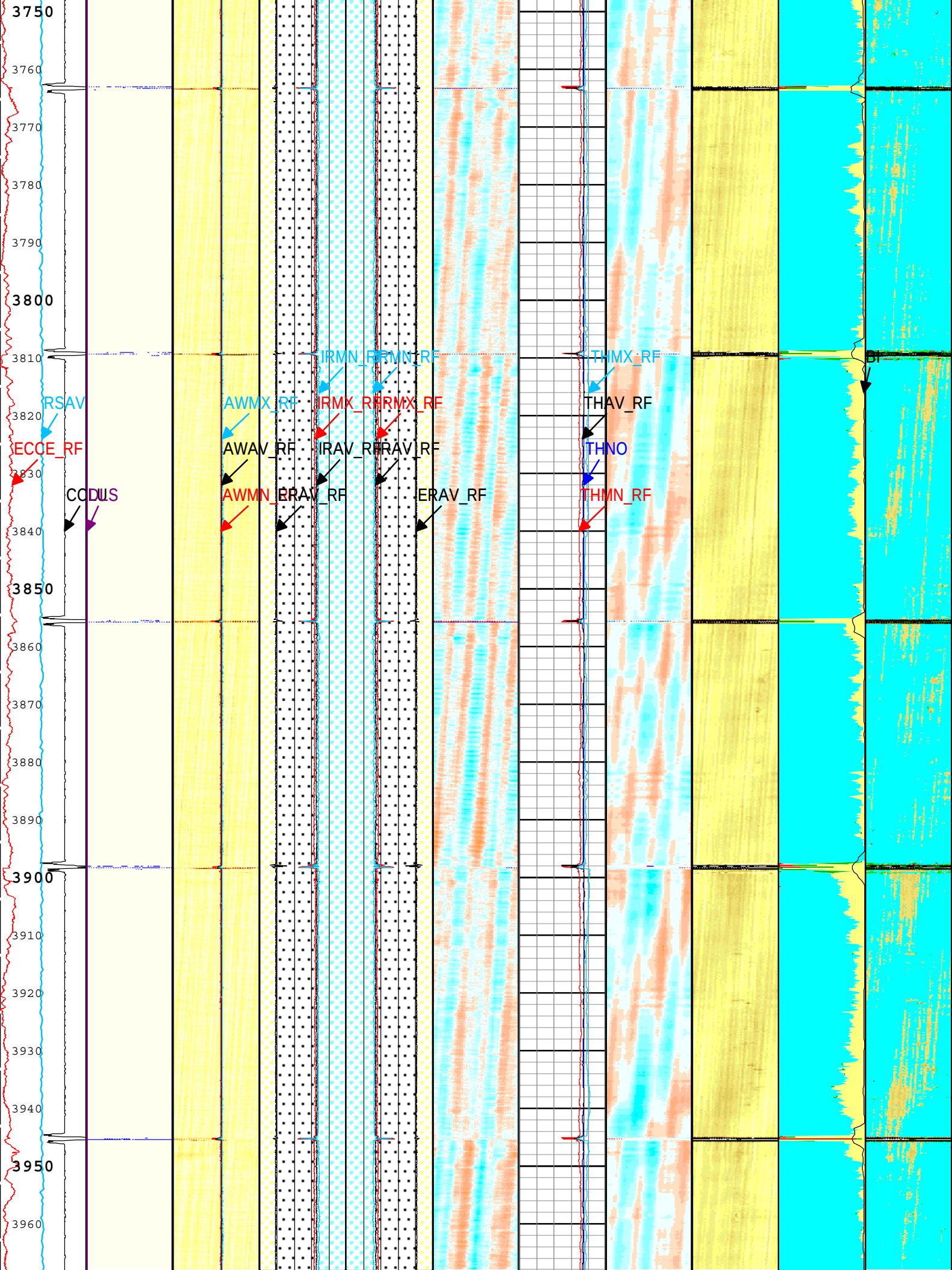

2650
2660
2670
2680
2690
2700
2710
2720
2730
2740
2750
2760
2770
2780
2790
2800
2810
2820
2830
2840
2850
2860
RSAV
ECCE_RF
AWMX_RF
AWAV_RF
IRMN_RF
IRMX_RF
IRAV_RF
RMN_RF
RMX_RF
RAV_RF
THMX_RF
THAV_RF
THNO
BI

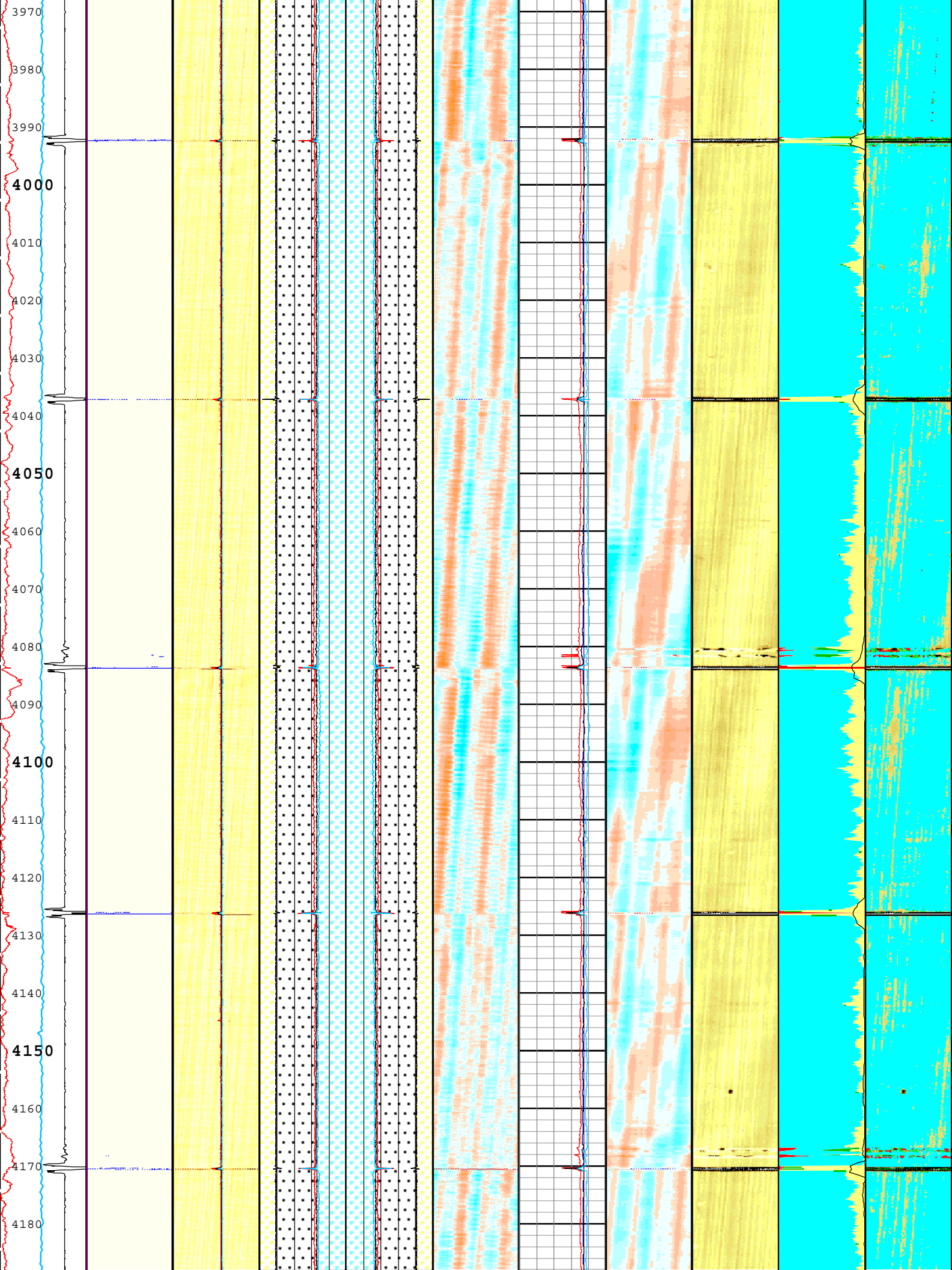

CODWS
AWMN_RF
ERAV_RF
ERAV_RF
THMN_RF
2870
2880
2890
2900
2910
2920
2930
2940
2950
2960
2970
2980
2990
3000
3010
3020
3030
3040
3050
3060
3070
3080

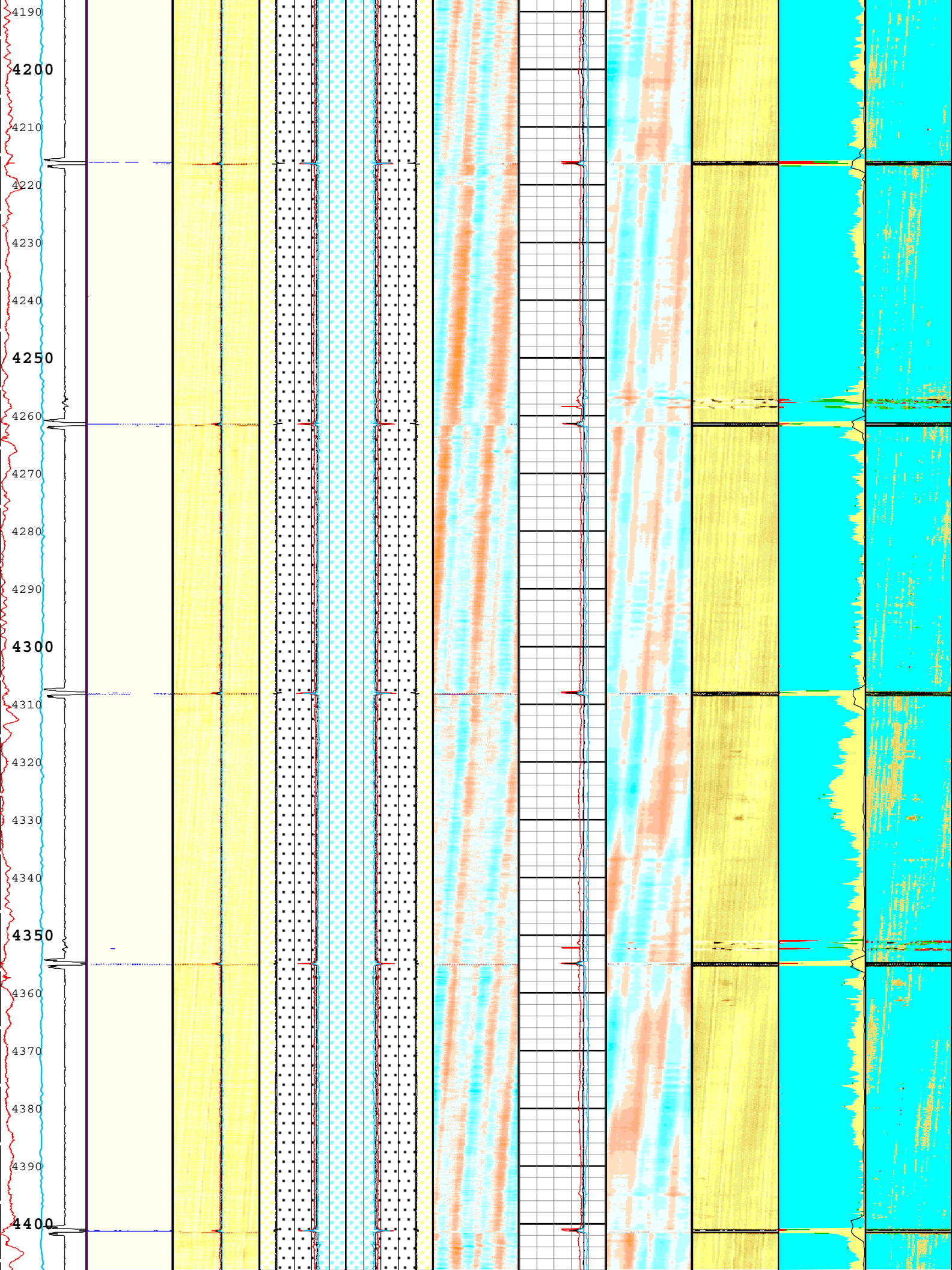

3090
3100
3110
3120
3130
3140
3150
3160
3170
3180
3190
3200
3210
3220
3230
3240
3250
3260
3270
3280
3290
3300

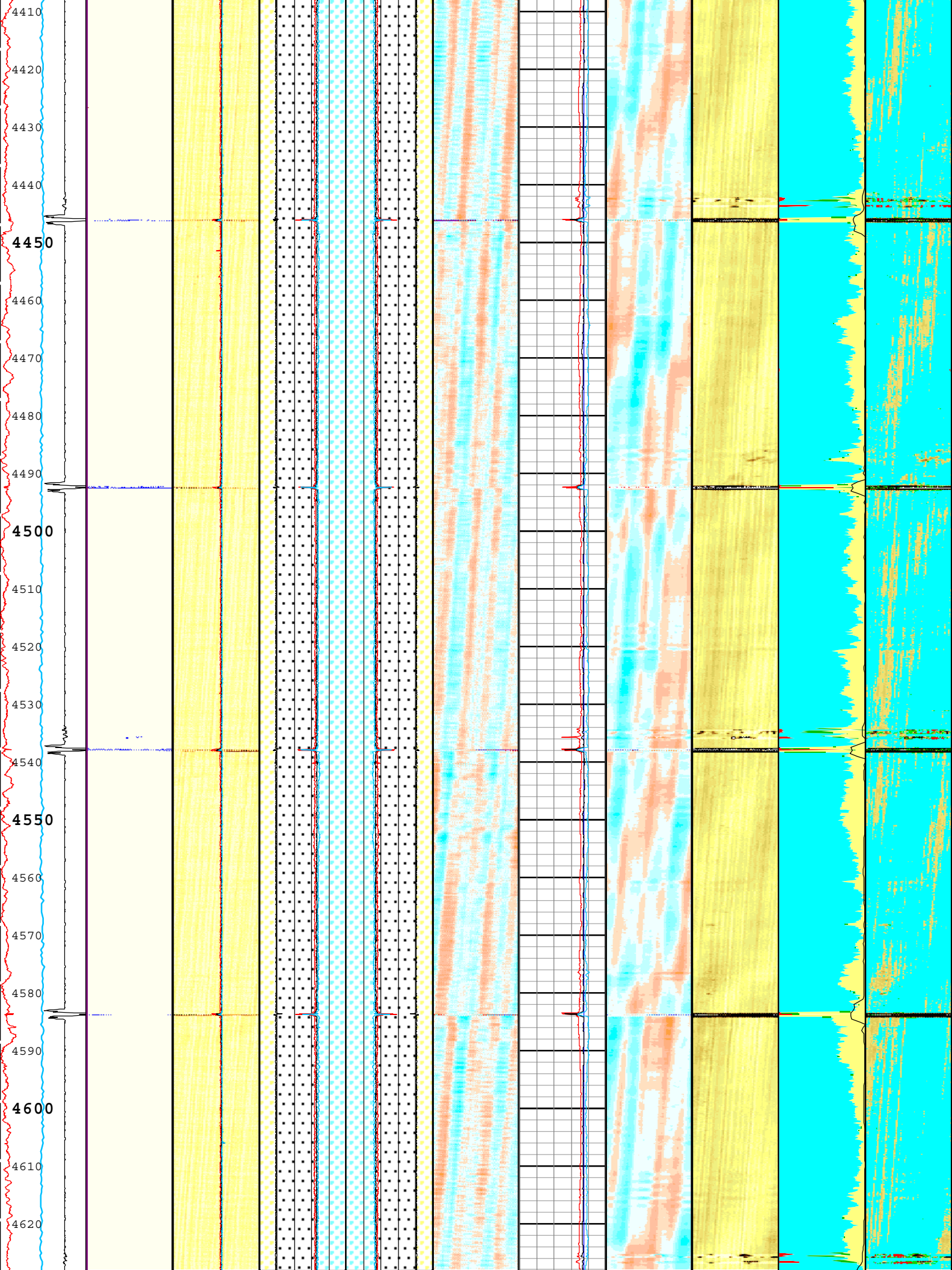

3310
3320
3330
3340
3350
3360
3370
3380
3390
3400
3410
3420
3430
3440
3450
3460
3470
3480
3490
3500
3510
3520

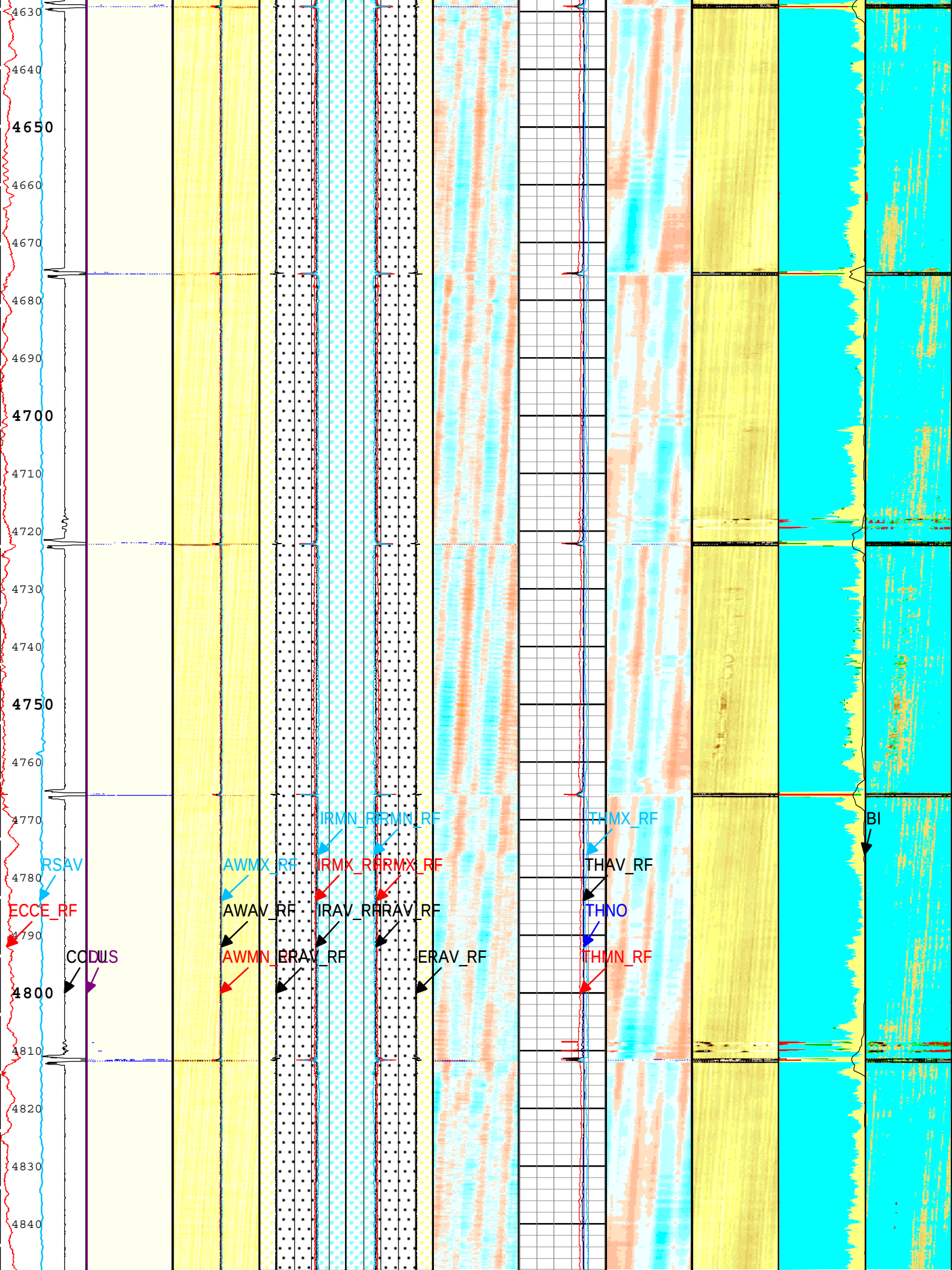

3530
3540
3550
3560
3570
3580
3590
3600
3610
3620
3630
3640
3650
3660
3670
3680
3690
3700
3710
3720
3730
3740

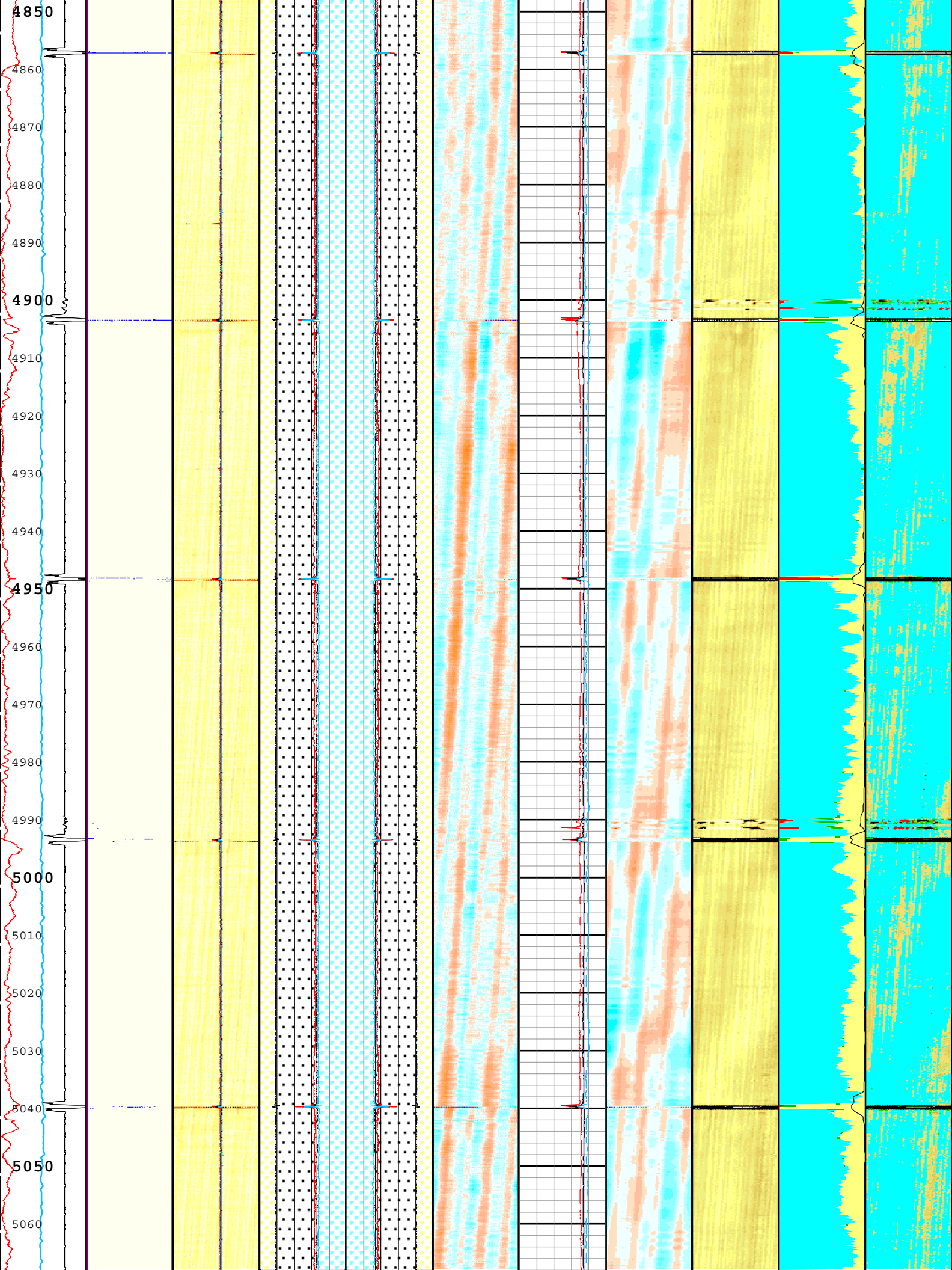

3750
3760
3770
3780
3790
3800
3810
3820
3830
3840
3850
3860
3870
3880
3890
3900
3910
3920
3930
3940
3950
3960
RSAV
ECCE_RF
CODU
US
AWMX_RF
AWAV_RF
AWMN_RF
IRMN_RF
IRMX_RF
IRAV_RF
ERAV_RF
RMN_RF
RMX_RF
RAV_RF
ERAV_RF
THMX_RF
THAV_RF
THNO
THMN_RF
BI

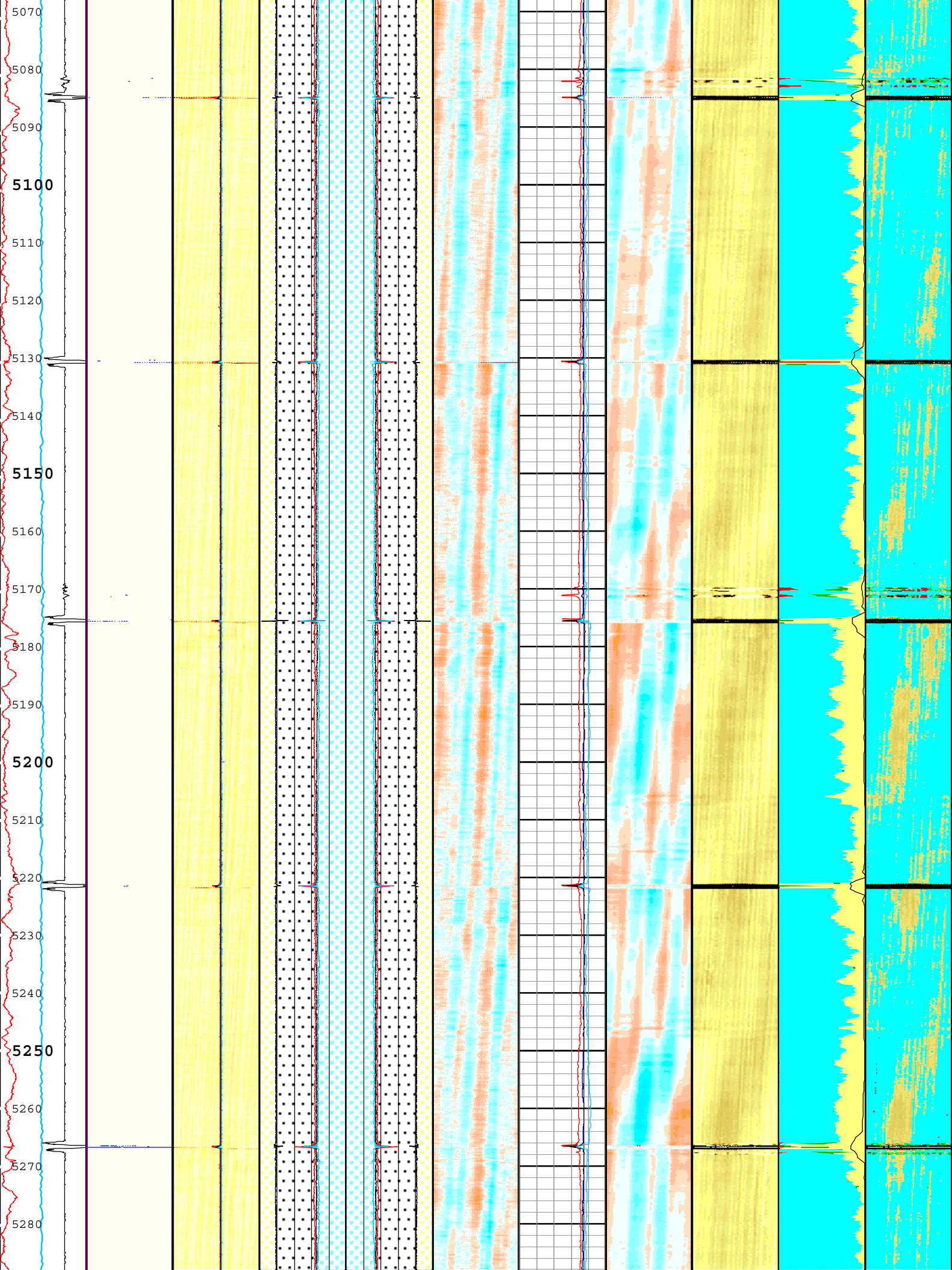

3970
3980
3990
4000
4010
4020
4030
4040
4050
4060
4070
4080
4090
4100
4110
4120
4130
4140
4150
4160
4170
4180

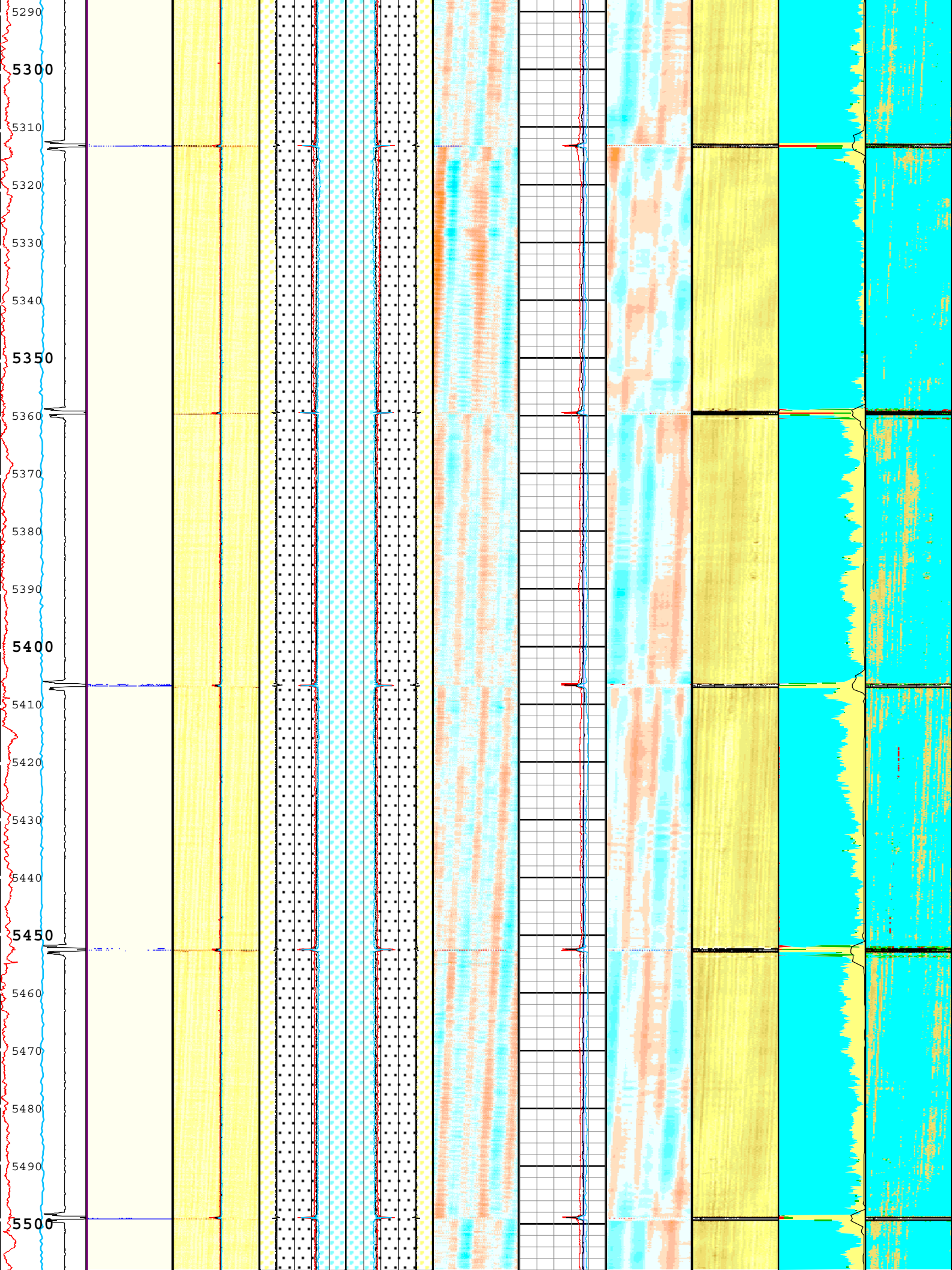

4190
4200
4210
4220
4230
4240
4250
4260
4270
4280
4290
4300
4310
4320
4330
4340
4350
4360
4370
4380
4390
4400

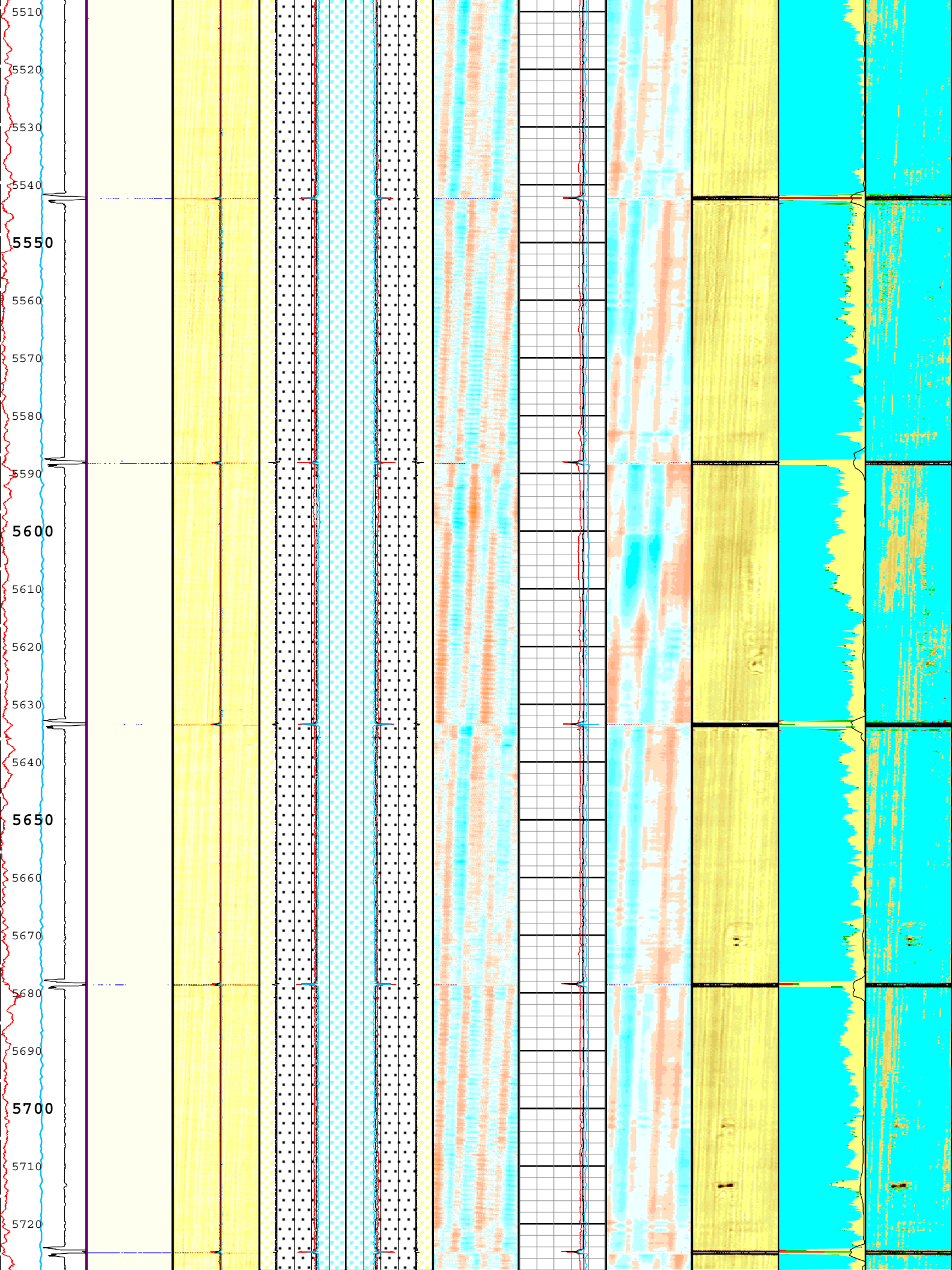

4410
4420
4430
4440
4450
4460
4470
4480
4490
4500
4510
4520
4530
4540
4550
4560
4570
4580
4590
4600
4610
4620

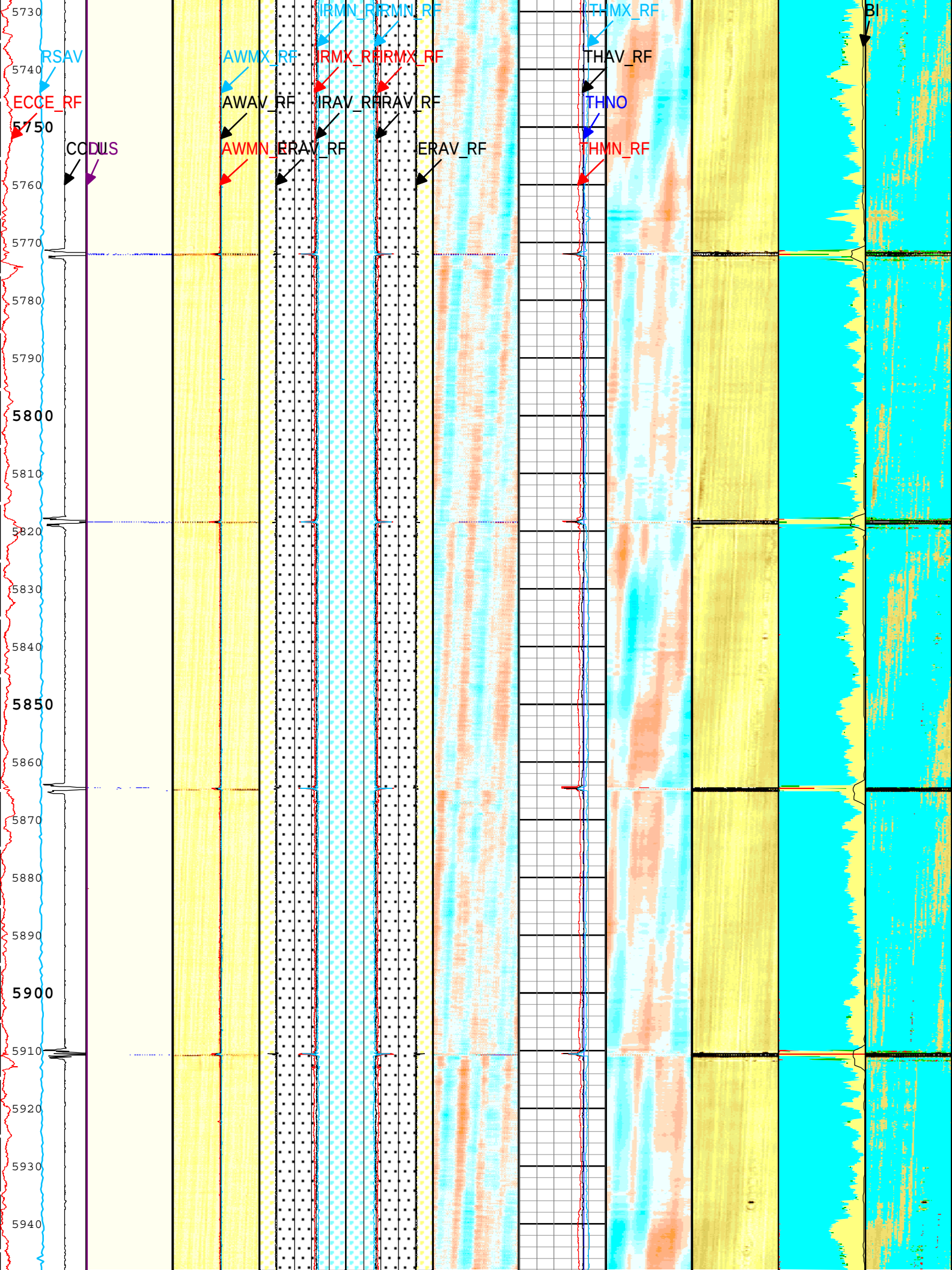

4630
4640
4650
4660
4670
4680
4690
4700
4710
4720
4730
4740
4750
4760
4770
4780
4790
4800
4810
4820
4830
4840
RSAV
ECCE_RF
CODW
US
AWMX_RF
AWAV_RF
AWMN_RF
IRMN_RF
IRMX_RF
IRAV_RF
ERAV_RF
THMX_RF
THAV_RF
THNO
THMN_RF
BI

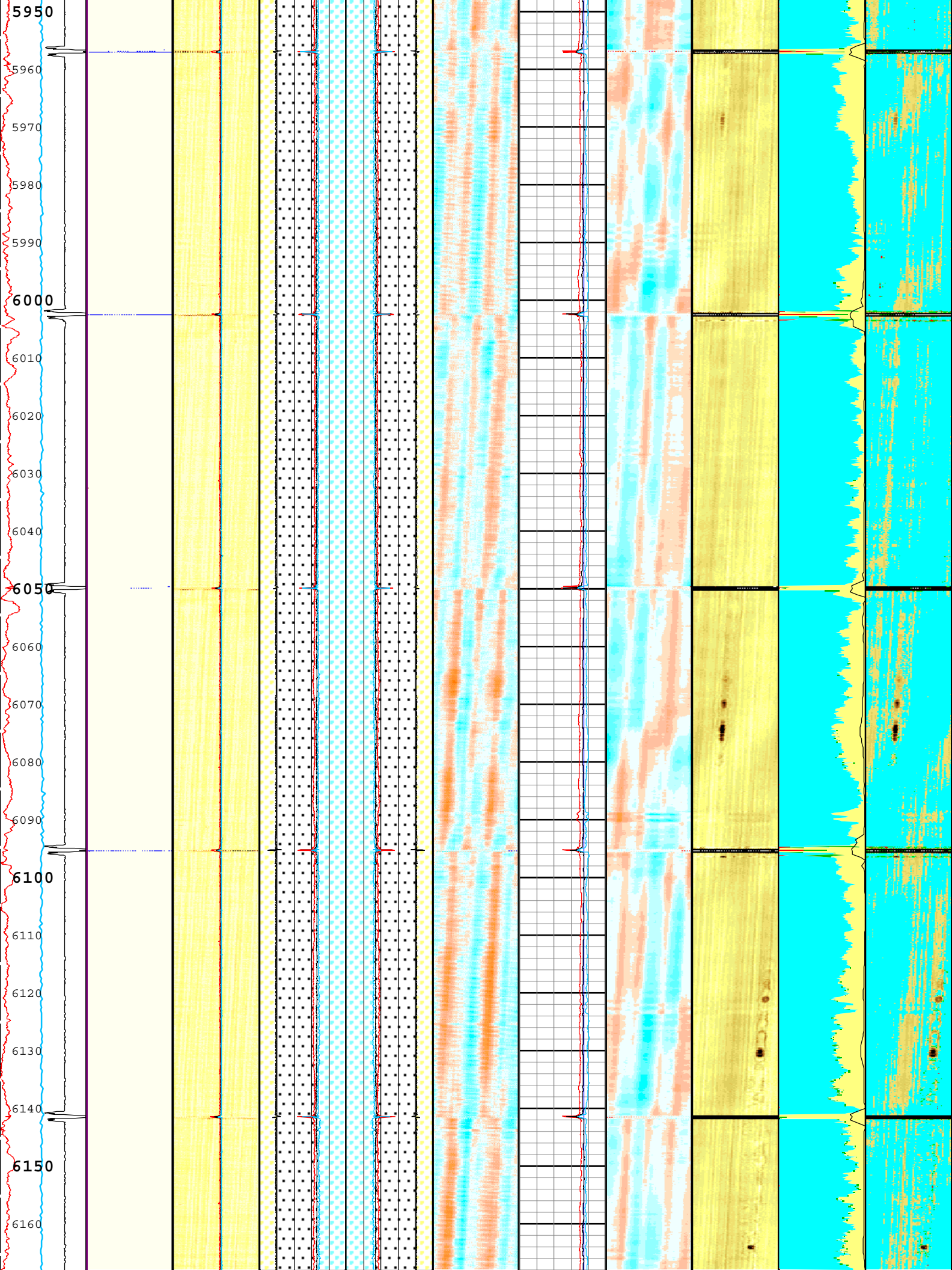

4850
4860
4870
4880
4890
4900
4910
4920
4930
4940
4950
4960
4970
4980
4990
5000
5010
5020
5030
5040
5050
5060

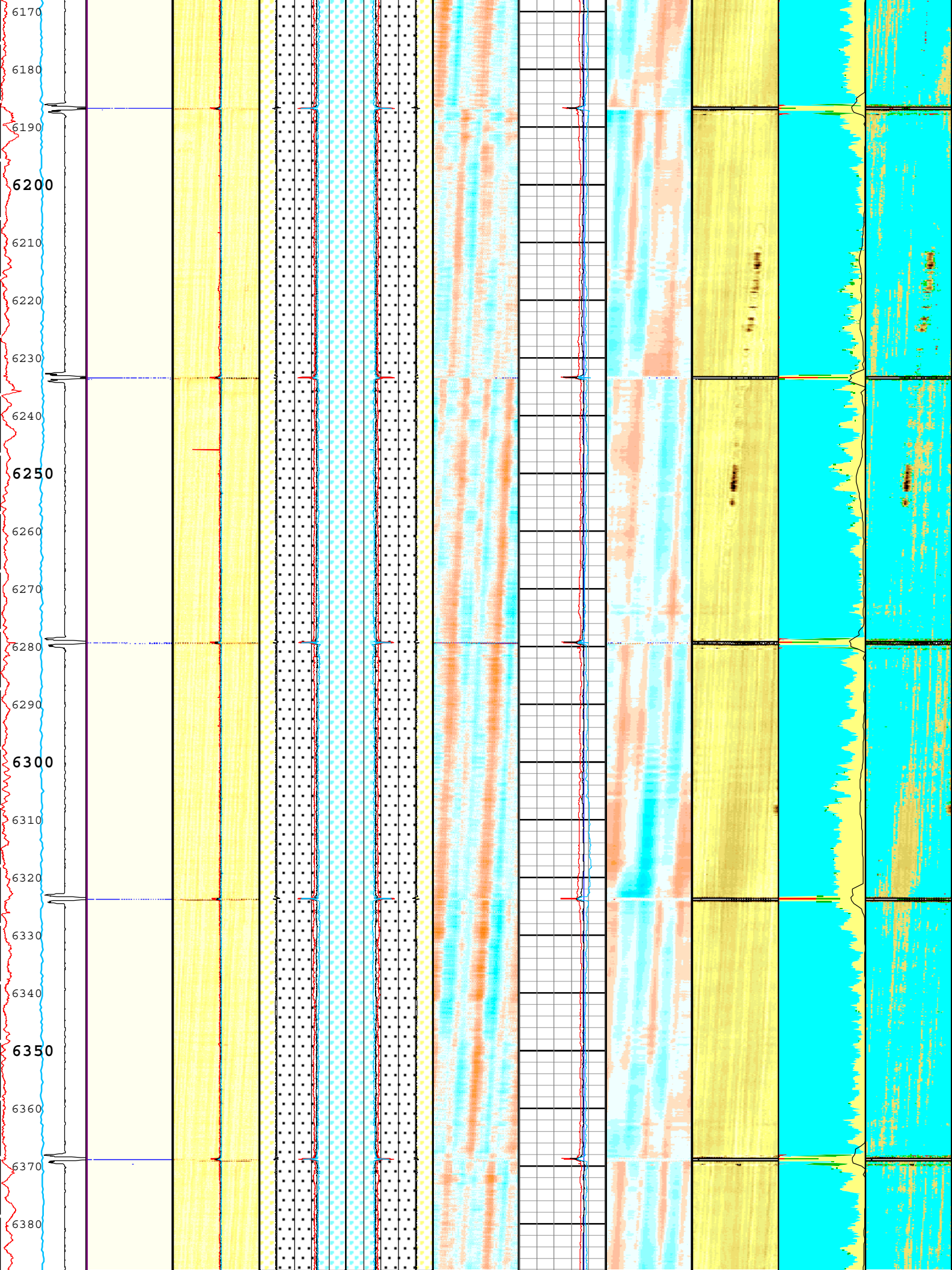

5070
5080
5090
5100
5110
5120
5130
5140
5150
5160
5170
5180
5190
5200
5210
5220
5230
5240
5250
5260
5270
5280

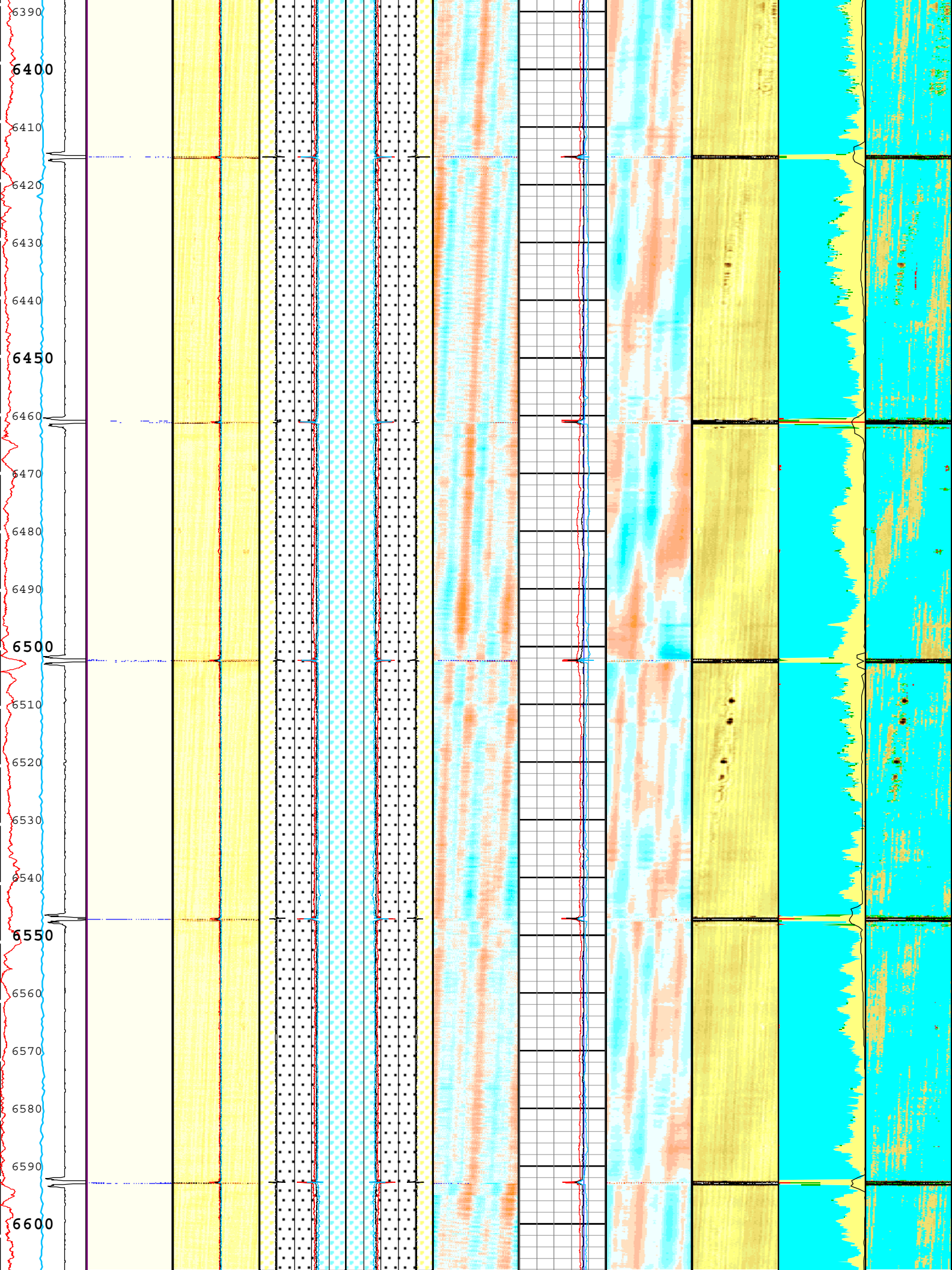

5290
5300
5310
5320
5330
5340
5350
5360
5370
5380
5390
5400
5410
5420
5430
5440
5450
5460
5470
5480
5490
5500

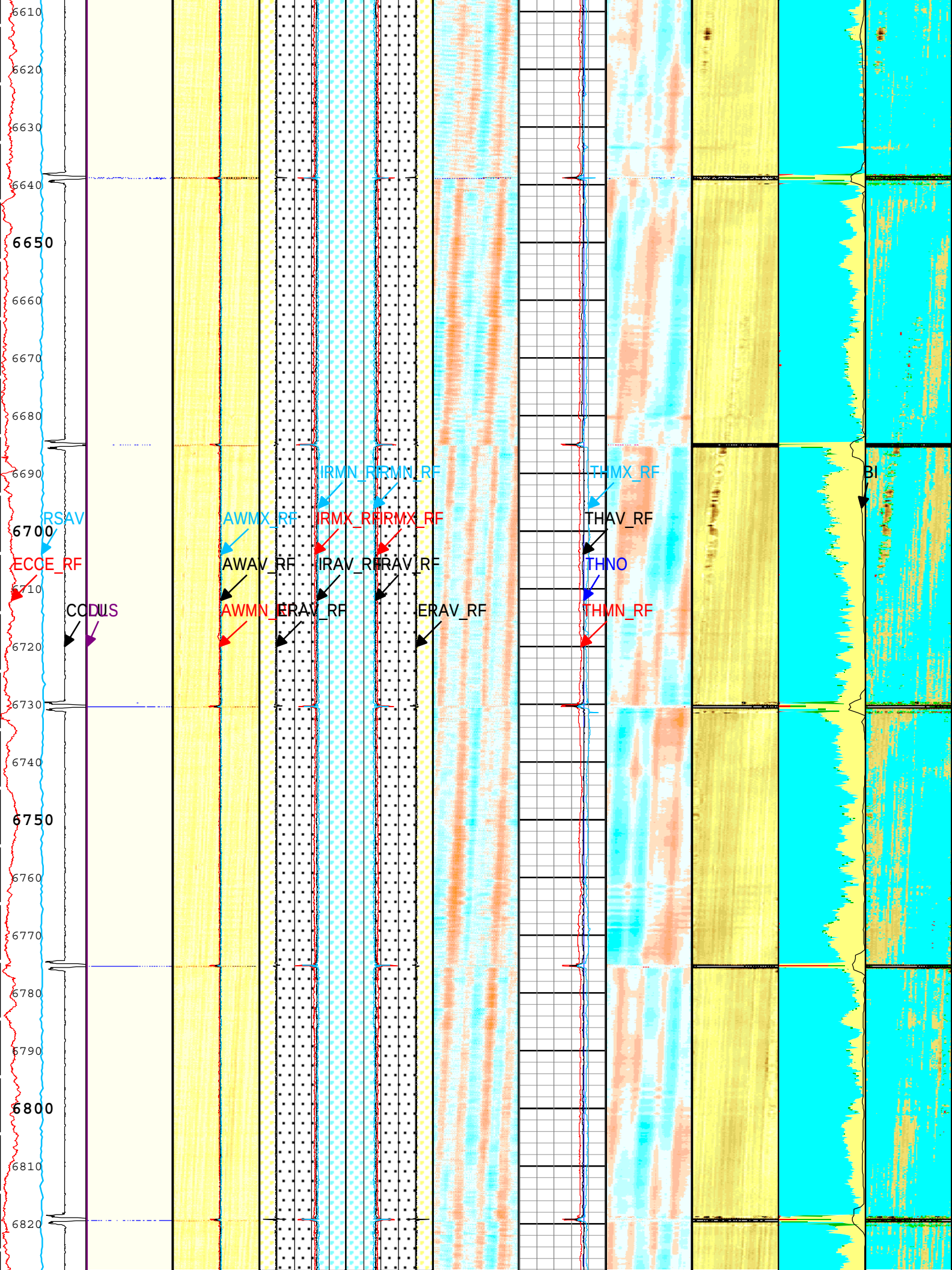

5510
5520
5530
5540
5550
5560
5570
5580
5590
5600
5610
5620
5630
5640
5650
5660
5670
5680
5690
5700
5710
5720

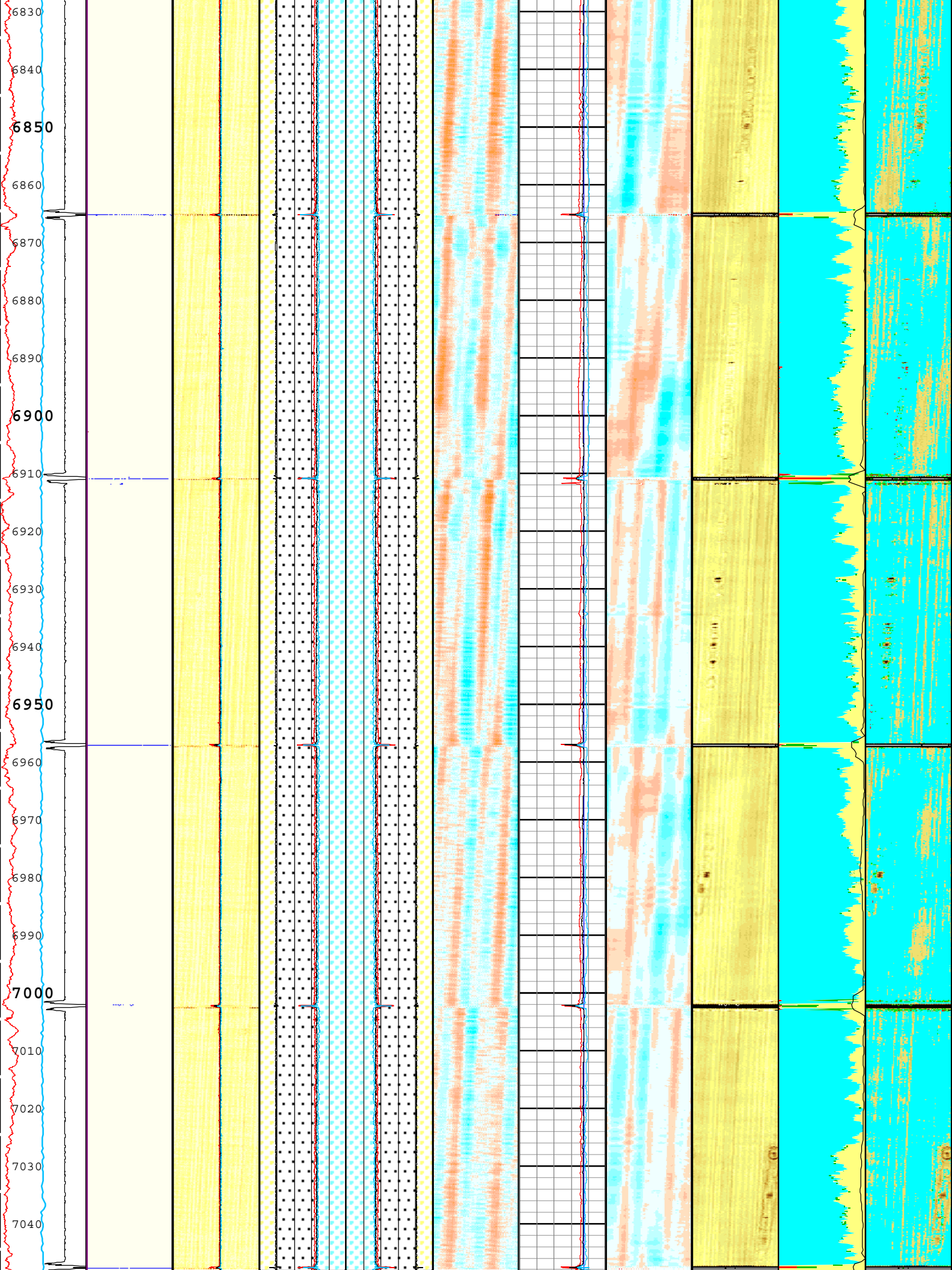

5730
5740
5750
5760
5770
5780
5790
5800
5810
5820
5830
5840
5850
5860
5870
5880
5890
5900
5910
5920
5930
5940
RSAV
ECCE_RF
CODW
US
AWMX_RF
AWAV_RF
AWMN_RF
IRMN_RF
IRMX_RF
IRAV_RF
ERAV_RF
RMN_RF
RMX_RF
RAV_RF
ERAV_RF
THMX_RF
THAV_RF
THNO
THMN_RF
BI

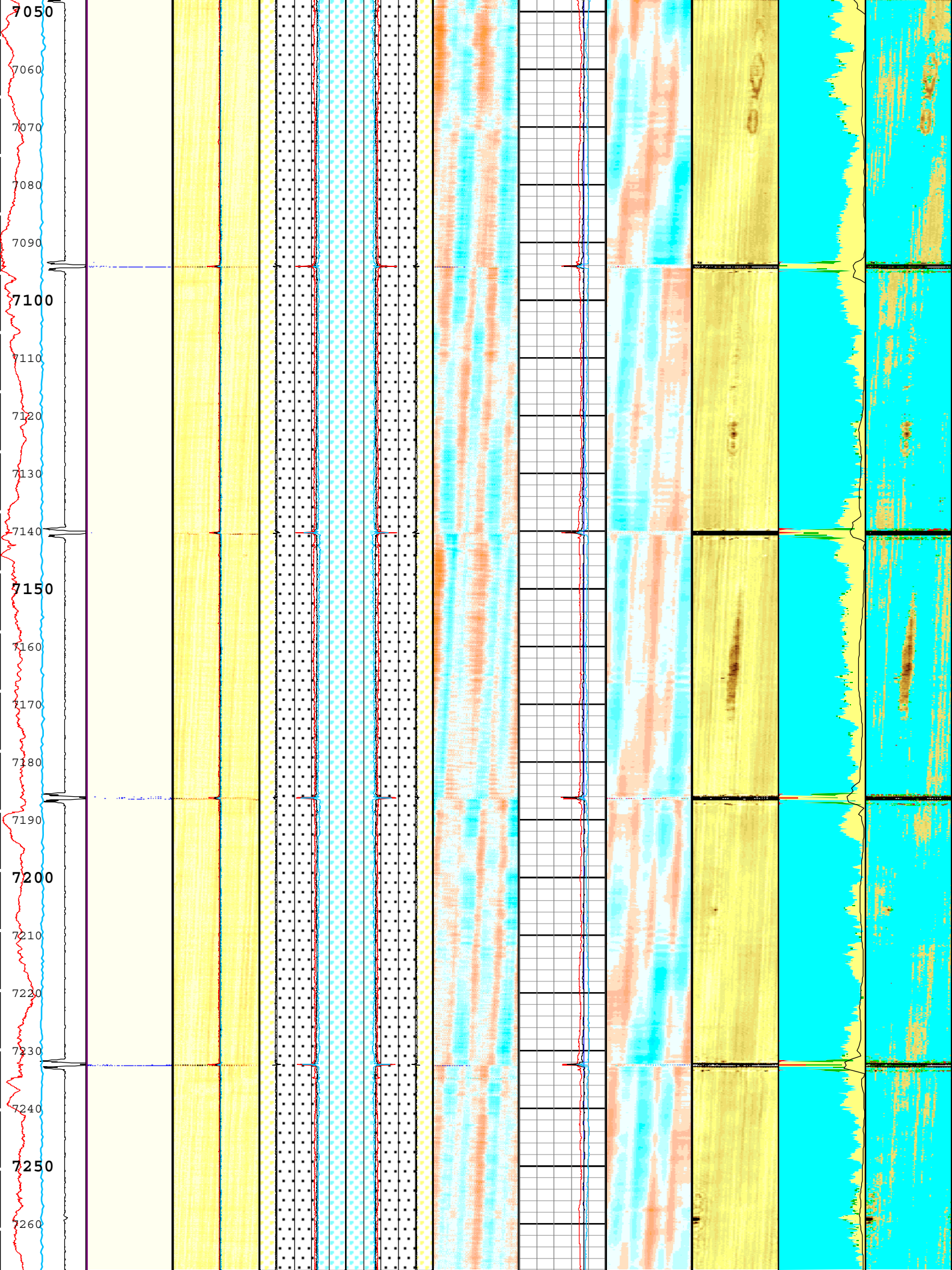

5950
5960
5970
5980
5990
6000
6010
6020
6030
6040
6050
6060
6070
6080
6090
6100
6110
6120
6130
6140
6150
6160

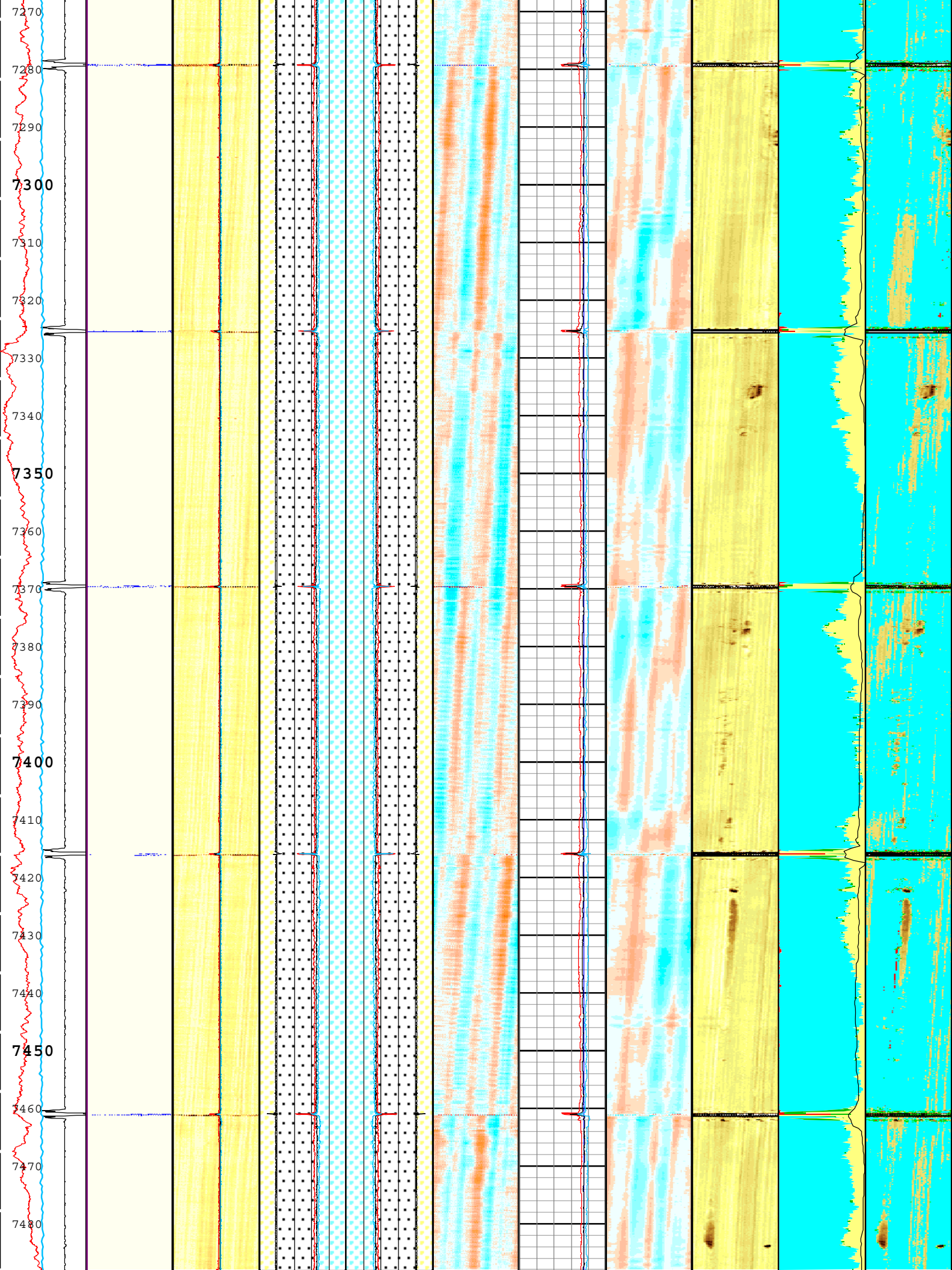

6170
6180
6190
6200
6210
6220
6230
6240
6250
6260
6270
6280
6290
6300
6310
6320
6330
6340
6350
6360
6370
6380

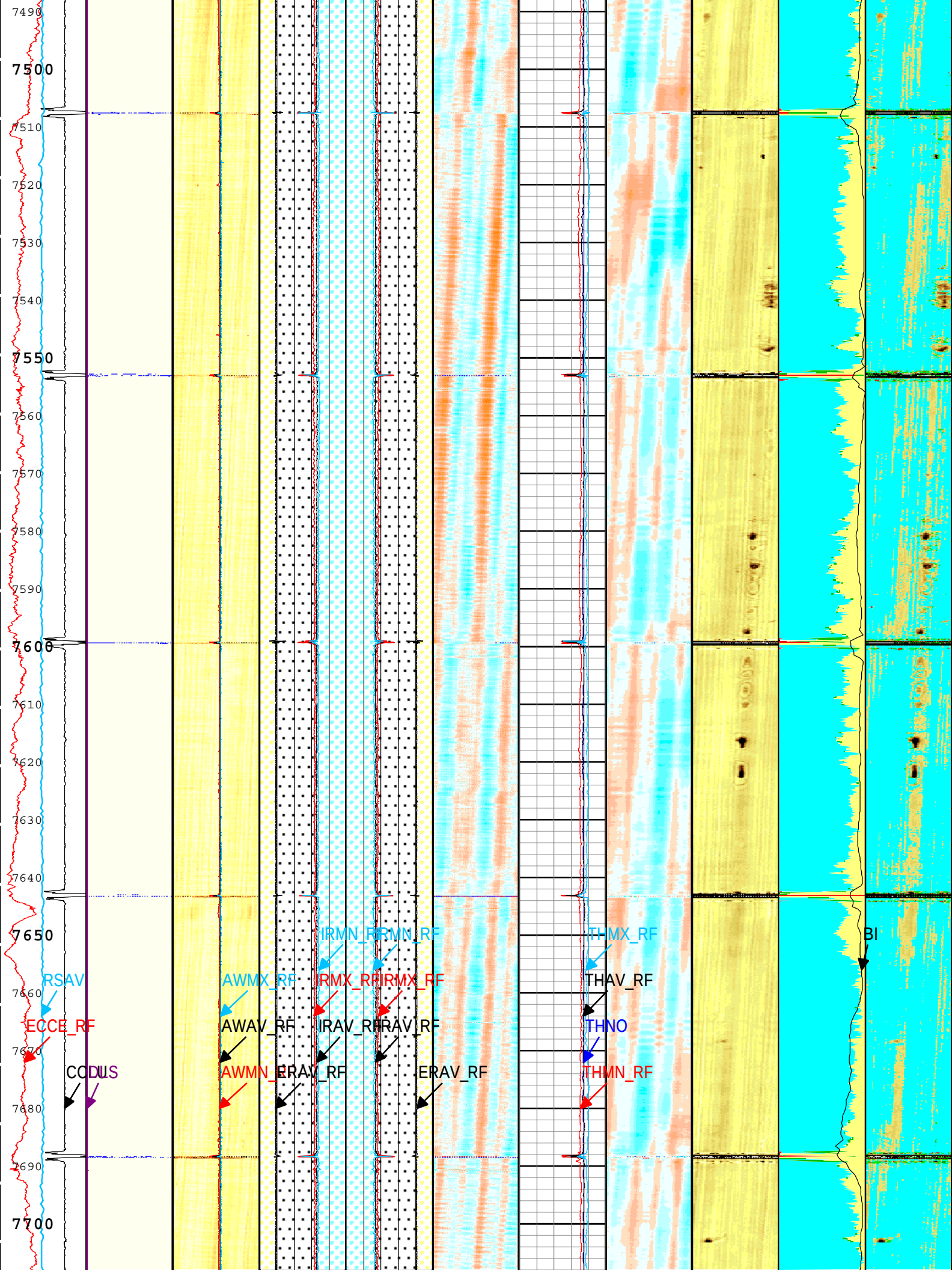

6390
6400
6410
6420
6430
6440
6450
6460
6470
6480
6490
6500
6510
6520
6530
6540
6550
6560
6570
6580
6590
6600

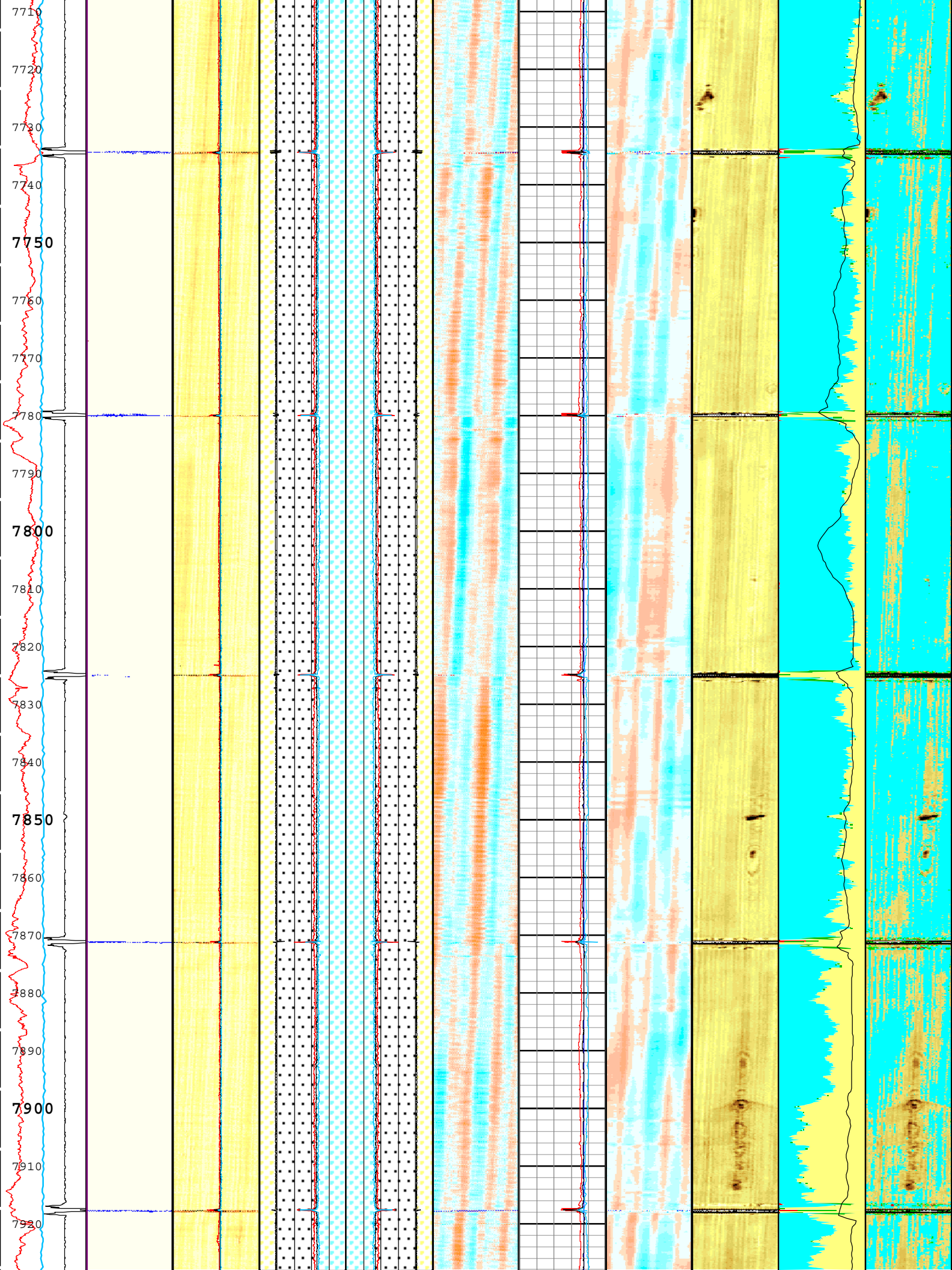

6610
6620
6630
6640
6650
6660
6670
6680
6690
6700
6710
6720
6730
6740
6750
6760
6770
6780
6790
6800
6810
6820
RSAV
ECCE_RF
CODWS
AWMX_RF
AWAV_RF
AWMN_RF
IRMN_RF
IRMX_RF
IRAV_RF
ERAV_RF
THMX_RF
THAV_RF
THNO
THMN_RF
BI

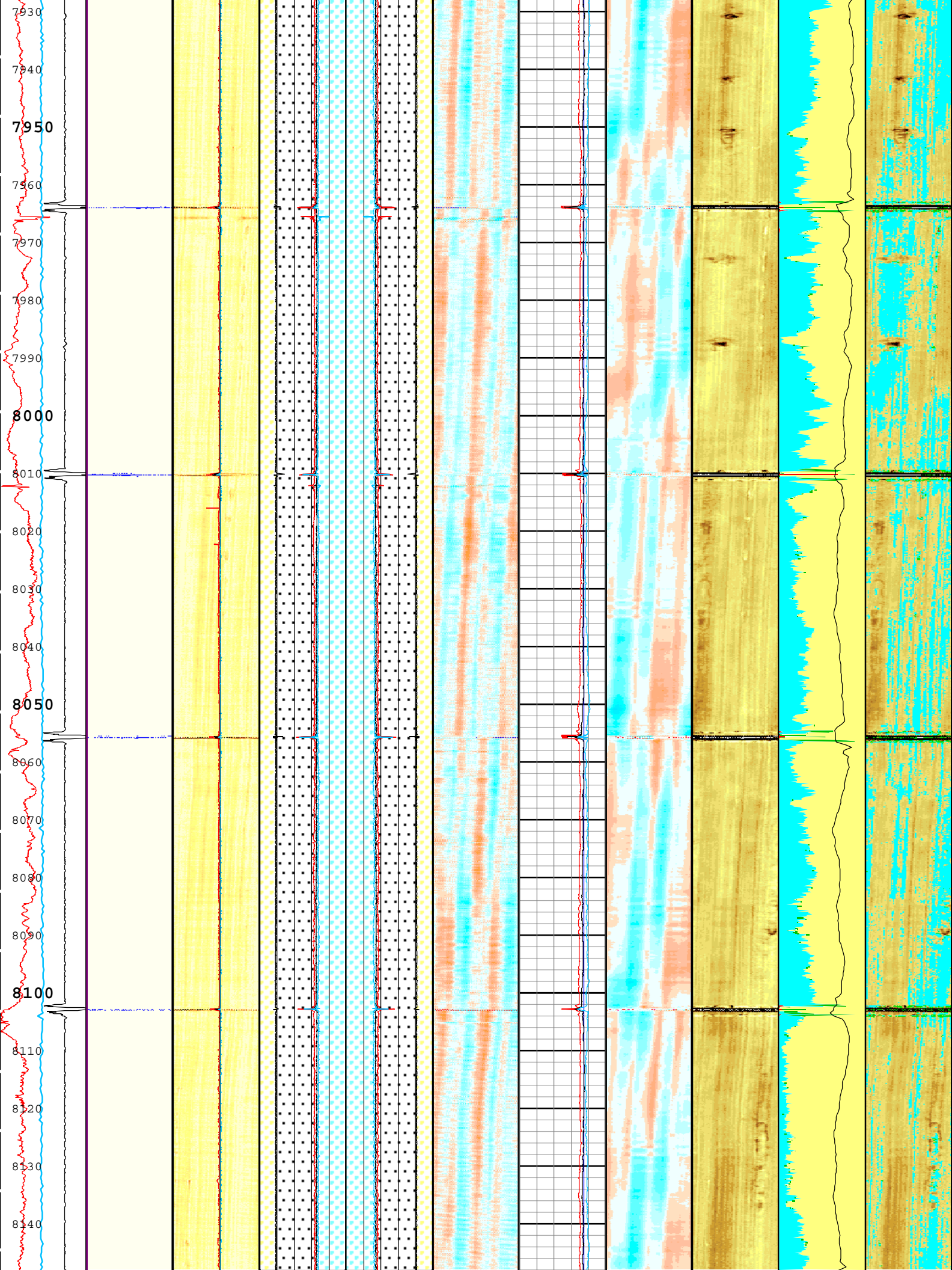

6830
6840
6850
6860
6870
6880
6890
6900
6910
6920
6930
6940
6950
6960
6970
6980
6990
7000
7010
7020
7030
7040

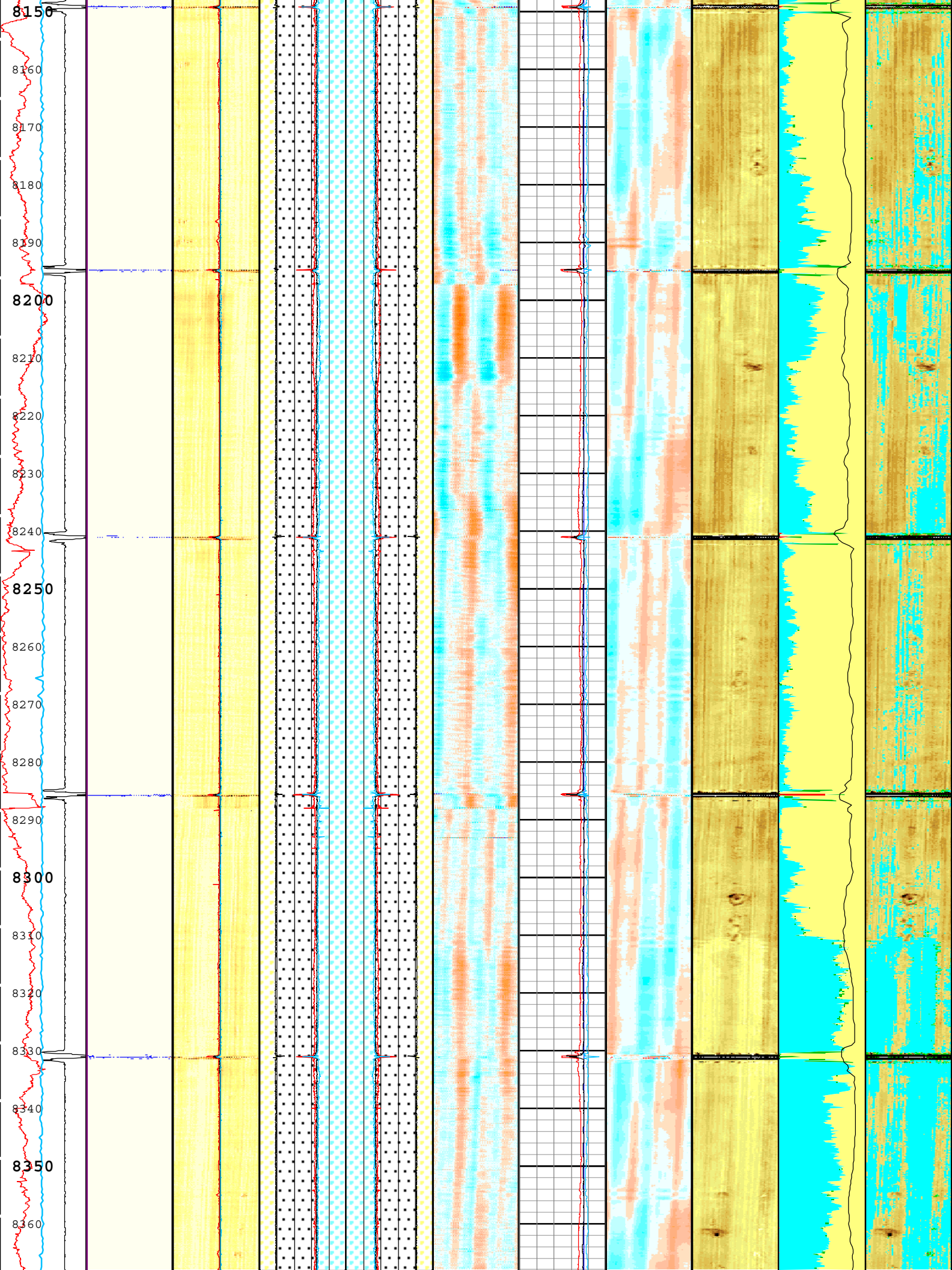

7050
7060
7070
7080
7090
7100
7110
7120
7130
7140
7150
7160
7170
7180
7190
7200
7210
7220
7230
7240
7250
7260

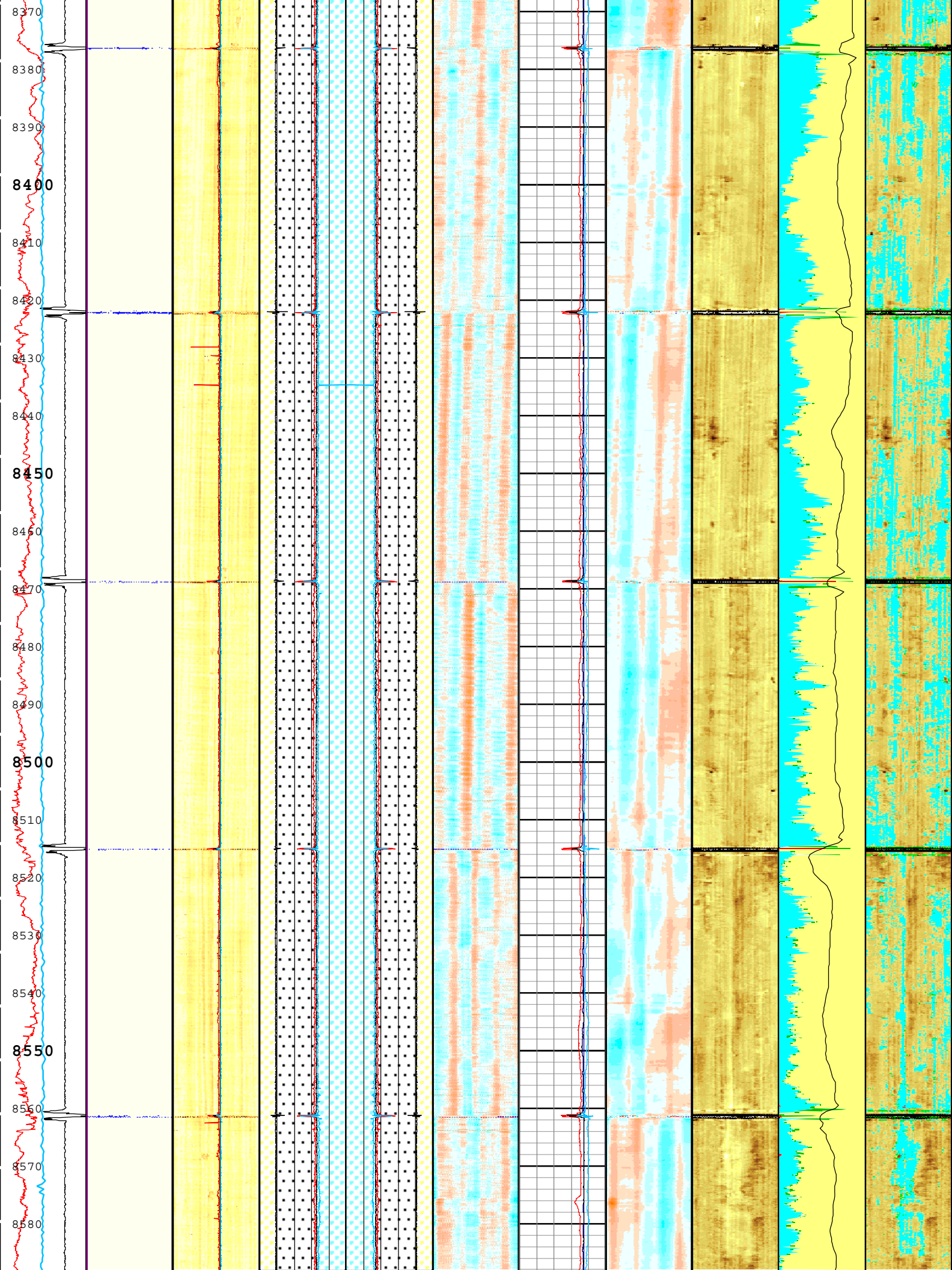

7270
7280
7290
7300
7310
7320
7330
7340
7350
7360
7370
7380
7390
7400
7410
7420
7430
7440
7450
7460
7470
7480

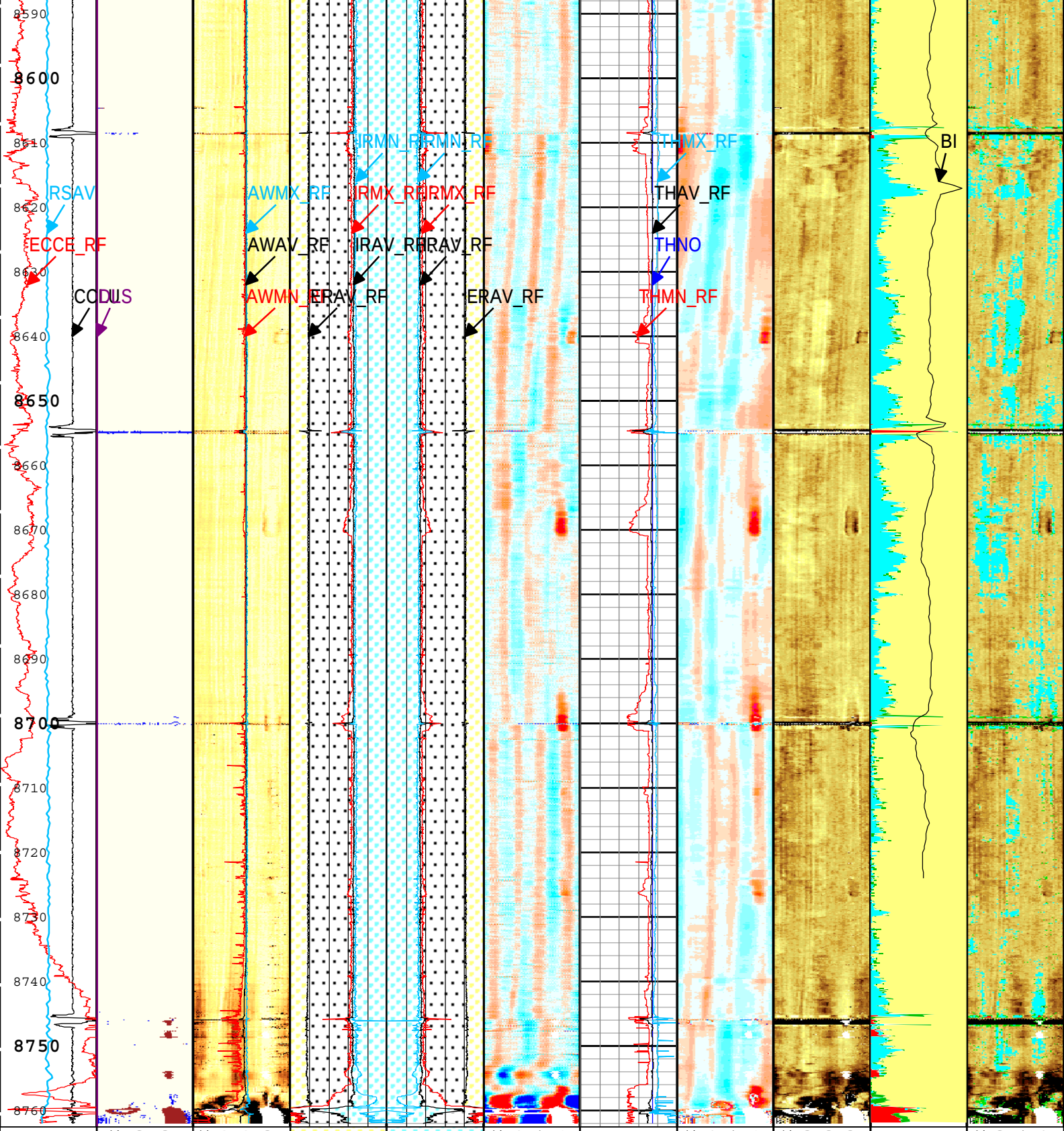

7490
7500
7510
7520
7530
7540
7550
7560
7570
7580
7590
7600
7610
7620
7630
7640
7650
7660
7670
7680
7690
7700
RSAV
ECCE_RF
CODUS
AWMX_RF
AWAV_RF
AWMN_RF
IRMN_RF
IRMX_RF
IRAV_RF
ERAV_RF
THMX_RF
THAV_RF
THNO
THMN_RF
BI


7710
7720
7730
7740
7750
7760
7770
7780
7790
7800
7810
7820
7830
7840
7850
7860
7870
7880
7890
7900
7910
7920

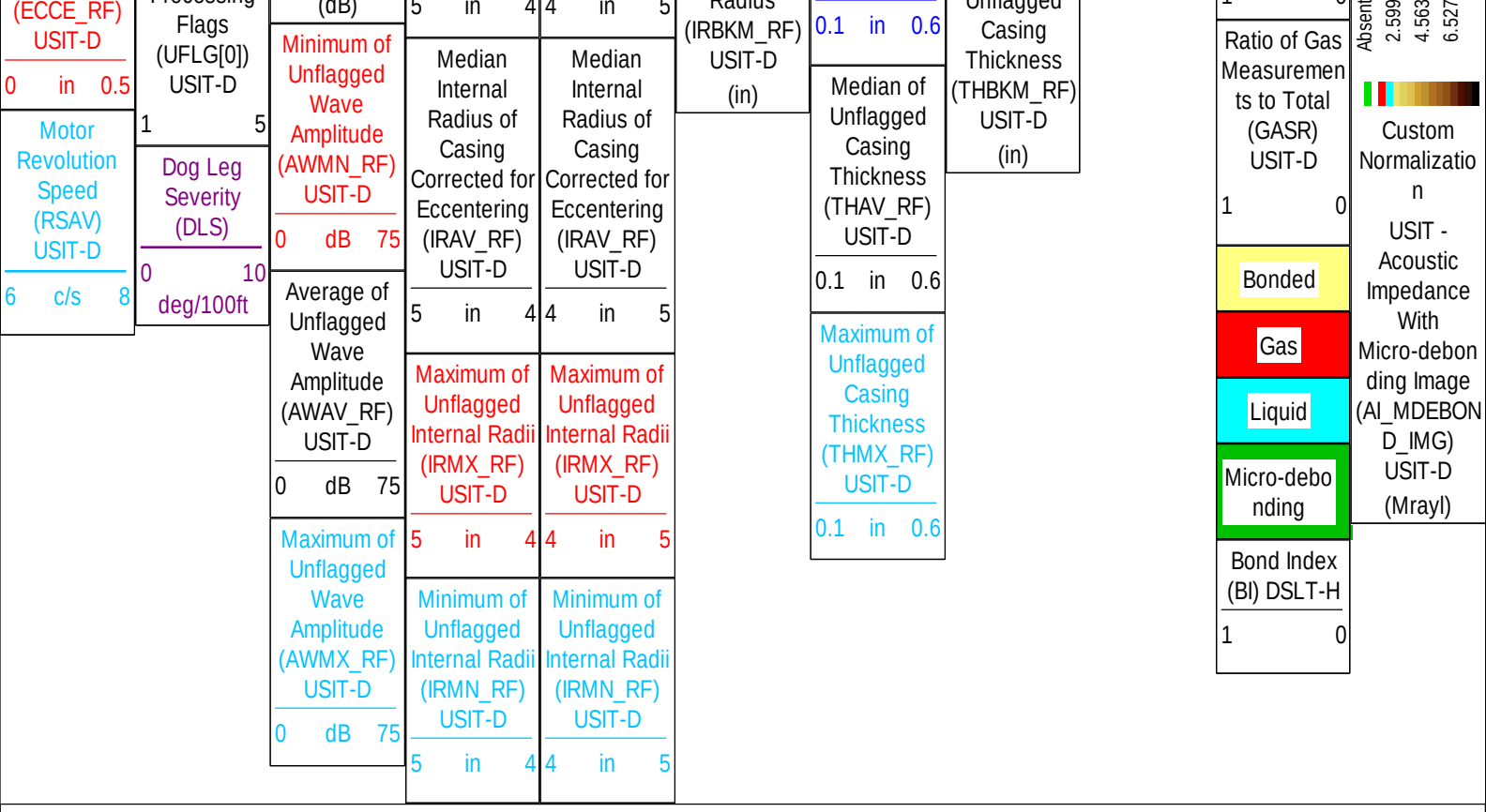

7930
7940
7950
7960
7970
7980
7990
8000
8010
8020
8030
8040
8050
8060
8070
8080
8090
8100
8110
8120
8130
8140


8150
8160
8170
8180
8190
8200
8210
8220
8230
8240
8250
8260
8270
8280
8290
8300
8310
8320
8330
8340
8350
8360


8370
8380
8390
8400
8410
8420
8430
8440
8450
8460
8470
8480
8490
8500
8510
8520
8530
8540
8550
8560
8570
8580



Casing Collar Locator Ultrasonic (CCLU) USIT-D	Absent 1.500 3.500	Absent -4.799 -2.799 -0.800	ERAV / ERAV-IRAV / IRAV	IRAV / ERAV / IRAV-ERAV	Absent -0.043 0.004 0.051	Minimum of Unflagged Casing Thickness (THMN_RF) USIT-D	Absent -0.043 0.004 0.051	Absent 2.000 4.500 7.000	Ratio of Cement Measurements to Total (CEMR) USIT-D	Absent 3.090 5.054 7.018
-30 in 10	Explicit Normalization	Explicit Normalization			Explicit Normalization	0.1 in 0.6	Explicit Normalization	Custom Normalization	1 0	Custom Normalization
Amplitude of Eccentering for Unflagged Waves	USIT - USIT Processing Flags (UFLG) USIT-D	USIT - Amplitude of Unflagged Wave (AWBK_RF) USIT-D	Median of Unflagged External Radii (ERAV_RF) USIT-D	Median of Unflagged External Radii (ERAV_RF) USIT-D	USIT - Unflagged Internal Radii minus Median Internal Radius	Nominal Casing Thickness (THNO) USIT-D	USIT - Unflagged Casing Thickness minus Median of Unflagged	USIT - Acoustic Impedance (AIBK) USIT-D (Mrayl)	Micro-debonding Ratio (MDR) USIT-D	USIT - Acoustic Impedance (AIBK) USIT-D (Mrayl)
	USIT Processing								1 0	



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

1 - UFLG 1 Value within [0.0 - 1.5] - :
2 - UFLG 2 Value within [1.5 - 2.5] - :
3 - UFLG 3 Value within [2.5 - 3.5] - :
4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - :
5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10] - :

- UTIM Error
- Pulse Origin Not Detected
- WINLEN Error
- Casing Thickness Error
- Loop Processing Error

TIME_1900 - Time Marked every 60.00 (s)

Description: USI Composite Format: Log (Import of UCRC_USI Composite 9.625inch) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 04-Oct-2015 02:18:23

Channel Processing Parameters

Two: Parameters

Parameter	Description	Tool	Value	Unit
AFVU	Automatic Fluid Velocity Update	USIT-D	On	
AMSG	Auxiliary Minimum Sliding Gate	DSLT-H	140	us
ISSBAR	Barite Mud Presence Flag	Borehole	No	
BERJ	Bad Echo Rejection	USIT-D	On	
BILI	Bond Index Level for Zone Isolation	DSLT-H	0.8	
BS	Bit Size	WLSESSION	Depth Zoned	in
CASING_PRATIO	Casing Poisson Ratio	USIT-D	Standard Poisson Ratio	
CBLG	CBL Gate Width	DSLT-H	60	us
CBRA	CBL LQC Reference Amplitude in Free Pipe	DSLT-H	Depth Zoned	mV
CMCF	CBL Cement Type Compensation Factor	DSLT-H	1	
CMTY(U-USIT_CEMT)	Cement Type	USIT-D	Regular Cement	
THNO	Nominal Casing Thickness - Zoned along logger depths	WLSESSION	0.472	in
CYSTLGR	Casing Yield Strength - Zoned along logger depths	WLSESSION	0	psi
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DETE	Delta-T Detection	DSLT-H	E1	
DFD	Drilling Fluid Density	Borehole	9	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	

DTMD	Borehole Fluid Slowness	Borehole	195	us/ft
ETIP	Elevation of the TIP above MSL	WLSESSION	2910.5	ft
FCF	CBL Fluid Compensation Factor	DSLT-H	0.89	
FD	Fluid Density	USIT-D	1.2	g/cm3
FDII	FPM Data Interpolation Interval	USIT-D	0	ft
GOBO_CURR	Good Bond in Arbitrary Cement	DSLT-H	Depth Zoned	mV
HEMA	Hematite Presence Flag	Borehole	No	
ICE_BINPROC	ICE Bin Processing Depth Interval	USIT-D	0	ft
ICE_PROCESS	ICE Processing	USIT-D	Yes	
IMAR	Image Rotation	USIT-D	Off	
MAHTR	Manual High Threshold Reference for first arrival detection	DSLT-H	120	
MATT_CURR	Maximum Attenuation in Arbitrary Cement	DSLT-H	Depth Zoned	dB/ft
MCI	Minimum Cemented Interval for Isolation	DSLT-H	Depth Zoned	ft
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-D	Depth Zoned	us
MNHTR	Minimum High Threshold Reference for first arrival detection	DSLT-H	100	
MSA	Minimum Sonic Amplitude	DSLT-H	Depth Zoned	mV
MSA_CURR	Minimum Sonic Amplitude in Arbitrary Cement	DSLT-H	Depth Zoned	mV
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-D	1.17	
MUD_N_THE	Theoretical Mud Normalization Factor	USIT-D	1	
NMSG	Near Minimum Sliding Gate	DSLT-H	315	us
NMXG	Near Maximum Sliding Gate	DSLT-H	950	us
NUMP	Number of Detection Passes	DSLT-H	2	
OPLEV	USIT Remove Flagged Data Level	USIT-D	OPT2	
RAPID_OPTION	Rapid Access Computation Option	USIT-D	Off	
RCOD	Reference Calibrator Outer Diameter	USIT-D	7	in
RCSO	Reference Calibrator Standoff	USIT-D	1.378	in
RCTH	Reference Calibrator Thickness	USIT-D	0.295	in
SDNV	Number of Vertical Samples used for Micro-debonding Computation	USIT-D	5	
SDTHOR	Acoustic Impedance STD Horizontal Threshold for Micro-debonding	USIT-D	0.5	Mrayl
SDTVER	Acoustic Impedance STD Vertical Threshold for Micro-debonding	USIT-D	0.3	Mrayl
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
TCUB	T^3 Processing Level	USIT-D	Loop	
THDH	Maximum Search Thickness (percentage of nominal)	USIT-D	130	%
THDL	Minimum Search Thickness (percentage of nominal)	USIT-D	70	%
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-D	0.01	Mrayl
UFGDE	Fiberglass Density	USIT-D	1.95	g/cm3
UFGPS	Fiberglass Processing Selection	USIT-D	No	
UFGVL	Fiberglass Velocity	USIT-D	9678.48	ft/s
USI_FSOD	USIT USI Fluid Slowness Fits Casing Outer Diameter	USIT-D	0_OFF	
USI_FVEL_SEL	USI Fluid Velocity Selection	USIT-D	Automatic	
USI_ZMUD_SEL	USI Mud Impedance Selection	USIT-D	FreePipe Norm.	
THDP	Thickness Detection Policy	USIT-D	Fundamental	
VCAS	Ultrasonic Transversal Velocity in Casing	USIT-D	51.4	us/ft

ZCAS	Acoustic Impedance of Casing	USIT-D	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-D	-1	Mrayl
ZMUD	Acoustic Impedance of Mud	Borehole	2.1	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-D	2.6	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-D	0.3	Mrayl

Depth Zone Parameters

Parameter	Value	Start (ft)	Stop (ft)
BS	17.5	20	1436
BS	14	1436	8760
CBRA	0	20	22.5
CBRA	52	22.5	8762.5
GOBO_CURR	0	20	22.5
GOBO_CURR	4.78	22.5	8762.5
MATT_CURR	0	20	22.5
MATT_CURR	9.3	22.5	8762.5
MCI	0	20	22.5
MCI	14.81	22.5	8762.5
MEAS_WLEN	20	20	22.5
MEAS_WLEN	29.67	22.5	8762.5
MSA	0	20	22.5
MSA	2.63	22.5	8762.5
MSA_CURR	0	20	22.5
MSA_CURR	2.63	22.5	8762.5

All depth are actual.

Tool Control Parameters

Two: Parameters

Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-D	-4	dB
AGMX	Maximum Gain of Cartridge	USIT-D	20	dB
DDEL	Digitizing Delay	DSLT-H	0	us
U-USIT_DDT5	USIC Downhole Decimation for T5 only	USIT-D	0_NONE	
DOT(DOS)	Distance between Opposite Transducer Faces	USIT-D	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-D	50	V
HRES	Horizontal Resolution	USIT-D	5 deg	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	675	ft/h
MOTOR_PROTECT	Motor Protection	USIT-D	On	
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-D	BRI	
UACLV_PERM	Ultrasonic ACLV Permanent	USIT-D	No	
ULOG	Logging Objective	USIT-D	MEASUREMENT	
UMFR	Modulation Frequency	USIT-D	333333	Hz

USFR	Ultrasonic Sampling Frequency	USIT-D	500000	Hz
UPAT	USIT Emission Pattern	USIT-D	Pattern 300 KHz	
UWKM	USIT Working Mode	USIT-D	Uncompressed 5 deg at 0.6 in LF	
USIT_DEPTHLOG	Starting Depth Log for Ultrasonics	USIT-D	2000	ft
USSP	Ultrasonic Service	USIT-D	USI	
VRES	Vertical Resolution	USIT-D	0.6 in	
WINB	Window Begin Time	USIT-D	41.86	us
WINE	Window End Time	USIT-D	81.86	us
WMOD	Waveform Firing Mode	DSLT-H	Full	

Two

Bottom Section 5 IN = 100 FT

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Two	Log[2]:Up	Up	8563.26 ft	8904.38 ft	03-Oct-2015 2:39:08 PM	03-Oct-2015 3:13:51 PM	ON	16.20 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Standard Sesnon 4B

Two: Log[2]:Up:S016

Description: USI Composite Format: Log (Import of UCRC_USI Composite 9.625inch) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 04-Oct-2015 02:20:02

TIME_1900 - Time Marked every 60.00 (s)

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

1 - UFLG 1 Value within [0.0 - 1.5] - :

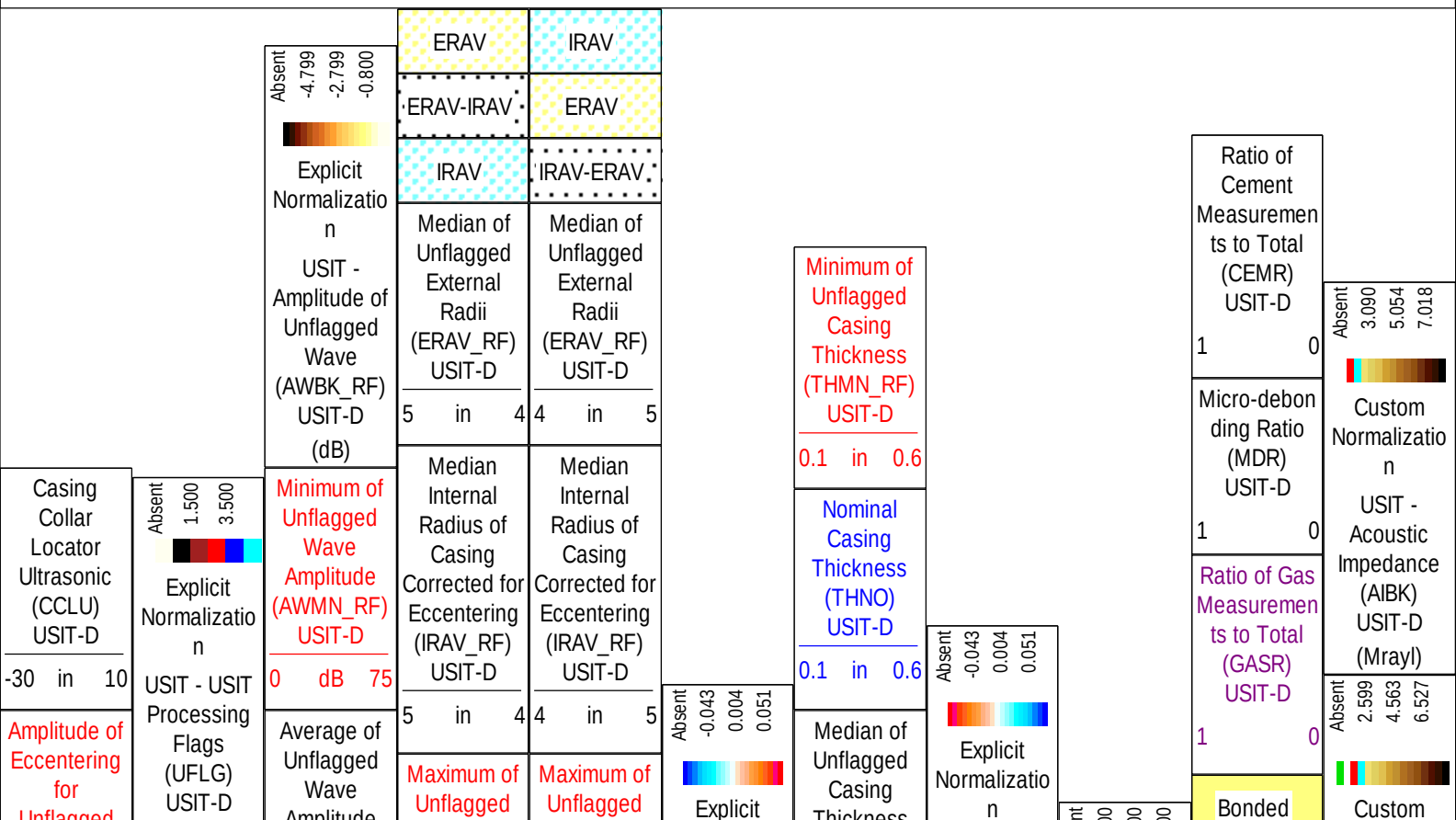
2 - UFLG 2 Value within [1.5 - 2.5] - :

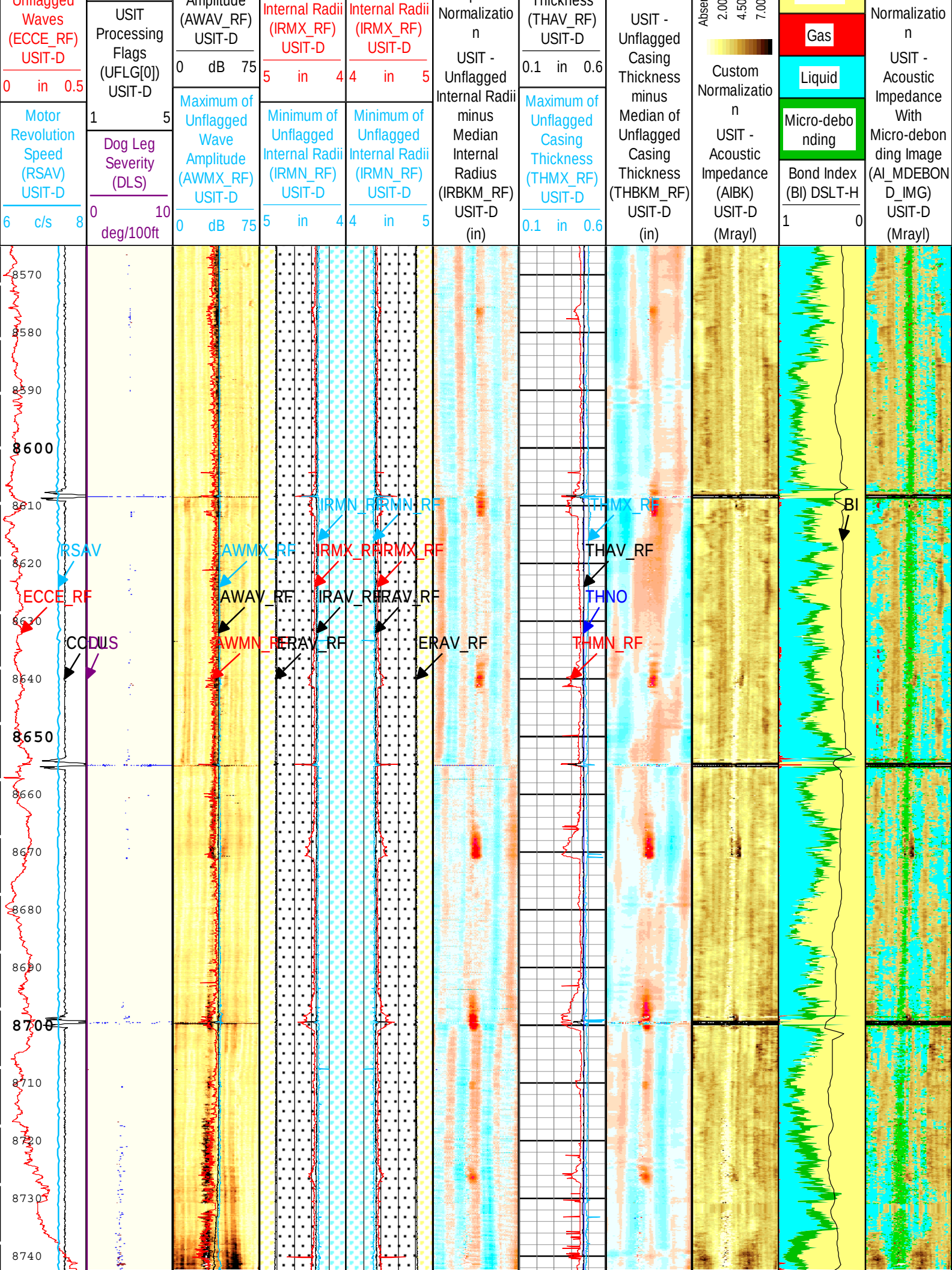
3 - UFLG 3 Value within [2.5 - 3.5] - :

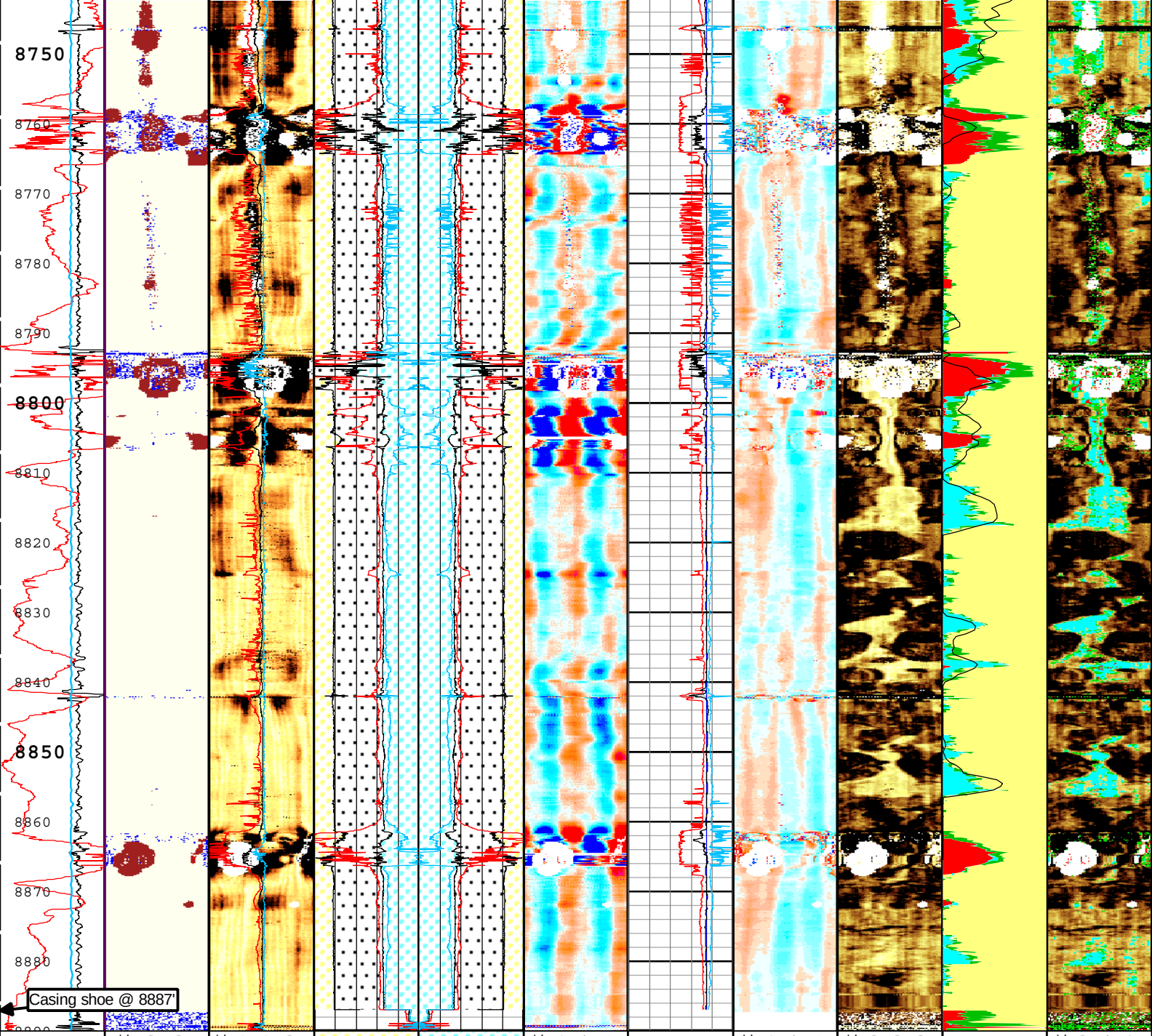
4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - :

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

- UTIM Error
- Pulse Origin Not Detected
- WINLEN Error
- Casing Thickness Error
- Loop Processing Error




Unflagged Waves (ECCE_RF) USIT-D
0 in 0.5
Motor Revolution Speed (RSAV) USIT-D
6 c/s 8
USIT Processing Flags (UFLG[0]) USIT-D
1 5
Dog Leg Severity (DLS)
0 10
deg/100ft
Amplitude (AWAV_RF) USIT-D
0 dB 75
Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-D
0 dB 75
Internal Radii (IRMX_RF) USIT-D
5 in 4
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-D
5 in 4
Internal Radii (IRMX_RF) USIT-D
4 in 5
Minimum of Unflagged Internal Radii (IRMN_RF) USIT-D
4 in 5
Normalization
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-D
(in)
Thickness (THAV_RF) USIT-D
0.1 in 0.6
Maximum of Unflagged Casing Thickness (THMX_RF) USIT-D
0.1 in 0.6
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-D
(in)
Absen
2.00
4.50
7.00
Custom Normalization
USIT - Acoustic Impedance (AIBK) USIT-D
(Mrayl)
Gas
Liquid
Micro-debonding
Bond Index (BI) DSLT-H
1 0
Normalization
USIT - Acoustic Impedance With Micro-debonding Image (AI_MDEBOND_IMG) USIT-D
(Mrayl)
8570
8580
8590
8600
8610
8620
8630
8640
8650
8660
8670
8680
8690
8700
8710
8720
8730
8740
RSAV
ECCE_RF
CODUS
AWMX_RF
AWAV_RF
AWMN_RF
IRMN_RF
IRMX_RF
IRAV_RF
IRMN_RF
IRMX_RF
IRAV_RF
ERAV_RF
THMX_RF
THAV_RF
THNO
THMN_RF
BI



Casing Collar Locator Ultrasonic (CCLU) USIT-D
-30 in 10

Amplitude of Eccentering for Unflagged Waves (ECCE_RF) USIT-D
0 in 0.5

Motor Revolution Speed (RSAV) USIT-D

Absent 1.500 3.500
Explicit Normalization
USIT - USIT Processing Flags (UFLG) USIT-D

USIT Processing Flags (UFLG[0]) USIT-D
1 5

Dog Leg Severity (DLS)

Absent -4.799 -2.799 -0.800
Explicit Normalization
USIT - Amplitude of Unflagged Wave (AWBK_RF) USIT-D (dB)

Minimum of Unflagged Wave Amplitude (AWMN_RF) USIT-D
0 dB 75

ERAV
ERAV-IRAV
IRAV
Median of Unflagged External Radii (ERAV_RF) USIT-D
5 in 4

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF)

IRAV
ERAV
IRAV-ERAV
Median of Unflagged External Radii (ERAV_RF) USIT-D
4 in 5

Median Internal Radius of Casing Corrected for Eccentering (IRAV_RF)

Absent -0.043 0.004 0.051
Explicit Normalization
USIT - Unflagged Internal Radii minus Median Internal Radius (IRBKM_RF) USIT-D (in)

Minimum of Unflagged Casing Thickness (THMN_RF) USIT-D
0.1 in 0.6

Nominal Casing Thickness (THNO) USIT-D
0.1 in 0.6

Median of Unflagged Casing Thickness (THAV_RF) USIT-D

Absent -0.043 0.004 0.051
Explicit Normalization
USIT - Unflagged Casing Thickness minus Median of Unflagged Casing Thickness (THBKM_RF) USIT-D (in)

Absent 2.000 4.500 7.000
Custom Normalization
USIT - Acoustic Impedance (AIBK) USIT-D (Mrayl)

Ratio of Cement Measurements to Total (CEMR) USIT-D
1 0

Micro-debonding Ratio (MDR) USIT-D
1 0

Ratio of Gas Measurements to Total (GASR) USIT-D
1 0

Absent 3.090 5.054 7.018
Custom Normalization
USIT - Acoustic Impedance (AIBK) USIT-D (Mrayl)

Absent 2.599 4.563 6.527
Custom Normalization
USIT -

USIT-D
6 c/s 8

0 10
deg/100ft

Average of Unflagged Wave Amplitude (AWAV_RF) USIT-D
0 dB 75

Maximum of Unflagged Wave Amplitude (AWMX_RF) USIT-D
0 dB 75

USIT-D
5 in 4

USIT-D
4 in 5

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-D
5 in 4

Maximum of Unflagged Internal Radii (IRMX_RF) USIT-D
4 in 5

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-D
5 in 4

Minimum of Unflagged Internal Radii (IRMN_RF) USIT-D
4 in 5

0.1 in 0.6

Maximum of Unflagged Casing Thickness (THMX_RF) USIT-D
0.1 in 0.6

Bonded
Gas
Liquid
Micro-debonding

Acoustic Impedance With Micro-debonding Image (AI_MDEBOND_IMG) USIT-D (Mrayl)

Bond Index (BI) DSLT-H
1 0

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

1 - UFLG 1 Value within [0.0 - 1.5] - :
2 - UFLG 2 Value within [1.5 - 2.5] - :
3 - UFLG 3 Value within [2.5 - 3.5] - :
4 - UFLG 4 UFLG 5 UFLG 6 Value within [3.5 - 6.5] - :
5 - UFLG 7 UFLG 8 UFLG 9 Value within [6.5 - 10] - :

- UTIM Error
- Pulse Origin Not Detected
- WINLEN Error
- Casing Thickness Error
- Loop Processing Error

TIME_1900 - Time Marked every 60.00 (s)

Description: USI Composite Format: Log (Import of UCRC_USI Composite 9.625inch) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 04-Oct-2015 02:20:02

Two

Cement Log 2 IN = 100 FT

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Two	Log[5]:Up	Up	17.60 ft	8762.49 ft	02-Oct-2015 10:09:30 PM	03-Oct-2015 1:07:34 PM	ON	12.00 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Standard Sesnon 4B

Two: Log[5]:Up:S016

Description: USI Cement Format: Log (Import of UCRC_USI Cement 9.625inch) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 04-Oct-2015 02:20:07

TIME_1900 - Time Marked every 60.00 (s)

ERAV_IRAV
ERAV_RHF1
IRAV_LHF1
IRAV_IRAV
LHF1_ERAV
RHF1_IRAV

External Radii Average (ERAV) USIT-D
5 in 4

External Radii Average (ERAV) USIT-D
4 in 5

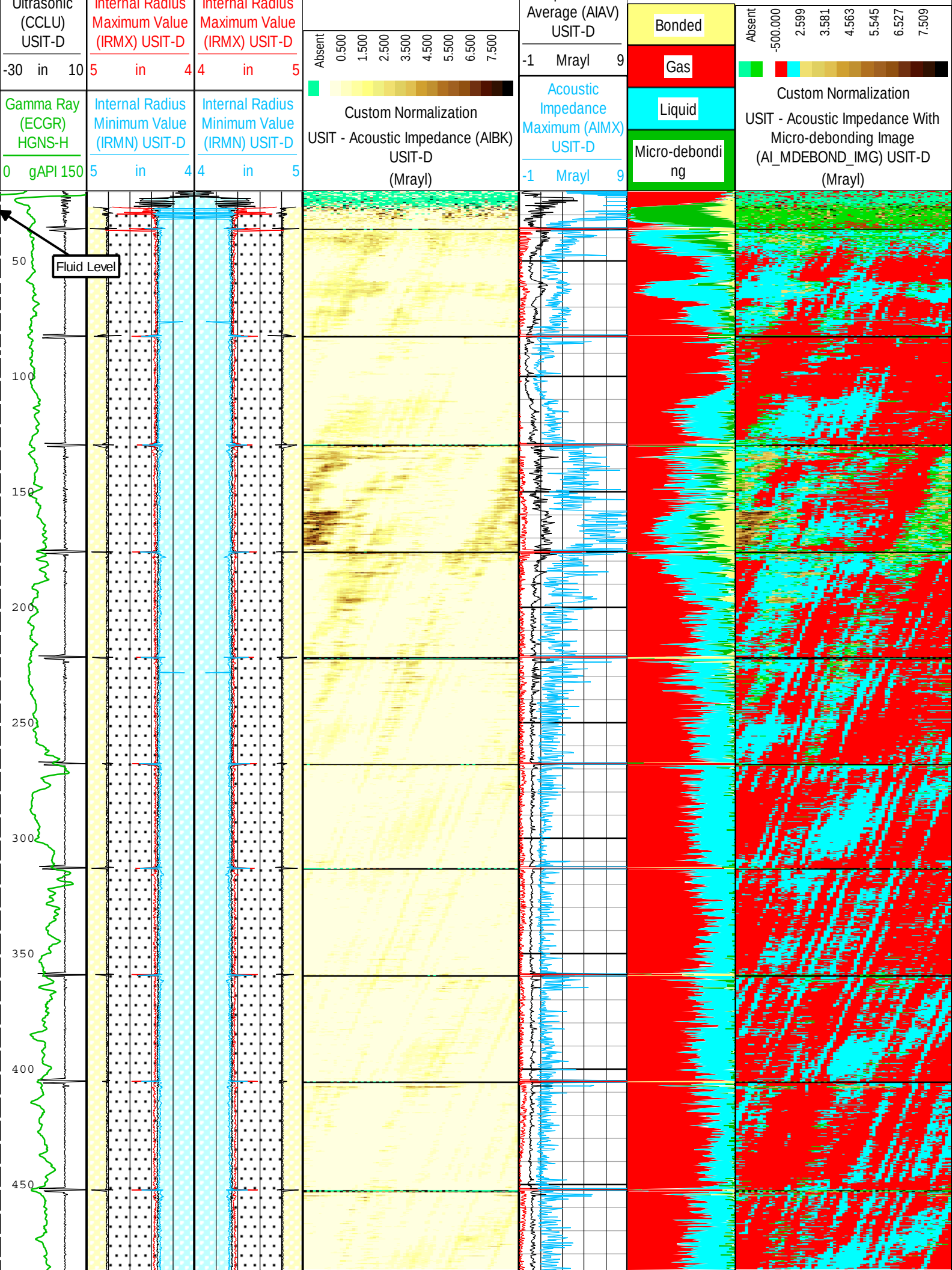
Internal Radius Averaged Value (IRAV) USIT-D
5 in 4

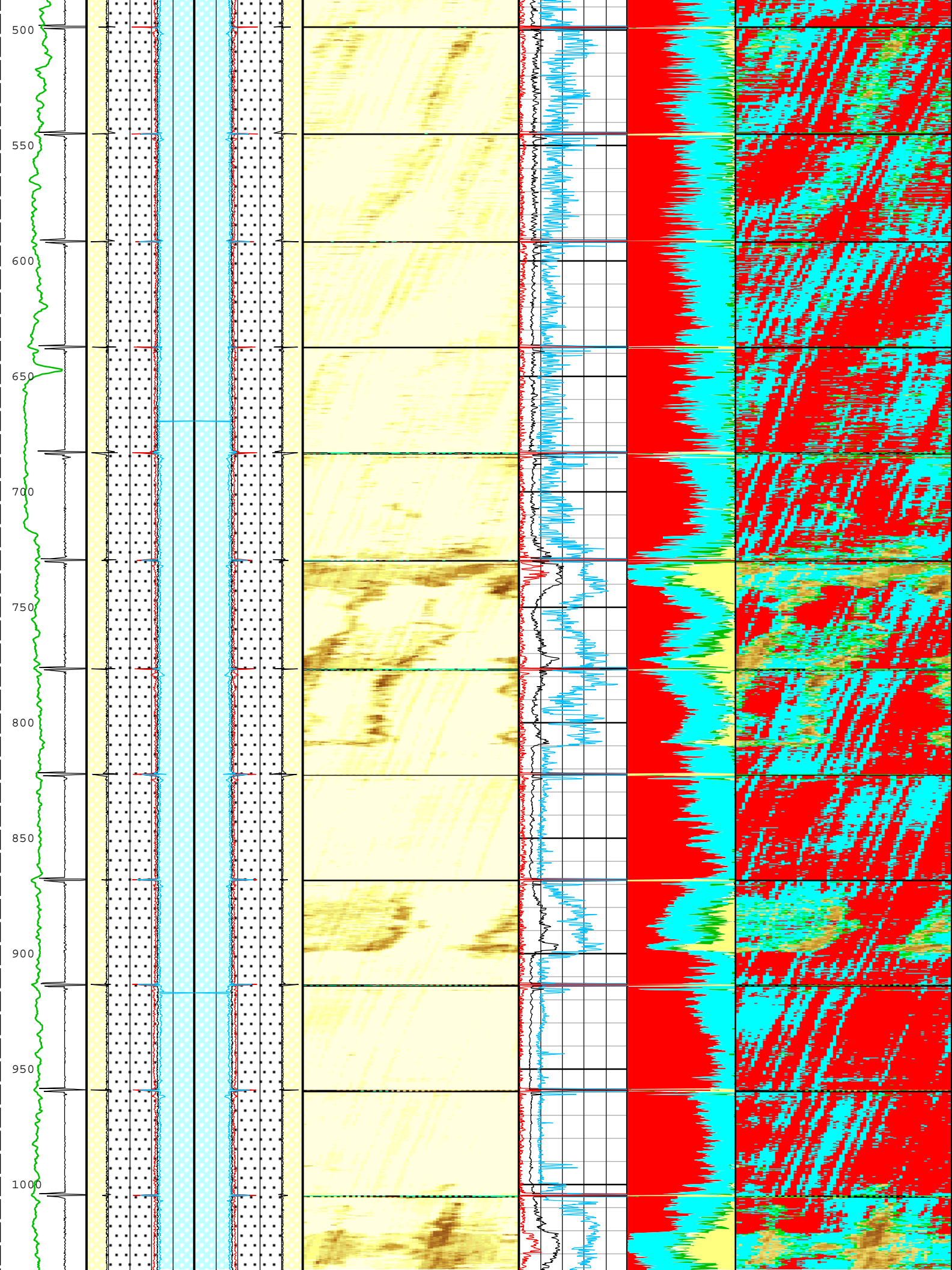
Internal Radius Averaged Value (IRAV) USIT-D
4 in 5

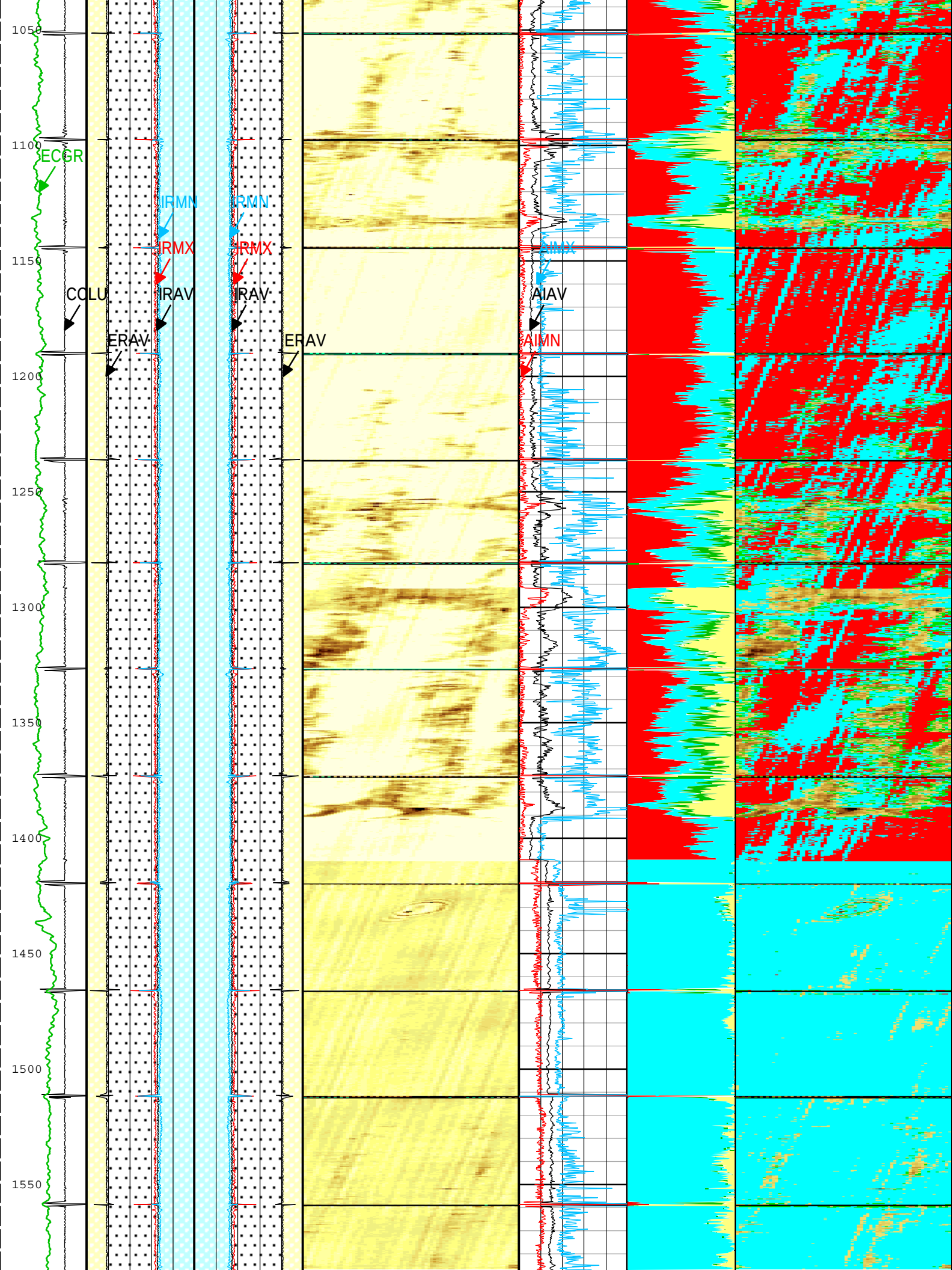
Casing Collar Locator

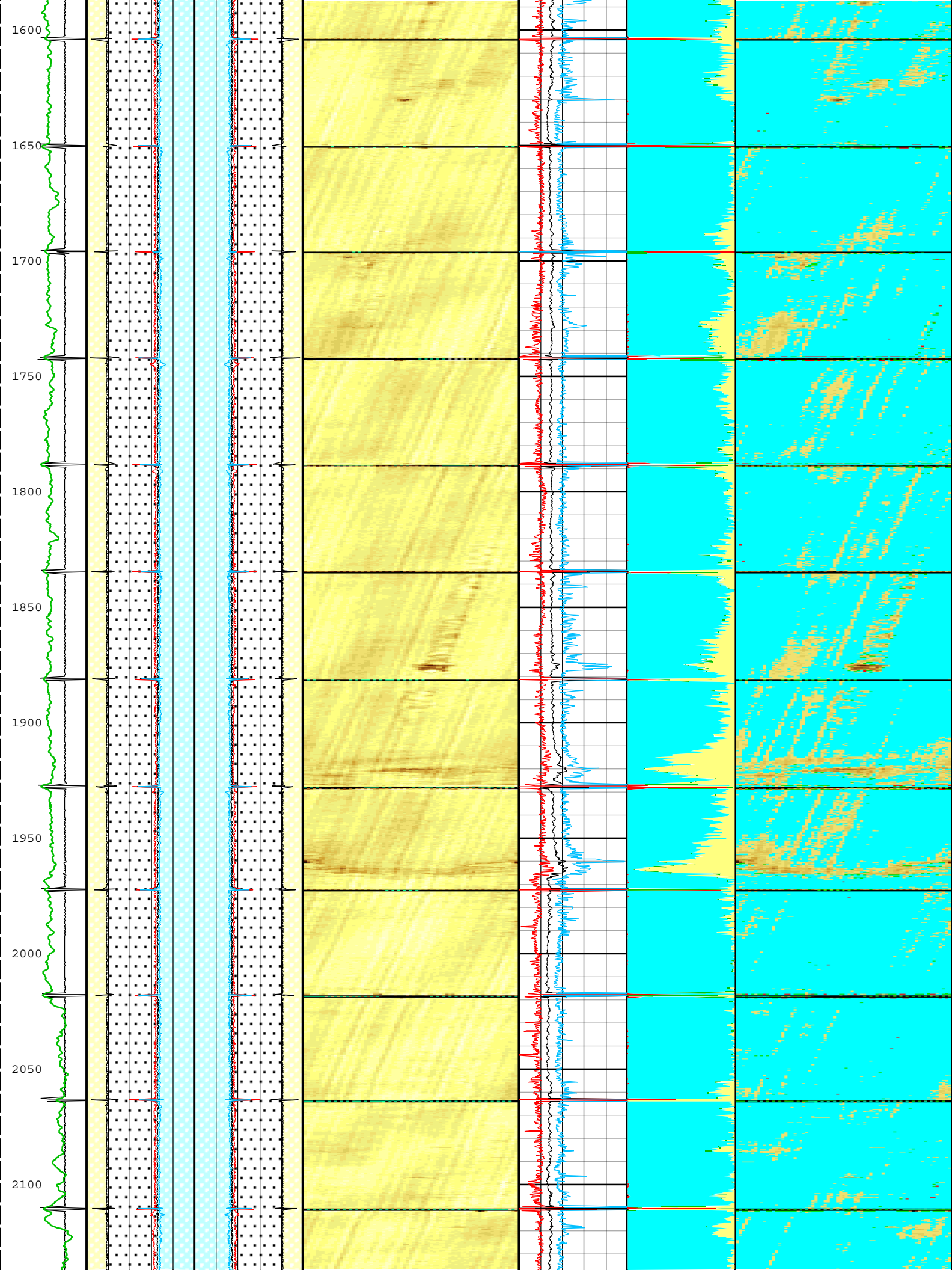
Acoustic Impedance Minimum (AIMN) USIT-D
-1 Mrayl 9

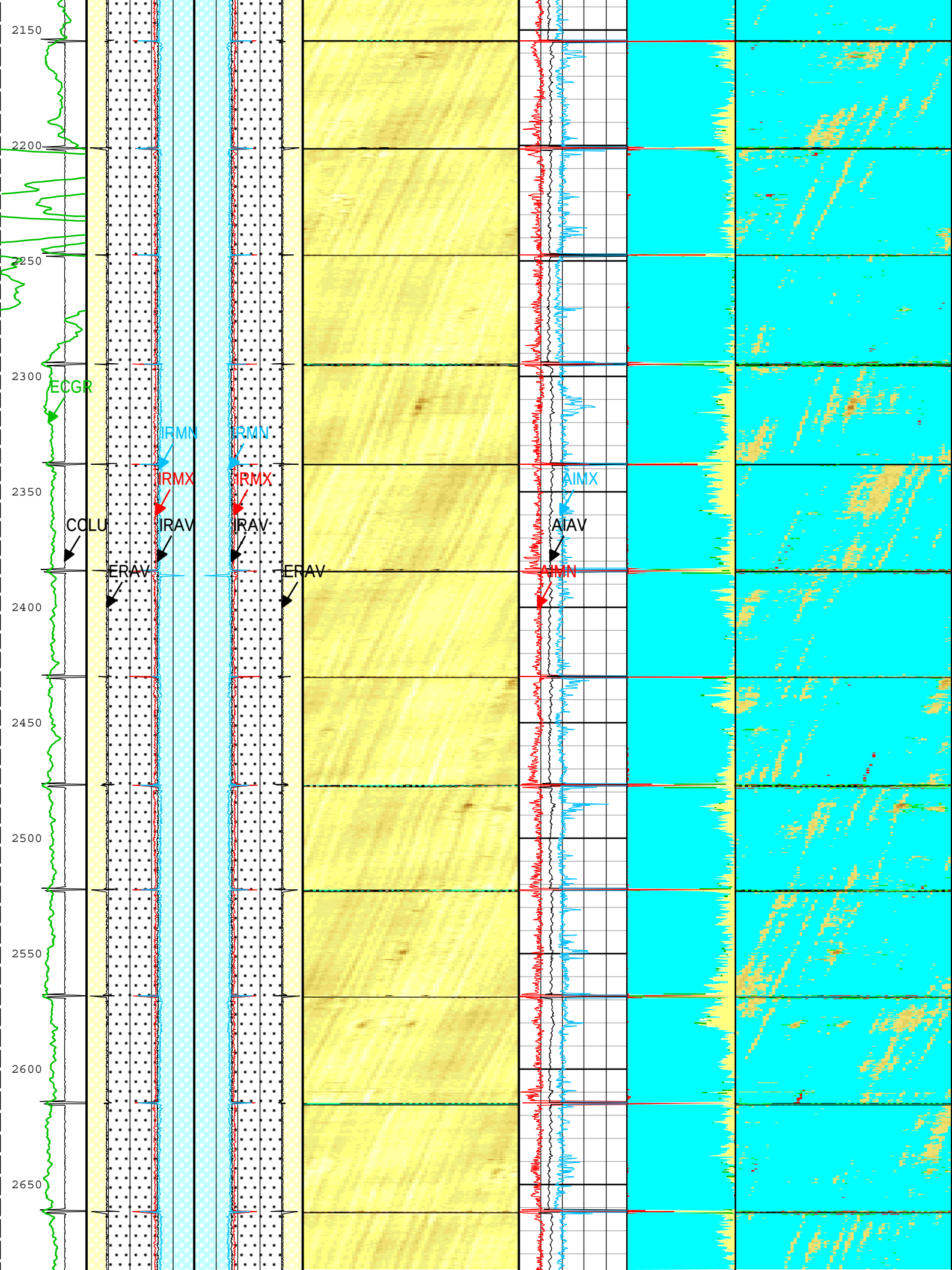
Acoustic Impedance

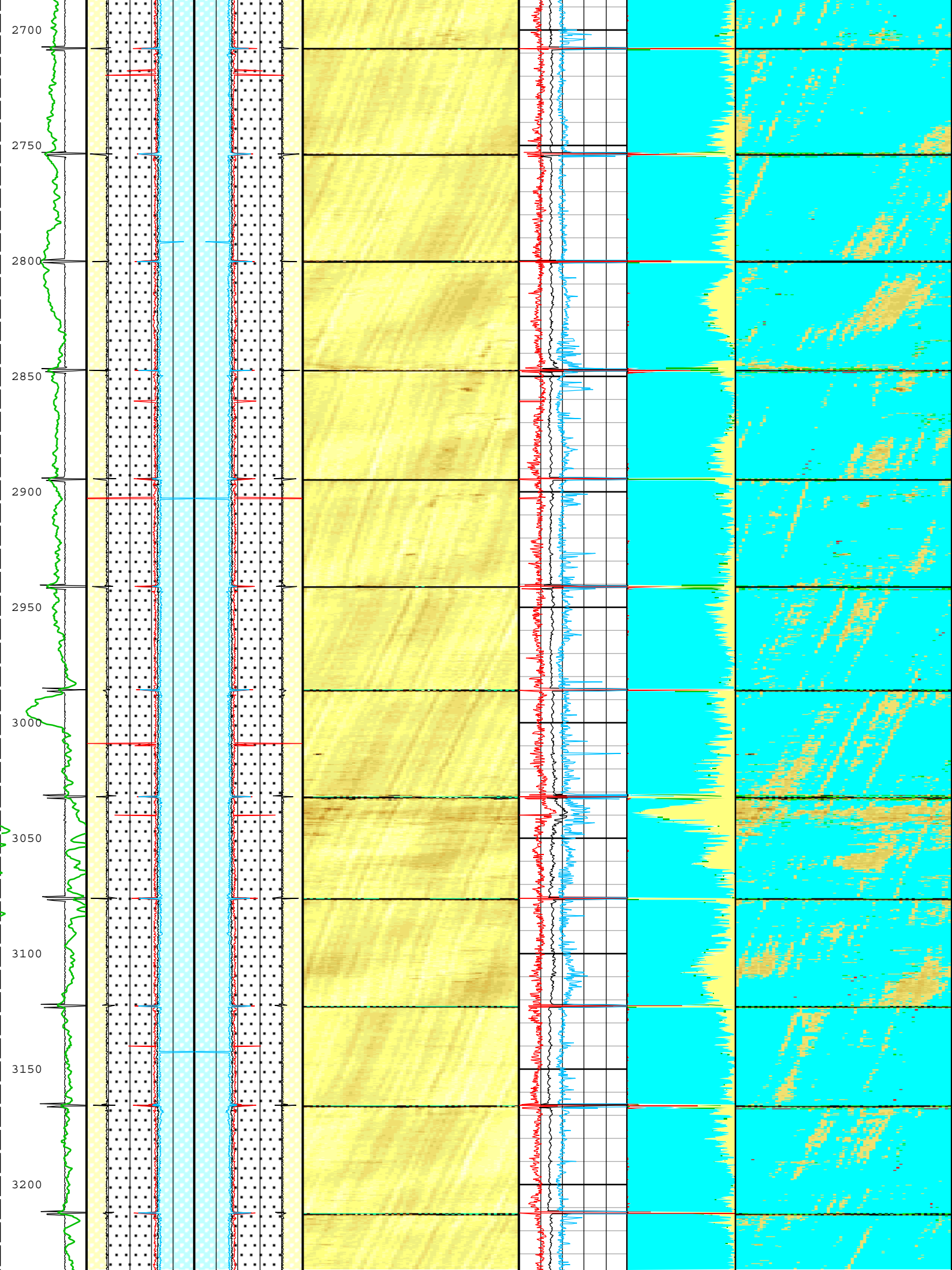

Ultrasonic (CCLU) USIT-D
-30 in 10
Internal Radius Maximum Value (IRMX) USIT-D
5 in 4
Internal Radius Maximum Value (IRMX) USIT-D
4 in 5
Absent 0.500 1.500 2.500 3.500 4.500 5.500 6.500 7.500
Custom Normalization
USIT - Acoustic Impedance (AIBK) USIT-D (Mrayl)
Average (AIAV) USIT-D
-1 Mrayl 9
Bonded
Gas
Liquid
Micro-debonding
Absent -500.000 2.599 3.581 4.563 5.545 6.527 7.509
Custom Normalization
USIT - Acoustic Impedance With Micro-debonding Image (AI_MDEBOND_IMG) USIT-D (Mrayl)
Gamma Ray (ECGR) HGNS-H
0 gAPI 150
Internal Radius Minimum Value (IRMN) USIT-D
5 in 4
Internal Radius Minimum Value (IRMN) USIT-D
4 in 5
Acoustic Impedance Maximum (AIMX) USIT-D
-1 Mrayl 9
Fluid Level
50
100
150
200
250
300
350
400
450

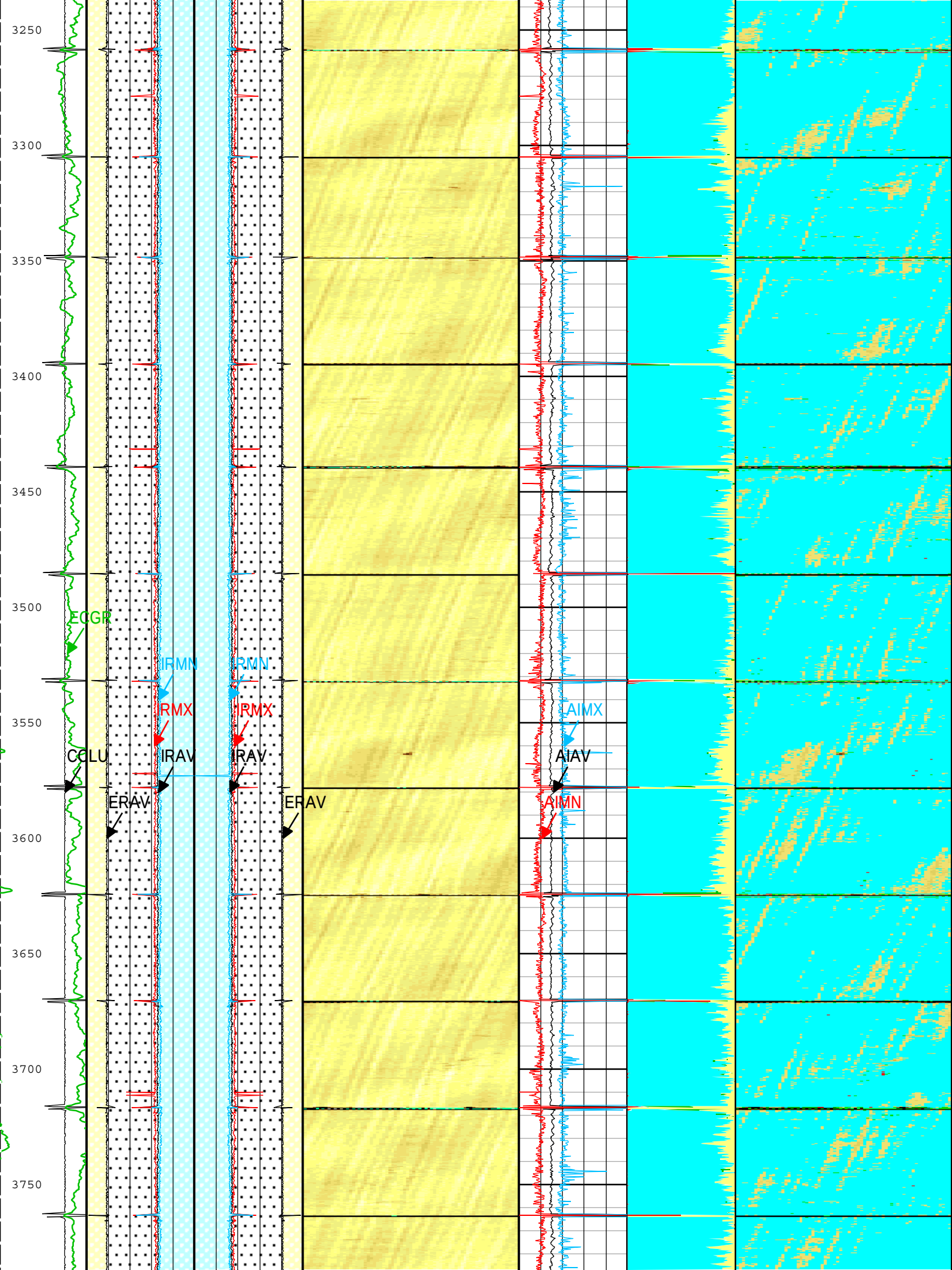

500
550
600
650
700
750
800
850
900
950
1000

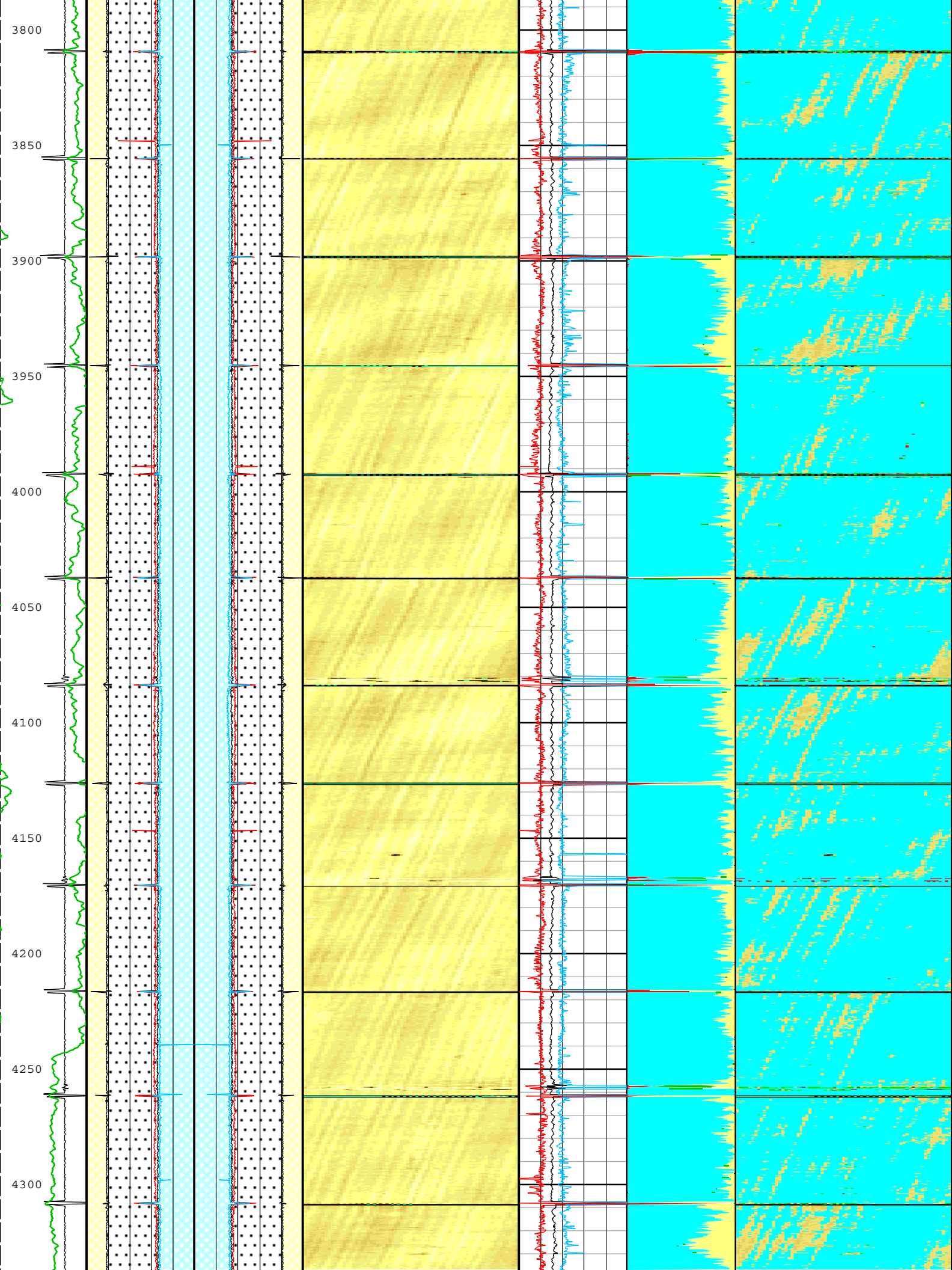

1050
1100
1150
1200
1250
1300
1350
1400
1450
1500
1550
ECGR
IRMN
IRMX
COLU
IRAV
ERAV
RMN
RMX
RAV
ERAV
AIMX
AIAV
AIMN

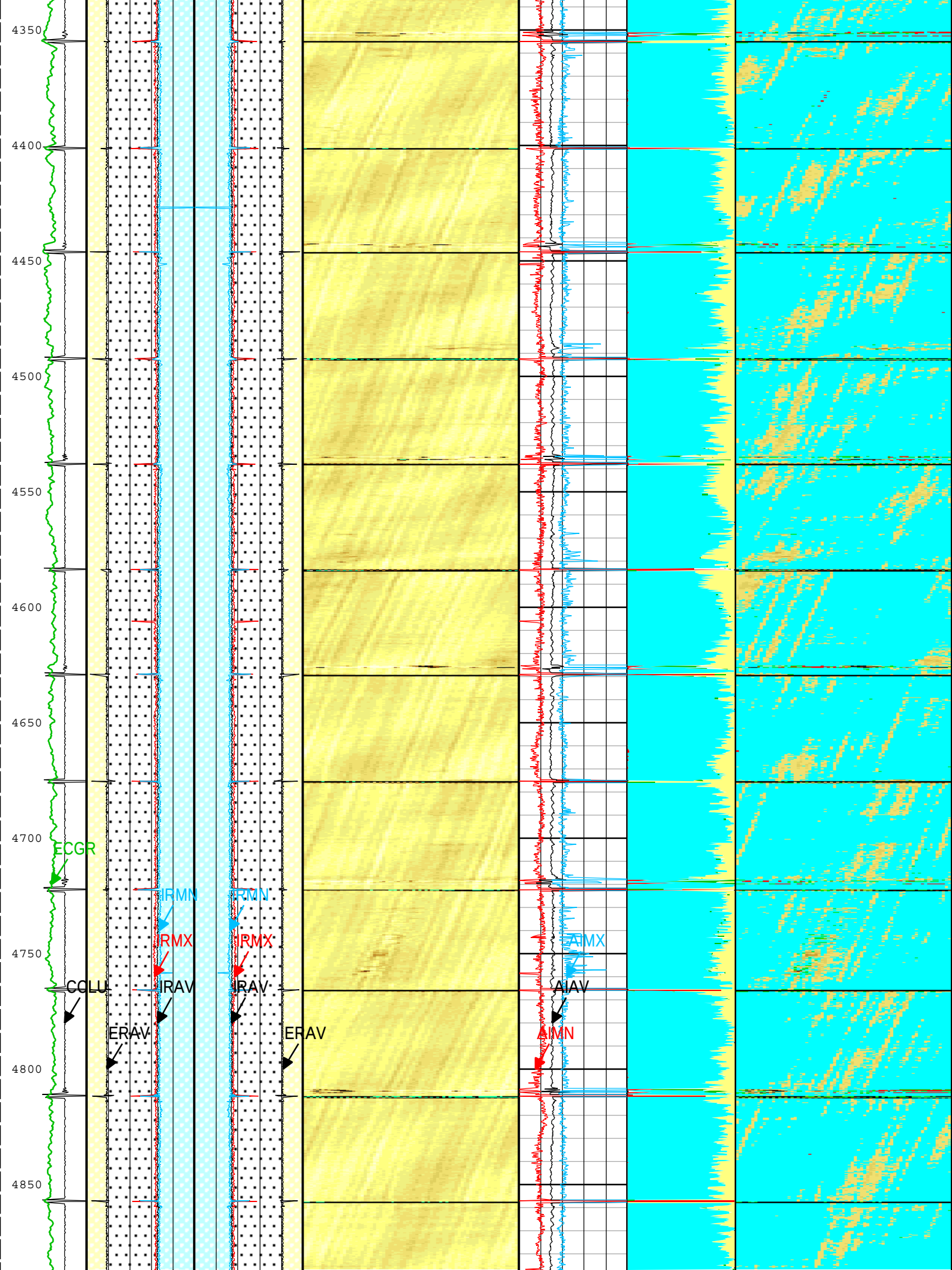

1600
1650
1700
1750
1800
1850
1900
1950
2000
2050
2100

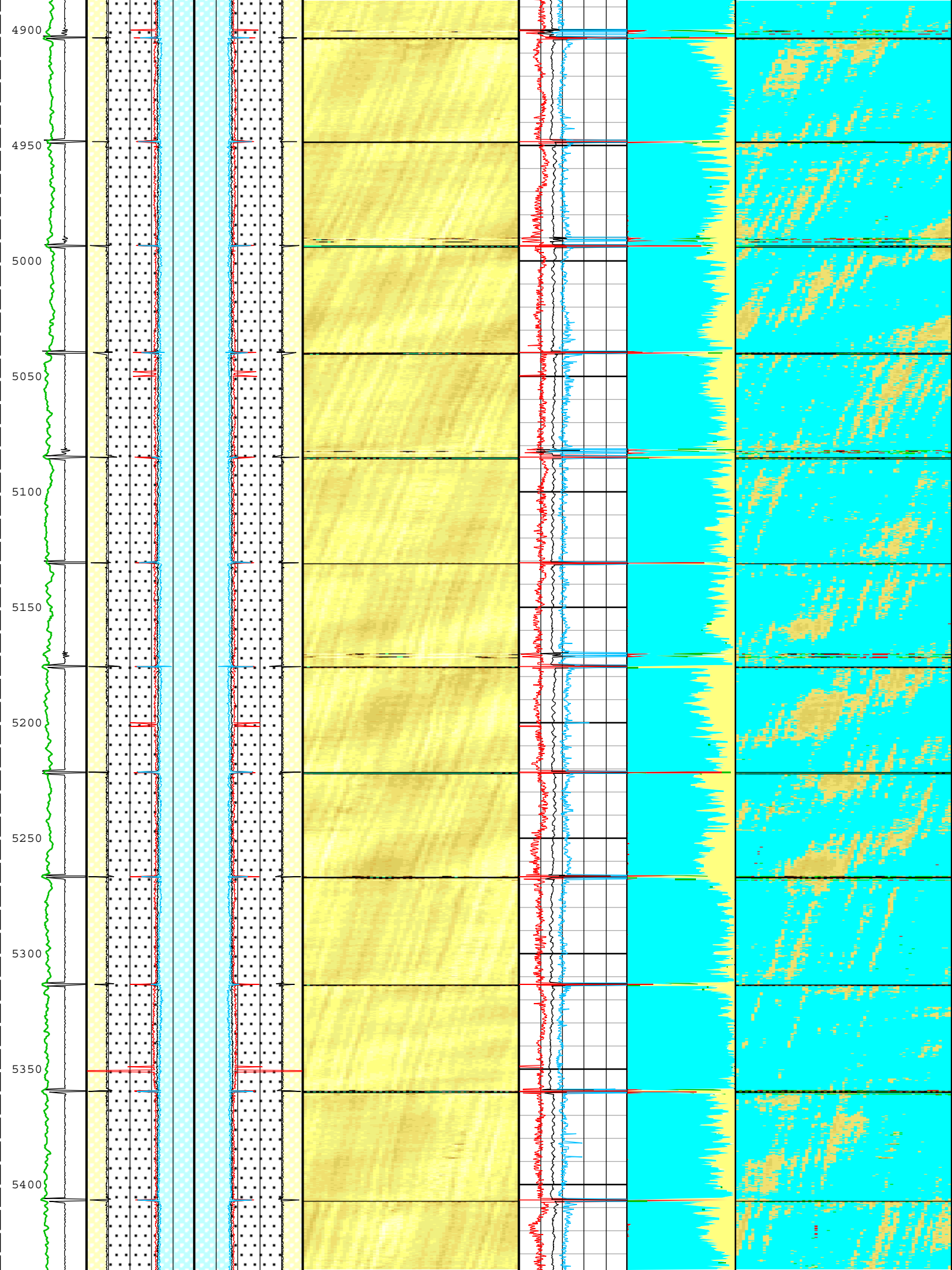

2150
2200
2250
2300
2350
2400
2450
2500
2550
2600
2650
ECGR
IRMN
IRMN
IRMX
IRMX
IRAV
IRAV
COLU
ERAV
ERAV
AIMX
AIAV
AIMN

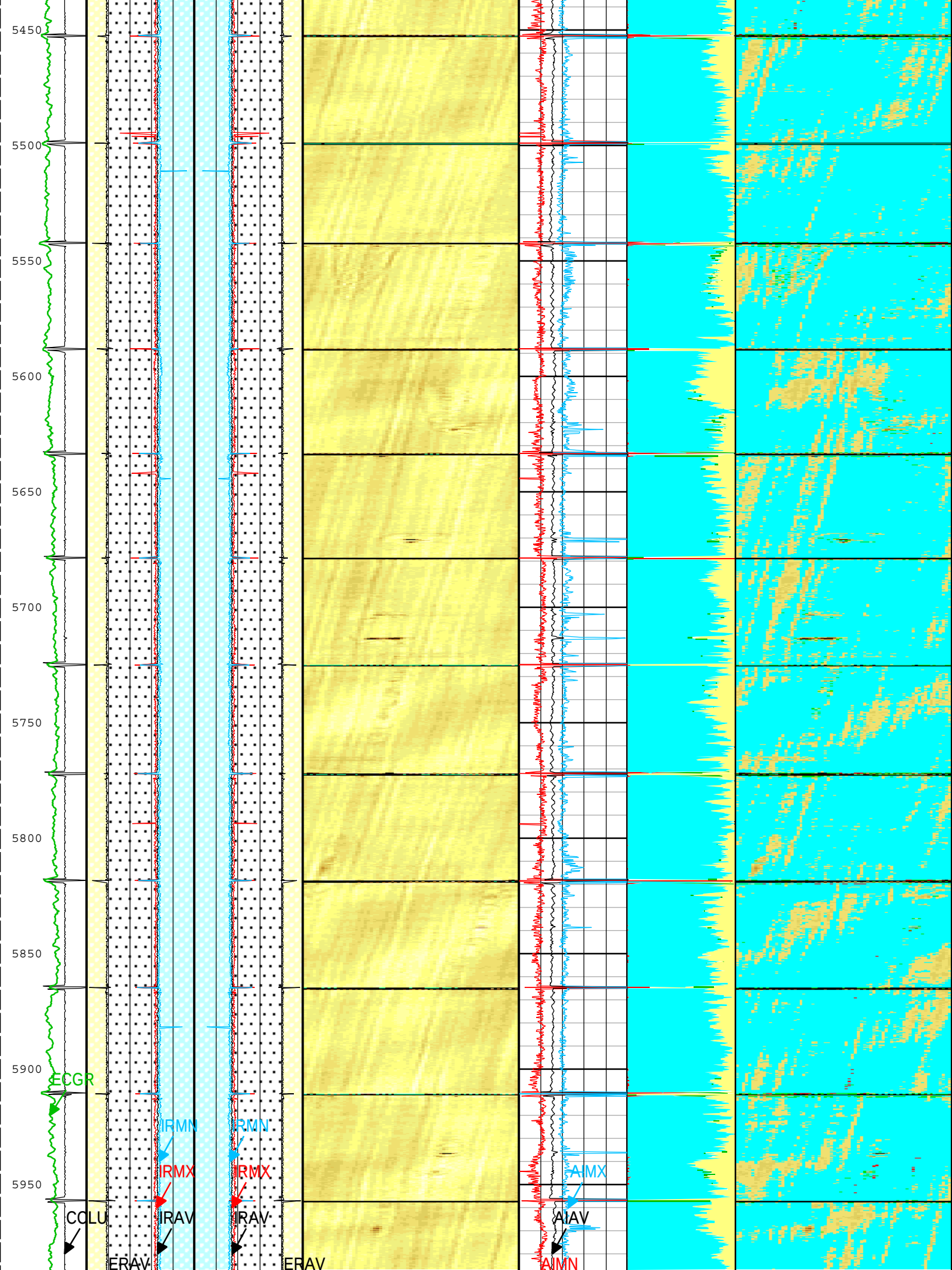

2700
2750
2800
2850
2900
2950
3000
3050
3100
3150
3200

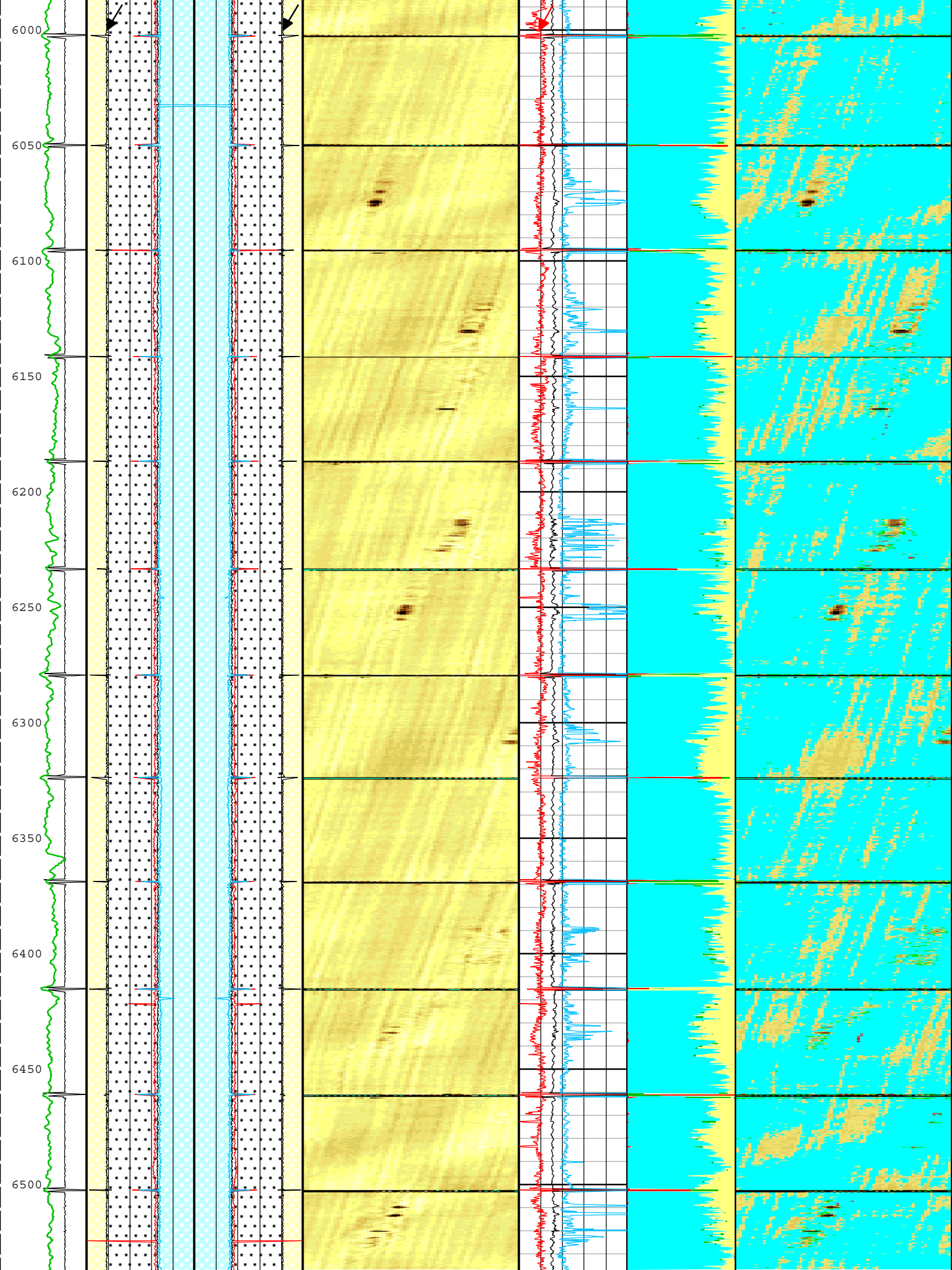

3250
3300
3350
3400
3450
3500
3550
3600
3650
3700
3750
ECGR
IRMN
IRMN
IRMX
IRMX
CCLU
IRAV
IRAV
ERAV
ERAV
AIMX
AIAV
AIMN

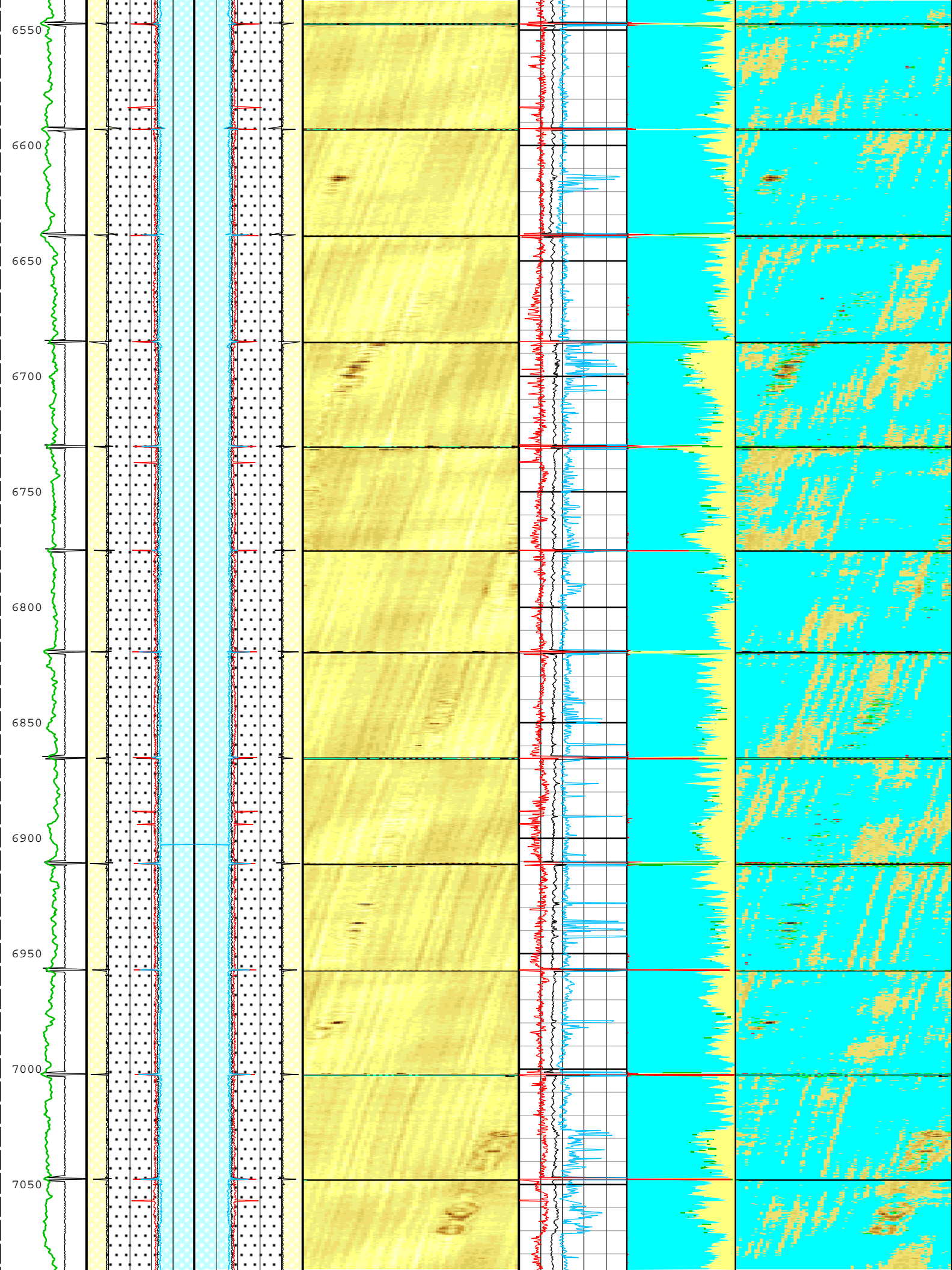

3800
3850
3900
3950
4000
4050
4100
4150
4200
4250
4300

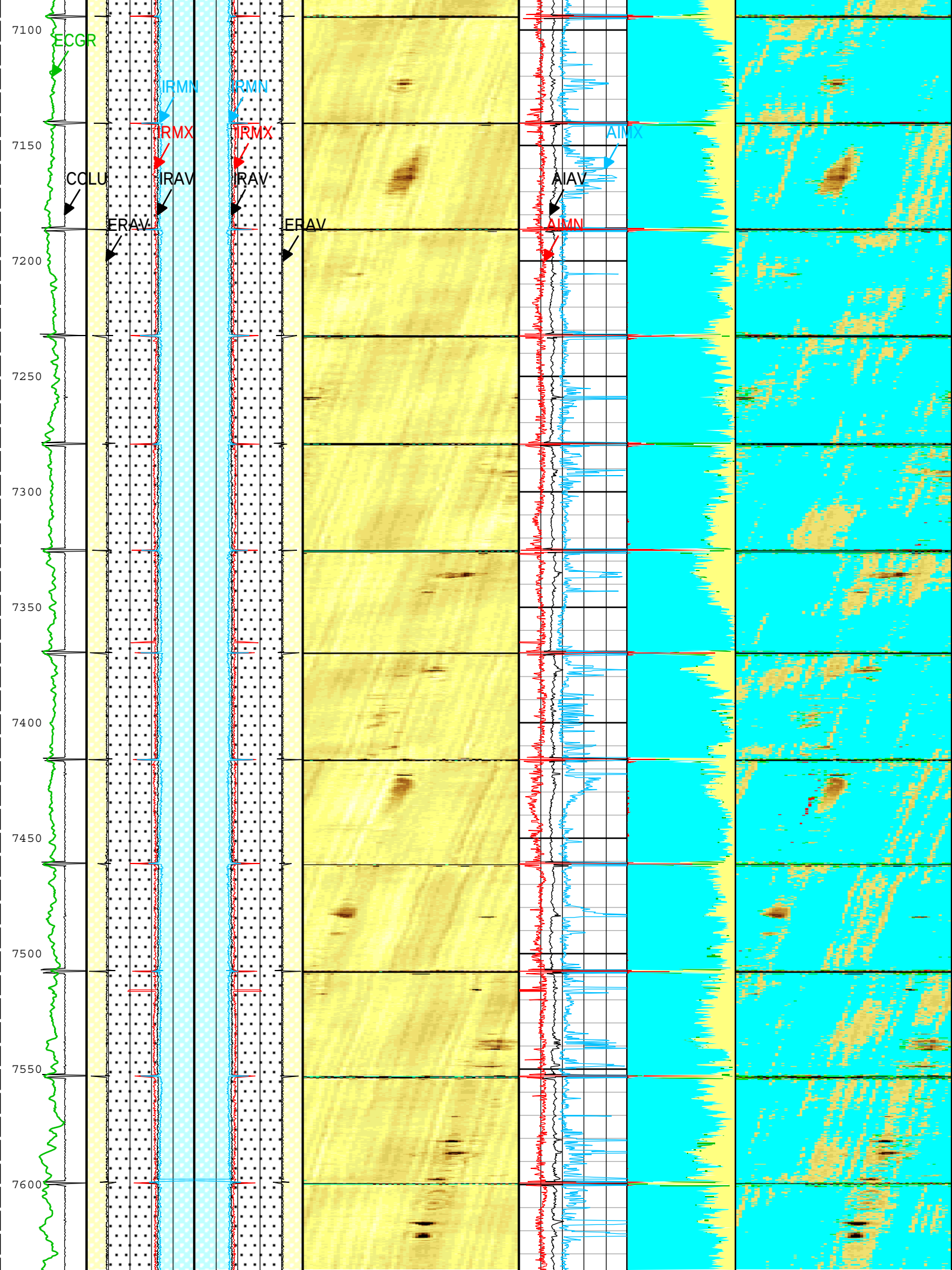

4350
4400
4450
4500
4550
4600
4650
4700
4750
4800
4850
ECGR
IRMN
IRMN
IRMX
IRMX
COLU
IRAV
IRAV
ERAV
ERAV
AIMX
AIAV
AIMN

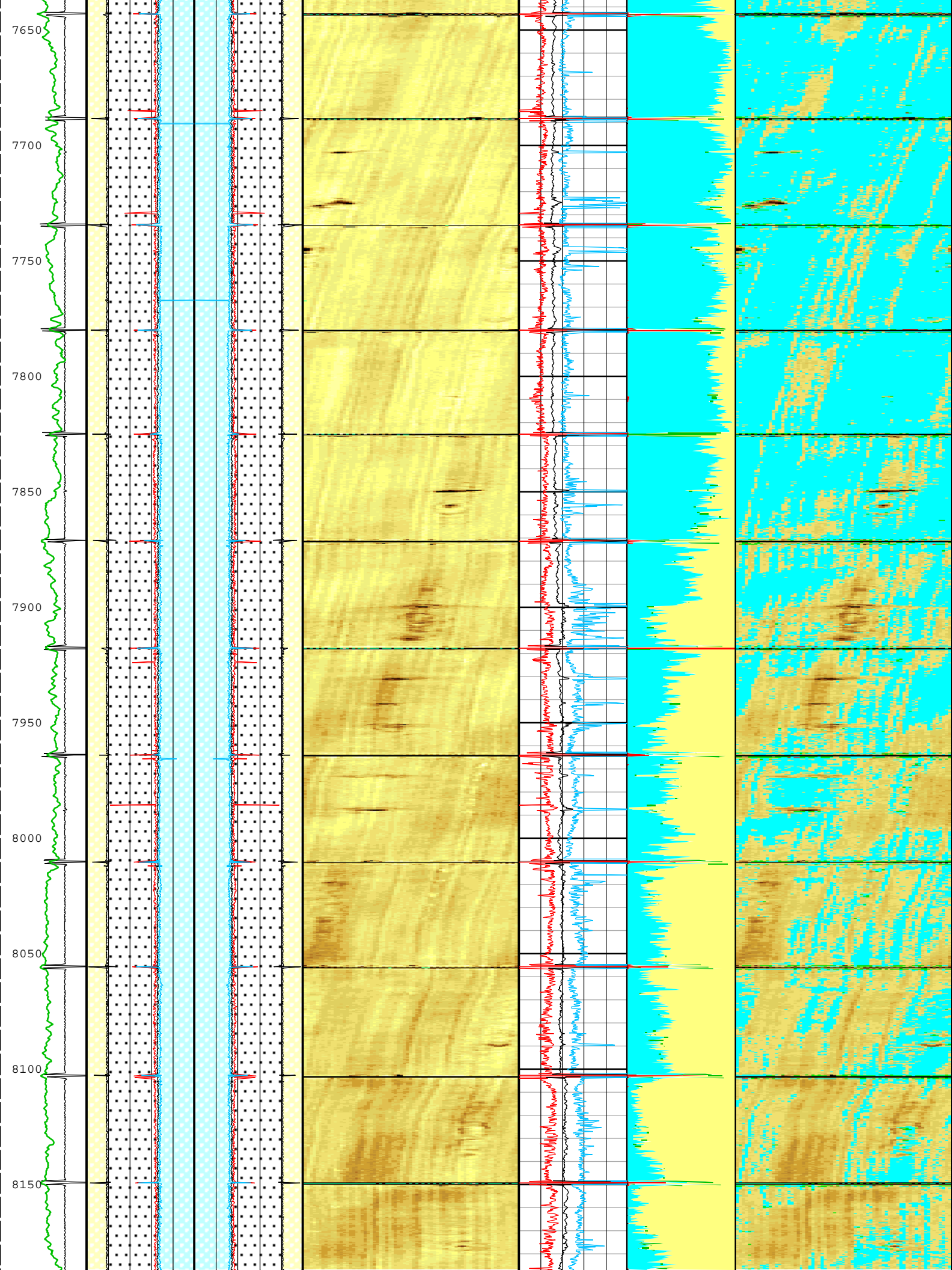

4900
4950
5000
5050
5100
5150
5200
5250
5300
5350
5400

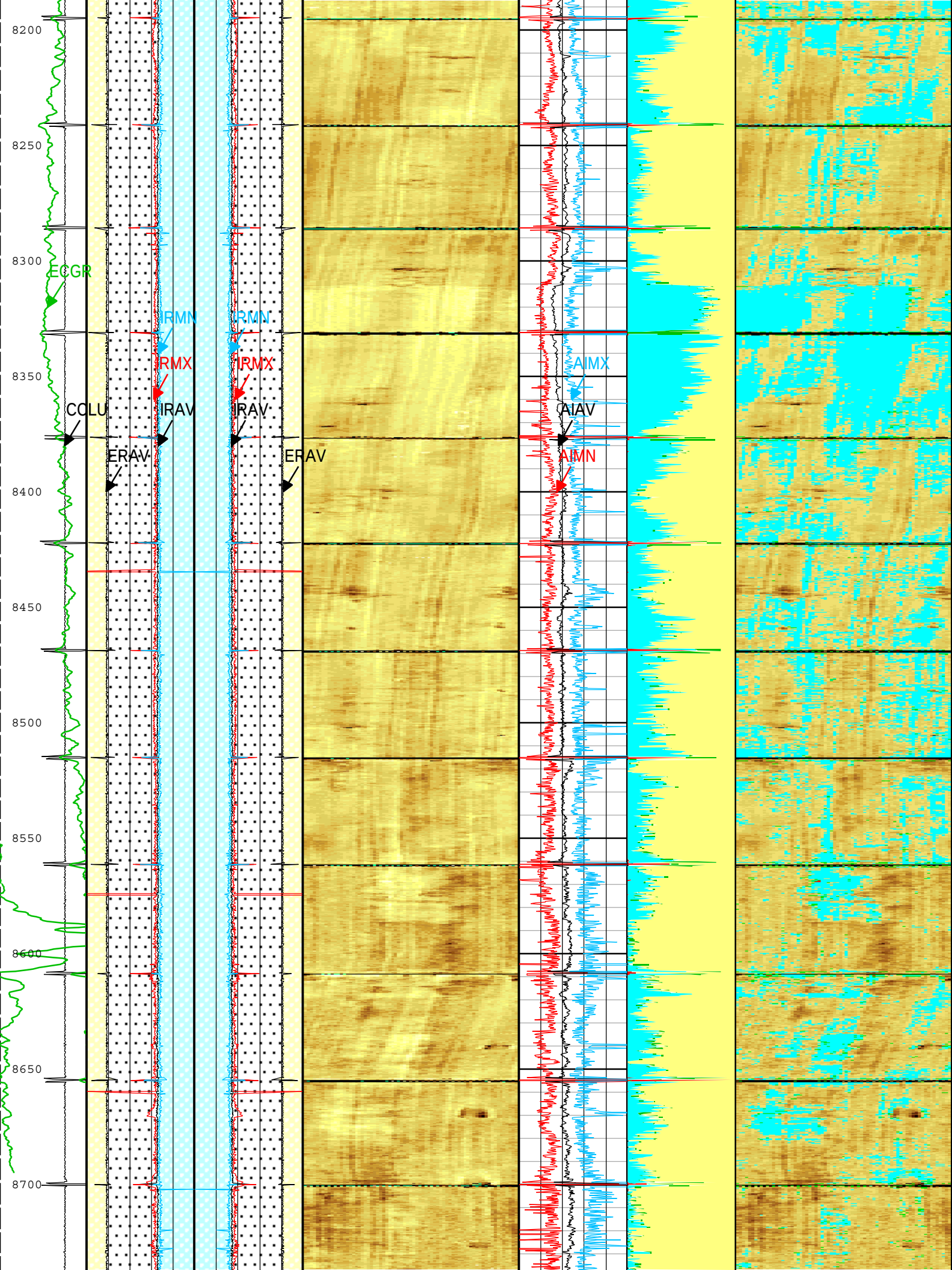

5450
5500
5550
5600
5650
5700
5750
5800
5850
5900
5950
ECGR
IRMN
IRMN
IRMX
IRMX
AIMX
COLU
IRAV
IRAV
AIAV
ERAV
ERAV
AIMN

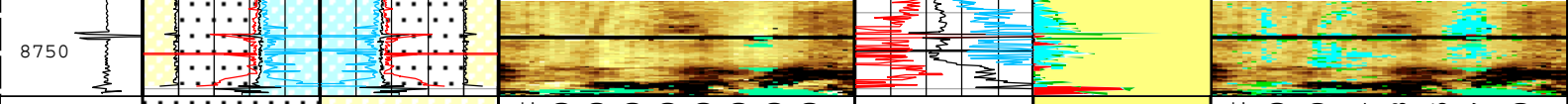

6000
6050
6100
6150
6200
6250
6300
6350
6400
6450
6500


6550
6600
6650
6700
6750
6800
6850
6900
6950
7000
7050


7100
7150
7200
7250
7300
7350
7400
7450
7500
7550
7600
ECGR
IRMN
IRMN
IRMX
IRMX
COLU
IRAV
IRAV
ERAV
ERAV
AIMX
AIAV
AIMN


7650
7700
7750
7800
7850
7900
7950
8000
8050
8100
8150


8200
8250
8300
8350
8400
8450
8500
8550
8600
8650
8700
ECGR
IRMN
IRMN
IRMX
IRMX
COLU
IRAV
IRAV
ERAV
ERAV
AIMX
AIAV
AIMN



Casing Collar Locator Ultrasonic (CCLU) USIT-D

-30 in 10

Gamma Ray (ECGR) HGNS-H

0 gAPI 150

ERAV_IRAV	ERAV_RHF1
IRAV_LHF1	IRAV_IRAV
LHF1_ERAV	RHF1_IRAV
External Radii Average (ERAV) USIT-D 5 in 4	External Radii Average (ERAV) USIT-D 4 in 5
Internal Radius Averaged Value (IRAV) USIT-D 5 in 4	Internal Radius Averaged Value (IRAV) USIT-D 4 in 5
Internal Radius Maximum Value (IRMX) USIT-D 5 in 4	Internal Radius Maximum Value (IRMX) USIT-D 4 in 5
Internal Radius Minimum Value (IRMN) USIT-D 5 in 4	Internal Radius Minimum Value (IRMN) USIT-D 4 in 5

Absent 0.500 1.500 2.500 3.500 4.500 5.500 6.500 7.500

Custom Normalization

USIT - Acoustic Impedance (AIBK) USIT-D (Mrayl)

Acoustic Impedance Minimum (AIMN) USIT-D

-1 Mrayl 9

Acoustic Impedance Average (AIAV) USIT-D

-1 Mrayl 9

Acoustic Impedance Maximum (AIMX) USIT-D

-1 Mrayl 9

Bonded

Gas

Liquid

Micro-debonding

Absent -500.000 2.599 3.581 4.563 5.545 6.527 7.509

Custom Normalization

USIT - Acoustic Impedance With Micro-debonding Image (AI_MDEBOND_IMG) USIT-D (Mrayl)

TIME_1900 - Time Marked every 60.00 (s)

Description: USI Cement Format: Log (Import of UCRC_USI Cement 9.625inch) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 04-Oct-2015 02:20:07

Two

Cement Log Bottom Section 2 IN = 100 FT

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Two	Log[2]:Up	Up	8563.26 ft	8904.38 ft	03-Oct-2015 2:39:08 PM	03-Oct-2015 3:13:51 PM	ON	16.20 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Standard Sesnon 4B

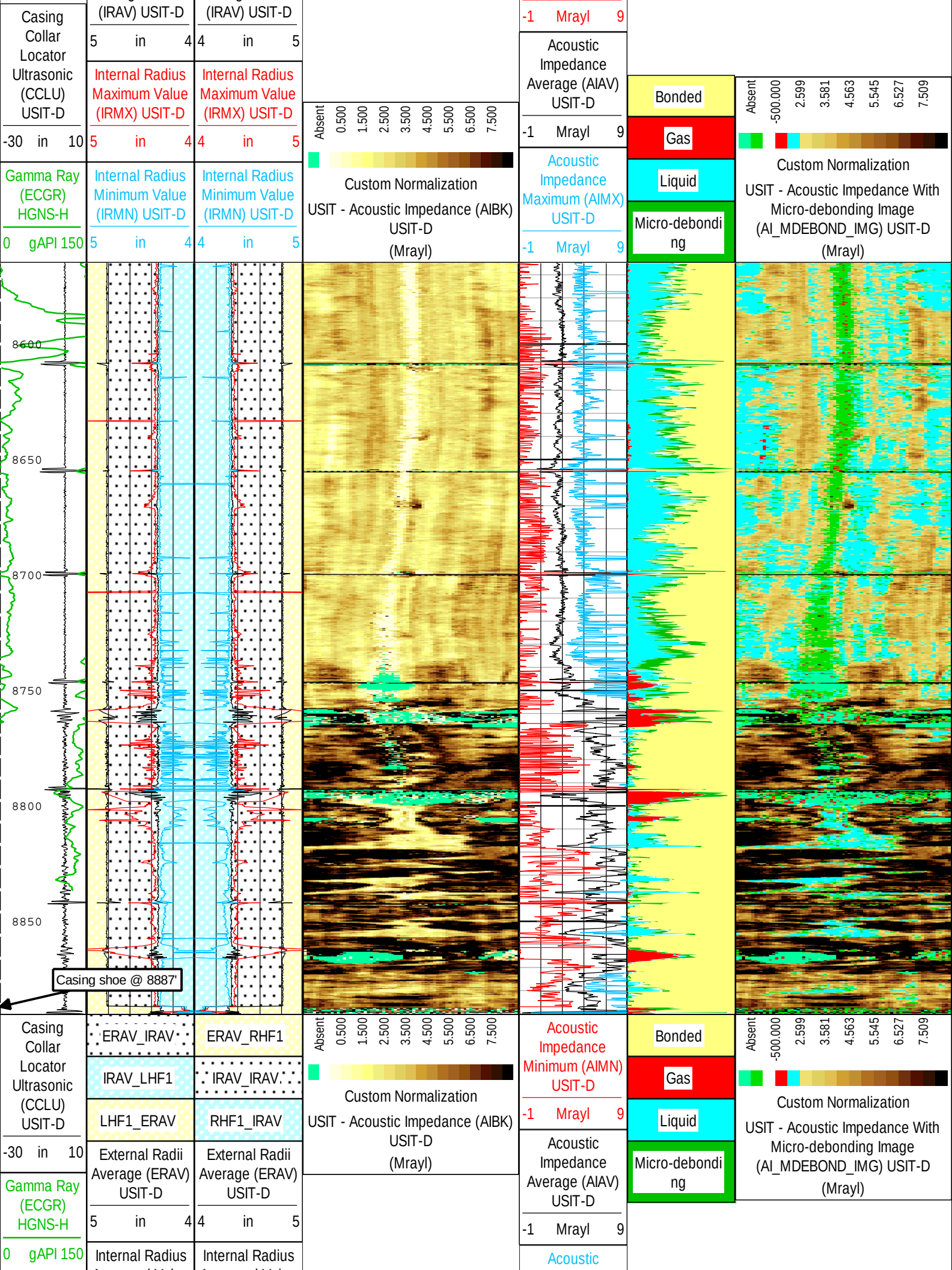
Two: Log[2]:Up:S016

Description: USI Cement Format: Log (Import of UCRC_USI Cement 9.625inch) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 04-Oct-2015 02:20:17

TIME_1900 - Time Marked every 60.00 (s)

ERAV_IRAV	ERAV_RHF1
IRAV_LHF1	IRAV_IRAV
LHF1_ERAV	RHF1_IRAV
External Radii Average (ERAV) USIT-D 5 in 4	External Radii Average (ERAV) USIT-D 4 in 5
Internal Radius Averaged Value	Internal Radius Averaged Value

Acoustic Impedance Minimum (AIMN) USIT-D


Casing Collar Locator Ultrasonic (CCLU) USIT-D
-30 in 10
Gamma Ray (ECGR) HGNS-H
0 gAPI 150
(IRAV) USIT-D
5 in 4
Internal Radius Maximum Value (IRMX) USIT-D
5 in 4
Internal Radius Minimum Value (IRMN) USIT-D
5 in 4
(IRAV) USIT-D
4 in 5
Internal Radius Maximum Value (IRMX) USIT-D
4 in 5
Internal Radius Minimum Value (IRMN) USIT-D
4 in 5
8600
8650
8700
8750
8800
8850
Casing shoe @ 8887'
Absent 0.500 1.500 2.500 3.500 4.500 5.500 6.500 7.500
Custom Normalization
USIT - Acoustic Impedance (AIBK) USIT-D (Mrayl)
-1 Mrayl 9
Acoustic Impedance Average (AIAV) USIT-D
-1 Mrayl 9
Acoustic Impedance Maximum (AIMX) USIT-D
-1 Mrayl 9
Bonded
Gas
Liquid
Micro-debonding
Absent -500.000 2.599 3.581 4.563 5.545 6.527 7.509
Custom Normalization
USIT - Acoustic Impedance With Micro-debonding Image (AI_MDEBOND_IMG) USIT-D (Mrayl)
ERAV_IRAV
ERAV_RHF1
IRAV_LHF1
IRAV_IRAV
LHF1_ERAV
RHF1_IRAV
External Radii Average (ERAV) USIT-D
5 in 4
External Radii Average (ERAV) USIT-D
4 in 5
Internal Radius
Internal Radius
Acoustic Impedance Minimum (AIMN) USIT-D
-1 Mrayl 9
Acoustic Impedance Average (AIAV) USIT-D
-1 Mrayl 9
Acoustic

Averaged Value (IRAV) USIT-D	Averaged Value (IRAV) USIT-D
5 in 4	4 in 5
Internal Radius Maximum Value (IRMX) USIT-D	Internal Radius Maximum Value (IRMX) USIT-D
5 in 4	4 in 5
Internal Radius Minimum Value (IRMN) USIT-D	Internal Radius Minimum Value (IRMN) USIT-D
5 in 4	4 in 5

Impedance Maximum (AIMX) USIT-D
-1 Mrayl 9

TIME_1900 - Time Marked every 60.00 (s)

Description: USI Cement Format: Log (Import of UCRC_USI Cement 9.625inch) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 04-Oct-2015 02:20:17

Two

USIT Goodwin Compressed

Software Version

Acquisition System	Version
Maxwell	5.2.40401.3100

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Two	Log[5]:Up	Up	17.60 ft	8762.49 ft	02-Oct-2015 10:09:30 PM	03-Oct-2015 1:07:34 PM	ON	12.00 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Southern California Gas Company Well:Standard Sesnon 4B

Two: Log[5]:Up:S016

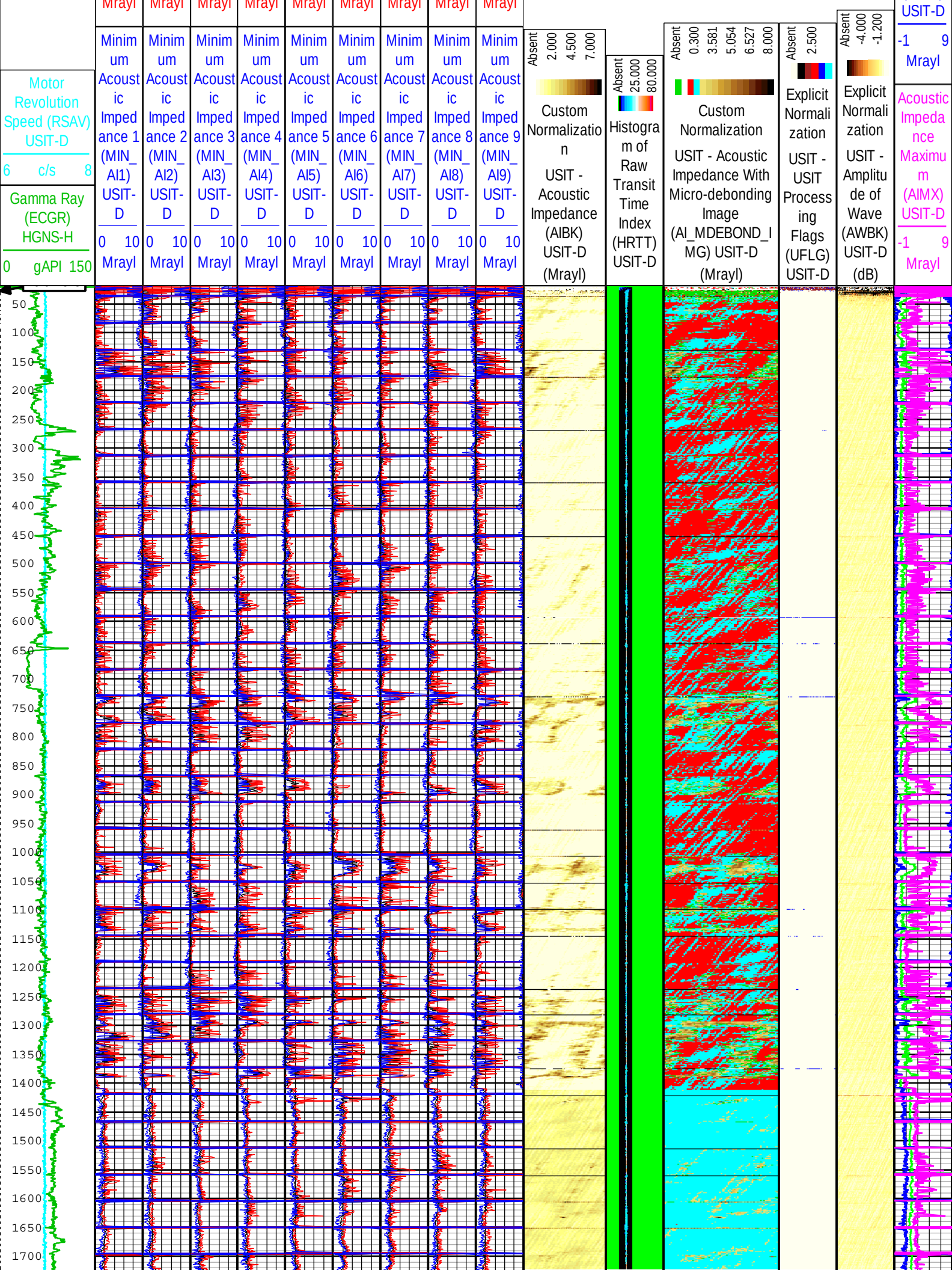
Description: USI Goodwin Format: Log (Import of UCRC_Long Beach Custom Goodwin) Index Scale: 0.5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 04-Oct-2015 02:20:20

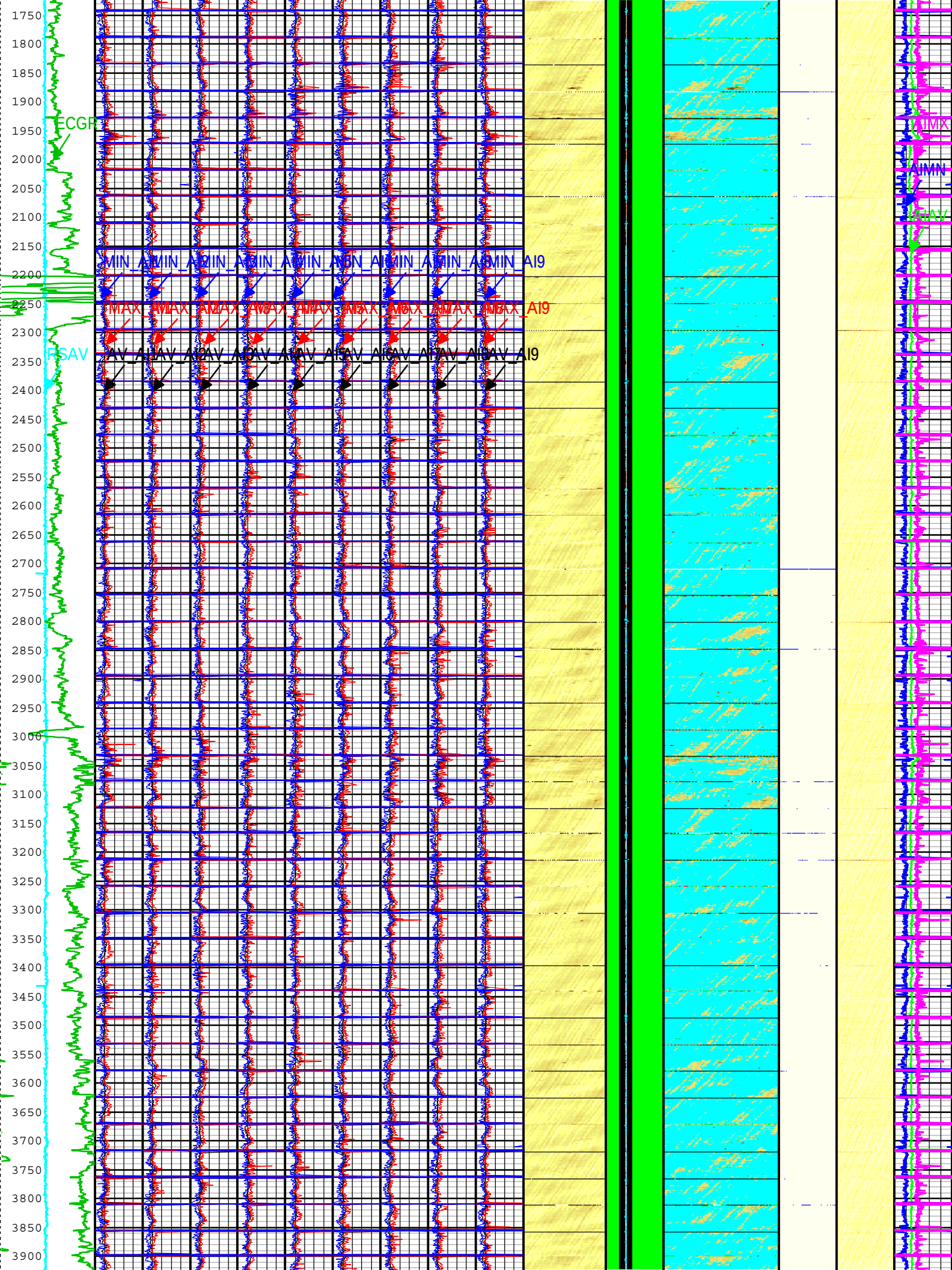
TIME_1900 - Time Marked every 60.00 (s)

Average Acoustic Impedance 1 (AV_AI1) USIT-D	Average Acoustic Impedance 2 (AV_AI2) USIT-D	Average Acoustic Impedance 3 (AV_AI3) USIT-D	Average Acoustic Impedance 4 (AV_AI4) USIT-D	Average Acoustic Impedance 5 (AV_AI5) USIT-D	Average Acoustic Impedance 6 (AV_AI6) USIT-D	Average Acoustic Impedance 7 (AV_AI7) USIT-D	Average Acoustic Impedance 8 (AV_AI8) USIT-D	Average Acoustic Impedance 9 (AV_AI9) USIT-D
0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl
Maximum Acoustic Impedance 1 (MAX_AI1) USIT-D	Maximum Acoustic Impedance 2 (MAX_AI2) USIT-D	Maximum Acoustic Impedance 3 (MAX_AI3) USIT-D	Maximum Acoustic Impedance 4 (MAX_AI4) USIT-D	Maximum Acoustic Impedance 5 (MAX_AI5) USIT-D	Maximum Acoustic Impedance 6 (MAX_AI6) USIT-D	Maximum Acoustic Impedance 7 (MAX_AI7) USIT-D	Maximum Acoustic Impedance 8 (MAX_AI8) USIT-D	Maximum Acoustic Impedance 9 (MAX_AI9) USIT-D
0 10	0 10	0 10	0 10	0 10	0 10	0 10	0 10	0 10

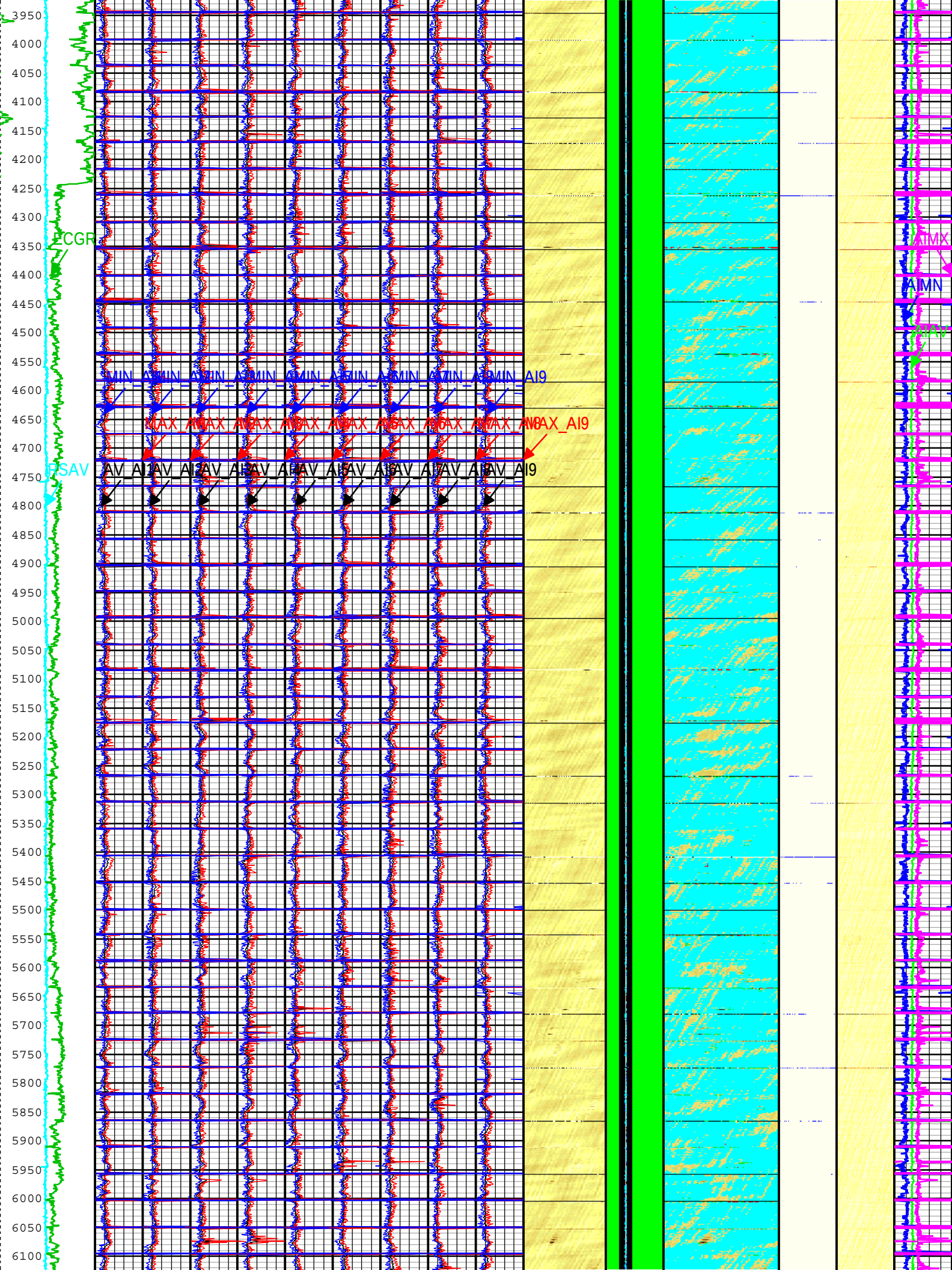
Acoustic Impedance Average (AIAV) USIT-D
-1 9 Mrayl

Acoustic Impedance Minimum (AIMN)

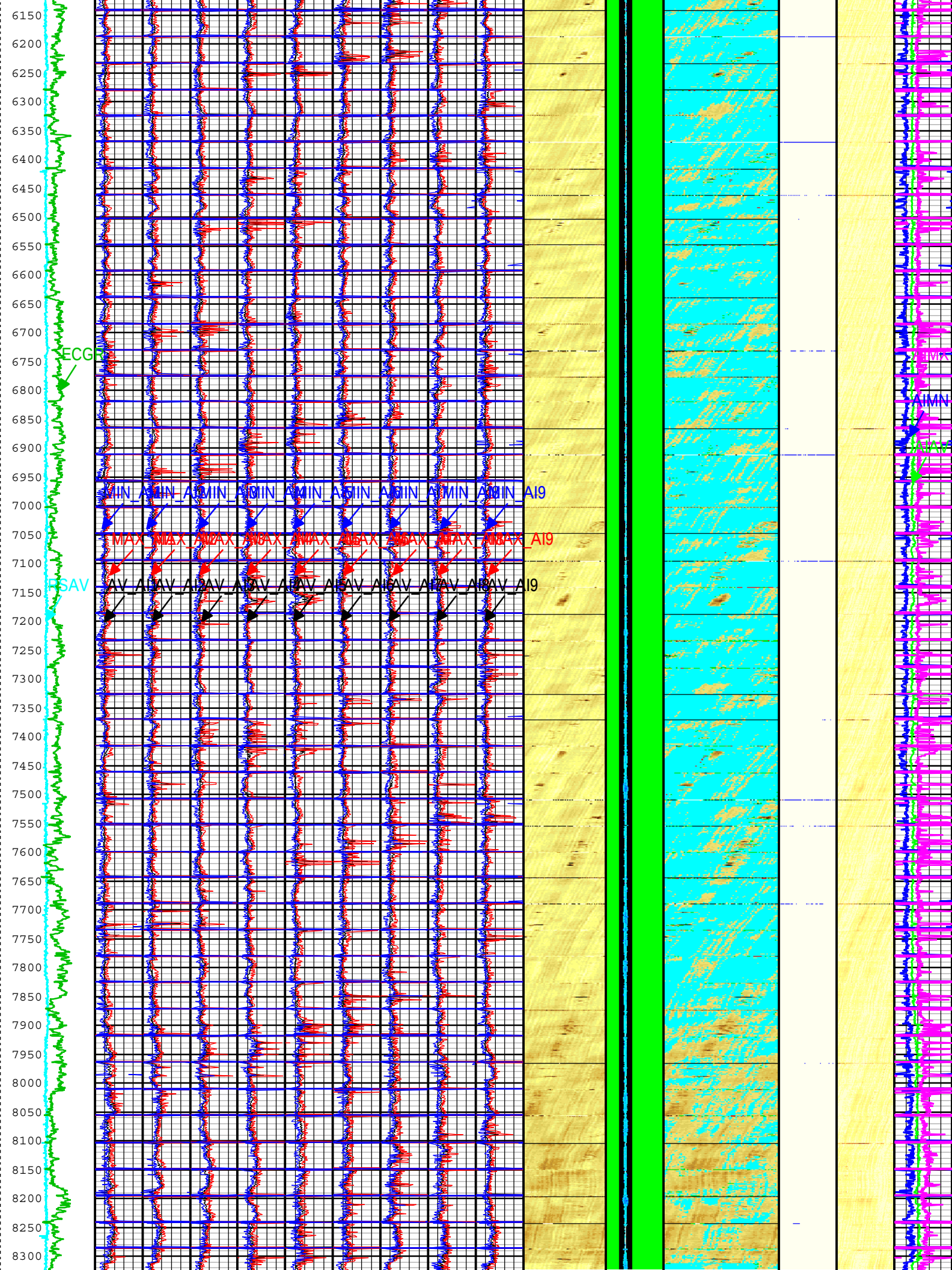

Mrayl
Minimum Acoustic Impedance 1 (MIN_AI1) USIT-D
Minimum Acoustic Impedance 2 (MIN_AI2) USIT-D
Minimum Acoustic Impedance 3 (MIN_AI3) USIT-D
Minimum Acoustic Impedance 4 (MIN_AI4) USIT-D
Minimum Acoustic Impedance 5 (MIN_AI5) USIT-D
Minimum Acoustic Impedance 6 (MIN_AI6) USIT-D
Minimum Acoustic Impedance 7 (MIN_AI7) USIT-D
Minimum Acoustic Impedance 8 (MIN_AI8) USIT-D
Minimum Acoustic Impedance 9 (MIN_AI9) USIT-D
0 10 Mrayl
Motor Revolution Speed (RSAV) USIT-D
6 c/s 8
Gamma Ray (ECGR) HGNS-H
0 gAPI 150
Absent 2.000 4.500 7.000
Custom Normalization
USIT - Acoustic Impedance (AIBK) USIT-D (Mrayl)
Absent 25.000 80.000
Histogram of Raw Transit Time Index (HRTT) USIT-D
Absent 0.300 3.581 5.054 6.527 8.000
Custom Normalization
USIT - Acoustic Impedance With Micro-debonding Image (AI_MDEBOND_IMG) USIT-D (Mrayl)
Absent 2.500
Explicit Normalization
USIT - USIT Processing Flags (UFLG) USIT-D
Absent -4.000 -1.200
Explicit Normalization
USIT - Amplitude of Wave (AWBK) USIT-D (dB)
USIT-D
-1 9
Mrayl
Acoustic Impedance Maximum (AIMX) USIT-D
-1 9
Mrayl
50
100
150
200
250
300
350
400
450
500
550
600
650
700
750
800
850
900
950
1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500
1550
1600
1650
1700



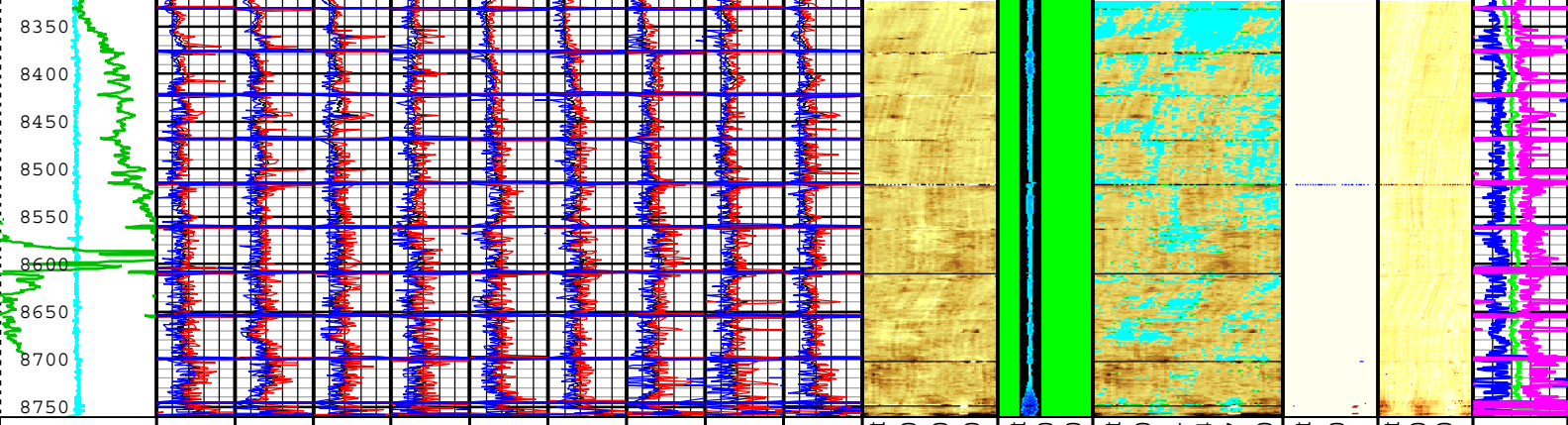
ECGR
RSAV
AIMX
AIMN
AIAV
MIN_AI9
MAX_AI9
AV_AI9
1750
1800
1850
1900
1950
2000
2050
2100
2150
2200
2250
2300
2350
2400
2450
2500
2550
2600
2650
2700
2750
2800
2850
2900
2950
3000
3050
3100
3150
3200
3250
3300
3350
3400
3450
3500
3550
3600
3650
3700
3750
3800
3850
3900



ECGR
AIMX
AIMN
AIAV
PSAV
AI9



6150
6200
6250
6300
6350
6400
6450
6500
6550
6600
6650
6700
6750
6800
6850
6900
6950
7000
7050
7100
7150
7200
7250
7300
7350
7400
7450
7500
7550
7600
7650
7700
7750
7800
7850
7900
7950
8000
8050
8100
8150
8200
8250
8300
ECGR
AIMN
AI9
MAX_AI9
RSAV
AV_AI9



Motor Revolution Speed (RSAV) USIT-D	Gamma Ray (ECGR) HGNS-H	Average Acoustic Impedance 1 (AV_AI1) USIT-D	Average Acoustic Impedance 2 (AV_AI2) USIT-D	Average Acoustic Impedance 3 (AV_AI3) USIT-D	Average Acoustic Impedance 4 (AV_AI4) USIT-D	Average Acoustic Impedance 5 (AV_AI5) USIT-D	Average Acoustic Impedance 6 (AV_AI6) USIT-D	Average Acoustic Impedance 7 (AV_AI7) USIT-D	Average Acoustic Impedance 8 (AV_AI8) USIT-D	Average Acoustic Impedance 9 (AV_AI9) USIT-D	Custom Normalization USIT - Acoustic Impedance (AIBK) USIT-D (Mrayl)	Histogram of Raw Transit Time Index (HRTT) USIT-D	Custom Normalization USIT - Acoustic Impedance With Micro-debonding Image (AI_MDEBOND_IMG) USIT-D (Mrayl)	Explicit Normalization USIT - USIT Processing Flags (UFLG) USIT-D	Explicit Normalization USIT - Amplitude of Wave (AWBK) USIT-D (dB)	Acoustic Impedance Average (AIAV) USIT-D	Acoustic Impedance Minimum (AIMN) USIT-D	Acoustic Impedance Maximum (AIMX) USIT-D
6 c/s 8	0 gAPI 150	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	Absent 2.000 4.500 7.000	Absent 25.000 80.000	Absent 0.300 3.581 5.054 6.527 8.000	Absent 2.500	Absent -4.000 -1.200	-1 9 Mrayl	-1 9 Mrayl	-1 9 Mrayl
		Maximum Acoustic Impedance 1 (MAX_AI1) USIT-D	Maximum Acoustic Impedance 2 (MAX_AI2) USIT-D	Maximum Acoustic Impedance 3 (MAX_AI3) USIT-D	Maximum Acoustic Impedance 4 (MAX_AI4) USIT-D	Maximum Acoustic Impedance 5 (MAX_AI5) USIT-D	Maximum Acoustic Impedance 6 (MAX_AI6) USIT-D	Maximum Acoustic Impedance 7 (MAX_AI7) USIT-D	Maximum Acoustic Impedance 8 (MAX_AI8) USIT-D	Maximum Acoustic Impedance 9 (MAX_AI9) USIT-D								
		0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl								
		Minimum Acoustic Impedance 1 (MIN_AI1) USIT-D	Minimum Acoustic Impedance 2 (MIN_AI2) USIT-D	Minimum Acoustic Impedance 3 (MIN_AI3) USIT-D	Minimum Acoustic Impedance 4 (MIN_AI4) USIT-D	Minimum Acoustic Impedance 5 (MIN_AI5) USIT-D	Minimum Acoustic Impedance 6 (MIN_AI6) USIT-D	Minimum Acoustic Impedance 7 (MIN_AI7) USIT-D	Minimum Acoustic Impedance 8 (MIN_AI8) USIT-D	Minimum Acoustic Impedance 9 (MIN_AI9) USIT-D								
		0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl								

TIME_1900 - Time Marked every 60.00 (s)

Description: USI Goodwin Format: Log (Import of UCRC_Long Beach Custom Goodwin) Index Scale: 0.5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 04-Oct-2015 02:20:20

Two

USIT Goodwin Compressed Bottom Section

Software Version

Acquisition System	Version
Maxwell	5.2.40401.3100

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Two	Log[2]:Up	Up	8563.26 ft	8904.38 ft	03-Oct-2015 2:39:08 PM	03-Oct-2015 3:13:51 PM	ON	16.20 ft	Yes

All depths are referenced to toolstring zero

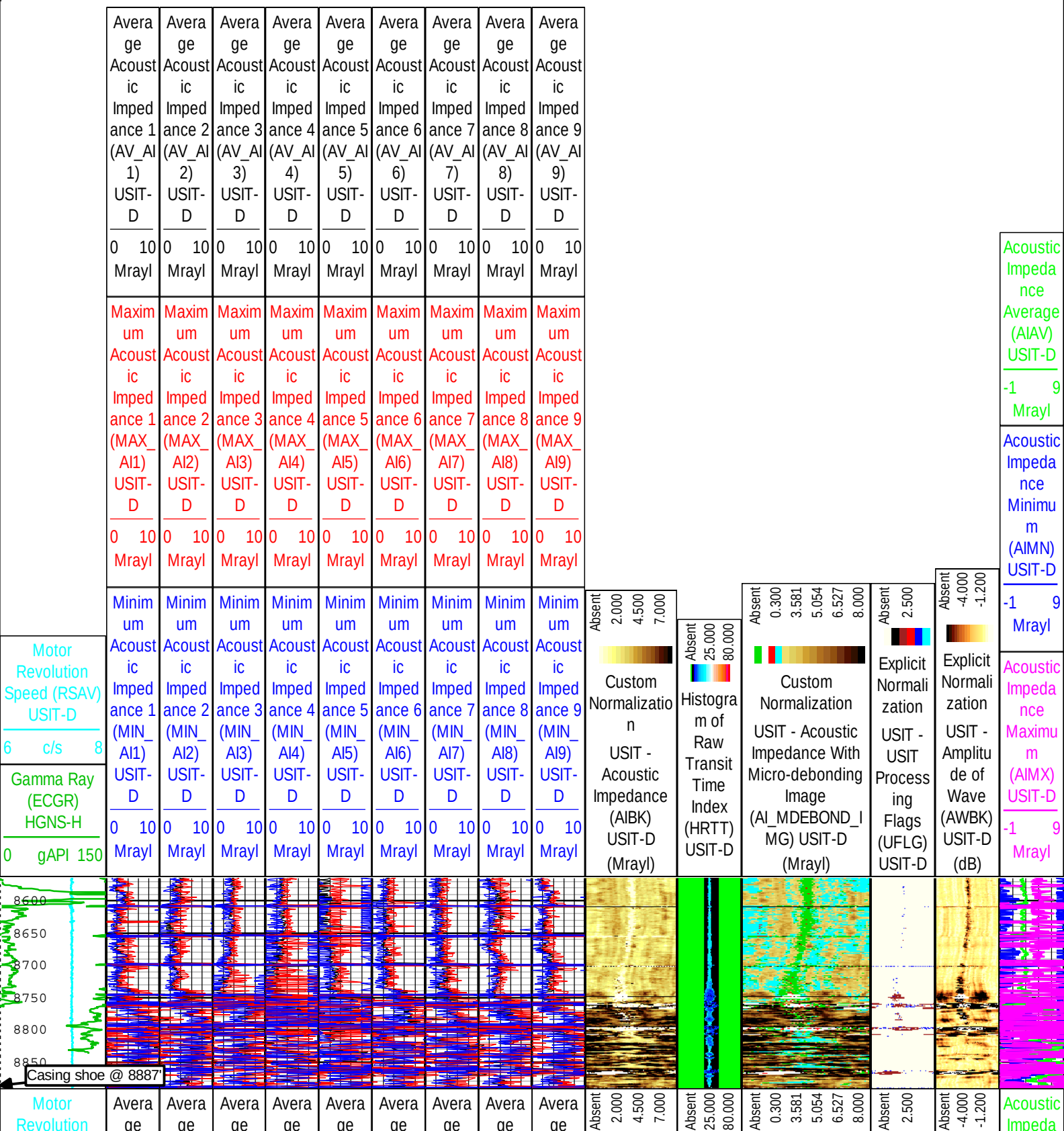
Log

Company:Southern California Gas Company Well:Standard Sesnon 4B

Two: Log[2]:Up:S016

Description: USI Goodwin Format: Log (Import of UCRC_Long Beach Custom Goodwin) Index Scale: 0.5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 04-Oct-2015 02:20:28

TIME_1900 - Time Marked every 60.00 (s)



Speed (RSAV) USIT-D	Gamma Ray (ECGR) HGNS-H	Acoustic Impedance 1 (AV_AI1) USIT-D	Acoustic Impedance 2 (AV_AI2) USIT-D	Acoustic Impedance 3 (AV_AI3) USIT-D	Acoustic Impedance 4 (AV_AI4) USIT-D	Acoustic Impedance 5 (AV_AI5) USIT-D	Acoustic Impedance 6 (AV_AI6) USIT-D	Acoustic Impedance 7 (AV_AI7) USIT-D	Acoustic Impedance 8 (AV_AI8) USIT-D	Acoustic Impedance 9 (AV_AI9) USIT-D	Custom Normalization USIT - Acoustic Impedance (AIBK) USIT-D (Mrayl)	Histogram of Raw Transit Time Index (HRTT) USIT-D	Custom Normalization USIT - Acoustic Impedance With Micro-debonding Image (AI_MDEBOND_IMG) USIT-D (Mrayl)	Explicit Normalization USIT - USIT Processing Flags (UFLG) USIT-D	Explicit Normalization USIT - Amplitude of Wave (AWBK) USIT-D (dB)	Acoustic Impedance Average (AIAV) USIT-D	Acoustic Impedance Minimum (AIMN) USIT-D	Acoustic Impedance Maximum (AIMX) USIT-D
6 c/s 8	0 gAPI 150	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl						-1 9 Mrayl	-1 9 Mrayl	-1 9 Mrayl
		Maximum Acoustic Impedance 1 (MAX_AI1) USIT-D	Maximum Acoustic Impedance 2 (MAX_AI2) USIT-D	Maximum Acoustic Impedance 3 (MAX_AI3) USIT-D	Maximum Acoustic Impedance 4 (MAX_AI4) USIT-D	Maximum Acoustic Impedance 5 (MAX_AI5) USIT-D	Maximum Acoustic Impedance 6 (MAX_AI6) USIT-D	Maximum Acoustic Impedance 7 (MAX_AI7) USIT-D	Maximum Acoustic Impedance 8 (MAX_AI8) USIT-D	Maximum Acoustic Impedance 9 (MAX_AI9) USIT-D								
		0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl								
		Minimum Acoustic Impedance 1 (MIN_AI1) USIT-D	Minimum Acoustic Impedance 2 (MIN_AI2) USIT-D	Minimum Acoustic Impedance 3 (MIN_AI3) USIT-D	Minimum Acoustic Impedance 4 (MIN_AI4) USIT-D	Minimum Acoustic Impedance 5 (MIN_AI5) USIT-D	Minimum Acoustic Impedance 6 (MIN_AI6) USIT-D	Minimum Acoustic Impedance 7 (MIN_AI7) USIT-D	Minimum Acoustic Impedance 8 (MIN_AI8) USIT-D	Minimum Acoustic Impedance 9 (MIN_AI9) USIT-D								
		0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl	0 10 Mrayl								

TIME_1900 - Time Marked every 60.00 (s)

Description: USI Goodwin Format: Log (Import of UCRC_Long Beach Custom Goodwin) Index Scale: 0.5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 04-Oct-2015 02:20:28

XYZ

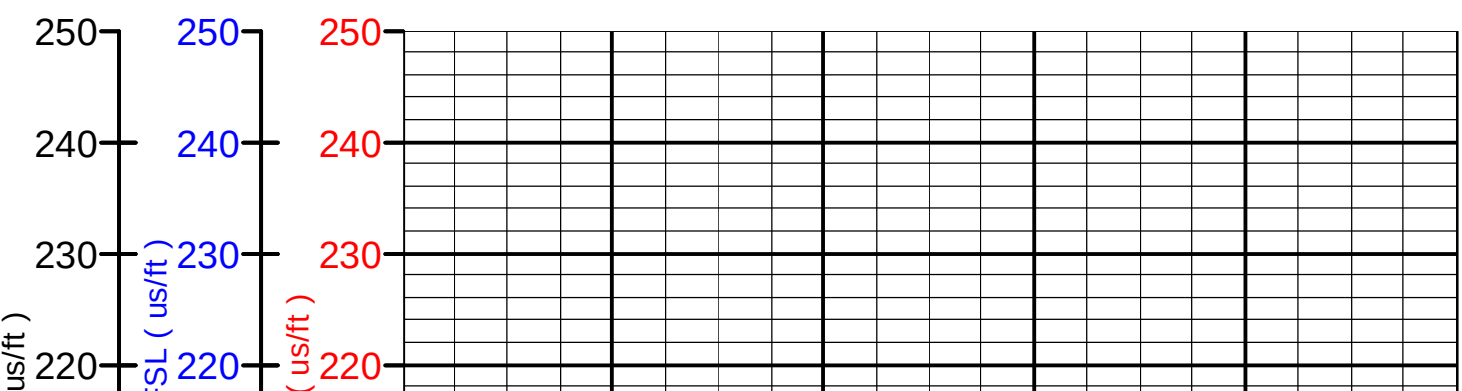
Company:Southern California Gas Company Well:Standard Sesnon 4B
FPM plus Main:S016

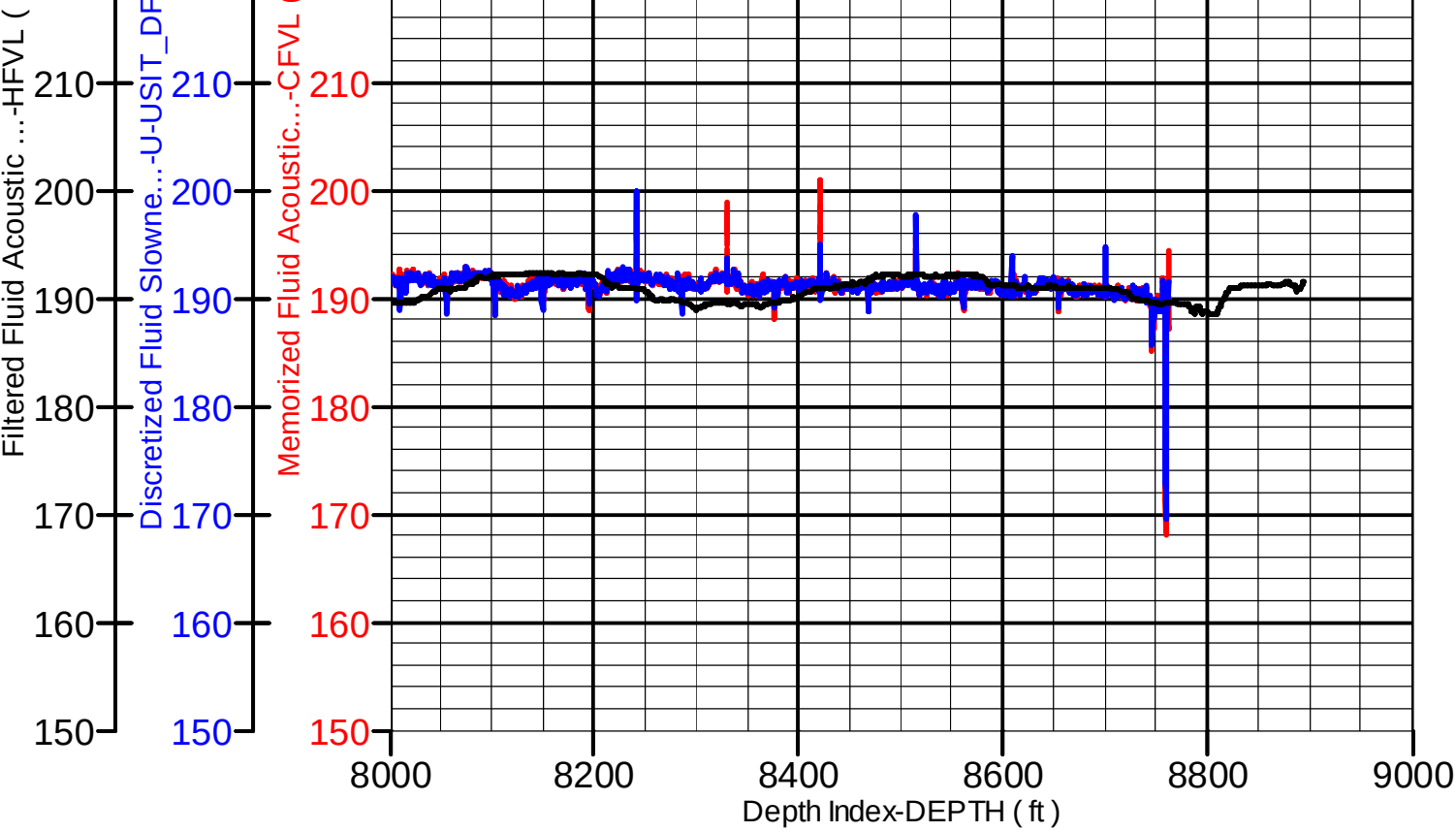
Fluid Acoustic Slowness vs Depth

2D Cross Plot

Index Range: From 17.35 to 8895.50 ft

DEPTH-CFVL
DEPTH-HFVL
DEPTH-U-USIT_DFSL





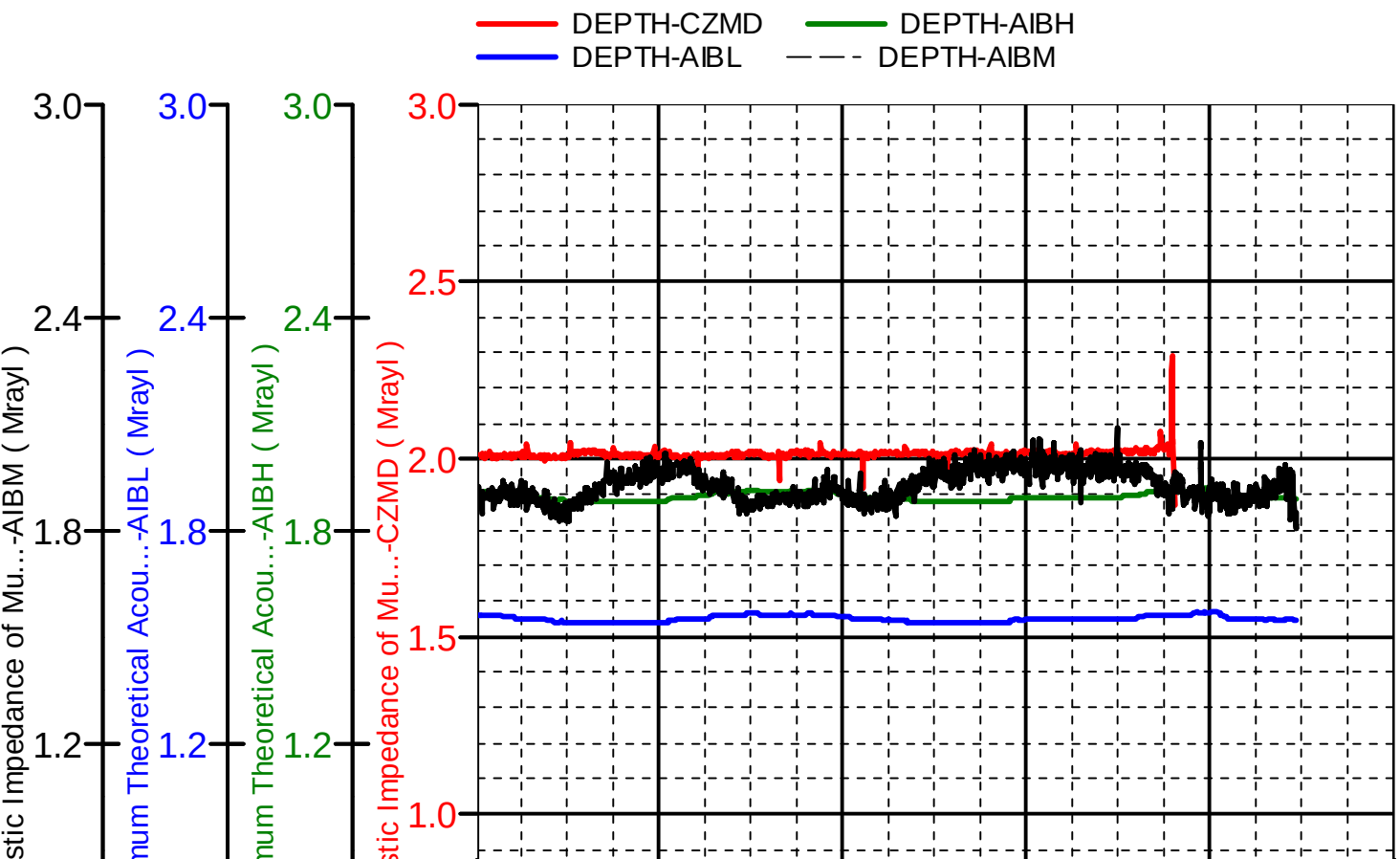
XYZ

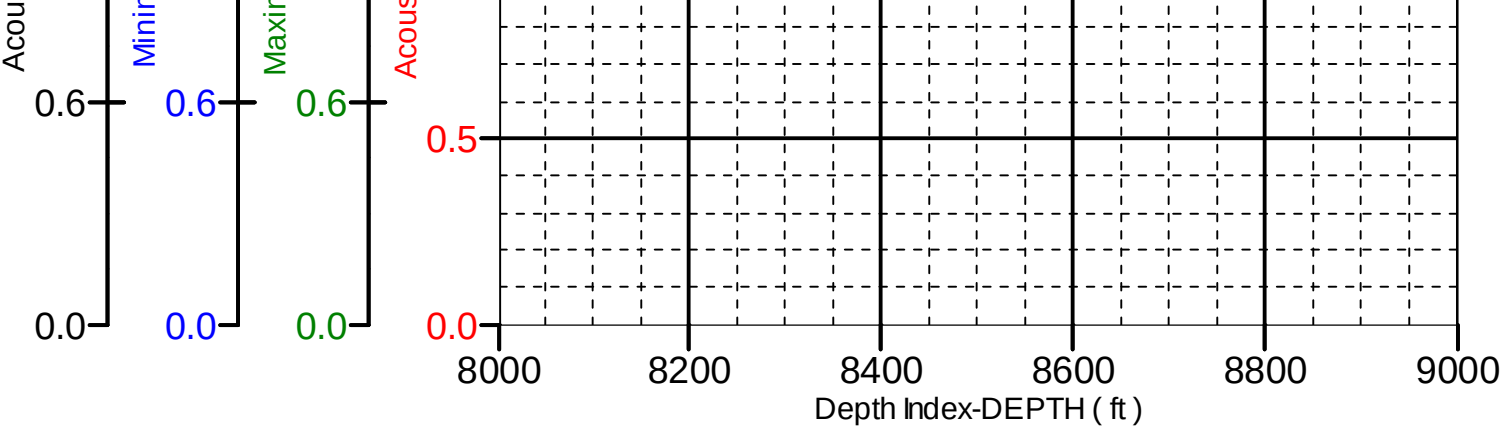
Company:Southern California Gas Company Well:Standard Sesnon 4B
FPM plus Main:S016

Theoretical Acoustic Impedance of Mud vs Depth

2D Cross Plot

Index Range: From 17.35 to 8895.50 ft





Company:	Southern California Gas Company
Well:	Standard Sesnon 4B
Field:	Aliso Canyon
County:	Los Angeles
State:	California

Schlumberger

Ultrasonic Imager

Gamma Ray - CCL