

Company: Nighthawk Production LLC

Well: Keystone 3-7

Field: Lat/Long: 39.60030/-103.482520

County: Lincoln County:

Platform Express Field Print
Triple Combo
Induction & NuclearCounty: Lincoln
Field: Lat/Long: 39.60030/-103.482520
Location: Arikaree Creek
Well: Keystone 3-7
Company: Nighthawk Production LLC

Location:		Elev.:	
Arikaree Creek		K.B.	5343.00 ft
NWNE Sec. 7, T 7S, R 54W		G.L.	5328.00 ft
SHL: 679' FNL & 2560' FEL		D.F.	5342.00 ft
Permanent Datum:	Ground Level	Elev.:	5328.00 f
Log Measured From:	Kelly Bushing	15.00 ft	above Perm.Datum
Drilling Measured From:	Kelly Bushing		
API Serial No.	Section:	Township:	Range:
05-073-06683	7	7S	54W

Logging Date 22-Dec-2014

Run Number

Depth Driller 8487.00 ft

Schlumberger Depth 8497.00 ft

Bottom Log Interval 8497.00 ft

Top Log Interval 100.00 ft

Casing Driller Size @ Depth 8.625 in @ 453.00 ft

Casing Schlumberger 453.5 ft

Bit Size 7.875 in

Type Fluid In Hole WBM

Density Viscosity 10 lbm/gal 73 s

Fluid Loss PH 8.8

Source of Sample Active Tank

RM @ Meas Temp 1.2 ohm.m @ 59.3 degF

RMF @ Meas Temp 0.9 ohm.m @ 59.3 degF

RMC @ Meas Temp 1.51 ohm.m @ 59.3 degF

Source RMF RMC

RM @ BHT RMF @ BHT 0.39 @ 196.39 0.29 @ 196.39

Max Recorded Temperatures

Circulation Stopped Time 21-Dec-2014 20:30:00

Logger on Bottom Time

Unit Number Location: 9108 Fort Morgan, CO

Recorded By MK Henrikson

Witnessed By Jim Weir

Disclaimer

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Contents

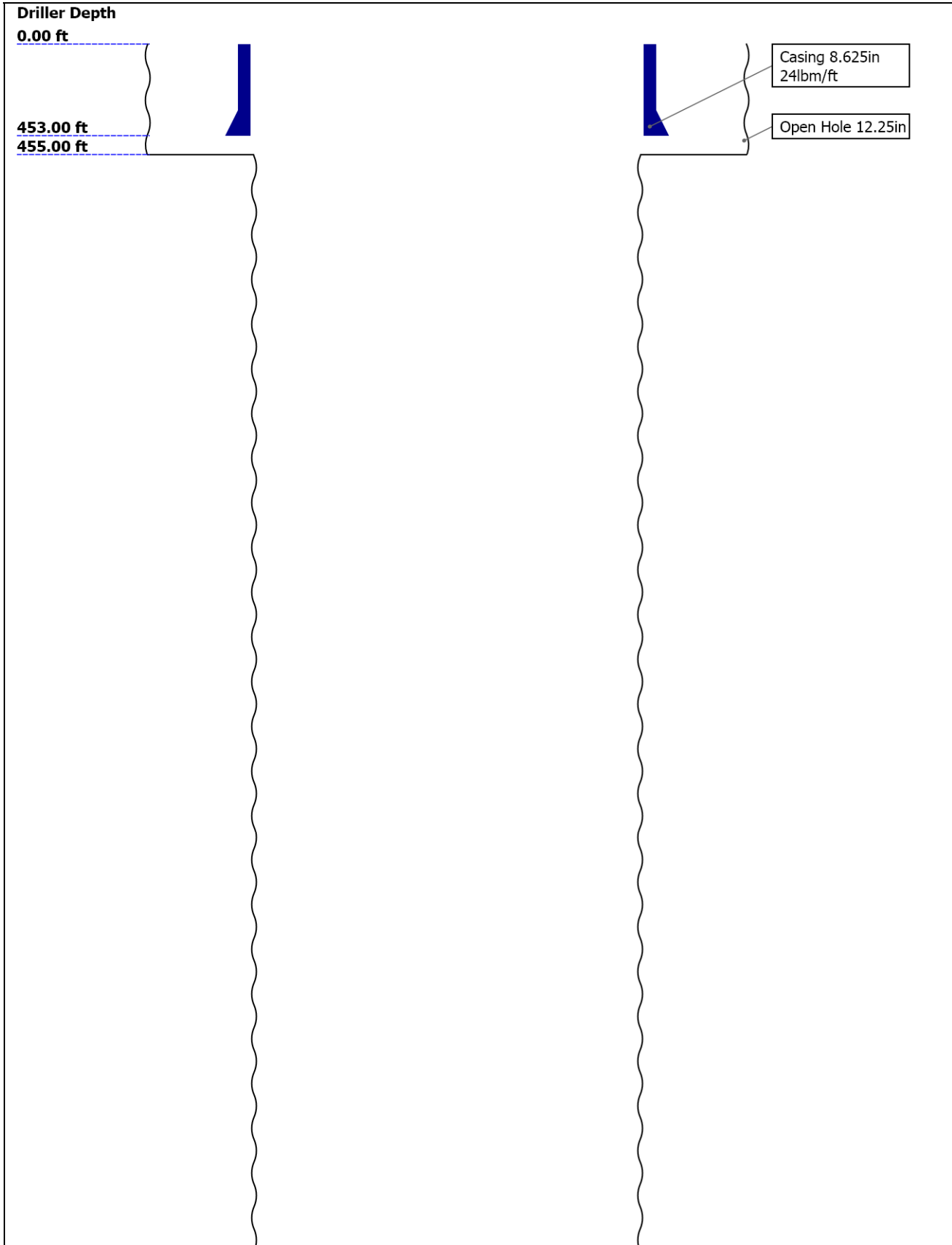
- Header
- Disclaimer
- Contents
- Well Sketch
- Borehole Size/Casing/Tubing Record
- Operational Run Summary
- Borehole Fluids
- Remarks and Equipment Summary
- Depth Summary
- Survey Record
- Composite 2 5" Triple Combo
 - Integration Summary
 - Software Version
 - Composite Summary
 - Log (EMD 5in Triple Combo Linear)
 - Parameter Listing
- Composite 2 5" Induction

- Software Version
- Composite Summary
- Log (EMD 5in Porosity)
- Parameter Listing
- Composite 2 2" Induction
 - Integration Summary
 - Software Version
 - Composite Summary
 - Log (EMD 2in Induction)
 - Parameter Listing
- Composite 2 5" Density
 - Integration Summary
 - Software Version
 - Composite Summary
 - Log (EMD 5in Density)
 - Parameter Listing
- Run 1 5" Repeat Analysis

12.1 Integration Summary
12.2 Software Version
12.3 Composite Summary
12.4 Log (EMD 5in Induction)
12.5 Parameter Listing
13. Composite 2 5" Porosity
13.1 Integration Summary

16.1 Composite Summary
16.2 Log (EMD 5in Triple Combo Linear RA_1)
17. Calibration Report
18. Tail

Well Sketch





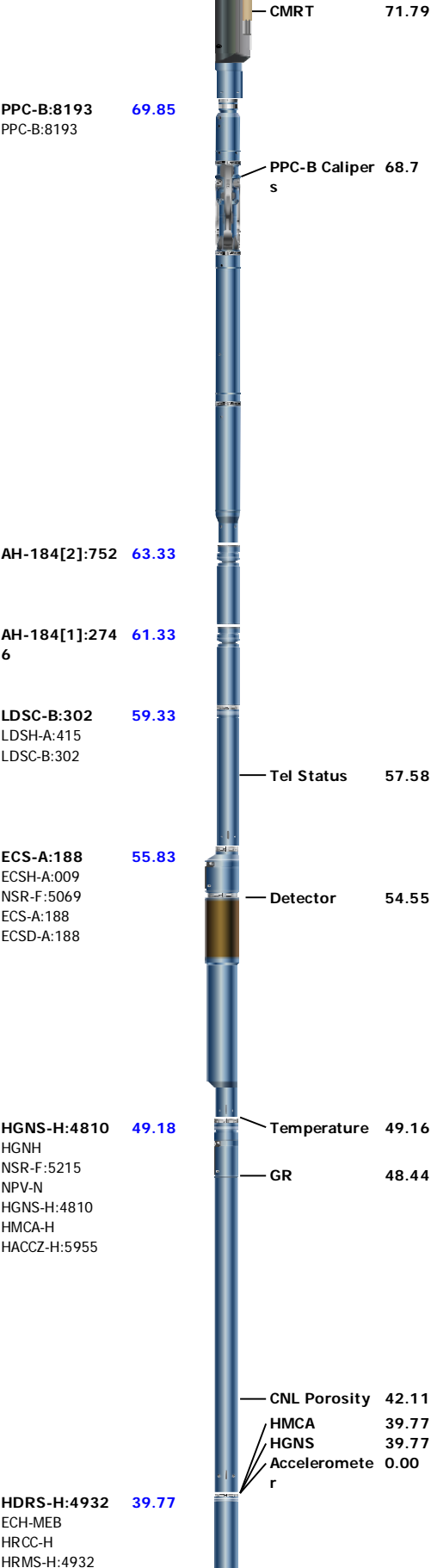
Borehole Size/Casing/Tubing Record						
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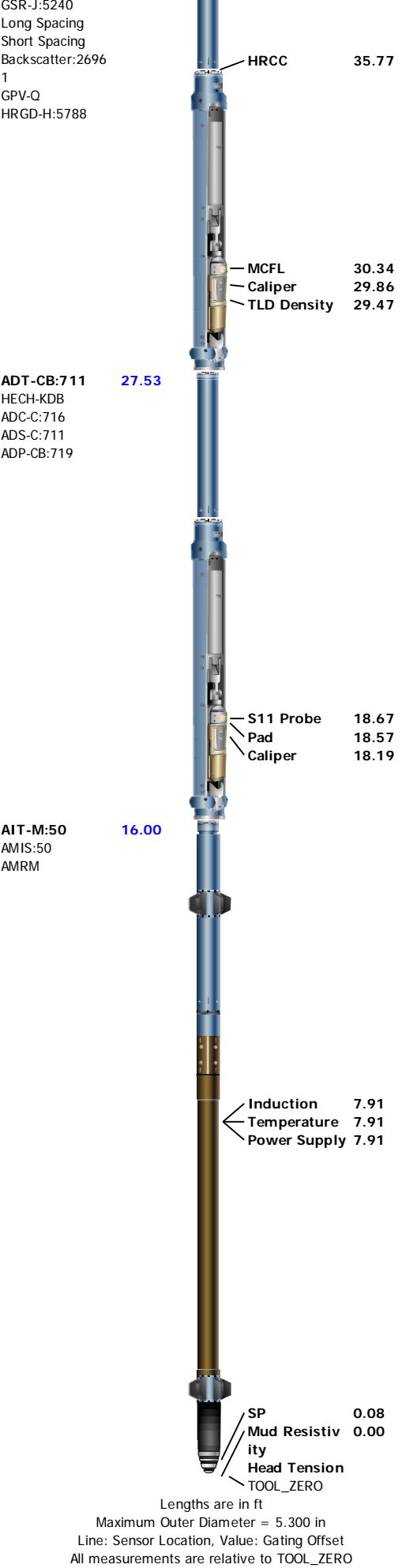
Bit						
Bit Size (in)	12.25	7.875				
Top Driller (ft)	0	455				
Top Logger (ft)	0	455				
Bottom Driller (ft)	455	8487				
Bottom Logger (ft)	455	8497				
Casing						
Size (in)	8.625					
Weight (lbm/ft)	24					
Inner Diameter (in)	8.097					
Grade	N80					
Top Driller (ft)	0					
Top Logger (ft)	0					
Bottom Driller (ft)	453					
Bottom Logger (ft)	453.5					

Operational Run Summary						
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Parameter (unit)	Run 1					
Date Log Started	22-Dec-2014					
Time Log Started	05:48:09					
Date Log Finished	22-Dec-2014					
Time Log Finished	18:27:41					
Top Log Interval (ft)	100.00					
Bottom Log Interval (ft)	8497.00					
Total Depth (ft)	8497.00					
Max Hole Deviation (deg)	0.00					
Azimuth of Max Deviation (deg)	0.00					
Bit Size (in)	7.875					
Logging Unit Number	9108					
Logging Unit Location	Fort Morgan, CO					
Recorded By	MK Henrikson					
Witnessed By	Jim Weir					
Service Order Number	CWEK-00019					

Service Order Number	CWR R-00015					
Borehole Fluids						
Parameter(unit)	Run 1					
Fluid Type	Water					
Fluid Name	WBM					
Max Recorded Temperatures (degF)	NaN					
Source of Sample	Active Tank					
Salinity (ppm)	0					
Density (lbm/gal)	10					
Funnel Viscosity (s)	73					
Fluid Loss (cm3)						
PH	8.8					
Date/Time Circulation Stopped	21-Dec-2014 20:30:00					
Date Logger on Bottom	NaN					
Time Logger on Bottom	NaN					
Source RMF						
RMC	Pressed					
RM @ Meas Temp (ohm.m@degF)	1.2 @ 59.3					
RMF @ Meas Temp (ohm.m@degF)	0.9 @ 59.3					
RMC @ Meas Temp (ohm.m@degF)	1.51 @ 59.3					
RM @ BHT (ohm.m@degF)	0.39 @ 196.39					
RMF @ BHT (ohm.m@degF)	0.29 @ 196.39					
RMC @ BHT (ohm.m@degF)	0.49 @ 196.39					
Total Solid (%)						
High Gravity Solids (%)						
Remarks and Equipment Summary						
Run 1: Toolstring				Run 1: Remarks		
Equip name	Length	MP name	Offset	This is the first run in hole.		
LEH-QT	94.85			Toolstring run as per toolsketch.		
LEH-QT				Tool readings affected by borehole rugosity.		
EDTC-B:8328	91.93			Matrix: Limestone. MDEN: 2.71 g/cm3		
EDTH-B:8321				Crew: D Marquez, S Palisoc, S Alkhifaw, MK Henrikson		
EDTG-A				Had issues with the CMR sonde power, tool powered off multiple times.		
EDTC-B:8328				Merged logs are delivered here.		
		CTEM	88.43	Pulled tight from 1400-1300 ft, instructed to close caliper to get out of hole.		
		ACCZ	0.00			
		HV	0.00			
		Gamma Ray	86.56			
		TelStatus	85.43			
CMRT-B:144	85.43					
CMRC:78						
CMRH:78						
CMRS:144						



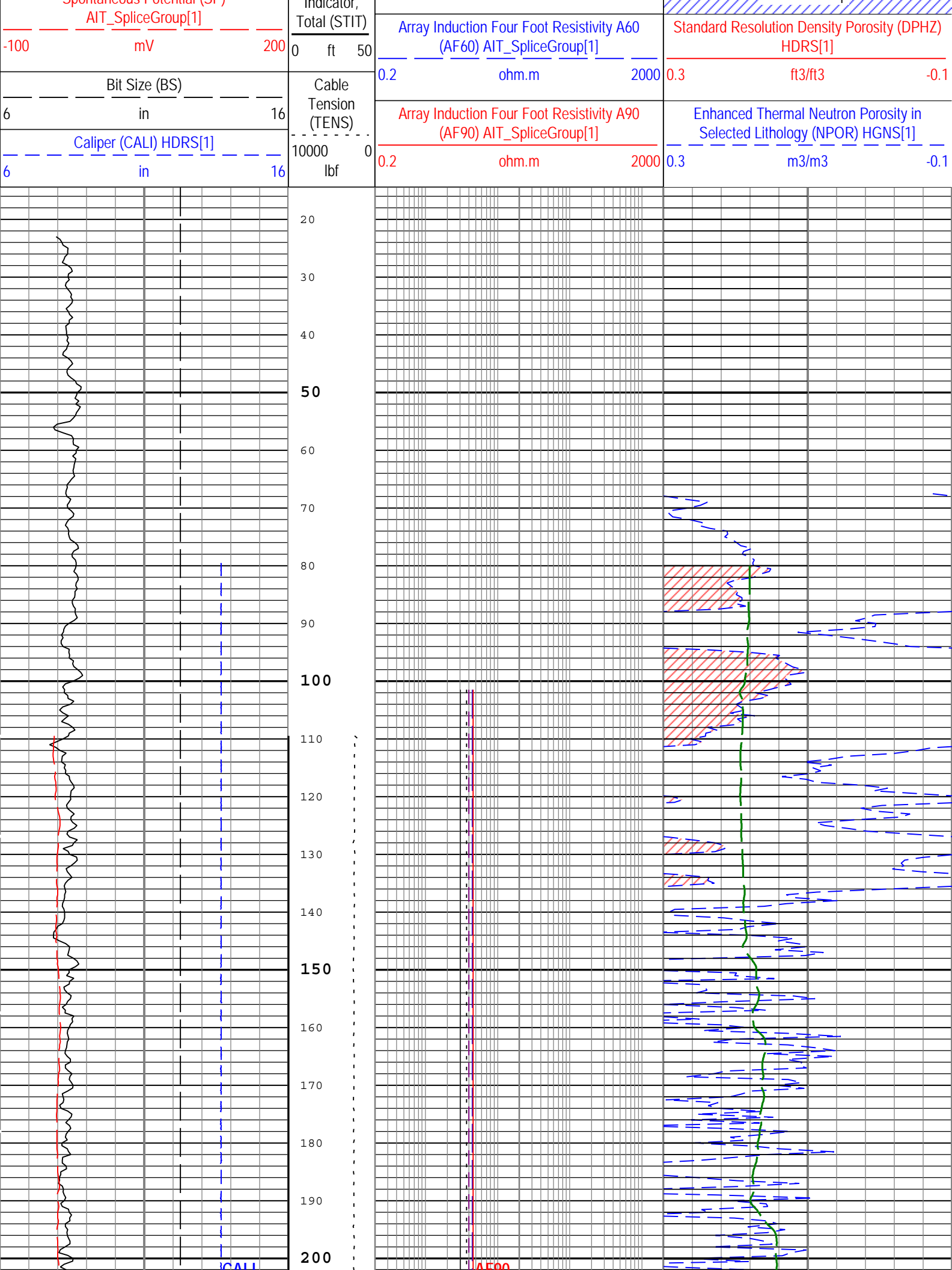


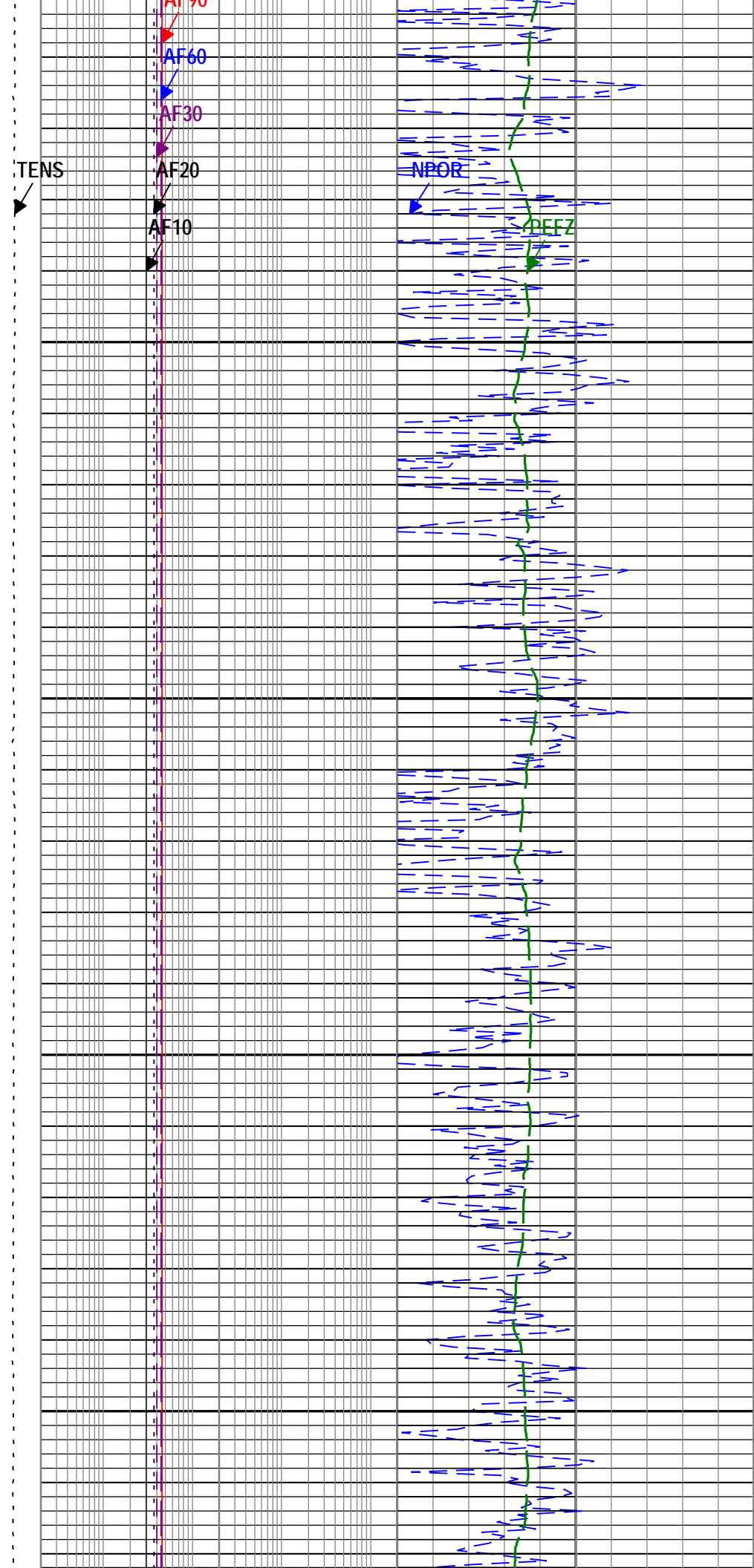
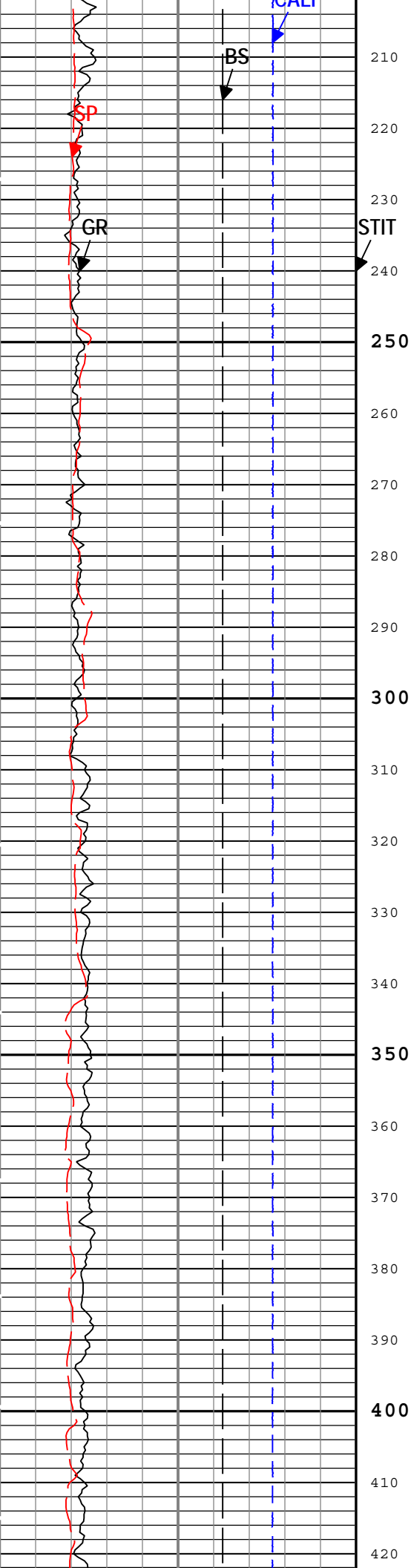
Depth Summary

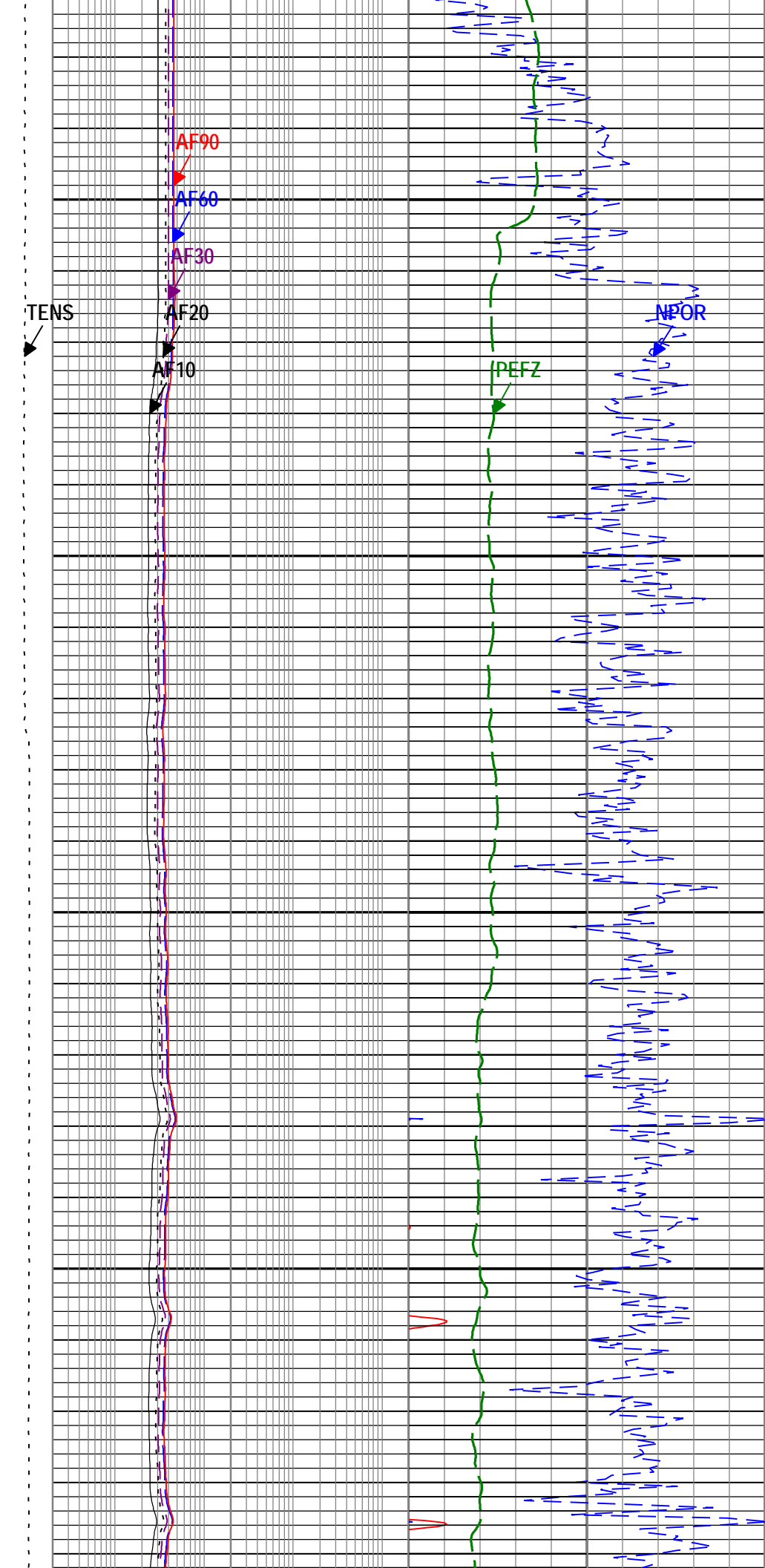
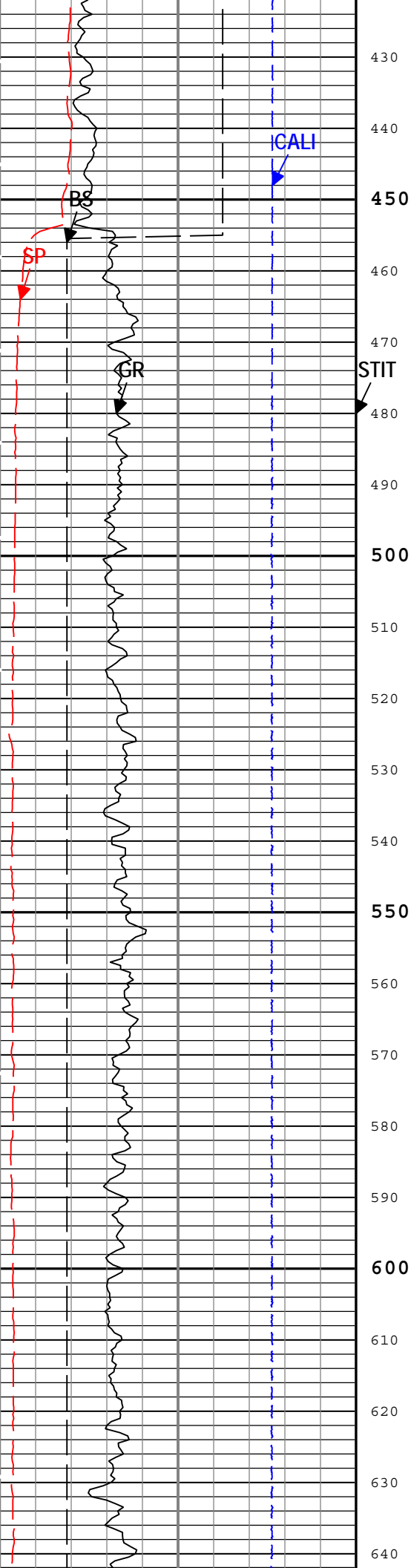
Run 1

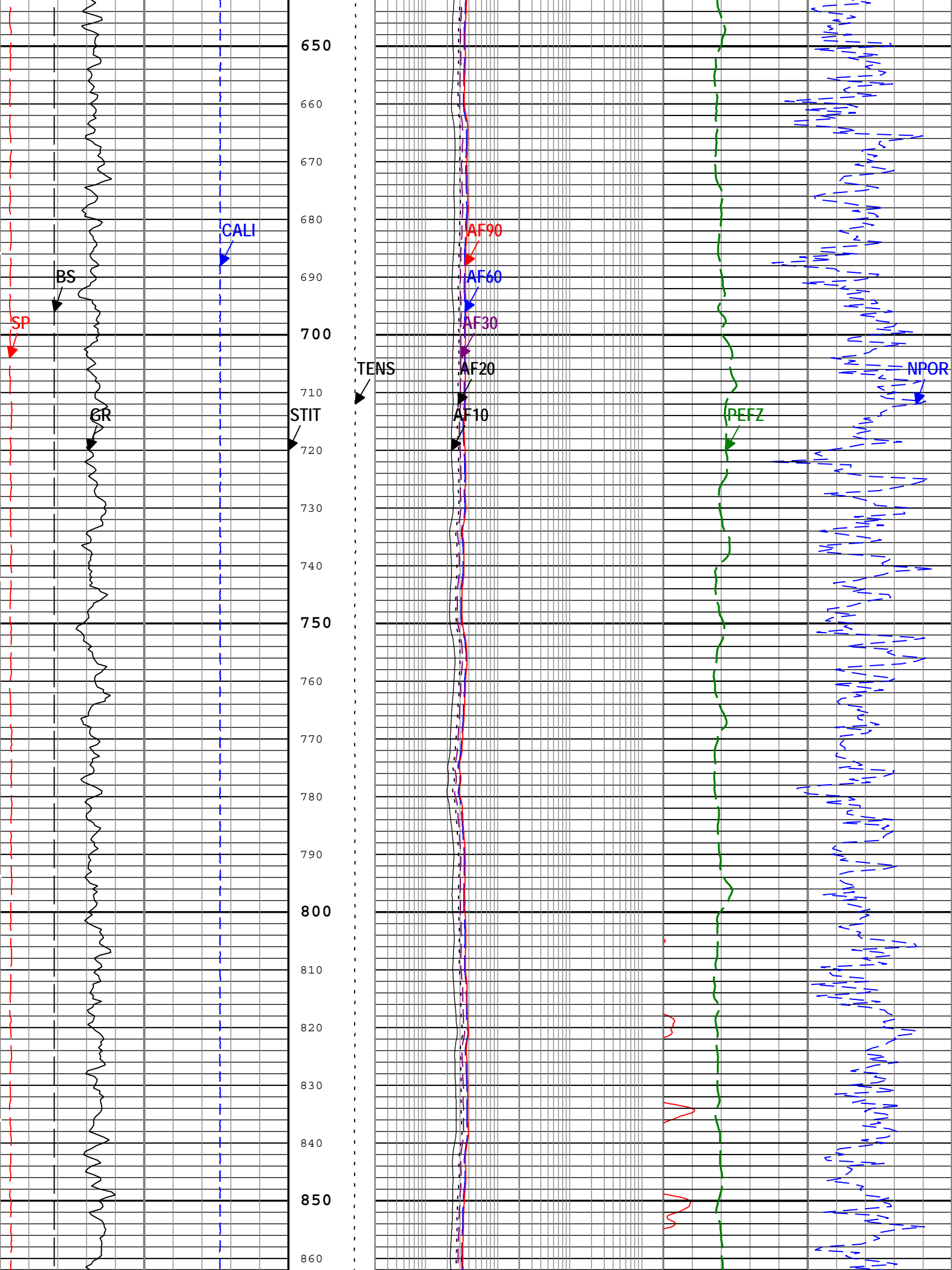
Depth Measuring Device															
Type	IDW-B														
Serial Number															
Calibration Date	19-OCT-2014														
Calibrator Serial Number															
Calibration Cable Type	7-46A-XS														
Wheel Correction 1	0														
Wheel Correction 2	0														
Tension Device															
Type	CMTD-B/A														
Serial Number															
Calibration Date															
Calibrator Serial Number															
Number of Calibration Points	0														
Logging Cable															
Type	7-46A-XS														
Serial Number															
Length	21000.00 ft														
Conveyance Type	Wireline														
Rig Type	LAND														
Run 1:Depth Control Parameters								Depth Control Remarks							
Log Sequence	First Log In the Well				All Schlumberger depth 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															
Stretch Correction															
Tool Zero Check At Surface															
Survey Record															
Survey Calculation															
Method :	Minimum Radius of Curvature				DLS Method :				Lubinski						
North Reference :	True North				Total Correction Formula :				Magnetic Dec						
Rig Location															
Latitude :	39° 27' 36.108" N				Longitude :				103° 28' 57.072" W						
Tie In Point															
Measured Depth:	0.00 ft		Inclination:		0.00 deg		Azimuth:		0.00 deg						
True Vertical Depth:	0.00 ft		North Displacement:		0.00 ft		East Displacement:		0.00 ft						
Survey Quality Index															
28 : Tie-In Point															
Survey Correction Index															
0 : No correction															
Survey Description Index															
0 : Not Flagged Survey															
Seq	MD	Incl	Azim	Course	TVD	V Sec	N/ -S	E/ -W	Closure	at Azim	DLS	Tool Type	QI	CI	DI
	(ft)	(deg)	(deg)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(deg)	deg/100ft				
1	0.00	0.00	0.00	----	0.00	0.00	0.00	0.00	0.00	90.00	0.00	TIP	28	0	0
Composite 2															
5" Triple Combo															
Software Version															
Acquisition System									Version						
MaxWell									4.0.9163.3000						
Application Patch									Patch-SP-10767_26570-4.0.9163.3001						
Computation			Description									Version			
Borehole			Borehole Ensemble provides common Borehole Parameters and Channels									4 0 9469 3000			

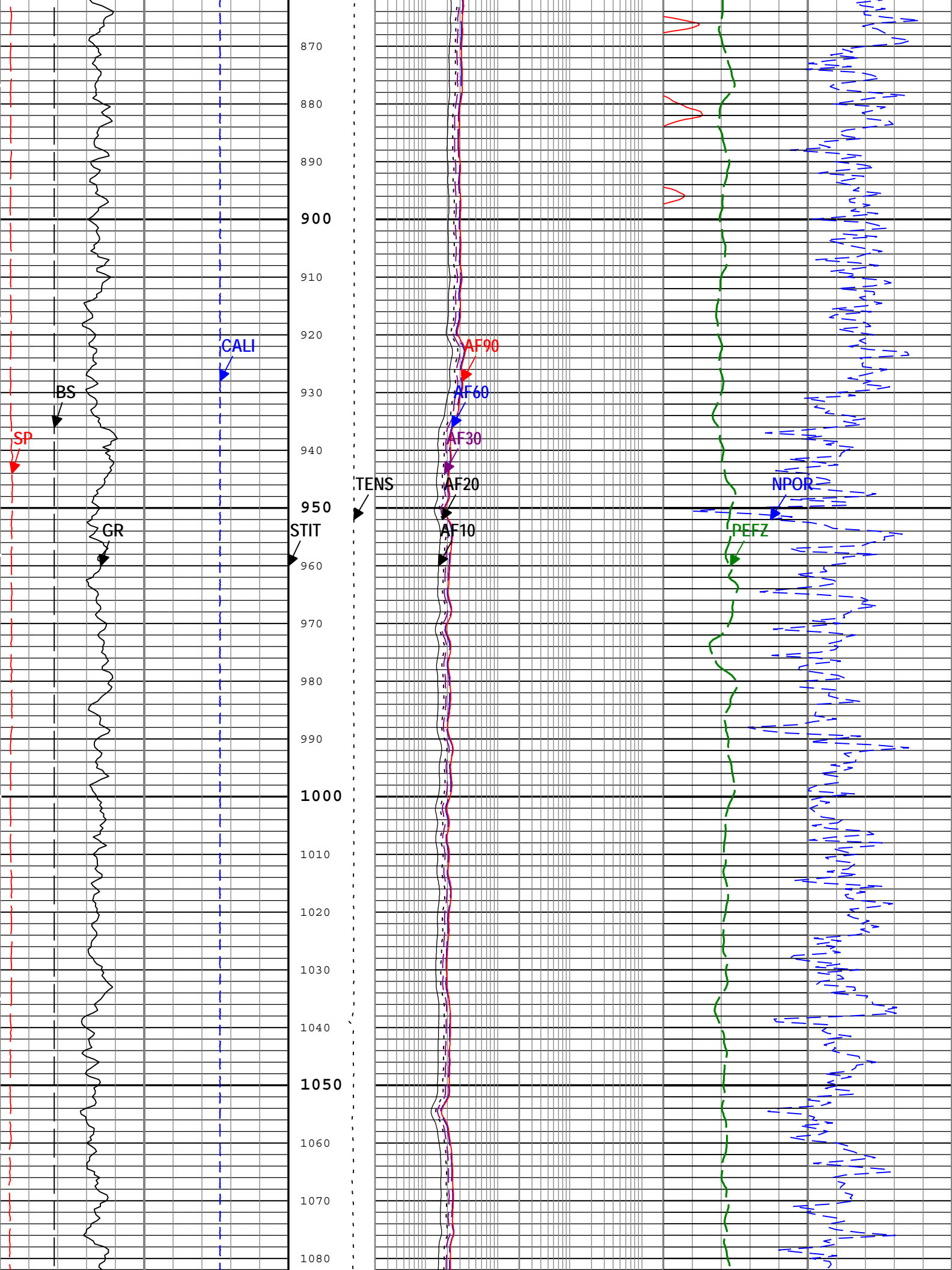
HENVIR		Computation Ensemble for the HGNS Neutron environmental corrections						4.0.9469.3000	
DepthCorrection		DepthCorrection						4.0.9469.3000	
Tool Elements		Description				Software Version		Firmware Version	
HRCC-H		HILT High-Resolution Control Cartridge, 150 degC				4.0.9575.3000		2.0	
HGNS-H		HILT Gamma-Ray and Neutron Sonde, 150 degC				4.0.9575.3000		2.0	
HRGD-H		HILT Resistivity Gamma-Ray Density Device, 150 degC				4.0.9575.3000		3.0	
AMIS		Array Induction Sonde - M				4.0.9535.3000		1	
EDTC-B		Enhanced Digital Telemetry Cartridge - B				4.0.9469.3000			
Composite Summary									
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Run 1	Main[11]:Up	Up	7679.26 ft	8519.91 ft	22-Dec-2014 9:23:40 AM	22-Dec-2014 11:04:35 AM	ON	4.43 ft	No
Run 1	Main[12]:Up	Up	6452.90 ft	7920.79 ft	22-Dec-2014 11:37:01 AM	22-Dec-2014 2:33:39 PM	ON	5.99 ft	No
Run 1	Main[13]:Up	Up	6252.64 ft	6581.98 ft	22-Dec-2014 2:40:35 PM	22-Dec-2014 3:20:54 PM	ON	6.51 ft	No
Run 1	Main[14]:Up	Up	6211.31 ft	6407.59 ft	22-Dec-2014 3:26:53 PM	22-Dec-2014 3:50:36 PM	ON	7.03 ft	No
Run 1	Main[15]:Up	Up	109.33 ft	6306.13 ft	22-Dec-2014 3:57:32 PM	22-Dec-2014 6:16:00 PM	ON	6.25 ft	No
All depths are referenced to toolstring zero									
Log	Company:Nighthawk Production LLC						Well:Keystone 3-7		
							Composite 2:S013		
Description: HGNS standard resolution porosities for Platform Express Format: Log (EMD 5in Triple Combo Linear) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 22-Dec-2014 22:36:11									
Channel	Source			Sampling					
AF10	AIT_SpliceGroup[1]:AMIS[1]:AMIS[1]			3in					
AF20	AIT_SpliceGroup[1]:AMIS[1]:AMIS[1]			3in					
AF30	AIT_SpliceGroup[1]:AMIS[1]:AMIS[1]			3in					
AF60	AIT_SpliceGroup[1]:AMIS[1]:AMIS[1]			3in					
AF90	AIT_SpliceGroup[1]:AMIS[1]:AMIS[1]			3in					
BS	Borehole			6in					
CALI	HDRS[1]:HRCC-H[1]:HRCC-H[1]			1in					
DPHZ	HDRS[1]:HRMS-H[1]:HRGD-H[1]			2in					
GR	EDTC-B[1]:EDTC-B[1]:EDTC-B[1]			6in					
NPOR	HGNS[1]:HGNS-H[1]:HGNS-H[1]			6in					
PEFZ	HDRS[1]:HRMS-H[1]:HRGD-H[1]			2in					
SP	AIT_SpliceGroup[1]:AMIS[1]:AMIS[1]			6in					
STIT	DepthCorrection			6in					
TENS	WLWorkflow			6in					
TIME_1900	WLWorkflow			0.1in					
TIME_1900 - Time Marked every 60.00 (s)									
<div>Gamma Ray Back up</div> <div>Gamma Ray (GR) EDTC-B[1]</div> <div>0gAPI200</div> <div>Spontaneous Potential (SP)</div>				Array Induction Four Foot Resistivity A10 (AF10) AIT_SpliceGroup[1]			<div>Standard Resolution Formation Photoelectric Factor (PEFZ) HDRS[1]</div> <div>010</div>		
				0.2ohm.m2000					
				Array Induction Four Foot Resistivity A20 (AF20) AIT_SpliceGroup[1]			<div>Gas Effect</div> <div>NPOR Backup</div>		
				0.2ohm.m2000					
				Array Induction Four Foot Resistivity A30 (AF30) AIT_SpliceGroup[1]					
Stuck Tool Indicator				0.2ohm.m2000					

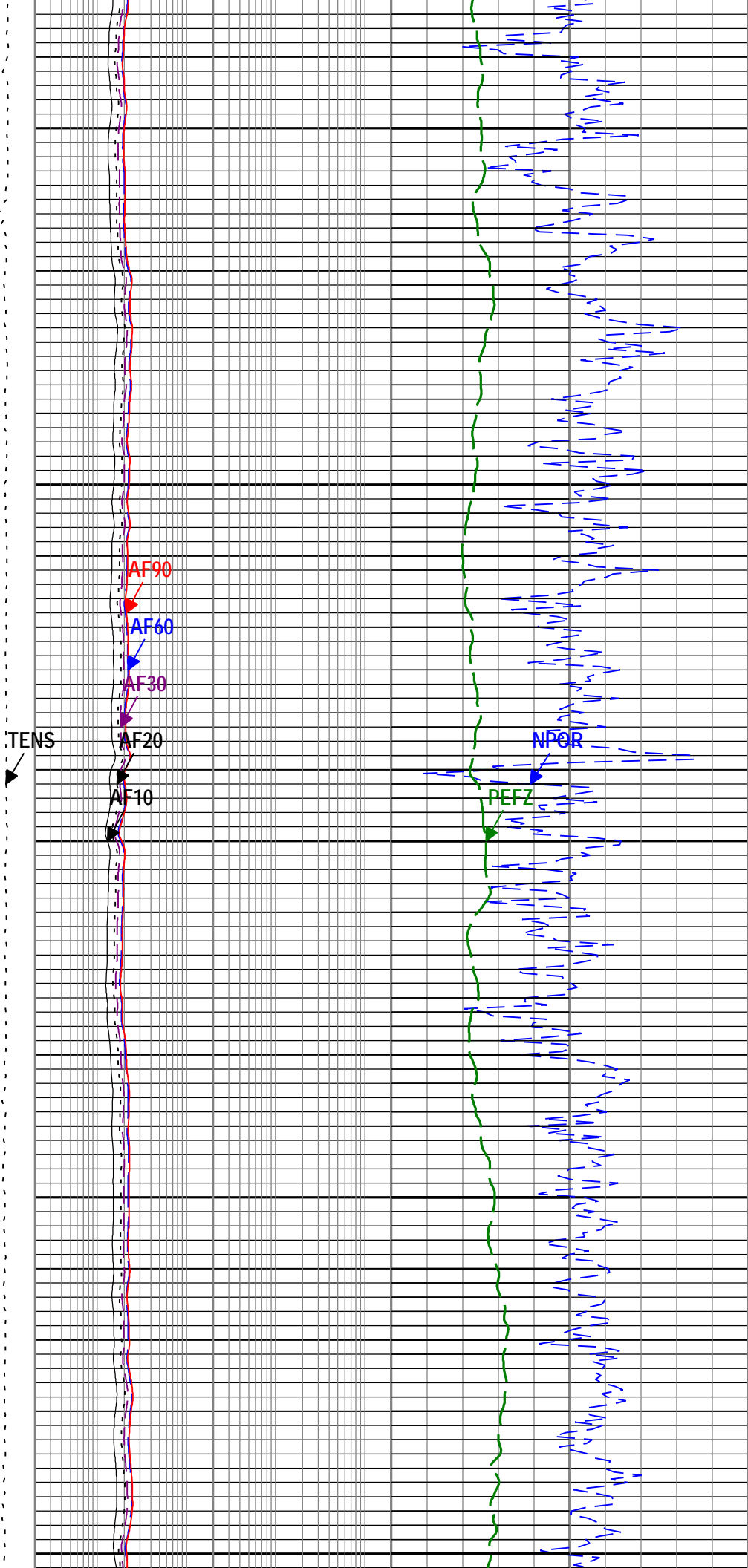
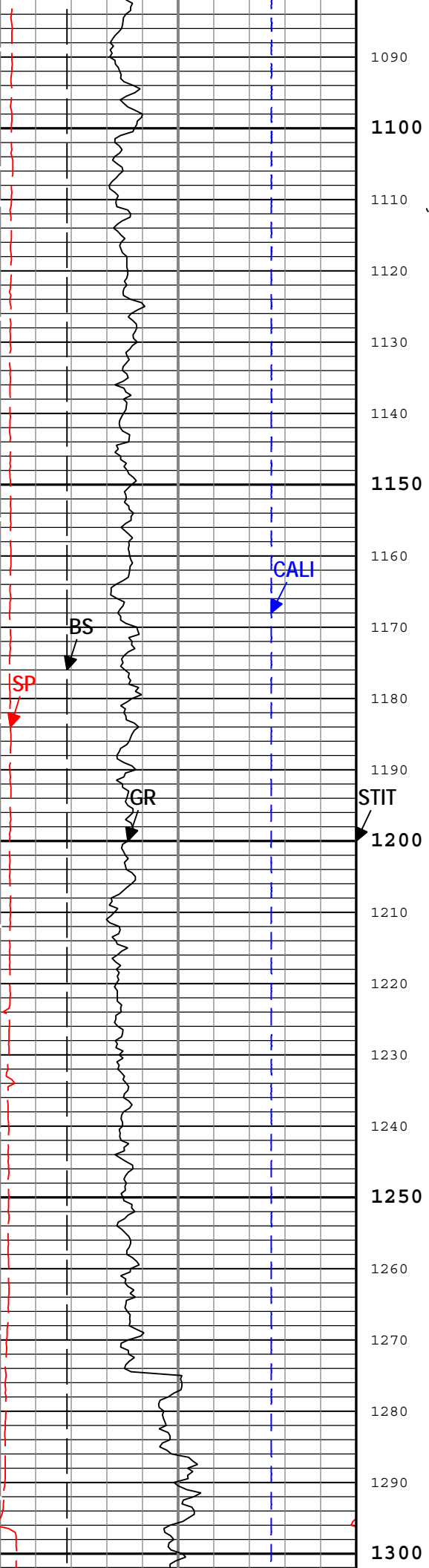


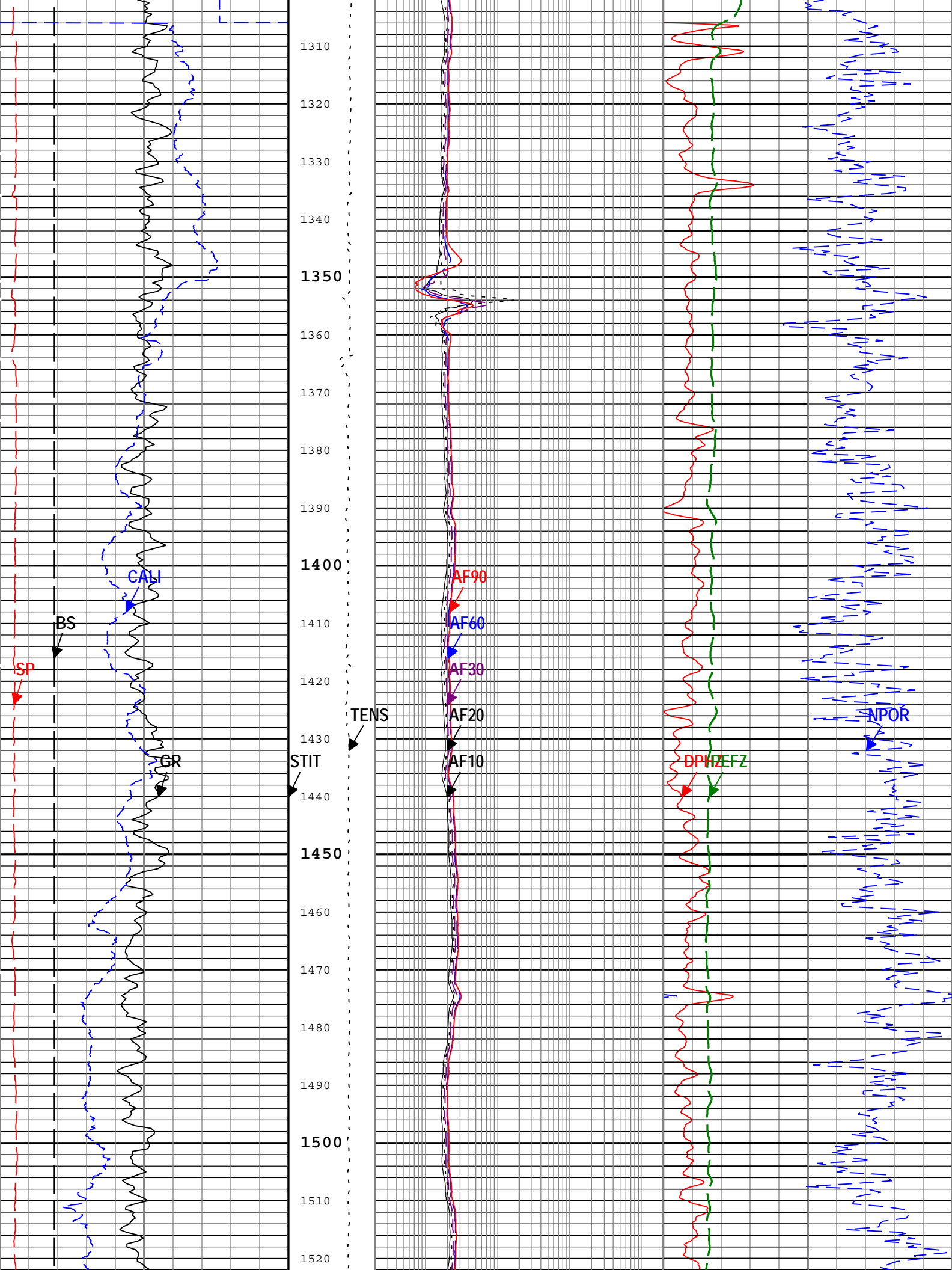


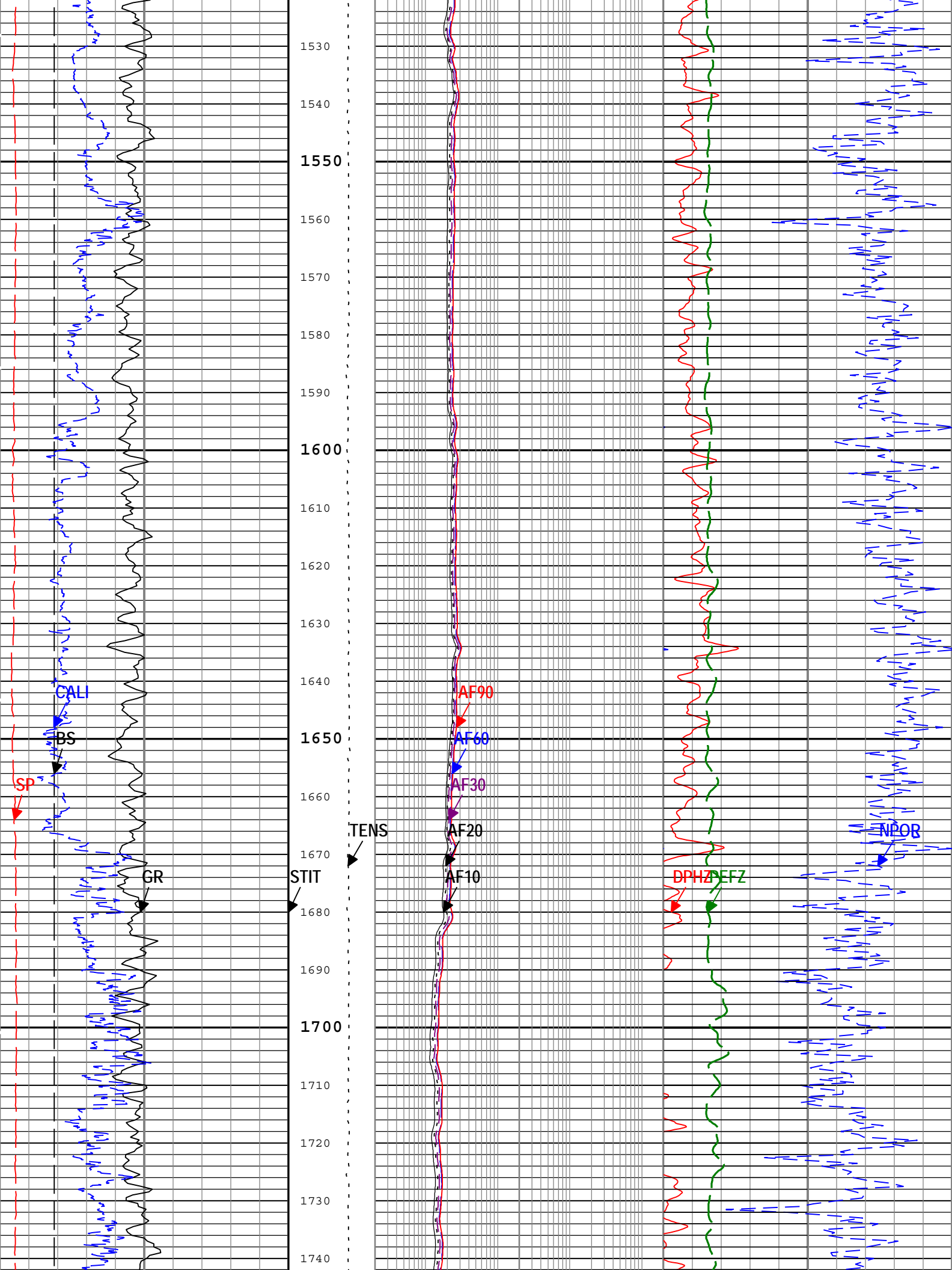


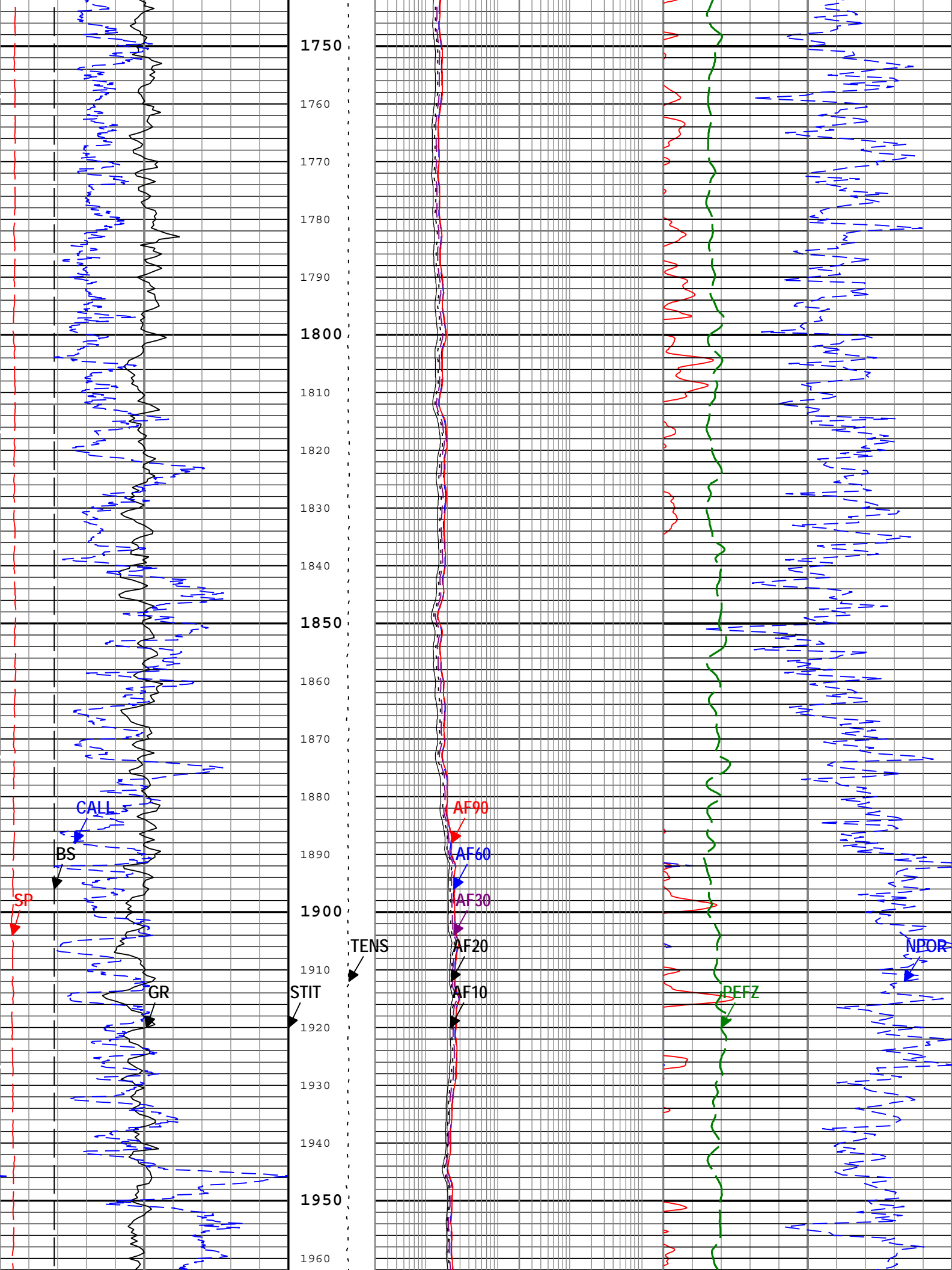


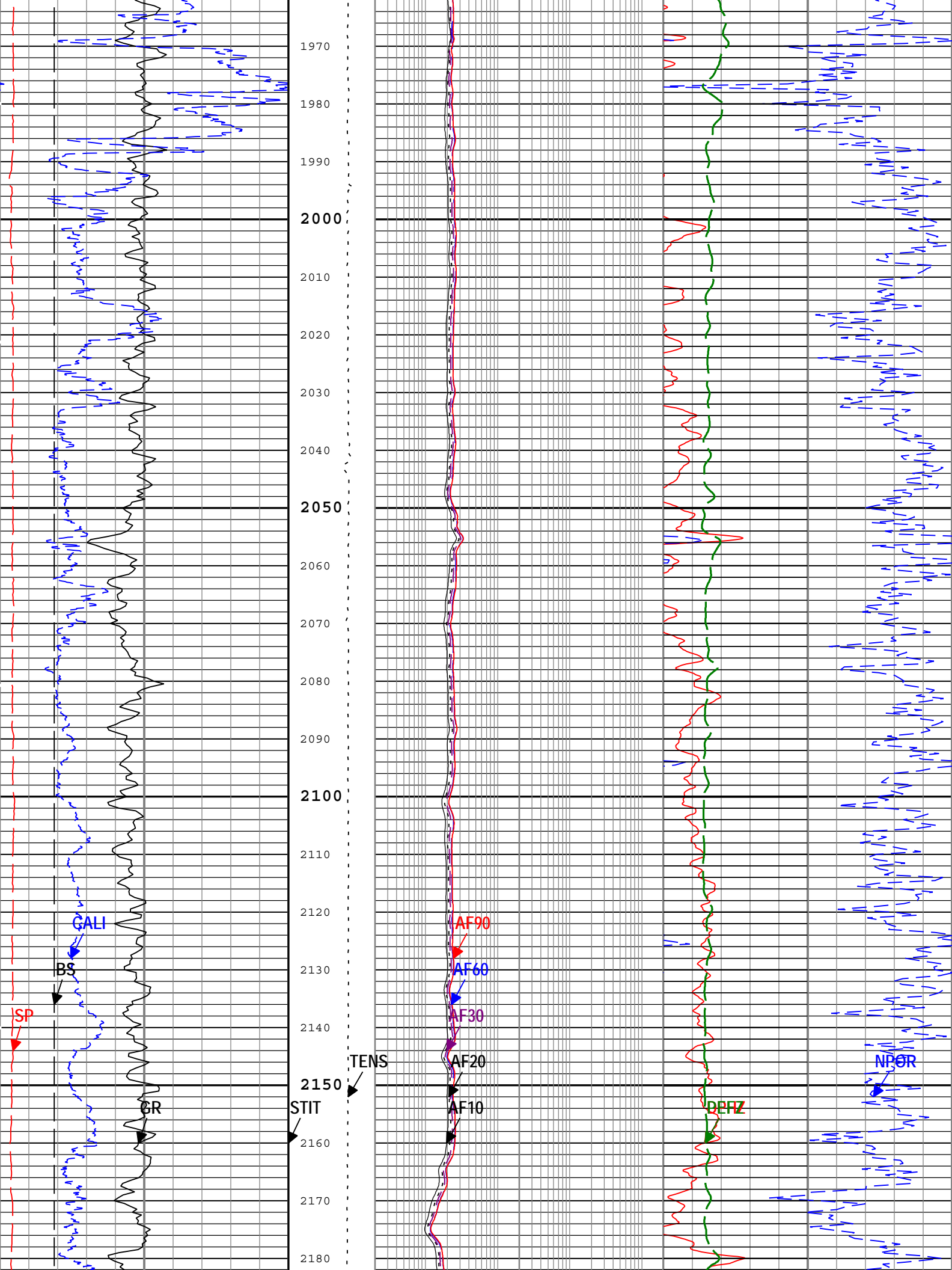


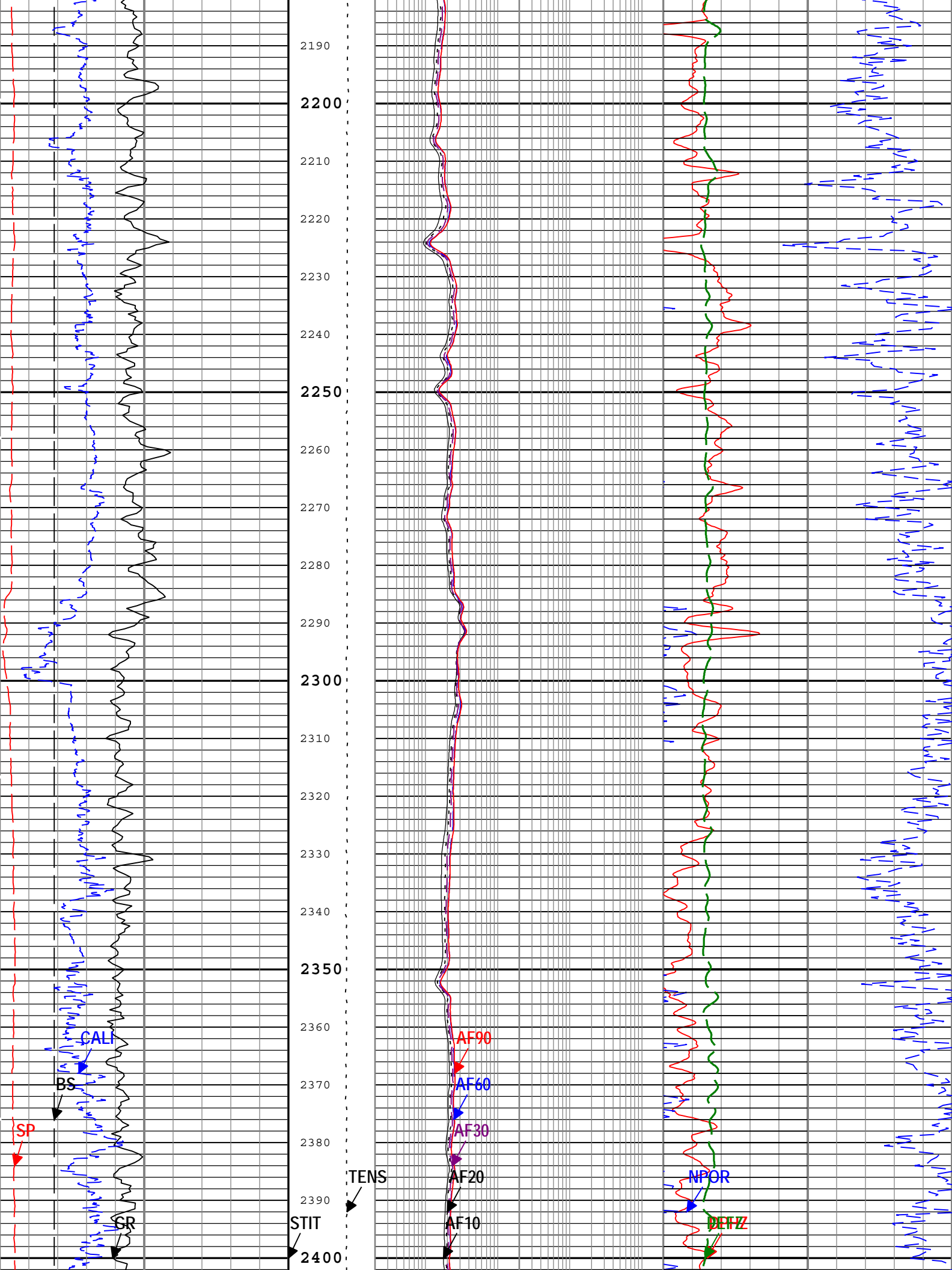


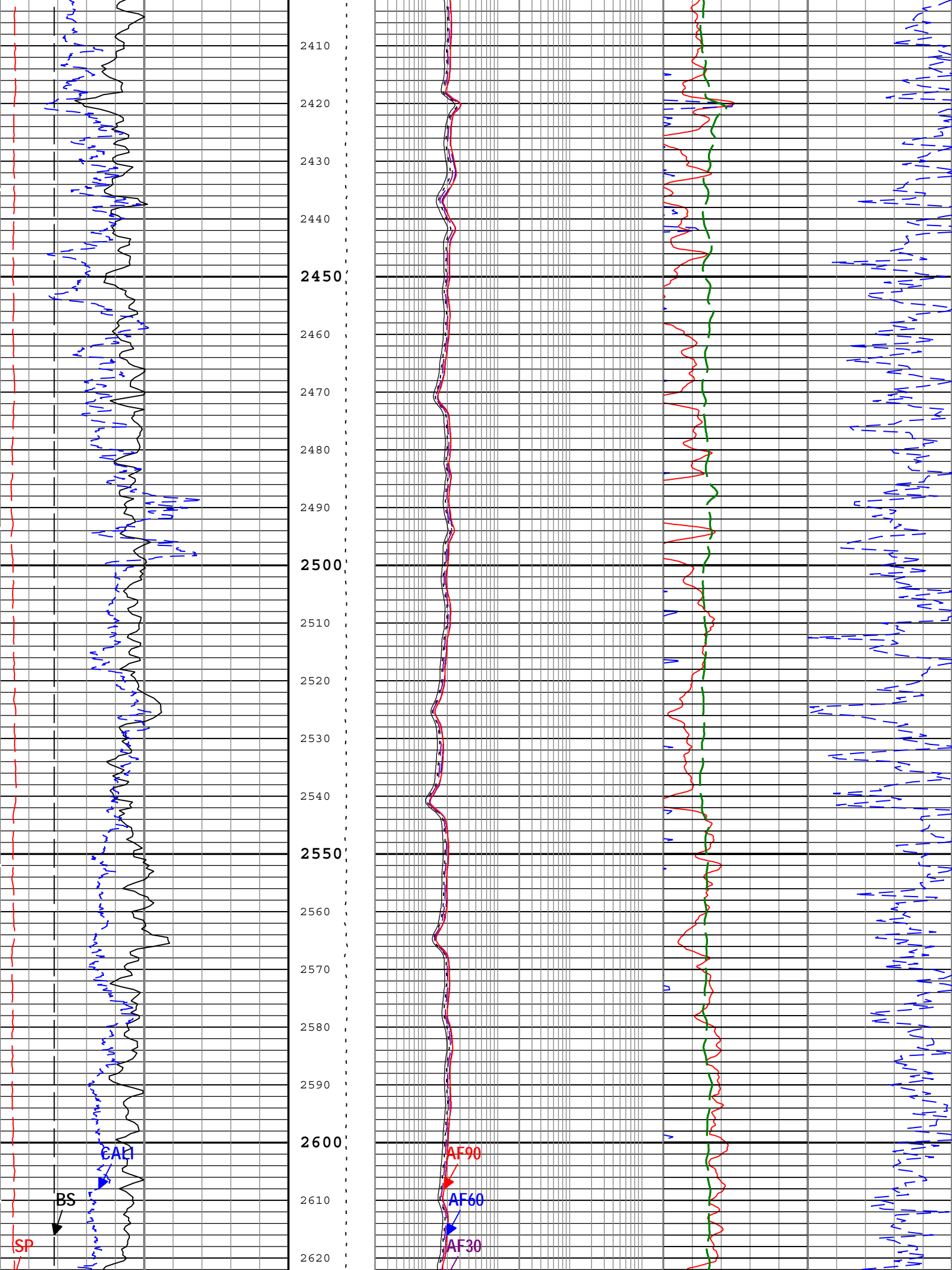


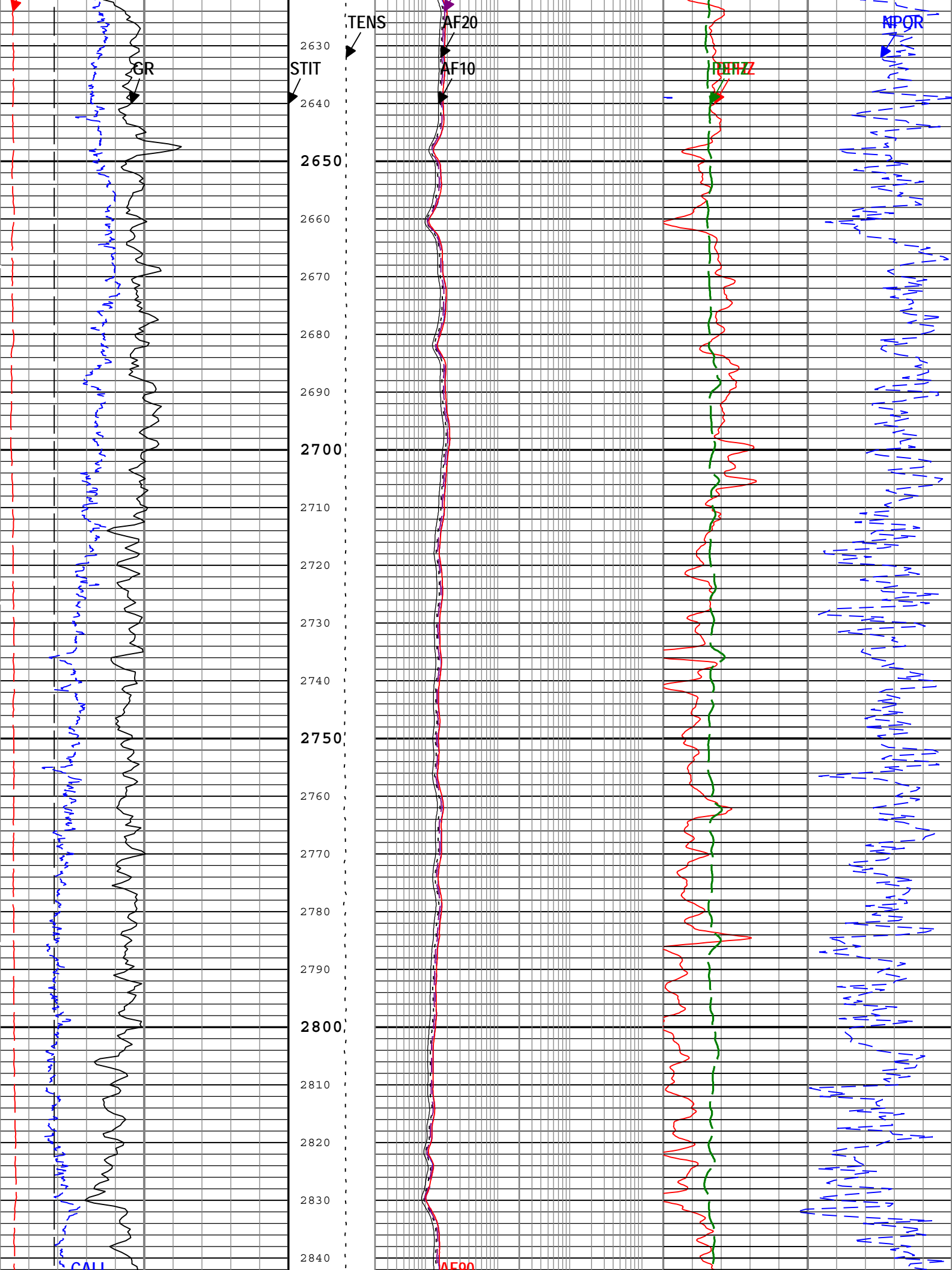


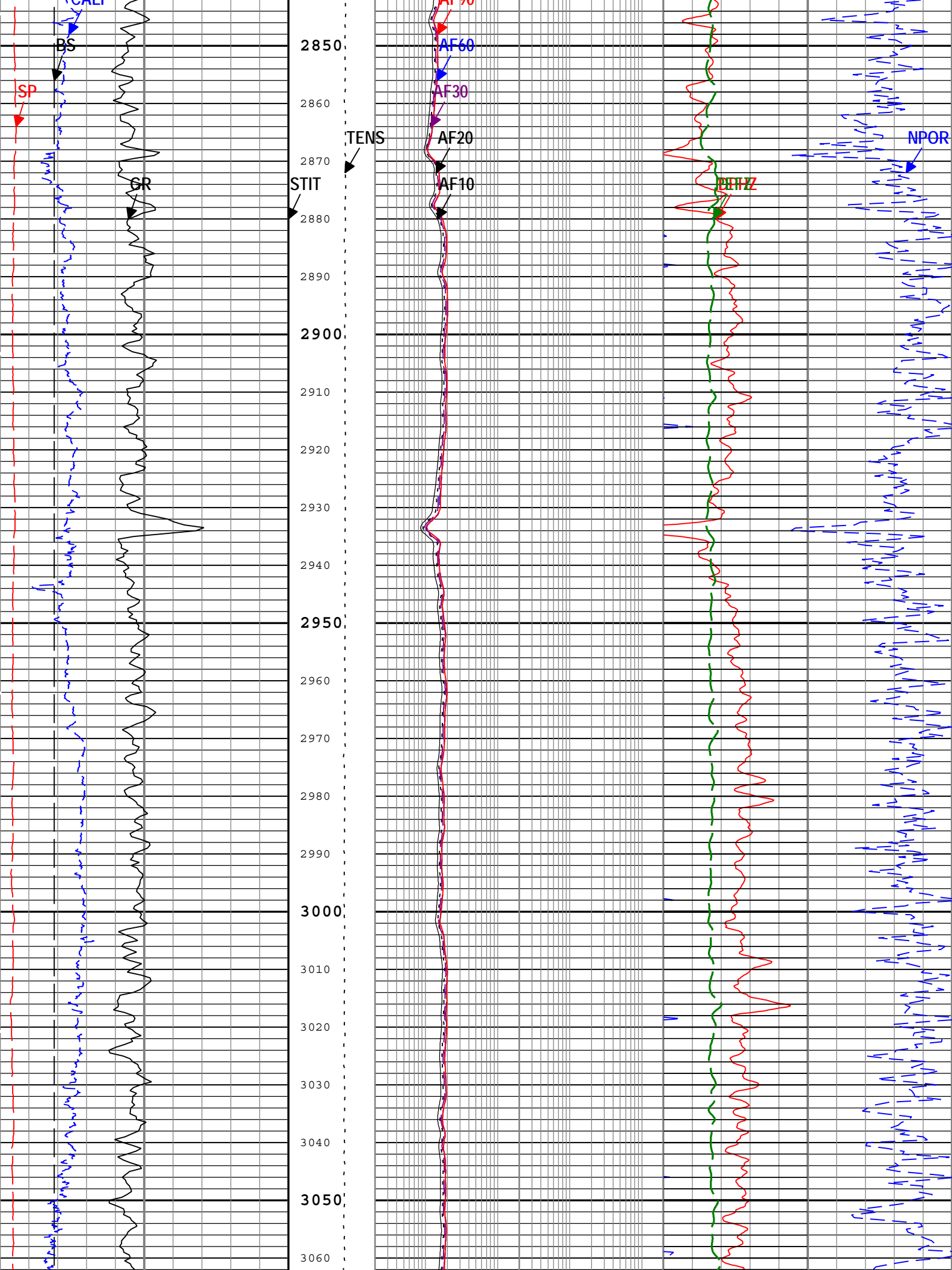


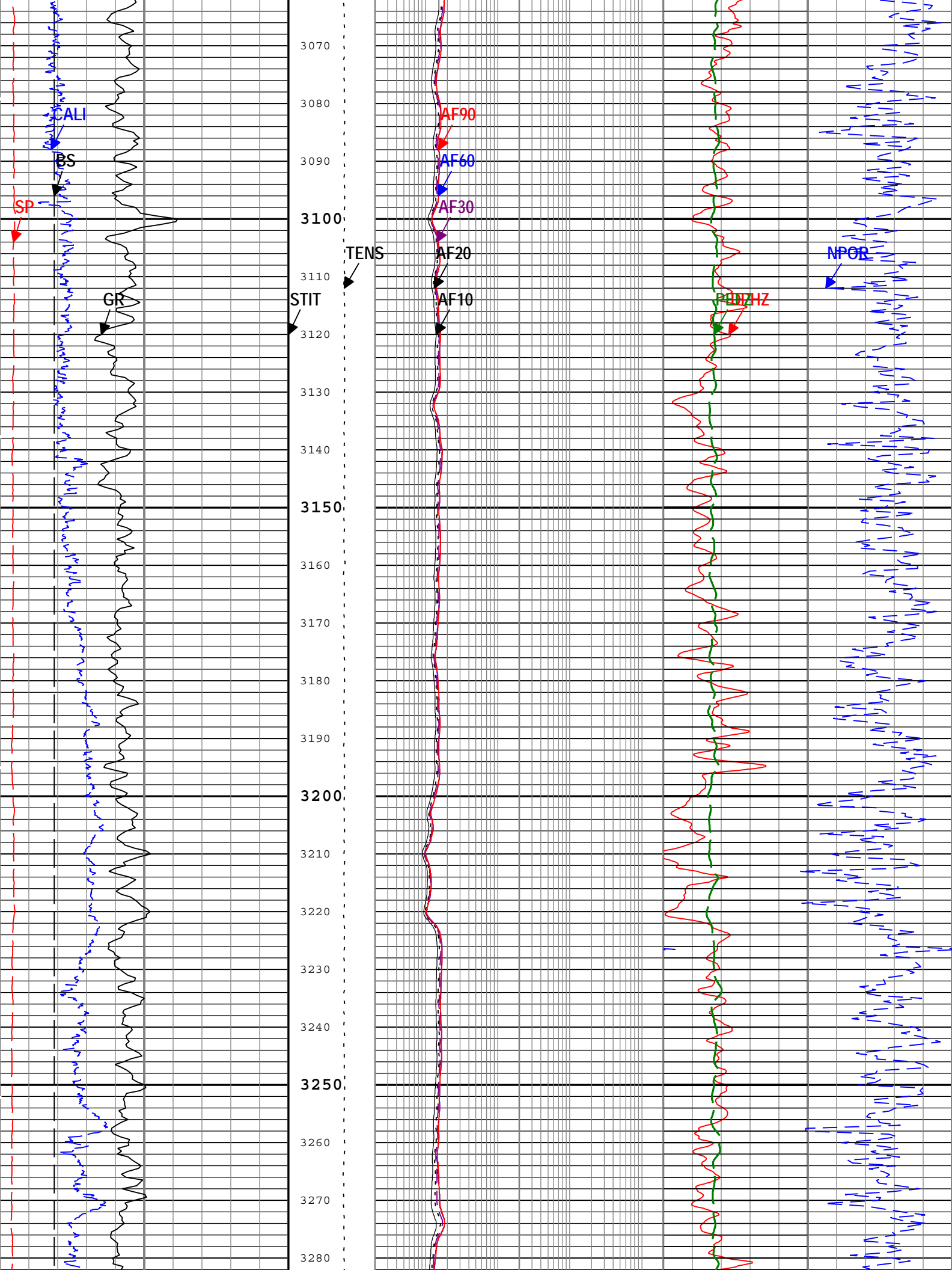


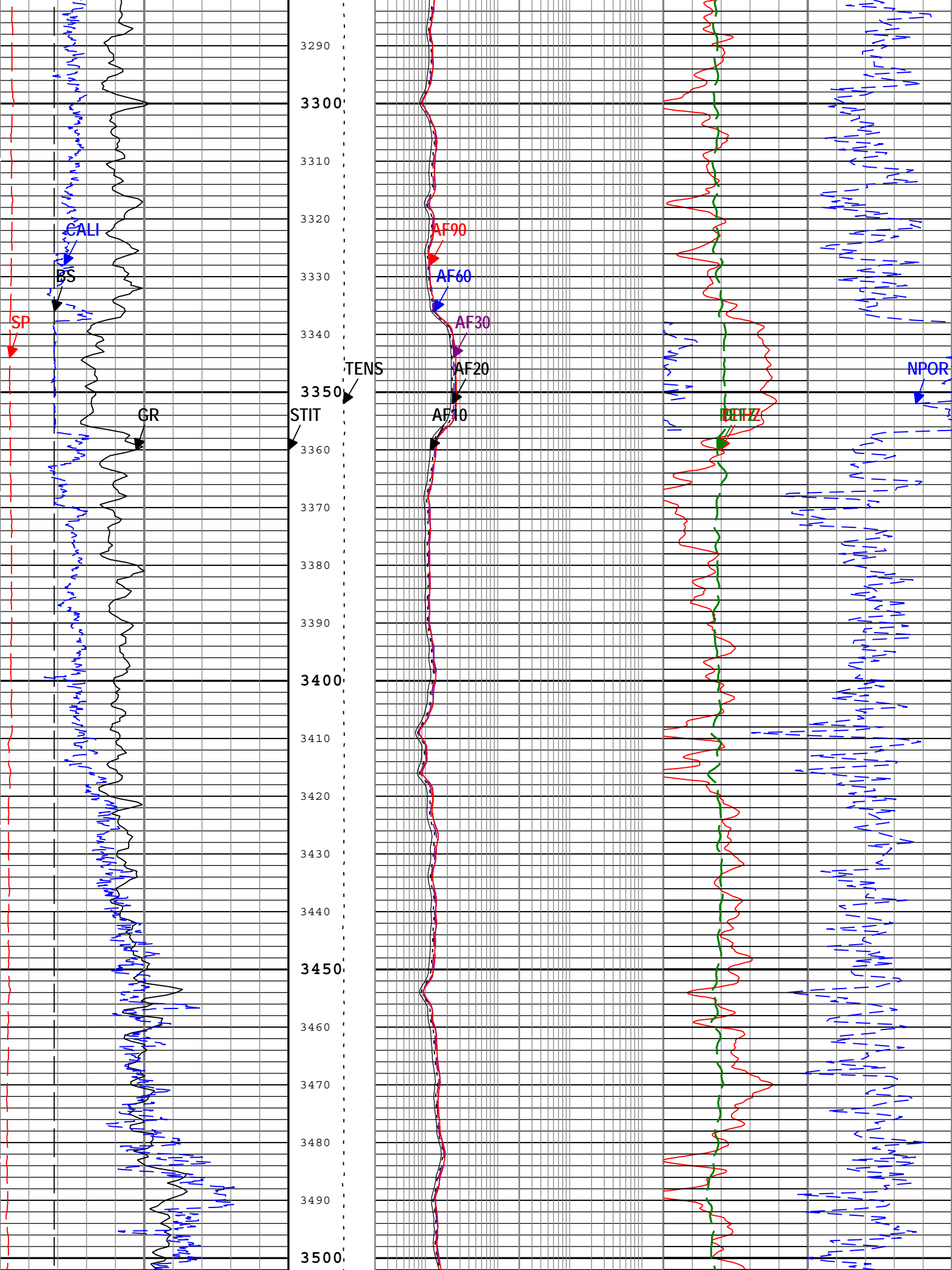


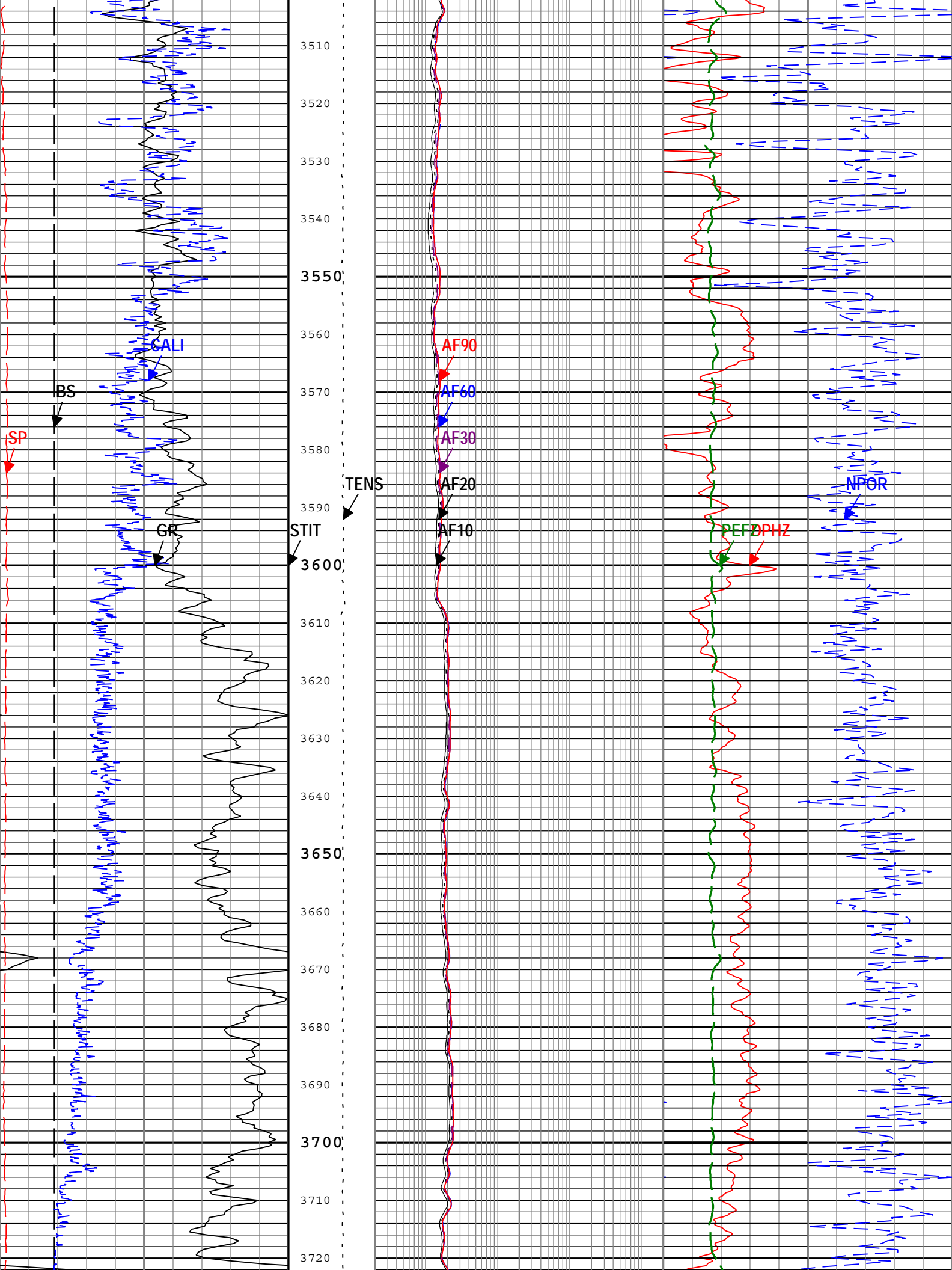


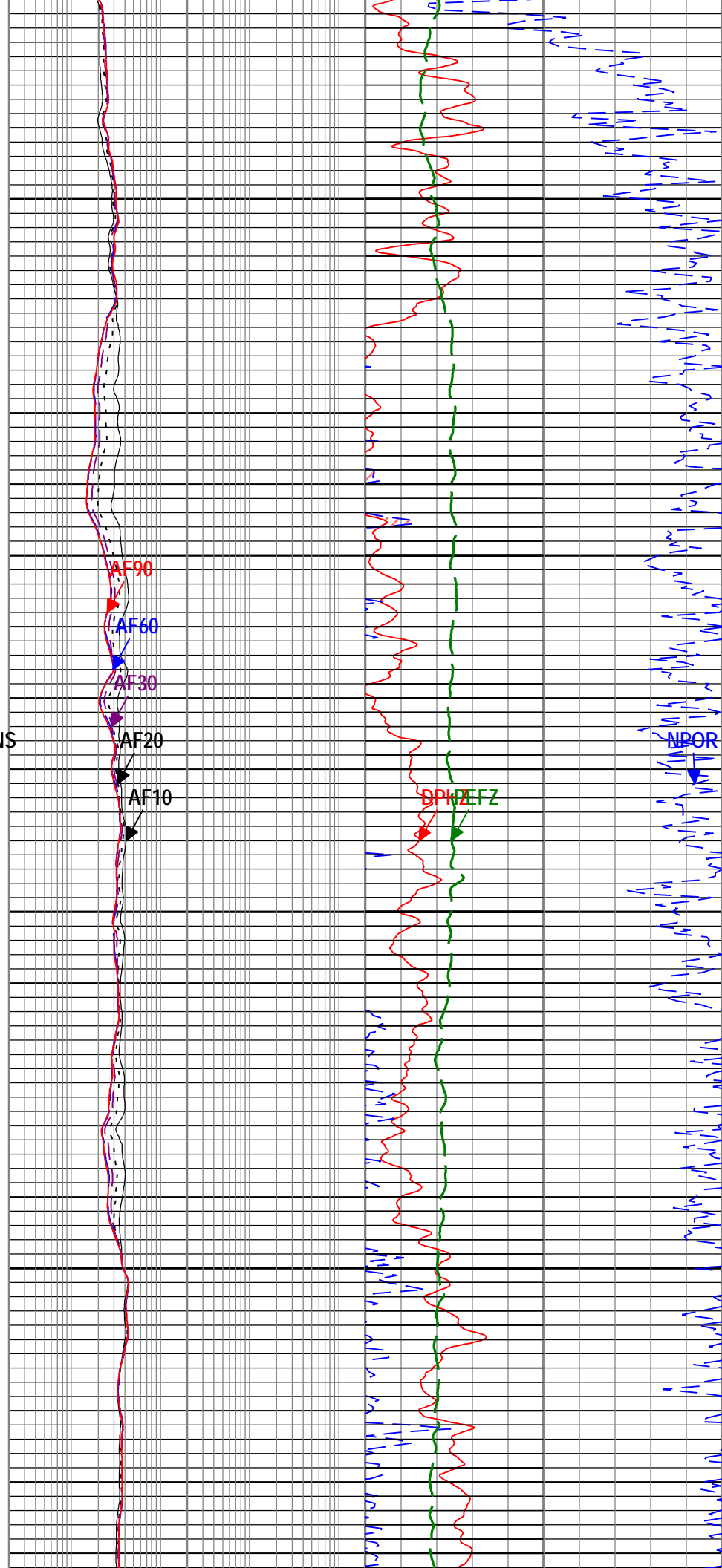
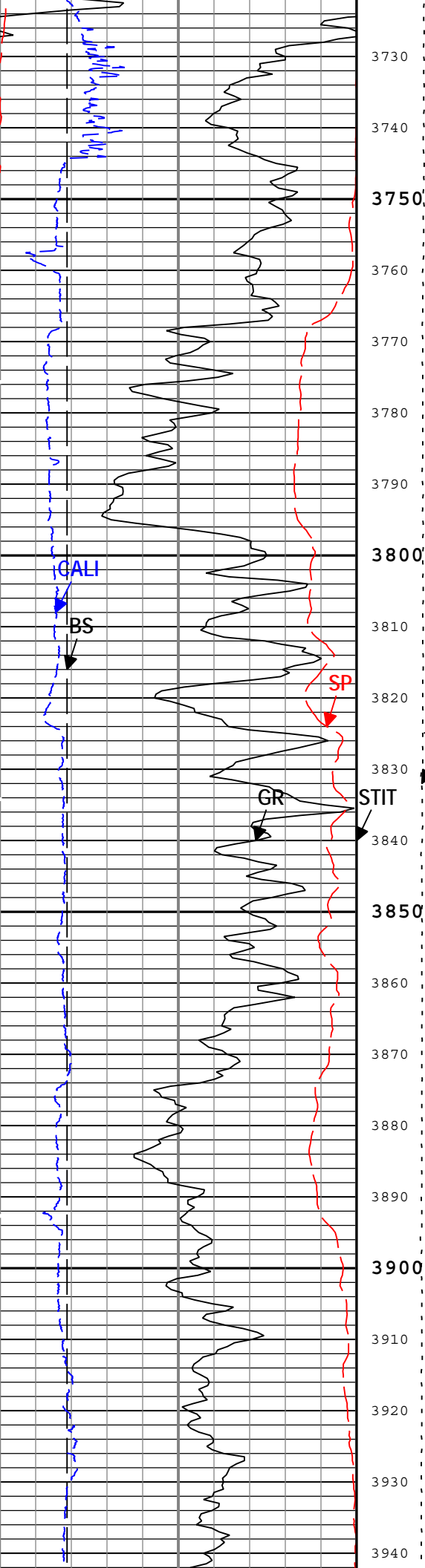


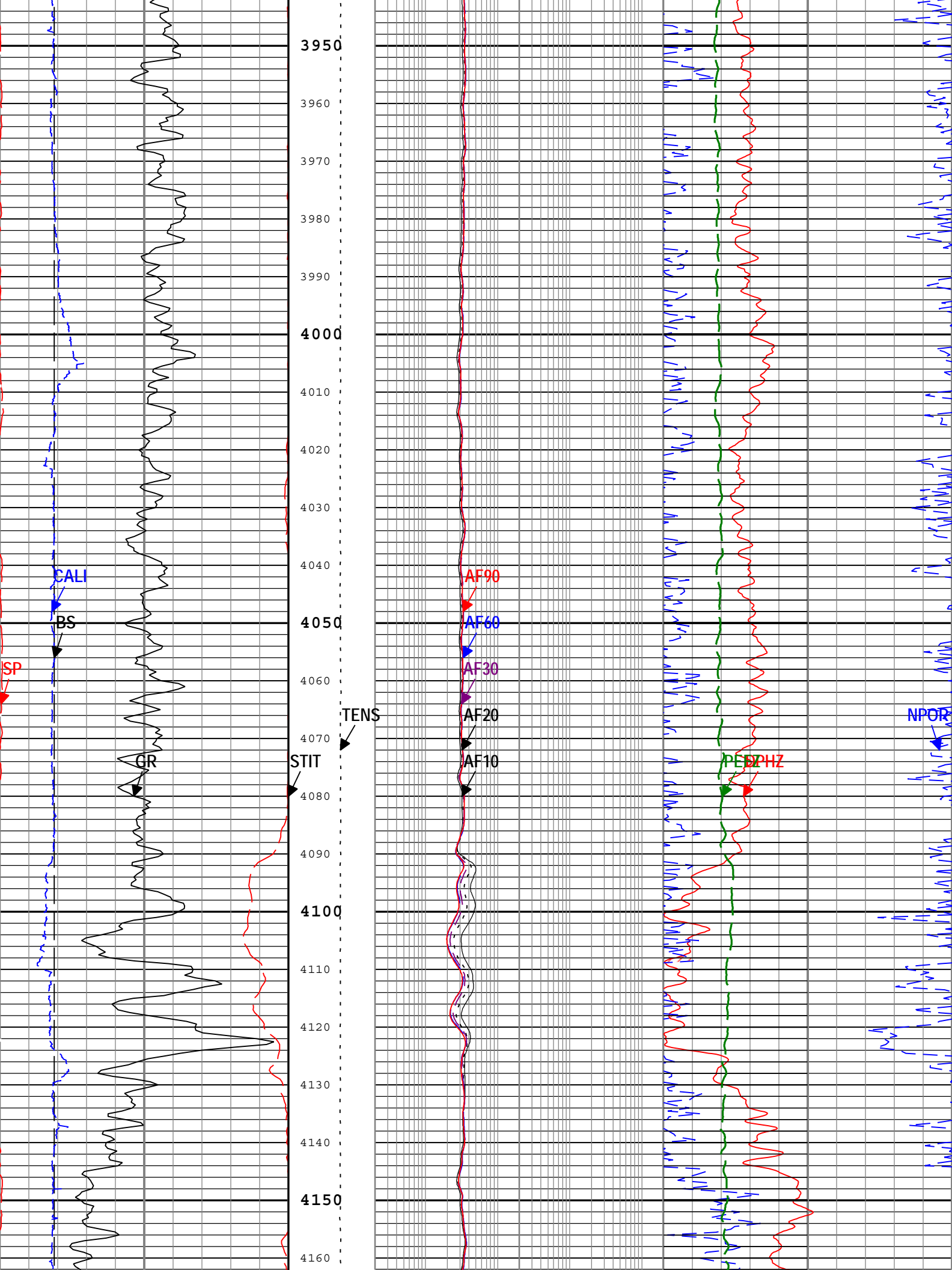


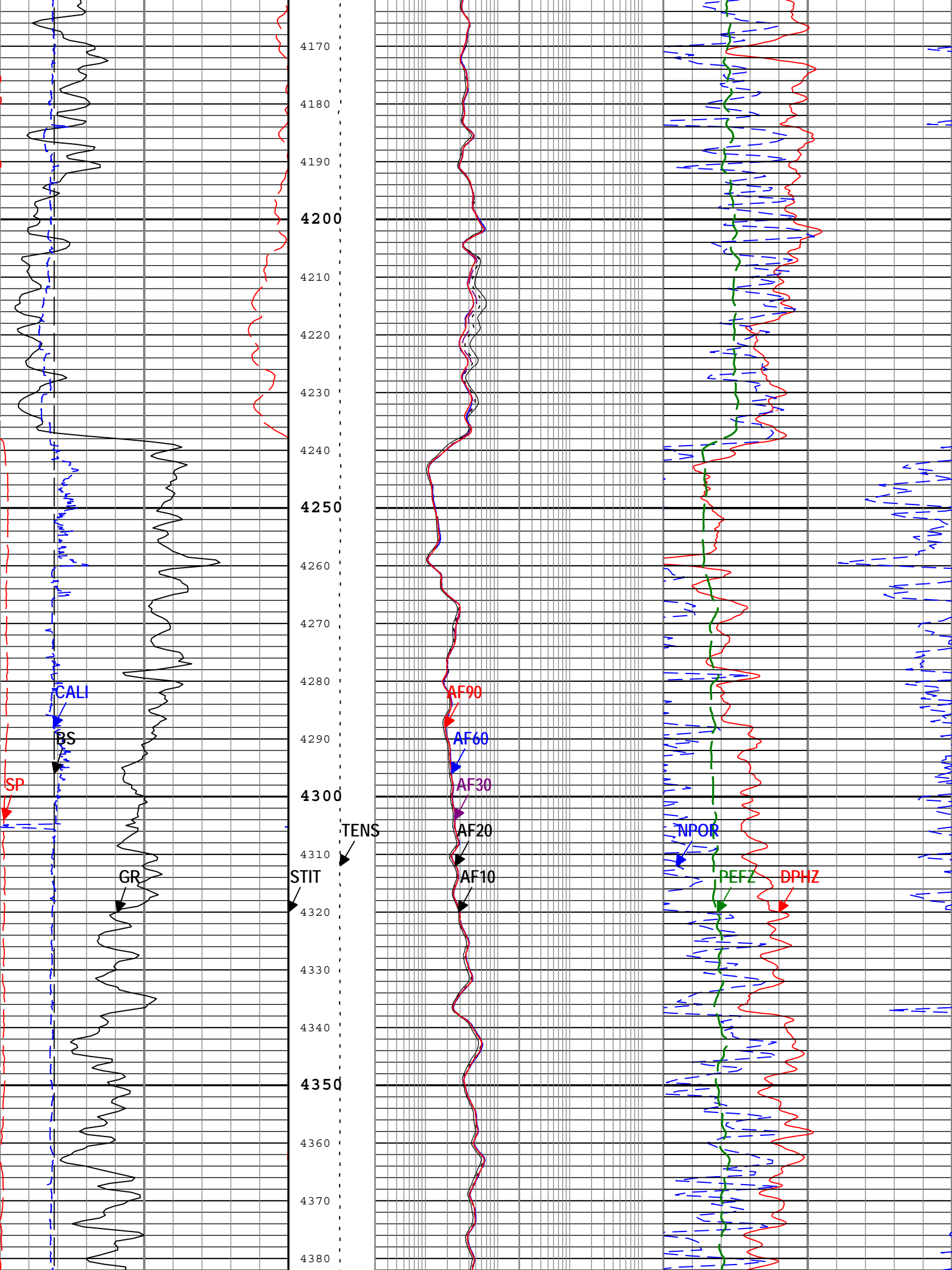


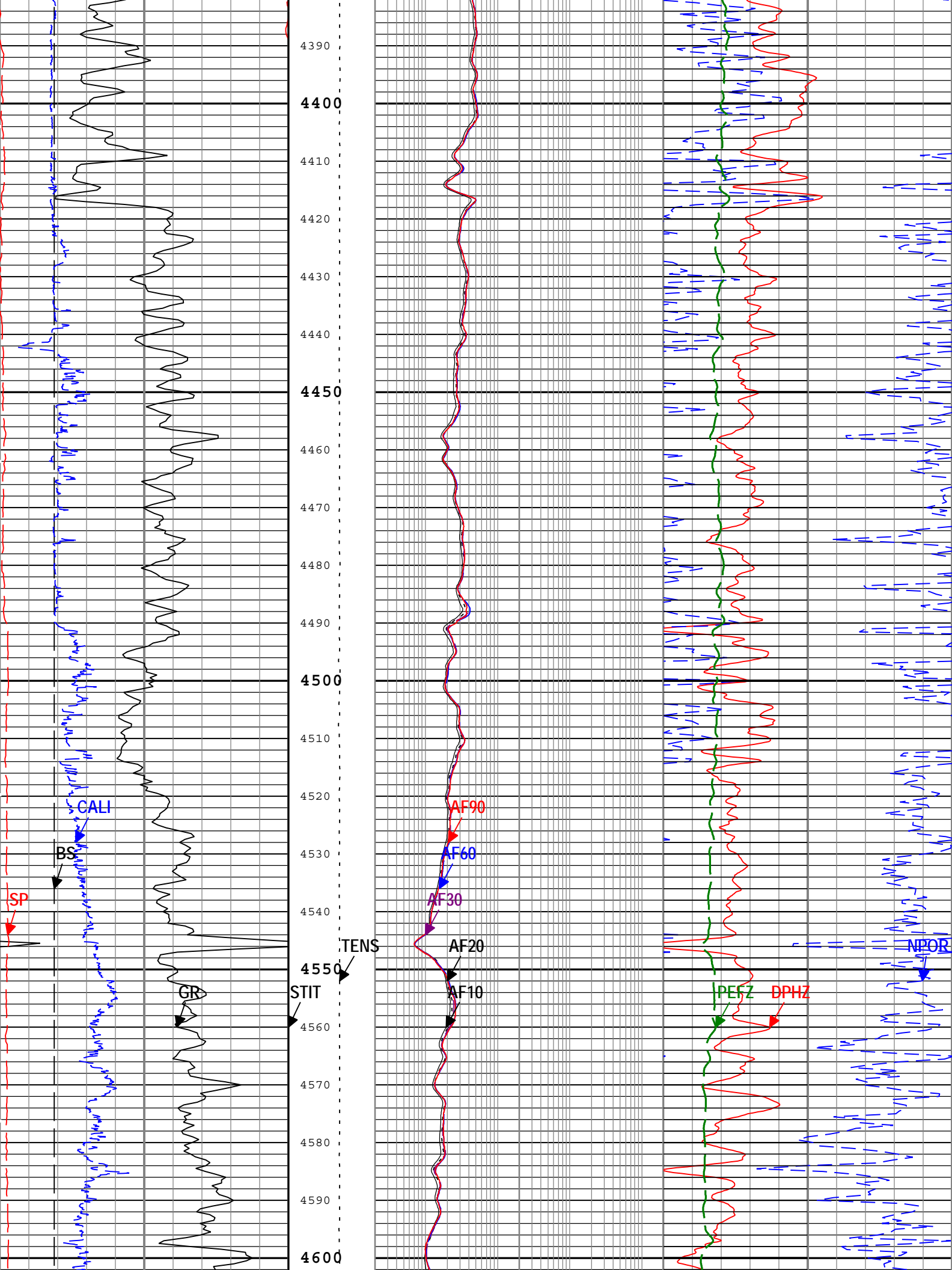


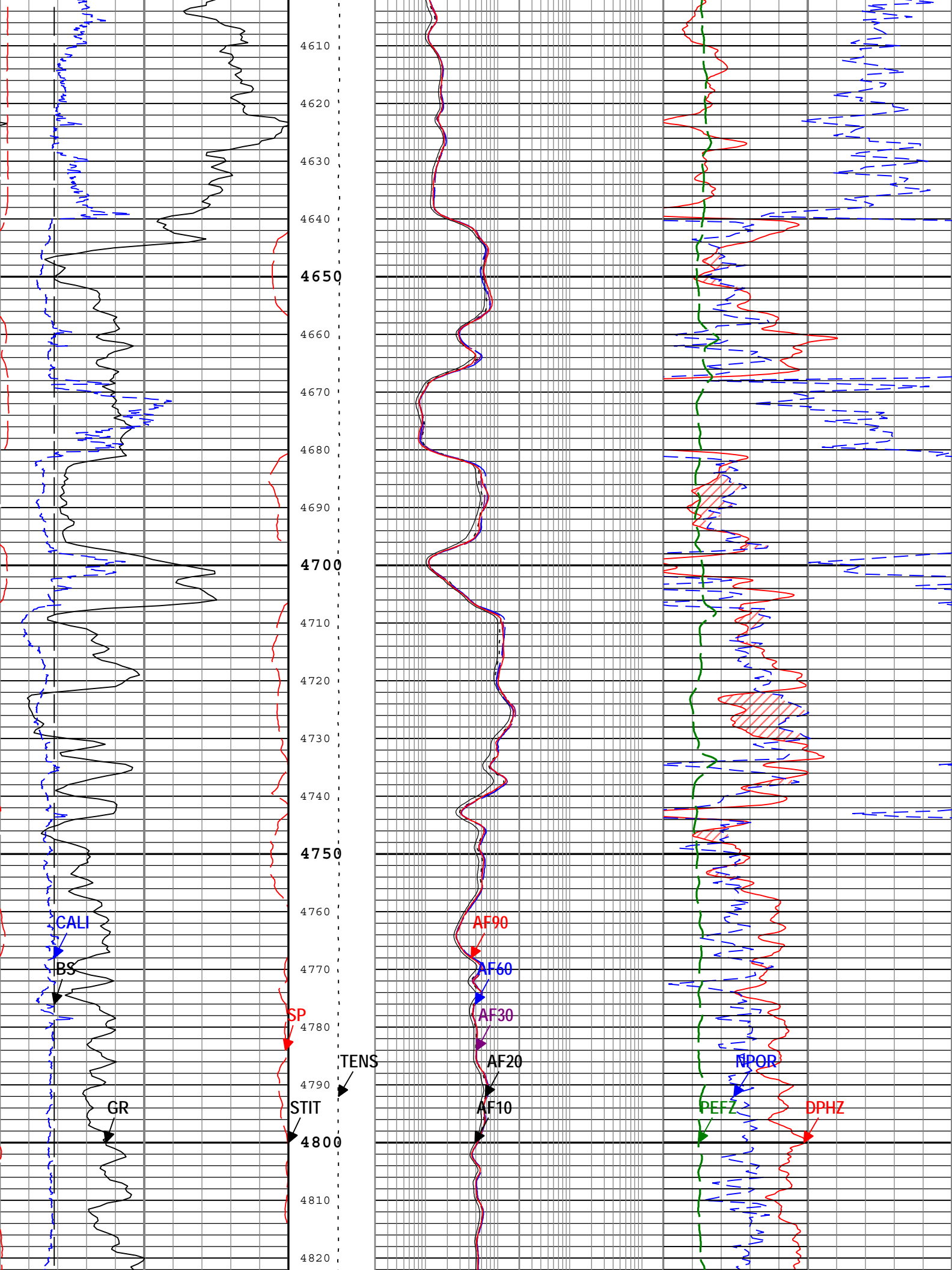


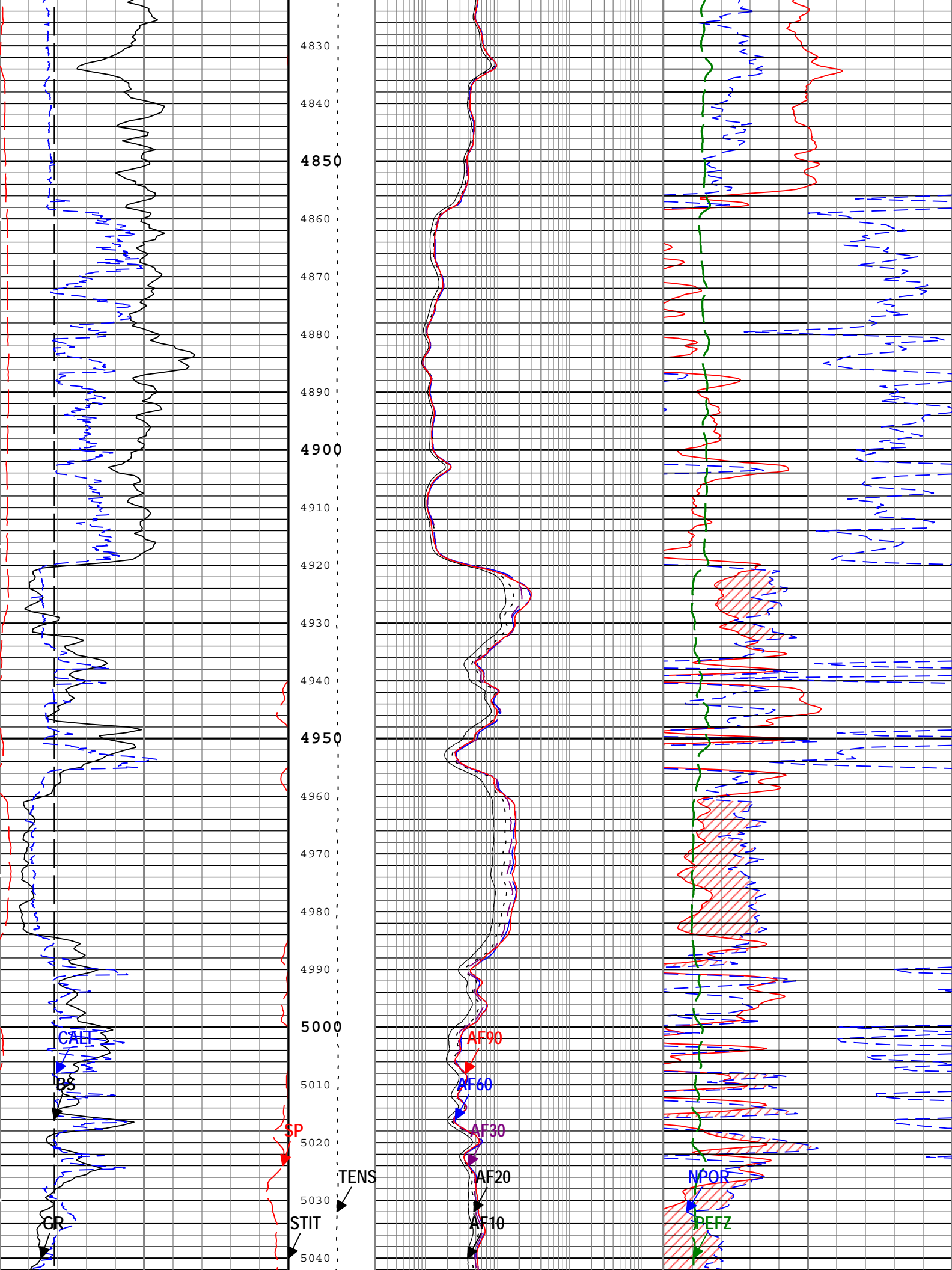


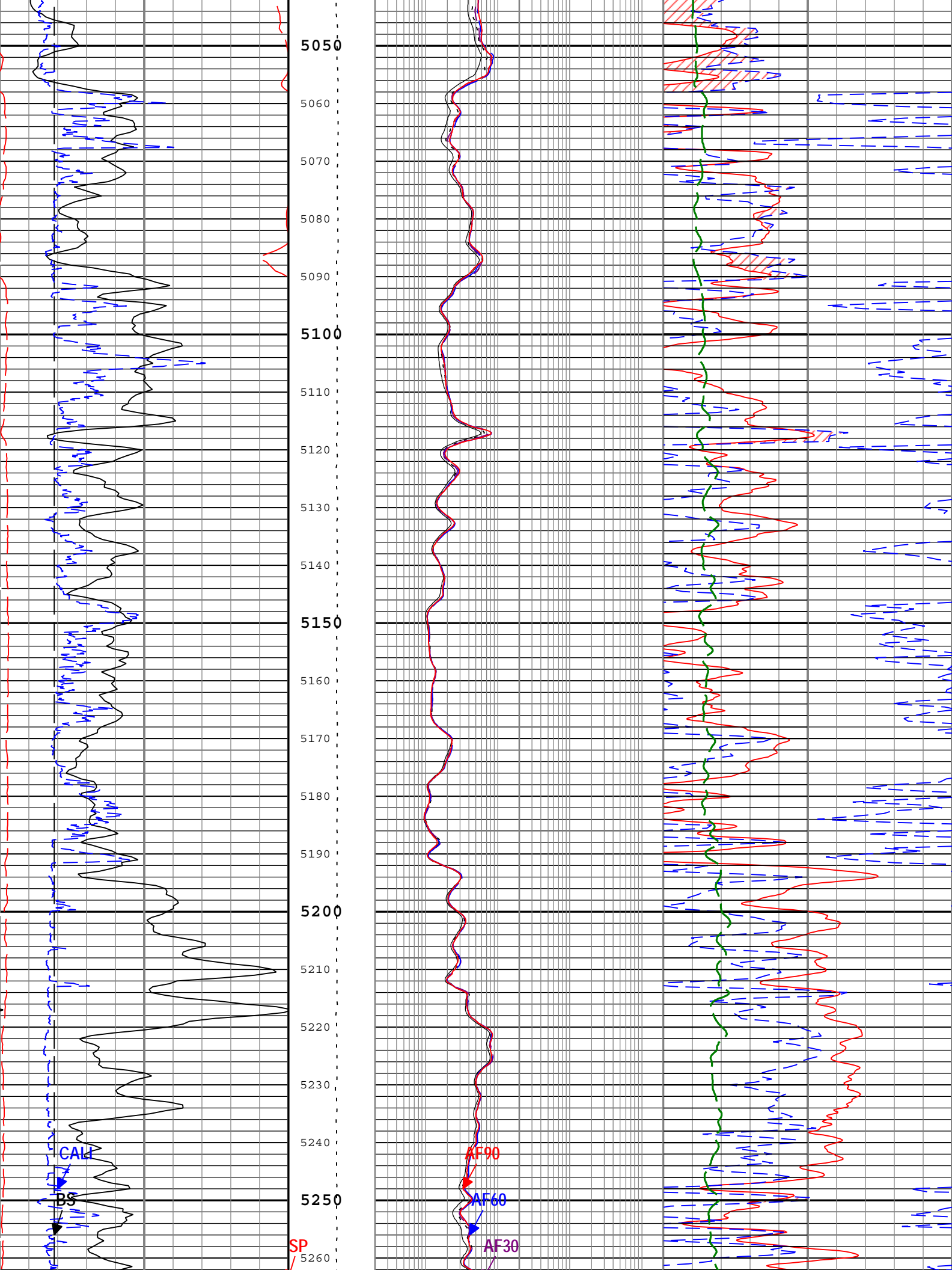


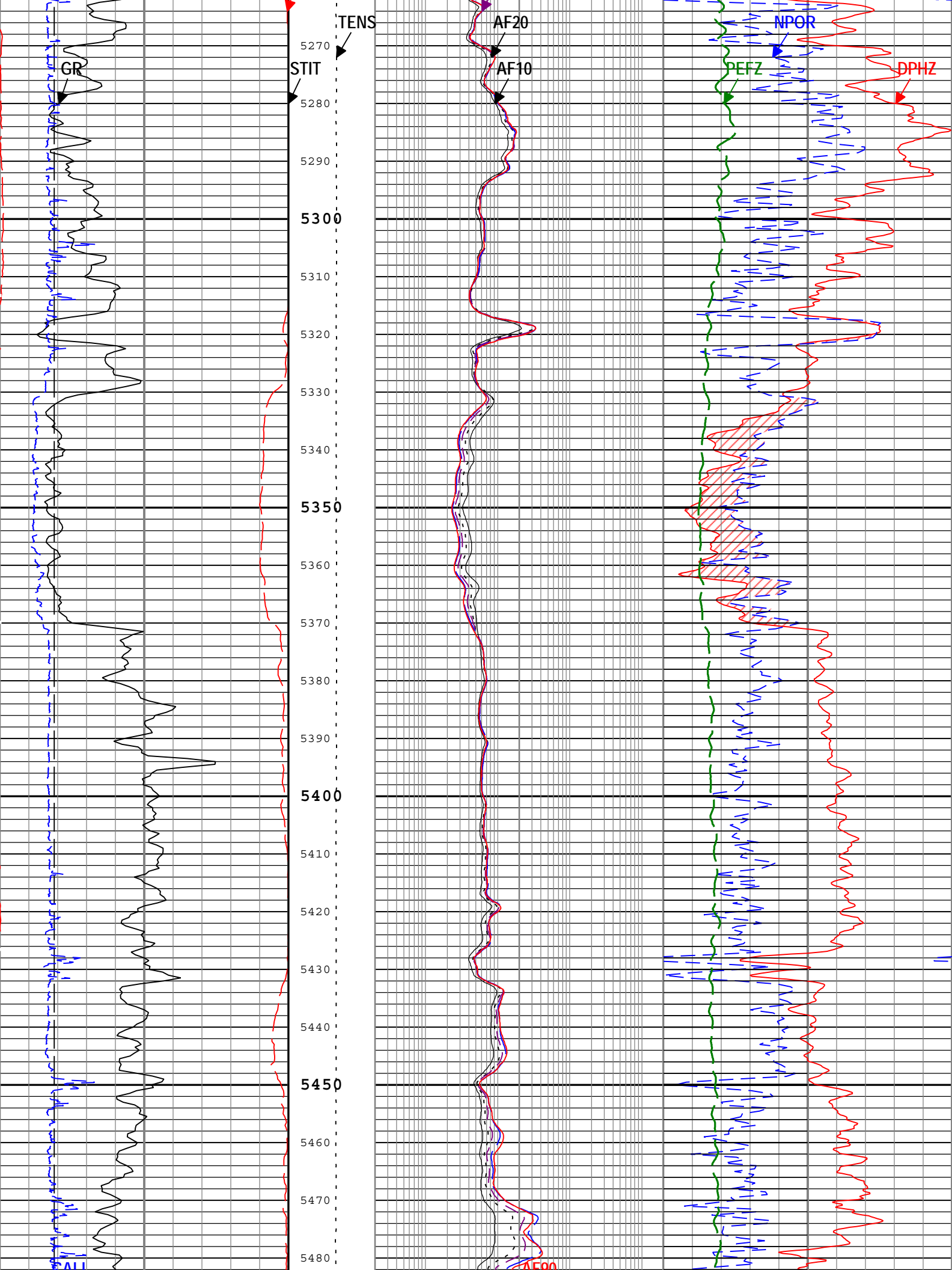


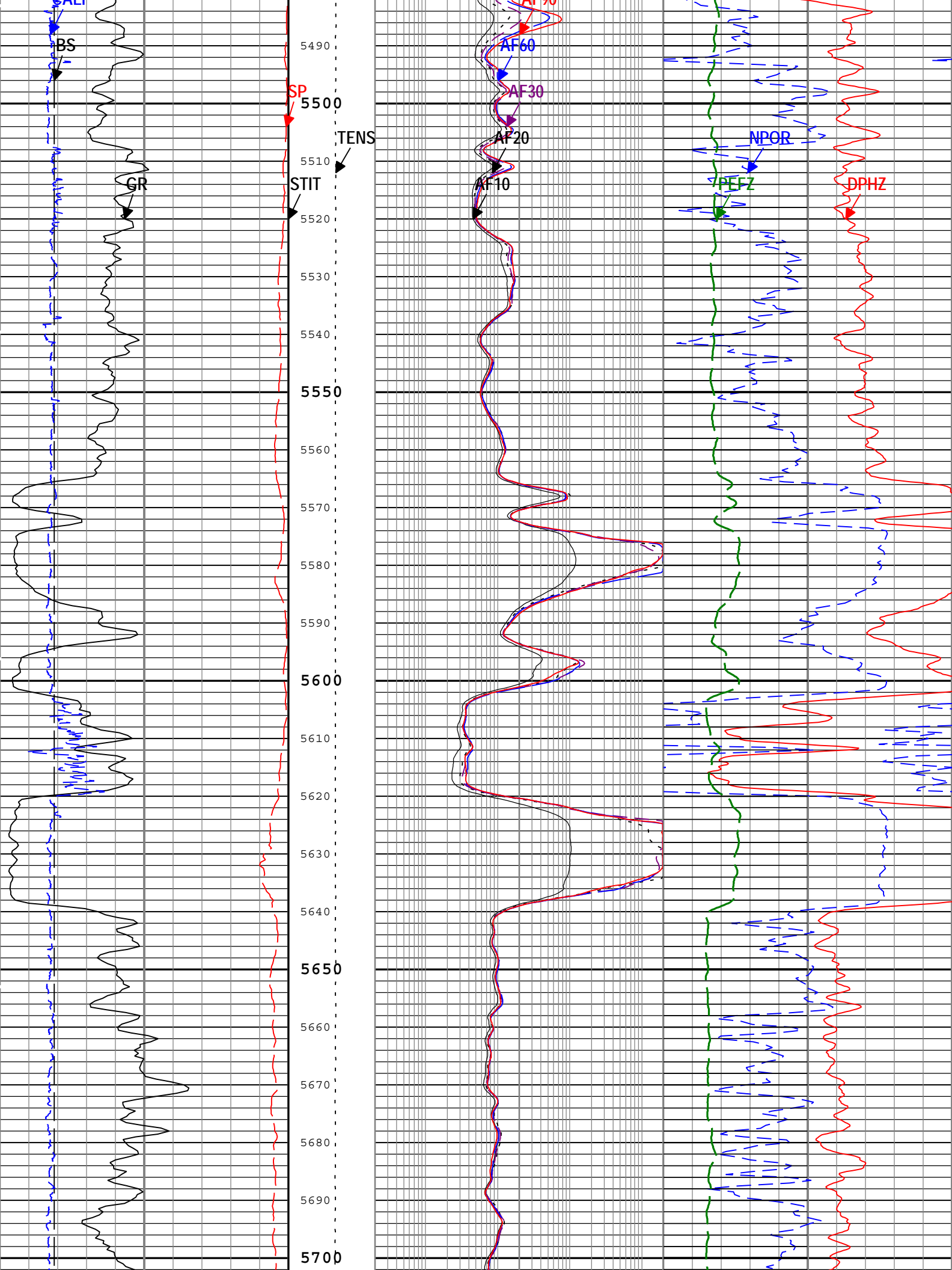


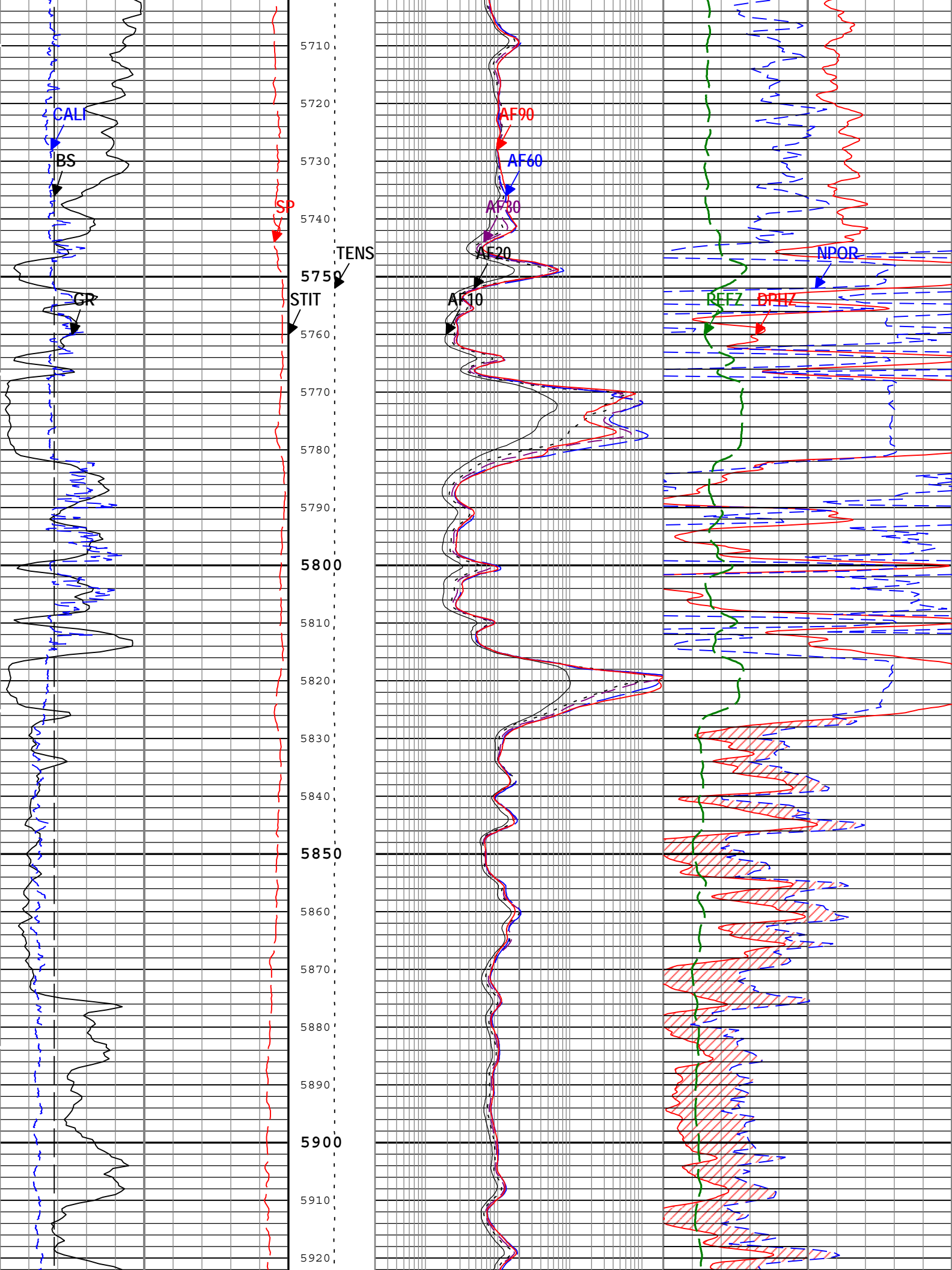


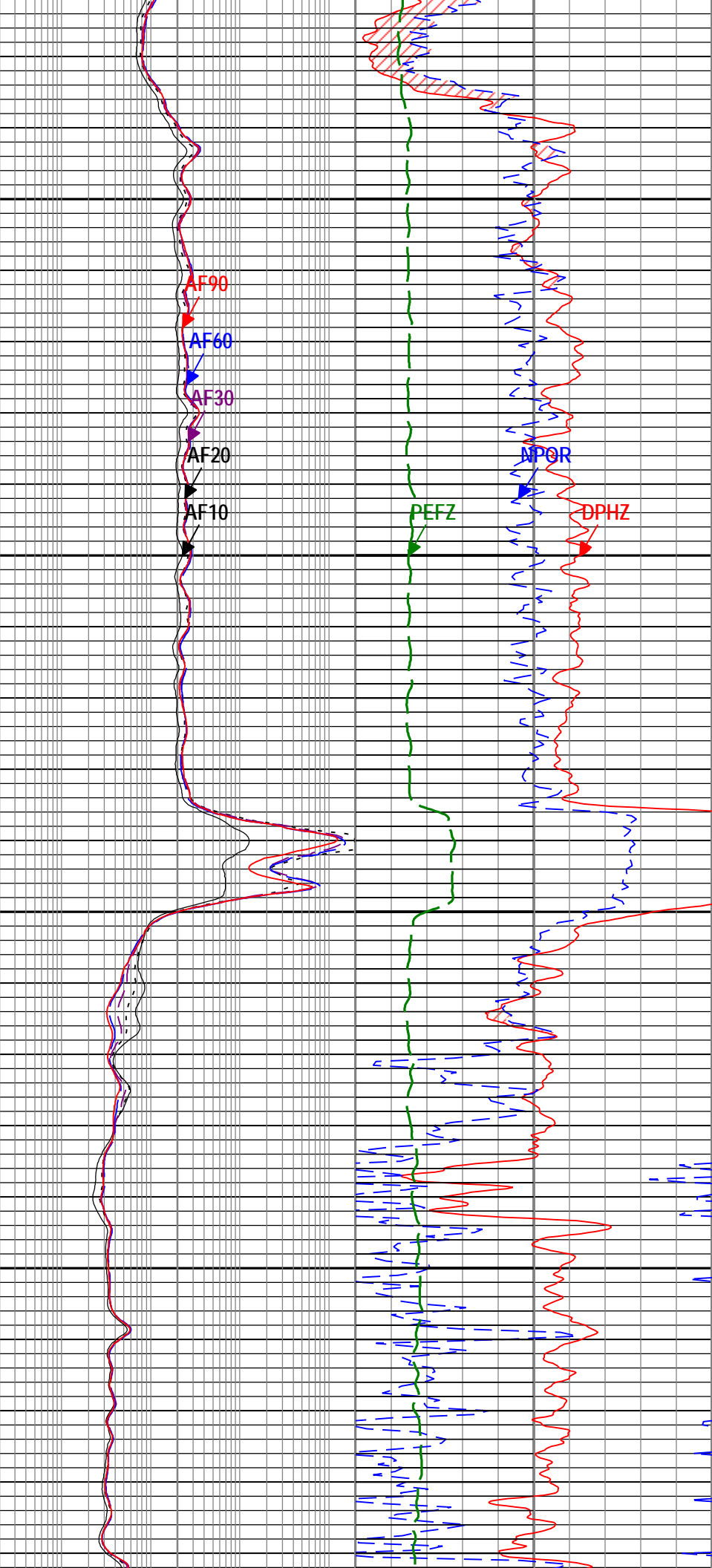
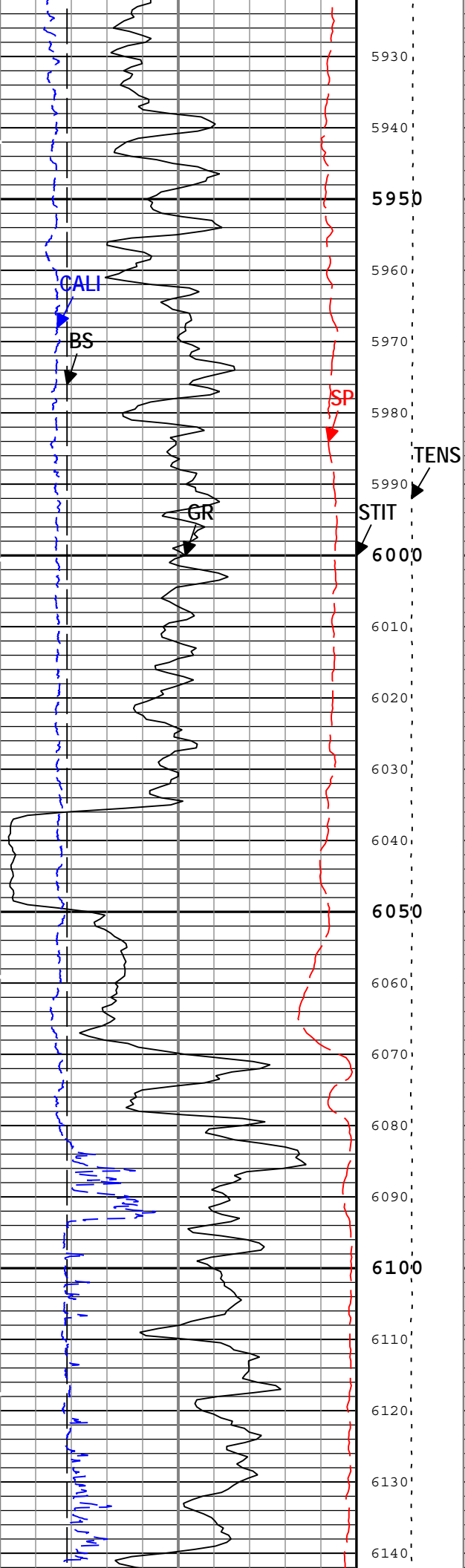


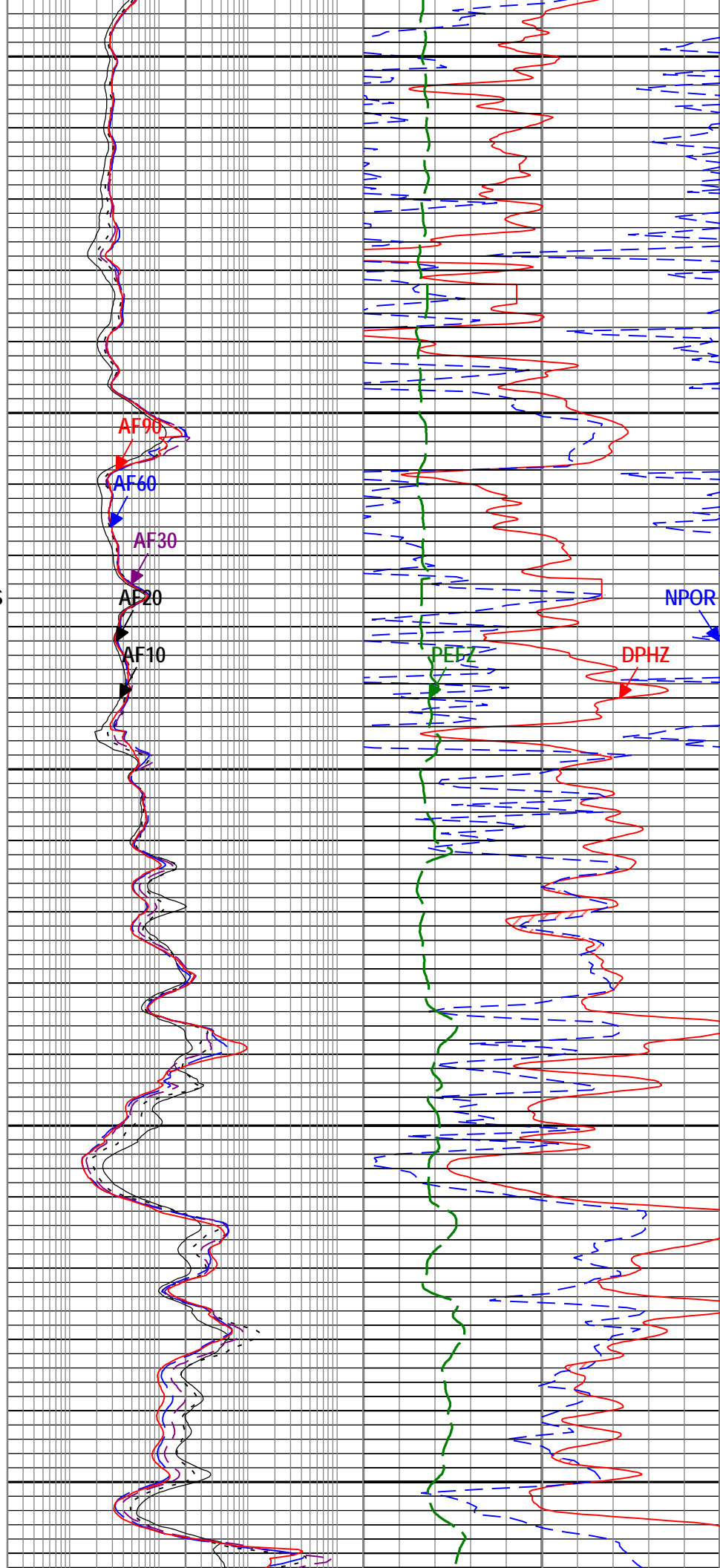
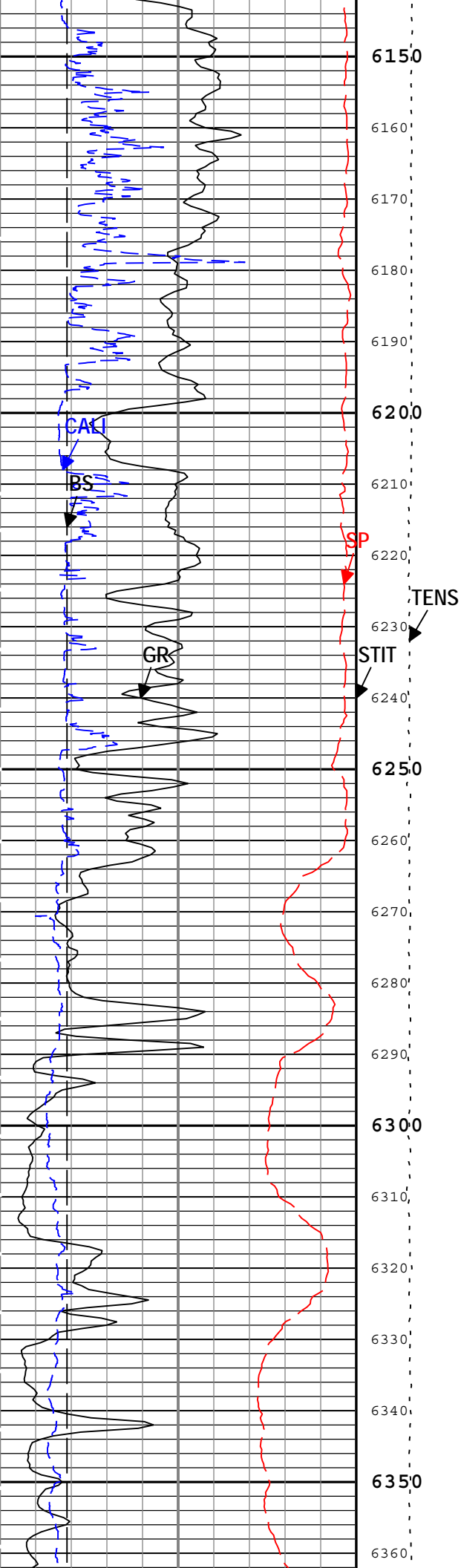


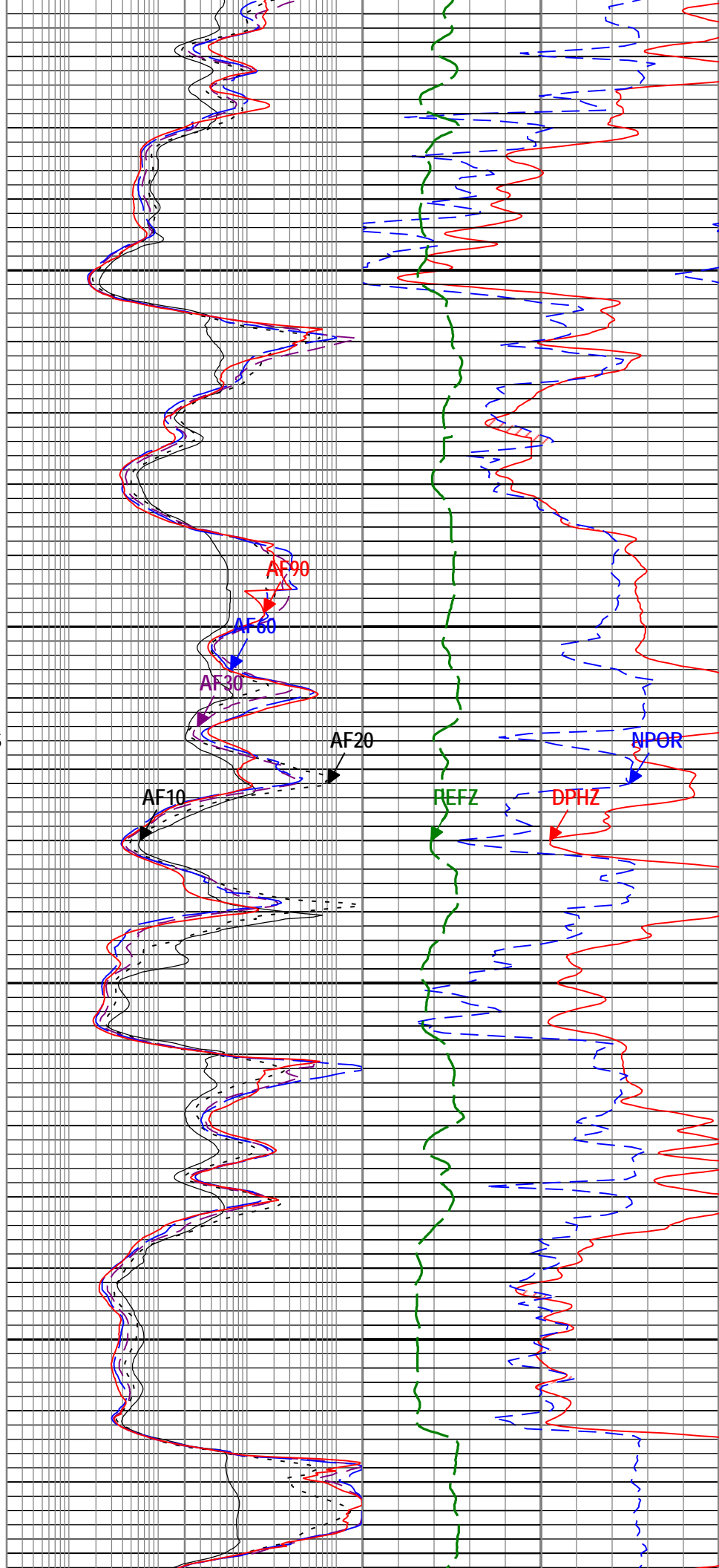
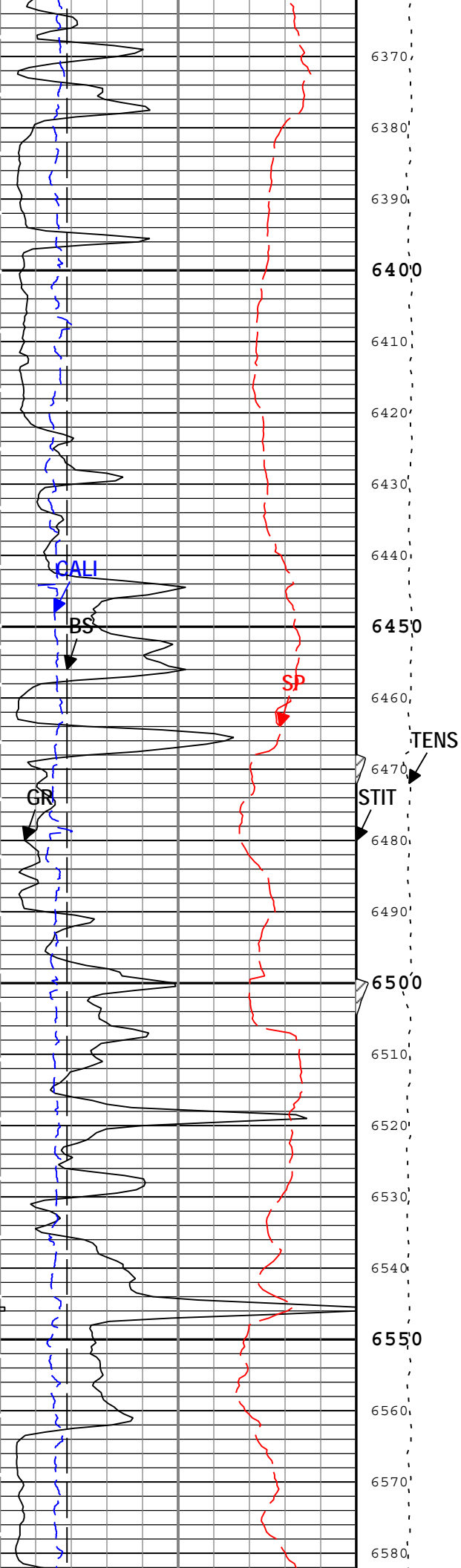


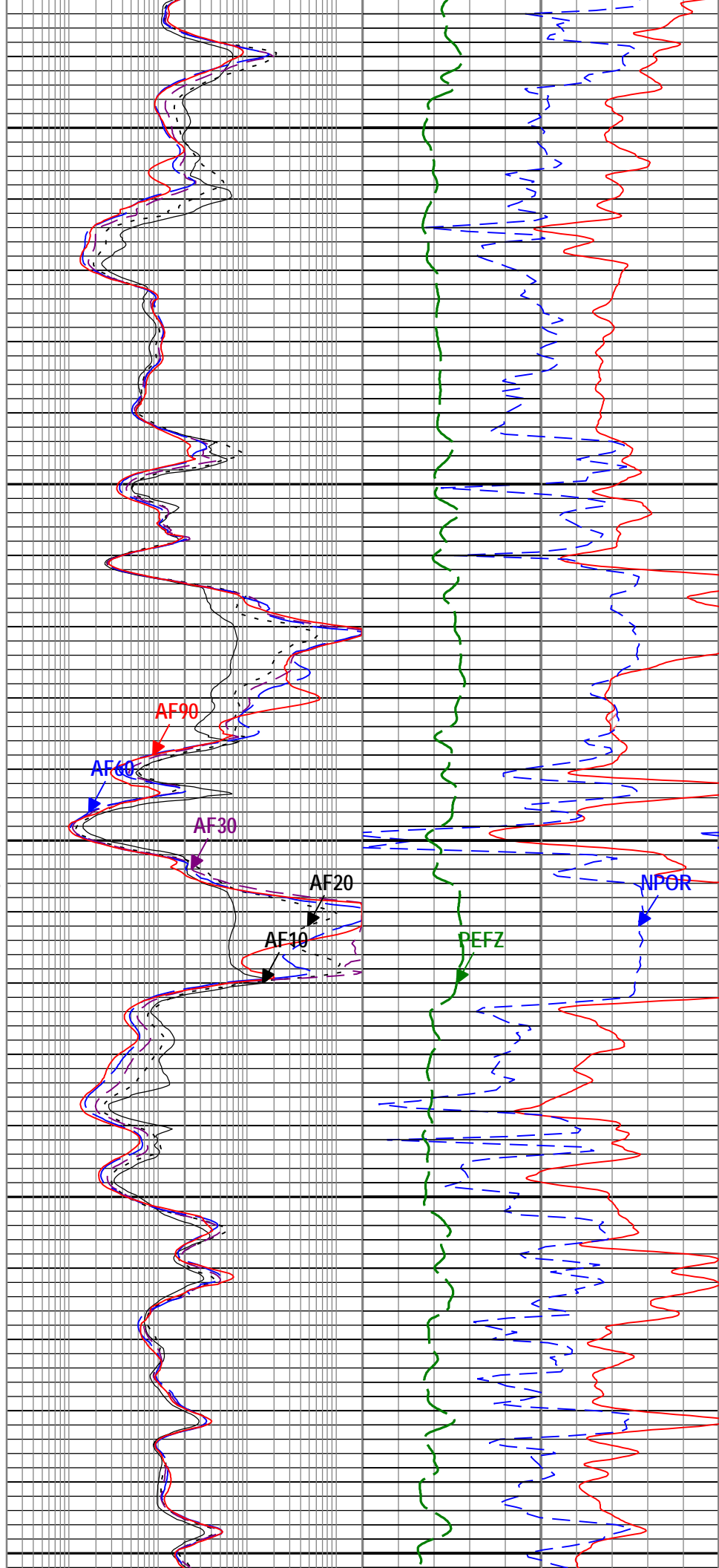
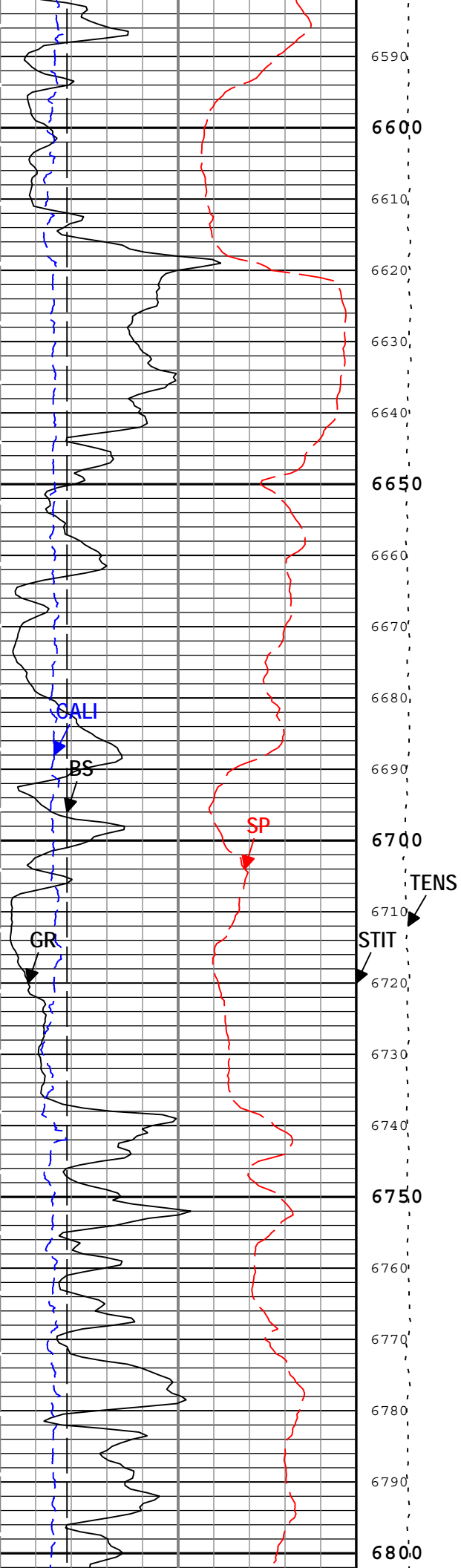


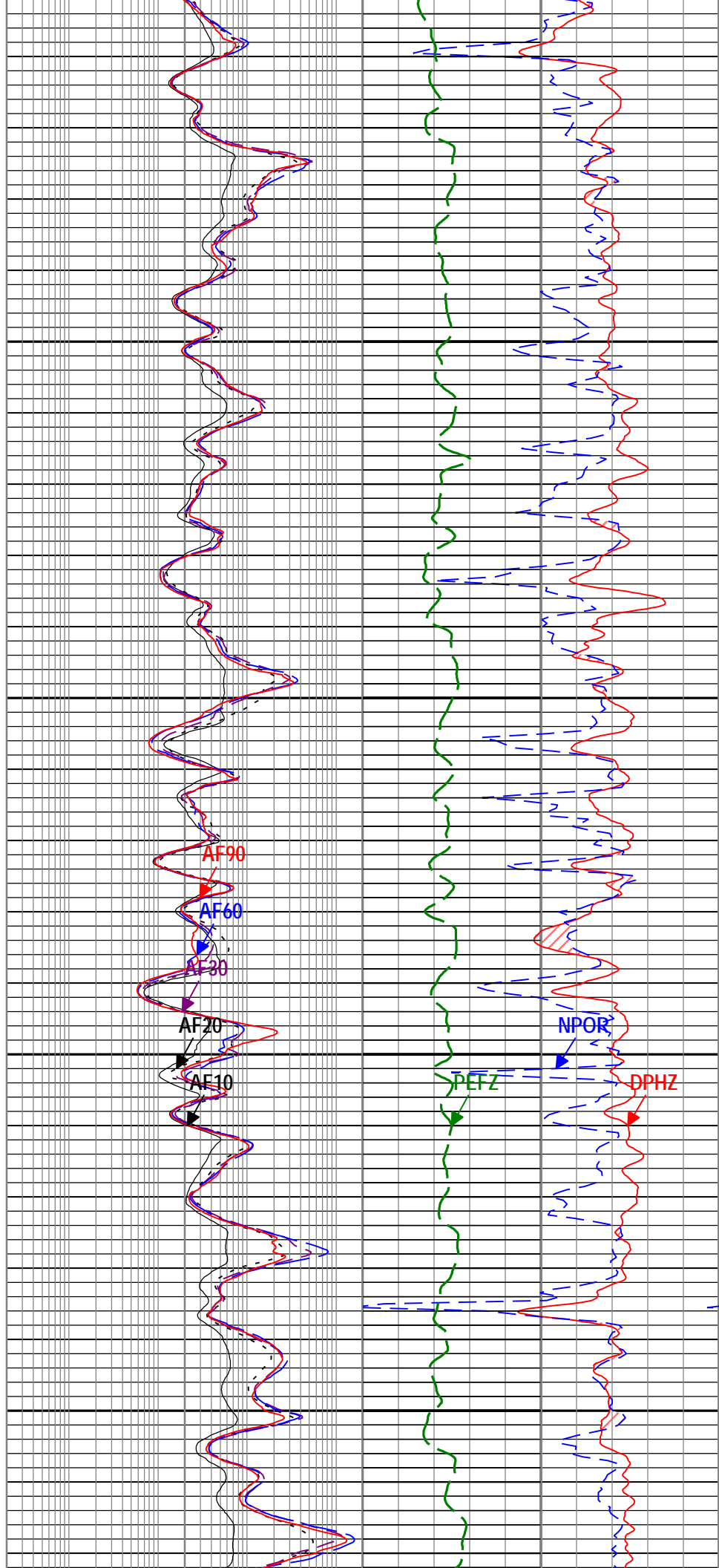
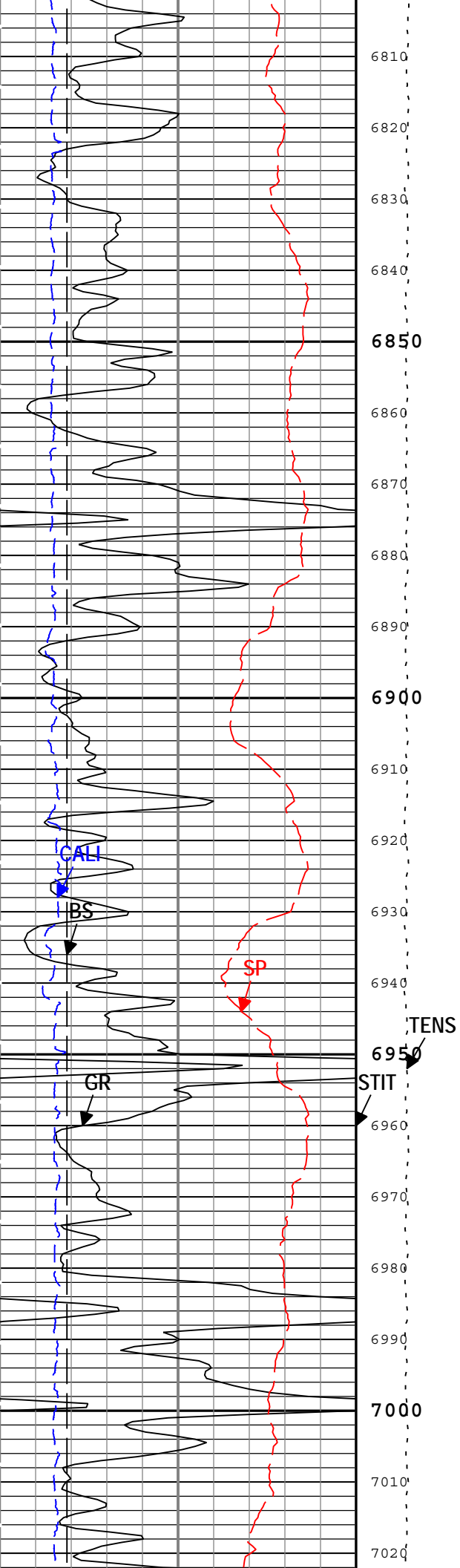


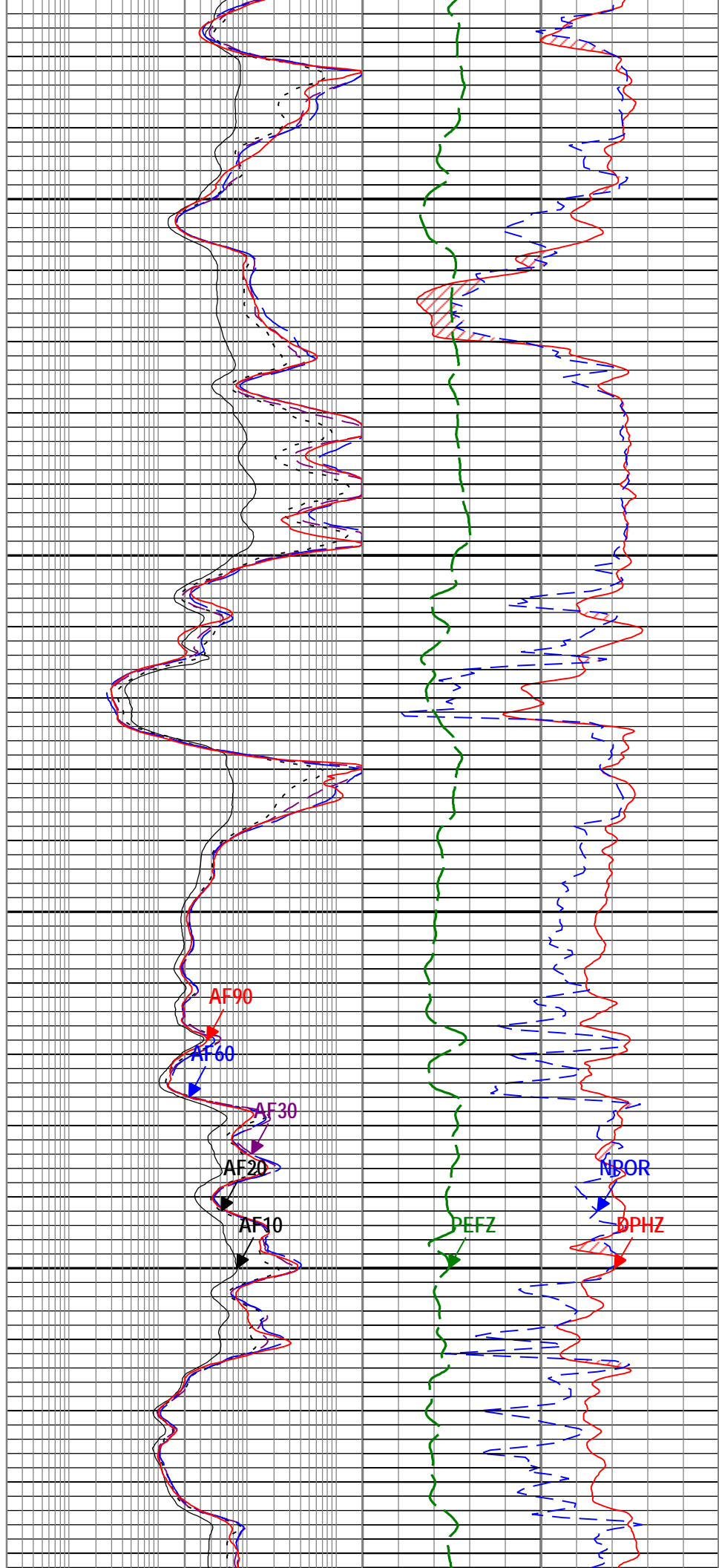
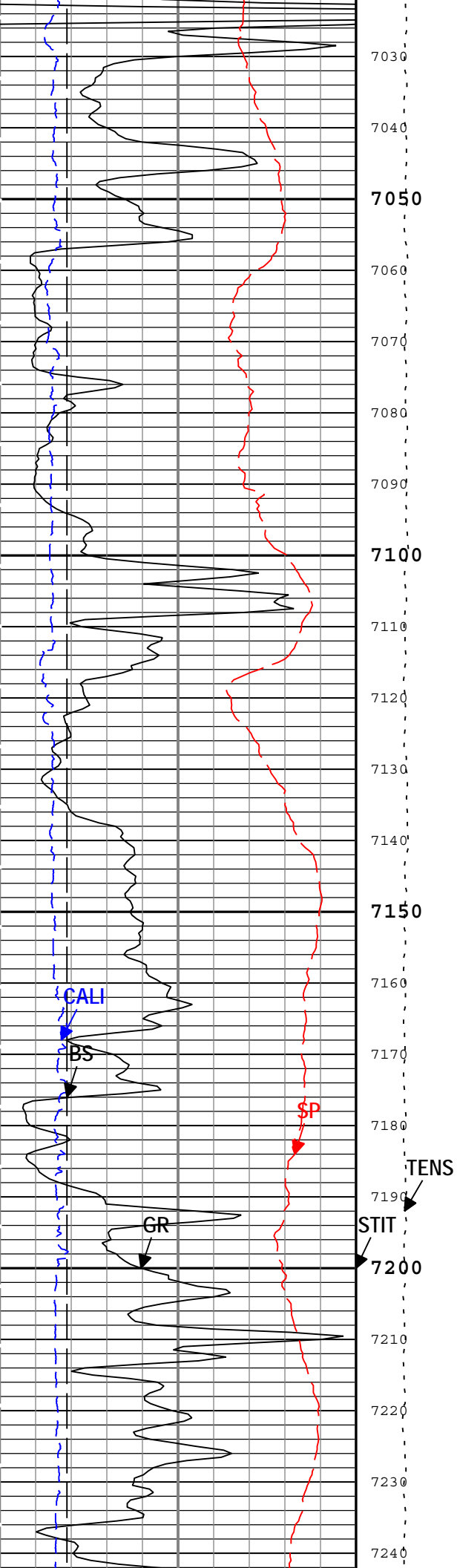


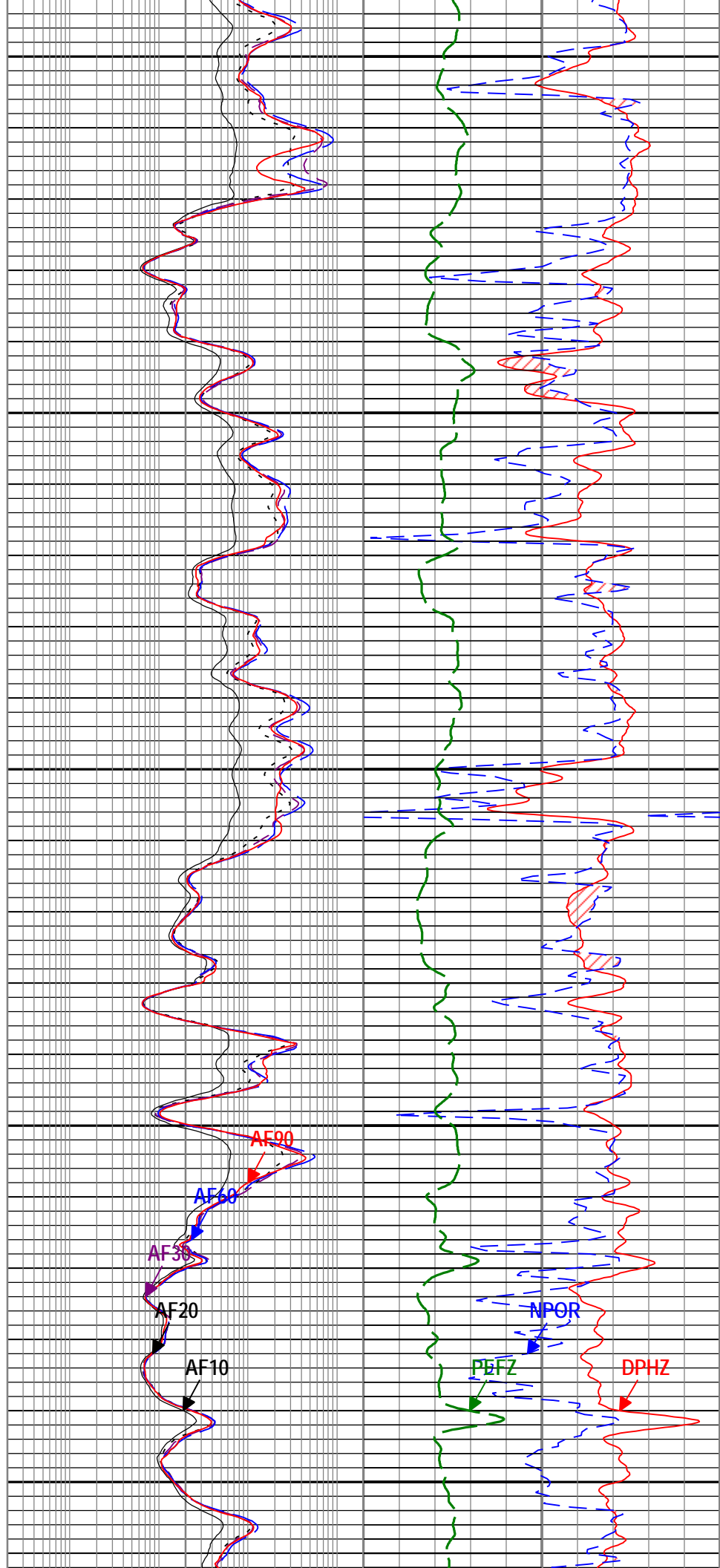
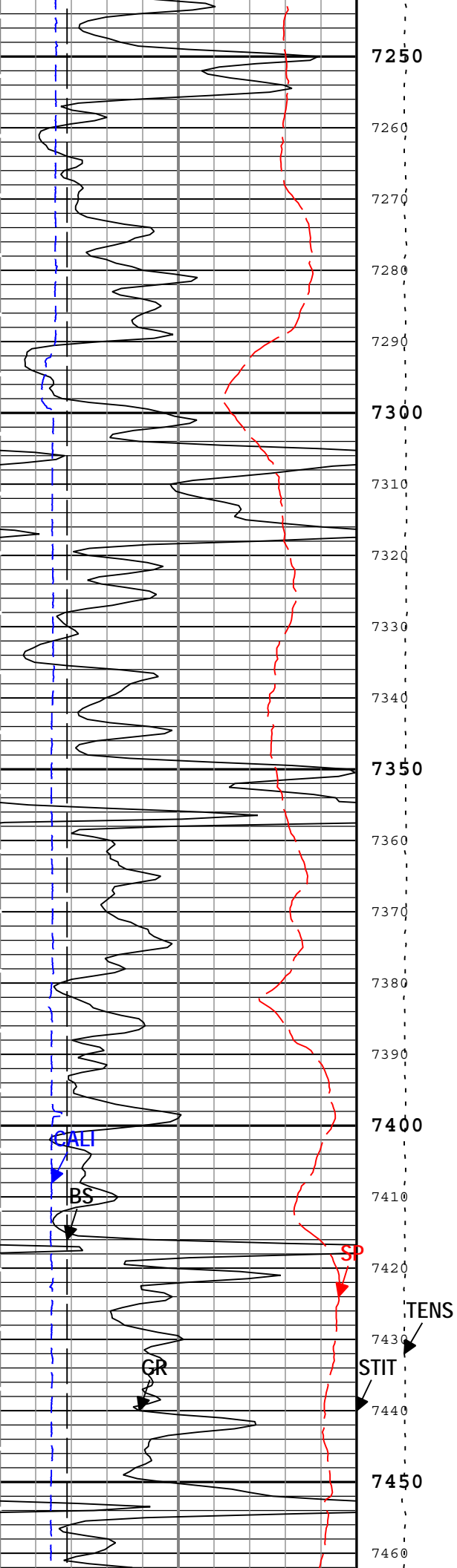


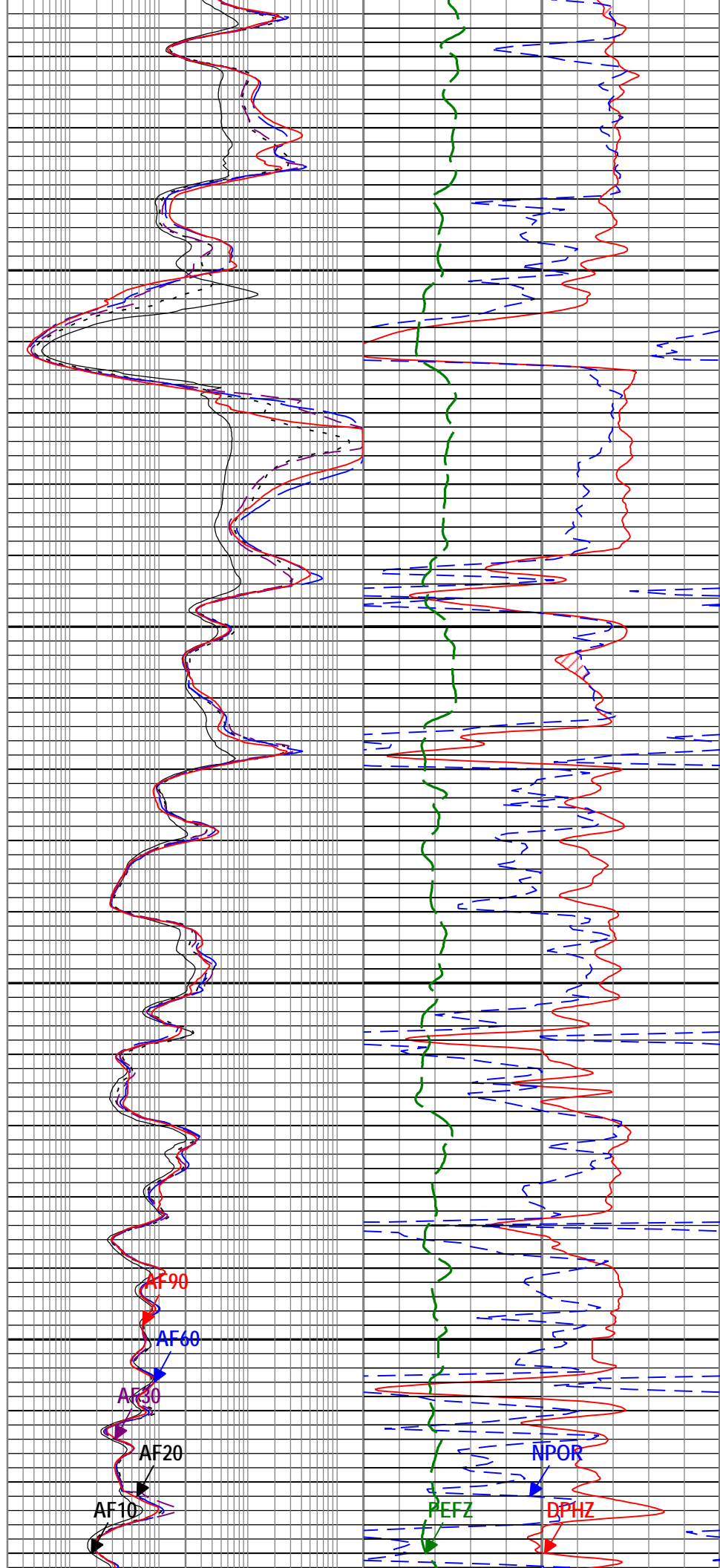
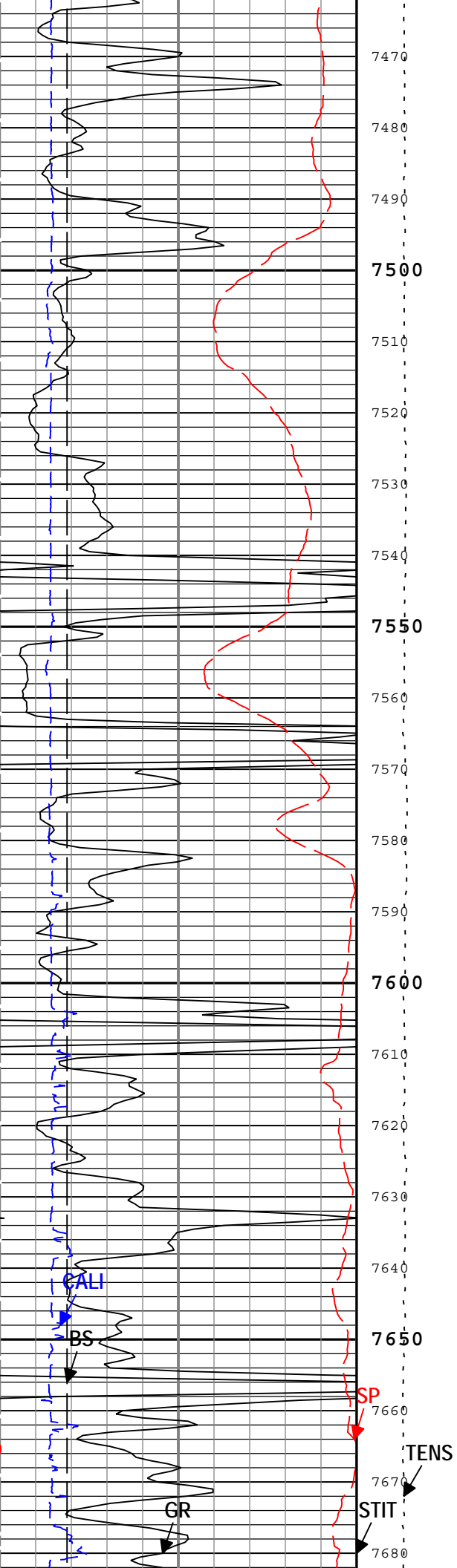


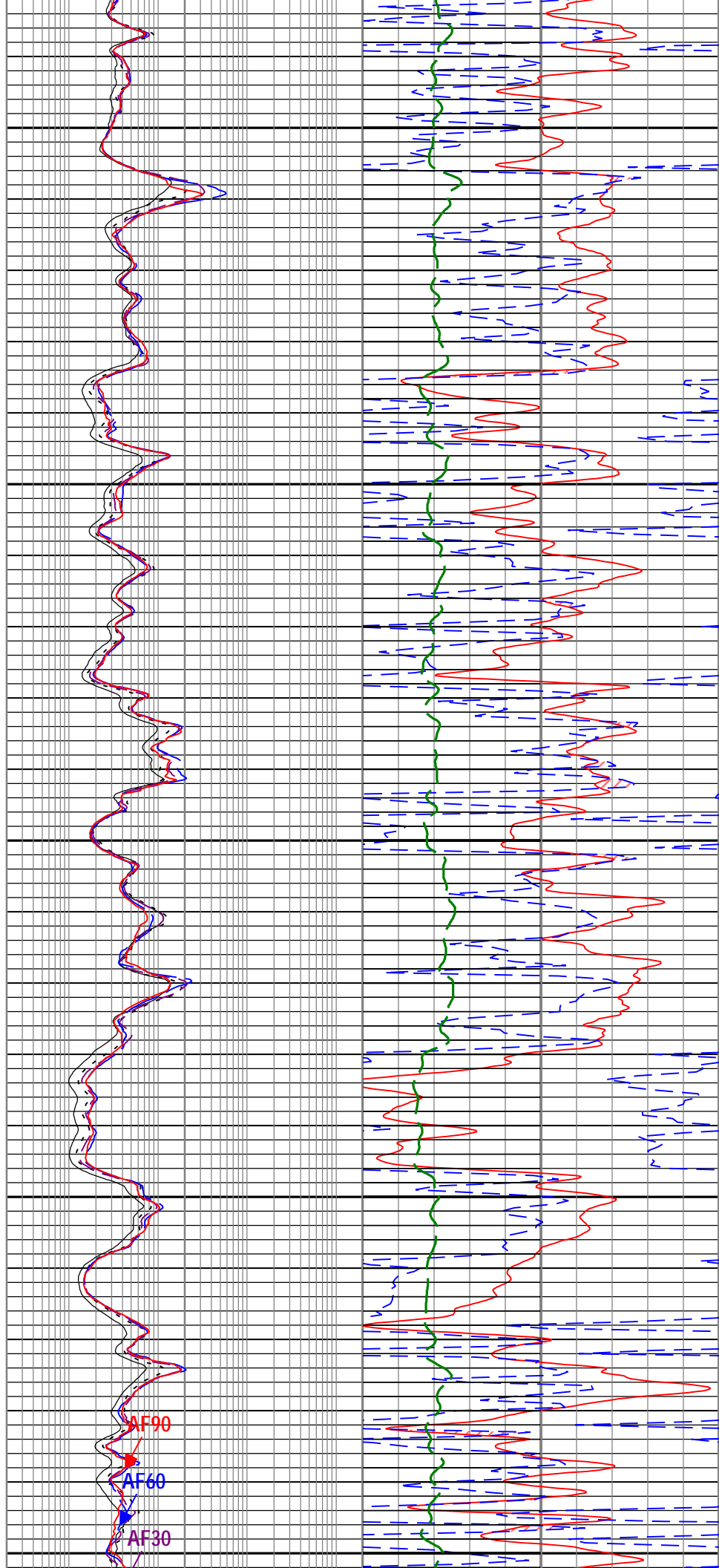
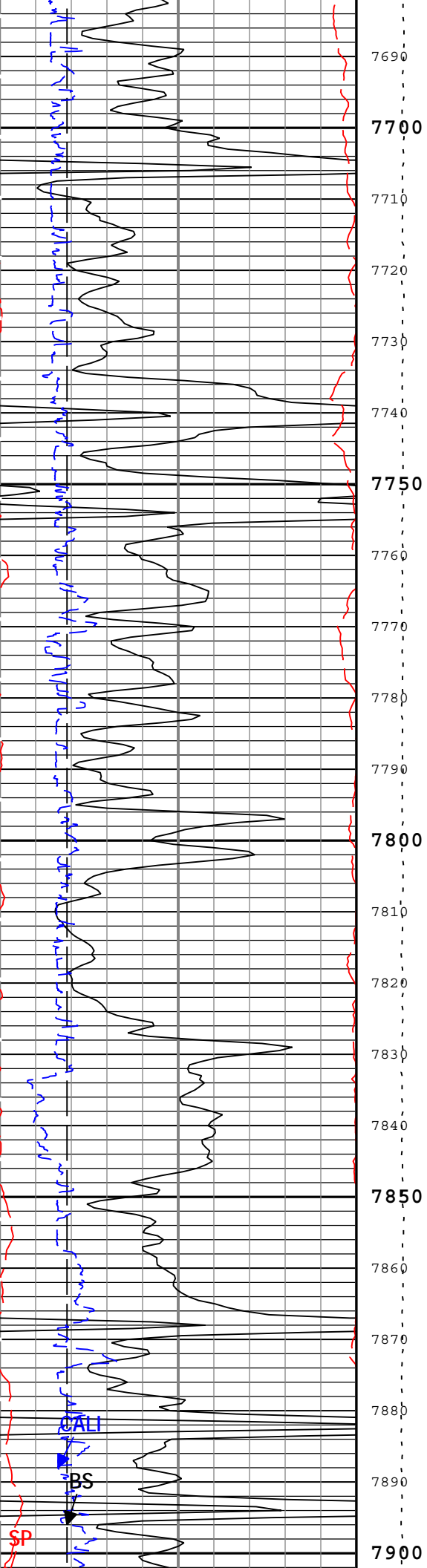


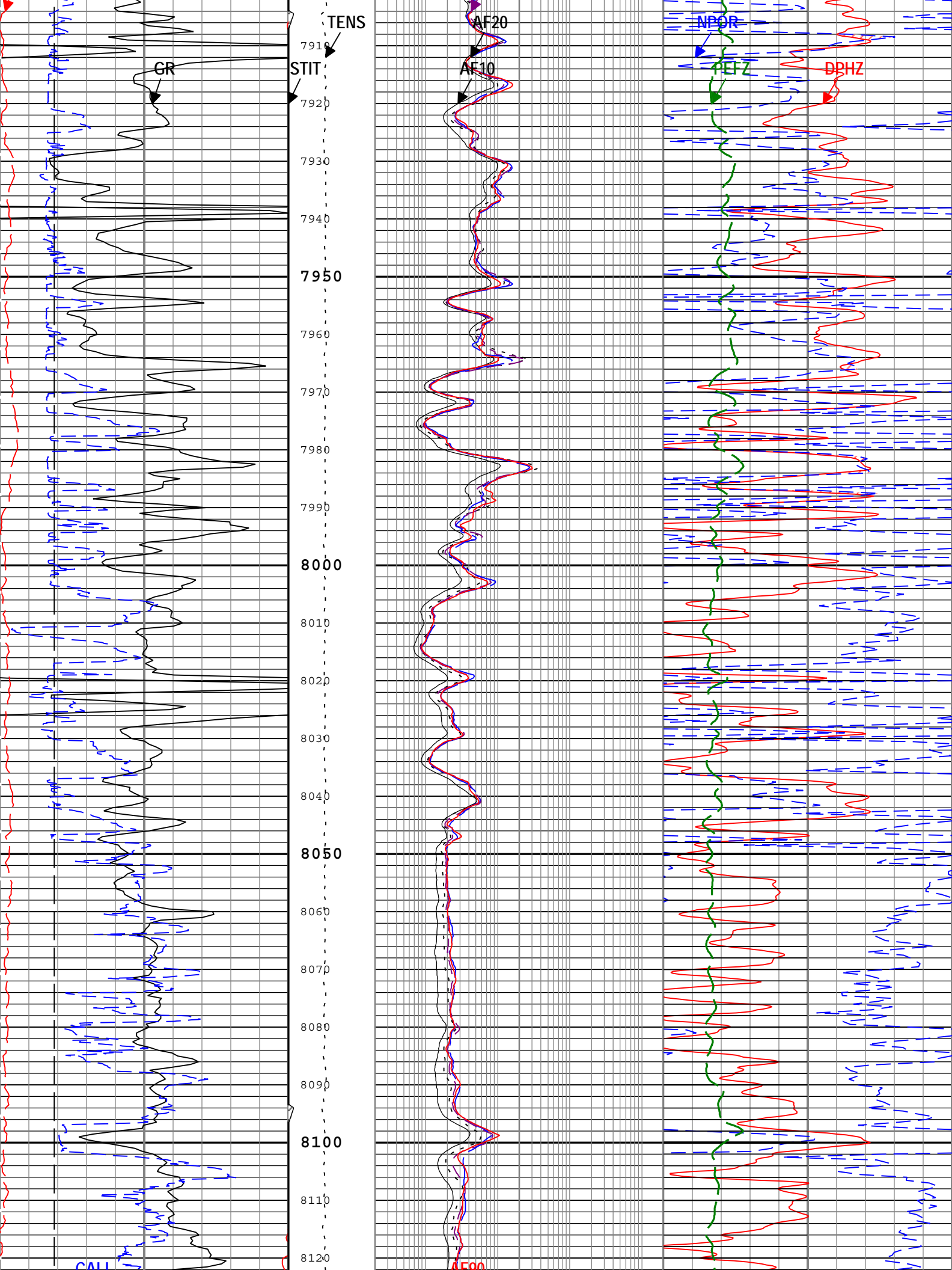


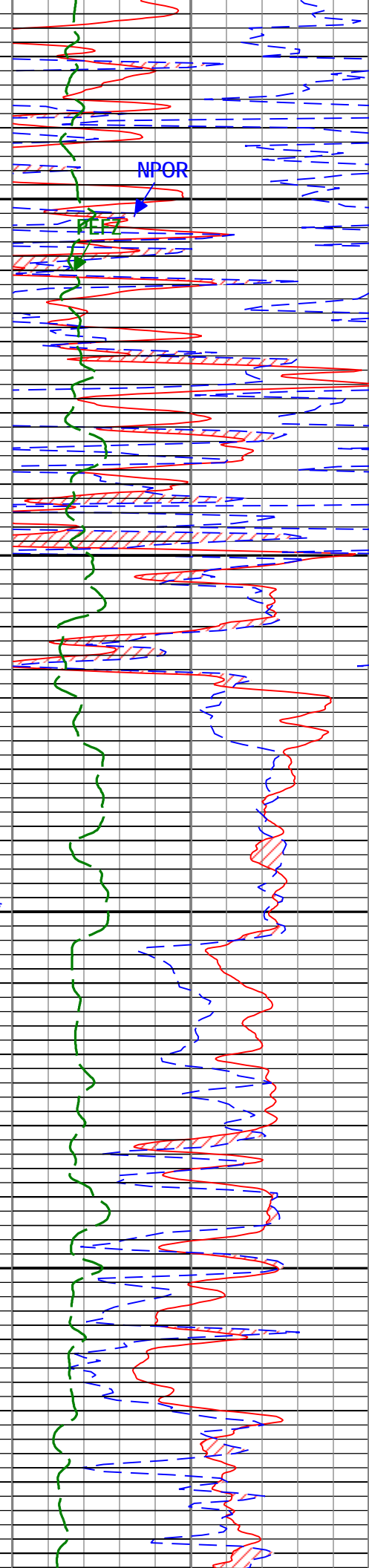
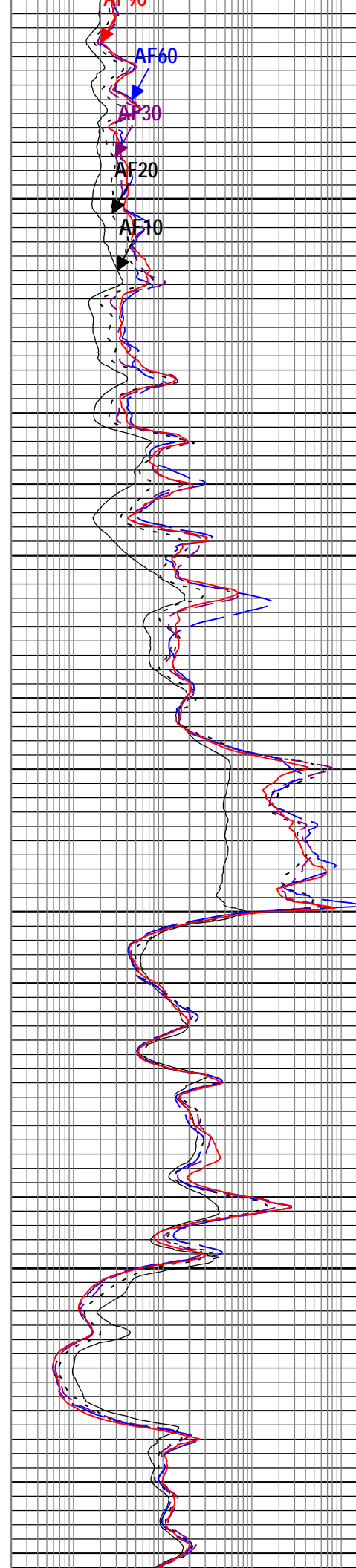
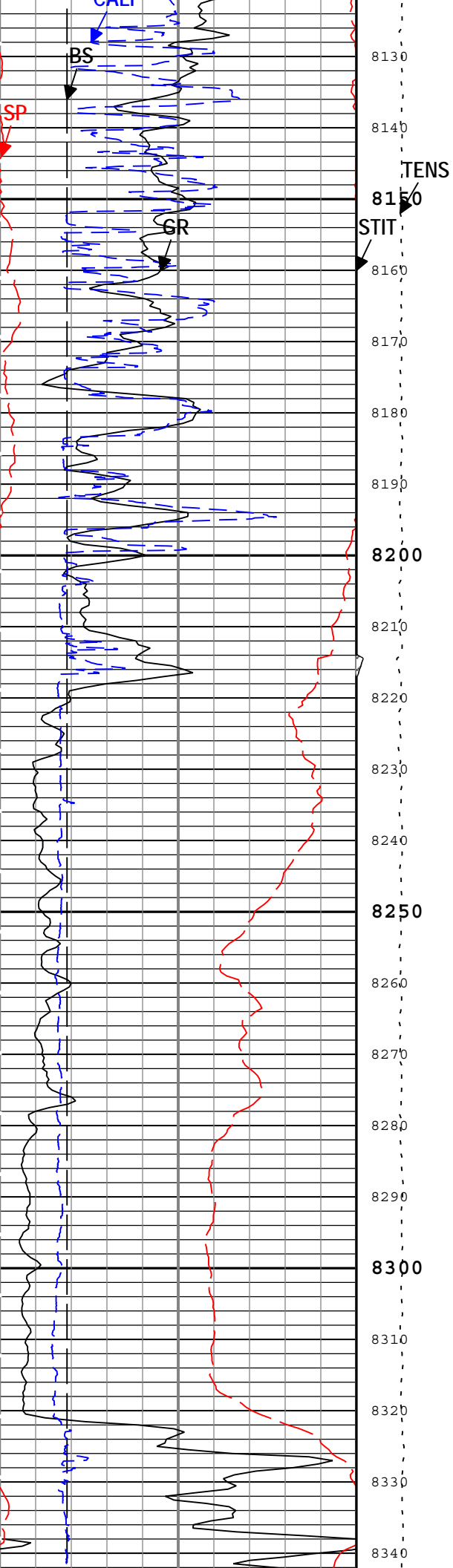


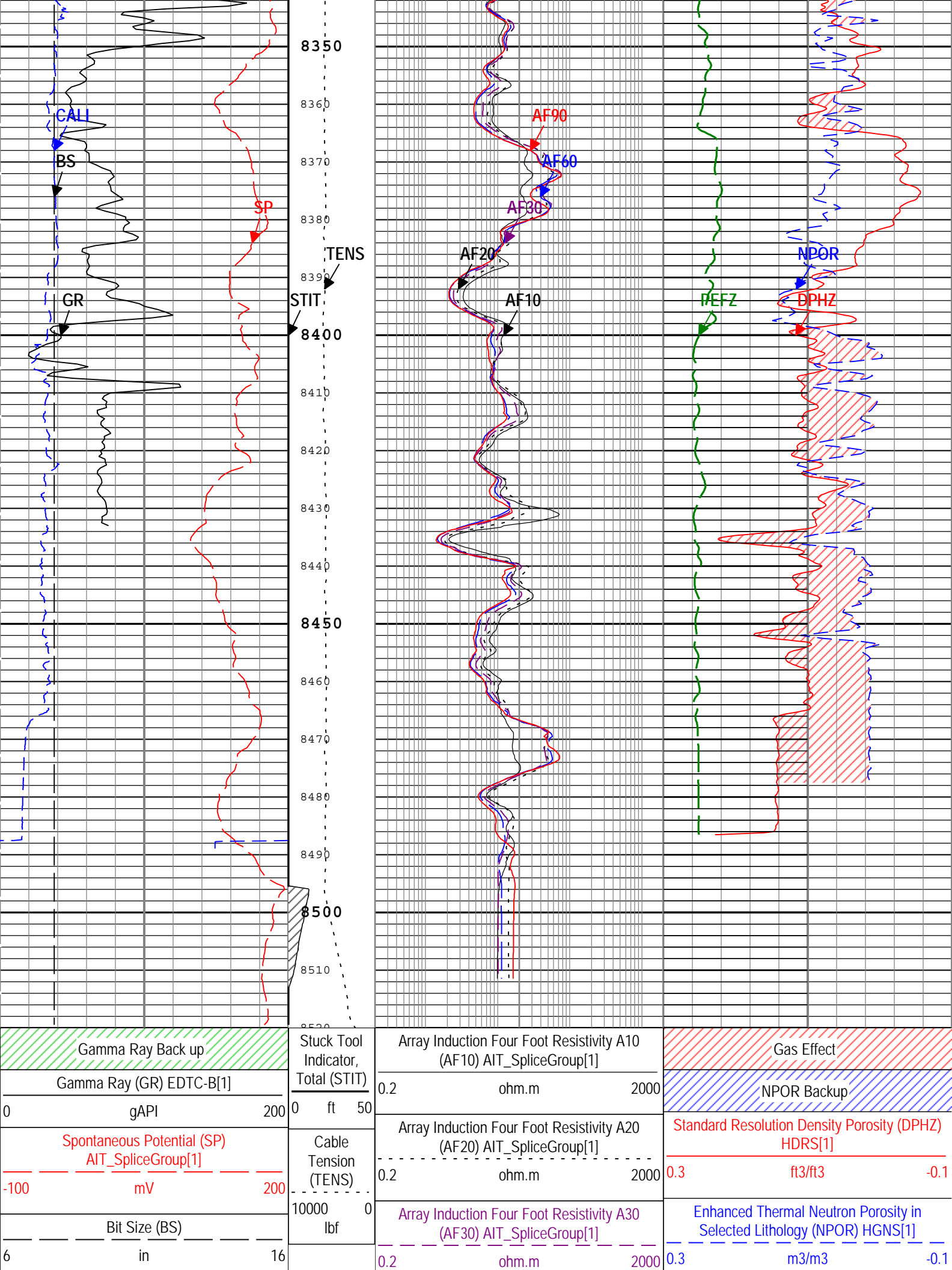












Caliper (CALI) HDRS[1]		Array Induction Four Foot Resistivity A60 (AF60) AIT_SpliceGroup[1]	Standard Resolution Formation Photoelectric Factor (PEFZ) HDRS[1]
6 in 16		0.2 ohm.m 2000	0 10
		Array Induction Four Foot Resistivity A90 (AF90) AIT_SpliceGroup[1]	
		0.2 ohm.m 2000	

TIME_1900 - Time Marked every 60.00 (s)

Description: HGNS standard resolution porosities for Platform Express Format: Log (EMD 5in Triple Combo Linear) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 22-Dec-2014 22:36:11

Channel Processing Parameters

Run 1: Parameters

Parameter	Description	Tool	Value	Unit
ABHM	Array Induction Borehole Correction Mode	AIT-M	Compute Standoff	
ACDE	Array Induction Casing Detection Enable	AIT-M	Yes	
BARI	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Open	
BHT	Bottom Hole Temperature	Borehole	196.39	degF
BS	Bit Size	WLSESSION	Depth Zoned	in
BSAL	Borehole Salinity	Borehole	0	ppm
CALI_SHIFT	CALI Supplementary Offset	HDRS-H	0	in
CBLO	Casing Bottom (Logger)	WLSESSION	453.5	ft
CDEN	Cement Density	EDTC-B	2	g/cm3
DFD	Drilling Fluid Density	Borehole	10	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	
DFT_WATER	Drilling Fluid Water Type	Borehole	WBM	
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	LIMESTONE	
MDEN	Matrix Density for Density Porosity	Borehole	2.71	g/cm3
MFST	Mud Filtrate Sample Temperature	Borehole	59.3	degF
NPRM	HRDD Nuclear Processing Mode	HDRS-H	Time Zoned	
RMFS	Resistivity of Mud Filtrate Sample	Borehole	0.9	ohm.m
SOCO.1	Standoff Correction Option	HGNS-H	Yes	
SPDR	SP Drift Per Foot	AIT-M	0	mV/ft
TD	Total Measured Depth	Borehole	8497	ft

Run 1Depth Zoned Parameters

Parameter	Value	Start (ft)	Stop (ft)
BS	12.25	14.5	455
BS	7.875	455	8497

All depth are actual.

Run 1Time Zoned Parameters

Pass Main[11]:Up

Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
NPRM	Very High Resolution	22-Dec-2014 09:24:22	22-Dec-2014 11:04:35	8519.91	7679.26

Pass Main[12]:Up

NPRM	Very High Resolution	22-Dec-2014 11:37:20	22-Dec-2014 14:33:39	7920.79	6452.9
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Pass Main[13]:Up

NPRM	Very High Resolution	22-Dec-2014 14:40:47	22-Dec-2014 15:20:54	6581.98	6252.64
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Pass Main[14]:Up

NPRM	Very High Resolution	22-Dec-2014 15:27:04	22-Dec-2014 15:50:36	6407.59	6211.31
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Pass Main[15]:Up

NPRM	Standard Resolution	22-Dec-2014 15:57:50	22-Dec-2014 18:16:00	6306.13	109.33
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All depth are at tool zero.

Tool Control Parameters

Run 1: 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	600	ft/h

Composite 2

5" Induction

Integration Summary

Output Channel(s)	Output Description	Input Parameter	Output Value	Unit
ICV	Integrated Cement Volume	GCSE_UP_PASS, GCSE_DOWN_PASS:Run 1, FCD	442.73	ft3
IHV	Integrated Hole Volume	GCSE_UP_PASS, GCSE_DOWN_PASS:Run 1	861.47	ft3

Software Version

Acquisition System		Version
MaxWell		4.0.9163.3000
Application Patch		Patch-SP-10767_26570-4.0.9163.3001

Computation	Description	Version
Borehole	Borehole Ensemble provides common Borehole Parameters and Channels	4.0.9469.3000

Tool Elements	Description	Software Version	Firmware Version
HRCC-H	HILT High-Resolution Control Cartridge, 150 degC	4.0.9575.3000	2.0
AMIS	Array Induction Sonde - M	4.0.9535.3000	1
EDTC-B	Enhanced Digital Telemetry Cartridge - B	4.0.9469.3000	

Composite Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Run 1	Main[11]:Up	Up	7679.26 ft	8519.91 ft	22-Dec-2014 9:23:40 AM	22-Dec-2014 11:04:35 AM	ON	4.43 ft	No
Run 1	Main[12]:Up	Up	6452.90 ft	7920.79 ft	22-Dec-2014 11:37:01 AM	22-Dec-2014 2:33:39 PM	ON	5.99 ft	No
Run 1	Main[13]:Up	Up	6252.64 ft	6581.98 ft	22-Dec-2014 2:40:35 PM	22-Dec-2014 3:20:54 PM	ON	6.51 ft	No
Run 1	Main[14]:Up	Up	6211.31 ft	6407.59 ft	22-Dec-2014 3:26:53 PM	22-Dec-2014 3:50:36 PM	ON	7.03 ft	No

Run 1	Main[15]:Up	Up	109.33 ft	6306.13 ft	22-Dec-2014 3:57:32 PM	22-Dec-2014 6:16:00 PM	ON	6.25 ft	No
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All depths are referenced to toolstring zero

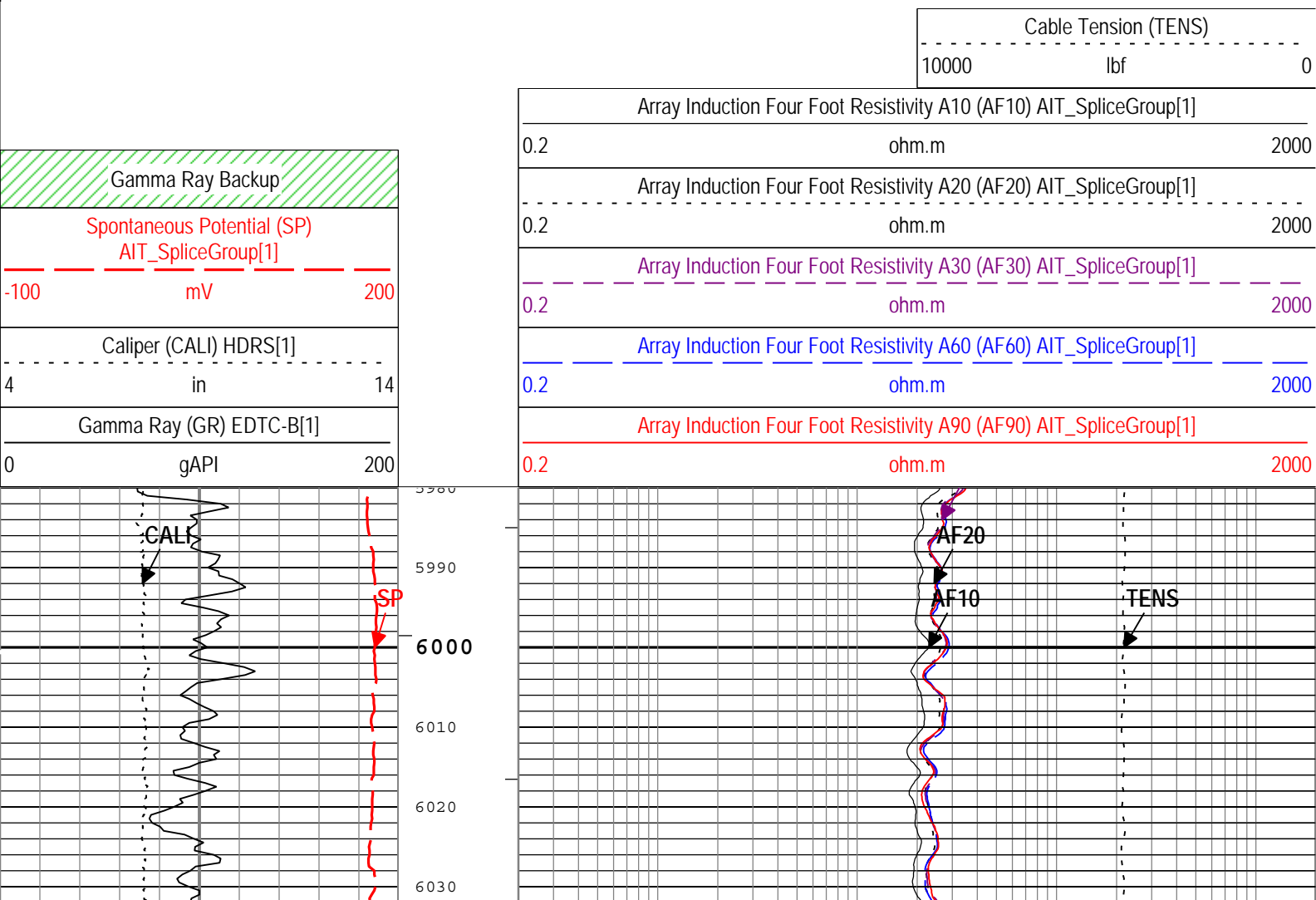
Log	Company:Nighthawk Production LLC	Well:Keystone 3-7
		Composite 2:S013

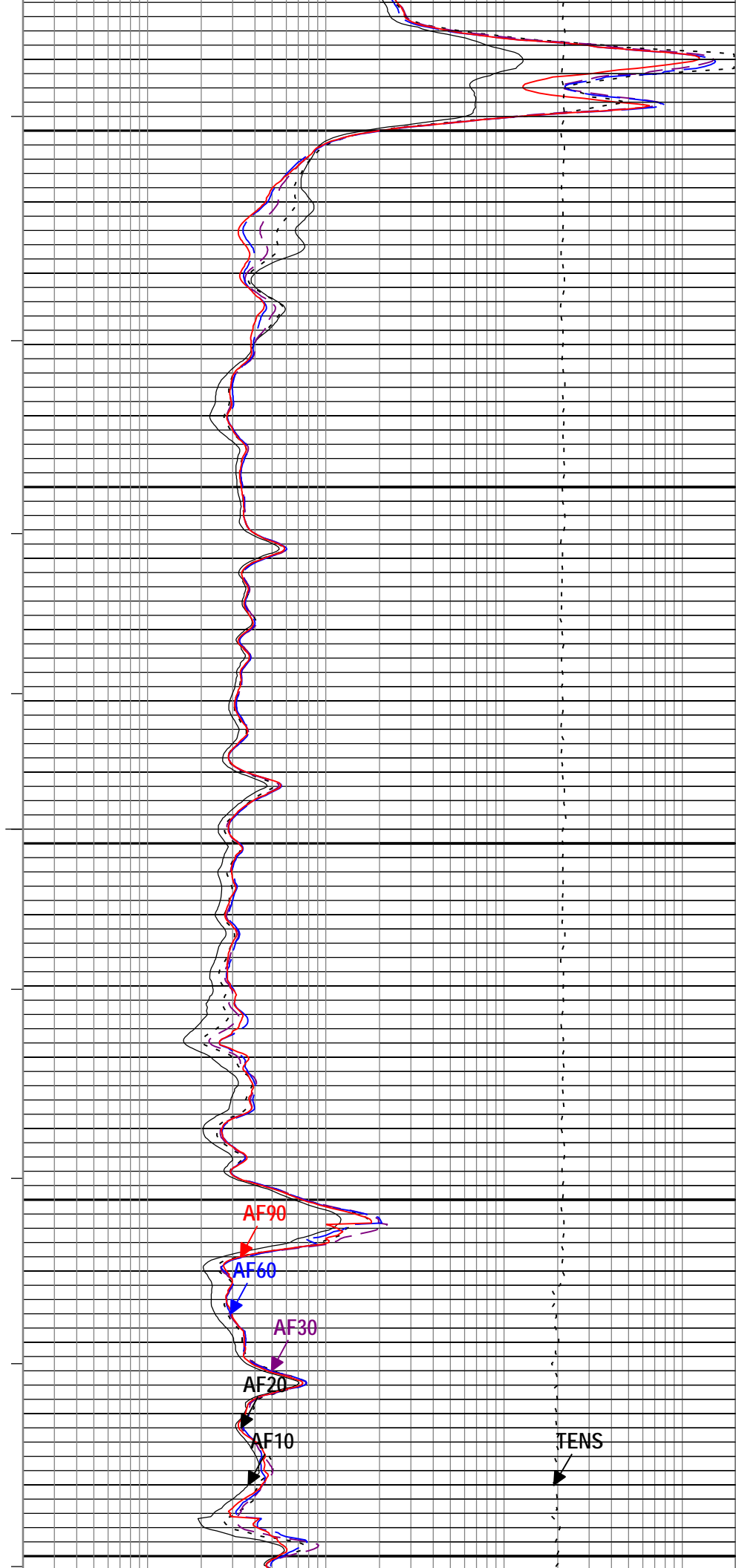
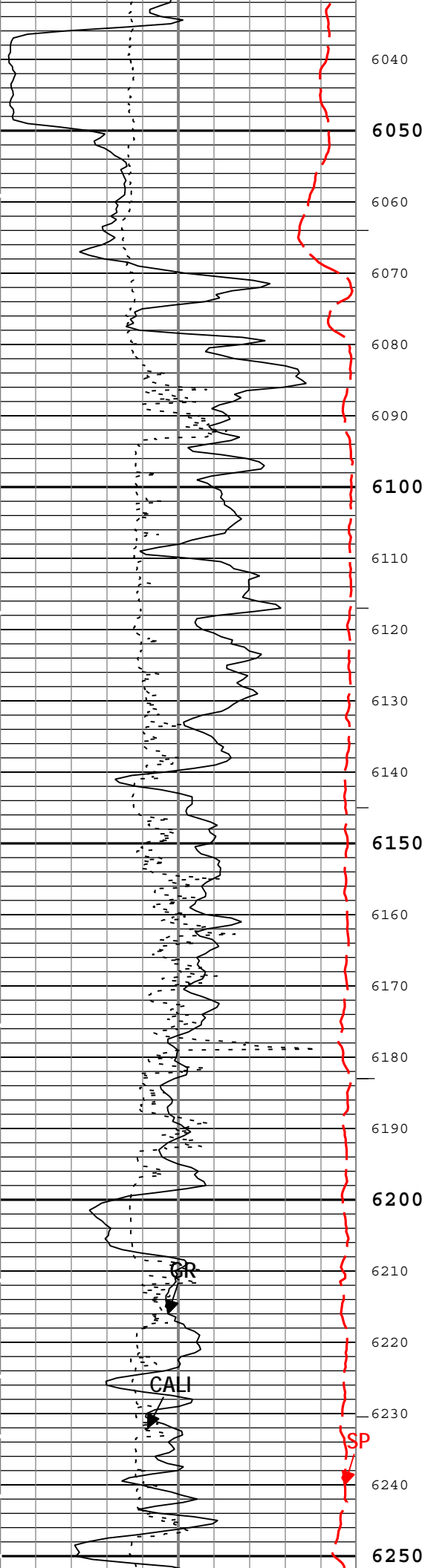
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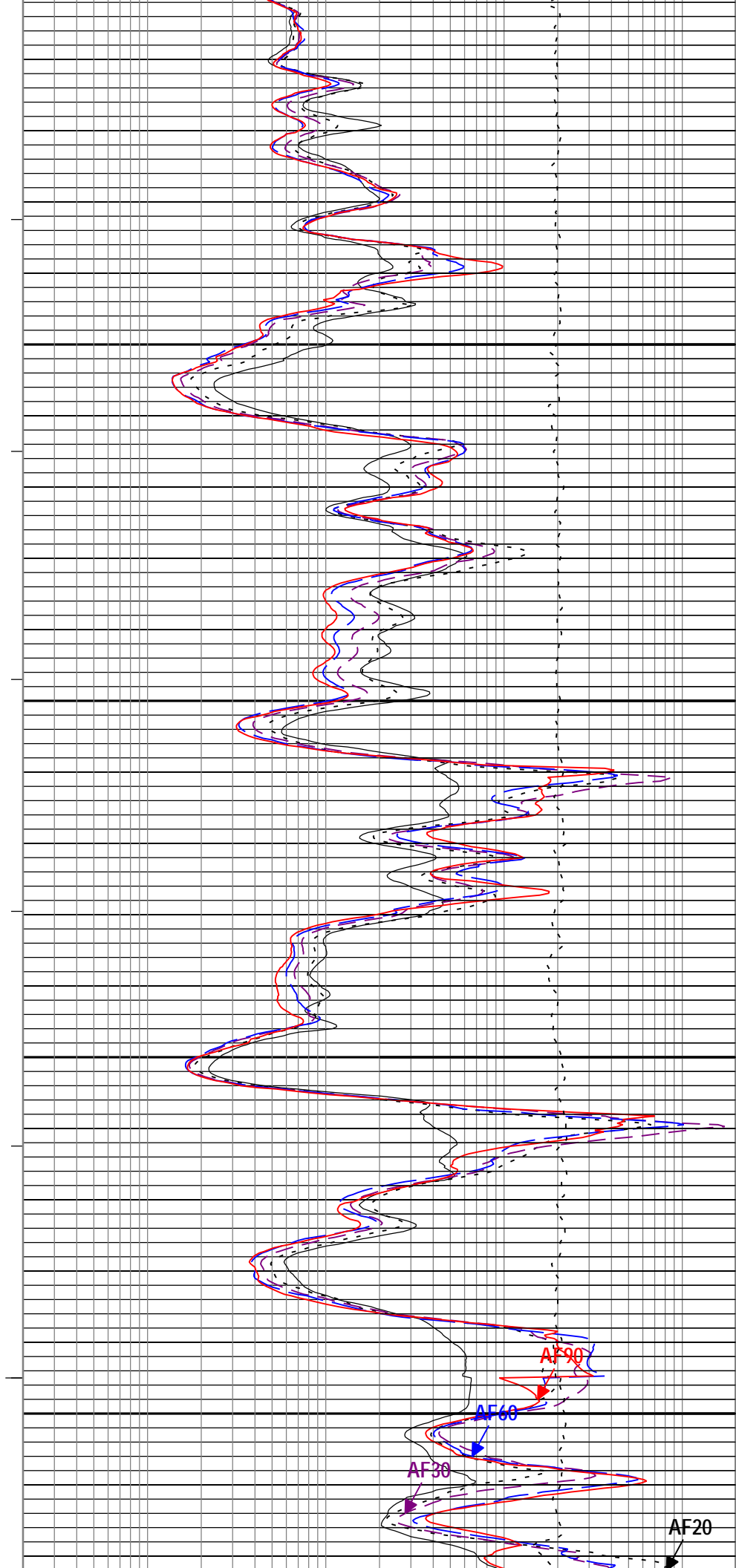
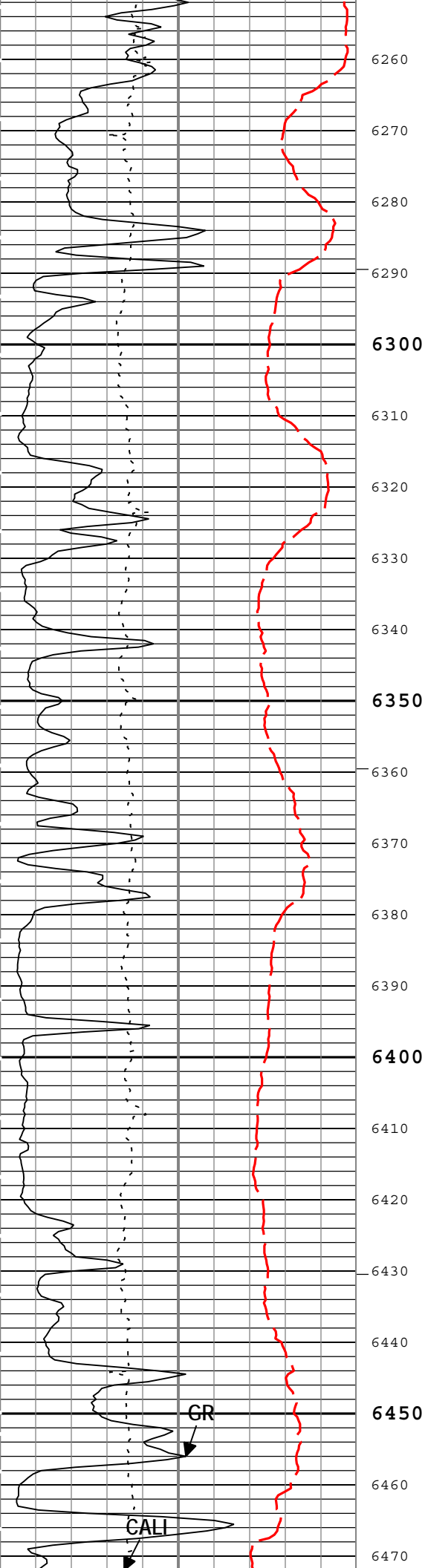
Channel	Source	Sampling
AF10	AIT_SpliceGroup[1]:AMIS[1]:AMIS[1]	3in
AF20	AIT_SpliceGroup[1]:AMIS[1]:AMIS[1]	3in
AF30	AIT_SpliceGroup[1]:AMIS[1]:AMIS[1]	3in
AF60	AIT_SpliceGroup[1]:AMIS[1]:AMIS[1]	3in
AF90	AIT_SpliceGroup[1]:AMIS[1]:AMIS[1]	3in
CALI	HDRS[1]:HRCC-H[1]:HRCC-H[1]	1in
GR	EDTC-B[1]:EDTC-B[1]:EDTC-B[1]	6in
ICV	Borehole	6in
IHV	Borehole	6in
SP	AIT_SpliceGroup[1]:AMIS[1]:AMIS[1]	6in
TENS	WLWorkflow	6in
TIME_1900	WLWorkflow	0.1in

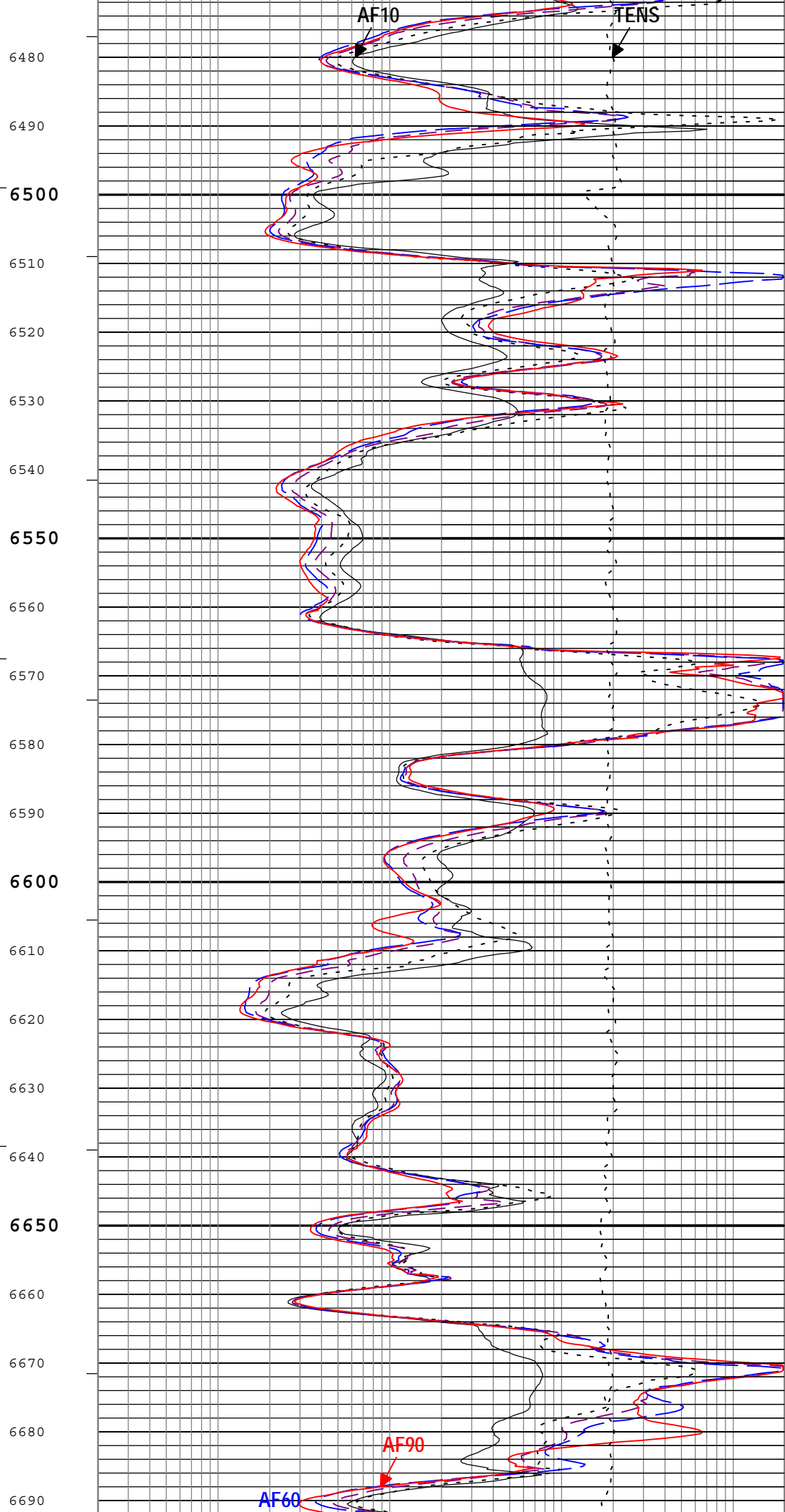
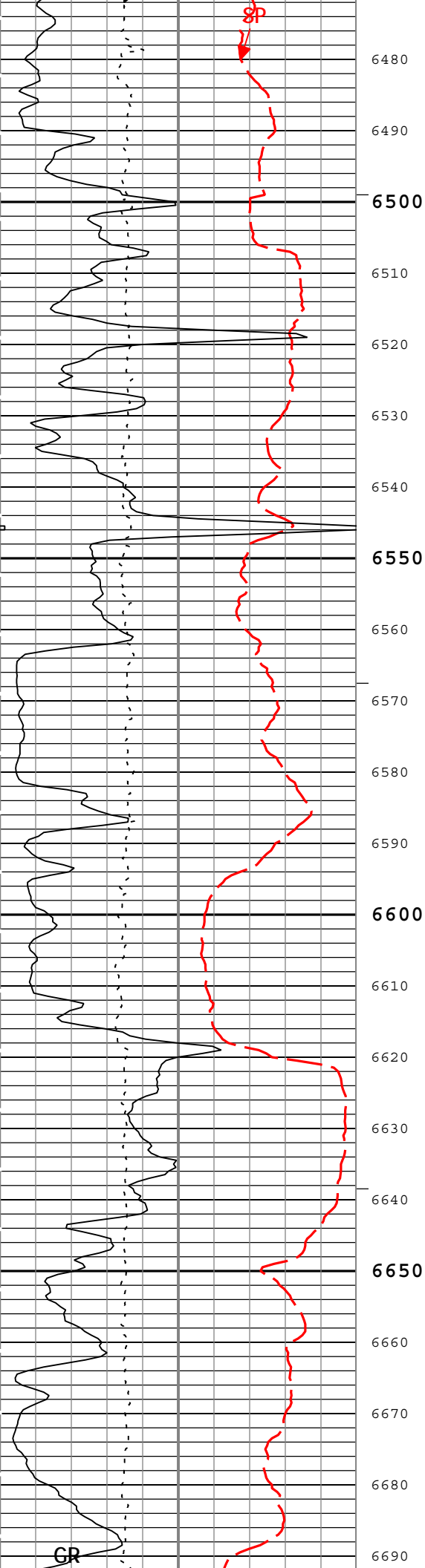
—|IHV - Integrated Hole Volume every 10.00 (ft3)
—|IHV - Integrated Hole Volume every 100.00 (ft3)
—|ICV - Integrated Cement Volume every 10.00 (ft3)
—|ICV - Integrated Cement Volume every 100.00 (ft3)

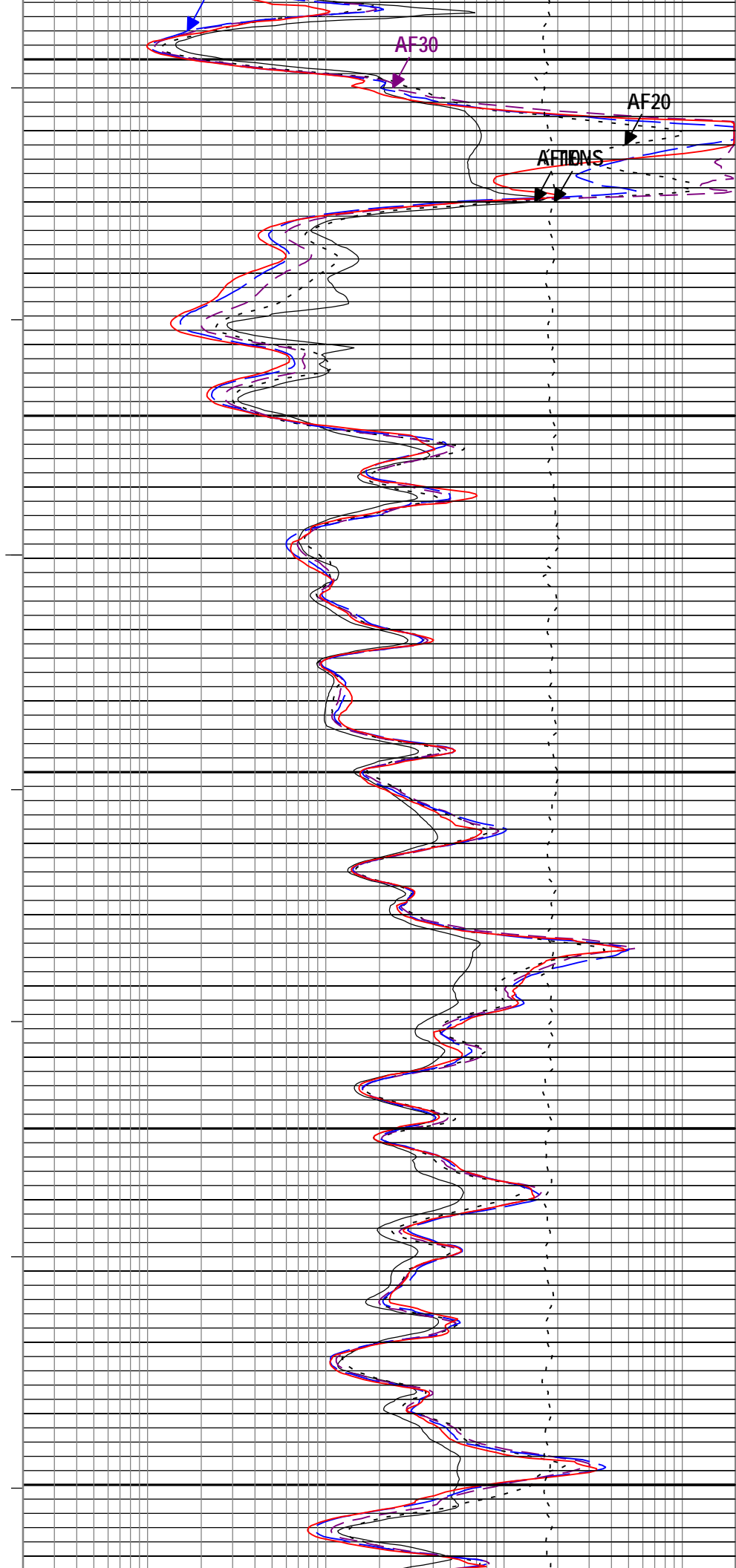
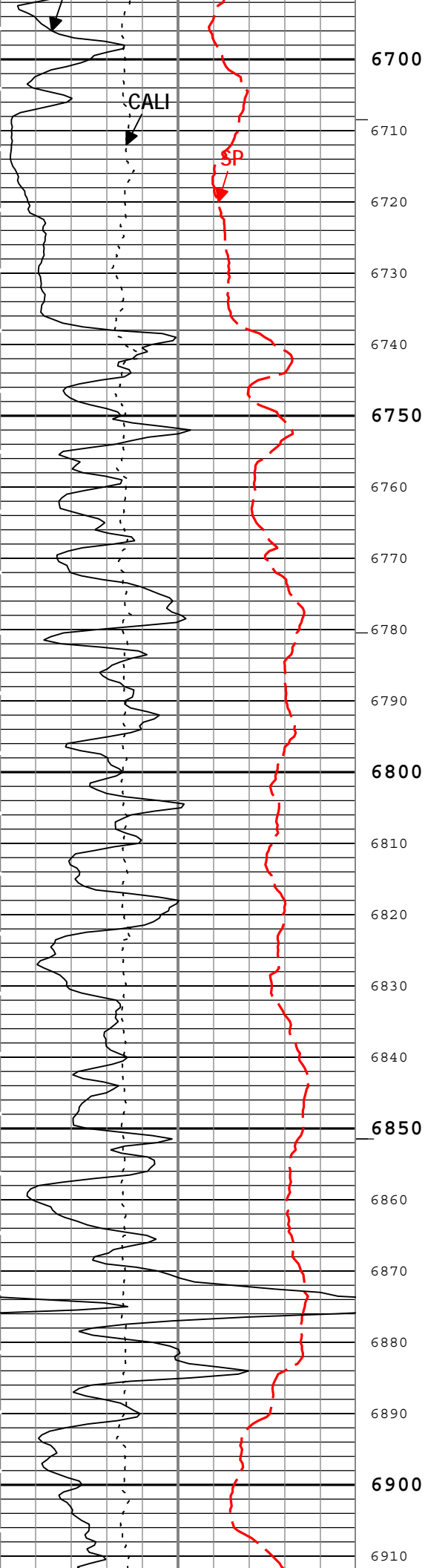
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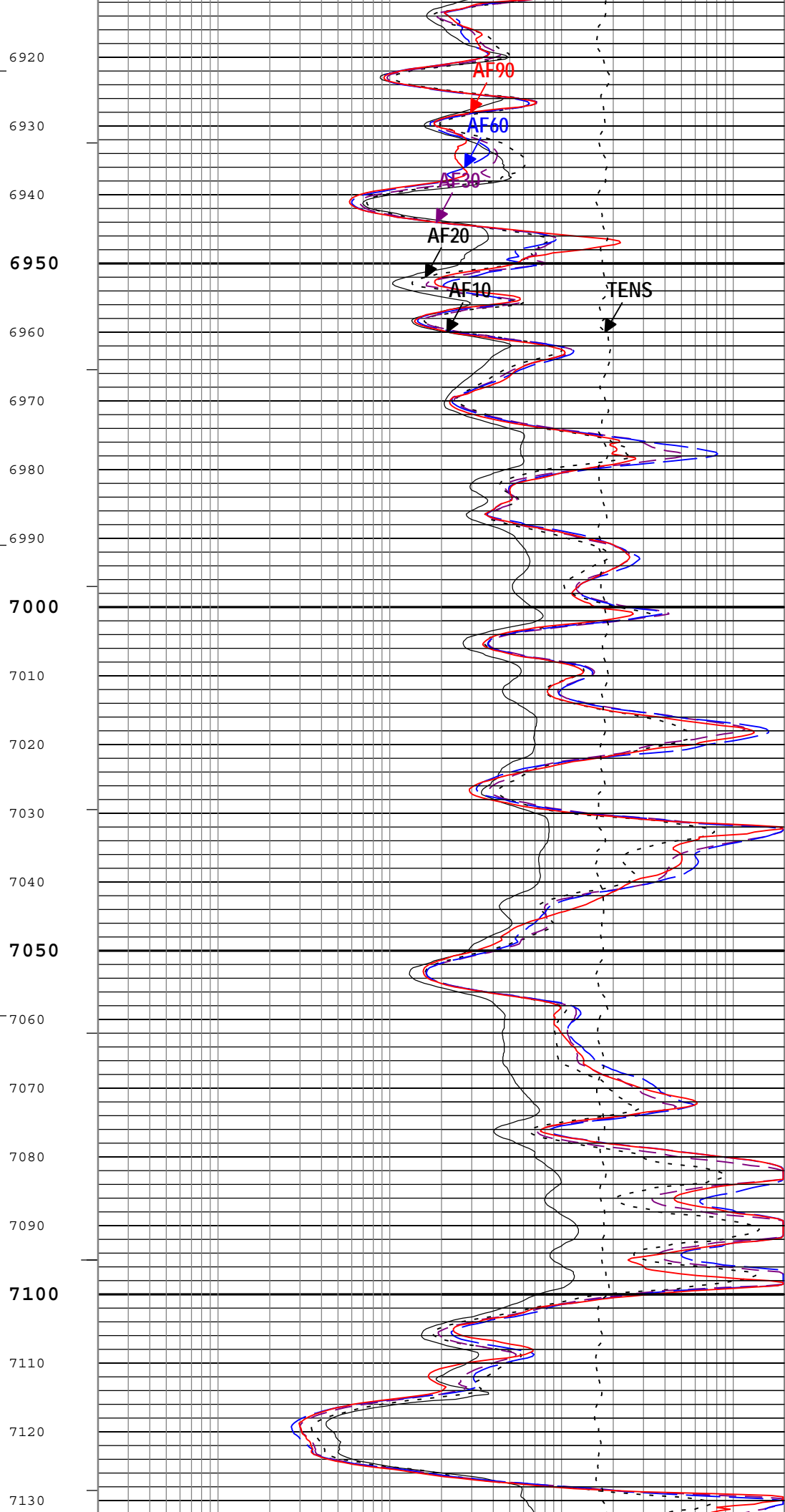
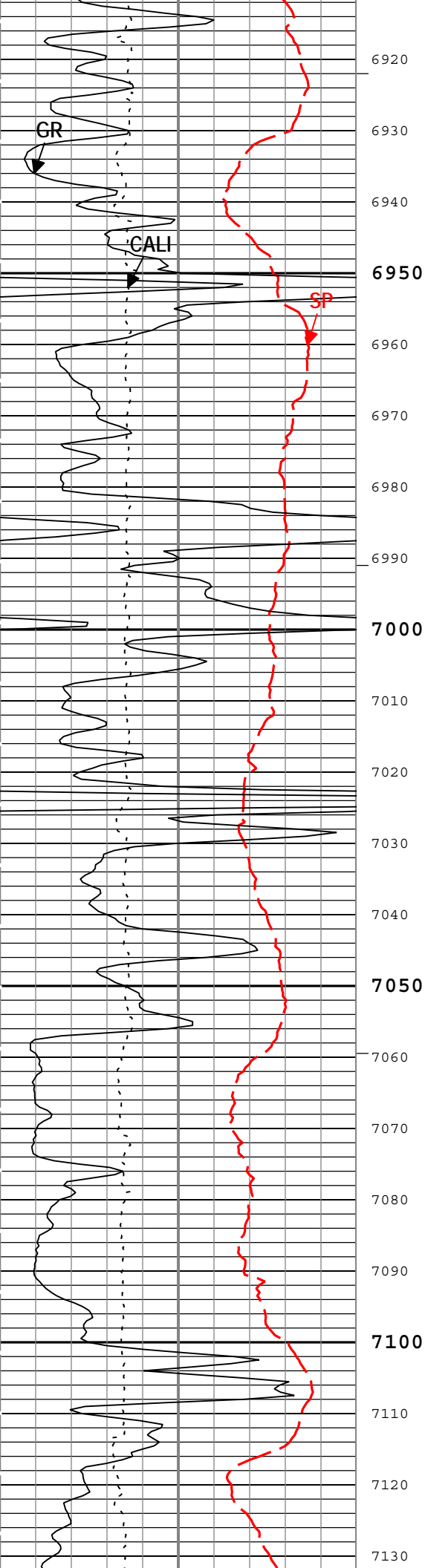


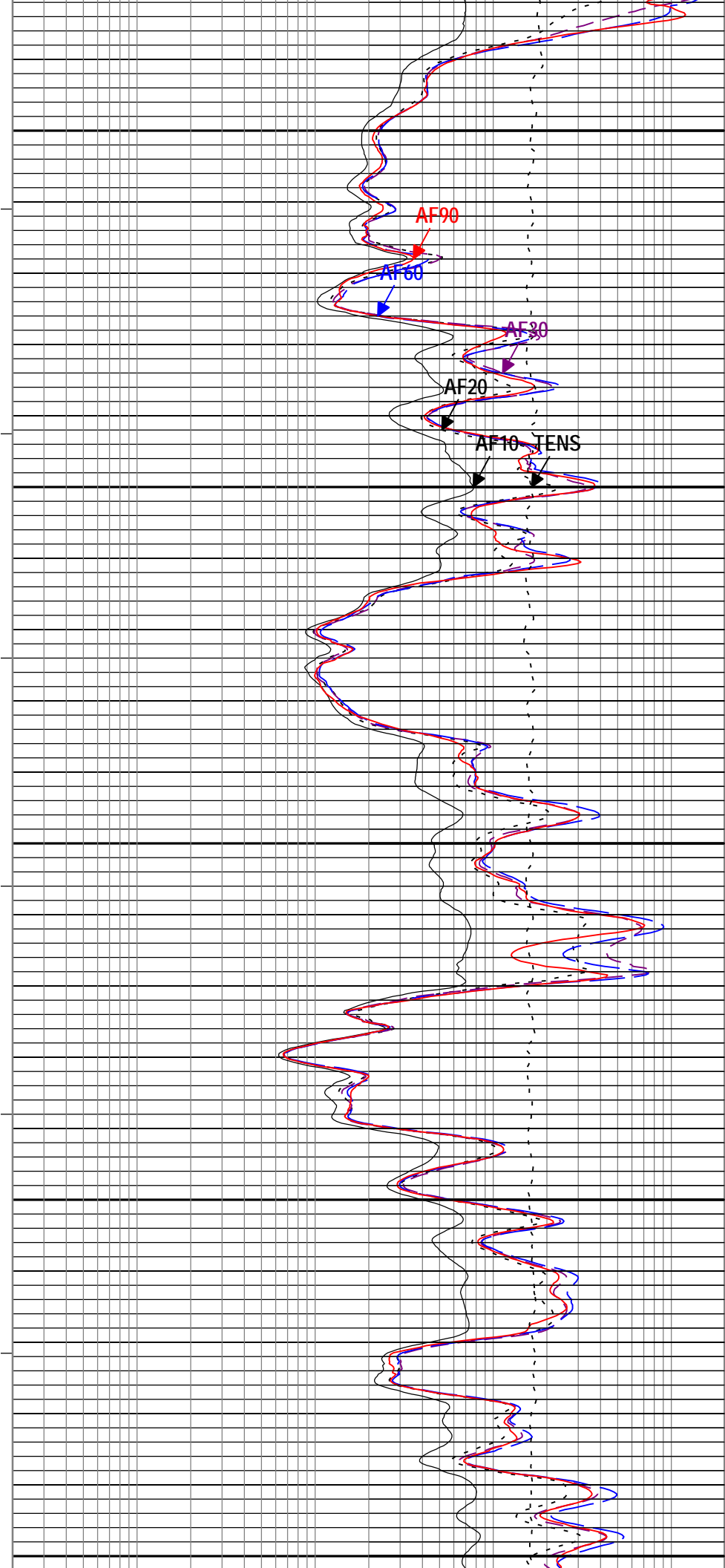
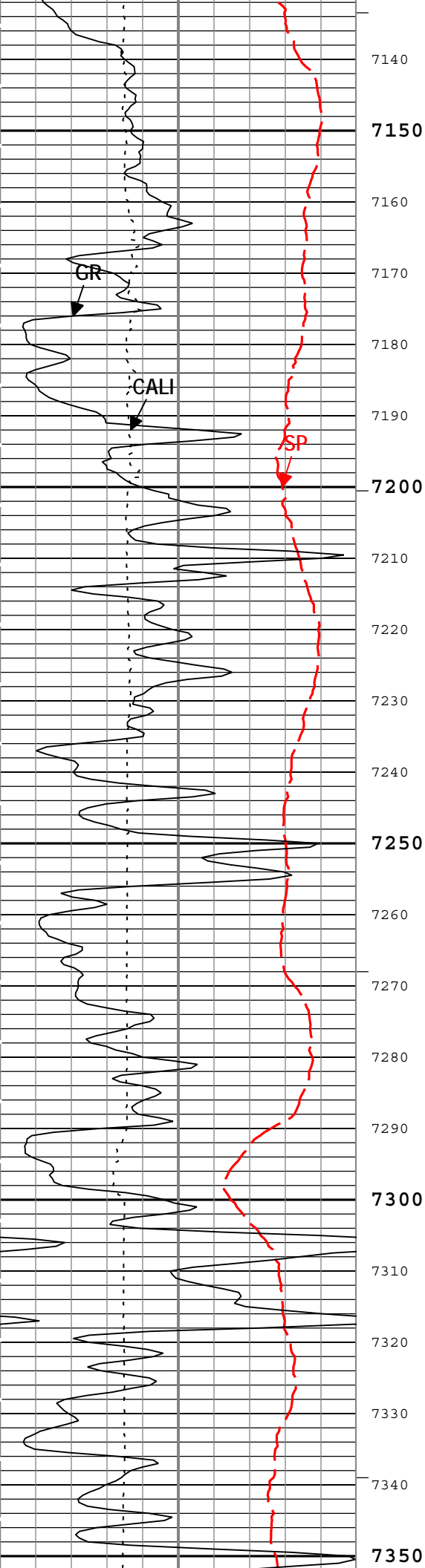


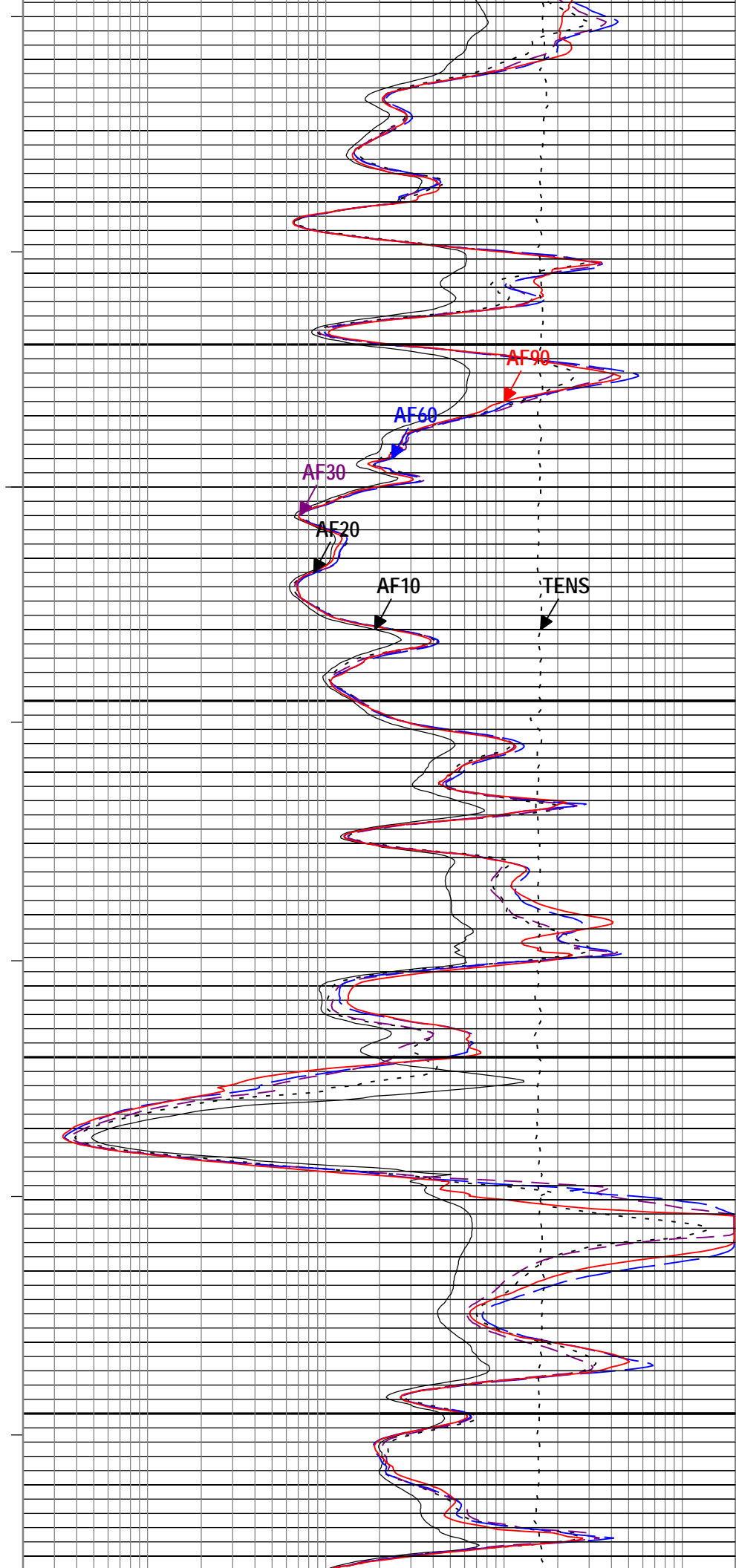
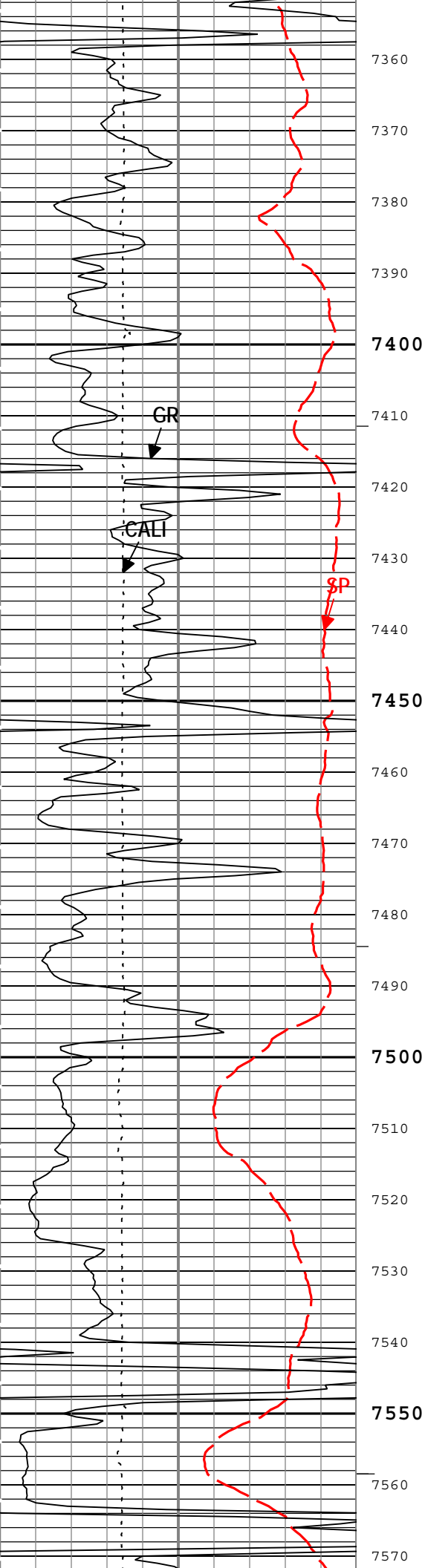


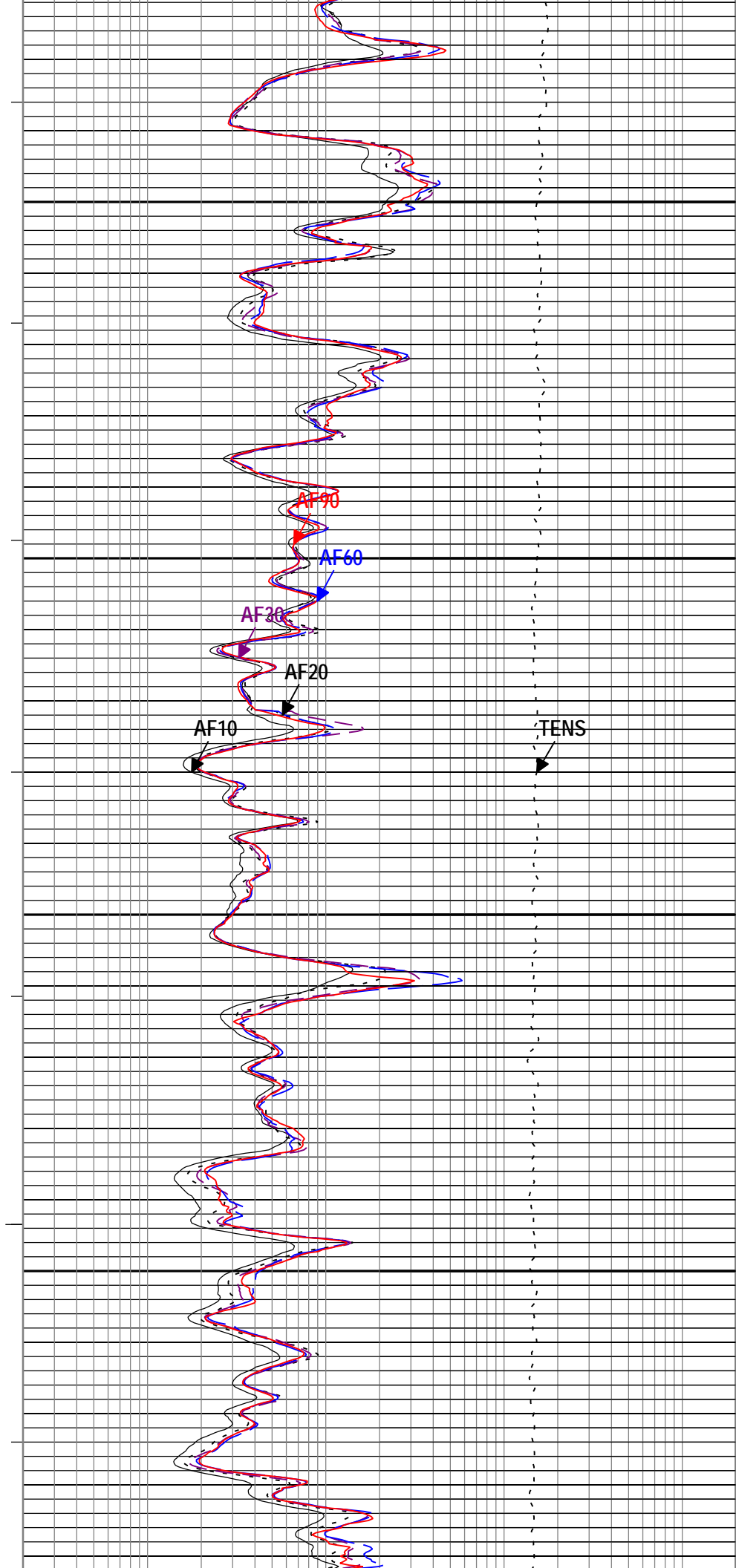
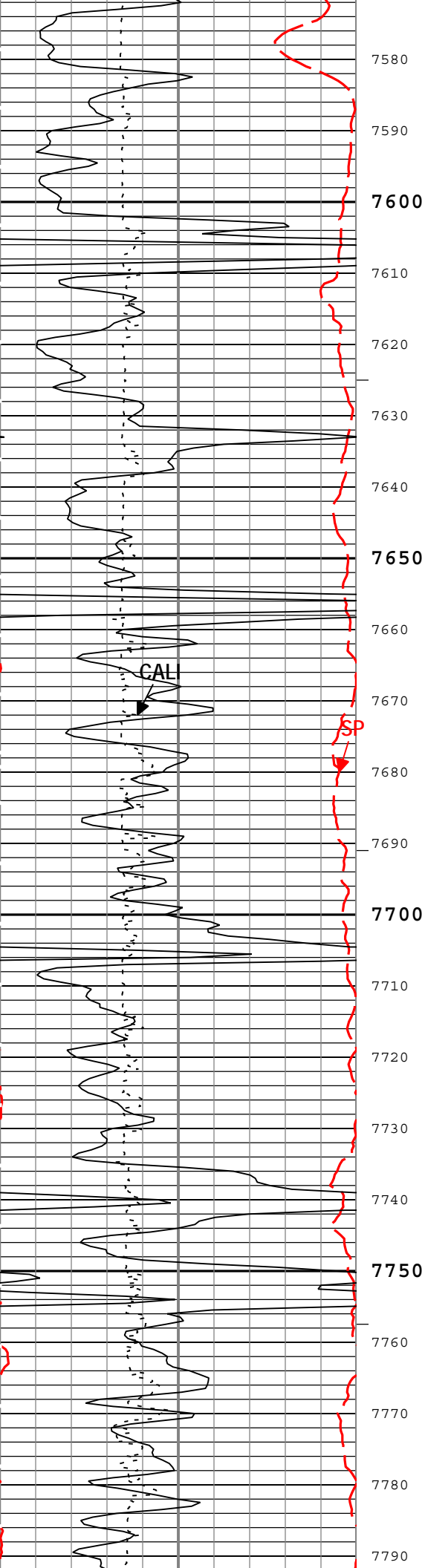


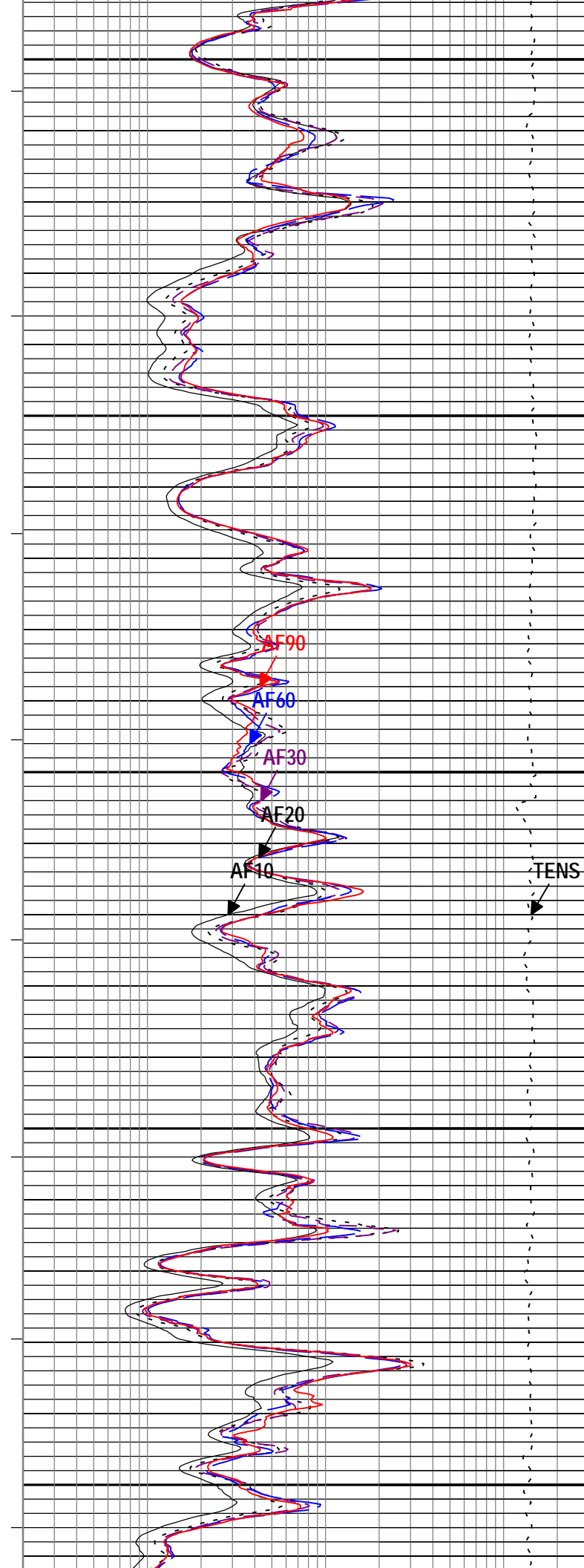
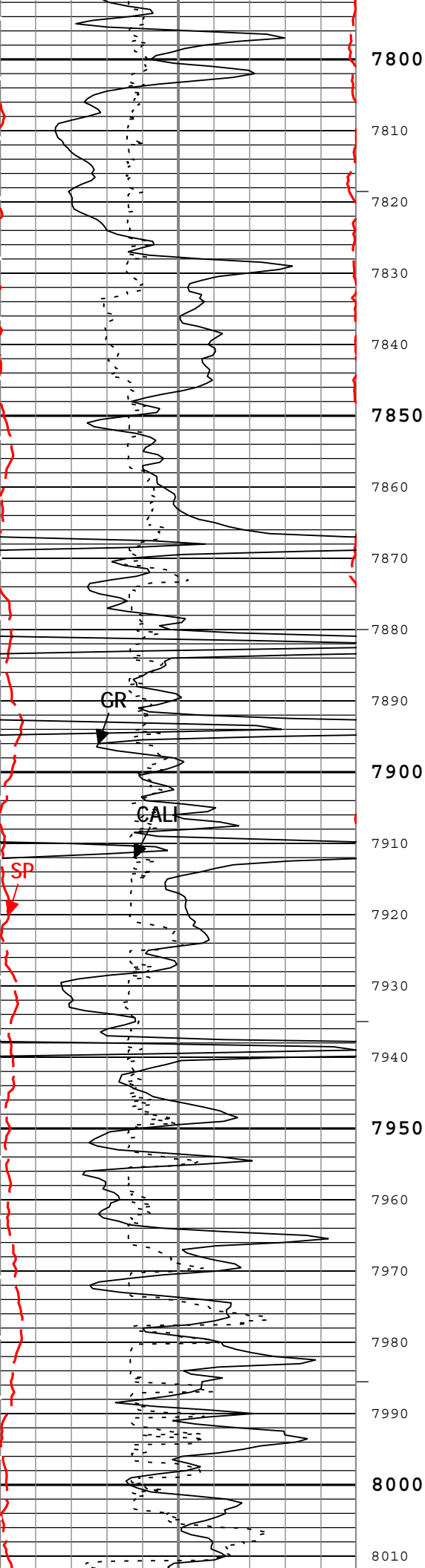


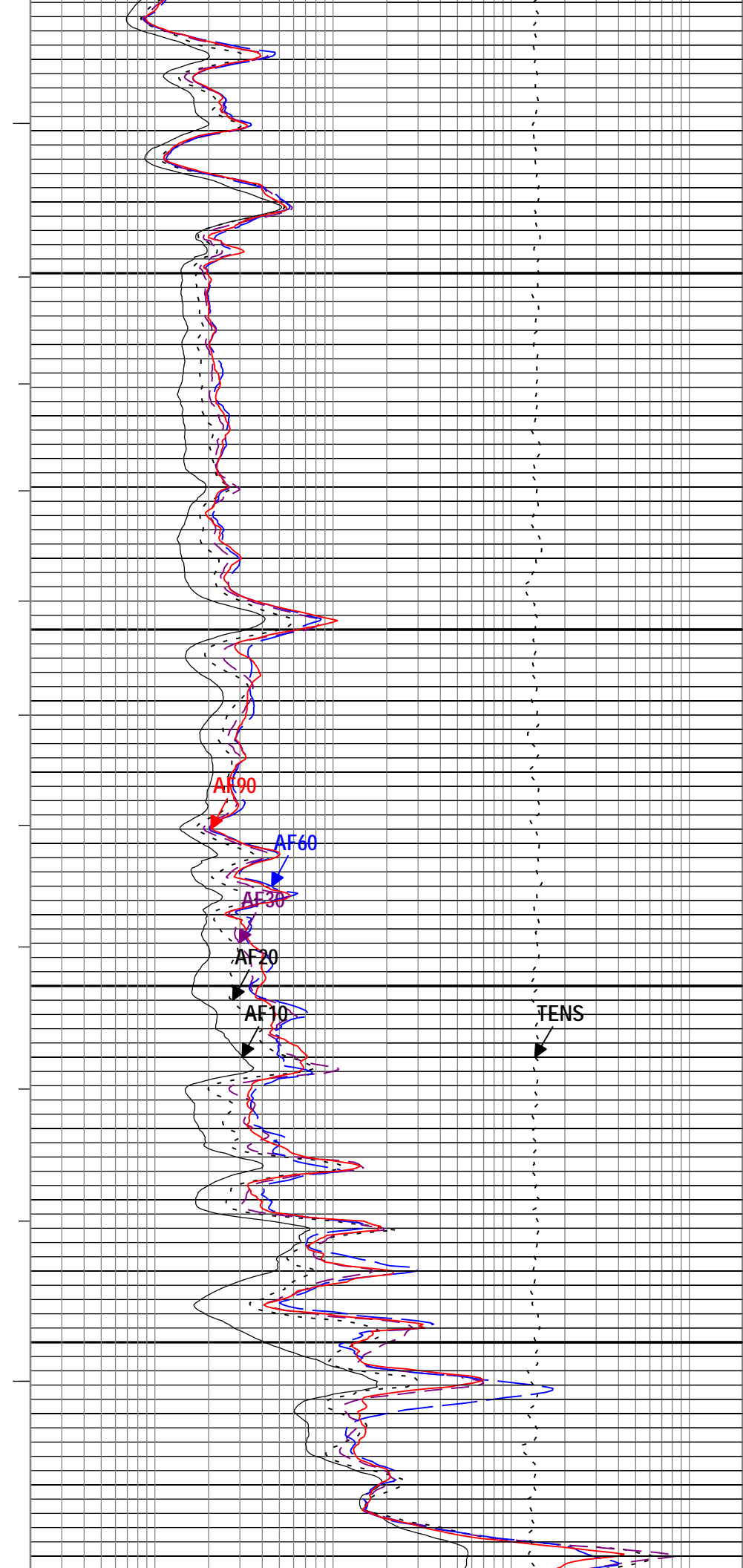
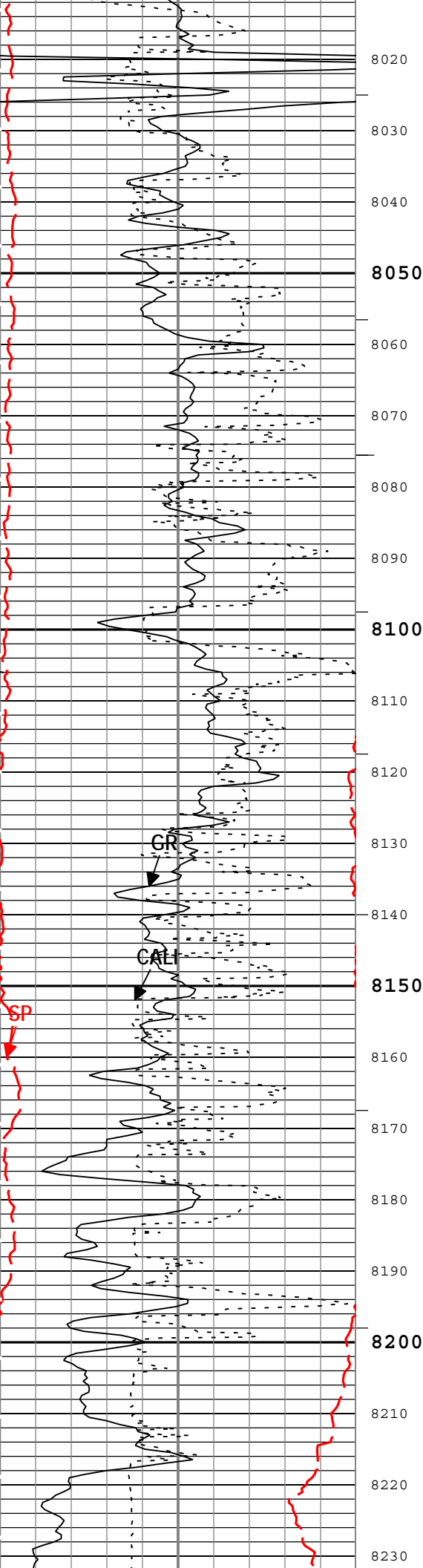


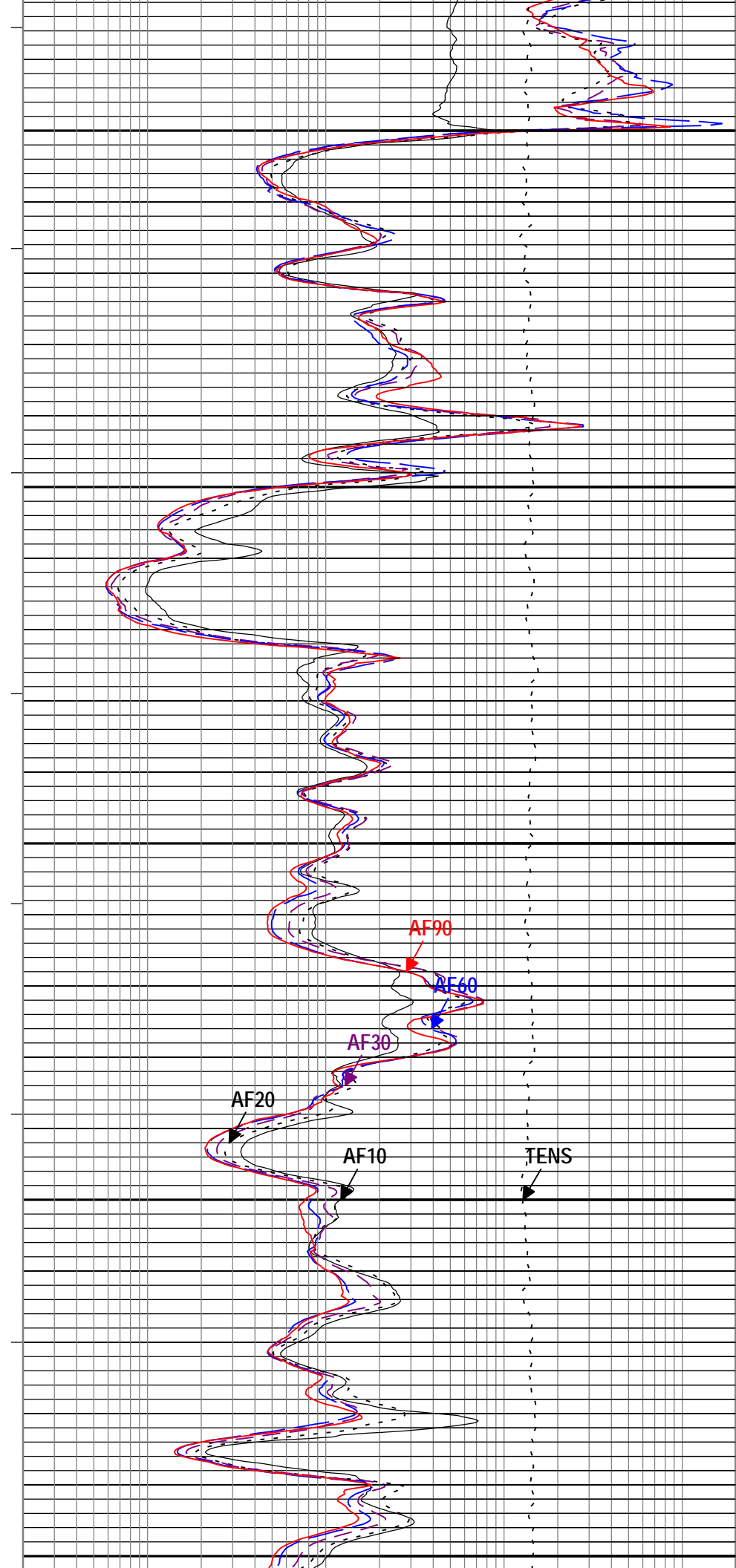
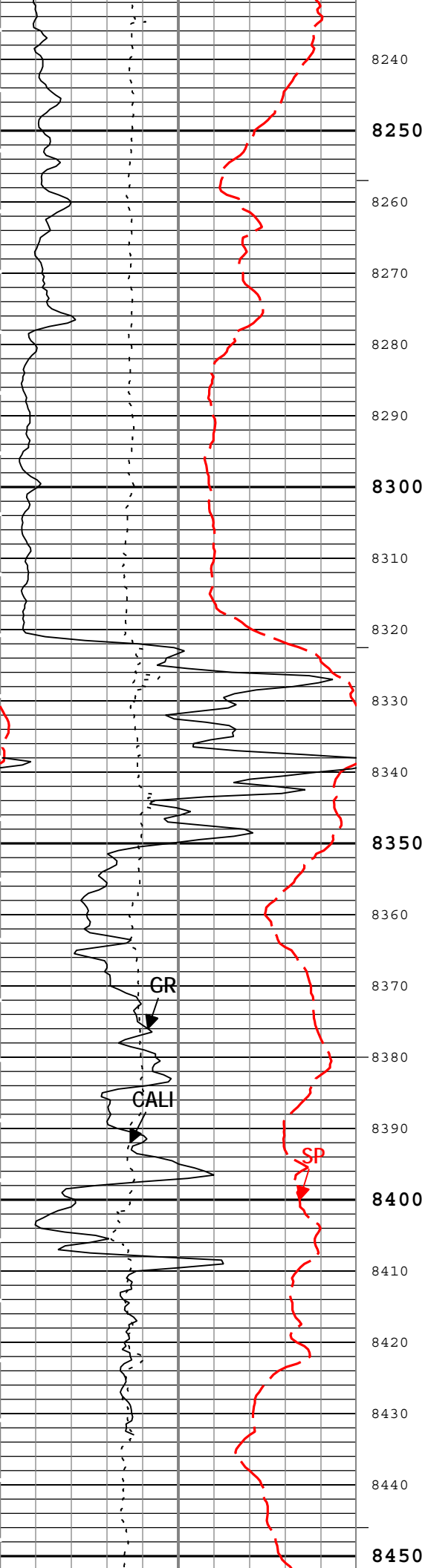


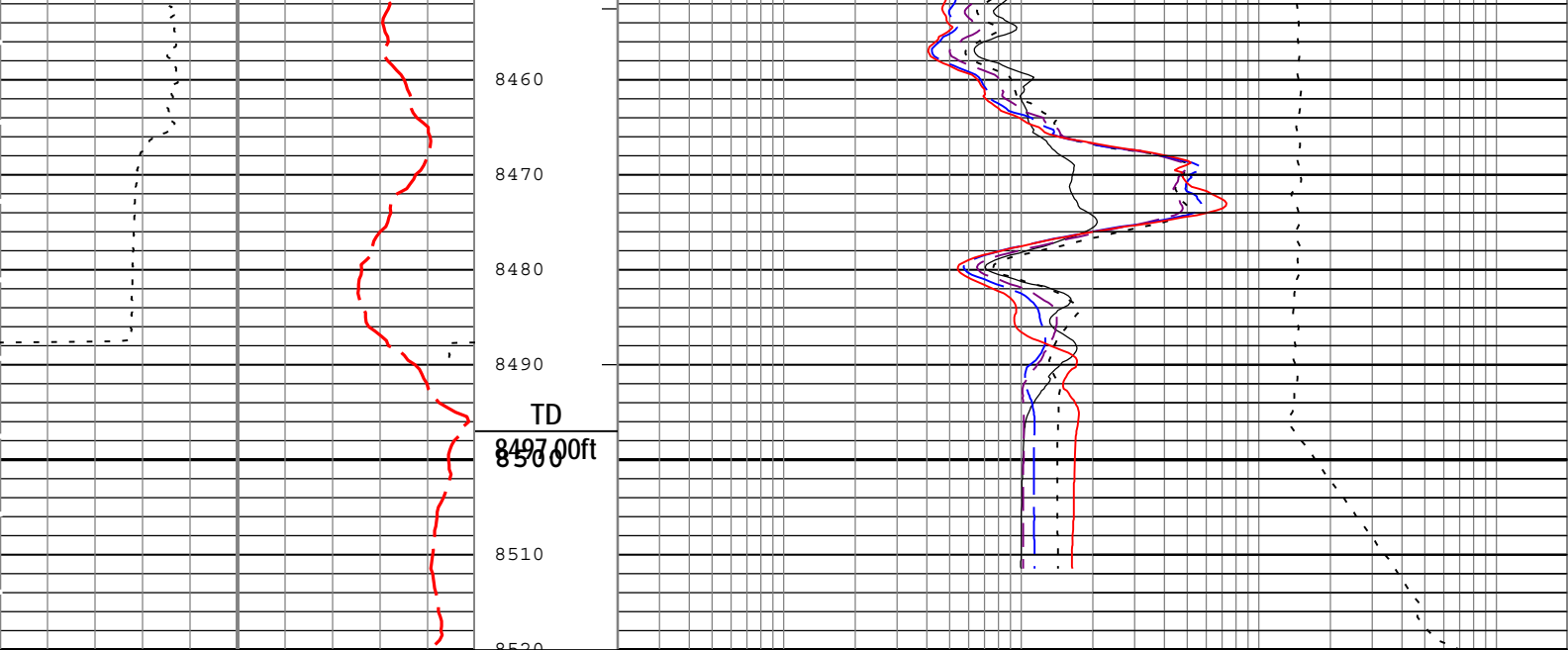












Gamma Ray Backup		
Spontaneous Potential (SP) AIT_SpliceGroup[1]		
-100	mV	200
Caliper (CALI) HDRS[1]		
4	in	14
Gamma Ray (GR) EDTC-B[1]		
0	gAPI	200

Array Induction Four Foot Resistivity A10 (AF10) AIT_SpliceGroup[1]		
0.2	ohm.m	2000
Array Induction Four Foot Resistivity A20 (AF20) AIT_SpliceGroup[1]		
0.2	ohm.m	2000
Array Induction Four Foot Resistivity A30 (AF30) AIT_SpliceGroup[1]		
0.2	ohm.m	2000
Array Induction Four Foot Resistivity A60 (AF60) AIT_SpliceGroup[1]		
0.2	ohm.m	2000
Array Induction Four Foot Resistivity A90 (AF90) AIT_SpliceGroup[1]		
0.2	ohm.m	2000

Cable Tension (TENS)		
10000	lbf	0

TIME_1900 - Time Marked every 60.00 (s)

- 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)

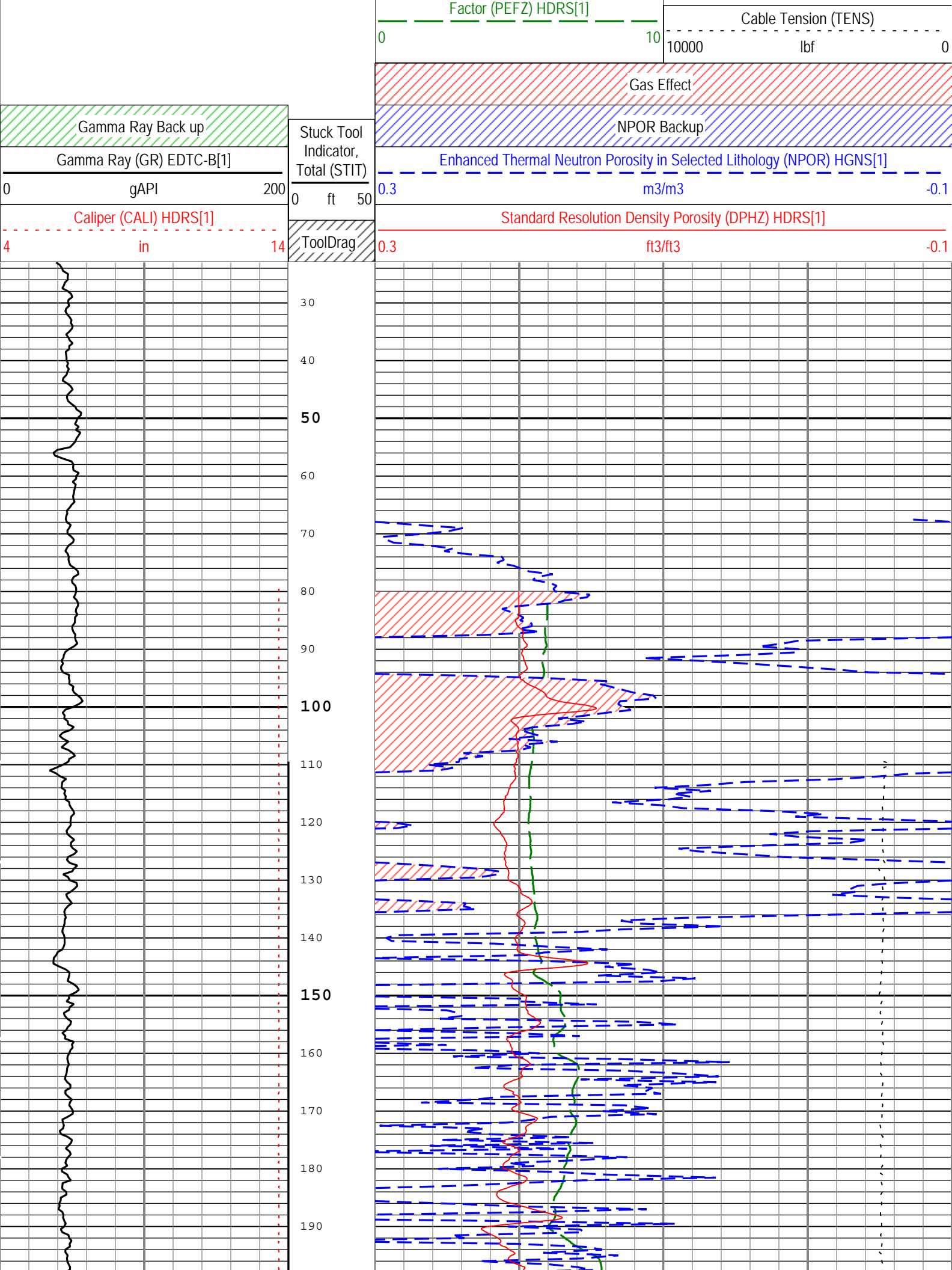
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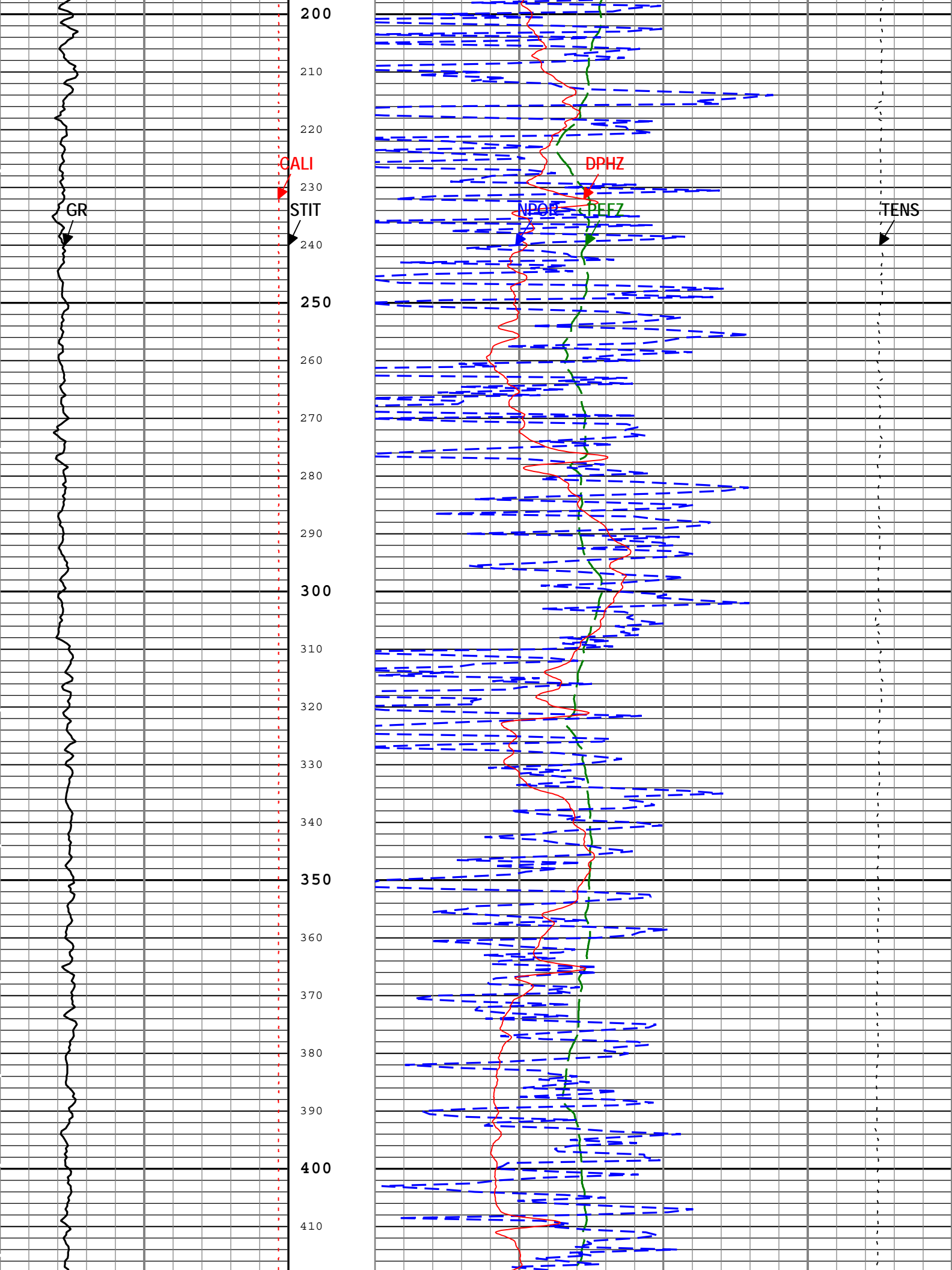
Channel Processing Parameters

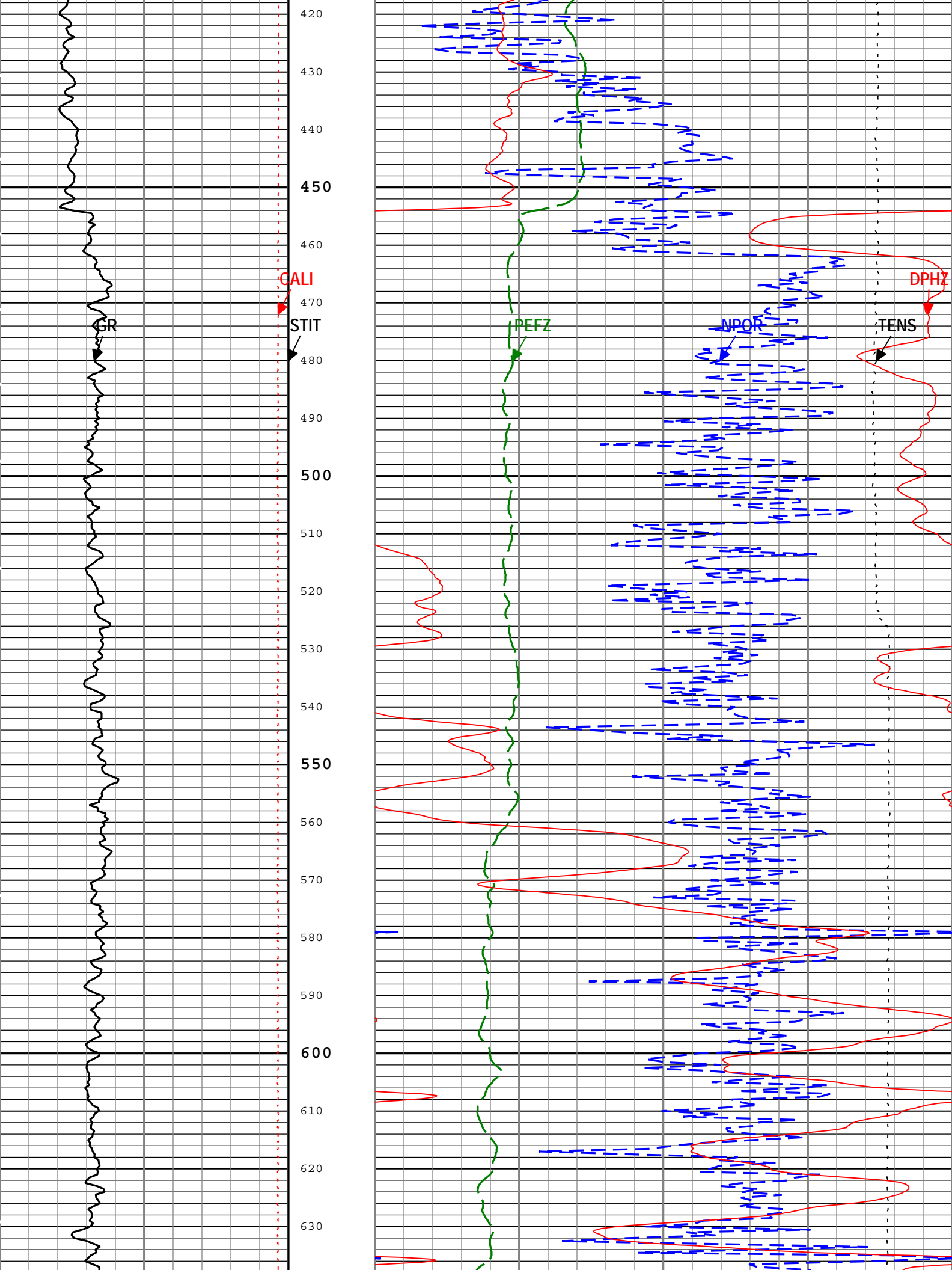
Run 1: Parameters

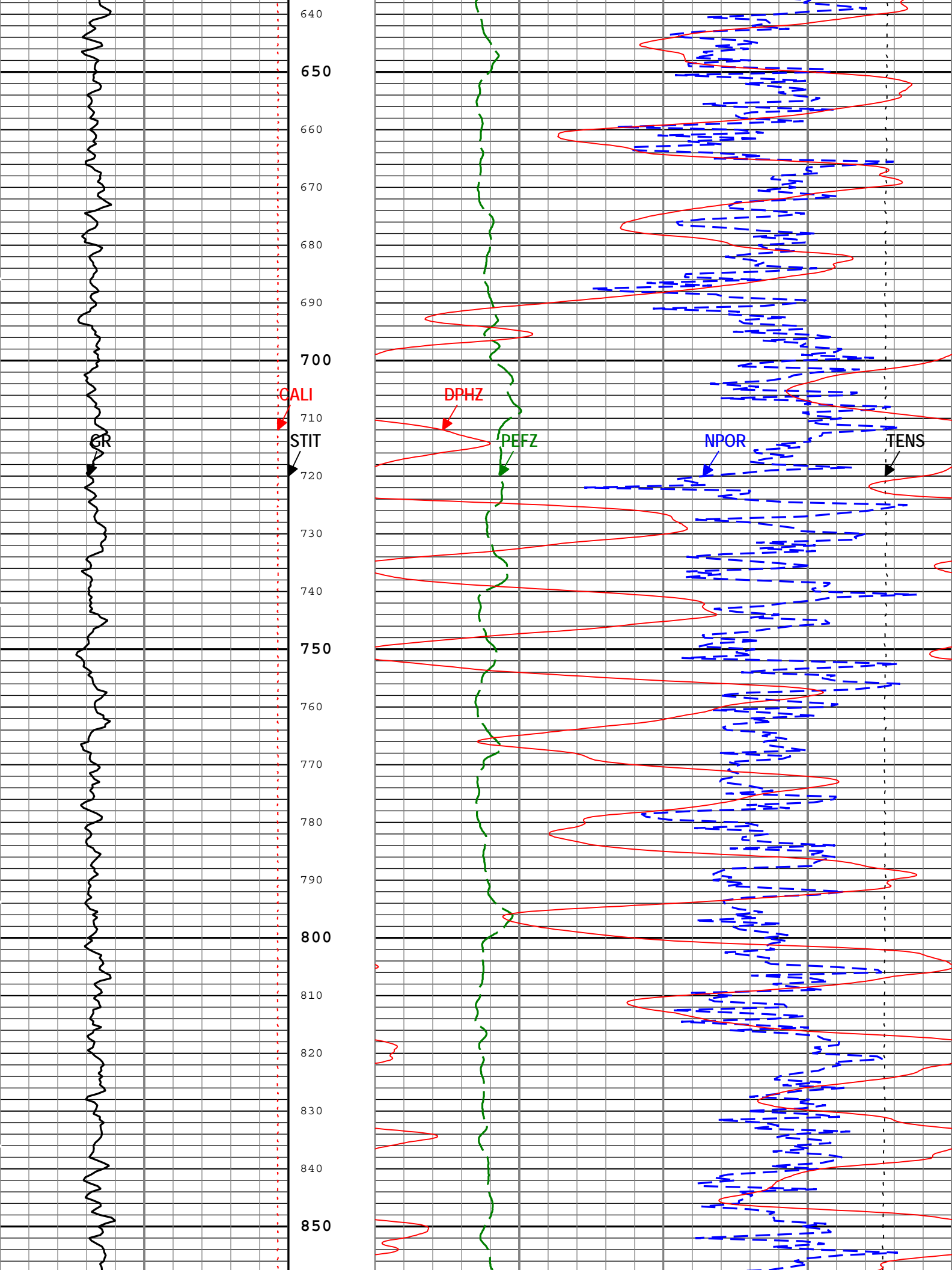
Parameter	Description	Tool	Value	Unit
ABHM	Array Induction Borehole Correction Mode	AIT-M	Compute Standoff	
ACDE	Array Induction Casing Detection Enable	AIT-M	Yes	
BARI	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Open	
BS	Bit Size	WLSESSION	7.875	in
CALI_SHIFT	CALI Supplementary Offset	HDRS-H	0	in
CBLO	Casing Bottom (Logger)	WLSESSION	453.5	ft
CDEN	Cement Density	EDTC-B	2	g/cm3
DFD	Drilling Fluid Density	Borehole	10	lbm/gal
FCD	Future Casing (Outer) Diameter	WLSESSION	5.5	in

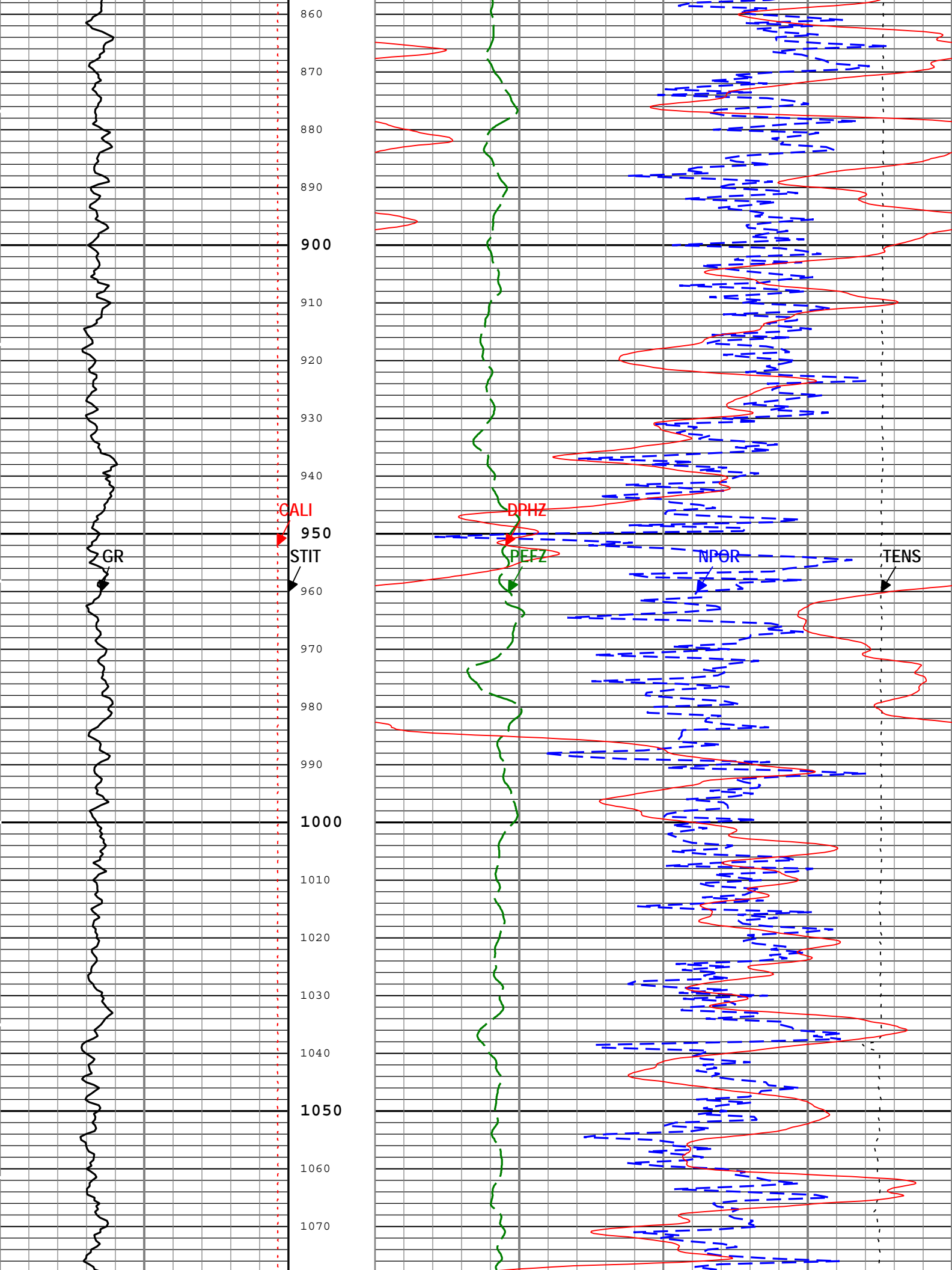
Standard Resolution Formation Photoelectric

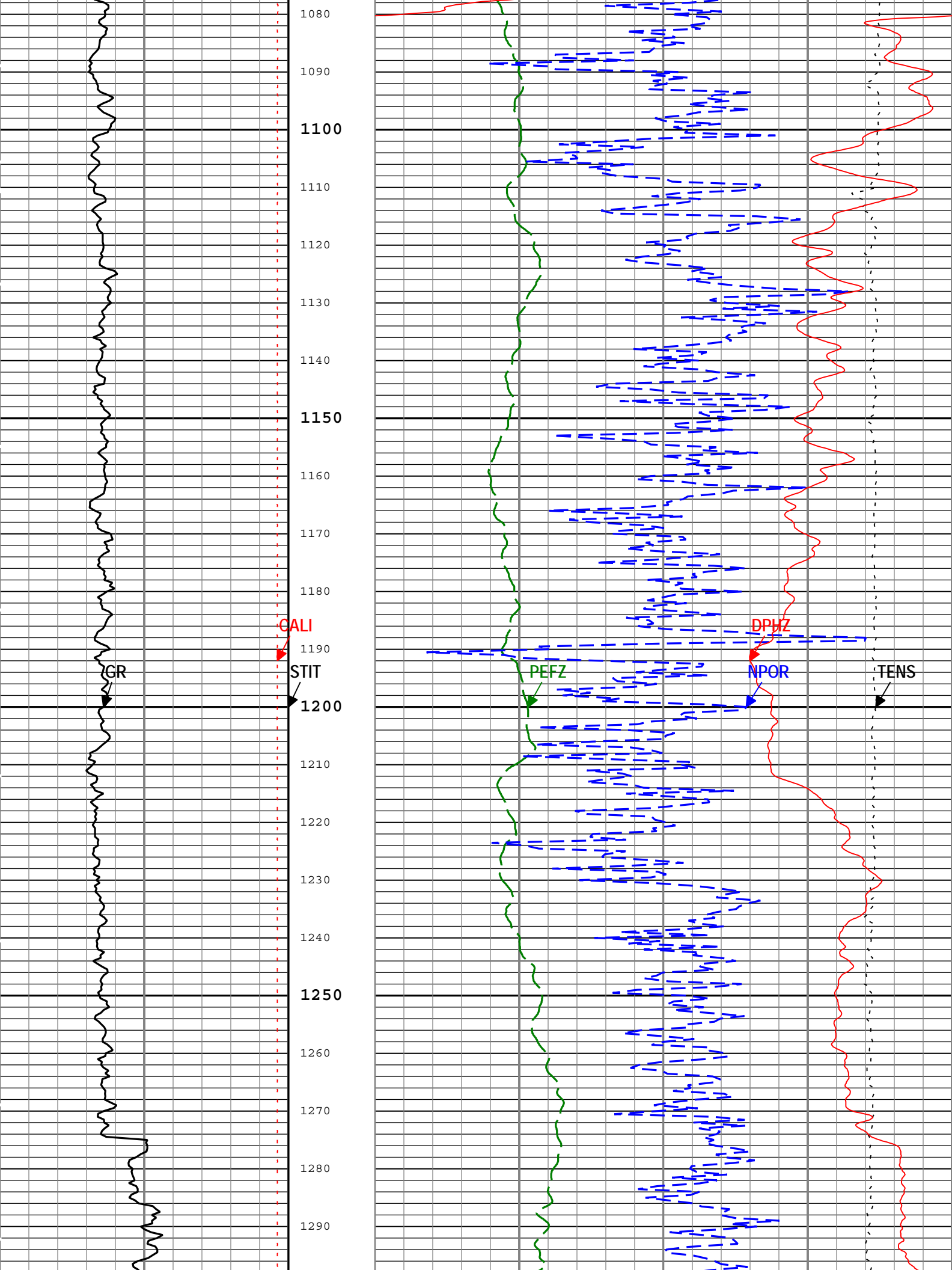


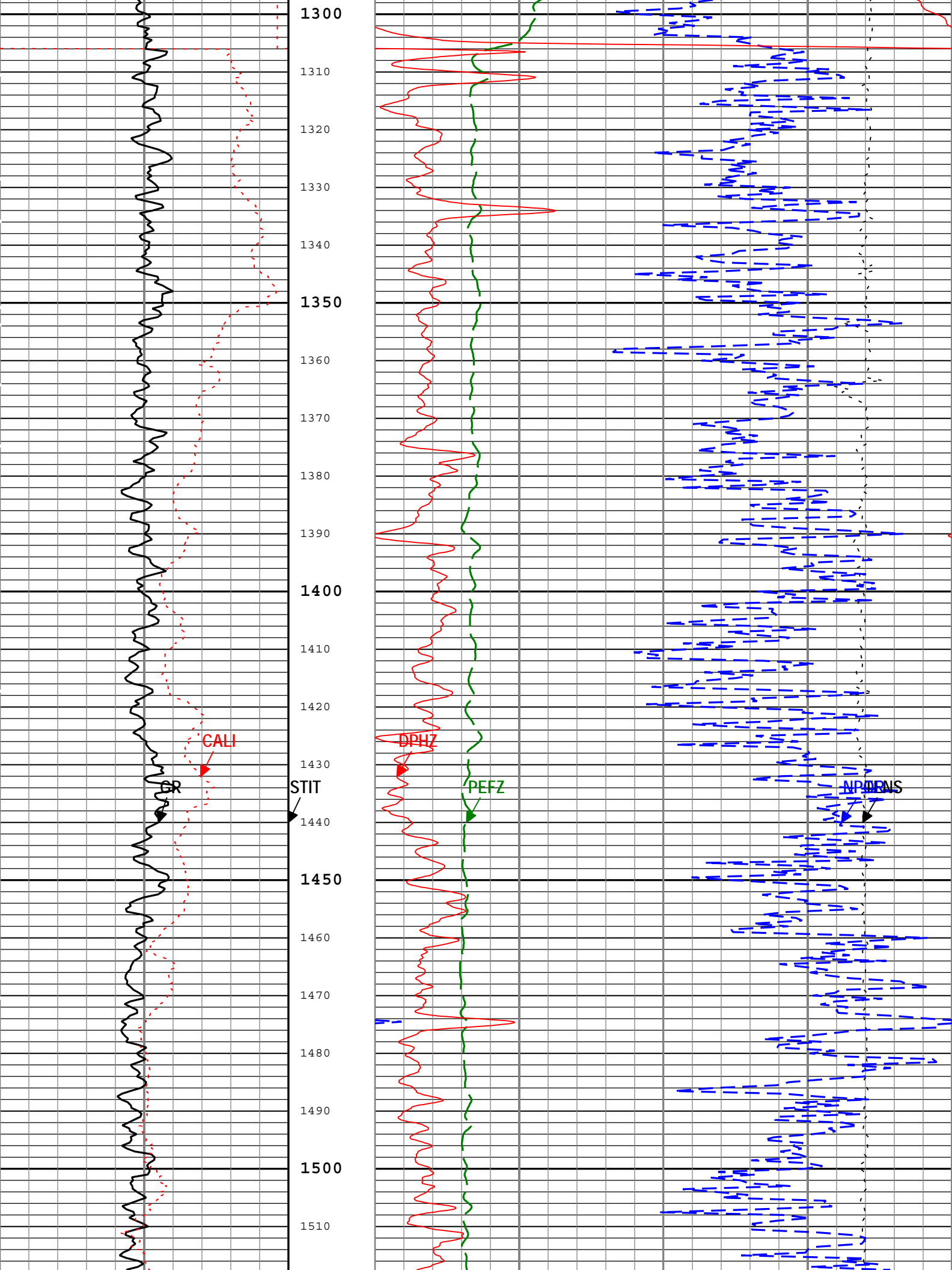


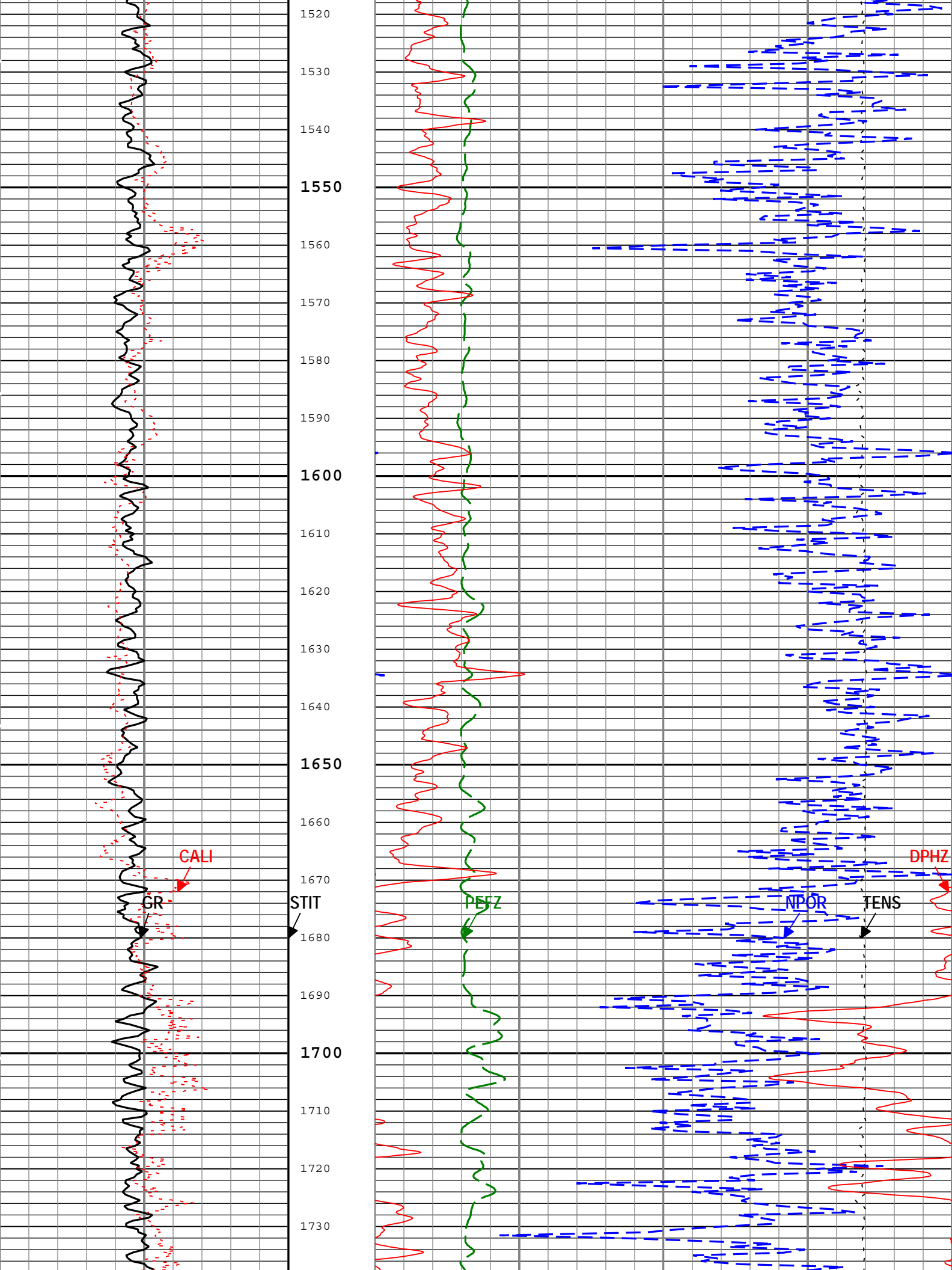


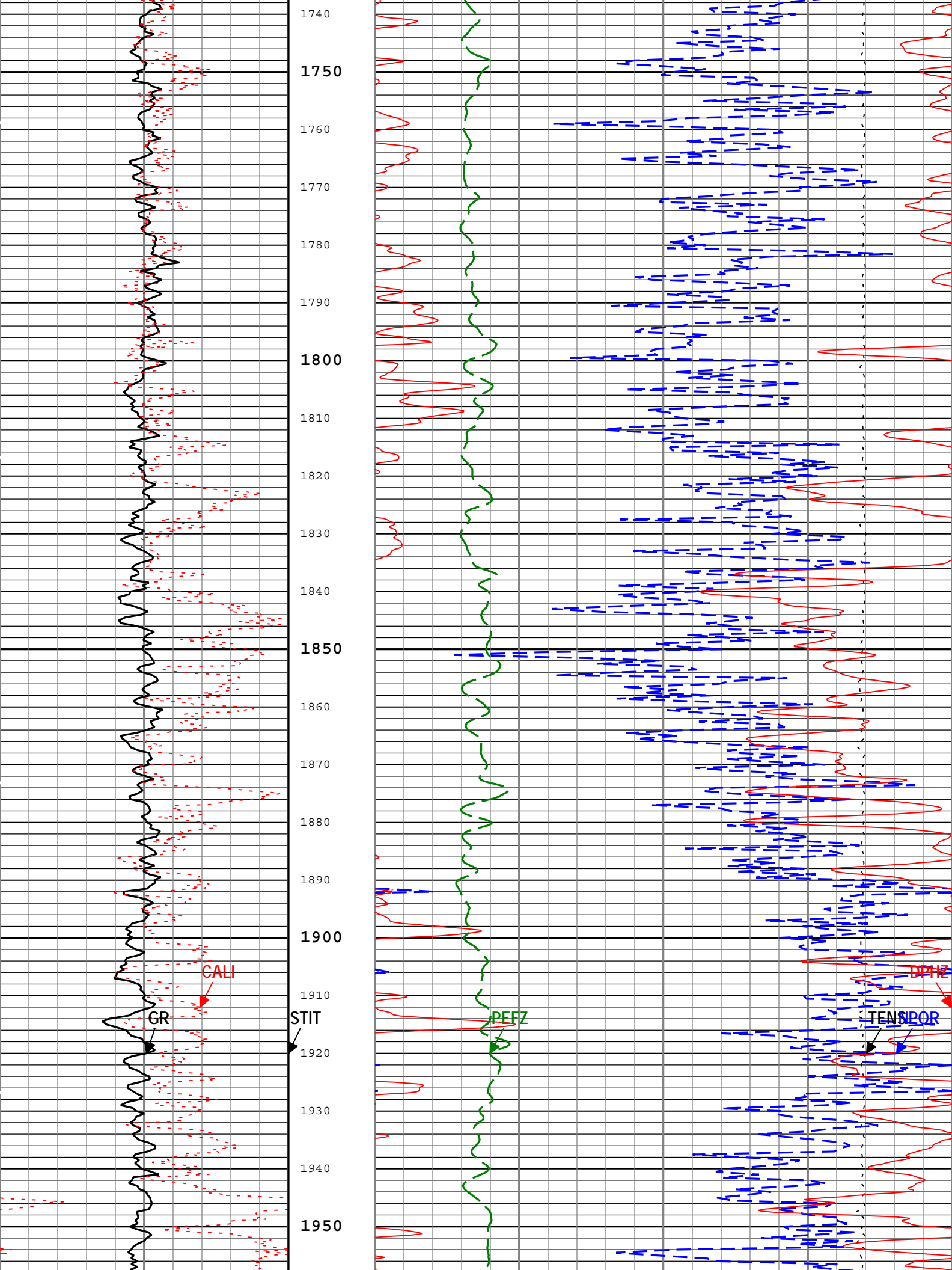


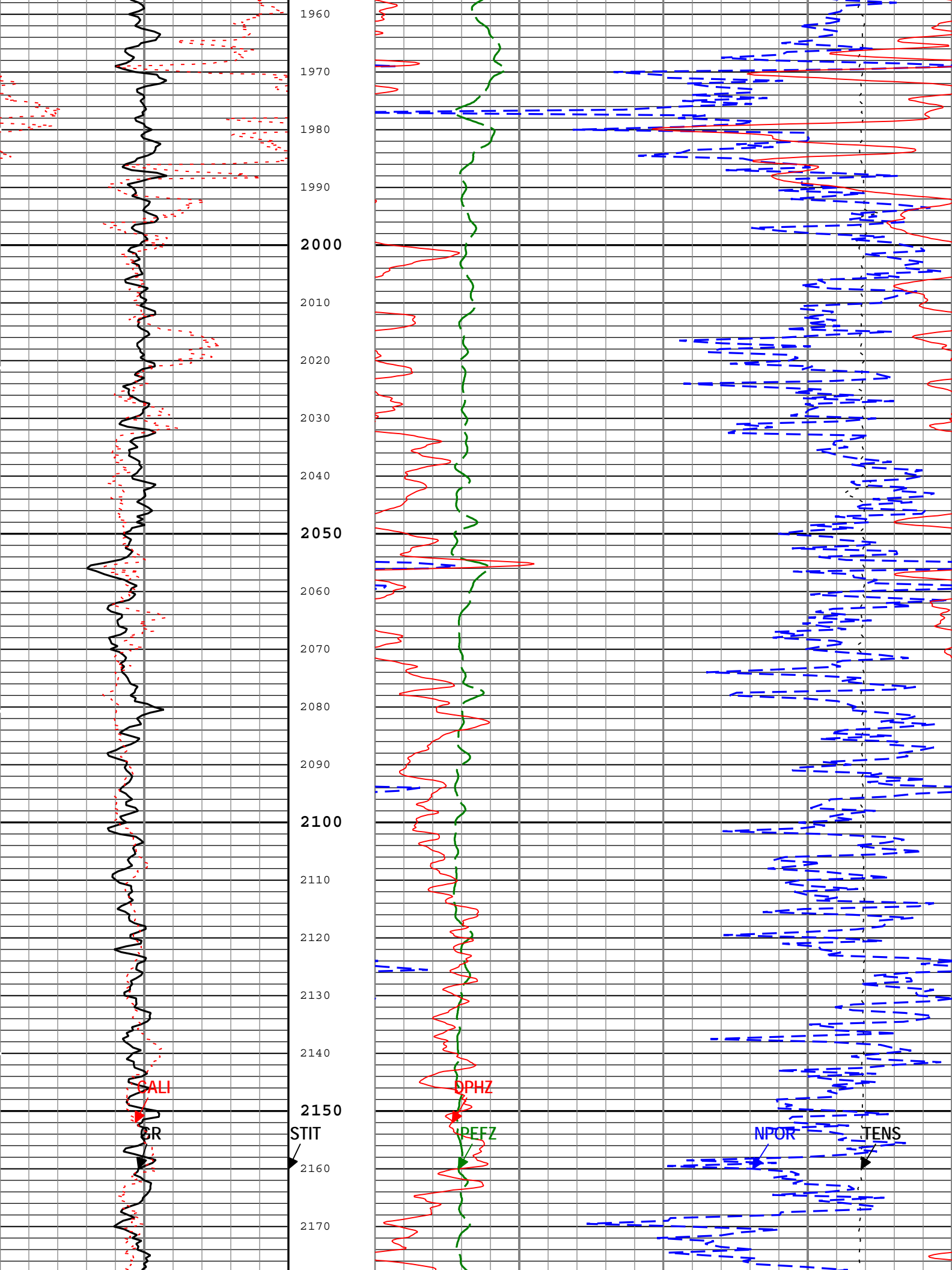


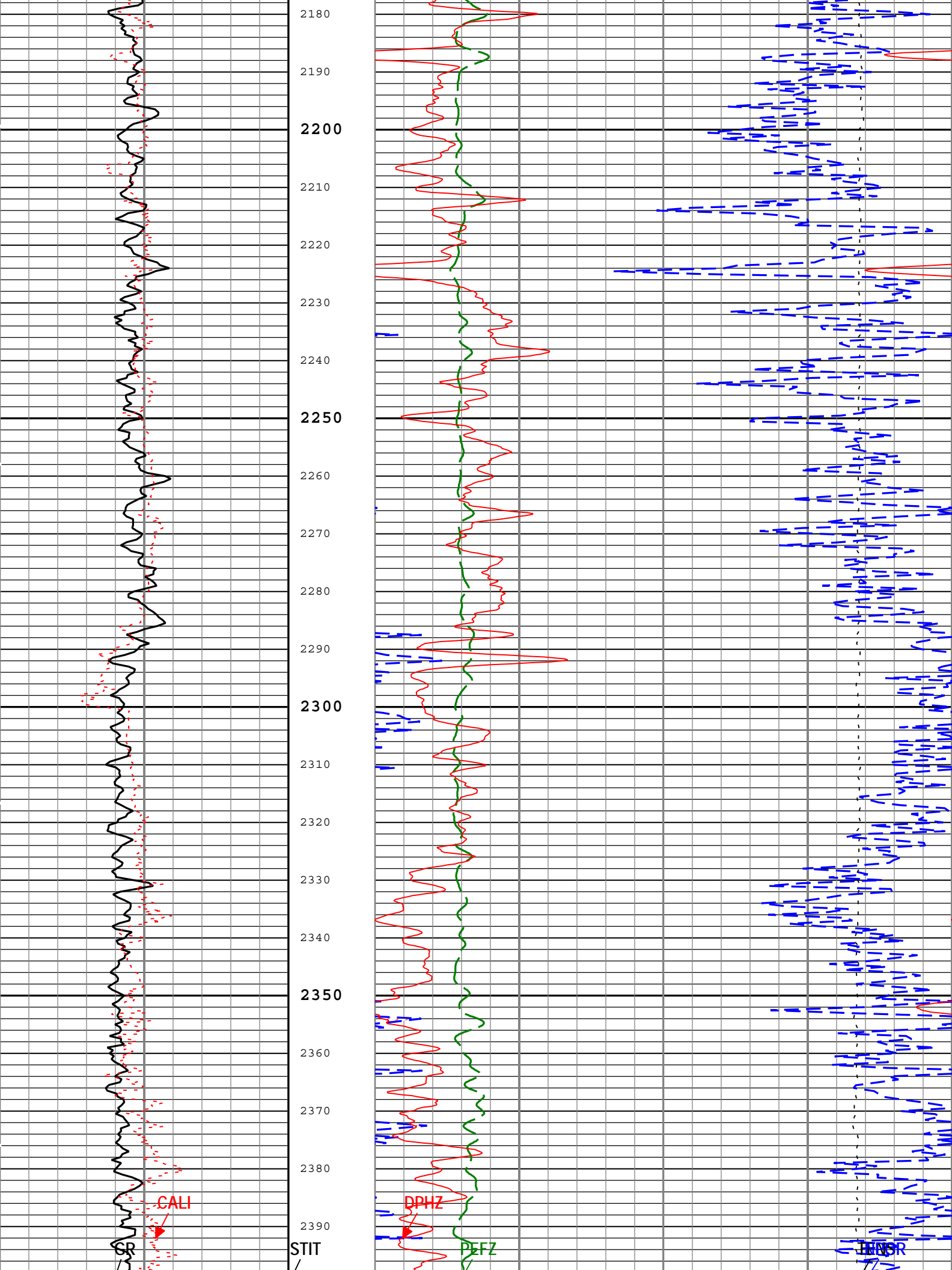


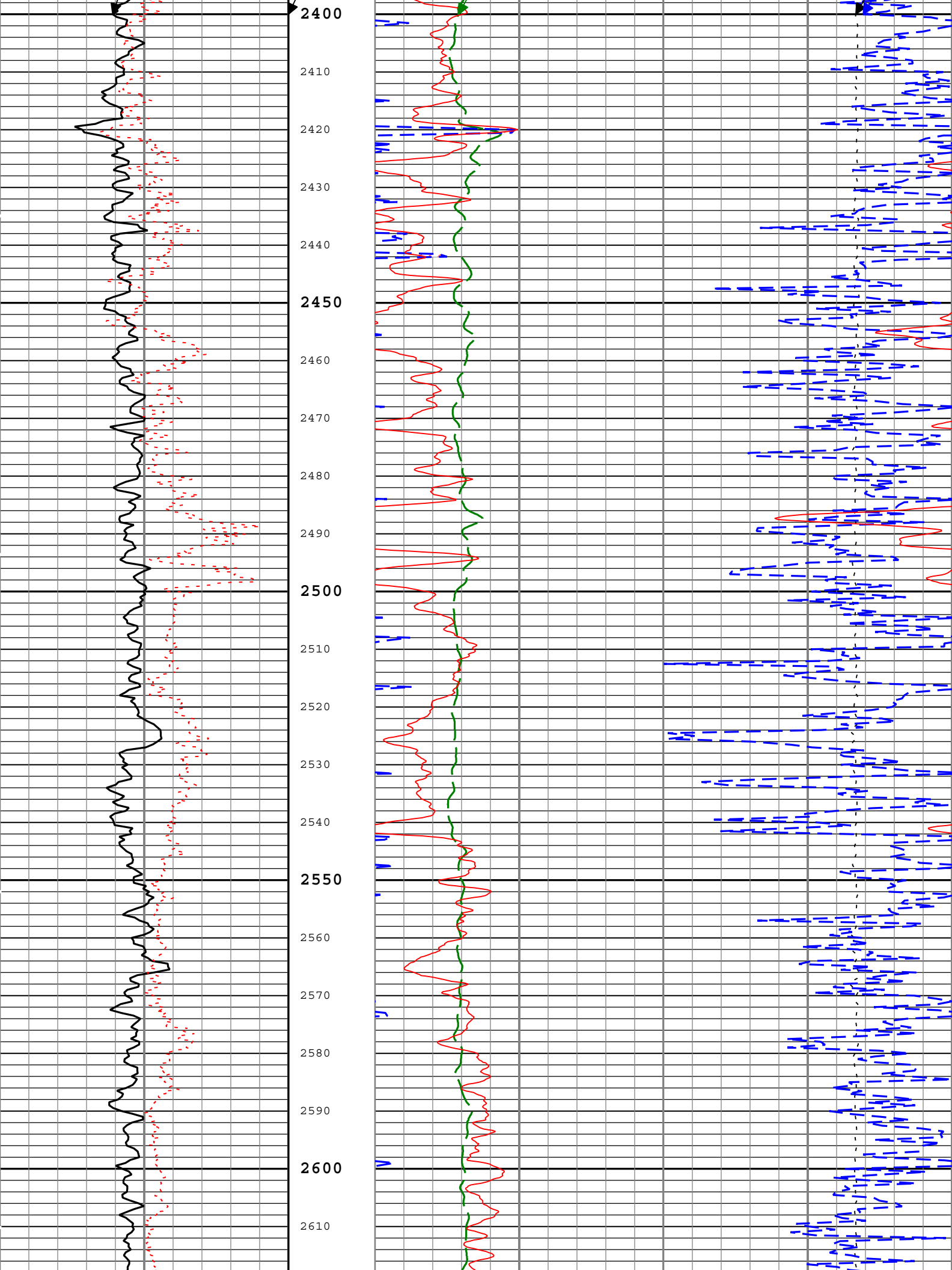


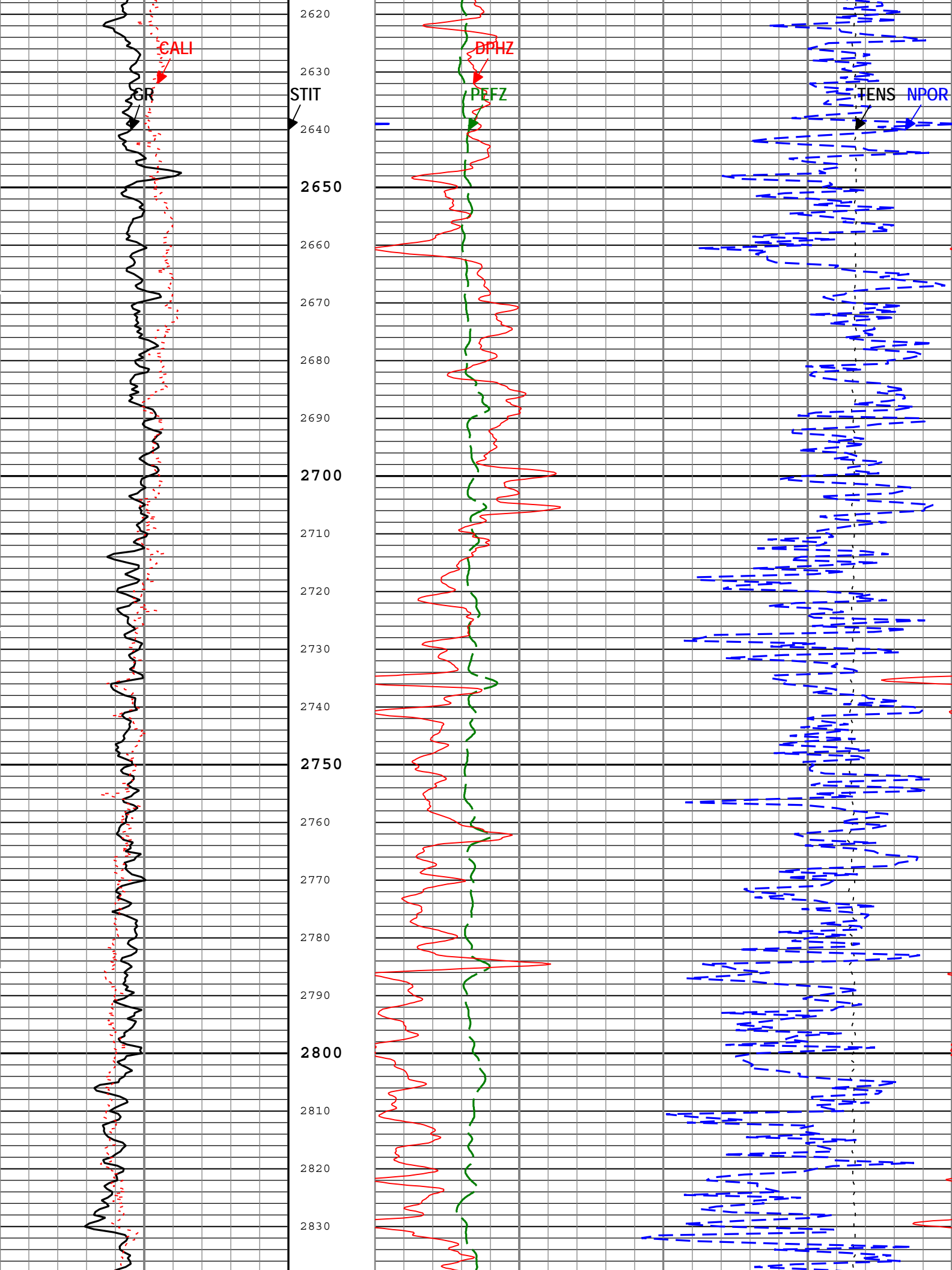


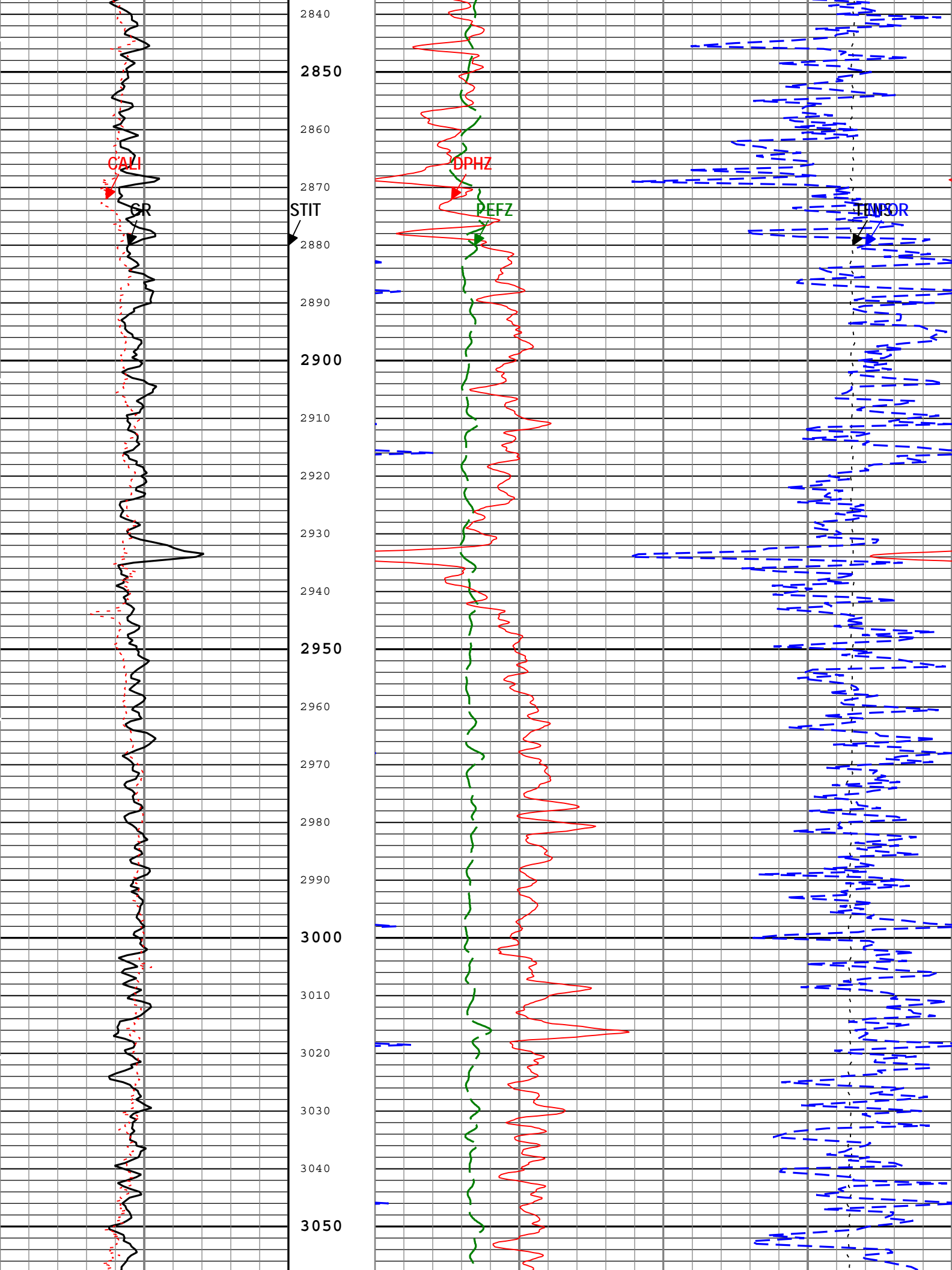


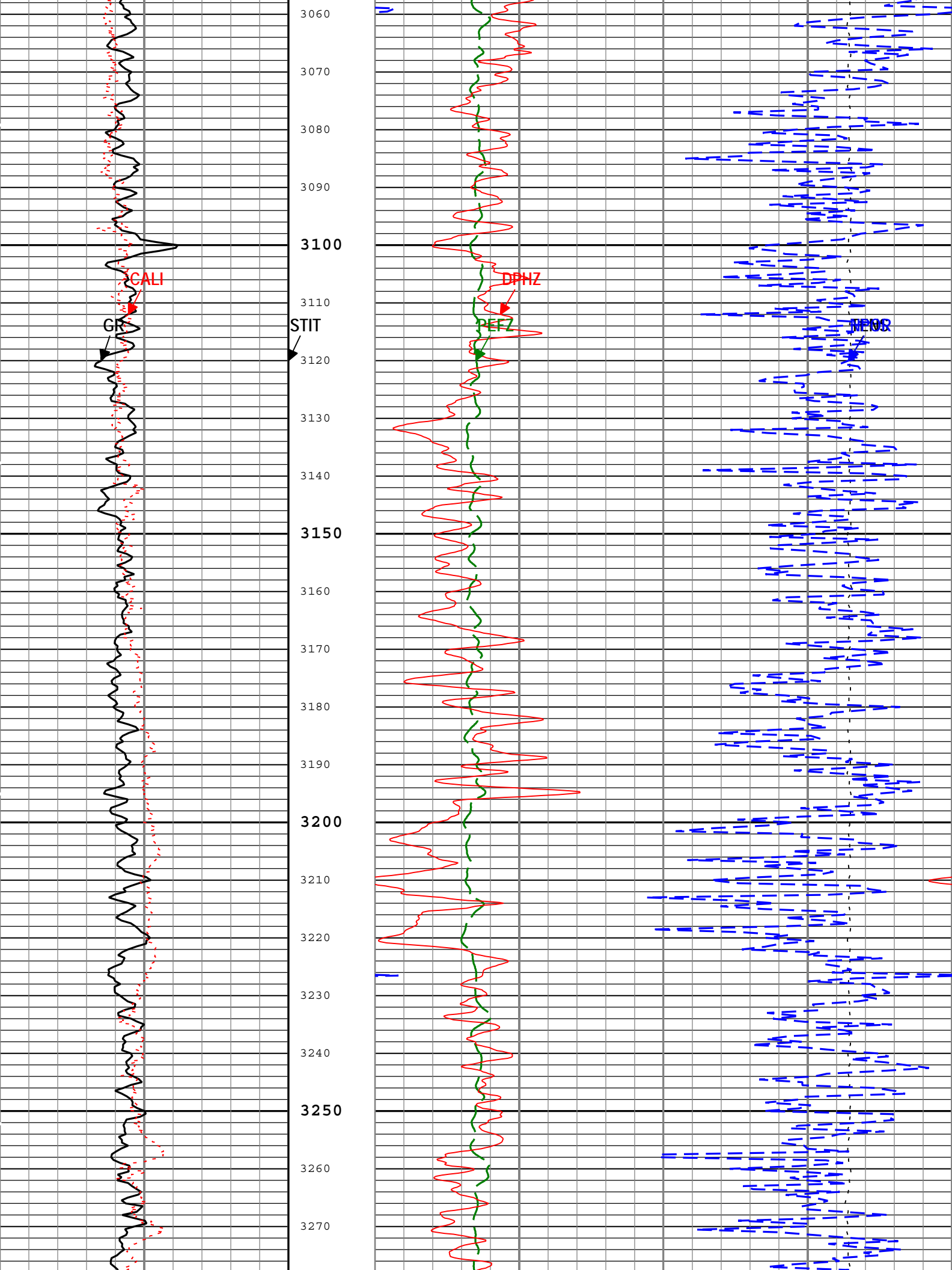


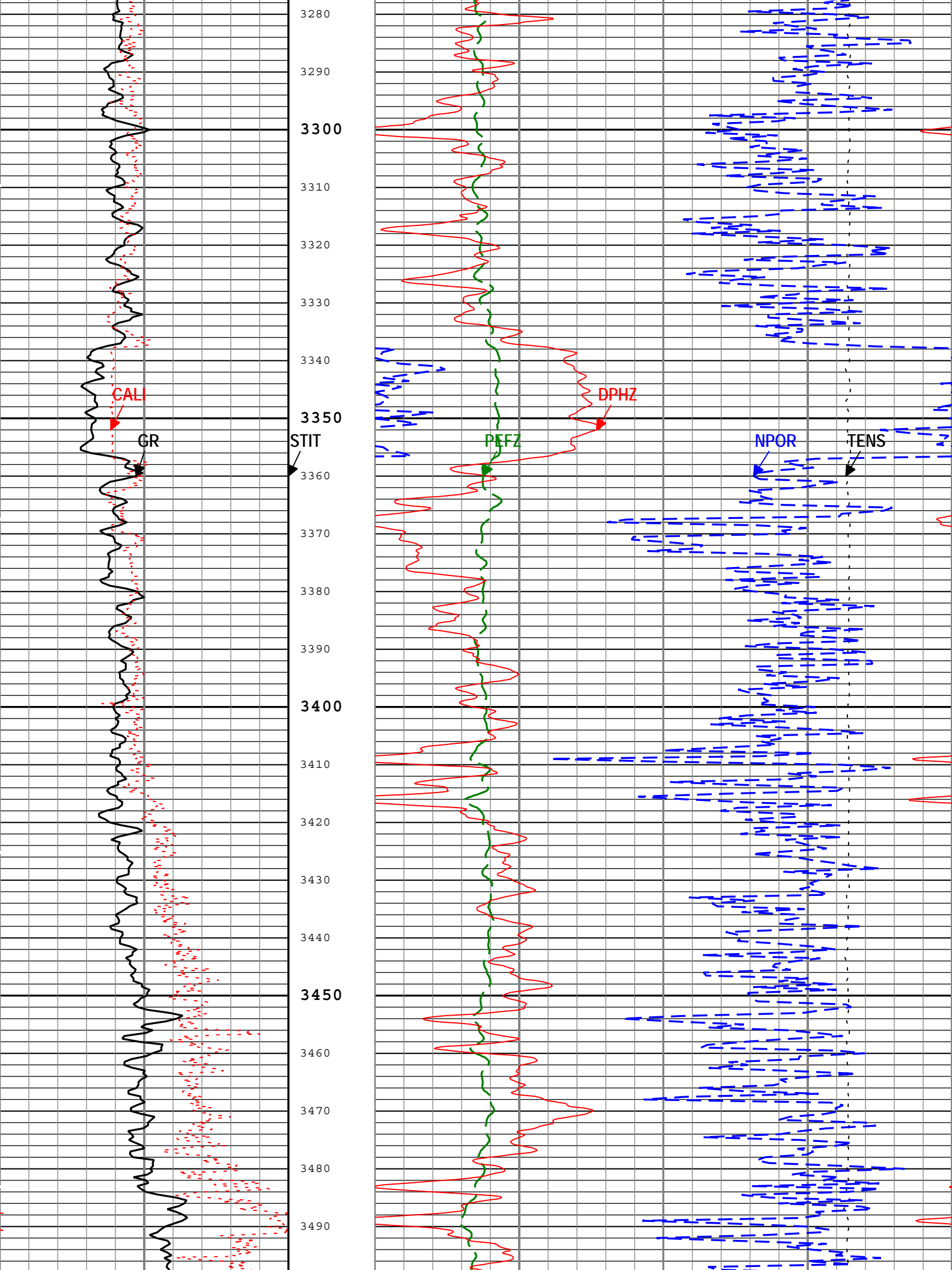


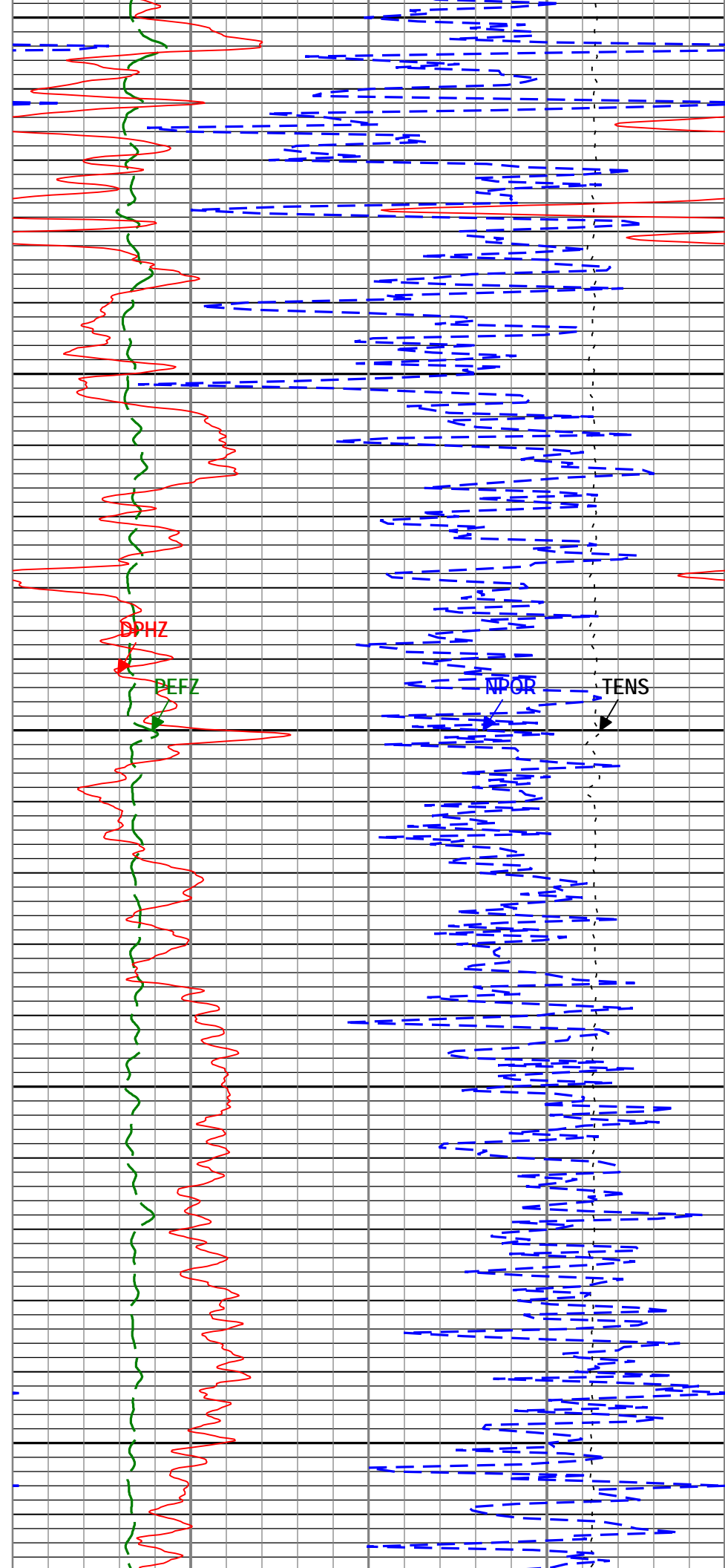
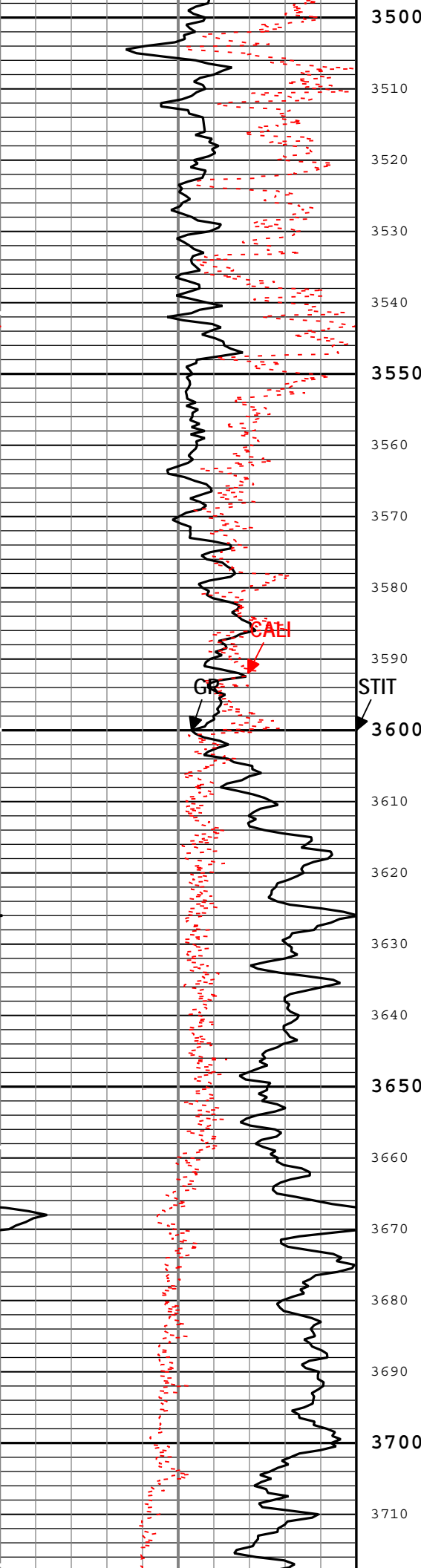


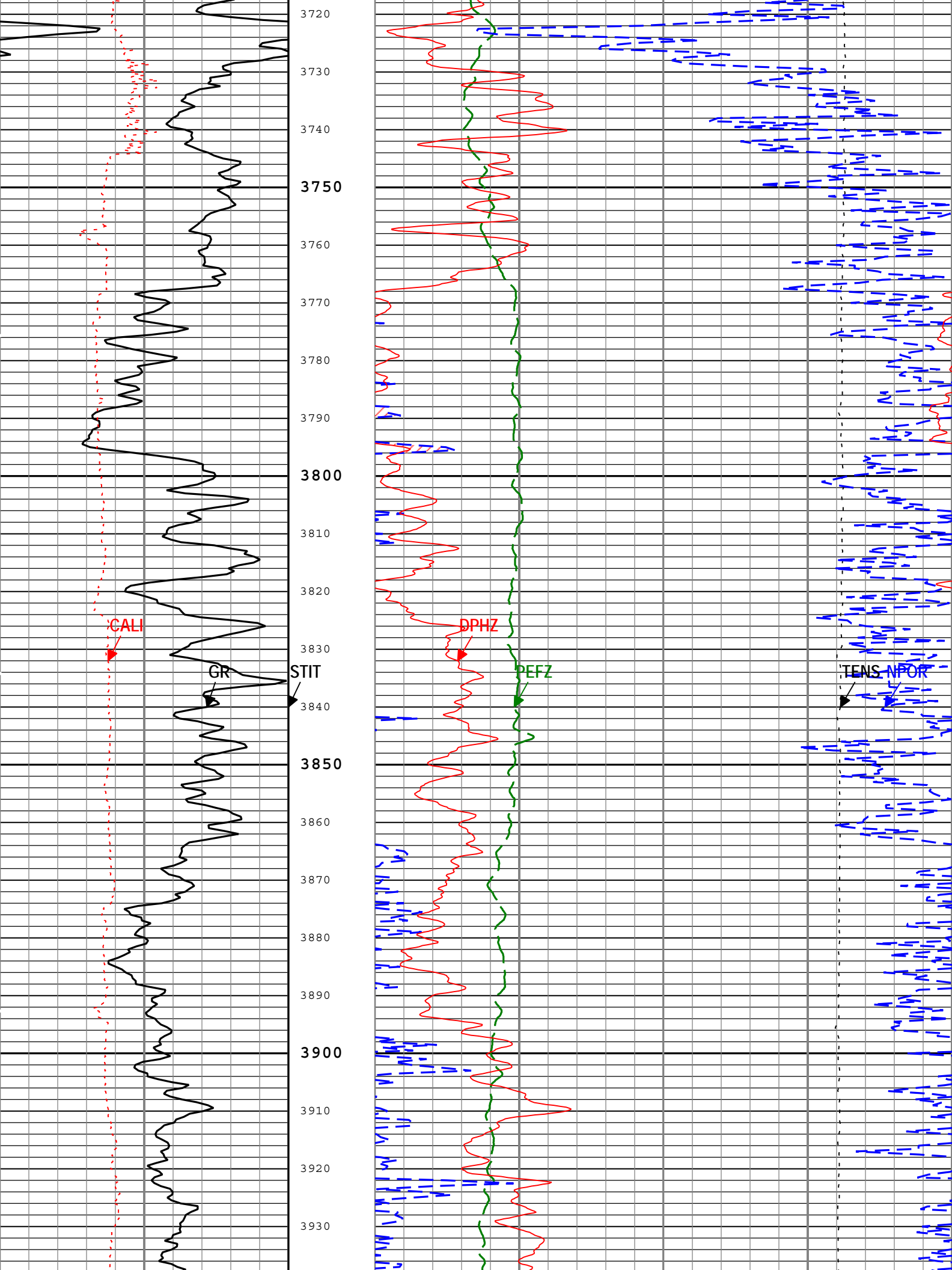


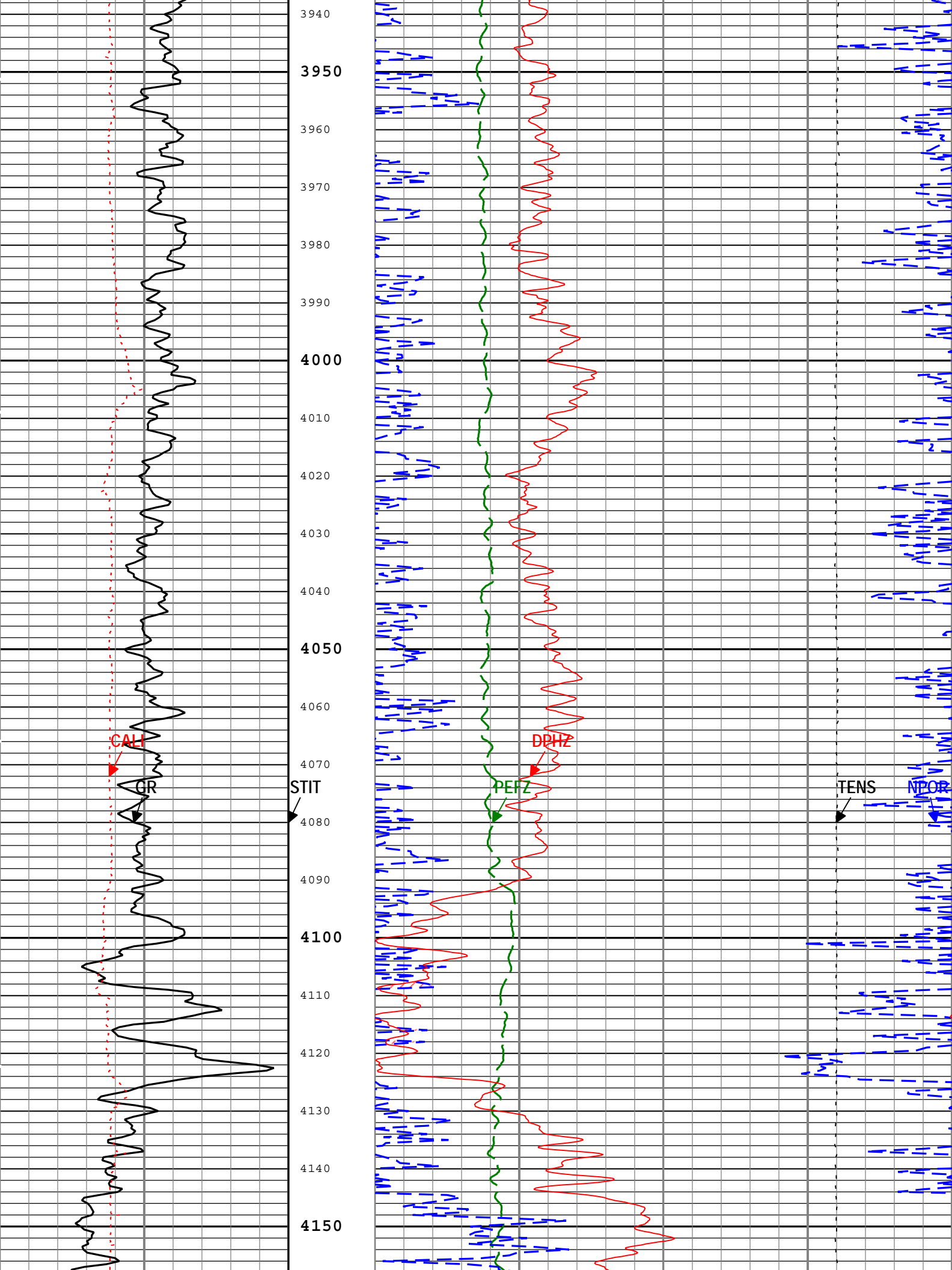


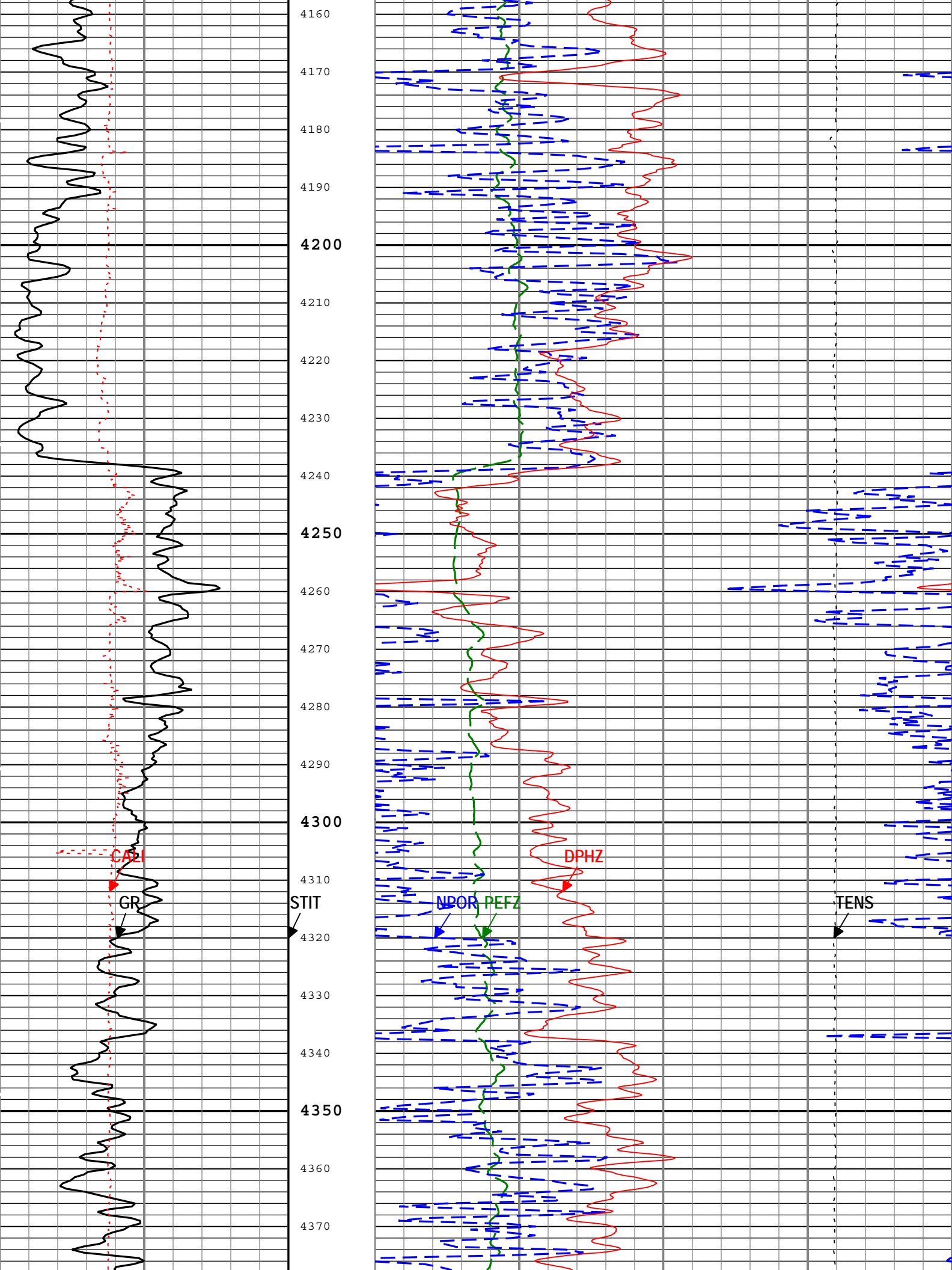


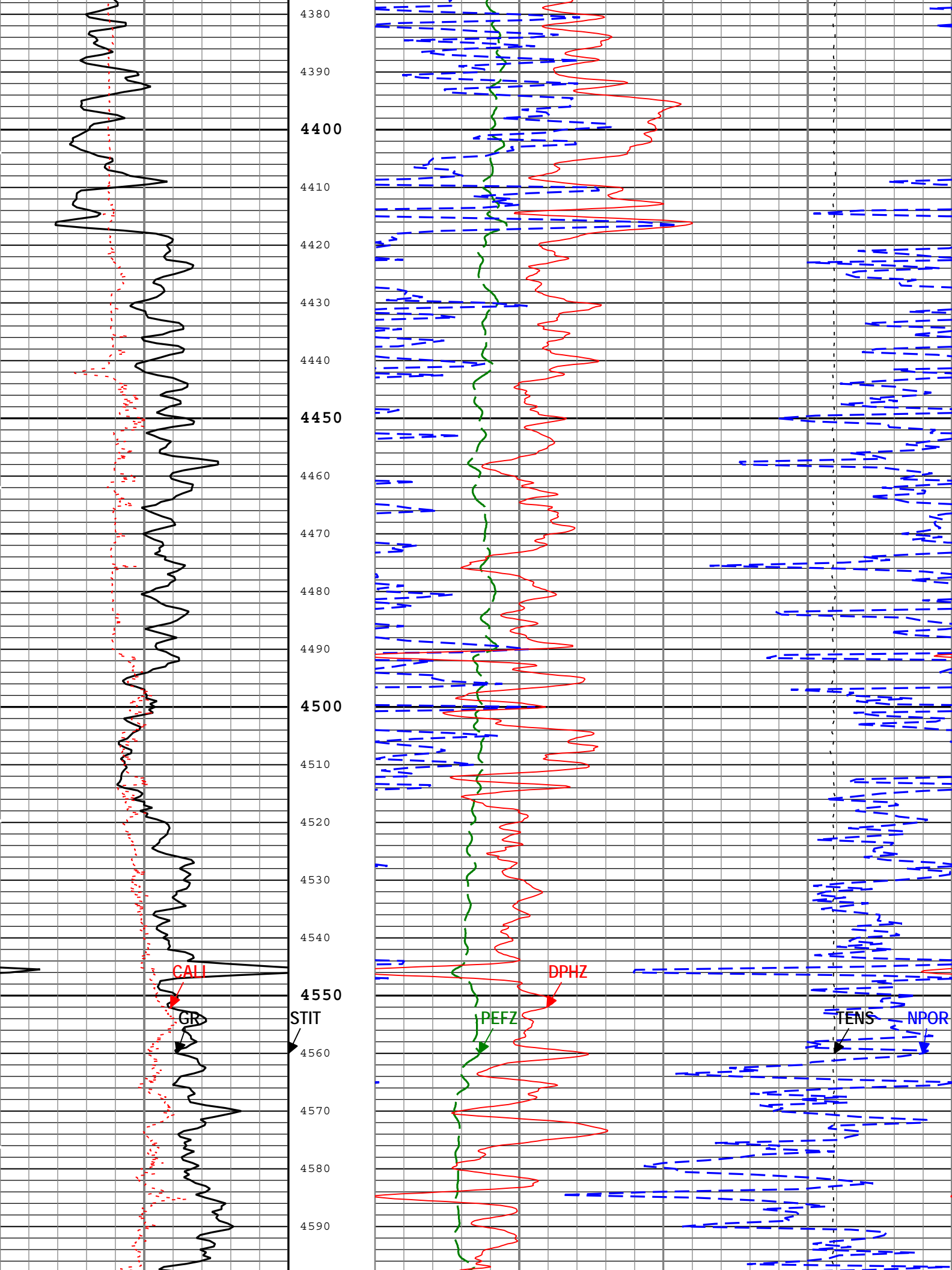


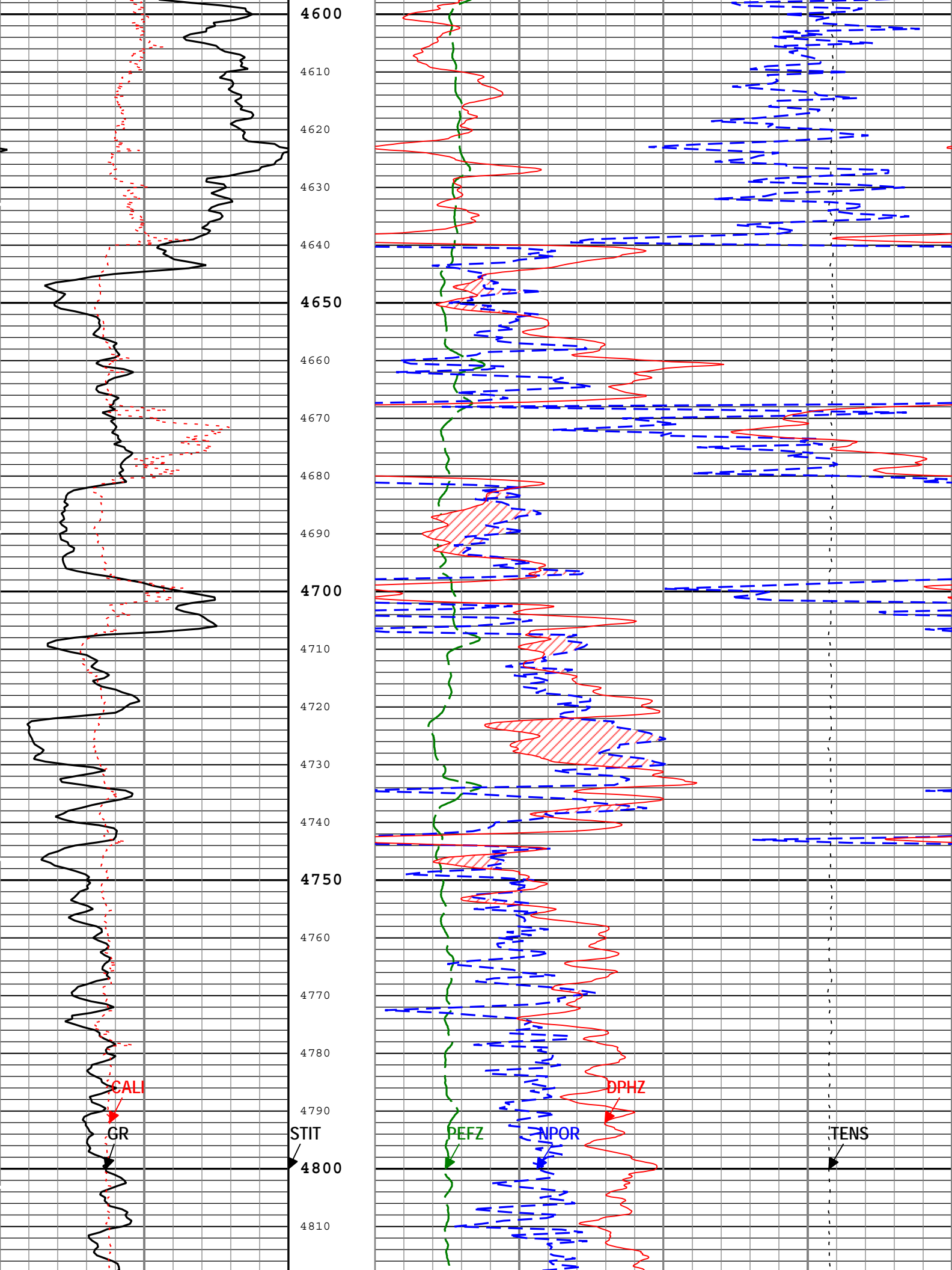


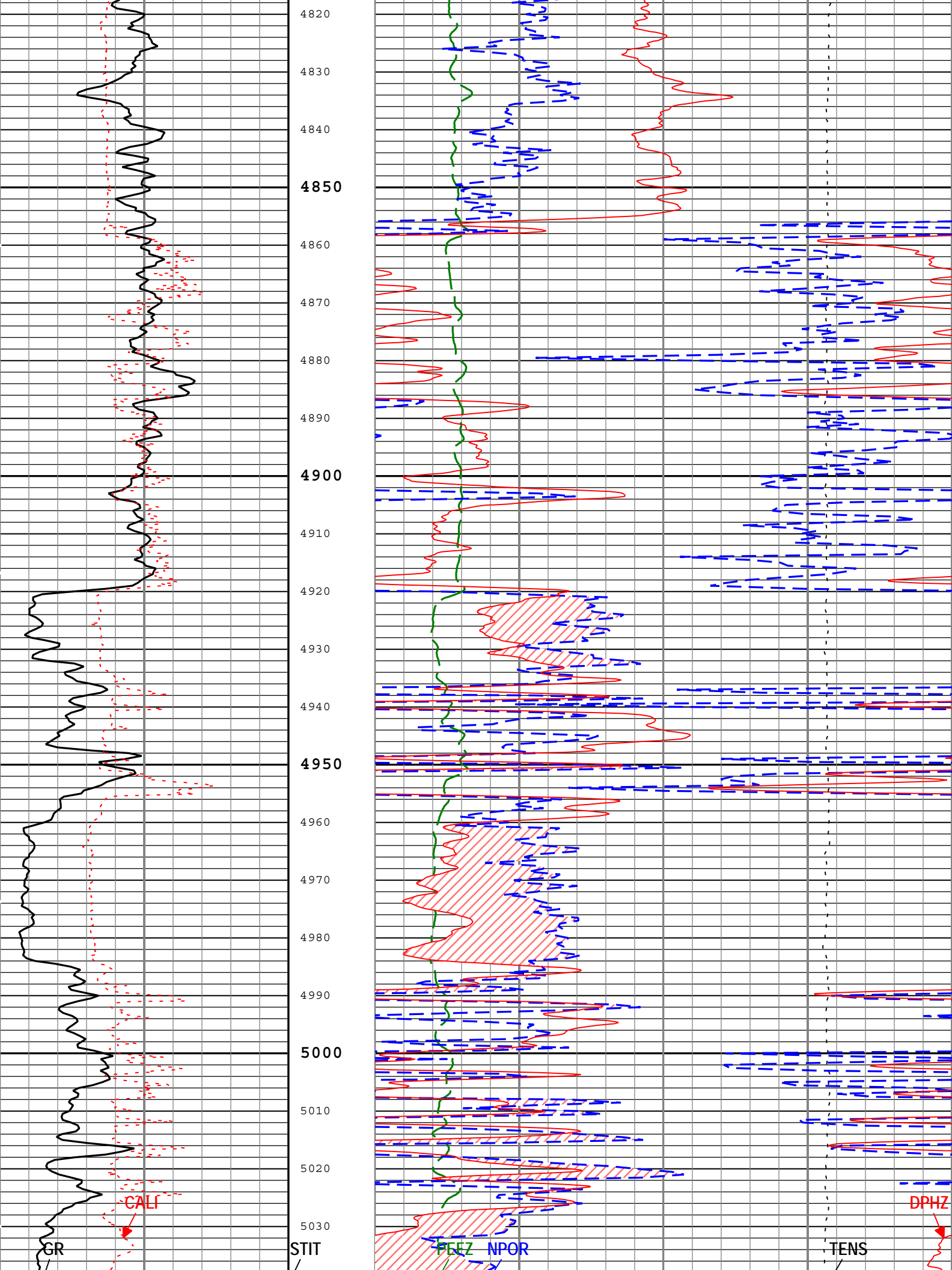


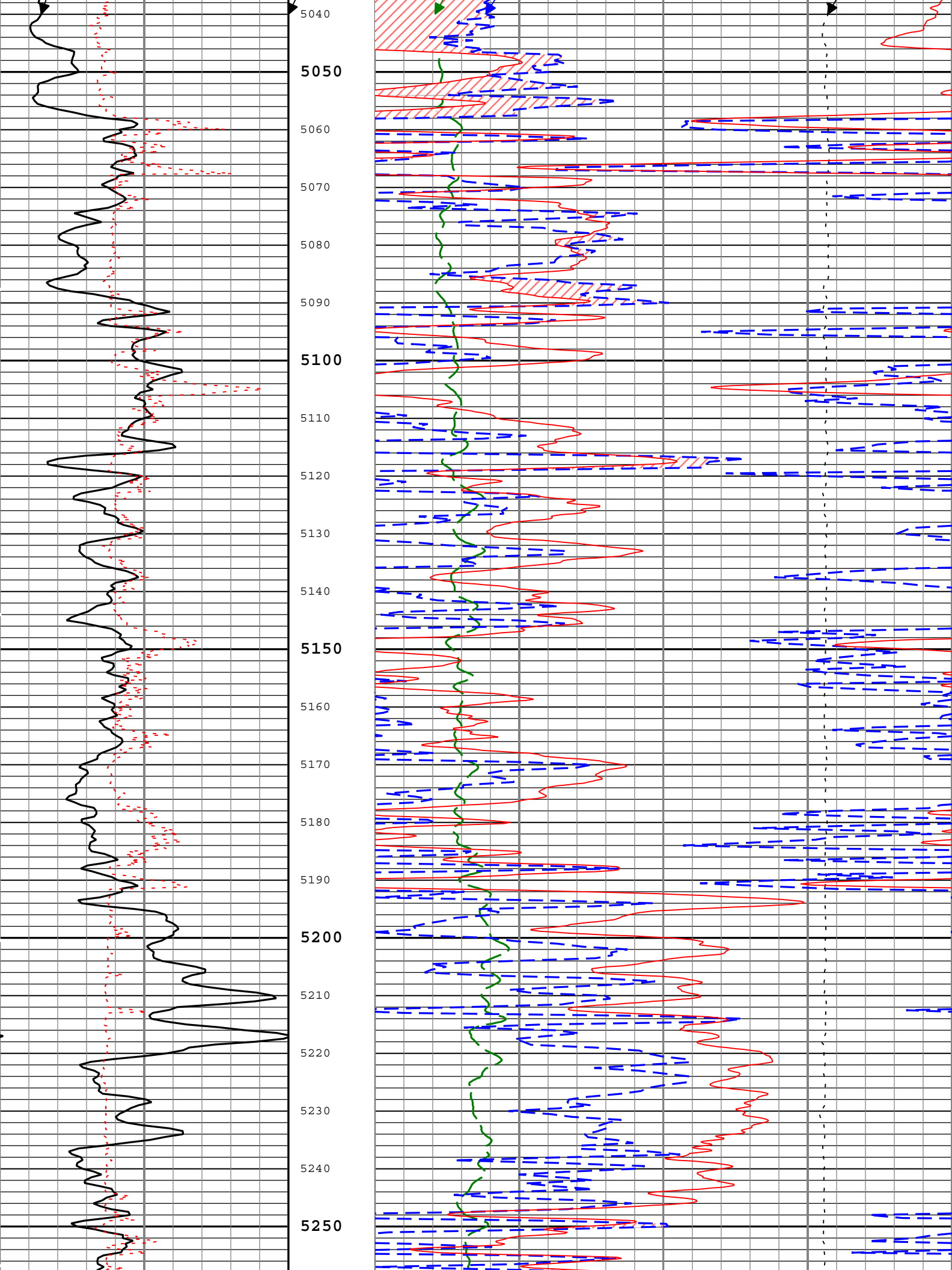


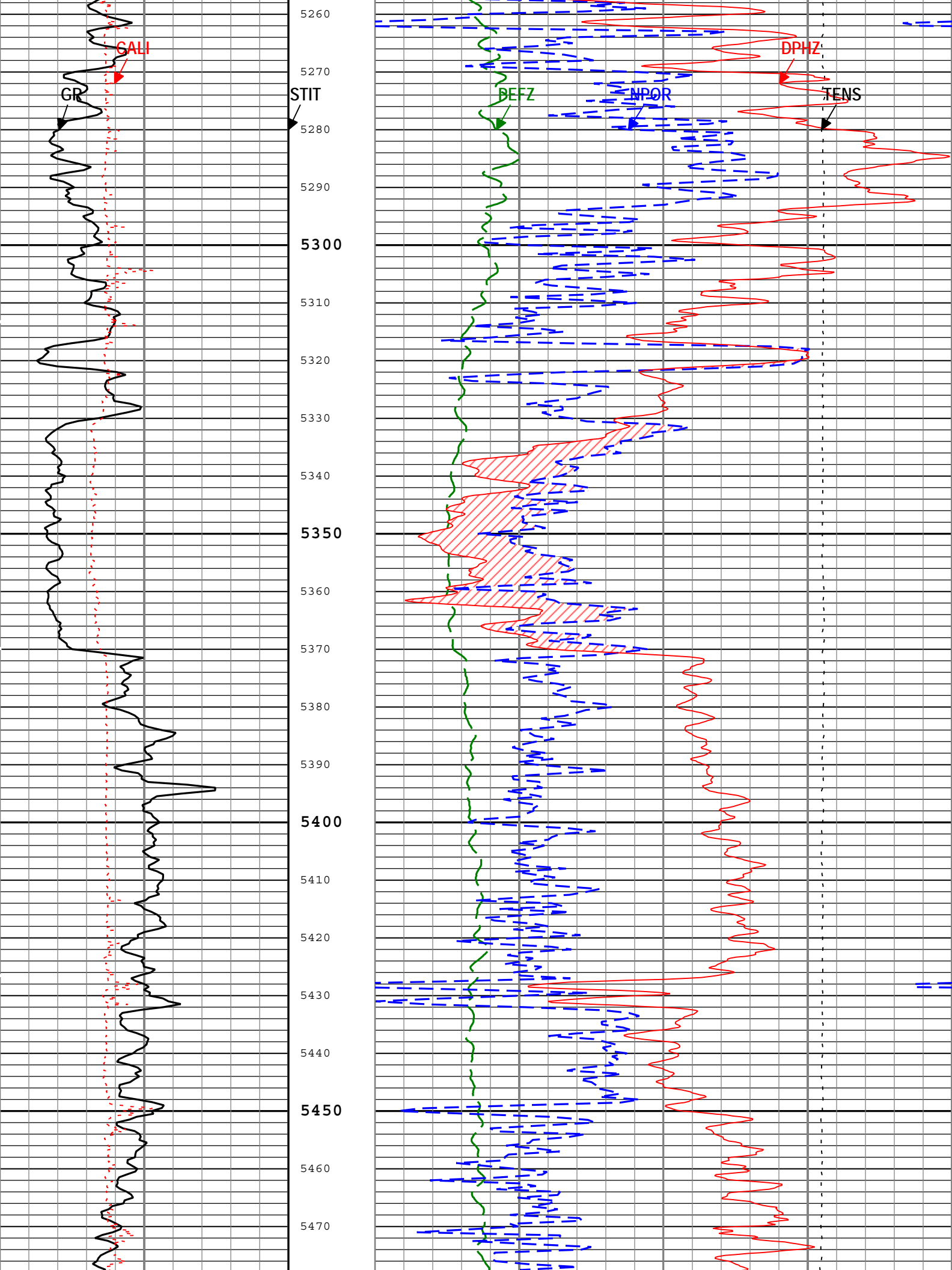


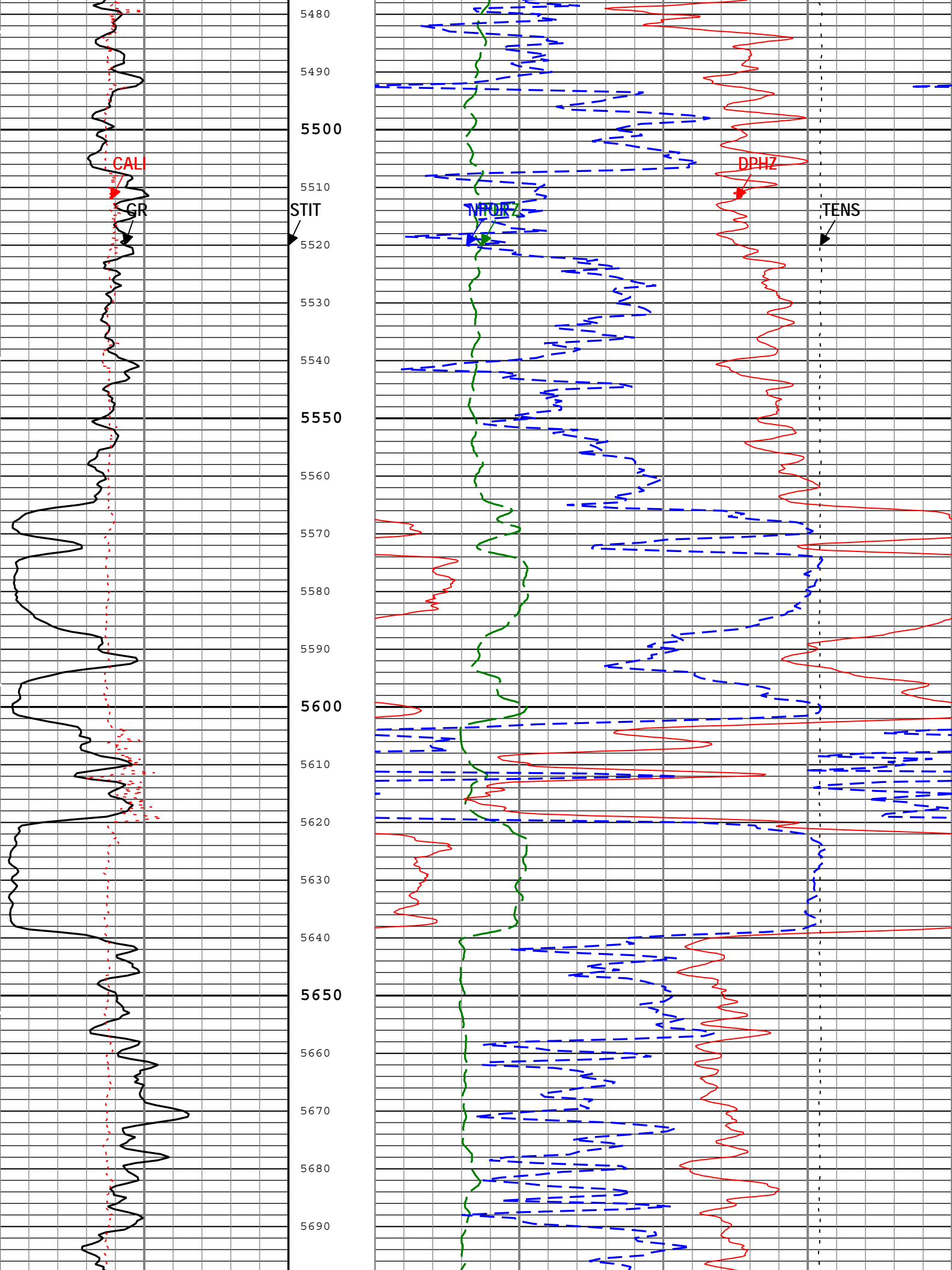


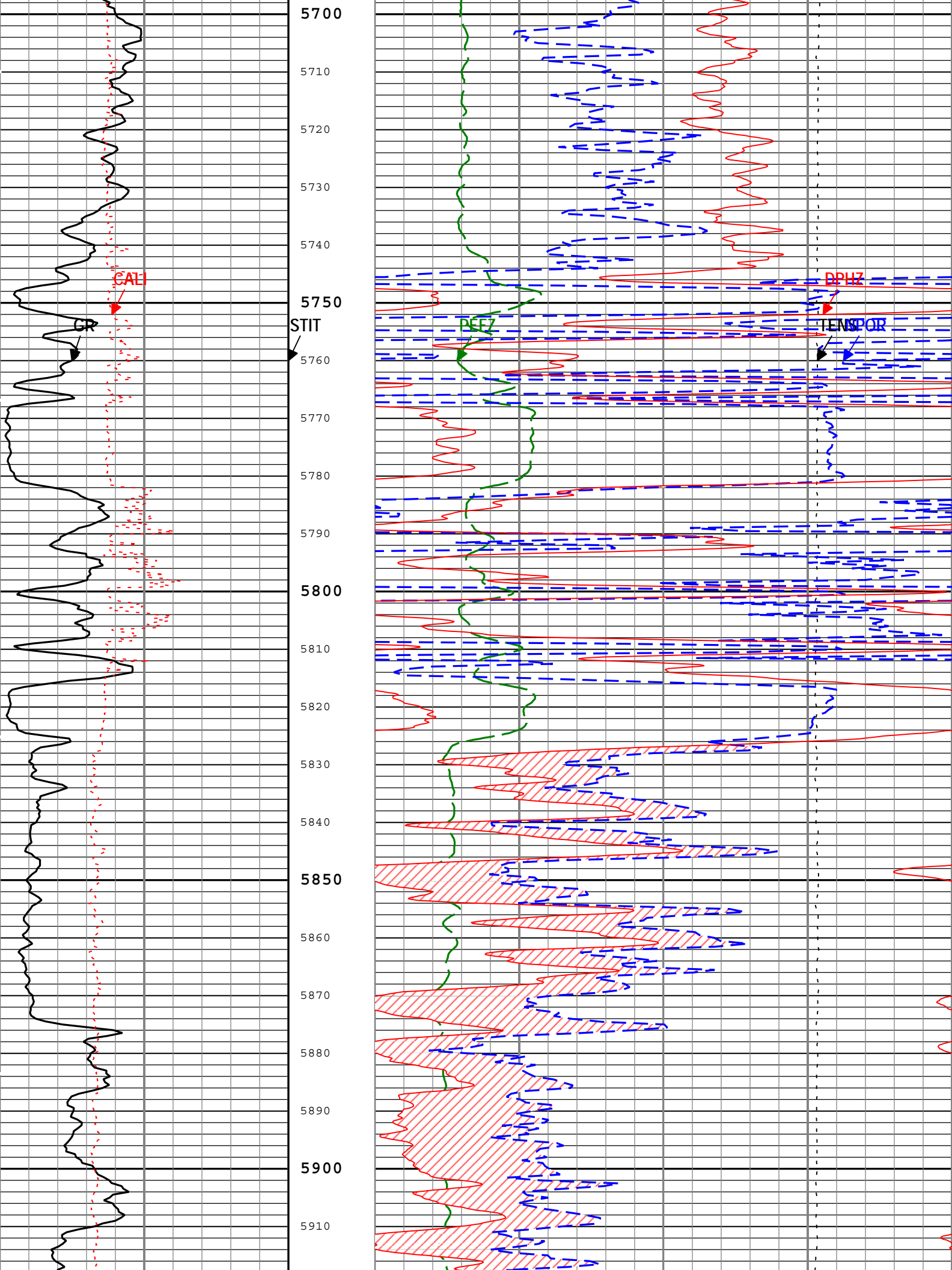


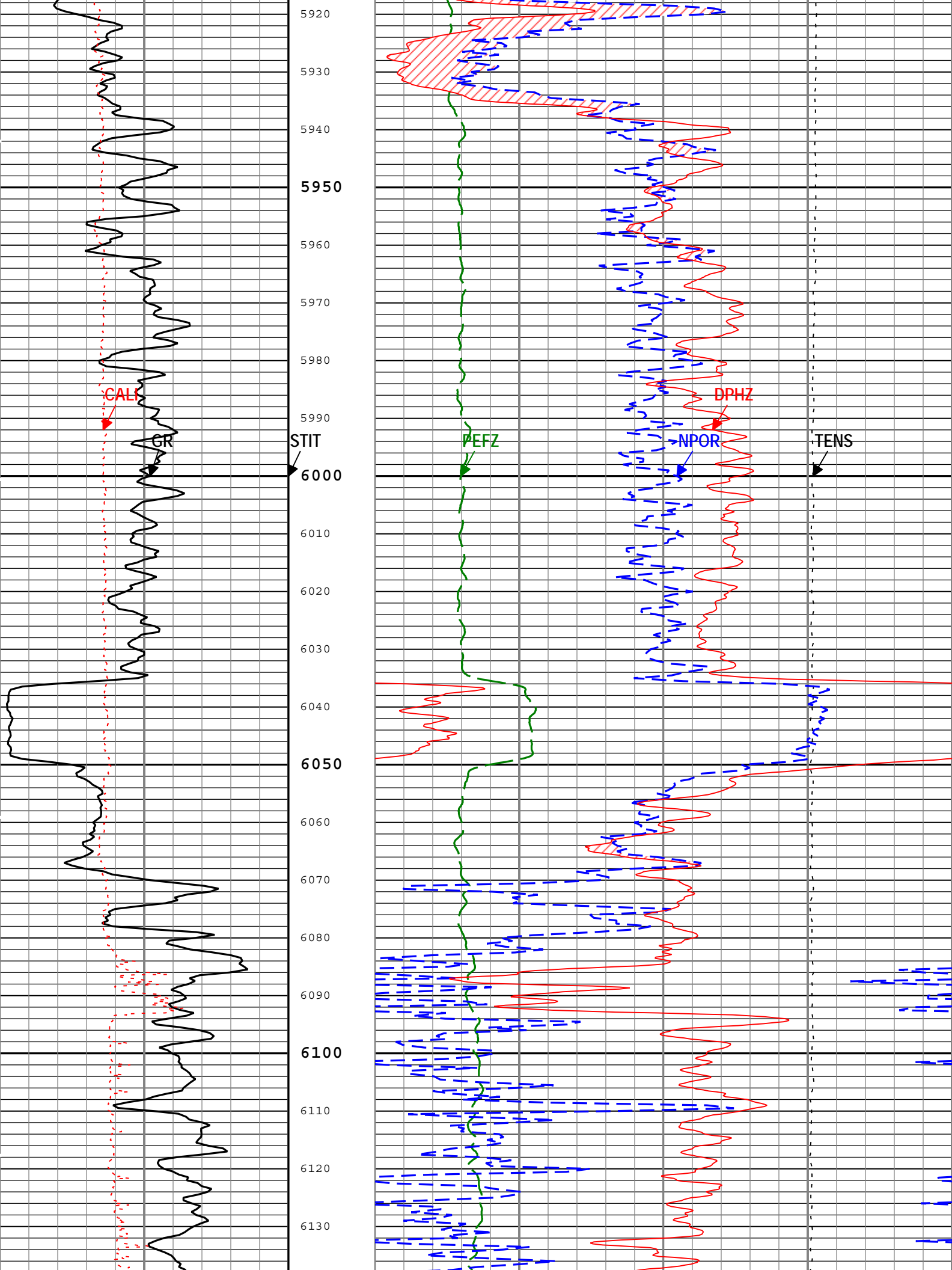


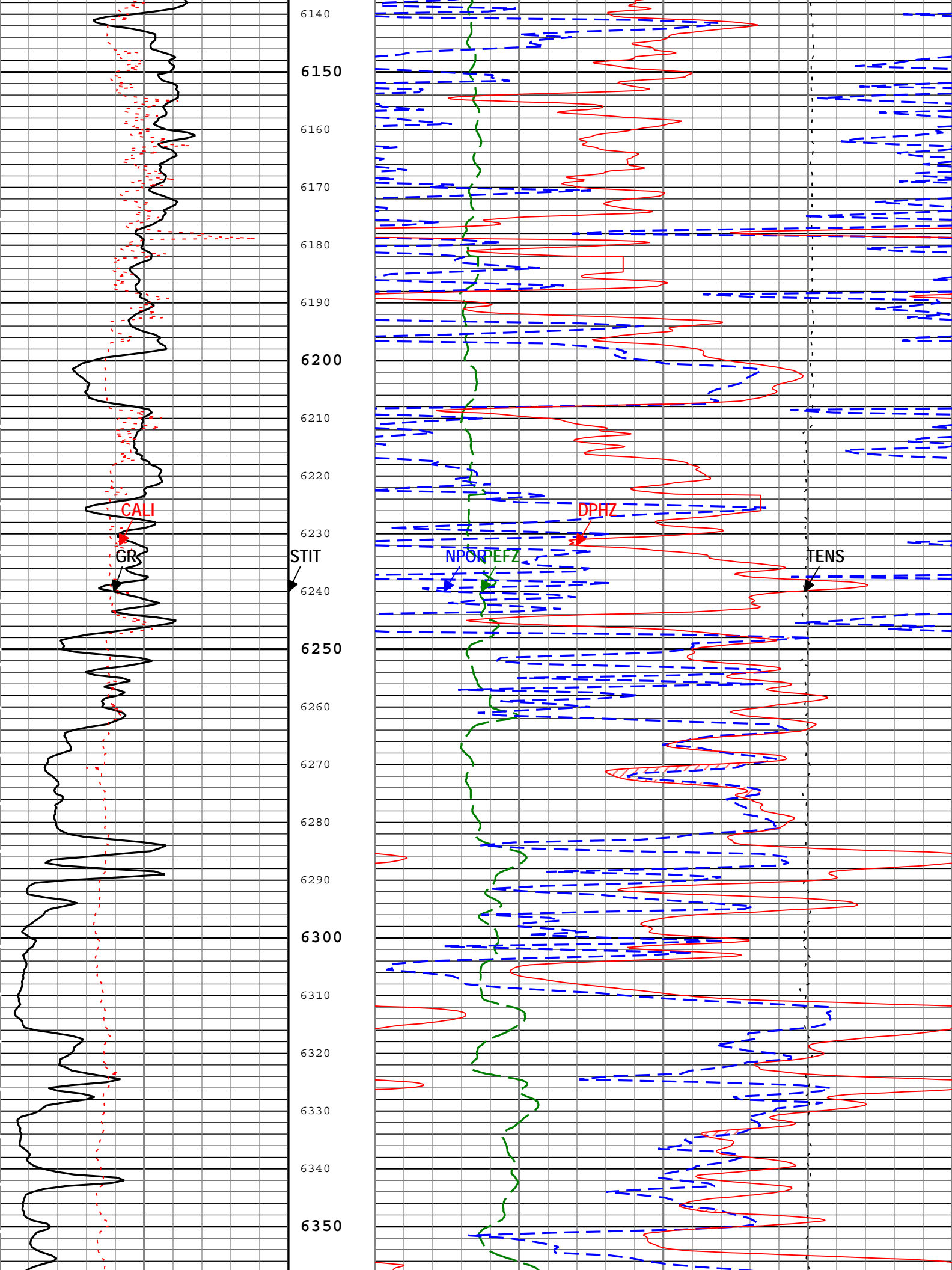


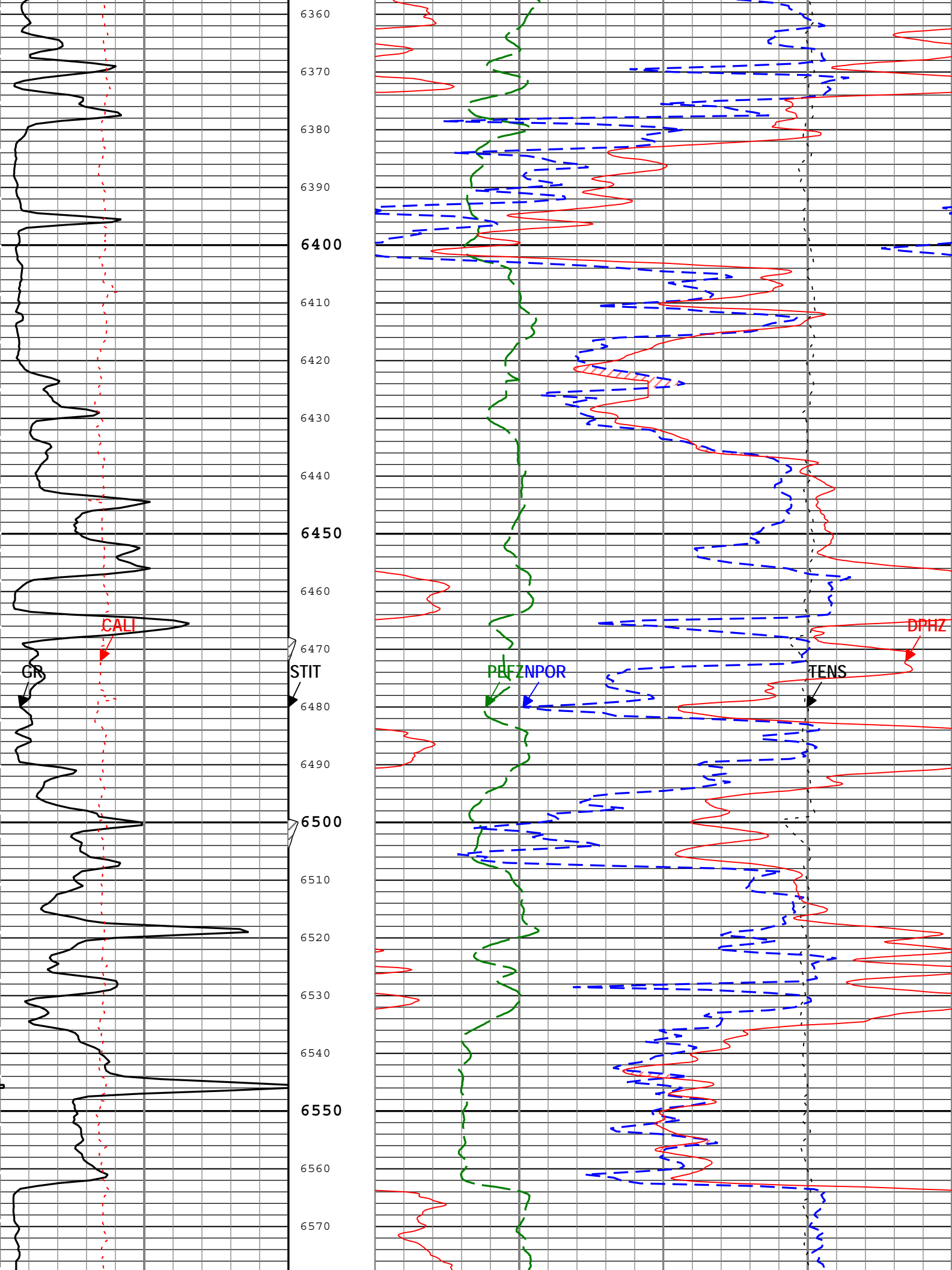


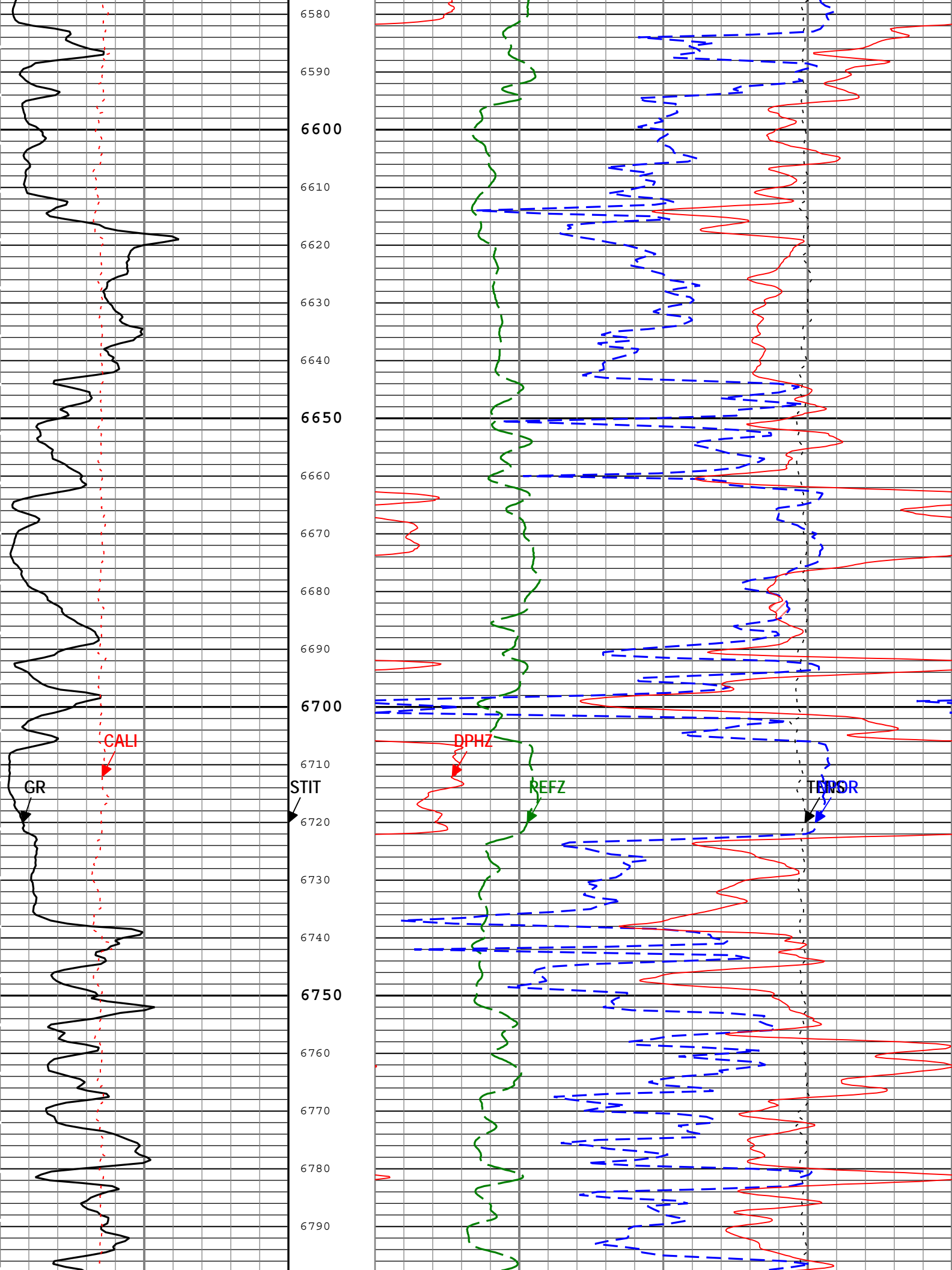


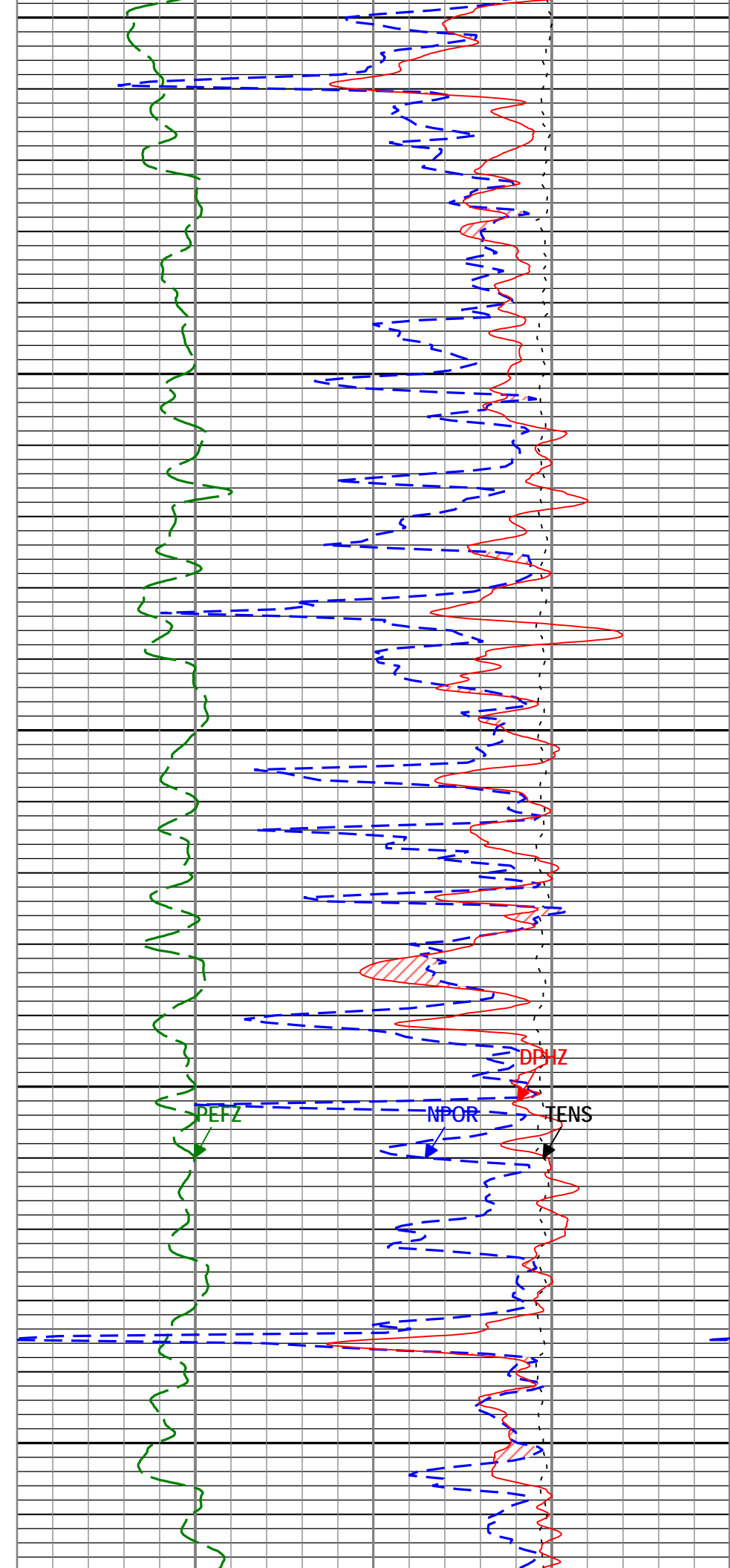
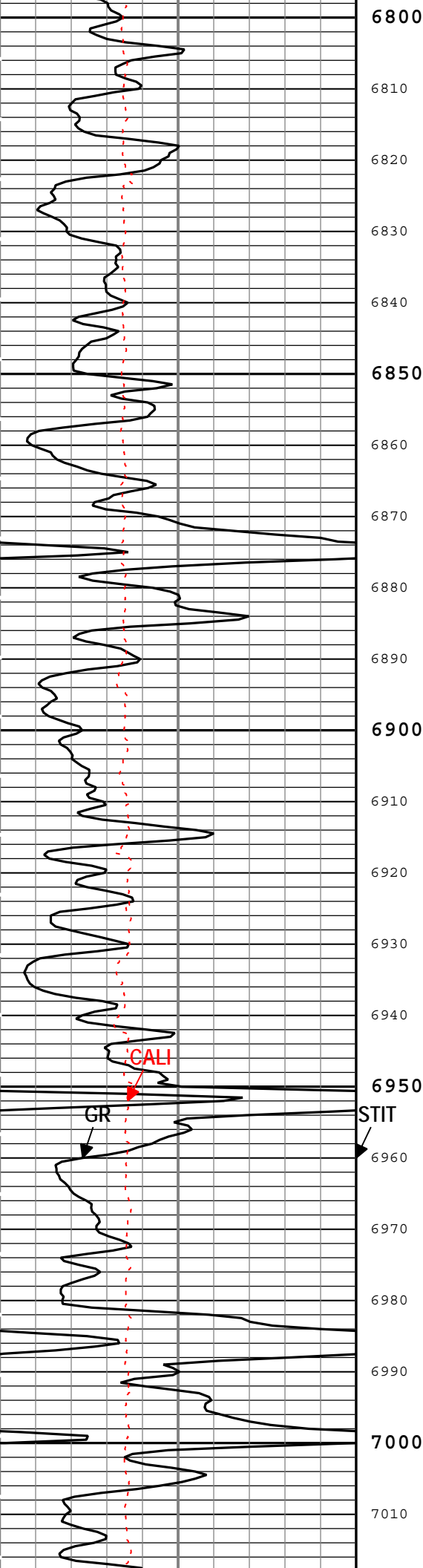


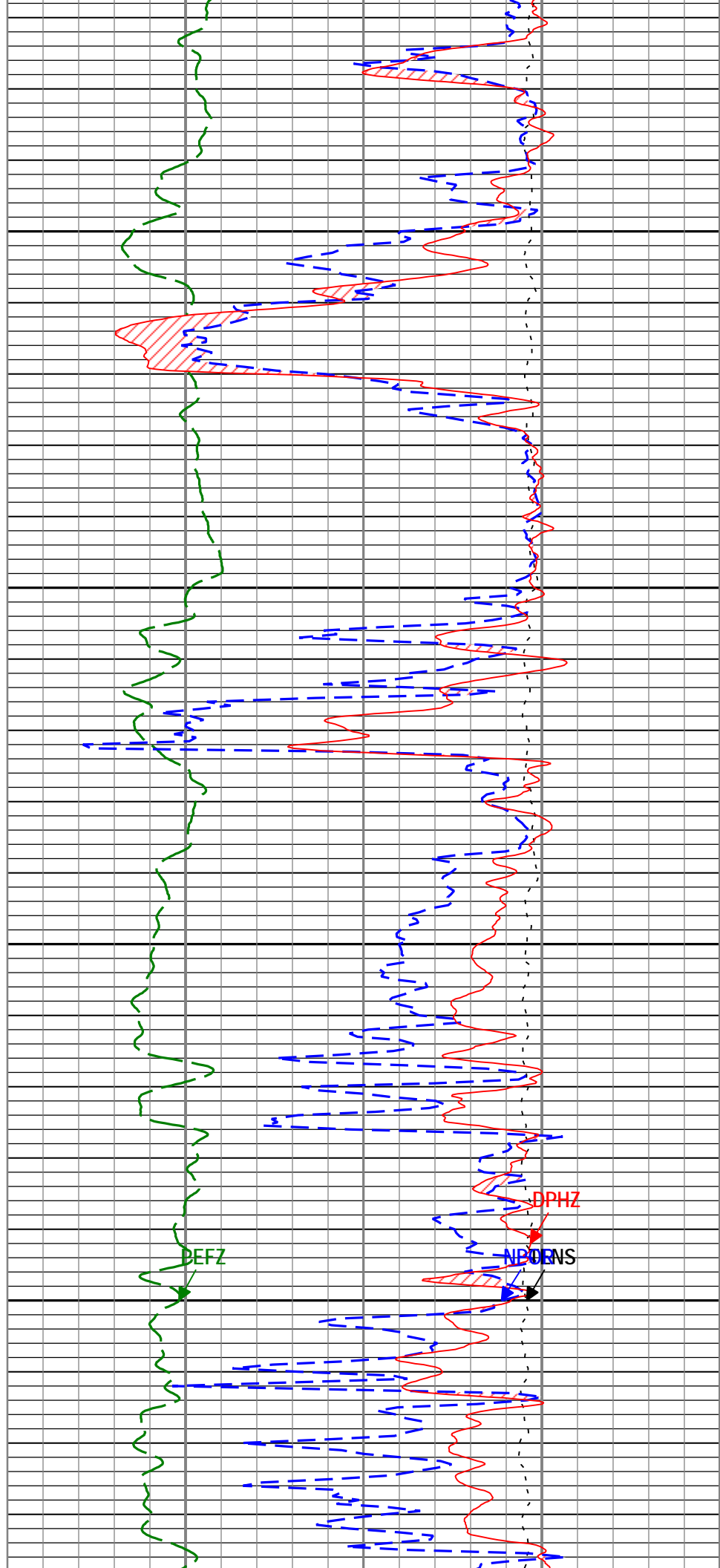
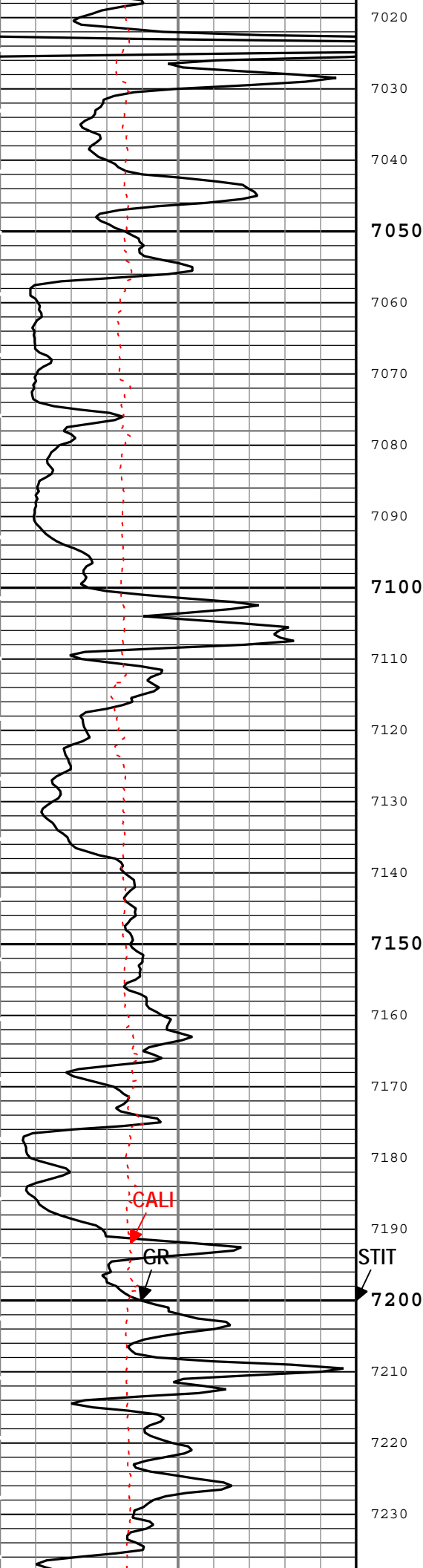


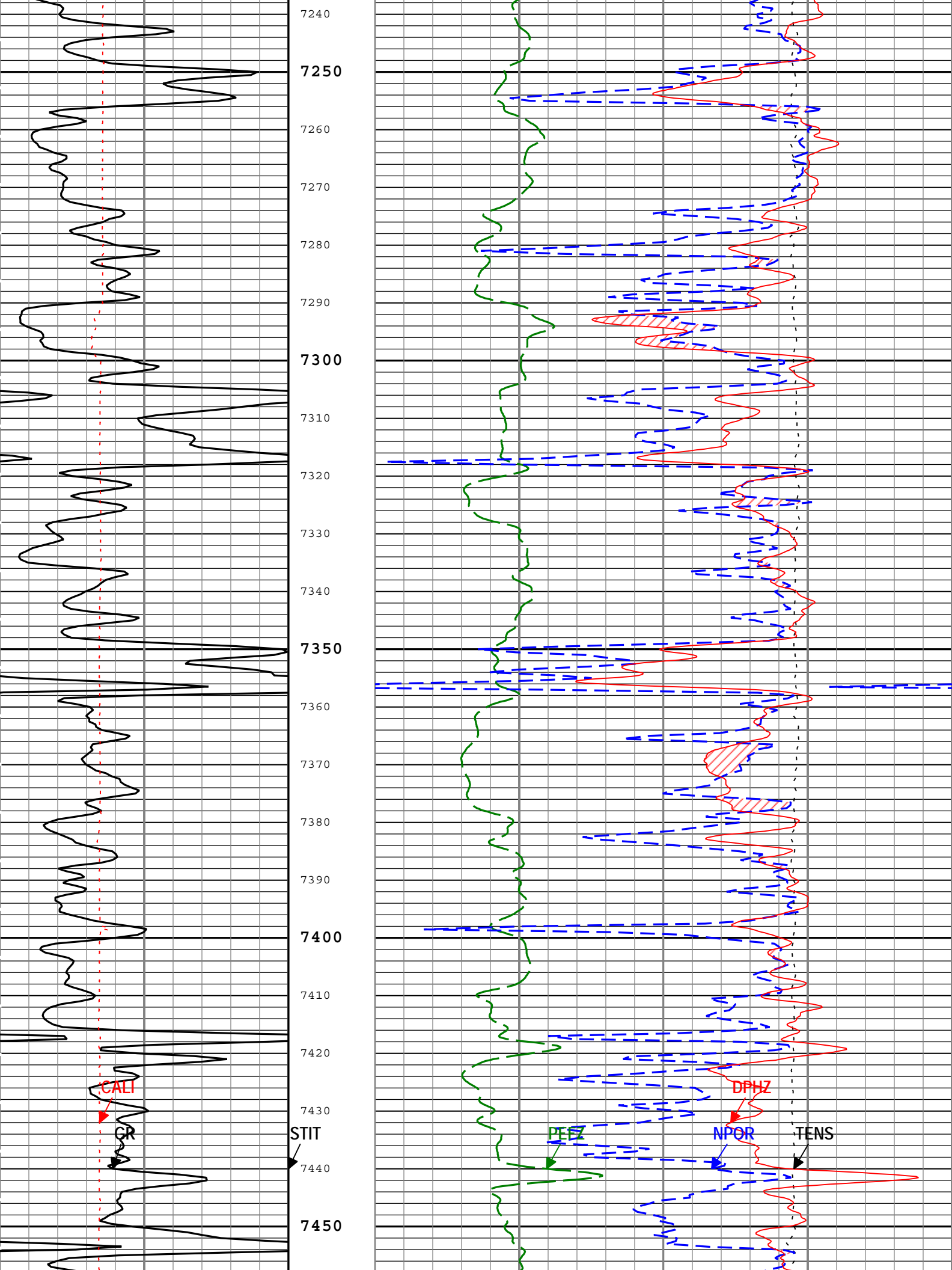


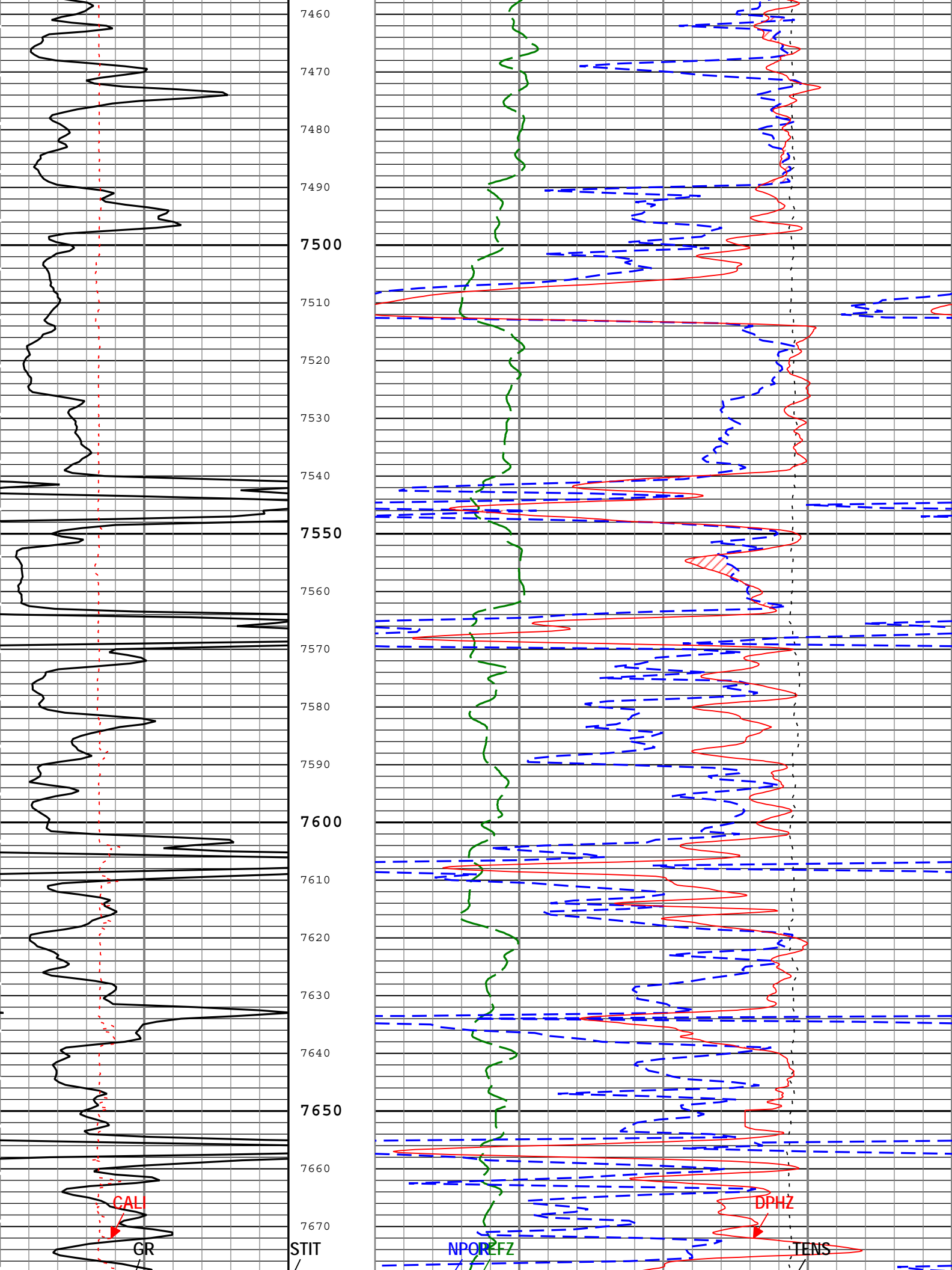


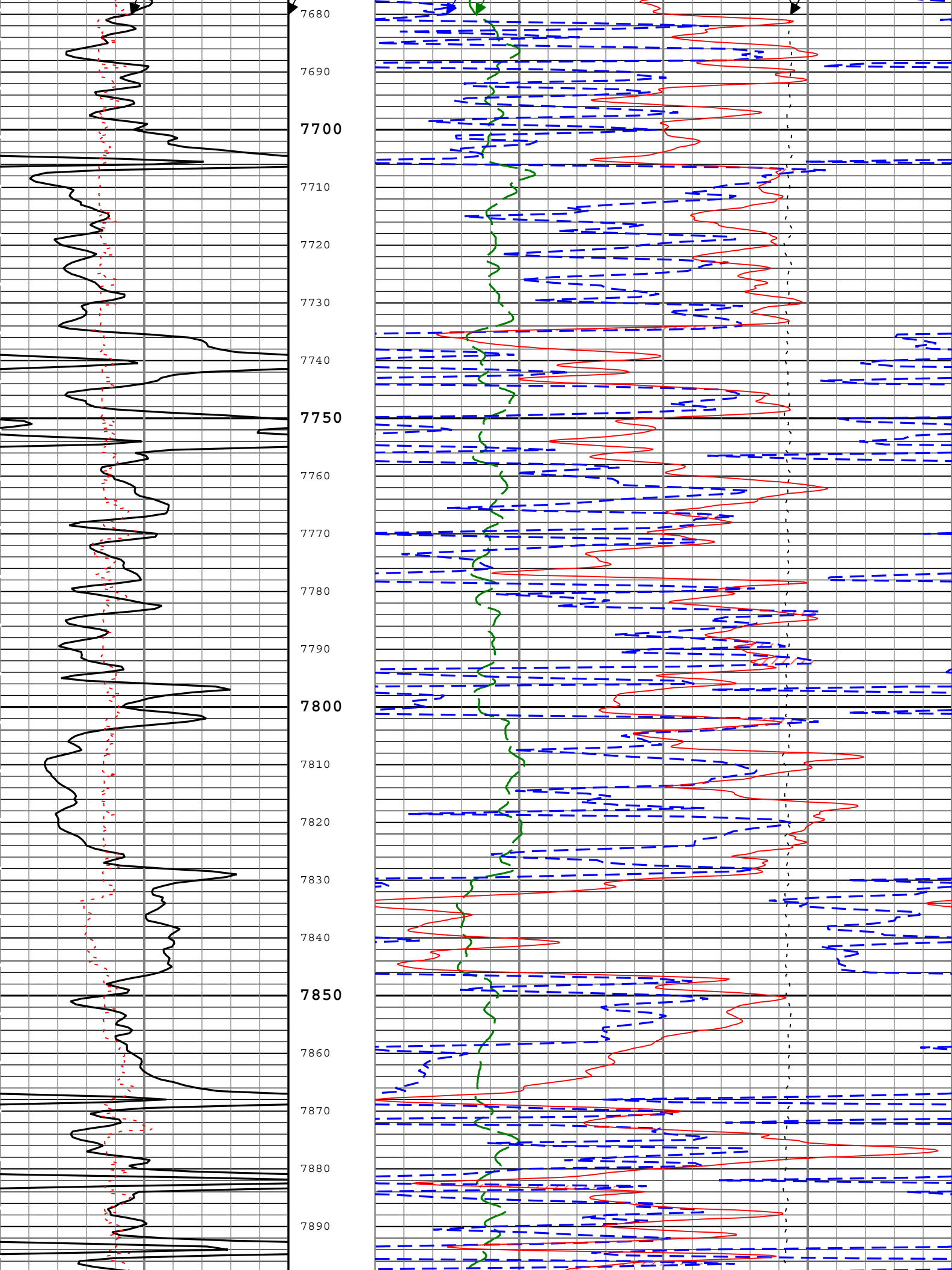


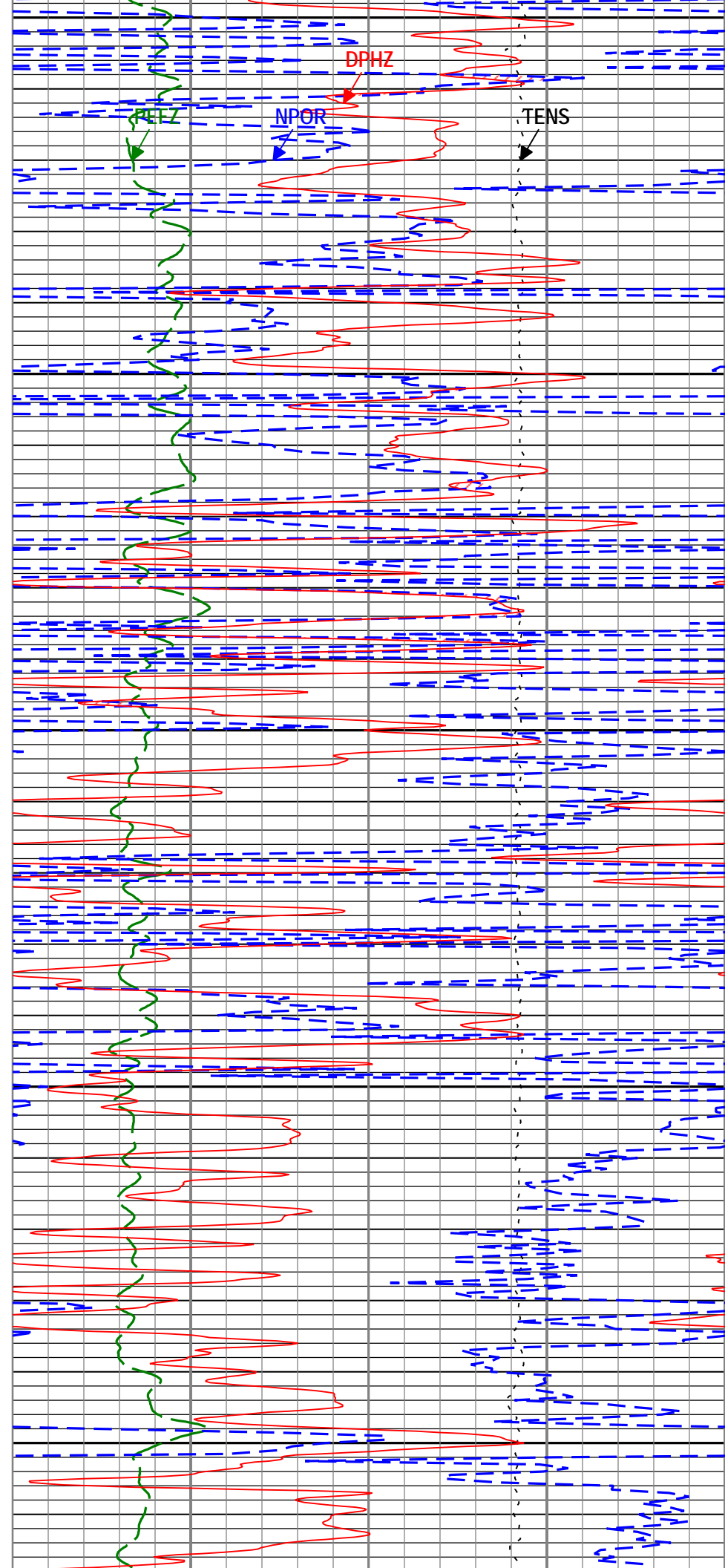
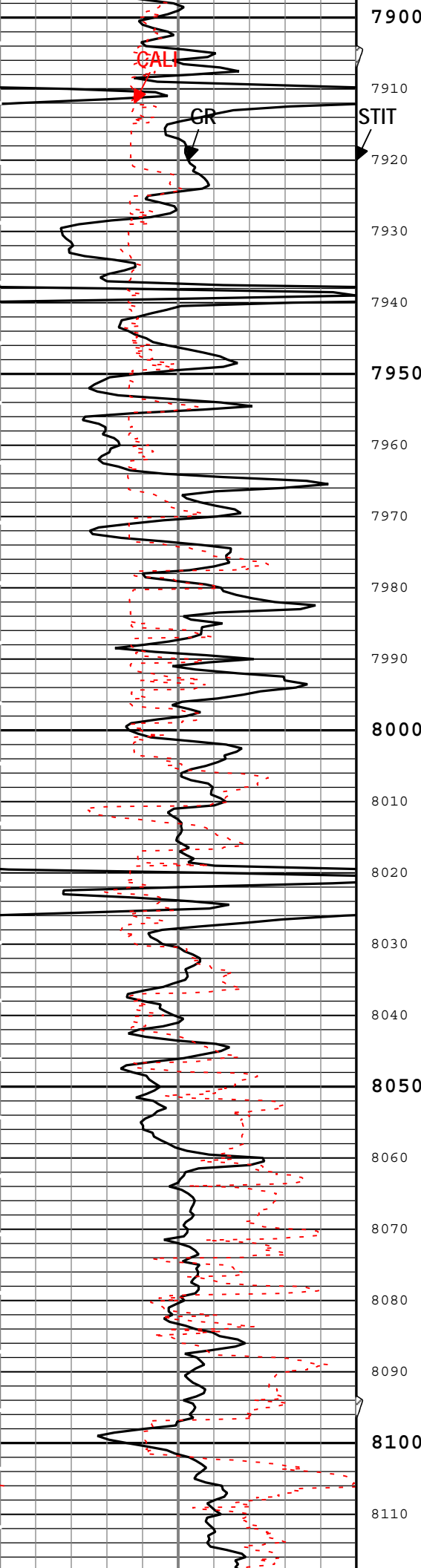


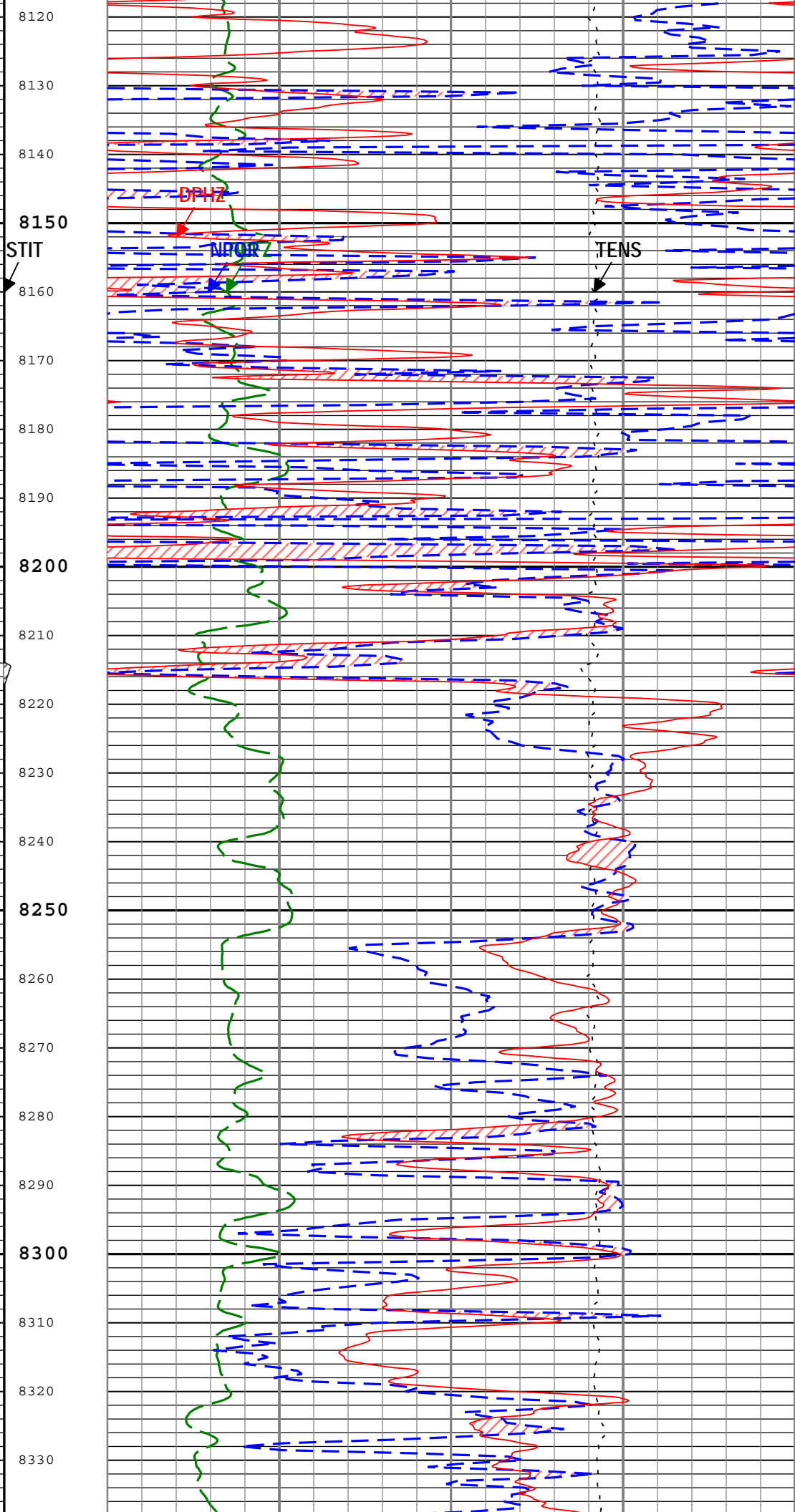
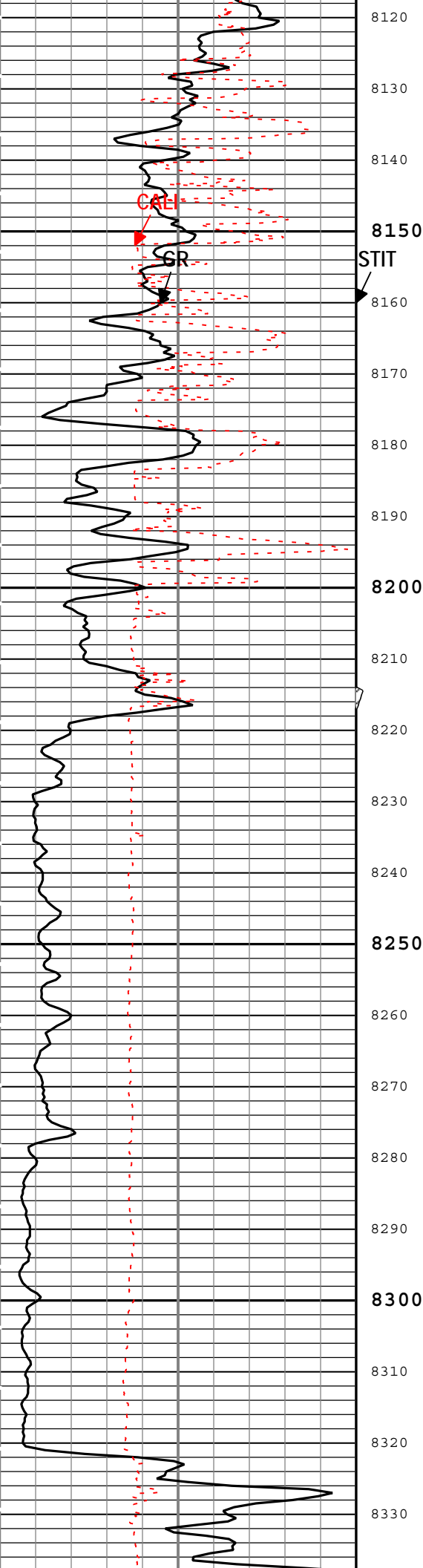


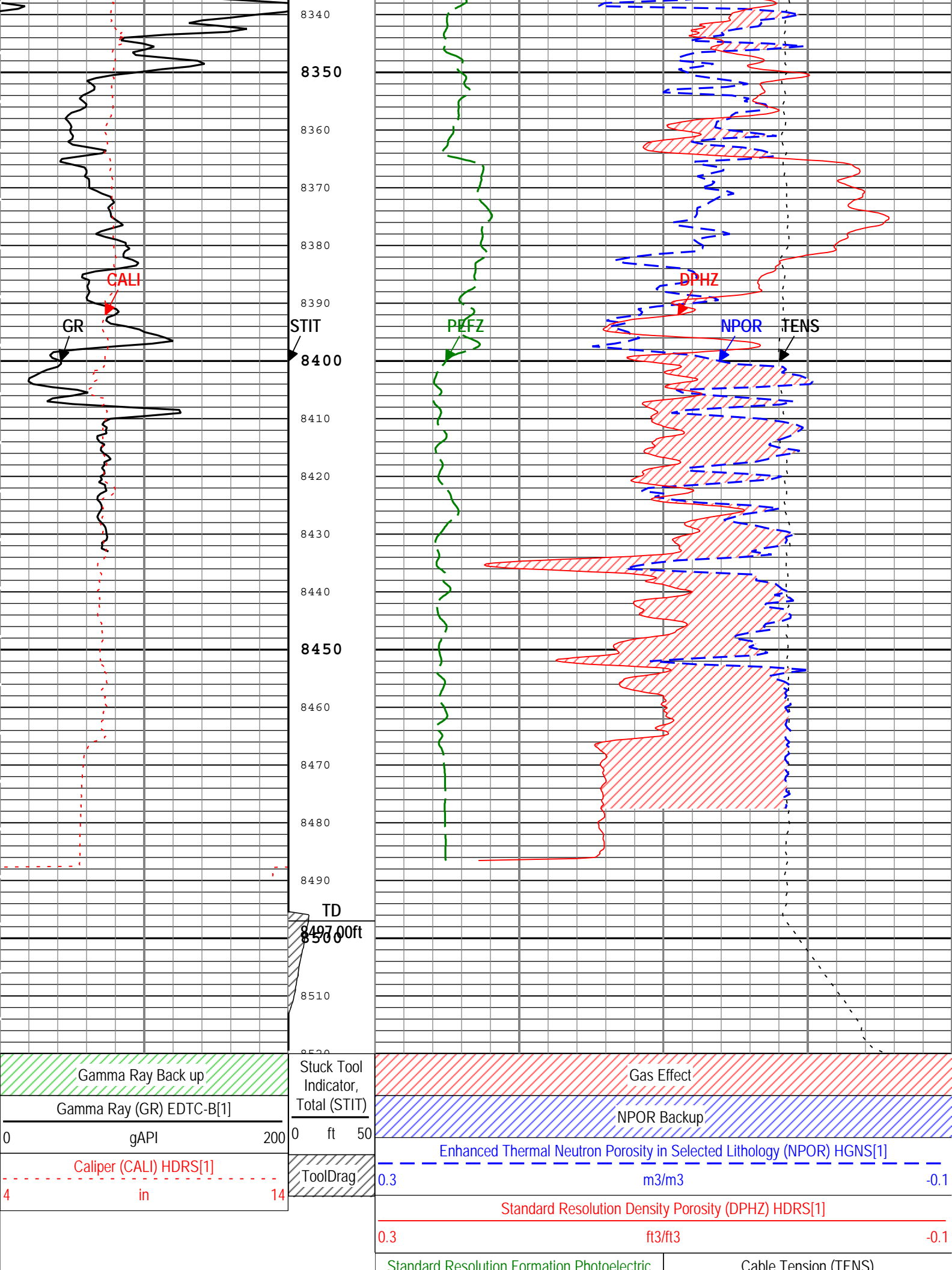






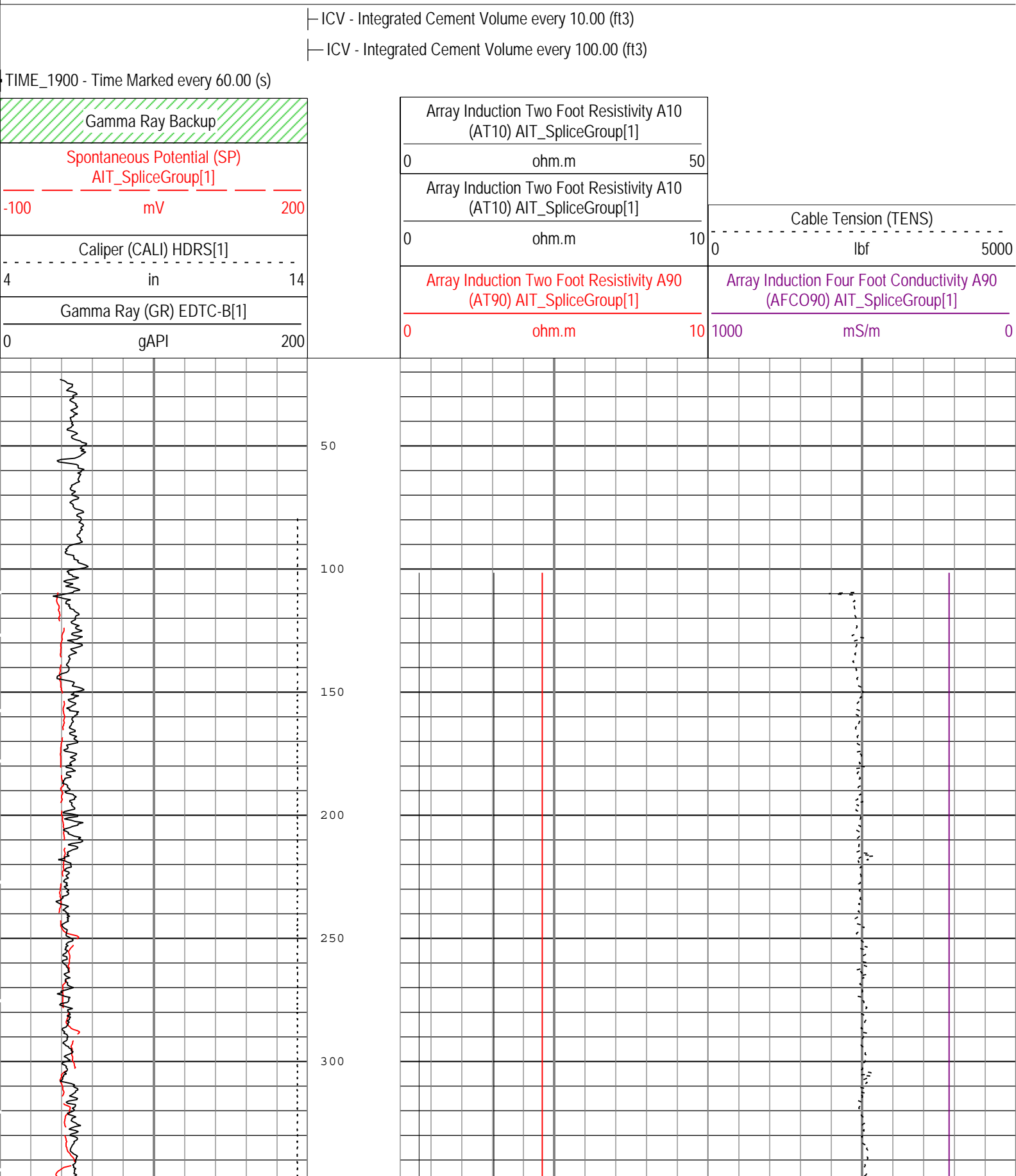


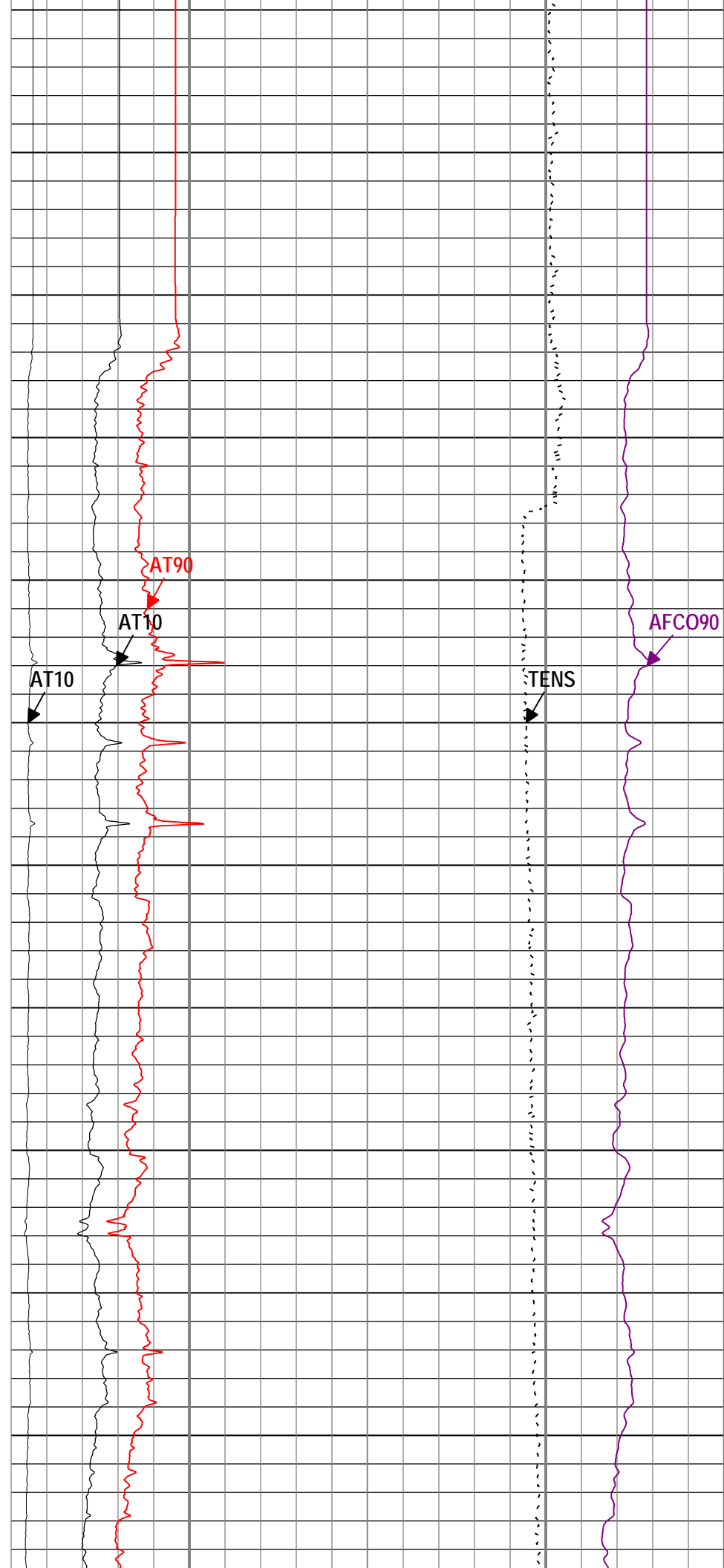
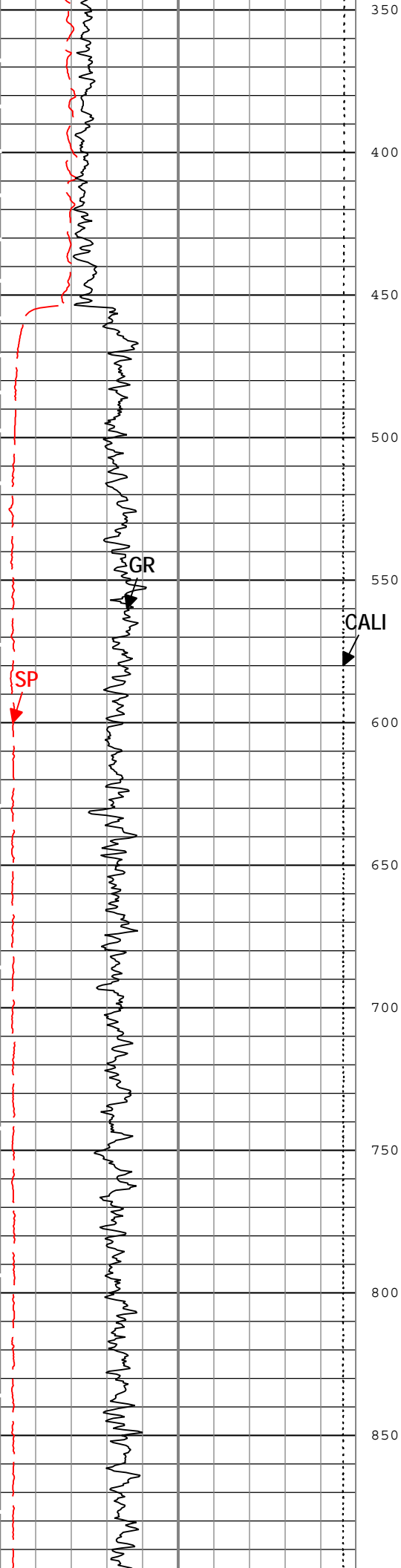


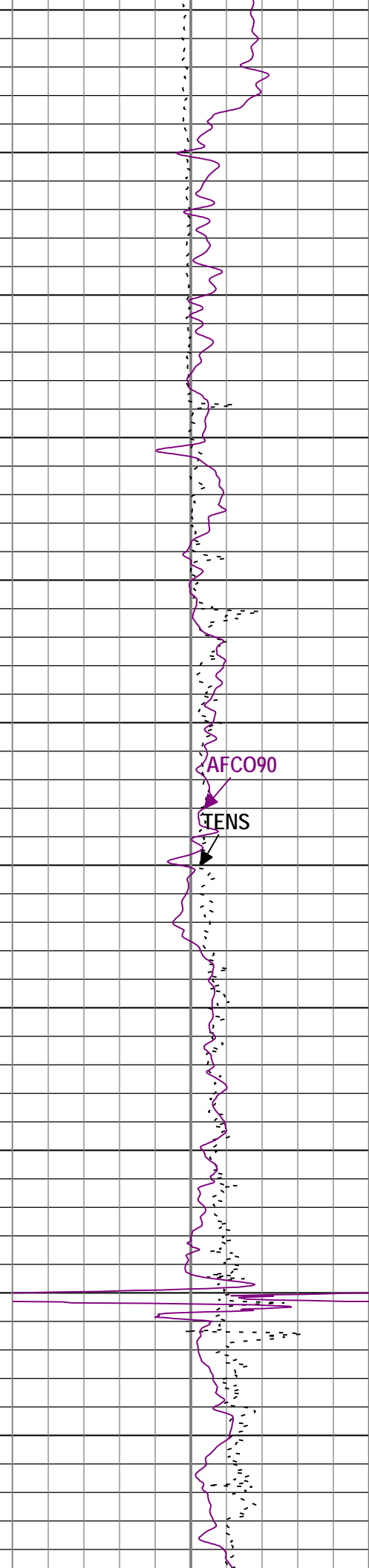
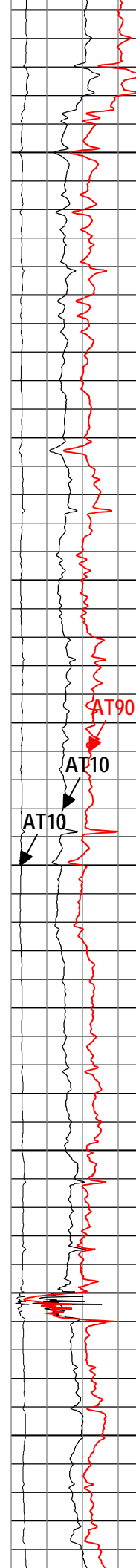
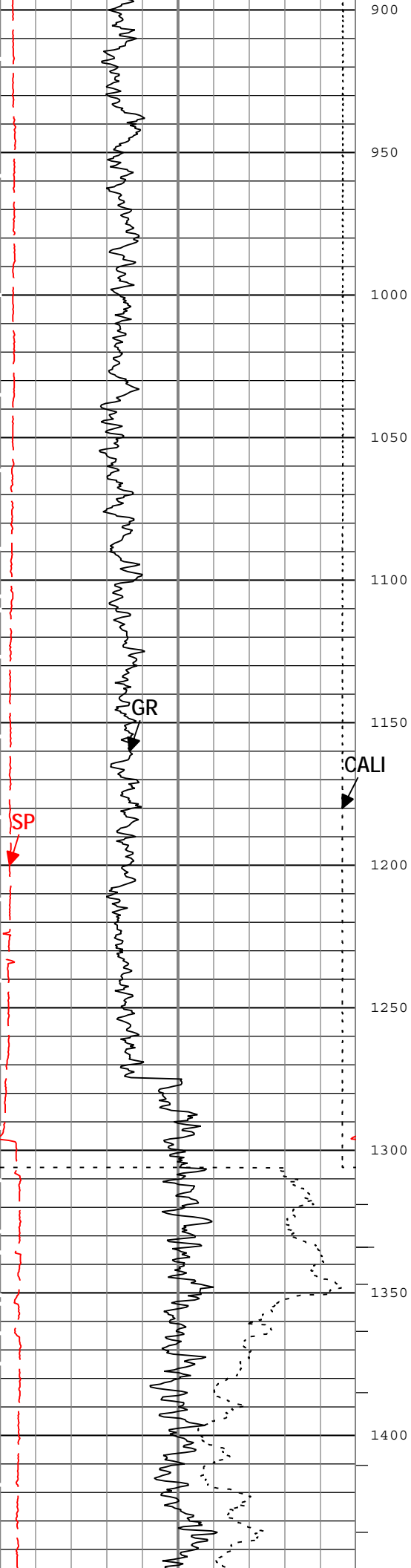


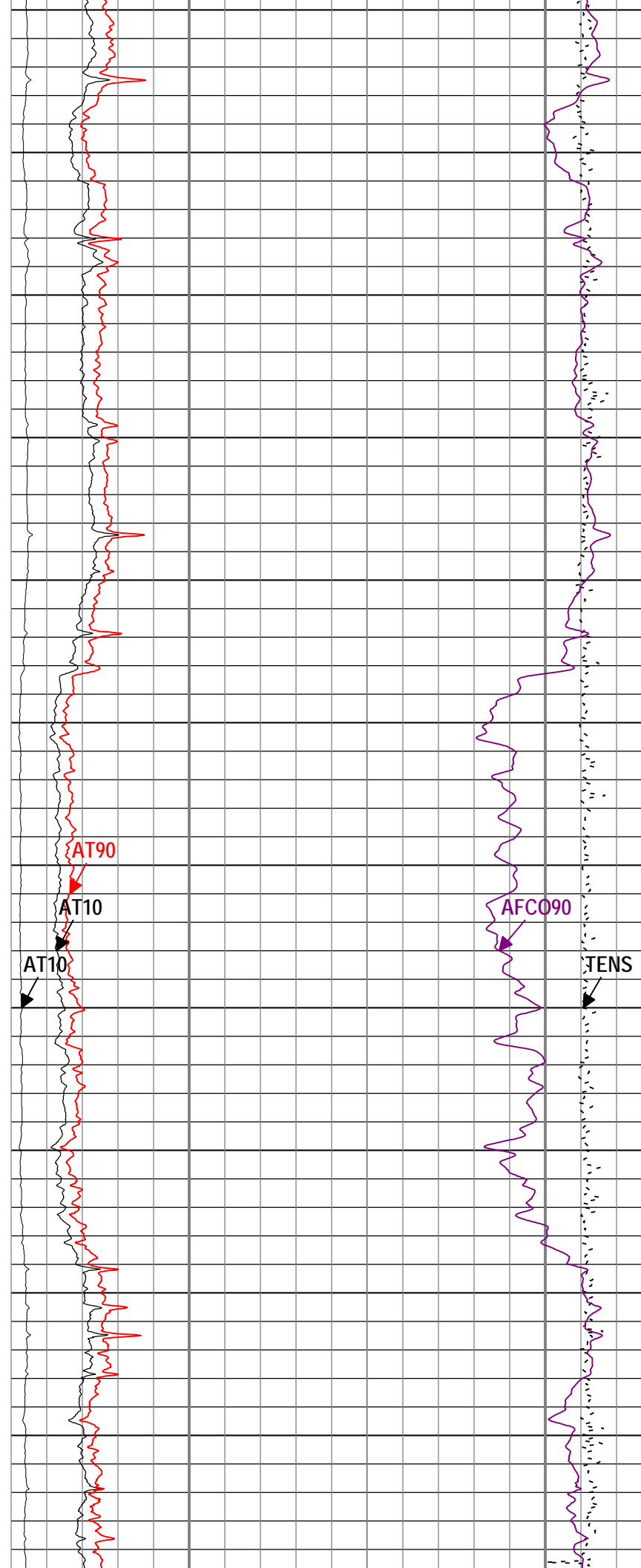
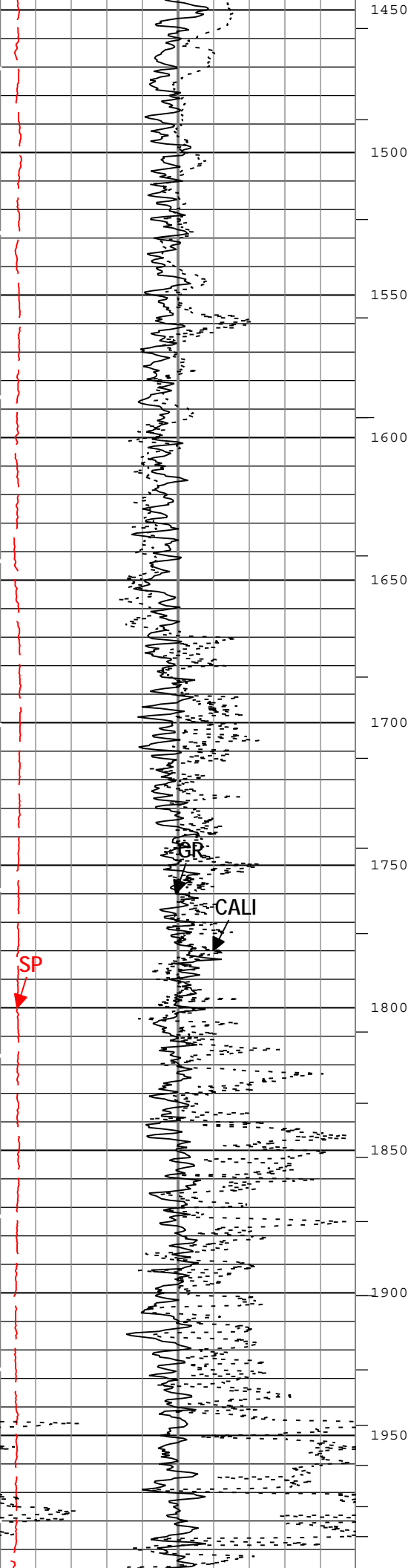
Channel	Source	Sampling
AFC090	AIT_SpliceGroup[1]:AMIS[1]:AMIS[1]	3in
AT10	AIT_SpliceGroup[1]:AMIS[1]:AMIS[1]	3in
AT20	AIT_SpliceGroup[1]:AMIS[1]:AMIS[1]	3in

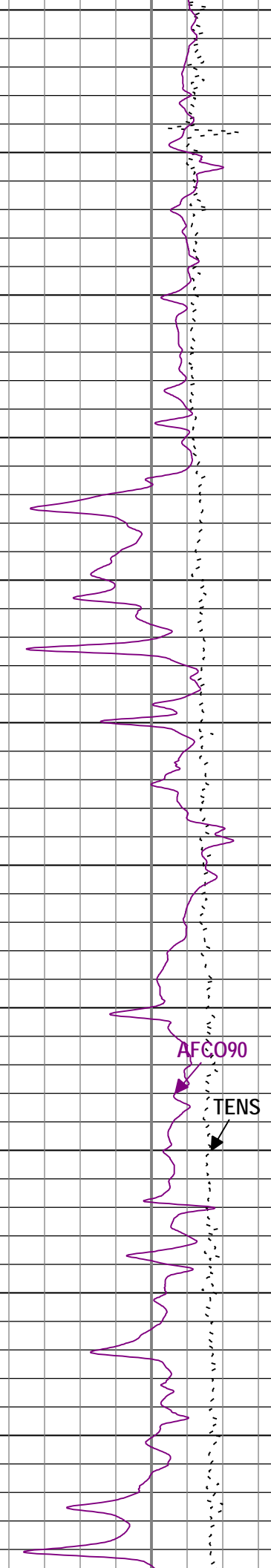
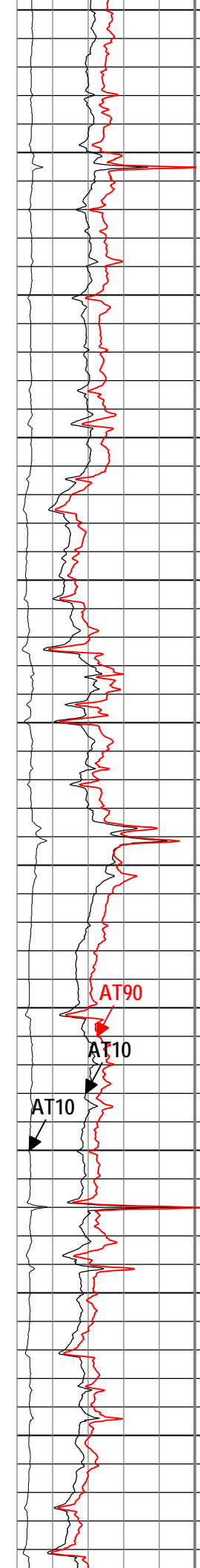
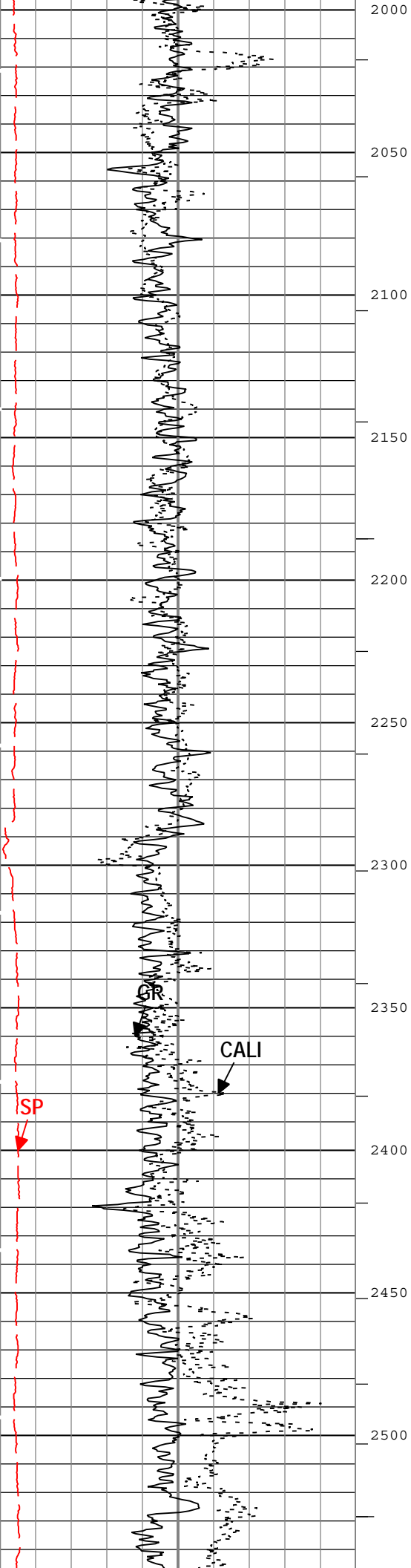
TIME_190	AIT_SpliceGroup[1]:AMIS[1]:AMIS[1]	3in
CALI	HDRS[1]:HRCC-H[1]:HRCC-H[1]	1in
GR	EDTC-B[1]:EDTC-B[1]:EDTC-B[1]	6in
ICV	Borehole	6in
SP	AIT_SpliceGroup[1]:AMIS[1]:AMIS[1]	6in
TENS	WLWorkflow	6in
TIME_1900	WLWorkflow	0.1in

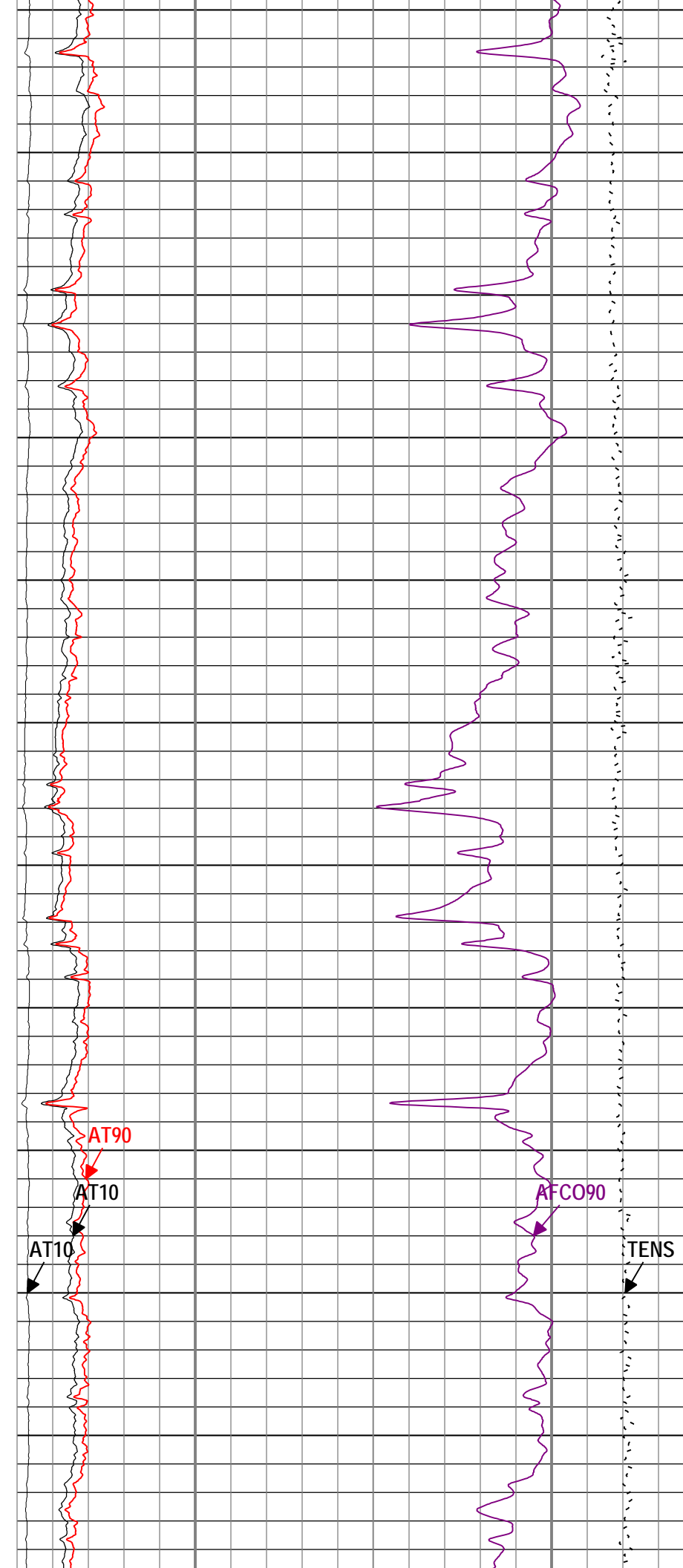
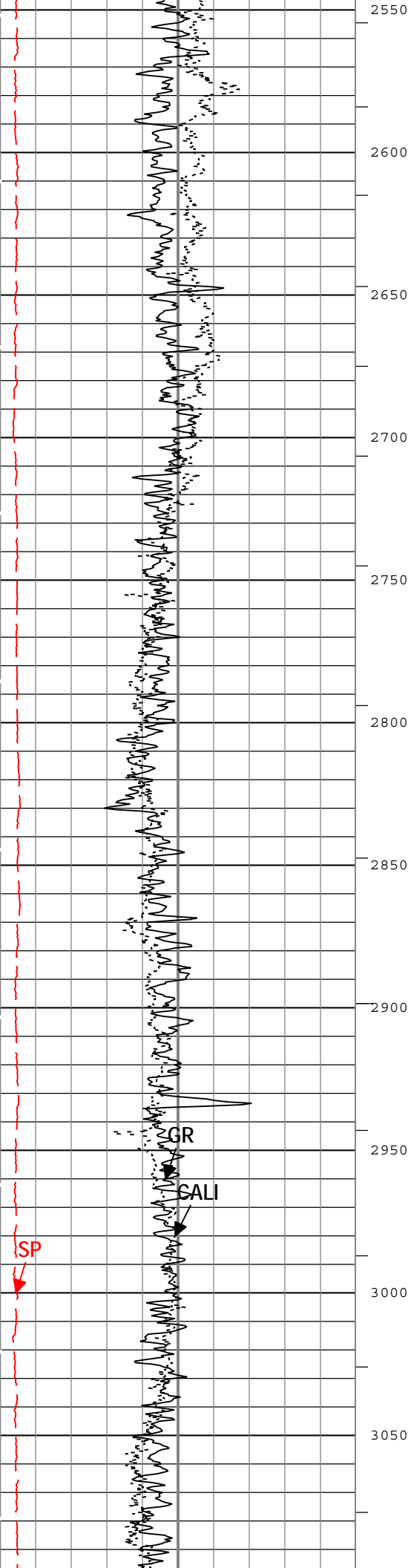


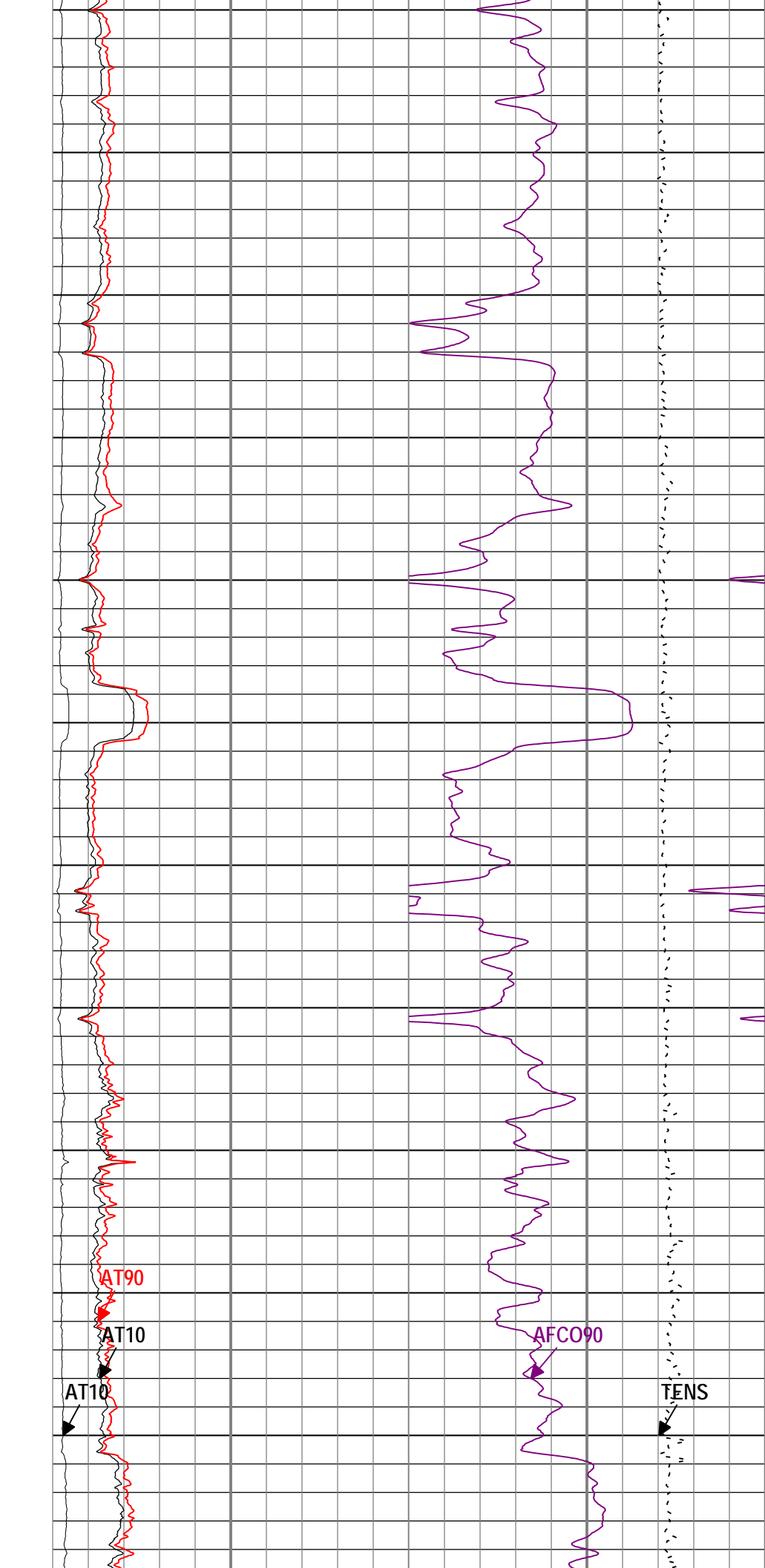
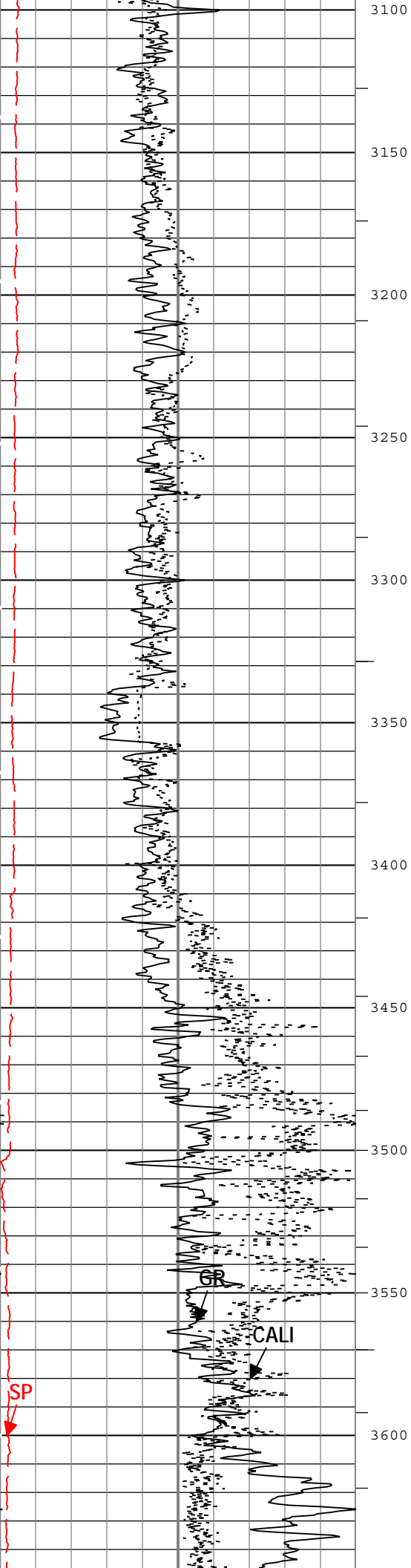


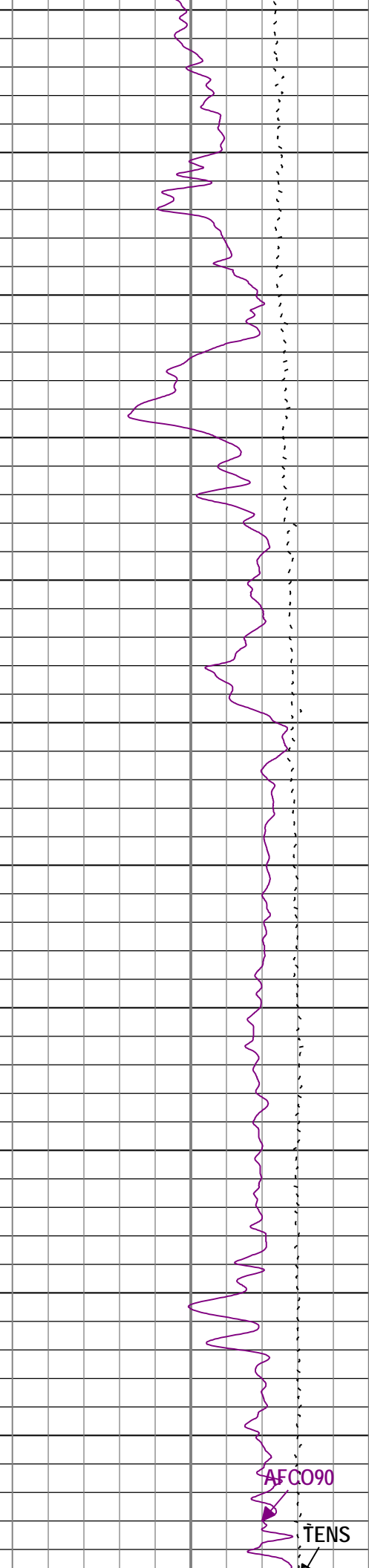
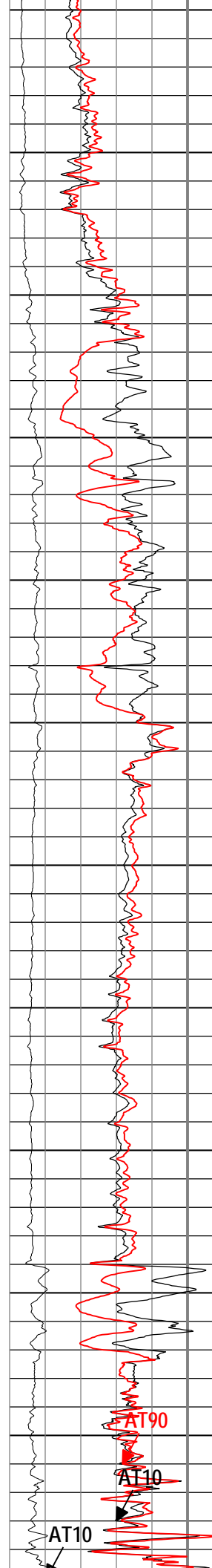
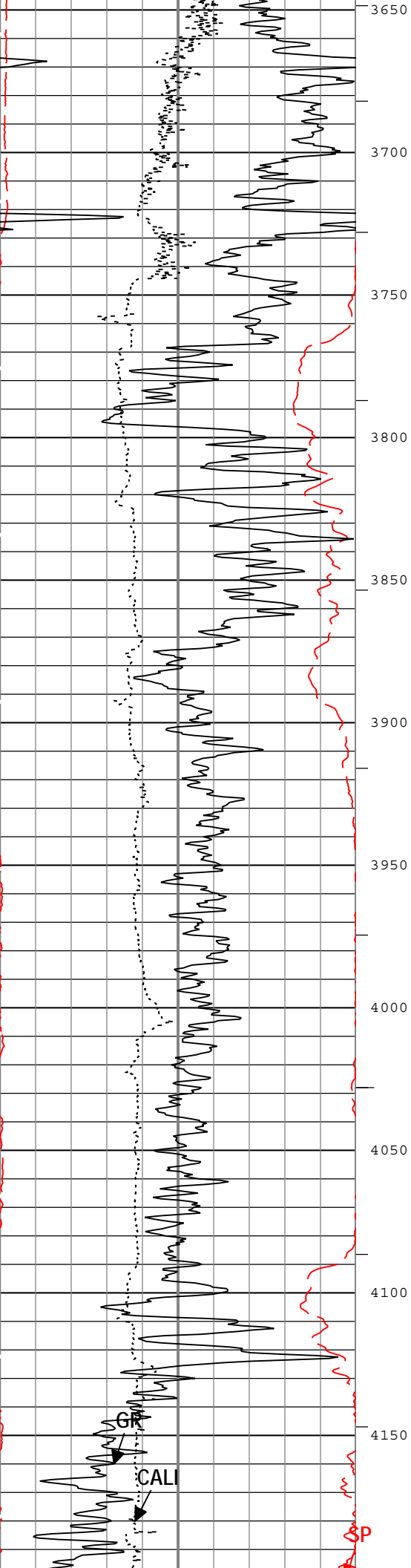


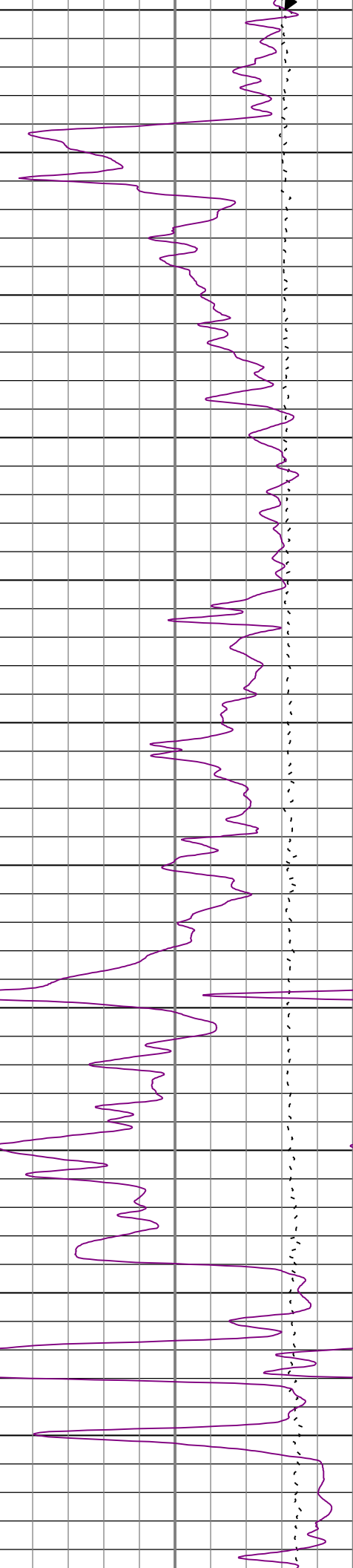
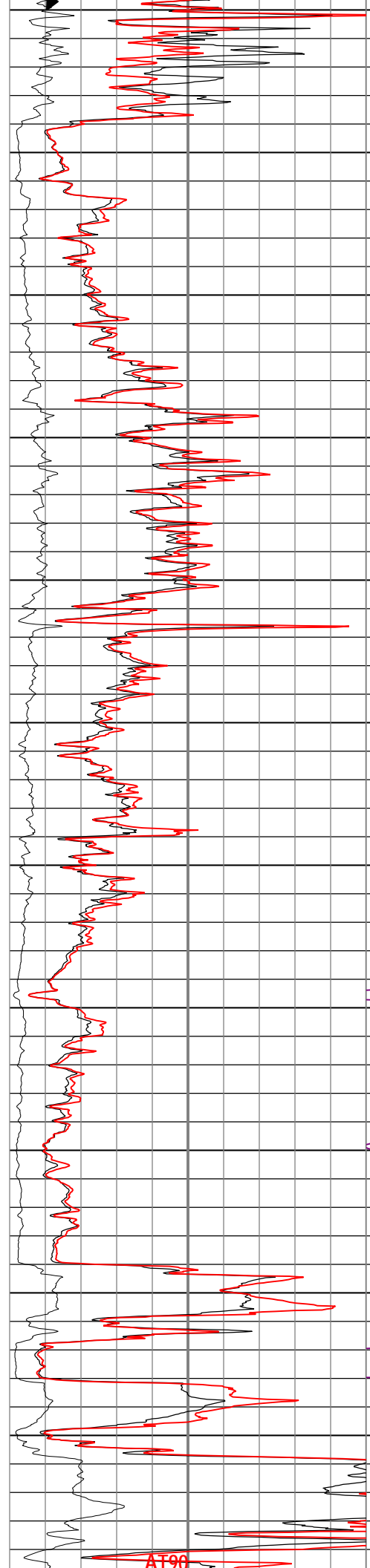
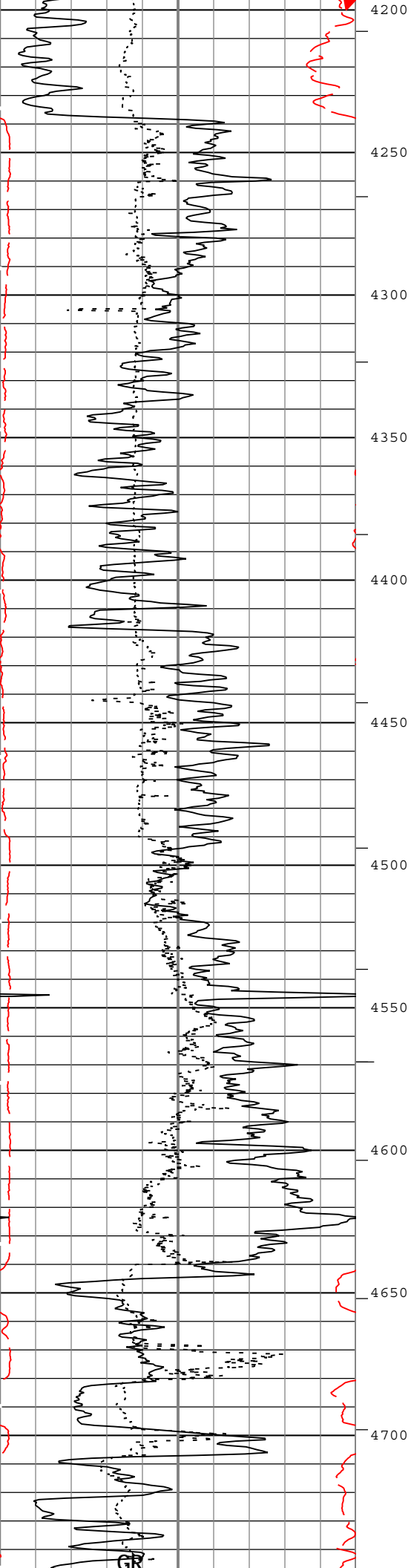


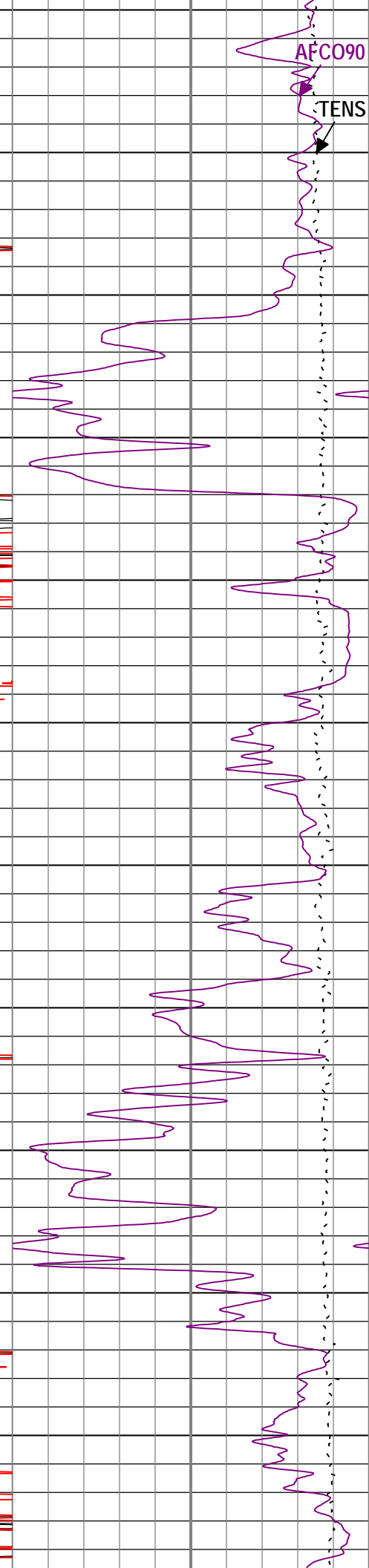
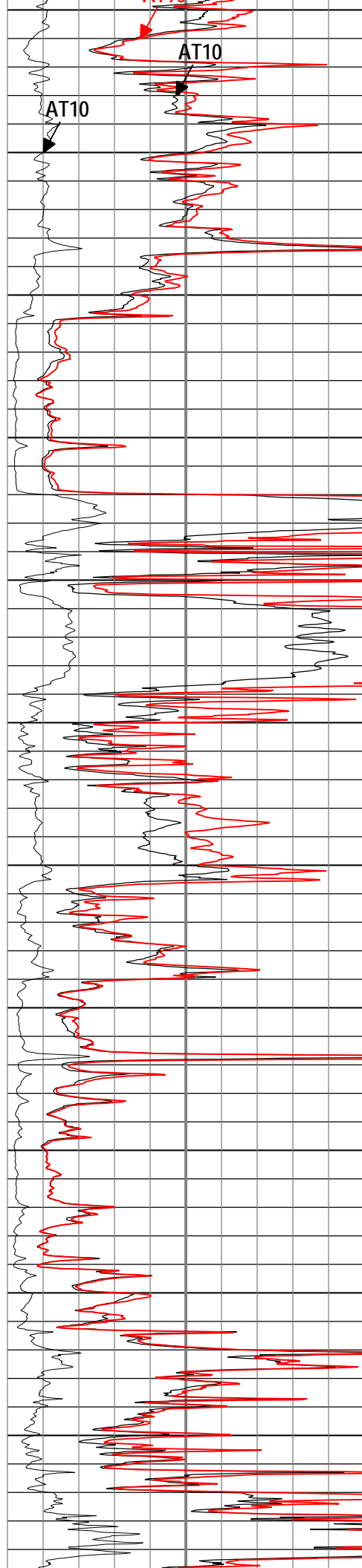
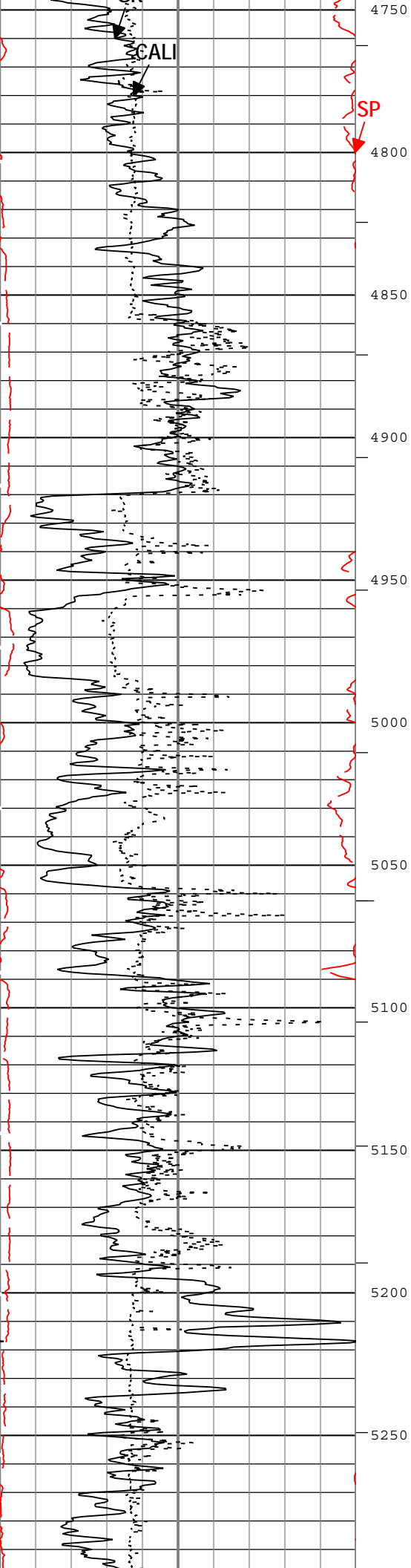


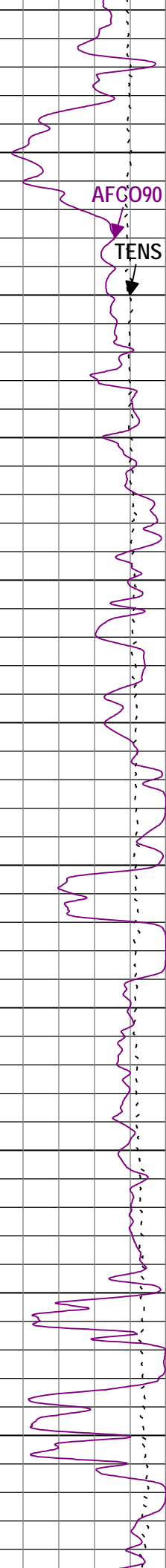
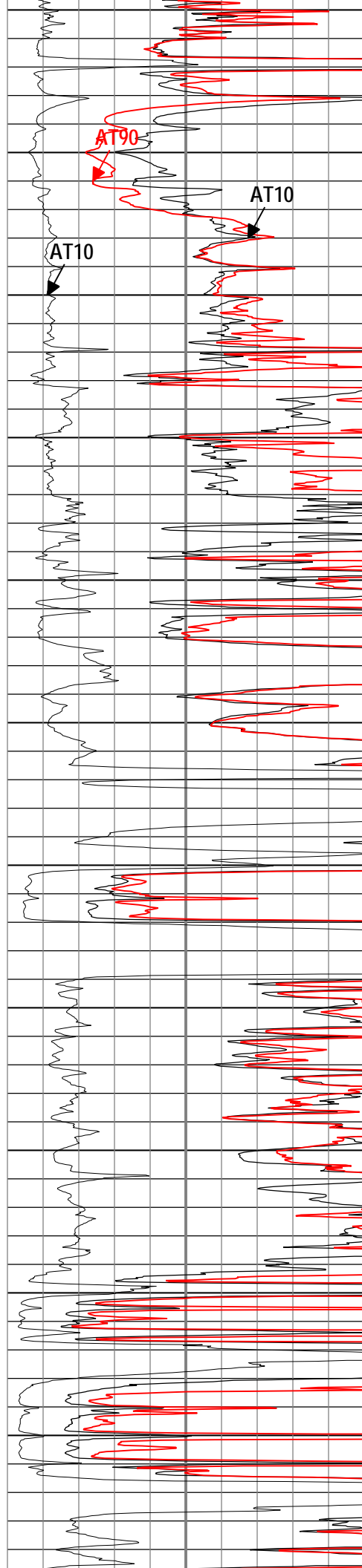
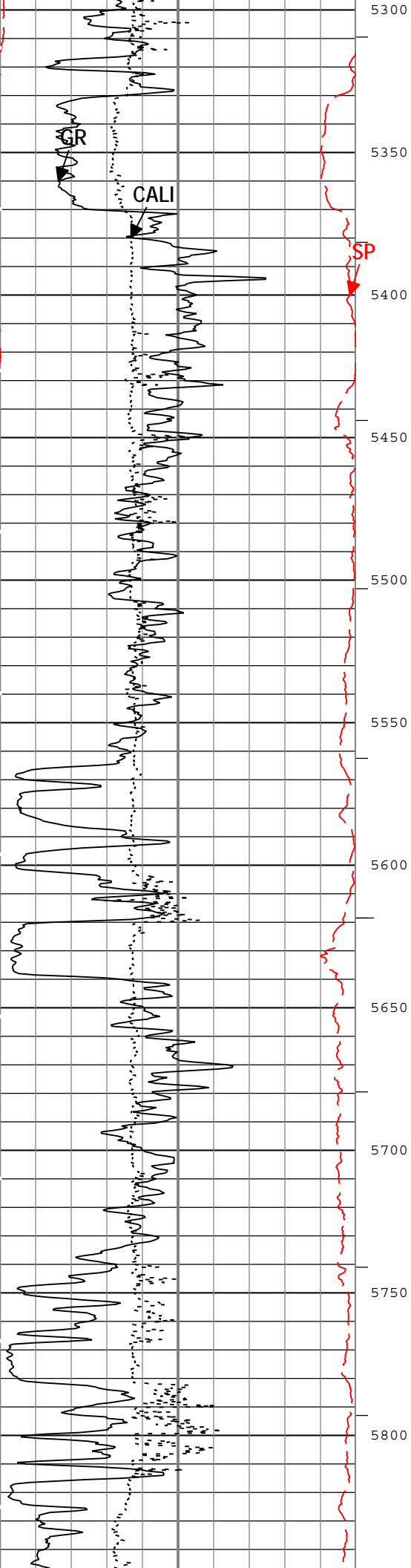


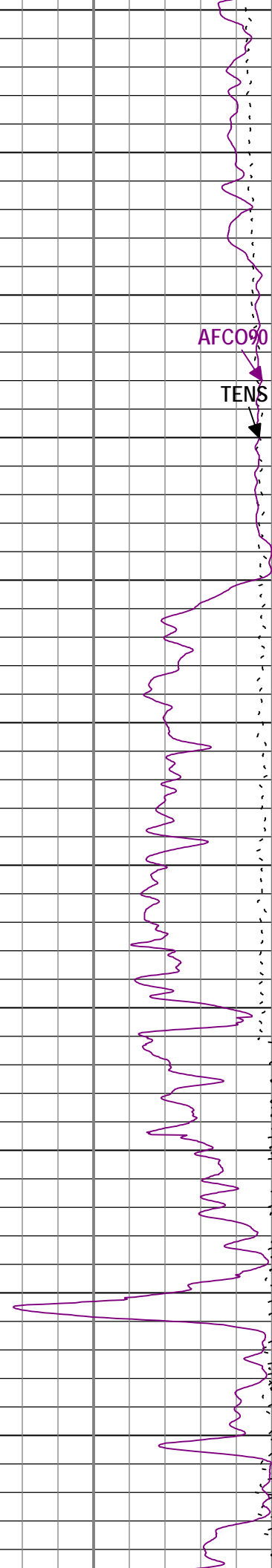
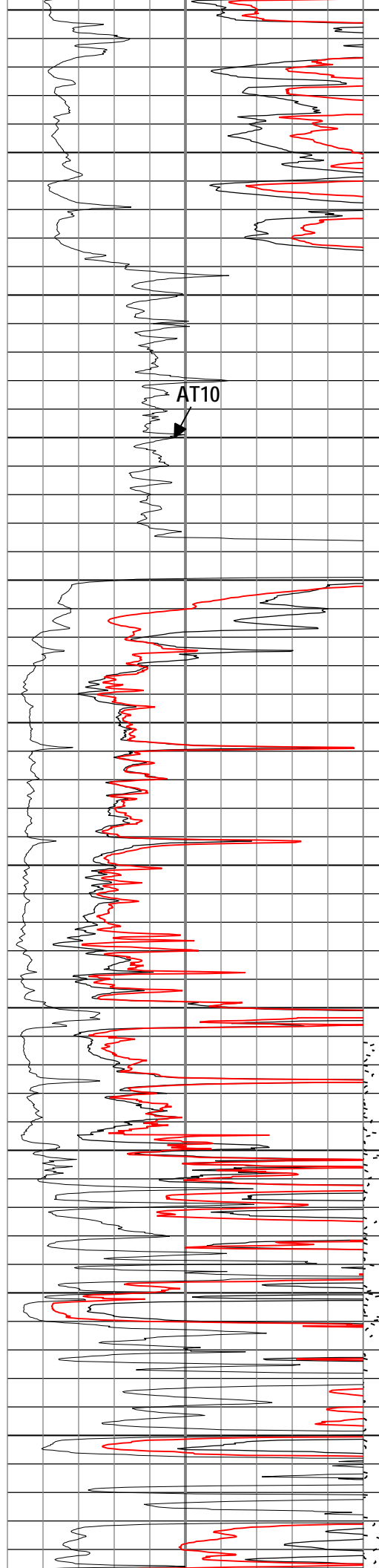
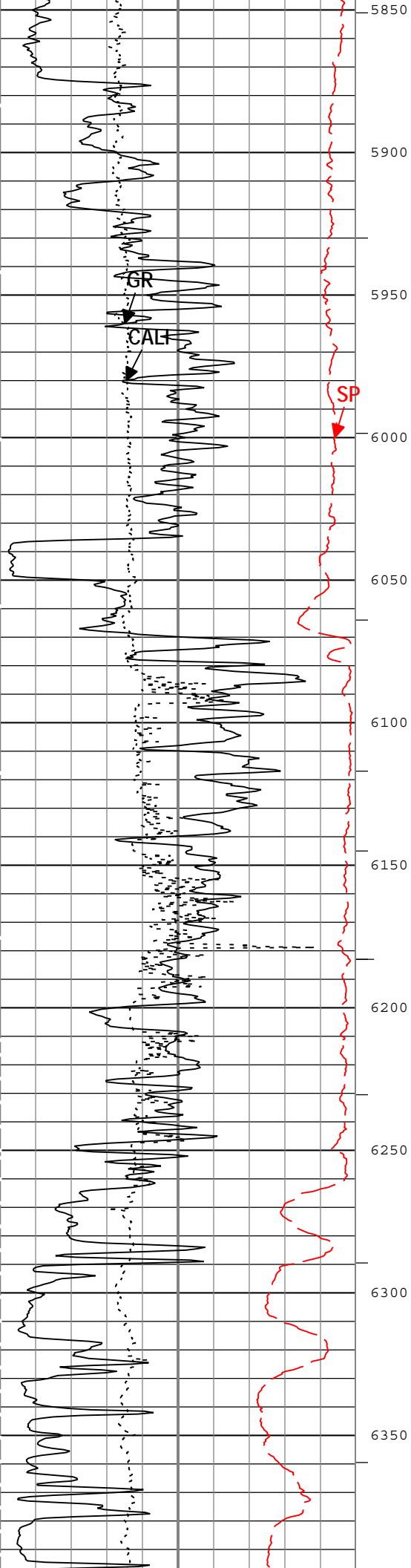


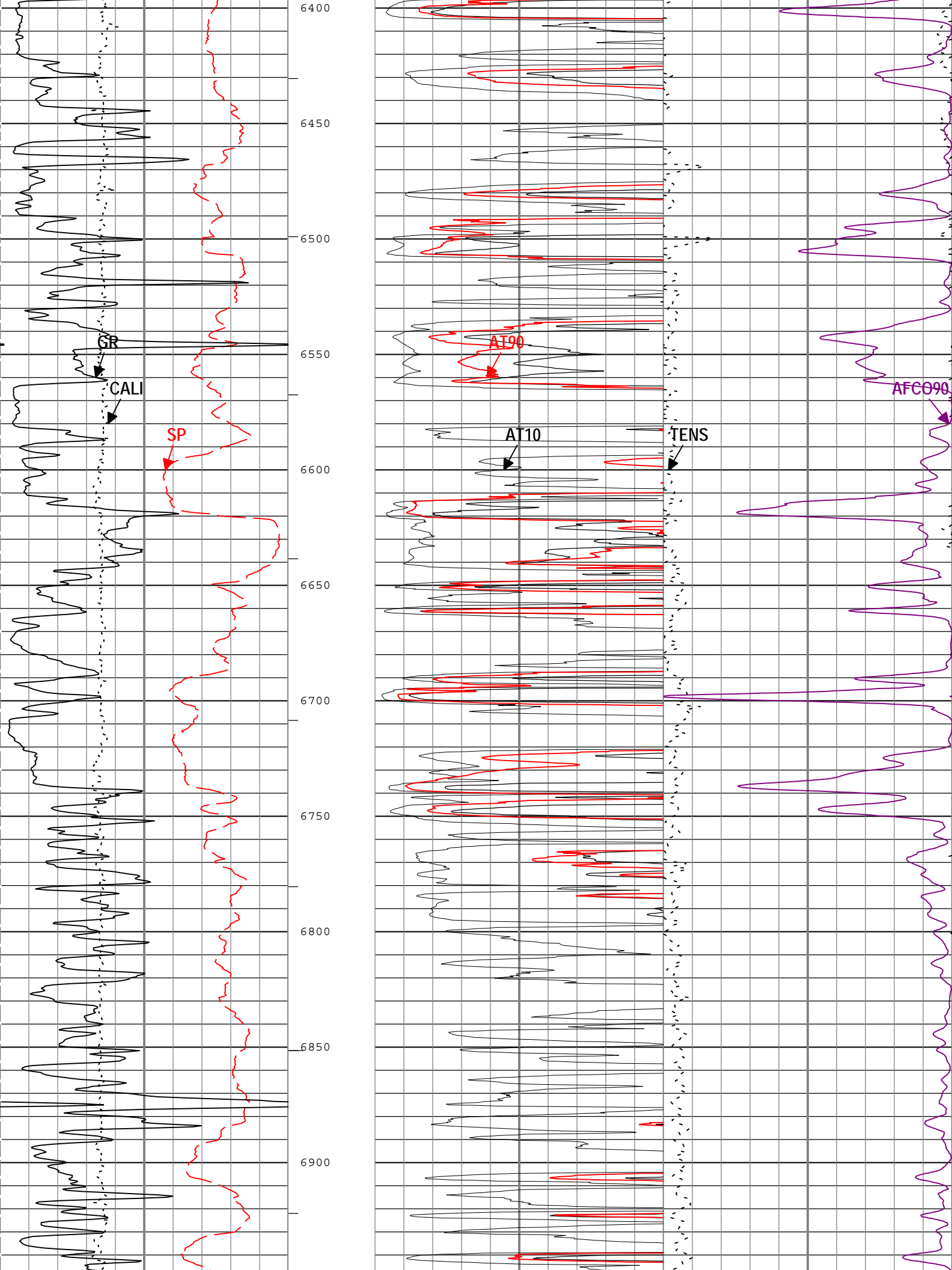


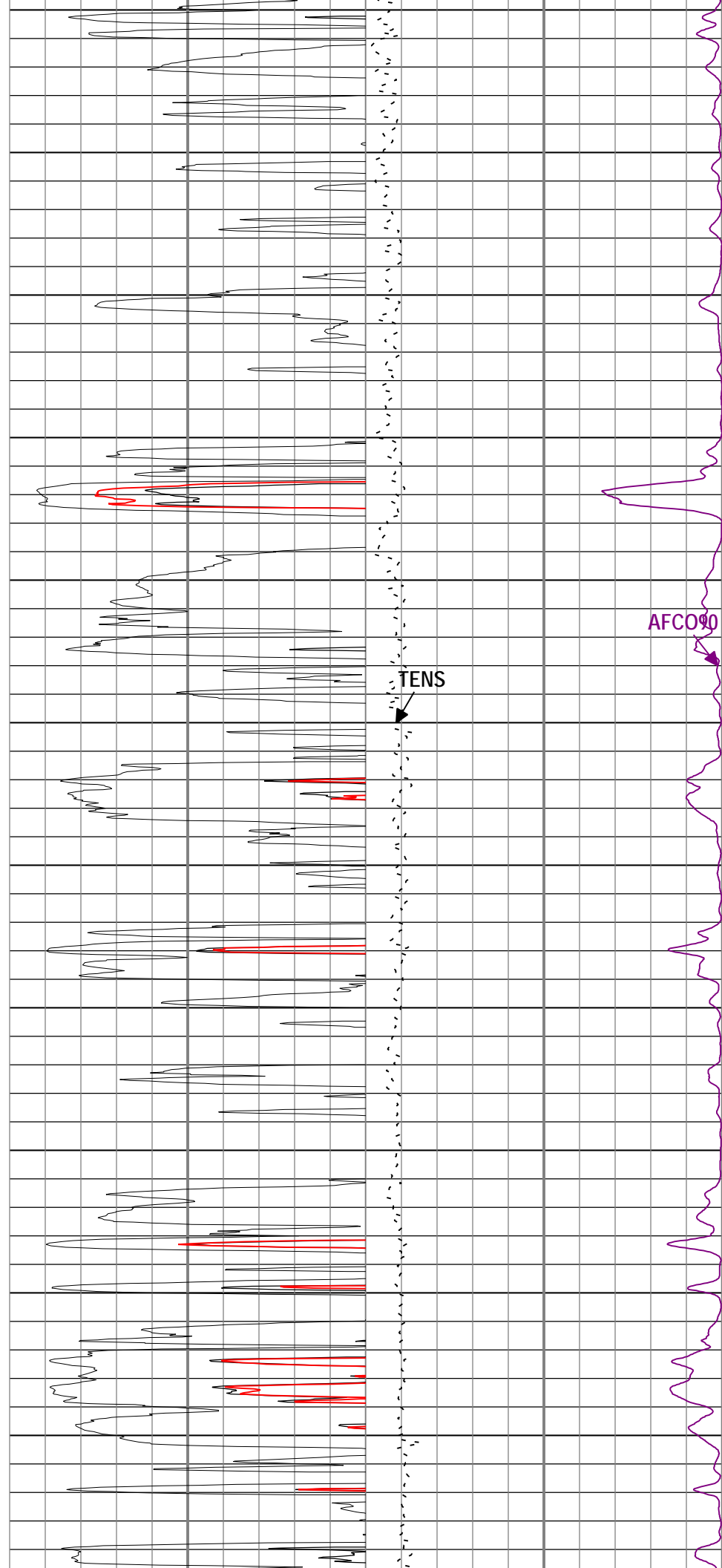
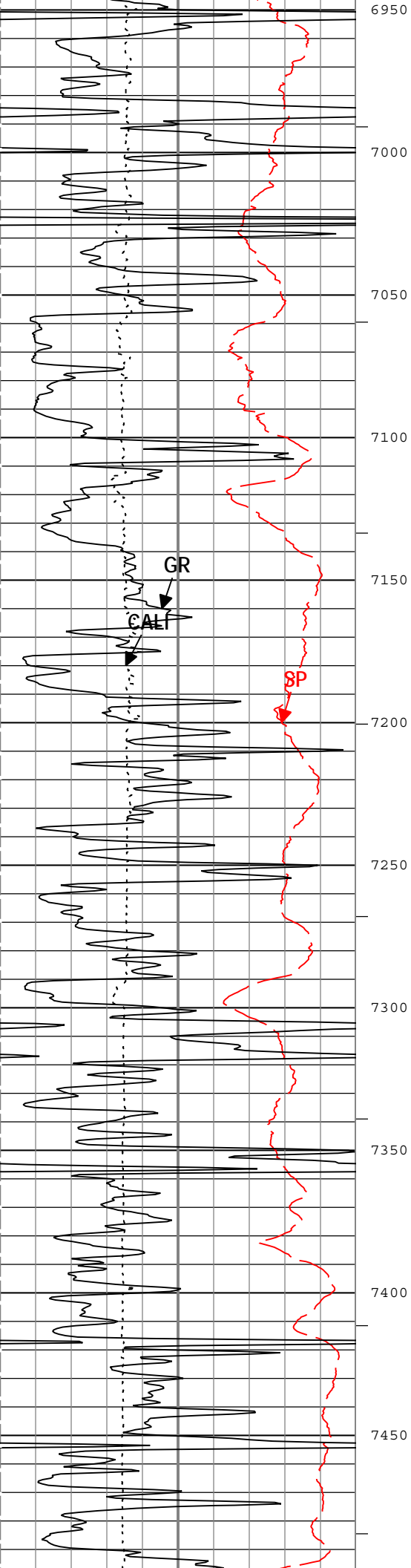


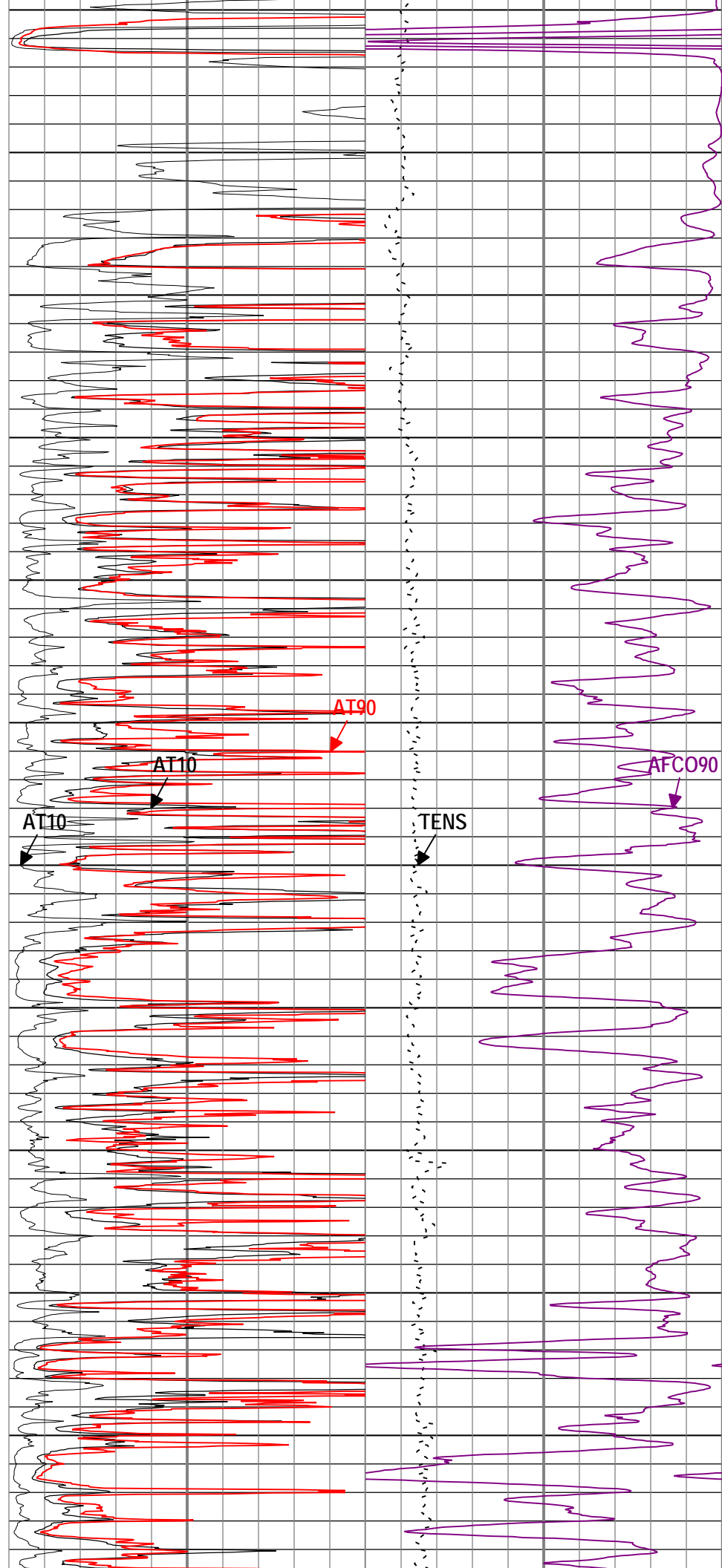
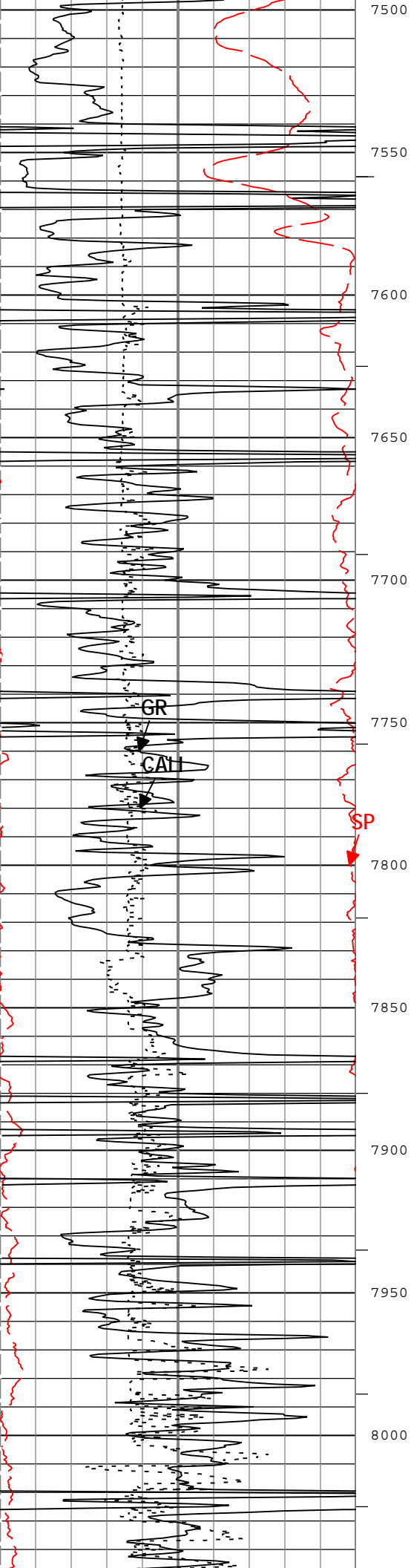


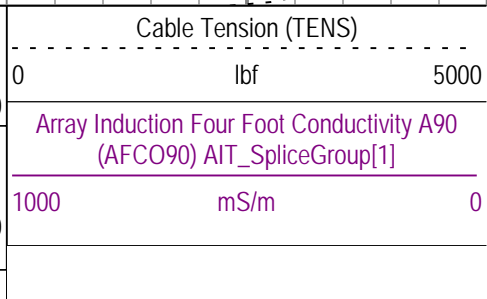
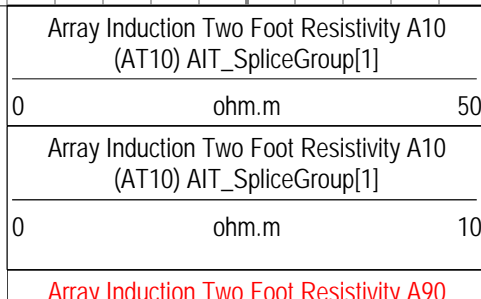
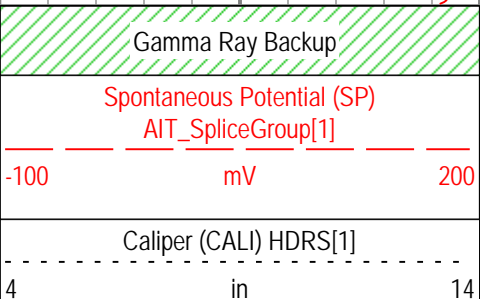
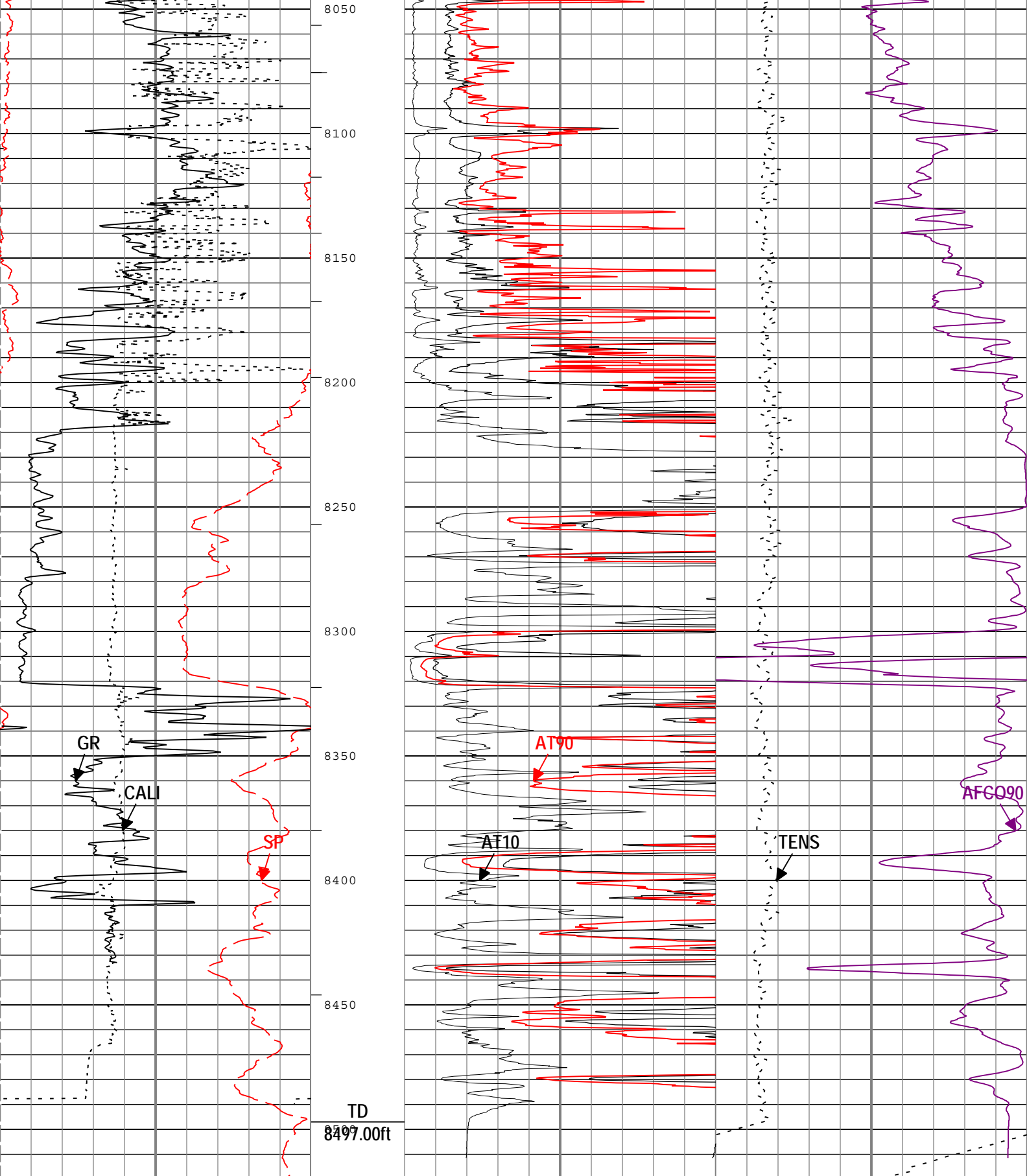












Gamma Ray (GR) EDTC-B[1]		
0	gAPI	200

Array Induction AIT Foot Resistivity AITs (AT90) AIT_SpliceGroup[1]		
0	ohm.m	10

TIME_1900 - Time Marked every 60.00 (s)

└─ ICV - Integrated Cement Volume every 100.00 (ft3)

└─ ICV - Integrated Cement Volume every 10.00 (ft3)

Description: AIT Basic Log Two Format: Log (EMD 2in Induction) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 22-Dec-2014 22:36:26

Channel Processing Parameters

Run 1: Parameters

Parameter	Description	Tool	Value	Unit
ABHM	Array Induction Borehole Correction Mode	AIT-M	Compute Standoff	
ACDE	Array Induction Casing Detection Enable	AIT-M	Yes	
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	453.5	ft
CDEN	Cement Density	EDTC-B	2	g/cm3
CSODDRL	Casing Outer Diameter - Zoned along driller depths	WLSESSION	8.625	in
DFD	Drilling Fluid Density	Borehole	10	lbm/gal
FCD	Future Casing (Outer) Diameter	WLSESSION	5.5	in
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	
SPDR	SP Drift Per Foot	AIT-M	0	mV/ft

Run 1Depth Zoned Parameters

Parameter	Value	Start (ft)	Stop (ft)
BS	12.25	14.5	455
BS	7.875	455	8497

All depth are actual.

Tool Control Parameters

Run 1: Parameters

Parameter	Description	Tool	Value	Unit
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	600	ft/h

Composite 2

5" Density

Software Version

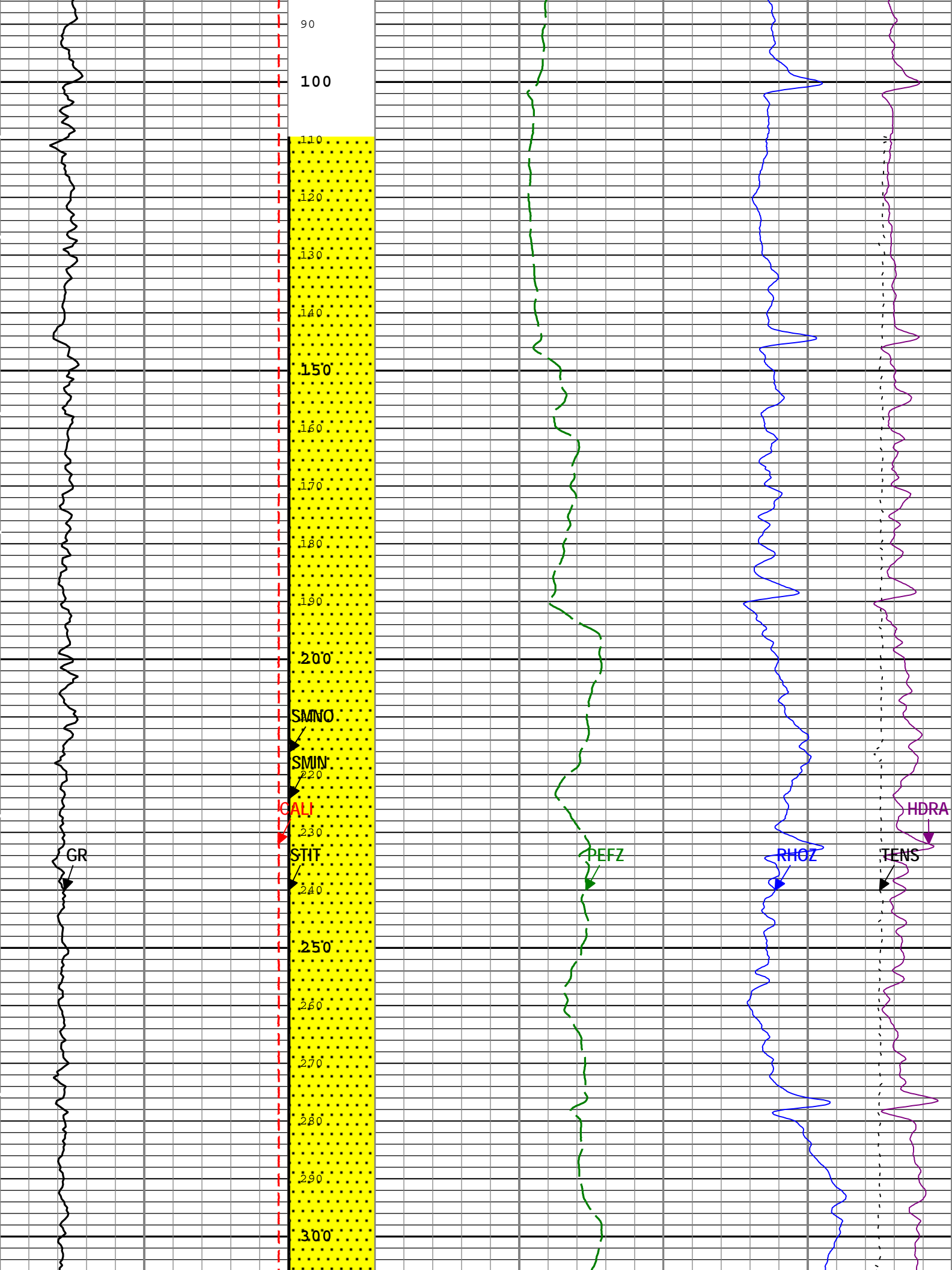
Acquisition System		Version
MaxWell		4.0.9163.3000
Application Patch		Patch-SP-10767_26570-4.0.9163.3001

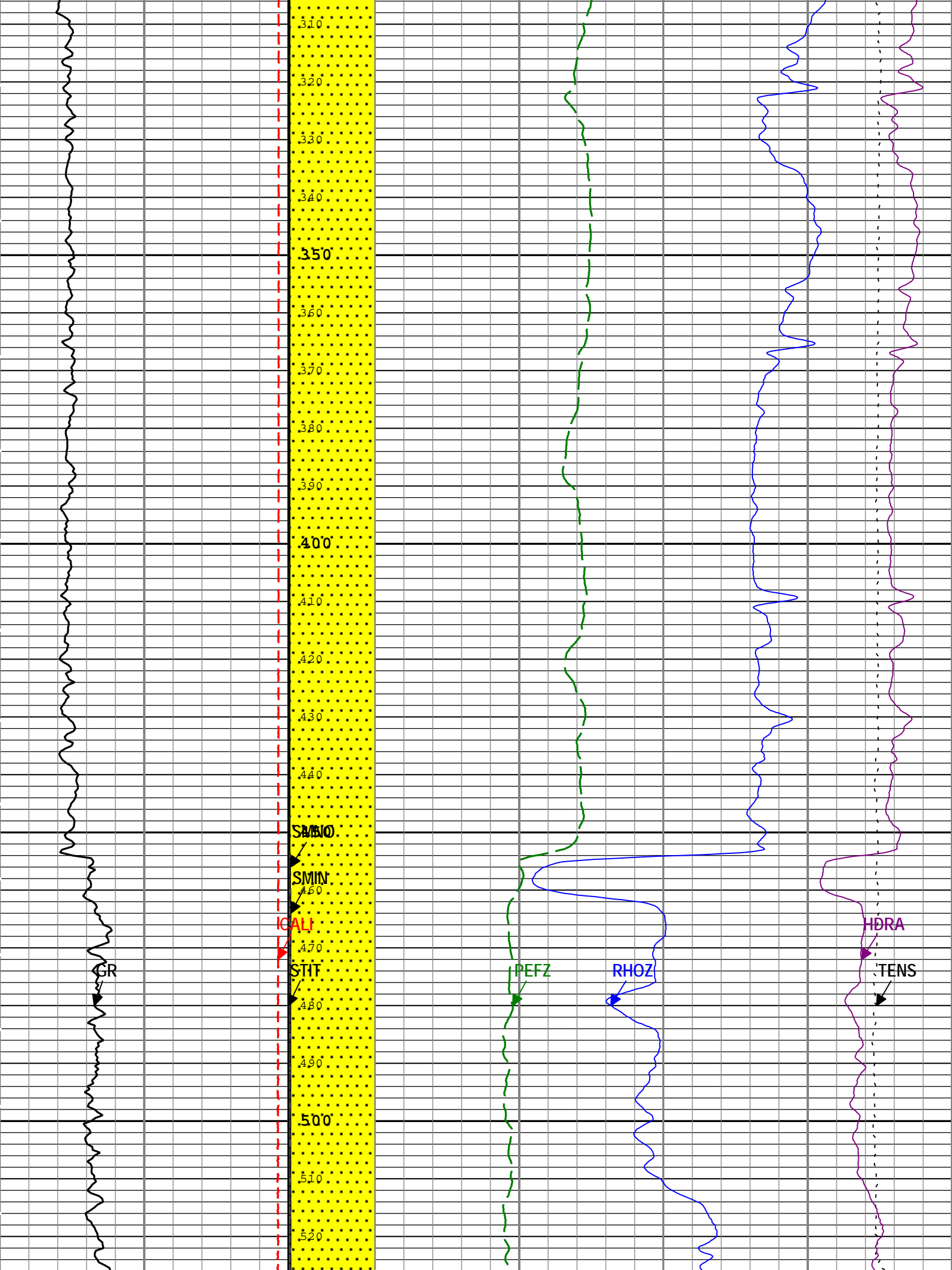
Computation	Description	Version
DepthCorrection	DepthCorrection	4.0.9469.3000

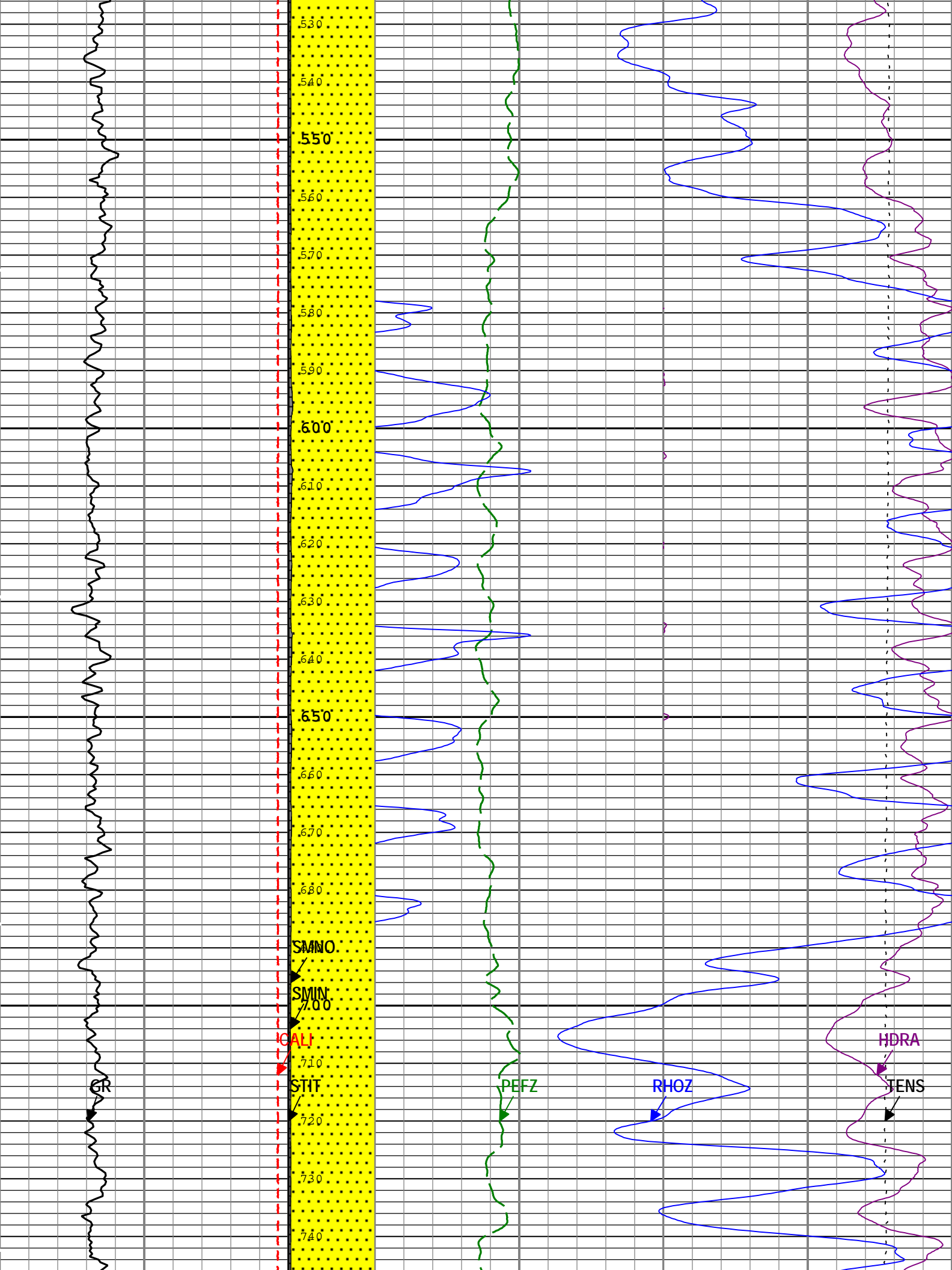
Tool Elements	Description	Software Version	Firmware Version
HRCC-H	HILT High-Resolution Control Cartridge, 150 degC	4.0.9575.3000	2.0
HRGD-H	HILT Resistivity Gamma-Ray Density Device, 150 degC	4.0.9575.3000	3.0
EDTC-B	Enhanced Digital Telemetry Cartridge - B	4.0.9469.3000	

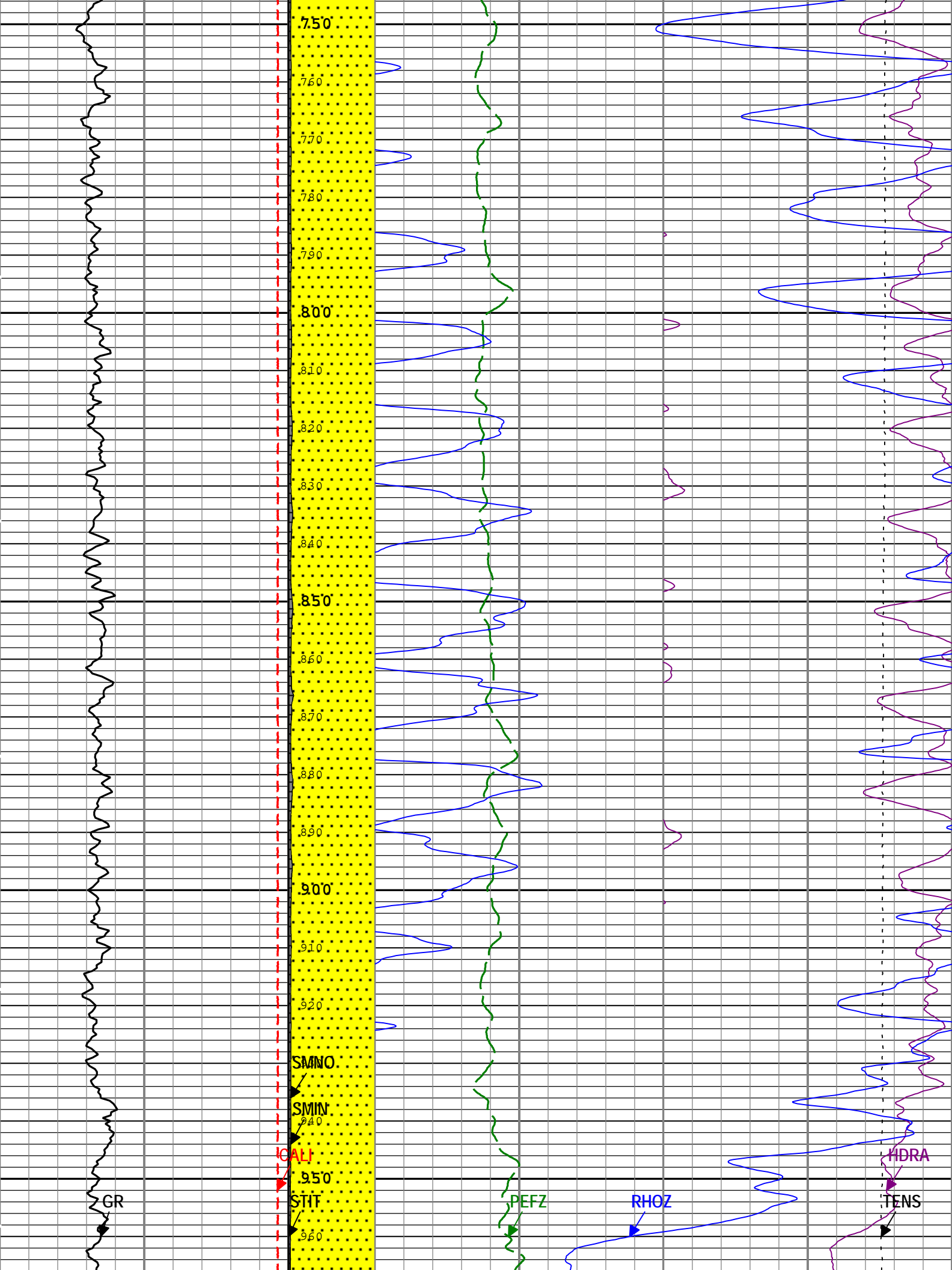
Composite Summary									
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Run 1	Main[11]:Up	Up	7679.26 ft	8519.91 ft	22-Dec-2014 9:23:40 AM	22-Dec-2014 11:04:35 AM	ON	4.43 ft	No
Run 1	Main[12]:Up	Up	6452.90 ft	7920.79 ft	22-Dec-2014 11:37:01 AM	22-Dec-2014 2:33:39 PM	ON	5.99 ft	No
Run 1	Main[13]:Up	Up	6252.64 ft	6581.98 ft	22-Dec-2014 2:40:35 PM	22-Dec-2014 3:20:54 PM	ON	6.51 ft	No
Run 1	Main[14]:Up	Up	6211.31 ft	6407.59 ft	22-Dec-2014 3:26:53 PM	22-Dec-2014 3:50:36 PM	ON	7.03 ft	No
Run 1	Main[15]:Up	Up	109.33 ft	6306.13 ft	22-Dec-2014 3:57:32 PM	22-Dec-2014 6:16:00 PM	ON	6.25 ft	No
All depths are referenced to toolstring zero									
Log	Company:Nighthawk Production LLC						Well:Keystone 3-7 Composite 2:S013		

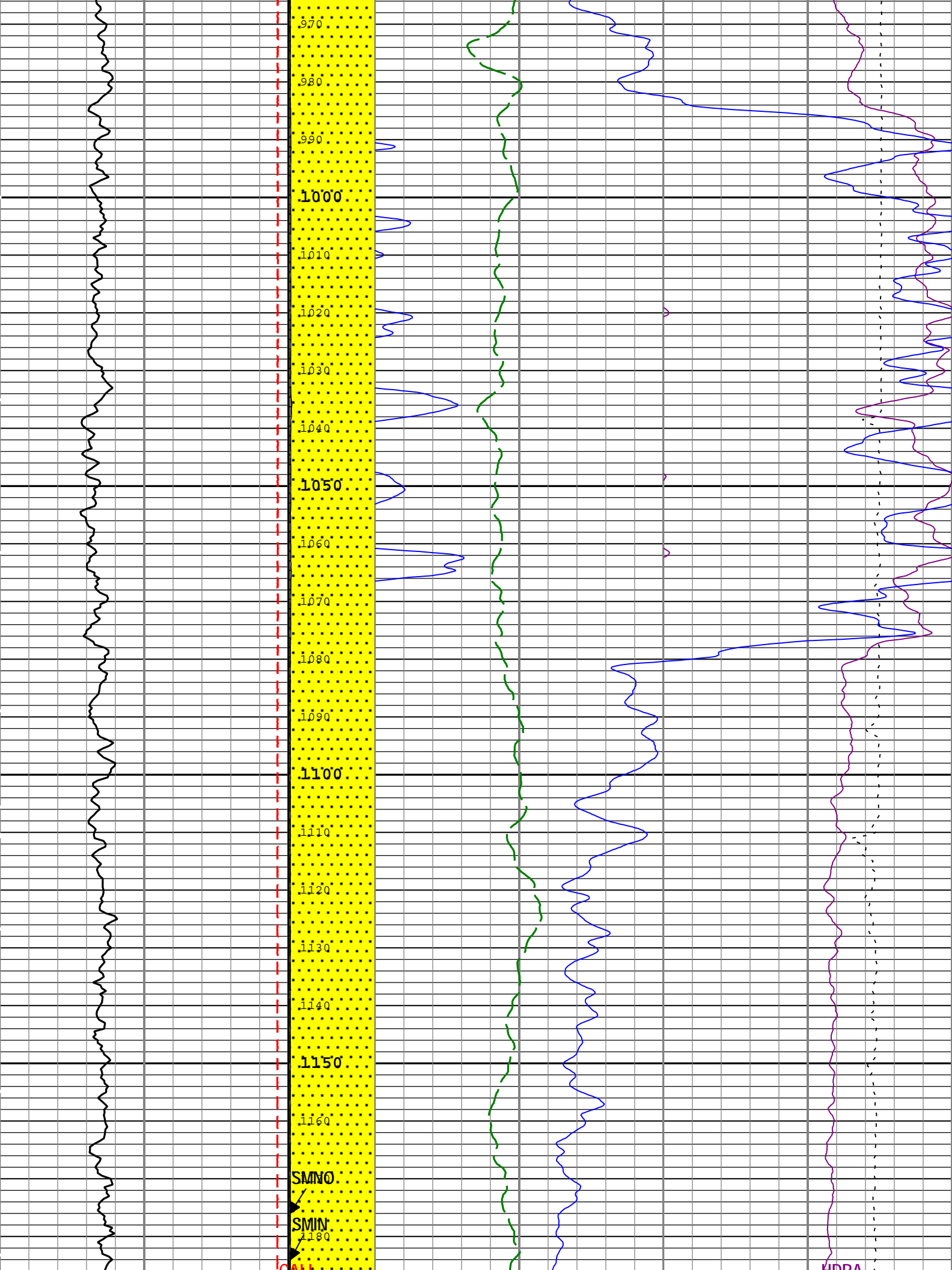
TIME_1900 - Time Marked every 60.00 (s)		LIME		SAND		SHALE		Cable Tension (TENS)	
Gamma Ray Backup		Standard Resolution Formation Photoelectric Factor (PEFZ) HDRS[1]		10000		lb		0	
Gamma Ray (GR) EDTC-B[1]		Stuck Tool Indicator, Total (STIT)		Density Standoff Correction (HDRA) HDRS[1]		-0.25		g/cm3	
0 gAPI 200		0 ft 50		2 g/cm3		3			
Caliper (CALI) HDRS[1]									
4 in 14									
30		30		30		30		30	
40		40		40		40		40	
50		50		50		50		50	
60		60		60		60		60	
70		70		70		70		70	
80		80		80		80		80	

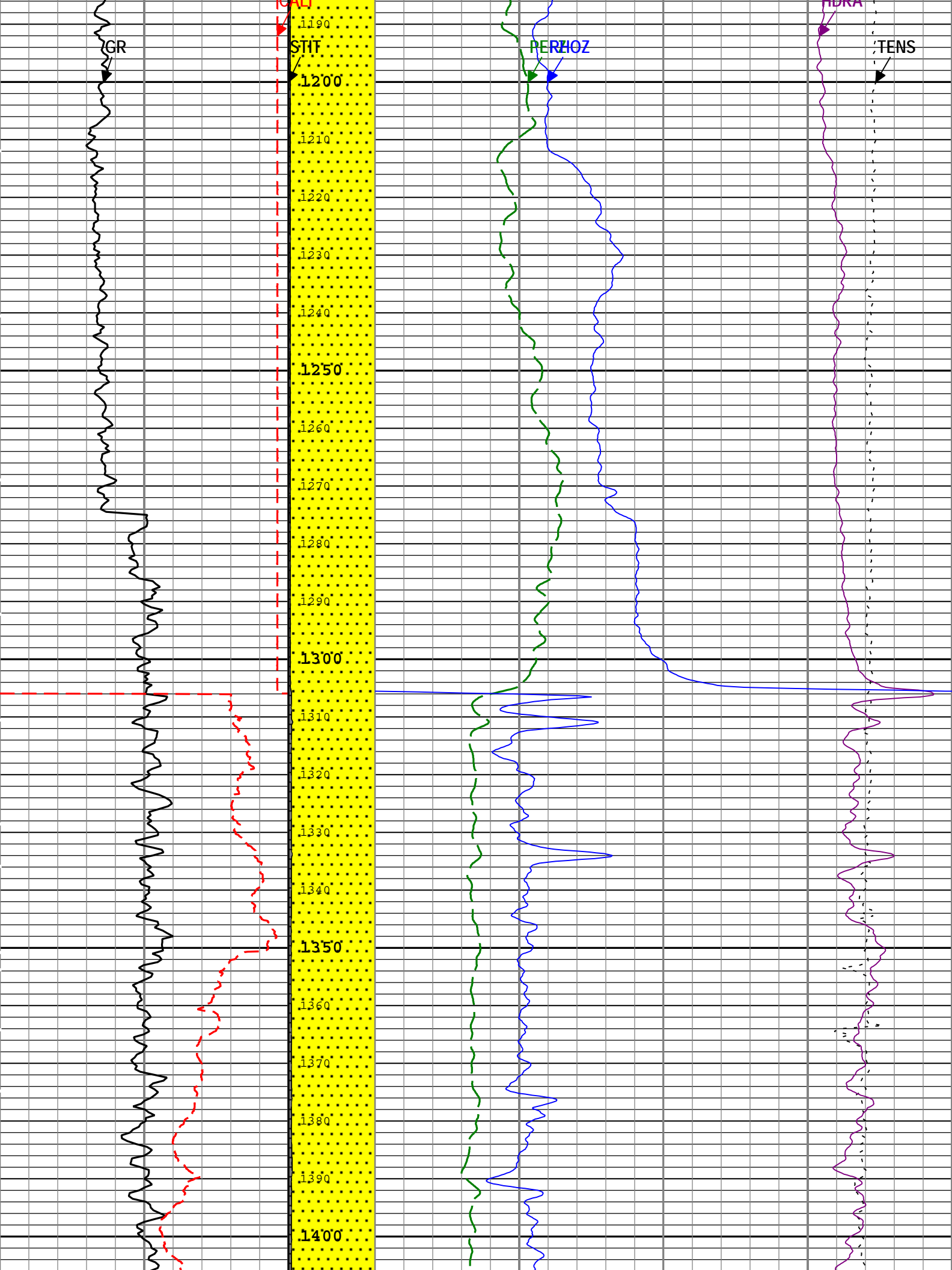


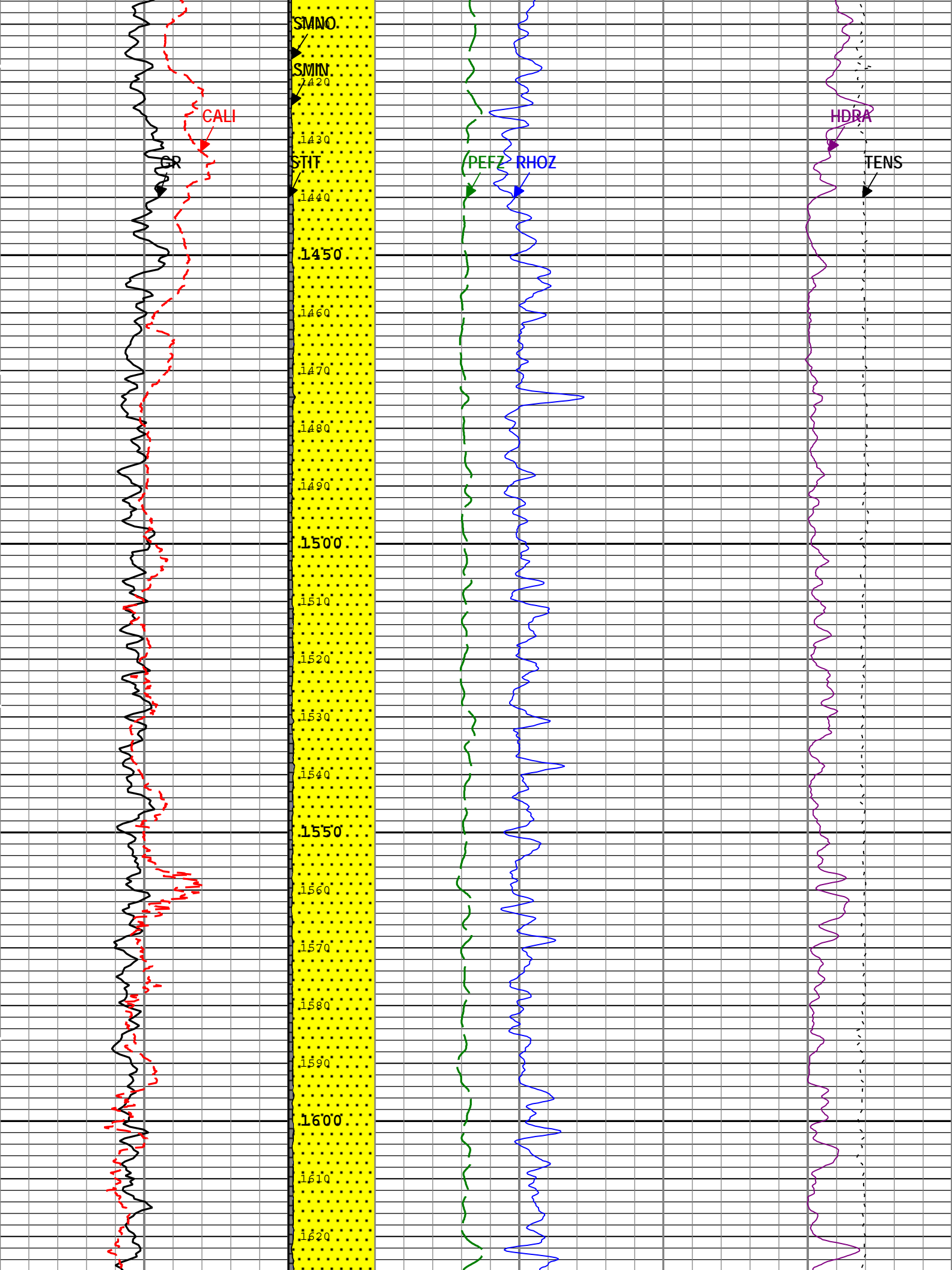


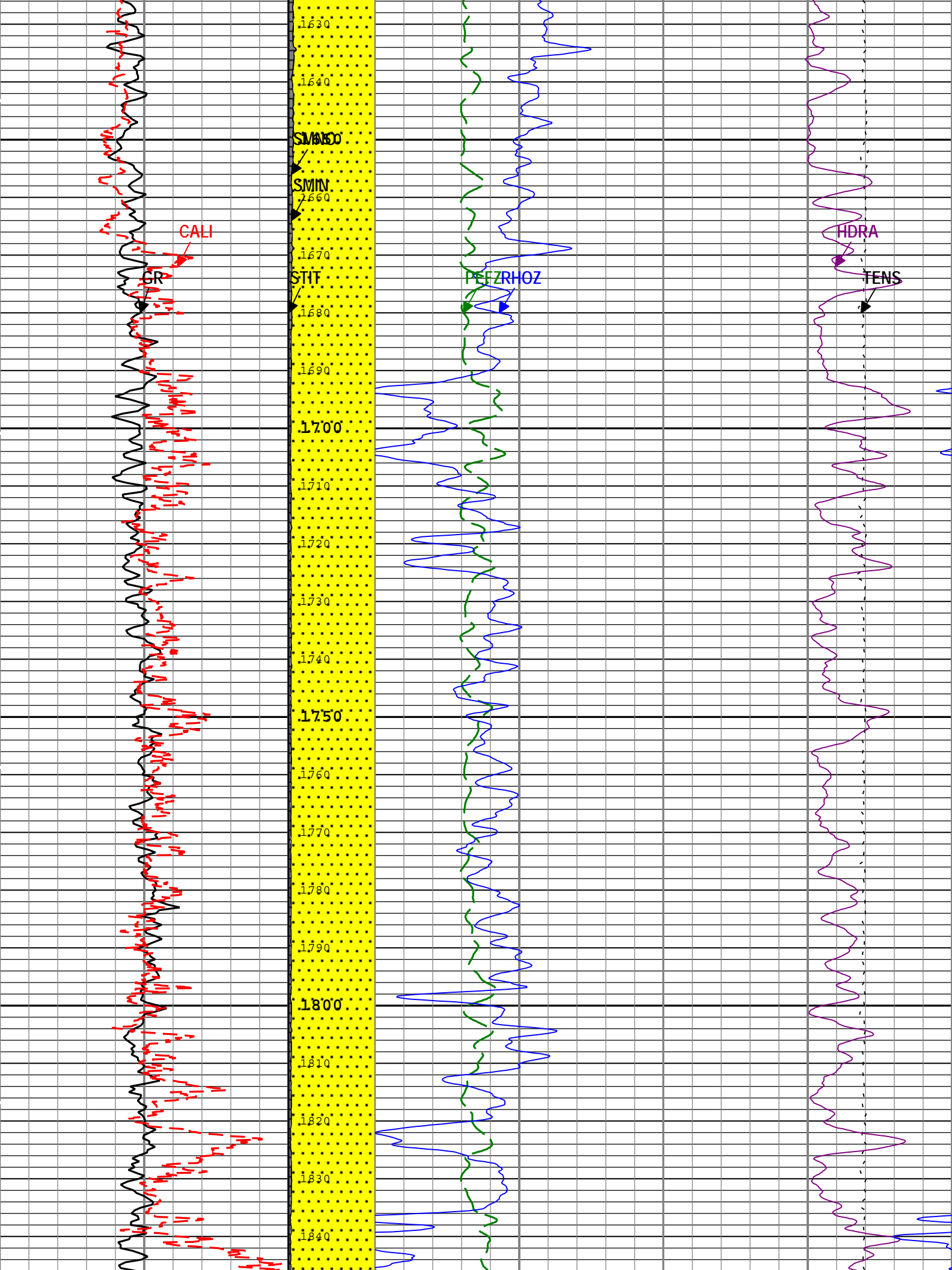


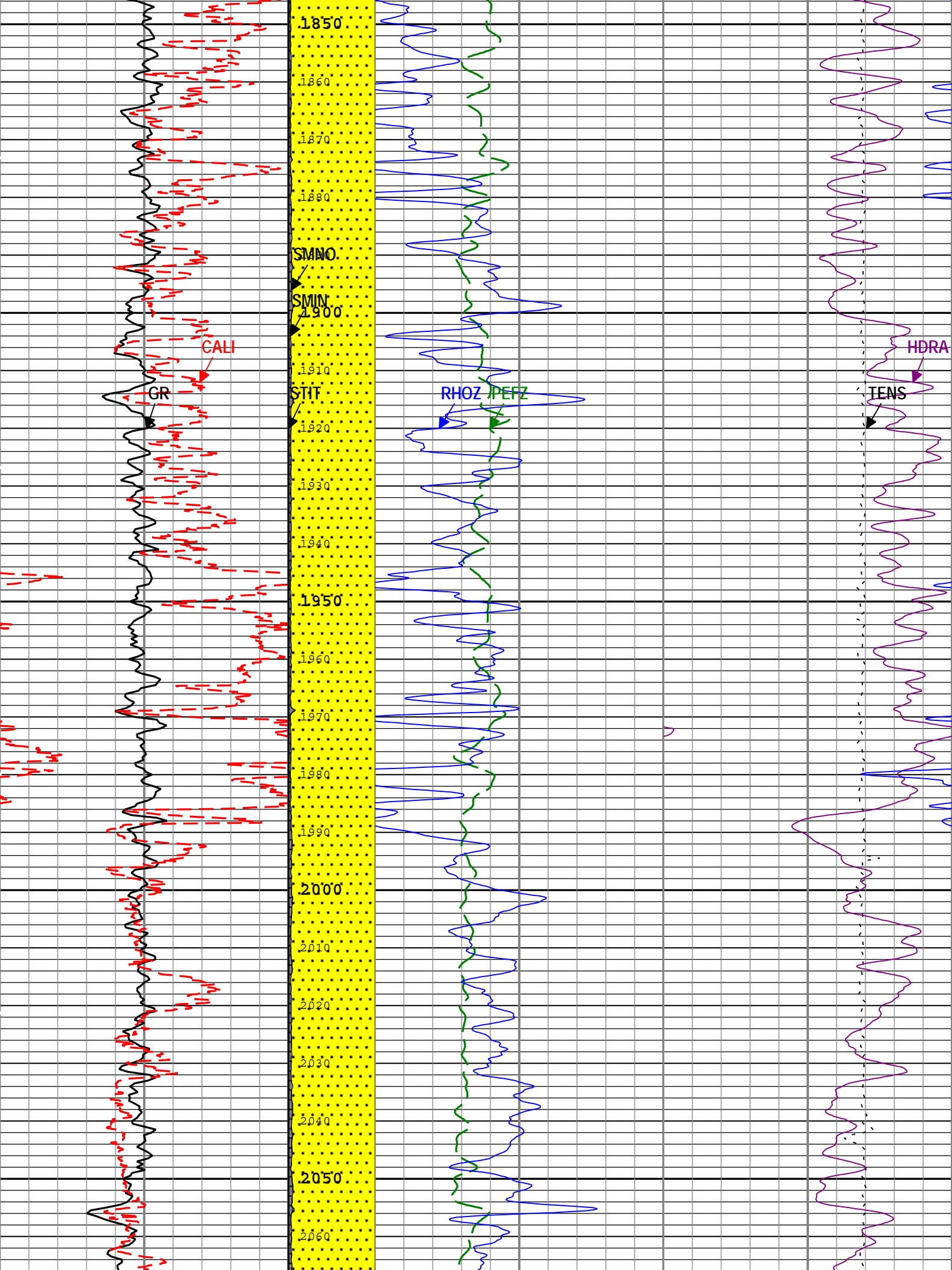


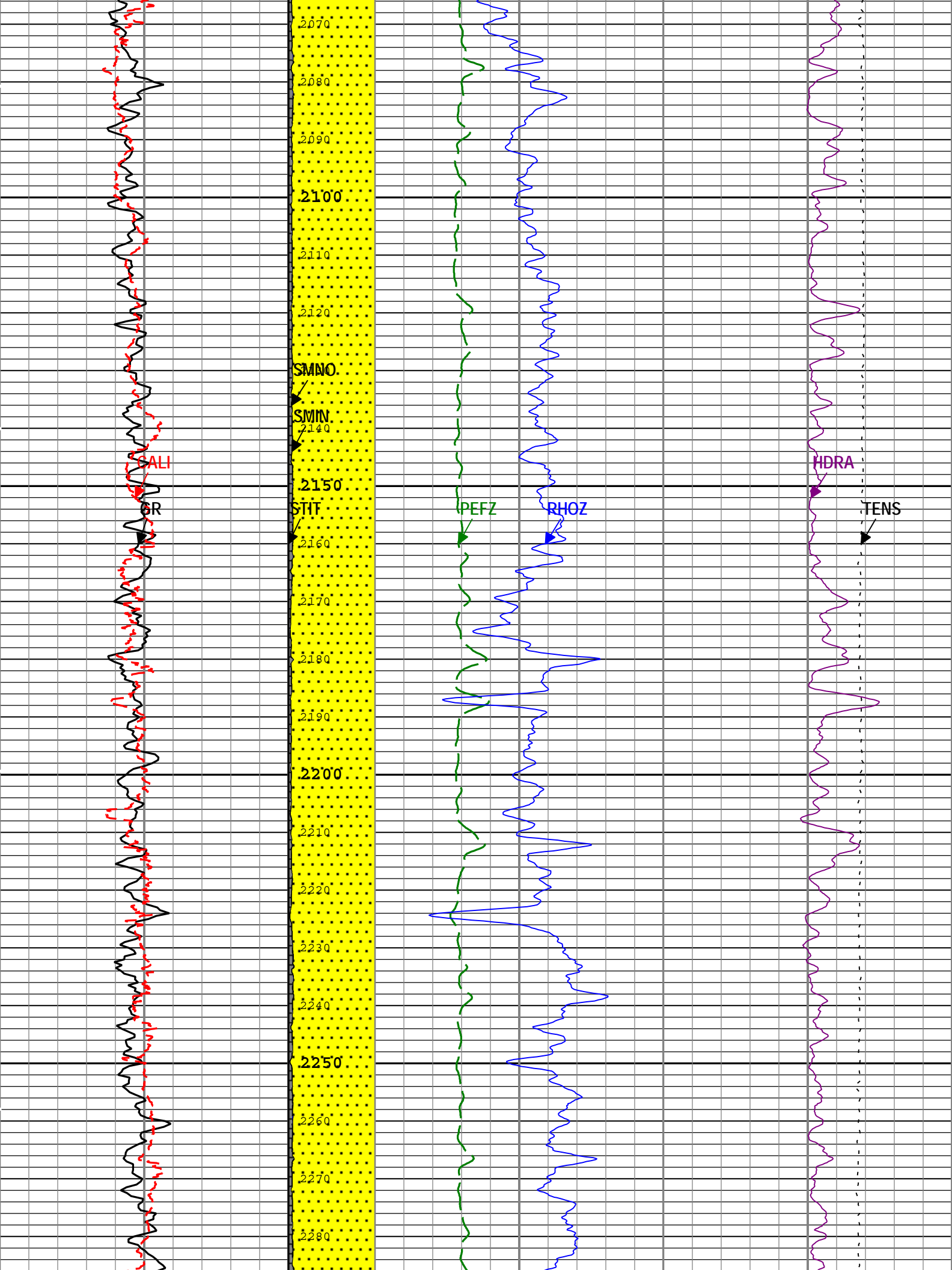


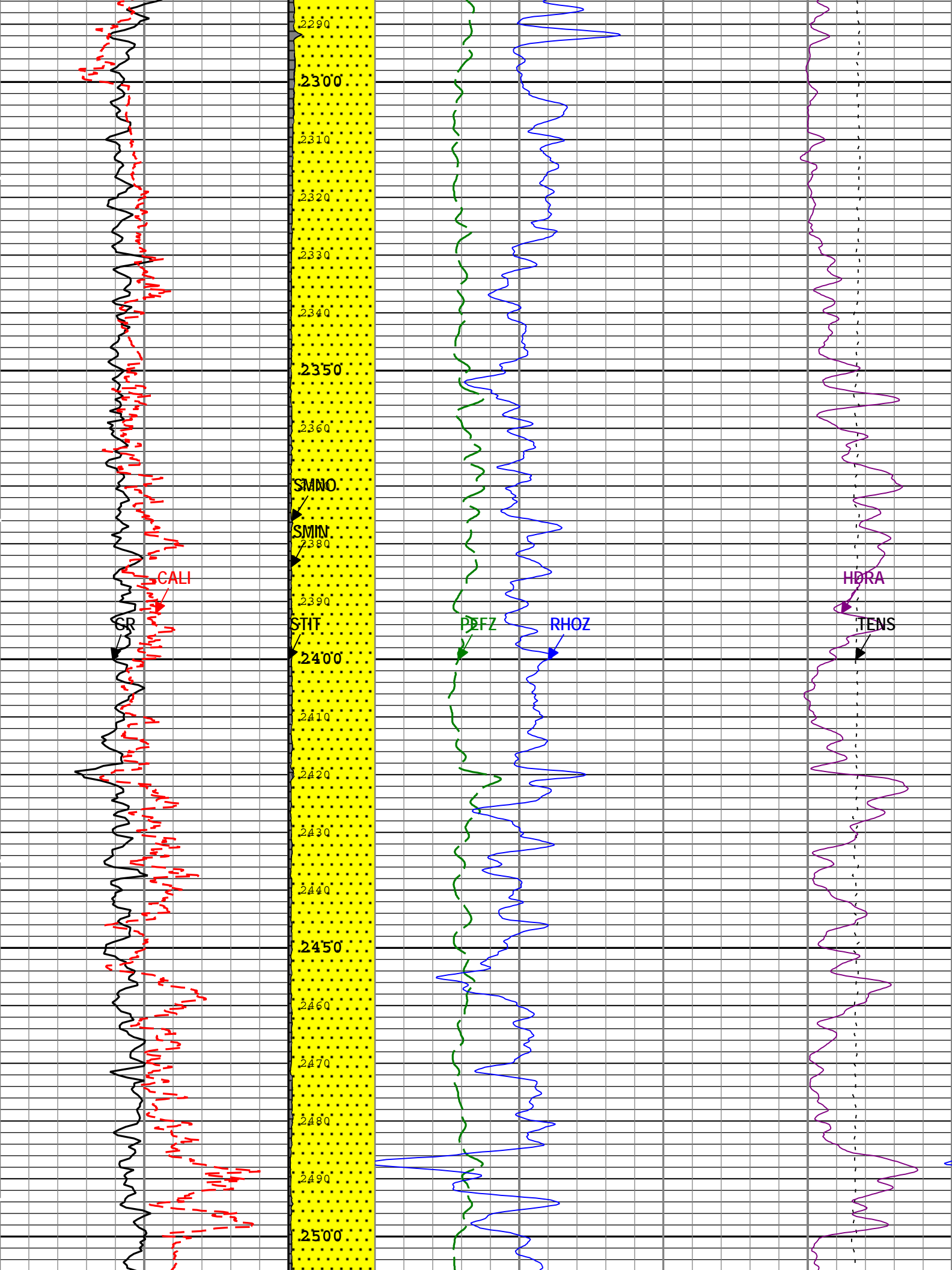


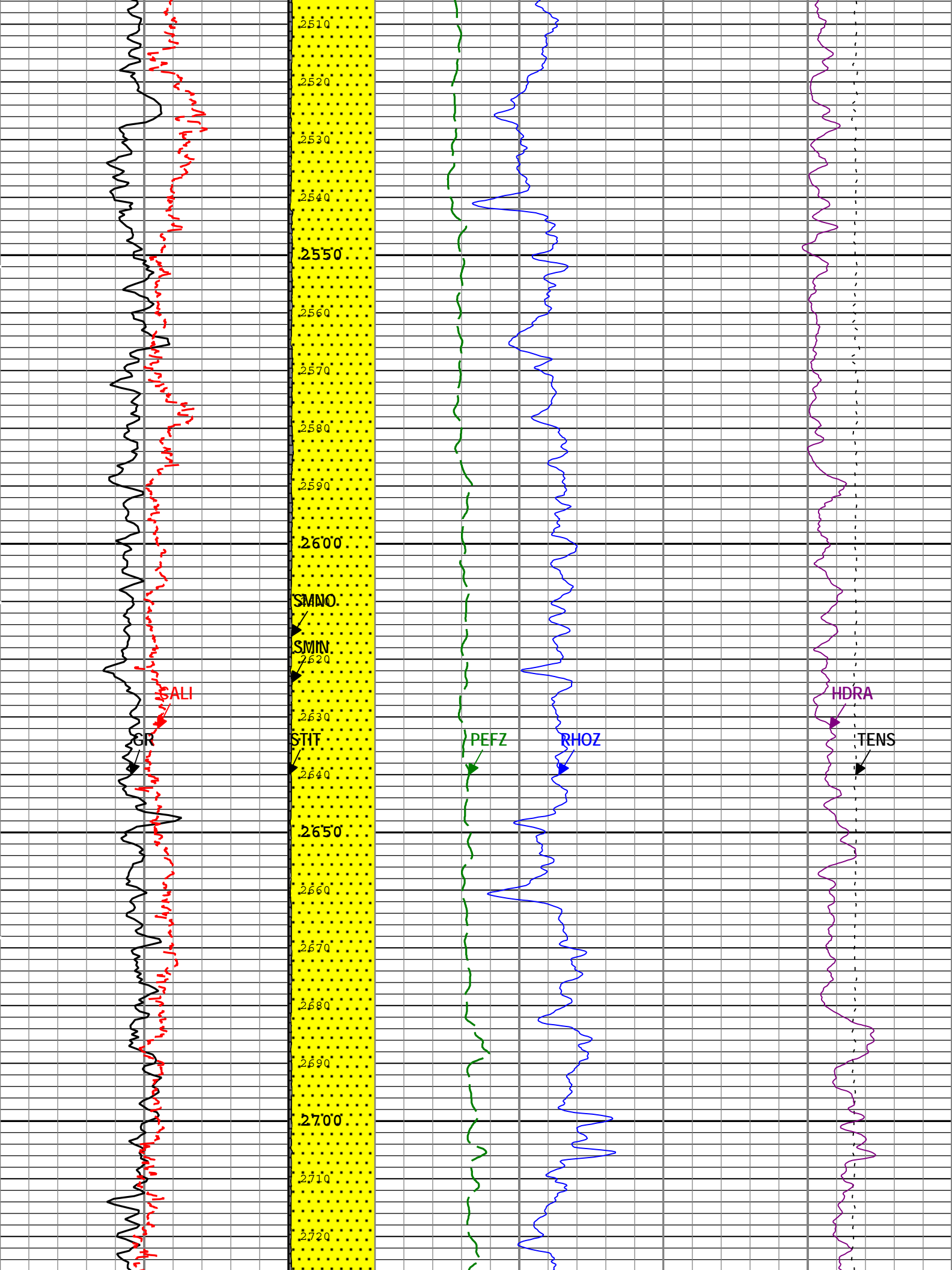


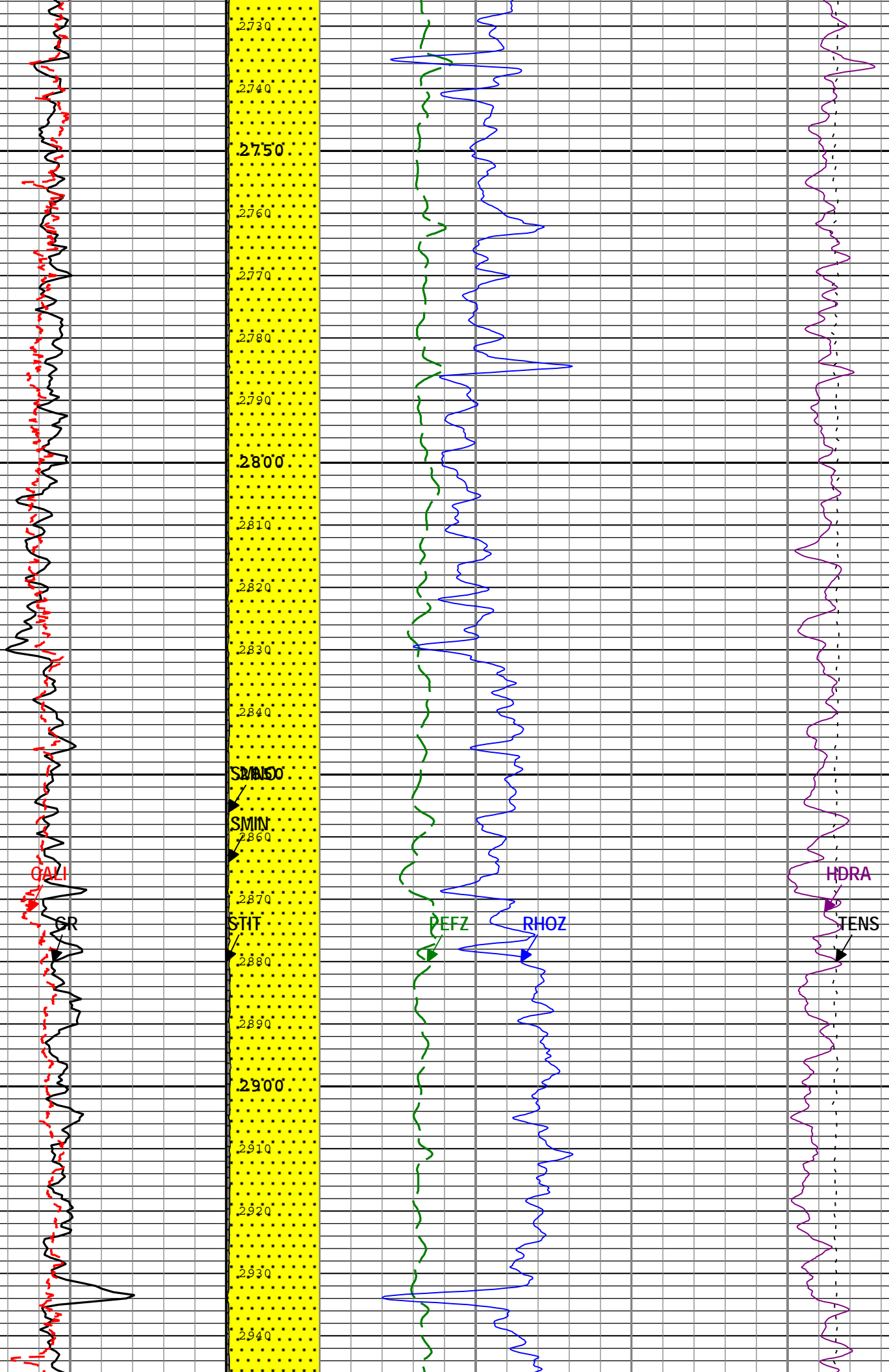


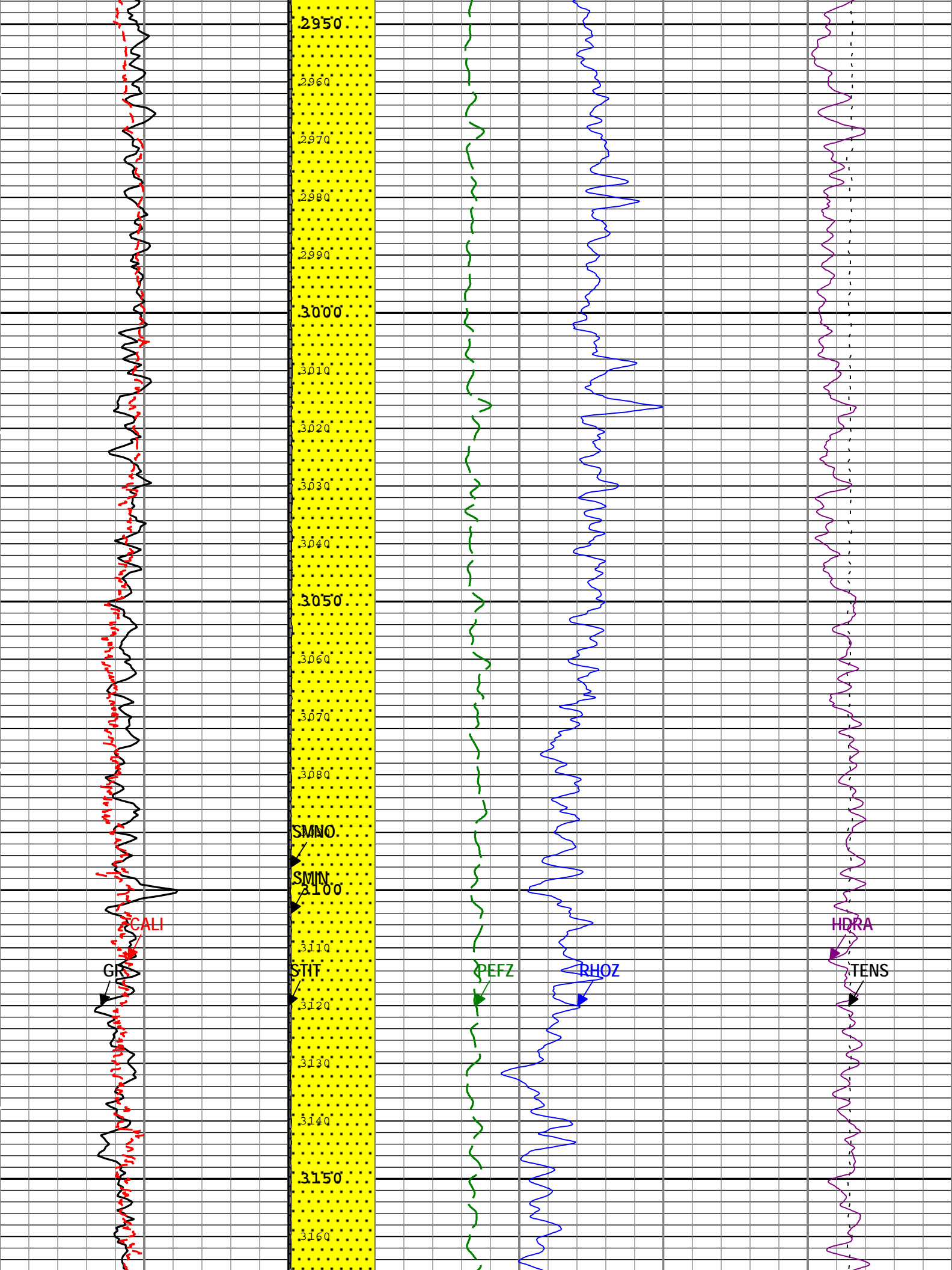


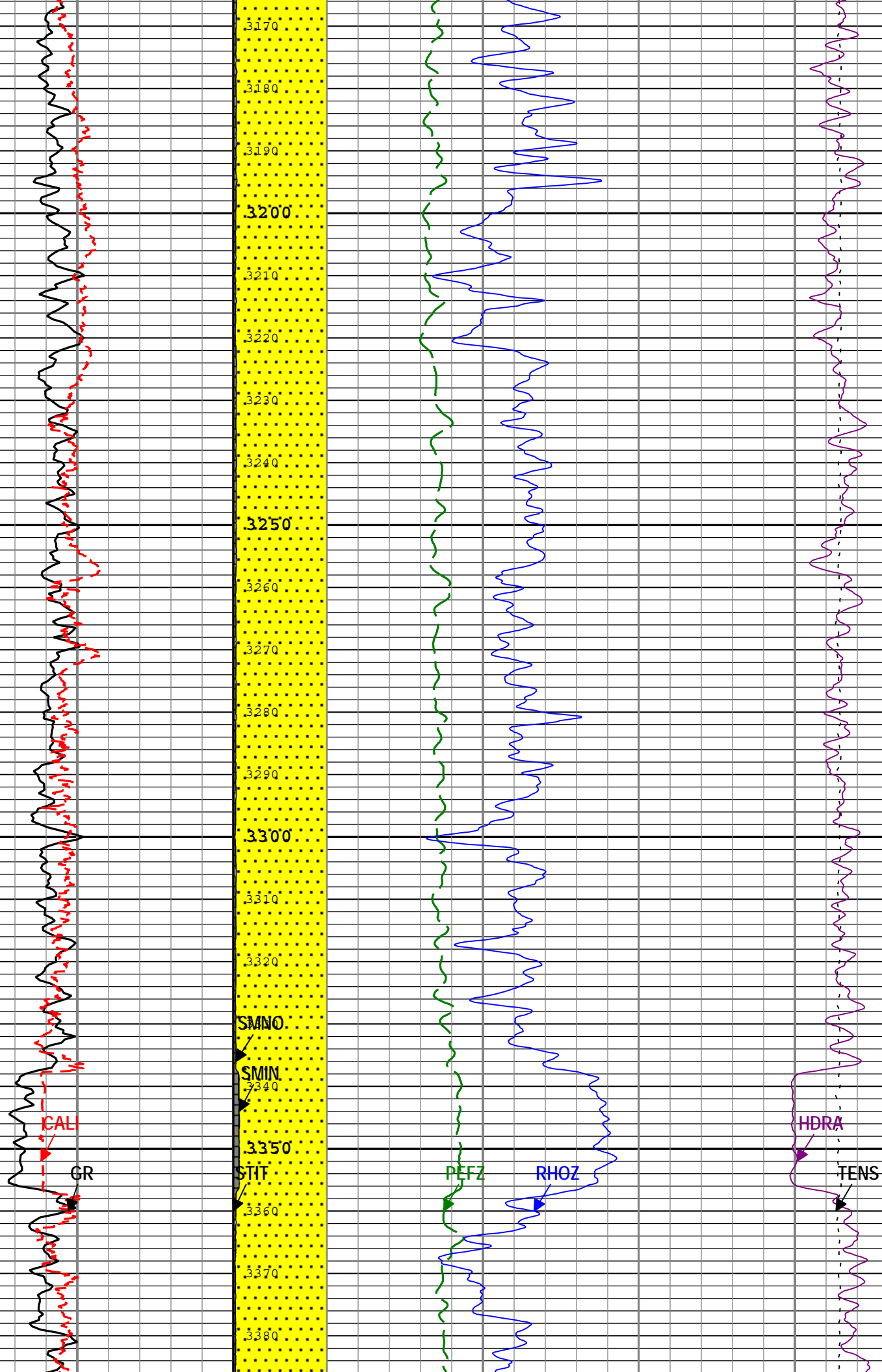


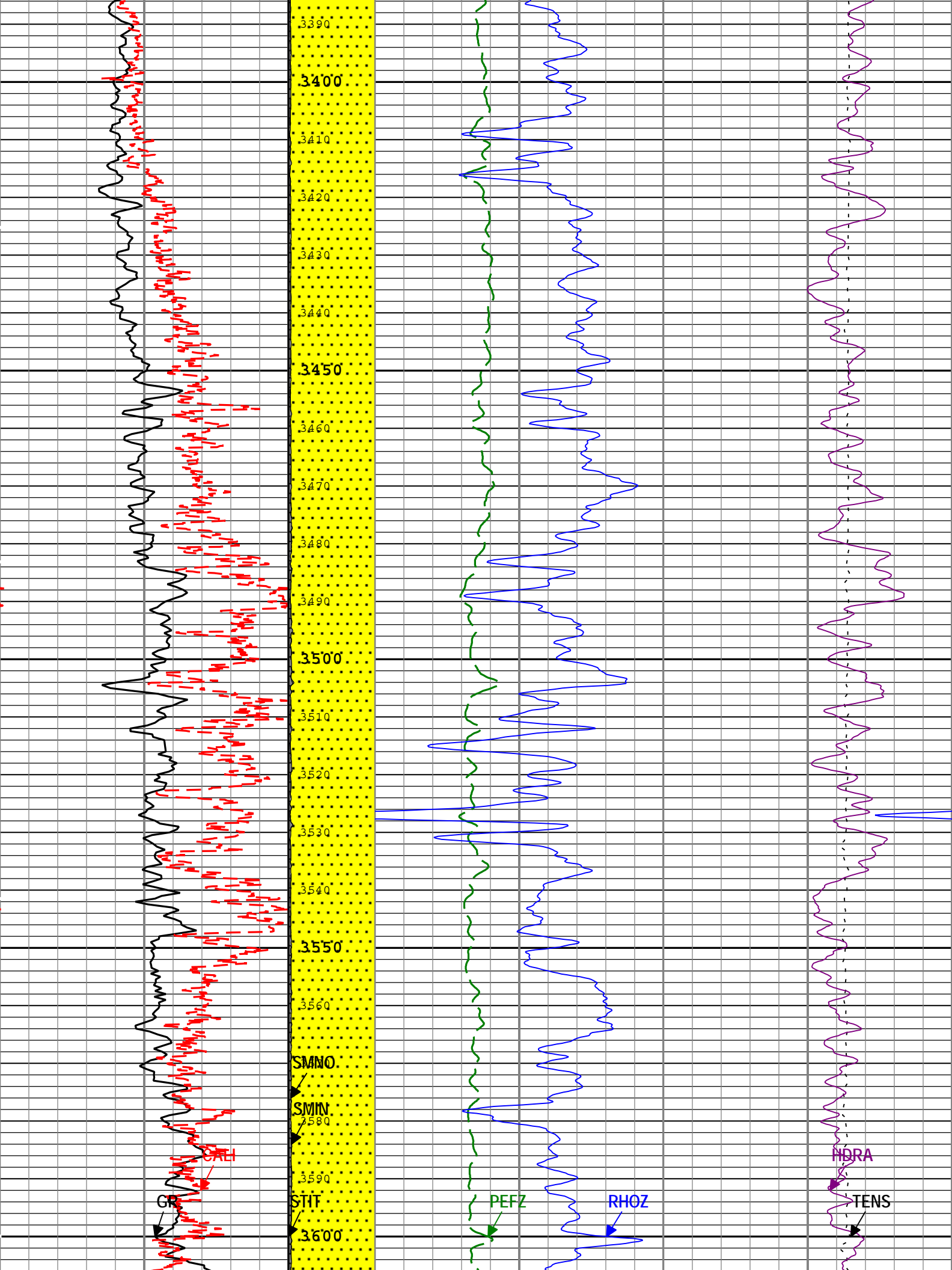


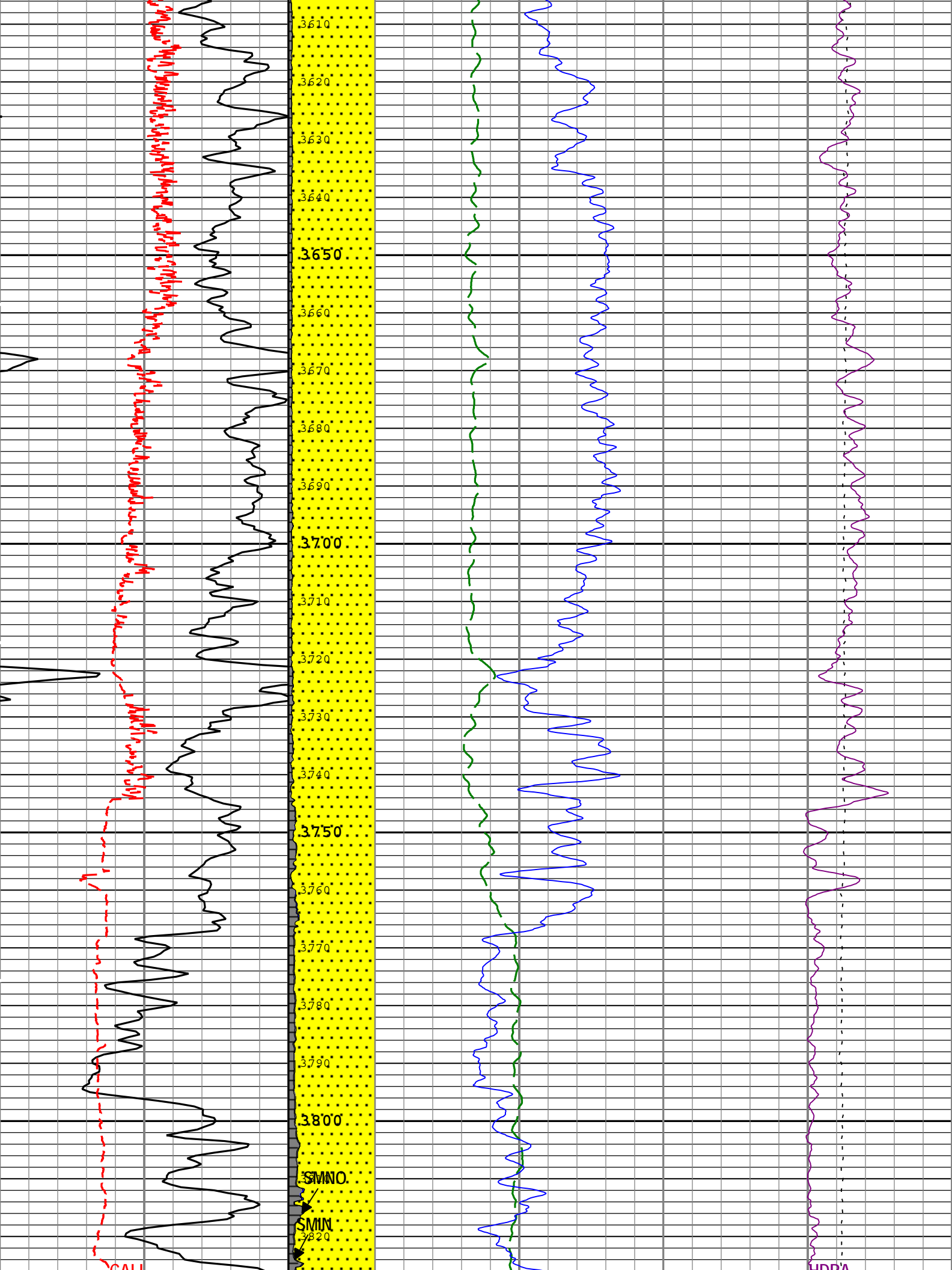


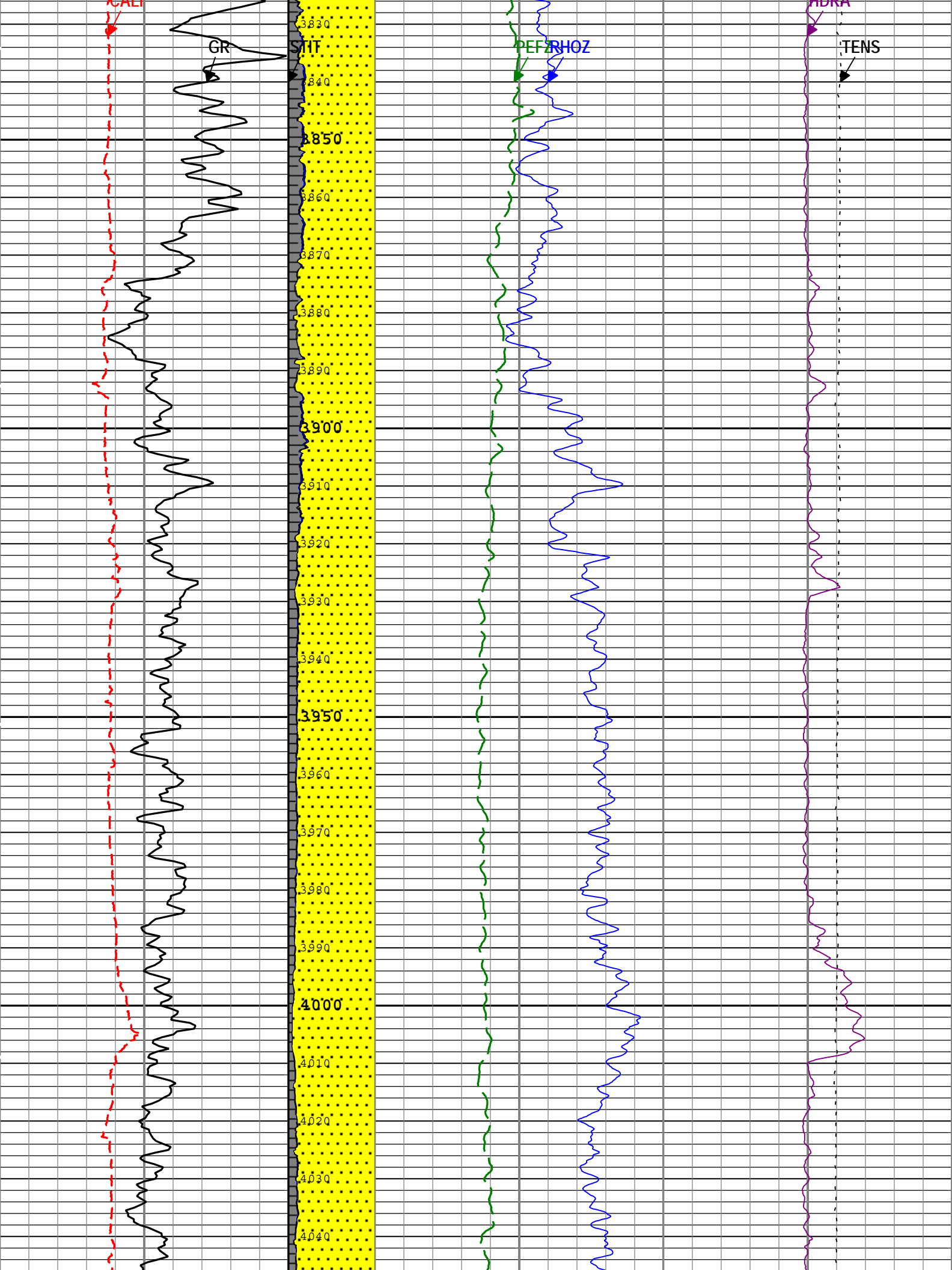


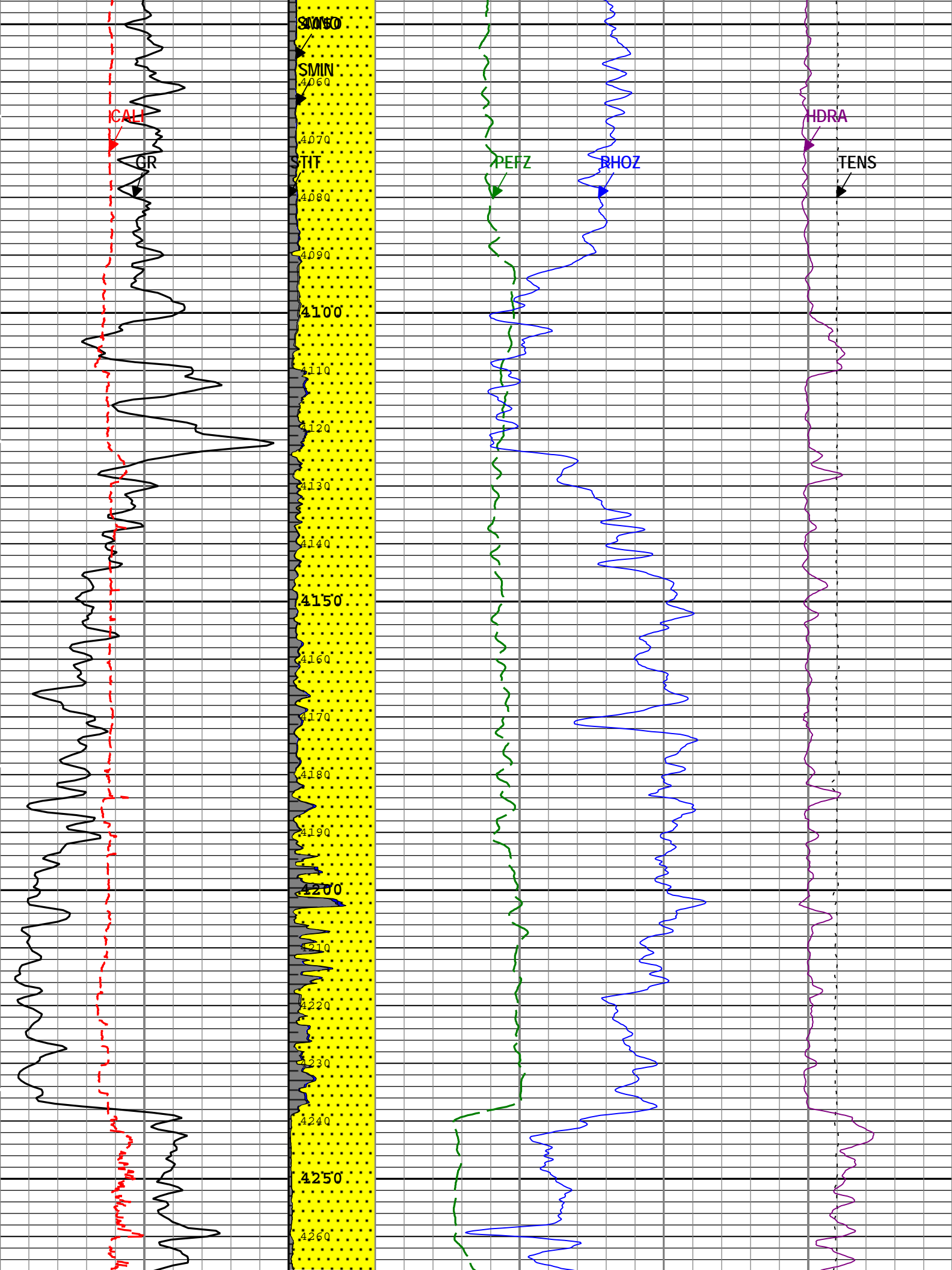


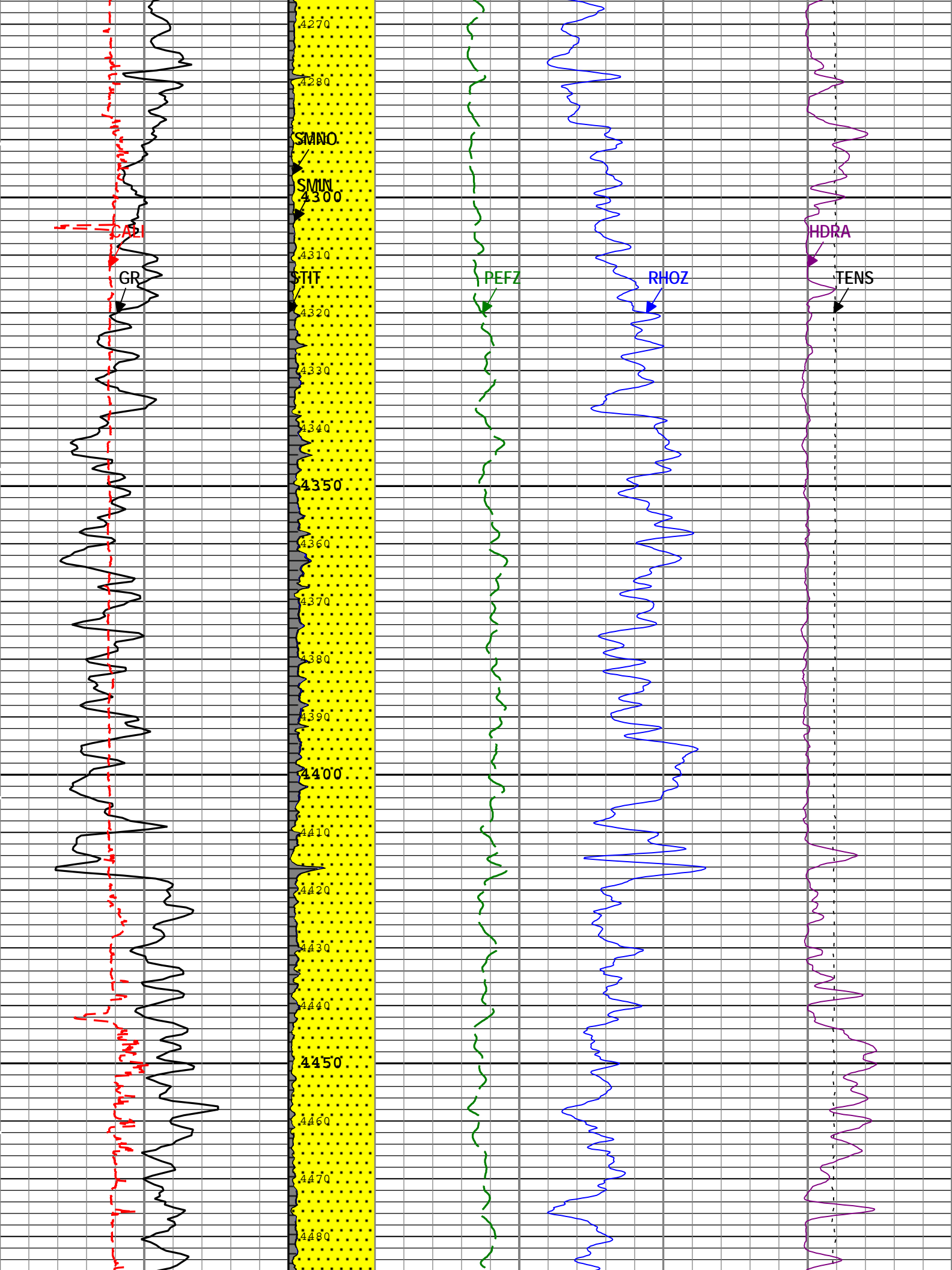


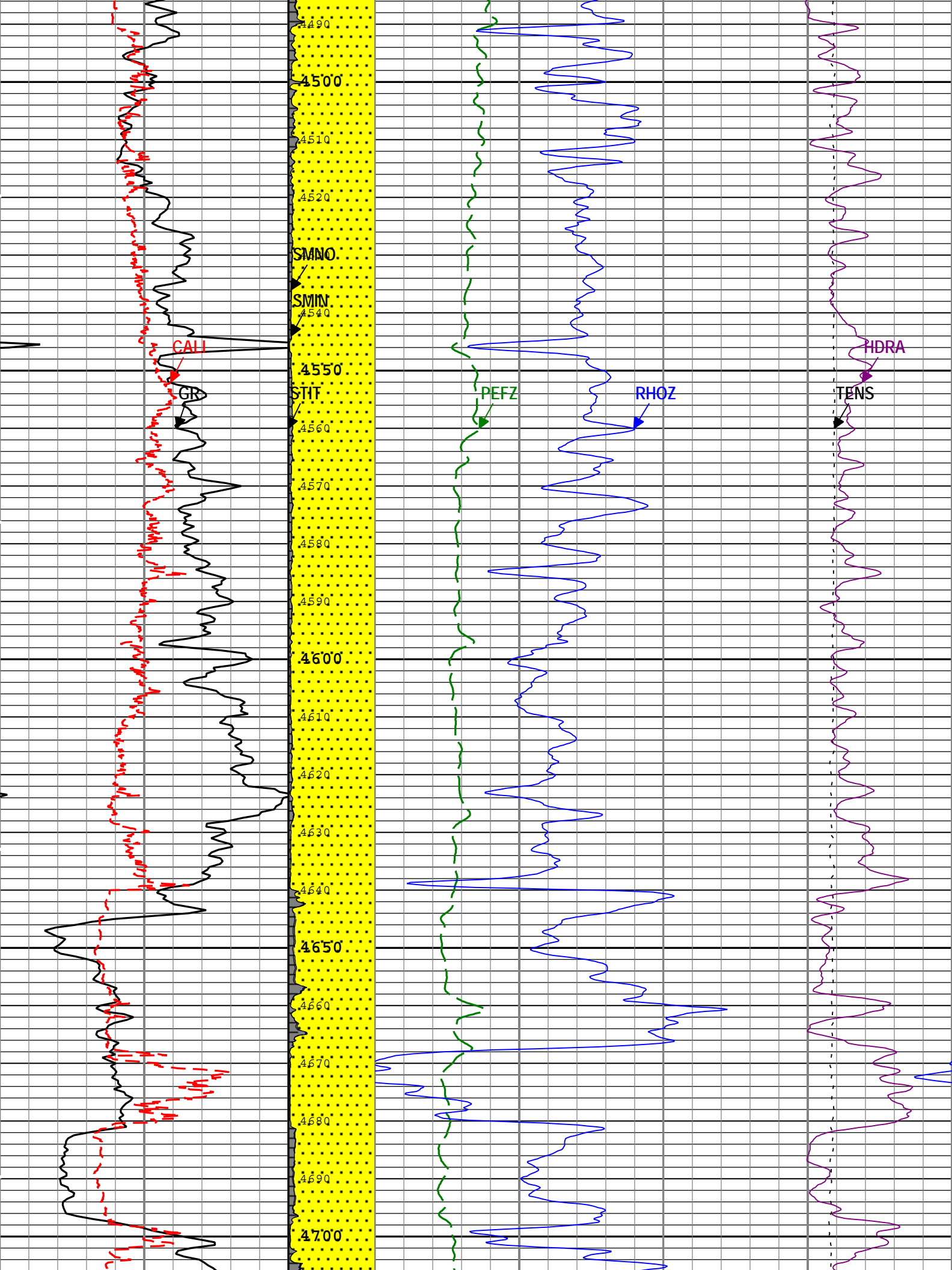


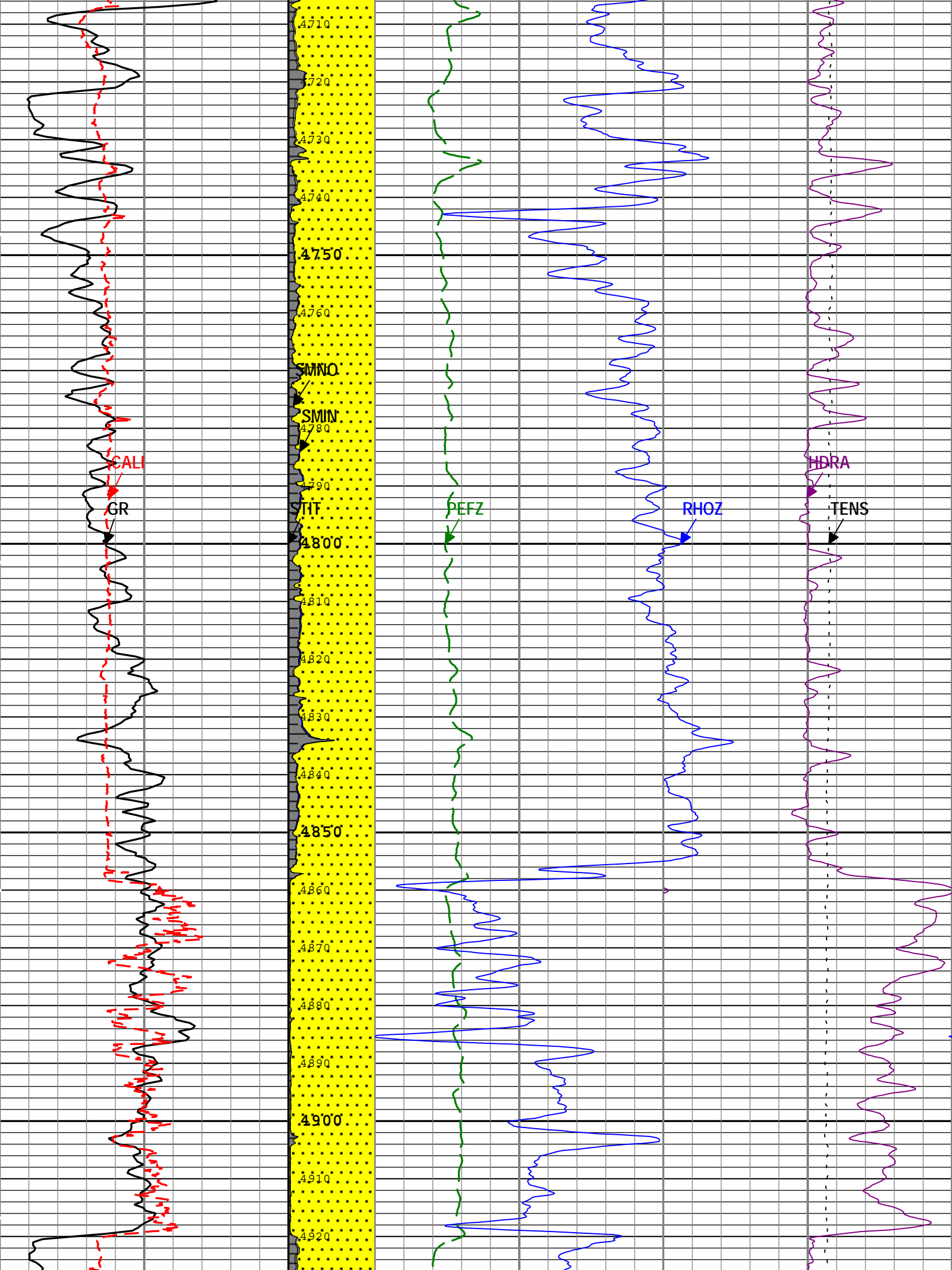


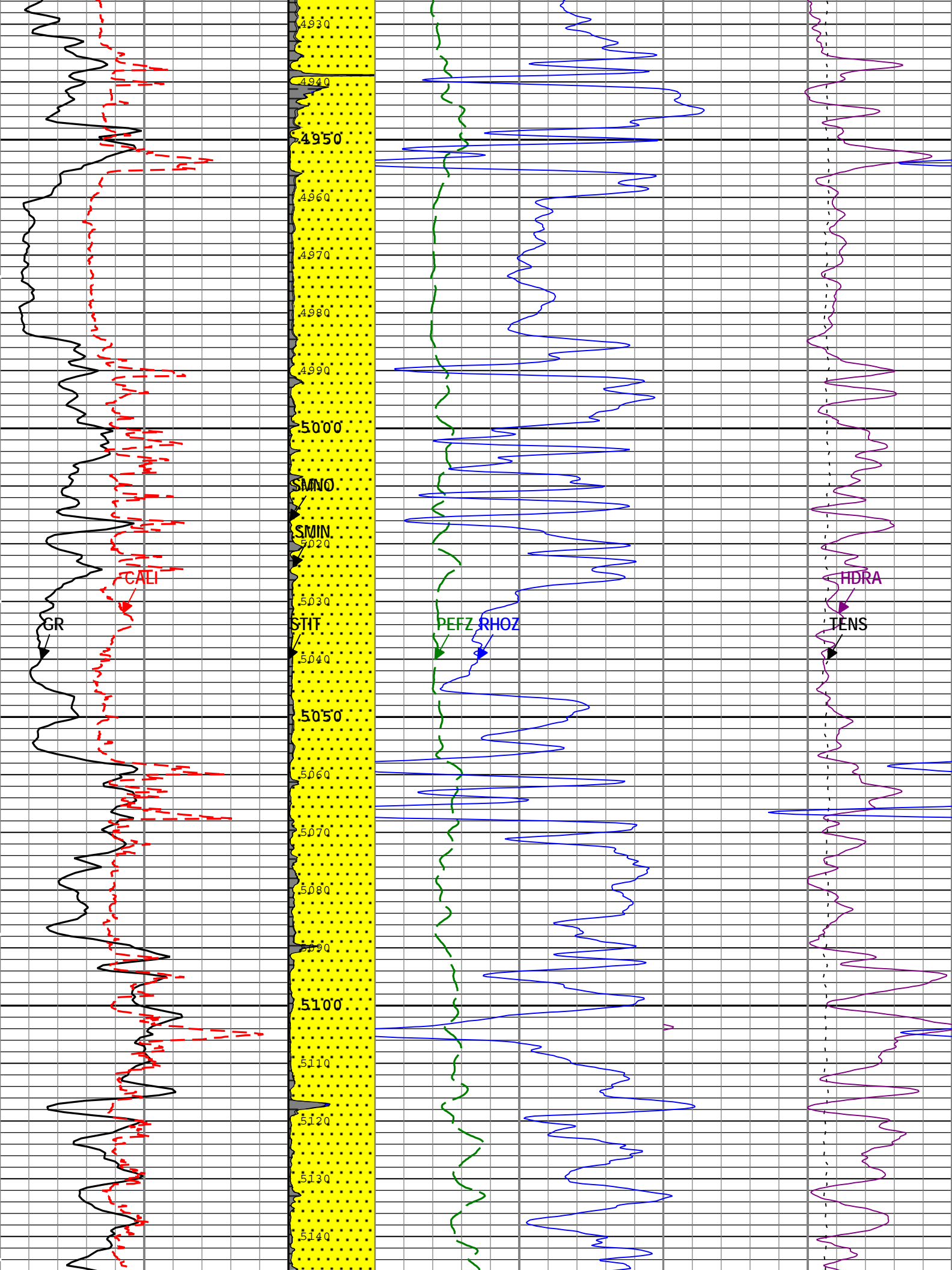


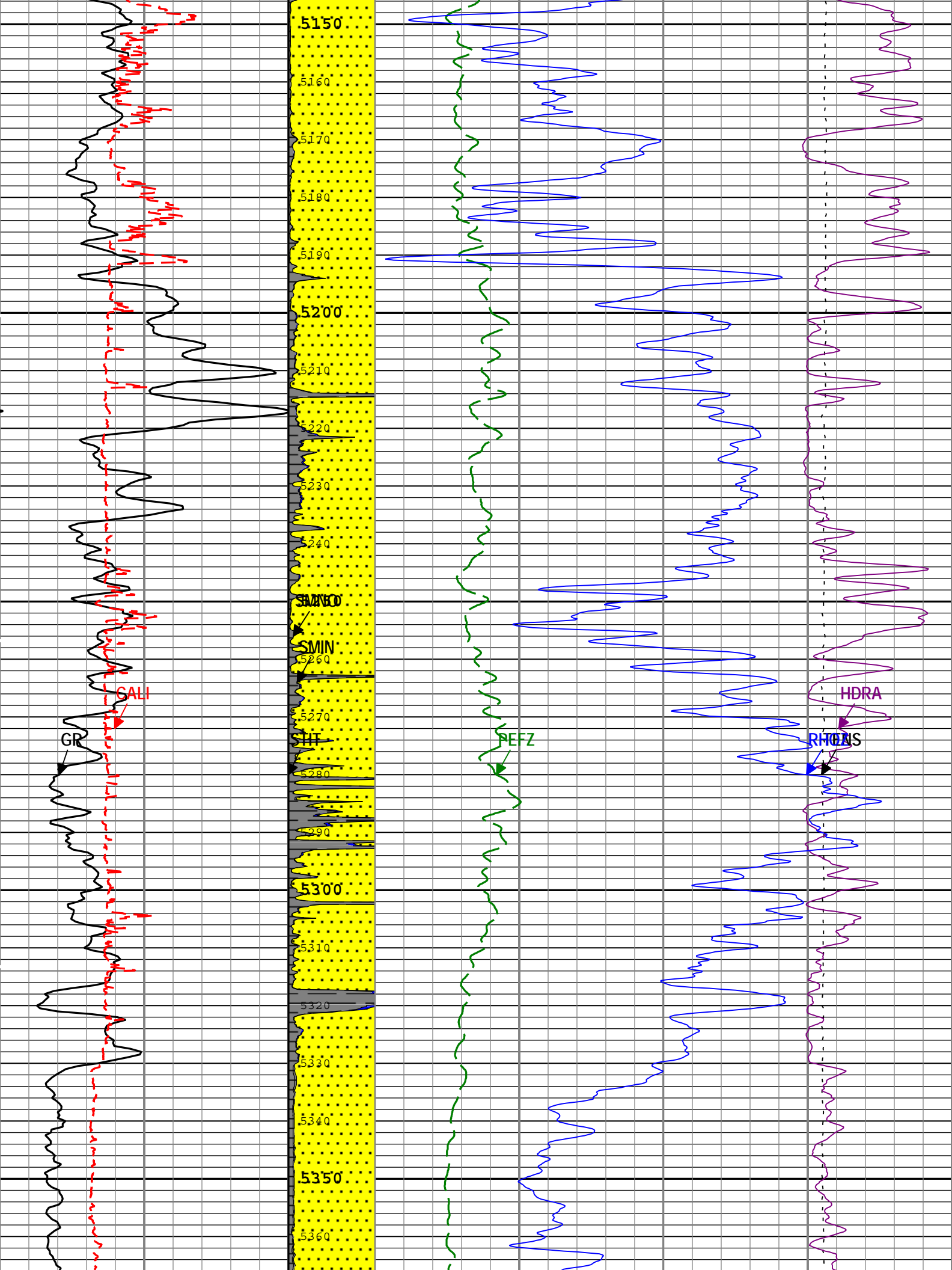


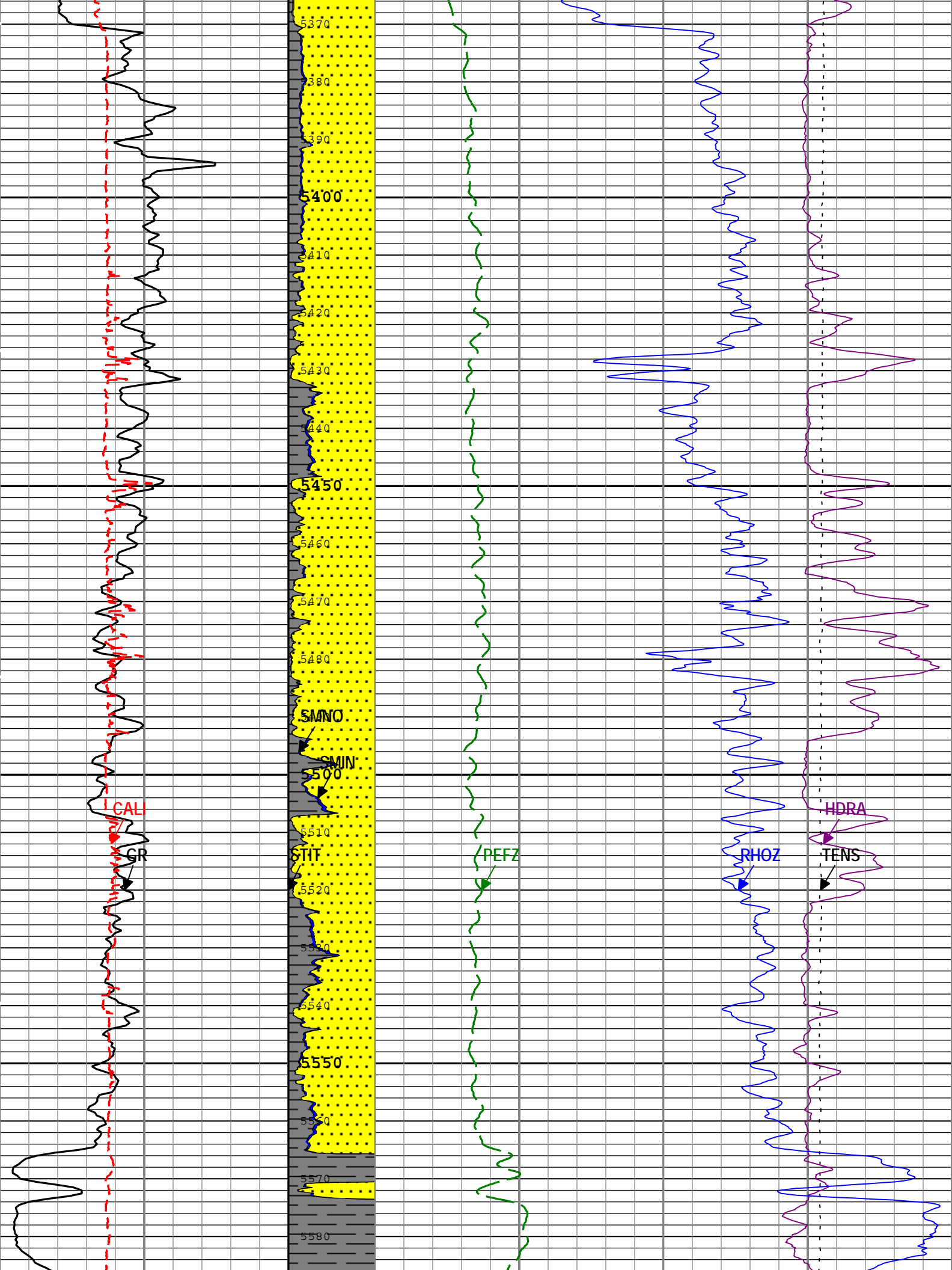


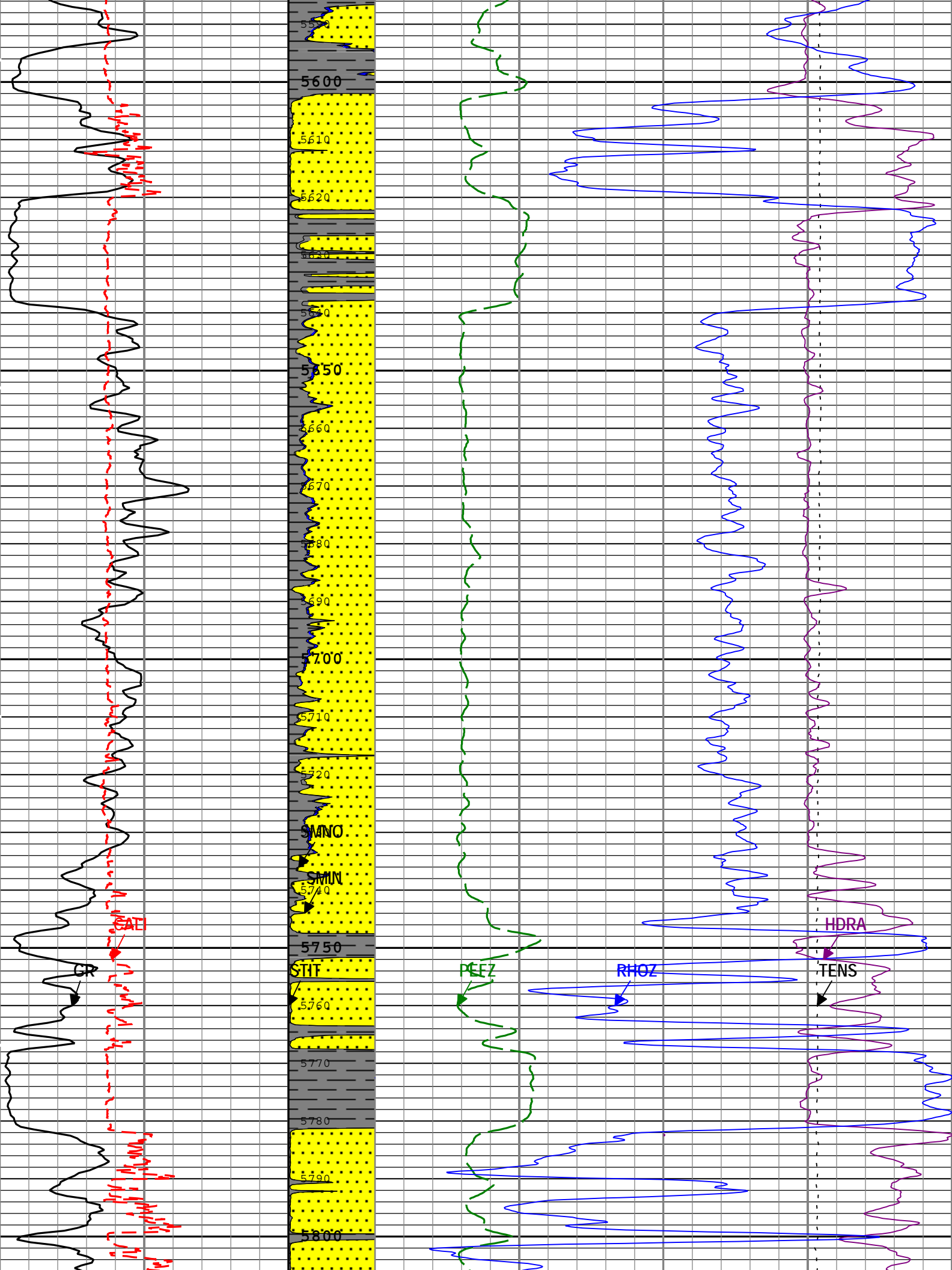


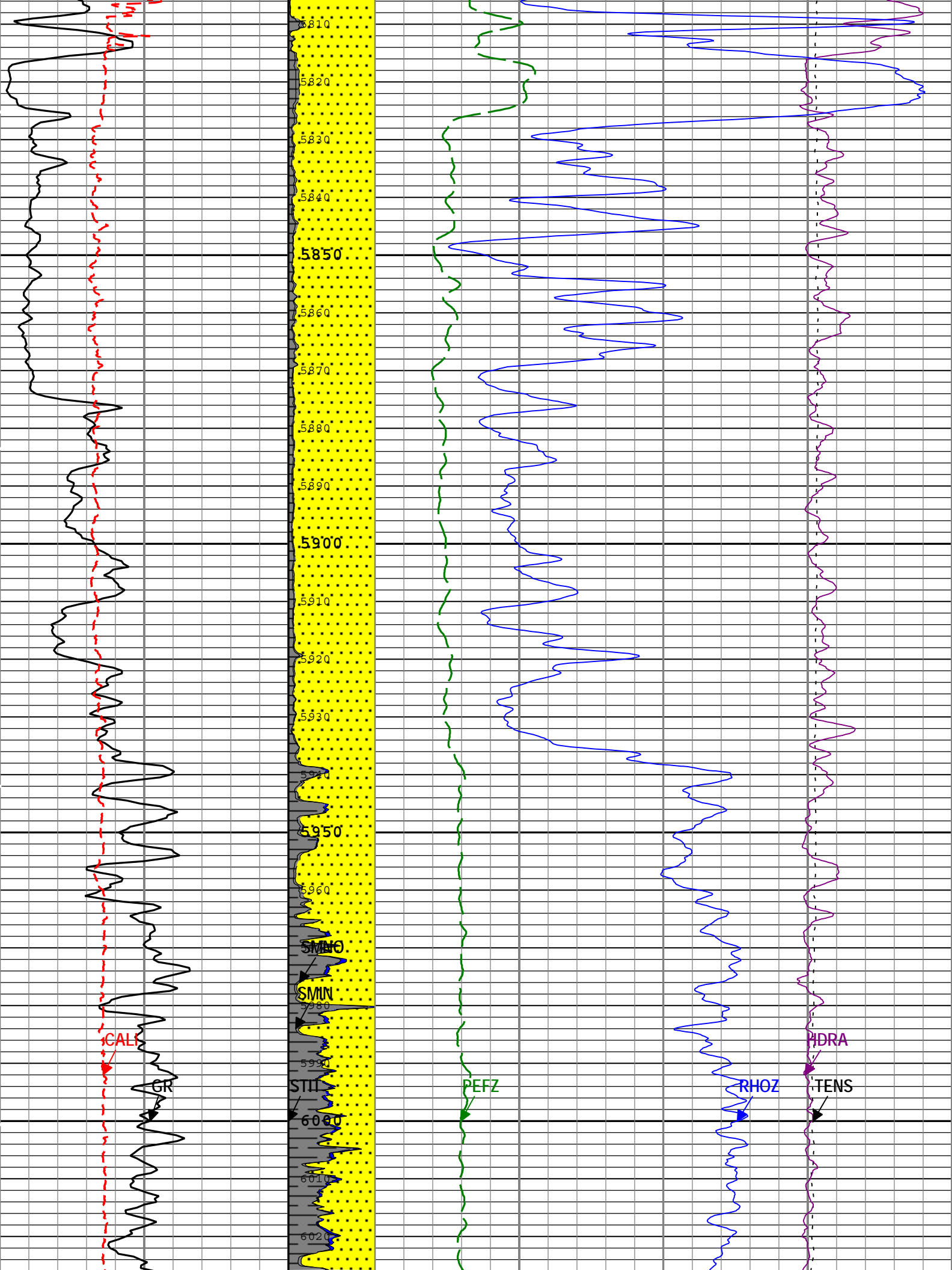


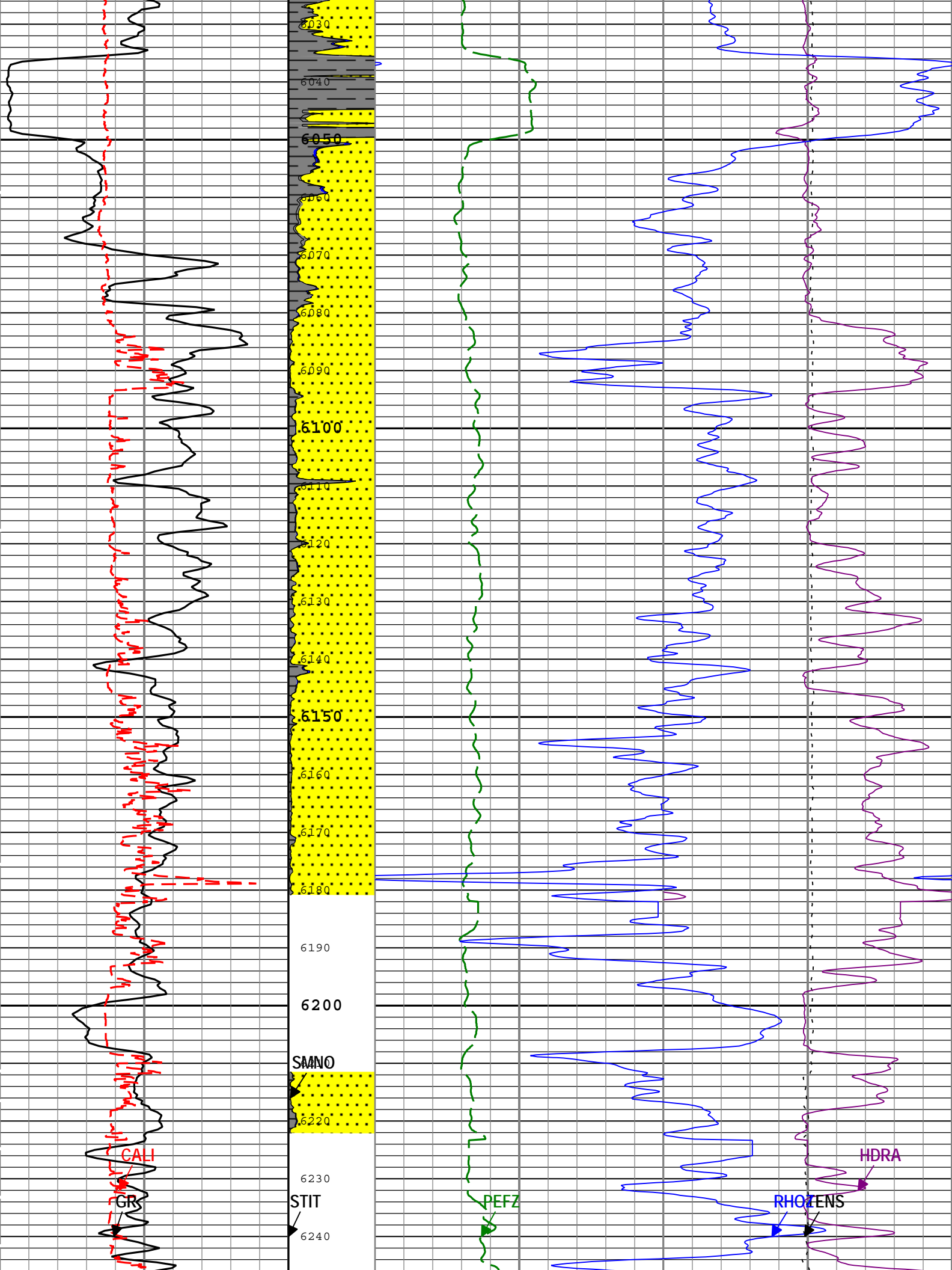


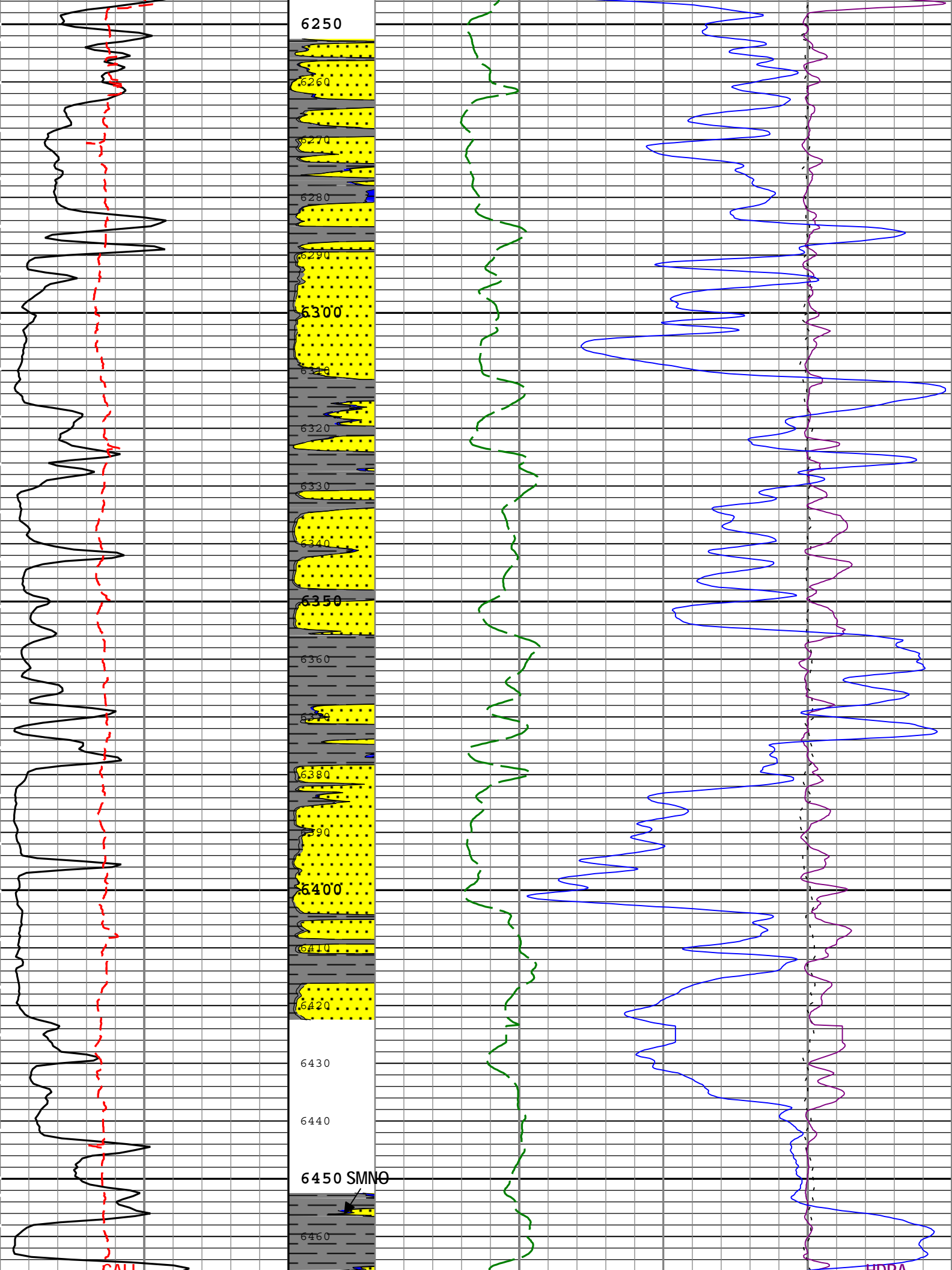


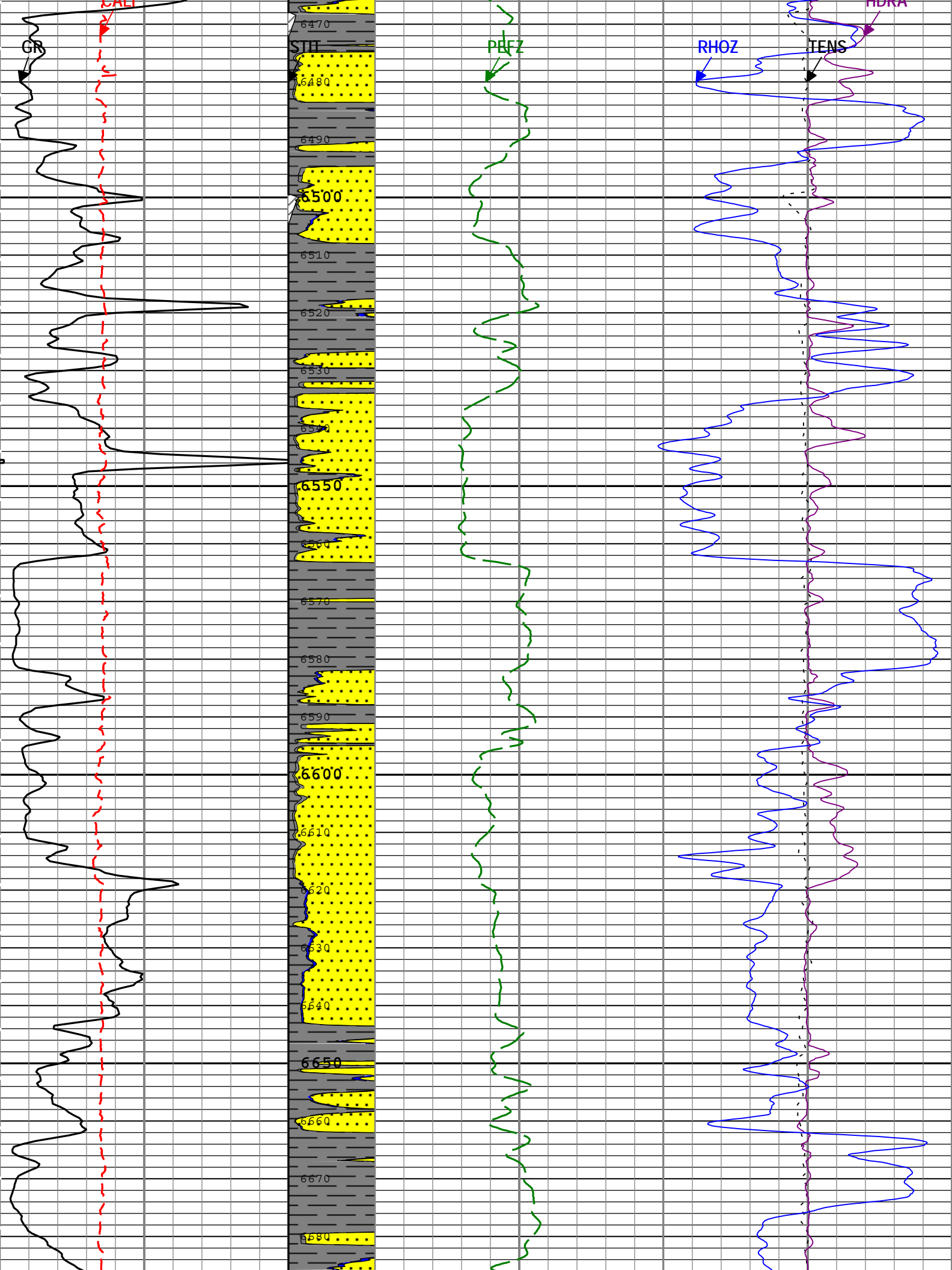


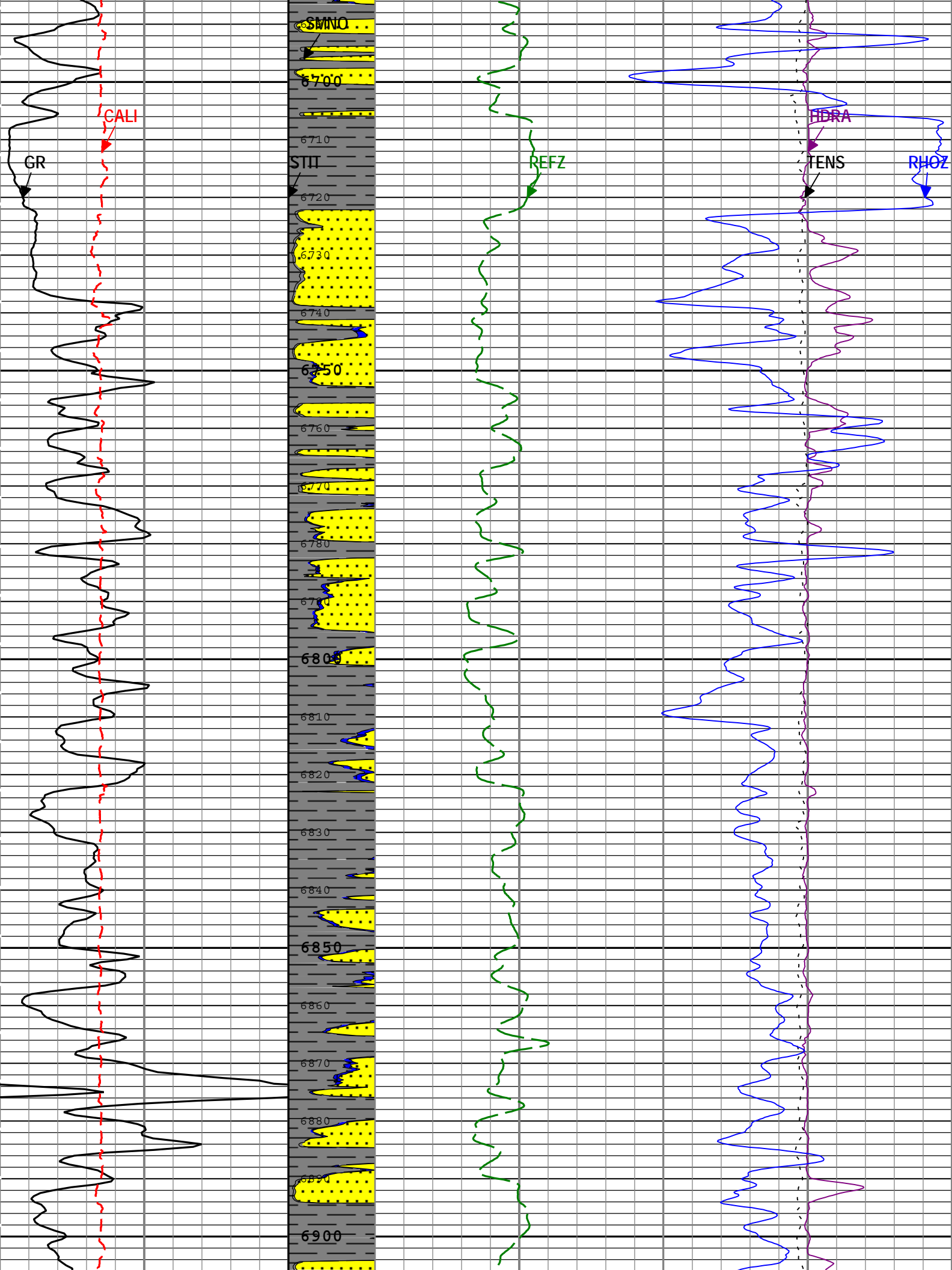


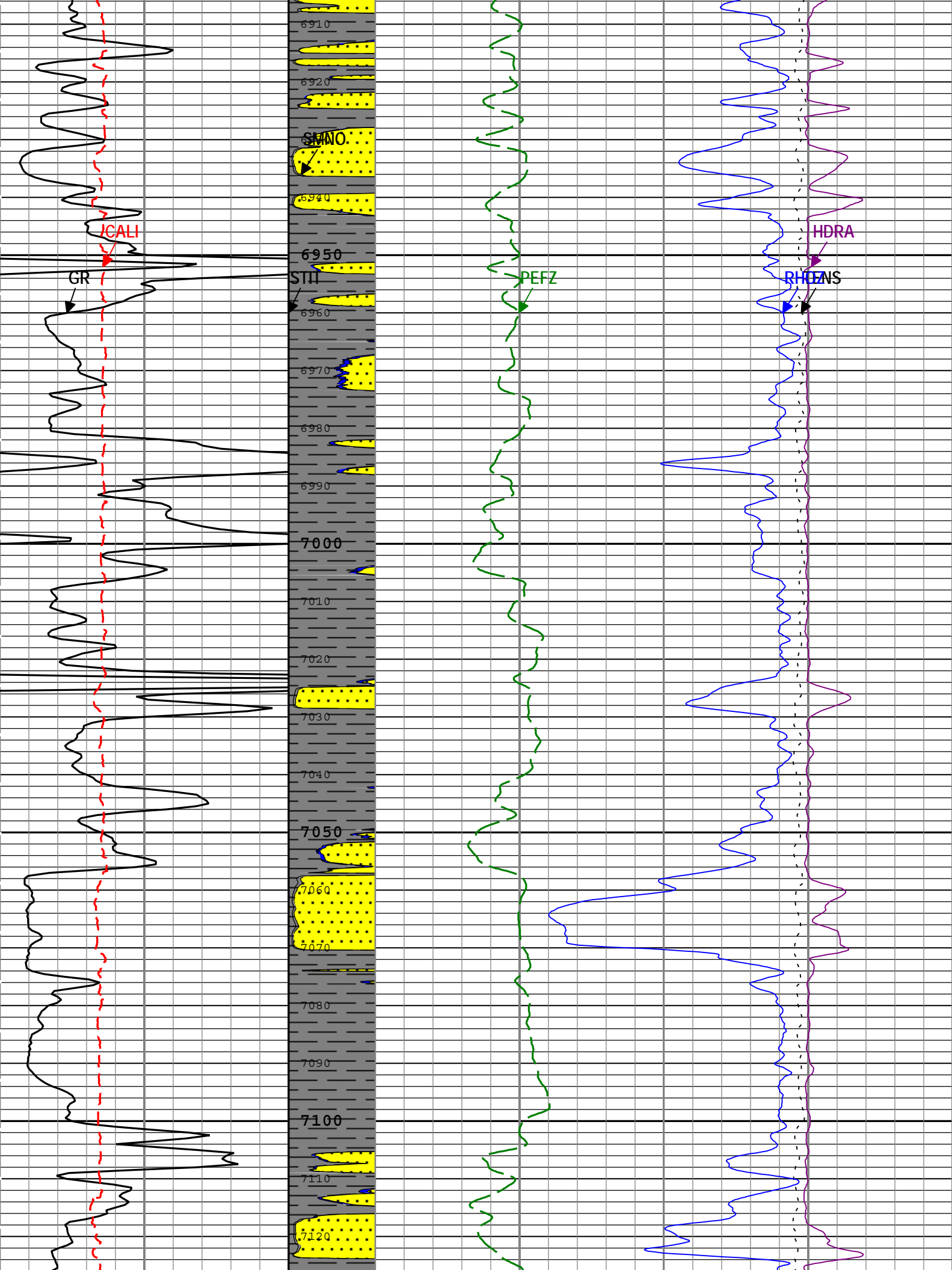


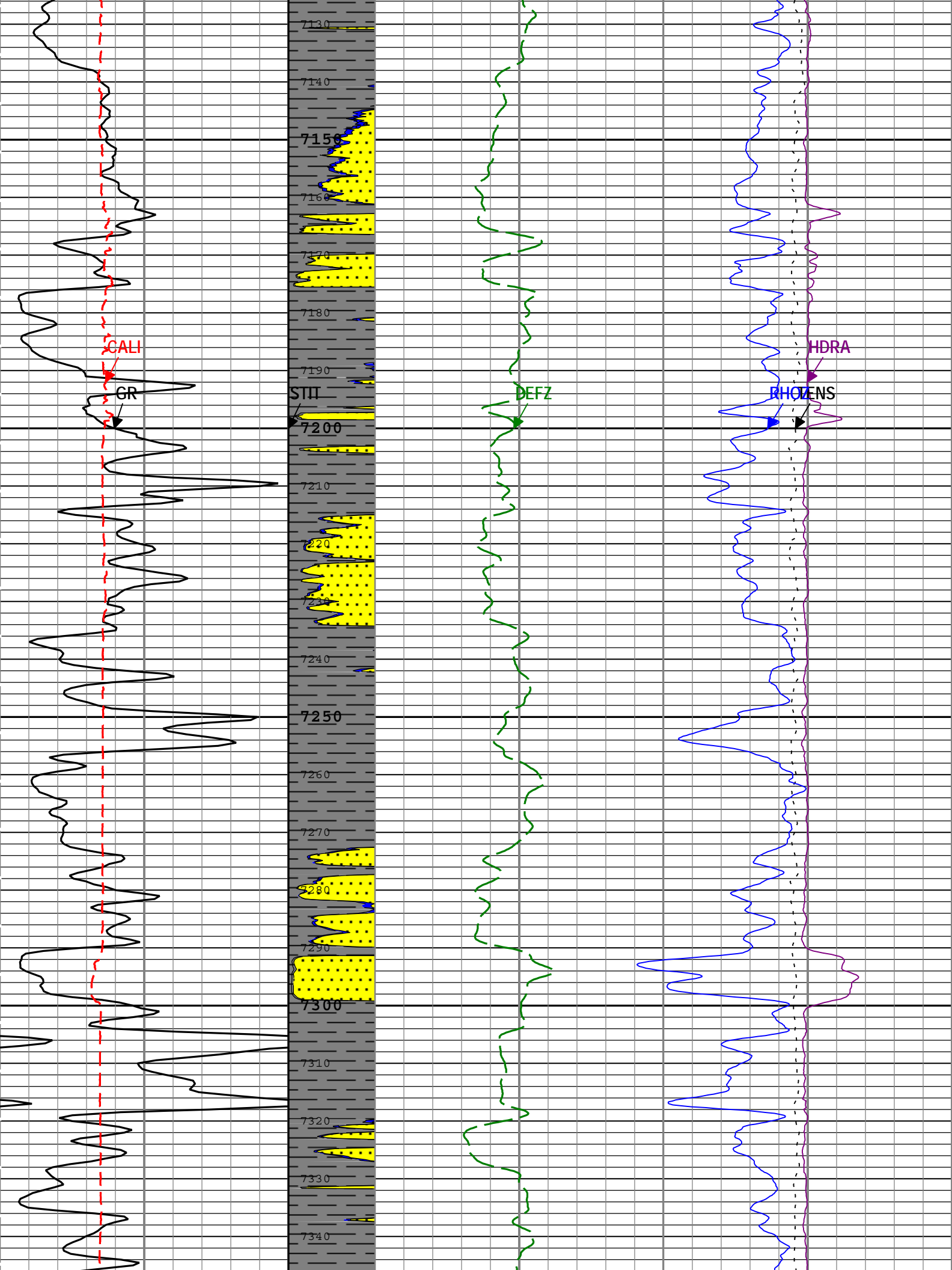


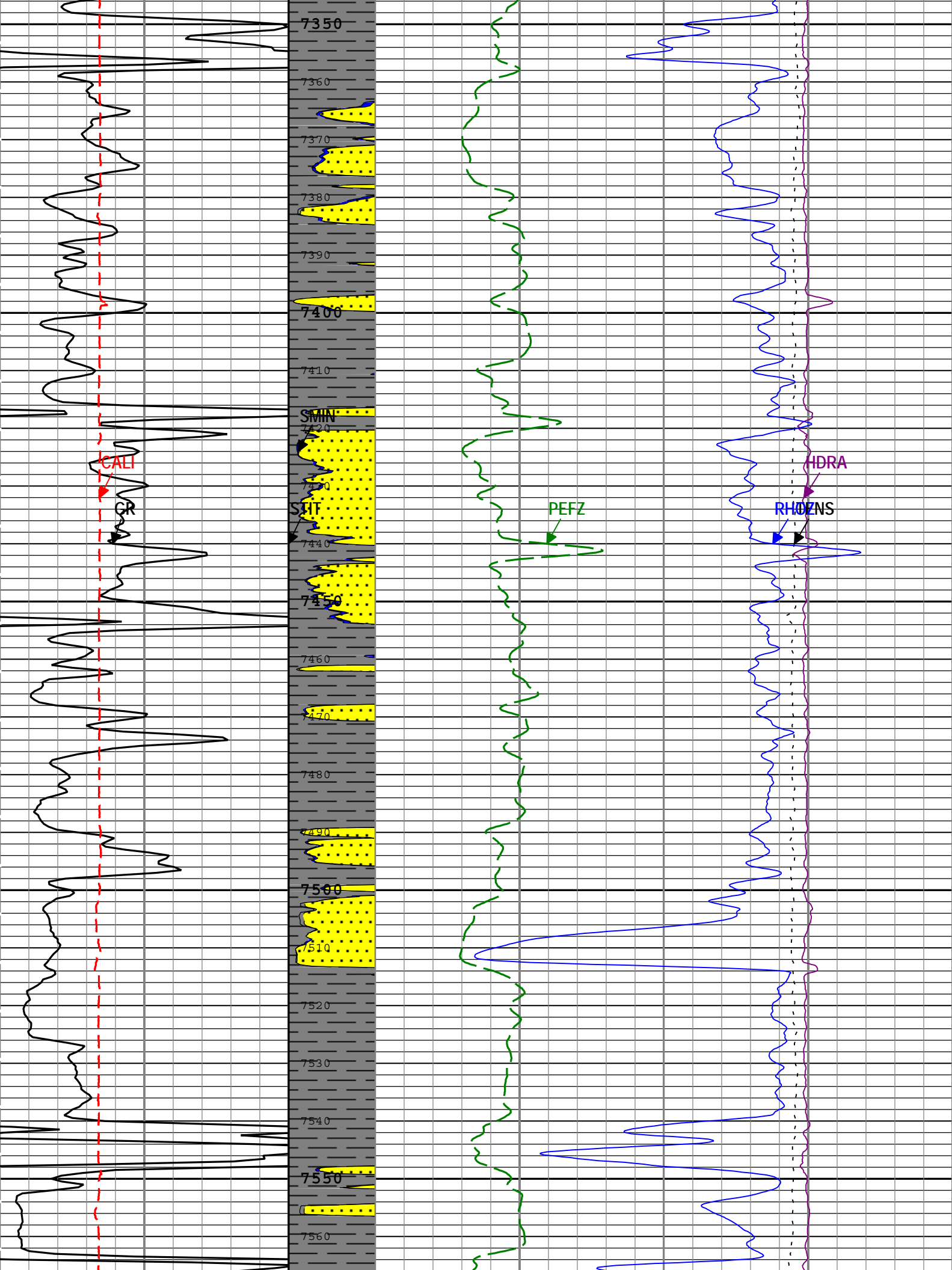


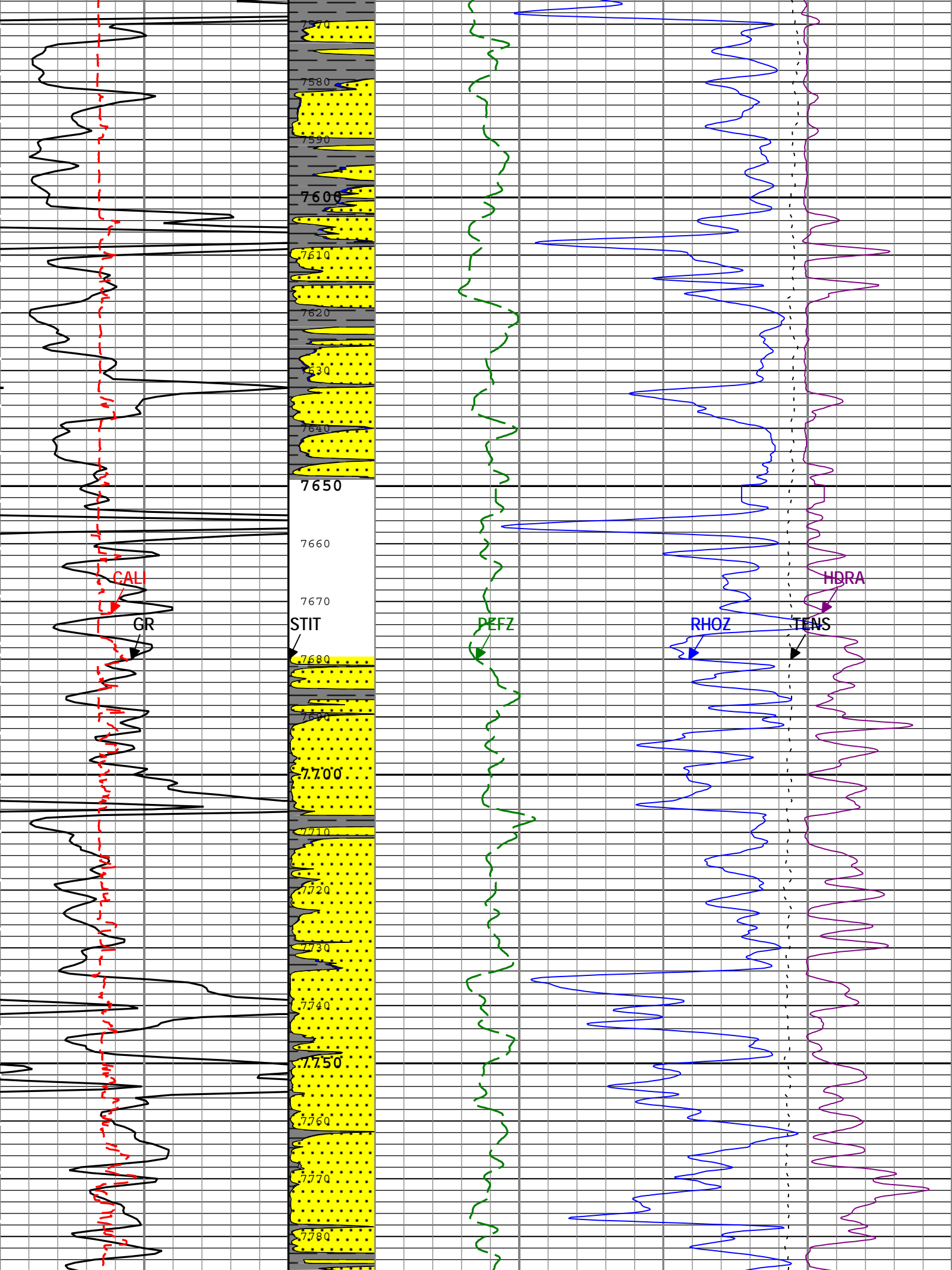


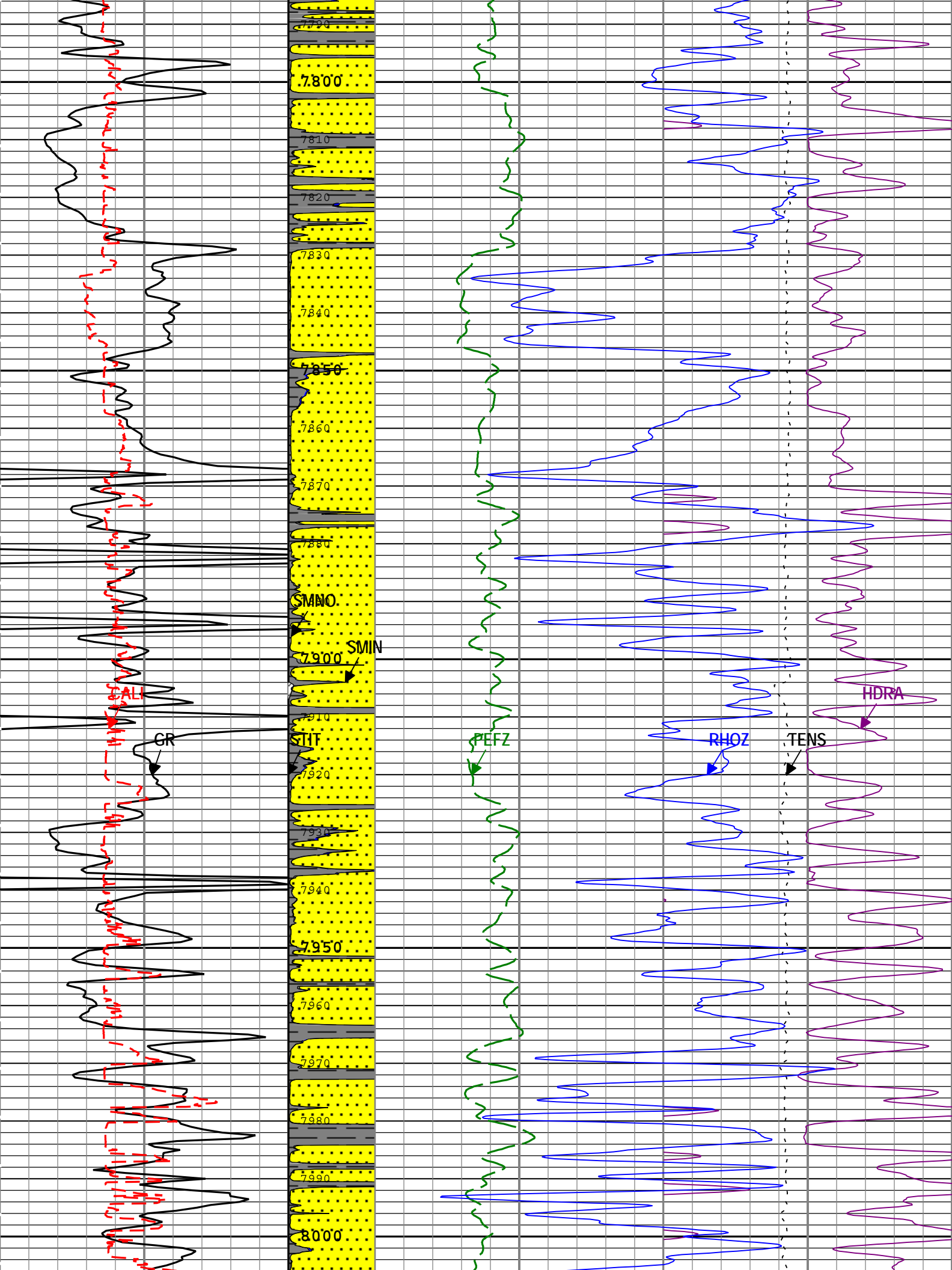


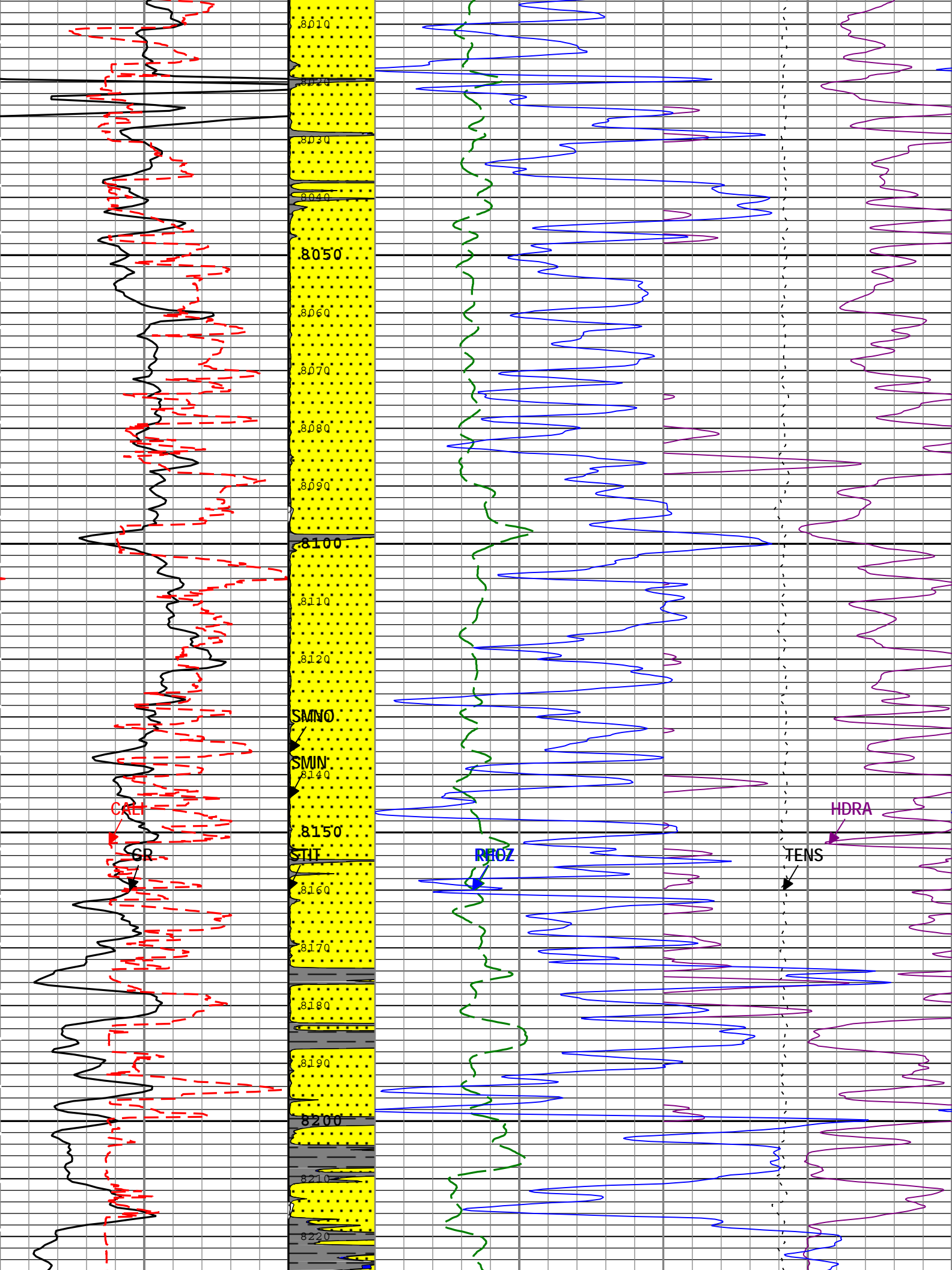


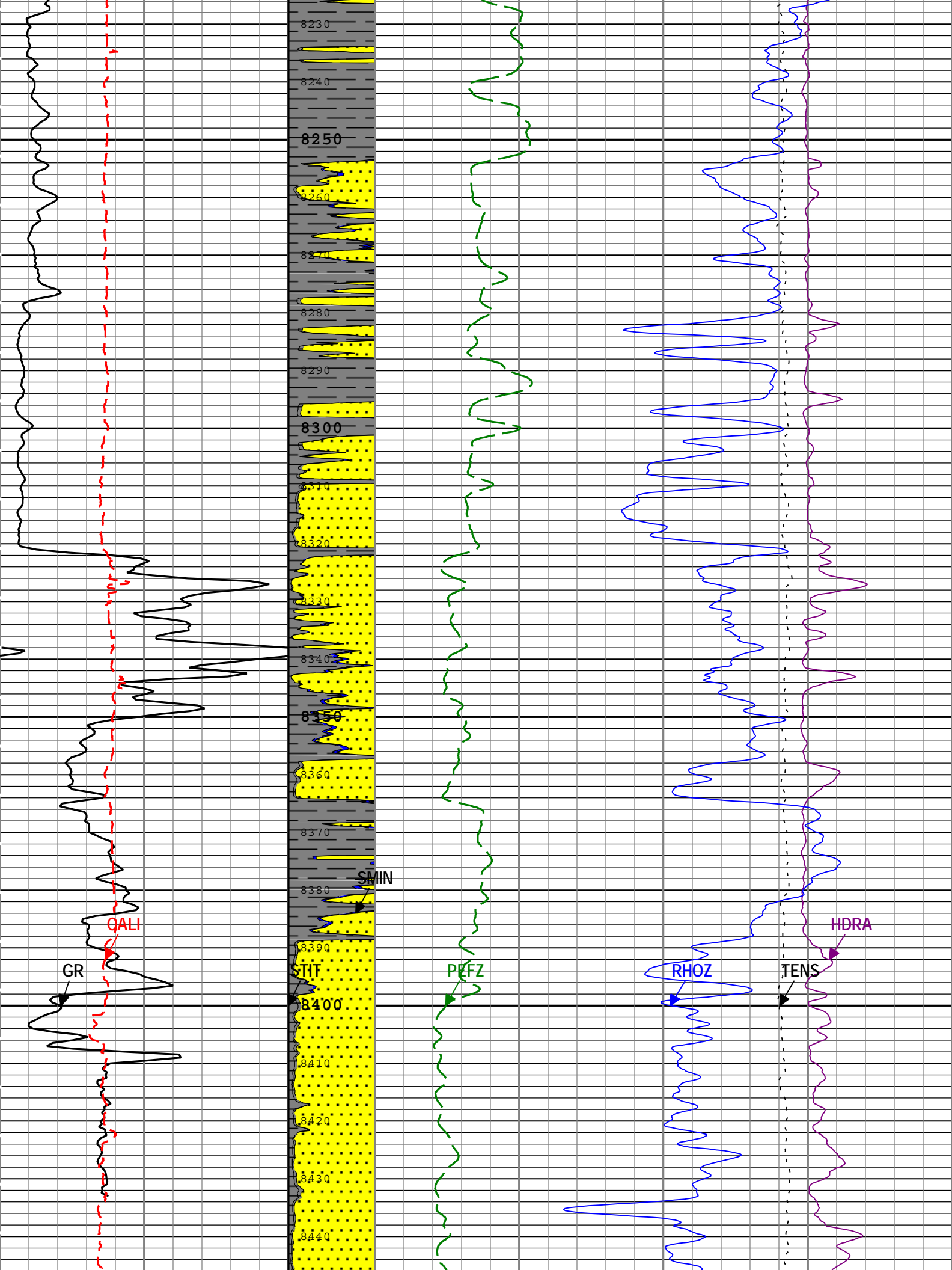


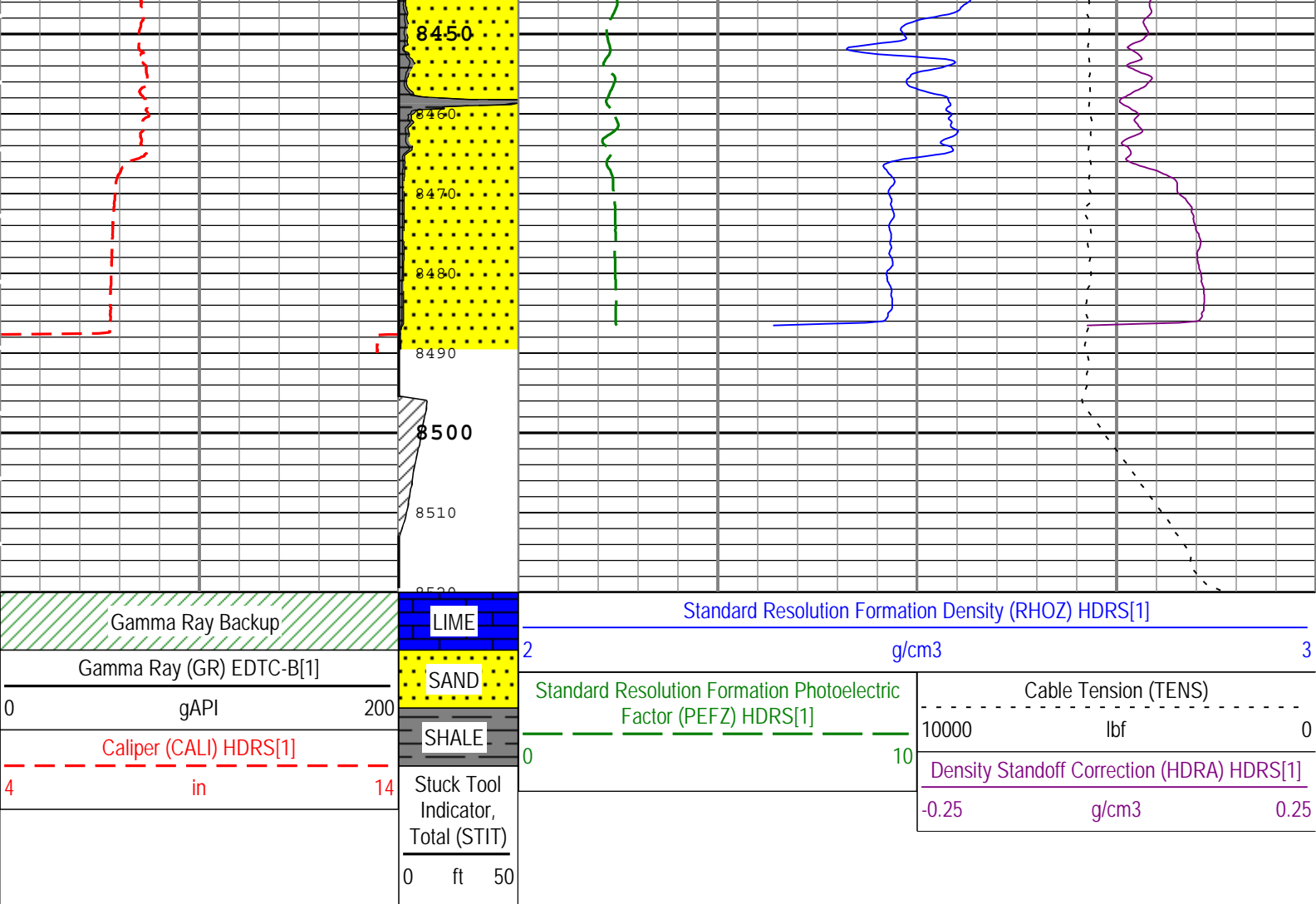








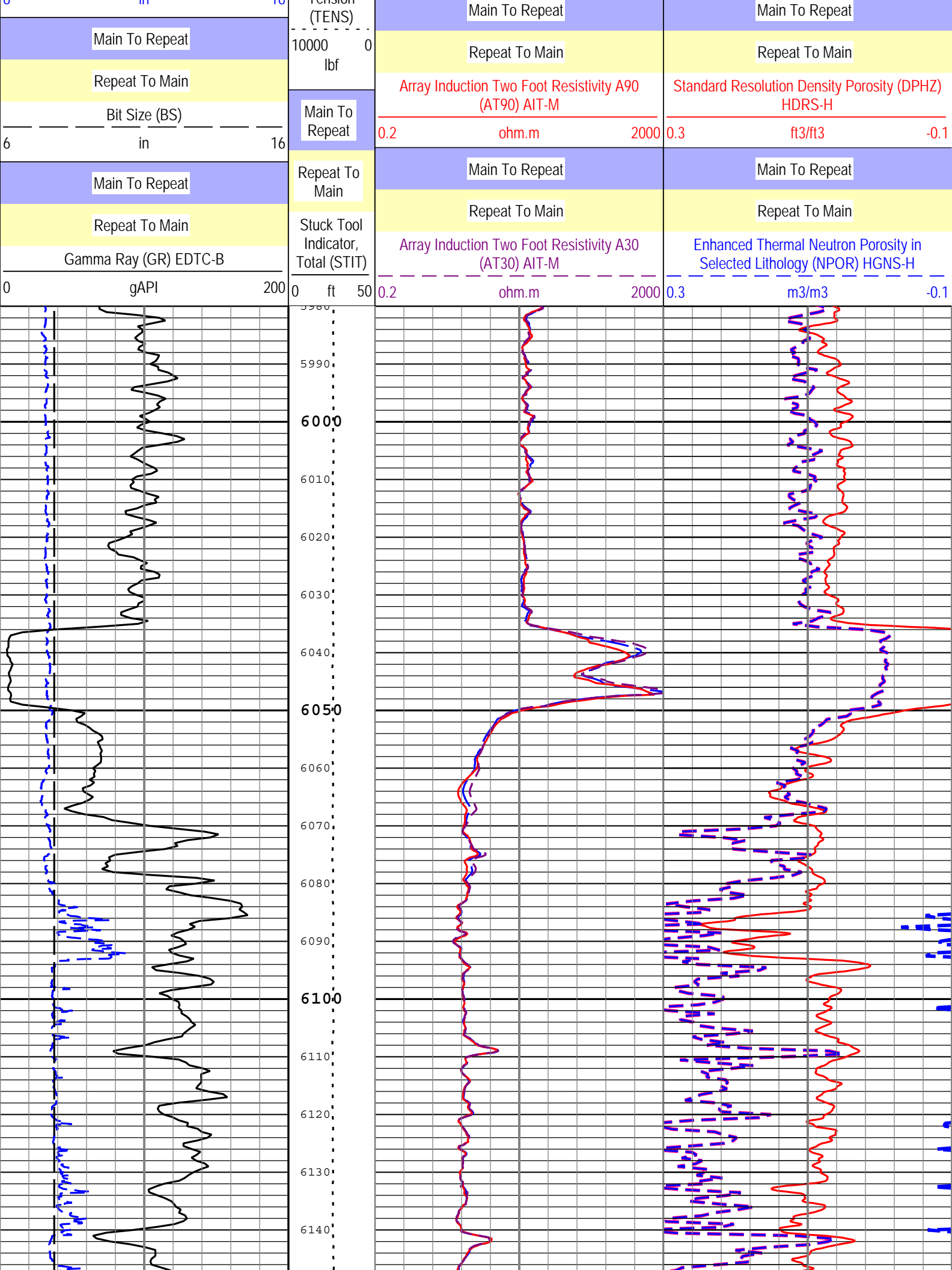


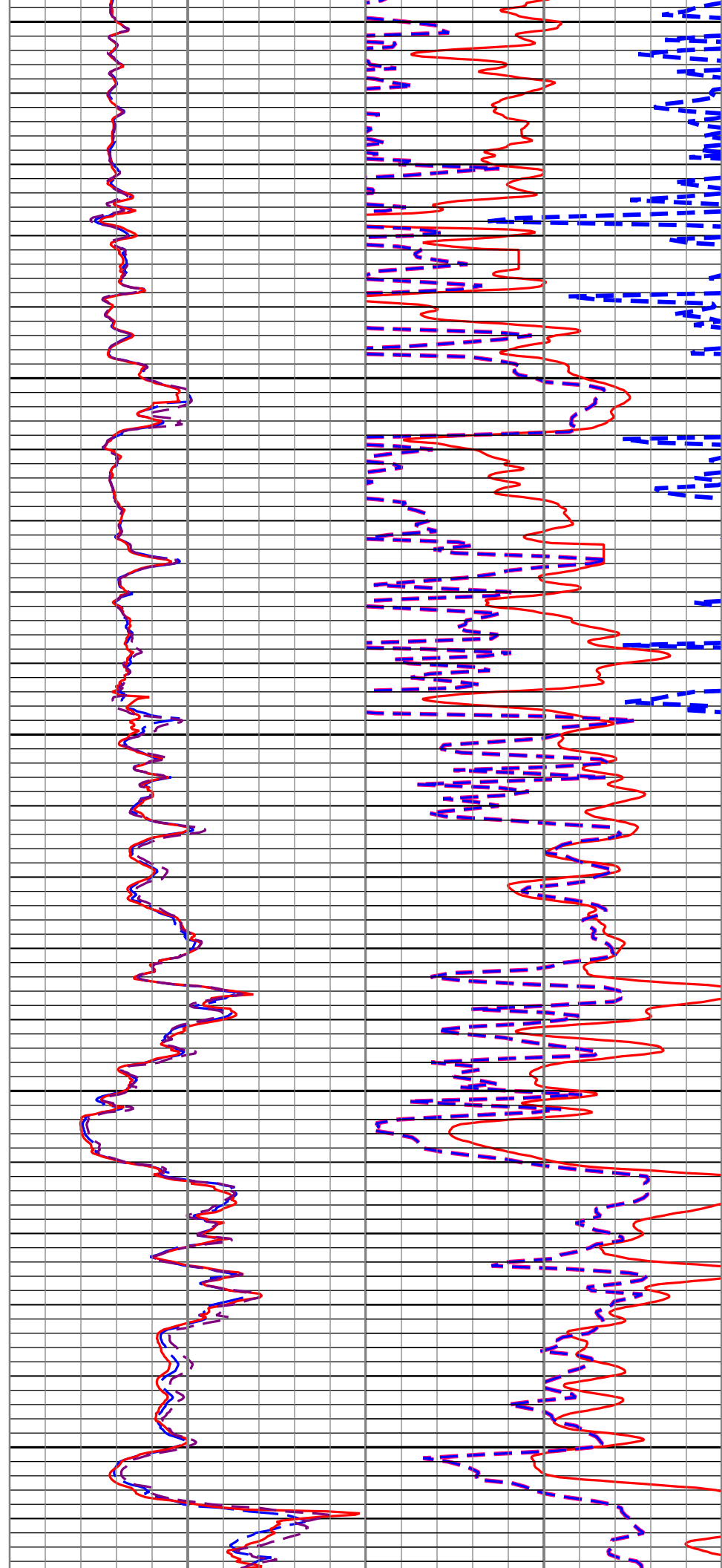
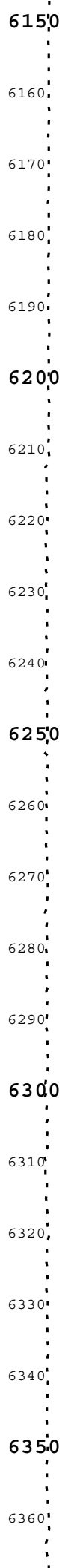
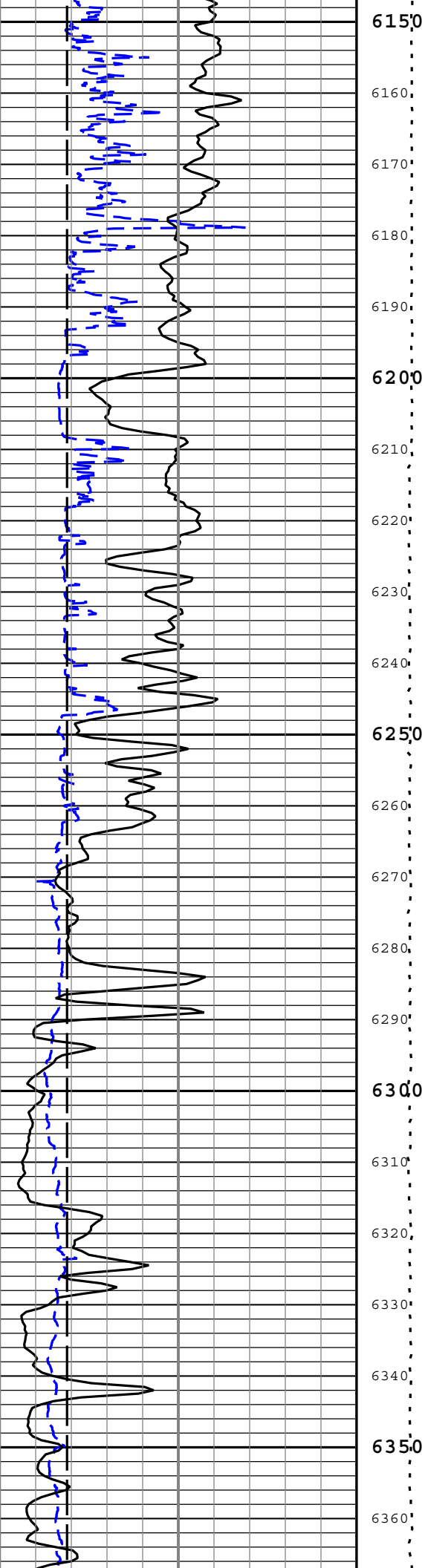


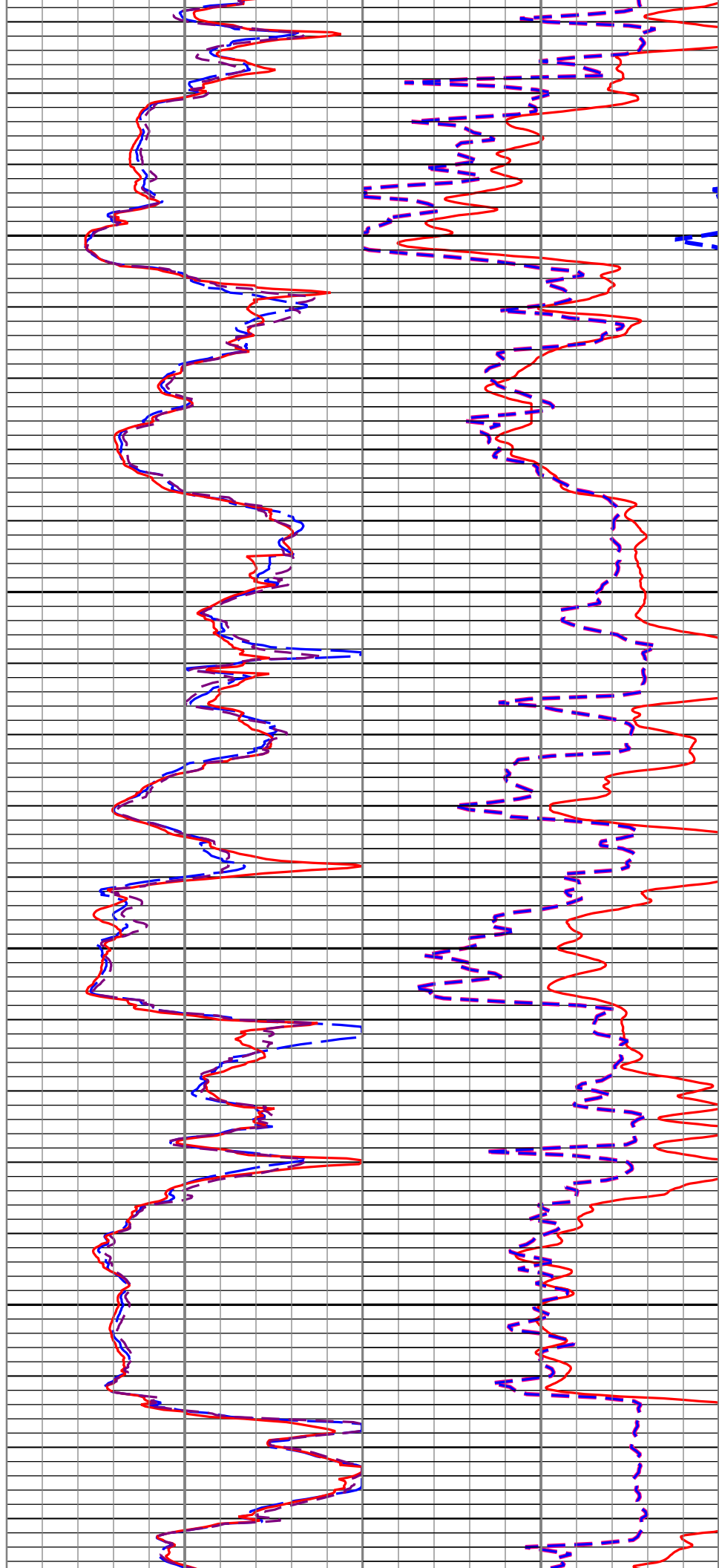
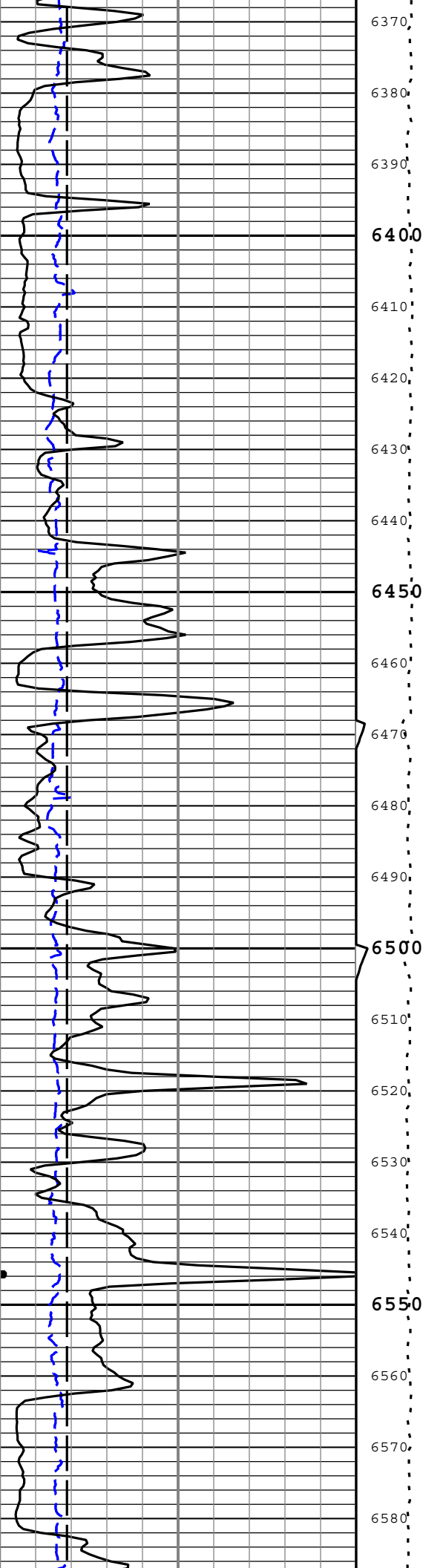
Channel Processing Parameters				
Run 1: Parameters				
Parameter	Description	Tool	Value	Unit
BARI	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Open	
BS	Bit Size	WLSESSION	Depth Zoned	in
CALI_SHIFT	CALI Supplementary Offset	HDRS-H	0	in
CBLO	Casing Bottom (Logger)	WLSESSION	453.5	ft
CDEN	Cement Density	EDTC-B	2	g/cm3
DFD	Drilling Fluid Density	Borehole	10	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	
DHC	Density Hole Correction	HDRS-H	Bit Size	
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	
NPRM	HRDD Nuclear Processing Mode	HDRS-H	Time Zoned	
TD	Total Measured Depth	Borehole	8497	ft

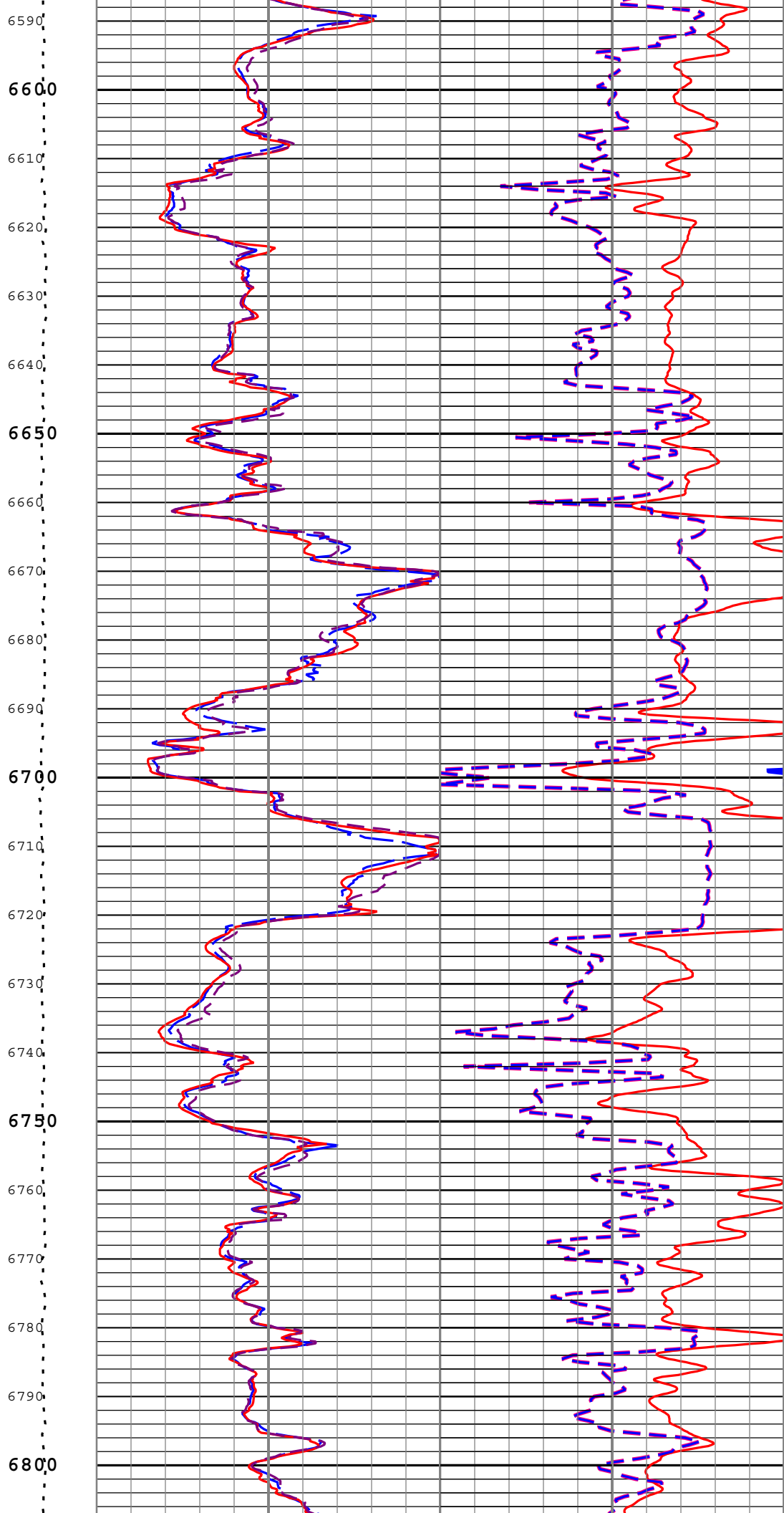
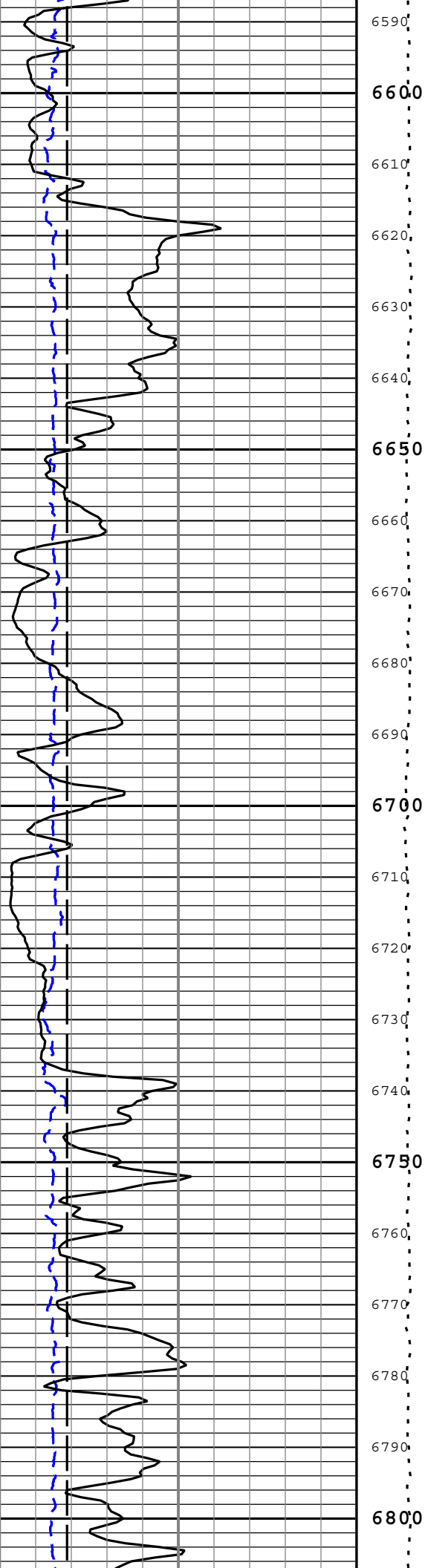
Run 1Depth Zoned Parameters			
Parameter	Value	Start (ft)	Stop (ft)
BS	12.25	23	455

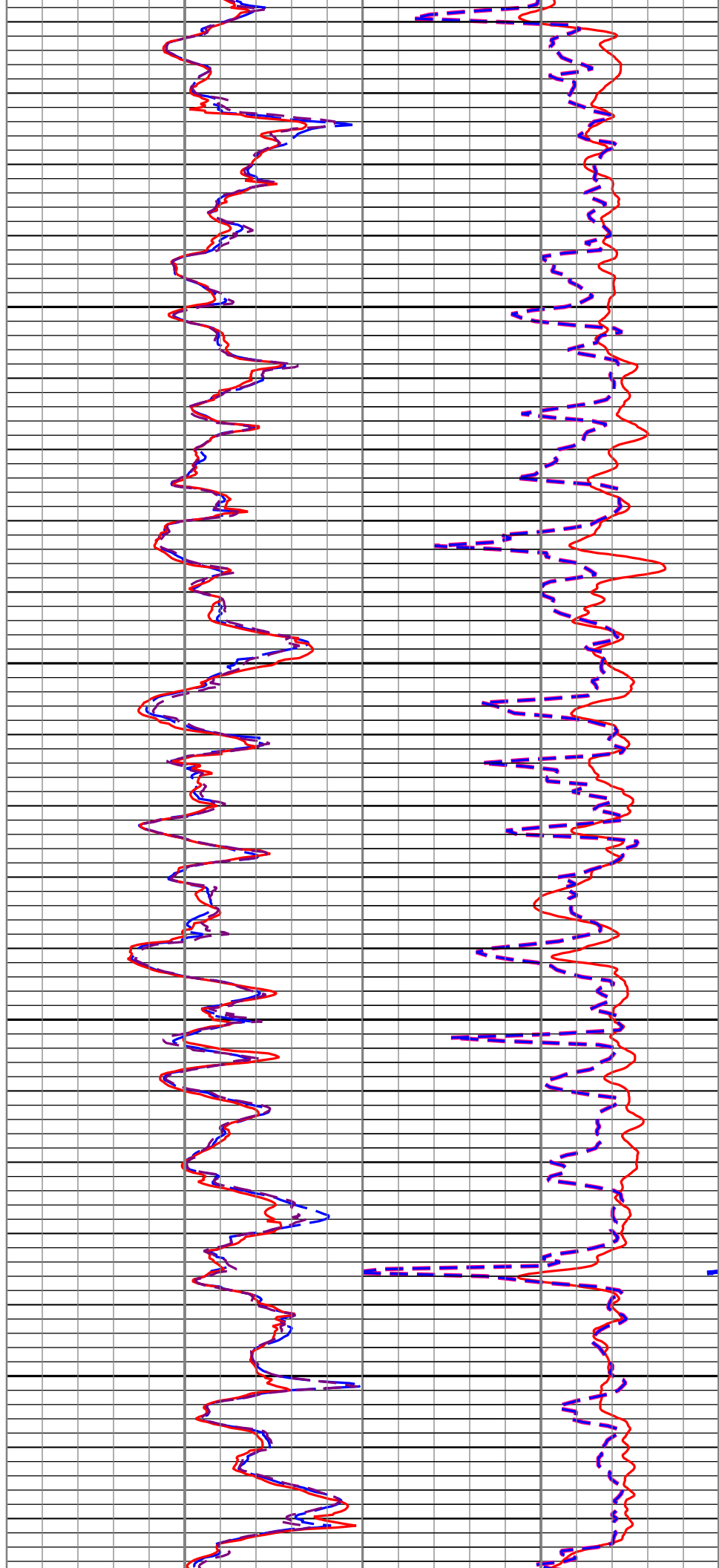
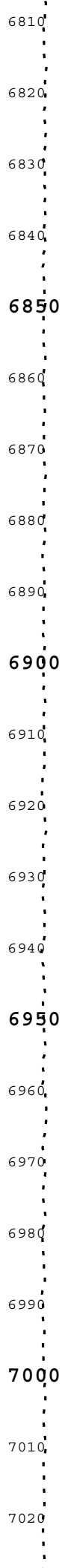
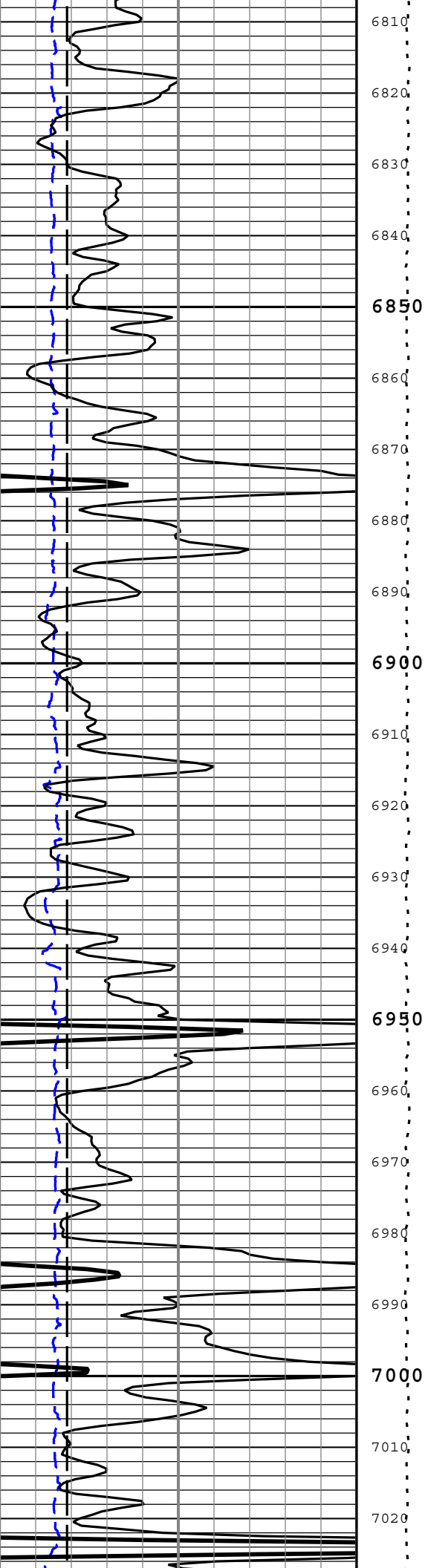
BS	7.875	455	8497						
All depth are actual.									
Run 1Time Zoned Parameters									
Pass Main[11]:Up									
Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)				
NPRM	Very High Resolution	22-Dec-2014 09:24:22	22-Dec-2014 11:04:35	8519.91	7679.26				
Pass Main[12]:Up									
NPRM	Very High Resolution	22-Dec-2014 11:37:20	22-Dec-2014 14:33:39	7920.79	6452.9				
Pass Main[13]:Up									
NPRM	Very High Resolution	22-Dec-2014 14:40:47	22-Dec-2014 15:20:54	6581.98	6252.64				
Pass Main[14]:Up									
NPRM	Very High Resolution	22-Dec-2014 15:27:04	22-Dec-2014 15:50:36	6407.59	6211.31				
Pass Main[15]:Up									
NPRM	Standard Resolution	22-Dec-2014 15:57:50	22-Dec-2014 18:16:00	6306.13	109.33				
All depth are at tool zero.									
Tool Control Parameters									
Run 1: Parameters									
Parameter	Description			Tool	Value	Unit			
HRGD_BRD_TYPE	HRGD Board Type			HDRS-H	WITH_HET				
MAX_LOG_SPEED	Toolstring Maximum Logging Speed			WLSESSION	600	ft/h			
Run 1									
5" Repeat Anaylsis									
Pass Summary									
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Run 1	Main[11]:Up	Up	7679.26 ft	8519.91 ft	22-Dec-2014 9:23:40 AM	22-Dec-2014 11:04:35 AM	ON	4.43 ft	No
Run 1	Main[12]:Up	Up	6452.90 ft	7920.79 ft	22-Dec-2014 11:37:01 AM	22-Dec-2014 2:33:39 PM	ON	5.99 ft	No
Run 1	Main[13]:Up	Up	6252.64 ft	6581.98 ft	22-Dec-2014 2:40:35 PM	22-Dec-2014 3:20:54 PM	ON	6.51 ft	No
Run 1	Main[14]:Up	Up	6211.31 ft	6407.59 ft	22-Dec-2014 3:26:53 PM	22-Dec-2014 3:50:36 PM	ON	7.03 ft	No
Run 1	Main[15]:Up	Up	109.33 ft	6306.13 ft	22-Dec-2014 3:57:32 PM	22-Dec-2014 6:16:00 PM	ON	6.25 ft	No
All depths are referenced to toolstring zero									
Log	Company:Nighthawk Production LLC Well:Keystone 3-7 Run 1: Main[11]:Up:S013								
Description: HGNS standard resolution porosities for Platform Express Format: Log (EMD 5in Triple Combo Linear RA_1) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 22-Dec-2014 22:36:34									
TIME_1900 - Time Marked every 60.00 (s)									
			Main To Repeat	Main To Repeat			Main To Repeat		
Main To Repeat			Repeat To Main	Repeat To Main			Repeat To Main		
Repeat To Main			Array Induction Two Foot Resistivity A60 (AT60) AIT-M	Enhanced Thermal Neutron Porosity in Selected Lithology (NPOR) HGNS-H					
Caliper (CALI) HDRS-H			0.2	ohm.m		2000	-0.1	ft3/ft3	-0.5
6 in 16			Cable Tension						

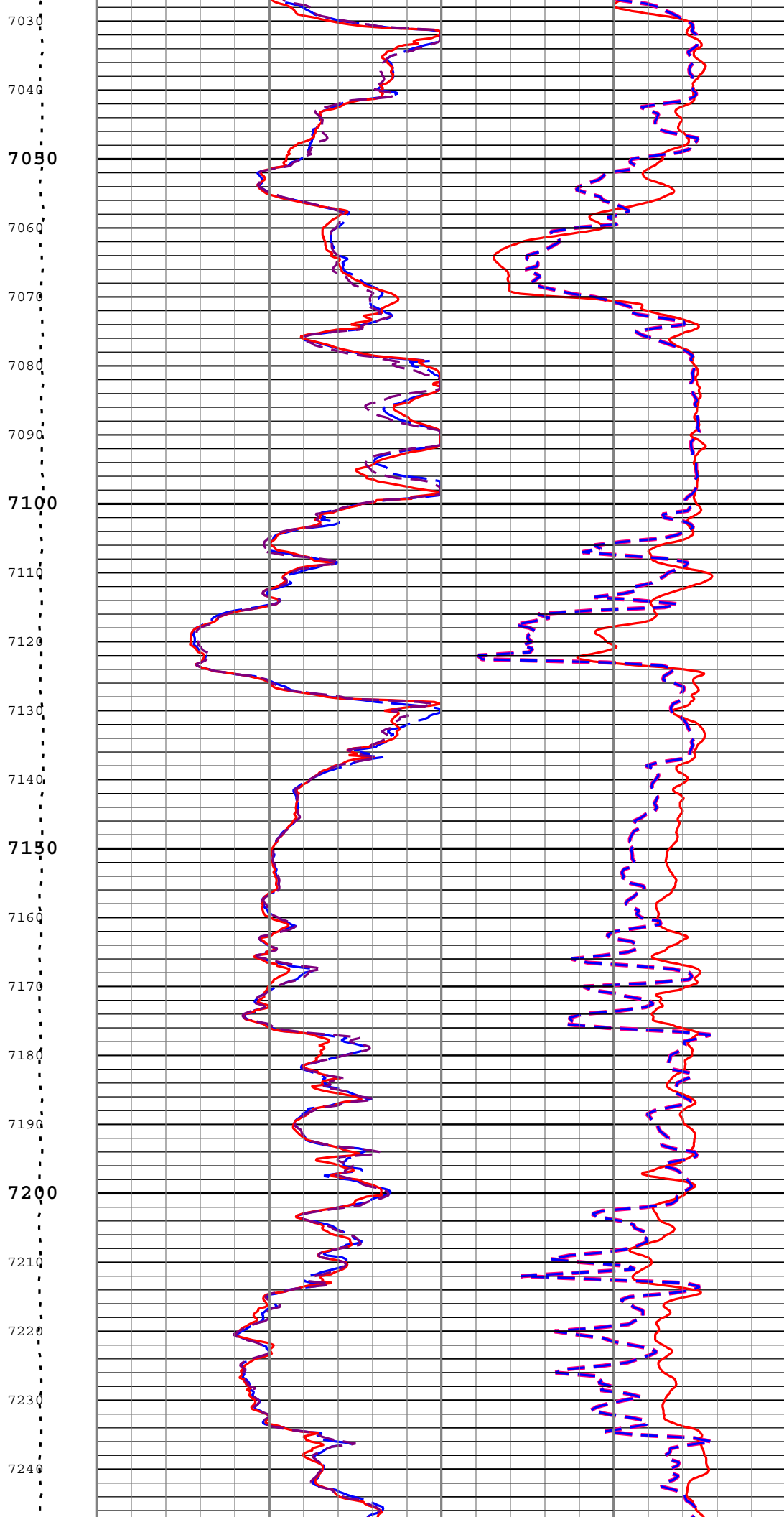
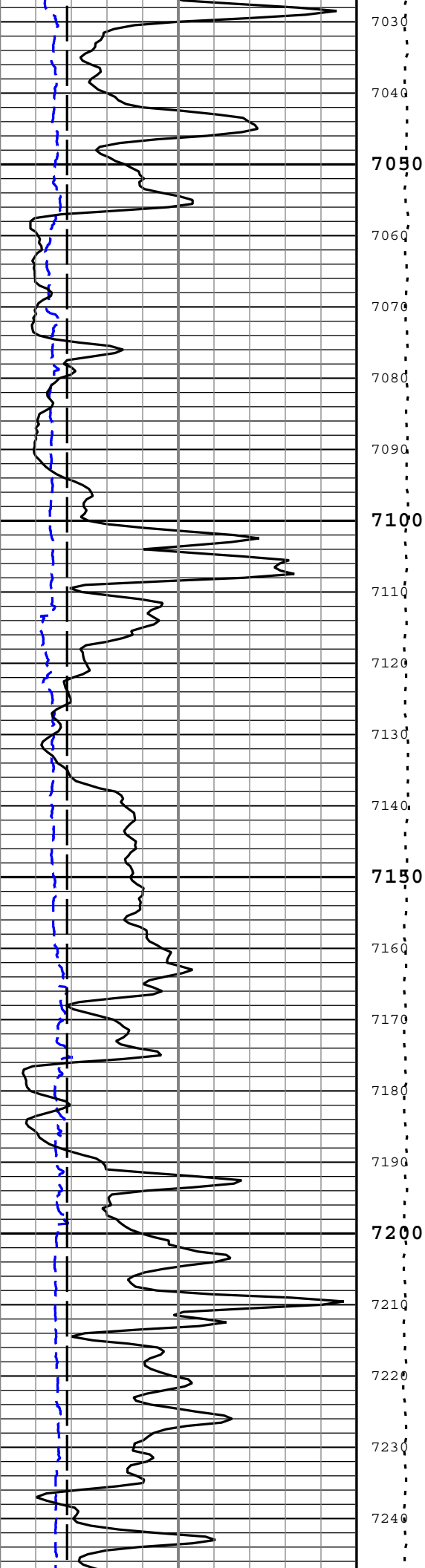


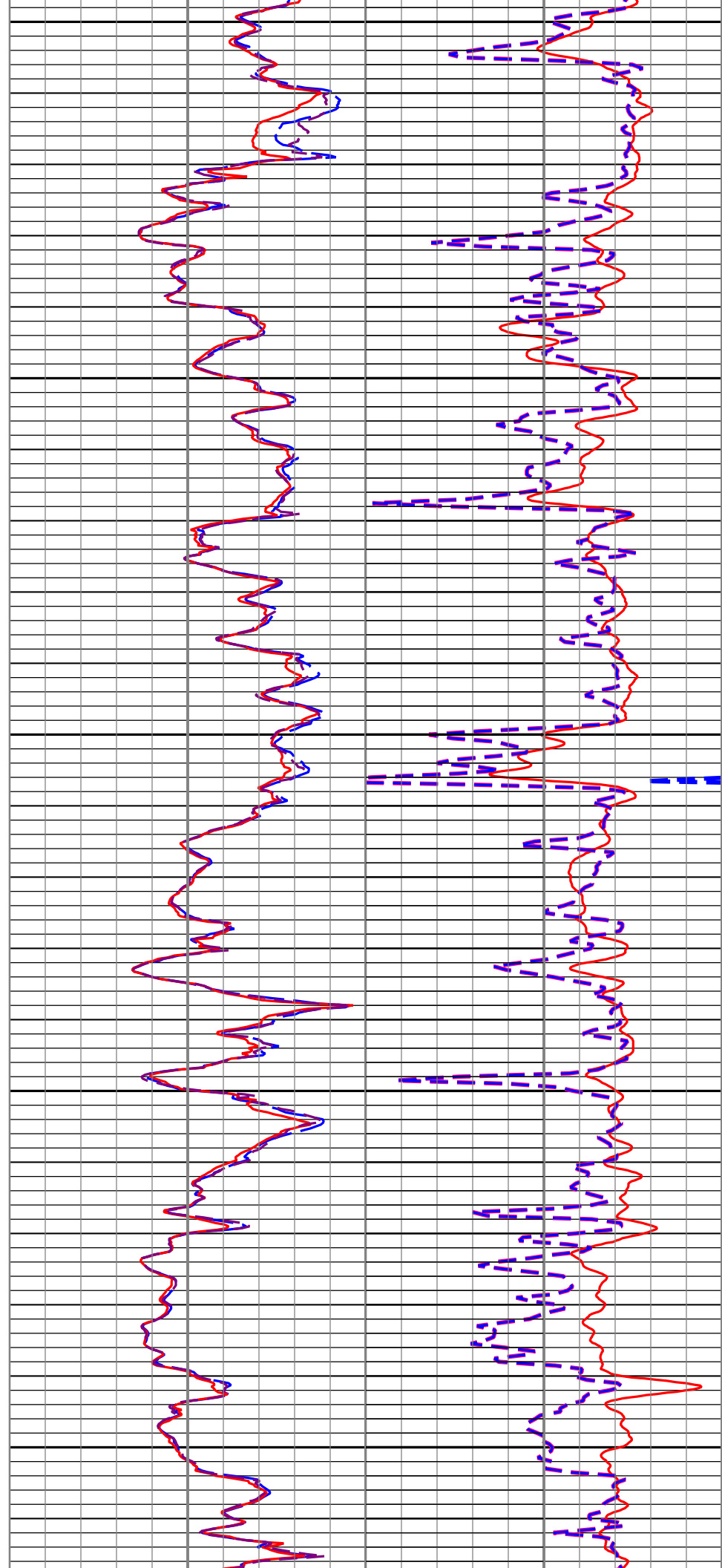
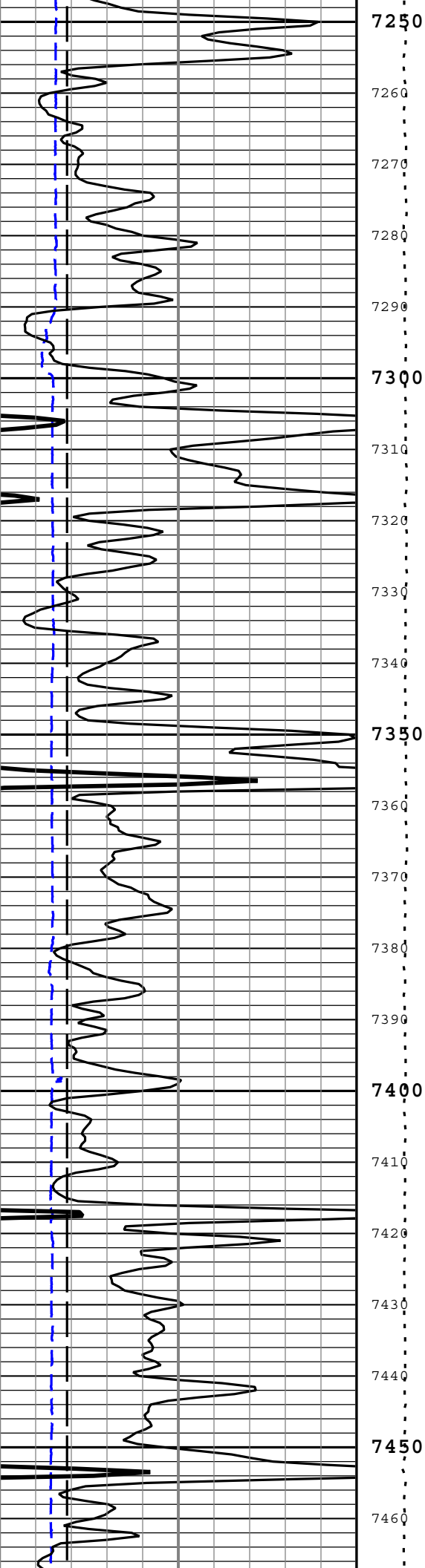


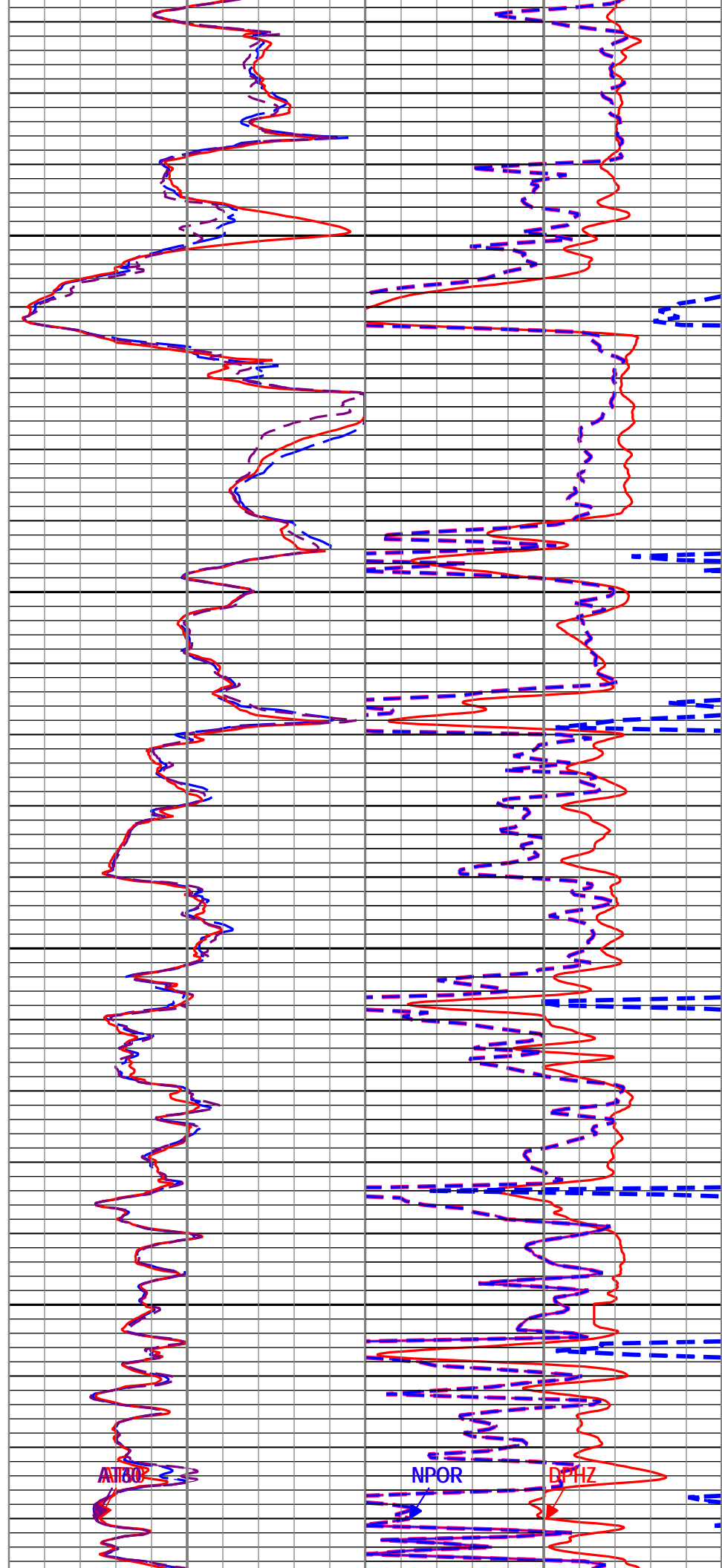
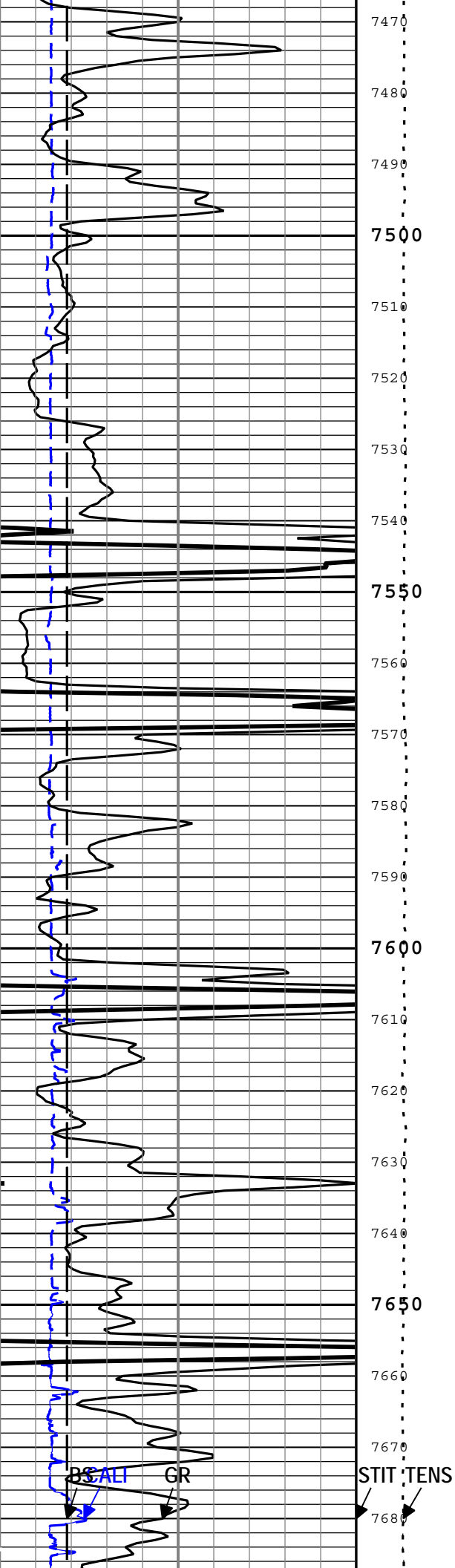


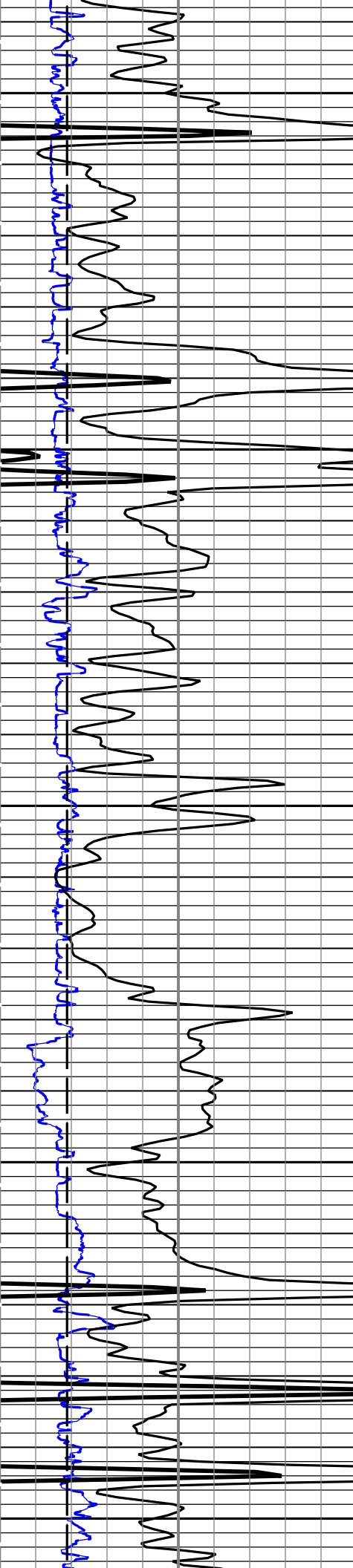




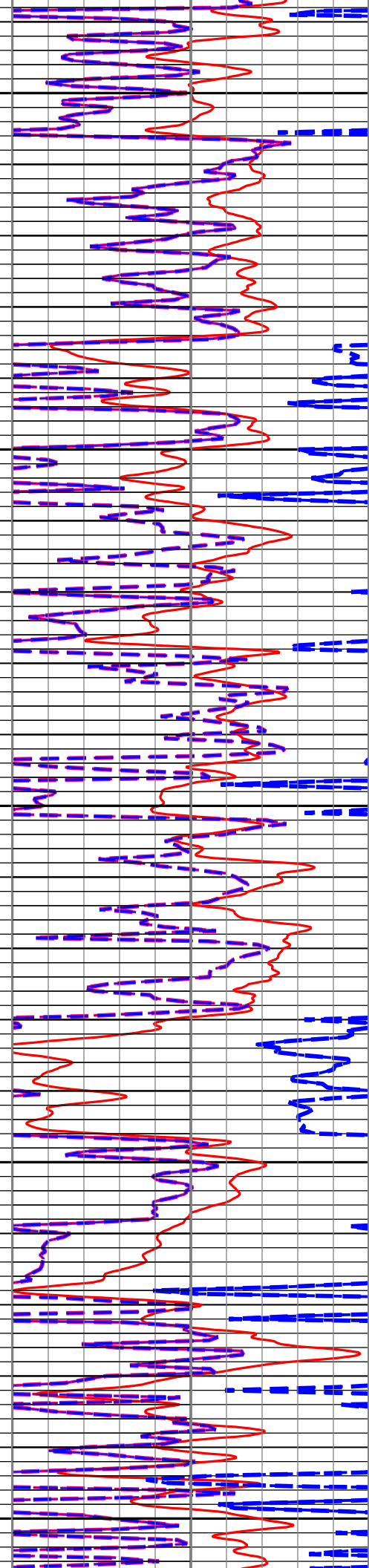
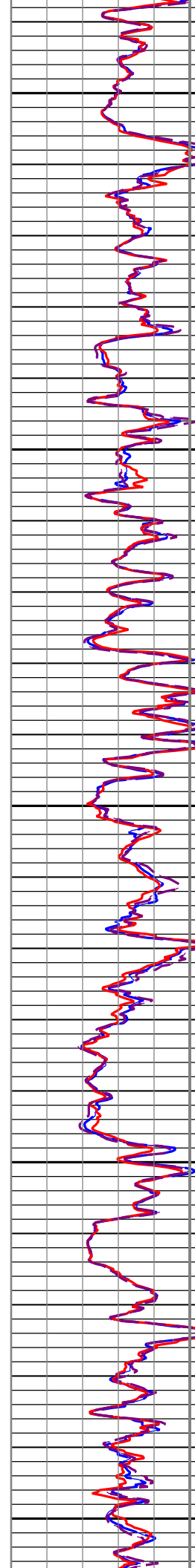


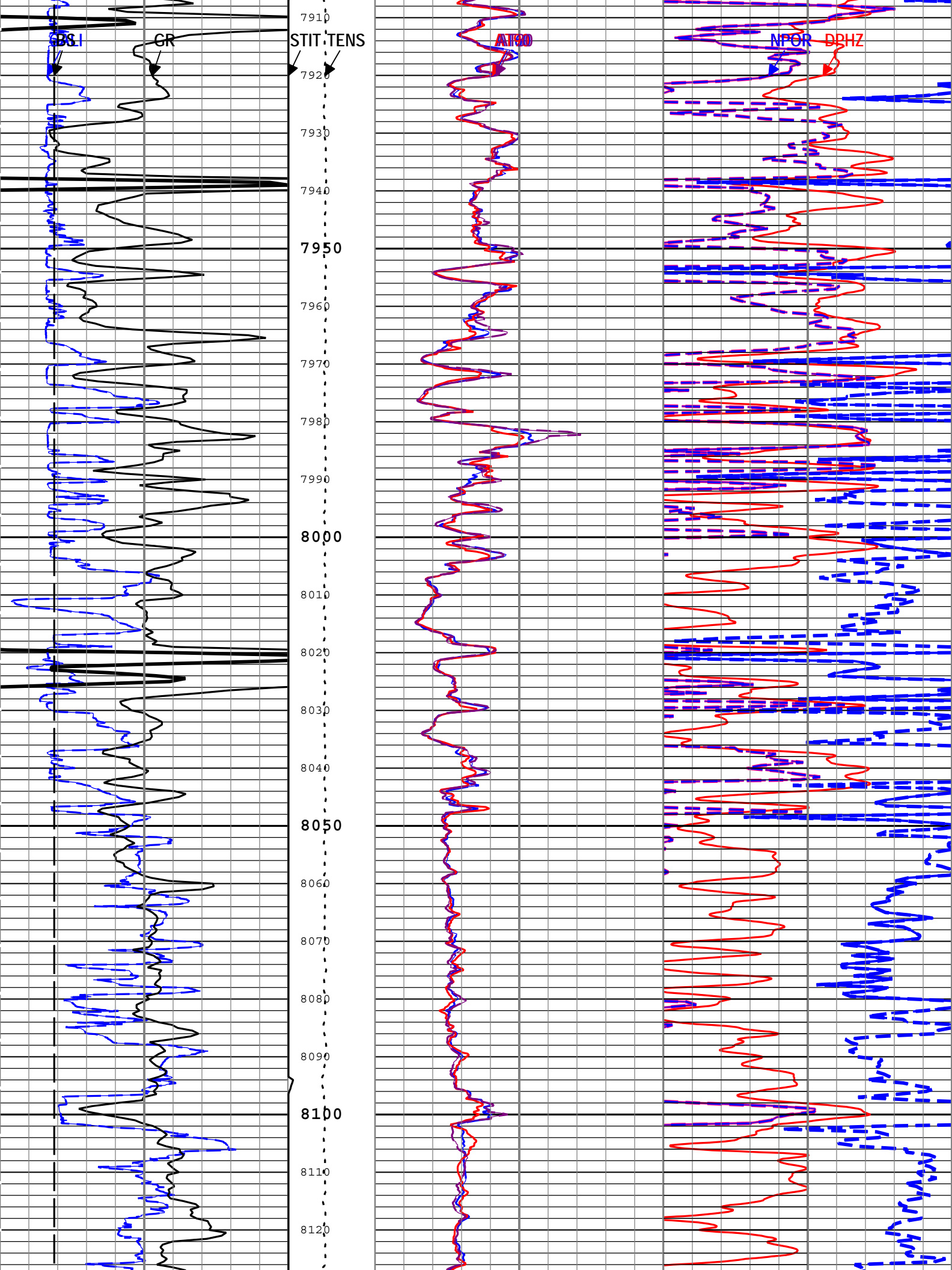


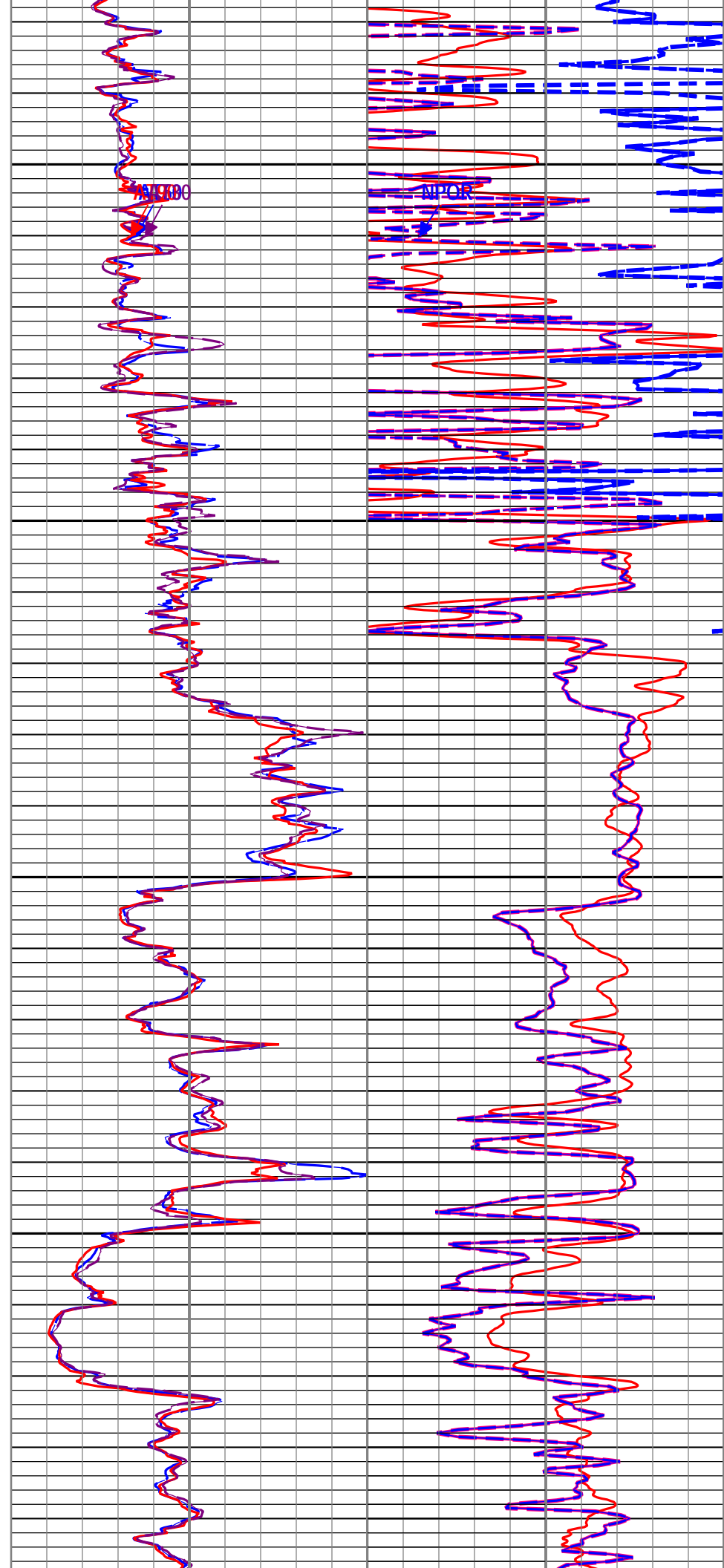
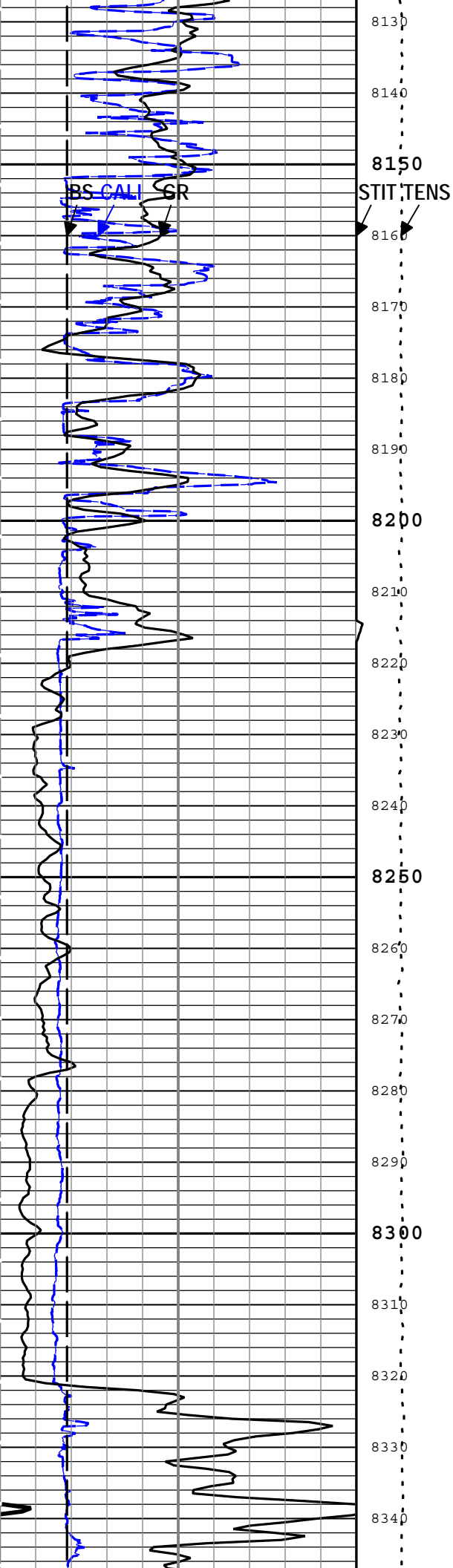


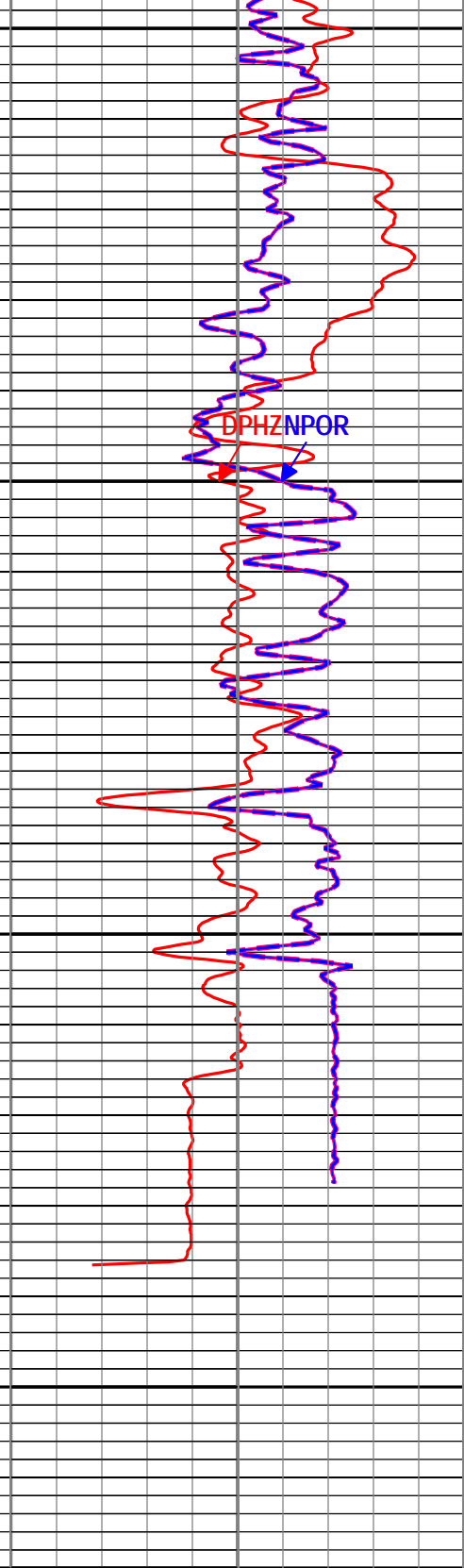
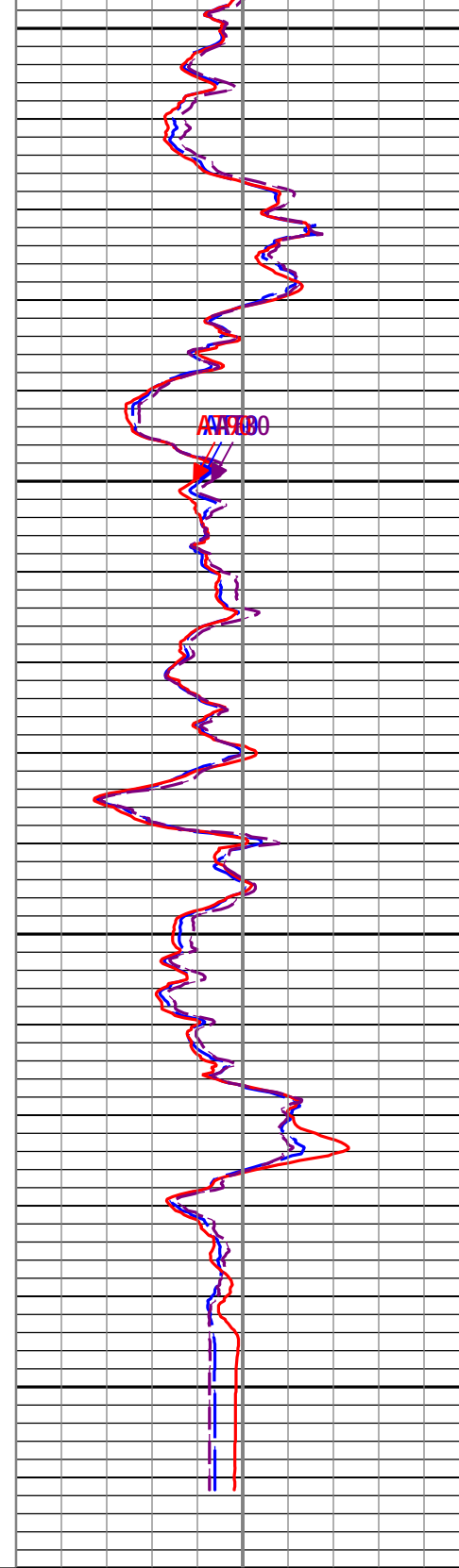
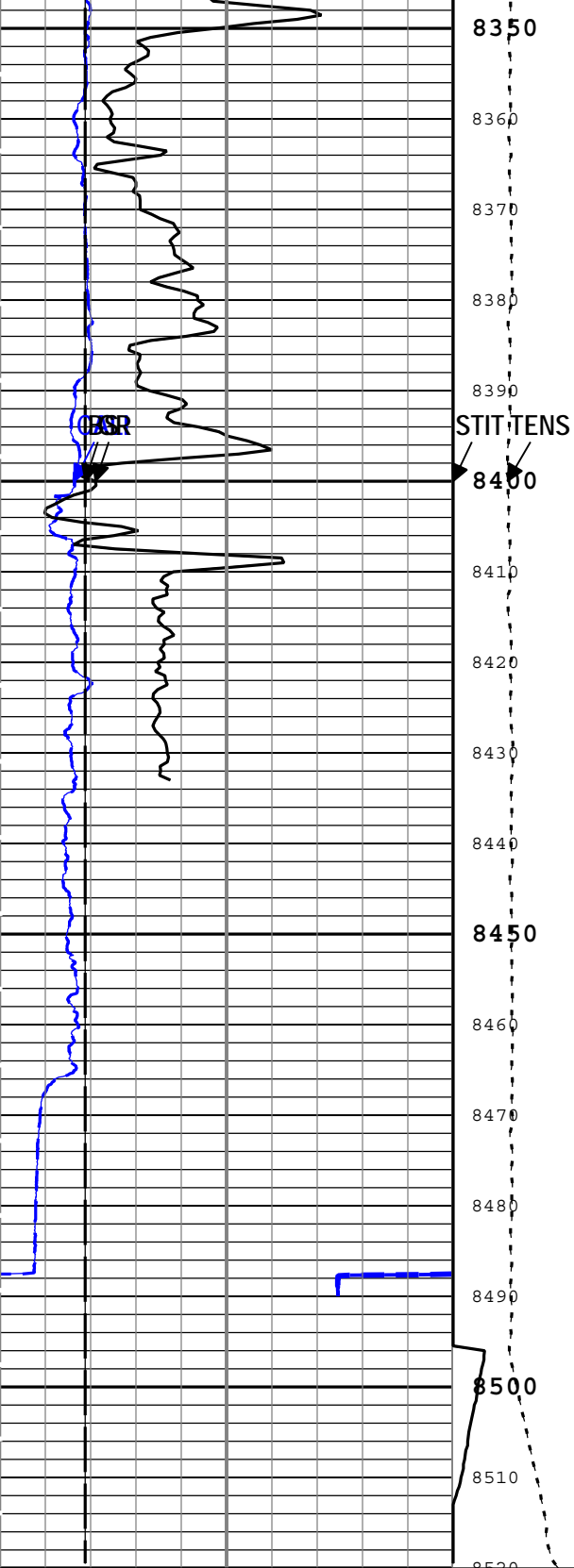


7690
7700
7710
7720
7730
7740
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7760
7770
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7800
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7850
7860
7870
7880
7890
7900









Main To Repeat	Main To Repeat
Repeat To Main	Repeat To Main
Caliper (CALI) HDRS-H	Repeat To Main
6 in 16	Cable Tension (TENS)
Main To Repeat	10000 0 lbf
Repeat To Main	Bit Size (BS)
6 in 16	Main To

Main To Repeat	Main To Repeat
Repeat To Main	Repeat To Main
Array Induction Two Foot Resistivity A60 (AT60) AIT-M	0.2 ohm.m 2000
Main To Repeat	Main To Repeat
Repeat To Main	Repeat To Main
Array Induction Two Foot Resistivity A90 (AT90) AIT-M	

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

		Main To Repeat	(A190) AIT-M		HDRS-H						
Main To Repeat			0.2	ohm.m	2000	0.3	ft3/ft3	-0.1			
Repeat To Main			Main To Repeat		Main To Repeat						
Gamma Ray (GR) EDTC-B			Repeat To Main		Repeat To Main						
0	gAPI	200	Stuck Tool Indicator, Total (STIT)		Array Induction Two Foot Resistivity A30 (AT30) AIT-M		Enhanced Thermal Neutron Porosity in Selected Lithology (NPOR) HGNS-H				
			0	ft	50	0.2	ohm.m	2000	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_1) Index Scale: 5 in per 100 ft
Index Unit: ft Index Type: Measured Depth Creation Date: 22-Dec-2014 22:36:34

Calibration Report

AIT-M (Array Induction Tool - M) Calibration - Run 1

Primary Equipment :		
File code for AIT-MA Sonde Tool Element	AMIS	50
Auxiliary Equipment :		
File code for AIT Bottom Nose Tool Element	AMRM	

AIT Sonde Calibration - Test Loop Gain

Master (EEPROM):		14:22:14 17-Dec-2014					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Test Loop Gain - 0		Master	1.000	0.950	1.015	1.050	
Test Loop Phase - 0	deg	Master	0	-3.000	-0.507	3.000	
Test Loop Gain - 1		Master	1.000	0.950	1.015	1.050	
Test Loop Phase - 1	deg	Master	0	-3.000	-0.651	3.000	
Test Loop Gain - 2		Master	1.000	0.950	1.023	1.050	
Test Loop Phase - 2	deg	Master	0	-3.000	0.144	3.000	
Test Loop Gain - 3		Master	1.000	0.950	1.012	1.050	
Test Loop Phase - 3	deg	Master	0	-3.000	0.239	3.000	
Test Loop Gain - 4		Master	1.000	0.950	0.995	1.050	
Test Loop Phase - 4	deg	Master	0	-3.000	0.155	3.000	
Test Loop Gain - 5		Master	1.000	0.950	0.985	1.050	
Test Loop Phase - 5	deg	Master	0	-3.000	0.021	3.000	
Test Loop Gain - 6		Master	1.000	0.950	0.996	1.050	
Test Loop Phase - 6	deg	Master	0	-3.000	0.309	3.000	
Test Loop Gain - 7		Master	1.000	0.950	1.006	1.050	
Test Loop Phase - 7	deg	Master	0	-3.000	0.054	3.000	

AIT Sonde Calibration - Sonde Error Correction

Master (EEPROM):		14:22:14 17-Dec-2014					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Sonde Error Correction Real - 0	mS/m	Master	-----	-231.000	-122.844	119.000	
Sonde Error Correction Quad - 0		Master	-----	-2250.000	-514.595	2250.000	
Sonde Error Correction Real - 1	mS/m	Master	-----	114.000	156.684	204.000	
Sonde Error Correction Quad - 1		Master	-----	-625.000	-161.597	625.000	
Sonde Error Correction Real - 2	mS/m	Master	-----	66.000	114.628	156.000	
Sonde Error Correction Quad - 2		Master	-----	-350.000	112.908	350.000	
Sonde Error Correction Real - 3	mS/m	Master	-----	39.000	67.616	89.000	
Sonde Error Correction Quad - 3		Master	-----	-250.000	-161.279	250.000	
Sonde Error Correction Real - 4	mS/m	Master	-----	15.000	24.670	35.000	
Sonde Error Correction Quad - 4		Master	-----	-63.000	16.335	63.000	
Sonde Error Correction Real - 5	mS/m	Master	-----	4.000	14.727	24.000	
Sonde Error Correction Quad - 5		Master	-----	-50.000	-37.578	50.000	
Sonde Error Correction Real - 6	mS/m	Master	-----	5.000	9.701	15.000	
Sonde Error Correction Quad - 6		Master	-----	-30.000	-5.982	30.000	
Sonde Error Correction Real - 7	mS/m	Master	-----	-5.000	-1.519	5.000	
Sonde Error Correction Quad - 7		Master	-----	-30.000	-5.758	30.000	

AIT Mud Calibration - Mud Calibration Gain

Master (EEPROM):		14:22:14 17-Dec-2014					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	

[illegible]

		After Before-Master After-Before	----- ----- -----	----- ----- -----	----- -0.086 -----	----- ----- -----	<div><div></div><div></div><div></div></div>
Thru Cal Phase - 6	deg	Master Before After Before-Master After-Before	----- ----- ----- ----- -----	121.000 121.000 ----- ----- -----	168.315 -171.595 ----- -339.910 -----	-119.000 -119.000 ----- ----- -----	<div><div></div><div></div><div></div></div>
Thru Cal Mag - 7	V	Master Before After Before-Master After-Before	----- ----- ----- ----- -----	0.846 0.846 ----- ----- -----	1.420 1.357 ----- -0.063 -----	1.974 1.974 ----- ----- -----	<div><div></div><div></div><div></div></div>
Thru Cal Phase - 7	deg	Master Before After Before-Master After-Before	----- ----- ----- ----- -----	115.000 115.000 ----- ----- -----	167.459 -172.380 ----- -339.839 -----	-125.000 -125.000 ----- ----- -----	<div><div></div><div></div><div></div></div>
SPA Zero	mV	Master Before After Before-Master After-Before	----- ----- ----- ----- -----	-50.000 -50.000 ----- ----- -----	0.170 0.076 ----- -0.094 -----	50.000 50.000 ----- ----- -----	<div><div></div><div></div><div></div></div>
SPA Plus	mV	Master Before After Before-Master After-Before	----- ----- ----- ----- -----	941.000 941.000 ----- ----- -----	991.089 987.985 ----- -3.104 -----	1040.000 1040.000 ----- ----- -----	<div><div></div><div></div><div></div></div>
Temperature Zero	V	Master Before After Before-Master After-Before	----- ----- ----- ----- -----	-0.050 -0.050 ----- ----- -----	0.000 0.000 ----- 0.000 -----	0.050 0.050 ----- ----- -----	<div><div></div><div></div><div></div></div>
Temperature Plus	V	Master Before After Before-Master After-Before	----- ----- ----- ----- -----	0.870 0.870 ----- ----- -----	0.918 0.915 ----- -0.003 -----	0.960 0.960 ----- ----- -----	<div><div></div><div></div><div></div></div>

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): 13:07:40 21-Dec-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Small Ring	in	Before	8.00	6.00	7.53	10.00	
Large Ring	in	Before	12.00	9.00	11.80	15.00	

HDRS Density Calibration - Inversion Results

Master (EEPROM): 01:31:00 21-Dec-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Rho Aluminum	g/cm3	Master	2.596	2.586	2.597	2.606	
Rho Magnesium	g/cm3	Master	1.686	1.676	1.687	1.696	
Pe Aluminum		Master	2.570	2.470	2.564	2.670	
Pe Magnesium		Master	2.650	2.550	2.626	2.750	

HDRS Density Calibration - Deviation Summary

Master (EEPROM): 01:31:00 21-Dec-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
BS Average Deviation	%	Master	0	-0.6000	0.5999	0.6000	
BS Max Deviation	%	Master	0	-1.6000	1.3761	1.6000	
SS Average Deviation	%	Master	0	-1.0000	0.3158	1.0000	
SS Max Deviation	%	Master	0	-2.5000	1.6304	2.5000	
LS Average Deviation	%	Master	0	-1.5000	0.7490	1.5000	
LS Max Deviation	%	Master	0	-3.5000	2.0901	3.5000	

HDRS Density Calibration - Background Summary

Master (EEPROM): 01:31:00 21-Dec-2014

Before (Measured):

12:56:46 21-Dec-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
BS Window Ratio		Master	1.0000		0.7478		
		Before	0.7478	0.7104	0.7488	0.7852	
		Before-Master	-----	-----	0.0010	-----	
BS Window Sum	1/s	Master	1		24942		
		Before	24942	23695	24940	26189	
		Before-Master	-----	-----	-2	-----	
SS Window Ratio		Master	1.0000		0.4894		
		Before	0.4894	0.4649	0.4905	0.5139	
		Before-Master	-----	-----	0.0011	-----	
SS Window Sum	1/s	Master	1		11924		
		Before	11924	11328	11907	12520	
		Before-Master	-----	-----	-17	-----	
LS Window Ratio		Master	1.0000		0.2976		
		Before	0.2976	0.2827	0.3019	0.3125	
		Before-Master	-----	-----	0.0043	-----	
LS Window Sum	1/s	Master	1		1349		
		Before	1349	1282	1340	1416	
		Before-Master	-----	-----	-9	-----	

HDRS Density Calibration - Photo-multiplier High Voltages

Master (EEPROM): 01:31:00 21-Dec-2014

Before (Measured):

12:56:46 21-Dec-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
BS PM High Voltage	V	Master		1000	1543	2400	
		Before		1000	1552	2400	
		Before-Master	-----	-100	9	100	
SS PM High Voltage	V	Master		1000	1913	2400	
		Before		1000	1923	2400	
		Before-Master	-----	-100	10	100	
LS PM High Voltage	V	Master		1000	1261	2400	
		Before		1000	1272	2400	
		Before-Master	-----	-100	11	100	

HDRS Density Calibration - Crystal Quality Resolutions

Master (EEPROM): 01:31:00 21-Dec-2014

Before (Measured):

12:56:46 21-Dec-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
-------------	------	-------	---------	-----------	--------	------------	--

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
BS Crystal Resolution	%	Master		5.00	10.89	25.00	
		Before		5.00	10.90	25.00	
		Before-Master	----	-1.00	0.01	1.00	
SS Crystal Resolution	%	Master		5.00	9.90	20.00	
		Before		5.00	9.88	20.00	
		Before-Master	----	-1.00	-0.02	1.00	
LS Crystal Resolution	%	Master		5.00	8.35	20.00	
		Before		5.00	8.40	20.00	
		Before-Master	----	-1.00	0.05	1.00	

HDRS MCFL Calibration - MCFL Accumulations

Before (Measured):		07:18:50 22-Dec-2014					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Main Resistivity	ohm.m	Before	3875	3565	3892	4185	
Deep Resistivity	ohm.m	Before	3830	3524	3797	4136	
Shallow Resistivity	ohm.m	Before	3830	3524	3828	4136	

HGNS-H (HILT Gamma-Ray and Neutron Sonde, 150 degC) Calibration - Run 1

Primary Equipment :			
HILT Gamma-Ray and Neutron Sonde, 150 degC		HGNS-H	4810
Auxiliary Equipment :			
HGNS Accelerometer, 150 degC		HACCZ-H	5955
AmBe Neutron Logging Source		NSR-F	5215
Calibration Parameter :			
Water Temperature			
Housing Size			
JIG-BKG (Jig minus background reference)		165	

HGNS Accelerometer Calibration - Accelerometer Accumulations

Before (Measured):		05:53:13 22-Dec-2014					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
AZ Vertical Measurement	ft/s2	Before	32.2	31.5	32.1	32.8	

HGNS Accelerometer EEPROM - Accelerometer EEPROM Read

Master (EEPROM):		00:00:00 15-Jan-2007					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Accelerometer Manufacturer		Master			QAT_160		
Accelerometer Reference Temperature	degF	Master		30.2	77.0	122.0	
Accelerometer Coefficients - 0		Master	----	----	1155.700	----	
Accelerometer Coefficients - 1		Master	----	----	26.890	----	
Accelerometer Coefficients - 2		Master	----	----	-0.008	----	
Accelerometer Coefficients - 3		Master	----	----	0.000	----	
Accelerometer Coefficients - 4		Master	----	----	2.748	----	
Accelerometer Coefficients - 5		Master	----	----	0.000	----	
Accelerometer Coefficients - 6		Master	----	----	0.000	----	
Accelerometer Coefficients - 7		Master	----	----	0.000	----	
Accelerometer Coefficients - 8		Master	----	----	298.600	----	
Accelerometer Coefficients - 9		Master	----	----	0.983	----	

HGNS Neutron Calibration - HGNS Neutron Accumulations

Master (EEPROM):		10:43:32 31-Oct-2014	Before (Measured):		13:03:09 21-Dec-2014	After:	
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Near Zero Measurement	1/s	Master	0	5.0	24.4	40.0	
		Before	0	5.0	24.2	40.0	
		After	----	----	----	----	
		Before-Master	----	-3.7	-0.2	3.7	
		After-Before	----	----	----	----	
Far Zero Measurement	1/s	Master	0	5.0	28.7	40.0	
		Before	0	5.0	28.4	40.0	
		After	----	----	----	----	
		Before-Master	----	-4.3	-0.3	4.3	
		After-Before	----	----	----	----	
Near Plus Measurement	1/s	Master	6031.0	4700.0	5257.0	6900.0	

		Before After Before-Master After-Before	----- ----- ----- -----	----- ----- ----- -----	----- ----- ----- -----	----- ----- ----- -----	
Far Plus Measurement	1/s	Master Before After Before-Master After-Before	2793.0 ----- ----- ----- -----	1900.0 ----- ----- ----- -----	2224.0 ----- ----- ----- -----	2900.0 ----- ----- ----- -----	
Near Corrected Plus Measurement	1/s	Master Before After Before-Master After-Before	----- ----- ----- ----- -----	4700.0 ----- ----- ----- -----	5330.0 ----- ----- ----- -----	6900.0 ----- ----- ----- -----	
Far Corrected Plus Measurement	1/s	Master Before After Before-Master After-Before	----- ----- ----- ----- -----	1900.0 ----- ----- ----- -----	2259.0 ----- ----- ----- -----	2900.0 ----- ----- ----- -----	

HGNS Gamma-Ray Calibration - Gamma-Ray Accumulations

Before (Measured):		13:10:12 21-Dec-2014		After:			
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
RGR Zero Measurement	gAPI	Before After After-Before	30.0 ----- -----	0 ----- -----	84.4 ----- -----	120.0 ----- -----	
RGR Plus Measurement	gAPI	Before After After-Before	185.4 ----- -----	157.1 ----- -----	174.0 NOT DONE -----	206.3 ----- -----	
GR Calibration Gain		Before After After-Before	0.89 ----- -----	0.80 ----- -----	0.95 ----- -----	1.05 ----- -----	

ECS-A (Elemental Capture Spectroscopy Tool) Calibration - Run 1

Primary Equipment :							
The ECS sonde is used to measure elemental concentrations.		ECS-A				188	
Auxiliary Equipment :							
Litho-Density Spectroscopy Cartridge		LDSC-B				302	
Housing for the LDSC		LDSH-A				415	
Housing to contain the ECS Sonde Assembly		EC SH-A				009	
The gamma ray BGO detector is used to detect prompt capture gamma rays for spectroscopy measurement.		ECSD-A				188	
The AmBe source provides neutrons for the prompt capture spectroscopy measurement.		NSR-F				5069	

ECS Background Measurement Check - ECS Calibration Check

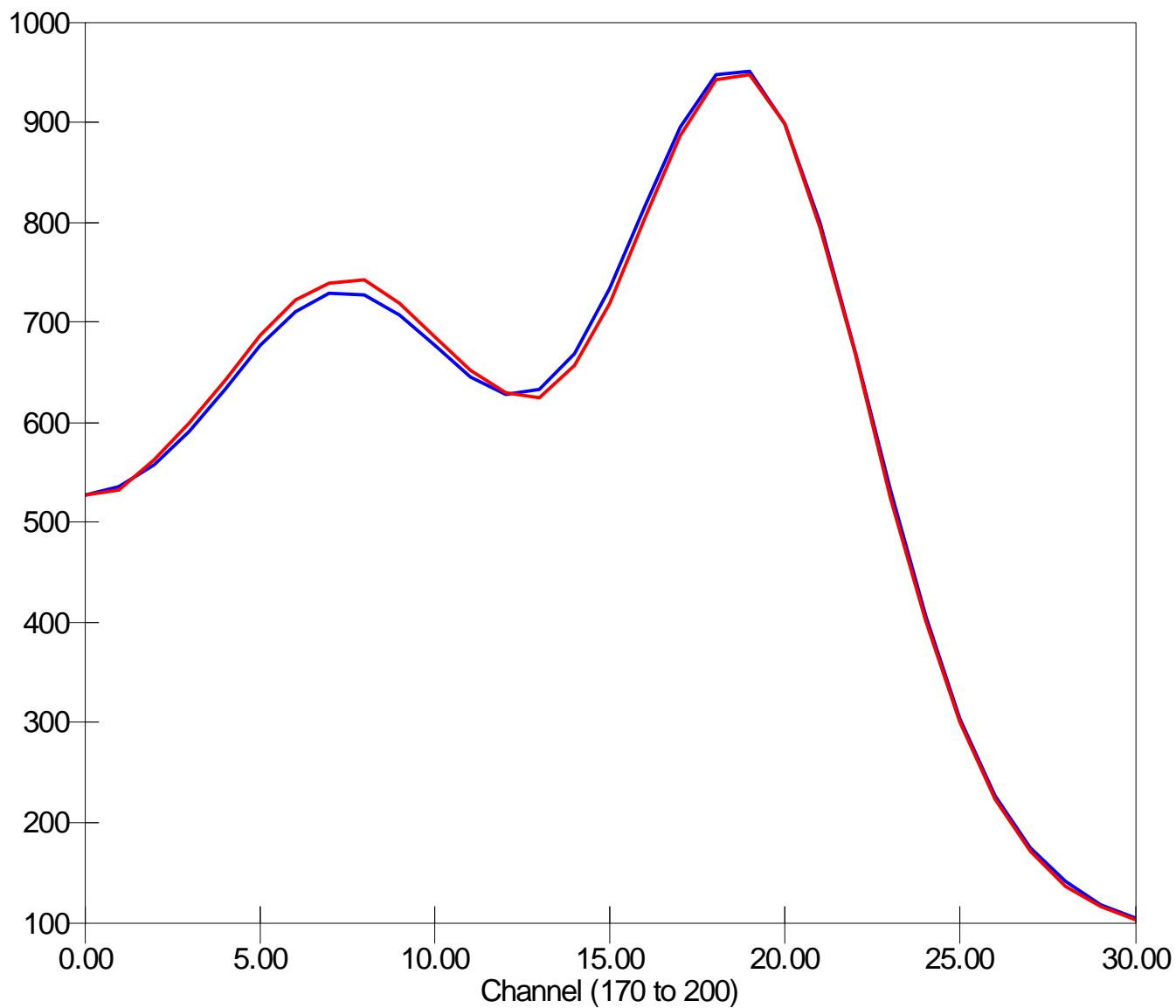
Master:		Before (Measured):		13:23:21 21-Dec-2014		After:	
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Detector resolution (20 DegC)	%	Master Before After Before-Master After-Before	13.000 13.000 13.000 ----- -----	11.200 11.200 11.200 ----- -----	NOT DONE 12.021 NOT DONE ----- -----	14.000 14.000 14.000 ----- -----	

ECS Spectral Calibration - ECS Spectral Calibration

Master (EEPROM):		06:16:23 22-Dec-2014					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Spectral Shift Factor		Master	1.000	-0.500	-0.013	1.500	

Spectrum Without Shift Plot
SHOP

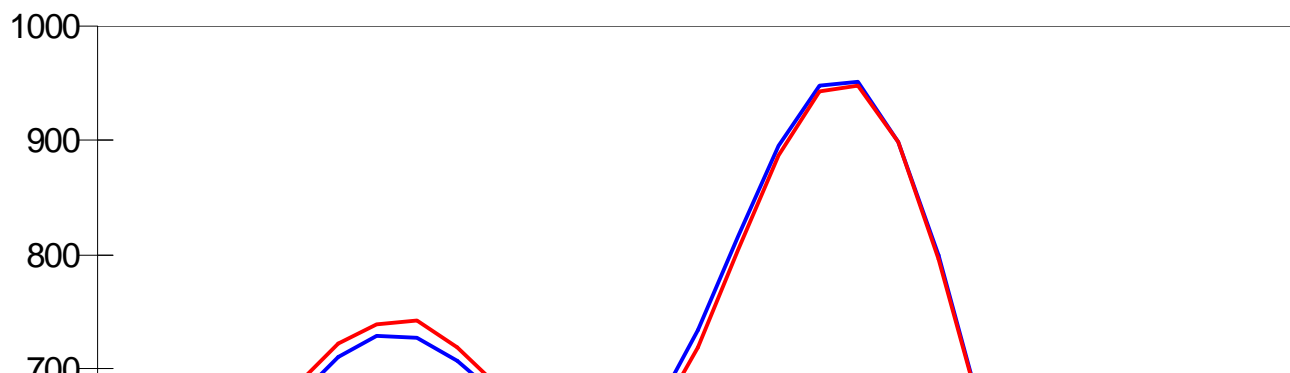
FITTED_SPEC (FITTED_SPEC)
DATA_SPEC (DATA_SPEC)

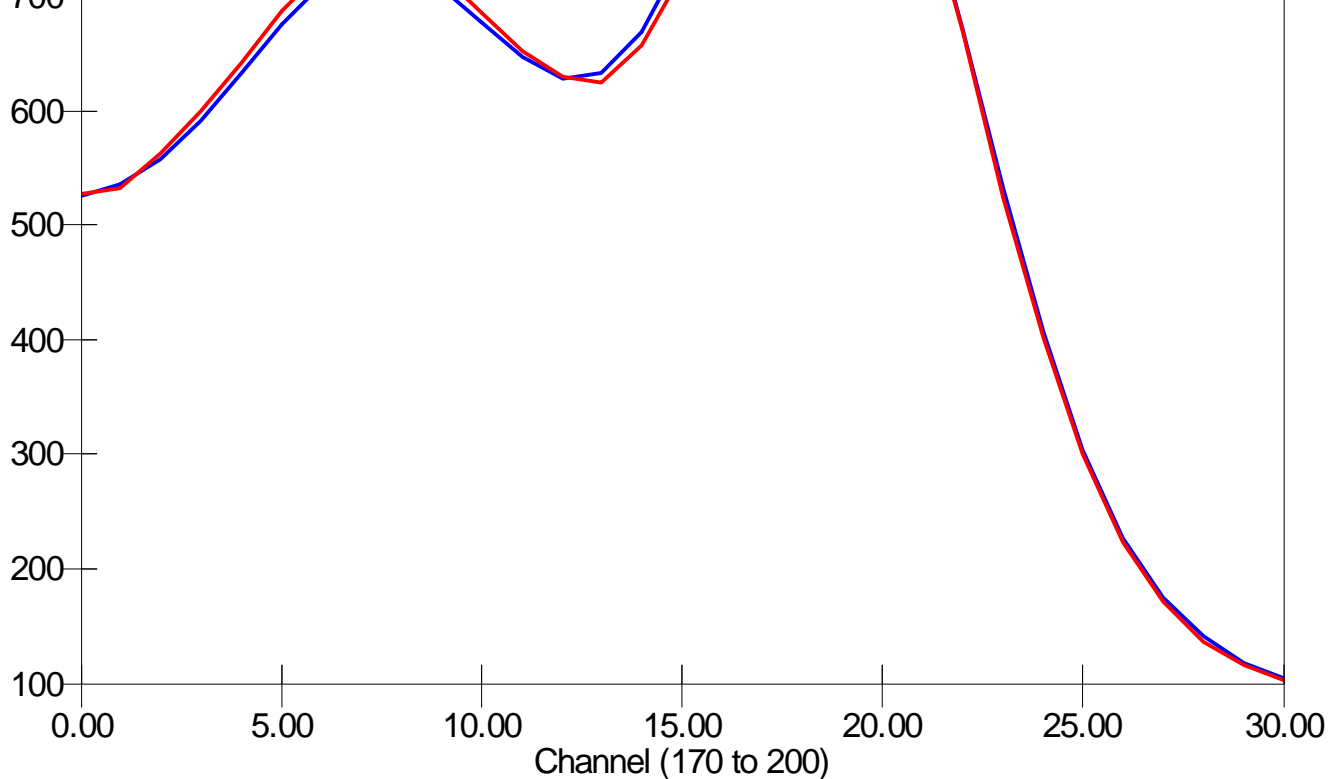


Spectrum With Shift Plot

SHOP

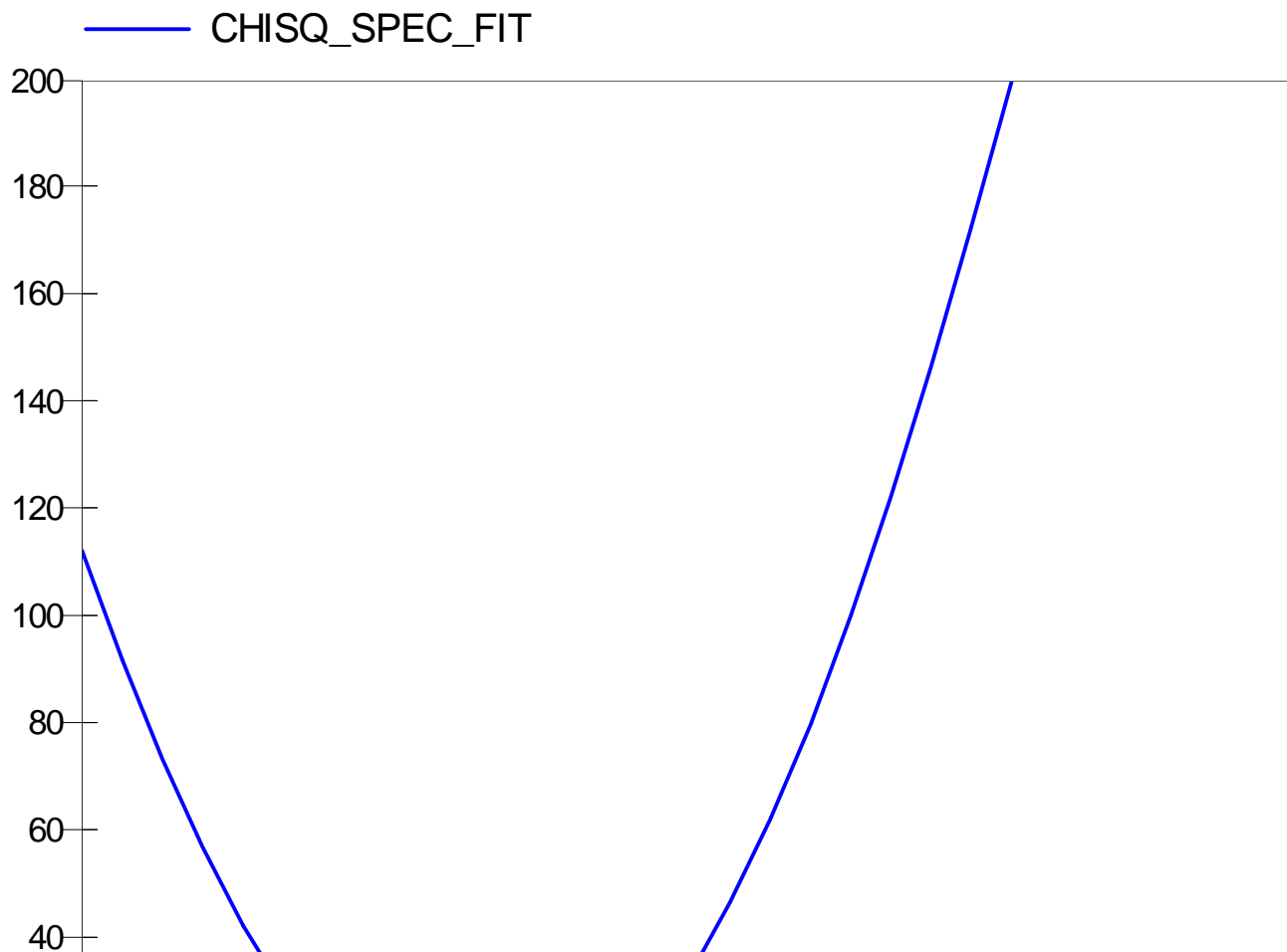
FITTED_SPEC_SF (FITTED_SPEC_SF)
DATA_SPEC_SF (DATA_SPEC_SF)

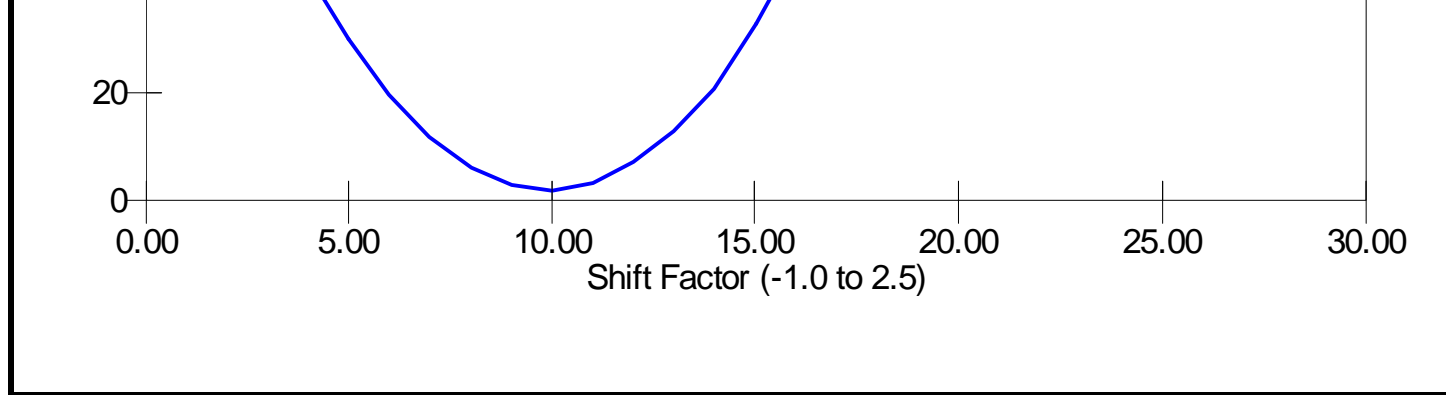




Chi Square for Spectral Fit Plot

SHOP





PPC-B (Powered Positioning device and Caliper.) Calibration - Run 1

Primary Equipment :

PPC-B Element is used for usual logging at wellsite and check/diagnostics.

PPC-B

8193

Auxiliary Equipment :

PPC-B Element is used for usual logging at wellsite and check/diagnostics.

PPC-B

8193

Calibration Parameter :

ZERO_REF (Small Size Ring)

3.500

PLUS_REF (Large Size Ring)

8.000

Equipment Properties :

Caliper Arm Equipment Type for PPC

PPC_CAL_STD

PPC Check - Downhole Electronics Test

Before (Measured): 12:49:16 21-Dec-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Positive Analog Voltage	V	Before		7	8.63057	9	
Minus Analog Voltage	V	Before		-9	-8.67715	-7	
Digital Voltage	V	Before		3.15	3.38121	3.45	
Digital Voltage for Analog Digital Converter	V	Before		4.5	5.01885	5.5	
Status Word of Analog Digital Converter Offset		Before		-8	0.722222	8	

PPC Check - Cartridge Temperature Test

Before (Measured): 12:49:16 21-Dec-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Cartridge Temperature	degF	Before		-58	49.2167	482	

PPC Check - Power Control LVDT Test

Before (Measured): 12:49:16 21-Dec-2014

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
LVDT5 Caliper Open Position	in	Before			-1.27905		
LVDT5 Full Power Position	in	Before			1.42505		

PPC Diagnostics - Arm Close Position Test

Master:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Caliper-arm 1, radius raw - 0	in	Master	----	----	----	----	
Caliper-arm 2, radius raw - 0	in	Master	----	----	----	----	
Caliper-arm 3, radius raw - 0	in	Master	----	----	----	----	
Caliper-arm 4, radius raw - 0	in	Master	----	----	----	----	
Power Control LVDT - 0	in	Master	----	----	----	----	
LVDT excitation - 0	V	Master	----	----	----	----	

PPC Diagnostics - Downhole Electronics Test

Master:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Positive Analog Voltage - 0	V	Master	----	----	----	----	
Minus Analog Voltage - 0	V	Master	----	----	----	----	
Digital Voltage - 0	V	Master	----	----	----	----	
Digital Voltage for Analog Digital Converter - 0	V	Master	----	----	----	----	
Status Word of Analog Digital Converter Offset -		Master	----	----	----	----	

0											
PPC Diagnostics - RBS Test											
Master:											
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
Relative Bearing - 0	deg	Master	----	----	----	----	<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
Potentiometer Excitation - 0	V	Master	----	----	----	----	<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
PPC Diagnostics - Cartridge Temperature Test											
Master:											
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
Cartridge Temperature - 0	degF	Master	----	----	----	----	<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
PPC Diagnostics - Power Control LVDT Test											
Master:											
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
LVDT5 Caliper Open Position - 0	in	Master	----	----	----	----	<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
LVDT5 Full Power Position - 0	in	Master	----	----	----	----	<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
PPC LVDT5 Master Calibration - PPC CaliCoefficients											
Master (EEPROM): 14:46:00 24-Nov-2014											
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
CCS	in	Master	-1.51		-1.45178		<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
COP	in	Master	-1.31		-1.27905		<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
CPW	in	Master	1.41		1.42505		<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
PPC Caliper Calibration - PPC CaliCoefficients											
Before (EEPROM): 14:46:00 24-Nov-2014 After:											
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
RD1_GAIN		Before	1	0.85	0.938717	1.15	<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
After	----	----	----	----		<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>					
After-Before	----	----	----	----		<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>					
RD2_GAIN		Before	1	0.85	0.956239	1.15	<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
After	----	----	----	----		<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>					
After-Before	----	----	----	----		<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>					
RD3_GAIN		Before	1	0.85	0.906058	1.15	<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
After	----	----	----	----		<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>					
After-Before	----	----	----	----		<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>					
RD4_GAIN		Before	1	0.85	0.980789	1.15	<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
After	----	----	----	----		<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>					
After-Before	----	----	----	----		<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>					
RD1_OFFSET	in	Before	0	-2.2	-0.745842	2.6	<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
After	----	----	----	----		<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>					
After-Before	----	----	----	----		<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>					
RD2_OFFSET	in	Before	0	-2.2	0.107252	2.6	<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
After	----	----	----	----		<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>					
After-Before	----	----	----	----		<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>					
RD3_OFFSET	in	Before	0	-2.2	-0.766426	2.6	<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
After	----	----	----	----		<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>					
After-Before	----	----	----	----		<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>					
RD4_OFFSET	in	Before	0	-2.2	0.00297875	2.6	<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
After	----	----	----	----		<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>					
After-Before	----	----	----	----		<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>					
PPC Caliper Calibration - PPC Accumulations											
Before (EEPROM): 14:46:00 24-Nov-2014 After:											
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
Caliper 1 Zero Radius	in	Before	3.5	1.2	4.52303	5.6	<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
After	----	----	----	----		<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>					
After-Before	----	----	----	----		<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>					
Caliper 2 Zero Radius	in	Before	3.5	1.2	3.54801	5.6	<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
After	----	----	----	----		<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>					
After-Before	----	----	----	----		<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>					
Caliper 3 Zero Radius	in	Before	3.5	1.2	4.70878	5.6	<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
After	----	----	----	----		<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>					
After-Before	----	----	----	----		<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>					
Caliper 4 Zero Radius	in	Before	3.5	1.2	3.56552	5.6	<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>				
After	----	----	----	----		<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>					
After-Before	----	----	----	----		<table><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>					

Caliper 1 Plus Radius	in	Before After After-Before	8 ----- -----	6.1 ----- -----	9.31681 ----- -----	9.7 ----- -----	<div><div></div></div>
Caliper 2 Plus Radius	in	Before After After-Before	8 ----- -----	6.1 ----- -----	8.25395 ----- -----	9.7 ----- -----	<div><div></div></div>
Caliper 3 Plus Radius	in	Before After After-Before	8 ----- -----	6.1 ----- -----	9.67535 ----- -----	9.7 ----- -----	<div><div></div></div>
Caliper 4 Plus Radius	in	Before After After-Before	8 ----- -----	6.1 ----- -----	8.15367 ----- -----	9.7 ----- -----	<div><div></div></div>

CMRT-B (Combinable Magnetic Resonance Tool - BA/BB/VA/BAH) Calibration - Run 1

Primary Equipment :	CMRT Normal Pressure Sonde	CMRS	144
Auxiliary Equipment :	CMRT Cartridge Element 30kpsi	CMRC	78

CMRT Water Bottle Calibration - Water Bottle Calibration

Master (EEPROM):	12:30:00 03-Dec-2014	Before:	After:				
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	<div><div></div></div>
Reciprocal of the MC Amplitude Corrected to 25 degC		Master	0.030	0.020	0.038	0.040	<div><div></div></div>
		Before	0.030	0.020	NOT DONE	0.040	<div><div></div></div>
		After	0.030	0.020	NOT DONE	0.040	<div><div></div></div>
		Before-Master	----	----	----	----	<div><div></div></div>
		After-Before	----	----	----	----	<div><div></div></div>
Test Loop Amplitude During MC		Master	2350.000	1500.000	1656.754	3200.000	<div><div></div></div>
		Before	2350.000	1500.000	NOT DONE	3200.000	<div><div></div></div>
		After	2350.000	1500.000	NOT DONE	3200.000	<div><div></div></div>
		Before-Master	----	----	----	----	<div><div></div></div>
		After-Before	----	----	----	----	<div><div></div></div>
Oper Freq During MC	kHz	Master	2240.000	2130.000	2276.000	2350.000	<div><div></div></div>
		Before	2240.000	2130.000	NOT DONE	2350.000	<div><div></div></div>
		After	2240.000	2130.000	NOT DONE	2350.000	<div><div></div></div>
		Before-Master	----	----	----	----	<div><div></div></div>
		After-Before	----	----	----	----	<div><div></div></div>
Sonde Temp During MC	degF	Master	80.600	50.000	58.490	111.200	<div><div></div></div>
		Before	80.600	50.000	NOT DONE	111.200	<div><div></div></div>
		After	80.600	50.000	NOT DONE	111.200	<div><div></div></div>
		Before-Master	----	----	----	----	<div><div></div></div>
		After-Before	----	----	----	----	<div><div></div></div>
Noise Per Echo - 0	ft3/ft3	Master	----	----	----	----	<div><div></div></div>
		Before	0.100	0	NOT DONE	0.200	<div><div></div></div>
		After	0.100	0	NOT DONE	0.200	<div><div></div></div>
		Before-Master	----	----	----	----	<div><div></div></div>
		After-Before	----	----	----	----	<div><div></div></div>
Signal-to-Noise Ratio for MC - 0		Master	----	----	----	----	<div><div></div></div>
		Before	675.000	350.000	NOT DONE	1000.000	<div><div></div></div>
		After	675.000	350.000	NOT DONE	1000.000	<div><div></div></div>
		Before-Master	----	----	----	----	<div><div></div></div>
		After-Before	----	----	----	----	<div><div></div></div>
Log Mean of the T2 Dist - 0	ms	Master	----	----	----	----	<div><div></div></div>
		Before	52.500	45.000	NOT DONE	60.000	<div><div></div></div>
		After	52.500	45.000	NOT DONE	60.000	<div><div></div></div>
		Before-Master	----	----	----	----	<div><div></div></div>
		After-Before	----	----	----	----	<div><div></div></div>

EDTC-B (Enhanced Digital Telemetry Cartridge - Version B) Calibration - Run 1

Primary Equipment :	EDTC-B	EDTC-B	8328
Calibration Parameter :	Plus Reference (Jig minus background reference)	165	

EDTC-B Accelerometer Calibration - EDTC-B Accelerometer Calibration							
Before (Measured):		05:53:21 22-Dec-2014					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	<div><div></div></div>
AZ Vertical Measurement	ft/s2	Before	32.19	31.53	32.00	32.84	<div><div></div></div>
EDTC-B Memory Data - EDTC-B Memory Data							
Master (EEPROM):		11:25:37 22-Dec-2014					
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	<div><div></div></div>
Initial PMT HV	V	Master			1434.000		<div><div></div></div>
Accelerometer Serial Number		Master			390		<div><div></div></div>
Accelerometer Coefficients - 0		Master	----	----	2.894	----	<div><div></div></div>
Accelerometer Coefficients - 1		Master	----	----	0.000	----	<div><div></div></div>
Accelerometer Coefficients - 2		Master	----	----	0.000	----	<div><div></div></div>
Accelerometer Coefficients - 3		Master	----	----	0.000	----	<div><div></div></div>
Accelerometer Coefficients - 4		Master	----	----	0.000	----	<div><div></div></div>
Accelerometer Coefficients - 5		Master	----	----	0.000	----	<div><div></div></div>
Accelerometer Coefficients - 6		Master	----	----	0.000	----	<div><div></div></div>
Accelerometer Coefficients - 7		Master	----	----	-0.005	----	<div><div></div></div>
Accelerometer Coefficients - 8		Master	----	----	0.000	----	<div><div></div></div>
Accelerometer Coefficients - 9		Master	----	----	0.000	----	<div><div></div></div>
Accelerometer Coefficients - 10		Master	----	----	0.000	----	<div><div></div></div>
Accelerometer Coefficients - 11		Master	----	----	0.000	----	<div><div></div></div>
Gamma-Ray Detector Serial Number		Master			7240		<div><div></div></div>
EDTC-B Gamma-Ray Calibration - Gamma Ray Coefficients							
Before (Measured):		13:01:41 21-Dec-2014		After:			
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	<div><div></div></div>
Gamma Ray Gain		Before	1.000	0.900	0.939	1.100	<div><div></div></div>
		After	----	----	----	----	<div><div></div></div>
		After-Before	----	----	----	----	<div><div></div></div>
EDTC-B Gamma-Ray Calibration - Gamma Ray Accumulations							
Before (Measured):		13:01:41 21-Dec-2014		After:			
Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	<div><div></div></div>
RGR Zero Measurement	gAPI	Before		0	58.056	120.000	<div><div></div></div>
		After	----	----	----	----	<div><div></div></div>
		After-Before	----	----	----	----	<div><div></div></div>
RGR Plus Measurement	gAPI	Before	165.000	150.000	175.738	180.000	<div><div></div></div>
		After			NOT DONE		<div><div></div></div>
		After-Before	----	----	----	----	<div><div></div></div>

Company:	Nighthawk Production LLC	Schlumberger
Well:	Keystone 3-7	
Field:	Lat/Long: 39.60030/-103.482520	
County:	Lincoln	
Country:		
Platform Express Field Print		
Triple Combo		
Induction & Nuclear		