Schlumberger

Company: Caerus Operating LLC

Well: NPR 12C-10 596

Field: NPR

County: Garfield State: Colorado

Cement Bond Log

RST Sigma Log

Gamma Ray - Collar Locator Log

County: Garfield
Field: NPR
Location: K10-596
Well: NPR 12C-10 596
Company: Caerus Operating LLC

Location: K10-596

Elev.: K.B. 6733.00 ft
G.L. 6709.00 ft
D.F. 6733.00 ft

Permanent Datum: Ground Level Elev.: 6709.00 f
Log Measured From: Kelly Bushing 24.00 ft above Perm.Datum
Drilling Measured From: Kelly Bushing

API Serial No.	Section:	Township:	Range:
05045237730000	10	5S	96W

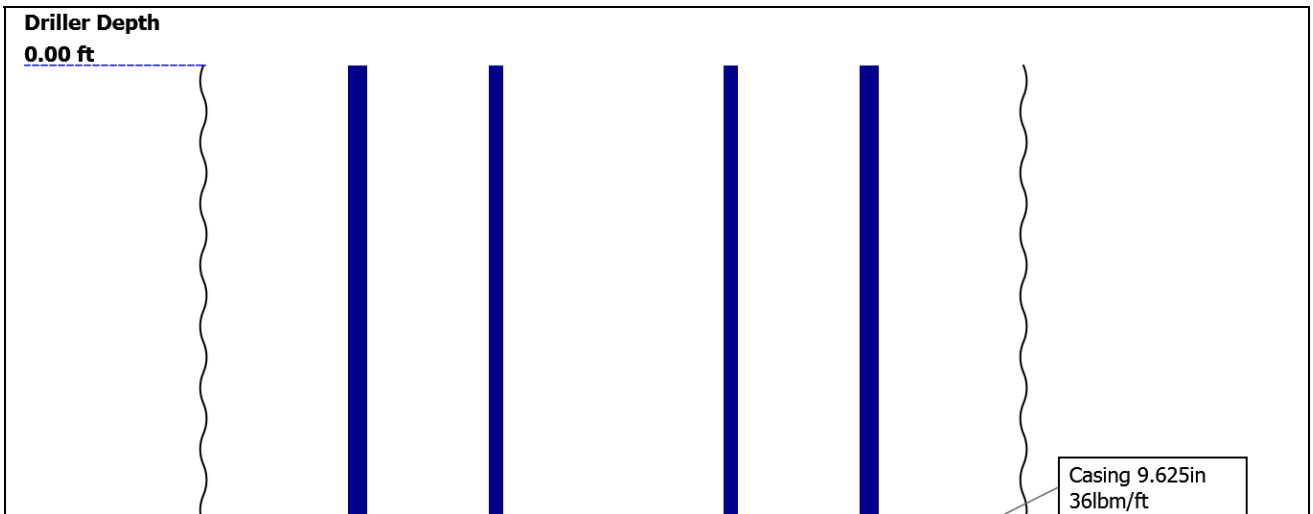
Logging Date		12-Sep-2018		13-Sep-2018		Logging Date	
Run Number		One		Two		Run Number	
Depth Driller		9766.00 ft		9766.00 ft		Depth Driller	
Schlumberger Depth		9729.00 ft		9729.00 ft		Schlumberger Depth	
Bottom Log Interval		9720.00 ft		9720.00 ft		Bottom Log Interval	
Top Log Interval		2300.00 ft		2300.00 ft		Top Log Interval	
Casing Fluid Type		2% KCL Water		2% KCL Water		Casing Fluid Type	
Salinity						Salinity	
Density		8.5 lbm/gal		8.5 lbm/gal		Density	
Fluid Level		8.00 ft		8.00 ft		Fluid Level	
BIT/CASING/TUBING STRING						BIT/CASING/TUBING STRING	
Bit Size		8.75 in		8.75 in		Bit Size	
From		2415.00 ft		2415.00 ft		From	
To		9729.00 ft		9729.00 ft		To	
Casing/Tubing Size		4.5 in		4.5 in		Casing/Tubing Size	
Weight		11.6 lbm/ft		11.6 lbm/ft		Weight	
Grade		P110		P110		Grade	
From		0.00 ft		0.00 ft		From	
To		9766.00 ft		9766.00 ft		To	
Max Recorded Temperatures		275 degF		275 degF		Max Recorded Temperatures	
Logger on Bottom	Time	12-Sep-2018	21:00:00	13-Sep-2018	06:30:00	Logger on Bottom Time	
Unit Number	Location:	3007	Evanston, WY	3007	Evanston, WY	Unit Number Location:	
Recorded By		Richard Woods		Albert Ng		Recorded By	
Witnessed By		Trent Ray		Trent Ray		Witnessed By	

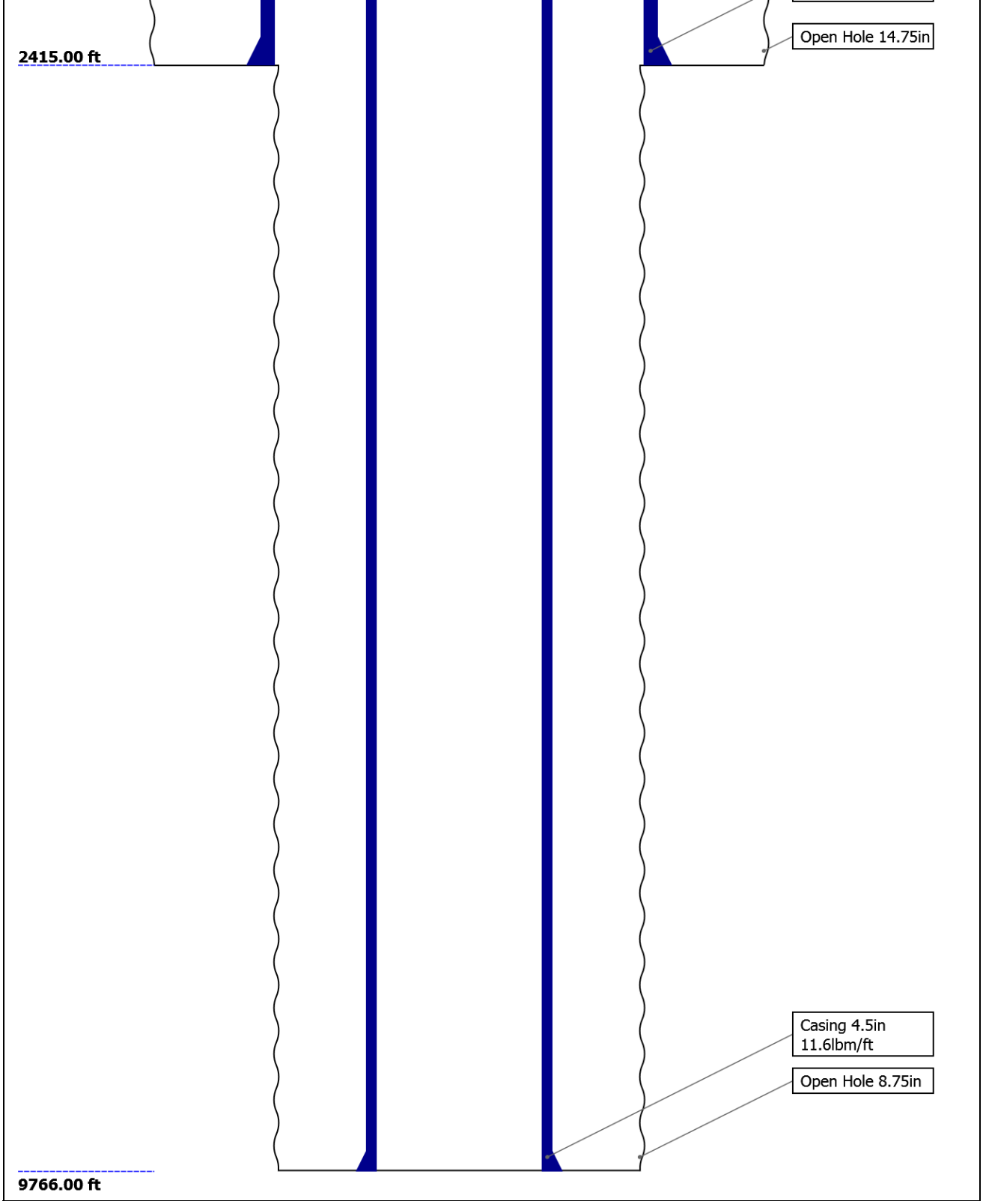
Logging Date	13-Sep-2018		
Run Number	Three		
Depth Driller	9766.00 ft		
Schlumberger Depth	9729.00 ft		
Bottom Log Interval	9720.00 ft		
Top Log Interval	2300.00 ft		
Casing Fluid Type	2% KCL Water		
Salinity			
Density	8.5 lbm/gal		
Fluid Level	8.00 ft		
BIT/CASING/TUBING STRING			
Bit Size	8.75 in		
From	2415.00 ft		
To	9729.00 ft		
Casing/Tubing Size	4.5 in		
Weight	11.6 lbm/ft		
Grade	P110		
From	0.00 ft		
To	9766.00 ft		
Max Recorded Temperatures	275 degF		
Logger on Bottom Time	13-Sep-2018	14:00:00	
Unit Number Location:	3007	Evanston, WY	
Recorded By	Albert Ng		
Witnessed By	Trent Ray		

Disclaimer

Contents

Well Sketch





Borehole Size/Casing/Tubing Record

Bit						
Bit Size (in)	14.75	8.75				
Top Driller (ft)	0	2415				
Top Logger (ft)	0	2415				
Bottom Driller (ft)	2415	9766				
Bottom Logger (ft)	2415	9729				
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)	2415	9766				
Bottom Logger (ft)	2415	9766				

Remarks and Equipment Summary

Toolstring run as per toolsketch.

RST Mode: Sigma

Matrix: Sandstone

Max Recorded Temp: 275degF

SLB Depth: 9729ft

SCMT lost telemetry at 2780ft on initial run. Separate CBL log section presented from 2960-2300ft due to different SCMT tool

Thank You for choosing Schlumberger!

One: Remarks	Two: Remarks	Three: Remarks

One: Toolstring

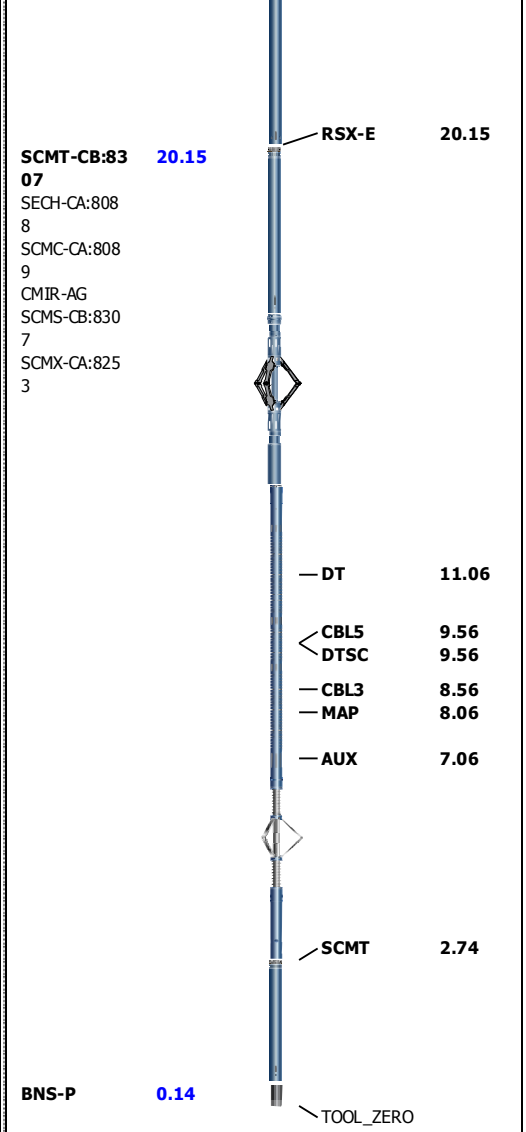
Equip name	Length	MP name	Offset
PEH-E	53.4		
AH-38	51.72		
PSTP-B:2826	51.44	**GR**	47.74
PSC-A		**PSTC**	47.44
PSTC-A		**PSTC Tool String Bottom**	0.00
PBMS-B:2826		**Temperature**	44.69
		CQG Pressure	44.34
		CCL	43.92
		PBMS	43.17
RST-C:296	43.17		
RSCH-A:277			
RSC-E:295		**RSC-E**	36.82
RSS-A:222			
MNTR-F:1356			
-50031		**Far**	34.06
RSXH-A:288		**Near**	33.56
RSX-E:296			

Two: Toolstring

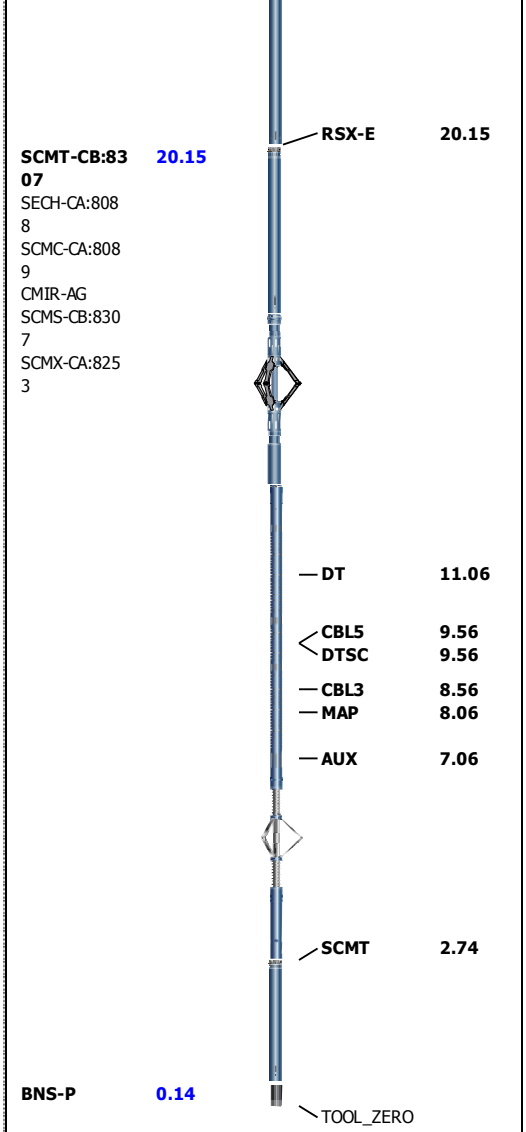
Equip name	Length	MP name	Offset
PEH-E	53.4		
AH-38	51.72		
PSTP-B:2826	51.44	**GR**	47.74
PSC-A		**PSTC**	47.44
PSTC-A		**PSTC Tool String Bottom**	0.00
PBMS-B:2826		**Temperature**	44.69
		CQG Pressure	44.34
		CCL	43.92
		PBMS	43.17
RST-C:578	43.17		
RSCH-A:437			
RSC-E:551		**RSC-E**	36.82
RSS-A:488			
MNTR-F:1325			
-51352		**Far**	34.06
RSXH-A:597		**Near**	33.56
RSX-E:578			

Three: Toolstring

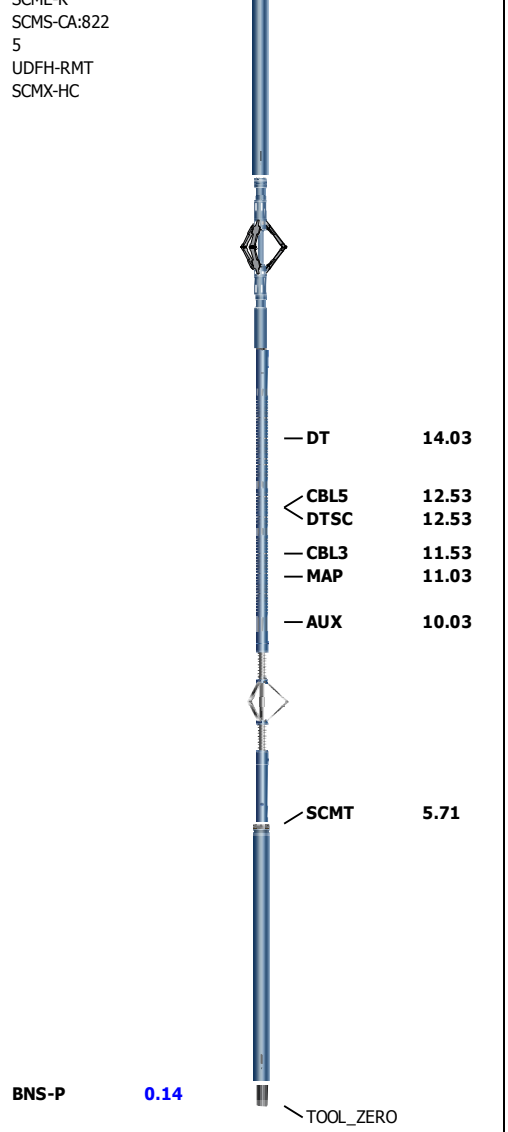
Equip name	Length	MP name	Offset
PEH-E	36.72		
AH-38	35.04		
PSTP-B:2826	34.76	**GR**	31.05
PSC-A		**PSTC**	30.76
PSTC-A		**PSTC Tool String Bottom**	0.00
PBMS-B:2826		**Temperature**	28.00
		CQG Pressure	27.66
		CCL	27.24
		PBMS	26.49
SCMT-HC:8225	26.49		
UDFH-RMC:8220			
SCMC-HC:8225			
SCME-K			



Lengths are in ft
Maximum Outer Diameter = 1.720 in
Line: Sensor Location, Value: Gating Offset
All measurements are relative to TOOL_ZERO



Lengths are in ft
Maximum Outer Diameter = 1.720 in
Line: Sensor Location, Value: Gating Offset
All measurements are relative to TOOL_ZERO



Lengths are in ft
Maximum Outer Diameter = 2.065 in
Line: Sensor Location, Value: Gating Offset
All measurements are relative to TOOL_ZERO

Depth Summary

	One	Two	Three
Depth Measuring Device			
Type	IDW-JA	IDW-JA	IDW-JA
Serial Number	5979	5979	5979
Calibration Date	10-JUN-2017	10-JUN-2017	10-JUN-2017
Calibrator Serial Number	IDWC-C-57	IDWC-C-57	IDWC-C-57
Calibration Cable Type	1-25ZA-XXS	1-25ZA-XXS	1-25ZA-XXS
Wheel Correction 1	-3	-3	-3
Wheel Correction 2	-3	-3	-3
Tension Device			
Type	CMTD-B/A	CMTD-B/A	CMTD-B/A
Serial Number	5036	5036	5036
Calibration Date	10-Sep-2018	10-Sep-2018	10-Sep-2018
Calibrator Serial Number	112544A	112544A	112544A
Number of Calibration Points	10	10	10
Calibration Root Mean Square Error	21	21	21
Calibration Peak Error	10	10	10

Calibration Peak Error	10	10	10

Logging Cable			
Type	1-25ZA	1-25ZA	1-25ZA
Serial Number	112140	112140	112140
Length	16800.00 ft	16800.00 ft	16800.00 ft
Conveyance Type	Wireline	Wireline	Wireline
Rig Type	Crane	Crane	Crane

One:Depth Control Parameters		Depth Control Remarks
Log Sequence	First Log In the Well	All Schlumberger Depth Control policies followed.
Rig Up Length At Surface		IDW used for primary depth control.
Rig Up Length At Bottom		Z-chart used for secondary depth control.
Rig Up Length Correction		Logs correlated to down log.
Stretch Correction		
Tool Zero Check At Surface		

Two:Depth Control Parameters		Depth Control Remarks
Log Sequence	First Log In the Well	
Rig Up Length At Surface		
Rig Up Length At Bottom		
Rig Up Length Correction		
Stretch Correction		
Tool Zero Check At Surface		

Three:Depth Control Parameters		Depth Control Remarks
Log Sequence	First Log In the Well	
Rig Up Length At Surface		
Rig Up Length At Bottom		
Rig Up Length Correction		
Stretch Correction		
Tool Zero Check At Surface		

Three

Main Pass (2960-2300FT)

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
Three	Log[2]:Up	Up	29.56 ft	2980.64 ft	13-Sep-2018 2:38:51 PM	13-Sep-2018 3:42:01 PM	ON	0.00 ft	Yes

All depths are referenced to toolstring zero

Log

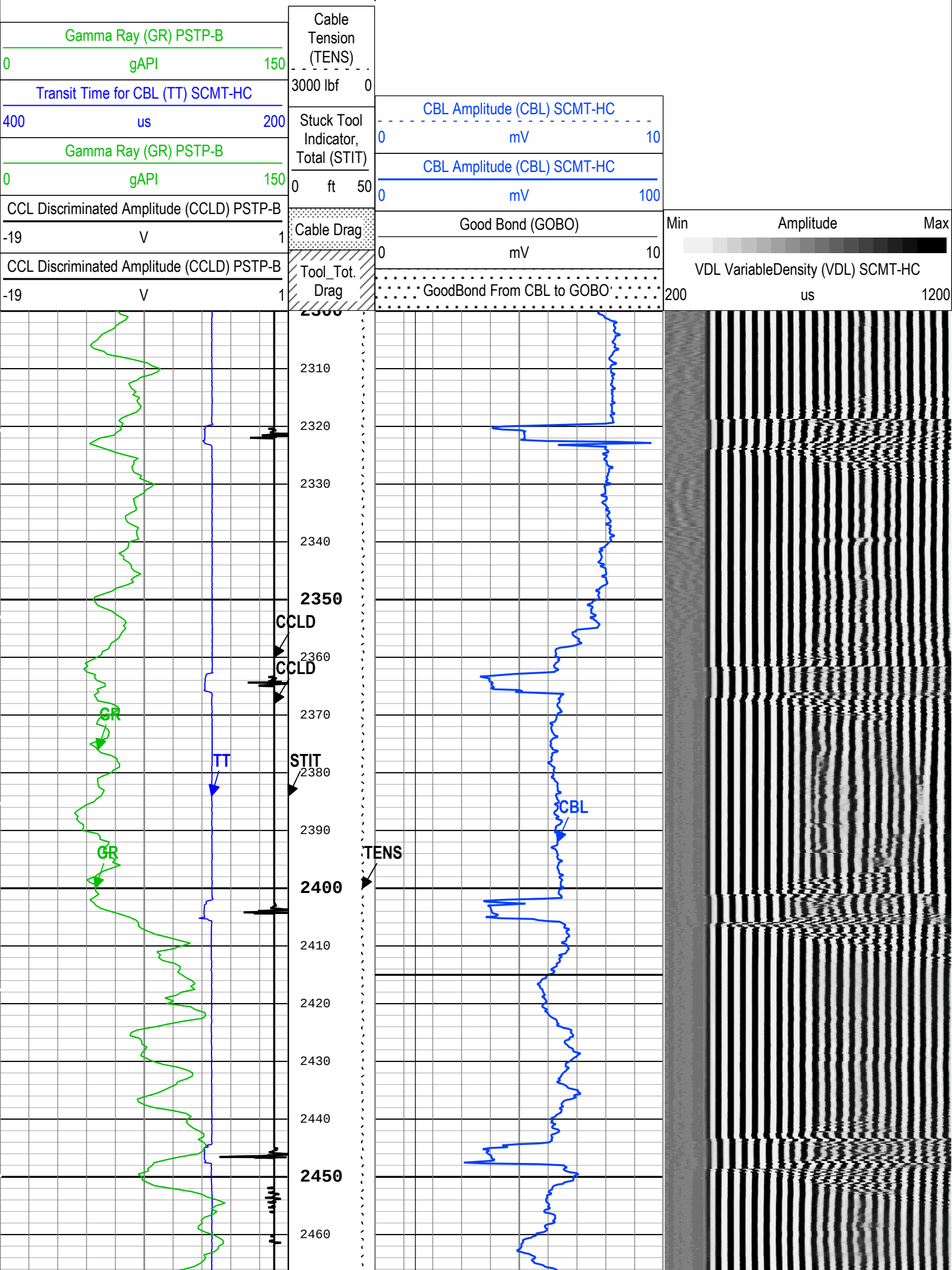
Company:Caerus Operating LLC Well:NPR 12C-10 596

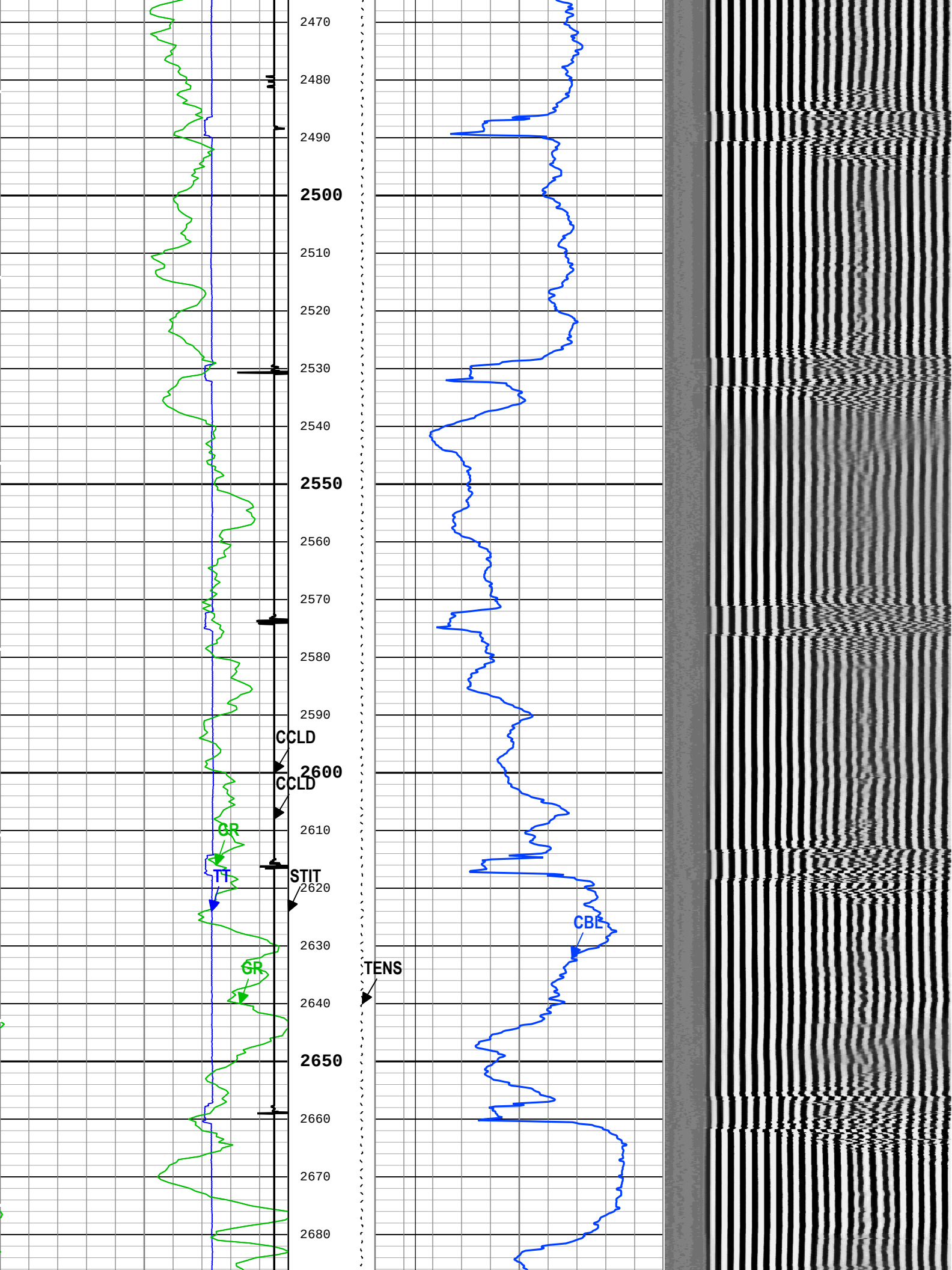
Three: Log[2]:Up:S003

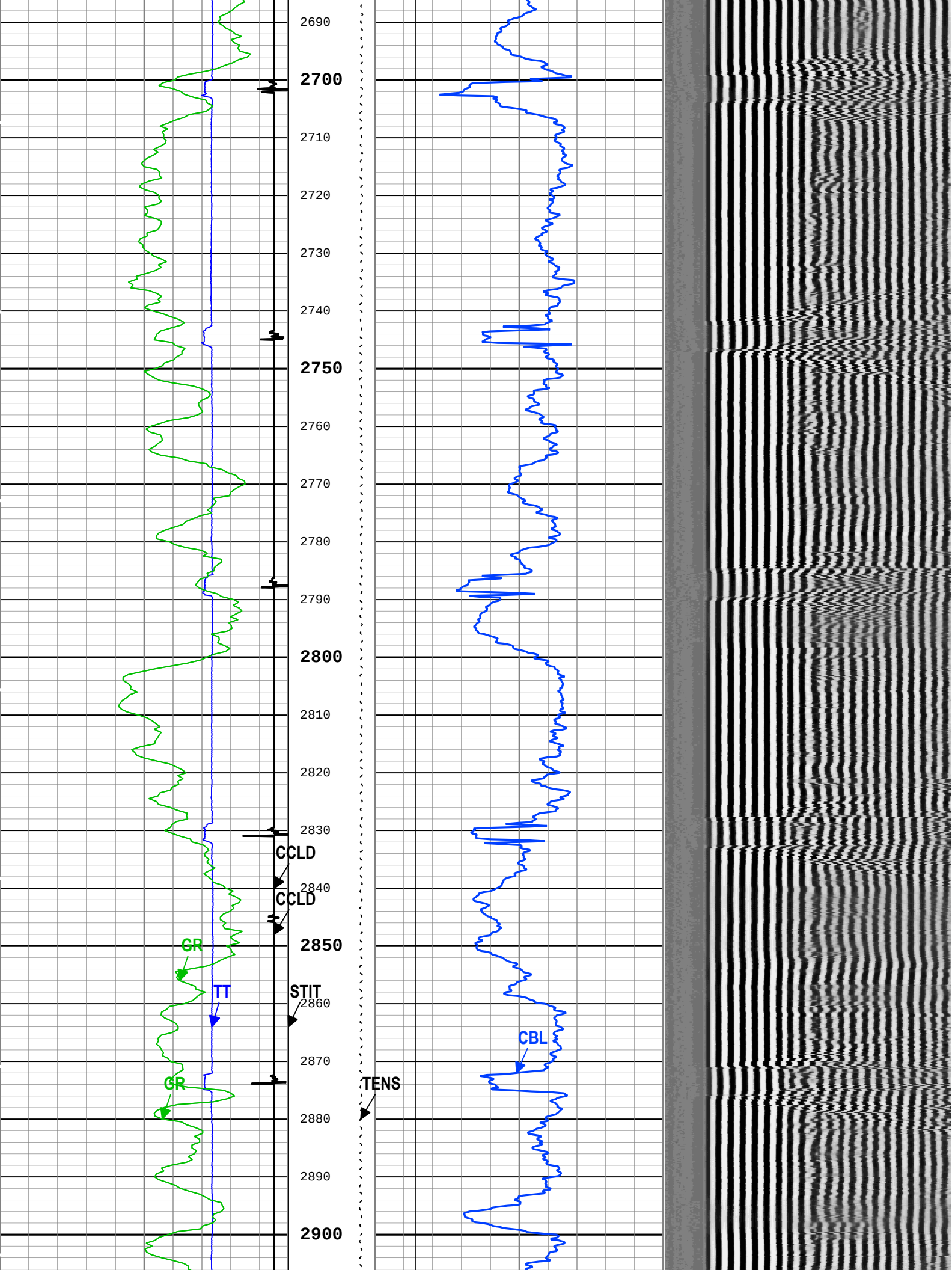
Description: Sonic CBL with VDL Format: Log (Sonic CBL with VDL) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 13-Sep-2018 18:19:01

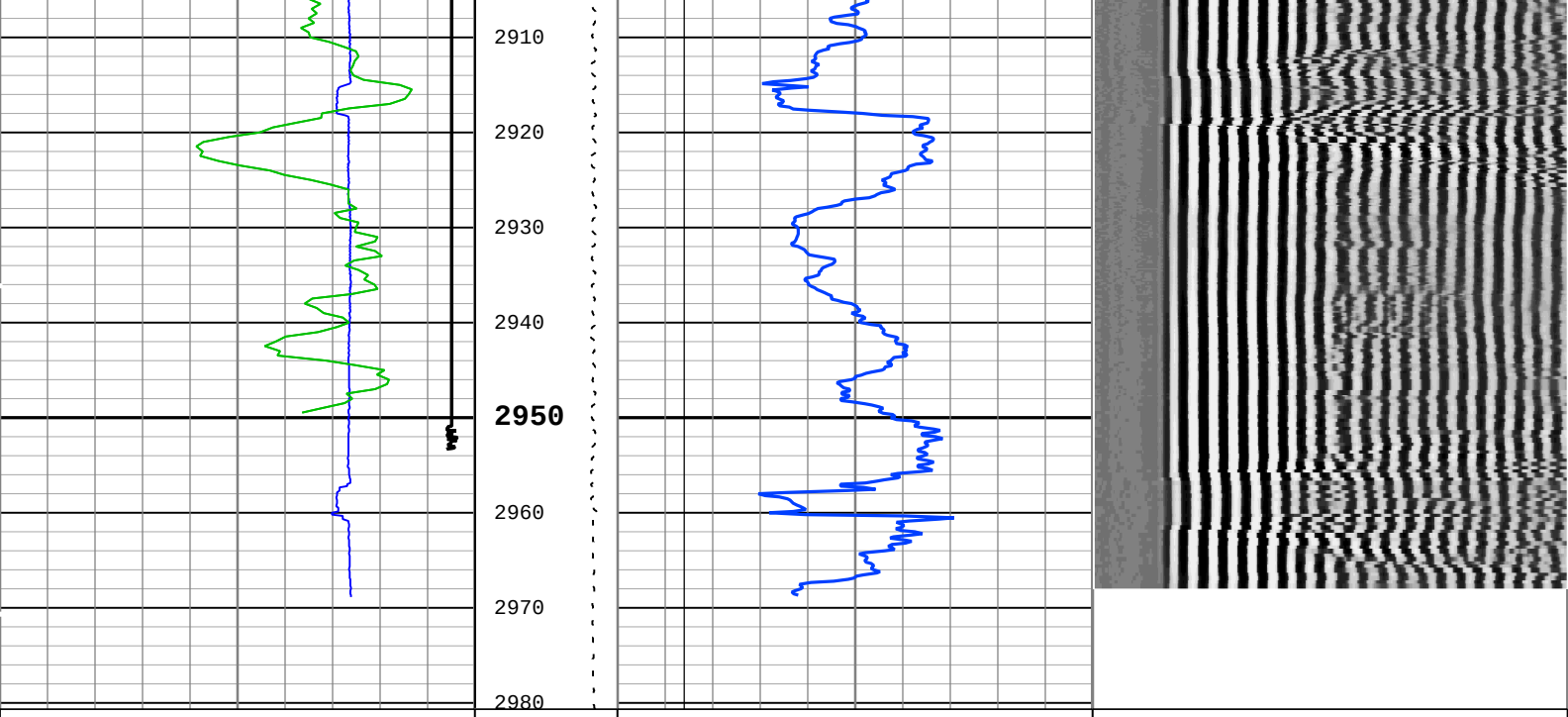
TIME_1900 - Time Marked every 60.00 (s)

BIEP - Bond Index Event Pips SCMT-HC


Gamma Ray (GR) PSTP-B
0
gAPI
150
Transit Time for CBL (TT) SCMT-HC
400
us
200
Gamma Ray (GR) PSTP-B
0
gAPI
150
CCL Discriminated Amplitude (CCLD) PSTP-B
-19
V
1
CCL Discriminated Amplitude (CCLD) PSTP-B
-19
V
1
Cable Tension (TENS)
3000 lbf
0
Stuck Tool Indicator, Total (STIT)
0
ft
50
Cable Drag
Tool_Tot. Drag
CBL Amplitude (CBL) SCMT-HC
0
mV
10
CBL Amplitude (CBL) SCMT-HC
0
mV
100
Good Bond (GOBO)
0
mV
10
GoodBond From CBL to GOBO
Min
Amplitude
Max
VDL VariableDensity (VDL) SCMT-HC
200
us
1200
2310
2320
2330
2340
2350
2360
2370
2380
2390
2400
2410
2420
2430
2440
2450
2460
CCLD
CCLD
GR
GR
TT
STIT
CBL
TENS


2470
2480
2490
2500
2510
2520
2530
2540
2550
2560
2570
2580
2590
2600
2610
2620
2630
2640
2650
2660
2670
2680
CCLD
CCLD
GR
TT
STIT
GR
TENS
CBL


2690
2700
2710
2720
2730
2740
2750
2760
2770
2780
2790
2800
2810
2820
2830
CCLD
2840
CCLD
2850
GR
TT
STIT
2860
CBL
2870
GR
TENS
2880
2890
2900



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: 13-Sep-2018 18:19:01

Channel Processing Parameters

Three: Parameters

Parameter	Description	Tool	Value	Unit
BHT	Bottom Hole Temperature	Borehole	275	degF
CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	SCMT-HC	224	us
CBLG	CBL Gate Width	SCMT-HC	40	us
CBRA	CBL LQC Reference Amplitude in Free Pipe	SCMT-HC	80	mV
THNO	Nominal Casing Thickness - Zoned along logger depths	WLSESSION	0.25	in
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	8.5	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	24	ft
EPD	Elevation of Permanent Datum (PDAT) above Mean Sea Level	WLSESSION	6709	ft
GGRD	Geothermal Gradient	Borehole	1	0.01 degF/ft
GOBO_CURR	Good Bond in Arbitrary Cement	SCMT-HC	1.4	mV

GTSE	Generalized Temperature Selection, from Measured or Computed Temperature	Borehole	GTEM_LINEST(RT)	
MATT_CURR	Maximum Attenuation in Arbitrary Cement	SCMT-HC	16.92	dB/ft
MCI	Minimum Cemented Interval for Isolation	SCMT-HC	Depth Zoned	ft
MSA	Minimum Sonic Amplitude	SCMT-HC	0.51	mV
MSA_CURR	Minimum Sonic Amplitude in Arbitrary Cement	SCMT-HC	0.51	mV
PDAT	Permanent Datum	WLSESSION	GL	
RUN_SNUM	Run Sequence Number	WSDRUN	4	
SHT	Surface Hole Temperature	Borehole	68	degF
TD	Total Measured Depth	Borehole	9729	ft

Depth Zone Parameters

Parameter	Value	Start (ft)	Stop (ft)
MCI	14.81	2300	2415
MCI	1.25	2415	2980.67

All depth are actual.

Tool Control Parameters

Three: Parameters

Parameter	Description	Tool	Value	Unit
CMTM	SCMT Operating Mode	SCMT-HC	Log	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	1800	ft/h
PCCG	PSP Downhole CCL Gain	PSTP-B	24 dB	

Composite 1

Main Pass (TD-2570FT)

Software Version

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

Composite Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[3]:Up	Up	6093.43 ft	9753.96 ft	12-Sep-2018 9:00:32 PM	12-Sep-2018 11:08:53 PM	ON	8.68 ft	Yes
One	Log[6]:Up	Up	6244.83 ft	7420.27 ft	13-Sep-2018 12:36:21 AM	13-Sep-2018 1:27:17 AM	ON	7.30 ft	Yes
One	Log[7]:Up	Up	4938.84 ft	6510.48 ft	13-Sep-2018 1:35:56 AM	13-Sep-2018 2:31:16 AM	ON	7.43 ft	Yes
Two	Log[1]:Up	Up	2554.78 ft	5150.18 ft	13-Sep-2018 6:32:01 AM	13-Sep-2018 7:59:42 AM	ON	-0.95 ft	Yes
Two	Log[2]:Up	Up	473.19 ft	2910.78 ft	13-Sep-2018 8:15:24 AM	13-Sep-2018 9:15:42 AM	ON	-1.39 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Caerus Operating LLC Well:NPR 12C-10 596 Composite 1: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: 13-Sep-2018 18:19:04

BIEP - Bond Index Event Pips SCMT-CB[1]

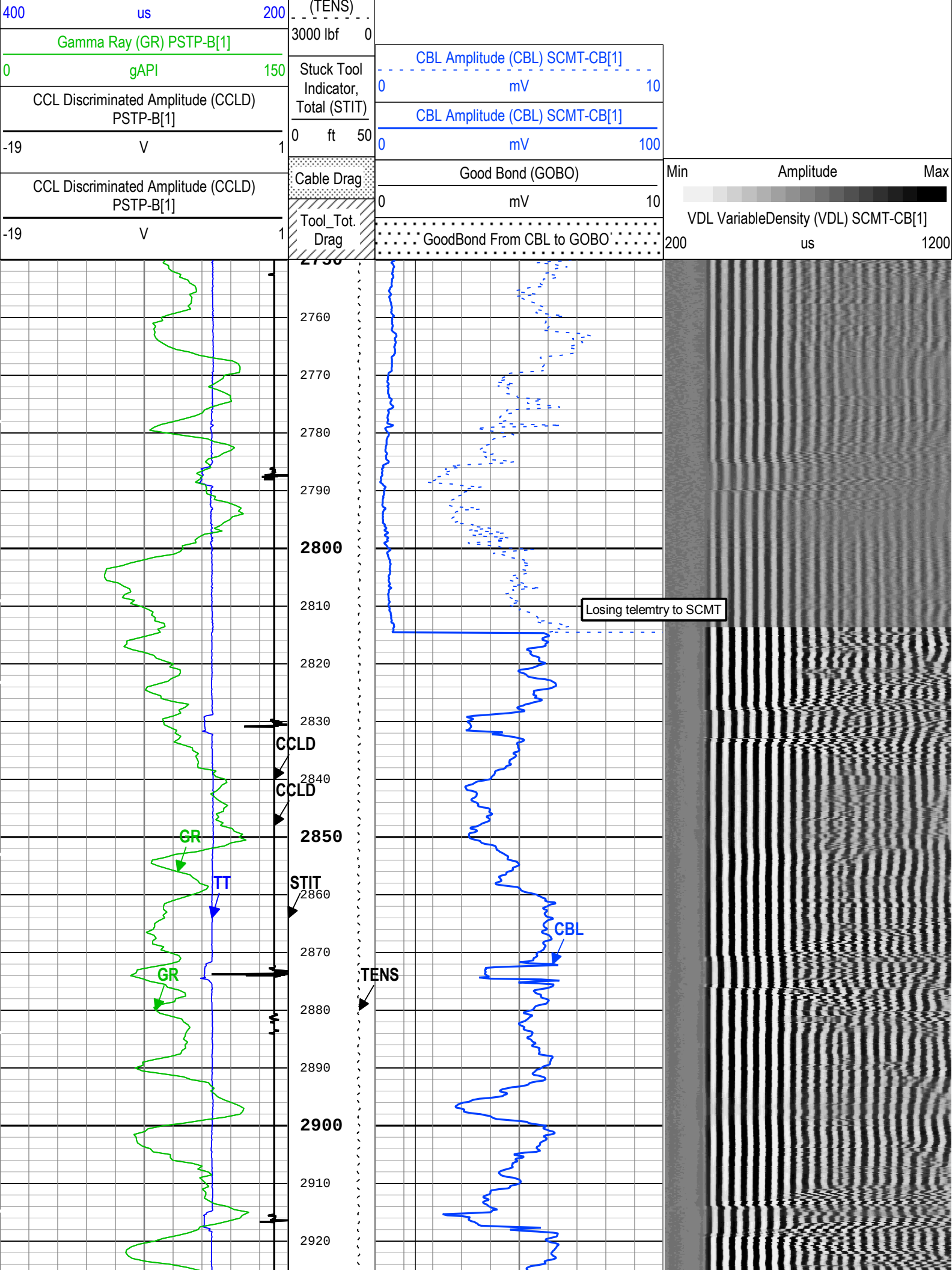
TIME_1900 - Time Marked every 60.00 (s)

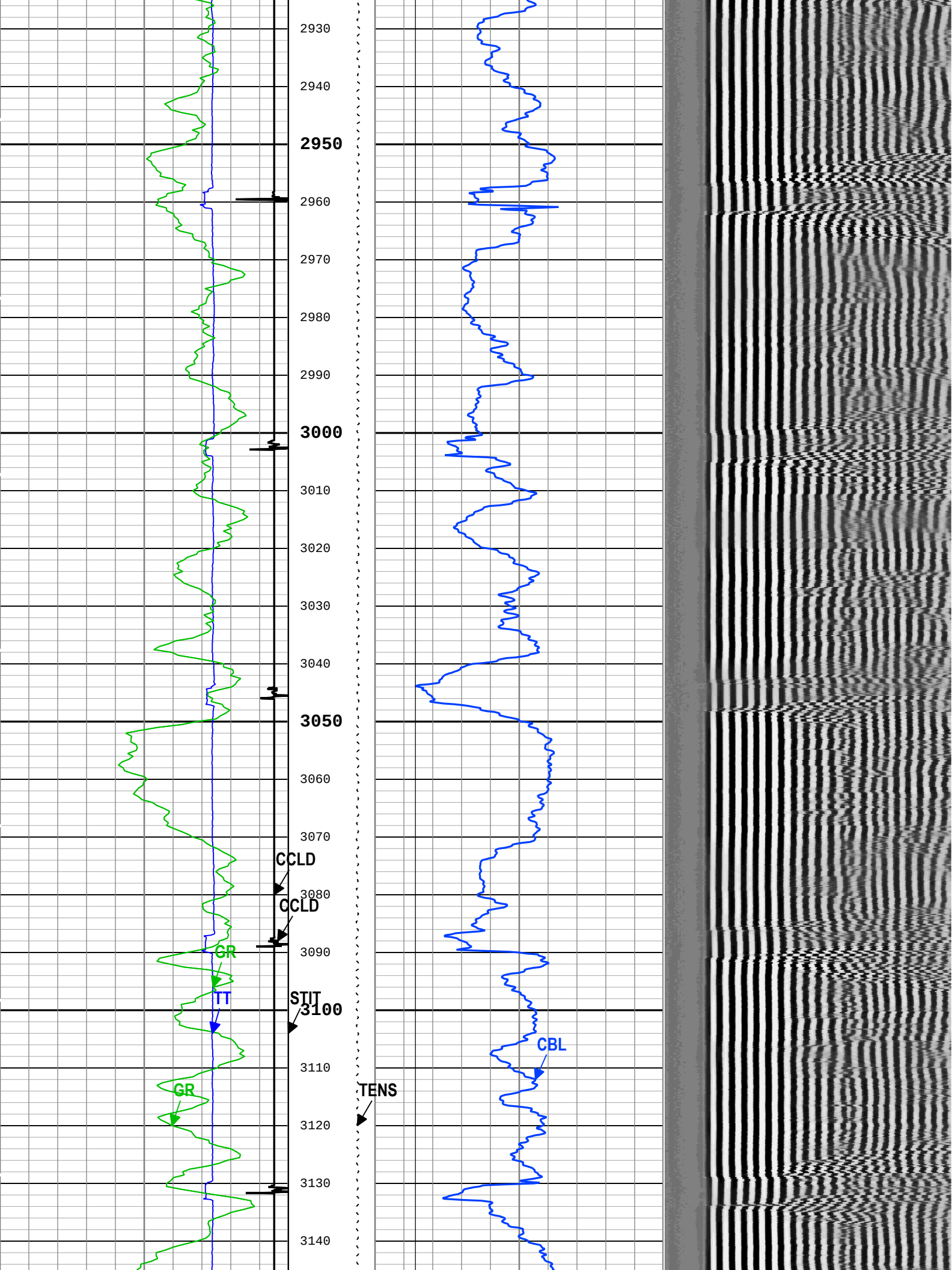
Gamma Ray (GR) PSTP-B[1]

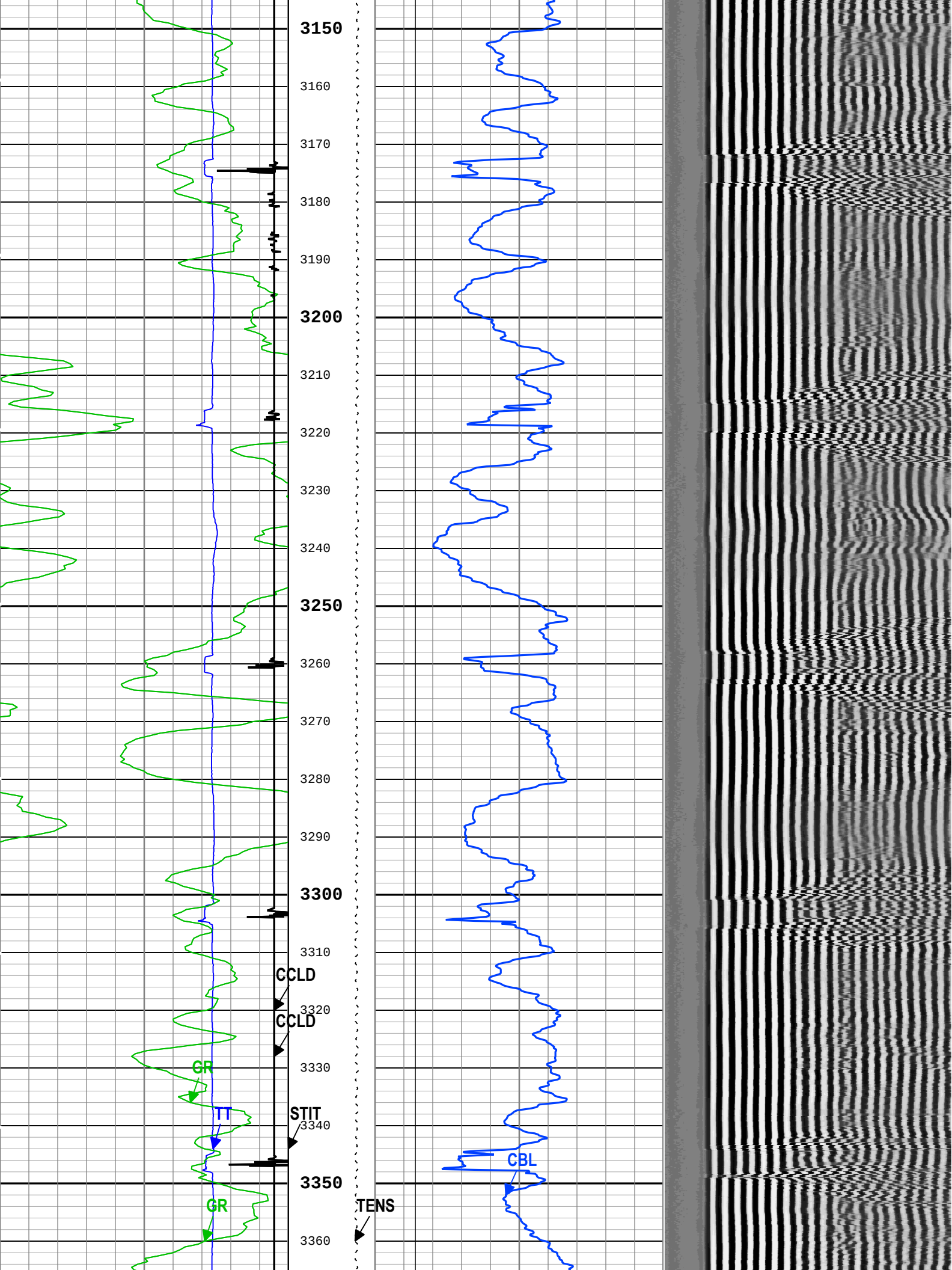
0 gAPI 150

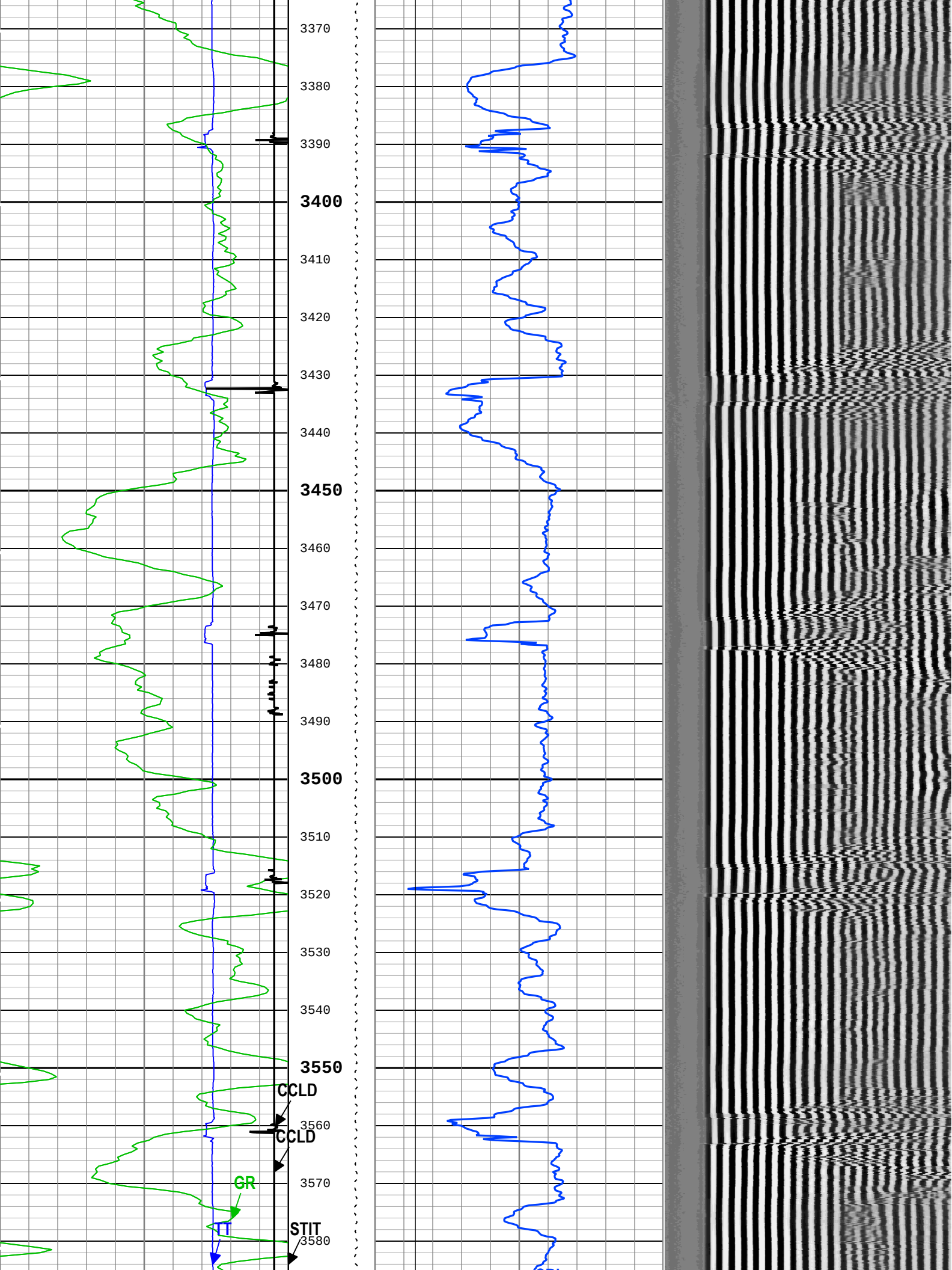
Transit Time for CBL (TT) SCMT-CB[1]

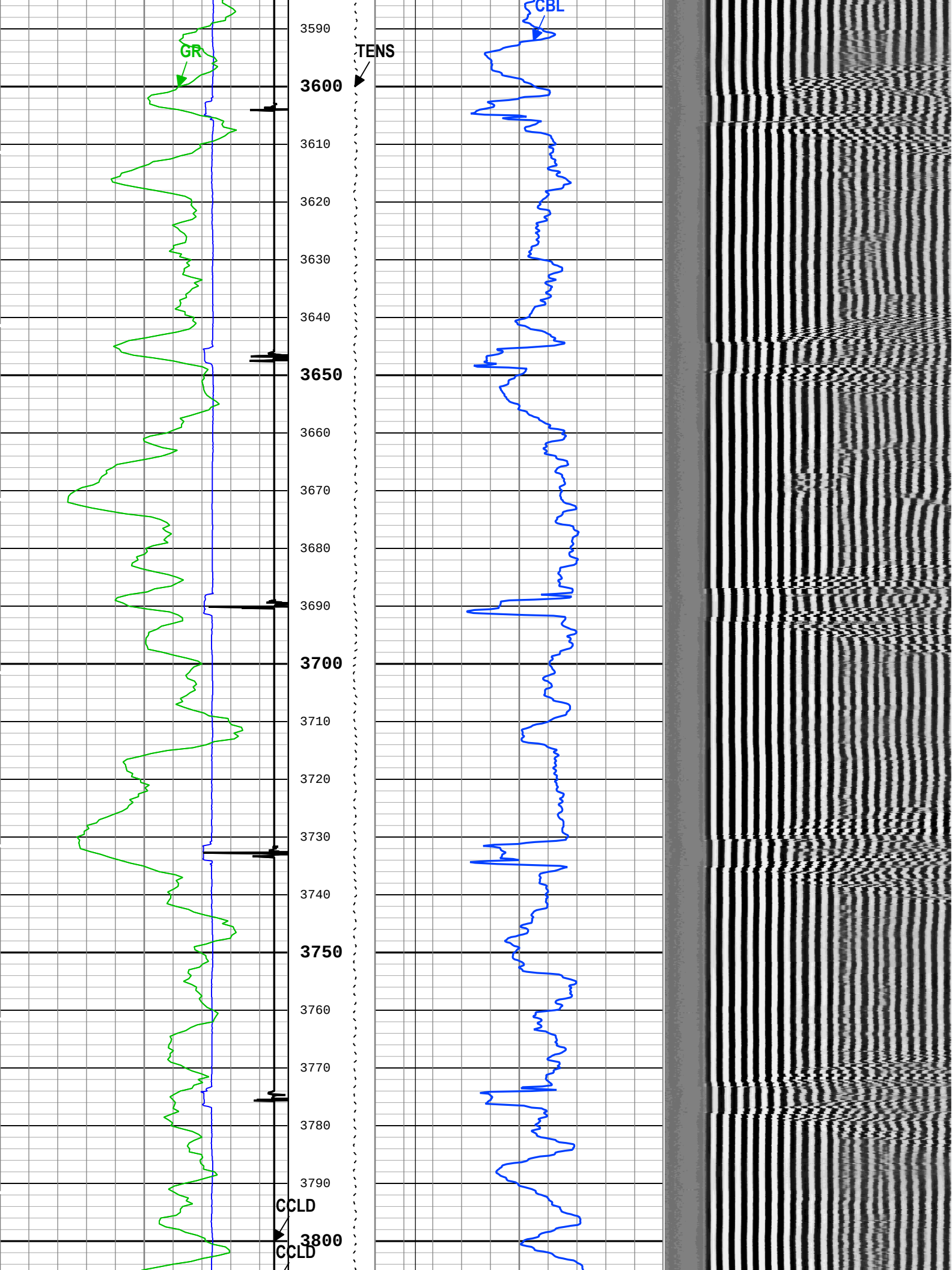
Cable Tension

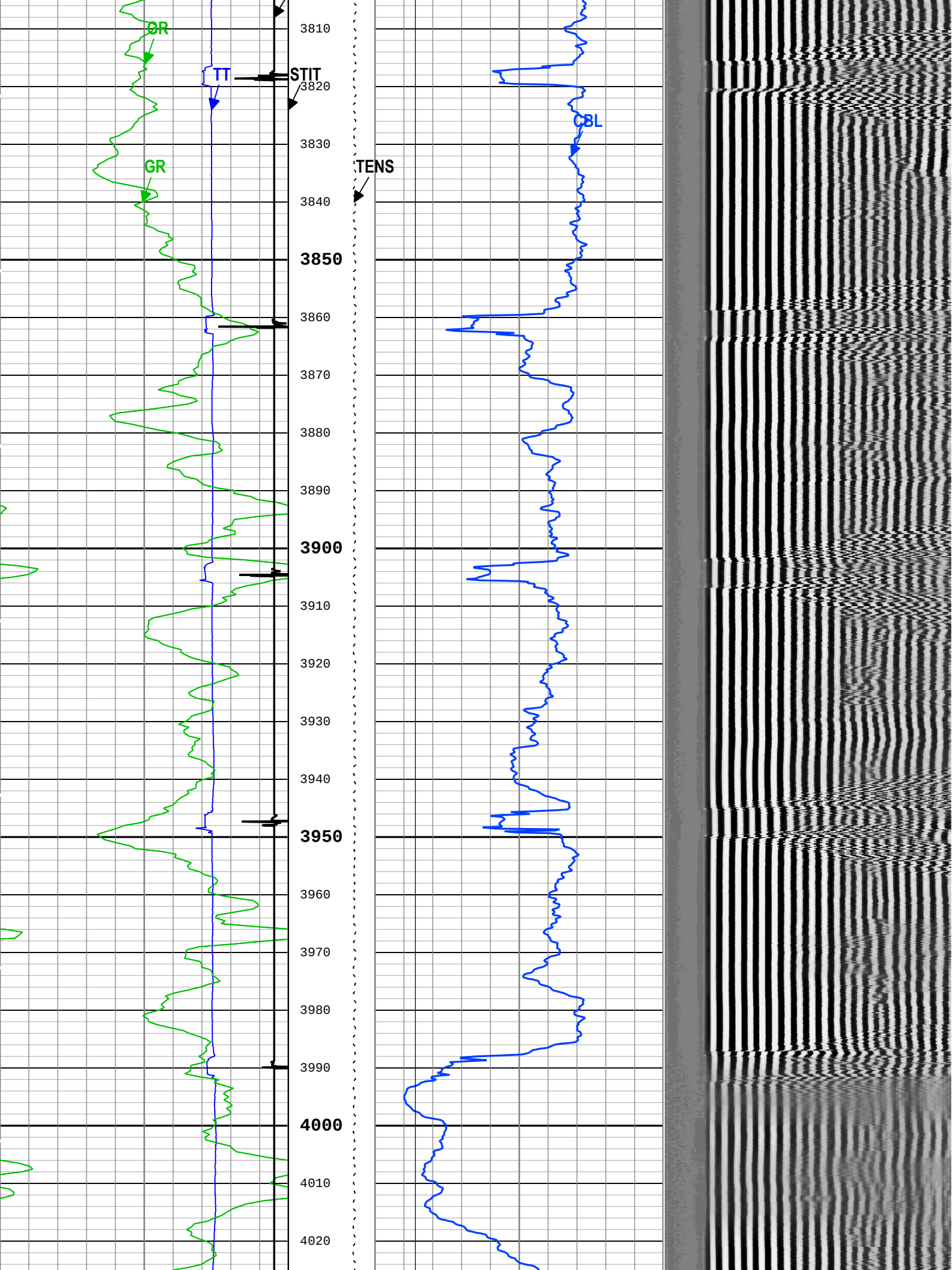

400
us
200
Gamma Ray (GR) PSTP-B[1]
0
gAPI
150
CCL Discriminated Amplitude (CCLD) PSTP-B[1]
-19
V
1
CCL Discriminated Amplitude (CCLD) PSTP-B[1]
-19
V
1
(TENS)
3000 lbf
0
Stuck Tool Indicator, Total (STIT)
0
ft
50
Cable Drag
Tool_Tot. Drag
CBL Amplitude (CBL) SCMT-CB[1]
0
mV
10
CBL Amplitude (CBL) SCMT-CB[1]
0
mV
100
Good Bond (GOBO)
0
mV
10
GoodBond From CBL to GOBO
Min
Amplitude
Max
VDL VariableDensity (VDL) SCMT-CB[1]
200
us
1200
2750
2760
2770
2780
2790
2800
2810
2820
2830
2840
2850
2860
2870
2880
2890
2900
2910
2920
Losing telemtry to SCMT
CCLD
CCLD
GR
TT
STIT
GR
TENS
CBL

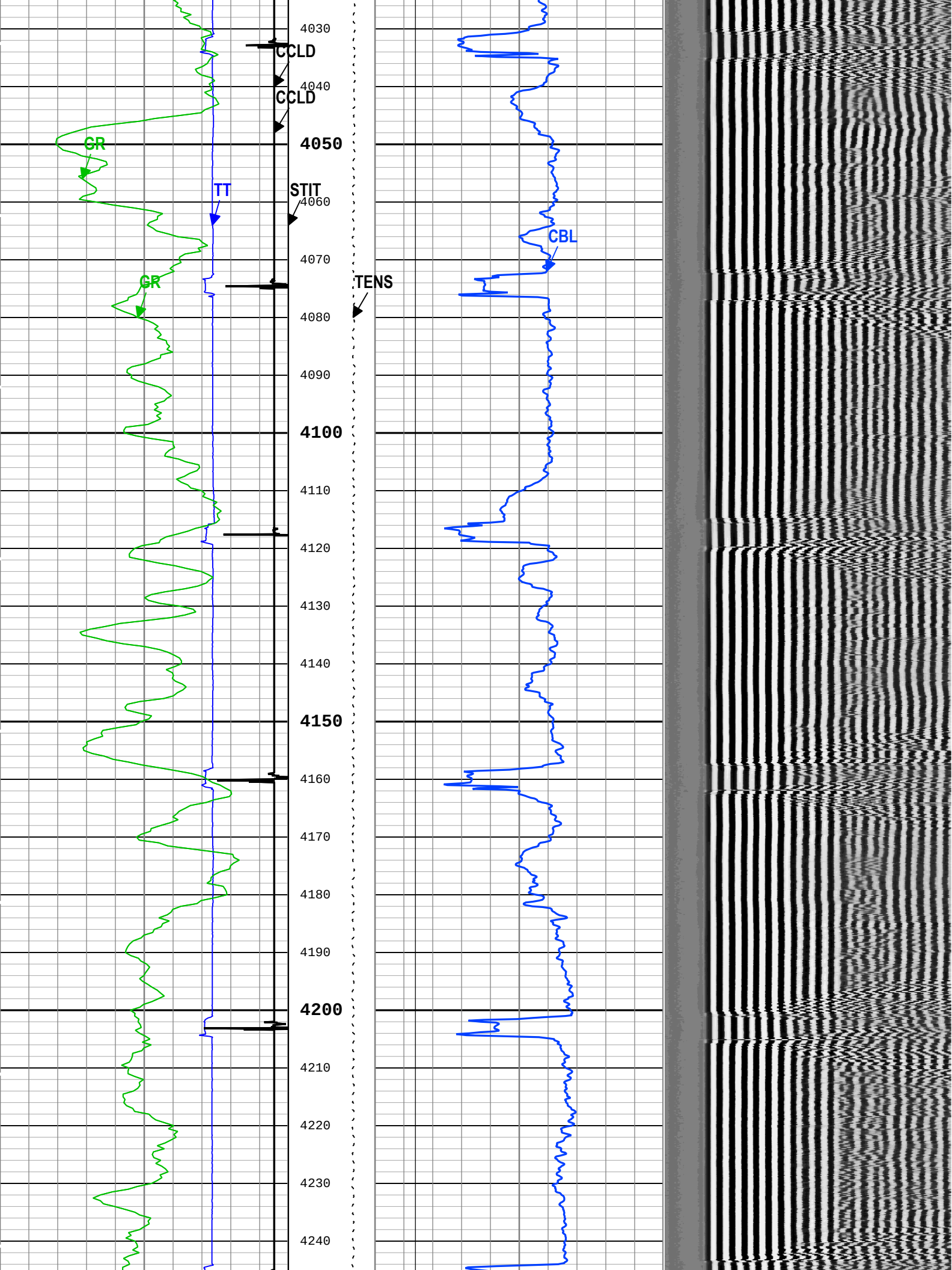

2930
2940
2950
2960
2970
2980
2990
3000
3010
3020
3030
3040
3050
3060
3070
CCLD
3080
CCLD
3090
GR
TT
STIT
3100
CBL
3110
GR
TENS
3120
3130
3140

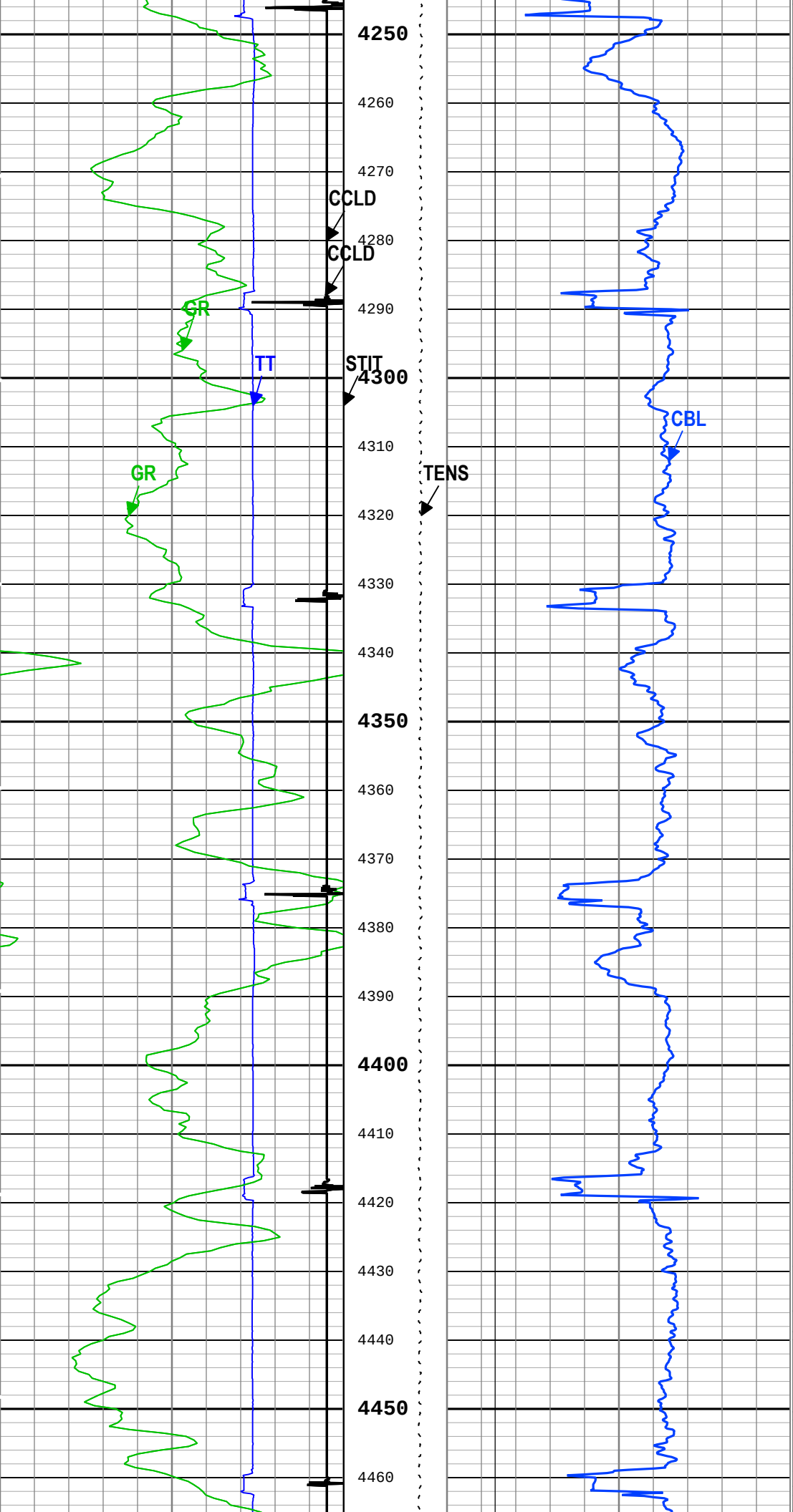

3150
3160
3170
3180
3190
3200
3210
3220
3230
3240
3250
3260
3270
3280
3290
3300
3310
3320
3330
3340
3350
3360
CCLD
CCLD
GR
TT
STIT
GR
TENS
CBL

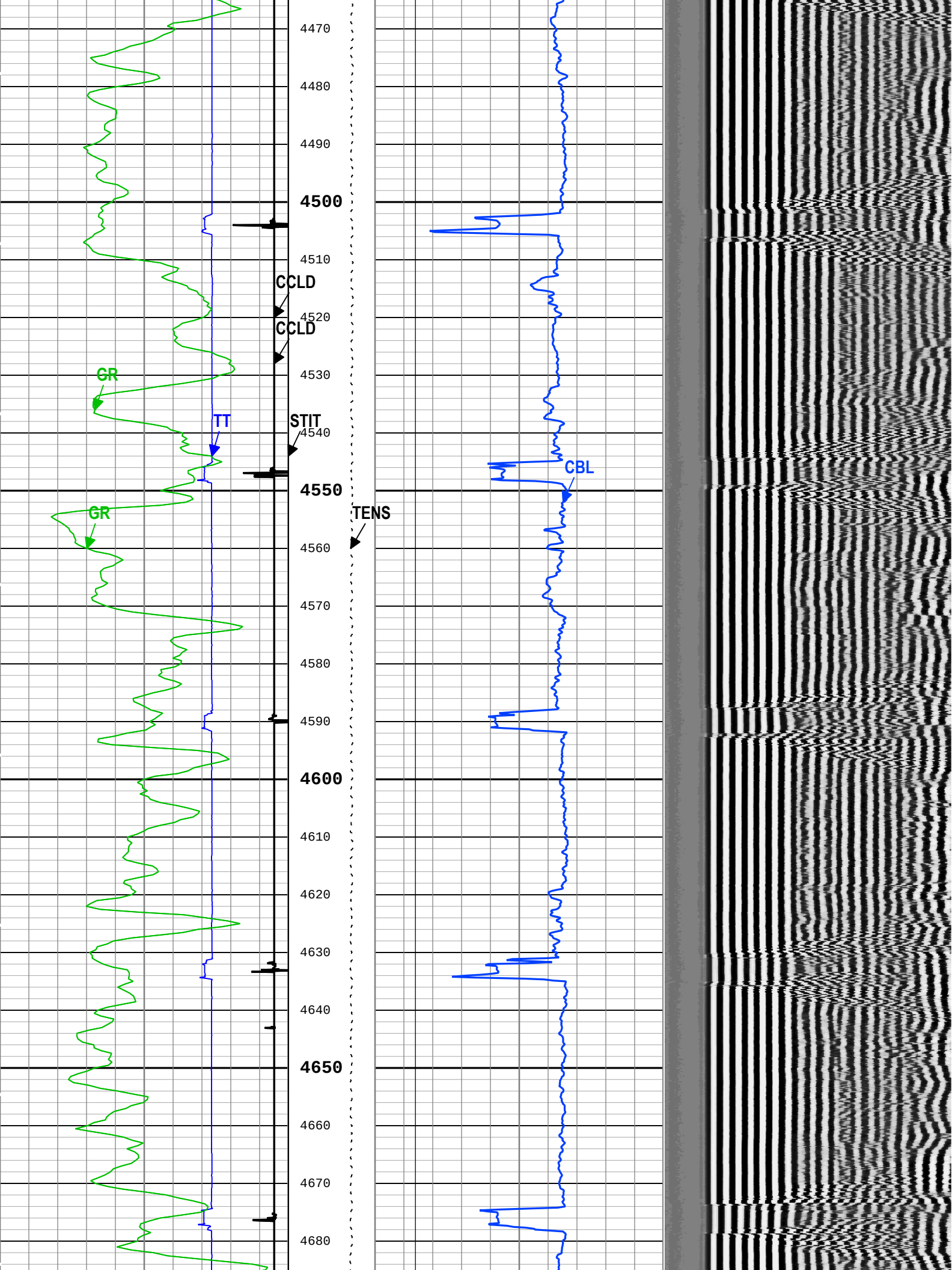

3370
3380
3390
3400
3410
3420
3430
3440
3450
3460
3470
3480
3490
3500
3510
3520
3530
3540
3550
CCLD
3560
CCLD
3570
GR
TT
STIT
3580

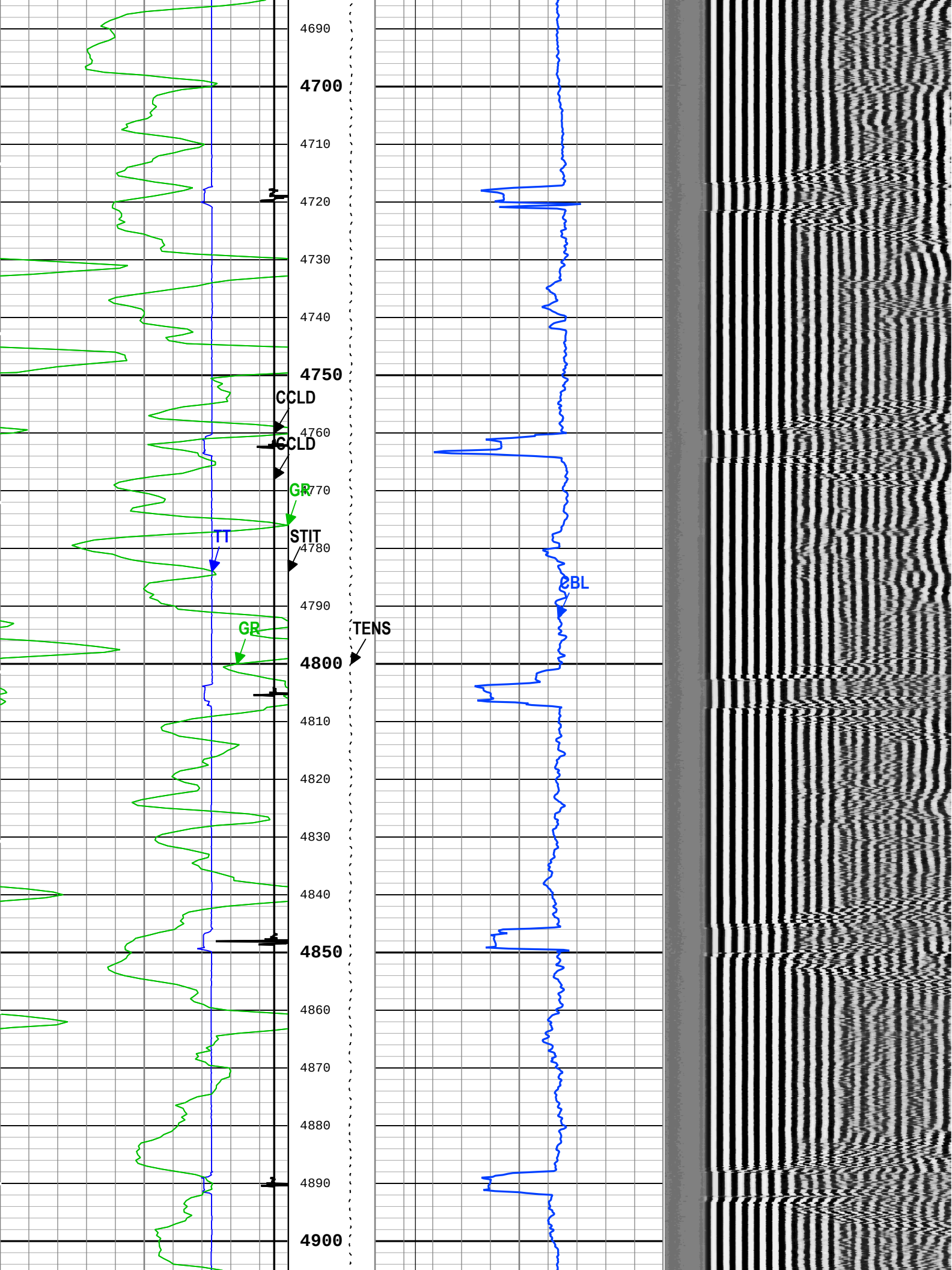

GR
TENS
CBL
CCLD
CCLD
3590
3600
3610
3620
3630
3640
3650
3660
3670
3680
3690
3700
3710
3720
3730
3740
3750
3760
3770
3780
3790
3800

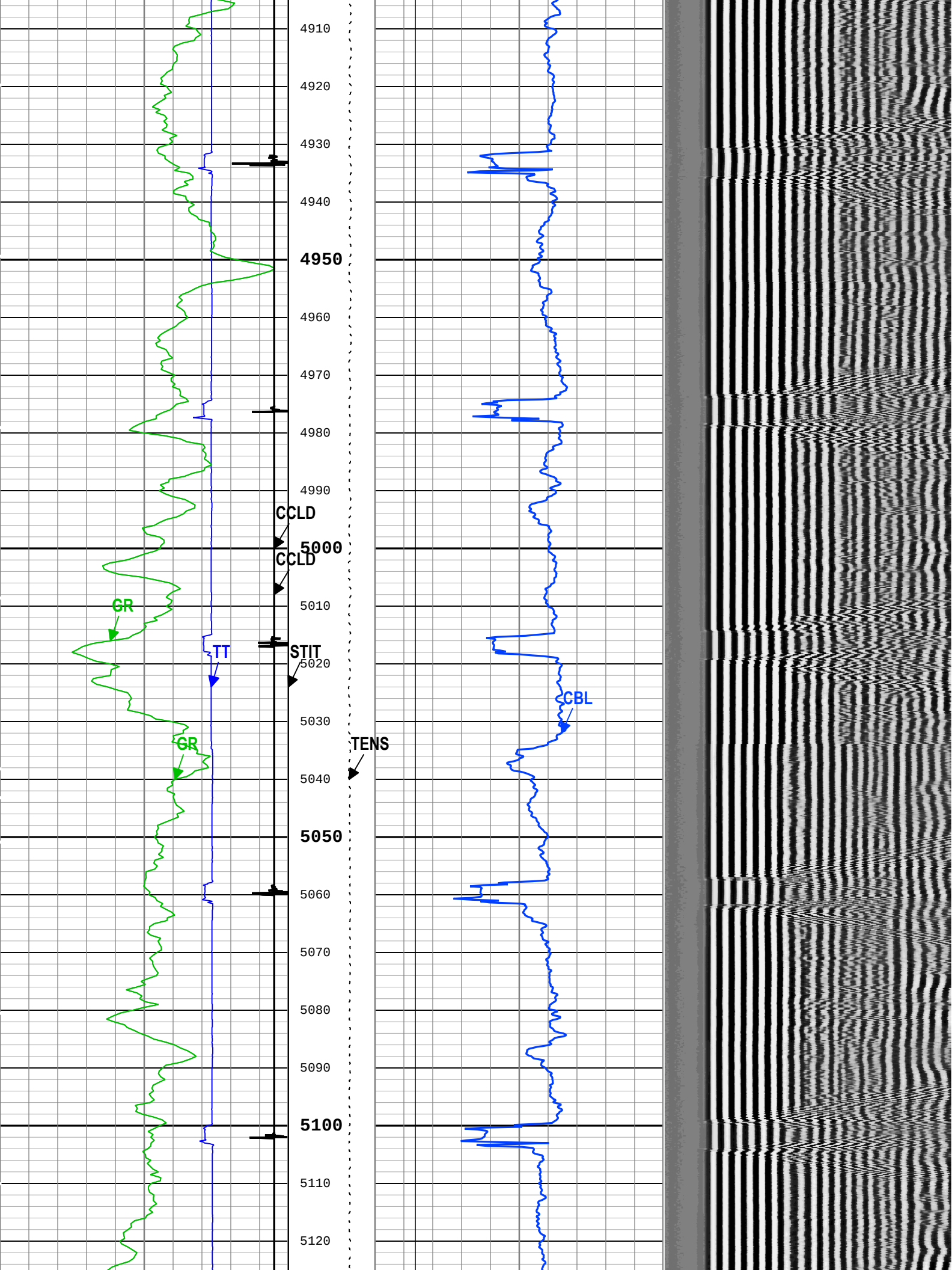

GR
TT
STIT
GR
TENS
CBL
3810
3820
3830
3840
3850
3860
3870
3880
3890
3900
3910
3920
3930
3940
3950
3960
3970
3980
3990
4000
4010
4020

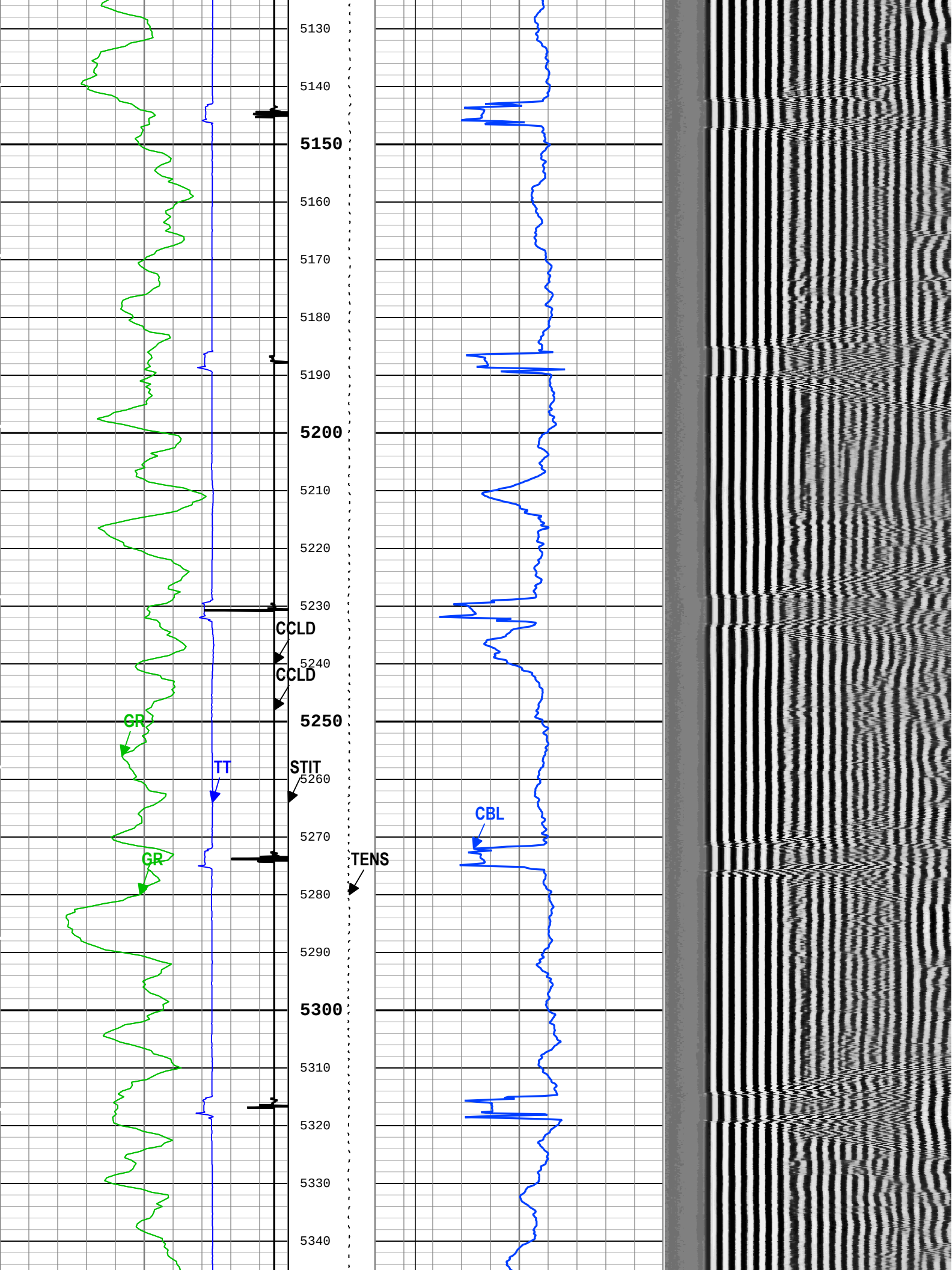

4030
CCLD
4040
CCLD
4050
GR
TT
STIT
4060
CBL
4070
GR
TENS
4080
4090
4100
4110
4120
4130
4140
4150
4160
4170
4180
4190
4200
4210
4220
4230
4240

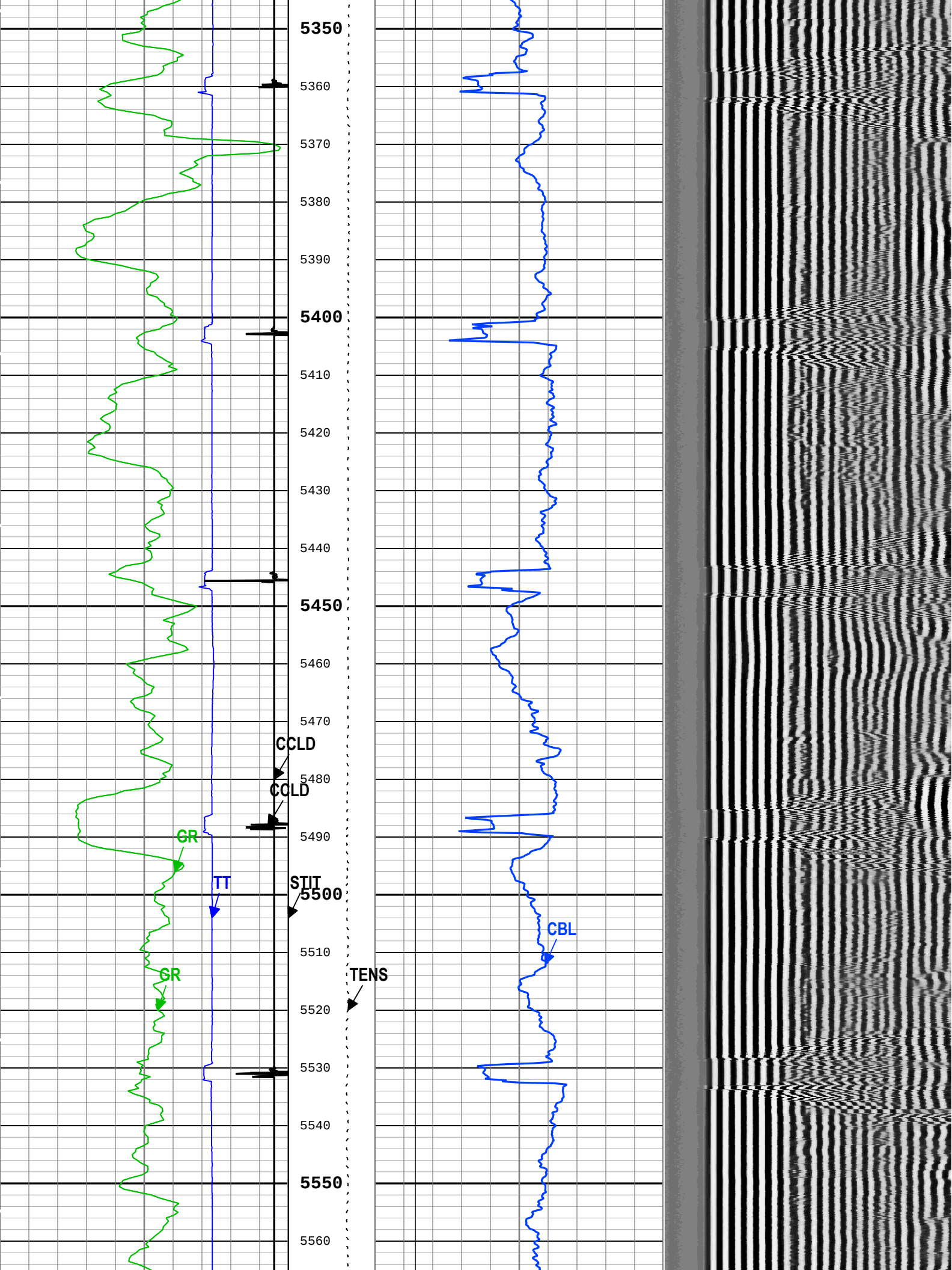

4250
4260
4270
CCLD
4280
CCLD
4290
GR
TT
STIT
4300
CBL
4310
GR
TENS
4320
4330
4340
4350
4360
4370
4380
4390
4400
4410
4420
4430
4440
4450
4460

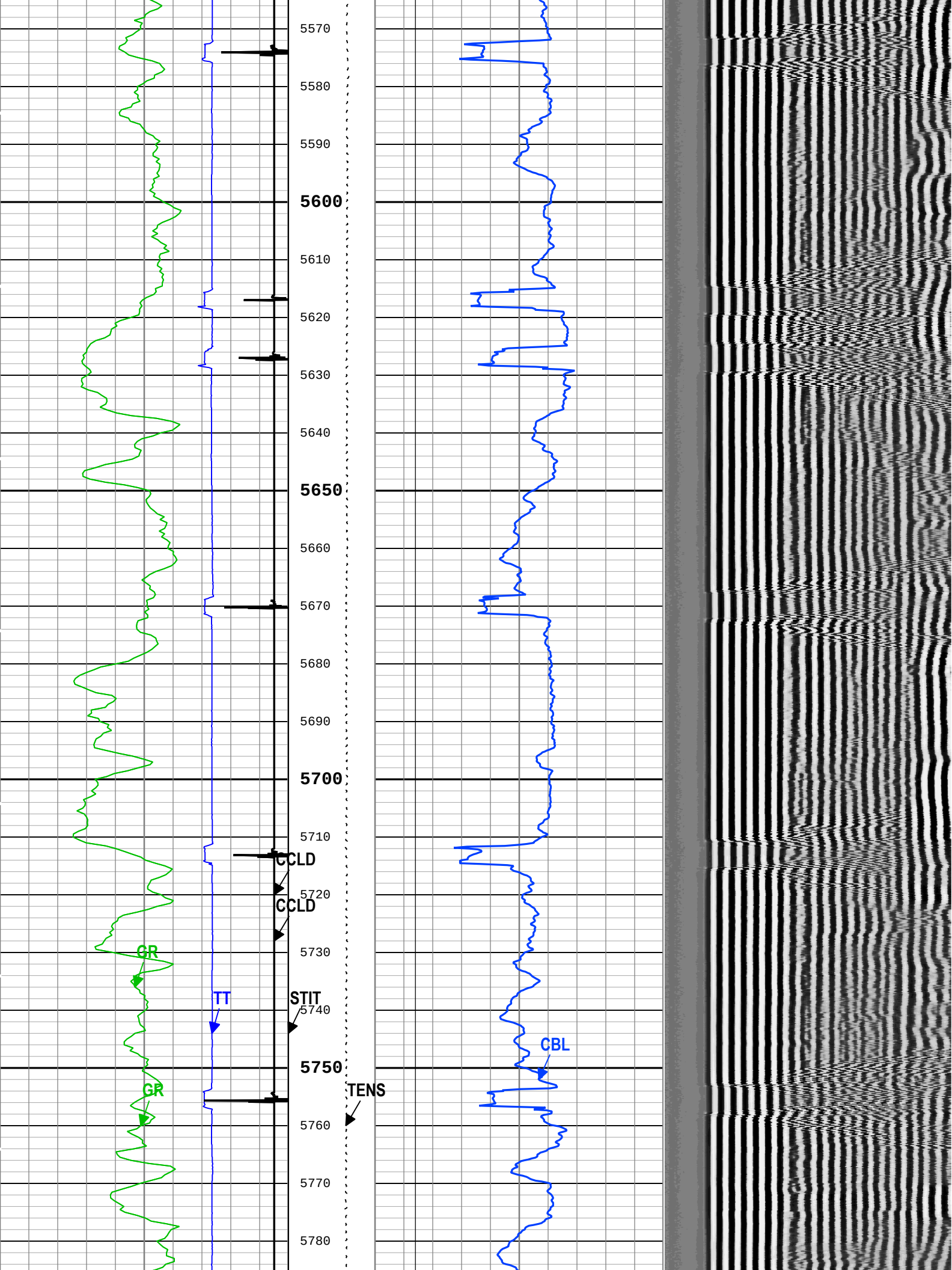

4470
4480
4490
4500
4510
CCLD
4520
CCLD
4530
GR
TT
STIT
4540
CBL
4550
GR
TENS
4560
4570
4580
4590
4600
4610
4620
4630
4640
4650
4660
4670
4680

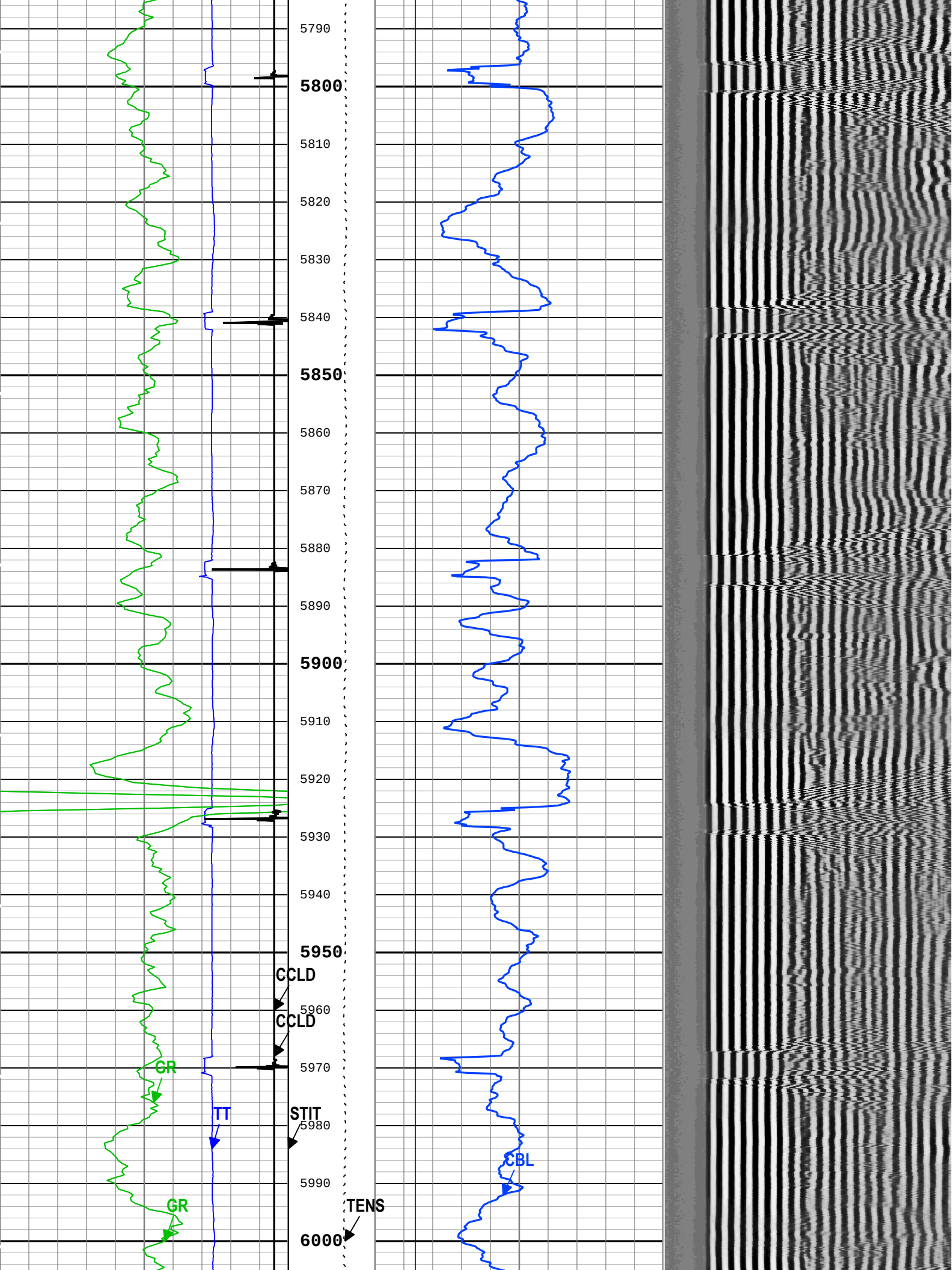

4690
4700
4710
4720
4730
4740
4750
CCLD
4760
CCLD
GR
4770
TT
STIT
4780
CBL
4790
GR
TENS
4800
4810
4820
4830
4840
4850
4860
4870
4880
4890
4900

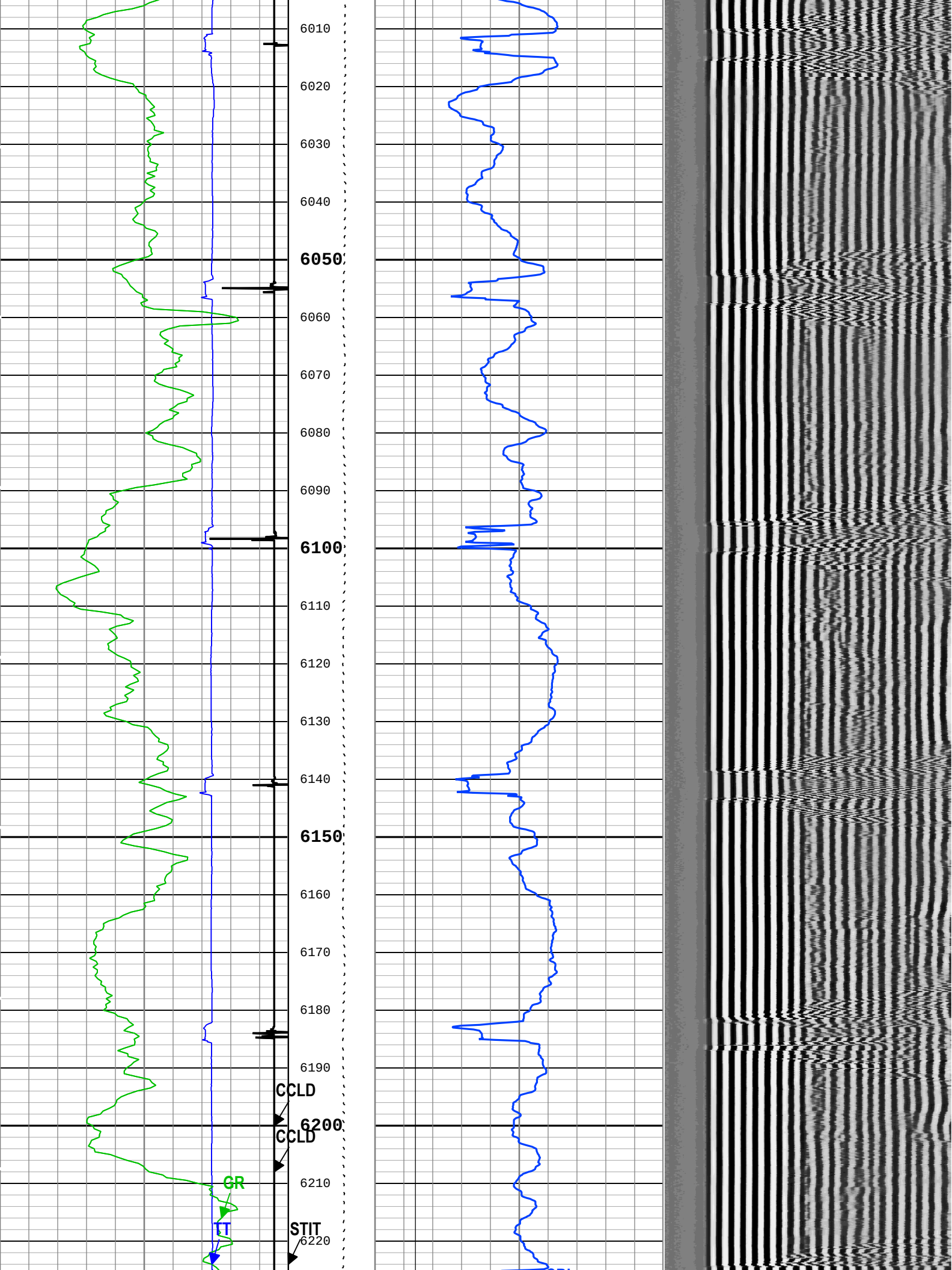

4910
4920
4930
4940
4950
4960
4970
4980
4990
CCLD
5000
CCLD
GR
5010
TT
STIT
5020
CBL
5030
GR
TENS
5040
5050
5060
5070
5080
5090
5100
5110
5120

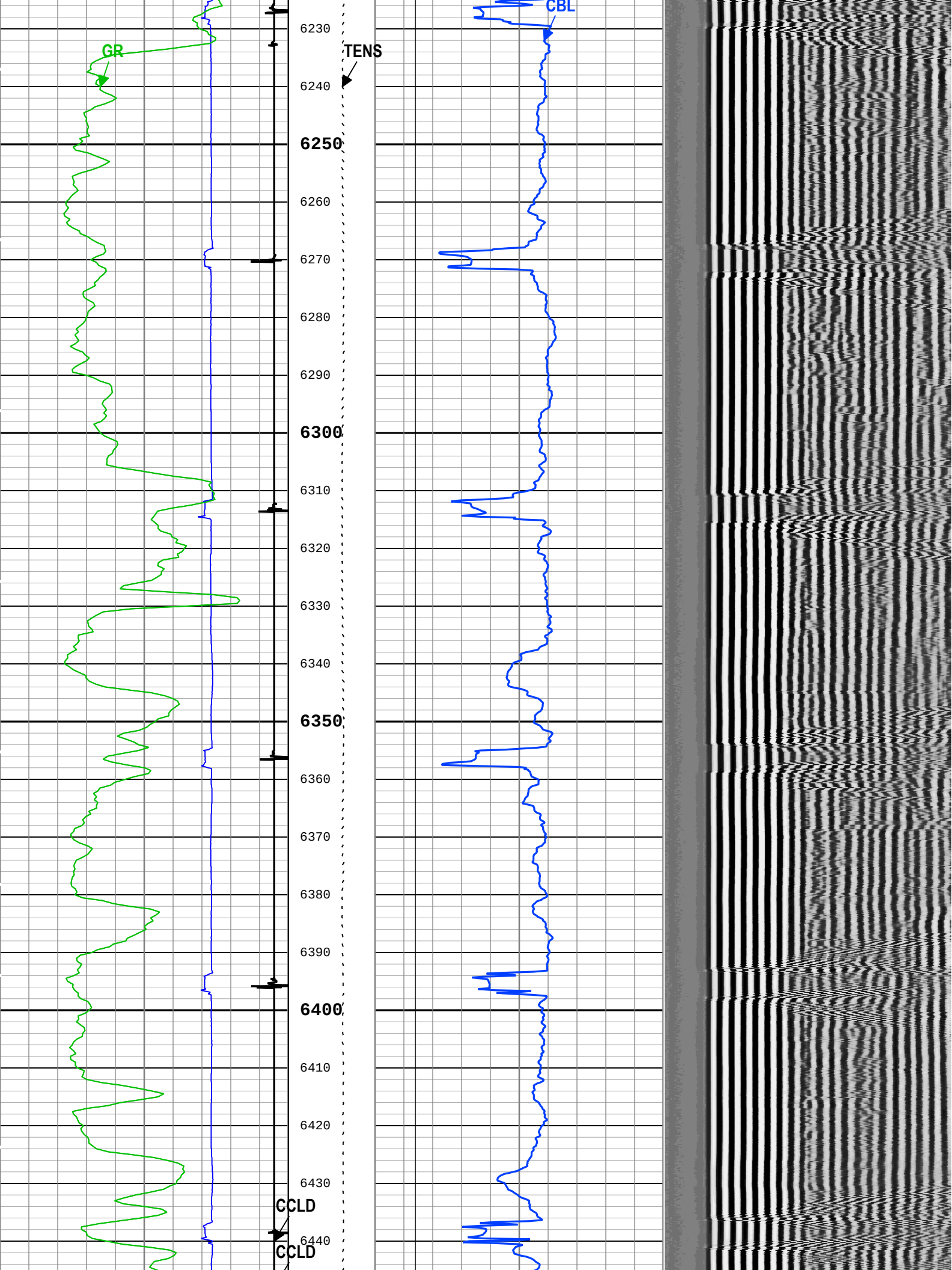

5130
5140
5150
5160
5170
5180
5190
5200
5210
5220
5230
CCLD
5240
CCLD
5250
GR
TT
STIT
5260
CBL
5270
GR
TENS
5280
5290
5300
5310
5320
5330
5340

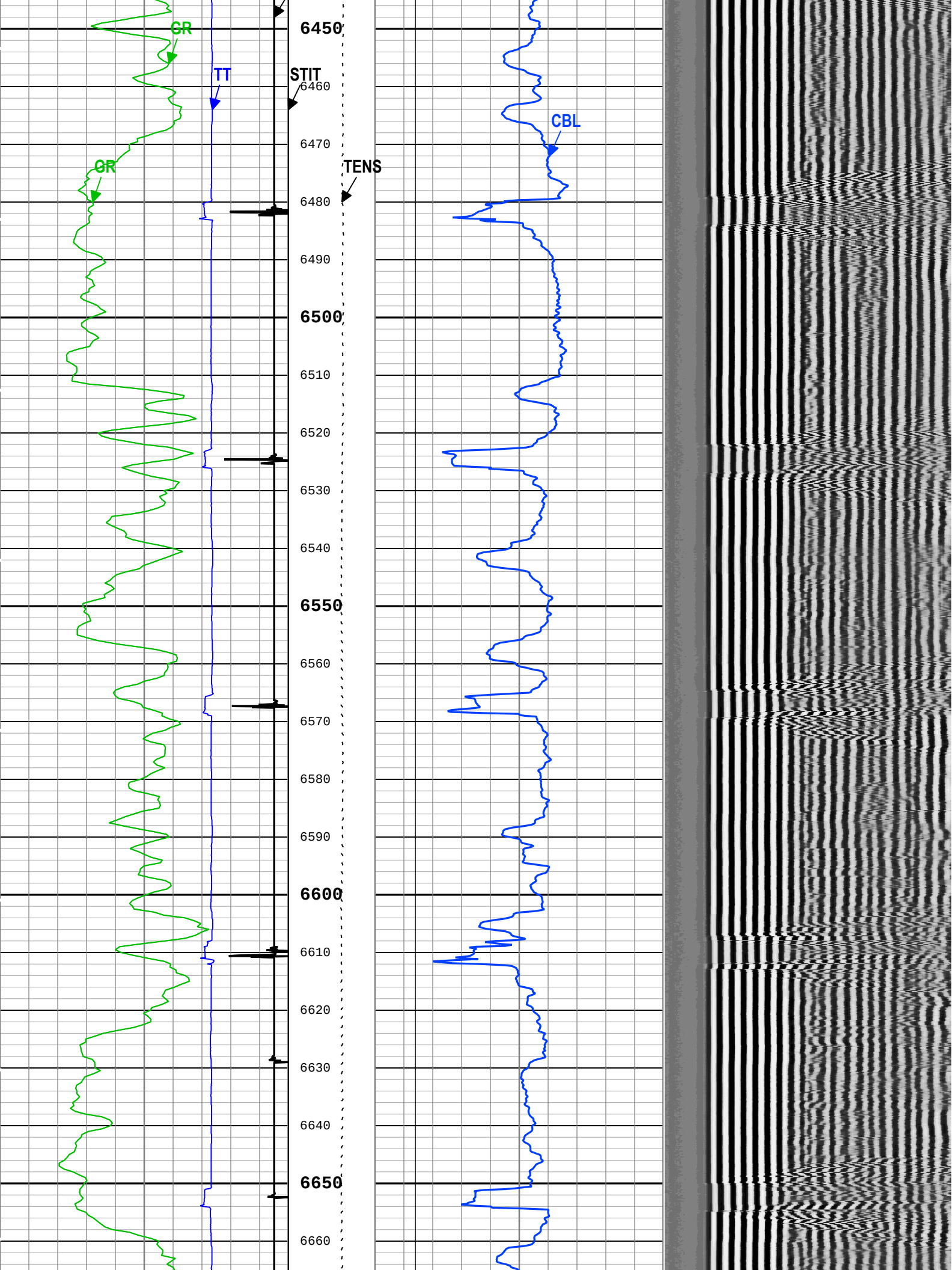

5350
5360
5370
5380
5390
5400
5410
5420
5430
5440
5450
5460
5470
CCLD
5480
CCLD
5490
GR
TT
STIT
5500
CBL
5510
GR
TENS
5520
5530
5540
5550
5560

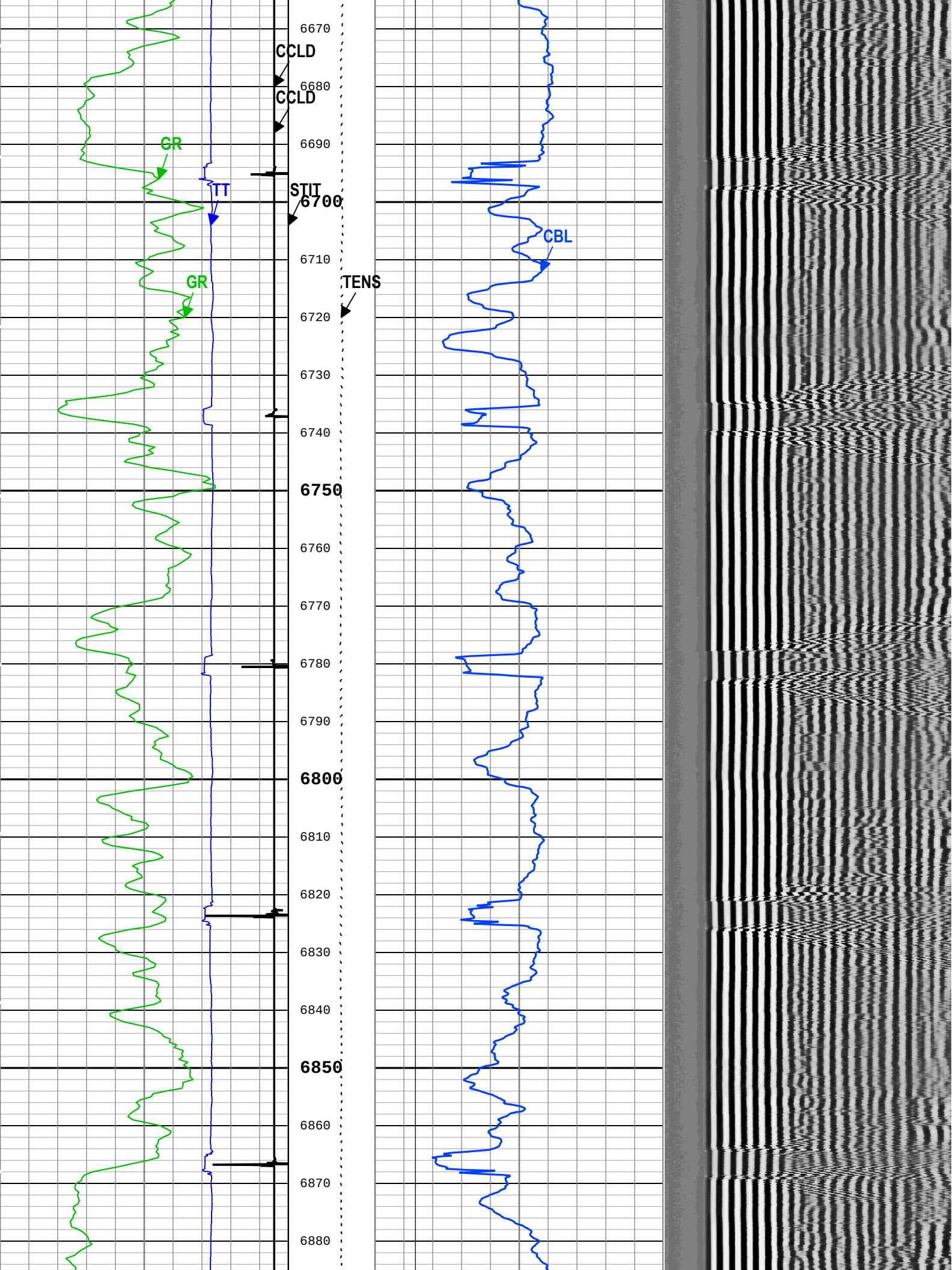

5570
5580
5590
5600
5610
5620
5630
5640
5650
5660
5670
5680
5690
5700
5710
5720
5730
5740
5750
5760
5770
5780
CCLD
CCLD
GR
TT
STIT
CBL
GR
TENS

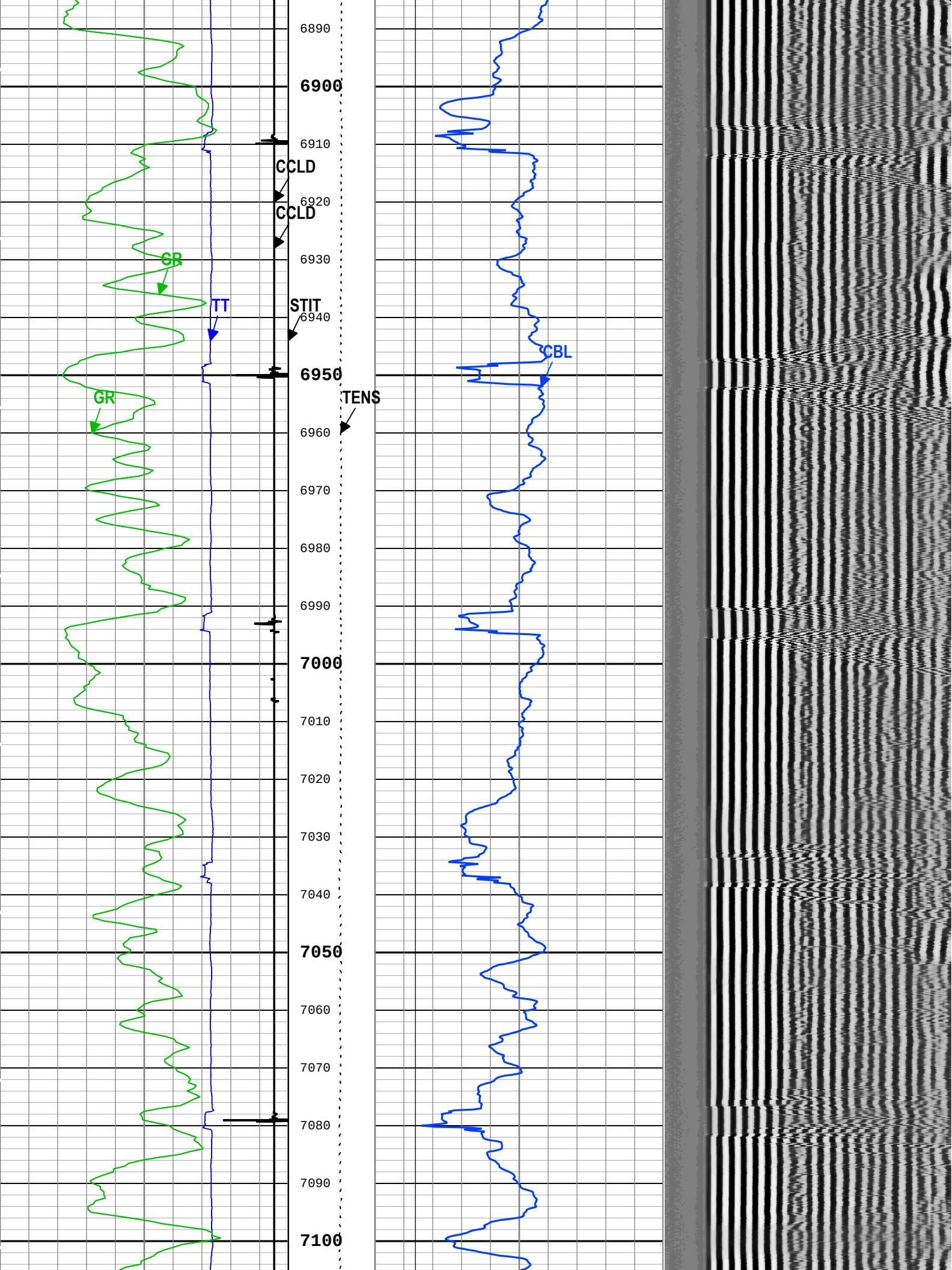

5790
5800
5810
5820
5830
5840
5850
5860
5870
5880
5890
5900
5910
5920
5930
5940
5950
5960
5970
5980
5990
6000
CCLD
CCLD
GR
TT
STIT
CBL
GR
TENS

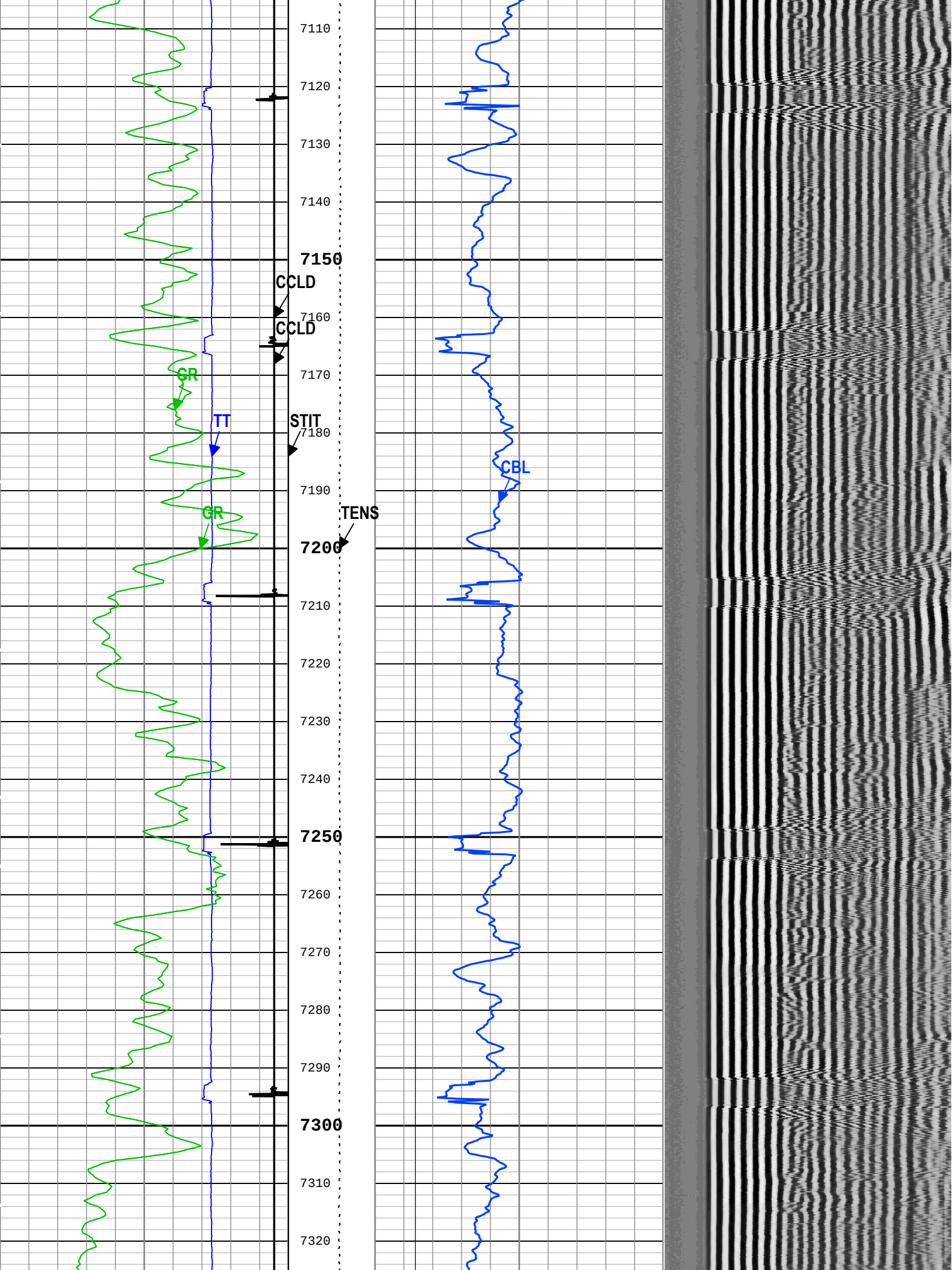

6010
6020
6030
6040
6050
6060
6070
6080
6090
6100
6110
6120
6130
6140
6150
6160
6170
6180
6190
CCLD
6200
CCLD
6210
GR
TT
STIT
6220

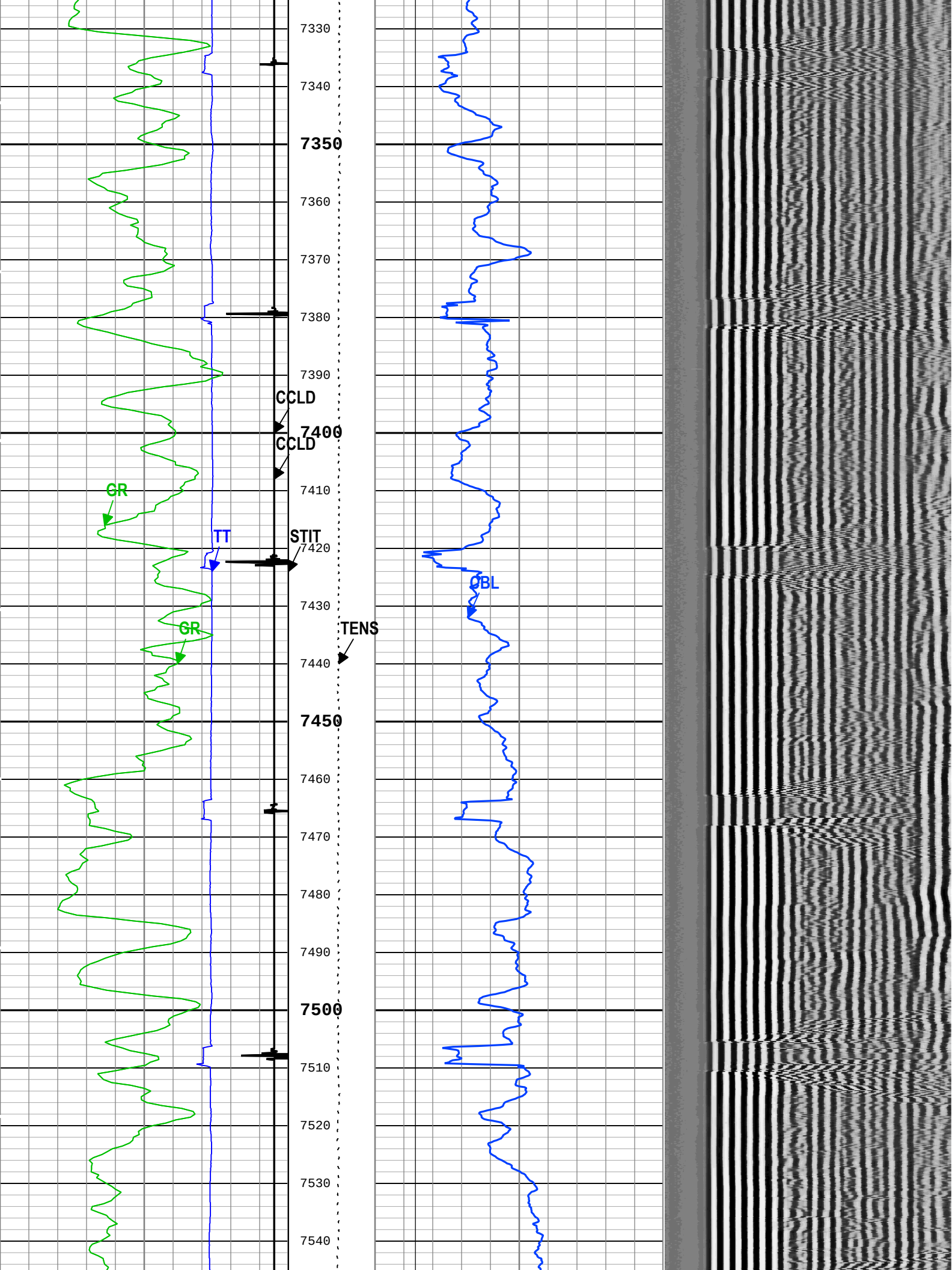

GR
TENS
CBL
CCLD
CCLD
6230
6240
6250
6260
6270
6280
6290
6300
6310
6320
6330
6340
6350
6360
6370
6380
6390
6400
6410
6420
6430
6440

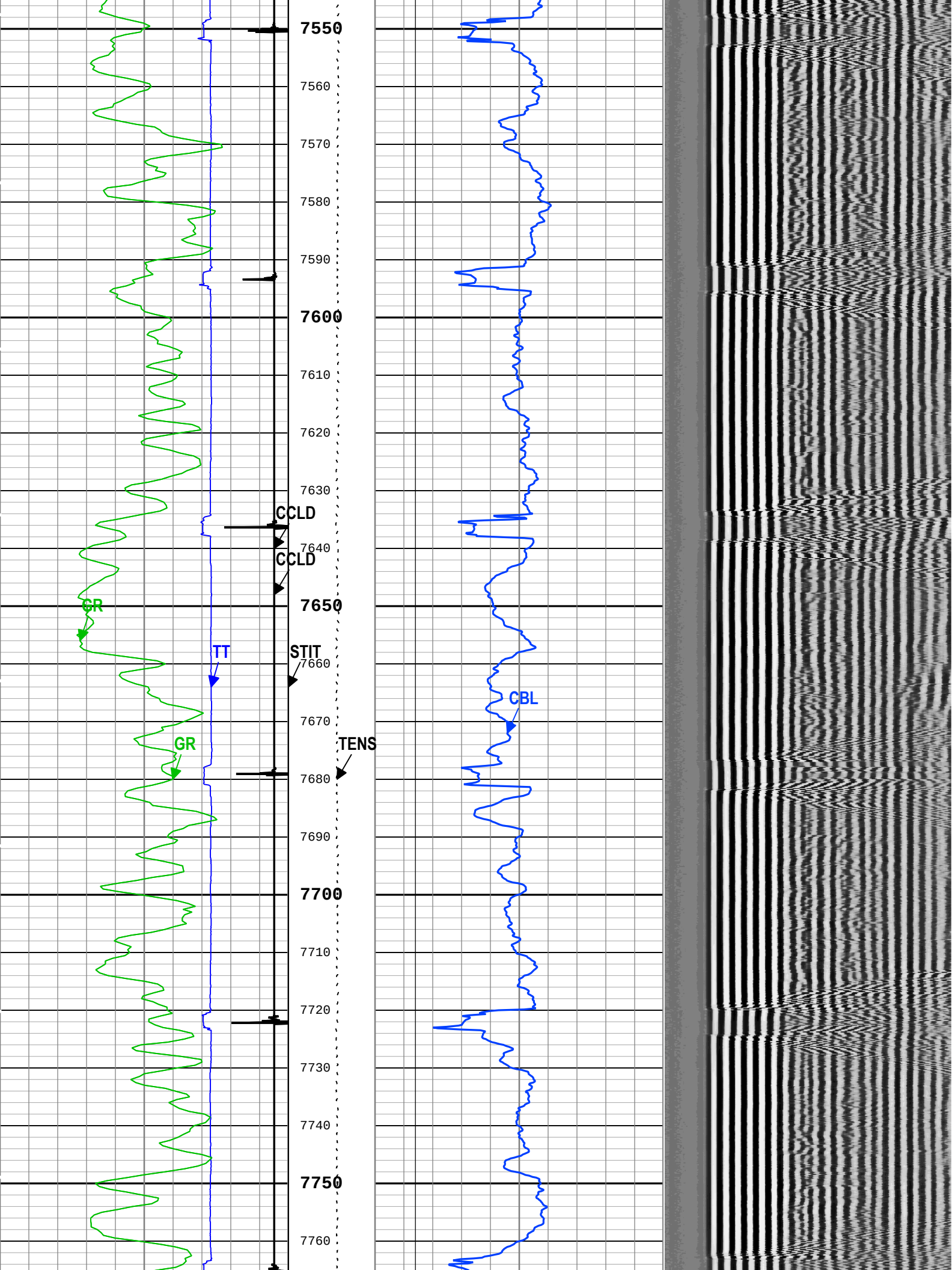

GR
TT
STIT
CBL
GR
TENS
6450
6460
6470
6480
6490
6500
6510
6520
6530
6540
6550
6560
6570
6580
6590
6600
6610
6620
6630
6640
6650
6660

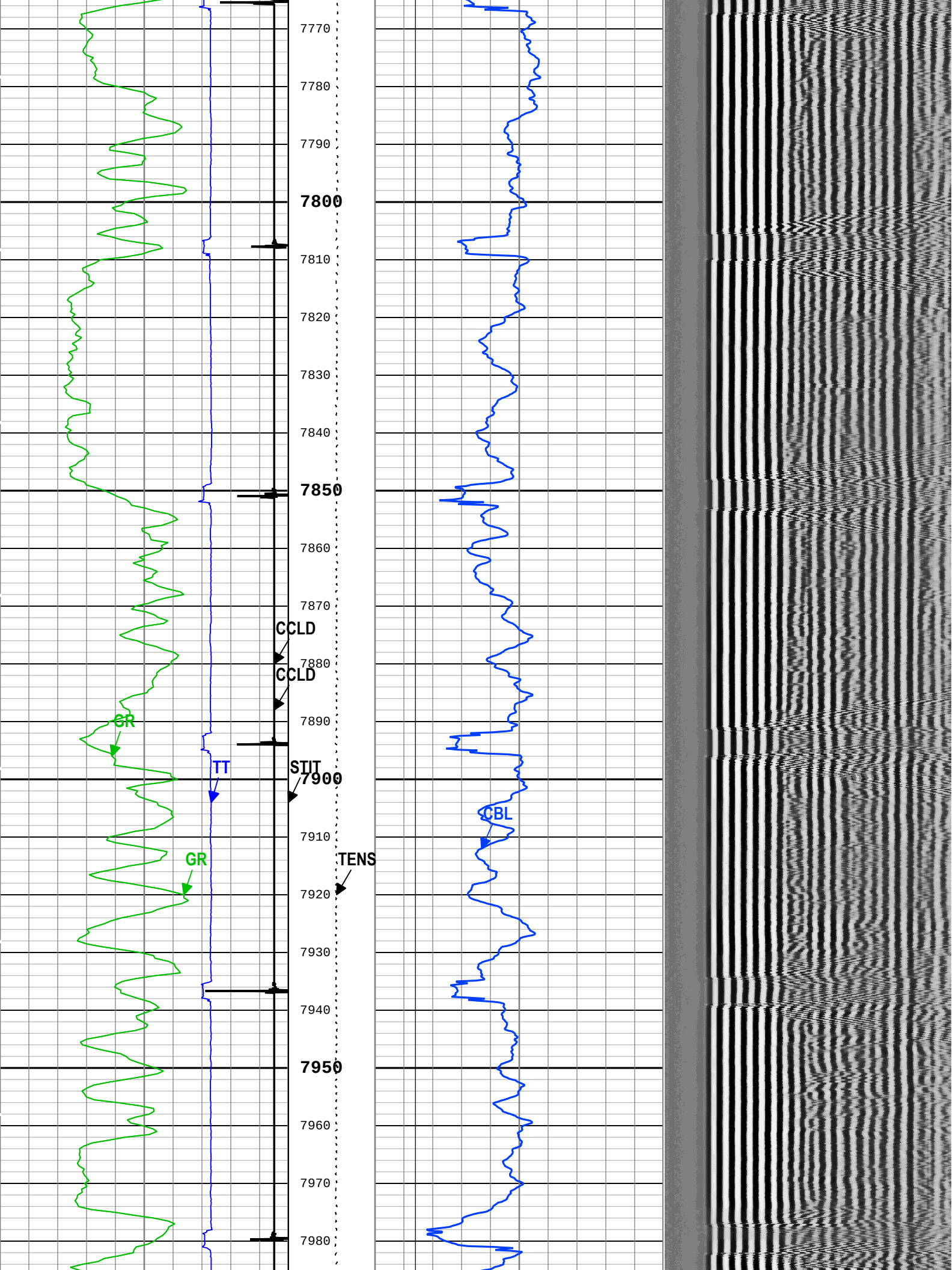

CCLD
CCLD
GR
TT
STIT
GR
TENS
CBL
6670
6680
6690
6700
6710
6720
6730
6740
6750
6760
6770
6780
6790
6800
6810
6820
6830
6840
6850
6860
6870
6880

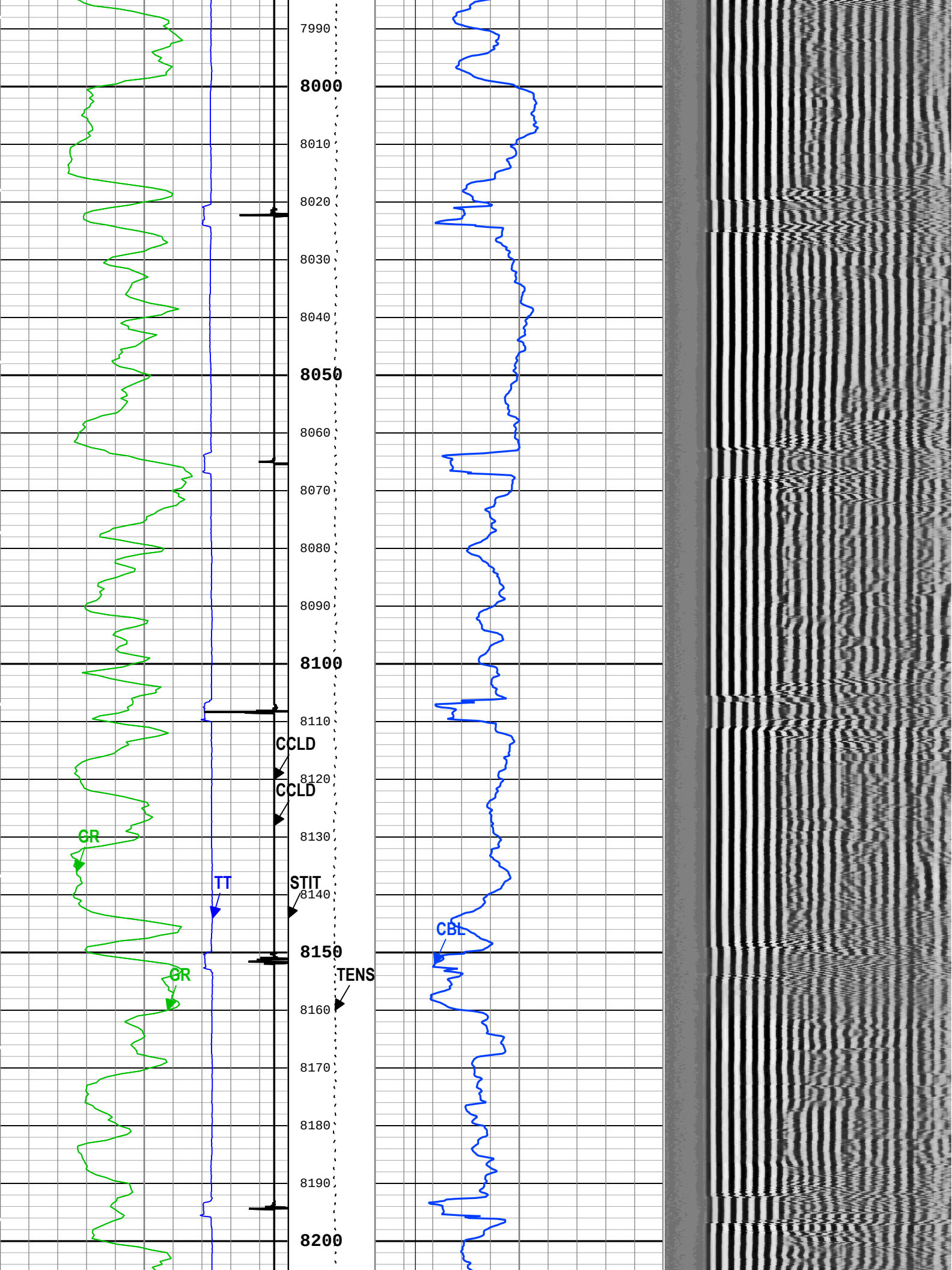

6890
6900
6910
CCLD
6920
CCLD
6930
GR
TT
STIT
6940
CBL
6950
TENS
GR
6960
6970
6980
6990
7000
7010
7020
7030
7040
7050
7060
7070
7080
7090
7100

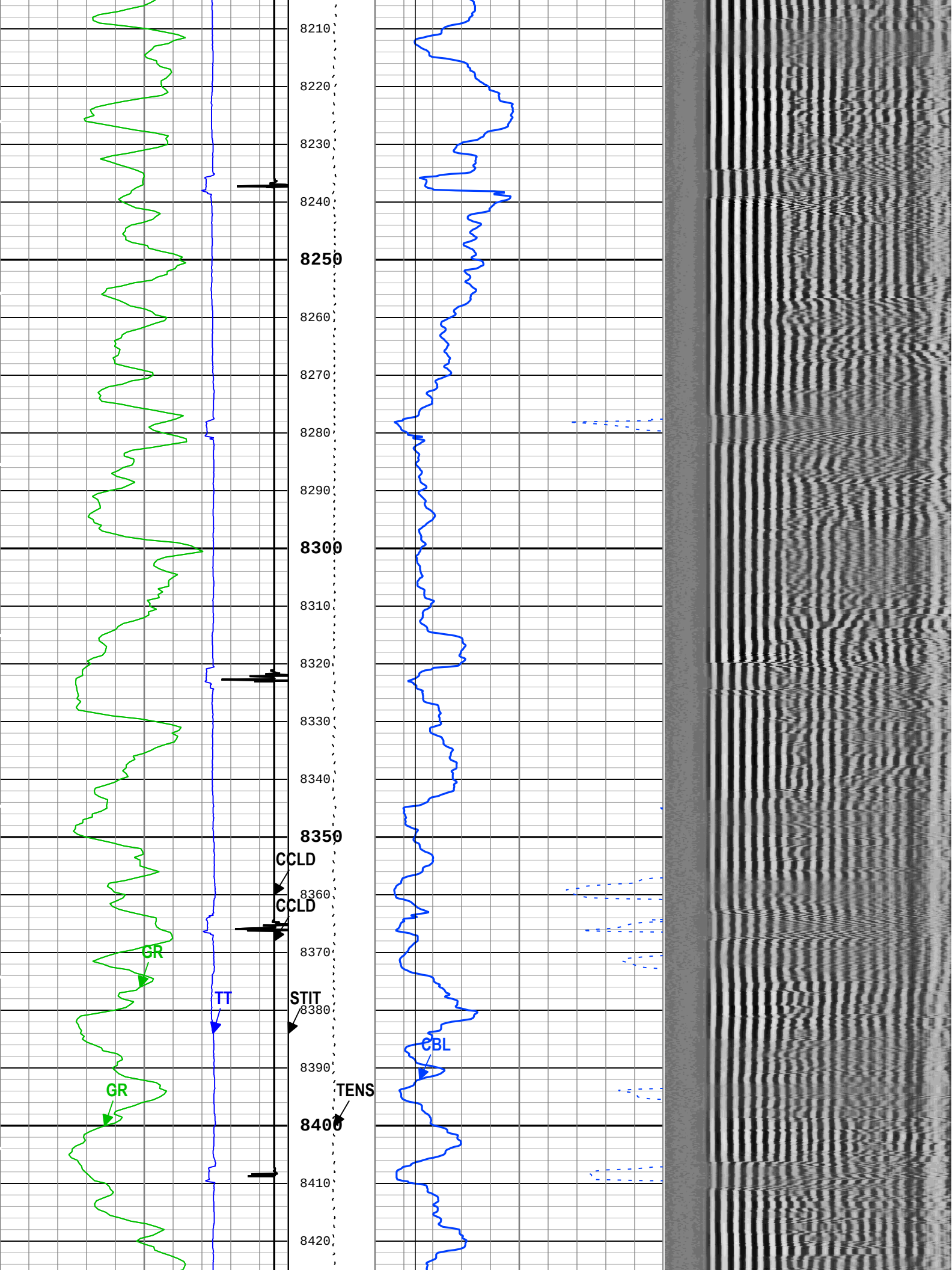

7110
7120
7130
7140
7150
7160
7170
7180
7190
7200
7210
7220
7230
7240
7250
7260
7270
7280
7290
7300
7310
7320
CCLD
CCLD
GR
TT
STIT
CBL
GR
TENS

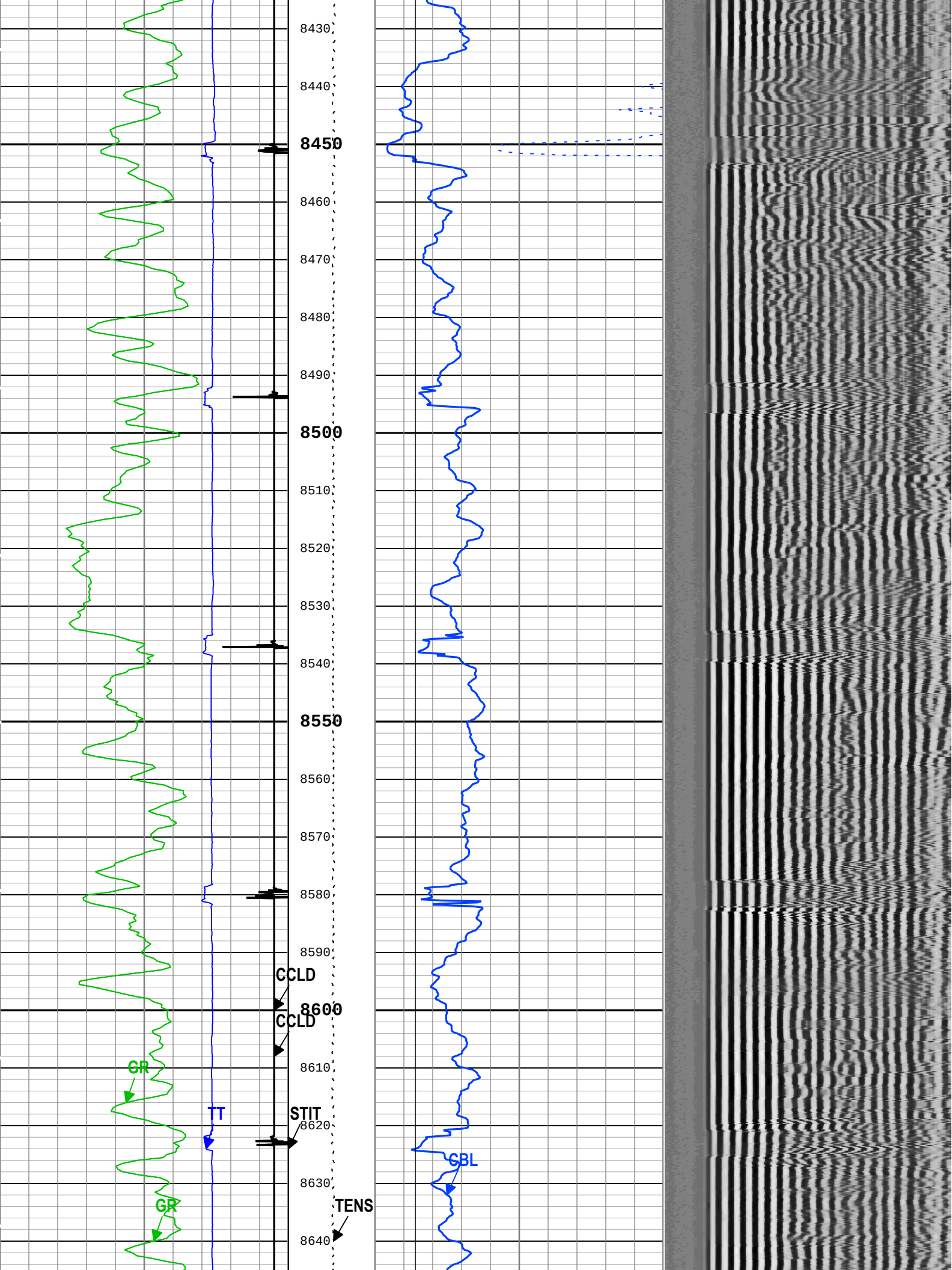

7330
7340
7350
7360
7370
7380
7390
CCLD
7400
CCLD
GR
7410
TT
STIT
7420
CBL
7430
GR
TENS
7440
7450
7460
7470
7480
7490
7500
7510
7520
7530
7540

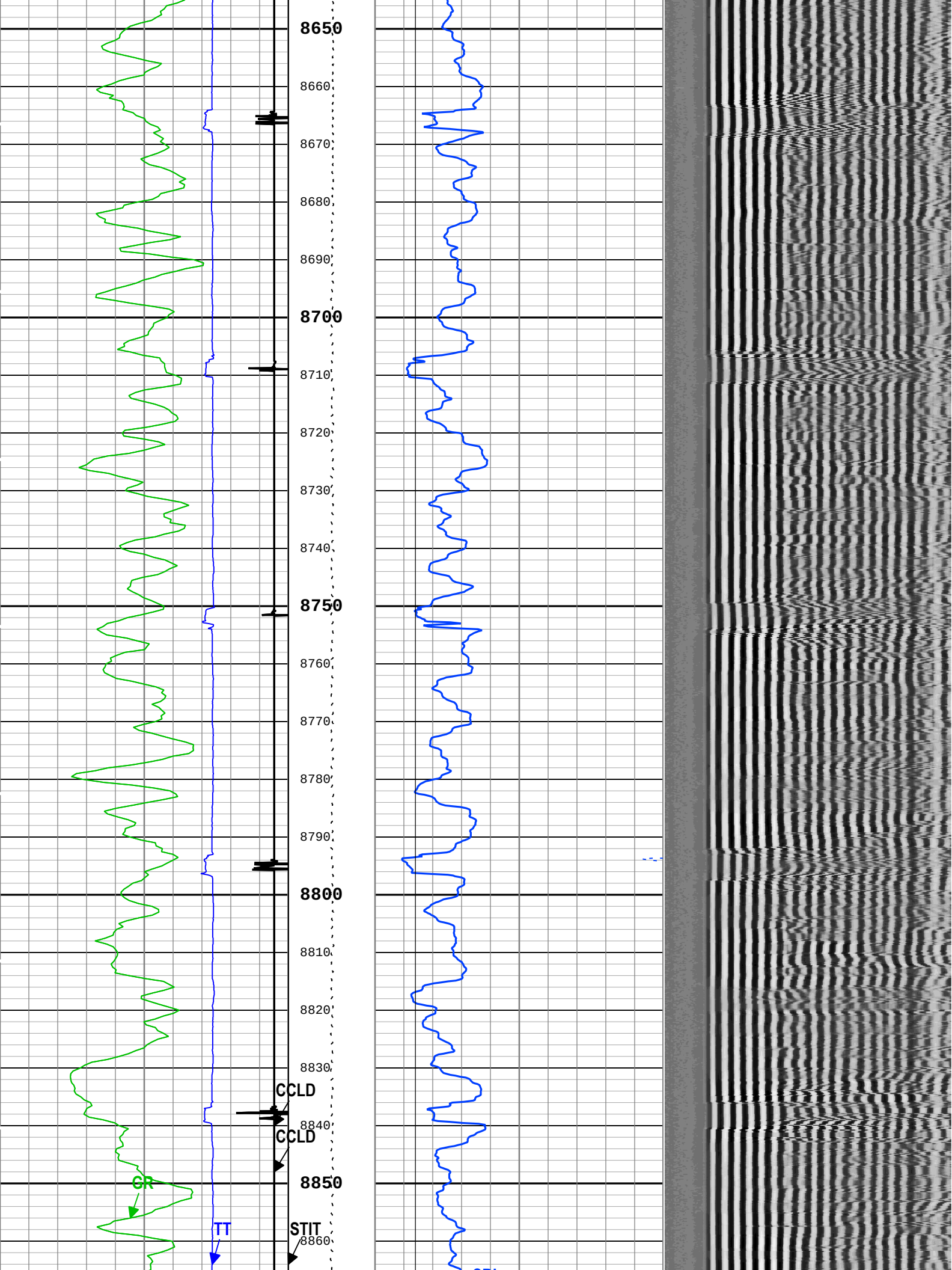

7550
7560
7570
7580
7590
7600
7610
7620
7630
CCLD
7640
CCLD
7650
GR
TT
STIT
7660
CBL
7670
GR
TENS
7680
7690
7700
7710
7720
7730
7740
7750
7760

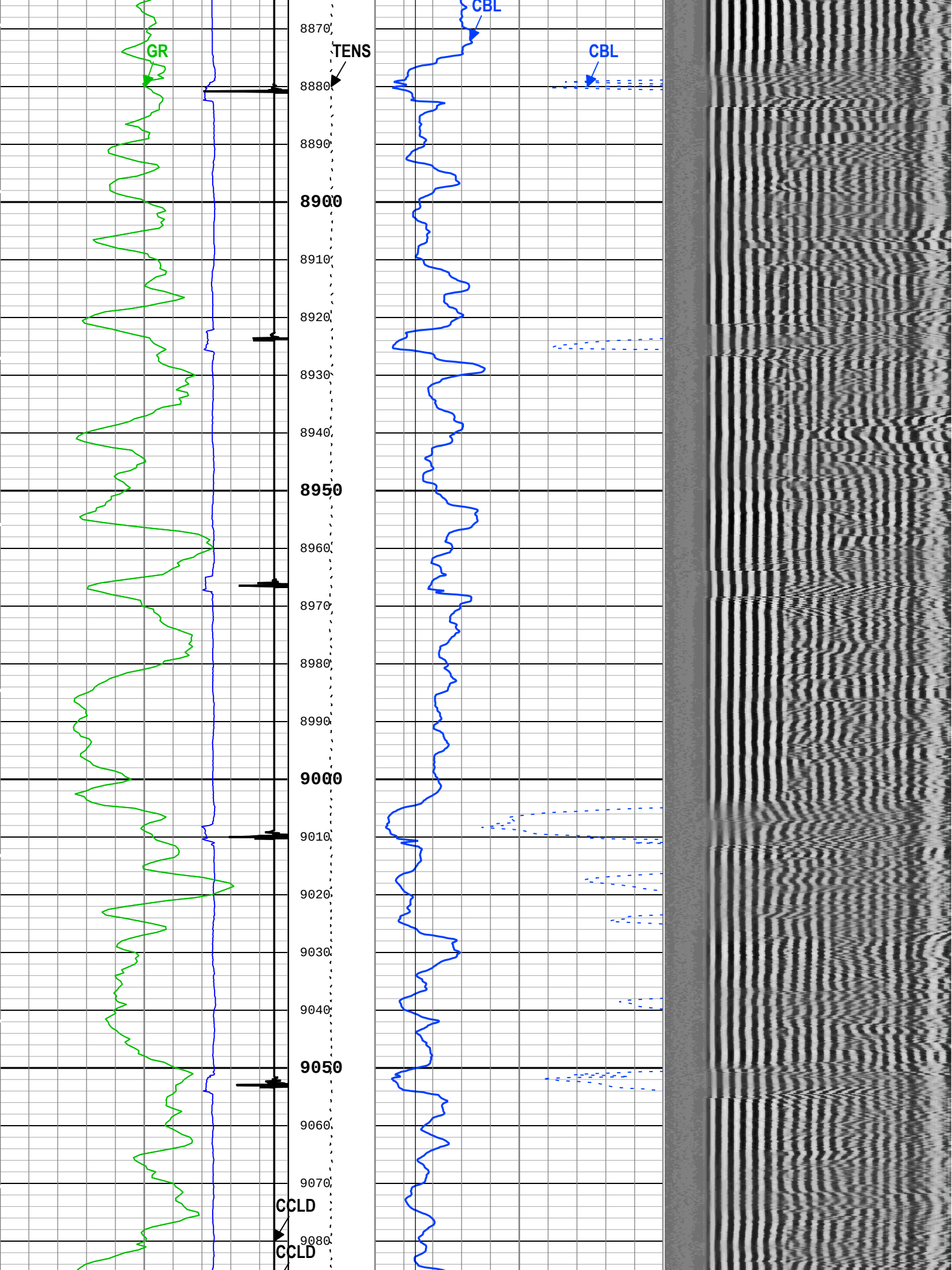

7770
7780
7790
7800
7810
7820
7830
7840
7850
7860
7870
CCLD
7880
CCLD
7890
GR
TT
STIT
7900
CBL
7910
GR
TENS
7920
7930
7940
7950
7960
7970
7980

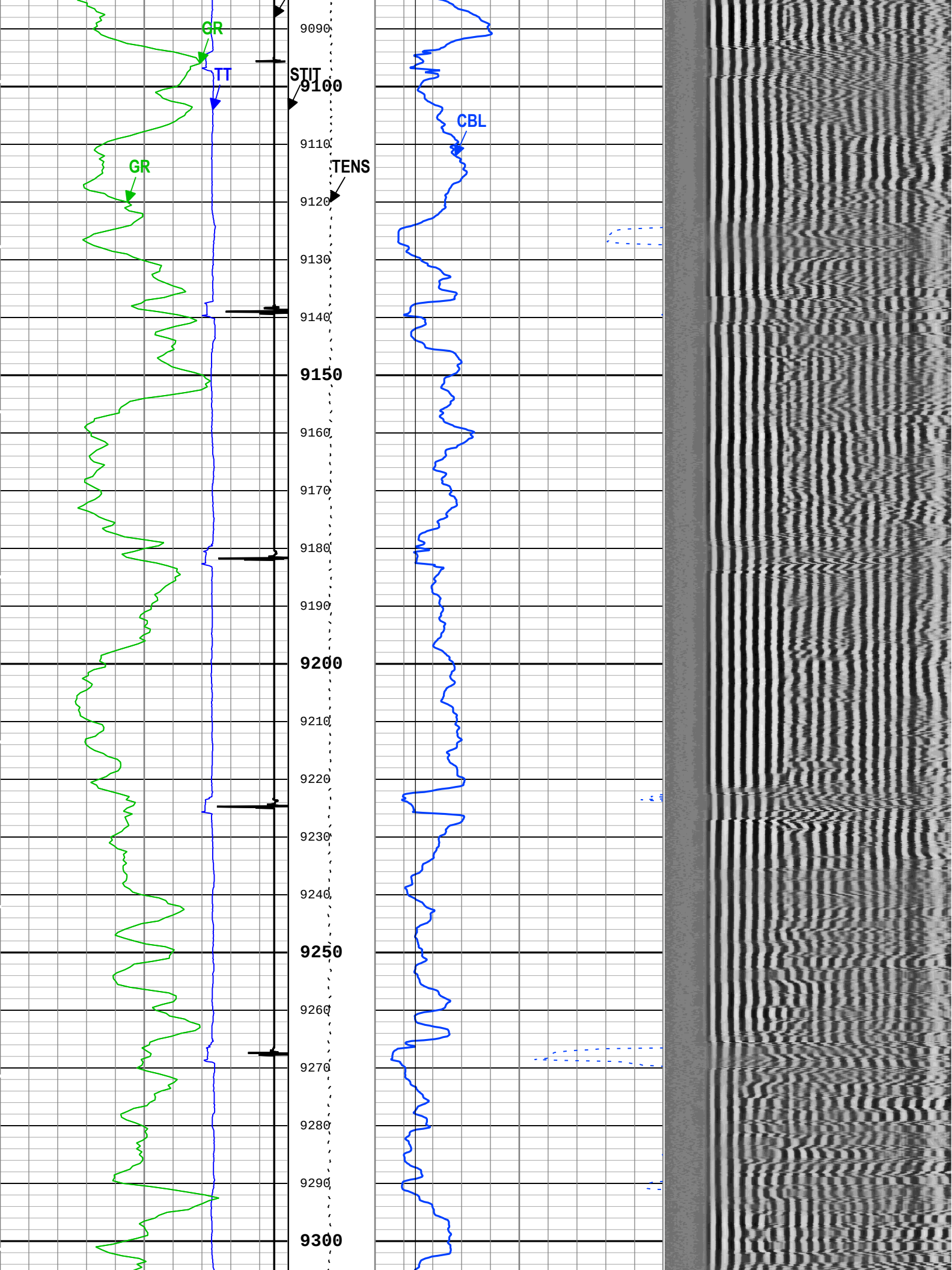

7990
8000
8010
8020
8030
8040
8050
8060
8070
8080
8090
8100
8110
CCLD
8120
CCLD
8130
GR
TT
STIT
8140
CBL
8150
GR
TENS
8160
8170
8180
8190
8200

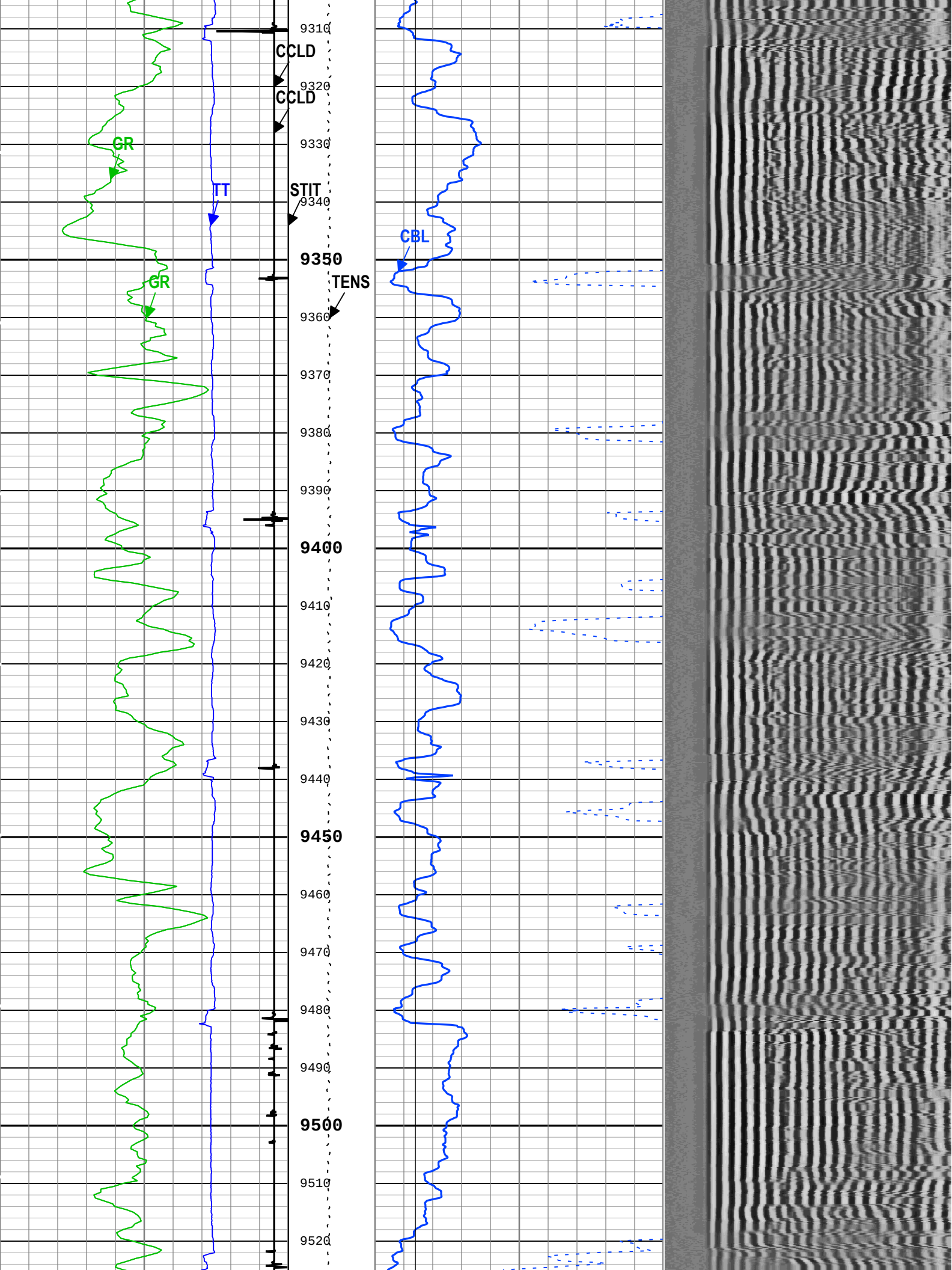

8210
8220
8230
8240
8250
8260
8270
8280
8290
8300
8310
8320
8330
8340
8350
8360
8370
8380
8390
8400
8410
8420
CCLD
CCLD
GR
TT
STIT
CBL
GR
TENS

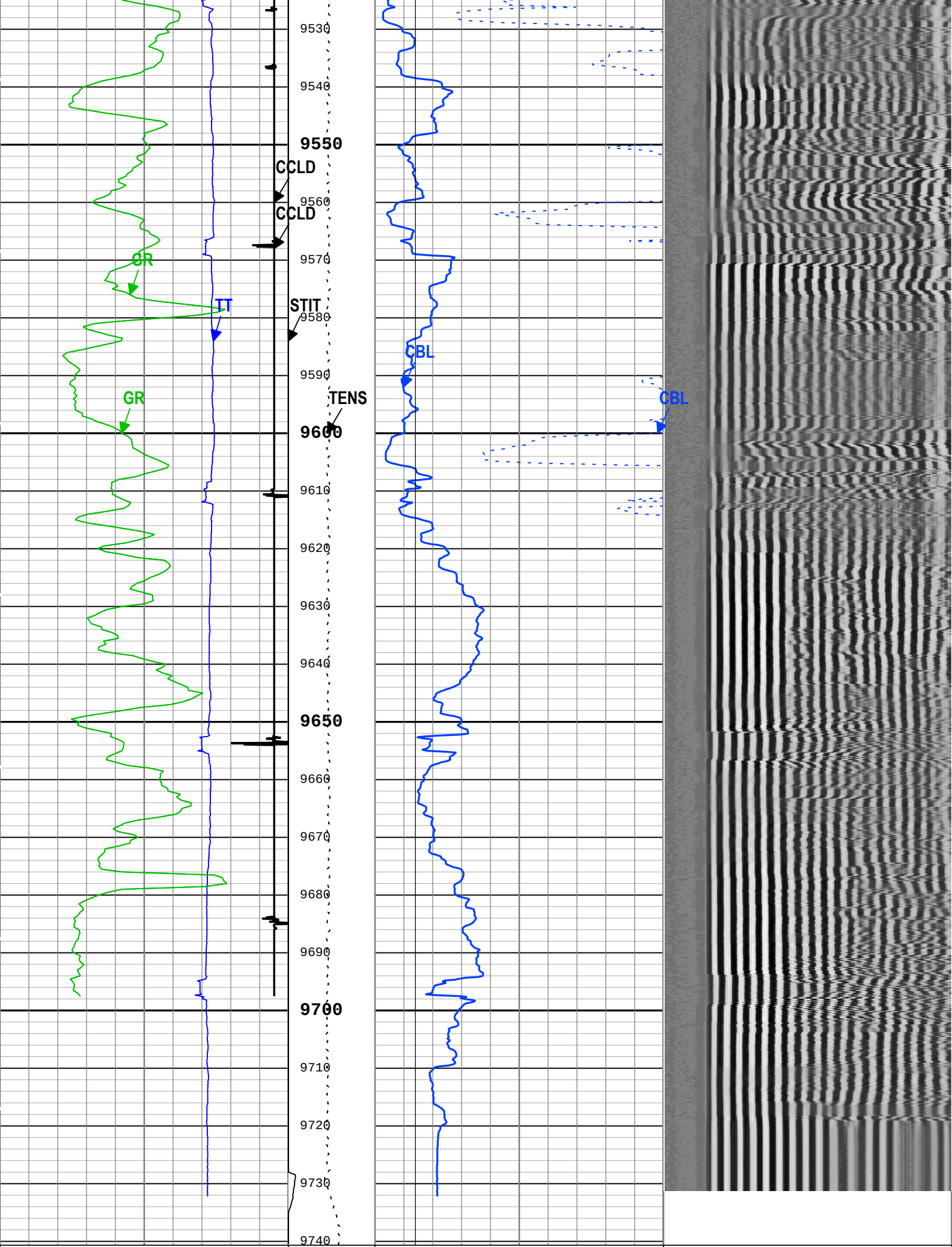

8430
8440
8450
8460
8470
8480
8490
8500
8510
8520
8530
8540
8550
8560
8570
8580
8590
CCLD
8600
CCLD
GR
TT
STIT
8620
8610
CBL
8630
GR
TENS
8640

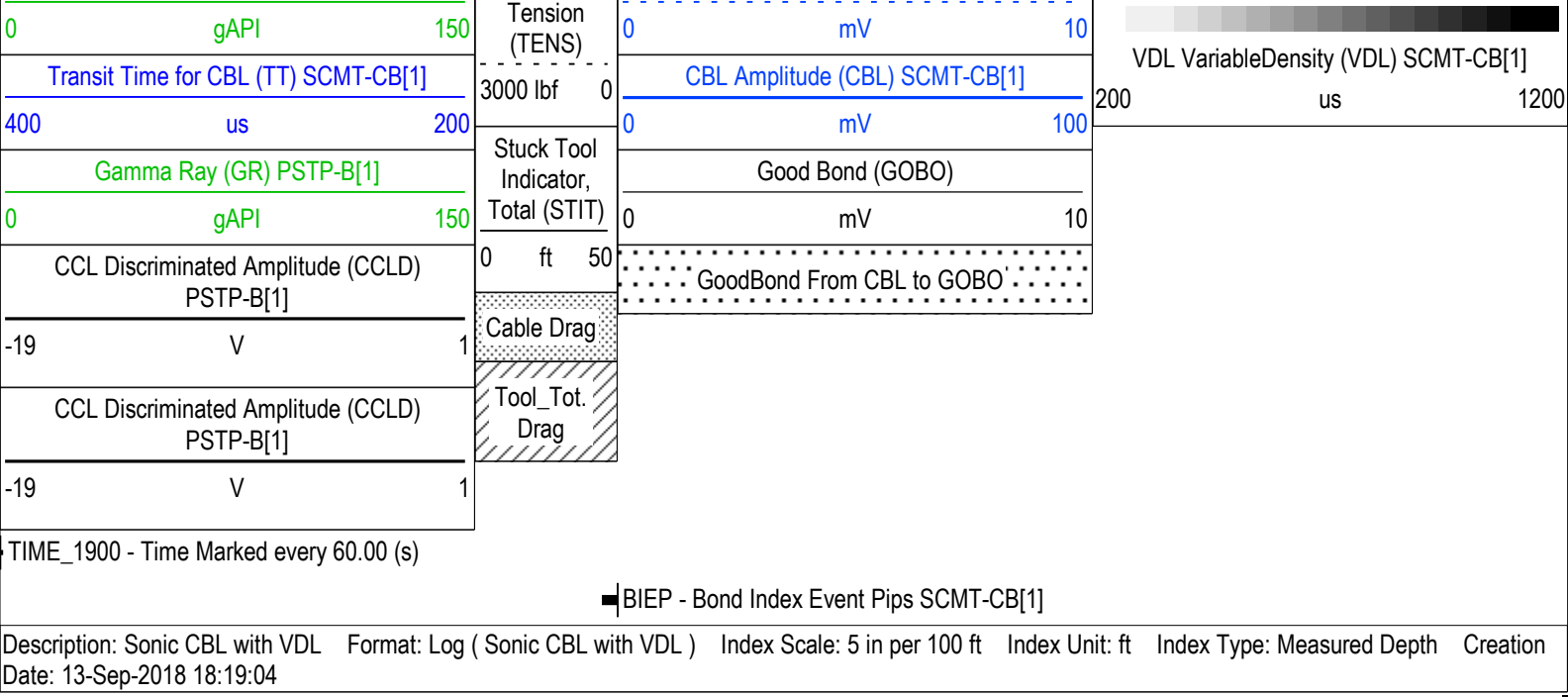

8650
8660
8670
8680
8690
8700
8710
8720
8730
8740
8750
8760
8770
8780
8790
8800
8810
8820
8830
CCLD
8840
CCLD
8850
GR
TT
STIT
8860


GR
TENS
CBL
CBL
CCLD
CCLD
8870
8880
8890
8900
8910
8920
8930
8940
8950
8960
8970
8980
8990
9000
9010
9020
9030
9040
9050
9060
9070
9080


GR
TT
STIT
CBL
GR
TENS
9090
9100
9110
9120
9130
9140
9150
9160
9170
9180
9190
9200
9210
9220
9230
9240
9250
9260
9270
9280
9290
9300


CCLD
CCLD
GR
TT
STIT
CBL
GR
TENS
9310
9320
9330
9340
9350
9360
9370
9380
9390
9400
9410
9420
9430
9440
9450
9460
9470
9480
9490
9500
9510
9520


9530
9540
9550
CCLD
9560
CCLD
9570
GR
TT
STIT
9580
CBL
9590
GR
TENS
CBL
9600
9610
9620
9630
9640
9650
9660
9670
9680
9690
9700
9710
9720
9730
9740
Gamma Ray (GR) PSTP-B[1]
Cable
CBL Amplitude (CBL) SCMT-CB[1]
Min
Amplitude
Max



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: 13-Sep-2018 18:19:04

Channel Processing Parameters

One: Parameters

Parameter	Description	Tool	Value	Unit
BHT	Bottom Hole Temperature	Borehole	275	degF
CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	SCMT-CB	232.25	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	8.5	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
GOBO_CURR	Good Bond in Arbitrary Cement	SCMT-CB	1.4	mV
GTSE	Generalized Temperature Selection, from Measured or Computed Temperature	Borehole	WTEP	
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
RUN_SNUM	Run Sequence Number	WSDRUN	1	
TD	Total Measured Depth	Borehole	9729	ft

Two: Parameters

Parameter	Description	Tool	Value	Unit
BHT	Bottom Hole Temperature	Borehole	275	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	8.5	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
EDF	Elevation of Derrick Floor Above Permanent Datum	WLSESSION	24	ft
EPD	Elevation of Permanent Datum (PDAT) above Mean Sea Level	WLSESSION	6709	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	Borehole	GTEM_LINEST(RT)	

	Computed Temperature			
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	3	
SHT	Surface Hole Temperature	Borehole	68	degF
TD	Total Measured Depth	Borehole	9729	ft

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-B	24 dB	

Two: 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-B	24 dB	

One

Repeat Pass

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	9396.24 ft	9718.16 ft	12-Sep-2018 8:41:03 PM	12-Sep-2018 8:52:26 PM	ON	7.78 ft	Yes

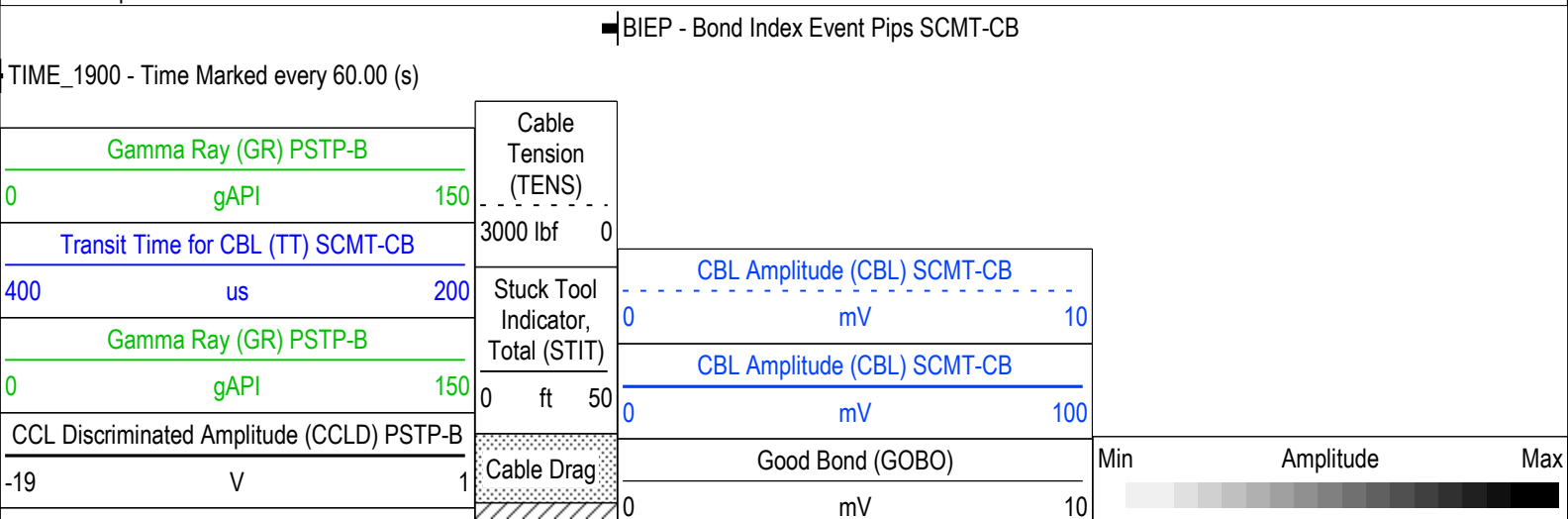
All depths are referenced to toolstring zero

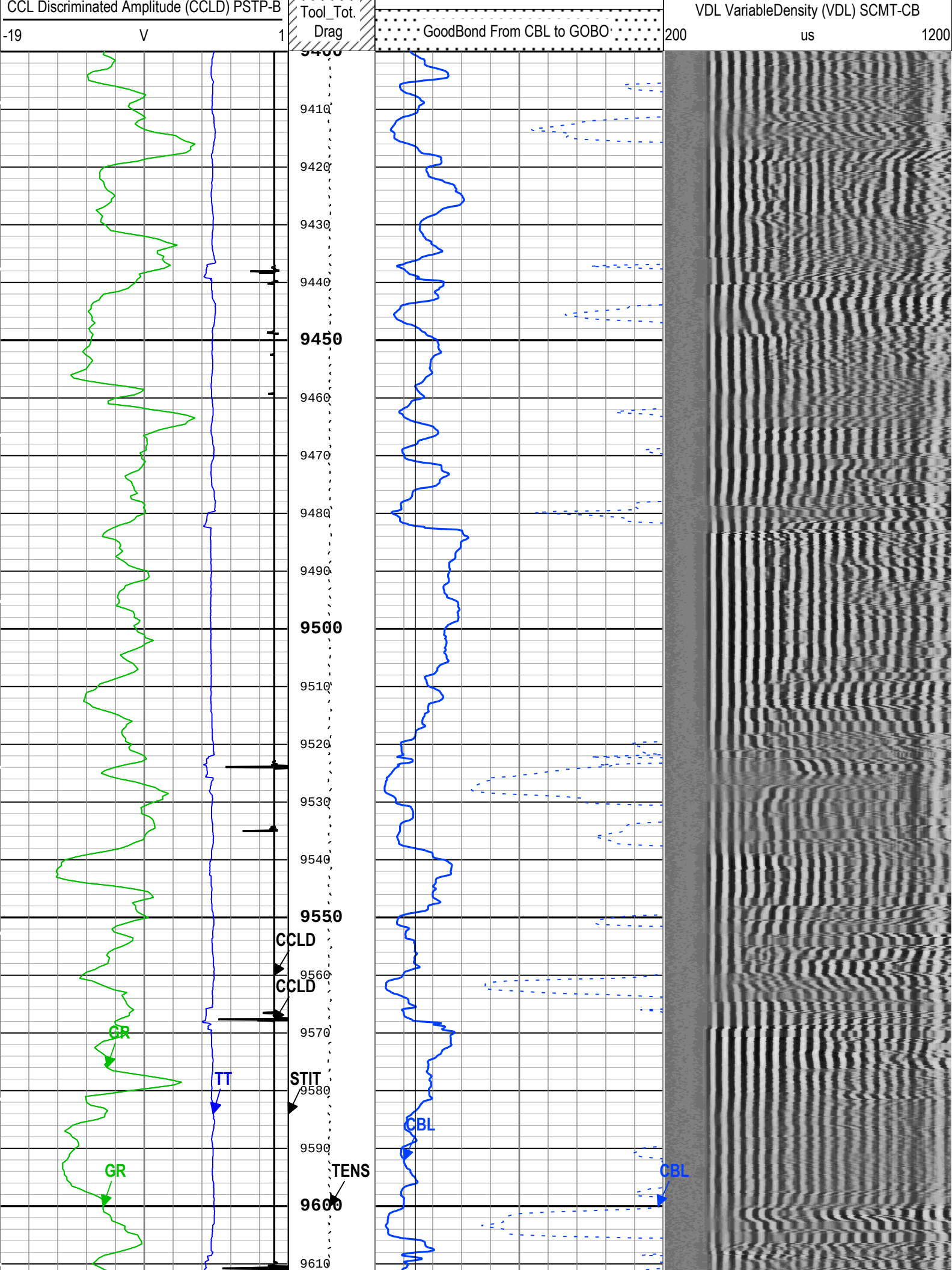
Log

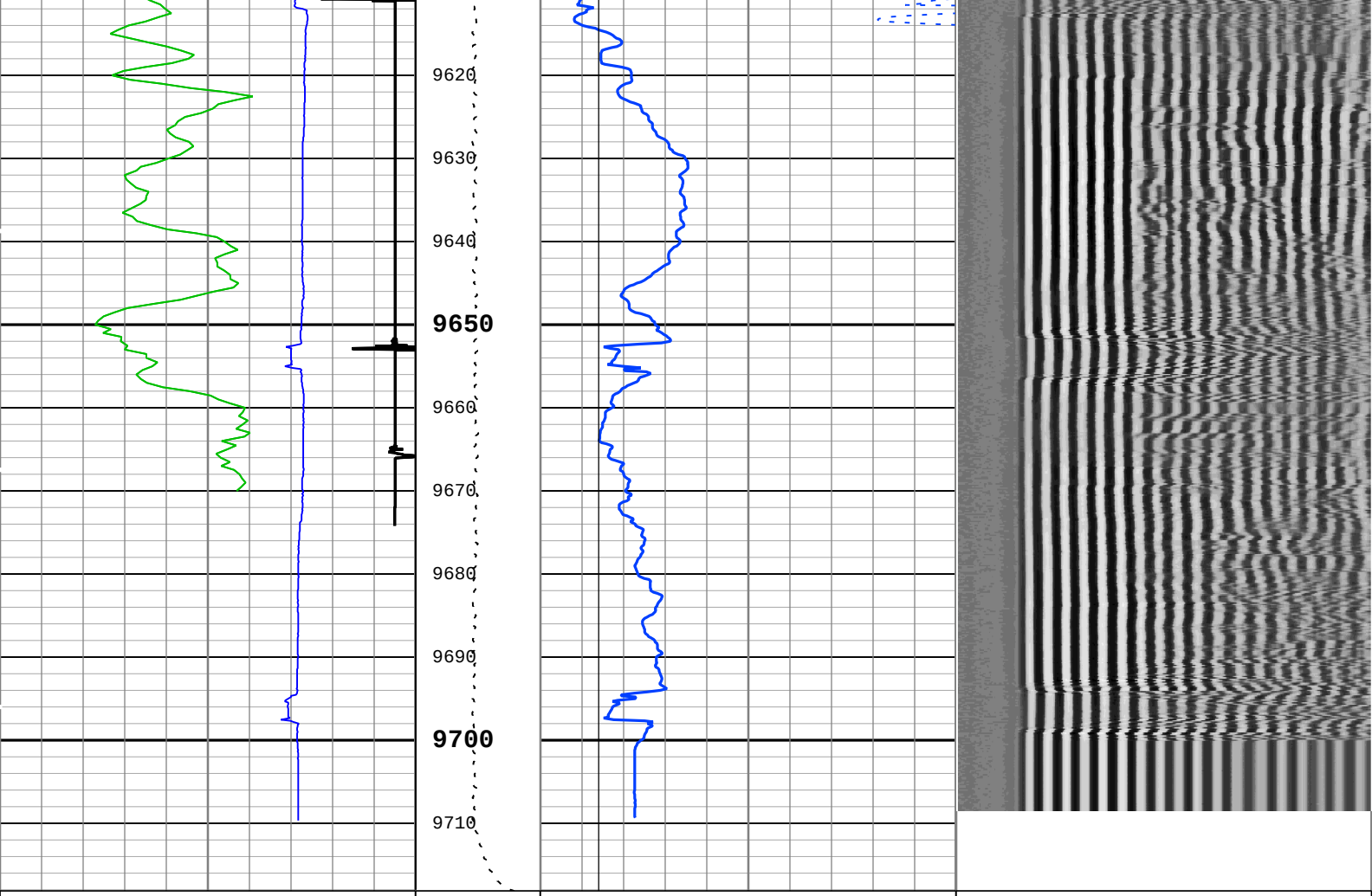
Company:Caerus Operating LLC Well:NPR 12C-10 596

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: 13-Sep-2018 18:19:11




CCL Discriminated Amplitude (CCLD) PSTP-B
-19
V
1
Tool_Tot.
Drag
GoodBond From CBL to GOBO
VDL VariableDensity (VDL) SCMT-CB
200
us
1200
9400
9410
9420
9430
9440
9450
9460
9470
9480
9490
9500
9510
9520
9530
9540
9550
9560
9570
9580
9590
9600
9610
CCLD
CCLD
GR
TT
STIT
CBL
GR
TENS
CBL



Gamma Ray (GR) PSTP-B		
0	gAPI	150

Transit Time for CBL (TT) SCMT-CB		
400	us	200

Gamma Ray (GR) PSTP-B		
0	gAPI	150

CCL Discriminated Amplitude (CCLD) PSTP-B		
-19	V	1

CCL Discriminated Amplitude (CCLD) PSTP-B		
-19	V	1

Cable Tension (TENS)	
3000 lbf	0

Stuck Tool Indicator, Total (STIT)		
0	ft	50

Cable Drag

Tool_Tot. Drag

CBL Amplitude (CBL) SCMT-CB		
0	mV	10

CBL Amplitude (CBL) SCMT-CB		
0	mV	100

Good Bond (GOBO)		
0	mV	10

GoodBond From CBL to GOBO

Min	Amplitude	Max

VDL VariableDensity (VDL) SCMT-CB

200	us	1200

TIME_1900 - Time Marked every 60.00 (s)

BIEP - Bond Index Event Pips SCMT-CB

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: 13-Sep-2018 18:19:11

Channel Processing Parameters

One: Parameters

Parameter	Description	Tool	Value	Unit
BHT	Bottom Hole Temperature	Borehole	275	degF
CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	SCMT-CB	232.25	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	8.5	lbm/gal

DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
GOBO_CURR	Good Bond in Arbitrary Cement	SCMT-CB	1.4	mV
GTSE	Generalized Temperature Selection, from Measured or Computed Temperature	Borehole	WTEP	
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
RUN_SNUM	Run Sequence Number	WSDRUN	1	
TD	Total Measured Depth	Borehole	9729	ft

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-B	24 dB	

Composite 1

Main Pass

Software Version

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

Composite Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[3]:Up	Up	6093.43 ft	9753.96 ft	12-Sep-2018 9:00:32 PM	12-Sep-2018 11:08:53 PM	ON	8.68 ft	Yes
One	Log[6]:Up	Up	6244.83 ft	7420.27 ft	13-Sep-2018 12:36:21 AM	13-Sep-2018 1:27:17 AM	ON	7.30 ft	Yes
One	Log[7]:Up	Up	4938.84 ft	6510.48 ft	13-Sep-2018 1:35:56 AM	13-Sep-2018 2:31:16 AM	ON	7.43 ft	Yes
Two	Log[1]:Up	Up	2554.78 ft	5150.18 ft	13-Sep-2018 6:32:01 AM	13-Sep-2018 7:59:42 AM	ON	-0.95 ft	Yes
Two	Log[2]:Up	Up	473.19 ft	2910.78 ft	13-Sep-2018 8:15:24 AM	13-Sep-2018 9:15:42 AM	ON	-1.39 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Caerus Operating LLC Well:NPR 12C-10 596

Composite 1: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: 13-Sep-2018 18:19:15

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)

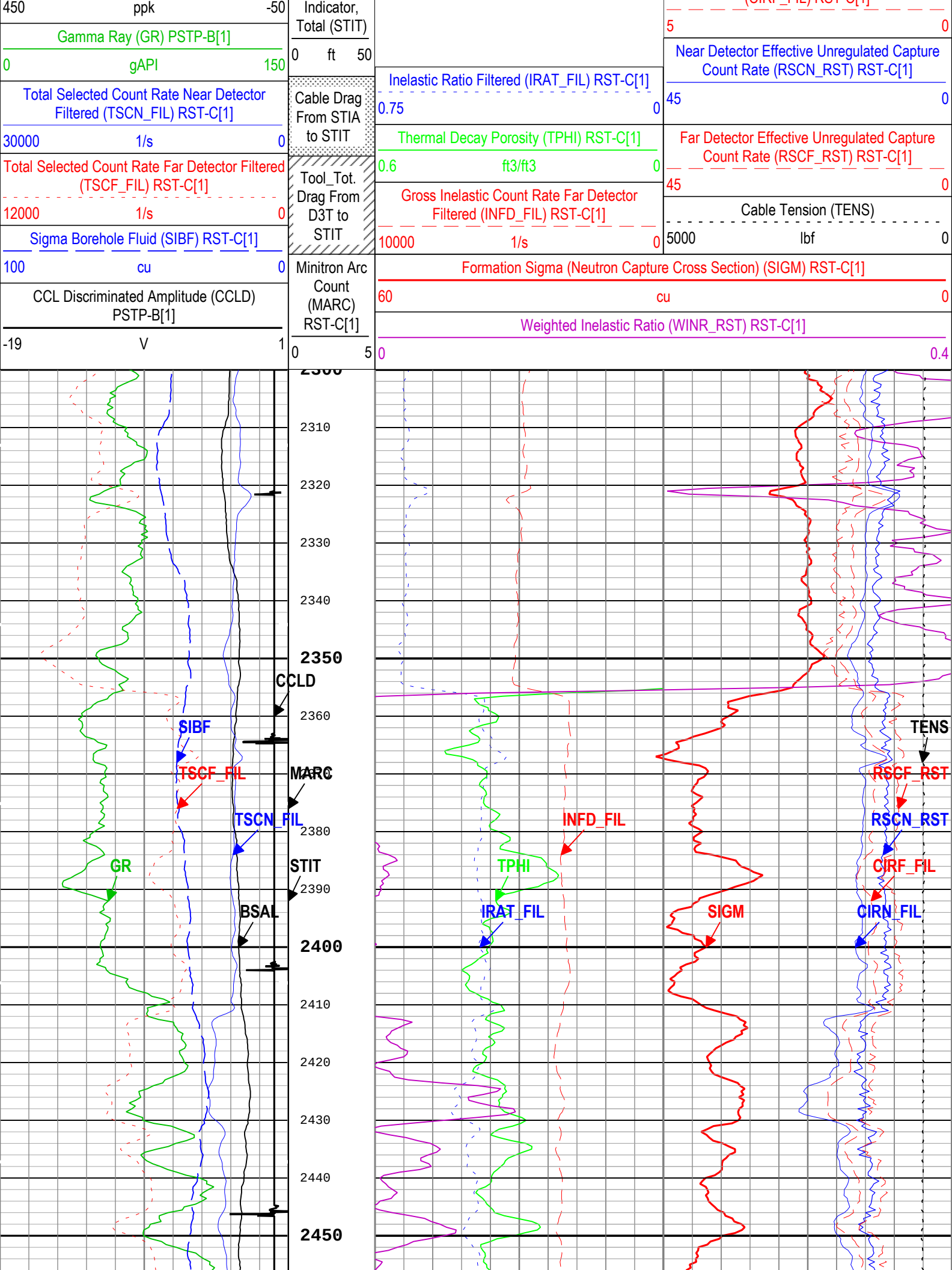
Capture to Inelastic Ratio Near Filtered (CIRN_FIL) RST-C[1]

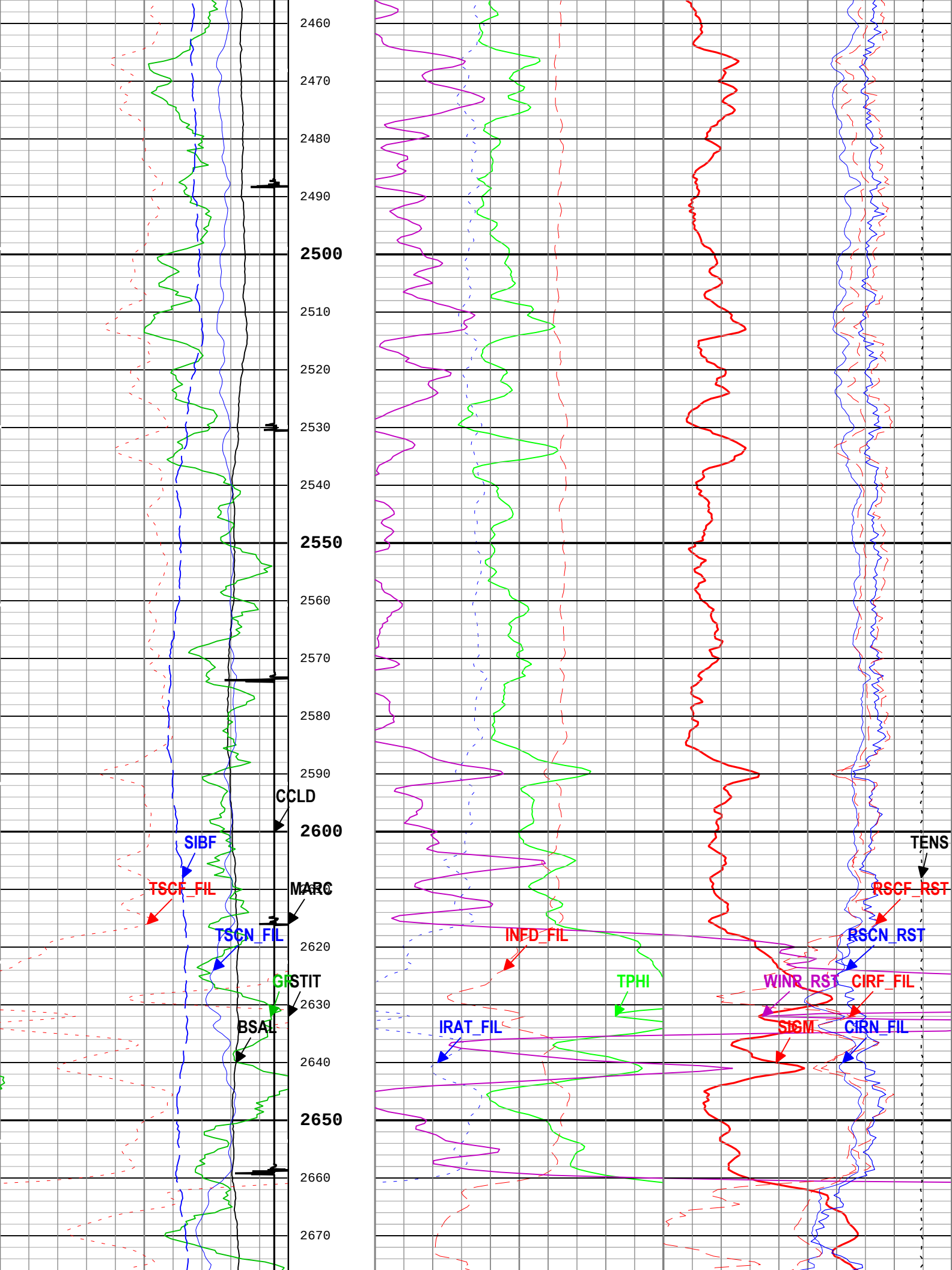
2.5 0

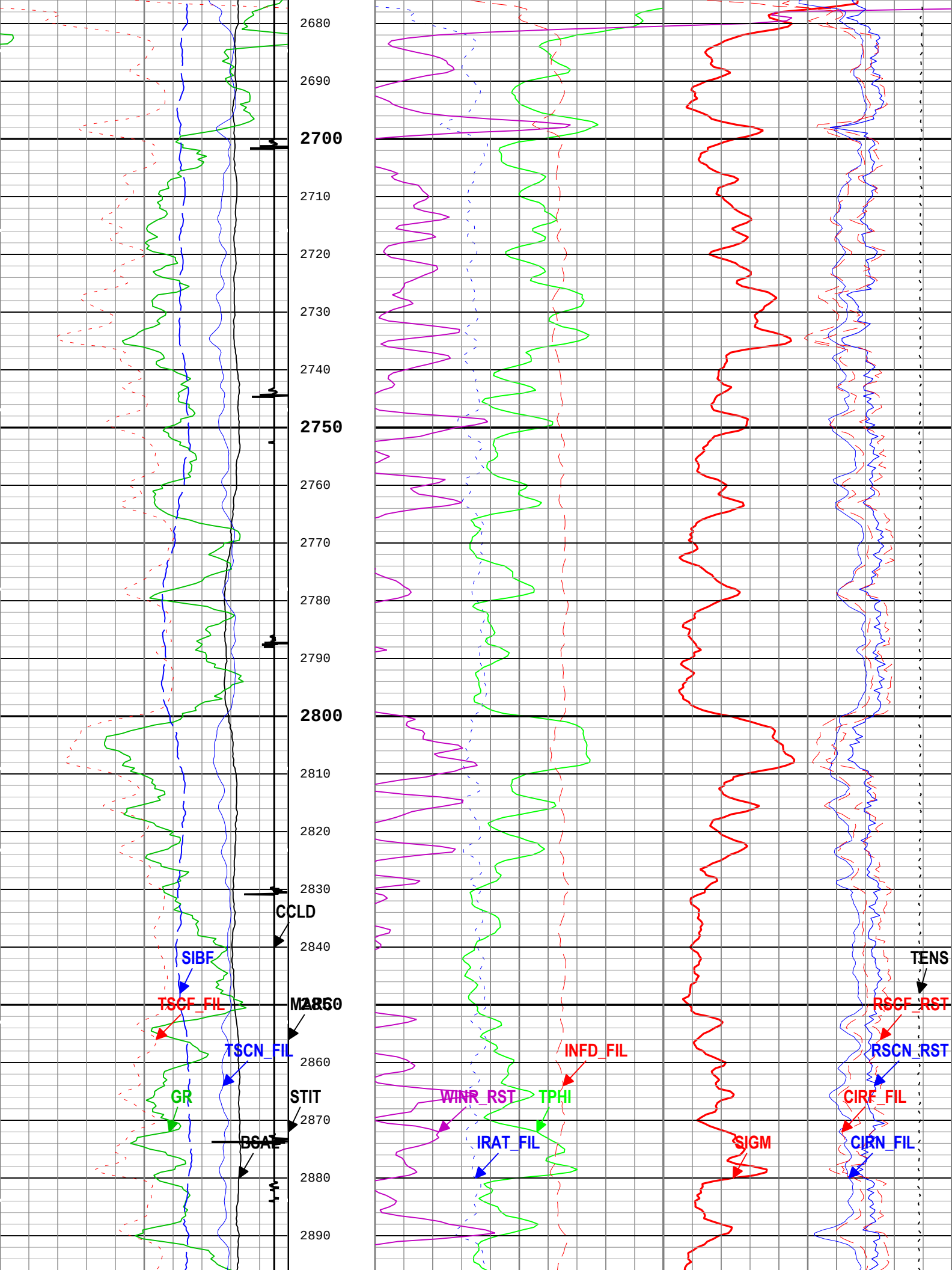
Borehole Salinity (BSAL) RST-C[1]

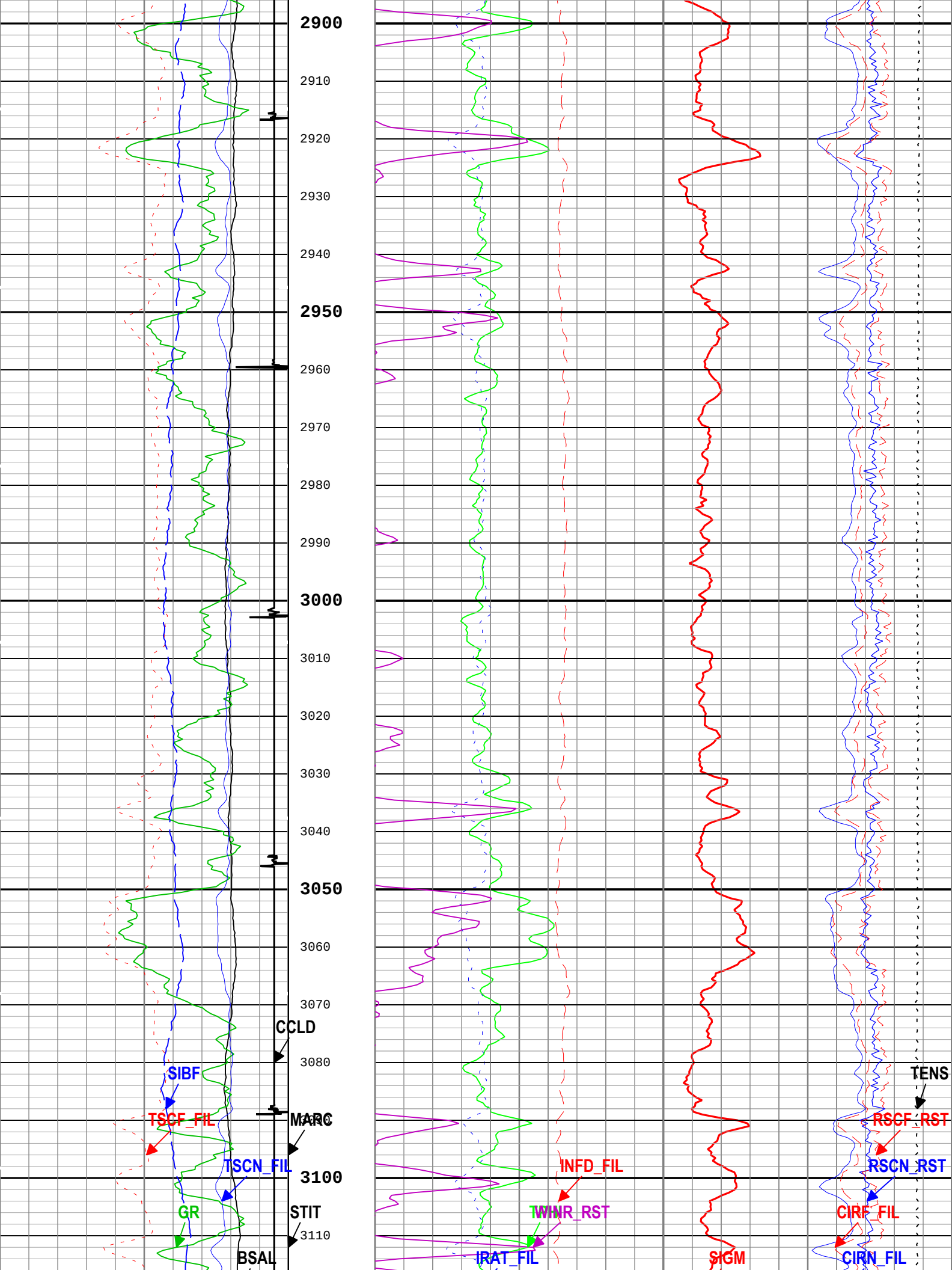
Stuck Tool

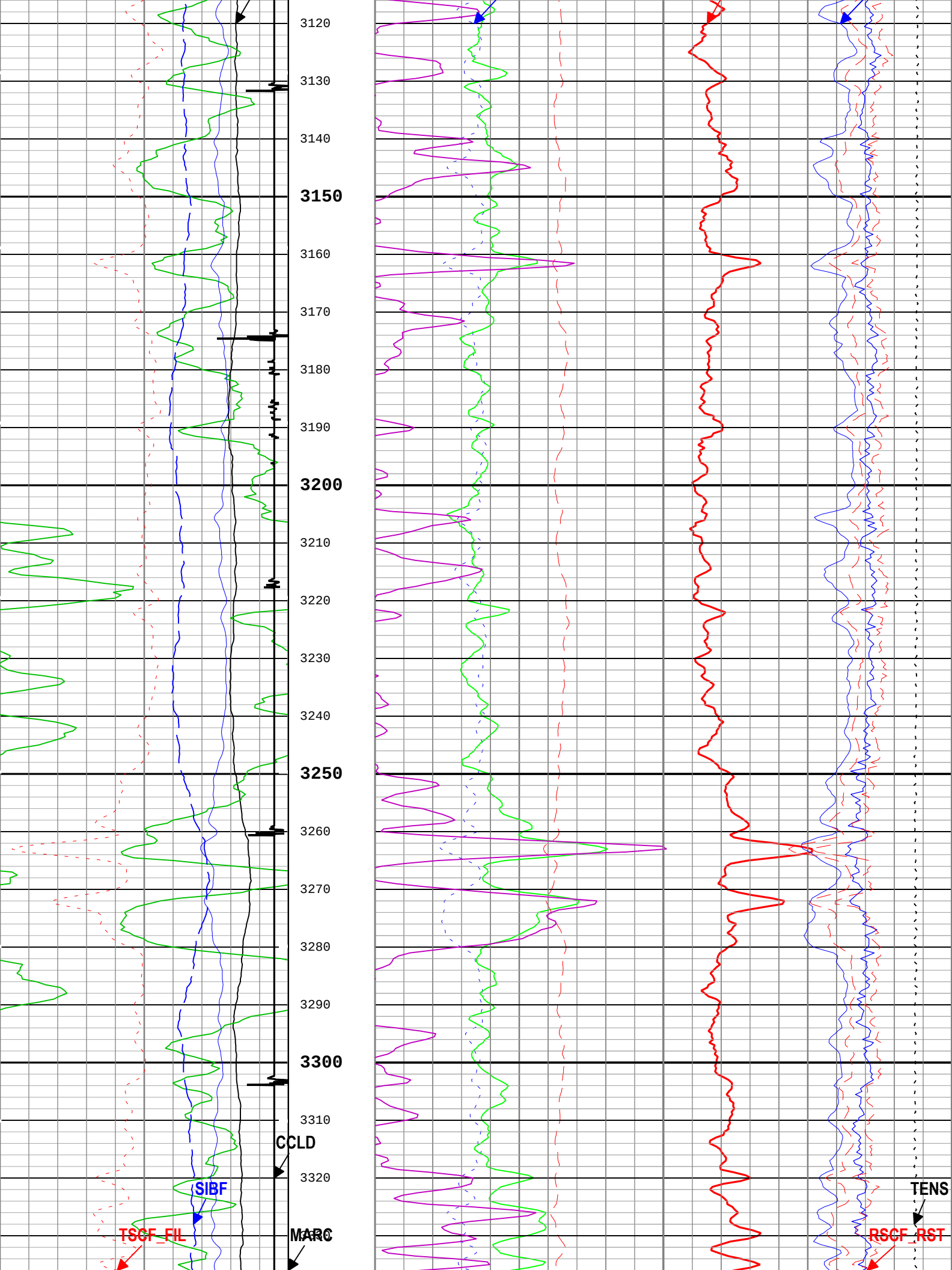
Capture to Inelastic Ratio Far Filtered (CIRF_FIL) RST-C[1]

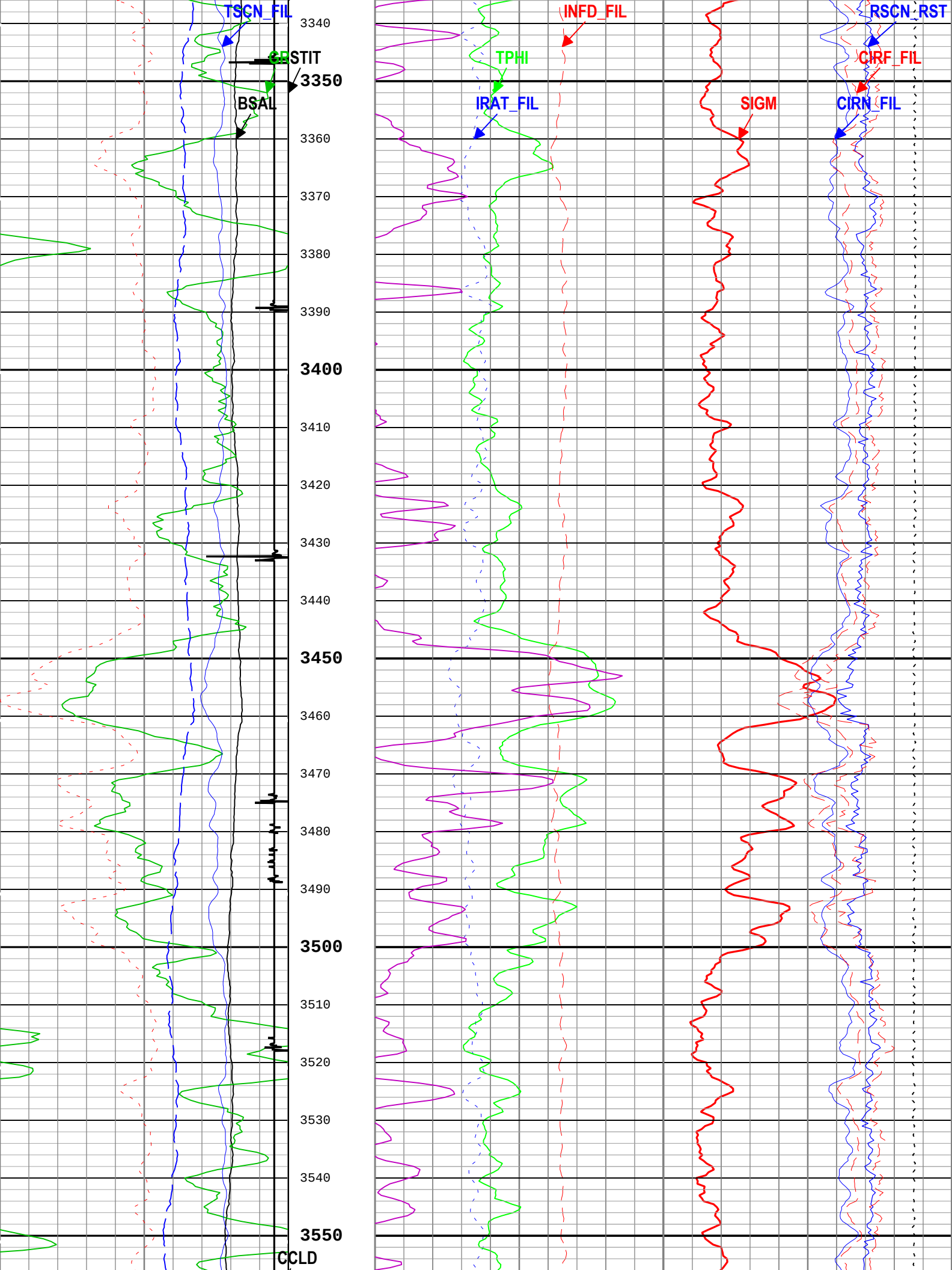

450 ppk -50
Gamma Ray (GR) PSTP-B[1]
0 gAPI 150
Total Selected Count Rate Near Detector Filtered (TSCN_FIL) RST-C[1]
30000 1/s 0
Total Selected Count Rate Far Detector Filtered (TSCF_FIL) RST-C[1]
12000 1/s 0
Sigma Borehole Fluid (SIBF) RST-C[1]
100 cu 0
CCL Discriminated Amplitude (CCLD) PSTP-B[1]
-19 V 1
Indicator, Total (STIT)
0 ft 50
Cable Drag From STIA to STIT
Tool_Tot. Drag From D3T to STIT
Minitron Arc Count (MARC) RST-C[1]
0 5
Inelastic Ratio Filtered (IRAT_FIL) RST-C[1]
0.75 0
Thermal Decay Porosity (TPHI) RST-C[1]
0.6 ft3/ft3 0
Gross Inelastic Count Rate Far Detector Filtered (INFD_FIL) RST-C[1]
10000 1/s 0
5 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
Cable Tension (TENS)
5000 lbf 0
Formation Sigma (Neutron Capture Cross Section) (SIGM) RST-C[1]
60 cu 0
Weighted Inelastic Ratio (WINR_RST) RST-C[1]
0 0.4
2300
2310
2320
2330
2340
2350
2360
2380
2390
2400
2410
2420
2430
2440
2450
CCLD
SIBF
TSCF_FIL
MARC
TSCN_FIL
GR
STIT
BSAL
INFD_FIL
TPHI
IRAT_FIL
SIGM
TENS
RSCF_RST
RSCN_RST
CIRF_FIL
CIRN_FIL

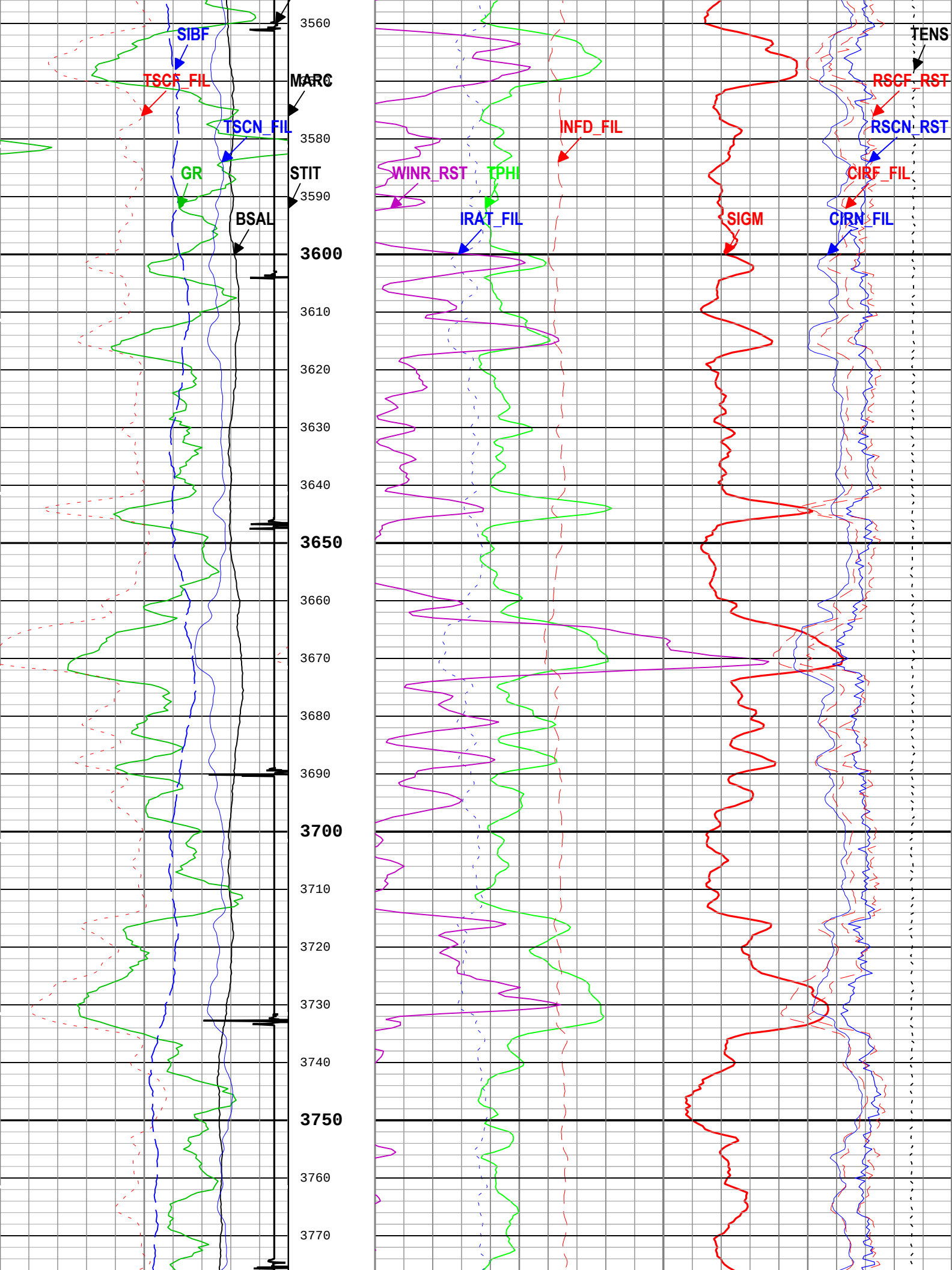

2460
2470
2480
2490
2500
2510
2520
2530
2540
2550
2560
2570
2580
2590
2600
2620
2630
2640
2650
2660
2670
CCLD
SIBF
TSCF_FIL
MARC
TSCN_FIL
GR
STIT
BSAL
INFD_FIL
TPHI
IRAT_FIL
TENS
RSCF_RST
RSCN_RST
WINR_RST
CIRF_FIL
SIGM
CIRN_FIL

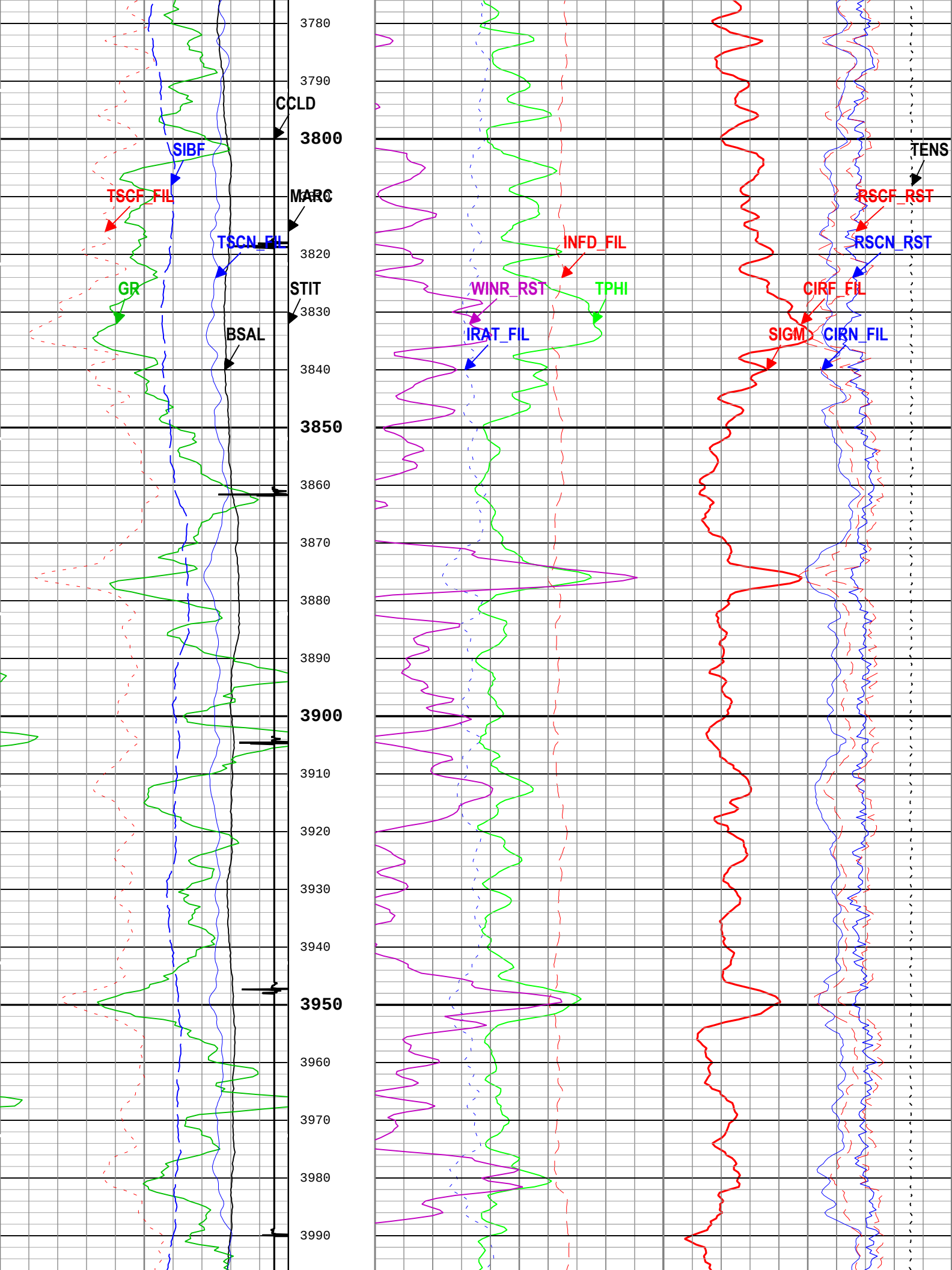

2680
2690
2700
2710
2720
2730
2740
2750
2760
2770
2780
2790
2800
2810
2820
2830
2840
2850
2860
2870
2880
2890
CCLD
SIBF
TSCF_FIL
TSCN_FIL
GR
STIT
BSAL
INFD_FIL
WINR_RST
TPHI
IRAT_FIL
SIGM
TENS
RSCF_RST
RSCN_RST
CIRF_FIL
CIRN_FIL

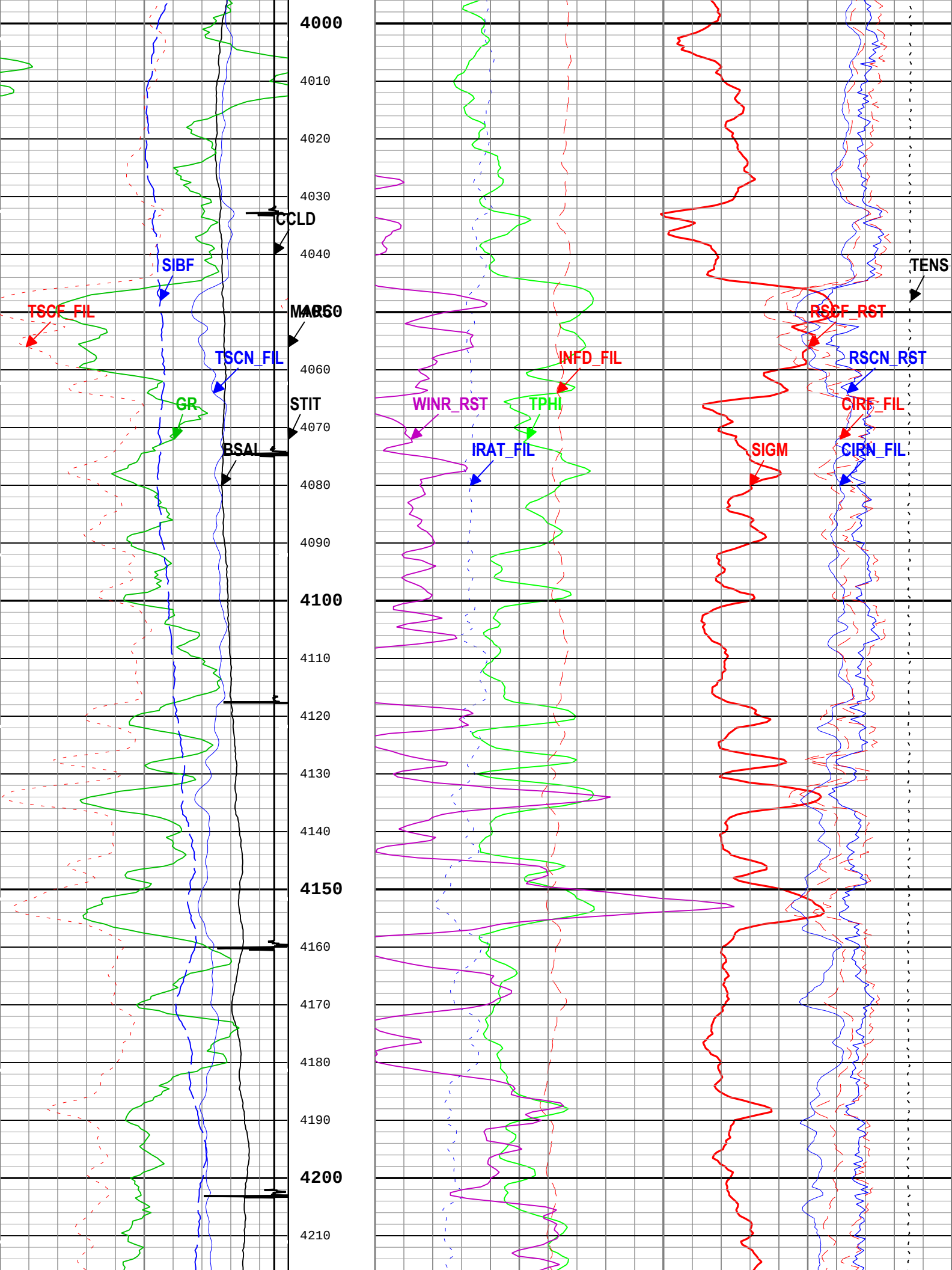

2900
2910
2920
2930
2940
2950
2960
2970
2980
2990
3000
3010
3020
3030
3040
3050
3060
3070
CCLD
3080
SIBF
TSCF_FIL
MARC
TSCN_FIL
3100
GR
STIT
3110
BSAL
INFD_FIL
TWNR_RST
IRAT_FIL
SIGM
TENS
RSCF_RST
RSCN_RST
CIRF_FIL
CIRN_FIL

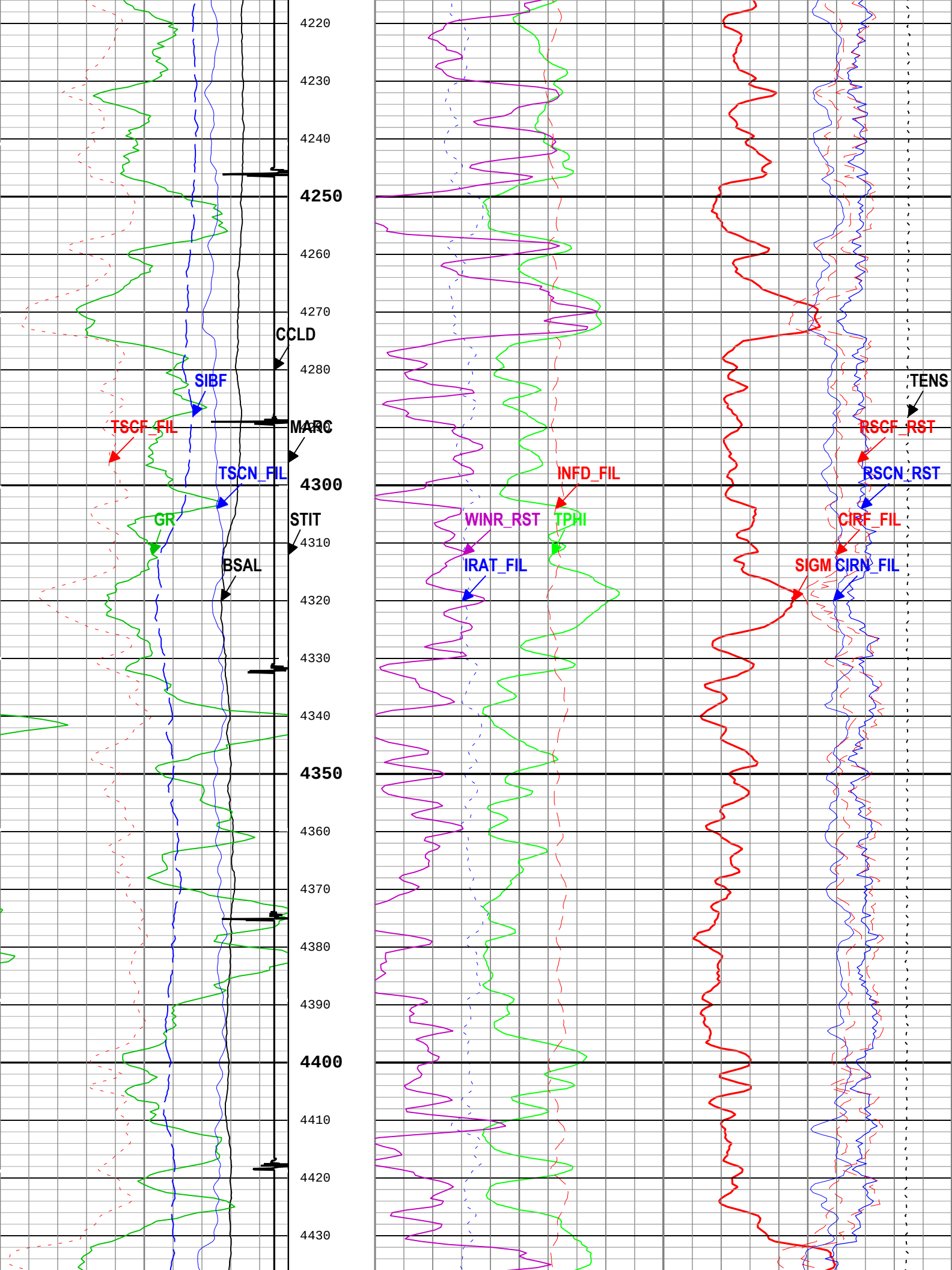

3120
3130
3140
3150
3160
3170
3180
3190
3200
3210
3220
3230
3240
3250
3260
3270
3280
3290
3300
3310
3320
CCLD
SIBF
TSCF_FIL
MARC
TENS
RSCF_RST

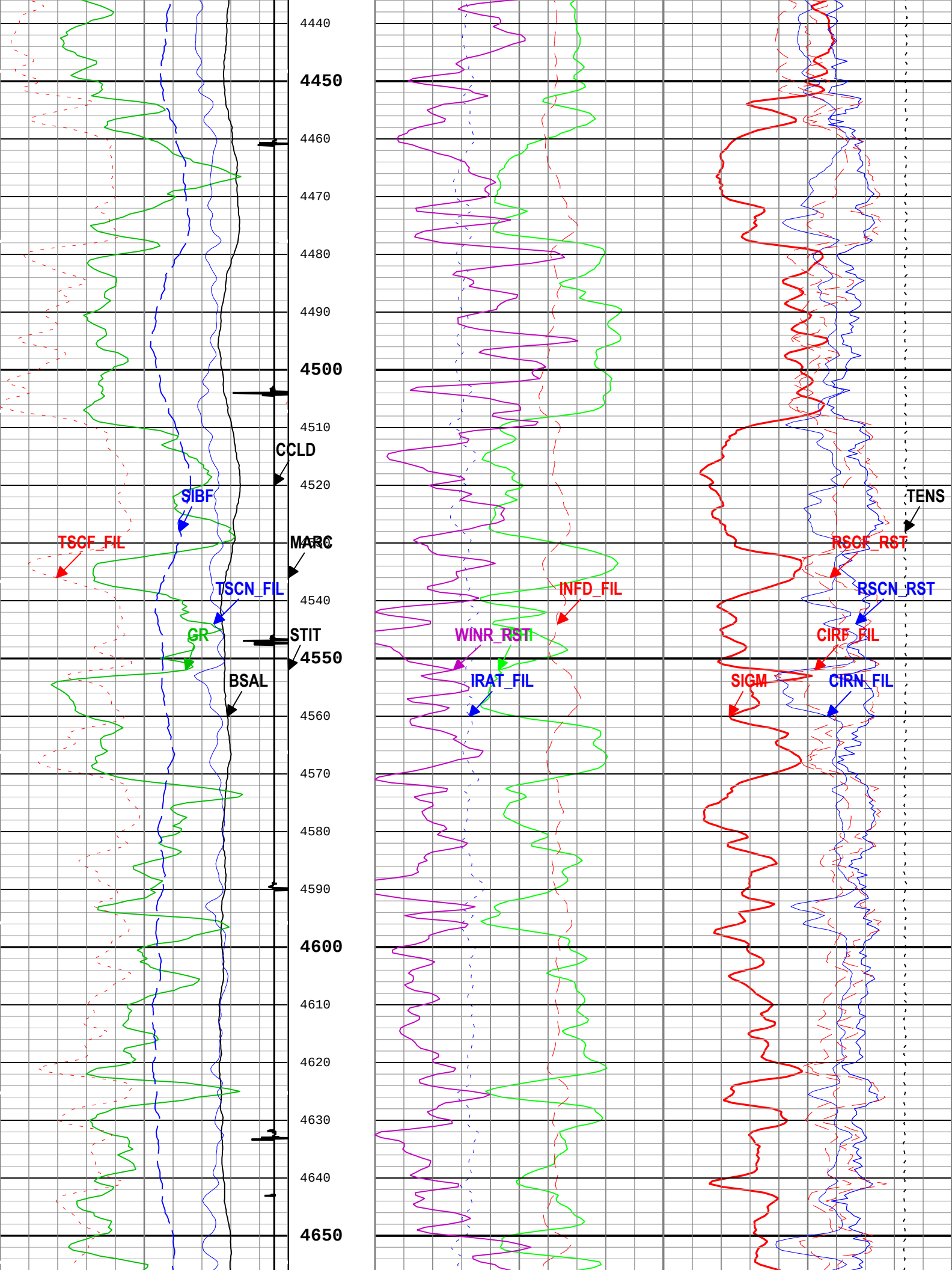

TSCN_FIL
CBSTIT
BSAL
CCLD
INFD_FIL
TPHI
IRAT_FIL
SIGM
RSCN_RST
CIRF_FIL
CIRN_FIL
3340
3350
3360
3370
3380
3390
3400
3410
3420
3430
3440
3450
3460
3470
3480
3490
3500
3510
3520
3530
3540
3550

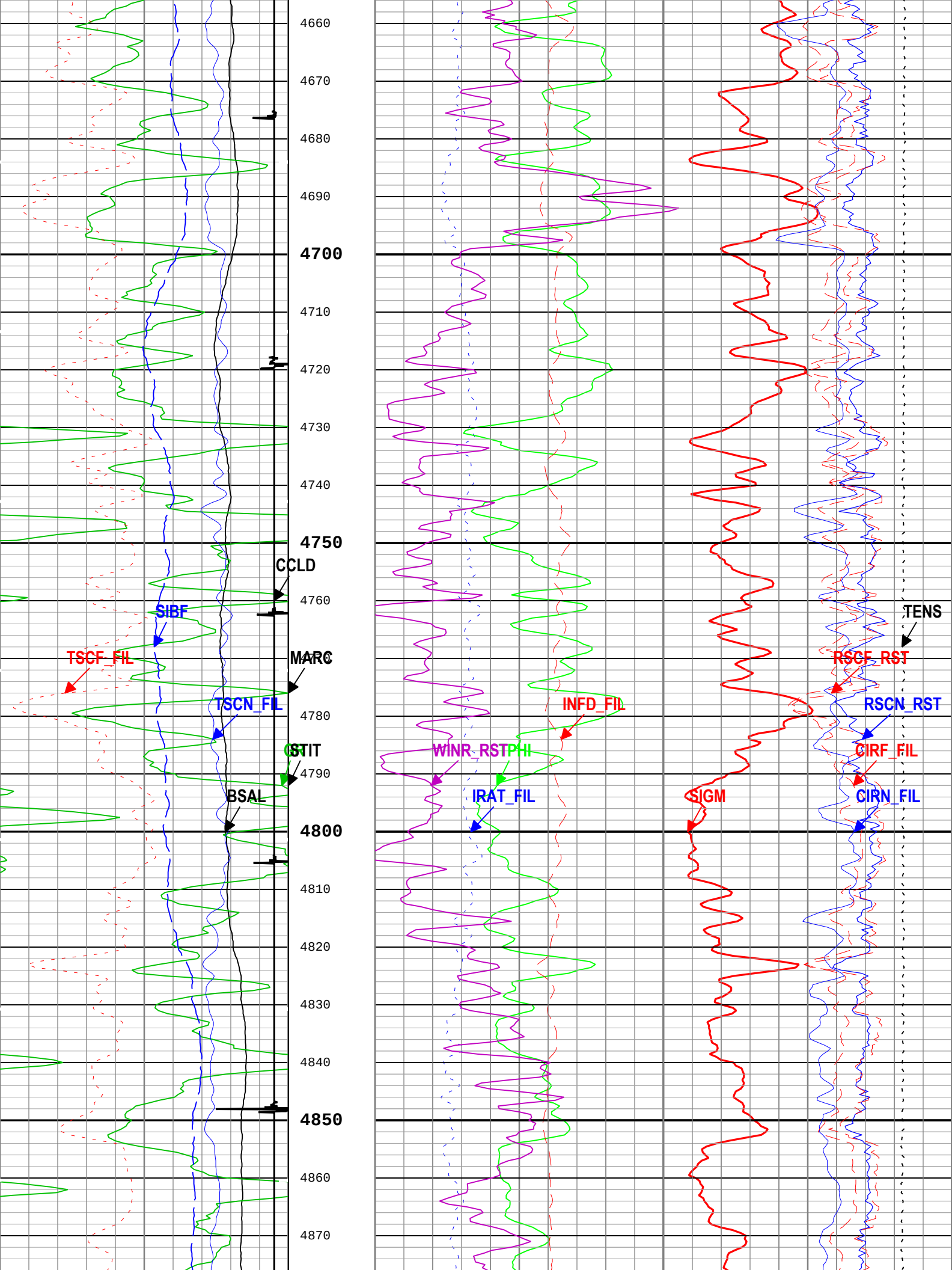

SIBF
TSCF_FIL
TSCN_FIL
GR
BSAL
MARC
STIT
3560
3580
3590
3600
3610
3620
3630
3640
3650
3660
3670
3680
3690
3700
3710
3720
3730
3740
3750
3760
3770
INFD_FIL
WINR_RST
TPHI
IRAT_FIL
TENS
RSCF_RST
RSCN_RST
CIRF_FIL
SIGM
CIRN_FIL

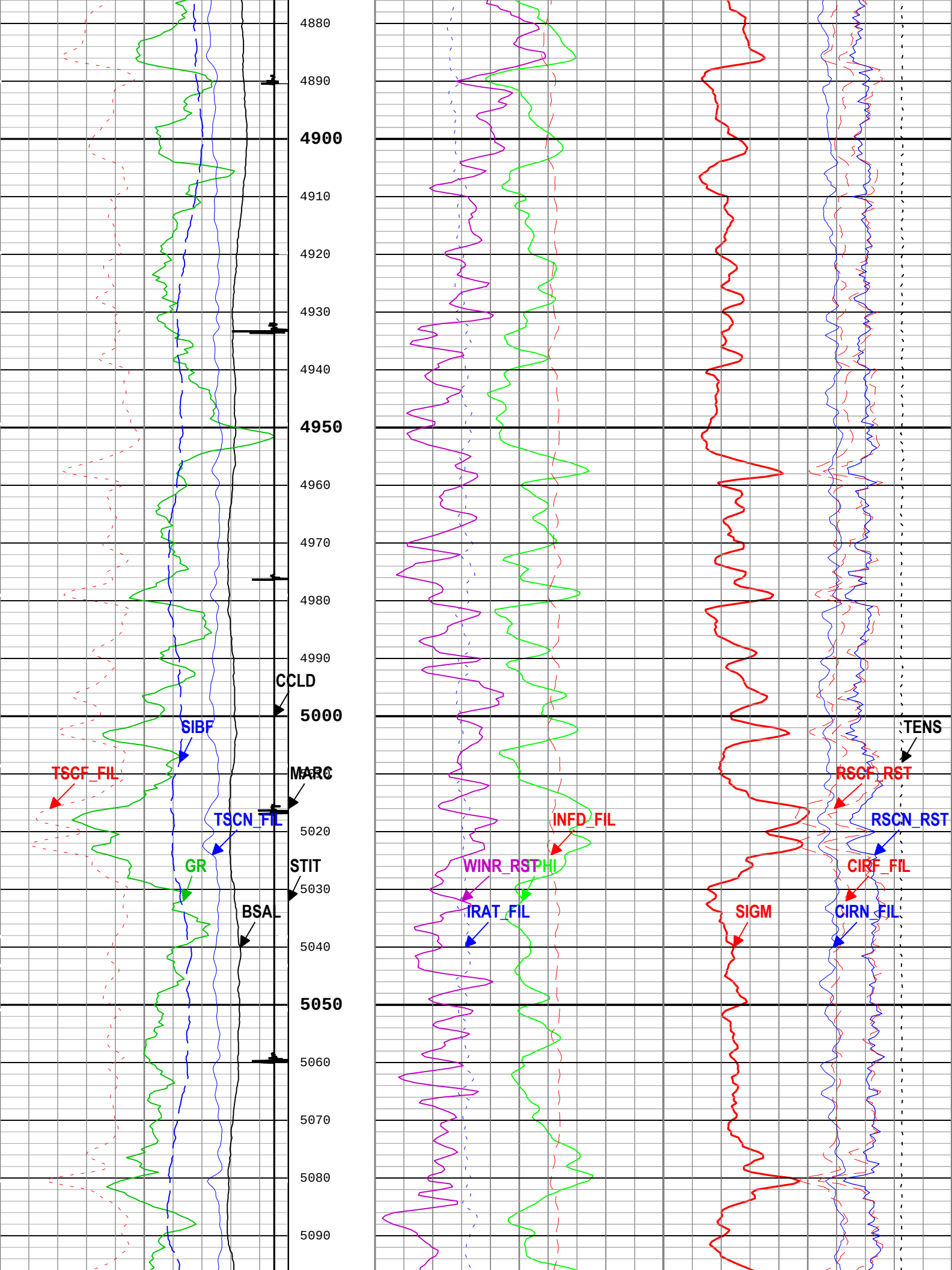

3780
3790
CCLD
3800
SIBF
TSCF_FIL
MARC
TSCN_FIL
3820
GR
STIT
3830
BSAL
3840
3850
3860
3870
3880
3890
3900
3910
3920
3930
3940
3950
3960
3970
3980
3990
INFD_FIL
WINR_RST
TPHI
IRAT_FIL
TENS
RSCF_RST
RSCN_RST
CIRF_FIL
SIGM
CIRN_FIL

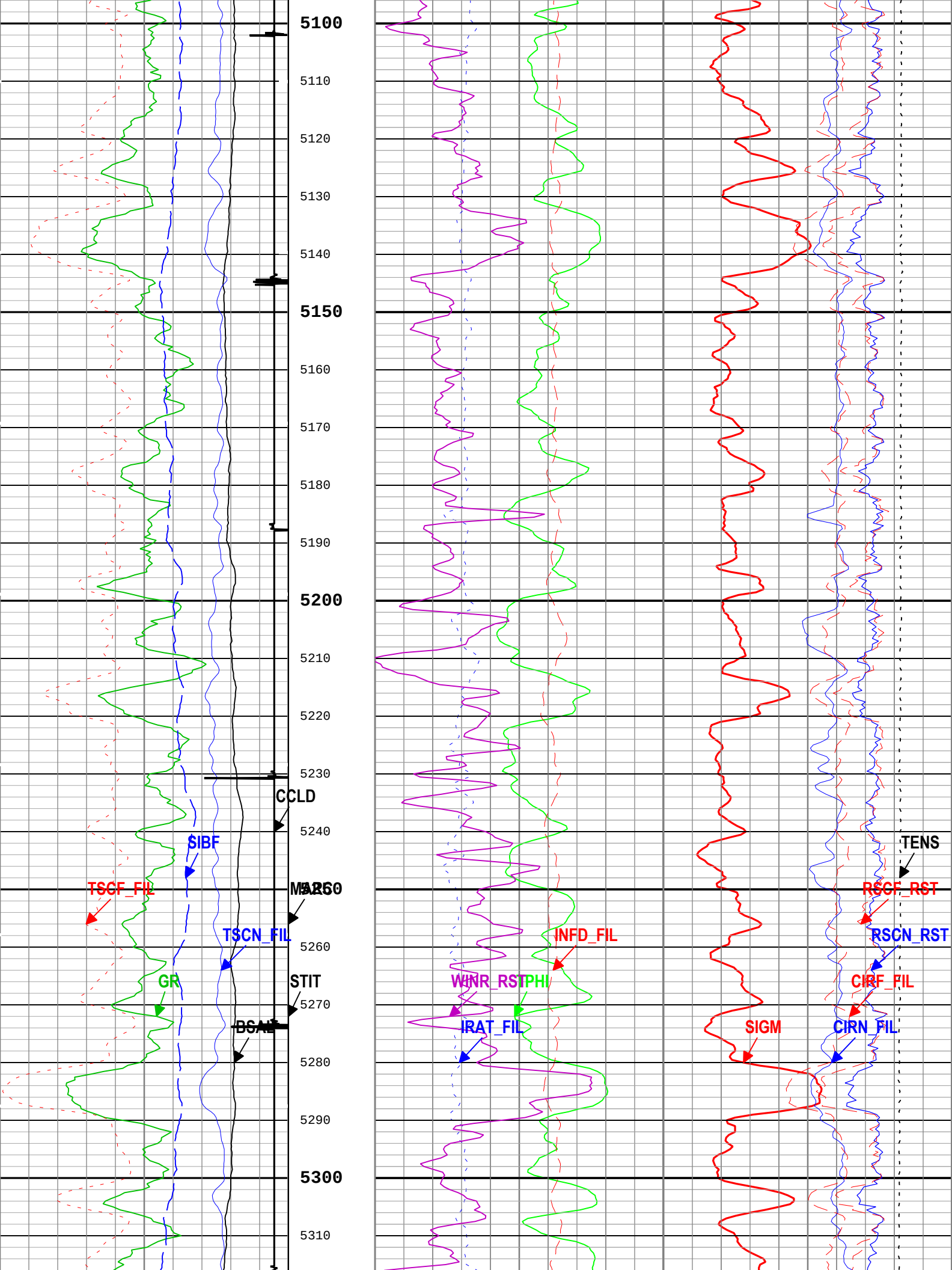

4000
4010
4020
4030
CCLD
4040
SIBF
TSCF_FIL
MARK
4050
TSCN_FIL
4060
GR
STIT
4070
BSAL
4080
4090
4100
4110
4120
4130
4140
4150
4160
4170
4180
4190
4200
4210
WINR_RST
TPHI
INFD_FIL
IRAT_FIL
SIGM
TENS
RSCF_RST
RSCN_RST
CIRF_FIL
CIRN_FIL

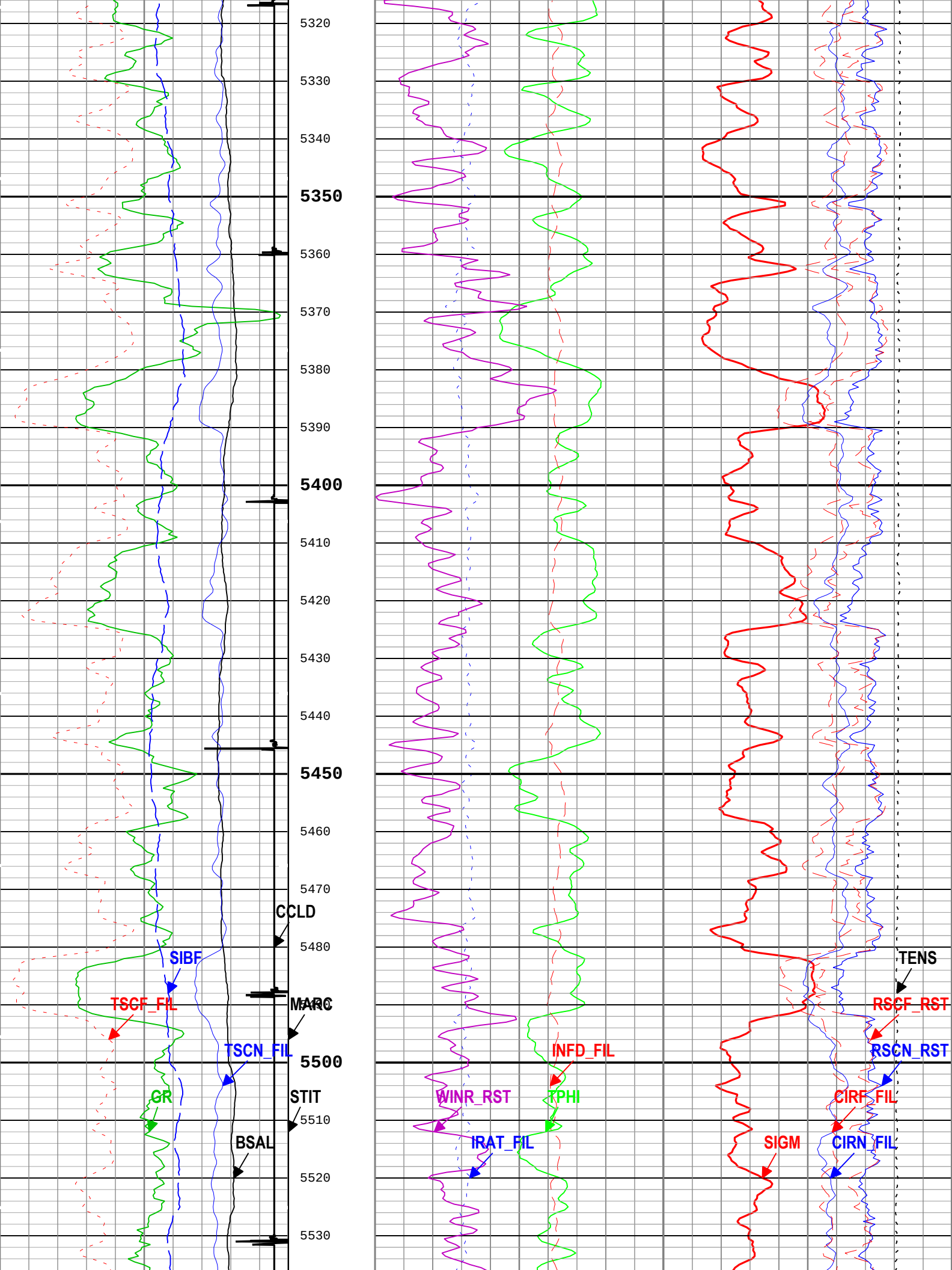

4220
4230
4240
4250
4260
4270
CCLD
4280
SIBF
TSCF_FIL
MARC
TSCN_FIL
4300
GR
STIT
4310
BSAL
4320
4330
4340
4350
4360
4370
4380
4390
4400
4410
4420
4430
INFD_FIL
WINR_RST
TPHI
IRAT_FIL
TENS
RSCF_RST
RSCN_RST
CIRF_FIL
SIGM
CIRN_FIL

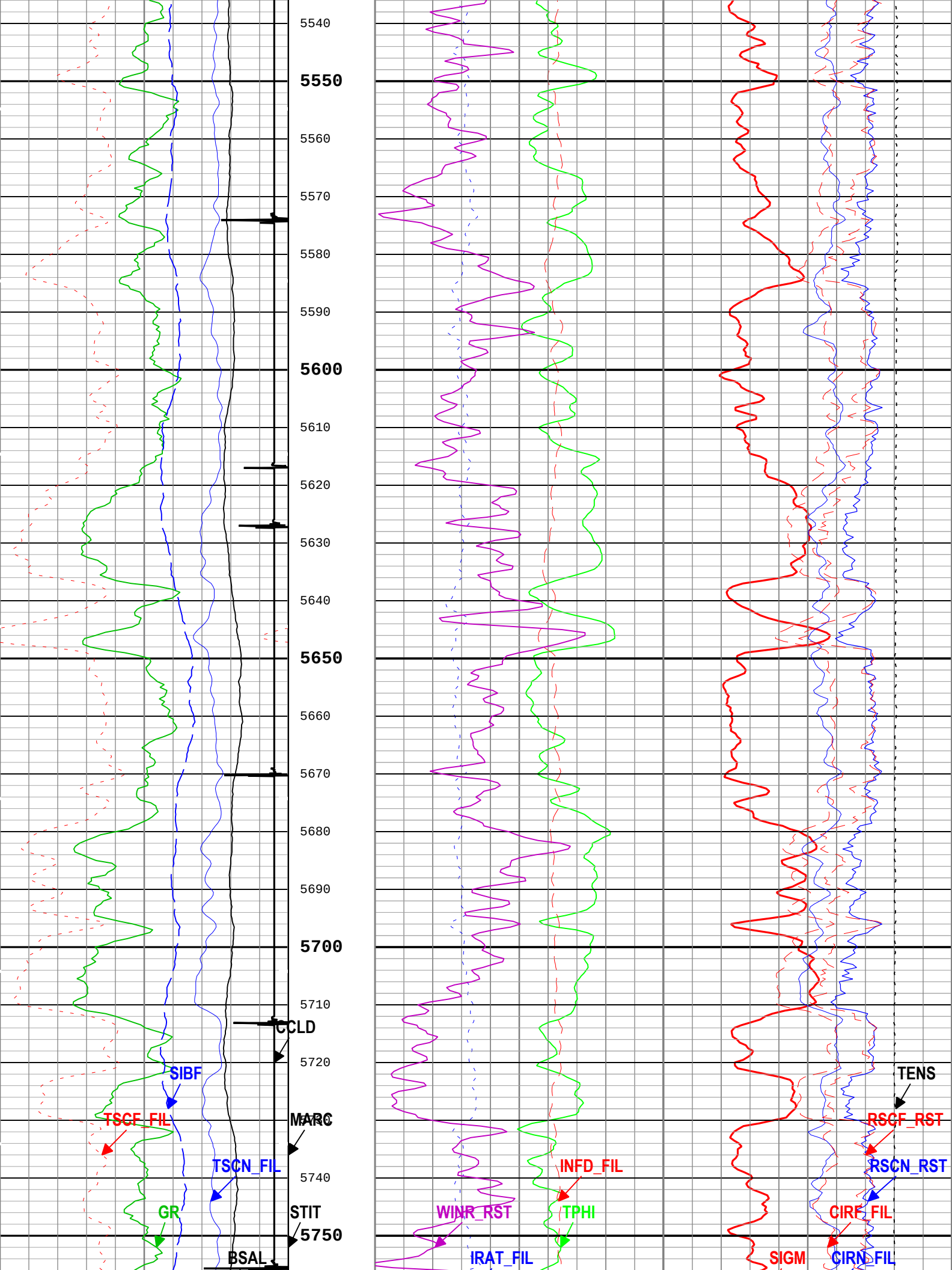

4440
4450
4460
4470
4480
4490
4500
4510
CCLD
4520
SIBF
TSCF_FIL
MARC
TSCN_FIL
4540
GR
STIT
4550
BSAL
4560
4570
4580
4590
4600
4610
4620
4630
4640
4650
INFD_FIL
WINR_RSTI
IRAT_FIL
TENS
RSCF_RST
RSCN_RST
CIRF_FIL
SIGM
CIRN_FIL

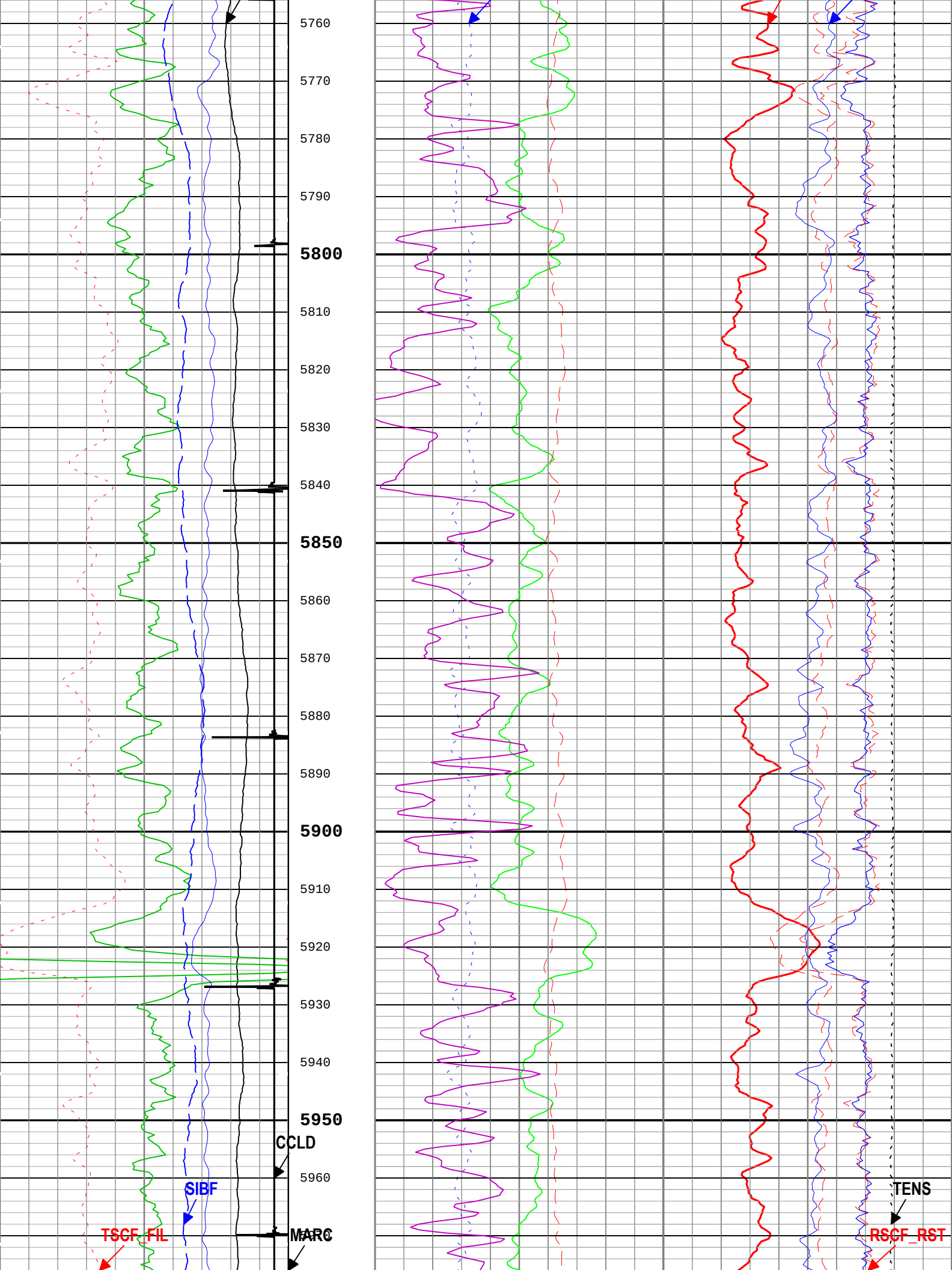

4660
4670
4680
4690
4700
4710
4720
4730
4740
4750
4760
4780
4790
4800
4810
4820
4830
4840
4850
4860
4870
CCLD
SIBF
TSCF_FIL
MARC
TSCN_FIL
STIT
BSAL
INFD_FIL
WINR_RSTPHI
IRAT_FIL
SIGM
TENS
RSCF_RST
RSCN_RST
CIRF_FIL
CIRN_FIL

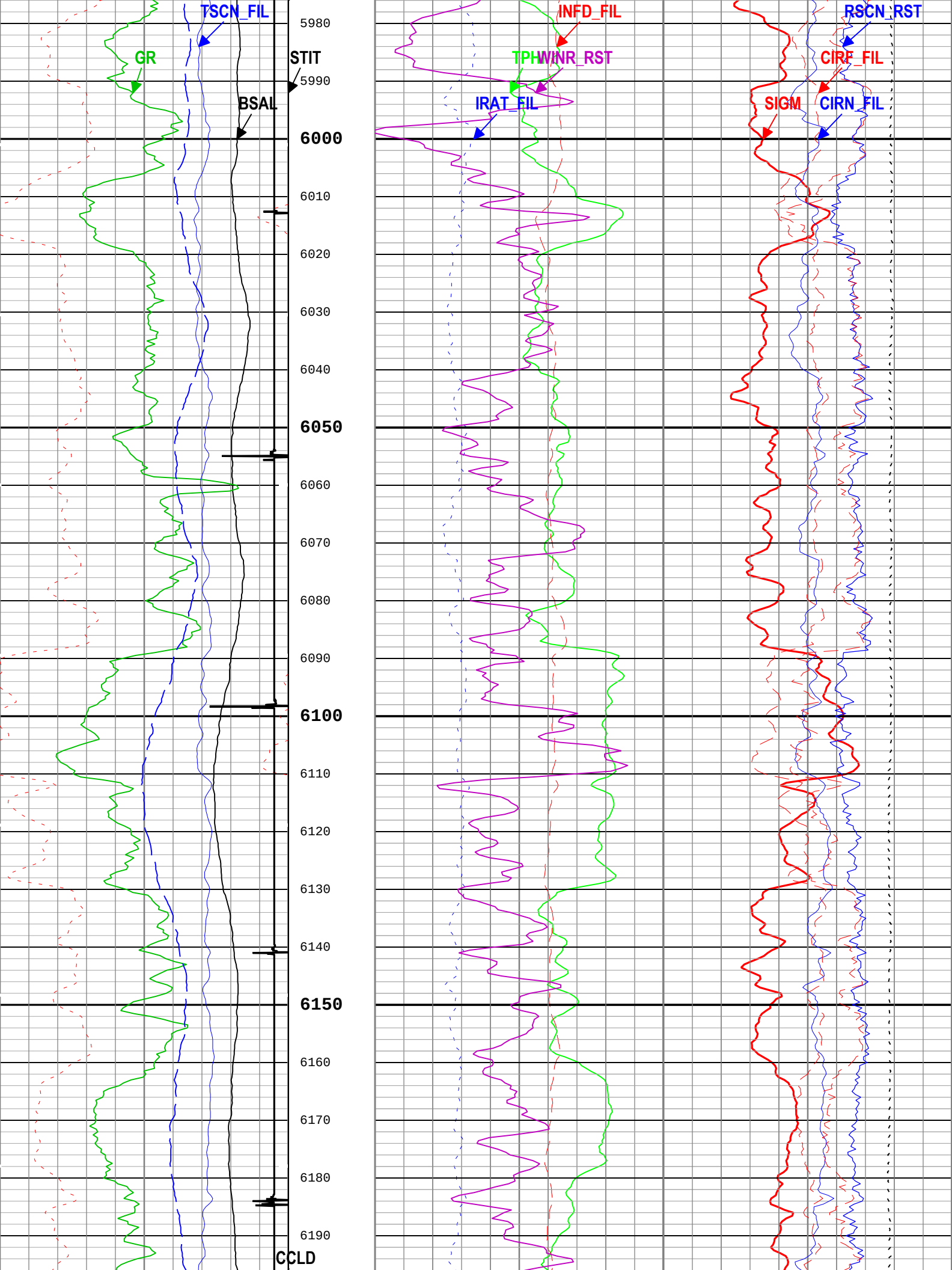

4880
4890
4900
4910
4920
4930
4940
4950
4960
4970
4980
4990
5000
5020
5030
5040
5050
5060
5070
5080
5090
CCLD
SIBF
TSCF_FIL
MARC
TSCN_FIL
GR
STIT
BSAL
INFD_FIL
WINR_RSTPHI
IRAT_FIL
SIGM
TENS
RSCF_RST
RSCN_RST
CIRF_FIL
CIRN_FIL

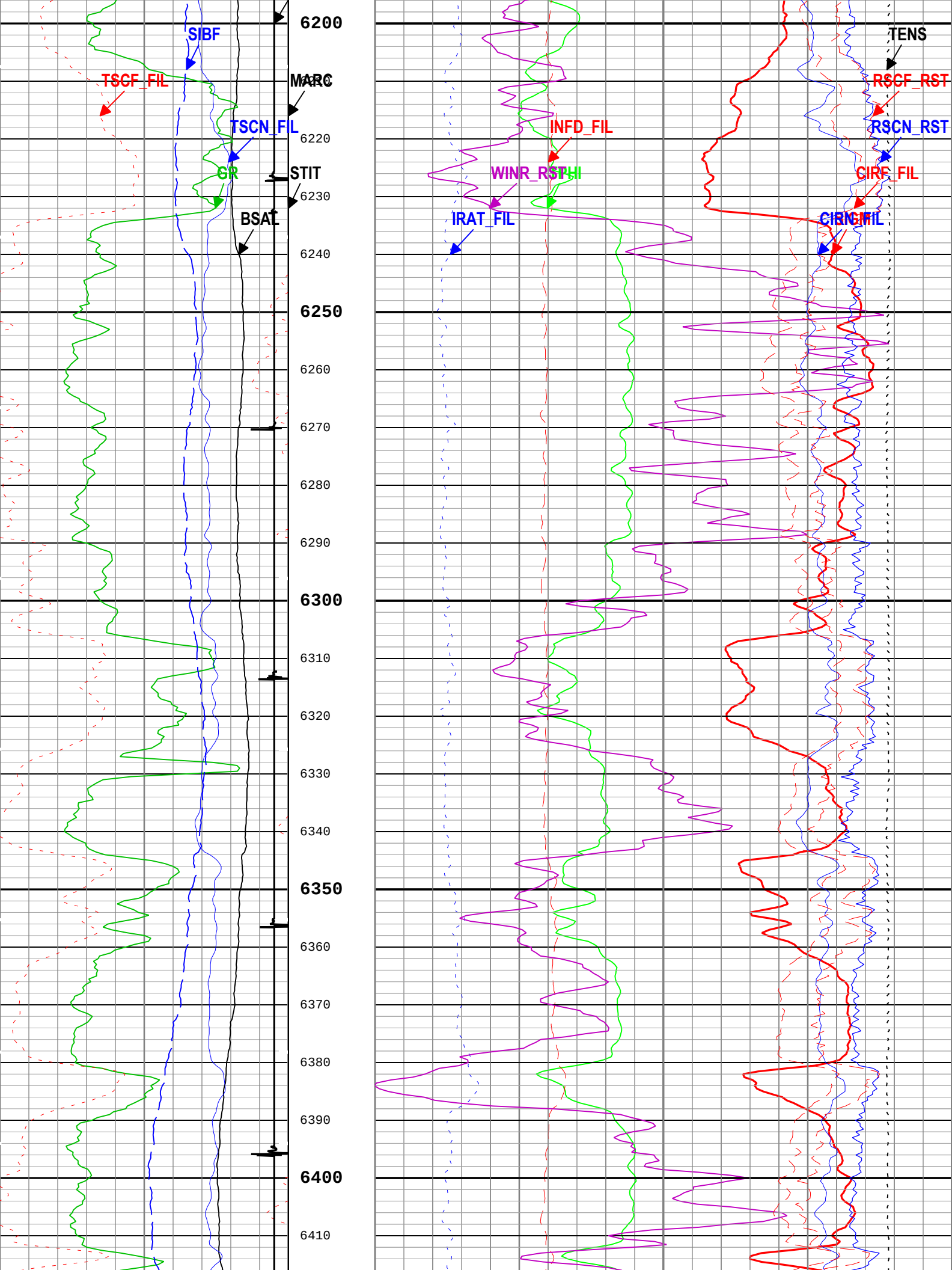

5100
5110
5120
5130
5140
5150
5160
5170
5180
5190
5200
5210
5220
5230
5240
5250
5260
5270
5280
5290
5300
5310
CCLD
SIBF
TSCF_FIL
TSCN_FIL
GR
STIT
BSAL
INFD_FIL
WINR_RST
PHI
IRAT_FIL
SIGM
TENS
RSCF_RST
RSCN_RST
CIRF_FIL
CIRN_FIL

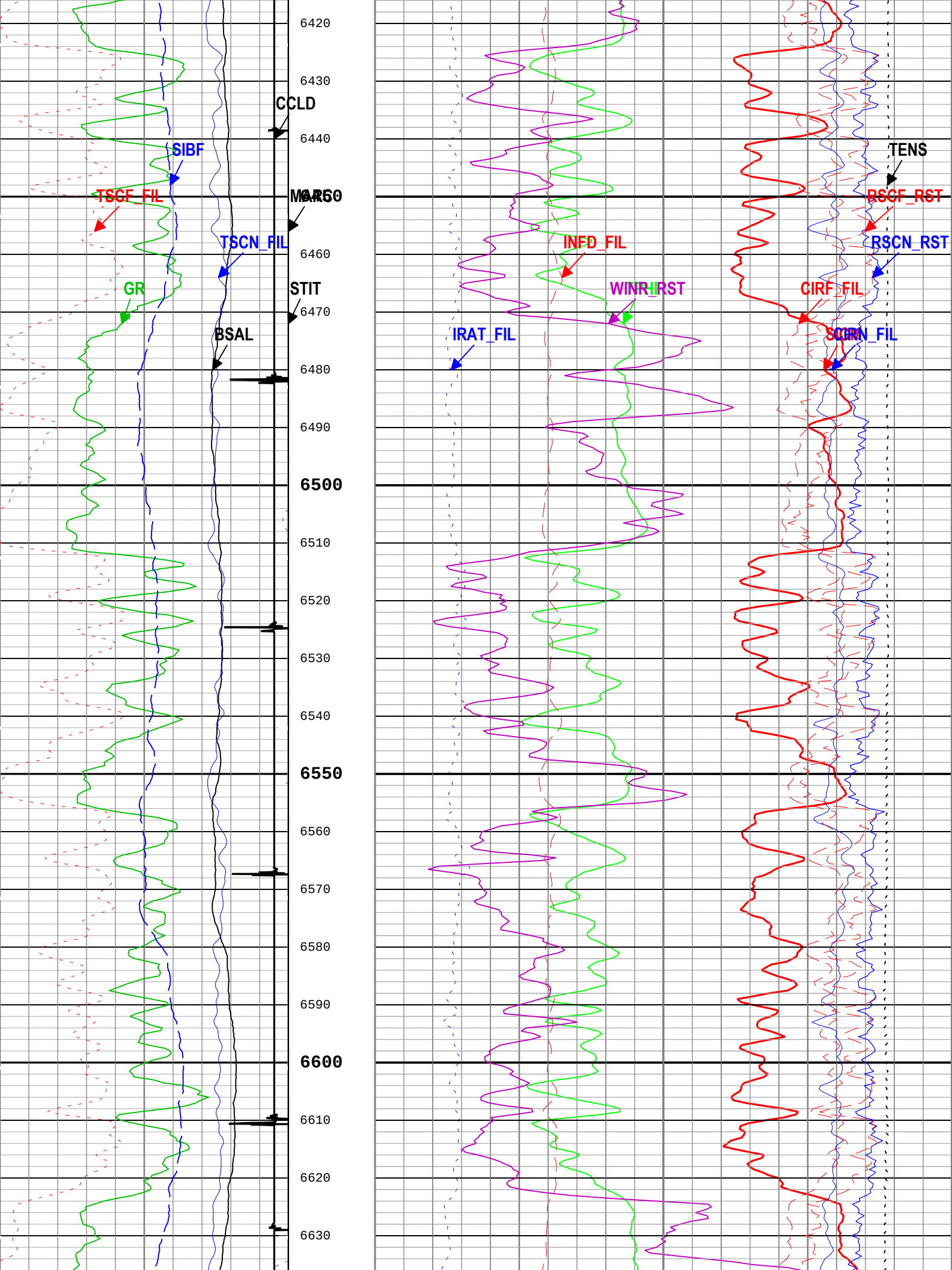

5320
5330
5340
5350
5360
5370
5380
5390
5400
5410
5420
5430
5440
5450
5460
5470
5480
5500
5510
5520
5530
CCLD
SIBF
TSCF_FIL
MARC
TSCN_FIL
GR
STIT
BSAL
INFD_FIL
WINR_RST
TPHI
IRAT_FIL
TENS
RSCF_RST
RSCN_RST
CIRF_FIL
SIGM
CIRN_FIL

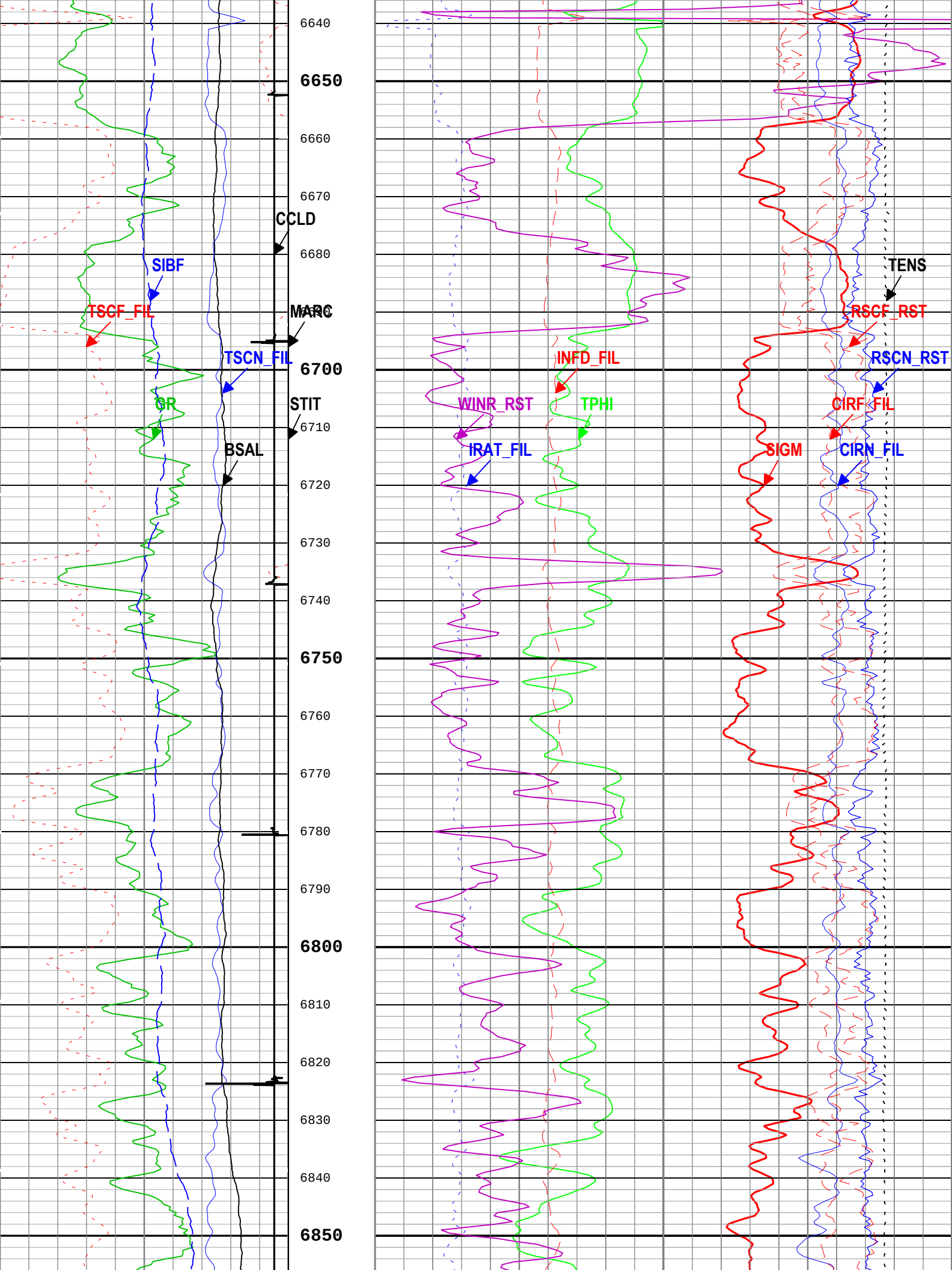

5540
5550
5560
5570
5580
5590
5600
5610
5620
5630
5640
5650
5660
5670
5680
5690
5700
5710
5720
5740
5750
CCLD
SIBF
TSCF_FIL
MARC
TSCN_FIL
GR
STIT
BSAL
INFD_FIL
WINR_RST
TPHI
IRAT_FIL
TENS
RSCF_RST
RSCN_RST
CIRF_FIL
SIGM
CIRN_FIL

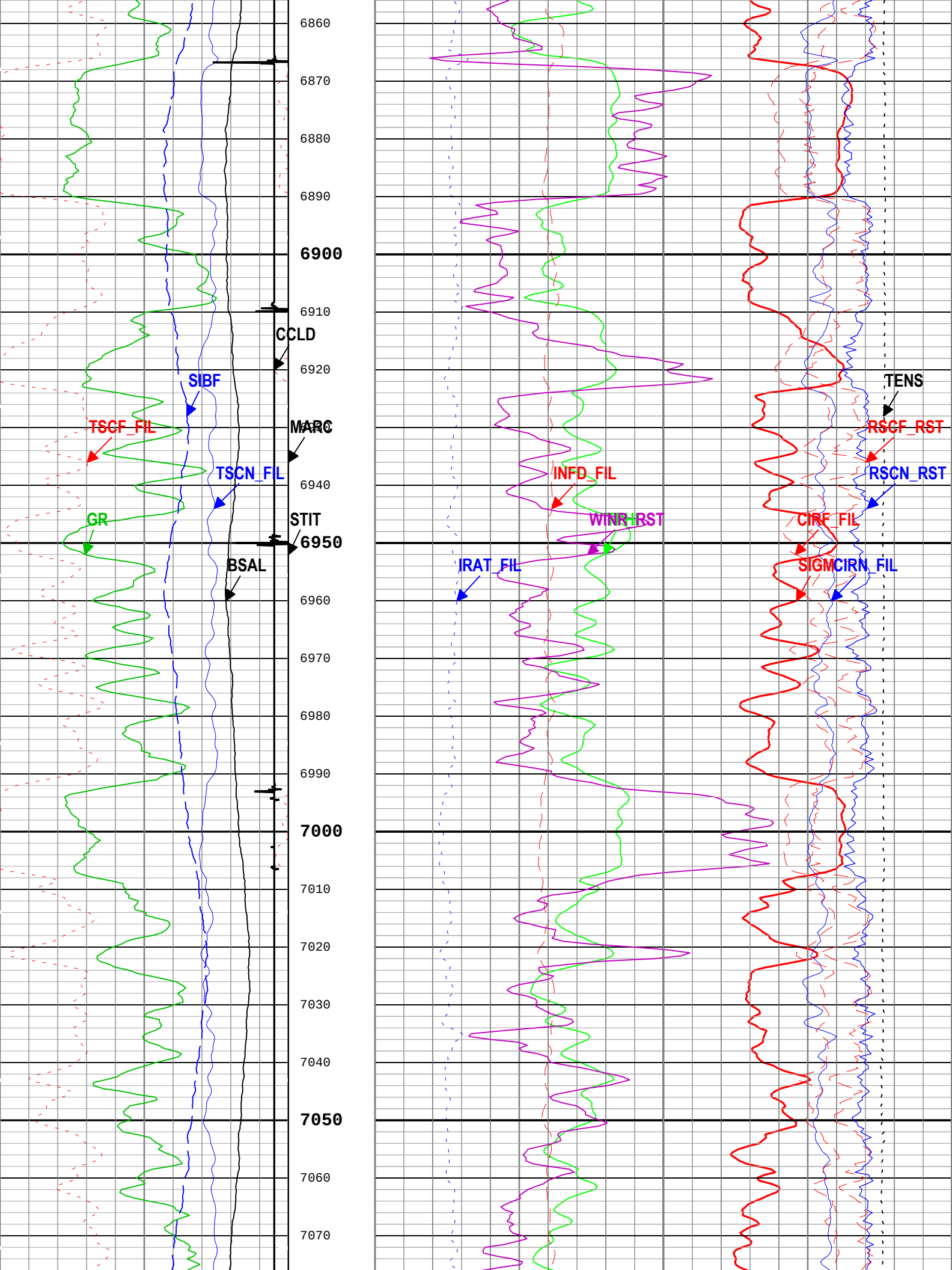

5760
5770
5780
5790
5800
5810
5820
5830
5840
5850
5860
5870
5880
5890
5900
5910
5920
5930
5940
5950
5960
CCLD
SIBF
TSCF_FIL
MARC
TENS
RSCF_RST

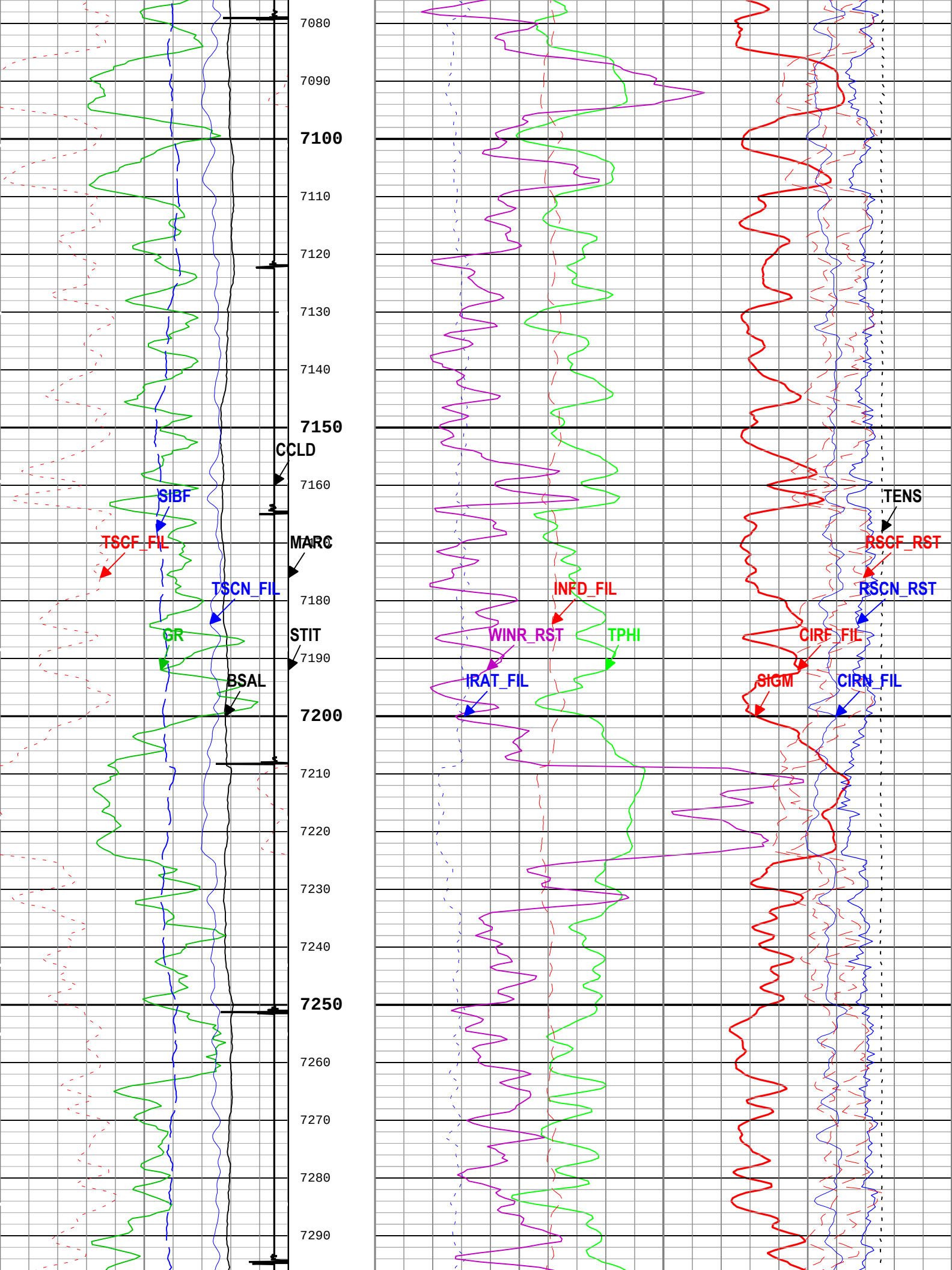

TSCN_FIL
GR
STIT
BSAL
CCLD
INFD_FIL
TPHI
WINR_RST
IRAT_FIL
RSCN_RST
CIRF_FIL
SIGM
CIRN_FIL
5980
5990
6000
6010
6020
6030
6040
6050
6060
6070
6080
6090
6100
6110
6120
6130
6140
6150
6160
6170
6180
6190

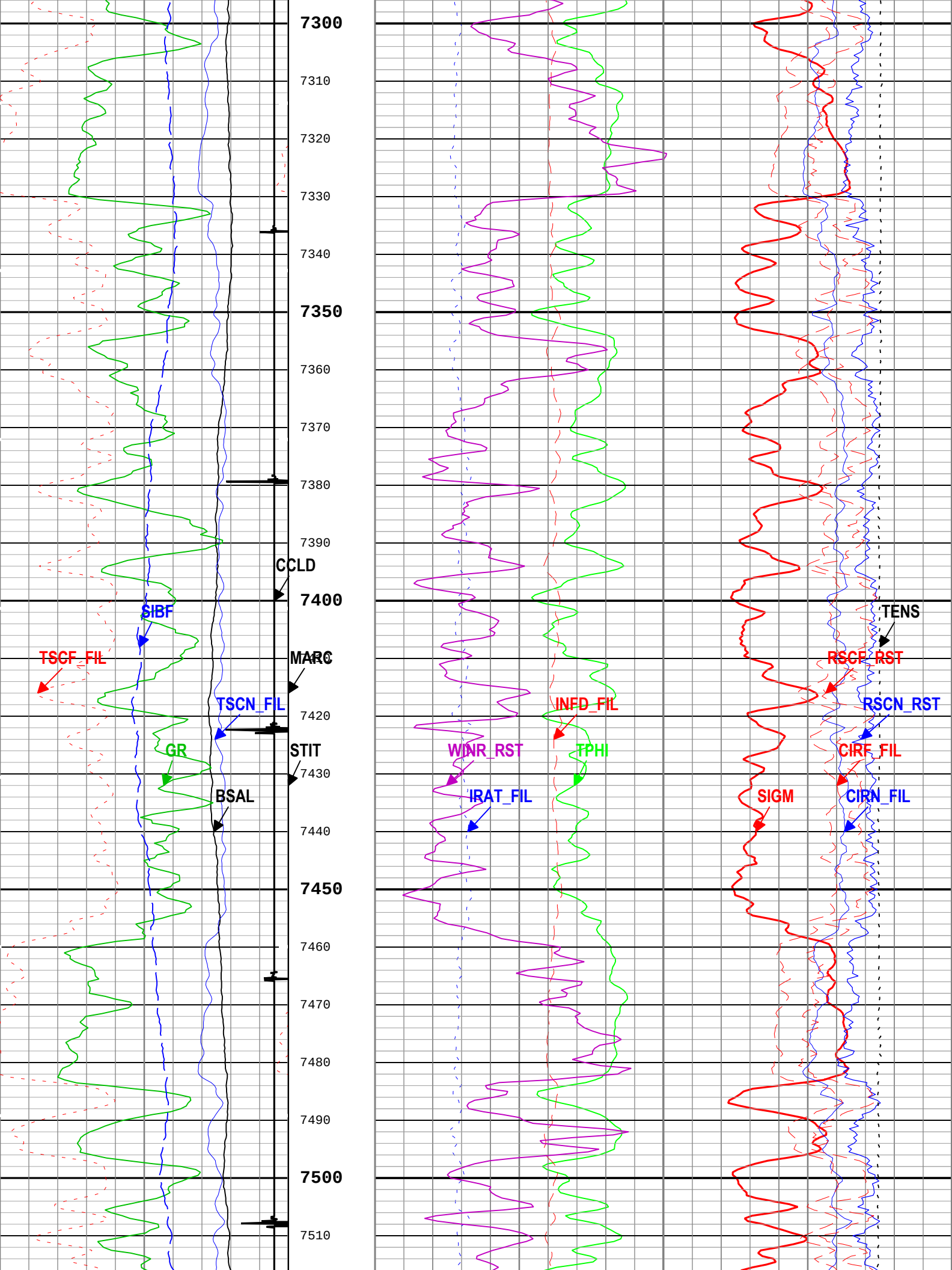

SIBF
TSCF_FIL
MARC
TSCN_FIL
GR
STIT
BSAL
6200
6220
6230
6240
6250
6260
6270
6280
6290
6300
6310
6320
6330
6340
6350
6360
6370
6380
6390
6400
6410
TENS
RSCF_RST
RSCN_RST
INFD_FIL
WINR_RST
HI
CIRF_FIL
IRAT_FIL
CIRN_FIL

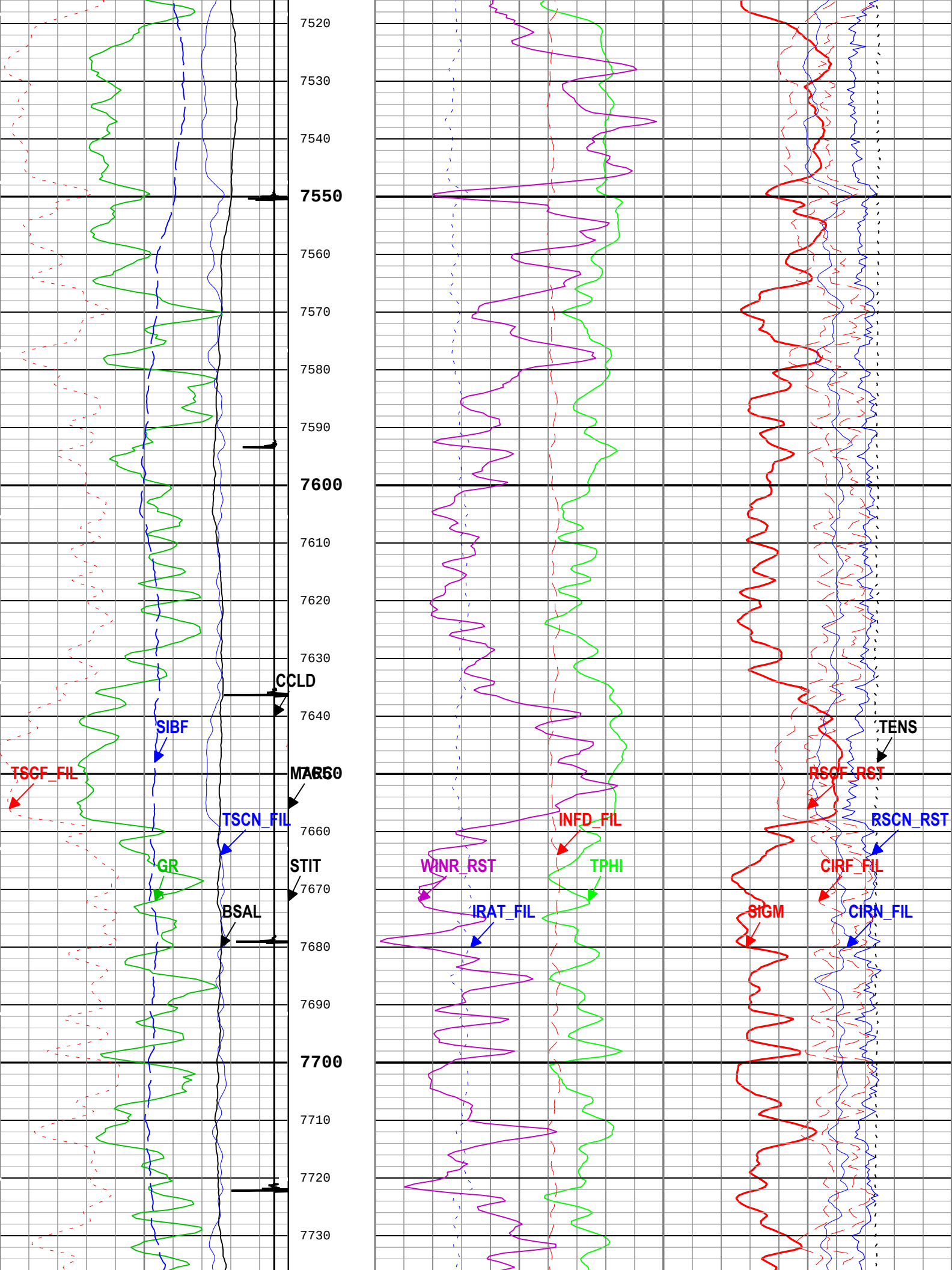

6420
6430
CCLD
6440
SIBF
TSCF_FIL
MARK
6450
TSCN_FIL
6460
GR
STIT
6470
BSAL
6480
6490
6500
6510
6520
6530
6540
6550
6560
6570
6580
6590
6600
6610
6620
6630
TENS
RSCF_RST
RSCN_RST
INFD_FIL
WINR_RST
CIRF_FIL
IRAT_FIL
CIRN_FIL

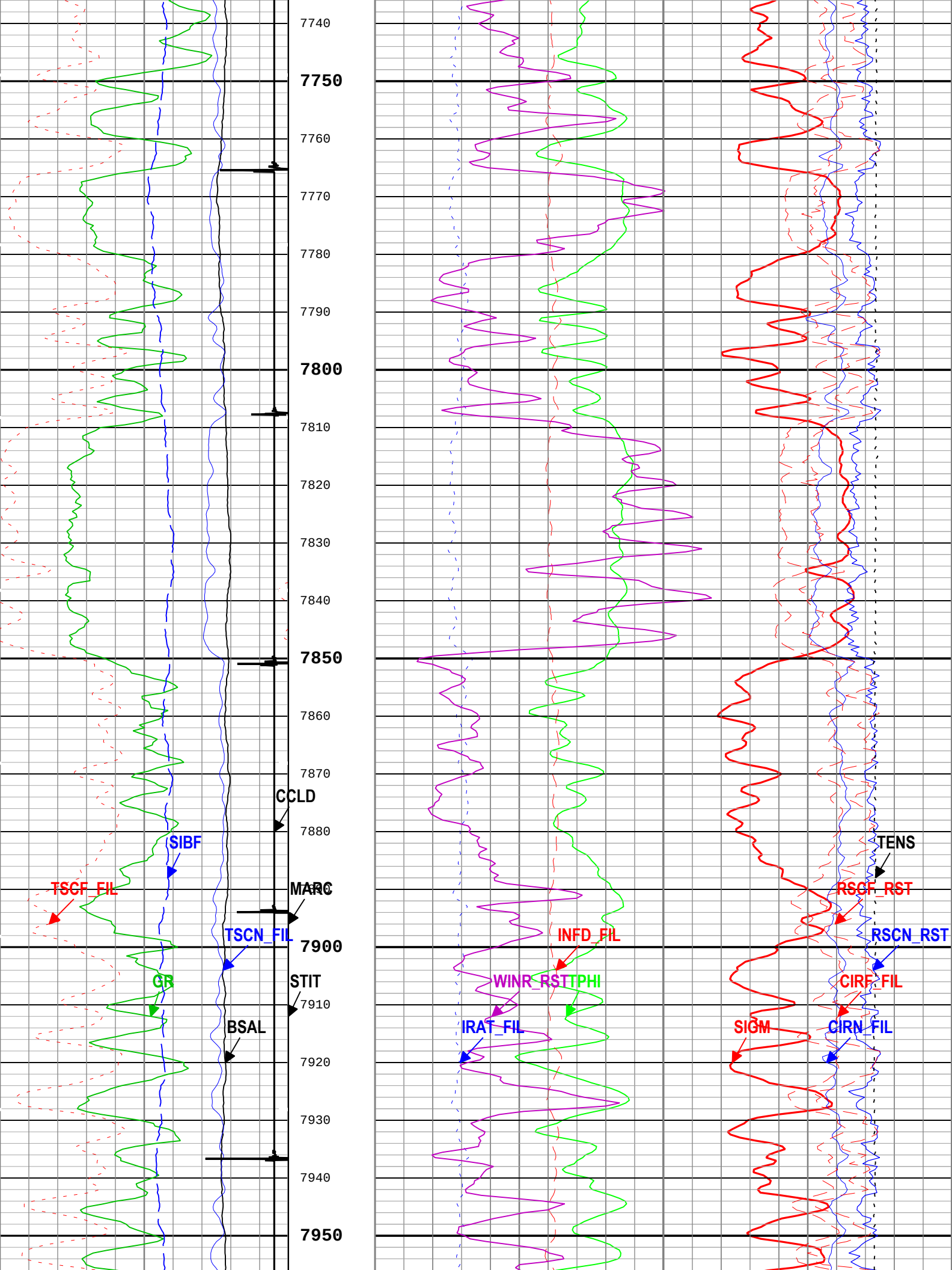

6640
6650
6660
6670
CCLD
6680
SIBF
TSCF_FIL
MARC
TSCN_FIL
6700
GR
STIT
6710
BSAL
6720
6730
6740
6750
6760
6770
6780
6790
6800
6810
6820
6830
6840
6850
INFD_FIL
WINR_RST
TPHI
IRAT_FIL
TENS
RSCF_RST
RSCN_RST
CIRF_FIL
SIGM
CIRN_FIL

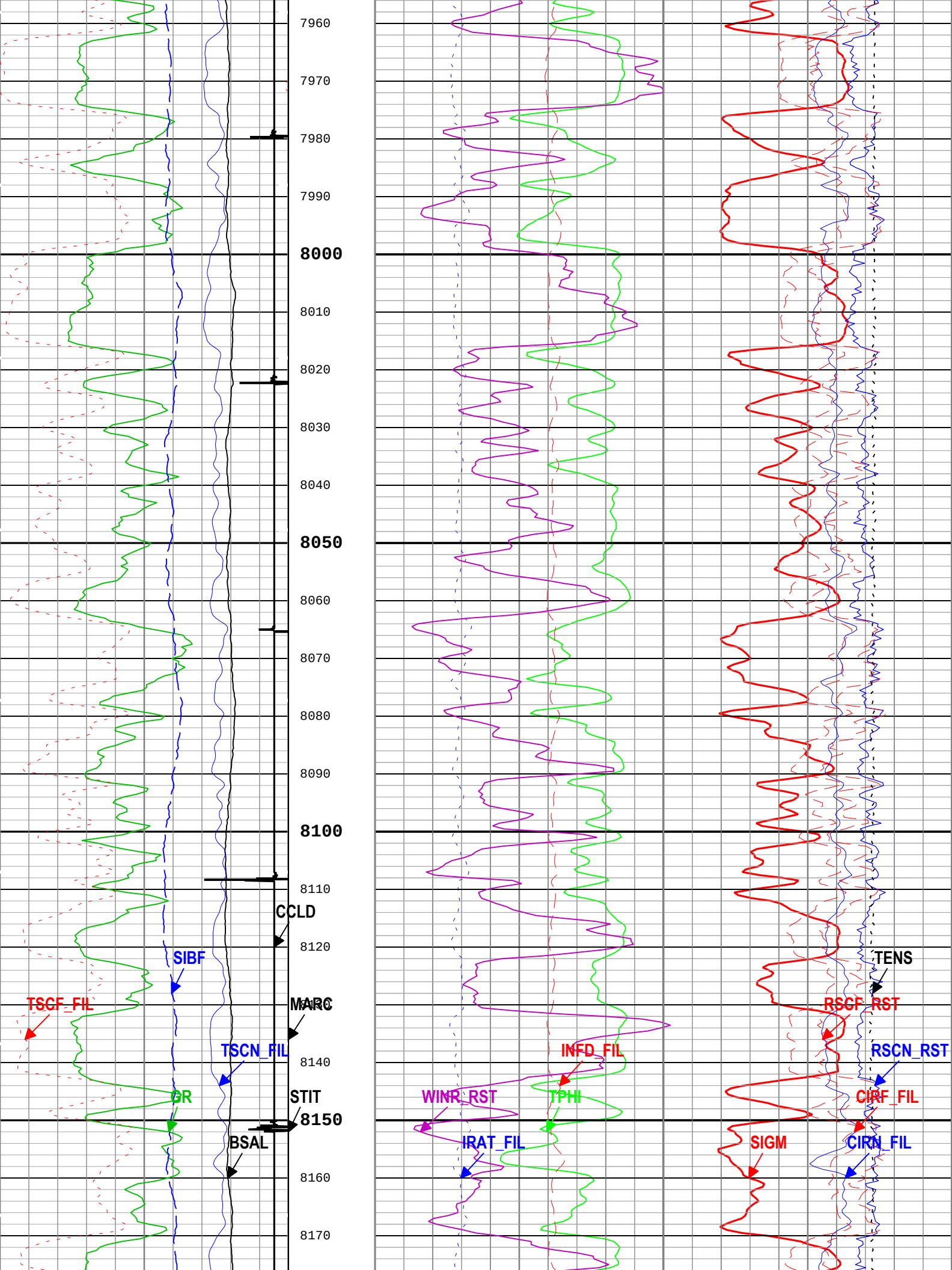

6860
6870
6880
6890
6900
6910
6920
6940
6950
6960
6970
6980
6990
7000
7010
7020
7030
7040
7050
7060
7070
CCLD
SIBF
TSCF_FIL
MARC
TSCN_FIL
GR
STIT
BSAL
INFD_FIL
WINF_IRST
IRAT_FIL
TENS
RSCF_RST
RSCN_RST
CIRF_FIL
SIGM
CIRN_FIL

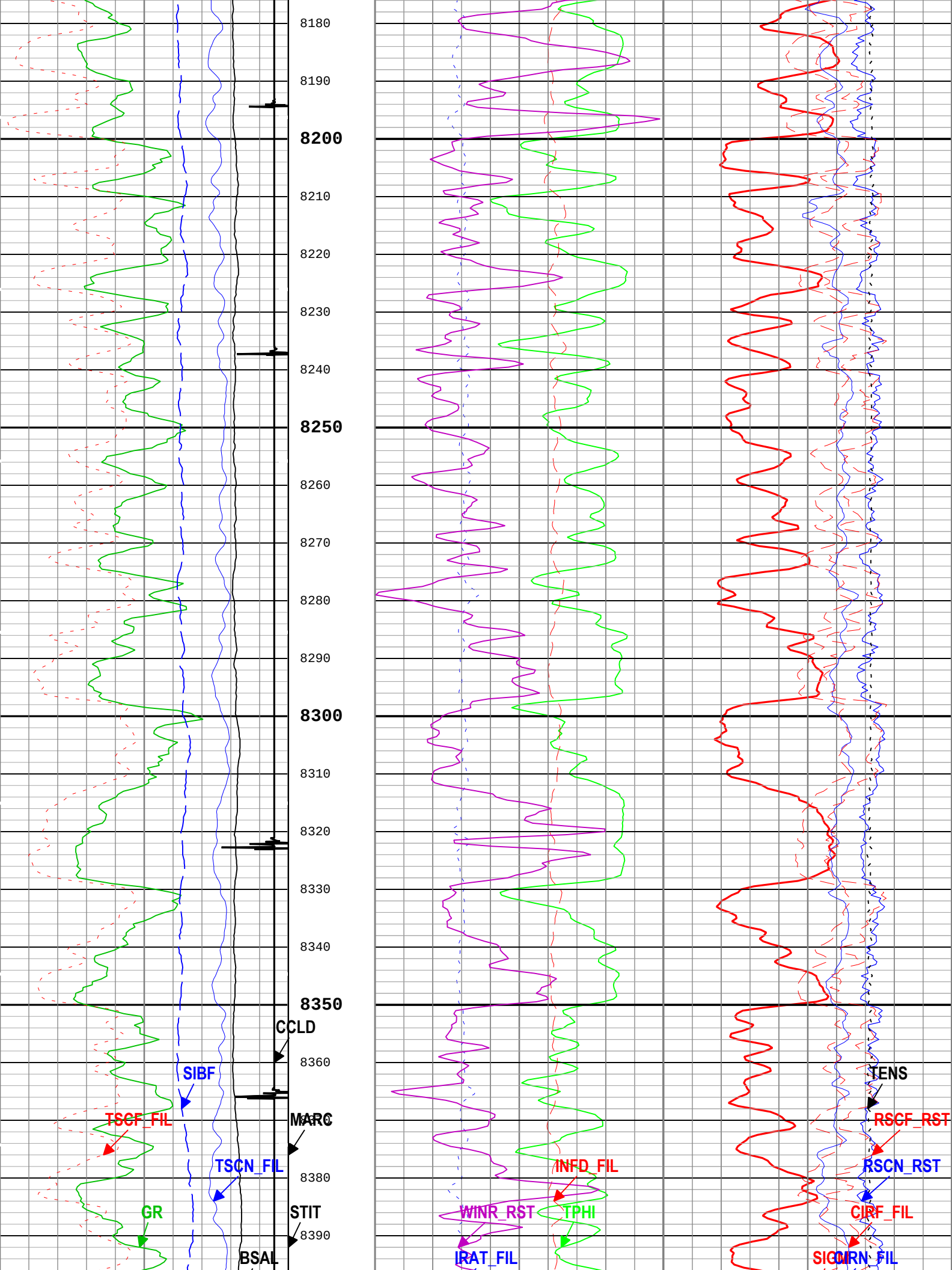

7080
7090
7100
7110
7120
7130
7140
7150
7160
7180
7190
7200
7210
7220
7230
7240
7250
7260
7270
7280
7290
CCLD
SIBF
TSCF_FIL
MARC
TSCN_FIL
GR
STIT
BSAL
INFD_FIL
WINR_RST
TPHI
IRAT_FIL
TENS
RSCF_RST
RSCN_RST
CIRF_FIL
SIGM
CIRN_FIL

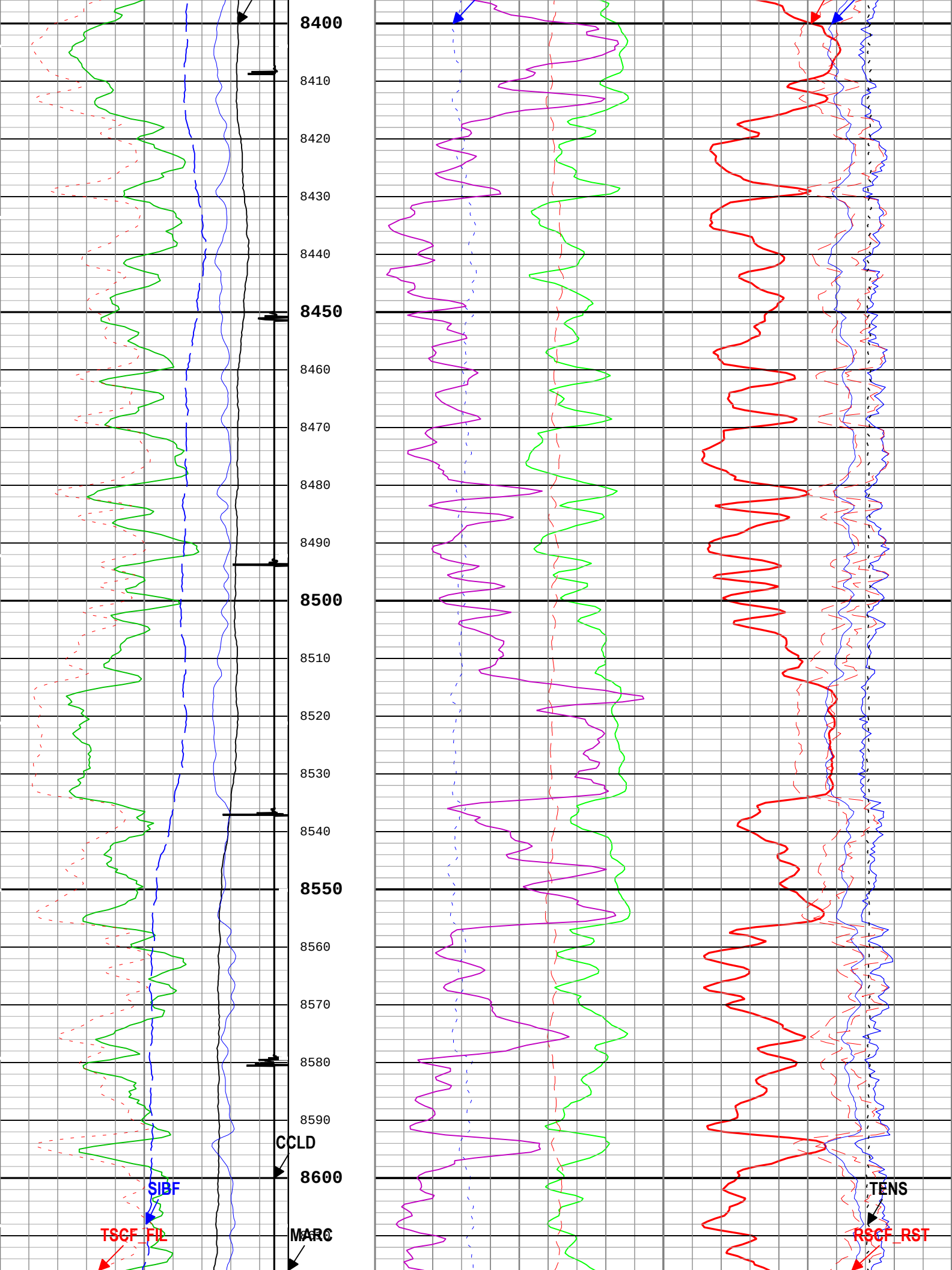

7300
7310
7320
7330
7340
7350
7360
7370
7380
7390
CCLD
7400
SIBF
TSCF_FIL
MARC
TSCN_FIL
7420
GR
STIT
7430
BSAL
7440
7450
7460
7470
7480
7490
7500
7510
INFD_FIL
WINR_RST
TPHI
IRAT_FIL
TENS
RSCF_RST
RSCN_RST
CIRF_FIL
SIGM
CIRN_FIL

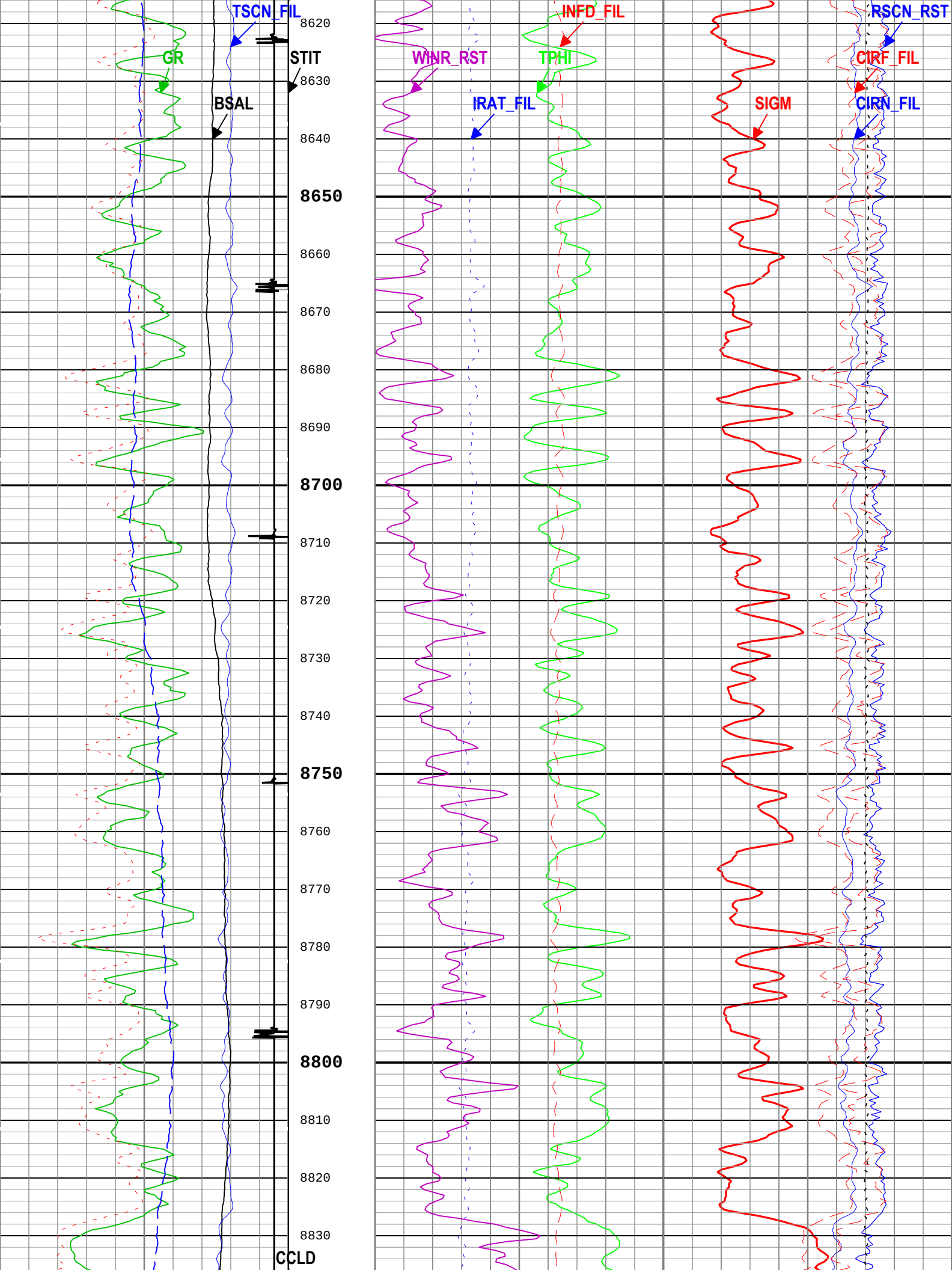

7520
7530
7540
7550
7560
7570
7580
7590
7600
7610
7620
7630
CCLD
7640
SIBF
TSCF_FIL
MARK
7650
TSCN_FIL
7660
GR
STIT
7670
BSAL
7680
7690
7700
7710
7720
7730
INFD_FIL
WINR_RST
TPHI
IRAT_FIL
TENS
RSCF_RST
RSCN_RST
CIRF_FIL
SIGM
CIRN_FIL

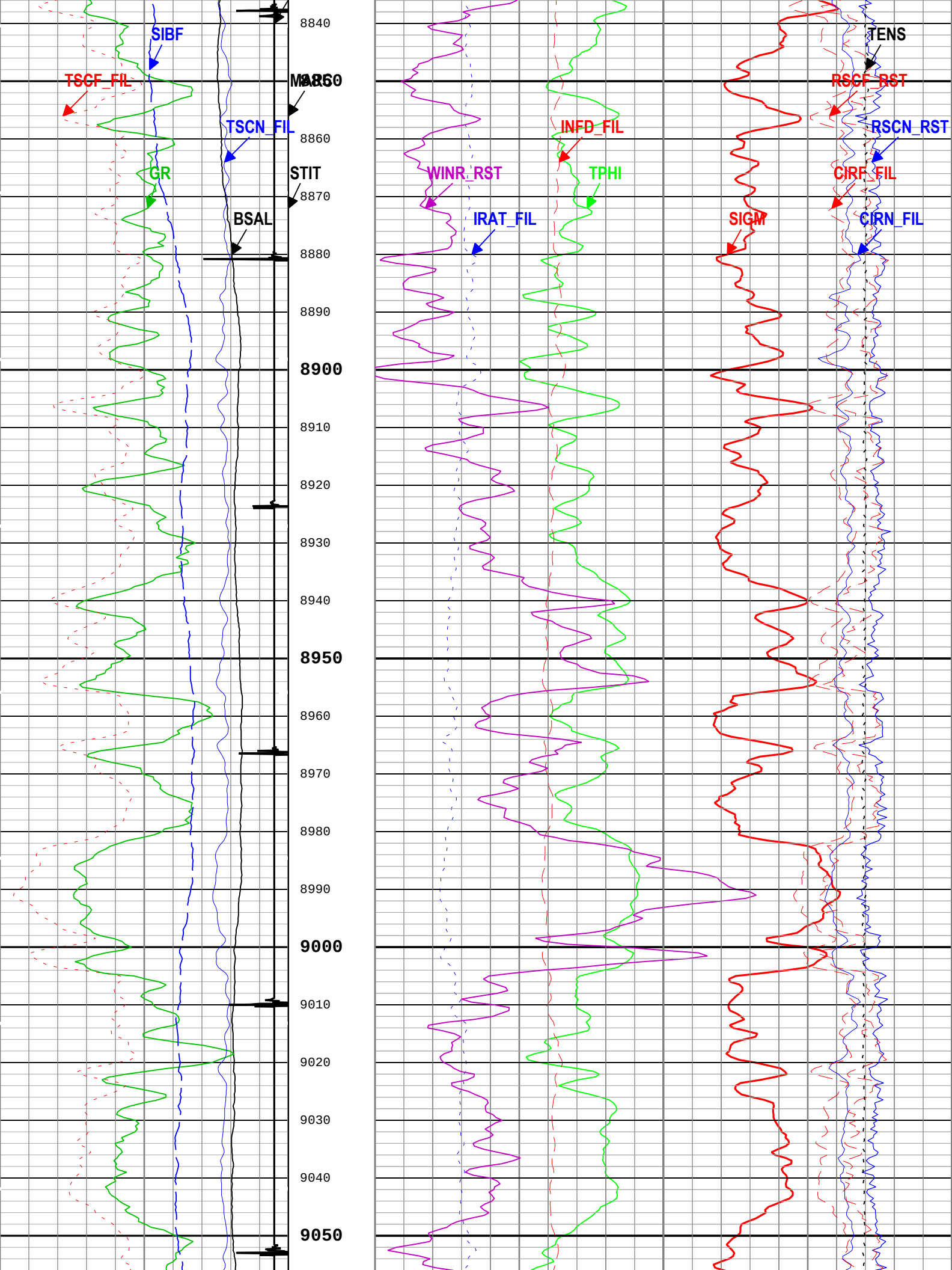

7740
7750
7760
7770
7780
7790
7800
7810
7820
7830
7840
7850
7860
7870
7880
7900
7910
7920
7930
7940
7950
CCLD
SIBF
TSCF_FIL
MARC
TSCN_FIL
GR
STIT
BSAL
INFD_FIL
WINR_RST
TPHI
IRAT_FIL
TENS
RSCF_RST
RSCN_RST
CIRF_FIL
SIGM
CIRN_FIL

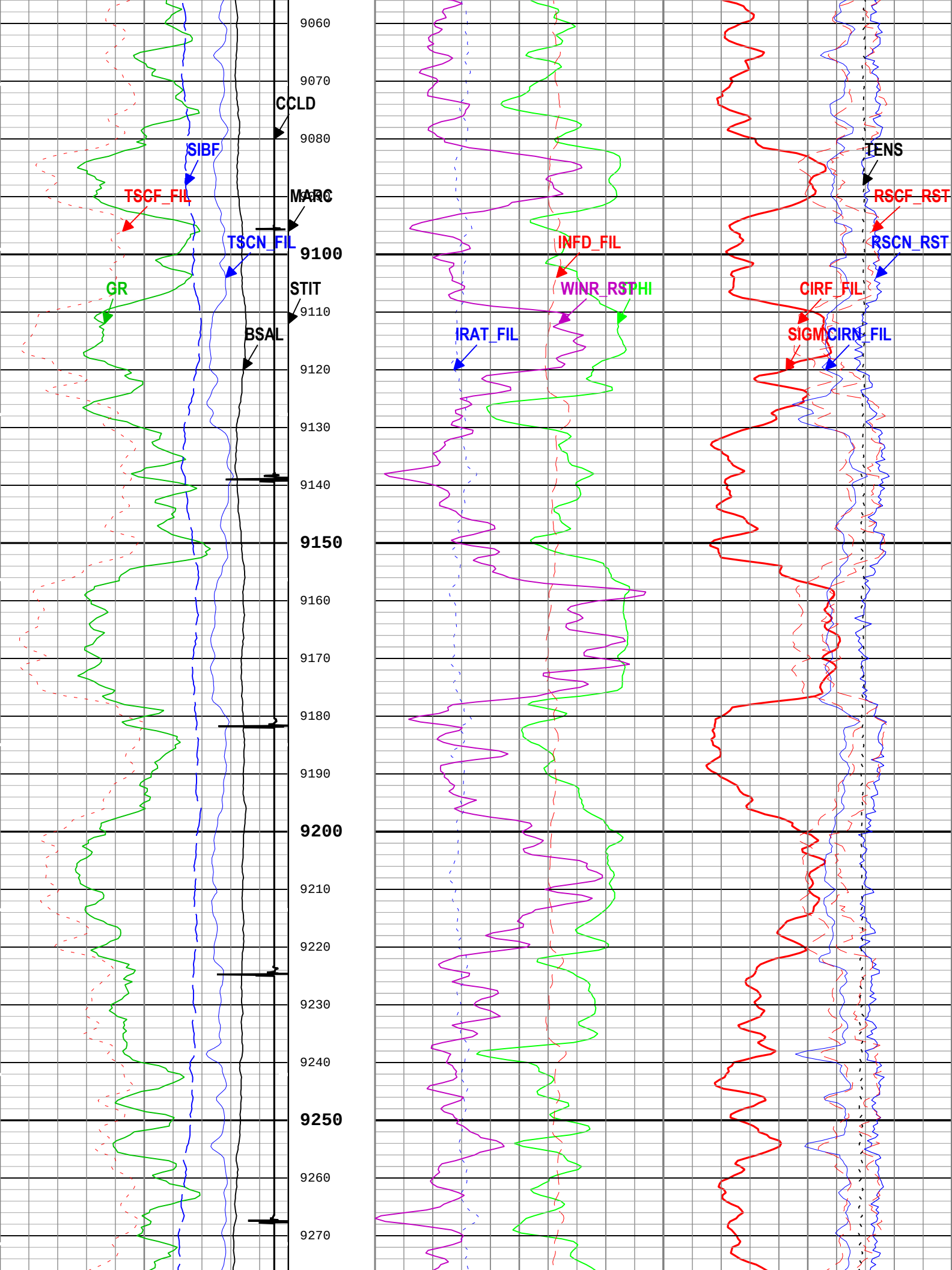

7960
7970
7980
7990
8000
8010
8020
8030
8040
8050
8060
8070
8080
8090
8100
8110
8120
8130
8140
8150
8160
8170
CCLD
SIBF
TSCF_FIL
MARC
TSCN_FIL
GR
STIT
BSAL
WINR_RST
TPHI
INFD_FIL
IRAT_FIL
TENS
RSCF_RST
RSCN_RST
CIRF_FIL
SIGM
CIRN_FIL

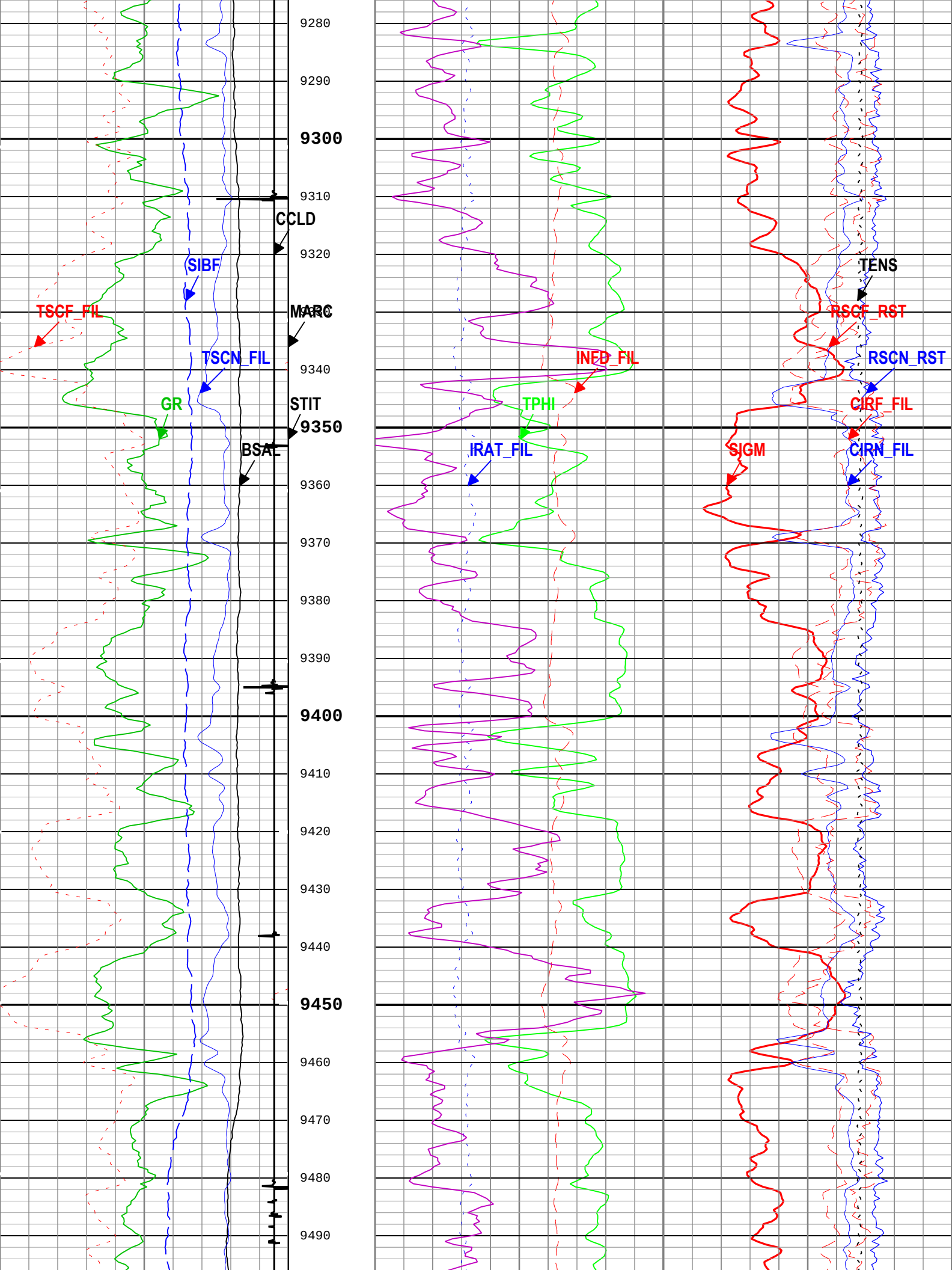

8180
8190
8200
8210
8220
8230
8240
8250
8260
8270
8280
8290
8300
8310
8320
8330
8340
8350
8360
8380
8390
CCLD
SIBF
TSCF_FIL
MARC
TSCN_FIL
GR
STIT
BSAL
INFD_FIL
WINR_RST
TPHI
IRAT_FIL
TENS
RSCF_RST
RSCN_RST
CIRF_FIL
CIRN_FIL

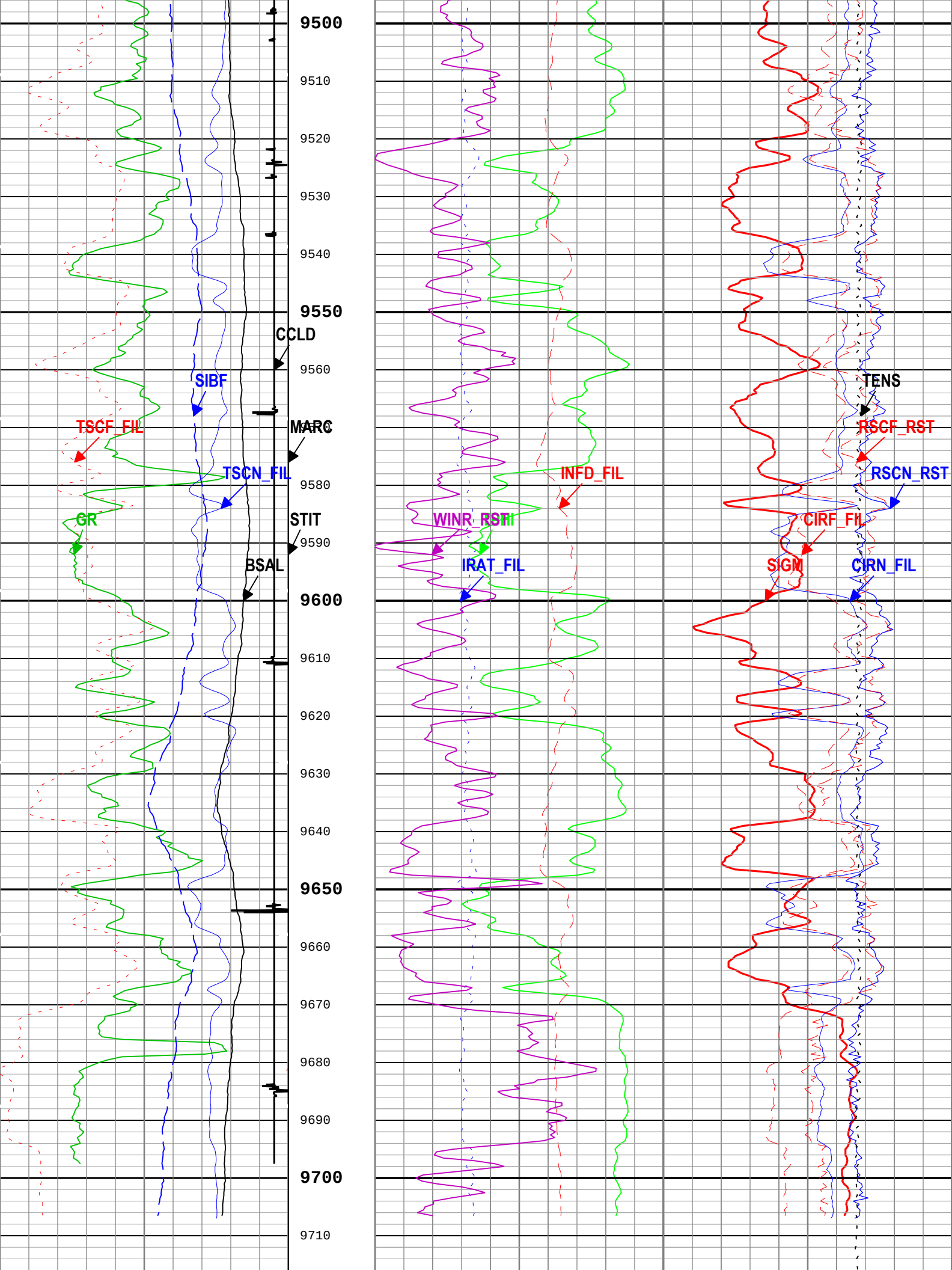

8400
8410
8420
8430
8440
8450
8460
8470
8480
8490
8500
8510
8520
8530
8540
8550
8560
8570
8580
8590
8600
CCLD
SIBF
TSCF_FIL
MARC
TENS
RSCF_RST

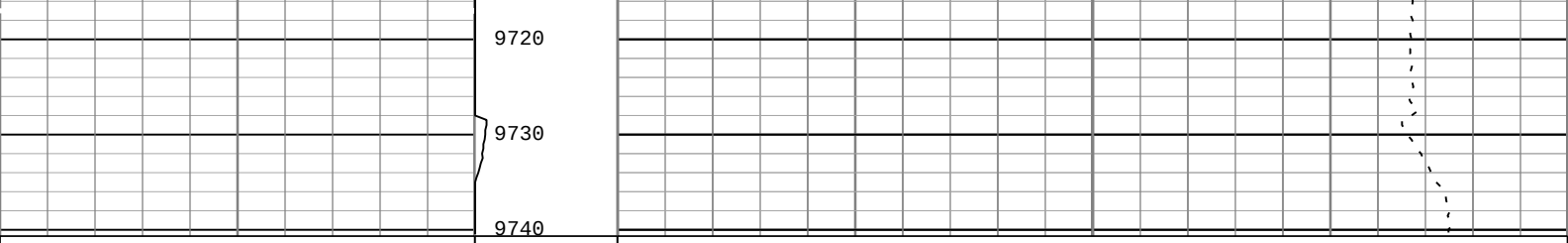

TSCN_FIL
GR
STIT
BSAL
8620
8630
8640
8650
8660
8670
8680
8690
8700
8710
8720
8730
8740
8750
8760
8770
8780
8790
8800
8810
8820
8830
CCLD
INFD_FIL
WINR_RST
TPHI
IRAT_FIL
RSCN_RST
CIRF_FIL
SIGM
CIRN_FIL


SIBF
TSCF_FIL
TSCN_FIL
GR
STIT
BSAL
8840
8850
8860
8870
8880
8890
8900
8910
8920
8930
8940
8950
8960
8970
8980
8990
9000
9010
9020
9030
9040
9050
TENS
RSCF_RST
RSCN_RST
INFD_FIL
WINR_RST
TPHI
CIRF_FIL
IRAT_FIL
SIGM
CIRN_FIL


9060
9070
CCLD
9080
SIBF
TSCF_FIL
MARC
TSCN_FIL
9100
GR
STIT
9110
BSAL
9120
9130
9140
9150
9160
9170
9180
9190
9200
9210
9220
9230
9240
9250
9260
9270
INFD_FIL
WINR_RSTPHI
IRAT_FIL
TENS
RSCF_RST
RSCN_RST
CIRF_FIL
SIGM_CIRN_FIL


9280
9290
9300
9310
9320
9330
9340
9350
9360
9370
9380
9390
9400
9410
9420
9430
9440
9450
9460
9470
9480
9490
CCLD
SIBF
TSCF_FIL
MARC
TSCN_FIL
GR
STIT
BSAL
INFD_FIL
TPHI
IRAT_FIL
TENS
RSCF_RST
RSCN_RST
CIRF_FIL
SIGM
CIRN_FIL


9500
9510
9520
9530
9540
9550
9560
9580
9590
9600
9610
9620
9630
9640
9650
9660
9670
9680
9690
9700
9710
CCLD
SIBF
MARC
TSCF_FIL
TSCN_FIL
GR
STIT
BSAL
INFD_FIL
WINR_RST
IRAT_FIL
TENS
RSCF_RST
RSCN_RST
CIRF_FIL
SIGM
CIRN_FIL



Borehole Salinity (BSAL) RST-C[1]
450 ppk -50

Gamma Ray (GR) PSTP-B[1]
0 gAPI 150

Total Selected Count Rate Near Detector Filtered (TSCN_FIL) RST-C[1]
30000 1/s 0

Total Selected Count Rate Far Detector Filtered (TSCF_FIL) RST-C[1]
12000 1/s 0

Sigma Borehole Fluid (SIBF) RST-C[1]
100 cu 0

CCL Discriminated Amplitude (CCLD) PSTP-B[1]
-19 V 1

Stuck Tool Indicator, Total (STIT)
0 ft 50

Cable Drag From STIA to STIT

Tool_Tot. Drag From D3T to STIT

Minitron Arc Count (MARC) RST-C[1]
0 5

Formation Sigma (Neutron Capture Cross Section) (SIGM) RST-C[1]
60 cu 0

Weighted Inelastic Ratio (WINR_RST) RST-C[1]
0 0.4

Inelastic Ratio Filtered (IRAT_FIL) RST-C[1]
0.75 0

Thermal Decay Porosity (TPHI) RST-C[1]
0.6 ft3/ft3 0

Gross Inelastic Count Rate Far Detector Filtered (INFD_FIL) RST-C[1]
10000 1/s 0

Capture to Inelastic Ratio Near Filtered (CIRN_FIL) RST-C[1]
2.5 0

Capture to Inelastic Ratio Far Filtered (CIRF_FIL) RST-C[1]
5 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

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

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: 13-Sep-2018 18:19:15

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	
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
MATR	Rock Matrix for Neutron Porosity Corrections	Borehole	SANDSTONE	
TD	Total Measured Depth	Borehole	9729	ft

Two: 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	SANDSTONE	
TD	Total Measured Depth	Borehole	9729	ft

TwoDepth Zoned Parameters

Parameter	Value	Start (ft)	Stop (ft)
BS	14.75	2300	2415
BS	8.75	2415	5150.18

All depth are actual.

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-B	24 dB	
RST_DLM	Depth Log Mode	RST-C	Sigma	

Two: Parameters

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

One

Repeat Pass

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	9396.24 ft	9718.16 ft	12-Sep-2018 8:41:03 PM	12-Sep-2018 8:52:26 PM	ON	7.78 ft	Yes

All depths are referenced to toolstring zero

Log

Company:Caerus Operating LLC Well:NPR 12C-10 596

One: Log[2]: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: 13-Sep-2018 18:19:19

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)

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

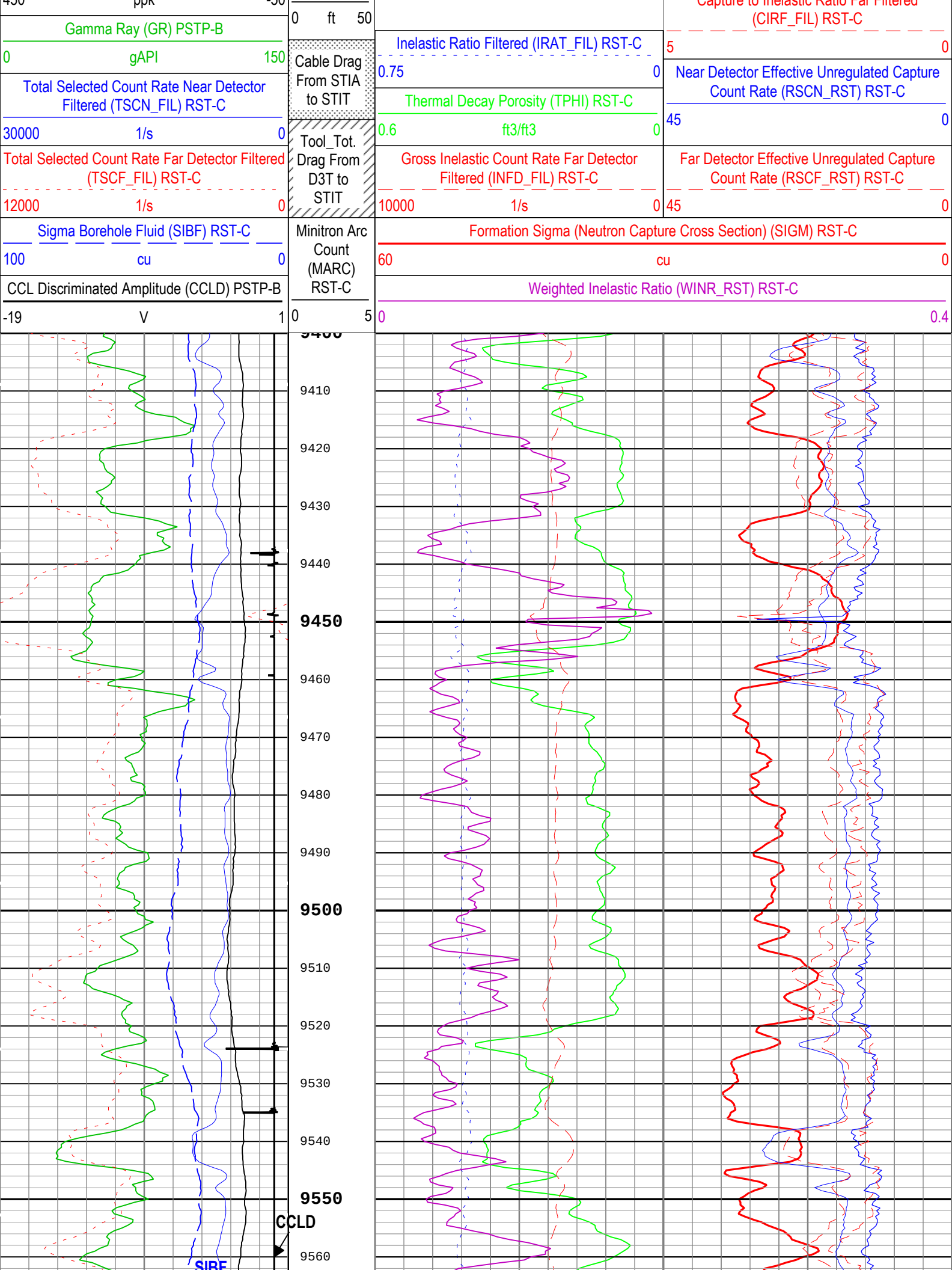
2.5 0

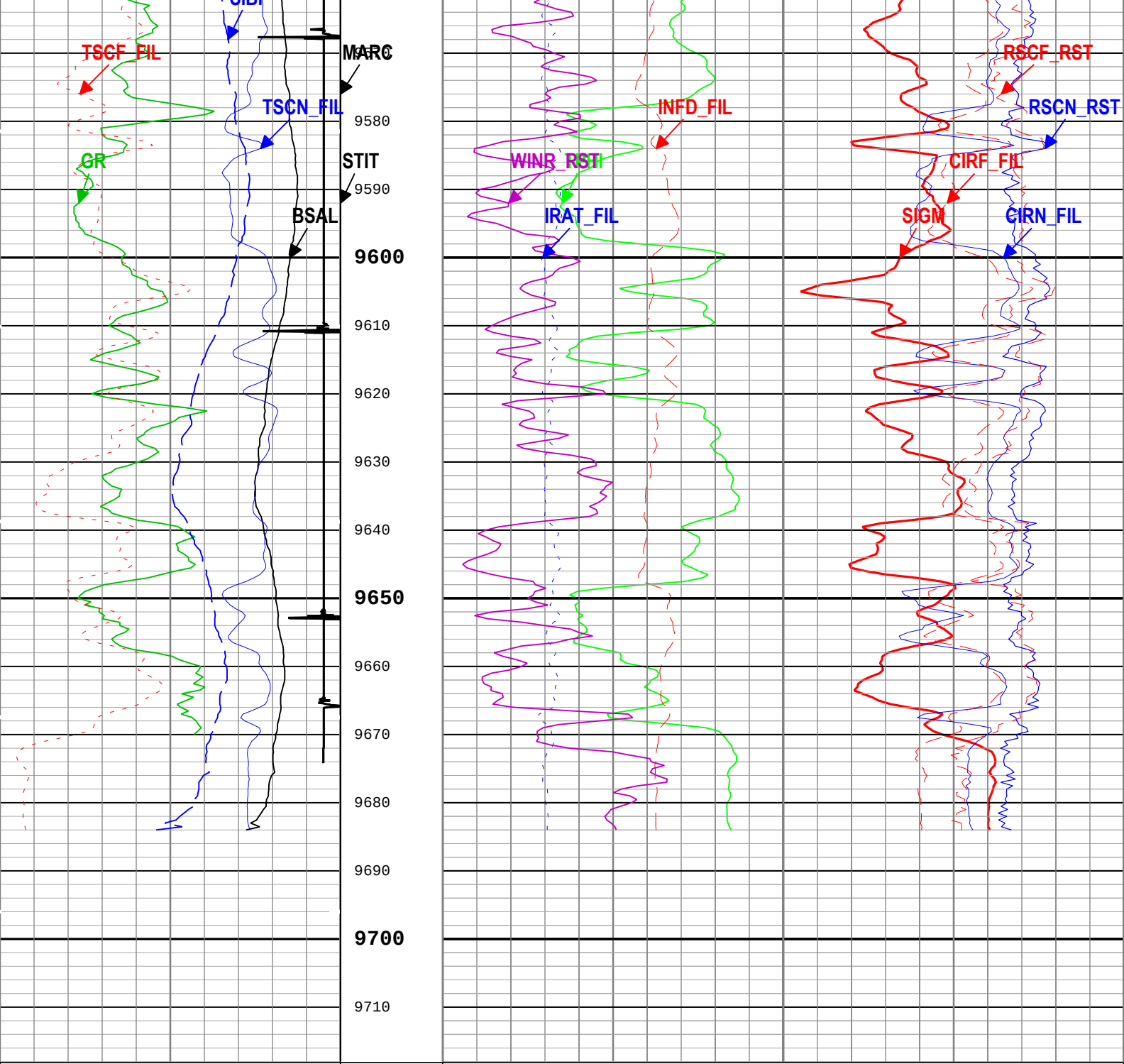
Borehole Salinity (BSAL) RST-C

450 ppk 50

Stuck Tool Indicator, Total (STIT)

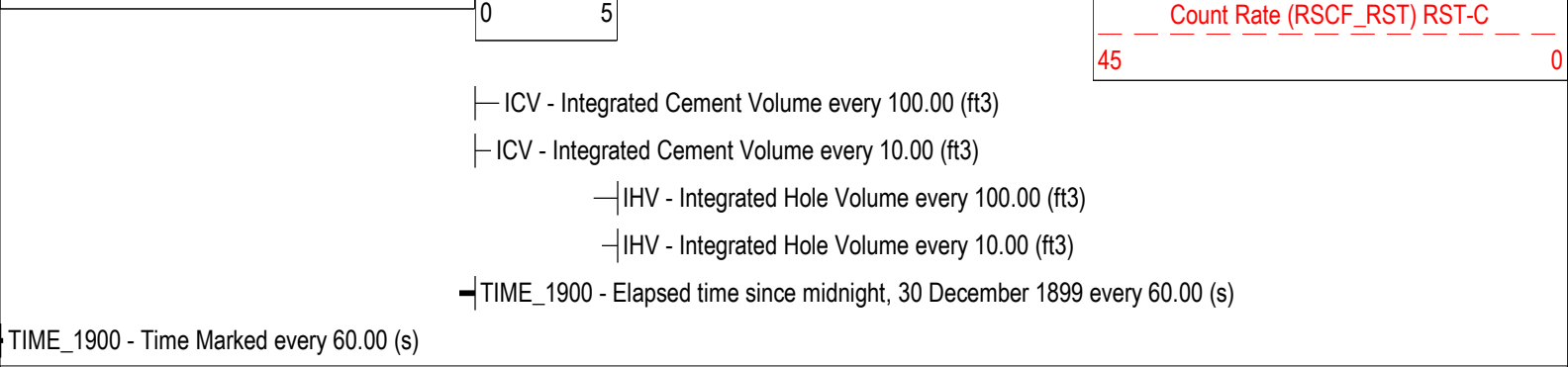
Capture to Inelastic Ratio Far Filtered


ppk
0 ft 50
Gamma Ray (GR) PSTP-B
0 gAPI 150
Total Selected Count Rate Near Detector Filtered (TSCN_FIL) RST-C
30000 1/s 0
Total Selected Count Rate Far Detector Filtered (TSCF_FIL) RST-C
12000 1/s 0
Sigma Borehole Fluid (SIBF) RST-C
100 cu 0
CCL Discriminated Amplitude (CCLD) PSTP-B
-19 V 1
Cable Drag From STIA to STIT
Tool_Tot. Drag From D3T to STIT
Minitron Arc Count (MARC) RST-C
0 5
Inelastic Ratio Filtered (IRAT_FIL) RST-C
0.75 0
Thermal Decay Porosity (TPHI) RST-C
0.6 ft3/ft3 0
Gross Inelastic Count Rate Far Detector Filtered (INFD_FIL) RST-C
10000 1/s 0
Formation Sigma (Neutron Capture Cross Section) (SIGM) RST-C
60 cu 0
Weighted Inelastic Ratio (WINR_RST) RST-C
0 0.4
Capture to Inelastic Ratio Far Filtered (CIRF_FIL) RST-C
5 0
Near Detector Effective Unregulated Capture Count Rate (RSCN_RST) RST-C
45 0
Far Detector Effective Unregulated Capture Count Rate (RSCF_RST) RST-C
45 0
9400
9410
9420
9430
9440
9450
9460
9470
9480
9490
9500
9510
9520
9530
9540
9550
9560
CCLD
SIBF



Borehole Salinity (BSAL) RST-C 450 ppk -50	Stuck Tool Indicator, Total (STIT) 0 ft 50	Formation Sigma (Neutron Capture Cross Section) (SIGM) RST-C 60 cu 0
Gamma Ray (GR) PSTP-B 0 gAPI 150		Weighted Inelastic Ratio (WINR_RST) RST-C 0 0.4
Total Selected Count Rate Near Detector Filtered (TSCN_FIL) RST-C 30000 1/s 0	Cable Drag From STIA to STIT	Inelastic Ratio Filtered (IRAT_FIL) RST-C 0.75 0
Total Selected Count Rate Far Detector Filtered (TSCF_FIL) RST-C 12000 1/s 0	Tool_Tot. Drag From D3T to STIT	Thermal Decay Porosity (TPHI) RST-C 0.6 ft3/ft3 0
Sigma Borehole Fluid (SIBF) RST-C 100 cu 0	Minitron Arc Count (MARC) RST-C	Gross Inelastic Count Rate Far Detector Filtered (INFD_FIL) RST-C 10000 1/s 0
CCL Discriminated Amplitude (CCLD) PSTP-B -19 V 1		

Capture to Inelastic Ratio Near Filtered (CIRN_FIL) RST-C 2.5 0
Capture to Inelastic Ratio Far Filtered (CIRF_FIL) RST-C 5 0
Near Detector Effective Unregulated Capture Count Rate (RSCN_RST) RST-C 45 0
Far Detector Effective Unregulated Capture



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: 13-Sep-2018 18:19:19

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	
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
MATR	Rock Matrix for Neutron Porosity Corrections	Borehole	SANDSTONE	
TD	Total Measured Depth	Borehole	9729	ft

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-B	24 dB	
RST_DLM	Depth Log Mode	RST-C	Sigma	

Company:	Caerus Operating LLC
Well:	NPR 12C-10 596
Field:	NPR
County:	Garfield
State:	Colorado

Schlumberger

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