

Company: Caerus Operating LLC

Well: Puckett 25A-26

Field: Grand Valley

County: Garfield State: Colorado

Cement Bond Log
RST Sigma Log
Gamma Ray - Collar Locator Log

County: Garfield
Field: Grand Valley
Location: Mesa F26
Well: Puckett 25A-26
Company: Caerus Operating LLC

Location:	Mesa F26	Elev.: K.B. 8352.00 ft G.L. 8322.00 ft D.F. 8352.00 ft
	Sec 26 T6S R97W	
Permanent Datum:	Ground Level	Elev.: 8322.00 f
Log Measured From:	Kelly Bushing	30.00 ft above Perm.Datum
Drilling Measured From:	Kelly Bushing	
API Serial No.	Section: 26	Township: 6S
0504523427		Range: 97W

Logging Date	22-Jul-2018	
Run Number	One	
Depth Driller	9212.50 ft	
Schlumberger Depth	9172.00 ft	
Bottom Log Interval	9172.00 ft	
Top Log Interval	2300.00 ft	
Casing Fluid Type	2% KCL	
Salinity		
Density	8.49 lbm/gal	
Fluid Level	8.00 ft	
BIT/CASING/TUBING STRING		
Bit Size	8.75 in	
From	2515.60 ft	
To	9212.50 ft	
Casing/Tubing Size	4.5 in	
Weight	11.6 lbm/ft	
Grade	P110	
From	0.00 ft	
To	9212.50 ft	
Max Recorded Temperatures	230 degF	
Logger on Bottom	22-Jul-2018	15:56:00
Unit Number	Time	
Recorded By	Location:	
Beatriz Guaita	Evanston, WY	
Ryan Tompkins		

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.

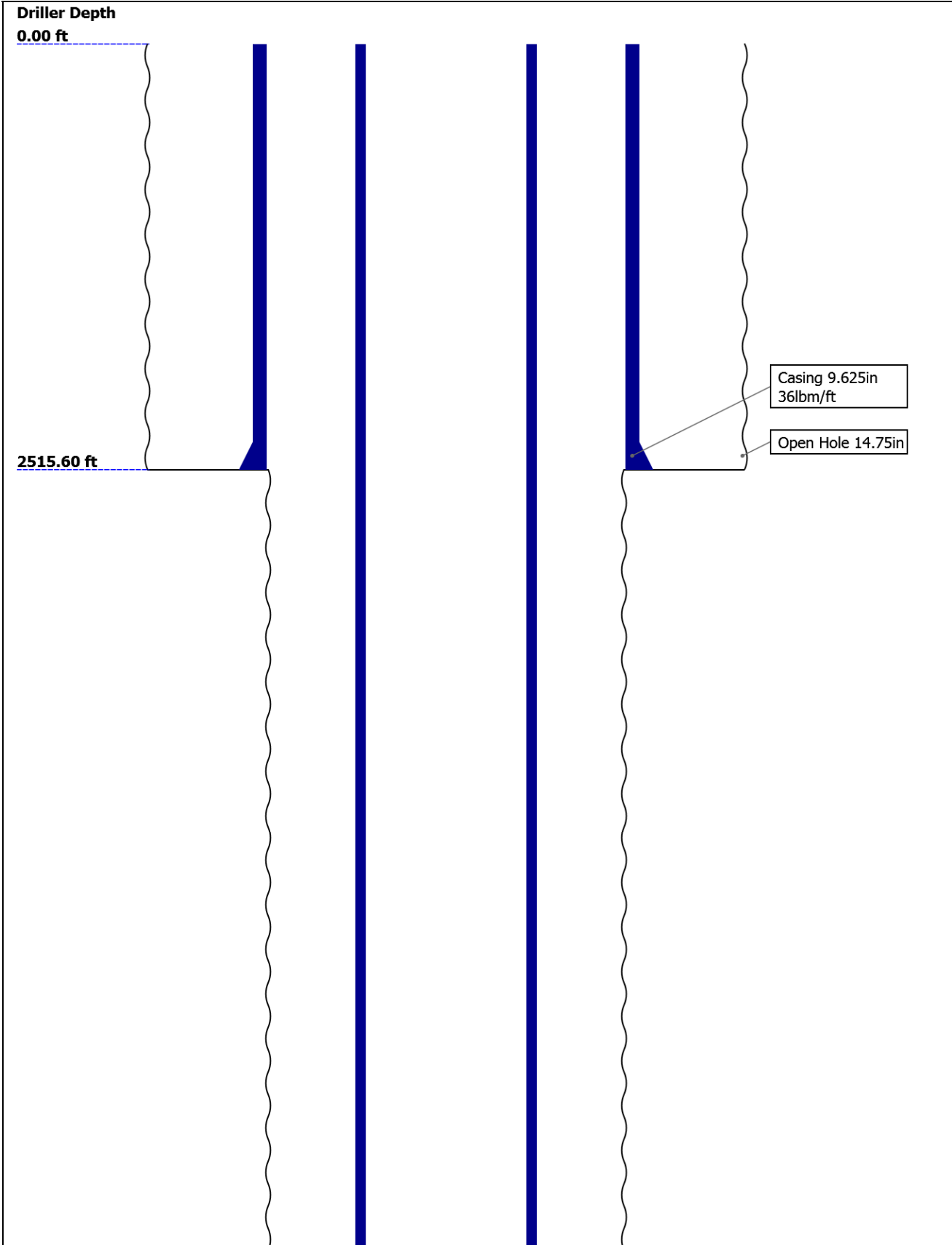
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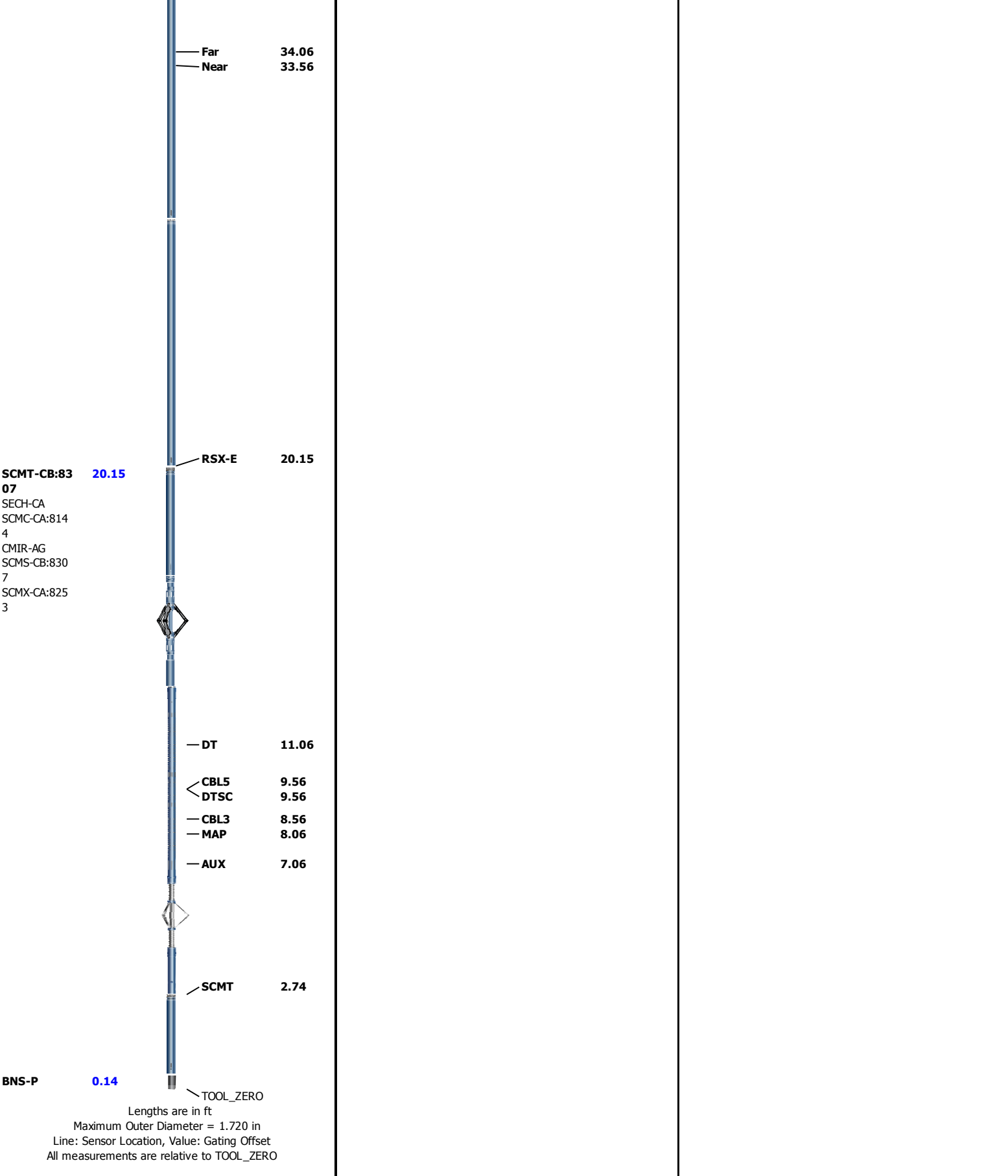
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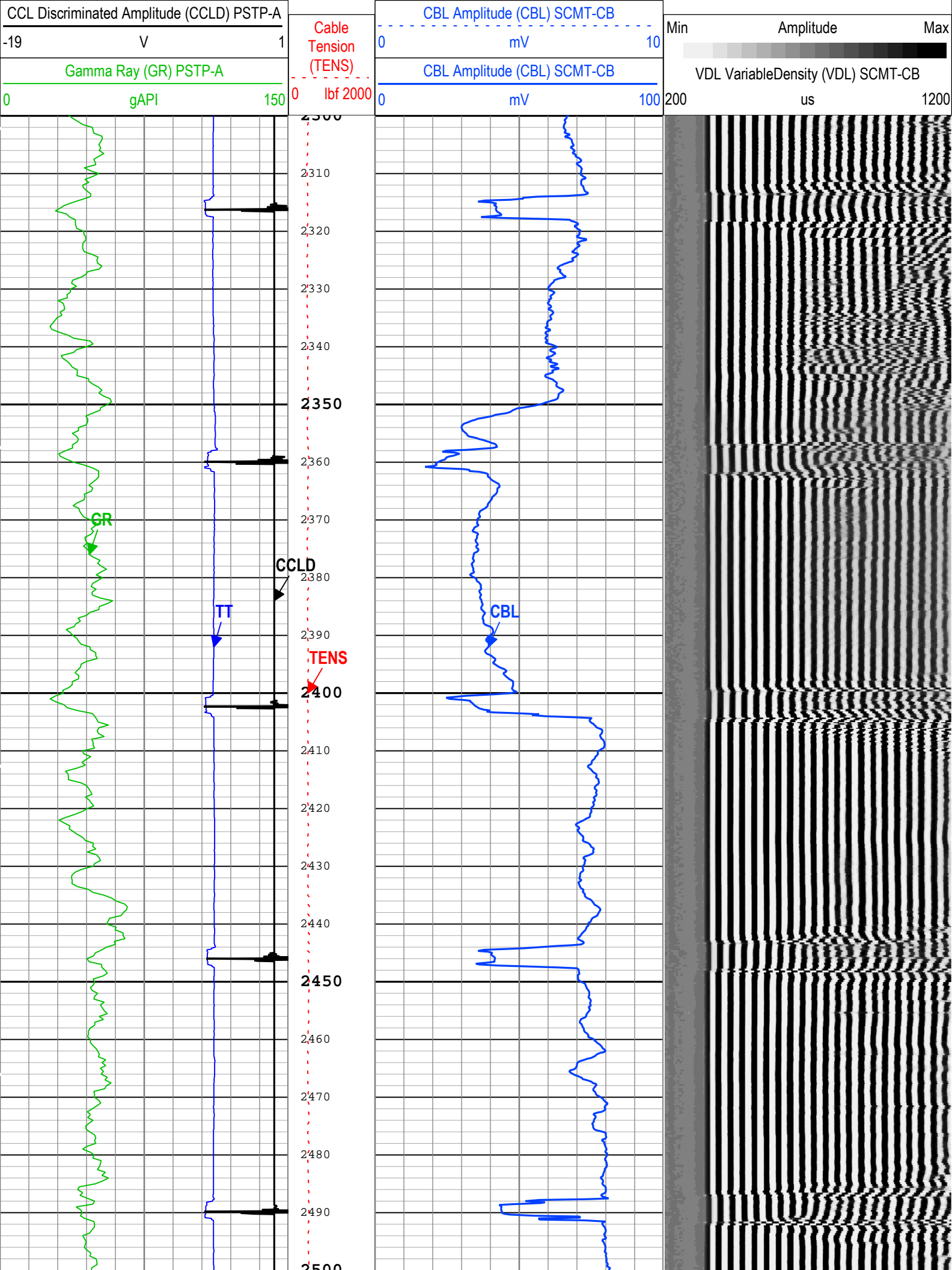
Well Sketch

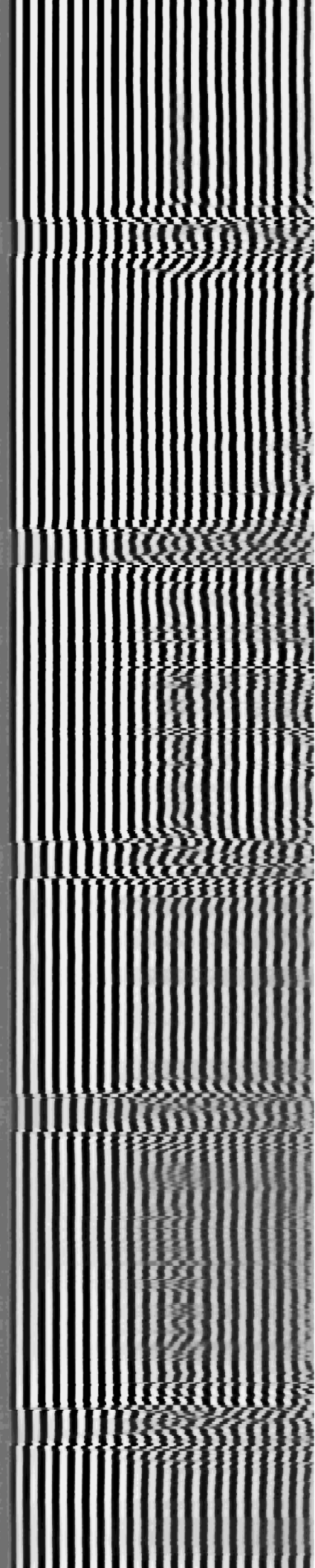
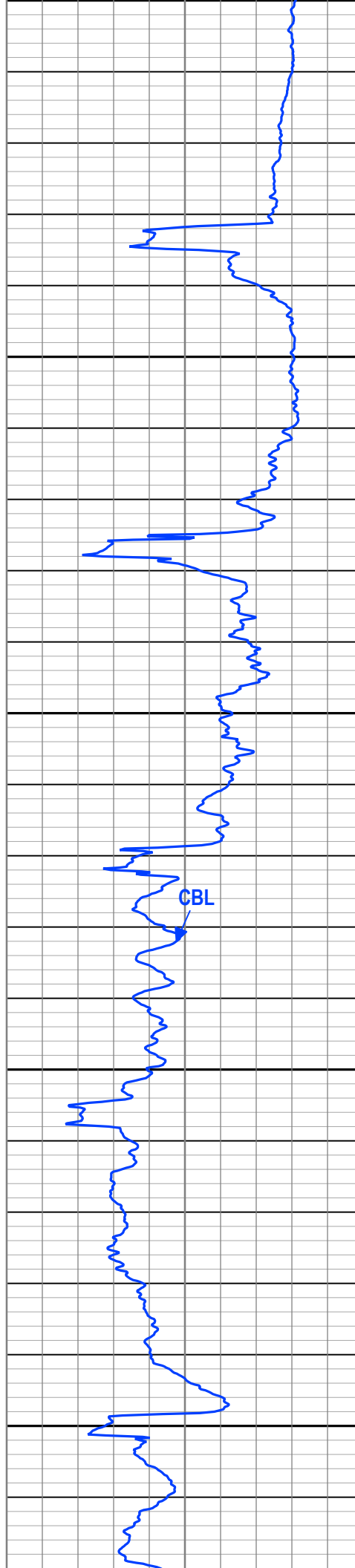
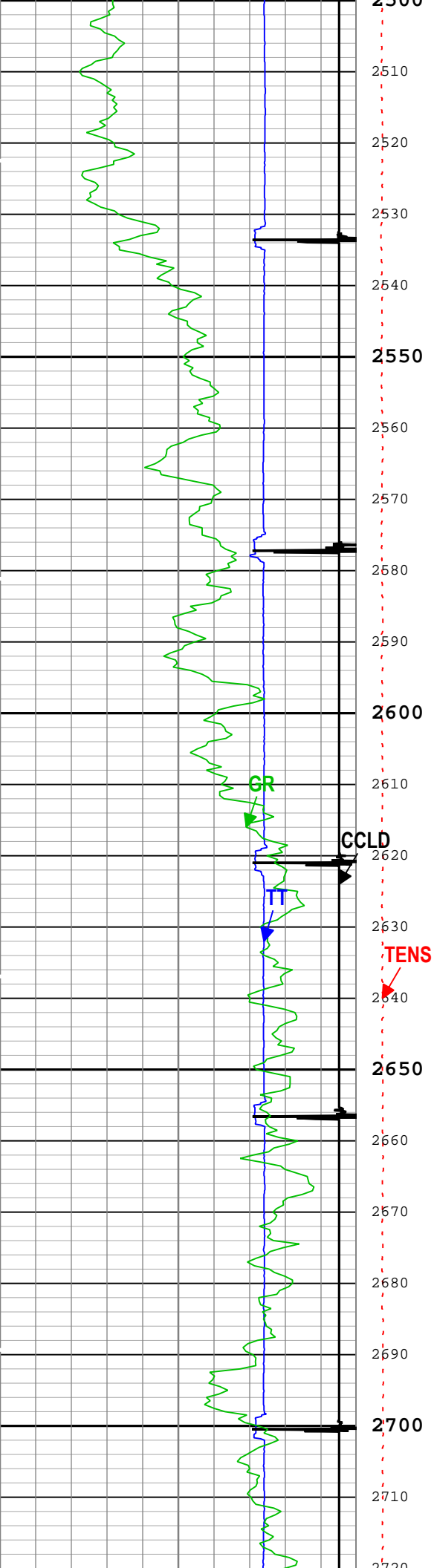


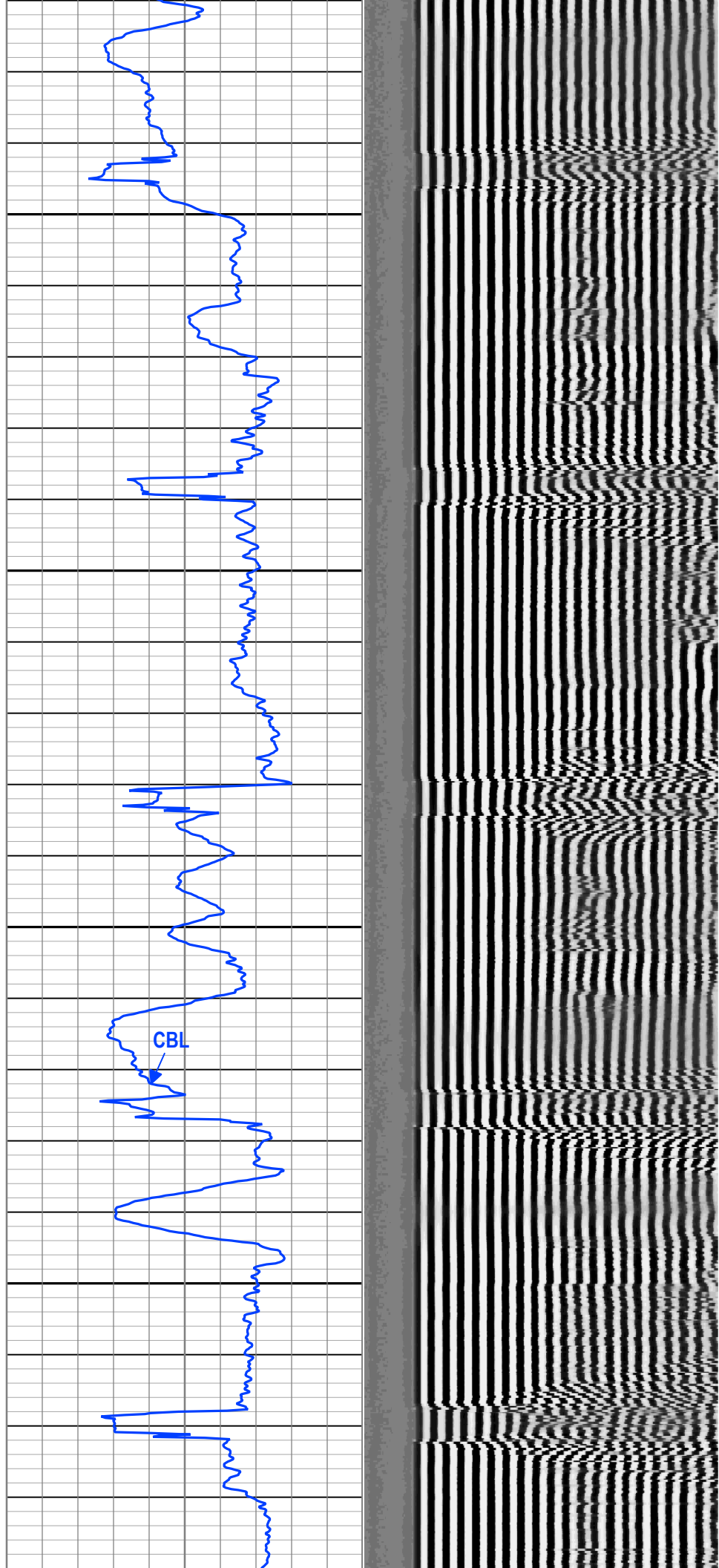
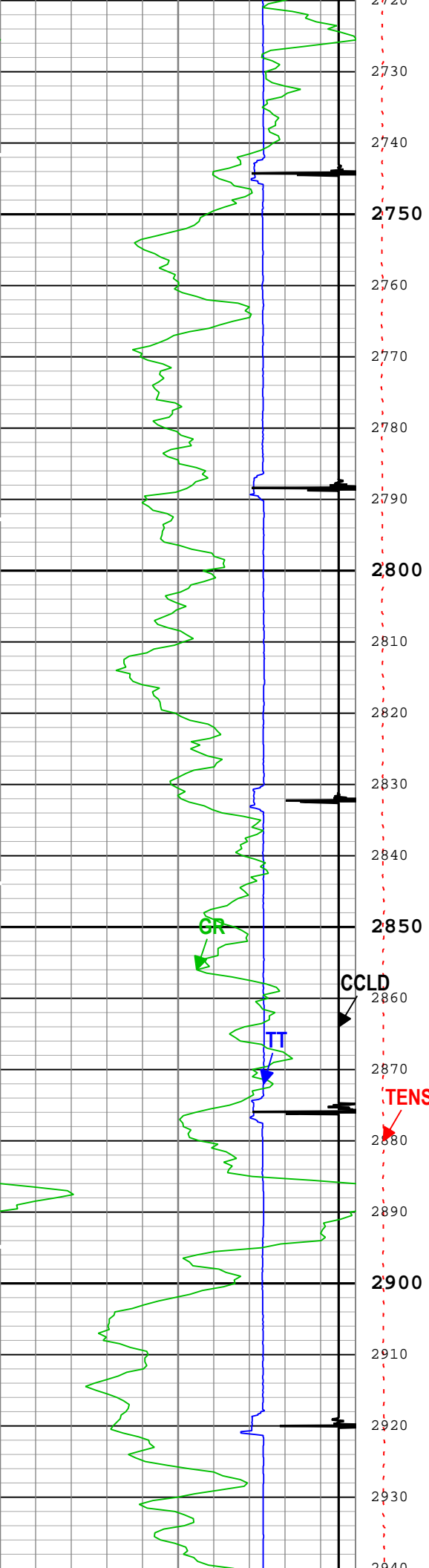


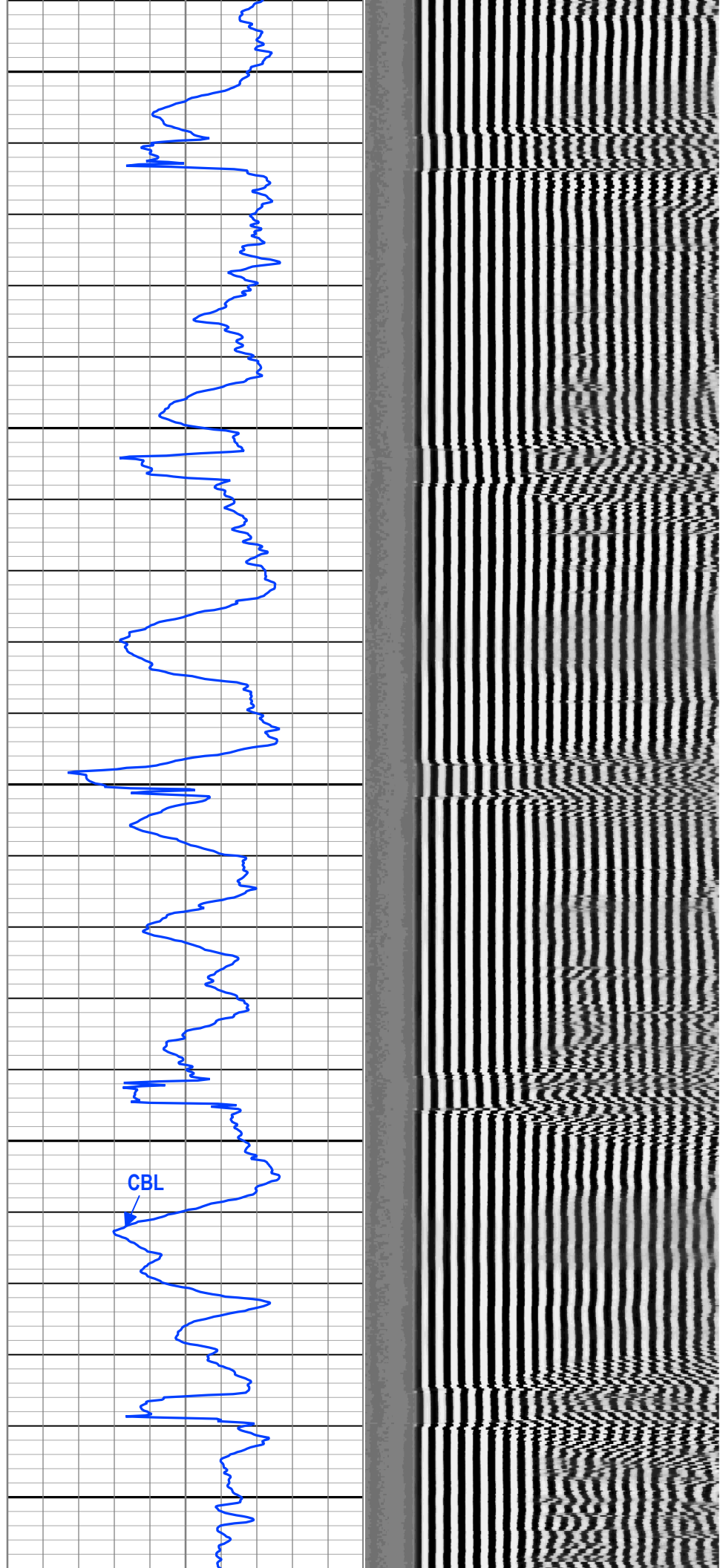
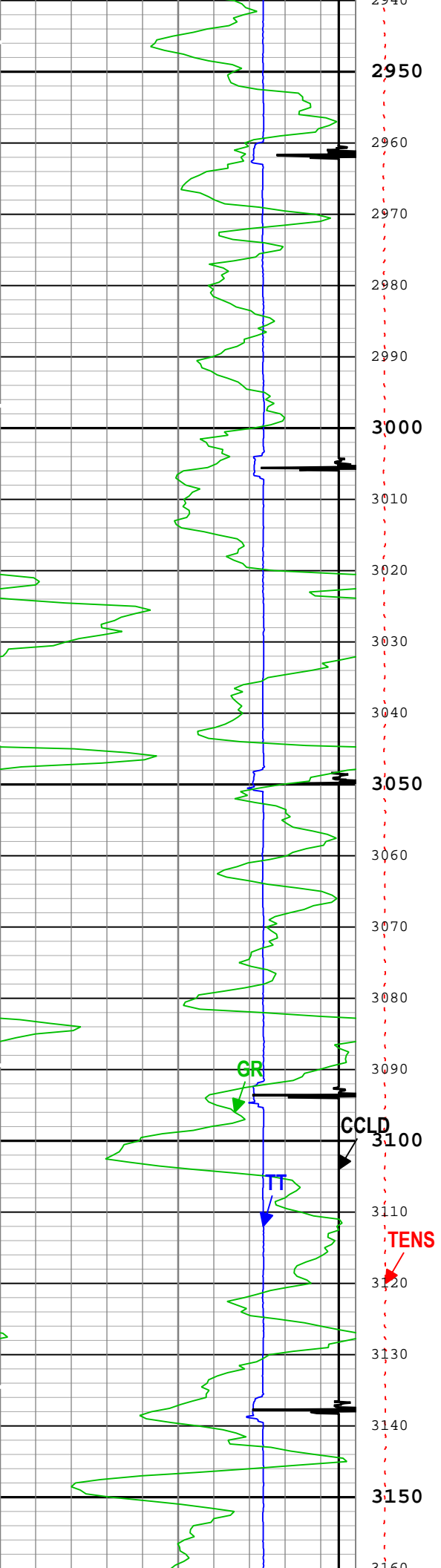
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		One	
Depth Measuring Device			
Type	IDW-B		
Serial Number	5979		
Calibration Date	09-Oct-2017		

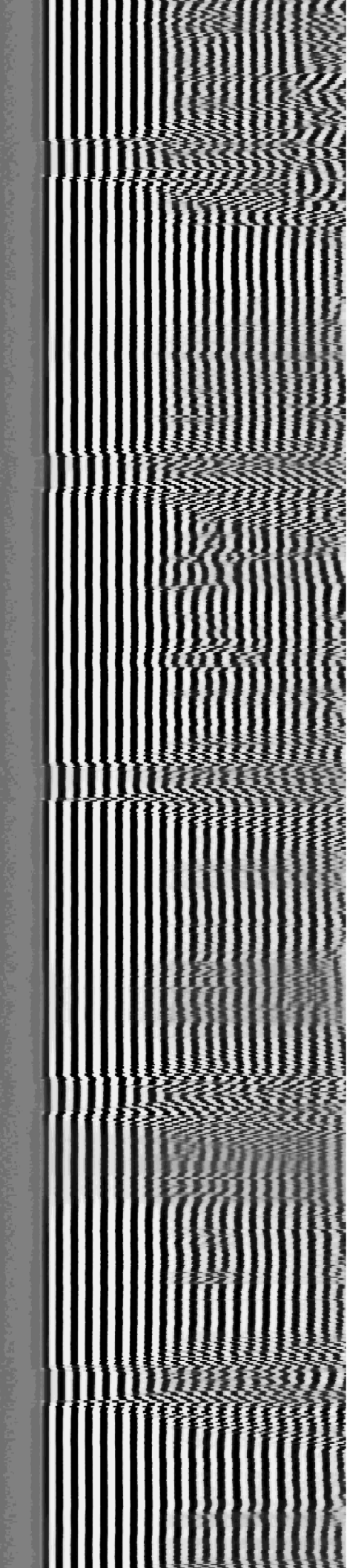
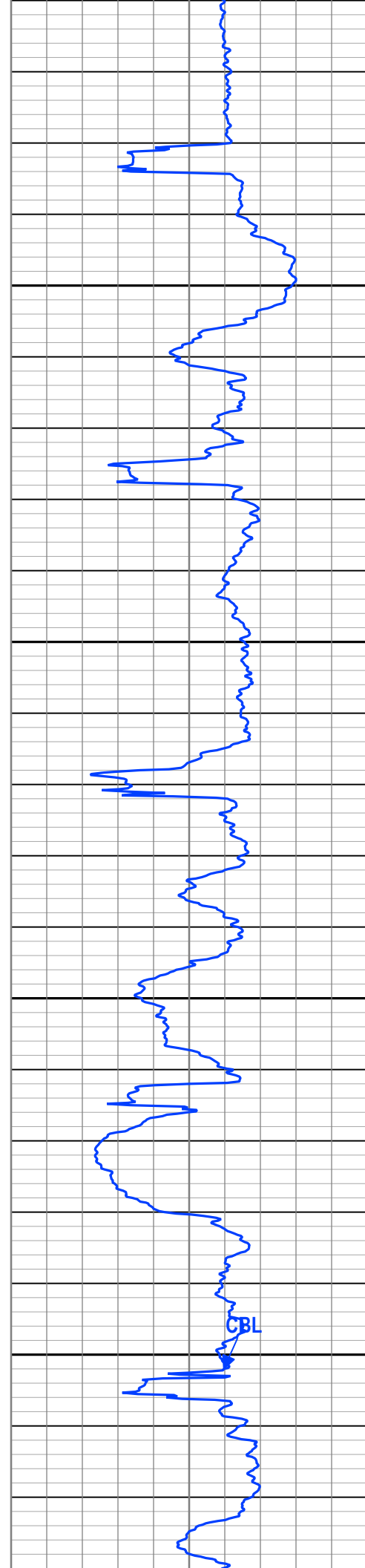
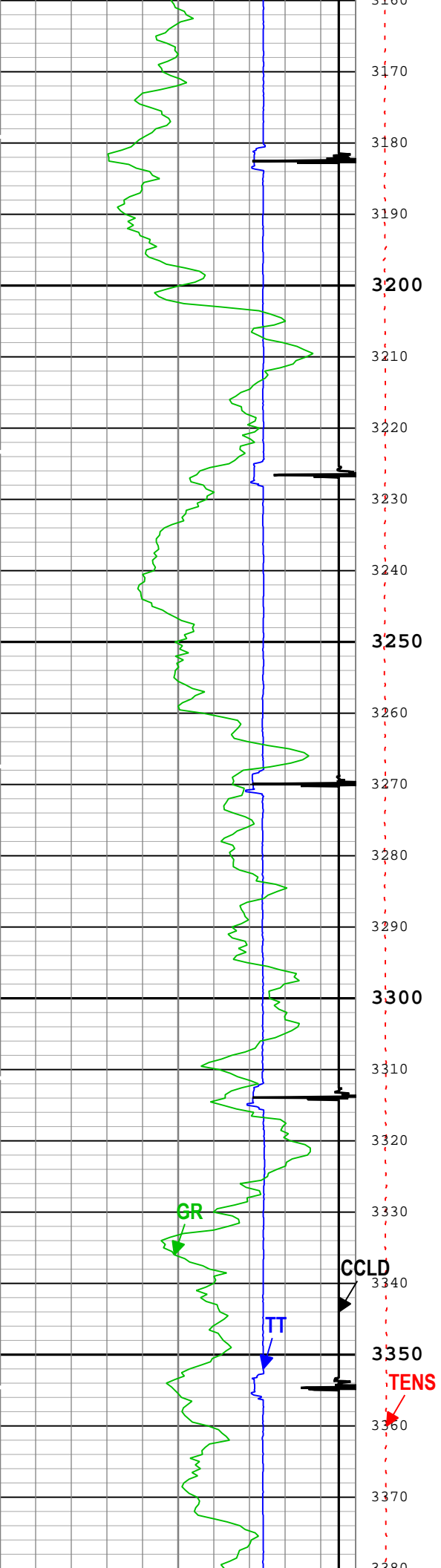
Transit Time for CBL (TT) SCMT-CB		
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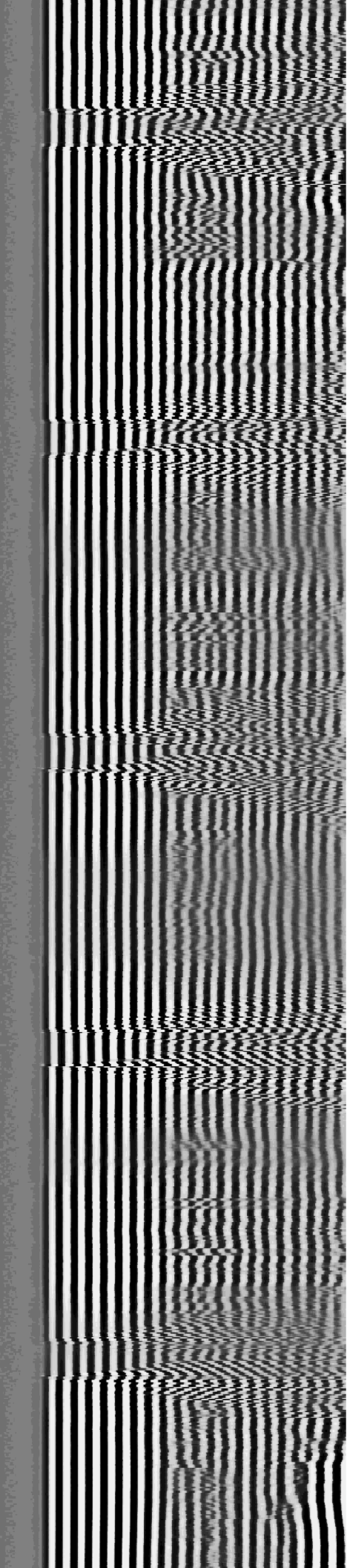
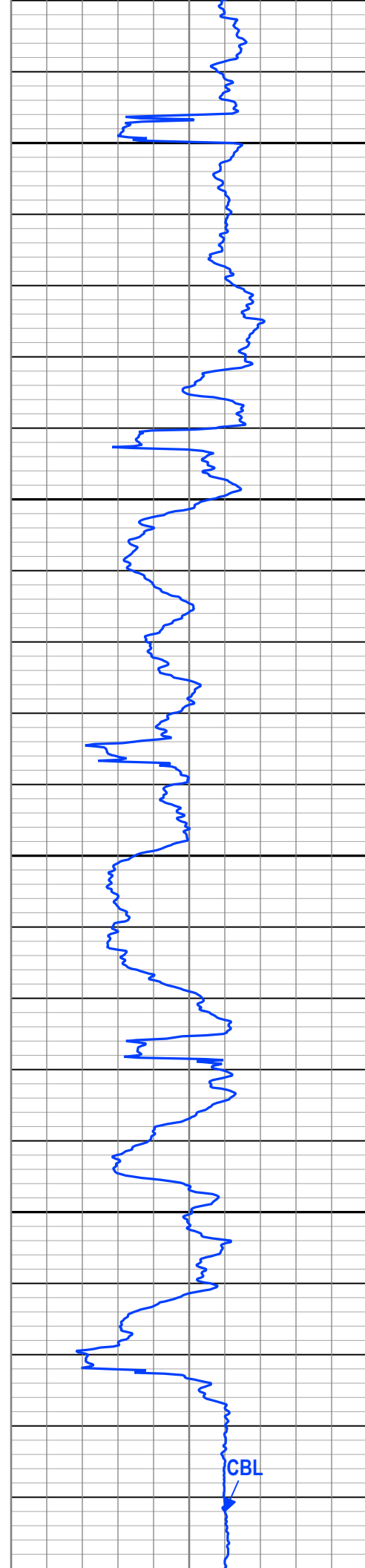
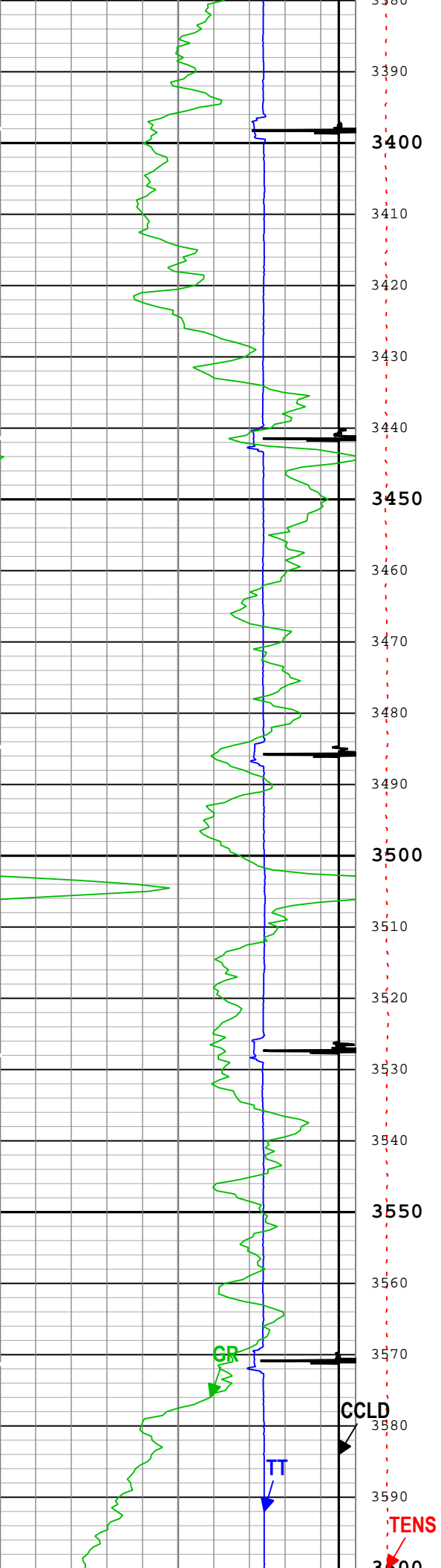


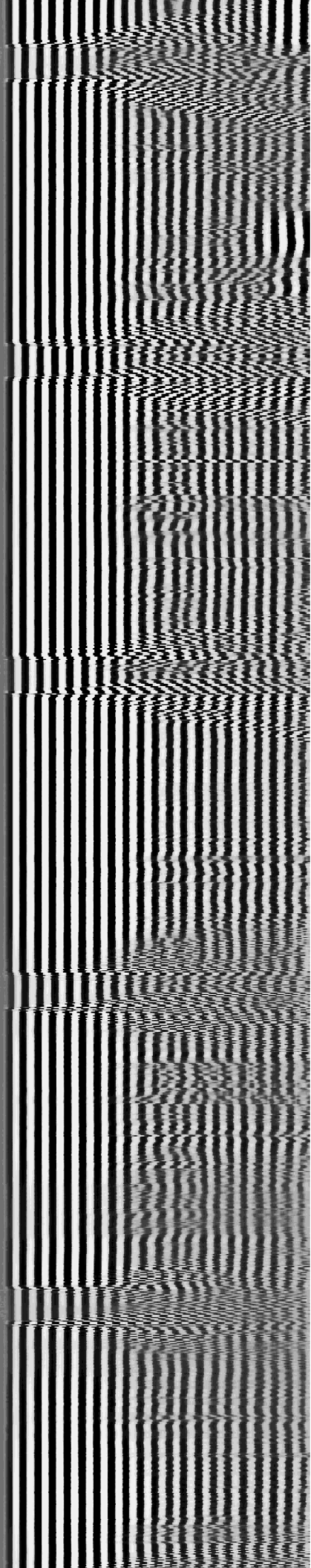
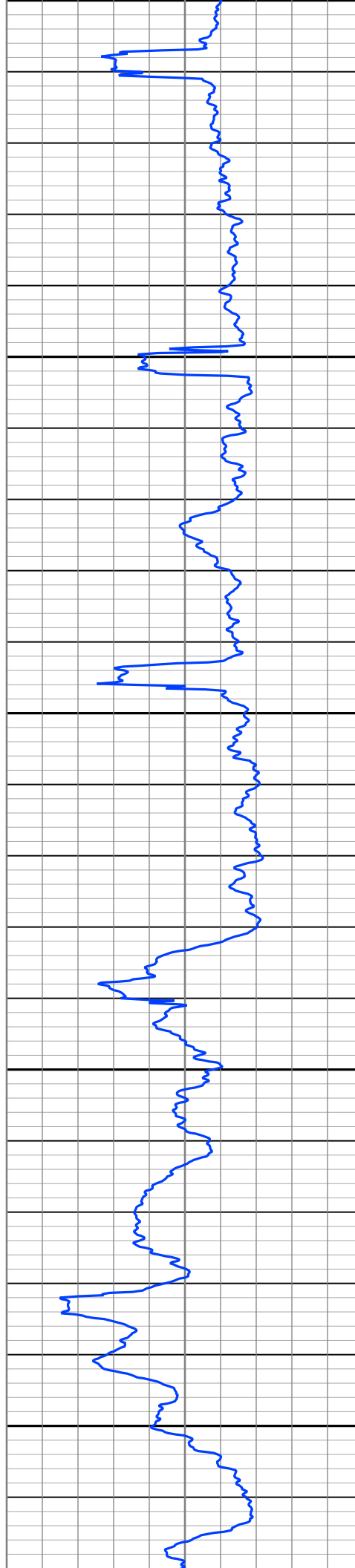
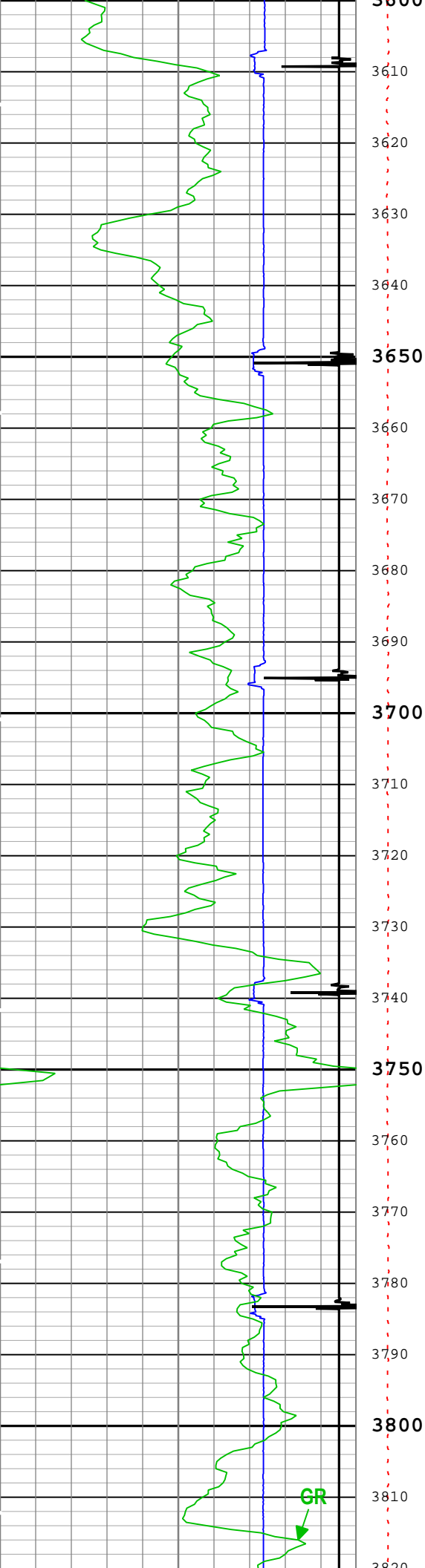


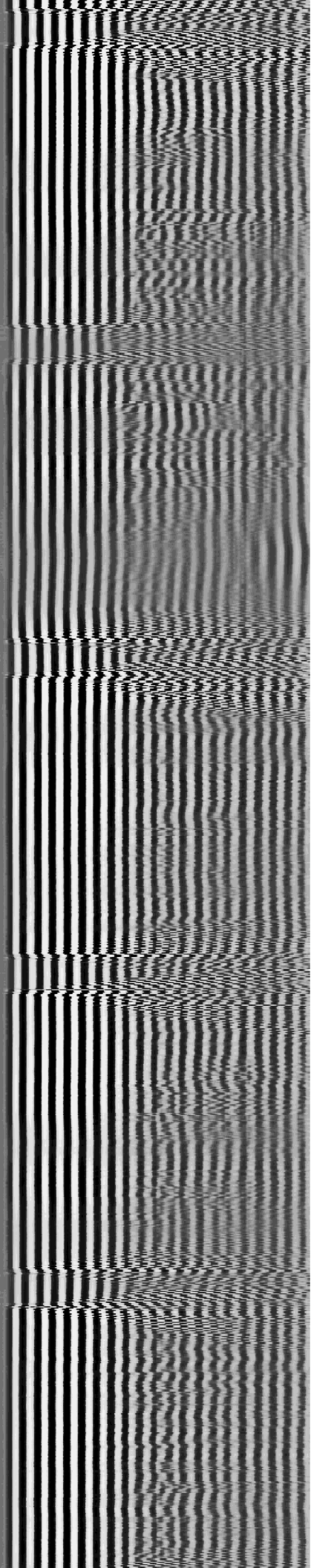
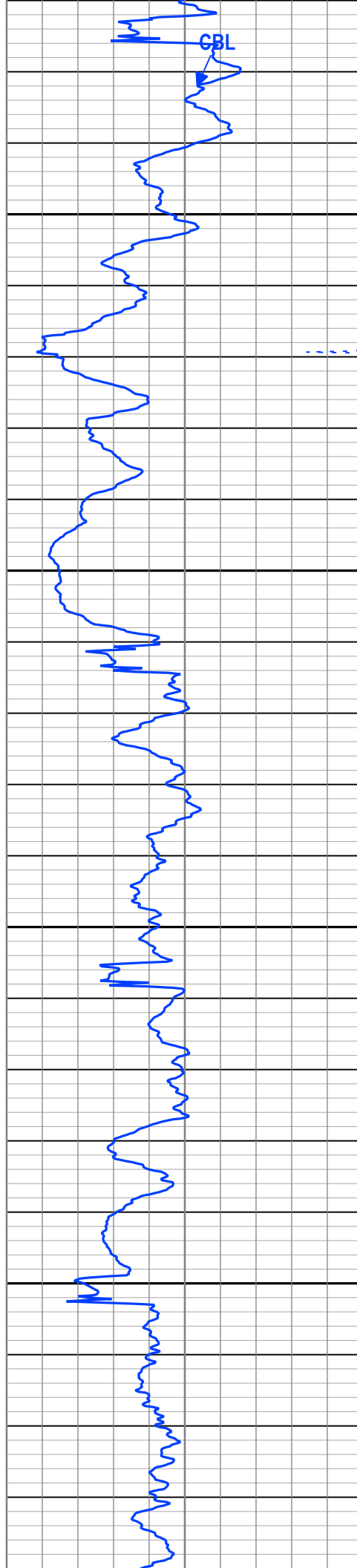
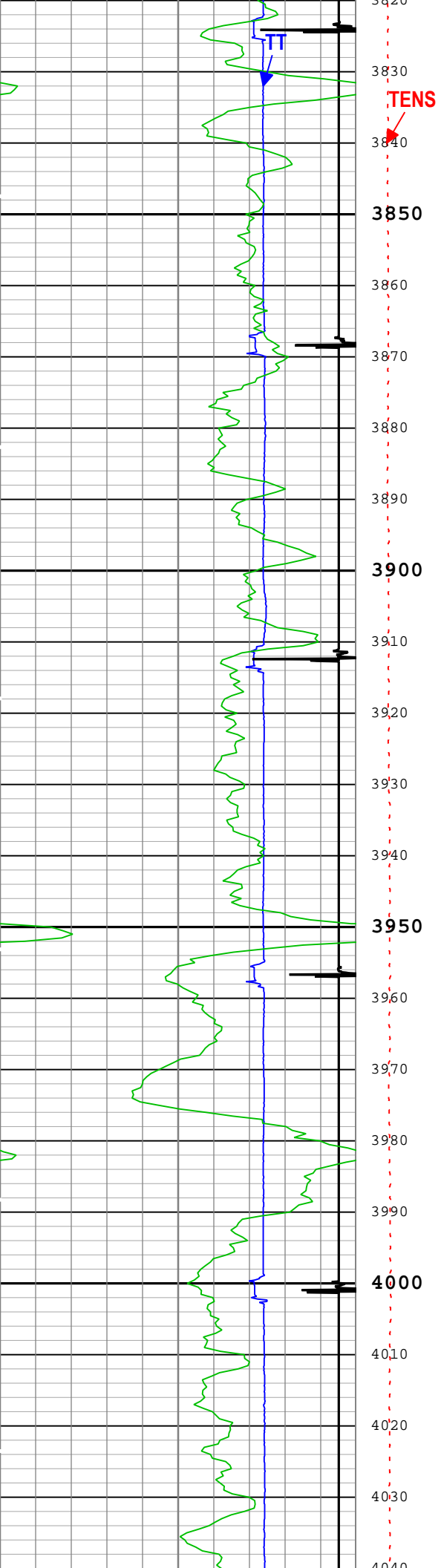


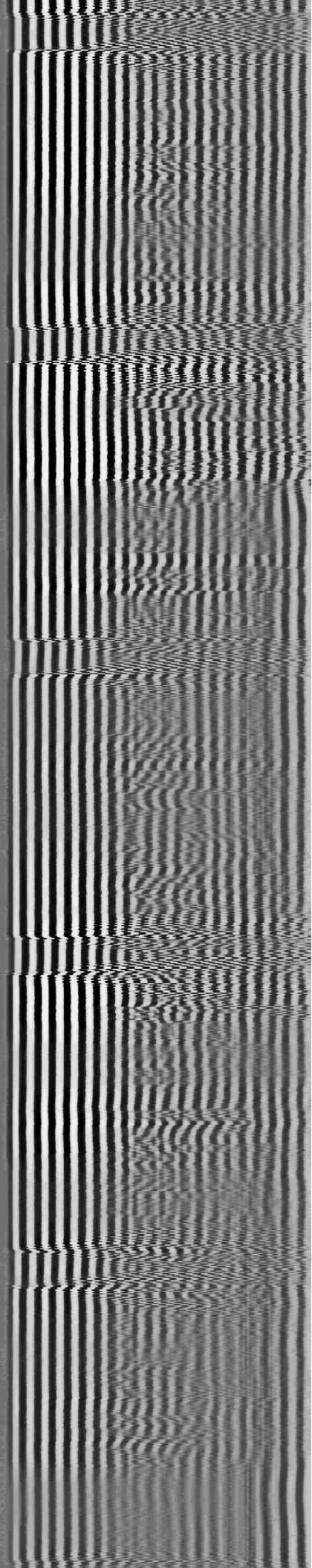
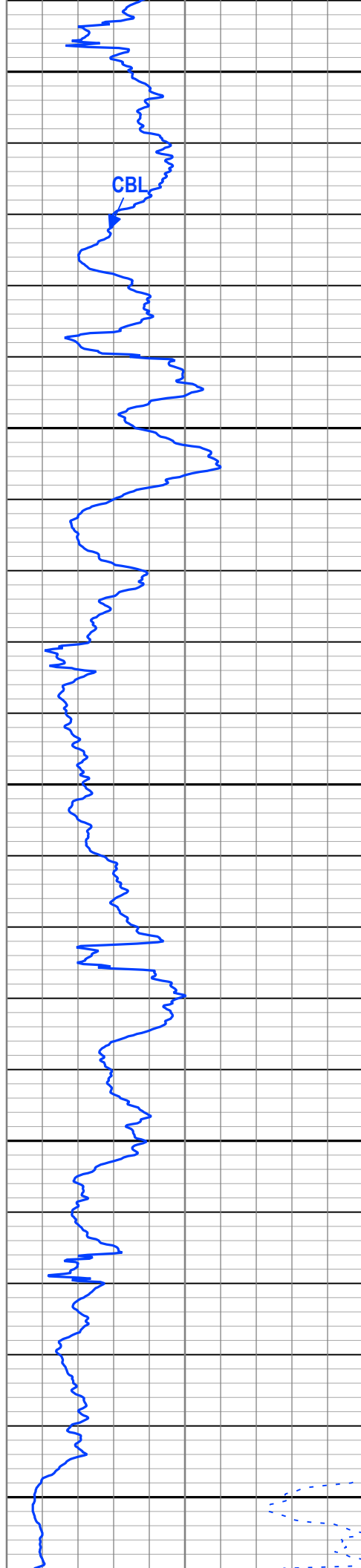
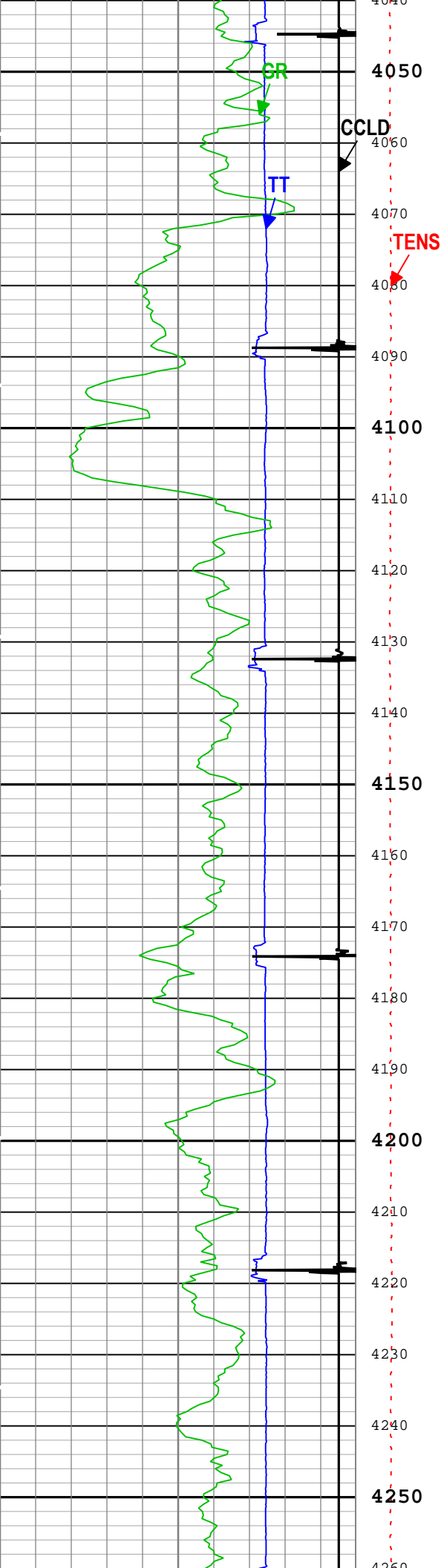


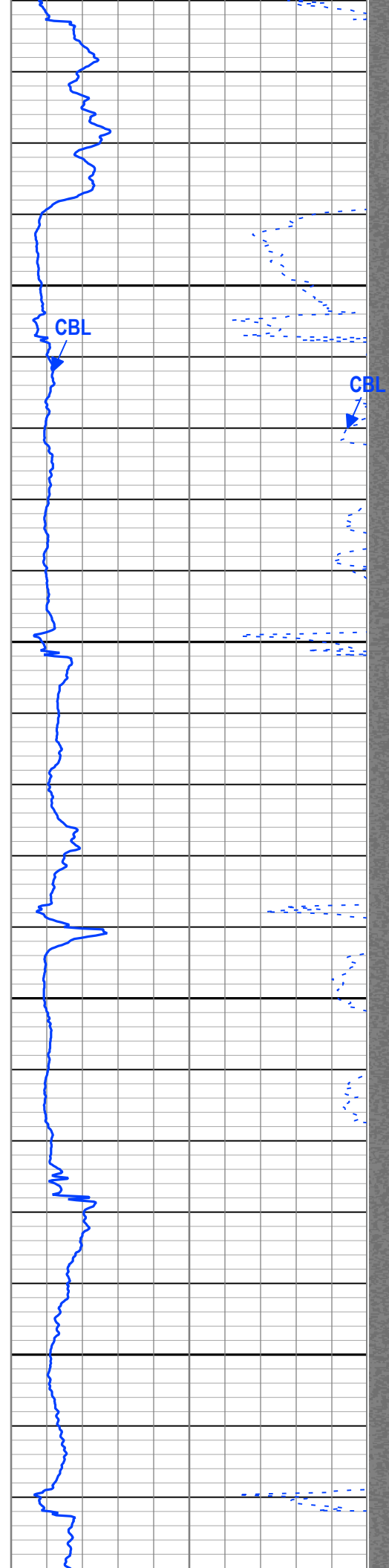
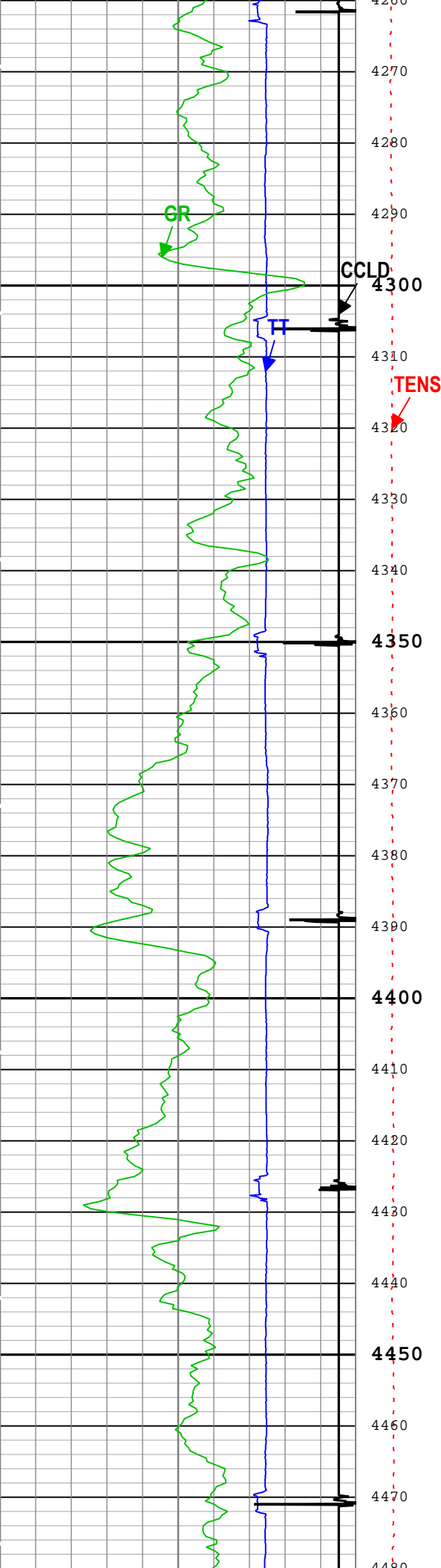


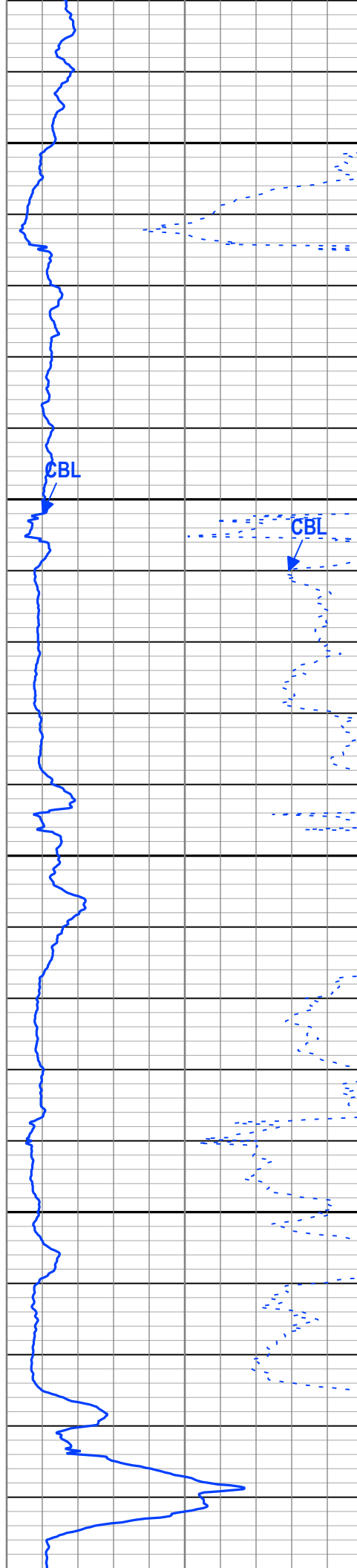
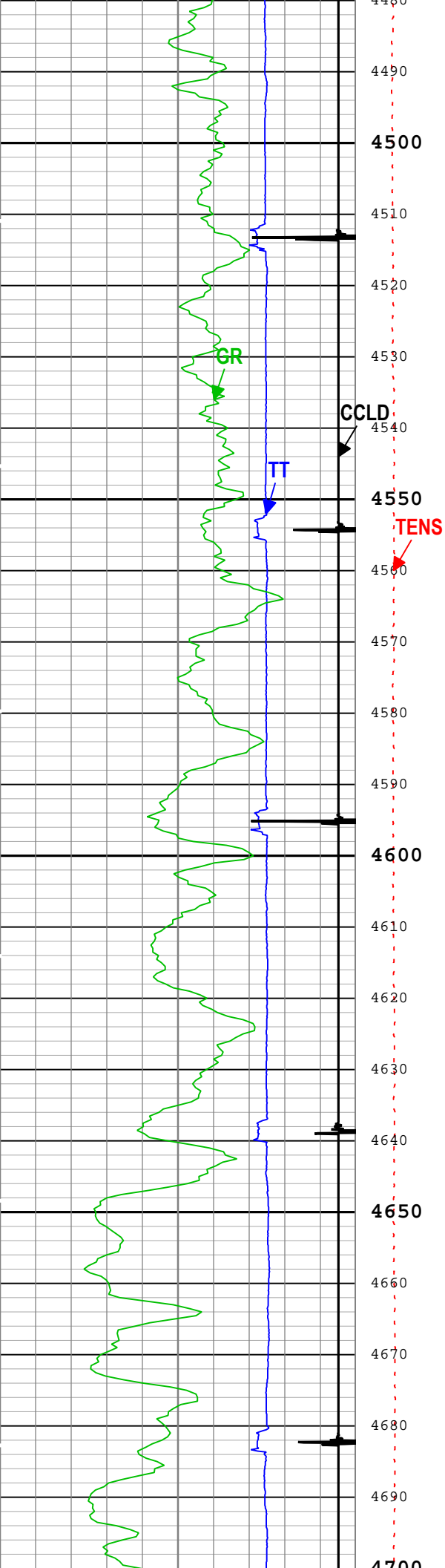


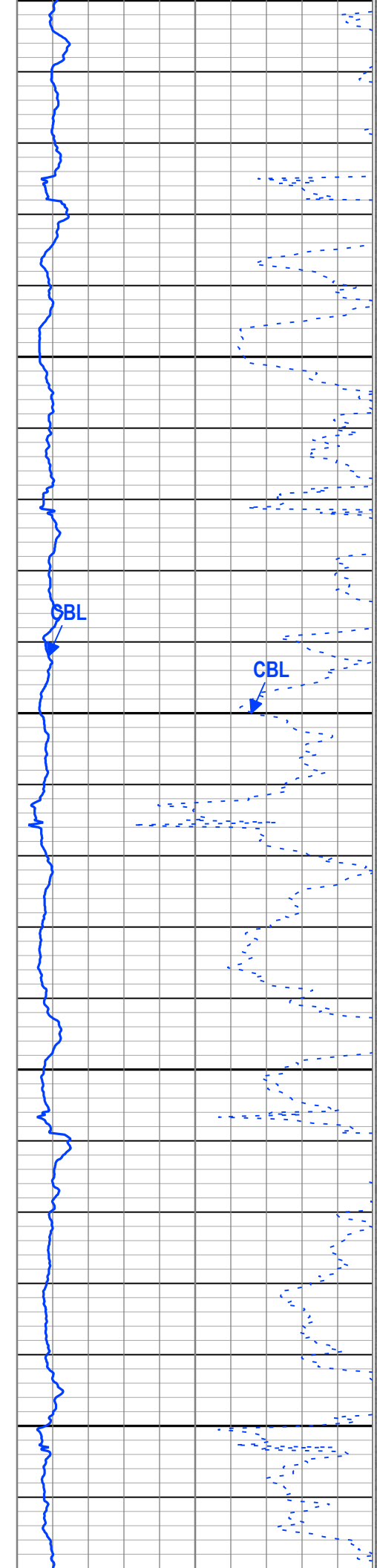
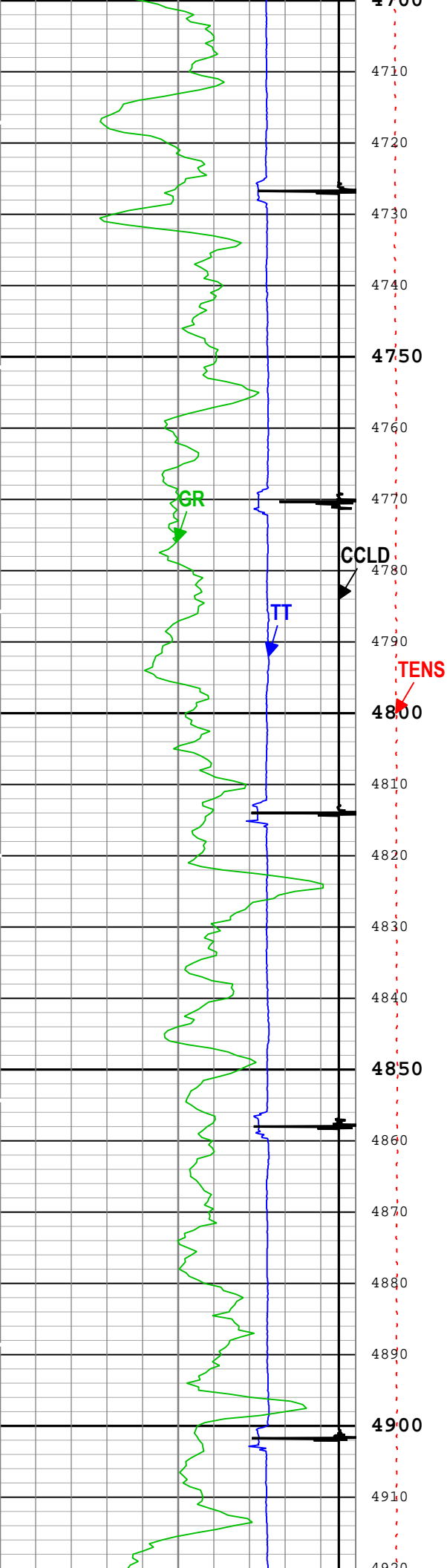


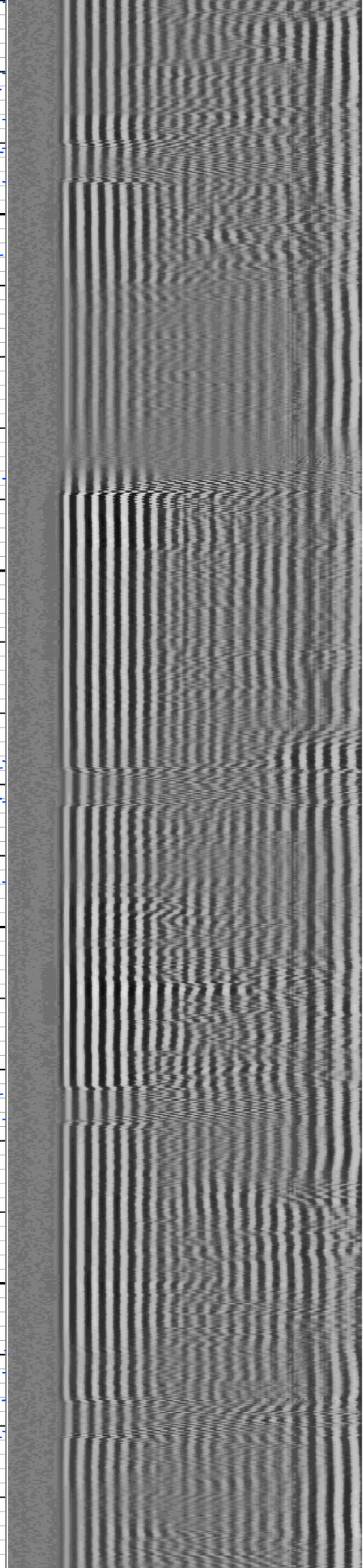
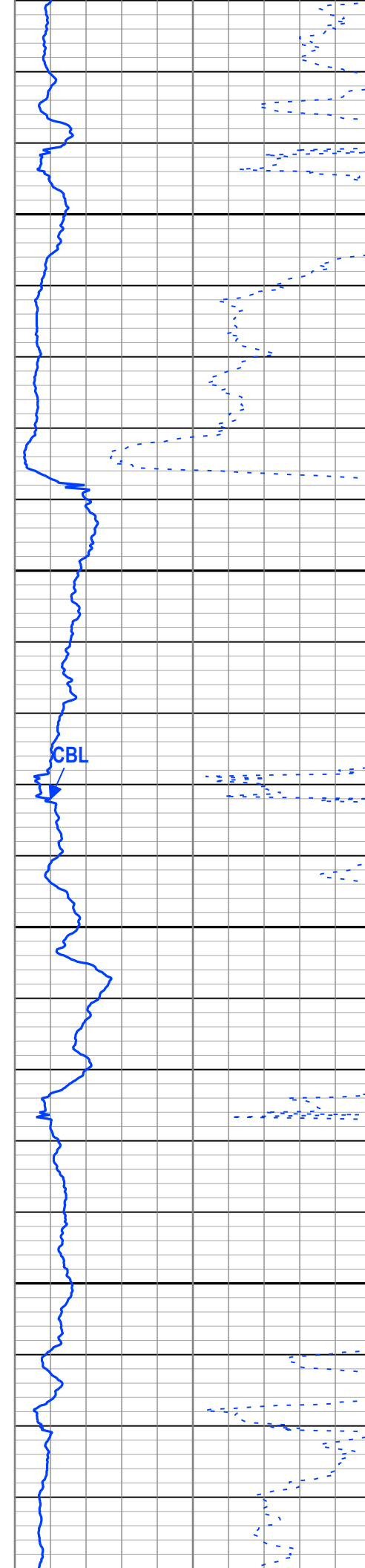
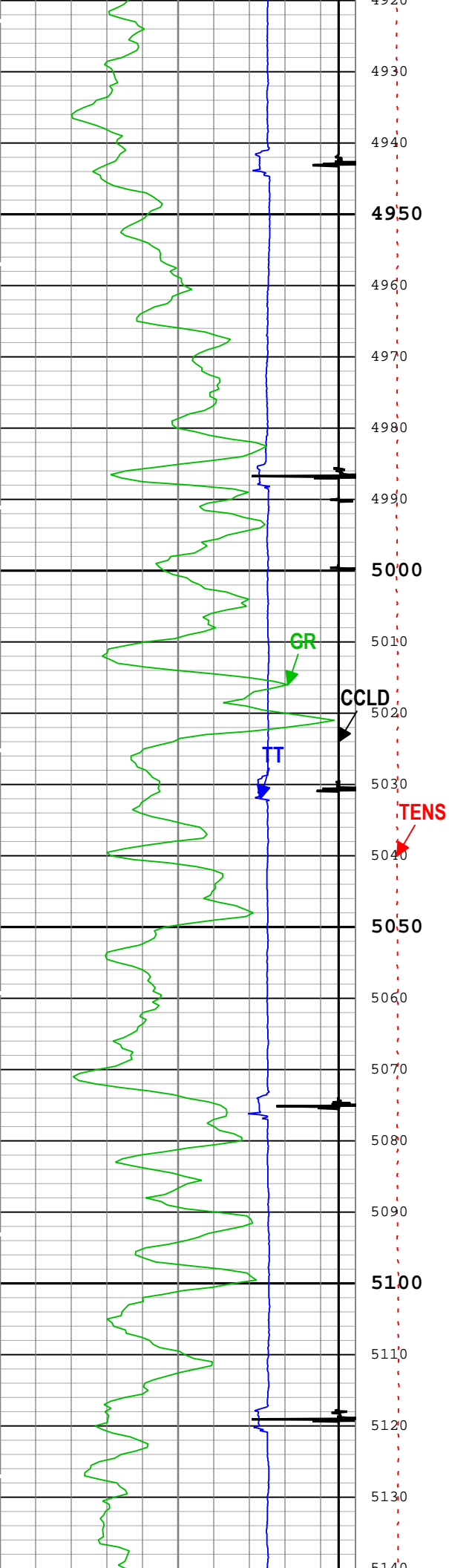


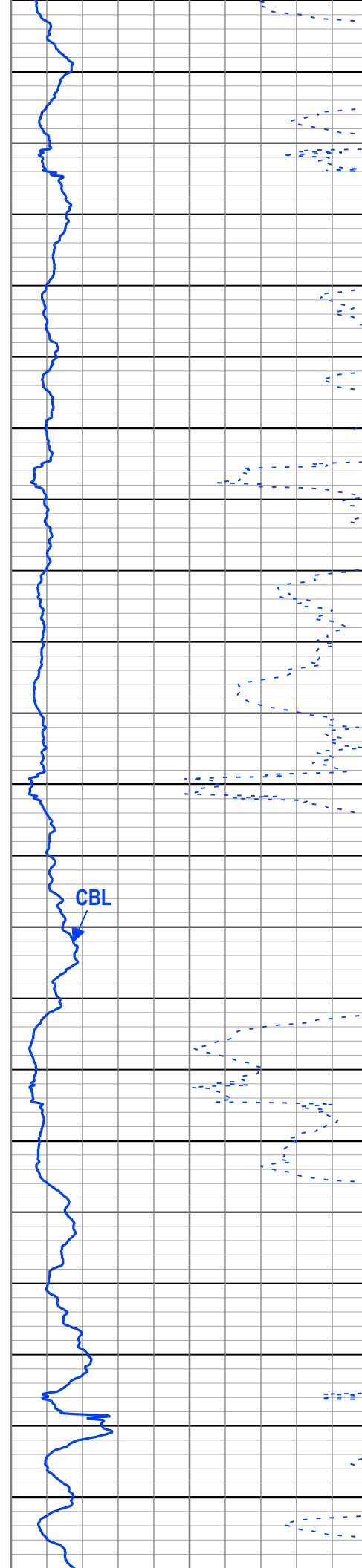
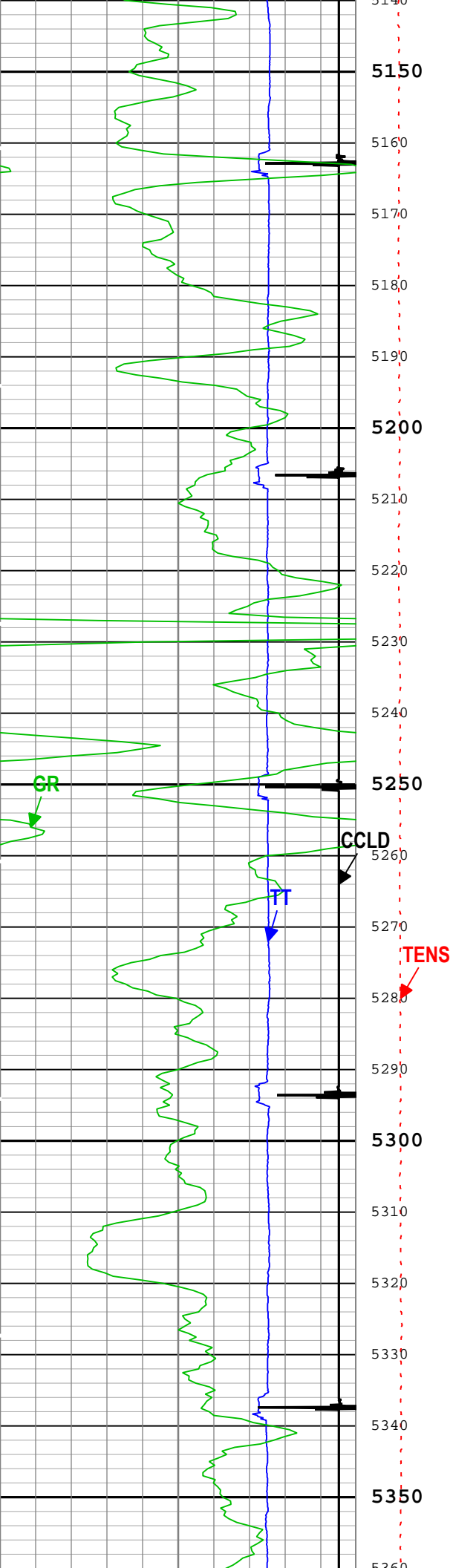


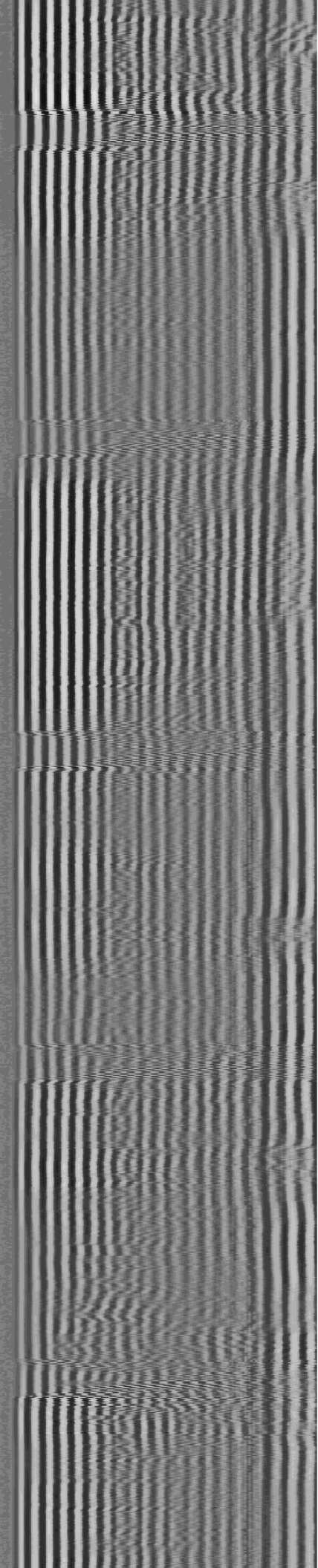
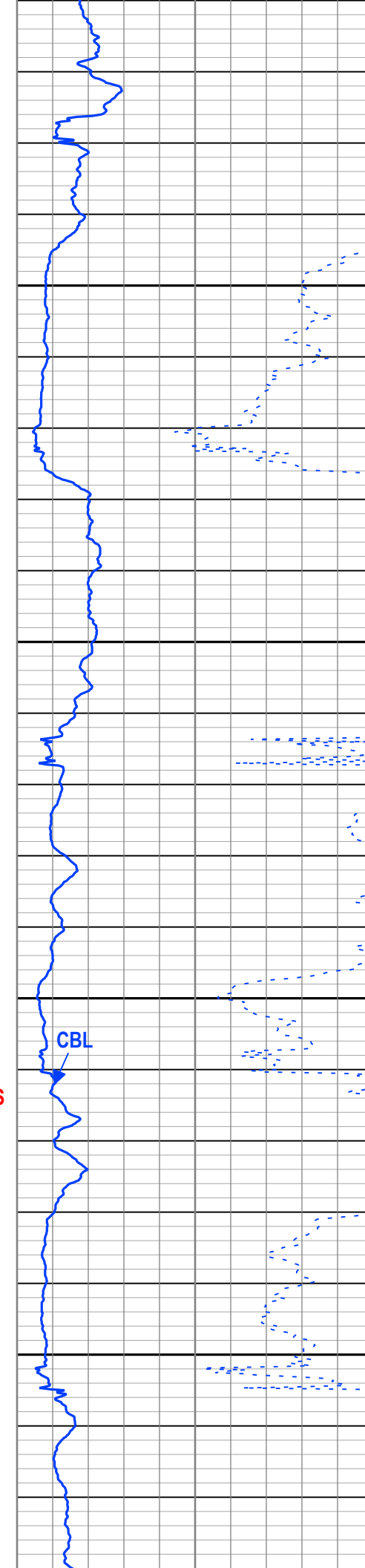
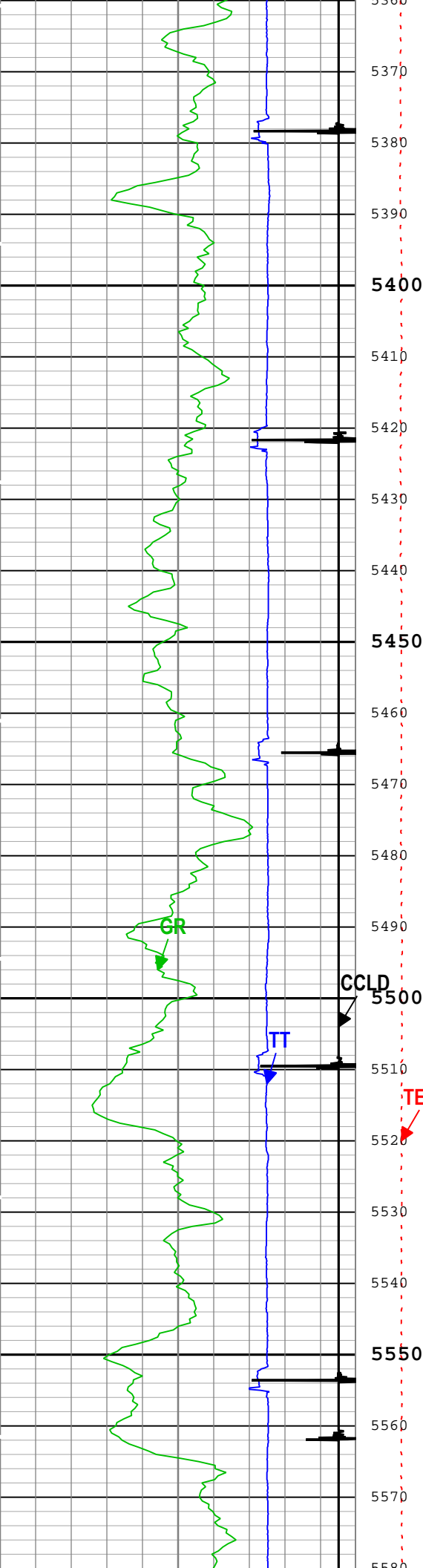


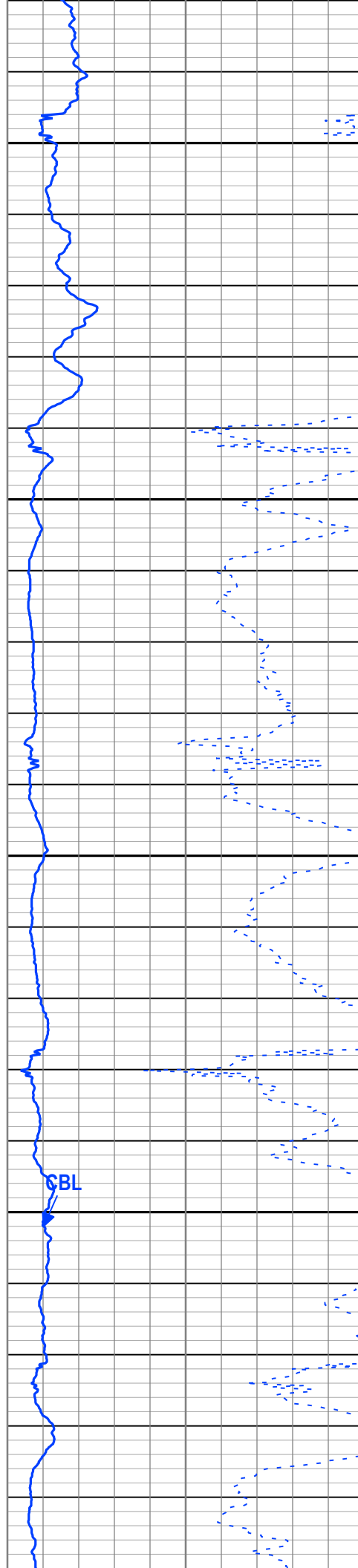
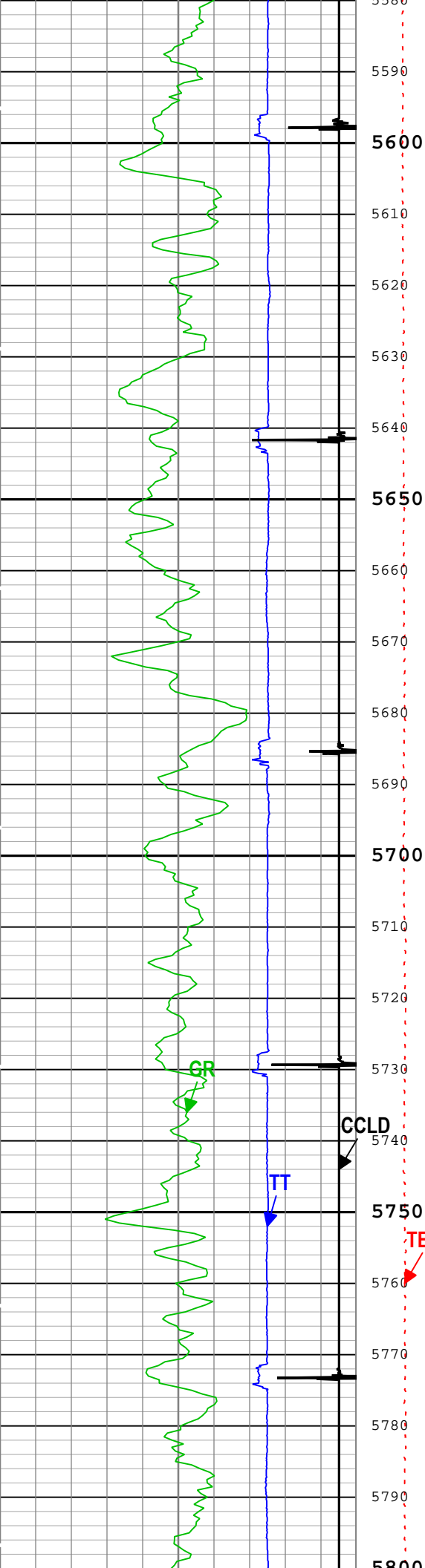


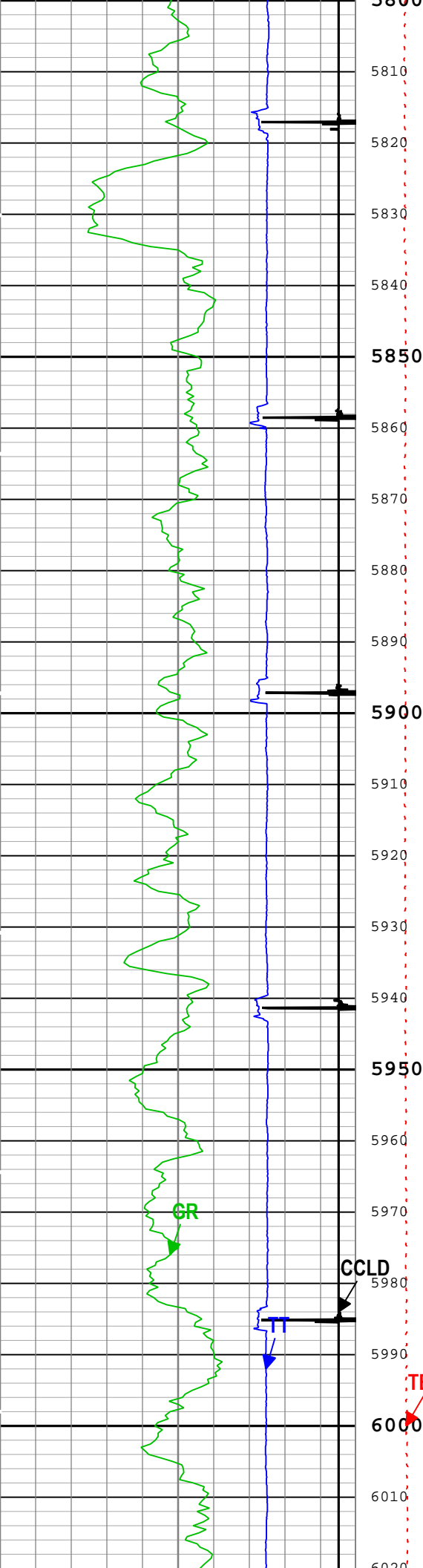






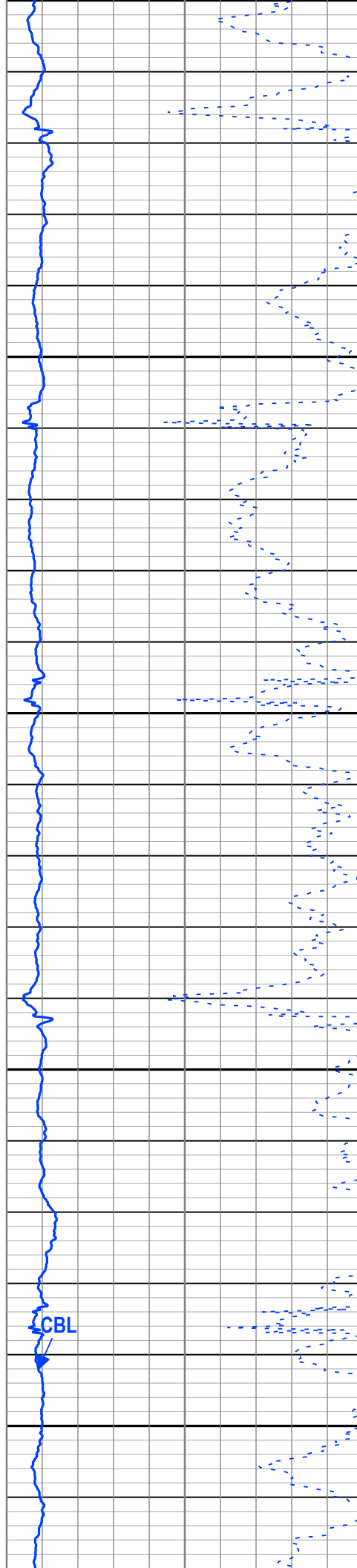






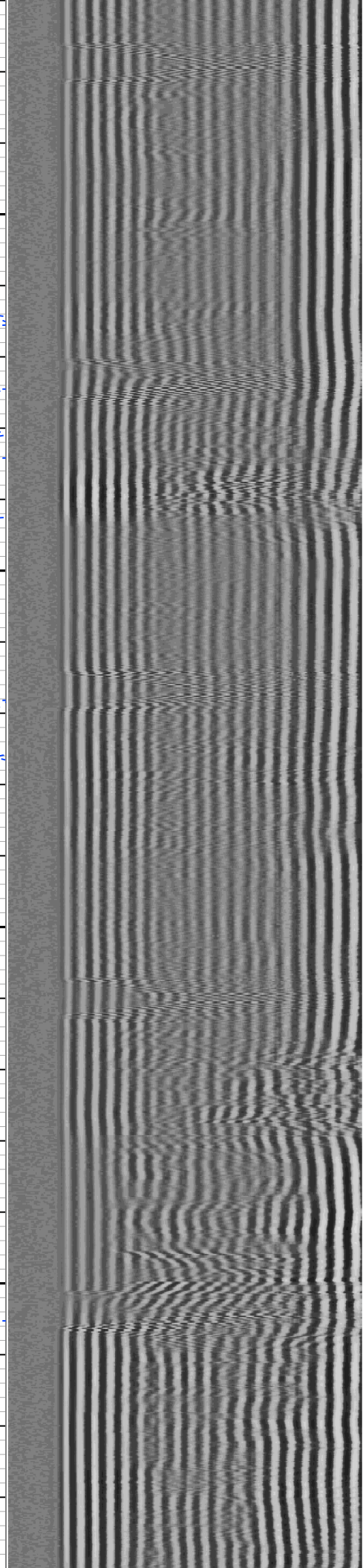
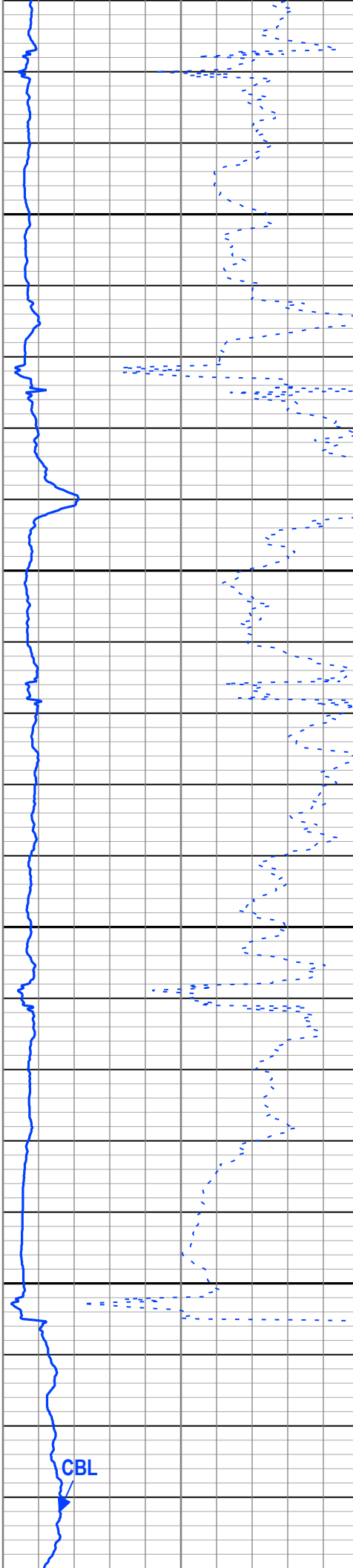
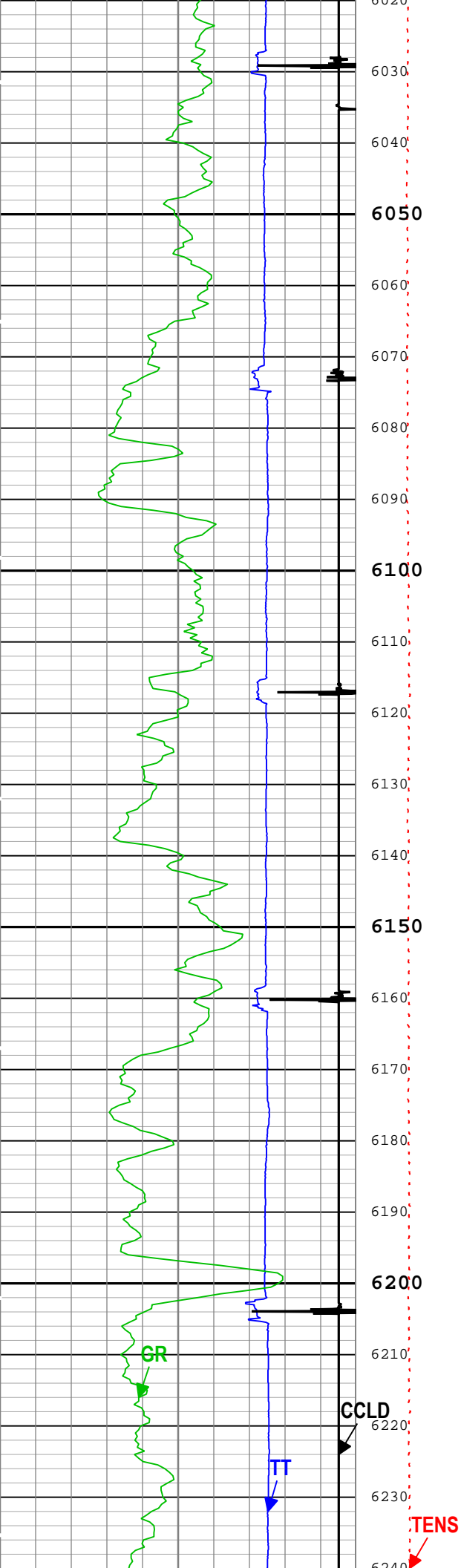
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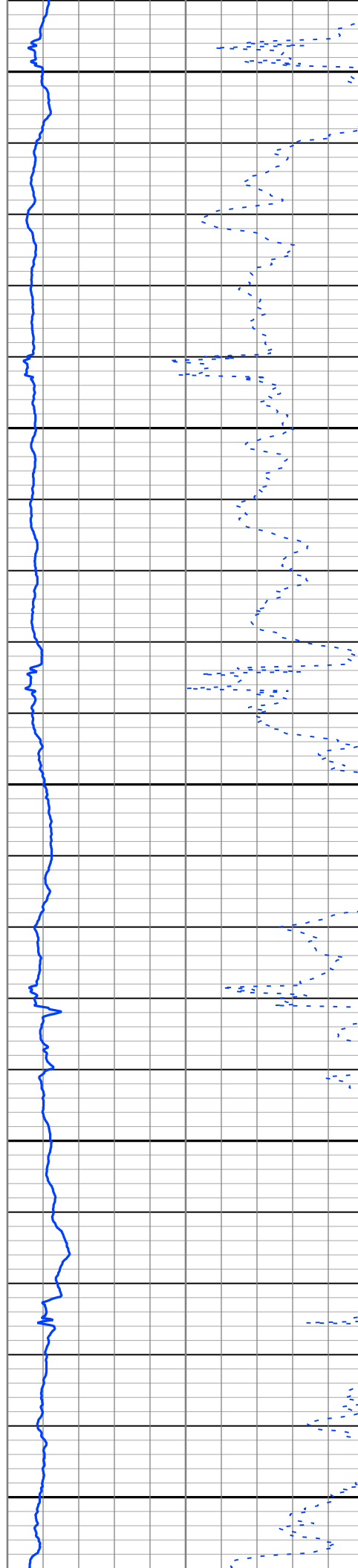
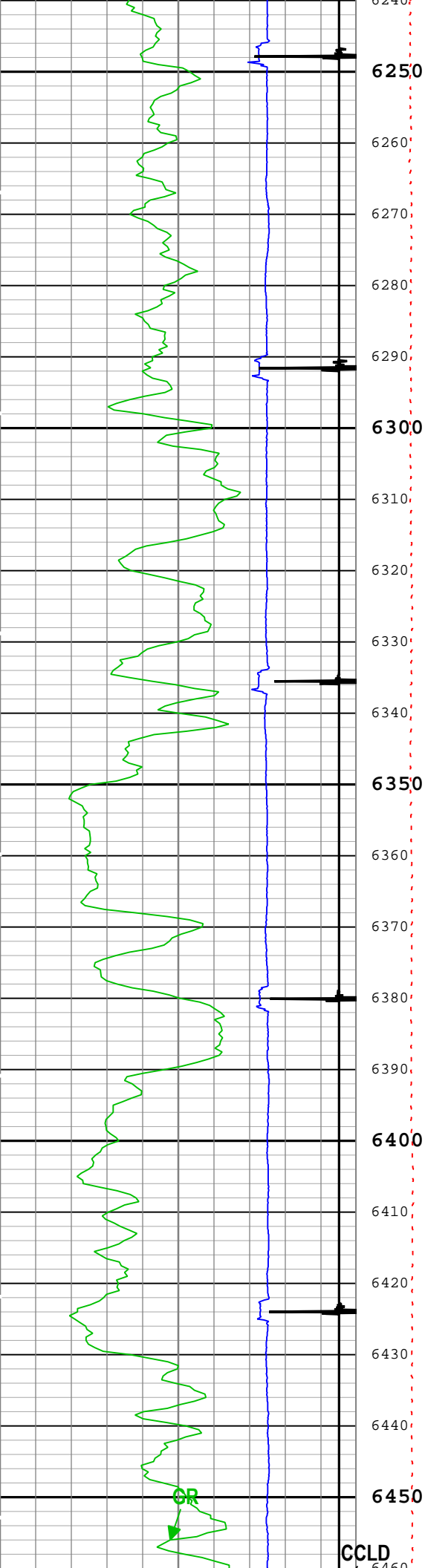
TENS

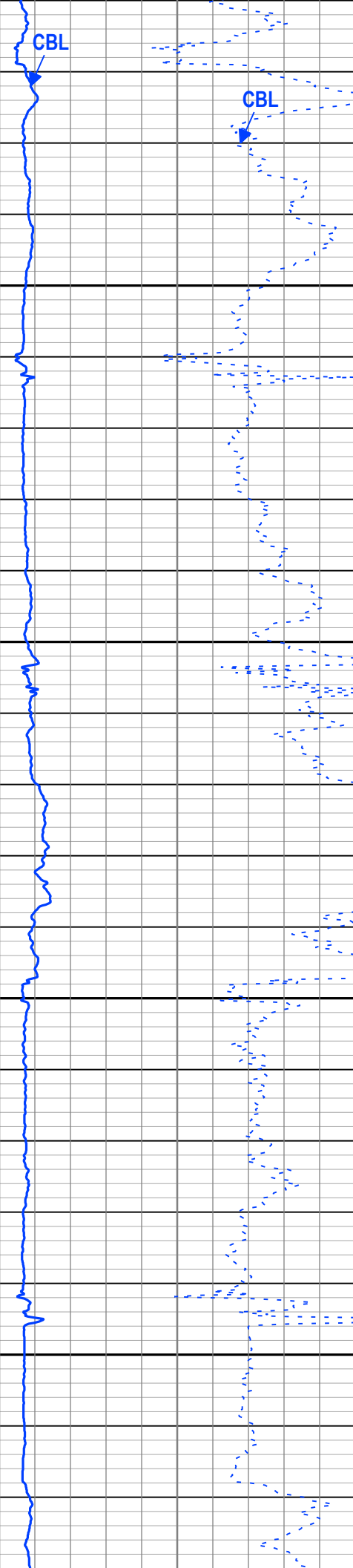
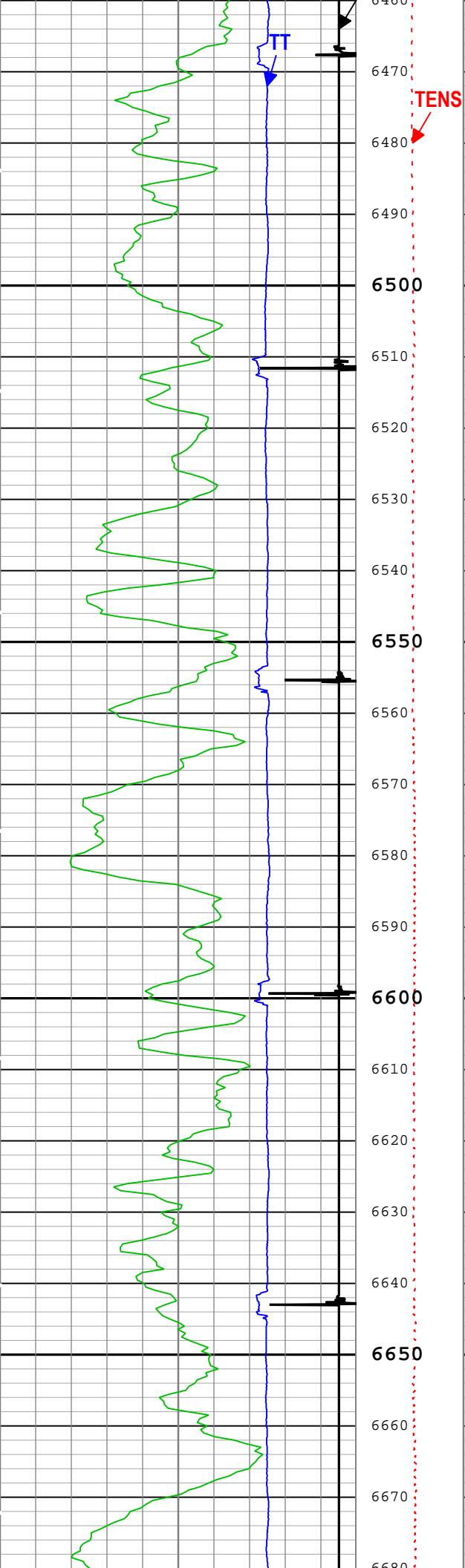


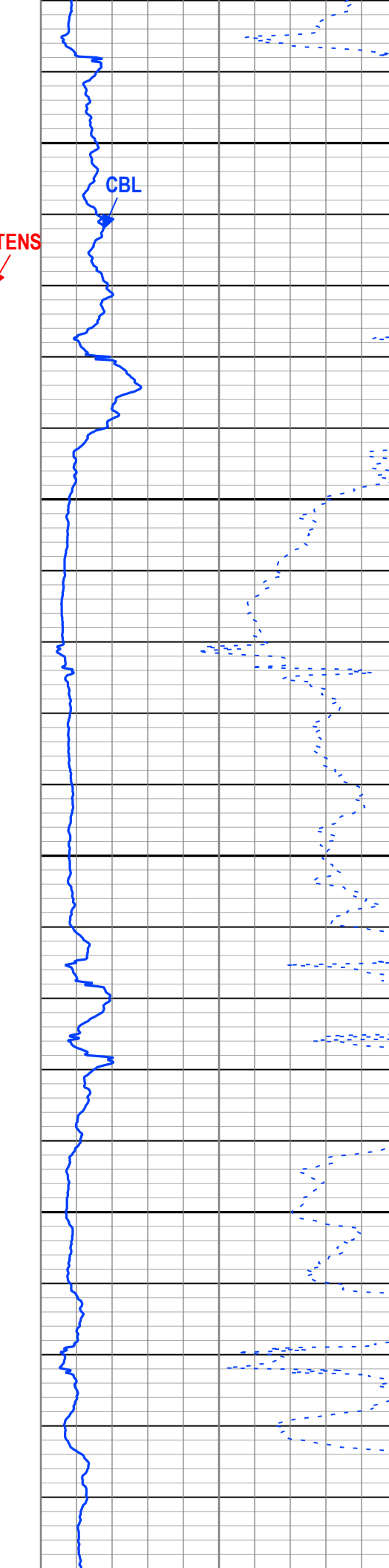
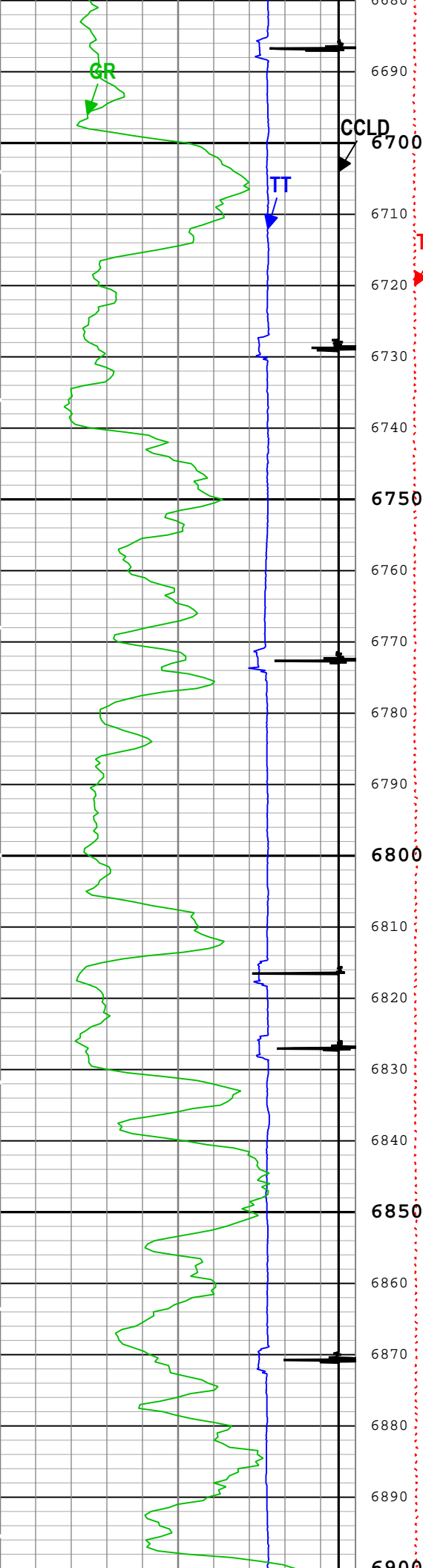
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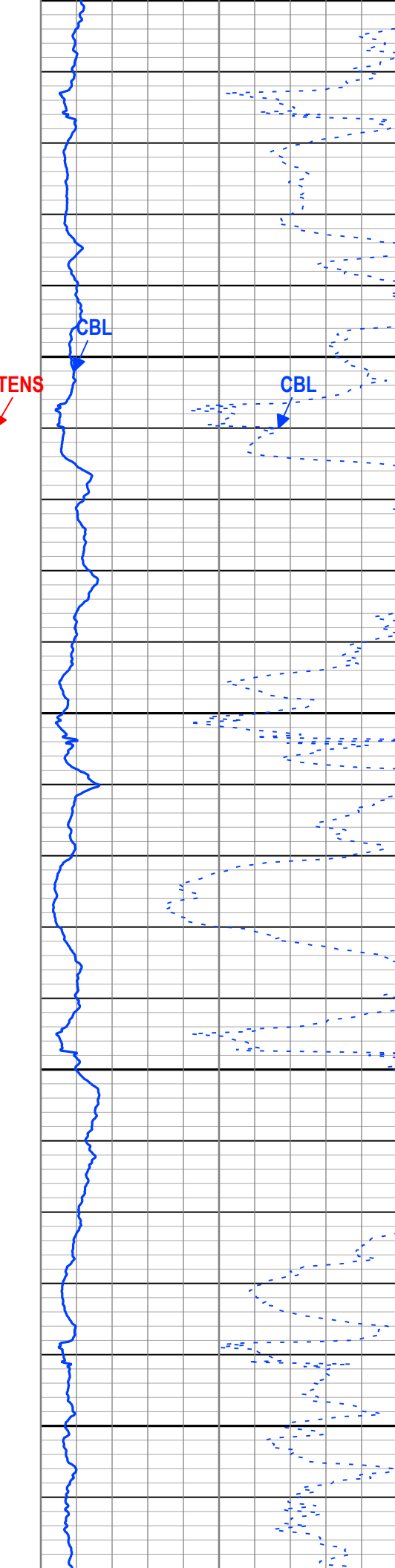
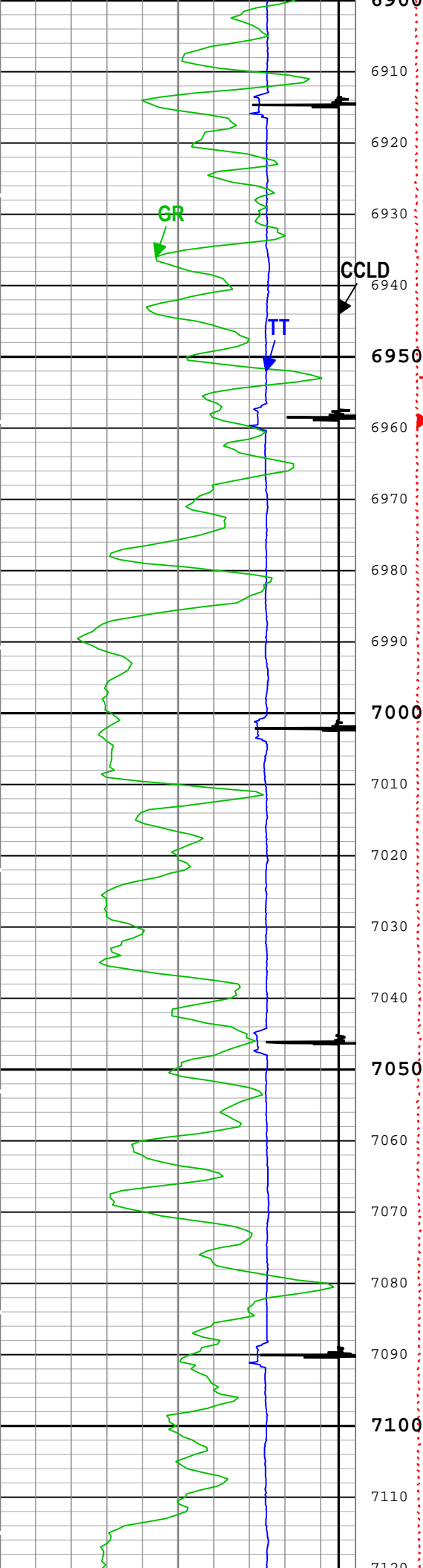
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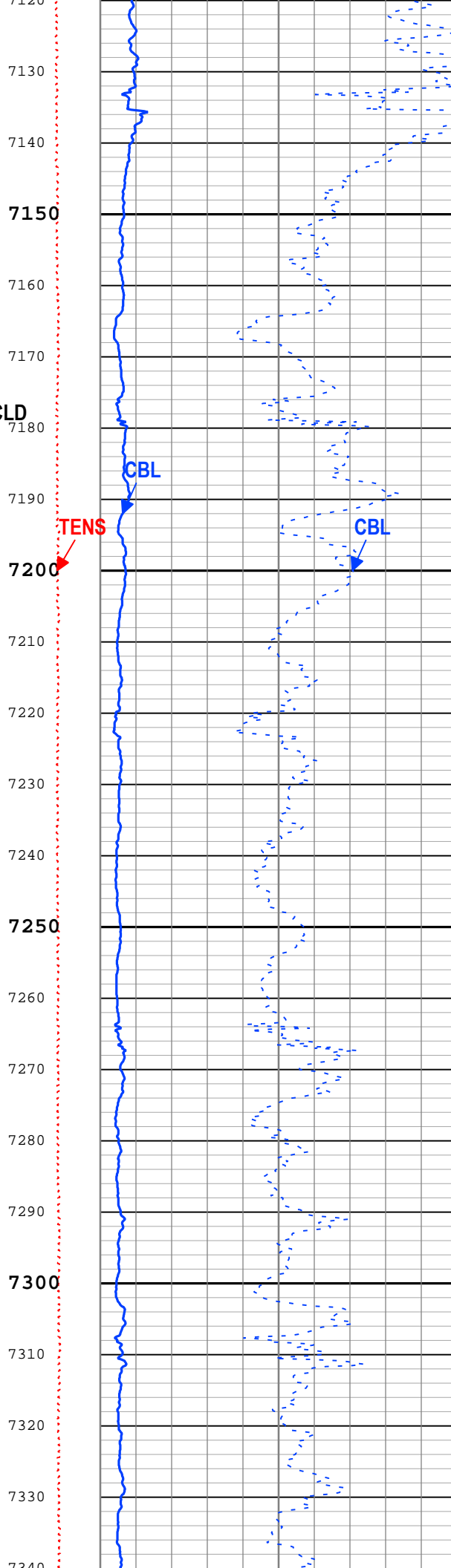
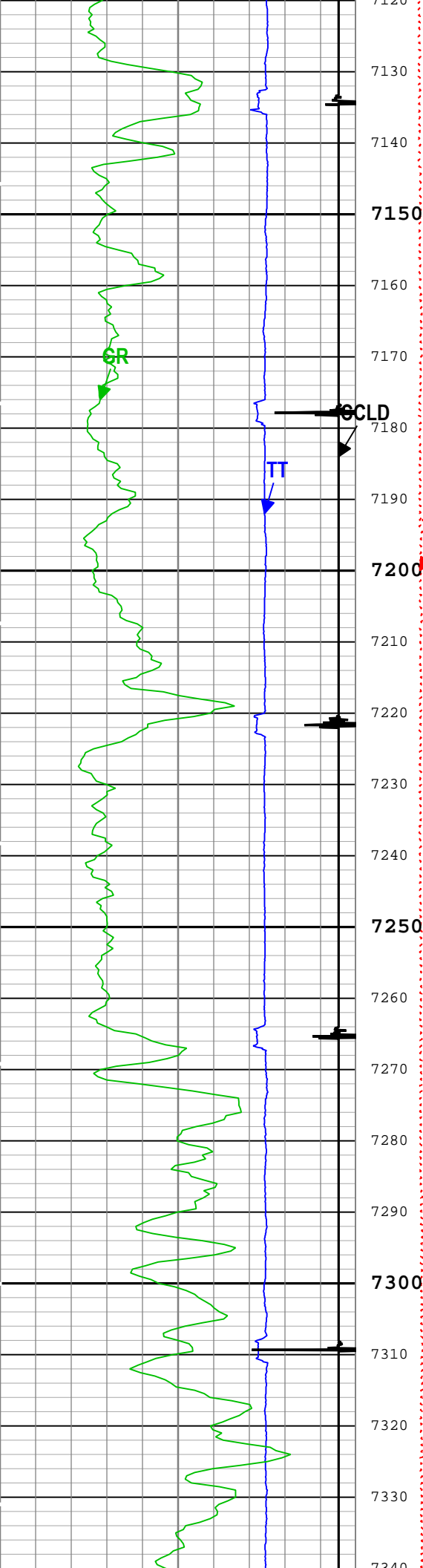


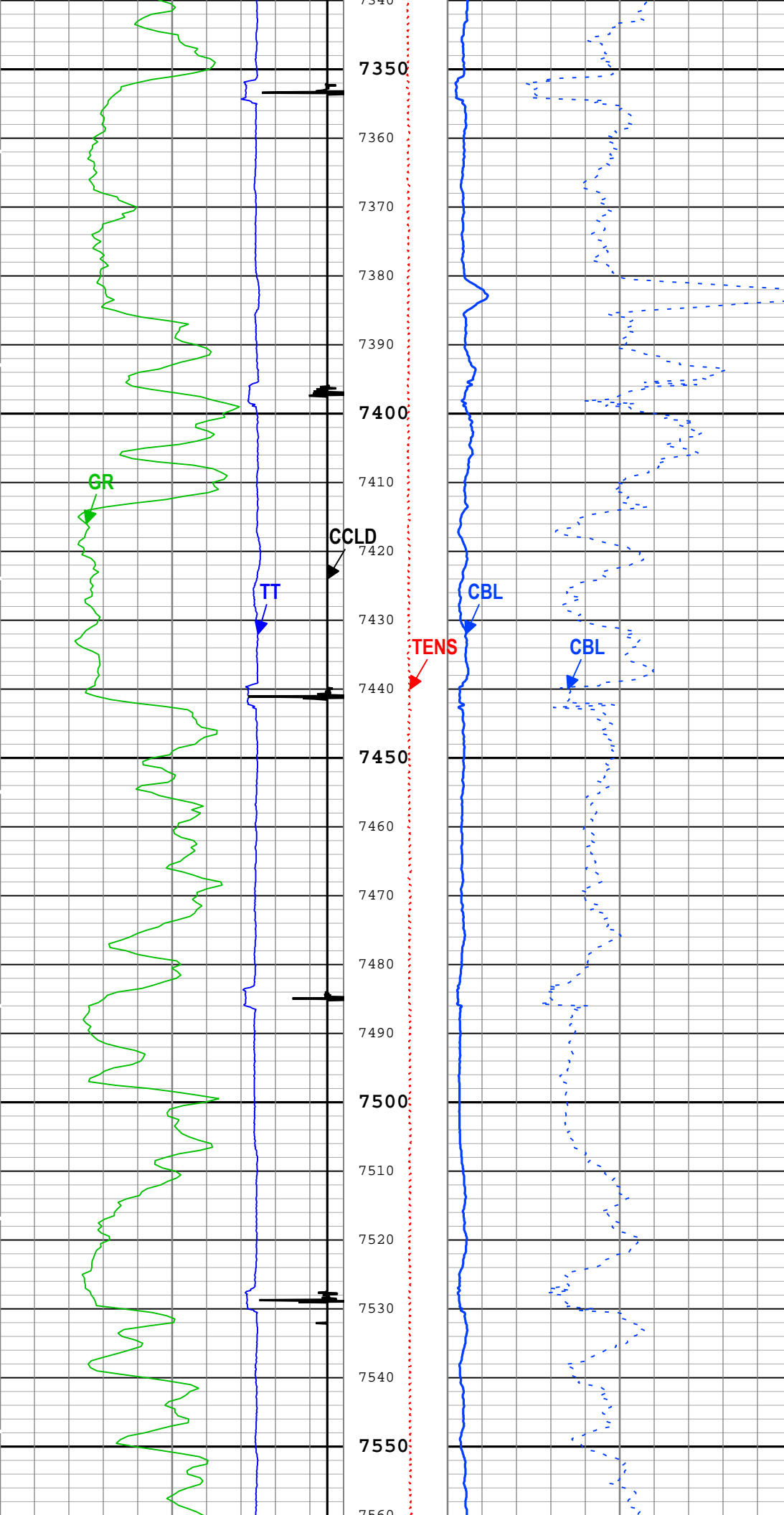


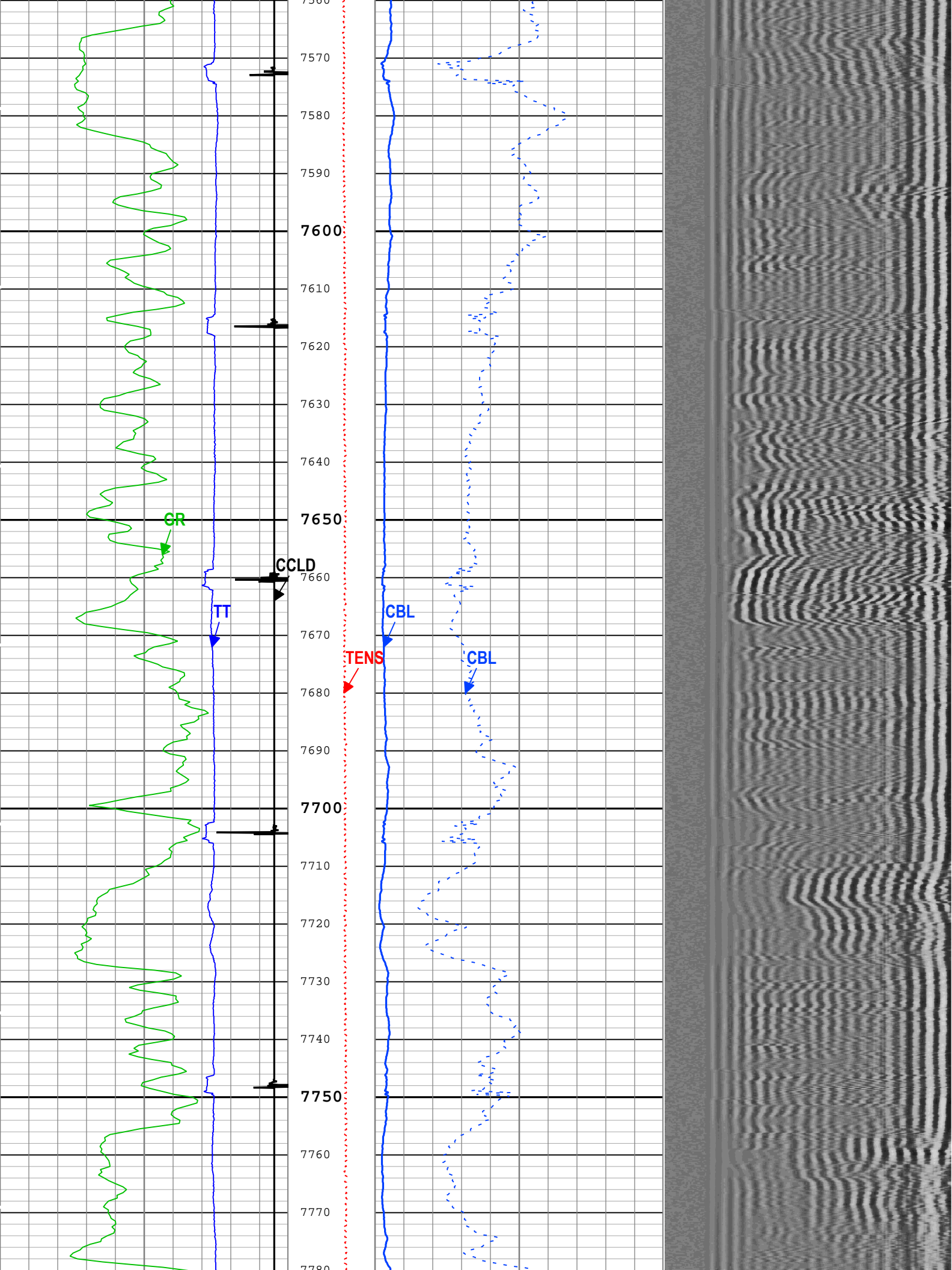


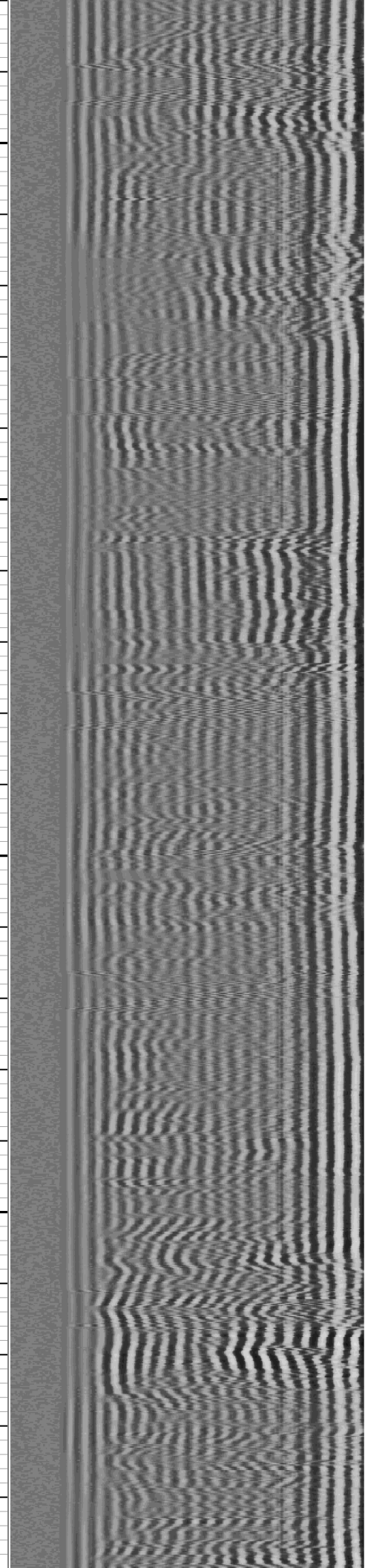
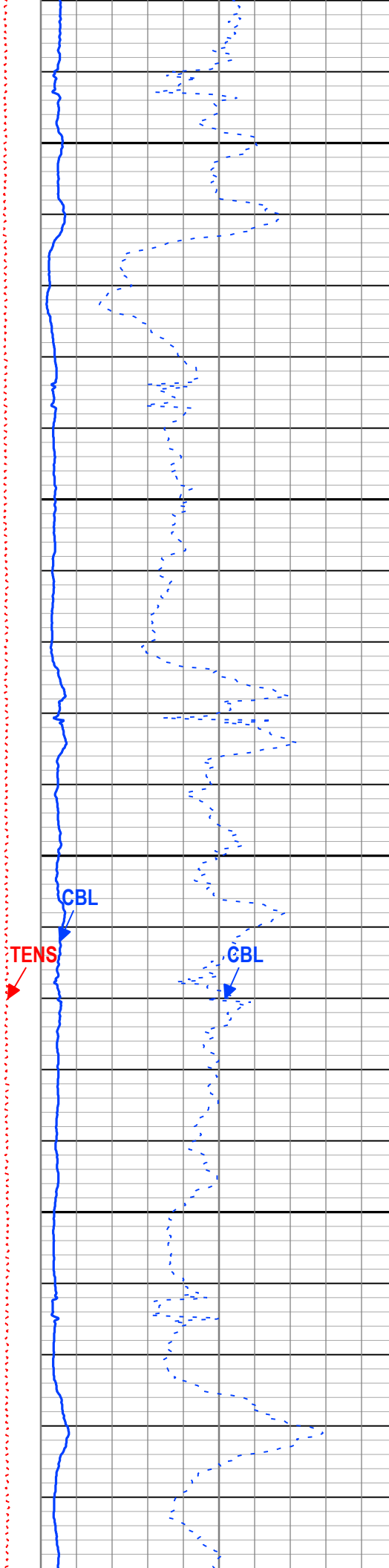
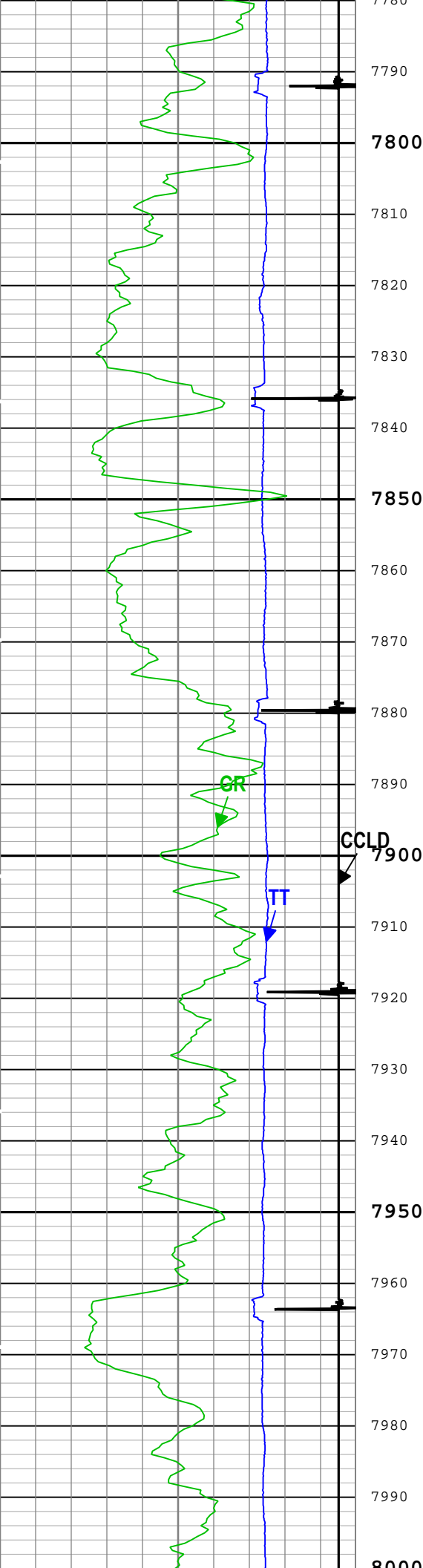


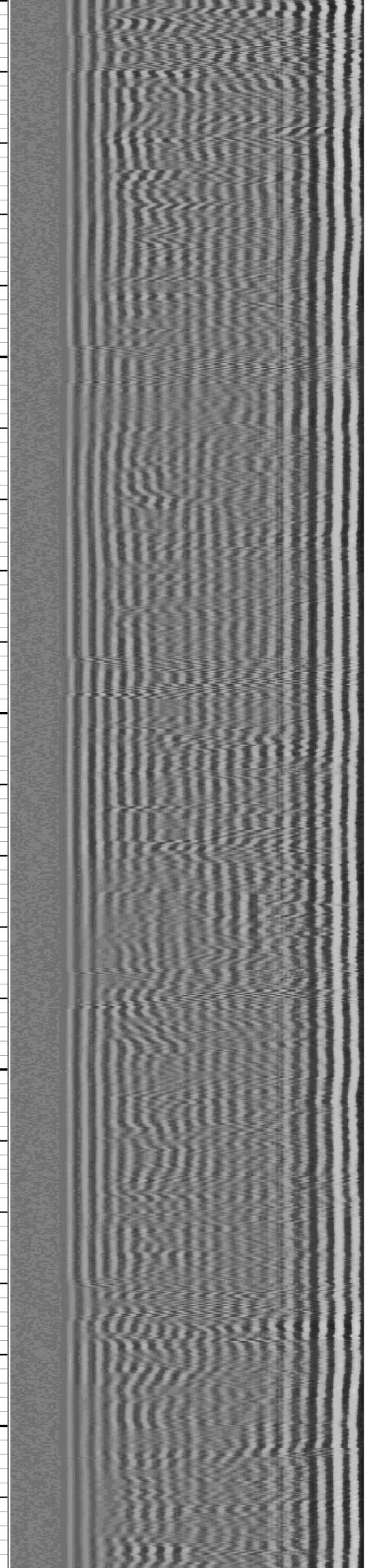
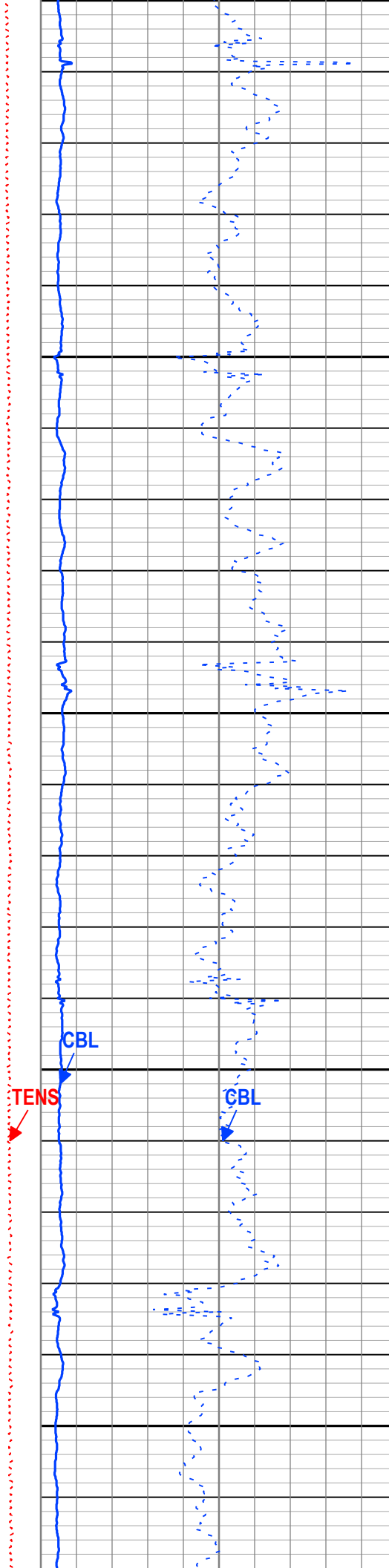
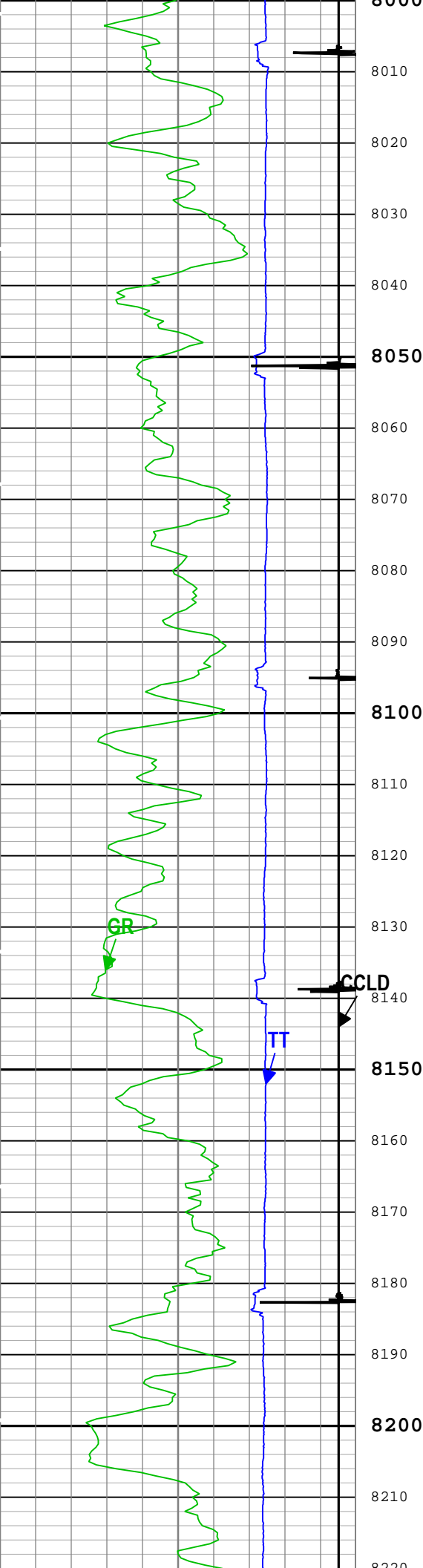


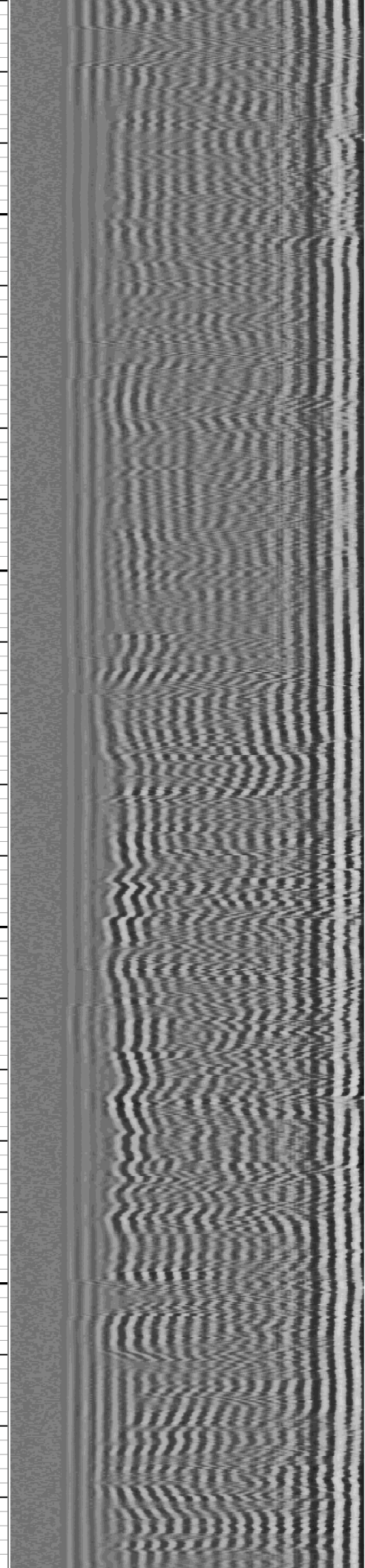
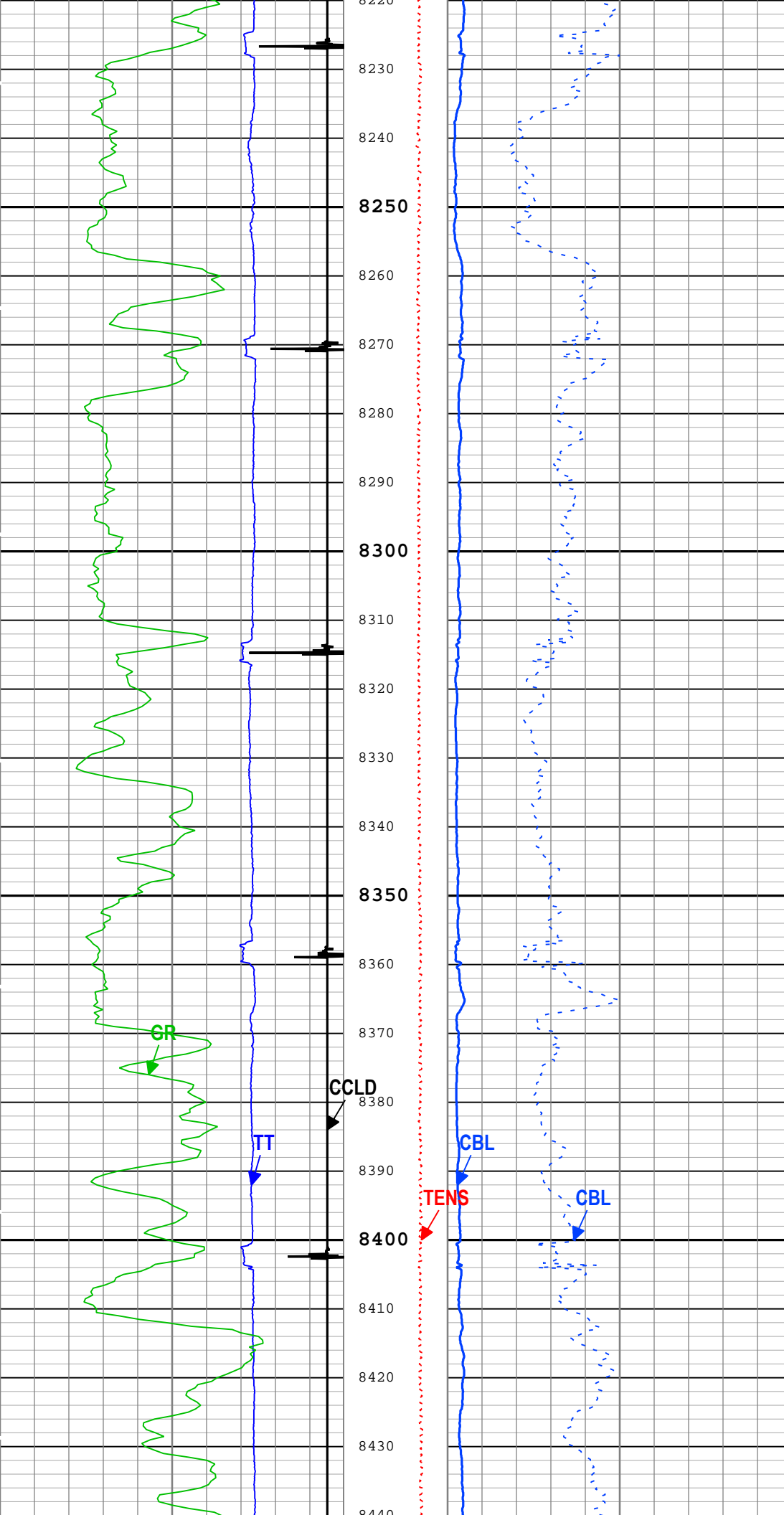


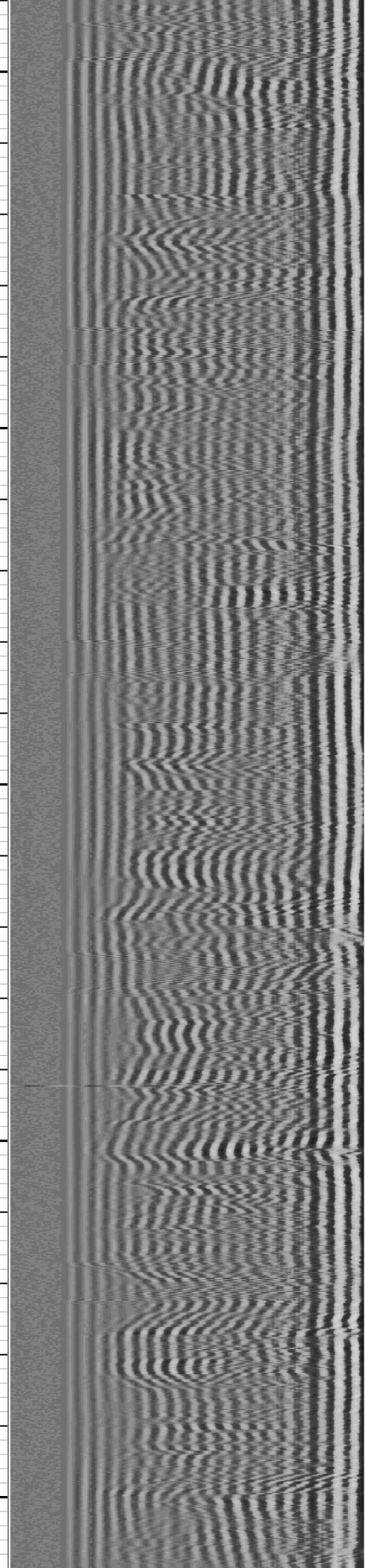
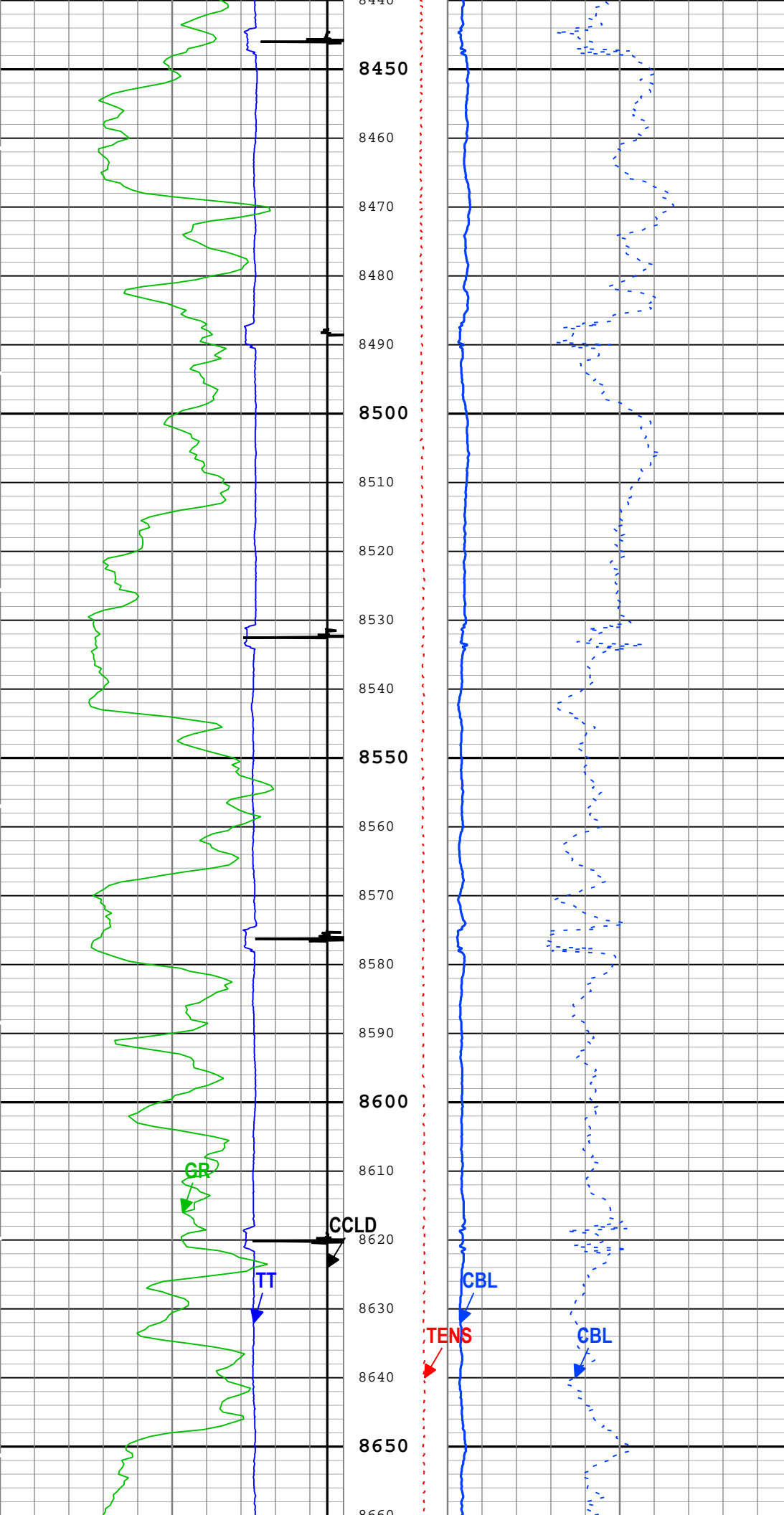


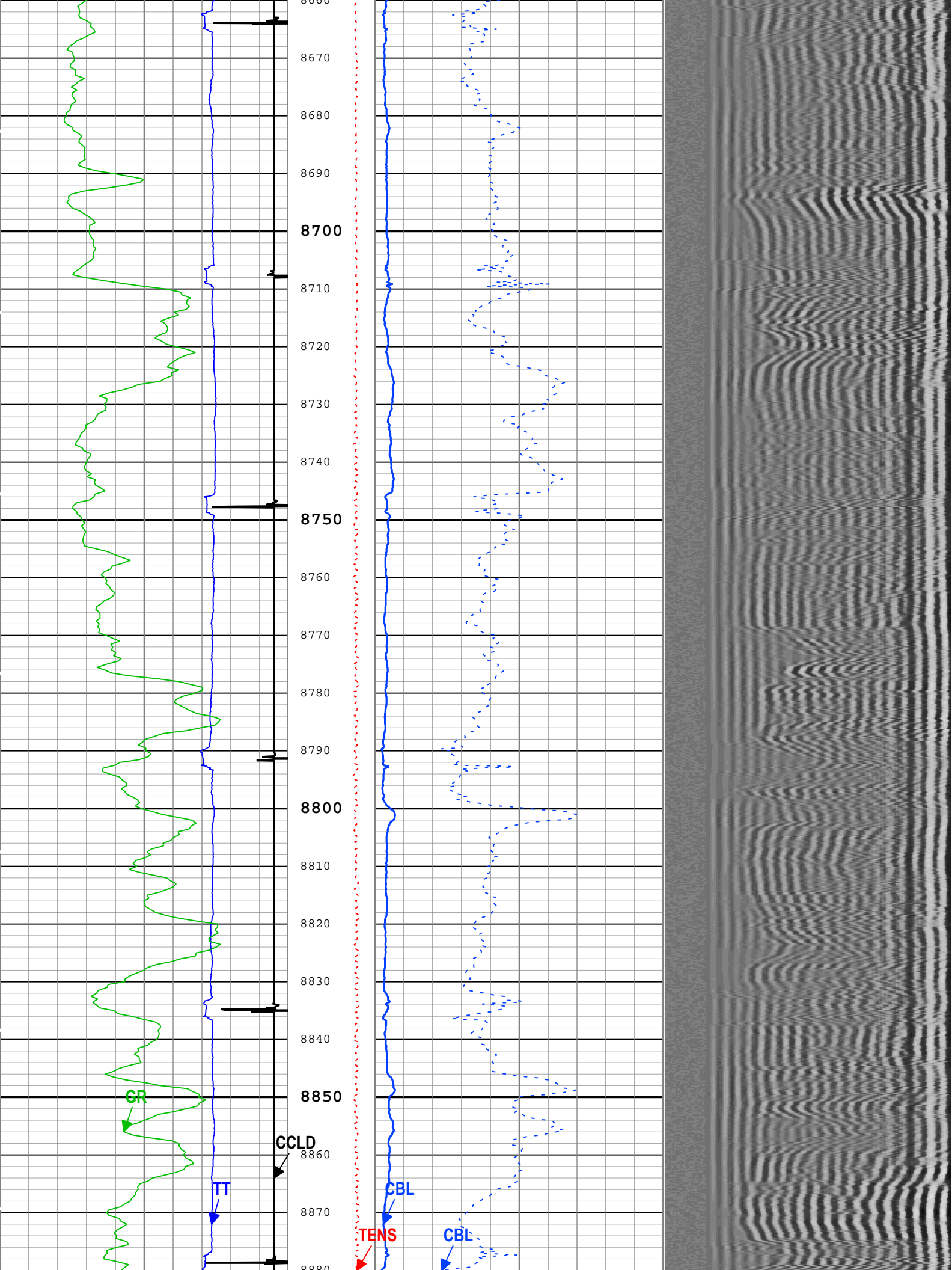


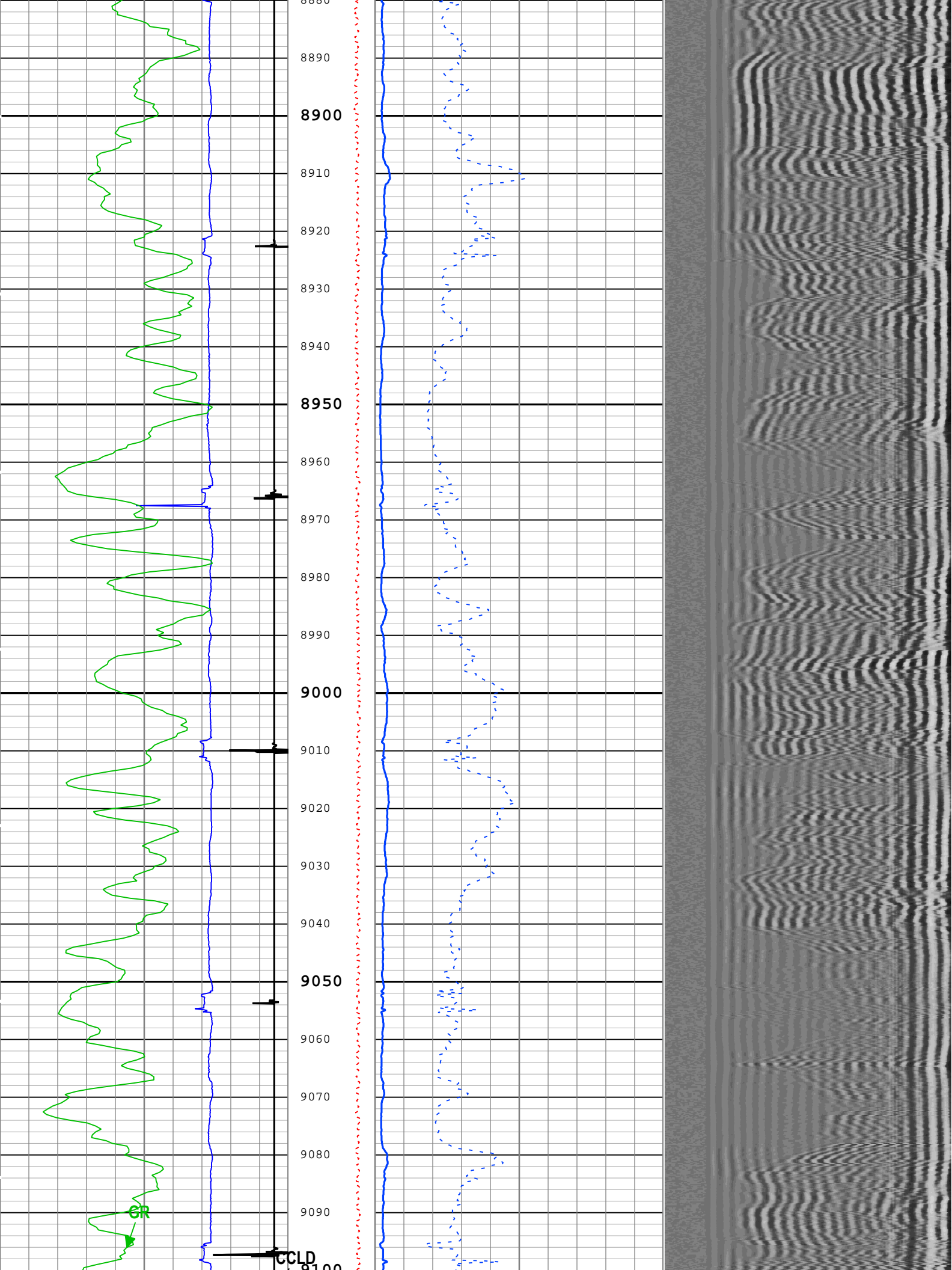


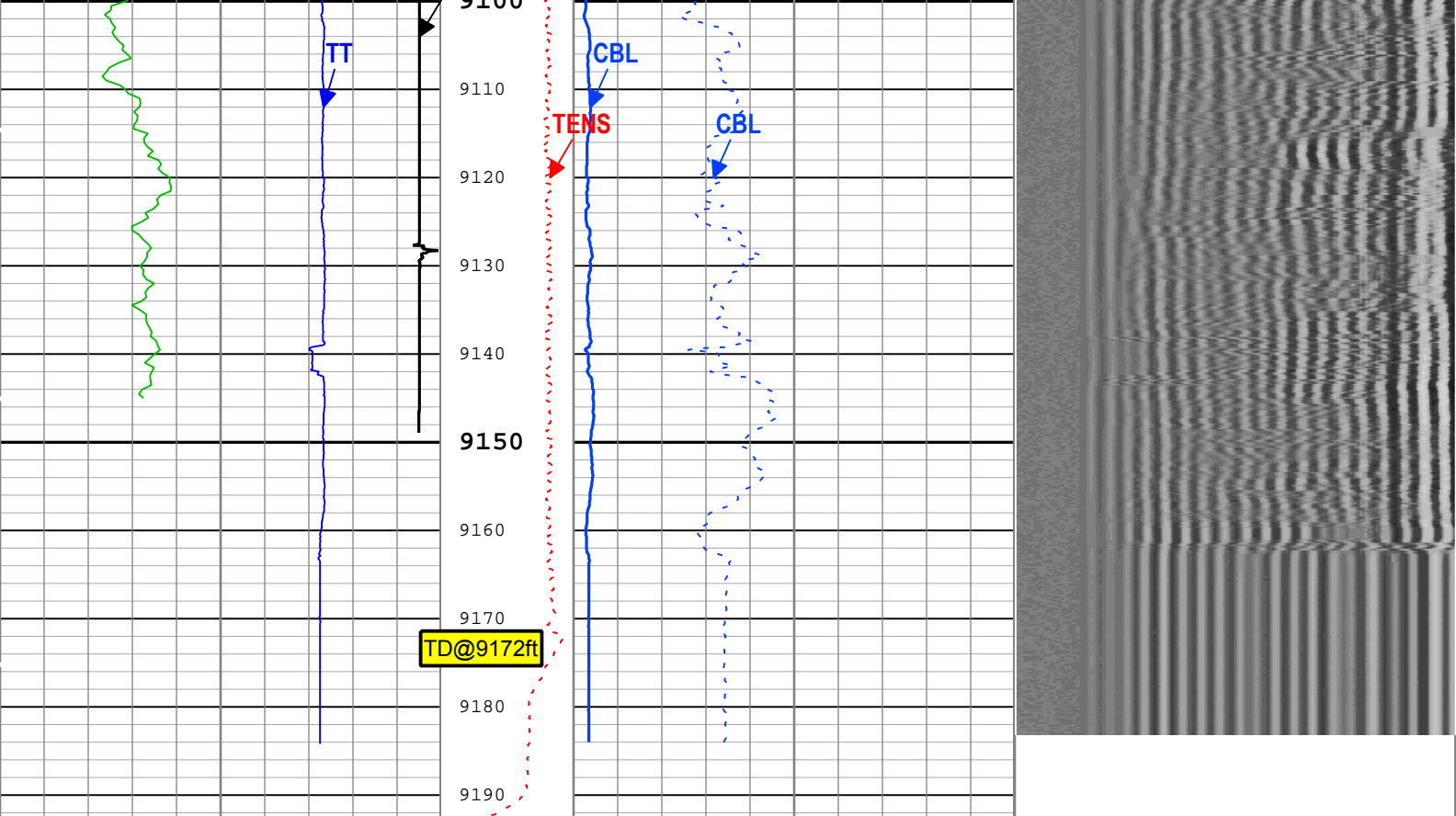













Transit Time for CBL (TT) SCMT-CB			Cable Tension (TENS)	CBL Amplitude (CBL) SCMT-CB			Min  Max VDL VariableDensity (VDL) SCMT-CB
400	us	200		0	mV	10	
CCL Discriminated Amplitude (CCLD) PSTP-A				CBL Amplitude (CBL) SCMT-CB			
-19	V	1		0	mV	100	
Gamma Ray (GR) PSTP-A							
0	gAPI	150		200us1200			

■ BIEP - Bond Index Event Pips SCMT-CB

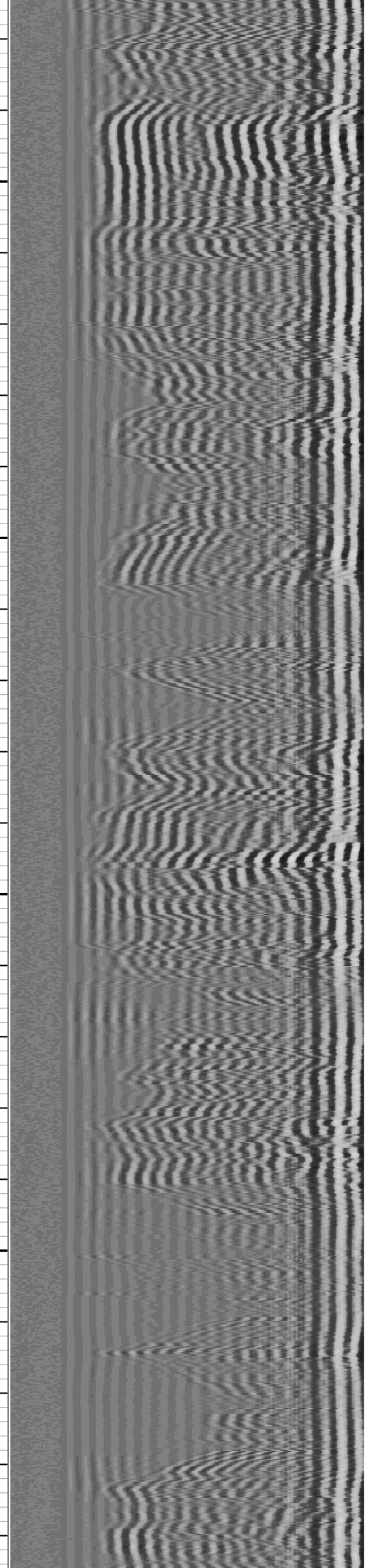
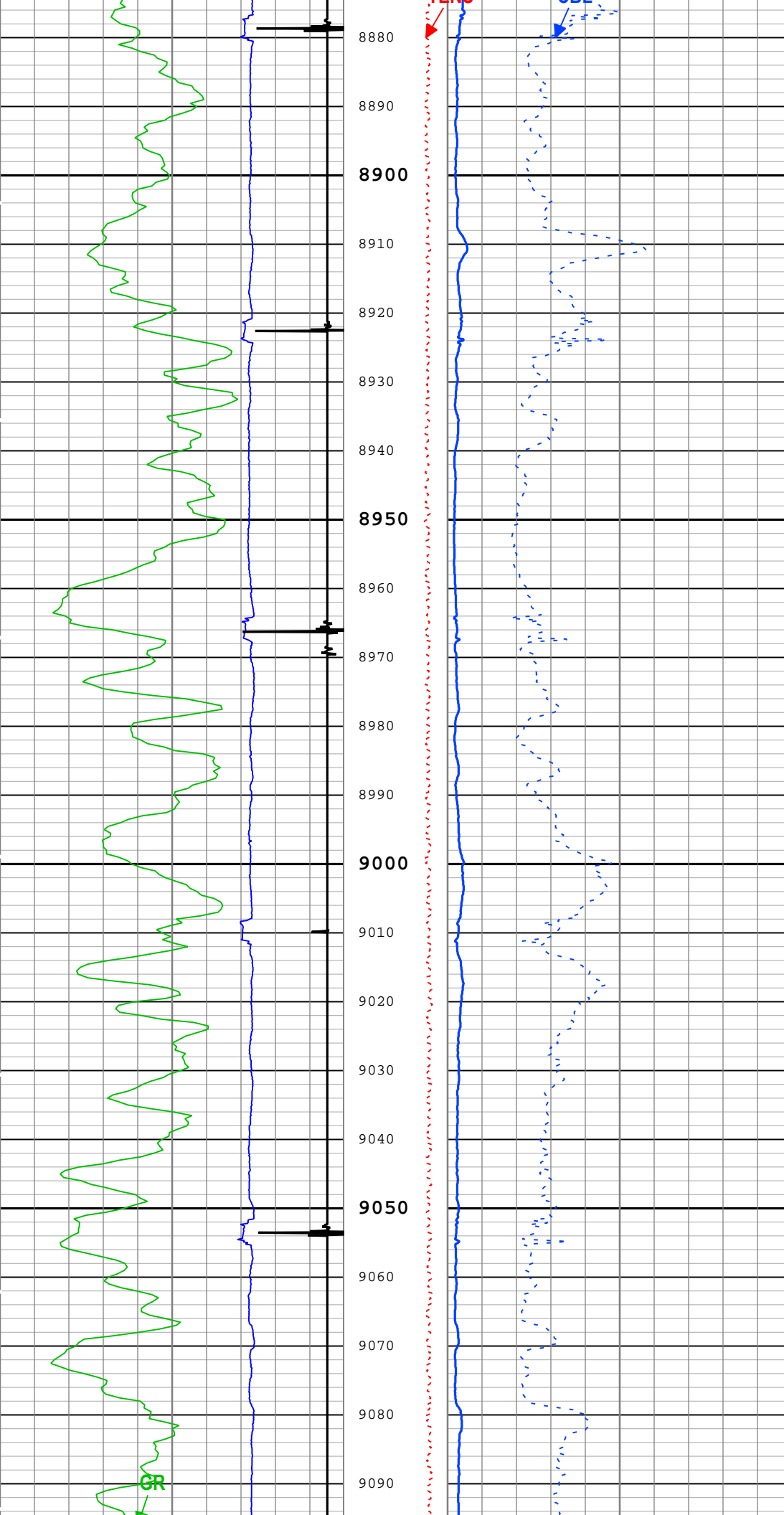
TIME_1900 - Time Marked every 60.00 (s)

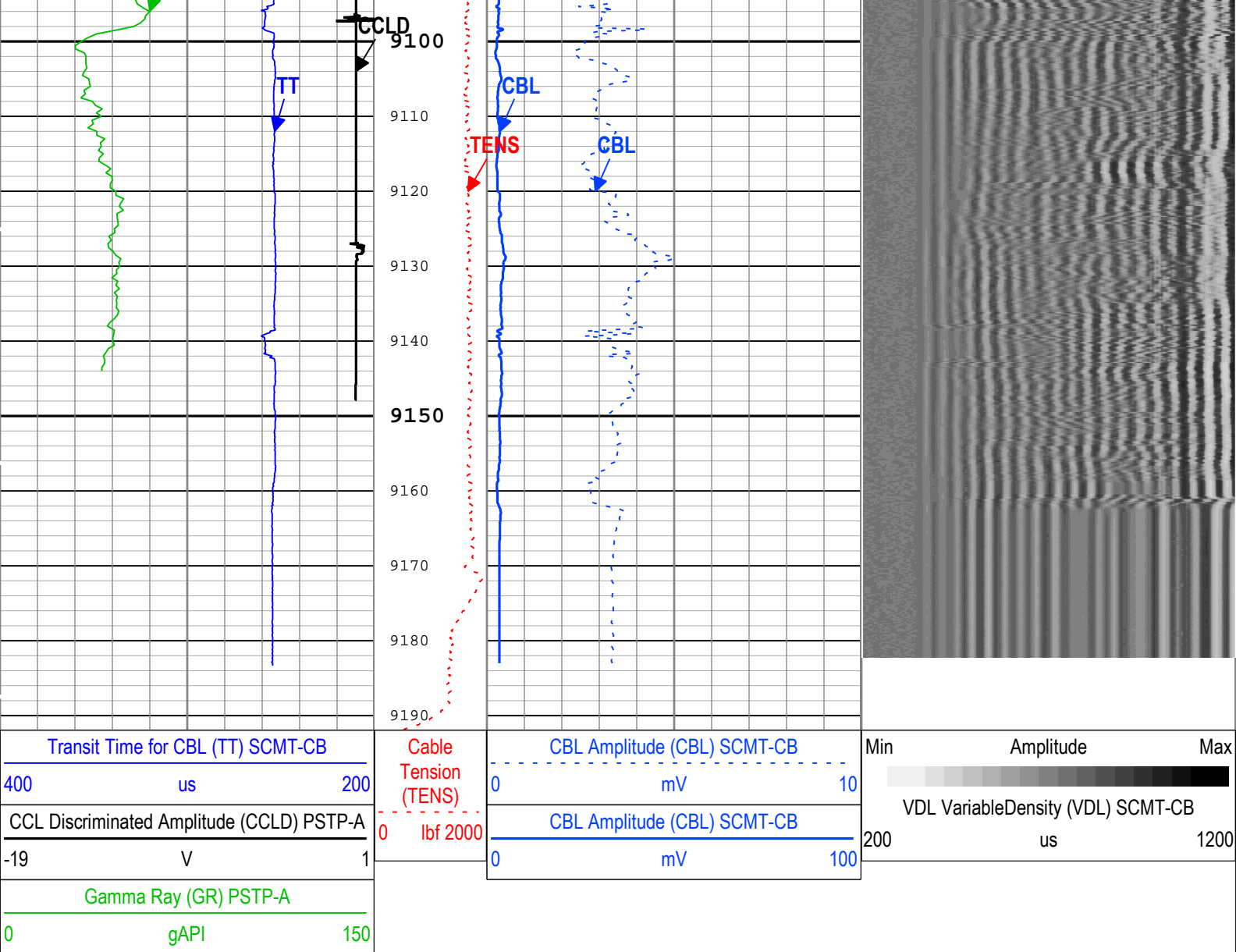
Description: Sonic CBL with VDL Format: Log (Sonic CBL with VDL) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 22-Jul-2018 18:57:51

Channel Processing Parameters

One: Parameters

Parameter	Description	Tool	Value	Unit
BHT	Bottom Hole Temperature	Borehole	212	degF
CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	SCMT-CB	224	us
CBLG	CBL Gate Width	SCMT-CB	40	us
CBRA	CBL LQC Reference Amplitude in Free Pipe	SCMT-CB	80	mV
THNO	Nominal Casing Thickness - Zoned along logger depths	WLSESSION	0.25	in
DFD	Drilling Fluid Density	Borehole	8.49	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	206	us/ft
EDF	Elevation of Derrick Floor Above Permanent Datum	WLSESSION	30	ft
EPD	Elevation of Permanent Datum (PDAT) above Mean Sea Level	WLSESSION	8322	ft
GGRD	Geothermal Gradient	Borehole	1	0.01 degF/ft
GOBO_CURR	Good Bond in Arbitrary Cement	SCMT-CB	1.4	mV
GTSE	Generalized Temperature Selection, from Measured or Computed Temperature	Borehole	GTEM_LINEST(RT)	
MATT_CURR	Maximum Attenuation in Arbitrary Cement	SCMT-CB	16.92	dB/ft





TIME_1900 - Time Marked every 60.00 (s)

Description: Sonic CBL with VDL Format: Log (Sonic CBL with VDL) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 22-Jul-2018 18:57:58

Channel Processing Parameters				
One: Parameters				
Parameter	Description	Tool	Value	Unit
BHT	Bottom Hole Temperature	Borehole	212	degF
CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	SCMT-CB	224	us
CBLG	CBL Gate Width	SCMT-CB	40	us
CBRA	CBL LQC Reference Amplitude in Free Pipe	SCMT-CB	80	mV
THNO	Nominal Casing Thickness - Zoned along logger depths	WLSESSION	0.25	in
DFD	Drilling Fluid Density	Borehole	8.49	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	206	us/ft
EDF	Elevation of Derrick Floor Above Permanent Datum	WLSESSION	30	ft
EPD	Elevation of Permanent Datum (PDAT) above Mean Sea Level	WLSESSION	8322	ft
GGRD	Geothermal Gradient	Borehole	1	0.01 degF/ft
GOBO_CURR	Good Bond in Arbitrary Cement	SCMT-CB	1.4	mV
GTSE	Generalized Temperature Selection, from Measured or Computed Temperature	Borehole	GTEM_LINEST(RT)	

MATT_CURR	Maximum Attenuation in Arbitrary Cement	SCMT-CB	16.92	dB/ft
MCI	Minimum Cemented Interval for Isolation	SCMT-CB	1.25	ft
MSA	Minimum Sonic Amplitude	SCMT-CB	0.51	mV
MSA_CURR	Minimum Sonic Amplitude in Arbitrary Cement	SCMT-CB	0.51	mV
PDAT	Permanent Datum	WLSESSION	GL	
RUN_SNUM	Run Sequence Number	WSDRUN	1	
SHT	Surface Hole Temperature	Borehole	68	degF

Tool Control Parameters

One: Parameters

Parameter	Description	Tool	Value	Unit
CMTM	SCMT Operating Mode	SCMT-CB	Log	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	150	ft/h
PCCG	PSP Downhole CCL Gain	PSTP-A	24 dB	

One

CBL-VDL Free Pipe

Software Version

Acquisition System	Version
Maxwell 2018 SP1	8.1.99839.3100
Application Patch	Wireline_Hotfix-Mandatory-2018SP1_8.1.102865

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[2]:Up	Up	822.84 ft	1116.72 ft	22-Jul-2018 2:35:41 PM	22-Jul-2018 2:44:24 PM	ON	0.00 ft	No

All depths are referenced to toolstring zero

Log

Company:Caerus Operating LLC

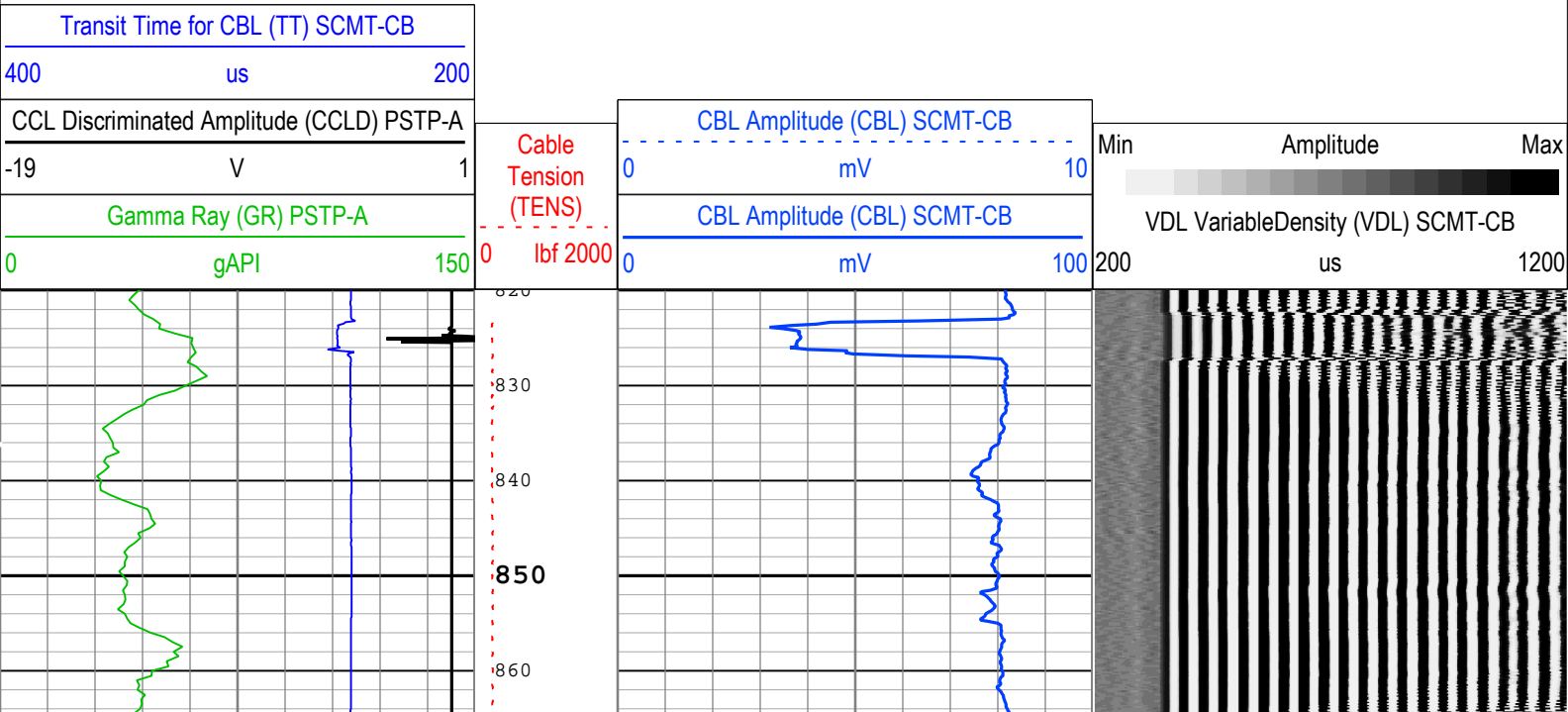
Well:Puckett 25A-26

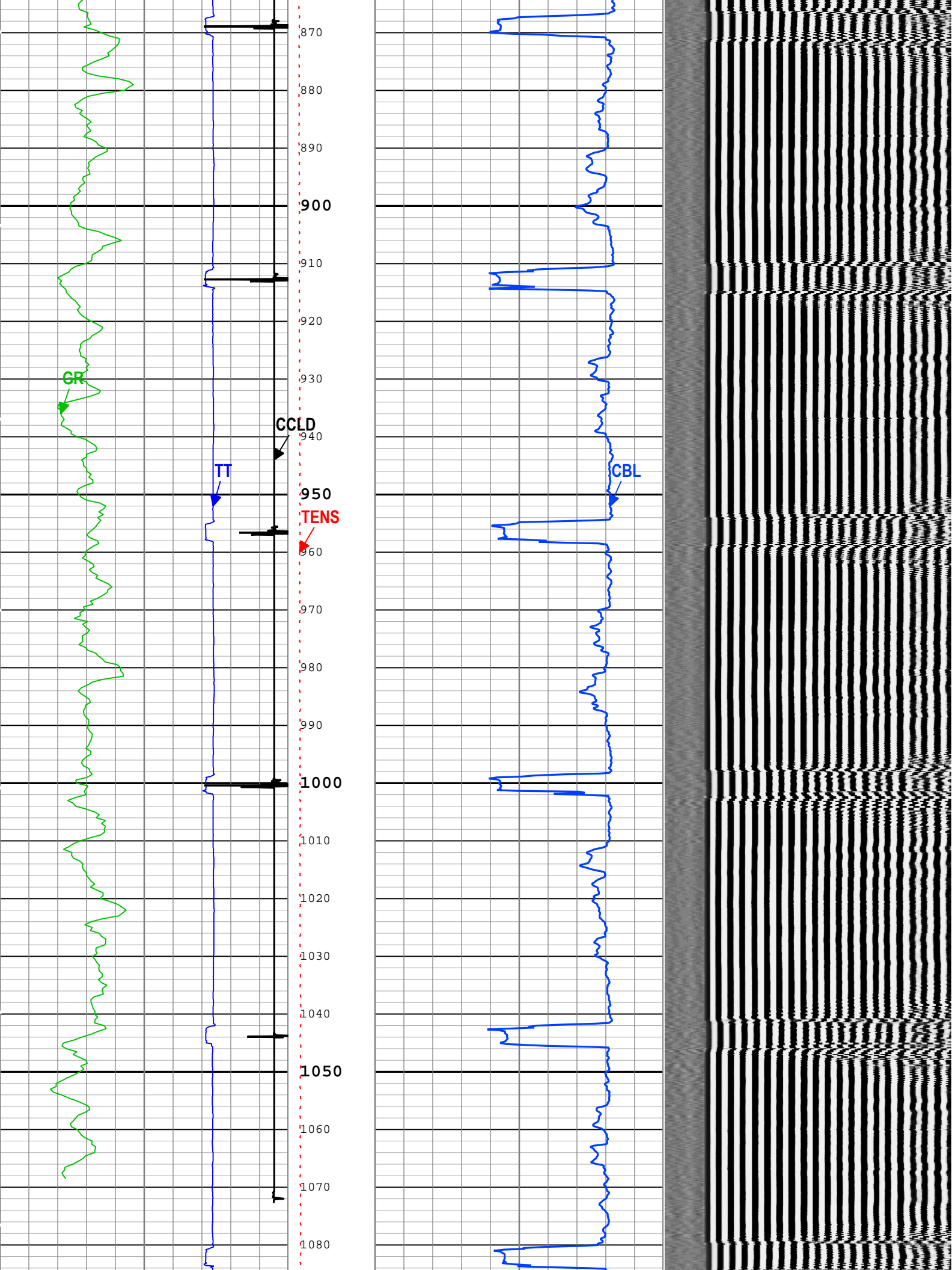
One: Log[2]:Up:S003

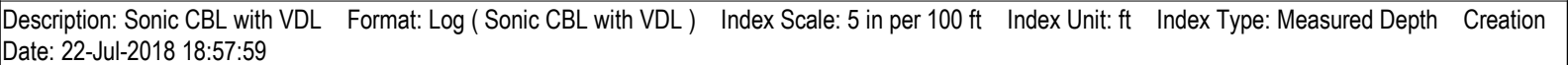
Description: Sonic CBL with VDL
 Format: Log (Sonic CBL with VDL)
 Index Scale: 5 in per 100 ft
 Index Unit: ft
 Index Type: Measured Depth
 Creation Date: 22-Jul-2018 18:57:59

BIEP - Bond Index Event Pips SCMT-CB

TIME_1900 - Time Marked every 60.00 (s)







Tool Control Parameters				
One: Parameters				
Parameter	Description	Tool	Value	Unit
CMTM	SCMT Operating Mode	SCMT-CB	Log	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	150	ft/h
PCCG	PSP Downhole CCL Gain	PSTP-A	Time Zoned	

Time Zone Parameters					
Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
PCCG	12 dB	22-Jul-2018 14:35:41	22-Jul-2018 14:37:44	1116.72	1050.85
PCCG	24 dB	22-Jul-2018 14:37:44	22-Jul-2018 14:44:24	1050.85	822.84

All depth are at tool zero.

One

RST Sigma Main Pass

Software Version	
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Acquisition System	Version
Maxwell 2018 SP1	8.1.99839.3100
Application Patch	Wireline_Hotfix-Mandatory-2018SP1_8.1.102865

Pass Summary	
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Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[5]:Up	Up	2286.08 ft	9192.88 ft	22-Jul-2018 3:24:57 PM	22-Jul-2018 6:44:37 PM	ON	7.17 ft	Yes

All depths are referenced to toolstring zero

Log Company:Caerus Operating LLC Well:Puckett 25A-26
One: Log[5]:Up:S003

Well:Puckett 25A-26

One: Log[5]:Up:S003

Description: RST SIGMA Answer	Format: Log (RST SIGMA Answer)	Index Scale: 5 in per 100 ft	Index Unit: ft	Index Type: Measured Depth	Creation Date: 22-Jul-2018 18:58:01
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—IHV - Integrated Hole Volume every 10.00 (ft3)

—IHV - Integrated Hole Volume every 100.00 (ft3)

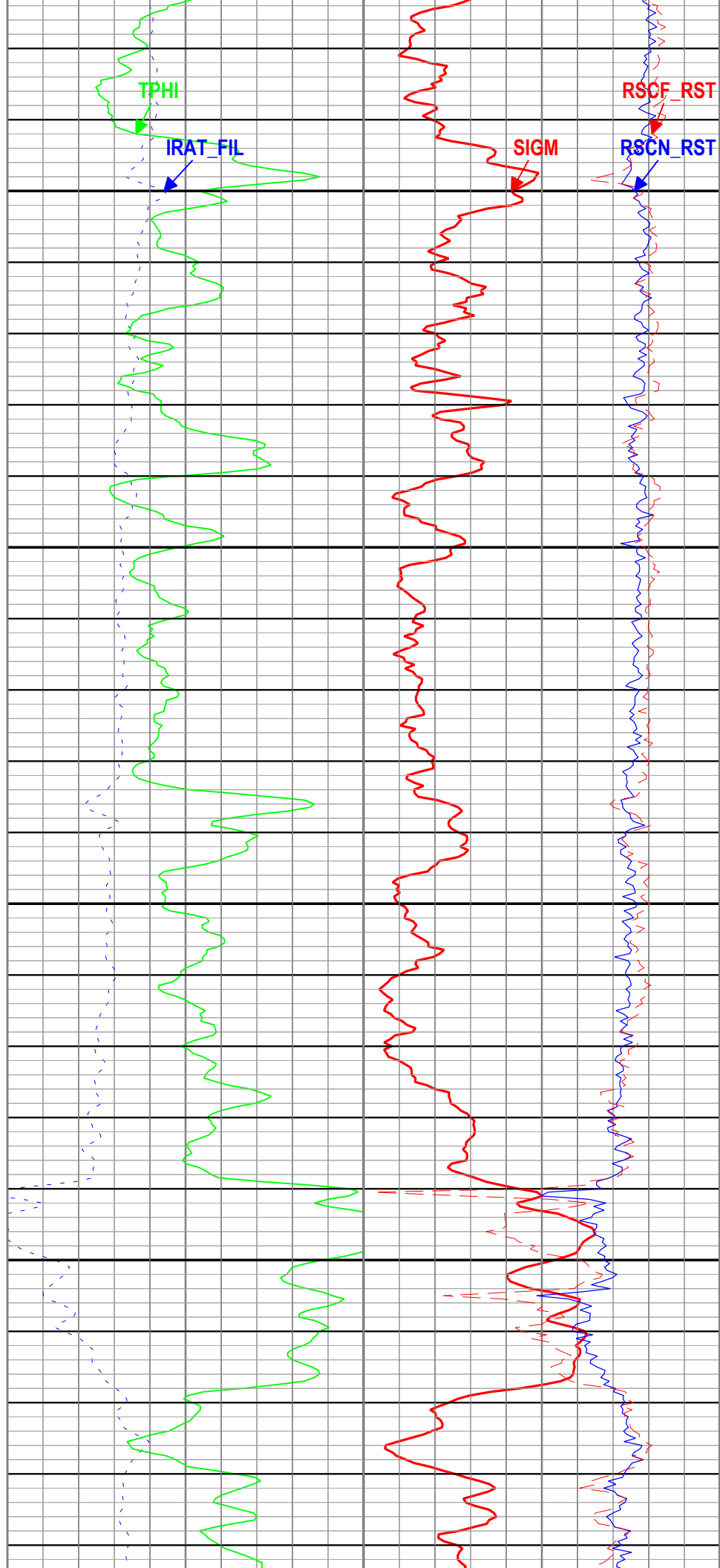
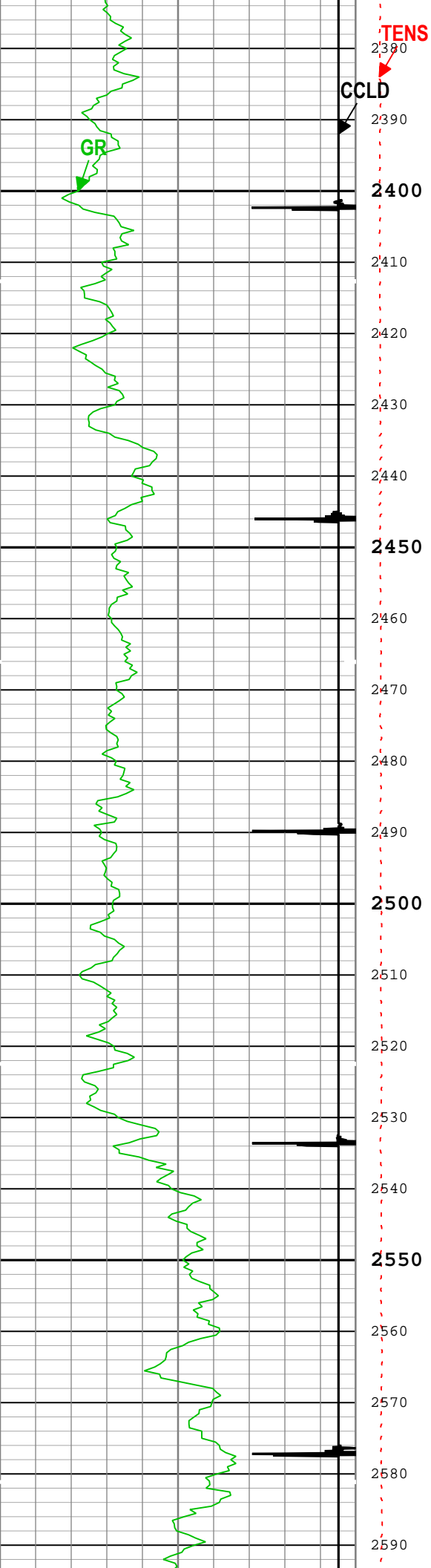
ICV - Integrated Cement Volume every 10.00 (ft3)

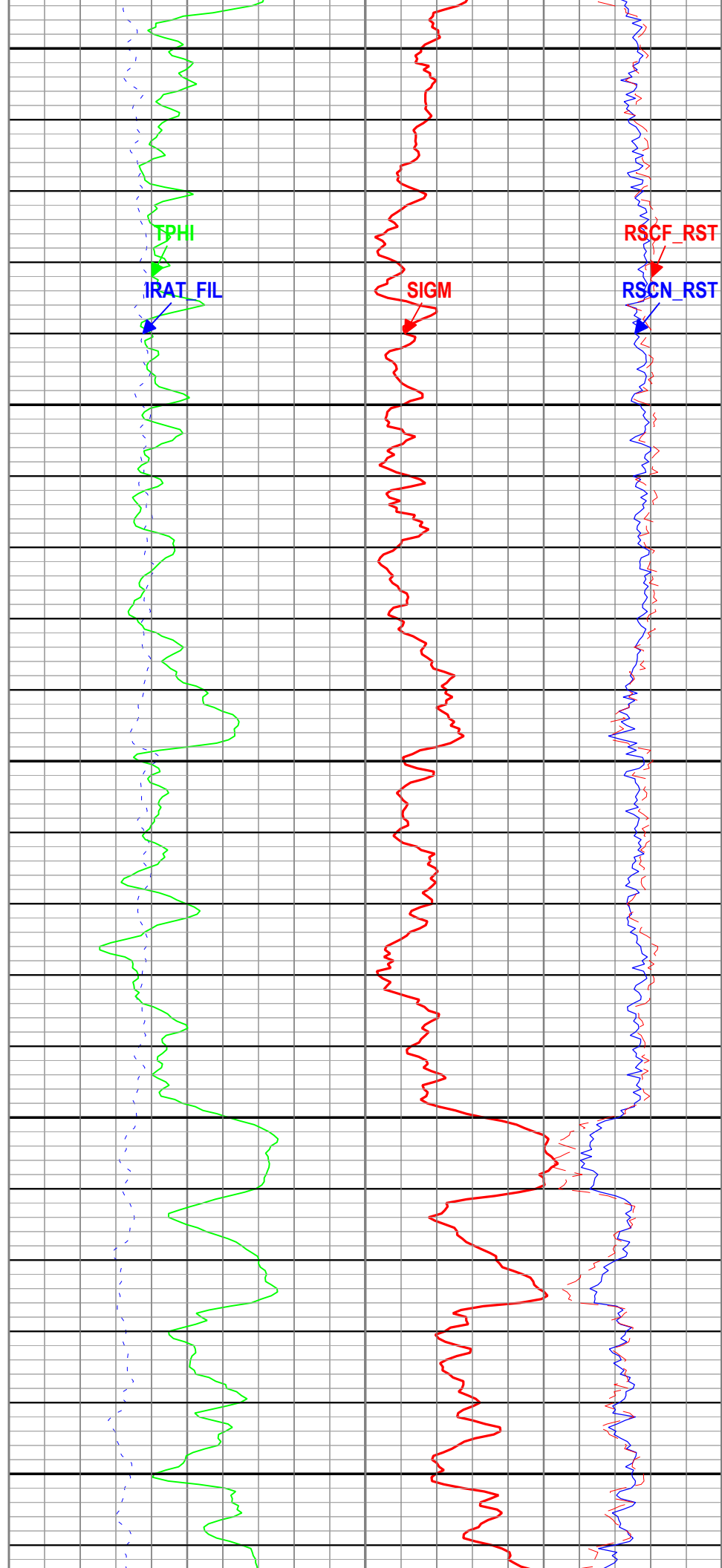
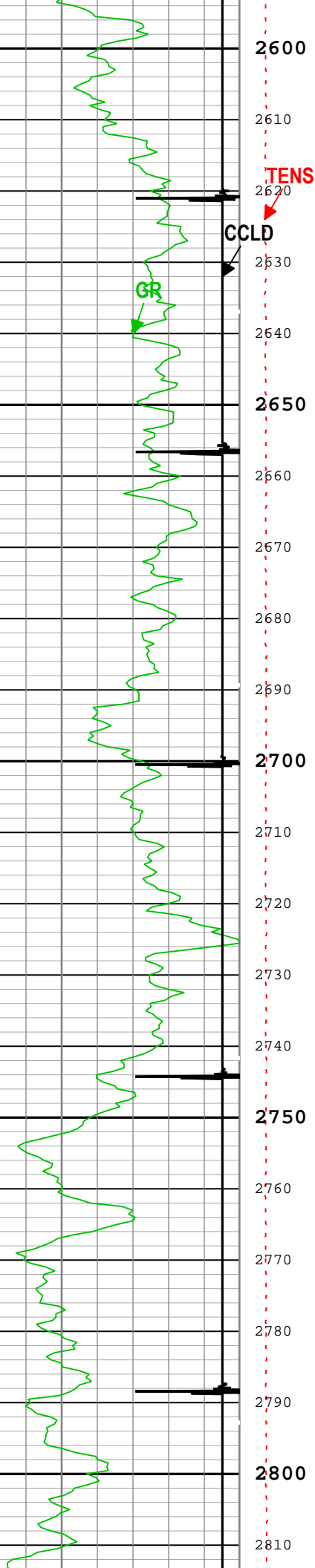
TIME_1900 - Time Marked every 60.00 (s)

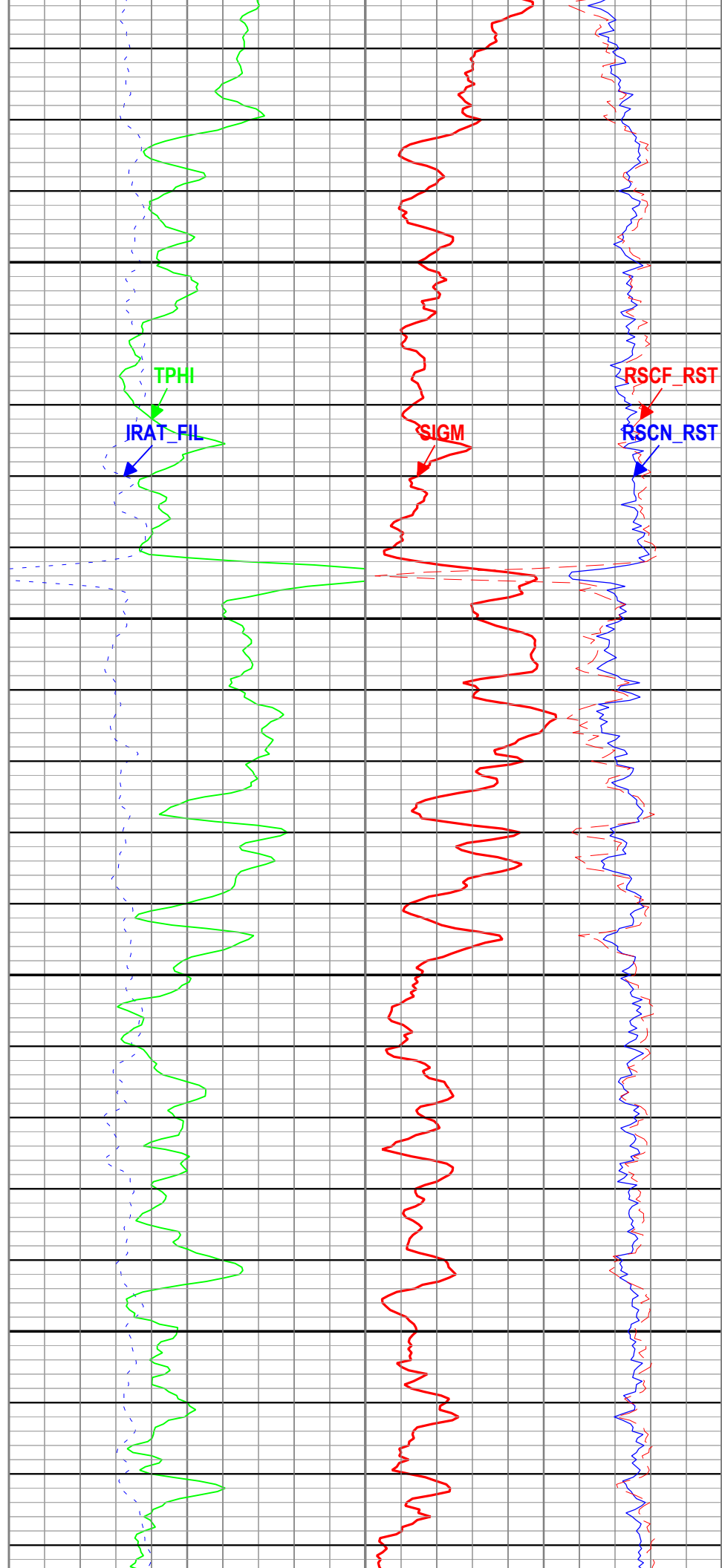
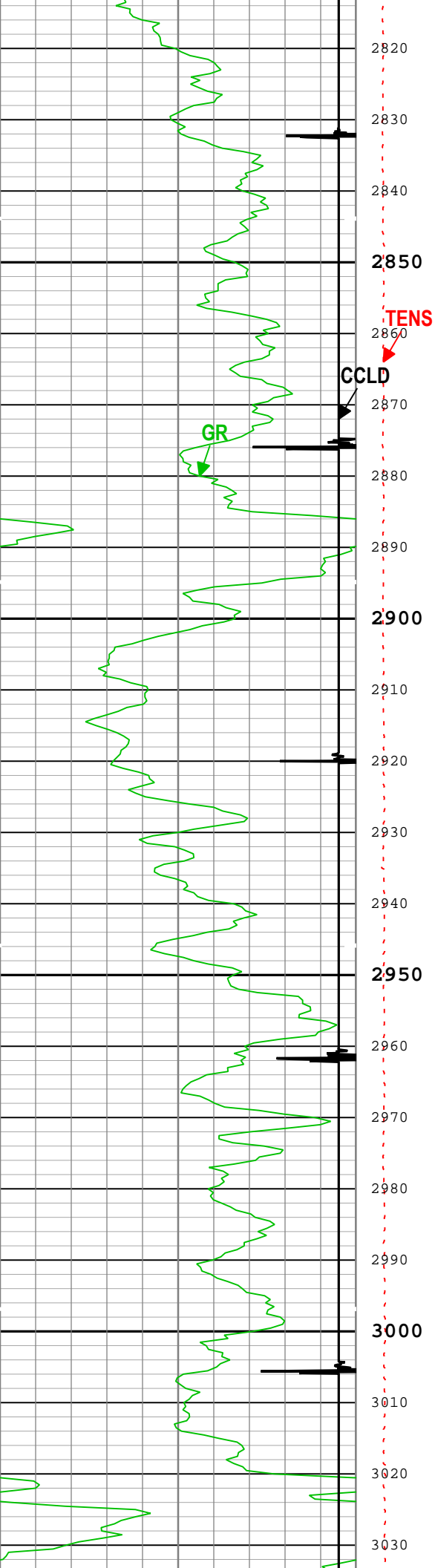
TIME_1900 - Elapsed time since midnight, 30 December 1899 every 60.00 (s)

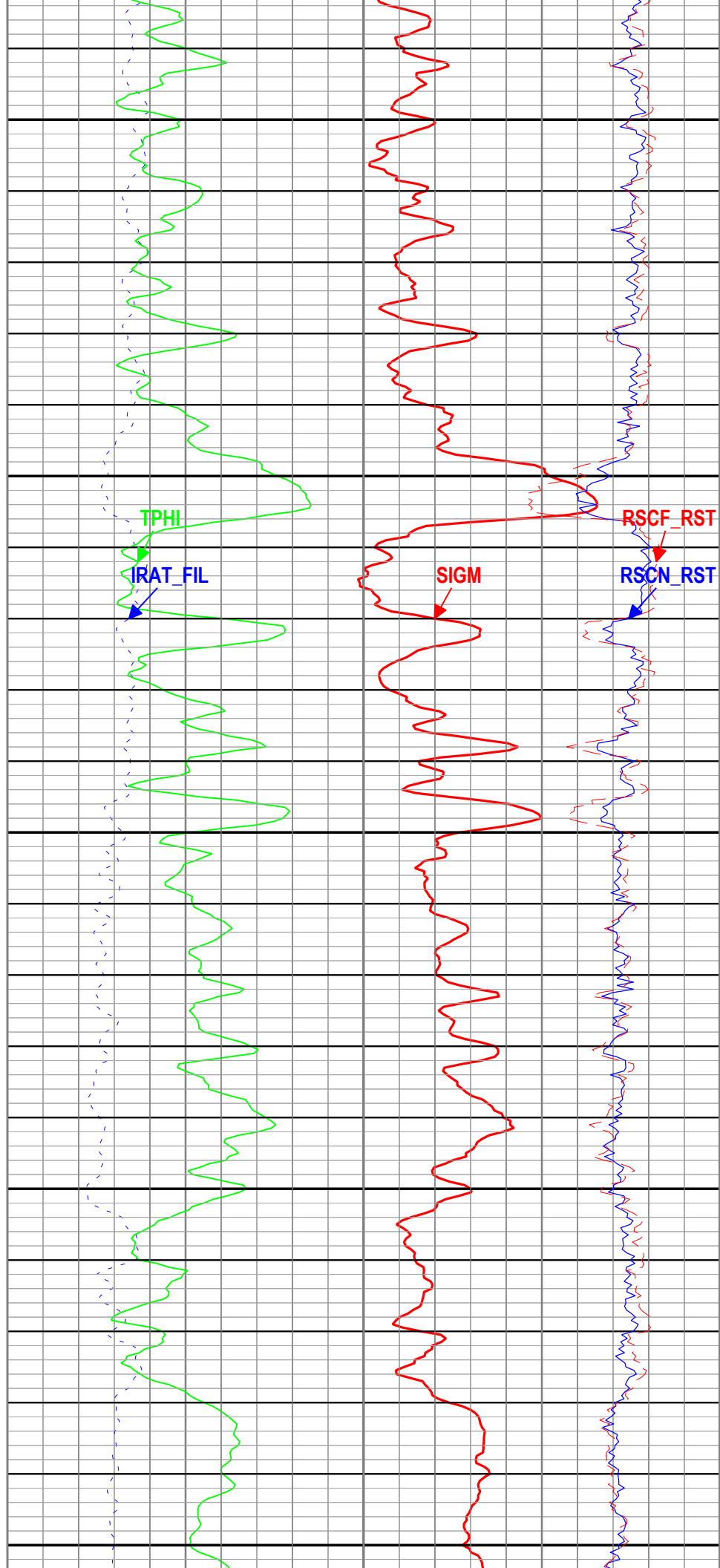
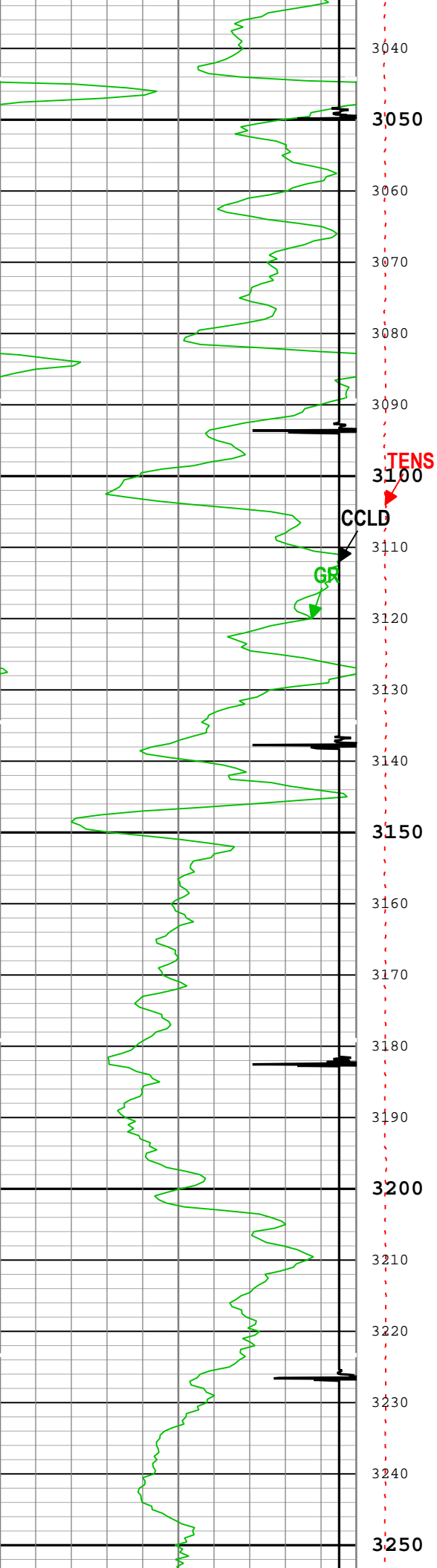
— ICV - Integrated Cement Volume every 100.00 (ft3)

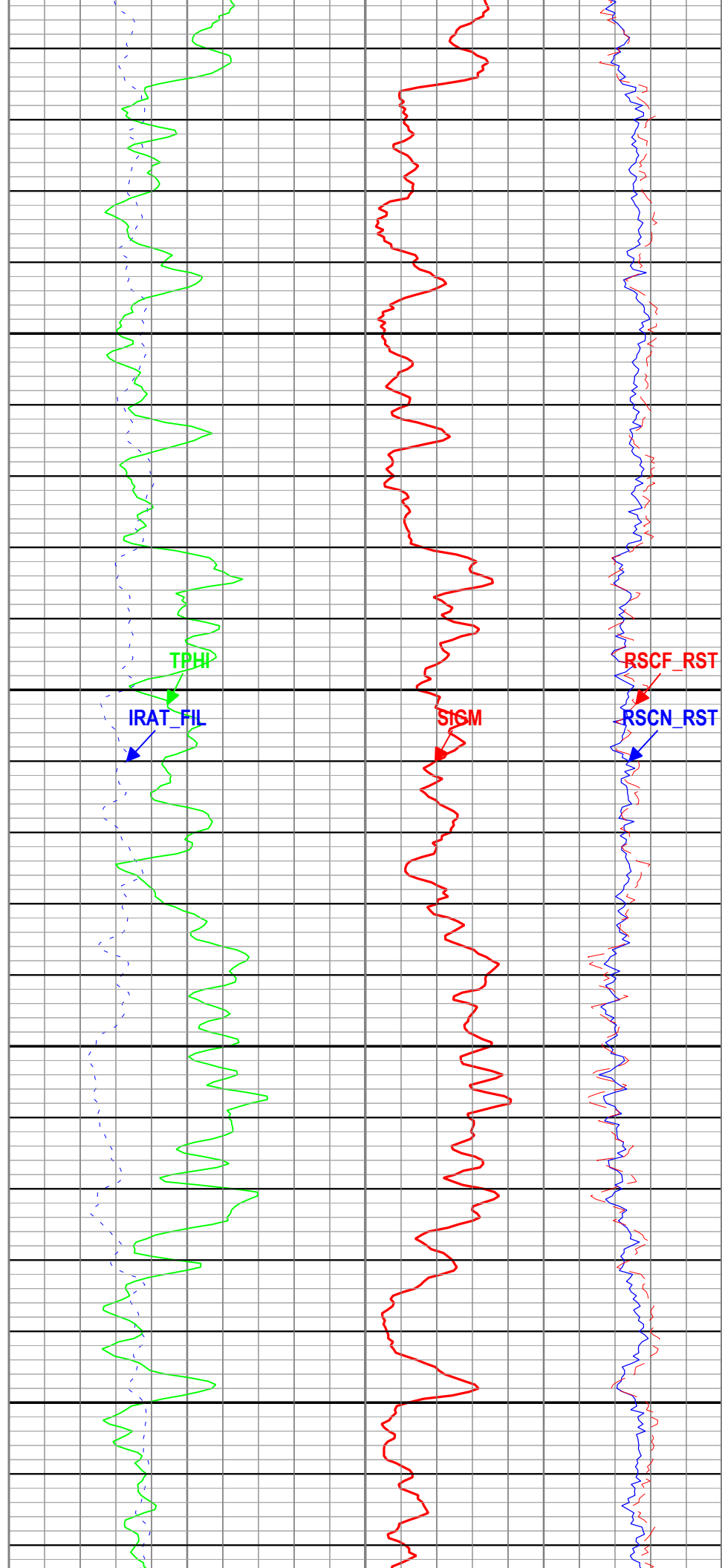
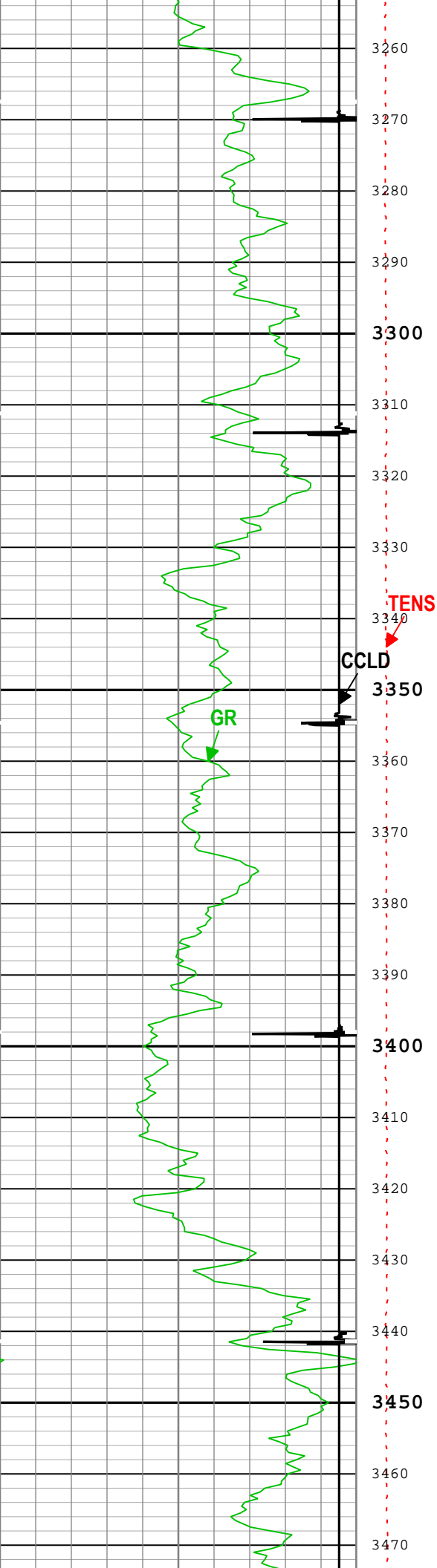
Gamma Ray (GR) PSTP-A		Cable Tension (TENS)	Inelastic Ratio Filtered (IRAT_FIL) RST-C		Near Detector Effective Unregulated Capture Count Rate (RSCN_RST) RST-C	
0	150		0.75	0	45	0
gAPI		0	Thermal Decay Porosity (TPHI) RST-C		Far Detector Effective Unregulated Capture Count Rate (RSCF_RST) RST-C	
CCL Discriminated Amplitude (CCLD) PSTP-A			0.6	0	45	0
-19 V		0	Formation Sigma (Neutron Capture Cross Section) (SIGM) RST-C			
1		0	60 cu		0	
2300		2300 2310 2320 2330 2340 2350 2360 2370	2300		2300	
2310			2310		2310	
2320			2320		2320	
2330			2330		2330	
2340			2340		2340	
2350			2350		2350	
2360		2360 2370	2360		2360	
2370			2370		2370	

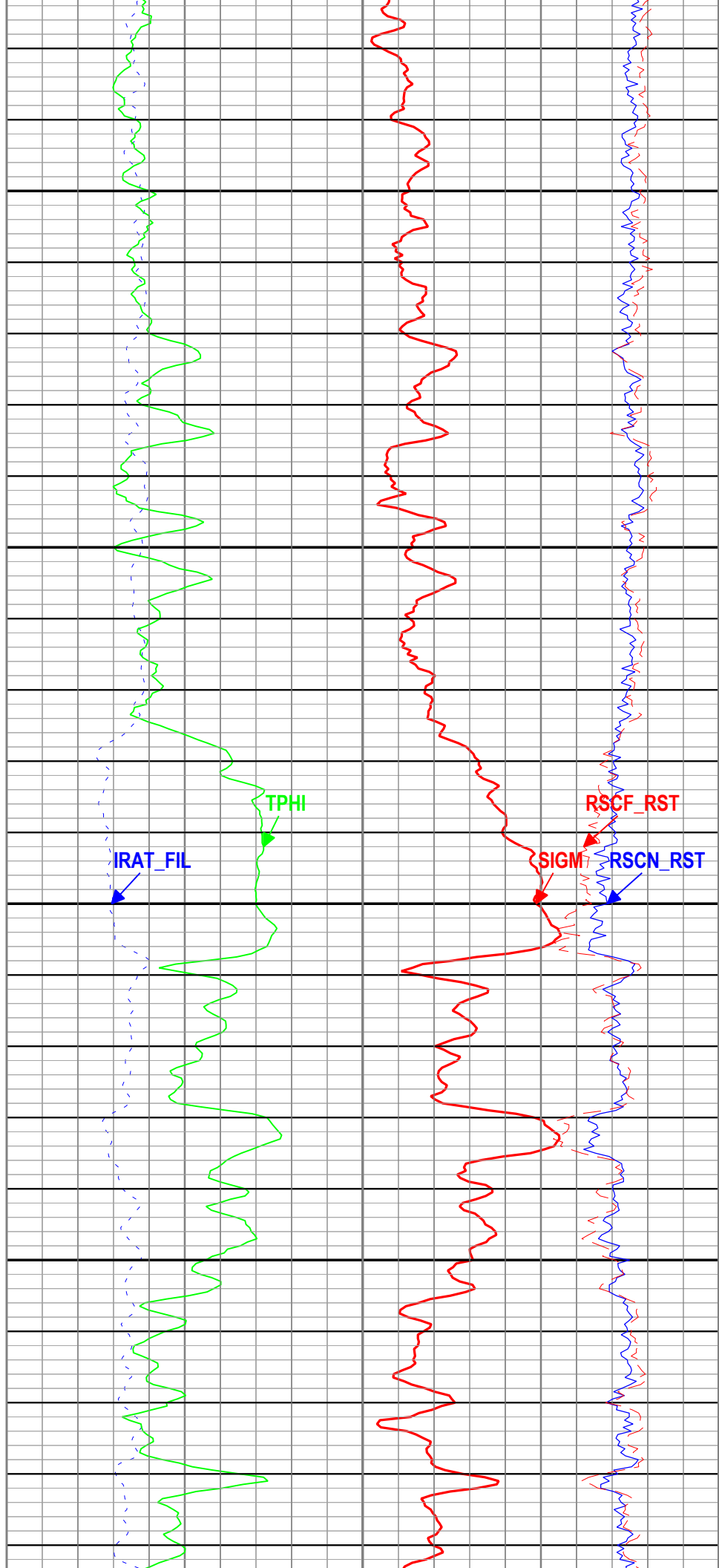
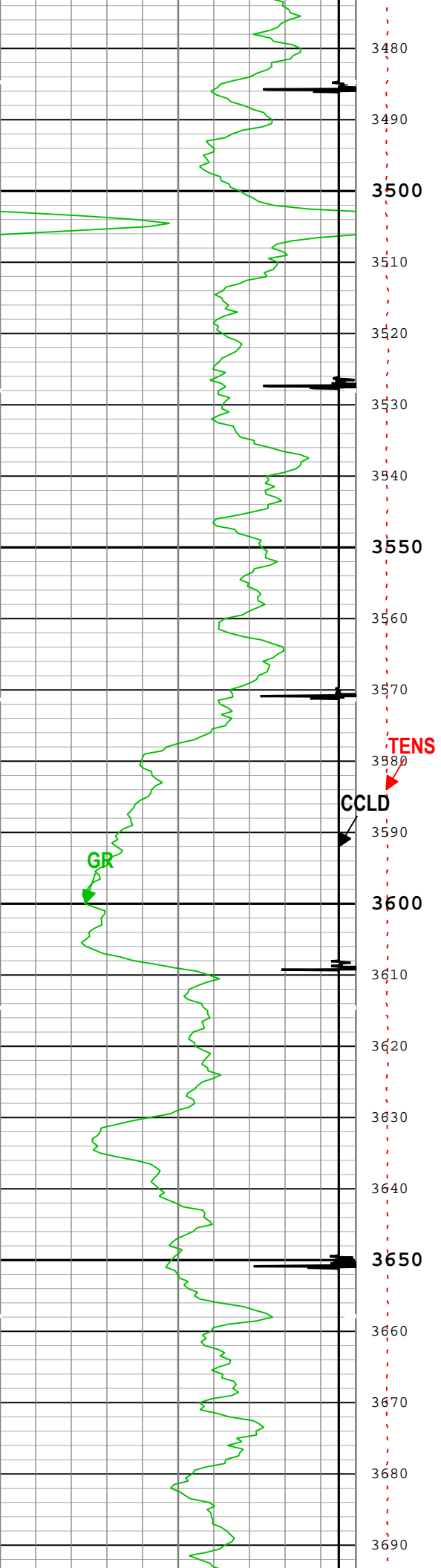


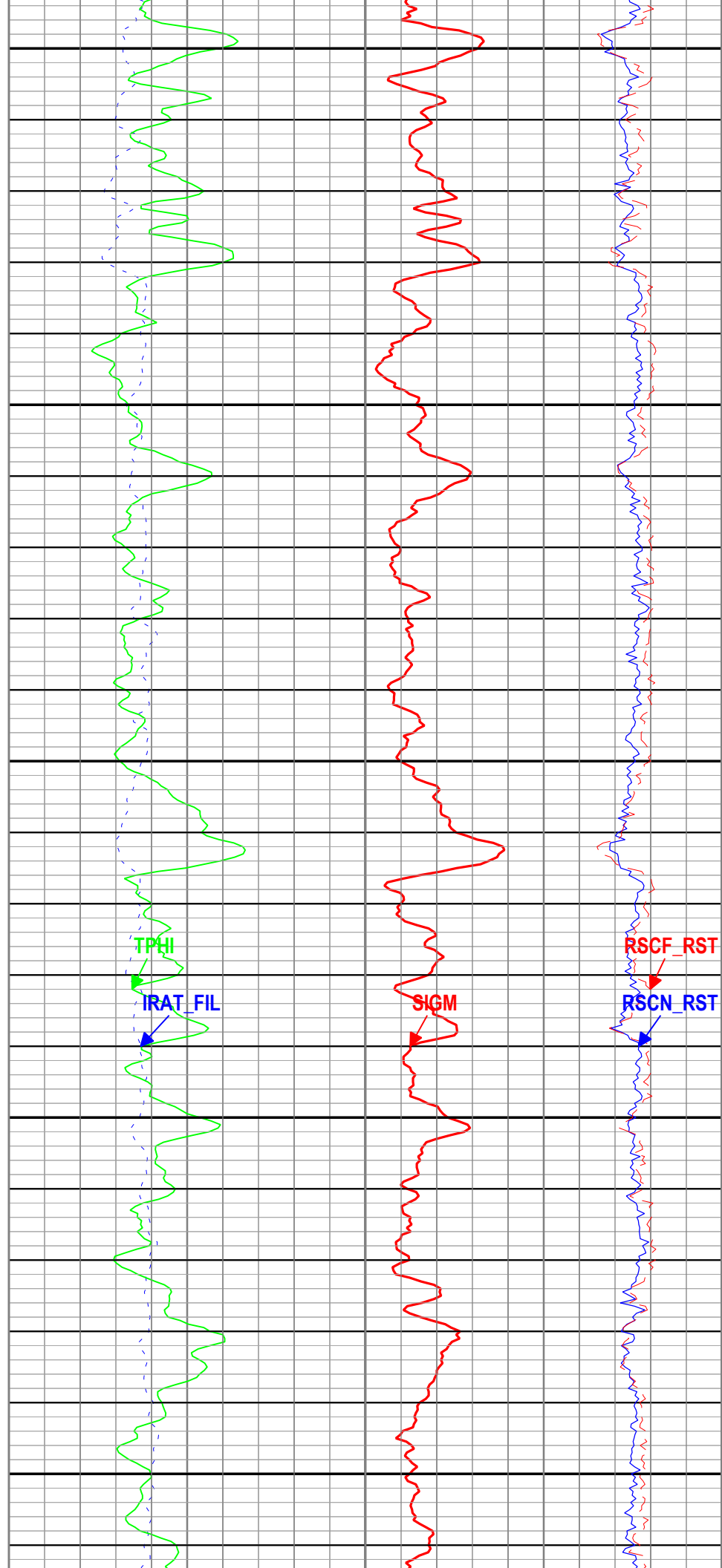
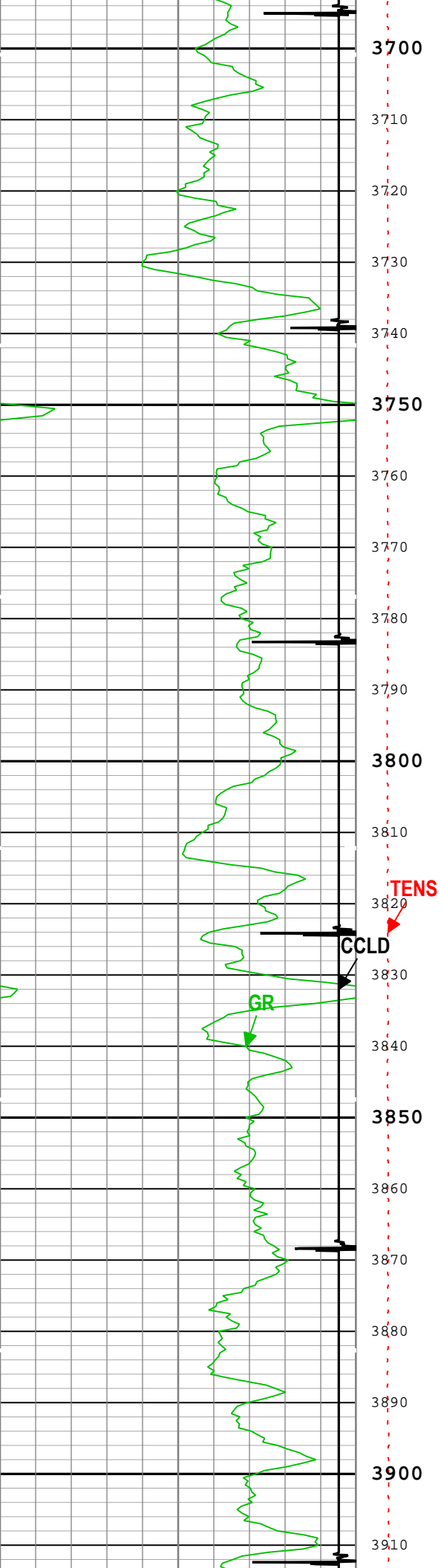


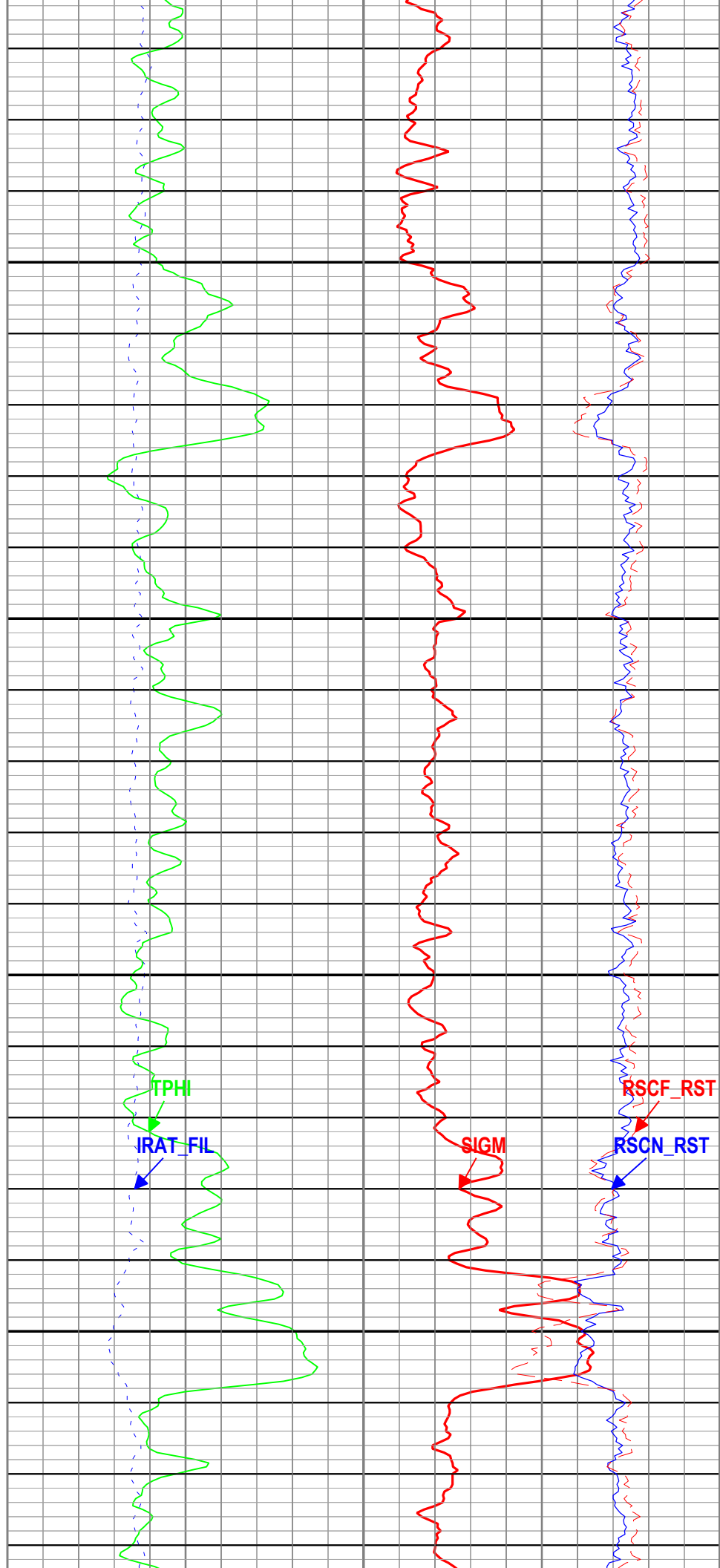
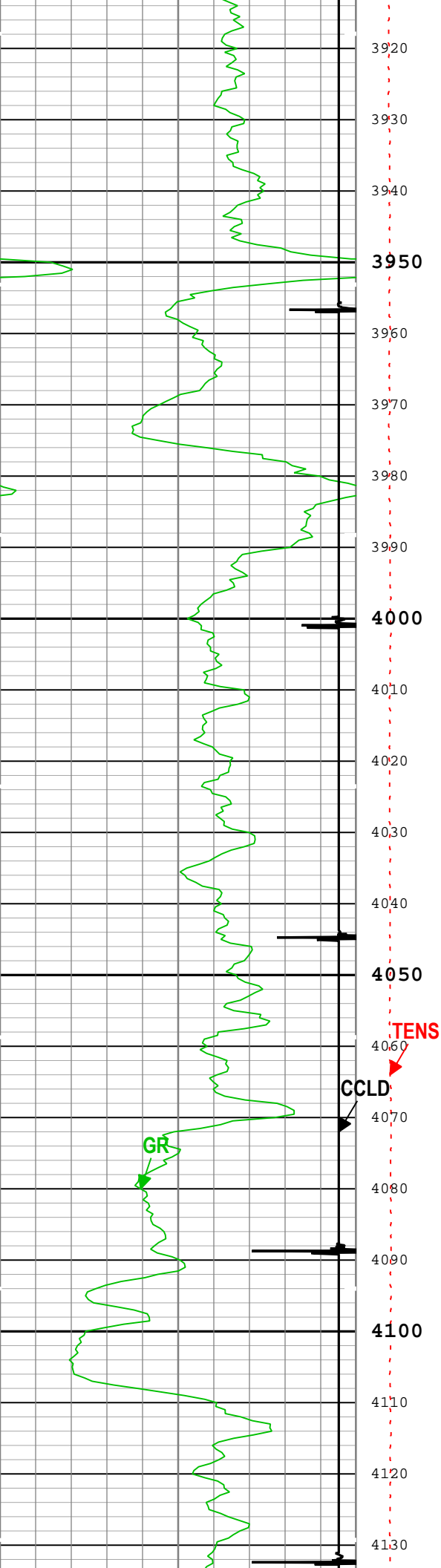


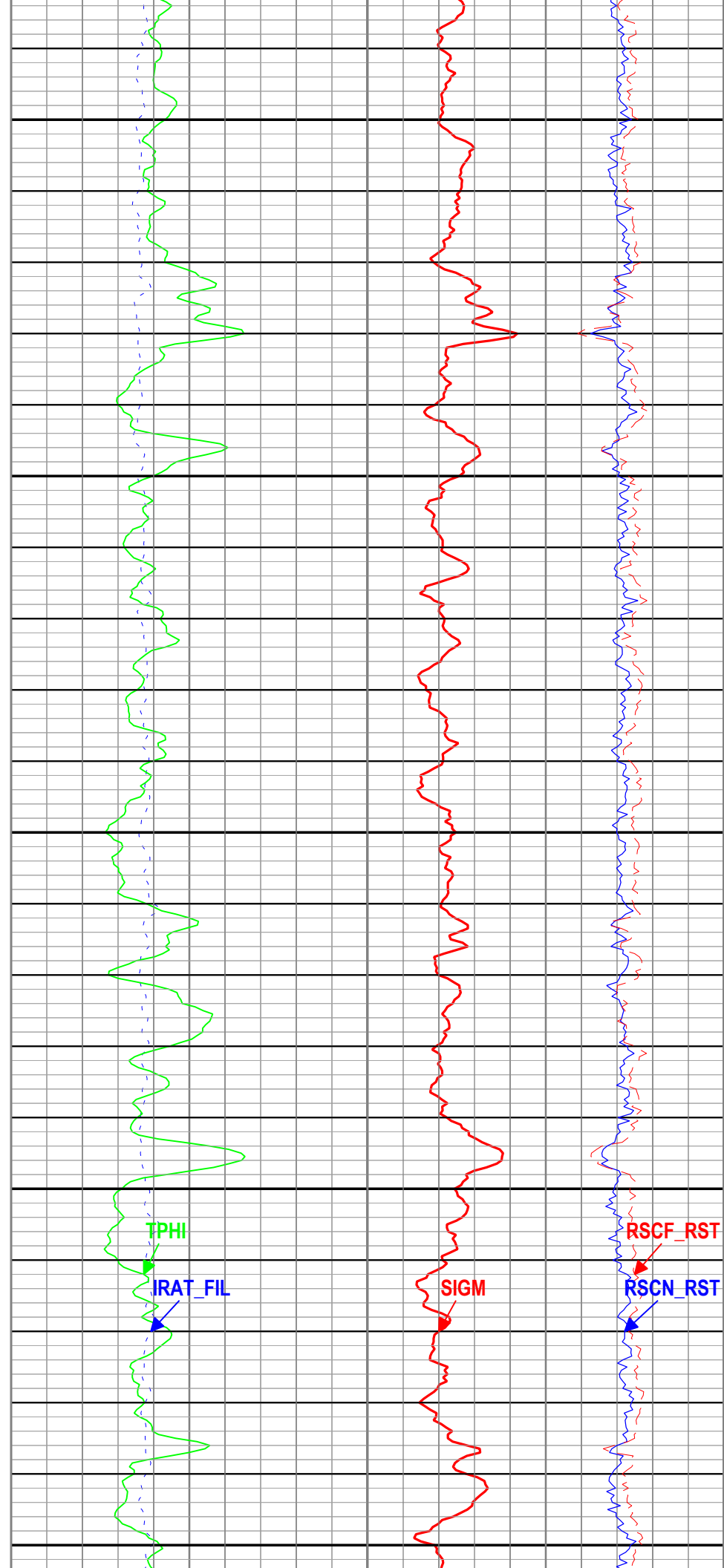
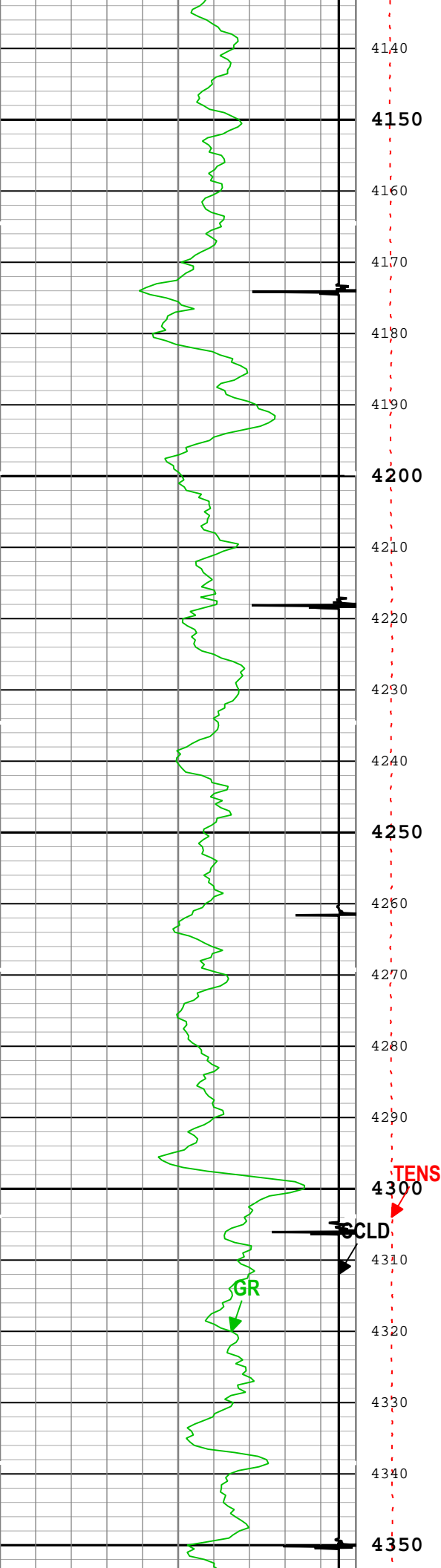


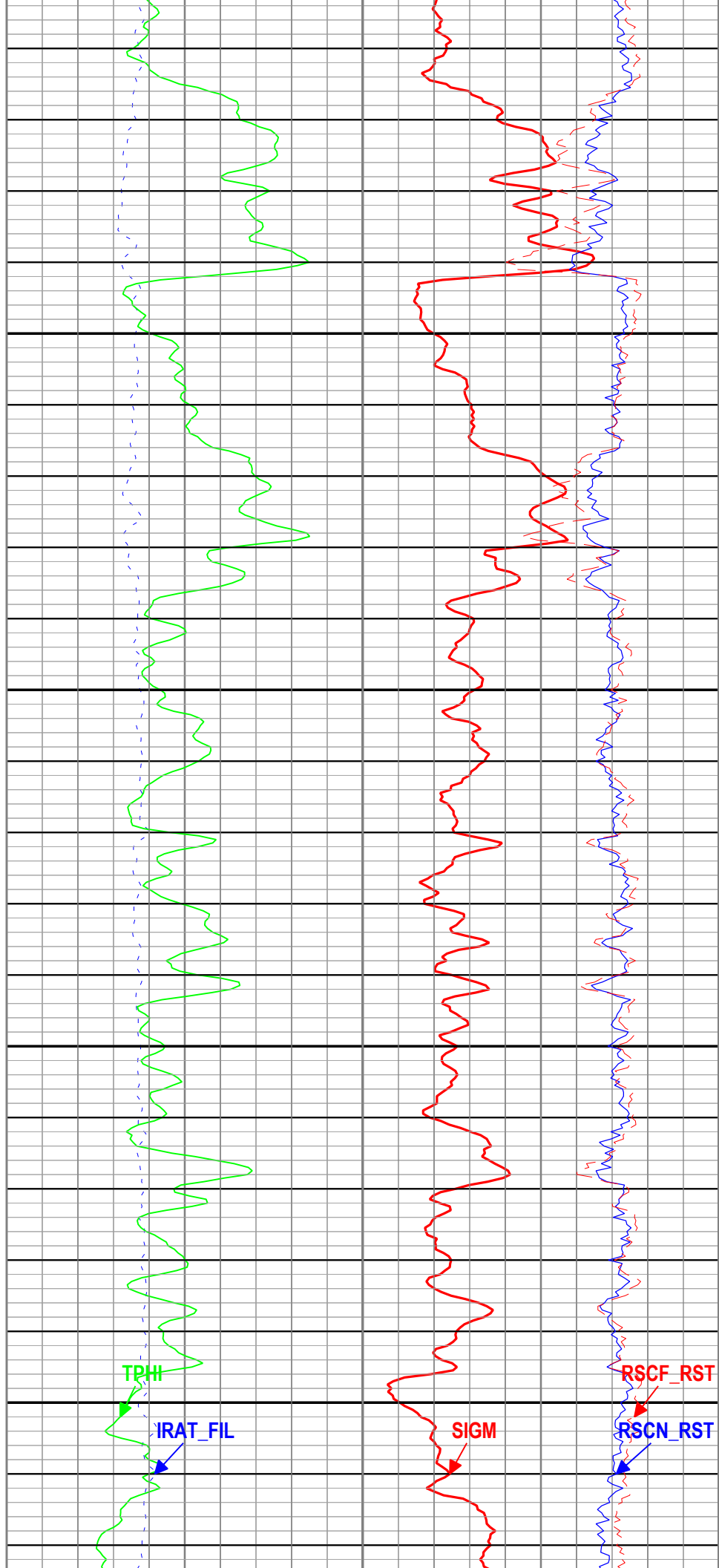
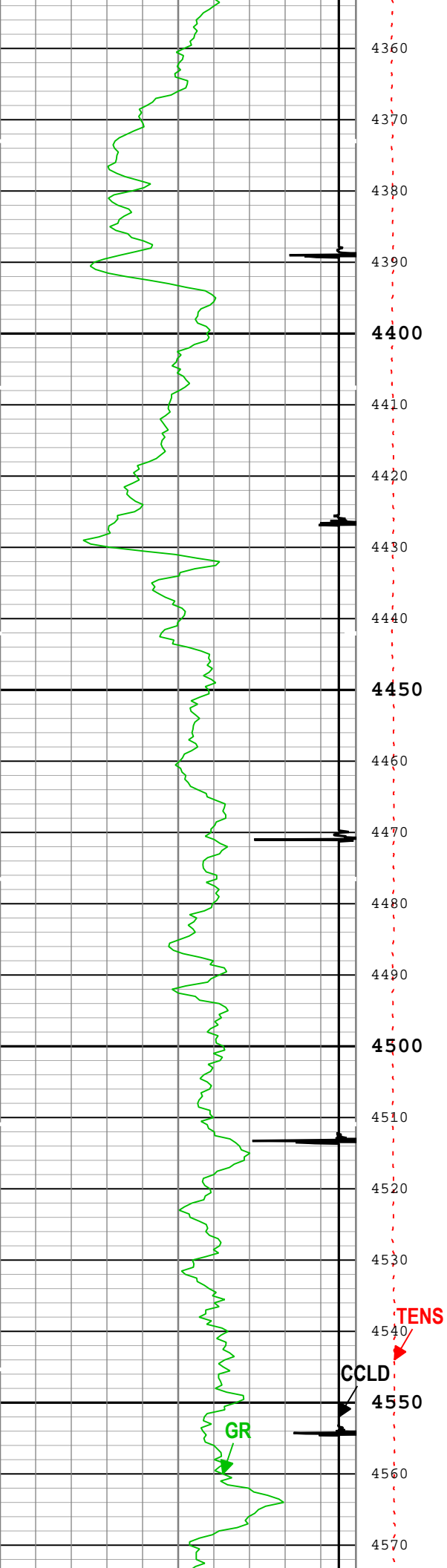


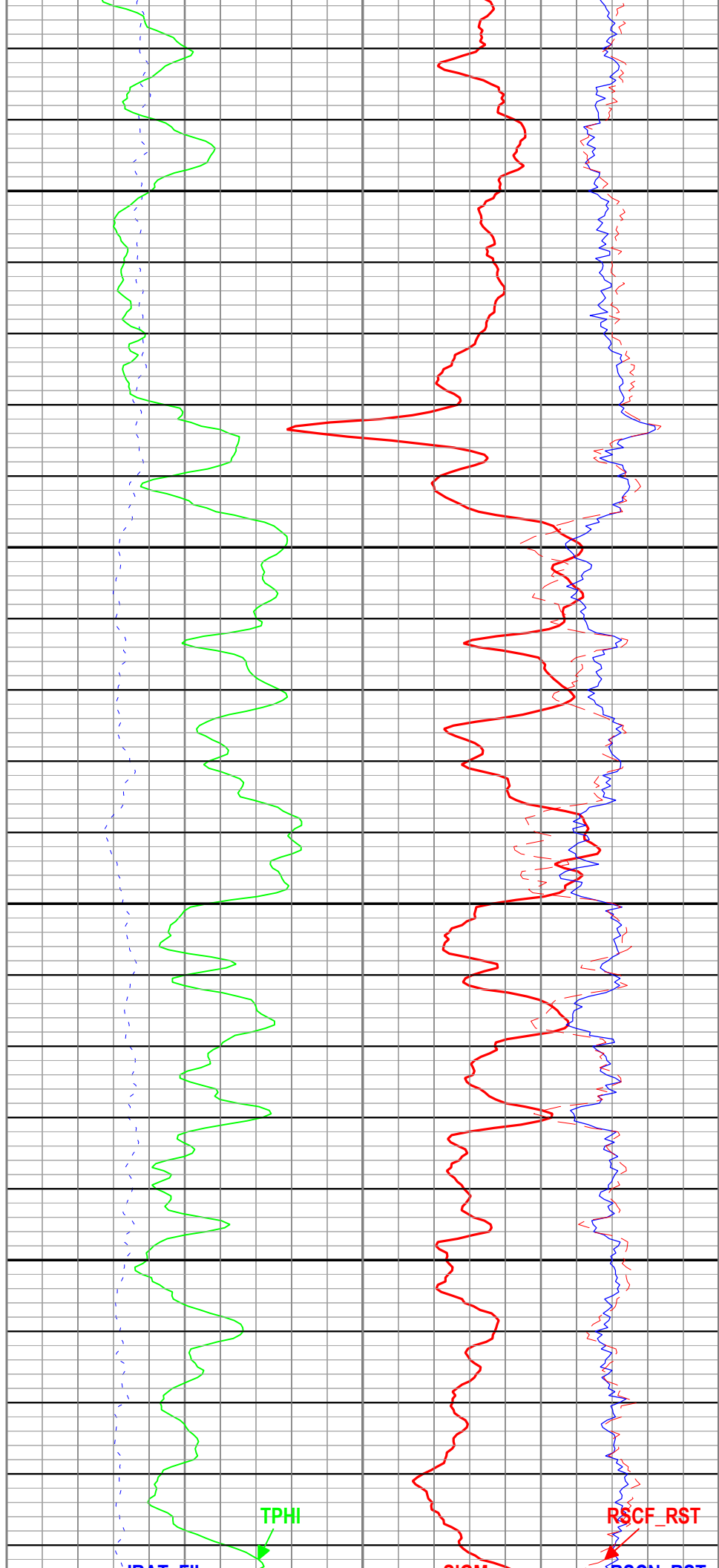
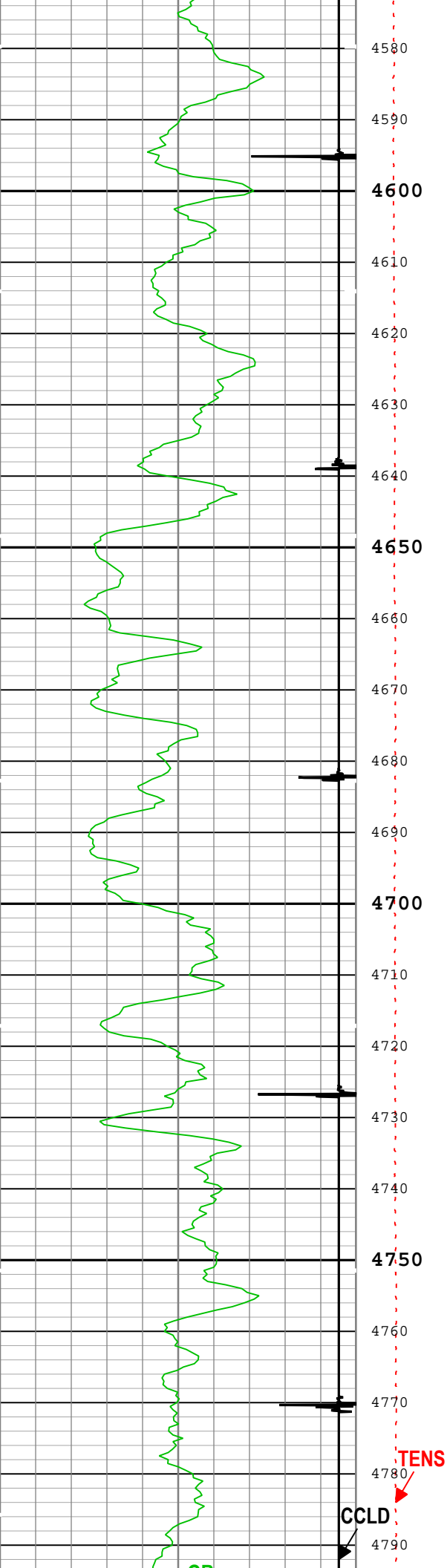


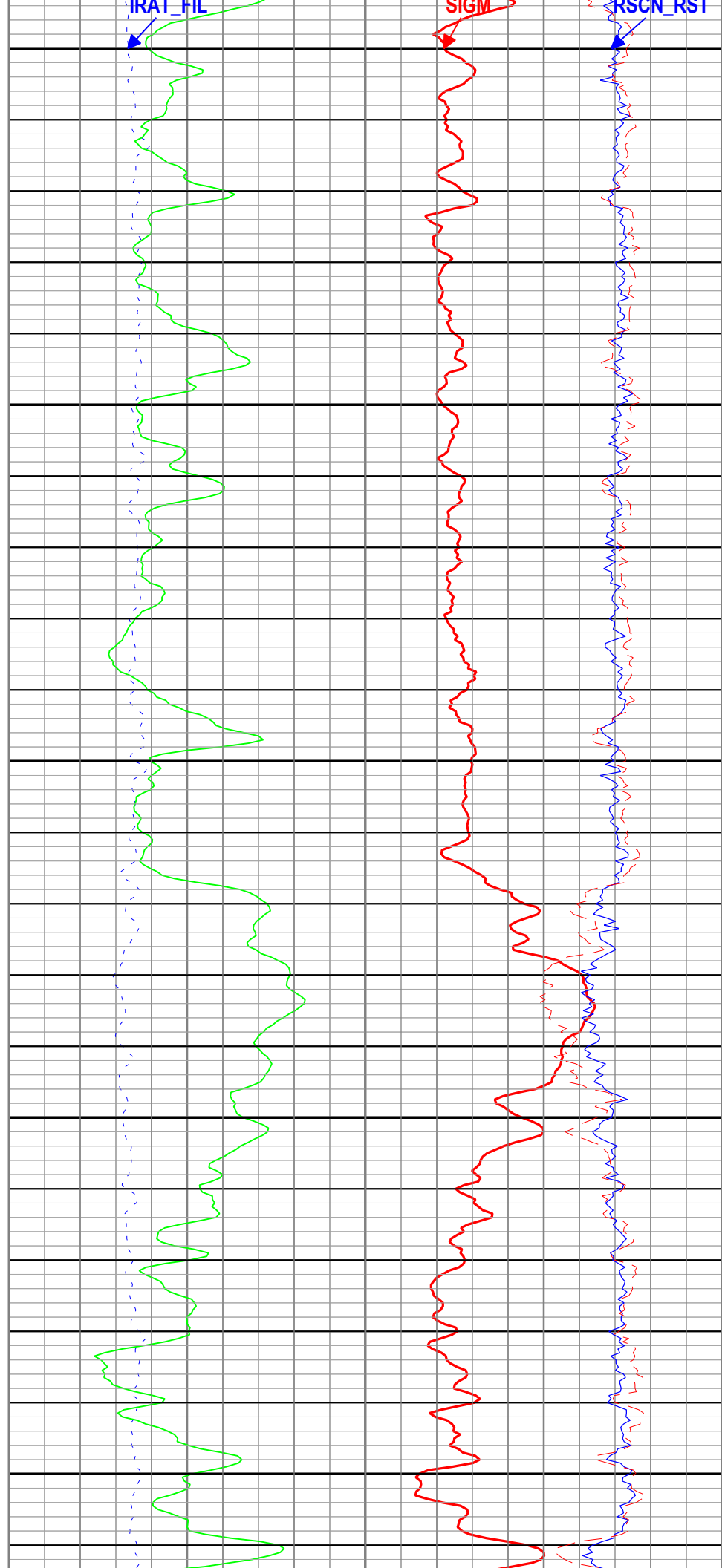
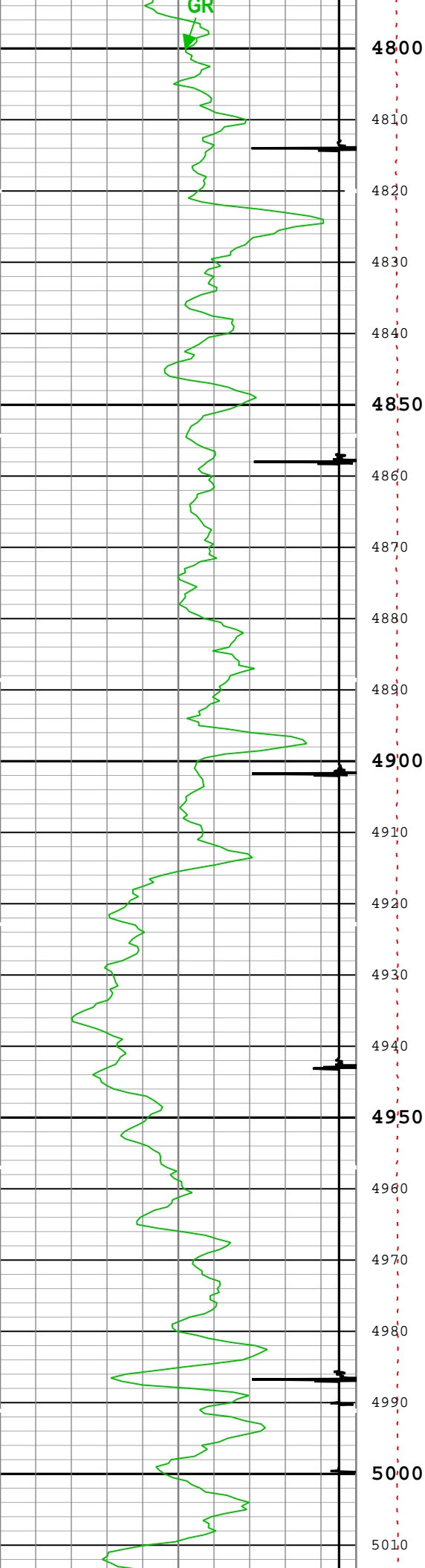


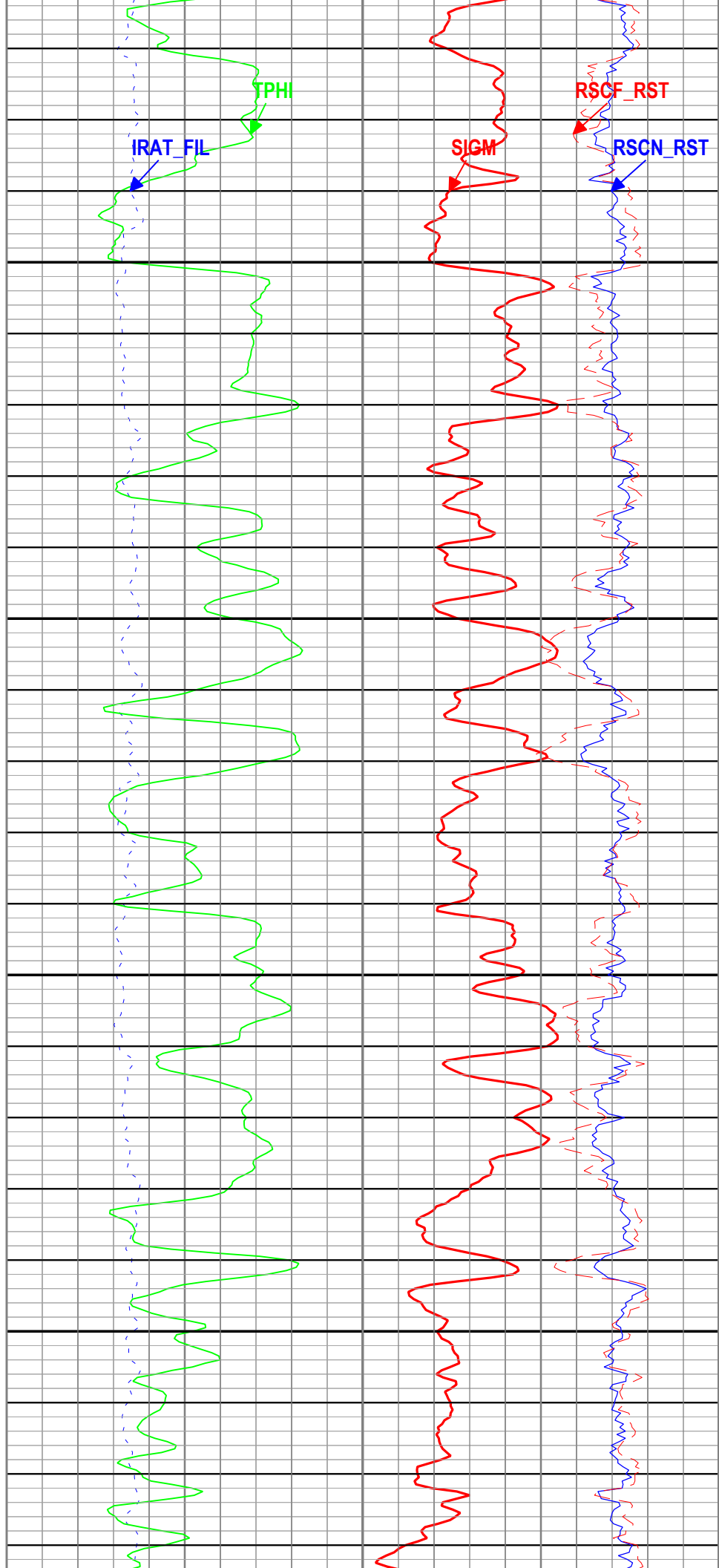
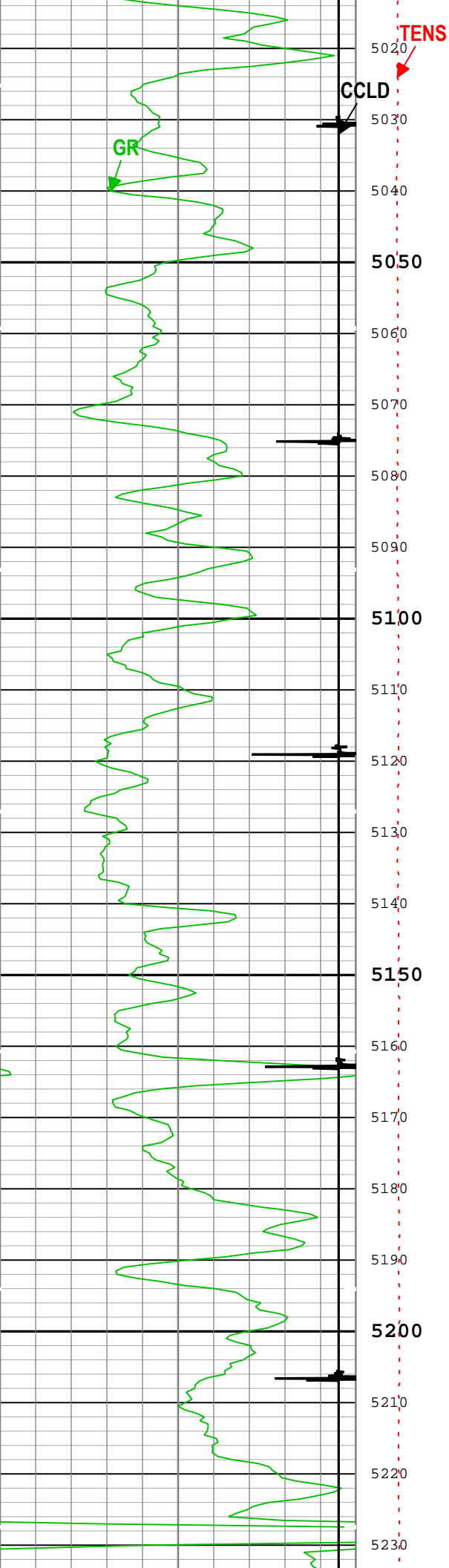


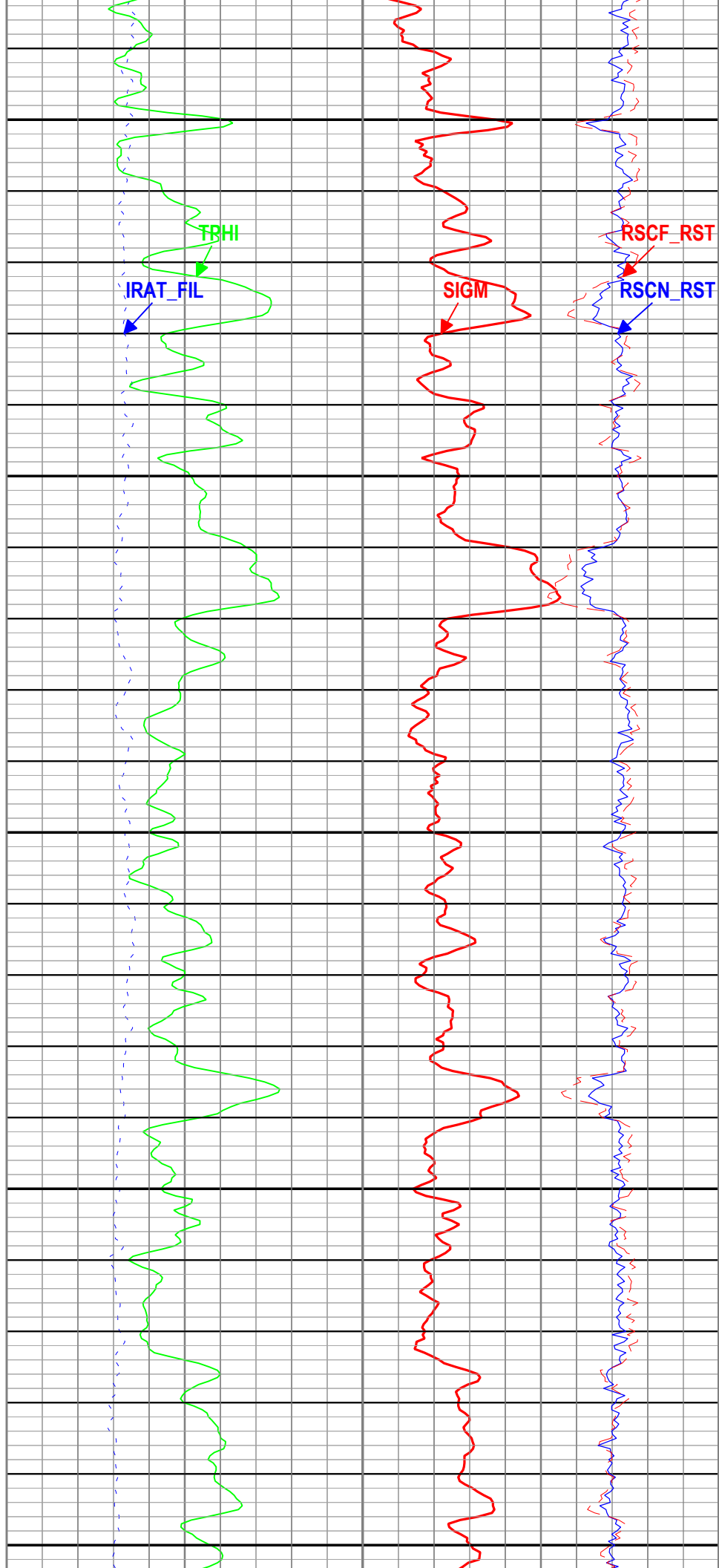
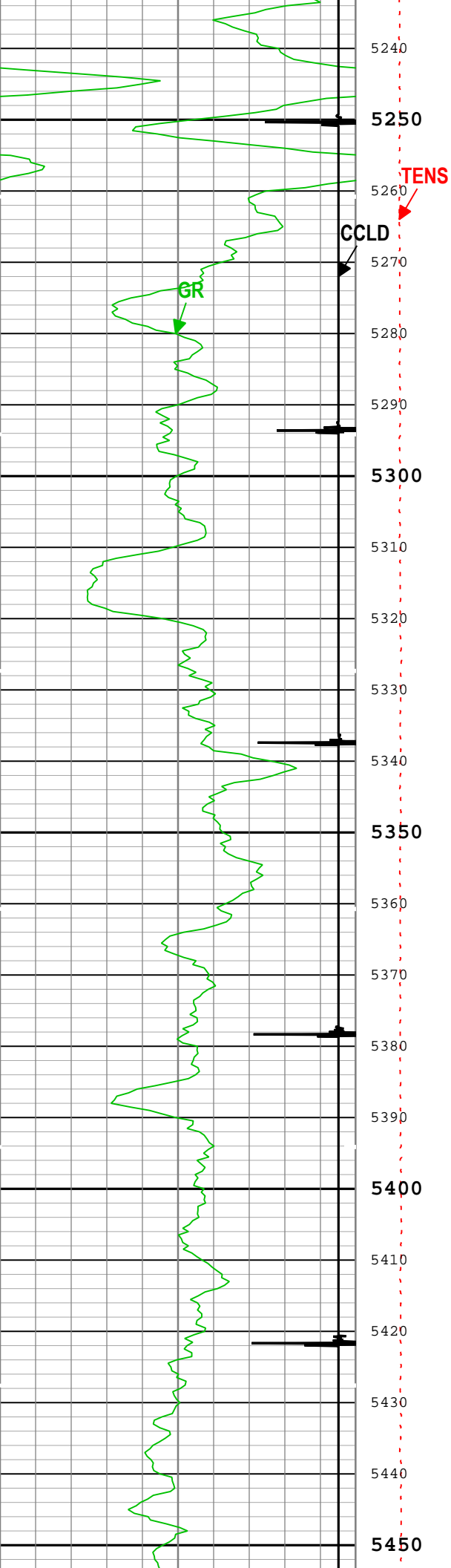


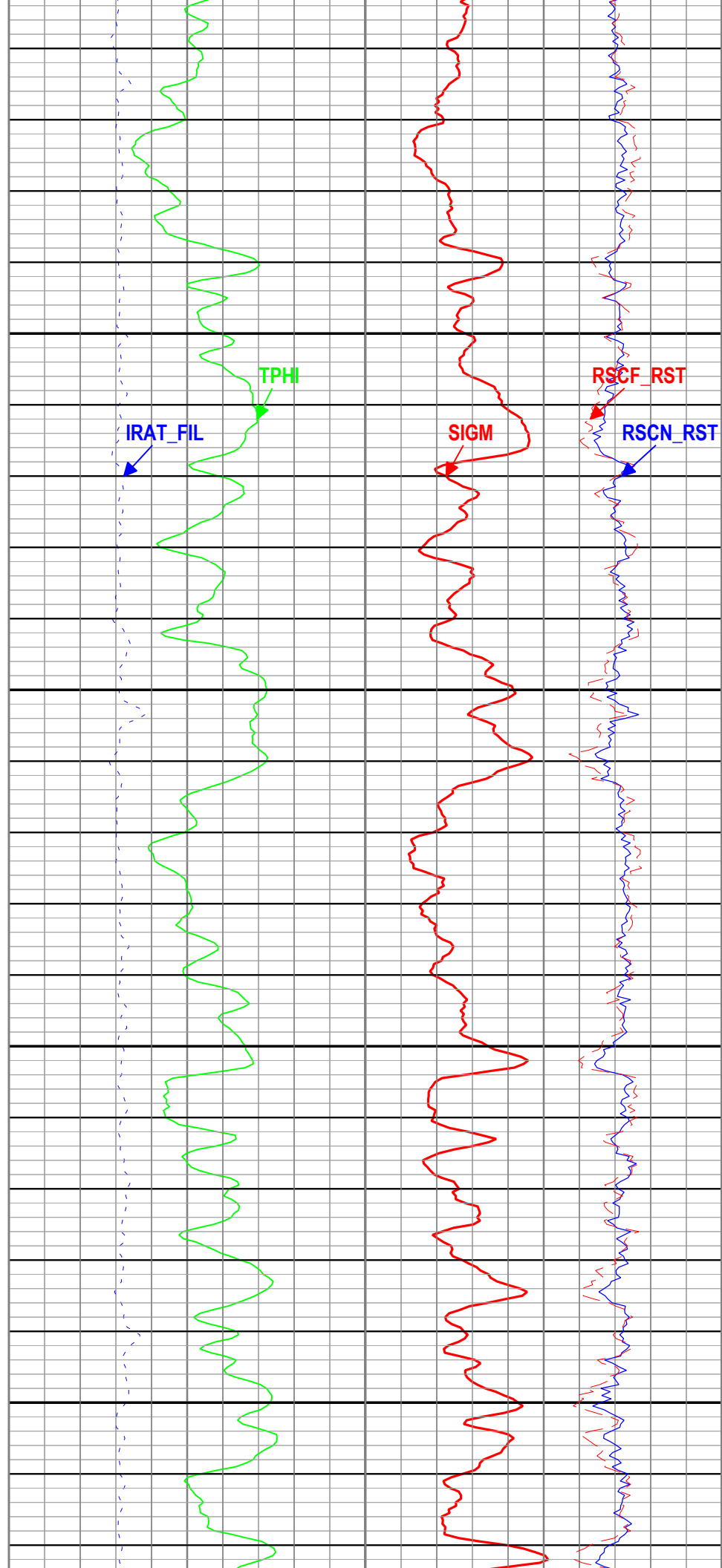
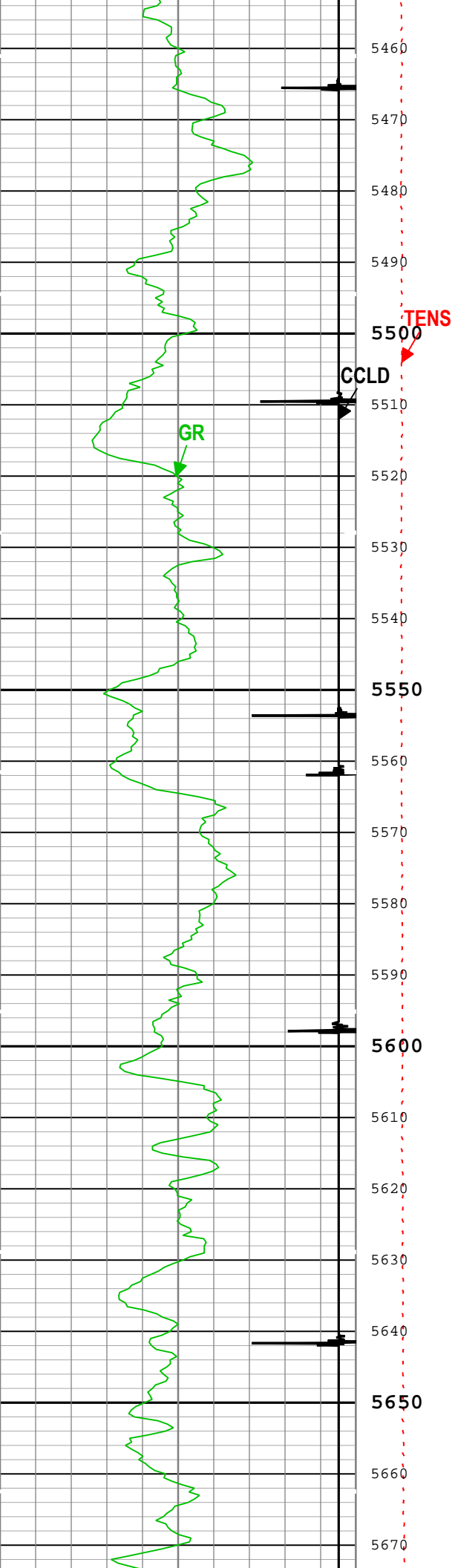


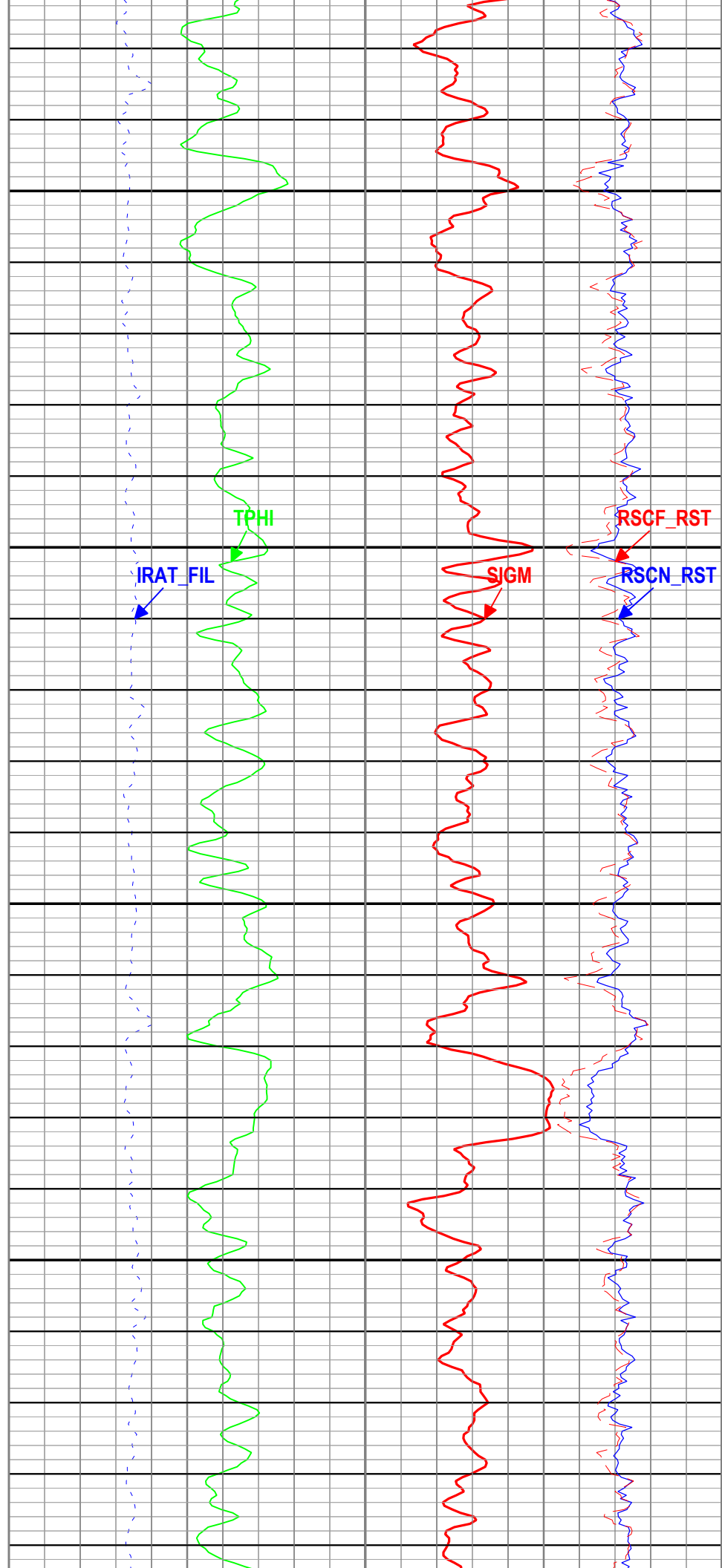
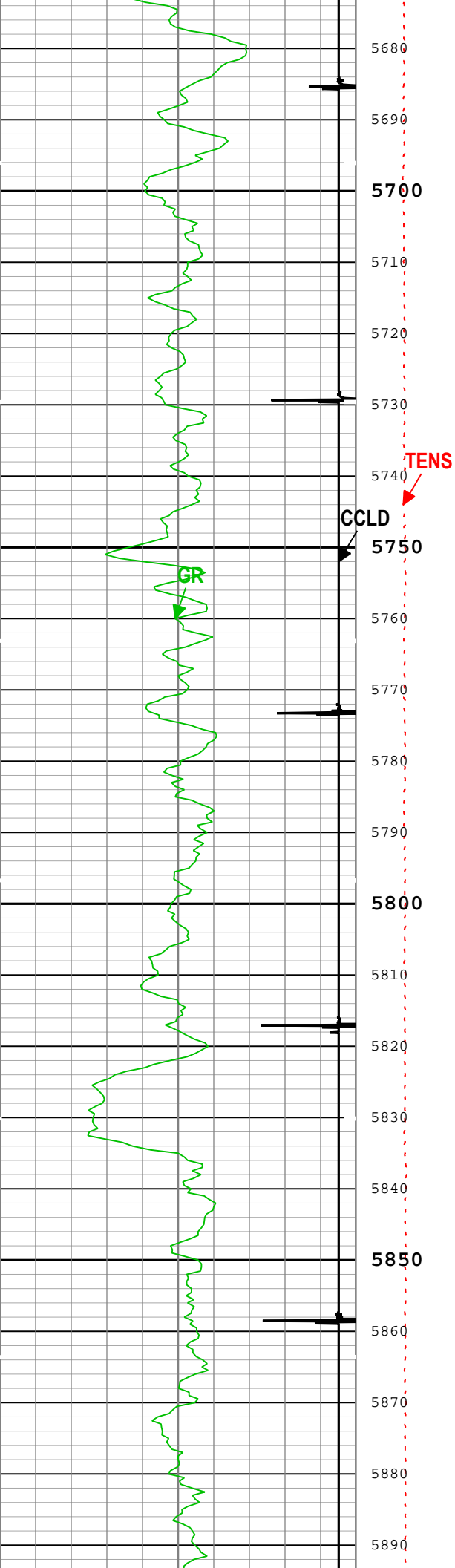


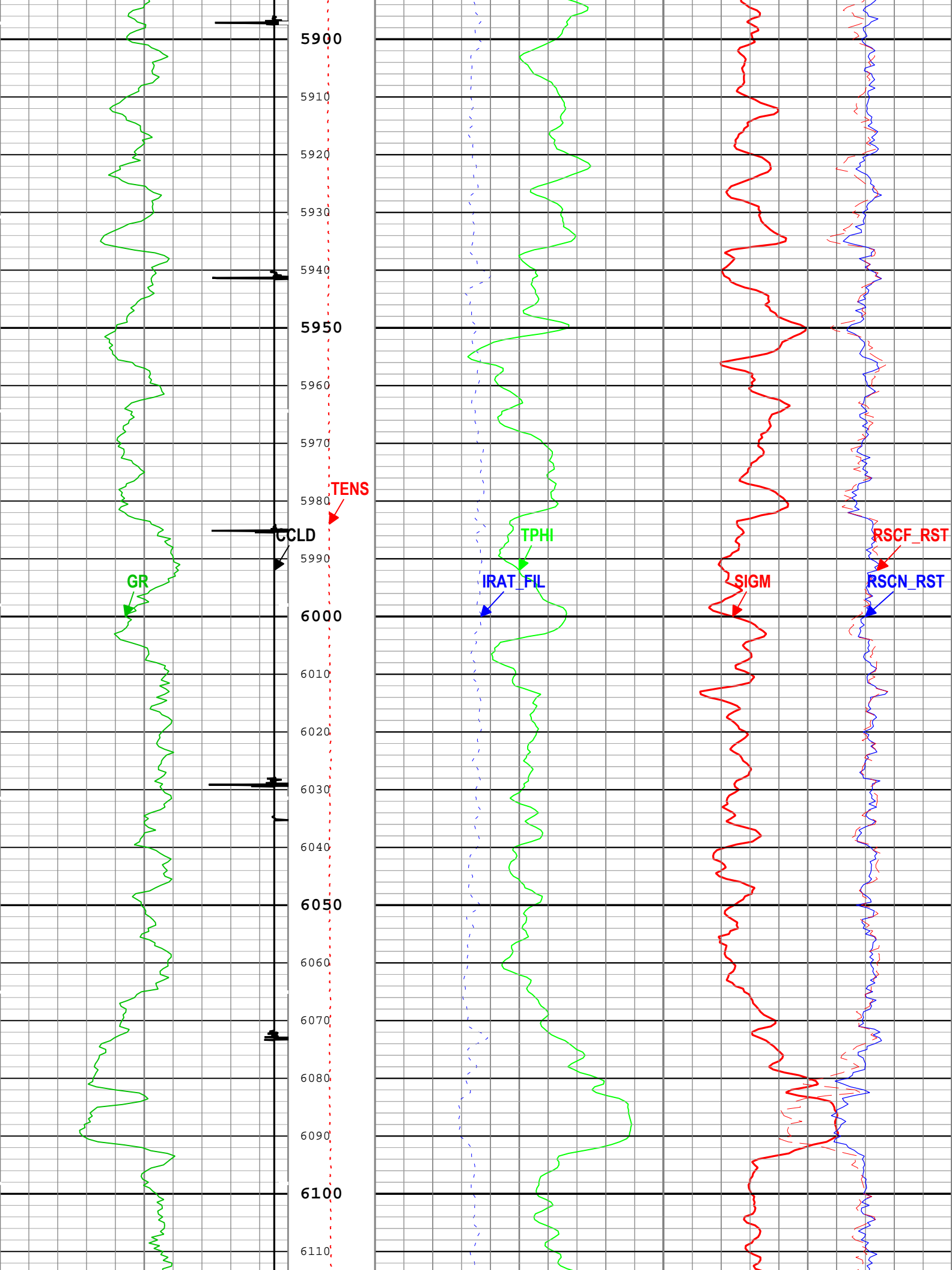


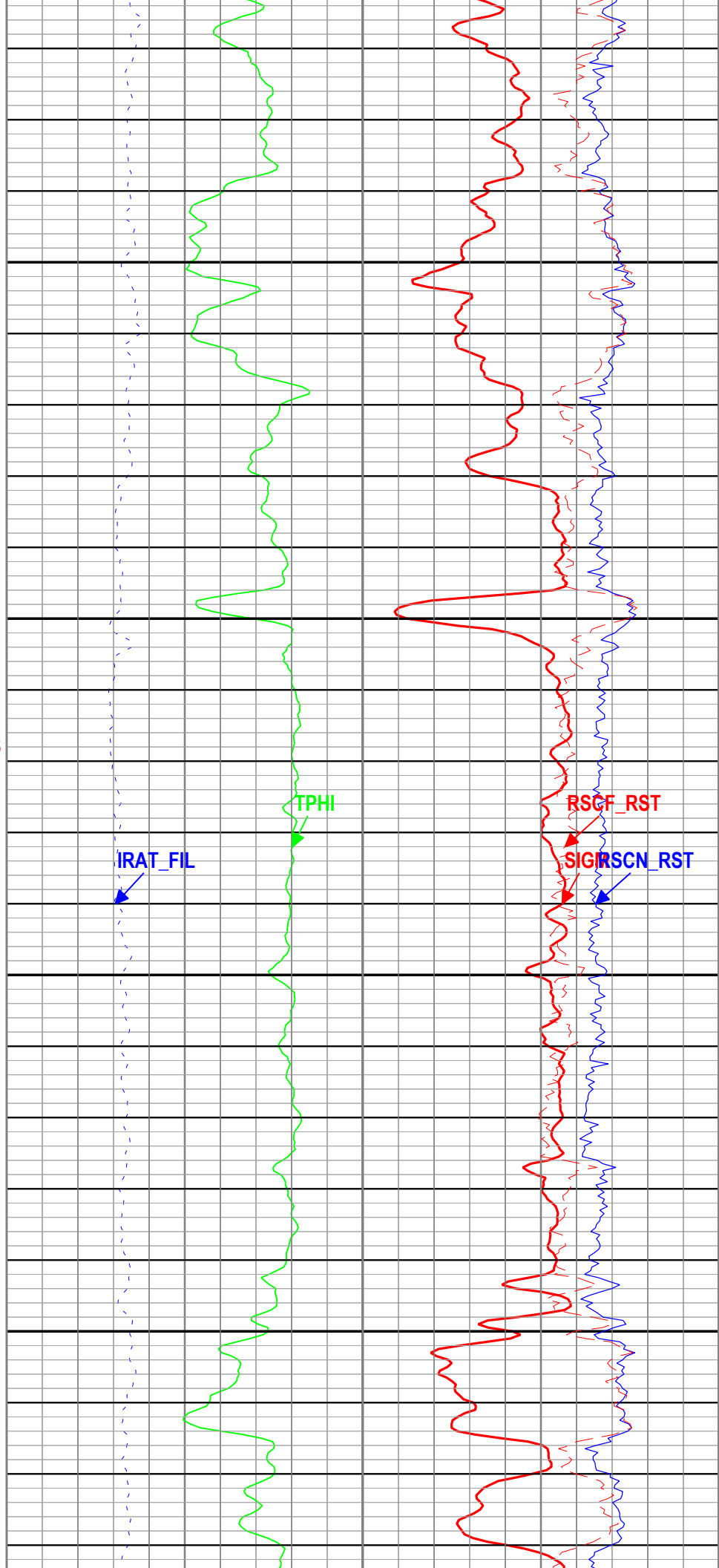
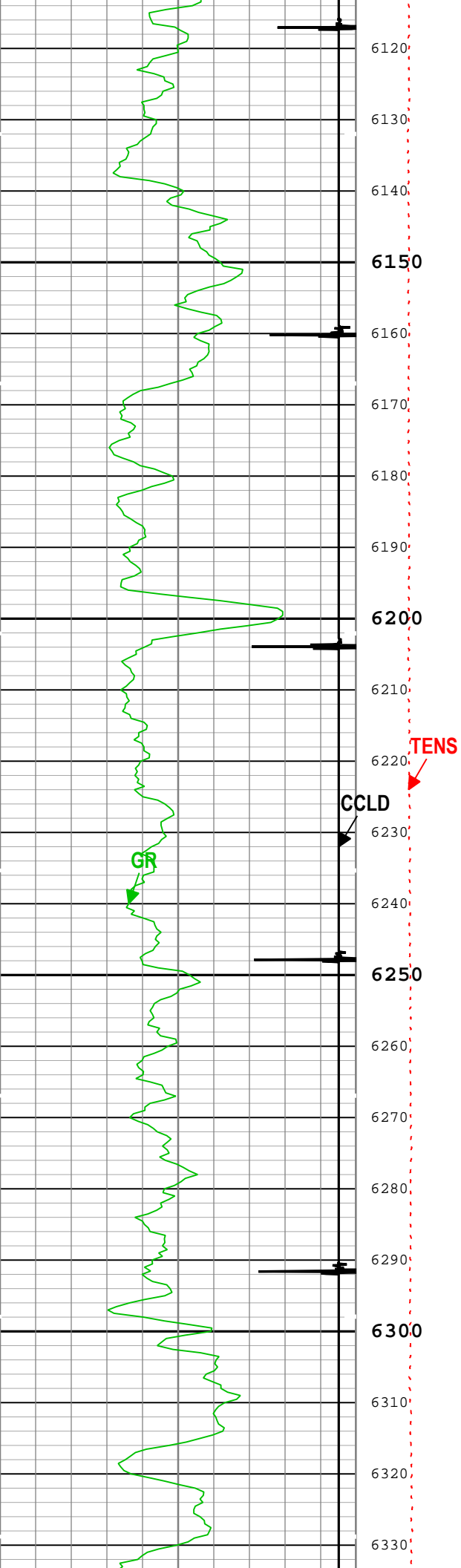


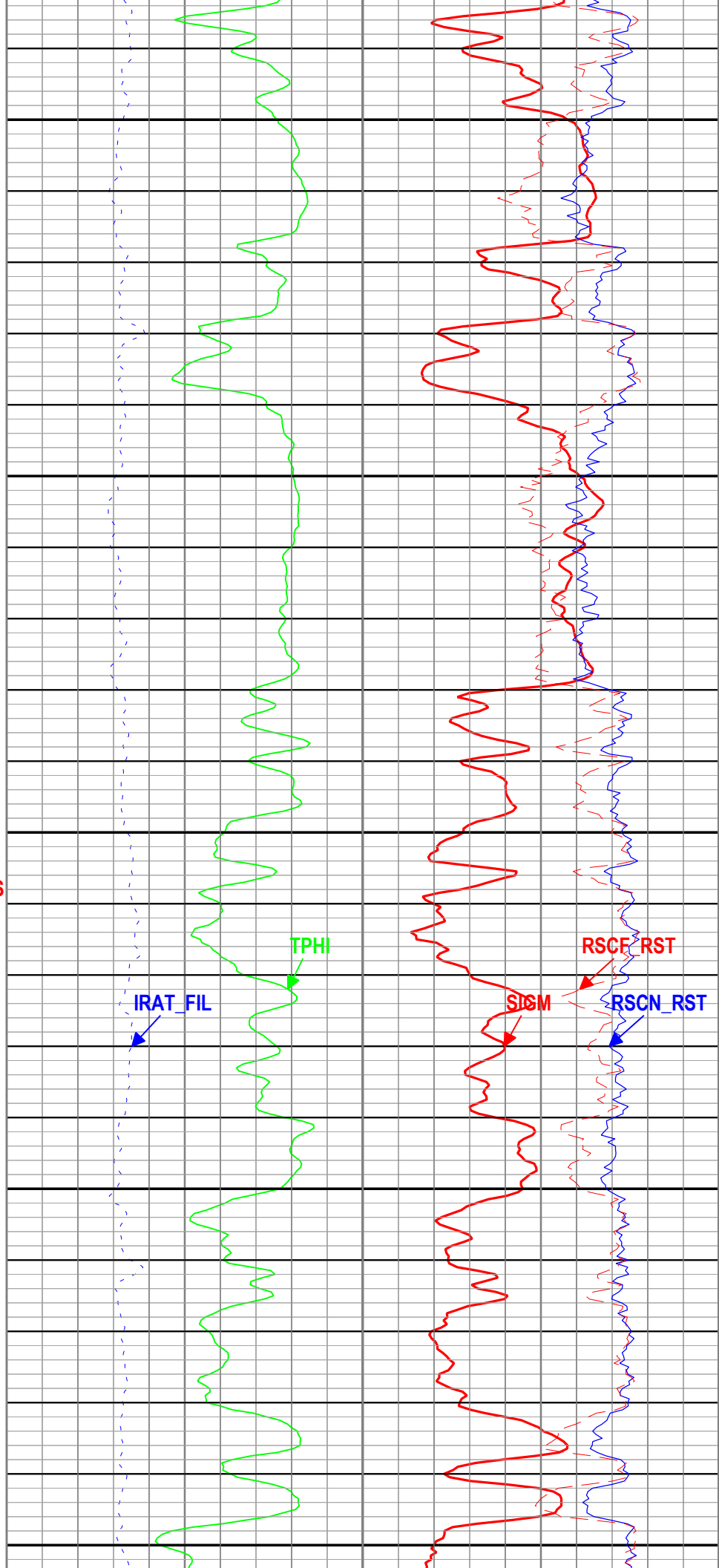
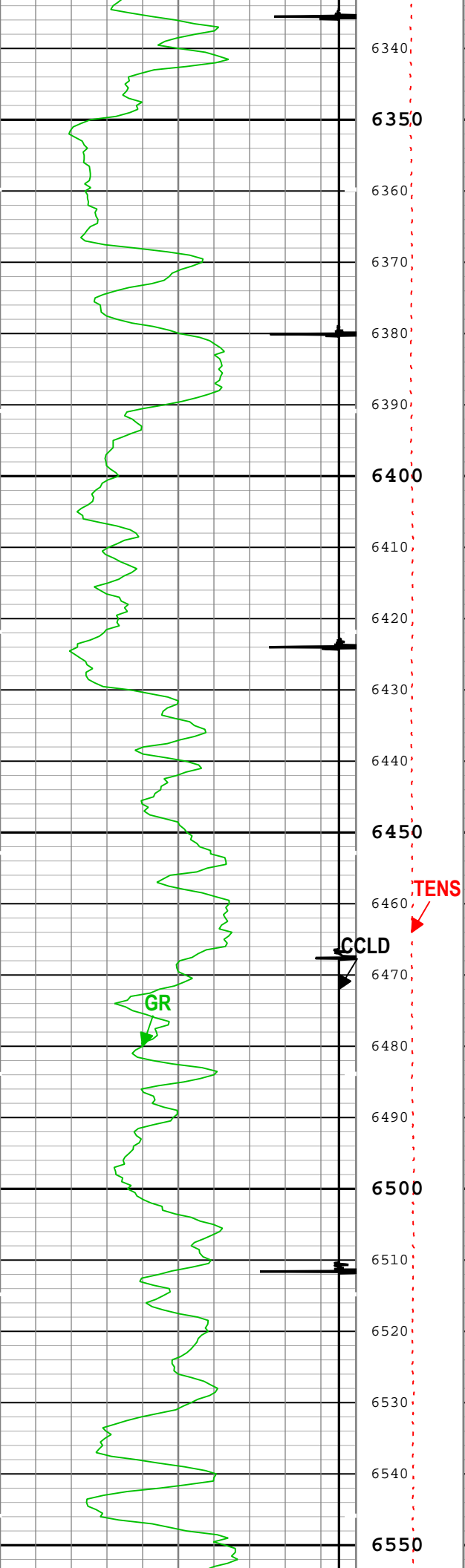


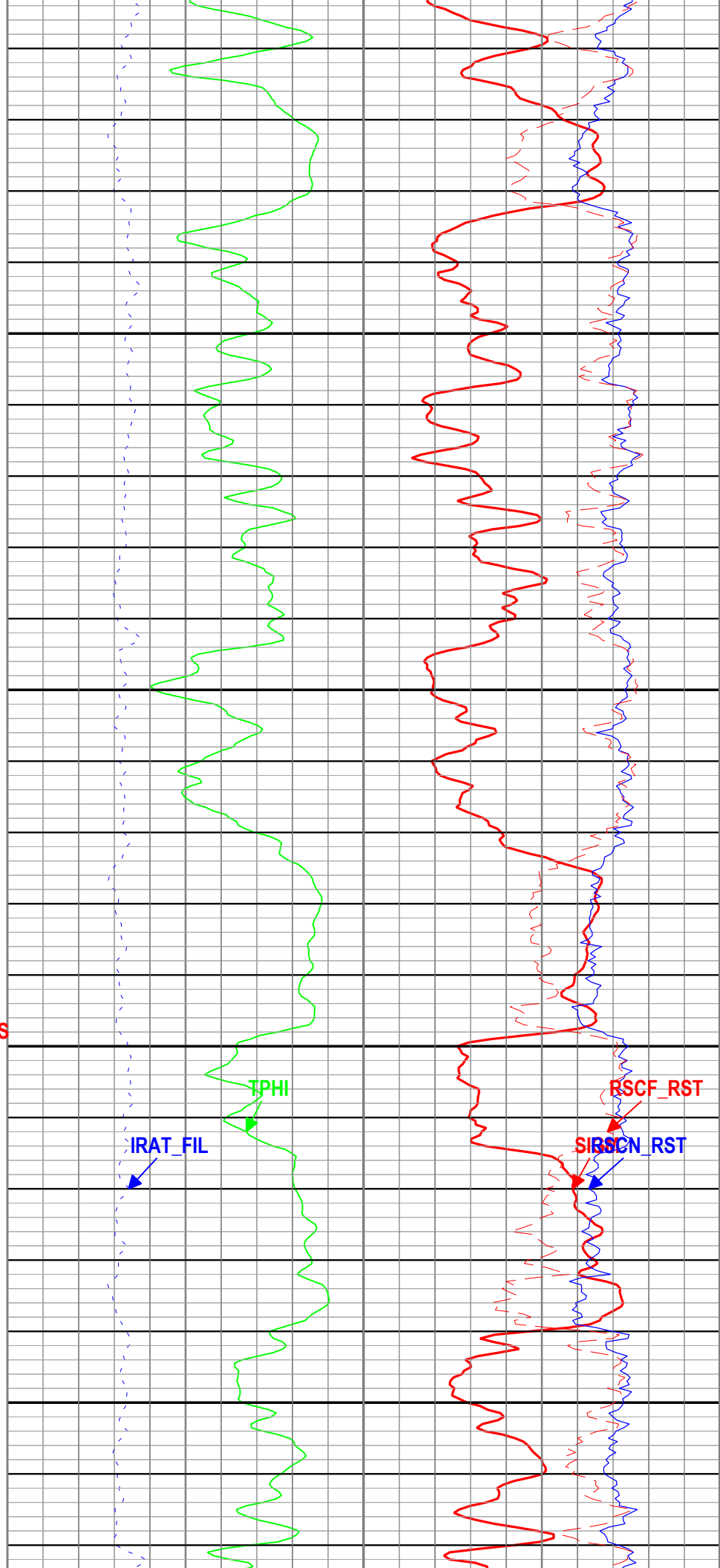
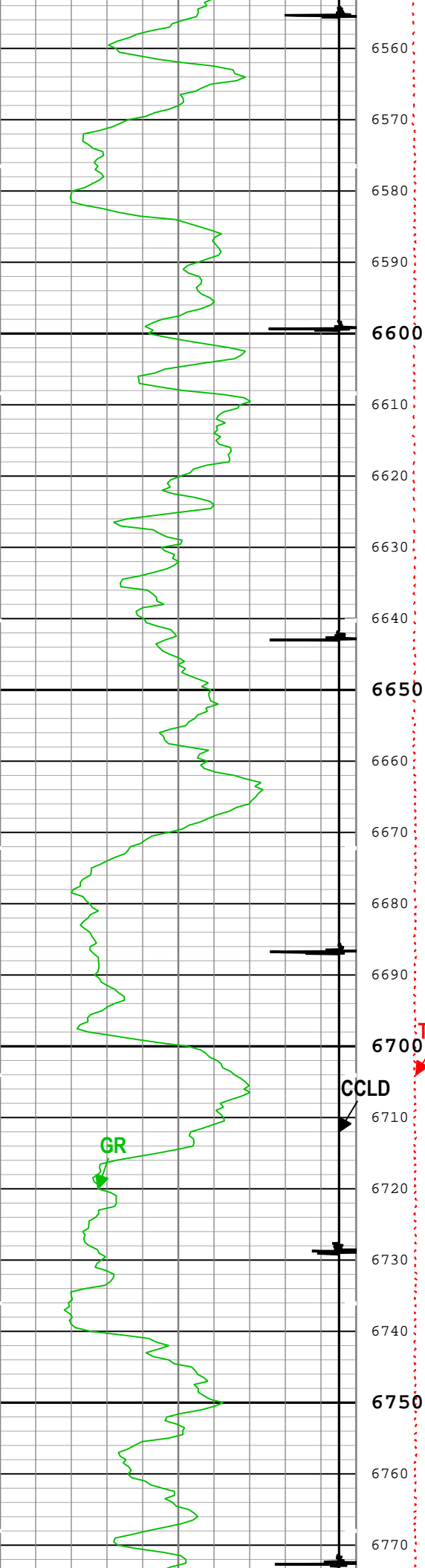


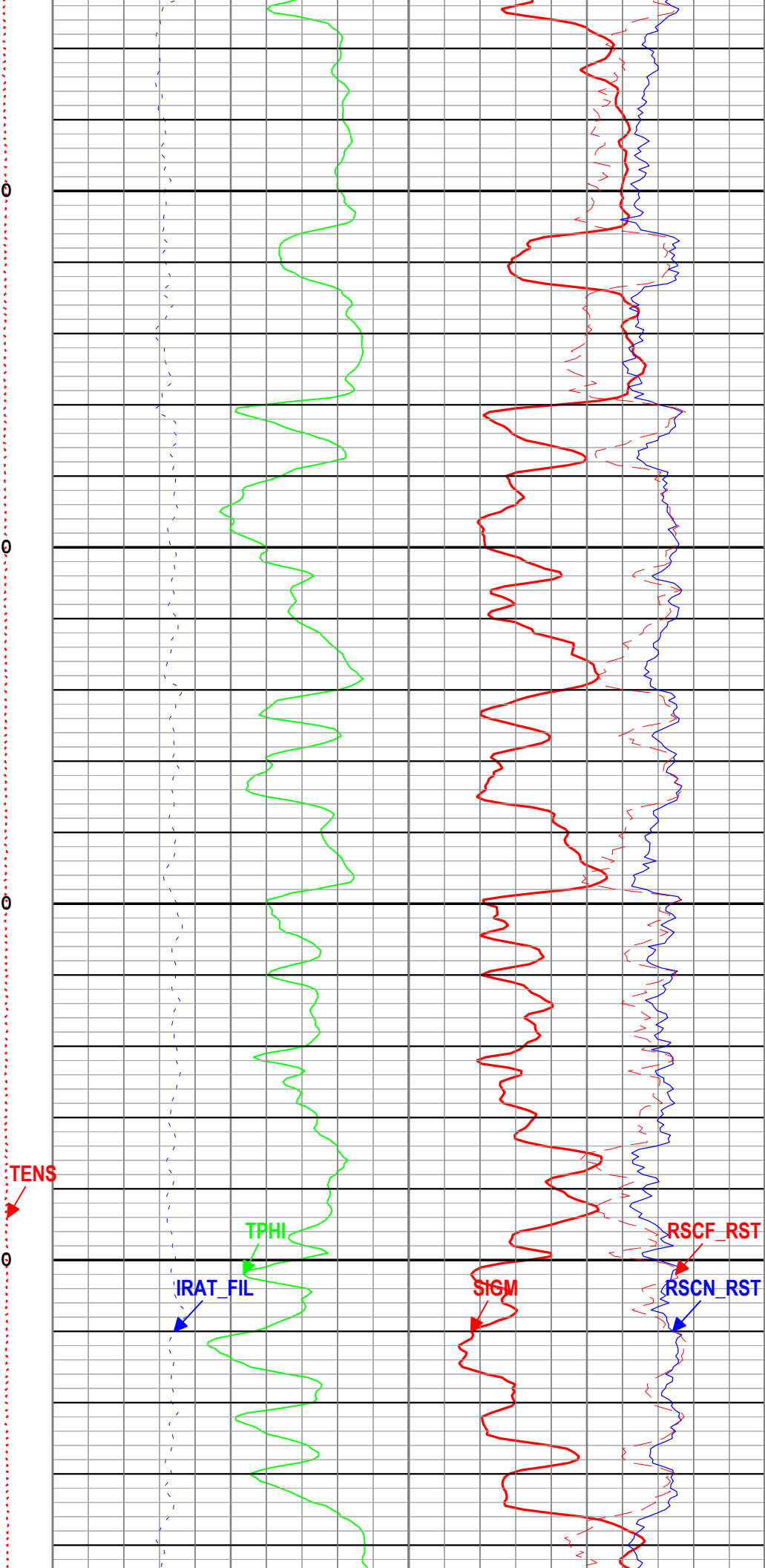
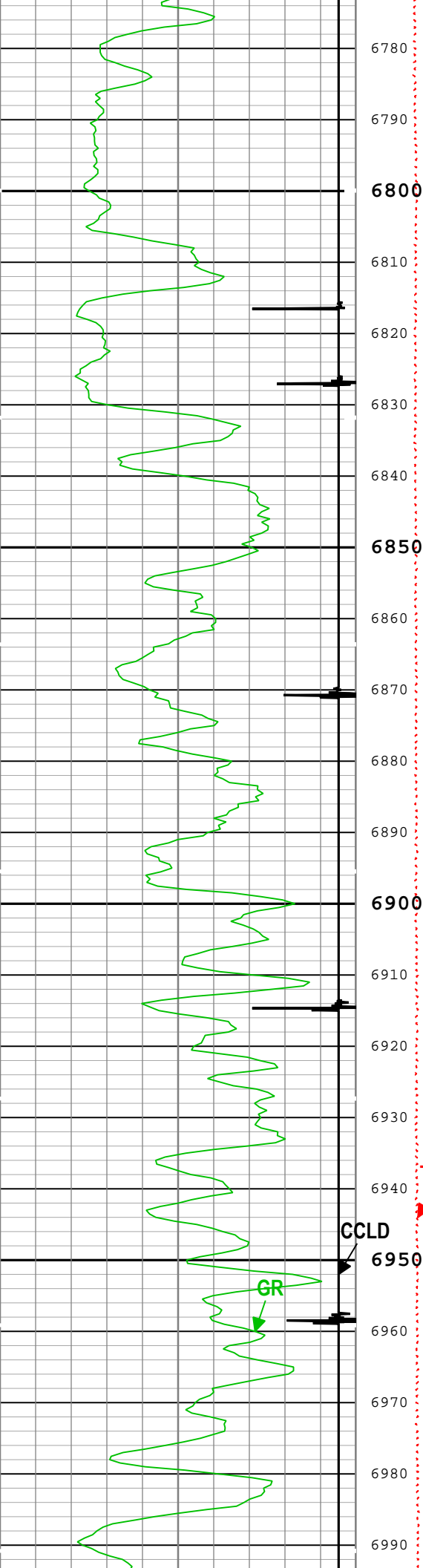


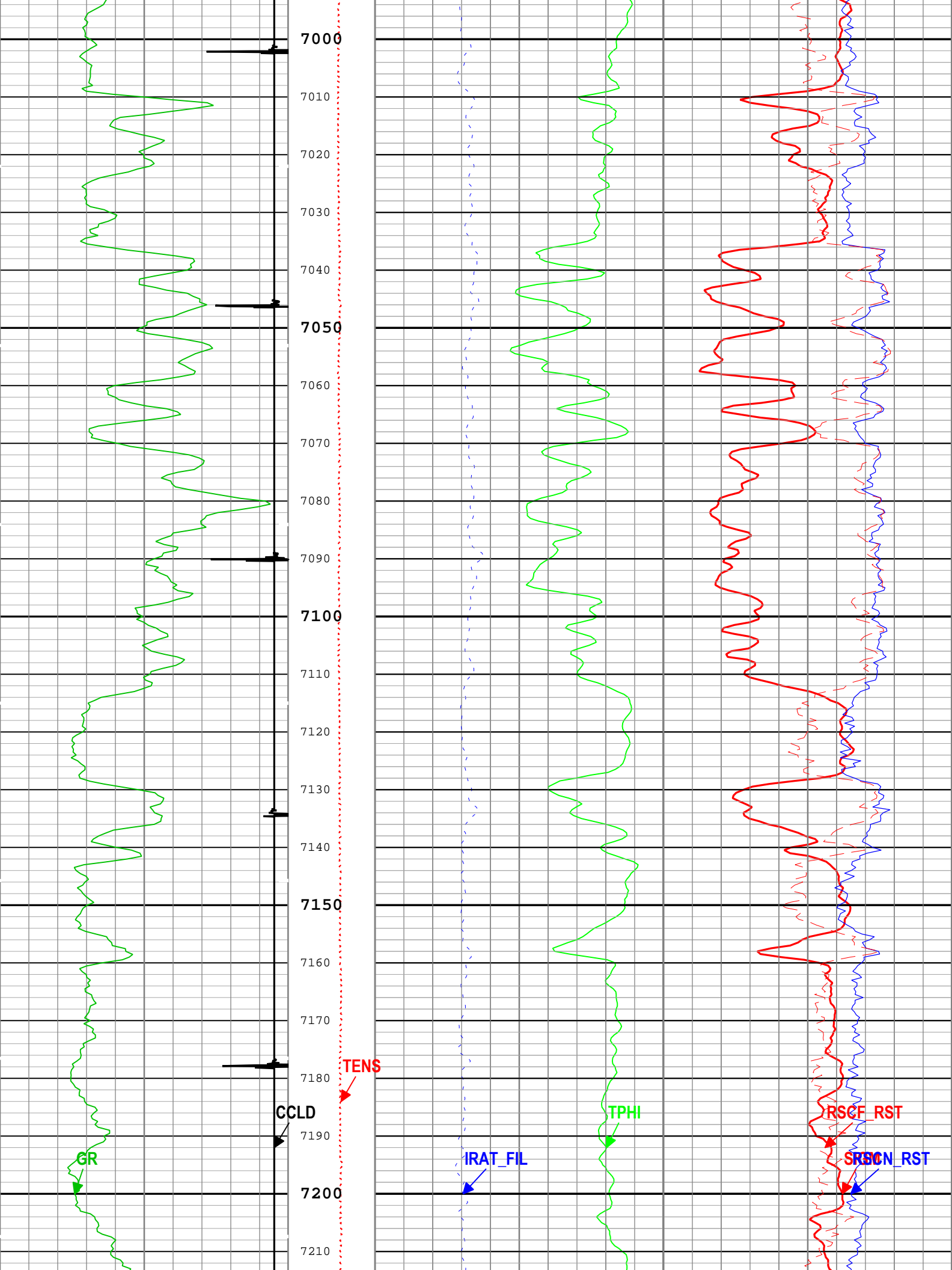


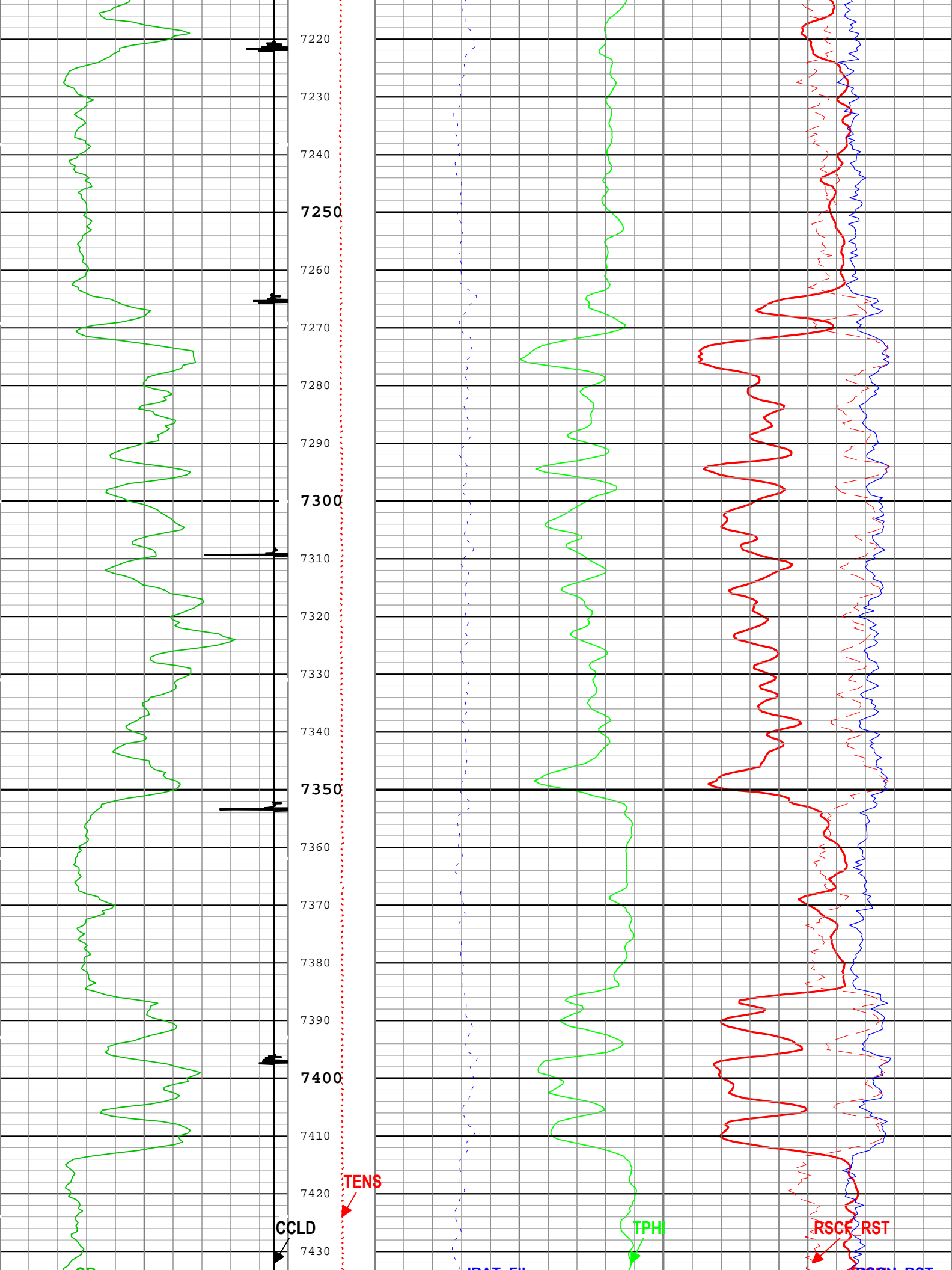


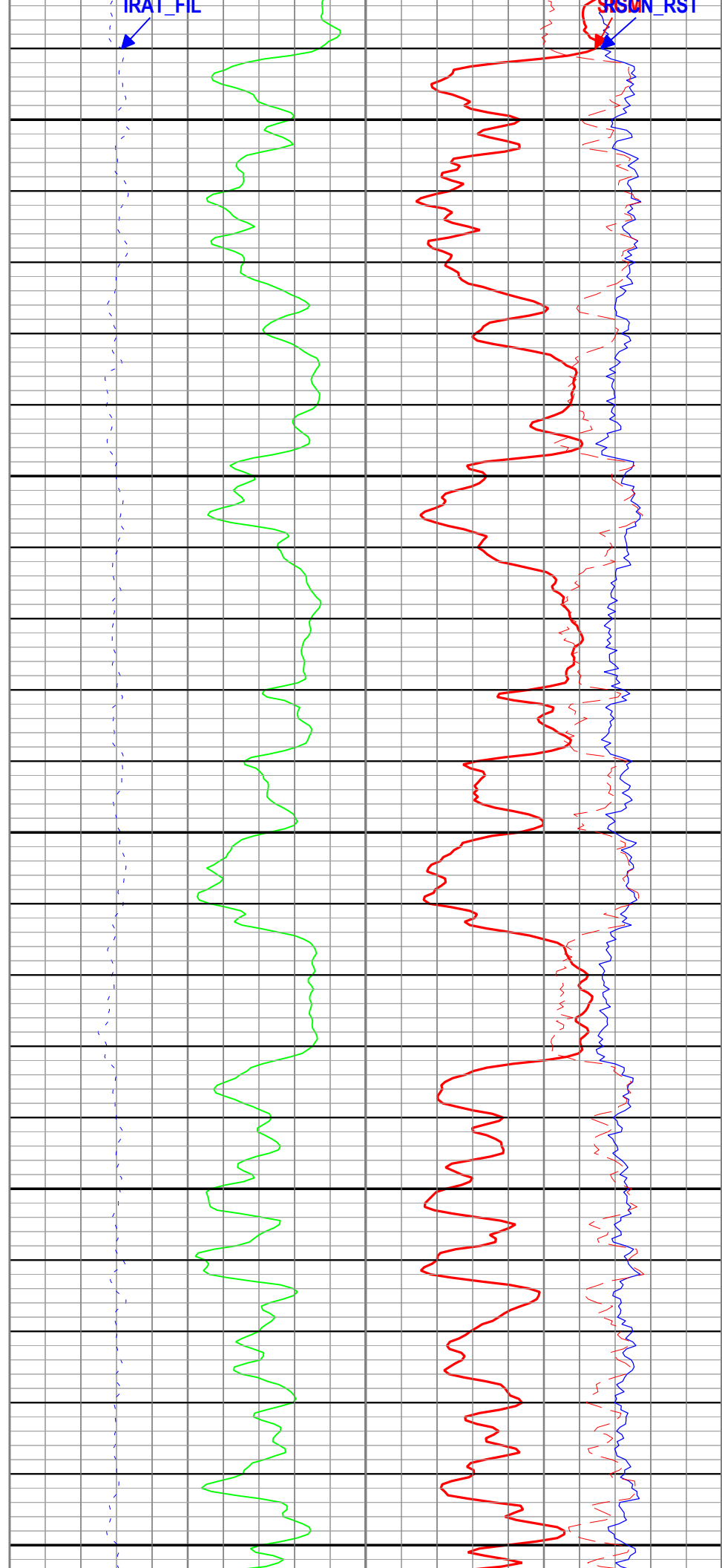
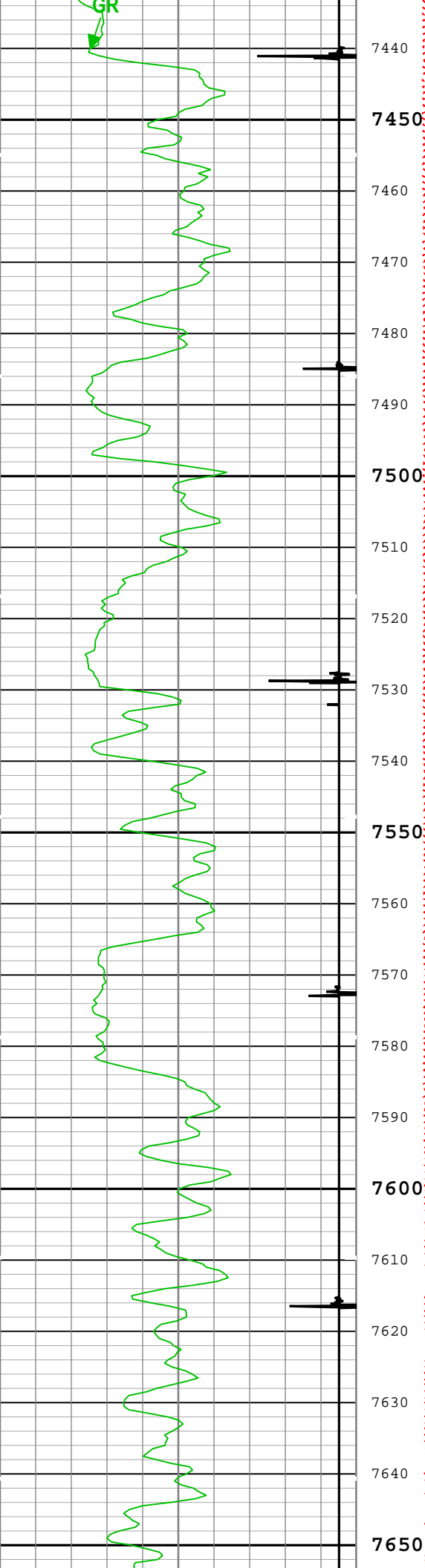


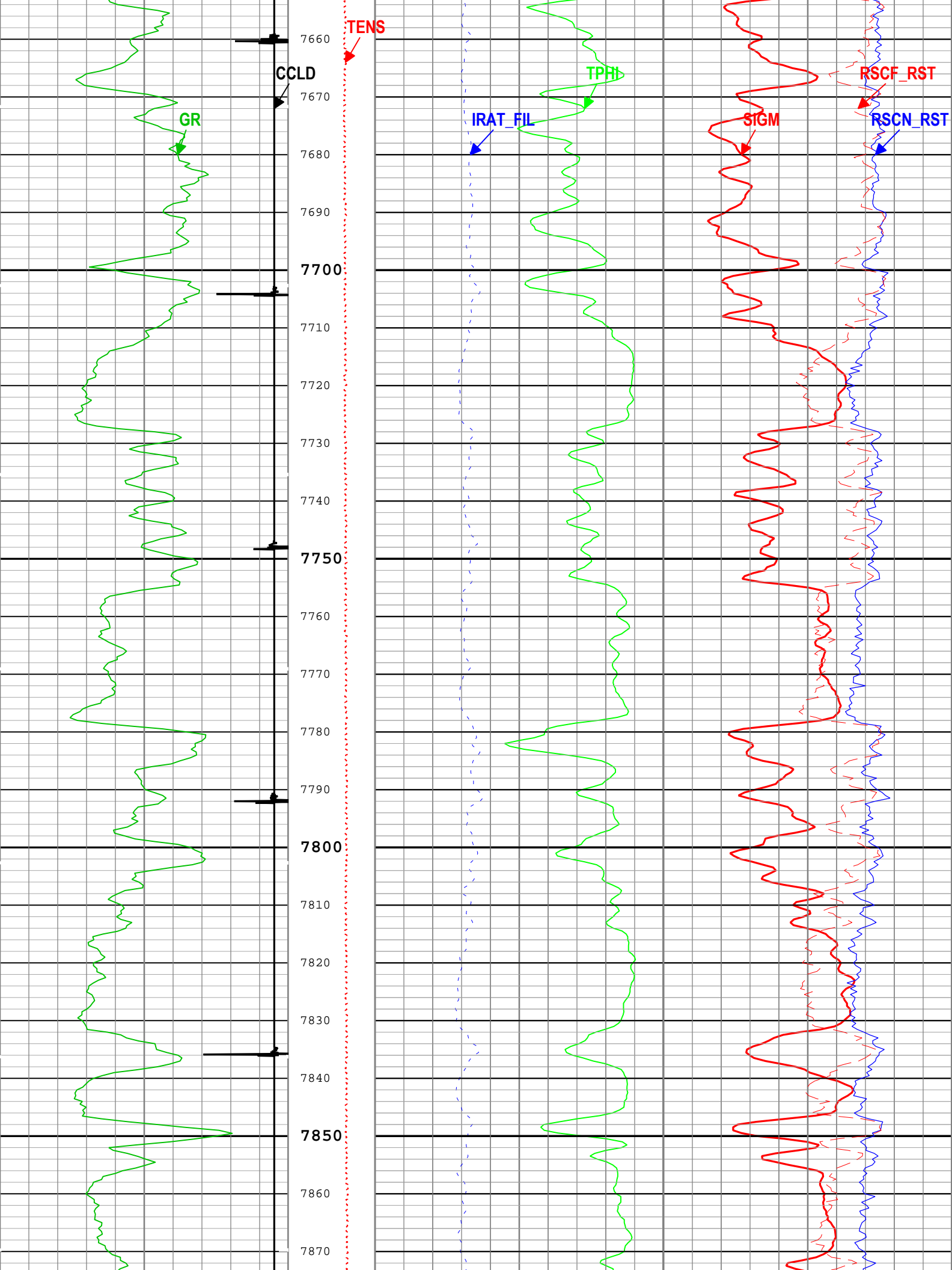


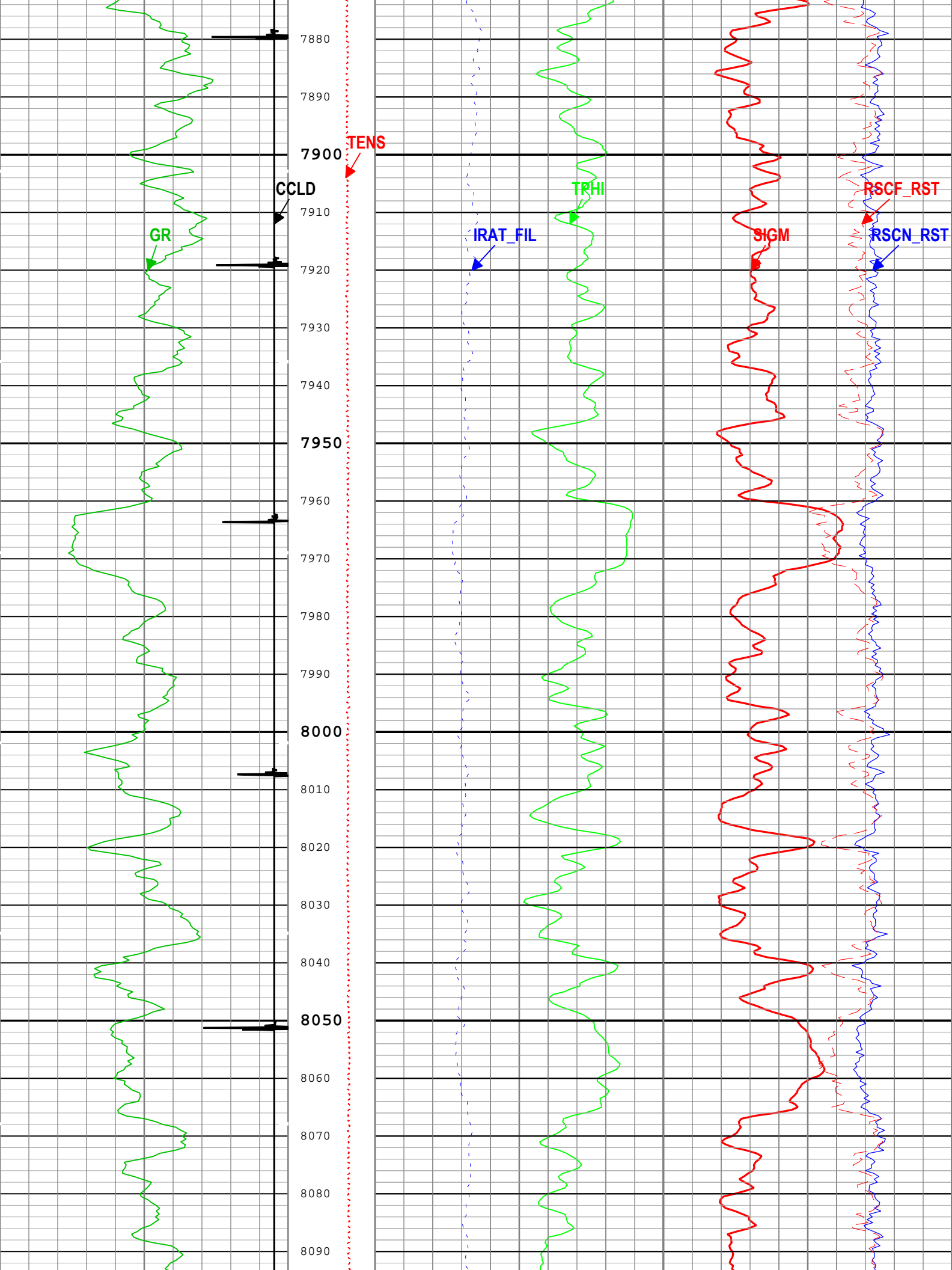


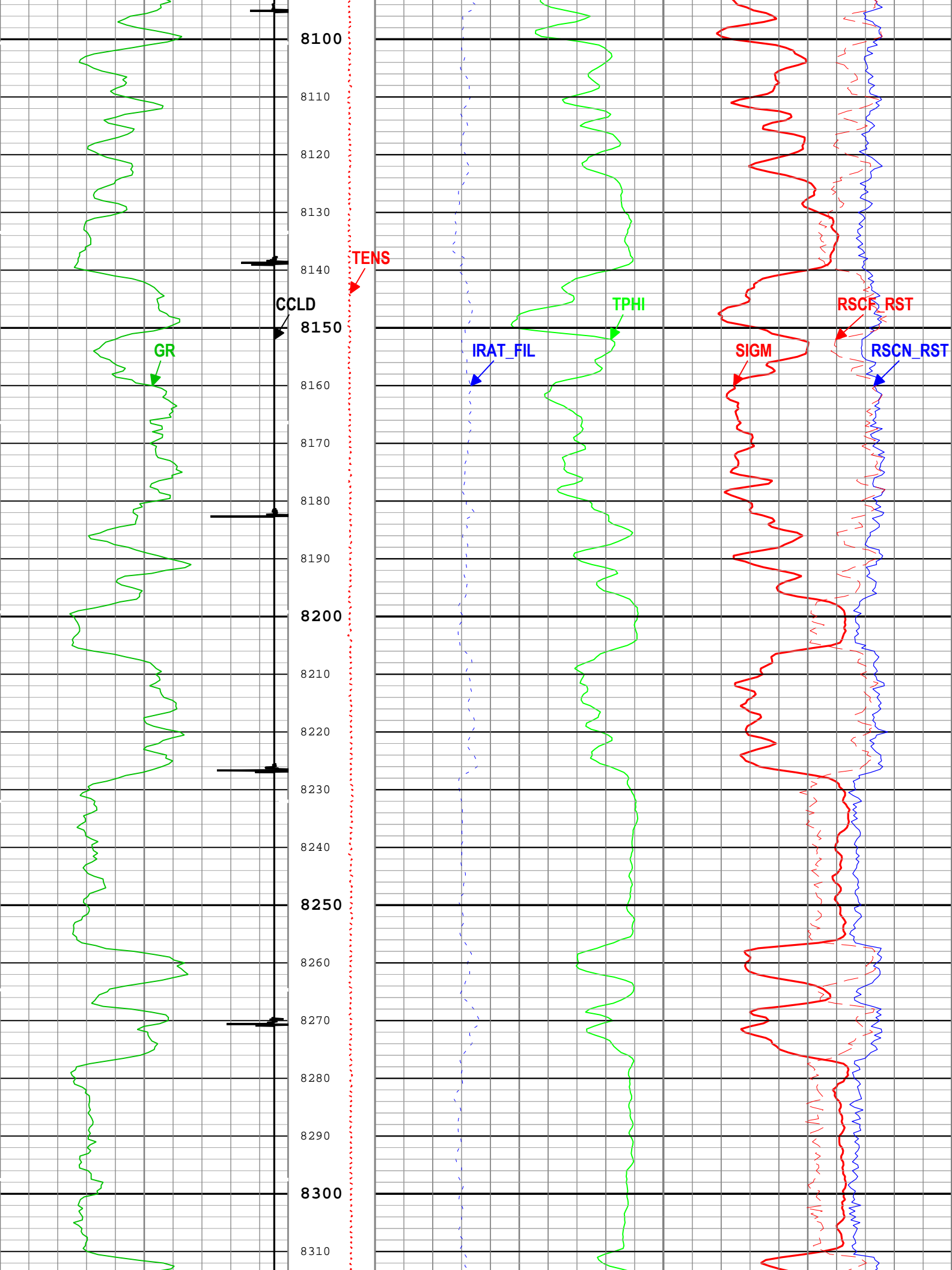


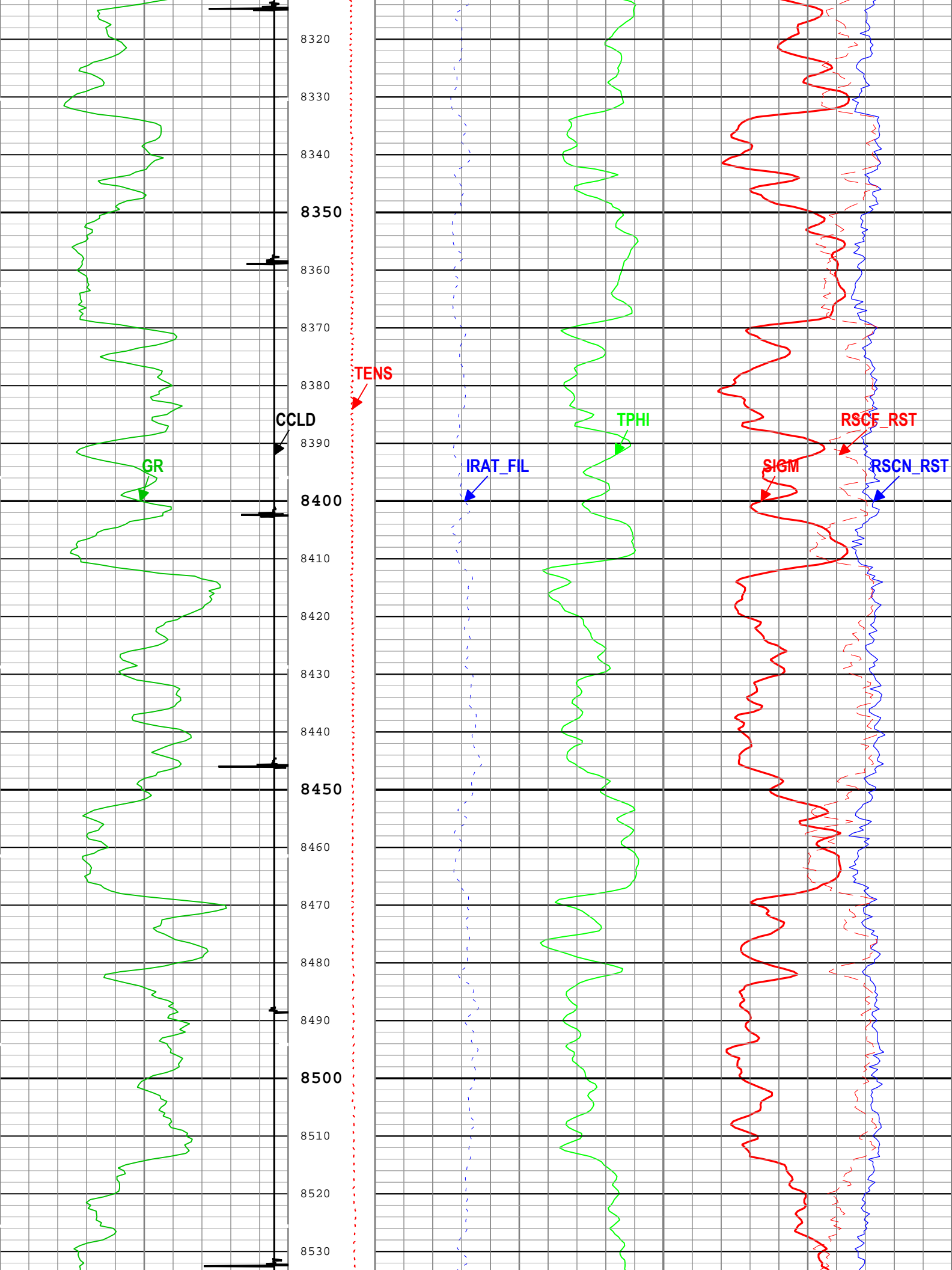


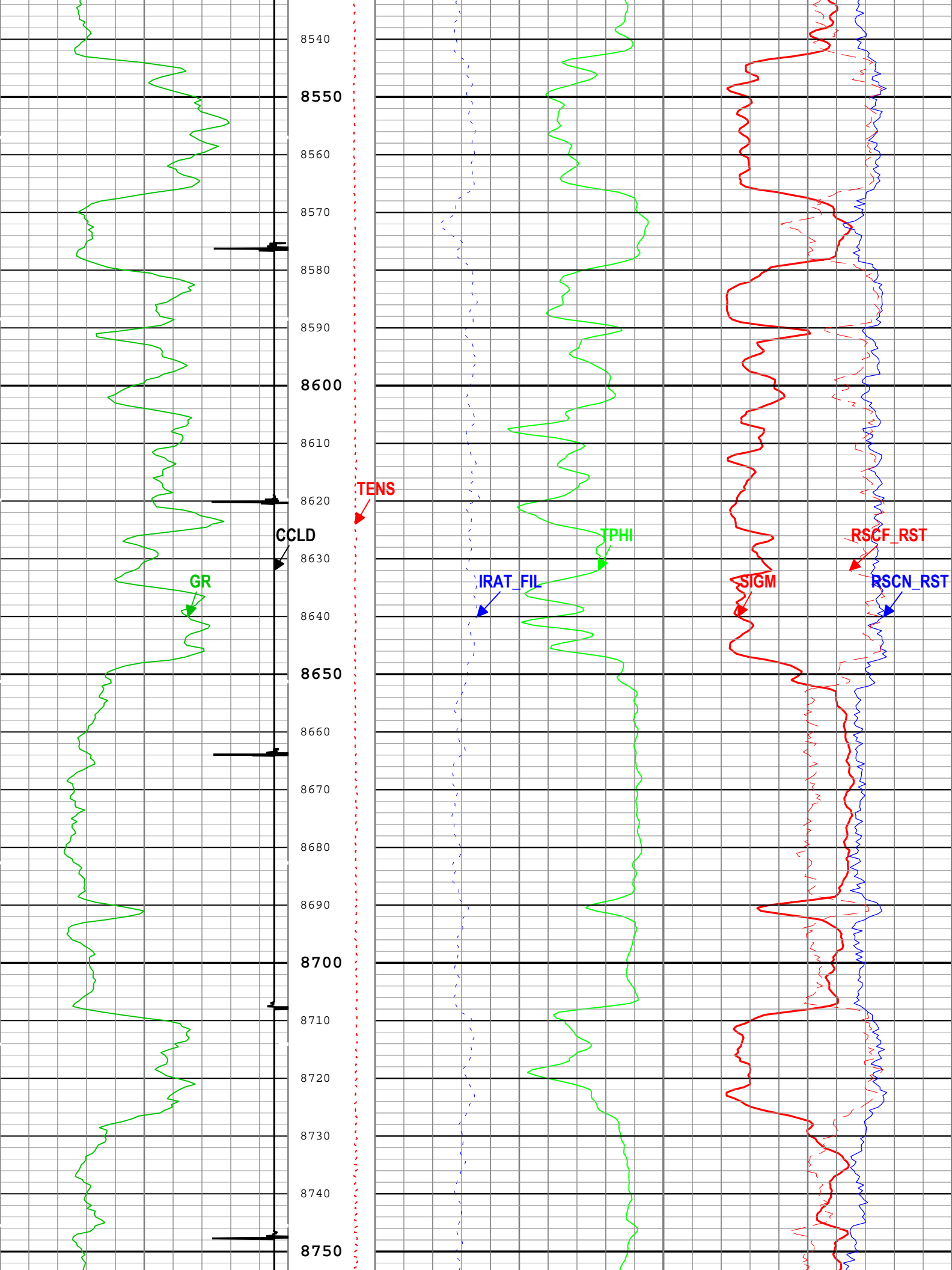


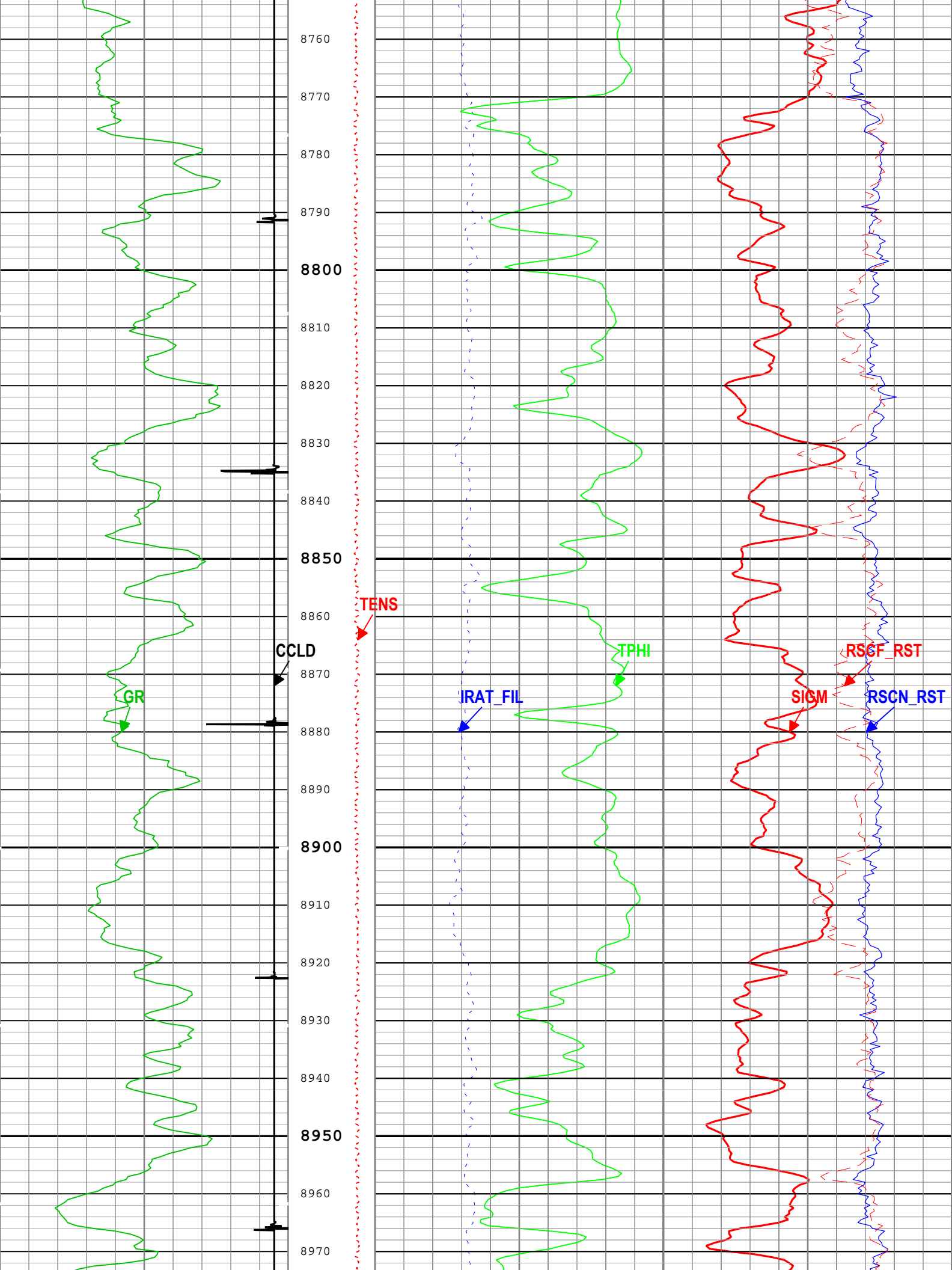


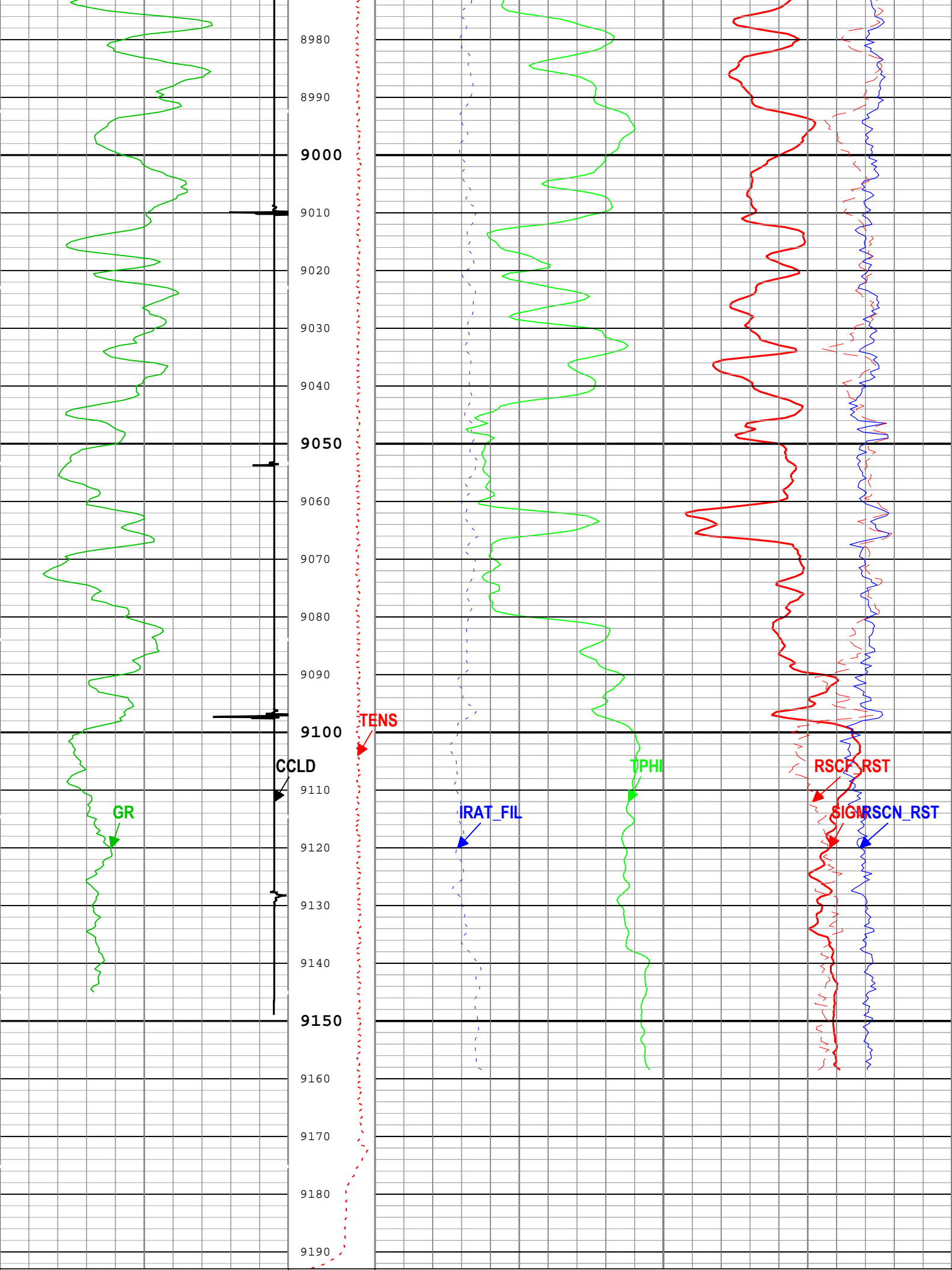












<div> <div>Gamma Ray (GR) PSTP-A</div> <div>0gAPI150</div> <div>CCL Discriminated Amplitude (CCLD) PSTP-A</div> <div>-19V1</div> </div>			<div>Cable Tension (TENS)</div> <div>0lb f 2000</div>	<div>Formation Sigma (Neutron Capture Cross Section) (SIGM) RST-C</div> <div>60cu0</div> <div> <div>Inelastic Ratio Filtered (IRAT_FIL) RST-C</div> <div>0.750</div> <div> <div>Thermal Decay Porosity (TPHI) RST-C</div> <div>0.6ft3/ft30</div> </div> </div> <div> <div>Near Detector Effective Unregulated Capture Count Rate (RSCN_RST) RST-C</div> <div>450</div> <div> <div>Far Detector Effective Unregulated Capture Count Rate (RSCF_RST) RST-C</div> <div>450</div> </div> </div>		
<div> <div>ICV - Integrated Cement Volume every 100.00 (ft3)</div> <div>TIME_1900 - Elapsed time since midnight, 30 December 1899 every 60.00 (s)</div> <div>TIME_1900 - Time Marked every 60.00 (s)</div> </div>				<div> <div>ICV - Integrated Cement Volume every 10.00 (ft3)</div> <div>IHV - Integrated Hole Volume every 100.00 (ft3)</div> <div>IHV - Integrated Hole Volume every 10.00 (ft3)</div> </div>		
<div>Description: RST SIGMA Answer Format: Log (RST SIGMA Answer) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 22-Jul-2018 18:58:01</div>						

Channel Processing Parameters	
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One: Parameters				
Parameter	Description	Tool	Value	Unit
BHS	Borehole Status (Open or Cased Hole)	Borehole	Cased	
BS	Bit Size	WLSESSION	Depth Zoned	in
BSAL	Borehole Salinity	Borehole	0	ppm
BSALOPT	Borehole Salinity Option	RST-C	Unknown	
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
MATR	Rock Matrix for Neutron Porosity Corrections	Borehole	SANDSTONE	

Depth Zone Parameters			
Parameter	Value	Start (ft)	Stop (ft)
BS	14.75	2300	2515.6
BS	8.75	2515.6	9192.92
All depth are actual.			

Tool Control Parameters	
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One: Parameters				
Parameter	Description	Tool	Value	Unit
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	150	ft/h
PCCG	PSP Downhole CCL Gain	PSTP-A	24 dB	
RST_DLM	Depth Log Mode	RST-C	Sigma	

One

RST Sigma Repeat Pass

Software Version	
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Acquisition System	Version
Maxwell 2018 SP1	8.1.99839.3100
Application Patch	Wireline_Hotfix-Mandatory-2018SP1_8.1.102865

Pass Summary	
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[illegible]

One	Log[4]:Up	Up	8850.12 ft	9191.88 ft	22-Jul-2018 3:09:09 PM	22-Jul-2018 3:22:00 PM	ON	6.58 ft	Yes
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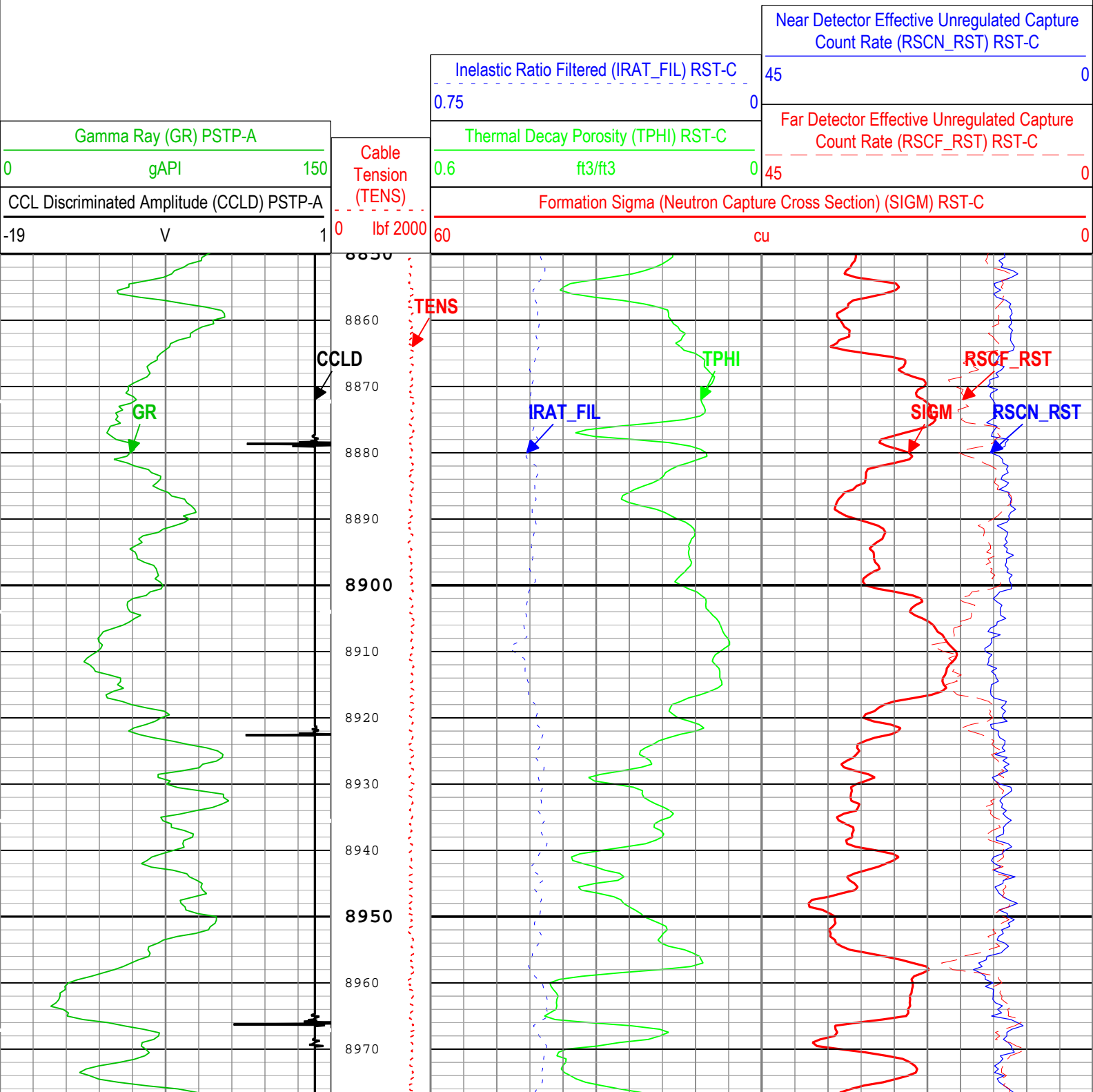
All depths are referenced to toolstring zero

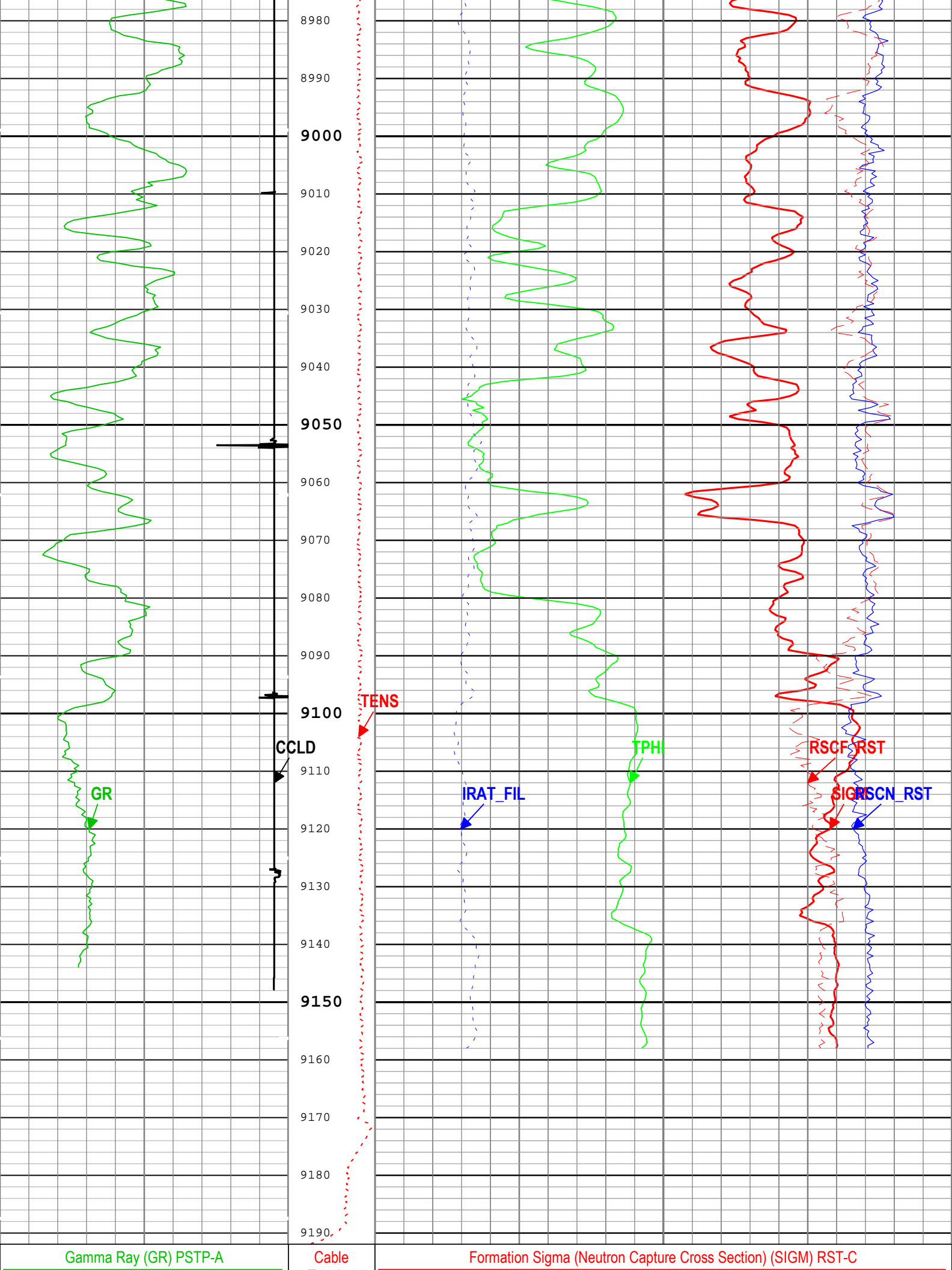
Log	Company:Caerus Operating LLC	Well:Puckett 25A-26
		One: Log[4]:Up:S003

Description: RST SIGMA Answer Format: Log (RST SIGMA Answer) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 22-Jul-2018 18:58:04

- IHV - Integrated Hole Volume every 10.00 (ft3)
- IHV - Integrated Hole Volume every 100.00 (ft3)
- ICV - Integrated Cement Volume every 10.00 (ft3)
- TIME_1900 - Elapsed time since midnight, 30 December 1899 every 60.00 (s)
- ICV - Integrated Cement Volume every 100.00 (ft3)

TIME_1900 - Time Marked every 60.00 (s)





0	gAPI	150	Tension (TENS)	60	cu	0
CCL Discriminated Amplitude (CCLD) PSTP-A			0	lb f 2000	Inelastic Ratio Filtered (IRAT_FIL) RST-C	Near Detector Effective Unregulated Capture Count Rate (RSCN_RST) RST-C
-19	V	1		0.75	0	45
				Thermal Decay Porosity (TPHI) RST-C		
				0.6	ft3/ft3	0
						Far Detector Effective Unregulated Capture Count Rate (RSCF_RST) RST-C
						45
						0
TIME_1900 - Time Marked every 60.00 (s)						
<div> <div>ICV - Integrated Cement Volume every 100.00 (ft3)</div> <div>TIME_1900 - Elapsed time since midnight, 30 December 1899 every 60.00 (s)</div> <div>ICV - Integrated Cement Volume every 10.00 (ft3)</div> <div>IHV - Integrated Hole Volume every 100.00 (ft3)</div> <div>IHV - Integrated Hole Volume every 10.00 (ft3)</div> </div>						
Description: RST SIGMA Answer Format: Log (RST SIGMA Answer) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 22-Jul-2018 18:58:04						

Channel Processing Parameters				
One: Parameters				
Parameter	Description	Tool	Value	Unit
BHS	Borehole Status (Open or Cased Hole)	Borehole	Cased	
BS	Bit Size	WLSESSION	8.75	in
BSAL	Borehole Salinity	Borehole	0	ppm
BSALOPT	Borehole Salinity Option	RST-C	Unknown	
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
MATR	Rock Matrix for Neutron Porosity Corrections	Borehole	SANDSTONE	
Tool Control Parameters				
One: Parameters				
Parameter	Description	Tool	Value	Unit
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	150	ft/h
PCCG	PSP Downhole CCL Gain	PSTP-A	24 dB	
RST_DLM	Depth Log Mode	RST-C	Sigma	

Company:	Caerus Operating LLC	Schlumberger
Well:	Puckett 25A-26	
Field:	Grand Valley	
County:	Garfield	
State:	Colorado	
Cement Bond Log		
RST Sigma Log		
Gamma Ray - Collar Locator Log		