Schlumberger

Company: Caerus Operating LLC

Well: NPR 12D-10 596

Field: NPR

County: Garfield State: Colorado

Cement Bond Log

RST Sigma Log

Gamma Ray - Collar Locator

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

Location:

K10-596 NESW S10 T5S R96W	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:
05045237710000	10	5S	96W

Logging Date		06-Sep-2018		06-Sep-2018	
Run Number		ONE		One	
Depth Driller		9699.00 ft		9699.00 ft	
Schlumberger Depth		9636.00 ft		9636.00 ft	
Bottom Log Interval		9636.00 ft		9636.00 ft	
Top Log Interval		2300.00 ft		2300.00 ft	
Casing Fluid Type		Fresh Water		Fresh Water	
Salinity					
Density		8.6 lbm/gal		8.6 lbm/gal	
Fluid Level		8.00 ft		8.00 ft	
BIT/CASING/TUBING STRING					
Bit Size		8.75 in		8.75 in	
From		2400.00 ft		2400.00 ft	
To		9636.00 ft		9636.00 ft	
Casing/Tubing Size		4.5 in		4.5 in	
Weight		11.6 lbm/ft		11.6 lbm/ft	
Grade		P110		P110	
From		0.00 ft		0.00 ft	
To		9699.00 ft		9699.00 ft	
Max Recorded Temperatures		267.9 degF		267.9 degF	
Logger on Bottom	Time	06-Sep-2018	18:10:00	06-Sep-2018	18:20:00
Unit Number	Location:	3108	Evanston, WY	3108	Evanston, WY
Recorded By		Justin Ray		Richard Woods	
Witnessed By		Trent Ray		Trent Ray	

Disclaimer

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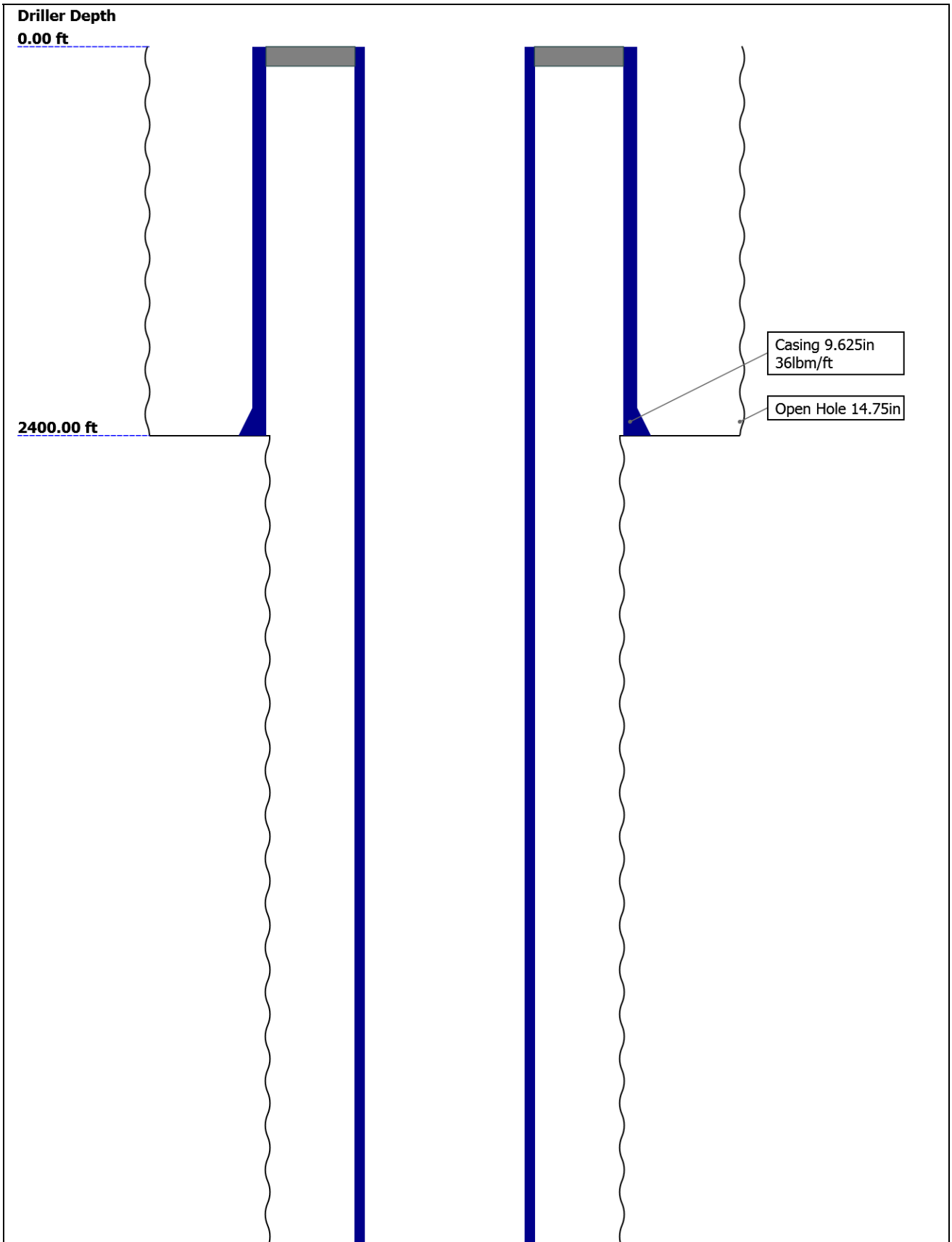
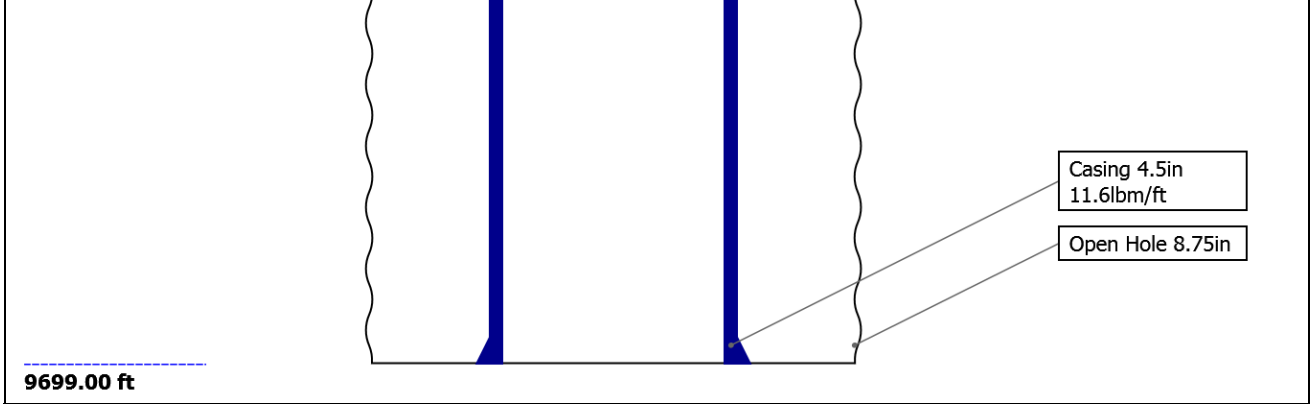
10.4 Log (RST SIGMA Answer)

Well Sketch





Borehole Size/Casing/Tubing Record

Bit						
Bit Size (in)	14.75	8.75				
Top Driller (ft)	0	2400				
Top Logger (ft)	0	2400				
Bottom Driller (ft)	2400	9699				
Bottom Logger (ft)	2400	9636				
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)	2400	9699				
Bottom Logger (ft)	2400	9699				

Remarks and Equipment Summary

Logs spliced at 5720.

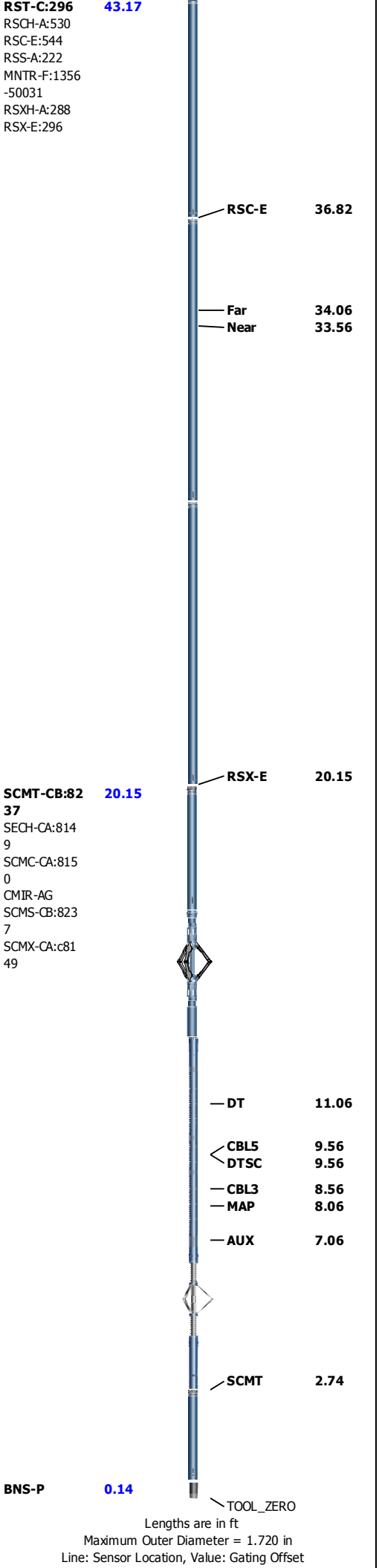
ONE: Remarks	One: Remarks
Tool string ran as per tool sketch	
RST Mode: SIGMA	
Matrix: Sandstone	
Max Recorded Temp: 267.9 Deg F	
Schlumberger Depth: 9636 FT	
Thank you for choosing Schlumberger	

ONE: Toolstring

Equip name	Length	MP name	Offset
PEH-E	**53.4**		
AH-38	**51.72**		
PSTP-A:3781	**51.44**		
1		**GR**	**47.74**
PSC-A:3781		**PSTC**	**47.44**
PSTC-A:3781		**PSTC Tool String Bottom**	**0.00**
PBMS-A:3781		**Temperature**	**44.65**
Sapphire 10kP SI		**Sapphire Pressure**	**44.54**
		CCL	**43.92**
		PBMS	**43.17**

One: Toolstring

Equip name	Length	MP name	Offset
PEH-E	**53.4**		
AH-38	**51.72**		
PSTP-A:3781	**51.44**		
1		**GR**	**47.74**
PSC-A:3781		**PSTC**	**47.44**
PSTC-A:3781		**PSTC Tool String Bottom**	**0.00**
PBMS-A:3781		**Temperature**	**44.65**
Sapphire 10kP SI		**Sapphire Pressure**	**44.54**
		CCL	**43.92**
		PBMS	**43.17**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RSS-A:222
MNTR-F:1356
-50031
RSXH-A:288
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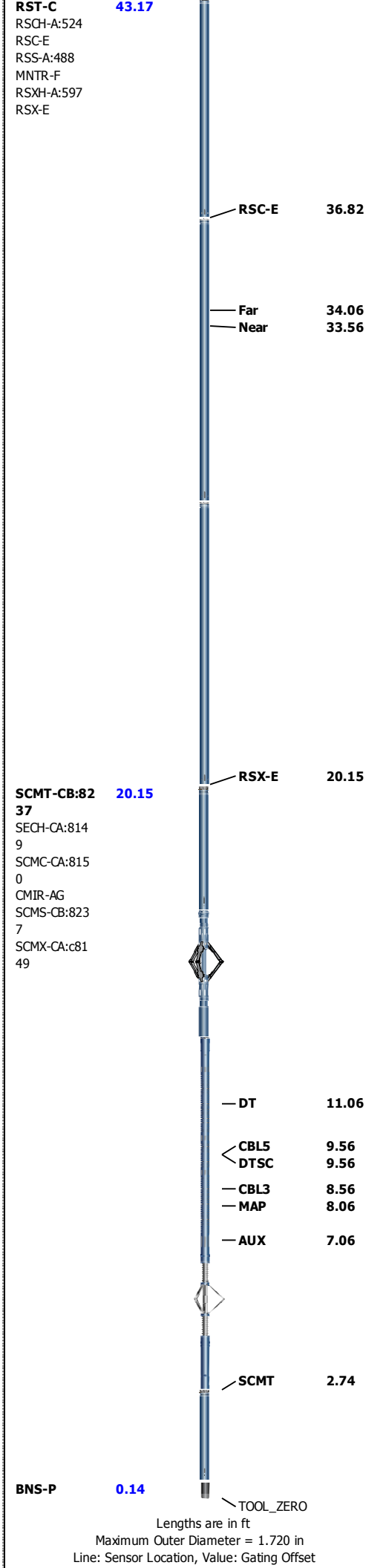
RSC-E 36.82
Far 34.06
Near 33.56
RSX-E 20.15
SCMT-CB:8237 20.15
SECH-CA:8149
SCMC-CA:8150
CMIR-AG
SCMS-CB:8237
SCMX-CA:c8149
DT 11.06
CBL5 9.56
DTSC 9.56
CBL3 8.56
MAP 8.06
AUX 7.06
SCMT 2.74
BNS-P 0.14
TOOL_ZERO
Lengths are in ft
Maximum Outer Diameter = 1.720 in
Line: Sensor Location, Value: Gating Offset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Far 34.06
Near 33.56
RSX-E 20.15
SCMT-CB:8237 20.15
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CBL5 9.56
DTSC 9.56
CBL3 8.56
MAP 8.06
AUX 7.06
SCMT 2.74
BNS-P 0.14
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

All measurements are relative to TOOL_ZERO

Depth Summary

	ONE	One	
Depth Measuring Device			
Type	IDW-B	IDW-B	
Serial Number	6693	6693	
Calibration Date	02-Feb-2018	02-Feb-2018	
Calibrator Serial Number	JA	JA	
Calibration Cable Type	IDWC-C-57	IDWC-C-57	
Wheel Correction 1	-4	-4	
Wheel Correction 2	-4	-4	
Tension Device			
Type	CMTD-B/A	CMTD-B/A	
Serial Number	1127	1127	
Calibration Date	25-Jul-2018	25-Jul-2018	
Calibrator Serial Number	112544	112544	
Number of Calibration Points	10	10	
Calibration Root Mean Square Error	1320	1320	
Calibration Peak Error	25	25	
Logging Cable			
Type	1-25ZA-XXS	1-25ZA-XXS	
Serial Number	F112140	F112140	
Length	17500.00 ft	17500.00 ft	
Conveyance Type	Wireline	Wireline	
Rig Type	MAST	MAST	

ONE:Depth Control Parameters		Depth Control Remarks
Log Sequence	First Log In the Well	All Schlumberger depth control procedures followed
Rig Up Length At Surface		IDW used as primary depth control device
Rig Up Length At Bottom		Z-Chart used as secondary depth control device
Rig Up Length Correction		Down log used as reference log
Stretch Correction	5.74 ft	
Tool Zero Check At Surface	24.00 ft	

One: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		

Composite 1

Software Version

Acquisition System	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[8]:Up	Up	5628.90 ft	9653.88 ft	06-Sep-2018 6:09:59 PM	06-Sep-2018 8:25:05 PM	ON	7.15 ft	Yes
One	Log[1]:Up	Up	1729.84 ft	5897.73 ft	06-Sep-2018 10:54:05 PM	07-Sep-2018 1:18:20 AM	ON	-7.25 ft	No

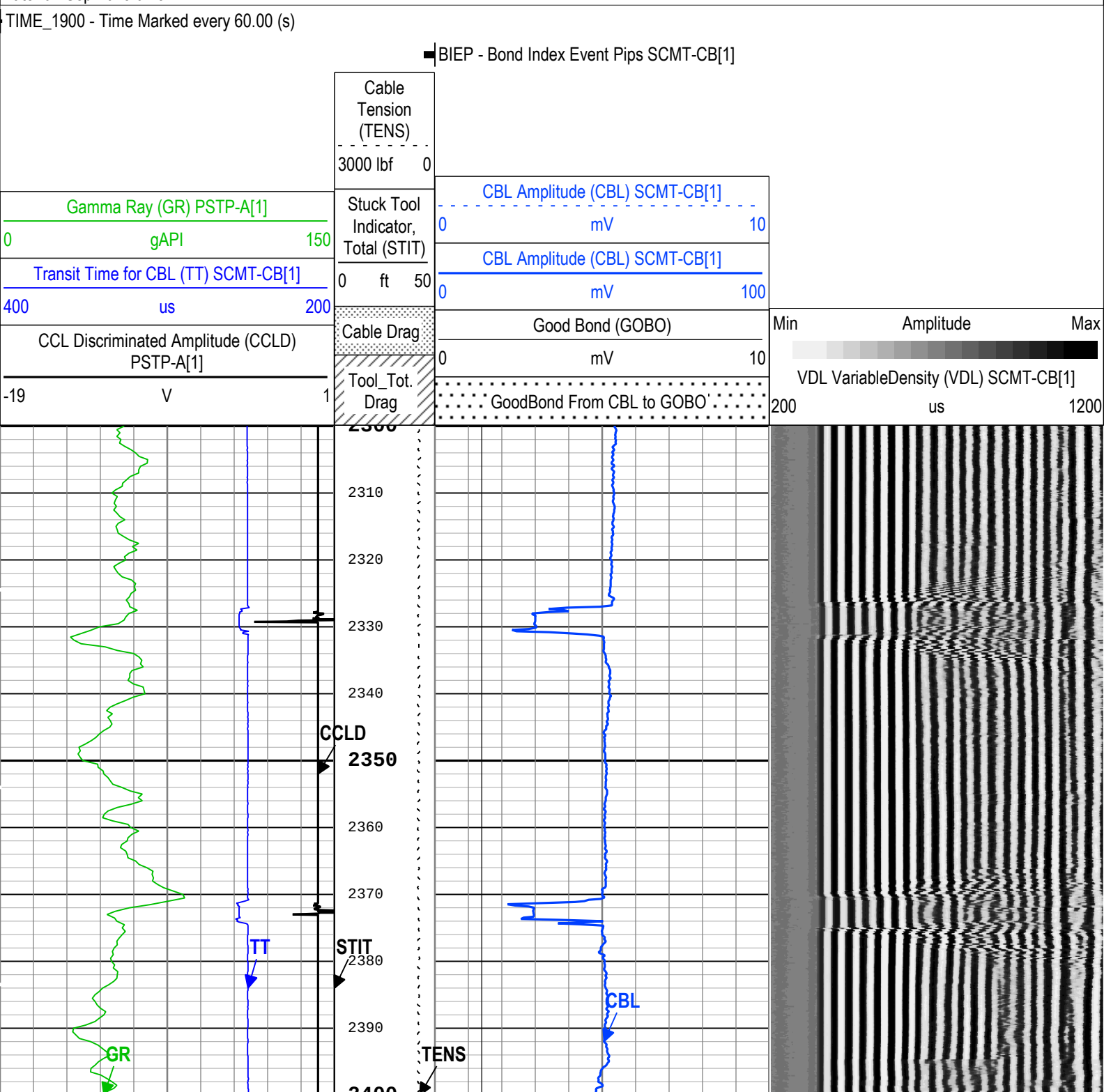
All depths are referenced to toolstring zero

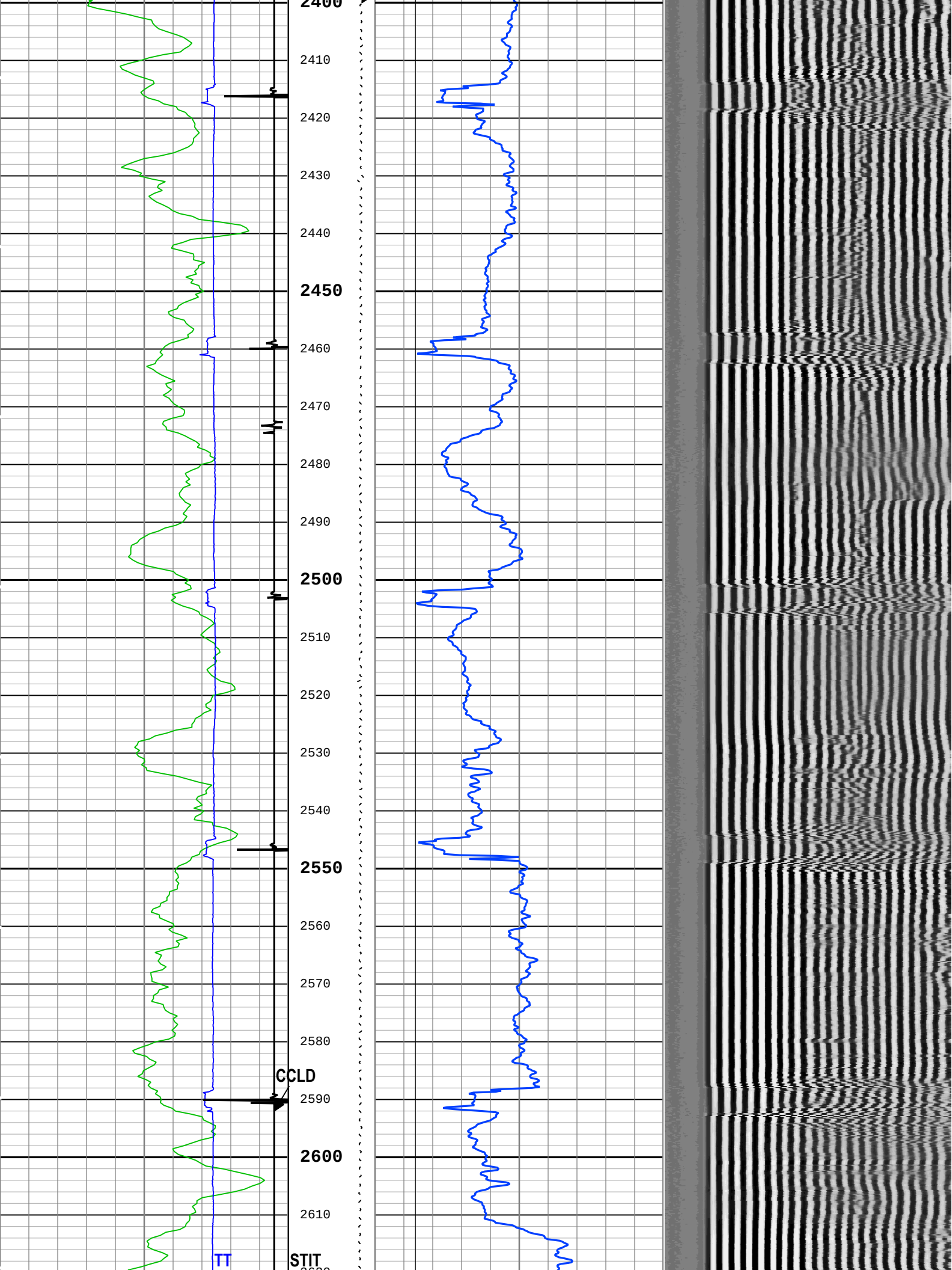
Log

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

Composite 1:S009

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: 07-Sep-2018 02:37:22

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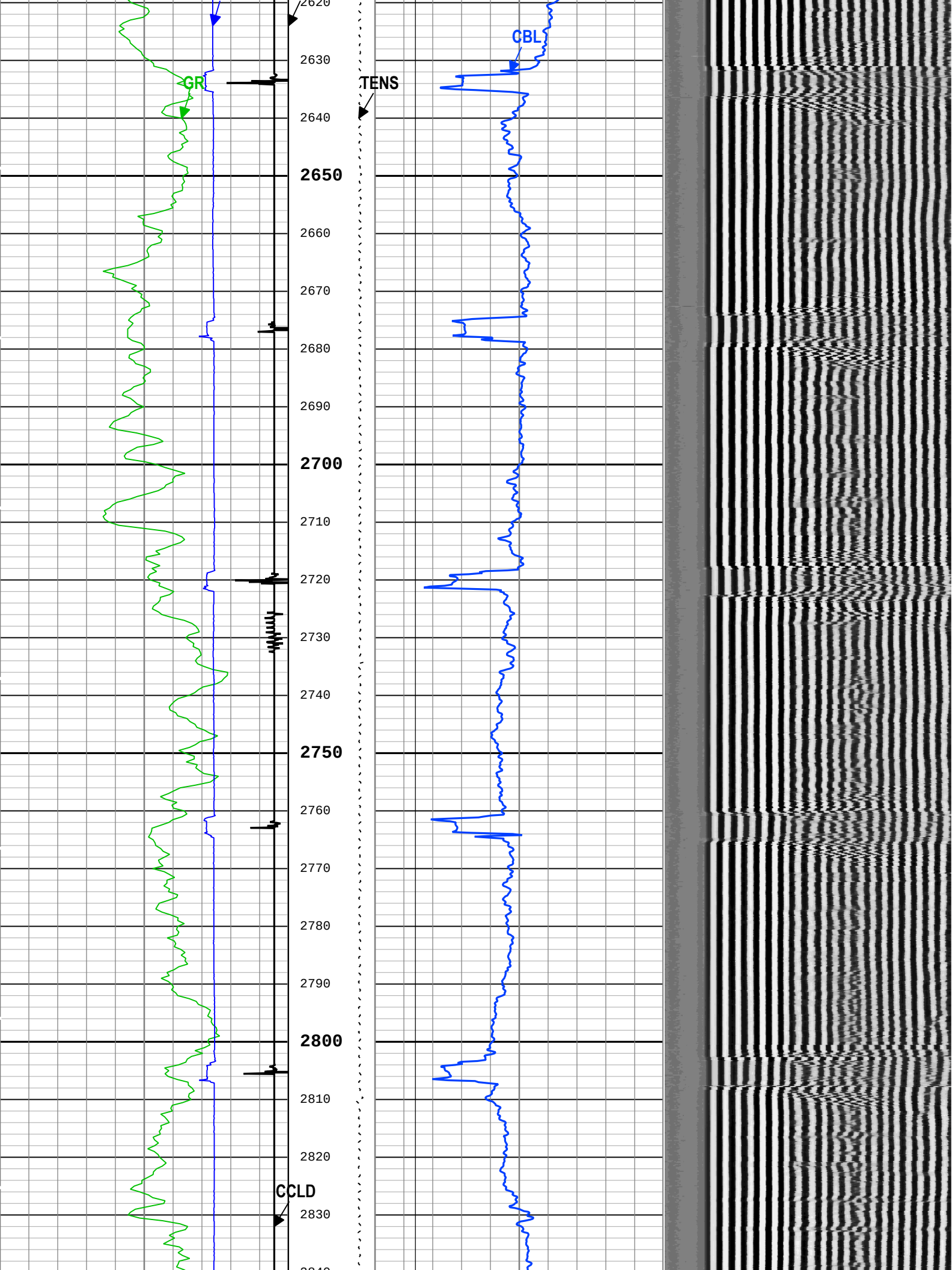
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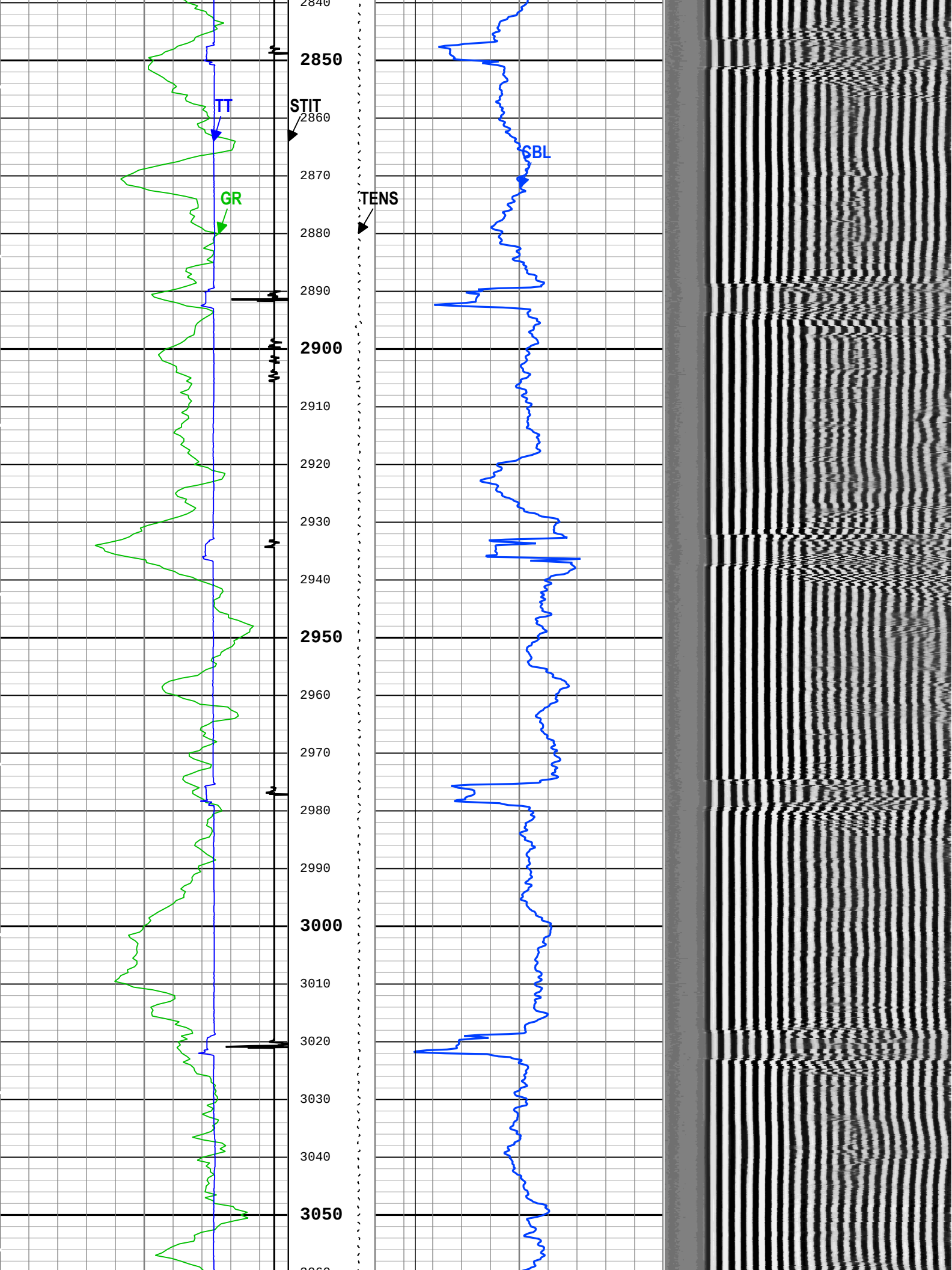
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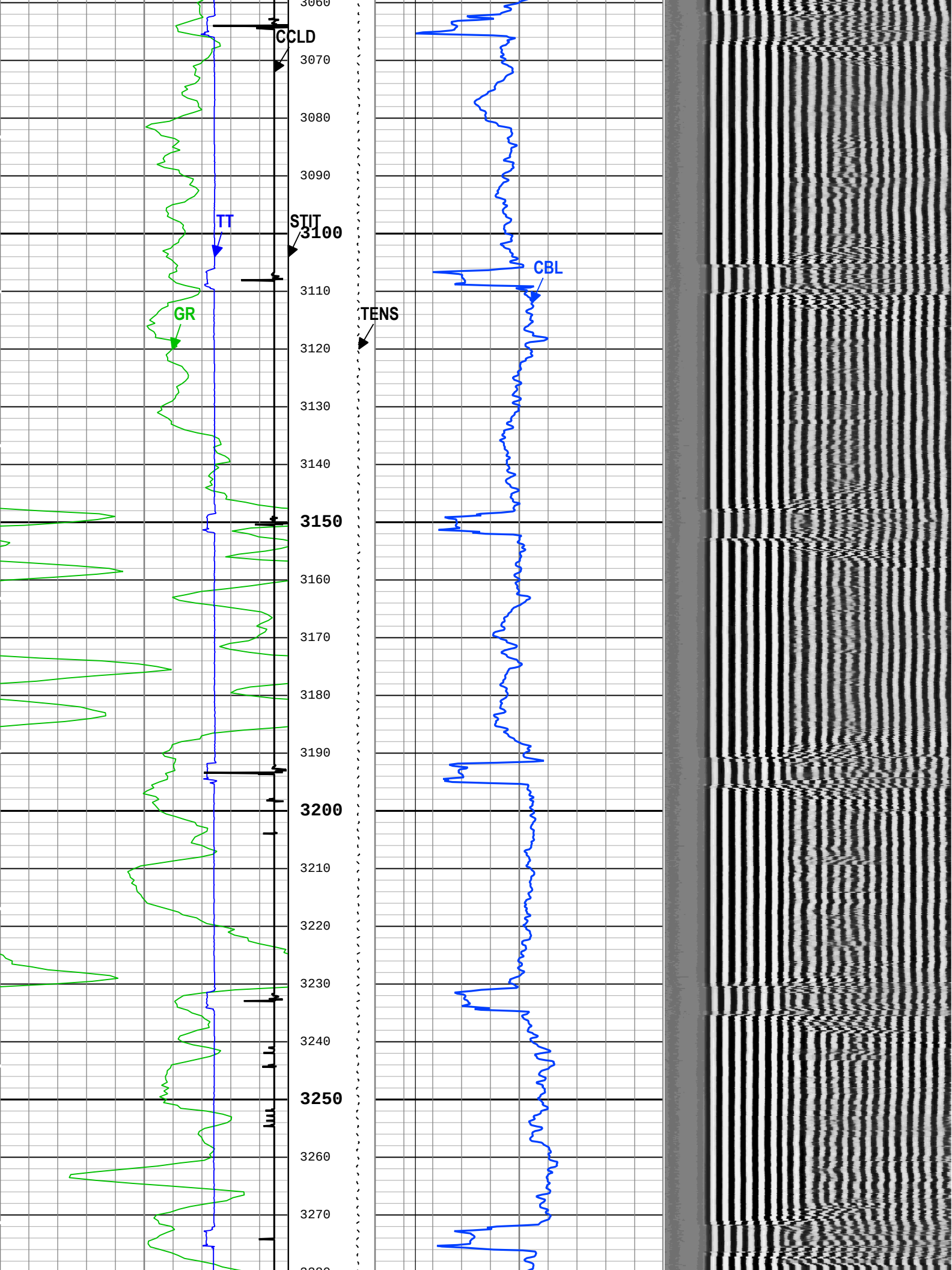
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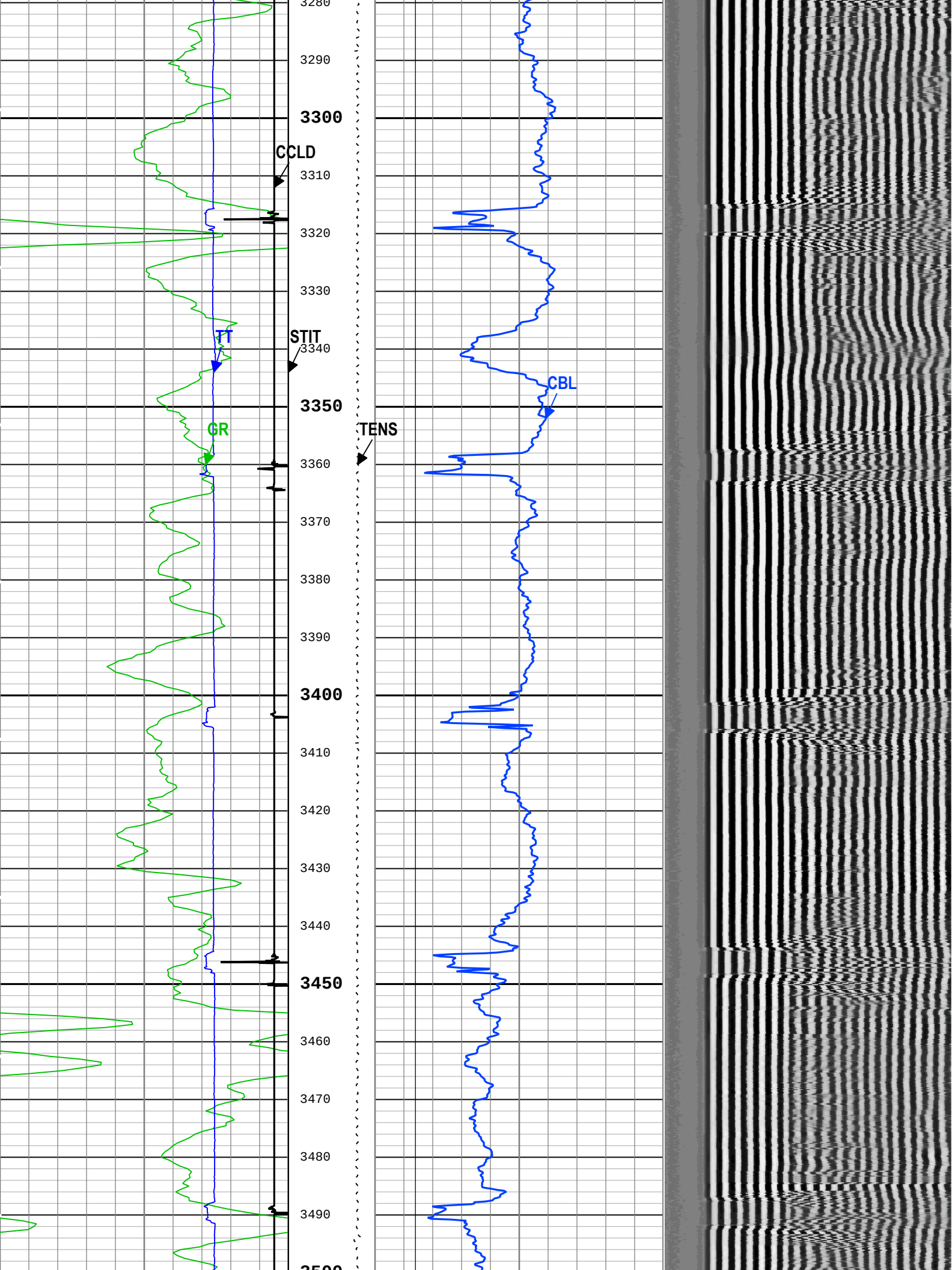
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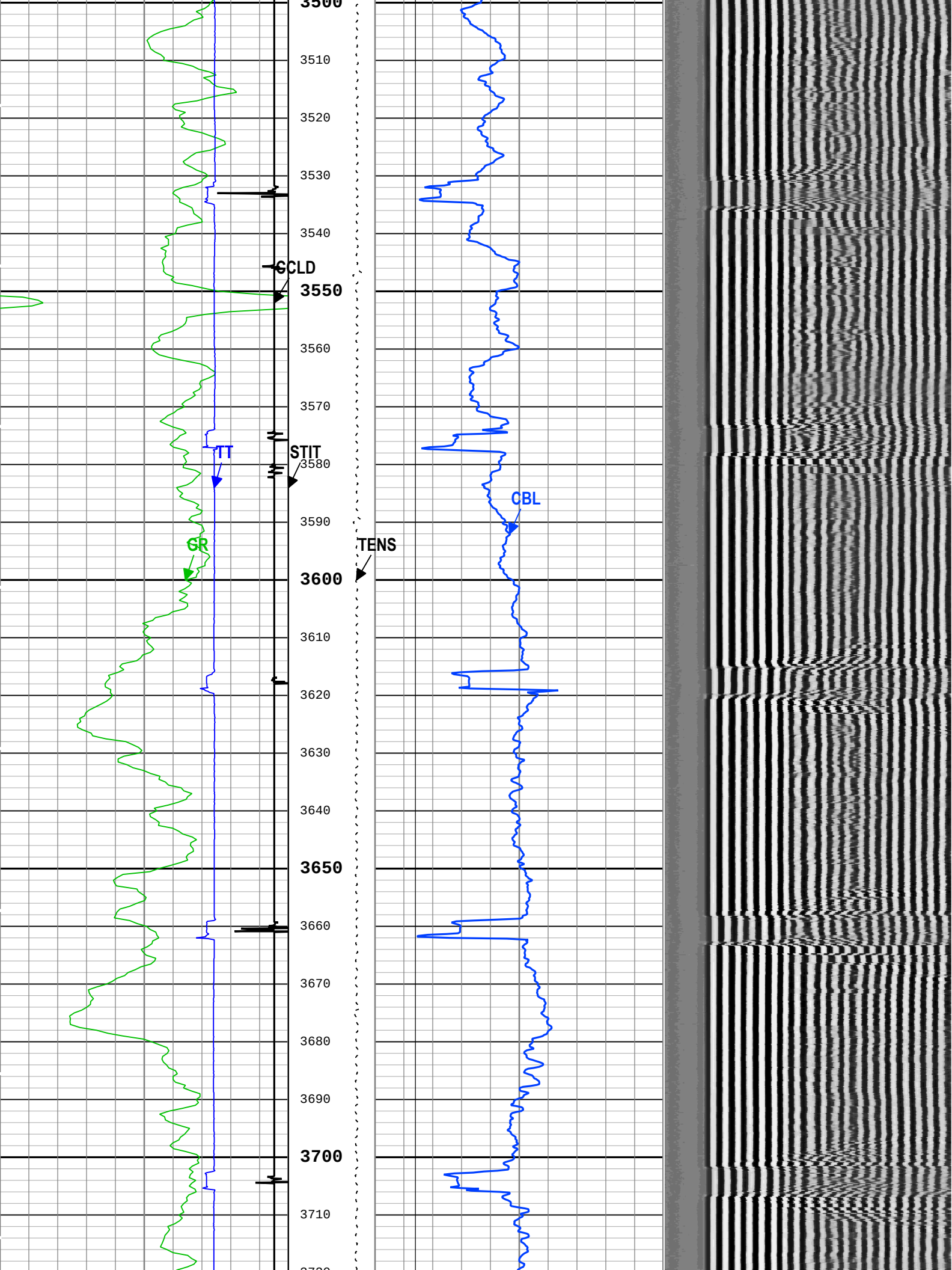
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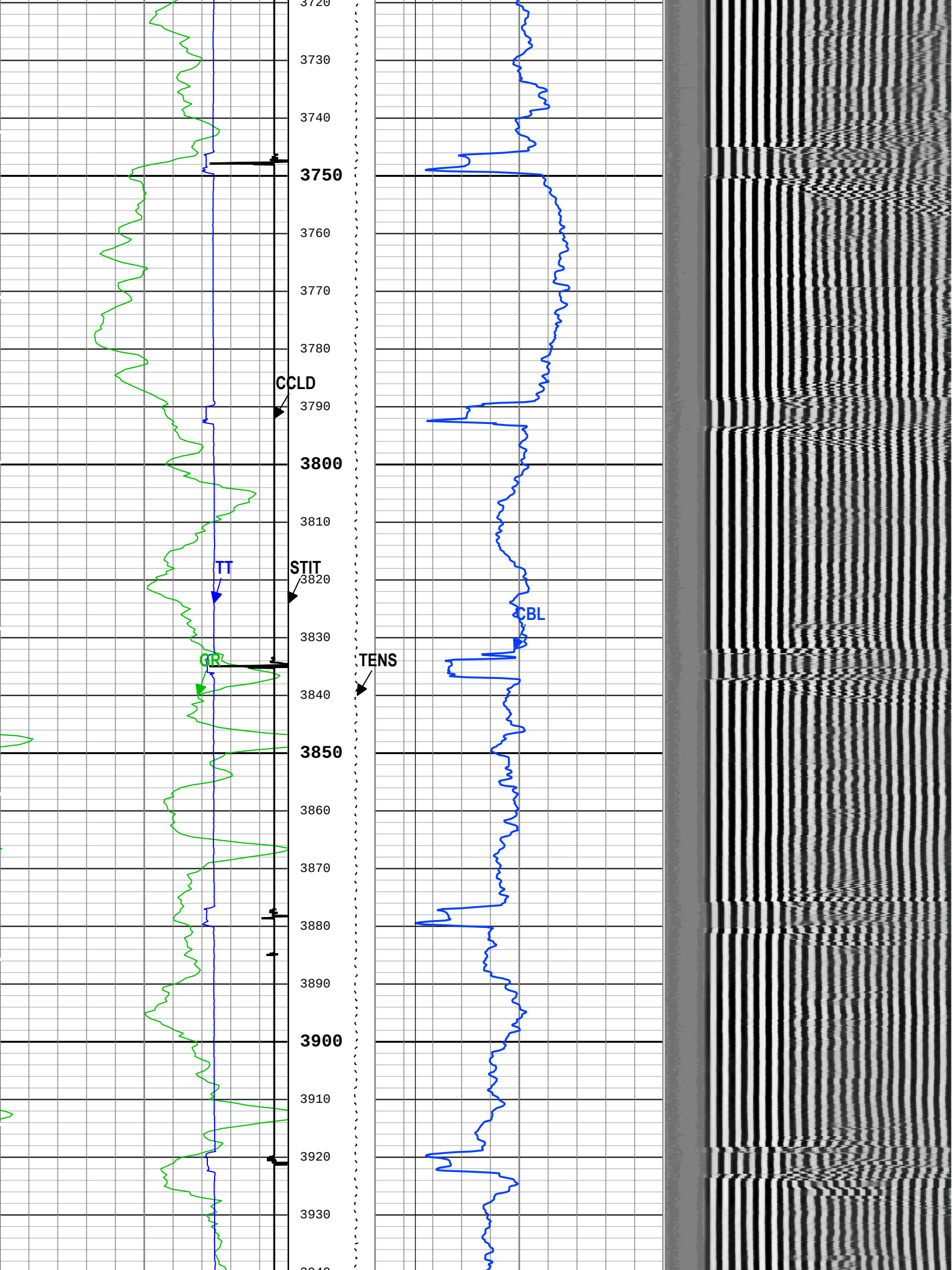
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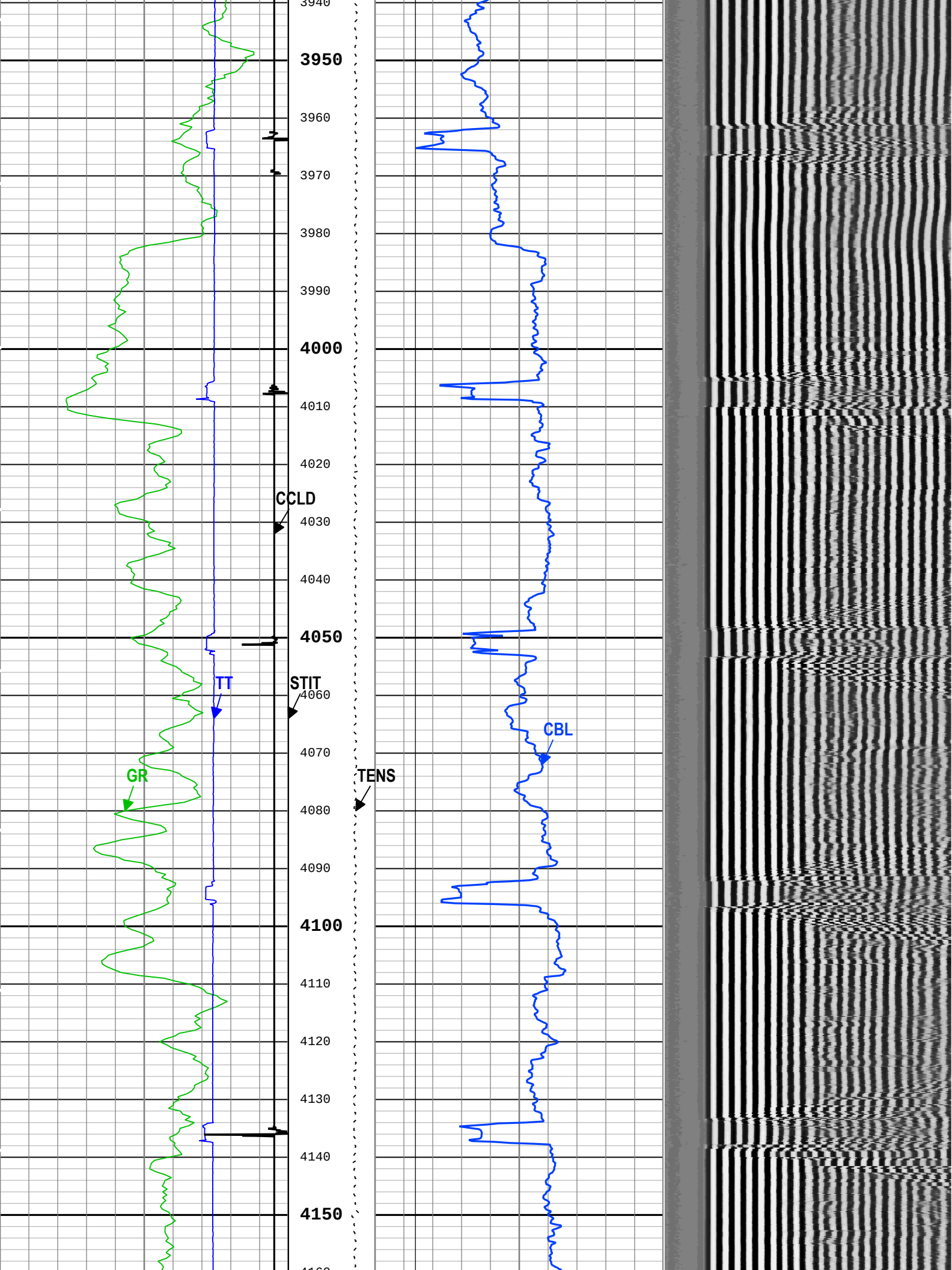
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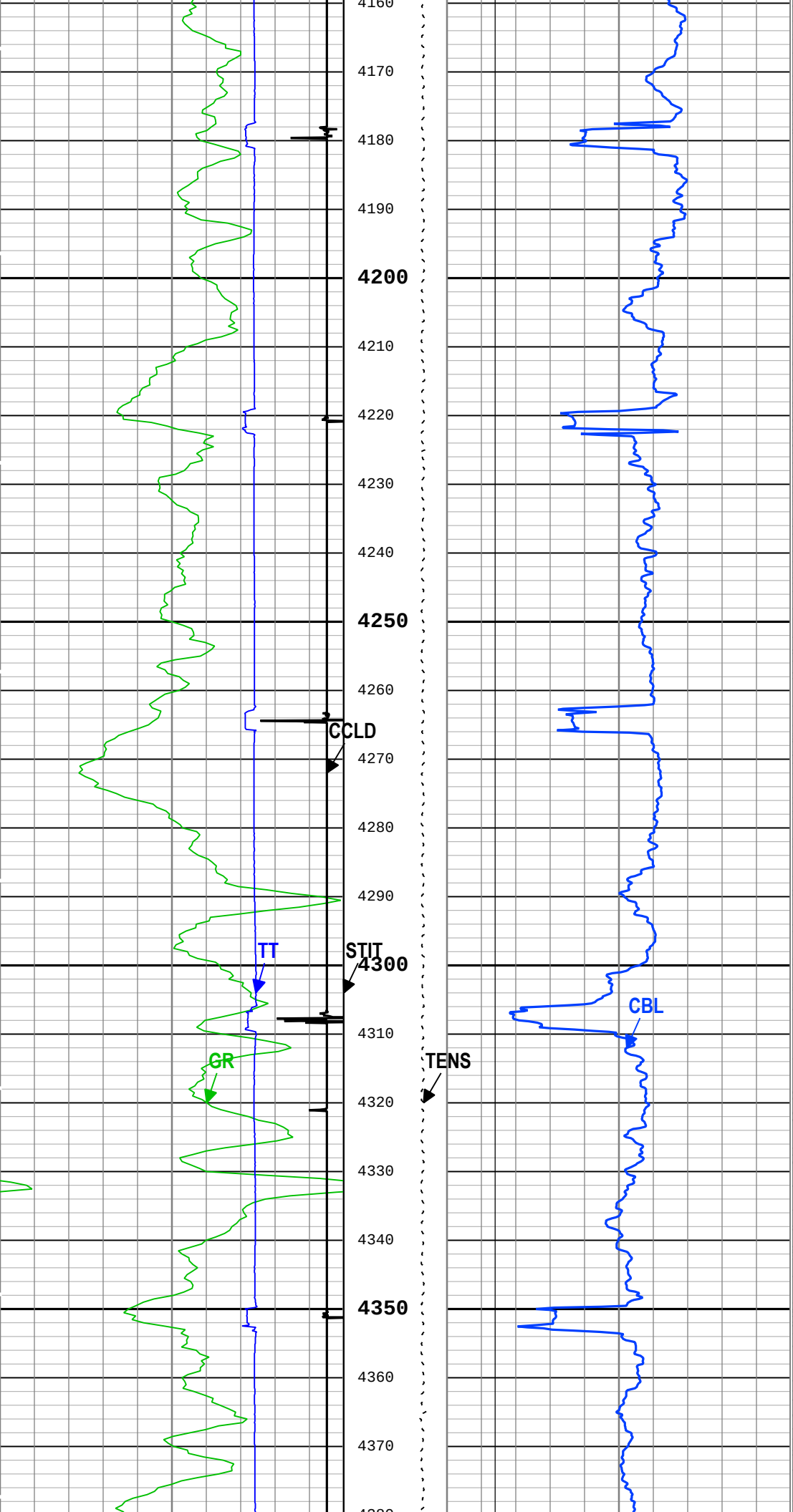
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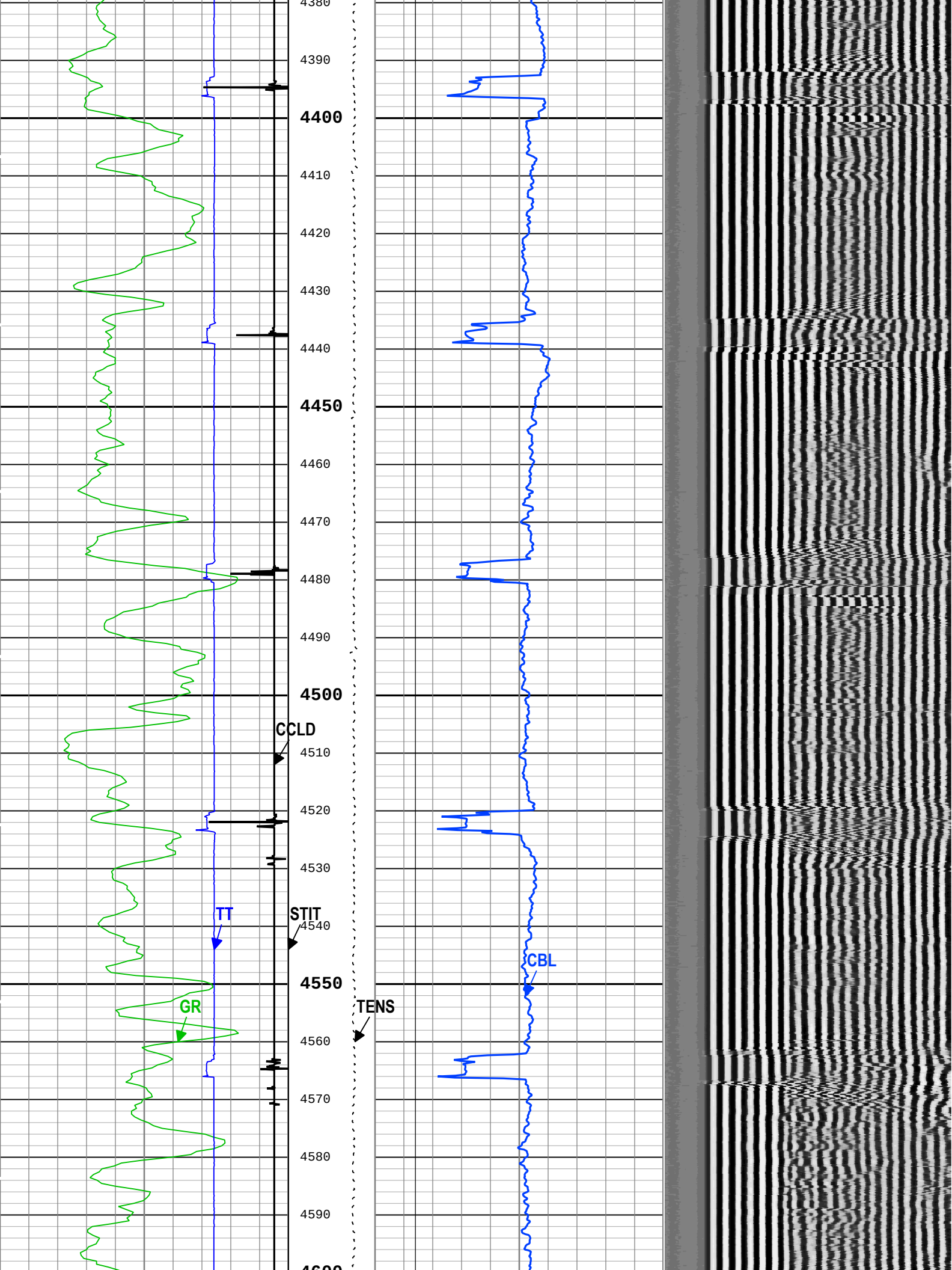
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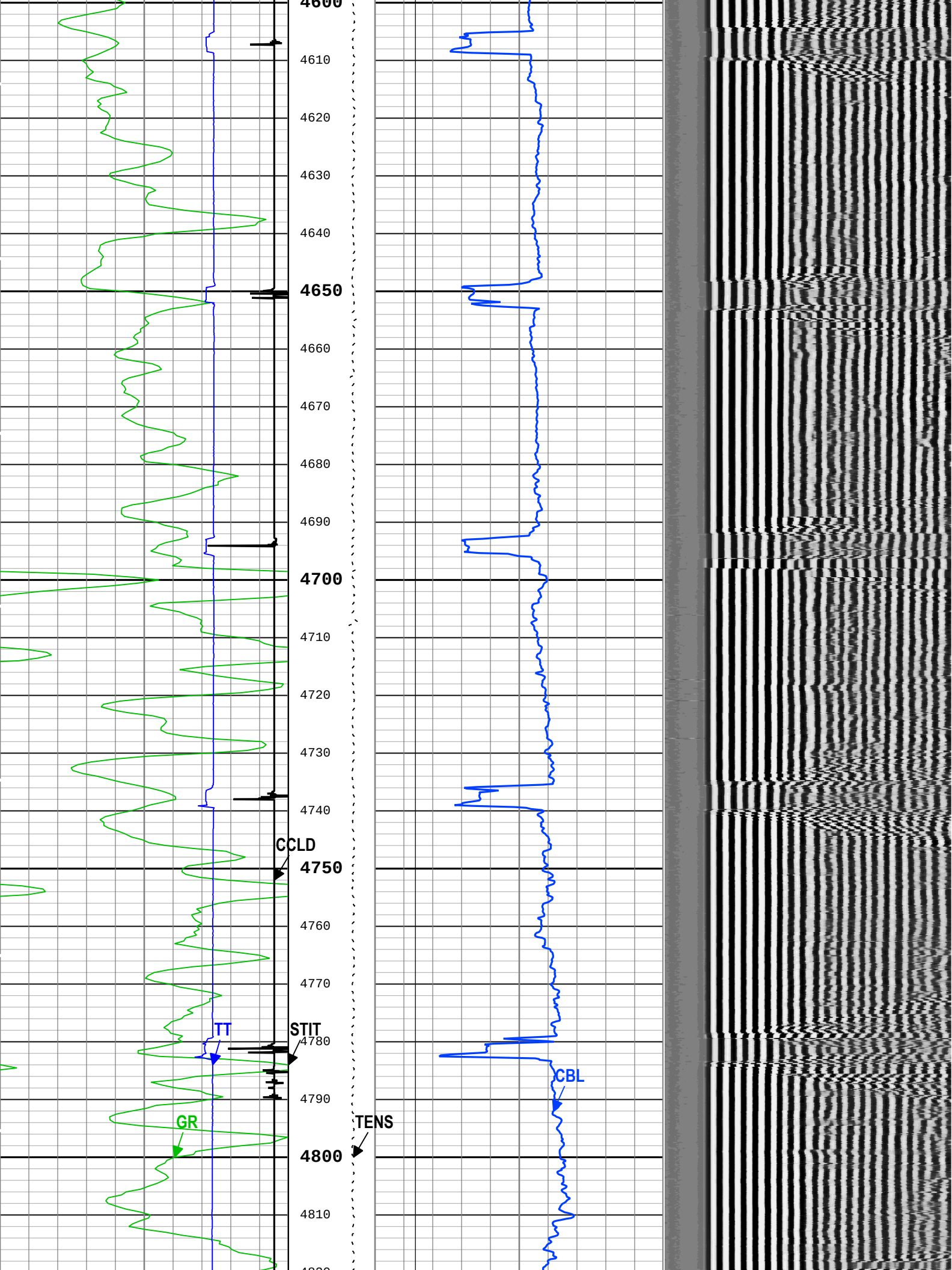
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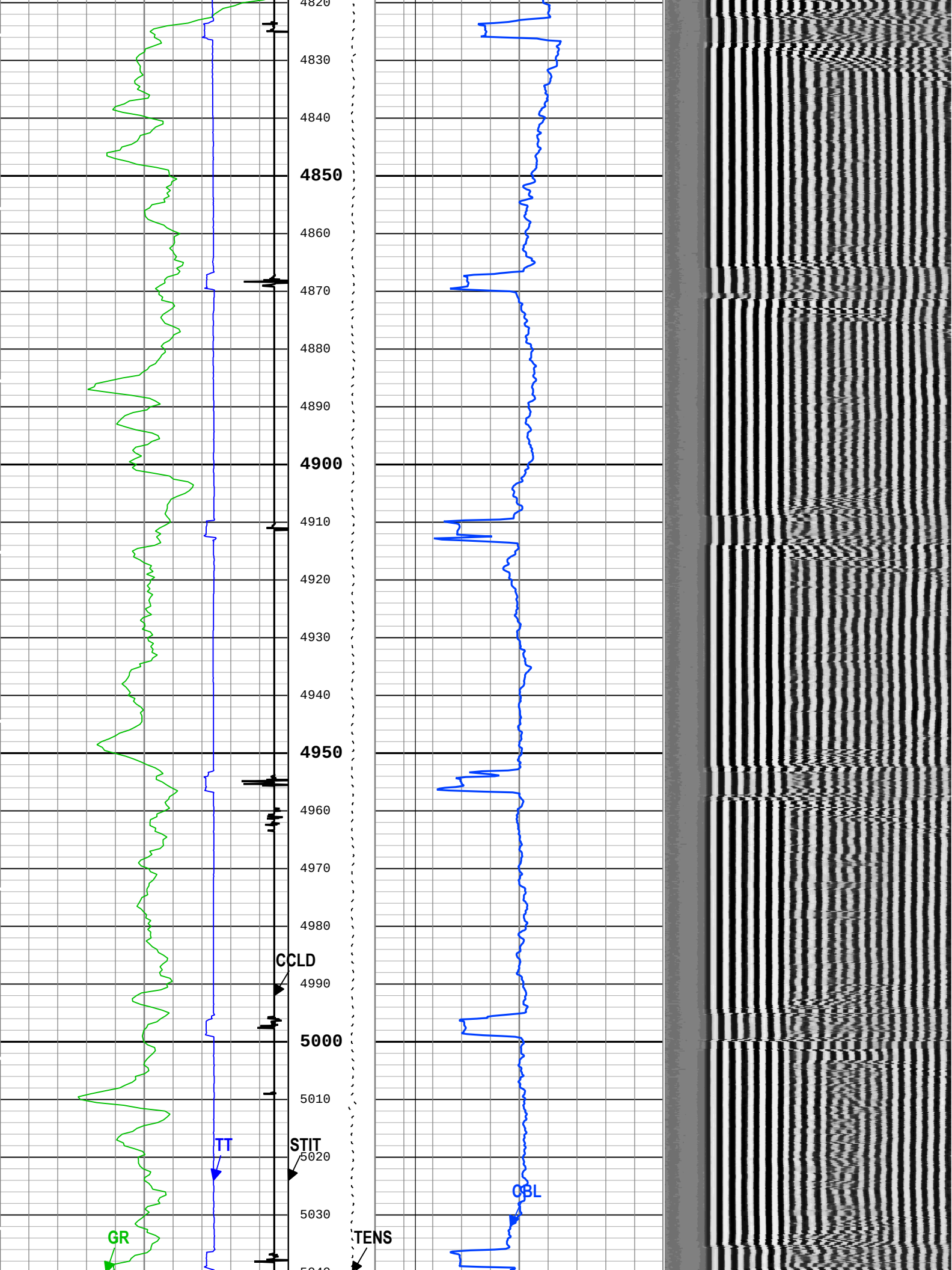
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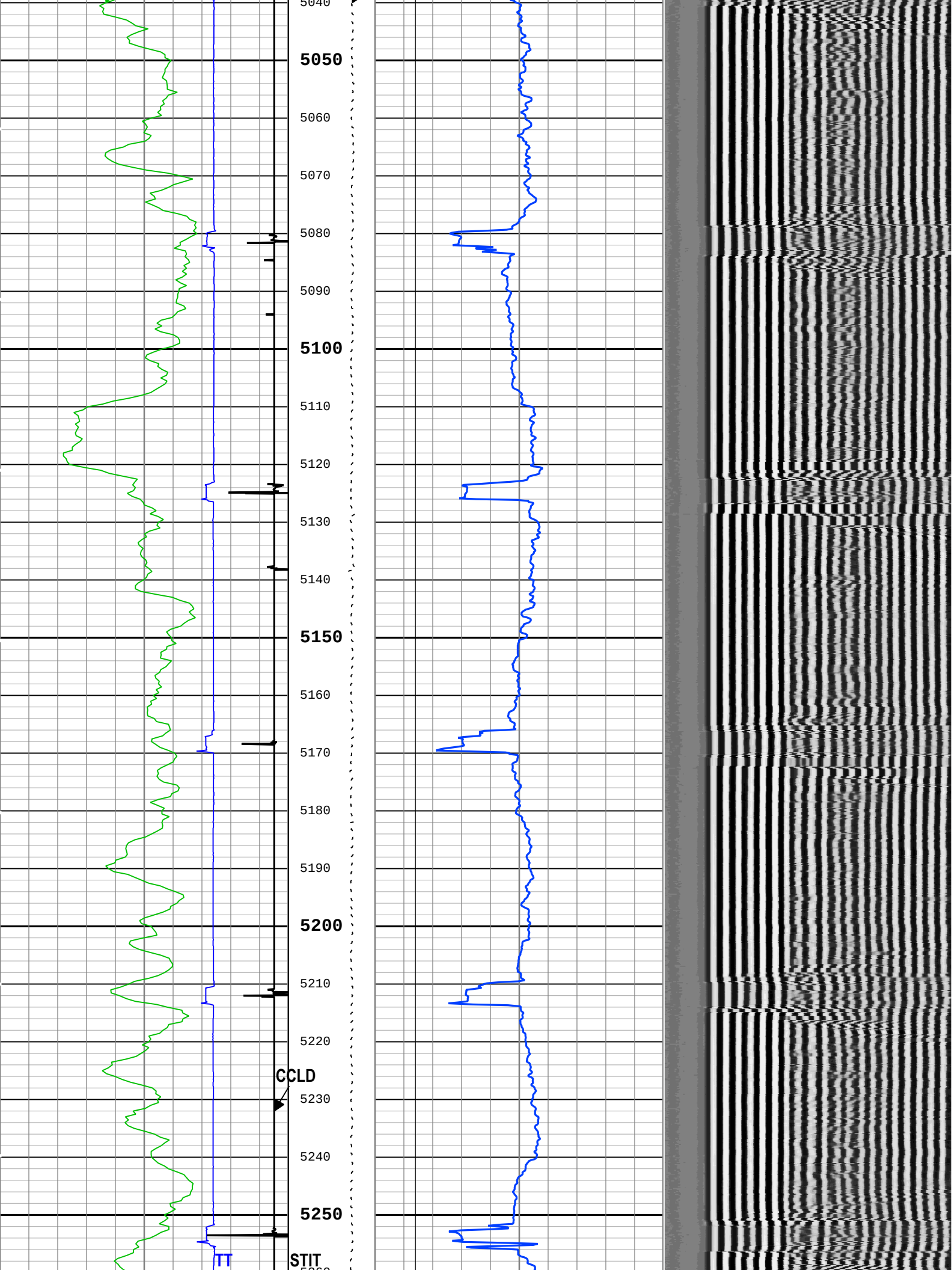
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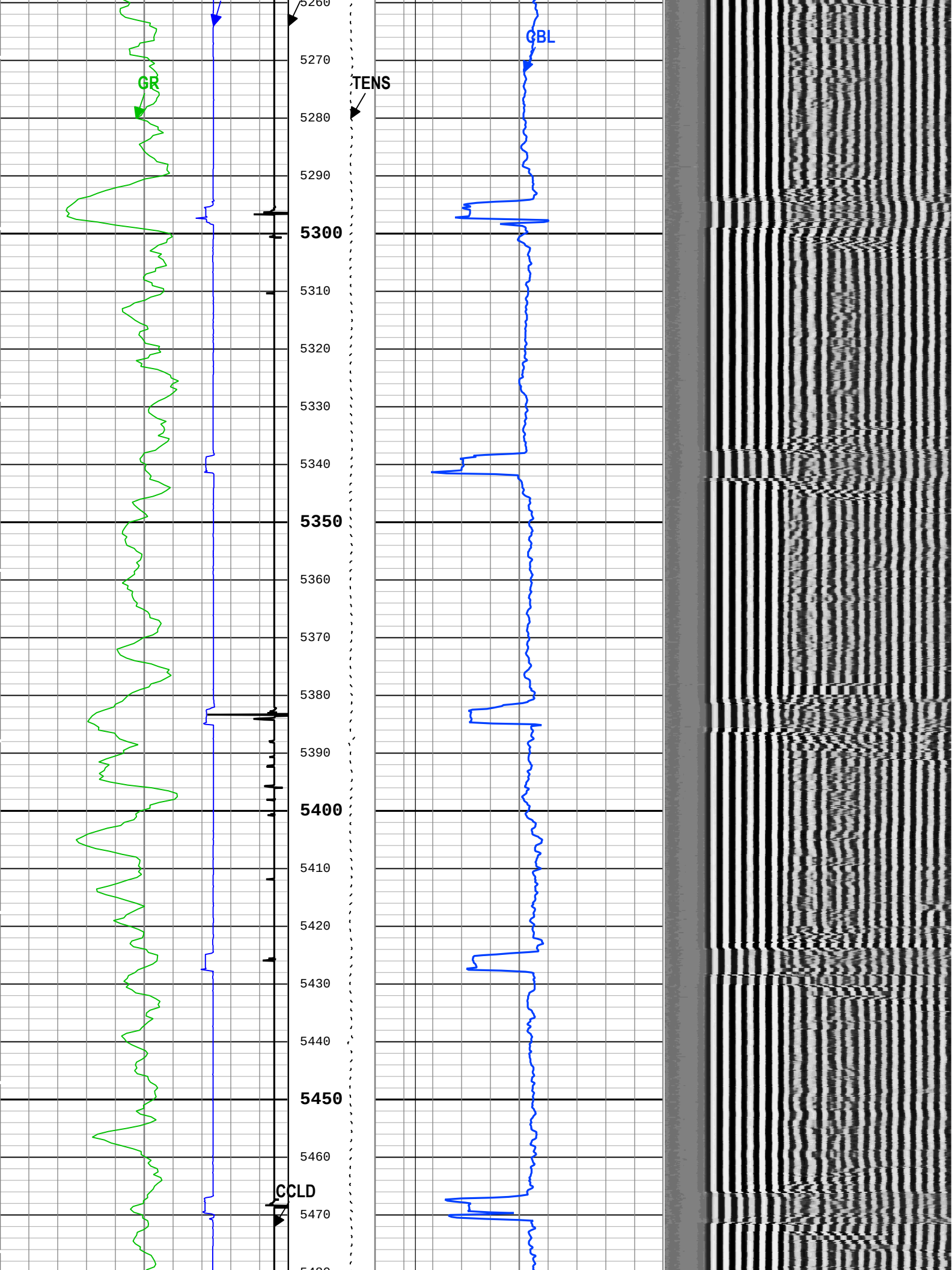
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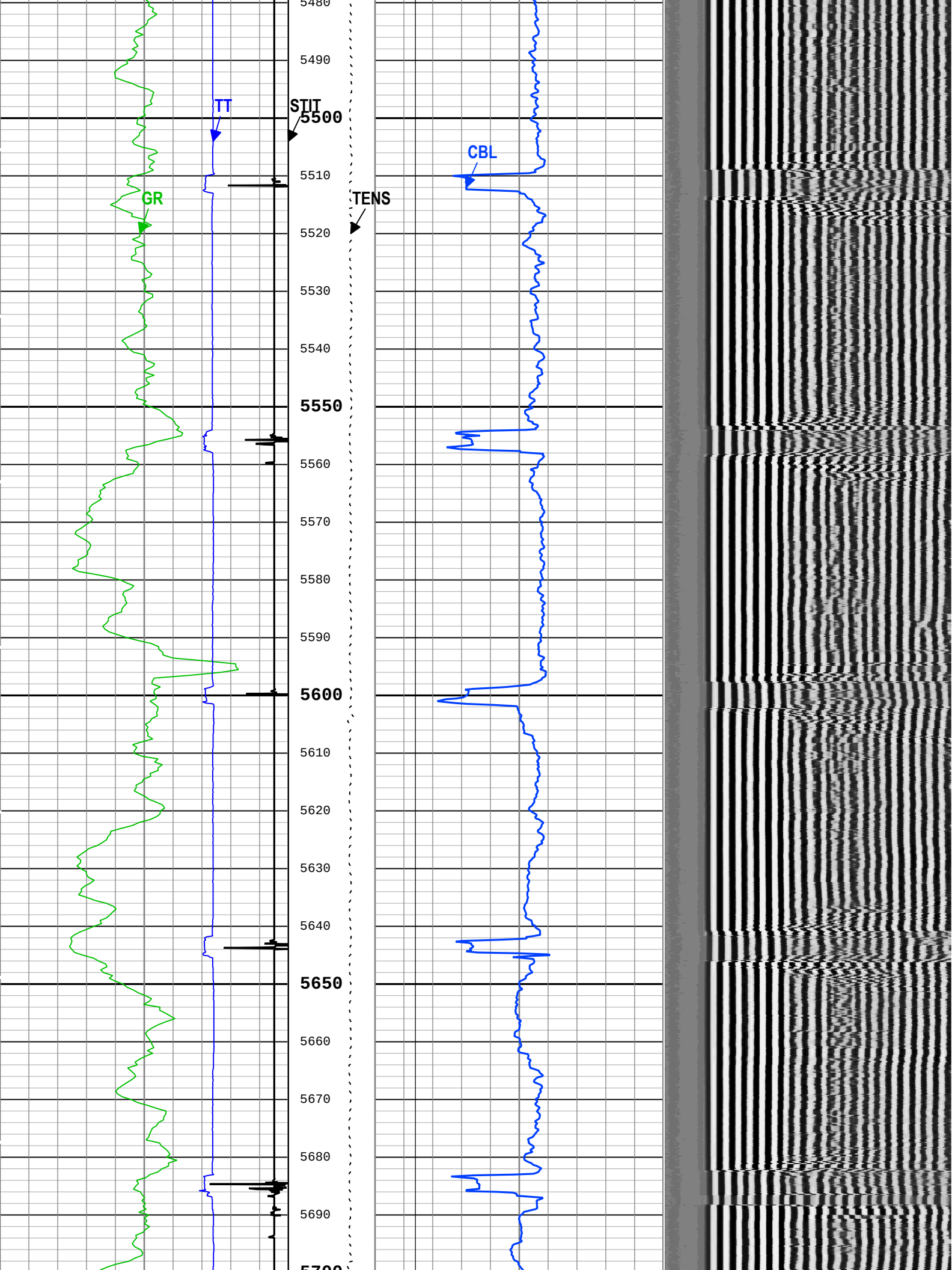
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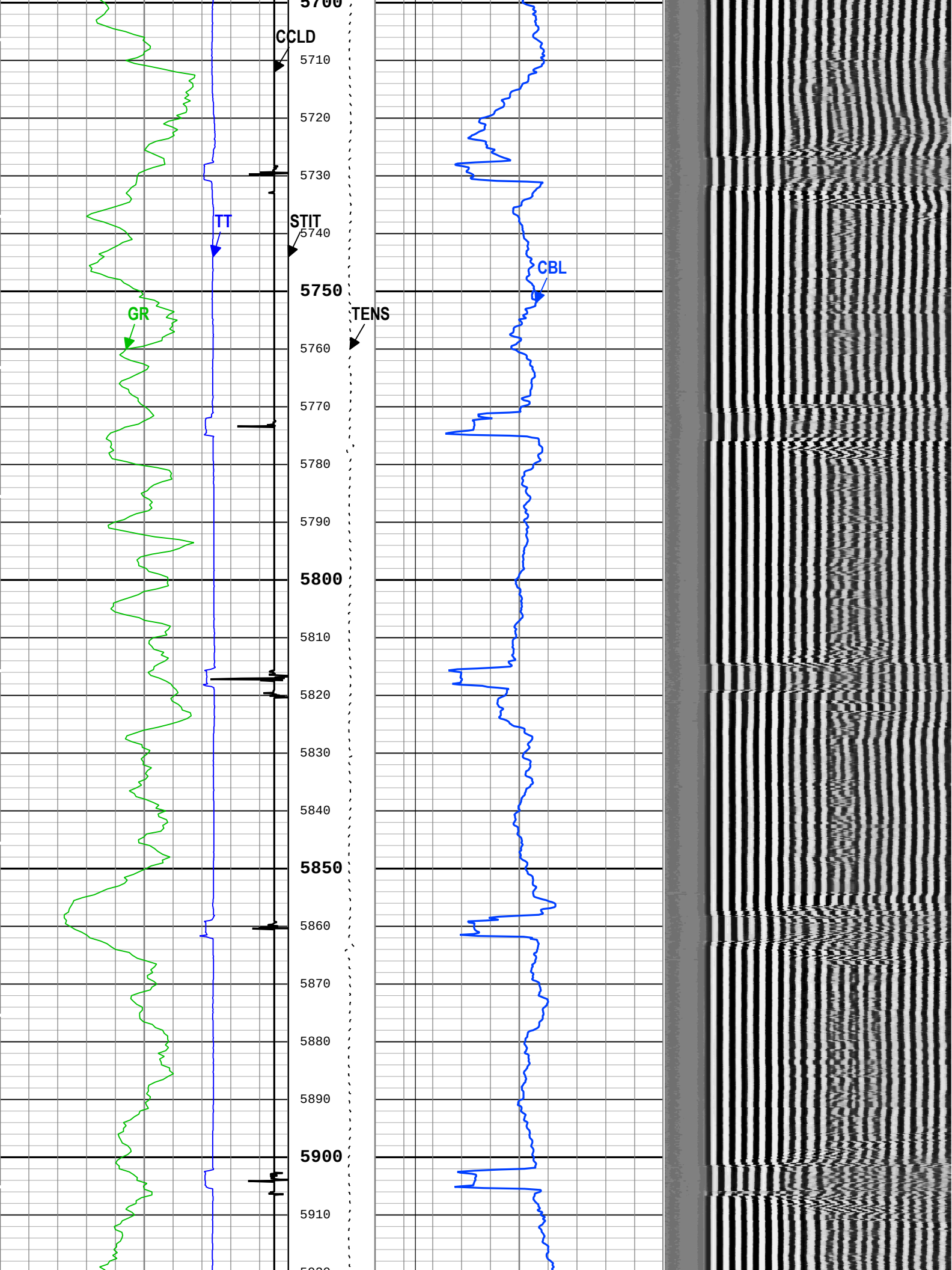
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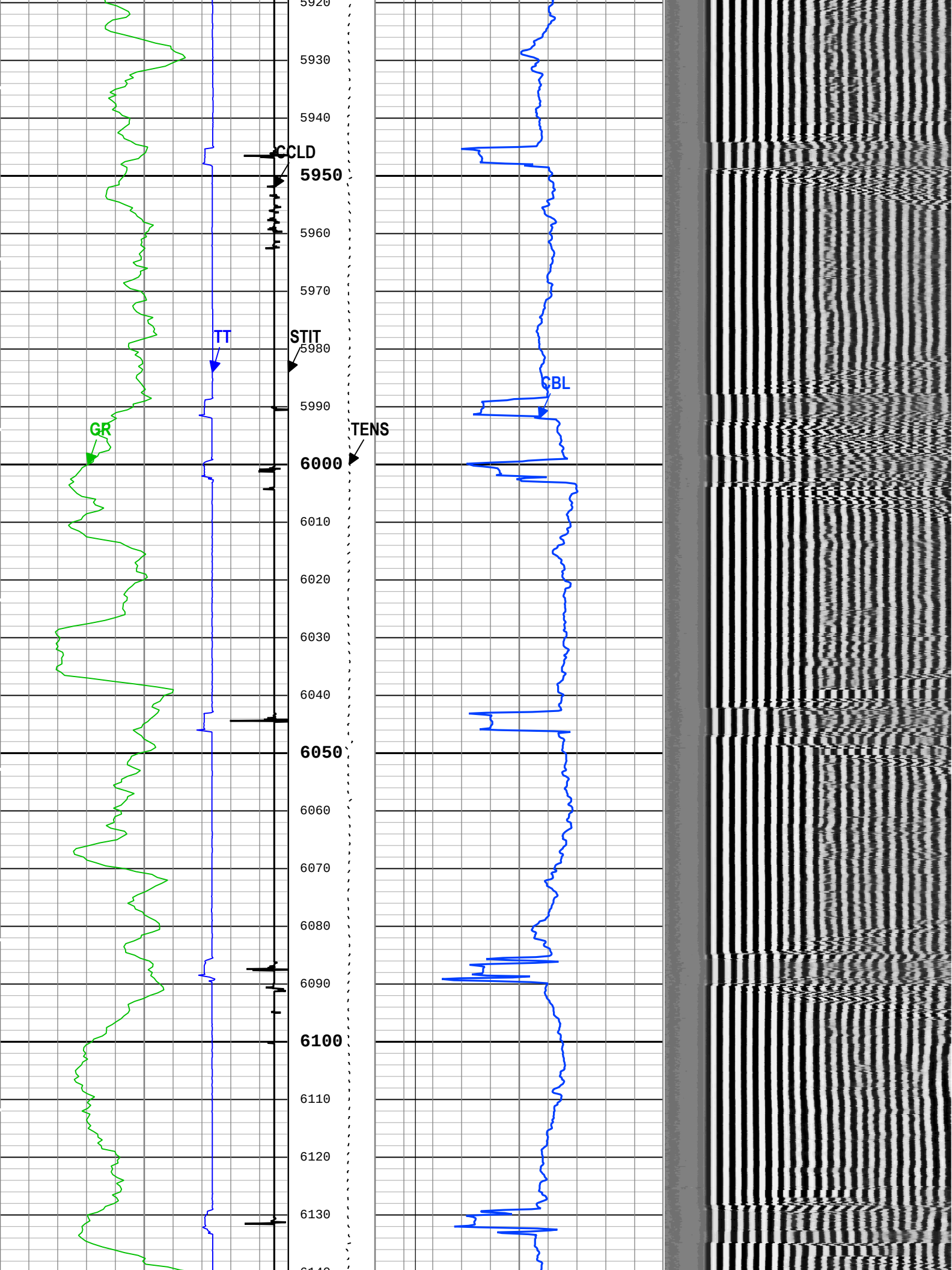
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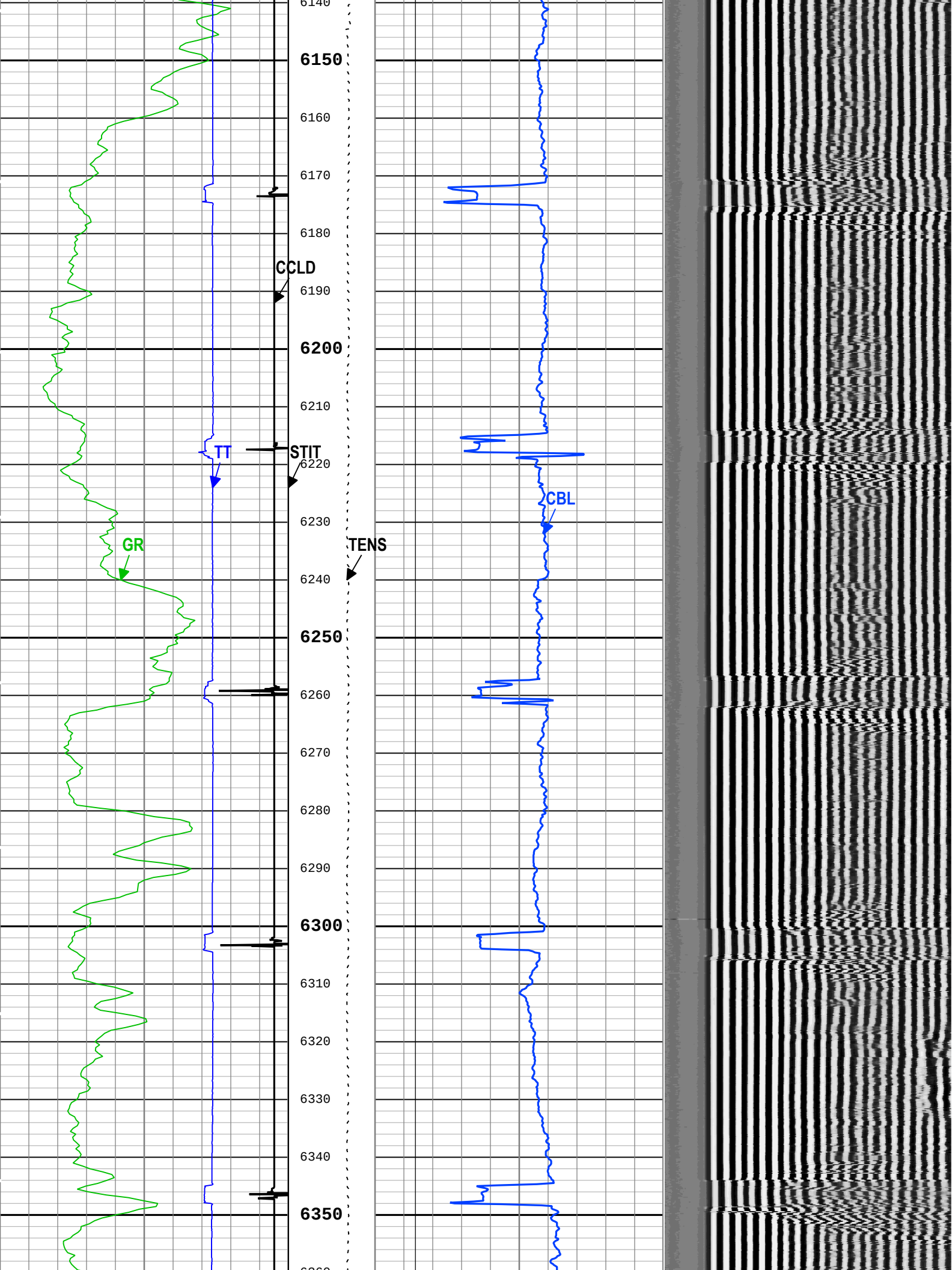
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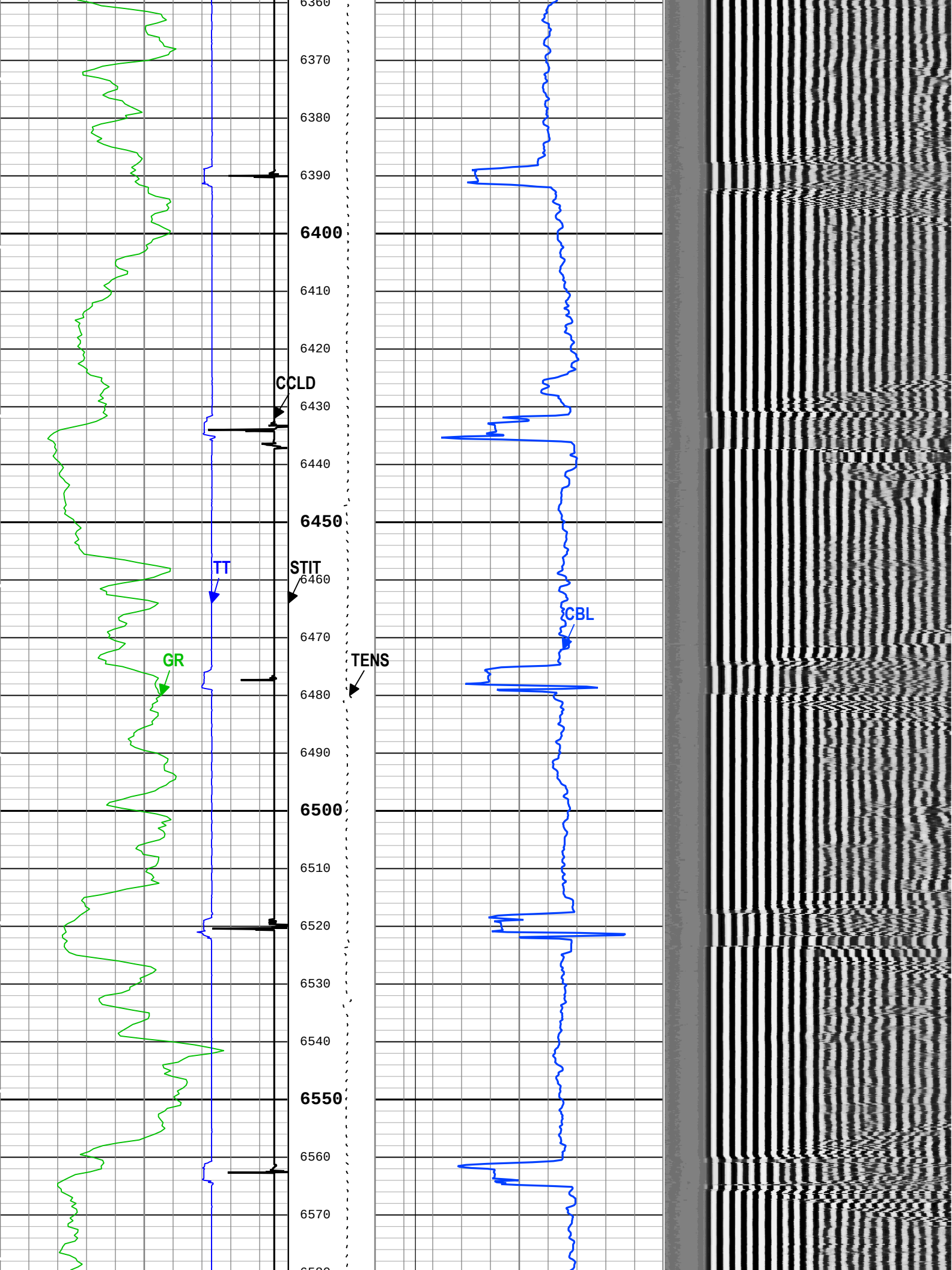
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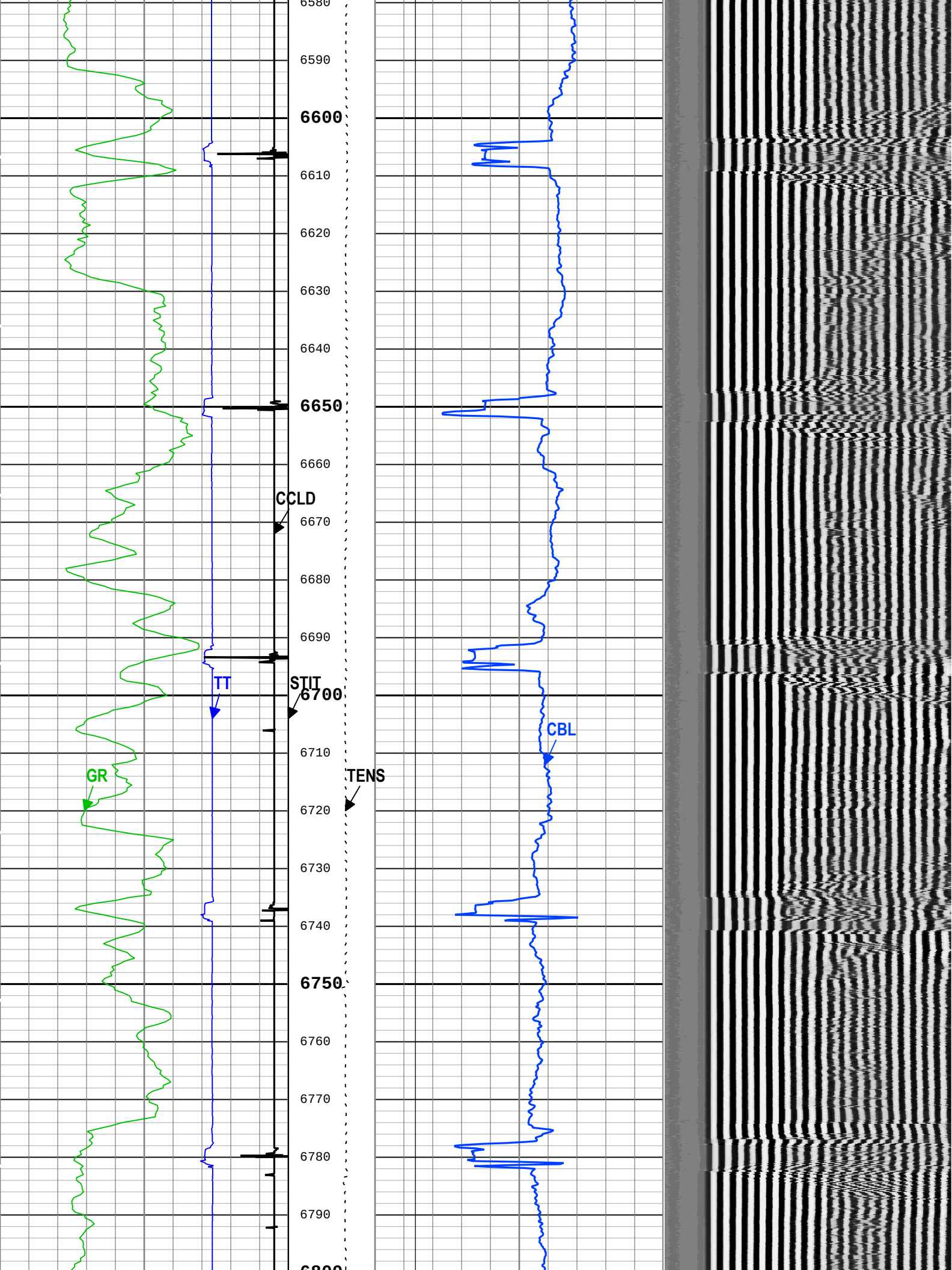
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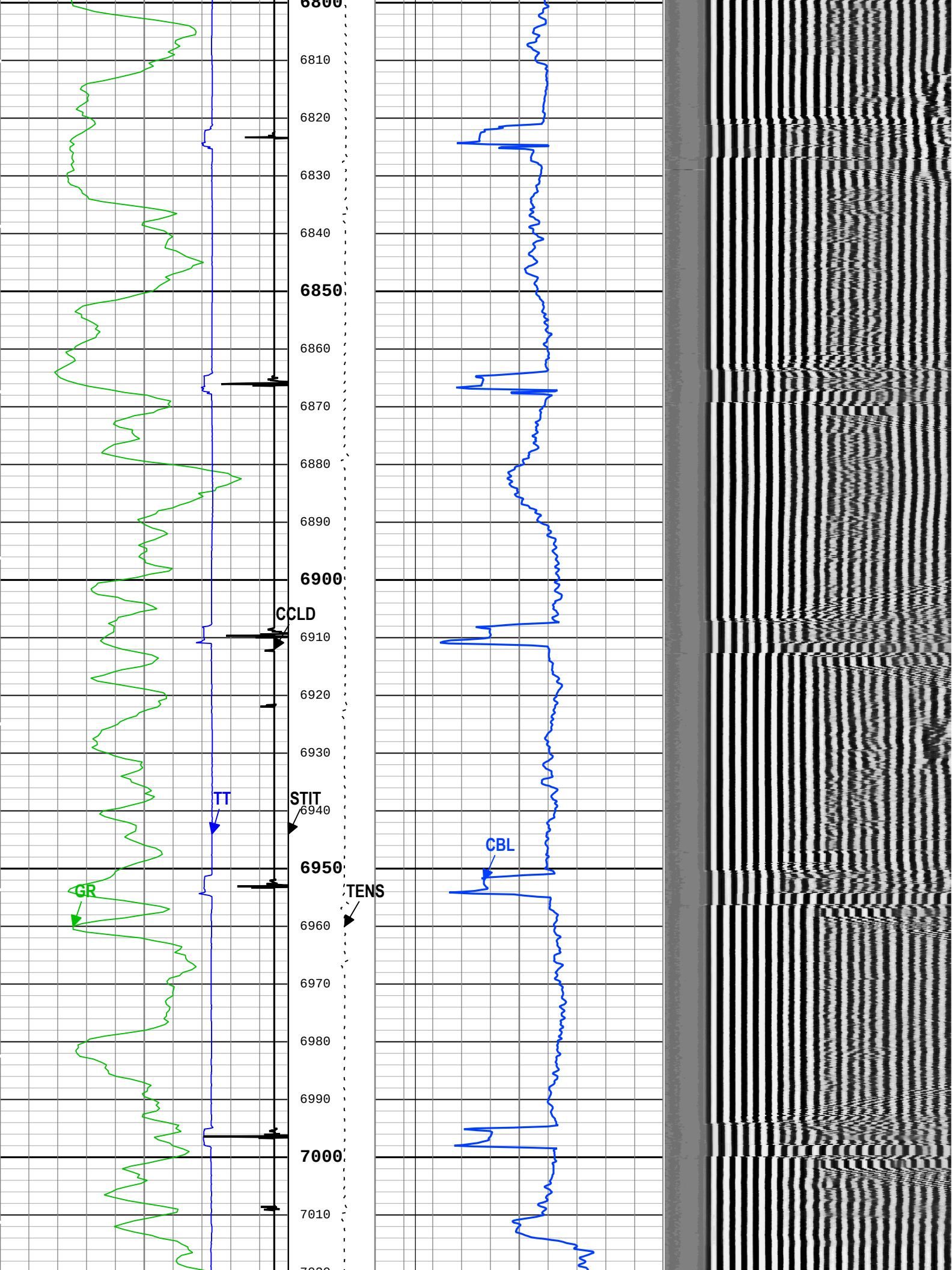
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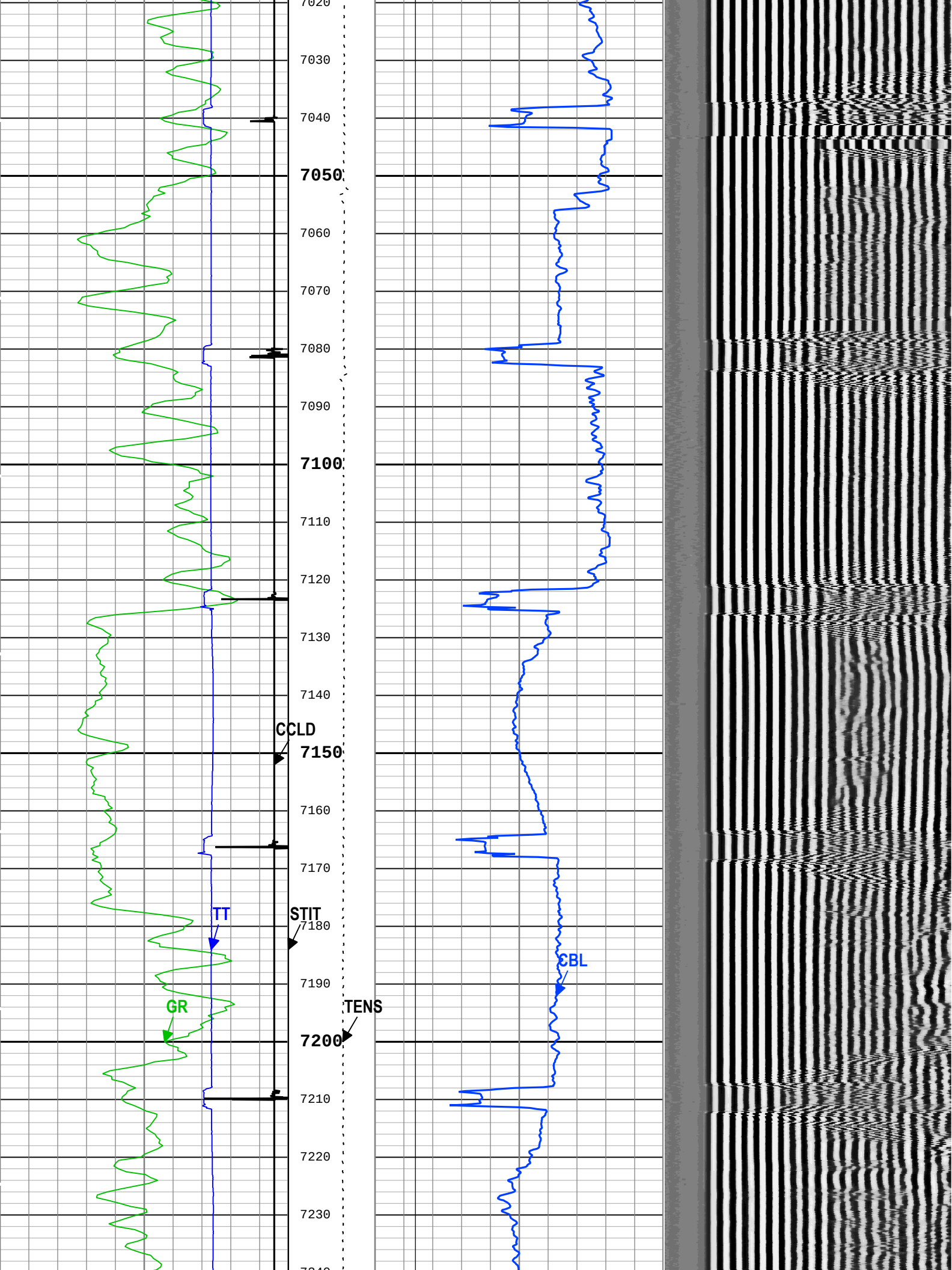
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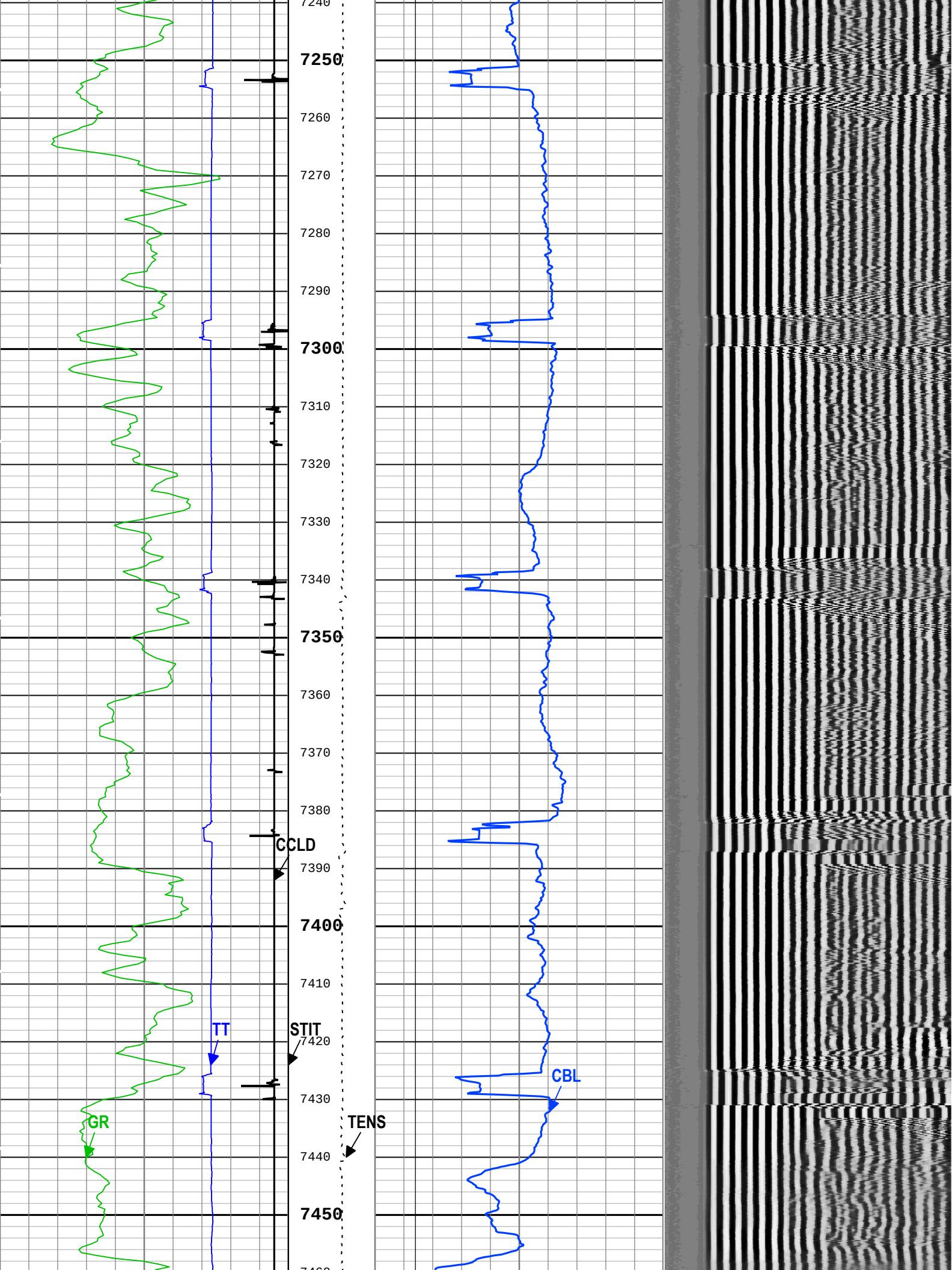
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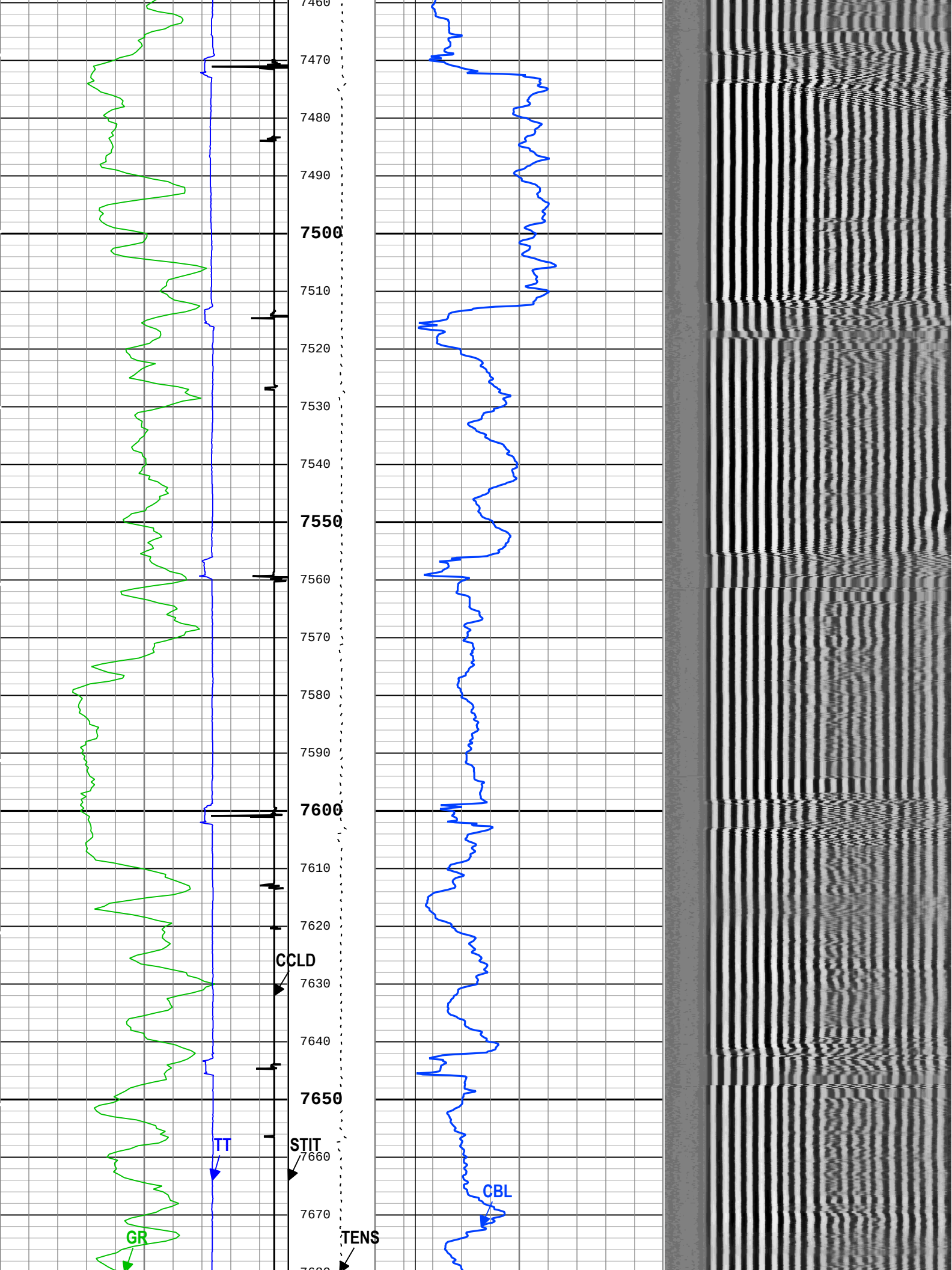
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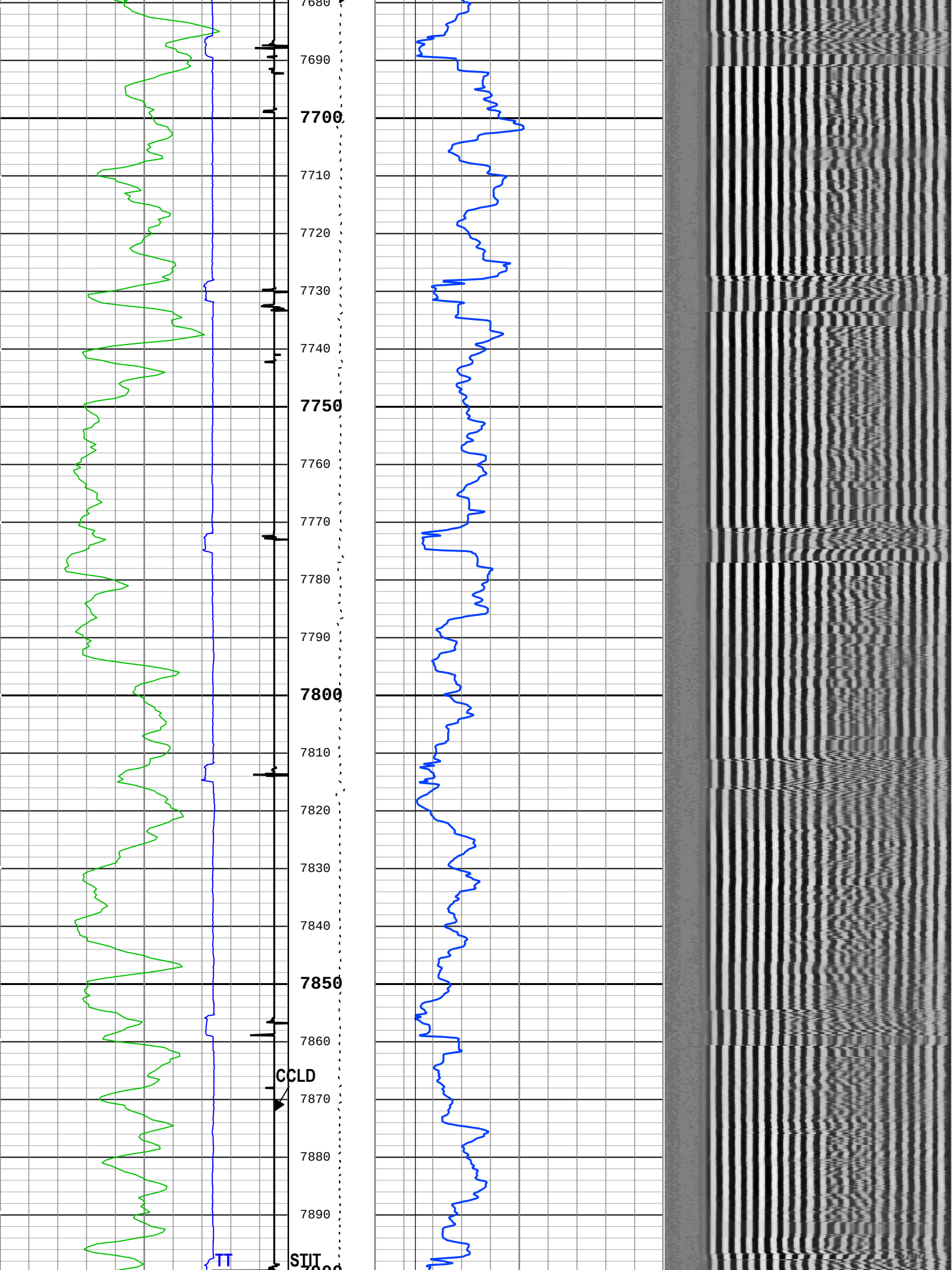
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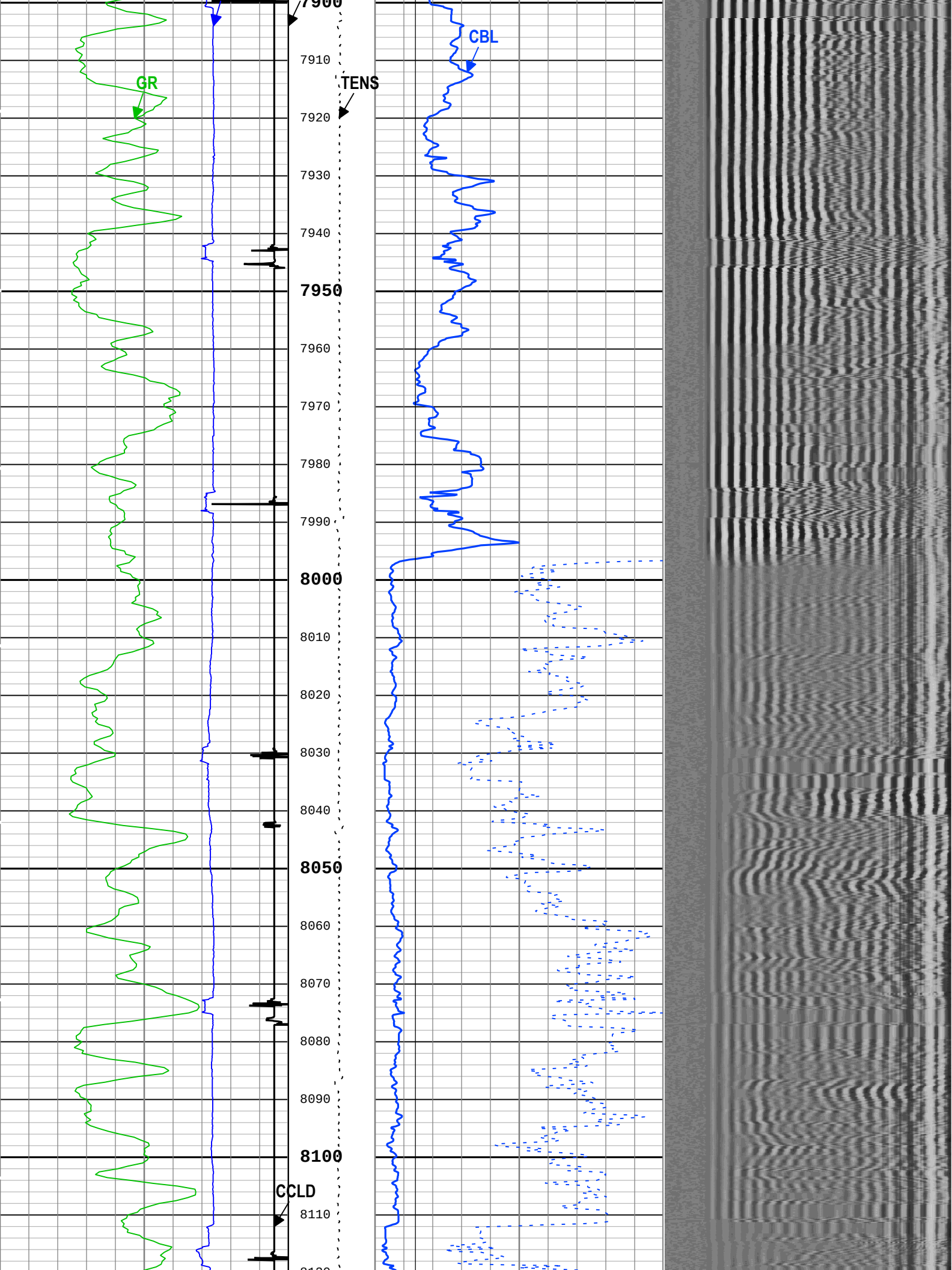
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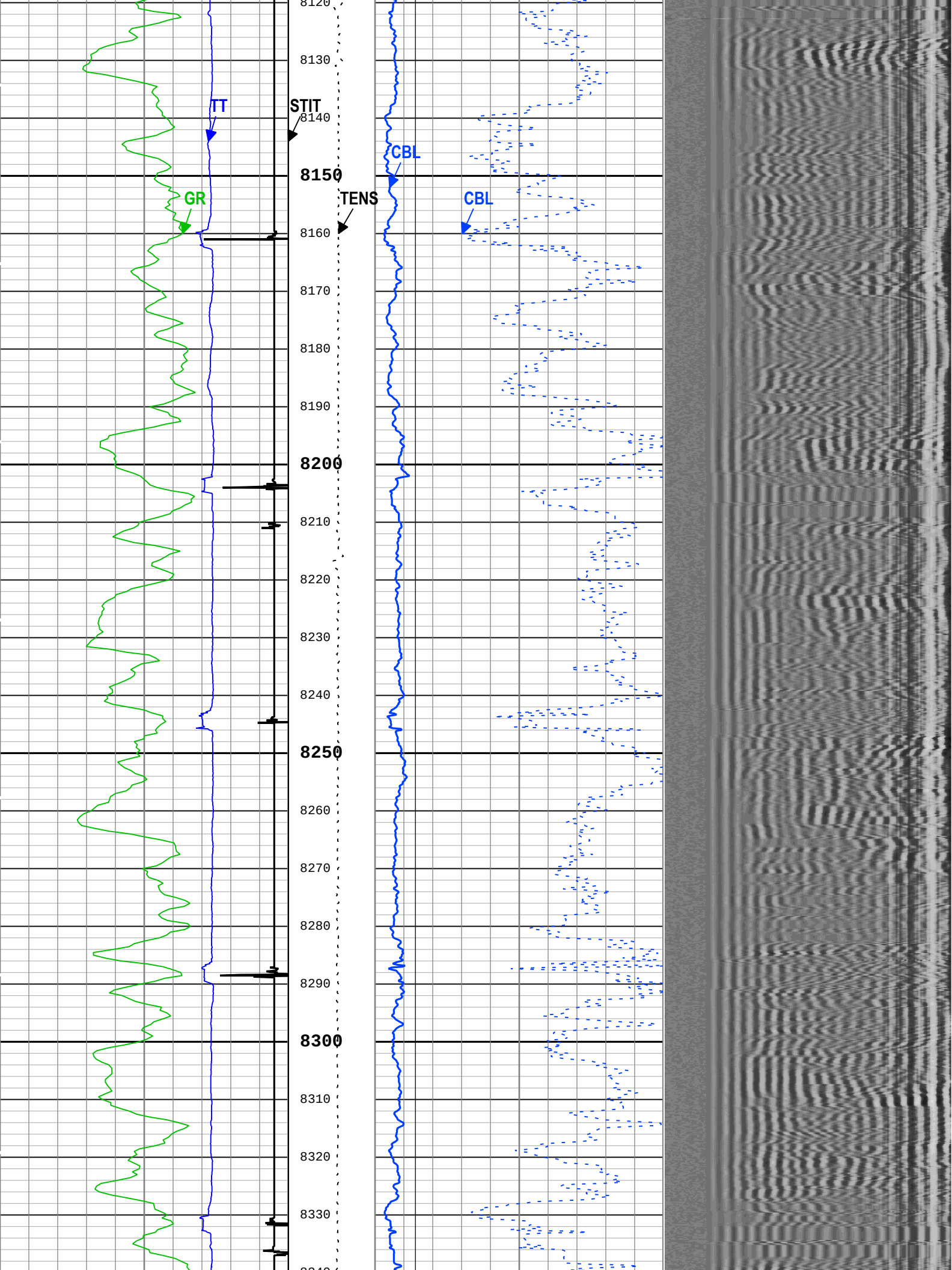
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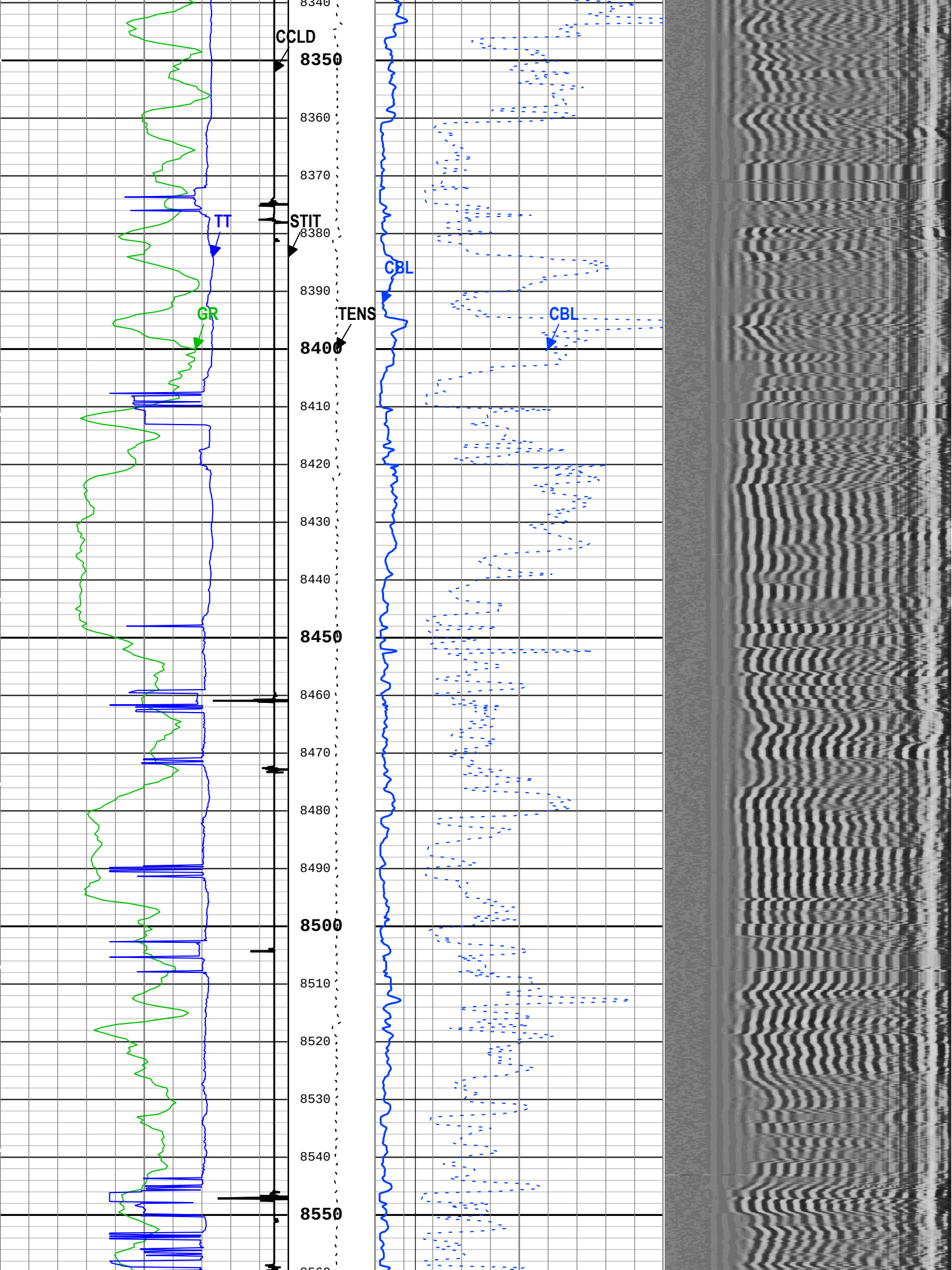
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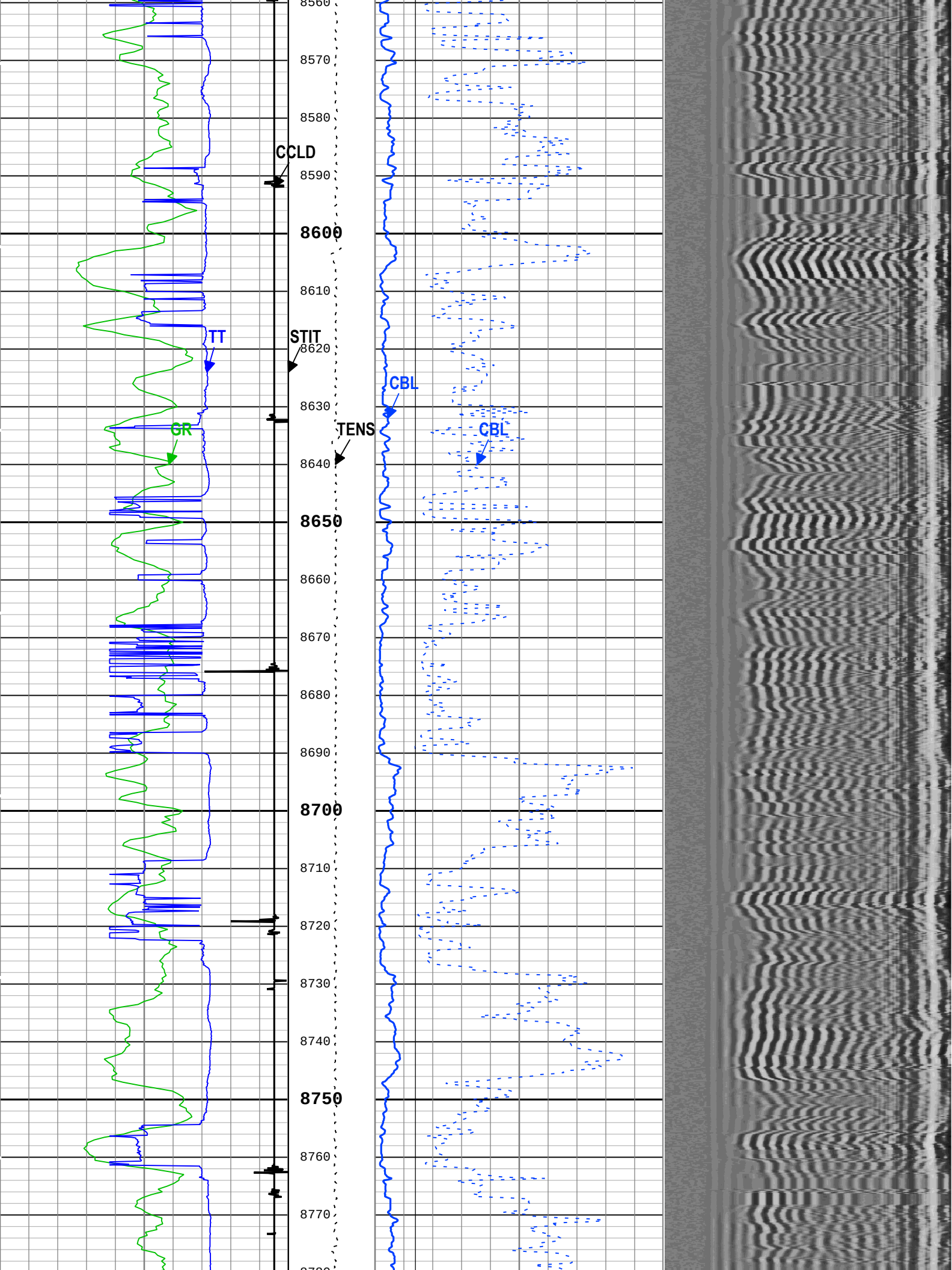
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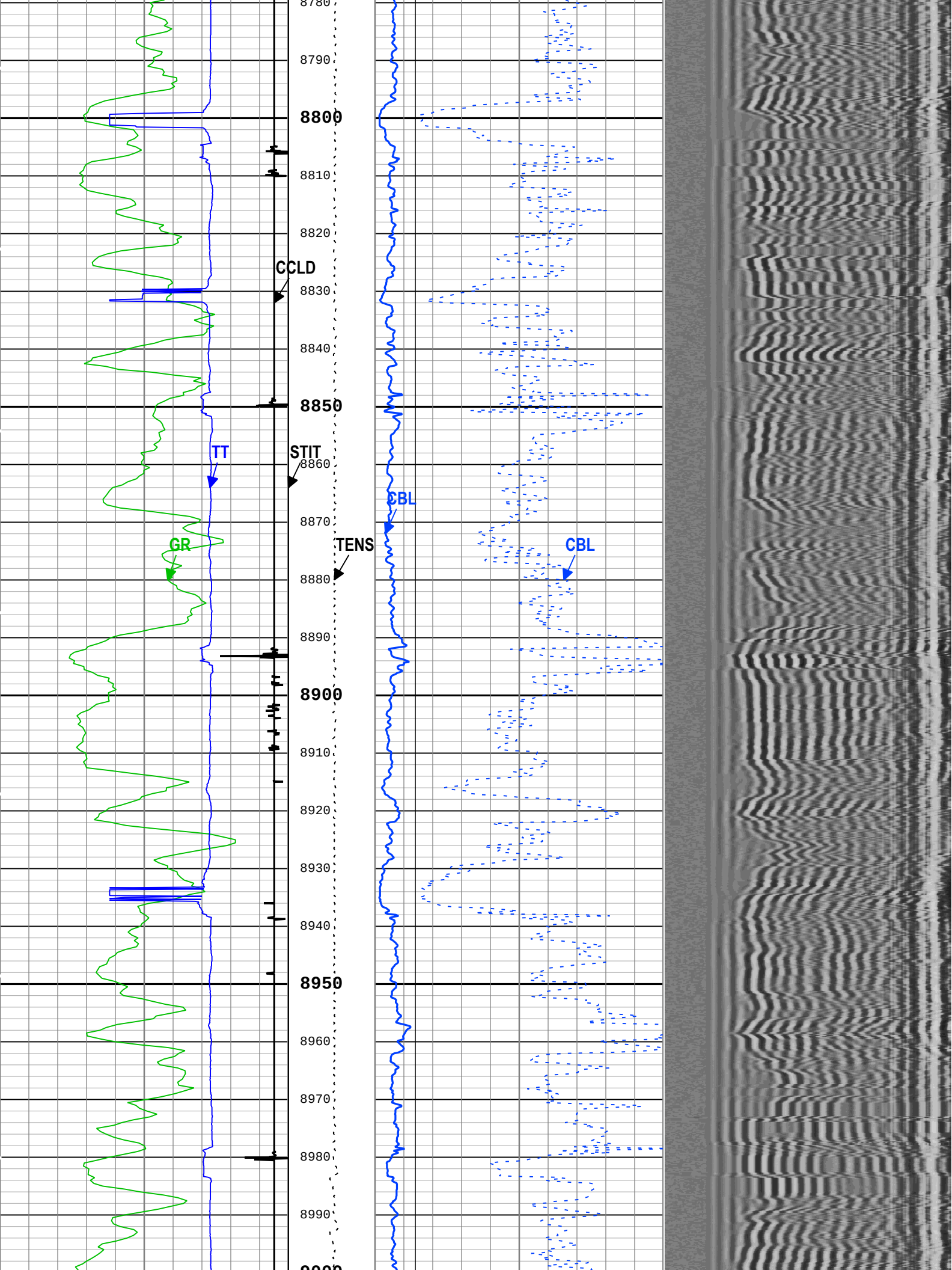
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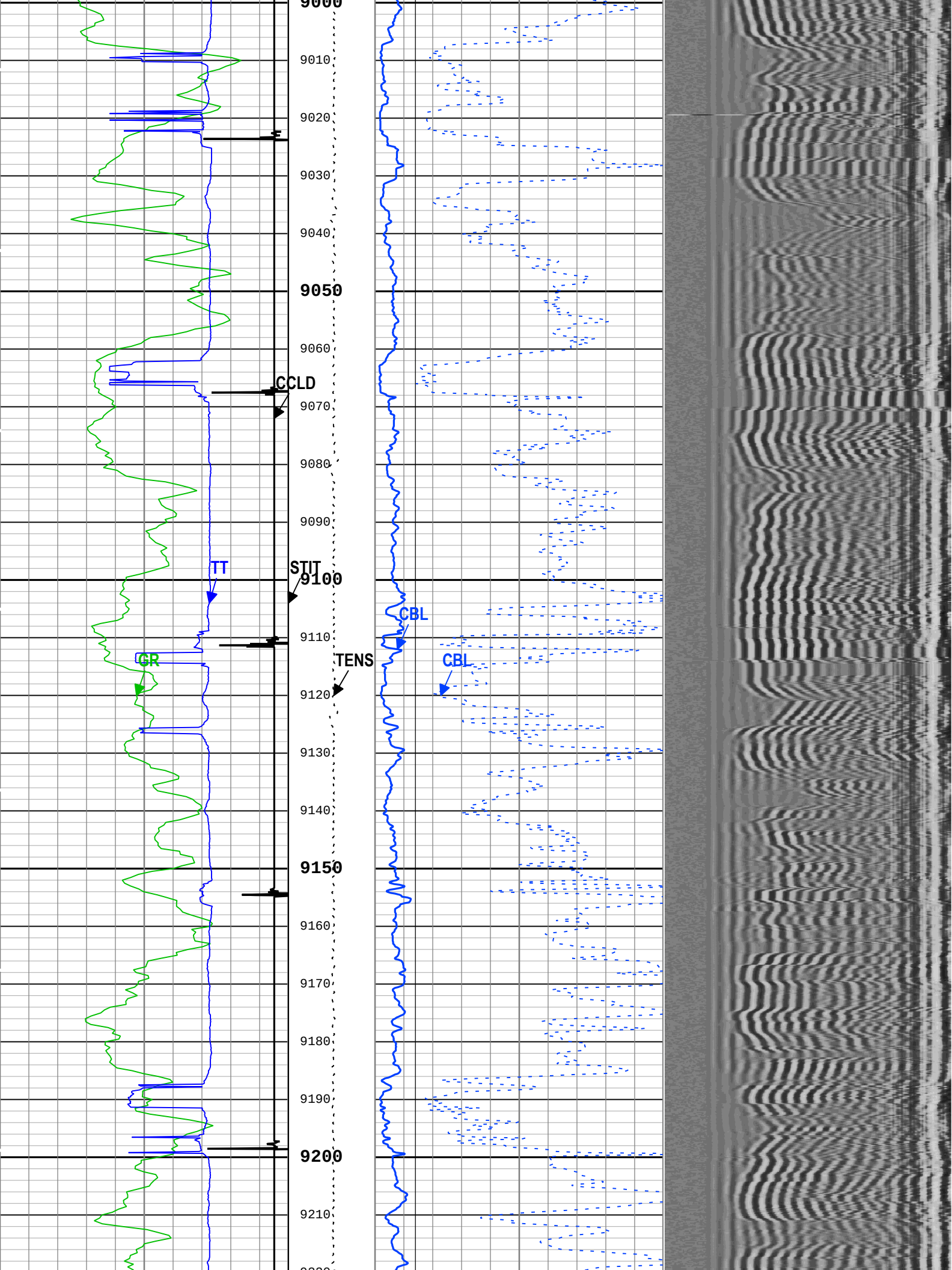
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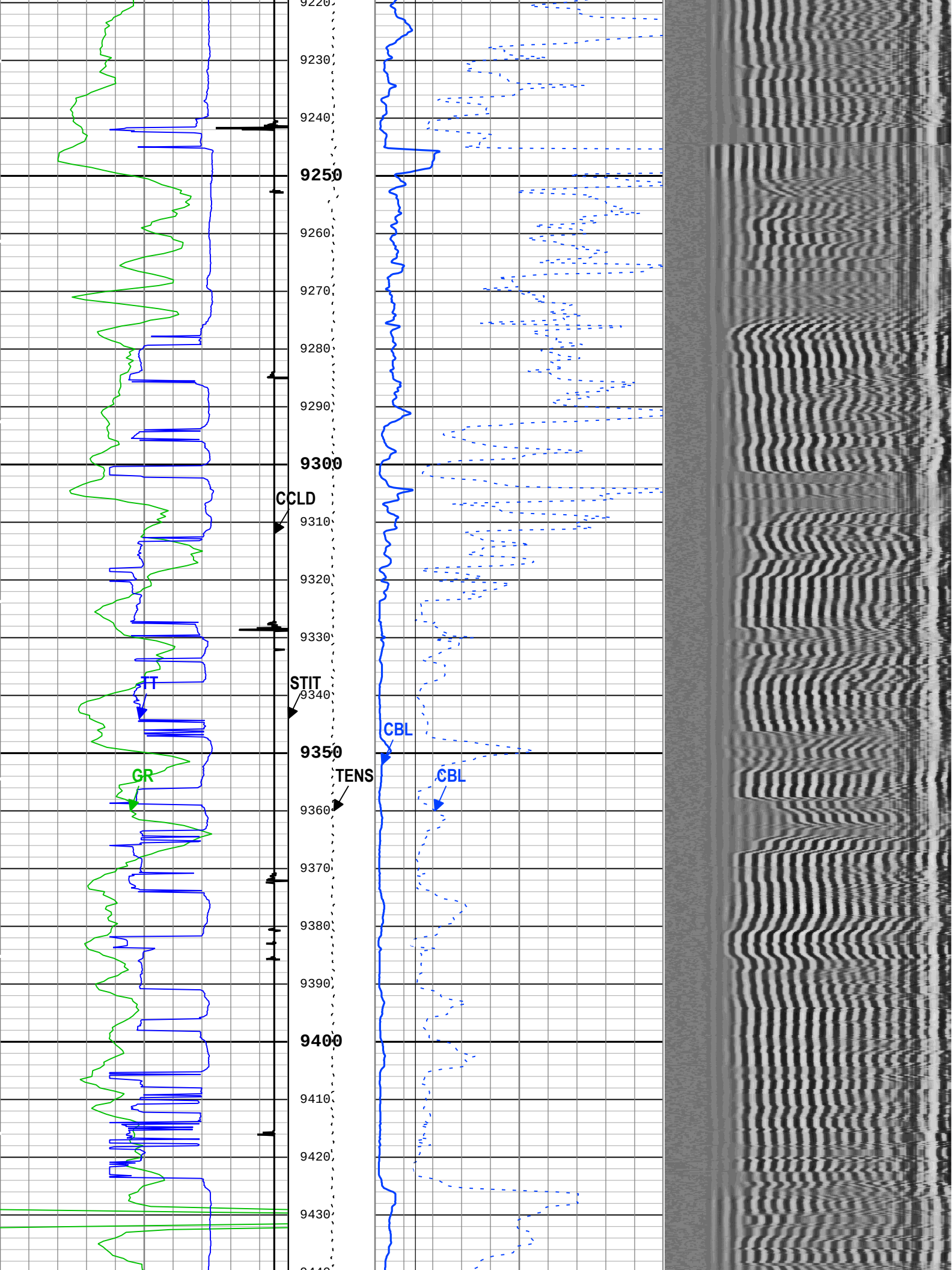
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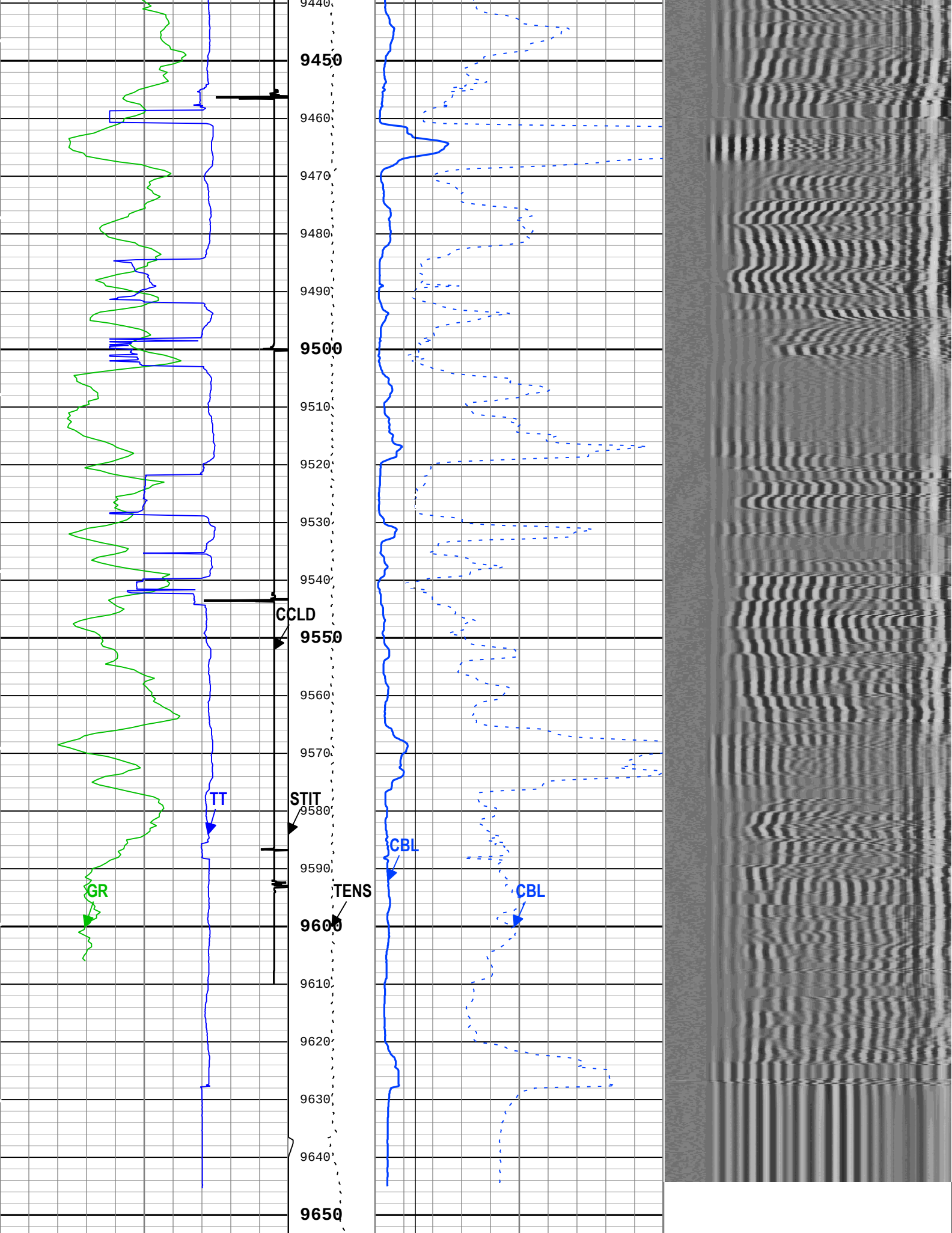
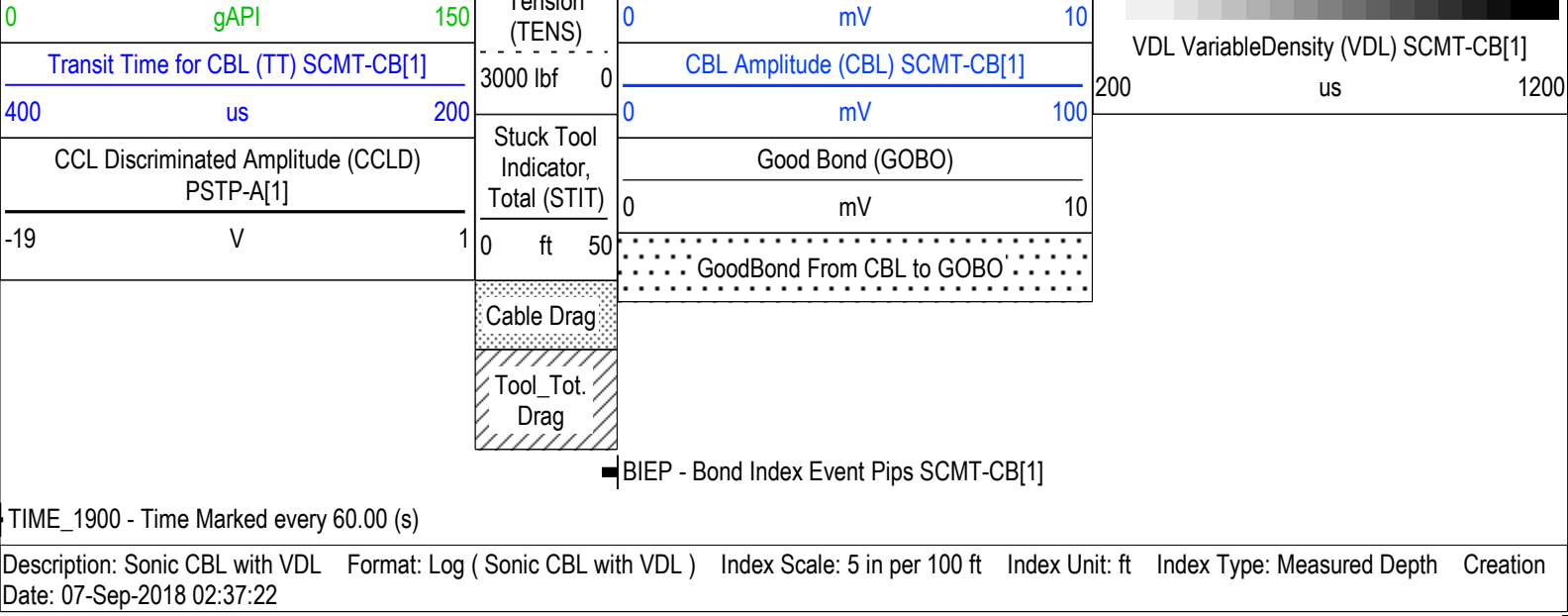


Gamma Ray (GR) PSTP-A[1]

Cable Tension

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: 07-Sep-2018 02:37:22

Channel Processing Parameters

ONE: Parameters

Parameter	Description	Tool	Value	Unit
BHT	Bottom Hole Temperature	Borehole	267.9	degF
CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	SCMT-CB	224	us
CBLG	CBL Gate Width	SCMT-CB	Time Zoned	us
CBRA	CBL LQC Reference Amplitude in Free Pipe	SCMT-CB	80	mV
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	8.6	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
EDF	Elevation of Derrick Floor Above Permanent Datum	WLSESSION	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 Computed Temperature	Borehole	GTEM_LINEST(RT)	
MATT_CURR	Maximum Attenuation in Arbitrary Cement	SCMT-CB	16.92	dB/ft
MCI	Minimum Cemented Interval for Isolation	SCMT-CB	1.25	ft
MSA	Minimum Sonic Amplitude	SCMT-CB	0.51	mV
MSA_CURR	Minimum Sonic Amplitude in Arbitrary Cement	SCMT-CB	0.51	mV
PDAT	Permanent Datum	WLSESSION	GL	
RUN_SNUM	Run Sequence Number	WSDRUN	1	
SHT	Surface Hole Temperature	Borehole	68	degF
TD	Total Measured Depth	Borehole	9636	ft

ONETime Zoned Parameters

Pass Log[8]:Up

Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
CBLG	68	06-Sep-2018 18:09:59	06-Sep-2018 18:17:13	9653.88	9439.67
CBLG	55	06-Sep-2018 18:17:13	06-Sep-2018 18:17:14	9439.67	9439.07
CBLG	69	06-Sep-2018 18:17:14	06-Sep-2018 18:20:43	9439.07	9331.99
CBLG	93	06-Sep-2018 18:20:43	06-Sep-2018 18:24:55	9331.99	9201.38
CBLG	85	06-Sep-2018 18:24:55	06-Sep-2018 18:41:06	9201.38	8694.22
CBLG	100	06-Sep-2018 18:41:06	06-Sep-2018 18:41:08	8694.22	8693.15
CBLG	83	06-Sep-2018 18:41:08	06-Sep-2018 18:41:13	8693.15	8690.43

CBLG	100	06-Sep-2018 18:41:13	06-Sep-2018 18:41:32	8690.43	8680.45
CBLG	88	06-Sep-2018 18:41:32	06-Sep-2018 19:05:20	8680.45	7939.52
CBLG	74	06-Sep-2018 19:05:20	06-Sep-2018 19:05:27	7939.52	7935.39
CBLG	64	06-Sep-2018 19:05:27	06-Sep-2018 19:05:41	7935.39	7928.58
CBLG	61	06-Sep-2018 19:05:41	06-Sep-2018 19:05:48	7928.58	7924.76
CBLG	58	06-Sep-2018 19:05:48	06-Sep-2018 19:05:55	7924.76	7921.08
CBLG	55	06-Sep-2018 19:05:55	06-Sep-2018 20:25:05	7921.08	5628.9

All depth are at tool zero.

One: Parameters

Parameter	Description	Tool	Value	Unit
BHT	Bottom Hole Temperature	Borehole	267.9	degF
CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	SCMT-CB	Time Zoned	us
CBLG	CBL Gate Width	SCMT-CB	40	us
CBRA	CBL LQC Reference Amplitude in Free Pipe	SCMT-CB	80	mV
DFD	Drilling Fluid Density	Borehole	8.6	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
EDF	Elevation of Derrick Floor Above Permanent Datum	WLSESSION	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 Computed Temperature	Borehole	GTEM_LINEST(RT)	
MATT_CURR	Maximum Attenuation in Arbitrary Cement	SCMT-CB	16.92	dB/ft
MCI	Minimum Cemented Interval for Isolation	SCMT-CB	Depth Zoned	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	2	
SHT	Surface Hole Temperature	Borehole	68	degF
TD	Total Measured Depth	Borehole	9636	ft

OneDepth Zoned Parameters

Parameter	Value	Start (ft)	Stop (ft)
MCI	14.81	2300	2400
MCI	1.25	2400	5897.73

All depth are actual.

OneTime Zoned Parameters

Pass Log[1]:Up

Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
CB3G	231.42	06-Sep-2018 22:54:05	07-Sep-2018 01:06:20	5763.18	2074.28
CB3G	233.09	07-Sep-2018 01:06:20	07-Sep-2018 01:15:32	2074.28	1808.02
CB3G	238.12	07-Sep-2018 01:15:32	07-Sep-2018 01:18:20	1808.02	1725.68

All depth are at tool zero.

Tool Control Parameters

ONE: Parameters

Parameter	Description	Tool	Value	Unit
CMTM	SCMT Operating Mode	SCMT-CB	Log	

MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	150	ft/h
PCCG	PSP Downhole CCL Gain	PSTP-A	24 dB	

One: Parameters

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

ONE

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[6]:Up	Up	9383.16 ft	9651.98 ft	06-Sep-2018 5:31:12 PM	06-Sep-2018 5:40:53 PM	ON	5.74 ft	Yes

All depths are referenced to toolstring zero

Log

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

ONE: Log[6]:Up:S009

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: 07-Sep-2018 02:37:30

TIME_1900 - Time Marked every 60.00 (s)

BIEP - Bond Index Event Pips SCMT-CB

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

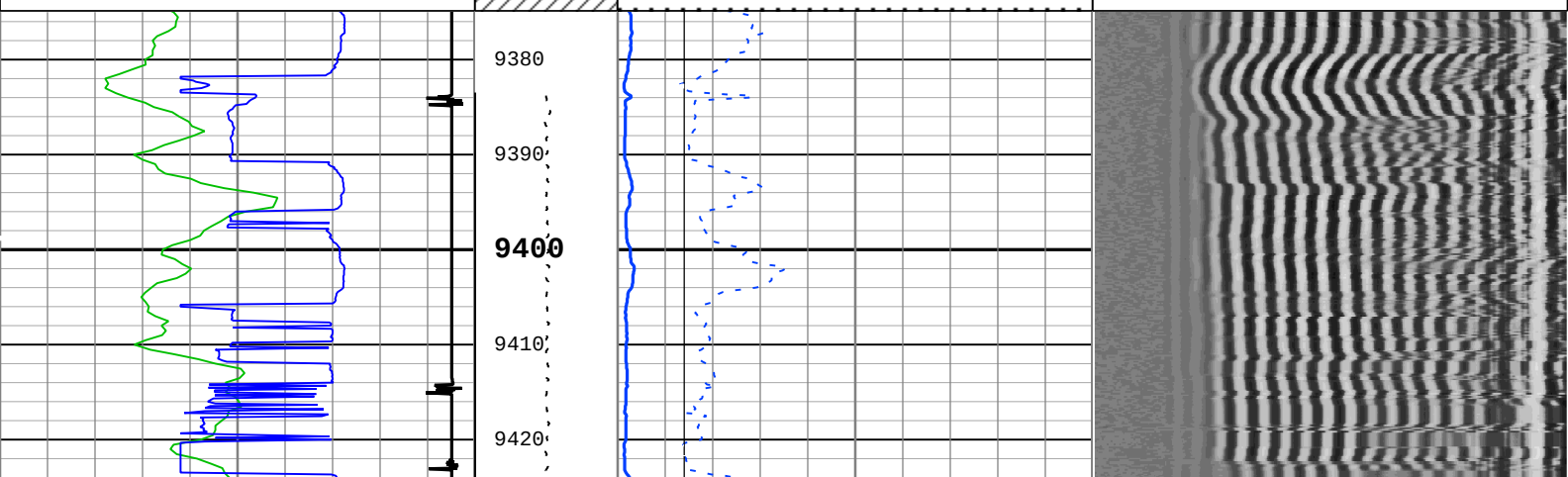
Gamma Ray (GR) PSTP-A
0 gAPI 150

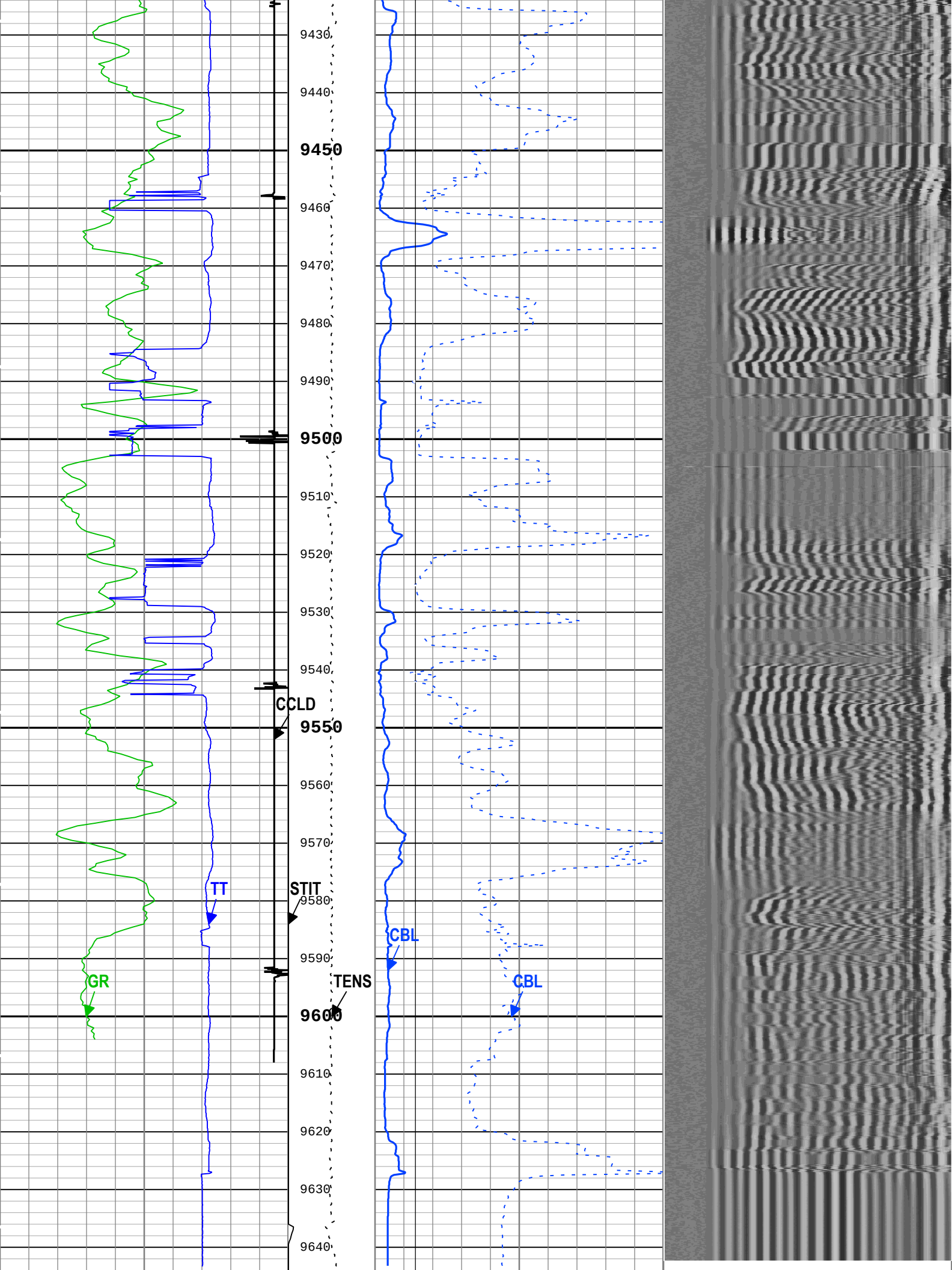
Transit Time for CBL (TT) SCMT-CB
400 us 200

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

Min Amplitude Max

VDL VariableDensity (VDL) SCMT-CB
200 us 1200

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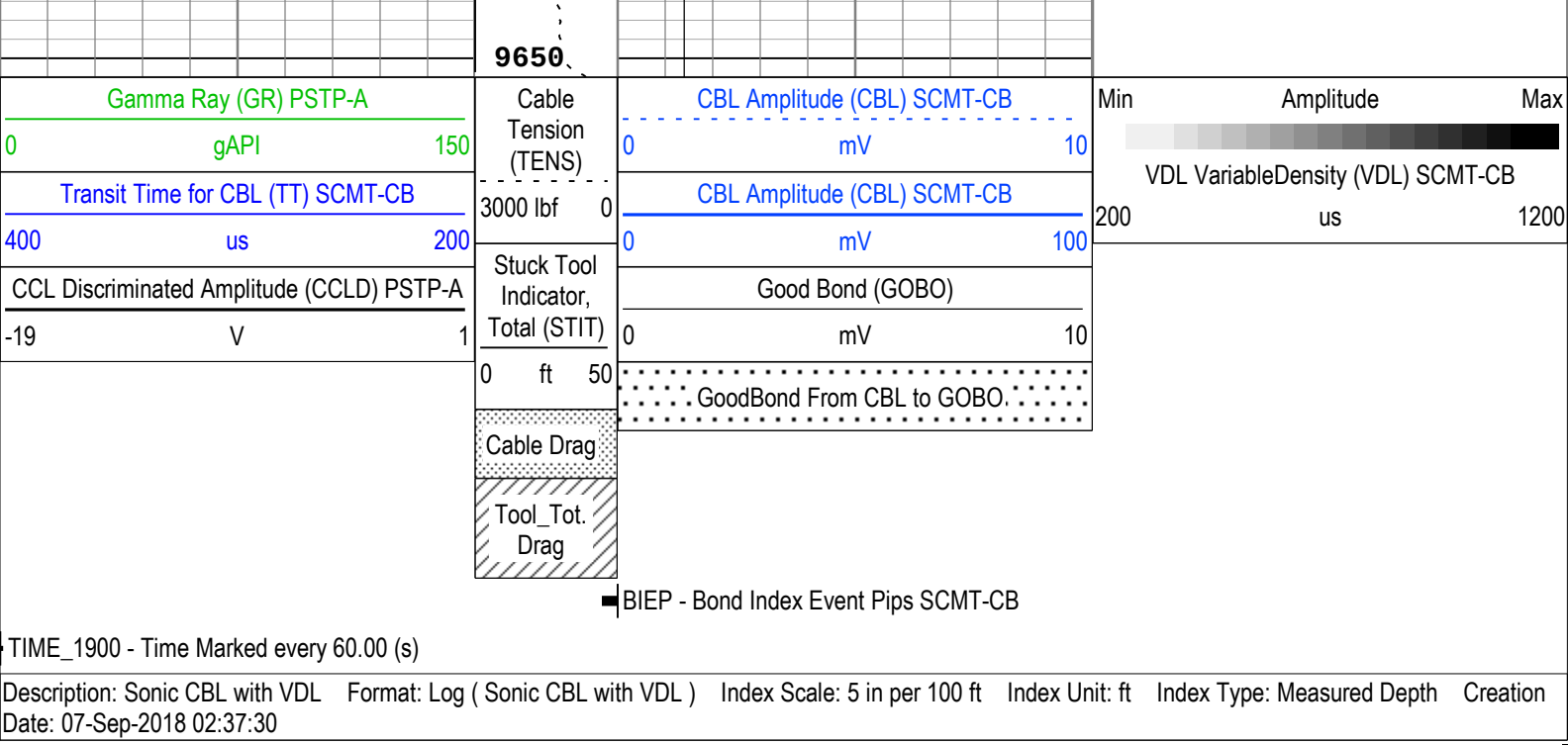


Description: Sonic CBL with VDL Format: Log (Sonic CBL with VDL) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 07-Sep-2018 02:37:30

Channel Processing Parameters

ONE: Parameters

Parameter	Description	Tool	Value	Unit
BHT	Bottom Hole Temperature	Borehole	267.9	degF
CB3G	SCMT CBL 3 ft Peak Detection T0_Delay and Noise Gate	SCMT-CB	224	us
CBLG	CBL Gate Width	SCMT-CB	Time Zoned	us
CBRA	CBL LQC Reference Amplitude in Free Pipe	SCMT-CB	80	mV
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	8.6	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
EDF	Elevation of Derrick Floor Above Permanent Datum	WLSESSION	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 Computed Temperature	Borehole	GTEM_LINEST(RT)	
MATT_CURR	Maximum Attenuation in Arbitrary Cement	SCMT-CB	16.92	dB/ft
MCI	Minimum Cemented Interval for Isolation	SCMT-CB	1.25	ft
MSA	Minimum Sonic Amplitude	SCMT-CB	0.51	mV
MSA_CURR	Minimum Sonic Amplitude in Arbitrary Cement	SCMT-CB	0.51	mV
PDAT	Permanent Datum	WLSESSION	GL	
RUN_SNUM	Run Sequence Number	WSDRUN	1	
SHT	Surface Hole Temperature	Borehole	68	degF
TD	Total Measured Depth	Borehole	9636	ft

Time Zone Parameters

Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
CBLG	40	06-Sep-2018 17:31:12	06-Sep-2018 17:35:43	9651.98	9525.45
CBLG	51	06-Sep-2018 17:35:43	06-Sep-2018 17:37:14	9525.45	9480.2
CBLG	59	06-Sep-2018 17:37:14	06-Sep-2018 17:39:20	9480.2	9417.29
CBLG	68	06-Sep-2018 17:39:20	06-Sep-2018 17:40:53	9417.29	9383.16

All depth are at tool zero.

Tool Control Parameters

ONE: Parameters

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

Composite 1

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[8]:Up	Up	5628.90 ft	9653.88 ft	06-Sep-2018 6:09:59 PM	06-Sep-2018 8:25:05 PM	ON	7.15 ft	Yes
One	Log[1]:Up	Up	1729.84 ft	5897.73 ft	06-Sep-2018 10:54:05 PM	07-Sep-2018 1:18:20 AM	ON	-7.25 ft	No

All depths are referenced to toolstring zero

Log

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

Composite 1:S009

Description: RST SIGMA Answer Format: Log (RST SIGMA Answer) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 07-Sep-2018 02:37:32

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

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

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

Gamma Ray (GR) PSTP-A[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

CCL Computed Amplitude (CCLC) PSTP-A[1]
-19 V 1

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

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

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

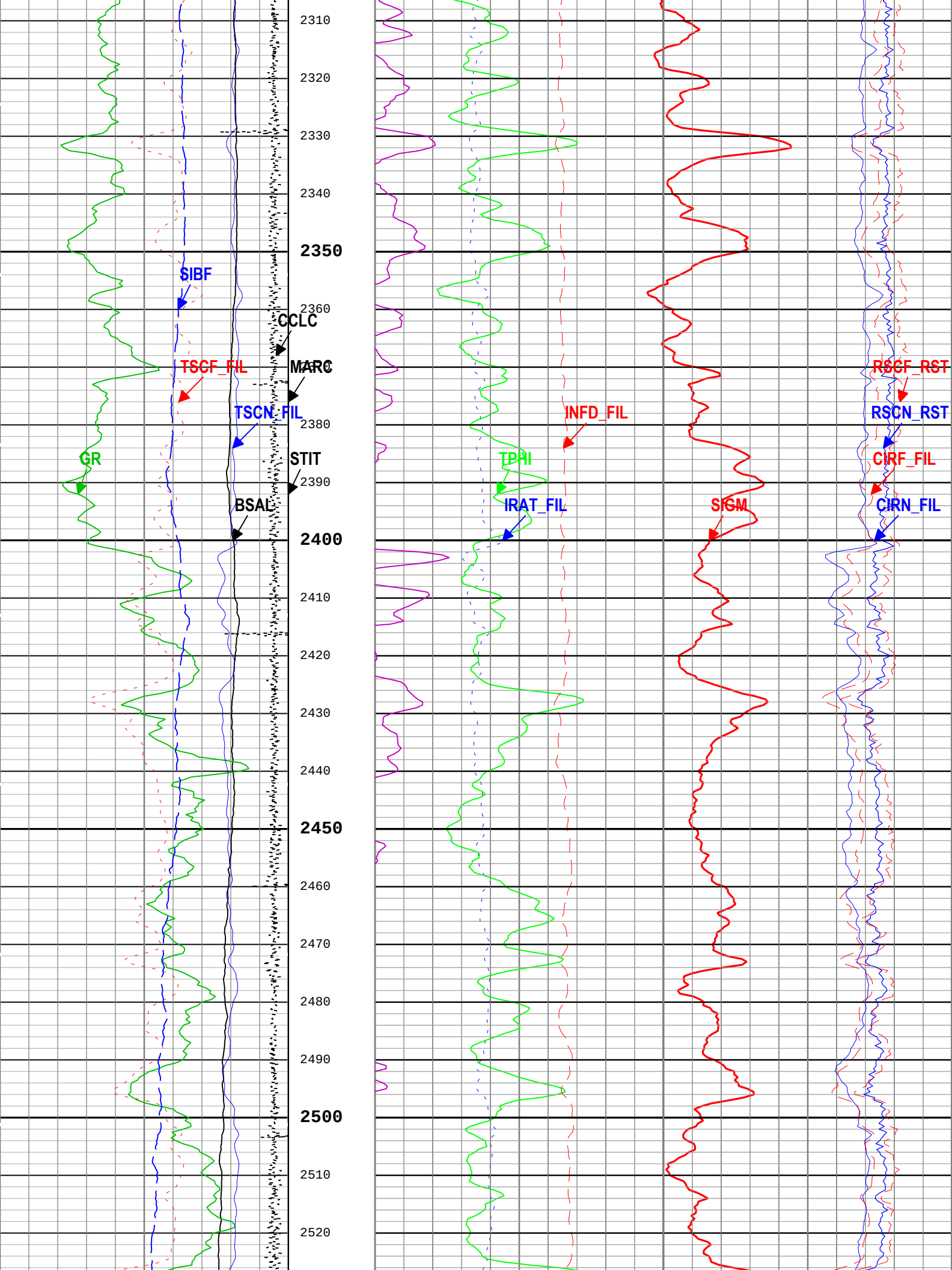
Thermal Decay Porosity (TPHI) RST-C[1]
0.6 ft3/ft3 0

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

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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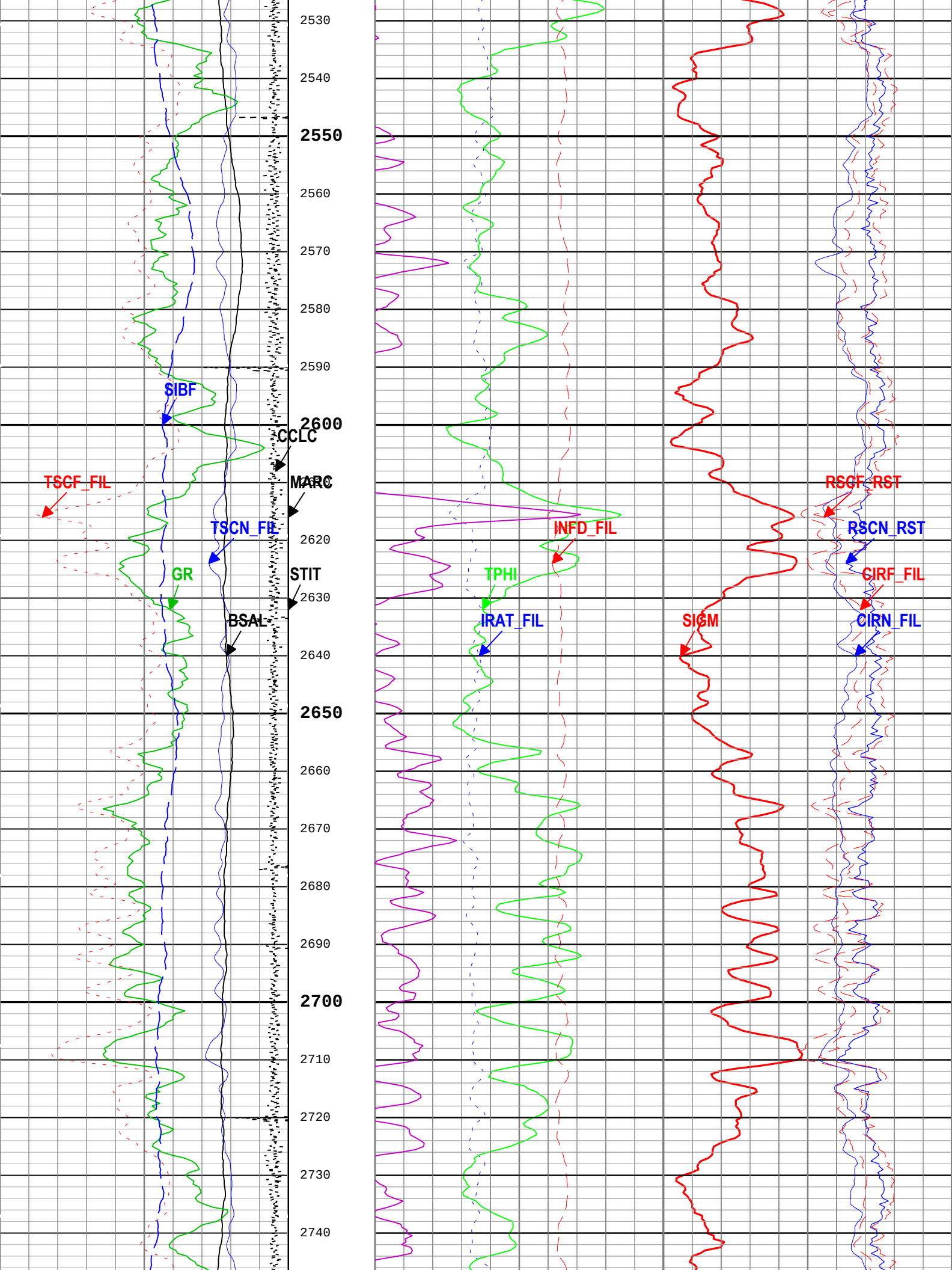
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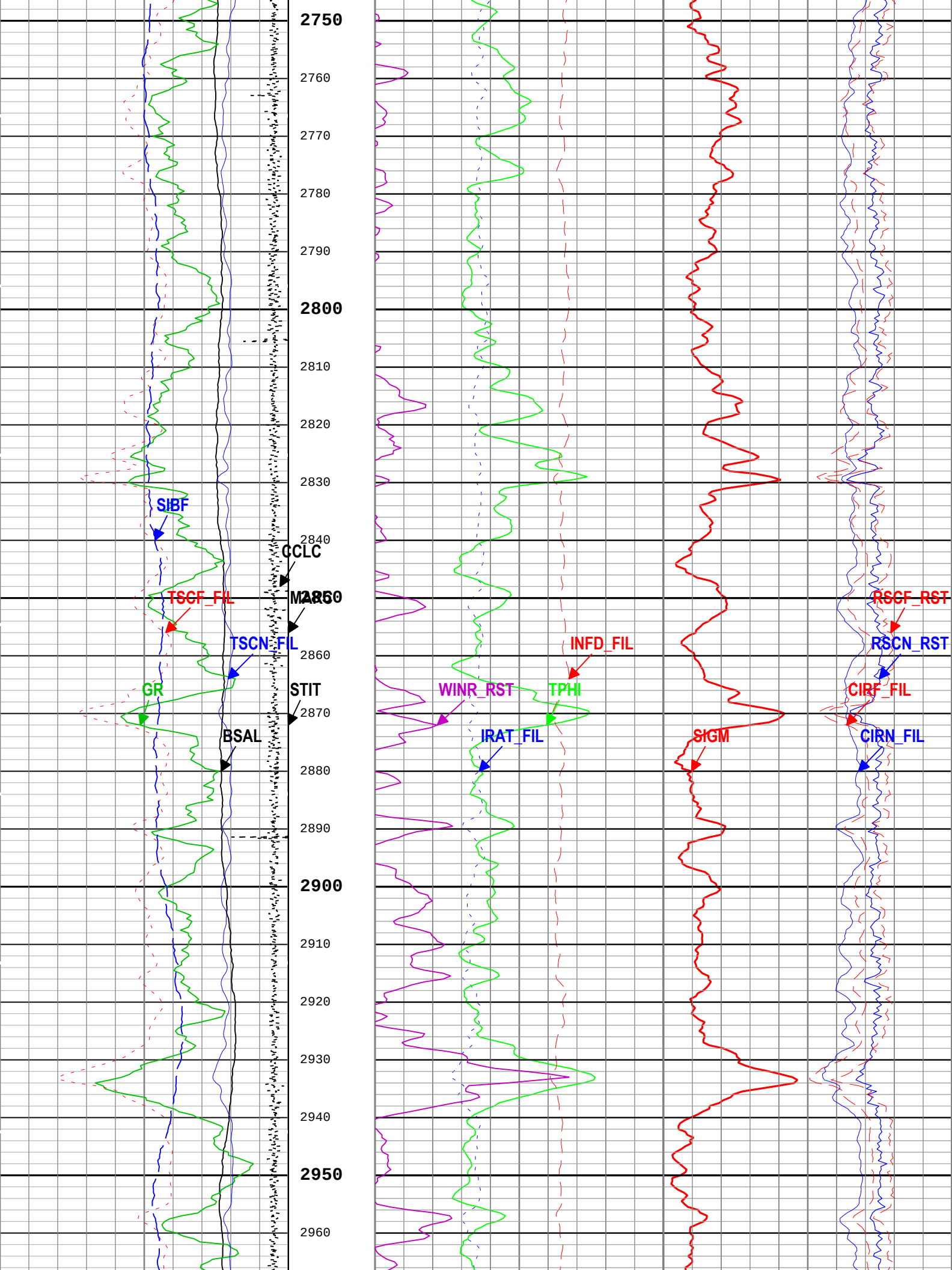
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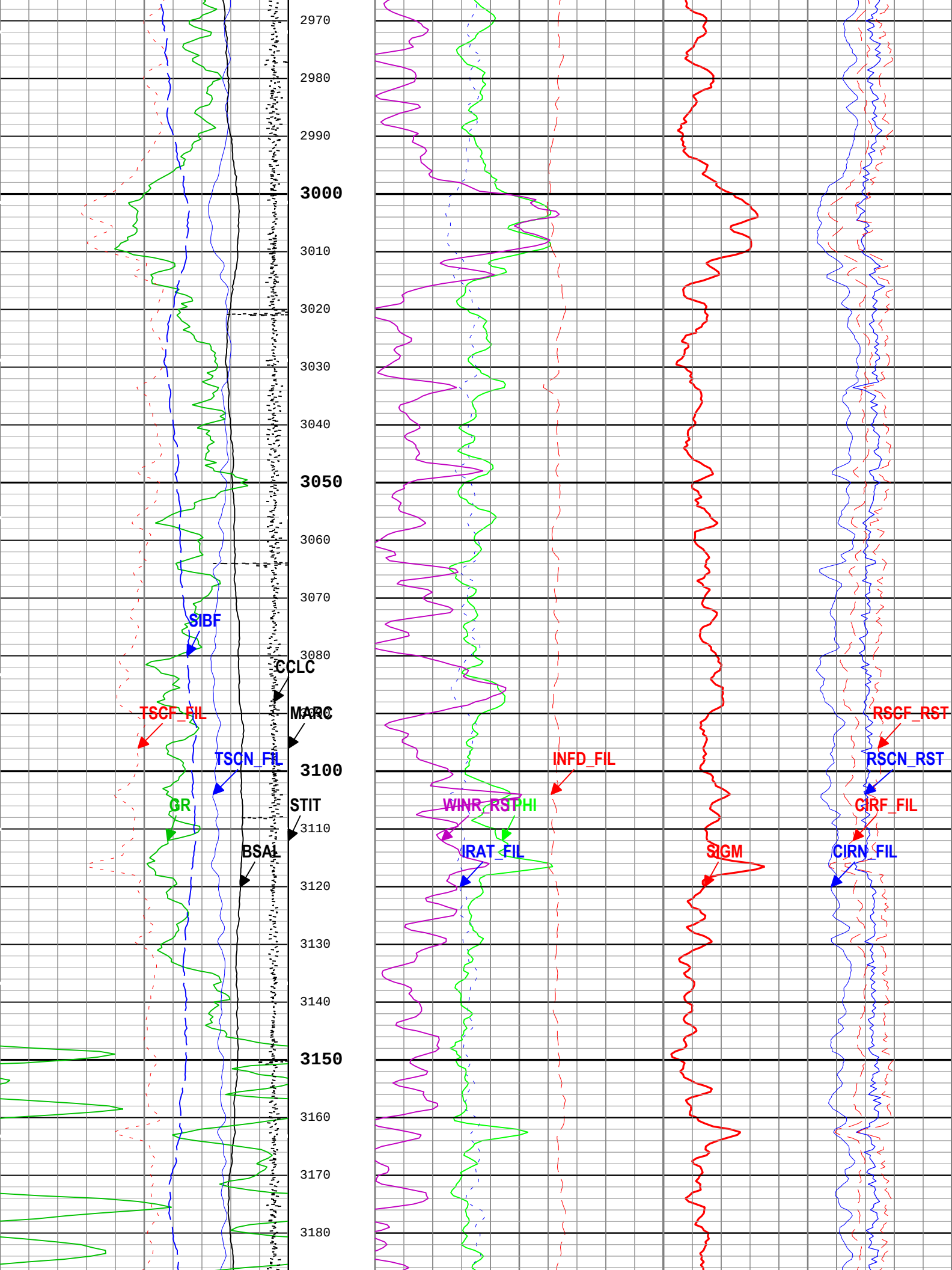
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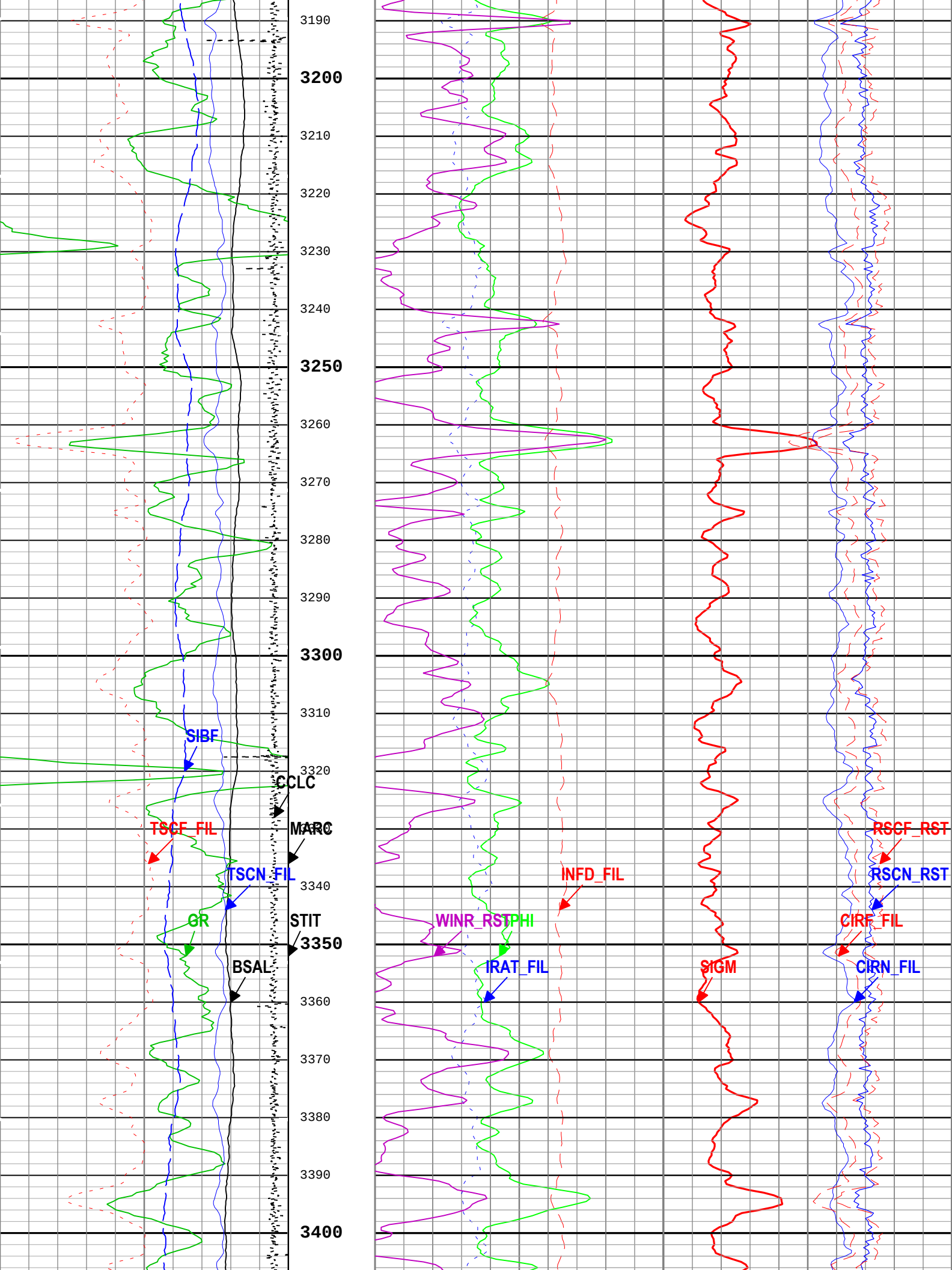
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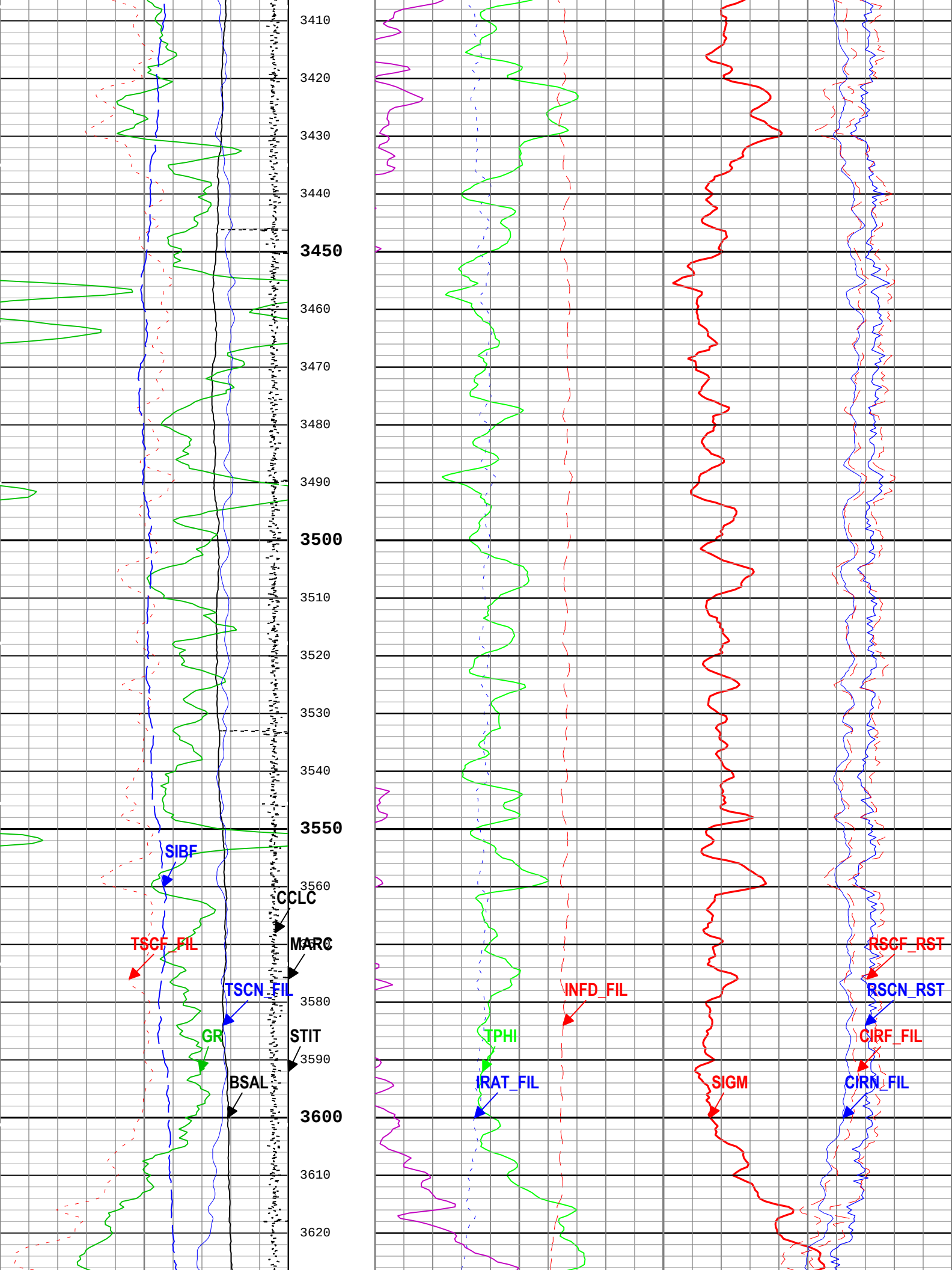
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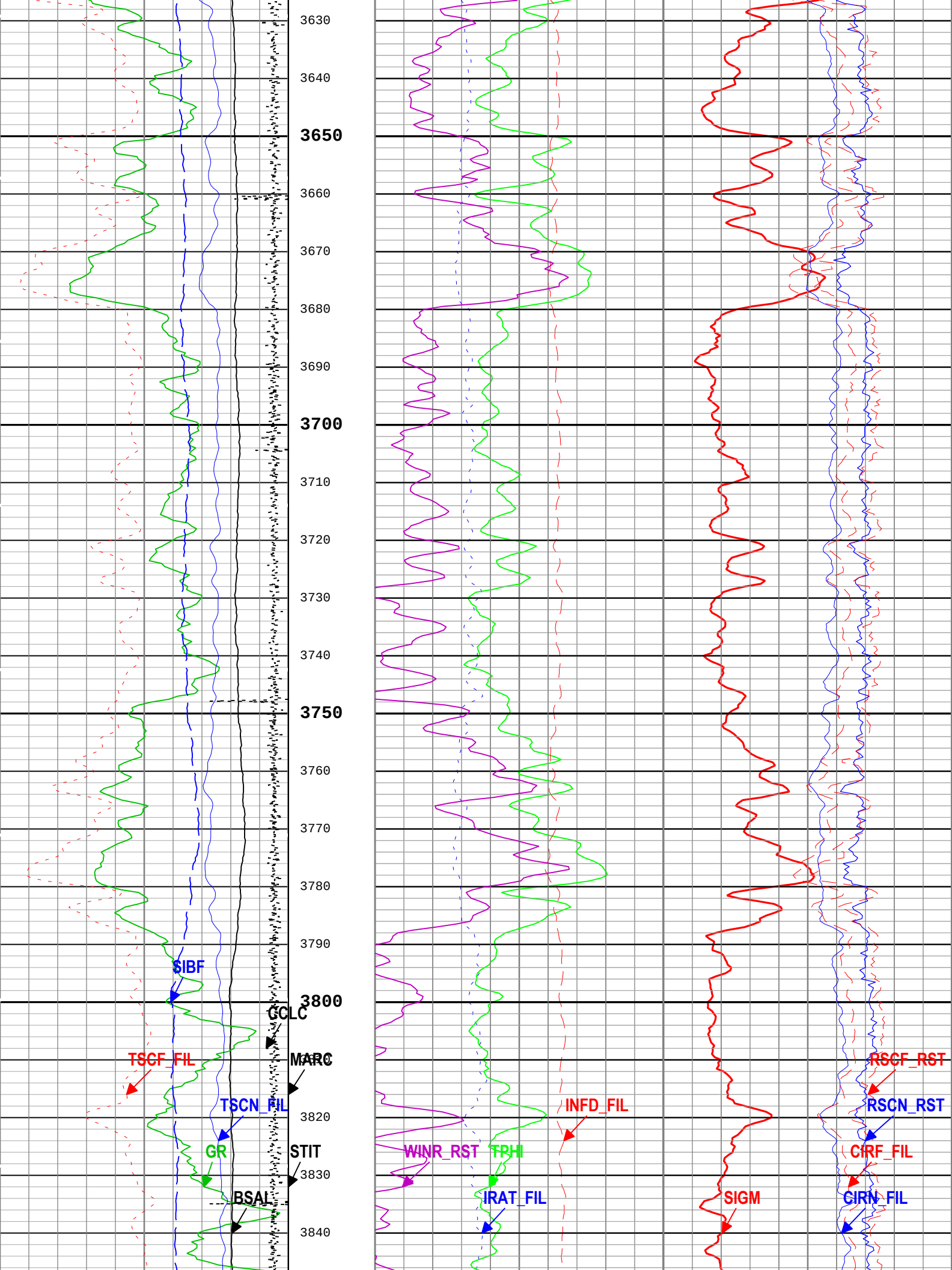
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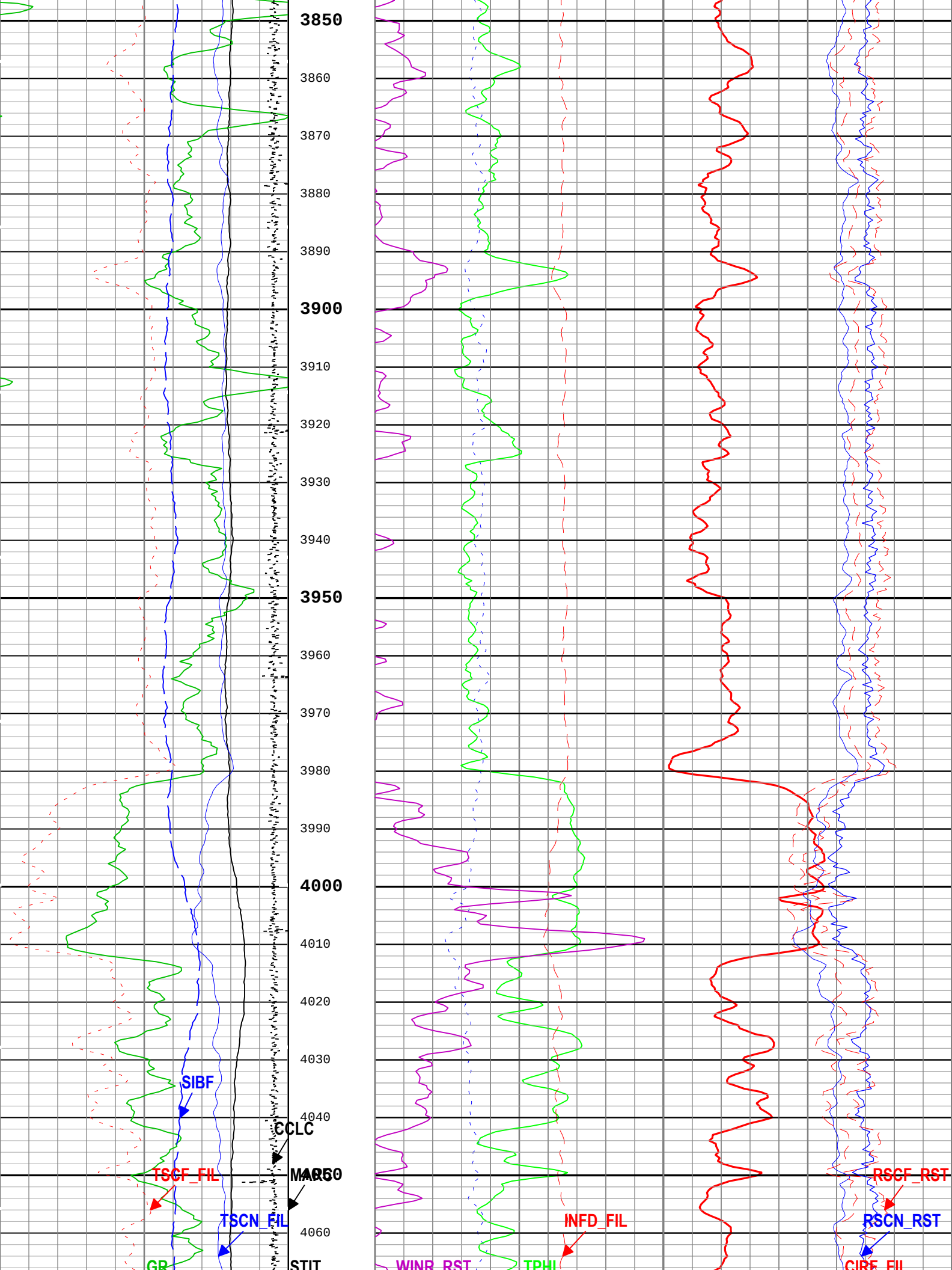
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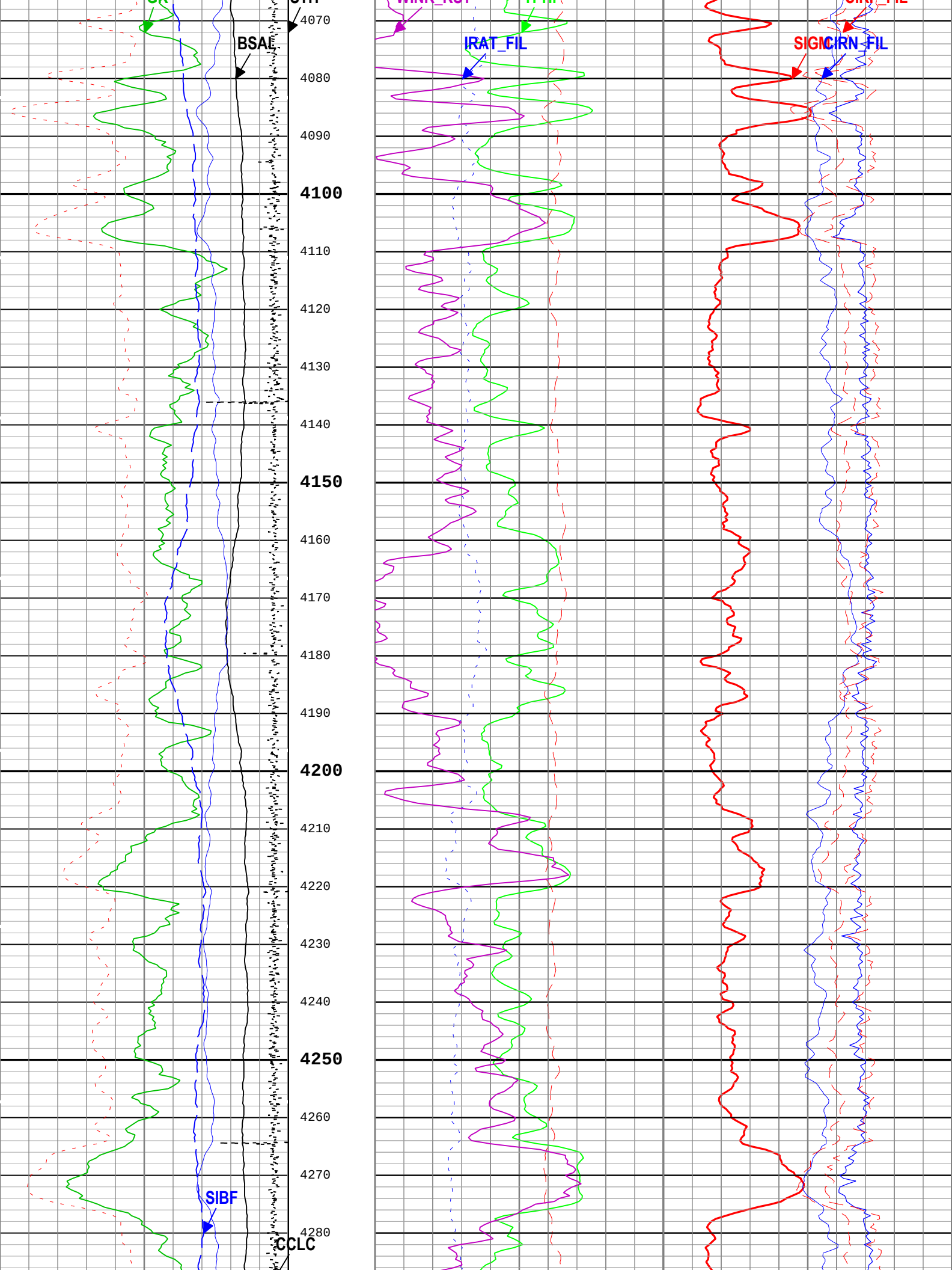
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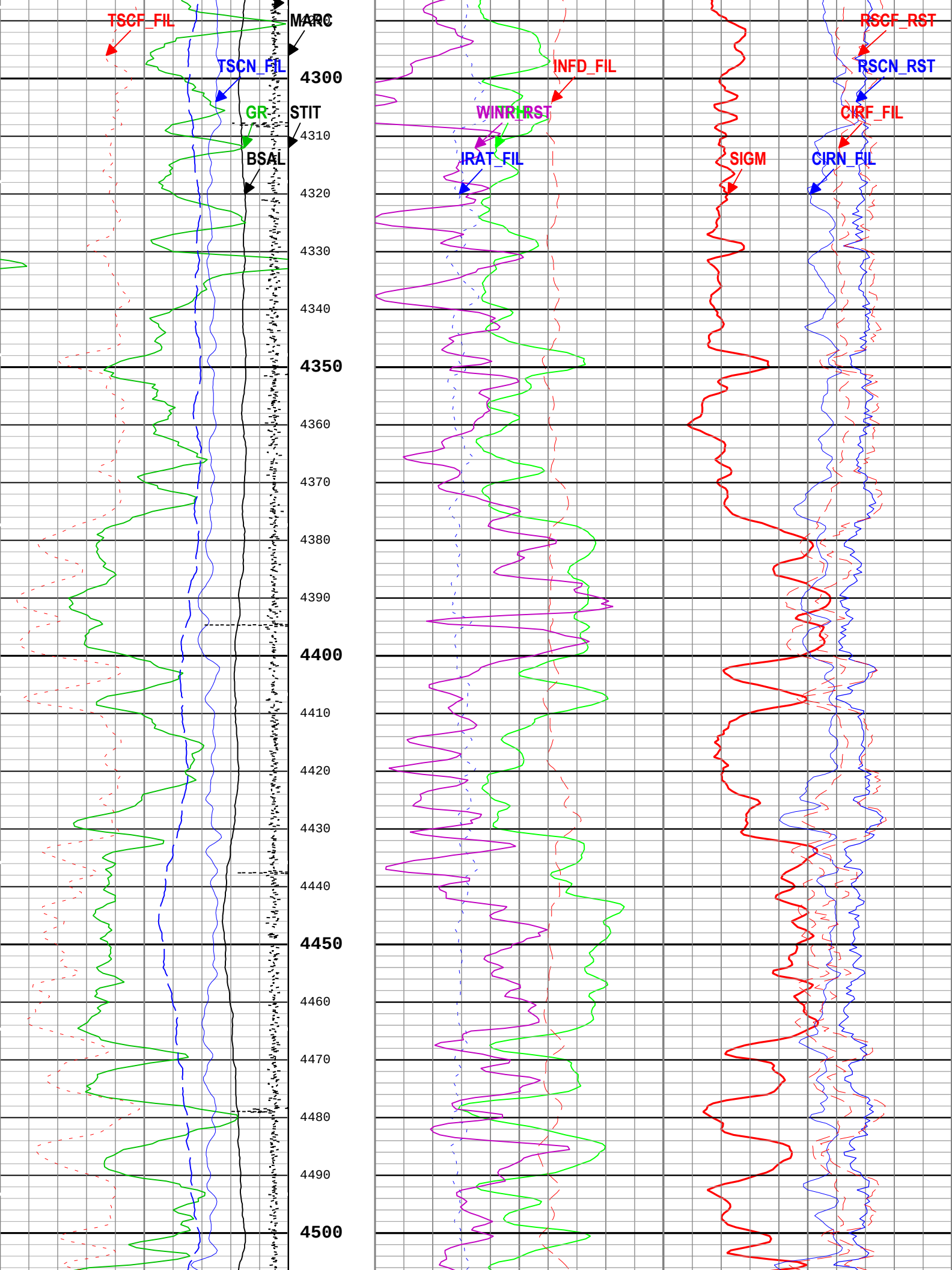
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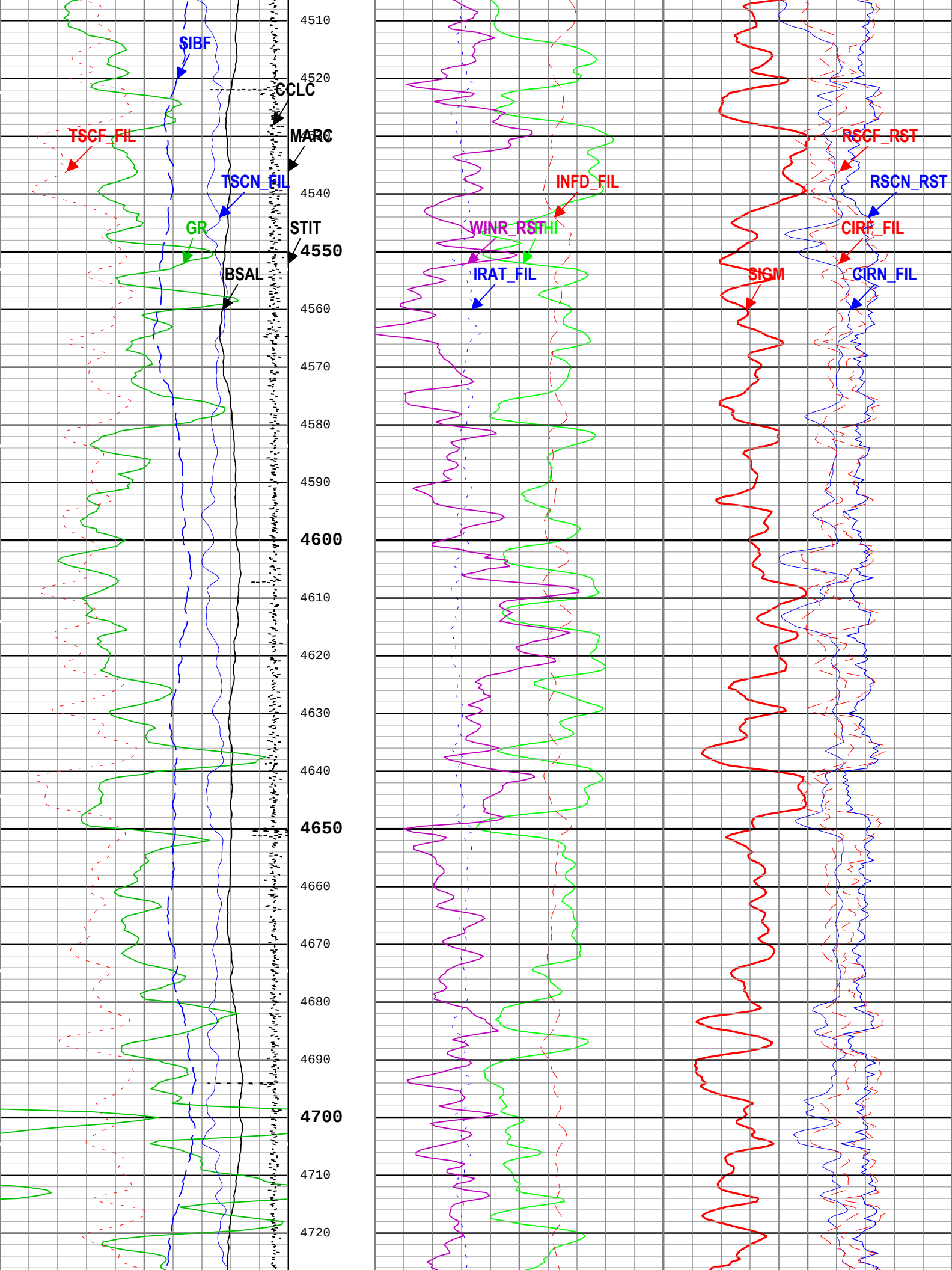
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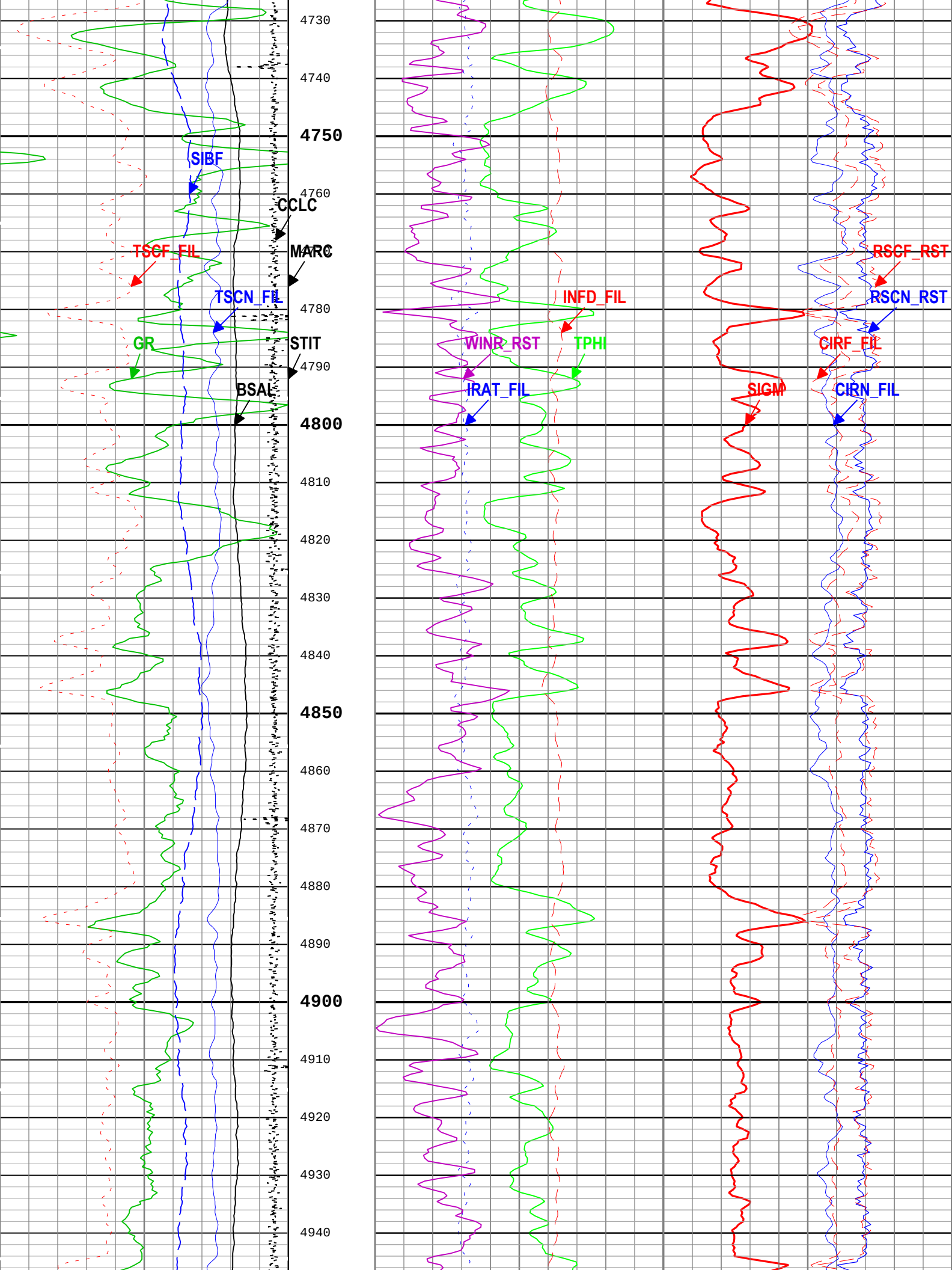
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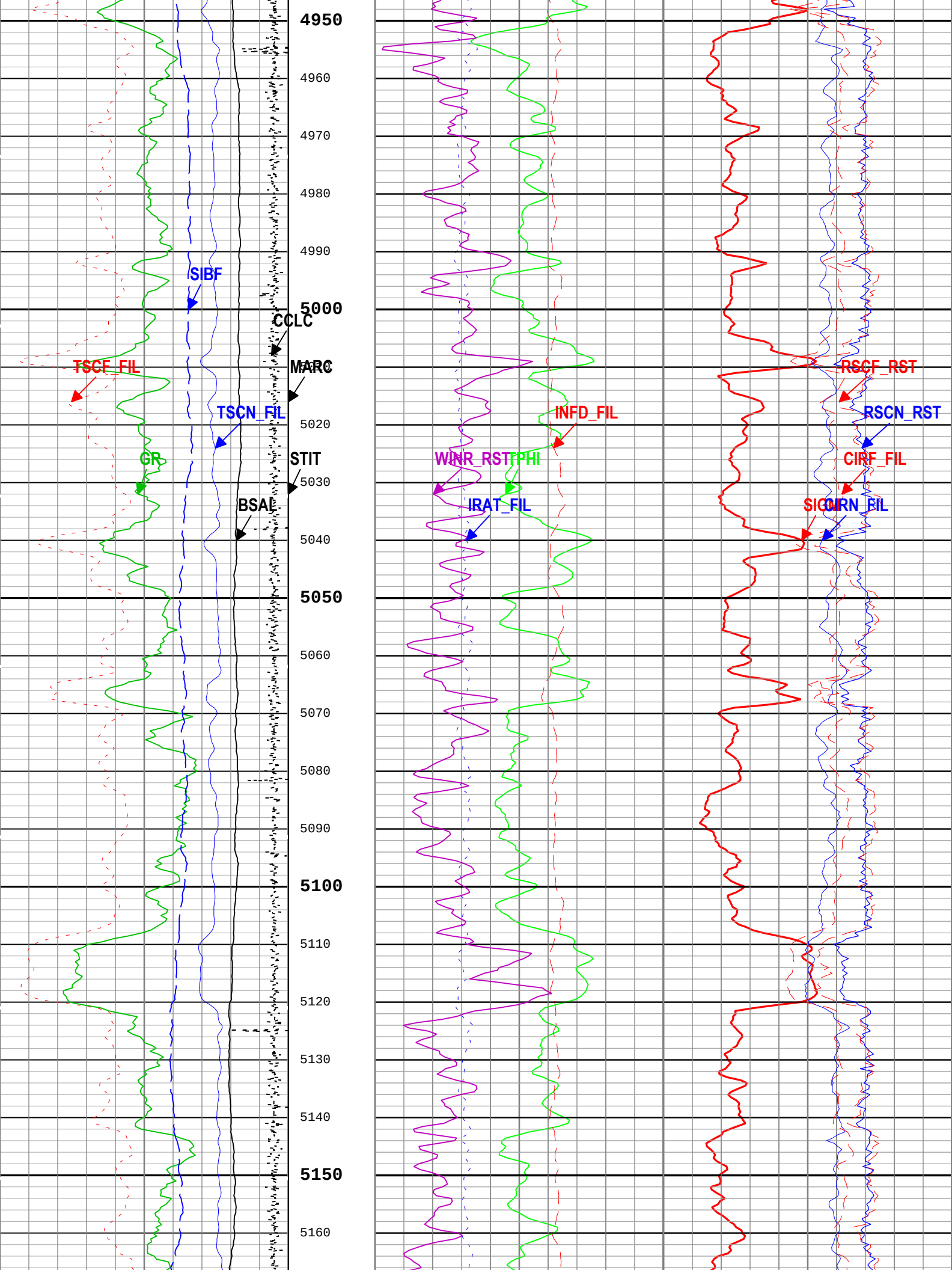
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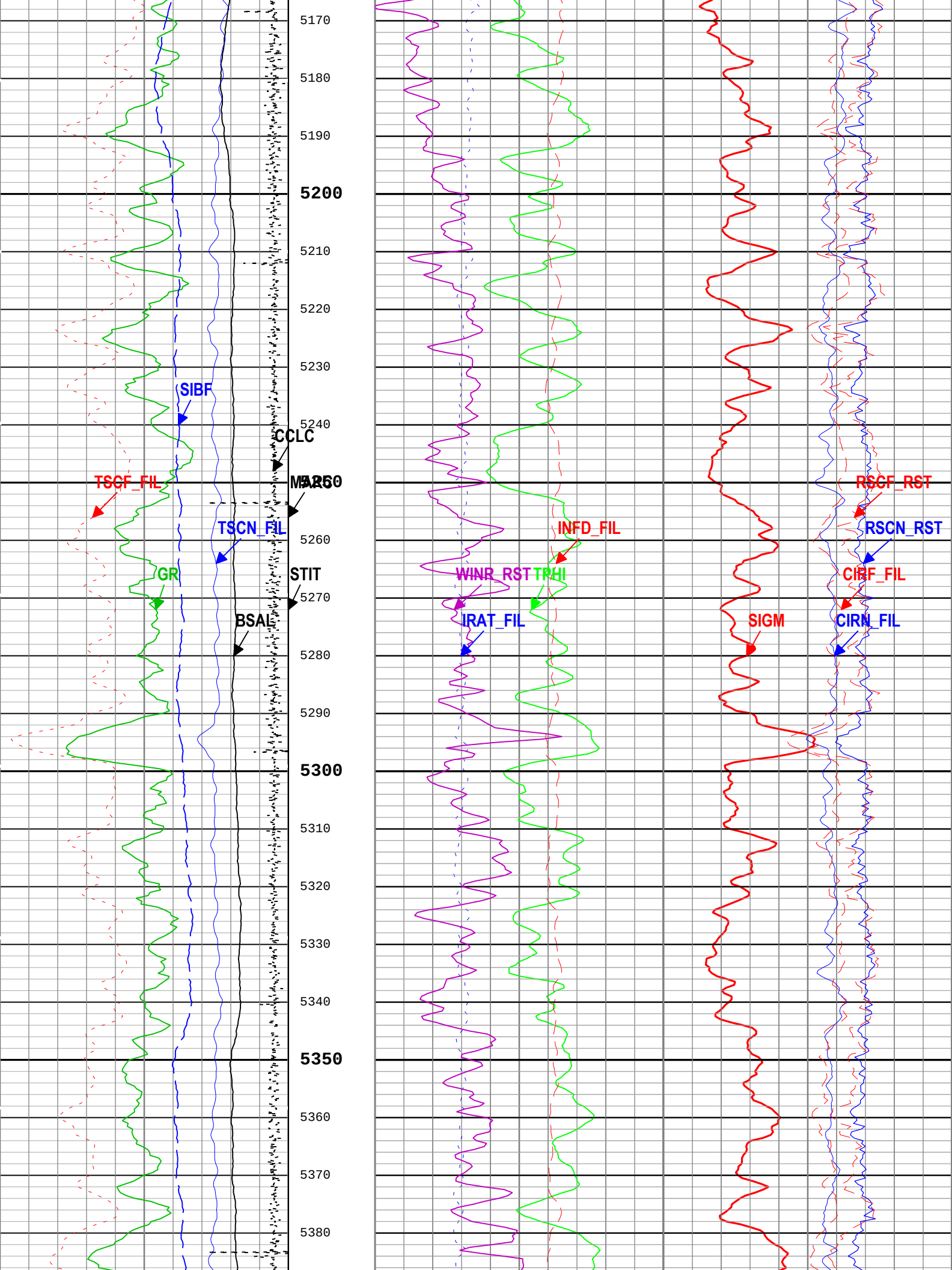
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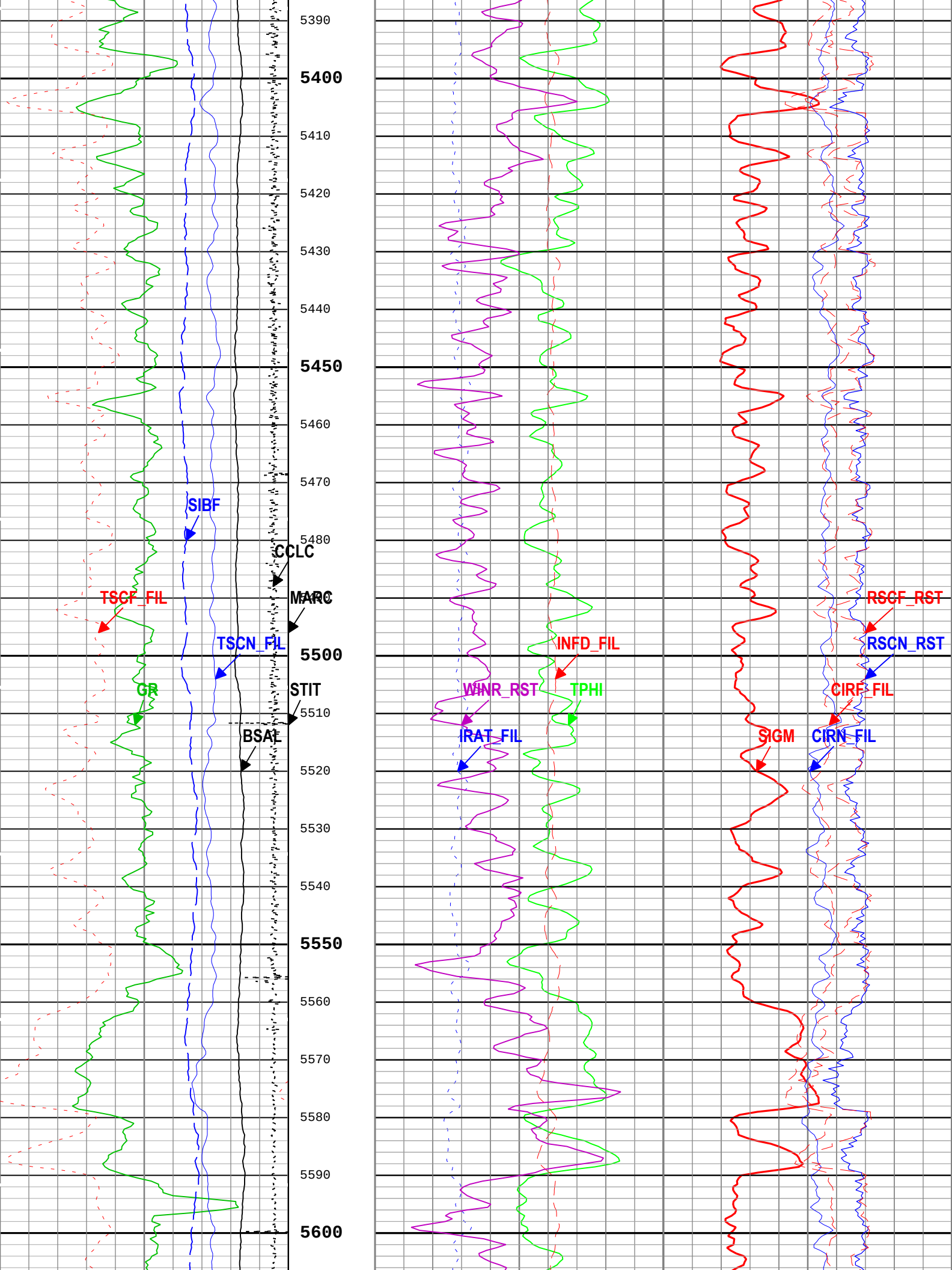
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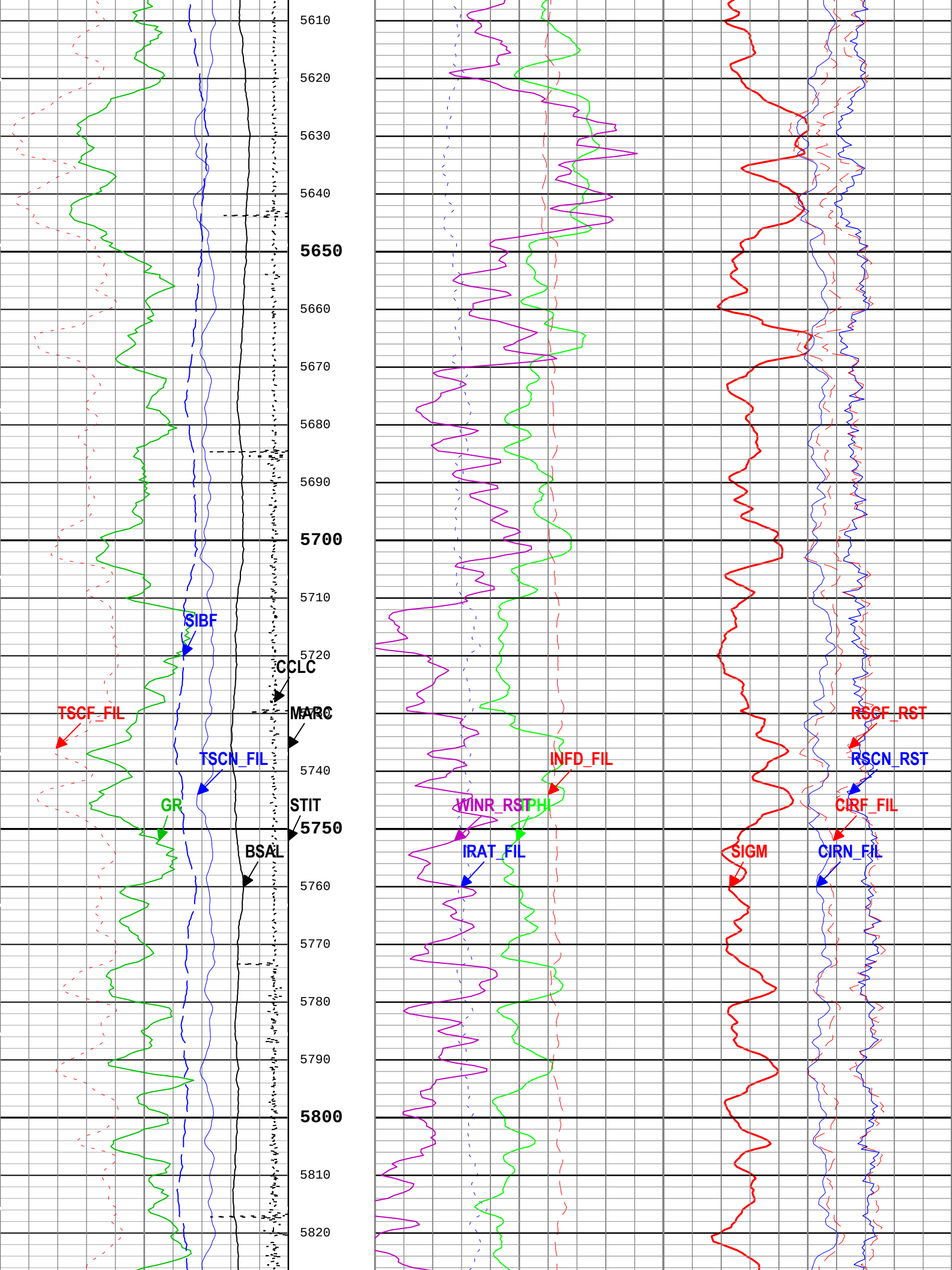
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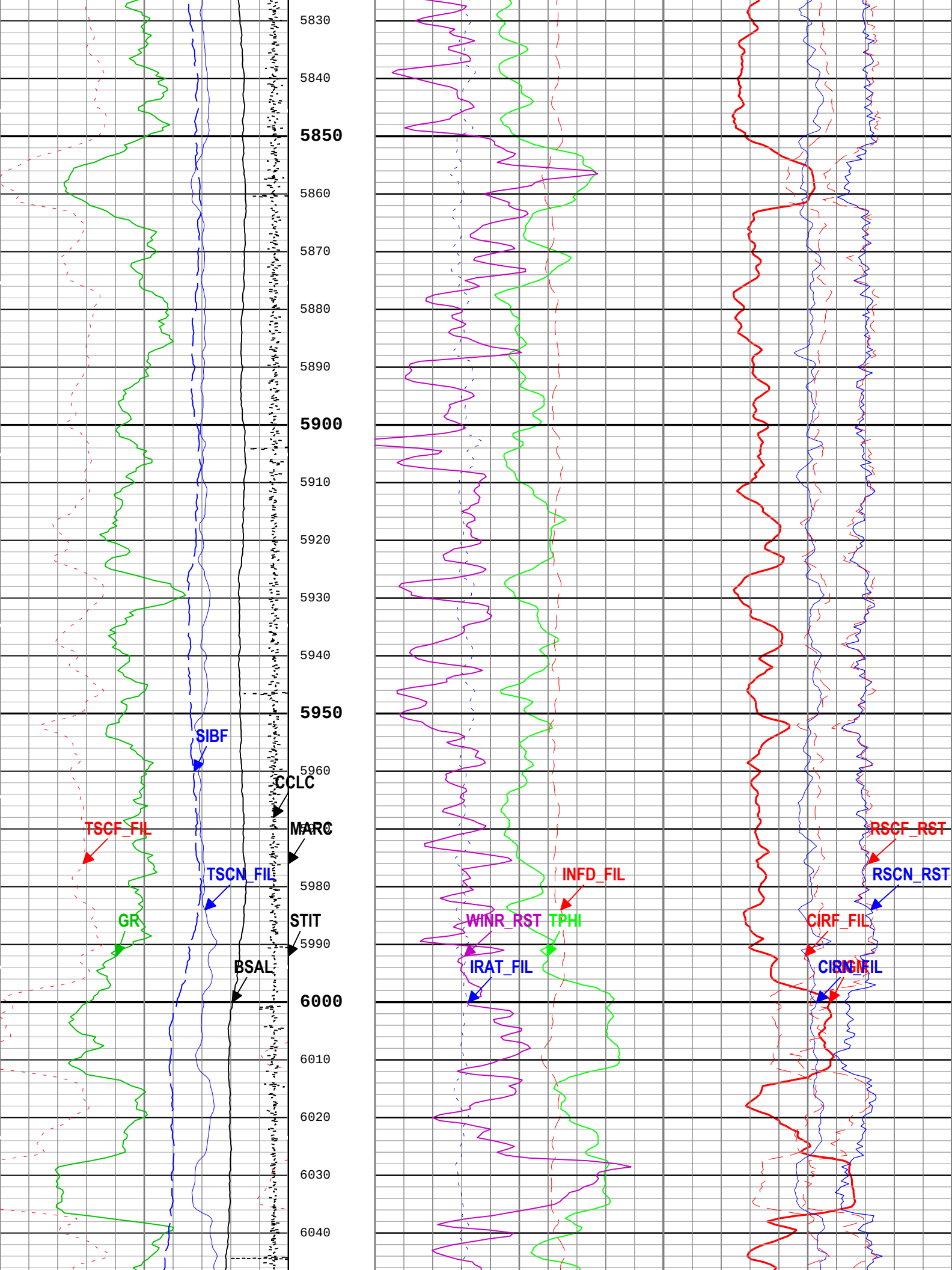
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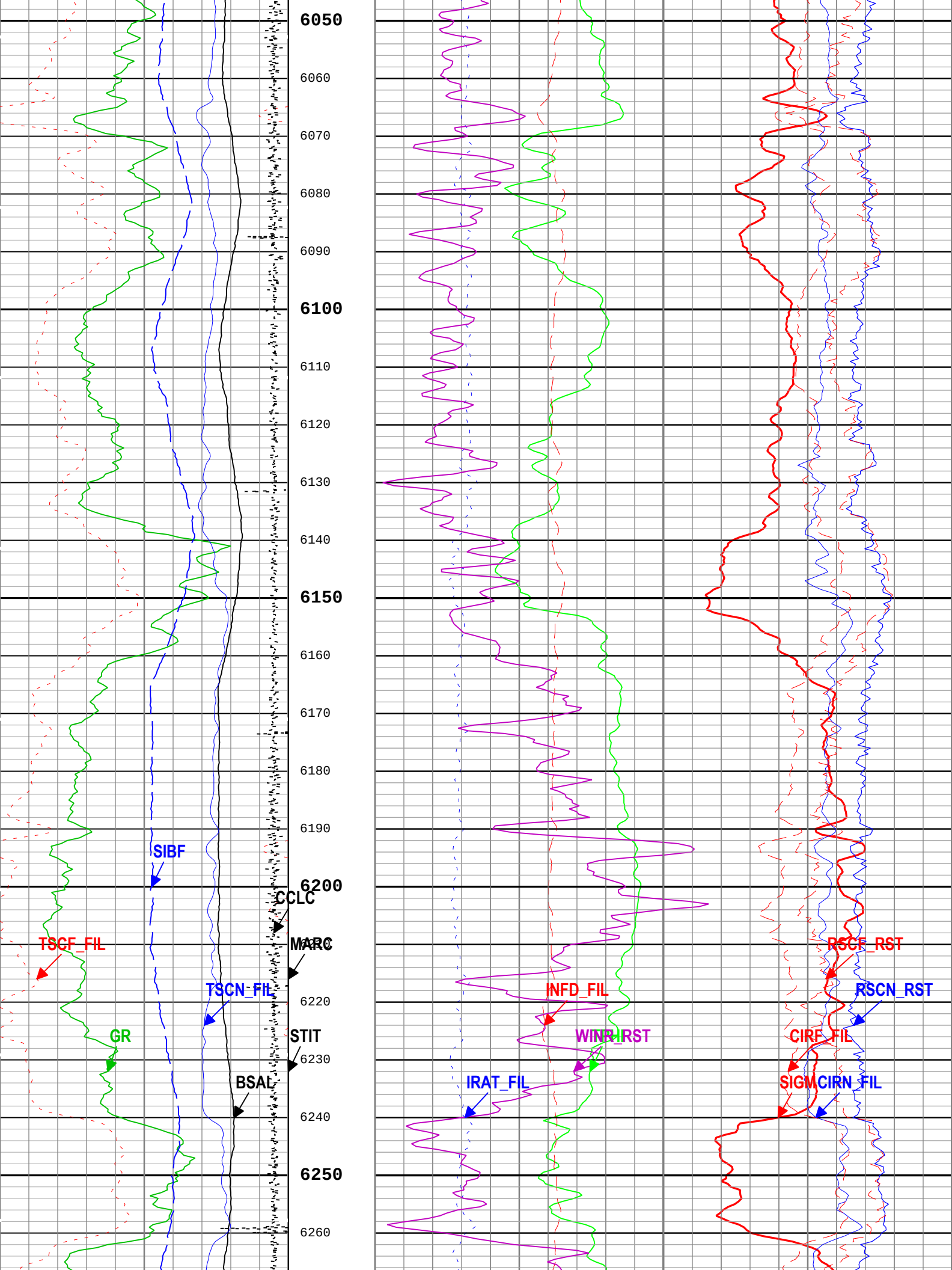
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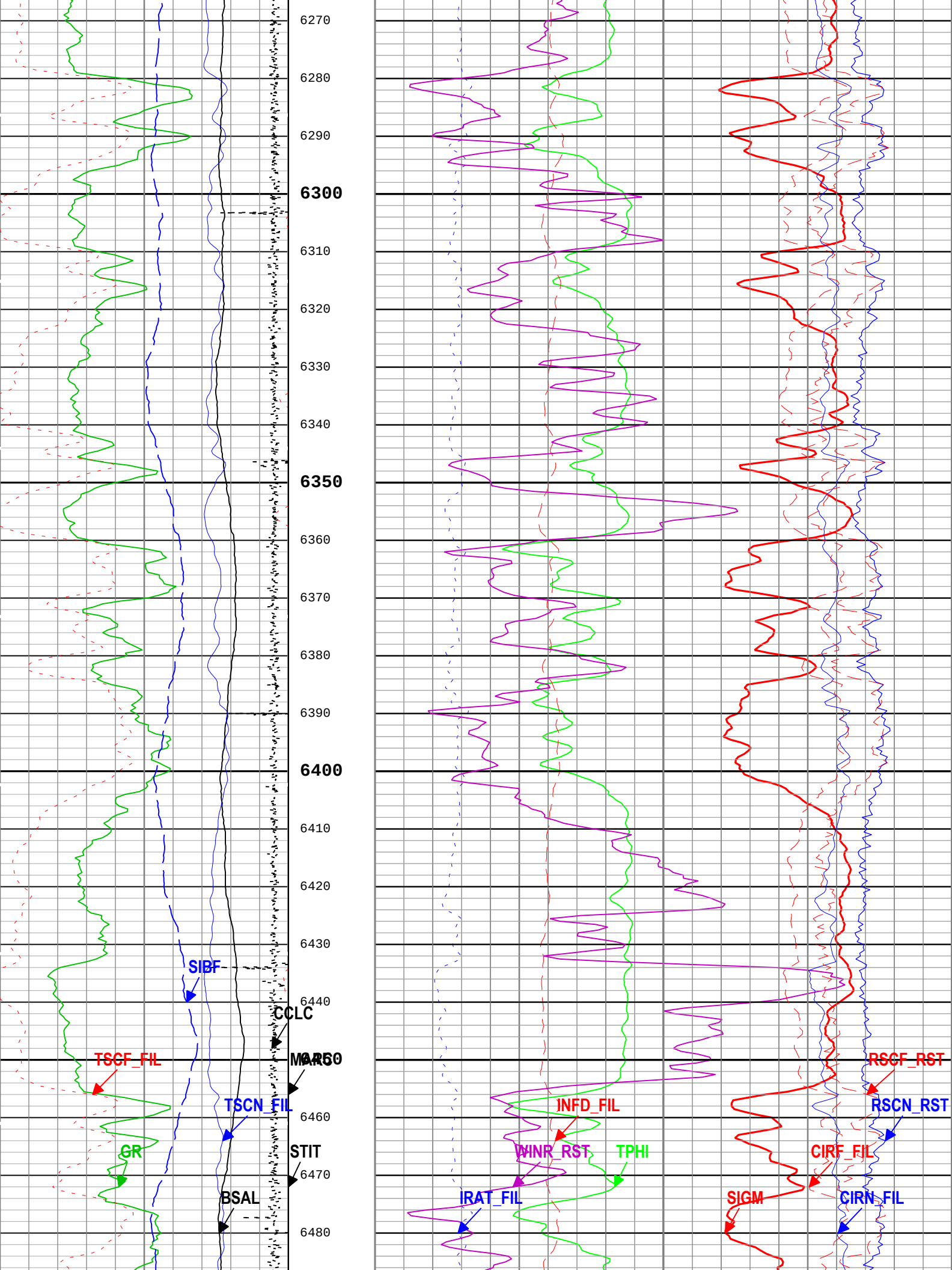
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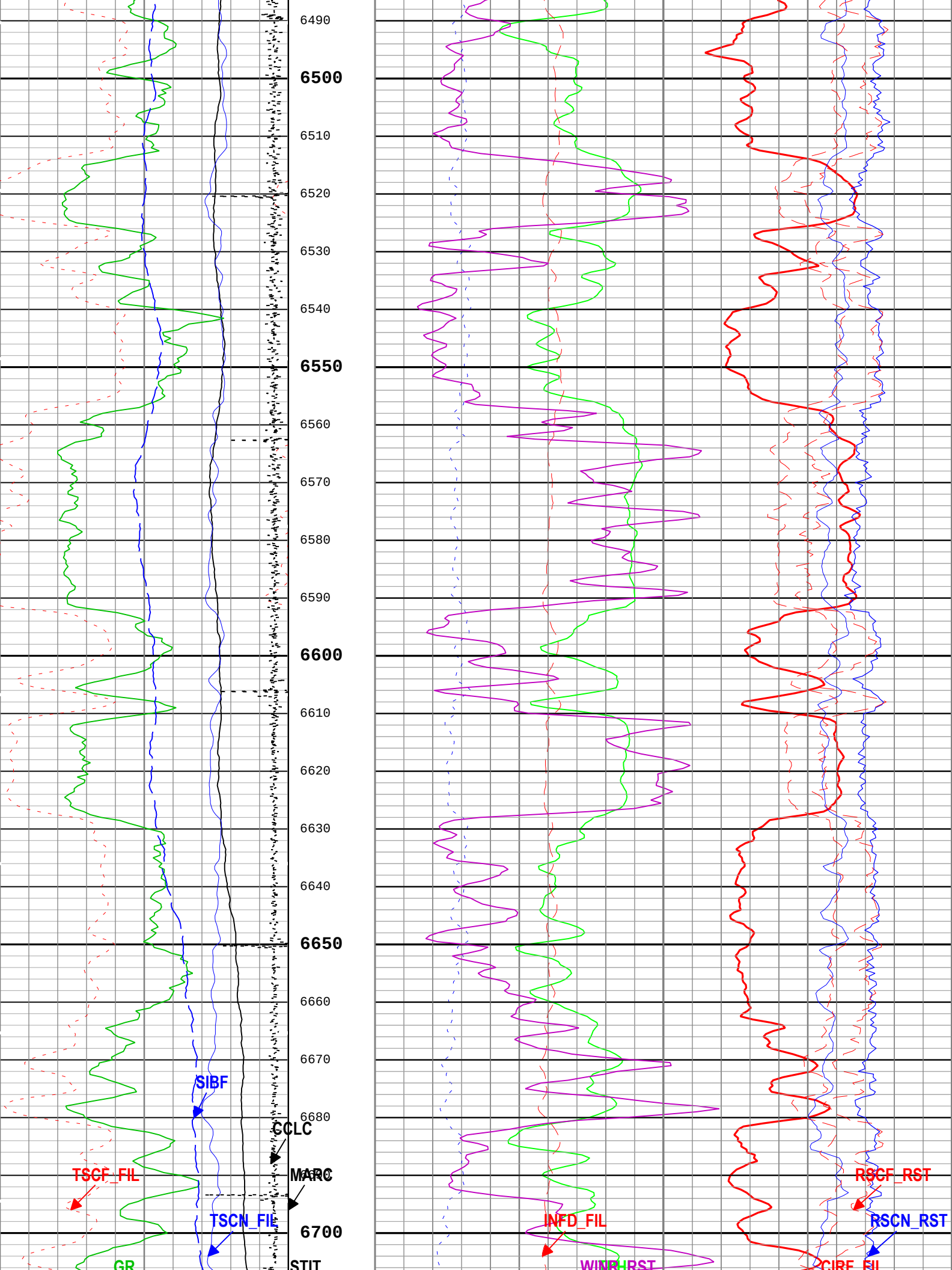
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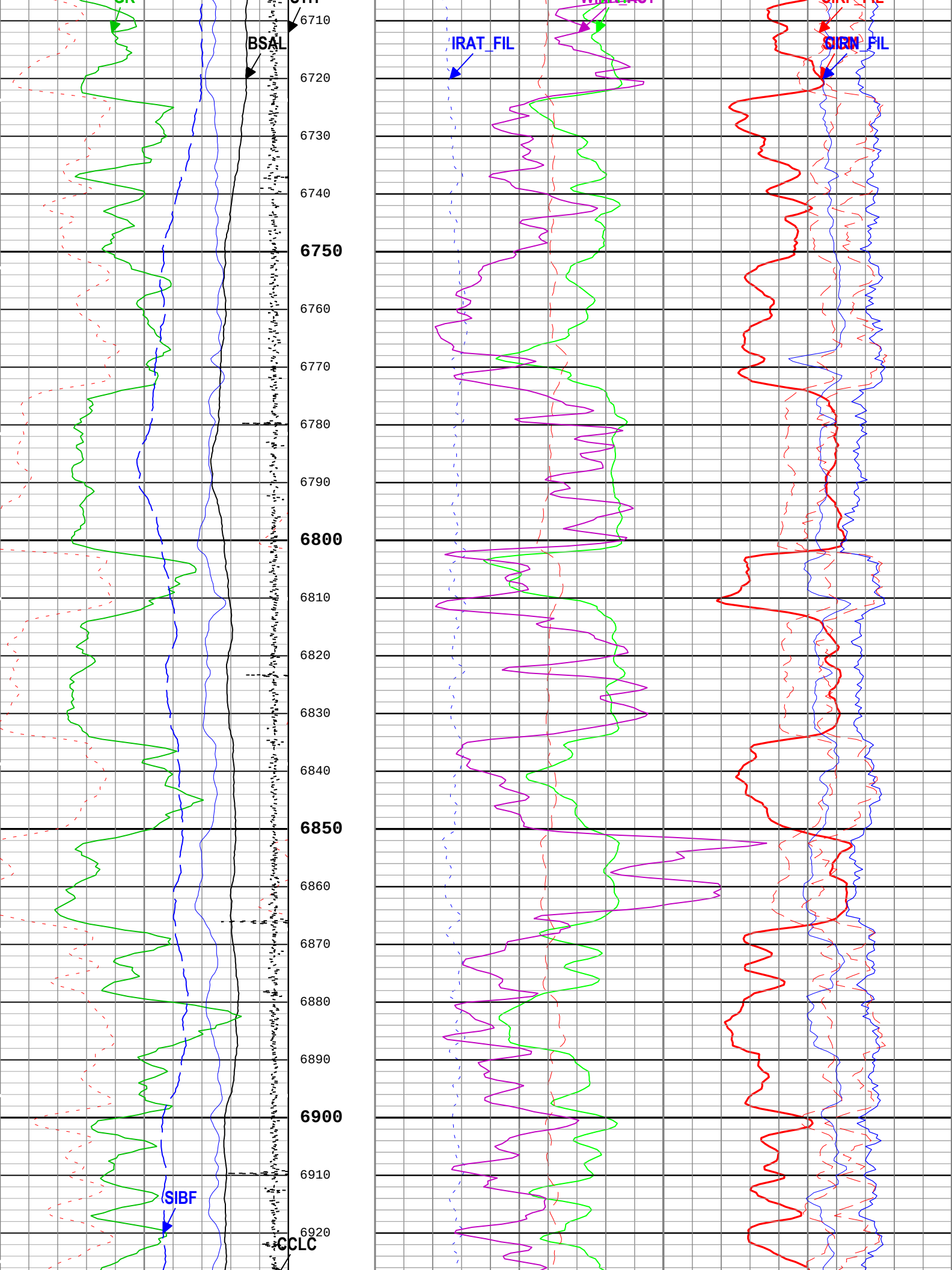
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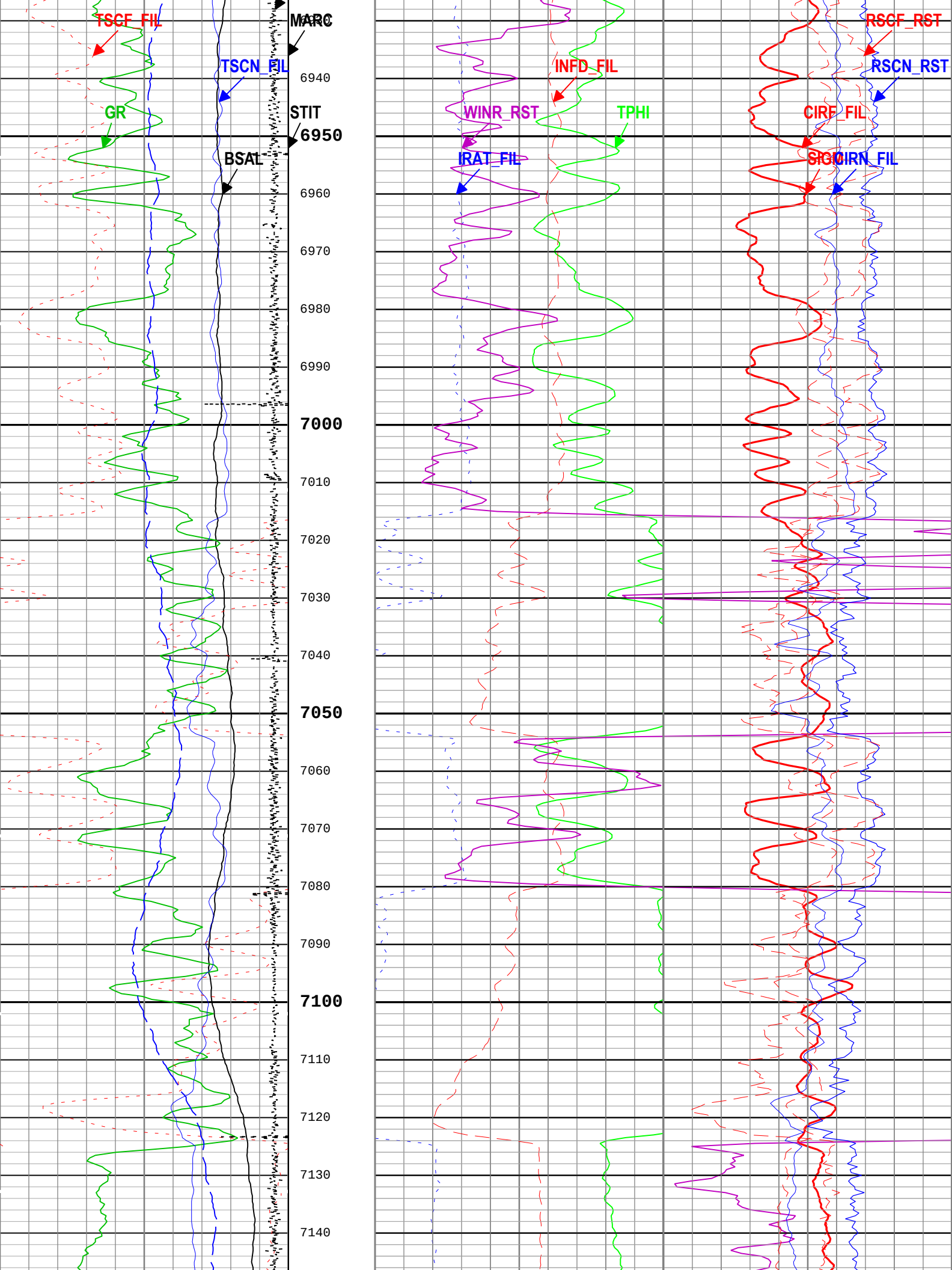
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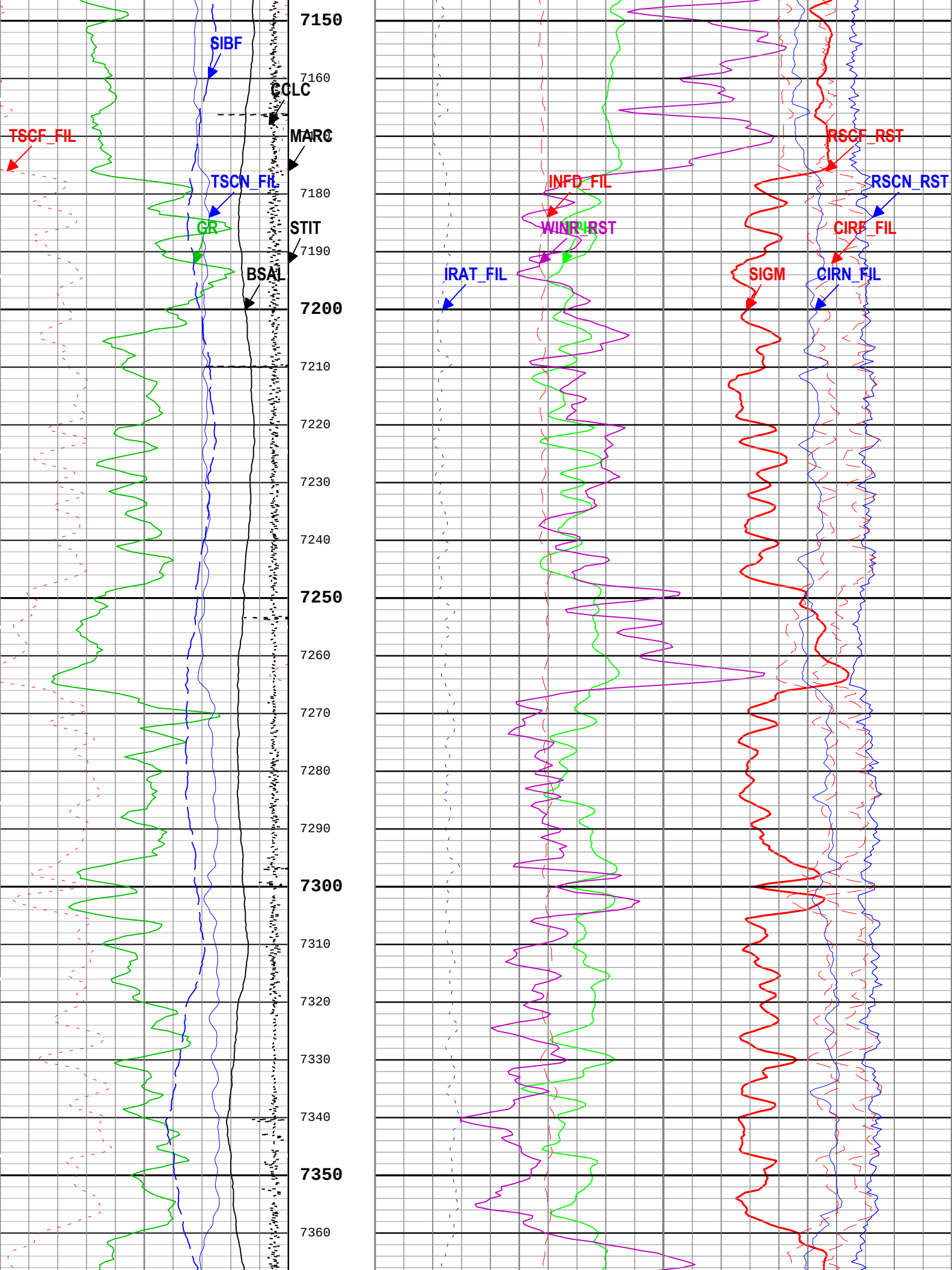
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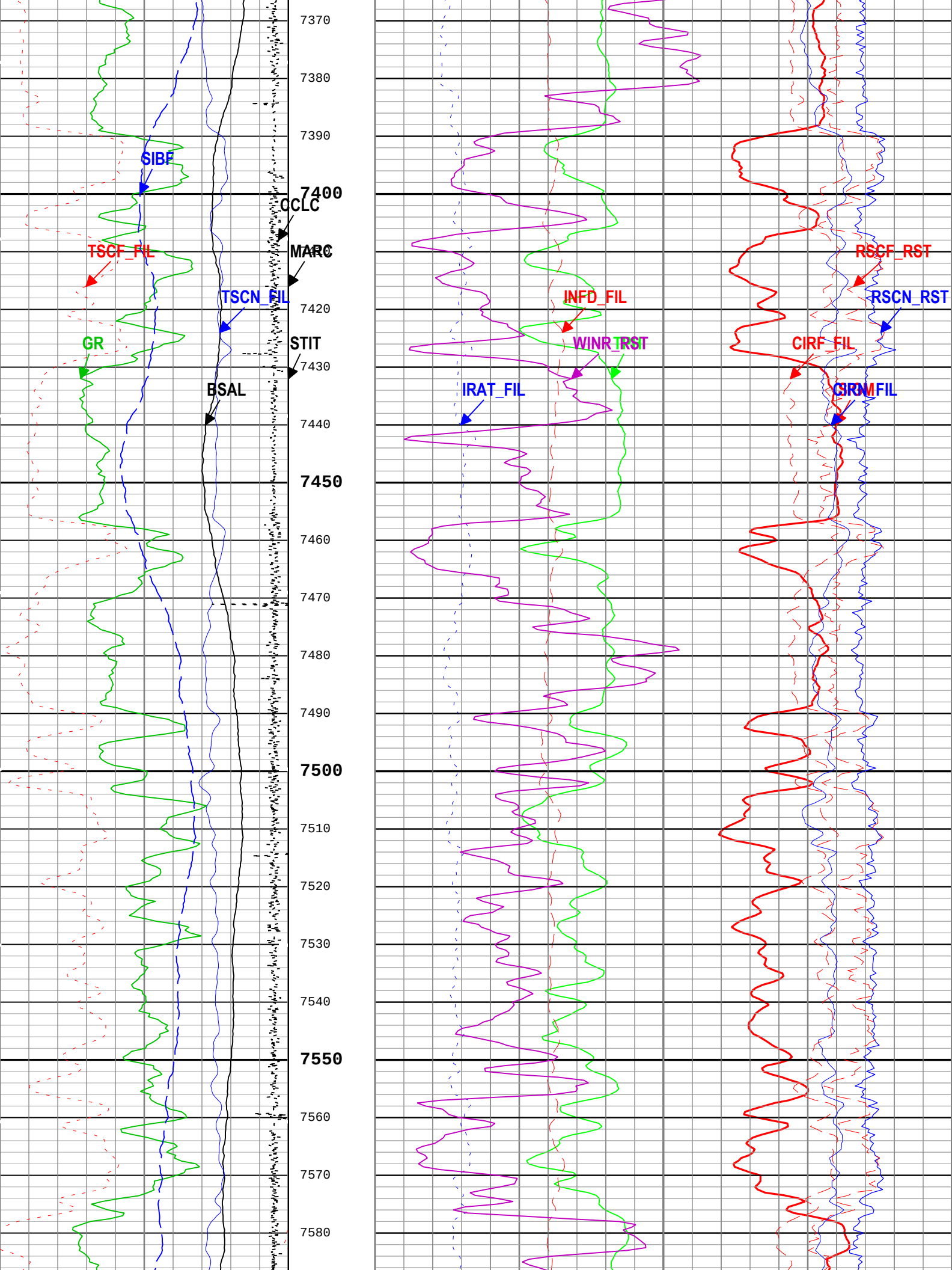
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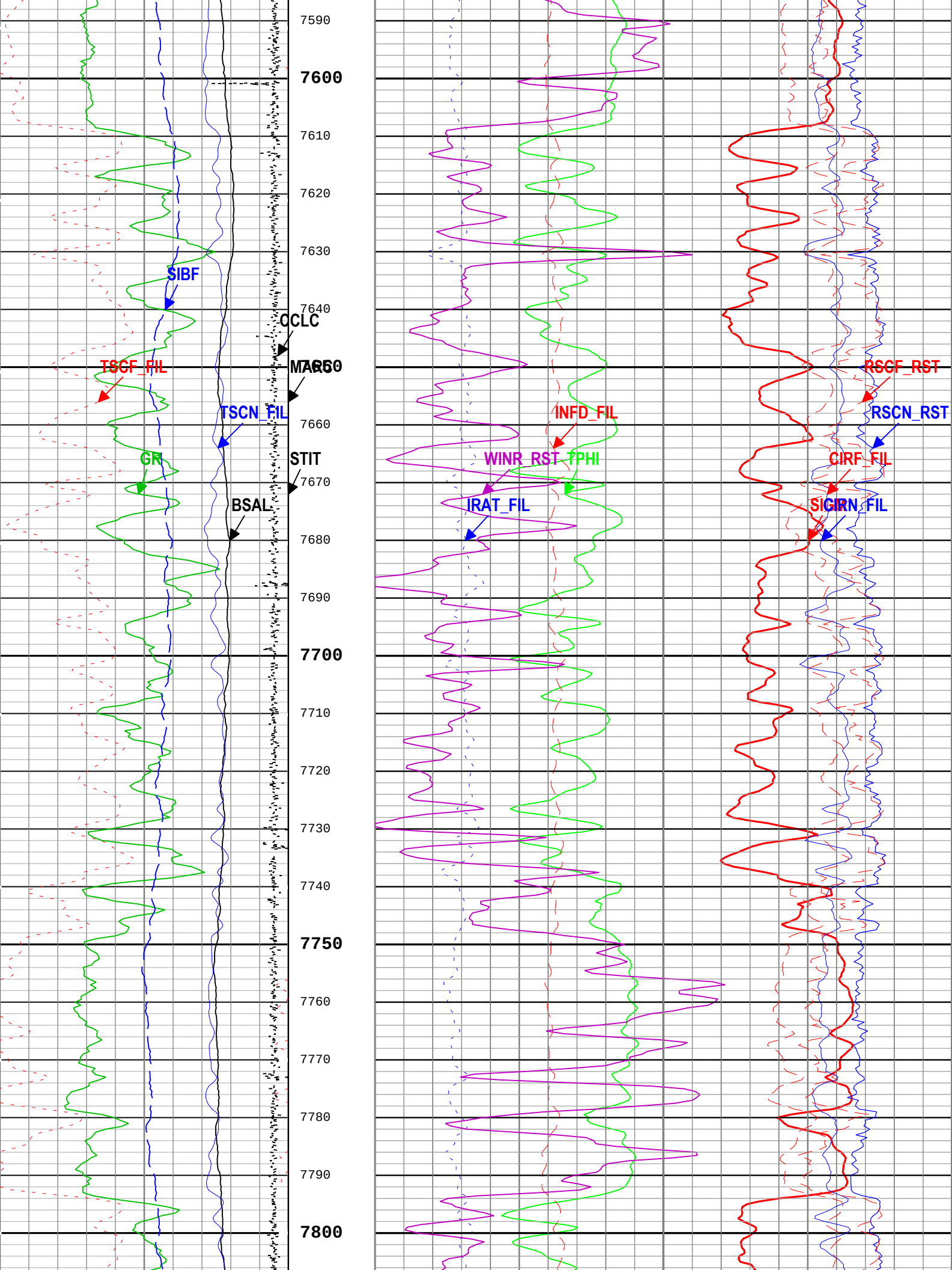
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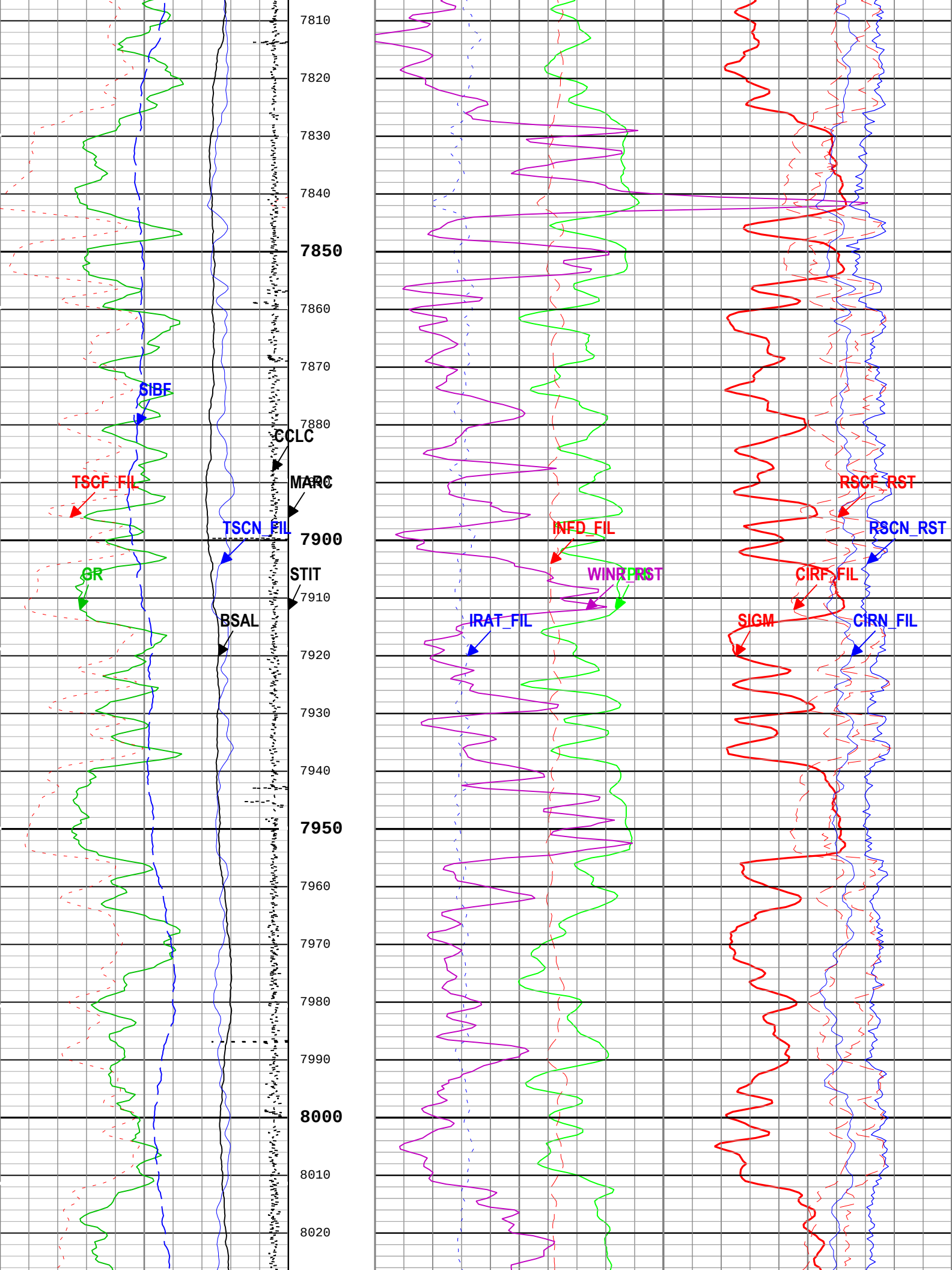
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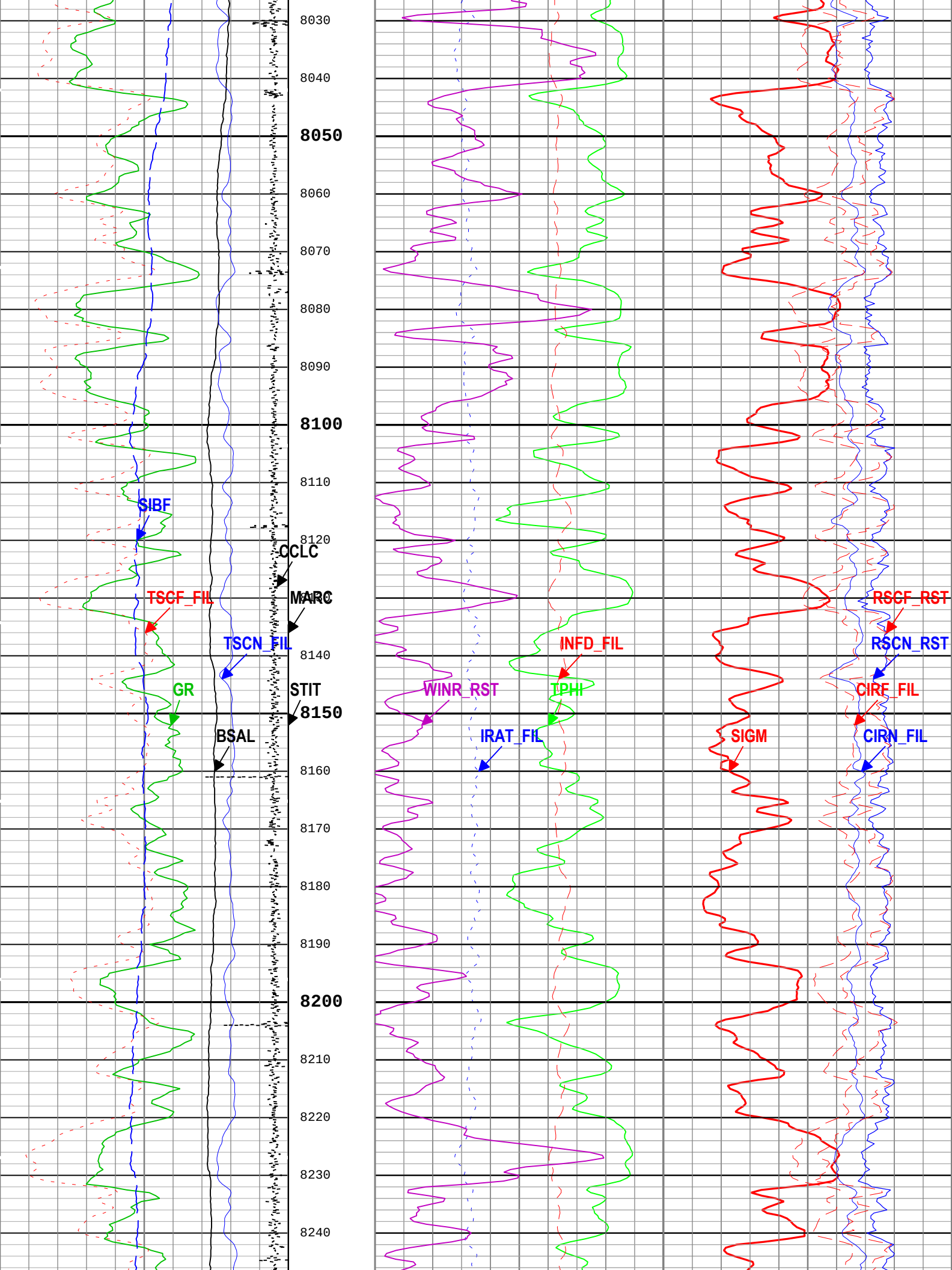
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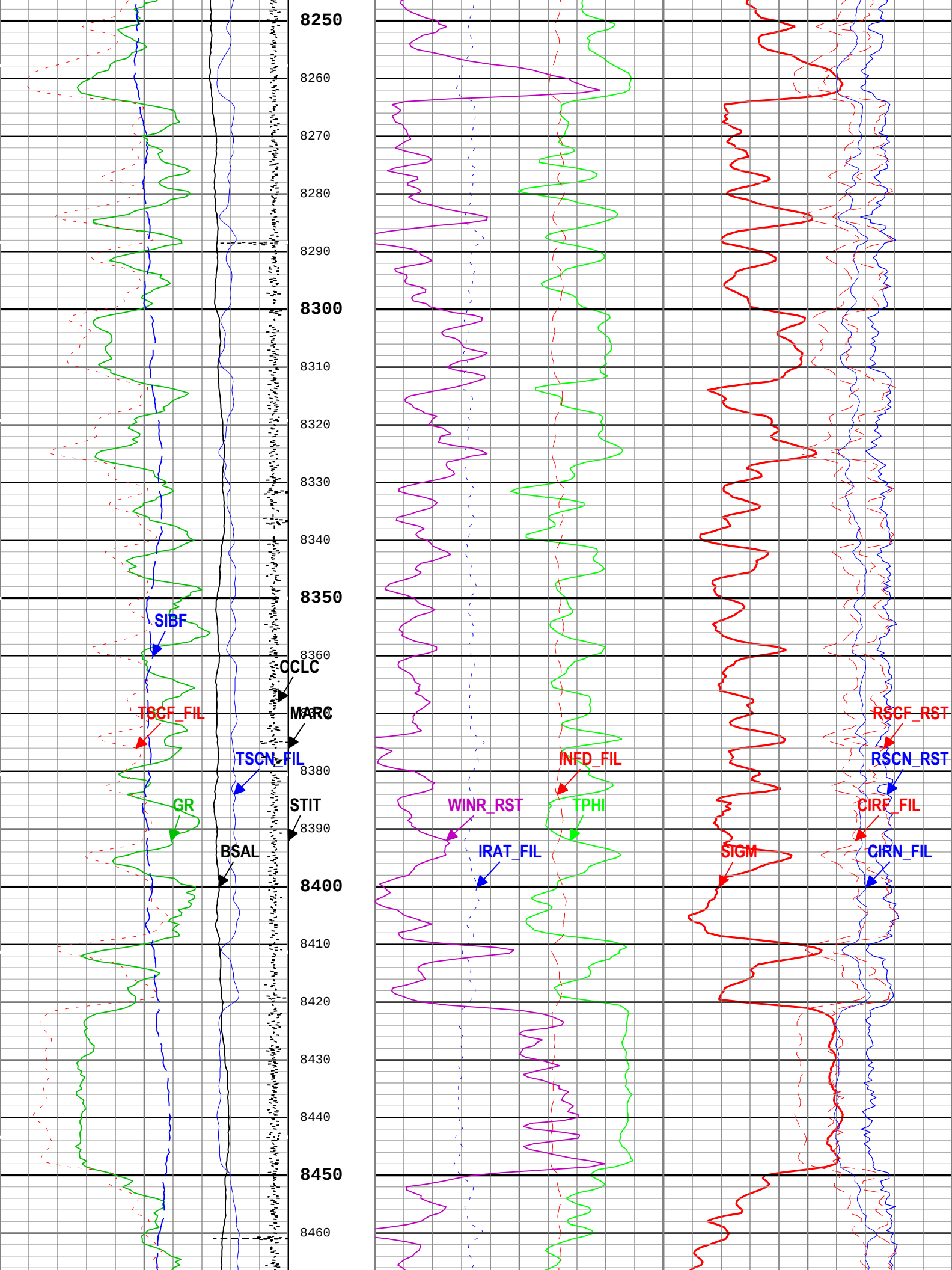
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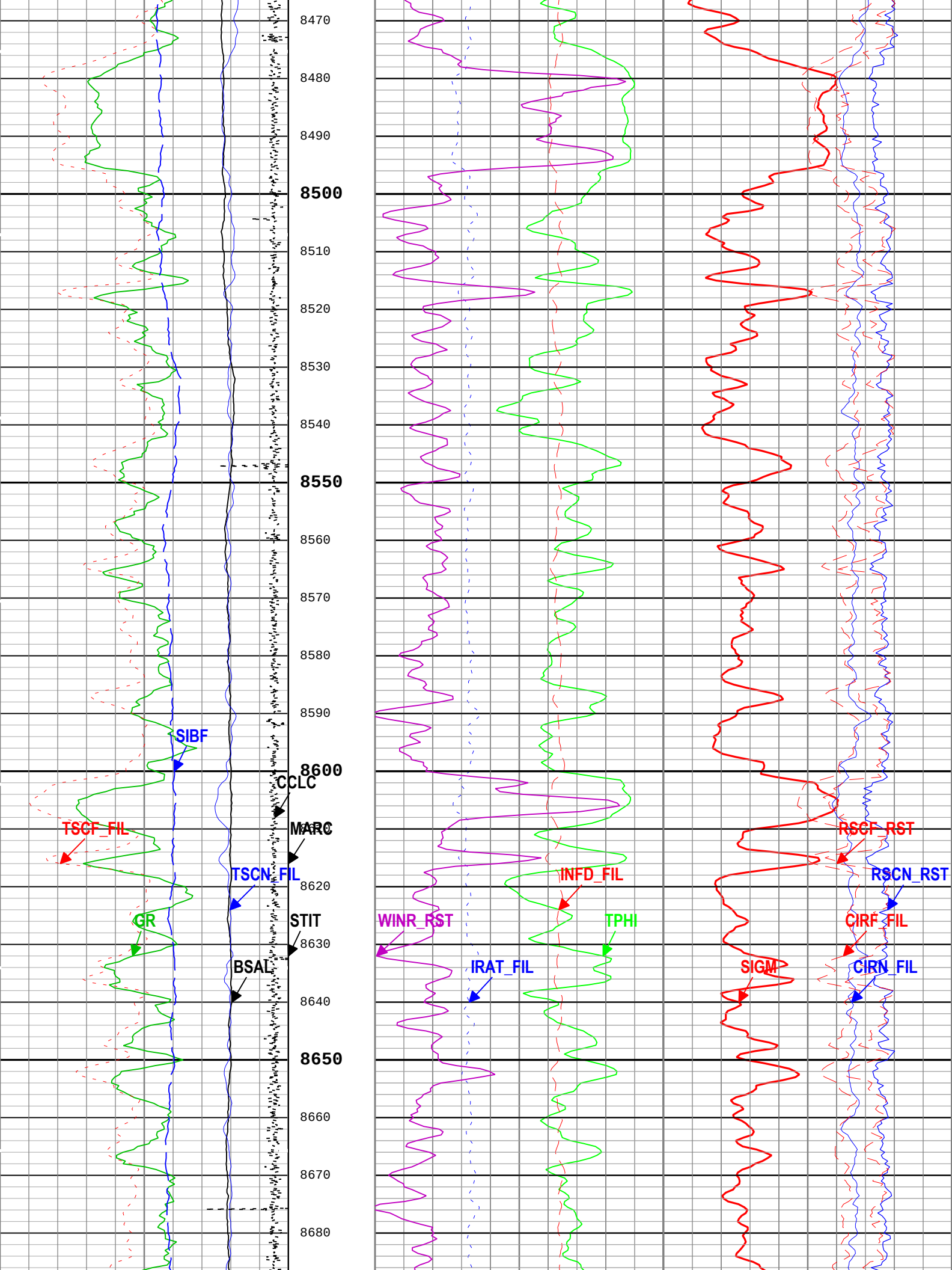
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SIBF
CCLC
MARC
TSCF_FIL
TSCN_FIL
GR
STIT
BSAL
WINR_RST
INFD_FIL
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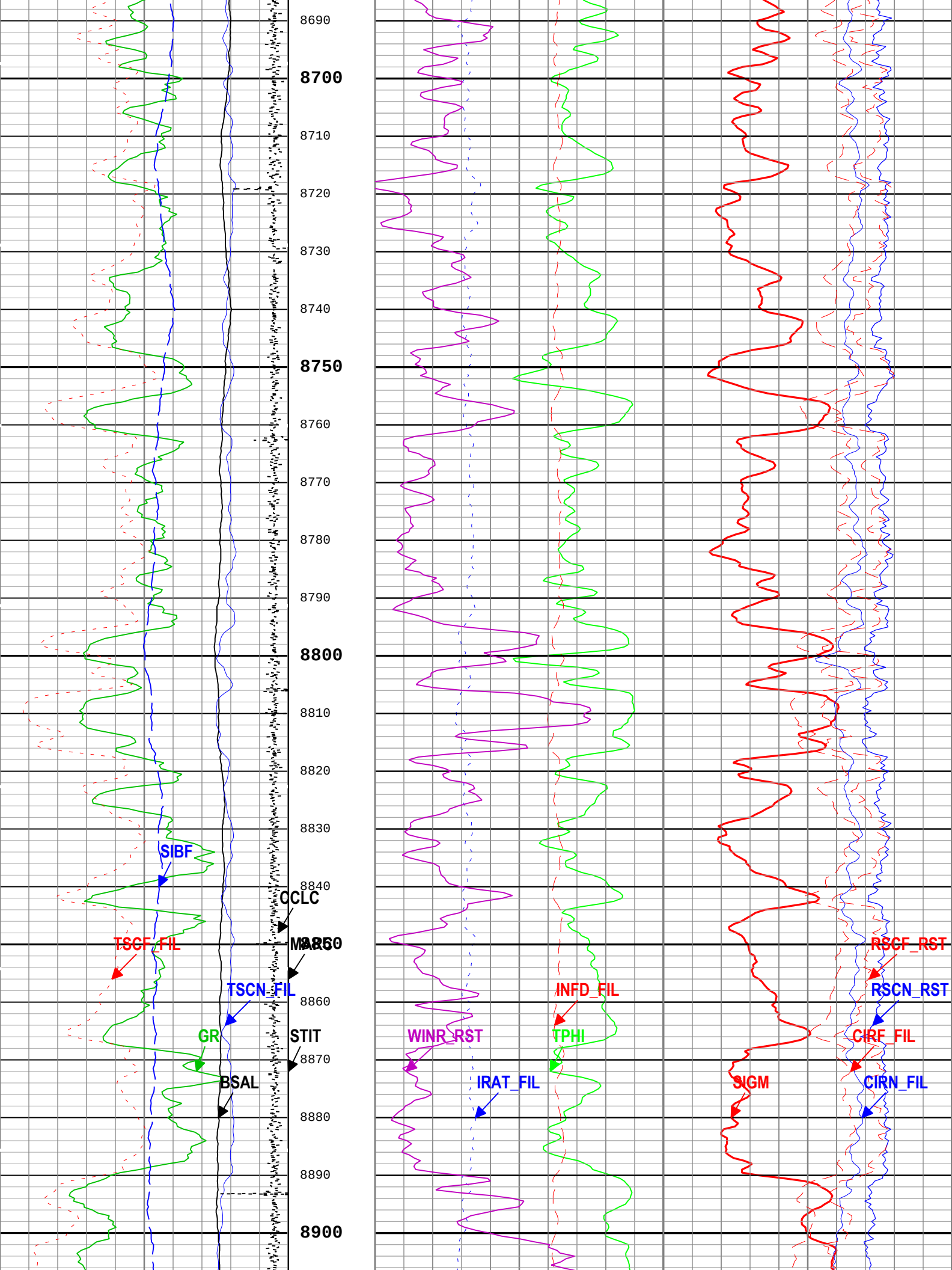
IRAT_FIL
RSCF_RST
RSCN_RST
CIRF_FIL
SIGM
CIRN_FIL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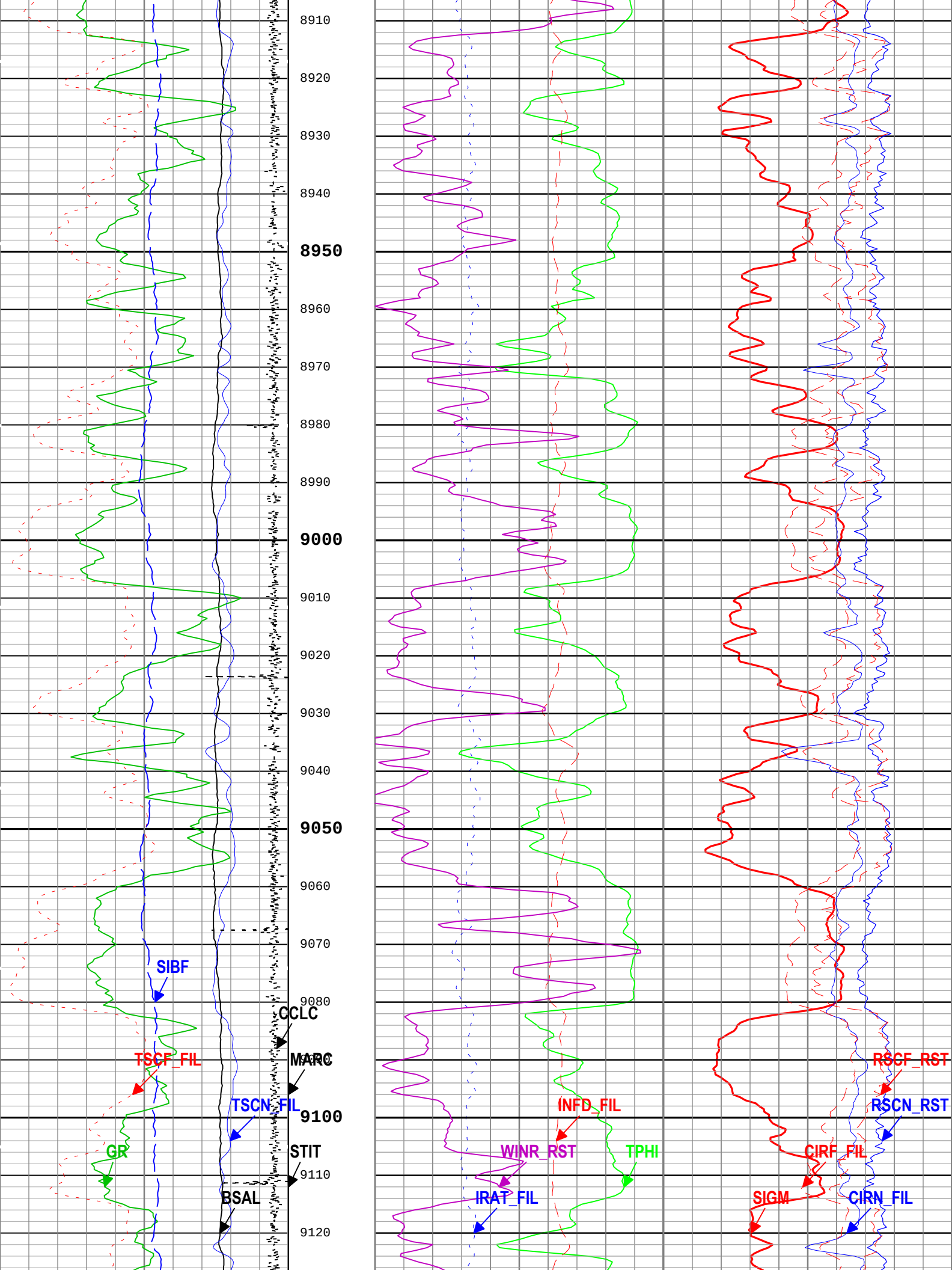
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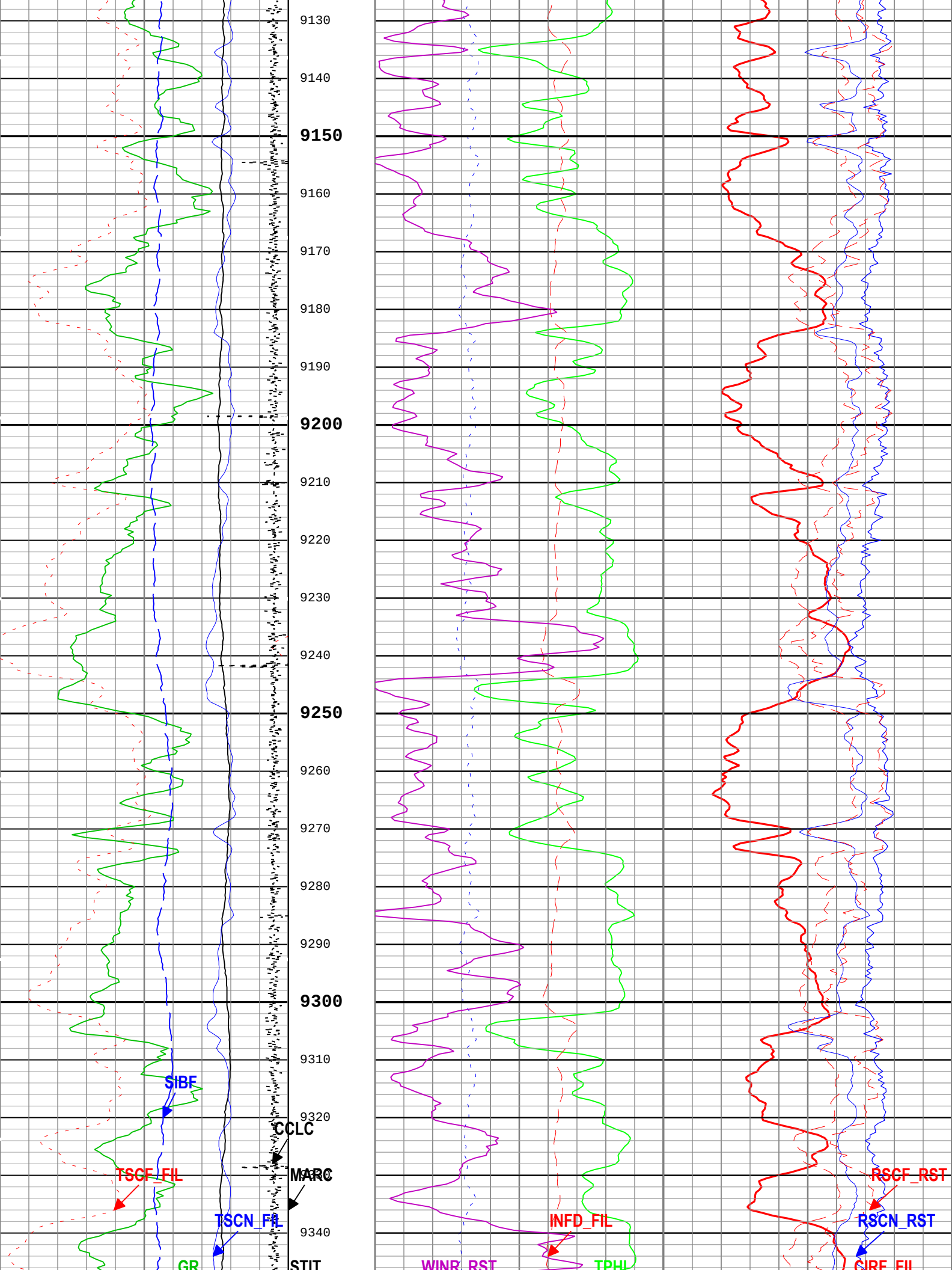
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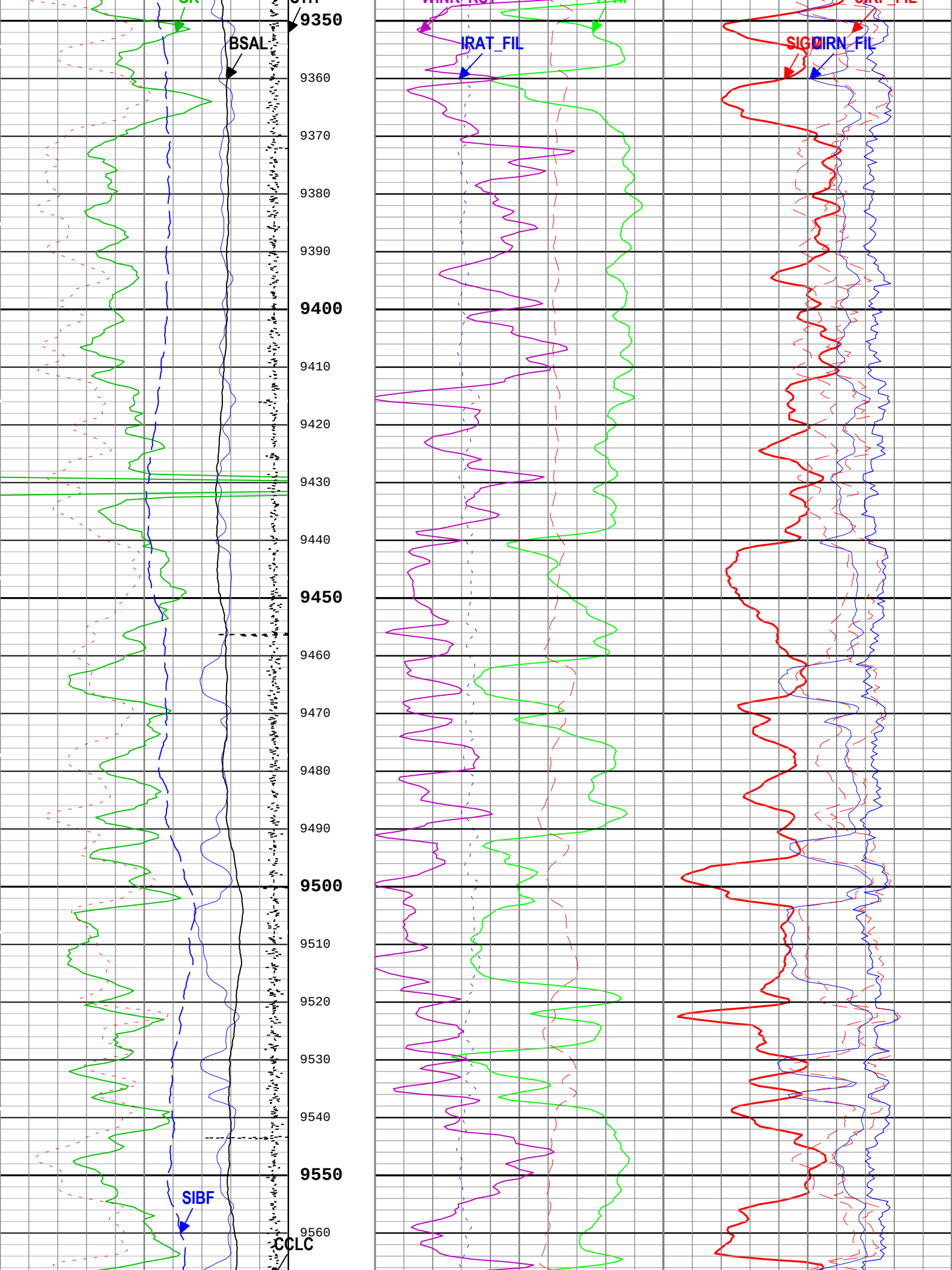
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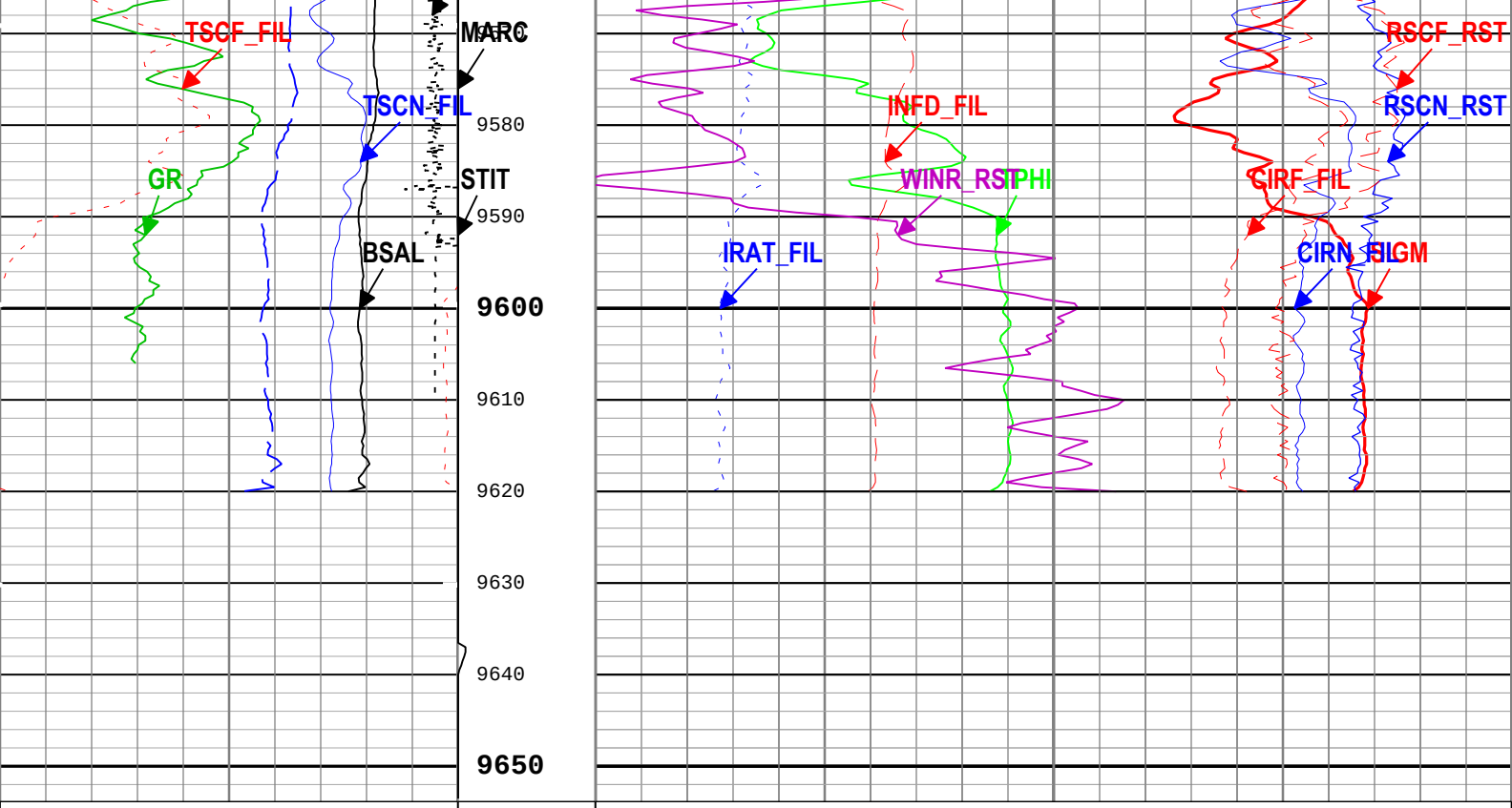


Borehole Salinity (BSAL) RST-C[1]	Stuck Tool Indicator, Total (STIT)	Formation Sigma (Neutron Capture Cross Section) (SIGM) RST-C[1]
450 ppk -50	0 ft 50	60 cu 0
Gamma Ray (GR) PSTP-A[1]		Weighted Inelastic Ratio (WINR_RST) RST-C[1]
0 gAPI 150		0 0.4
Total Selected Count Rate Near Detector Filtered (TSCN_FIL) RST-C[1]	Cable Drag From STIA to STIT	Inelastic Ratio Filtered (IRAT_FIL) RST-C[1]
30000 1/s 0		0.75 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]
12000 1/s 0		0.6 ft3/ft3 0
CCL Computed Amplitude (CCLC) PSTP-A[1]		Gross Inelastic Count Rate Far Detector Filtered (INFD_FIL) RST-C[1]
-19 V 1	Minitron Arc Count (MARC) RST-C[1]	10000 1/s 0
Sigma Borehole Fluid (SIBF) RST-C[1]	0 5	
100 cu 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

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: 07-Sep-2018 02:37:32

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

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	9636	ft

One: Parameters

Parameter	Description	Tool	Value	Unit
BHS	Borehole Status (Open or Cased Hole)	Borehole	Cased	
BS	Bit Size	WLSESSION	Depth Zoned	in
BSAL	Borehole Salinity	Borehole	0	ppm
BSALOPT	Borehole Salinity Option	RST-C	Unknown	
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
MATR	Rock Matrix for Neutron Porosity Corrections	Borehole	SANDSTONE	
TD	Total Measured Depth	Borehole	9636	ft

OneDepth Zoned Parameters

Parameter	Value	Start (ft)	Stop (ft)
BS	14.75	2300	2400
BS	8.75	2400	5897.73

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

One: Parameters

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

ONE

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[6]:Up	Up	9383.16 ft	9651.98 ft	06-Sep-2018 5:31:12 PM	06-Sep-2018 5:40:53 PM	ON	5.74 ft	Yes

All depths are referenced to toolstring zero

Log

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

ONE: Log[6]:Up:S009

Description: RST SIGMA Answer Format: Log (RST SIGMA Answer) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation

Date: 07-Sep-2018 02:37:37

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)

TIME_1900 - Time Marked every 60.00 (s)

ICV - Integrated Cement Volume every 100.00 (ft3)

Borehole Salinity (BSAL) RST-C
450 ppk -50

Gamma Ray (GR) PSTP-A
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

CCL Computed Amplitude (CCLC) PSTP-A
-19 V 1

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

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
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

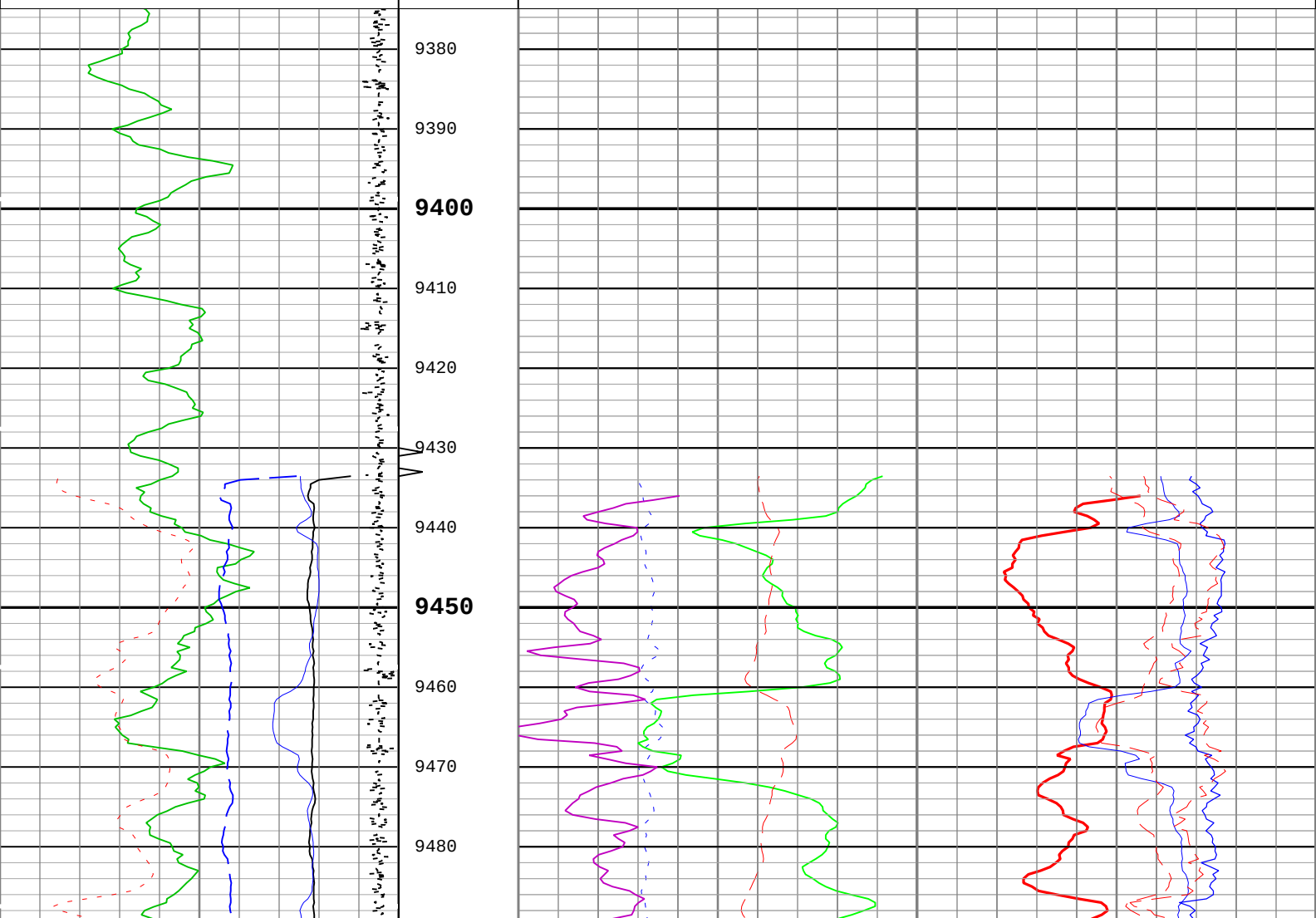
Weighted Inelastic Ratio (WINR_RST) RST-C
0 0.4

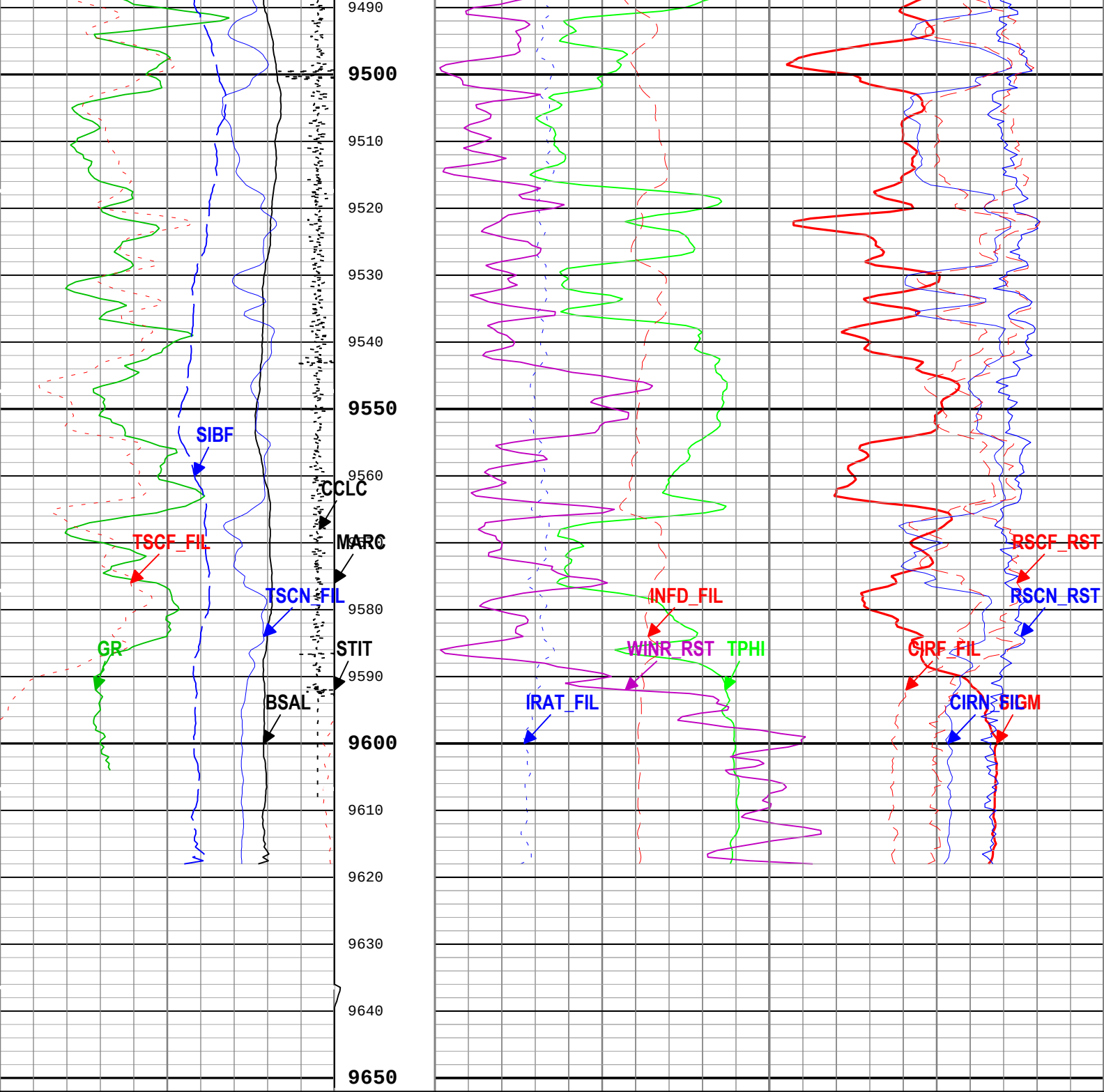
Capture to Inelastic Ratio Near Filtered (CIRN_FIL) RST-C
2.5 0

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 Count Rate (RSCF_RST) RST-C
45 0





Borehole Salinity (BSAL) RST-C
450 ppk -50

Gamma Ray (GR) PSTP-A
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

CCL Computed Amplitude (CCLC) PSTP-A
-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)

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

Weighted Inelastic Ratio (WINR_RST) RST-C
0 0.4

Inelastic Ratio Filtered (IRAT_FIL) RST-C
0.75 0

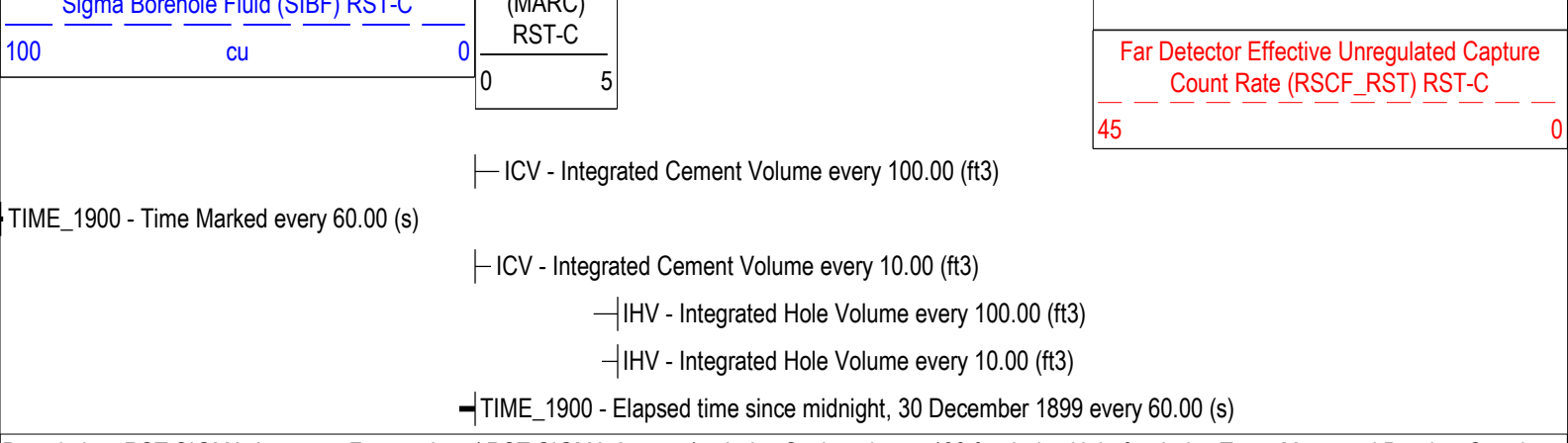
Thermal Decay Porosity (TPHI) RST-C
0.6 ft3/ft3 0

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

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



Description: RST SIGMA Answer Format: Log (RST SIGMA Answer) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 07-Sep-2018 02:37:37

Channel Processing Parameters

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BSALOPT	Borehole Salinity Option	RST-C	Unknown	
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MATR	Rock Matrix for Neutron Porosity Corrections	Borehole	SANDSTONE	
TD	Total Measured Depth	Borehole	9636	ft

Tool Control Parameters

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Parameter	Description	Tool	Value	Unit
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PCCG	PSP Downhole CCL Gain	PSTP-A	24 dB	
RST_DLM	Depth Log Mode	RST-C	Sigma	

Company: Caerus Operating LLC

Schlumberger

Well: NPR 12D-10 596

Field: NPR

County: Garfield

State: Colorado

Cement Bond Log

RST Sigma Log

Gamma Ray - Collar Locator