

Company: Caerus Operating LLC

Well: Puckett 11C-26 697

Field: Grand Valley

County: Garfield State: Colorado

Cement Bond Log
Reservoir Saturation Log
Gamma Ray / CCLCounty: Garfield
Field: Grand Valley
Location: Lat 39.30' 07.76" N Long 108.11' 18.38" W
Well: Puckett 11C-26 697
Company: Caerus Operating LLC

Location:	Lat 39.30' 07.76" N Long 108.11' 18.38" W		Elev.: K.B. 8462.00 ft G.L. 8432.00 ft D.F. 8462.00 ft	
	Permanent Datum:	Ground Level	Elev.: 8432.00 f	
	Log Measured From:	Kelly Bushing	30.00 ft above Perm.Datum	
	Drilling Measured From:	Kelly Bushing		
API Serial No.	Section:	Township:	Range:	
5045233860000	23	6S	97W	

Logging Date 23-Dec-2017

Run Number one

Depth Driller 9380.00 ft

Schlumberger Depth 9380.00 ft

Bottom Log Interval 9270.00 ft

Top Log Interval 2500.00 ft

Casing Fluid Type Water

Salinity

Density 8.6 lbm/gal

Fluid Level 8.00 ft

BIT/CASING/TUBING STRING

Bit Size 7.88 in

From 7375.00 ft

To 9380.00 ft

Casing/Tubing Size 4.5 in

Weight 11.6 lbm/ft

Grade P110

From 0.00 ft

To 9352.10 ft

Max Recorded Temperatures

Logger on Bottom 23-Dec-2017 11:50:00

Unit Number 3003 Location: Evanston, Wyoming

Recorded By Justin Ray

Witnessed By 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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9. one Free Pipe Pass

9.1 Integration Summary

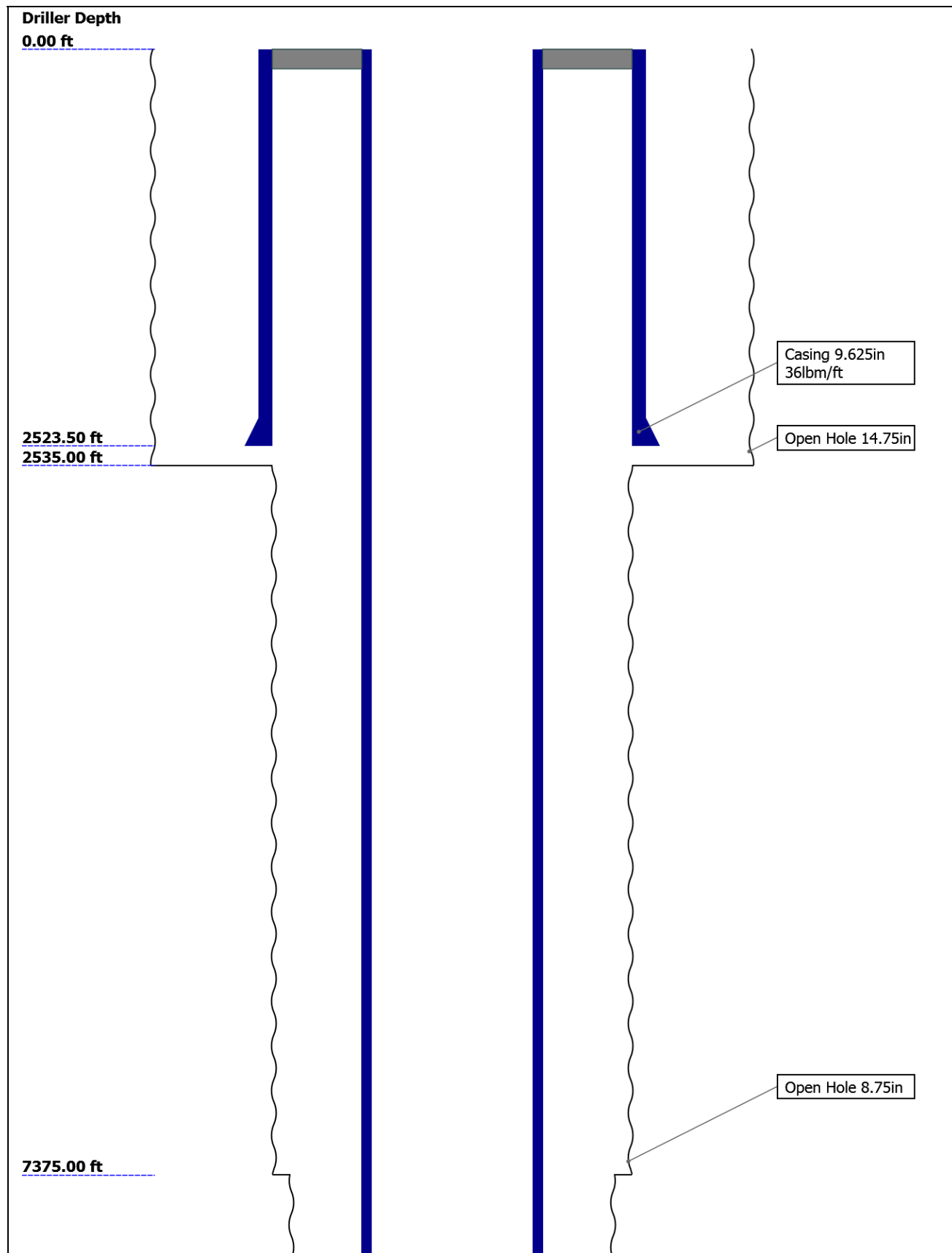
9.2 Software Version

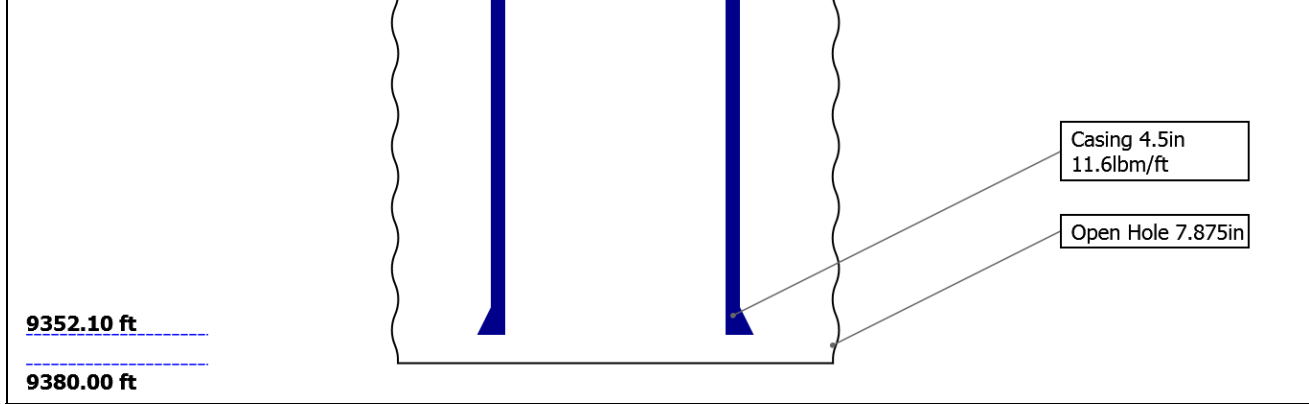
9.3 Composite Summary

9.4 Log (SCMT_Amp_VDL)

9.5 Parameter Listing

Well Sketch



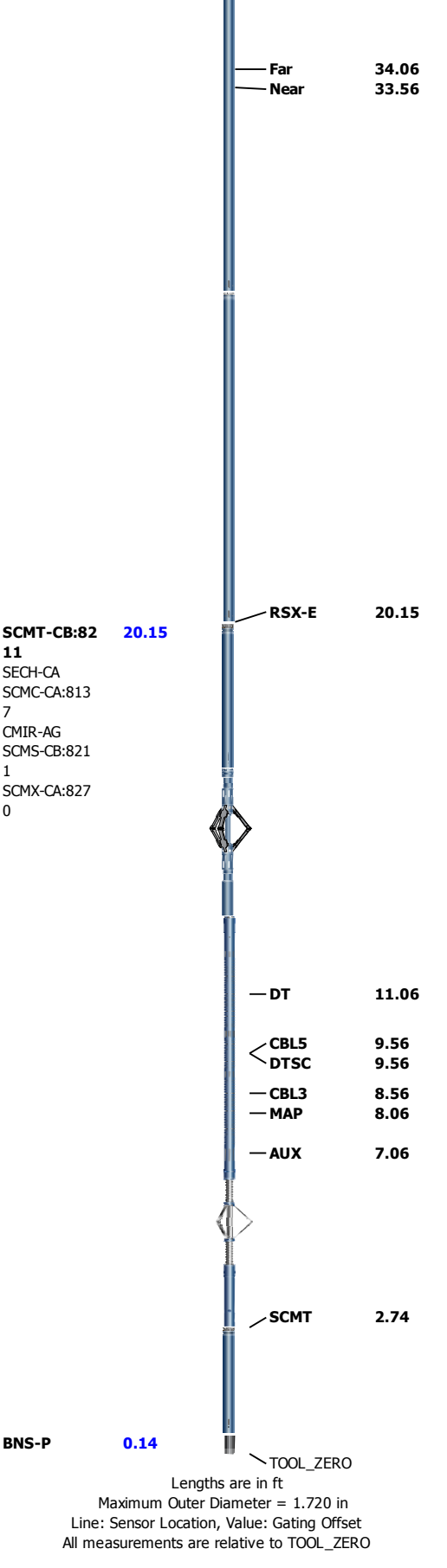


Borehole Size/Casing/Tubing Record

Bit						
Bit Size (in)	14.75	8.75	7.875			
Top Driller (ft)	0	2535	7375			
Top Logger (ft)	0	2535	7375			
Bottom Driller (ft)	2535	7375	9380			
Bottom Logger (ft)	2535	7375	9380			
Casing						
Size (in)	9.625	4.5				
Weight (lbm/ft)	36	11.6				
Inner Diameter (in)	8.921	4				
Grade	J55	P110				
Top Driller (ft)	0	0				
Top Logger (ft)	0	0				
Bottom Driller (ft)	2523.5	9352.1				
Bottom Logger (ft)	2523.5	9352.1				

Remarks and Equipment Summary

one: Toolstring				one: Remarks
Equip name	Length	MP name	Offset	Toolstring ran as per tool sketch
PEH-EF	54.08			Max Temperature of 233 deg F
				Max Pressure of 3806 psi
AH-38	51.72			TD Tagged at 9266 ft
PSTP-A:3823	51.44	GR	47.74	Short Joint at 6854-6864 ft
PSC-A:3733		PSTC	47.44	Log correlated to down log.
PSTC-A:3733		PSTC Tool String Bottom	0.00	Thank you for choosing Schlumberger
PBMS-A:3823		Temperature	44.65	
Sapphire 10kP SI		Sapphire Pressure	44.54	
		CCL	43.92	
		PBMS	43.17	
RST-C:309	43.17			
RSCH-A:277				
RSC-E:277				
RSS-A:373				
MNTR-F				
RSXH-A:309				
RSX-E:309				
		RSC-E	36.82	



one	
Main Pass	
Software Version	
Acquisition System	Version
Maxwell 2017 SP3	7.3.92069.3100

Pass Summary

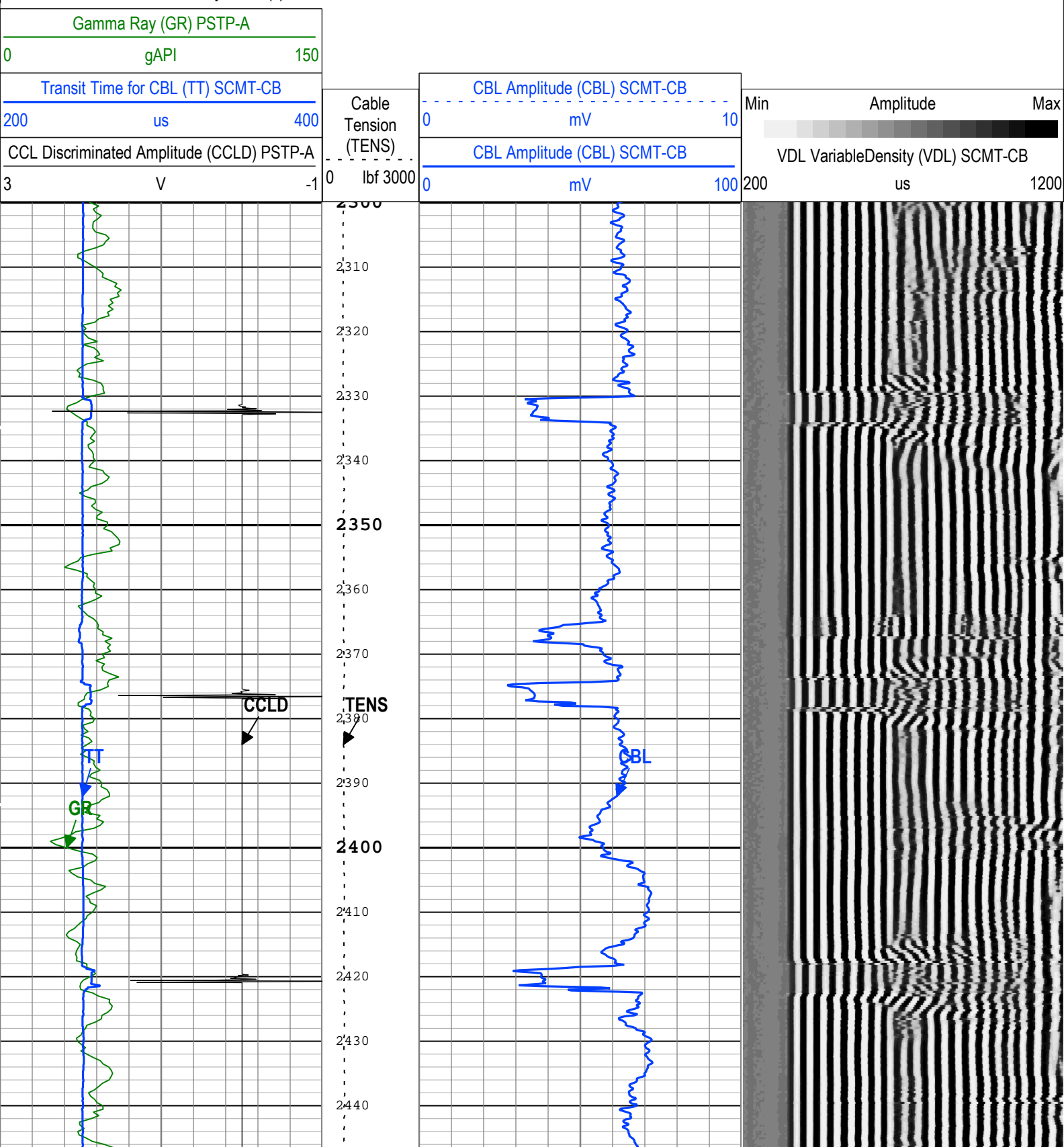
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
one	Log[3]:Up	Up	2156.73 ft	9279.53 ft	23-Dec-2017 11:52:01 AM	23-Dec-2017 2:32:16 PM	ON	7.55 ft	Yes

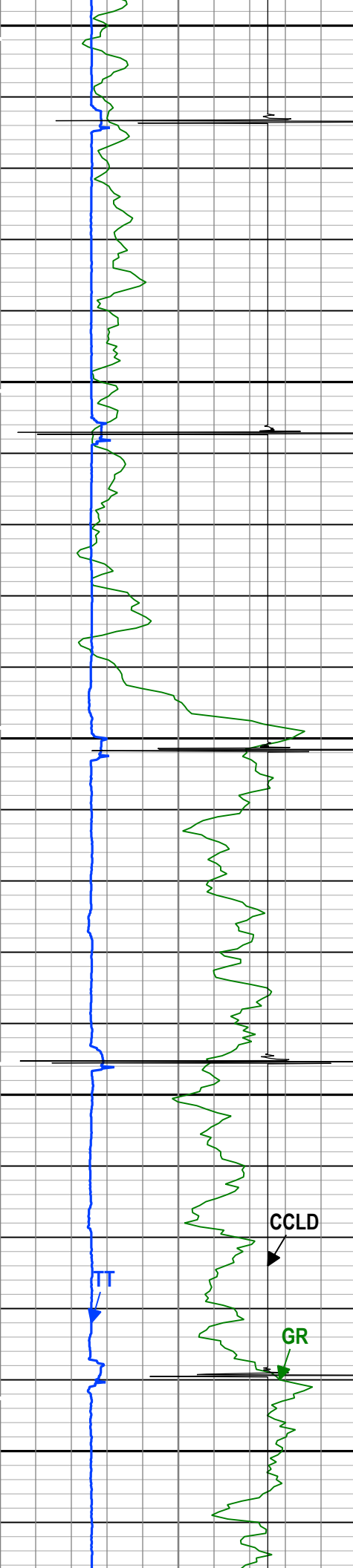
All depths are referenced to toolstring zero

Log	Company:Caerus Operating LLC	Well:Puckett 11C-26 697
		one: Log[3]:Up:S004

Description: SCMT Amplitudes and VDL Format: Log (SCMT_Amp_VDL) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 07-Jan-2018 12:00:08

TIME_1900 - Time Marked every 60.00 (s)





2450

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2470

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TENS

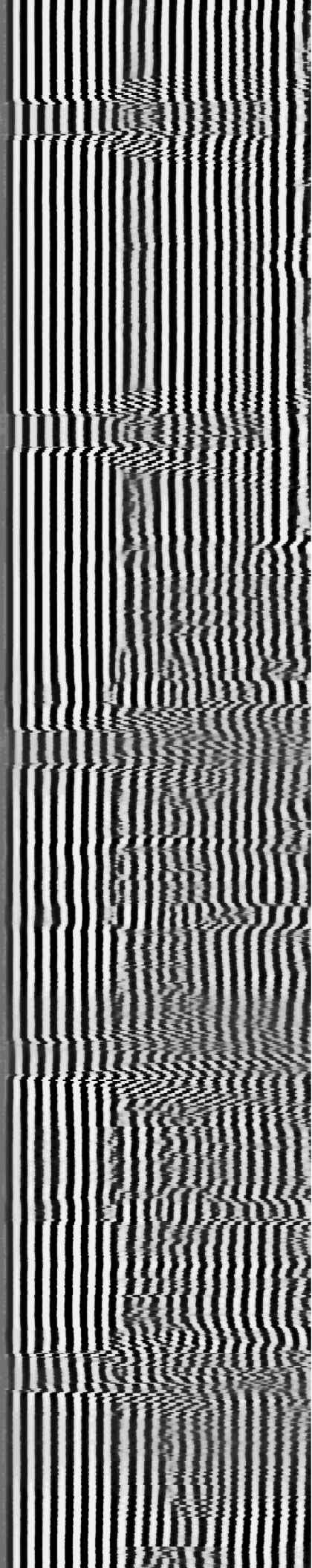
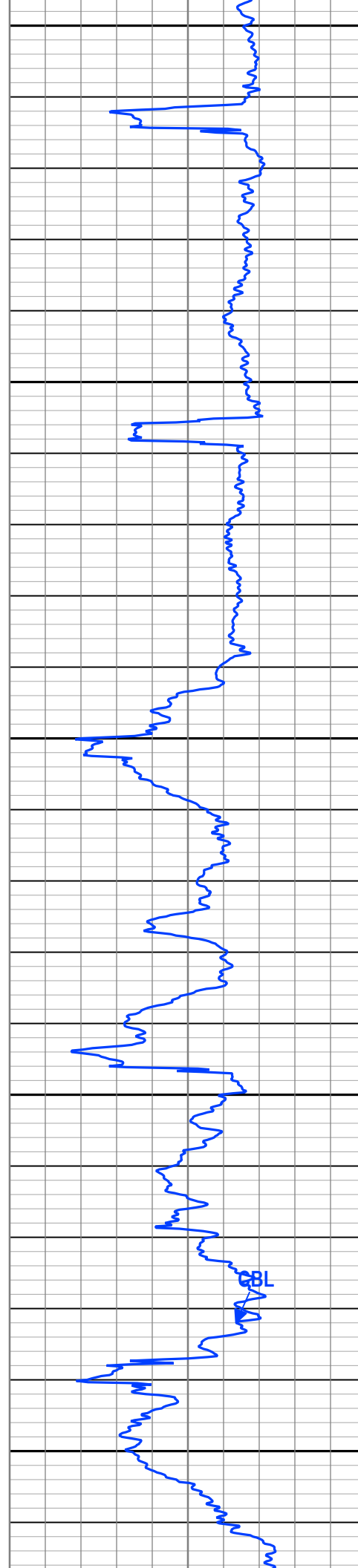
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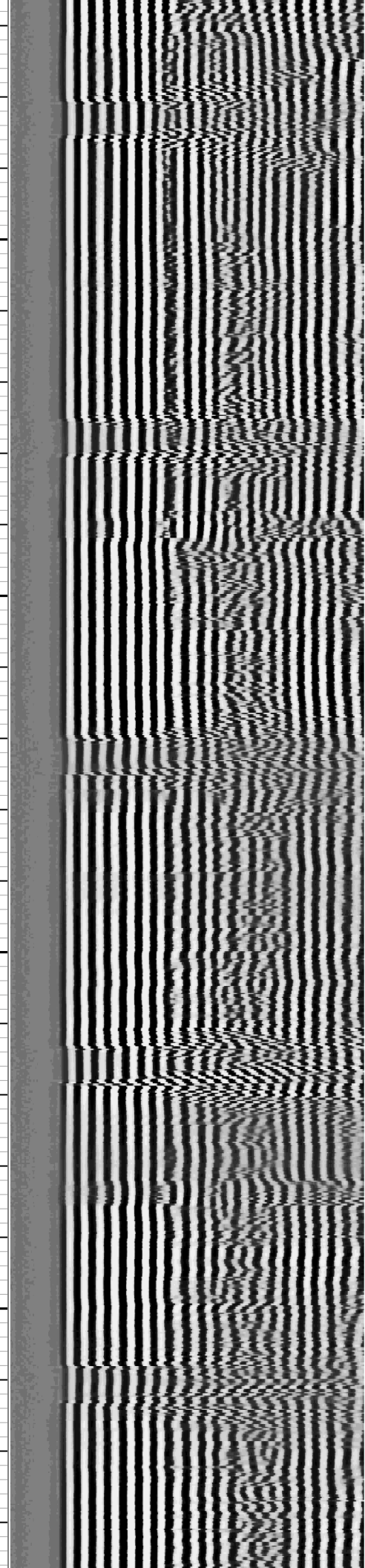
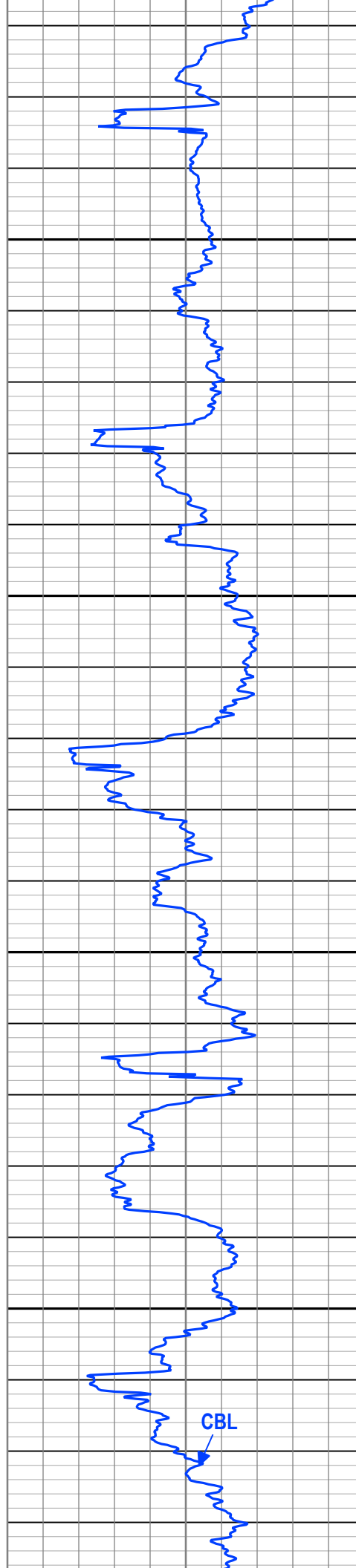
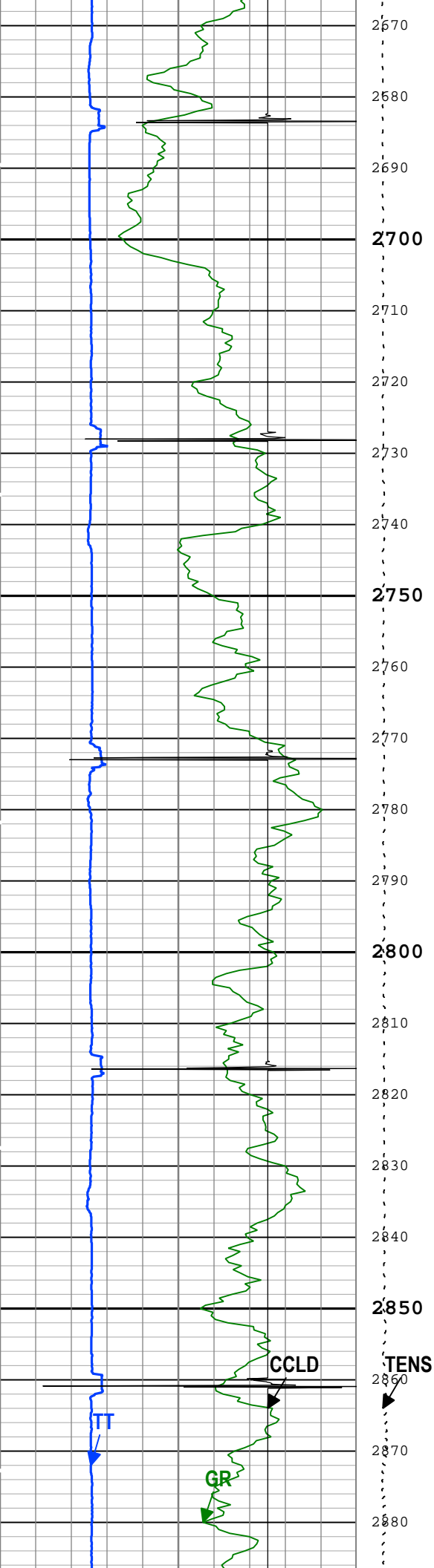
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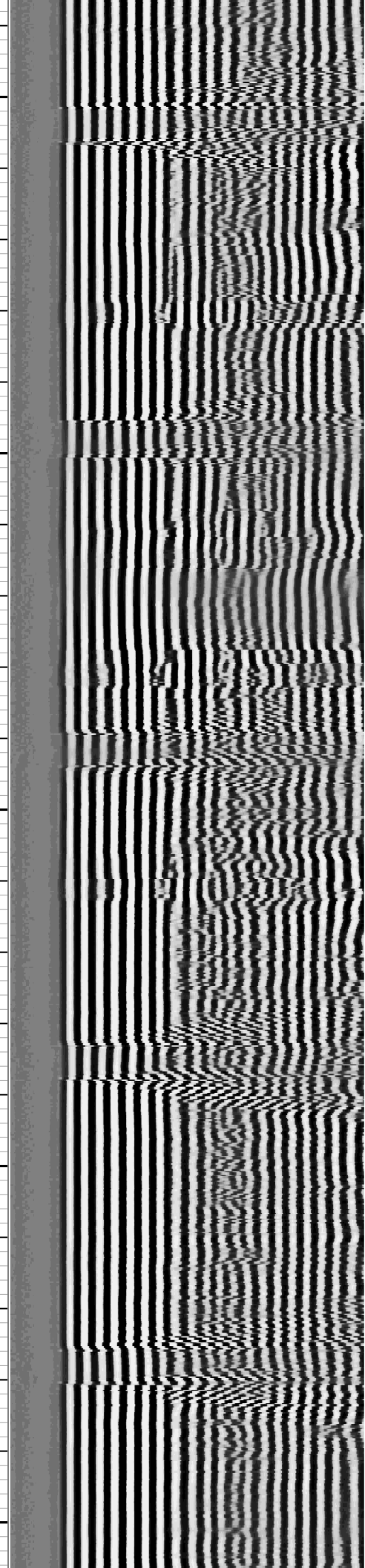
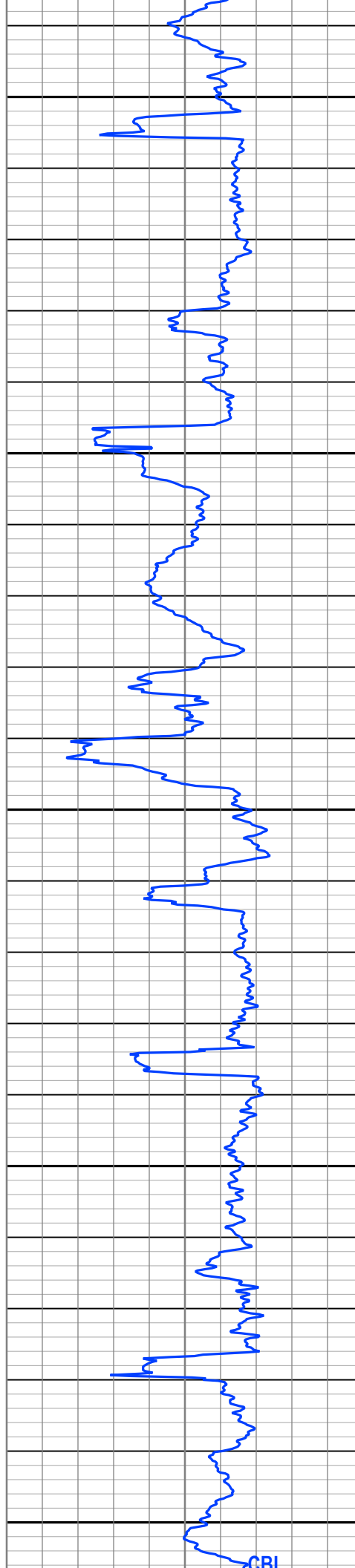
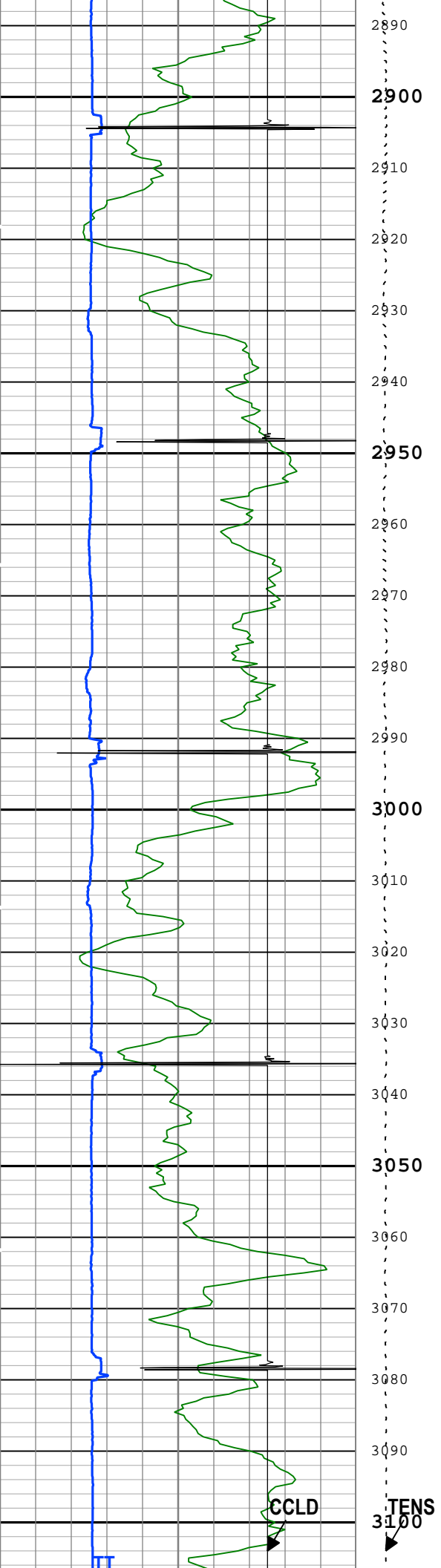
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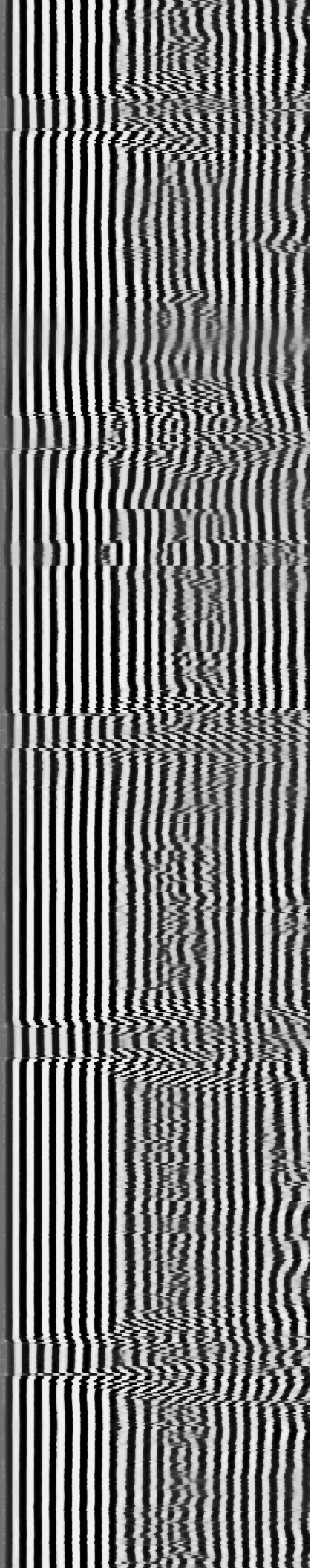
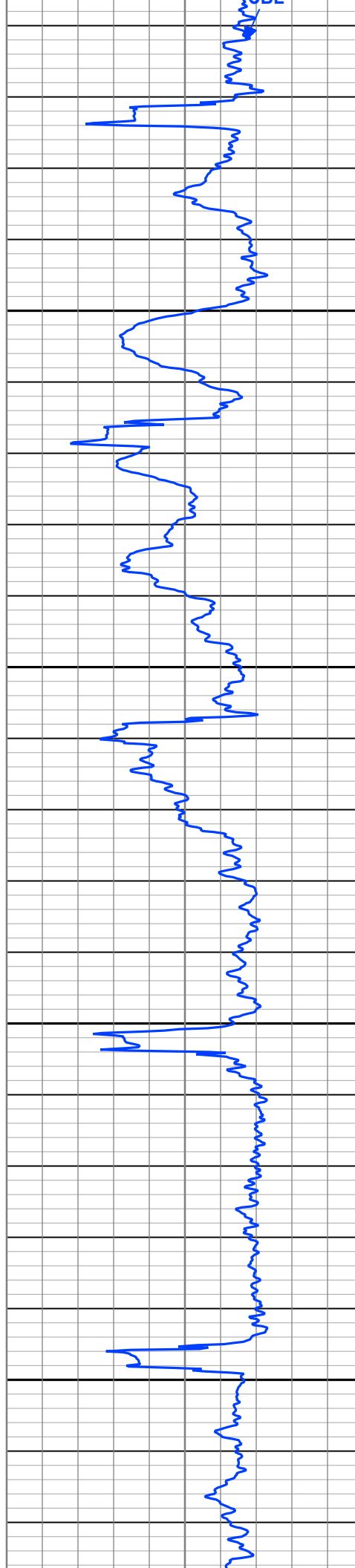
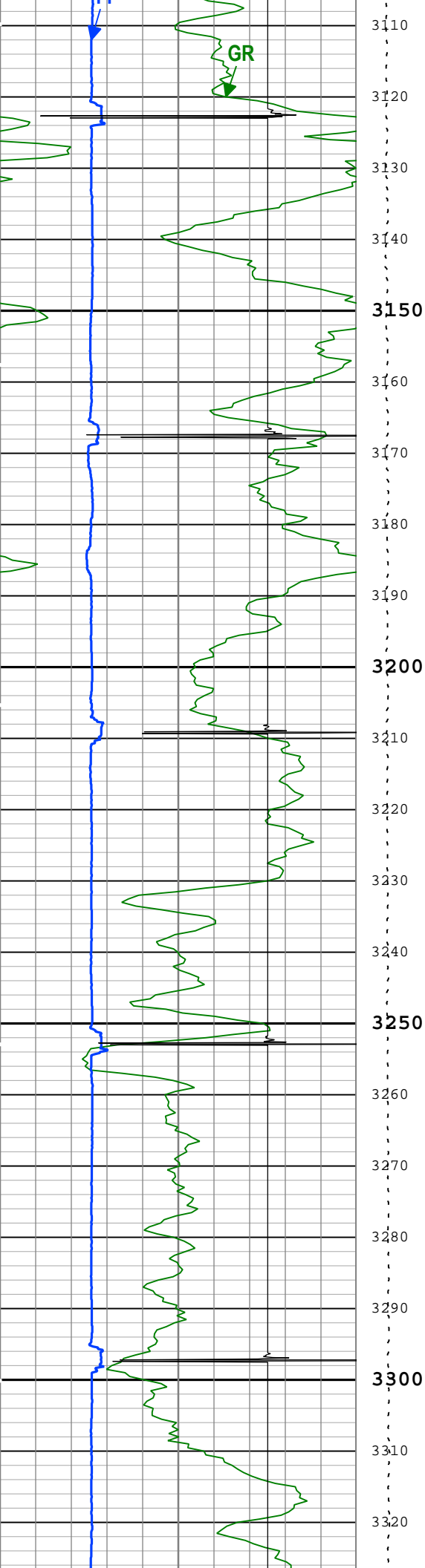
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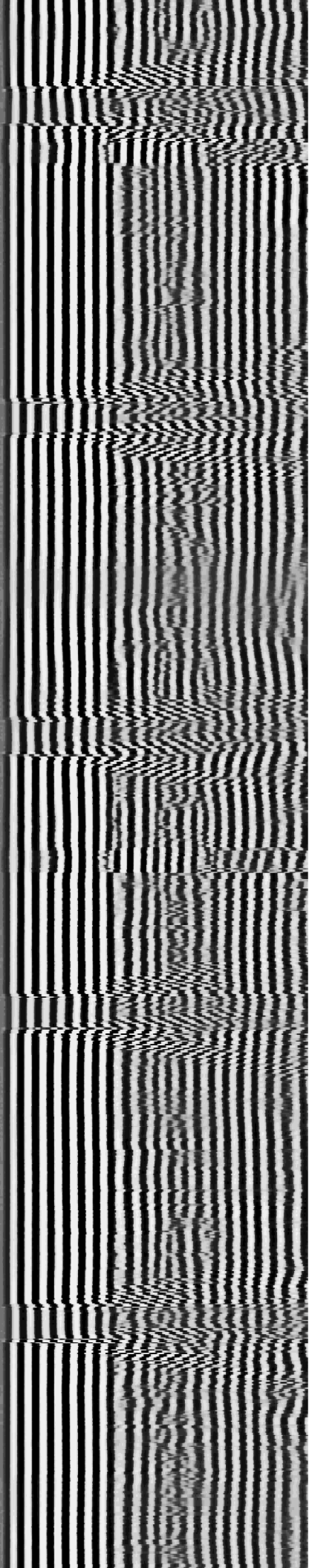
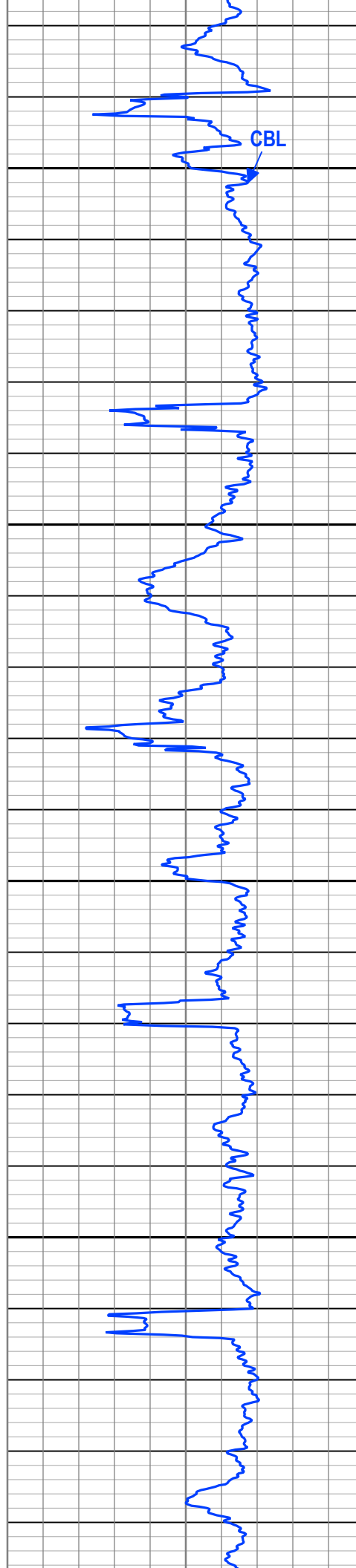
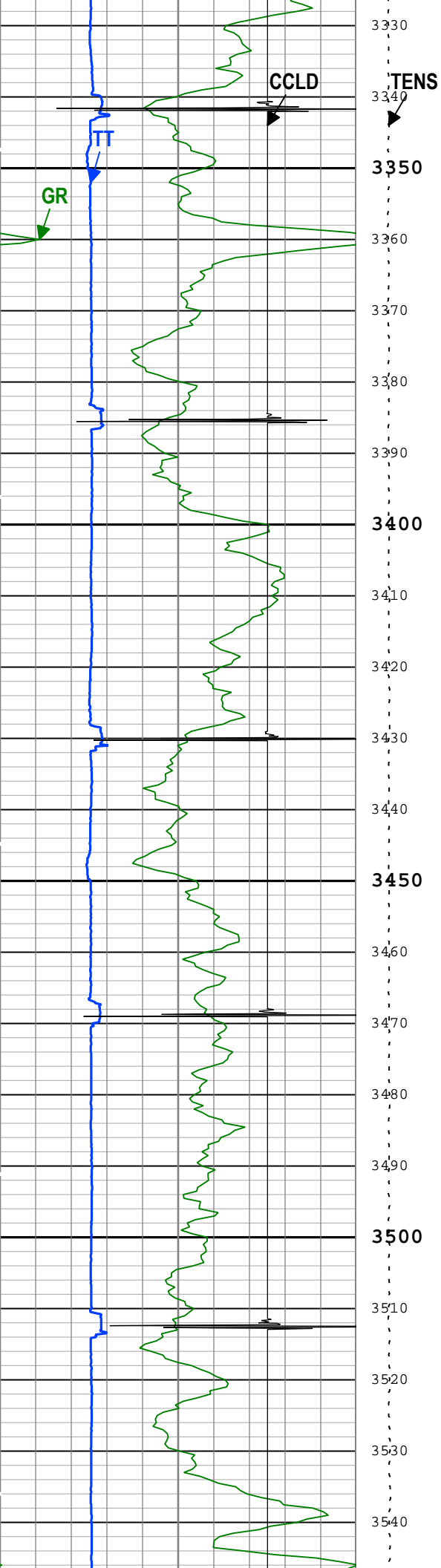
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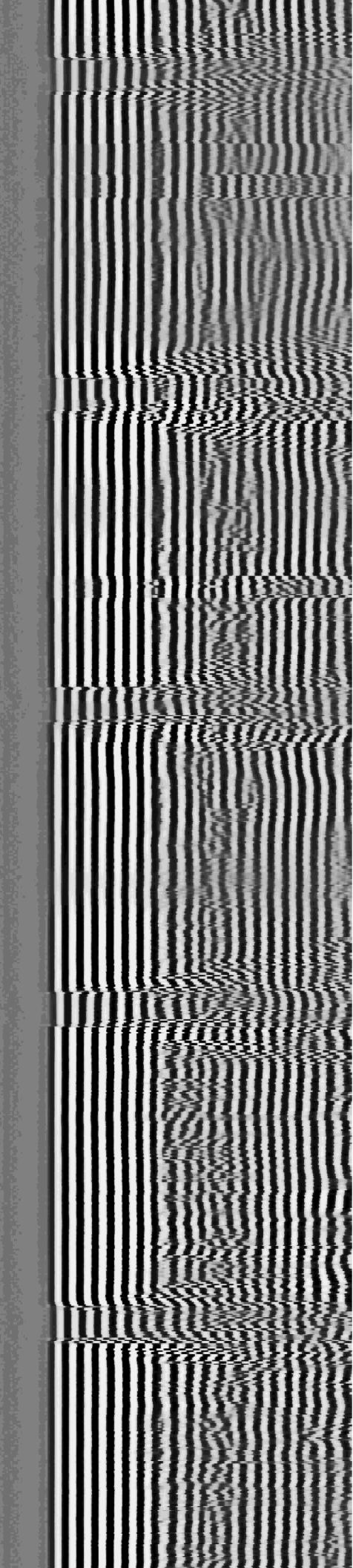
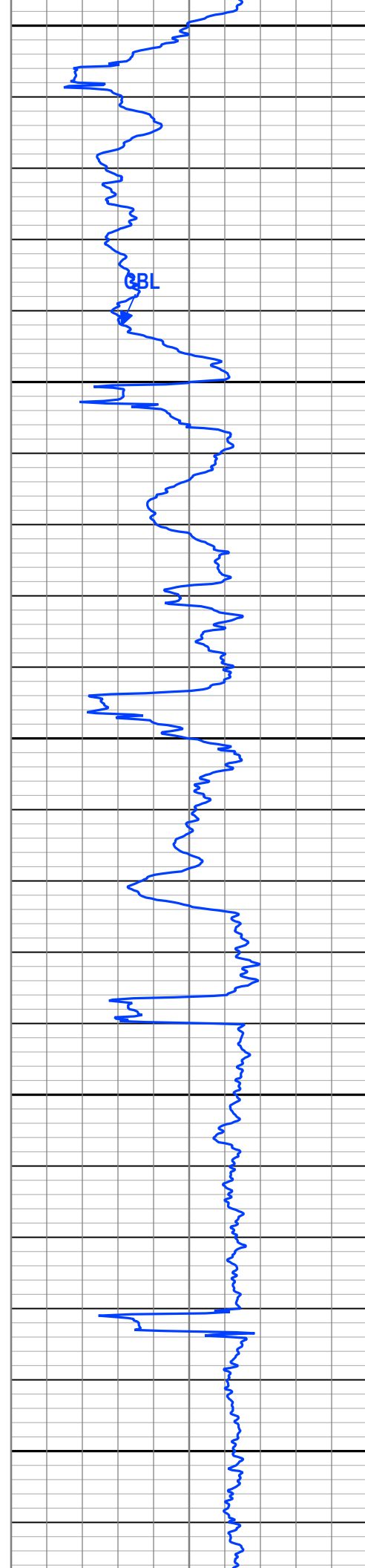
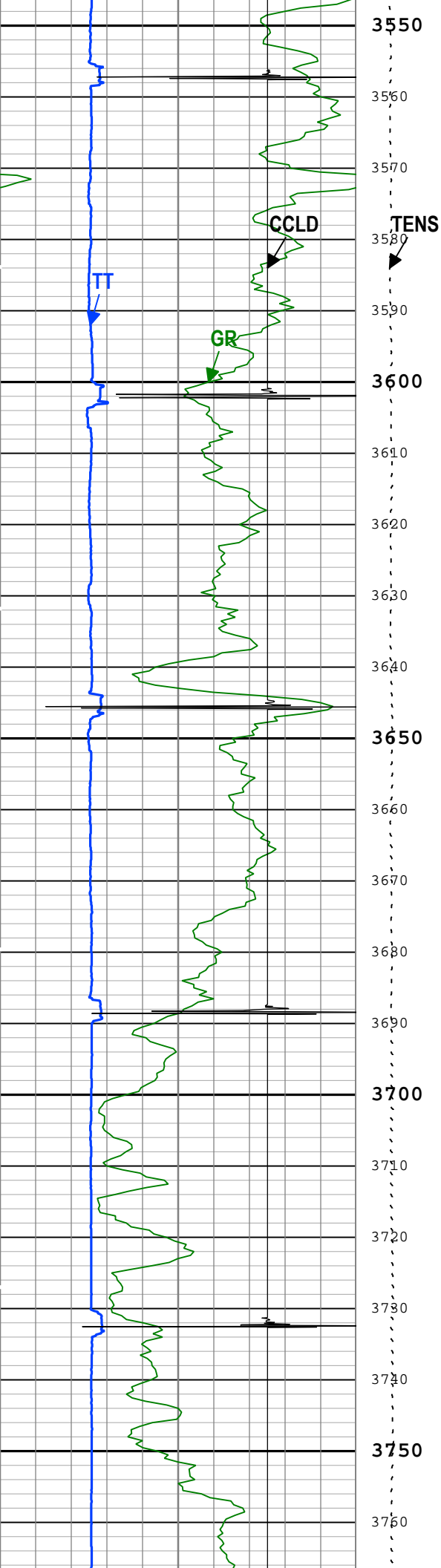


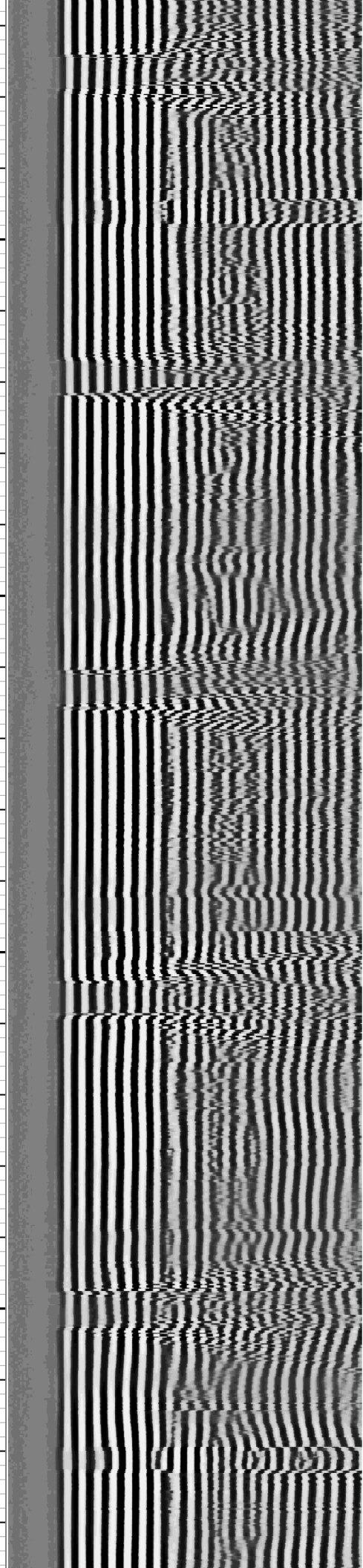
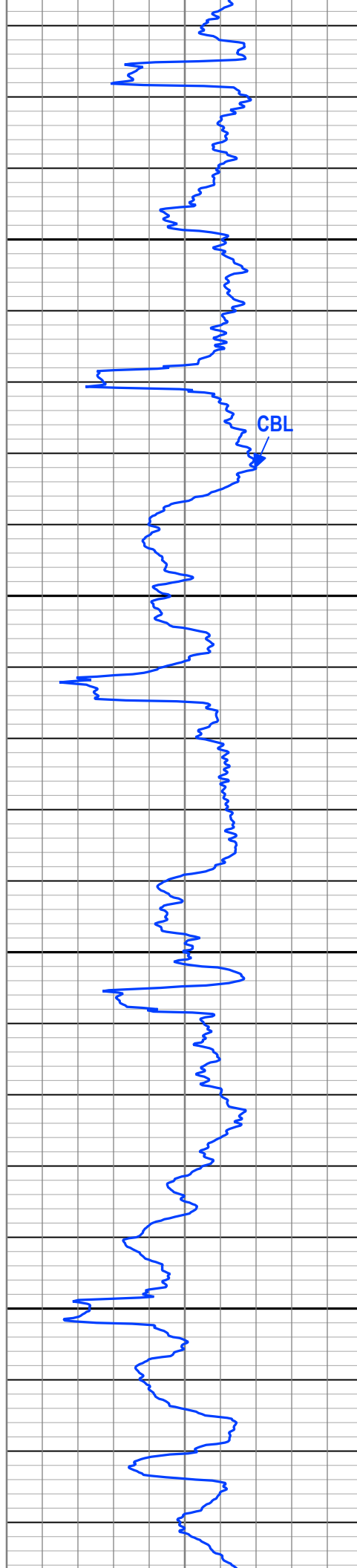
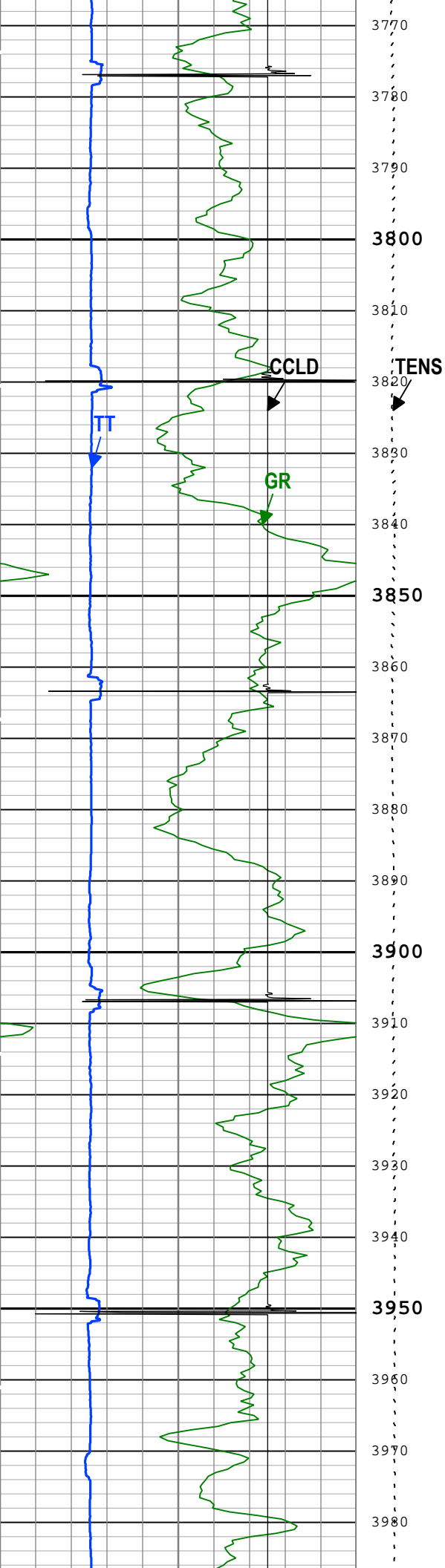


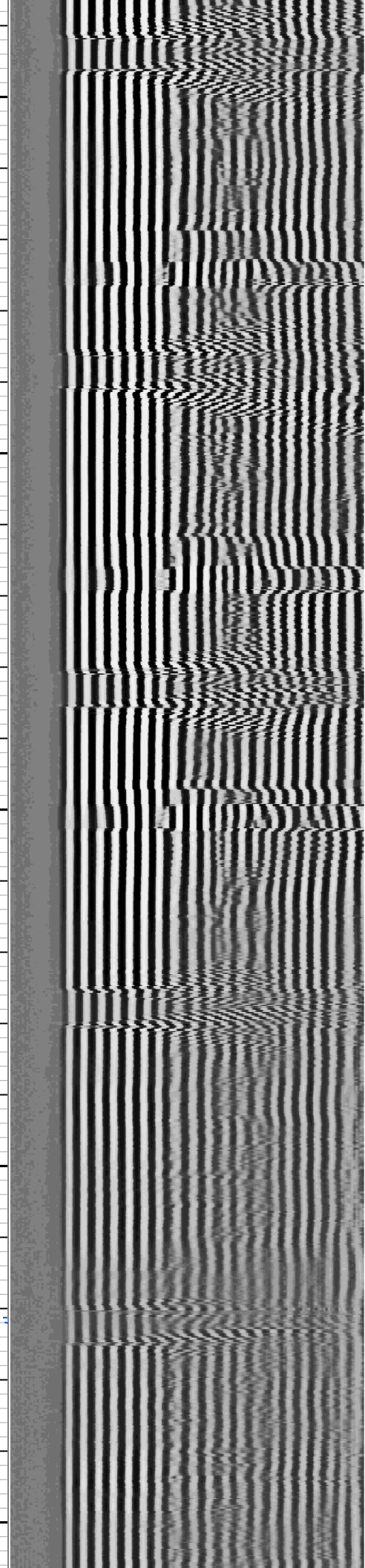
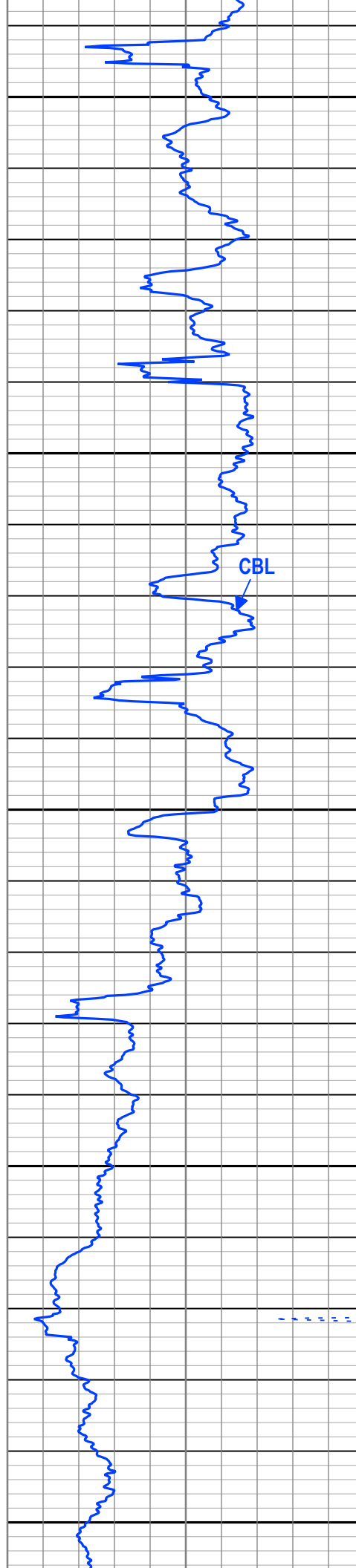
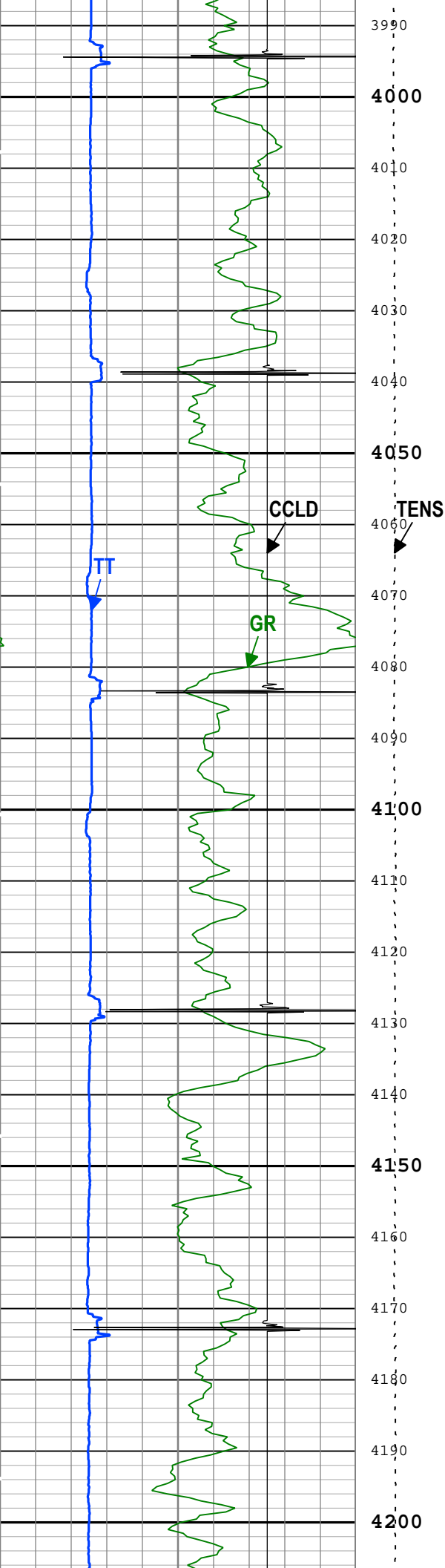


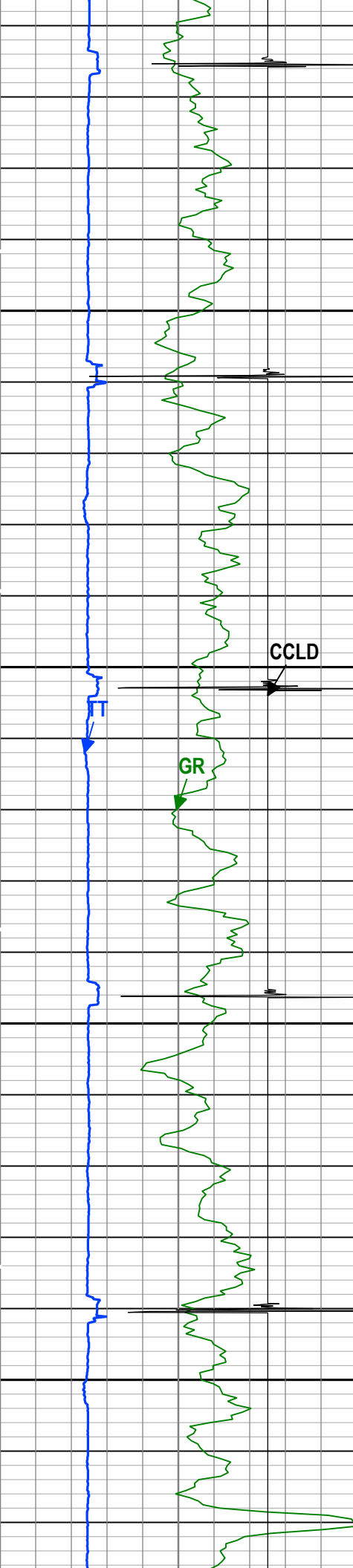




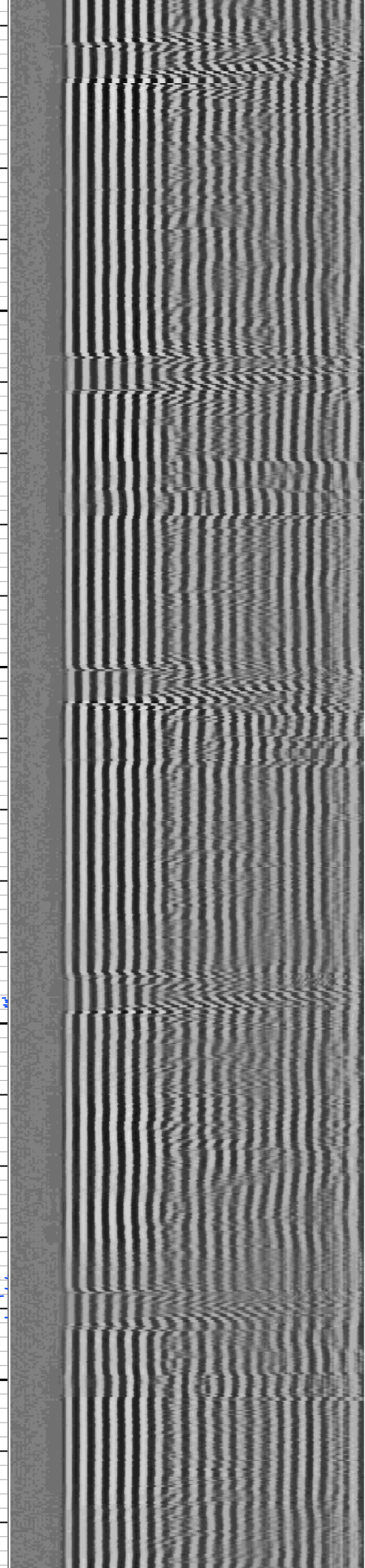
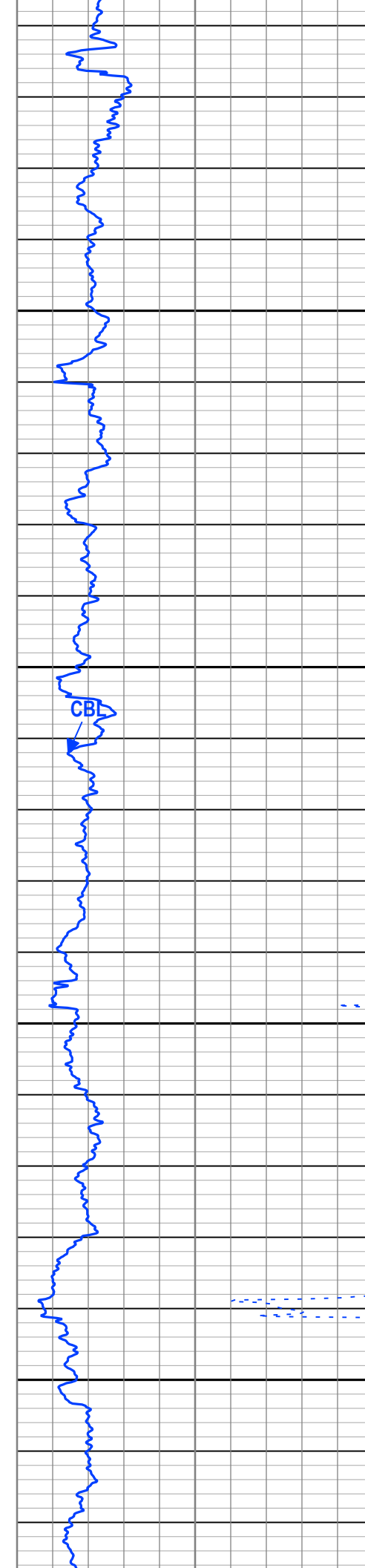


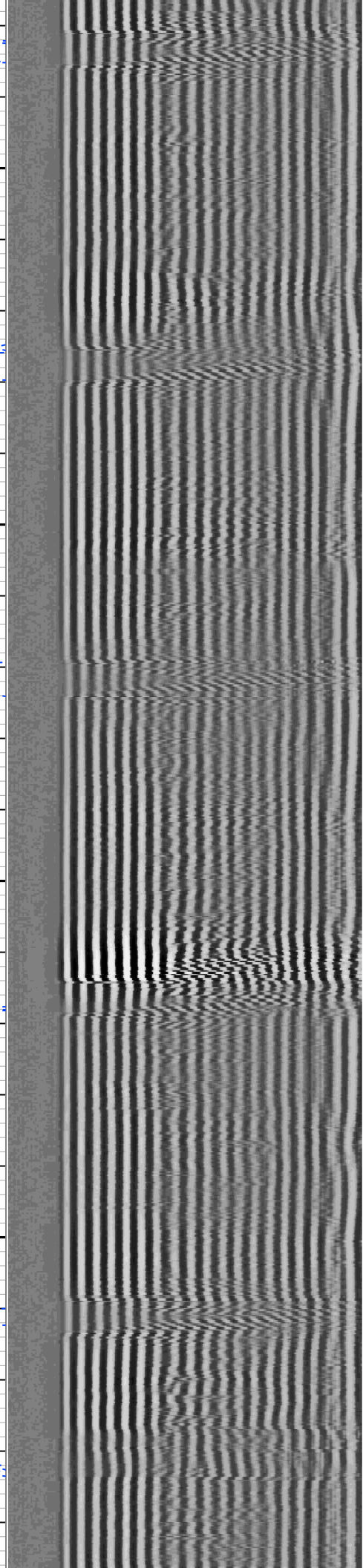
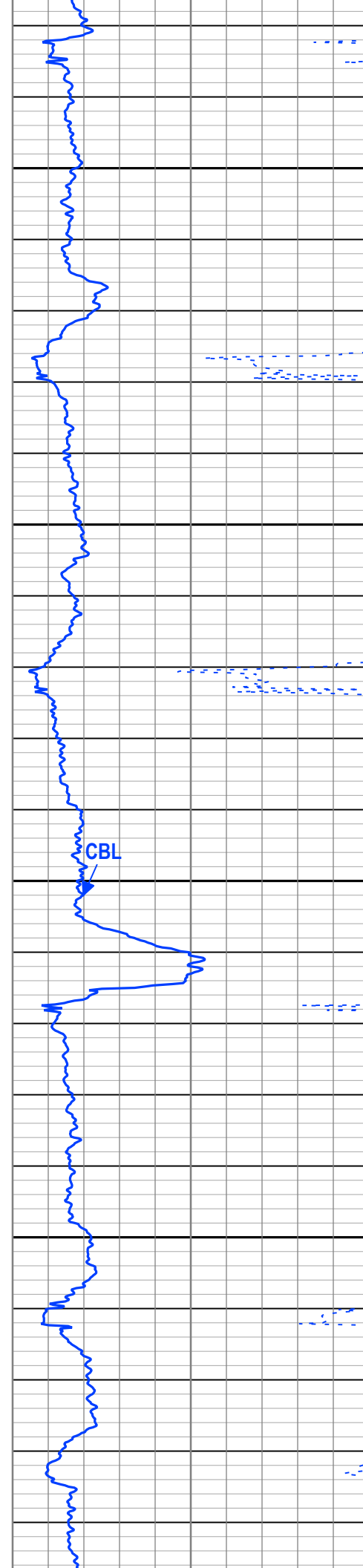
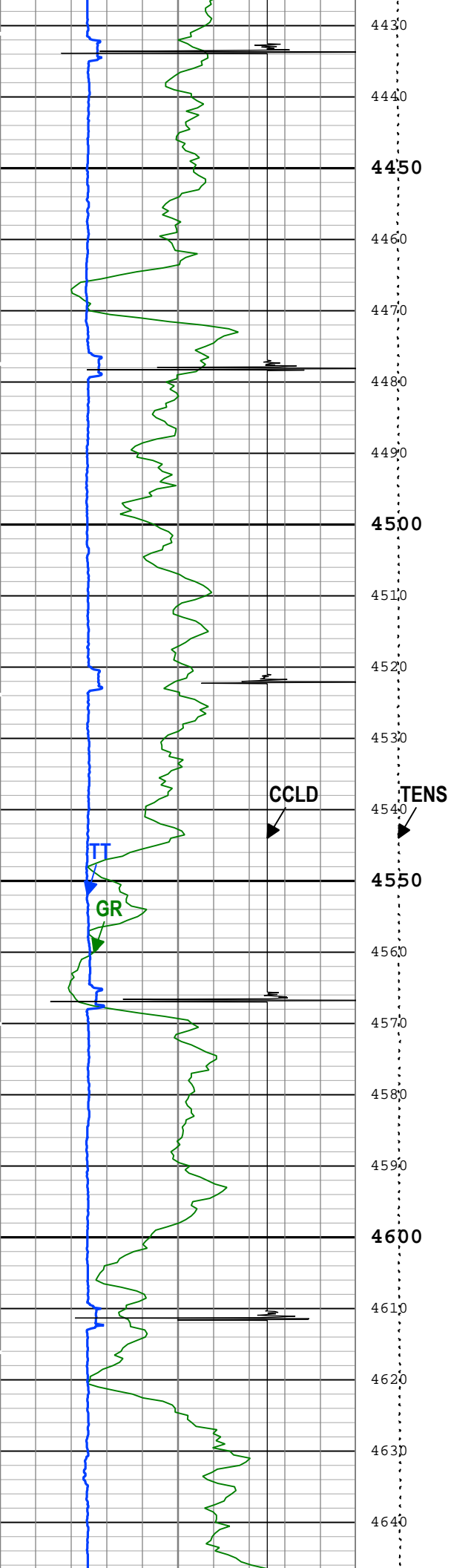


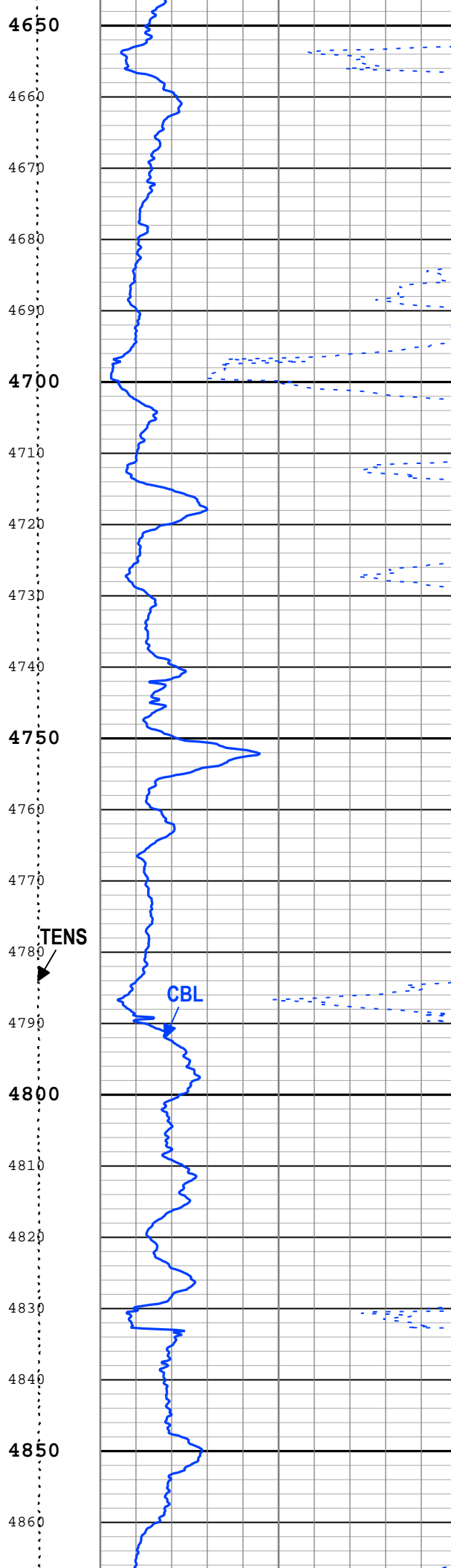
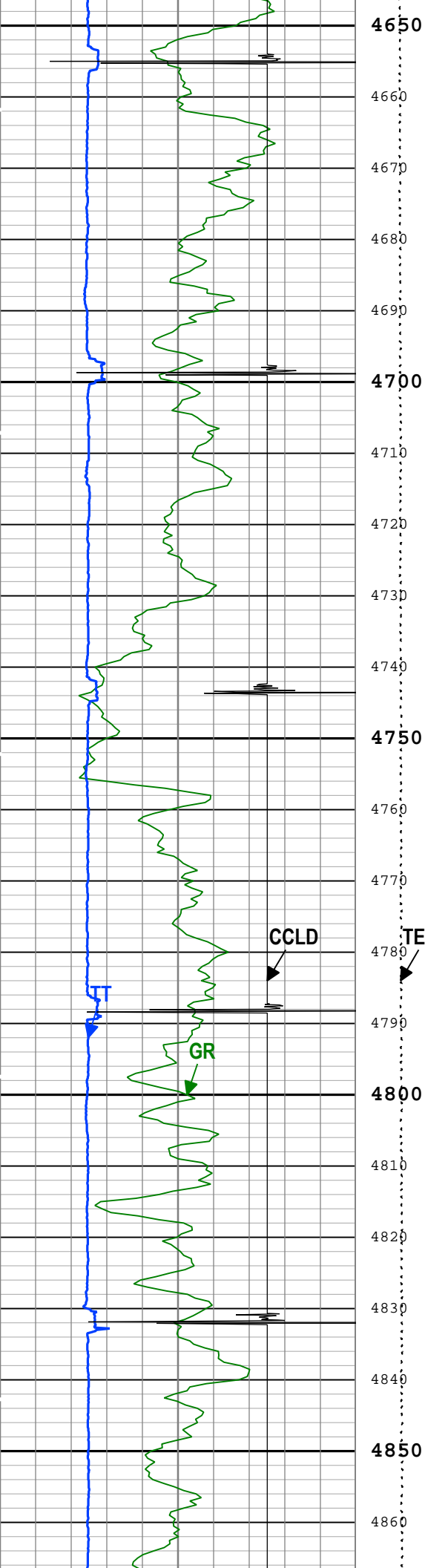


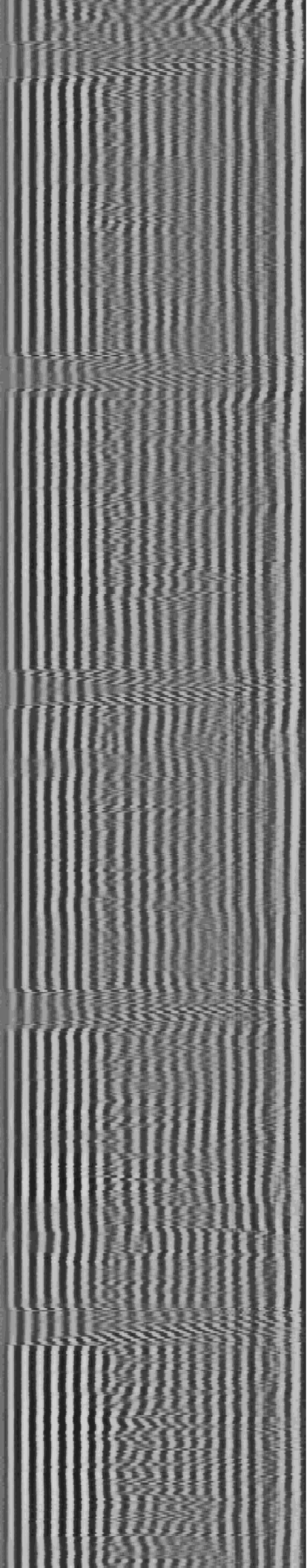
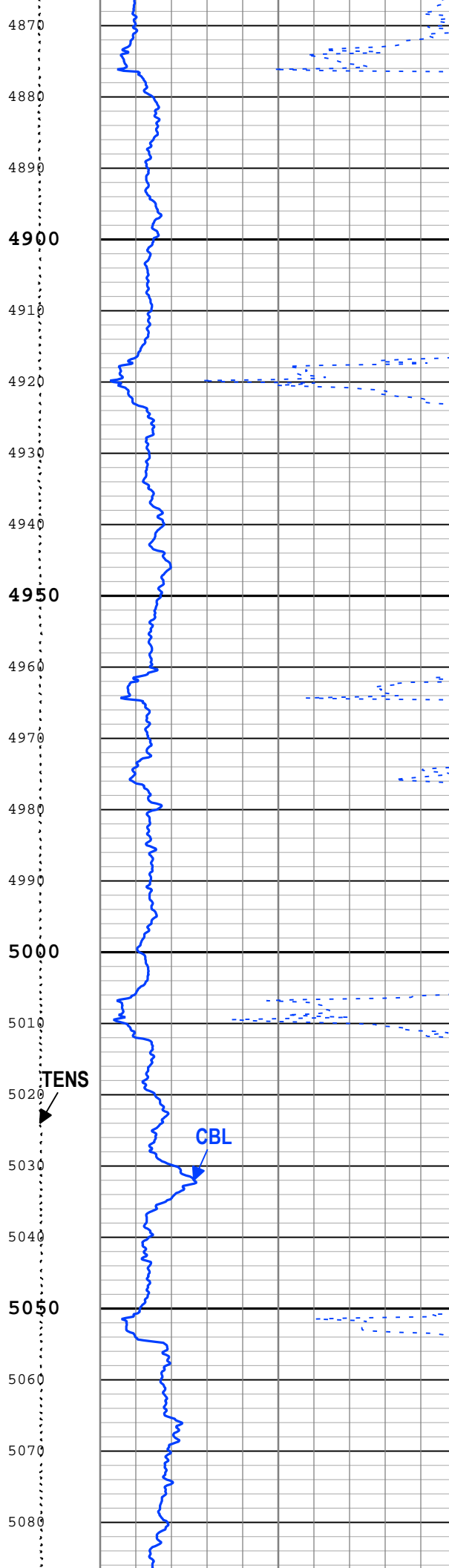
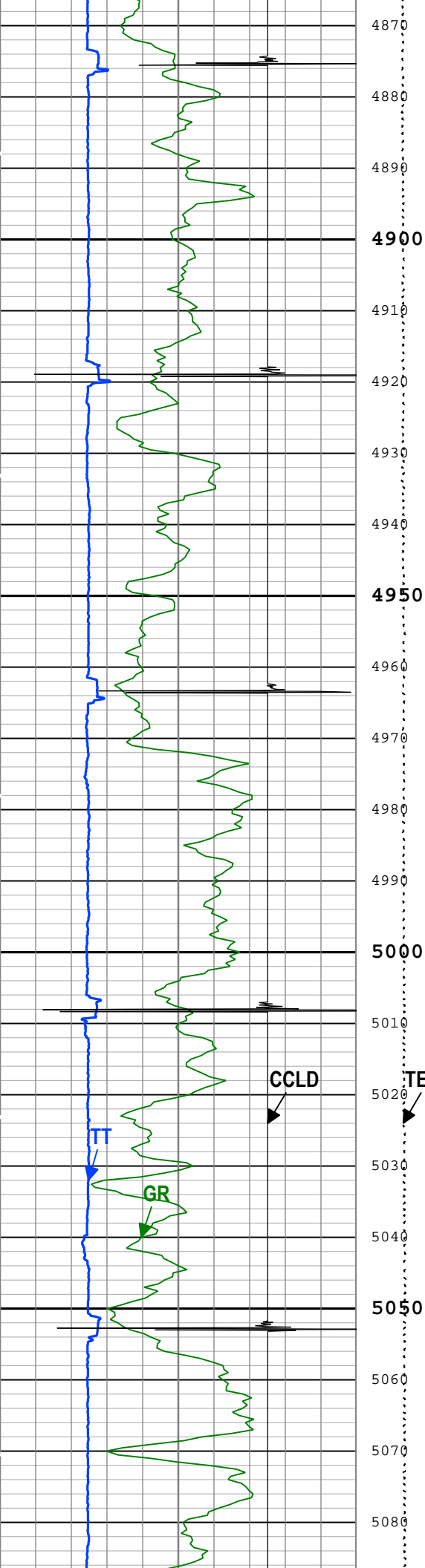


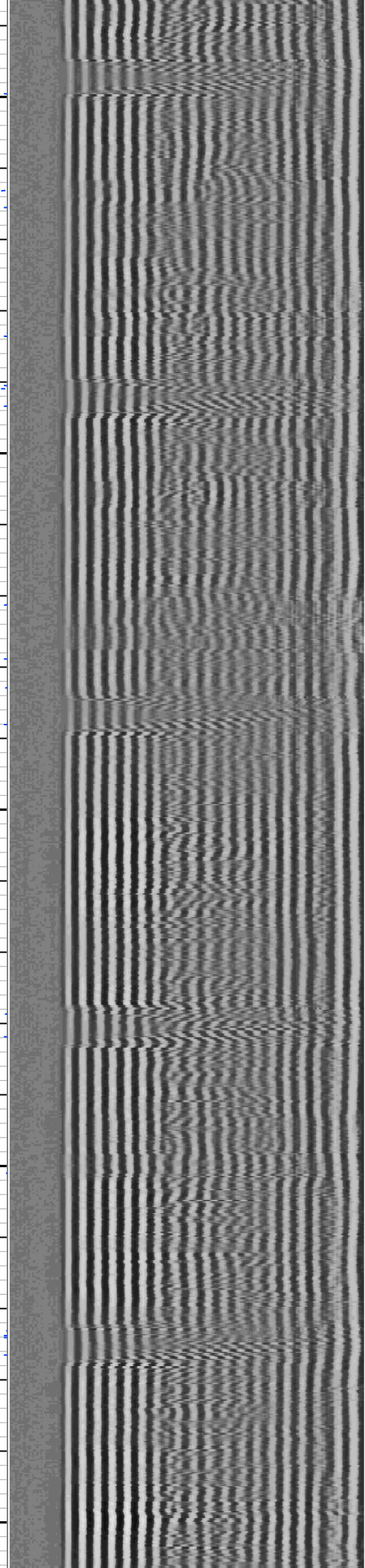
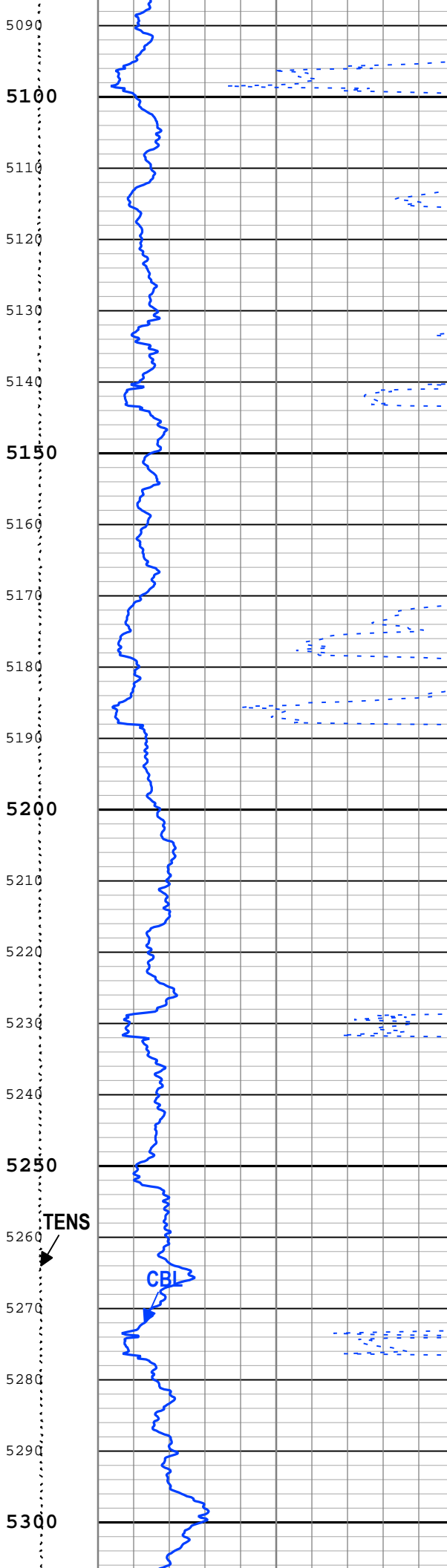
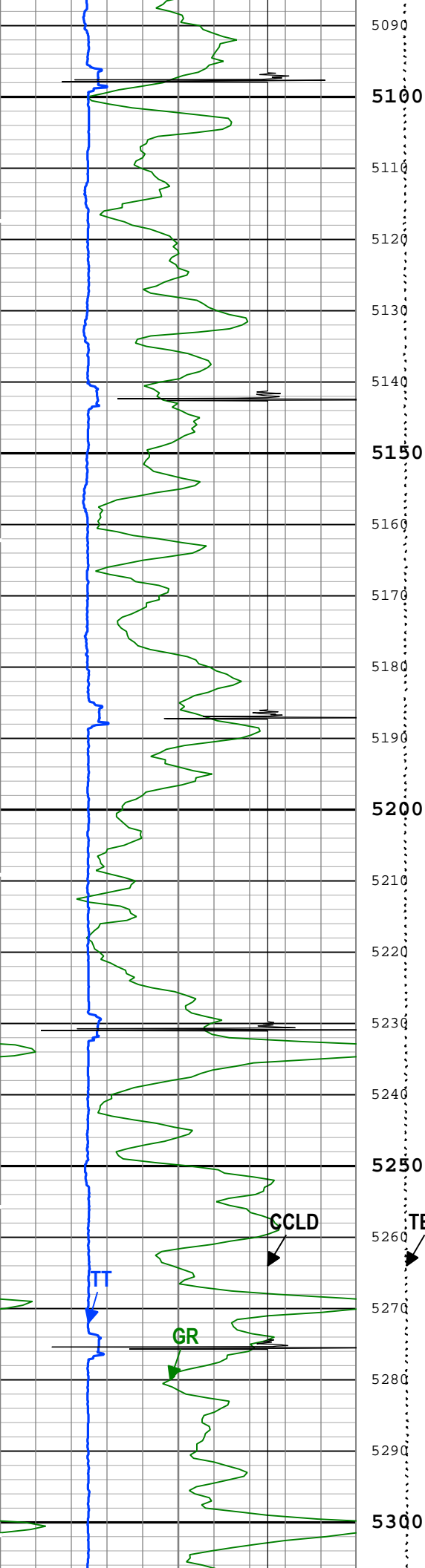
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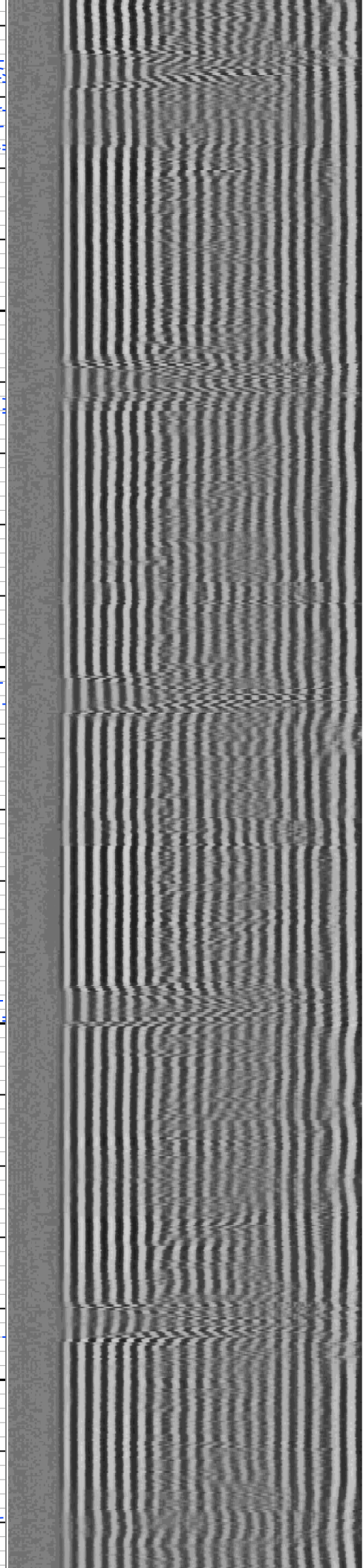
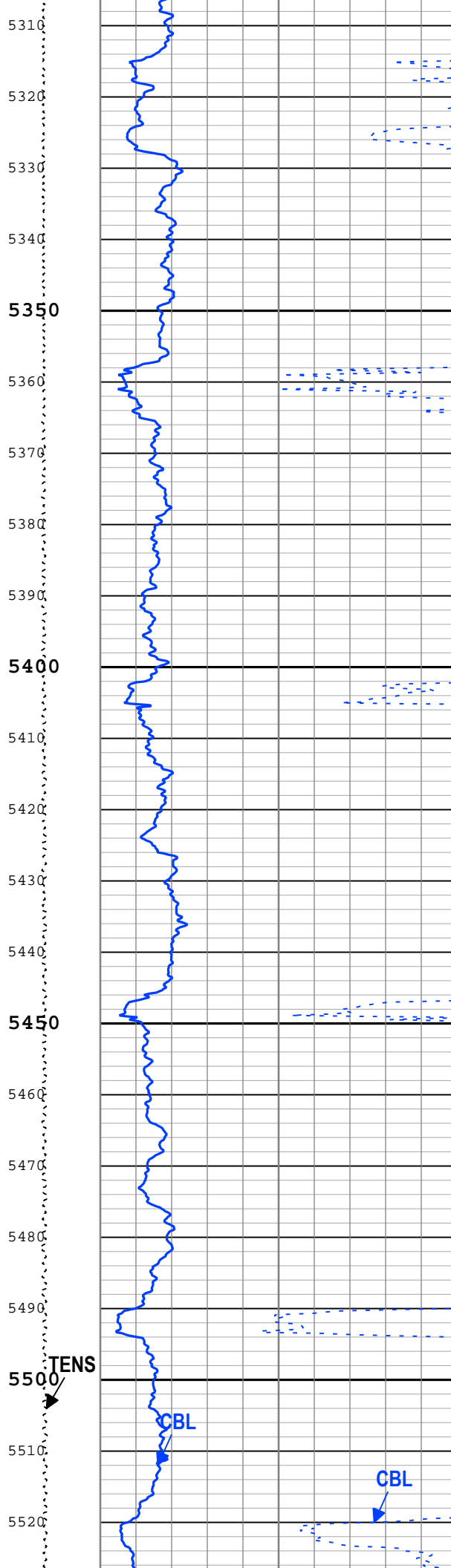
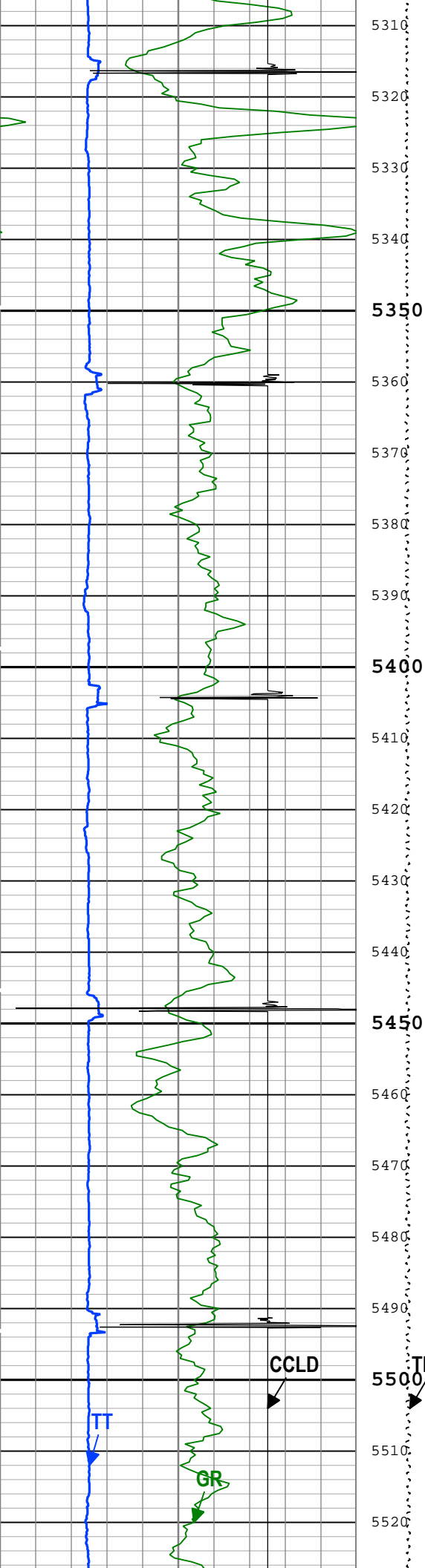


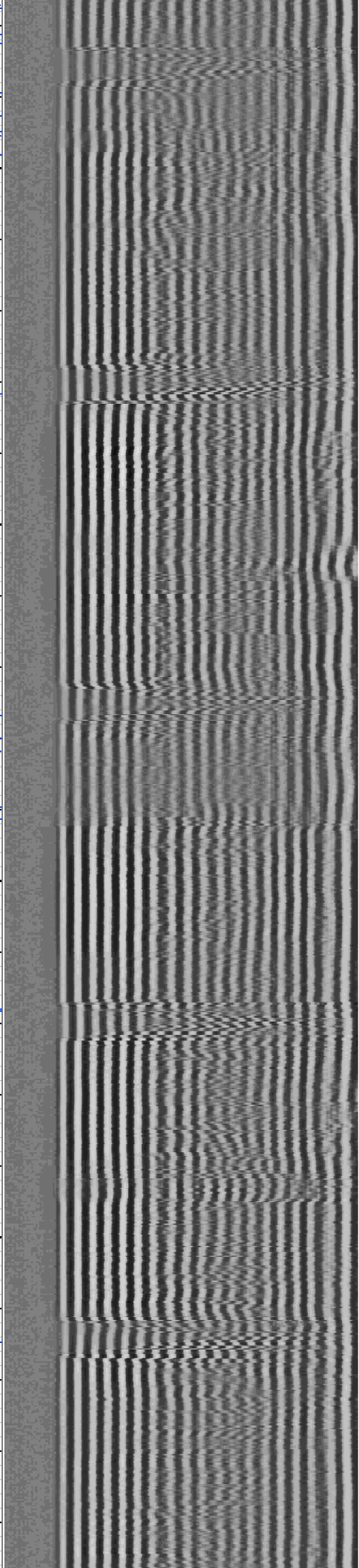
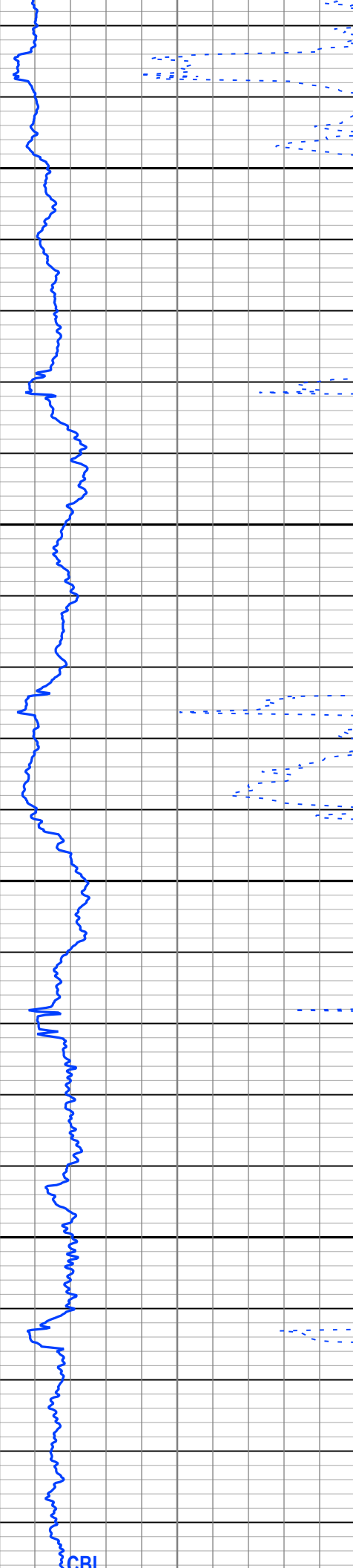
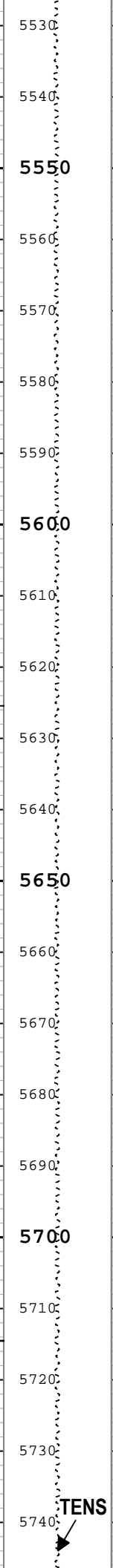
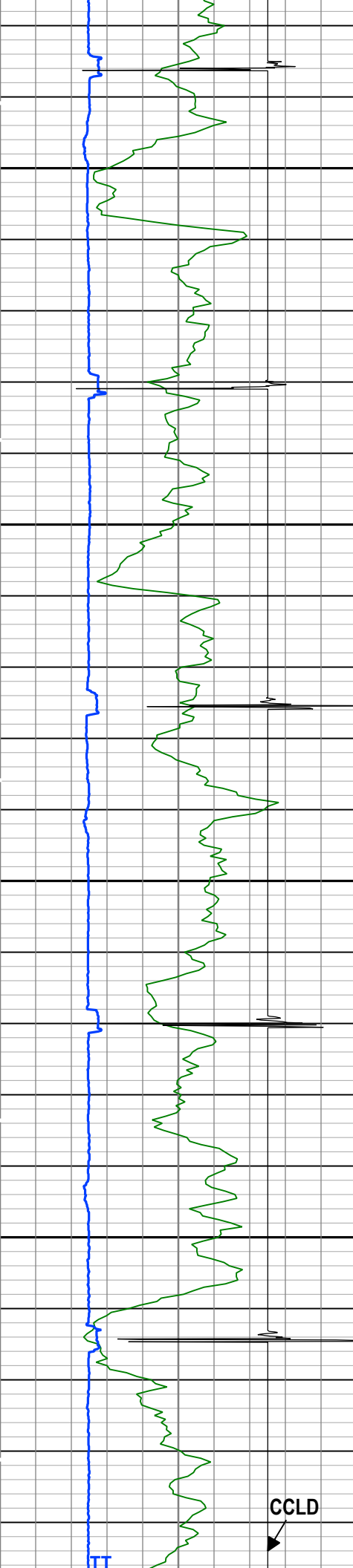


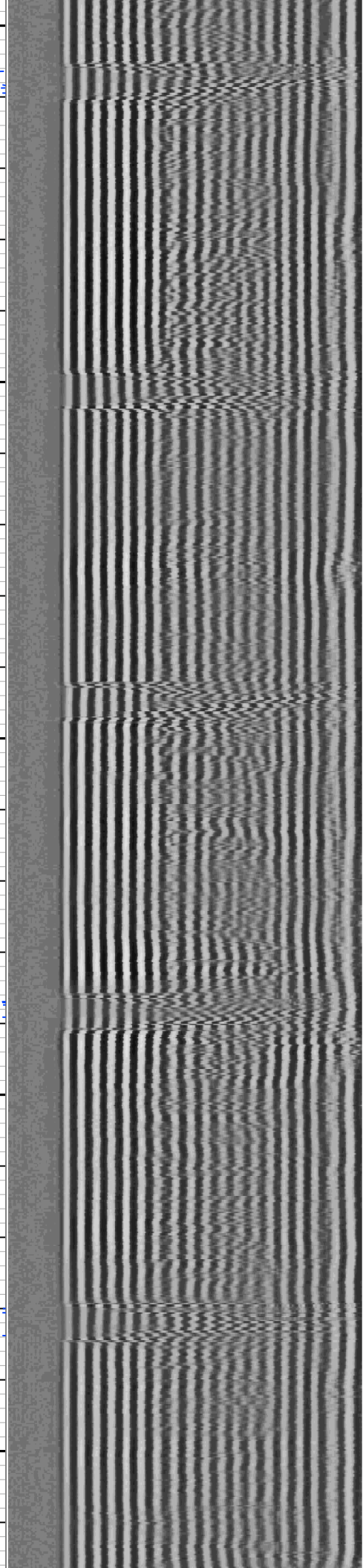
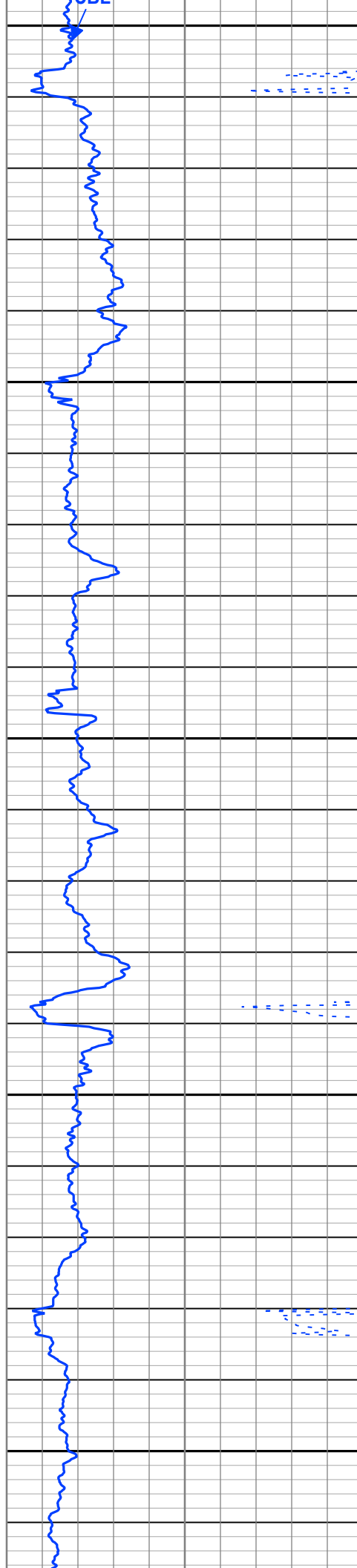
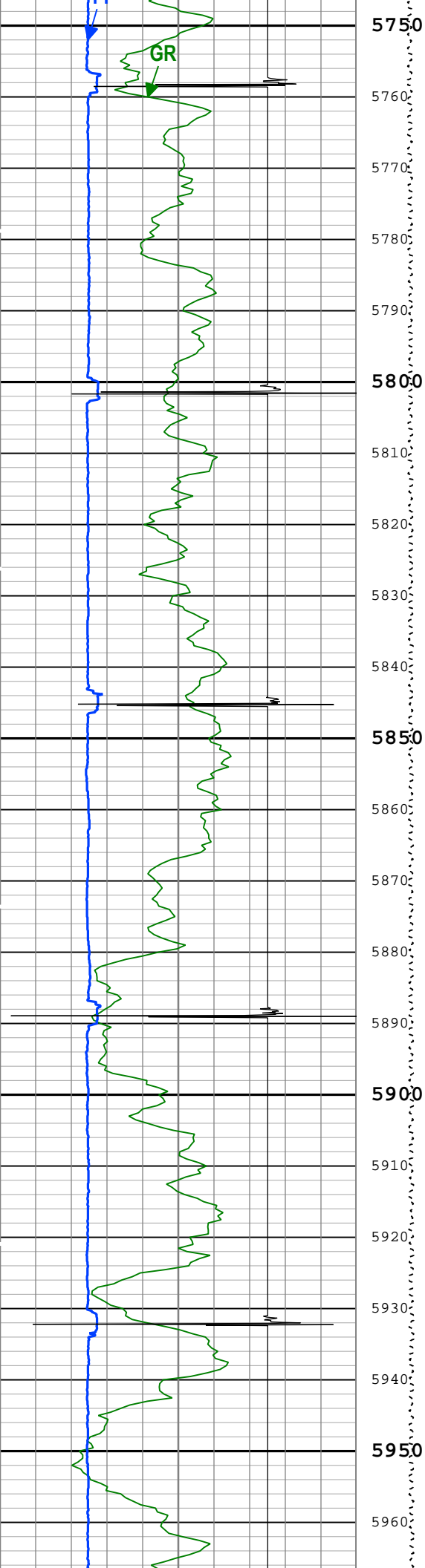


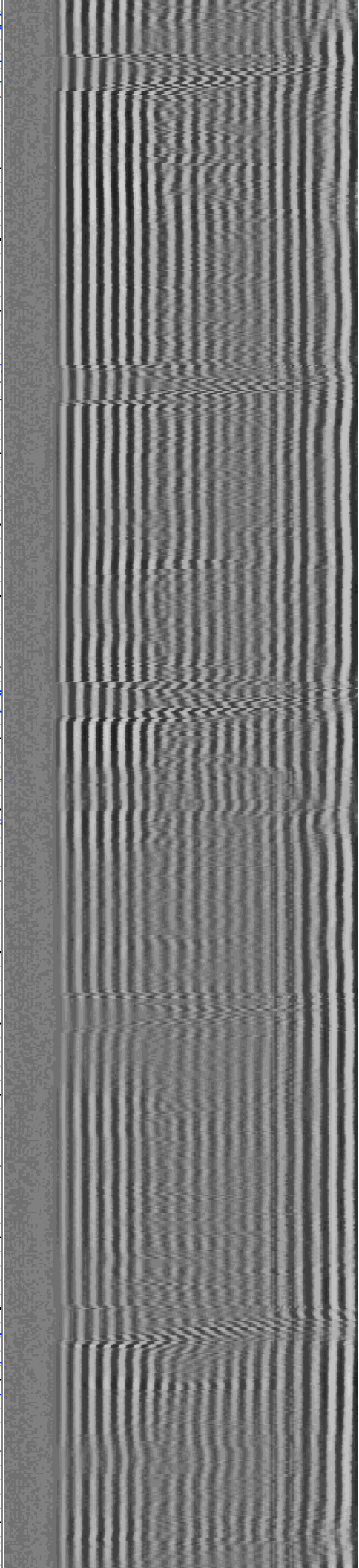
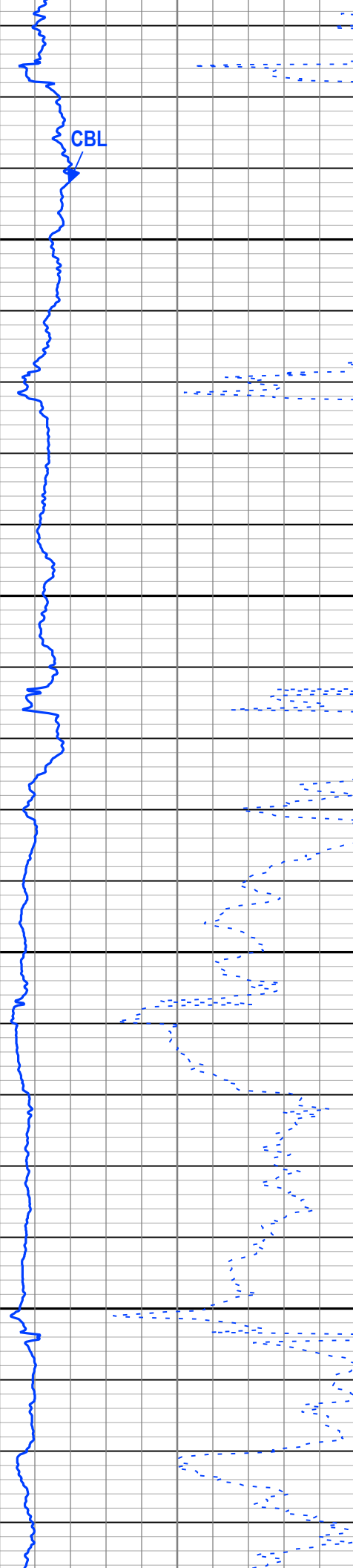
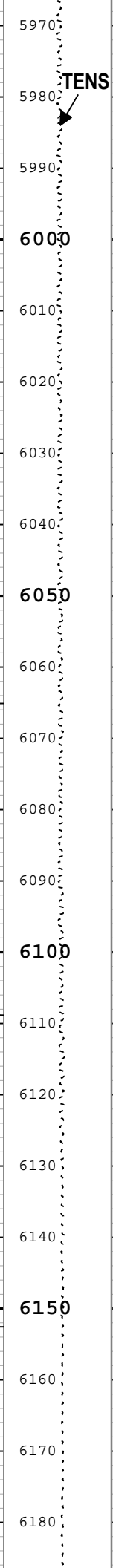
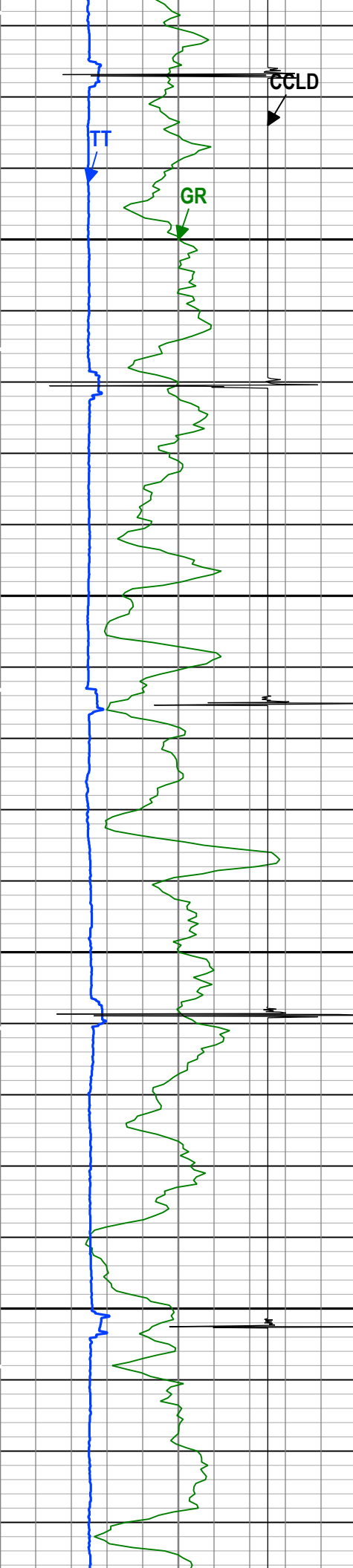


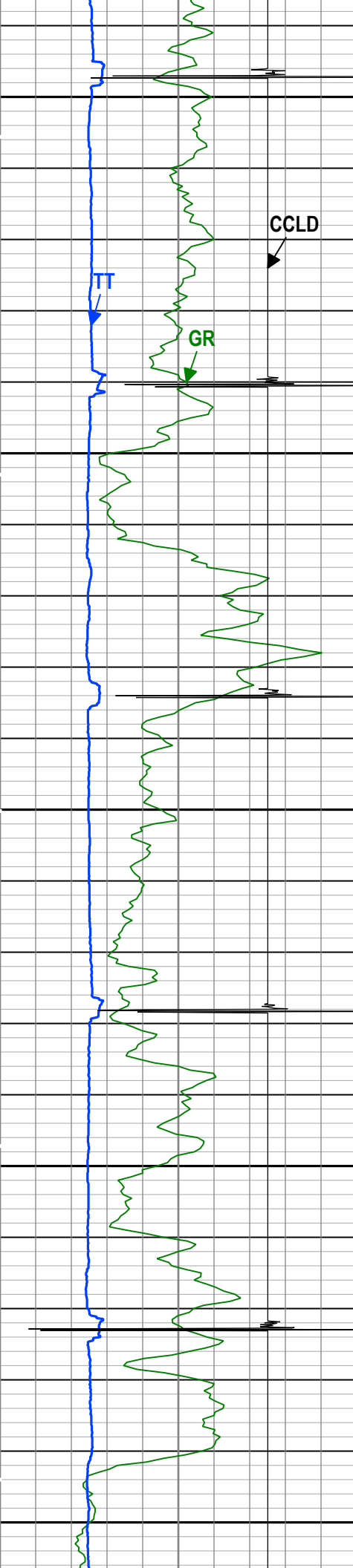






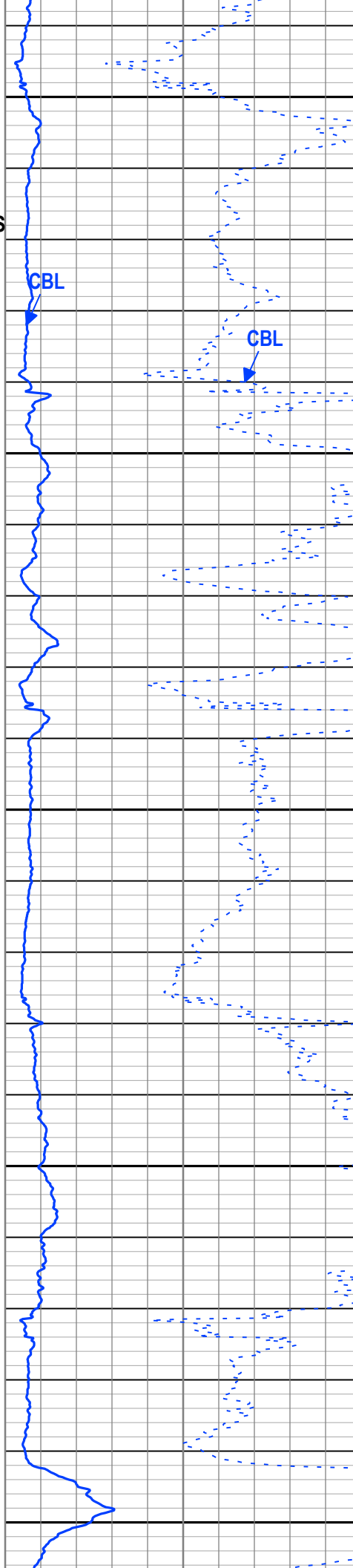






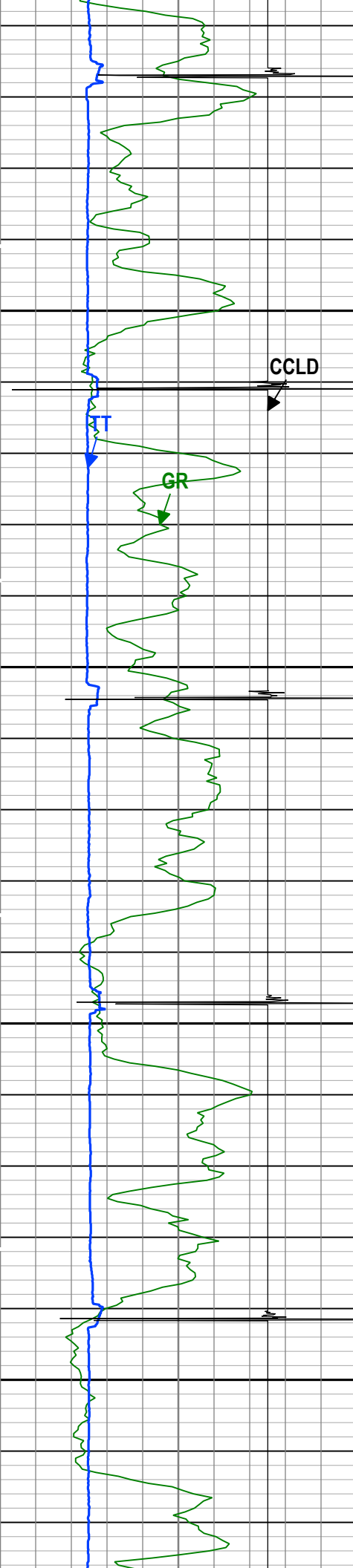
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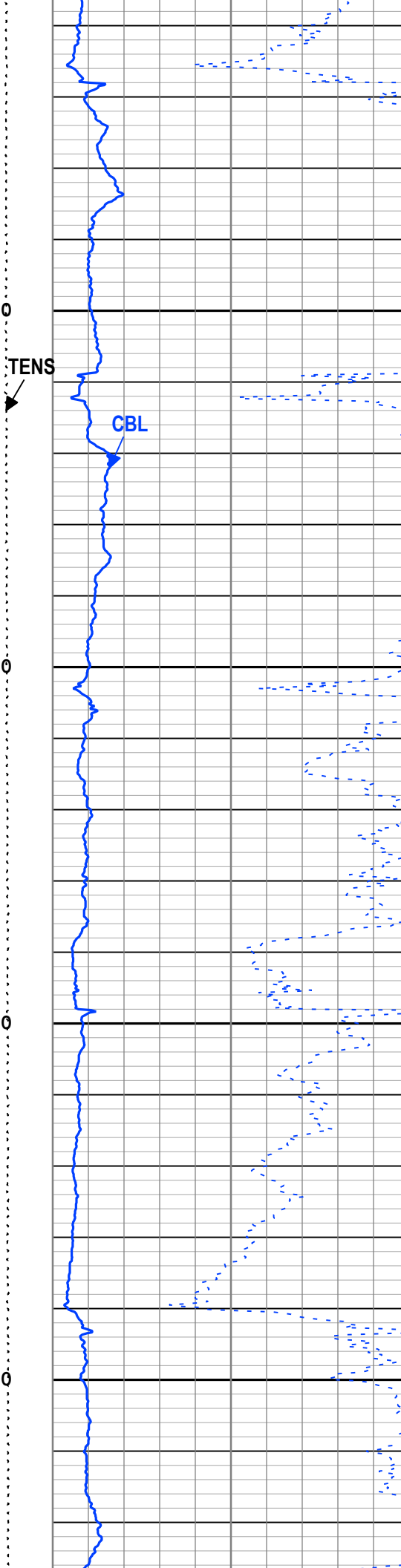


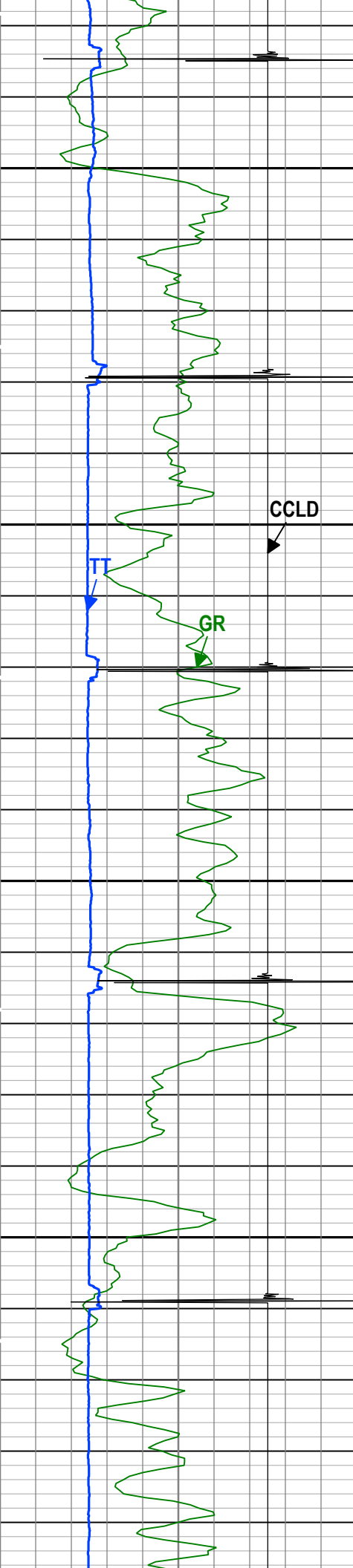
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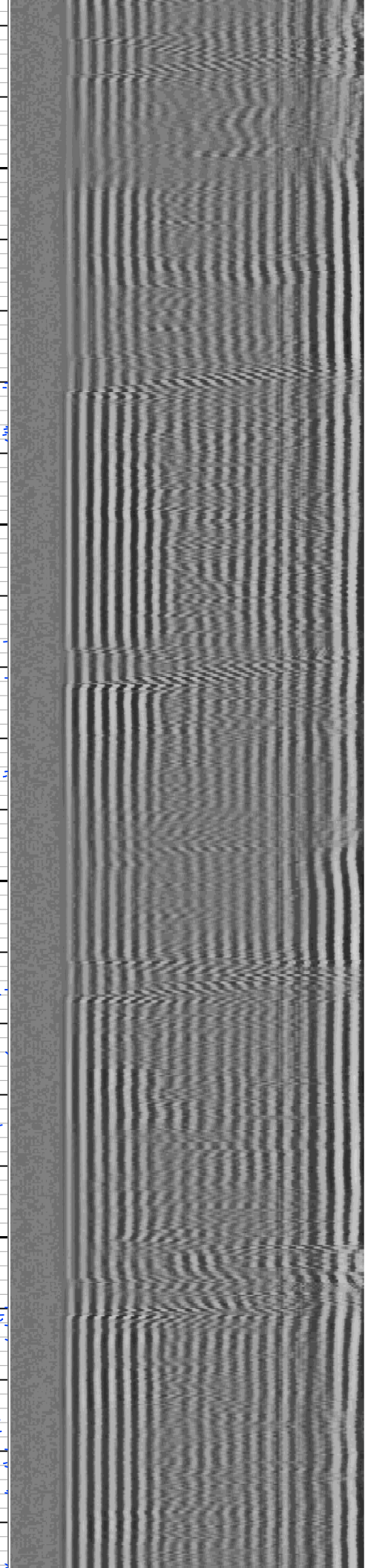
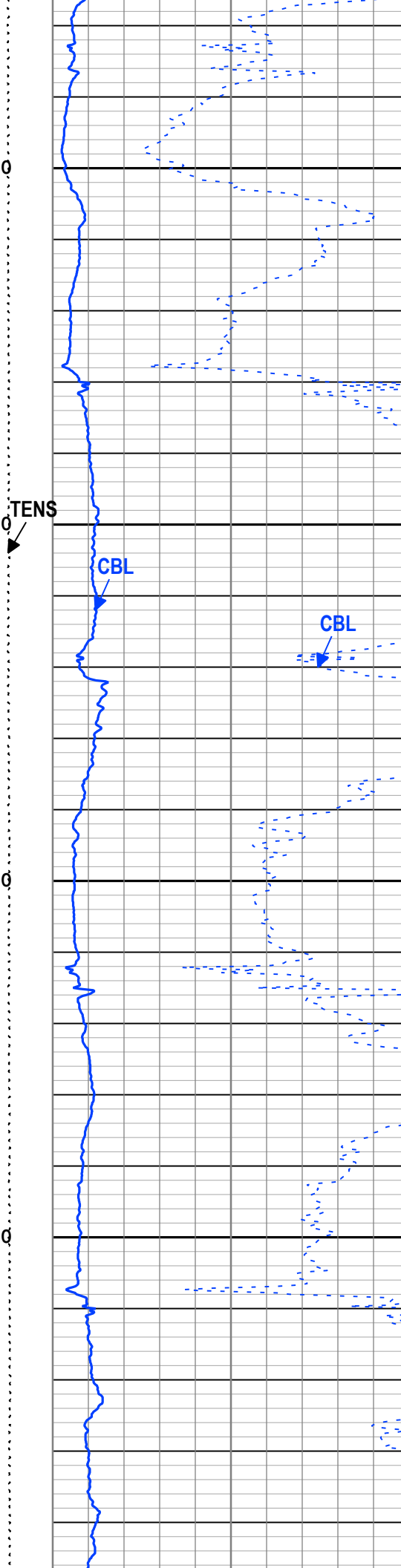


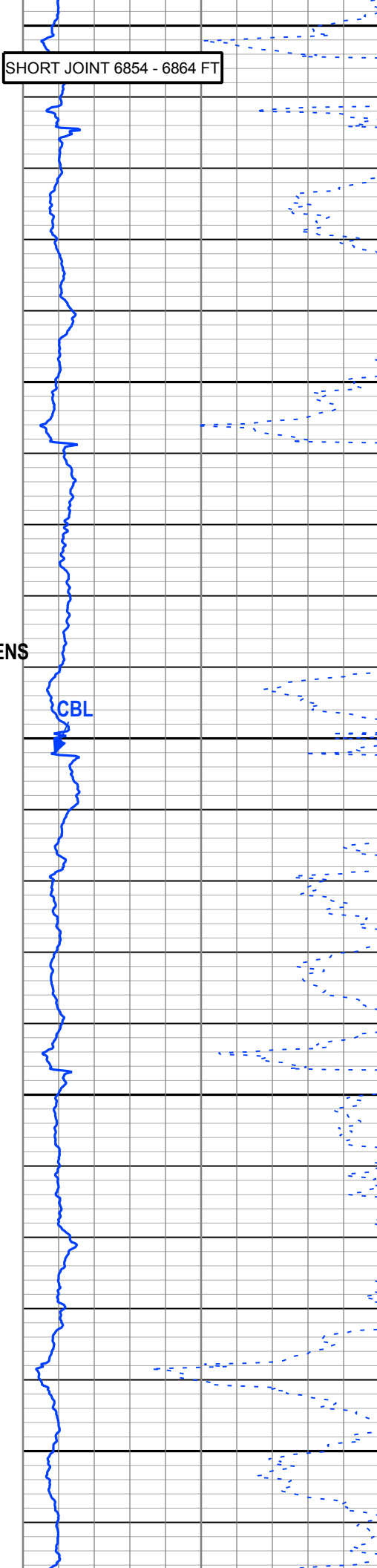
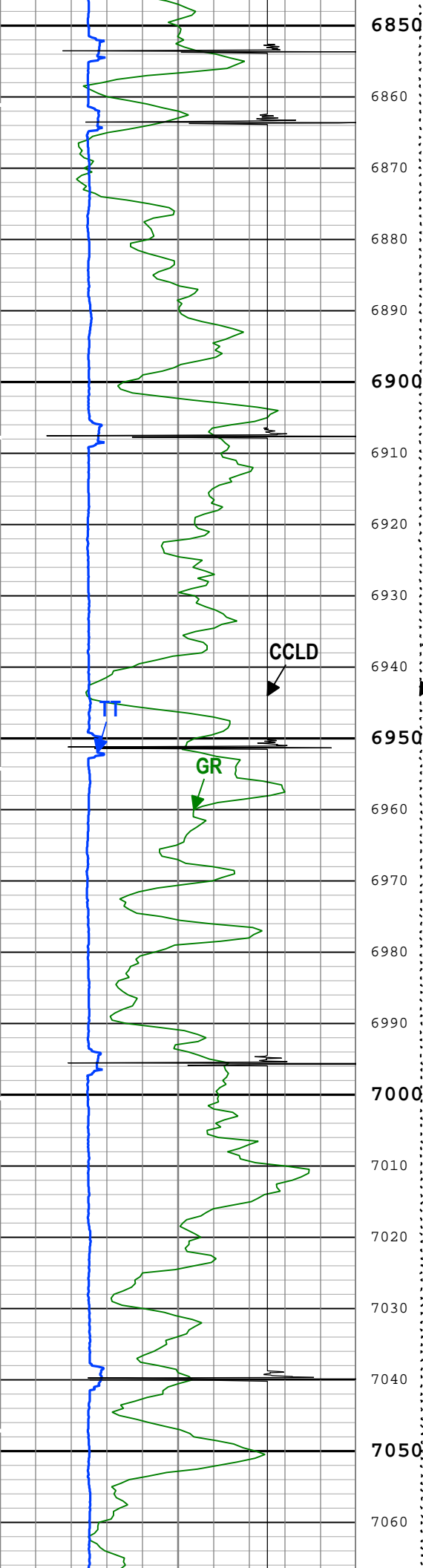
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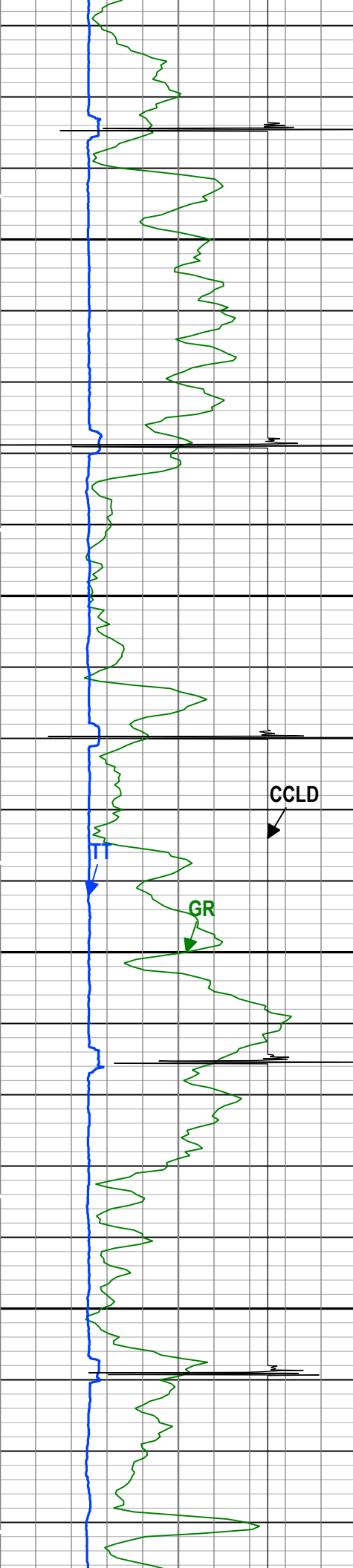




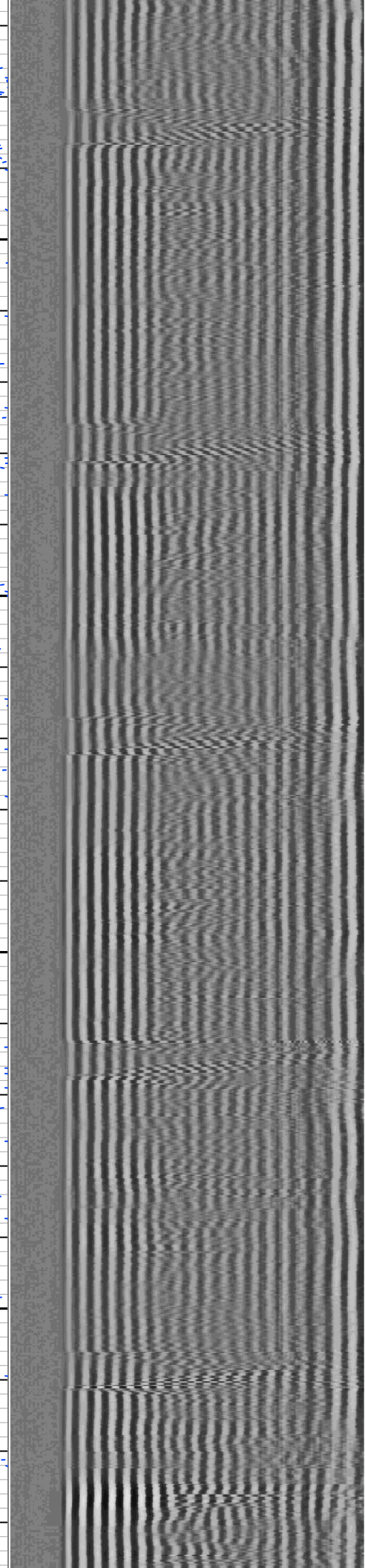
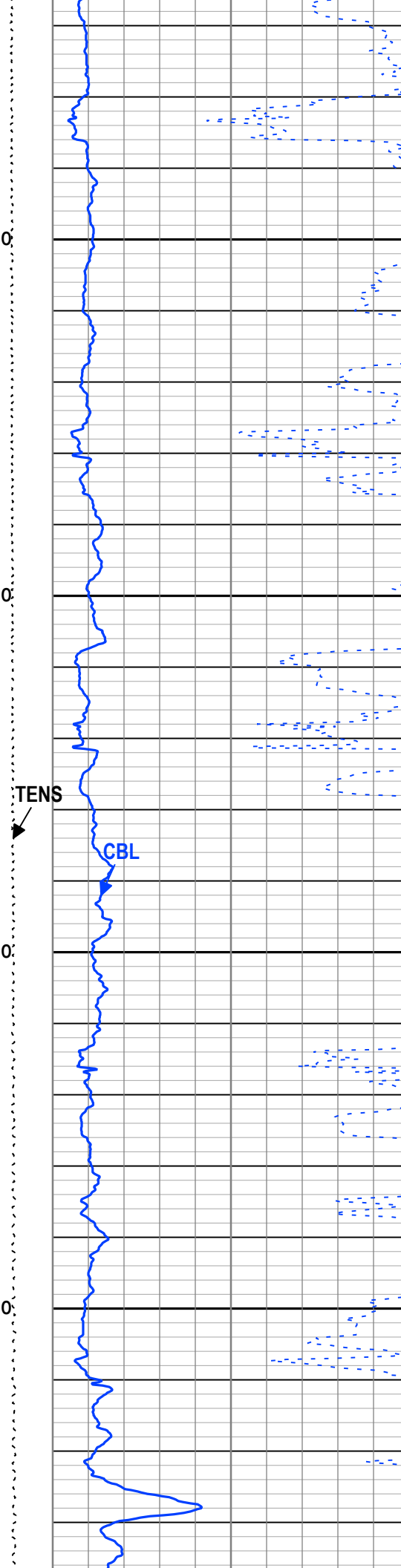
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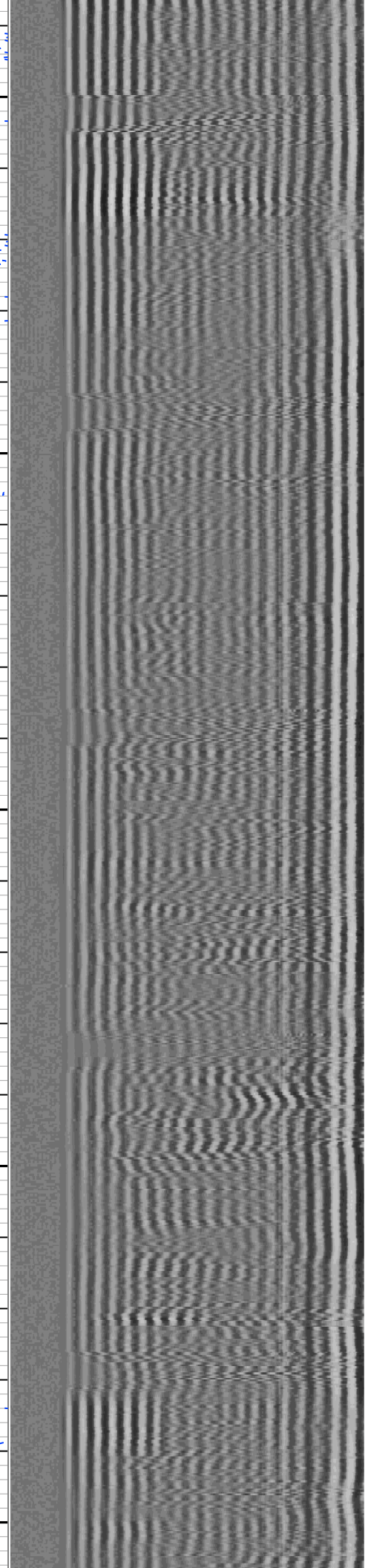
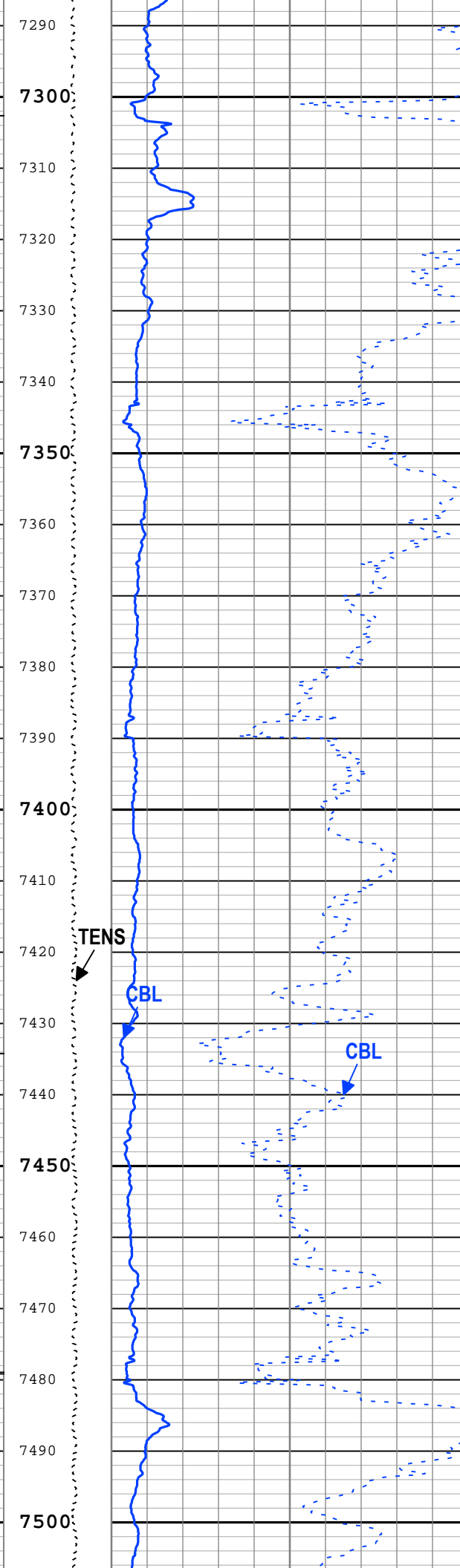
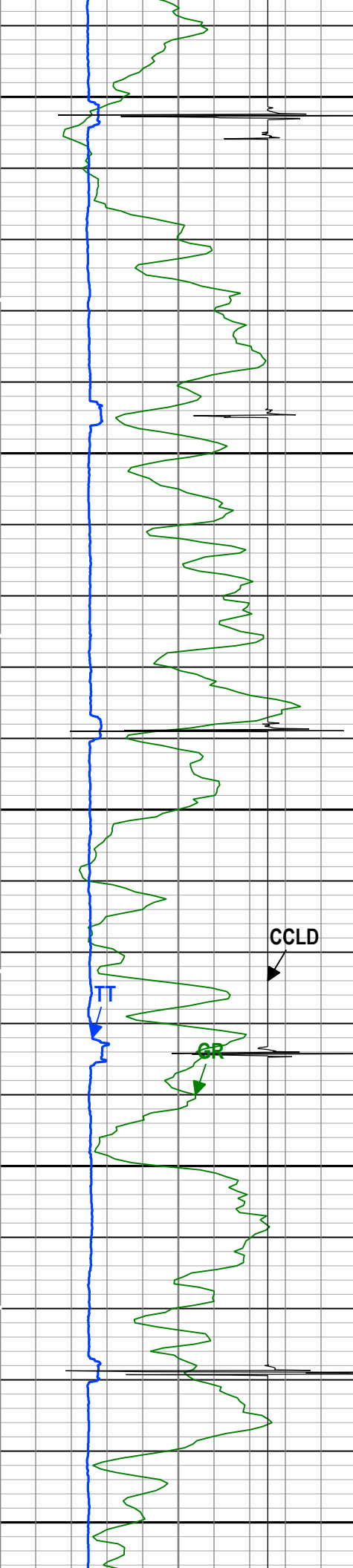


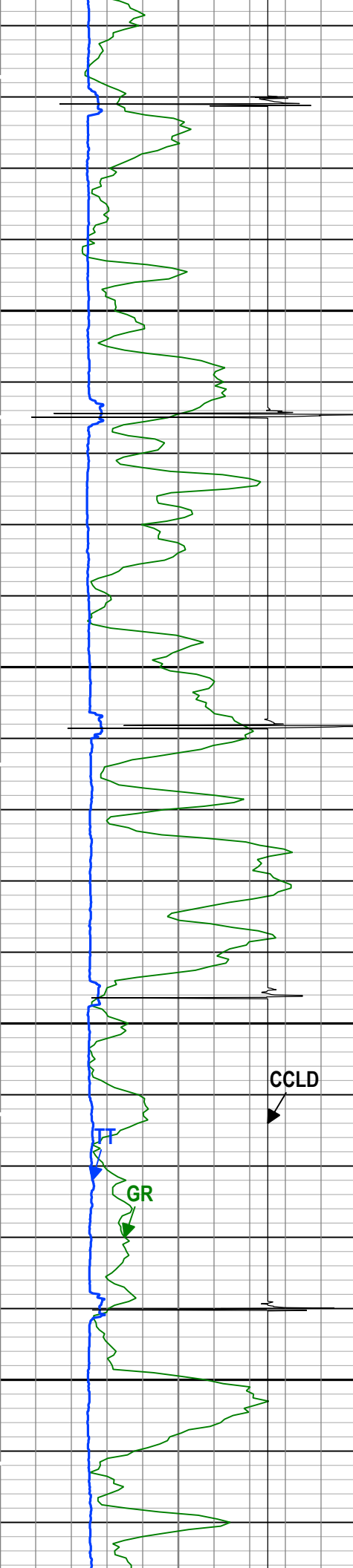




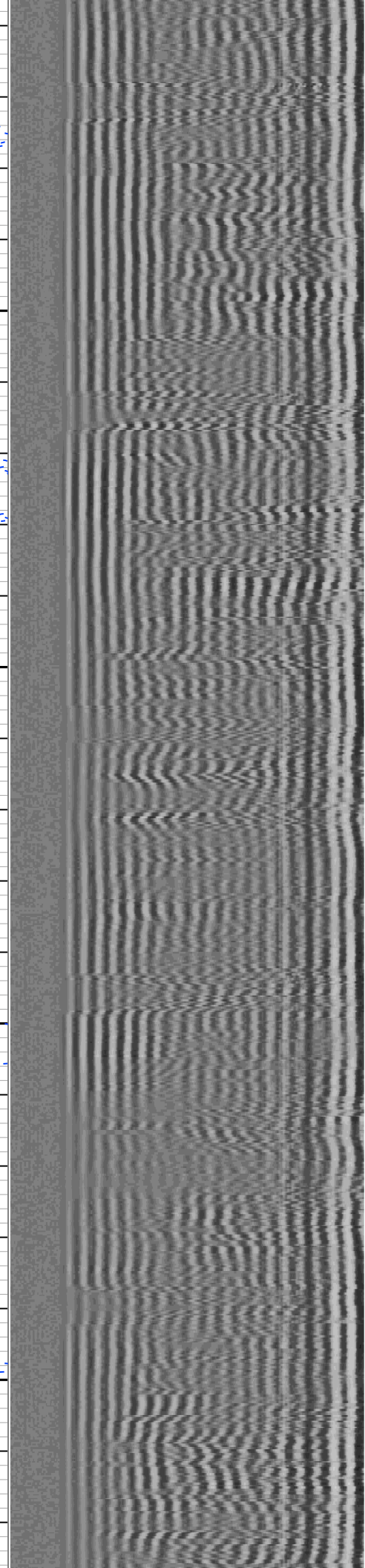
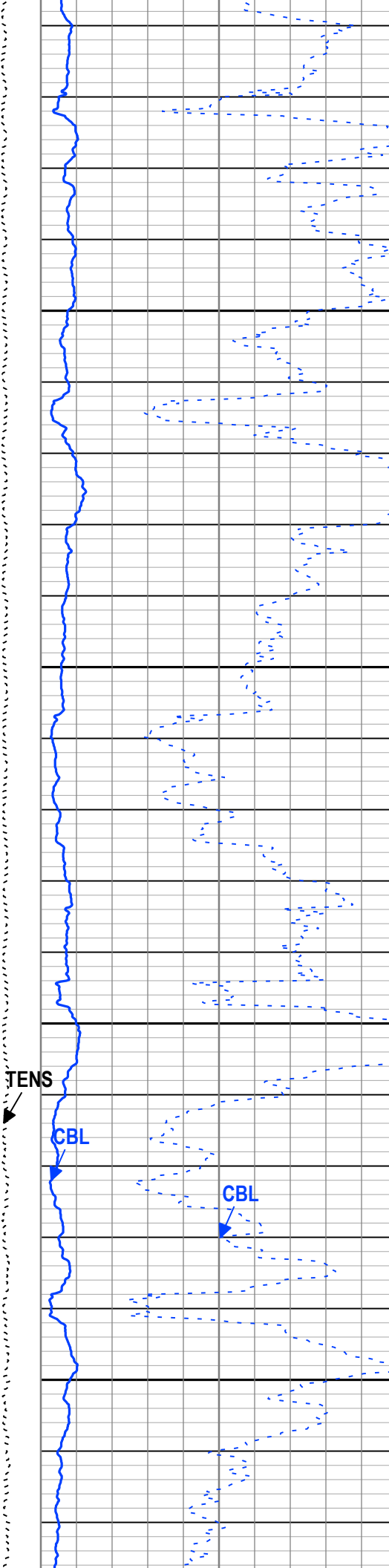
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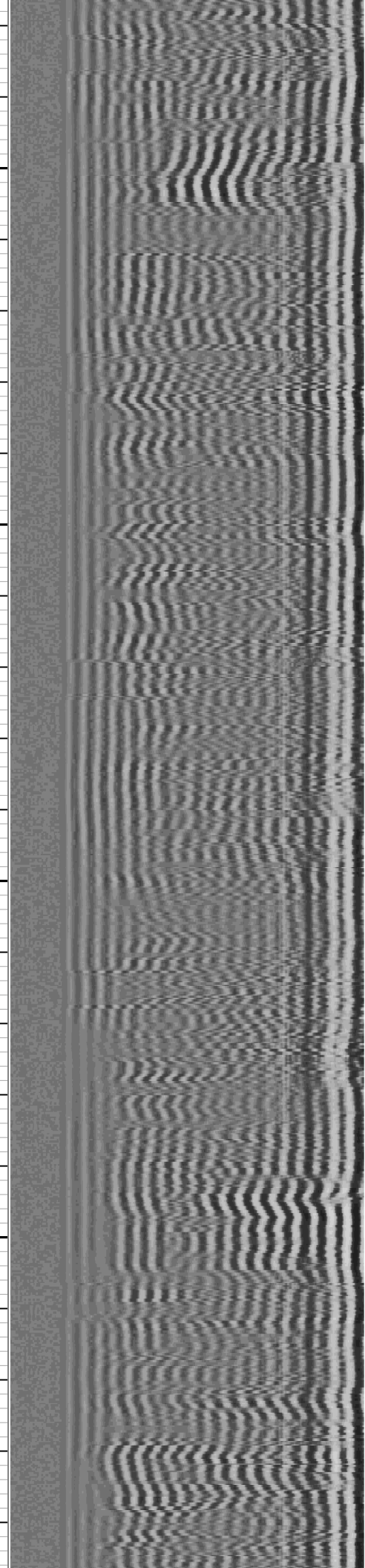
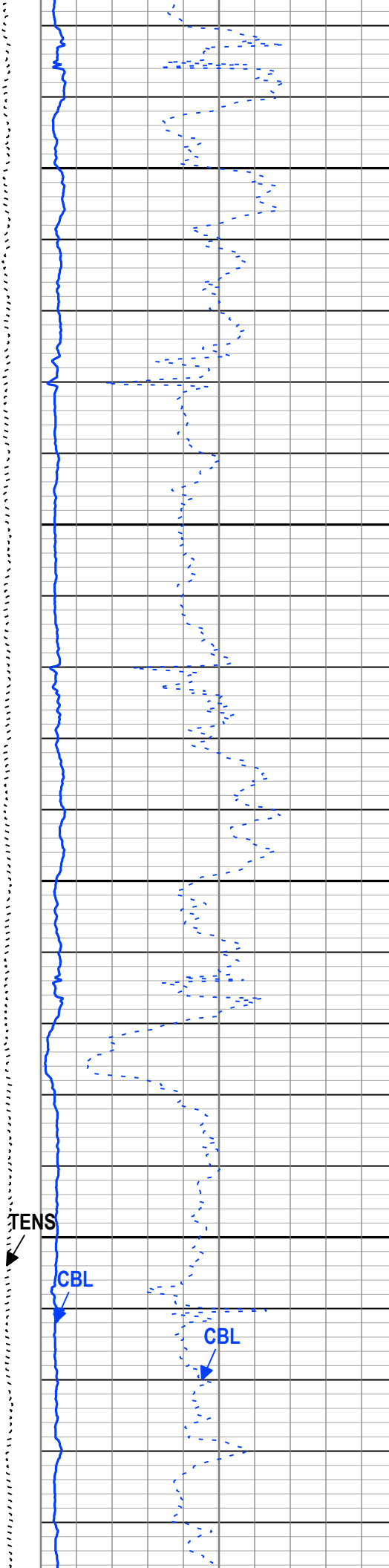


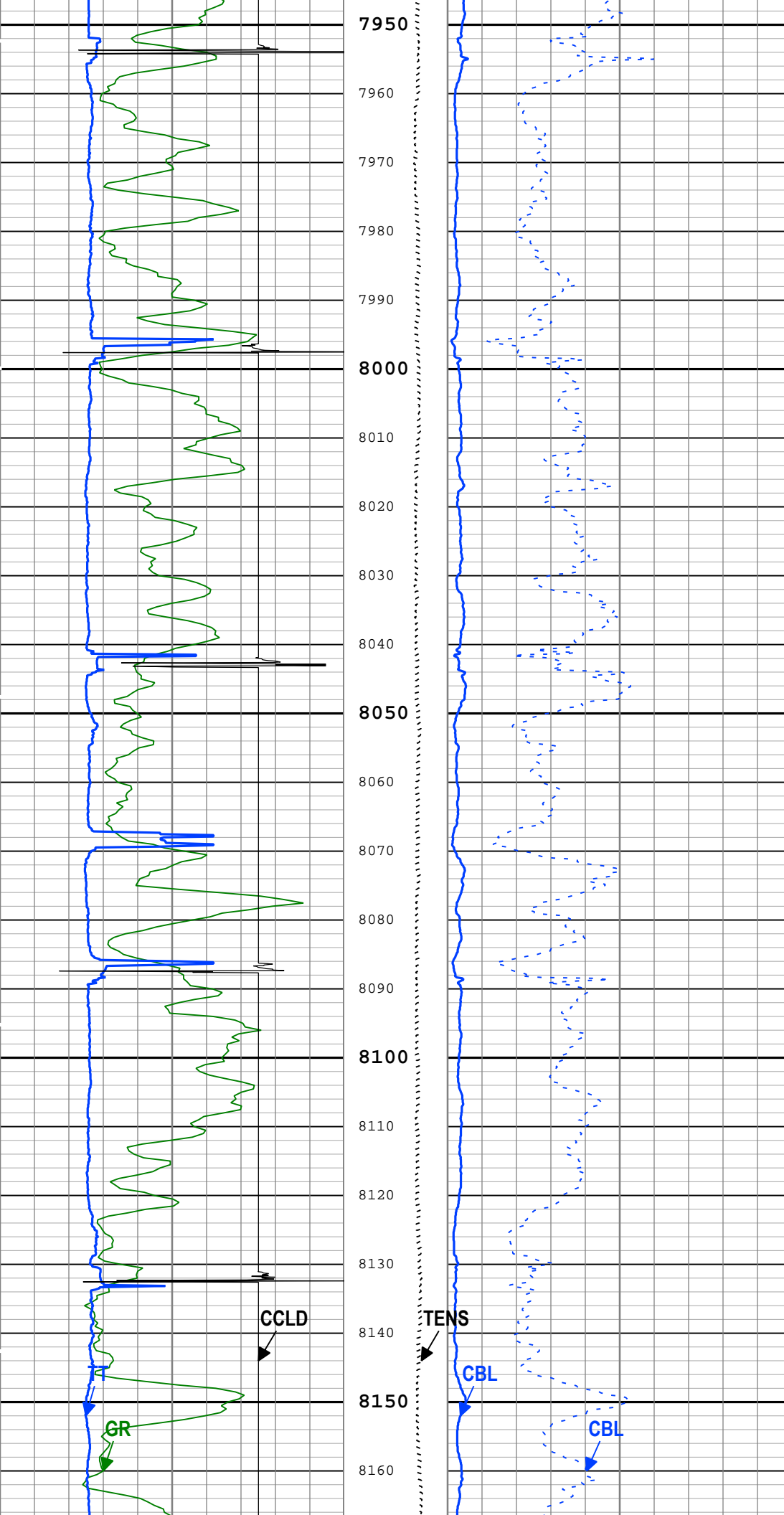
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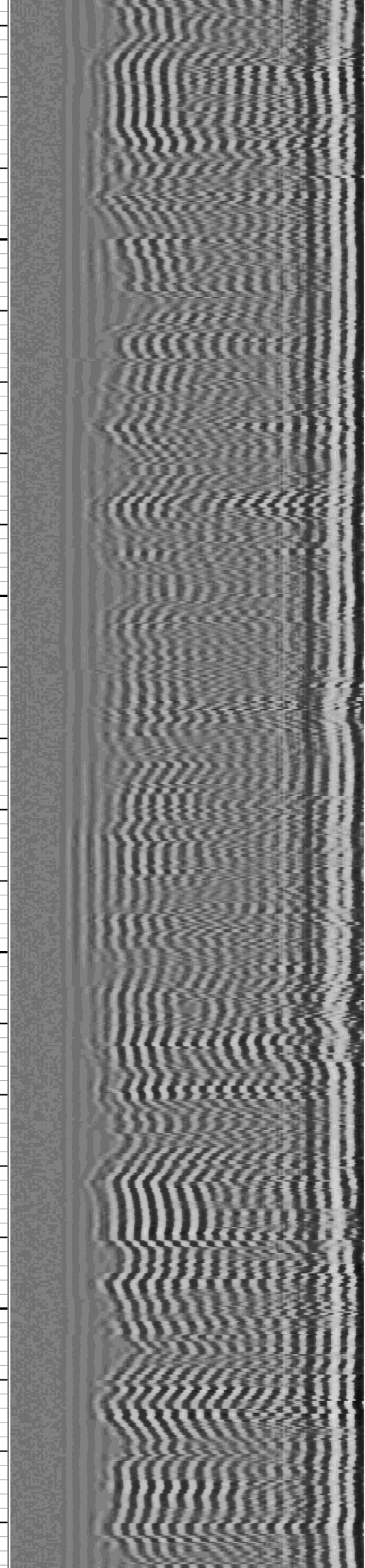
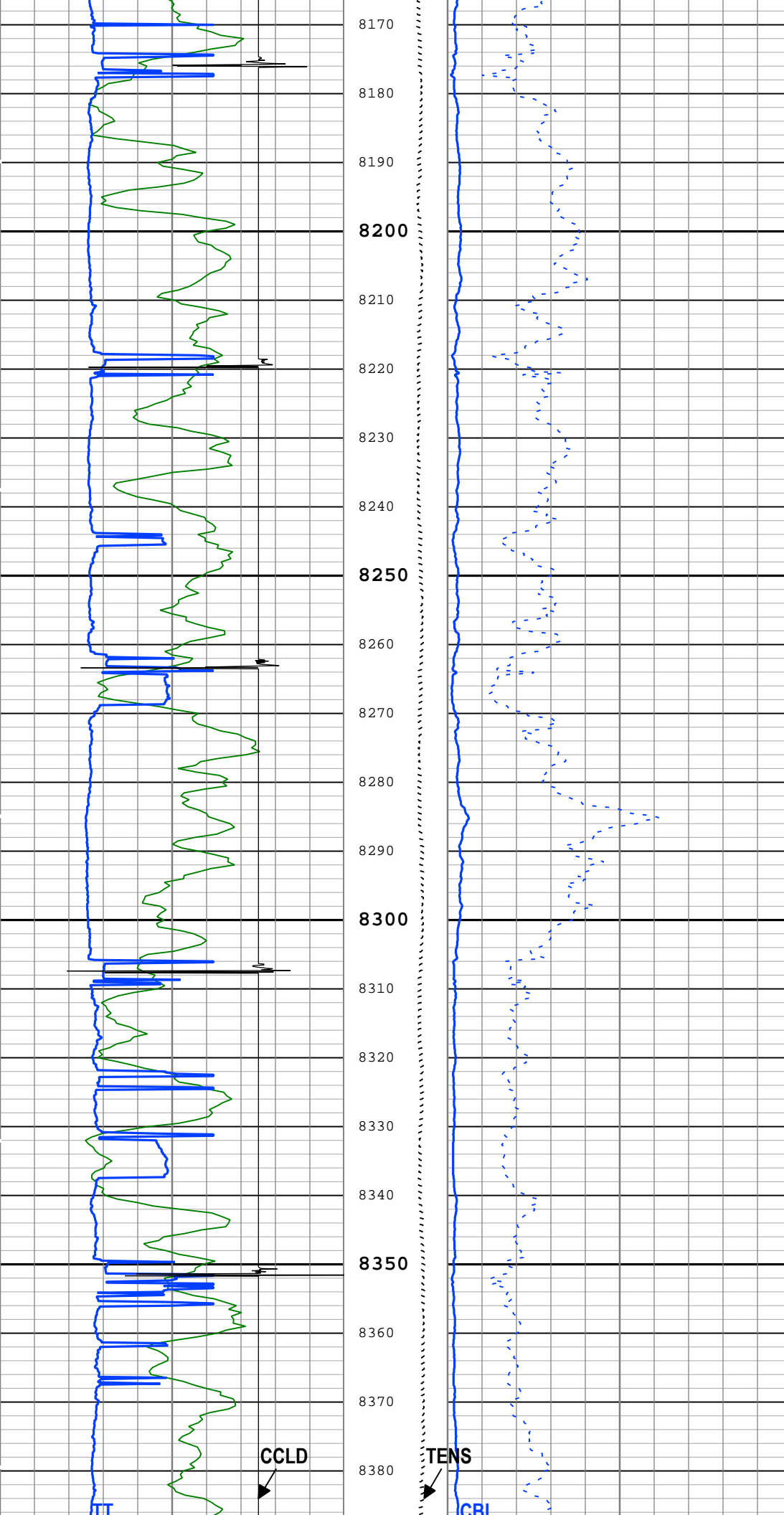


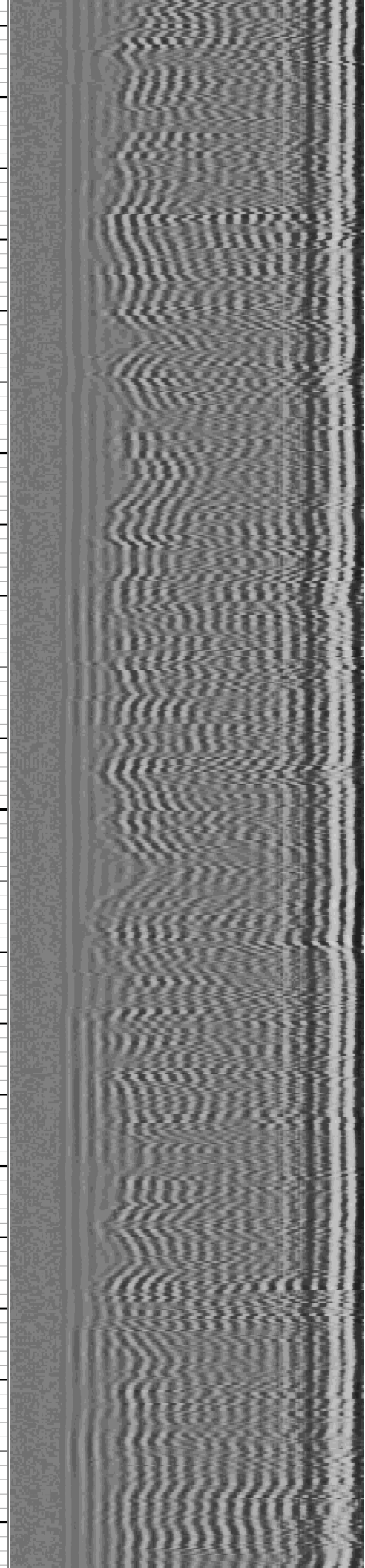
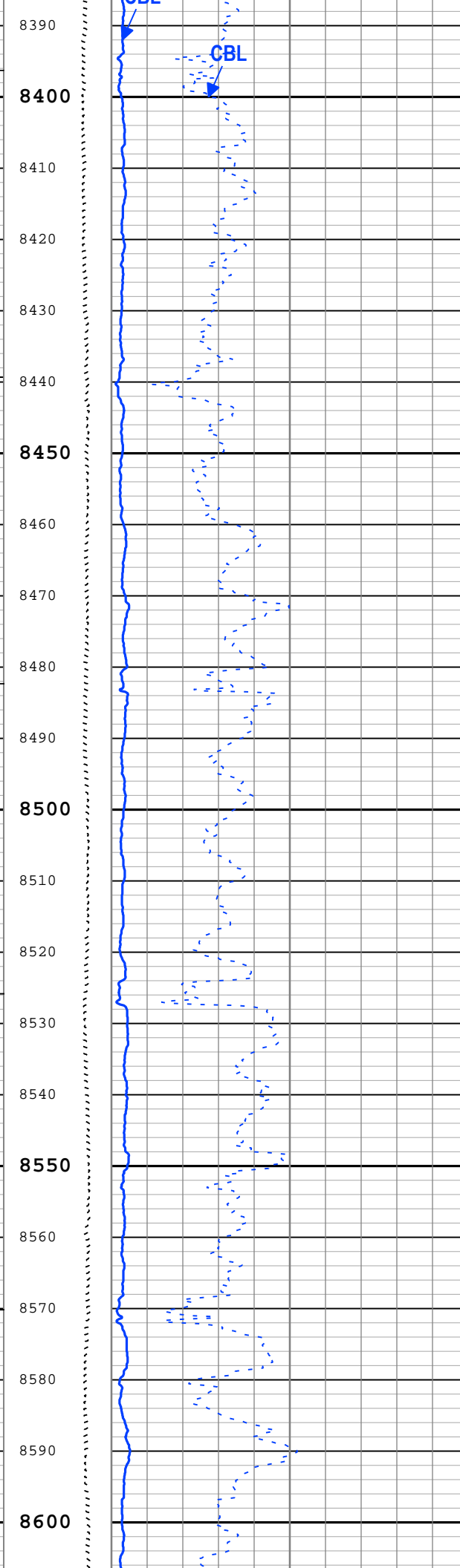
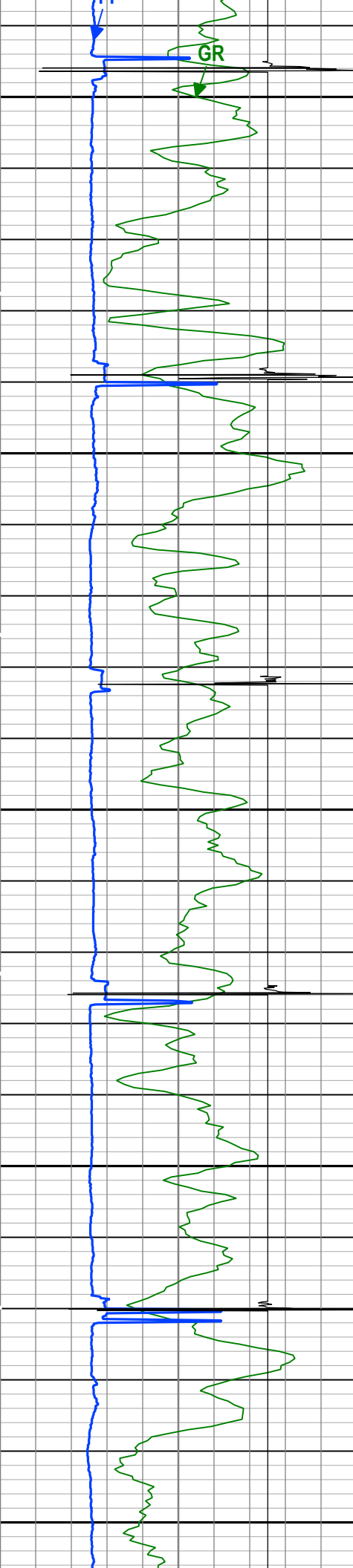


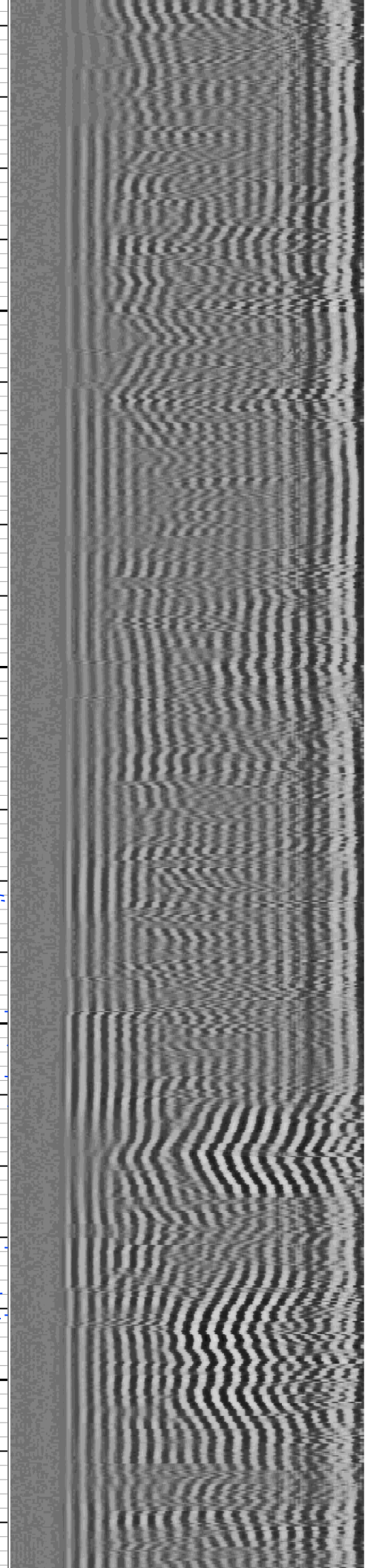
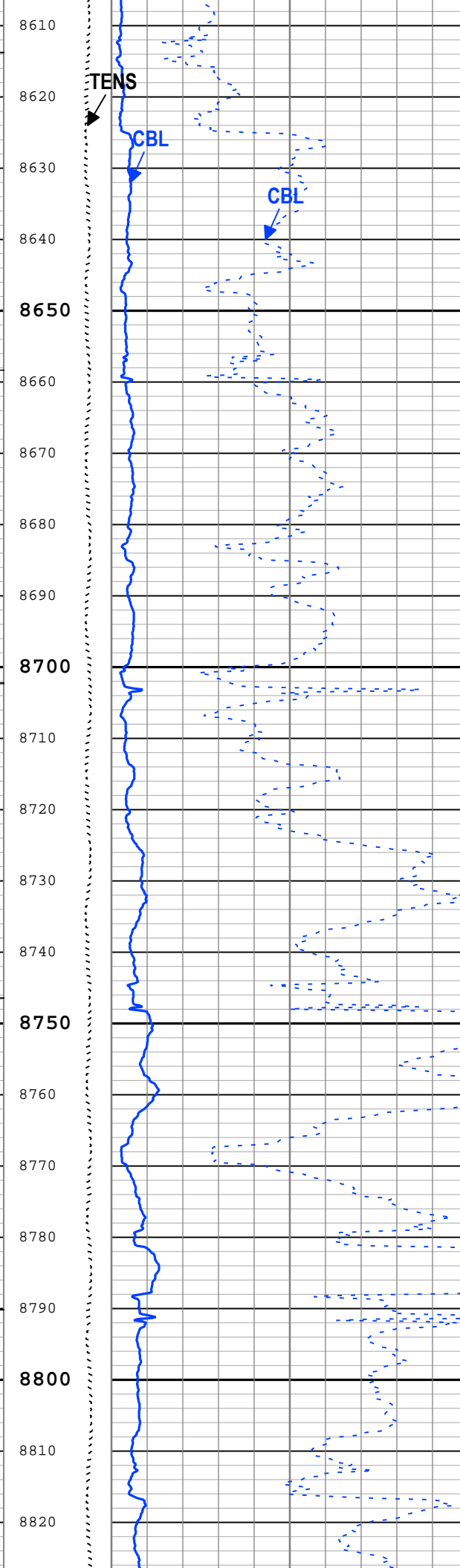
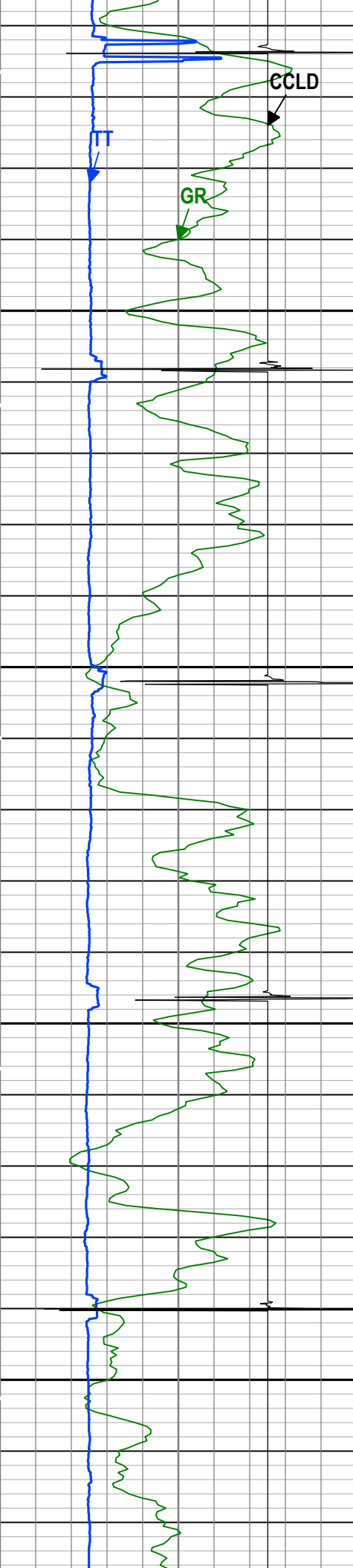
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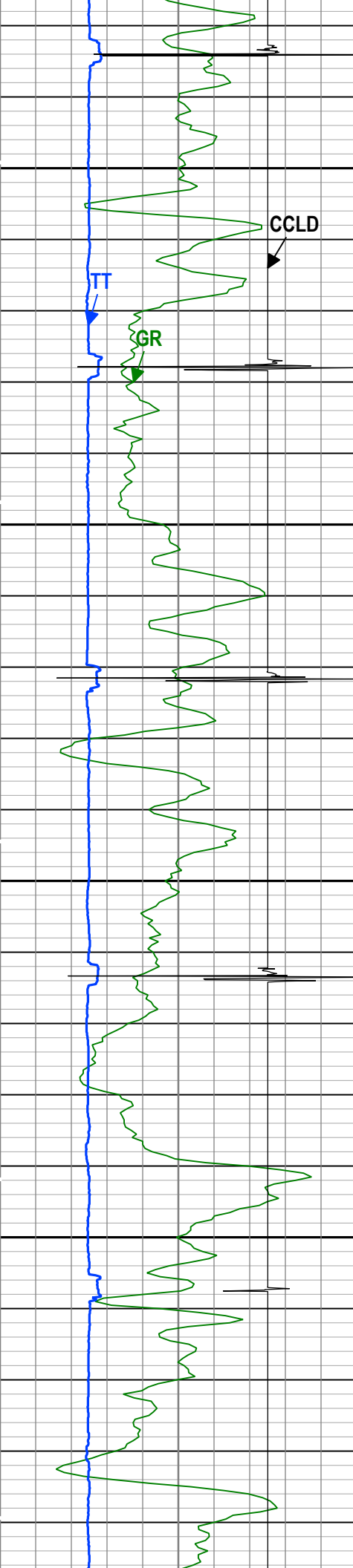




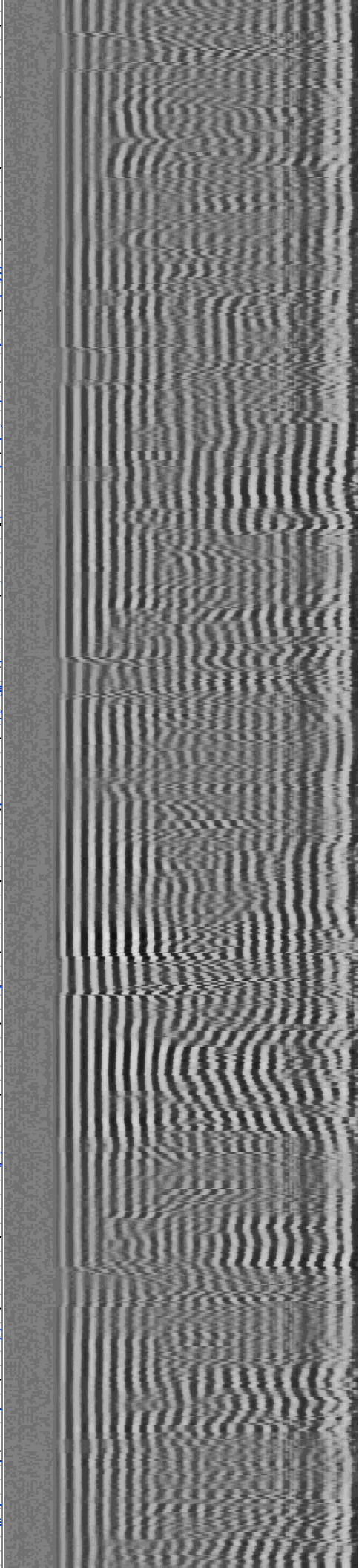
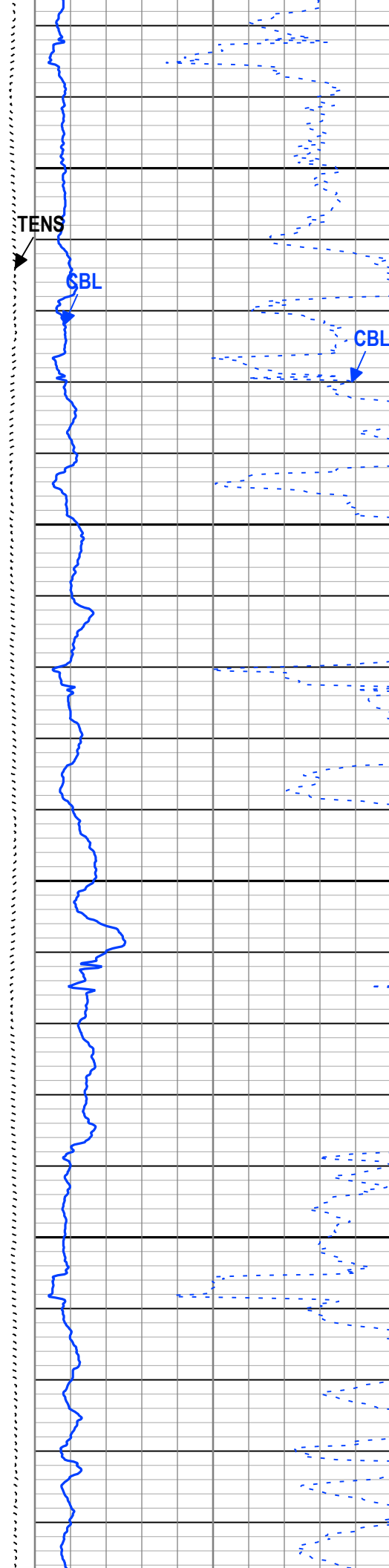


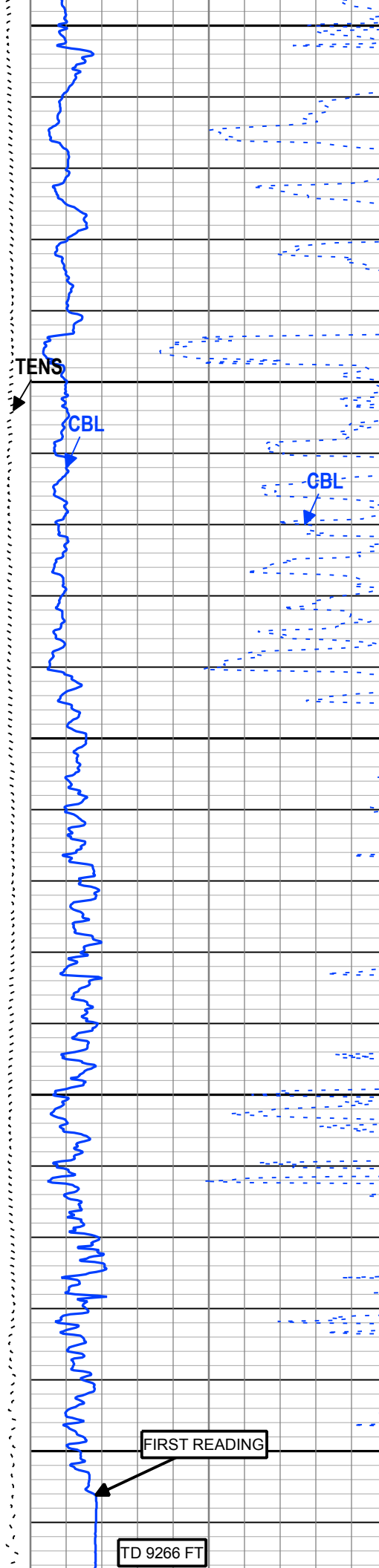
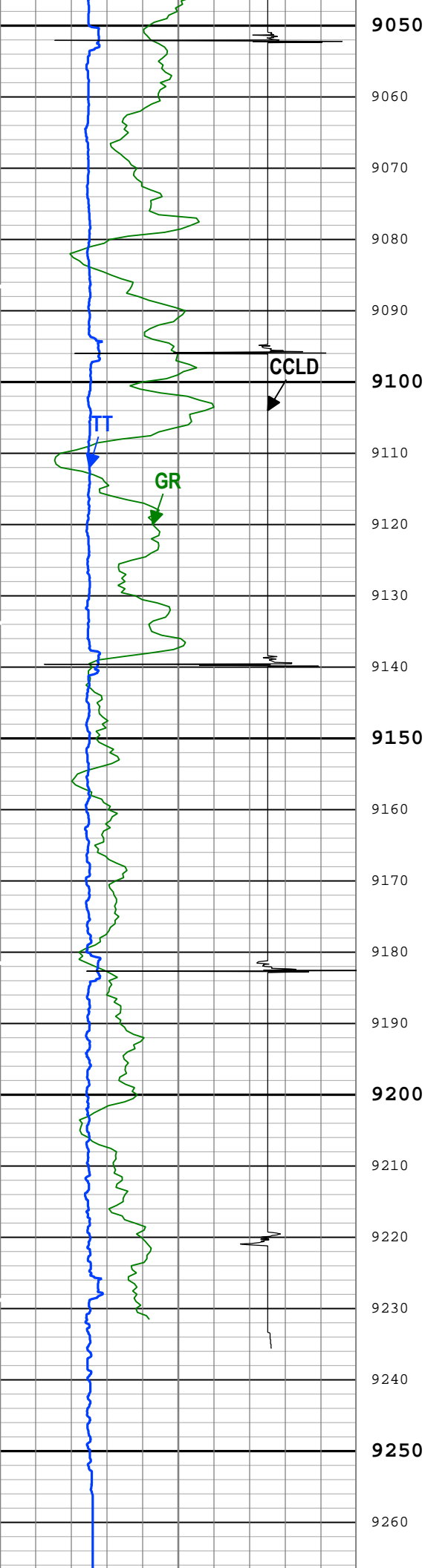






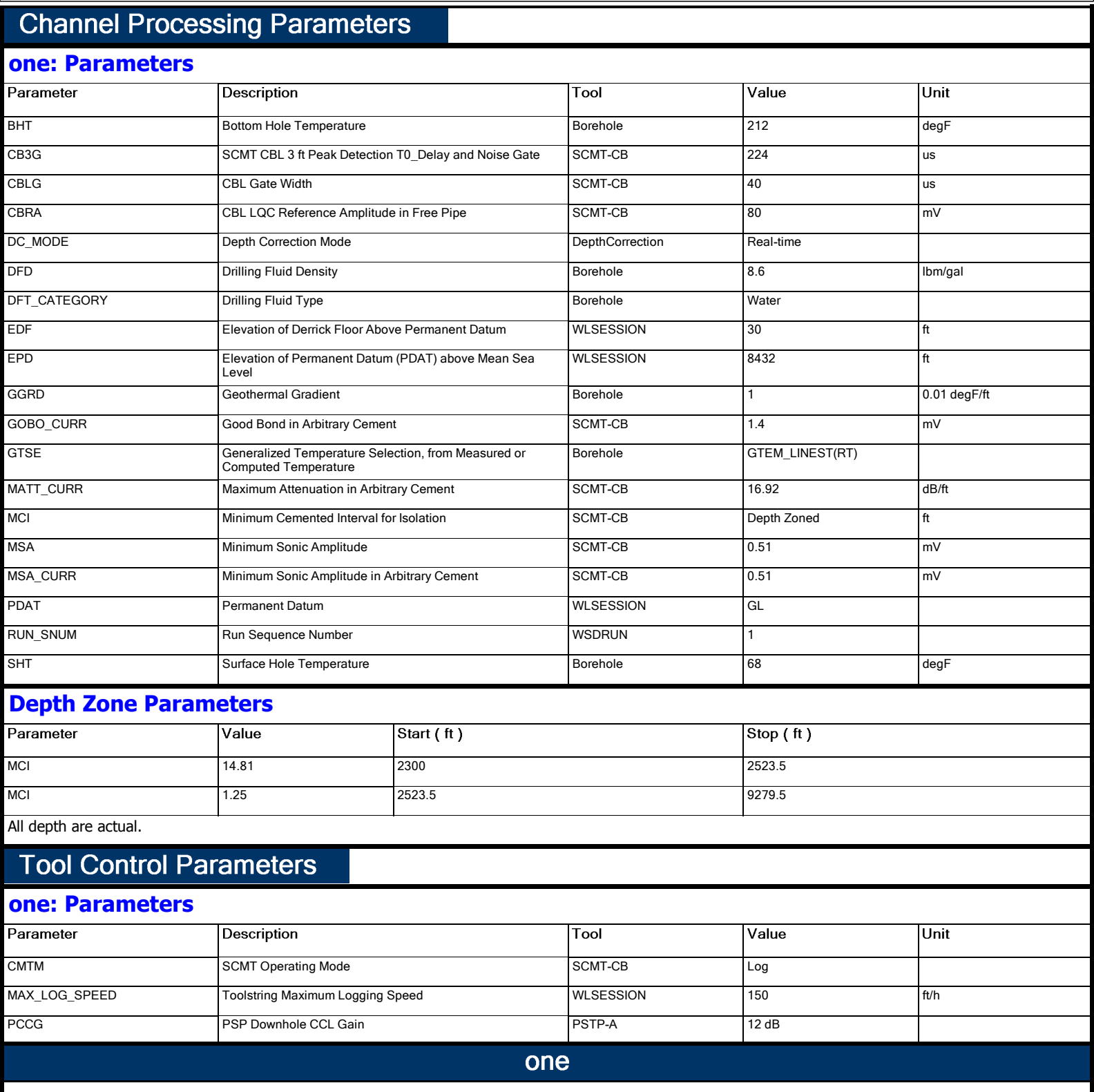
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FIRST READING

TD 9266 FT



Repeat Pass

Software Version

Acquisition System

Maxwell 2017 SP3

Version

7.3.92069.3100

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
one	Log[2]:Up	Up	8923.21 ft	9276.06 ft	23-Dec-2017 11:40:27 AM	23-Dec-2017 11:51:48 AM	ON	6.77 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Caerus Operating LLC

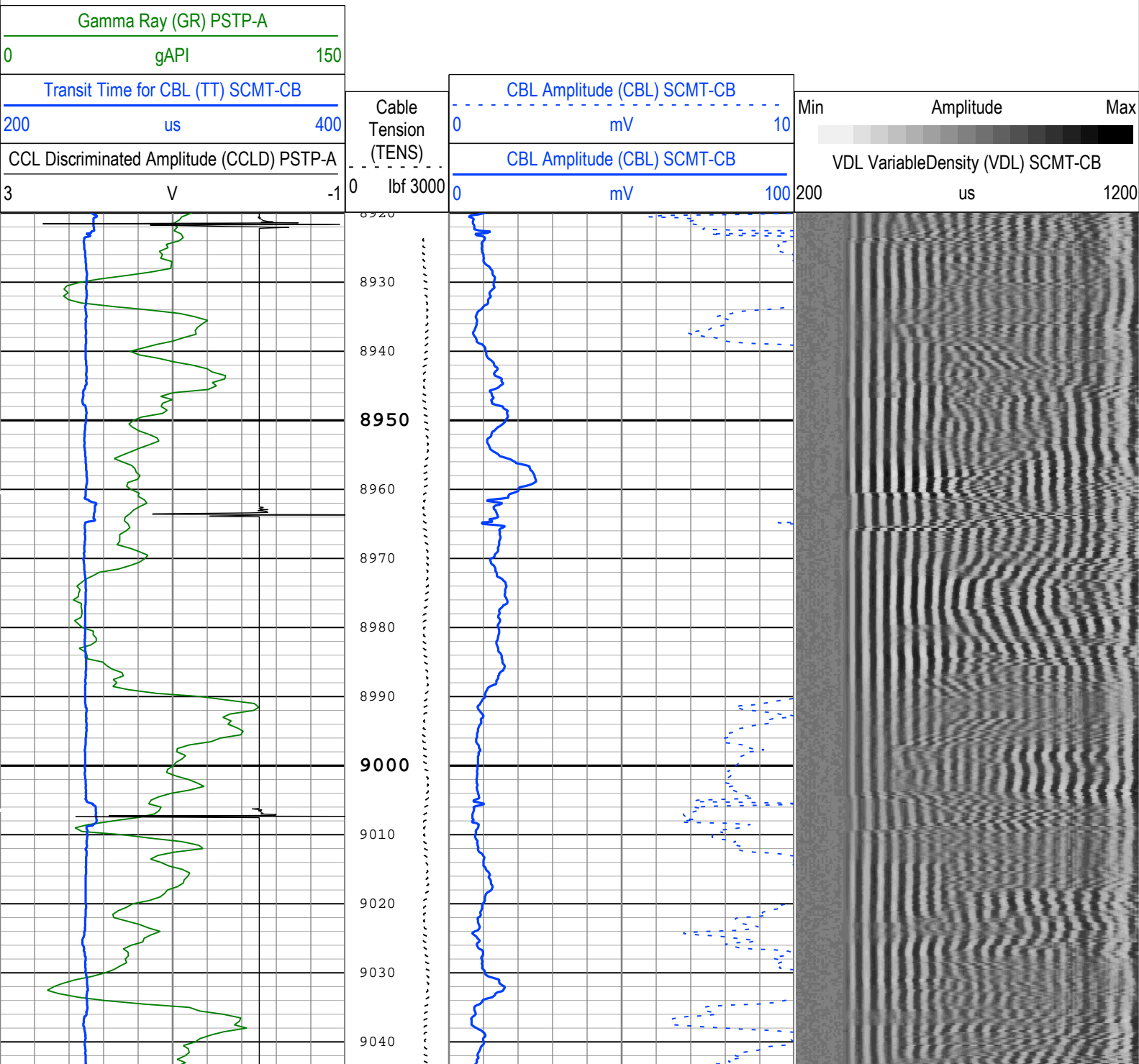
Well:Puckett 11C-26 697

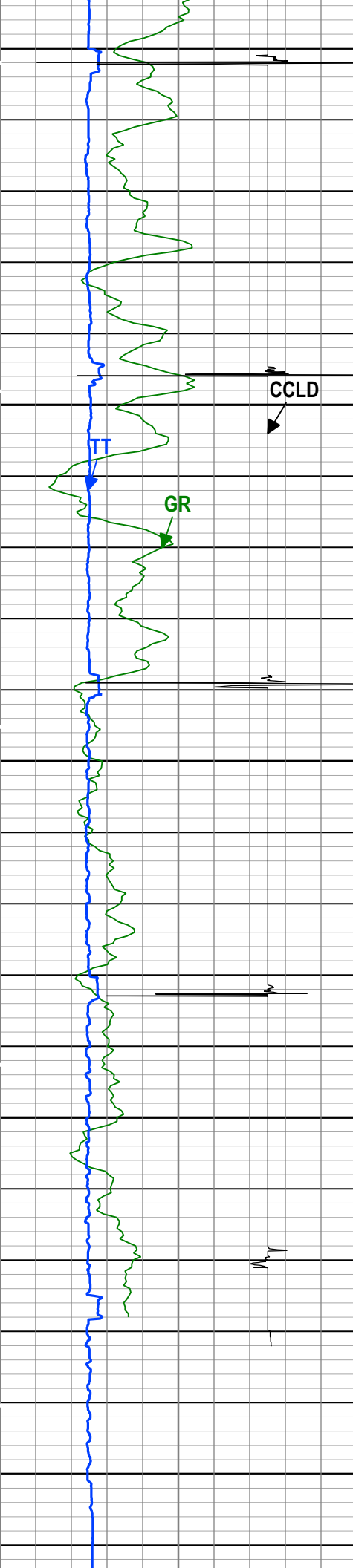
one: Log[2]:Up:S004

Description: SCMT Amplitudes and VDL Format: Log (SCMT_Amp_VDL) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth

Creation Date: 07-Jan-2018 12:00:20

TIME_1900 - Time Marked every 60.00 (s)





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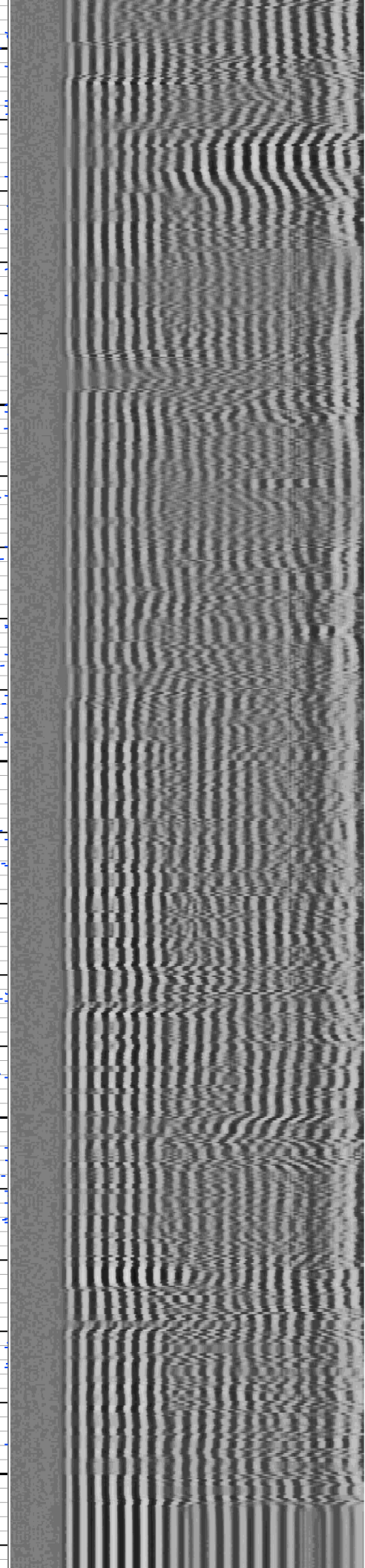
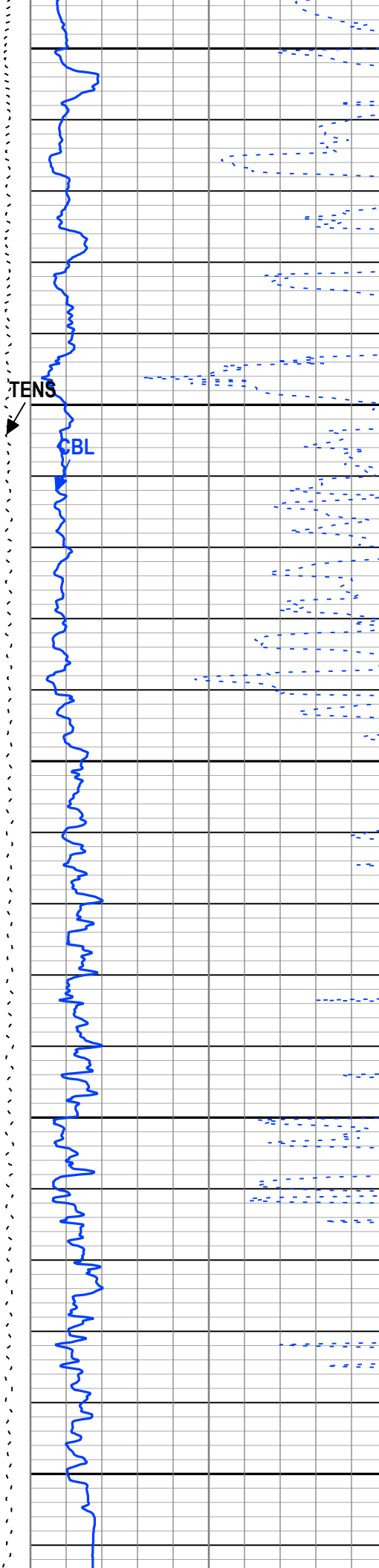
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Pass Summary

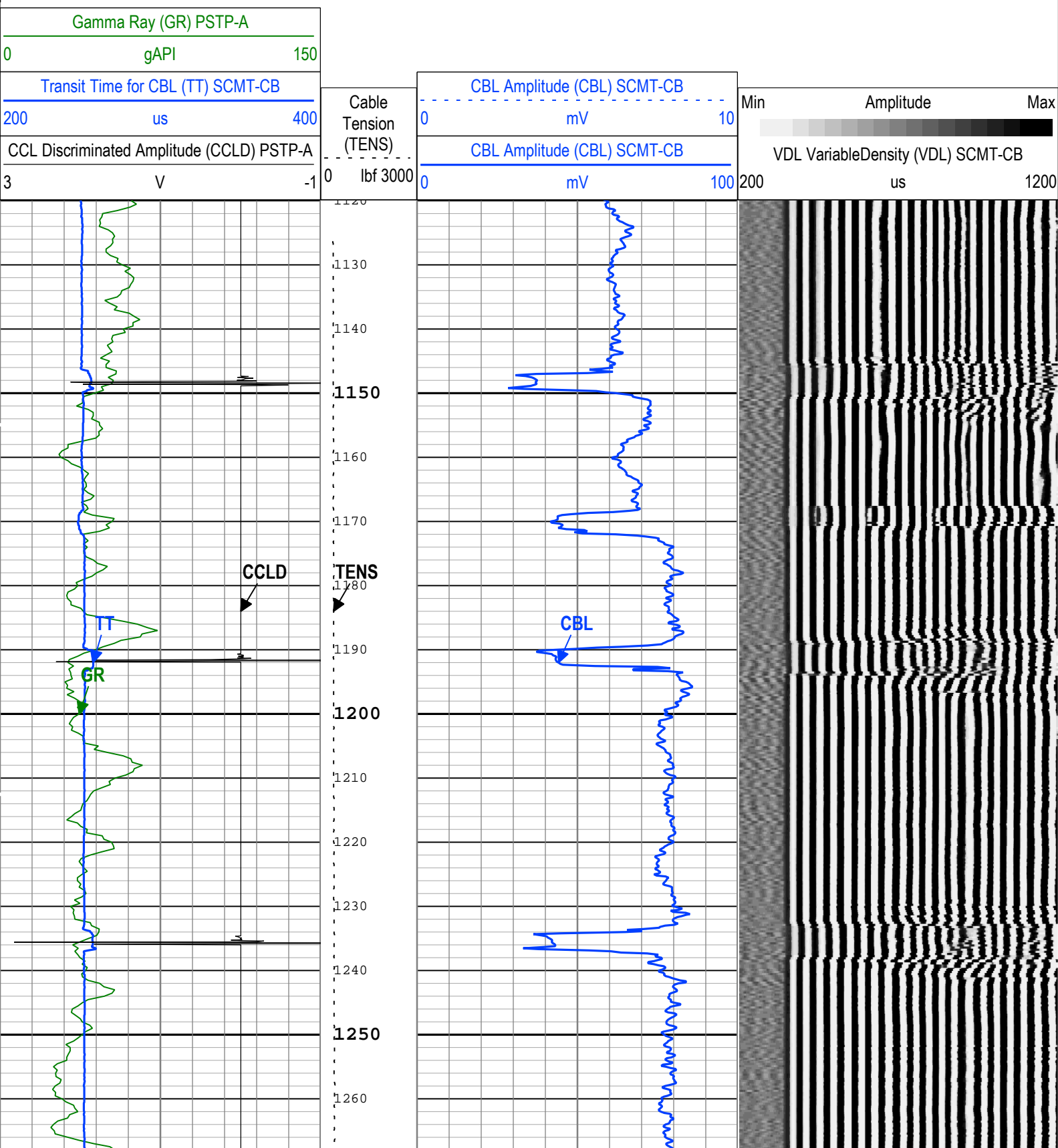
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
one	Log[5]:Up	Up	1125.83 ft	1457.44 ft	23-Dec-2017 2:45:30 PM	23-Dec-2017 2:51:30 PM	ON	0.00 ft	No

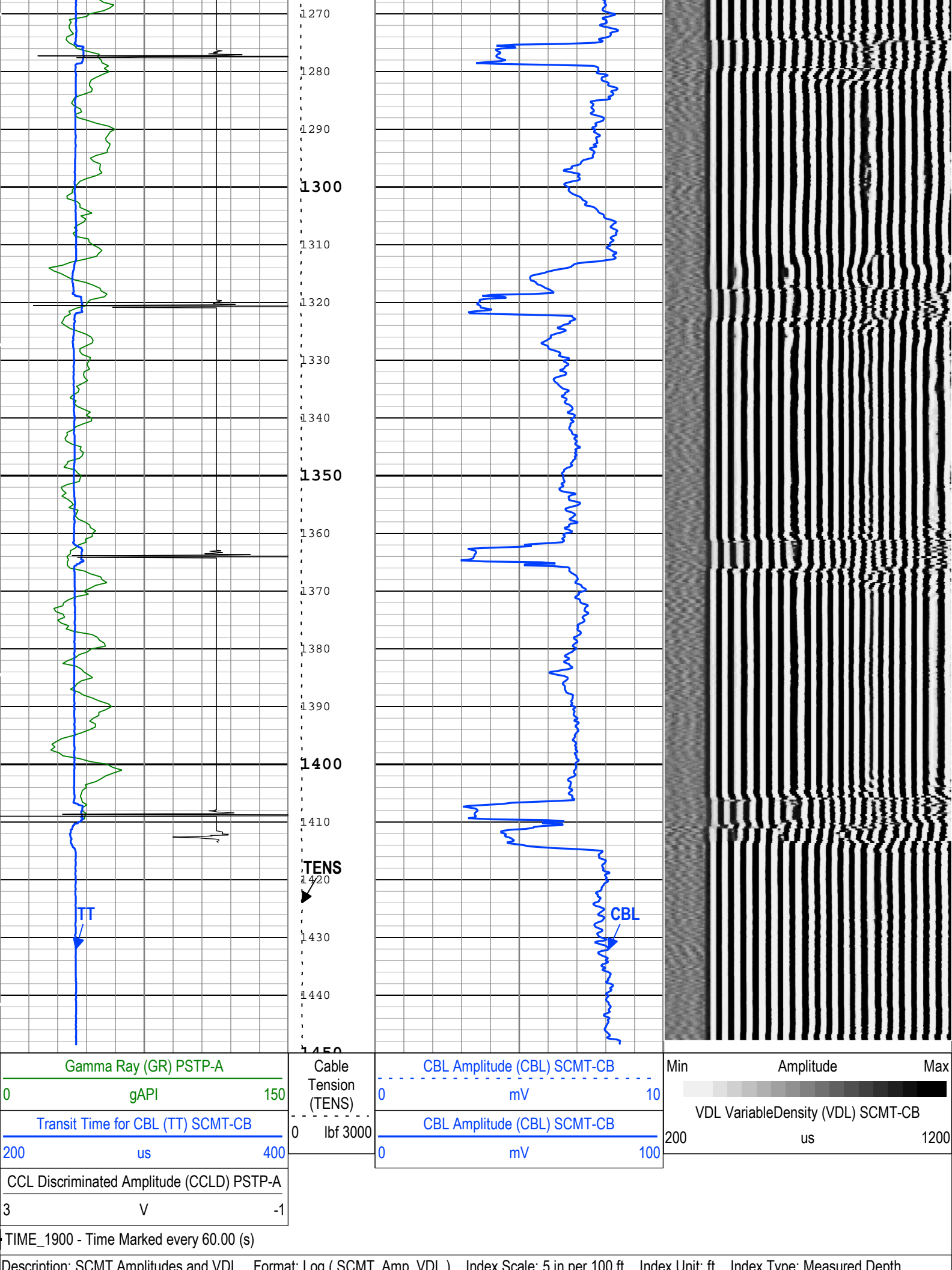
All depths are referenced to toolstring zero

Log	Company:Caerus Operating LLC	Well:Puckett 11C-26 697
		one: Log[5]:Up:S004

Description: SCMT Amplitudes and VDL Format: Log (SCMT_Amp_VDL) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth
 Creation Date: 07-Jan-2018 12:00:23

TIME_1900 - Time Marked every 60.00 (s)





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
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	8.6	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
EDF	Elevation of Derrick Floor Above Permanent Datum	WLSESSION	30	ft
EPD	Elevation of Permanent Datum (PDAT) above Mean Sea Level	WLSESSION	8432	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	14.81	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	12 dB	
one				
Main Pass				

Software Version	
Acquisition System	Version
Maxwell 2017 SP3	7.3.92069.3100

Pass Summary									
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
one	Log[3]:Up	Up	2156.73 ft	9279.53 ft	23-Dec-2017 11:52:01 AM	23-Dec-2017 2:32:16 PM	ON	7.55 ft	Yes

All depths are referenced to toolstring zero

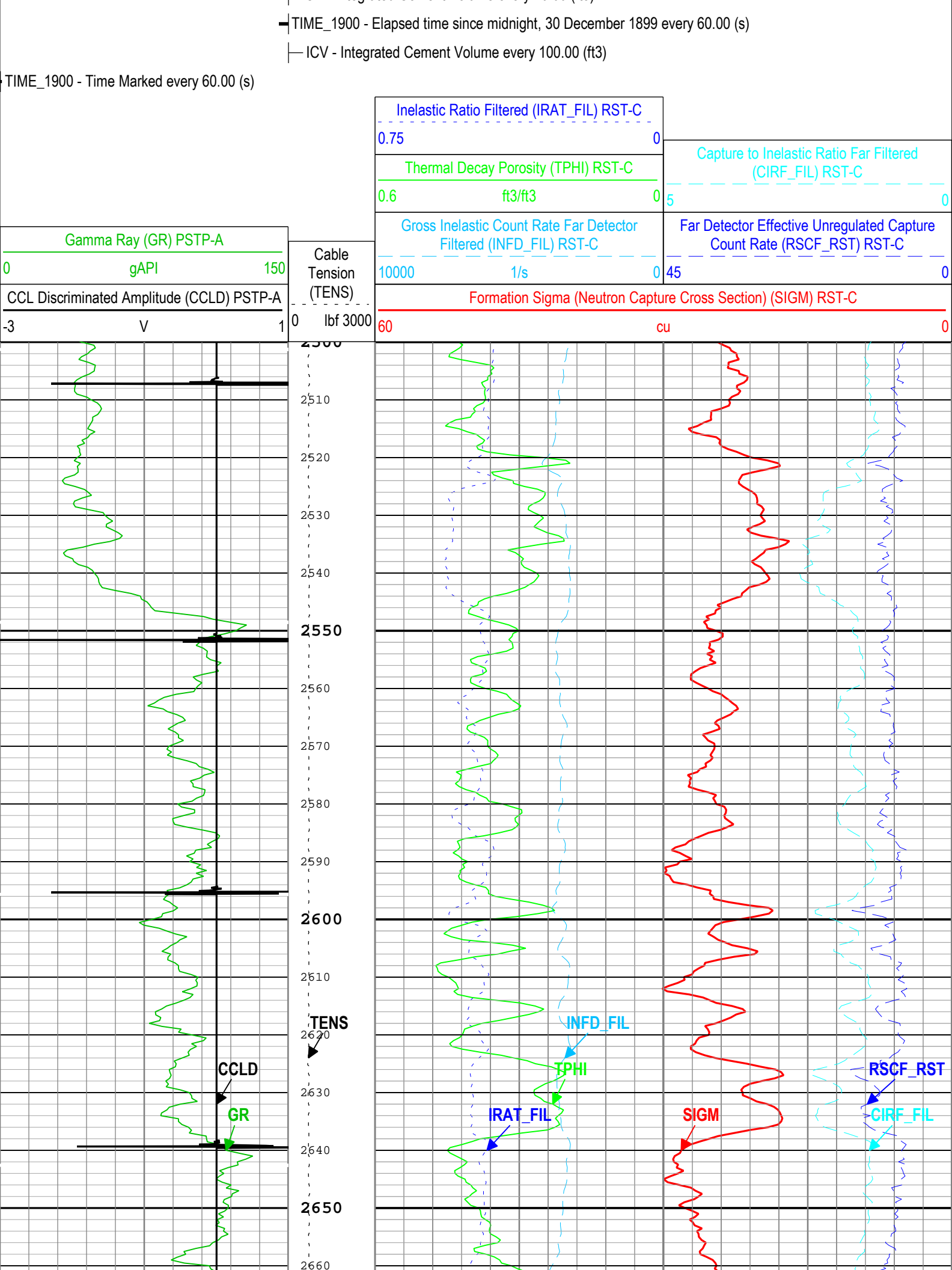
Log	Company:Caerus Operating LLC Well:Puckett 11C-26 697 one: Log[3]:Up:S004
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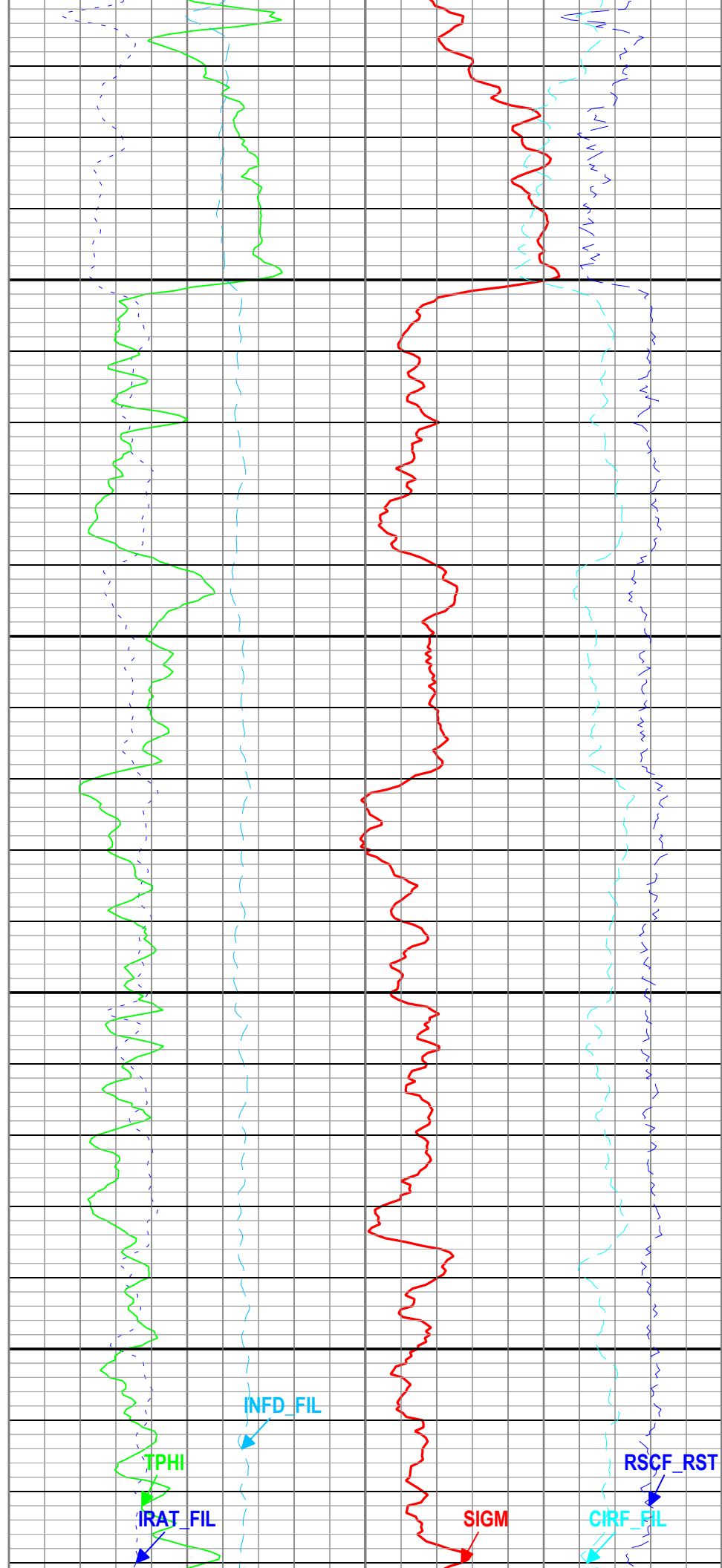
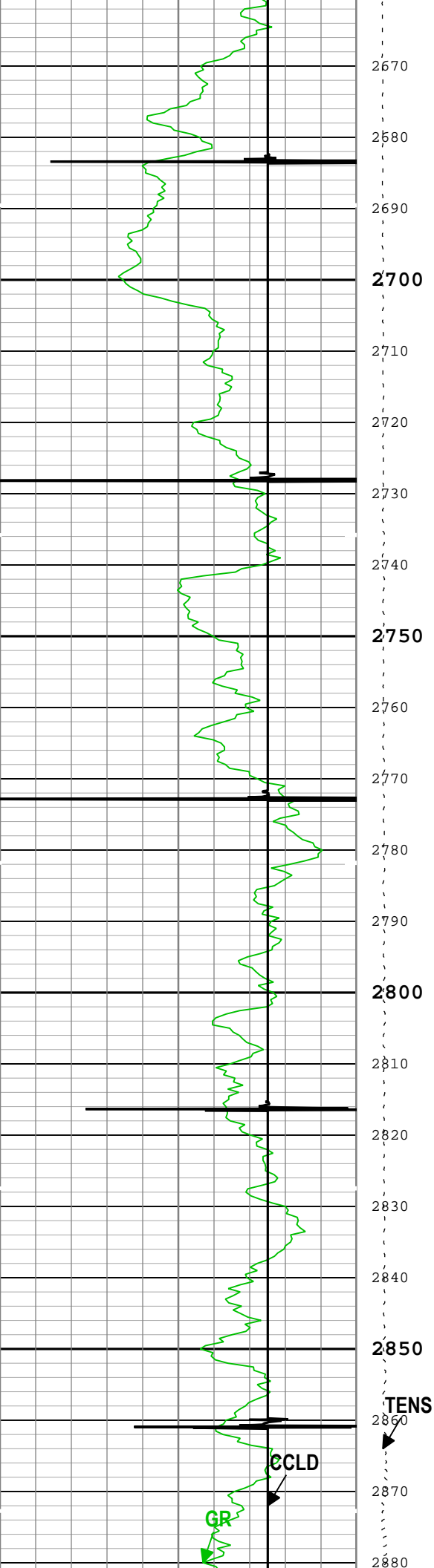
Description: RST SIGMA Answer Format: Log (RST SIGMA Answer) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 07-Jan-2018 12:00:25

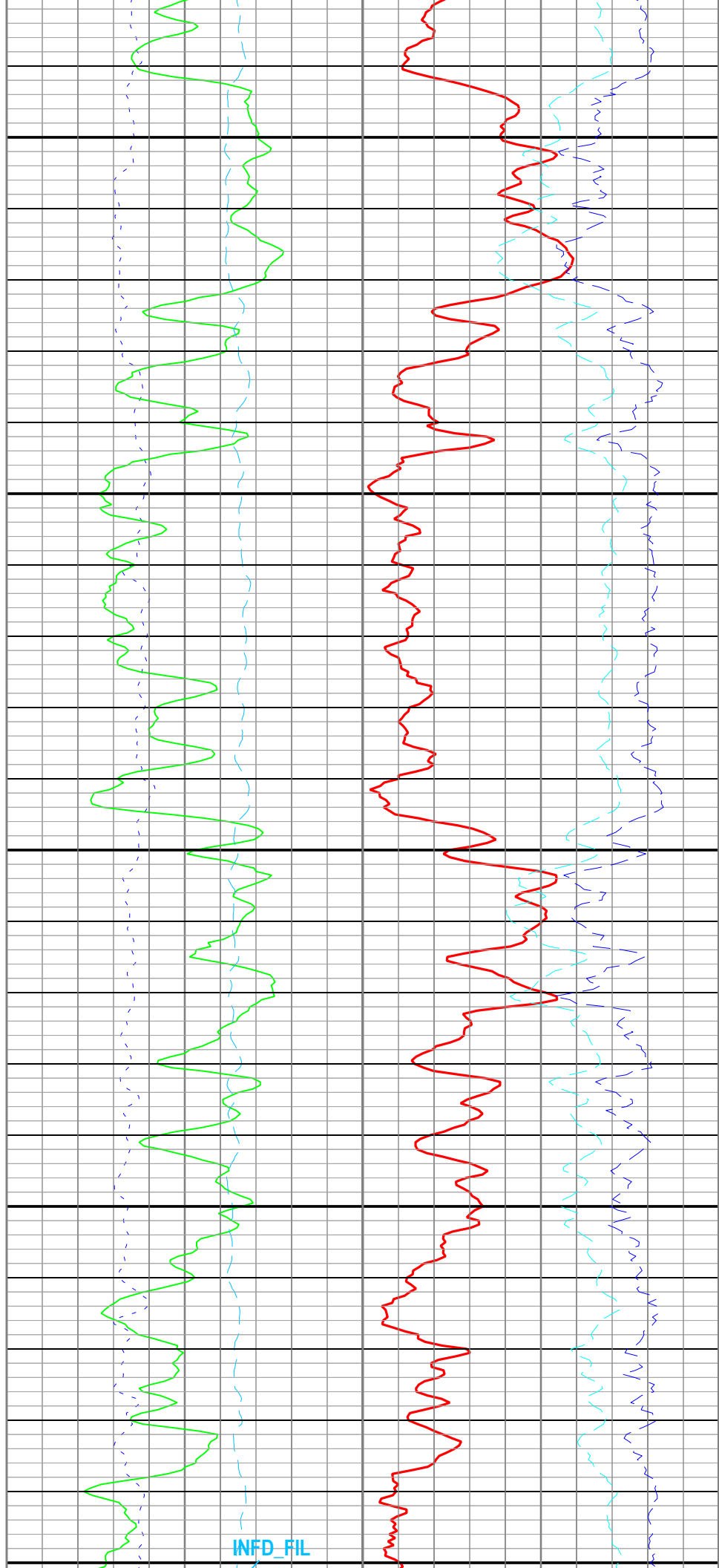
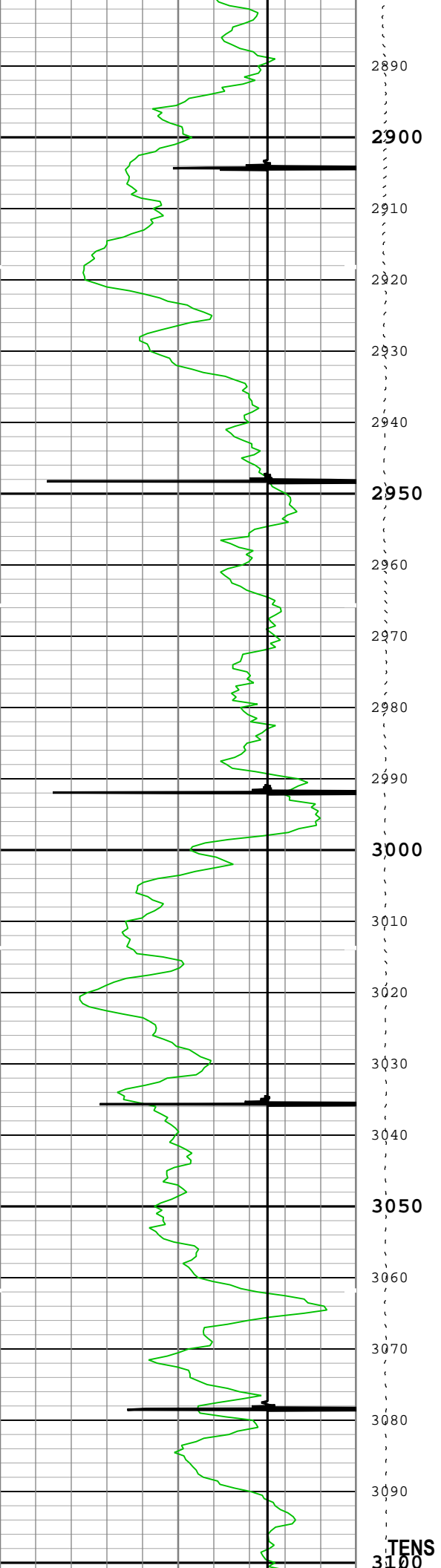
—IHV - Integrated Hole Volume every 10.00 (ft3)

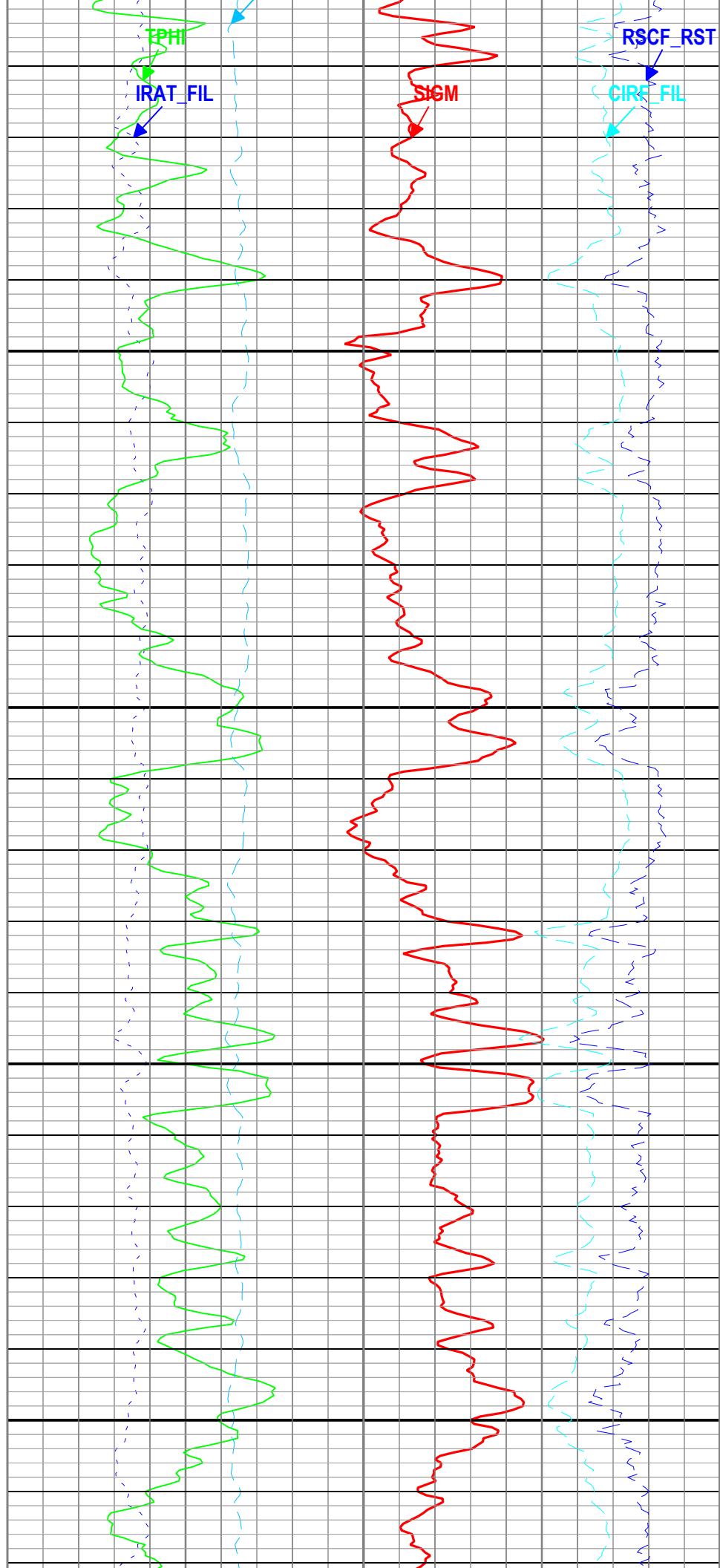
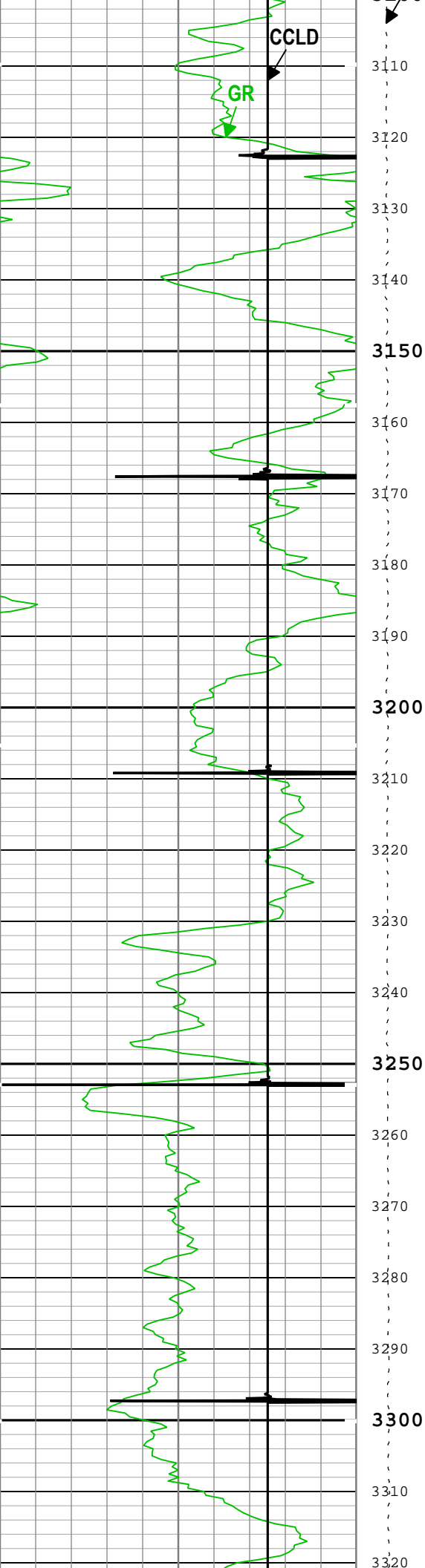
—IHV - Integrated Hole Volume every 100.00 (ft3)

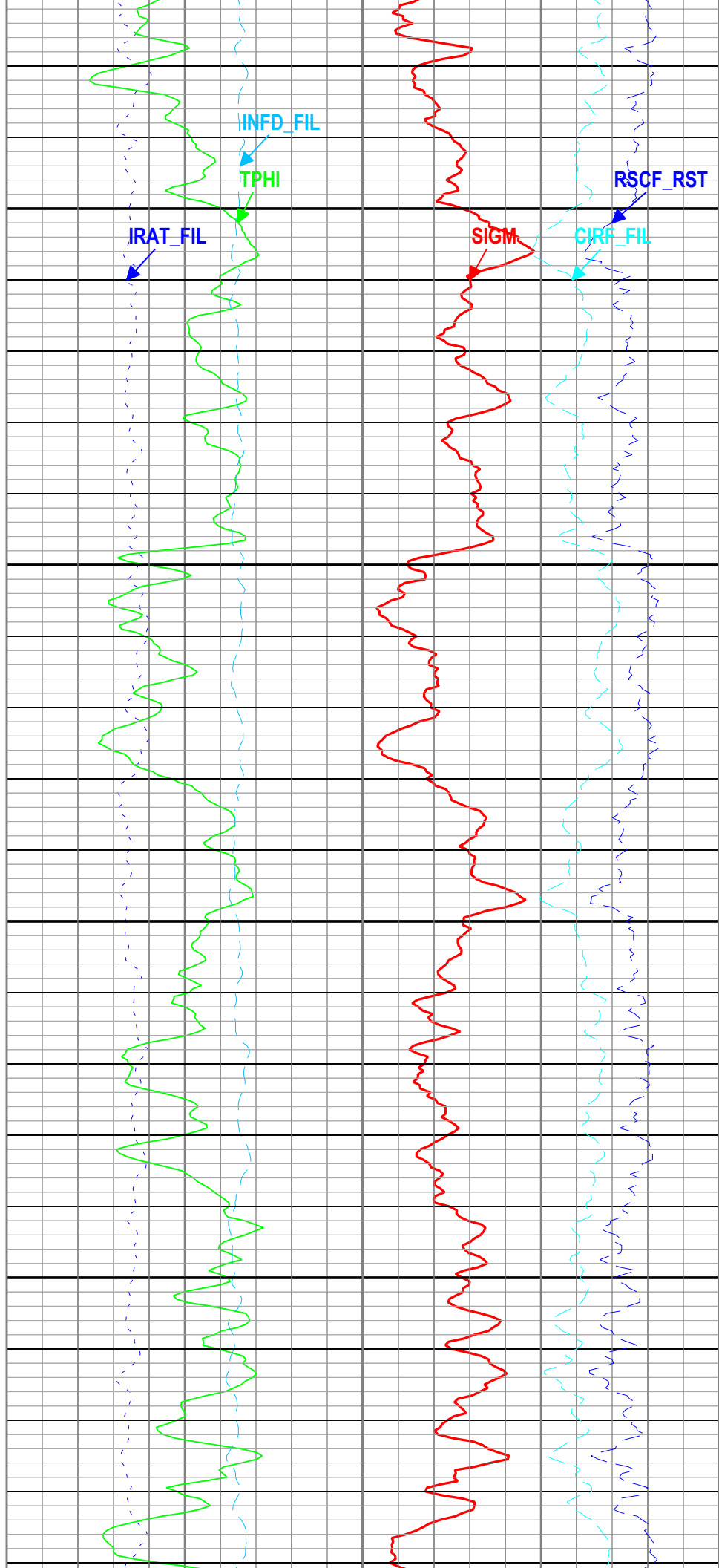
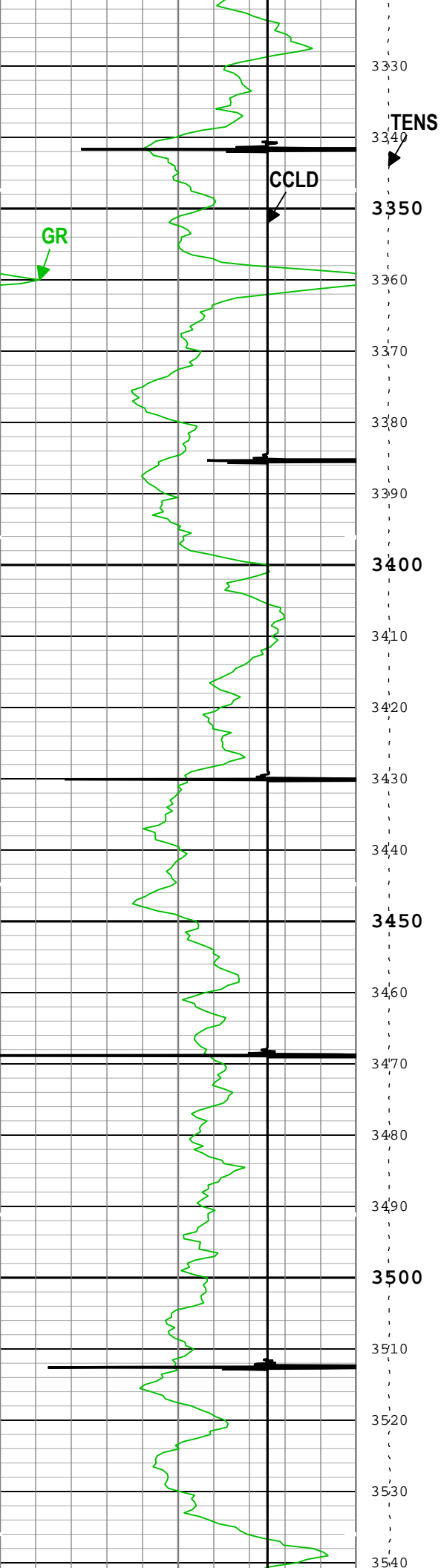
—ICV - Integrated Cement Volume every 10.00 (ft3)

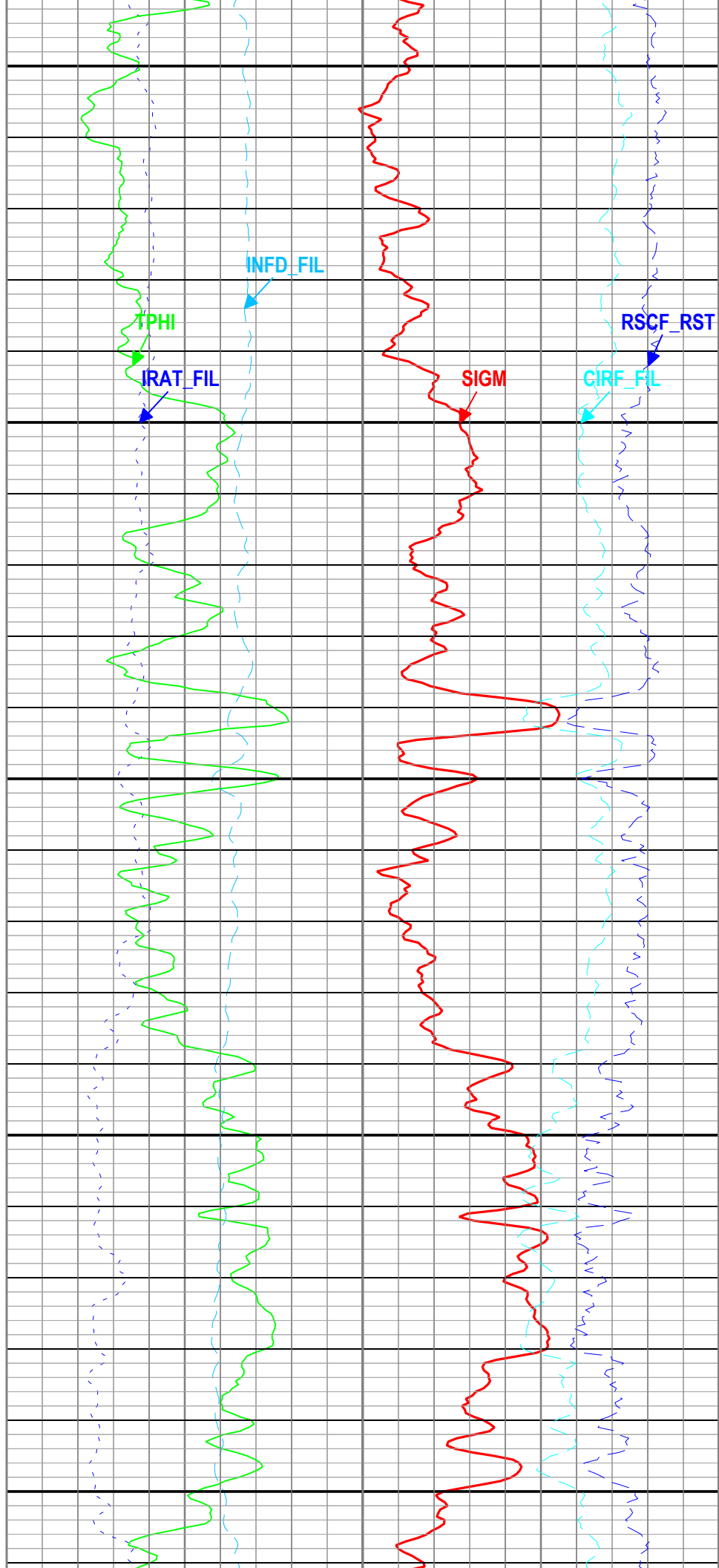
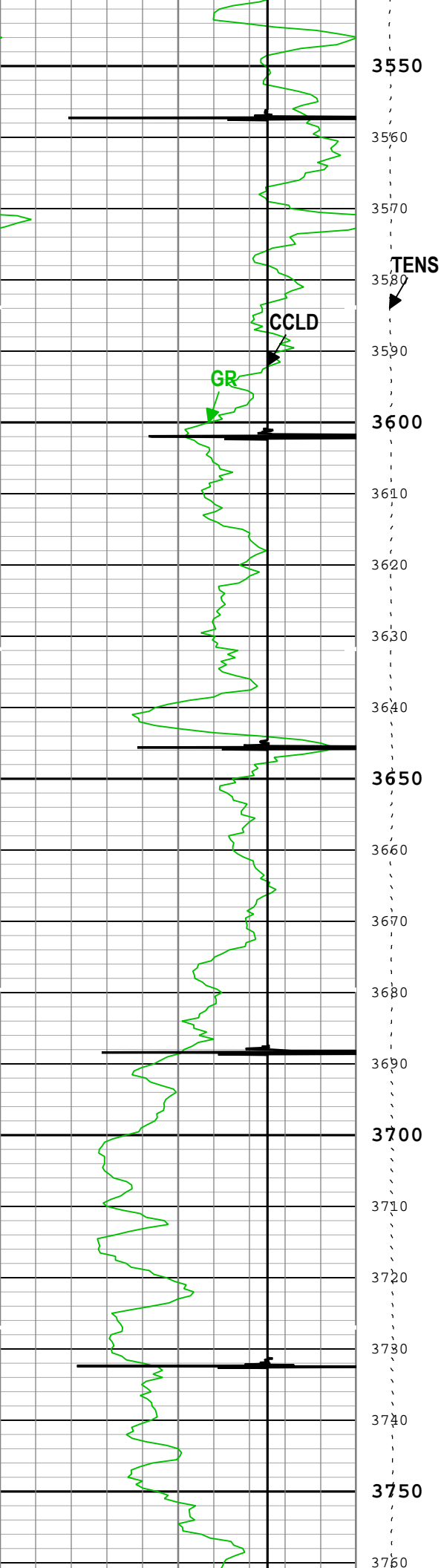


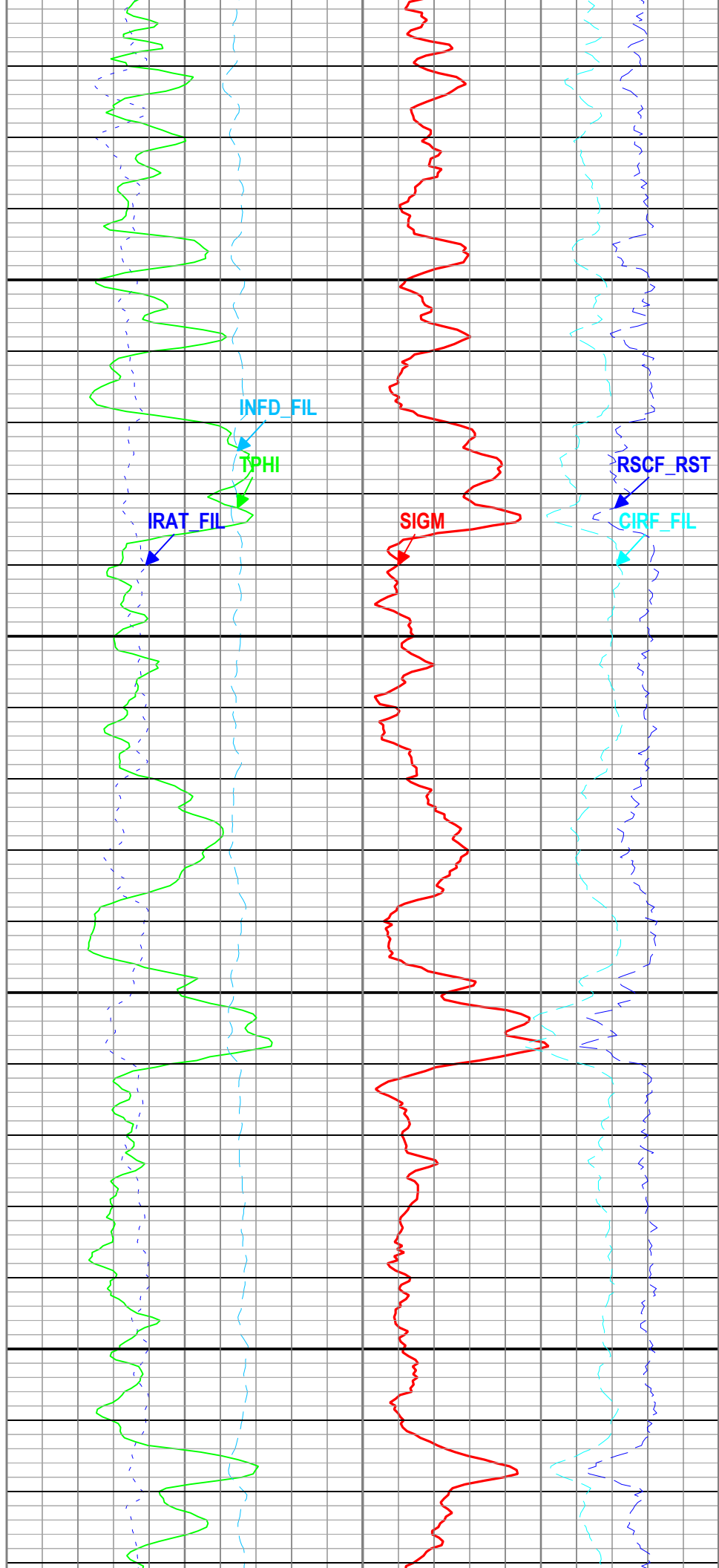
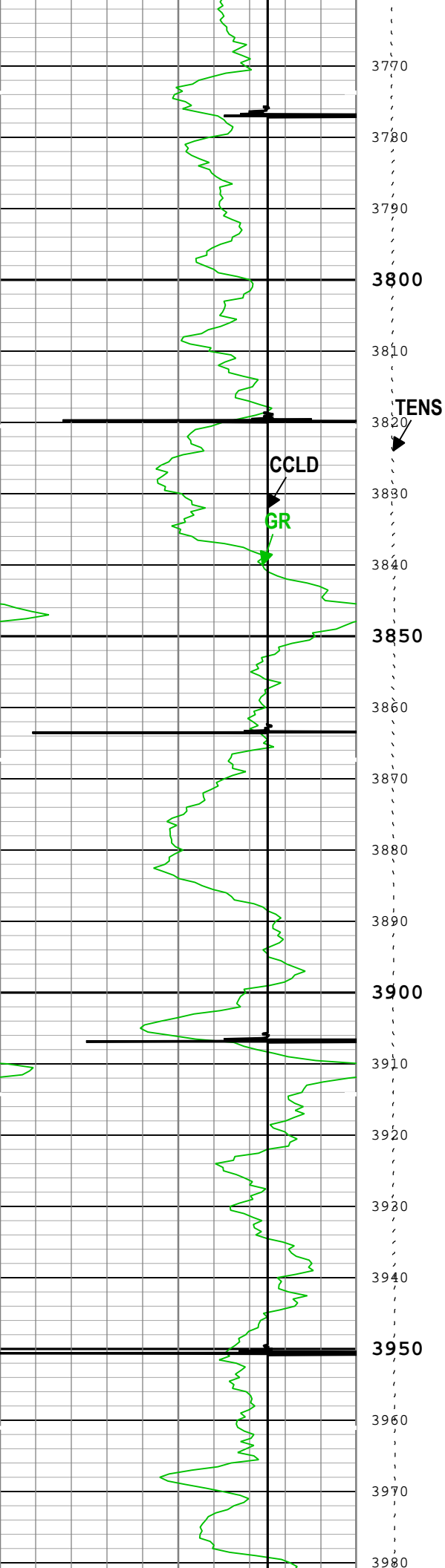


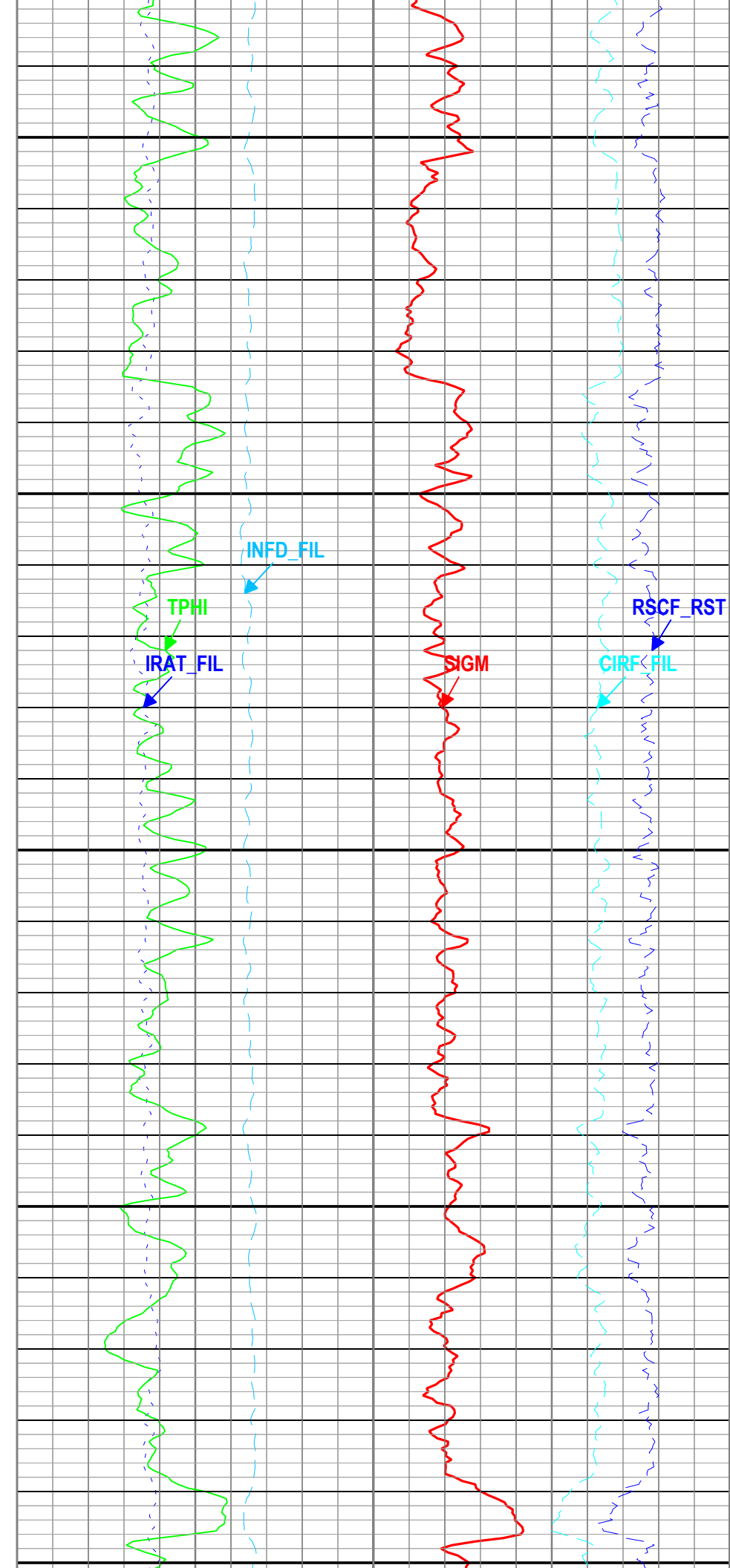
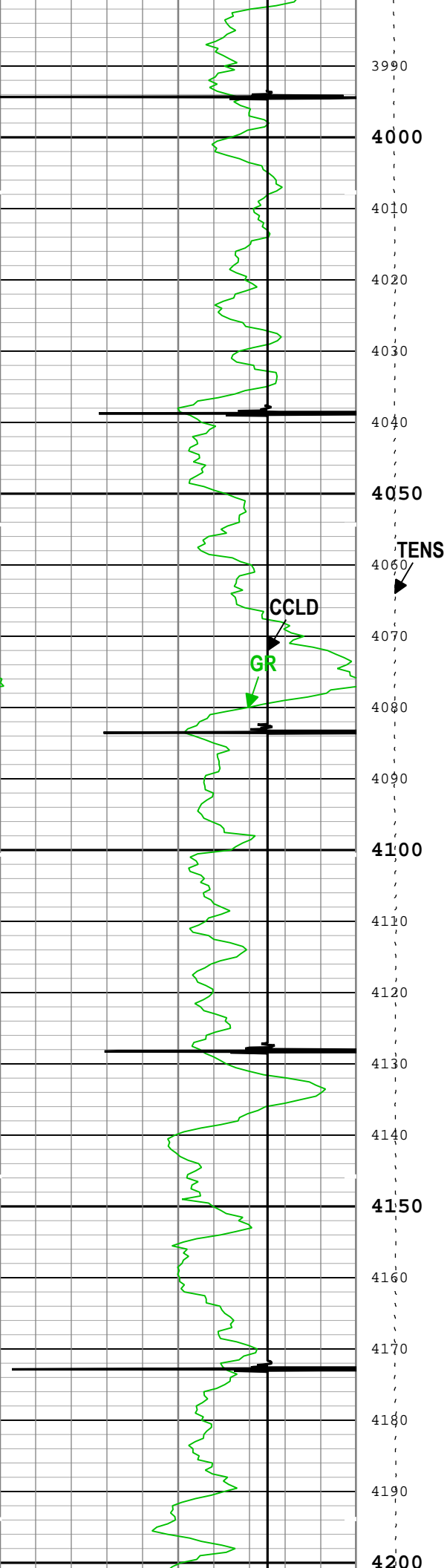


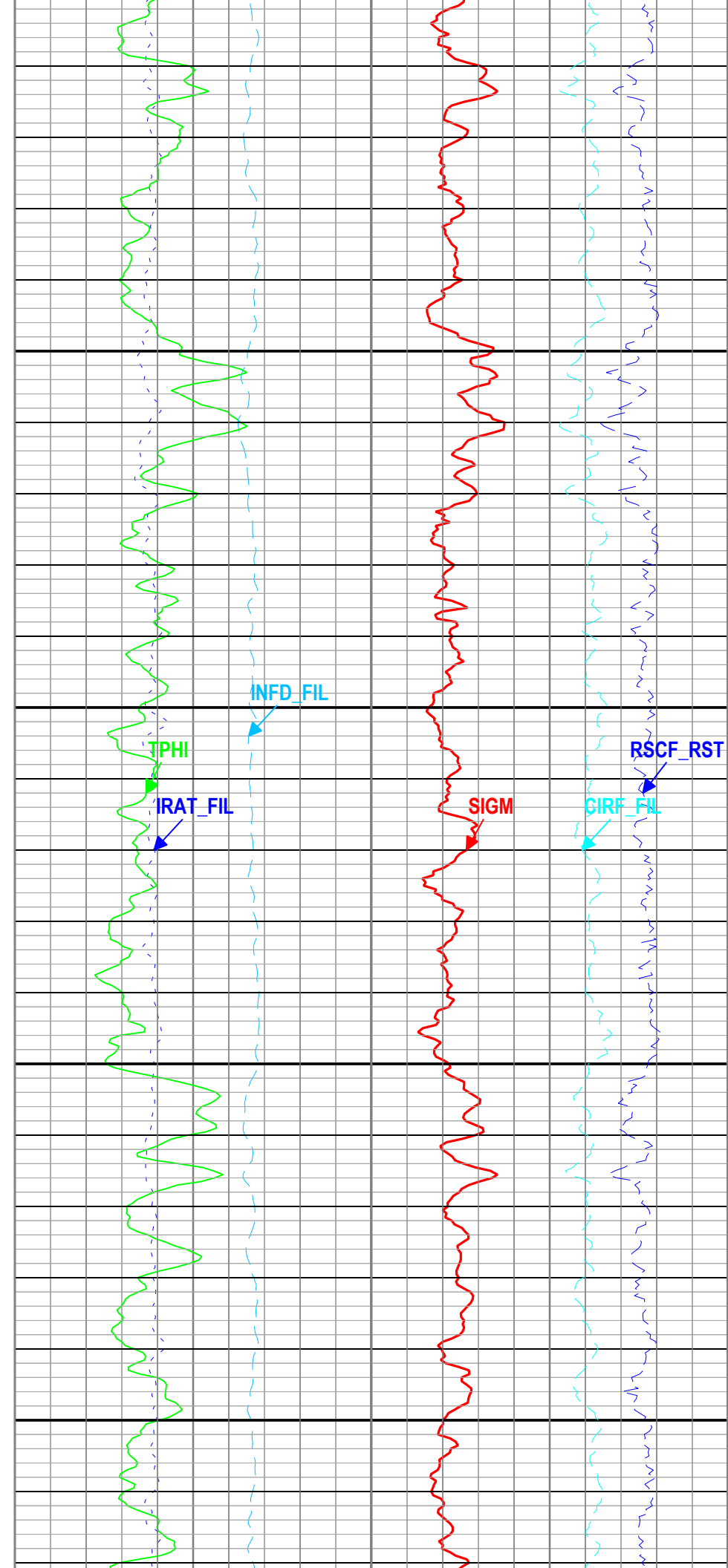
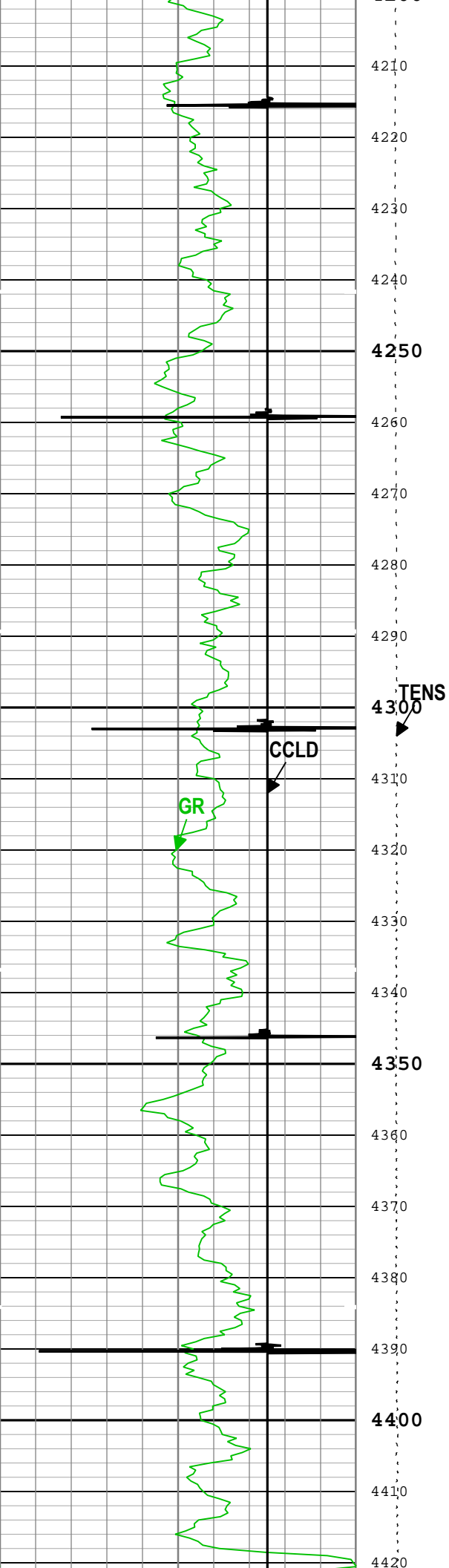


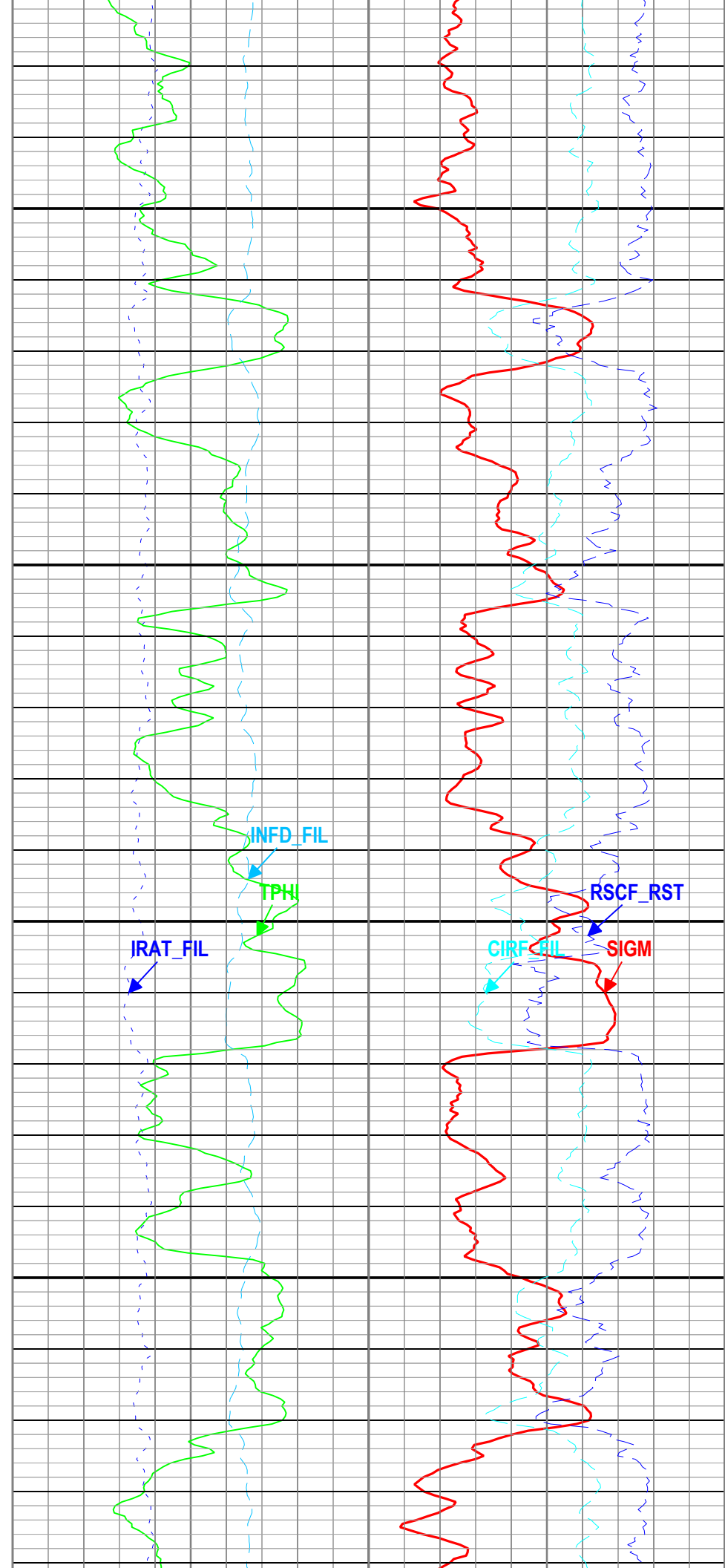
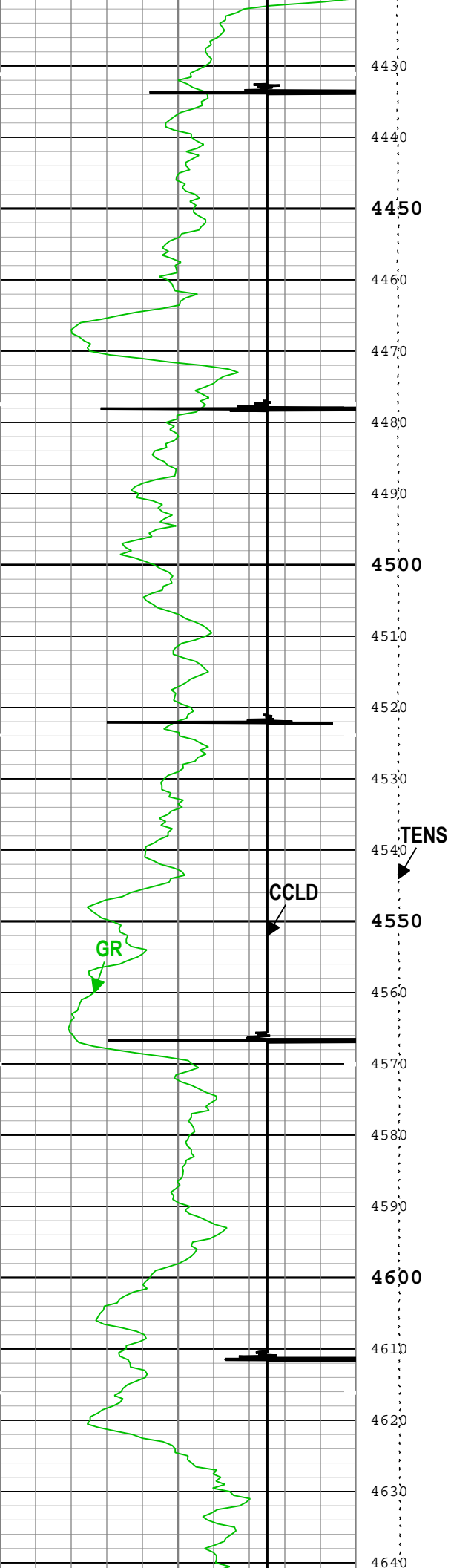


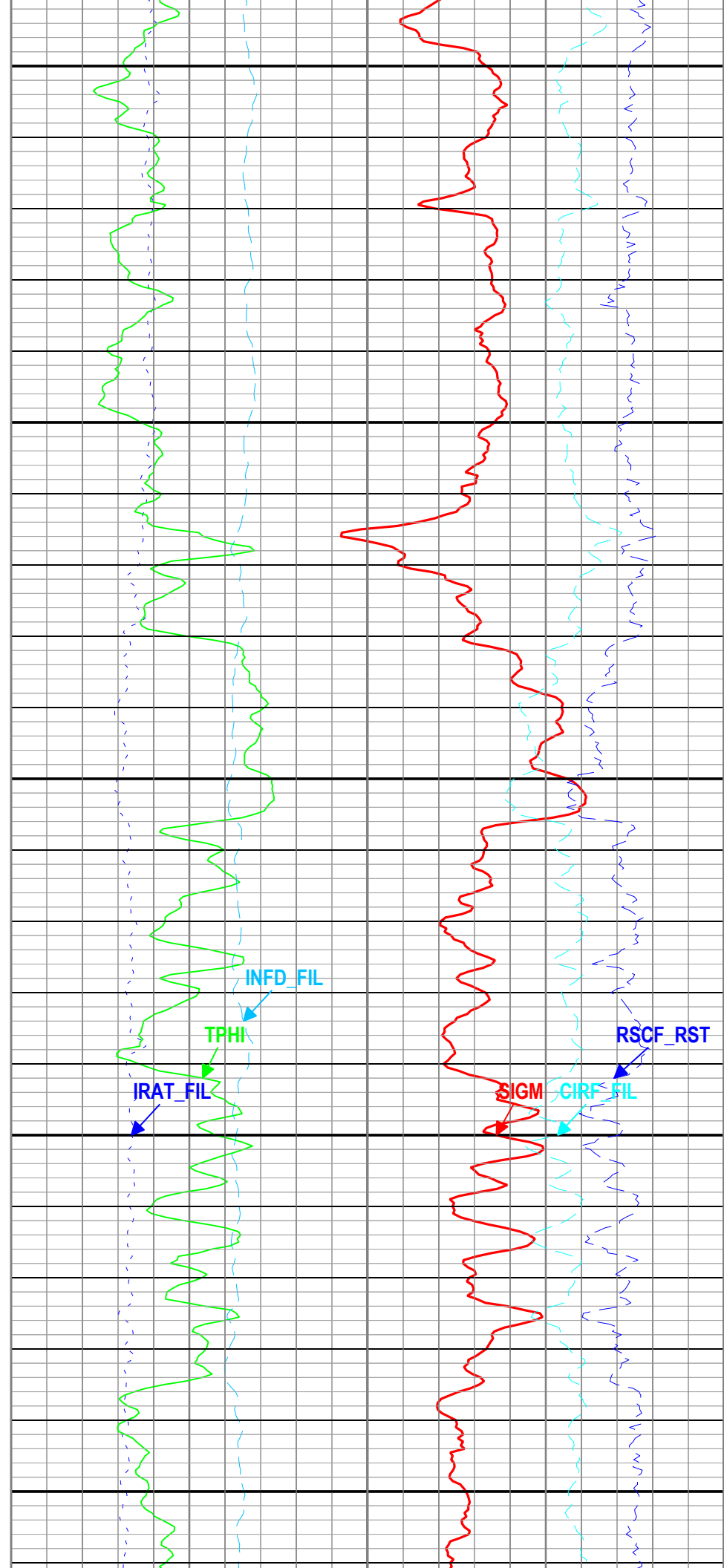
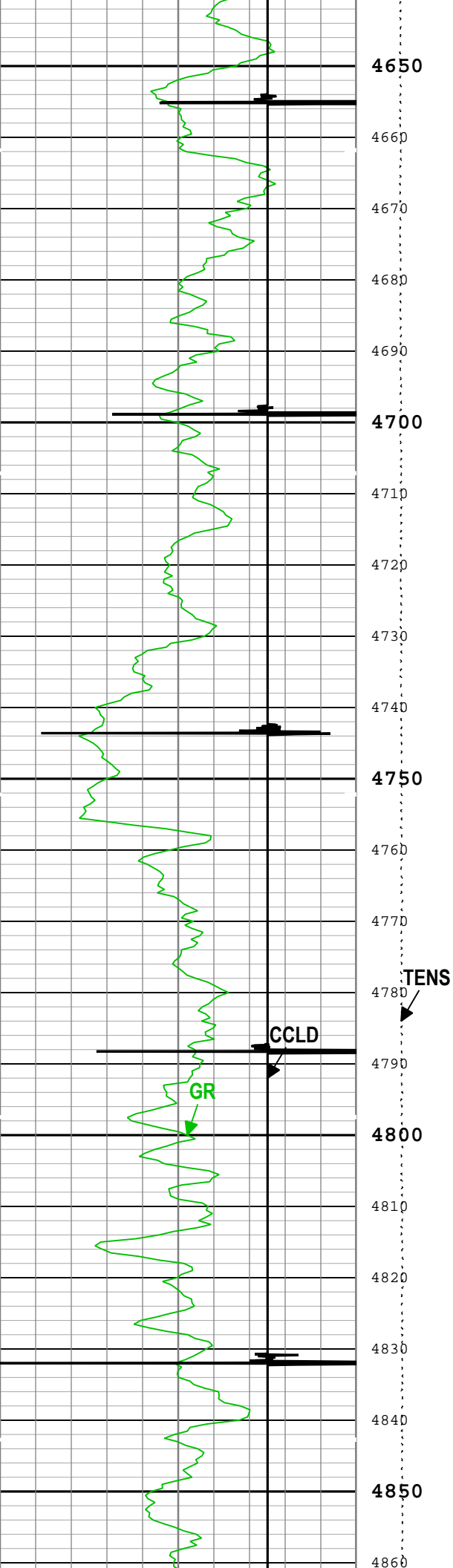


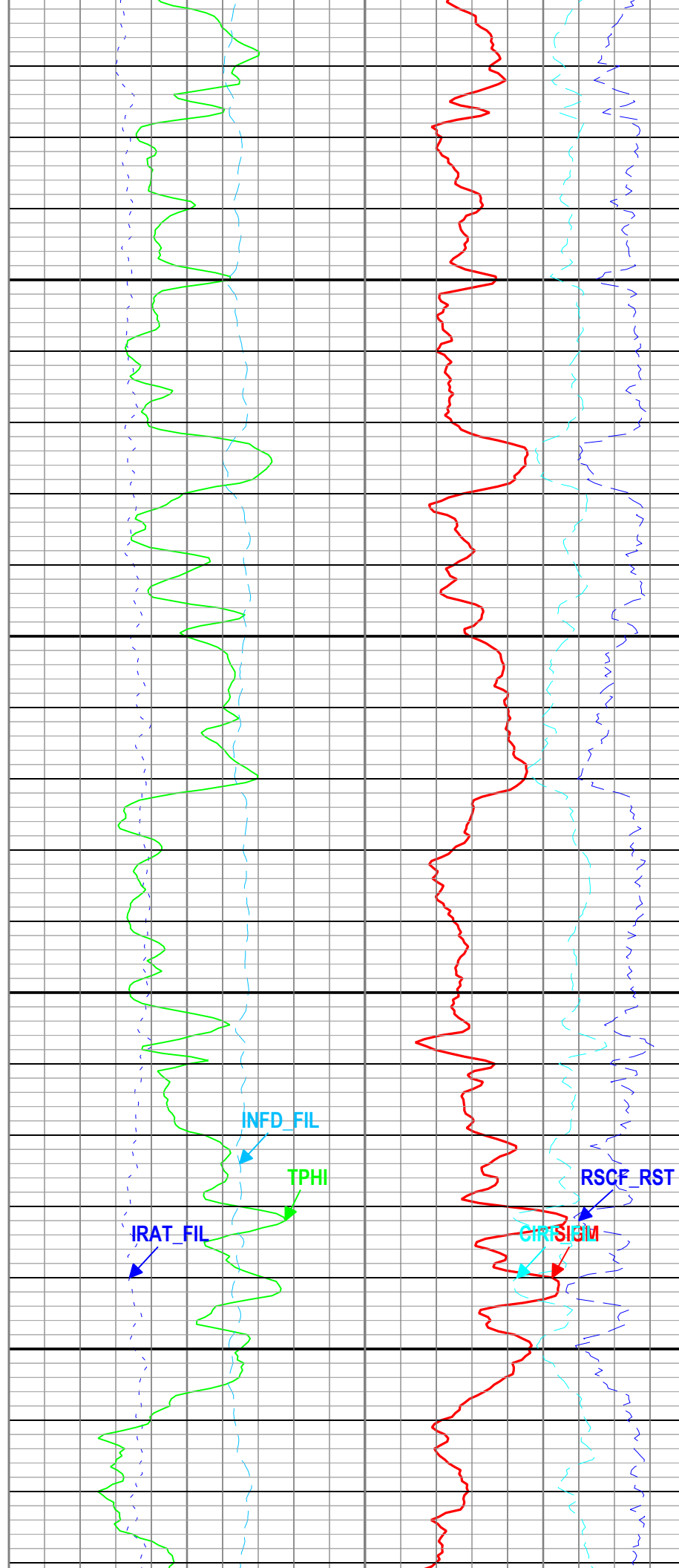
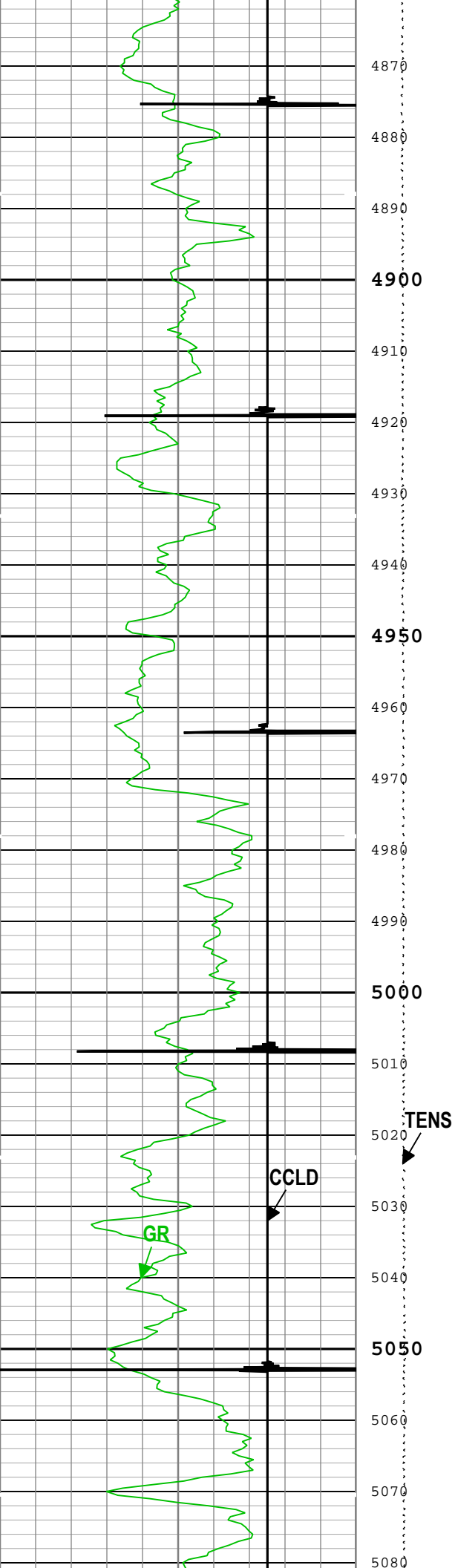


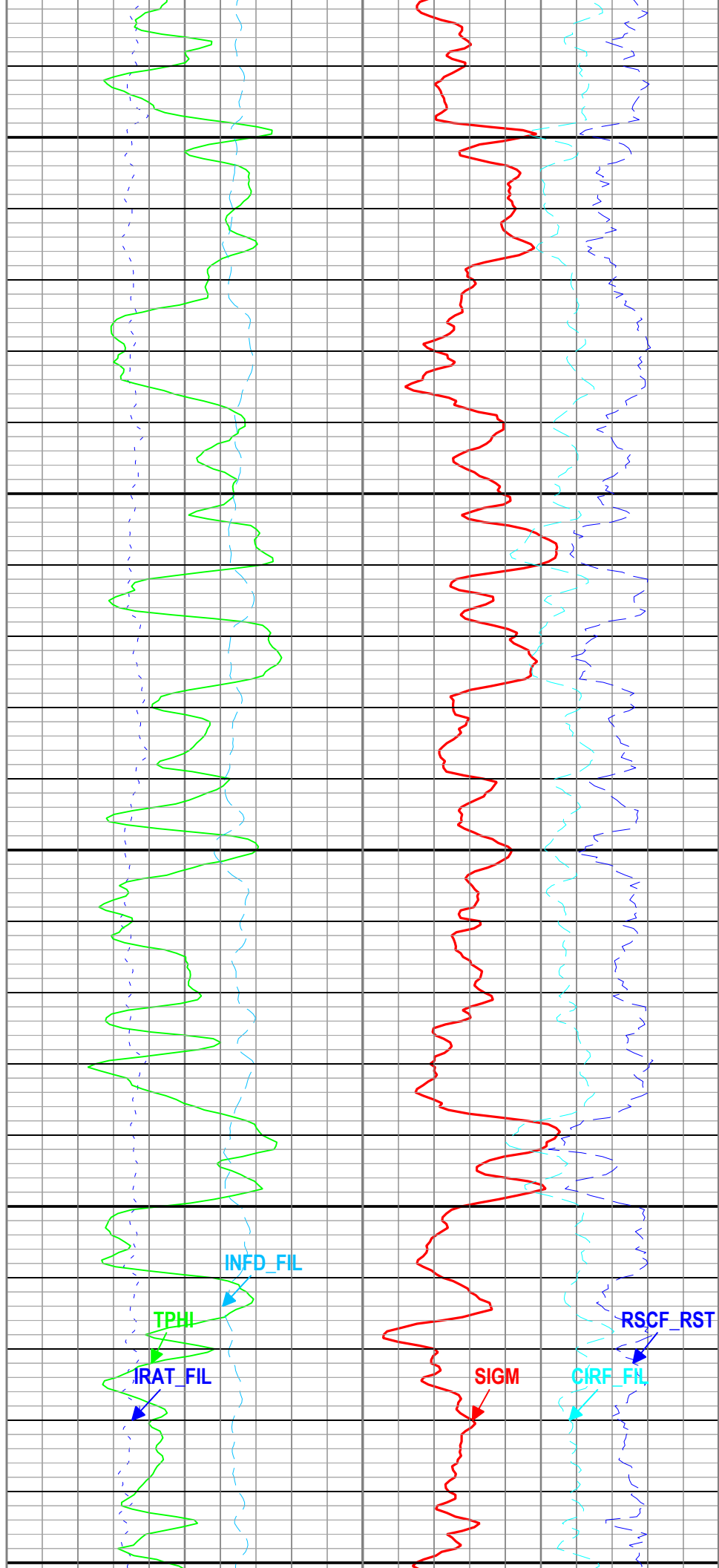
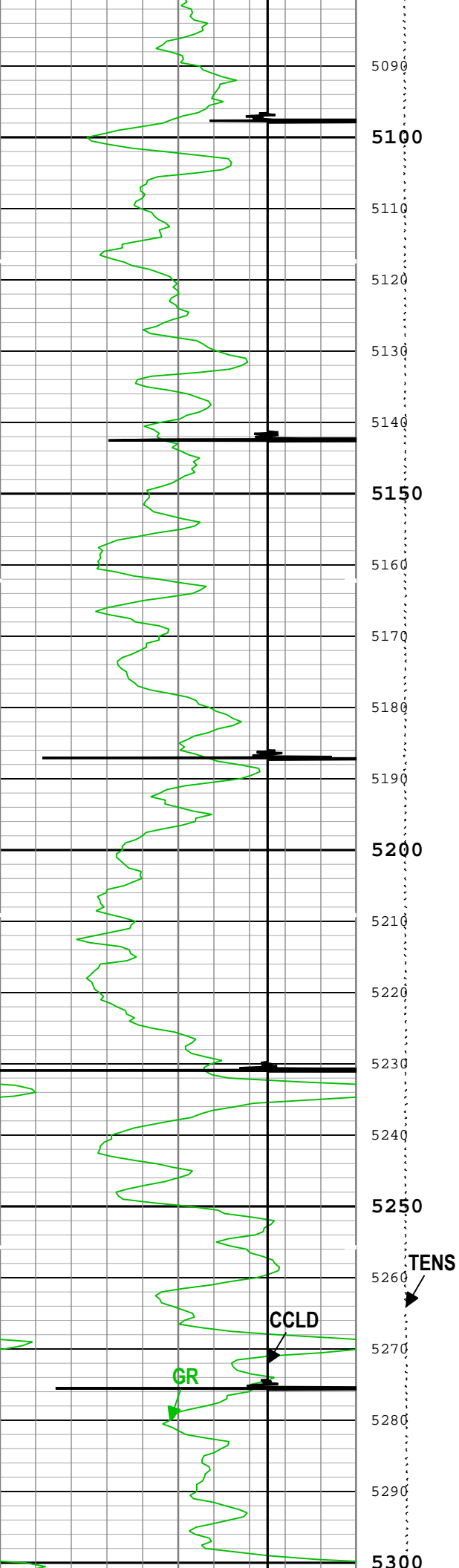


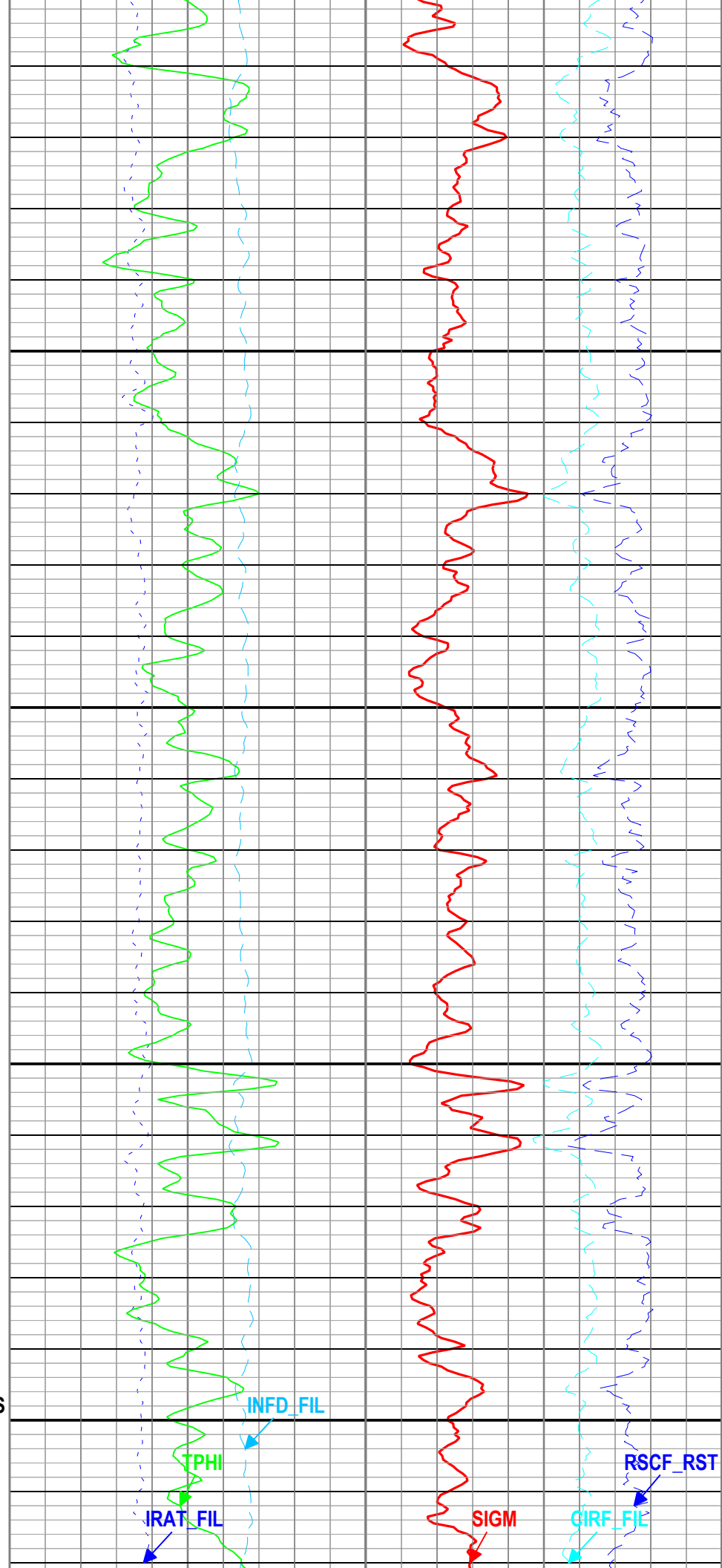
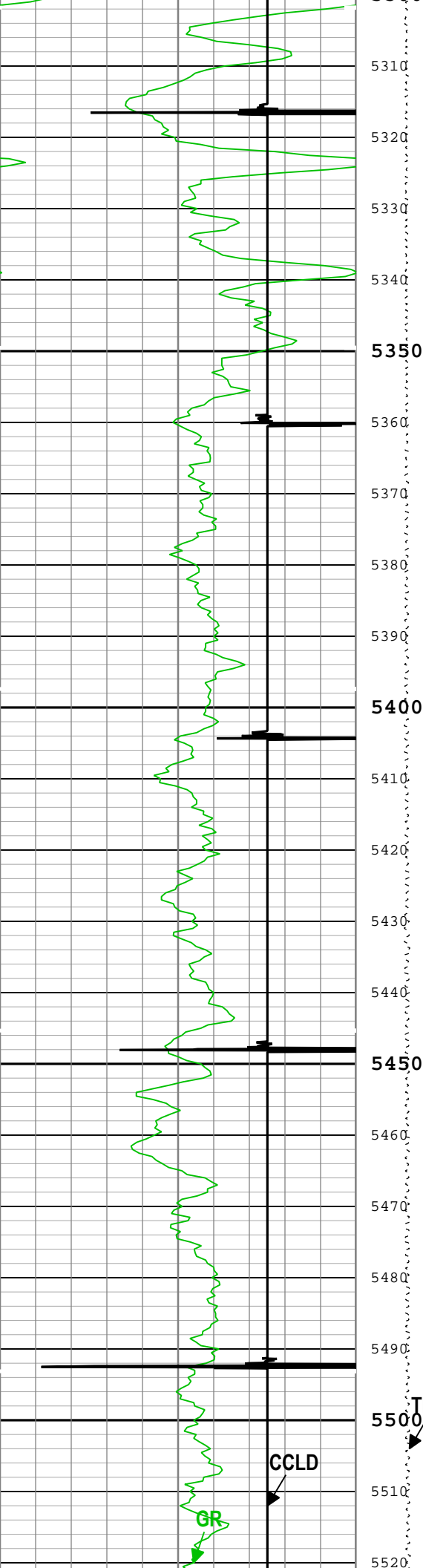


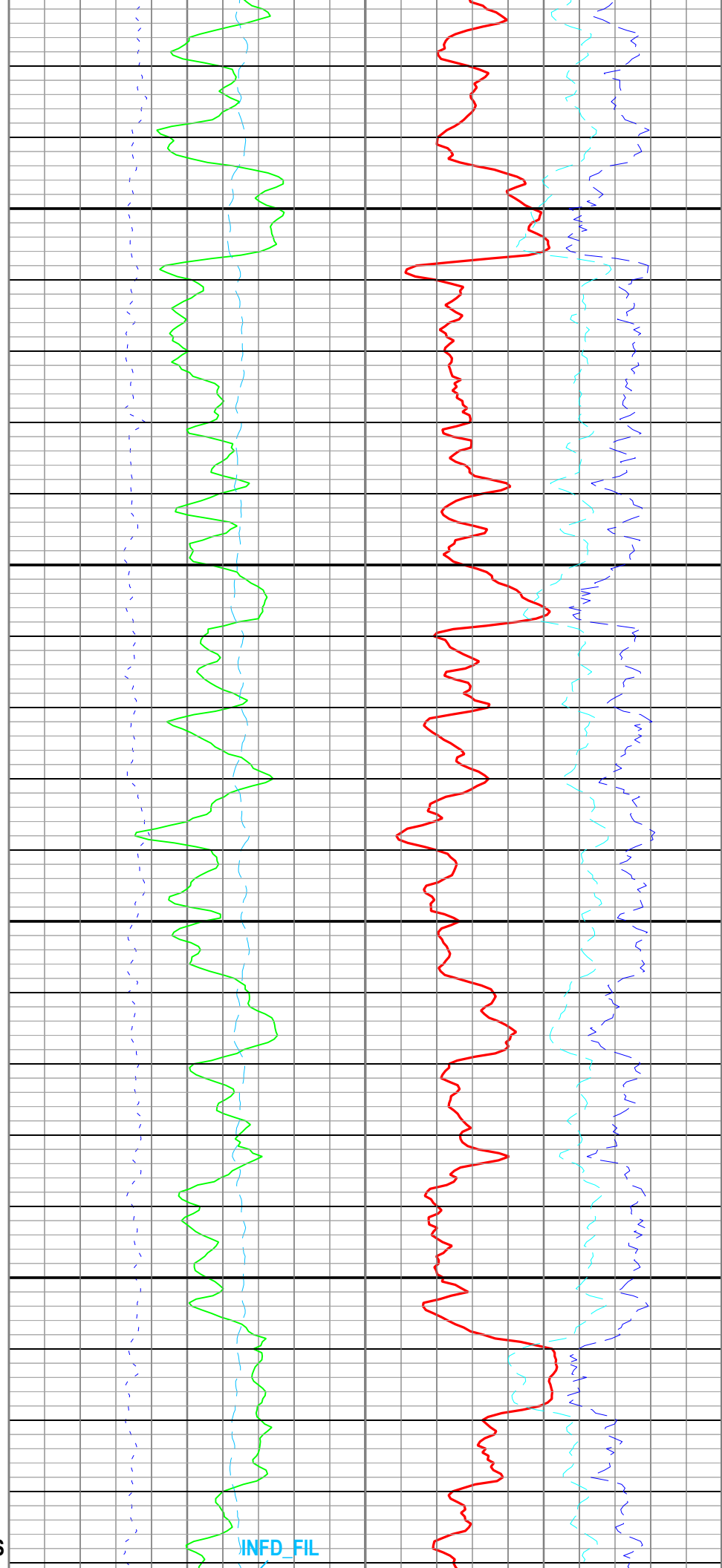
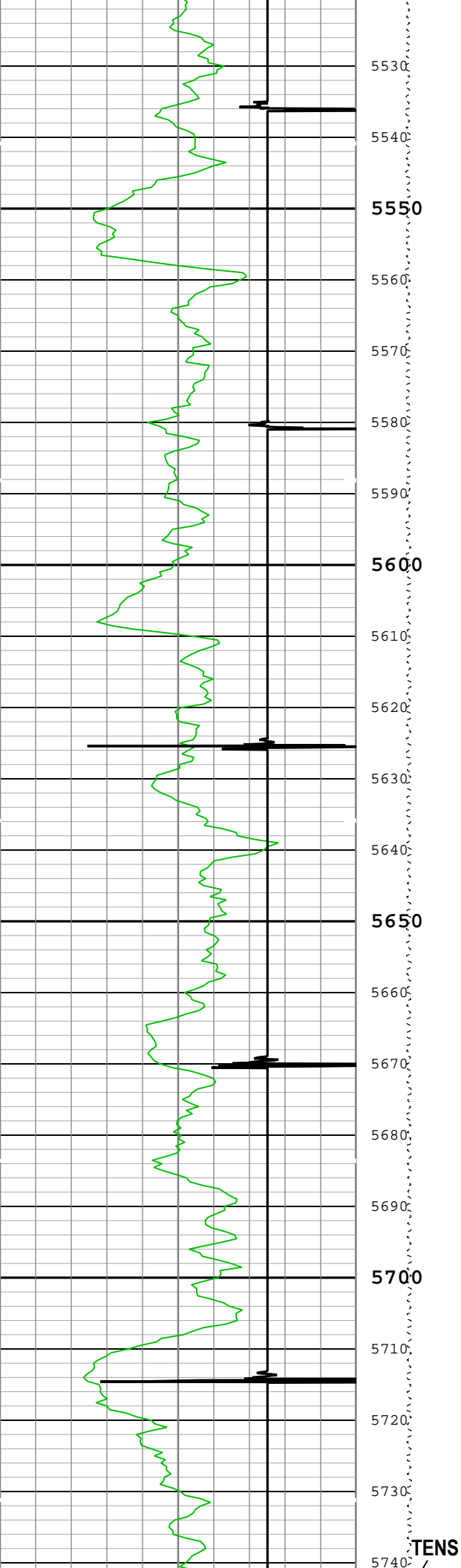


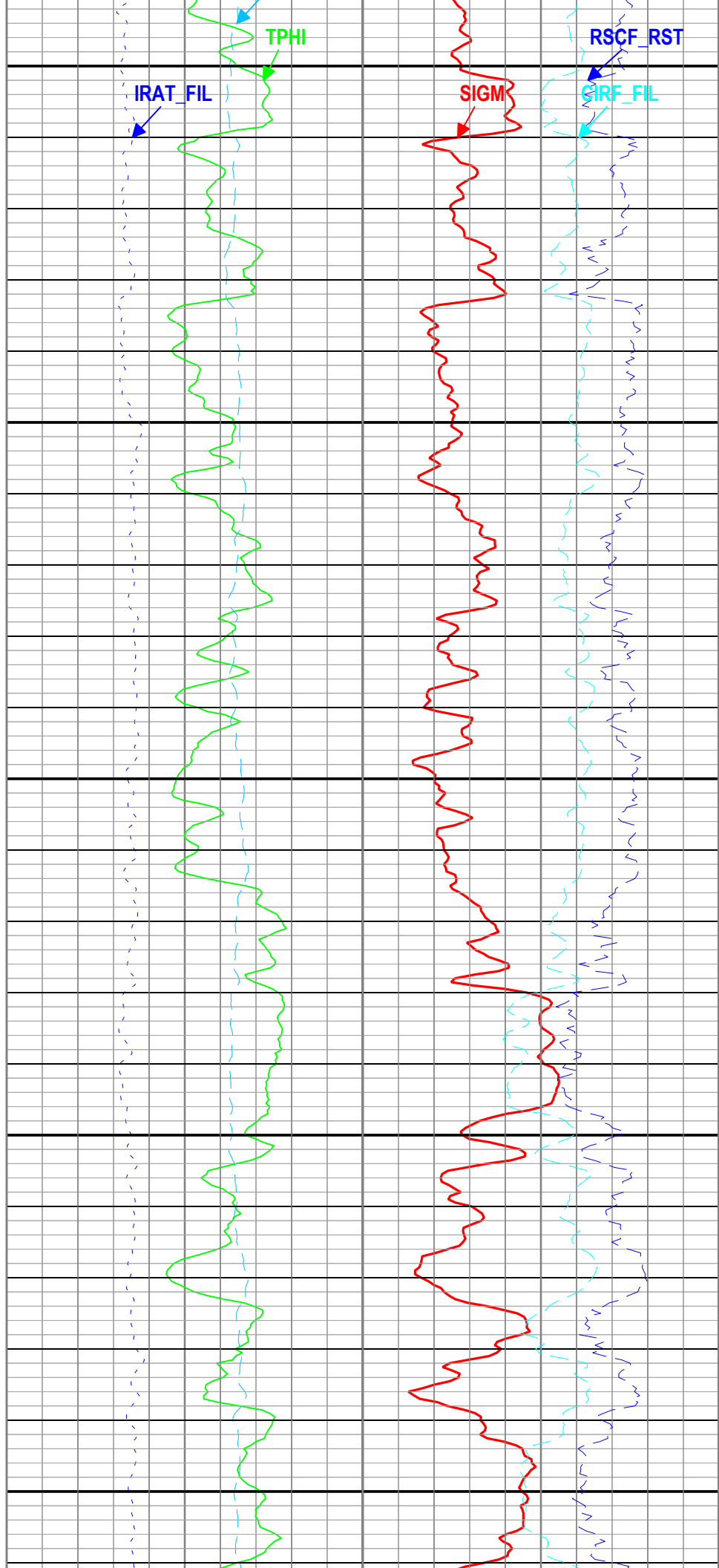
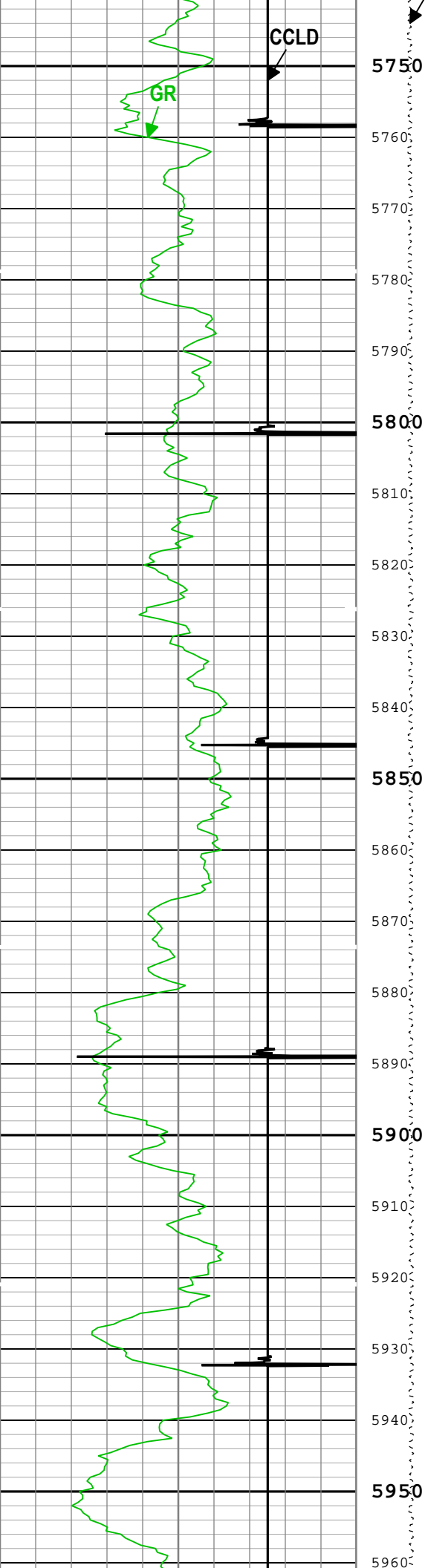


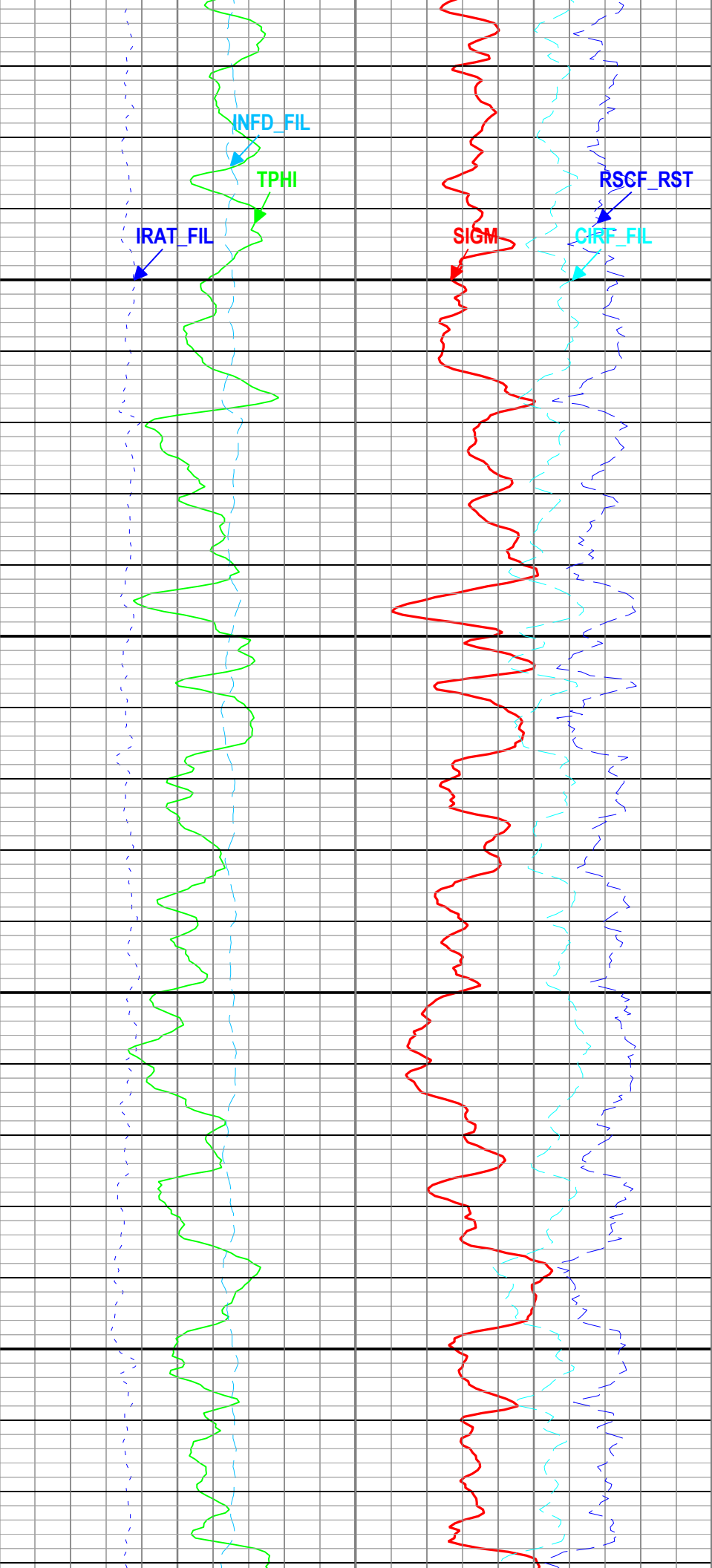
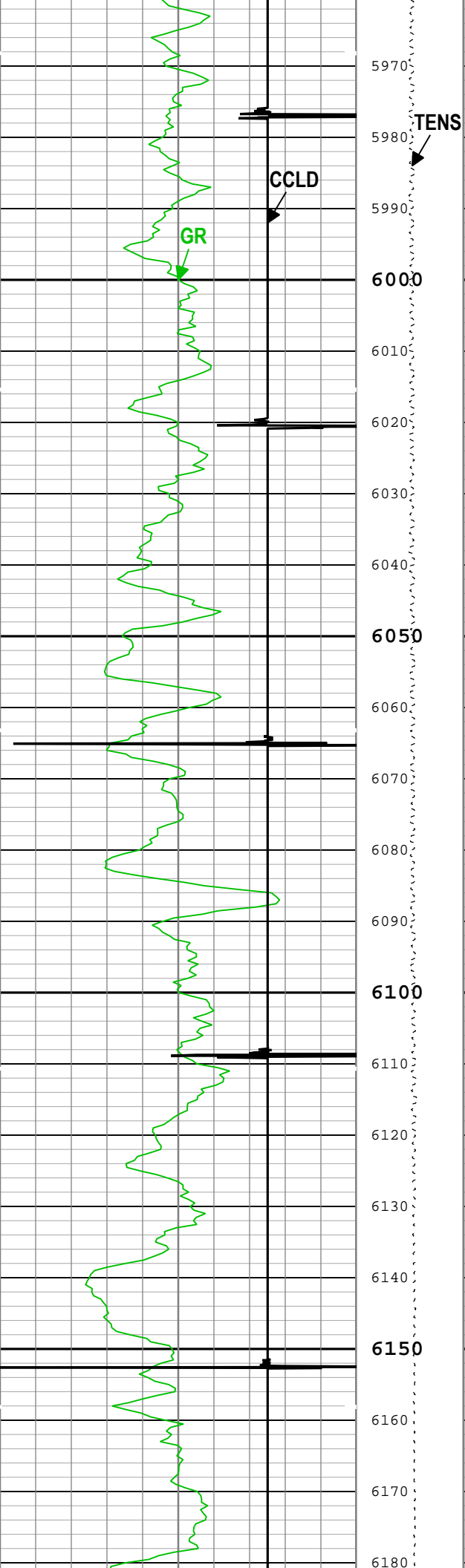


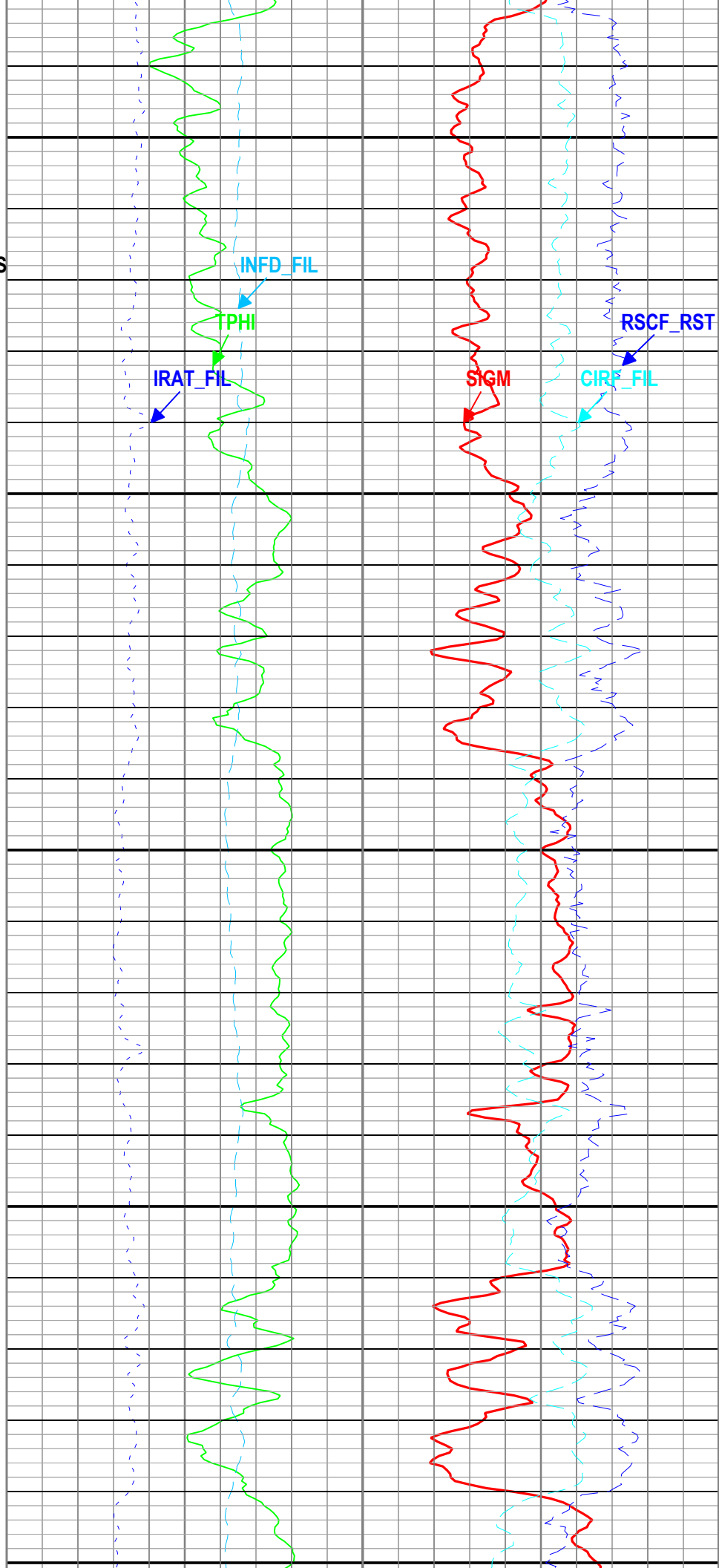
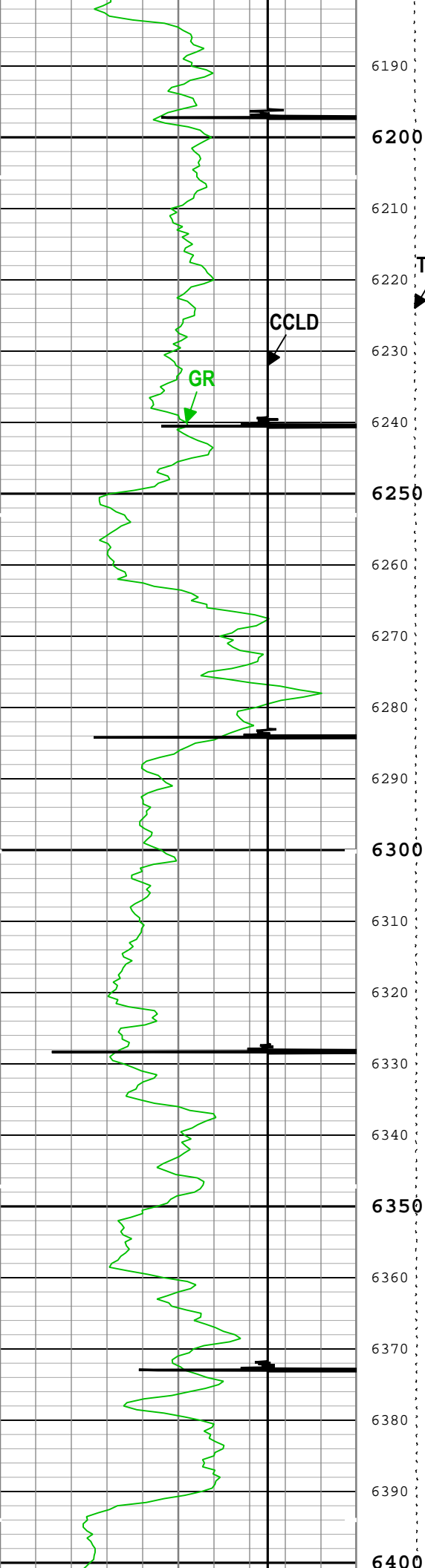


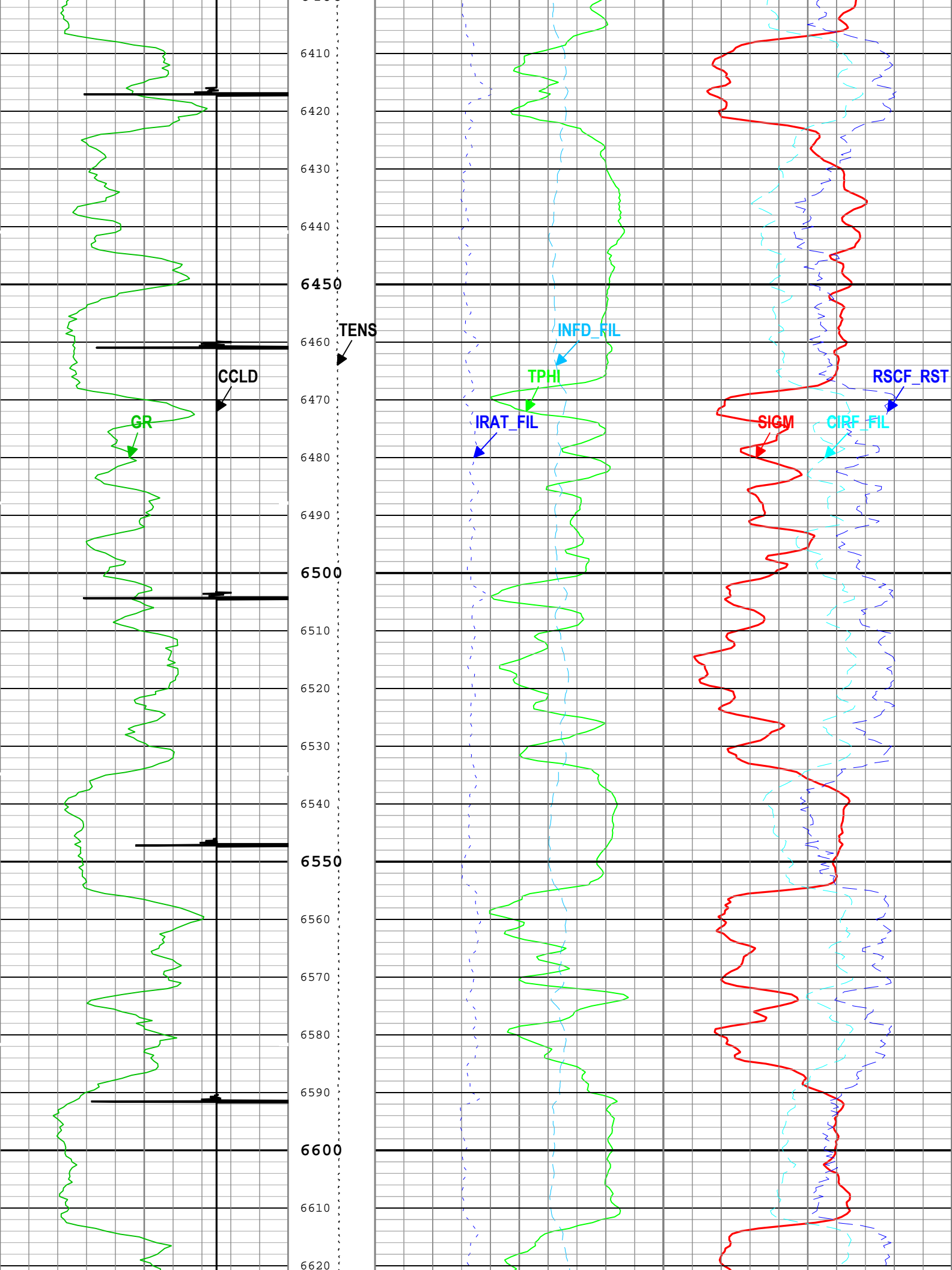


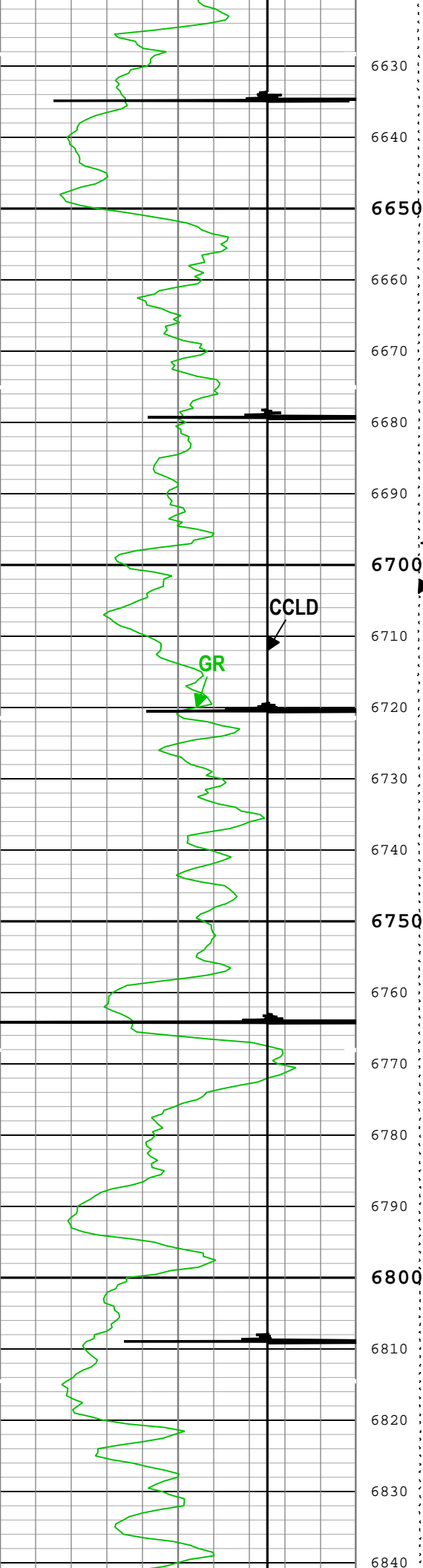




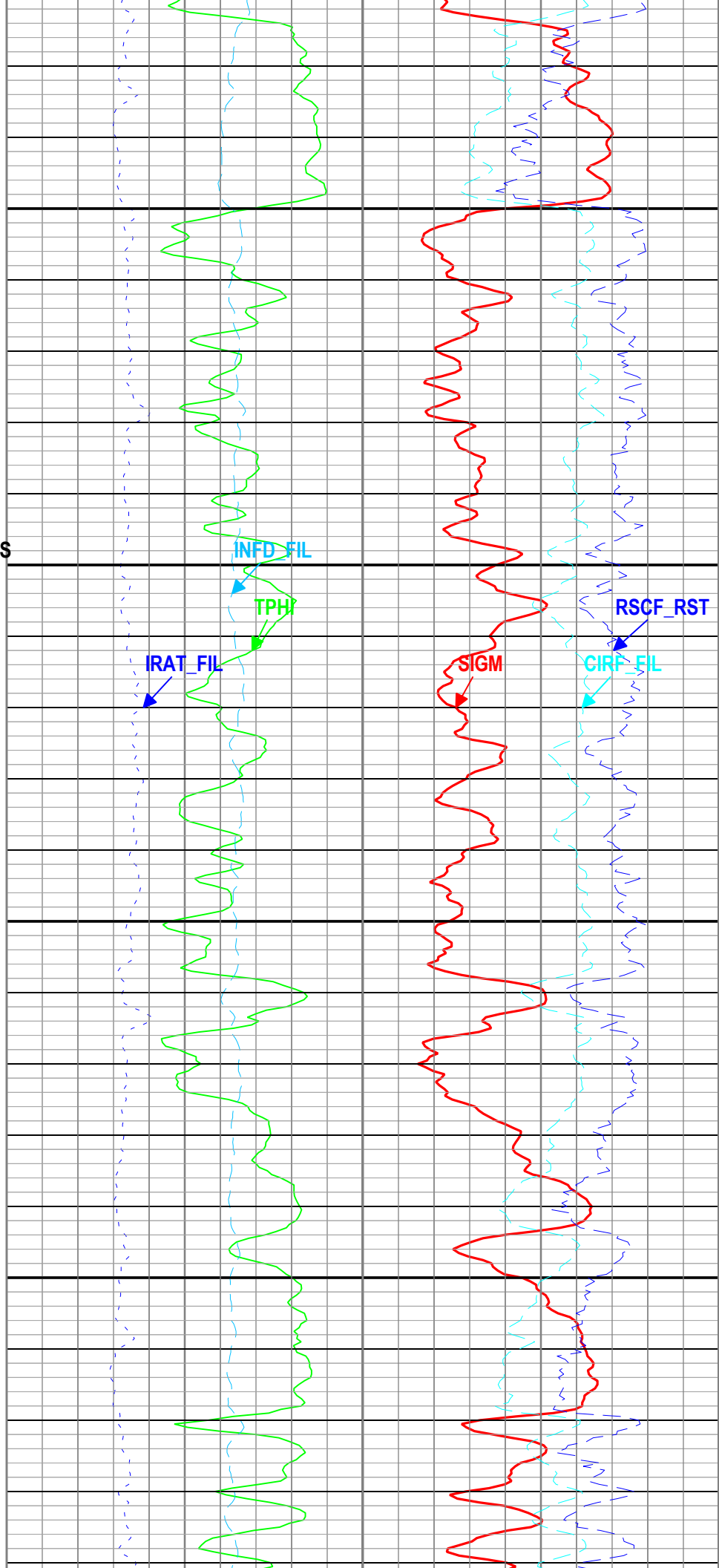


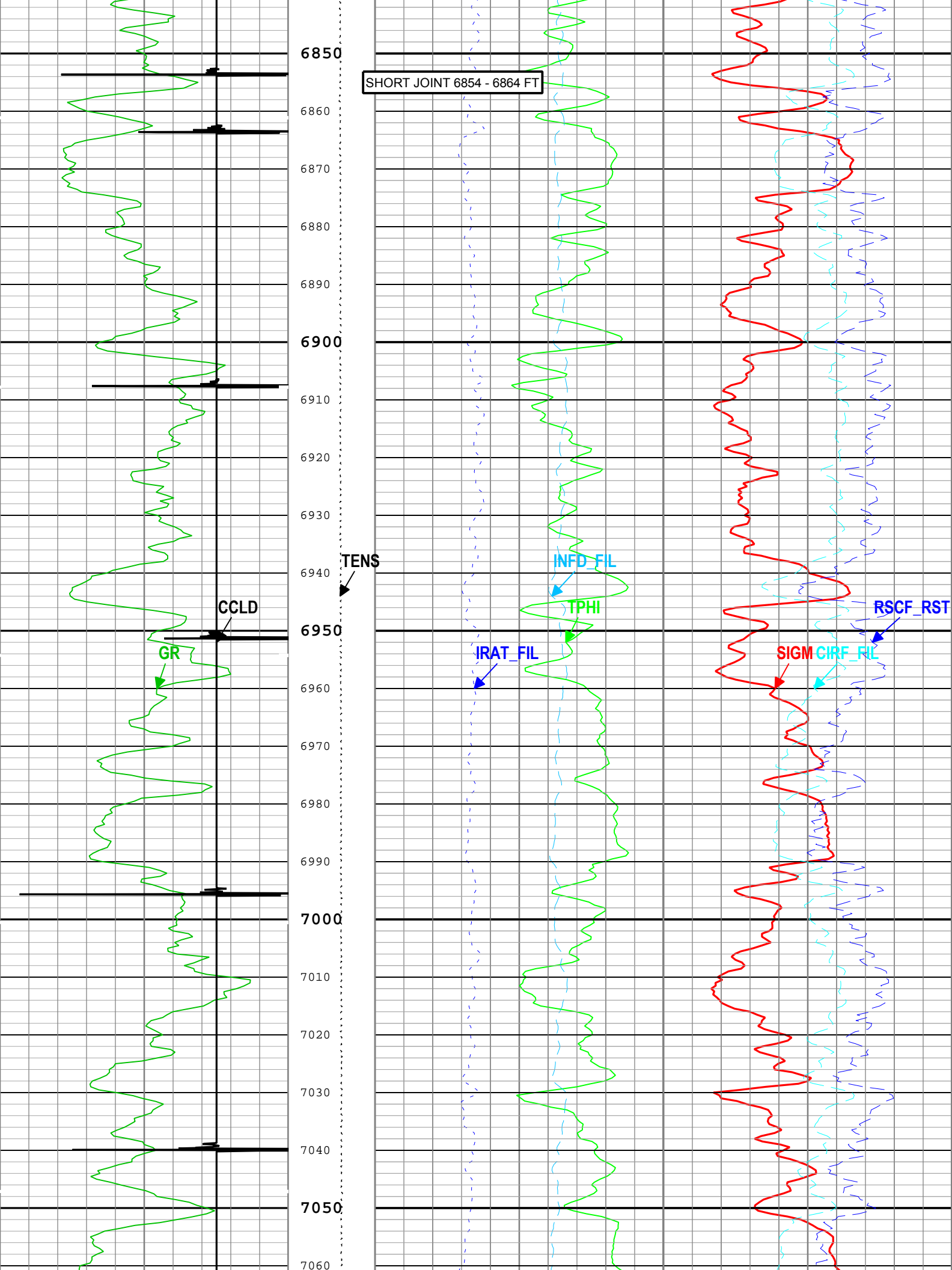


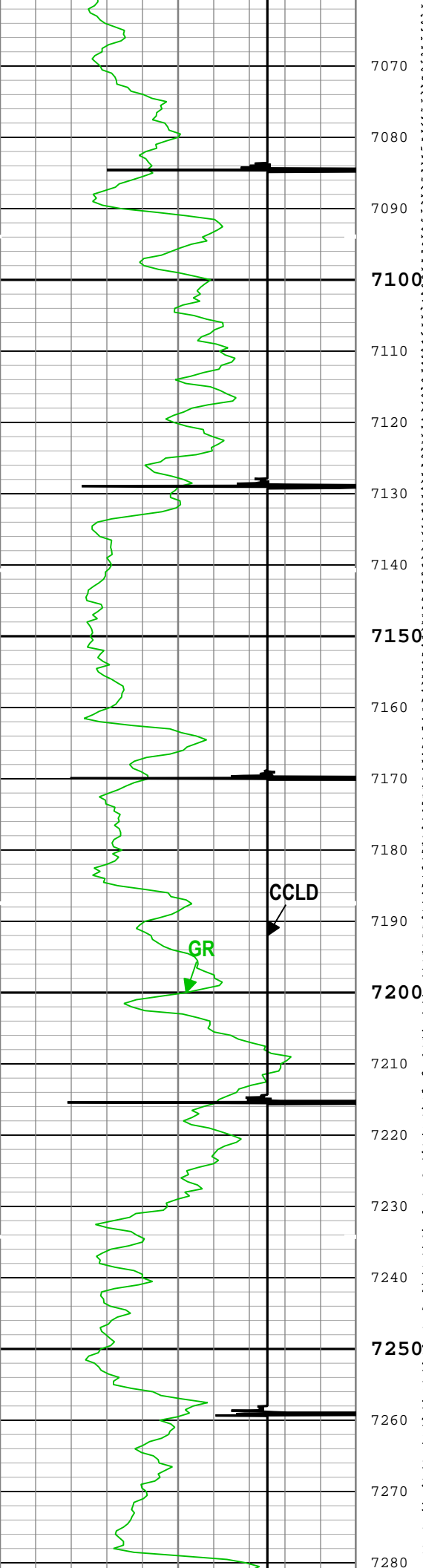




TENS



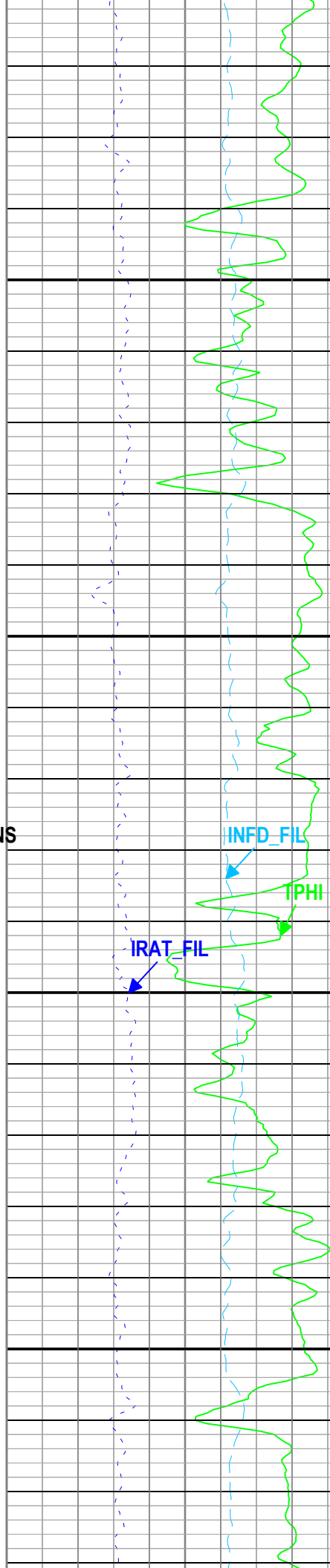




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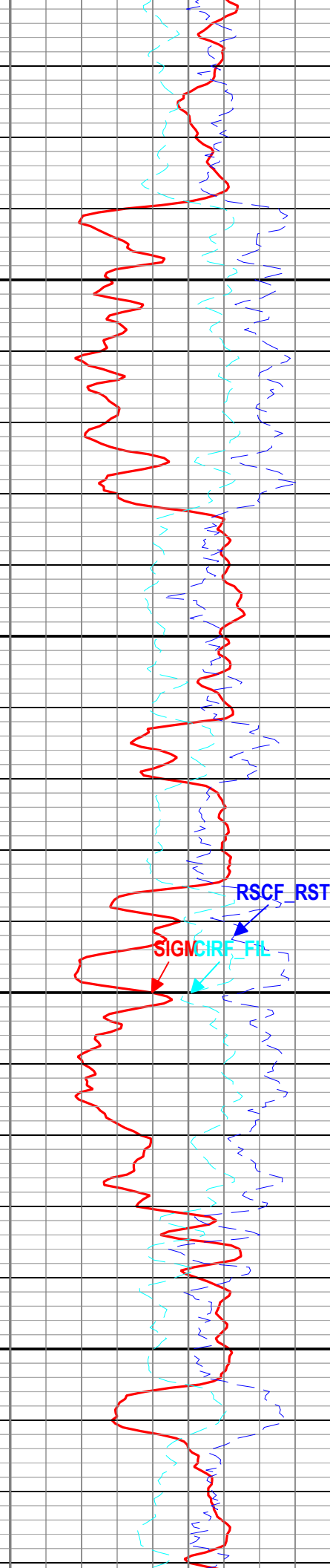
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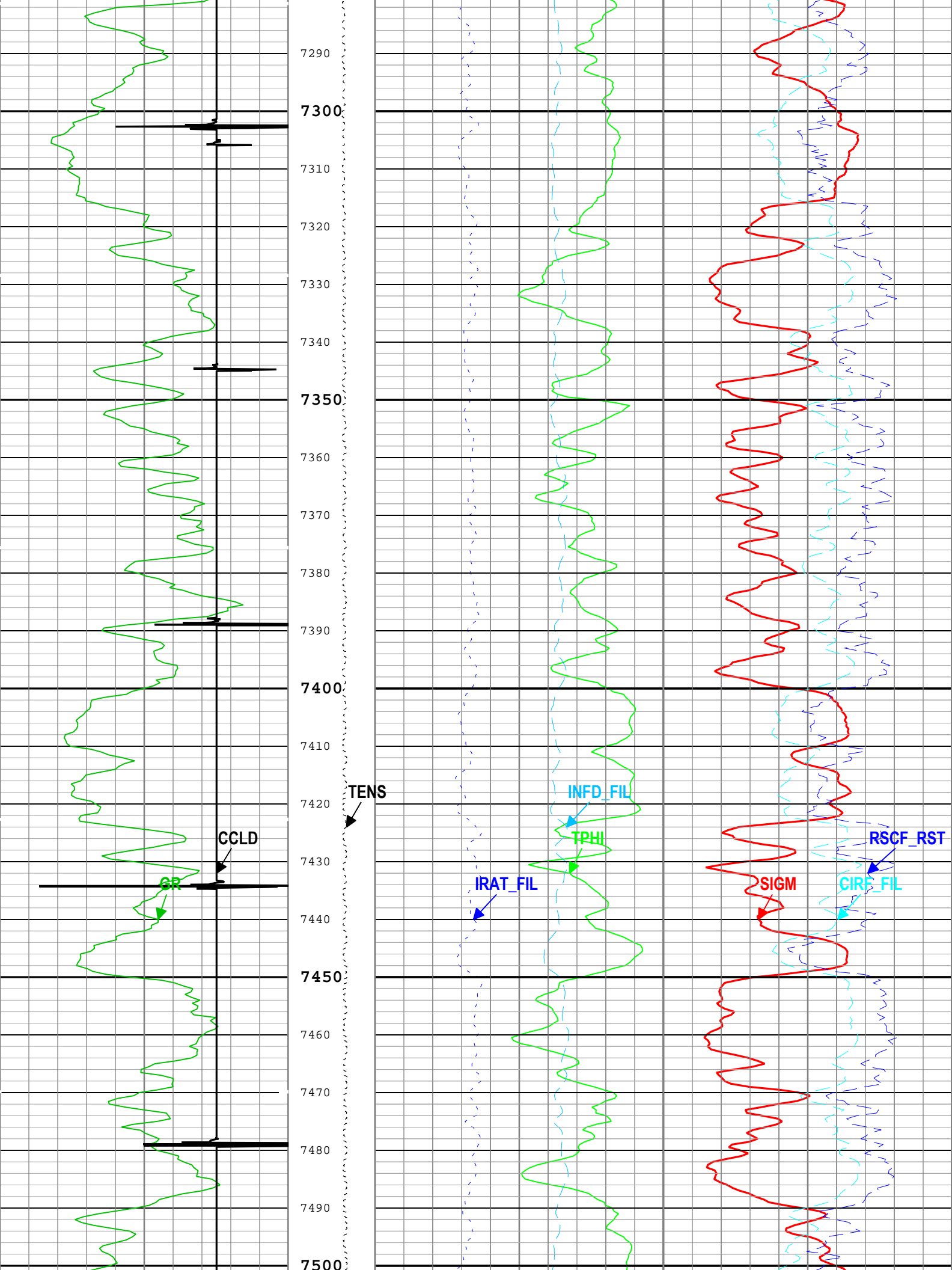
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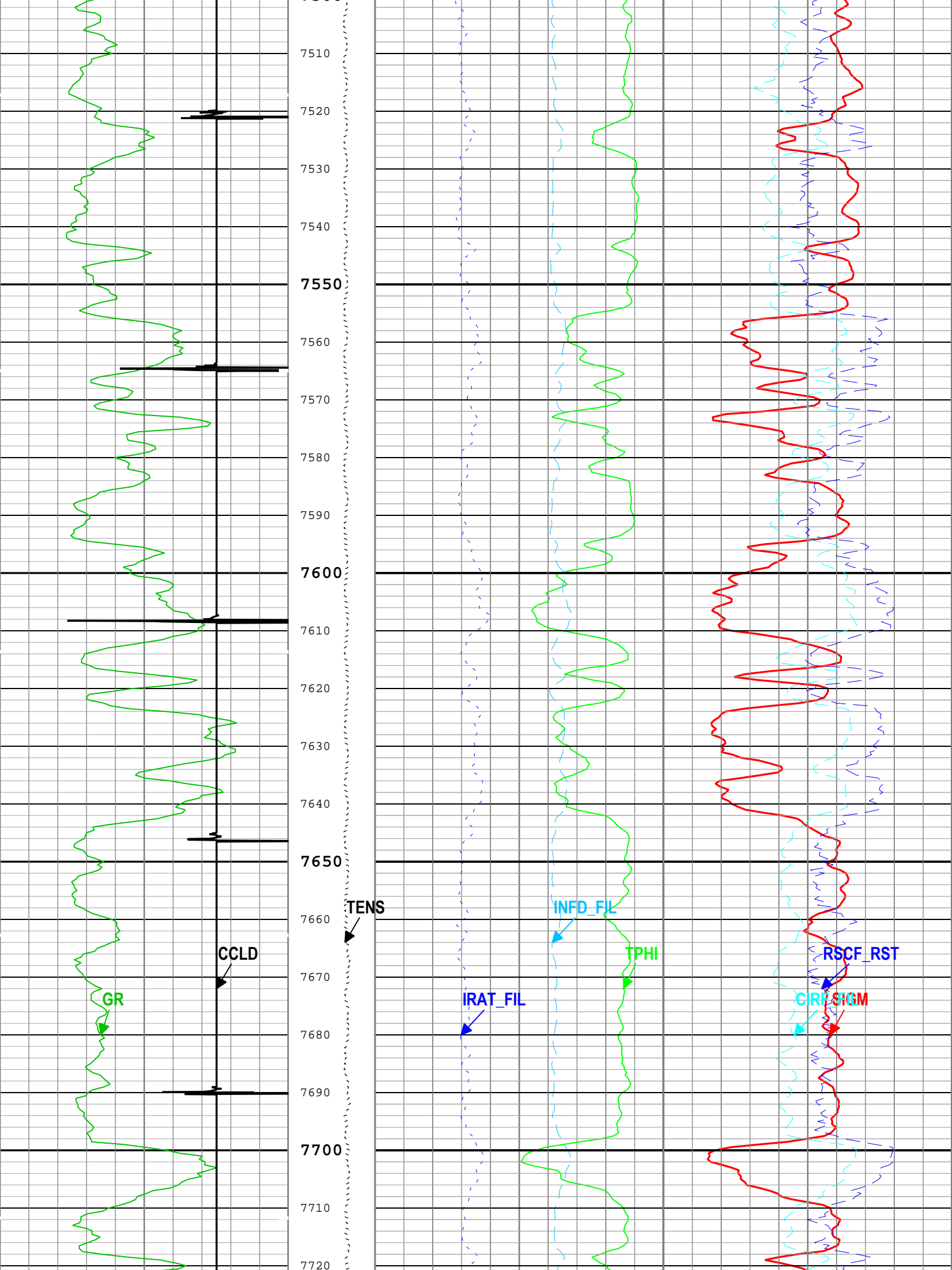
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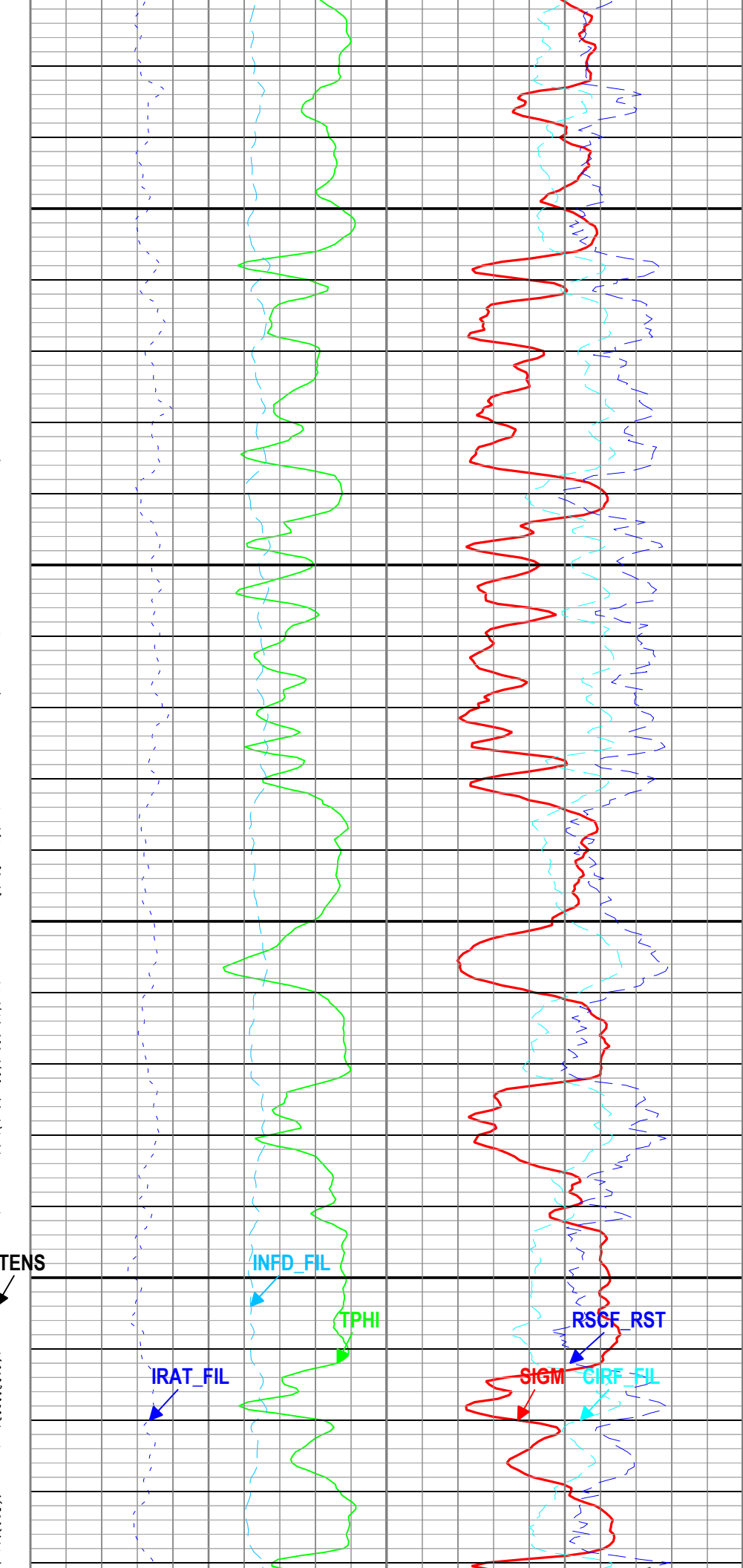
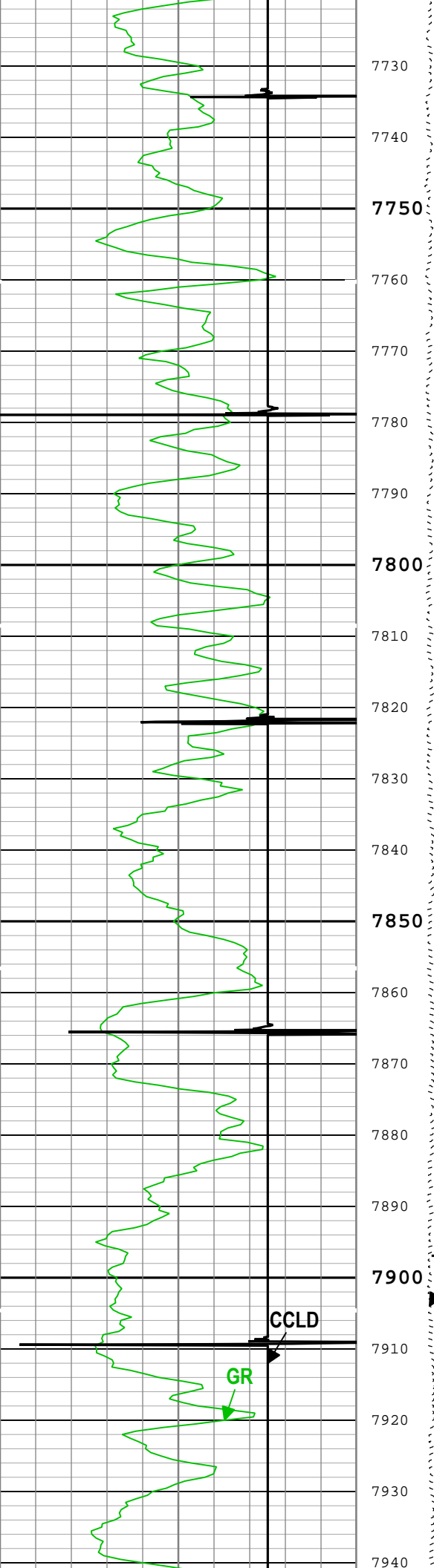


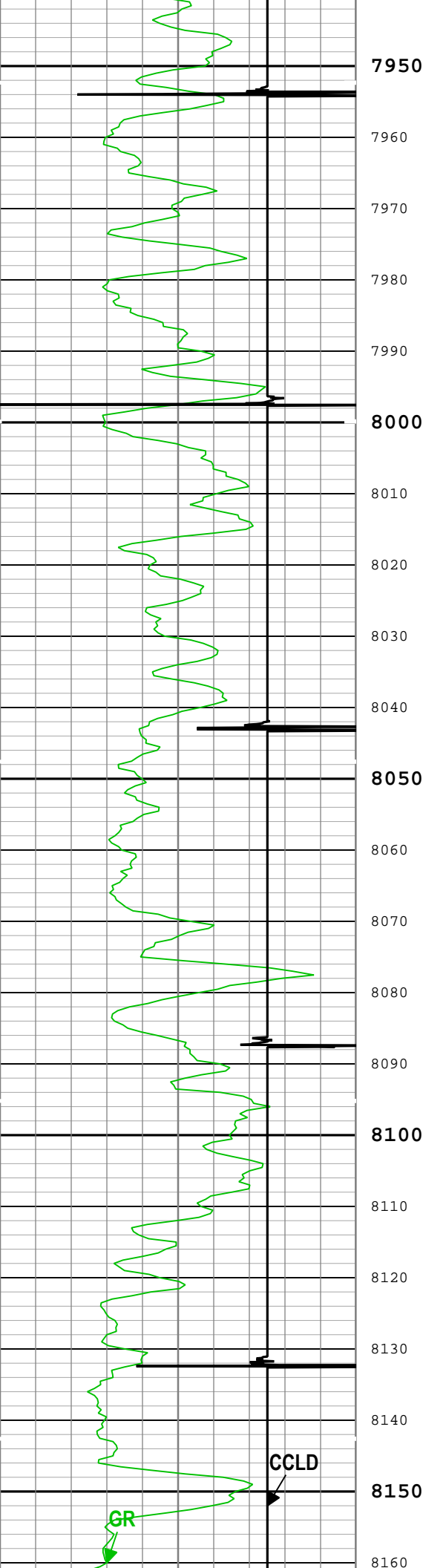
RSCF_RST

SIGM_CIRF_FIL







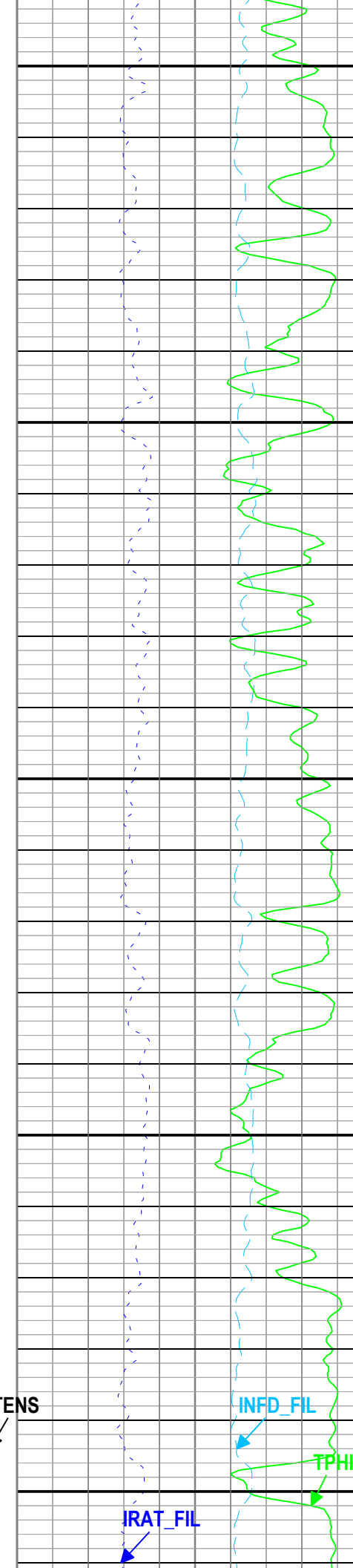


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TENS

CCLD

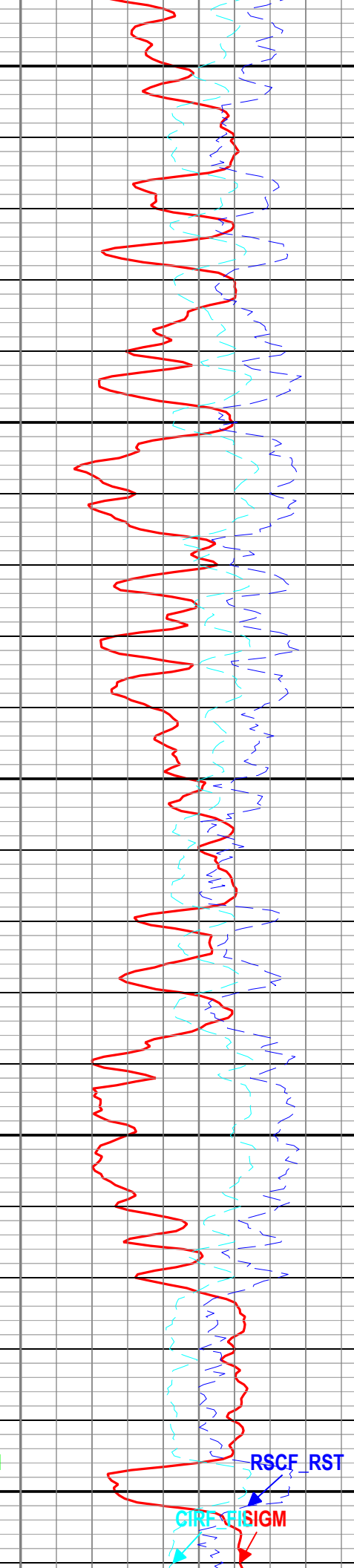
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INFD_FIL

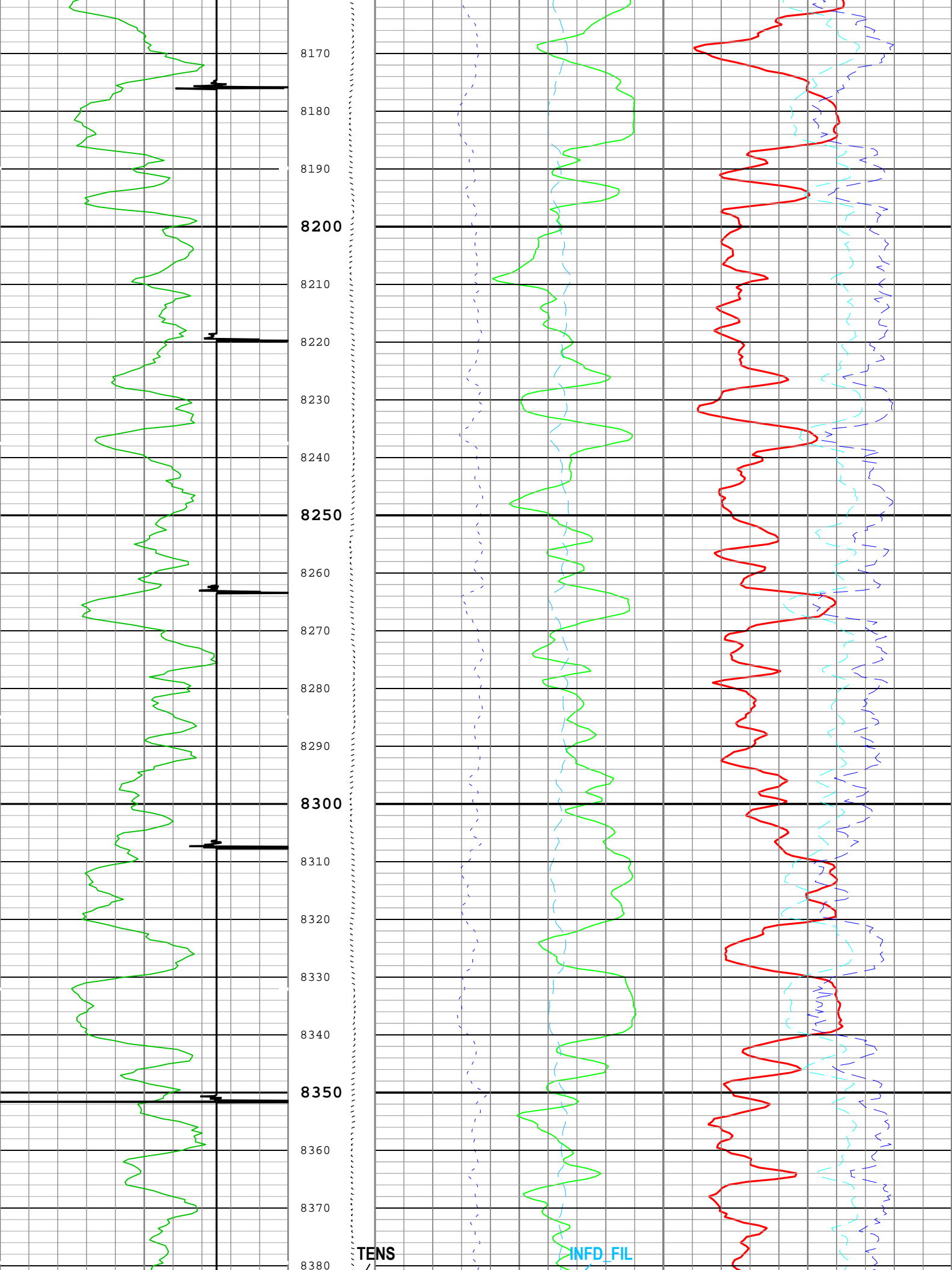
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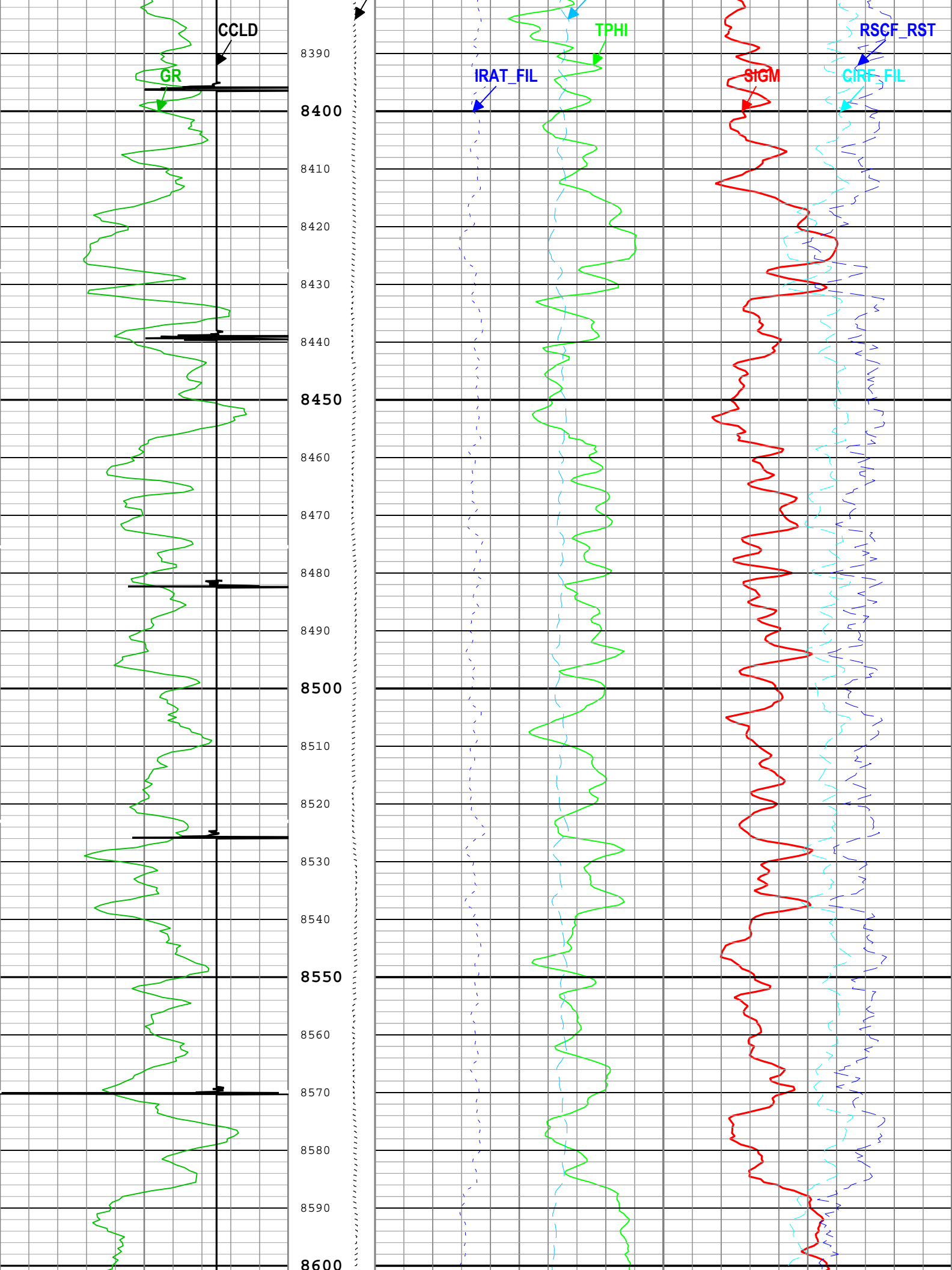
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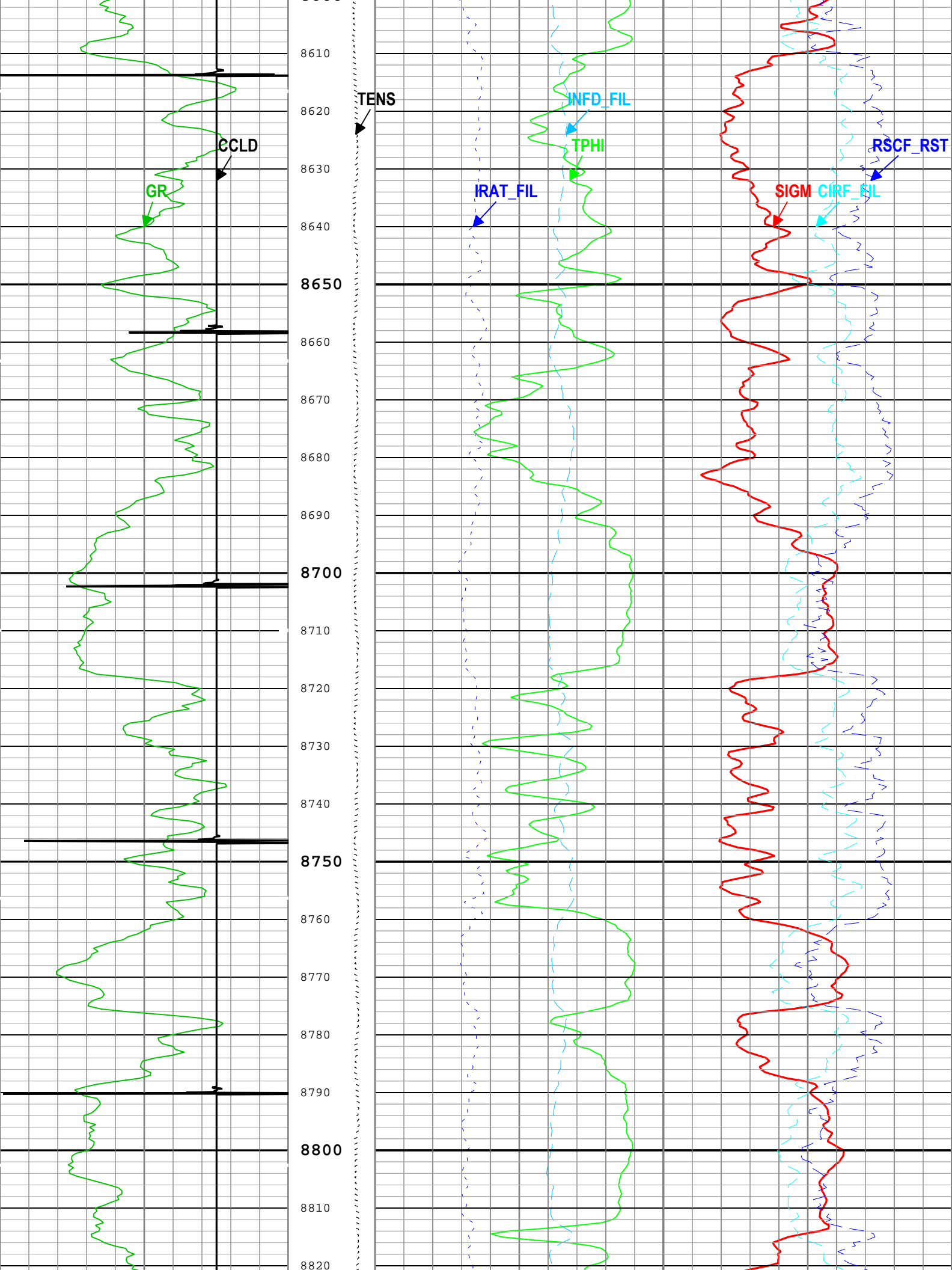


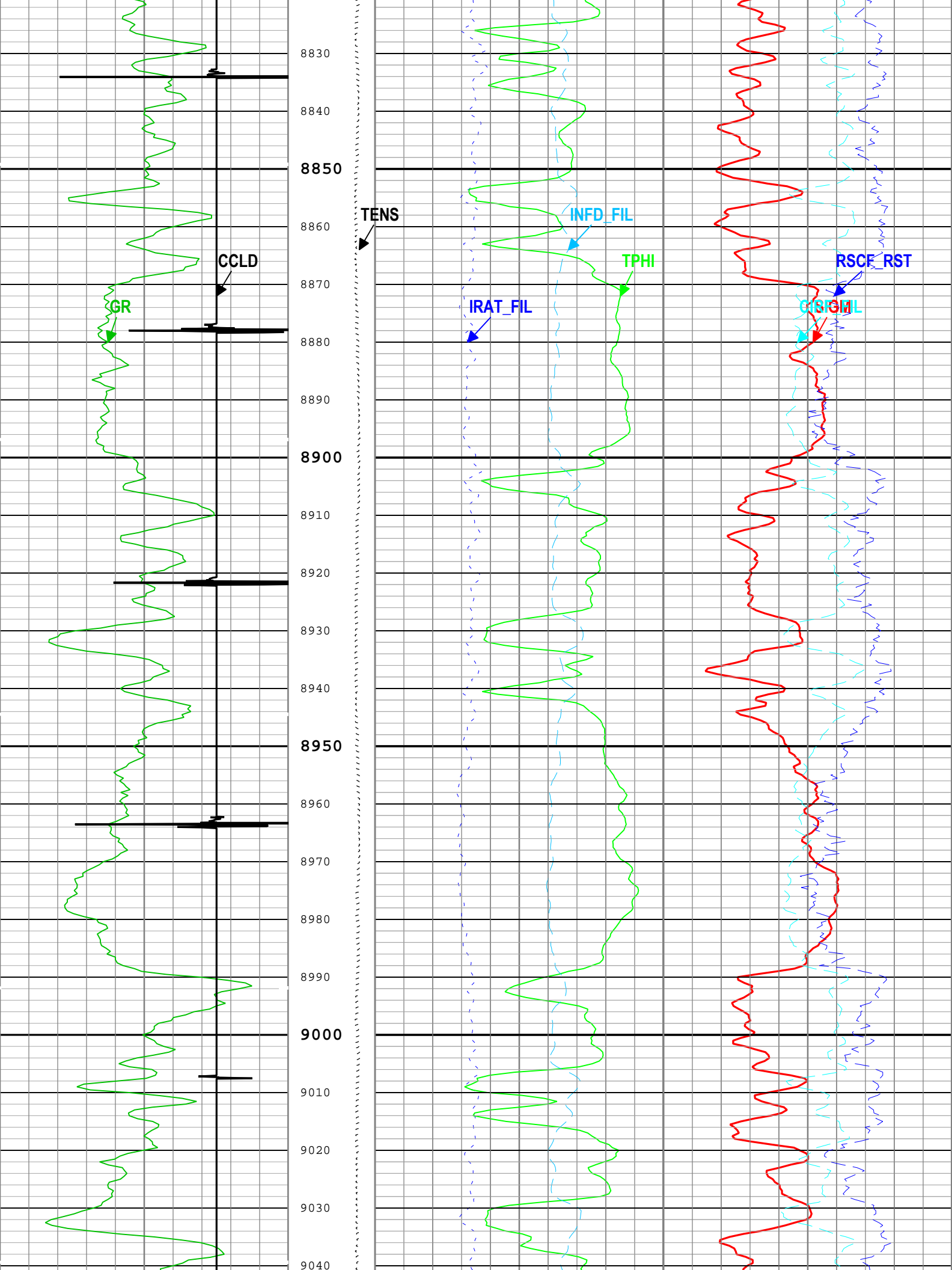
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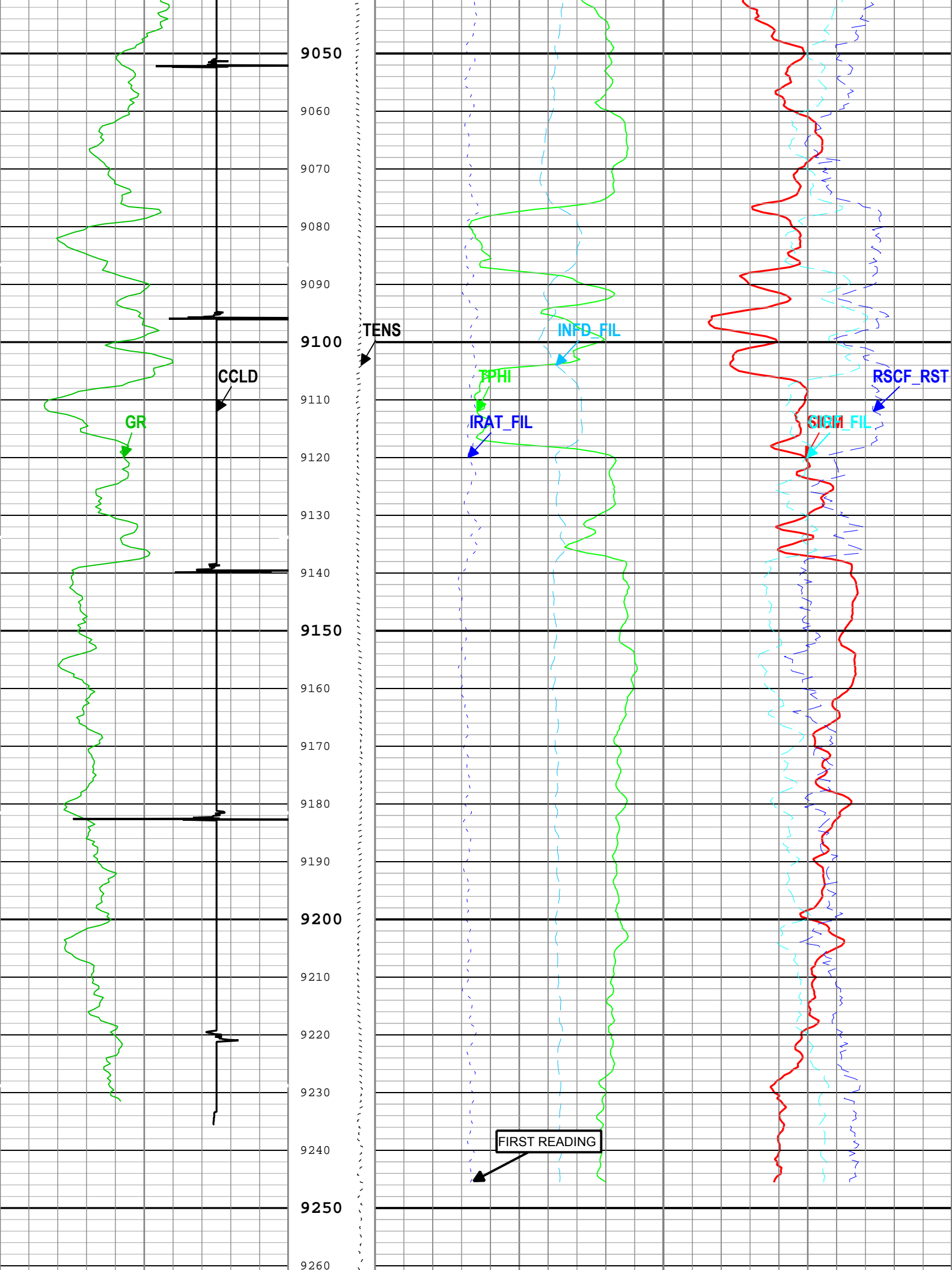
CIRP_FISIGM

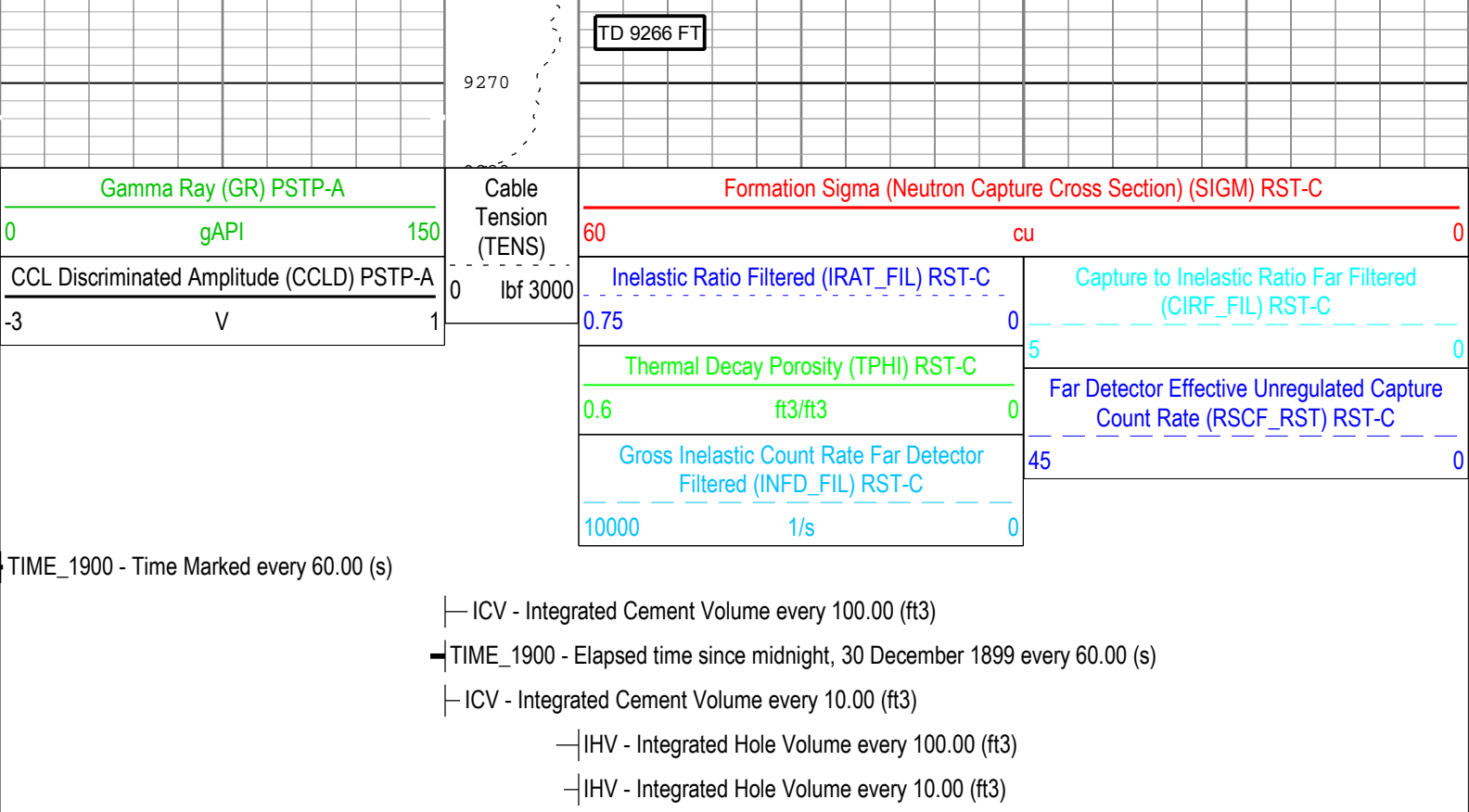


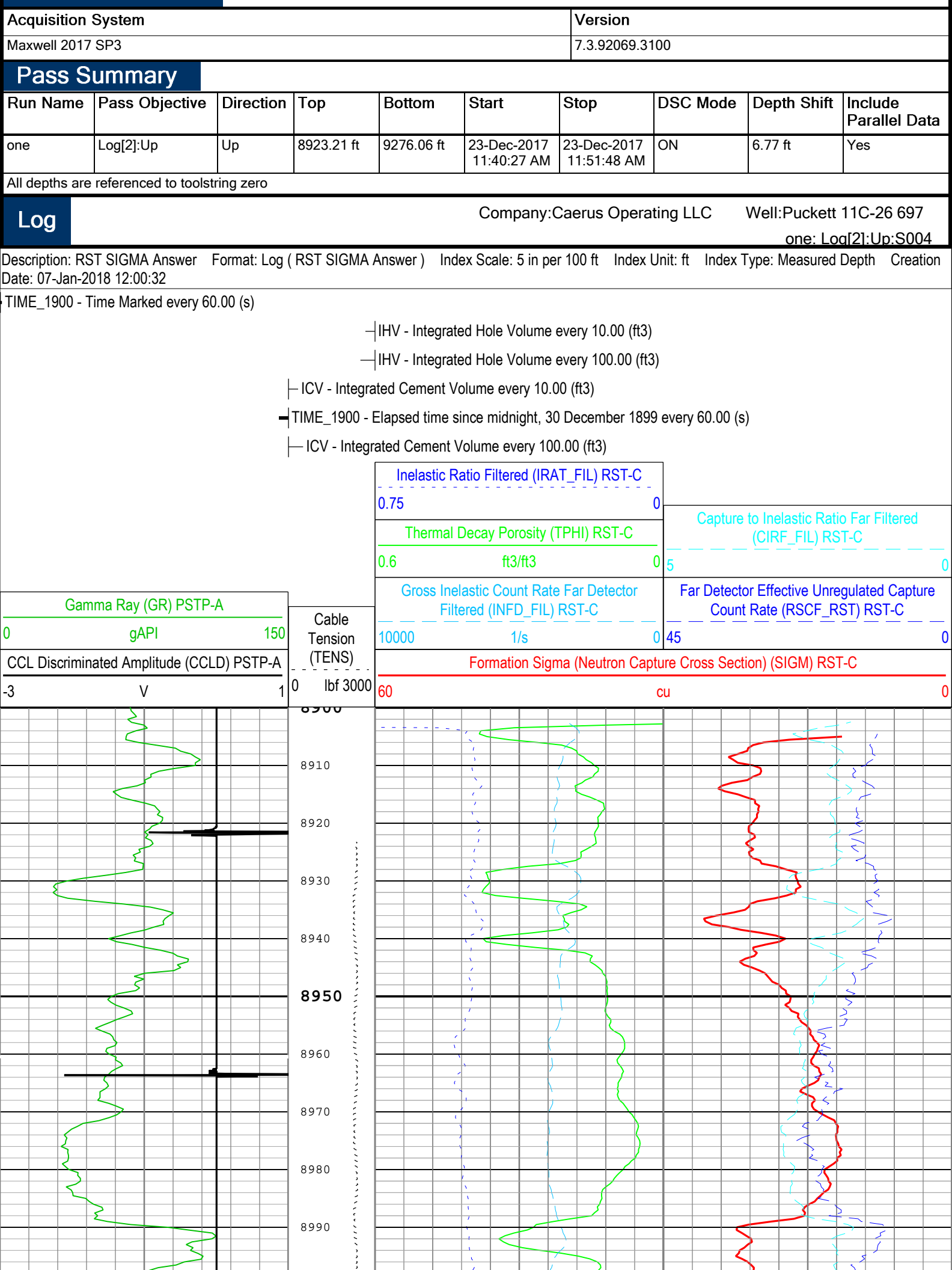












Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
one	Log[2]:Up	Up	8923.21 ft	9276.06 ft	23-Dec-2017 11:40:27 AM	23-Dec-2017 11:51:48 AM	ON	6.77 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Caerus Operating LLCWell:Puckett 11C-26 697one: Log[2]:Up:S004

Description: RST SIGMA AnswerFormat: Log (RST SIGMA Answer)Index Scale: 5 in per 100 ftIndex Unit: ftIndex Type: Measured DepthCreation Date: 07-Jan-2018 12:00:32

TIME_1900 - Time Marked every 60.00 (s)

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)

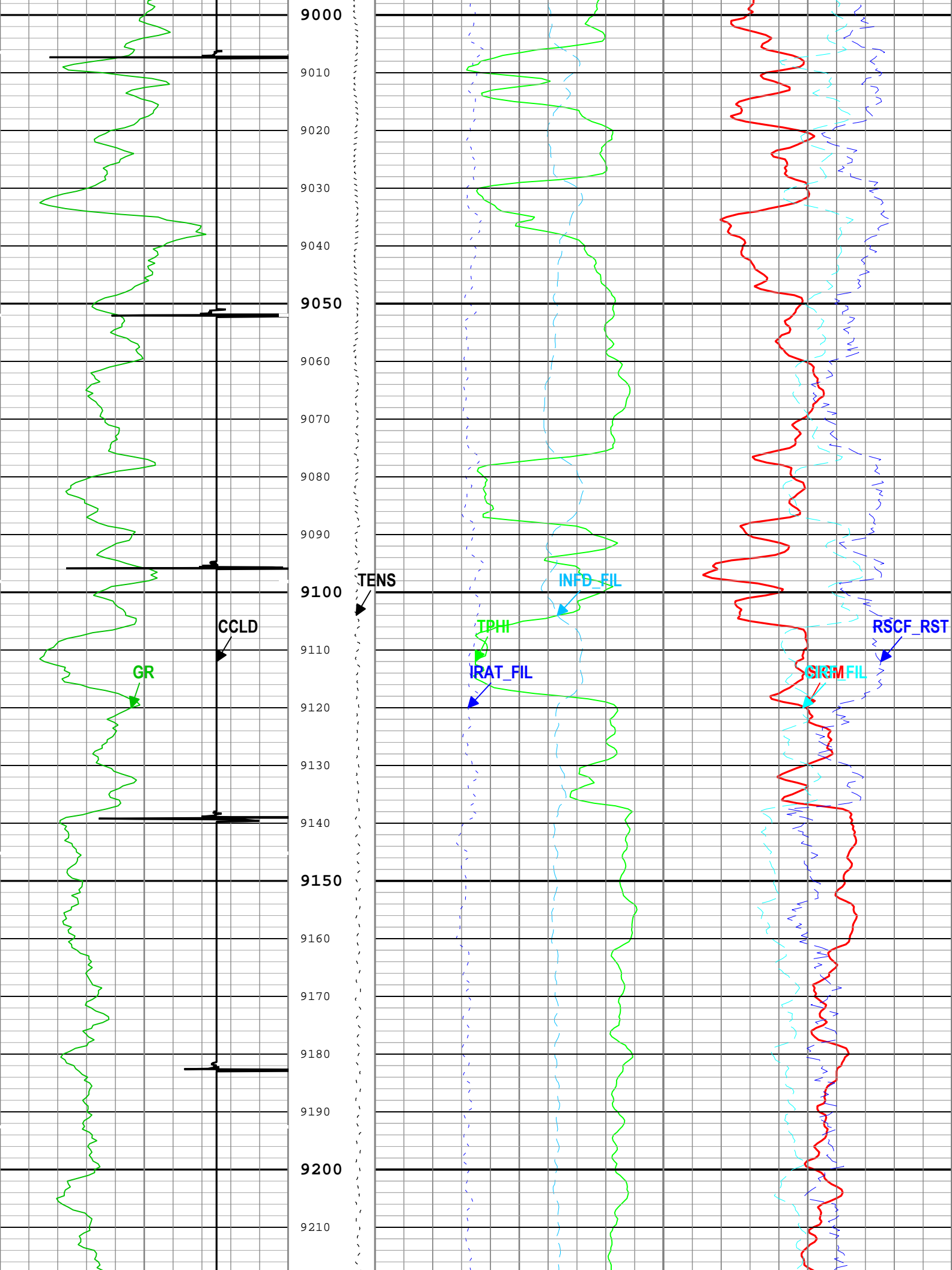
ICV - Integrated Cement Volume every 100.00 (ft3)

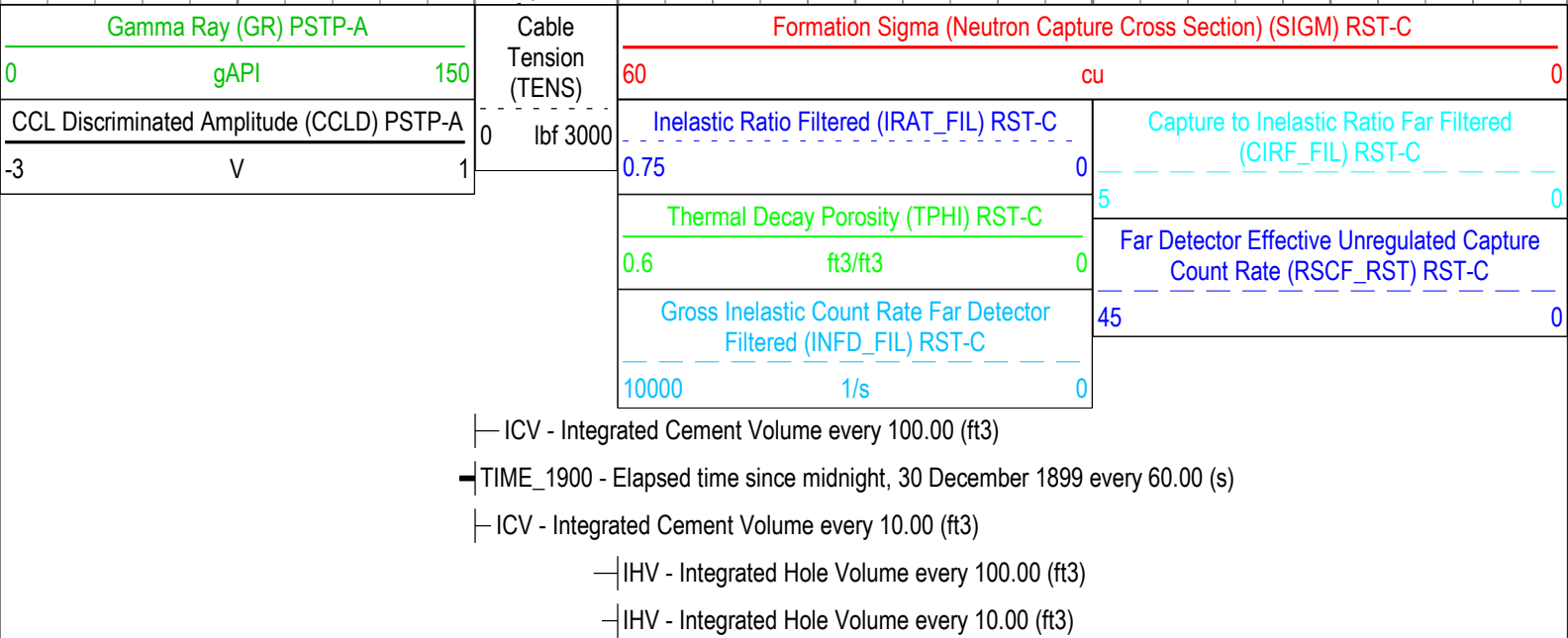
Inelastic Ratio Filtered (IRAT_FIL) RST-C	0.75	0
Thermal Decay Porosity (TPHI) RST-C	0.6	0
Gross Inelastic Count Rate Far Detector Filtered (INFD_FIL) RST-C	10000	0
Formation Sigma (Neutron Capture Cross Section) (SIGM) RST-C	60	0

Gamma Ray (GR) PSTP-A	0	150
CCL Discriminated Amplitude (CCLD) PSTP-A <td>-3</td> <td>1</td>	-3	1

Cable Tension (TENS)	0	3000
	0	3000

Capture to Inelastic Ratio Far Filtered (CIRF_FIL) RST-C	5	0
Far Detector Effective Unregulated Capture Count Rate (RSCF_RST) RST-C	45	0





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: 07-Jan-2018 12:00:32
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one: Parameters

Tool Control Parameters	
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Parameter	Description	Tool	Value	Unit
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MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	150	ft/h
PCCG	PSP Downhole CCL Gain	PSTP-A	12 dB	
RST_DLM	Depth Log Mode	RST-C	Sigma	

Company:	Caerus Operating LLC	Schlumberger
Well:	Puckett 11C-26 697	
Field:	Grand Valley	
County:	Garfield	
State:	Colorado	
Cement Bond Log		
Reservoir Saturation Log		
Gamma Ray / CCL		