

Company: SOURCE ENERGY MIDCON LLC

Well: NEVILLE 12-11-12-14H

Field: WILDCAT

County: SUMMER COUNTY State: KANSAS

PLATFORM EXPRESS

COMPENSATED NEUTRON

LITHOLOGY DENSITY

County: SUMMER COUNTY  
 Field: WILDCAT  
 Location: 350 FNL & 350 FWL  
 Well: NEVILLE 12-11-12-14H  
 Company: SOURCE ENERGY MIDCON LLC

Location:		350 FNL & 350 FWL	Elev.:	K.B. 1306.60 ft
Permanent Datum:	Ground Level		G.L. 1293.00 ft	
Log Measured From:	Kelly Bushing		D.F. 1306.60 ft	
Drilling Measured From:	Kelly Bushing			
API Serial No. 15-191-22679	Section: 12	Township: 32	Range: 1E	

Logging Date	30-Jun-2013
Run Number	ONE
Depth Driller	7909.00 ft
Schlumberger Depth	7906.00 ft
Bottom Log Interval	7906.00 ft
Top Log Interval	4086.00 ft
Casing Driller Size @ Depth	7 in @ 4101.00 ft
Casing Schlumberger	4086 ft
Bit Size	6.125 in
Type Fluid In Hole	Water
Density	8.4 lbm/gal
Viscosity	27 s
PH	
Source of Sample	Active Tank
RM @ Meas Temp	0.2 ohm.m @ 68 degF
RMF @ Meas Temp	0.15 ohm.m @ 68 degF
RMC @ Meas Temp	
Source RMF	RMC
RM @ BHT	0.07 @ 212
RMF @ BHT	0.05 @ 212
RMC @ BHT	Calculated
Max Recorded Temperatures	
Circulation Stopped	Time 30-Jun-2013 20:00:00
Logger on Bottom	Time
Unit Number	9110
Location:	DANNY AKAKPO GRAHAM TEXAS
Recorded By	CHARLES VALLOT

## Disclaimer

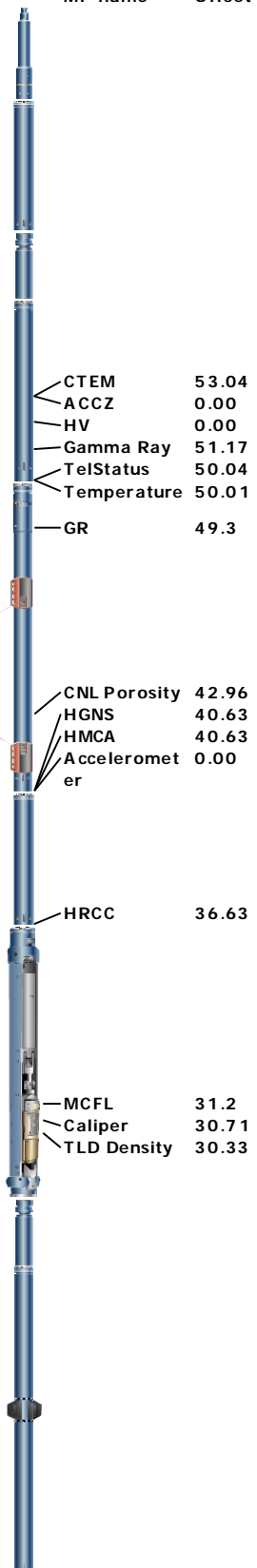
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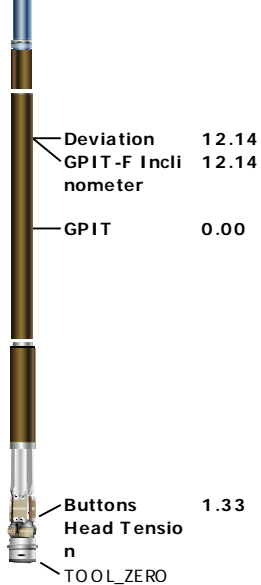
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## Remarks and Equipment Summary

ONE: Toolstring				ONE: Remarks
Equip name	Length	MP name	Offset	Thank you for choosing Schlumberger of Elk City, OK.
XHUH XHUH	103.31			
				580 225 4300 --Elk City, OK Shop
A adaptor_Head	100.54			
AH-184[2]	58.54			
EDTC-B EDTH-B EDTG-A EDTC-B	56.54			
		CTEM	53.04	
		ACCZ	0.00	
		HV	0.00	
		Gamma Ray	51.17	
		TelStatus	50.04	
		Temperature	50.01	
HGNS-H	50.04			
HGNH NSR-F:2247 NPV-N HMCA-H HGNS-H HACCZ-H:3996		GR	49.3	
		CNL Porosity	42.96	
		HGNS	40.63	
		HMCA	40.63	
		Accelerometer	0.00	
HDRS-H	40.63			
ECH-MEB HRCC-H HRMS-H Short Spacing Long Spacing:28400 Backscatter GPV-Q HRGD-H:3927 GSR-J:5184		HRCC	36.63	
		MCFL	31.2	
		Caliper	30.71	
		TLD Density	30.33	
AH-184[1]	28.39			
FBST-B ECH-MRA FBCCA AH-184 AH-185 FBASH GPIC-F DHRU-F FBSC-B FBSS-B	26.39			





Lengths are in ft  
 Maximum Outer Diameter = 5.000 in  
 Line: Sensor Location, Value: Gating Offset

## Depth Summary

<b>Depth Control Parameters</b>	ONE		
Conveyance Type	Wireline		
<b>Depth Remark Parameters</b>	ONE		
Depth Remark 1	LOG CORRELATED TO FIRST TRIP IN HOLE PEX-BHC-AIT		
<b>Depth Measuring Device</b>	ONE		
Type	IDW-B		
Wheel Correction 1	1		
Wheel Correction 2	0		
<b>Tension Device</b>	ONE		
Type	CMTD-B/A		
Calibration Points	0		
<b>Logging Cable</b>	ONE		
Type	7-46NT-XS		
Logging Cable Length ( ft )	24000.00		

**ONE**

**Main Pass Porosity 5" = 100'**

## Integration Summary

Output Channel(s)	Output Description	Input Parameter	Output Value	Unit
ICV	Integrated Cement Volume	GCSE_UP_PASS, FCD	321.65	ft3
IHV	Integrated Hole Volume	GCSE_UP_PASS	728.8	ft3

## Software Version

Acquisition System	Version
MaxWell	3.1.9755.0
Application Patch	SP-20121102-3.1.9755.1422 EXP_APL-ICE15-3.1.9755.1637

Computation	Description	Version
Borehole	Borehole Ensemble provides common Borehole Parameters and Channels	3.1.9755.0
DepthCorrection	DepthCorrection	3.1.9755.0

Tool Elements	Description	Software Version	Firmware Version
HRCCH	HRT High Resolution Control Cartridge 150 degC	3.1.9755.0	2.0

HRCC-H	HILT High-Resolution Control Cartridge, 150 degC	3.1.9755.0	2.0
HGNS-H	HILT Gamma-Ray and Neutron Sonde, 150 degC	3.1.9755.0	2.0
HRGD-H	HILT Resistivity Gamma-Ray Density Device, 150 degC	3.1.9755.0	3.0

## Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Depth Shift	Include Parallel Data
ONE	Log[3]:Up	Up	169.15 ft	7773.05 ft	30-Jun-2013 12:26:15 PM	30-Jun-2013 4:34:33 PM	2.00 ft	true

All depths are referenced to toolstring zero

## Log

ONE: Log[3]:Up

Description: Nuclear standard resolution template for Platform Express Format: Log ( Porosity 5 inch ) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 30-Jun-2013 17:41:09

Channel Source Sampling

CALI	HDRS-H:HRCC-H:HRCC-H	1in
DPHZ	HDRS-H:HRMS-H:HRGD-H	2in
GR	HGNS-H:HGNS-H:HGNS-H	6in
HDRA	HDRS-H:HRMS-H:HRGD-H	2in
ICV	Borehole	6in
IHV	Borehole	6in
PEFZ	HDRS-H:HRMS-H:HRGD-H	2in
SMIN	HDRS-H:HRMS-H:HRGD-H	2in
SMNO	HDRS-H:HRMS-H:HRGD-H	2in
STIT	DepthCorrection	6in
TENS	WLWorkflow	1in
TIME_1900	WLWorkflow	0.1in

—|ICV - Integrated Cement Volume every 10.00 (ft3)

—|IHV - Integrated Hole Volume every 100.00 (ft3)

—|IHV - Integrated Hole Volume every 10.00 (ft3)

—|ICV - Integrated Cement Volume every 100.00 (ft3)

TIME\_1900 - Time Marked every 60.00 (s)

TIME\_1900 - Elapsed time since midnight, 30 December 1899 every 60.00 (s)

### Possible Permeability

Synthetic Micro-Normal Resistivity (SMNO) HDRS-H

0 ohm.m 80

Synthetic Micro-Inverse Resistivity (SMIN) HDRS-H

0 ohm.m 80

Stuck Tool Indicator, Total (STIT)

Standard Resolution Formation Photoelectric Factor (PEFZ) HDRS-H

Density Standoff Correction (HDRA) HDRS-H

Gamma Ray Back-up

0 ft 50

0 10

-0.25 g/cm3 0.25

Caliper (CALI) HDRS-H

Cable Tension (TENS)

Gas Effect

3 in 13

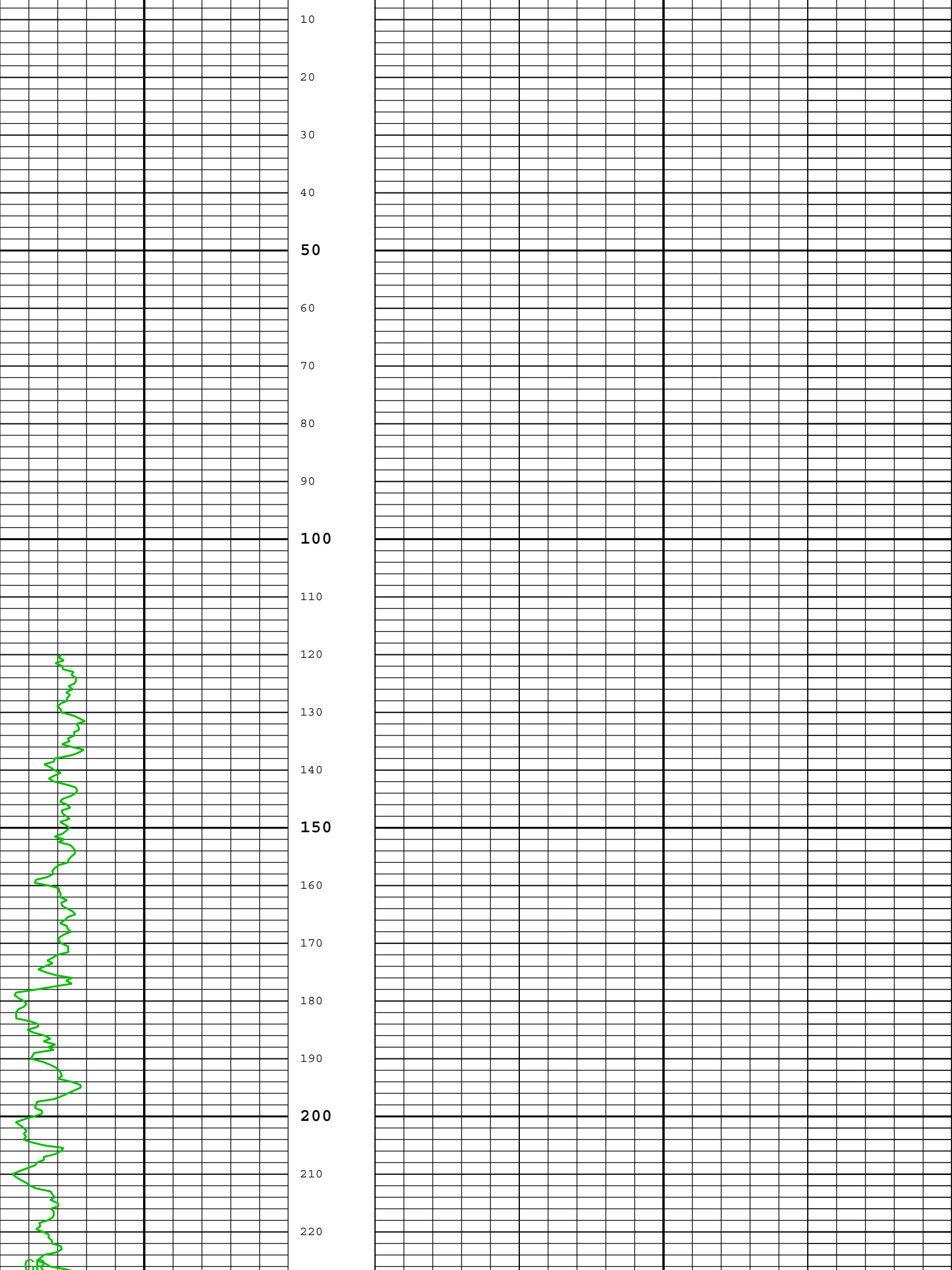
Gamma Ray (GR) HGNS-H

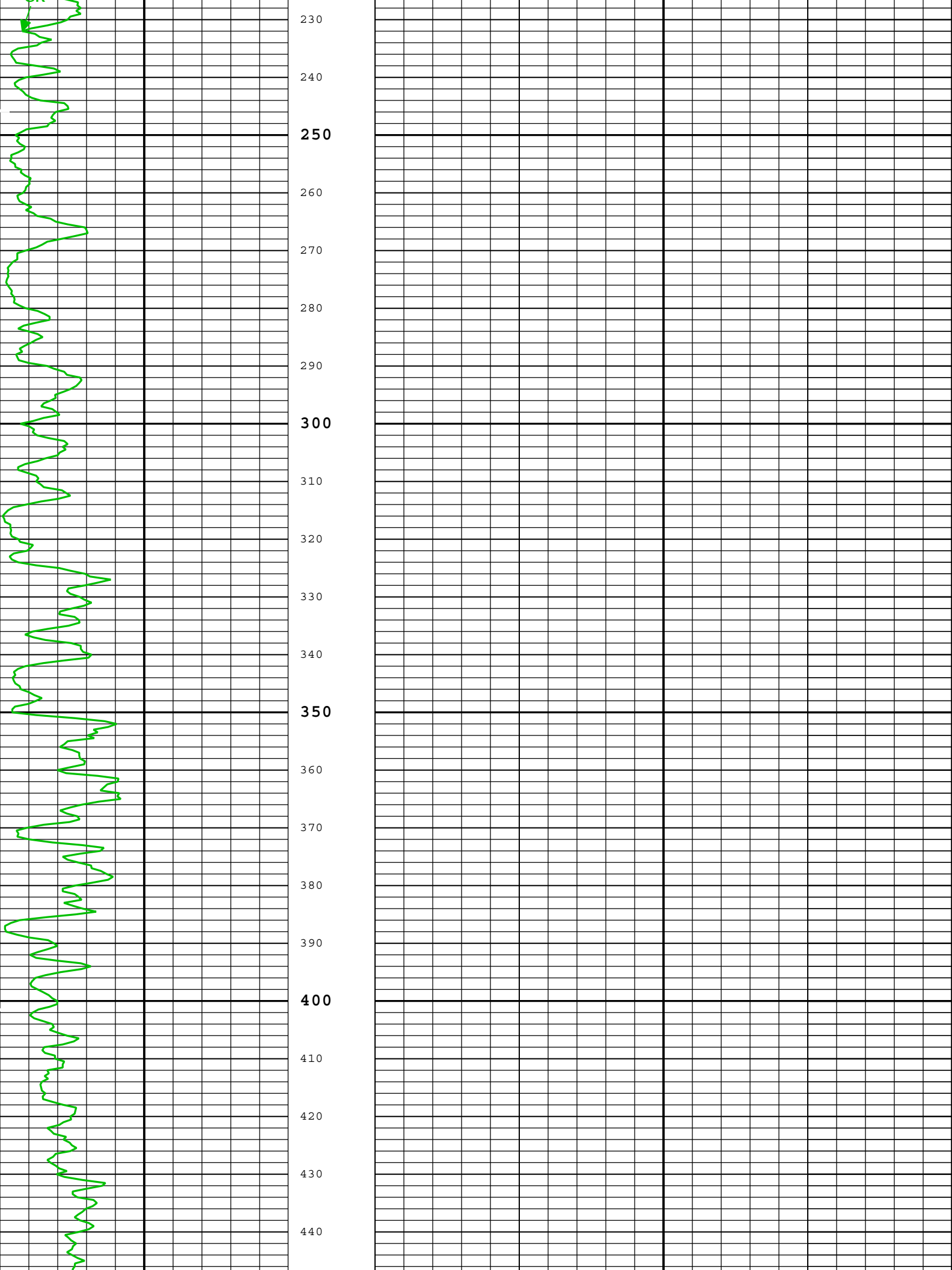
Standard Resolution Density Porosity (DPHZ) HDRS-H

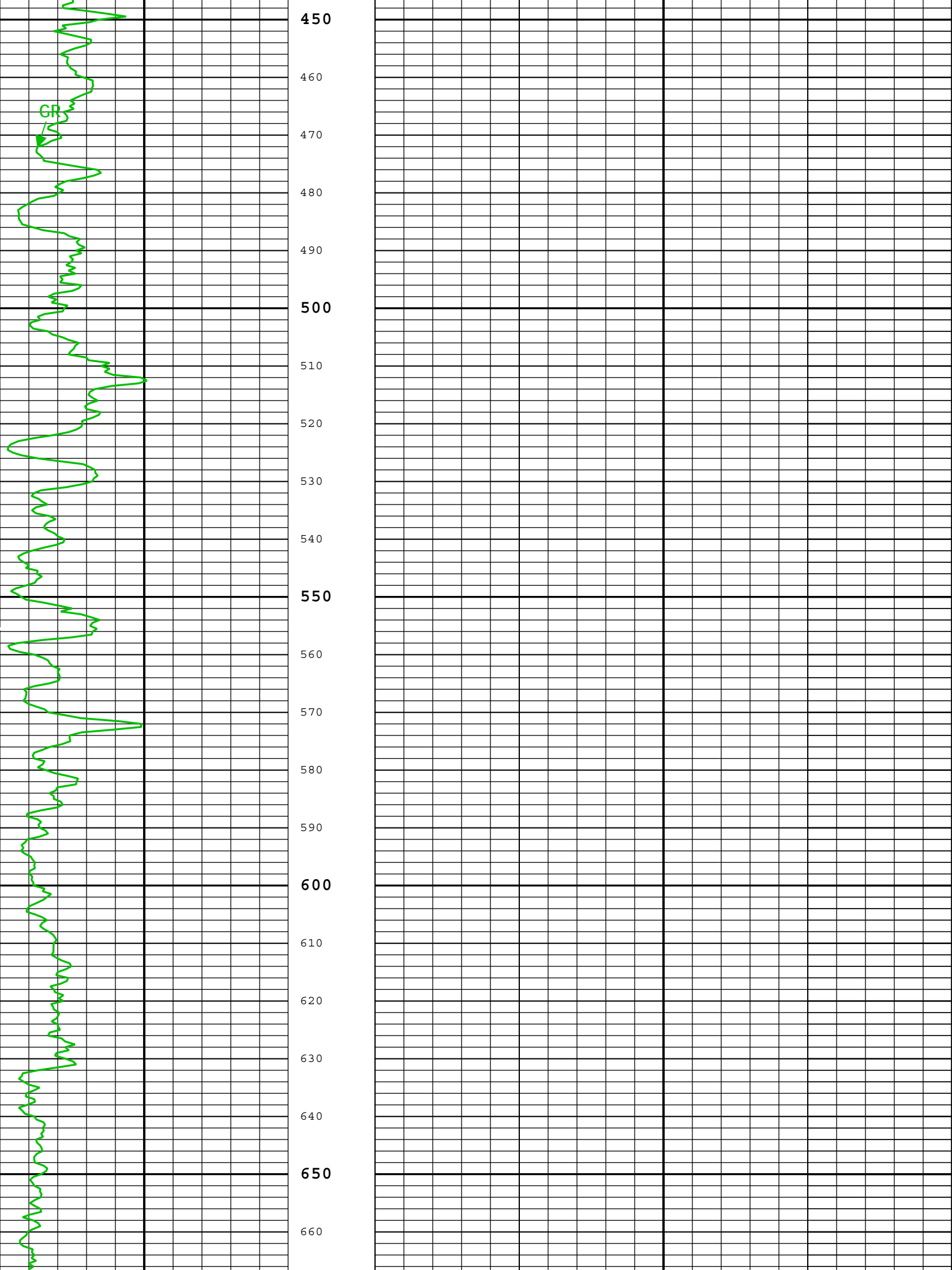
0 gAPI 150

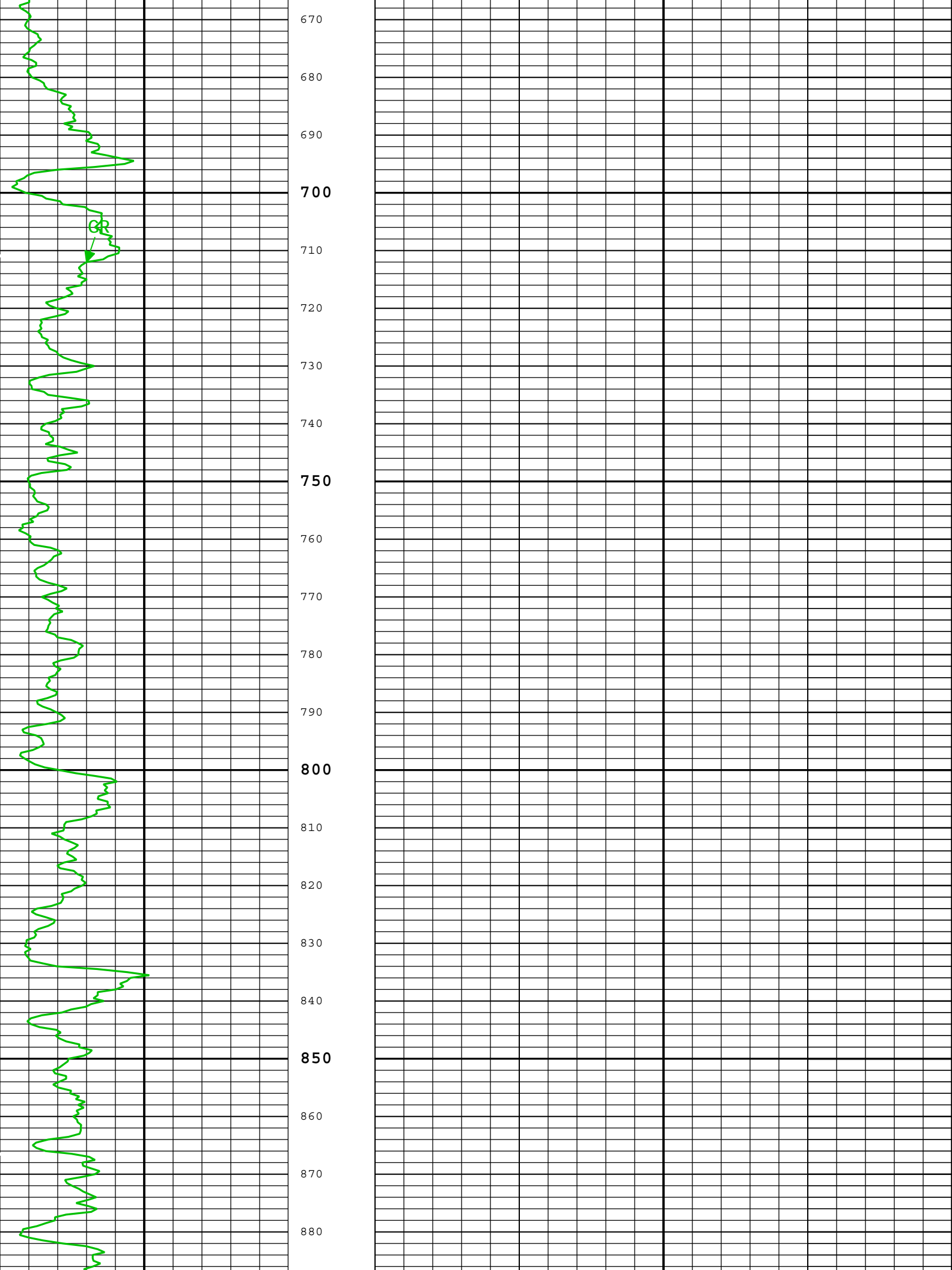
0.3 ft3/ft3 -0.1

Porosity 5" per 100' Limestone Matrix, 2.71 g/cc

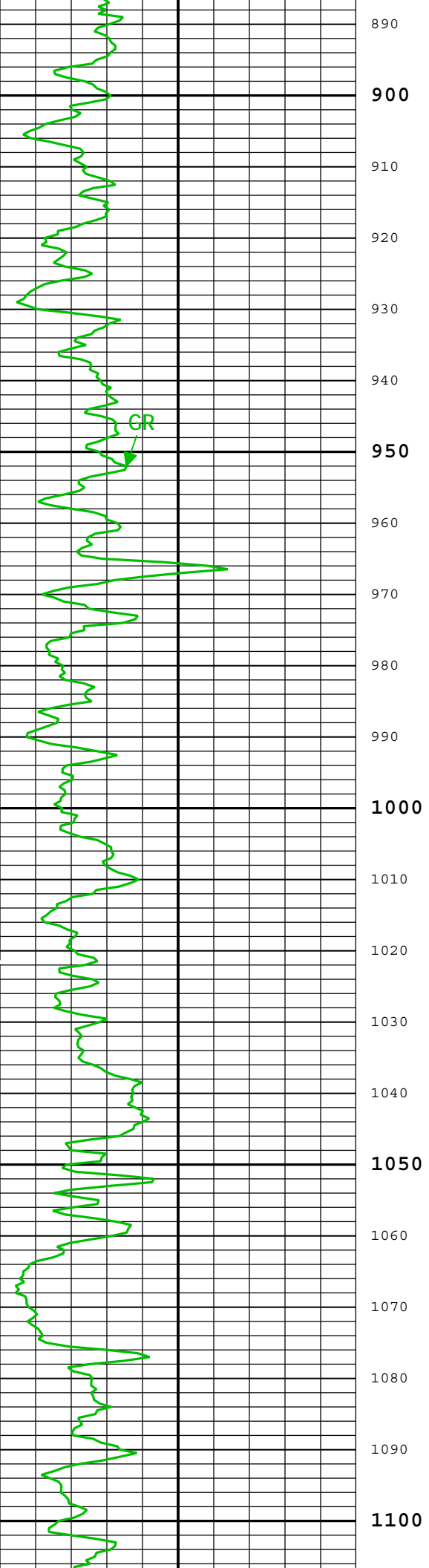


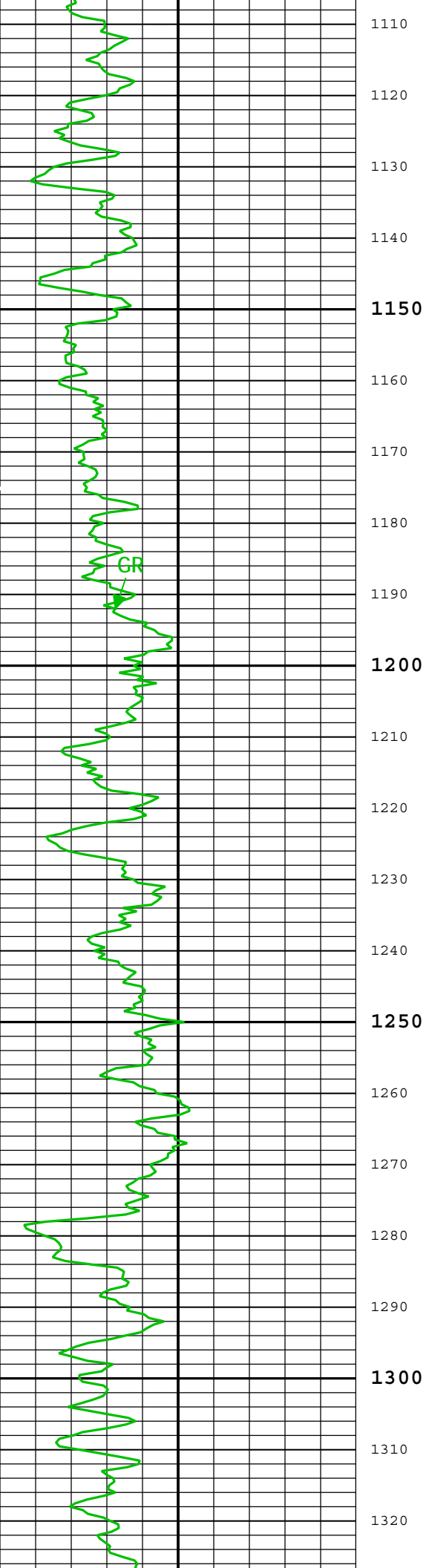


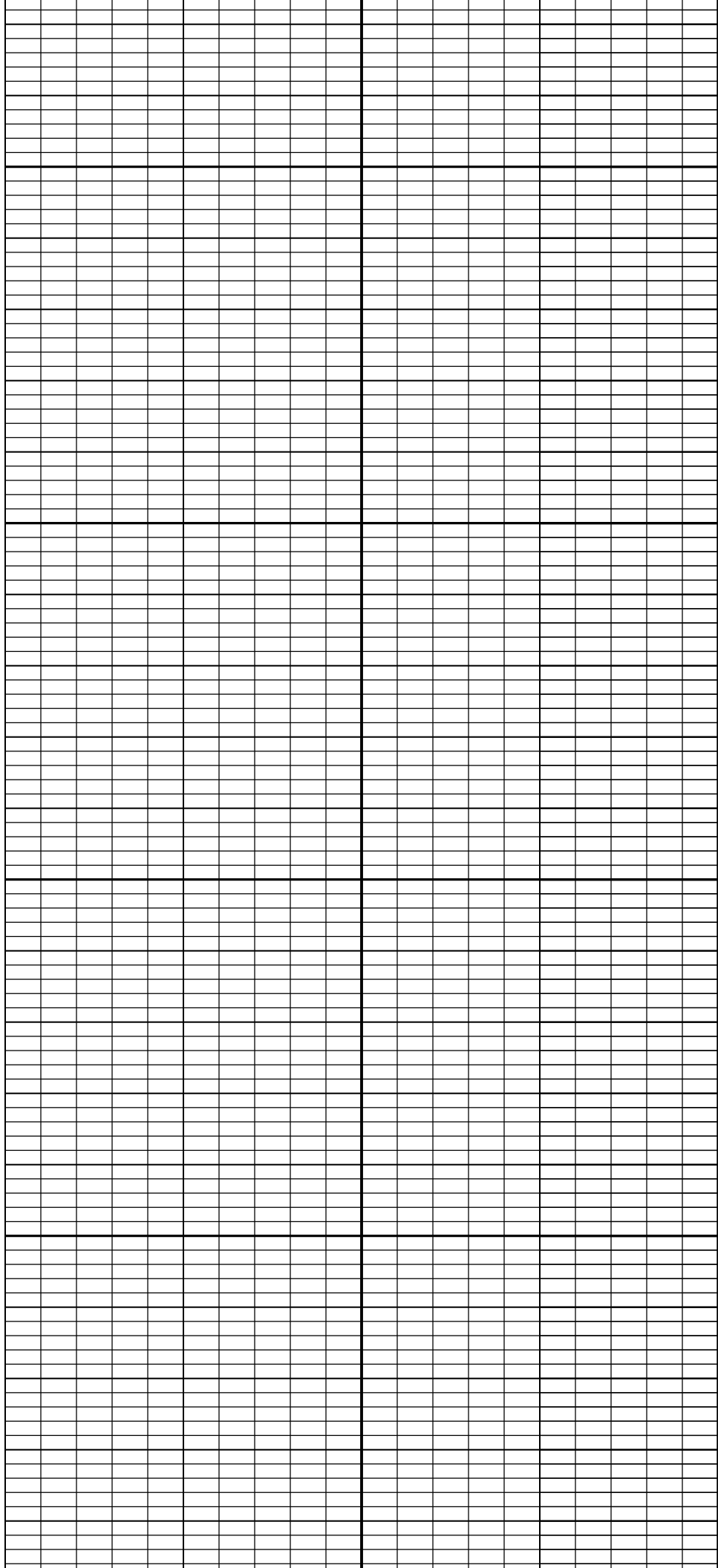
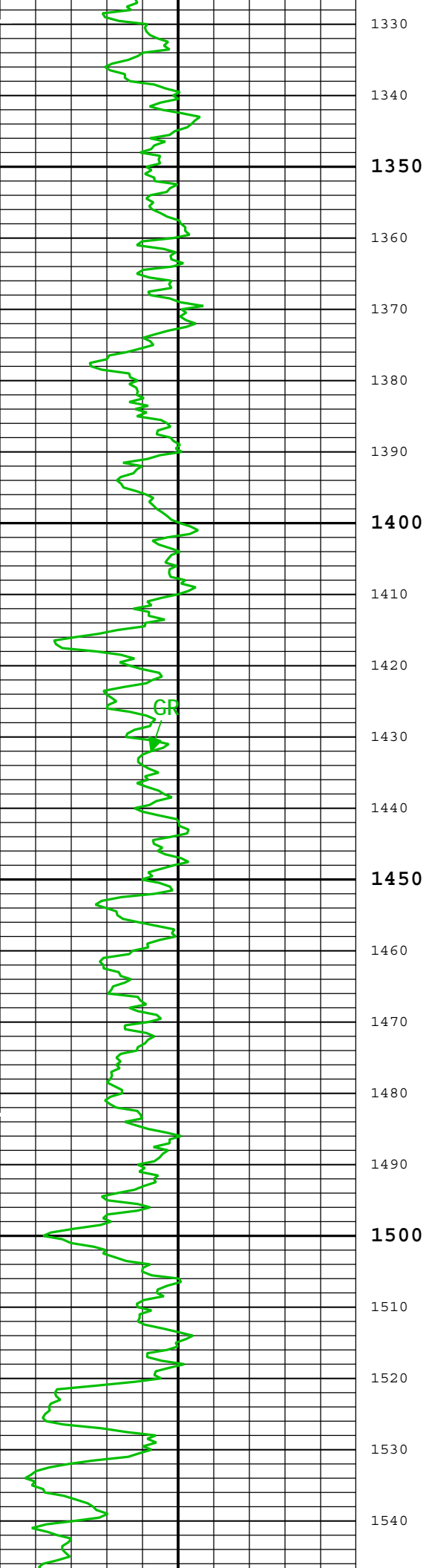


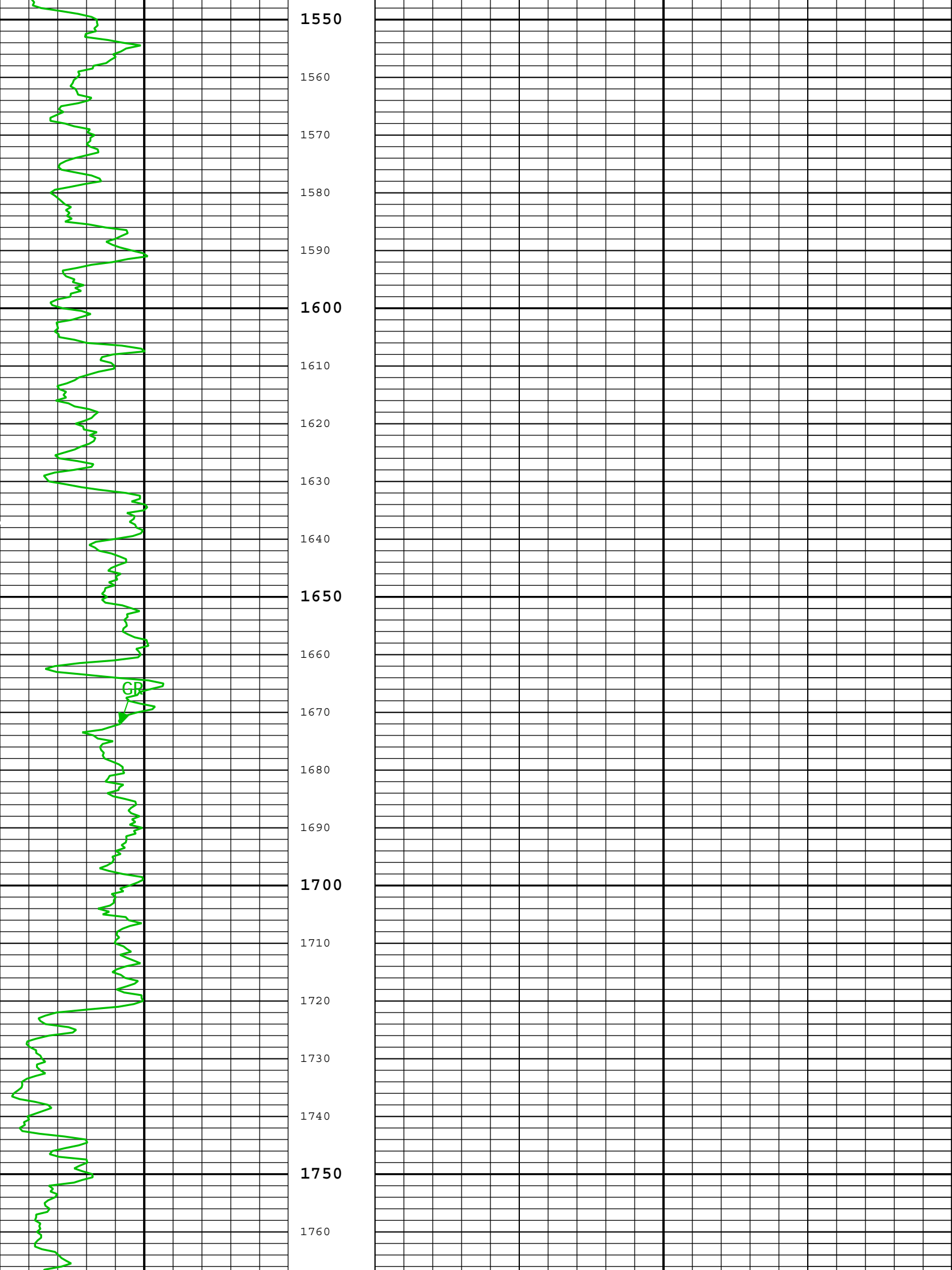


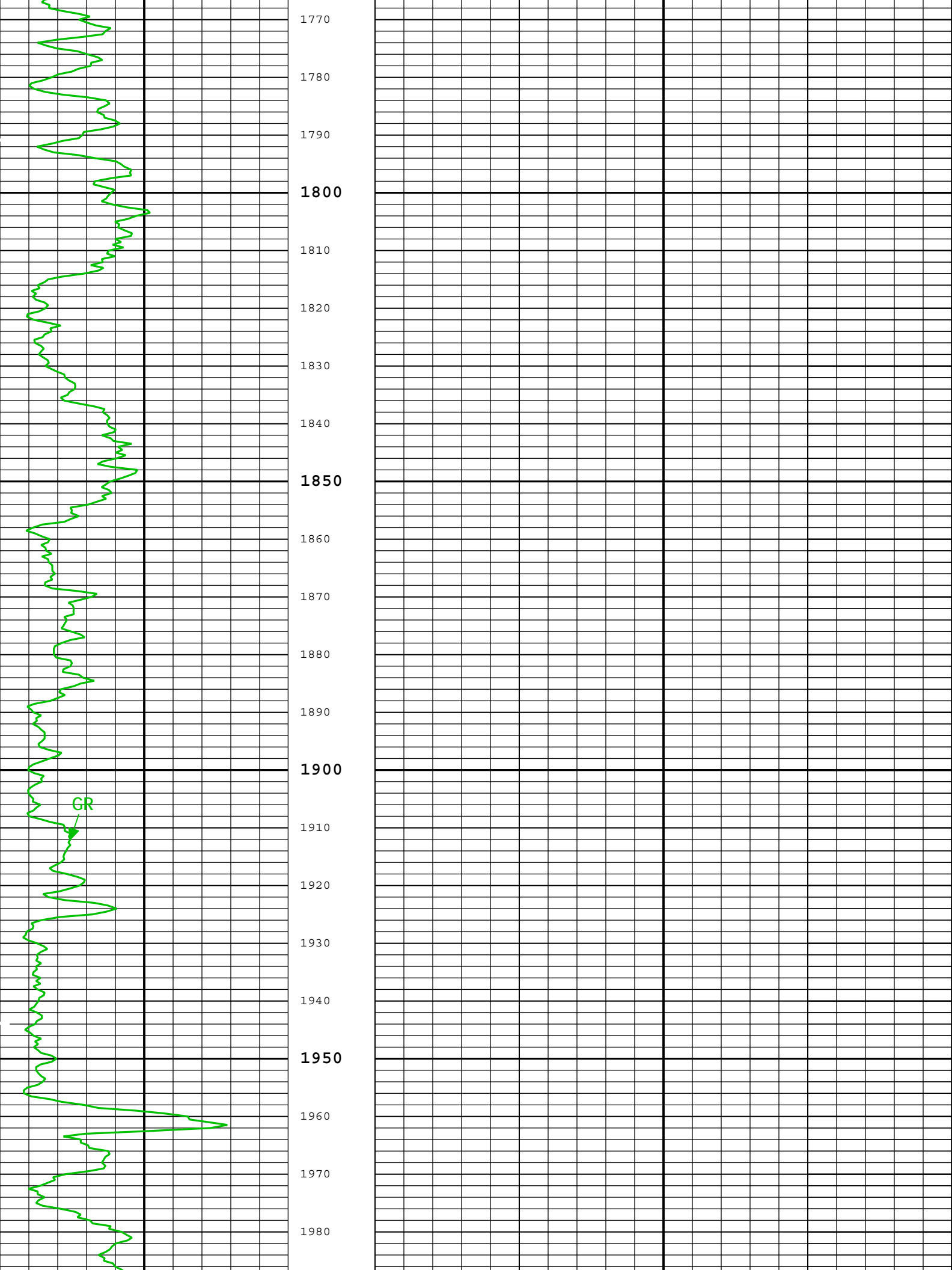


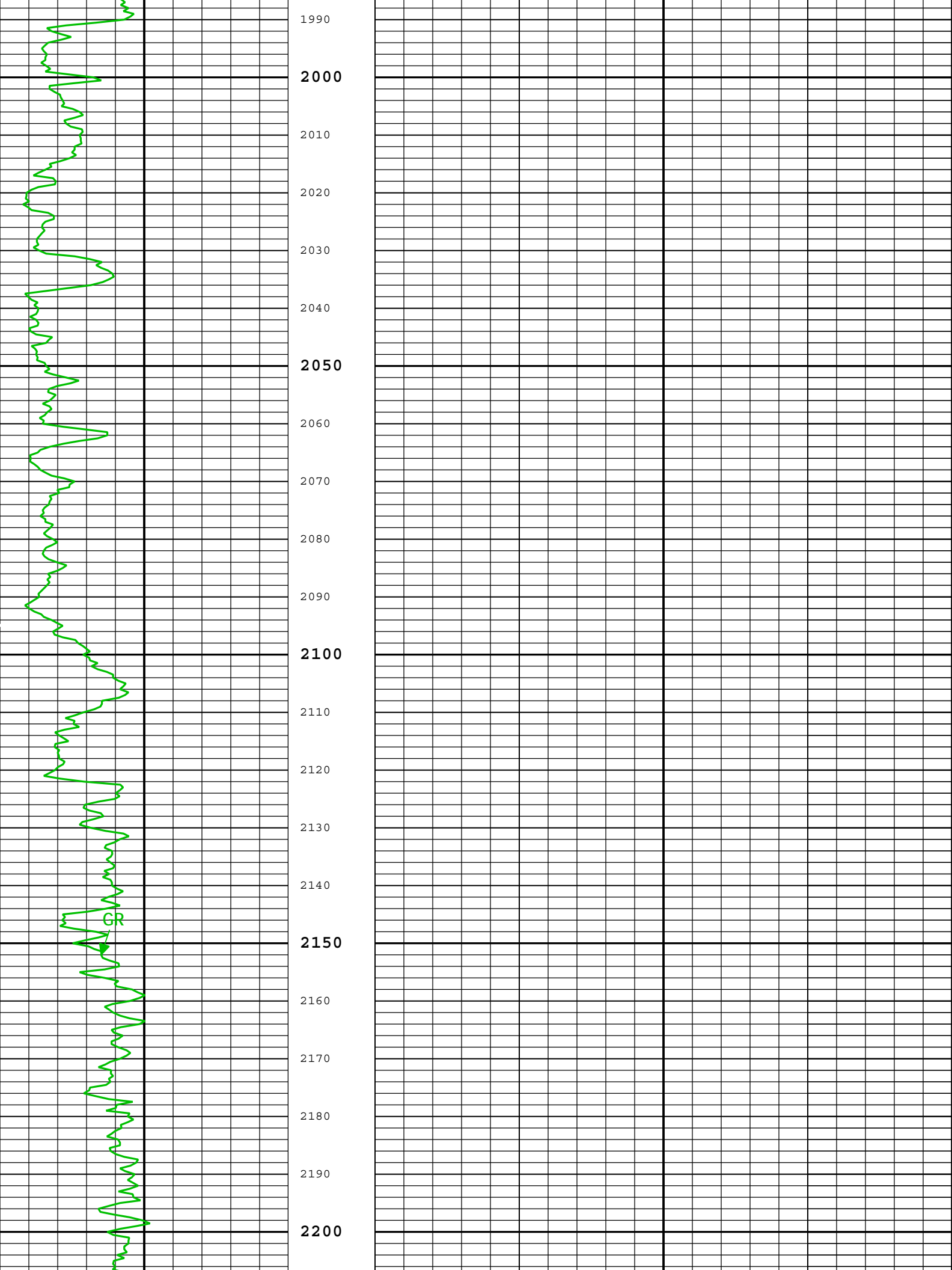


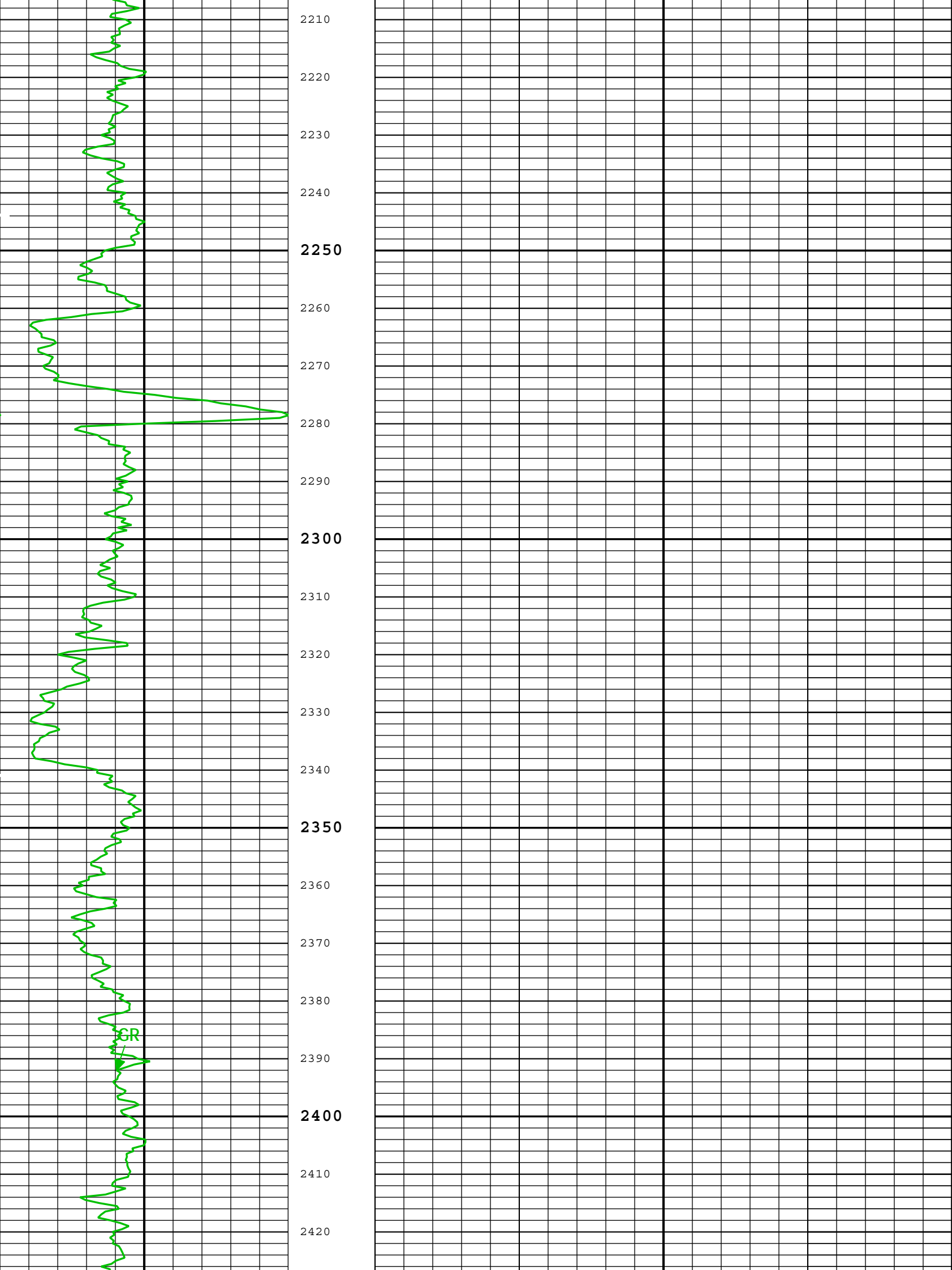


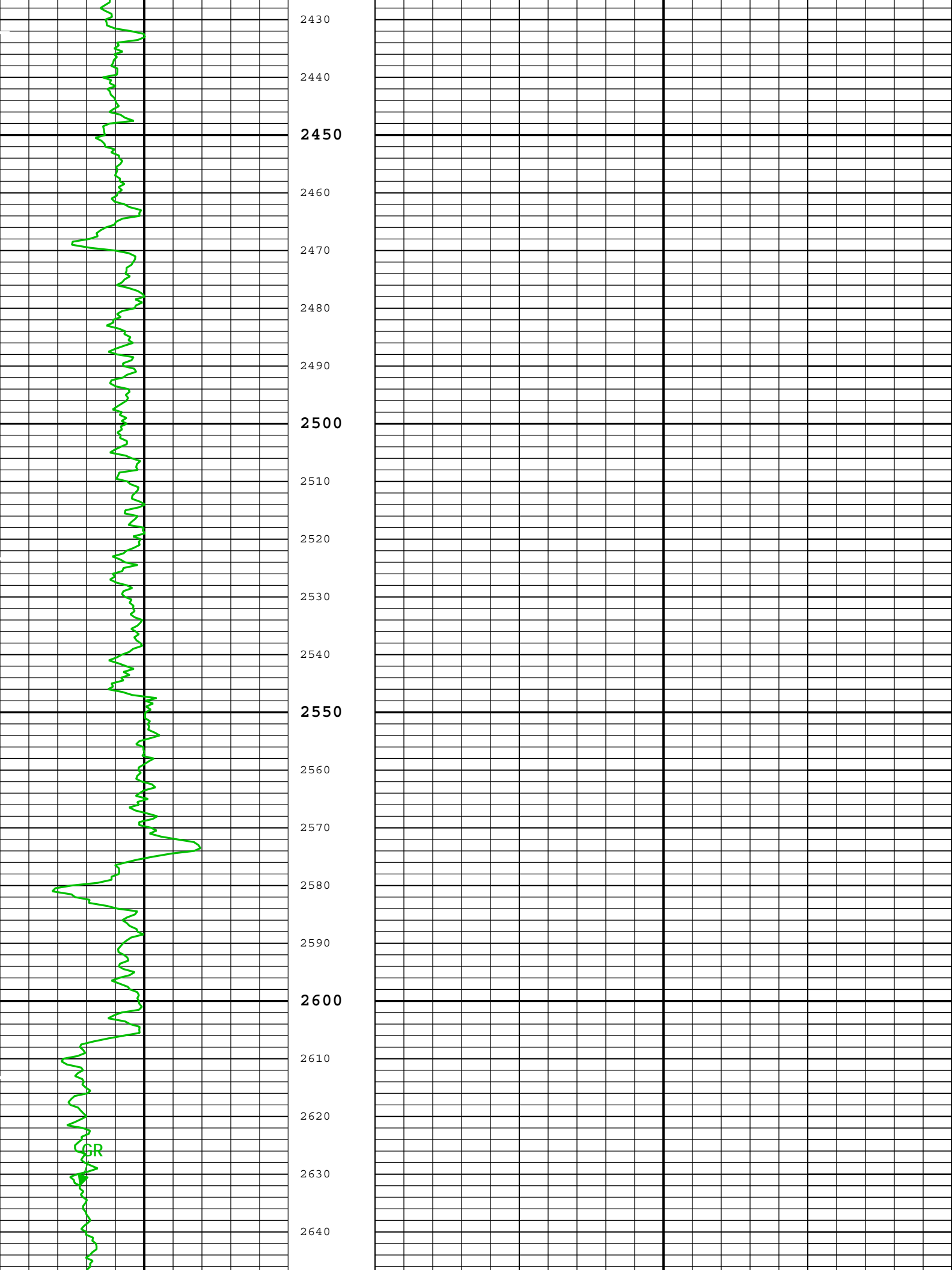




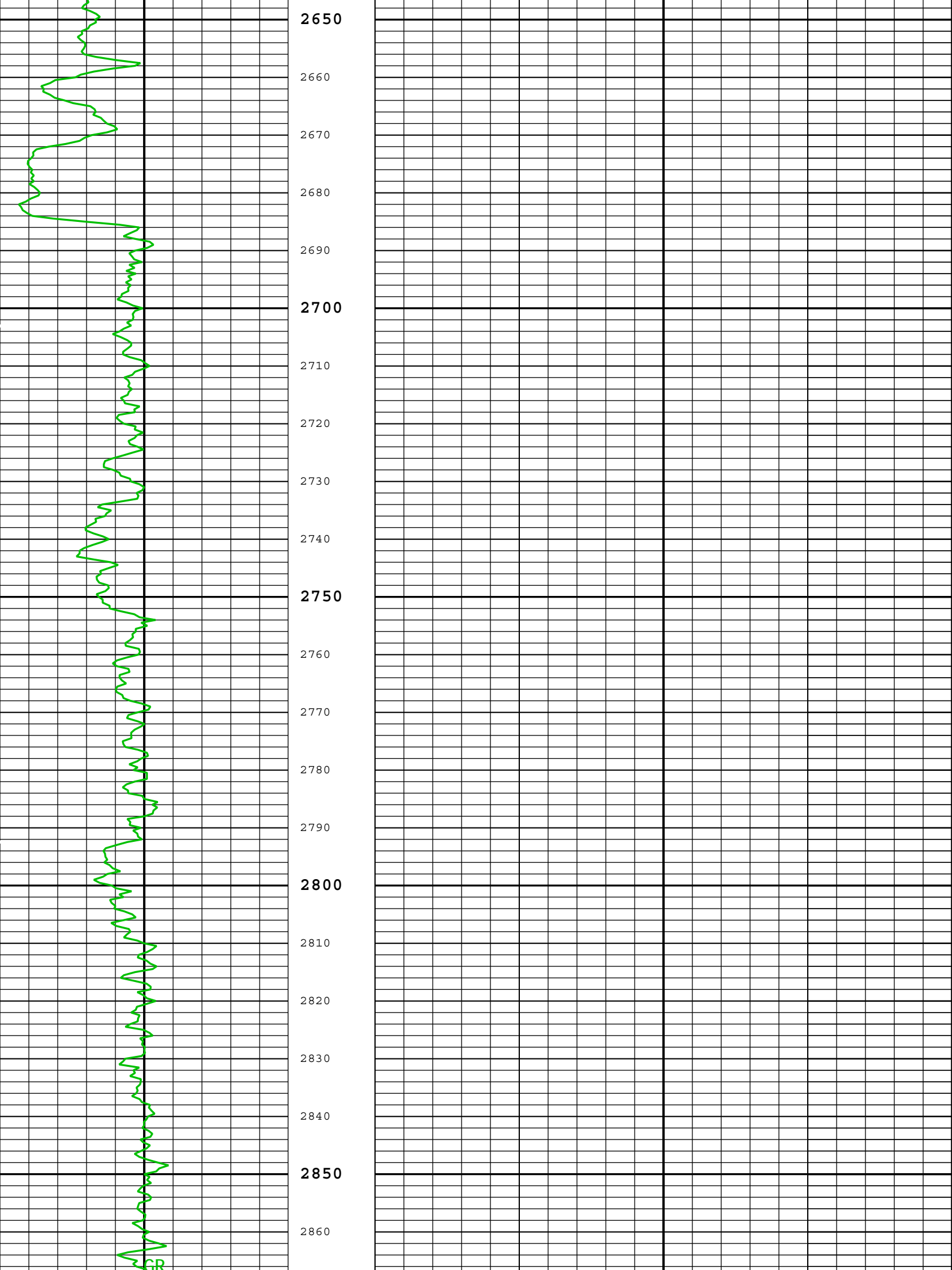


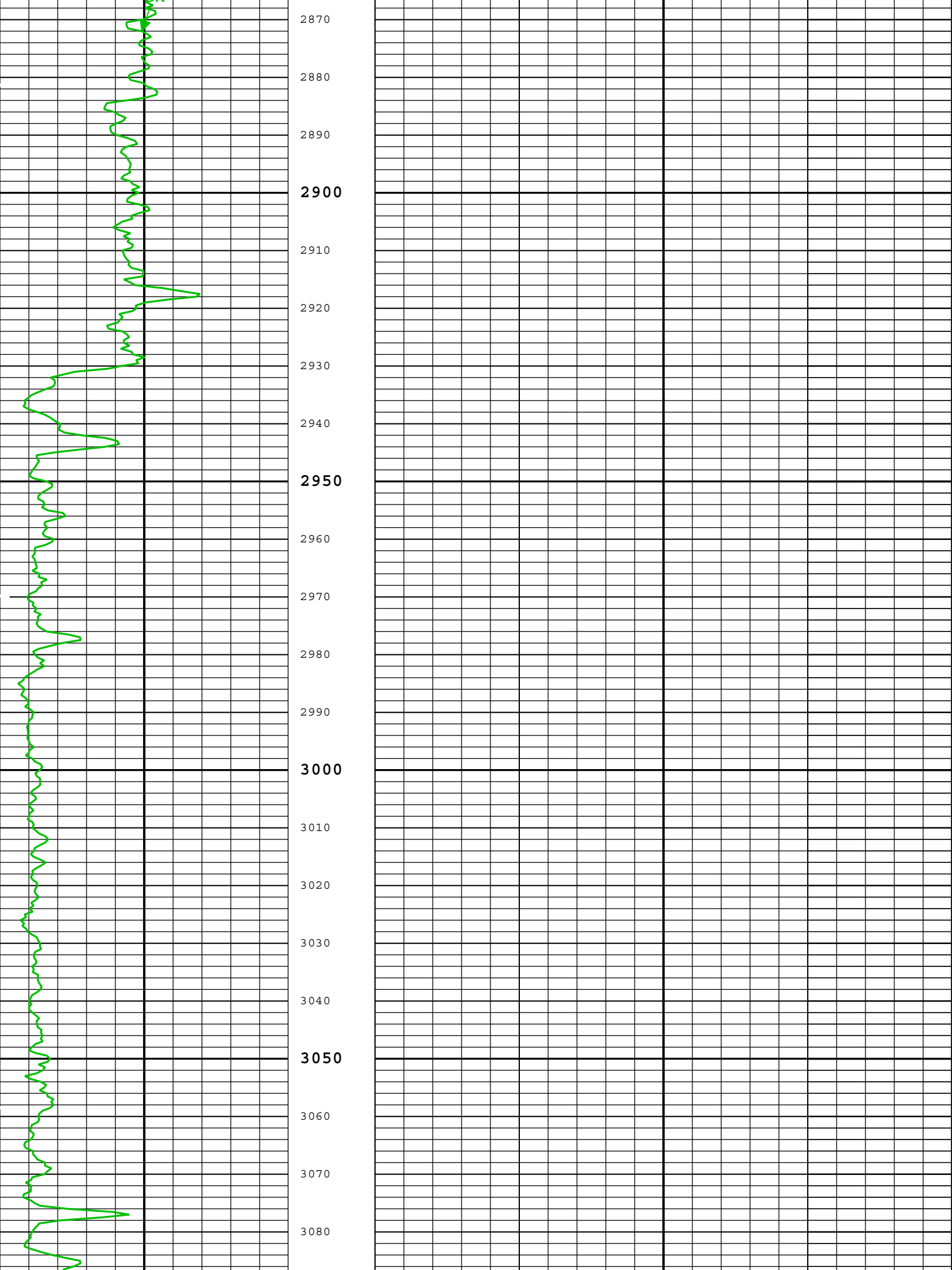


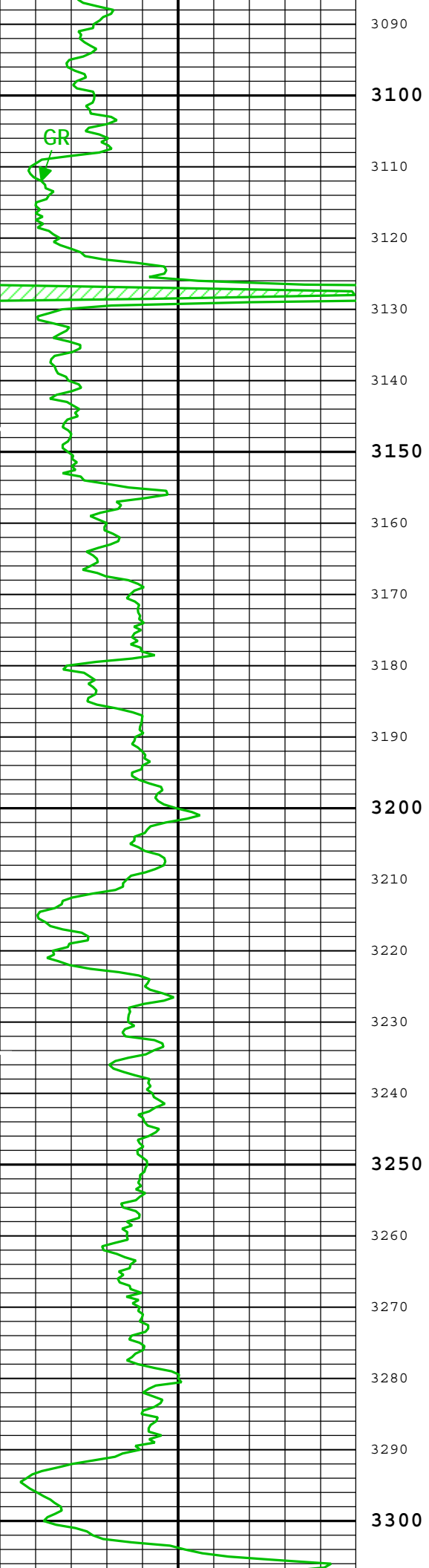


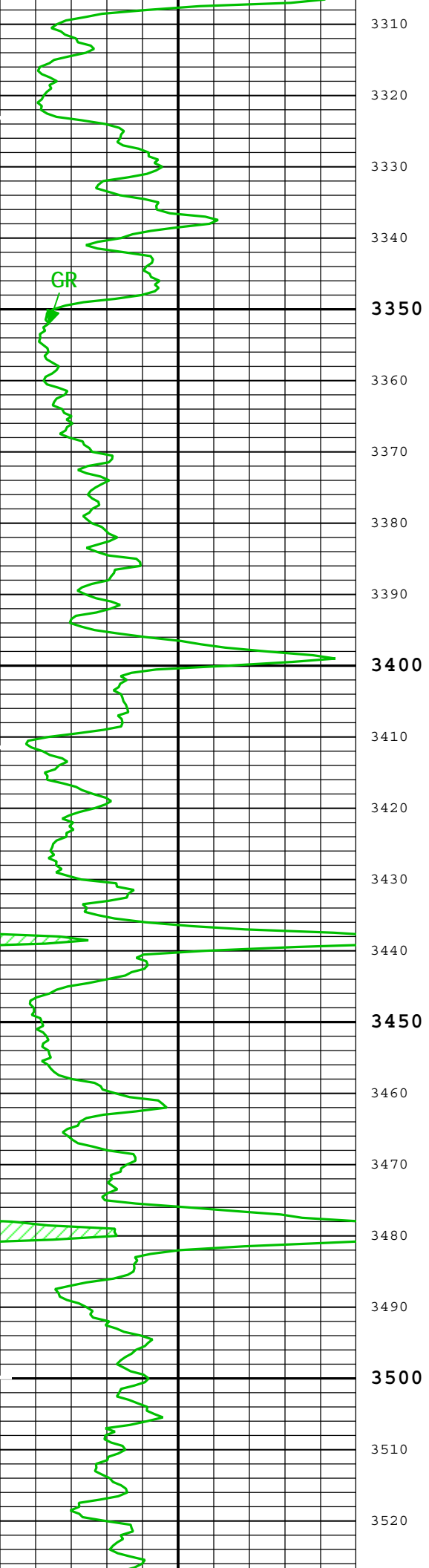


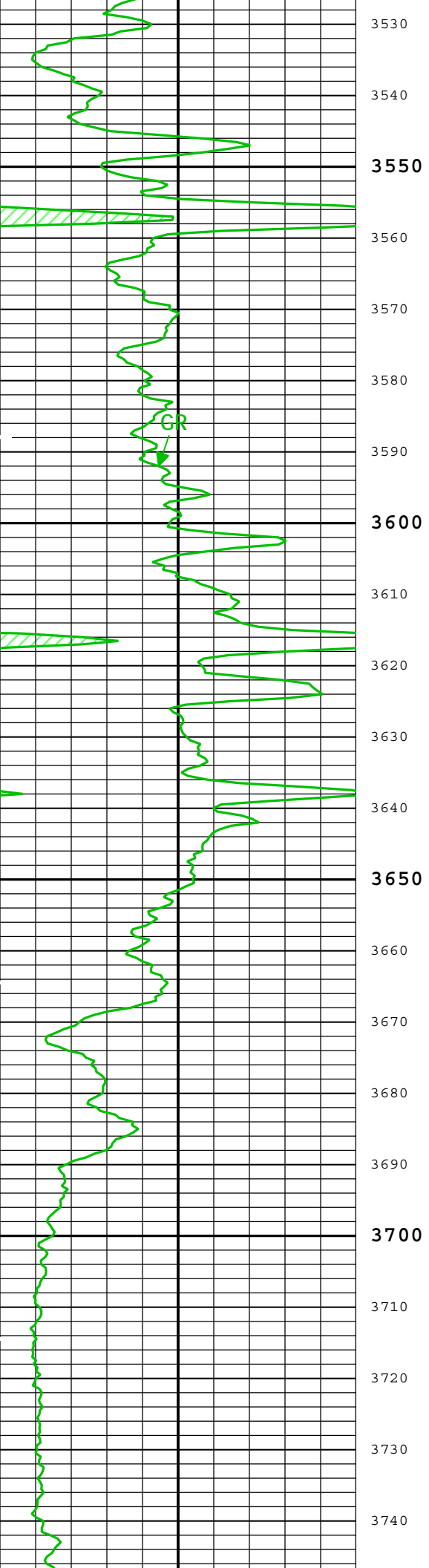


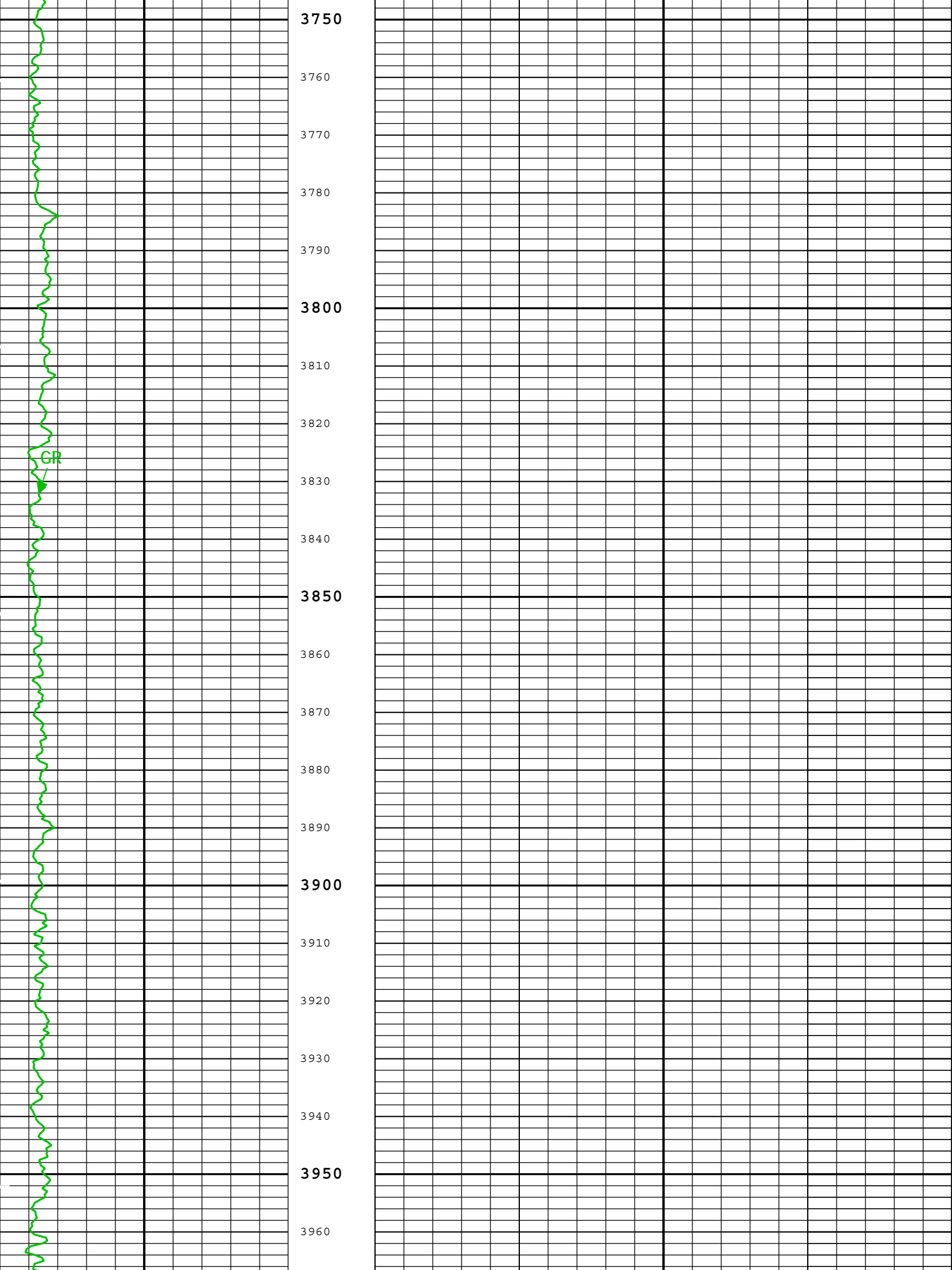


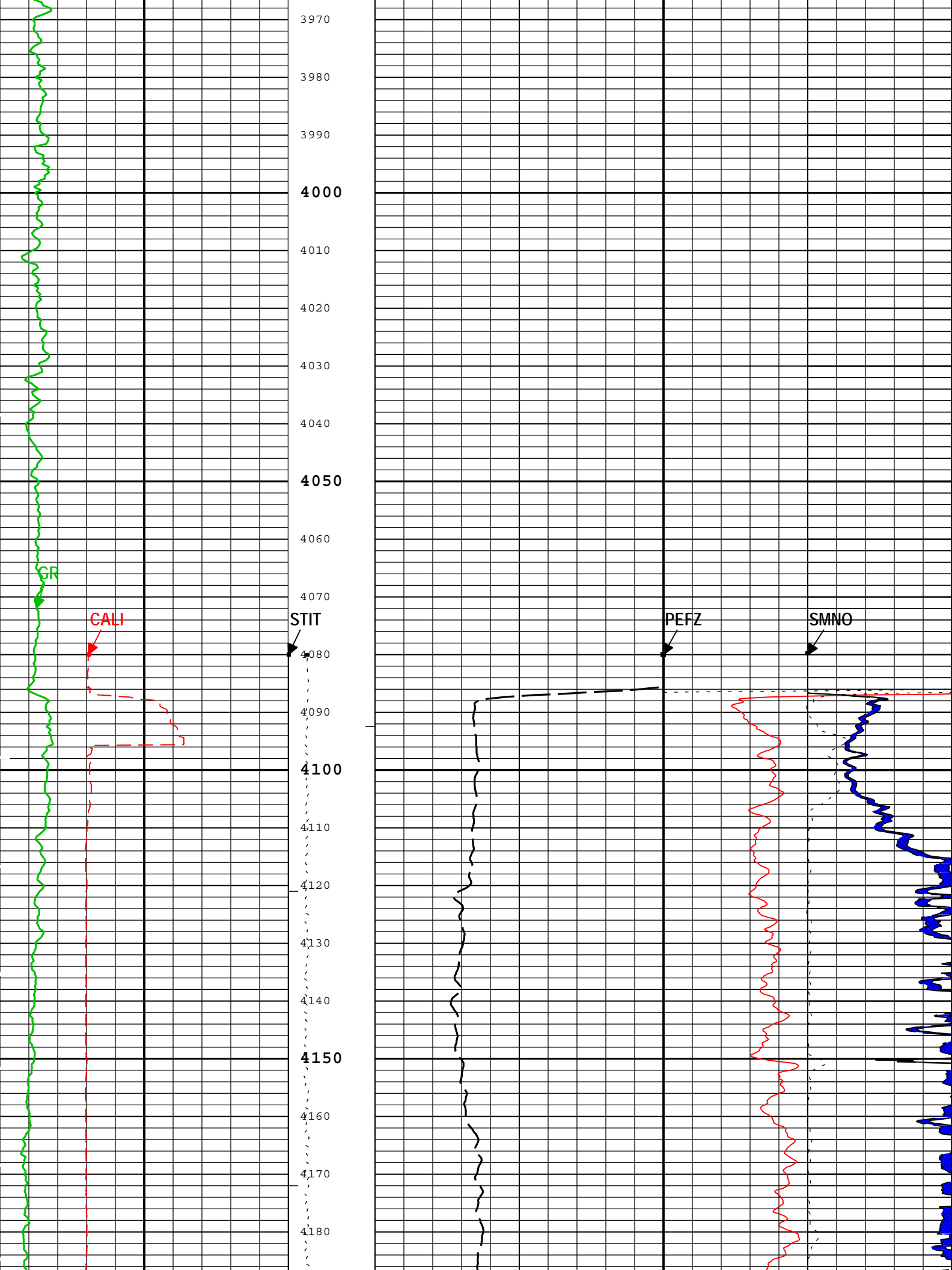


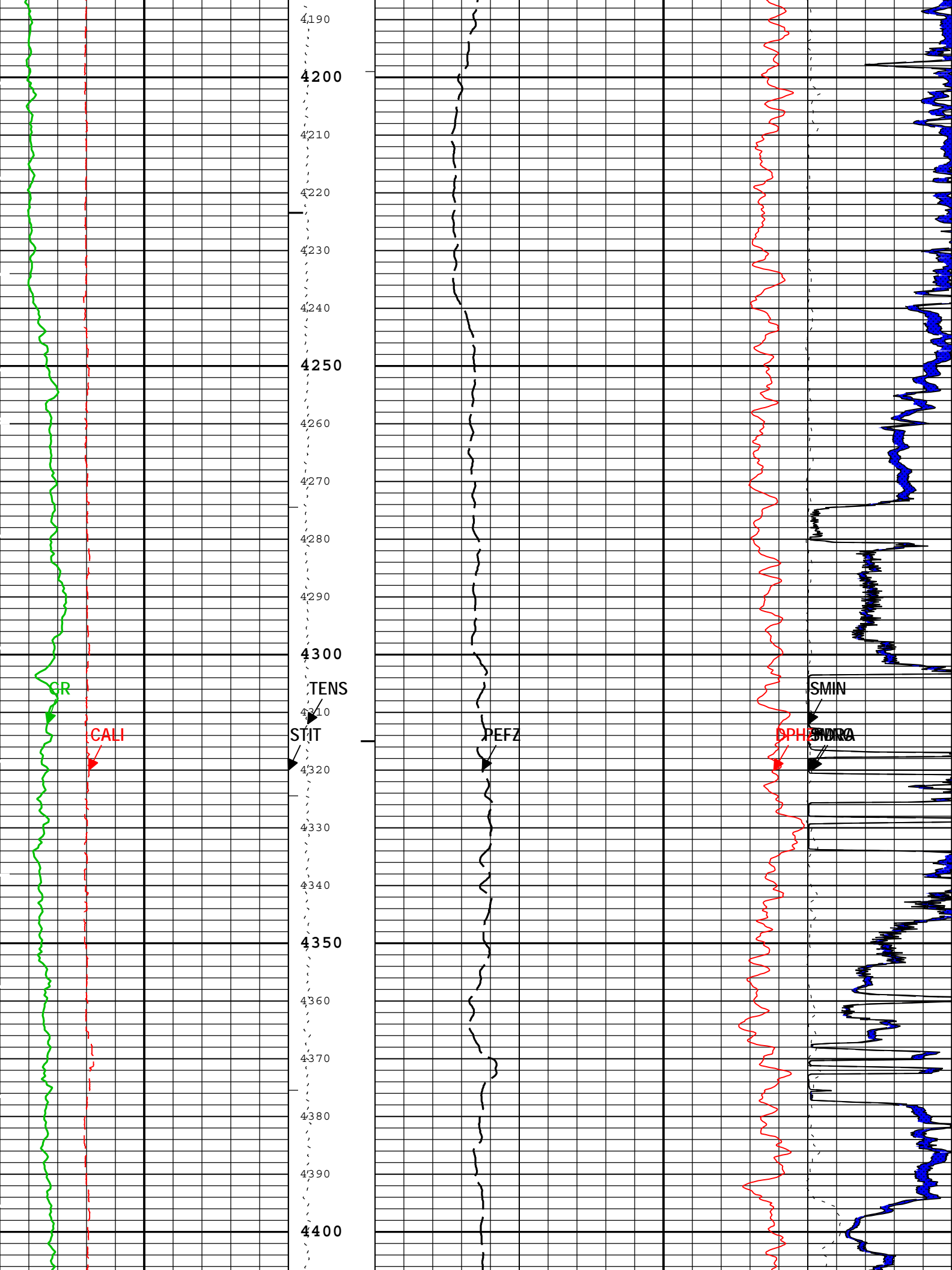




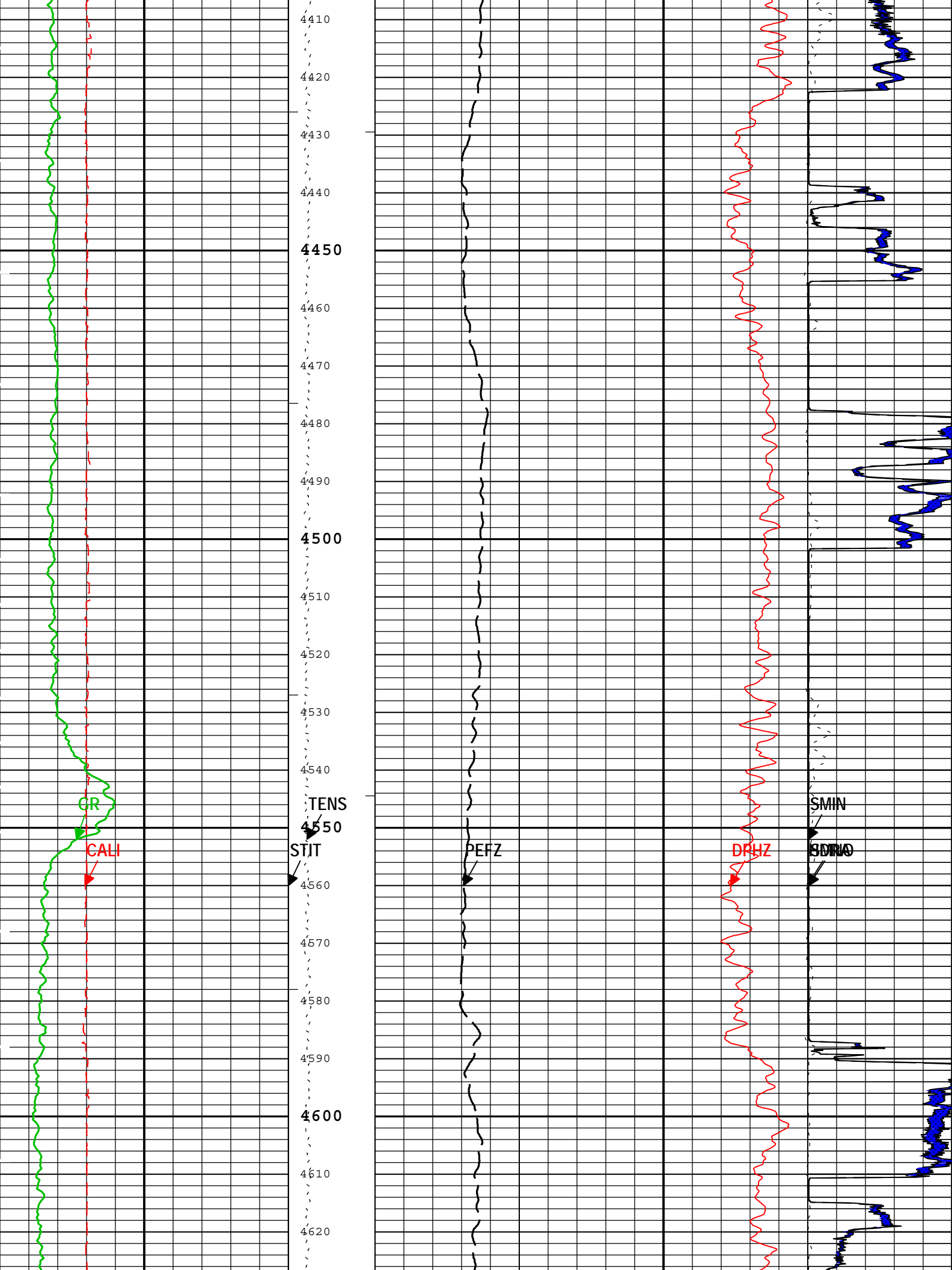


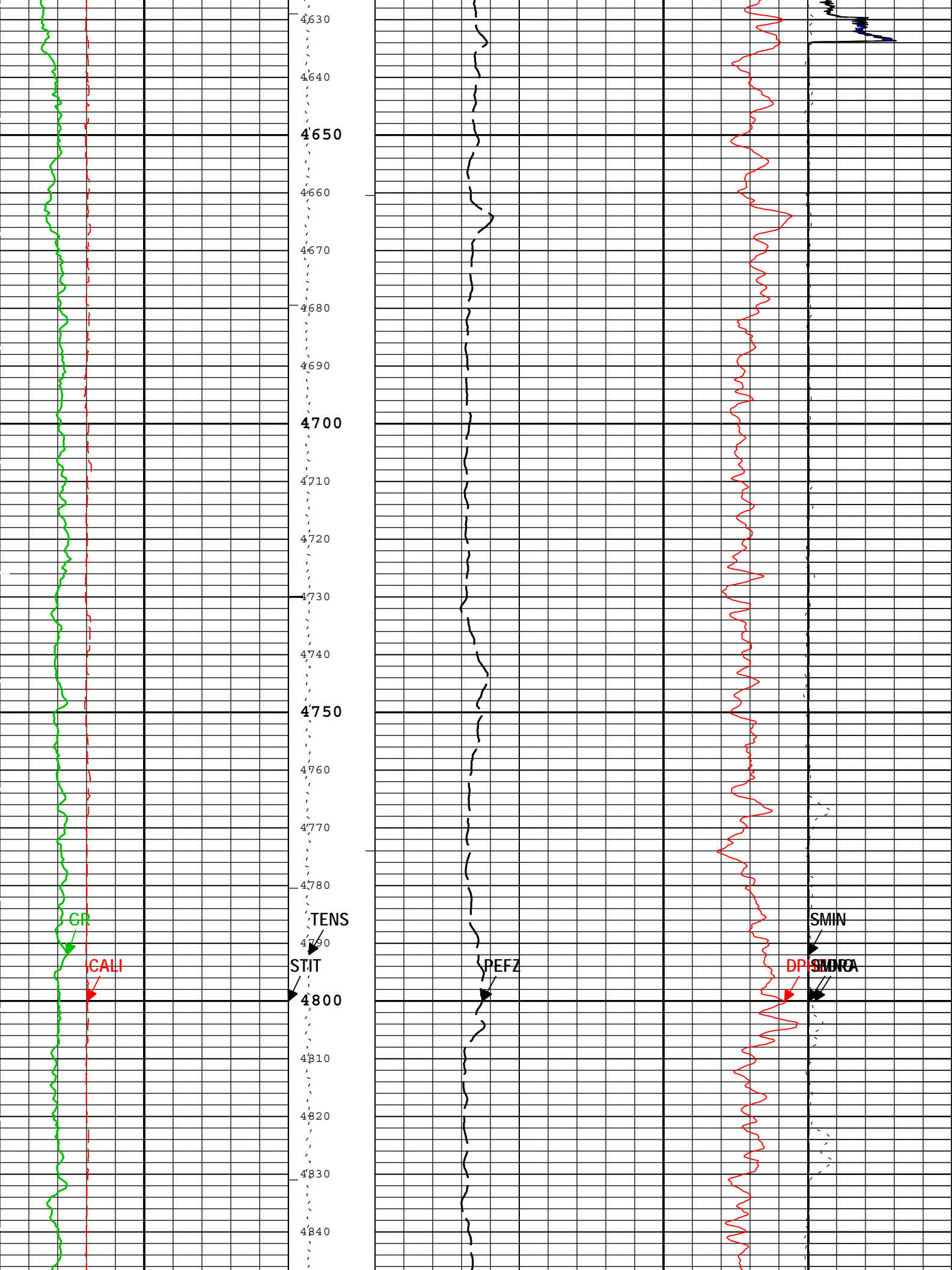


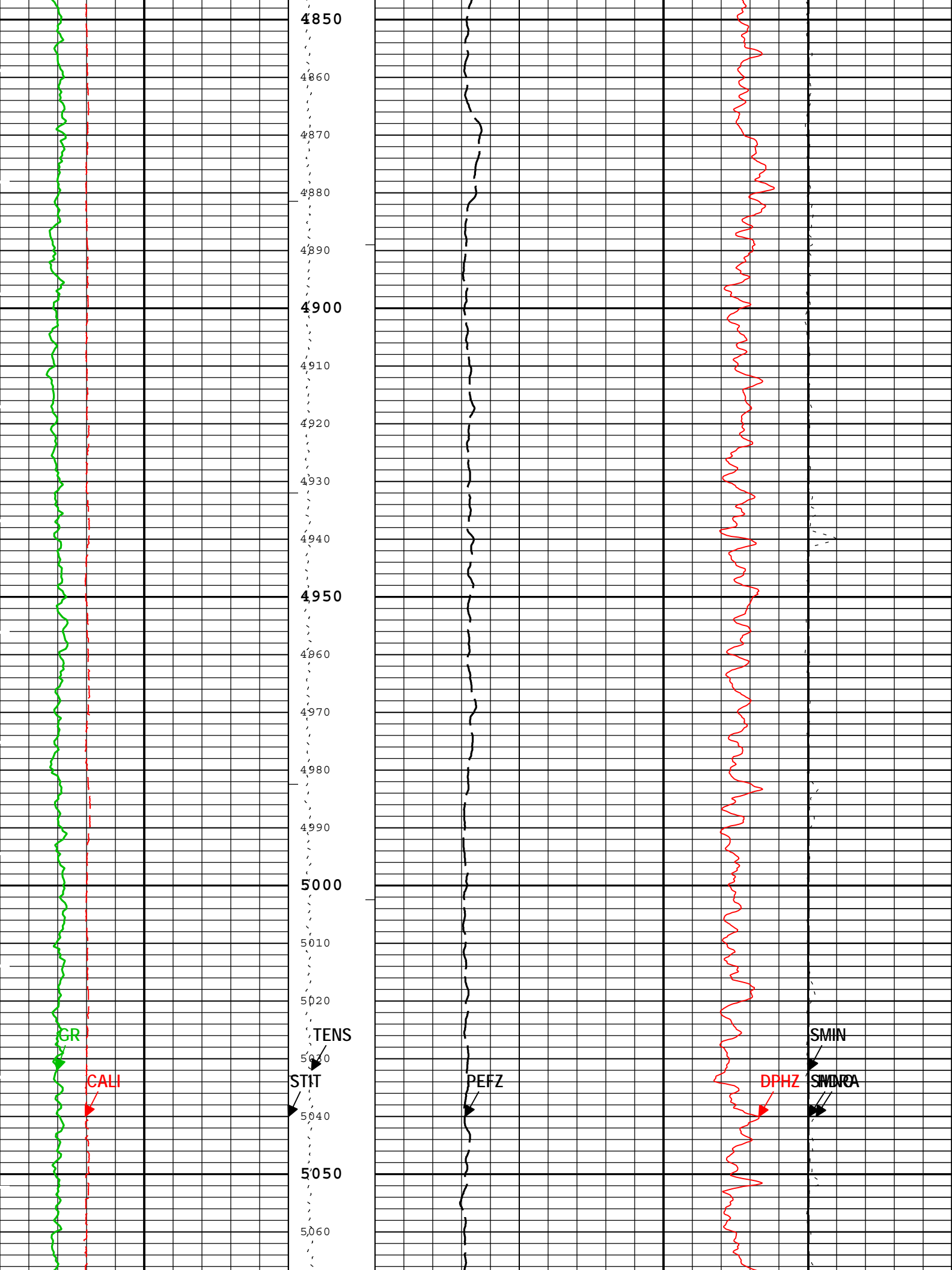


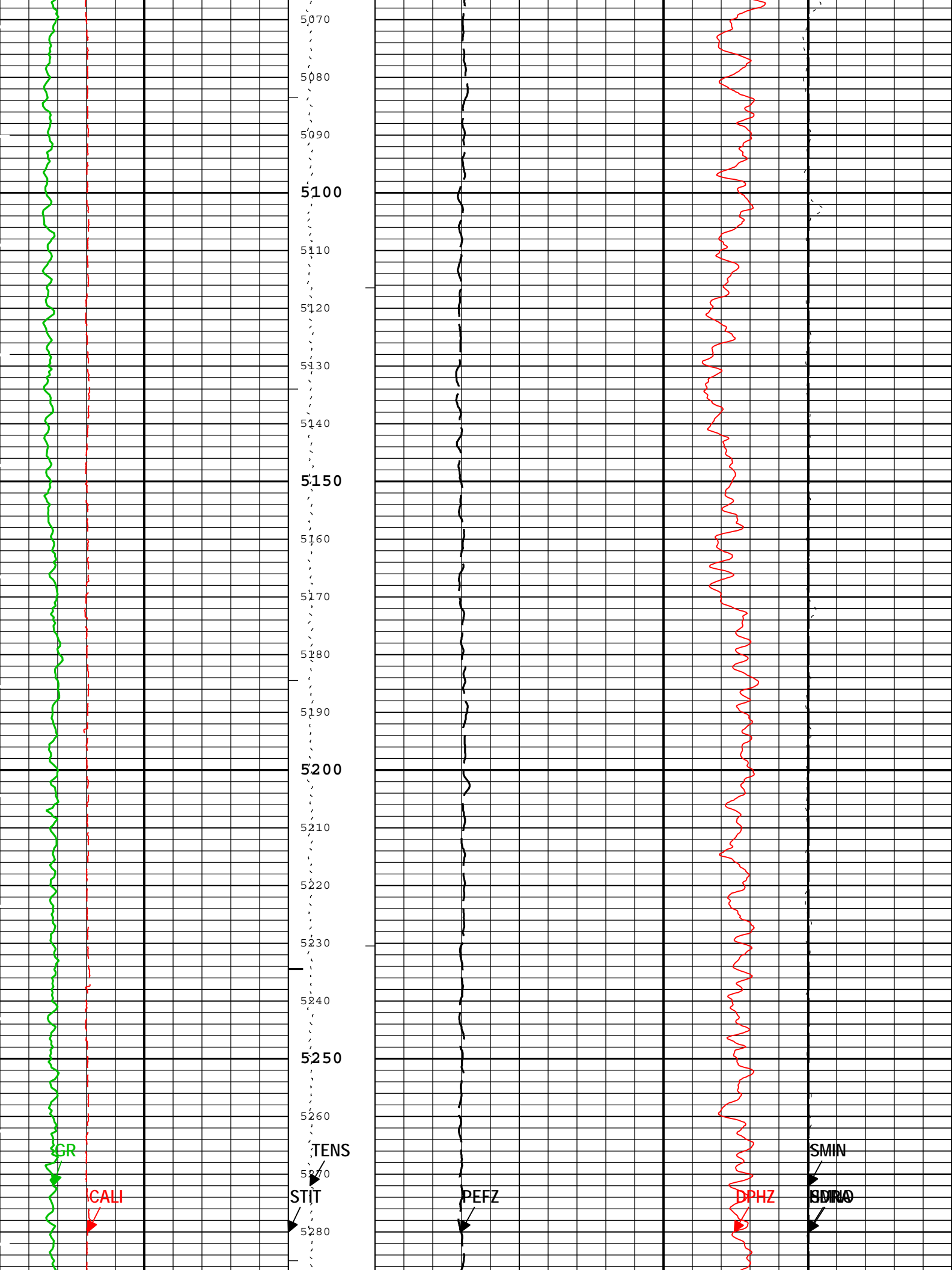


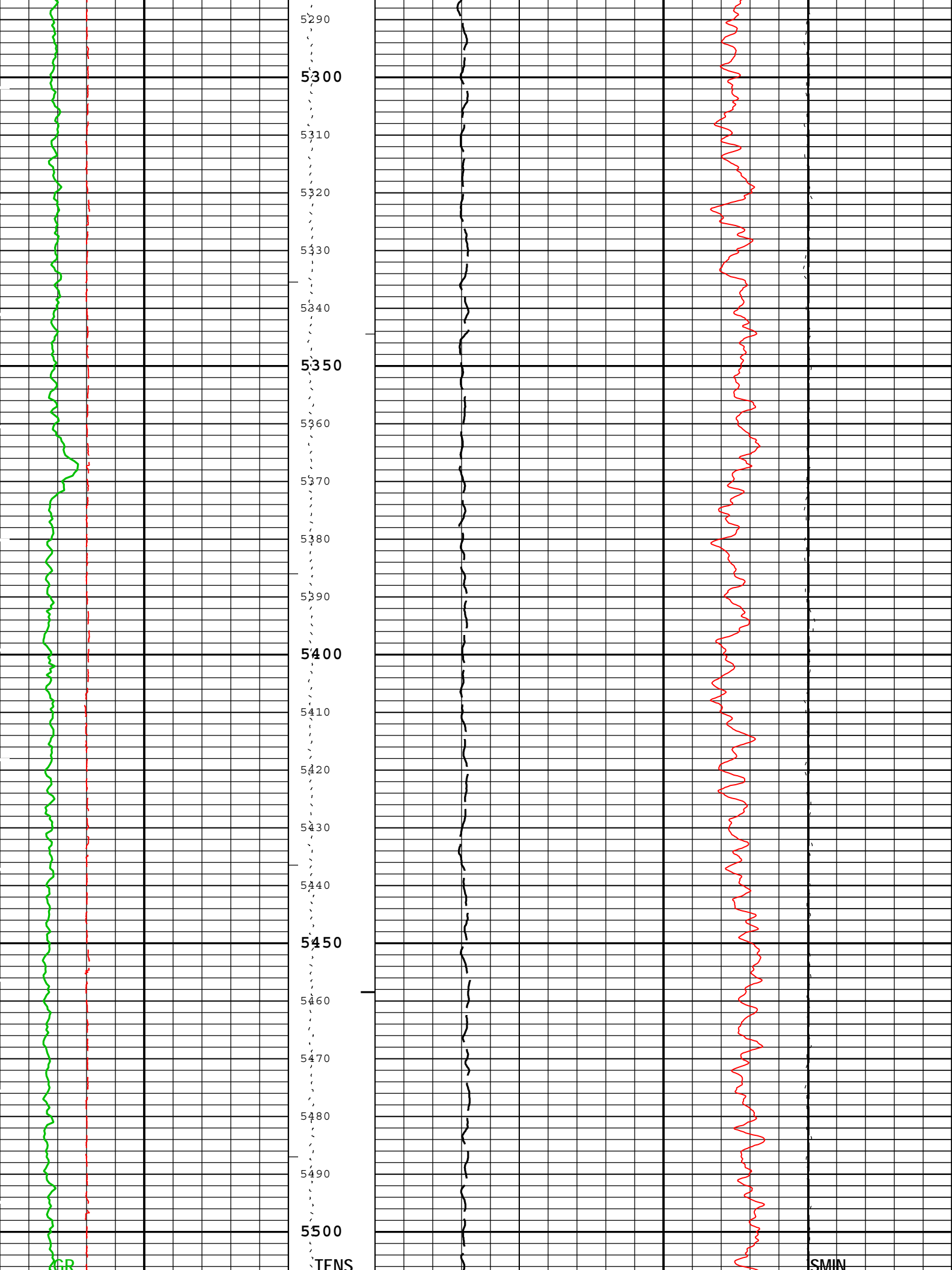


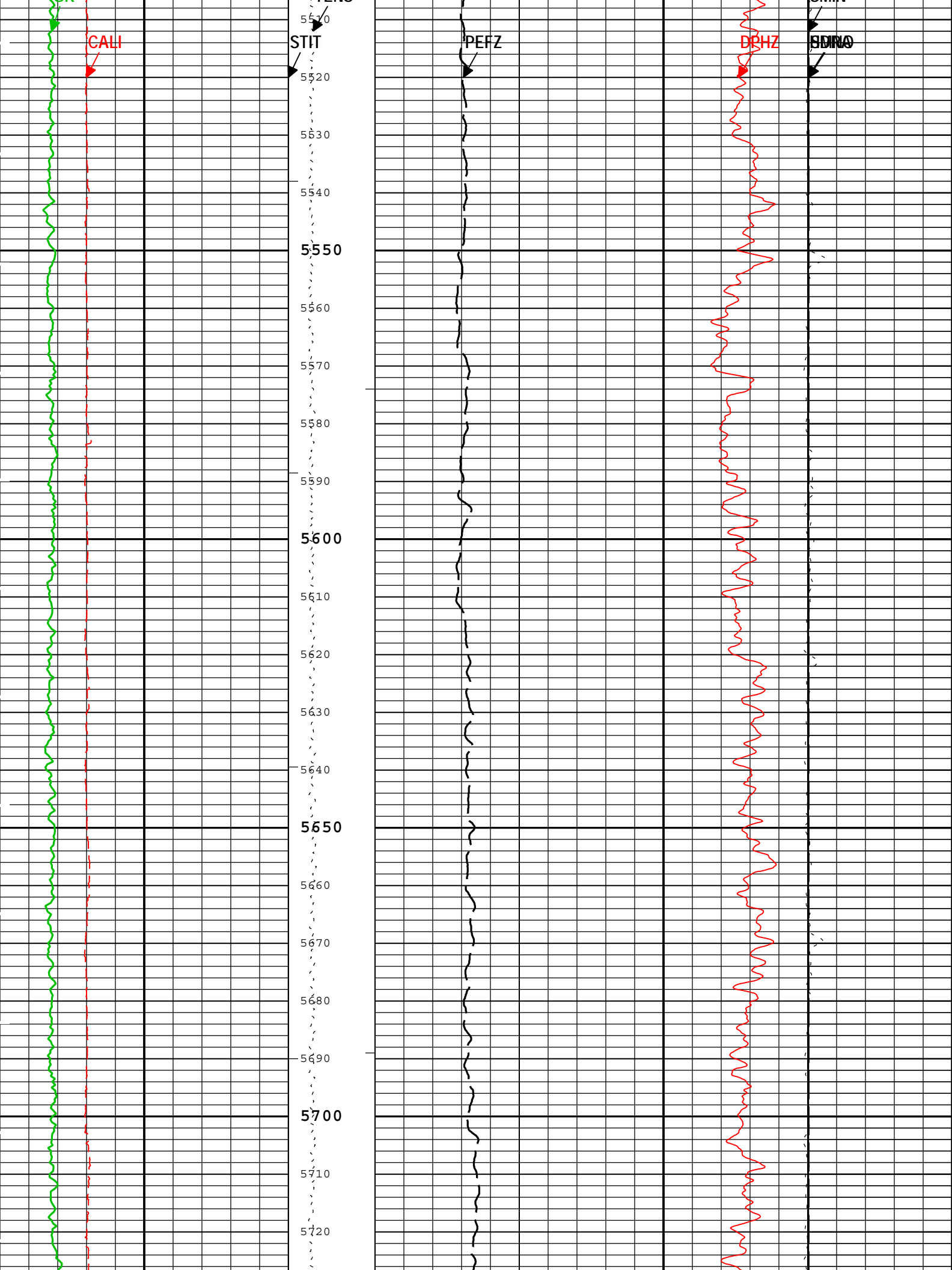


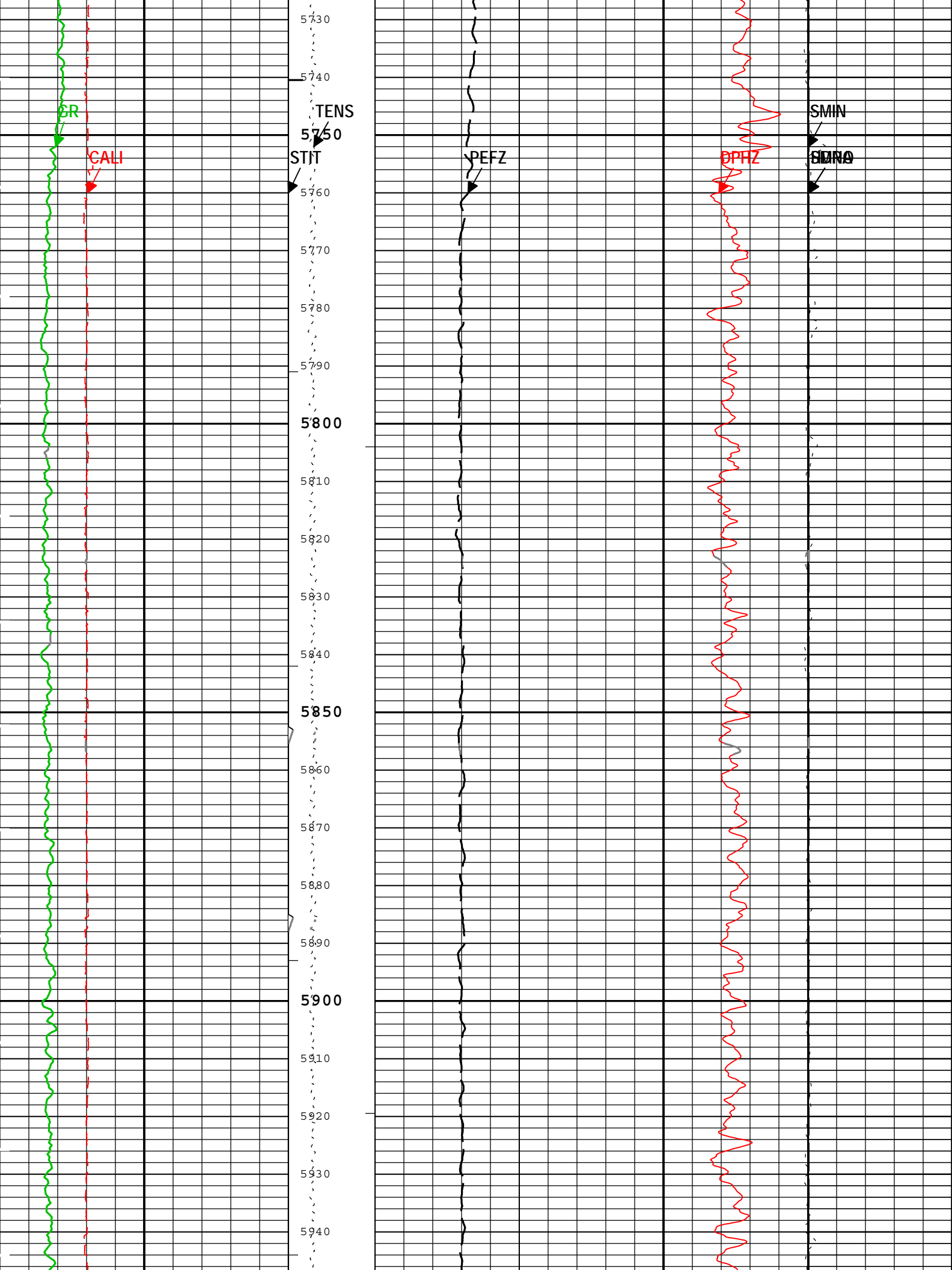


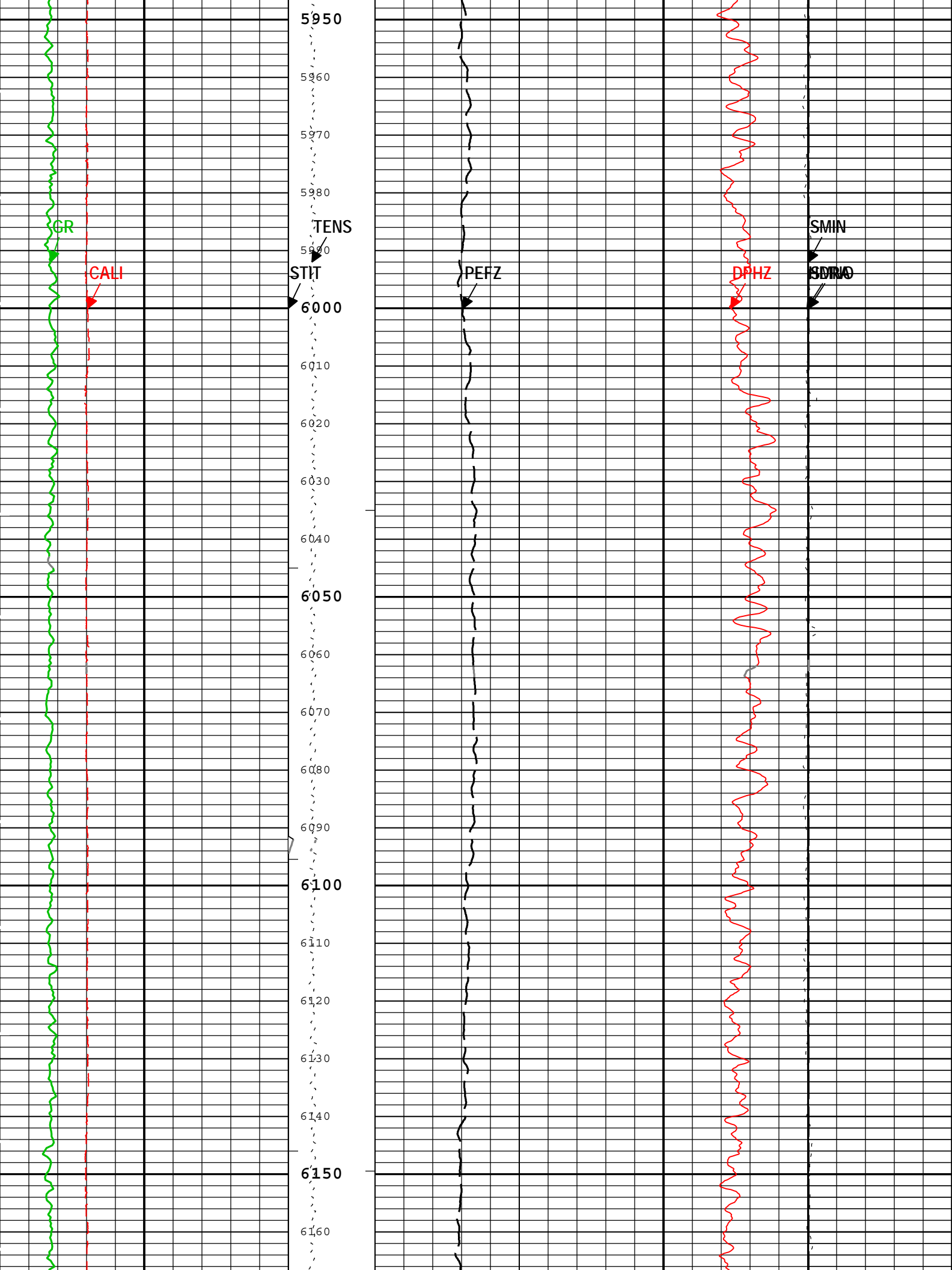




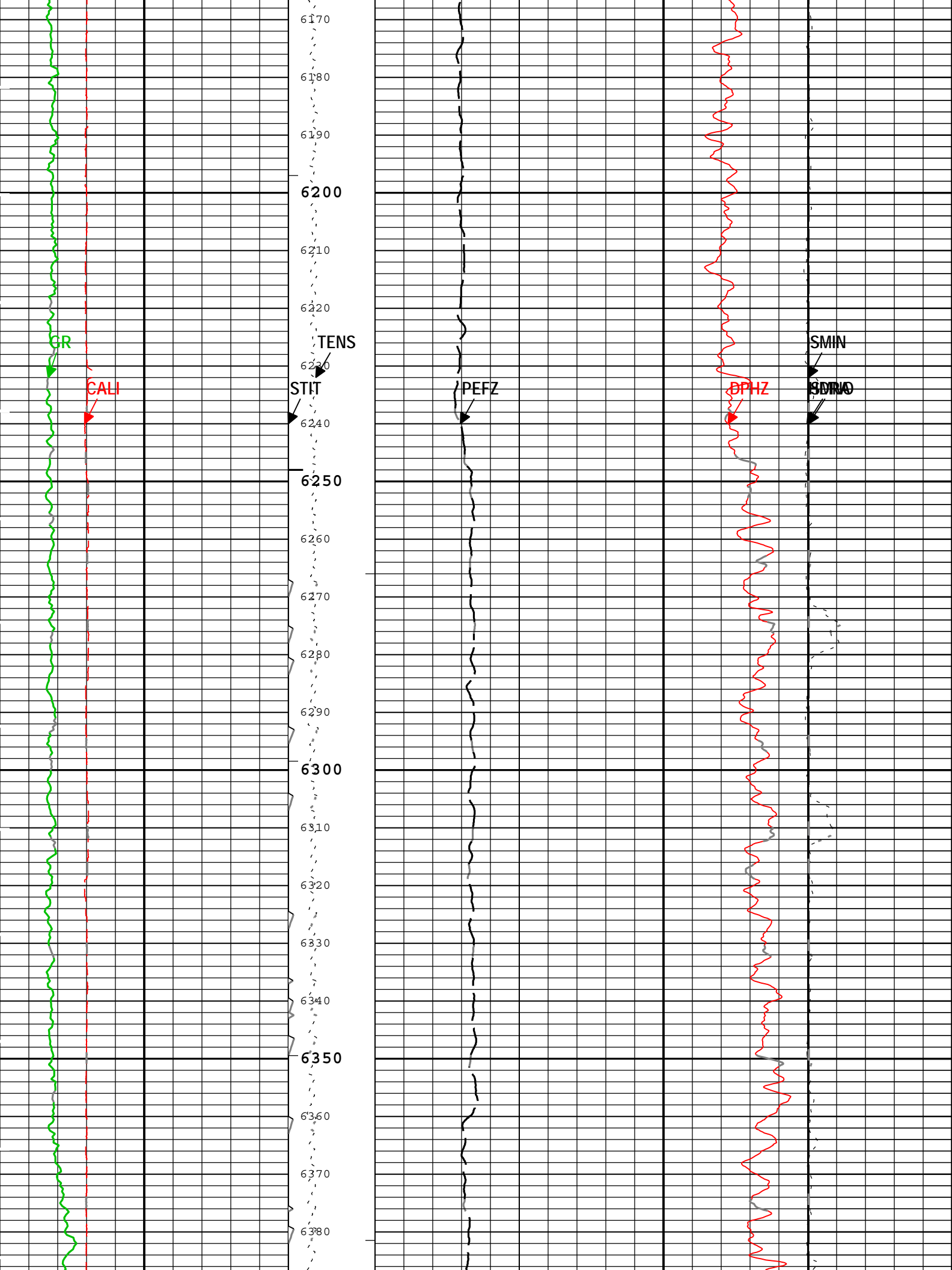


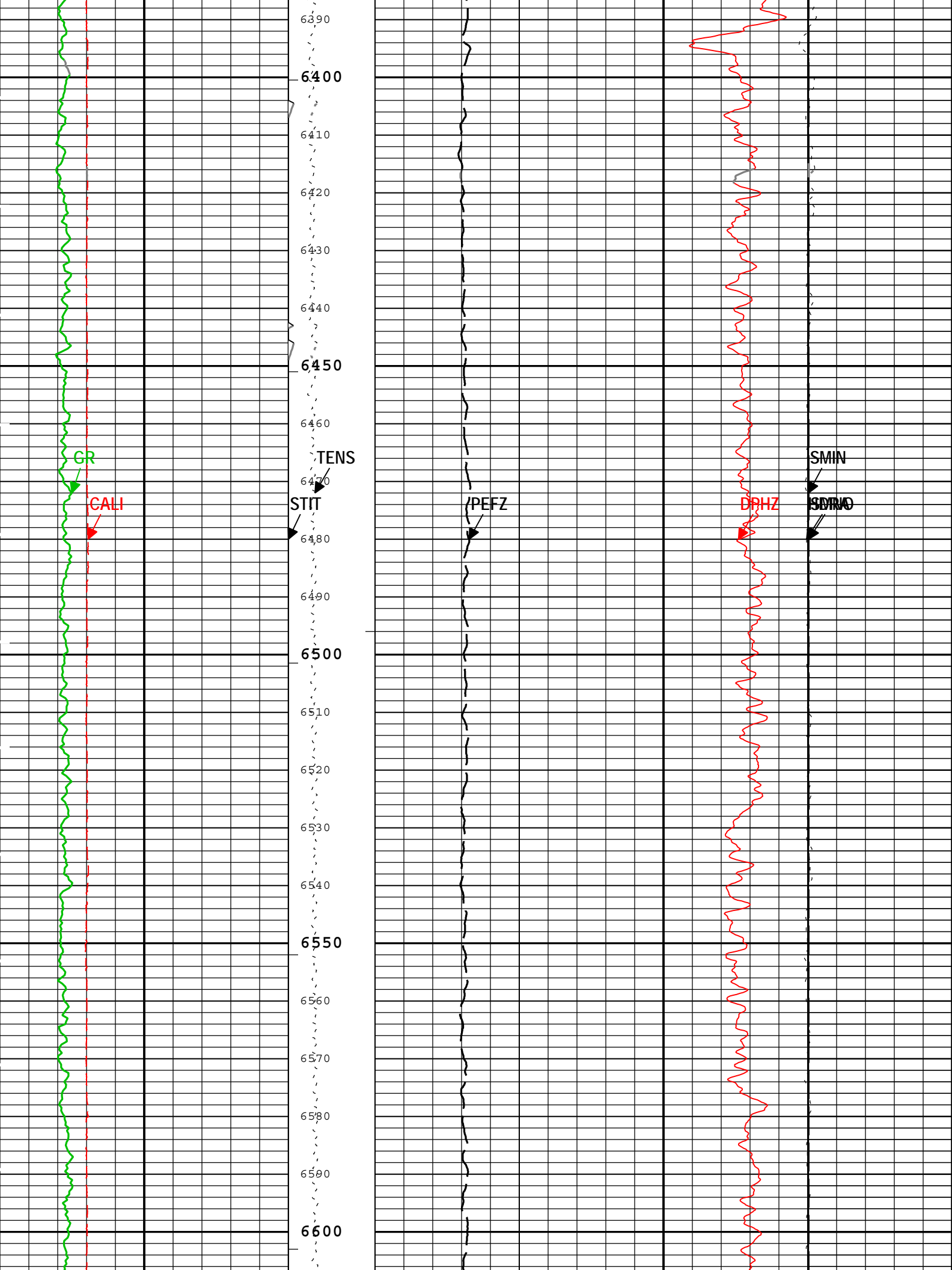


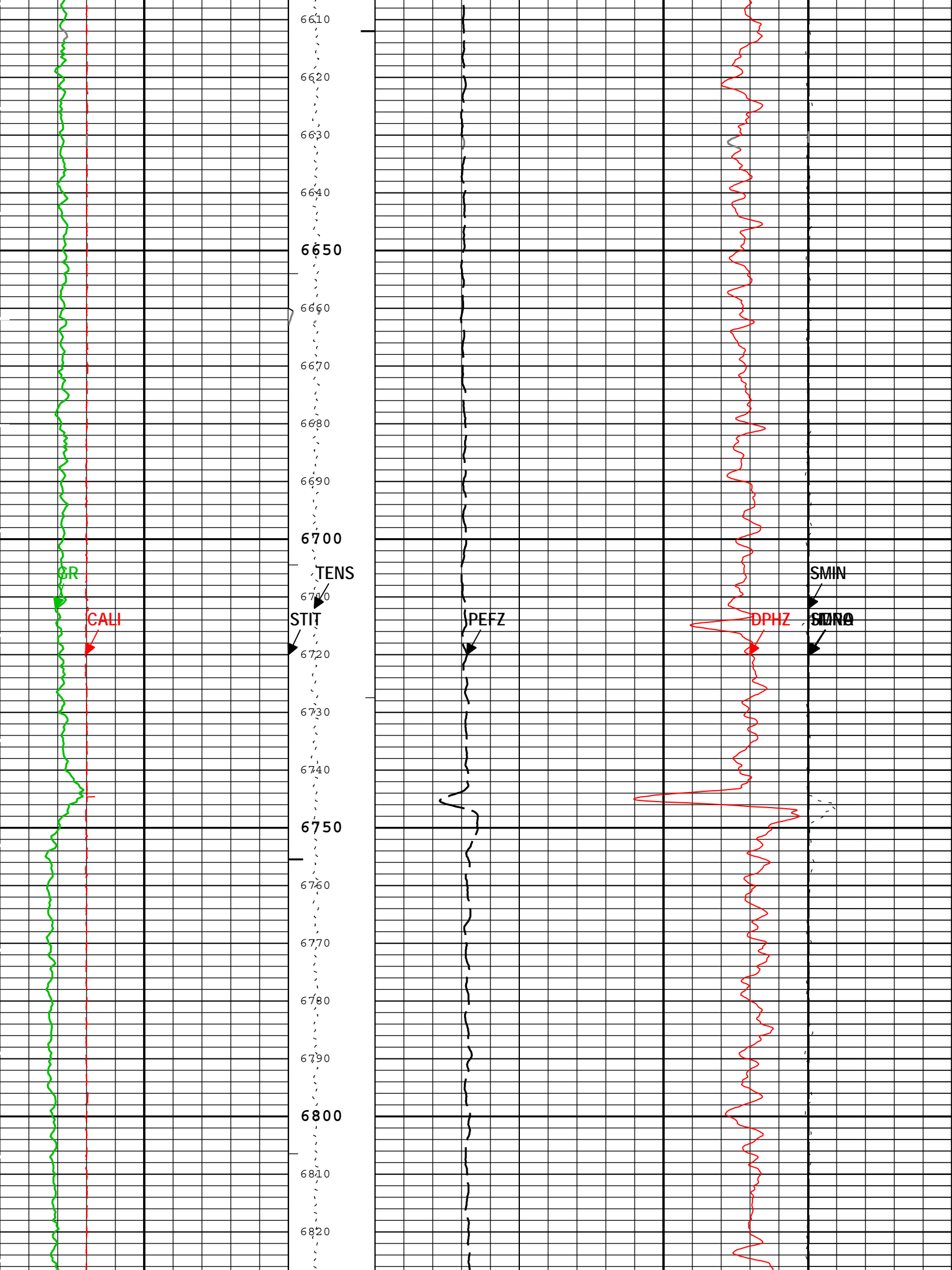


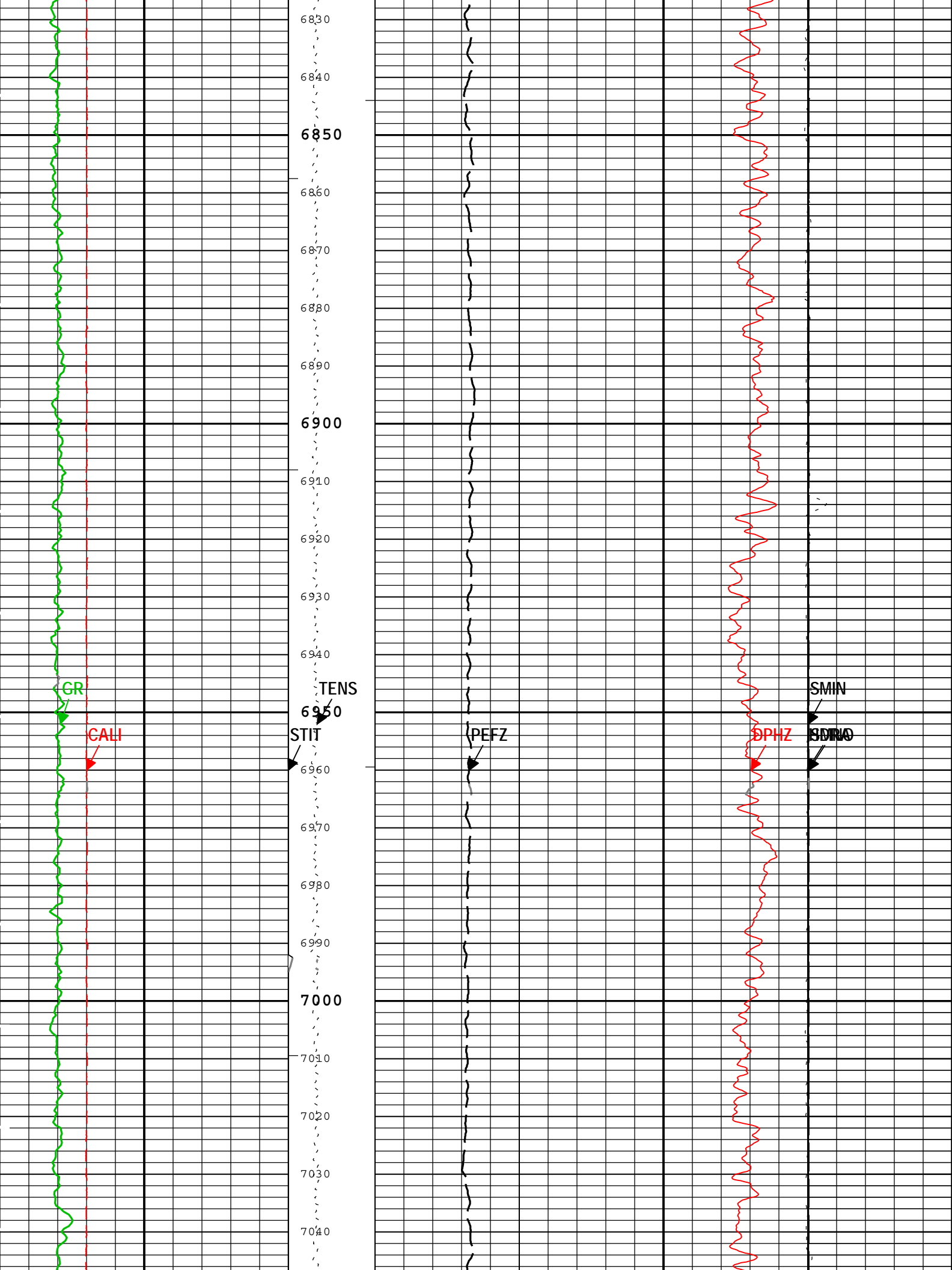


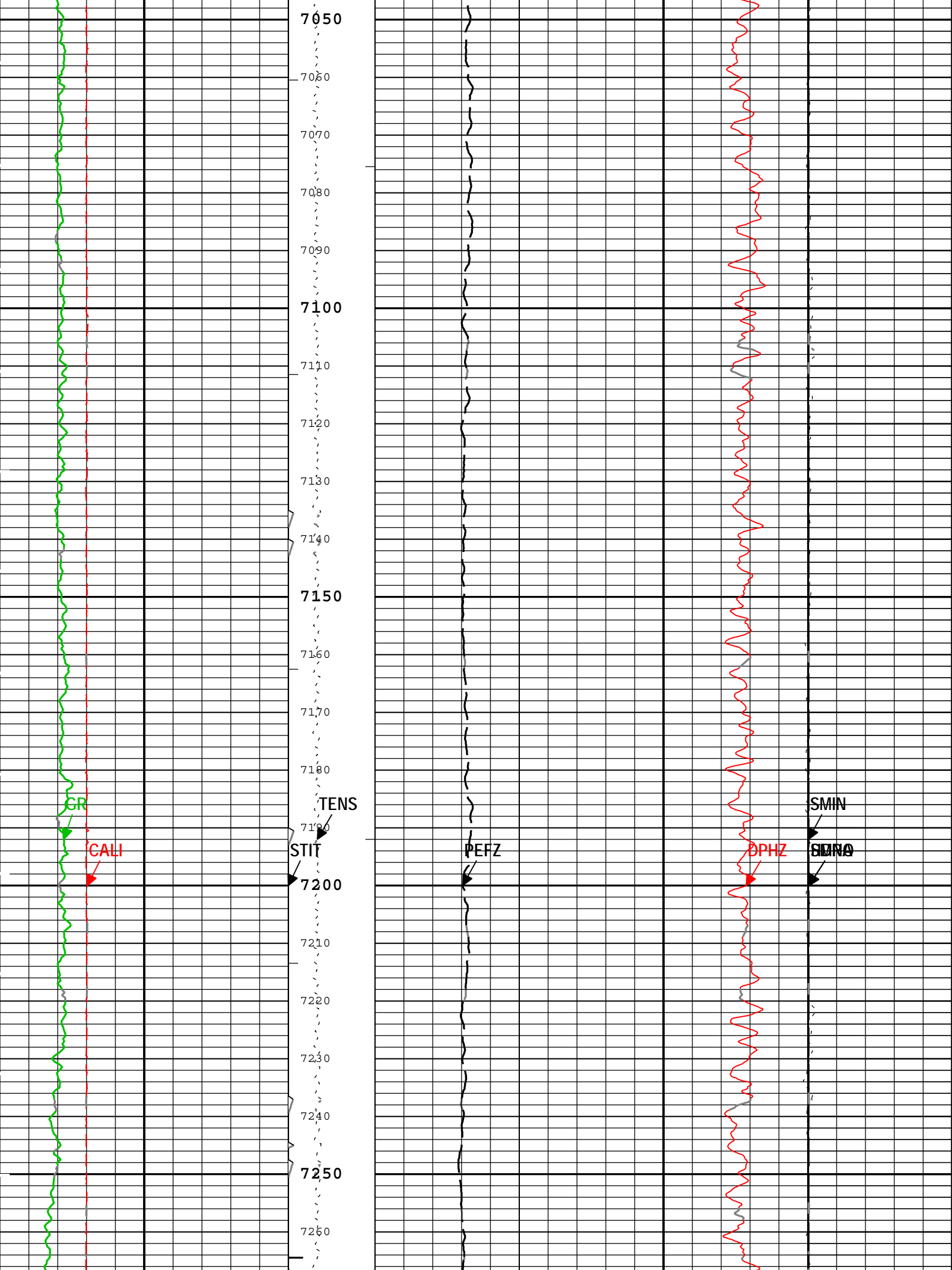


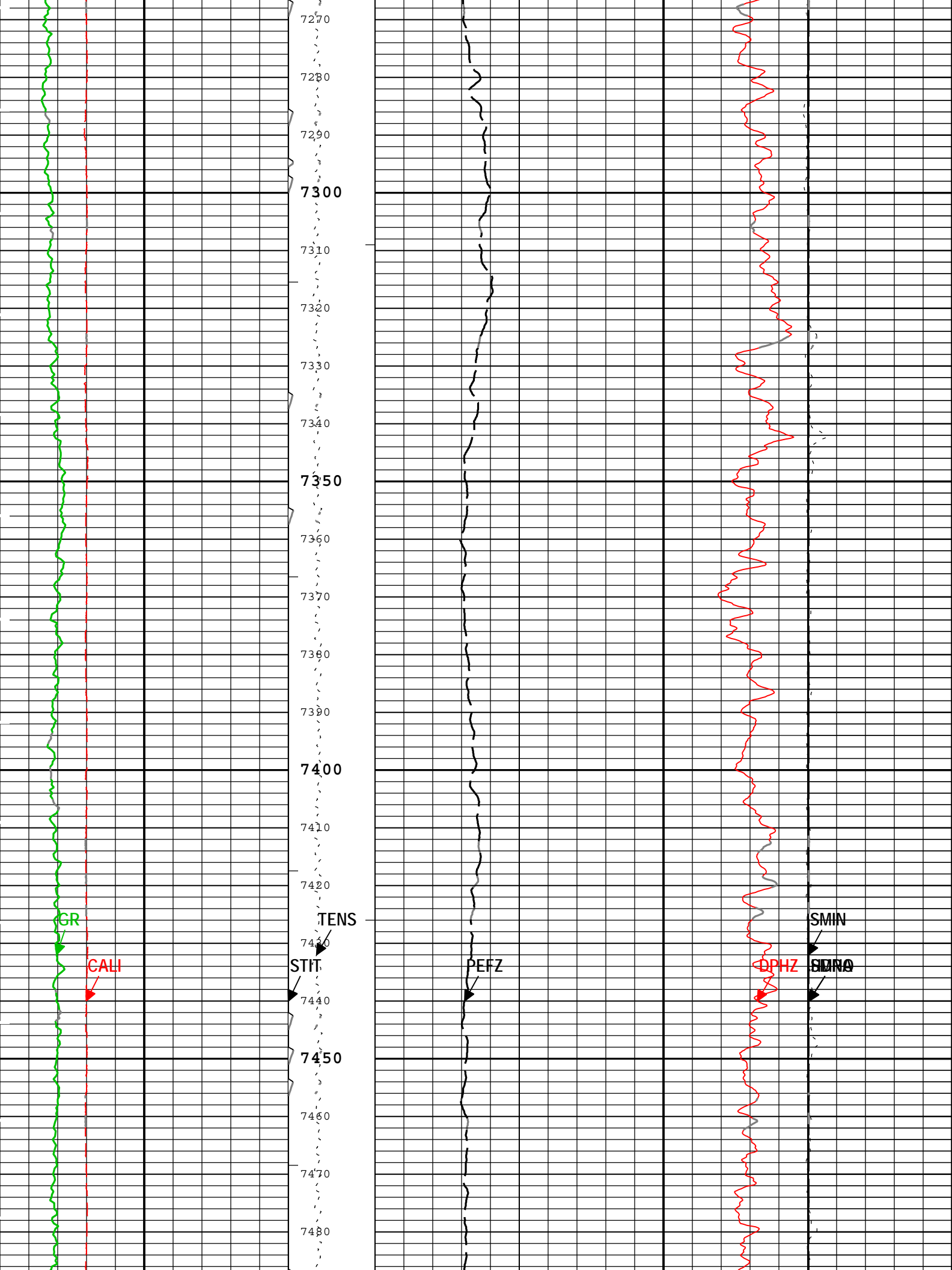


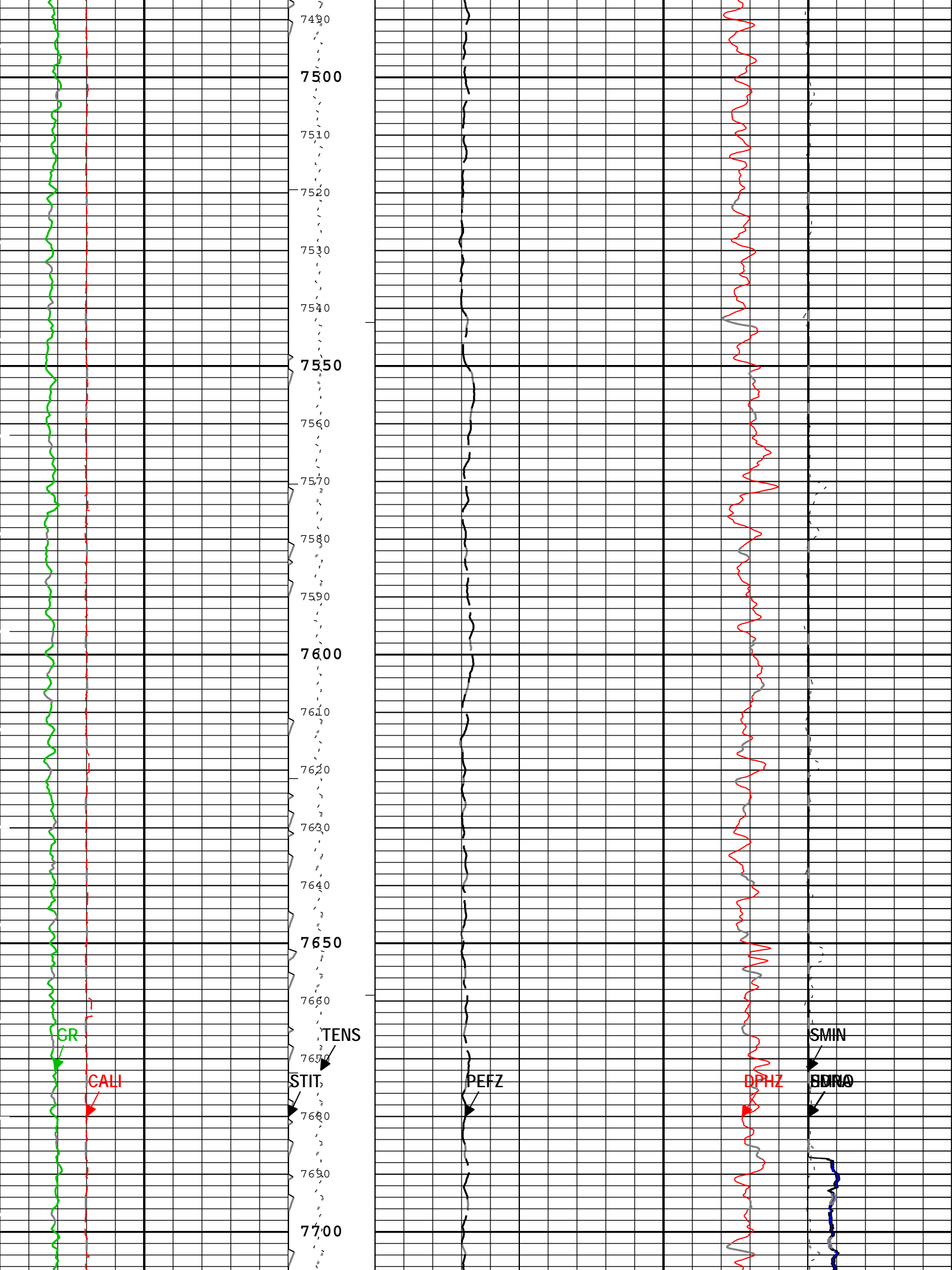


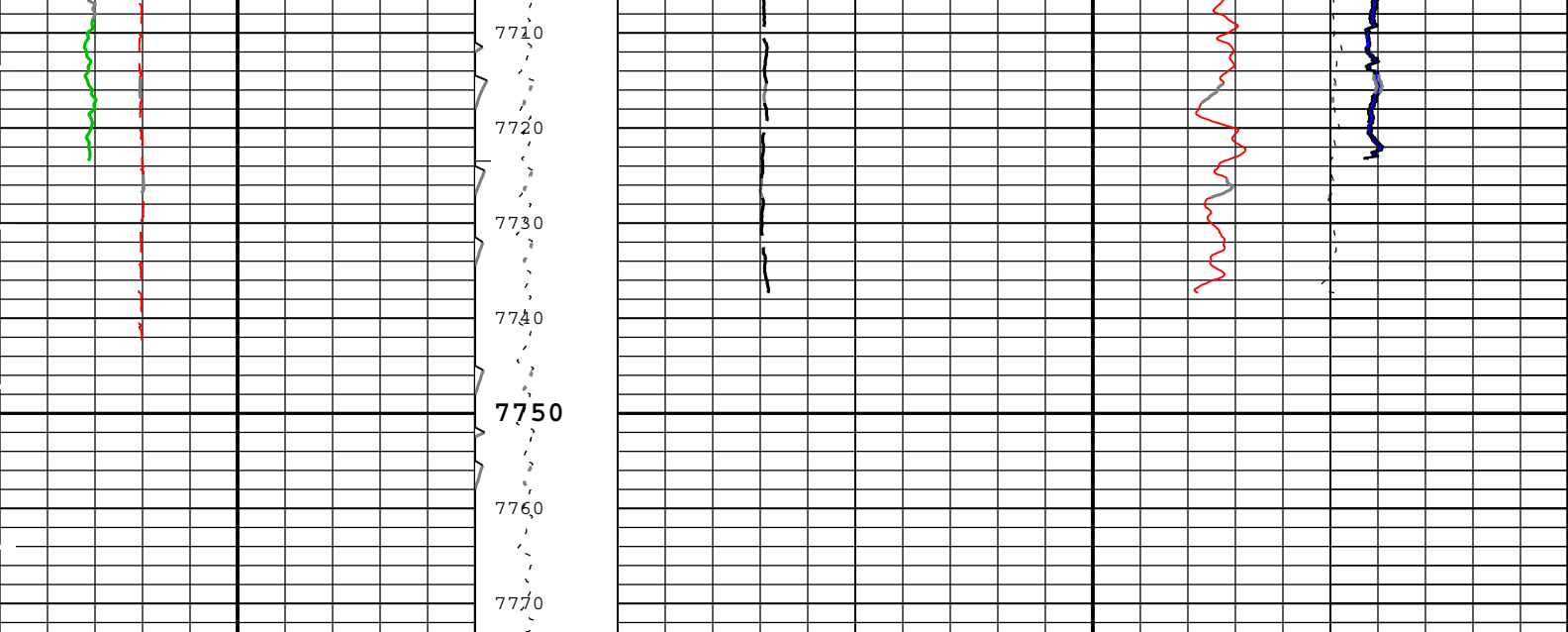












Porosity 5" per 100' Limestone Matrix, 2.71 g/cc

Gamma Ray Back-up		Stuck Tool Indicator, Total (STIT)	Gas Effect	
Caliper (CALI) HDRS-H		0 ft 50	Standard Resolution Density Porosity (DPHZ) HDRS-H	
3	in	13	0.3	ft3/ft3 -0.1
Gamma Ray (GR) HGNS-H		Cable Tension (TENS)	Standard Resolution Formation Photoelectric Factor (PEFZ) HDRS-H	Density Standoff Correction (HDRA) HDRS-H
0	gAPI	150	0	-0.25 g/cm3 0.25
		0 10000 lbf		
				Possible Permeability
				Synthetic Micro-Normal Resistivity (SMNO) HDRS-H
				0 ohm.m 80
				Synthetic Micro-Inverse Resistivity (SMIN) HDRS-H
				0 ohm.m 80

TIME\_1900 - Elapsed time since midnight, 30 December 1899 every 60.00 (s)

TIME\_1900 - Time Marked every 60.00 (s)

—|ICV - Integrated Cement Volume every 100.00 (ft3)

|— IHV - Integrated Hole Volume every 10.00 (ft3)

|— IHV - Integrated Hole Volume every 100.00 (ft3)

—|ICV - Integrated Cement Volume every 10.00 (ft3)

Description: Nuclear standard resolution template for Platform Express Format: Log ( Porosity 5 inch ) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 30-Jun-2013 17:41:09

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	4086	ft
CDEN	Cement Density	HGNS-H	2	g/cm3
CSODDRL	Casing Outer Diameter - Zoned along driller depths	WLSESSION	7	in



DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	8.4	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	
DHC	Density Hole Correction	HDRS-H	Bit Size	
FCD	Future Casing (Outer) Diameter	WLSESSION	4.5	in
FD	Fluid Density	Borehole	1	g/cm3
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	REMS	
GTSE	Generalized Temperature Selection, from Measured or Computed Temperature	Borehole	CTEM	
MDEN	Matrix Density for Density Porosity	Borehole	2.71	g/cm3
MST	Mud Sample Temperature	Borehole	68	degF
RMS	Resistivity of Mud Sample	Borehole	0.2	ohm.m

## Depth Zone Parameters

Parameter	Value	Start ( ft )	Stop ( ft )
BS	0	0	4086
BS	6.125	4086	7773.08

All depth are actual.

## Tool Control Parameters

Parameter	Description	Tool	Value	Unit
HMCA_BRD_TYPE	HMCA Board Type	HGNS-H	1	
HRGD_BRD_TYPE	HRGD Board Type	HDRS-H	WITH_HET	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	1800	ft/h

**ONE**

**Repeat Pass Porosity 5" = 100'**

## Integration Summary

Output Channel(s)	Output Description	Input Parameter	Output Value	Unit
ICV	Integrated Cement Volume	GCSE_UP_PASS, FCD	22.5	ft3
IHV	Integrated Hole Volume	GCSE_UP_PASS	53.37	ft3

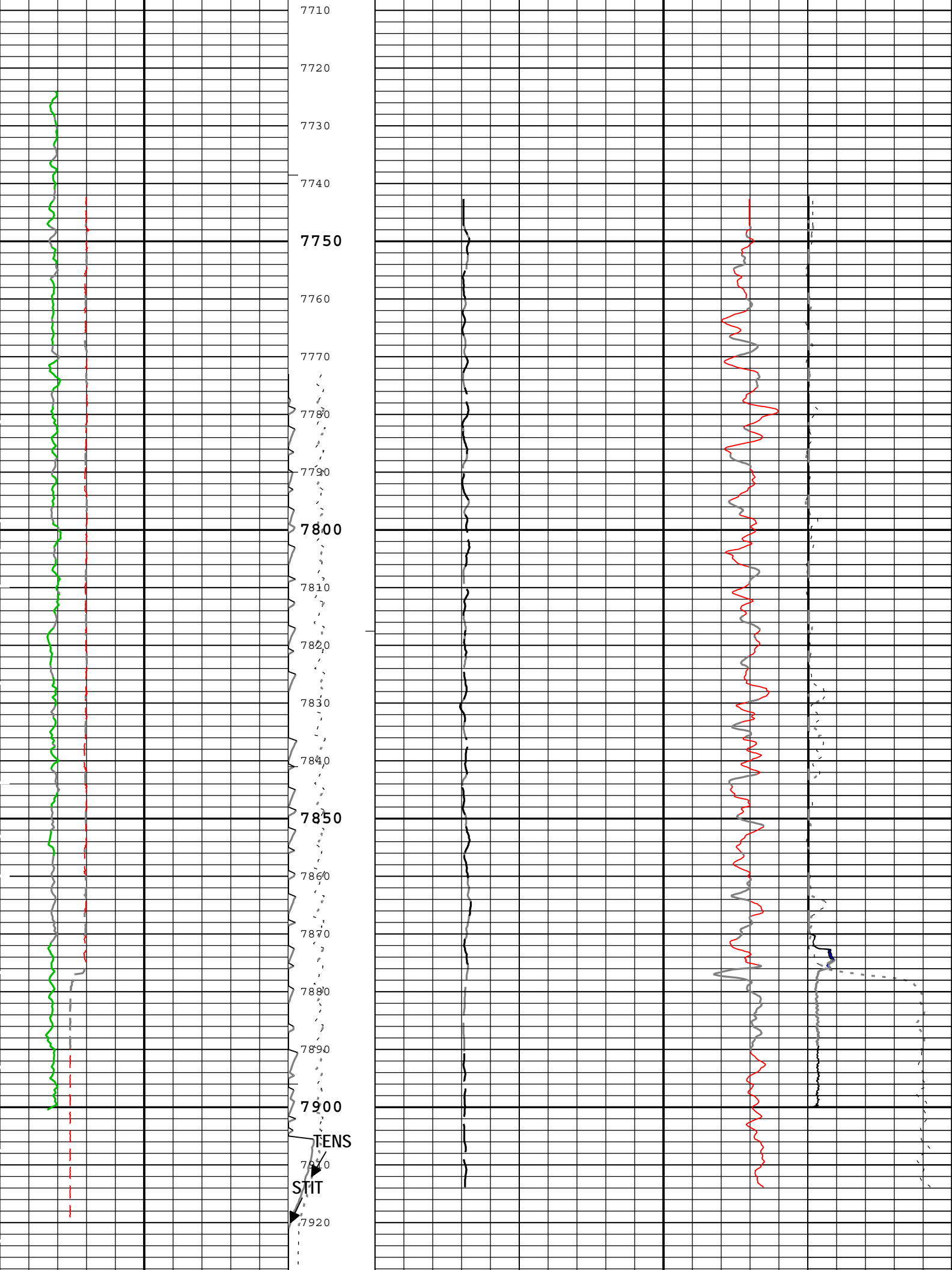
## Software Version

Acquisition System	Version		
MaxWell	3.1.9755.0		
Application Patch	SP-20121102-3.1.9755.1422 EXP_APL-ICE15-3.1.9755.1637		
Computation	Description	Version	
Borehole	Borehole Ensemble provides common Borehole Parameters and Channels	3.1.9755.0	
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
HGNS-H	HILT Gamma-Ray and Neutron Sonde, 150 degC	3.1.9755.0	2.0
HRGD-H	HILT Resistivity Gamma-Ray Density Device, 150 degC	3.1.9755.0	3.0

## Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Depth Shift	Include Parallel Data
ONE	Log[2]:Up	Up	7772.95 ft	7949.81 ft	30-Jun-2013 12:06:29 PM	30-Jun-2013 12:23:34 PM	2.00 ft	true





7930  
7940

Porosity 5" per 100'    Limestone Matrix, 2.71 g/cc

Gamma Ray Back-up	Stuck Tool Indicator, Total (STIT)	Gas Effect
Caliper (CALI) HDRS-H	0    ft    50	Standard Resolution Density Porosity (DPHZ) HDRS-H
3                      in                      13		0.3                      ft3/ft3                      -0.1
Gamma Ray (GR) HGNS-H	Cable Tension (TENS)	Standard Resolution Formation Photoelectric Factor (PEFZ) HDRS-H
0                      gAPI                      150	0                      10000                      lbf	0                      10
		Density Standoff Correction (HDRA) HDRS-H
		-0.25                      g/cm3                      0.25
		Possible Permeability
		Synthetic Micro-Normal Resistivity (SMNO) HDRS-H
		0                      ohm.m                      80
		Synthetic Micro-Inverse Resistivity (SMIN) HDRS-H
		0                      ohm.m                      80

TIME\_1900 - Elapsed time since midnight, 30 December 1899 every 60.00 (s)

TIME\_1900 - Time Marked every 60.00 (s)

—|ICV - Integrated Cement Volume every 100.00 (ft3)

| IHV - Integrated Hole Volume every 10.00 (ft3)

—| IHV - Integrated Hole Volume every 100.00 (ft3)

—|ICV - Integrated Cement Volume every 10.00 (ft3)

Description: Nuclear standard resolution template for Platform Express    Format: Log ( Porosity 5 inch )    Index Scale: 5 in per 100 ft    Index Unit: ft    Index Type: Measured Depth    Creation Date: 30-Jun-2013 17:41:14

## 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	6.125	in
CALI_SHIFT	CALI Supplementary Offset	HDRS-H	0	in
CBLO	Casing Bottom (Logger)	WLSESSION	4086	ft
CDEN	Cement Density	HGNS-H	2	g/cm3
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	8.4	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	
DHC	Density Hole Correction	HDRS-H	Bit Size	
FCD	Future Casing (Outer) Diameter	WLSESSION	4.5	in
FD	Fluid Density	Borehole	1	g/cm3
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	REMS	
GTSE	Generalized Temperature Selection, from Measured or Computed Temperature	Borehole	CTEM	
MDEN	Matrix Density for Density Porosity	Borehole	2.71	g/cm3

MDEN	Matrix Density for Density Porosity	Borehole	2.71	g/cm3
MST	Mud Sample Temperature	Borehole	68	degF
RMS	Resistivity of Mud Sample	Borehole	0.2	ohm.m

## Tool Control Parameters

Parameter	Description	Tool	Value	Unit
HMCA_BRD_TYPE	HMCA Board Type	HGNS-H	1	
HRGD_BRD_TYPE	HRGD Board Type	HDRS-H	WITH_HET	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	1800	ft/h

**Company:** SOURCE ENERGY MIDCON LLC
 **Schlumberger**

**Well:** NEVILLE 12-11-12-14H

**Field:** WILDCAT

**County:** SUMMER COUNTY

**State:** KANSAS

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