

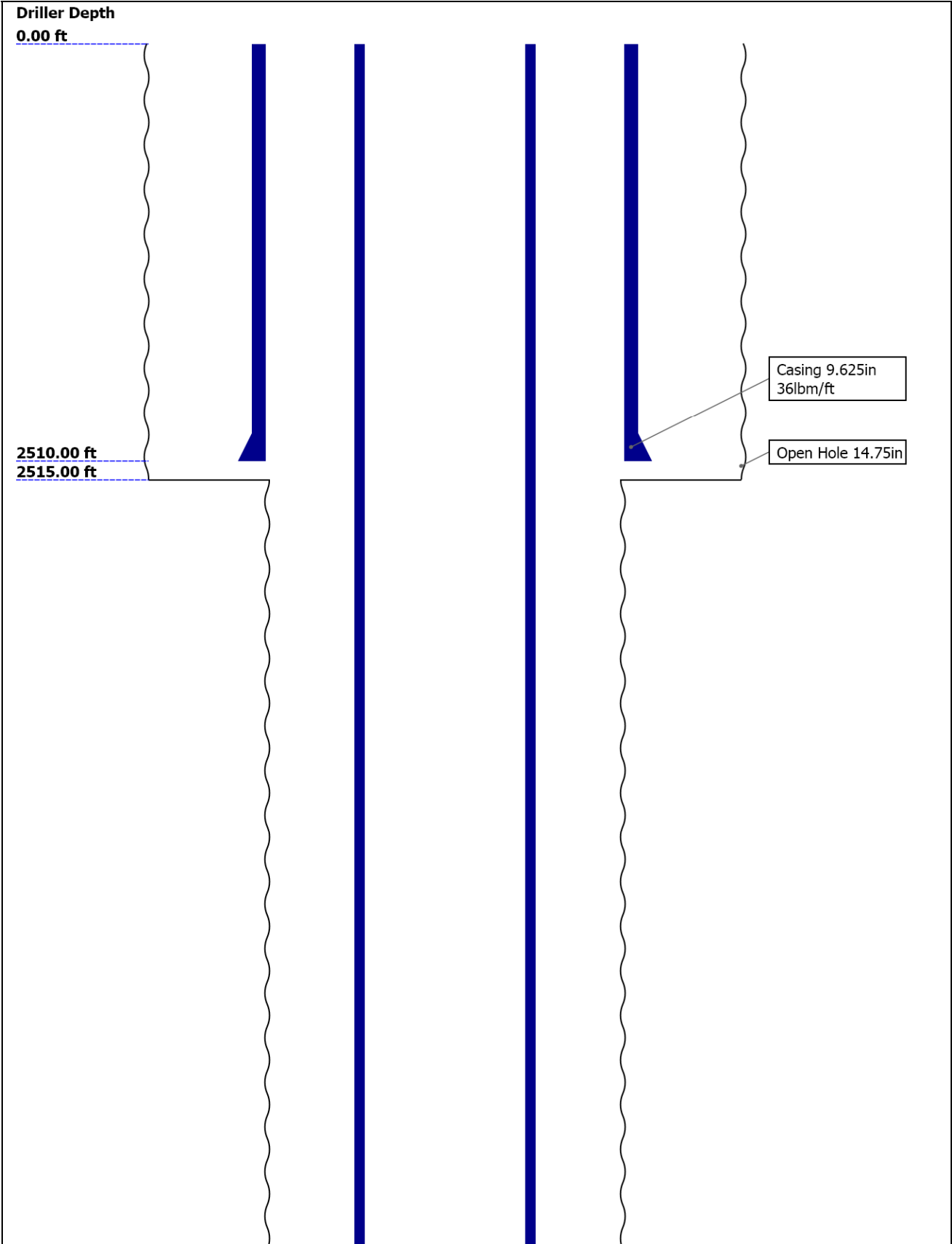
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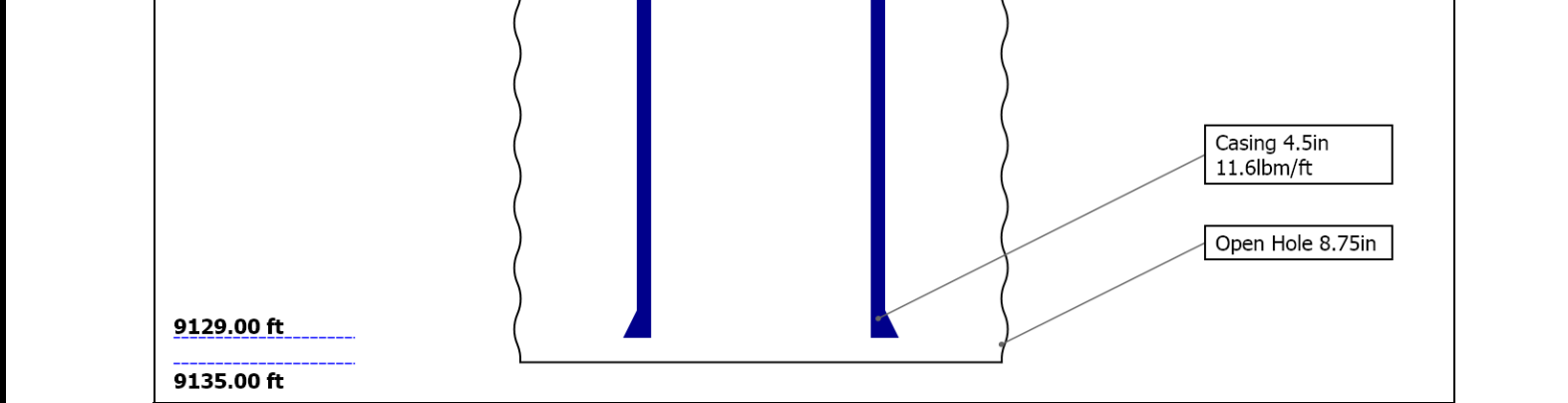
Witnessed By	Natalie N:
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Well Sketch





Borehole Size/Casing/Tubing Record

Bit						
Bit Size (in)	14.75	8.75				
Top Driller (ft)	0	2515				
Top Logger (ft)	0	2515				
Bottom Driller (ft)	2515	9135				
Bottom Logger (ft)	2515	9135				
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)	2510	9129				
Bottom Logger (ft)	2510	9129				

Operational Run Summary

Parameter (unit)	ONE					
Date Log Started	22-Jul-2015					
Time Log Started	11:59:17					
Date Log Finished	22-Jul-2015					
Time Log Finished	18:35:31					
Top Log Interval (ft)	2500.00					
Bottom Log Interval (ft)	9078.00					
Total Depth (ft)						
Max Hole Deviation (deg)	0.00					
Azimuth of Max Deviation (deg)	0.00					
Bit Size (in)	8.750					
Logging Unit Number	9108					
Logging Unit Location	Fort Morgan, CO					
Recorded By	Benjamin Marmon					

Witnessed By	Natalie Naeve					
Service Order Number	D5ND-00069					

Remarks and Equipment Summary

ONE: Toolstring				ONE: Remarks	
<div><div>Equip name</div><div>Length</div><div>LEH-QT</div><div>58.91</div><div>LEH-QT</div></div> <div><div>MP name</div><div>Offset</div></div> <div><div>GR</div><div>51.14</div></div> <div><div>PSTC</div><div>50.85</div></div> <div><div>PSTC To</div><div>0.00</div></div> <div><div>ol String</div></div> <div><div>Bottom</div></div> <div><div>Tempera</div><div>48.06</div></div> <div><div>ture</div></div> <div><div>Sapphire</div><div>47.94</div></div> <div><div>Pressur</div></div> <div><div>e</div></div> <div><div>CCL</div><div>47.33</div></div> <div><div>PBMS</div><div>46.58</div></div>			Tool ran as per tool sketch.		
			This is the first run in the hole.		
			Main and Repeat passes are correlated to down log..		
			RST ran in Sigma mode.		
			Matrix: Sandstone, 2.68 g/cc		
			Tagged float collar at 9078'.		
			Reapeat pass is done with 0 psi.		
			Main pass logged with 2500 psi.		
			Logged stopped at 2500' as per client request.		
<div><div>RST-C:178</div><div>46.58</div></div> <div><div>7</div><div>RSCH-A:46</div><div>9</div><div>RSC-E:381</div><div>RSS-A:461</div><div>MNTR-F:1</div><div>RSXH-A:27</div><div>5</div><div>RSX-E:1787</div></div>					

RST-C:178

46.58

7

RSCH-A:46

9

RSC-E:381

RSS-A:461

MNTR-F:1

RSXH-A:27

5

RSX-E:1787

SCMT-CB:

23.56

8372

SECH-CA

SCMC-CA

CMIR-AG

SCMS-CB:8

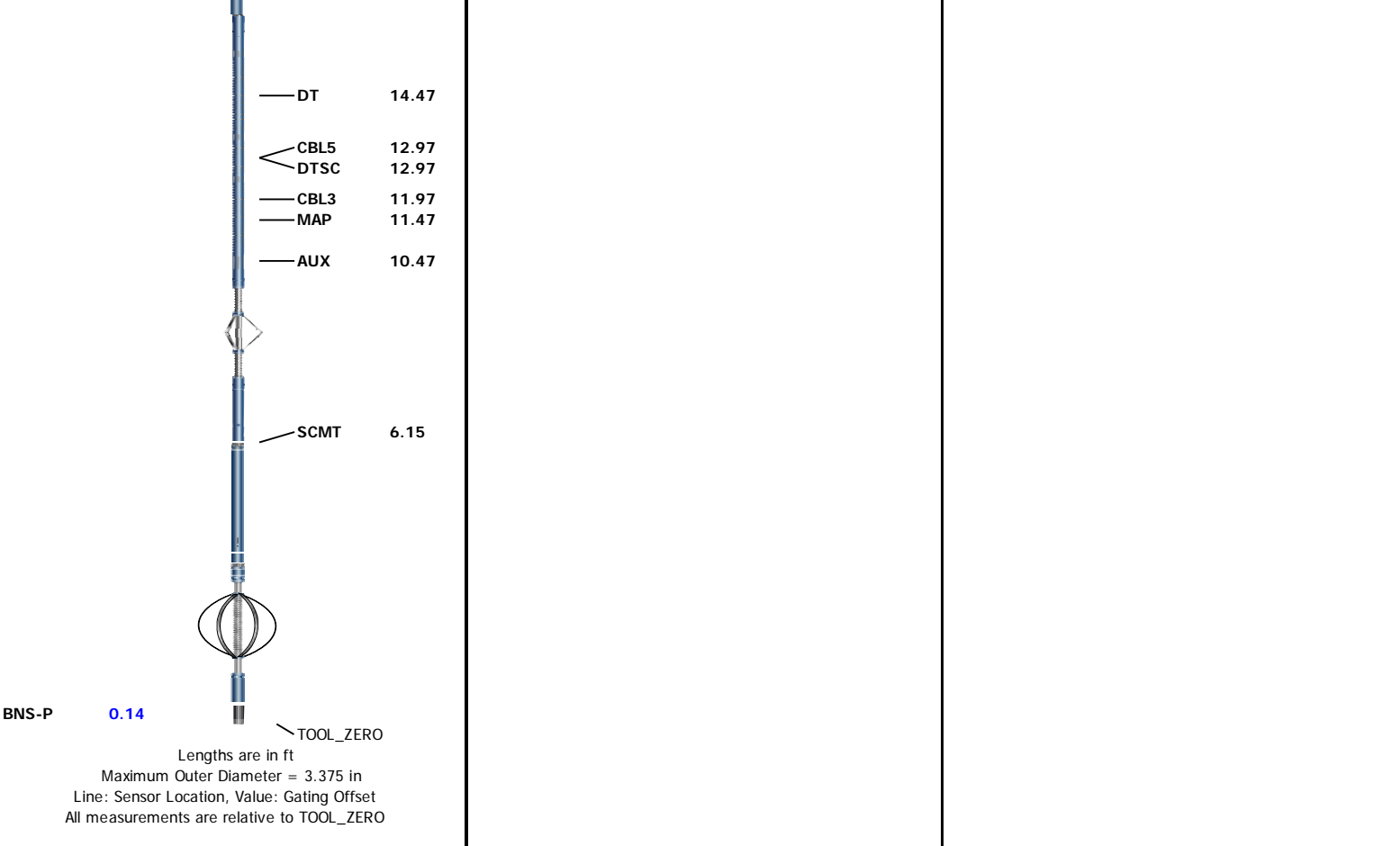
372

SCMX-CA

AH-278

TTG-C:8295





Depth Summary			
		ONE	
Depth Measuring Device			
Type	IDW-B		
Serial Number			
Calibration Date			
Calibrator Serial Number			
Calibration Cable Type			
Wheel Correction 1	0		
Wheel Correction 2	0		
Tension Device			
Type	CMTD-B/A		
Serial Number			
Calibration Date			
Calibrator Serial Number			
Number of Calibration Points	0		
Logging Cable			
Type	7-46A-XS		
Serial Number			
Length	21000.00 ft		
Conveyance Type	Wireline		
Rig Type	Crane		
ONE:Depth Control Parameters		Depth Control Remarks	
Log Sequence	First Log In the Well	All Schlumberger depth control procedures followed during logging operations. IDW used as primart depth control device. Z-Chart used as secondary depth control.	
Rig Up Length At Surface			
Rig Up Length At Bottom			
Rig Up Length Correction			
Stretch Correction			
Tool Zero Check At Surface			

Software Version

Acquisition System

Maxwell 2014 SP3

Version

5.3.45427.3100

Composite Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
ONE	Log[5]:Up	Up	3030.78 ft	9098.50 ft	22-Jul-2015 2:21:43 PM	22-Jul-2015 5:49:19 PM	ON	9.90 ft	No
ONE	Log[6]:Up	Up	2419.40 ft	3311.79 ft	22-Jul-2015 5:56:38 PM	22-Jul-2015 6:27:27 PM	ON	10.42 ft	No

All depths are referenced to toolstring zero

Log

Company:Caerus Piceance LLC

Well:Puckett 41B-2

Composite 1:S005

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-2015 18:37:51

TIME_1900 - Time Marked every 60.00 (s)

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

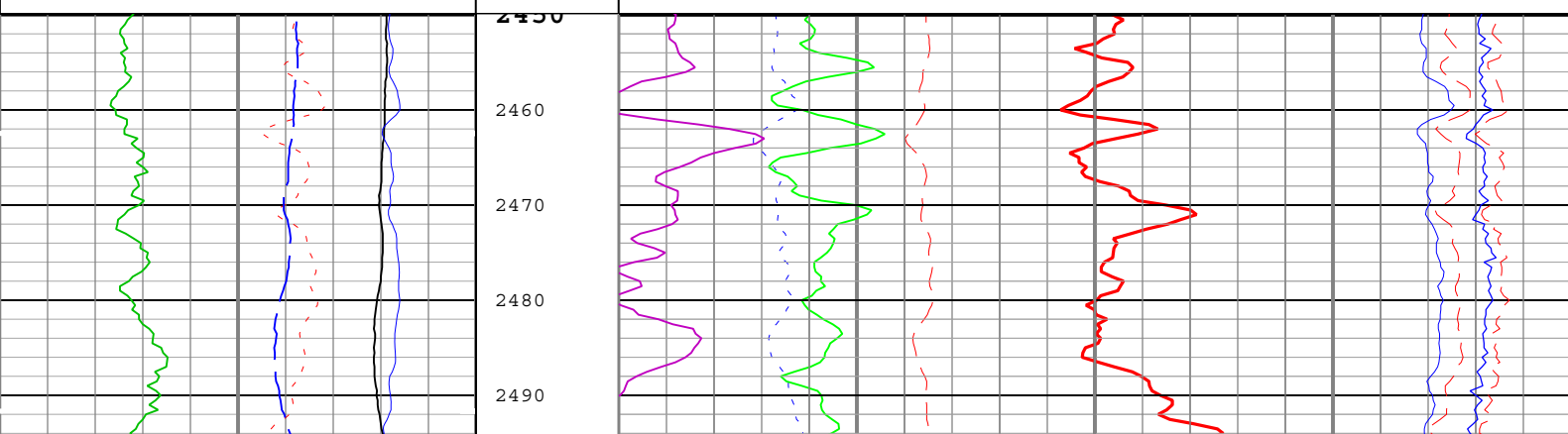
IHV - Integrated Hole Volume every 10.00 (ft3)

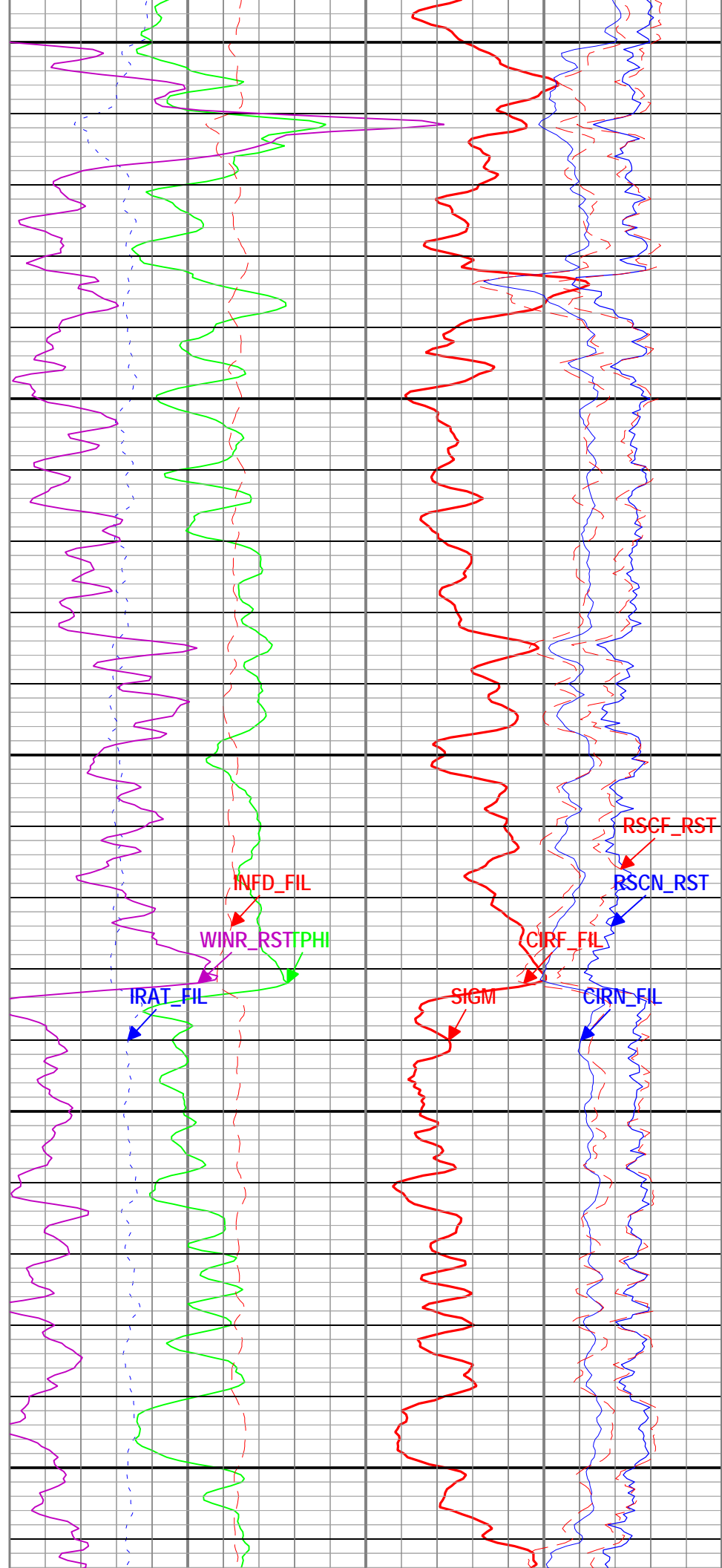
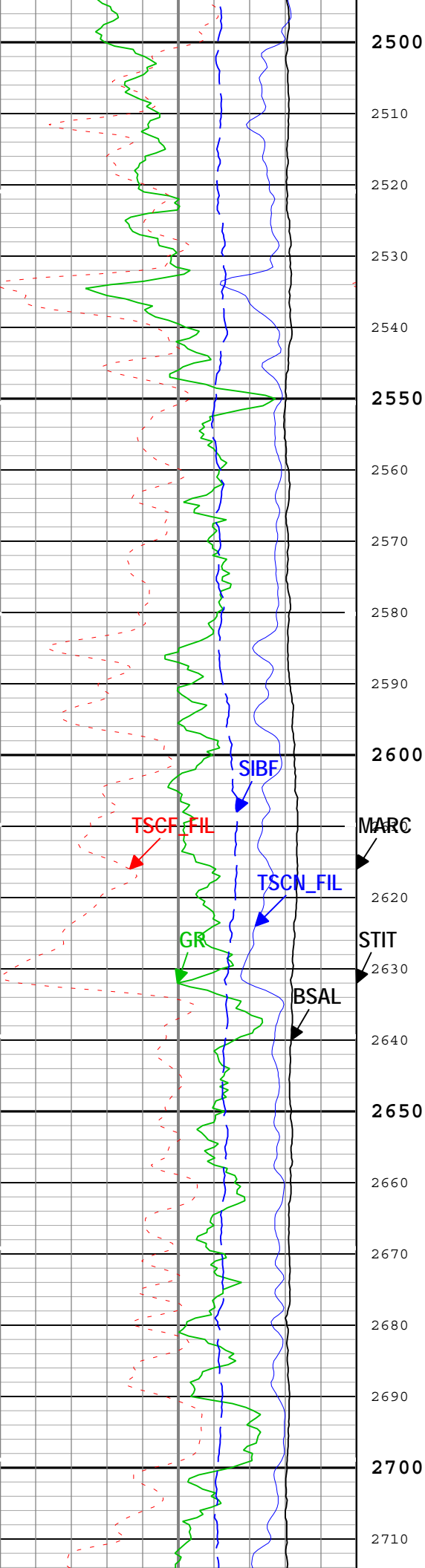
IHV - Integrated Hole Volume every 100.00 (ft3)

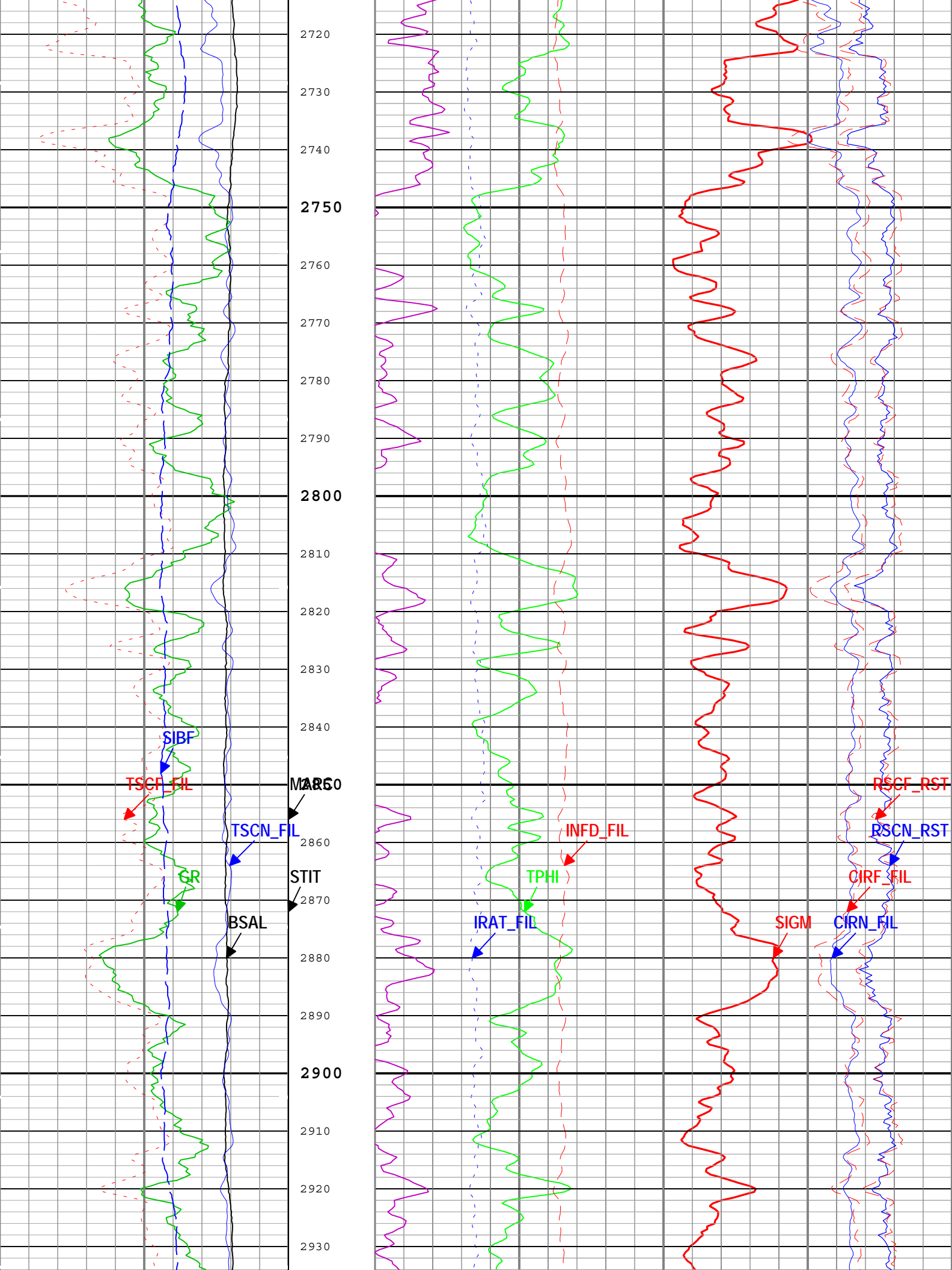
ICV - Integrated Cement Volume every 10.00 (ft3)

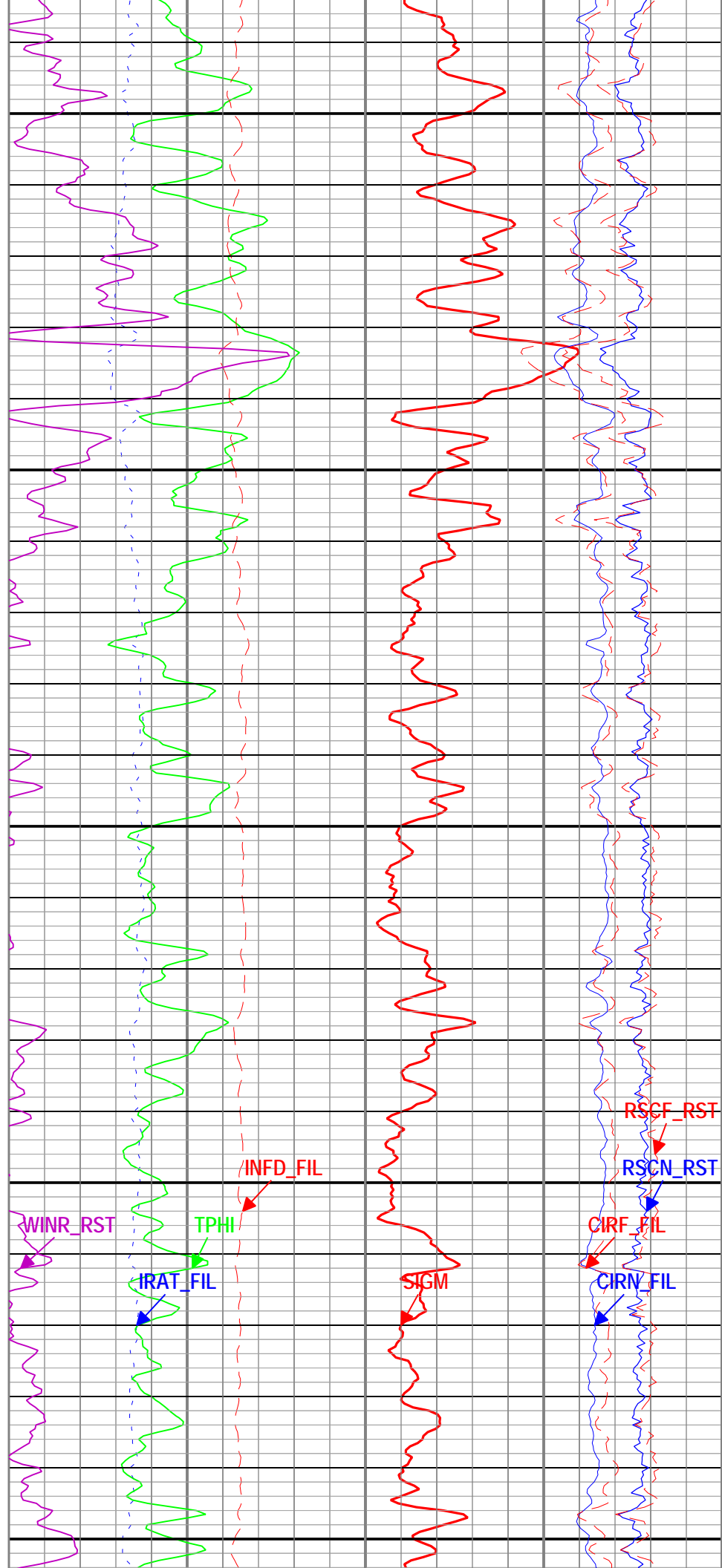
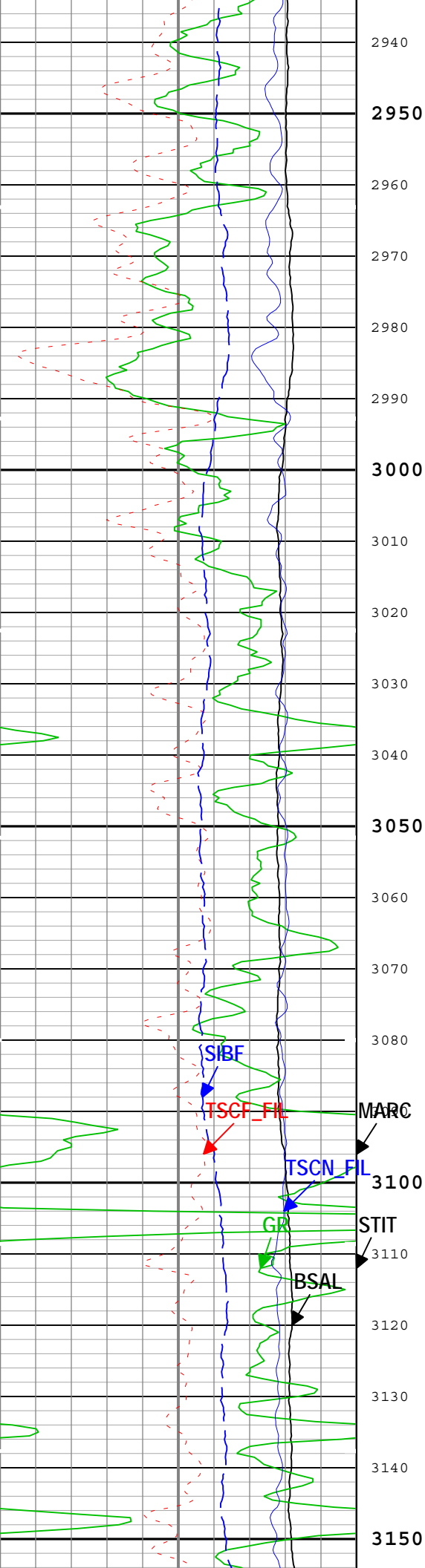
ICV - Integrated Cement Volume every 100.00 (ft3)

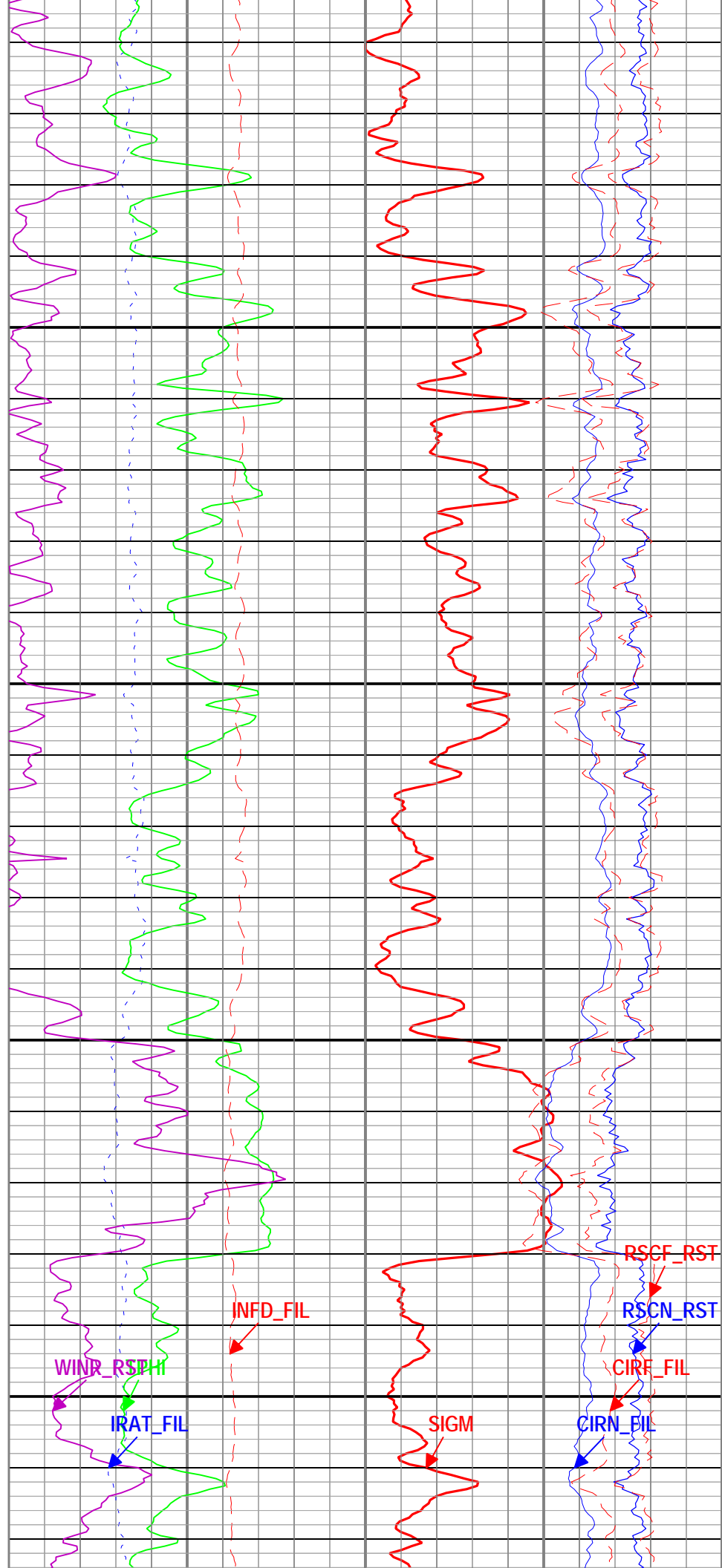
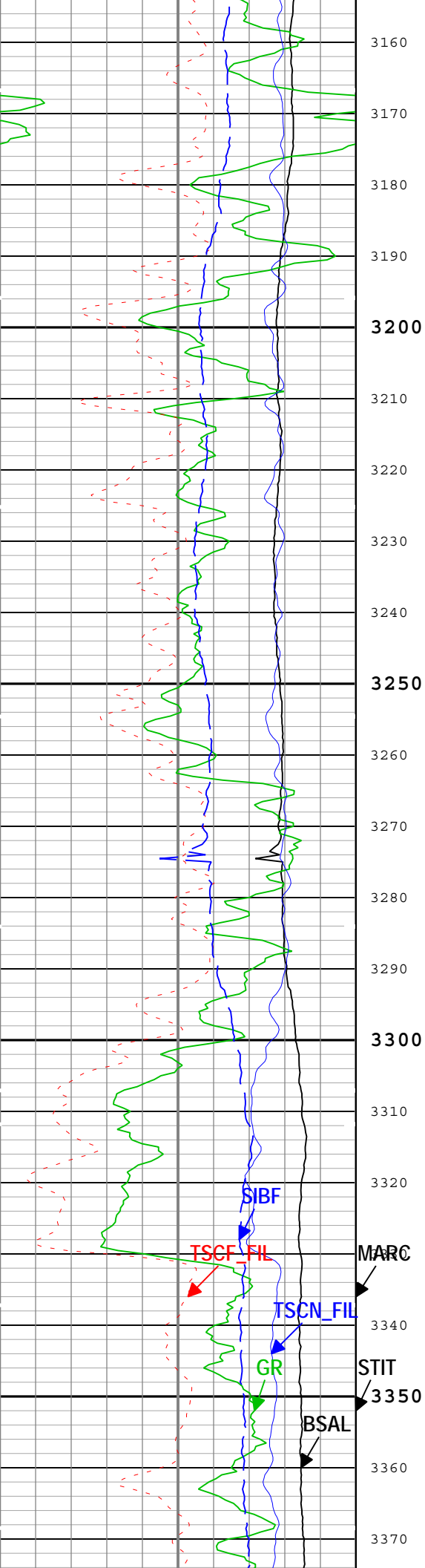
			Stuck Tool Indicator, Total (STIT)	Capture to Inelastic Ratio Near Filtered (CIRN_FIL) RST-C[1]			
				2.5	0		
Borehole Salinity (BSAL) RST-C[1]			0	ft	50	Capture to Inelastic Ratio Far Filtered (CIRF_FIL) RST-C[1]	
450	ppk	-50	Cable Drag From STIA to STIT	Inelastic Ratio Filtered (IRAT_FIL) RST-C[1]			5
Gamma Ray (GR) PSTP-A[1]				0.75	0		Near Detector Effective Unregulated Capture Count Rate (RSCN_RST) RST-C[1]
0	gAPI	150	Tool_Tot. Drag From D3T to STIT	Thermal Decay Porosity (TPHI) RST-C[1]		45	0
Total Selected Count Rate Near Detector Filtered (TSCN_FIL) RST-C[1]				0.6	ft3/ft3		
30000	1/s	0	Gross Inelastic Count Rate Far Detector Filtered (INFD_FIL) RST-C[1]	Far Detector Effective Unregulated Capture Count Rate (RSCF_RST) RST-C[1]			0
Total Selected Count Rate Far Detector Filtered (TSCF_FIL) RST-C[1]				10000	1/s	0	
12000	1/s	0	Minitron Arc Count (MARC) RST-C[1]	Formation Sigma (Neutron Capture Cross Section) (SIGM) RST-C[1]			0
Sigma Borehole Fluid (SIBF) RST-C[1]				60	cu		
100	cu	0	0	Weighted Inelastic Ratio (WINR_RST) RST-C[1]			0.4
				0			

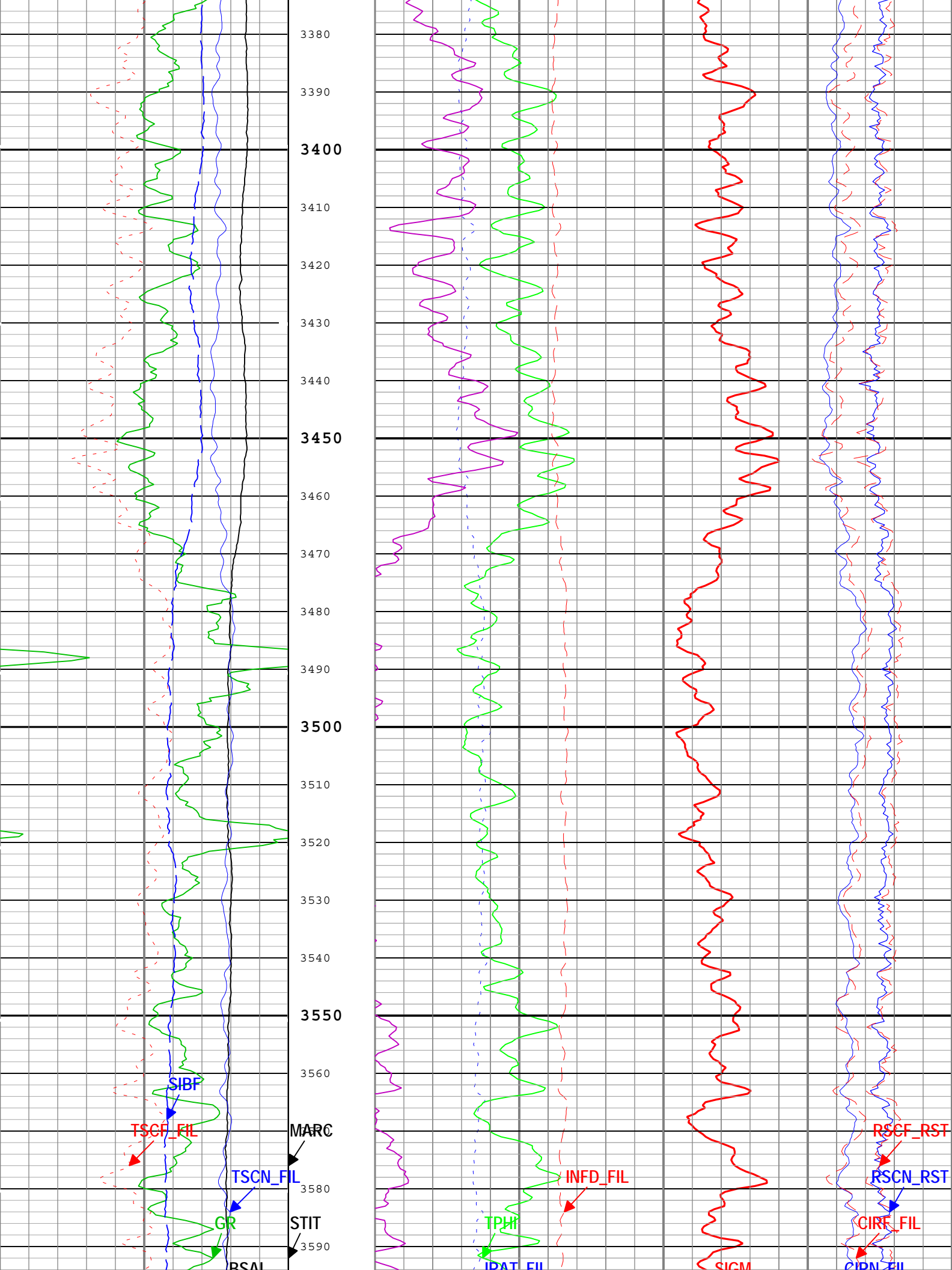


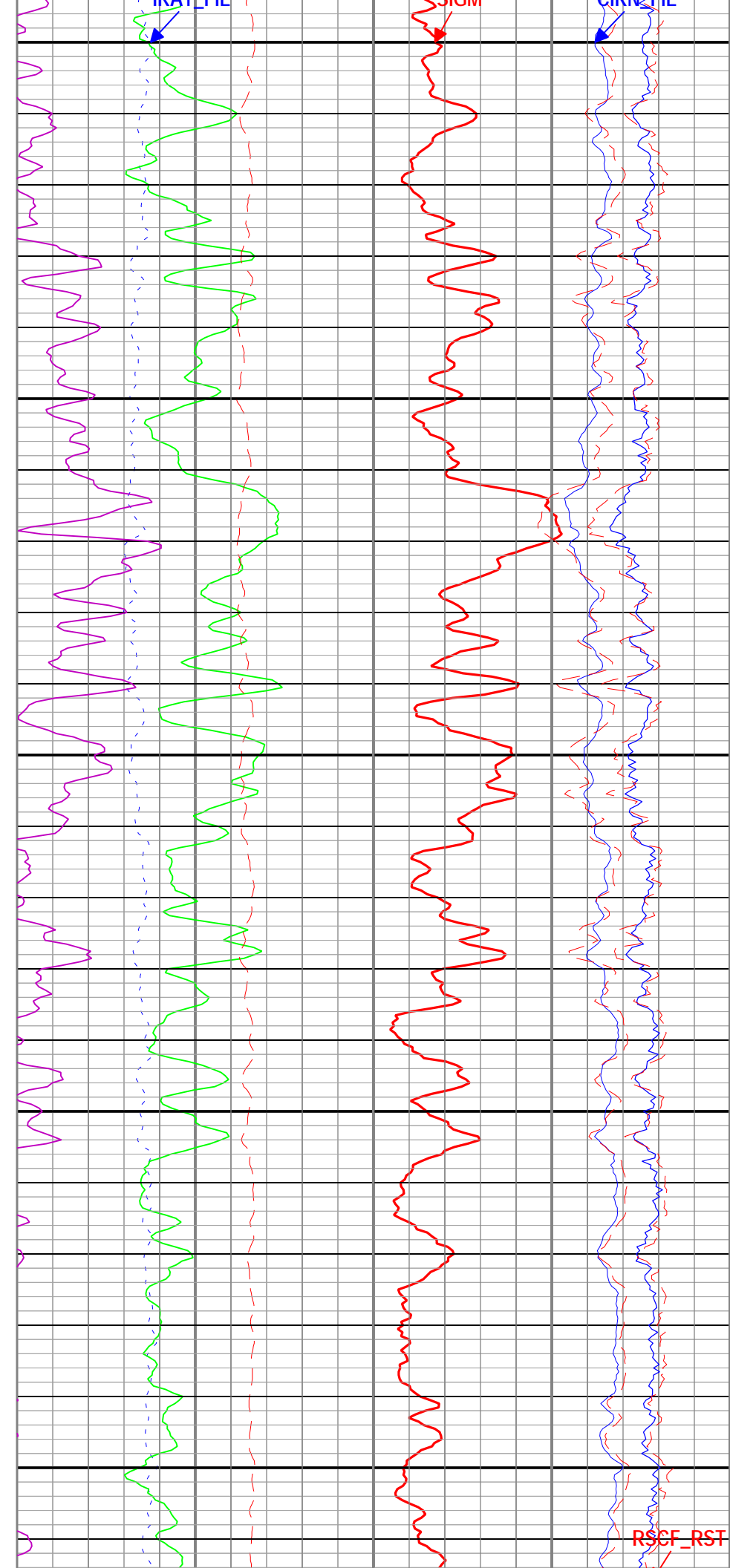
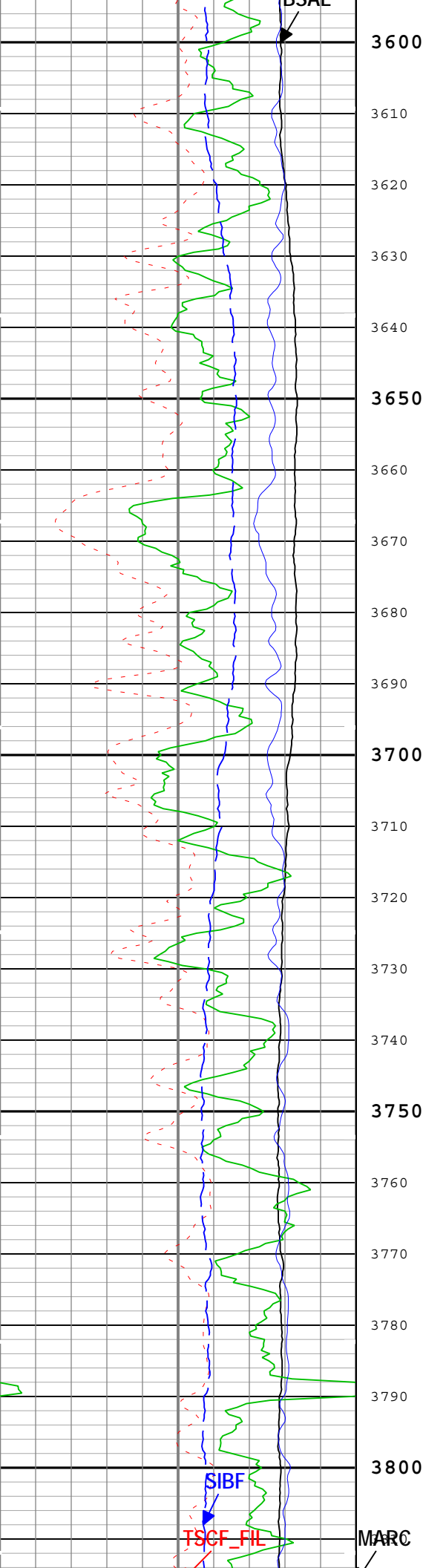


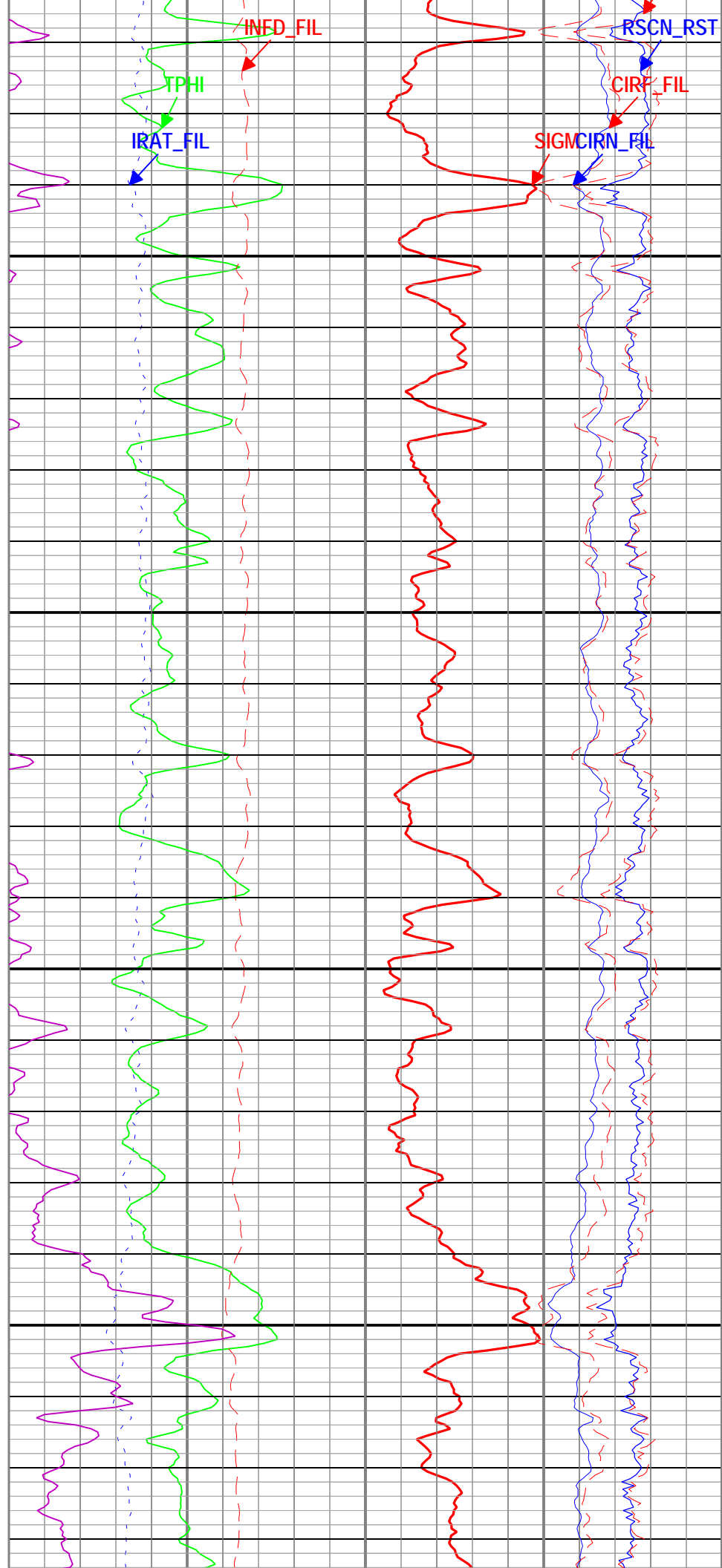
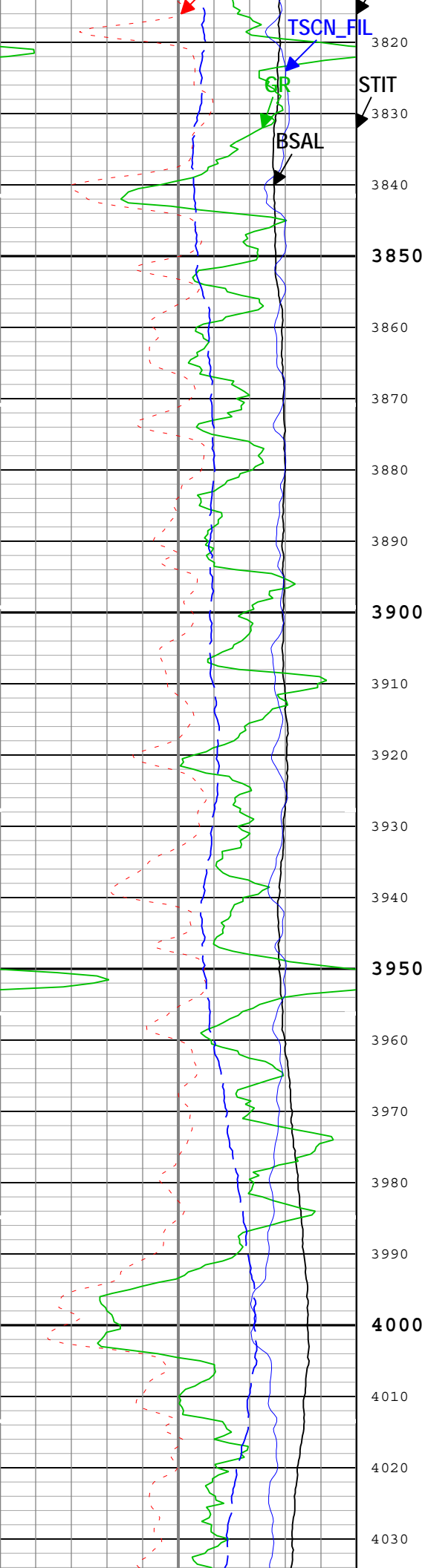


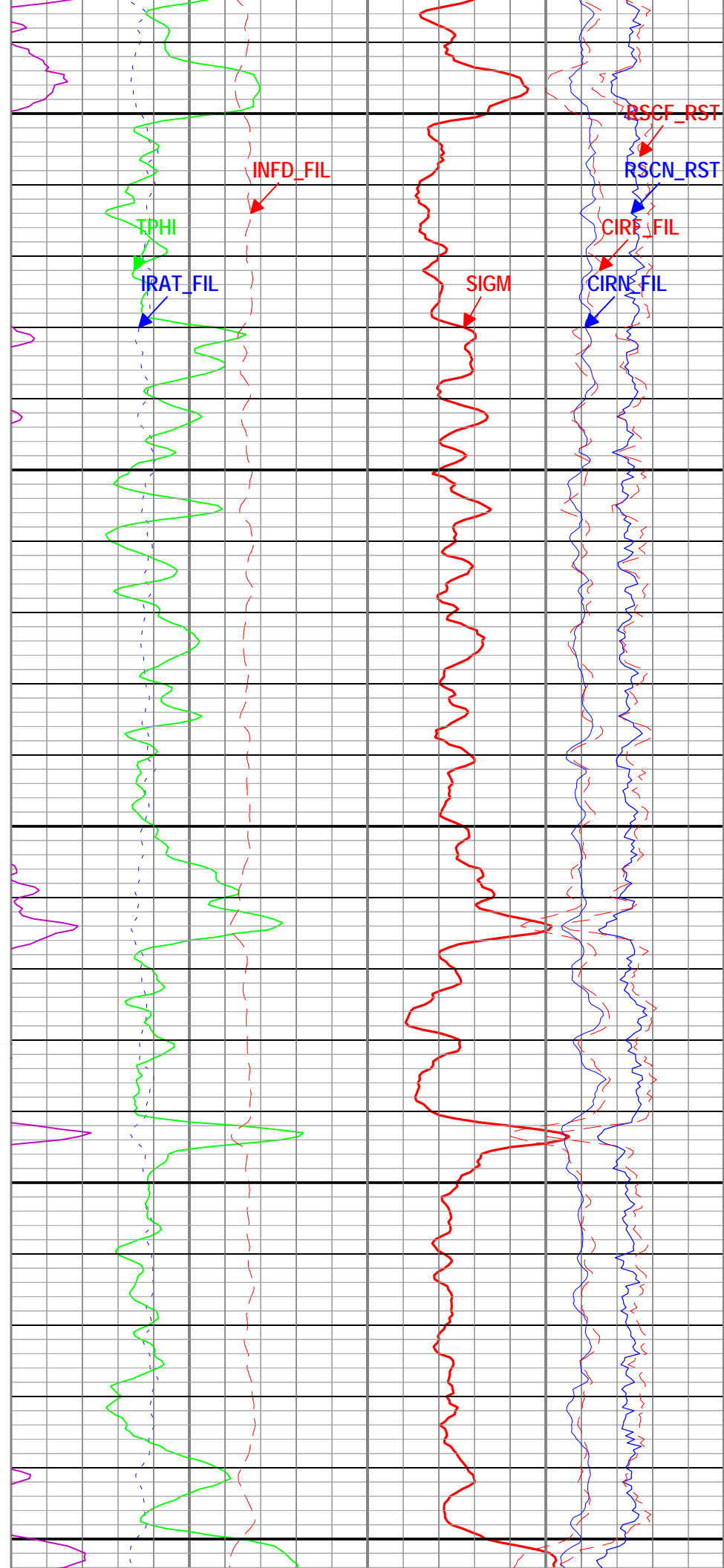
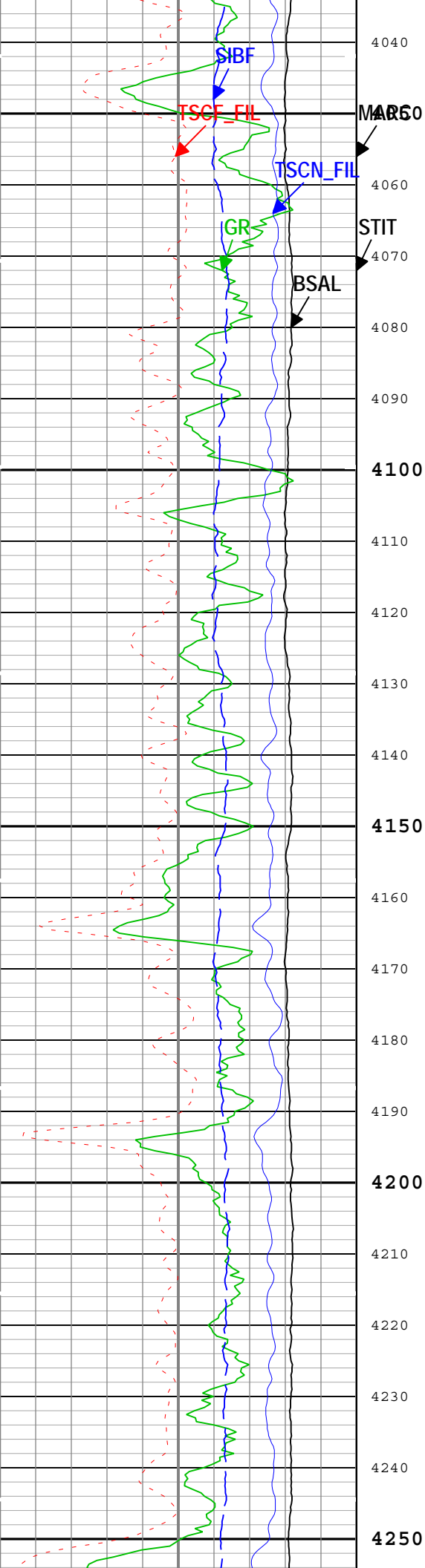


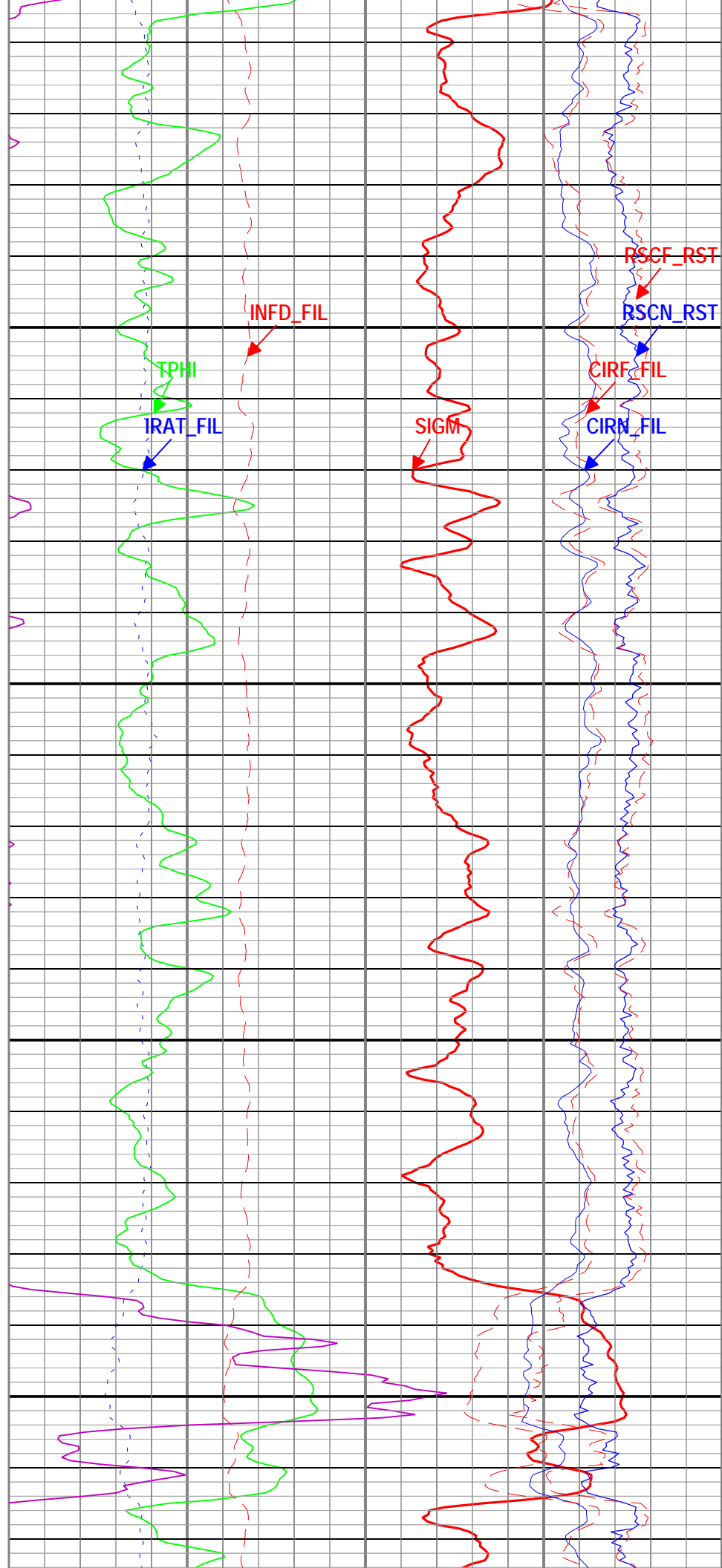
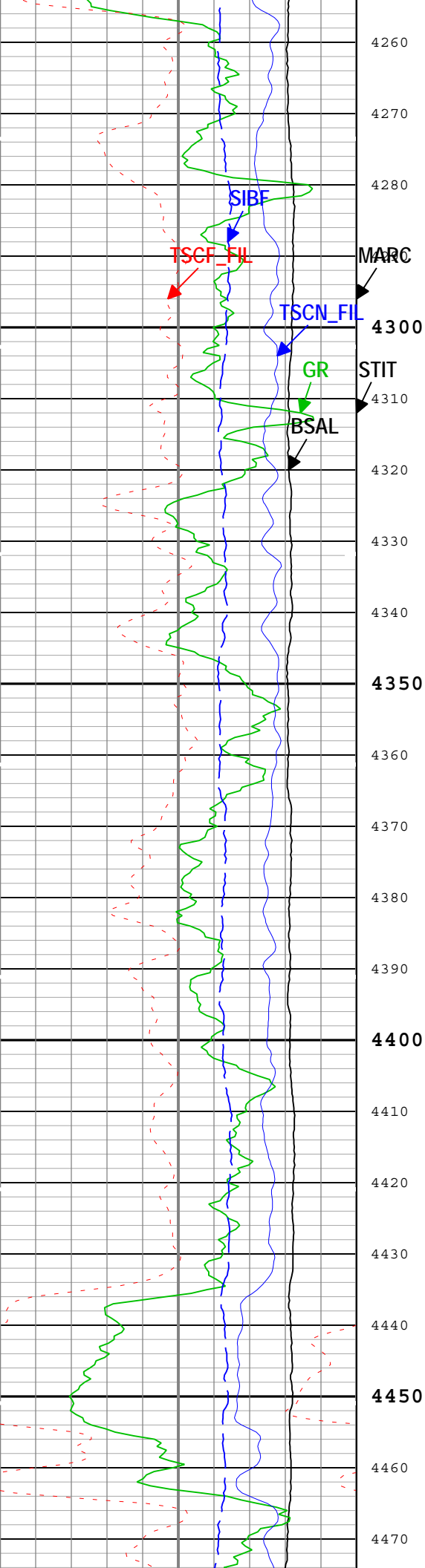


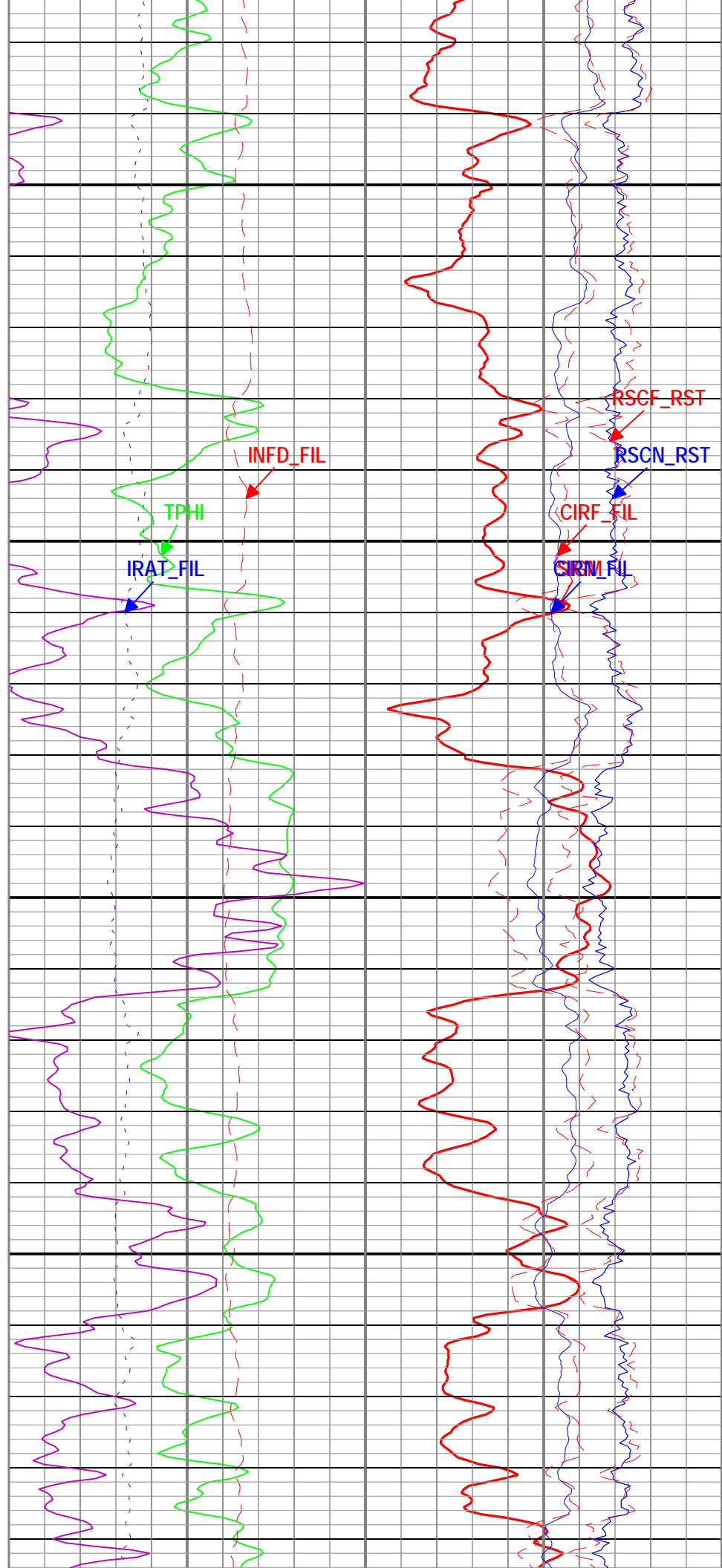
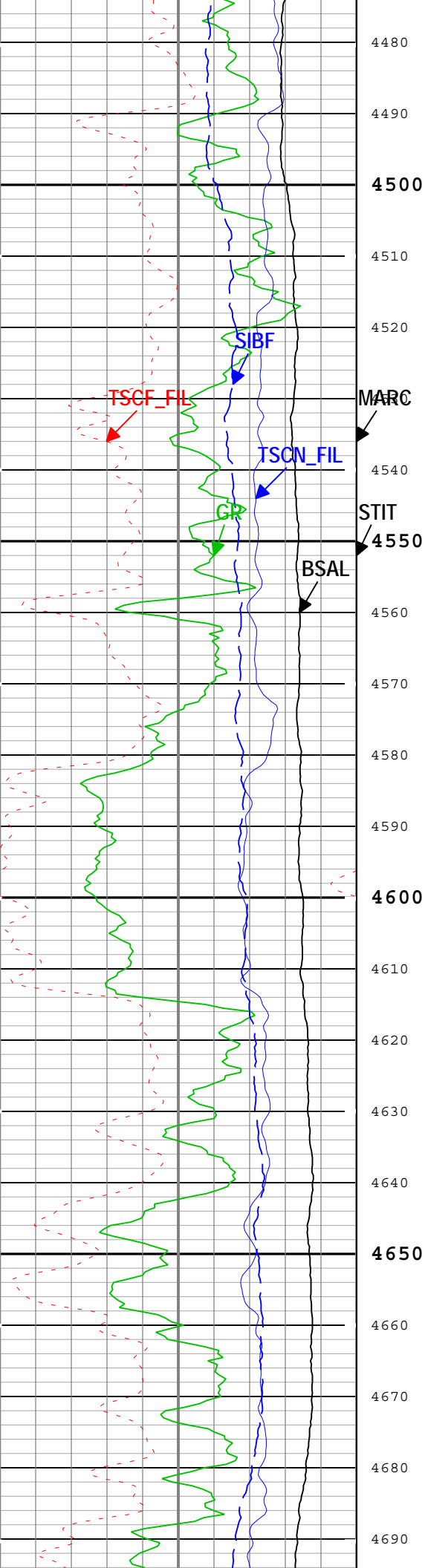


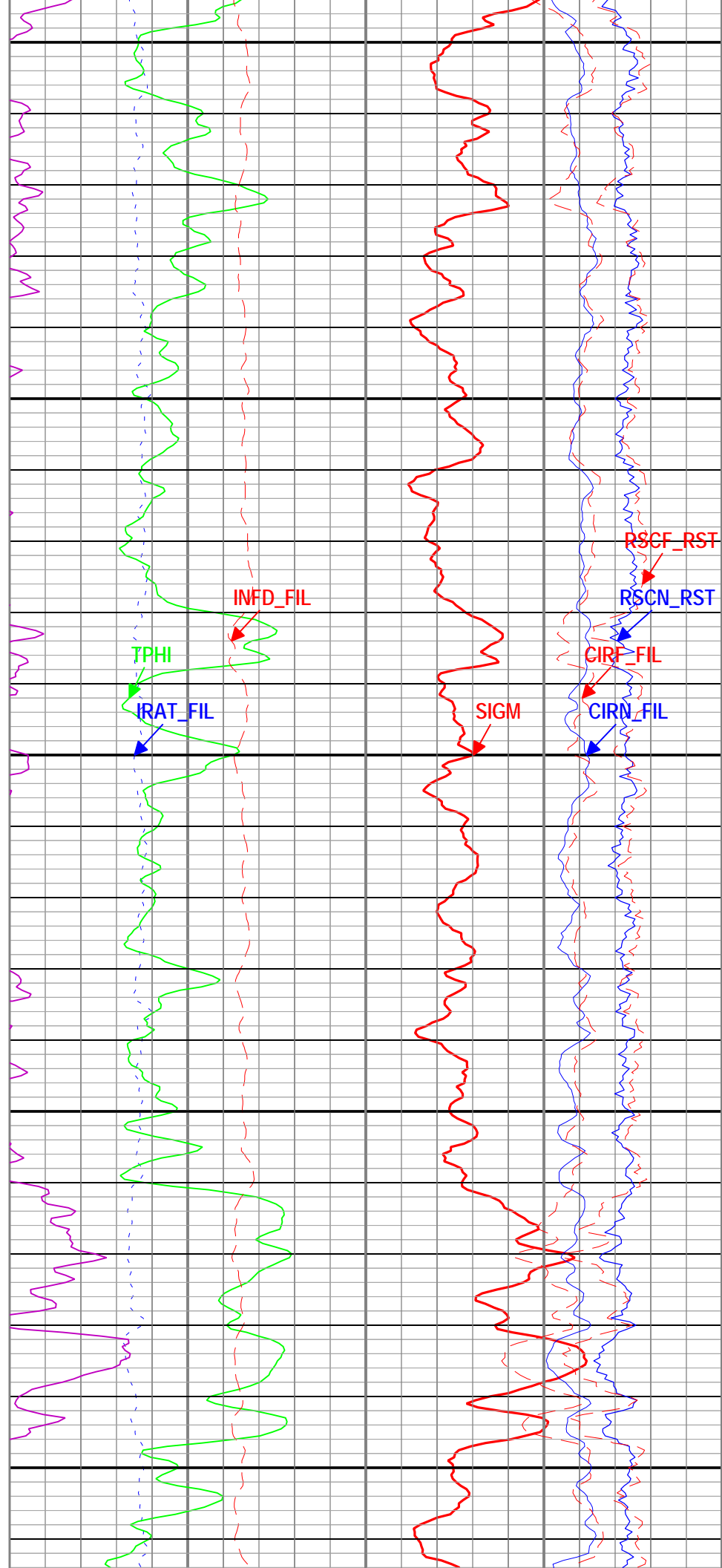
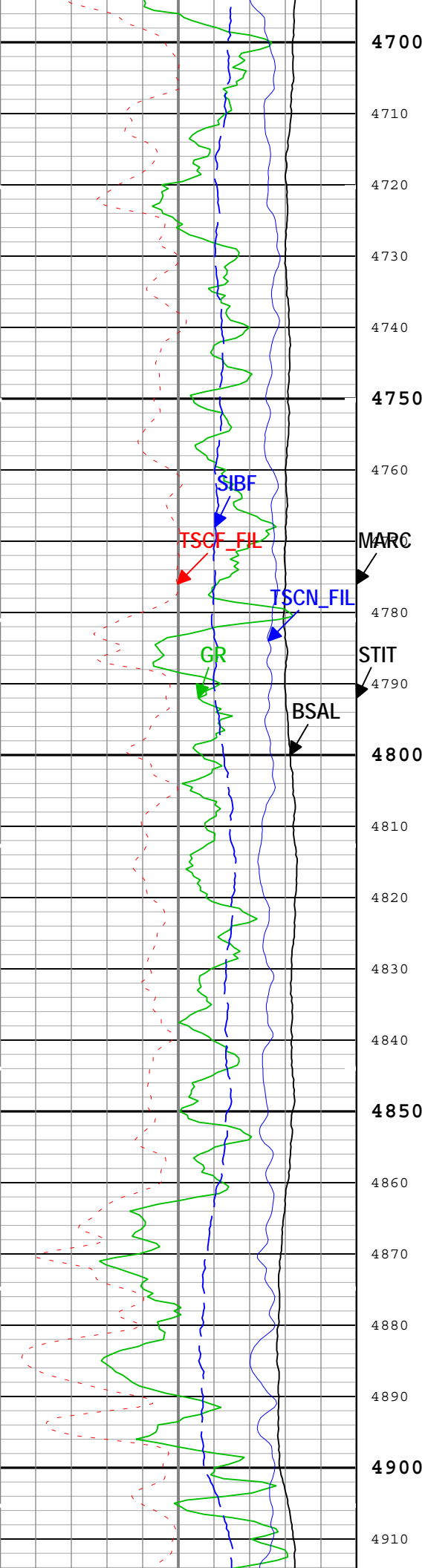


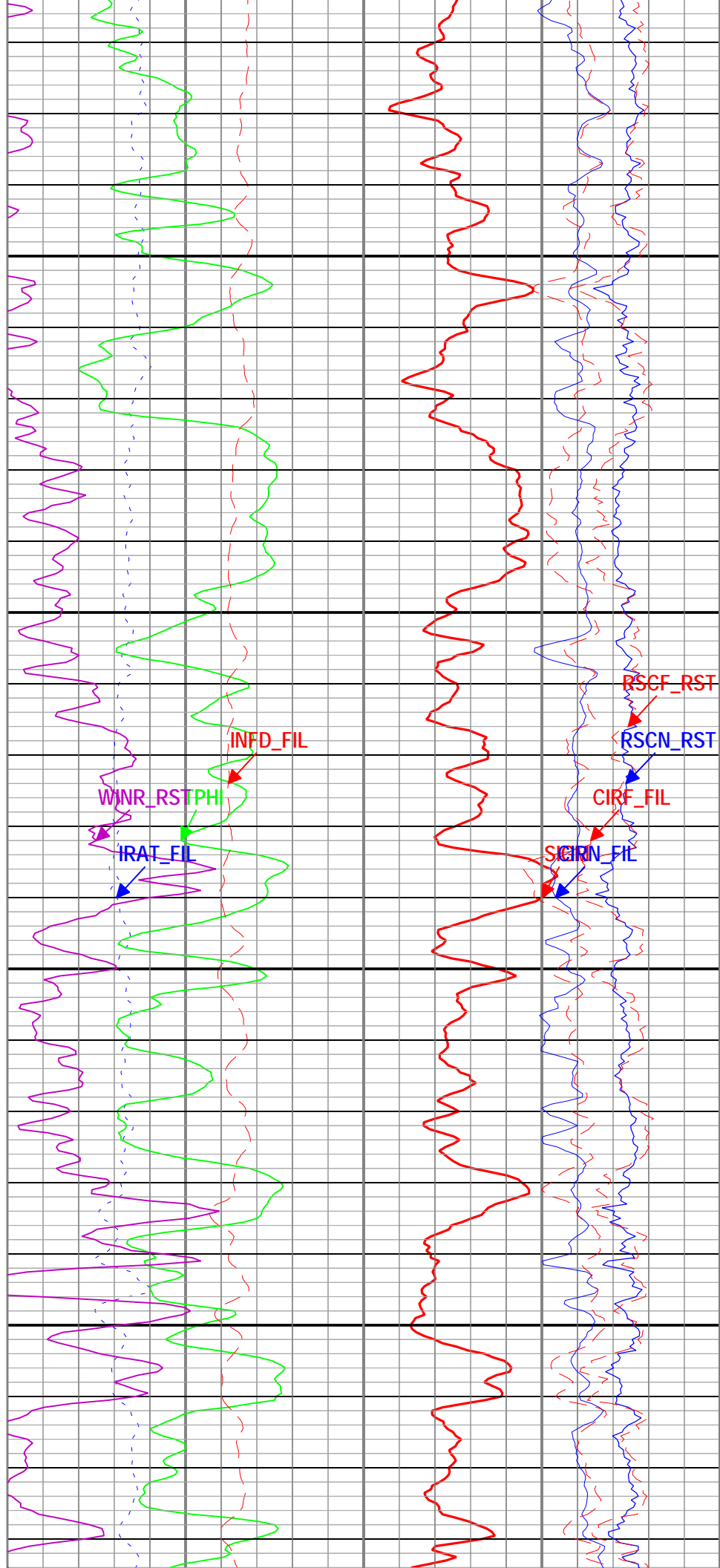
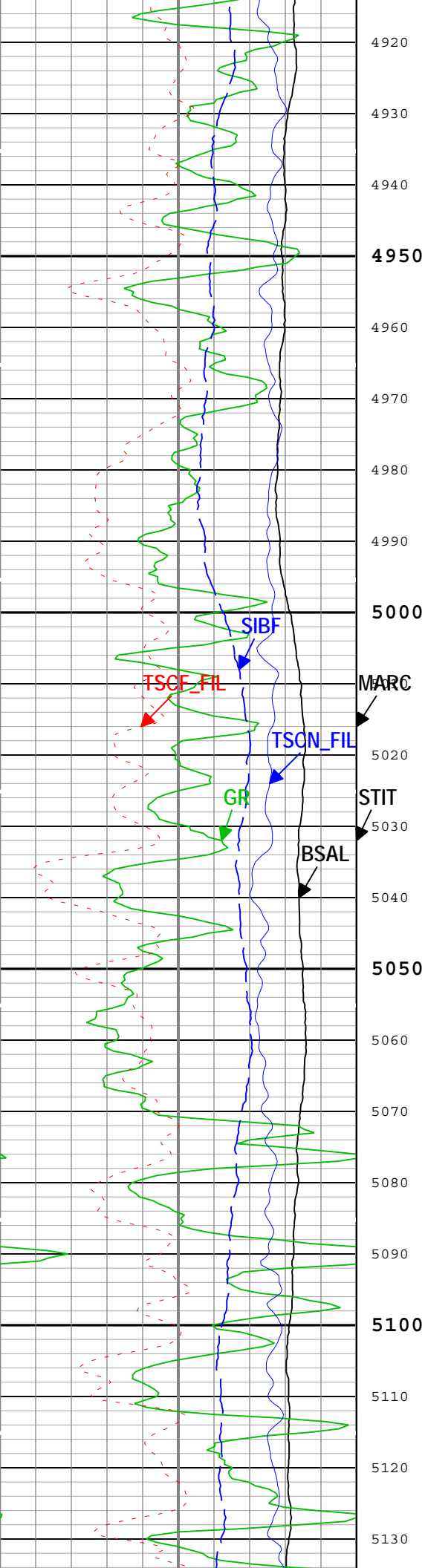


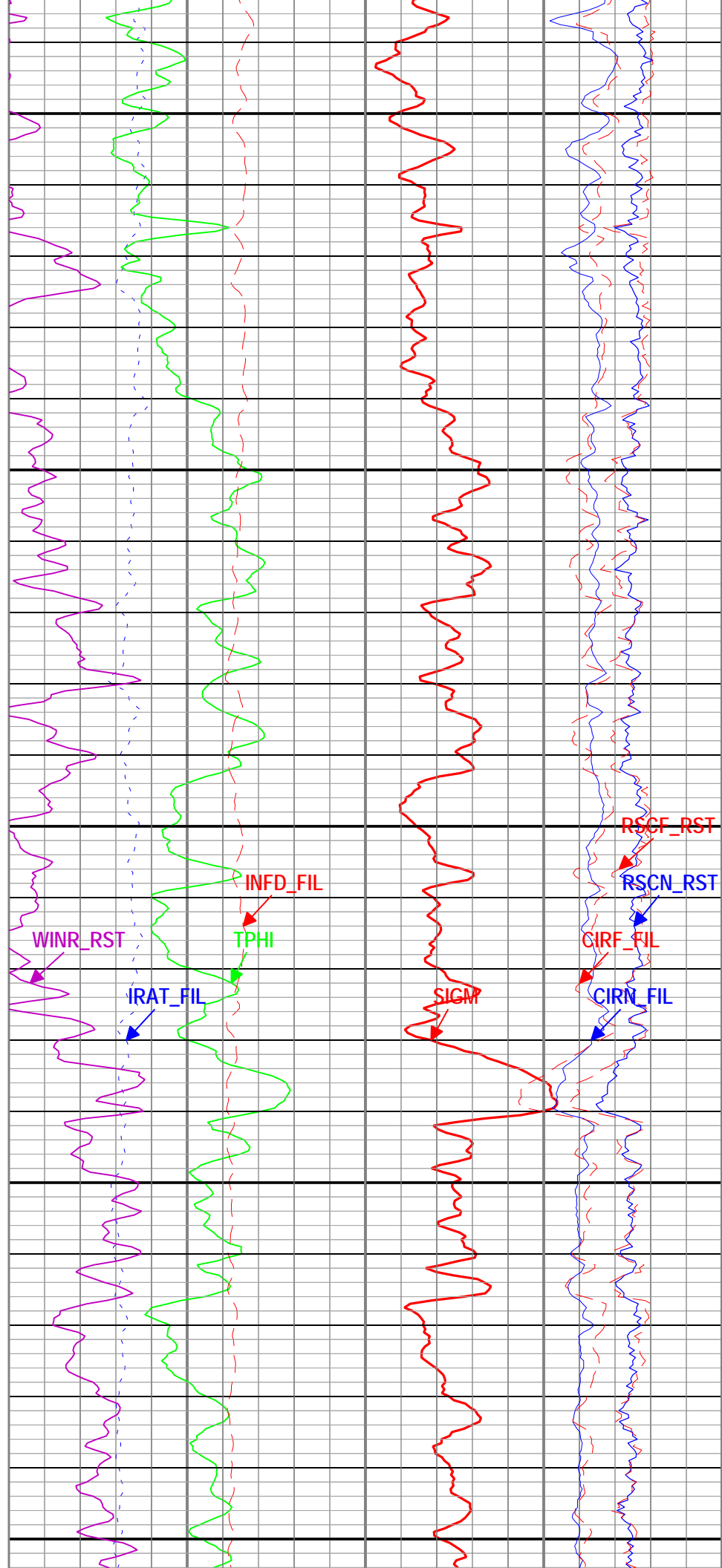
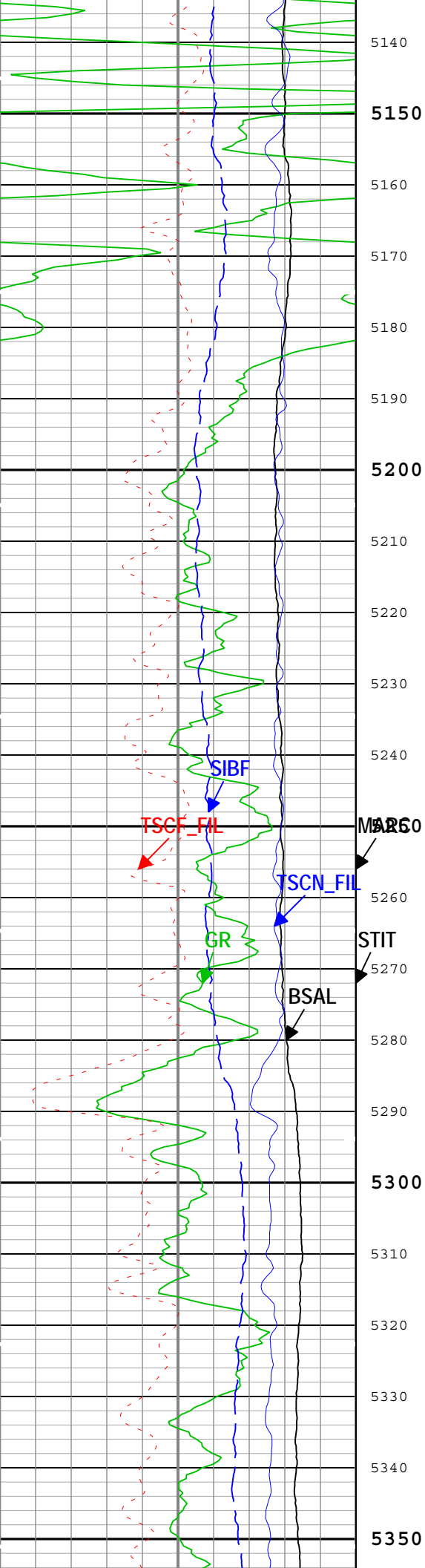


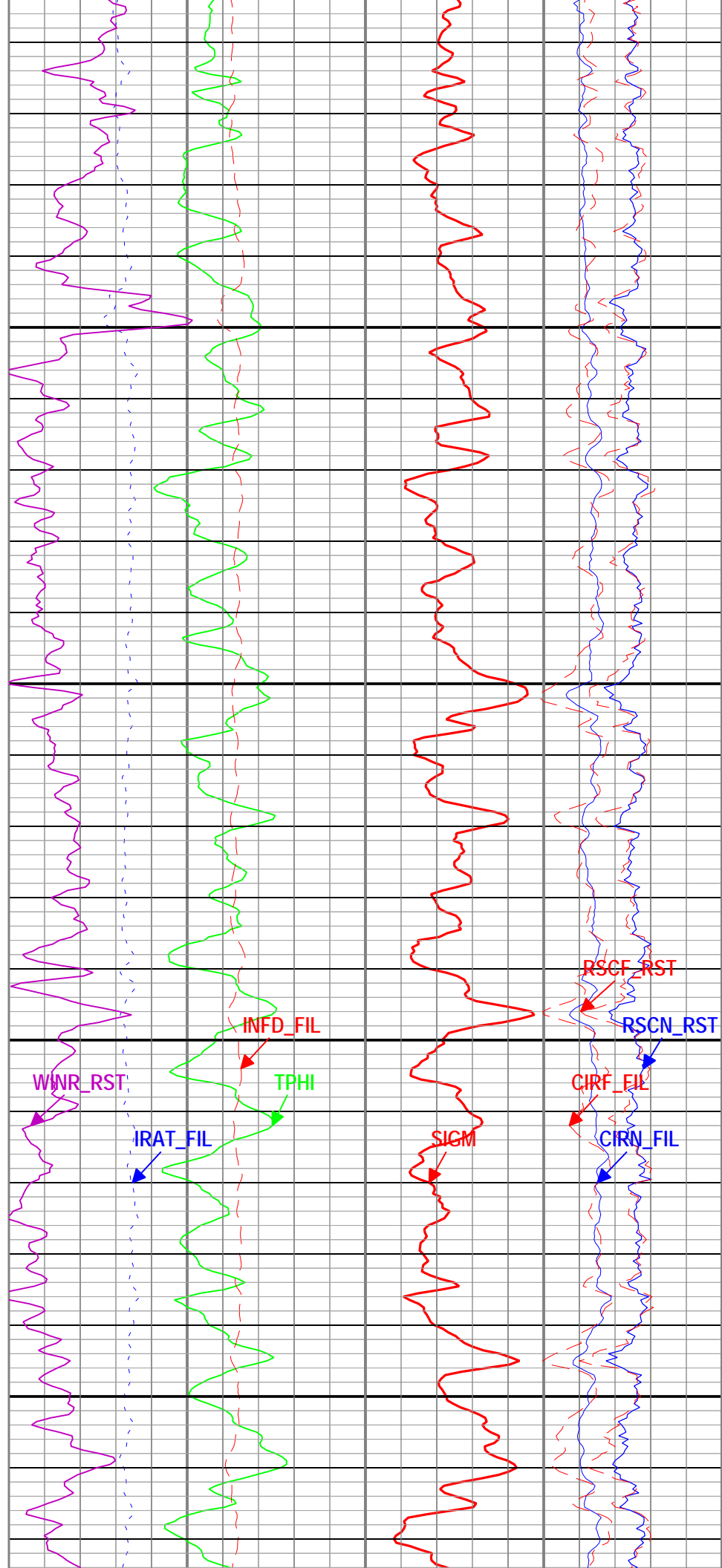
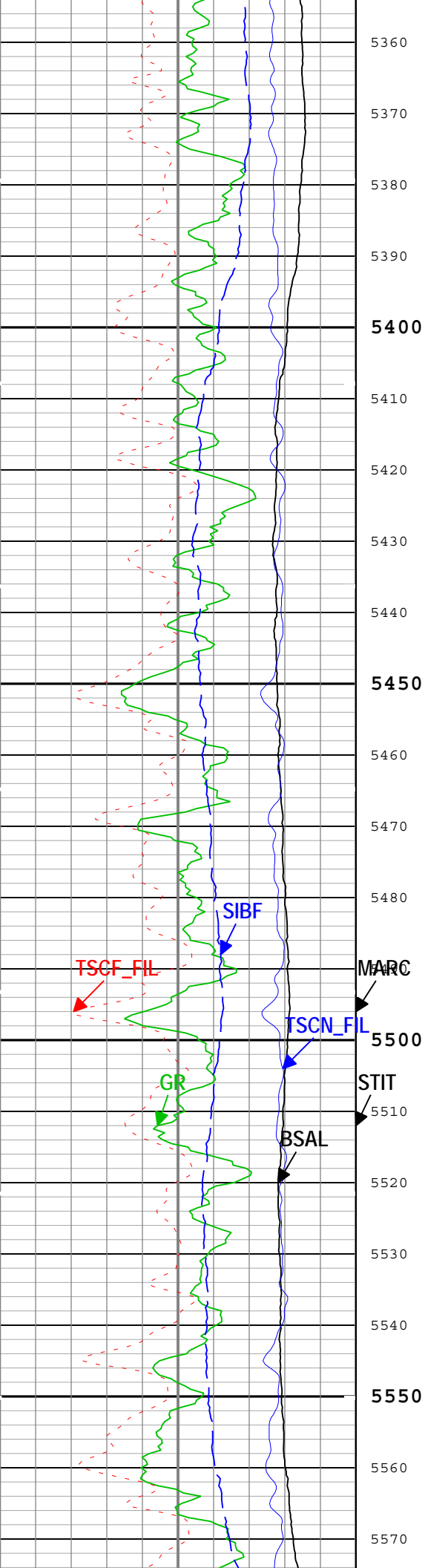


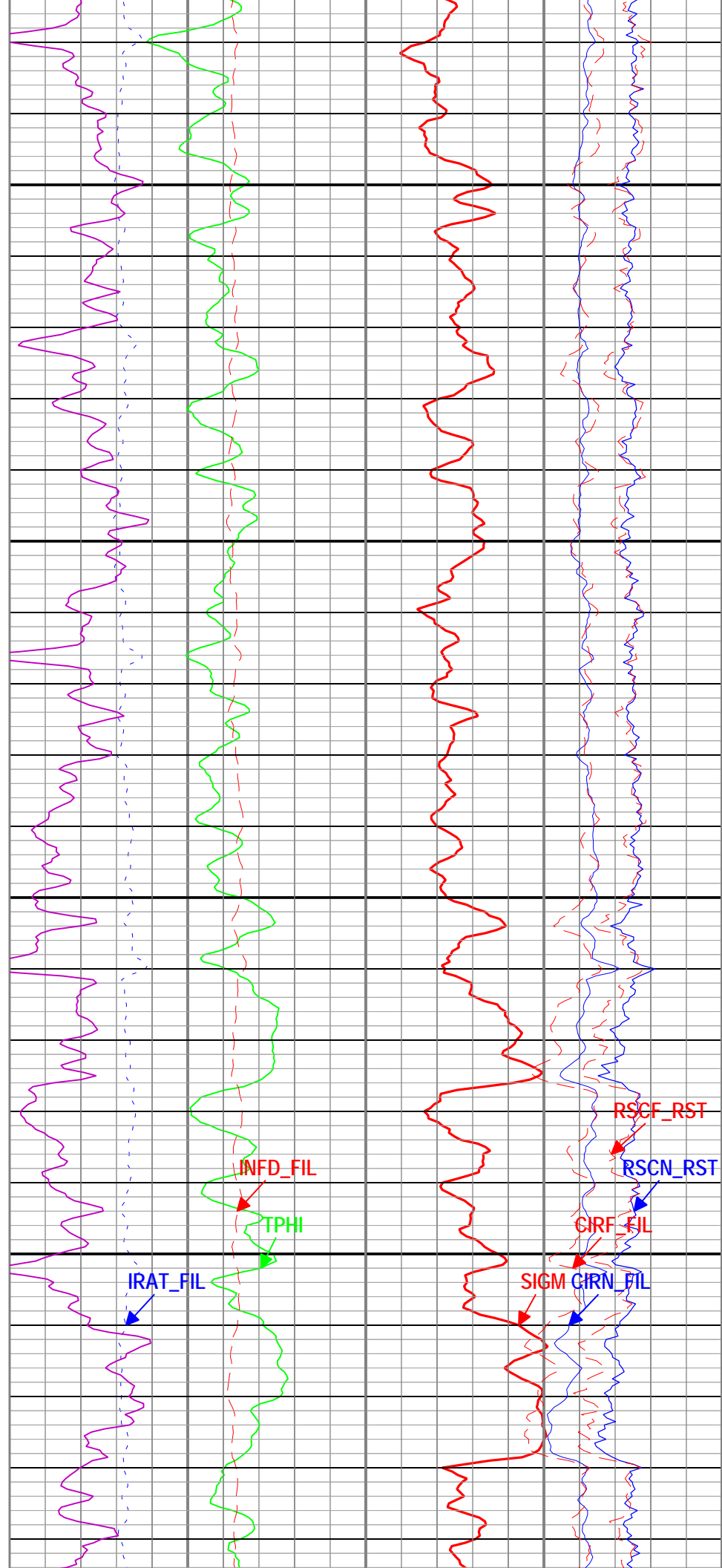
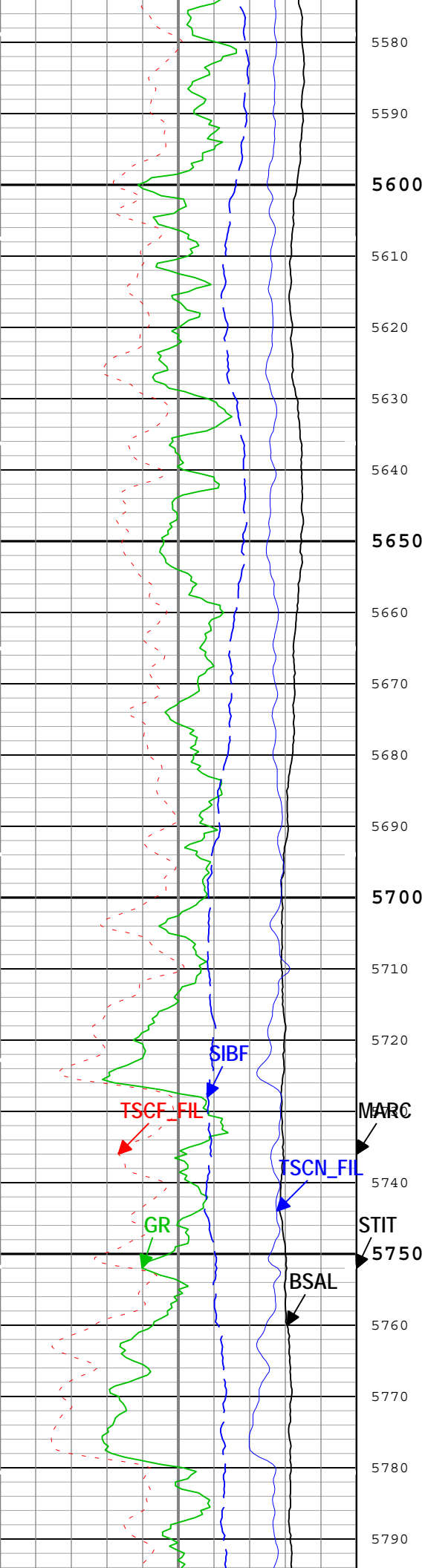


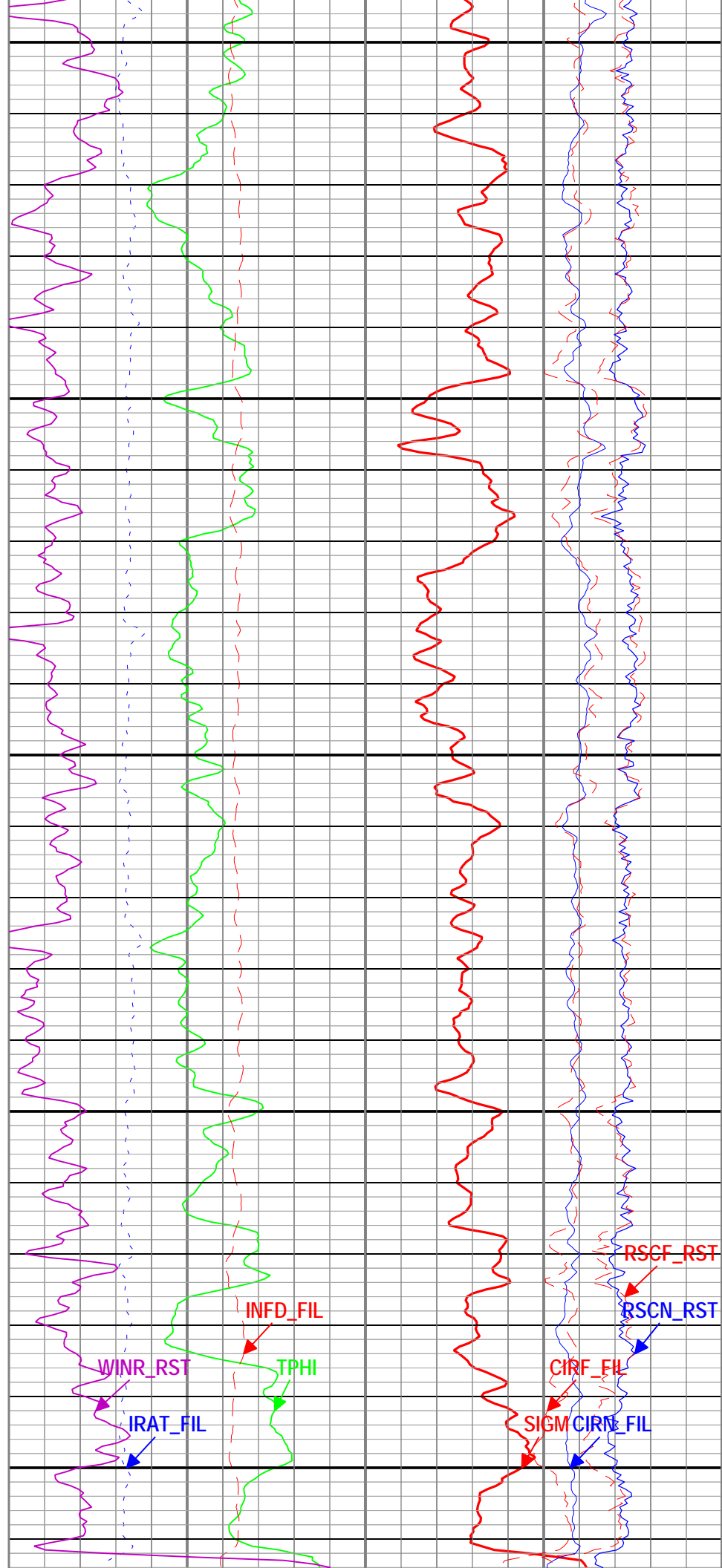
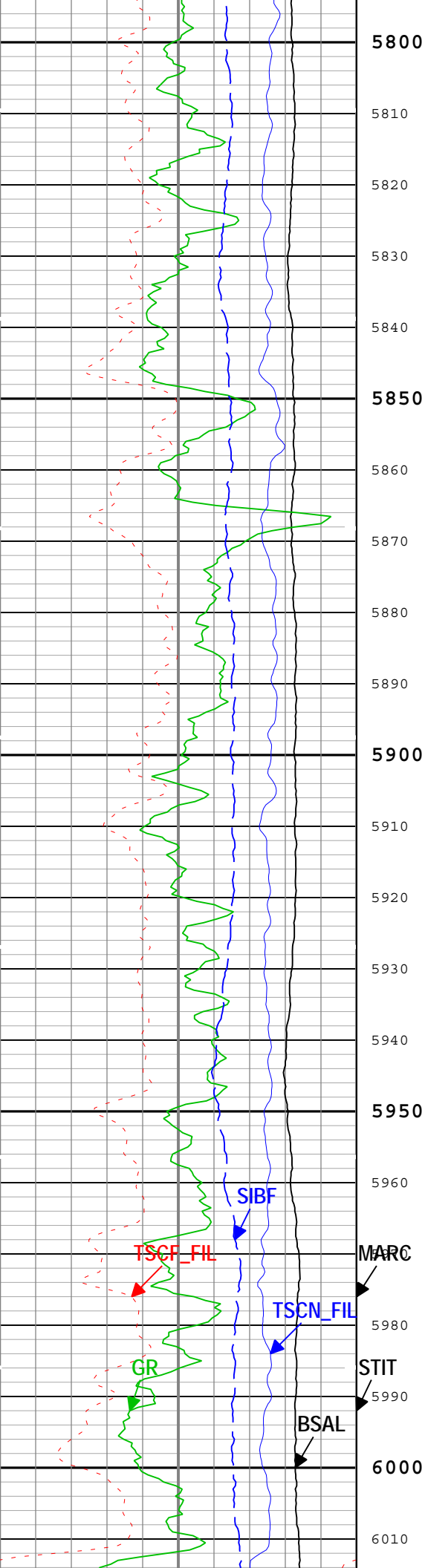


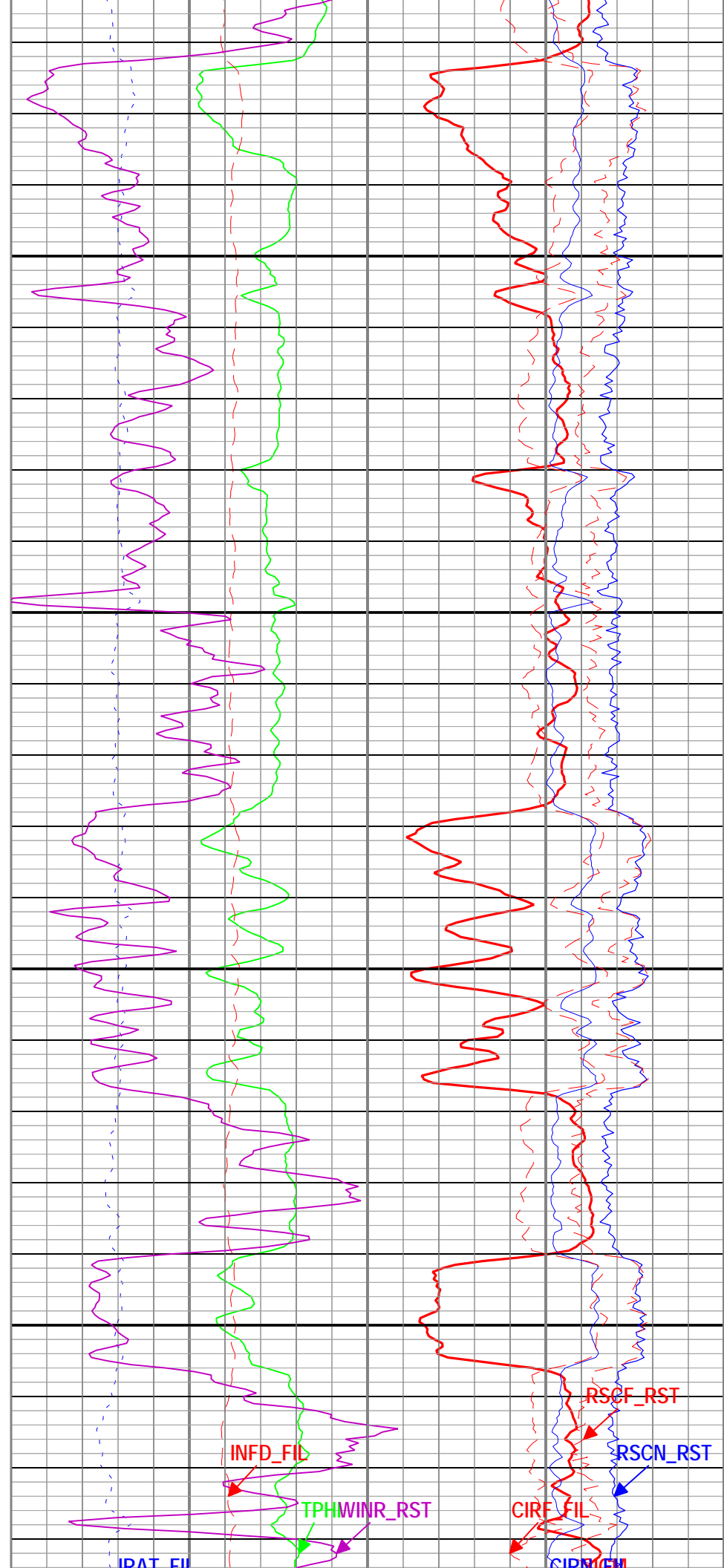
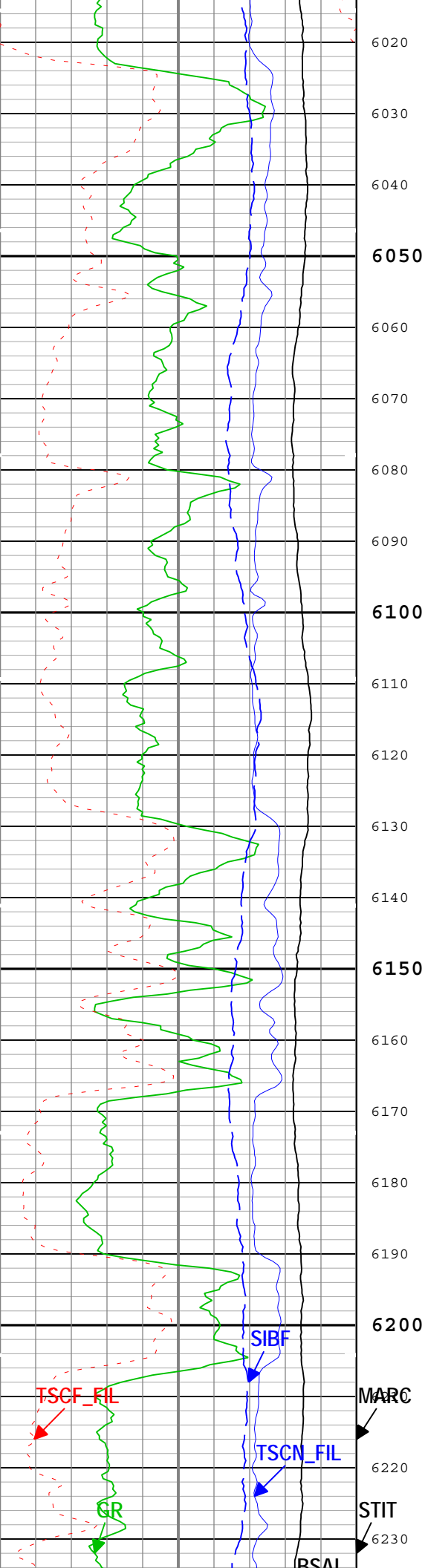


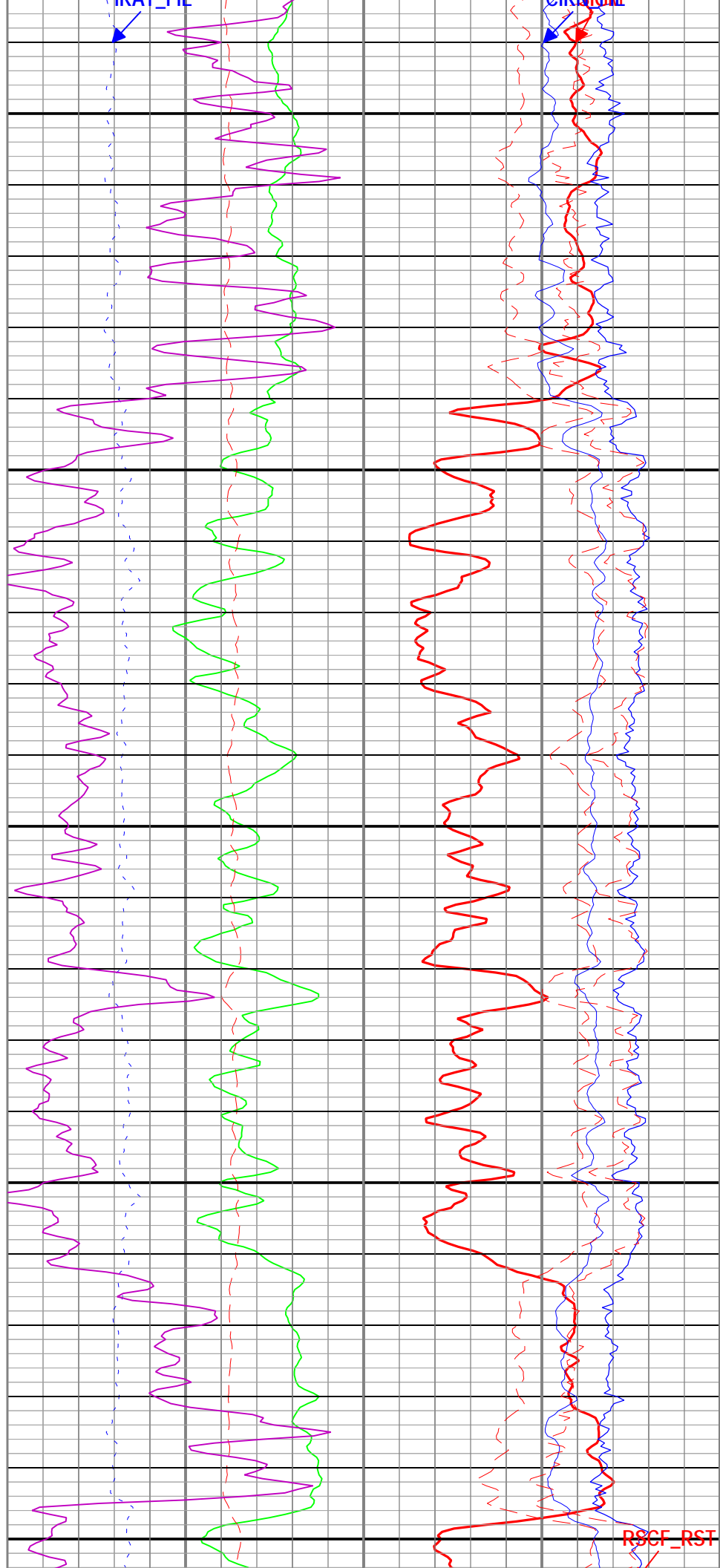
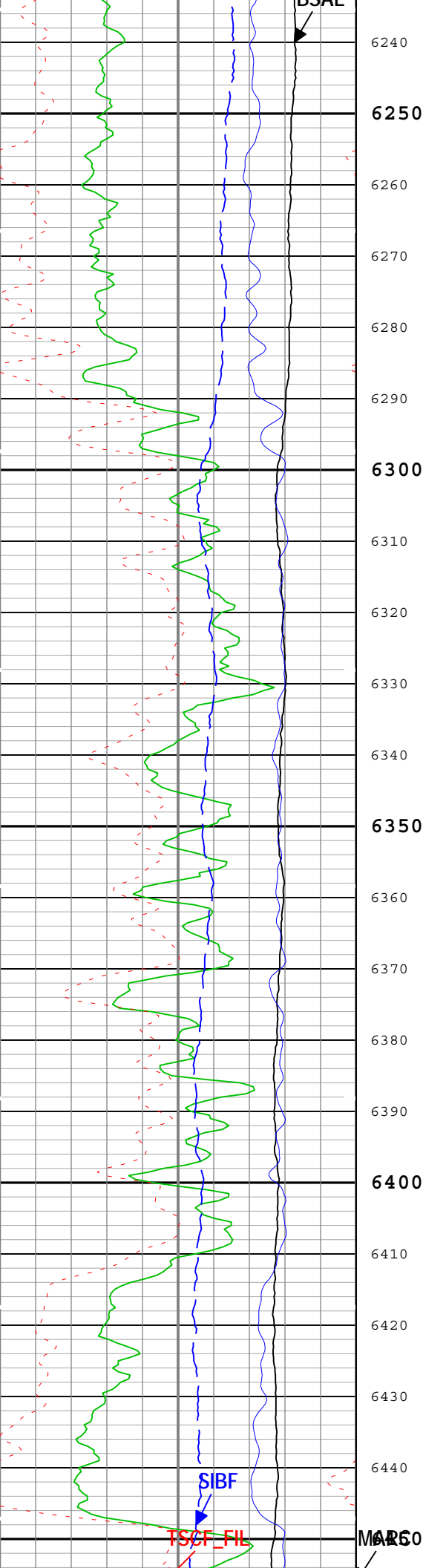


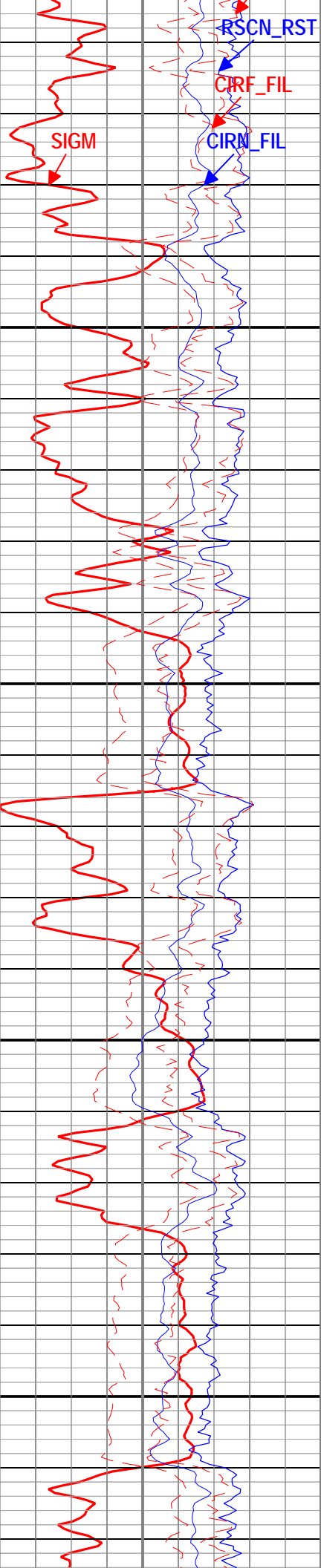
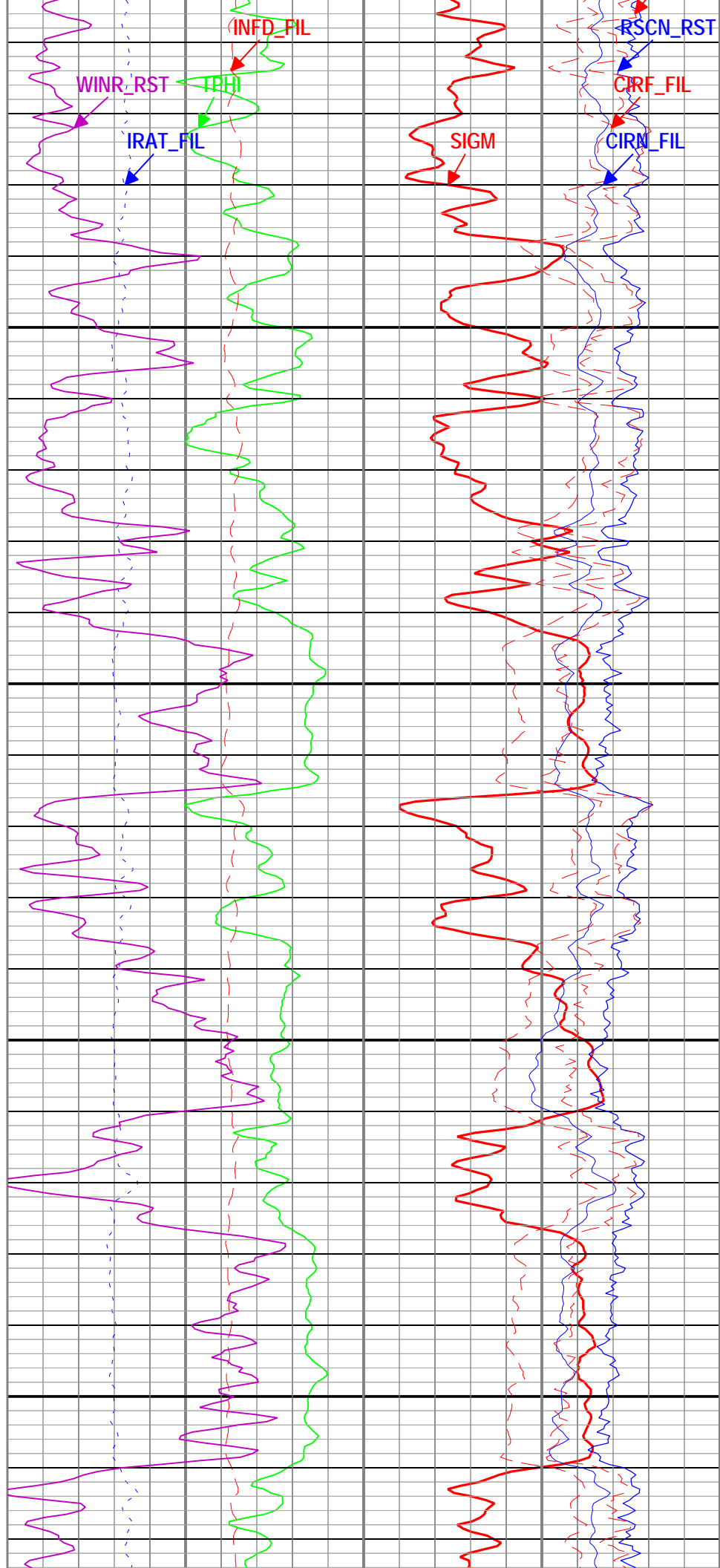
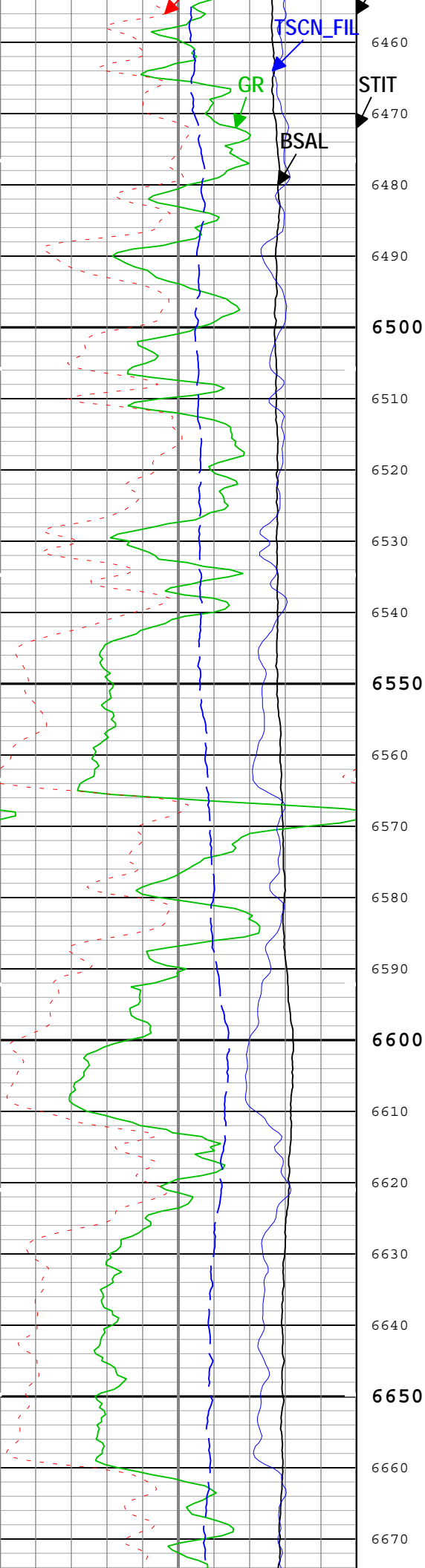


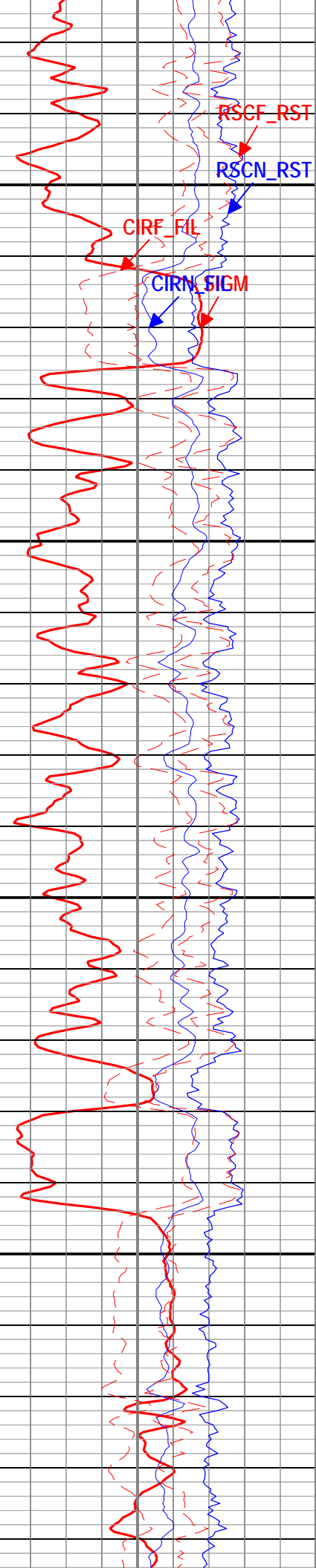
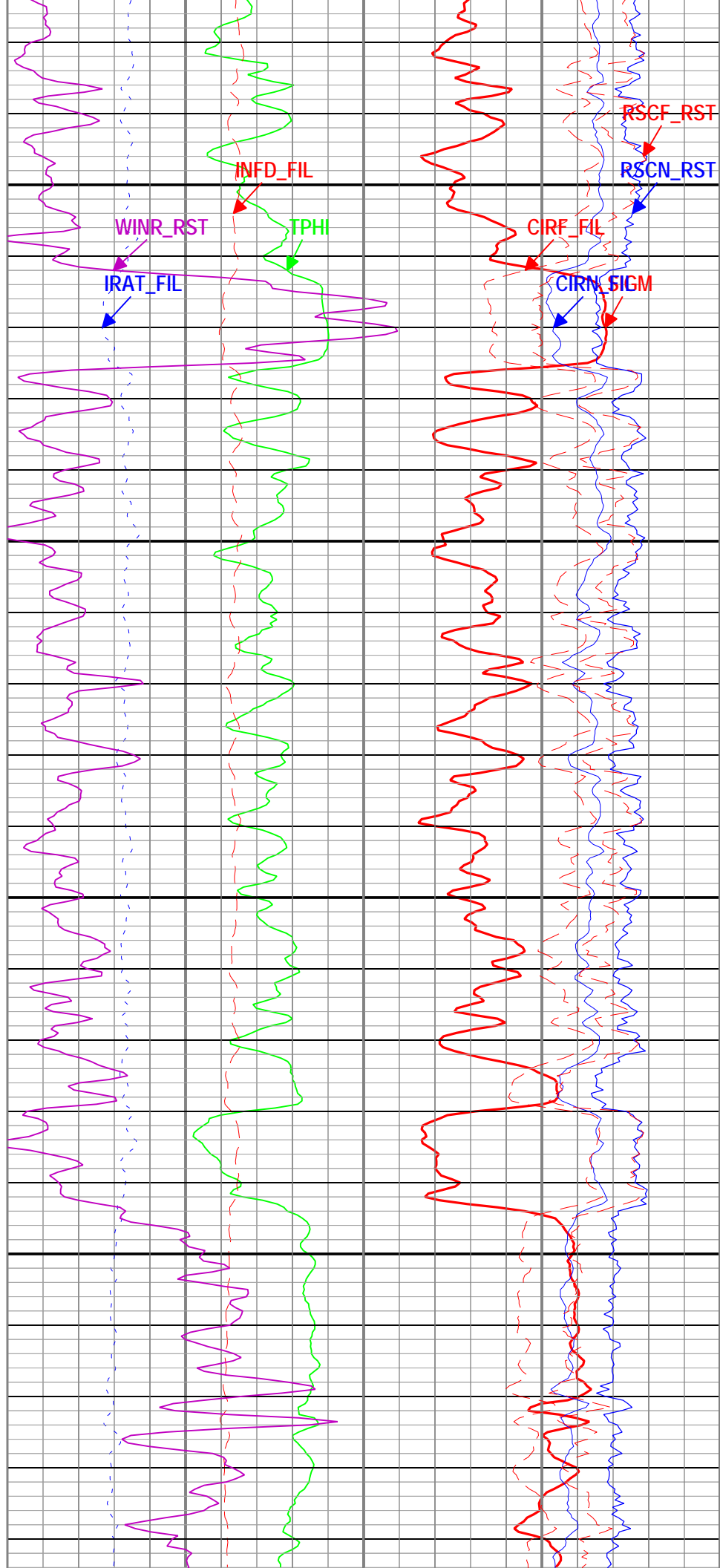
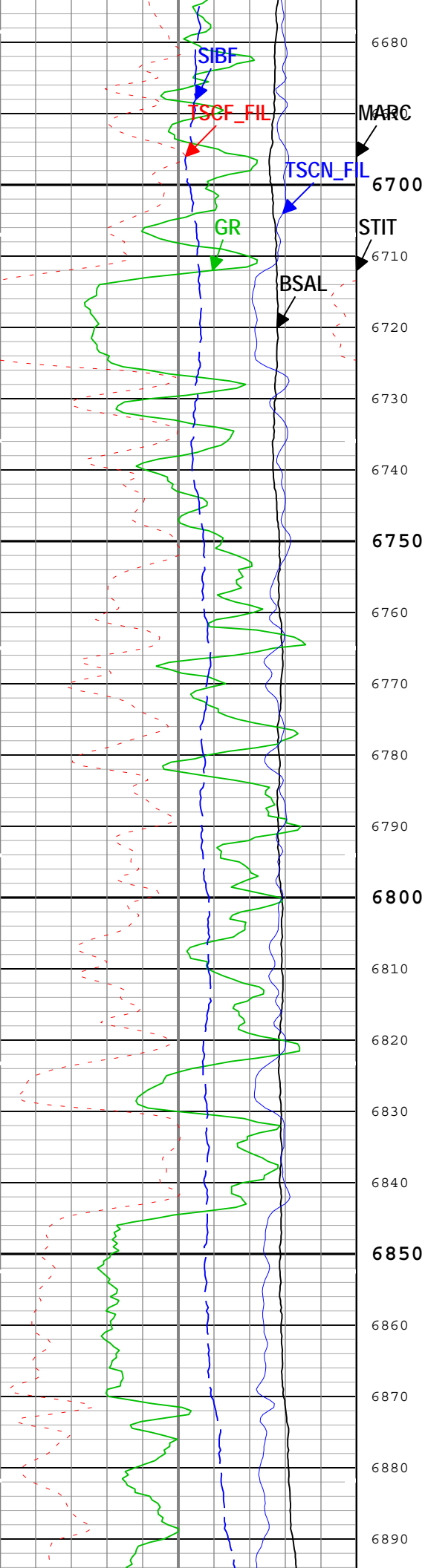


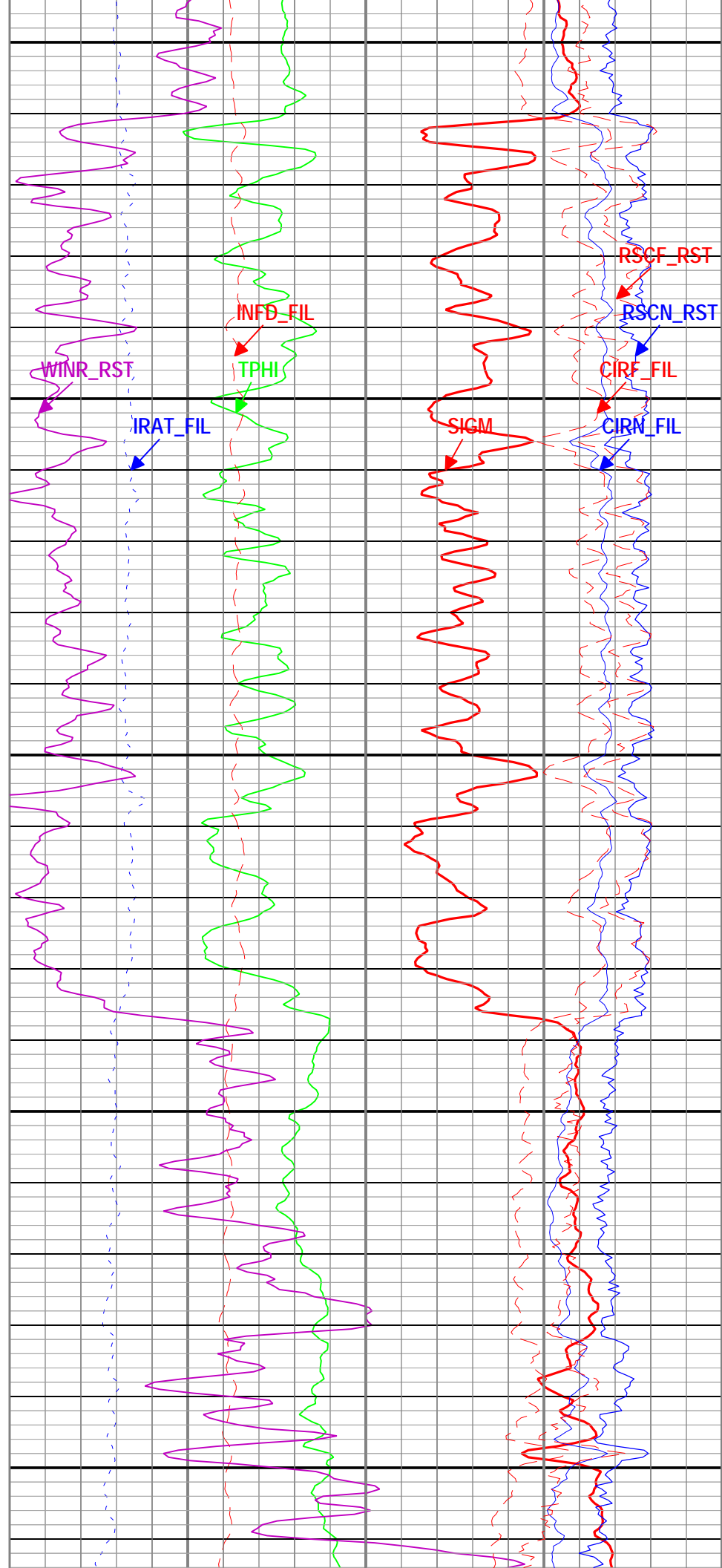
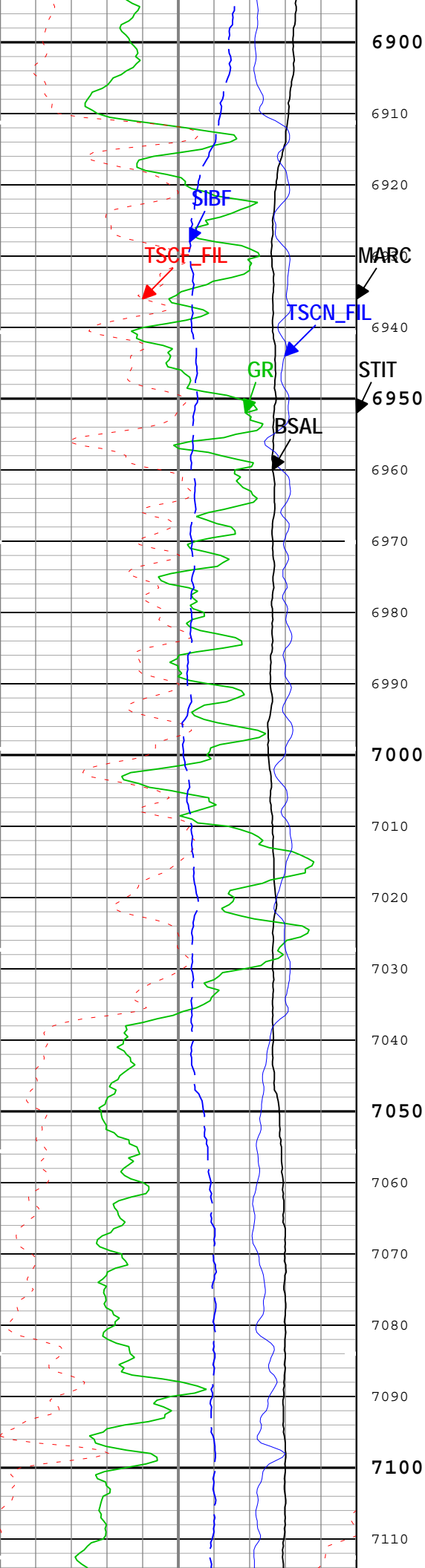


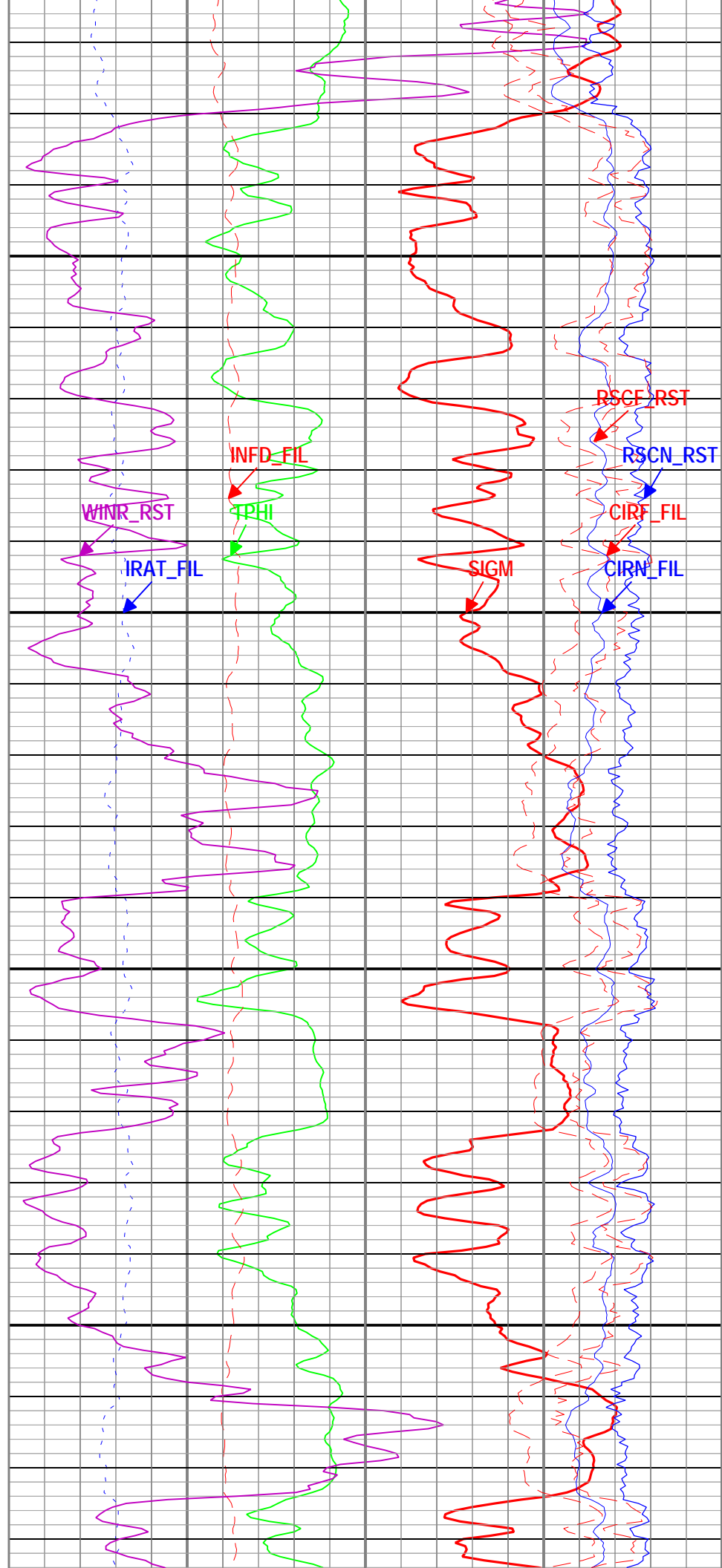
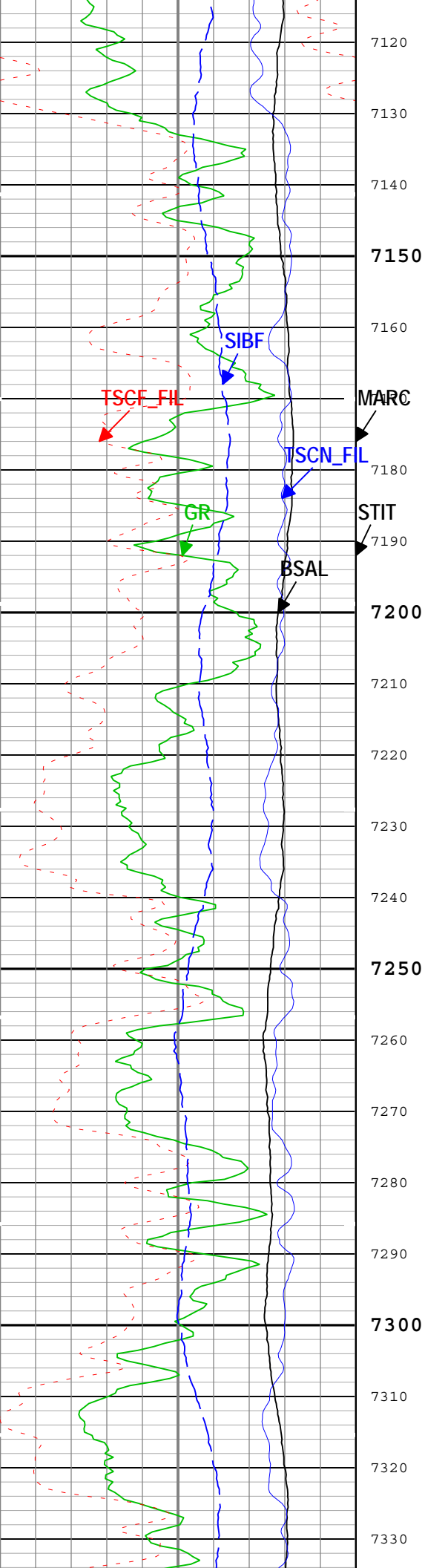


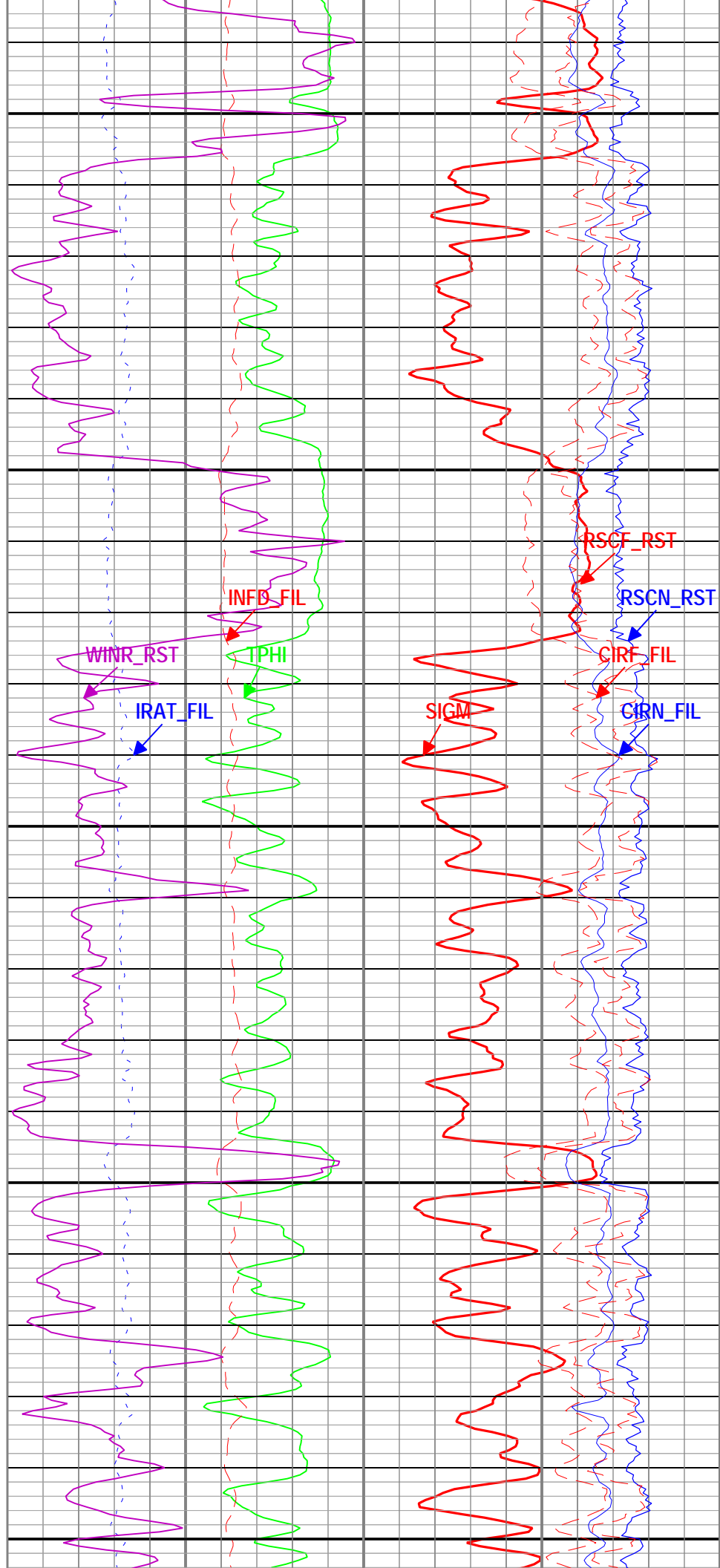
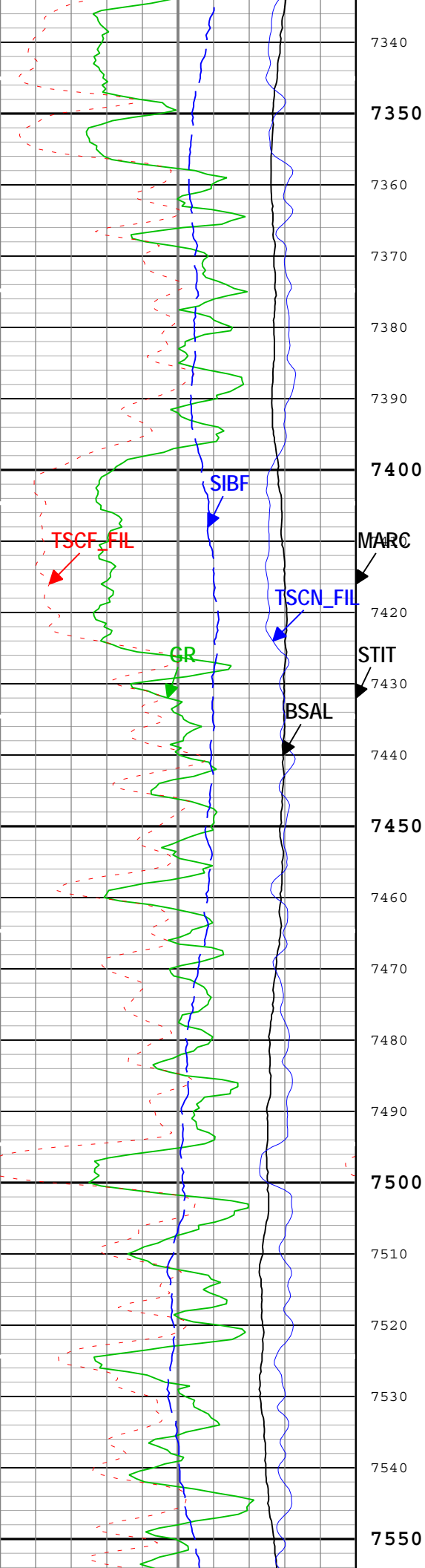


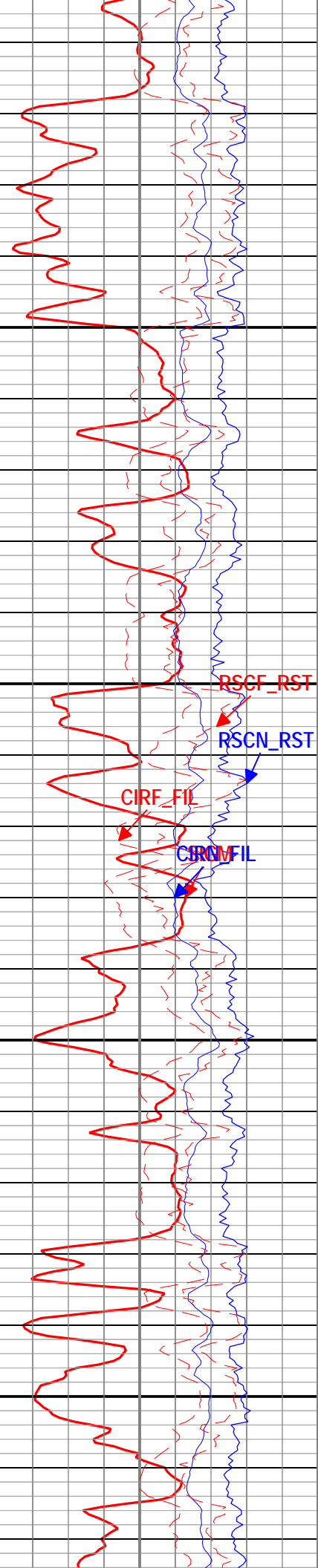
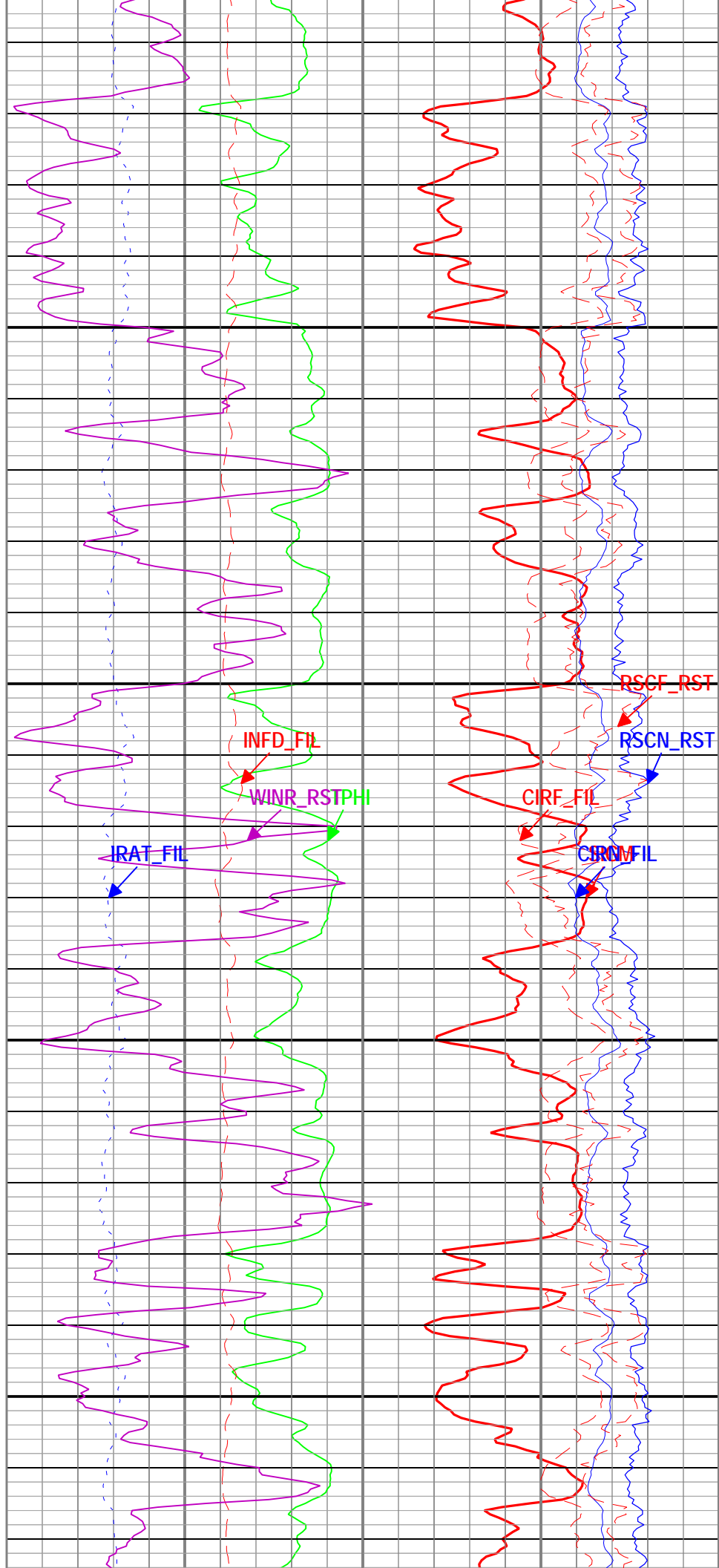
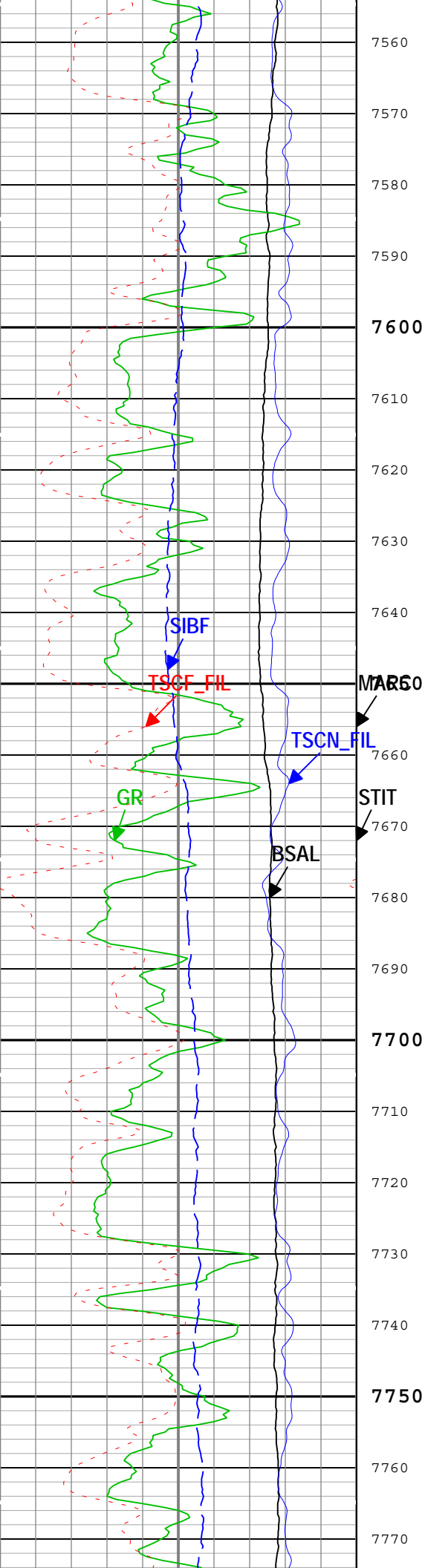


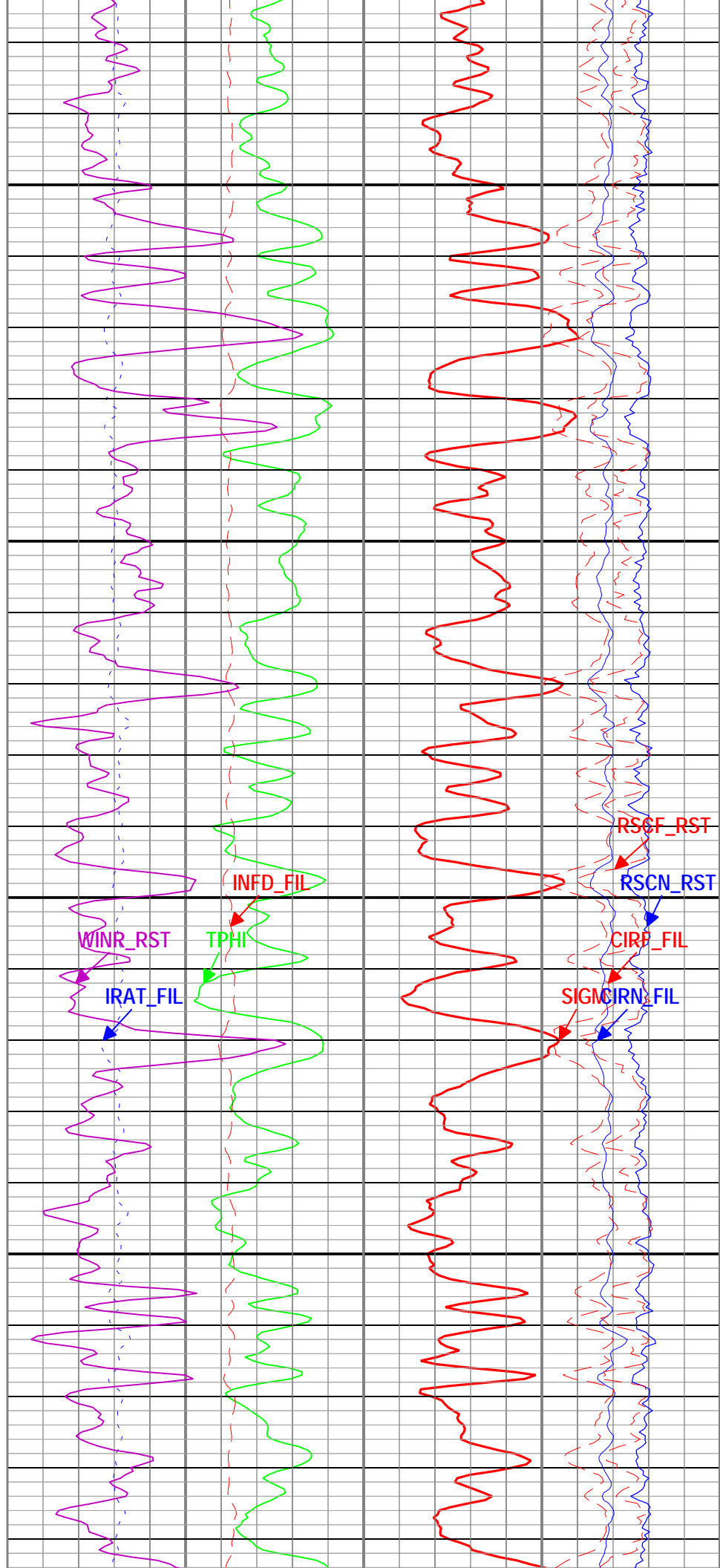
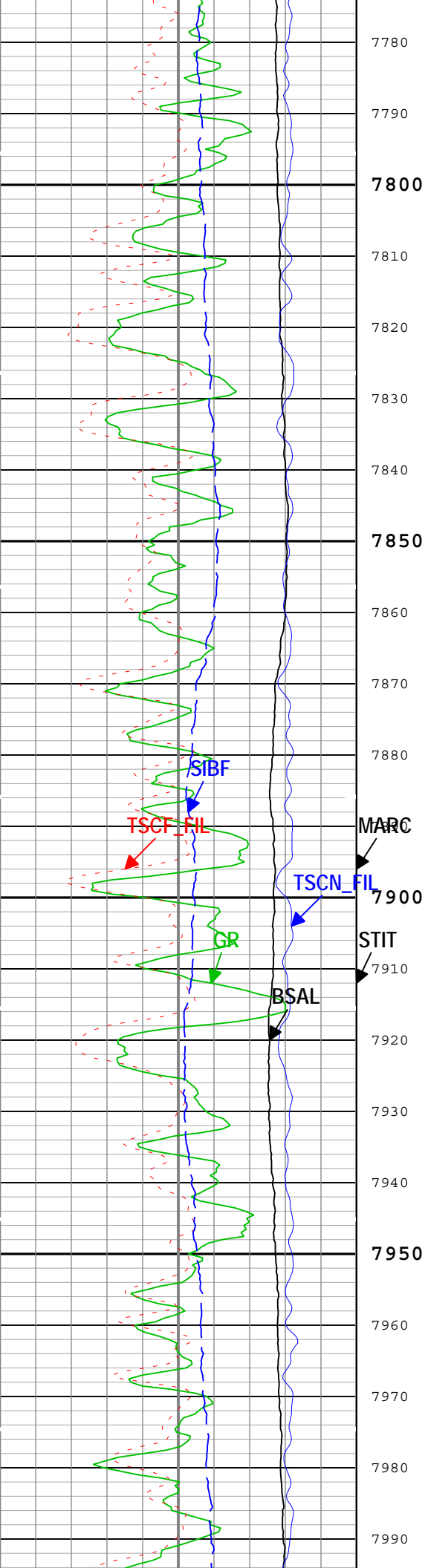


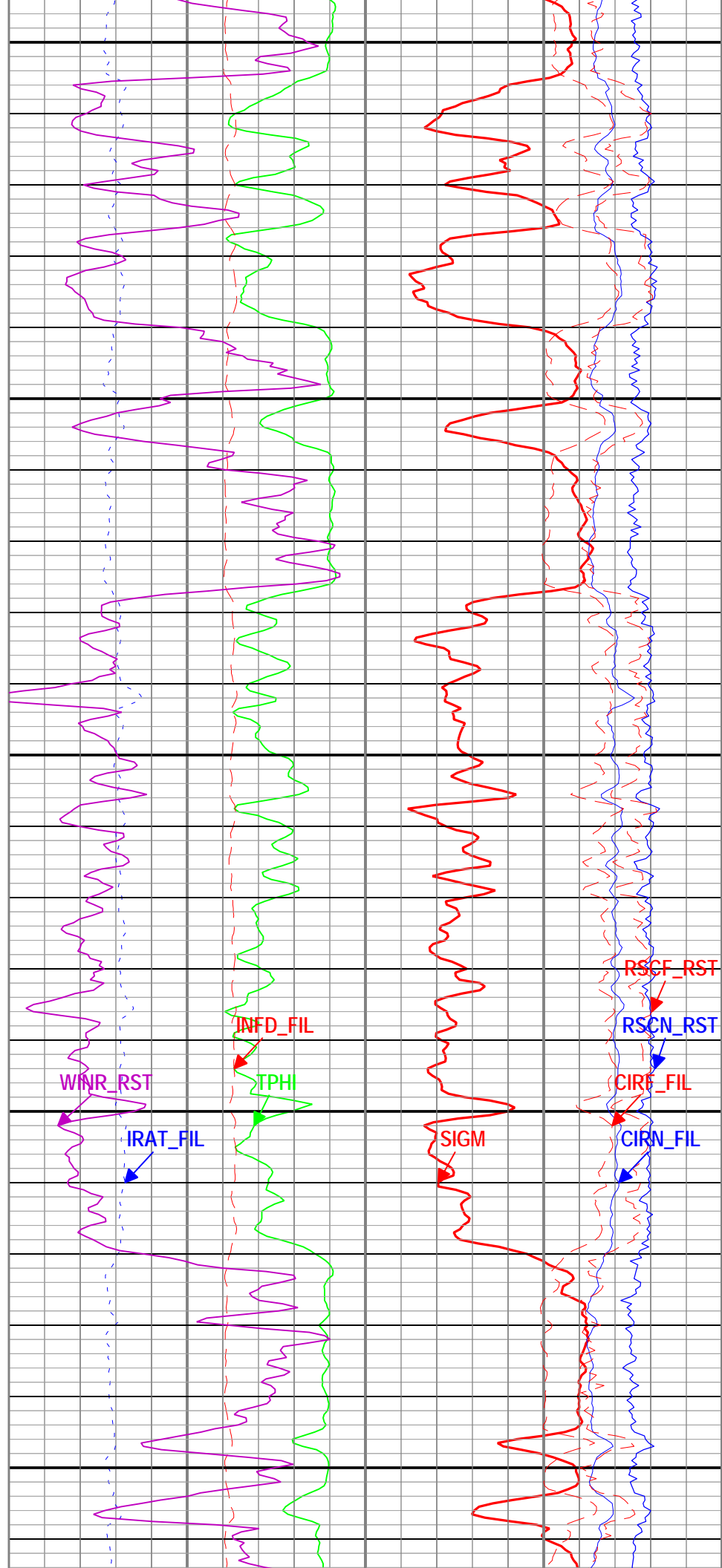
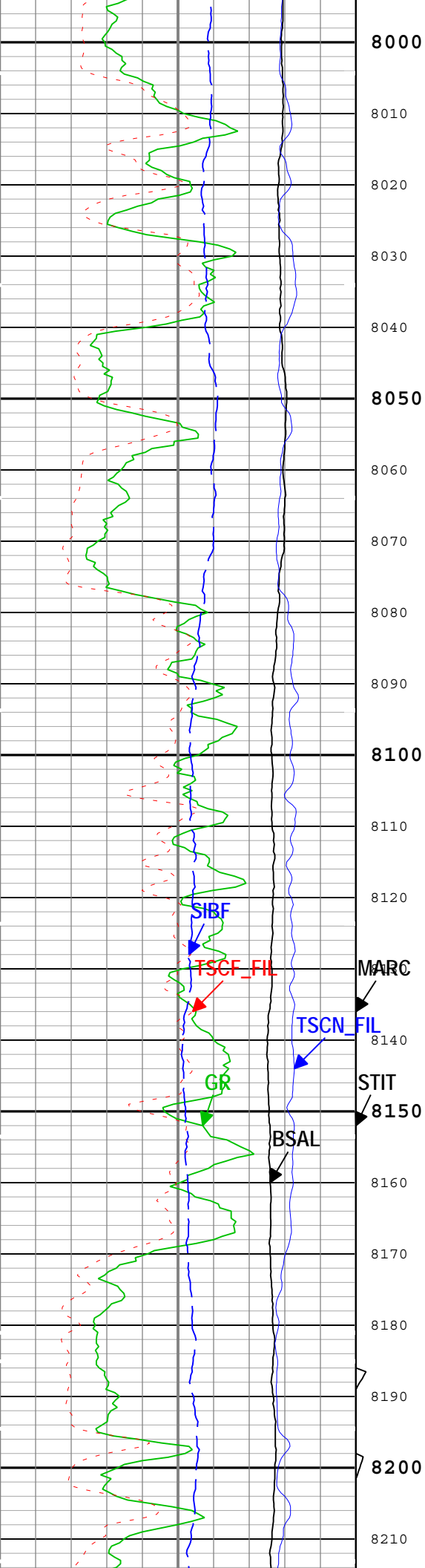


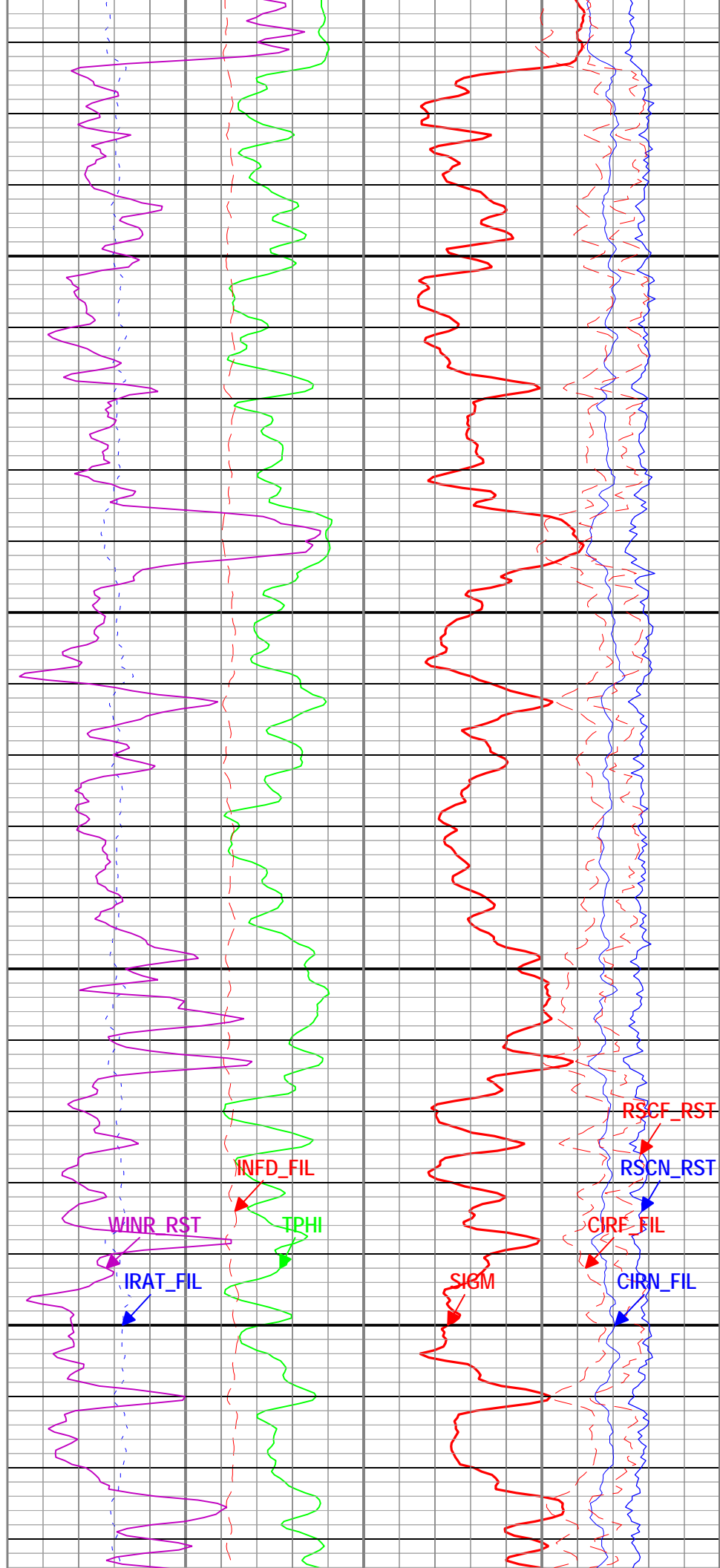
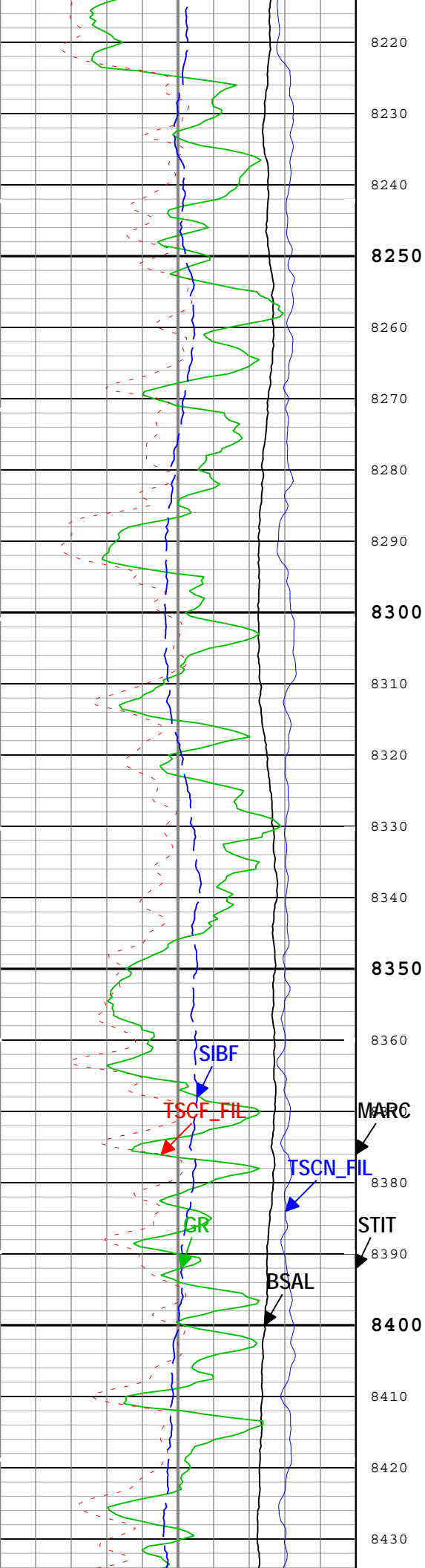


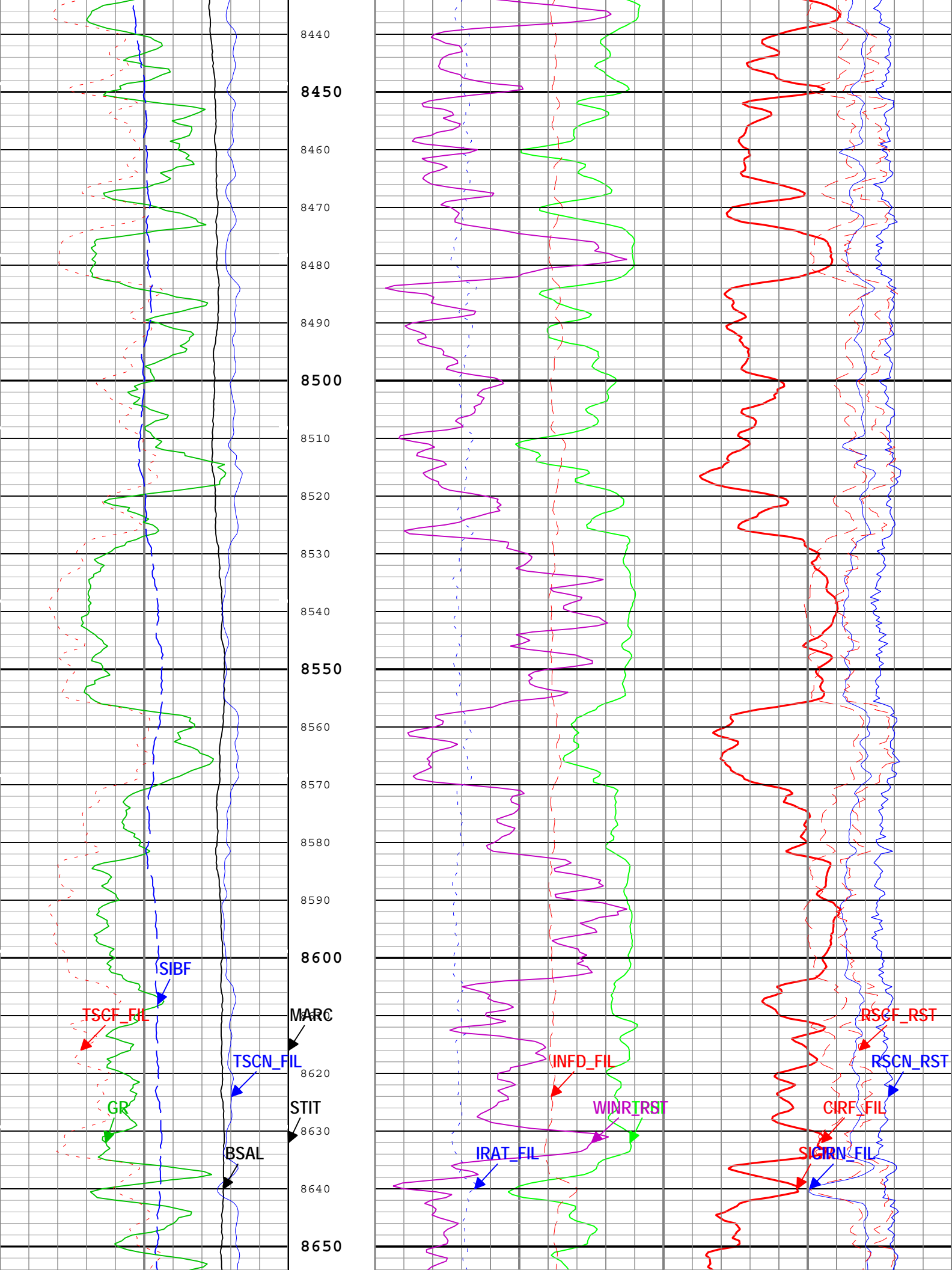


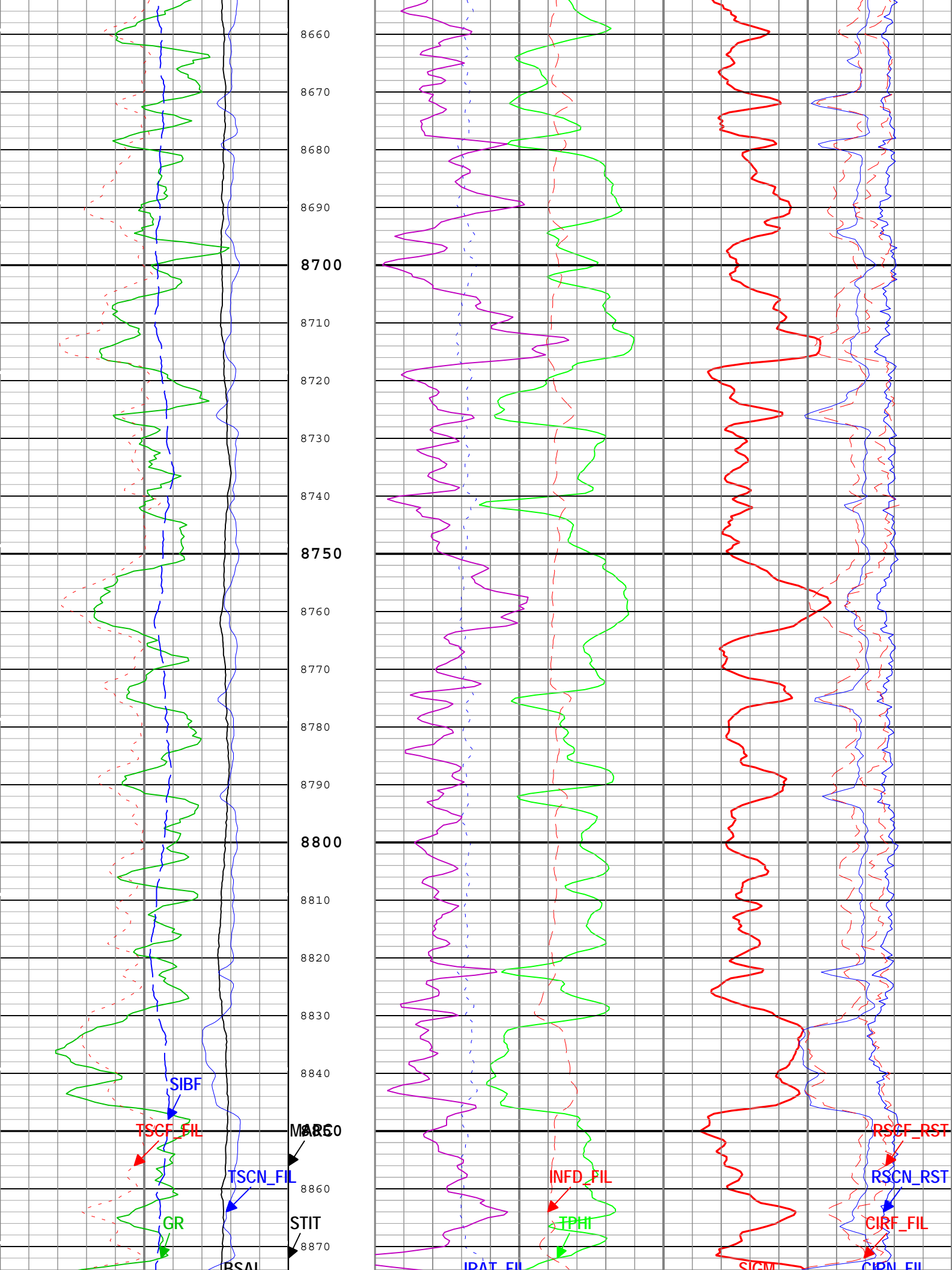


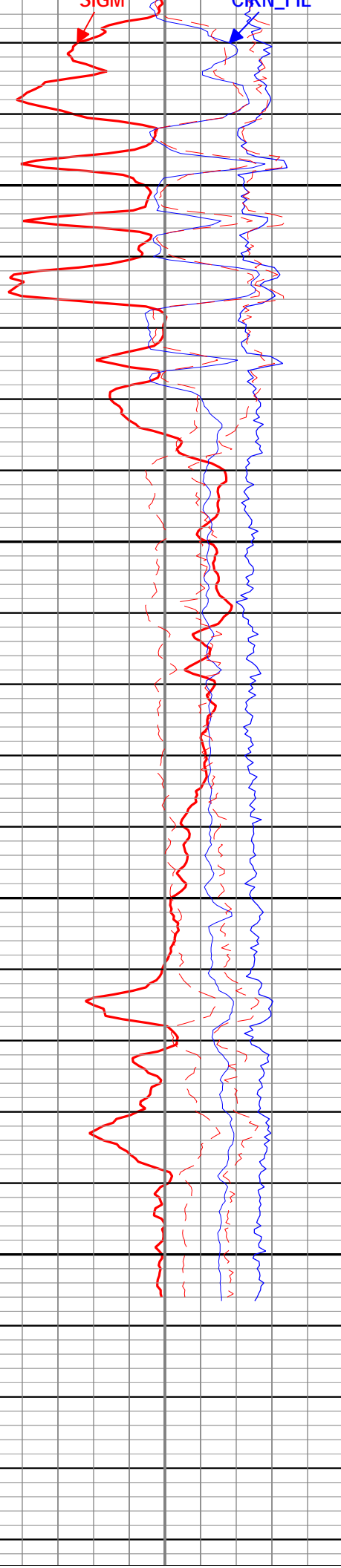
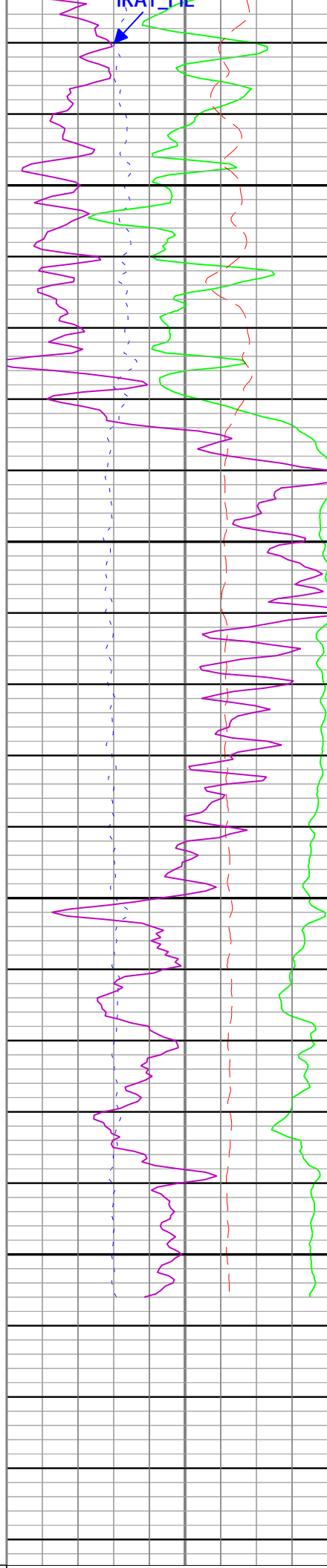
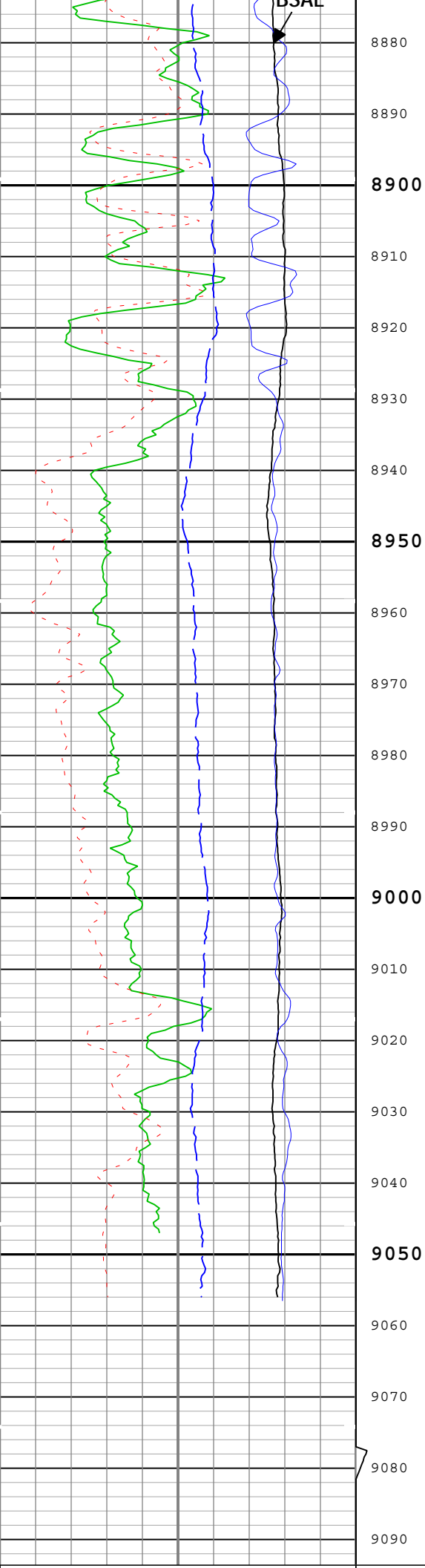






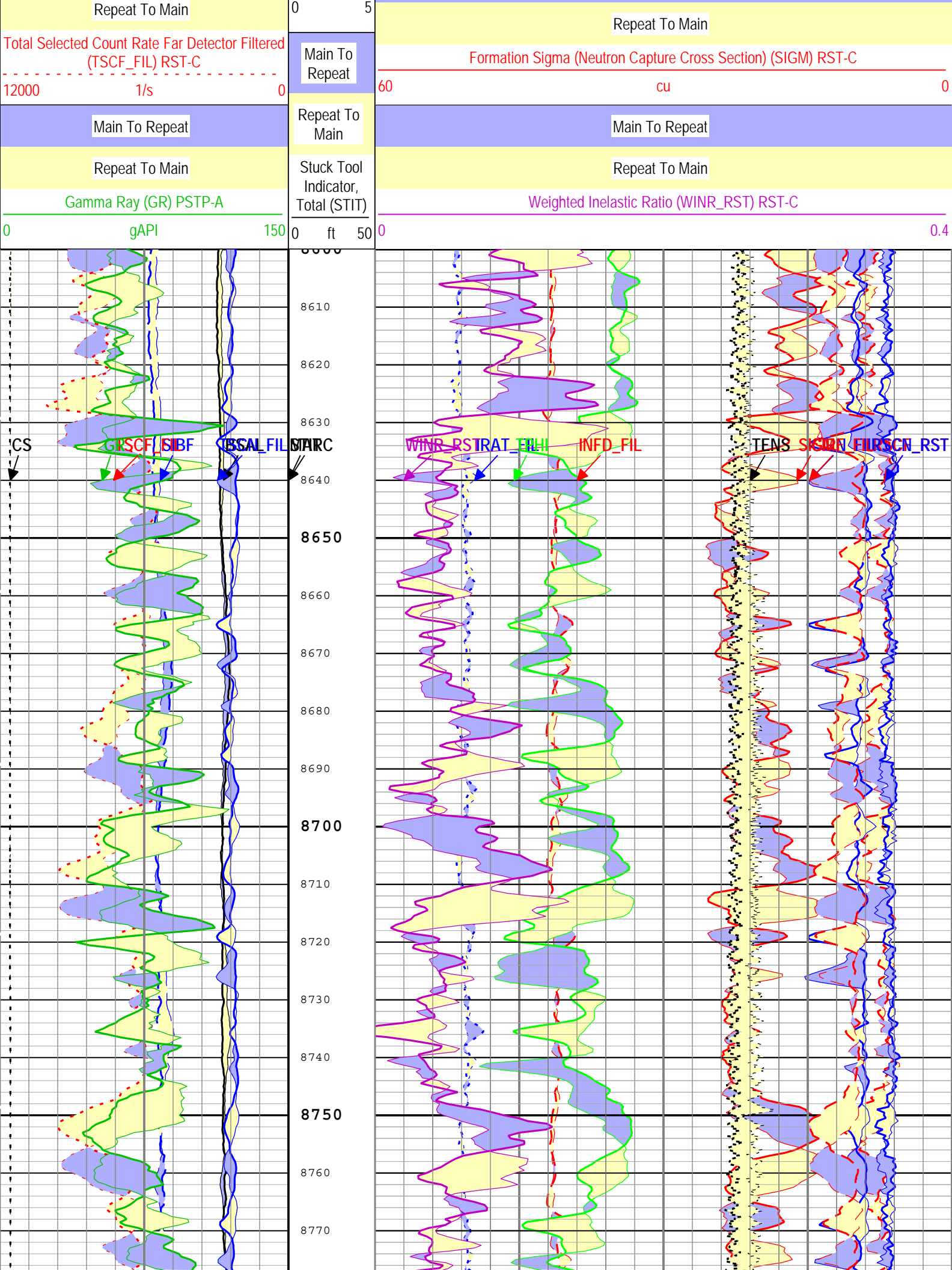


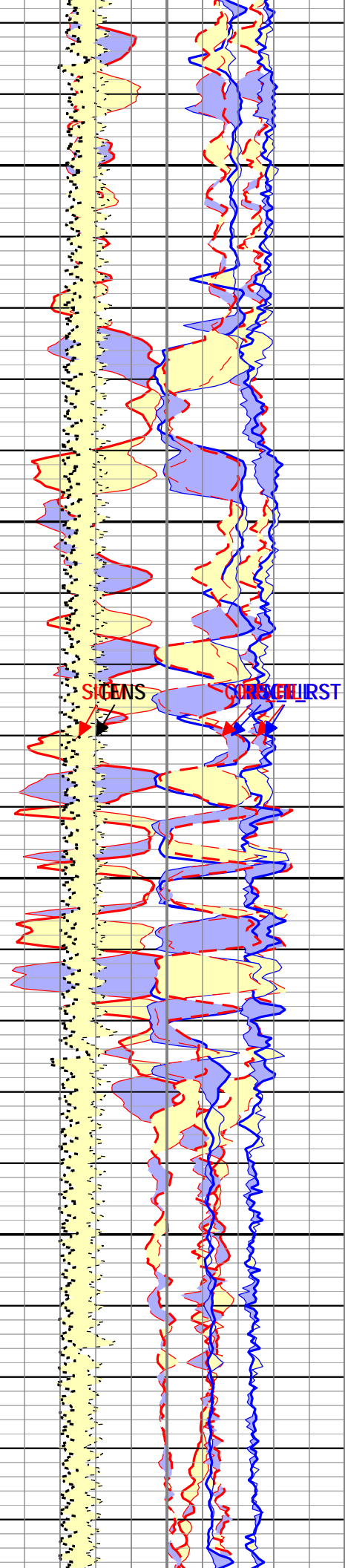
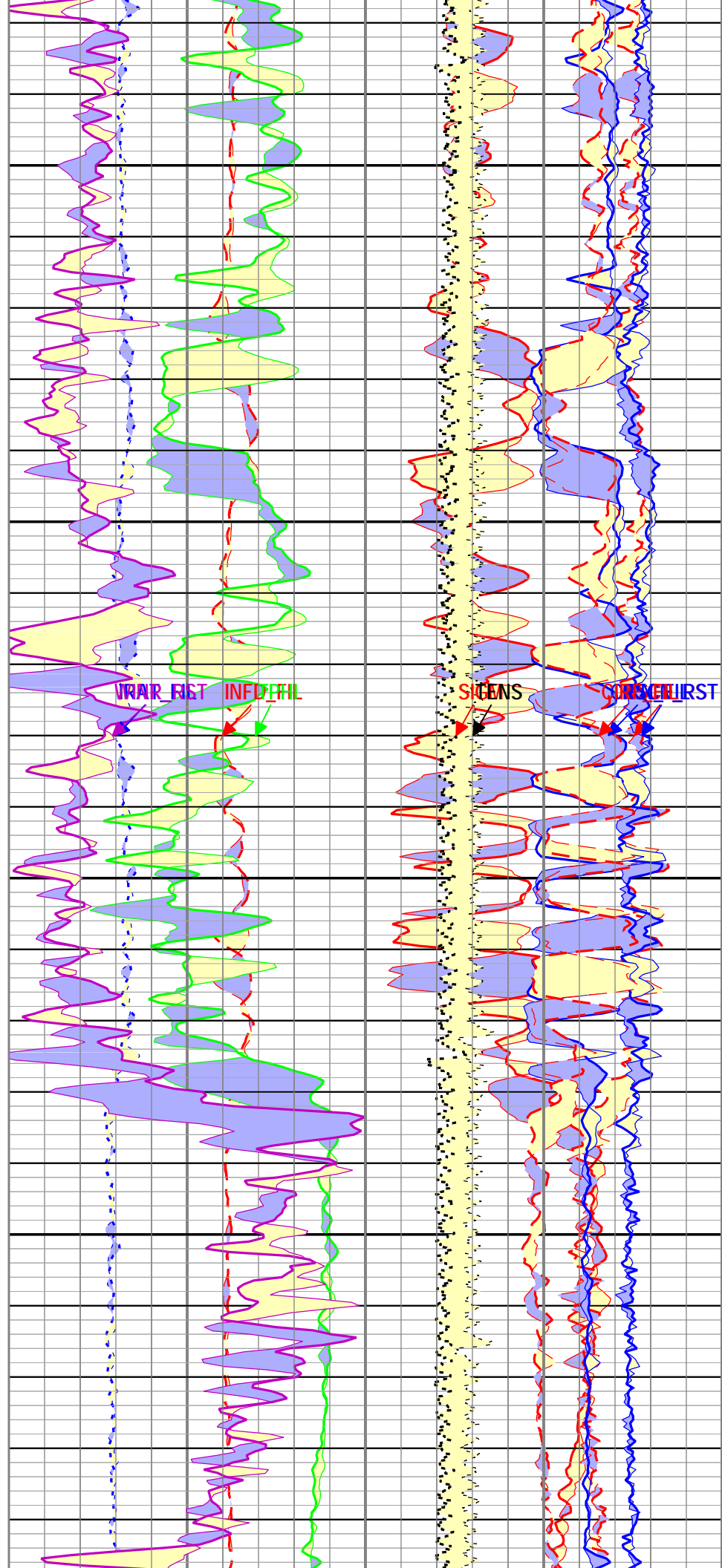
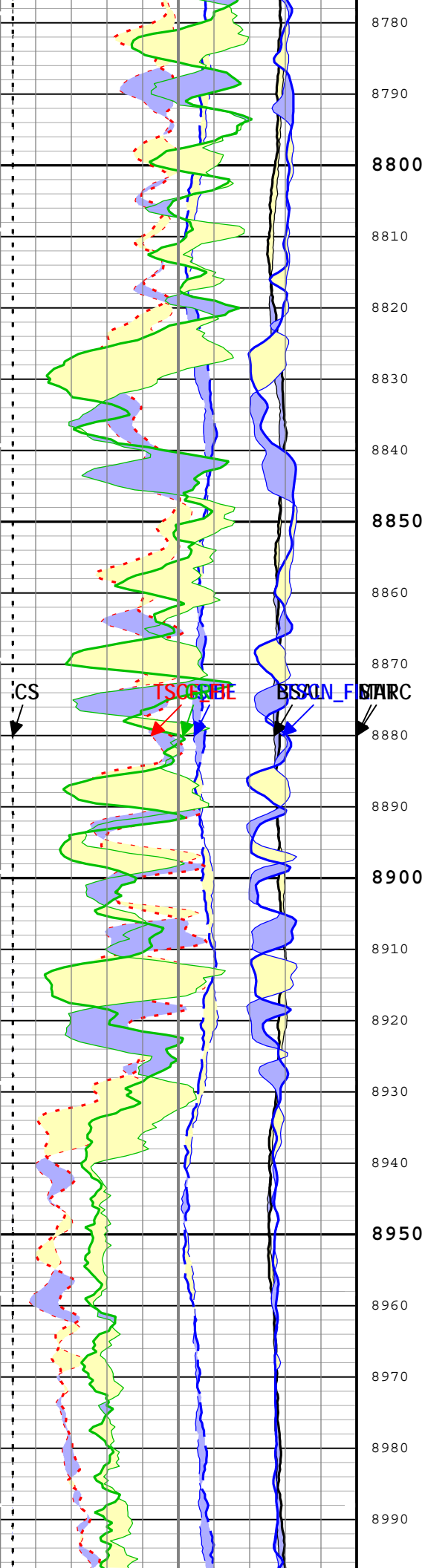


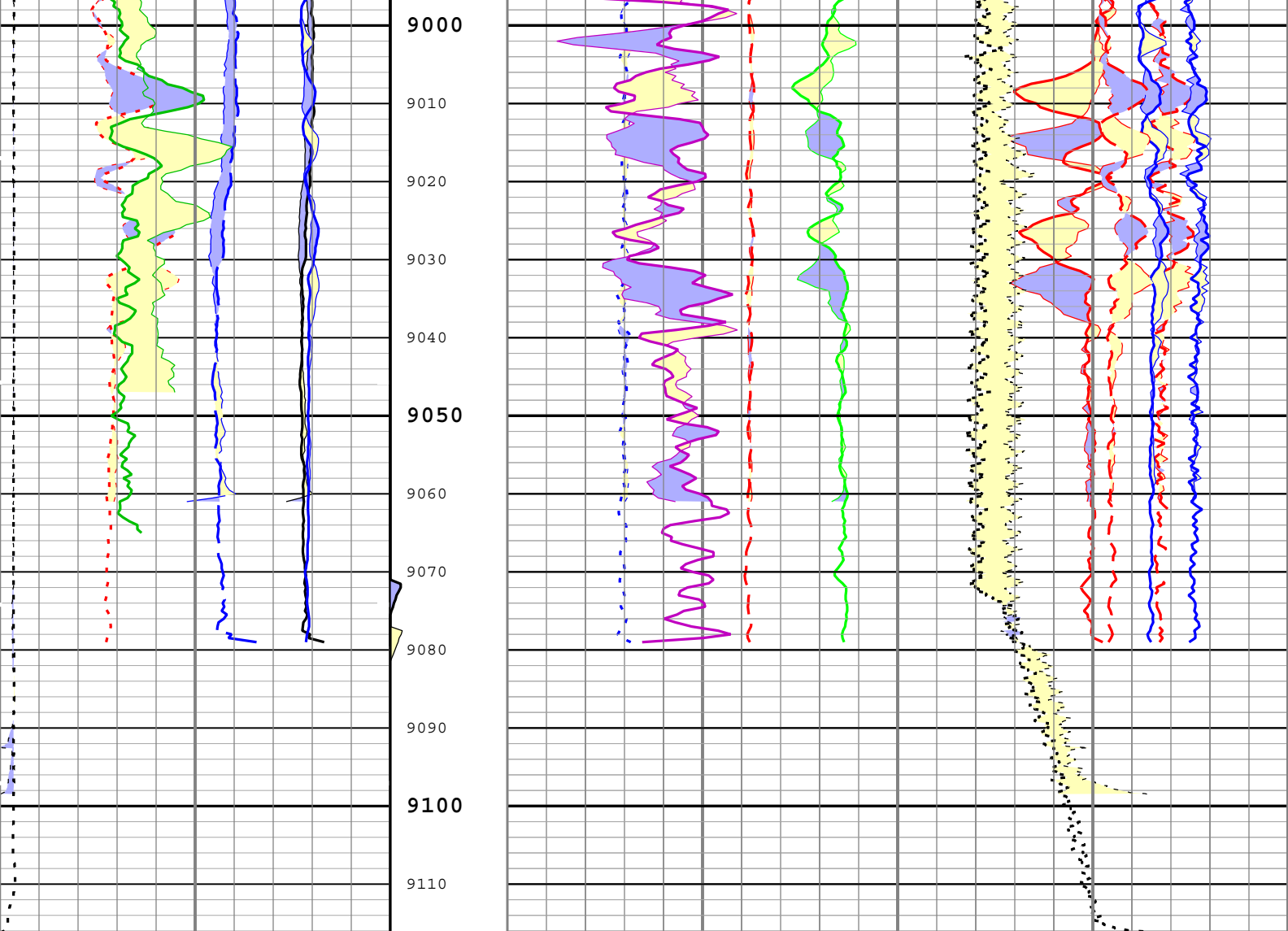


Borehole Salinity (BSAL) RST-C[1]			Stuck Tool Indicator, Total (STIT)	Formation Sigma (Neutron Capture Cross Section) (SIGM) RST-C[1]				
450	ppk	-50		60	cu		0	
Gamma Ray (GR) PSTP-A[1]			0	ft	50	Weighted Inelastic Ratio (WINR_RST) RST-C[1]		
0	gAPI	150					0	0.4
Total Selected Count Rate Near Detector 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]		5	0	
100	cu	0		10000	1/s	0	Near Detector Effective Unregulated Capture Count Rate (RSCN_RST) RST-C[1]	
						45	0	
						Far Detector Effective Unregulated Capture Count Rate (RSCF_RST) RST-C[1]		
						45	0	

Pass Summary									
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
ONE	Log[4]:Up	Up	8594.82 ft	9116.27 ft	22-Jul-2015 1:51:49 PM	22-Jul-2015 2:09:57 PM	ON	0.00 ft	No
ONE	Log[5]:Up	Up	3030.78 ft	9098.50 ft	22-Jul-2015 2:21:43 PM	22-Jul-2015 5:49:19 PM	ON	9.90 ft	No
All depths are referenced to toolstring zero									
Log	Company:Caerus Piceance LLC						Well:Puckett 41B-2		
ONE: Log[5]:Up:S005									
Description: RST SIGMA Answer Format: Log (RST SIGMA Answer RA) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth									
Creation Date: 22-Jul-2015 18:37:54									
└─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)									
Main To Repeat									
Repeat To Main									
Borehole Salinity (BSAL) RST-C									
450	ppk	-50							
Main To Repeat									
Repeat To Main									
Sigma Borehole Fluid (SIBF) RST-C									
100	cu	0							
Main To Repeat									
Repeat To Main									
Cable Speed (CS)									
0	ft/h	50000							
Main To Repeat			Main To Repeat						
Repeat To Main			Repeat To Main						
Total Selected Count Rate Near Detector Filtered (TSCN_FIL) RST-C			Gross Inelastic Count Rate Far Detector Filtered (INFD_FIL) RST-C		Capture to Inelastic Ratio Near Filtered (CIRN_FIL) RST-C				
30000	1/s	0	10000 1/s 0		2.5 0				
Main To Repeat			Main To Repeat		Main To Repeat				
Repeat To Main			Repeat To Main		Repeat To Main				
Minitron Arc Count (MARC) RST-C			Inelastic Ratio Filtered (IRAT_FIL) RST-C		Capture to Inelastic Ratio Far Filtered (CIRF_FIL) RST-C				
			0.75 0		5 0				
Main To Repeat			Main To Repeat		Main To Repeat				
Repeat To Main			Repeat To Main		Repeat To Main				
			Thermal Decay Porosity (TPHI) RST-C		Cable Tension (TENS)				
			0.6 ft3/ft3 0		5000 lbf 0				
			Main To Repeat						







Main To Repeat		
Repeat To Main		
Borehole Salinity (BSAL) RST-C		
450	ppk	-50
Main To Repeat		
Repeat To Main		
Sigma Borehole Fluid (SIBF) RST-C		
100	cu	0
Main To Repeat		
Repeat To Main		
Cable Speed (CS)		
0	ft/h	50000
Main To Repeat		
Repeat To Main		
Total Selected Count Rate Near Detector Filtered (TSCN_FIL) RST-C		
30000	1/s	0

Main To Repeat
Repeat To Main
Minitron Arc Count (MARC) RST-C
05
Main To Repeat
Repeat To Main
Stuck Tool Indicator, Total (STIT)
0ft50

Main To Repeat			
Repeat To Main			
Formation Sigma (Neutron Capture Cross Section) (SIGM) RST-C			
60	cu		0
Main To Repeat			
Repeat To Main			
Weighted Inelastic Ratio (WINR_RST) RST-C			
0			0.4
Main To Repeat		Main To Repeat	
Repeat To Main		Repeat To Main	
Gross Inelastic Count Rate Far Detector Filtered (INFDFIL) RST-C		Far Detector Effective Unregulated Capture Count Rate (RSCF_RST) RST-C	
10000	1/s	045	0
Main To Repeat		Main To Repeat	
Repeat To Main		Repeat To Main	
Inelastic Ratio Filtered (IRAT_FIL) RST-C		Near Detector Effective Unregulated Capture Count Rate (RSCN_RST) RST-C	
0.75	0		

00000	1/s	0
Main To Repeat		
Repeat To Main		
Total Selected Count Rate Far Detector Filtered (TSCF_FIL) RST-C		

12000	1/s	0
Main To Repeat		
Repeat To Main		
Gamma Ray (GR) PSTP-A		

0	gAPI	150

Main To Repeat		
Repeat To Main		
Thermal Decay Porosity (TPHI) RST-C		

0.6	ft3/ft3	0

45		0
Main To Repeat		
Repeat To Main		
Capture to Inelastic Ratio Near Filtered (CIRN_FIL) RST-C		

2.5		0
Main To Repeat		
Repeat To Main		
Capture to Inelastic Ratio Far Filtered (CIRF_FIL) RST-C		

5		0
Main To Repeat		
Repeat To Main		
Cable Tension (TENS)		

5000	lbf	0

└─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 - Time Marked every 60.00 (s)

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

Description: RST SIGMA Answer Format: Log (RST SIGMA Answer RA) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 22-Jul-2015 18:37:54

Calibration Report							
RST-C (Reservoir Saturation Pro Tool C) Calibration - Run ONE							
Primary Equipment :							
RSC Acquisition Cartridge			RSC-E			381	
RST IC Tank Calibration - RST IC Tank Calibration							
Master:							
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Near Spectral Acquisition Time Calibration Coefficient - 0	s	Master	----	----	----	----	
Near Carbon/Oxygen Ratio Calibration Coefficient - 0		Master	----	----	----	----	
Far Carbon/Oxygen Ratio Calibration Coefficient - 0		Master	----	----	----	----	
Near Windows Carbon/Oxygen Ratio Calibration Coefficient - 0		Master	----	----	----	----	
Far Windows Carbon/Oxygen Ratio Calibration Coefficient - 0		Master	----	----	----	----	
Near IC Mode Capture Optimization Resolution Degradation Factor Calibration Coefficient - 0		Master	----	----	----	----	
Far IC Mode Capture Optimization Resolution Degradation Factor Calibration Coefficient - 0		Master	----	----	----	----	
Near Pulse Shape Compensation Voltage Setting Echo Calibration Coefficient - 0	V	Master	----	----	----	----	
Far Pulse Shape Compensation Voltage Setting Echo Calibration Coefficient - 0	V	Master	----	----	----	----	
Near Photomultiplier High Voltage Setting Echo Calibration Coefficient - 0	V	Master	----	----	----	----	
Far Photomultiplier High Voltage Setting Echo Calibration Coefficient - 0	V	Master	----	----	----	----	

Minitron Measured Beam Current Calibration Coefficient - 0	uA	Master	----	----	----	----	
Grid Current Peak Calibration Coefficient - 0	mA	Master	----	----	----	----	
Minitron Measured Extractor Current Calibration Coefficient - 0	uA	Master	----	----	----	----	
Minitron Measured High Voltage Calibration Coefficient - 0	kV	Master	----	----	----	----	
Near Instantaneous Count Rate Calibration Coefficient - 0	kHz	Master	----	----	----	----	
Near/Far Count Rate Ratio Calibration Coefficient - 0		Master	----	----	----	----	

RST IC Tank Check - RST IC Tank Check

Master:							
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Near Spectral Acquisition Time Calibration Coefficient	s	Master			NOT DONE		
Near Carbon/Oxygen Ratio Calibration Coefficient - 0		Master	----	----	----	----	
Far Carbon/Oxygen Ratio Calibration Coefficient - 0		Master	----	----	----	----	
Near Windows Carbon/Oxygen Ratio Calibration Coefficient - 0		Master	----	----	----	----	
Far Windows Carbon/Oxygen Ratio Calibration Coefficient - 0		Master	----	----	----	----	
Near IC Mode Capture Optimization Resolution Degradation Factor Calibration Coefficient - 0		Master	----	----	----	----	
Far IC Mode Capture Optimization Resolution Degradation Factor Calibration Coefficient - 0		Master	----	----	----	----	
Near Pulse Shape Compensation Voltage Setting Echo Calibration Coefficient - 0	V	Master	----	----	----	----	
Far Pulse Shape Compensation Voltage Setting Echo Calibration Coefficient - 0	V	Master	----	----	----	----	
Near Photomultiplier High Voltage Setting Echo Calibration Coefficient - 0	V	Master	----	----	----	----	
Far Photomultiplier High Voltage Setting Echo Calibration Coefficient - 0	V	Master	----	----	----	----	
Minitron Measured Beam Current Calibration Coefficient - 0	uA	Master	----	----	----	----	
Grid Current Peak Calibration Coefficient - 0	mA	Master	----	----	----	----	
Minitron Measured Extractor Current Calibration Coefficient - 0	uA	Master	----	----	----	----	
Minitron Measured High Voltage Calibration Coefficient - 0	kV	Master	----	----	----	----	
Near Instantaneous Count Rate Calibration Coefficient	kHz	Master			NOT DONE		
Near/Far Count Rate Ratio Calibration Coefficient		Master			NOT DONE		

RST Sigma Tank Check - RST Sigma Tank Check

Master (Measured): 14:57:24 17-Jul-2015							
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Near Spectral Acquisition Time Calibration Coefficient	s	Master		300.0	300.3		
Near/Far Capture Ratio Calibration Coefficient		Master	0.980	0.930	0.982	1.030	
Sigma Formation Near Apparent Calibration Coefficient - 0	1/m	Master	----	----	----	----	
Sigma Formation Far Apparent Calibration Coefficient - 0	1/m	Master	----	----	----	----	
Near Pulse Shape Compensation Voltage Setting Echo Calibration Coefficient	V	Master	3.500	2.445	3.700	4.555	
Far Pulse Shape Compensation Voltage Setting Echo Calibration Coefficient	V	Master	3.325	2.095	2.433	4.555	
Near Photomultiplier High Voltage Setting Echo Calibration Coefficient	V	Master	1400.000	1100.000	1145.795	1700.000	
Far Photomultiplier High Voltage Setting Echo Calibration Coefficient	V	Master	1400.000	1100.000	1183.172	1700.000	
Minitron Measured Beam Current Calibration Coefficient	uA	Master	75.000	50.000	85.102	100.000	
Grid Current Peak Calibration Coefficient	mA	Master	60.000	58.000	60.036	62.000	
Minitron Measured Extractor Current Calibration Coefficient	uA	Master	499.500	0	0.000	999.000	

Minitron Measured High Voltage Calibration Coefficient	kV	Master	73.000	50.000	80.028	96.000	<div><div></div><div></div><div></div><div></div><div></div></div>
Near Instantaneous Count Rate Calibration Coefficient	kHz	Master	400.000	340.000	349.576	460.000	<div><div></div><div></div><div></div><div></div><div></div></div>
Near/Far Count Rate Ratio Calibration Coefficient		Master	1.300	1.000	1.471	1.600	<div><div></div><div></div><div></div><div></div><div></div></div>

Company:	Caerus Piceance LLC	Schlumberger
Well:	Puckett 41B-2	
Field:	Wildcat	
County:	Garfield	
State:	Colorado	

Reservoir Saturation Tool
Sigma