

Company: Whiting Oil and Gas Corporation

Well: Razor 26J-2633L

Field: Wildcat

County: Weld Country:

Platform Express	
Triple Combo	
County: Weld	
Field: Wildcat	
Location: NWSE, Sec. 26, T 10N, R 58W	
Well: Razor 26J-2633L	
Company: Whiting Oil and Gas Corporation	
Logging Date 05-Aug-2013	
Run Number pex	
Depth Driller 9422.00 ft	
Schlumberger Depth 9397.00 ft	
Bottom Log Interval 9389.00 ft	
Top Log Interval 1607.00 ft	
Casing Driller Size @ Depth 9.625 in @ 1600.00 ft	
Casing Schlumberger 1607 ft	
Bit Size 8.75 in	
Type Fluid In Hole Water	
Density 9.4 lbm/gal	
Fluid Loss PH 48 s	
MUD	
Source of Sample Active Tank	
RM @ Meas Temp 0.64 ohm.m @ 69.6 degF	
RMF @ Meas Temp 0.48 ohm.m @ 69.6 degF	
RMC @ Meas Temp 0.96 ohm.m @ 69.6 degF	
Source RMF RMC Calculated	
RM @ BHT 0.2 @ 240 0.15 @ 240	
Max Recorded Temperatures 240 degF	
Circulation Stopped 06-Aug-2013 06:00:00	
Logger on Bottom 06-Aug-2013 15:50:54	
Unit Number 3022	
Recorded By Heather Hoffman	
Witnessed By Brody Hansen	

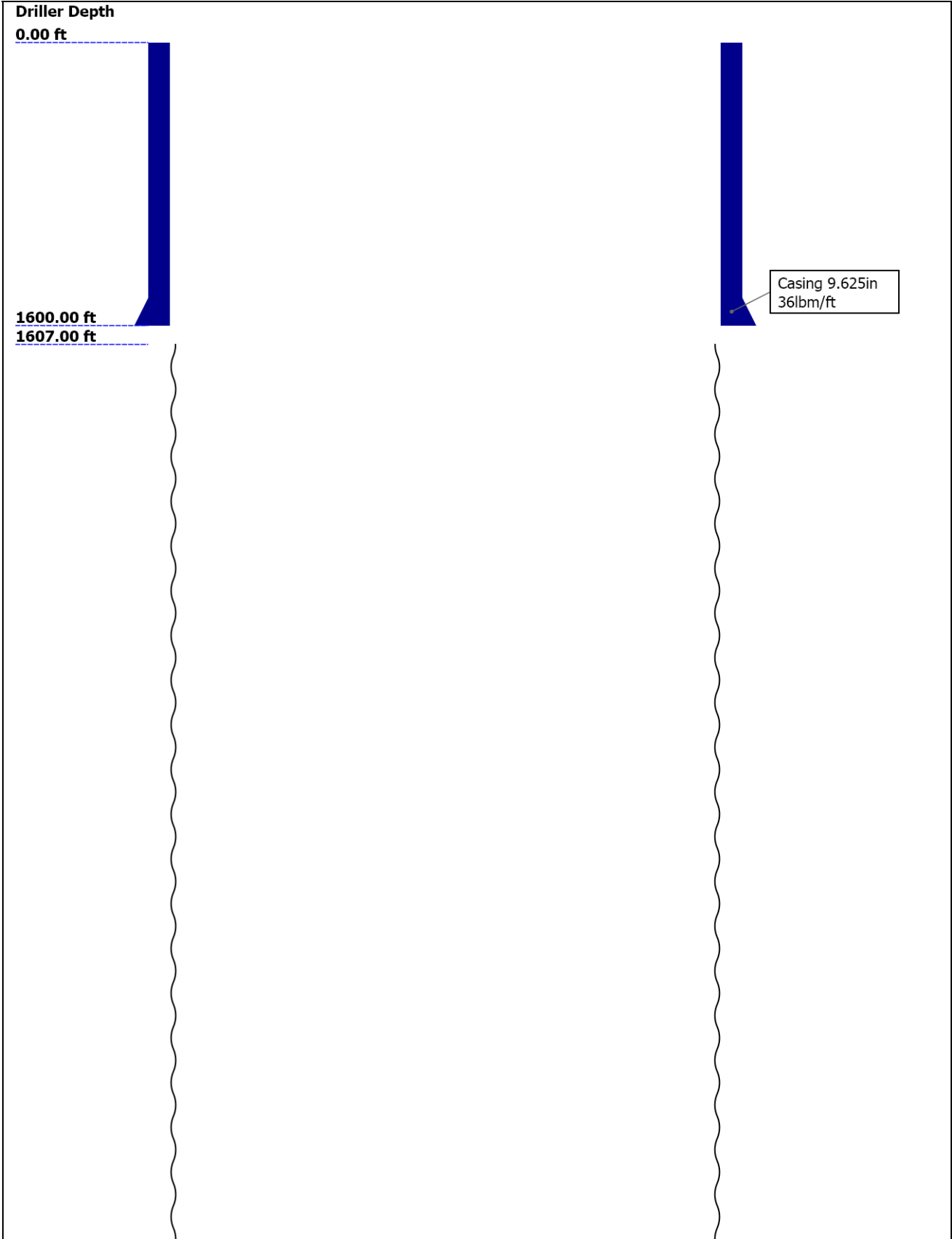
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Well Sketch



9397.00 ft

Open Hole 8.75in

## Borehole Size/Casing/Tubing Record

Bit						
Bit Size ( in )	8.75					
Top Driller ( ft )	1607					
Top Logger ( ft )	1607					
Bottom Driller ( ft )	9397					
Bottom Logger ( ft )	9397					
Casing						
Size ( in )	9.625					
Weight ( lbm/ft )	36					
Inner Diameter ( in )	8.914					
Top Driller ( ft )	0					
Top Logger ( ft )	0					
Bottom Driller ( ft )	1600					
Bottom Logger ( ft )	1607					

## Remarks and Equipment Summary

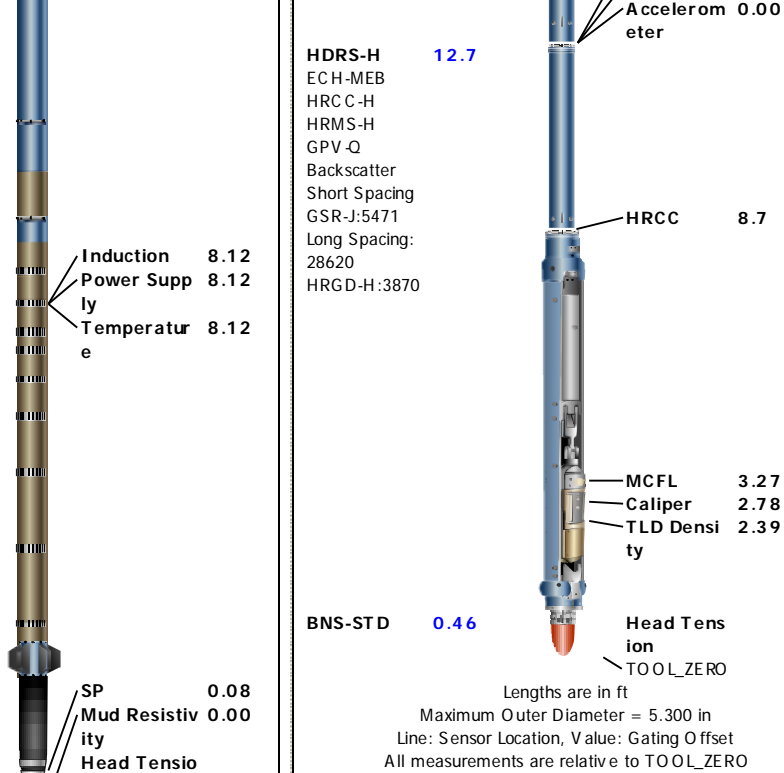
pex: Remarks	Run 3: Remarks
This is the first run in hole.	Induction and neutron data from run 1 merged with
Toolstring run as per tool sketch.	Density data from run 3
Matrix: Limestone 2.71 (g/cc)	Matrix: Limestone 2.71 (g/cc)
Density short spacing failed on run 1, density data will be merged from run 3	Repeat not done due to hole conditions per client request
Rig: Cade 21	Rig: Cade 21
Crew: Derrick Hunter, Troy Ocanas	Crew: Derrick Hunter, Troy Ocanas

### pex: Toolstring

### Run 3: Toolstring

Equip name	Length	MP name	Offset
LEH-QT LEH-QT	69.26		
EDTC-B EDTH-B EDTG-A EDTC-B	66.34		
LDSC-B LDSC-A :383 LDSC-B	59.84		
		CTEM	62.84
		ACCZ	0.00
		HV	0.00
		Gamma Ra	60.97
		y	
		TelStatus	59.84

Equip name	Length	MP name	Offset
LEH-QT	57.51		
DTC-H:9236	54.59	CTEM HV	53.69
ECH-KC:10316			0.00
DTC-H:9236		ToolStatus	51.59
Weight	51.59	TelStatus	51.59
GPIT-F:770	47.05	GPIT-F Incl inometer	45.63
GPIH-B		GPIT	0.00
DHRU-F			
GPIC-F:770			
AH-184	43.05		
HGNS-B:863	41.05	Temperature	41.02
HGNH:2883		GR	40.31
NSR-F:5069			
NPV-N			
HACCZ-B:452			
HGNS-B:863			
HMCA-B			
HDRS-B:791	31.64	CNL Porosity	33.98
ECH-MEB:1922		HGNS	31.64
HRCC-B:791		HMCA	31.64
HRMS-B:791		Accelerometer	0.00
HRGD-B:1849			
GPV-Q			
Short Spacing			
GSR-J:5094		HRCC	27.64
Backscatter			
Long Spacing			
MCFL			22.21
Caliper			21.73
TLD Density			21.34
ZAIT-E:52	19.4		
AZIS:52			
AZRM:52			
ECS-A:19	56.34		
ECSH-A			
ECS-A:19		Detector	55.06
NSR-F:5069			
ECSD-A			
AH-184[2]	49.69		
AH-184[1]	47.69		
CMRT-B:202	45.69		
CMRC:220			
CMRH:220			
CMRS:202			
CMRT-B	32.05		
ILE-F	30.11		
HGNS-H	22.11	Temperature	22.08
HGNH		GR	21.37
NPV-N			
NSR-F:2554			
HMCA-H			
HACCZ-H:699			
1			
HGNS-H			
CNL Porosity	15.03		
HGNS	12.7		
HMCA	12.7		



## Depth Summary

Depth Control Parameters	pex	Run 3	
Conveyance Type	Wireline	Wireline	
Stretch Correction ( ft )	10.00		
Depth Remark Parameters	pex	Run 3	
Depth Remark 1	All Schlumberger Depth Policy procedures followed		
Depth Remark 2	IDW as primary depth reference, Z-Chart as secondary		
Depth Measuring Device	pex	Run 3	
Type	IDW-B	IDW-B	
Wheel Correction 1	1	1	
Wheel Correction 2	0	0	
Tension Device	pex	Run 3	
Type	CMTD-B/A	CMTD-B/A	
Calibration Points	0	0	
Logging Cable	pex	Run 3	
Type	7-46NT-XS	7-46NT-XS	
Logging Cable Length ( ft )	24000.00	24000.00	

## Composite tcom

## 5" Triple Combo

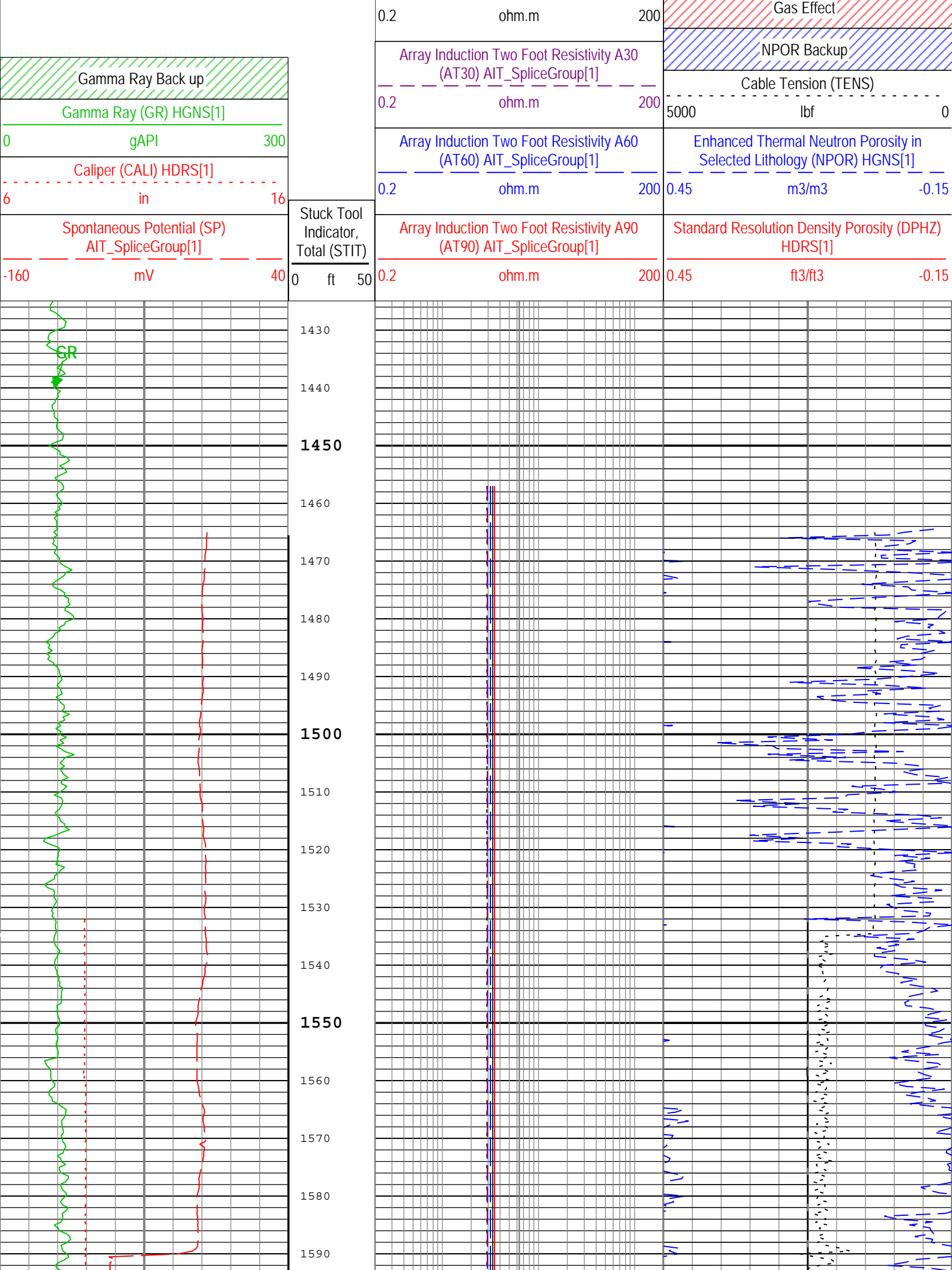
## Integration Summary

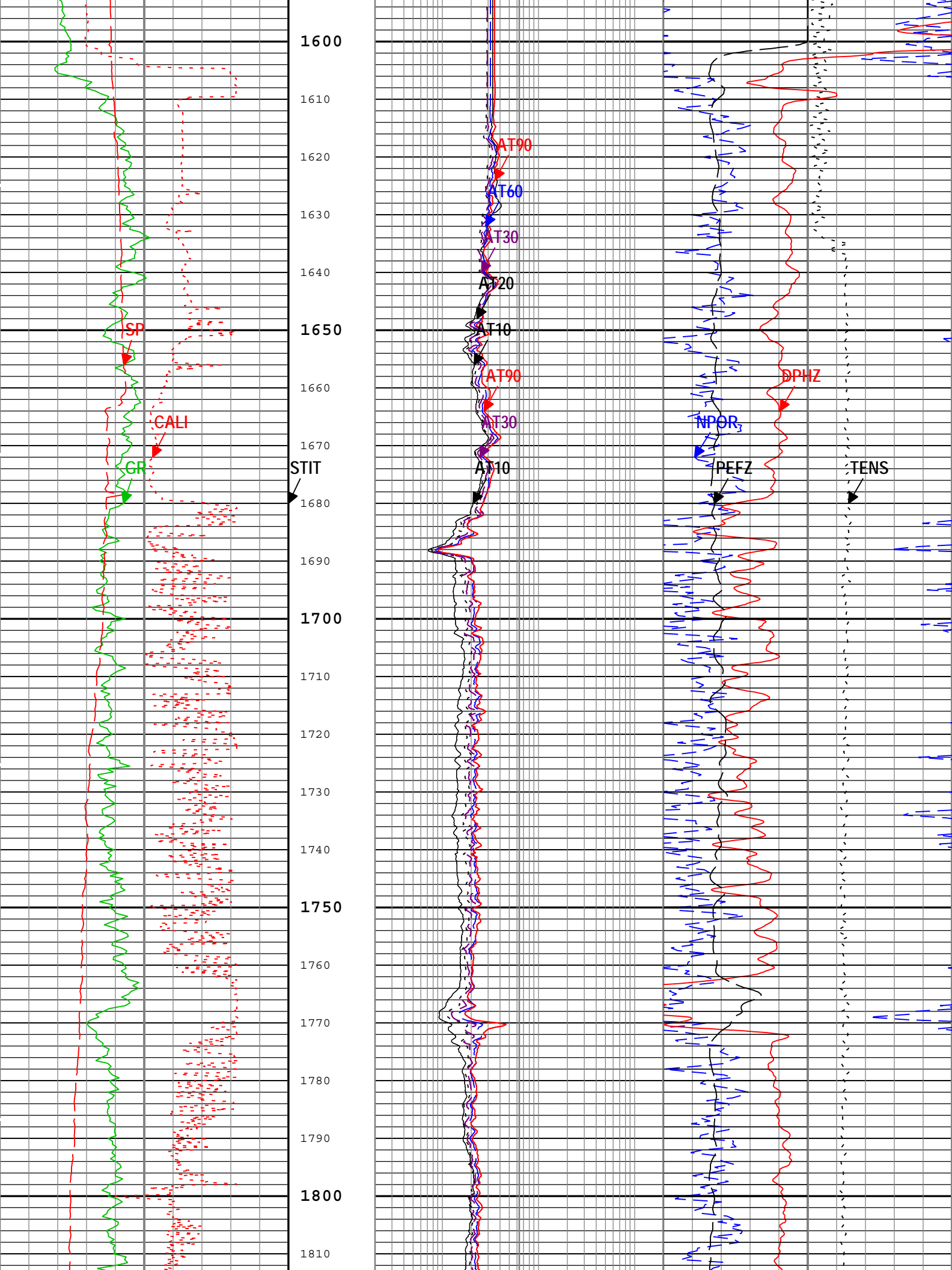
Output Channel(s)	Output Description	Input Parameter	Output Value	Unit
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## Software Version

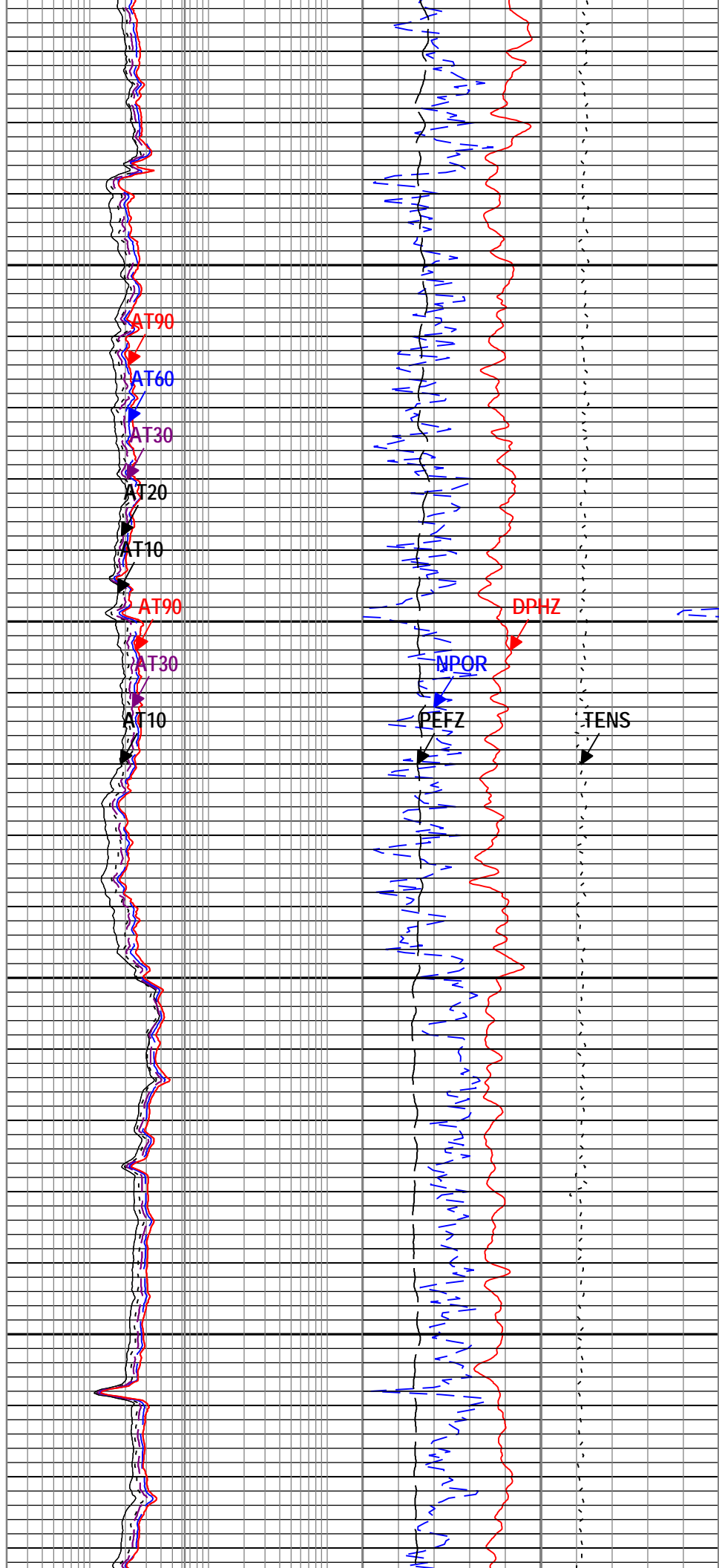
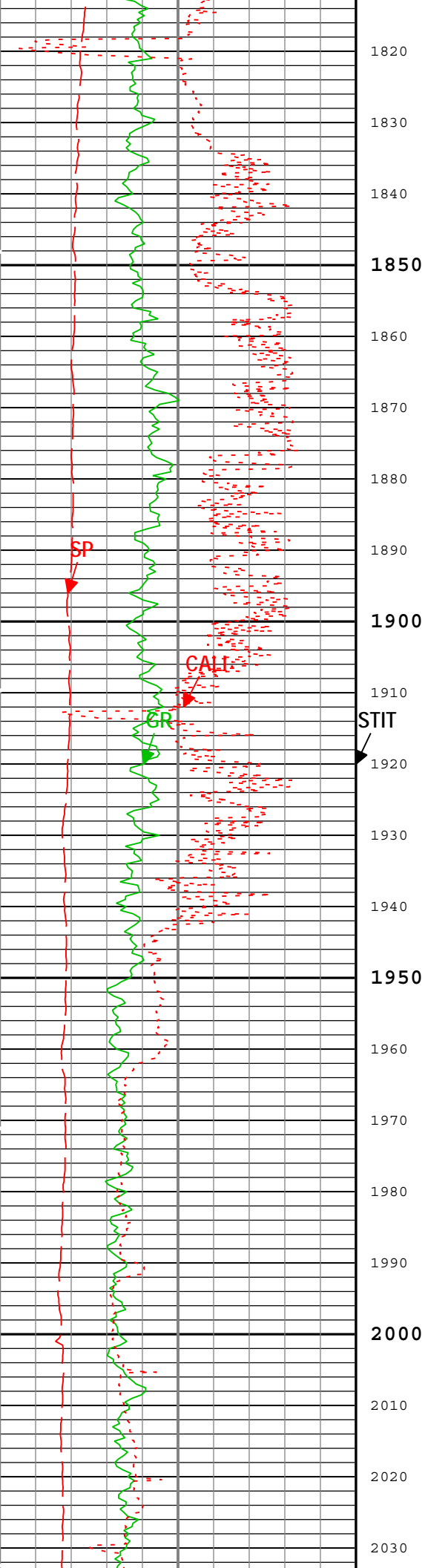
Acquisition System	Version
MaxWell	3.1.9755.0
Application Patch	SP-20121221-3.1.9755.1574
	EXP_APL-CMR1574-3.1.9755.1732
	EXP_APL-MASTCustWF-3.1.9755.1929
	EXP_APL-AIT 3.1.9755.1900

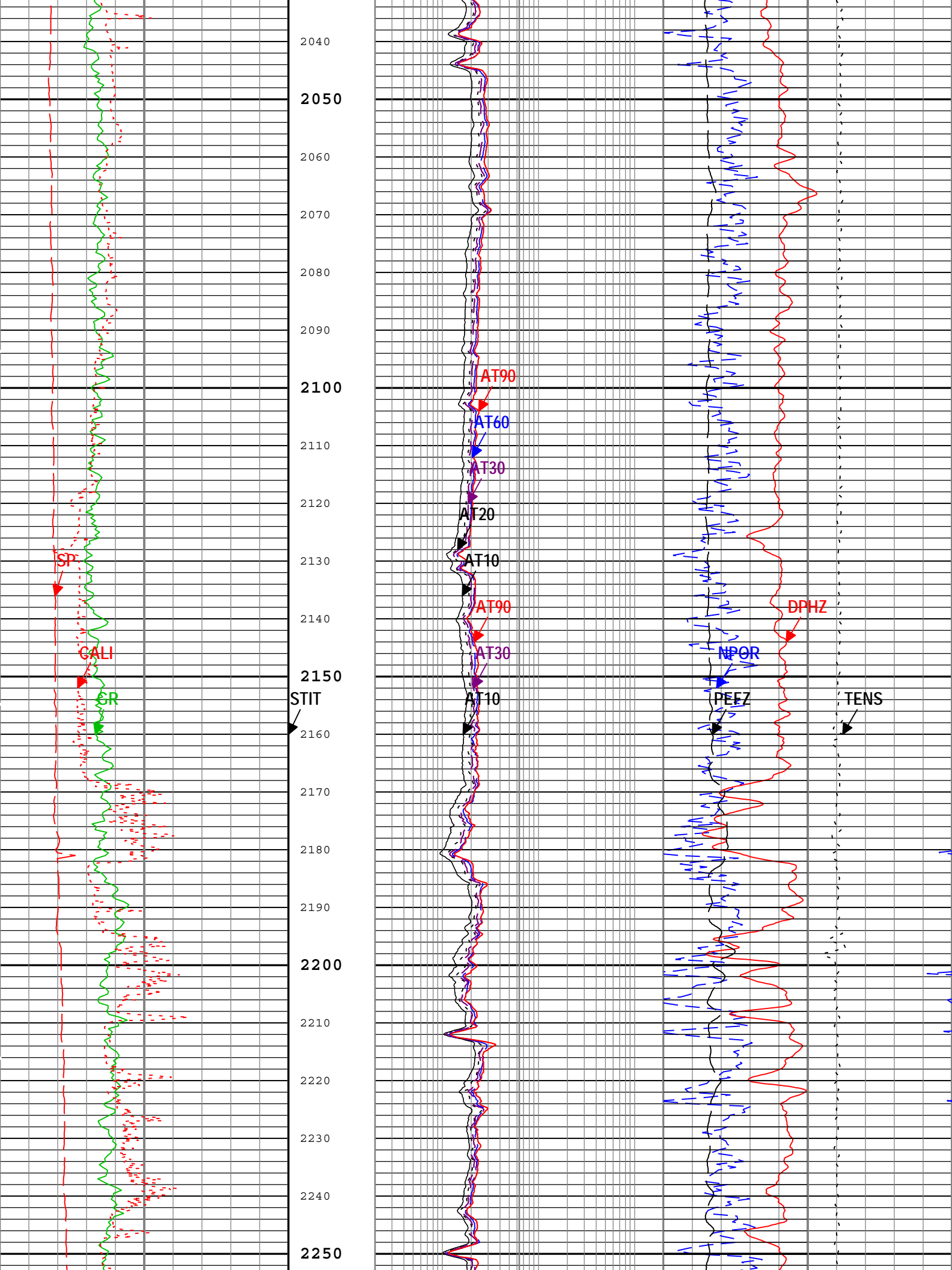
		EXP_AFL-AT-3.1.9755.1909						
Computation		Description				Version		
HENVIR		Computation Ensemble for the HGNS Neutron environmental corrections				3.1.9755.0		
DepthCorrection		DepthCorrection				3.1.9755.1732		
Tool Elements		Description			Software Version		Firmware Version	
AZIS		Array Induction Sonde - Z			3.1.9755.1574			
HRCC-H		HILT High-Resolution Control Cartridge, 150 degC			3.1.9755.0		2.0	
HRGD-H		HILT Resistivity Gamma-Ray Density Device, 150 degC			3.1.9755.0		3.0	
HGNS-B		HILT Gamma-Ray and Neutron Sonde, 125 degC			3.1.9755.0		2.0	
Composite Summary								
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Depth Shift	Include Parallel Data
pex	Log[6]:Up	Up	1465.00 ft	9413.31 ft	06-Aug-2013 12:49:48 PM	06-Aug-2013 4:07:43 PM	0.00 ft	
Run 3	Log[3]:Up	Up	1534.83 ft	9387.04 ft	07-Aug-2013 3:33:07 AM	07-Aug-2013 11:15:25 AM	1.00 ft	
All depths are referenced to toolstring zero								
Log	Composite tcom							
Description: HGNS standard resolution porosities for Platform Express    Format: Log ( KM 5in Triple Combo )    Index Scale: 5 in per 100 ft    Index Unit: ft Index Type: Measured Depth    Creation Date: 07-Aug-2013 18:38:25								
Channel	Source		Sampling					
AT10	AIT_SpliceGroup[1]:AZIS[1]:AZIS[1]		3in					
AT20	AIT_SpliceGroup[1]:AZIS[1]:AZIS[1]		3in					
AT30	AIT_SpliceGroup[1]:AZIS[1]:AZIS[1]		3in					
AT60	AIT_SpliceGroup[1]:AZIS[1]:AZIS[1]		3in					
AT90	AIT_SpliceGroup[1]:AZIS[1]:AZIS[1]		3in					
CALI	HDRS[1]:HRCC-H[1]:HRCC-H[1]		1in					
DPHZ	HDRS[1]:HRMS-H[1]:HRGD-H[1]		2in					
GR	HGNS[1]:HGNS-B[1]:HGNS-B[1]		6in					
NPOR	HGNS[1]:HGNS-B[1]:HGNS-B[1]		6in					
PEFZ	HDRS[1]:HRMS-H[1]:HRGD-H[1]		2in					
SP	AIT_SpliceGroup[1]:AZIS[1]:AZIS[1]		6in					
STIT	DepthCorrection		6in					
TENS	WLWorkflow		6in					
TIME_1900	WLWorkflow		0.1in					
TIME_1900 - Time Marked every 60.00 (s)								
			Array Induction Two Foot Resistivity A10 (AT10) AIT_SpliceGroup[1]					
			0.2	ohm.m	200			
			Array Induction Two Foot Resistivity A30 (AT30) AIT_SpliceGroup[1]					
			0.2	ohm.m	200			
			Array Induction Two Foot Resistivity A90 (AT90) AIT_SpliceGroup[1]					
			0.2	ohm.m	200			
			Array Induction Two Foot Resistivity A10 (AT10) AIT_SpliceGroup[1]			Standard Resolution Formation Photoelectric Factor (PEFZ) HDRS[1]		
			0.2	ohm.m	200			
			Array Induction Two Foot Resistivity A20 (AT20) AIT_SpliceGroup[1]			0 10		

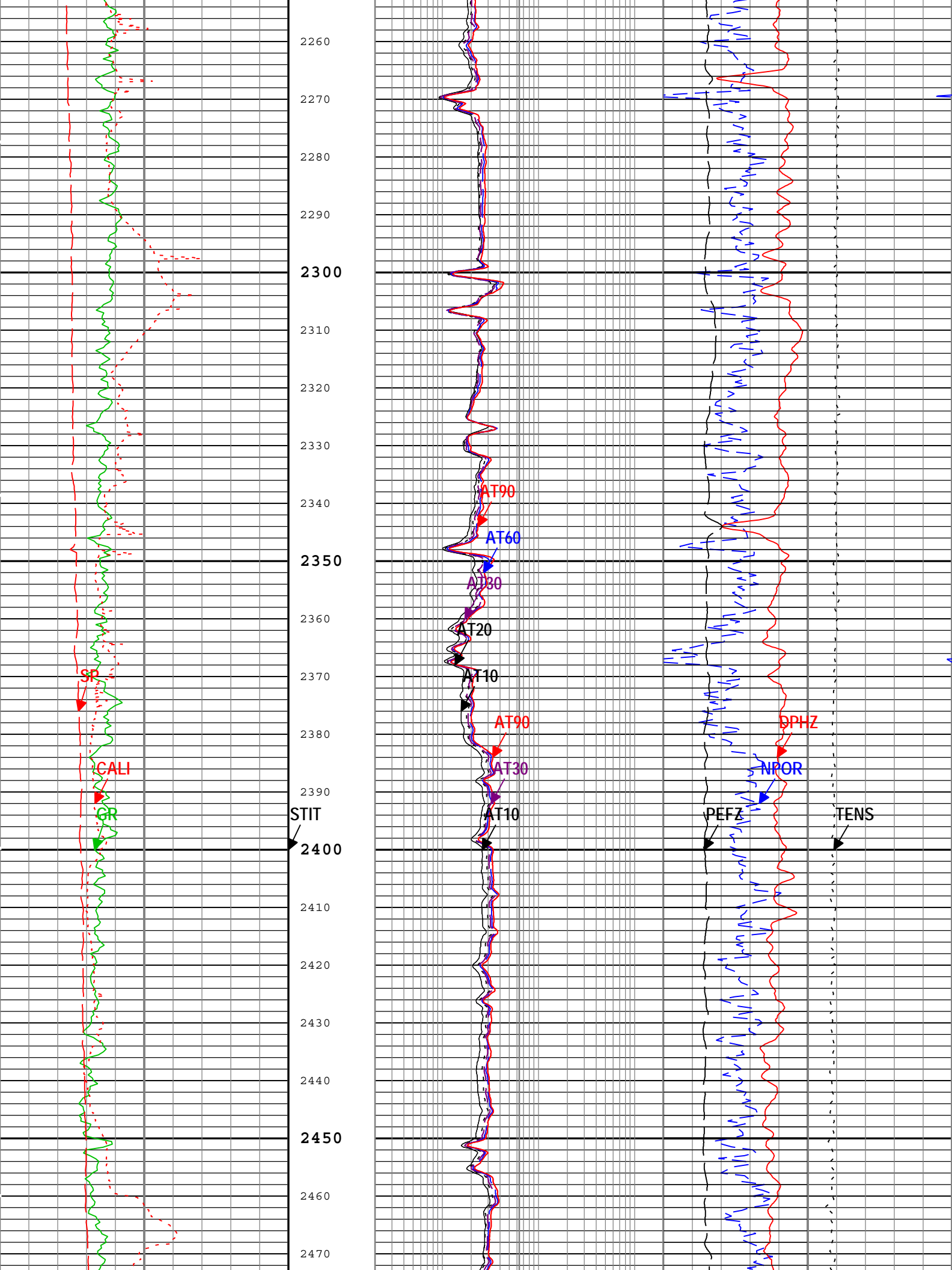


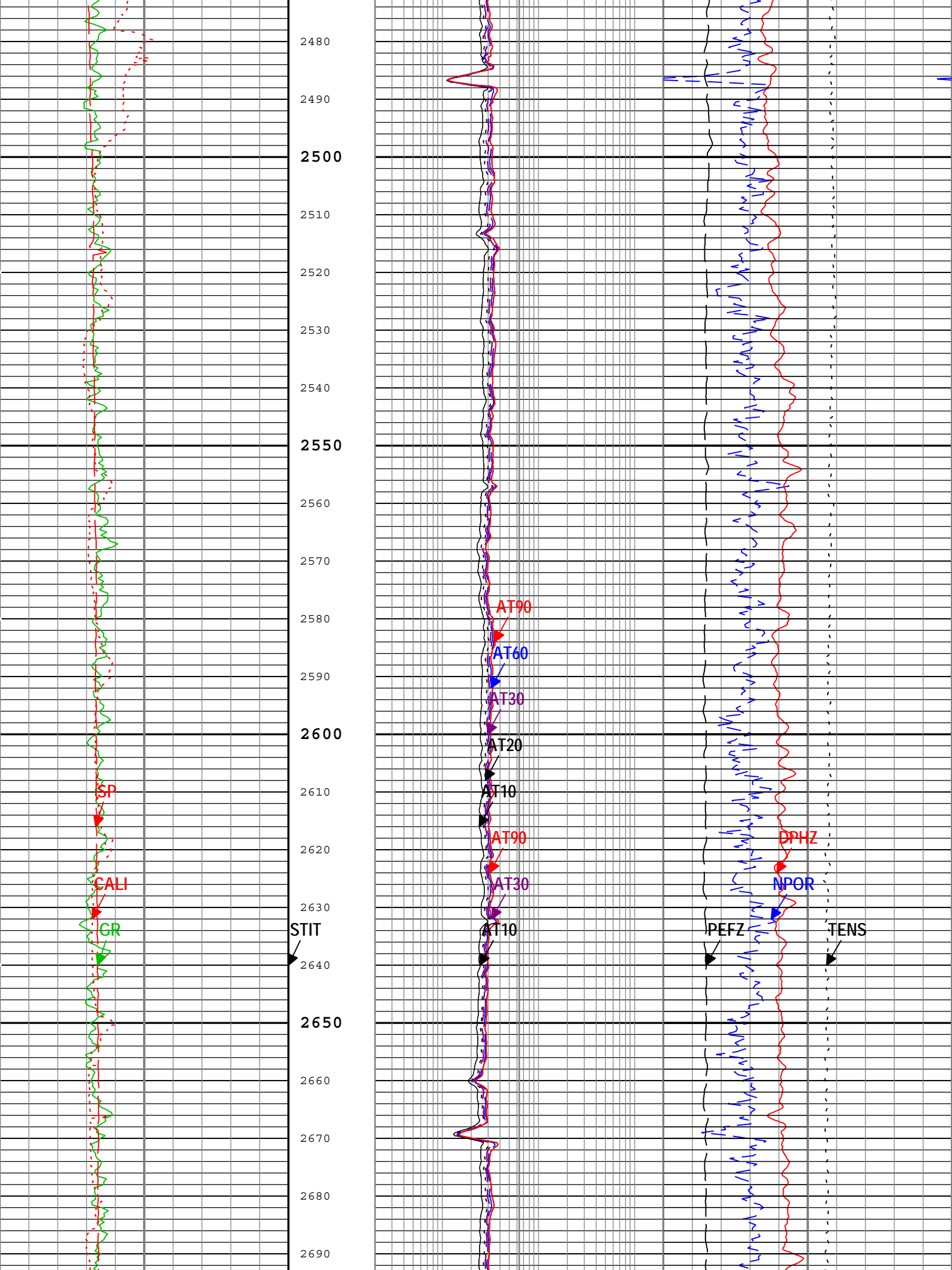


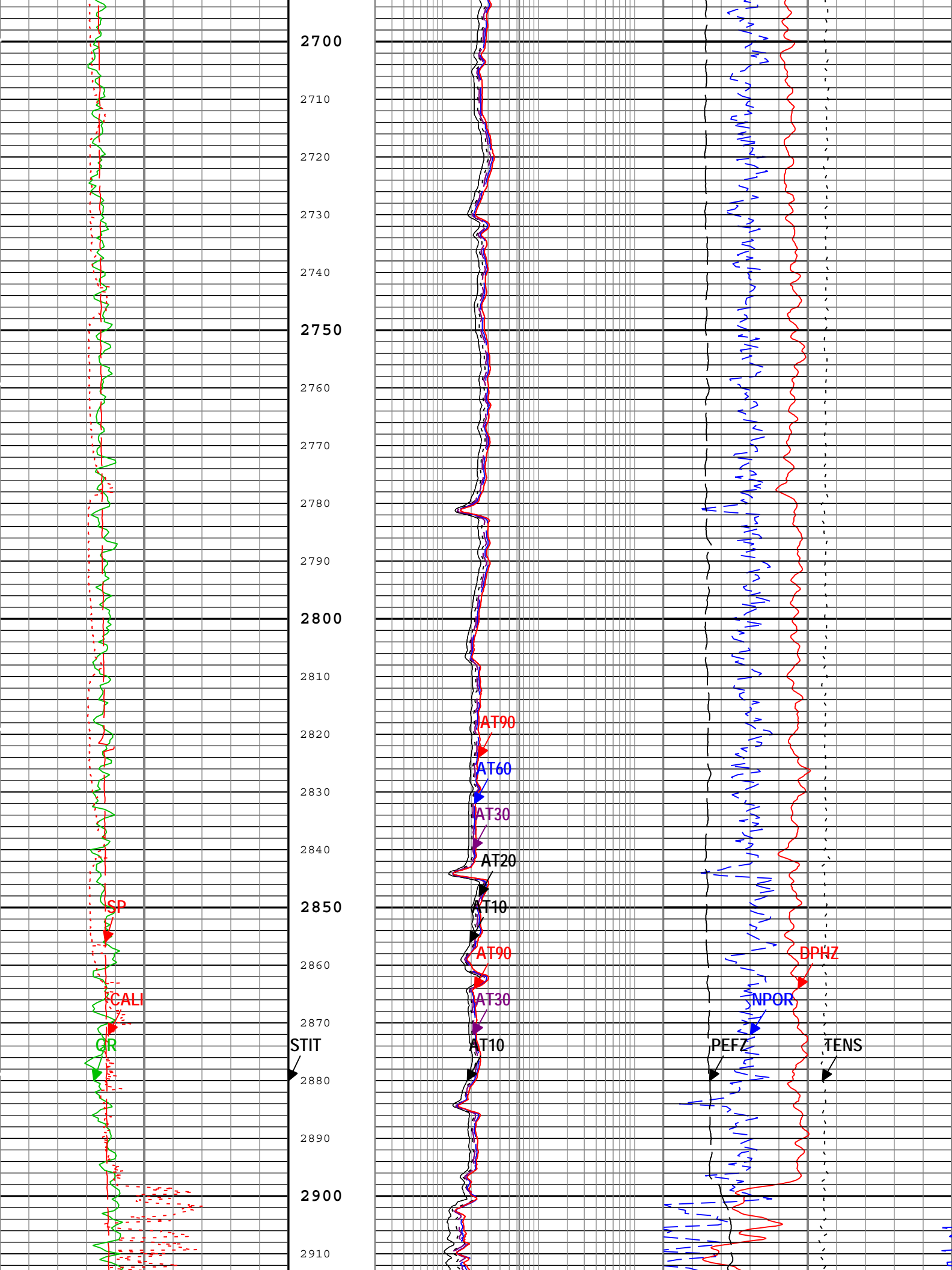


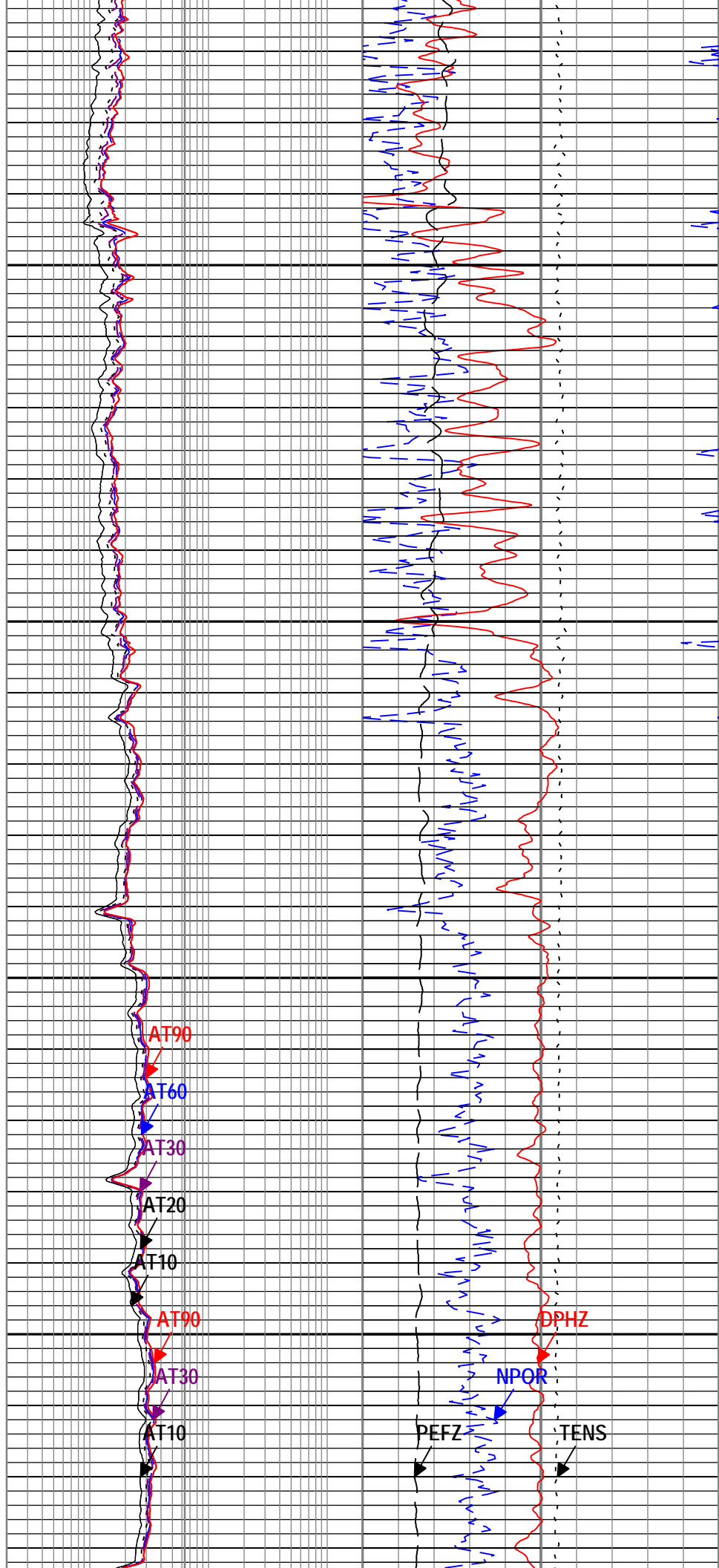
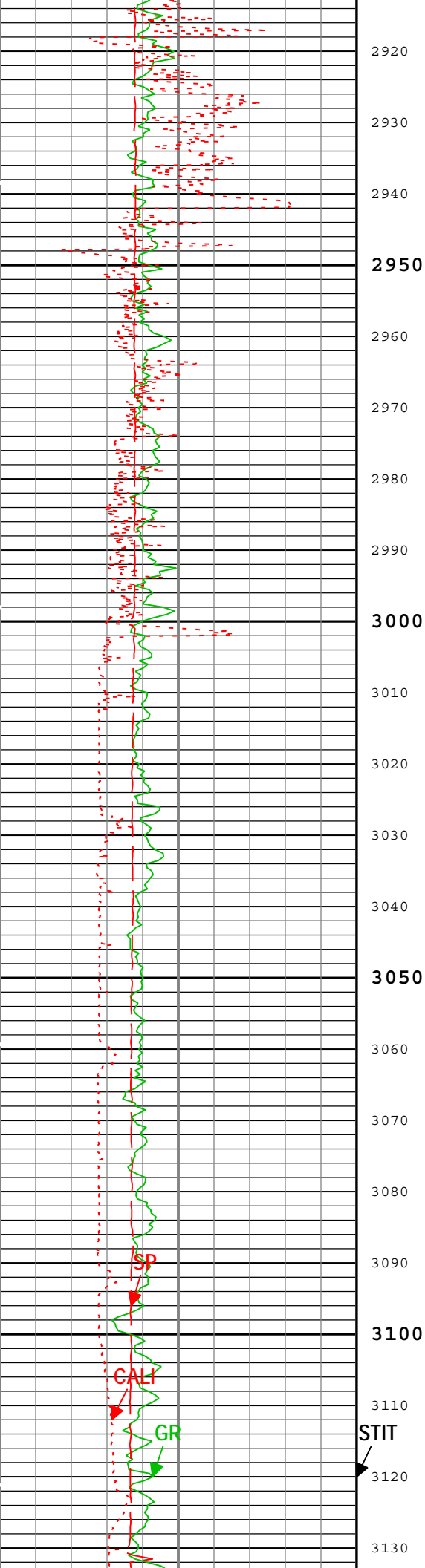




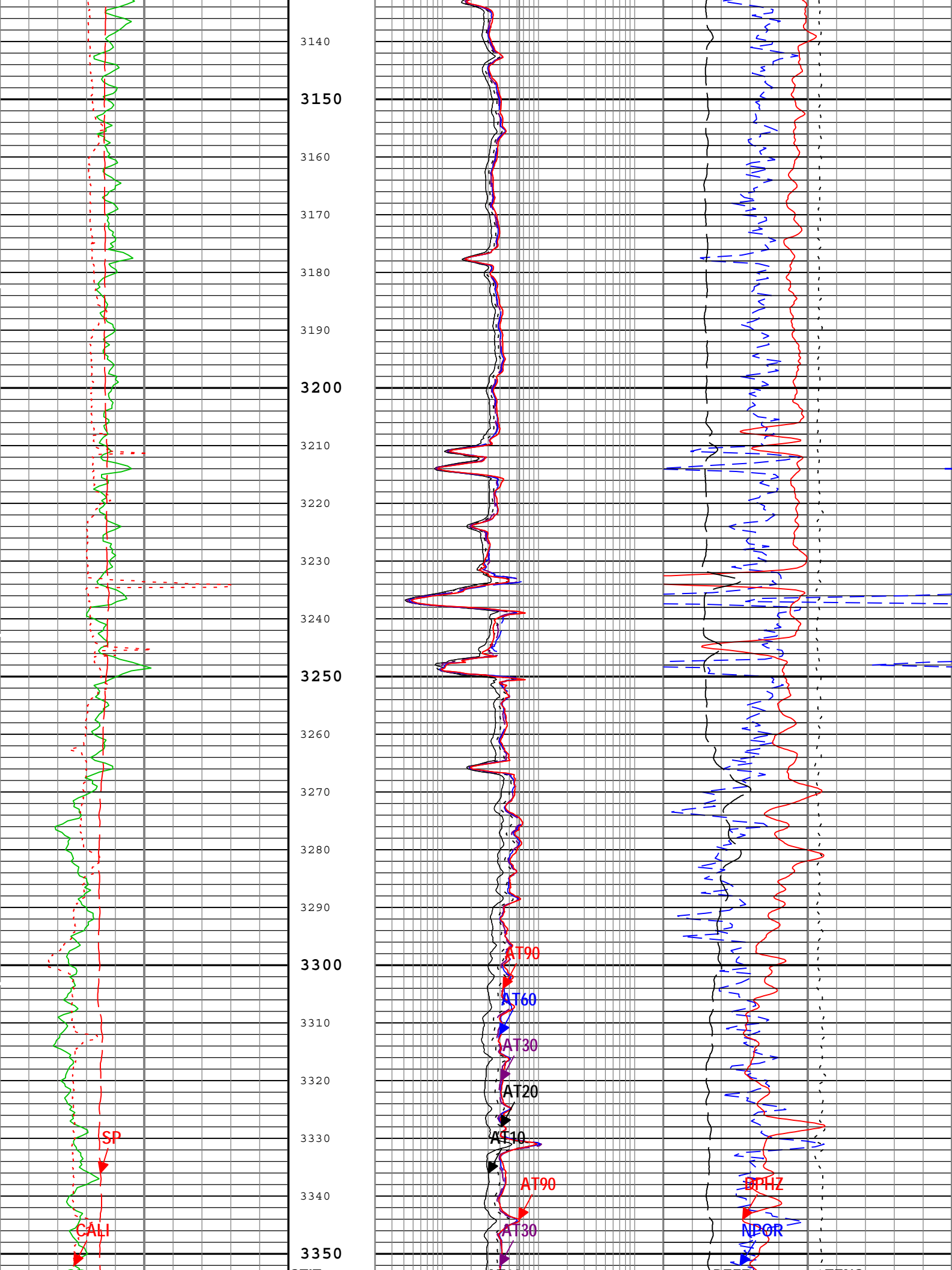


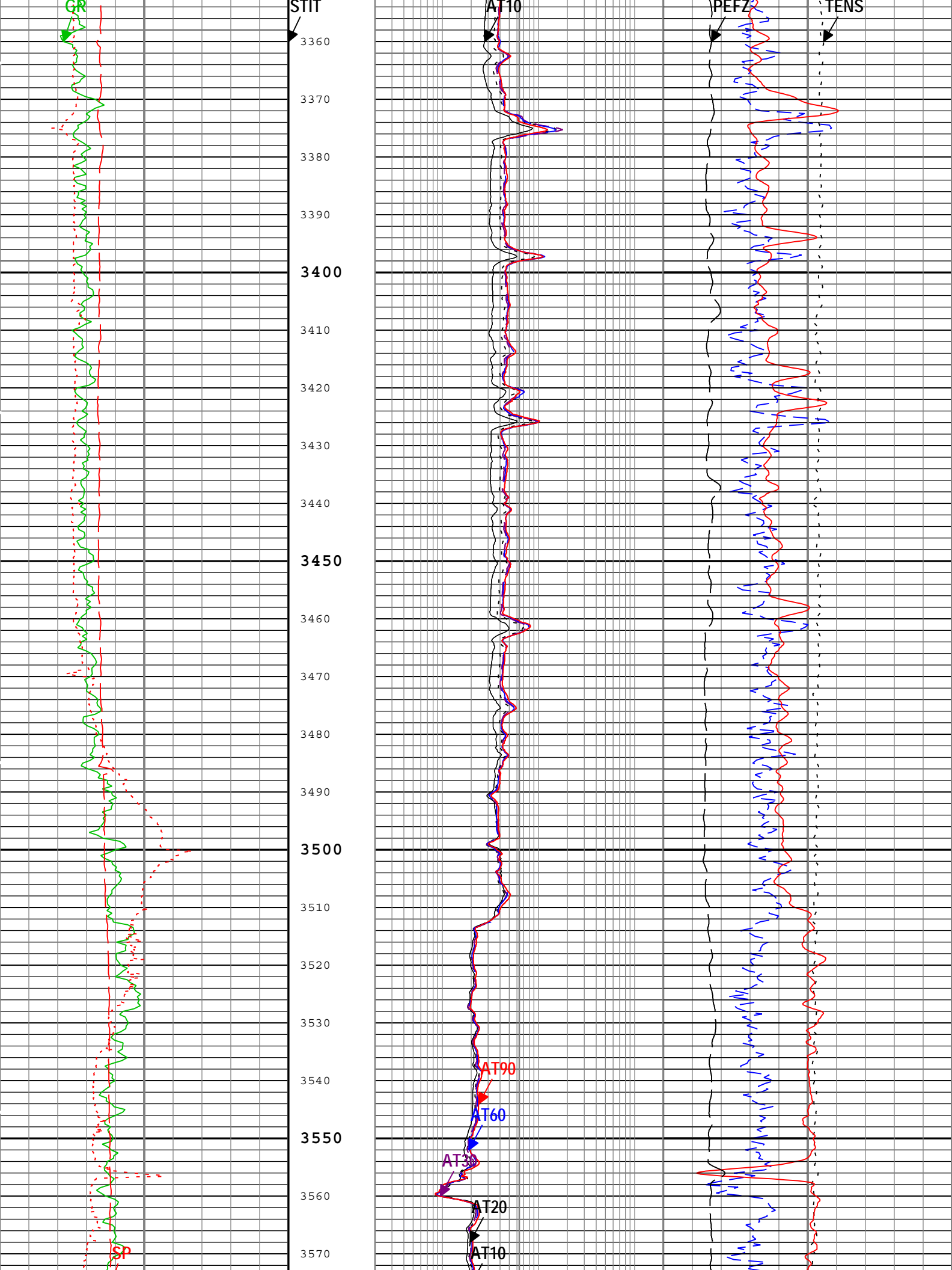




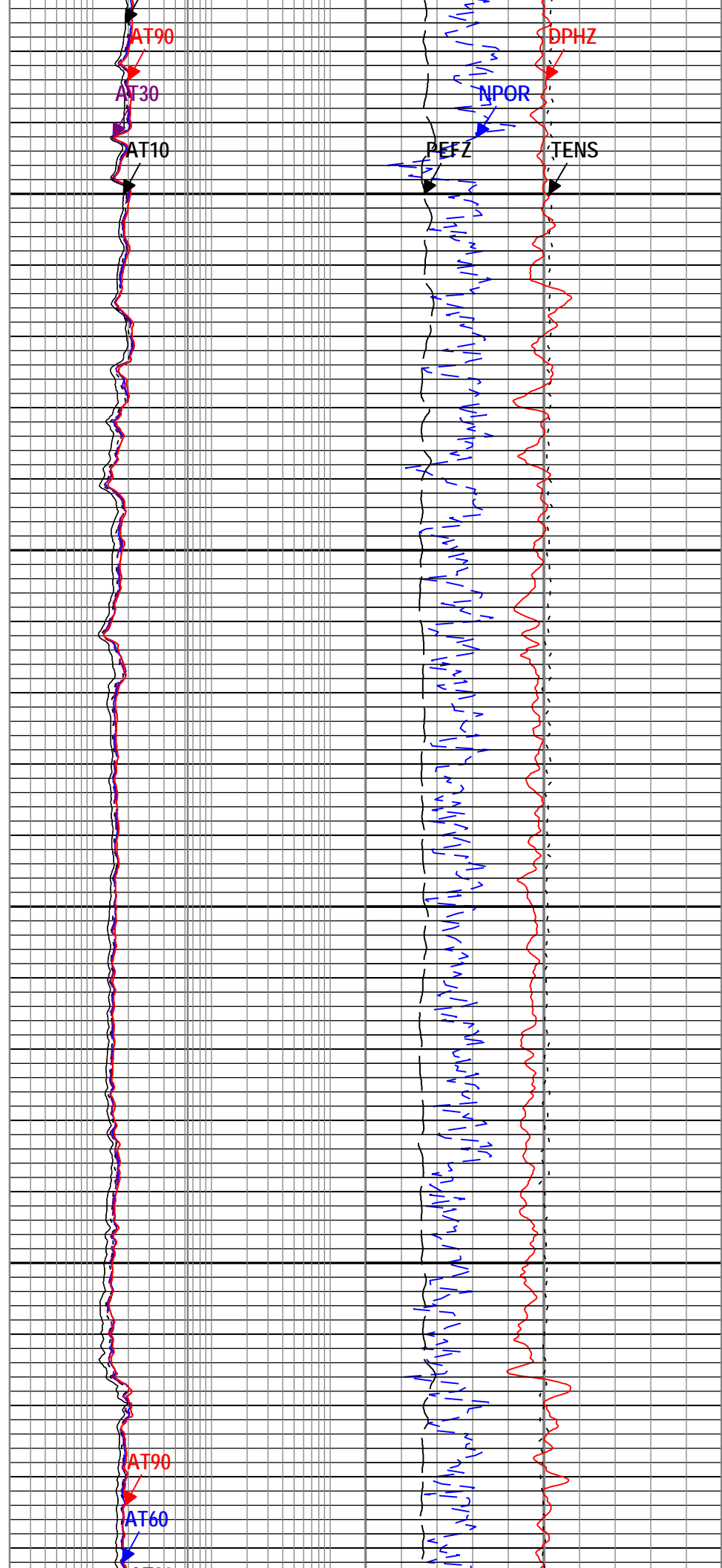
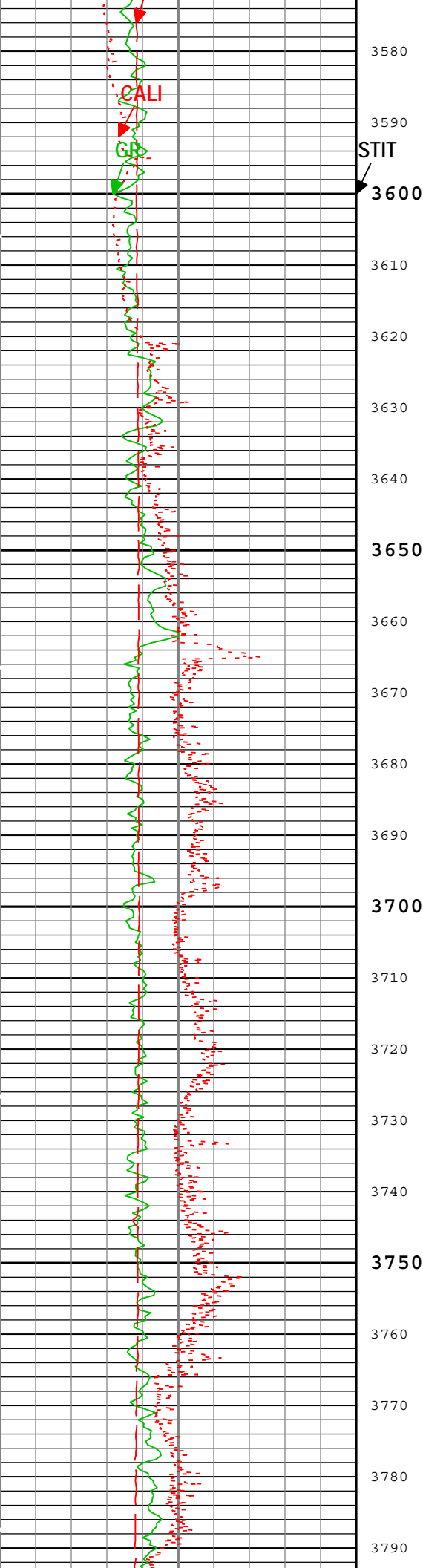


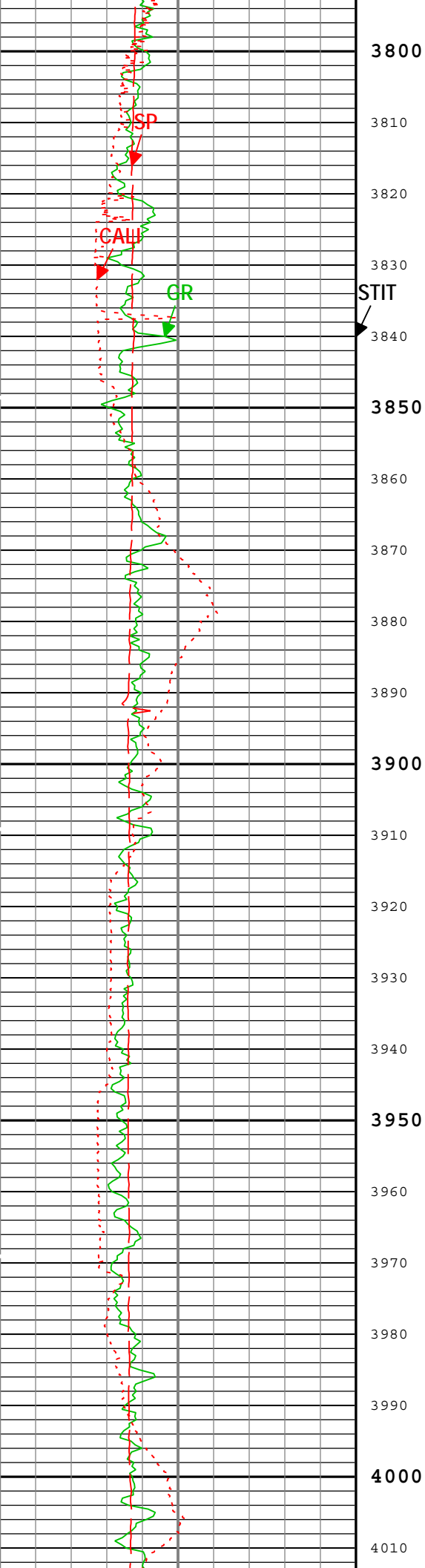
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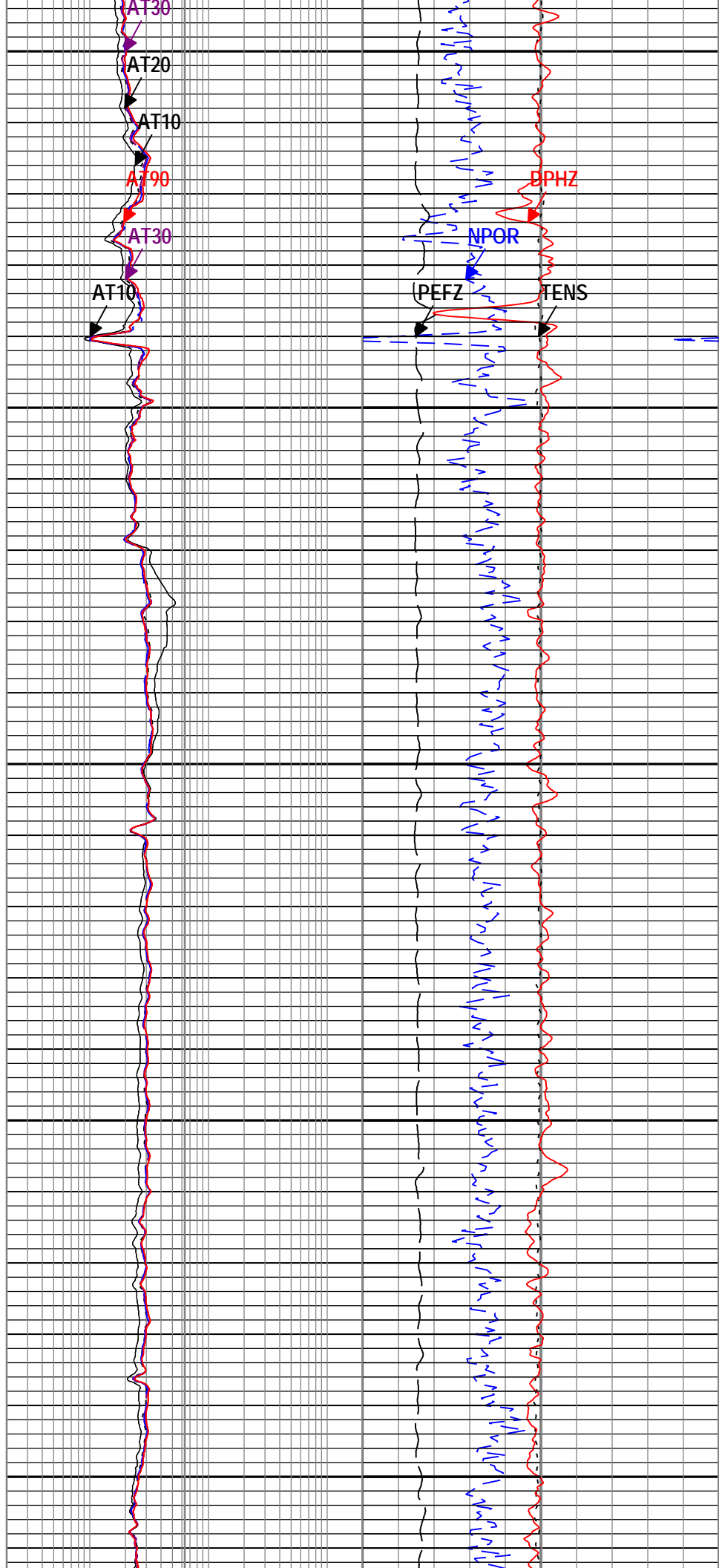


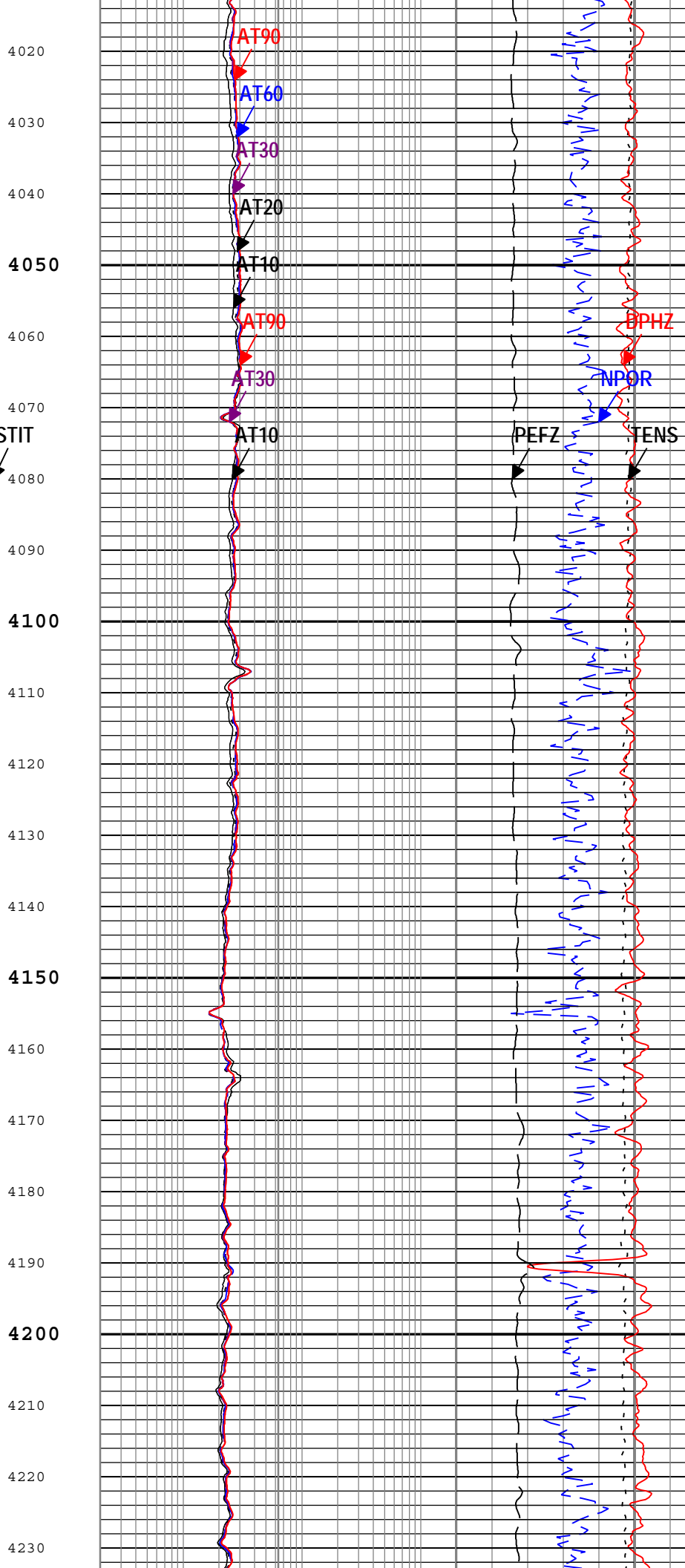
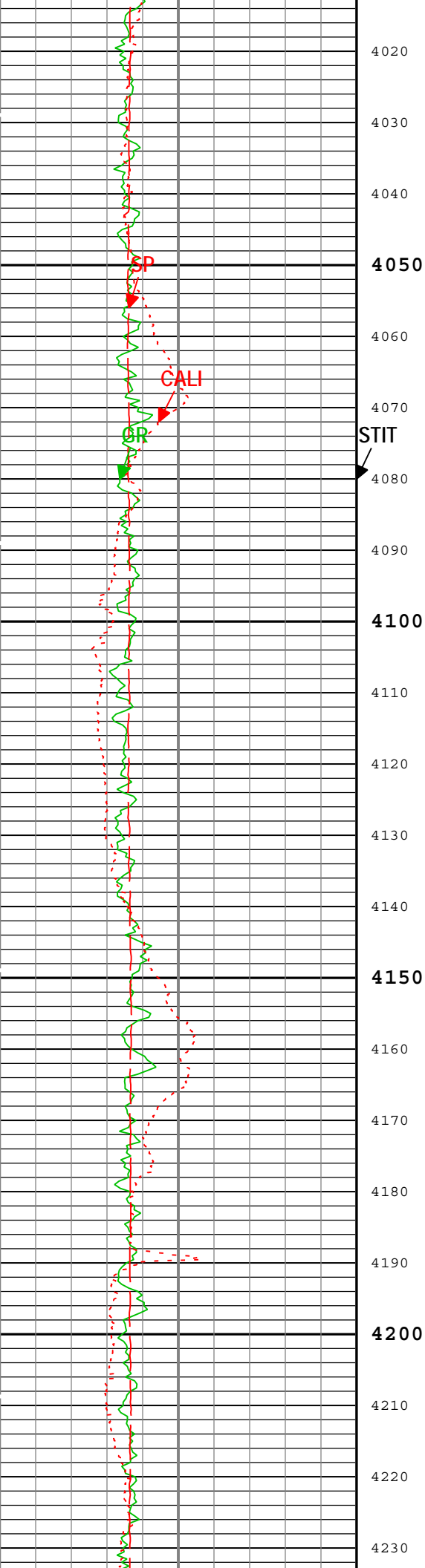


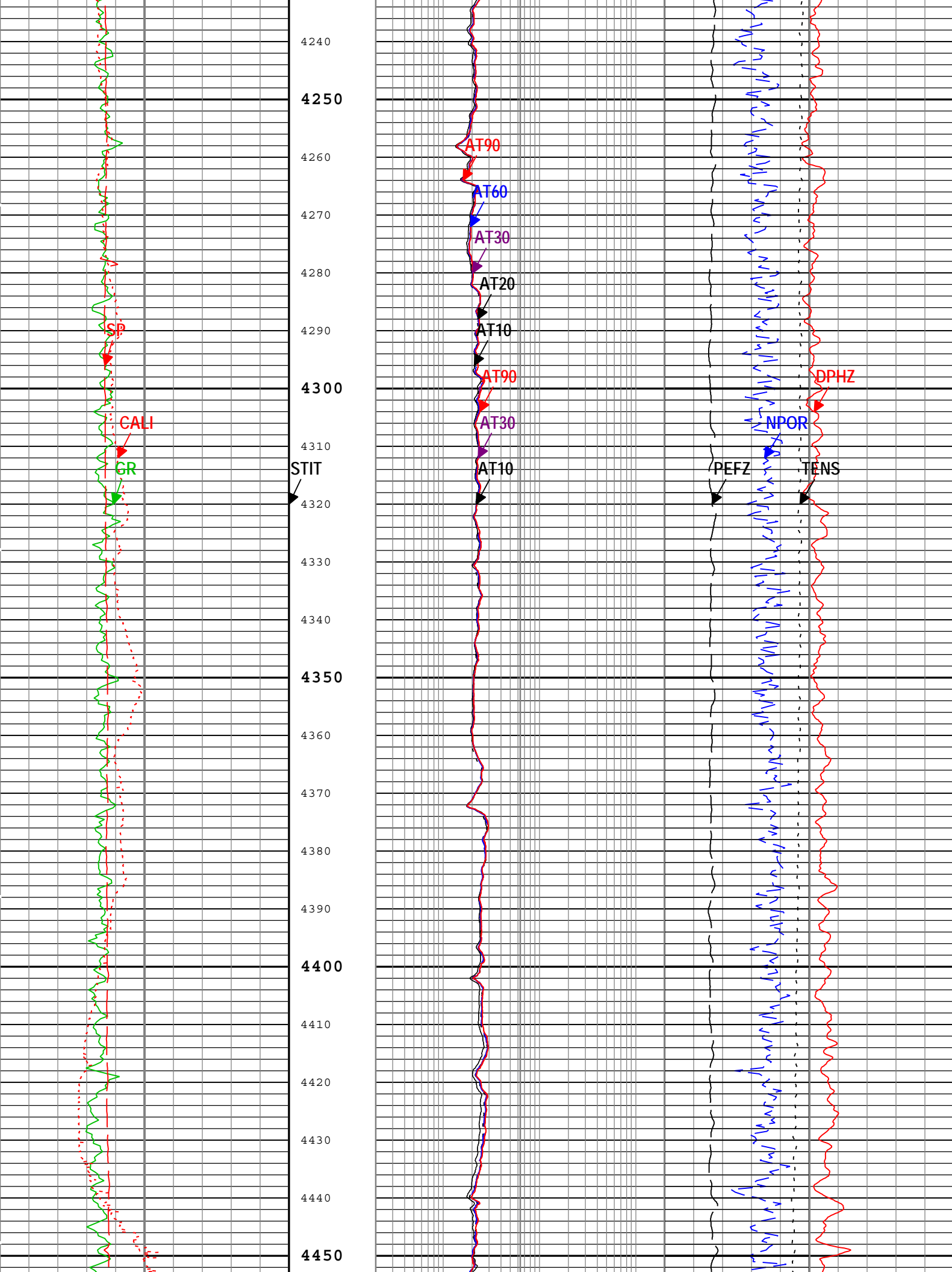


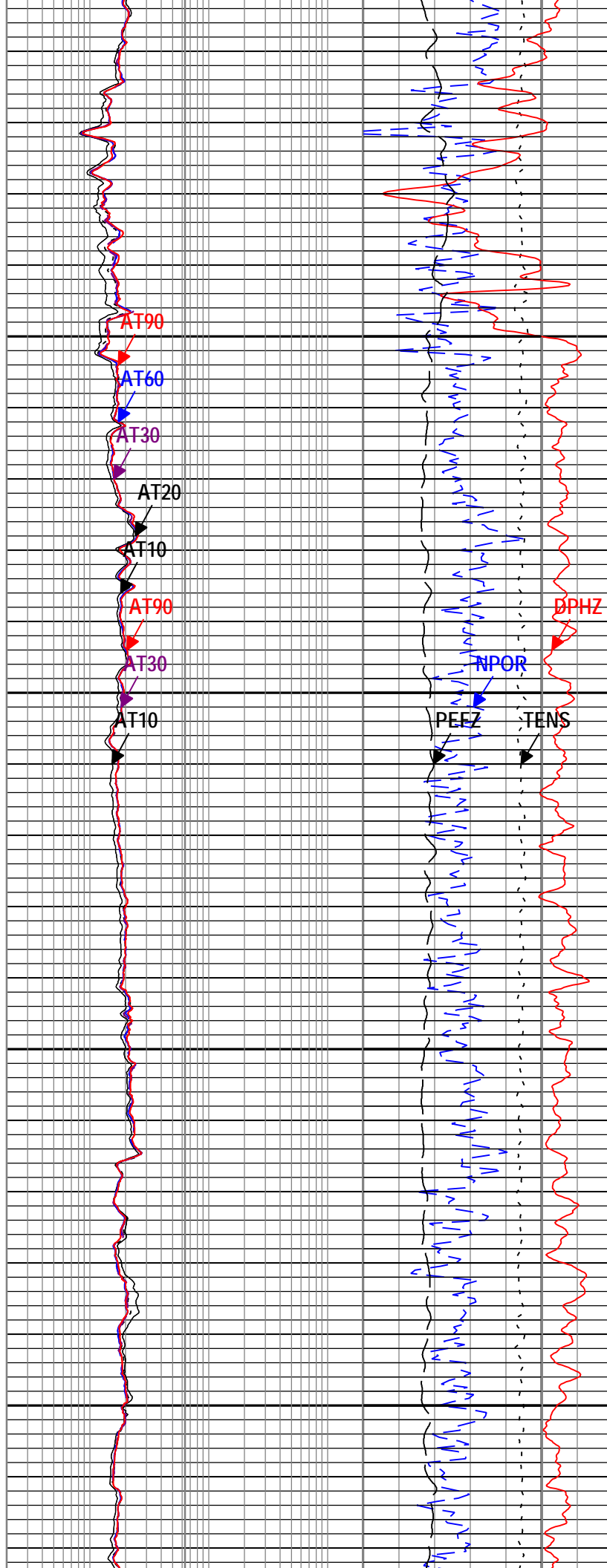
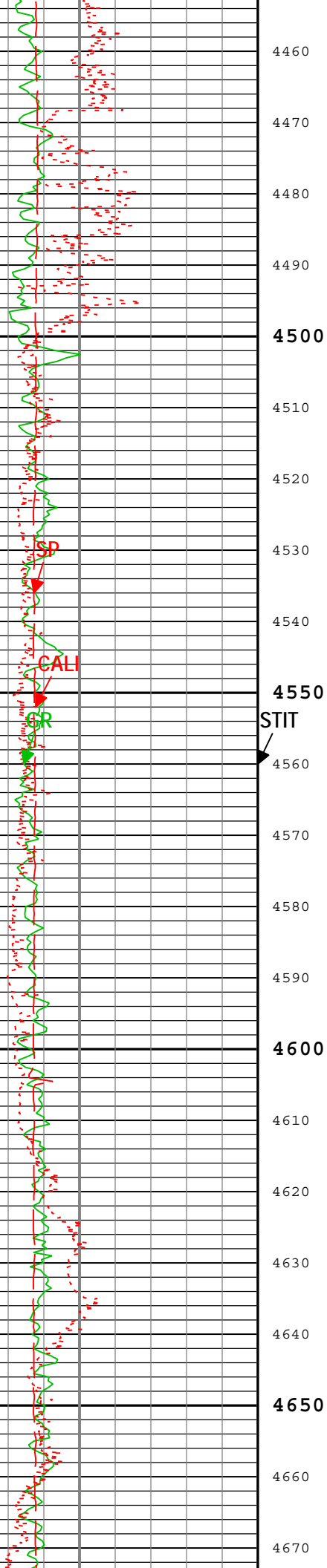


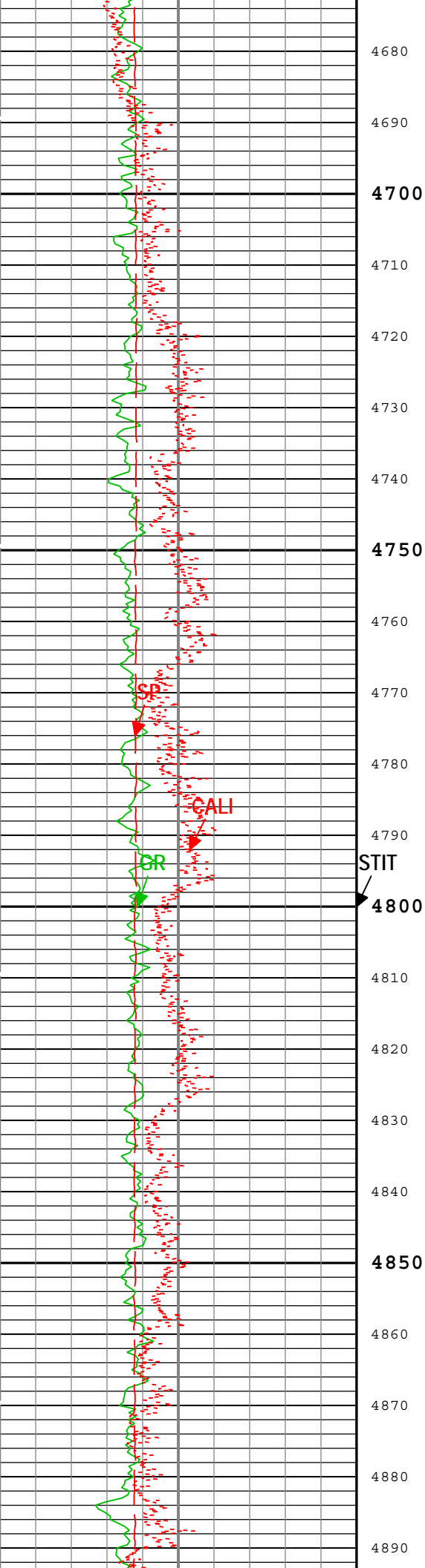
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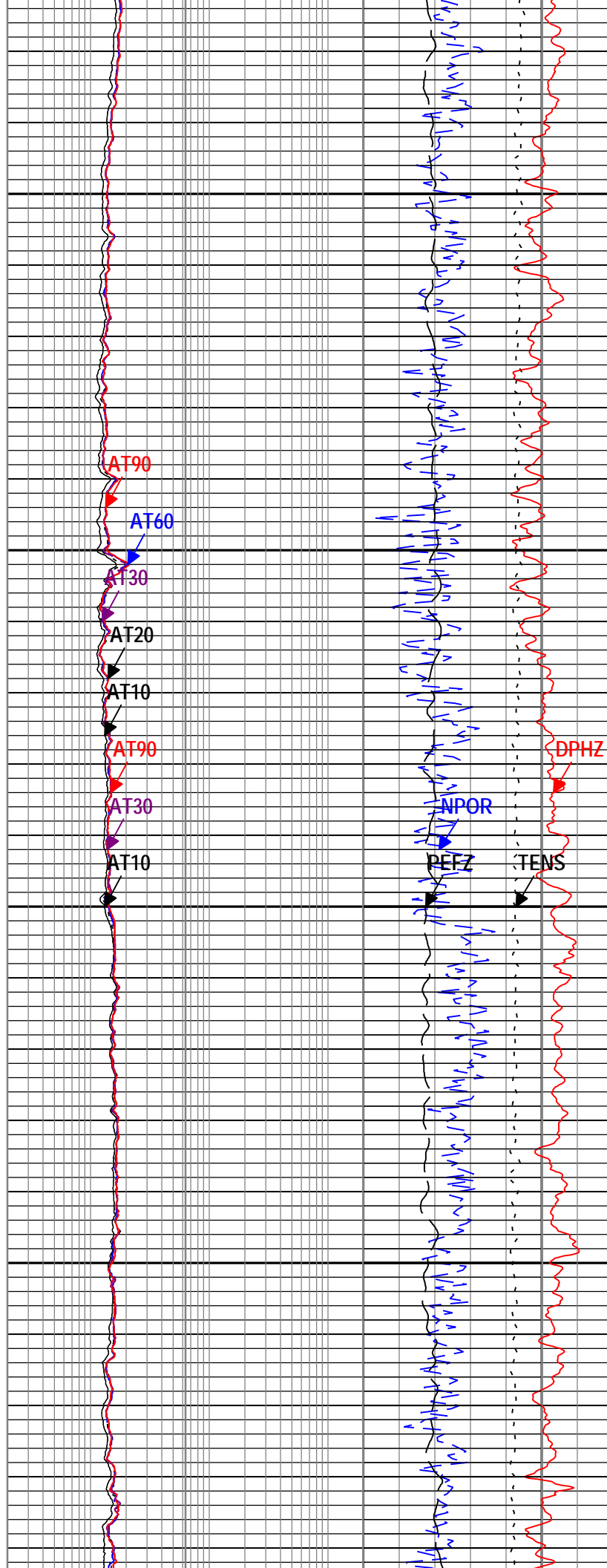


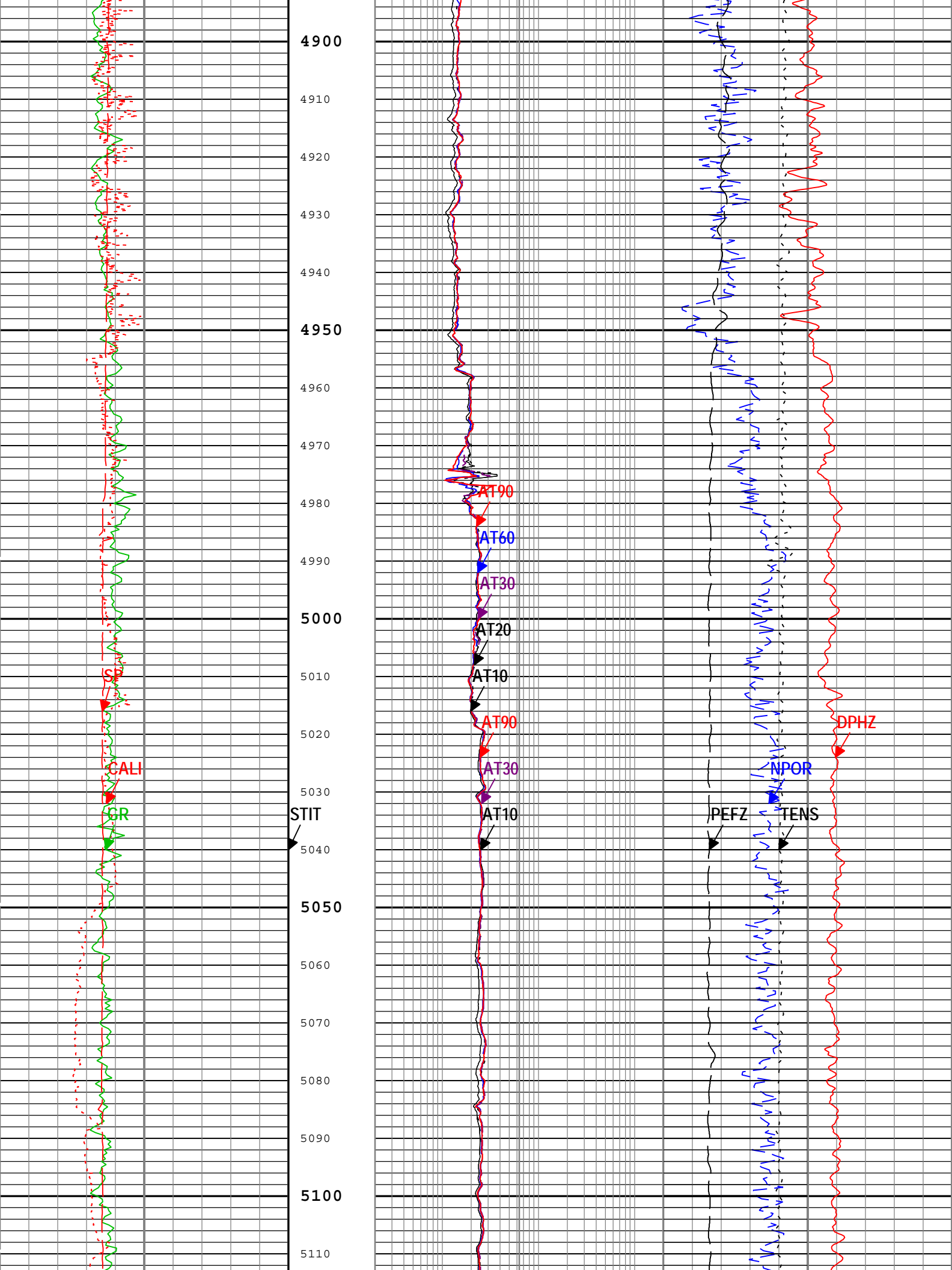


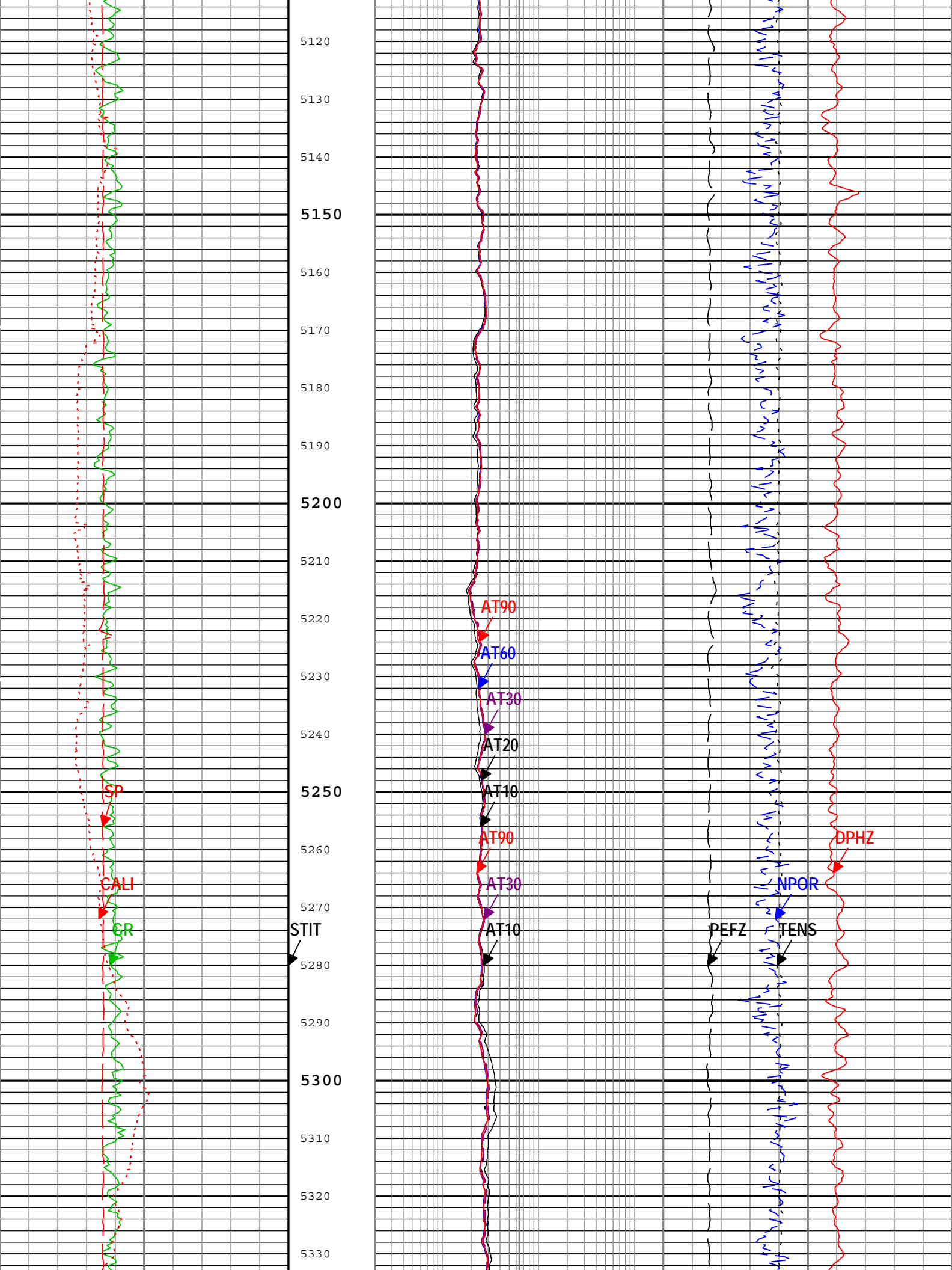




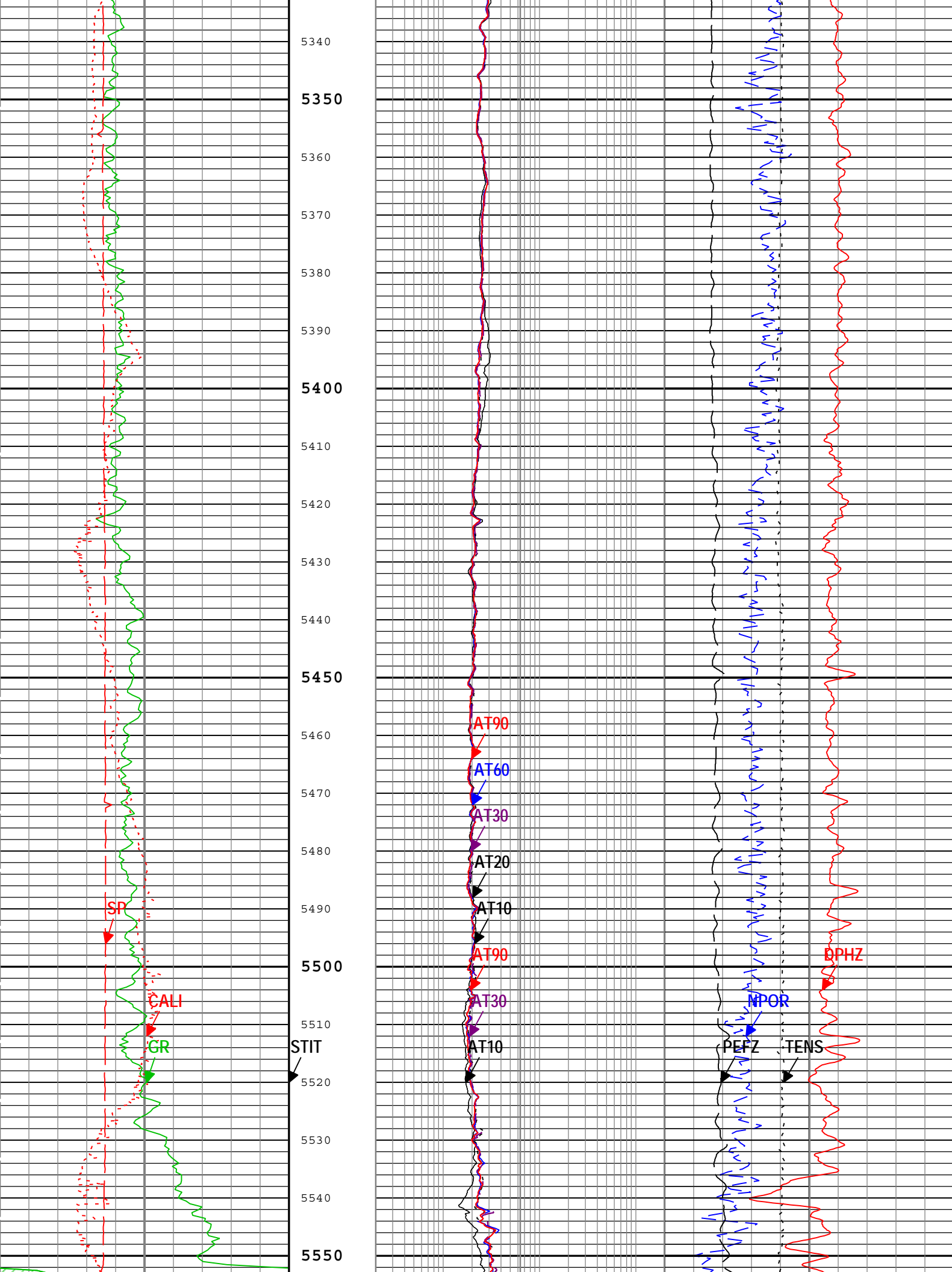
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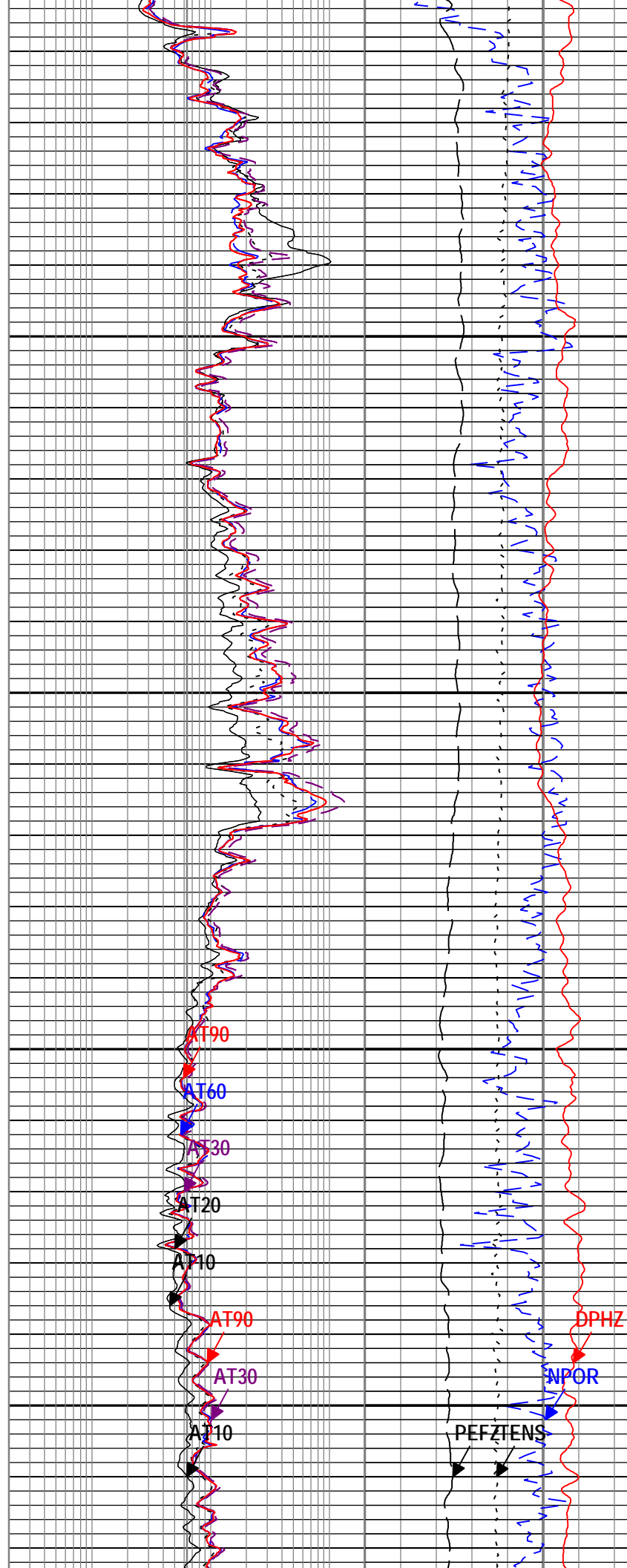
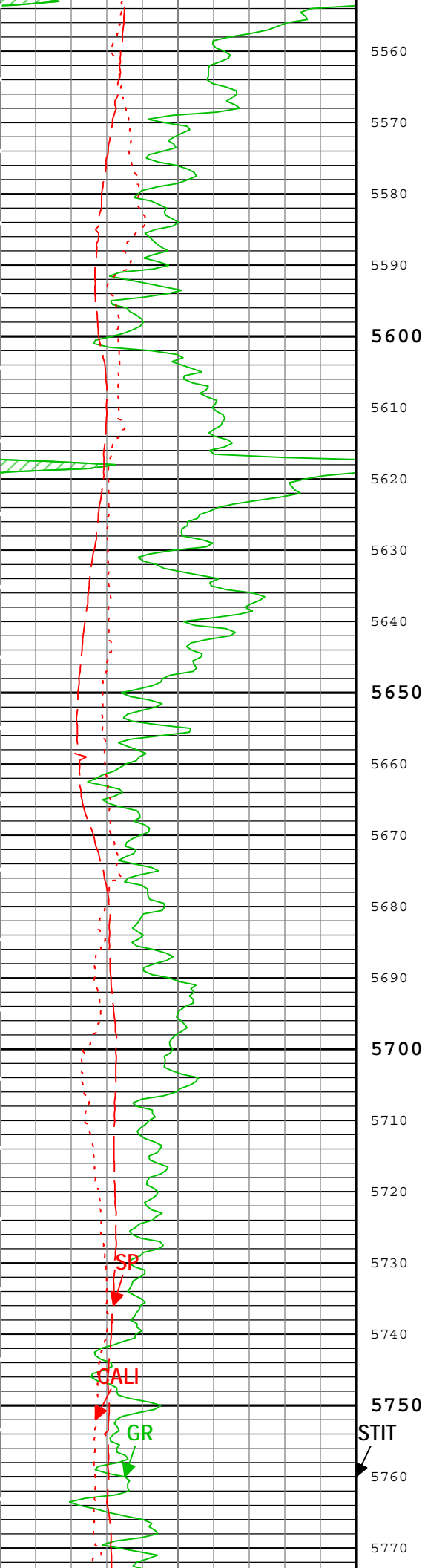


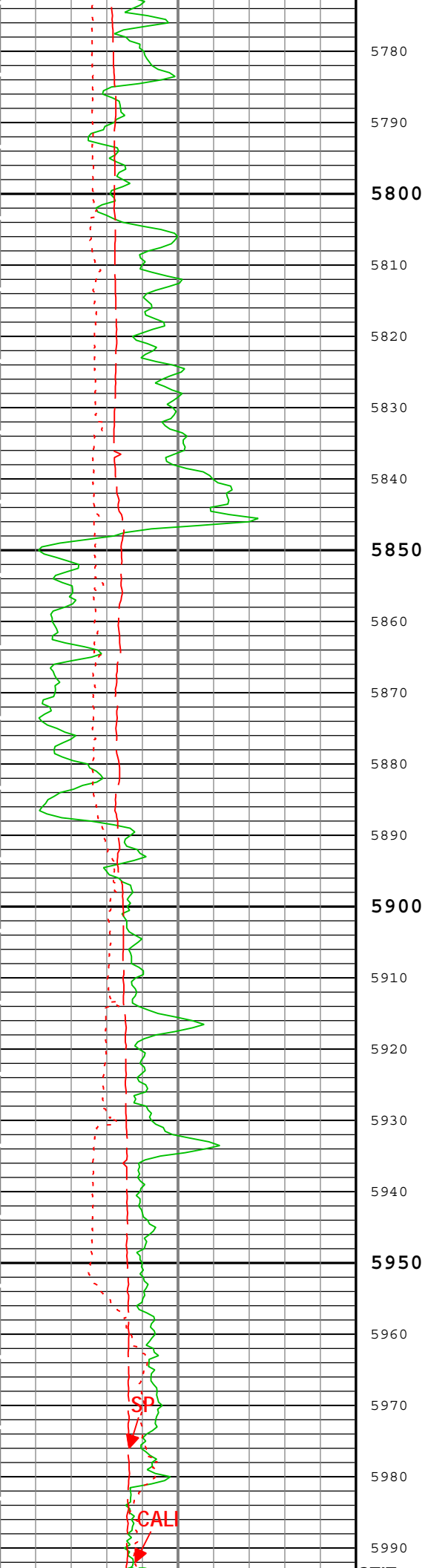




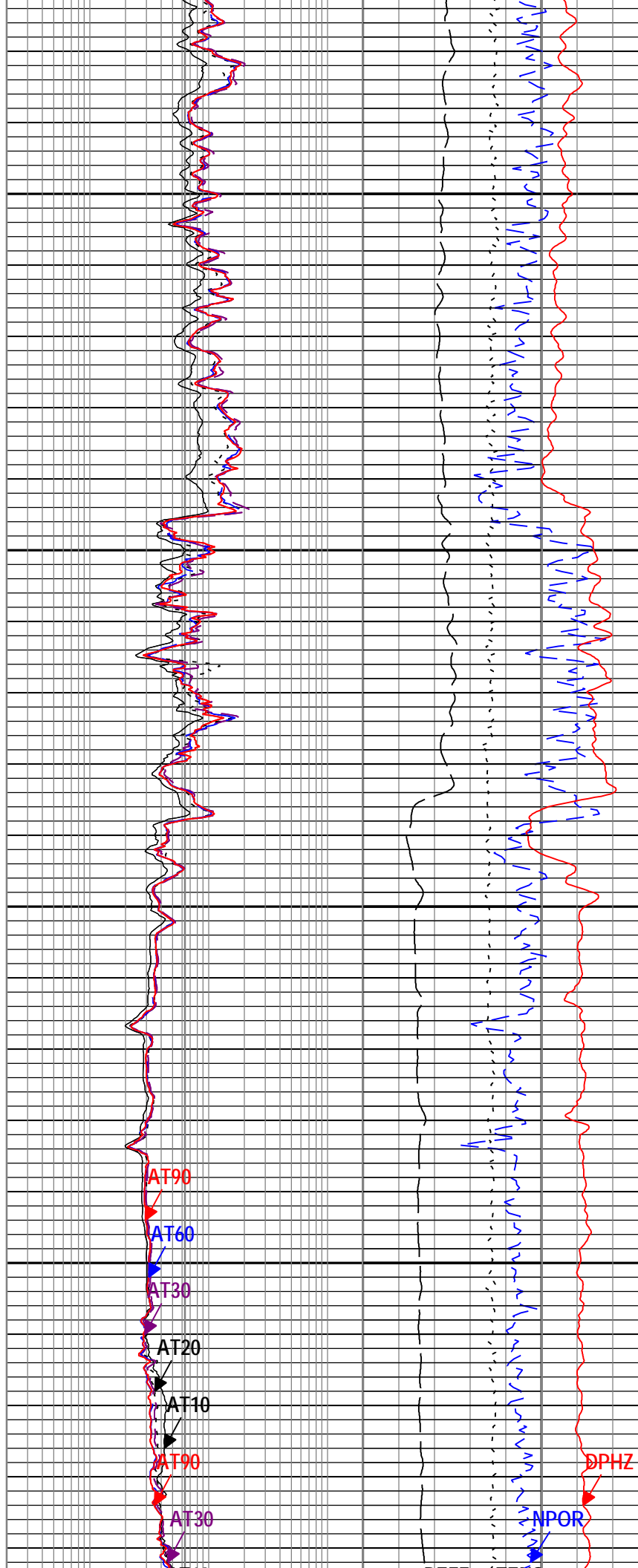


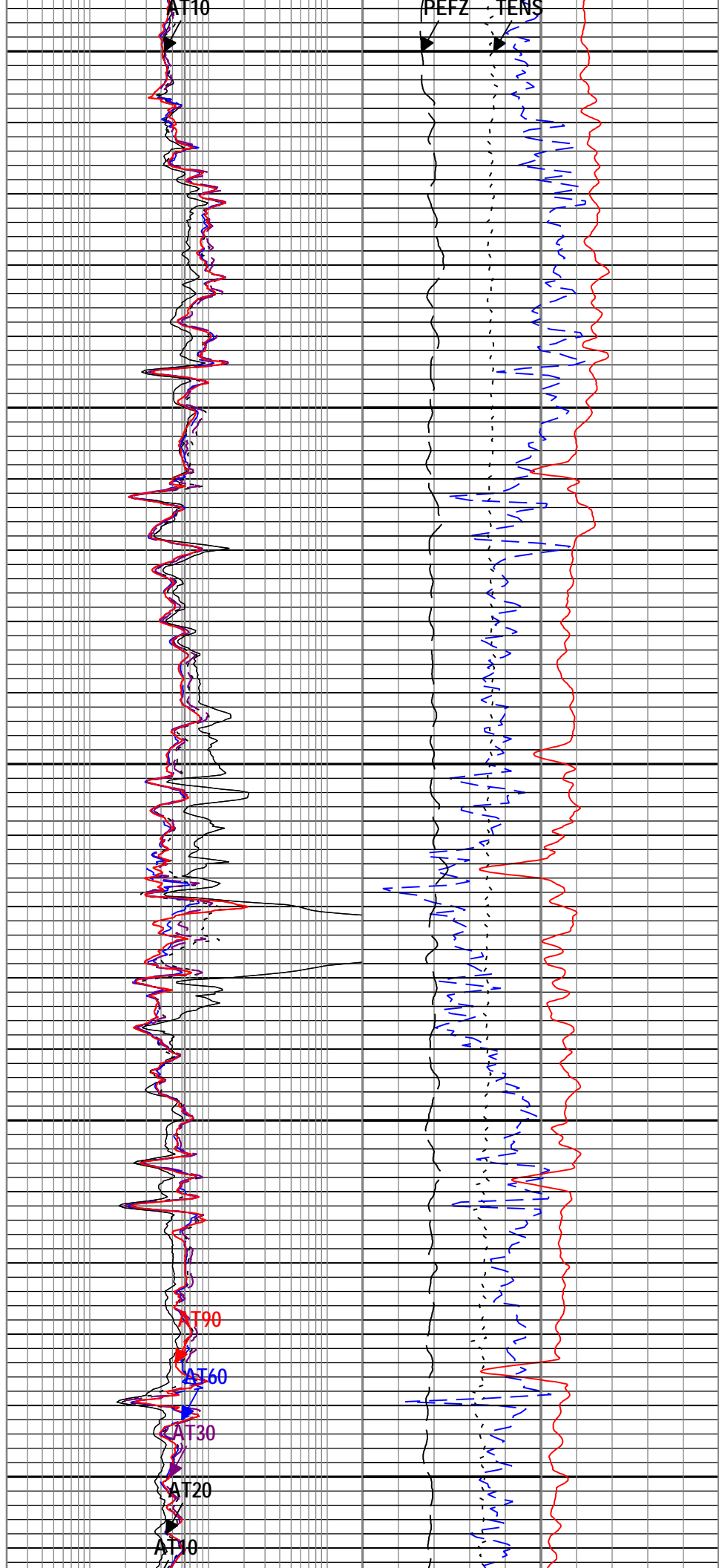
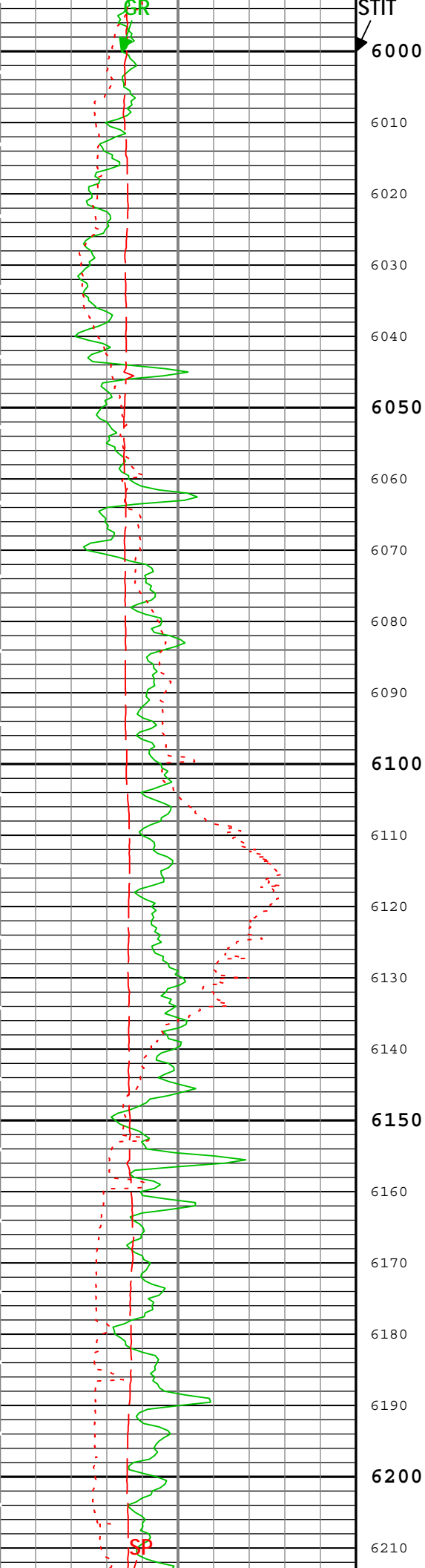


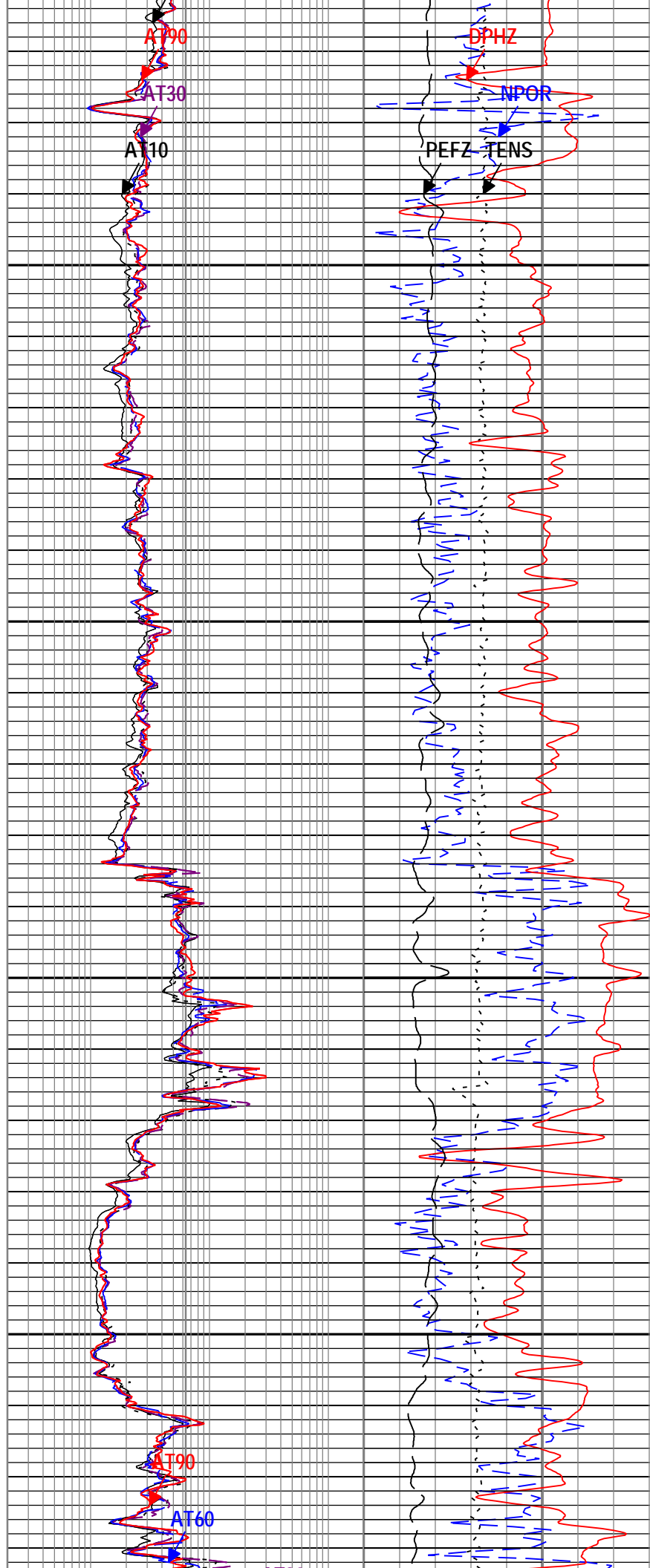
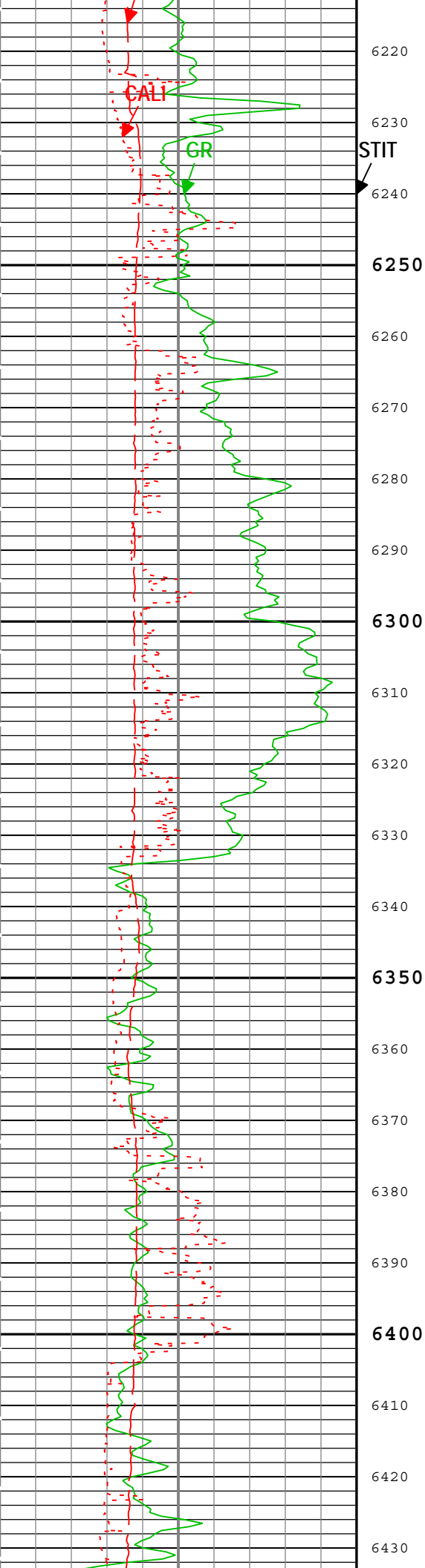


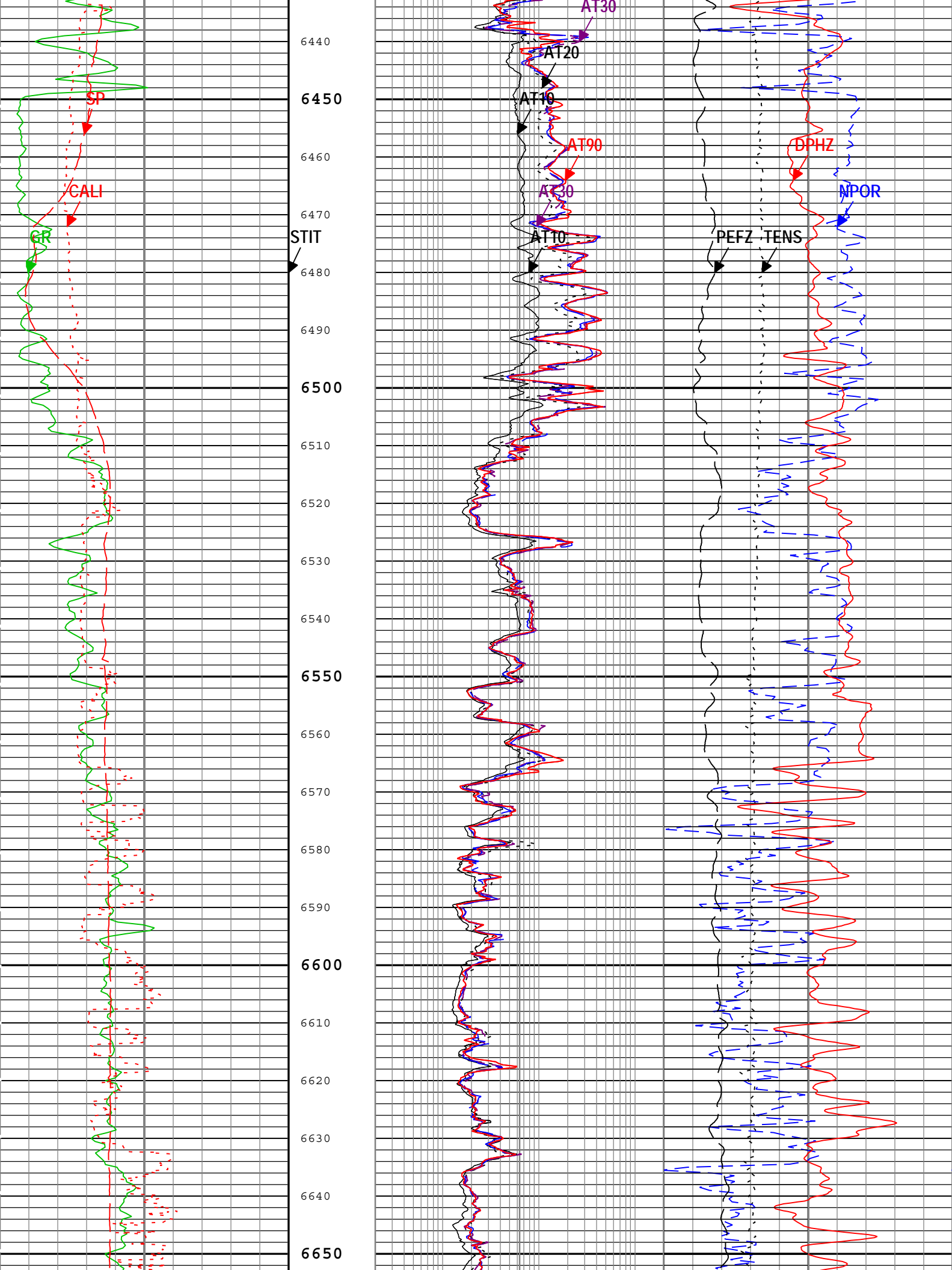


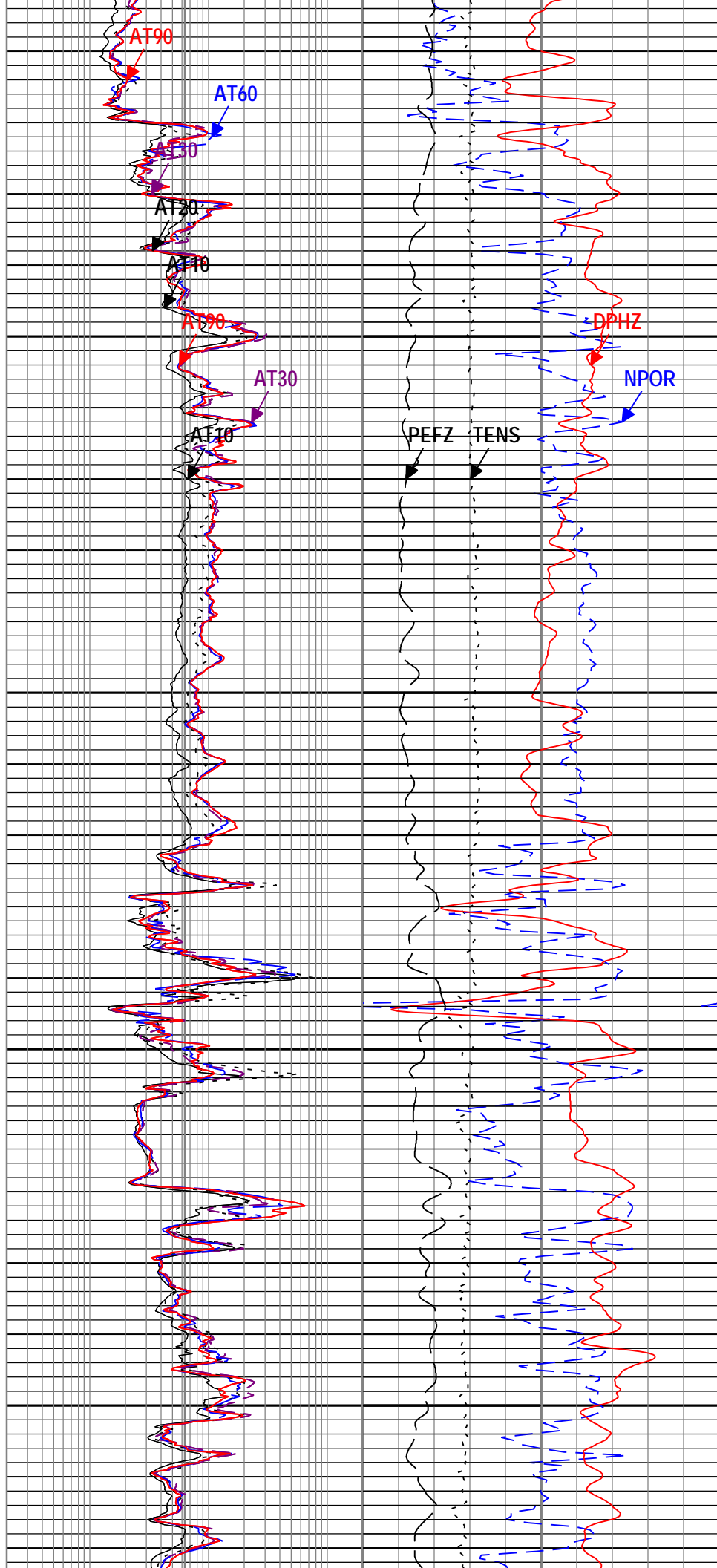
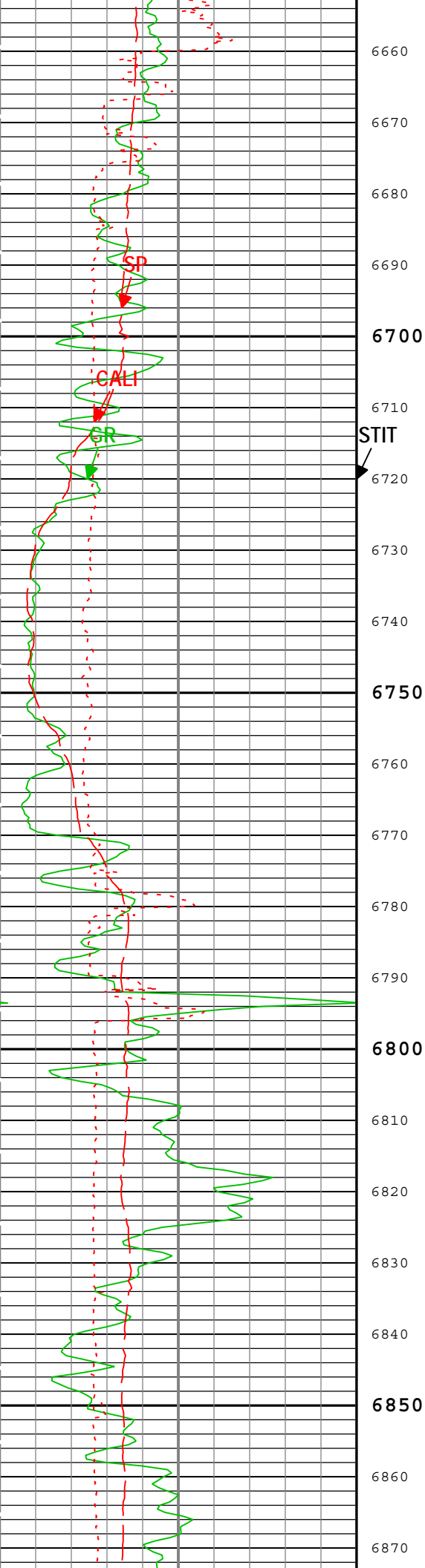
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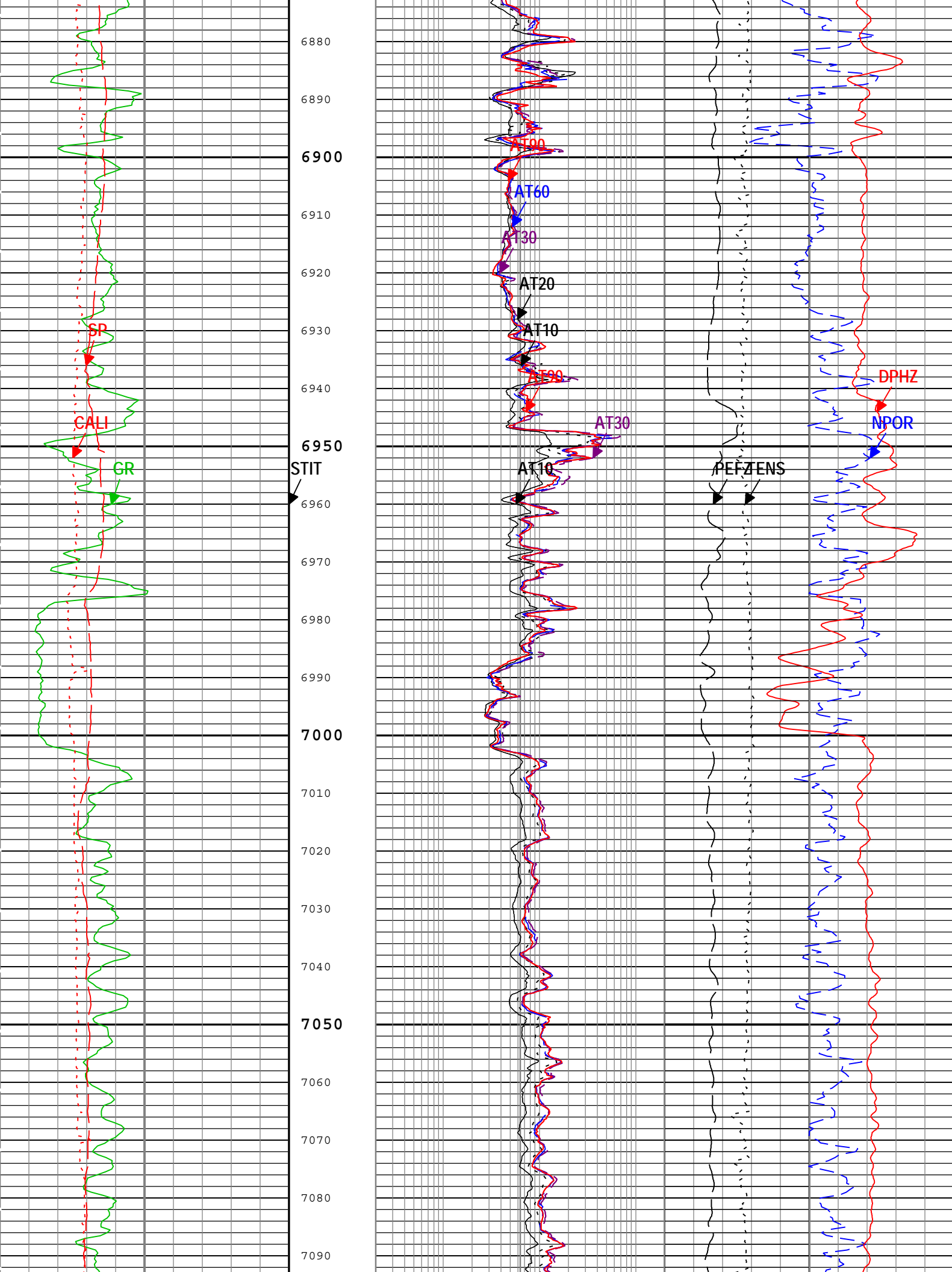




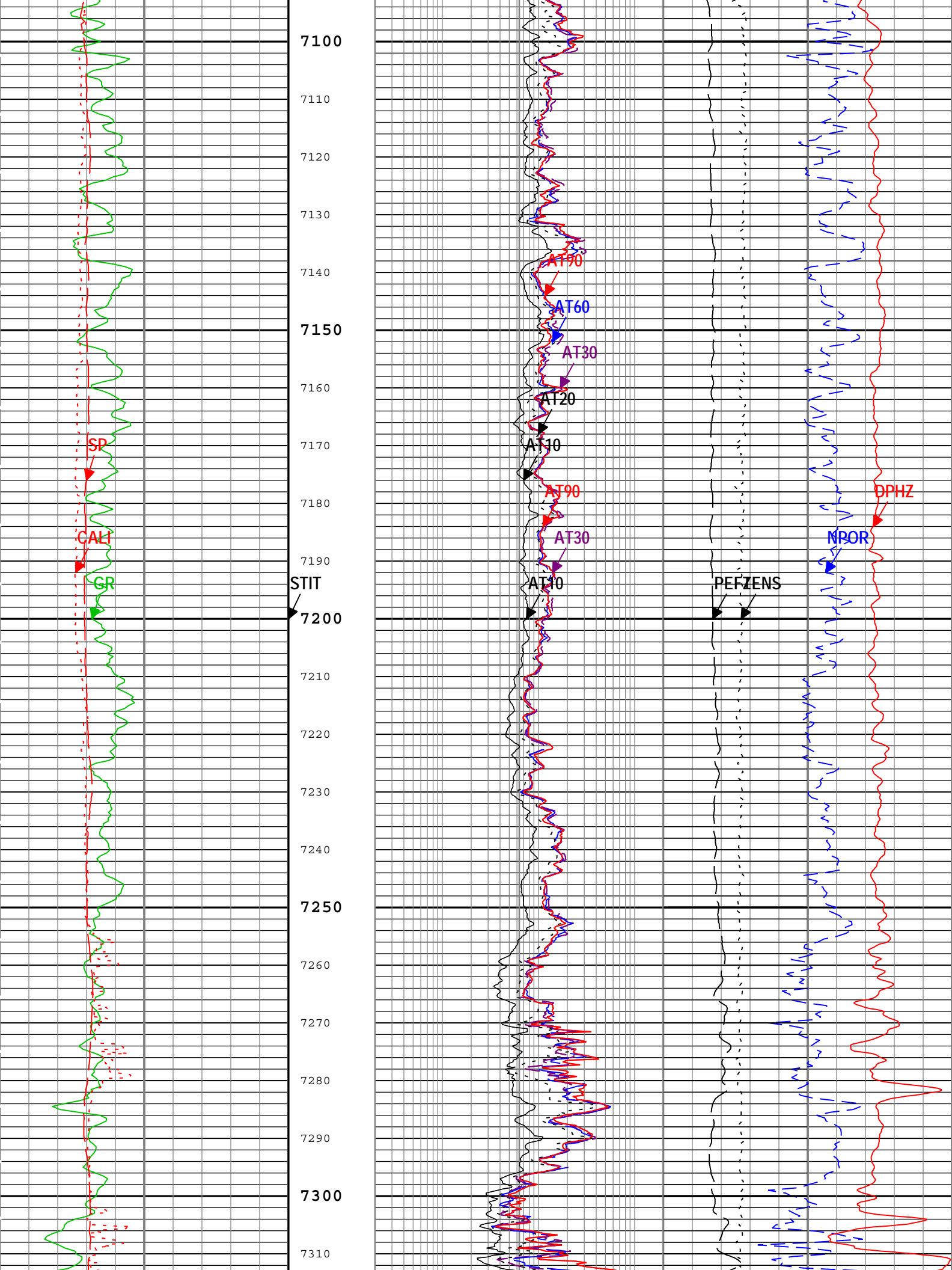


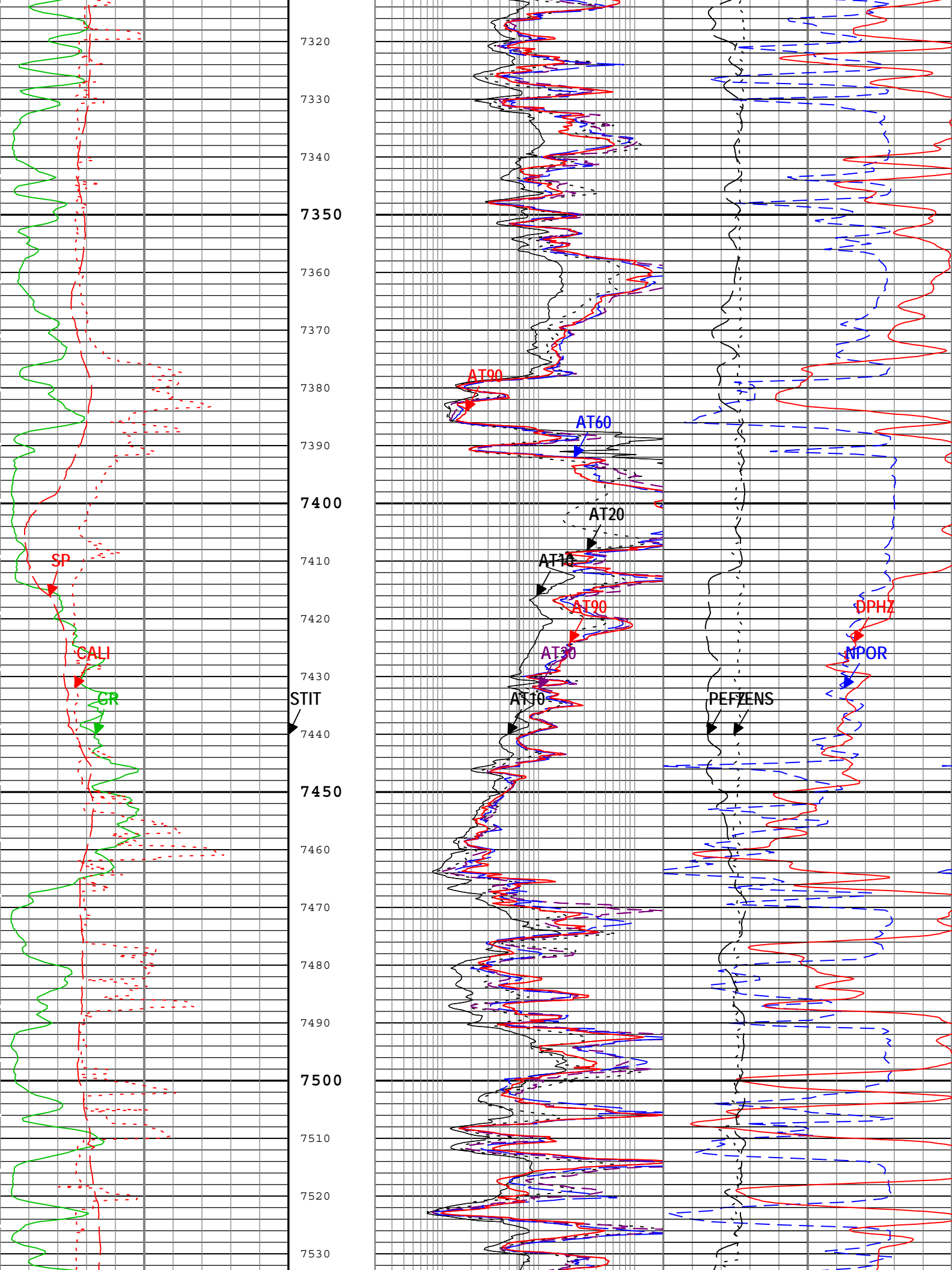


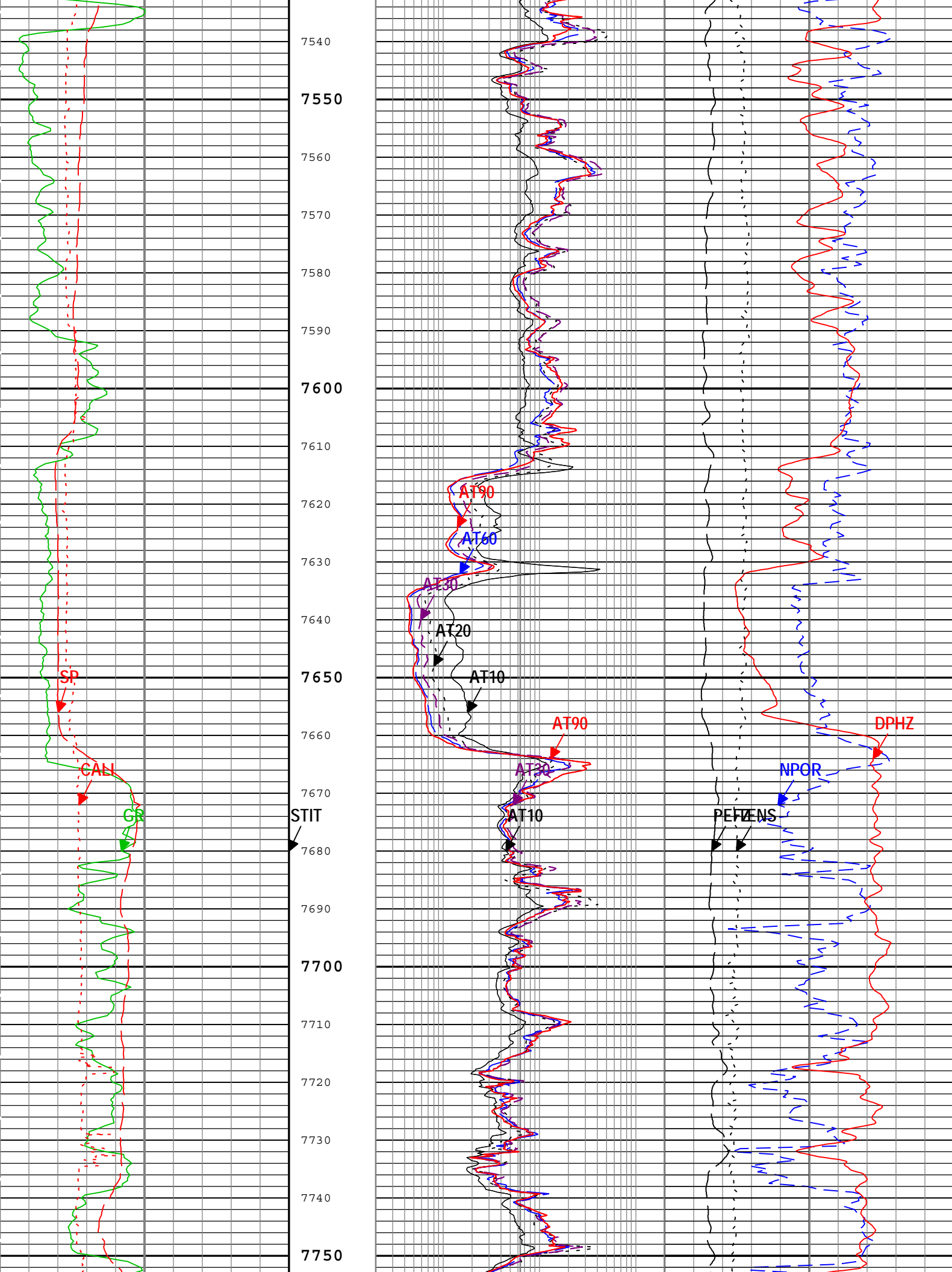


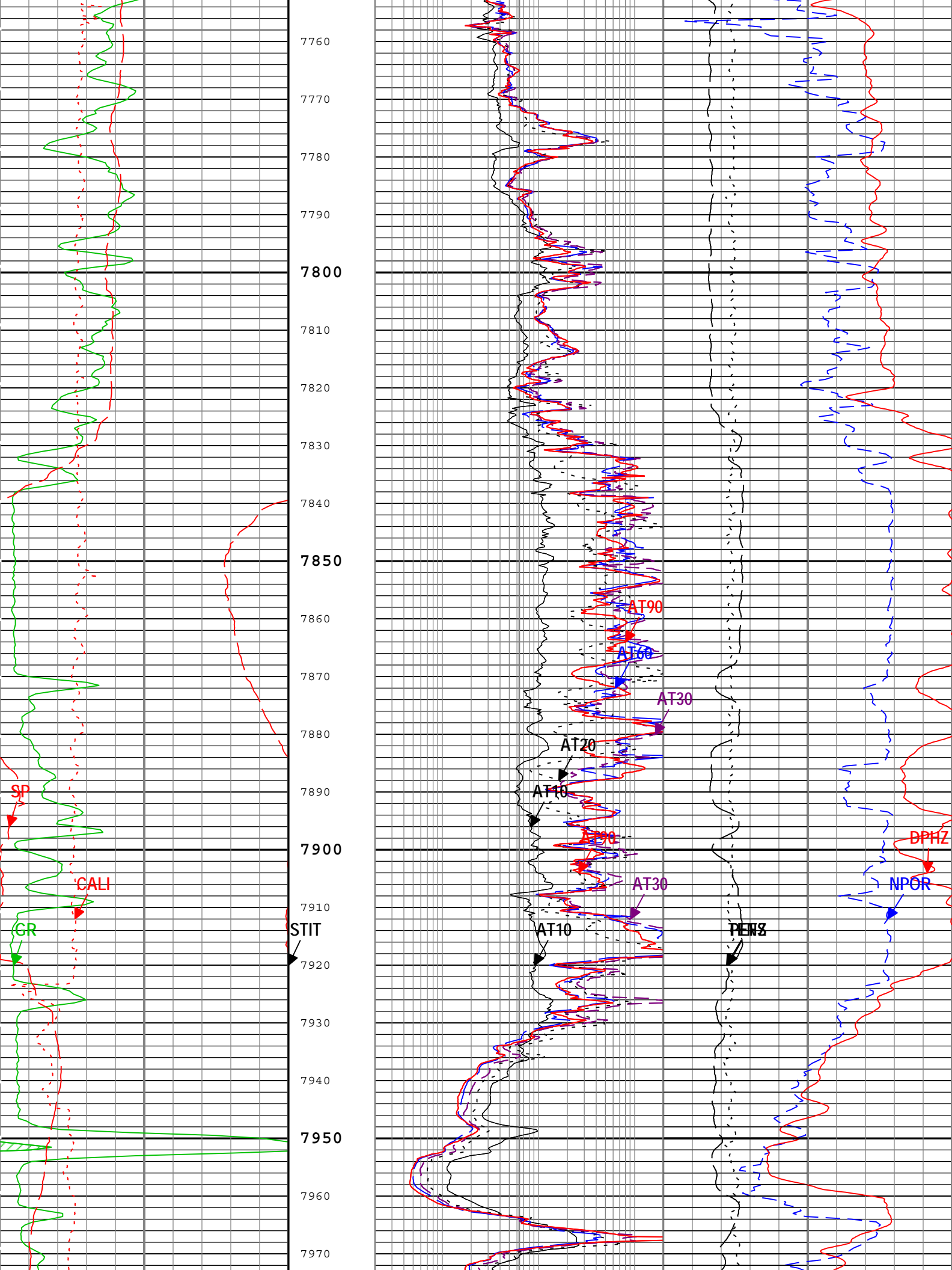


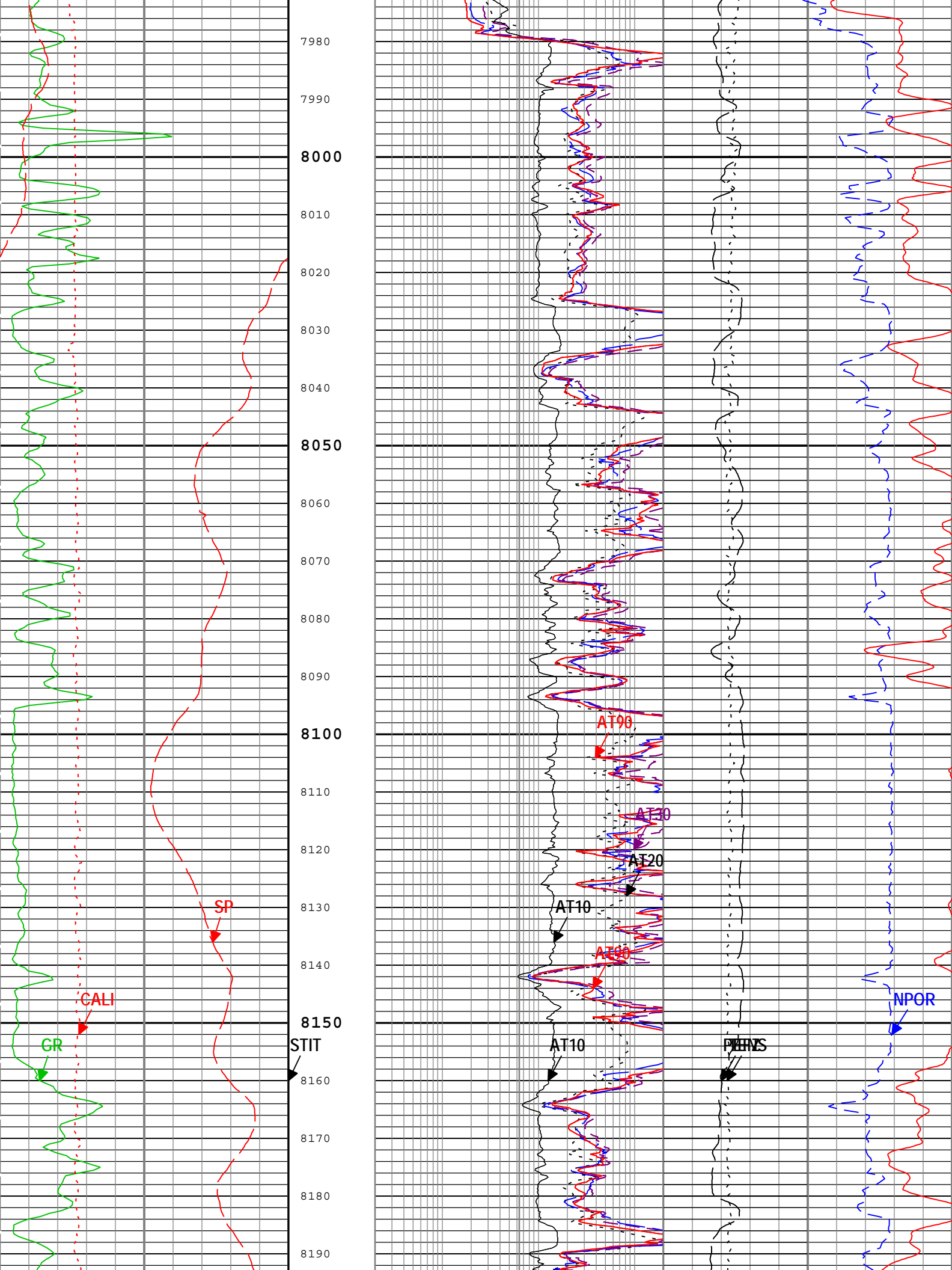


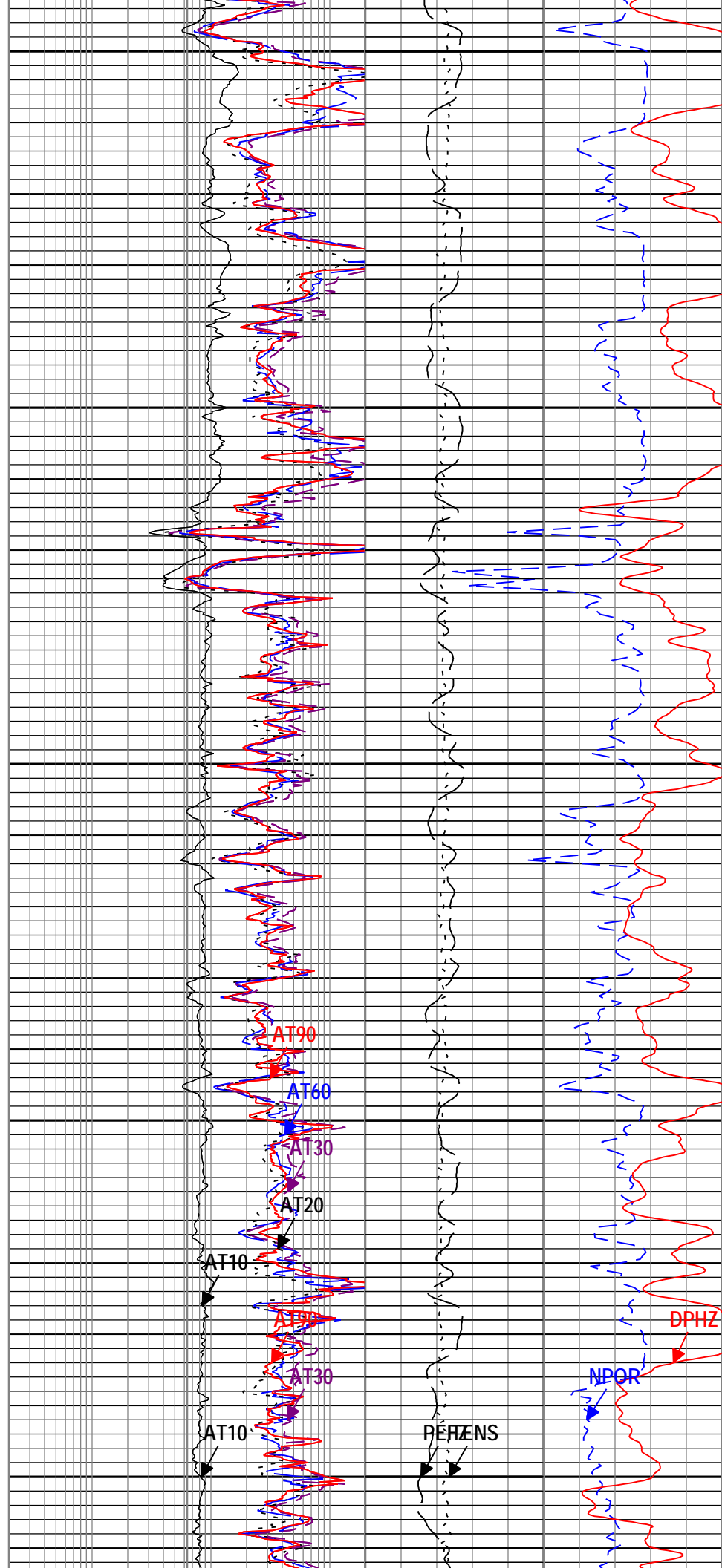
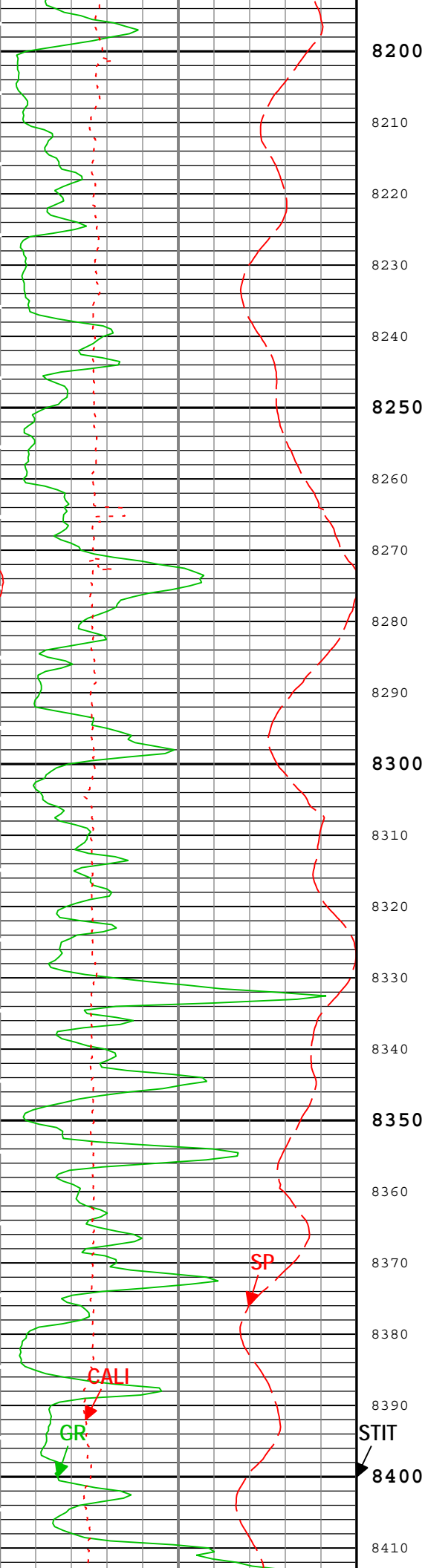






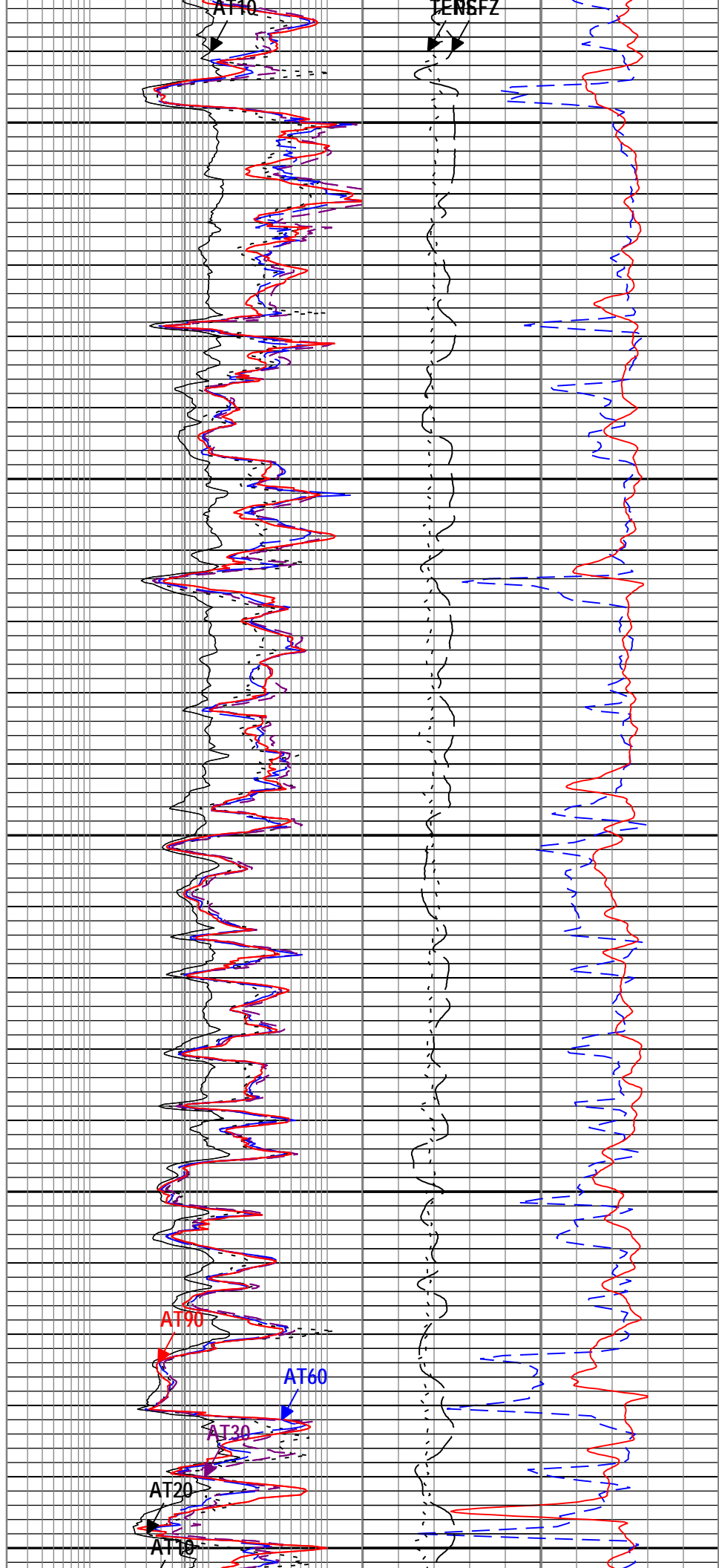
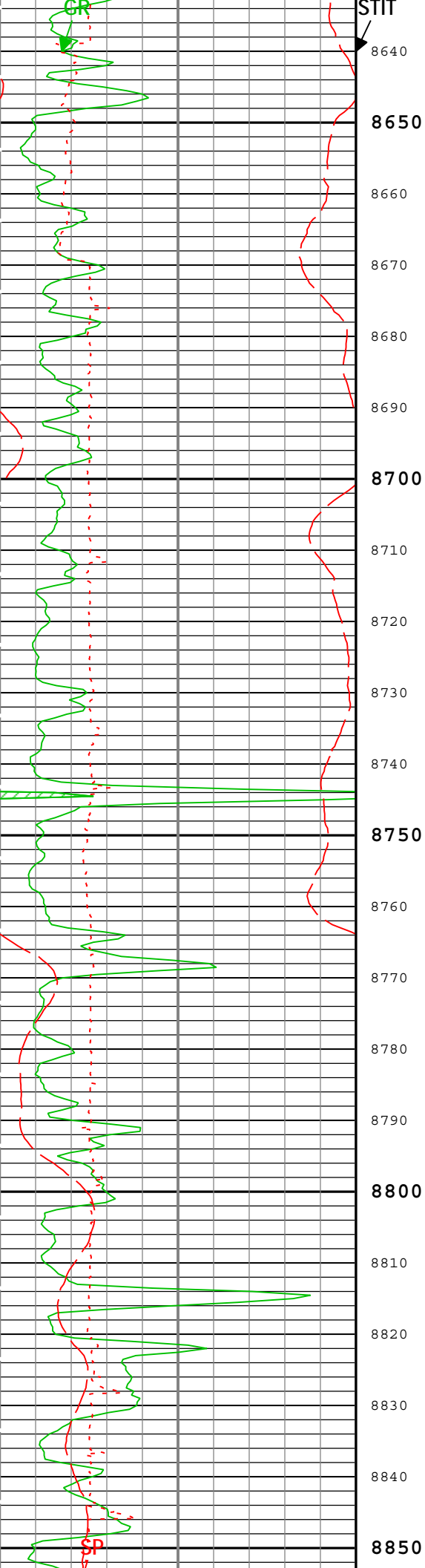




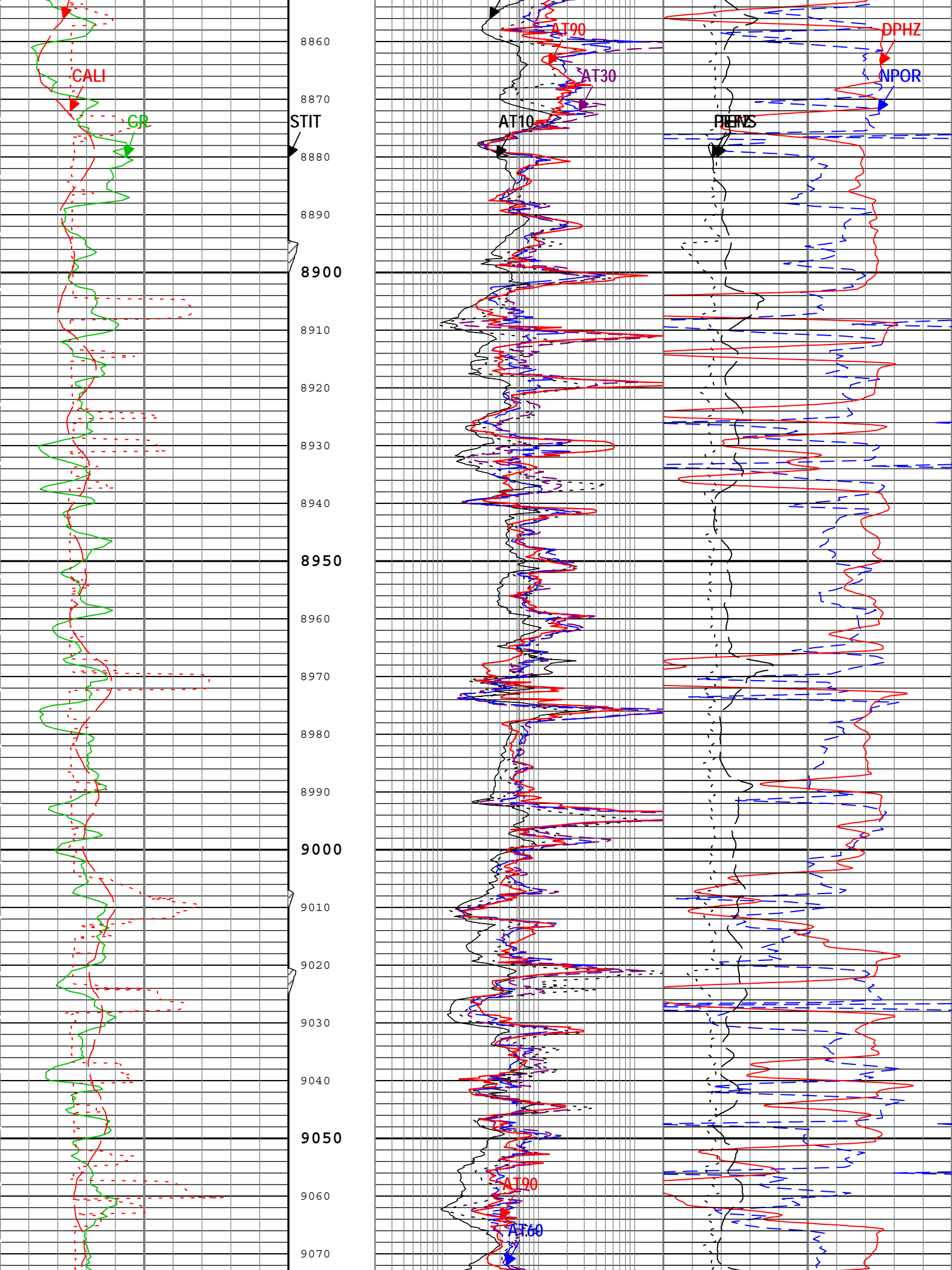


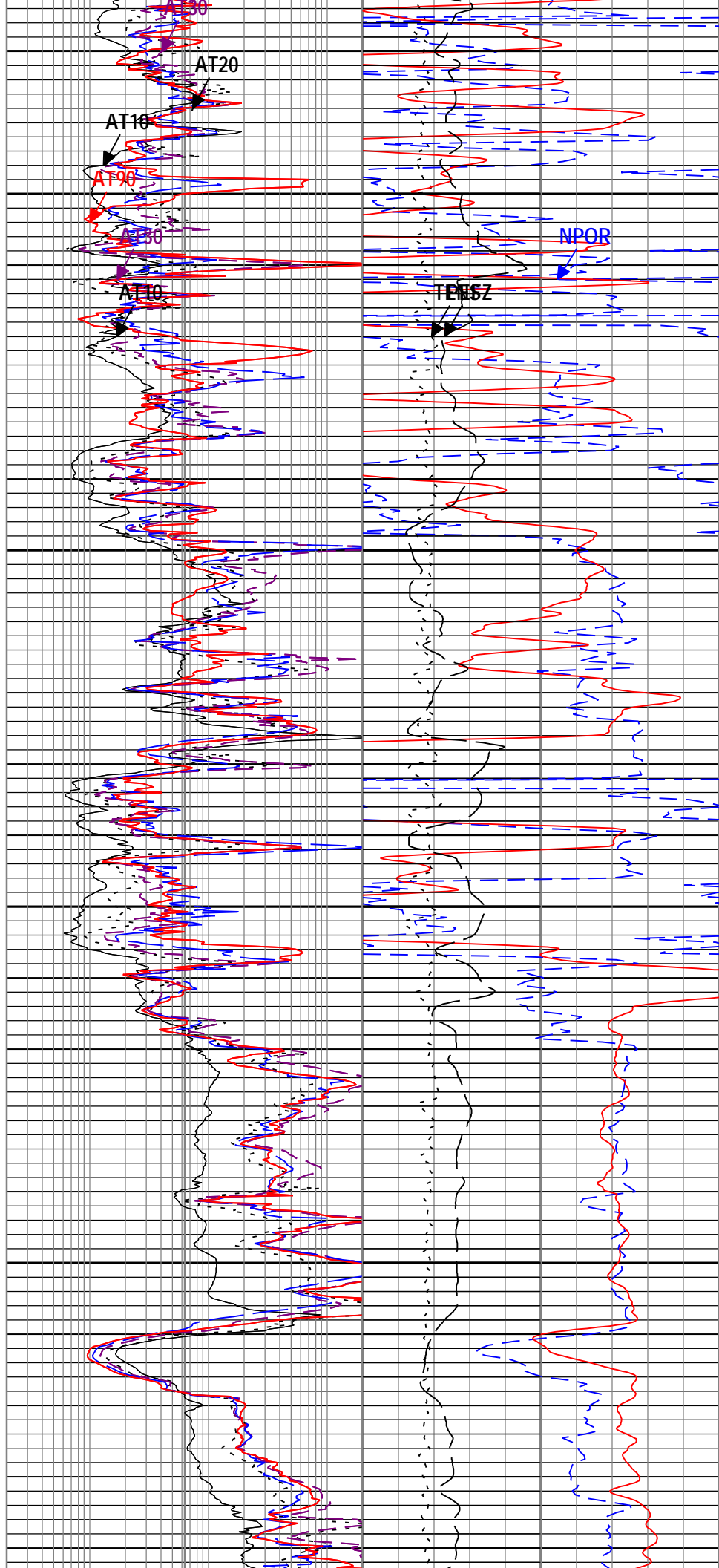
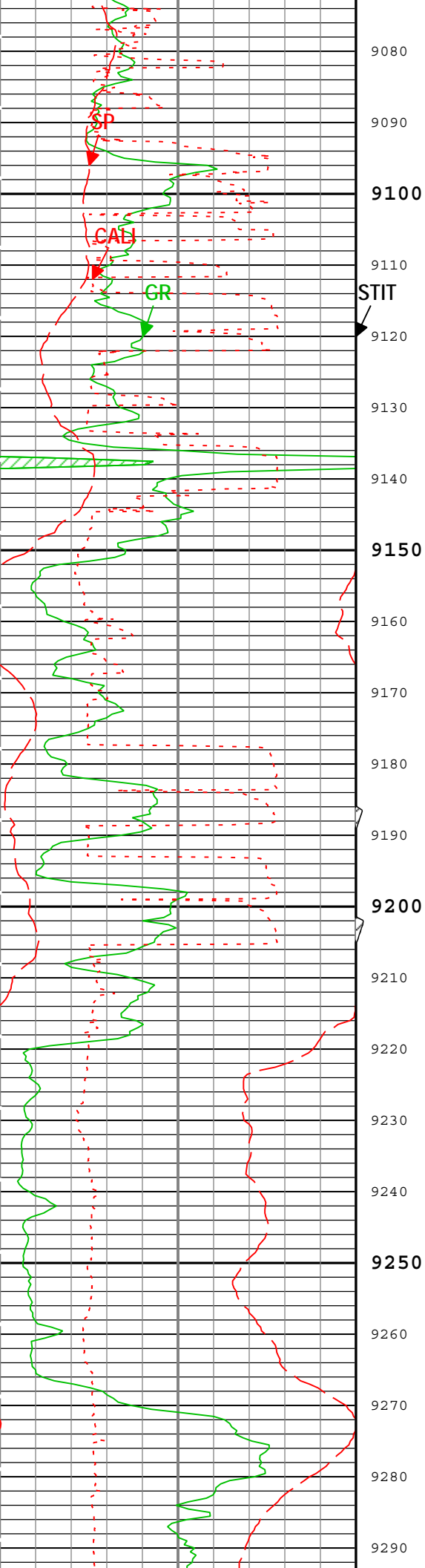


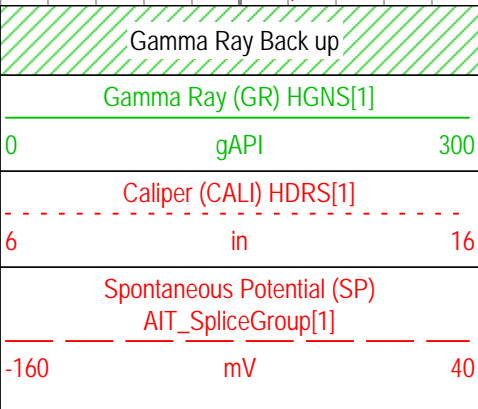
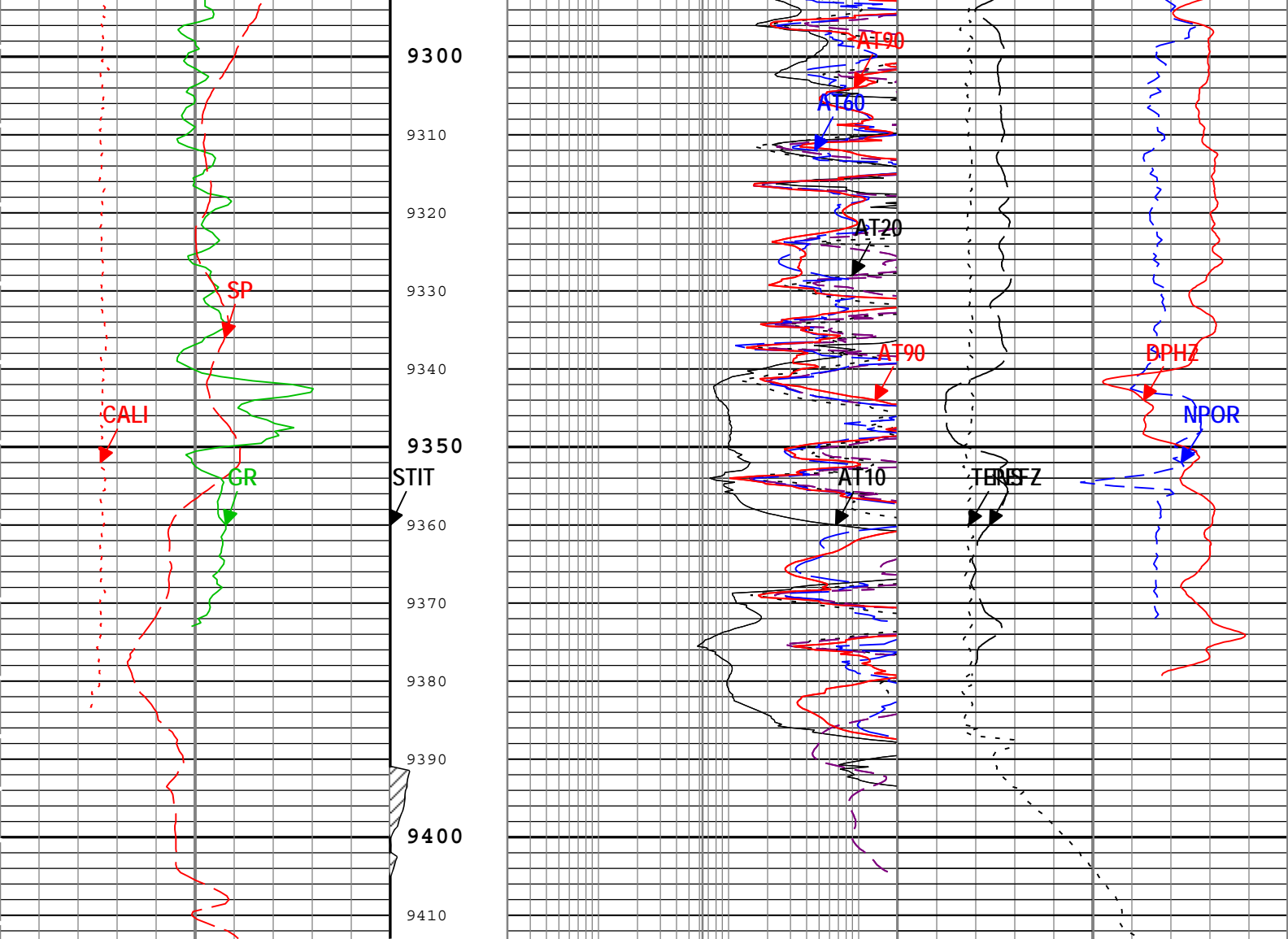






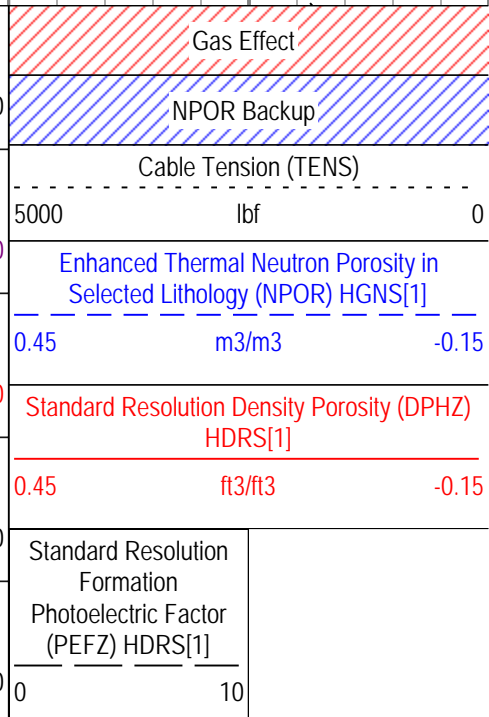
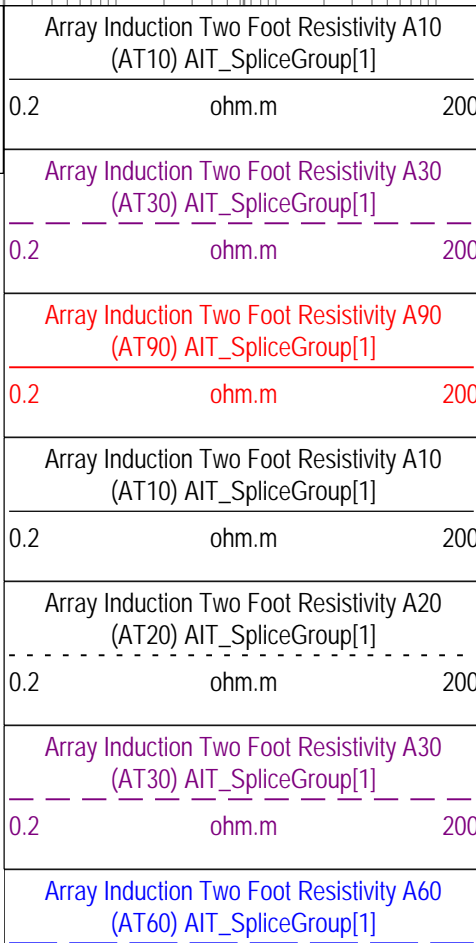






Stuck Tool Indicator, Total (STIT)

0 ft 50



0.2

ohm.m

200

Array Induction Two Foot Resistivity A90 (AT90) AIT\_SpliceGroup[1]

0.2

ohm.m

200

TIME\_1900 - Time Marked every 60.00 (s)

Description: HGNS standard resolution porosities for Platform Express    Format: Log ( KM 5in Triple Combo )    Index Scale: 5 in per 100 ft    Index Unit: ft  
Index Type: Measured Depth    Creation Date: 07-Aug-2013 18:38:25

Channel Processing Parameters

pex: Parameters

Parameter	Description	Tool	Value	Unit
ABHME	Array Induction Extended Borehole Correction Mode	ZAIT-E	Compute Standoff	
ABLM	Array Induction Basic Logs Mode	ZAIT-E	Normal	
ACDE	Array Induction Casing Detection Enable	ZAIT-E	Yes	
AOFFX	X Accelerometer Offset	GPIT-F	0.21	ft/s2
AOFFY	Y Accelerometer Offset	GPIT-F	0.08	ft/s2
AOFFZ	Z Accelerometer Offset	GPIT-F	-0.01	ft/s2
AROT	Array Induction Rotation Selector	ZAIT-E	North	
ASTA	Array Induction Tool Standoff	ZAIT-E	1	in
BARI	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Open	
BS	Bit Size	WLSESSION	Depth Zoned	in
BSAL	Borehole Salinity	Borehole	9653.66	ppm
CALI_SHIFT	CALI Supplementary Offset	HDRS-B	-0.038	in
CBLO	Casing Bottom (Logger)	WLSESSION	1607	ft
CDEN	Cement Density	HGNS-B	2	g/cm3
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	9.4	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	
FOFFX	X Magnetometer Offset	GPIT-F	0	mT
FOFFY	Y Magnetometer Offset	GPIT-F	0	mT
FOFFZ	Z Magnetometer Offset	GPIT-F	0	mT
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-B	Yes	
ICMO	Inclinometry Computation Mode	GPIT-F	Automatic Selection	
LOG_SPEED_RNG	Logging Speed Range	GPIT-F	Normal (600 ft/h - 3600 ft/h)	
MATR	Rock Matrix for Neutron Porosity Corrections	Borehole	LIMESTONE	
MFST	Mud Filtrate Sample Temperature	Borehole	69.6	degF
RMFS	Resistivity of Mud Filtrate Sample	Borehole	0.48	ohm.m
SOCO	Standoff Correction Option	HGNS-B	Yes	
SPDR	SP Drift Per Foot	ZAIT-E	0	mV/ft
TD	Total Measured Depth	Borehole	9397	ft
USER_LOCB	User-supplied values for Magnetic Flux Density	WLSESSION	53106.1	nT
USER_MDEC	User-supplied values for Magnetic Declination	WLSESSION	8.16	deg
USER_MDIP	User-supplied values for Magnetic Dip Angle	WLSESSION	67.42	deg

pexDepth Zoned Parameters

Parameter	Value	Start ( ft )	Stop ( ft )
BS	0	1425	1607
BS	8.75	1607	9413.31

All depth are actual.

Run 3: Parameters

Parameter	Description	Tool	Value	Unit
BARI	Barite Mud Presence Flag	Borehole	No	
BS	Bit Size	WLSESSION	Depth Zoned	in
CALI_SHIFT	CALI Supplementary Offset	HDRS-H	0	in
CBLO	Casing Bottom (Logger)	WLSESSION	1607	ft
DFD	Drilling Fluid Density	Borehole	9.4	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	
DHC	Density Hole Correction	HDRS-H	Bit Size	
FD	Fluid Density	Borehole	1	g/cm3
MDEN	Matrix Density for Density Porosity	Borehole	2.71	g/cm3
TD	Total Measured Depth	Borehole	9397	ft

Run 3Depth Zoned Parameters

Parameter	Value	Start ( ft )	Stop ( ft )
BS	0	1465.56	1607
BS	8.75	1607	9387.04

All depth are actual.

Tool Control Parameters

pex: Parameters

Parameter	Description	Tool	Value	Unit
HMCA_BRD_TYPE	HMCA Board Type	HGNS-B	0	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	3600	ft/h

Run 3: Parameters

Parameter	Description	Tool	Value	Unit
HRGD_BRD_TYPE	HRGD Board Type	HDRS-H	WITH_HET	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	720	ft/h

Company: Whiting Oil and Gas Corporation



Well: Razor 26J-2633L

Field: Wildcat

County: Weld

Country:

Platform Express  
Triple Combo