

Company: Bill Barrett Corporation

Well: Anschutz State 5 62 36 12

Field: Wildcat

County: Weld State: Colorado

Platform Express

Triple Combo

Linear

County:	Weld
Field:	Wildcat
Location:	SHL: NENW 1025' FNL & 1820' FWL
Well:	Anschutz State 5 62 36 12
Company:	Bill Barrett Corporation
Location:	
SHL: NENW 1025' FNL & 1820' FWL	Elev.: K.B. 4575.00 ft
Section 36, Township 5N, Range 62W	G.L. 4557.00 ft
Lat: 40.361297, Long: -104.274089	D.F. 4574.00 ft
Permanent Datum:	Ground Level
Log Measured From:	Kelly Bushing
Drilling Measured From:	Kelly Bushing
API Serial No.	Section: 36
05-123-38343-00	Township: 5N
	Range: 62W

Logging Date	21-Jan-2014
Run Number	Run 1
Depth Driller	8341.00 ft
Schlumberger Depth	8347.00 ft
Bottom Log Interval	8347.00 ft
Top Log Interval	824.00 ft
Casing Driller Size @ Depth	9.625 in @ 820.00 ft
Casing Schlumberger	824 ft
Bit Size	8.75 in
Type Fluid In Hole	Chemical Gel
Density	9.3 lbm/gal
Fluid Loss	0 cm3
Source of Sample	Flowline
RM @ Meas Temp	0.94 ohm.m @ 85 degF
RMF @ Meas Temp	0.7 ohm.m @ 85 degF
RMC @ Meas Temp	1.18 ohm.m @ 85 degF
Source RMF	Calculated
RM @ BHT	0.39 @ 212
RMF @ BHT	0.3 @ 212
Max Recorded Temperatures	212 degF
Circulation Stopped	21-Jan-2014
Logger on Bottom	21-Jan-2014
Unit Number	2135
Recorded By	Max Pace
Witnessed By	Jason Anderson

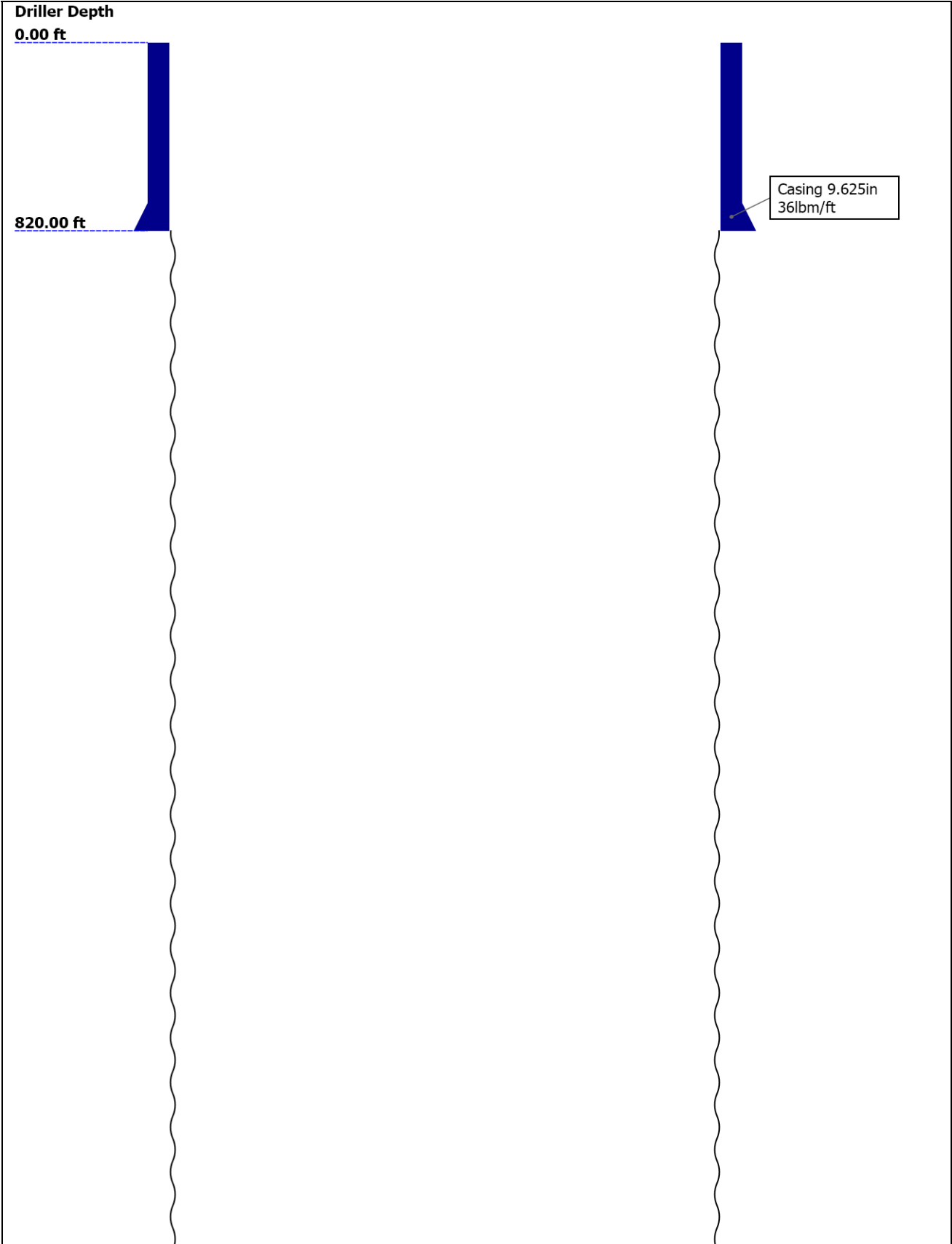
Disclaimer

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.

Contents

- 1. Header
- 2. Disclaimer
- 3. Contents
- 4. Well Sketch
- 5. Borehole Size/Casing/Tubing Record
- 6. Borehole Fluids
- 7. Remarks and Equipment Summary
- 8. Depth Summary
- 9. Run 1 5" Triple Combo
  - 9.1 Integration Summary
  - 9.2 Software Version
  - 9.3 Composite Summary
  - 9.4 Log ( EMD 5in Triple Combo )
  - 9.5 Parameter Listing
- 10. Run 1
  - 10.1 Composite Summary
  - 10.2 Log ( EMD 5in Triple Combo Linear RA )

Well Sketch



8341.00 ft

Open Hole 8.75in

## Borehole Size/Casing/Tubing Record

Bit						
Bit Size ( in )	8.75					
Top Driller ( ft )	820					
Top Logger ( ft )	824					
Bottom Driller ( ft )	8341					
Bottom Logger ( ft )	8347					
Casing						
Size ( in )	9.625					
Weight ( lbm/ft )	36					
Inner Diameter ( in )	8.921					
Grade	J55					
Top Driller ( ft )	0					
Top Logger ( ft )	0					
Bottom Driller ( ft )	820					
Bottom Logger ( ft )	824					

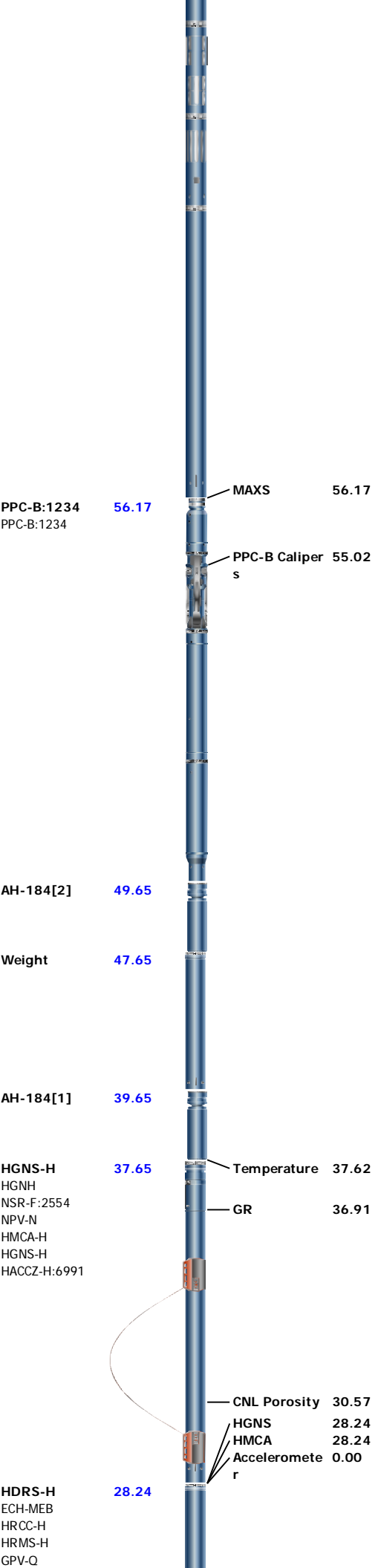
## Borehole Fluids

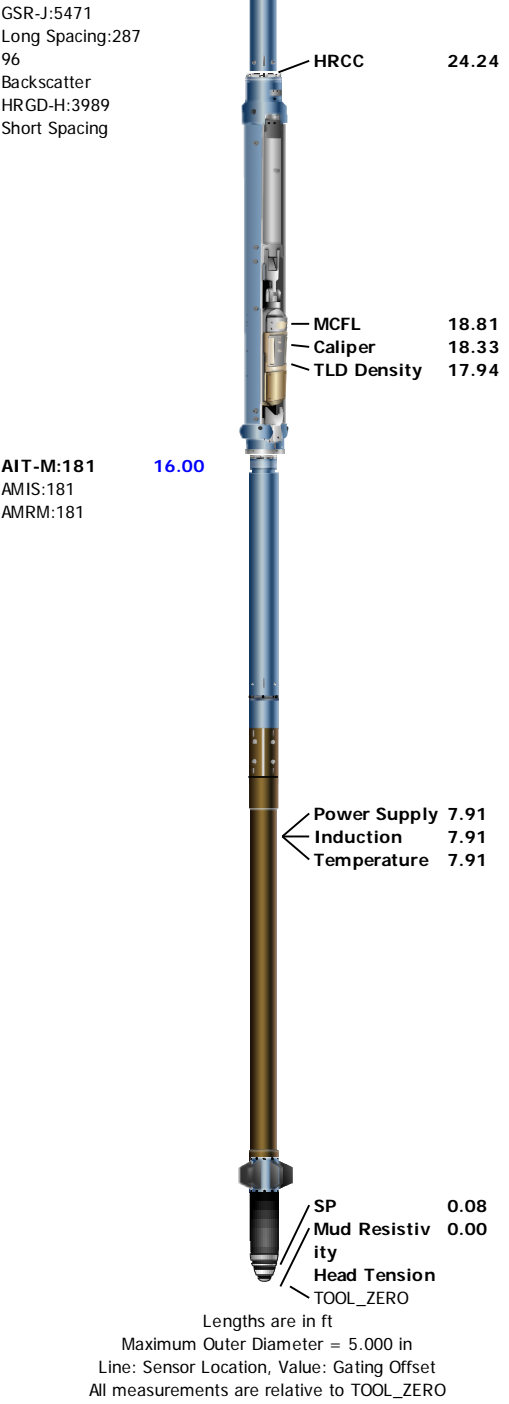
Parameter( unit )	Run 1					
Fluid Type	Water					
Fluid Name	Chemical Gel					
Max Recorded Temperatures ( degF )	212					
Source of Sample	Flowline					
Salinity ( ppm )	0					
Density ( lbm/gal )	9.3					
Funnel Viscosity ( s )	58					
Fluid Loss ( cm3 )	0					
PH	7.7					
Date/Time Circulation Stopped	21-Jan-2014 09:00:00					
Date Logger on Bottom	21-Jan-2014					
Time Logger on Bottom	18:30:08					
Source RMF	Calculated					
RMC	Calculated					
RM @ Meas Temp ( ohm.m@degF )	0.94 @ 85					
RMF @ Meas Temp ( ohm.m@degF )	0.7 @ 85					

RMC @ Meas Temp ( ohm.m@degF )	1.18 @ 85					
RM @ BHT ( ohm.m@degF )	0.39 @ 212					
RMF @ BHT ( ohm.m@degF )	0.3 @ 212					
RMC @ BHT ( ohm.m@degF )	0.49 @ 212					
Total Solid ( % )						
High Gravity Solids ( % )						

## Remarks and Equipment Summary

Run 1: Toolstring				Run 1: Remarks
<b>Equip name</b> LEH-QT LEH-QT	<b>Length</b> 106.87	<b>MP name</b>	<b>Offset</b>	All Schlumberger depth control procedures followed
				IDW used as primary depth device.
				Z chart used as secondary depth device.
<b>EDTC-B</b> EDTH-B EDTG-A EDTC-B	103.95			Sandstone matrix (2.65 density) used as per client request
				Tool string run as per tool sketch
		CTEM	100.45	
		ACCZ	0.00	
		HV	0.00	
		Gamma Ray	98.58	
		TelStatus	97.45	
<b>MAST-B:8012</b> ECH-SF:8081 MAPC-BA:8081 MAMS-BA:8012 MASS-BA:8091 MAXS-BA:8183	97.45			
		MAMS	82.01	





Depth Summary			
Run 1			
Depth Measuring Device			
Type	IDW-B		
Serial Number			
Calibration Date			
Calibrator Serial Number			
Calibration Cable Type			
Wheel Correction 1	0		
Wheel Correction 2	0		
Tension Device			
Type	CMTD-B/A		
Serial Number			
Calibration Date			
Calibrator Serial Number			
Number of Calibration Points	0		
Logging Cable			
Type	7.46NT-YS		

Type	7-40NT-AS		
Serial Number			
Length	24000.00 ft		
Conveyance Type	Wireline		
Rig Type	Land		
<b>Run 1:Depth Control Parameters</b>		<b>Depth Control Remarks</b>	
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			

## Run 1

## 5" Triple Combo

## Software Version

Acquisition System		Version	
MaxWell		4.0.9163.3000	
Application Patch		Patch-NPD_NEXT_9163-12428-4.0.9163.3002	
Computation	Description		Version
HENVIR	Computation Ensemble for the HGNS Neutron environmental corrections		4.0.9033.3000
DepthCorrection	DepthCorrection		4.0.9125.3000
Tool Elements	Description	Software Version	Firmware Version
HRCC-H	HILT High-Resolution Control Cartridge, 150 degC	4.0.9033.3000	2.0
HGNS-H	HILT Gamma-Ray and Neutron Sonde, 150 degC	4.0.9033.3000	2.0
HRGD-H	HILT Resistivity Gamma-Ray Density Device, 150 degC	4.0.9033.3000	3.0
AMIS	Array Induction Sonde - M	4.0.9163.3000	1

## Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Run 1	Main[3]:Up	Up	577.53 ft	8365.28 ft	21-Jan-2014 6:55:34 PM	21-Jan-2014 9:59:17 PM	ON	1.13 ft	Yes

All depths are referenced to toolstring zero

## Log

Company:Bill Barrett Corporation      Well:Anschutz State 5 62 36 12

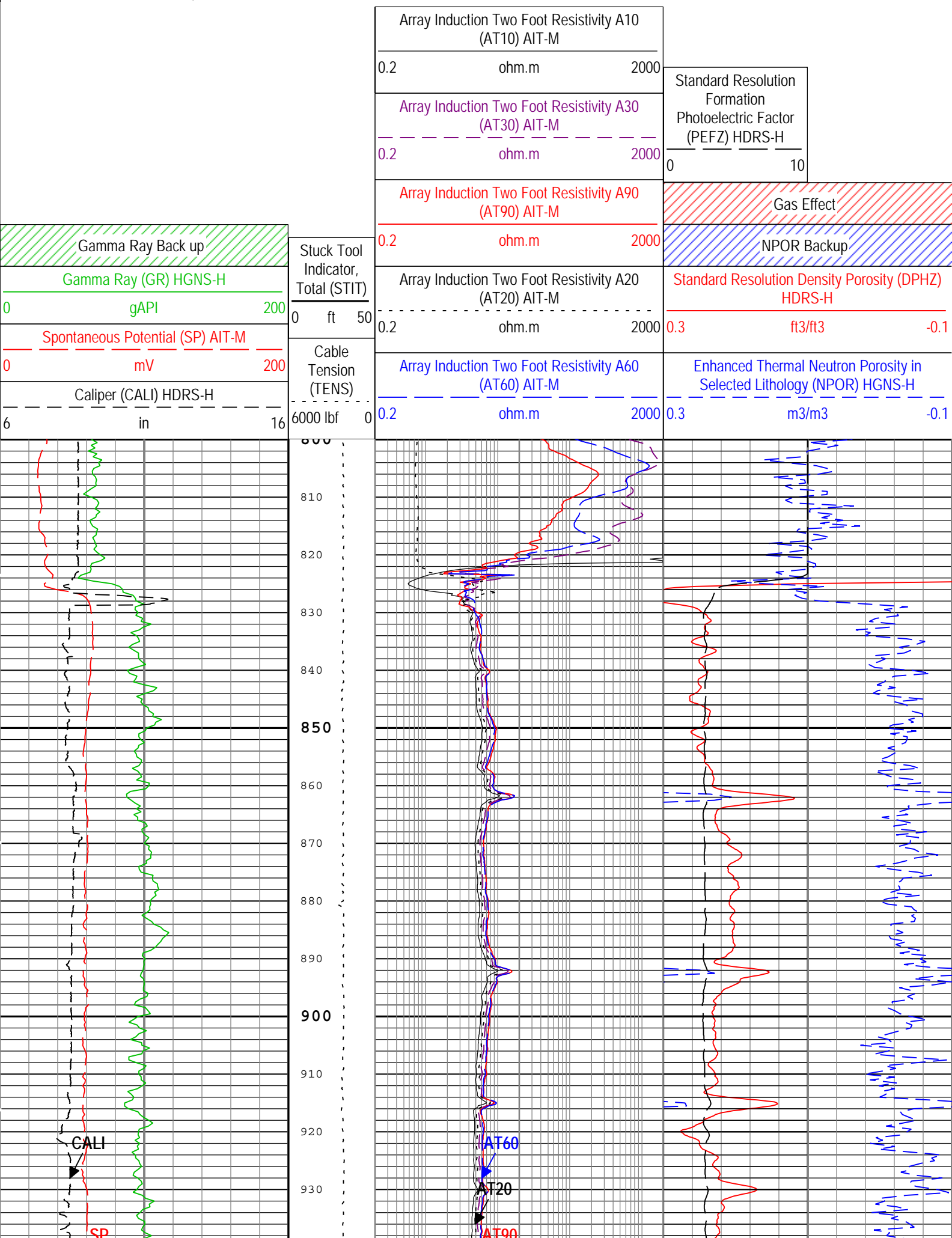
Run 1: Main[3]:Up:S009

Description: HGNS standard resolution porosities for Platform Express    Format: Log ( EMD 5in Triple Combo )    Index Scale: 5 in per 100 ft    Index Unit: ft

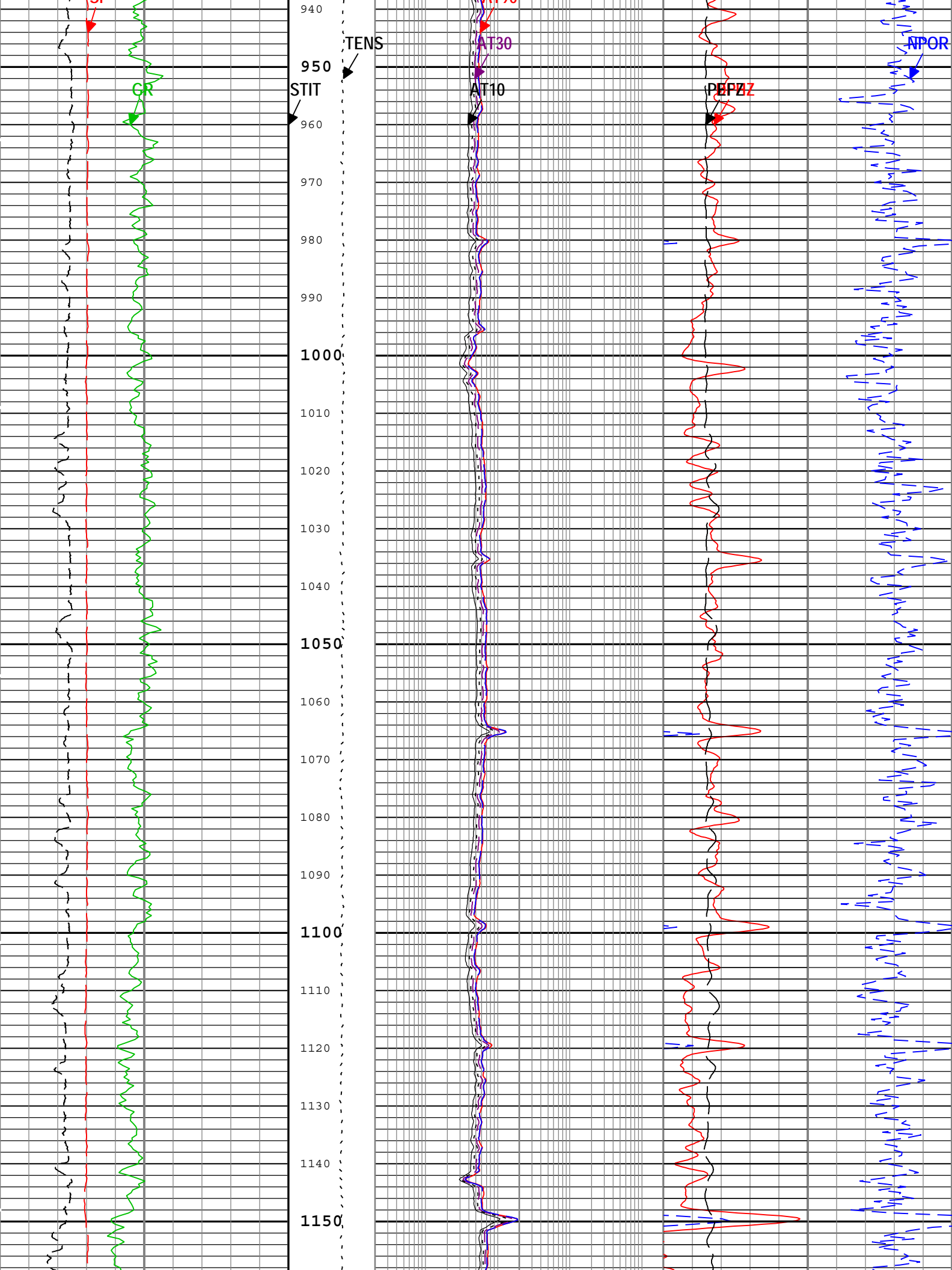
Index Type: Measured Depth    Creation Date: 21-Jan-2014 23:21:42

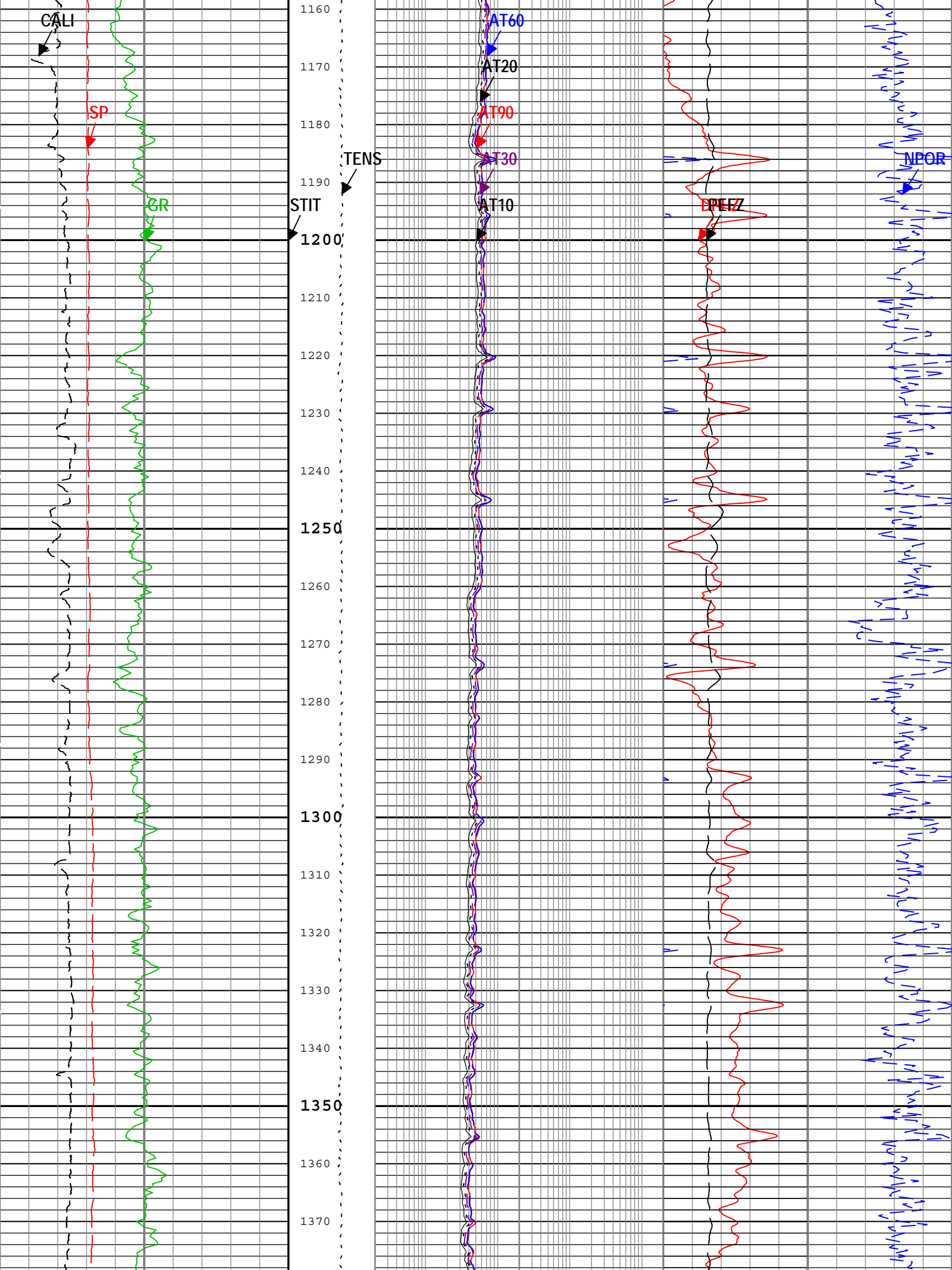
Channel	Source	Sampling
AT10	AIT-M:AMIS:AMIS	3in
AT20	AIT-M:AMIS:AMIS	3in
AT30	AIT-M:AMIS:AMIS	3in
AT60	AIT-M:AMIS:AMIS	3in
AT90	AIT-M:AMIS:AMIS	3in
CALI	HDRS-H:HRCC-H:HRCC-H	1in
DPHZ	HDRS-H:HRMS-H:HRGD-H	2in
GR	HGNS-H:HGNS-H:HGNS-H	6in
NPOR	HGNS-H:HGNS-H:HGNS-H	6in
PEFZ	HDRS-H:HRMS-H:HRGD-H	2in
SP	AIT-M:AMIS:AMIS	6in
STIT	DepthCorrection	6in
TENS	WLWorkflow	6in
TIME_1900	WLWorkflow	0.1in

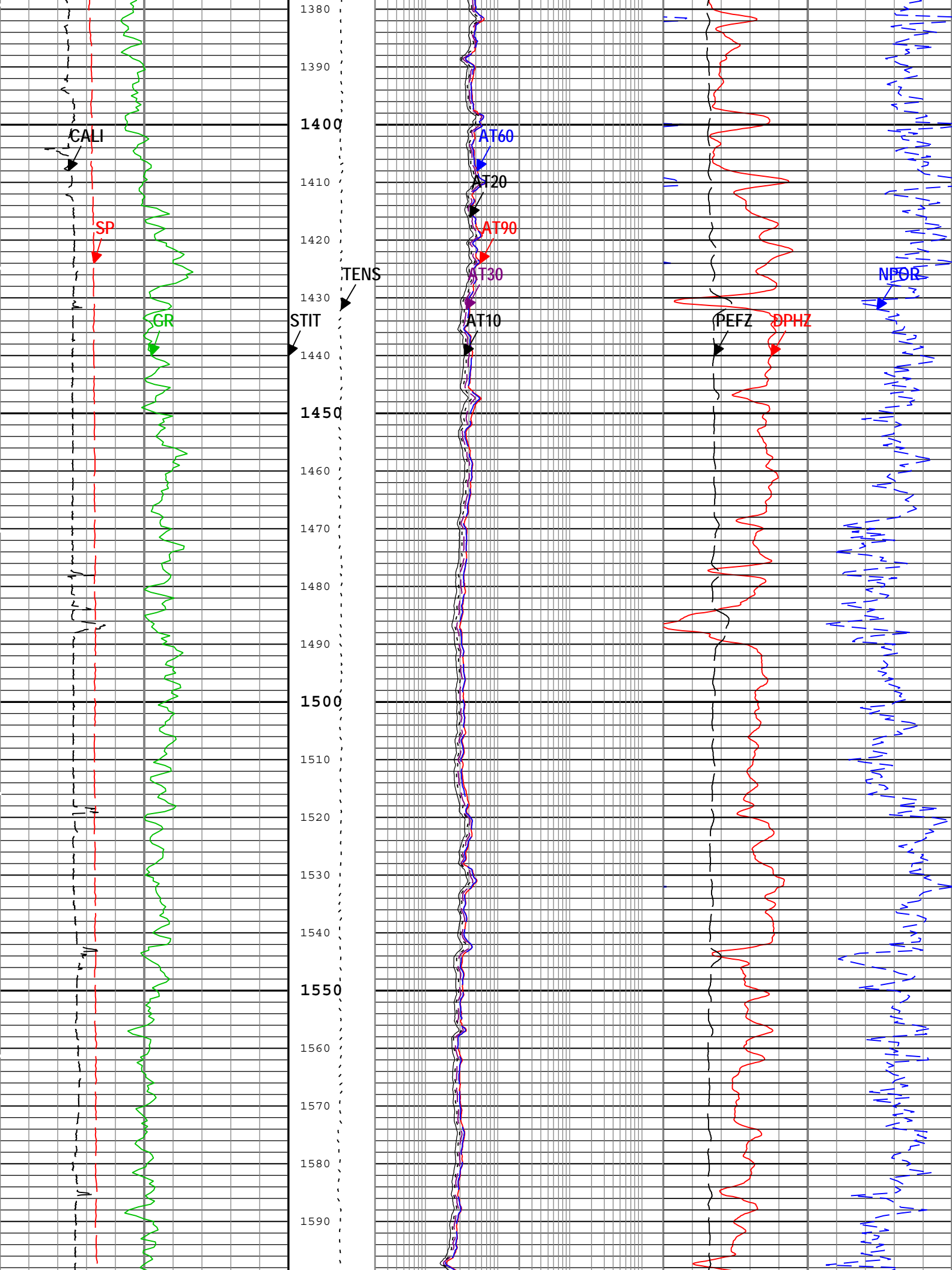
TIME\_1900 - Time Marked every 60.00 (s)

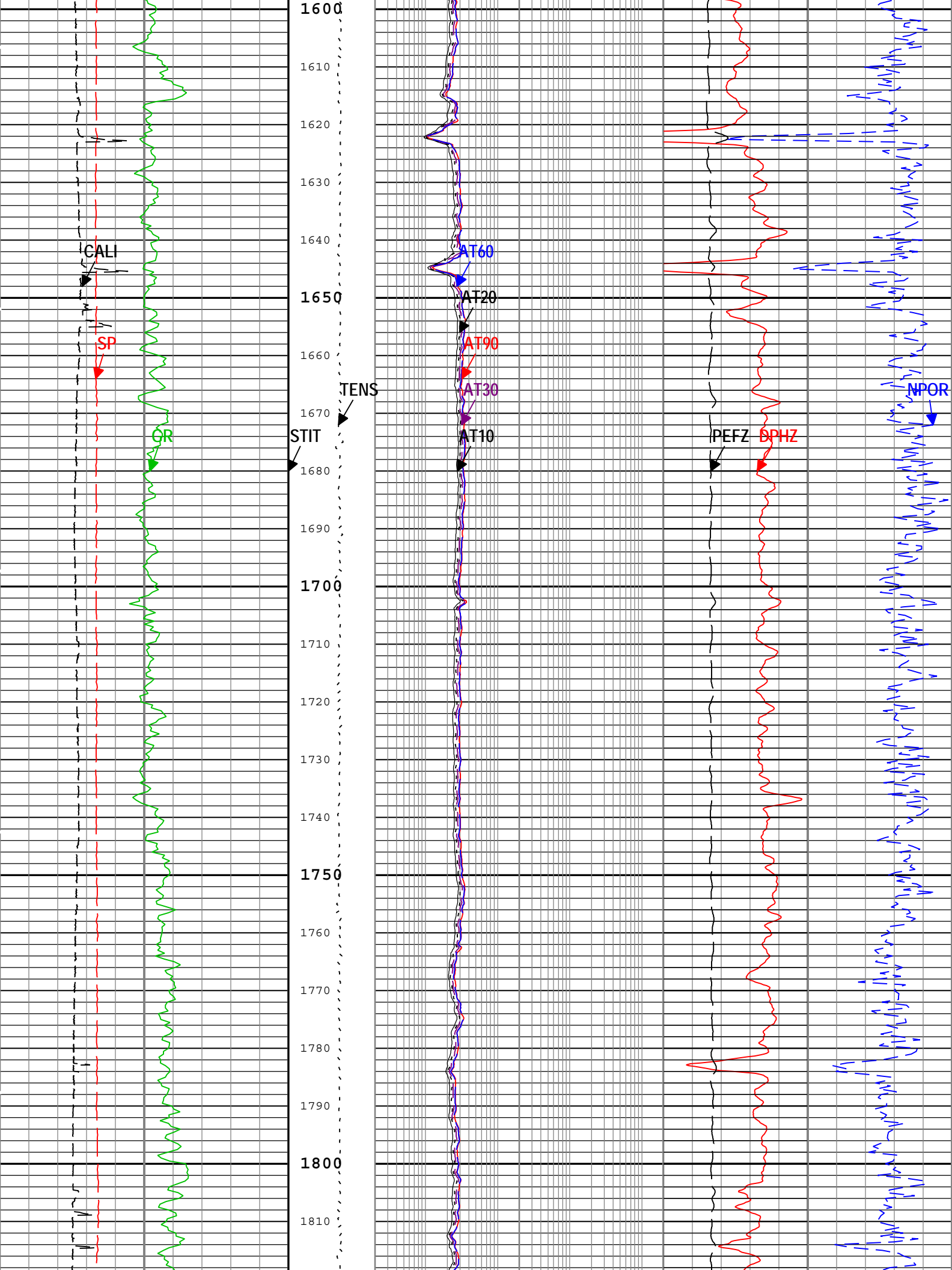


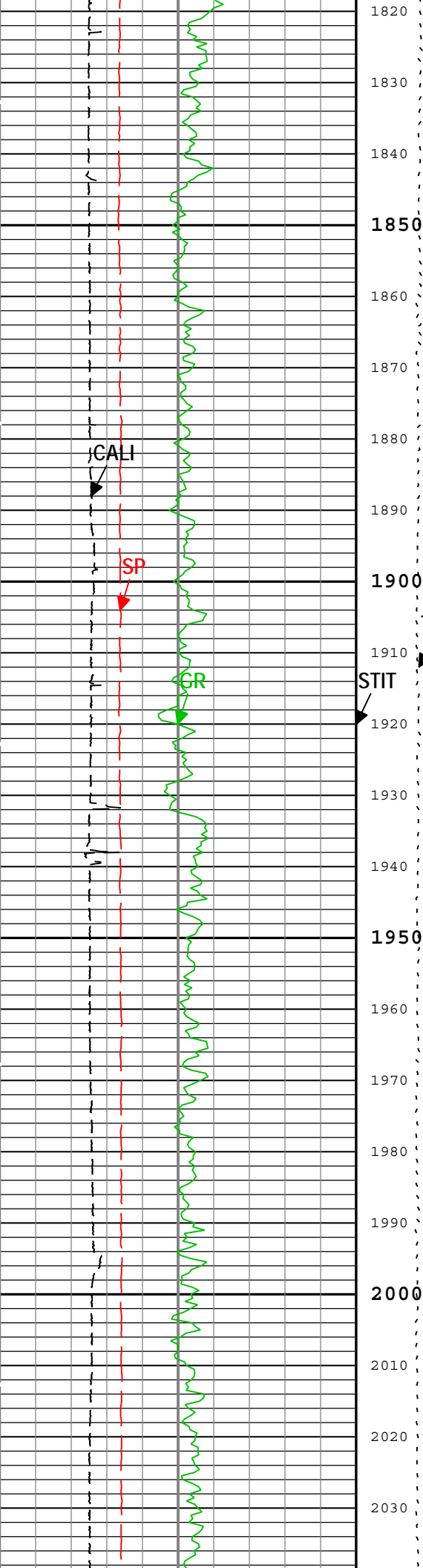




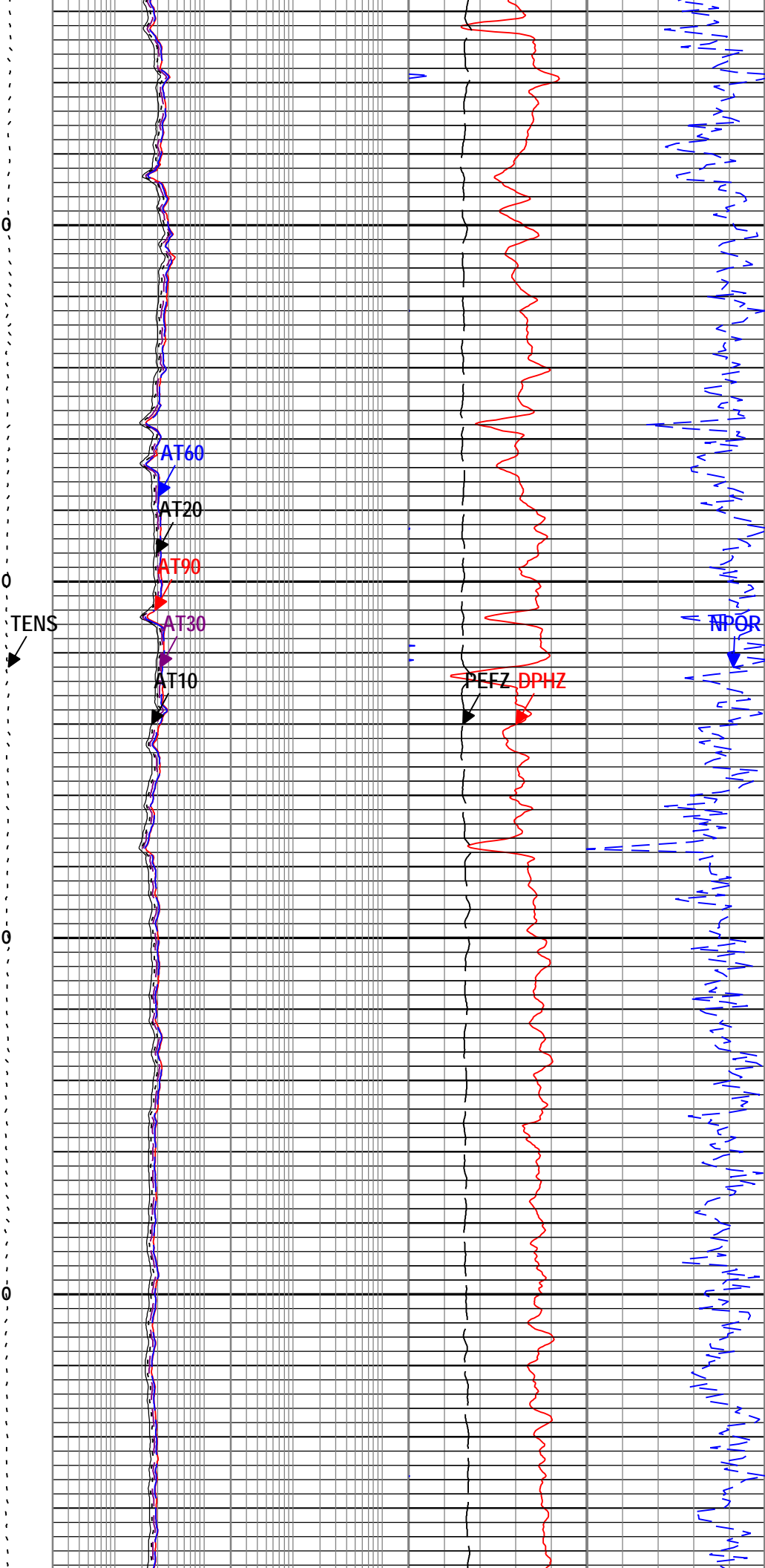


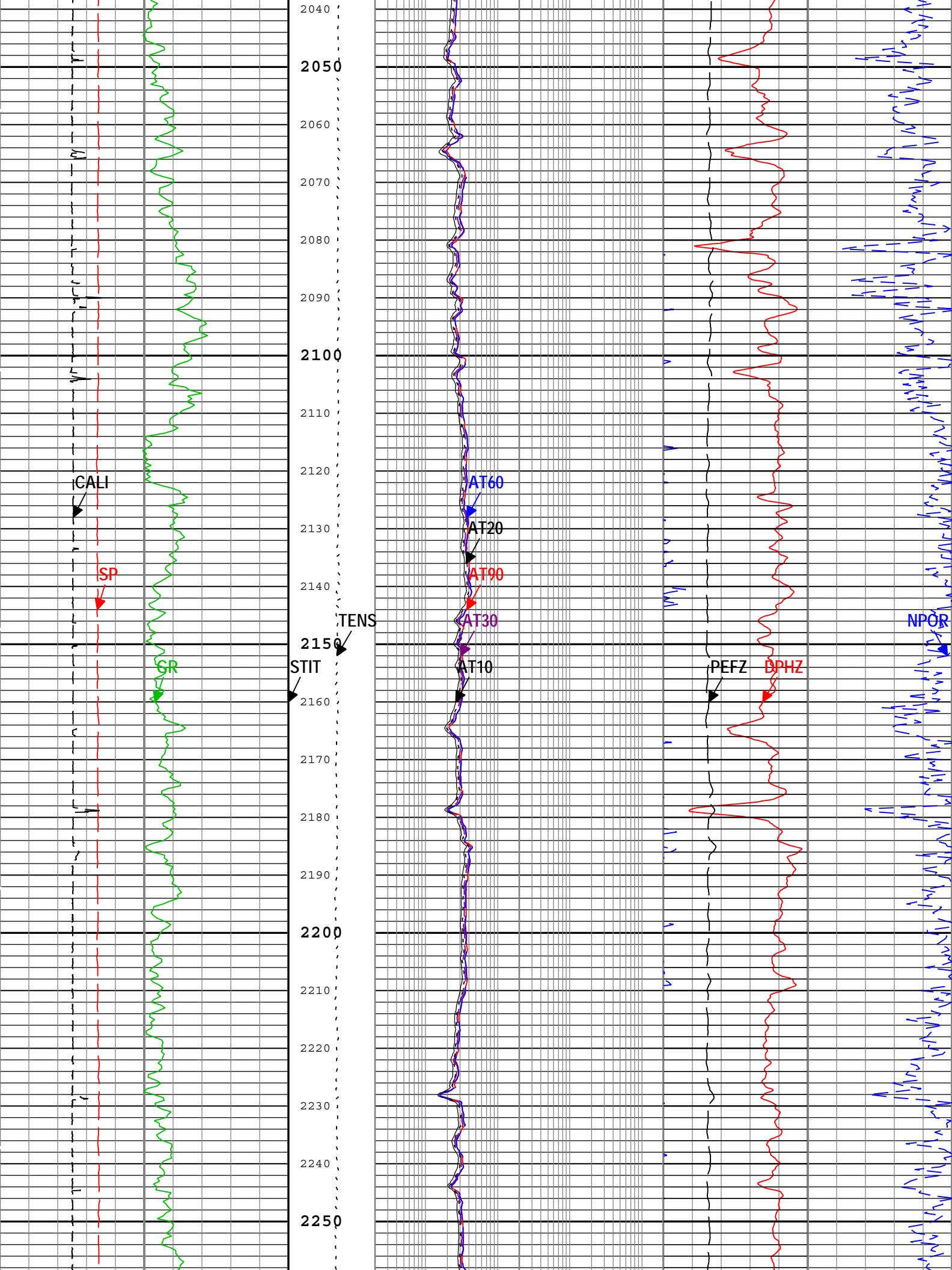


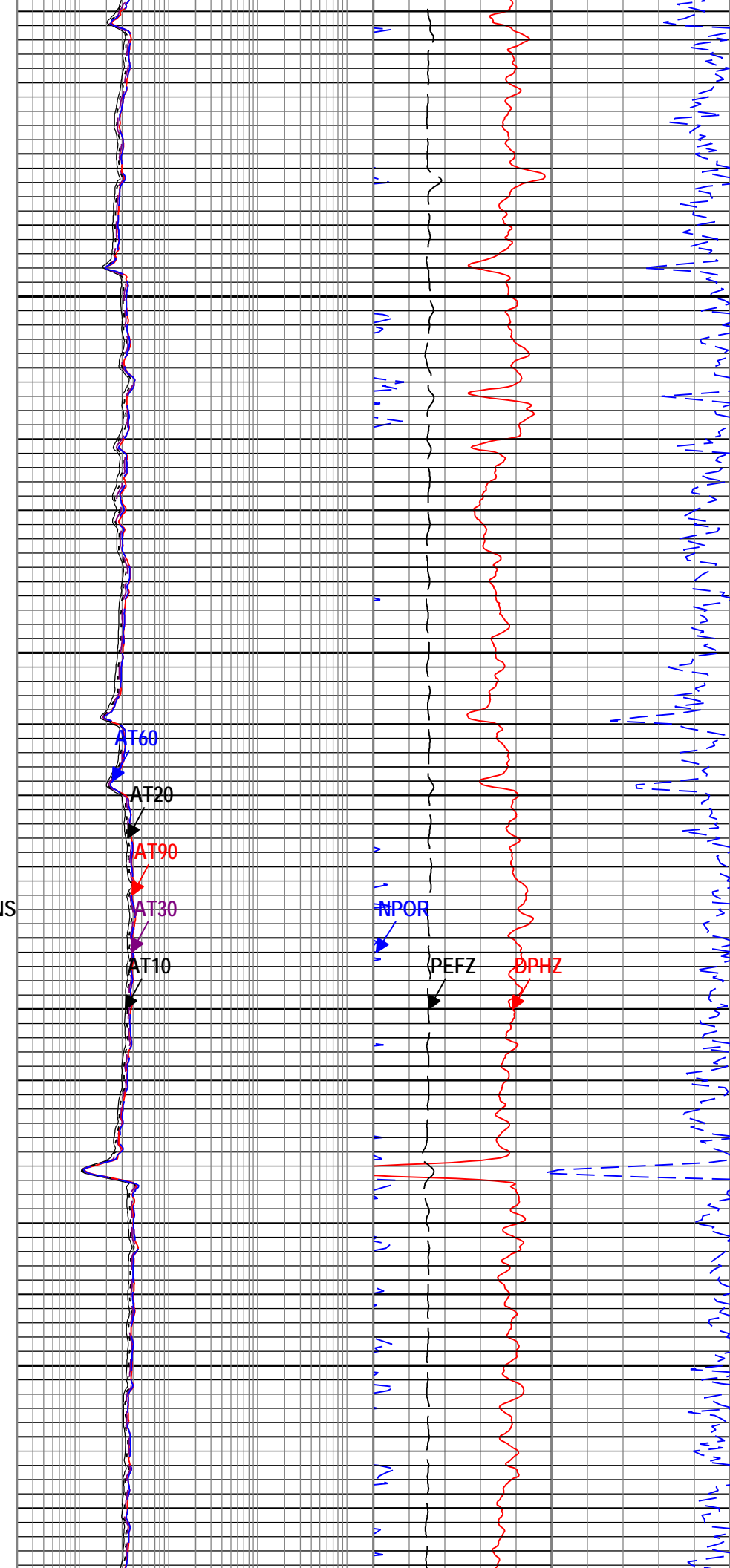
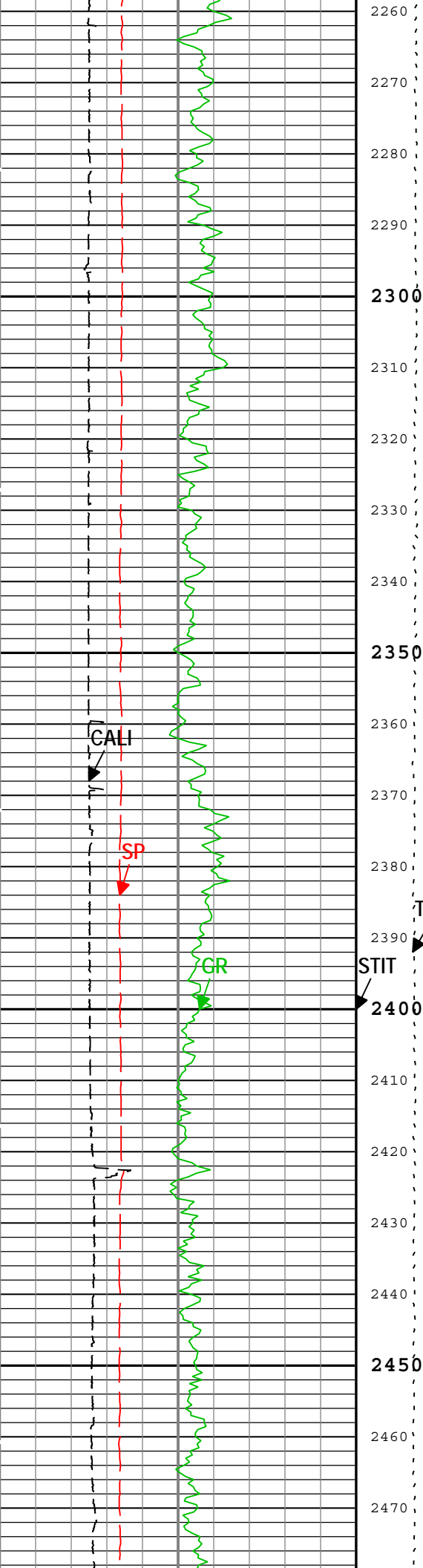


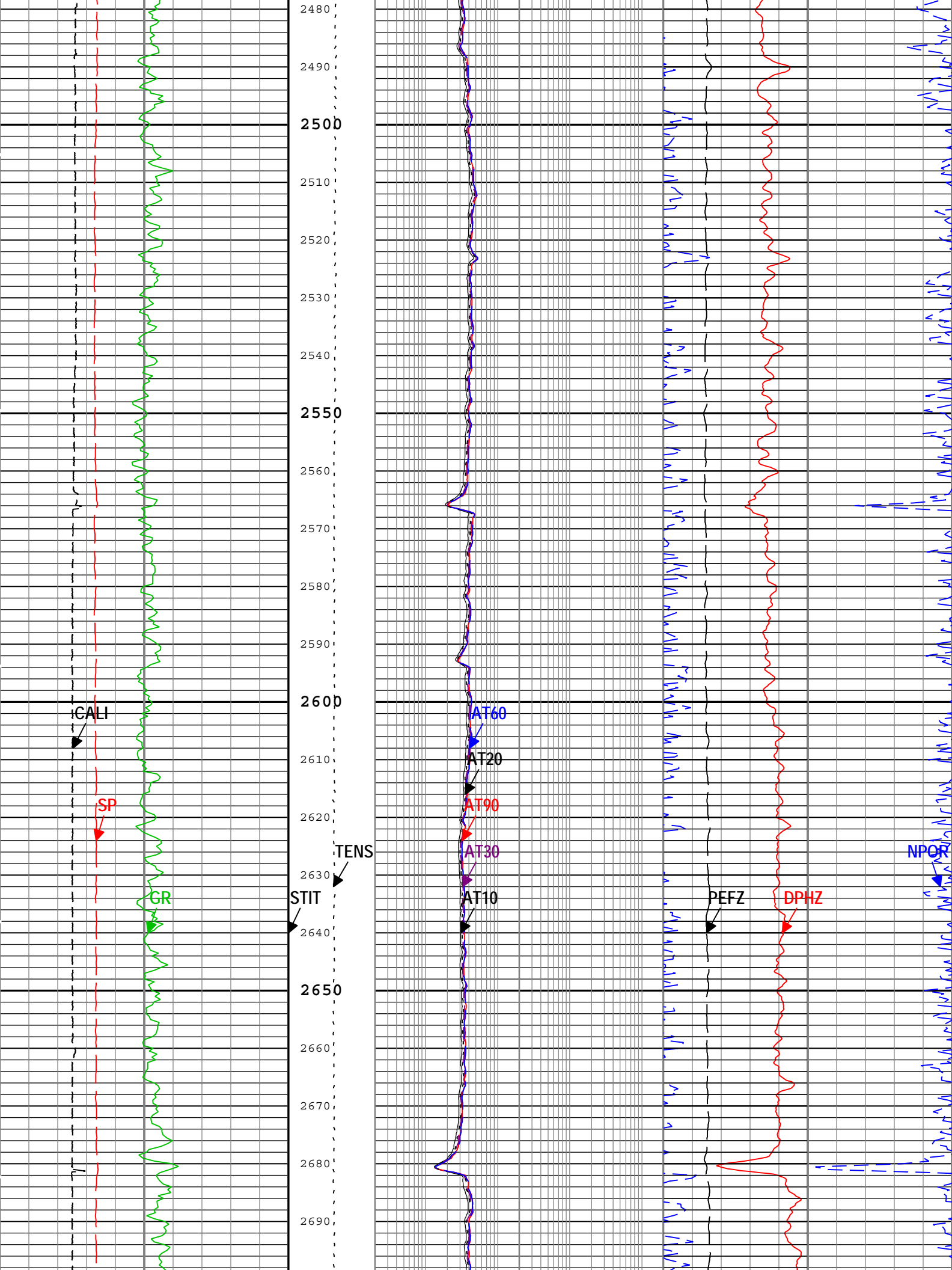


1820  
1830  
1840  
1850  
1860  
1870  
1880  
1890  
1900  
1910  
1920  
1930  
1940  
1950  
1960  
1970  
1980  
1990  
2000  
2010  
2020  
2030

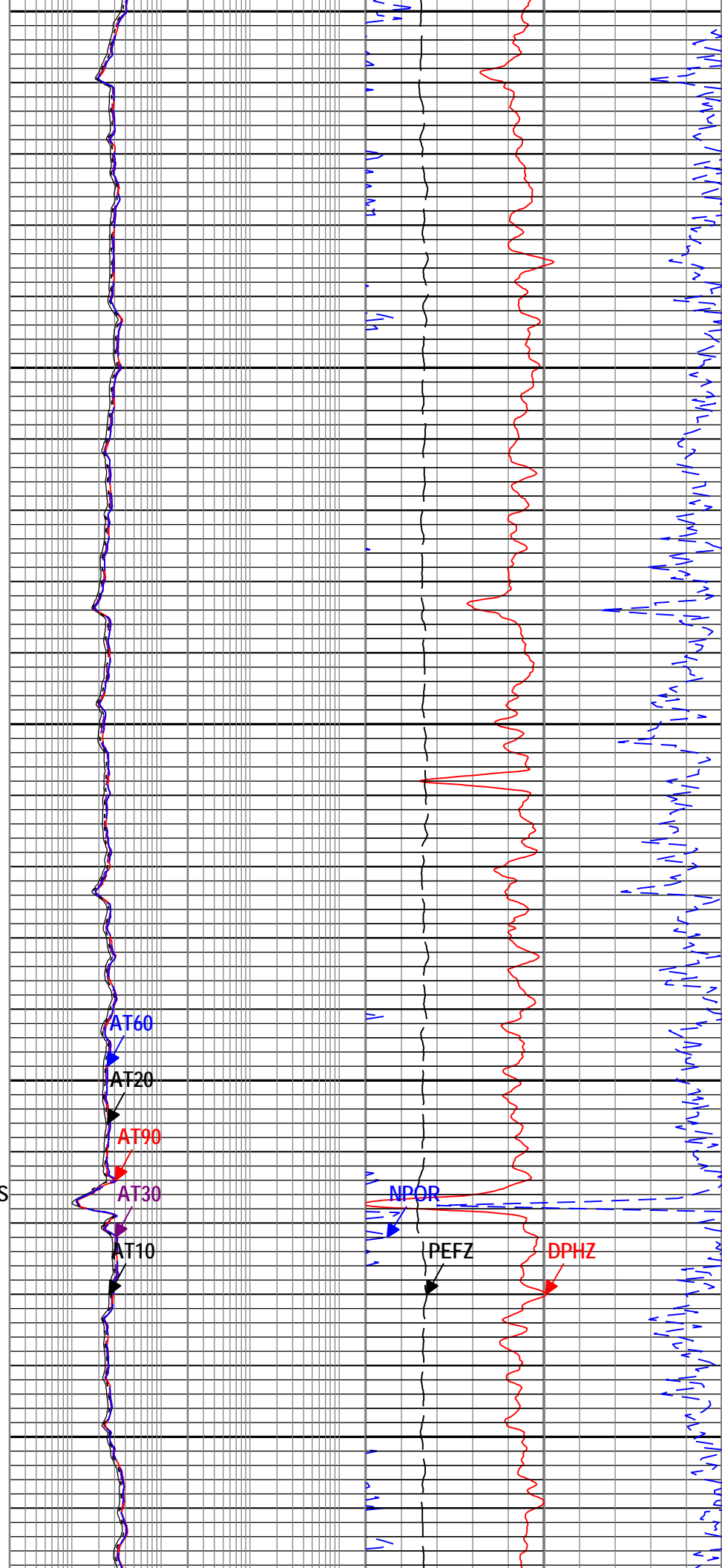
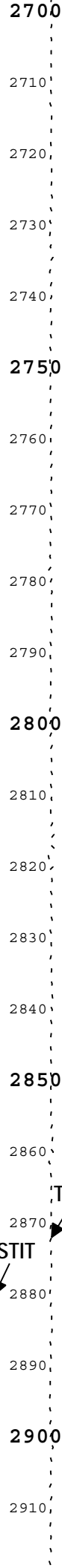
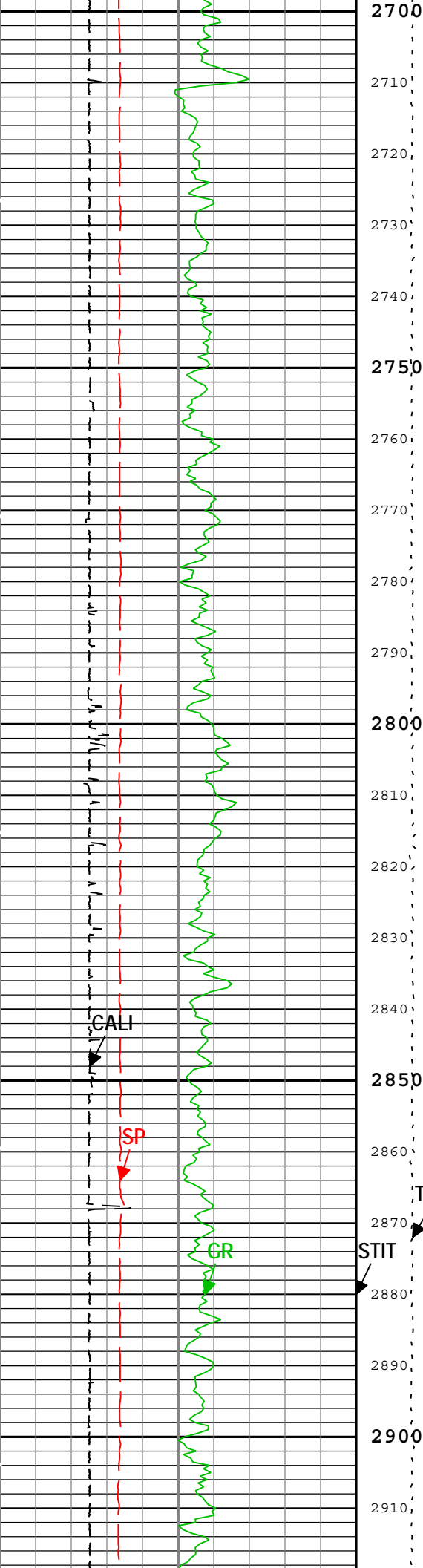


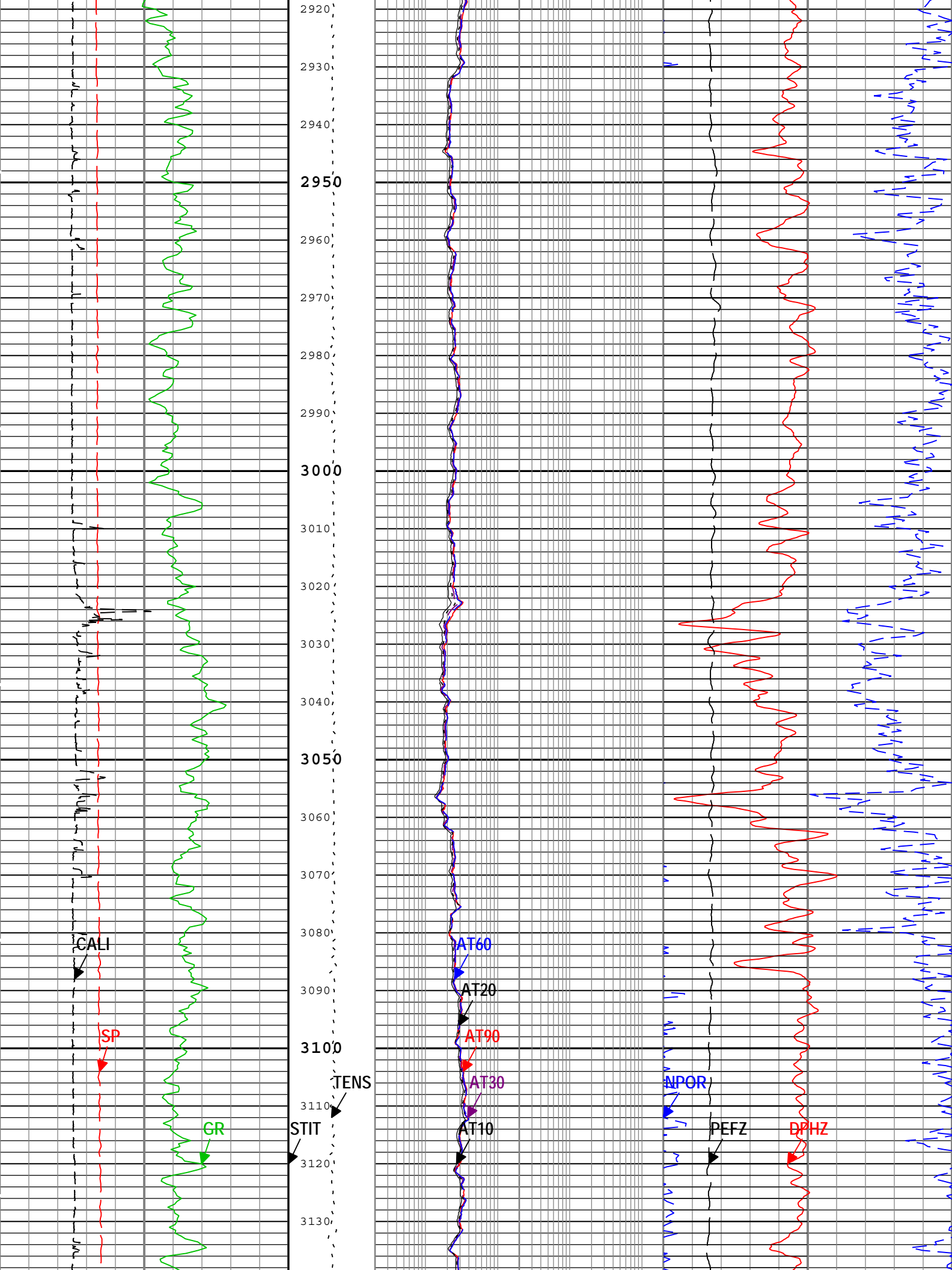


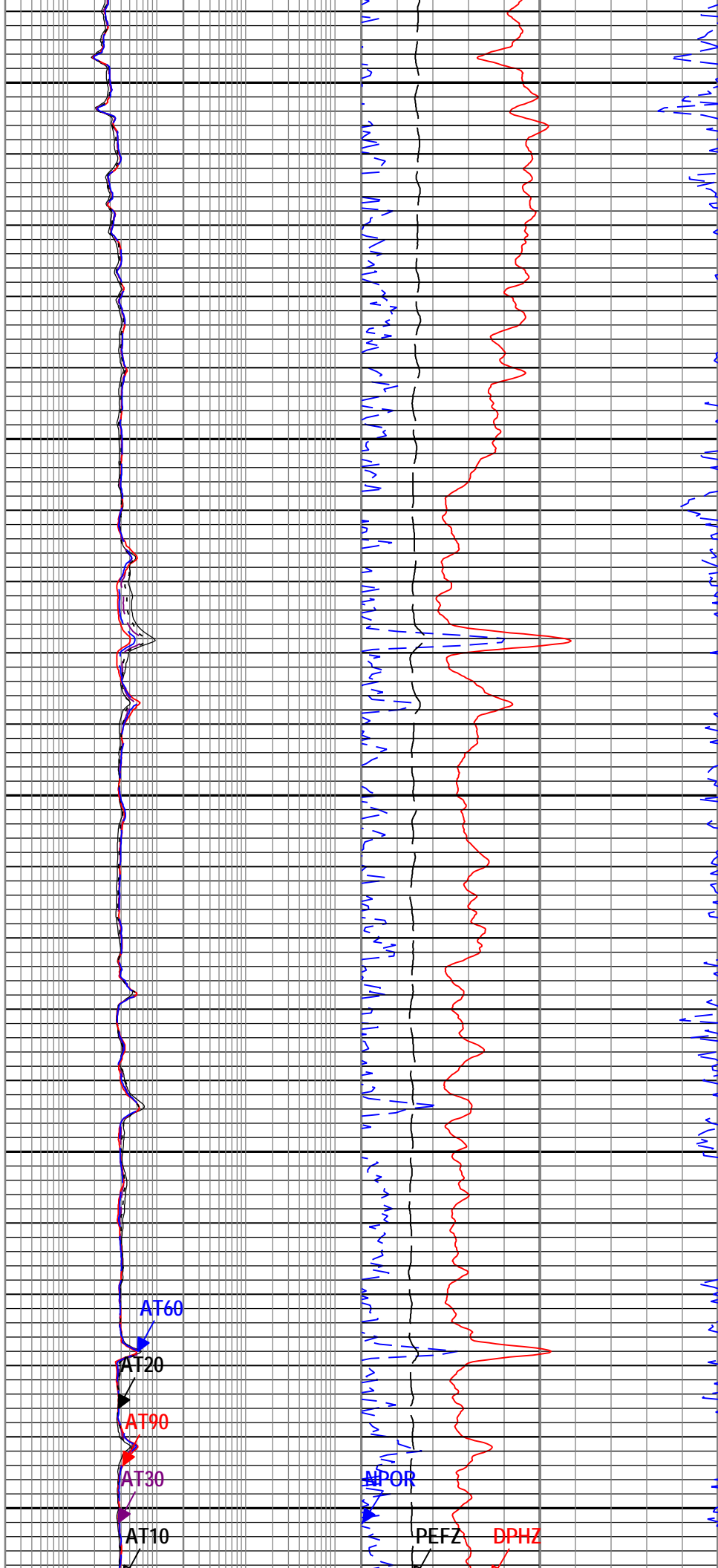
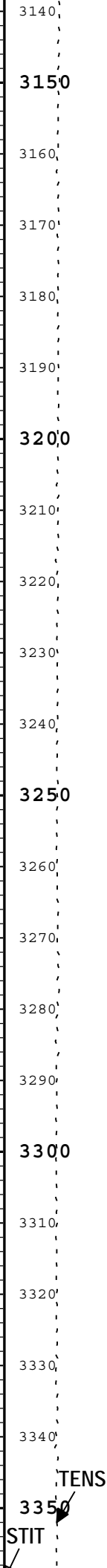
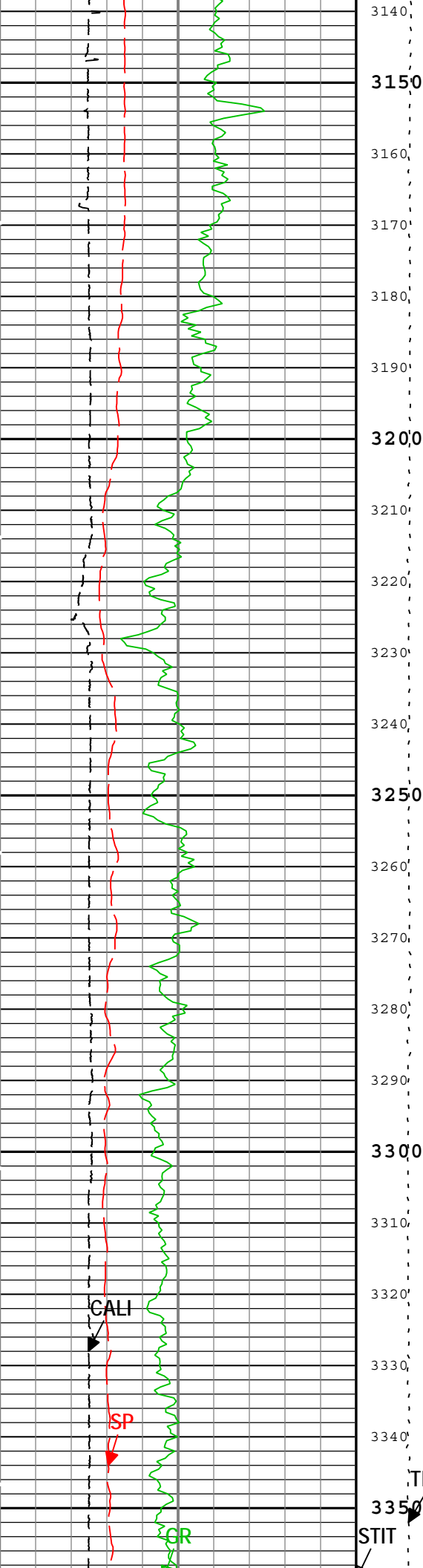


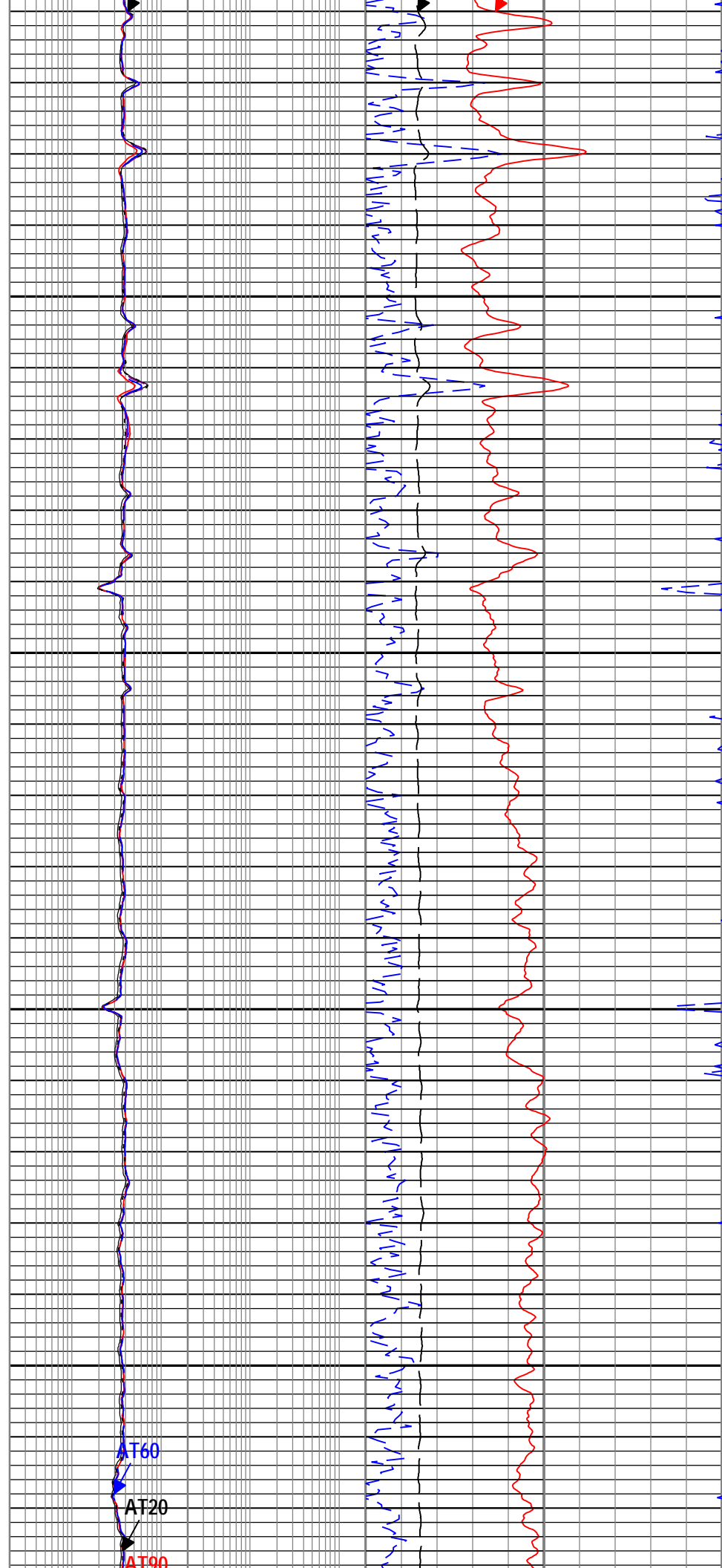
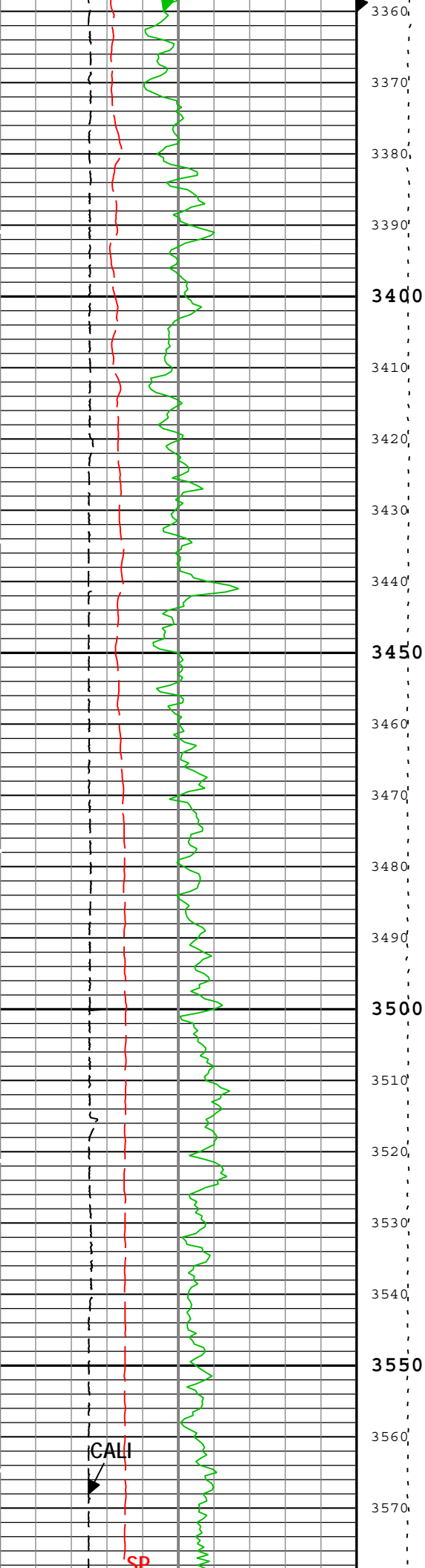


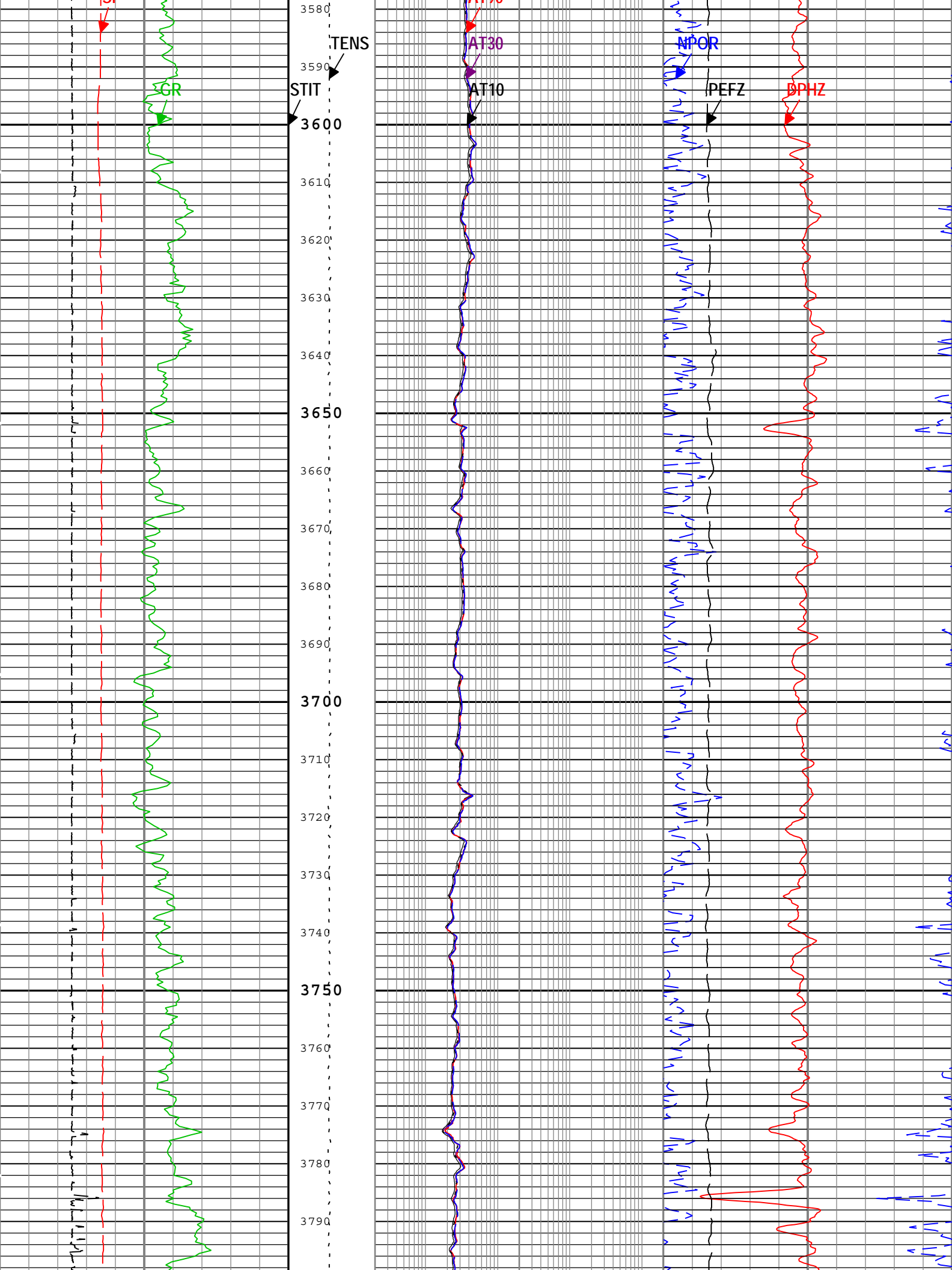


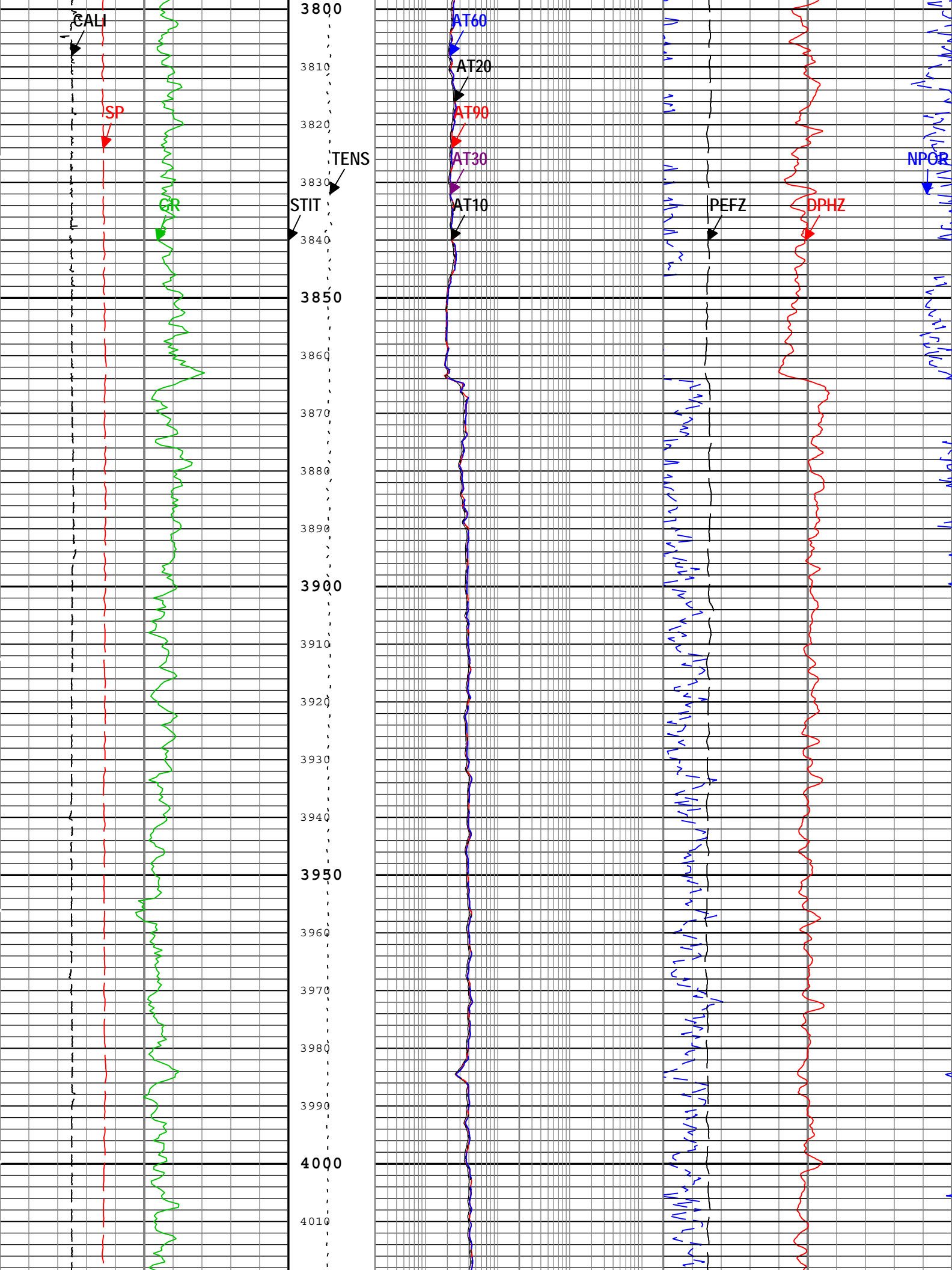


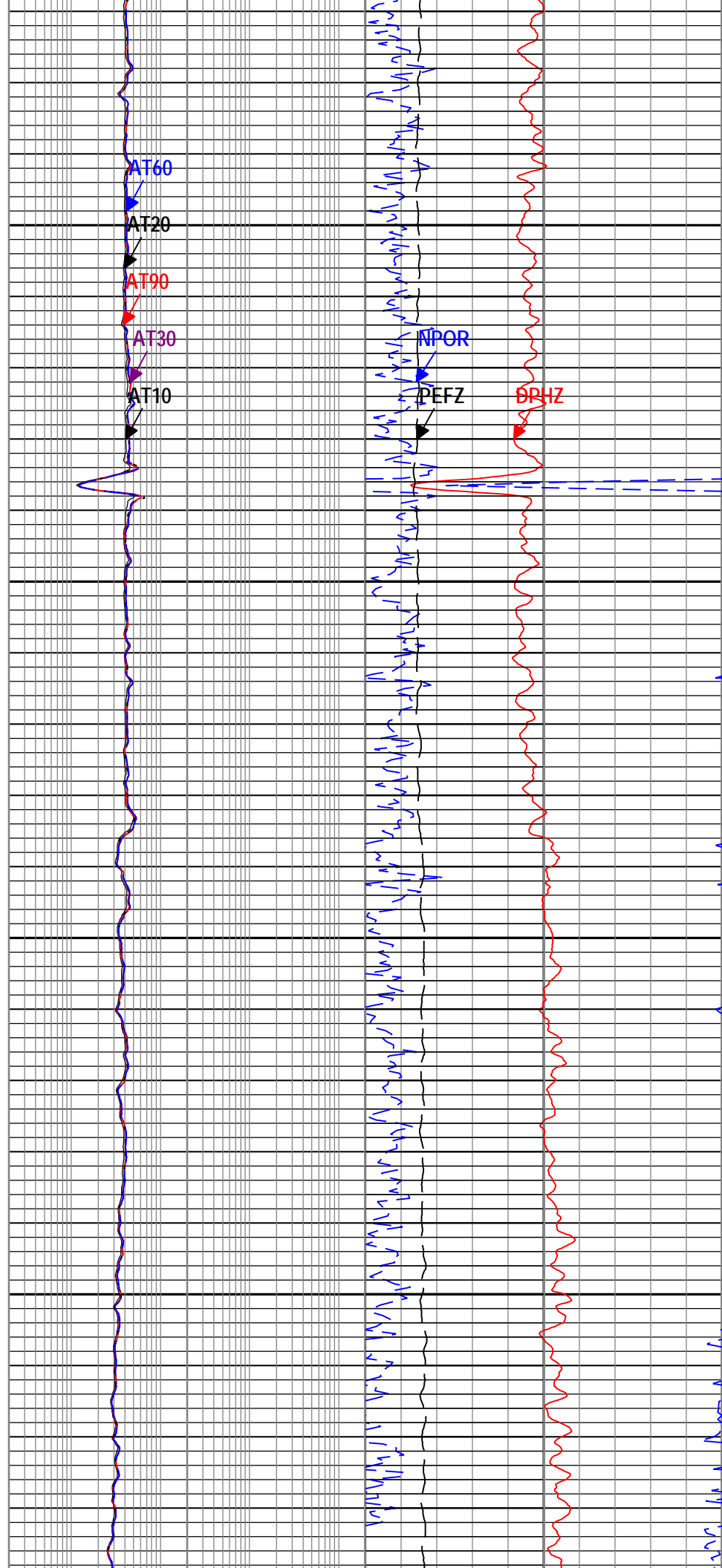
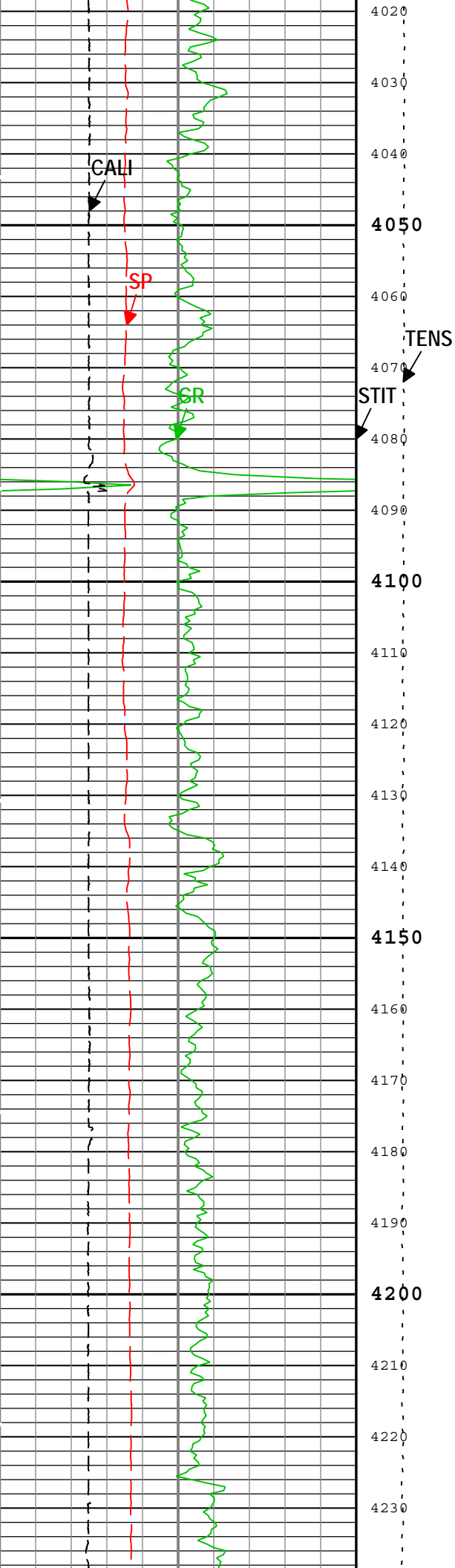


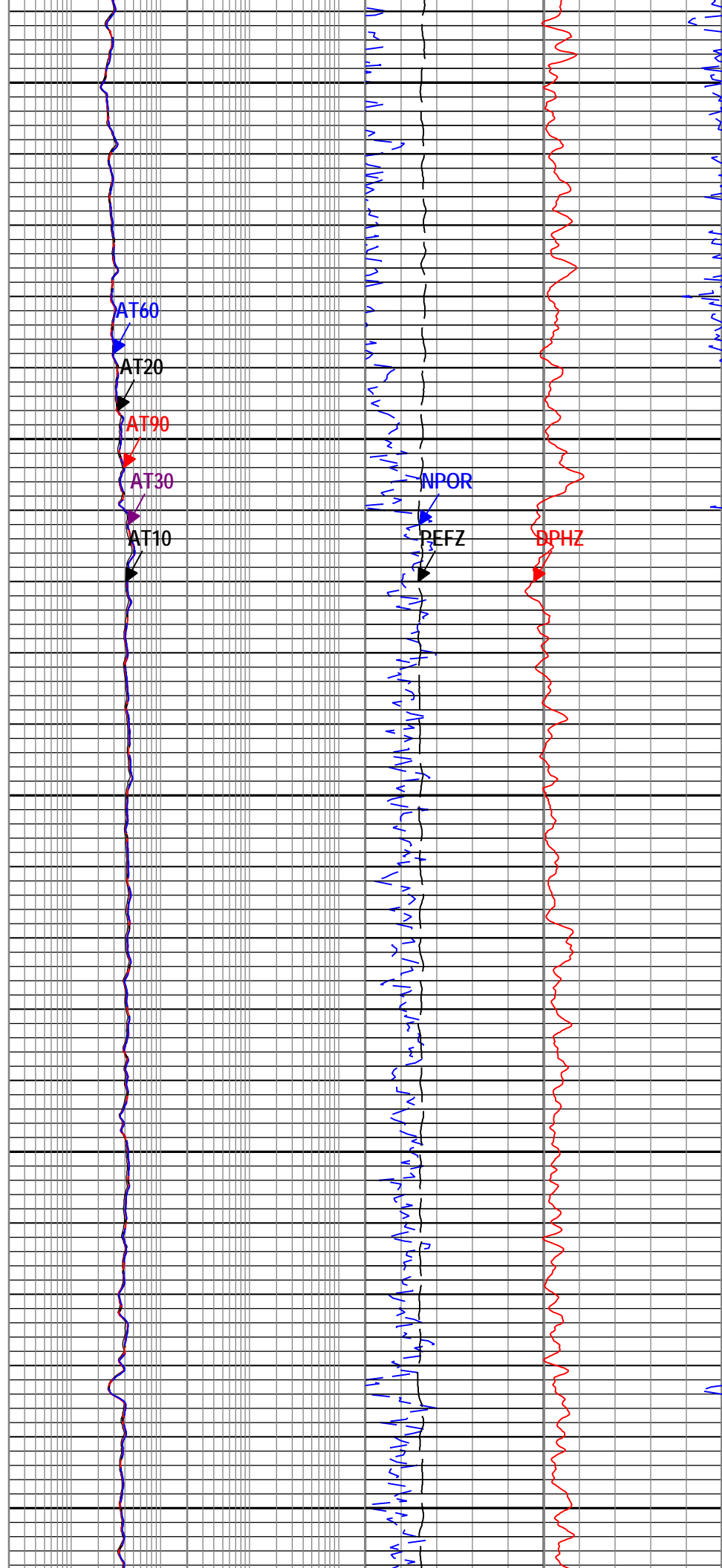
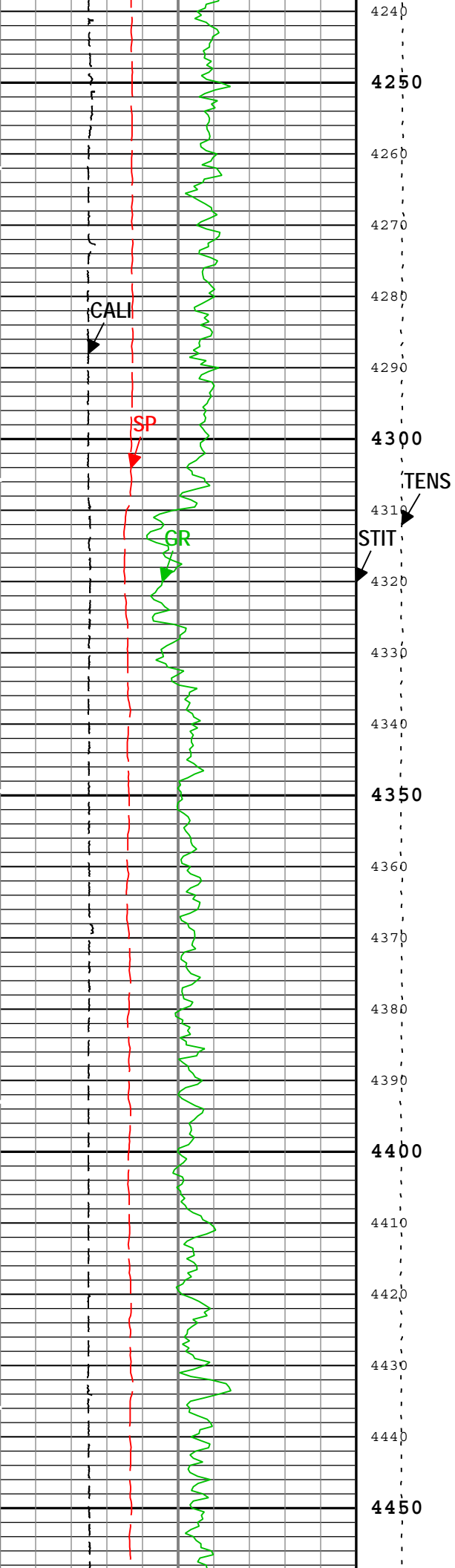




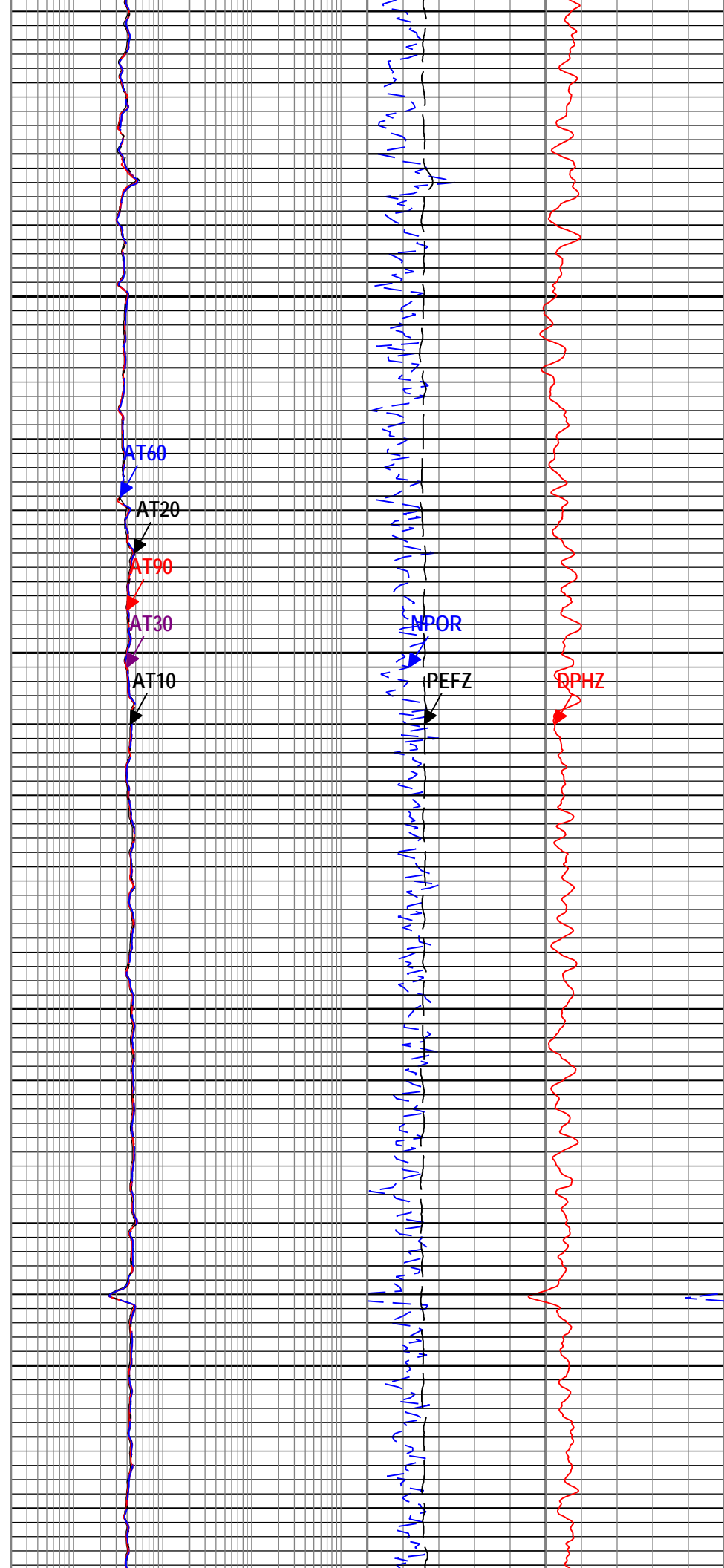
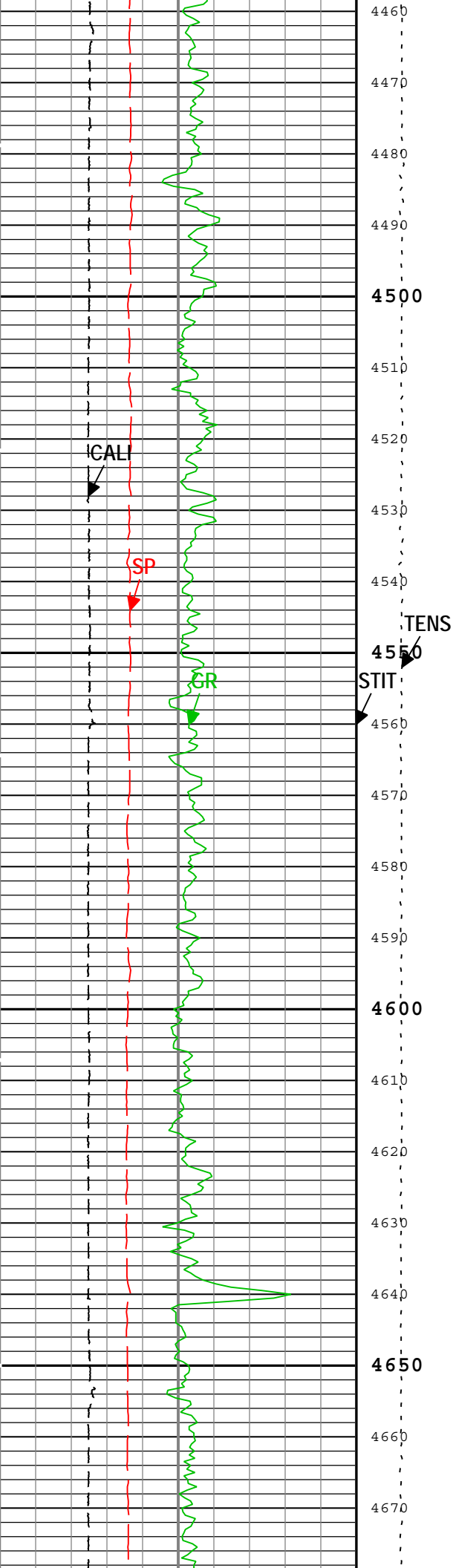


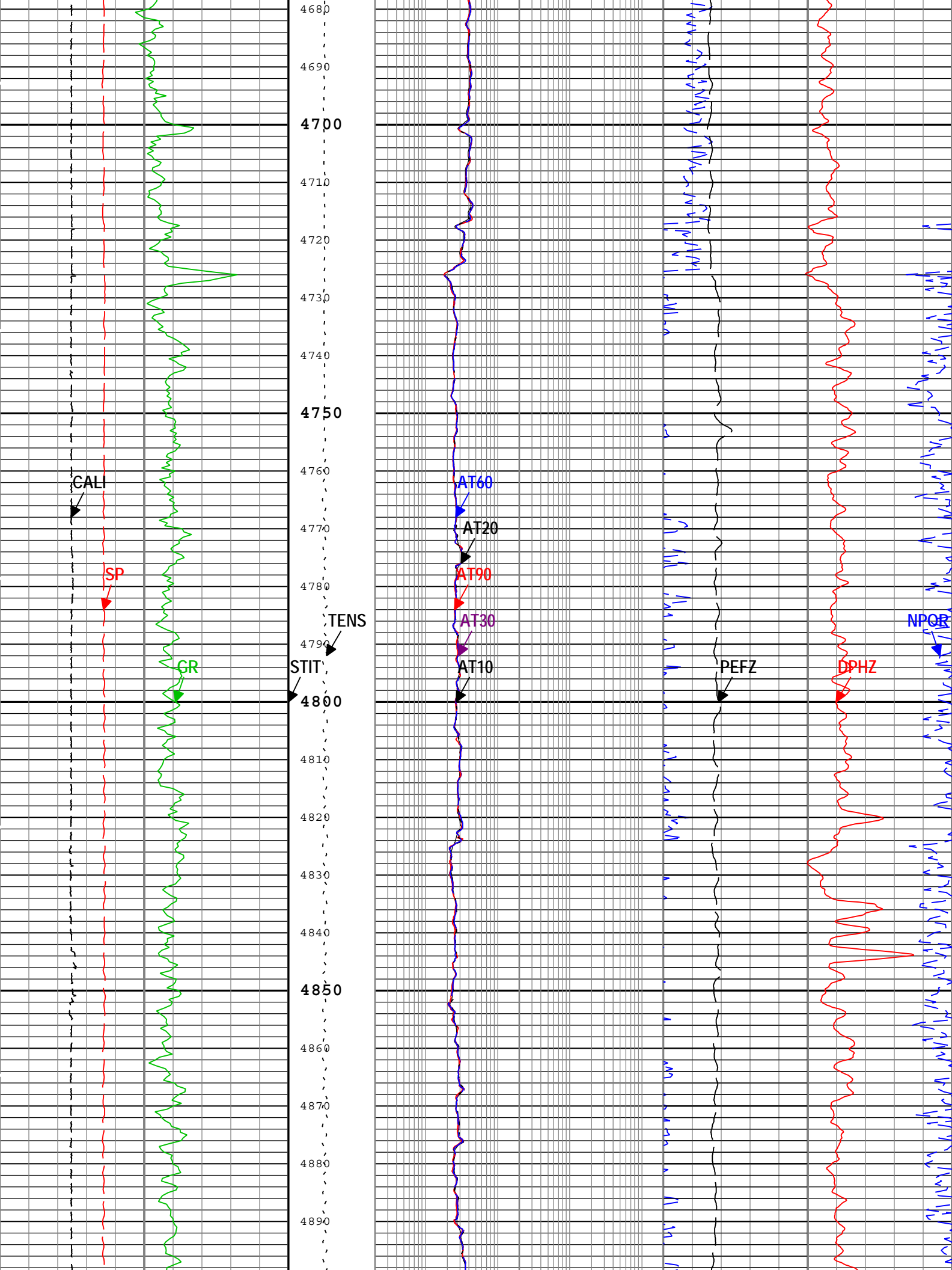


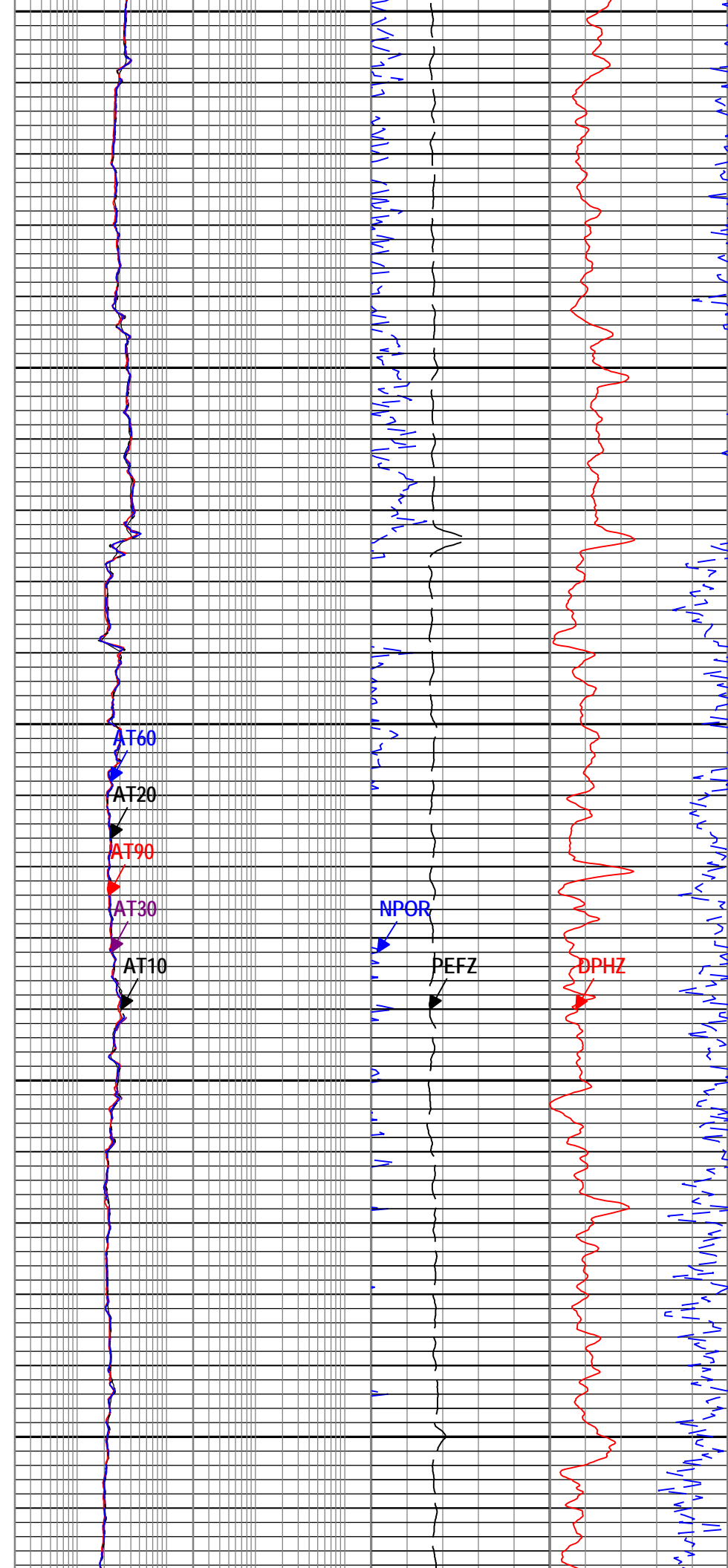
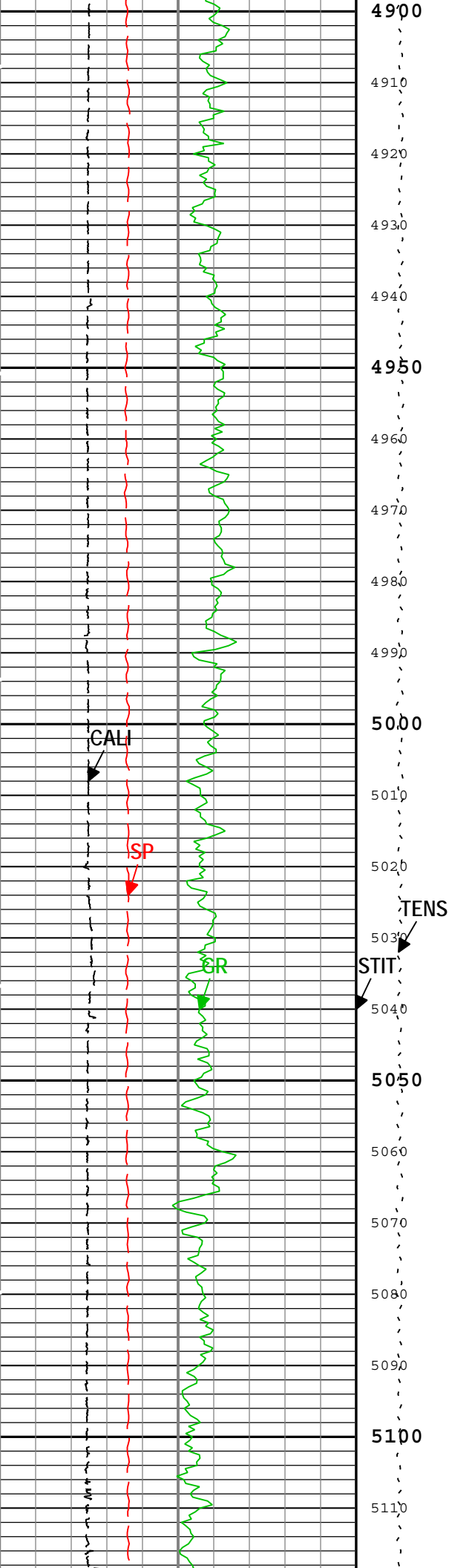


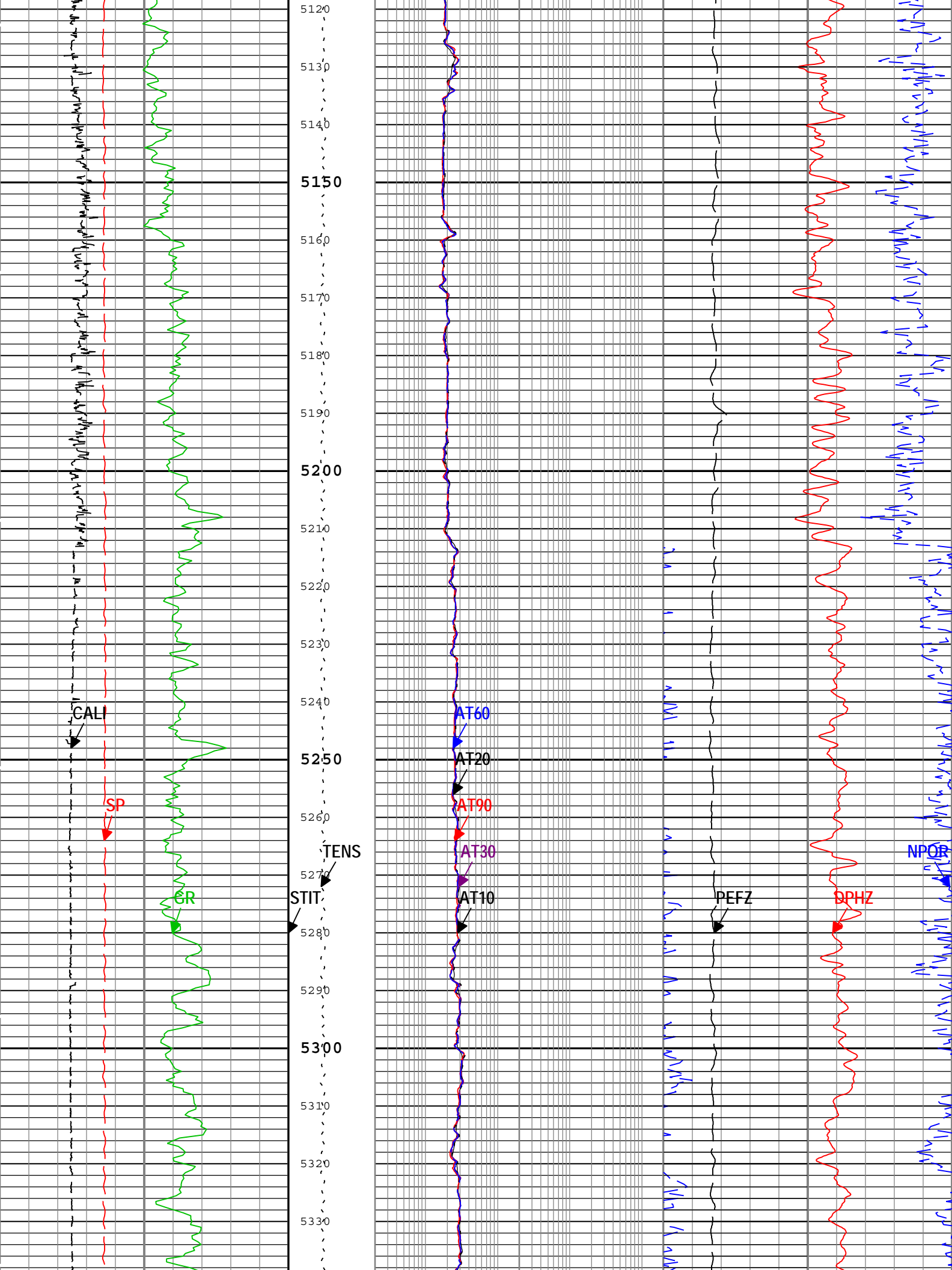


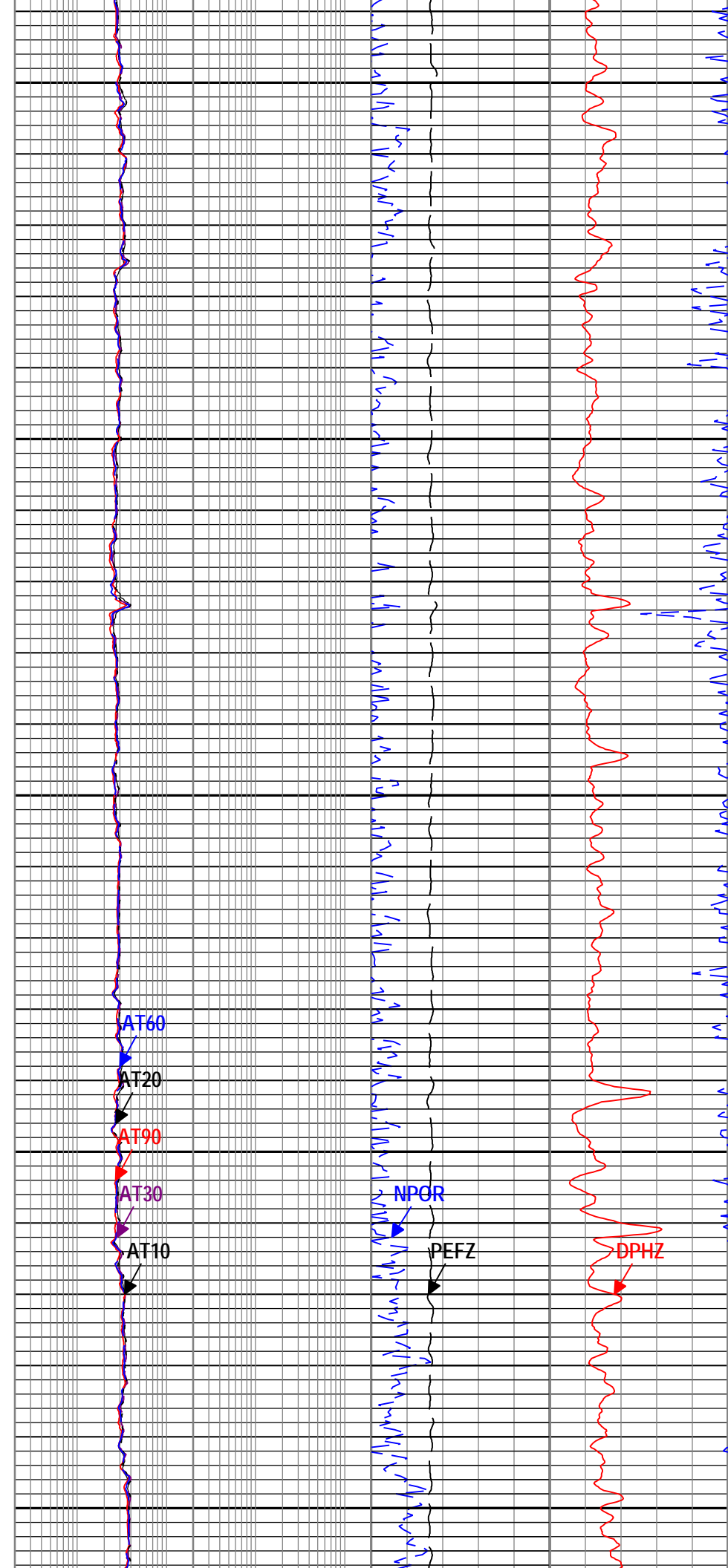
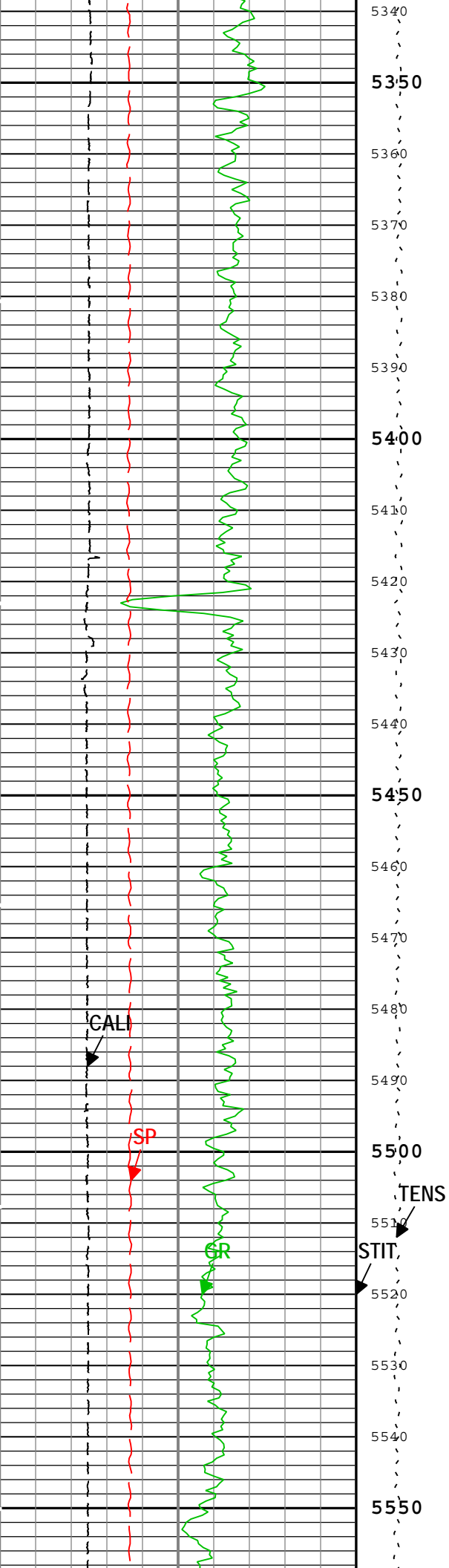


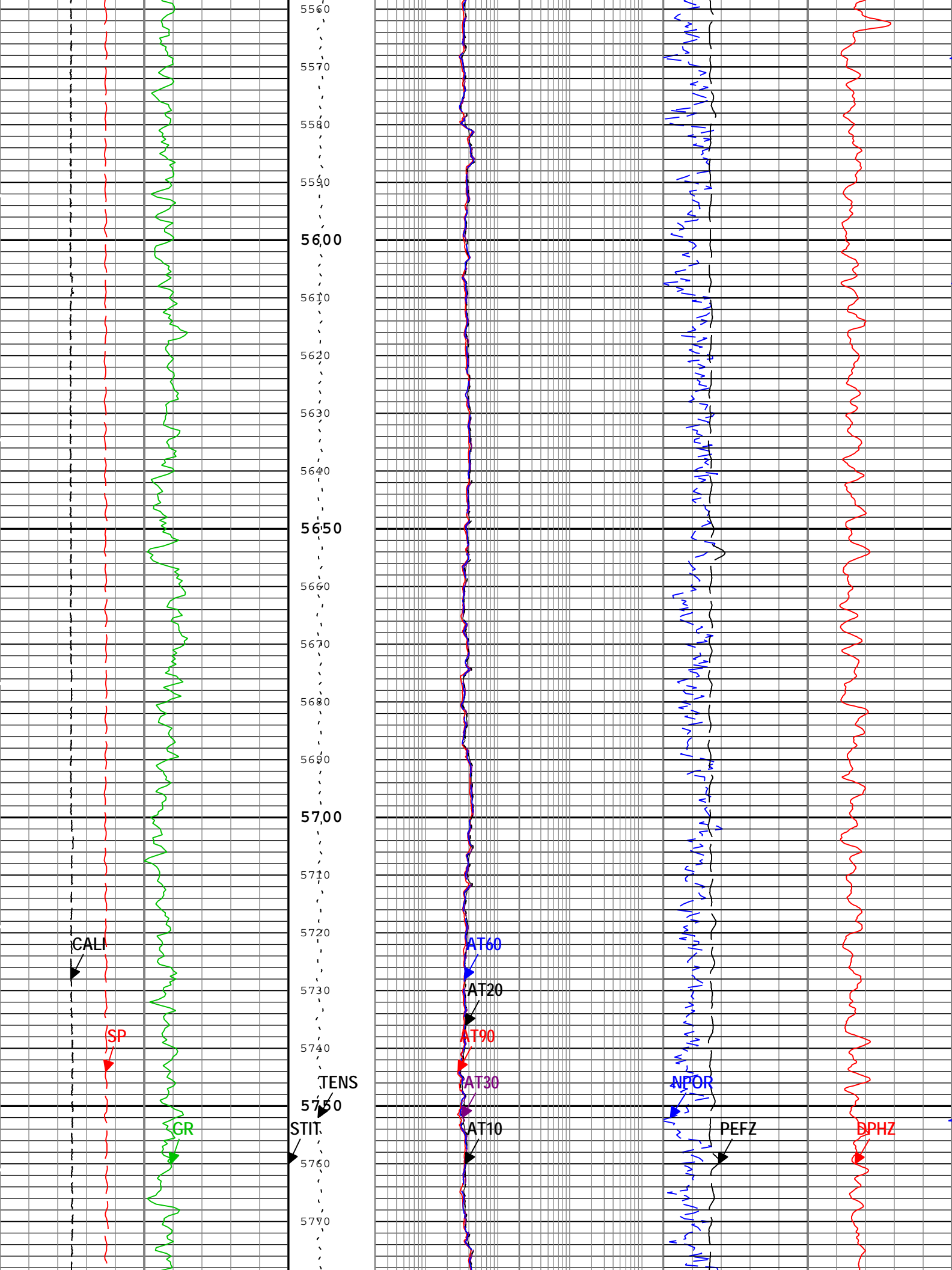


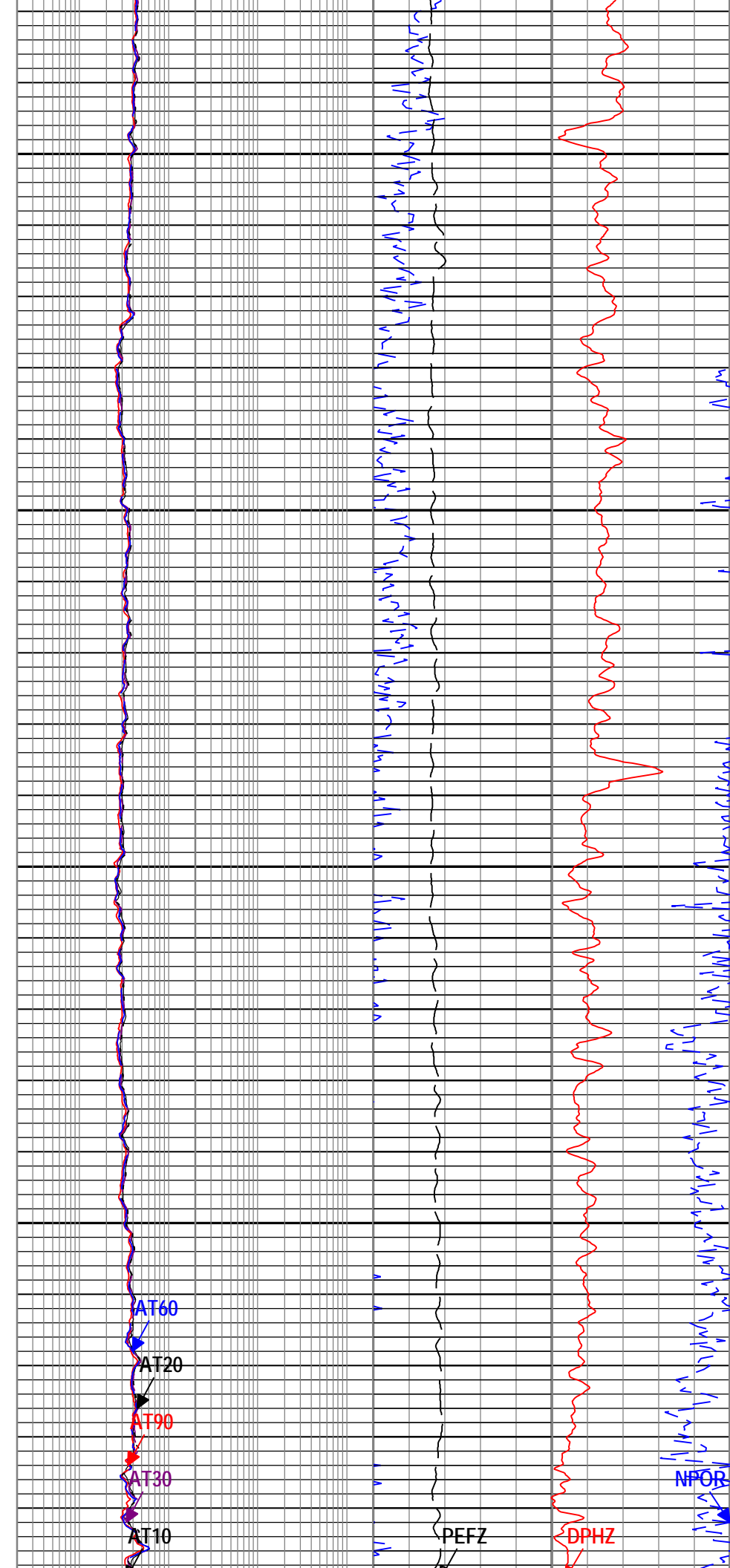
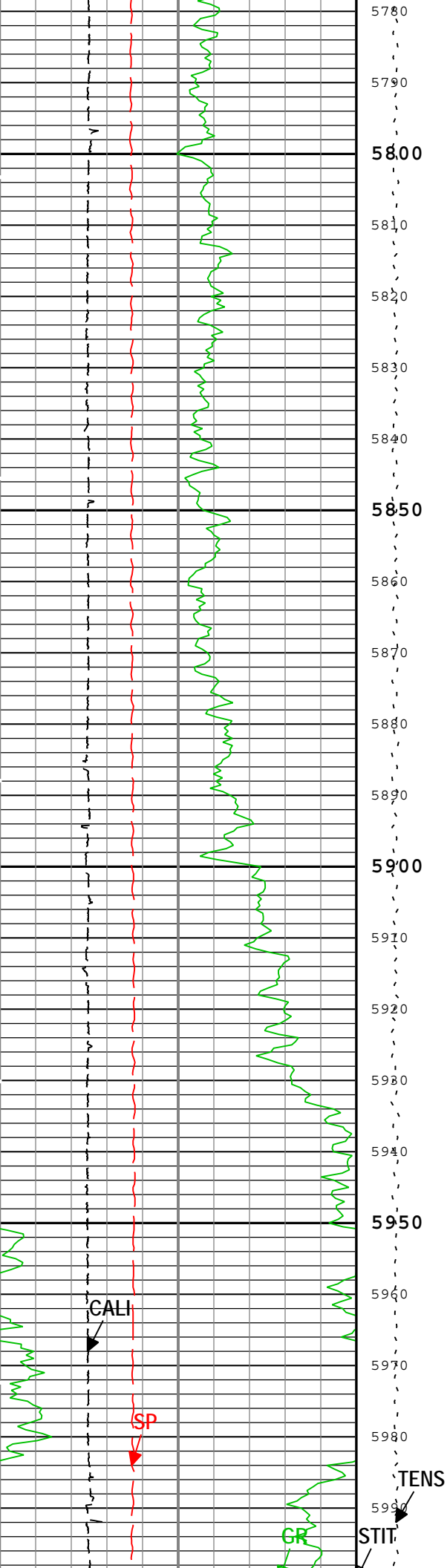


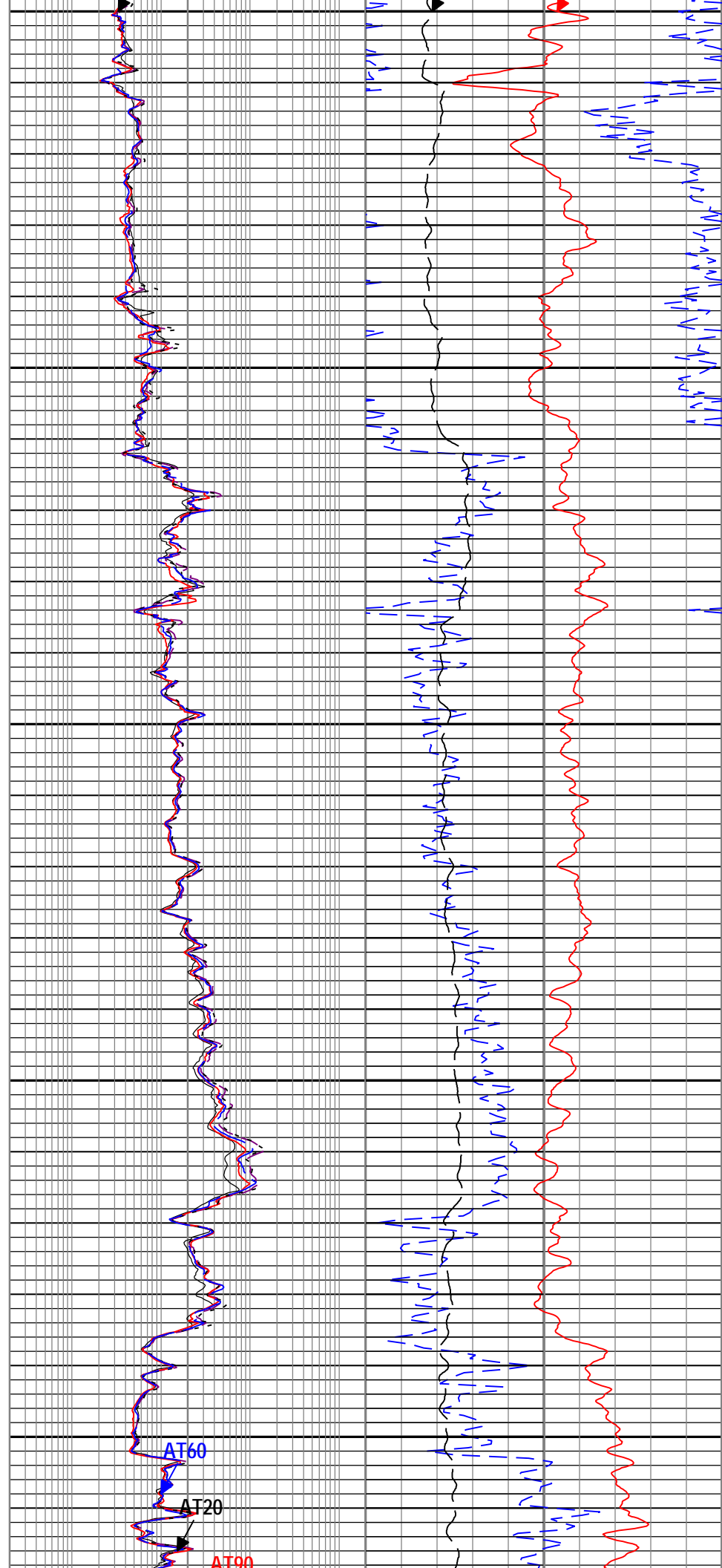
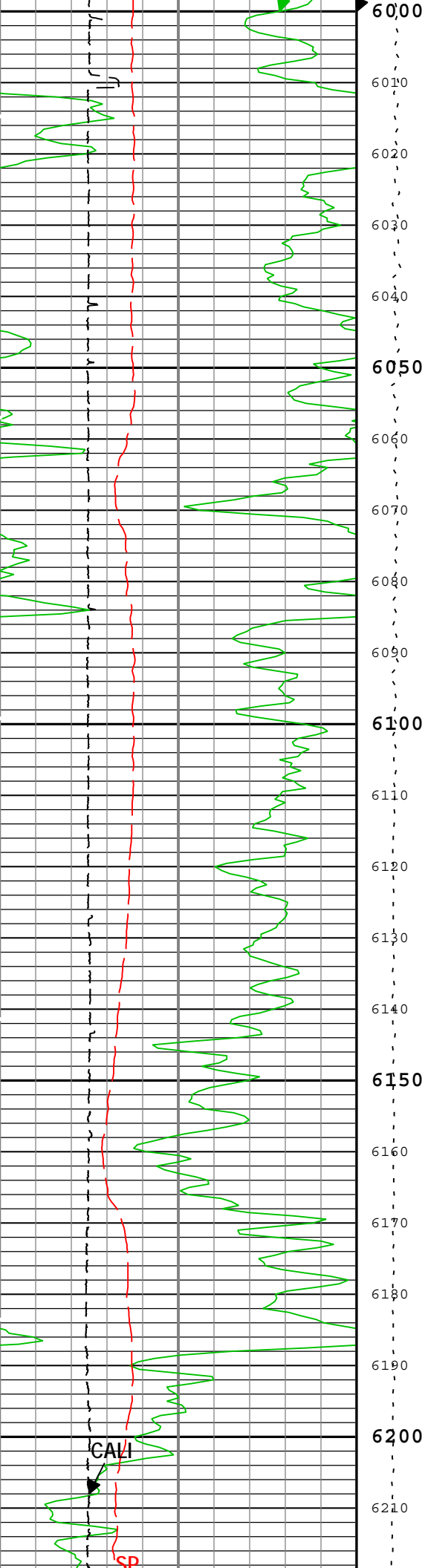




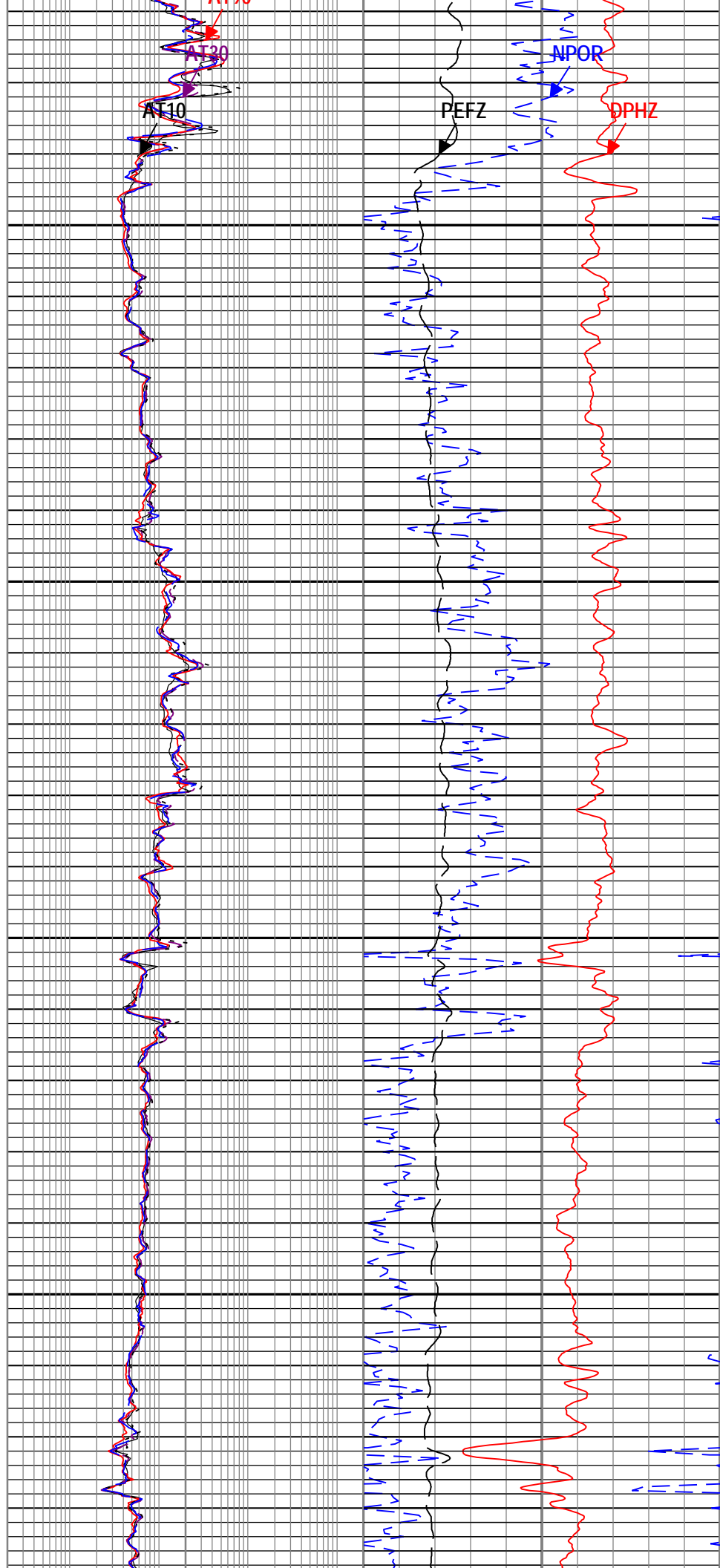
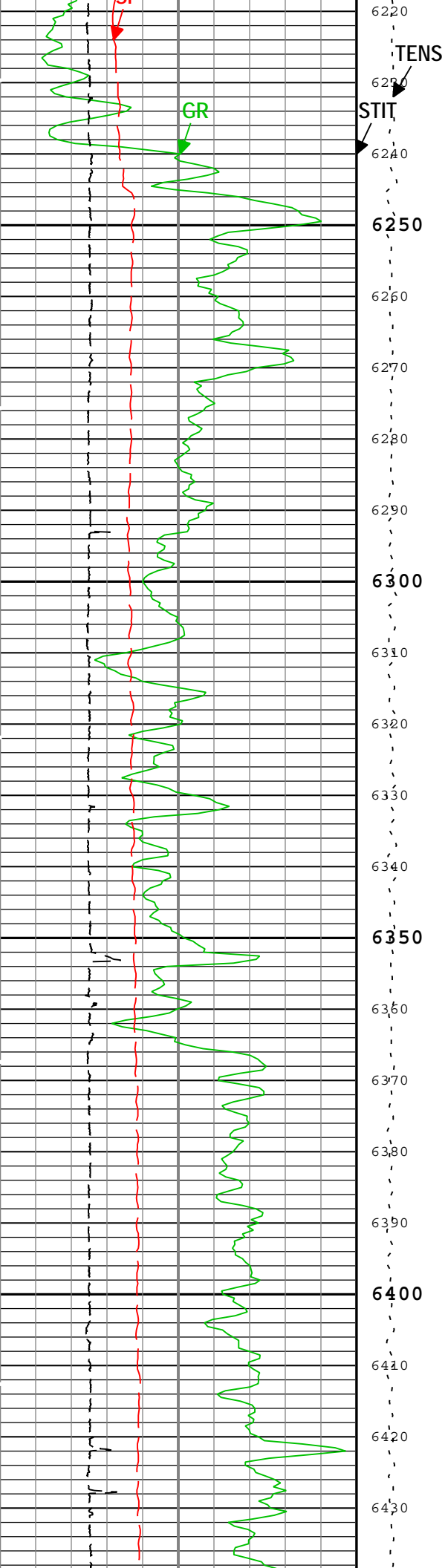


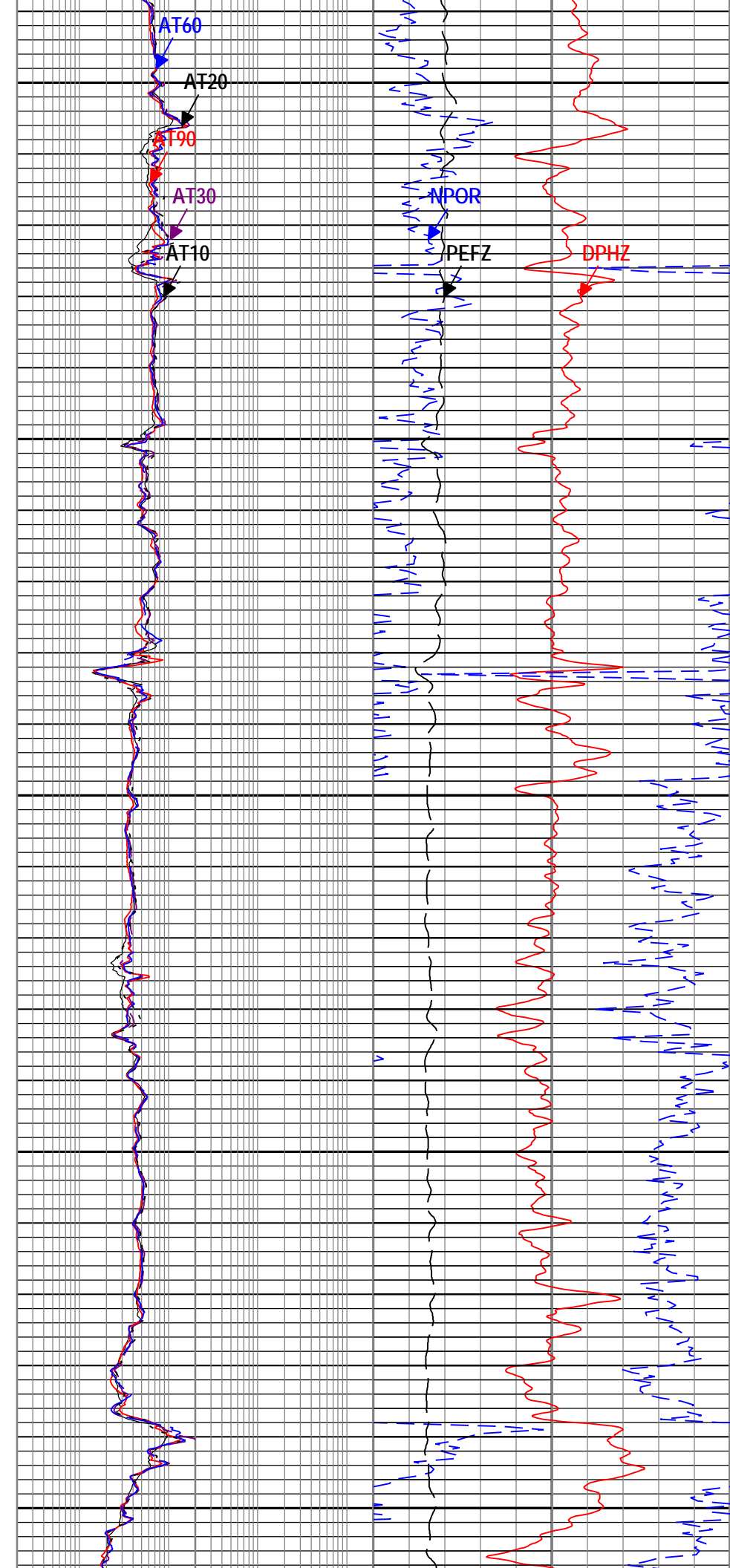
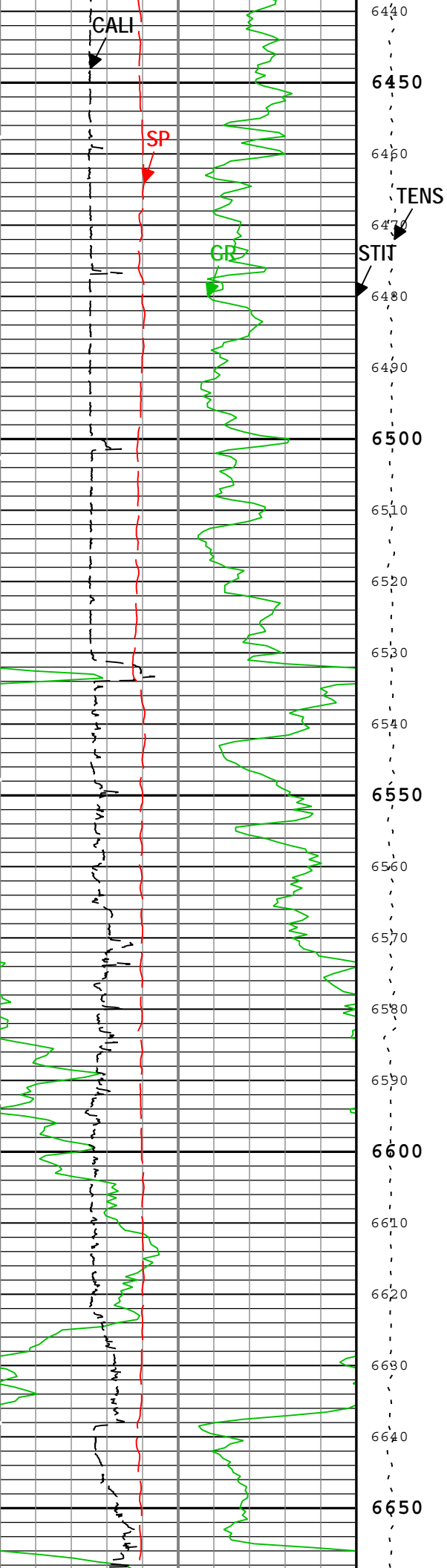


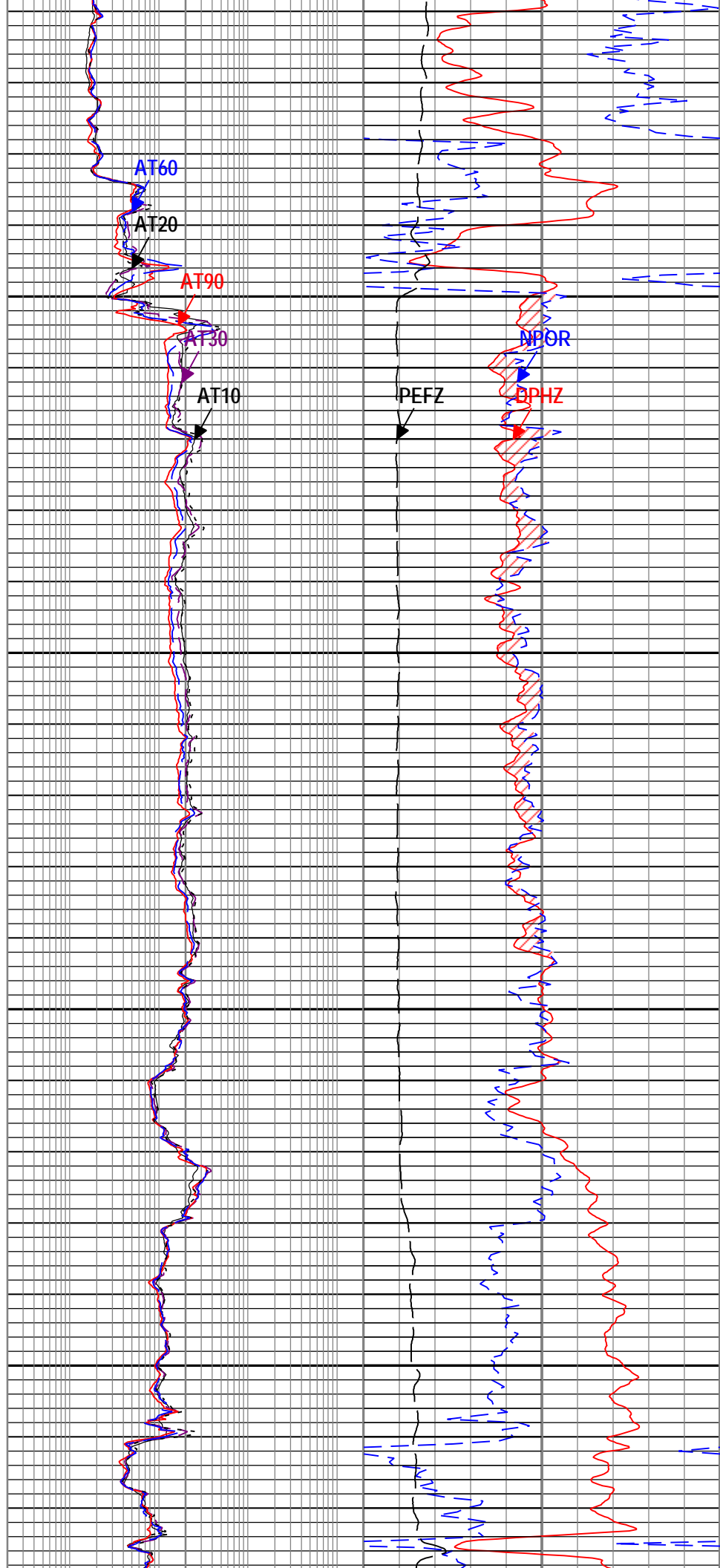
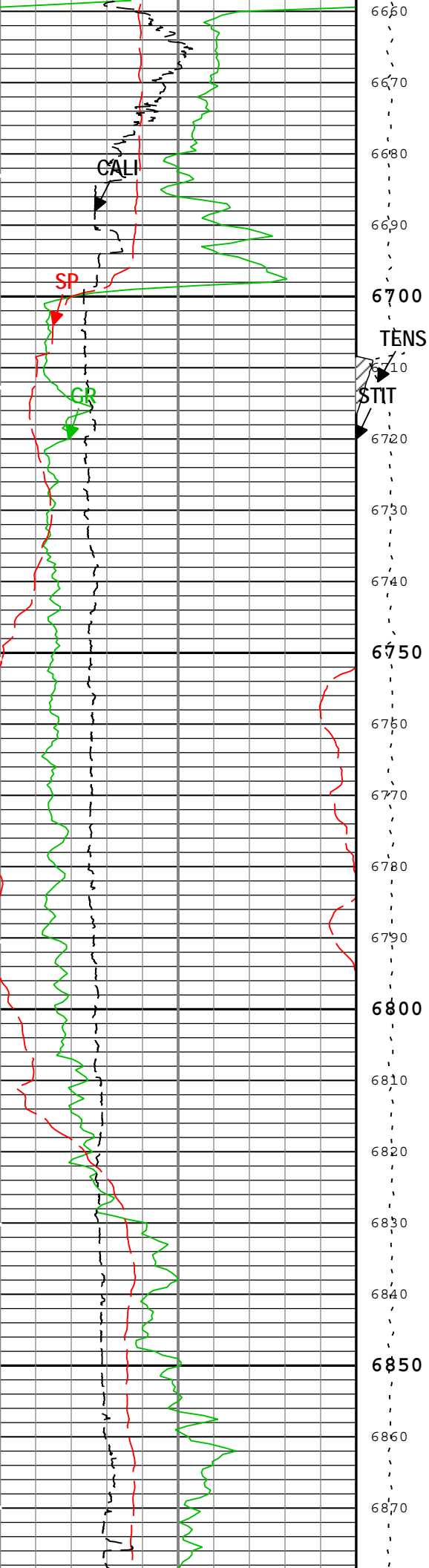


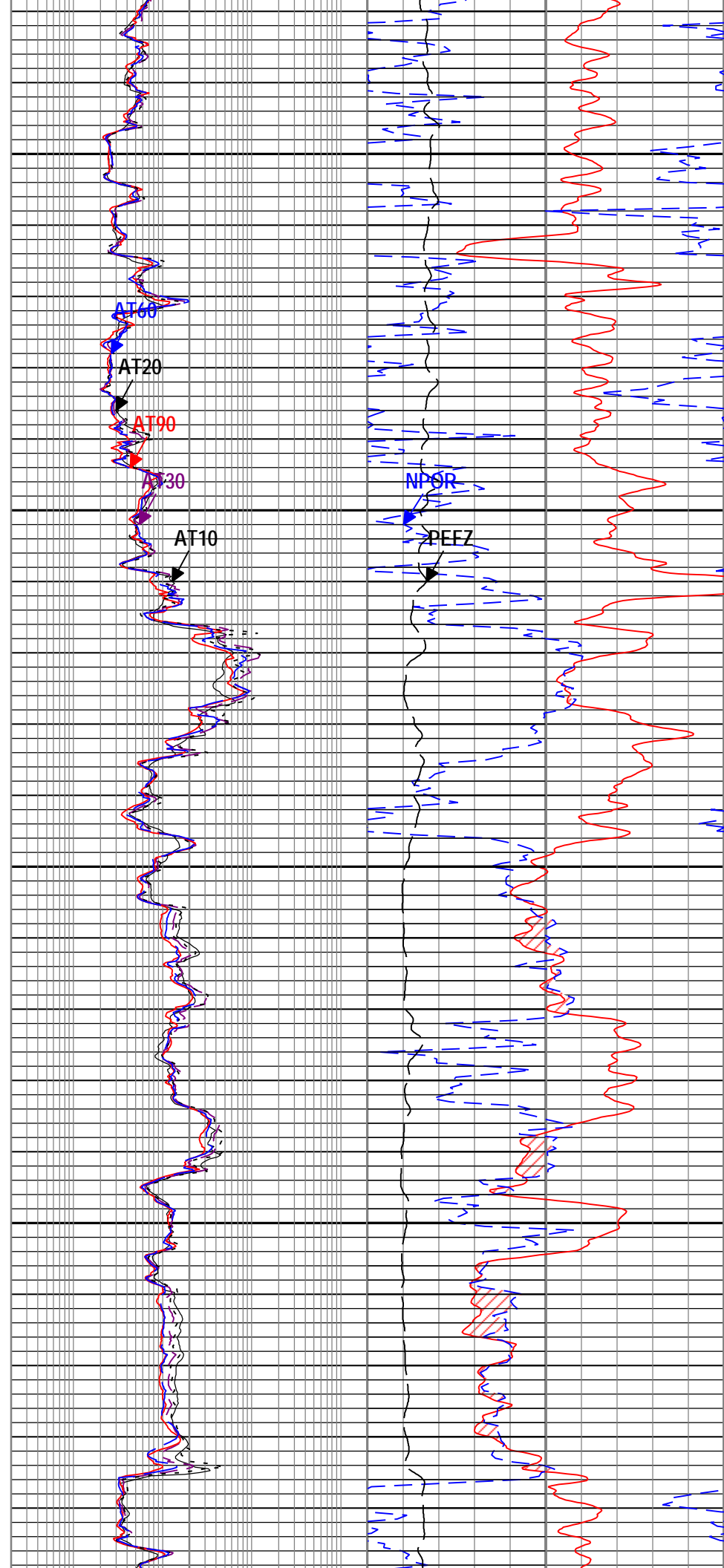
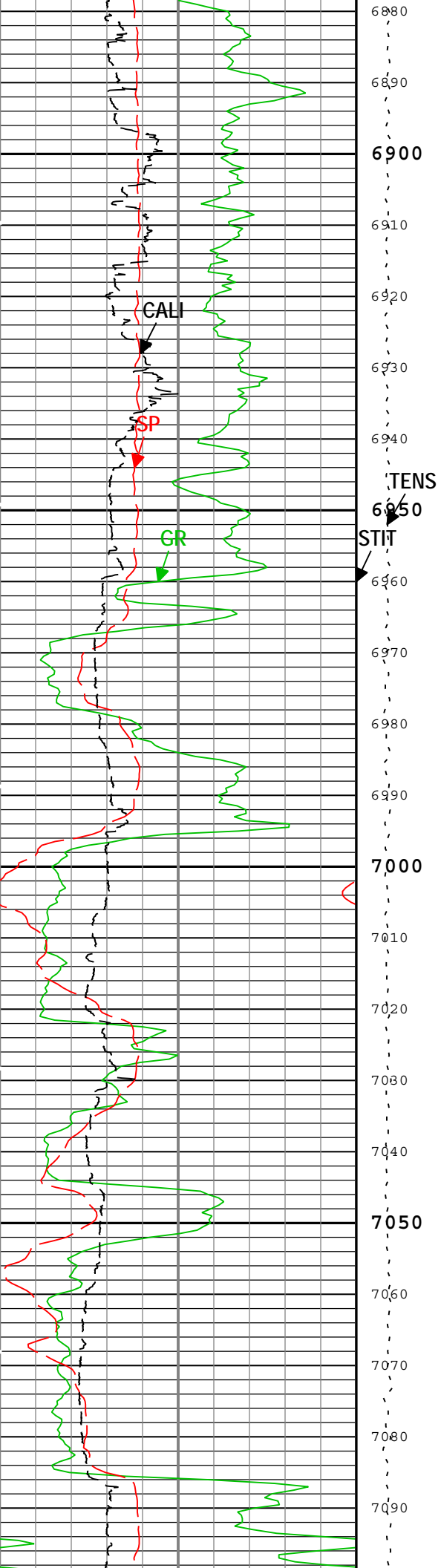


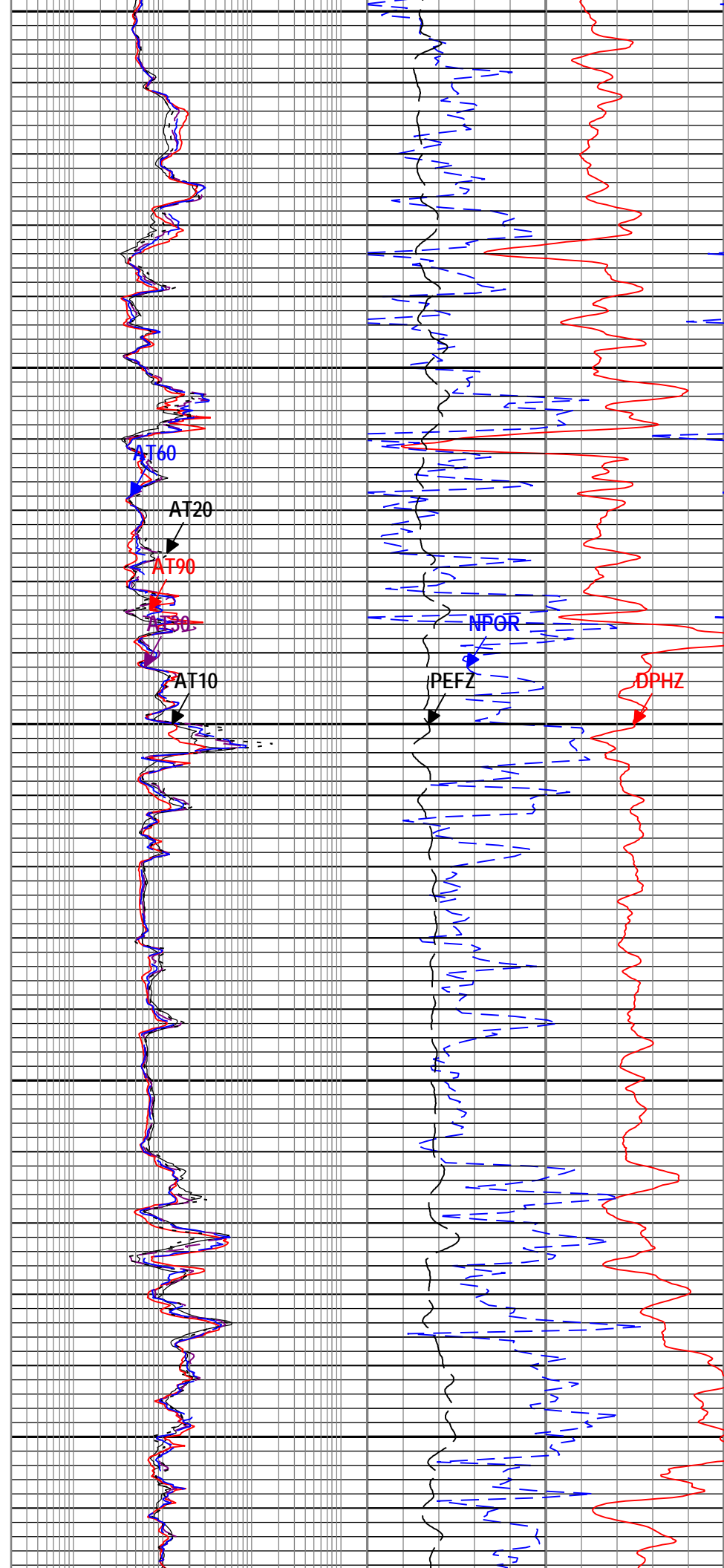
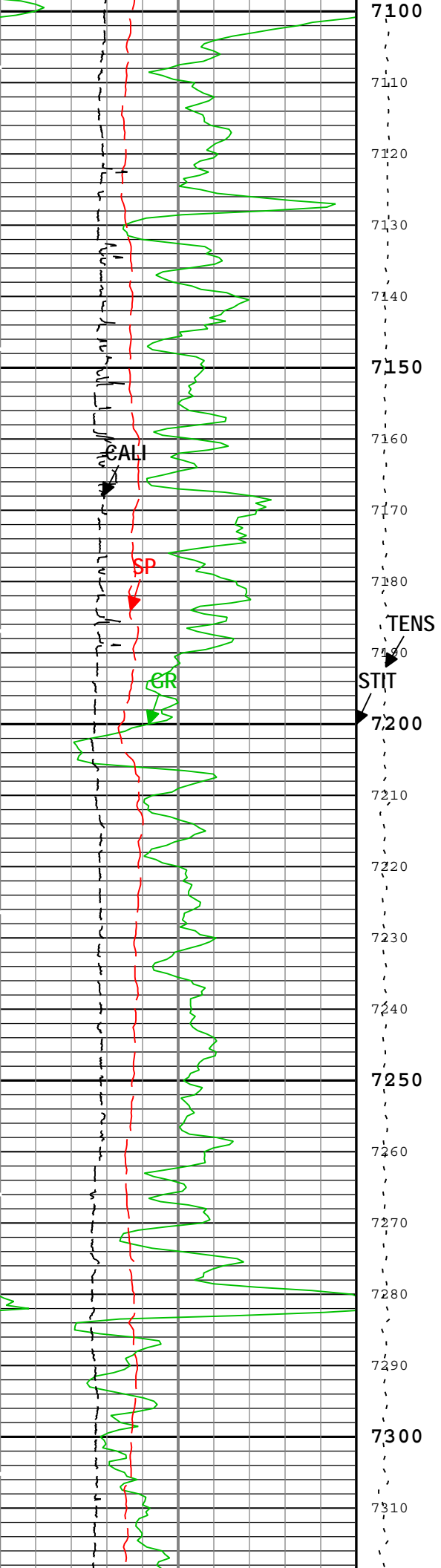


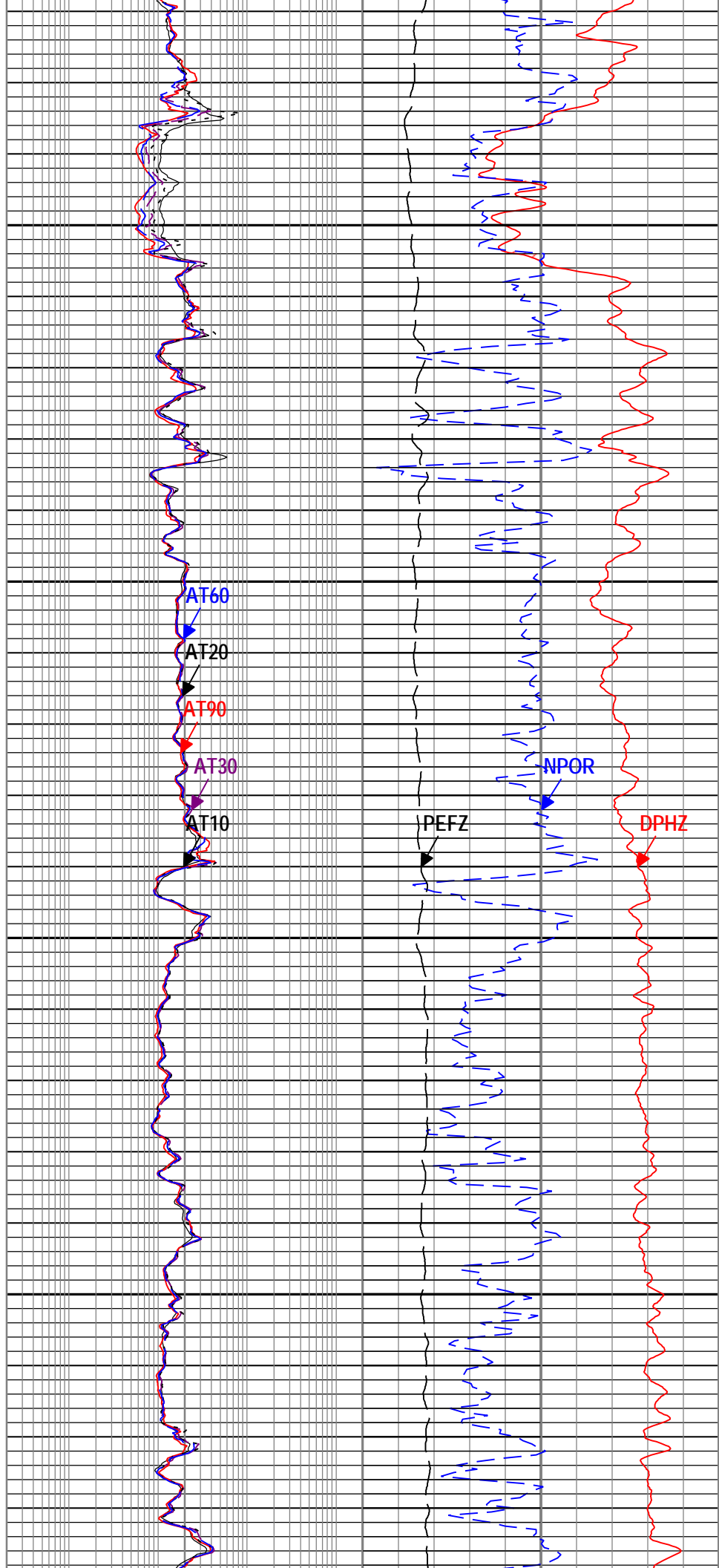
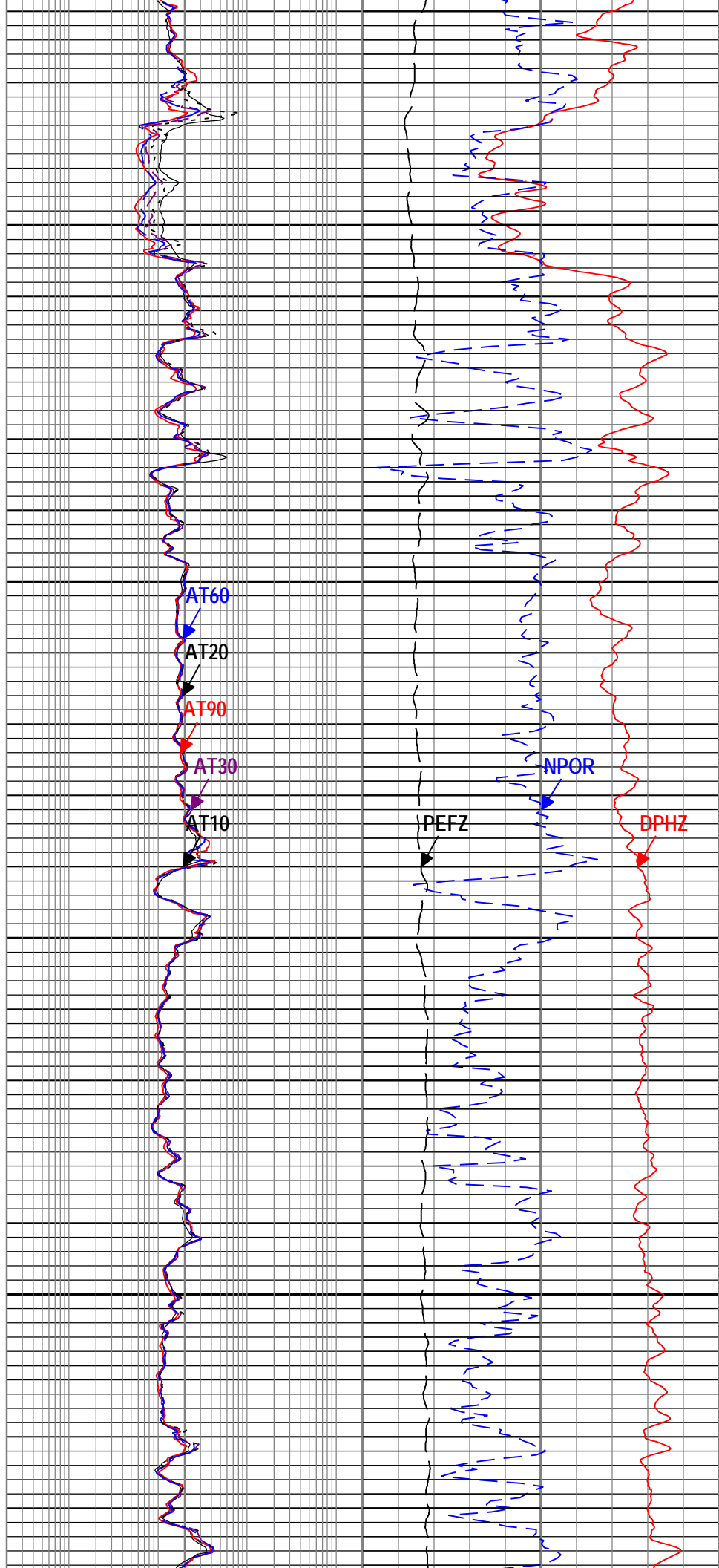
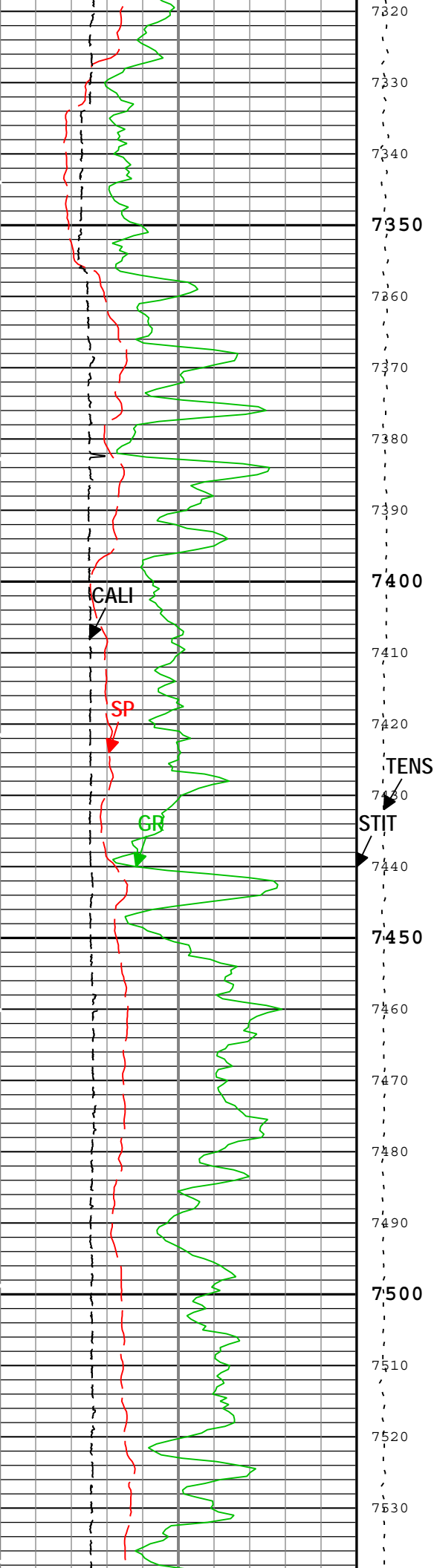


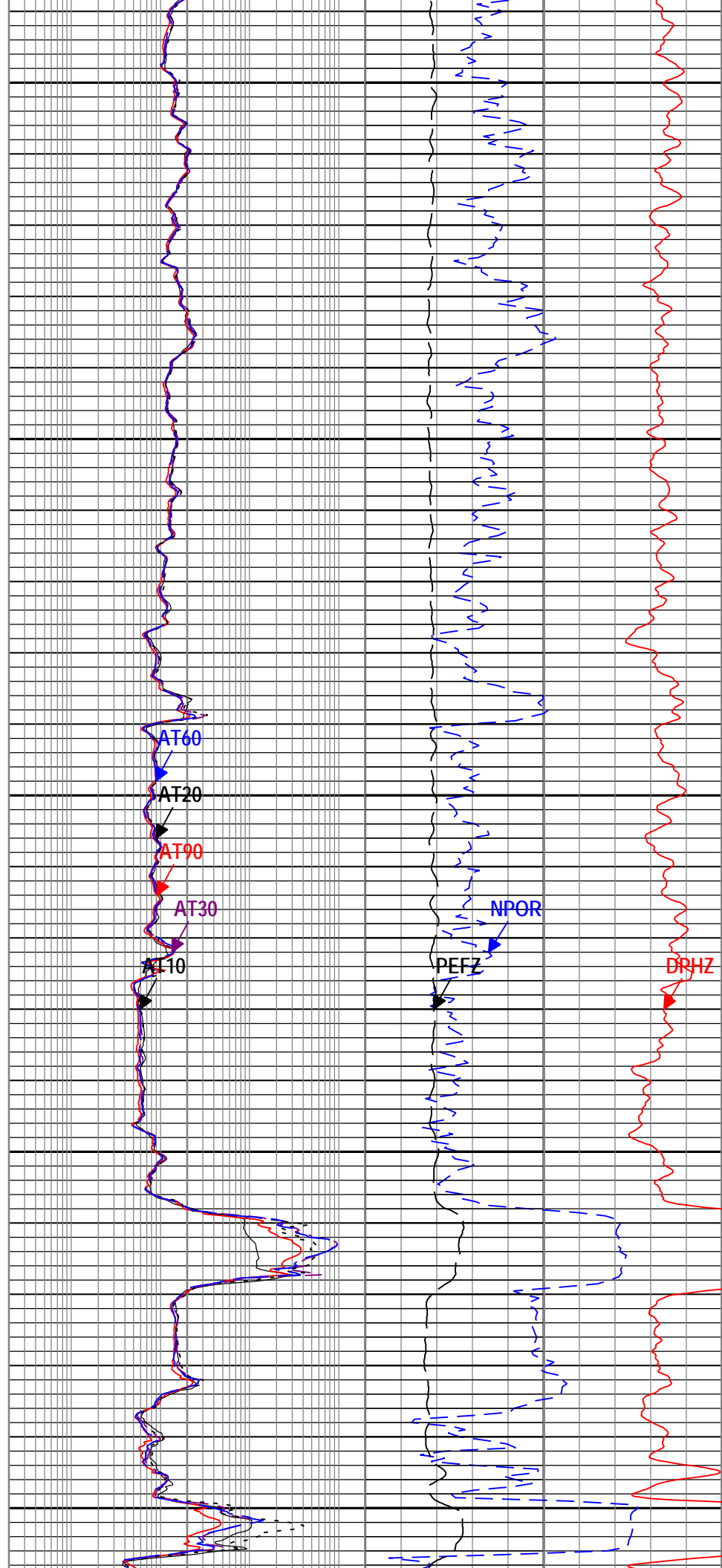
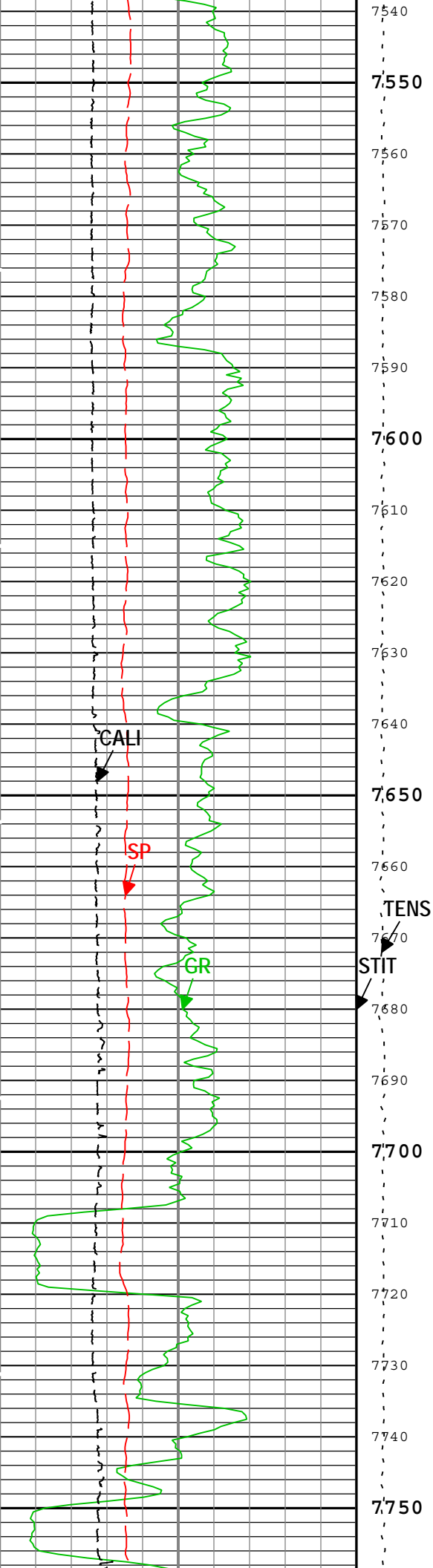


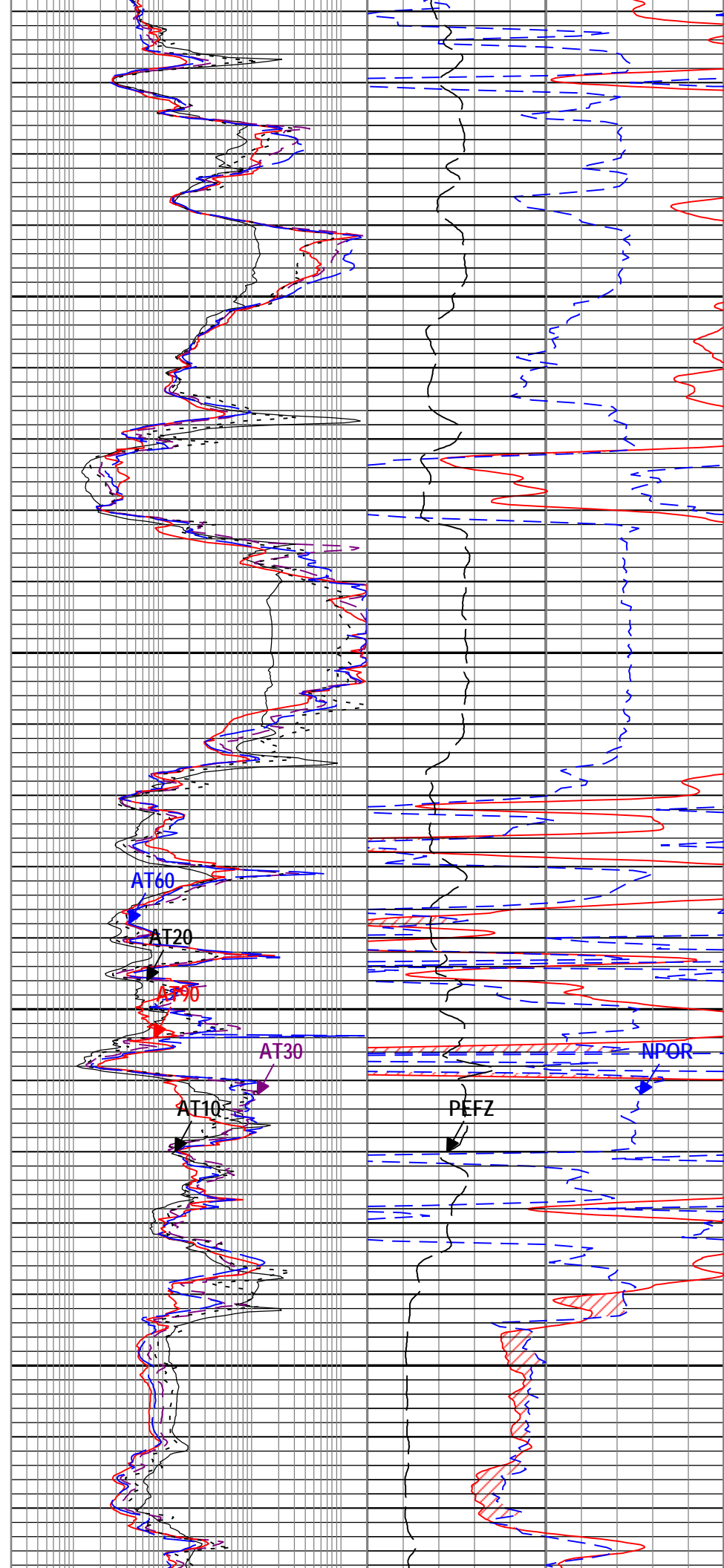
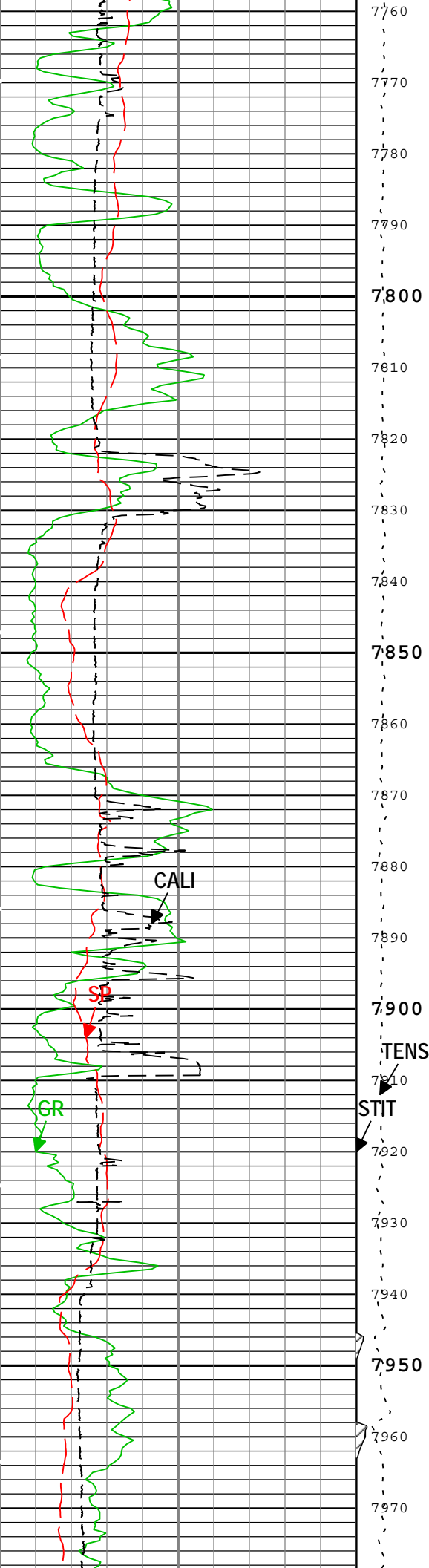




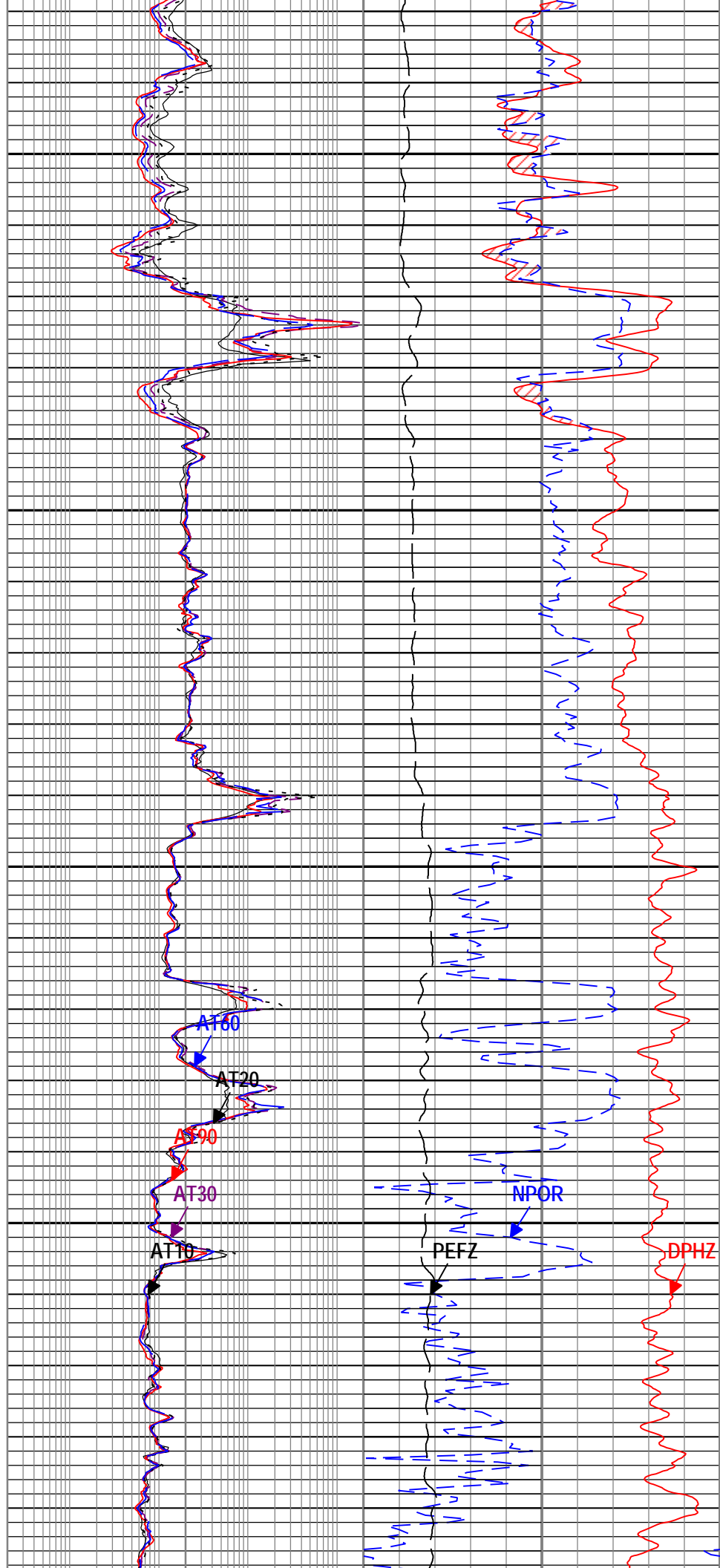
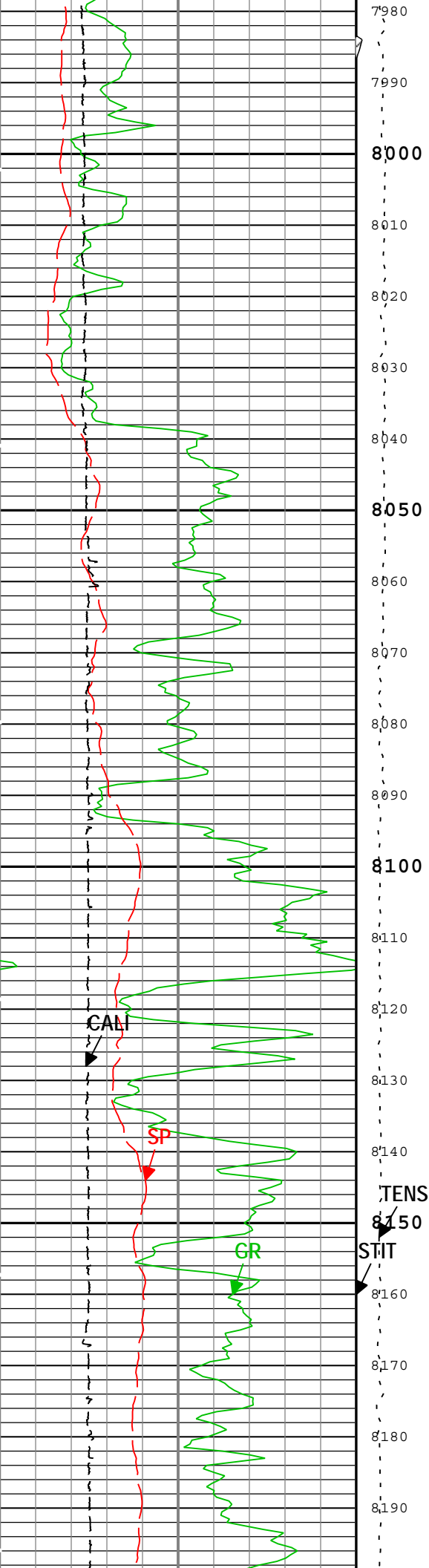


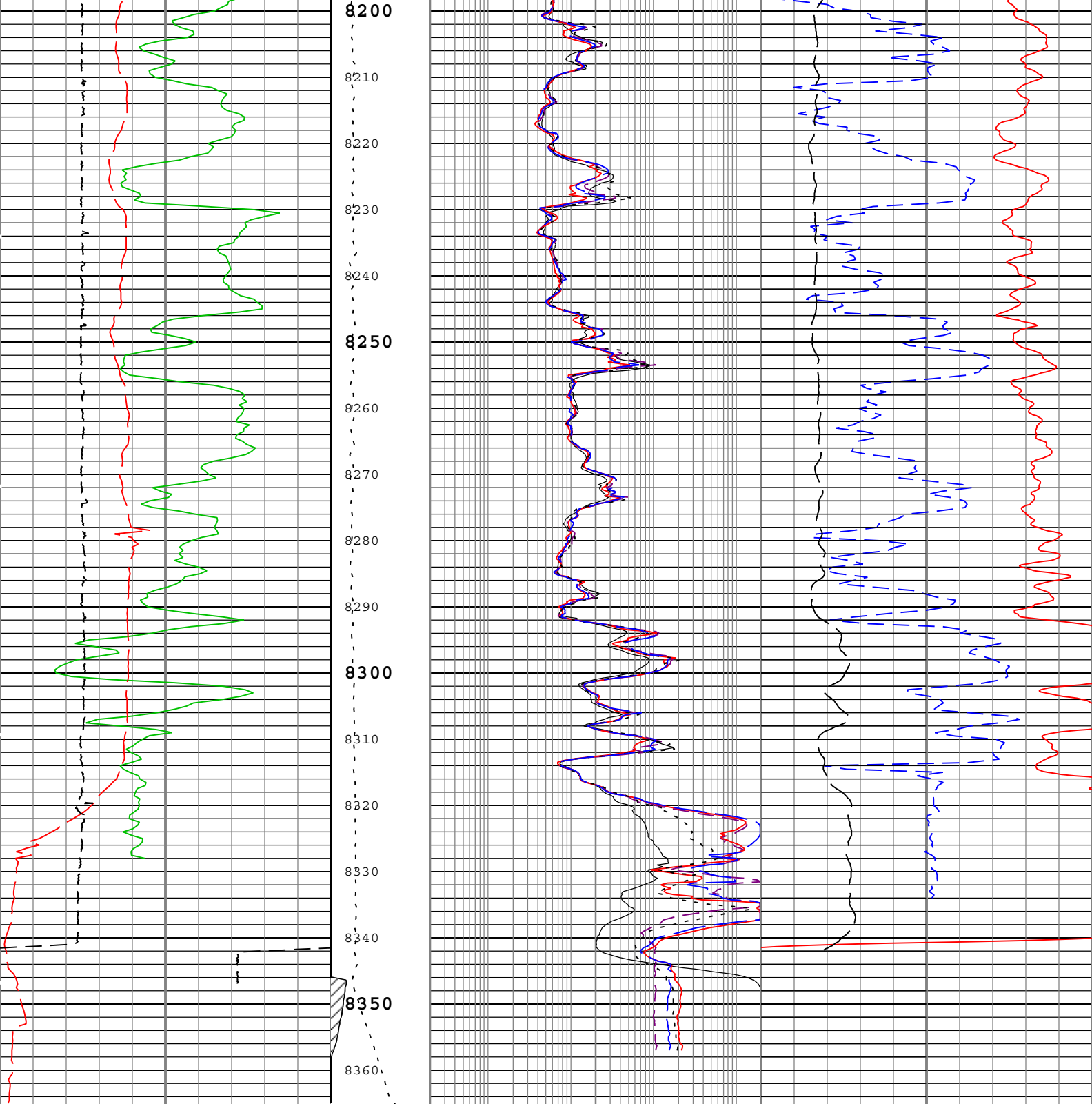








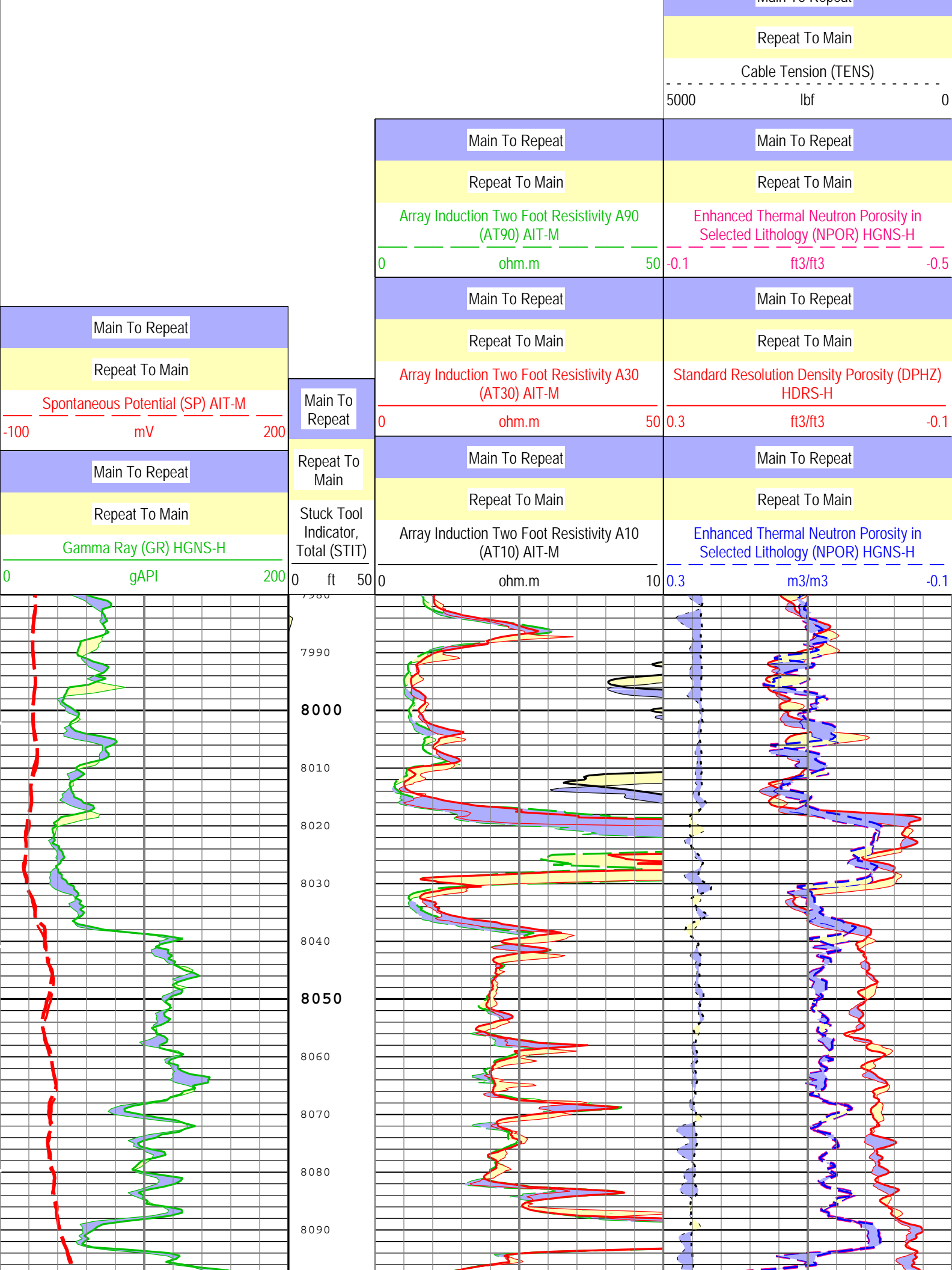


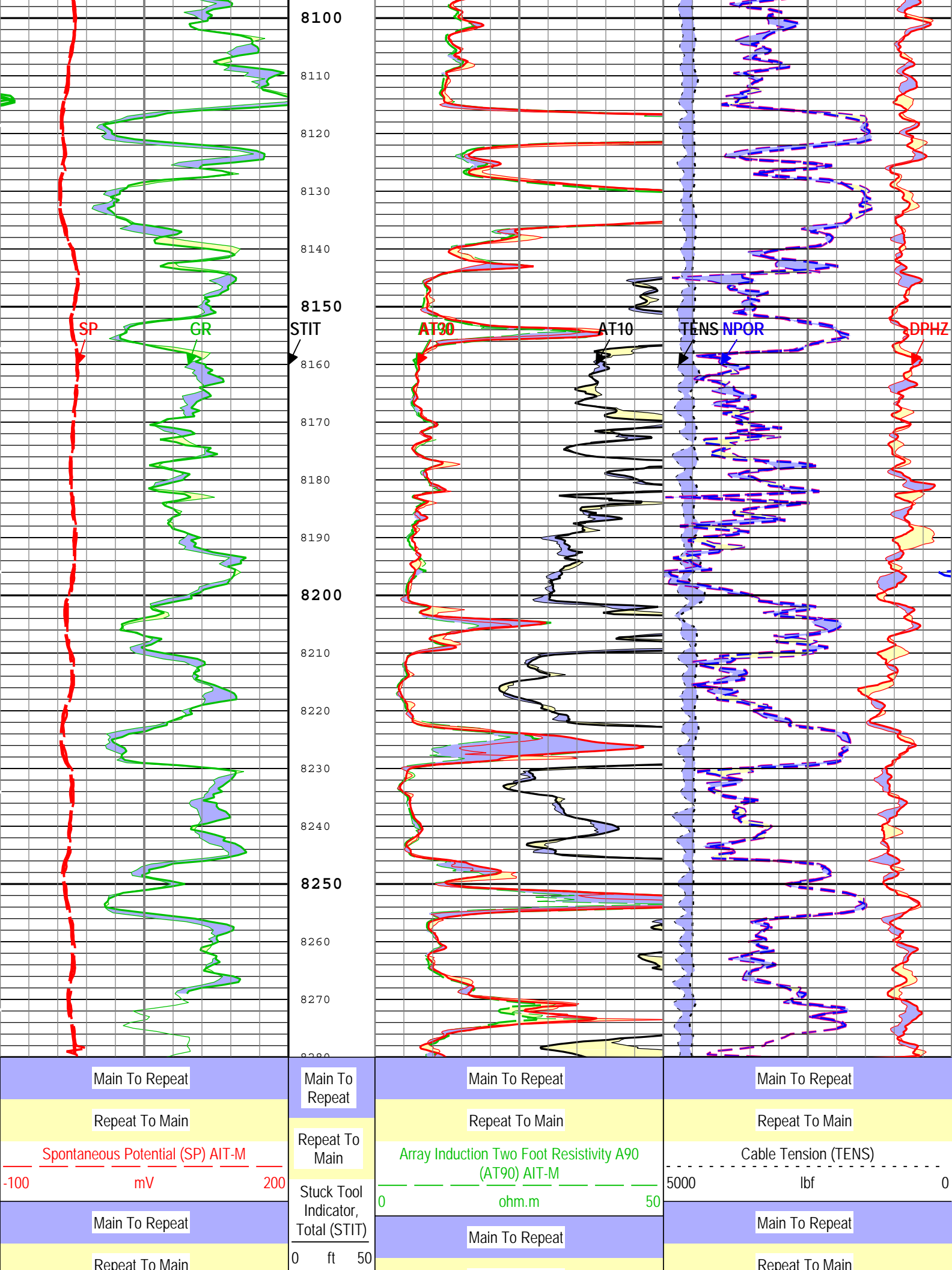


Gamma Ray Back up			Stuck Tool Indicator, Total (STIT)	Array Induction Two Foot Resistivity A10 (AT10) AIT-M			Gas Effect			
Gamma Ray (GR) HGNS-H				0.2 ohm.m 2000			NPOR Backup			
0	gAPI		200	0	ft	50	Standard Resolution Density Porosity (DPHZ) HDRS-H			
Spontaneous Potential (SP) AIT-M				Cable Tension (TENS)	Array Induction Two Foot Resistivity A30 (AT30) AIT-M			0.3 ft3/ft3 -0.1		
0	mV		200		0.2 ohm.m 2000			0.3 ft3/ft3 -0.1		
Caliper (CALI) HDRS-H				6000 lbf	Array Induction Two Foot Resistivity A90 (AT90) AIT-M			Enhanced Thermal Neutron Porosity in Selected Lithology (NPOR) HGNS-H		
6	in		16	0	0.2 ohm.m 2000			0.3 m3/m3 -0.1		
					Array Induction Two Foot Resistivity A20 (AT20) AIT-M			Standard Resolution Formation Photoelectric Factor		

	0.2	ohm.m	2000	Photoelectric Factor (PEFZ) HDRS-H			
	Array Induction Two Foot Resistivity A60 (AT60) AIT-M			0	10		
	0.2	ohm.m	2000				
TIME_1900 - Time Marked every 60.00 (s)							
Description: HGNS standard resolution porosities for Platform Express    Format: Log ( EMD 5in Triple Combo )    Index Scale: 5 in per 100 ft    Index Unit: ft Index Type: Measured Depth    Creation Date: 21-Jan-2014 23:21:42							
Channel Processing Parameters							
Parameter	Description	Tool	Value	Unit			
ABHM	Array Induction Borehole Correction Mode	AIT-M	Compute Standoff				
ACDE	Array Induction Casing Detection Enable	AIT-M	No				
BARI	Barite Mud Presence Flag	Borehole	No				
BHS	Borehole Status (Open or Cased Hole)	Borehole	Open				
BHT	Bottom Hole Temperature	Borehole	212	degF			
BS	Bit Size	WLSESSION	8.75	in			
BSAL	Borehole Salinity	Borehole	0	ppm			
CALI_SHIFT	CALI Supplementary Offset	HDRS-H	0	in			
CBLO	Casing Bottom (Logger)	WLSESSION	824	ft			
CDEN	Cement Density	HGNS-H	2	g/cm3			
DFD	Drilling Fluid Density	Borehole	9.3	lbm/gal			
DFT	Drilling Fluid Type	Borehole	Water				
DFT_WATER	Drilling Fluid Water Type	Borehole	Chemical Gel				
DHC	Density Hole Correction	HDRS-H	Bit Size				
FD	Fluid Density	Borehole	1	g/cm3			
FSAL	Formation Salinity	Borehole	0	ppm			
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				
GTSE	Generalized Temperature Selection, from Measured or Computed Temperature	Borehole	CTEM				
HSCO	Hole Size Correction Option	HGNS-H	Yes				
MATR	Rock Matrix for Neutron Porosity Corrections	Borehole	SANDSTONE				
MDEN	Matrix Density for Density Porosity	Borehole	2.65	g/cm3			
MFST	Mud Filtrate Sample Temperature	Borehole	85	degF			
RMFS	Resistivity of Mud Filtrate Sample	Borehole	0.7	ohm.m			
SOCO	Standoff Correction Option	HGNS-H	Yes				
SPDR	SP Drift Per Foot	AIT-M	0	mV/ft			
TD	Total Measured Depth	Borehole	8341	ft			
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	Time Zoned	ft/h			
Time Zone Parameters							
Parameter	Value	Start Time	Stop Time	Start Depth ( ft )	Stop Depth ( ft )		
MAX_LOG_SPEED	2613	21-Jan-2014 18:55:34	21-Jan-2014 19:05:51	8365.28	8046.26		
MAX_LOG_SPEED	2748	21-Jan-2014 19:05:51	21-Jan-2014 19:10:56	8046.26	7849.33		
MAX_LOG_SPEED	2553	21-Jan-2014 19:10:56	21-Jan-2014 19:13:59	7849.33	7731.65		

### Main To Repeat





Repeat To Main		
Gamma Ray (GR) HGNS-H		
0	gAPI	200

Repeat To Main		
Array Induction Two Foot Resistivity A30 (AT30) AIT-M		
0	ohm.m	50
Main To Repeat		
Repeat To Main		
Array Induction Two Foot Resistivity A10 (AT10) AIT-M		
0	ohm.m	10

Repeat To Main		
Enhanced Thermal Neutron Porosity in Selected Lithology (NPOR) HGNS-H		
-0.1	ft3/ft3	-0.5
Main To Repeat		
Repeat To Main		
Standard Resolution Density Porosity (DPHZ) HDRS-H		
0.3	ft3/ft3	-0.1
Main To Repeat		
Repeat To Main		
Enhanced Thermal Neutron Porosity in Selected Lithology (NPOR) HGNS-H		
0.3	m3/m3	-0.1

TIME\_1900 - Time Marked every 60.00 (s)

Description: HGNS standard resolution porosities for Platform Express    Format: Log ( EMD 5in Triple Combo Linear RA )    Index Scale: 5 in per 100 ft    Index Unit: ft    Index Type: Measured Depth    Creation Date: 21-Jan-2014 23:21:46

Company:	Bill Barrett Corporation	Schlumberger
Well:	Anschutz State 5 62 36 12	
Field:	Wildcat	
County:	Weld	
State:	Colorado	
Platform Express		
Triple Combo		
Linear		