

Company: Nighthawk Production LLC

Well: Whistler 6-22

Field: Wildcat

County: Lincoln State: Colorado

Platform Express																	
										Location:				SENNW Sec 22, Twp 6S, Rng 54		Elev.	
										SHL: 1668 FNL, 1951' FWL				K.B.		5264.00 ft	
										Lat 39.516583, Long -103.42763				G.L.		5252.00 ft	
Permanent Datum:				Ground Level		Elev.:		5252.00 f									
Log Measured From:				Kelly Bushing		12.00 ft		above Perm.Datum									
Drilling Measured From:				Kelly Bushing													
API Serial No.		Section:		Township:		Range:											
05-073-06481-0000		22		6S		54W											
Logging Date		06-Nov-2012															
Run Number		Run1															
Depth Driller		8500.00 ft															
Schlumberger Depth		8507.00 ft															
Bottom Log Interval		8499.00 ft															
Top Log Interval		410.00 ft															
Casing Driller Size @ Depth		8.625 in @ 401.00 ft															
Casing Schlumberger		410 ft															
Bit Size		7.875 in															
Type Fluid In Hole		Chemical Gel															
Density		Viscosity		75 s													
Fluid Loss		PH		7.4													
Source of Sample		Active Tank															
RM @ Meas Temp		0.2 ohm.m @ 85.66 degF															
RMF @ Meas Temp		0.15 ohm.m @ 85.66 degF															
RMC @ Meas Temp		0.52 ohm.m @ 85.66 degF															
Source RMF		RMC		Calculated		Calculated											
RM @ BHT		RMF @ BHT		0.09 @ 210.25		0.06 @ 210.25											
Max Recorded Temperatures		210.25 degF															
Circulation Stopped		Time		06-Nov-2012 16:30:00													
Logger on Bottom		Time		06-Nov-2012 03:15:26													
Unit Number		Location:		2135		Fort Morgan											
Recorded By		Megan Leone															
Witnessed By		Jerry Hedrick															

Disclaimer

THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.

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Well Sketch

Driller Depth

0.00 ft

401.00 ft

Casing 8.625in  
24lbm/ft

8500.00 ft

Open Hole 7.875in

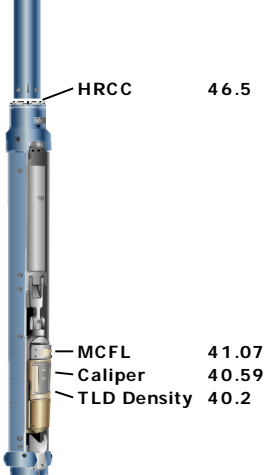
Borehole Size/Casing/Tubing Record

Bit						
Bit Size ( in )	7.875					
Top Driller ( ft )	401					
Top Logger ( ft )	410					
Bottom Driller ( ft )	8500					
Bottom Logger ( ft )	8507					
Casing						
Size ( in )	8.625					
Weight ( lbm/ft )	24					
Inner Diameter ( in )	8.099					
Top Driller ( ft )	0					
Top Logger ( ft )	0					
Bottom Driller ( ft )	401					
Bottom Logger ( ft )	410					

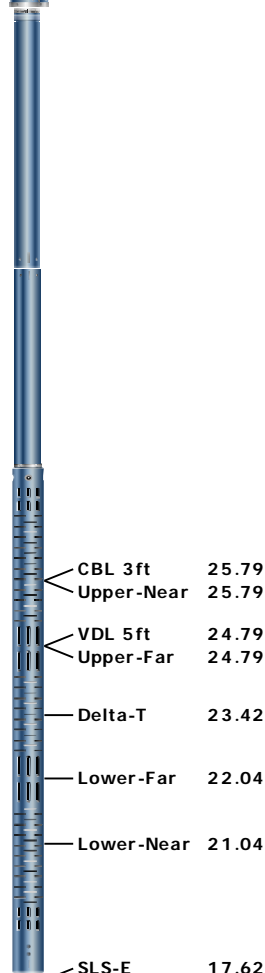
Remarks and Equipment Summary

Run1: Toolstring				Run1: Remarks	
Equip name	Length	MP name	Offset	This is the first run in hole	
LEH-QT	65.83			Toolstring run as per toolsketch	
LEH-QT				Limestone Matrix 2.71	
DTC-H	62.91			Replaced AIT bottom nose with hole finder	
ECH-KC		CTEM	62.01		
DTC-H		HV	0.00		
		TelStatus	59.91		
		ToolStatus	59.91		
		Temperature	59.89		
HGNS-H	59.91				
HGNH:3823					
NSR-F:5215		GR	59.17		
NPV-N					
HMCA-H					
HACCZ-H:5736					
HGNS-H					
		CNL Porosity	52.84		
		HGNS	50.51		
		HMCA	50.51		
		Accelerometer	0.00		
HDRS-H	50.51				
ECH-MEB					
HRCC-H					
HRMS-H					

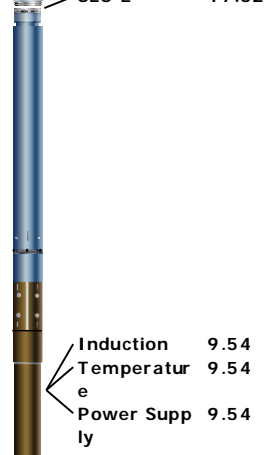
GSR-J:5240  
Long Spacing:28  
732  
HRGD-H:3816  
GPV-Q  
Backscatter  
Short Spacing:27  
634



DSLT-H:3823 38.26  
ECH-KH  
DSLCH-H:3823  
SLS-E



AIT-H:392 17.62  
AHIS:392  
AHHF



			
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## Depth Summary

Depth Control Parameters		Run1		
Conveyance Type		Wireline		
Log Sequence		This is the first run in hole		
Stretch Correction ( ft )		8.00		
Rig Type		Land		
Depth Remark Parameters		Run1		
Depth Remark 1		All Schlumberger depth procedures followed		
Depth Remark 2		IDW used as primary depth device. Z-chart used as secondary depth device.		
Depth Measuring Device		Run1		
Type		IDW-B		
Wheel Correction 1		1		
Wheel Correction 2		0		
Tension Device		Run1		
Type		CMTD-B/A		
Calibration Points		0		
Logging Cable		Run1		
Type		7-46NT-XS		
Logging Cable Length ( ft )		24000.00		

## Run1

## 5" Micro Log

## Integration Summary

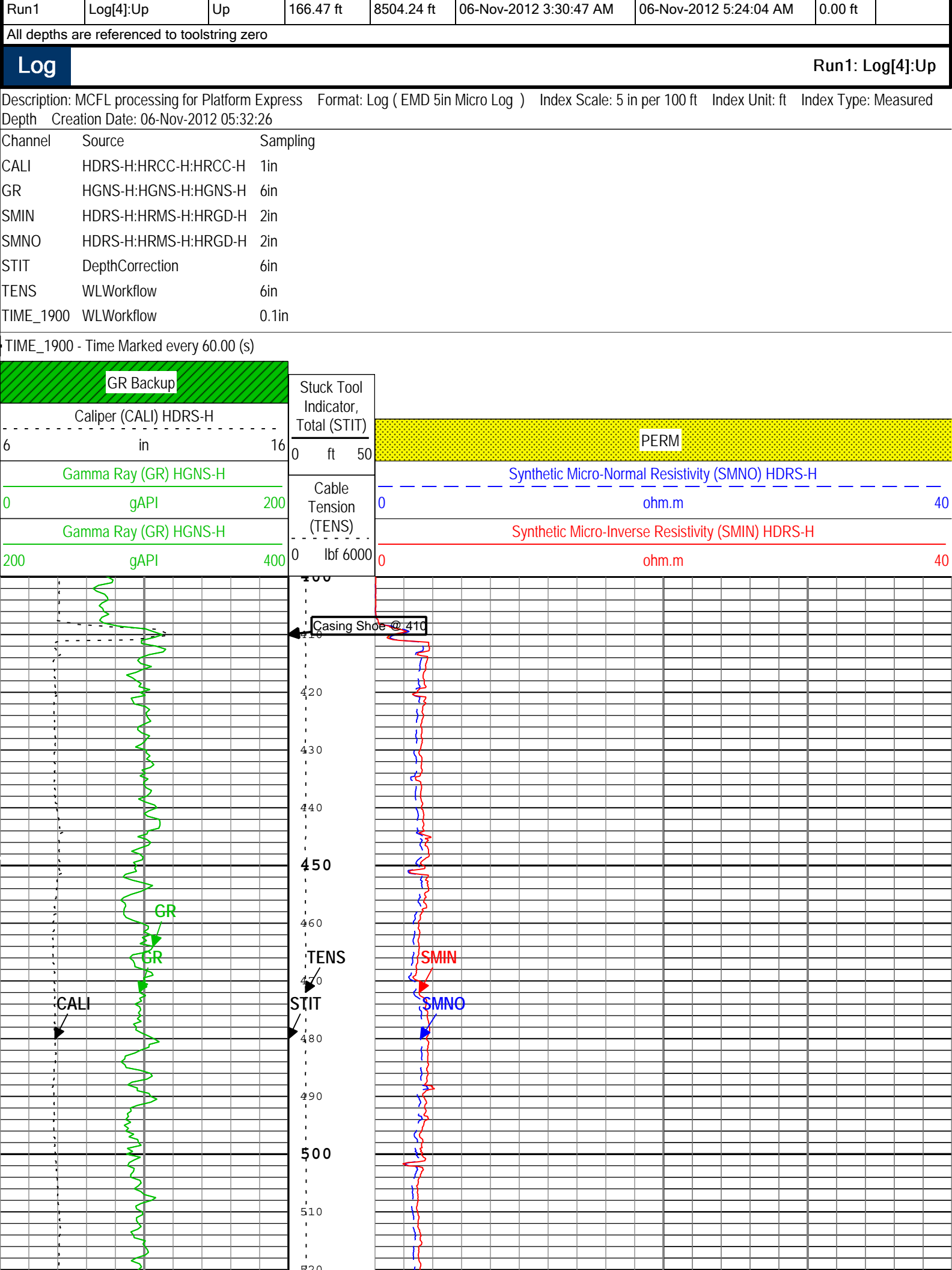
Output Channel(s)	Output Description	Input Parameter	Output Value	Unit
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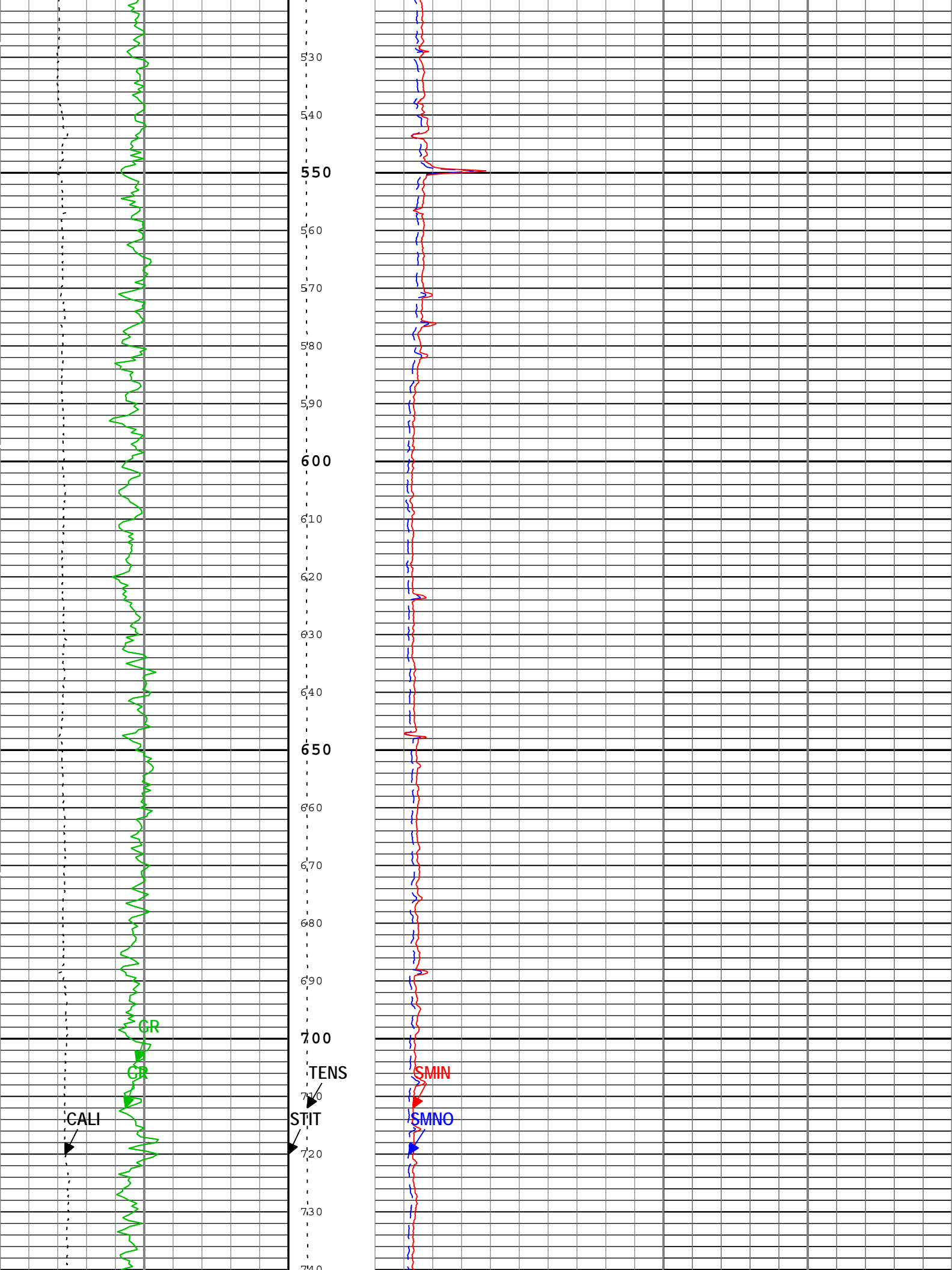
## Software Version

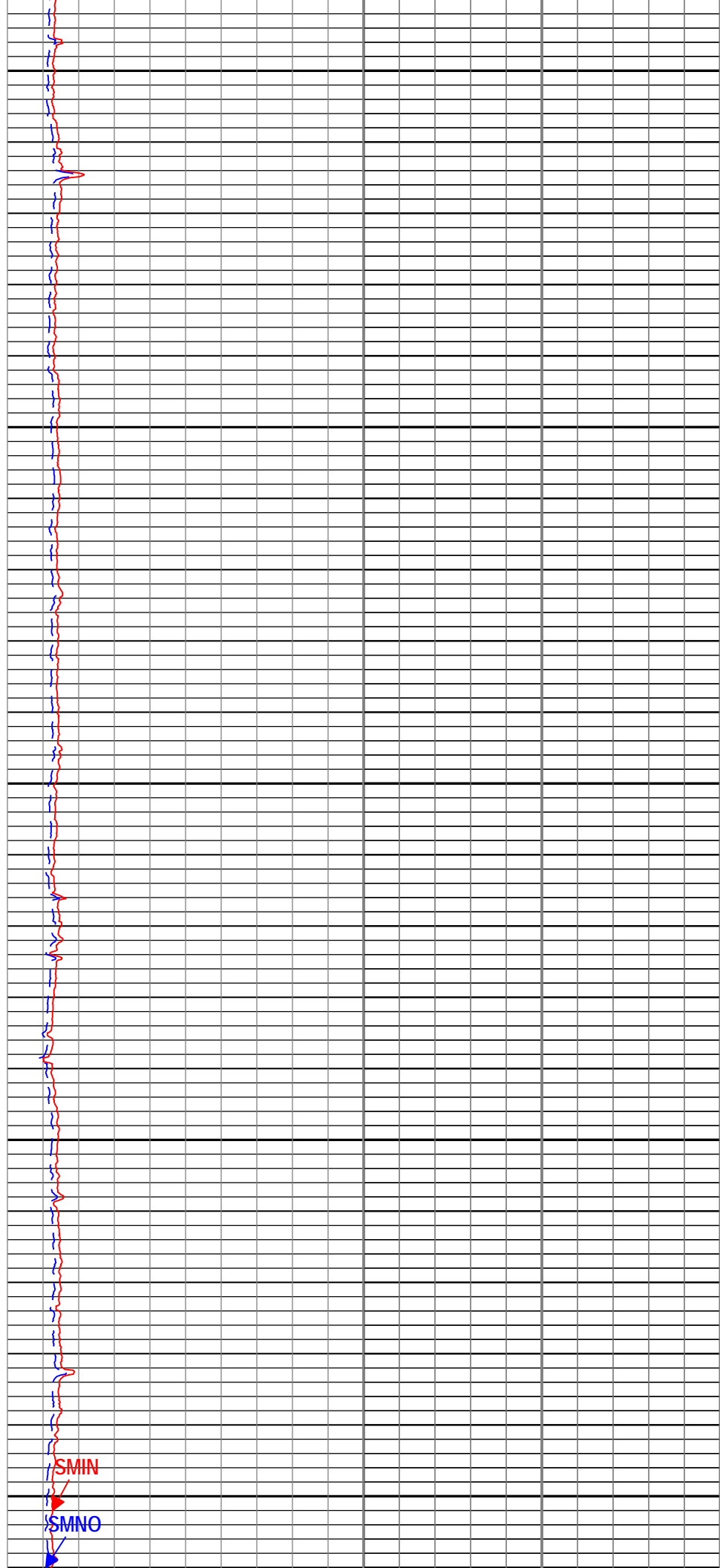
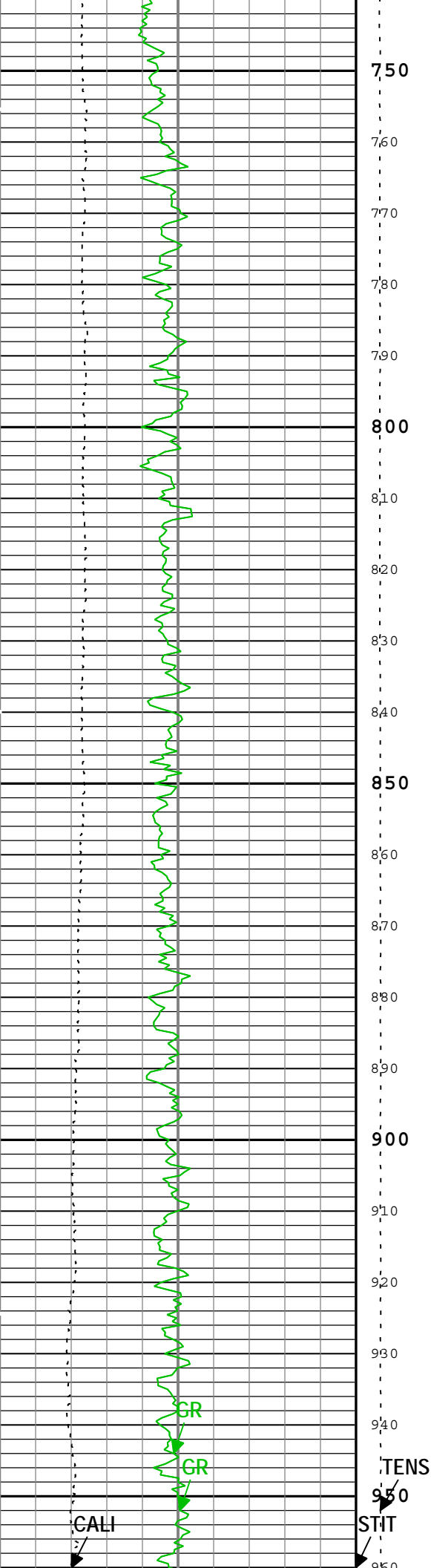
Acquisition System		Version	
MaxWell		3.1.9755.0	
Application Patch		SP-20120723-3.1.9755.1112	
		EXP_APL-MASTAXIS-3.1.9755.1221	
Computation	Description		Version
DepthCorrection	DepthCorrection		3.1.9755.0
Tool Elements	Description	Software Version	Firmware Version
HRCC-H	HILT High-Resolution Control Cartridge, 150 degC	3.1.9755.0	2.0
HRGD-H	HILT Resistivity Gamma-Ray Density Device, 150 degC	3.1.9755.0	3.0
HGNS-H	HILT Gamma-Ray and Neutron Sonde, 150 degC	3.1.9755.0	2.0

## Pass Summary

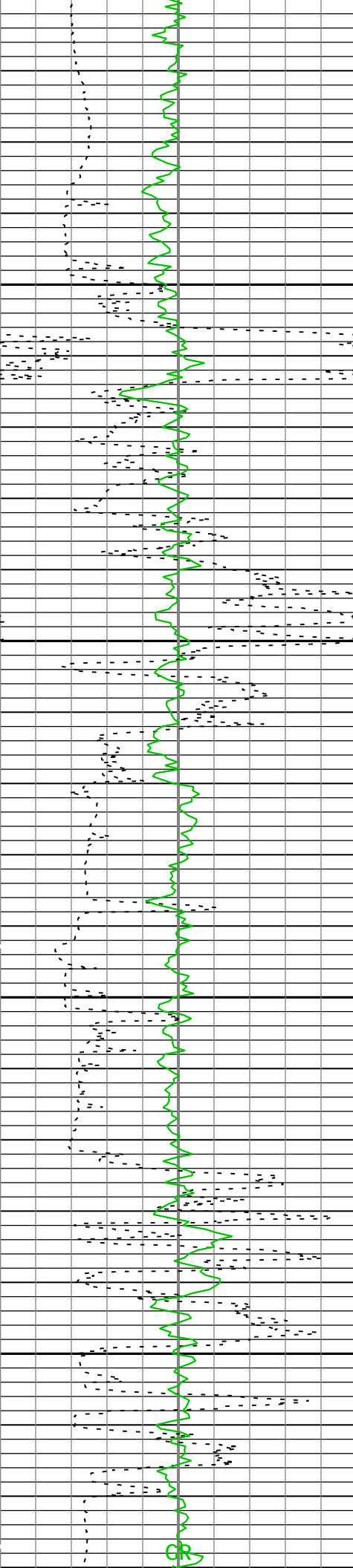
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Depth Shift	Include Parallel Data
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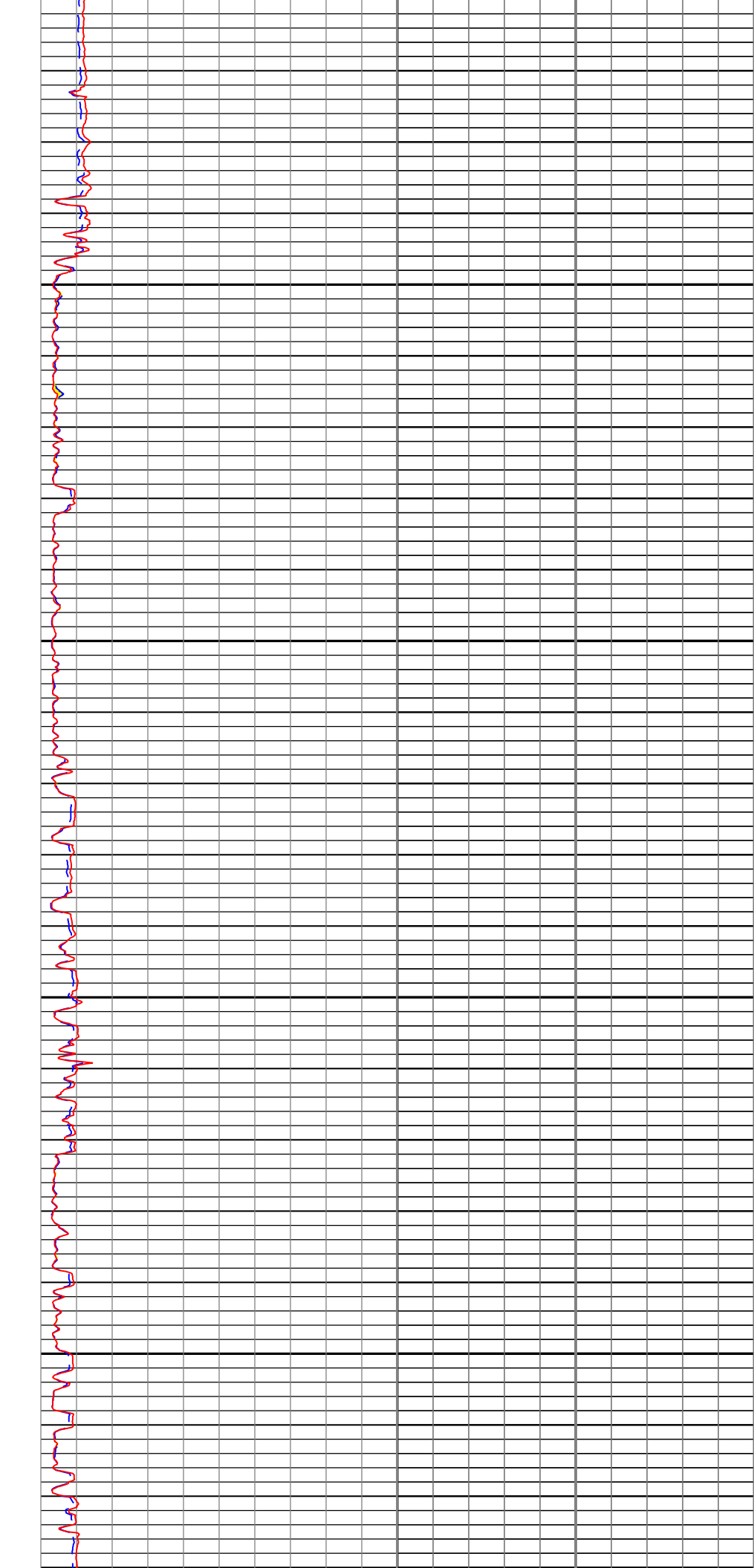


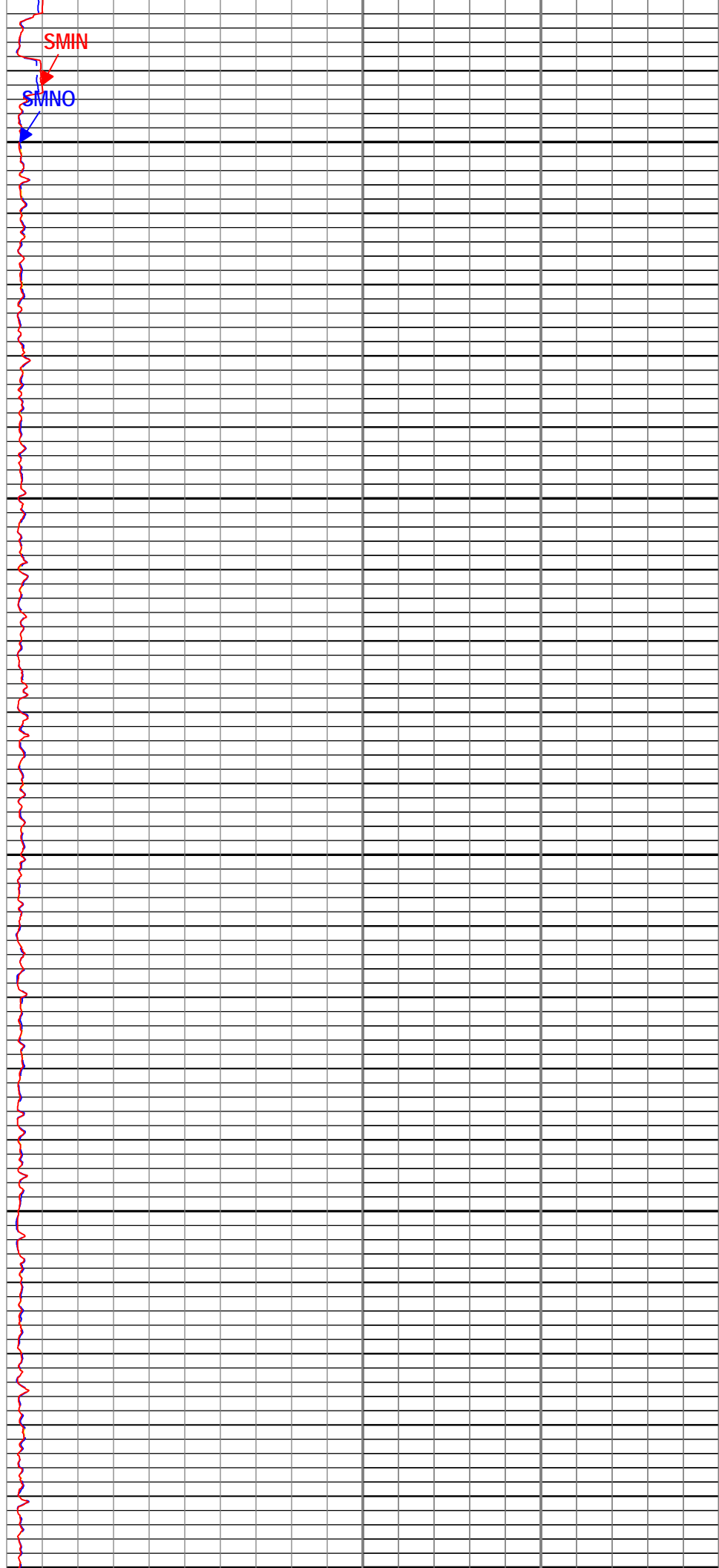
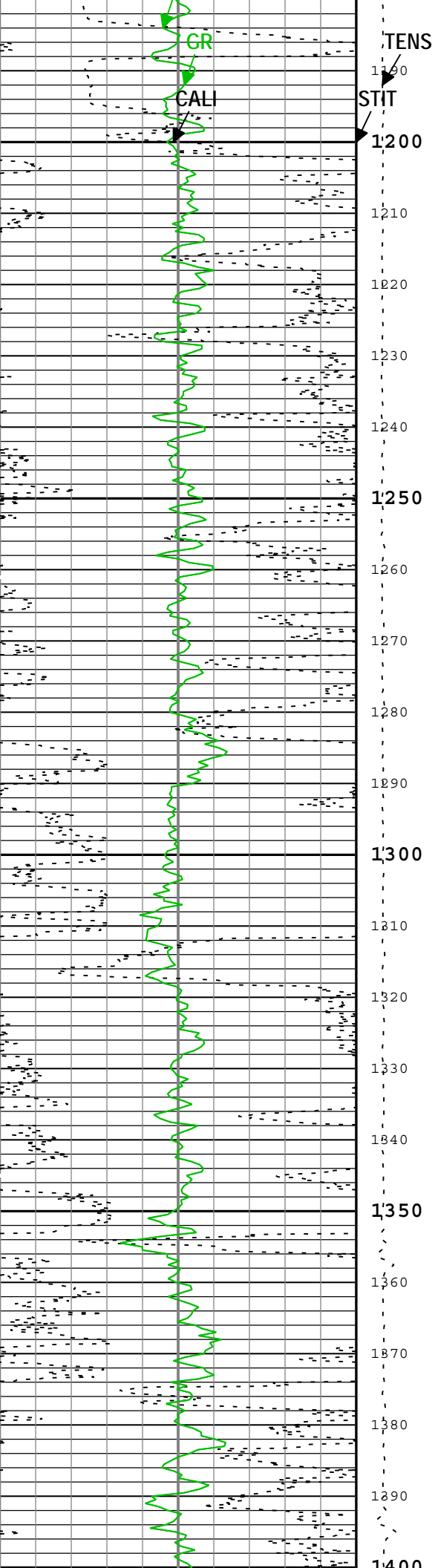


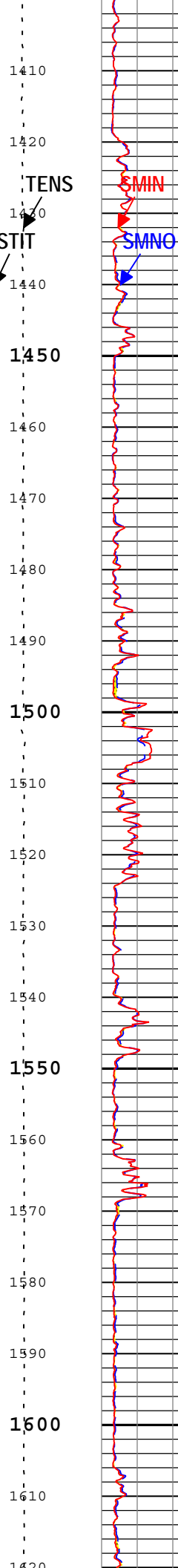
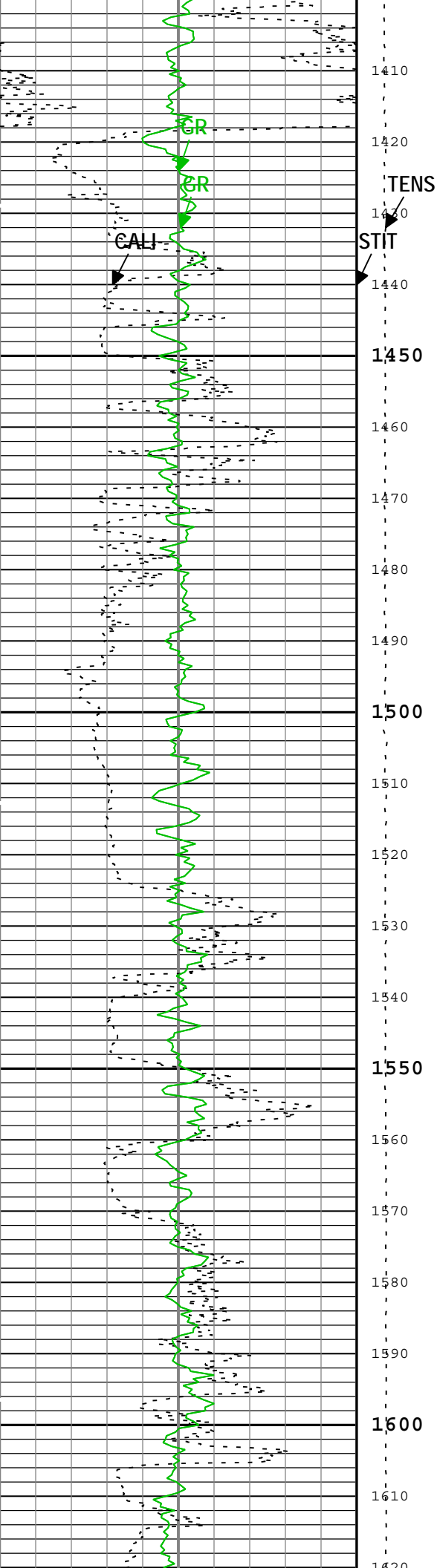


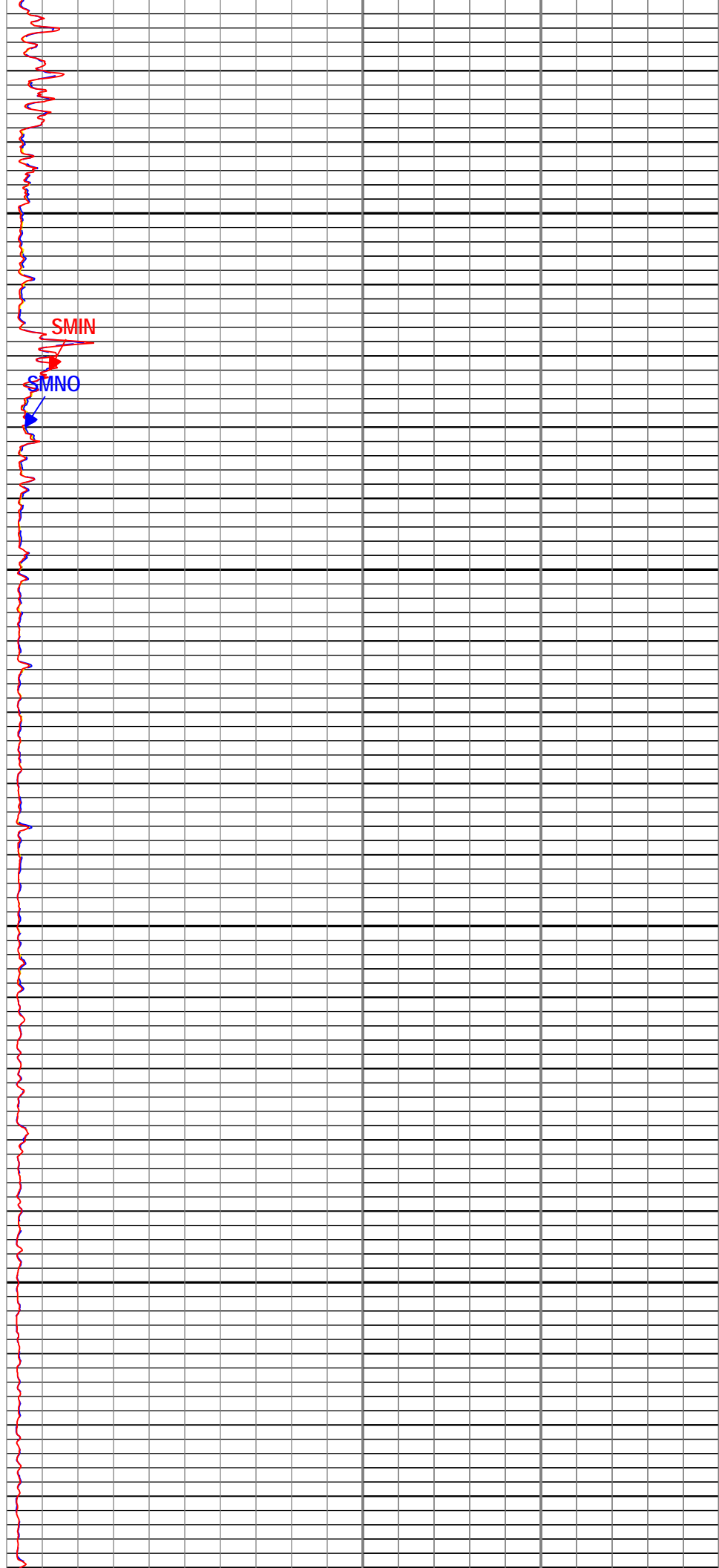
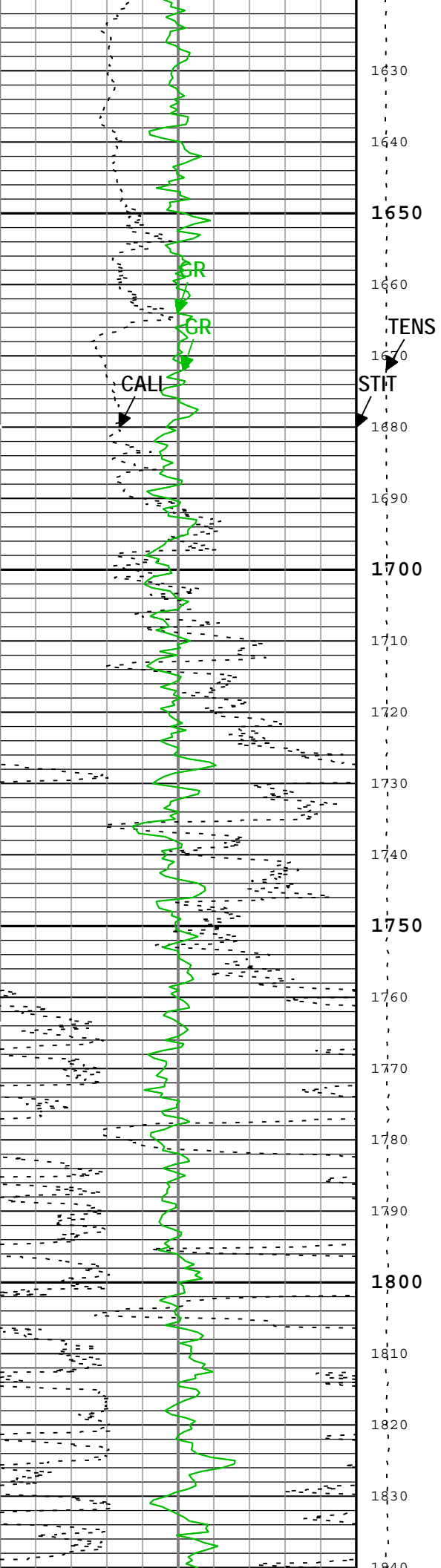


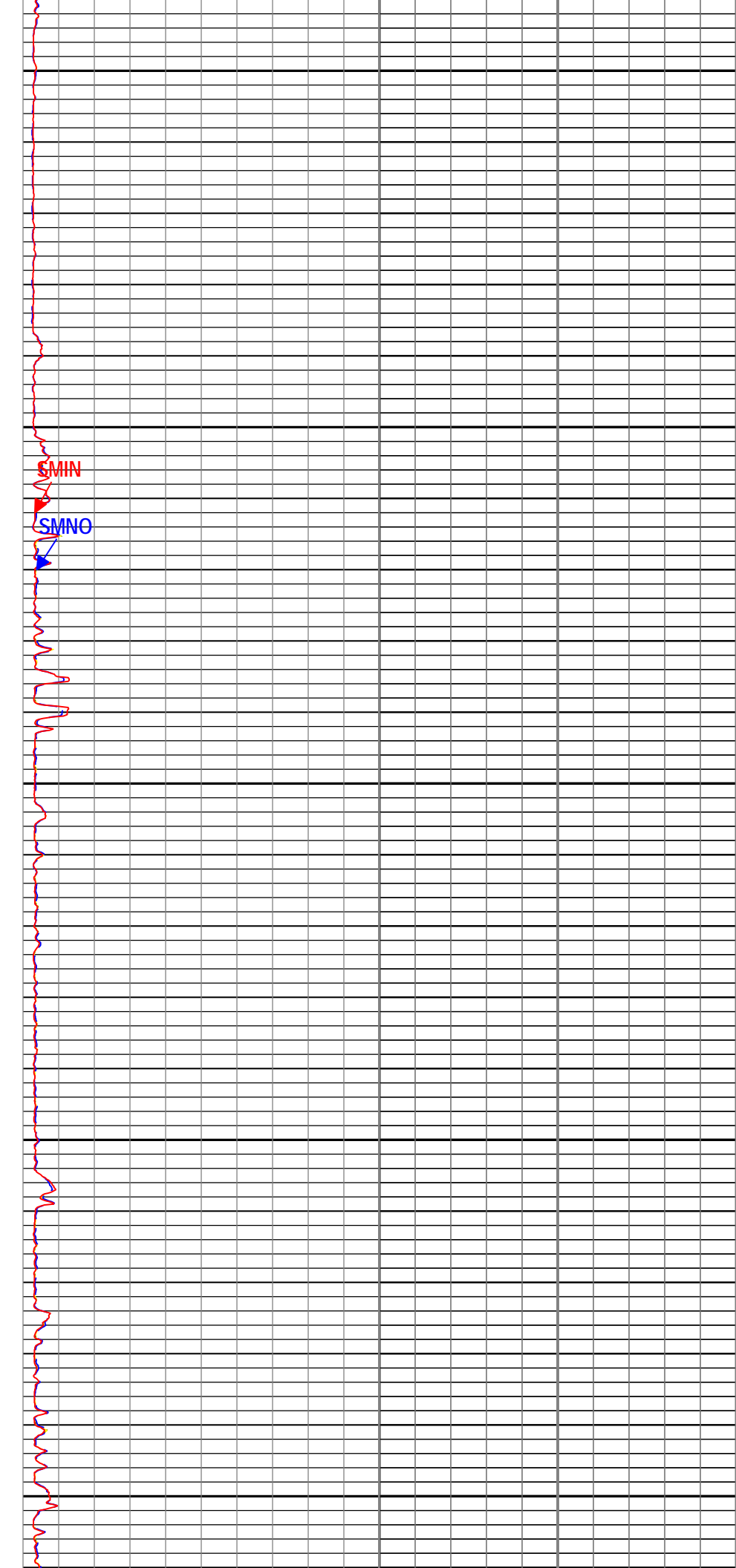
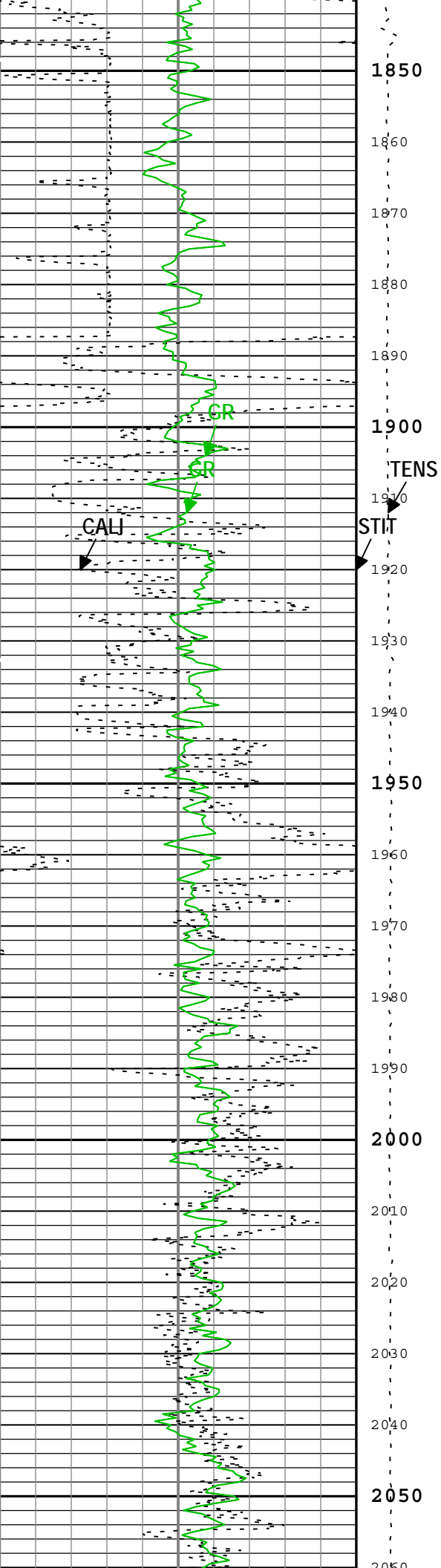
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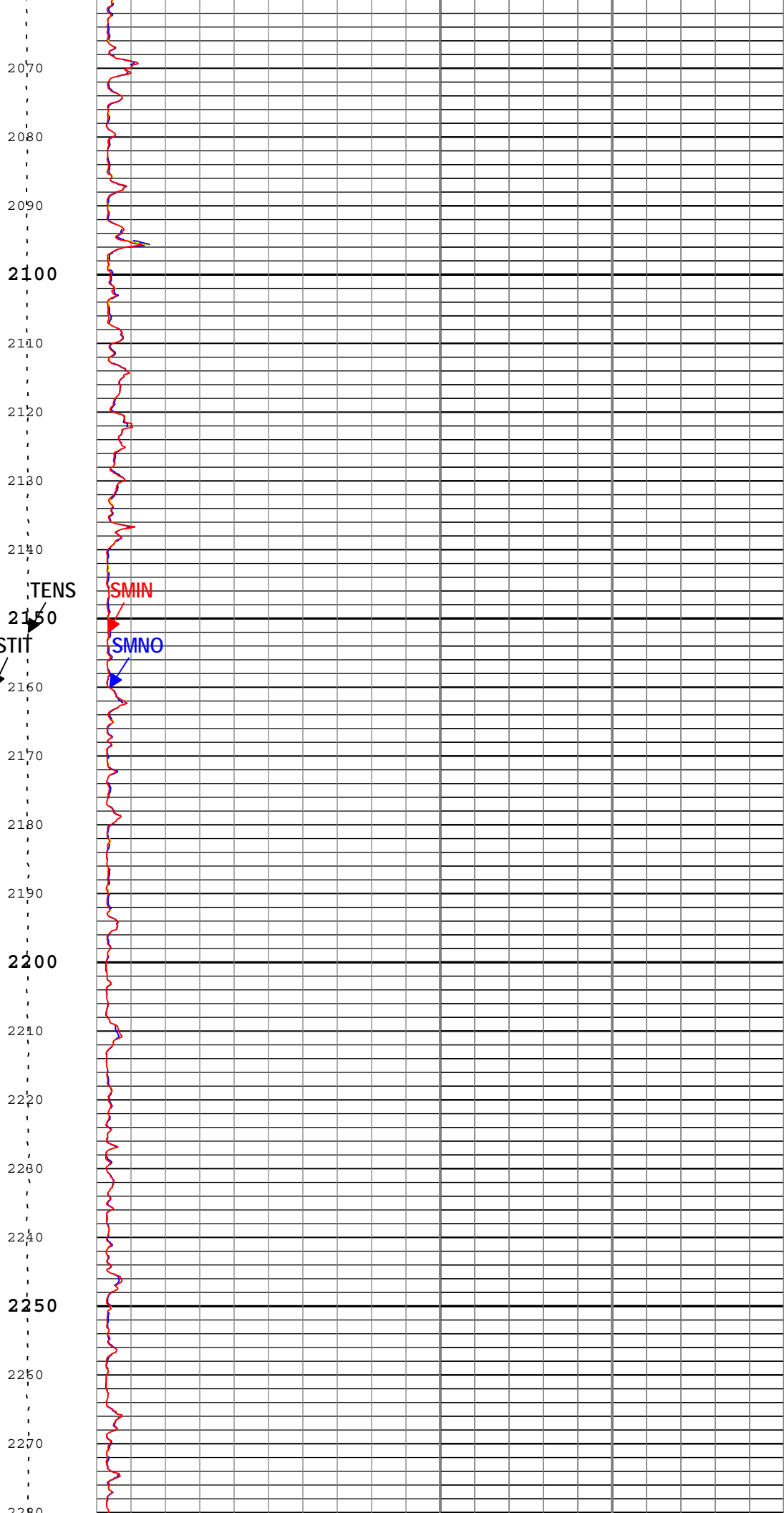
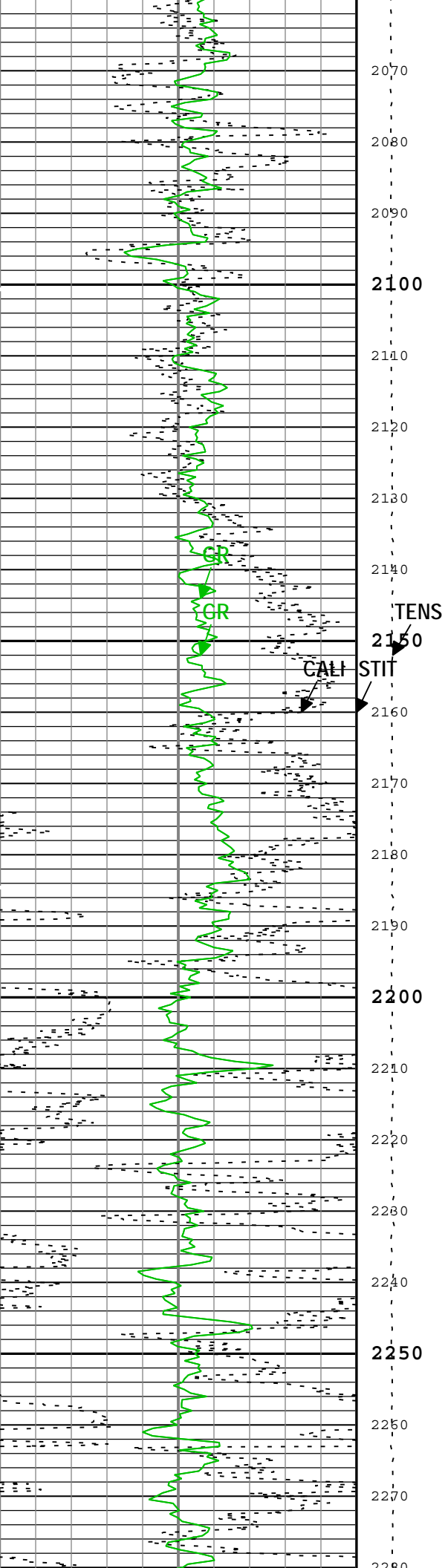


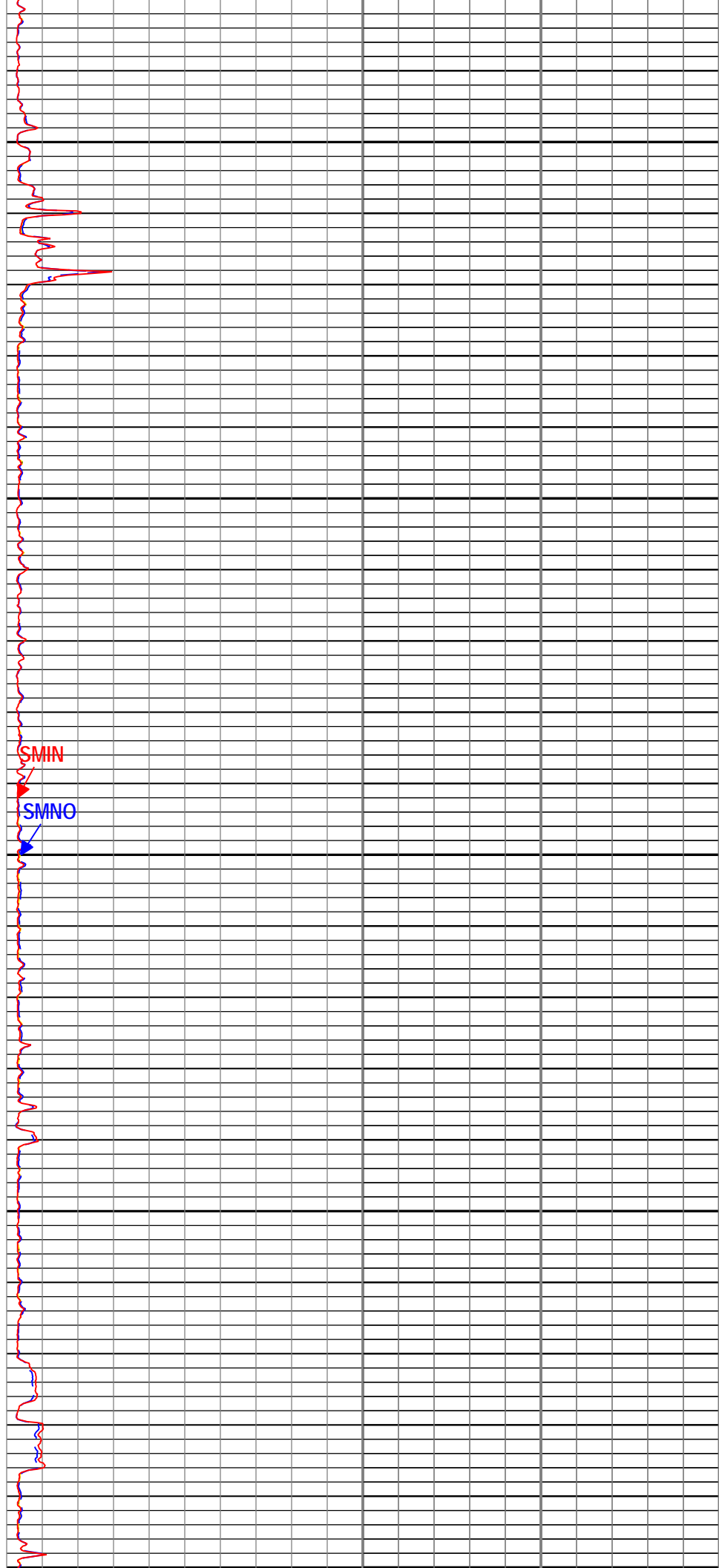
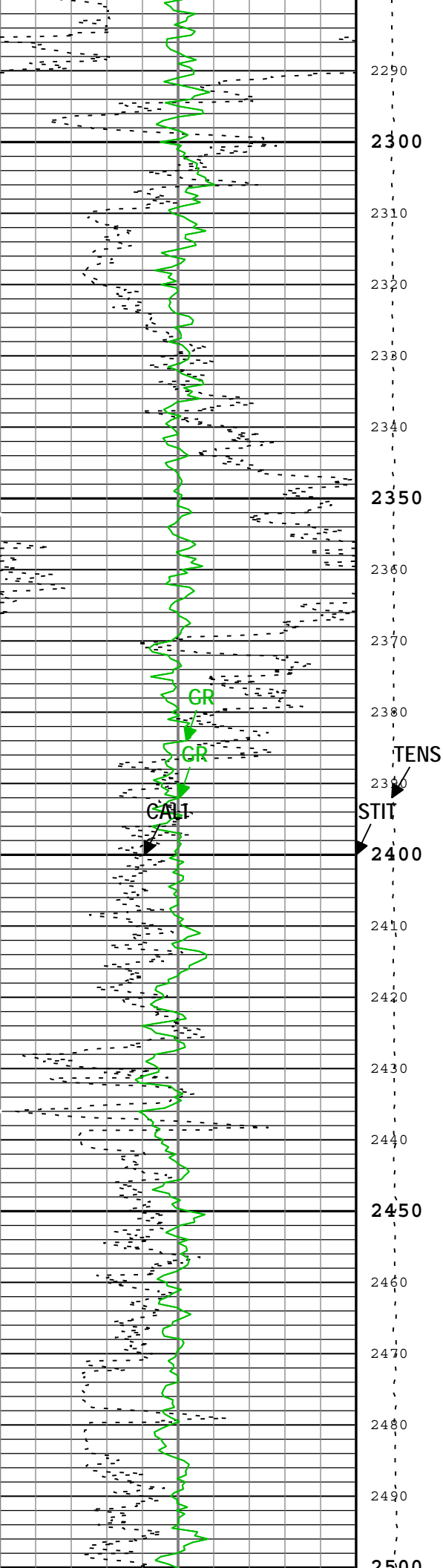


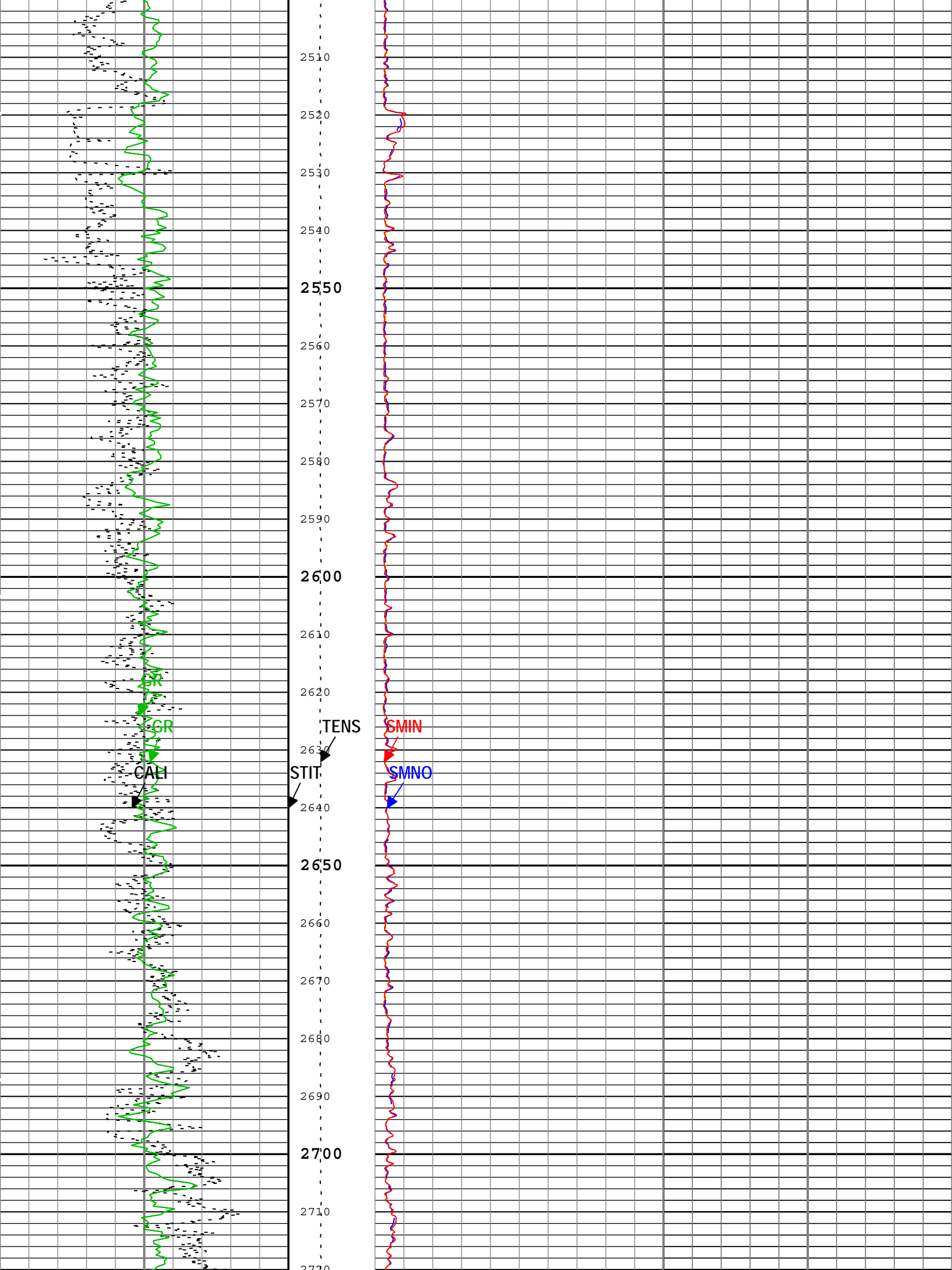




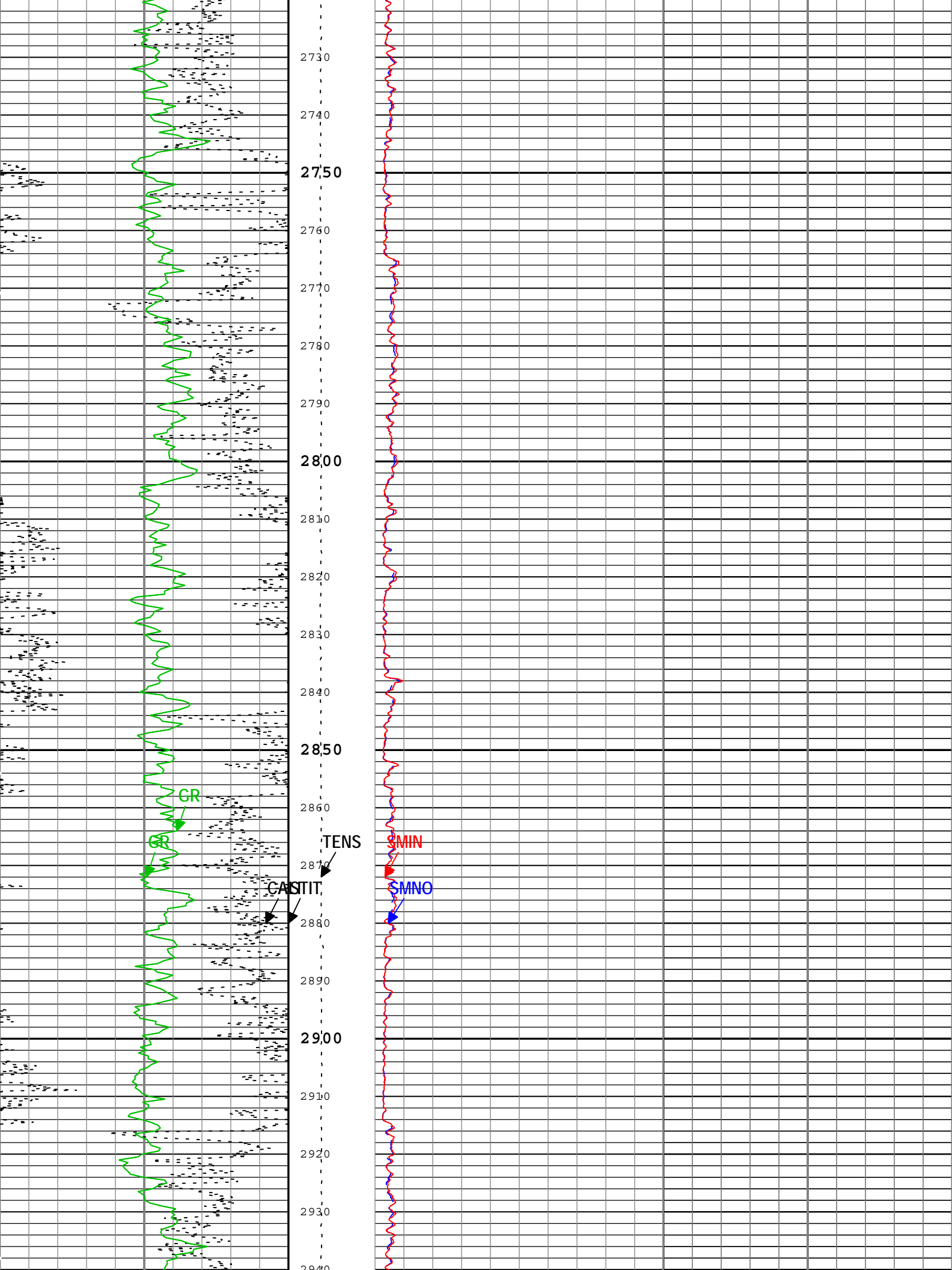


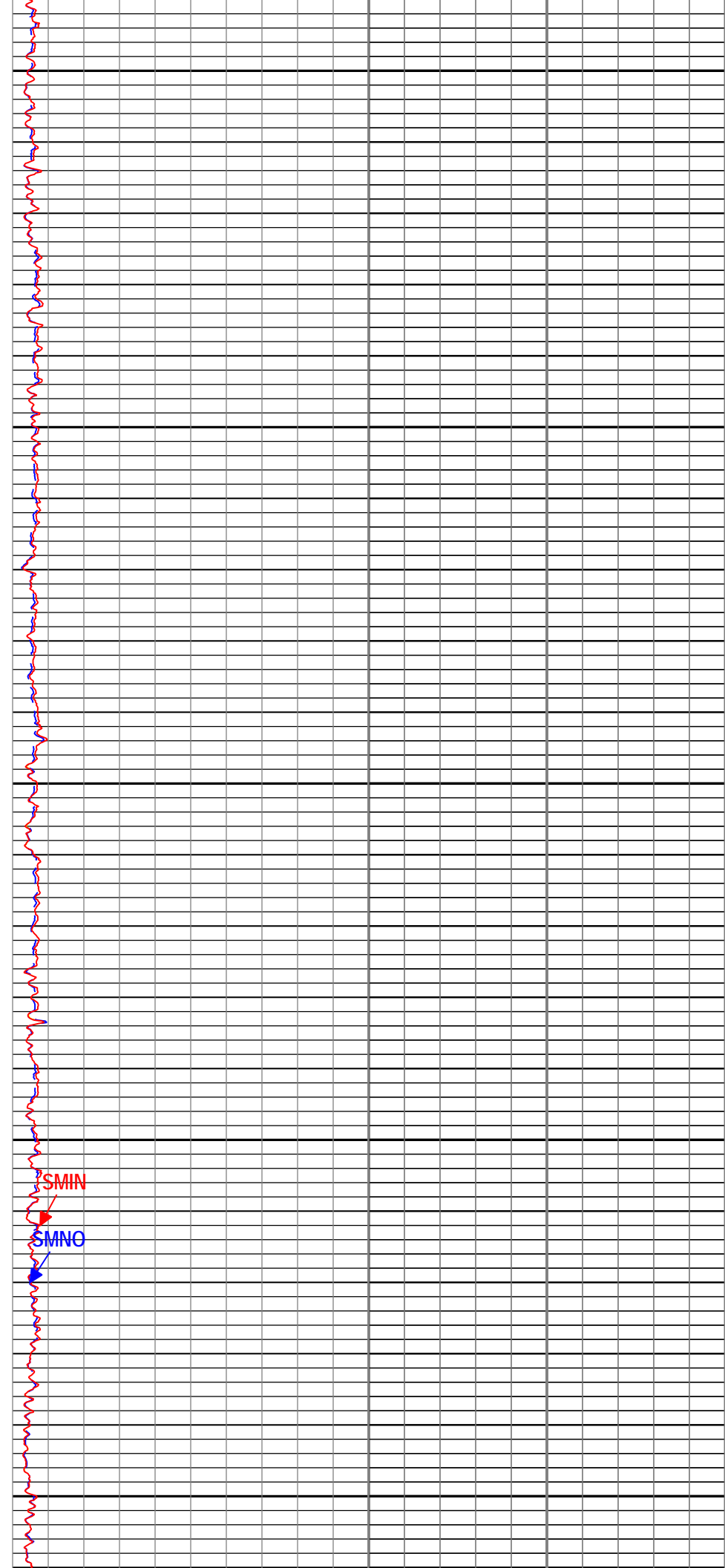
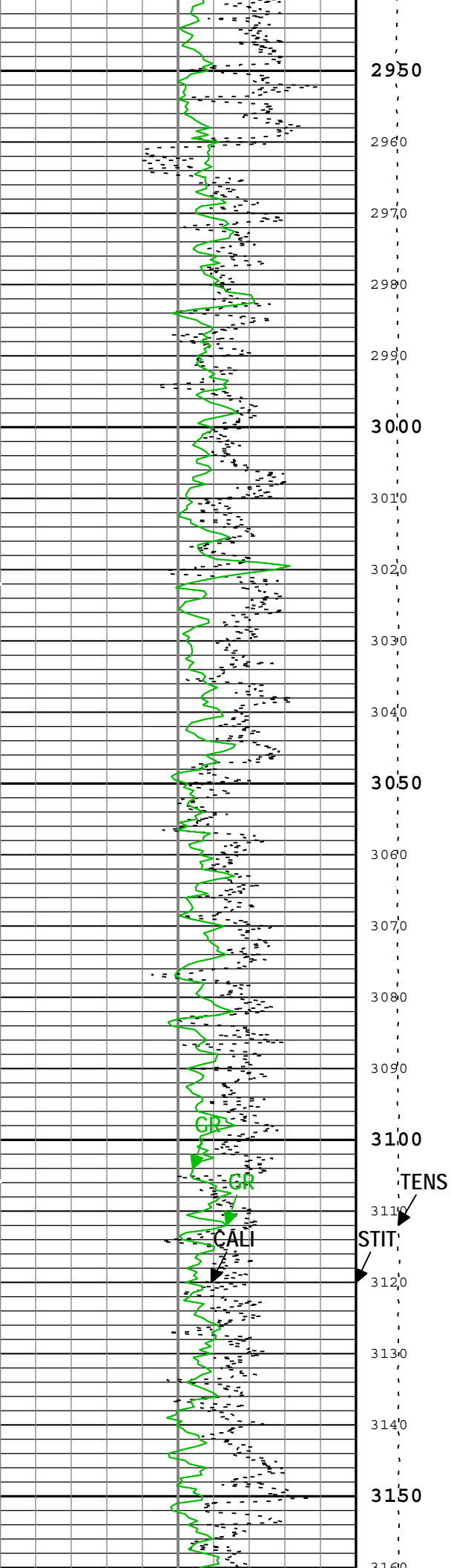


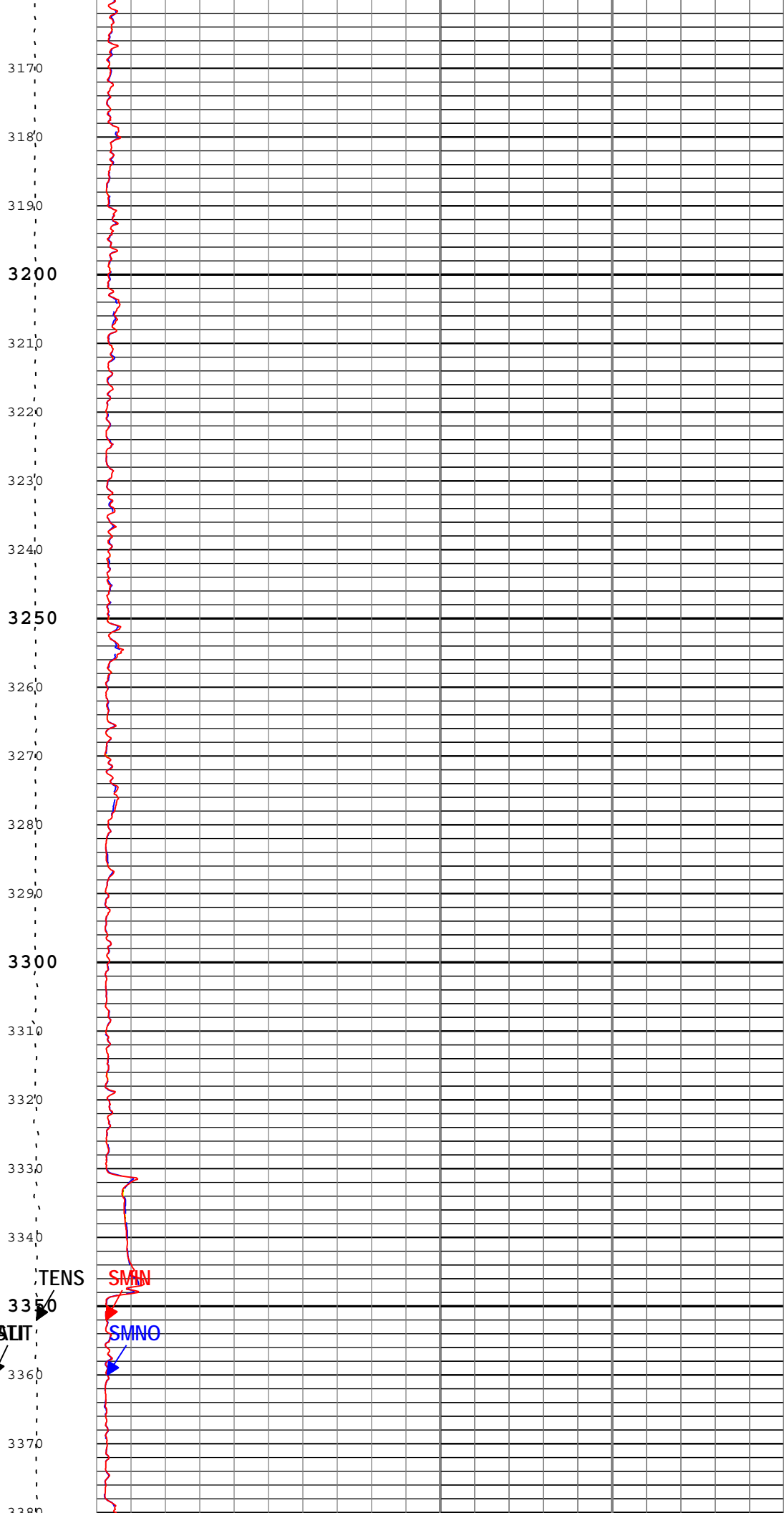
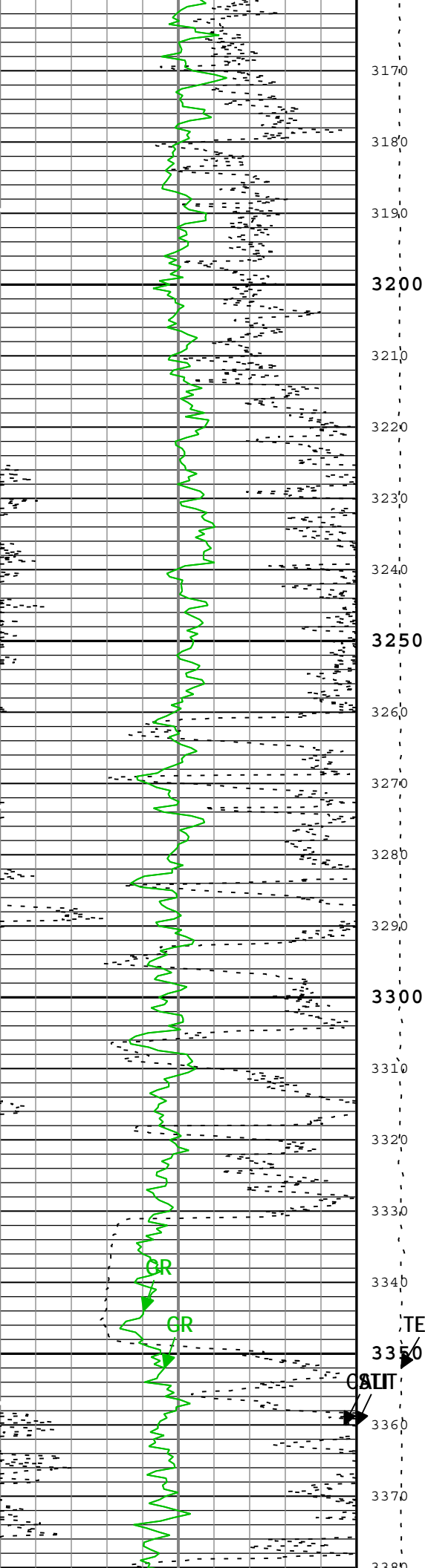


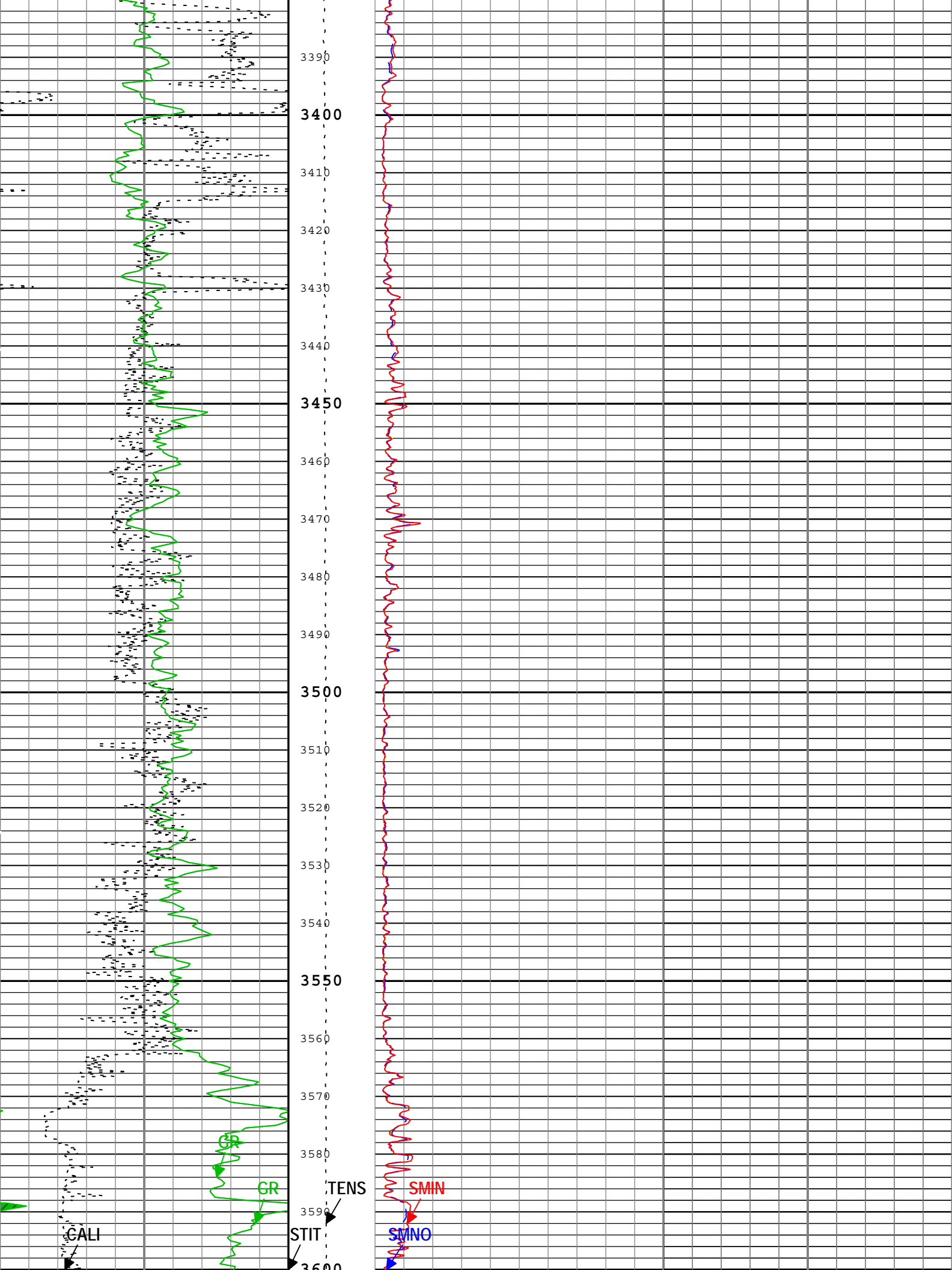


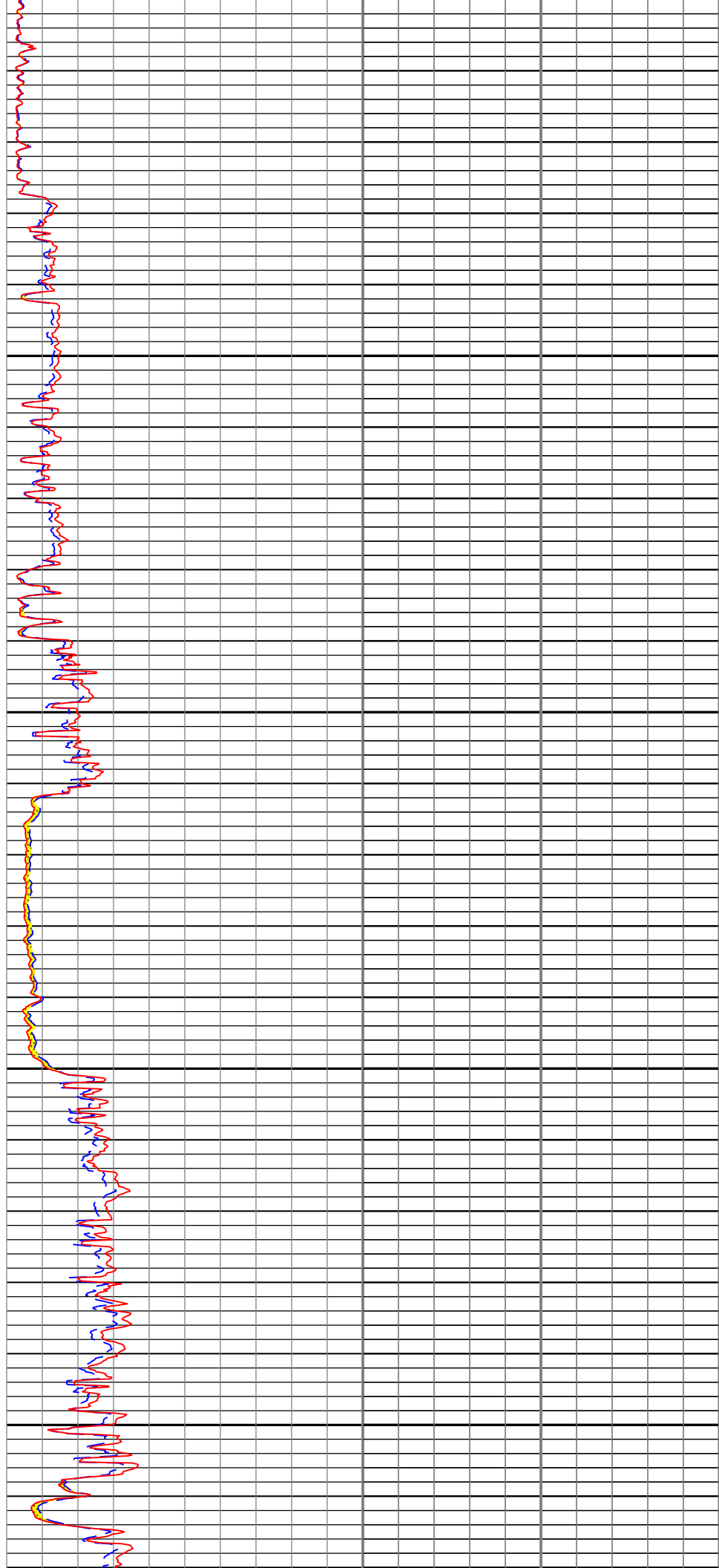
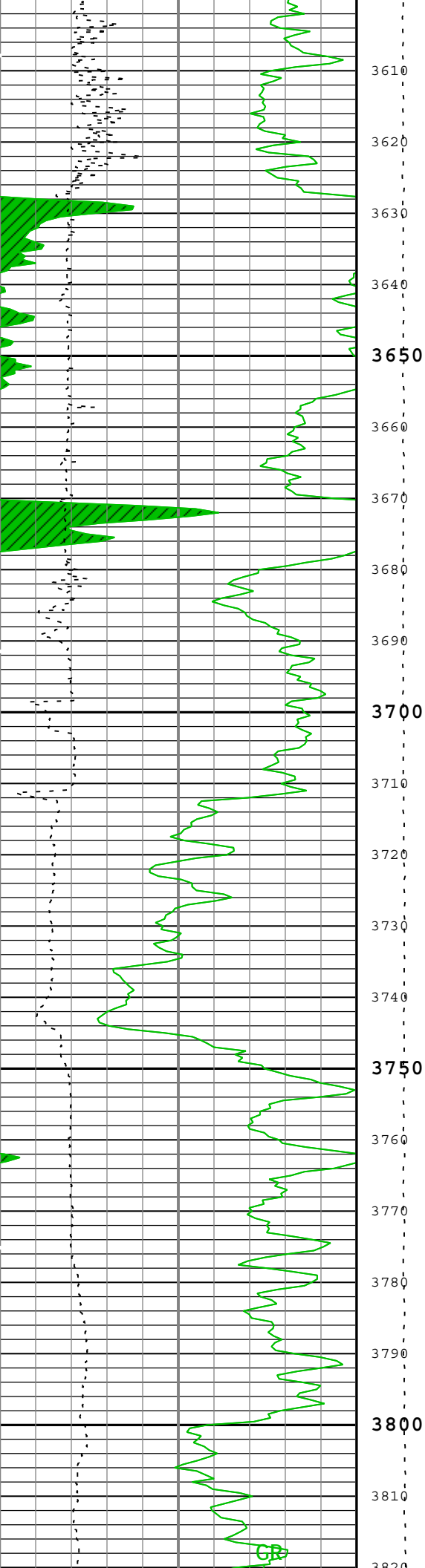


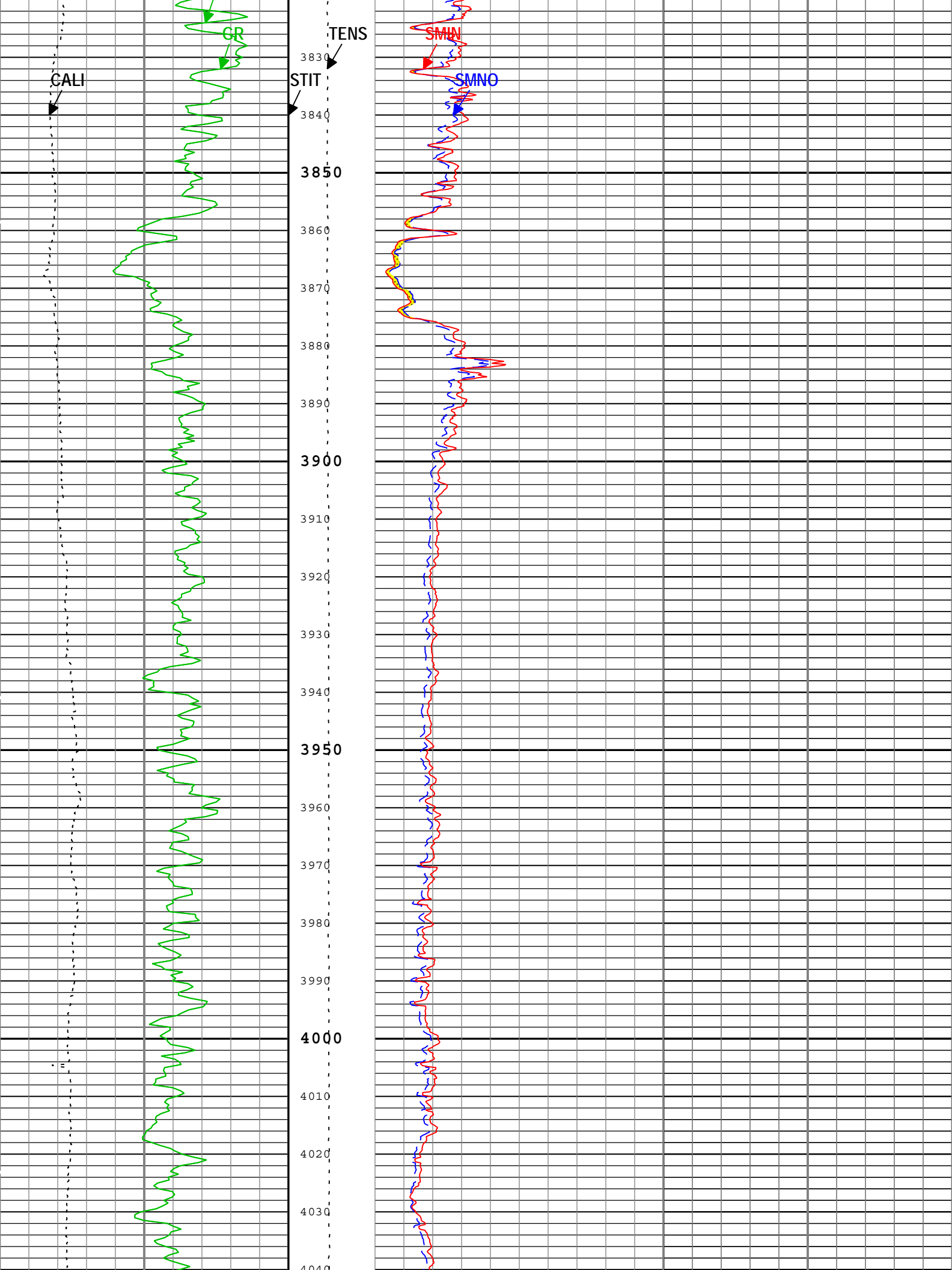


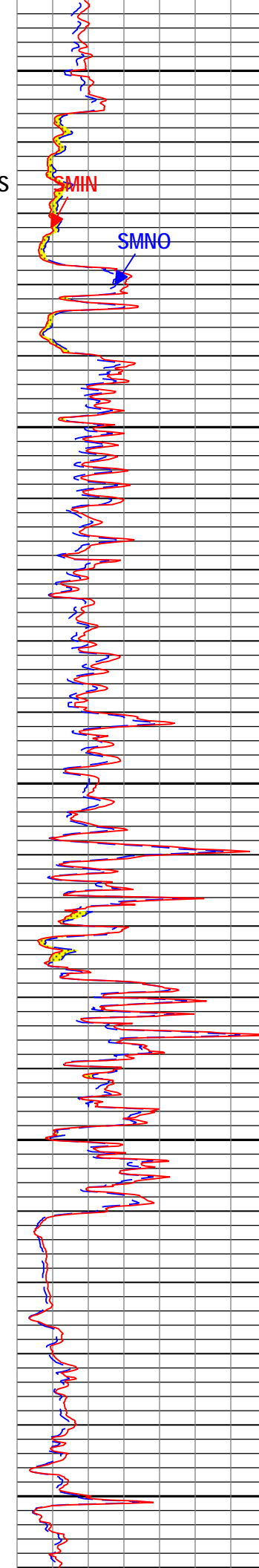
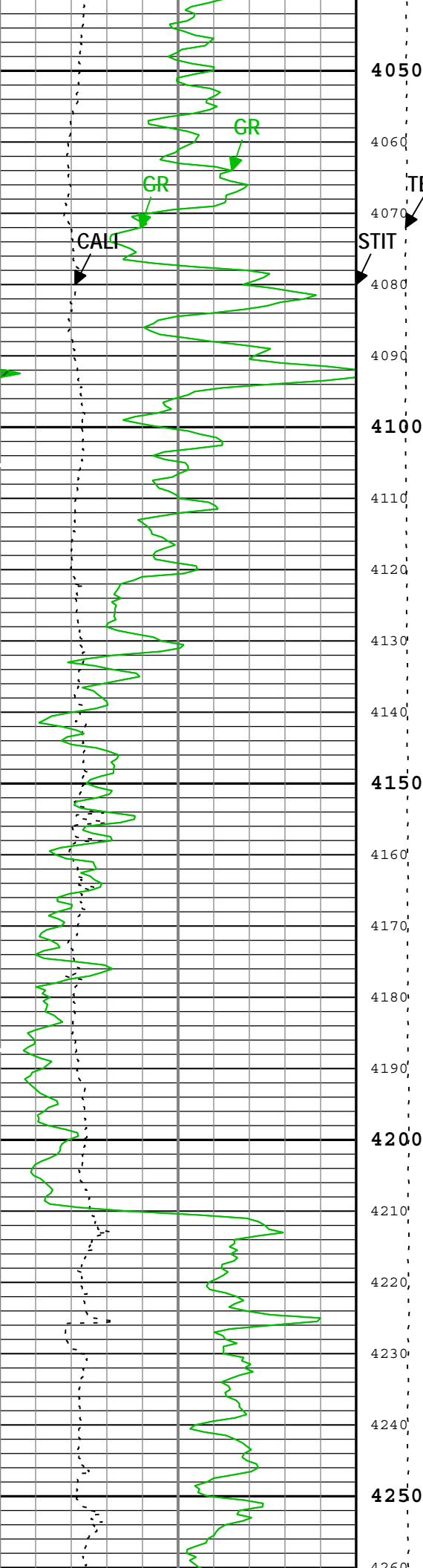


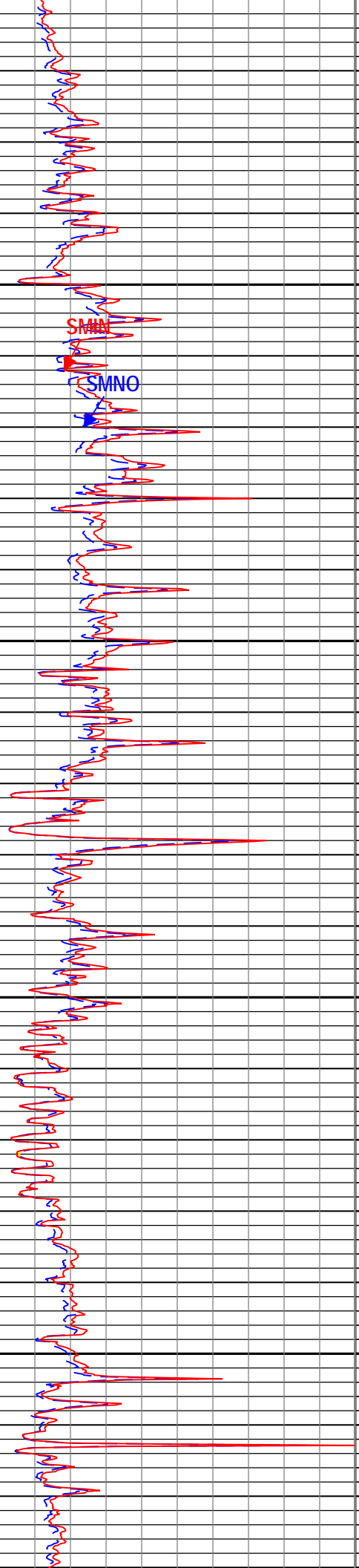
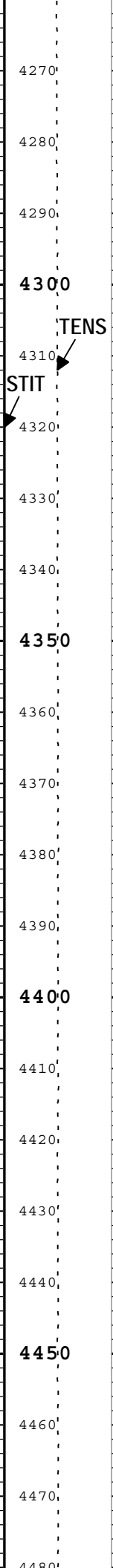
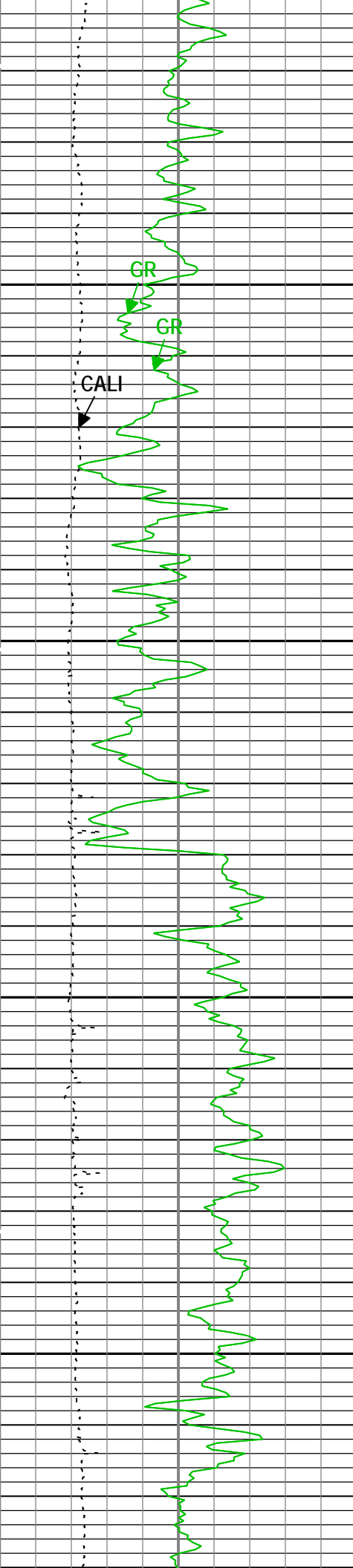




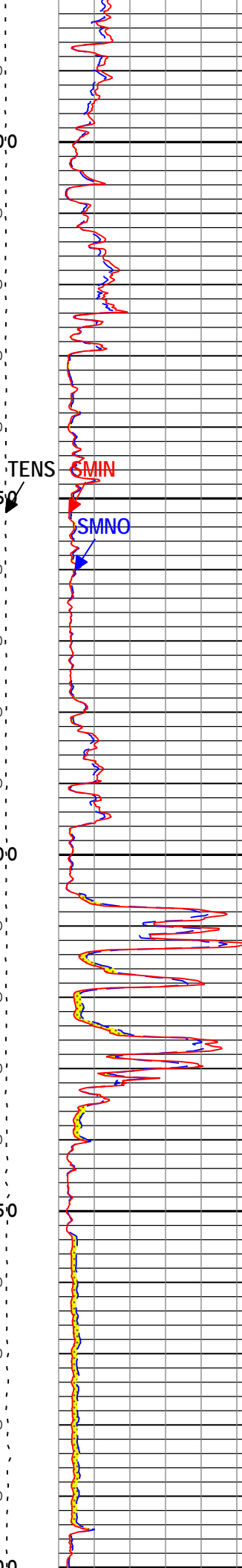
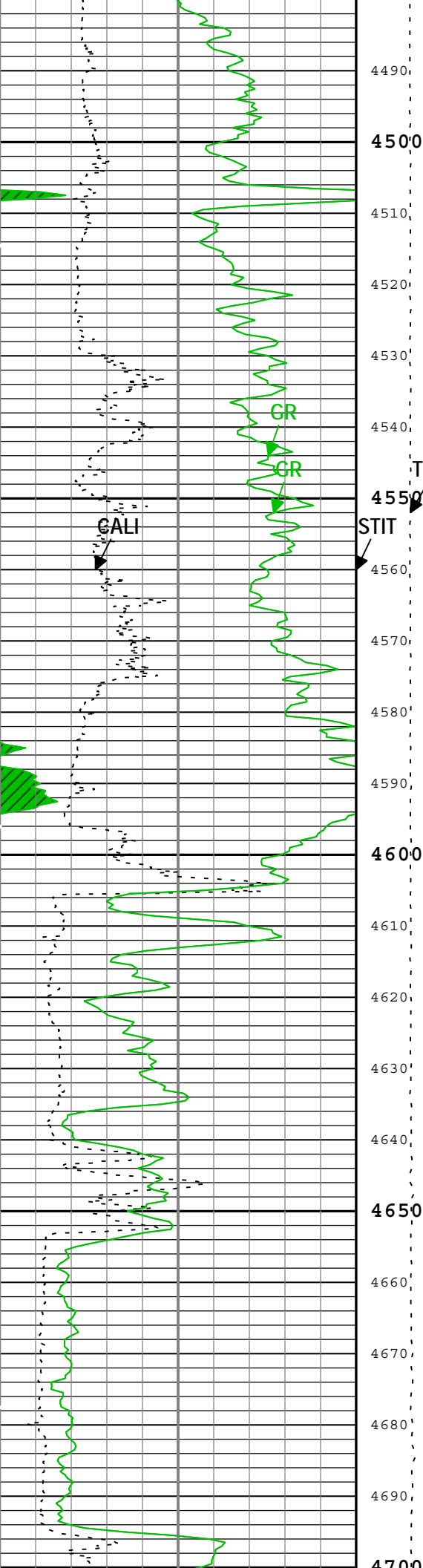


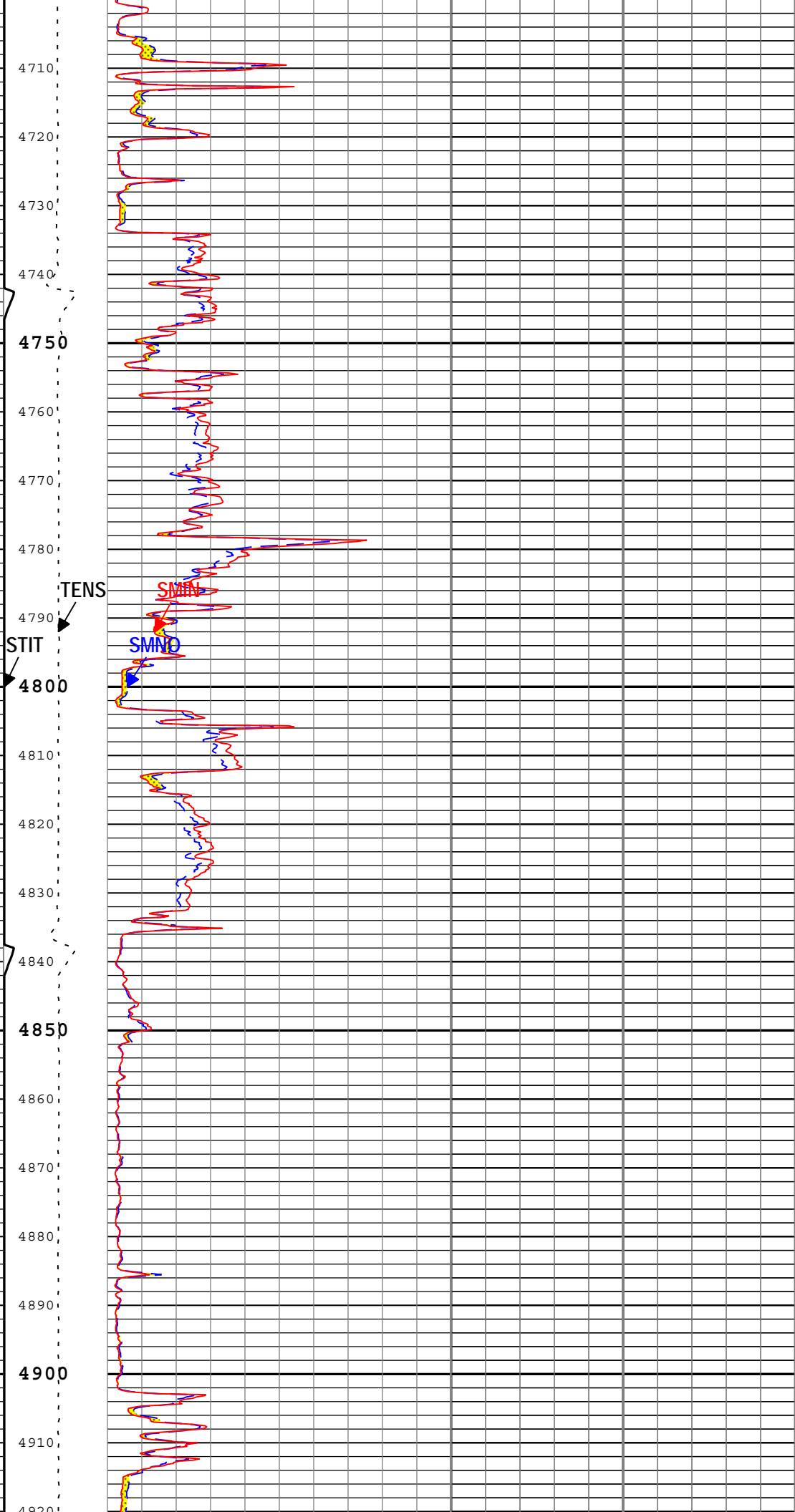
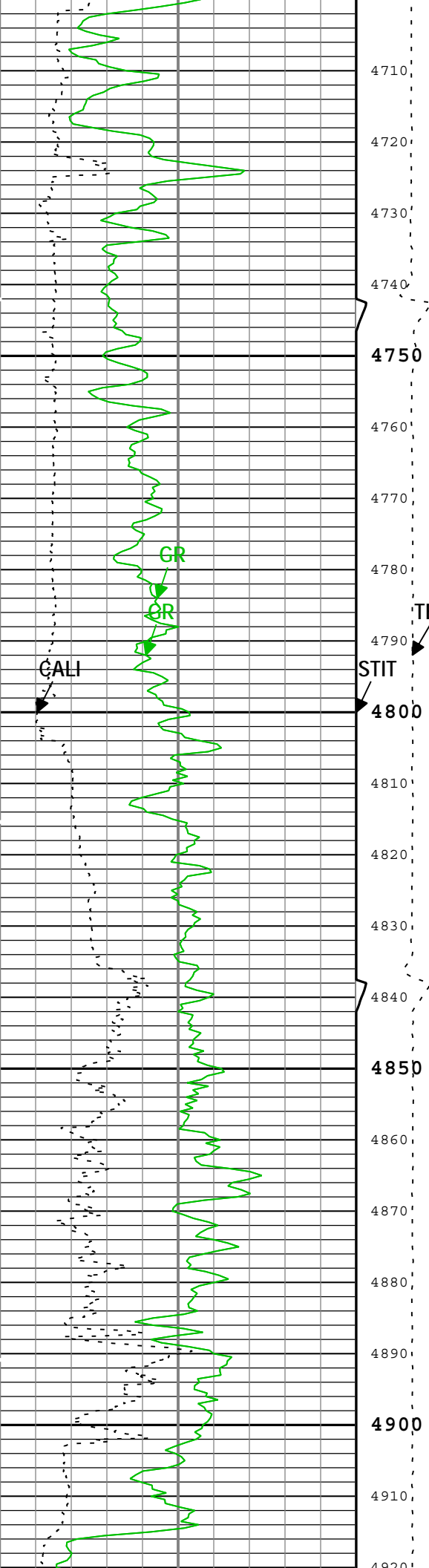


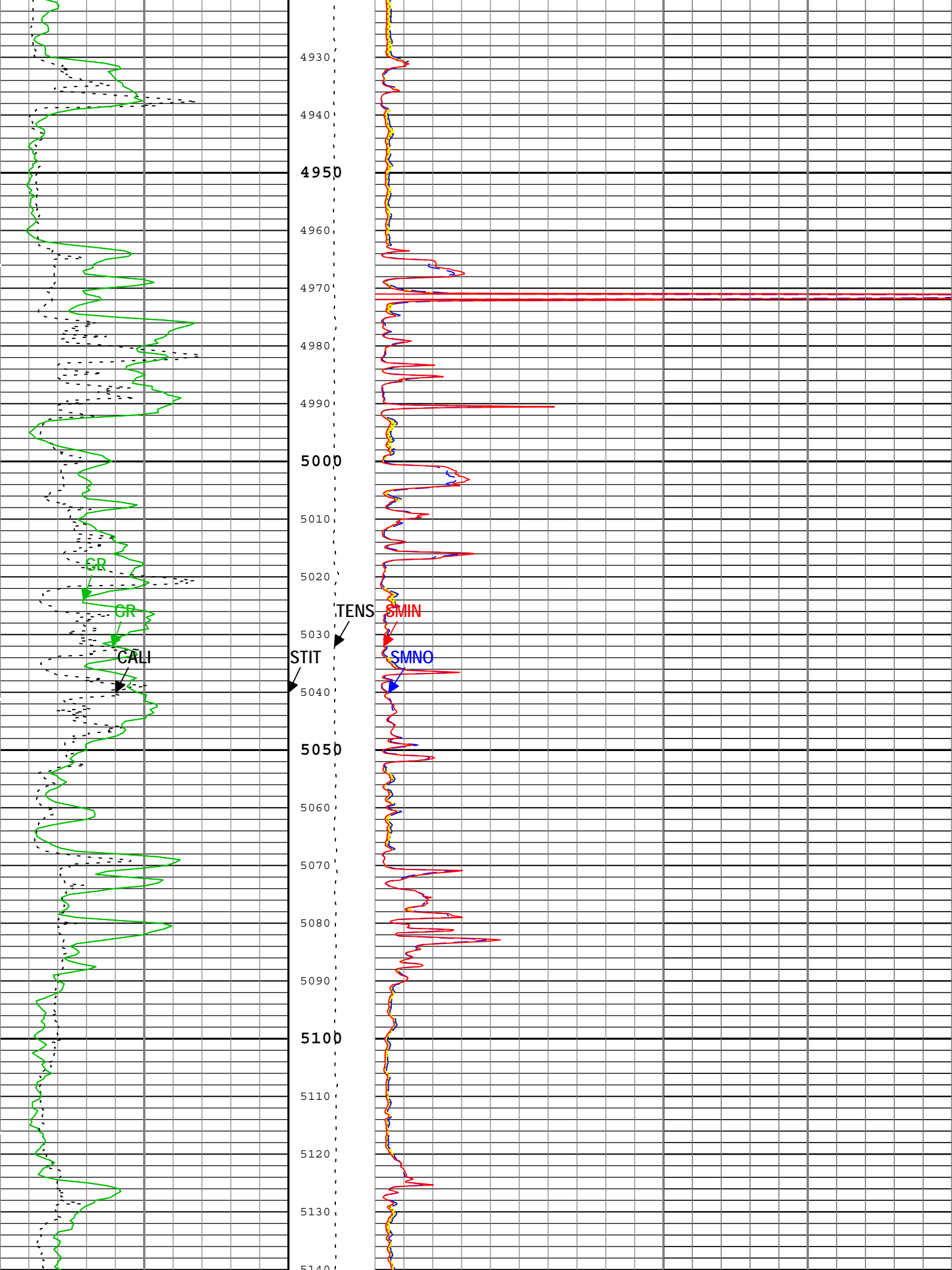


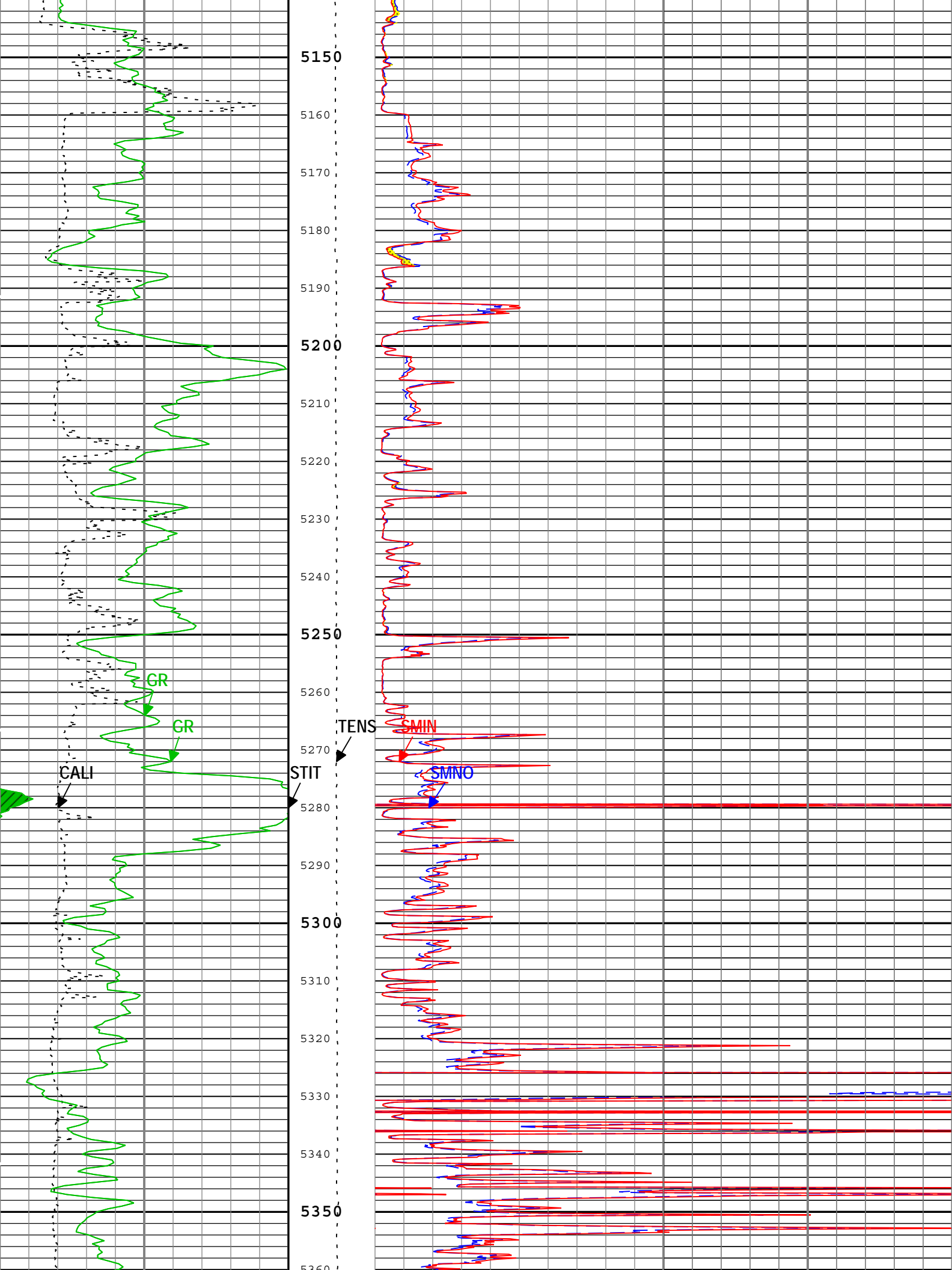


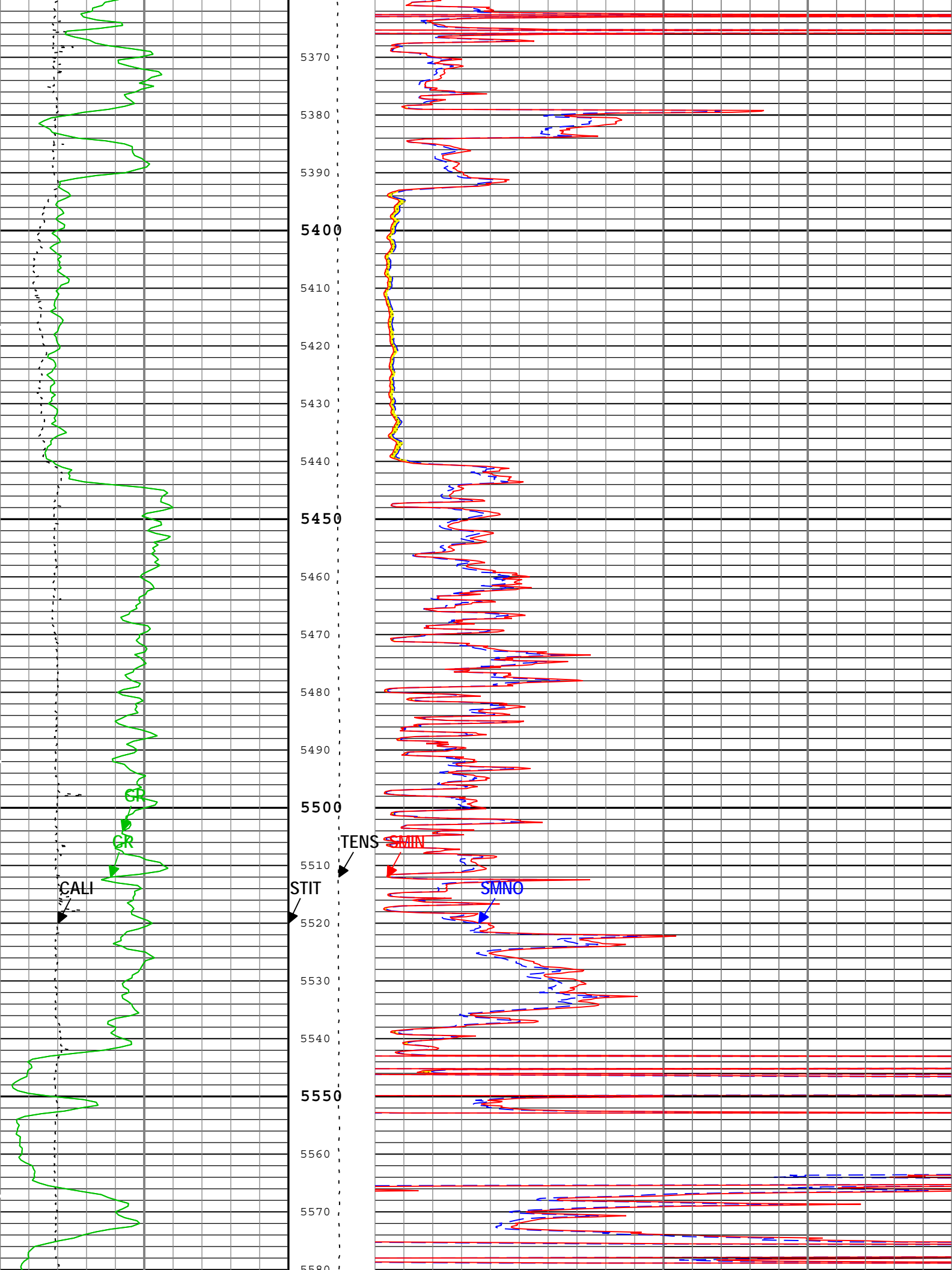


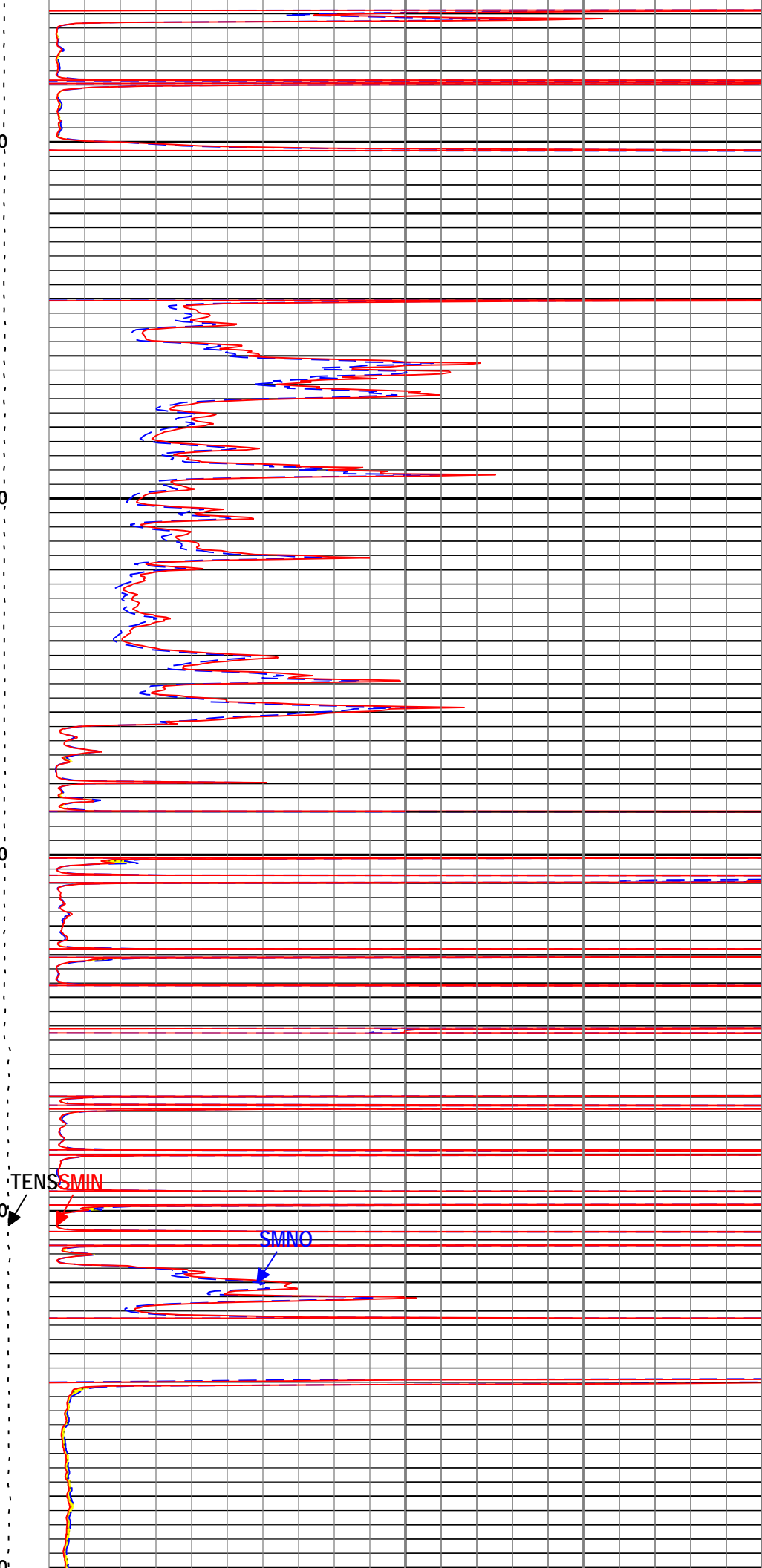
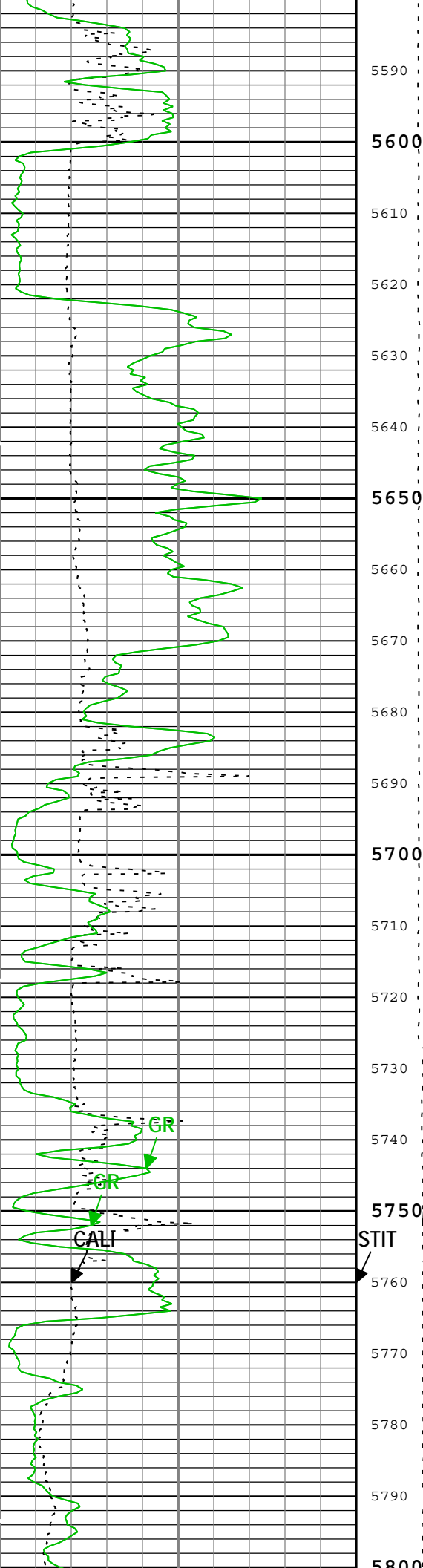


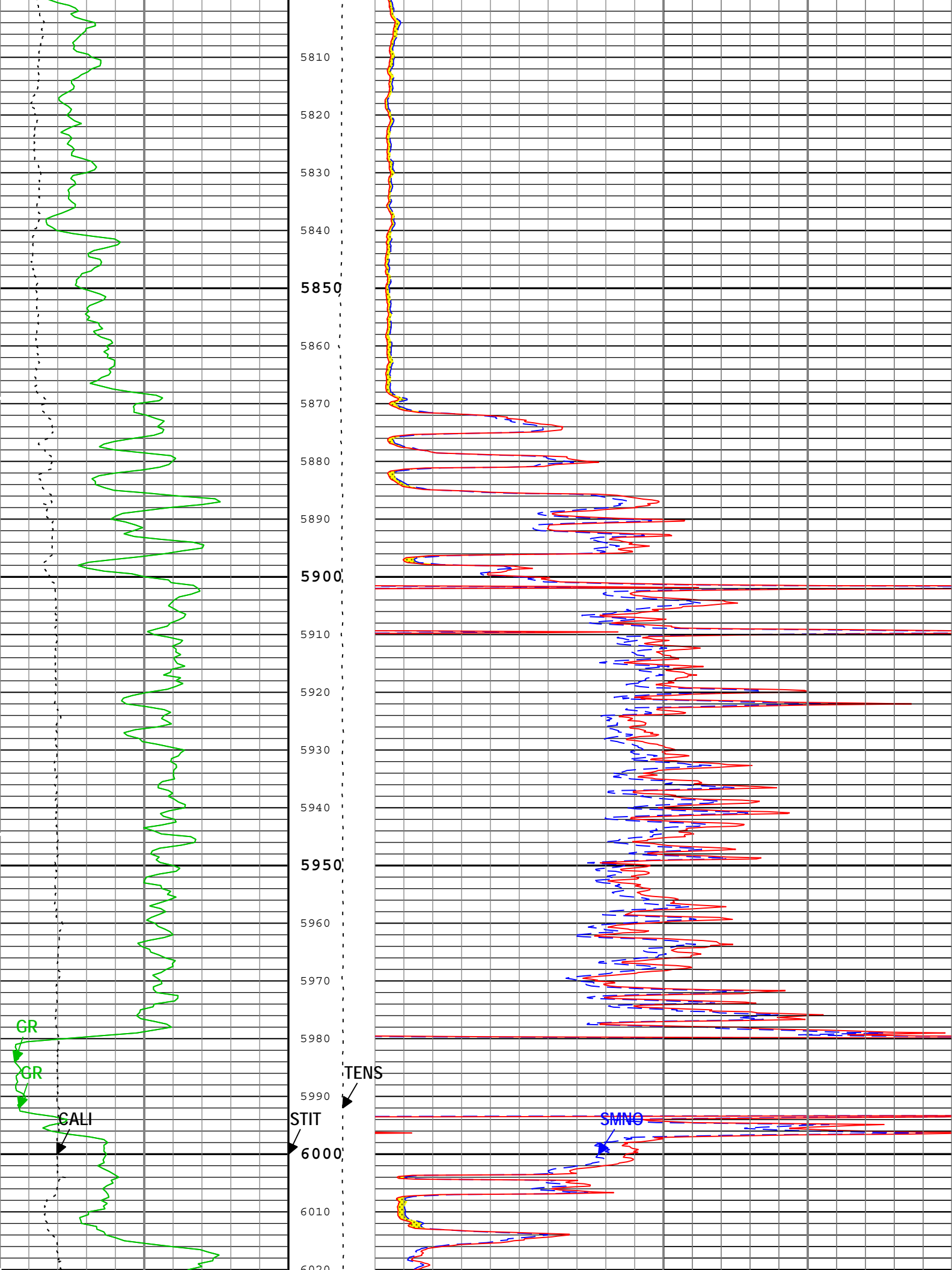


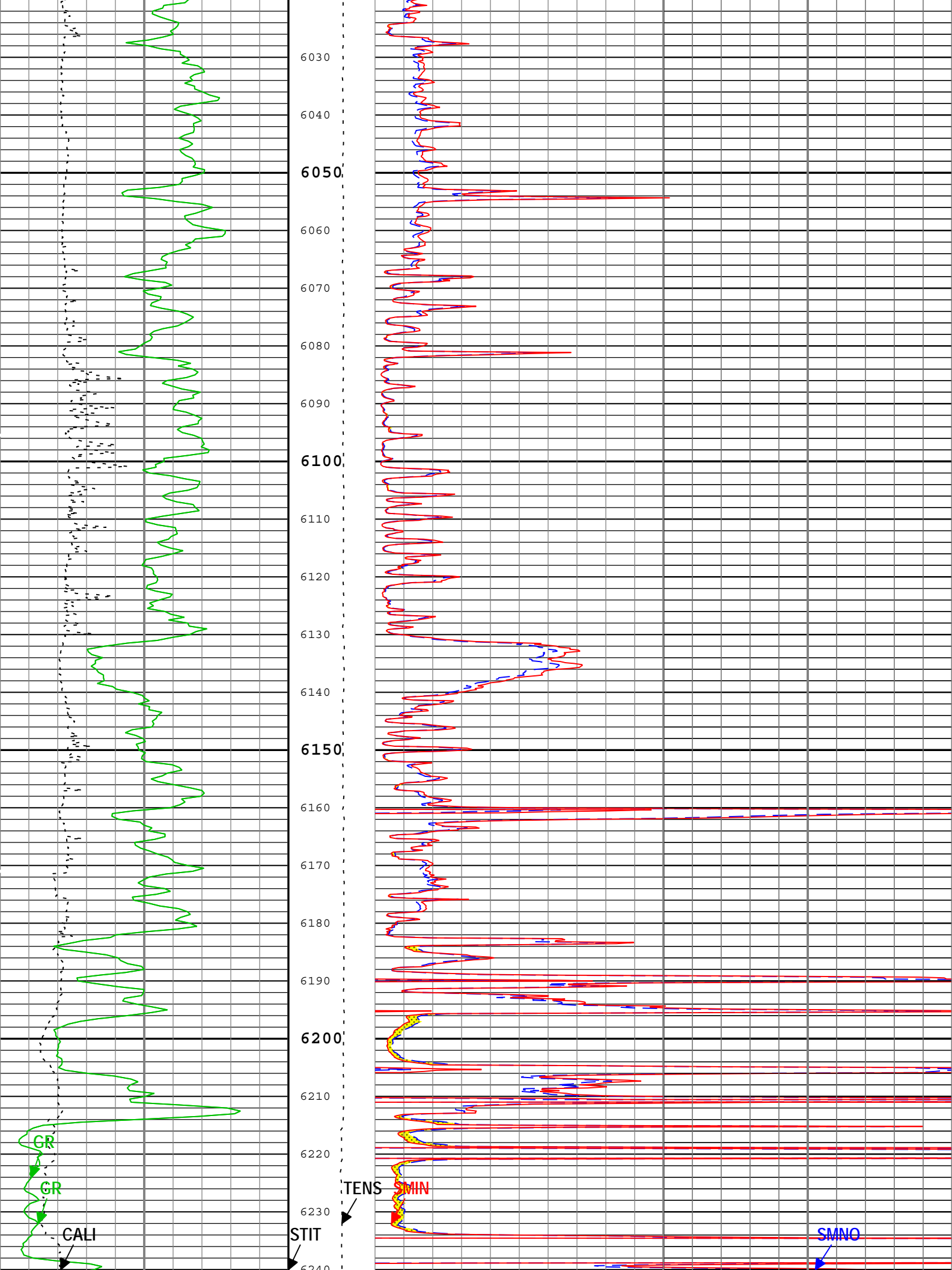




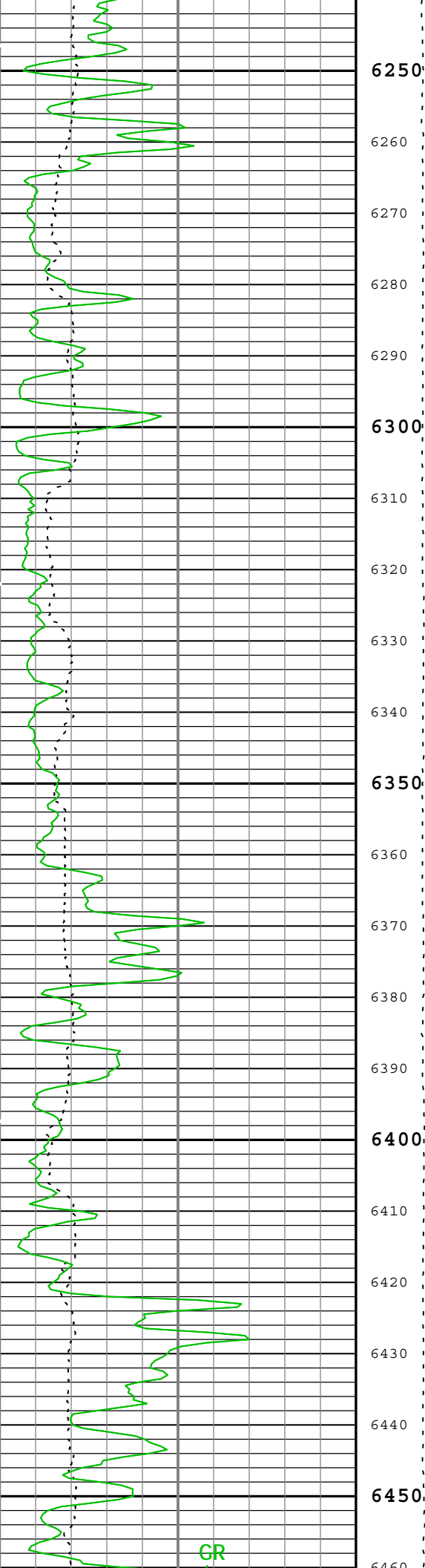












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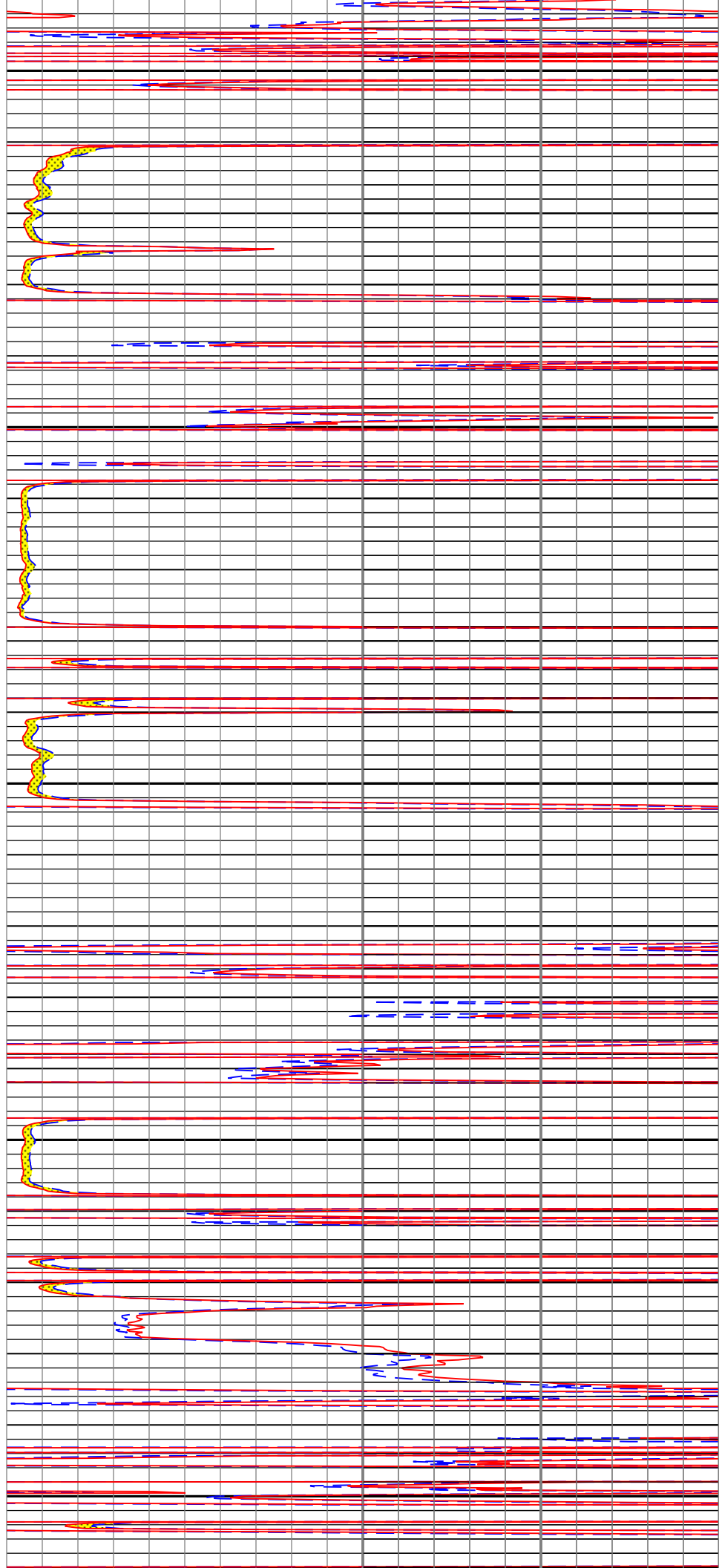
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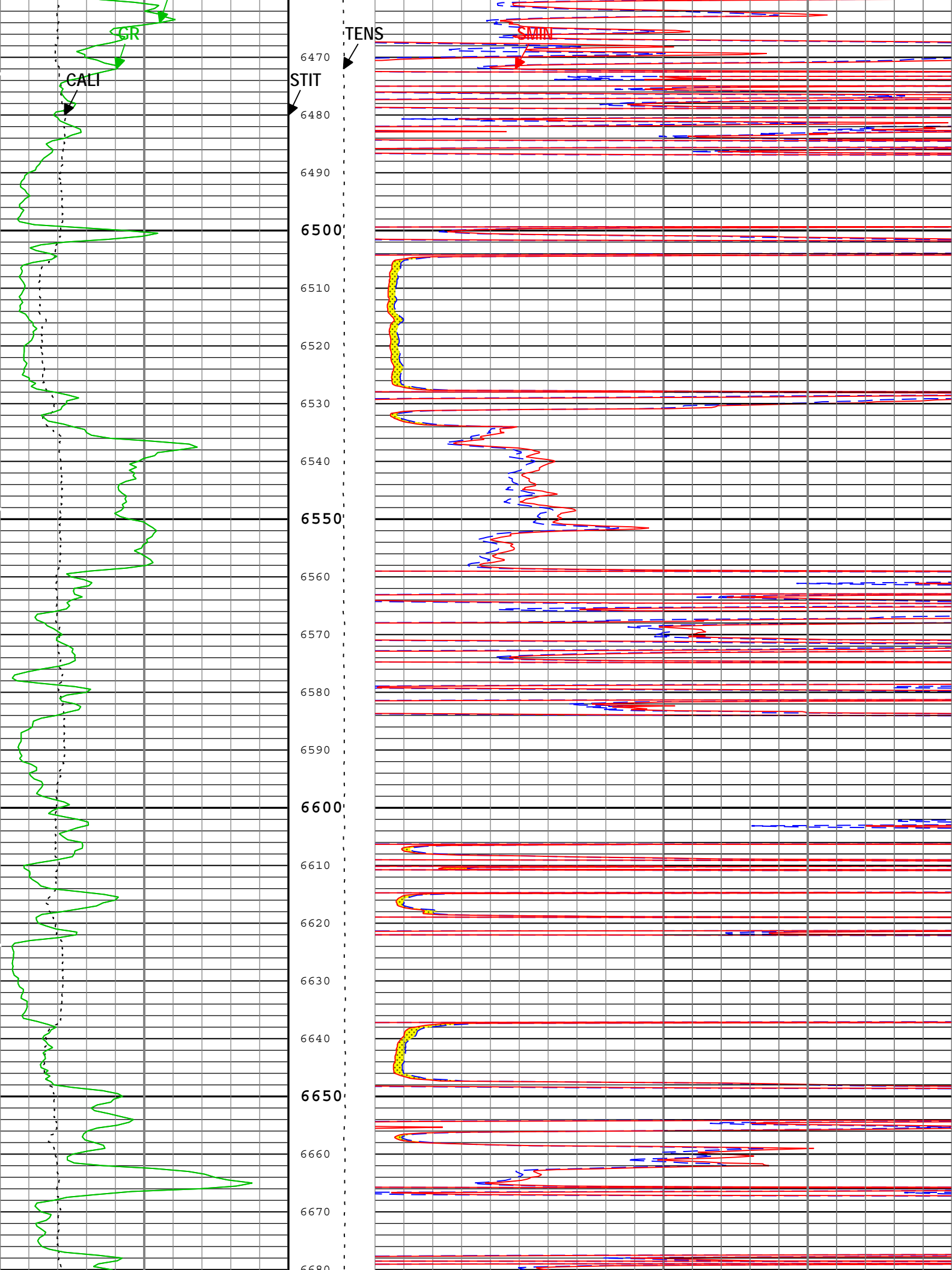
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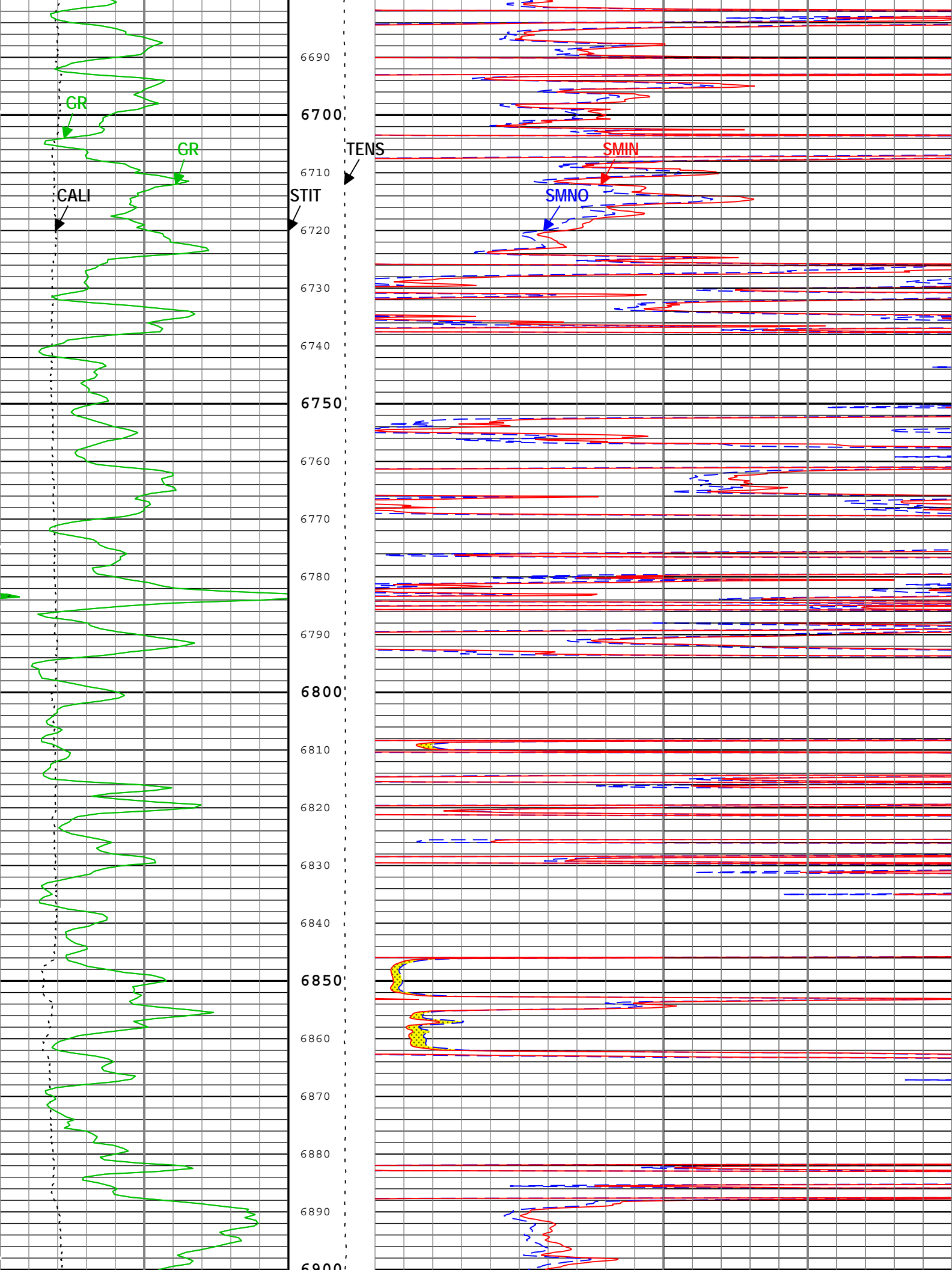
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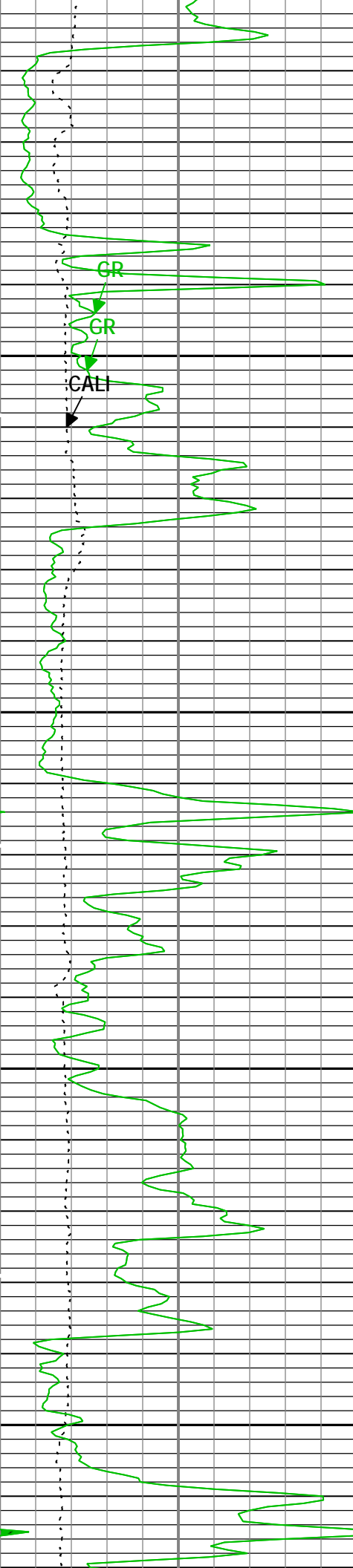
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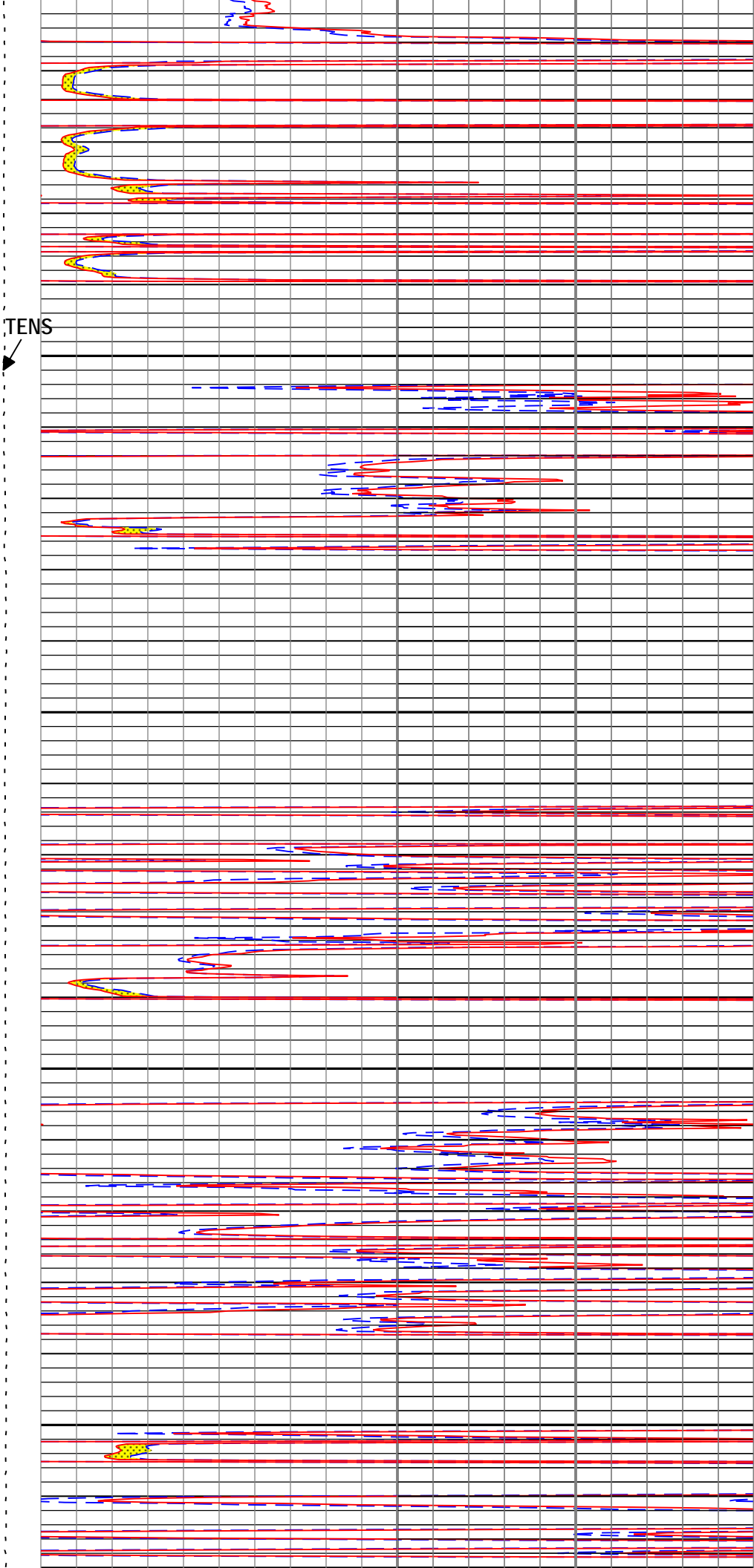


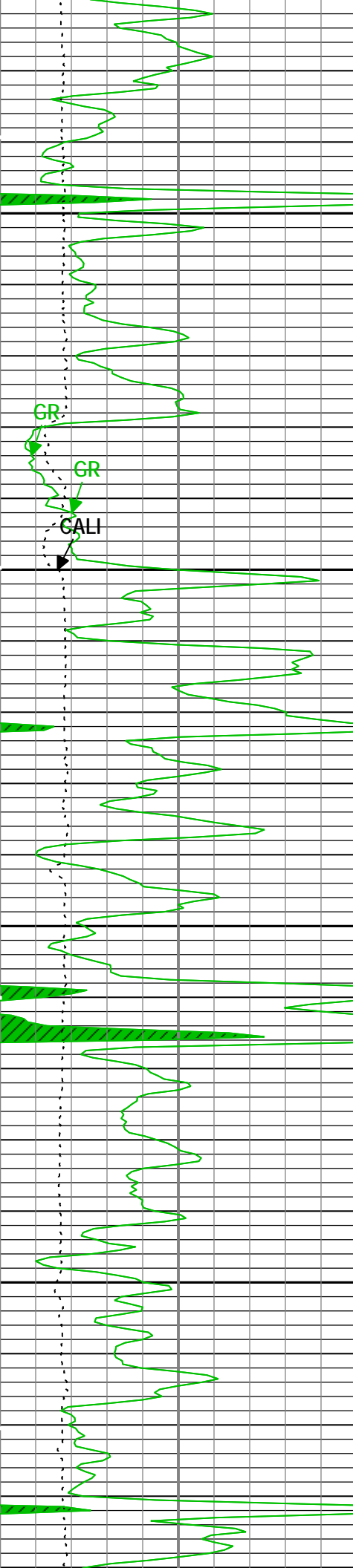




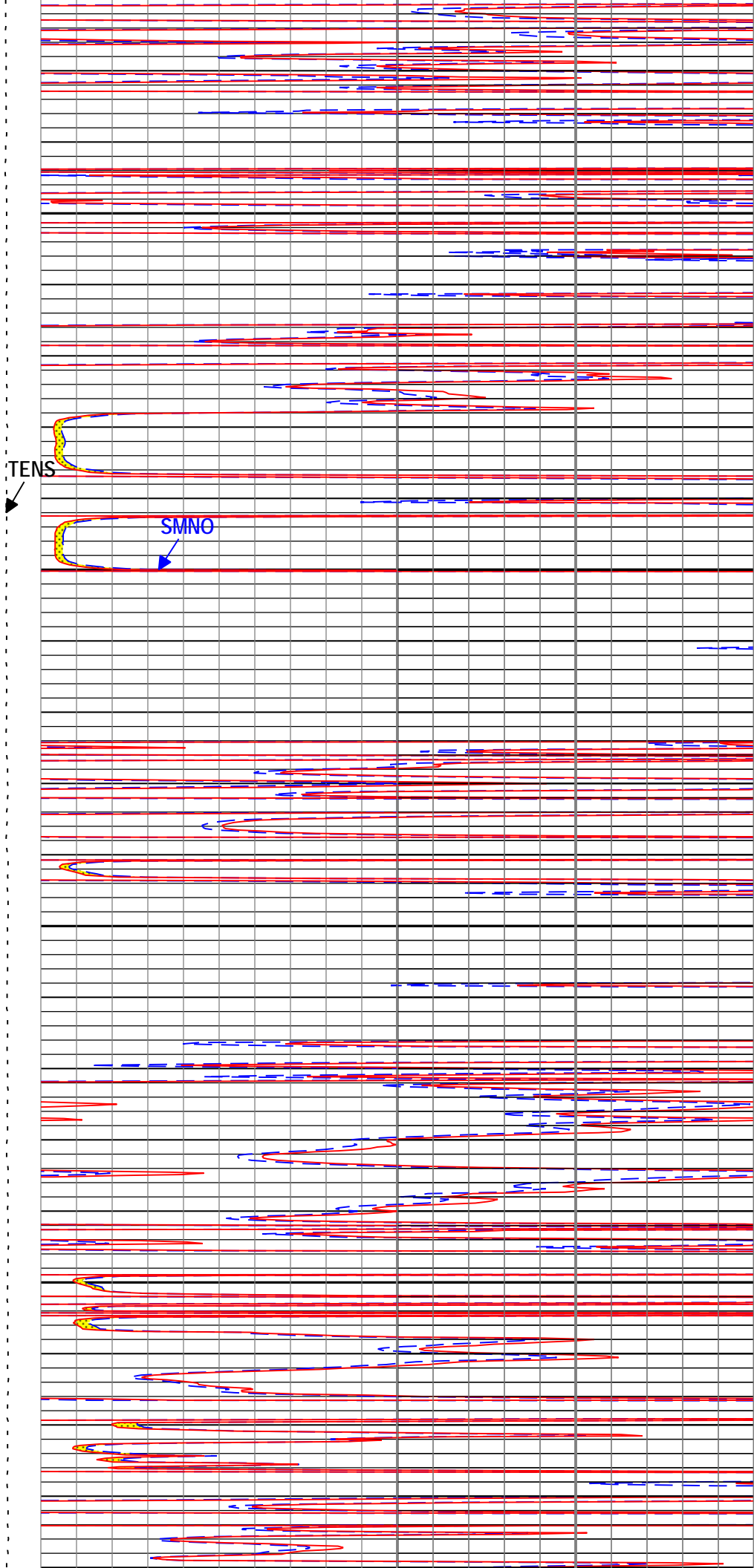


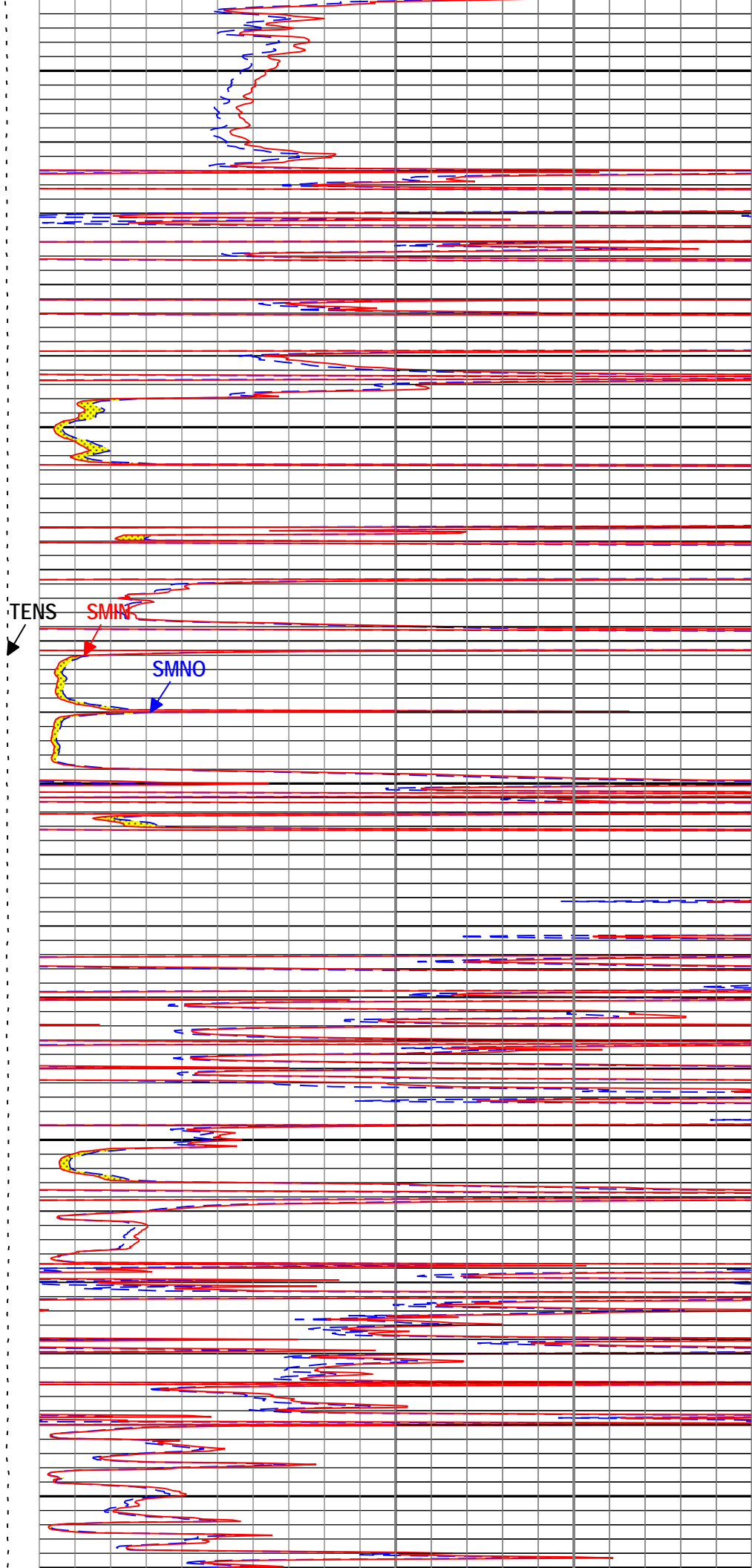
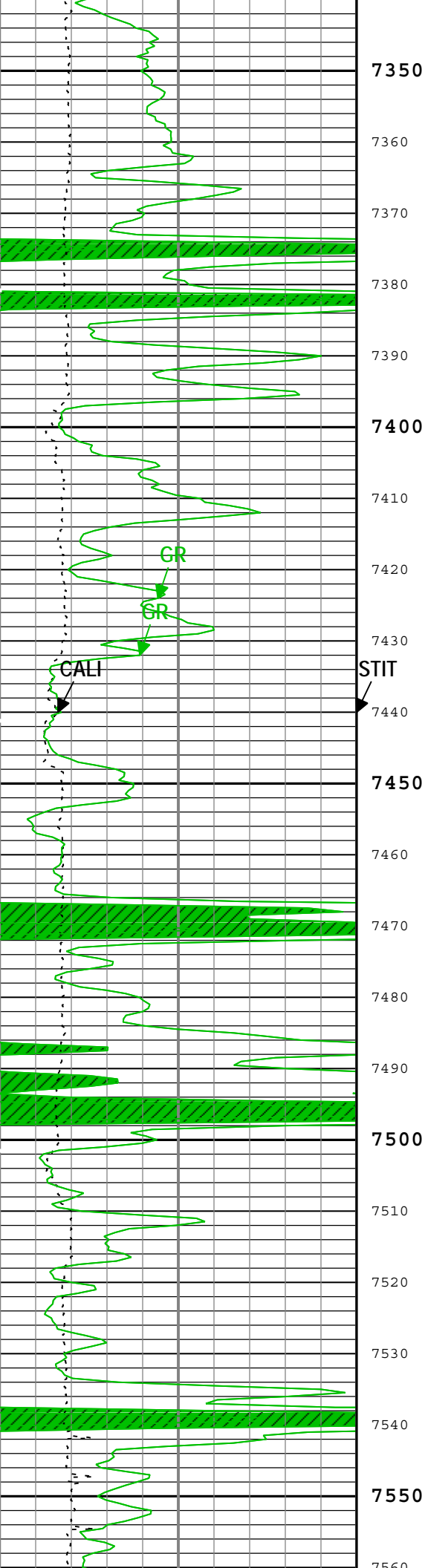
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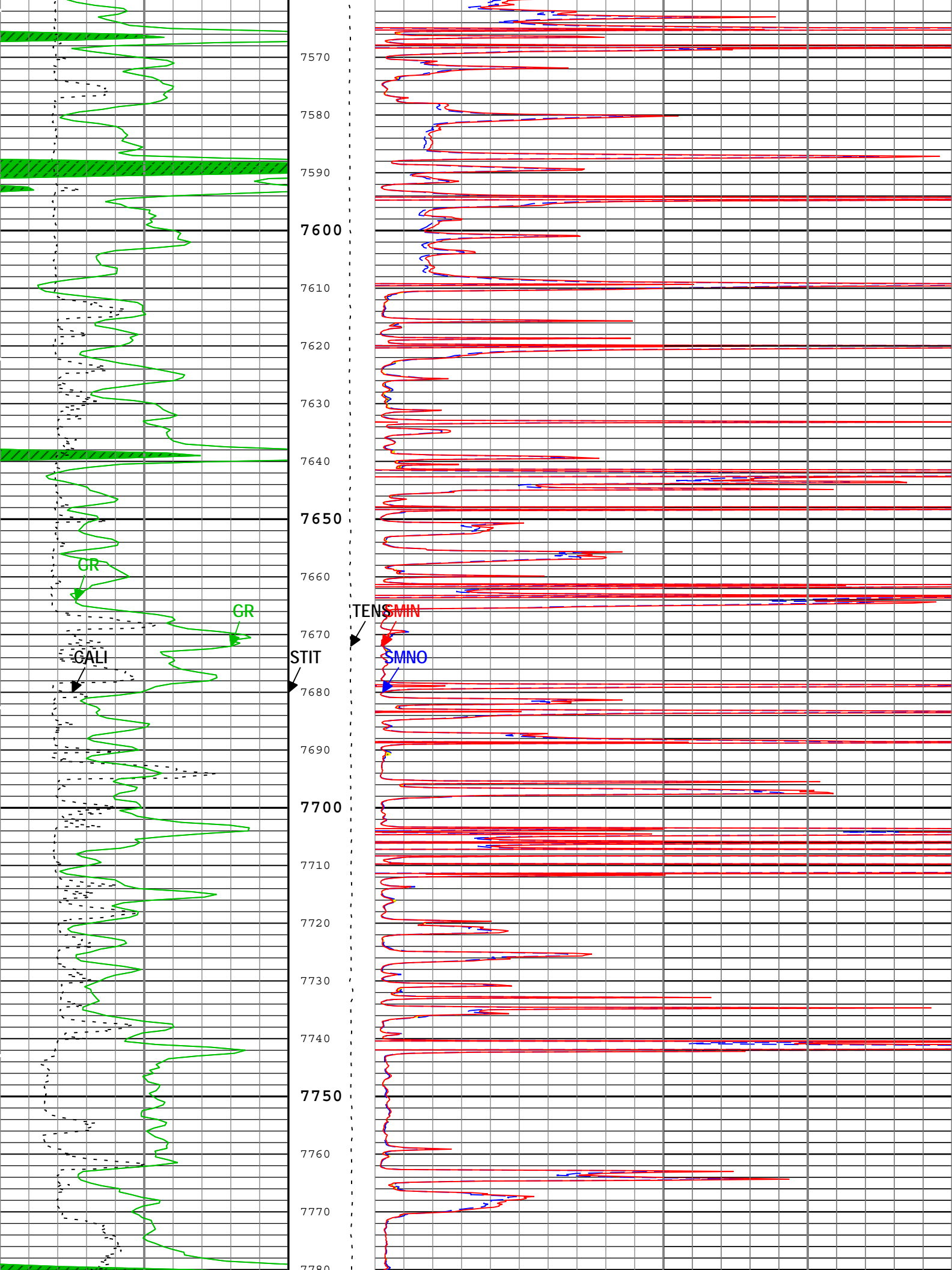


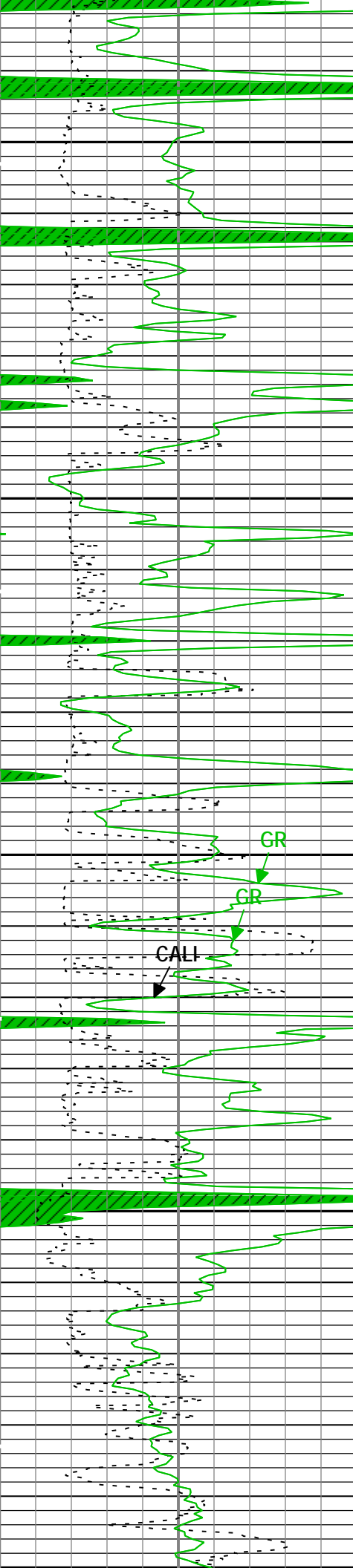


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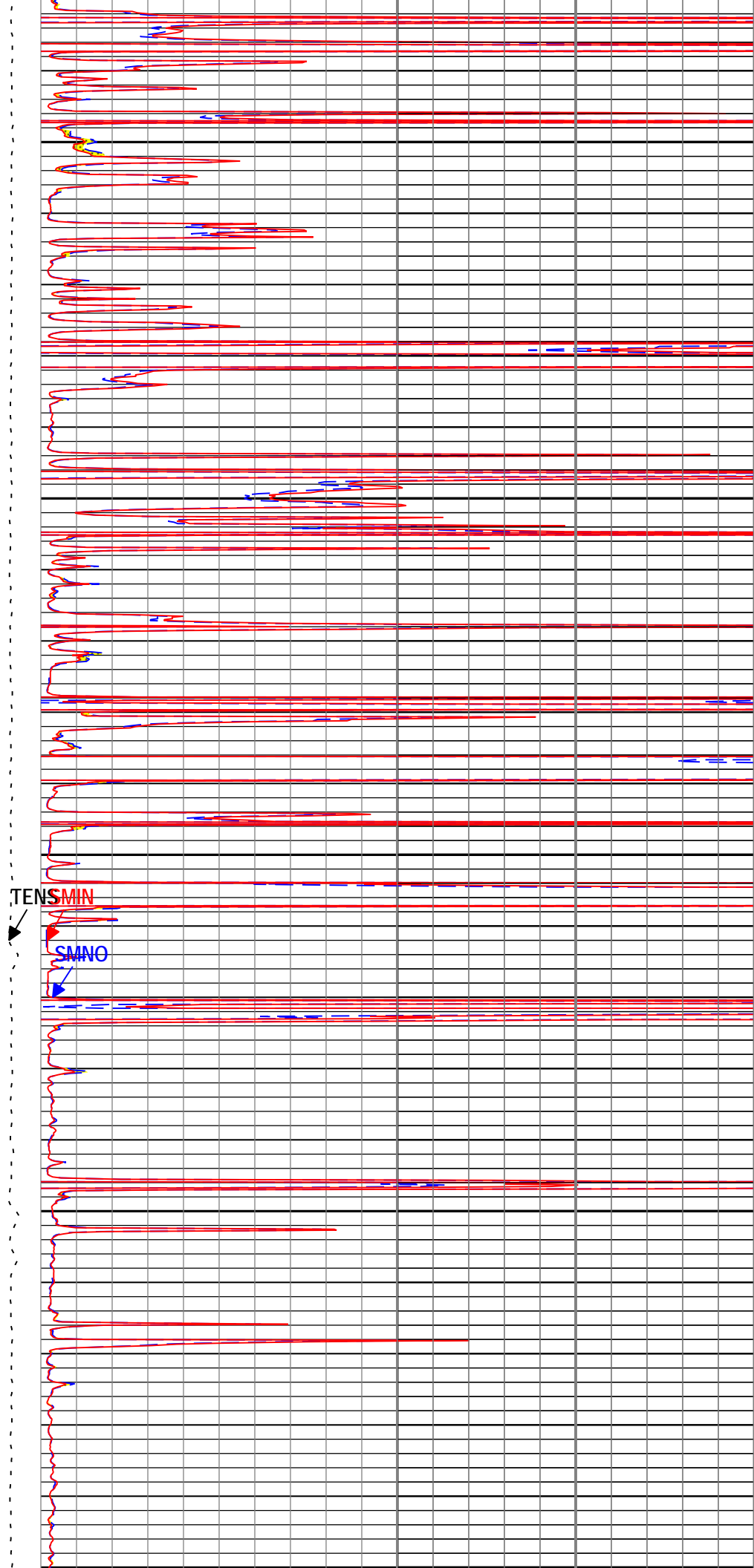








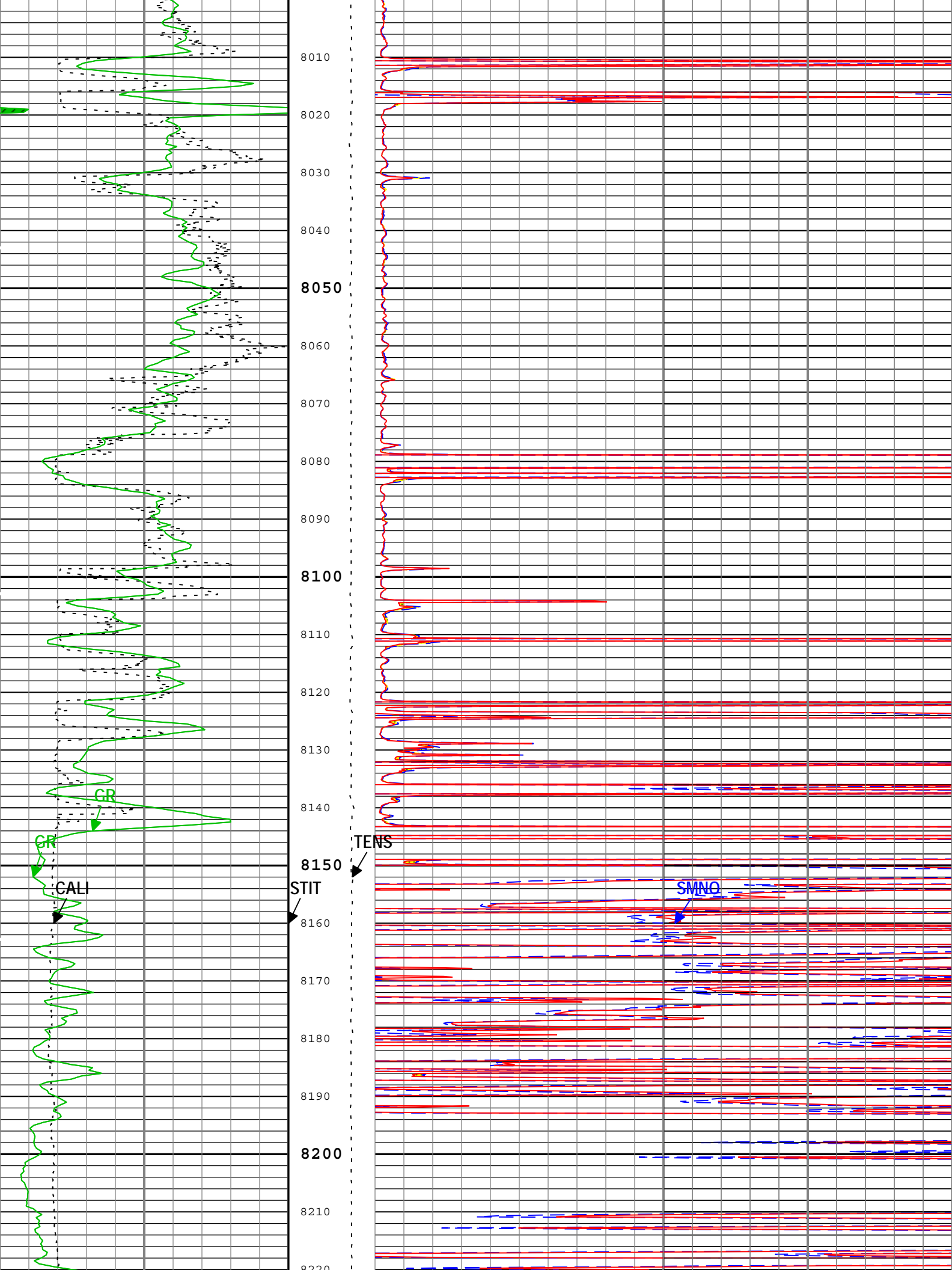
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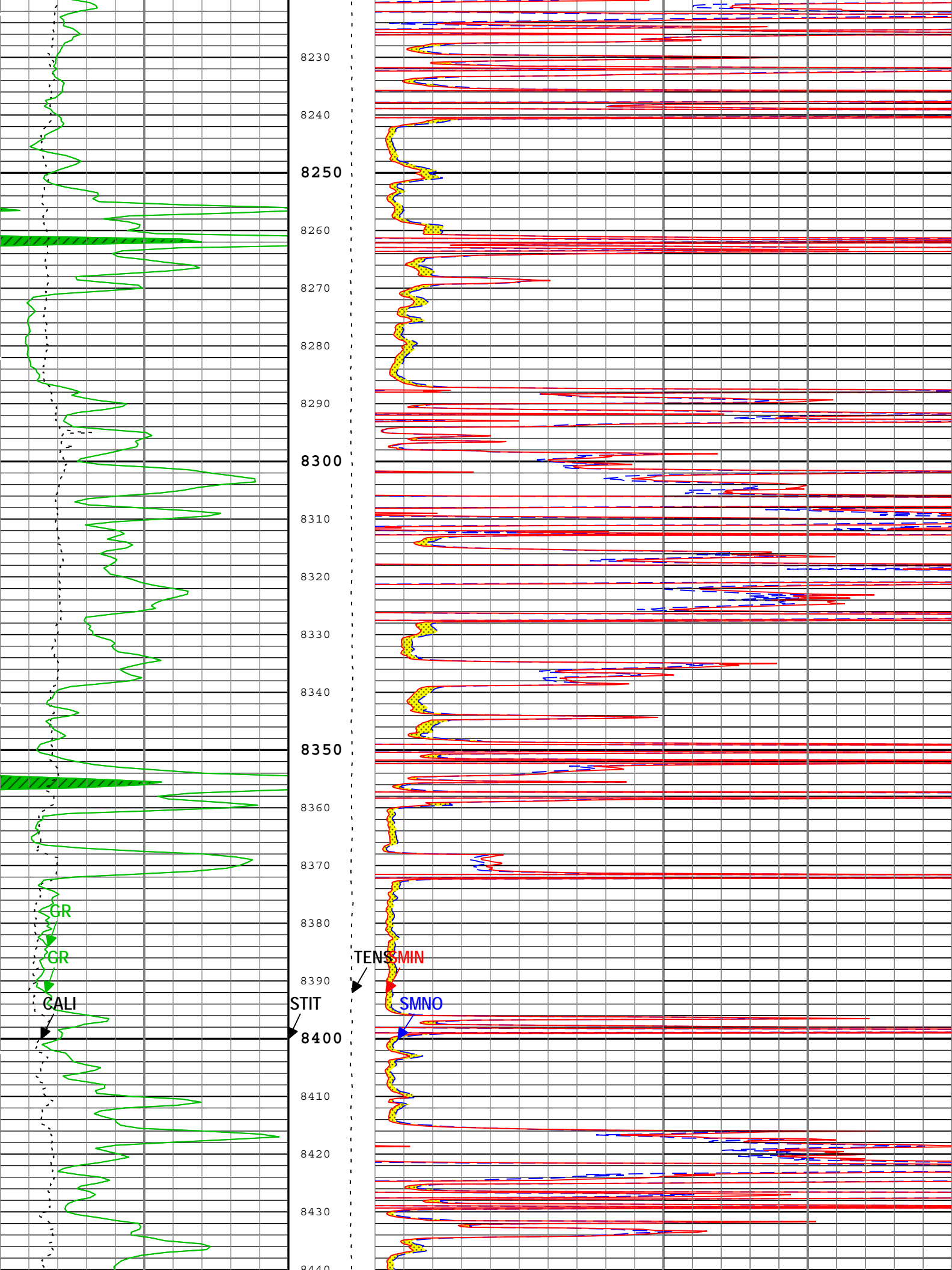


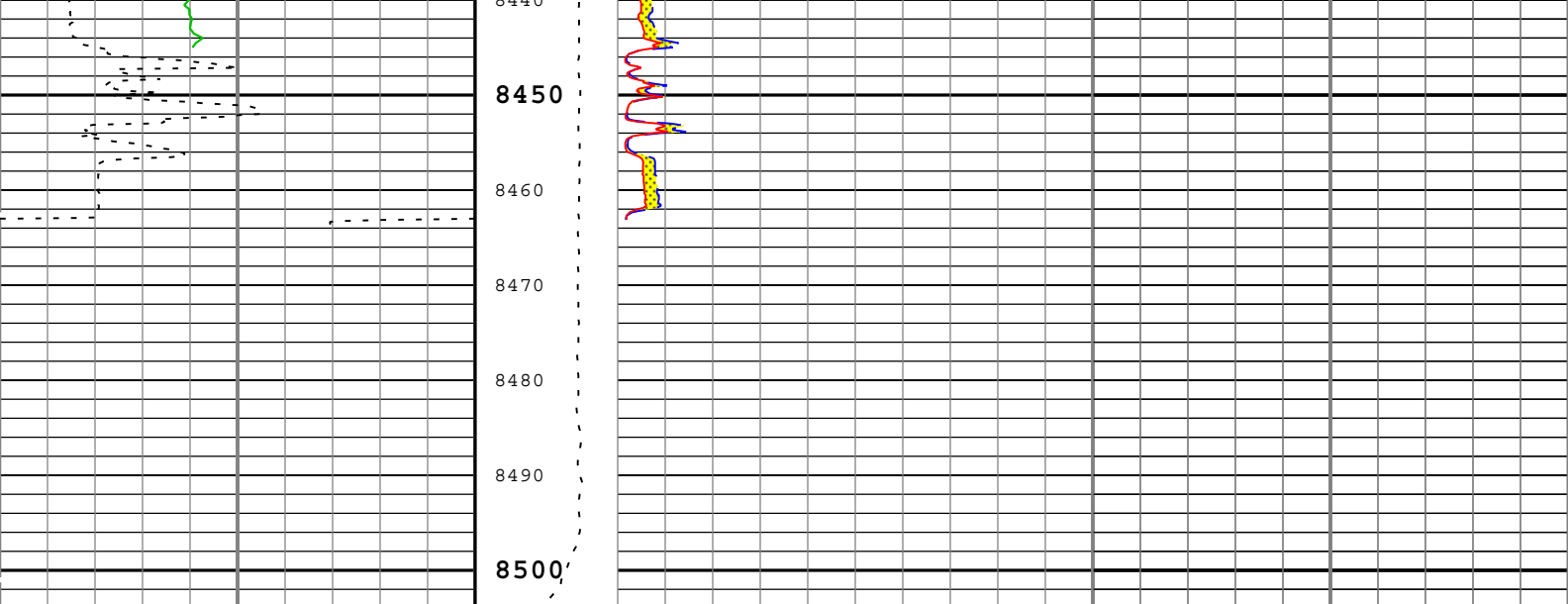
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GR Backup			Stuck Tool Indicator, Total (STIT)	PERM		
Caliper (CALI) HDRS-H				Synthetic Micro-Normal Resistivity (SMNO) HDRS-H		
6	in	16	0 ft 50	0	ohm.m	40
Gamma Ray (GR) HGNS-H			Cable Tension (TENS)	Synthetic Micro-Inverse Resistivity (SMIN) HDRS-H		
0	gAPI	200		0	ohm.m	40
Gamma Ray (GR) HGNS-H						
200	gAPI	400	0 lbf 6000			

TIME\_1900 - Time Marked every 60.00 (s)

Description: MCFL processing for Platform Express    Format: Log ( EMD 5in Micro Log )    Index Scale: 5 in per 100 ft    Index Unit: ft    Index Type: Measured  
Depth    Creation Date: 06-Nov-2012 05:32:26

Channel Processing Parameters				
Parameter	Description	Tool	Value	Unit
BARI	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Open	
BS	Bit Size	WLSESSION	Depth Zoned	in
CALI_SHIFT	CALI Supplementary Offset	HDRS-H	0	in
CBLO	Casing Bottom (Logger)	WLSESSION	410	ft
CDEN	Cement Density	HGNS-H	2	g/cm3
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	9.2	lbm/gal
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	CALI	
GRSE	Generalized Mud Resistivity Selection, from Measured or Computed Mud Resistivity	Borehole	AMF	
SOCO	Standoff Correction Option	HGNS-H	Yes	
TD	Total Measured Depth	Borehole	8507	ft

Depth Zone Parameters			
Parameter	Value	Start ( ft )	Stop ( ft )
BS	0	400	410
BS	7.875	410	8504

All depth are actual.

Tool Control Parameters				
Parameter	Description	Tool	Value	Unit
HRGD BRD TYPE	HRGD Board Type	HDRS-H	WITH HET	

MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	3600	ft/h
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Run1

5" Micro Log

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Depth Shift	Include Parallel Data
Run1	Log[3]:Up	Up	8067.37 ft	8515.82 ft	06-Nov-2012 3:18:09 AM	06-Nov-2012 3:27:19 AM	8.07 ft	
Run1	Log[4]:Up	Up	166.47 ft	8504.24 ft	06-Nov-2012 3:30:47 AM	06-Nov-2012 5:24:04 AM	0.00 ft	

All depths are referenced to toolstring zero

Log

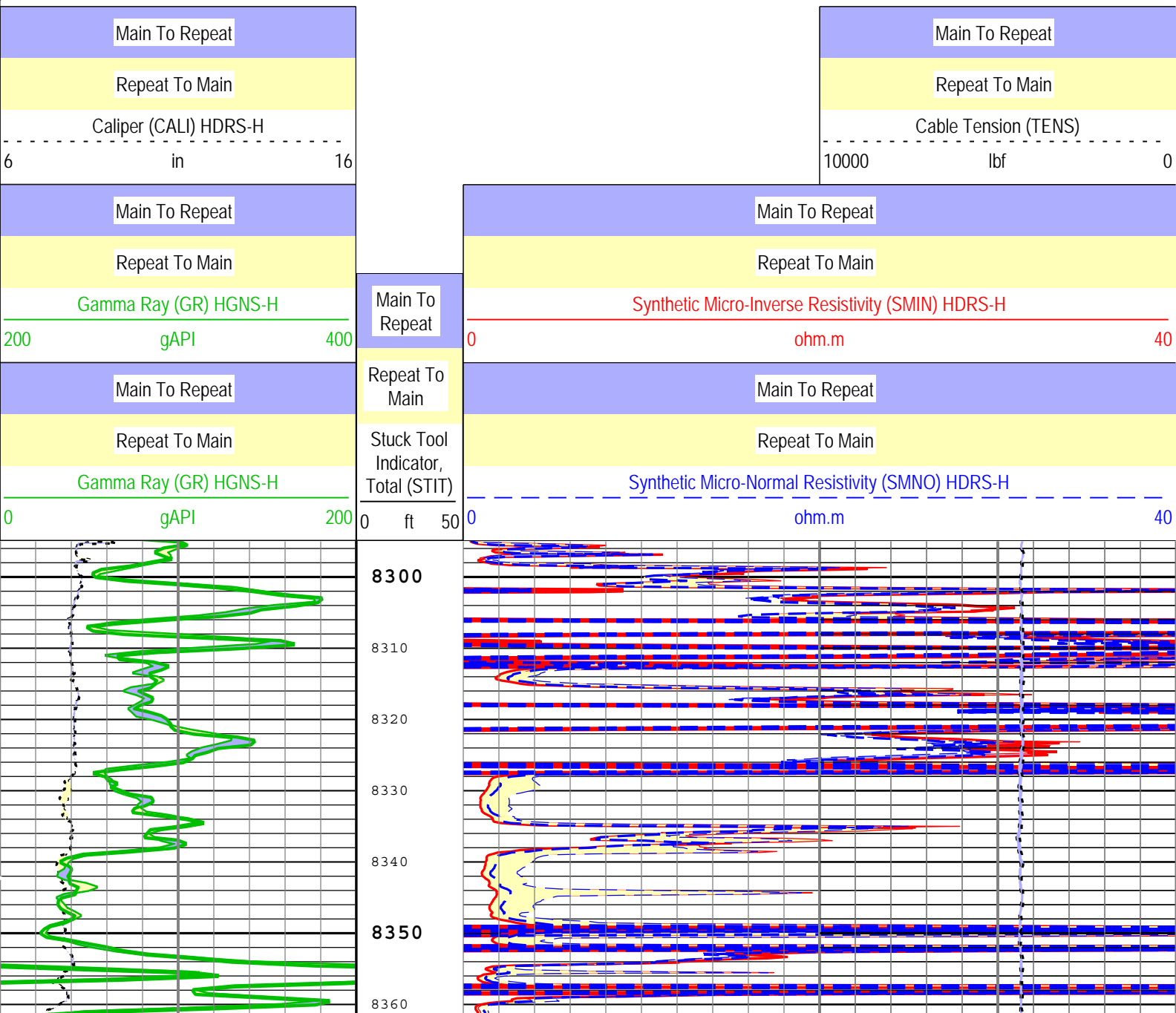
Run1: Log[4]:Up

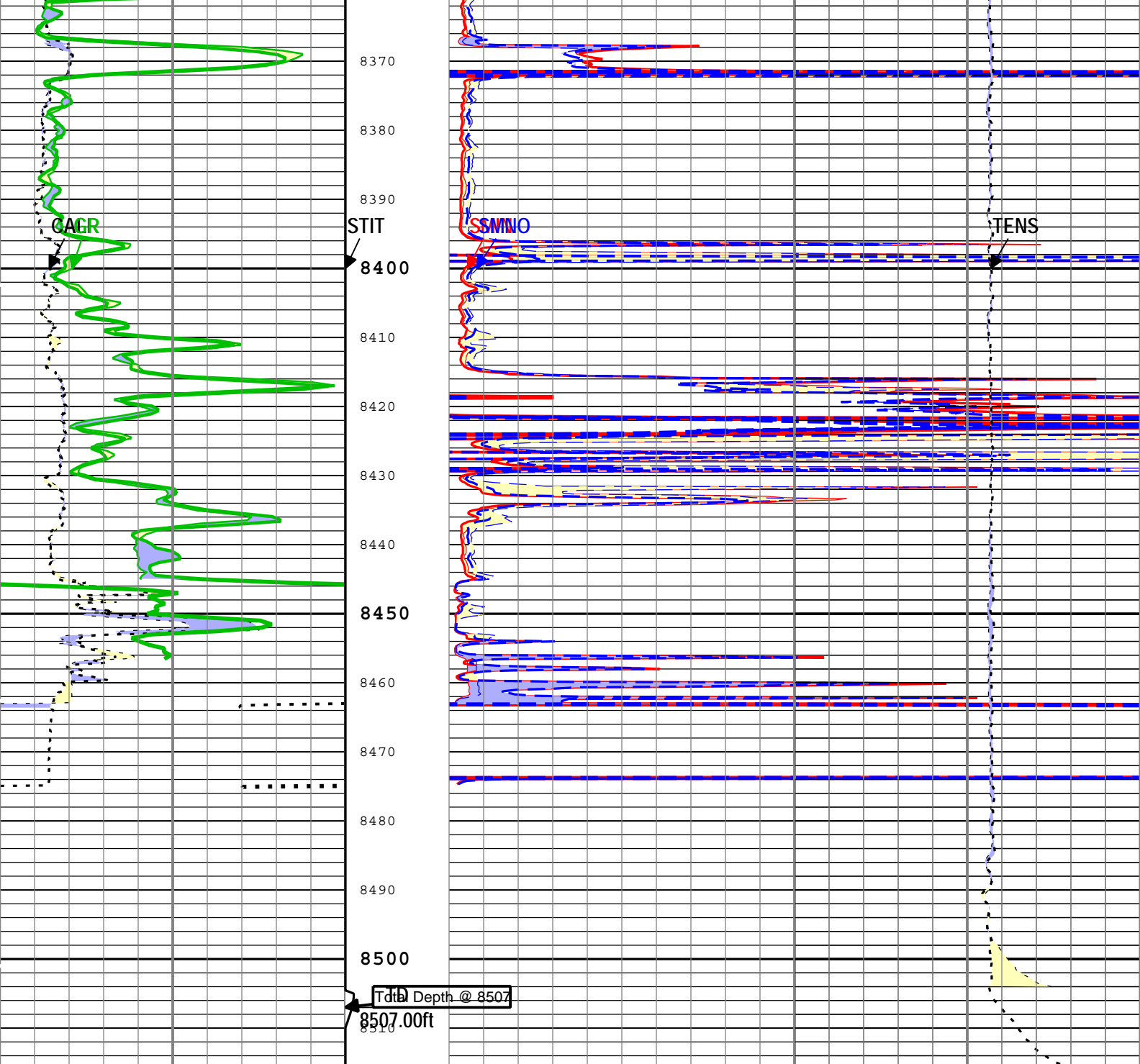
Description: MCFL processing for Platform Express   Format: Log ( EMD 5in Micro Log RA )   Index Scale: 5 in per 100 ft   Index Unit: ft   Index Type: Measured Depth   Creation Date: 06-Nov-2012 05:32:29

Channel      Source      Sampling

TIME\_1900   WLWorkflow   0.1in

TIME\_1900 - Time Marked every 60.00 (s)





Main To Repeat		Main To Repeat		Main To Repeat	
Repeat To Main		Repeat To Main		Repeat To Main	
Caliper (CALI) HDRS-H		Stuck Tool Indicator, Total (STIT)		Synthetic Micro-Inverse Resistivity (SMIN) HDRS-H	
6	in	0	ft	0	ohm.m
Main To Repeat		Main To Repeat		Main To Repeat	
Repeat To Main		Repeat To Main		Repeat To Main	
Gamma Ray (GR) HGNS-H		Synthetic Micro-Normal Resistivity (SMNO) HDRS-H		Main To Repeat	
200	gAPI	0	ohm.m	Repeat To Main	
Main To Repeat		Main To Repeat		Main To Repeat	
Repeat To Main		Repeat To Main		Repeat To Main	

TIME\_1900 - Time Marked every 60.00 (s)

Description: MCFL processing for Platform Express    Format: Log ( EMD 5in Micro Log RA )    Index Scale: 5 in per 100 ft    Index Unit: ft    Index Type:  
Measured Depth    Creation Date: 06-Nov-2012 05:32:29

Calibration Report			
HDRS-H (HILT Density and Rxo Sonde, 150 degC) Calibration - Run Run1			
Primary Equipment :			
	HILT High-Resolution Control Cartridge, 150 degC	HRCC-H	
	HILT Resistivity Gamma-Ray Density Device, 150 degC	HRGD-H	3816
Auxiliary Equipment :			
	HRDD Backscatter Detector	Backscatter	
	HRDD Long Spacing Detector	Long Spacing	28732
	HRDD Short Spacing Detector	Short Spacing	27634
	Cesium 137 Gamma-Ray Logging Source	GSR-J	5240
	HILT High-Resolution Control Cartridge, 150 degC	HRCC-H	
	HILT High-Resolution Mechanical Sonde, 150 degC	HRMS-H	
Calibration Parameter :			
	Small Ring Size (Caliper Calibration Small Ring)	8.00	
	Large Ring Size (Caliper Calibration Large Ring)	12.00	

HDRS Caliper Calibration - Caliper Accumulations

Before (Measured): 16:23:18 01-Nov-2012    Expired by 3 days							
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Small Ring	in	Before	8.00	6.00	8.74	10.00	
Large Ring	in	Before	12.00	9.00	13.10	15.00	

HDRS Density Calibration - Inversion Results

Master (EEPROM): 12:02:16 27-Oct-2012							
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Rho Aluminum	g/cm3	Master	2.596	2.586	2.599	2.606	
Rho Magnesium	g/cm3	Master	1.686	1.676	1.685	1.696	
Pe Aluminum		Master	2.570	2.470	2.534	2.670	
Pe Magnesium		Master	2.650	2.550	2.642	2.750	

HDRS Density Calibration - Deviation Summary

Master (EEPROM): 12:02:16 27-Oct-2012							
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
BS Average Deviation	%	Master	0	-0.6000	0.5313	0.6000	
BS Max Deviation	%	Master	0	-1.6000	1.0019	1.6000	
SS Average Deviation	%	Master	0	-1.0000	0.3341	1.0000	
SS Max Deviation	%	Master	0	-2.5000	1.1387	2.5000	
LS Average Deviation	%	Master	0	-1.5000	0.7415	1.5000	
LS Max Deviation	%	Master	0	-3.5000	2.3181	3.5000	

HDRS Density Calibration - Background Summary

Master (EEPROM): 12:02:16 27-Oct-2012    Before (Measured): 16:24:27 01-Nov-2012    Expired by 3 days							
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
BS Window Ratio		Master	1.0000		0.7507		
		Before	0.7507	0.7131	0.7495	0.7882	
		Before-Master	----	----	-0.0012	----	
BS Window Sum	1/s	Master	1		26052		
		Before	26052	24749	26225	27355	
		Before-Master	----	----	173	----	
SS Window Ratio		Master	1.0000		0.4792		
		Before	0.4792	0.4552	0.4825	0.5031	
		Before-Master	----	----	0.0033	----	
SS Window Sum	1/s	Master	1		10312		
		Before	10312	9797	10298	10828	
		Before-Master	----	----	-14	----	
LS Window Ratio		Master	1.0000		0.3034		

Platform Express