

Company: CAERUS OPERATING LLC

Well: Puckett 13C-23 697

Field: Grand Valley

County: Garfield State: Colorado

Reservoir Saturation Log
Sigma Mode
Gamma Ray/CCL

County: Garfield
Field: Grand Valley
Location: Lat 39.30°07.76" N Long. 108.11°18.38" W
Well: Puckett 13C-23 697
Company: CAERUS OPERATING LLC

Location:		Lat 39.30°07.76" N Long. 108.11°18.38" W	Elev.:	K.B.	8462.00 ft
Permanent Datum:				G.L.	8432.00 ft
Log Measured From:		Ground Level			
Drilling Measured From:		Kelly Bushing	30.00 ft		above Perm.Datum
API Serial No.		Kelly Bushing			
5045233750000	Section:	23	Township:	S6	Range:
					97W

Logging Date 16-Dec-2017

Run Number RST

Depth Driller 9504.00 ft

Schlumberger Depth 8890.00 ft

Bottom Log Interval 8890.00 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 8.75 in

From 2525.00 ft

To 9504.00 ft

Casing/Tubing Size 4.5 in

Weight 11.6 lbm/ft

Grade P110

From 0.00 ft

To 9504.00 ft

Max Recorded Temperatures 218 degF

Logger on Bottom 16-Dec-2017 02:00:00

Unit Number 3046 Location: Evanson

Recorded By Beatriz Guaita

Witnessed By Ryan Tompkins

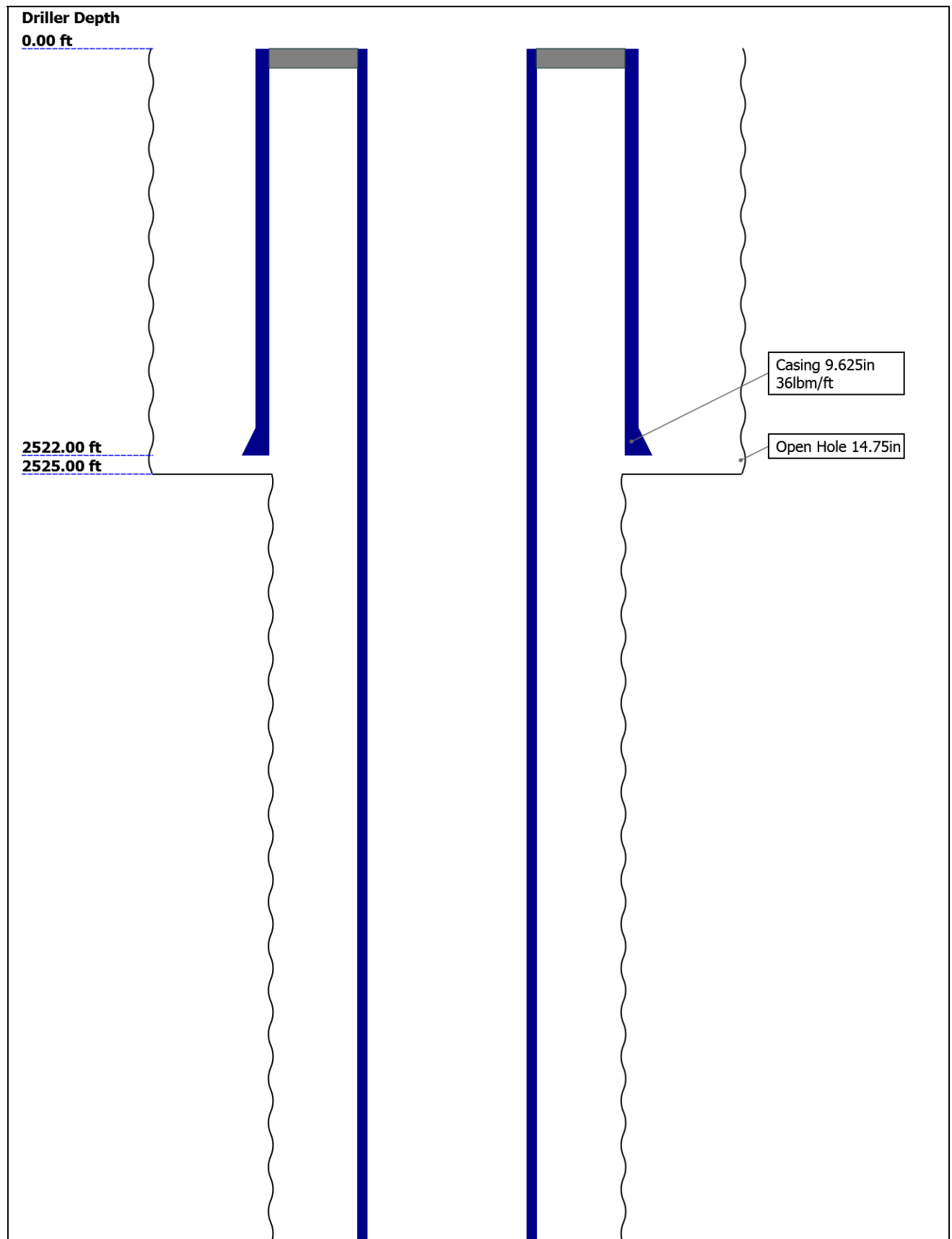
Disclaimer

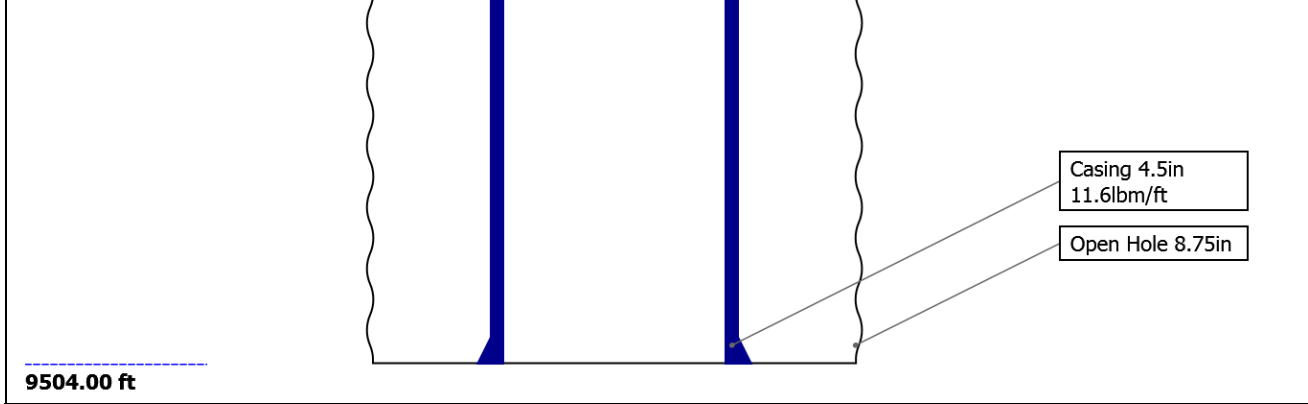
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Well Sketch



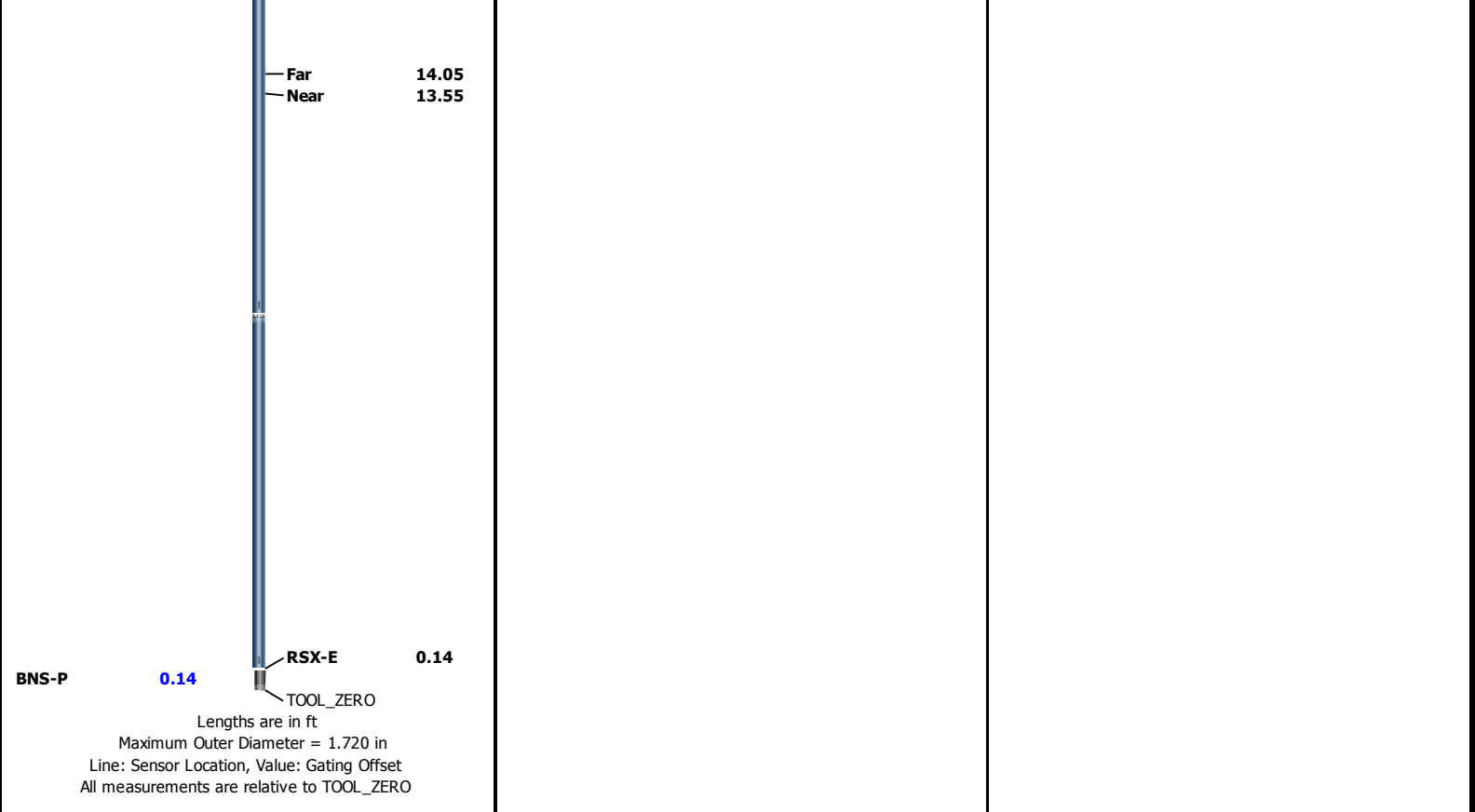


Borehole Size/Casing/Tubing Record

Bit						
Bit Size (in)	14.75	8.75				
Top Driller (ft)	0	2525				
Top Logger (ft)	0	2525				
Bottom Driller (ft)	2525	9504				
Bottom Logger (ft)	2525	9504				
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)	2522	9504				
Bottom Logger (ft)	2522	9504				

Remarks and Equipment Summary

RST: Toolstring				RST: Remarks	
Equip name	Length	MP name	Offset	Tool ran as per Tool Sketch.	
PEH-EF	34.07			Main Pass from 8890' to 2500'	
				Maximum Botton Hole Temperature: 218 DegF	
				Maximum Botton Hole Pressure: 3615 psi.	
				Logger Tagged @ 8890'	
				Thank you for choosing Schlumberger.	
AH-38	31.71				
PSTP-B:2826	31.43				
PSC-A		GR	27.73		
PSTC-A:2827		PSTC	27.43		
PBMS-B:2826		PSTC Tool String Bottom Temperature	0.00		
		CQG Pressure	24.68		
		CCL	24.33		
		PBMS	23.92		
RST-C:478	23.17				
RSCH-A:303					
RSC-E:315					
RSS-A:382					
MNTR-F:1471-5					
1351					
RSXH-A:482					
RSX-E:478					
		RSC-E	16.81		



Composite 1

Main Sigma Pass

Software Version

Acquisition System	Version
Maxwell 2017 SP3	7.3.90279.3100

Composite Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
RST	Log[4]:Up	Up	8255.68 ft	8900.93 ft	16-Dec-2017 03:28:37	16-Dec-2017 03:54:43	ON	9.12 ft	Yes
RST	Log[7]:Up	Up	2480.47 ft	8450.50 ft	16-Dec-2017 04:17:56	16-Dec-2017 07:33:47	ON	9.89 ft	Yes

All depths are referenced to toolstring zero

Log

Company:CAERUS OPERATING LLC Well:Puckett 13C-23 697
Composite 1:S015

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: 27-Dec-2017 15:23:38

TIME_1900 - Time Marked every 60.00 (s)

TIME_1900 - Elapsed time since midnight, 30 December 1899 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)

ICV - Integrated Cement Volume every 100.00 (ft3)

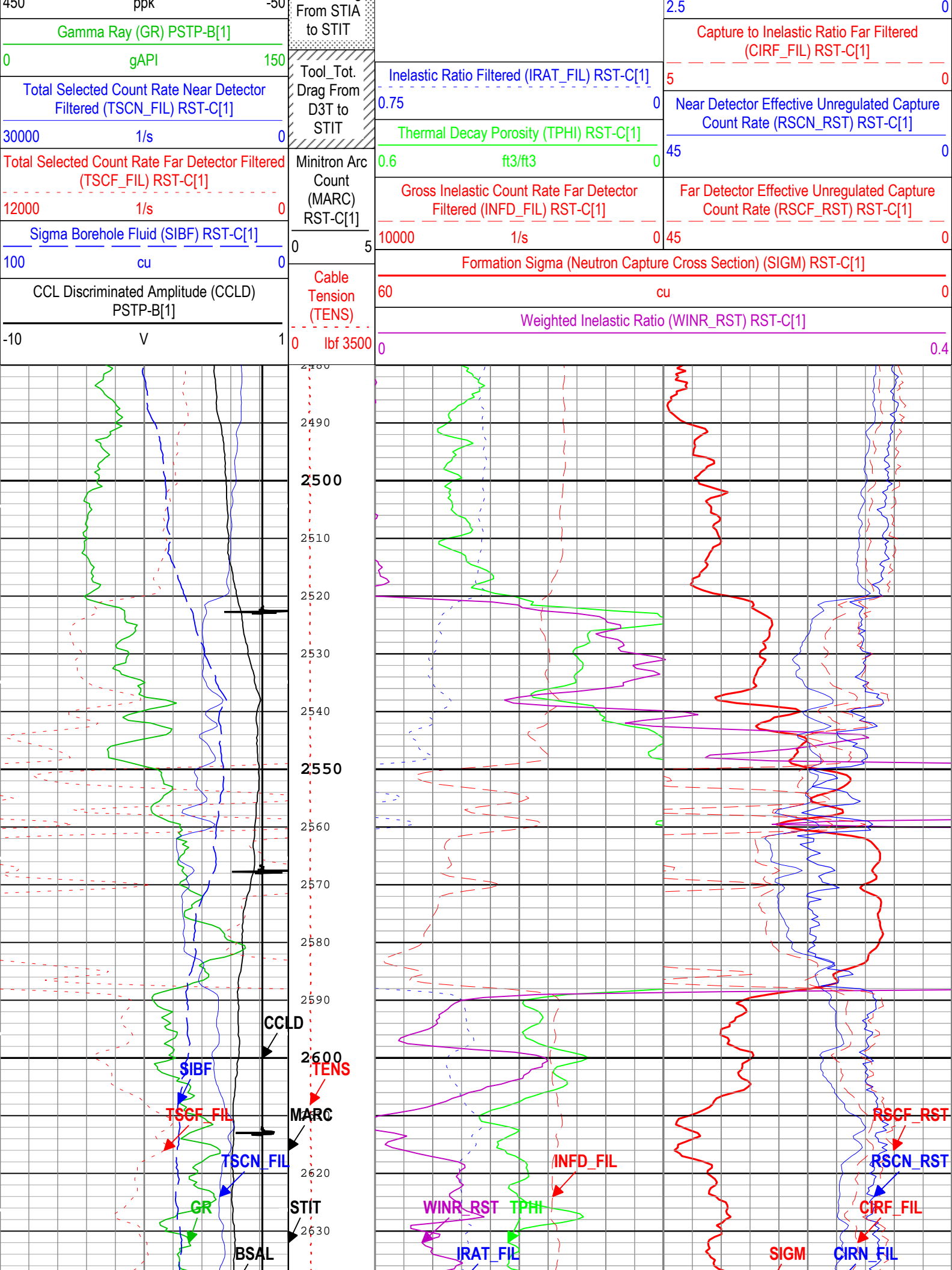
Stuck Tool Indicator, Total (STIT)

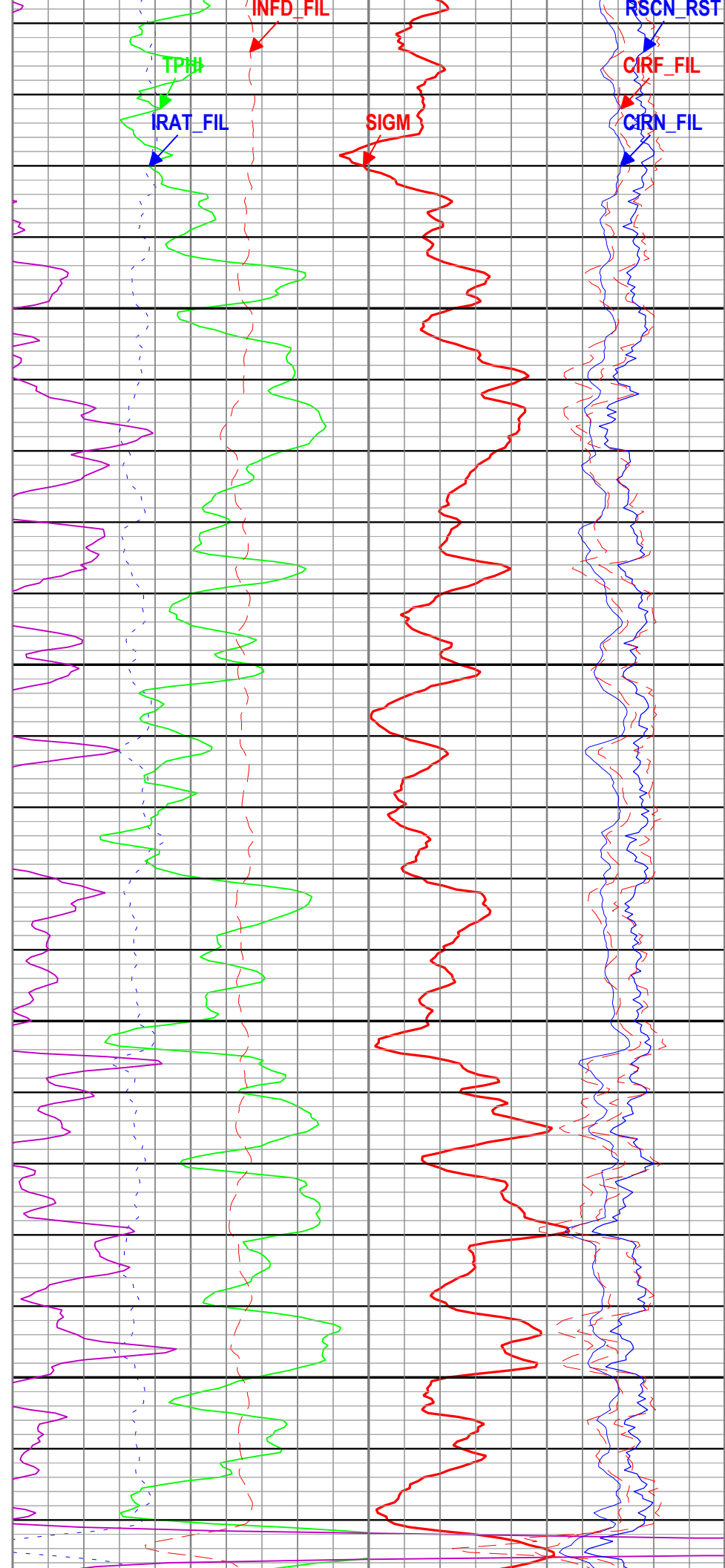
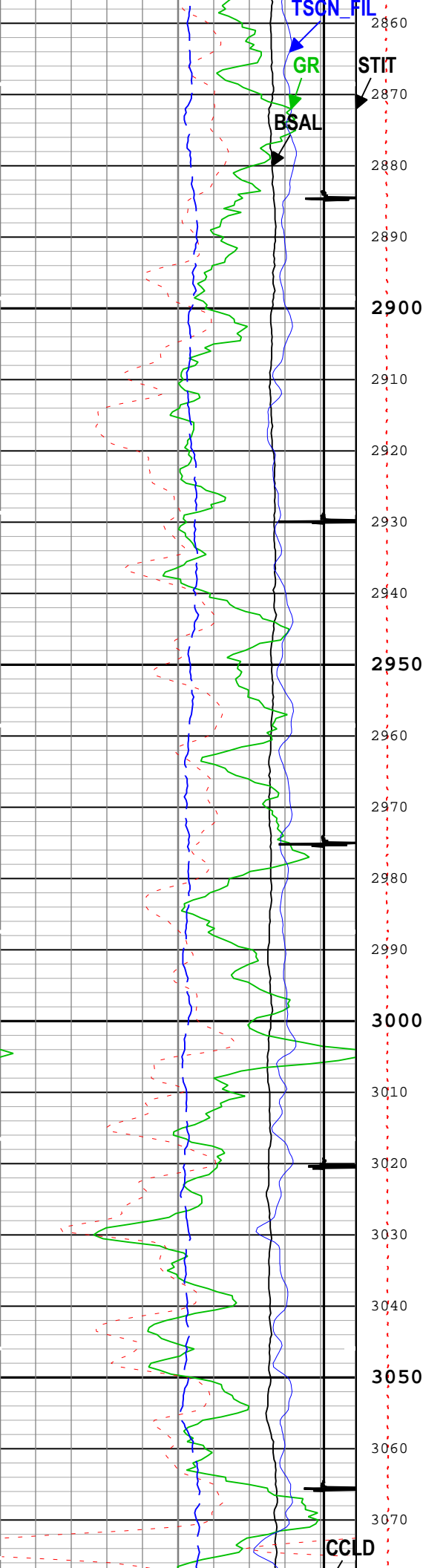
0 ft 50

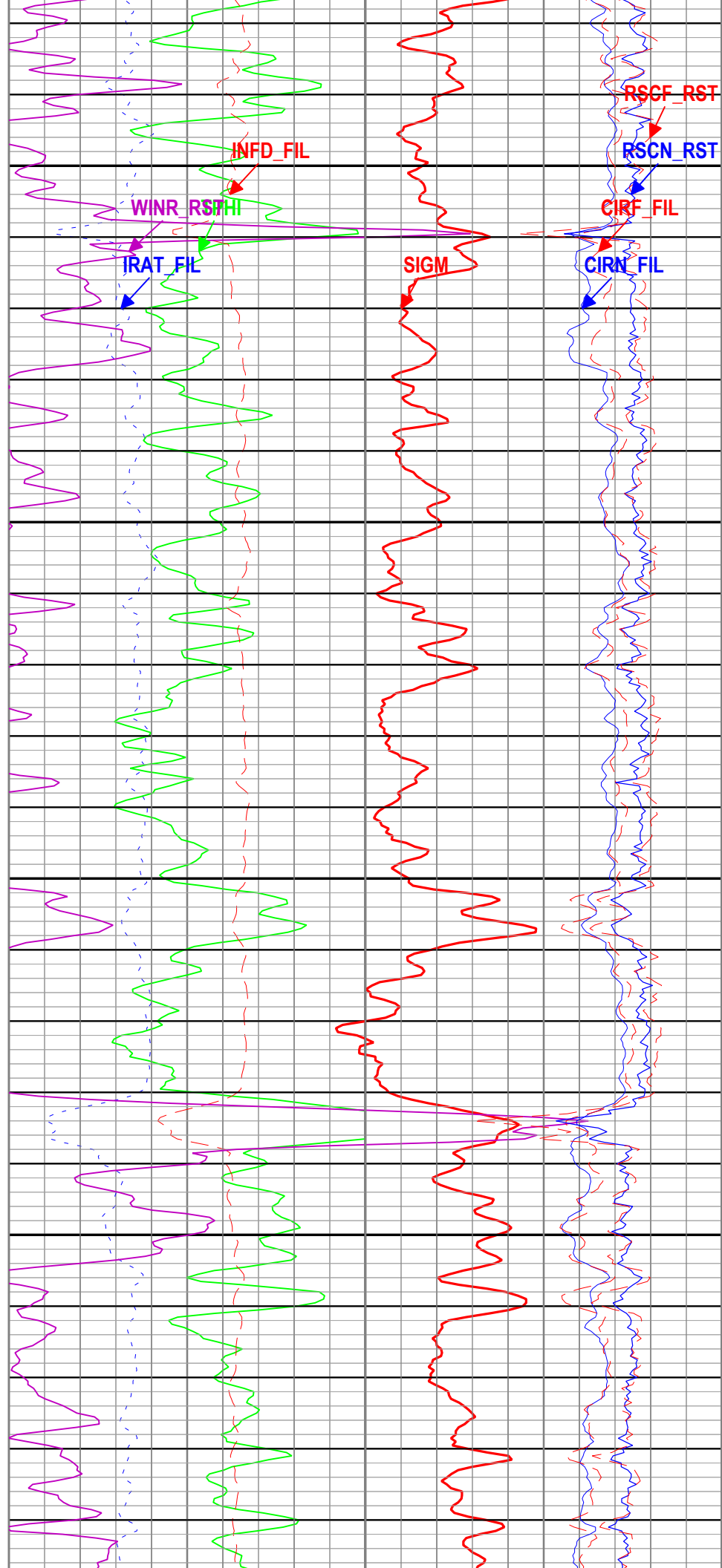
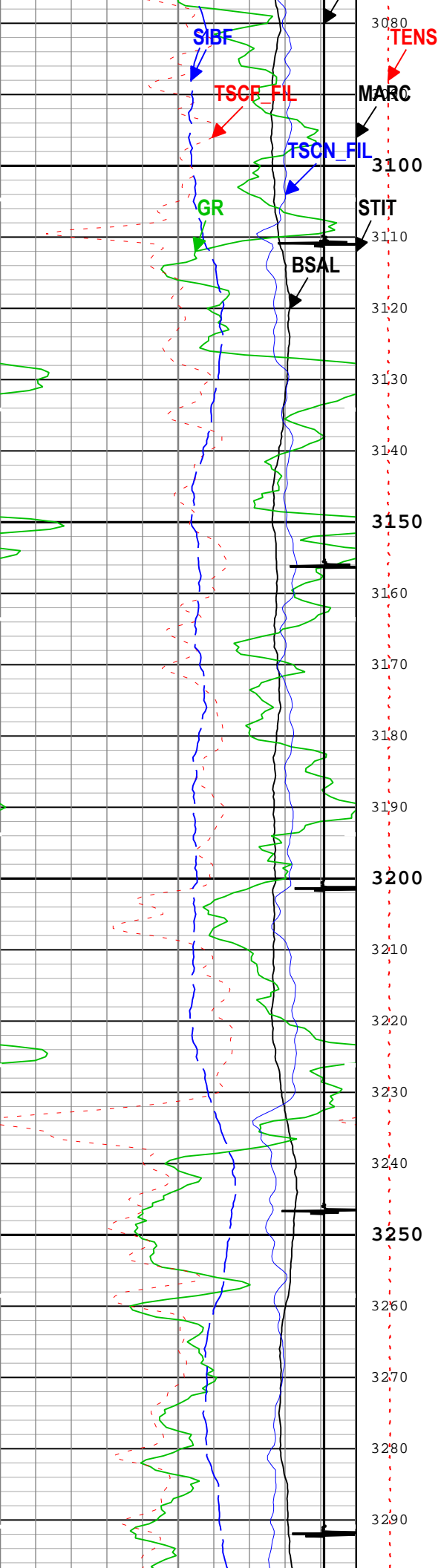
Borehole Salinity (BSAL) RST-C[1]

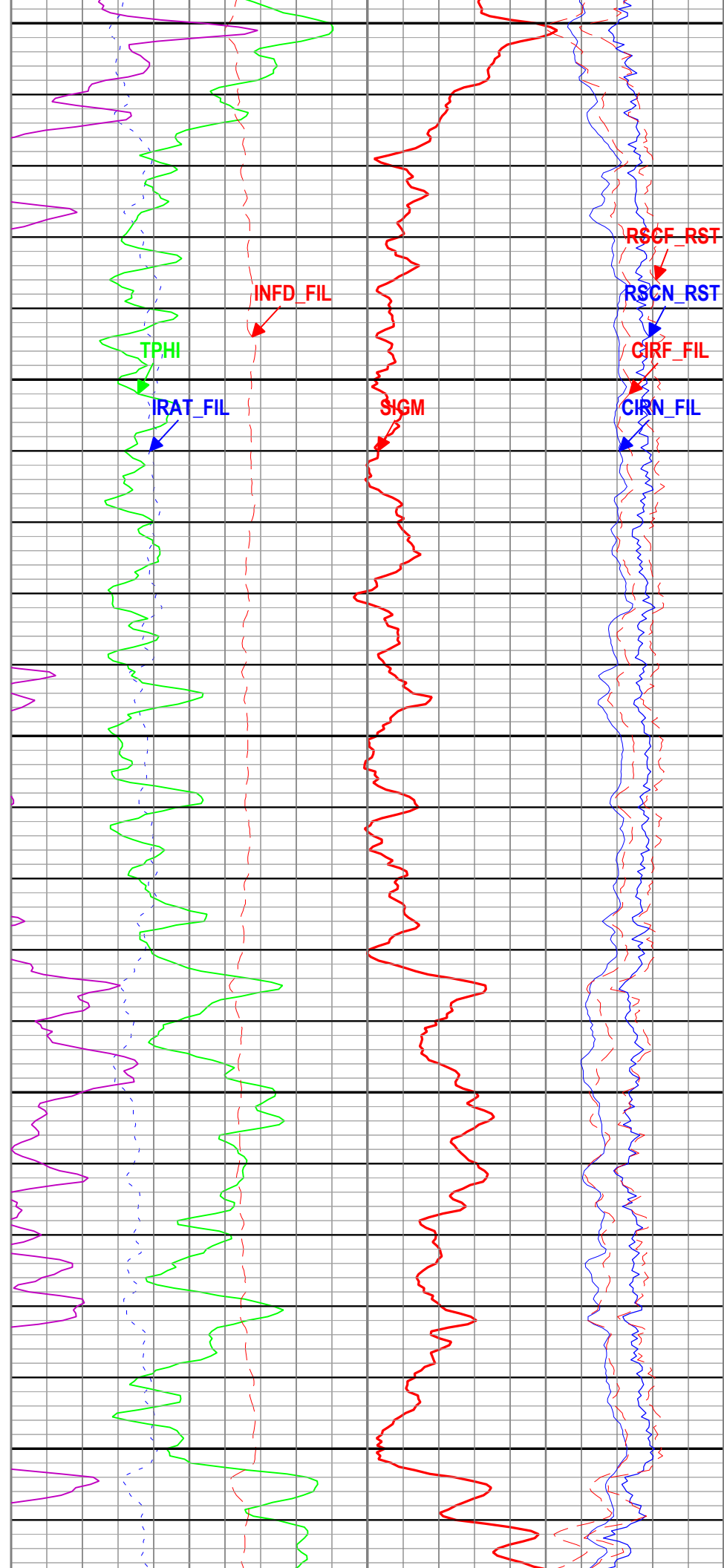
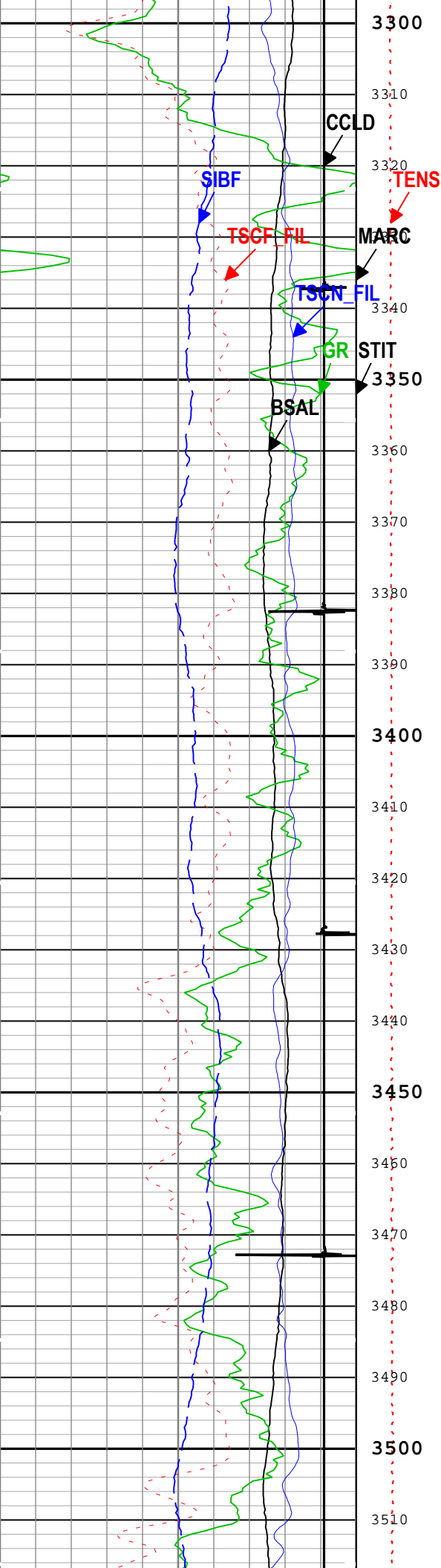
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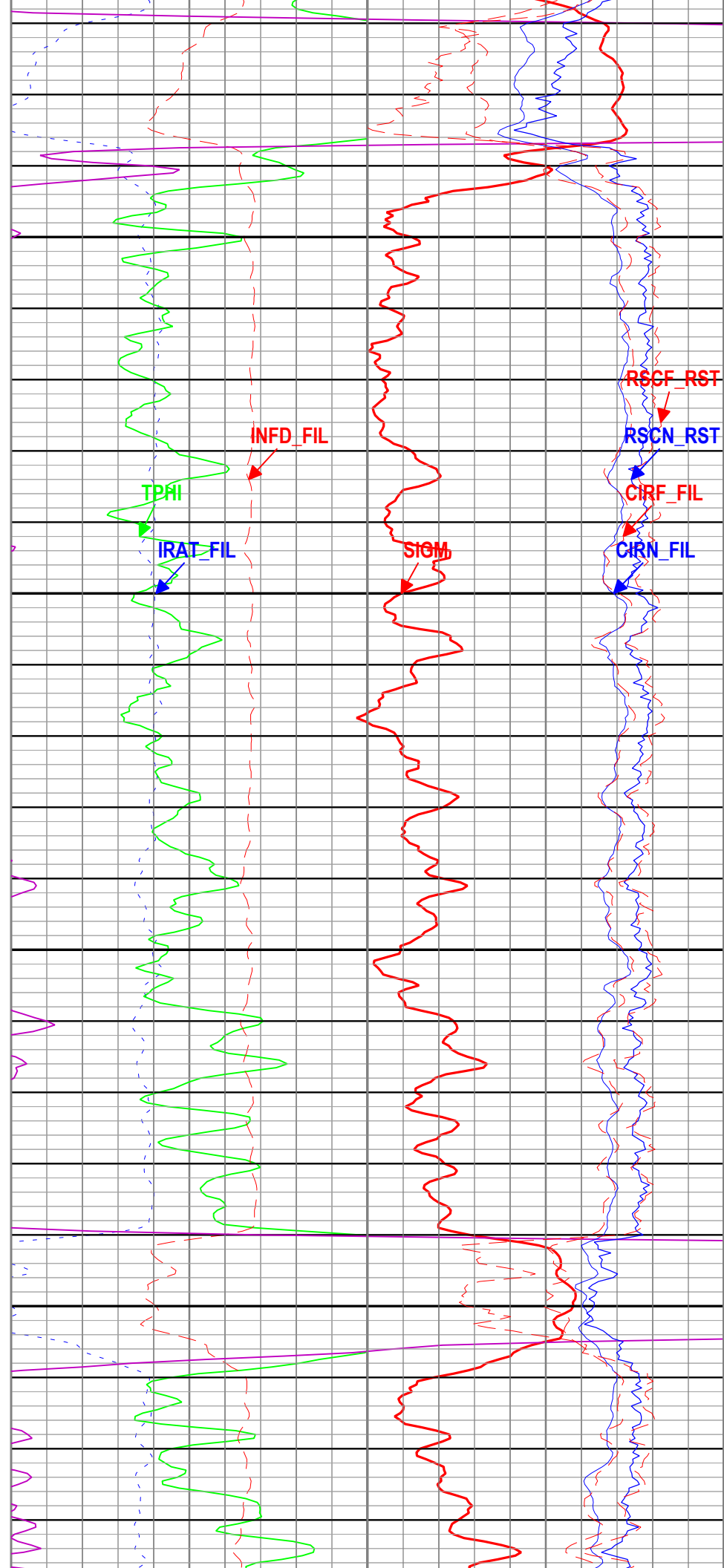
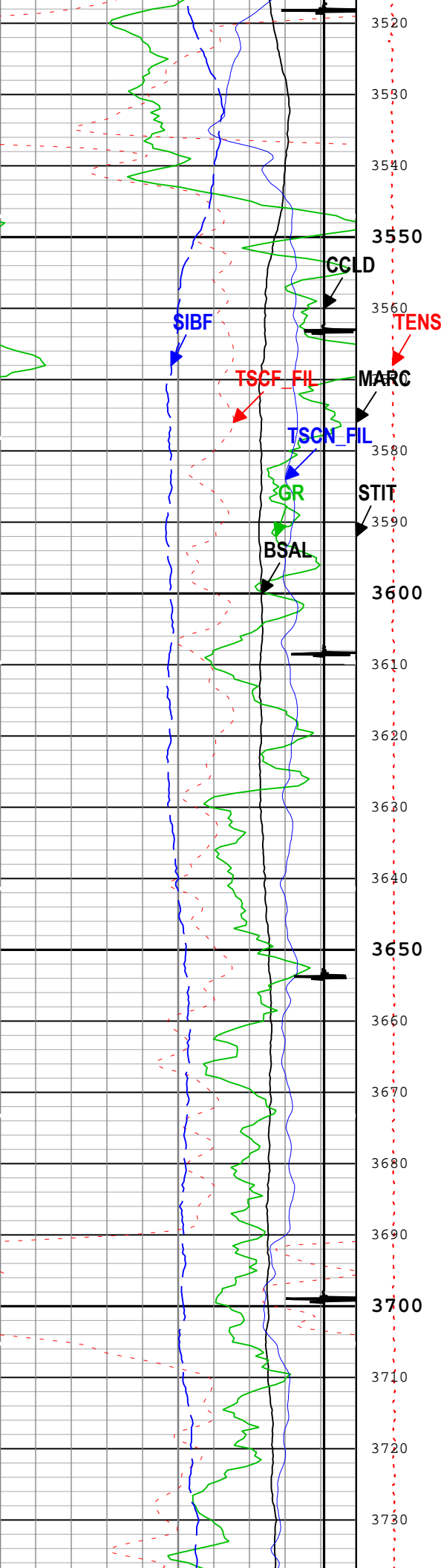
Capture to Inelastic Ratio Near Filtered (CIRN_FIL) RST-C[1]

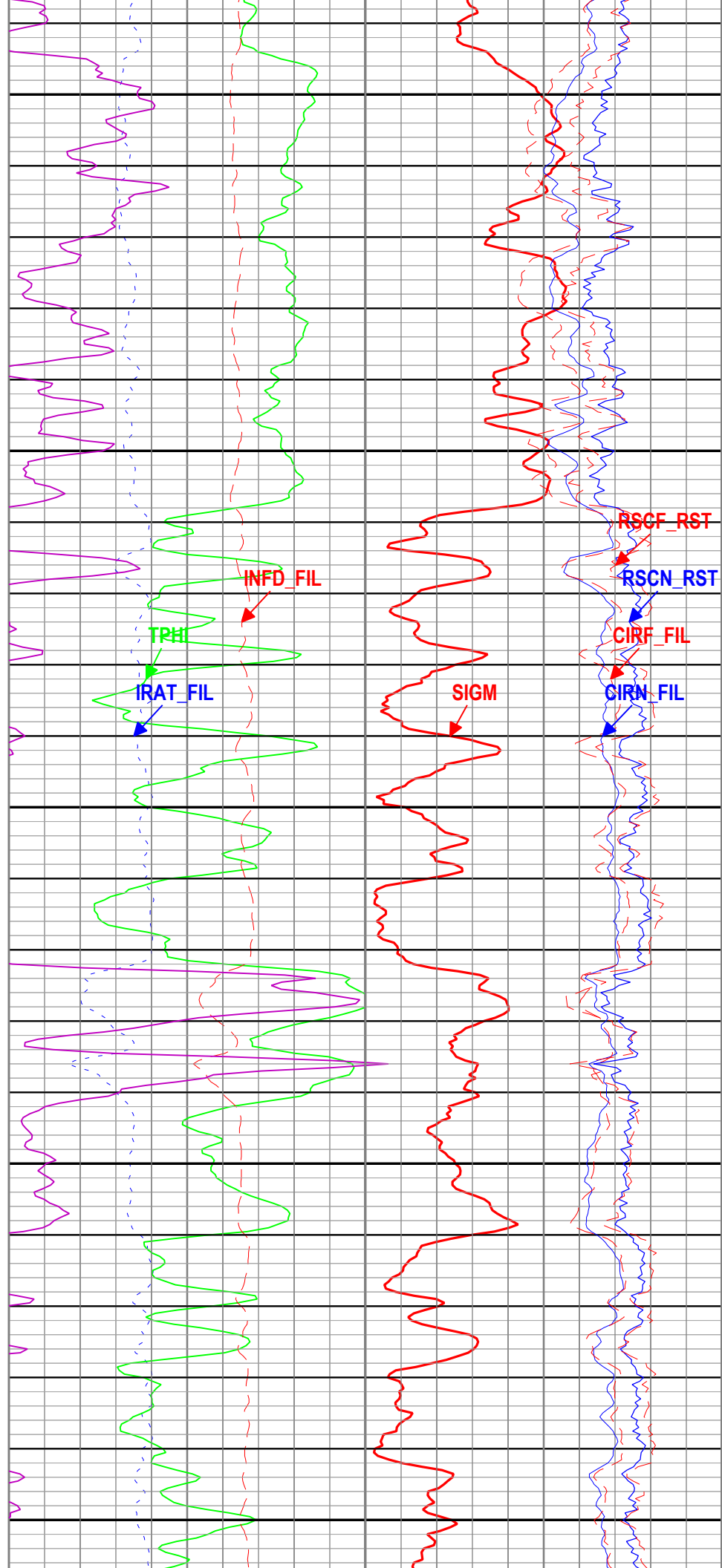
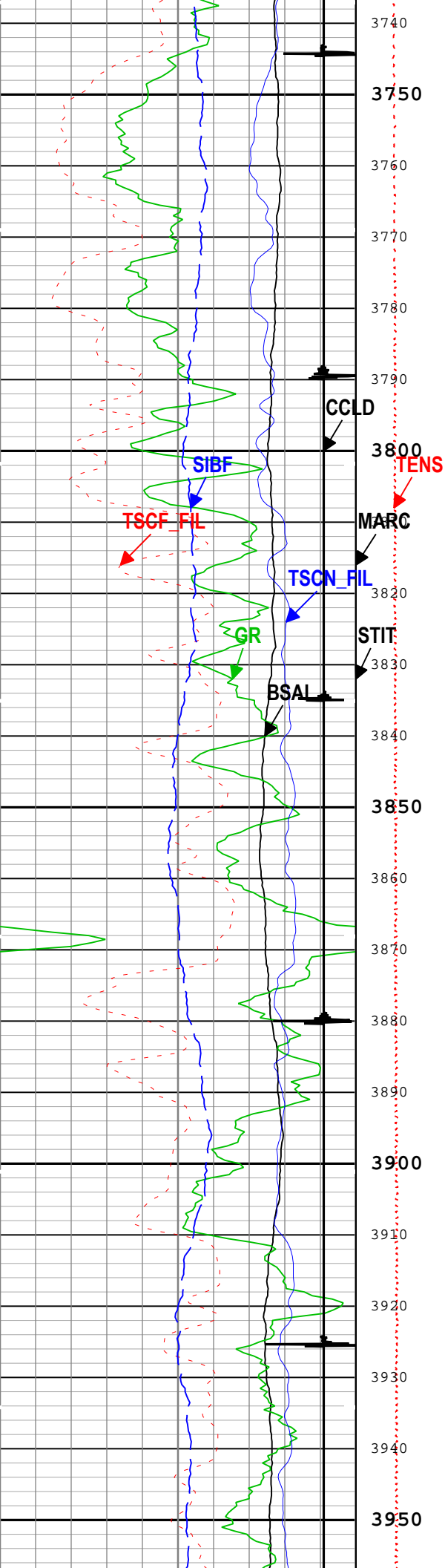


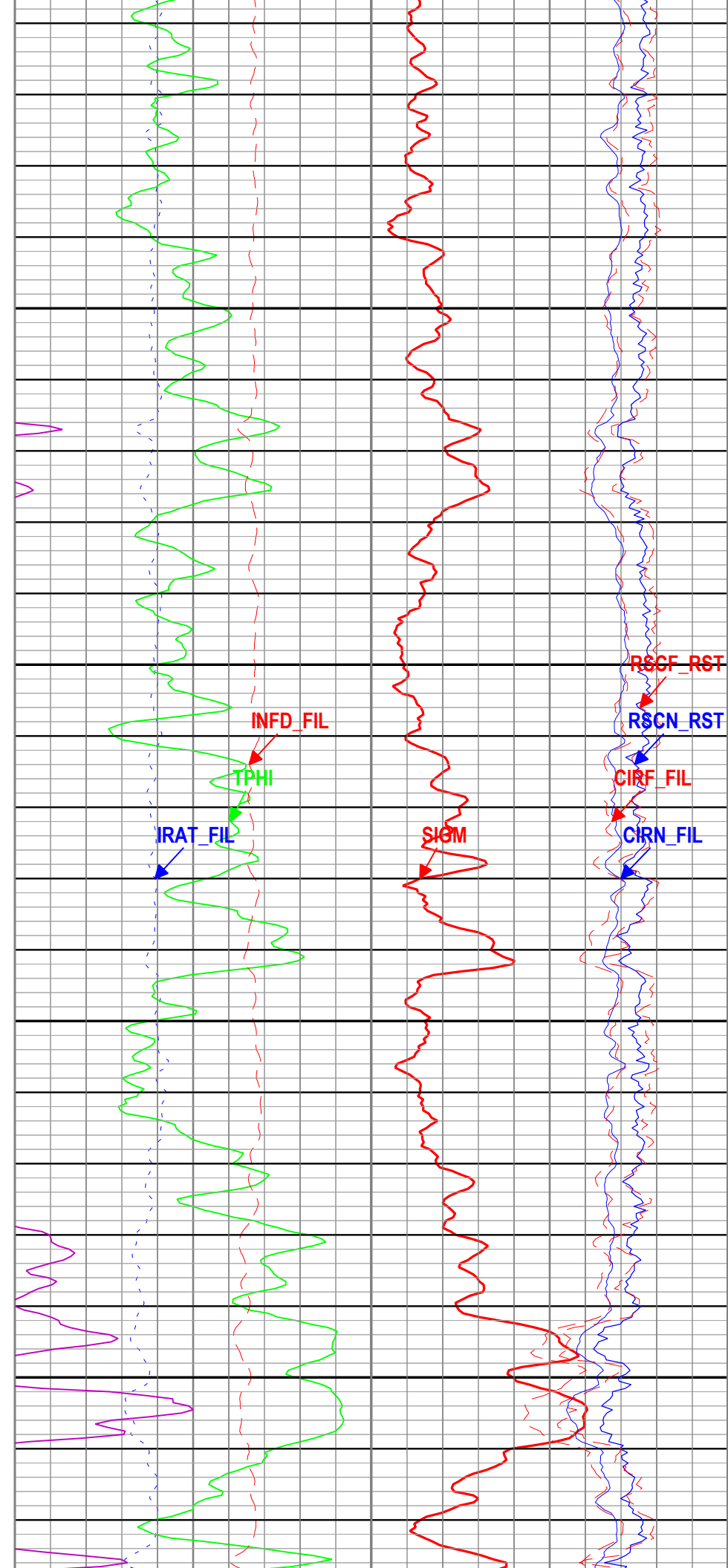
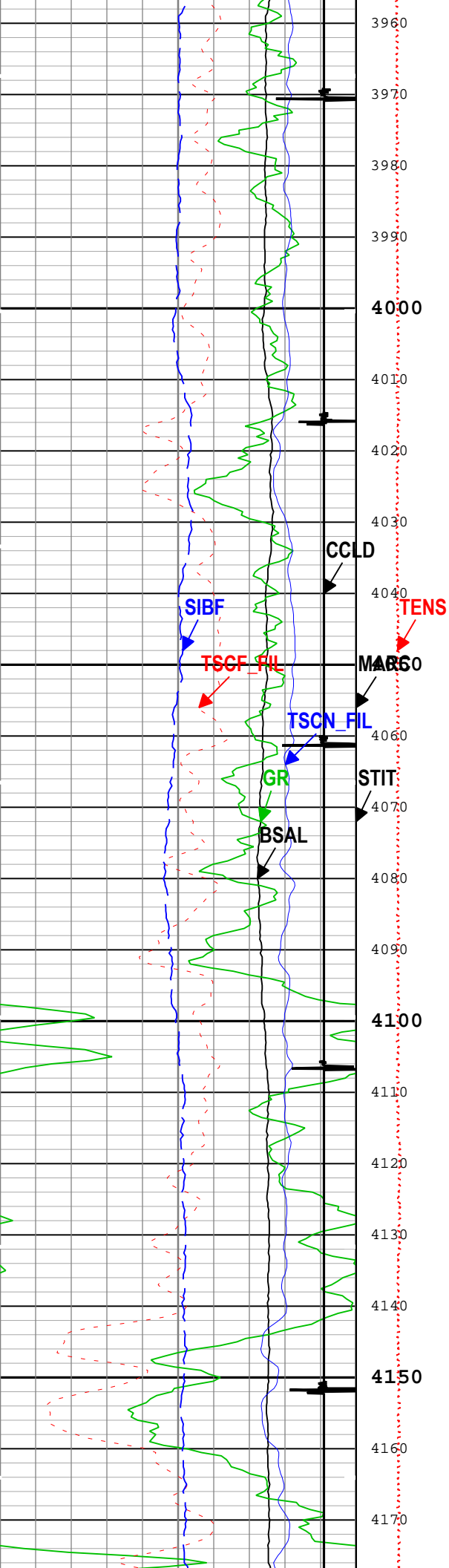


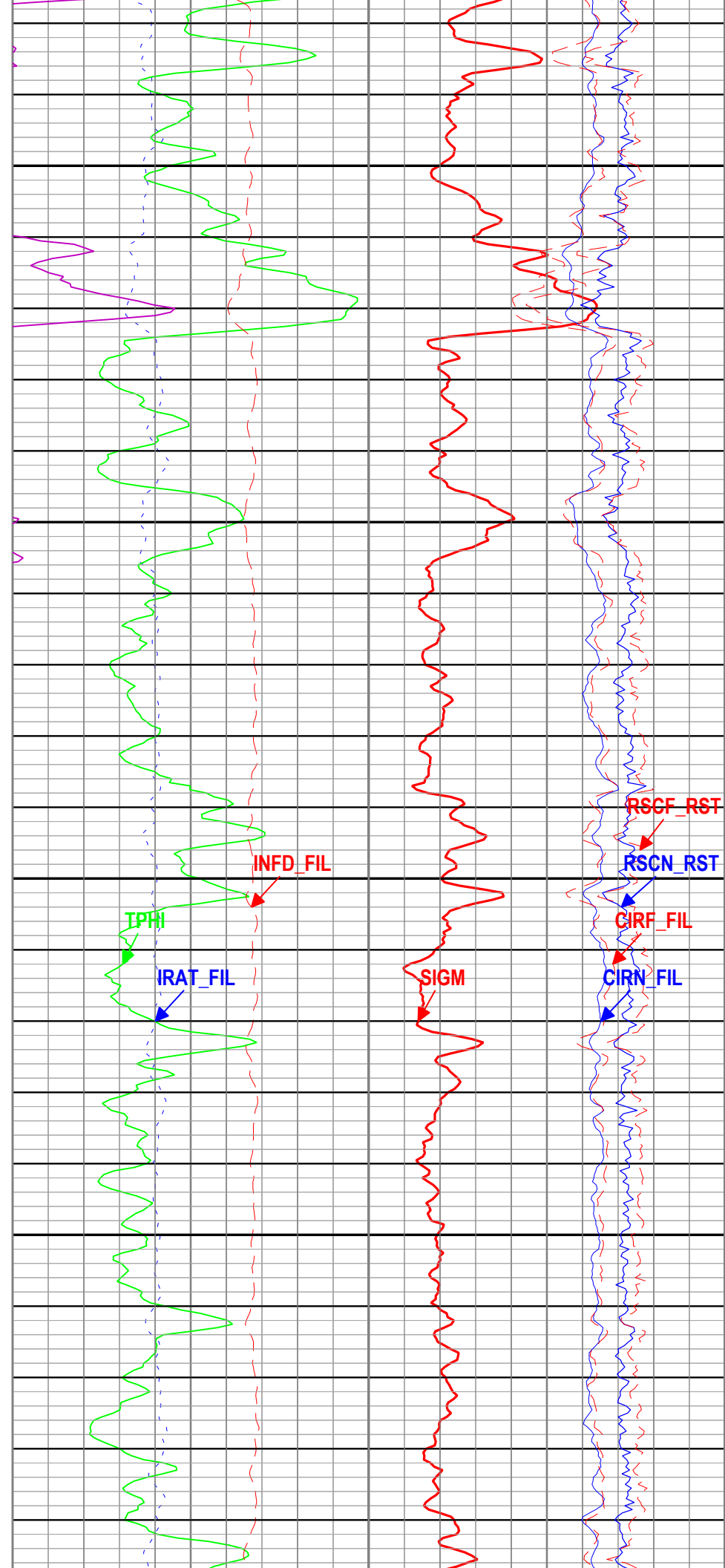
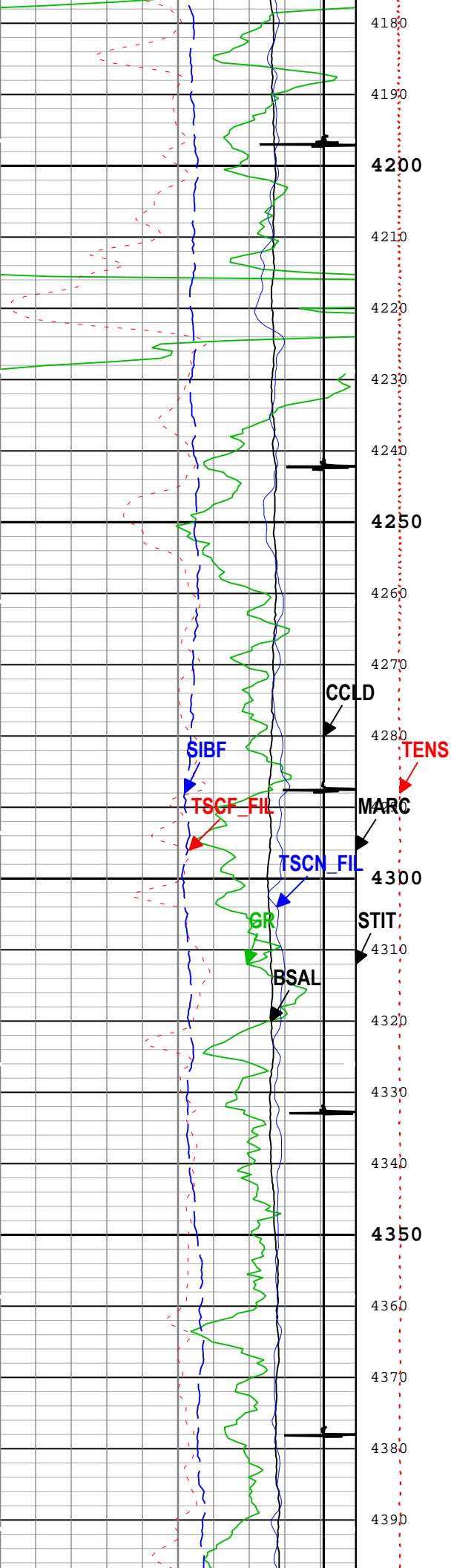


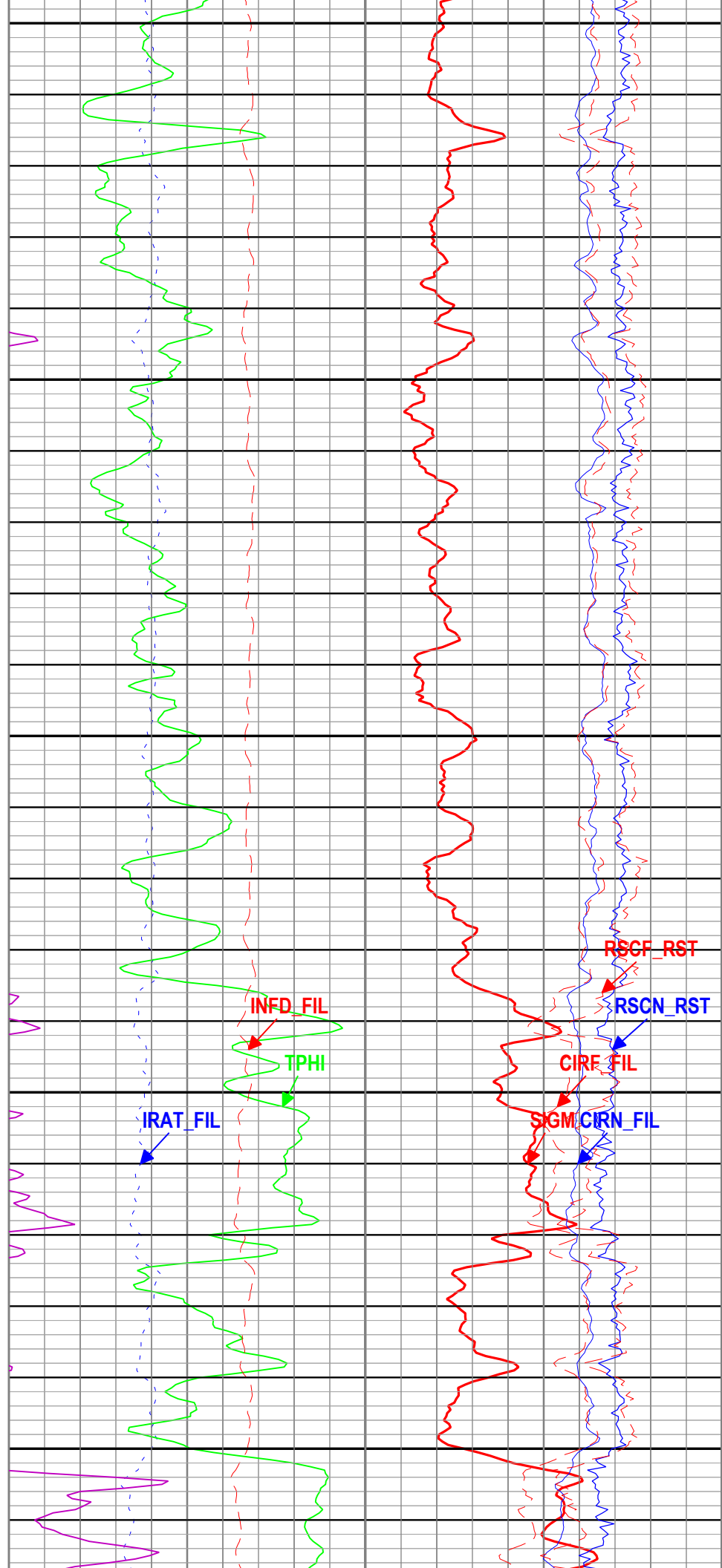
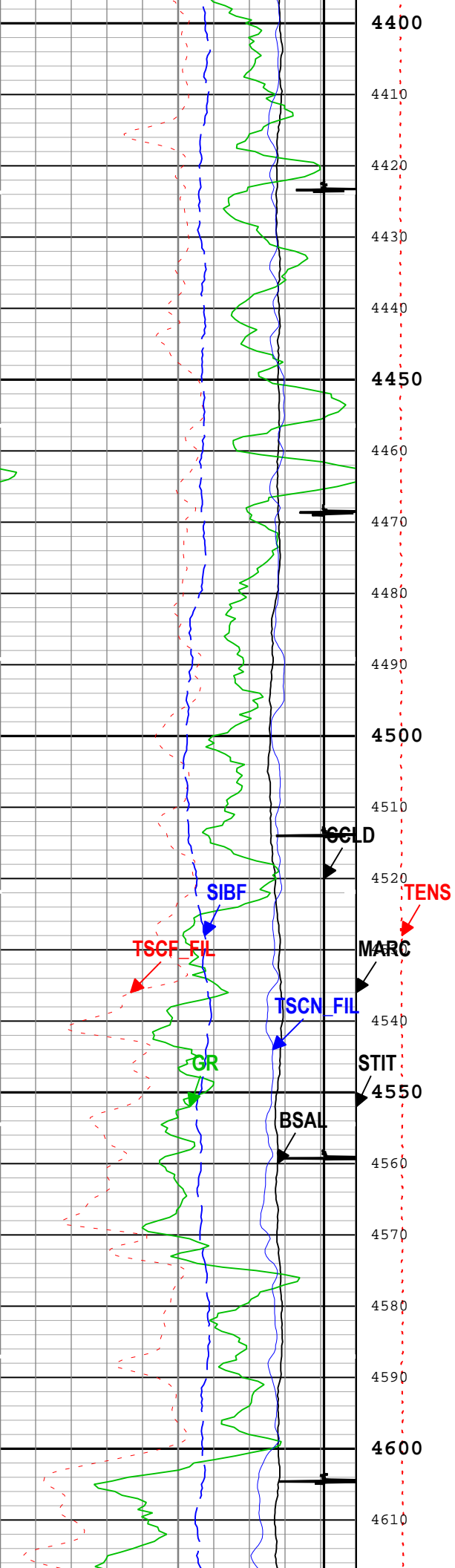


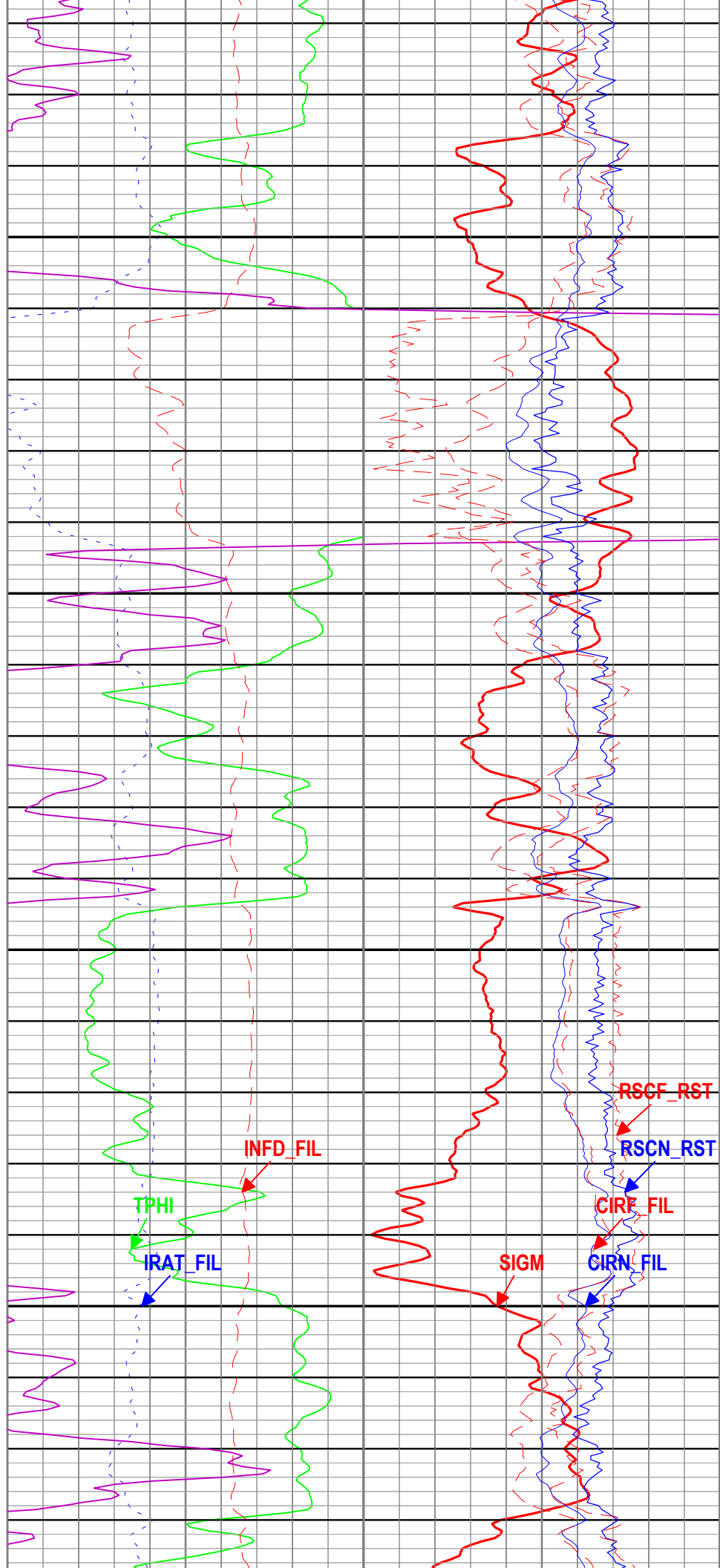
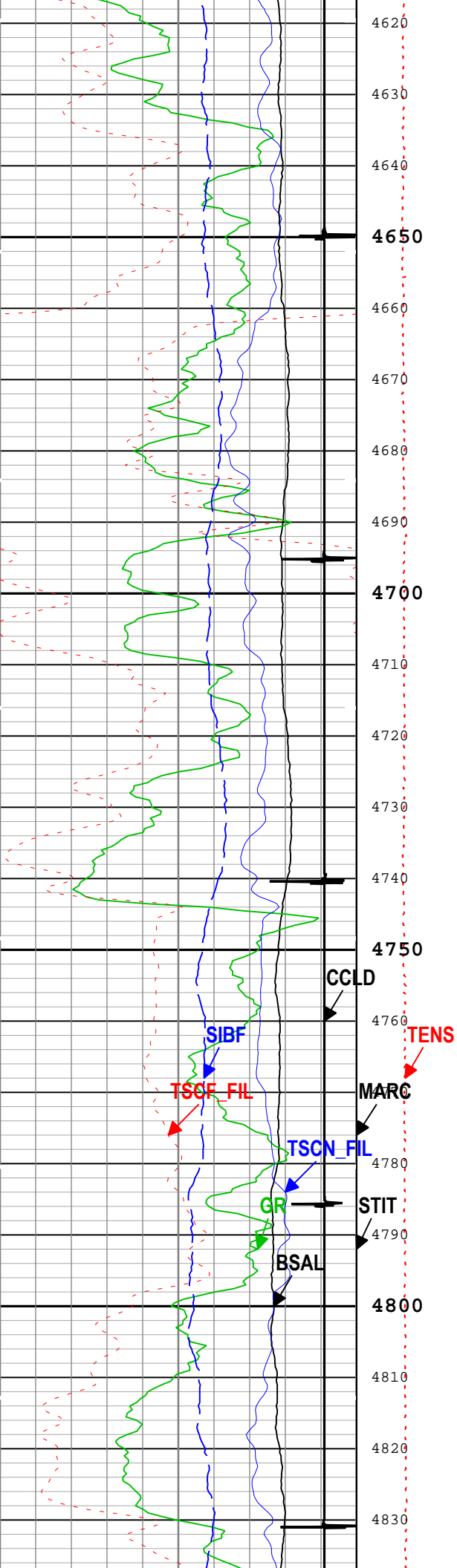


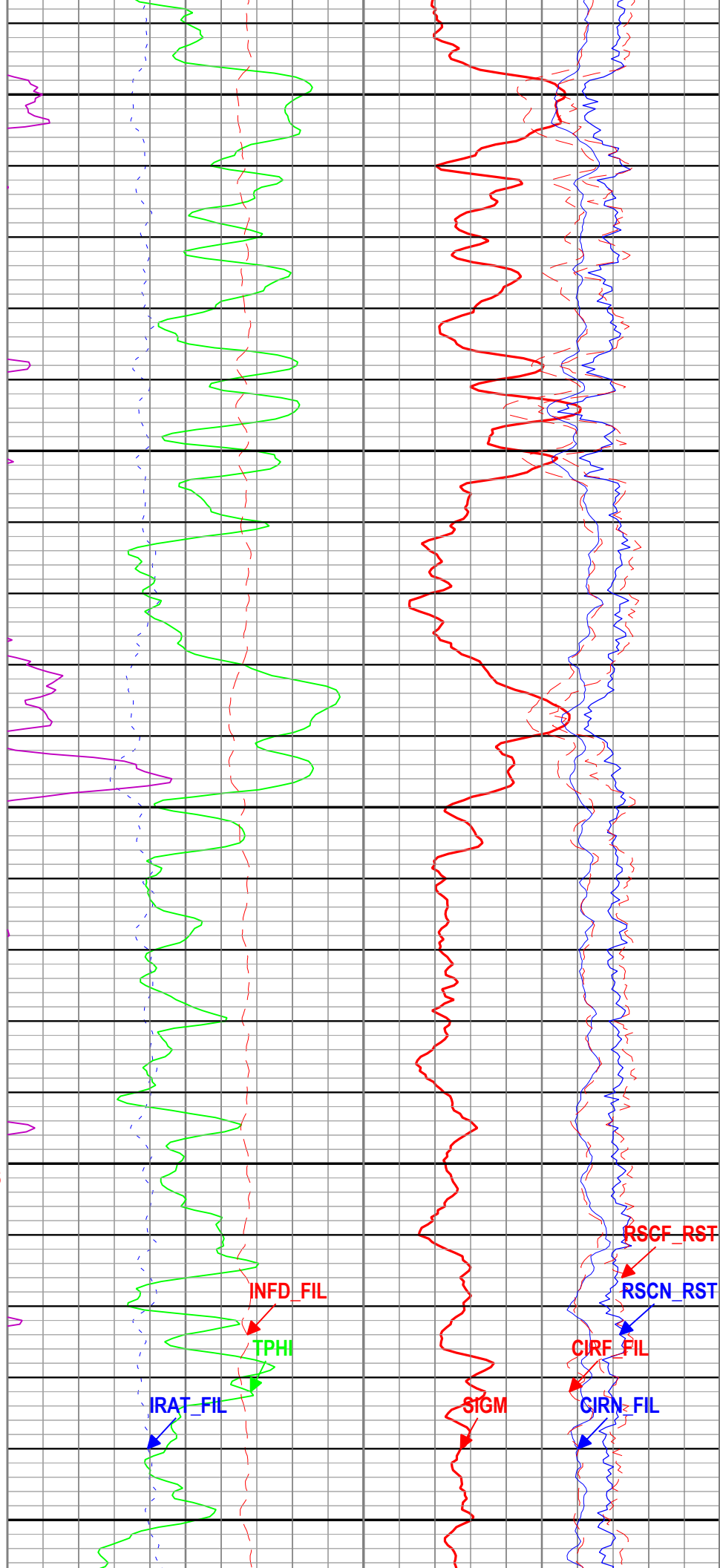
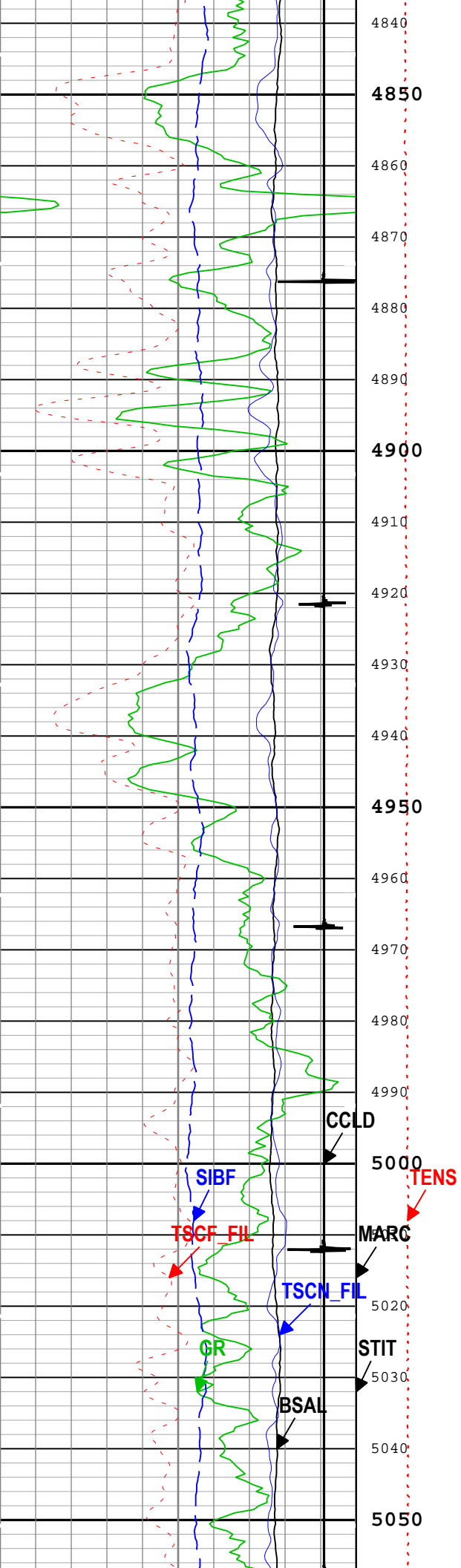


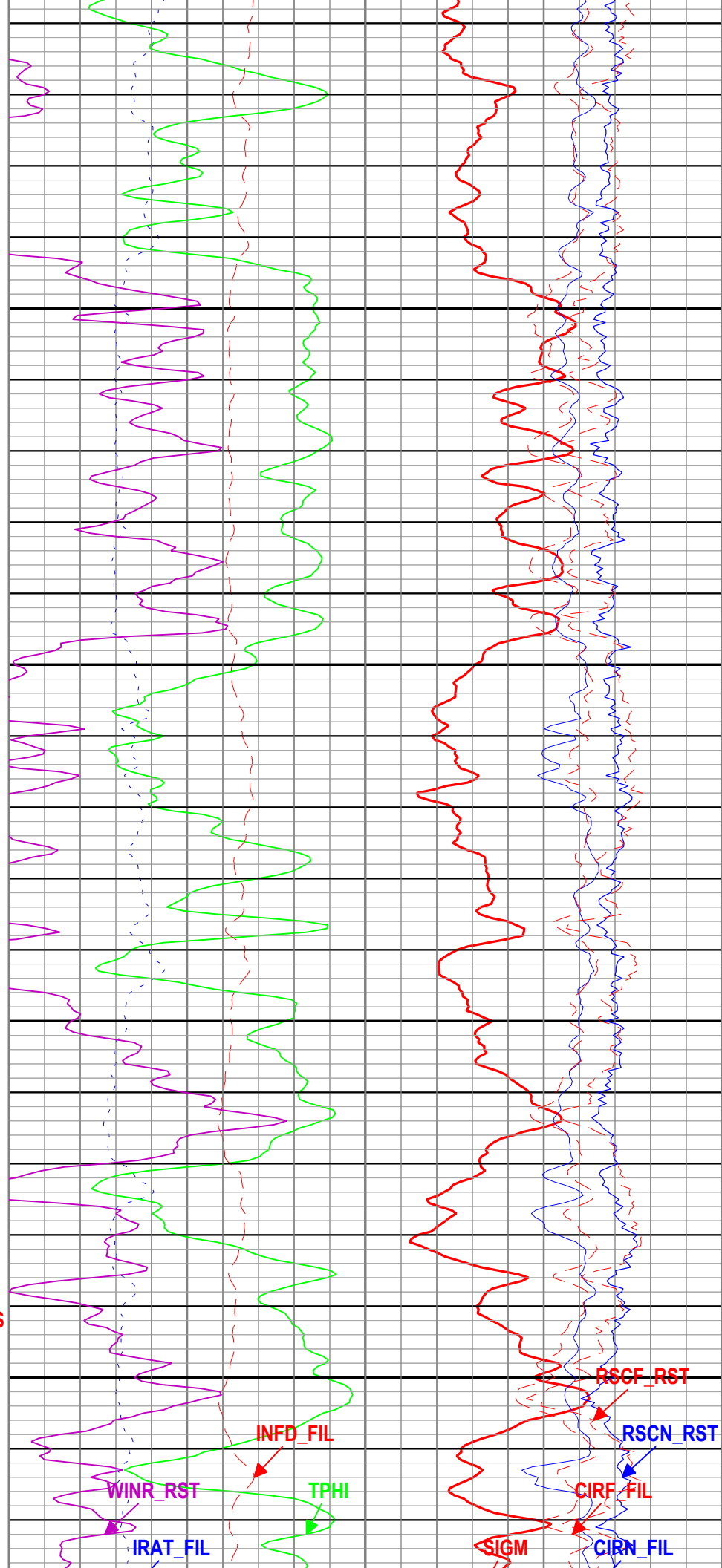
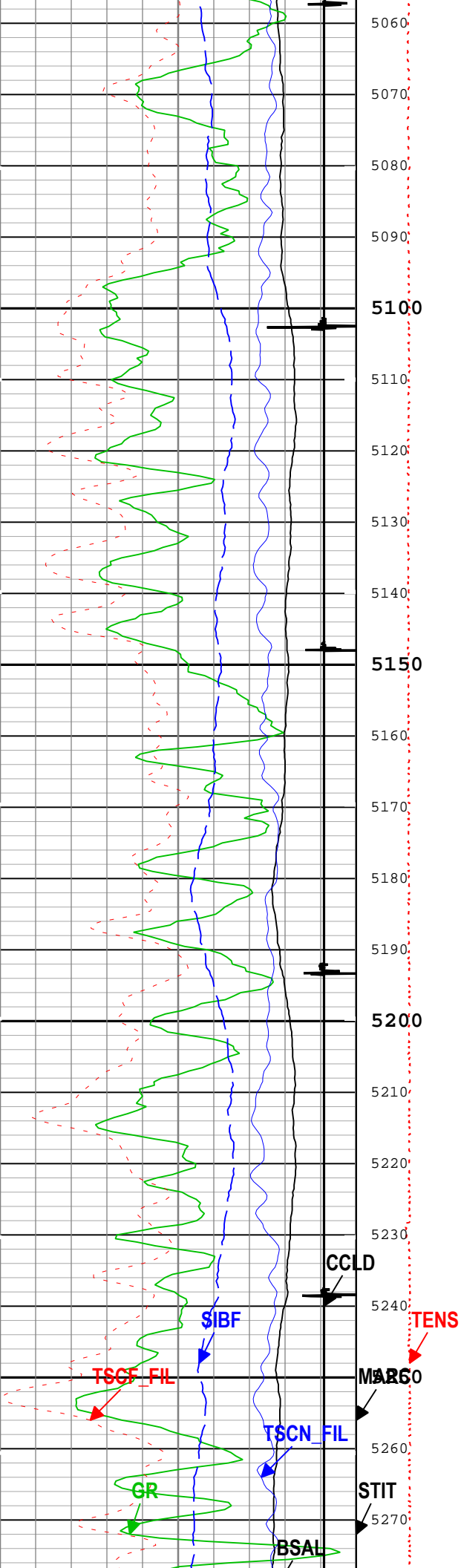


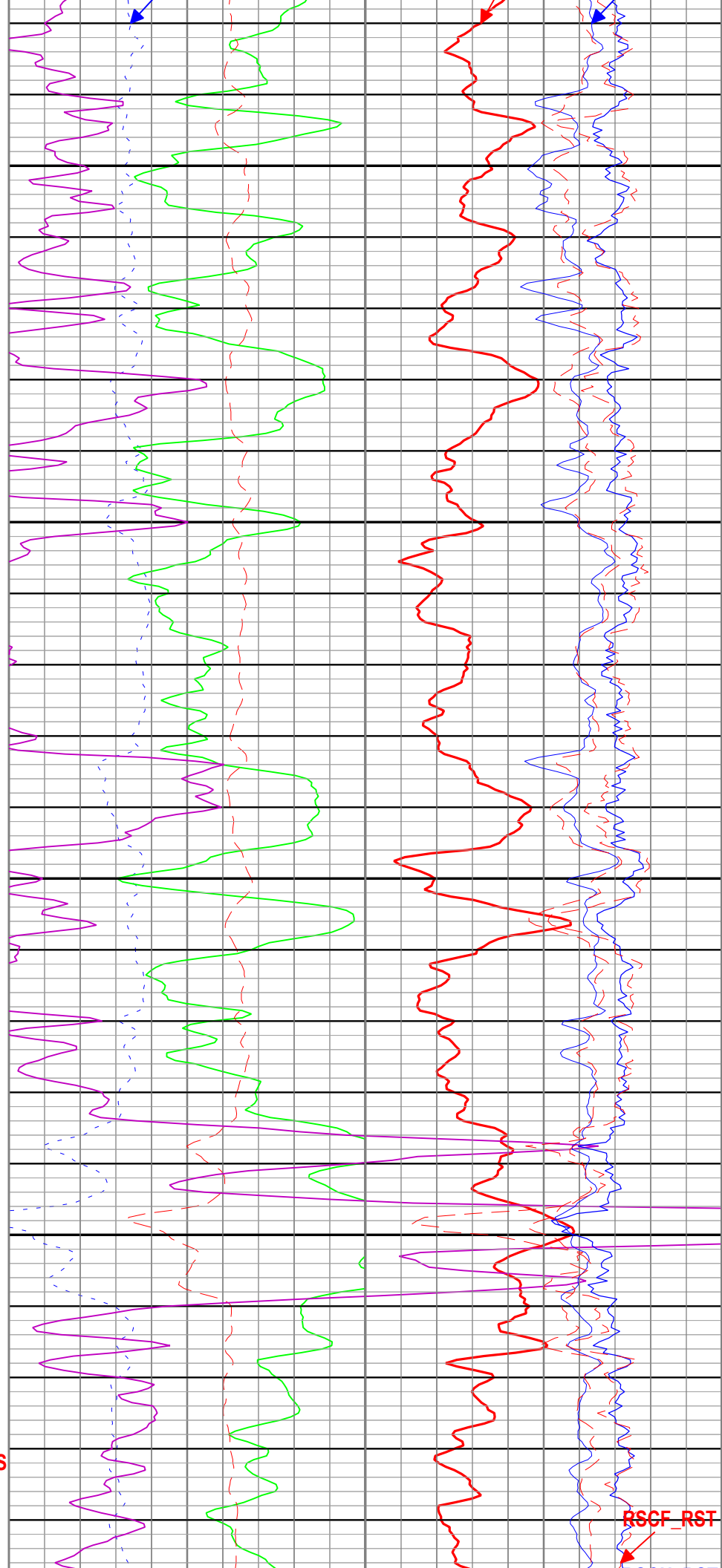
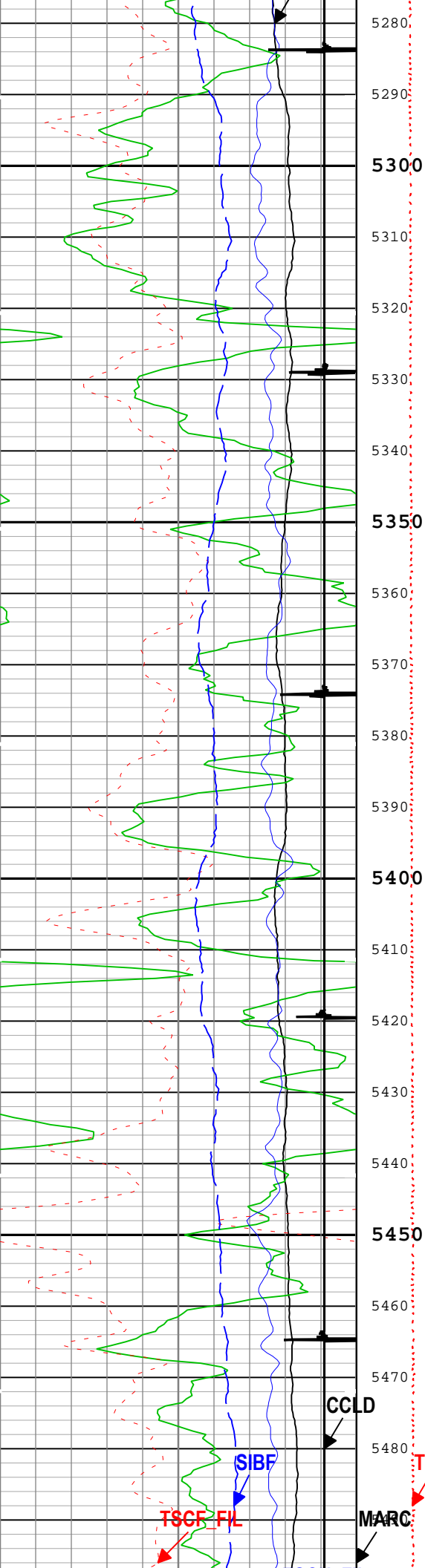


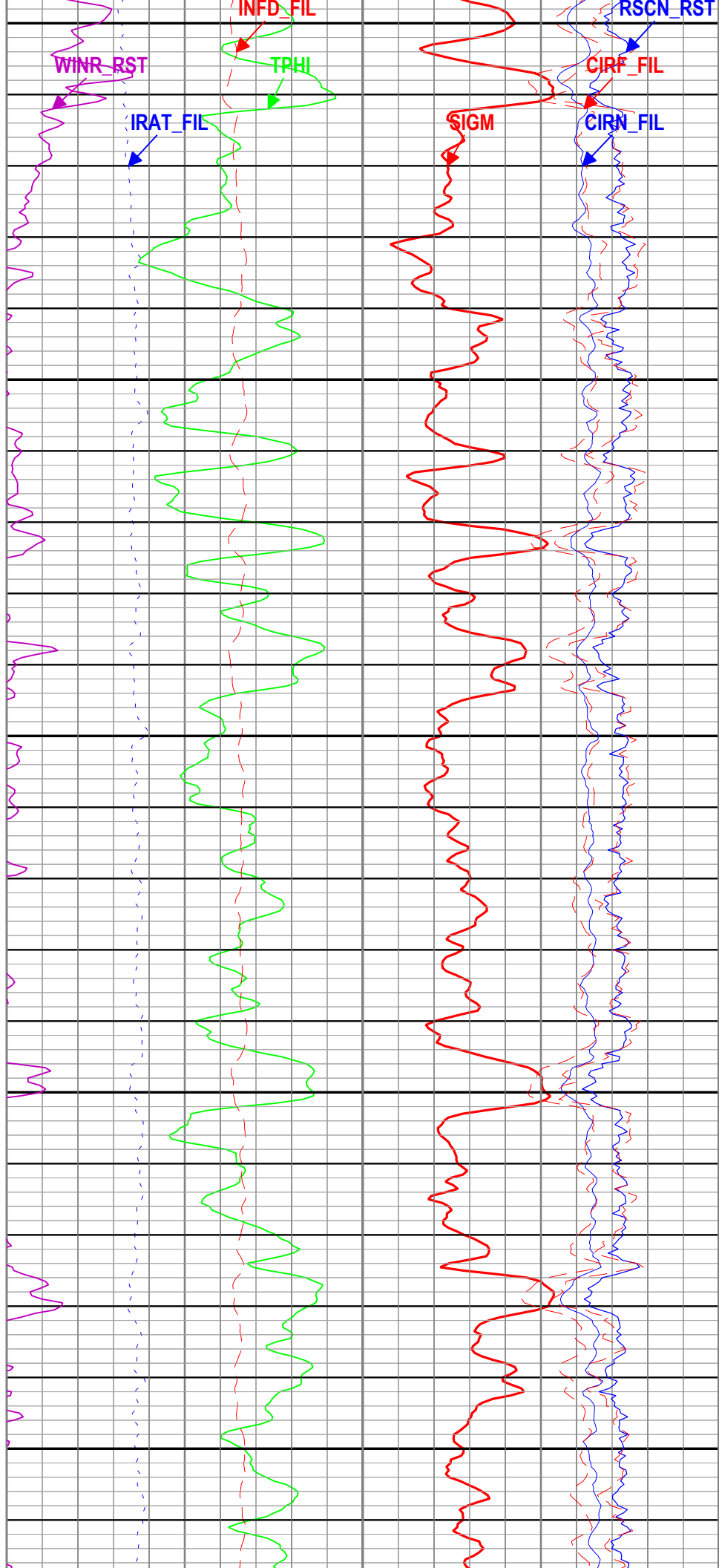
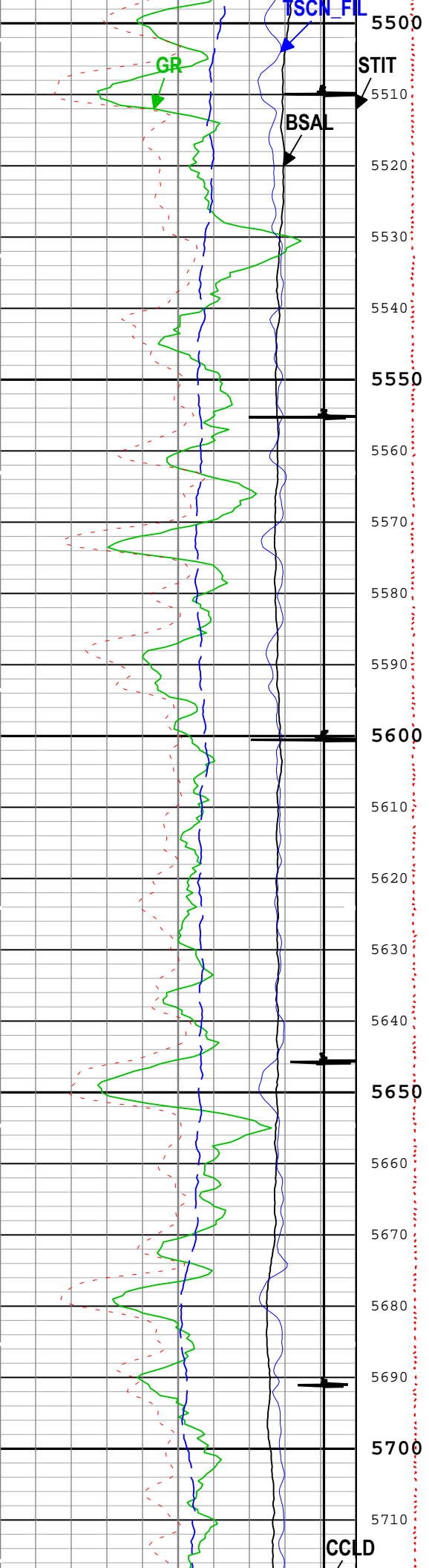


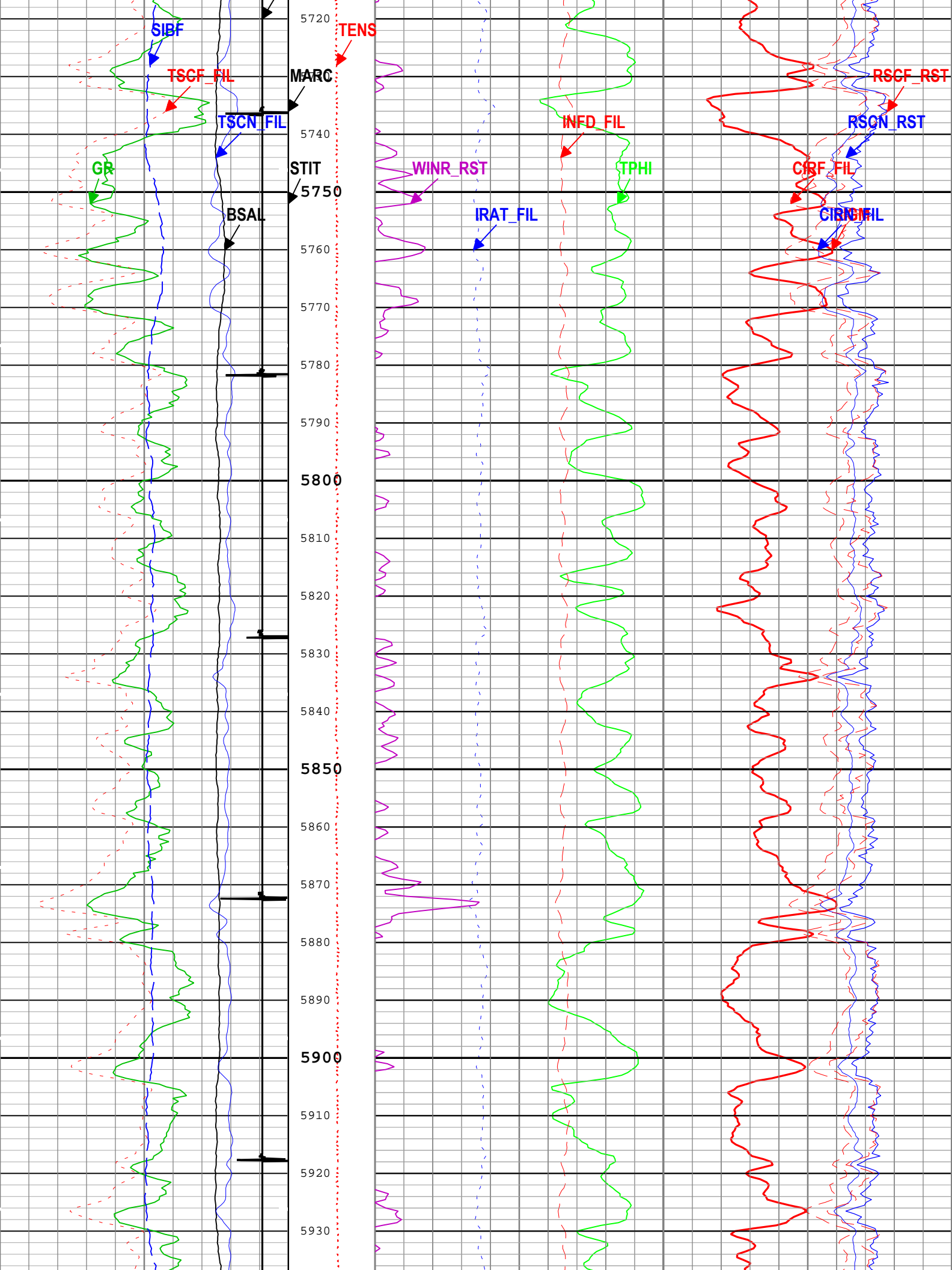


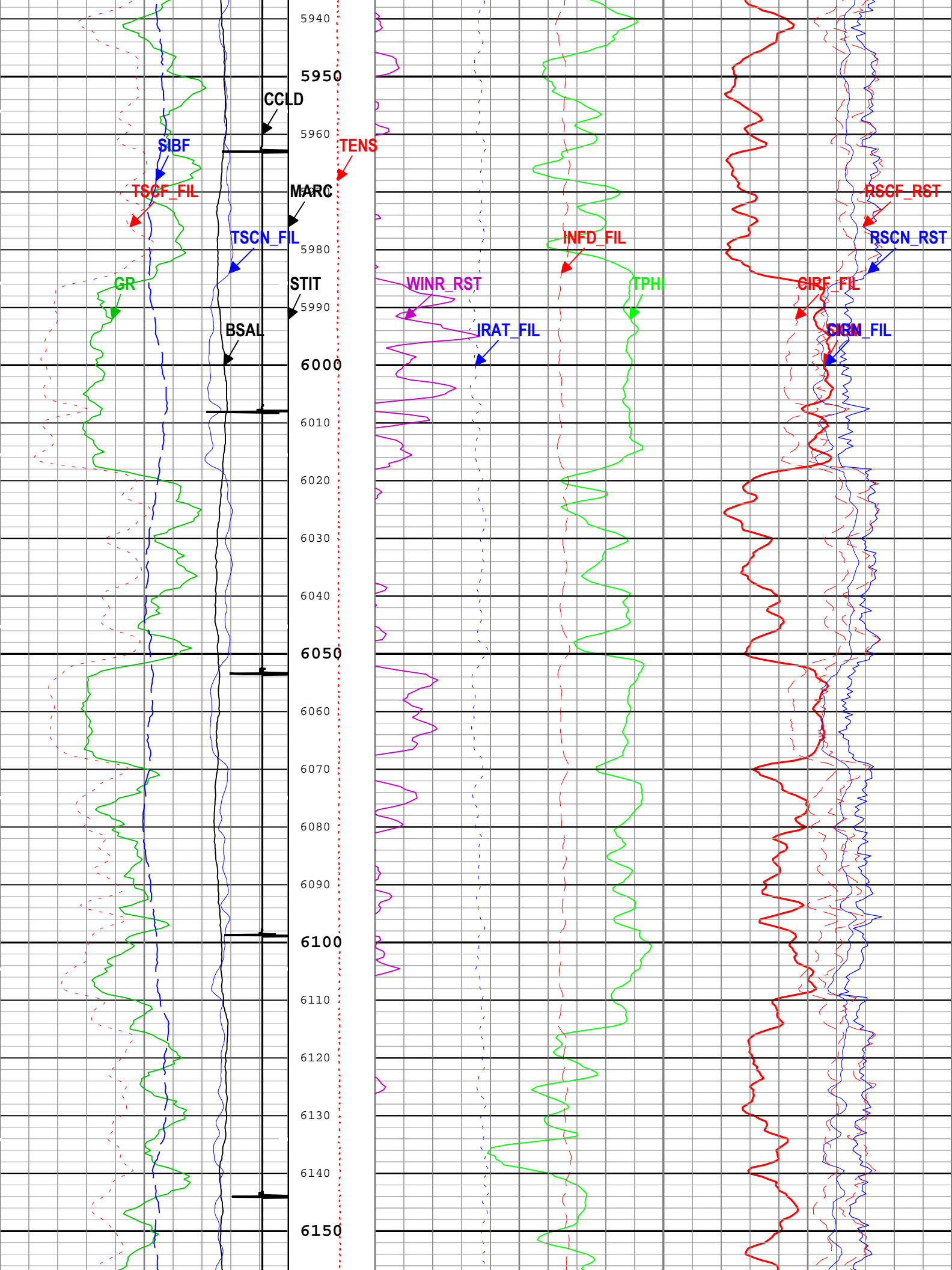


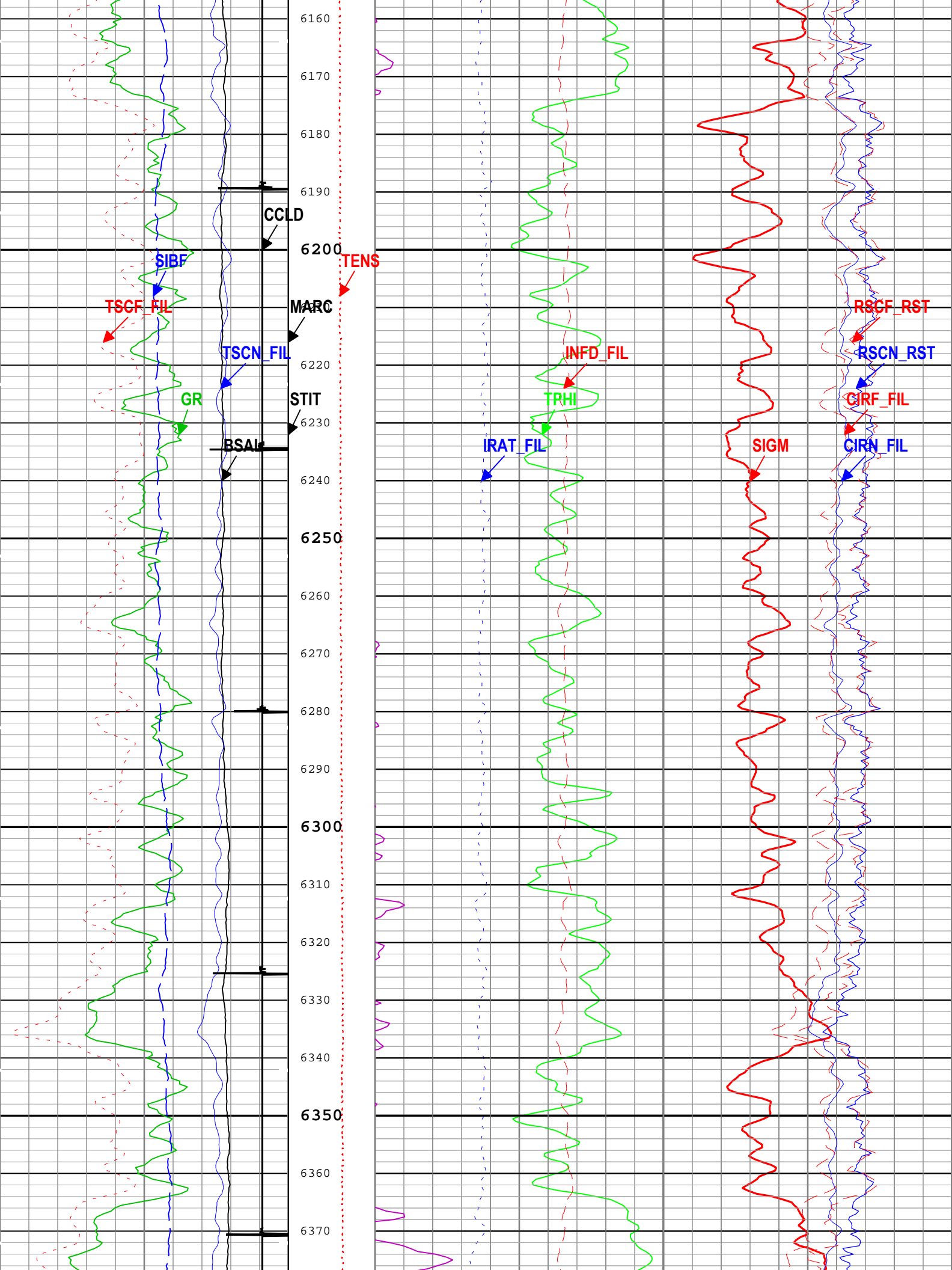


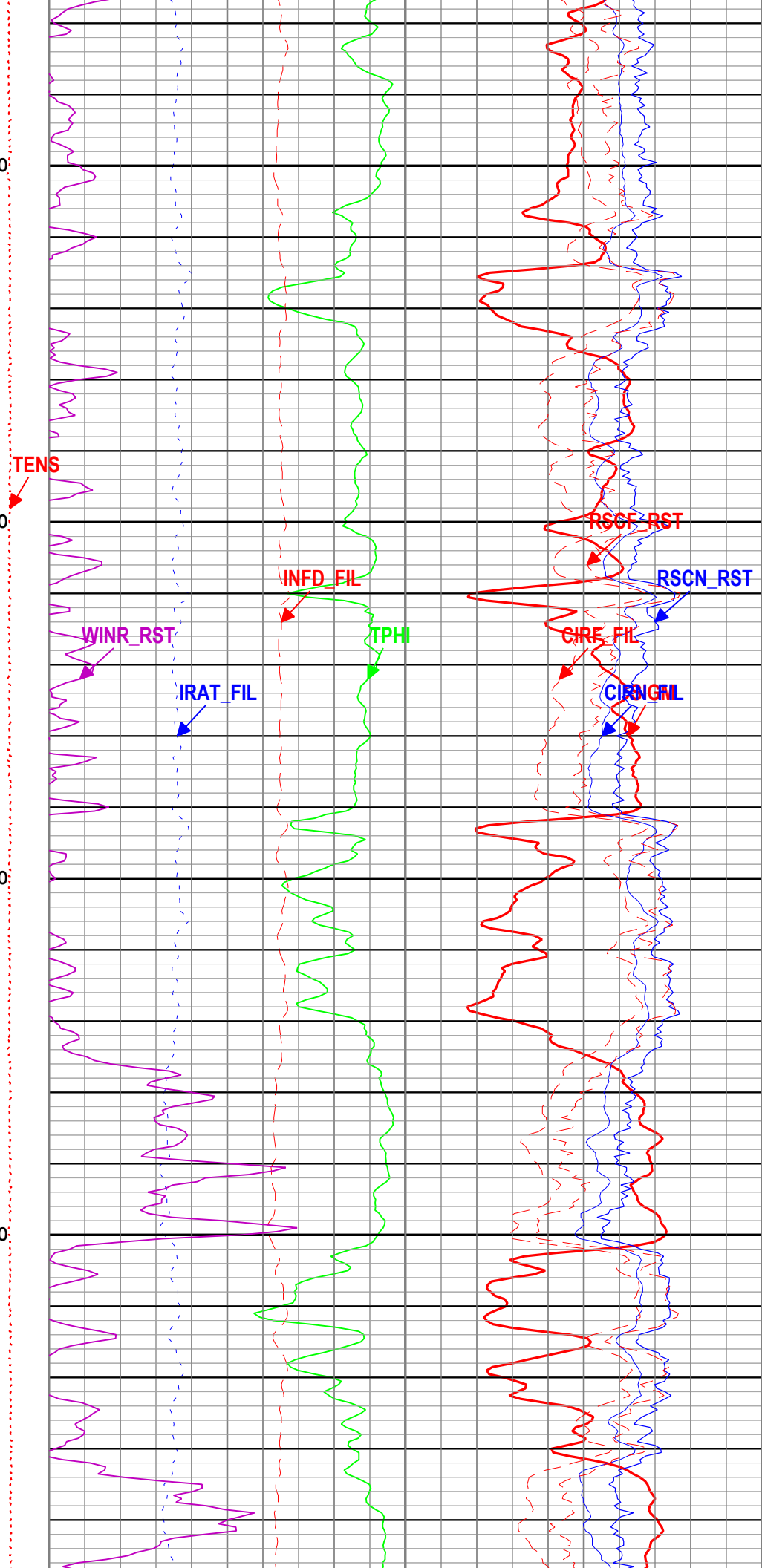
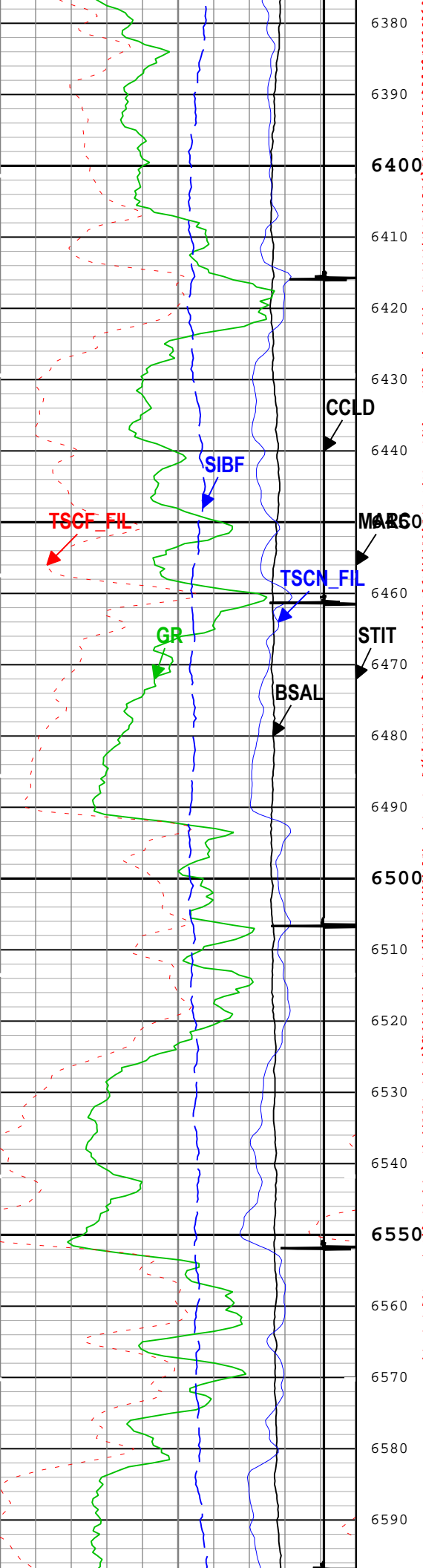


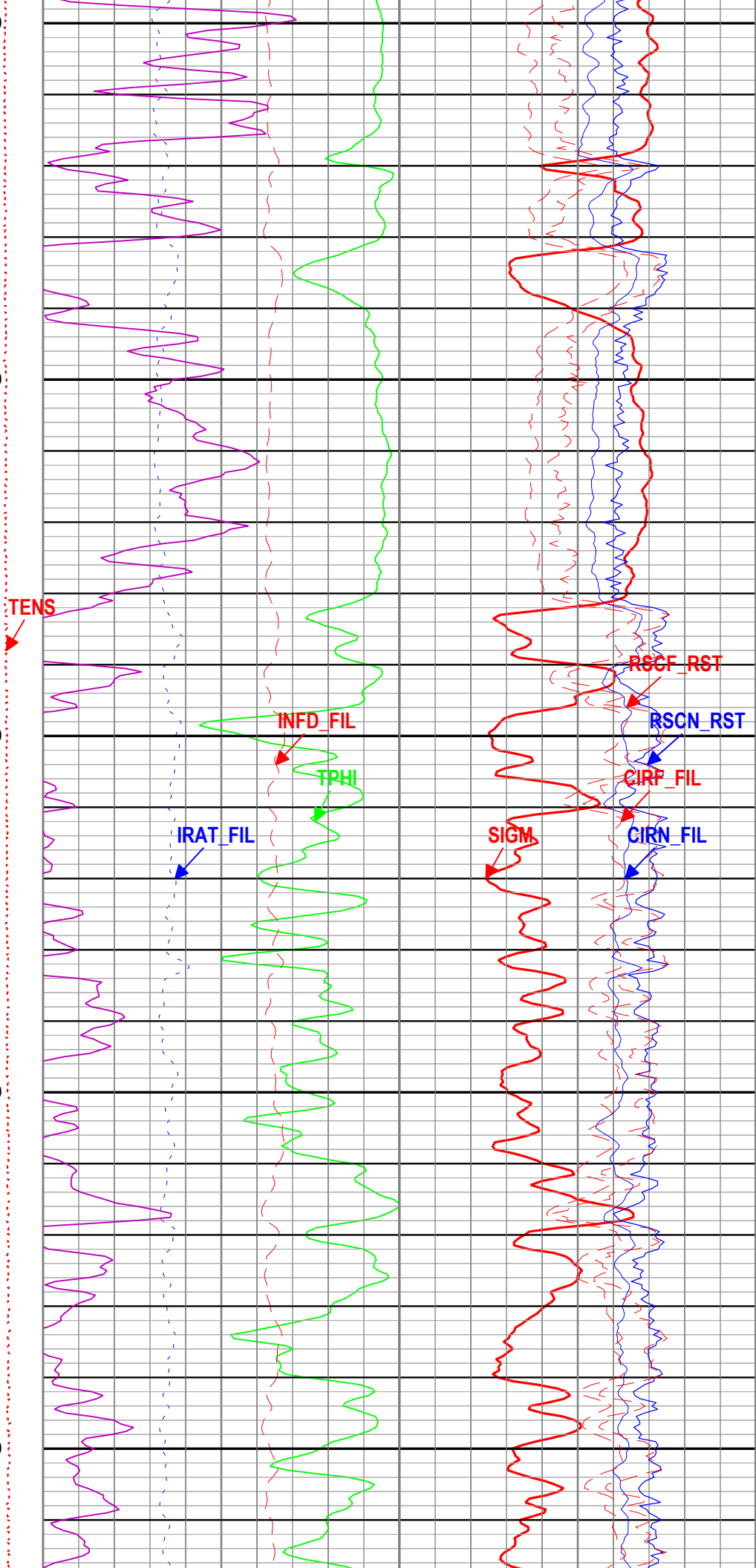
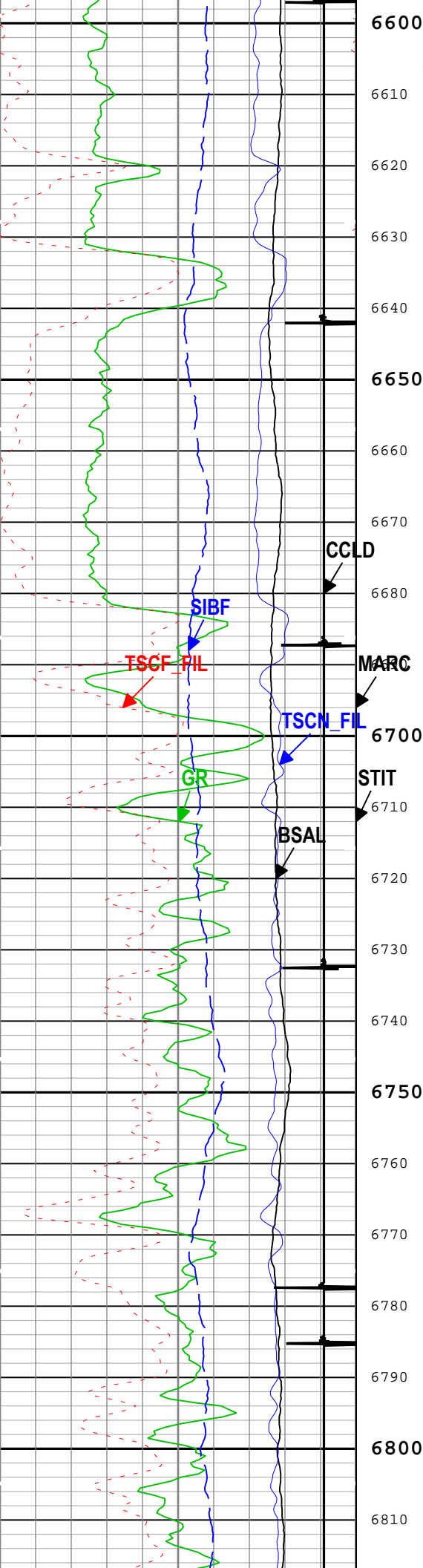


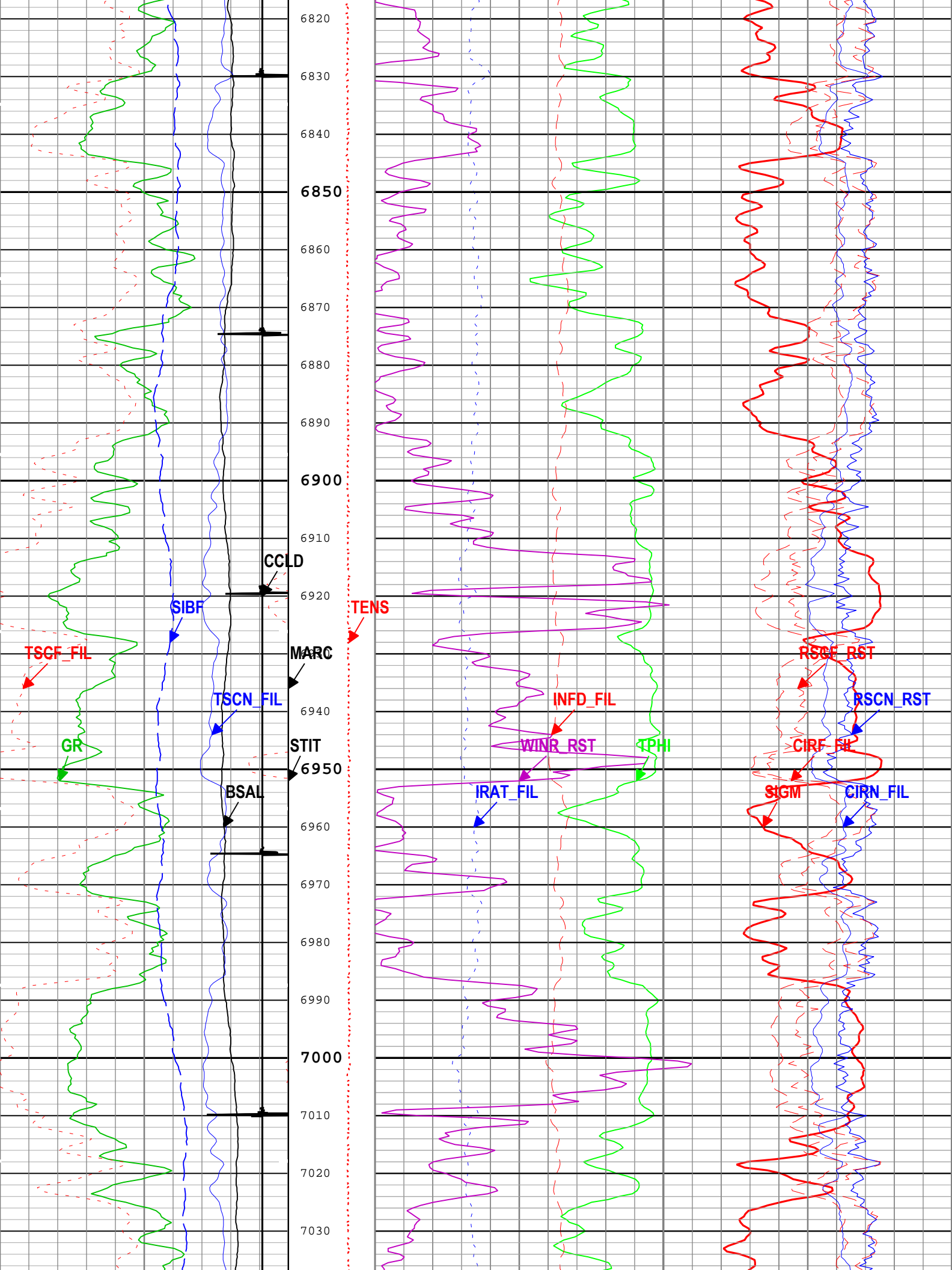


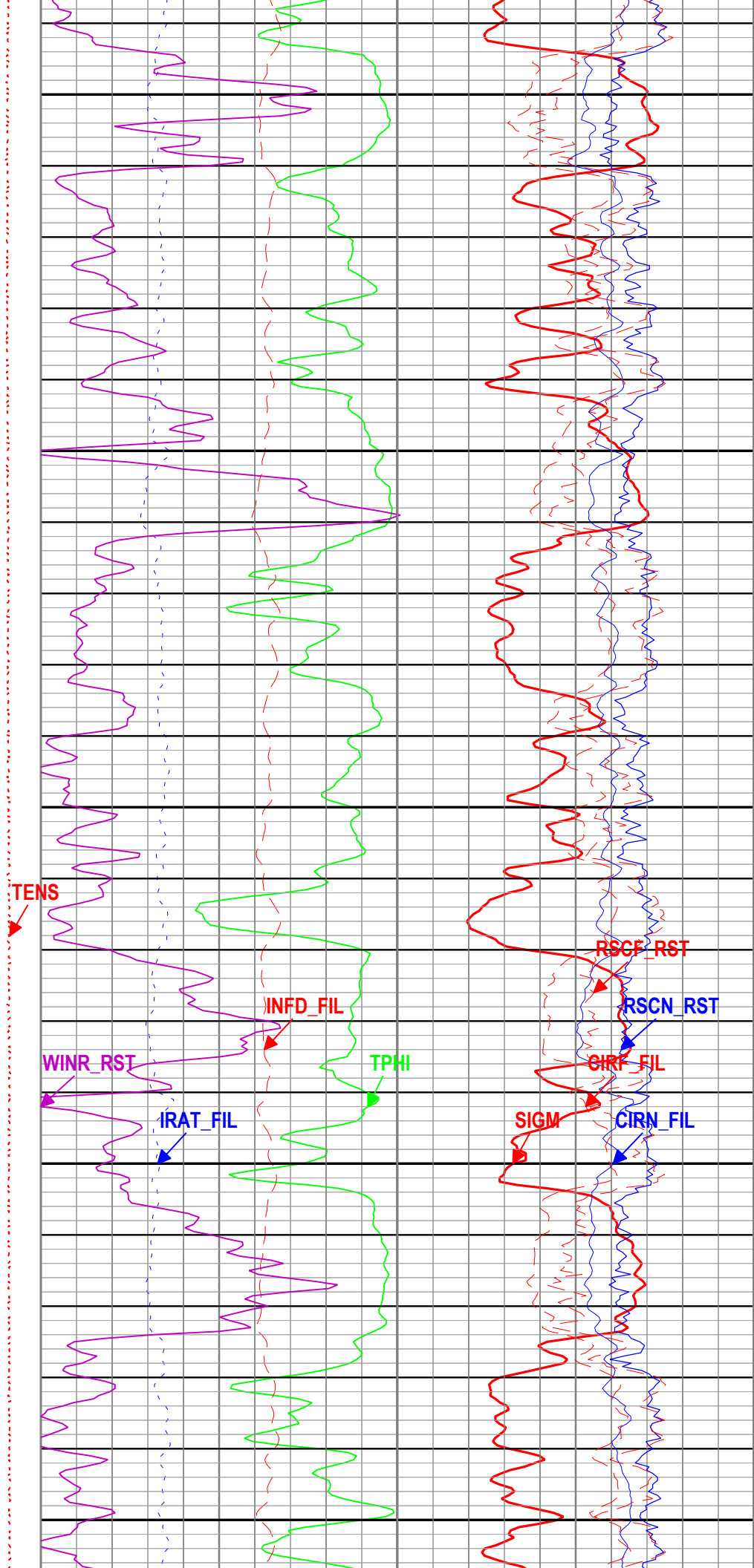
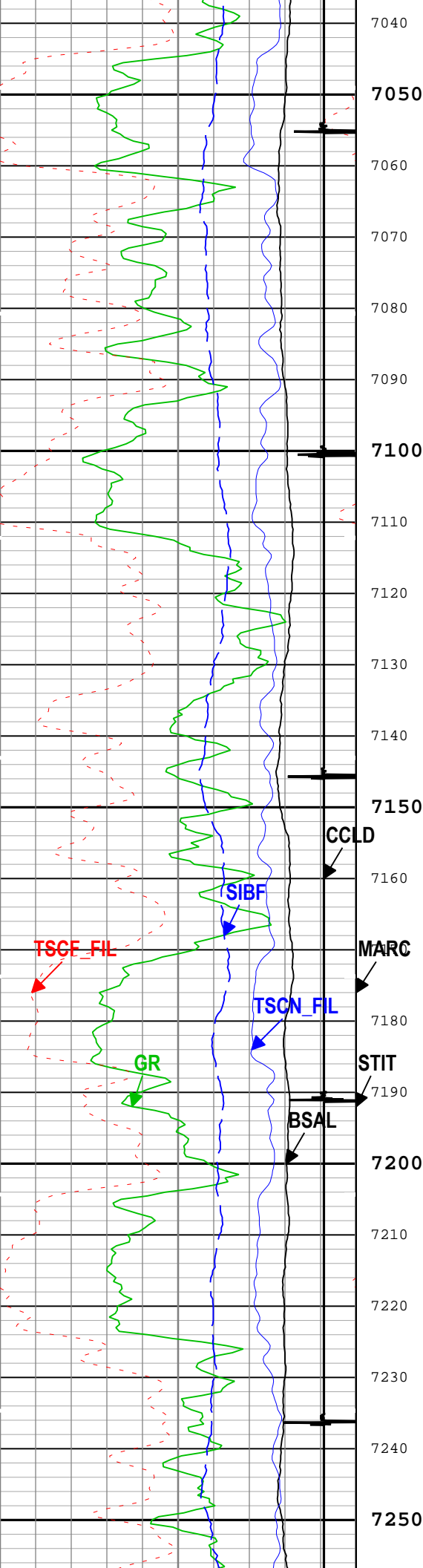


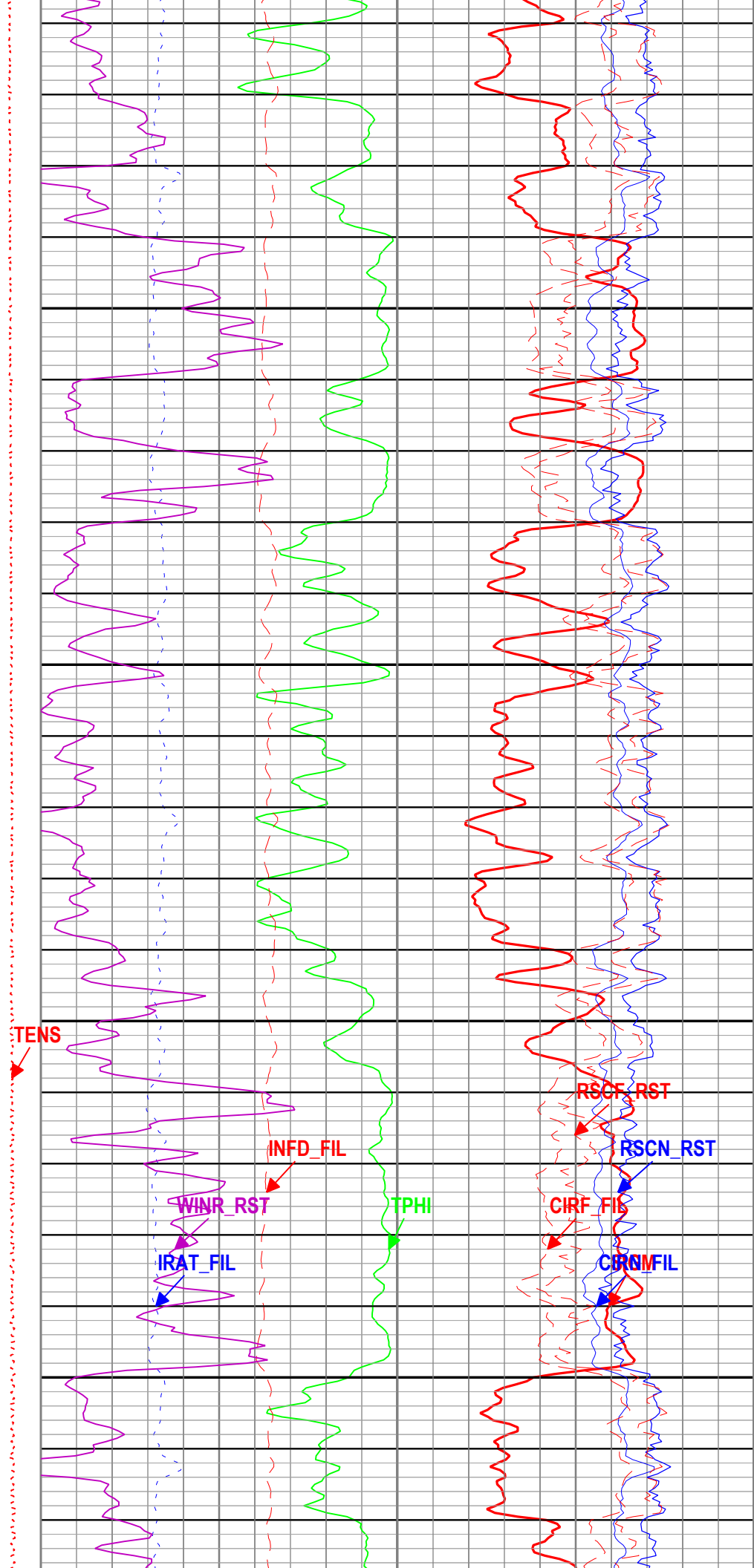
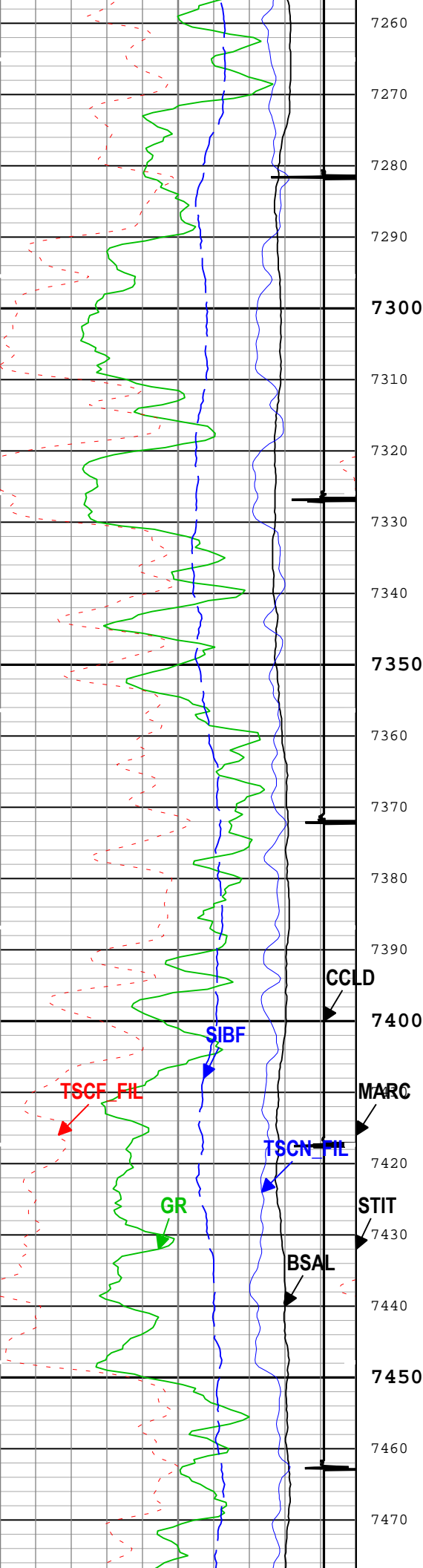


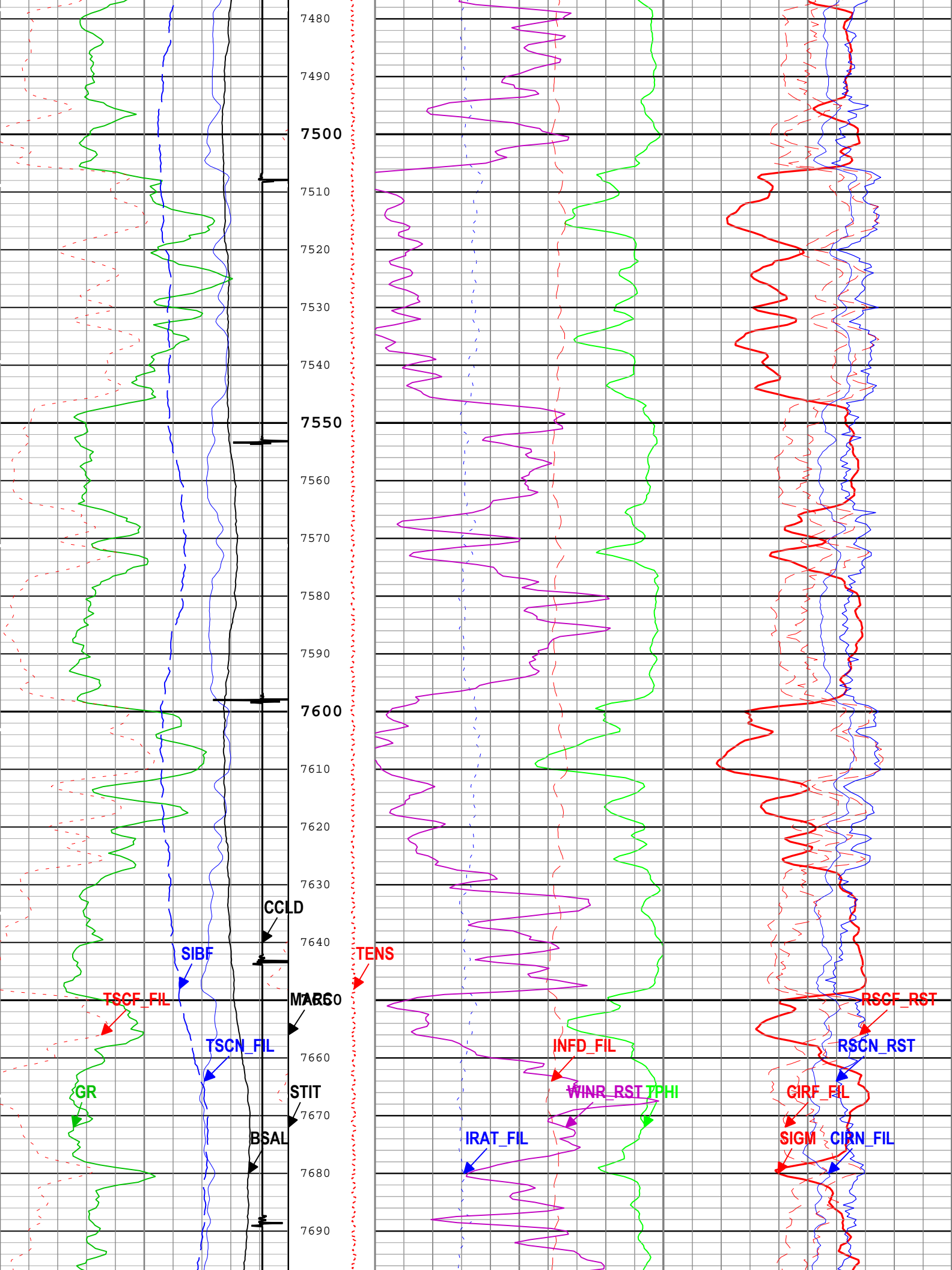


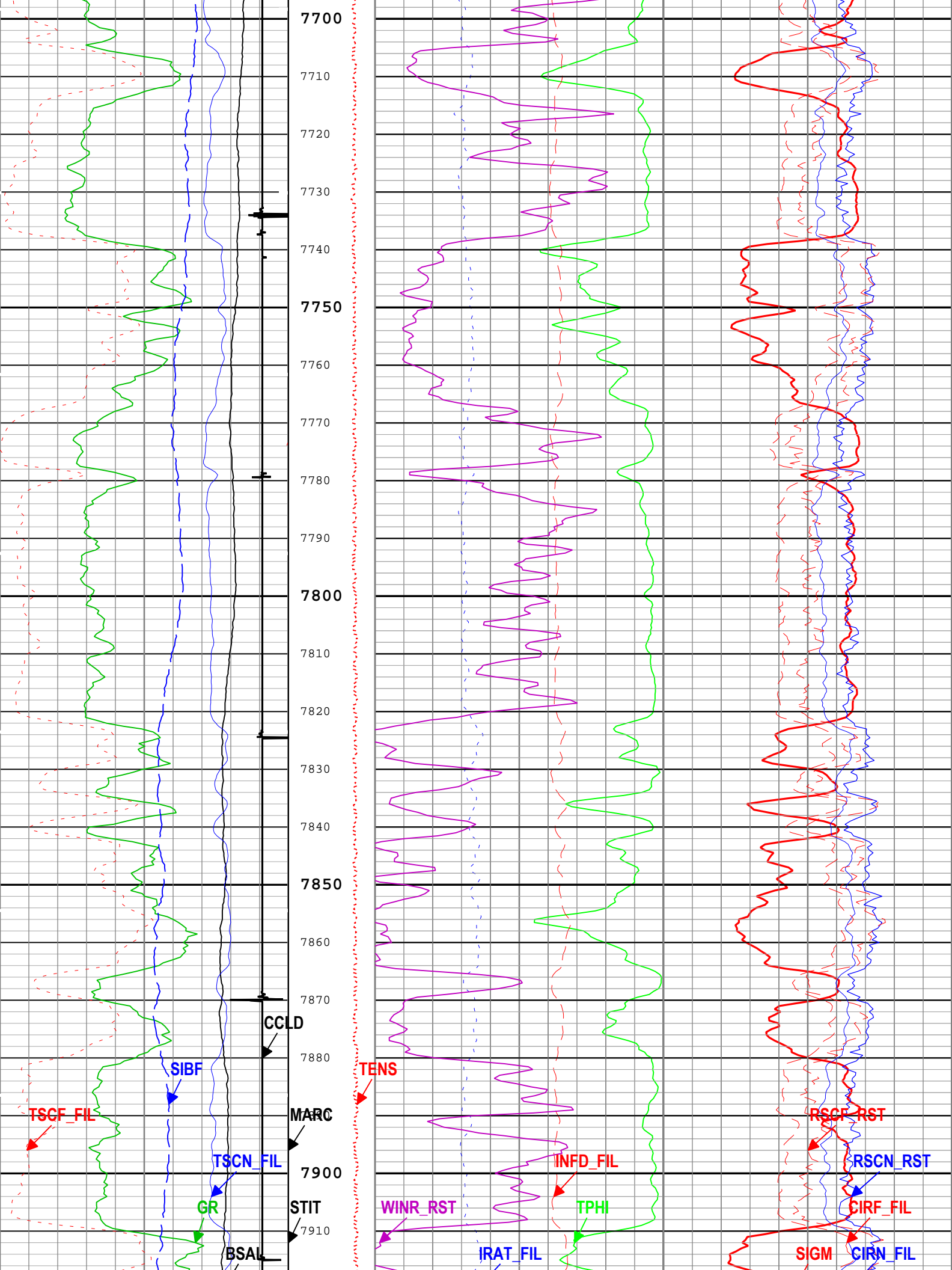


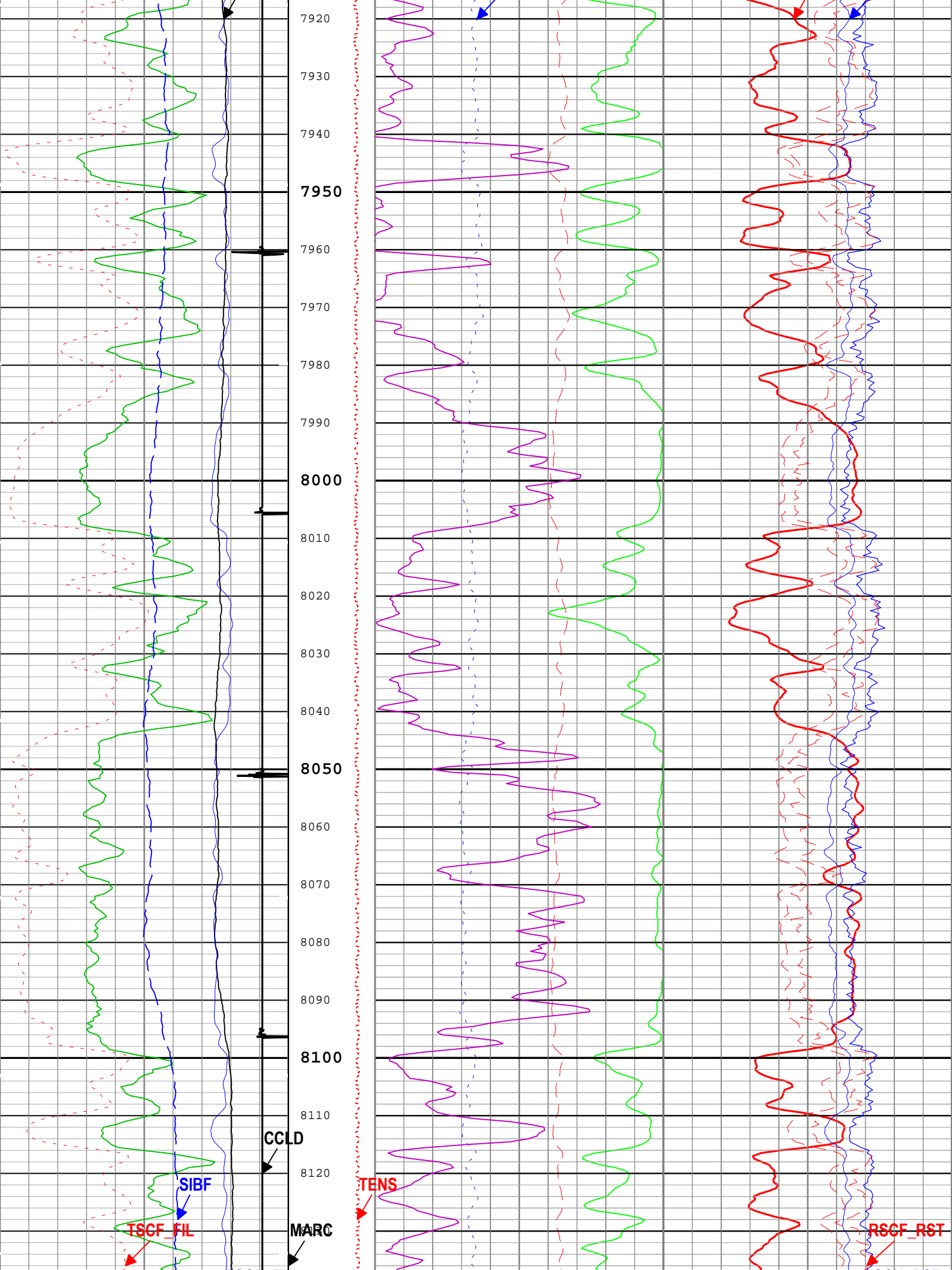


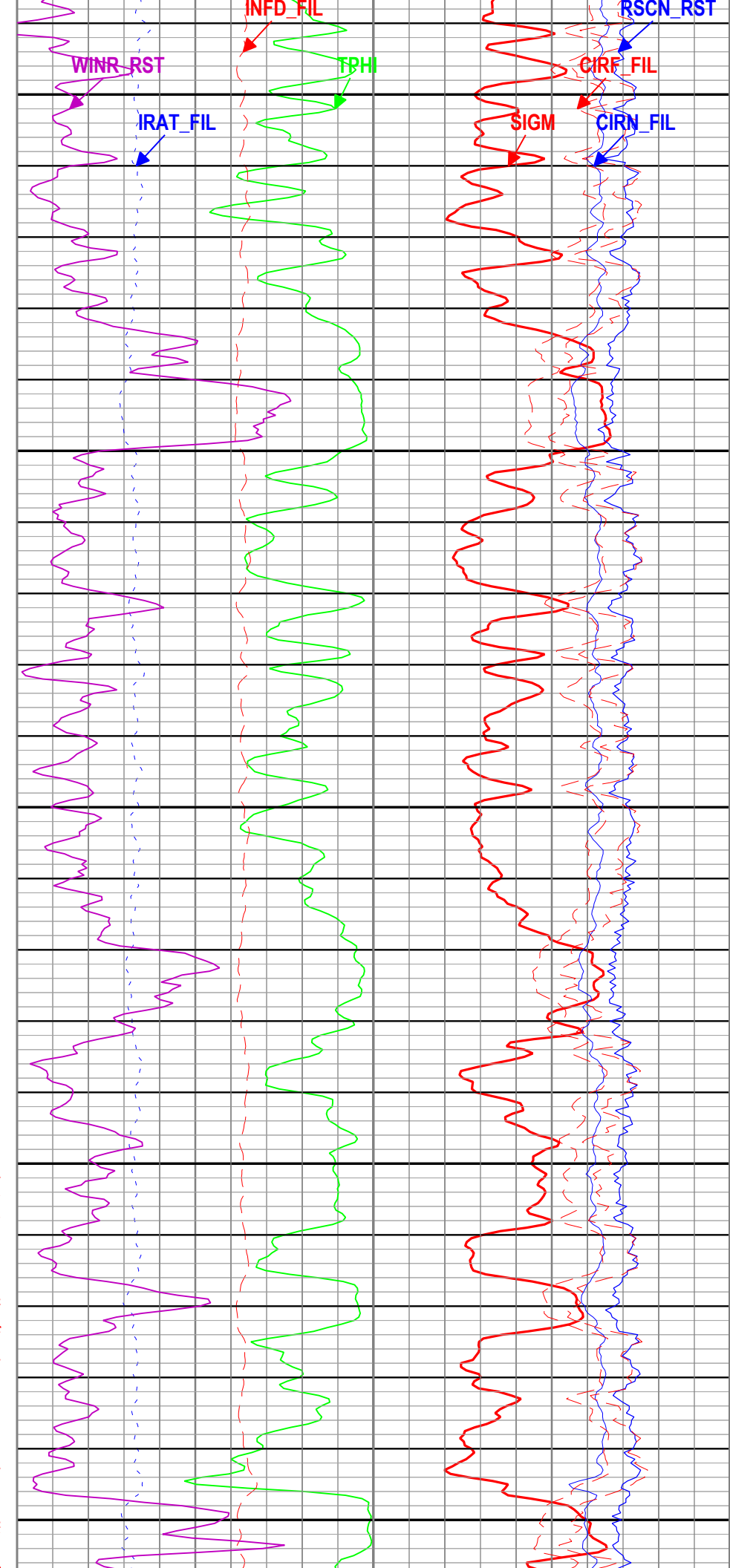
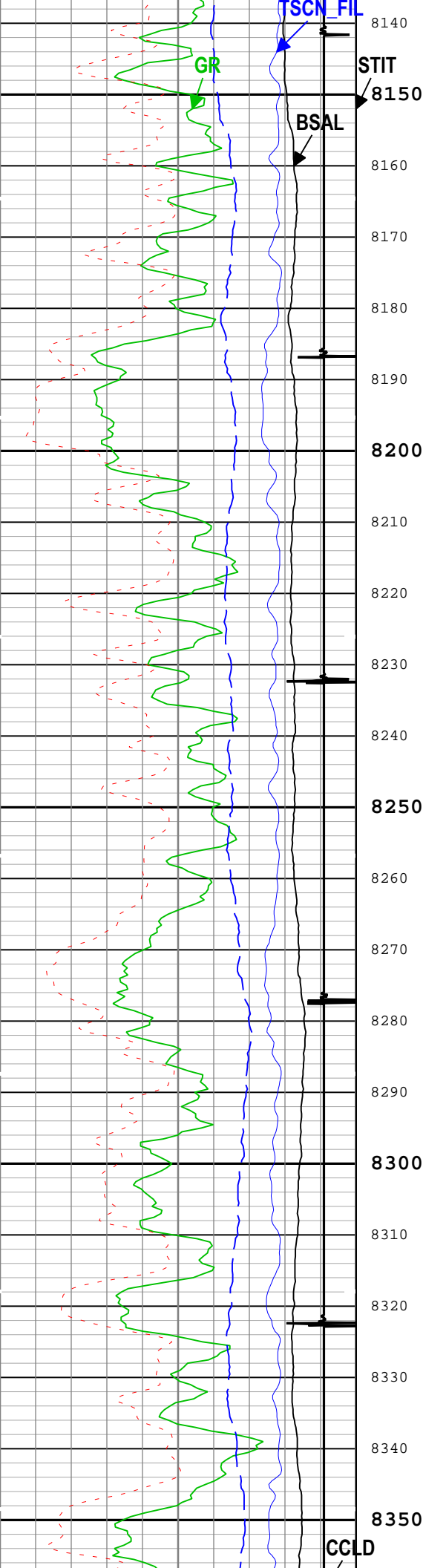


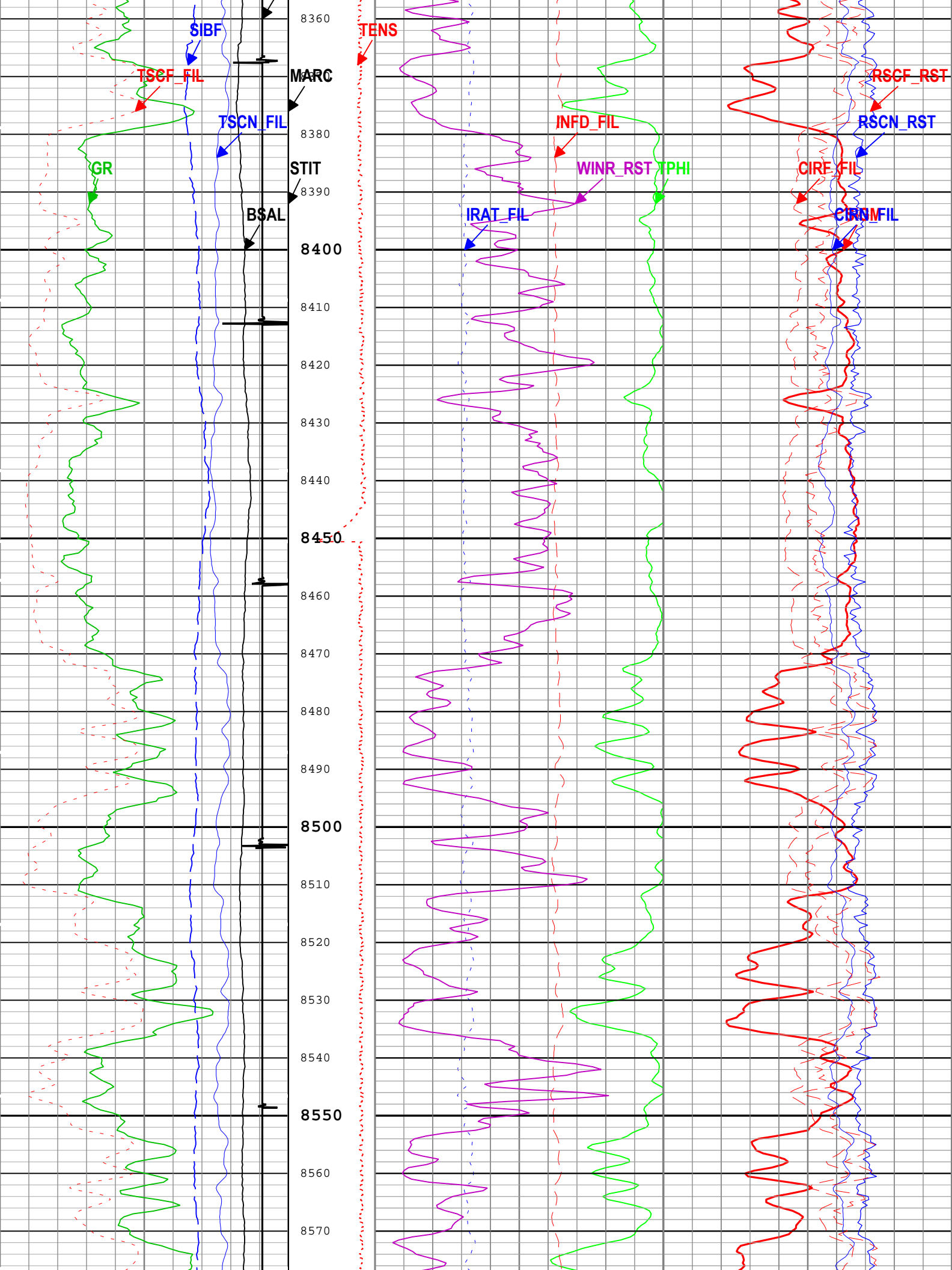


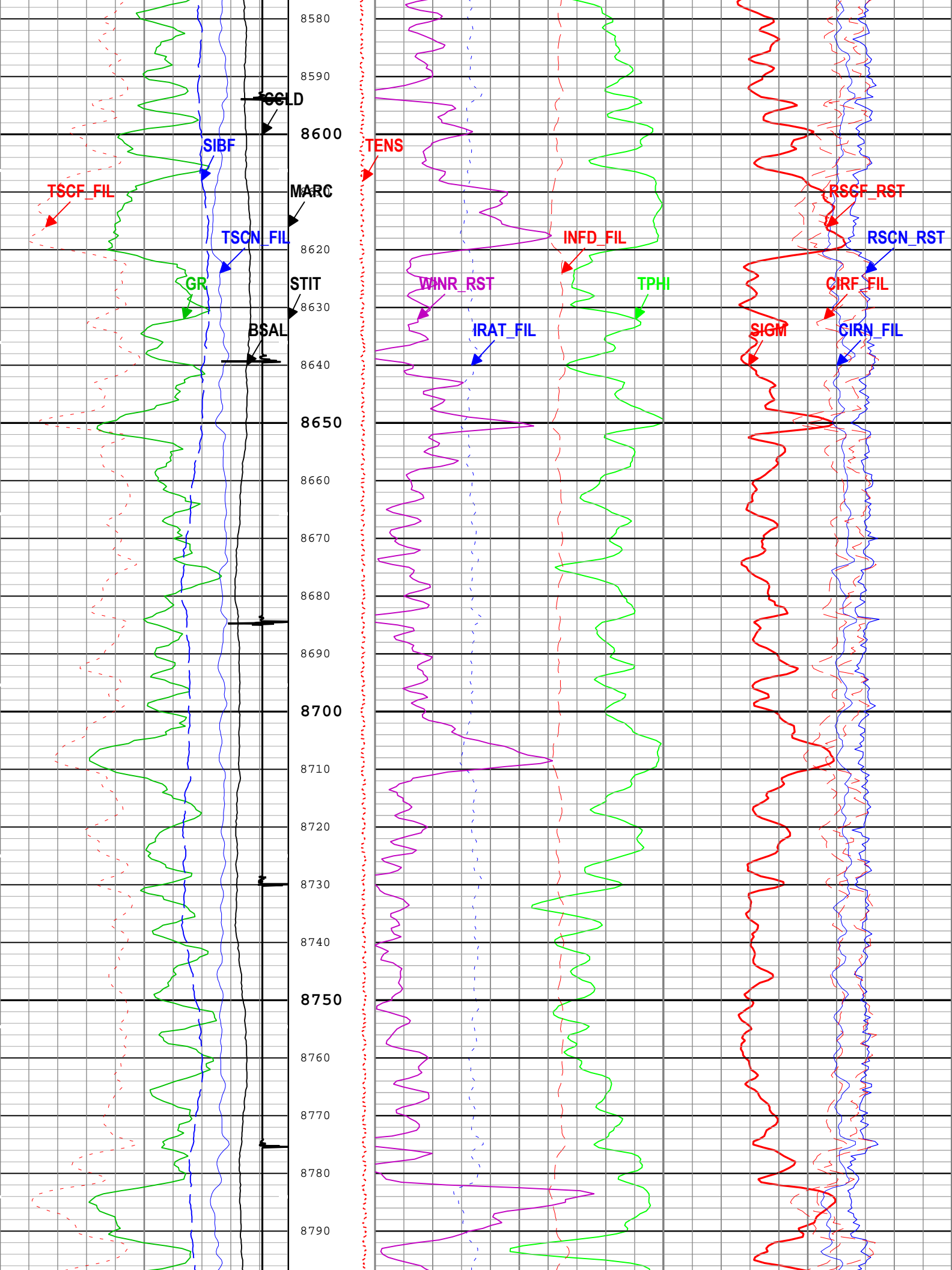


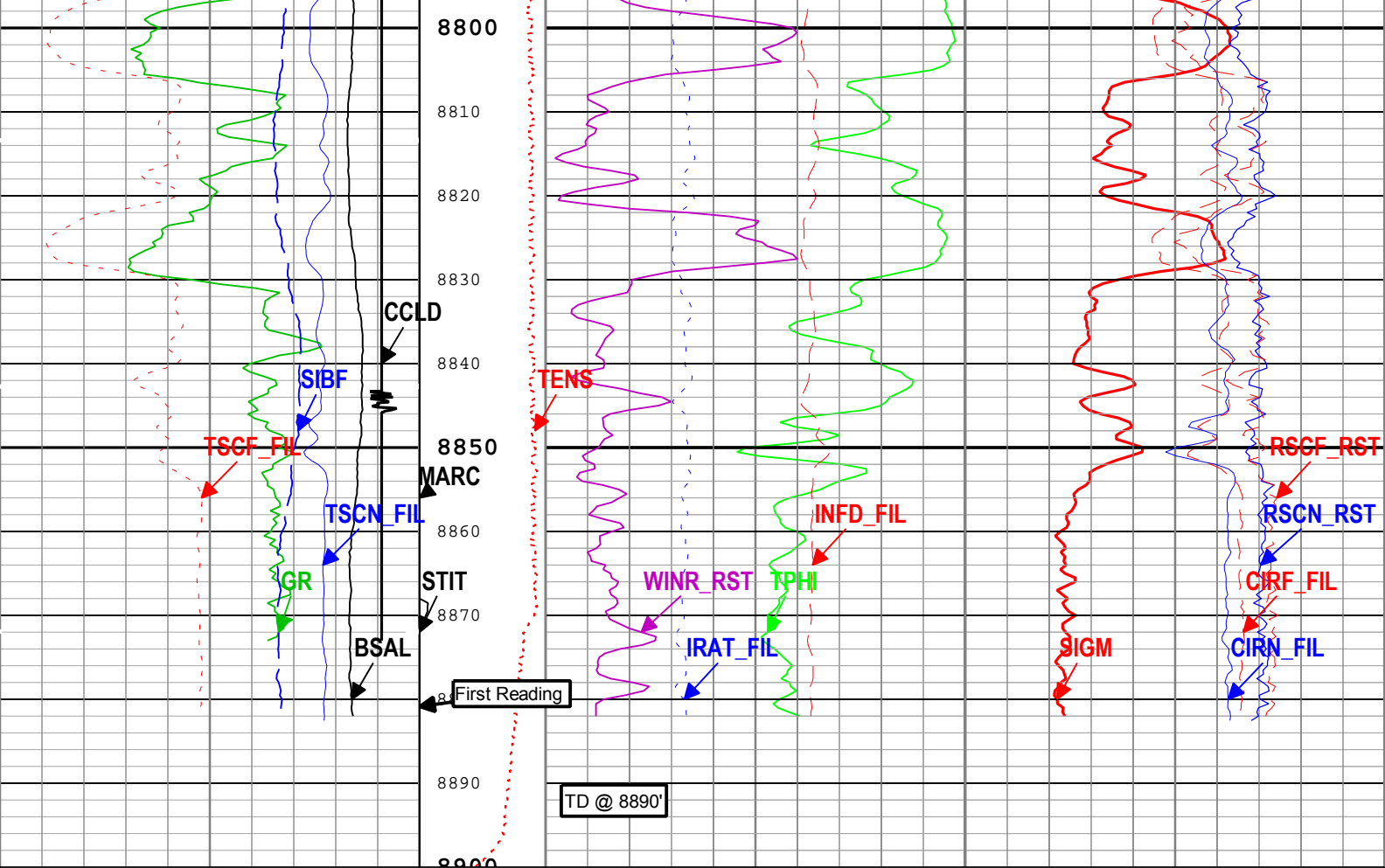












Borehole Salinity (BSAL) RST-C[1]			Stuck Tool Indicator, Total (STIT)	Formation Sigma (Neutron Capture Cross Section) (SIGM) RST-C[1]			
450	ppk	-50		60	cu	0	
Gamma Ray (GR) PSTP-B[1]			0	ft	50	Weighted Inelastic Ratio (WINR_RST) RST-C[1]	
0	gAPI	150		0			0.4
Total Selected Count Rate Near Detector Filtered (TSCN_FIL) RST-C[1]			Cable Drag From STIA to STIT	Inelastic Ratio Filtered (IRAT_FIL) RST-C[1]		Capture to Inelastic Ratio Near Filtered (CIRN_FIL) RST-C[1]	
30000	1/s	0		0.75	0	2.5	0
Total Selected Count Rate Far Detector Filtered (TSCF_FIL) RST-C[1]			Tool_Tot. Drag From D3T to STIT	Thermal Decay Porosity (TPHI) RST-C[1]		Capture to Inelastic Ratio Far Filtered (CIRF_FIL) RST-C[1]	
12000	1/s	0		0.6	ft3/ft3	0	
Sigma Borehole Fluid (SIBF) RST-C[1]			Minitron Arc Count (MARC) RST-C[1]	Gross Inelastic Count Rate Far Detector Filtered (INFD_FIL) RST-C[1]		Near Detector Effective Unregulated Capture Count Rate (RSCN_RST) RST-C[1]	
100	cu	0		10000	1/s	0	45
CCL Discriminated Amplitude (CCLD) PSTP-B[1]			Cable Tension (TENS)	Far Detector Effective Unregulated Capture Count Rate (RSCF_RST) RST-C[1]			
-10	V	1		45	0		
			0	lbf 3500			

— ICV - Integrated Cement Volume every 100.00 (ft3)

— ICV - Integrated Cement Volume every 10.00 (ft3)

— IHV - Integrated Hole Volume every 100.00 (ft3)

— IHV - Integrated Hole Volume every 10.00 (ft3)

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

— TIME_1900 - Time Marked every 60.00 (s)

Channel Processing Parameters				
RST: 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	
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
MATR	Rock Matrix for Neutron Porosity Corrections	Borehole	LIMESTONE	

RSTDepth Zoned Parameters			
Parameter	Value	Start (ft)	Stop (ft)
BS	14.75	2480	2525
BS	8.75	2525	8900
All depth are actual.			

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

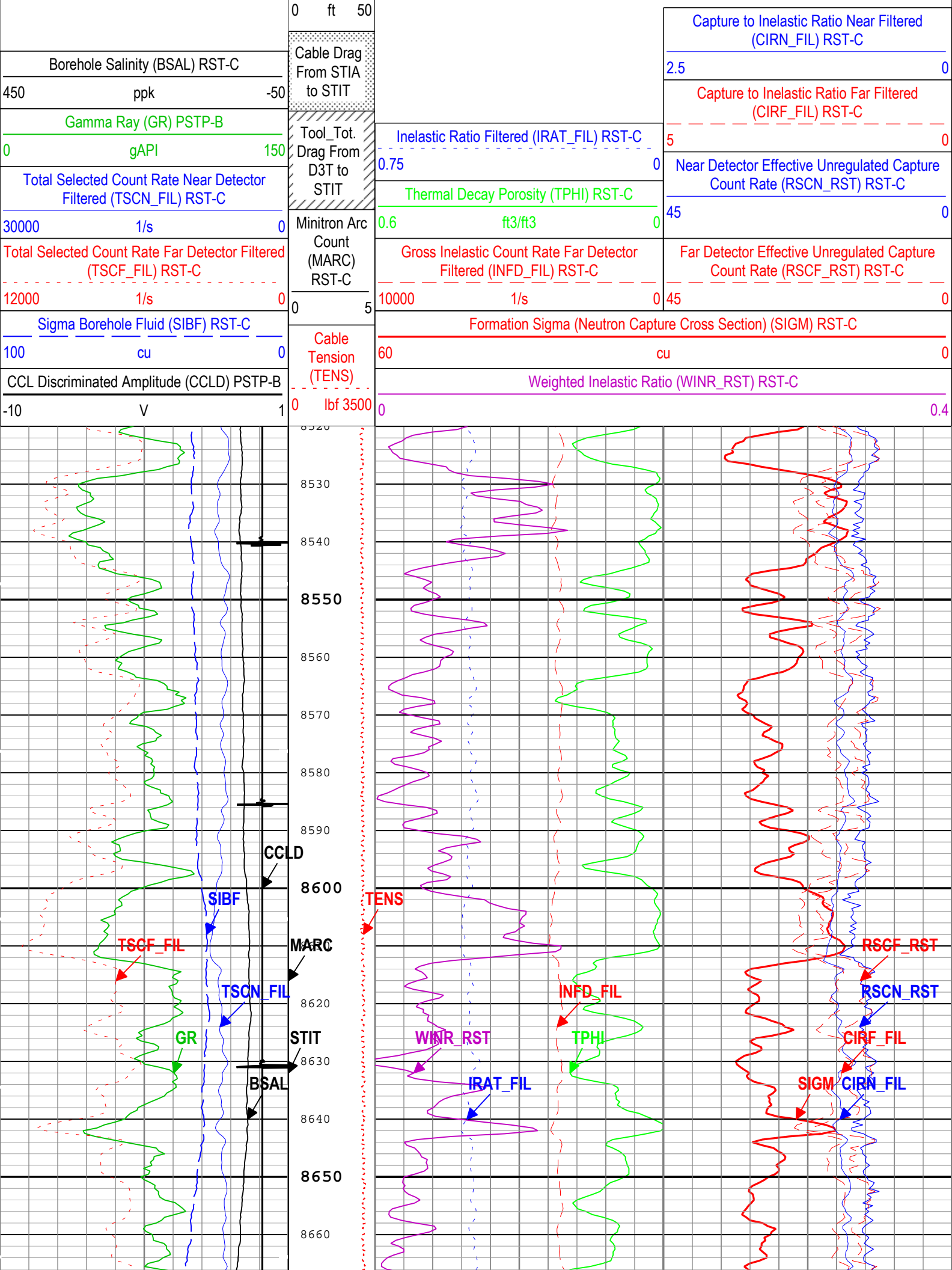
RST									
Repeat Sigma Pass									

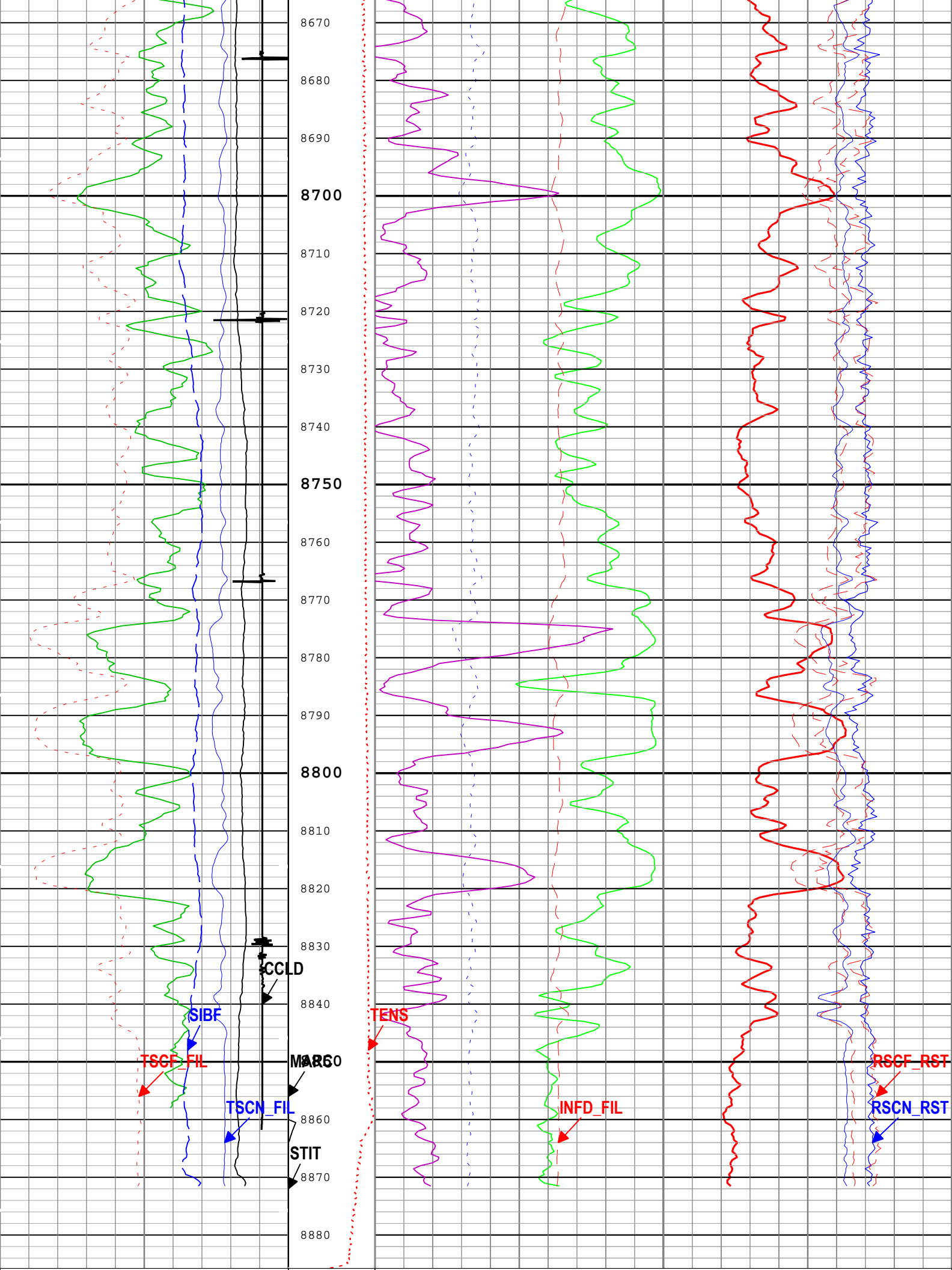
Software Version	
Acquisition System	Version
Maxwell 2017 SP3	7.3.90279.3100

Pass Summary									
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
RST	Log[2]:Up	Up	8518.90 ft	8885.78 ft	16-Dec-2017 03:07:33	16-Dec-2017 03:21:18	ON	0.00 ft	Yes
All depths are referenced to toolstring zero									

Log	Company:CAERUS OPERATING LLC Well:Puckett 13C-23 697 RST: Log[2]:Up:S015
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TIME_1900 - Elapsed time since midnight, 30 December 1899 every 60.00 (s)
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)
ICV - Integrated Cement Volume every 100.00 (ft3)
Stuck Tool Indicator, Total (STIT)





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: 27-Dec-2017 15:23:50
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BST: Parameters

Tool Control Parameters	
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RST: Parameters

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

Company:	CAERUS OPERATING LLC	Schlumberger
Well:	Puckett 13C-23 697	
Field:	Grand Valley	
County:	Garfield	
State:	Colorado	
Reservoir Saturation Log		
Sigma Mode		
Gamma Ray/CCL		