

Company: Nighthawk Production LLC

Well: Whistler 6-22

Field: Wildcat

County: Lincoln State: Colorado

Platform Express
Array Induction
with Linear Correlation

County:	Lincoln			
Field:	Wildcat			
Location:	SENW Sec 22, Twp 6S, Rng 54			
Well:	Whistler 6-22			
Company:	Nighthawk Production LLC			
Location:		SENW Sec 22, Twp 6S, Rng 54	Elev.:	K.B. 5264.00 ft
		SHL: 1668' FNL, 1951' FWL		G.L. 5252.00 ft
		Lat 39.516583, Long -103.42763		D.F. 5263.00 ft
		Permanent Datum:	Ground Level	Elev.: 5252.00 f
		Log Measured From:	Kelly Bushing	12.00 ft above Perm.Datum
Drilling Measured From:		Kelly Bushing		
API Serial No.	Section:	Township:	Range:	
05-073-06481-0000	22	6S	54W	

Logging Date	06-Nov-2012		
Run Number	Run1		
Depth Driller	8500.00 ft		
Schlumberger Depth	8507.00 ft		
Bottom Log Interval	8499.00 ft		
Top Log Interval	410.00 ft		
Casing Driller Size @ Depth	8.625 in @ 401.00 ft		
Casing Schlumberger	410 ft		
Bit Size	7.875 in		
Type Fluid In Hole	Chemical Gel		
Density	9.2 lbm/gal	75 s	
Fluid Loss	PH 11.6 cm3	7.4	
Source of Sample	Active Tank		
RM @ Meas Temp	0.2 ohm.m @ 85.66 degF		
RMF @ Meas Temp	0.15 ohm.m @ 85.66 degF		
RMC @ Meas Temp	0.52 ohm.m @ 85.66 degF		
Source RMF	Calculated		
RM @ BHT	0.09 @ 210.25 0.06 @ 210.25		
Max Recorded Temperatures	210.25 degF		
Circulation Stopped	06-Nov-2012 16:30:00		
Logger on Bottom	06-Nov-2012 03:15:26		
Unit Number	Location: 2135	Fort Morgan	
Recorded By	Megan Leone		
Witnessed By	Jerry Hedrick		

Disclaimer

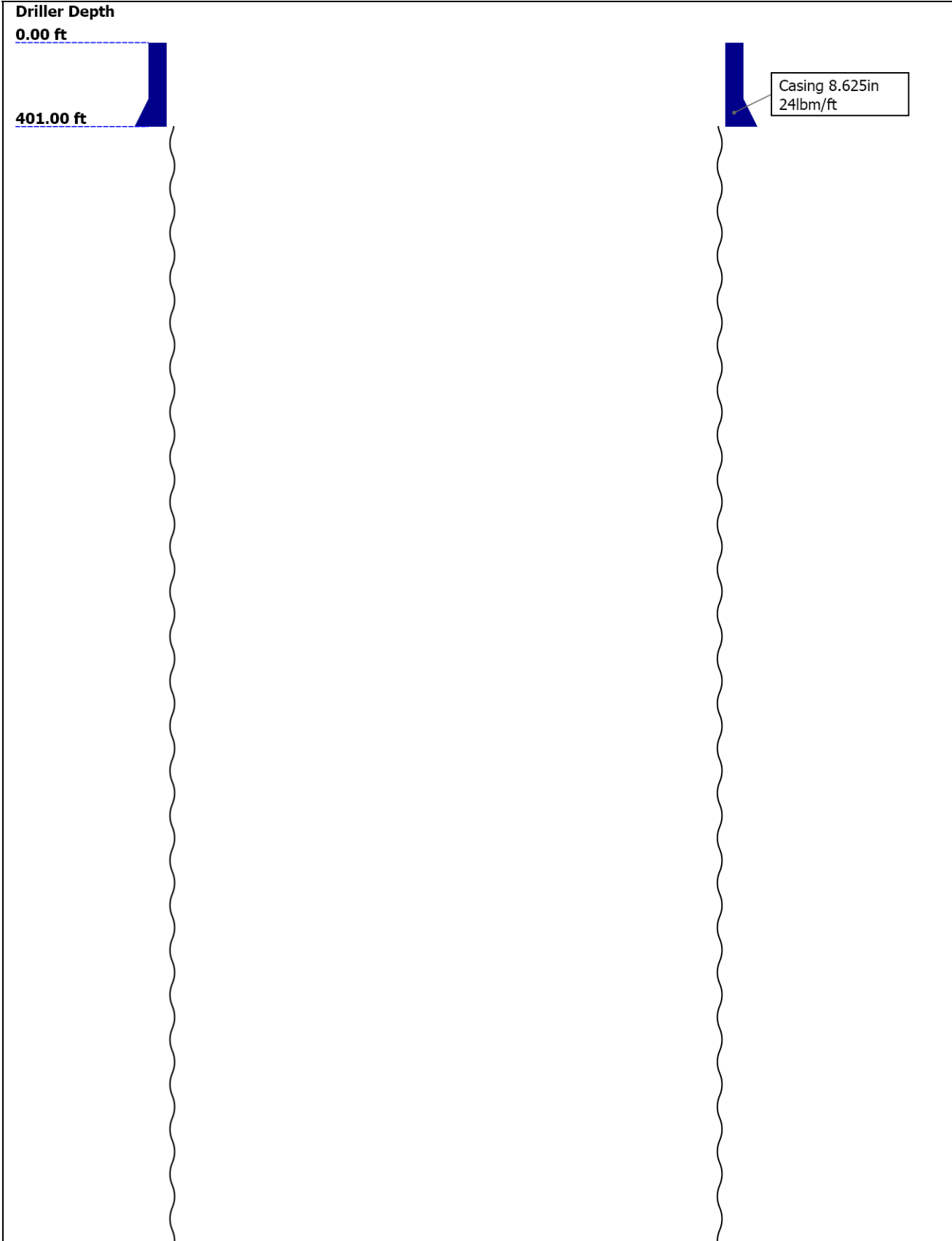
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Well Sketch



8500.00 ft

Open Hole 7.875in

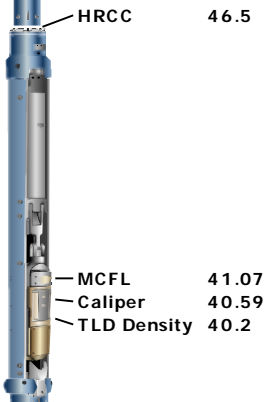
Borehole Size/Casing/Tubing Record

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

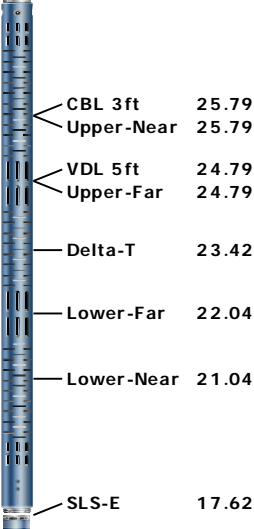
Remarks and Equipment Summary

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

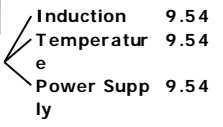
GSR-J:5240
Long Spacing:28
732
HRGD-H:3816
GPV-Q
Backscatter
Short Spacing:27
634



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



AIT-H:392 17.62
AHIS:392
AHHF



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

Run1			
2" Induction			

Integration Summary				
Output Channel(s)	Output Description	Input Parameter	Output Value	Unit
ICV	Integrated Cement Volume	GCSE_UP_PASS, FCD	2995.79	ft3

Software Version			
Acquisition System		Version	
MaxWell		3.1.9755.0	
Application Patch		SP-20120723-3.1.9755.1112	
		EXP_APL-MASTAXIS-3.1.9755.1221	
Computation	Description		Version
Borehole	Borehole Ensemble provides common Borehole Parameters and Channels		3.1.9755.0
Tool Elements	Description	Software Version	Firmware Version
HRCC-H	HILT High-Resolution Control Cartridge, 150 degC	3.1.9755.0	2.0
AHIS	Array Induction Sonde - H	3.1.9755.1112	
HGNS-H	HILT Gamma-Ray and Neutron Sonde, 150 degC	3.1.9755.0	2.0

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

Run1	Log[4]:Up	Up	166.47 ft	8504.24 ft	06-Nov-2012 3:30:47 AM	06-Nov-2012 5:24:04 AM	0.00 ft	Data
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All depths are referenced to toolstring zero

Log	Run1: Log[4]:Up
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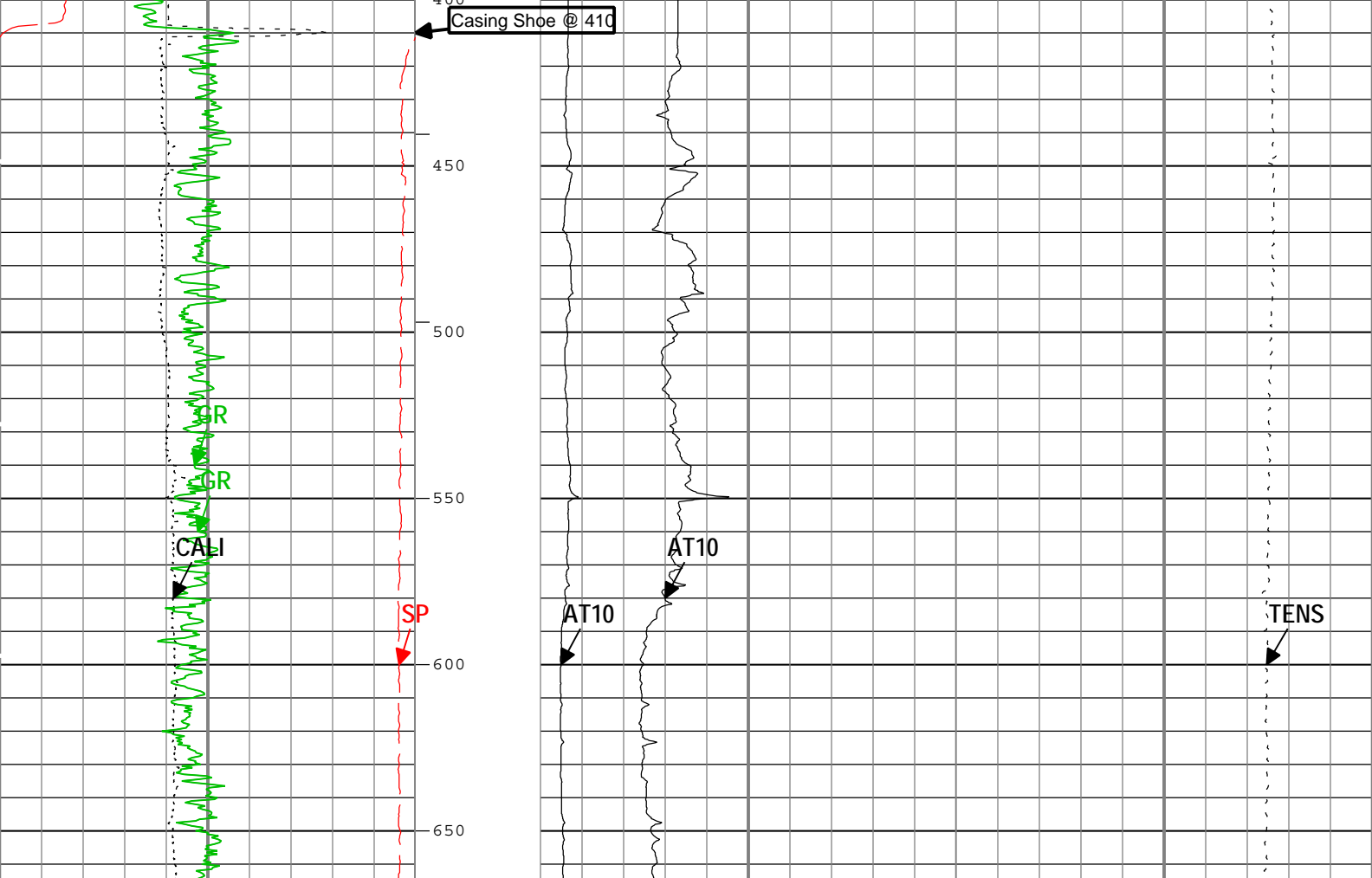
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Depth Creation Date: 06-Nov-2012 05:43:13

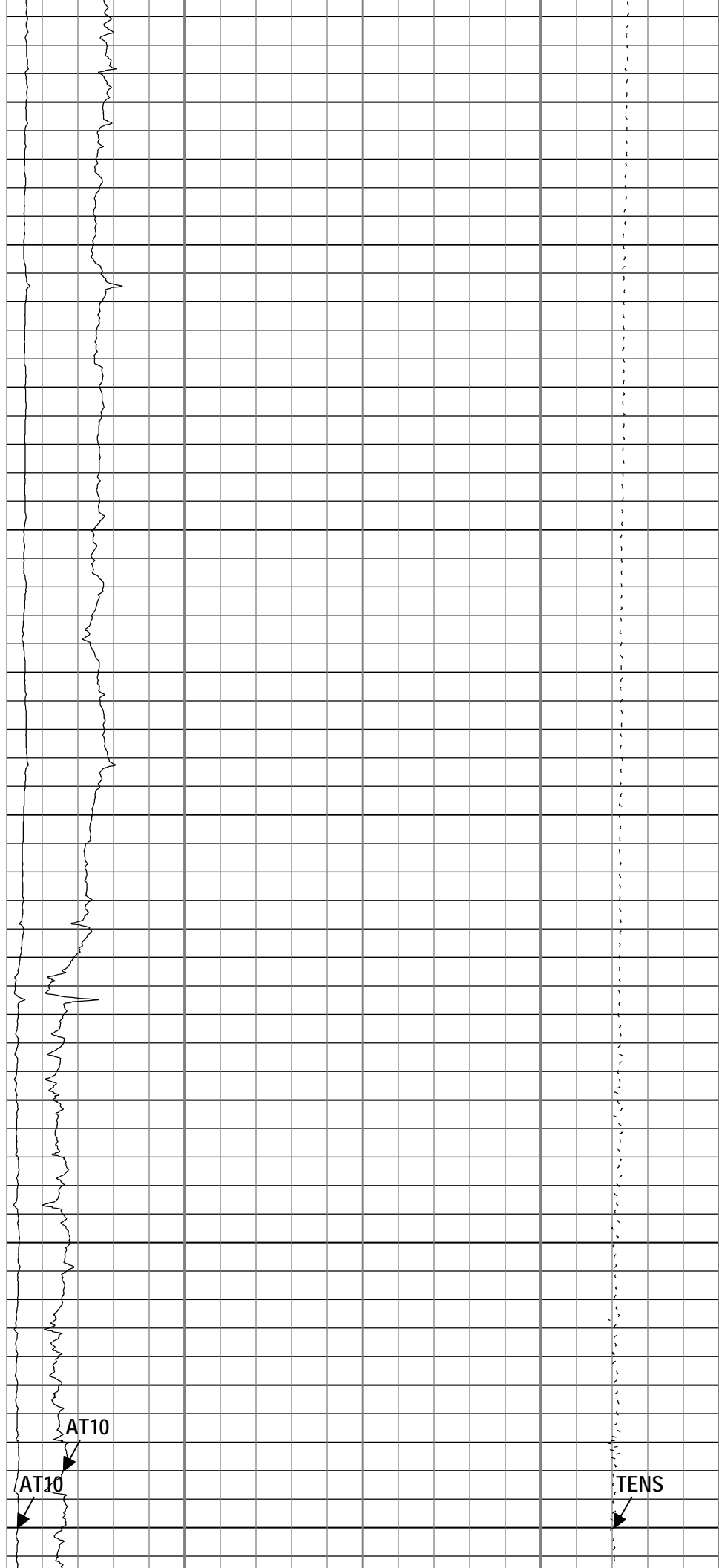
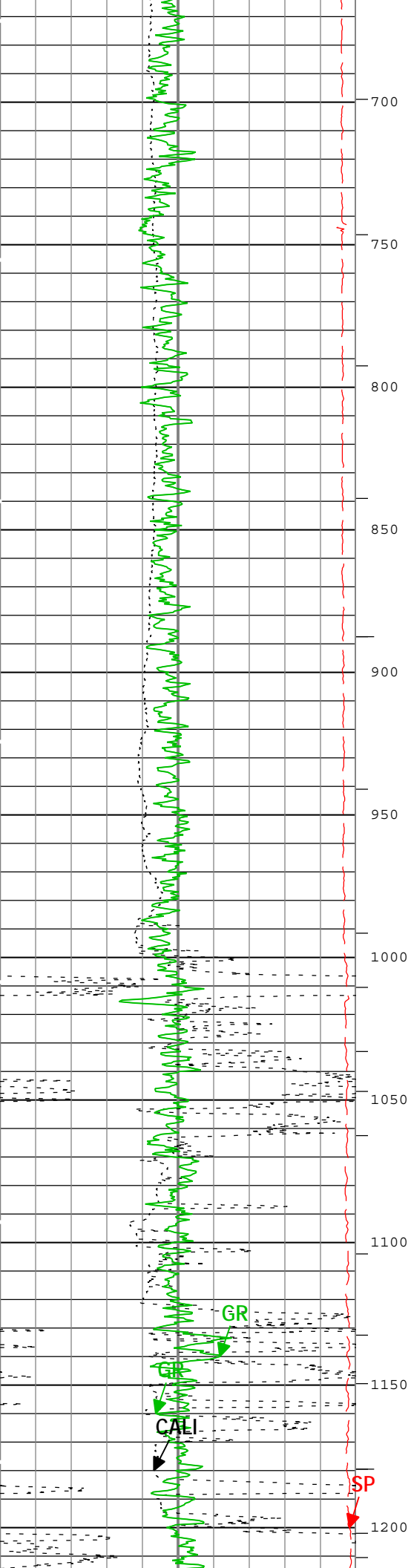
Channel	Source	Sampling
AT10	AIT-H:AHIS:AHIS	3in
CALI	HDRS-H:HRCC-H:HRCC-H	1in
GR	HGNS-H:HGNS-H:HGNS-H	6in
ICV	Borehole	6in
SP	AIT-H:AHIS:AHIS	6in
TENS	WLWorkflow	6in
TIME_1900	WLWorkflow	0.1in

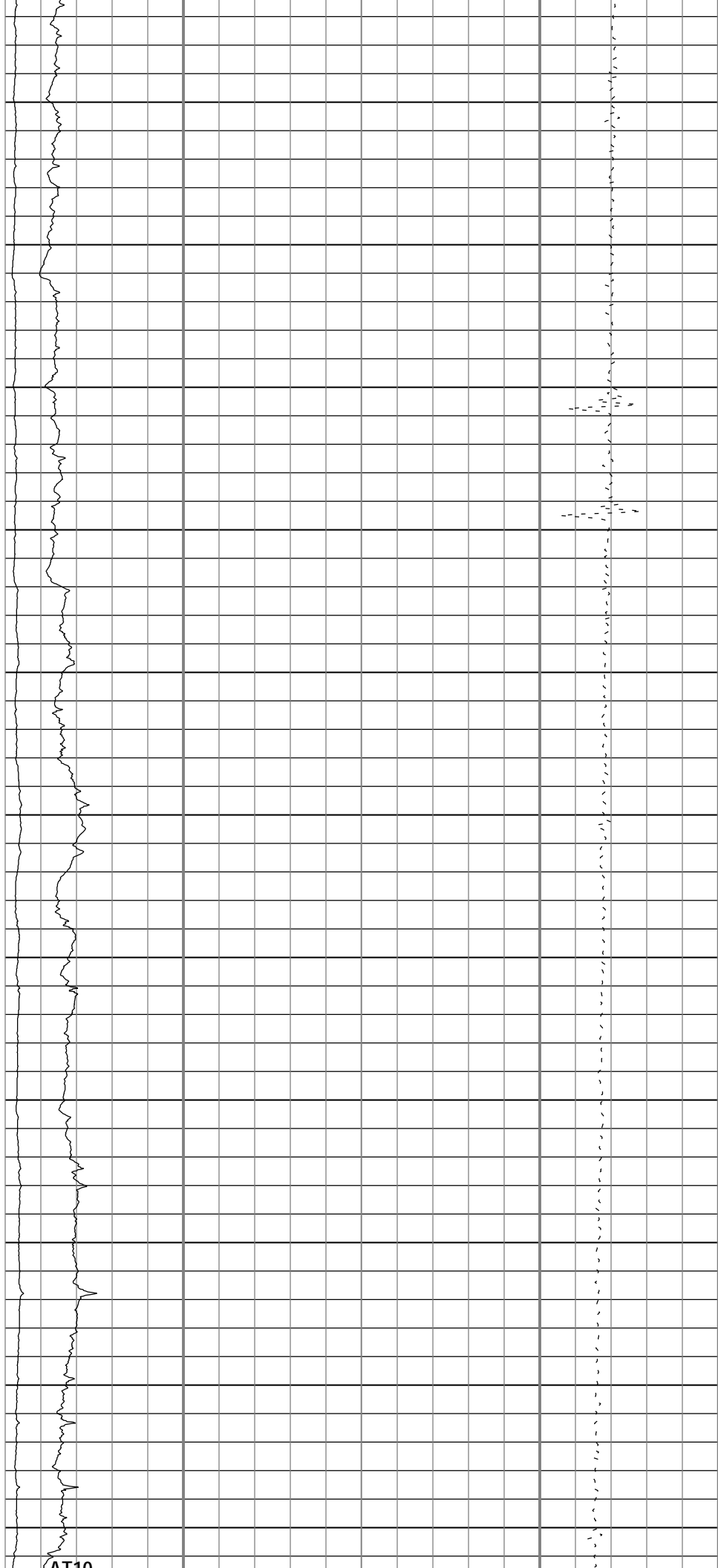
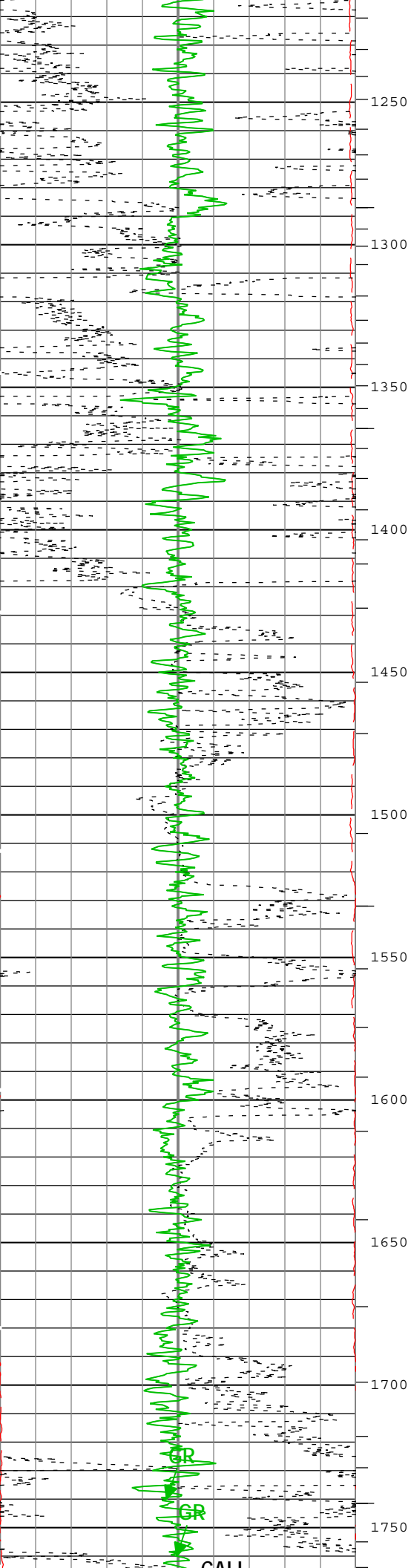
ICV - Integrated Cement Volume every 10.00 (ft3)
ICV - Integrated Cement Volume every 100.00 (ft3)

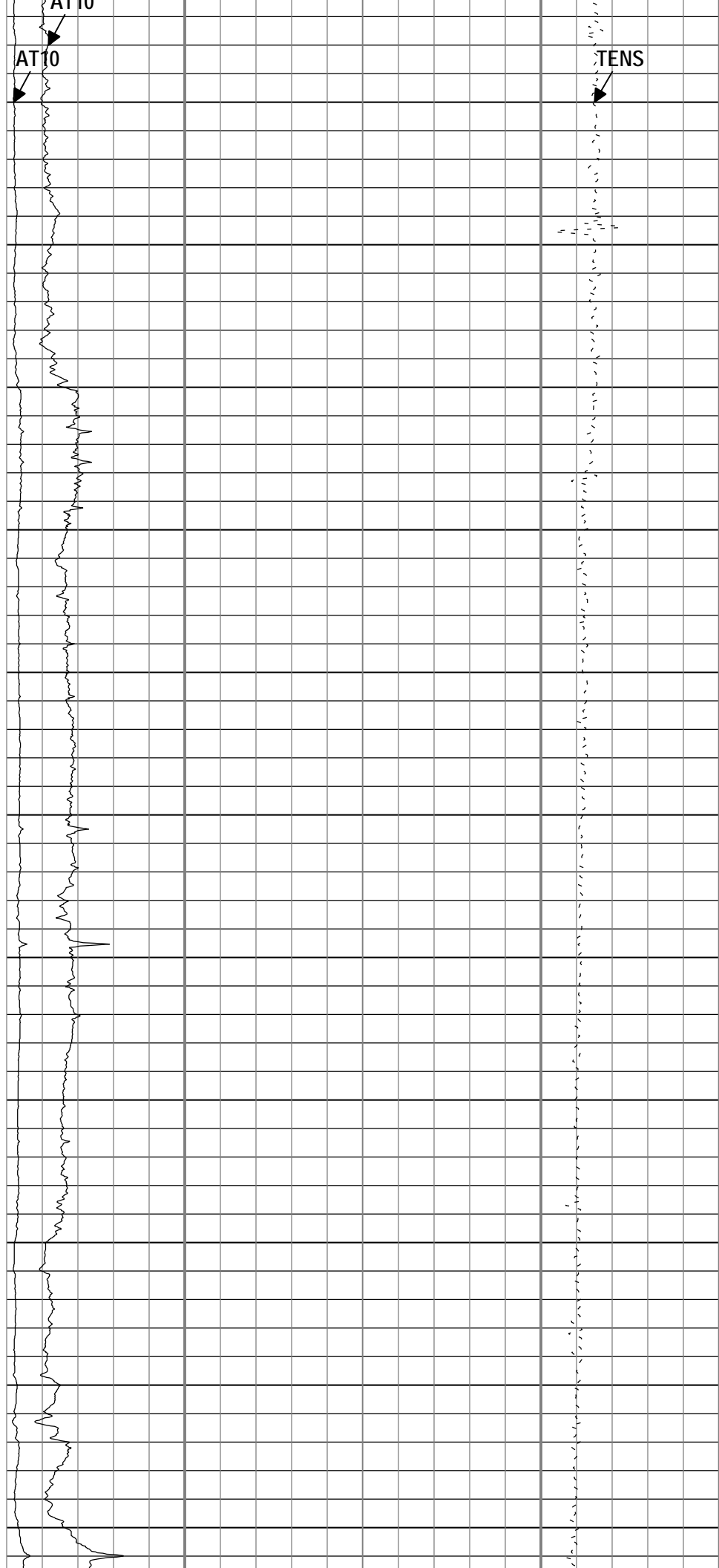
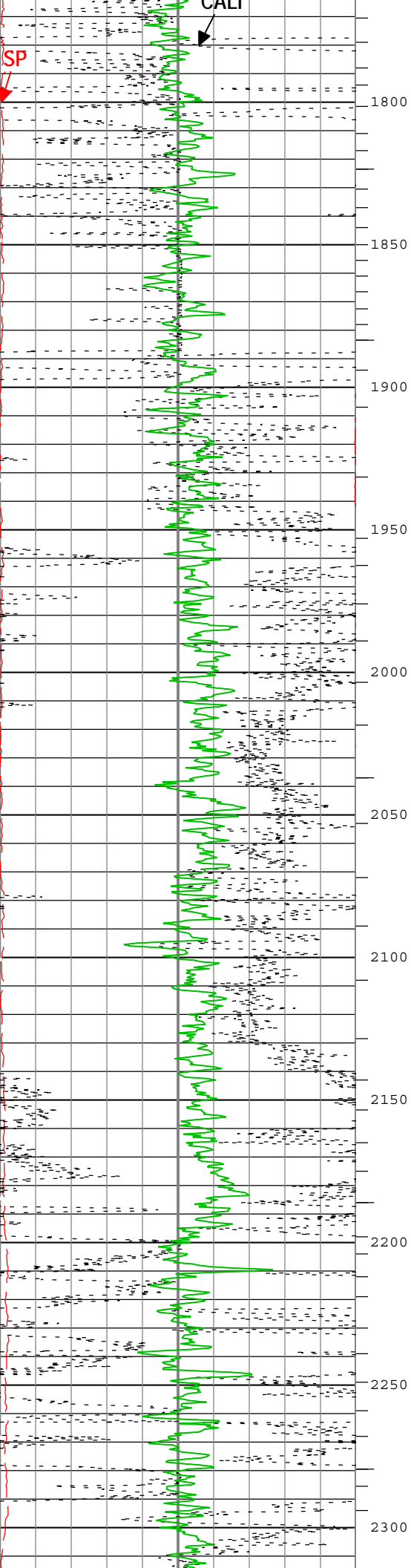
TIME_1900 - Time Marked every 60.00 (s)

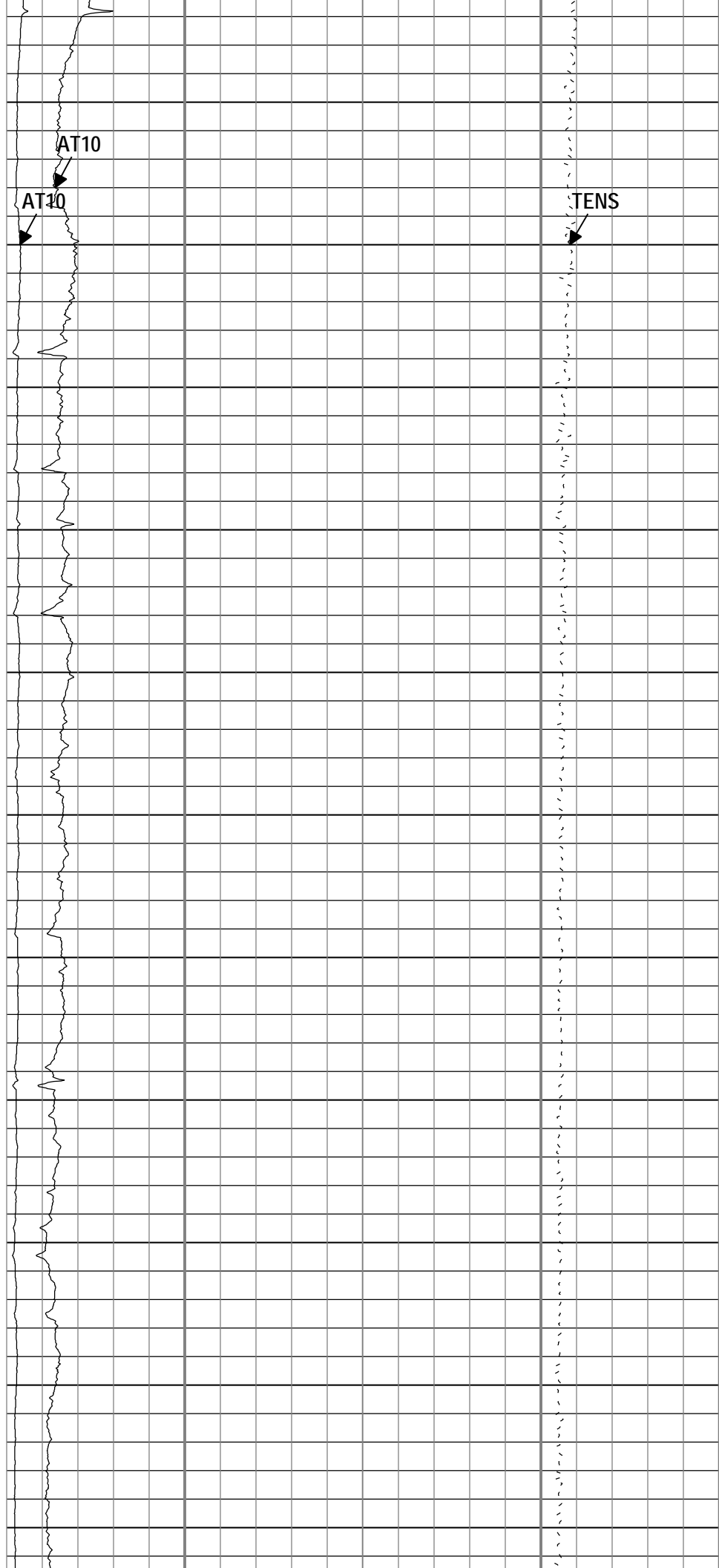
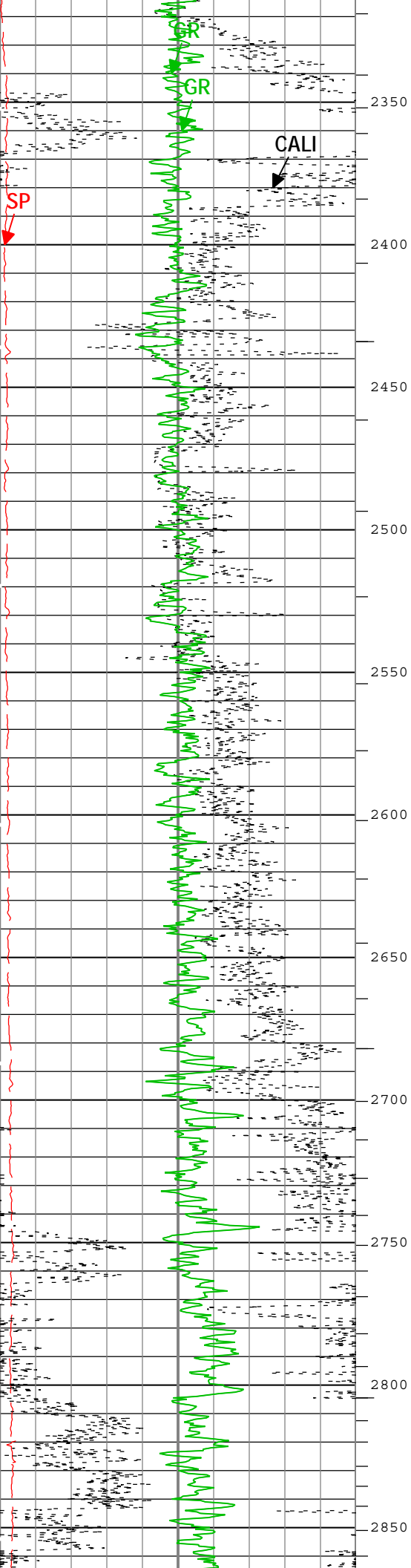
Gamma Ray Backup	Array Induction Two Foot Resistivity A10 (AT10) AIT-H	
Spontaneous Potential (SP) AIT-H	0 ohm.m 50	
0 mV 200		
Caliper (CALI) HDRS-H	Array Induction Two Foot Resistivity A10 (AT10) AIT-H	
4 in 14	0 ohm.m 10	
Gamma Ray (GR) HGNS-H		Cable Tension (TENS)
0 gAPI 200		5000 lbf 0

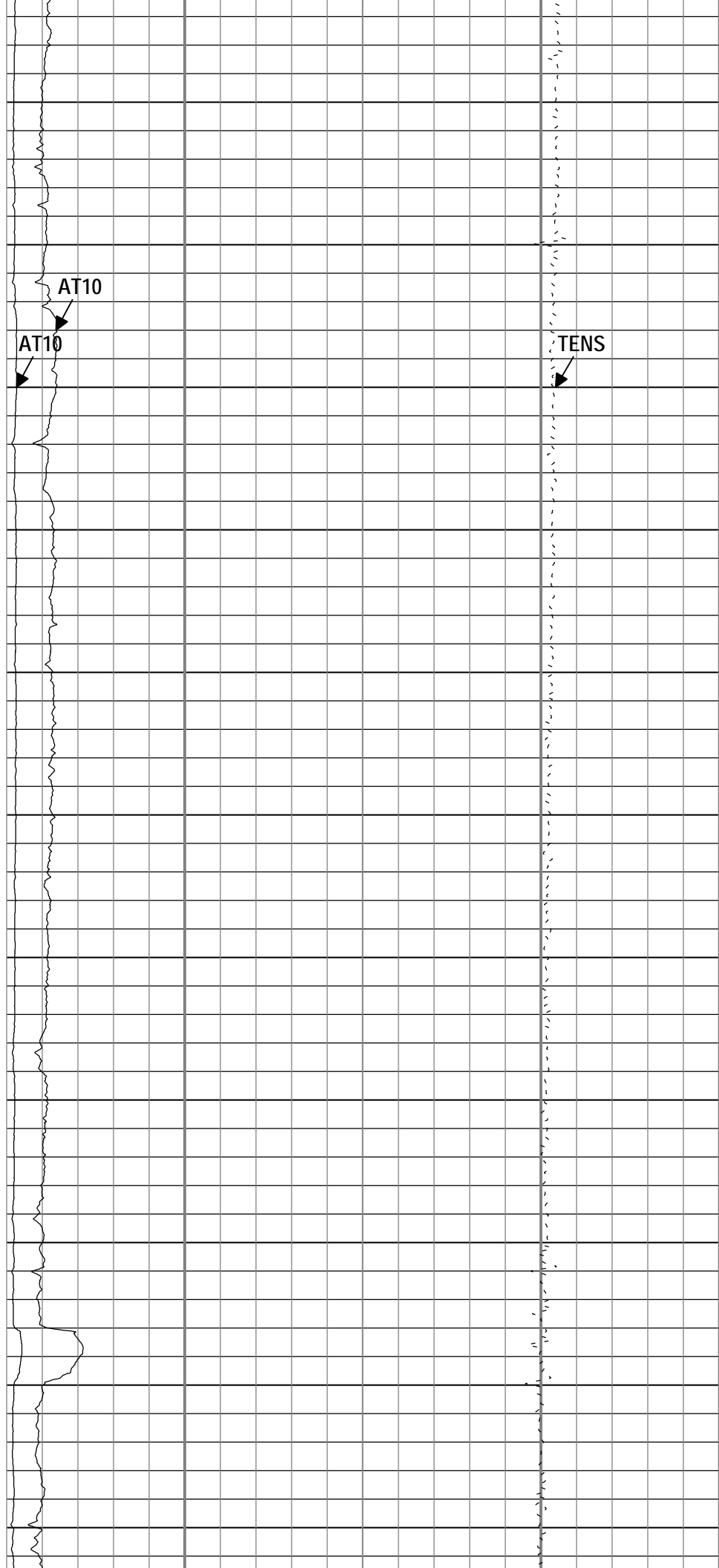
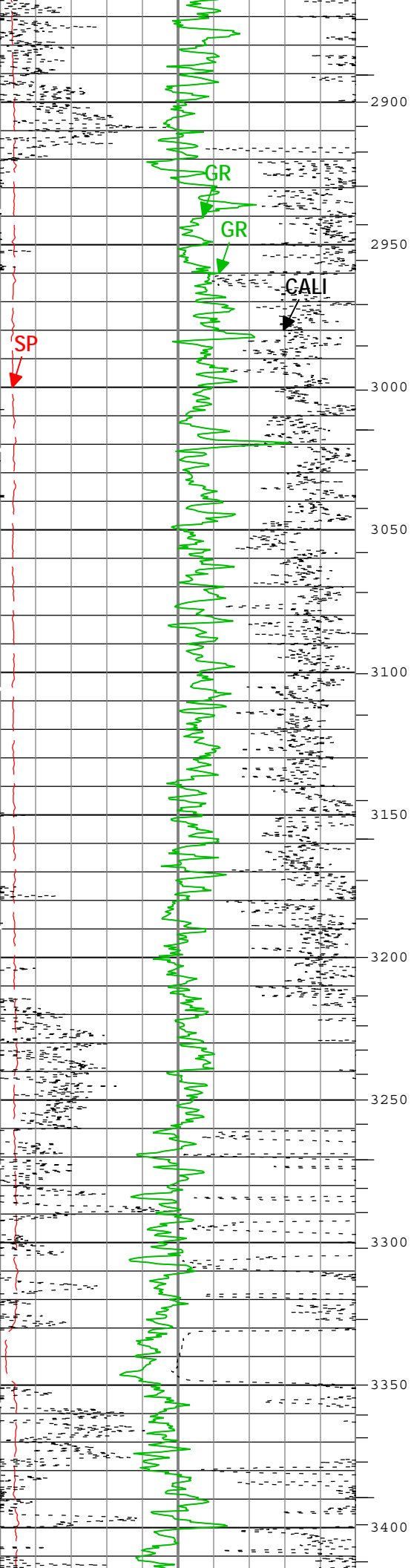


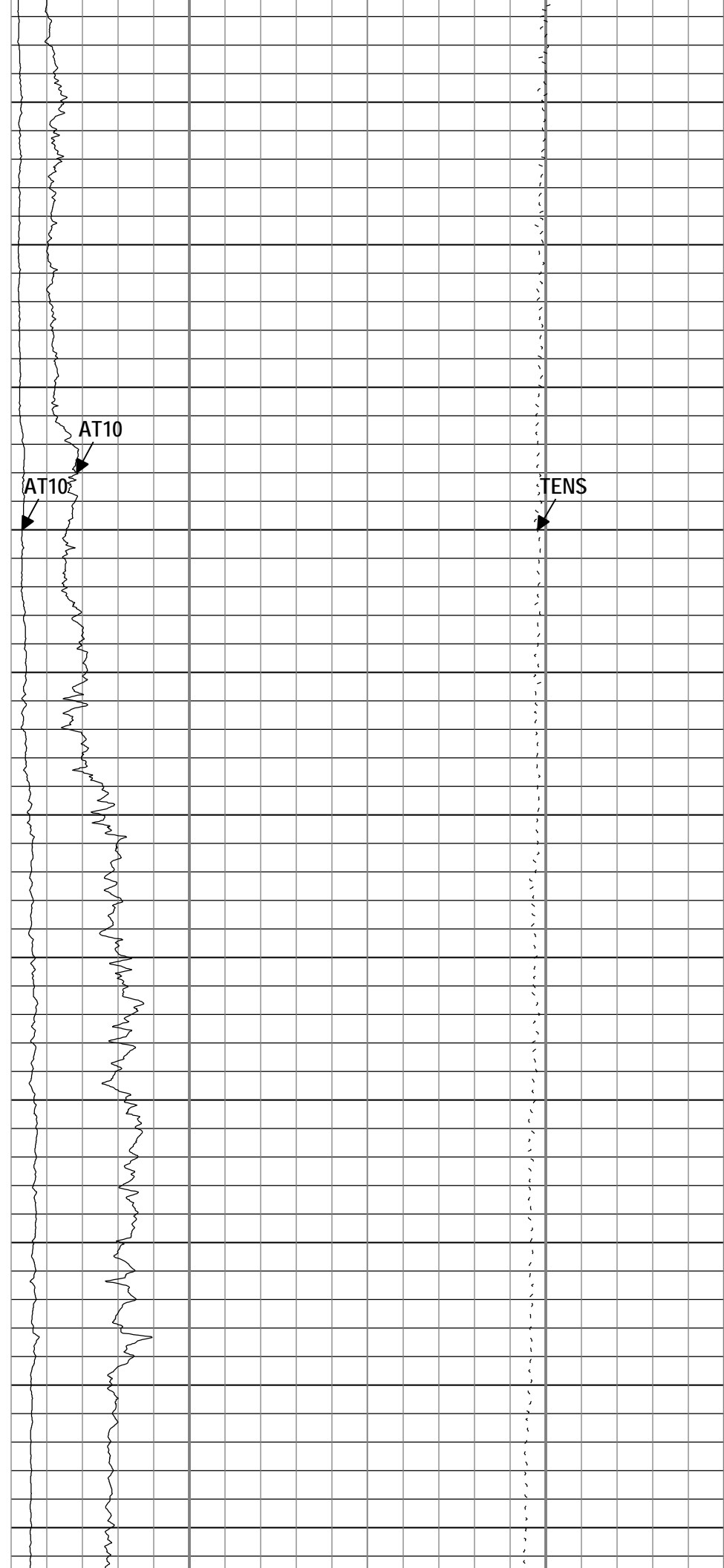
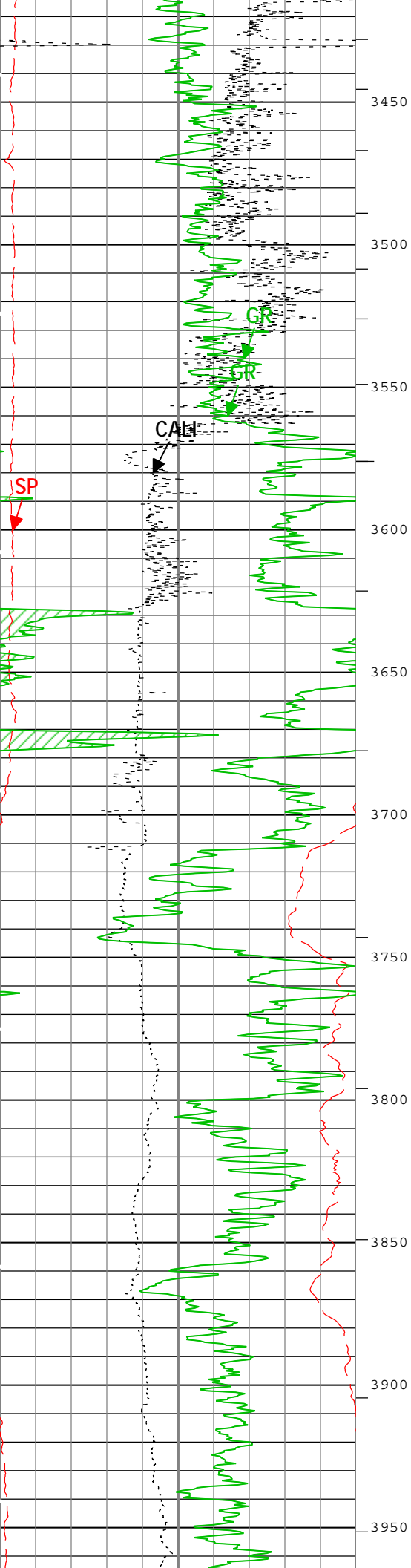


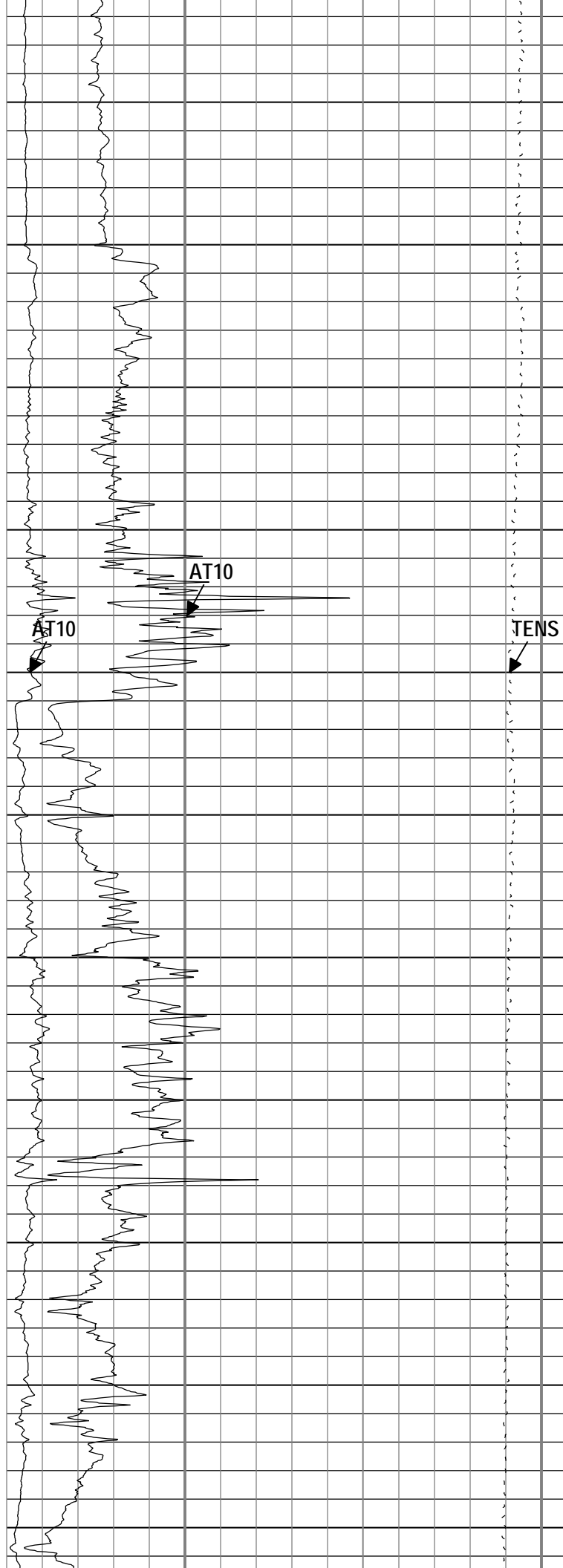
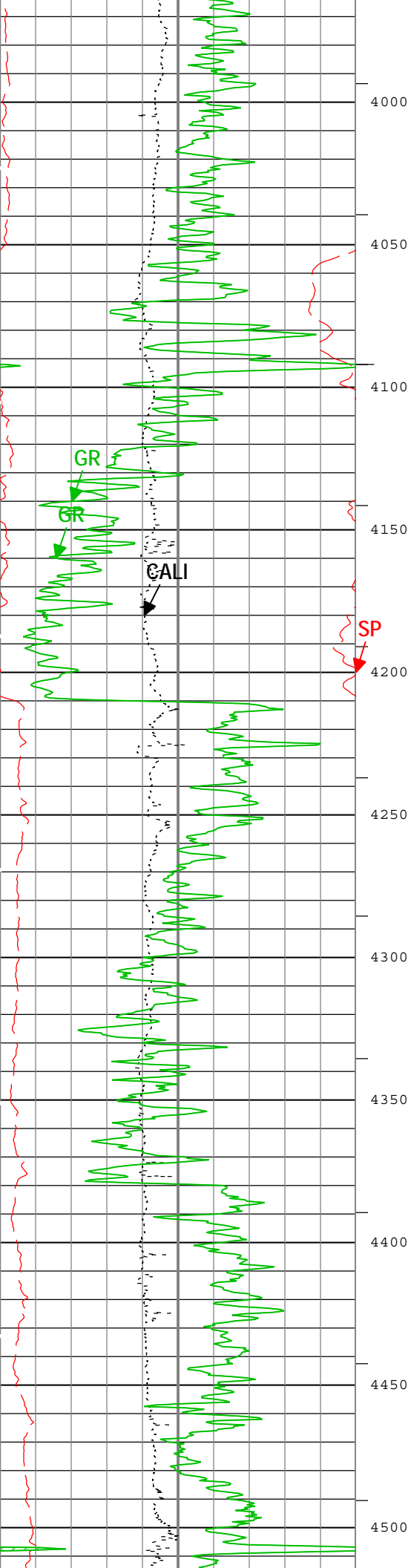


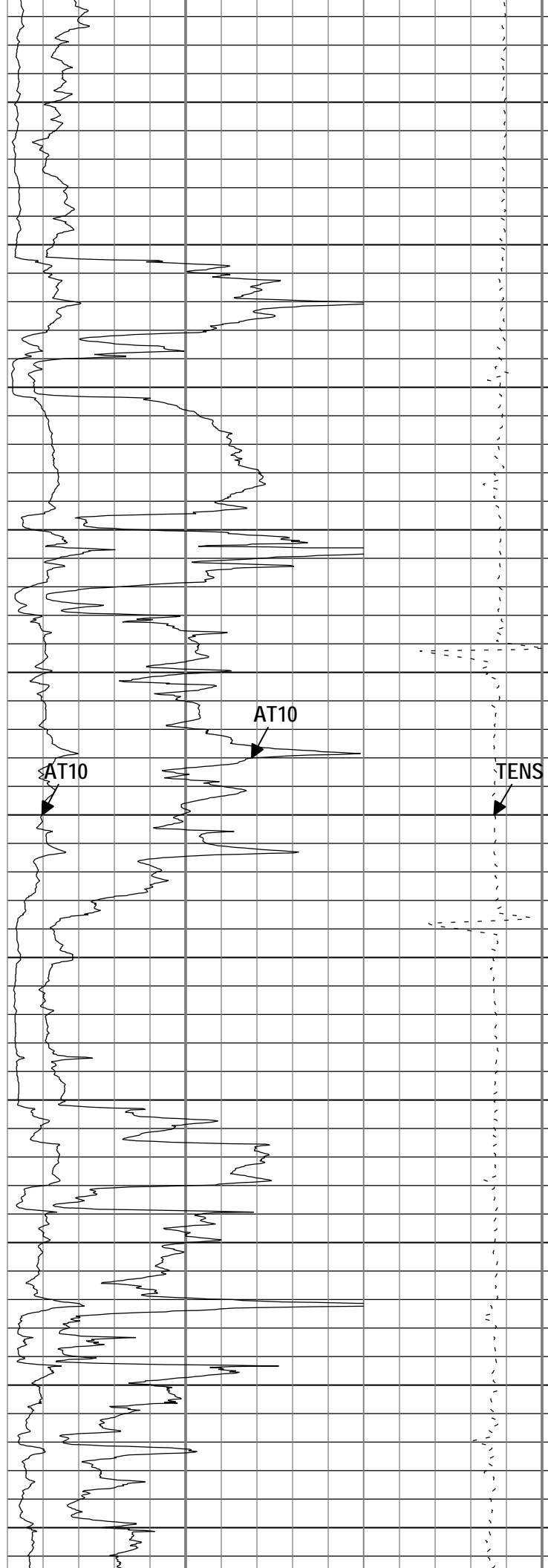
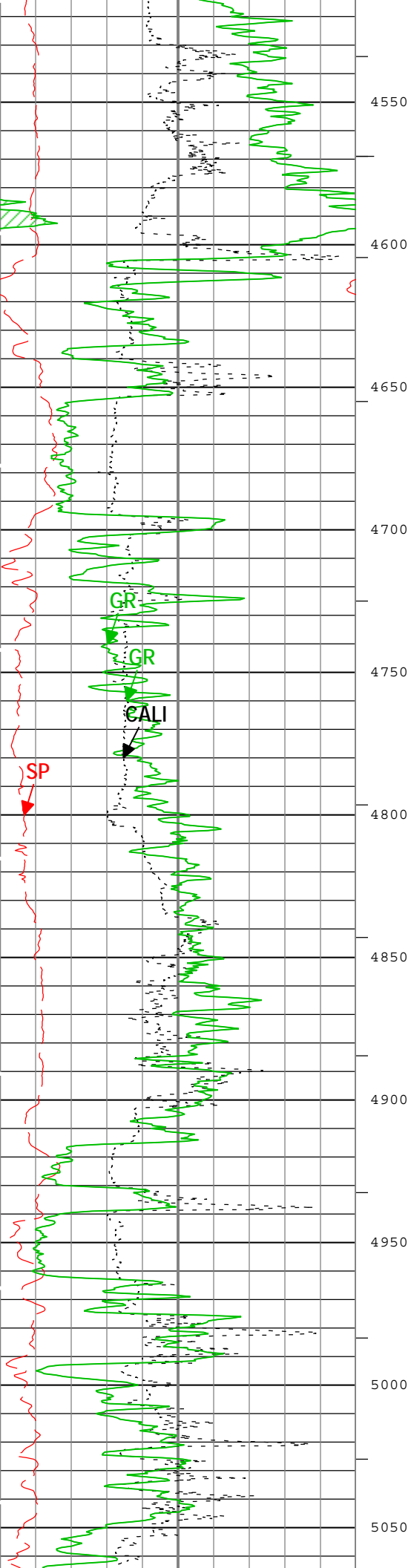


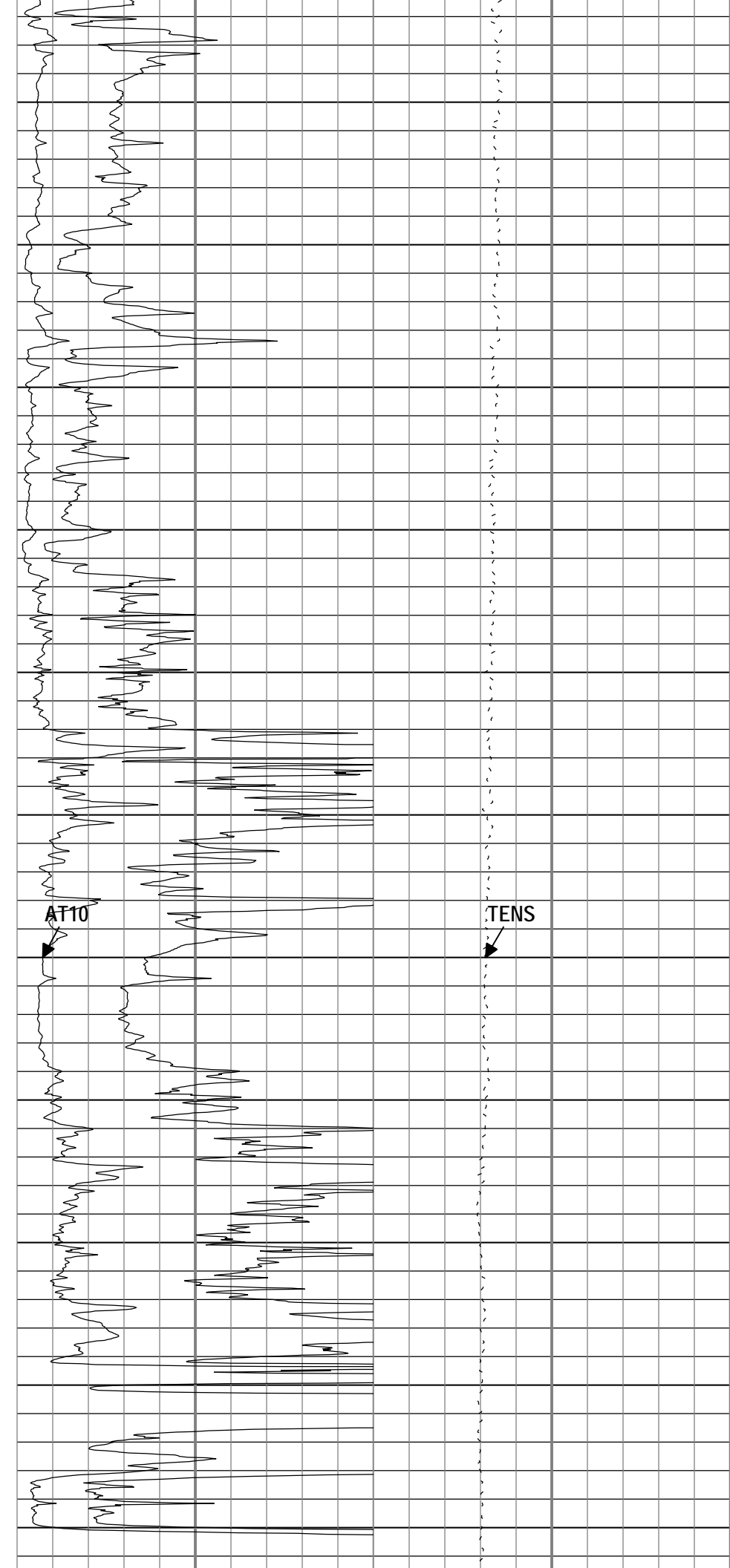
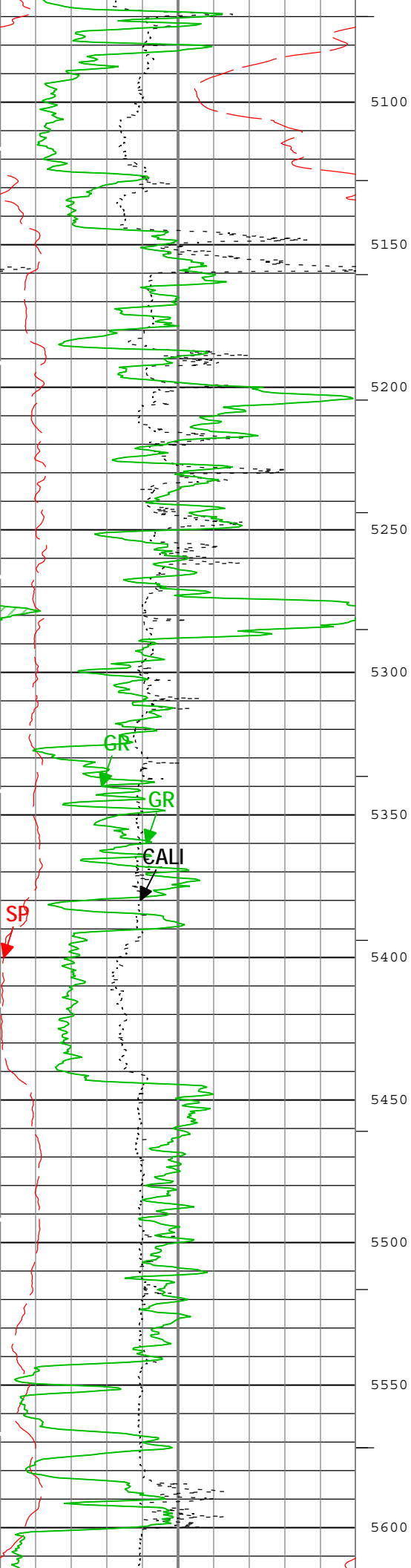


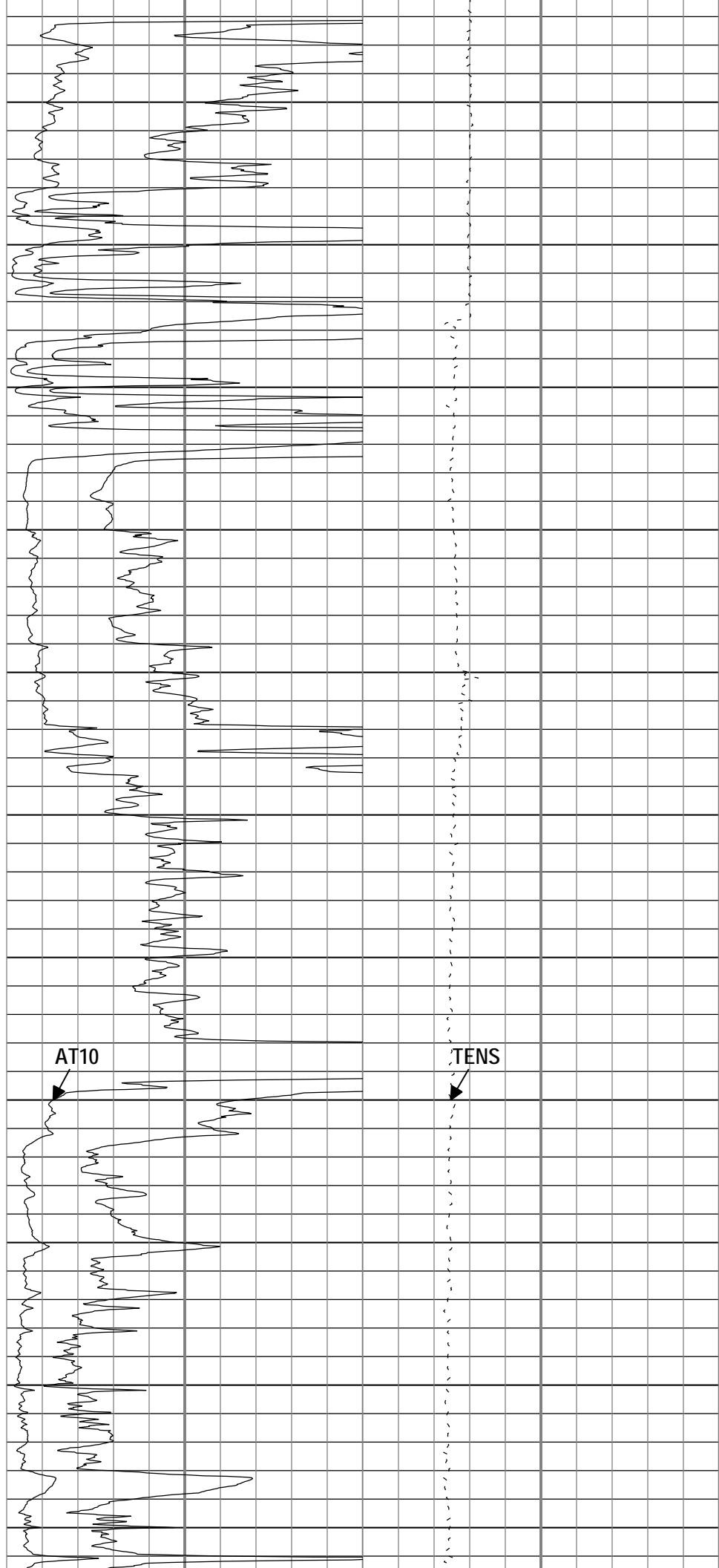
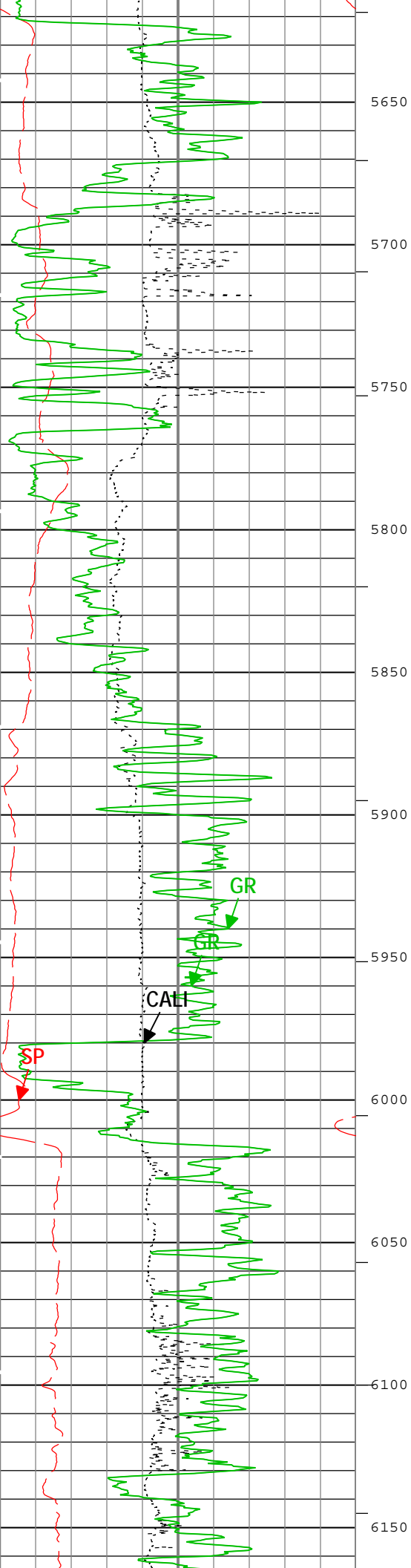


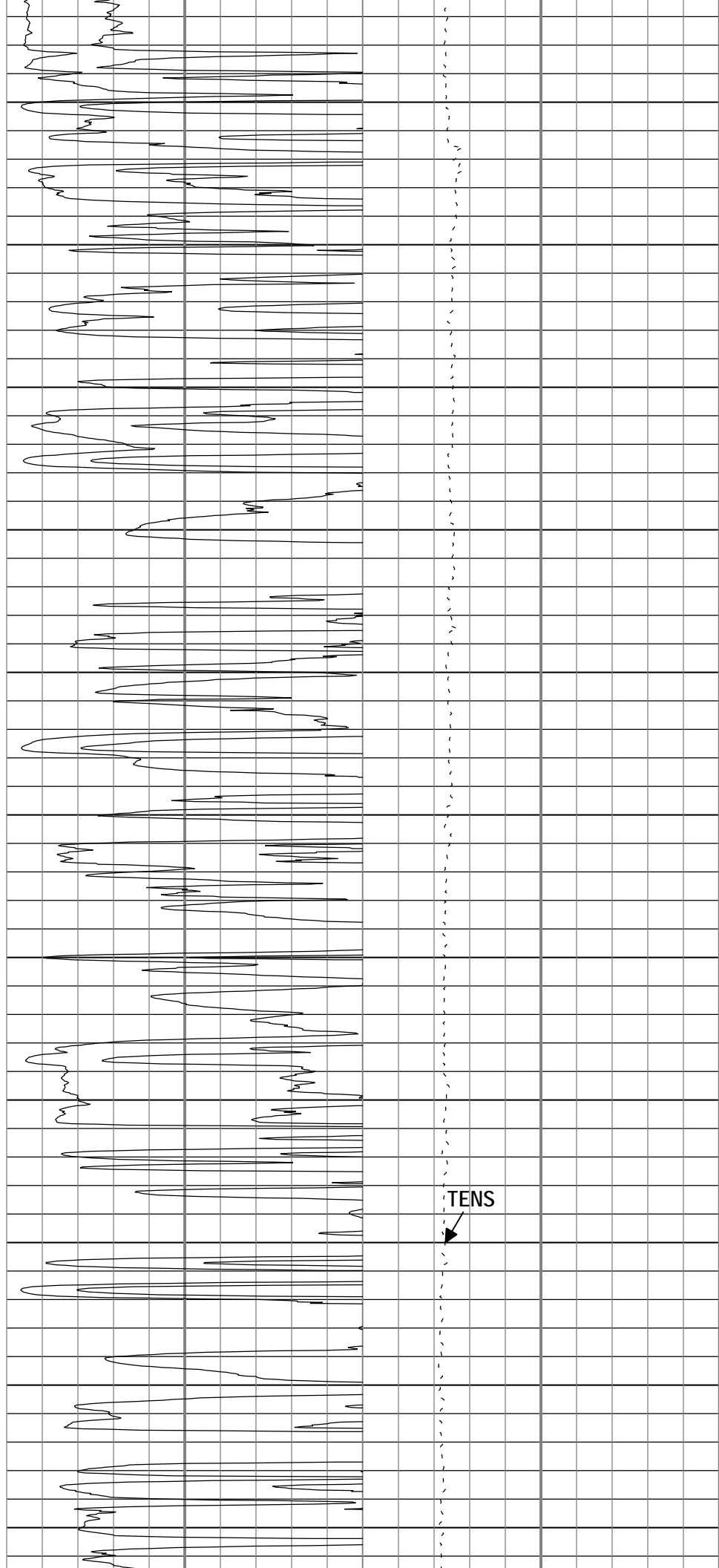
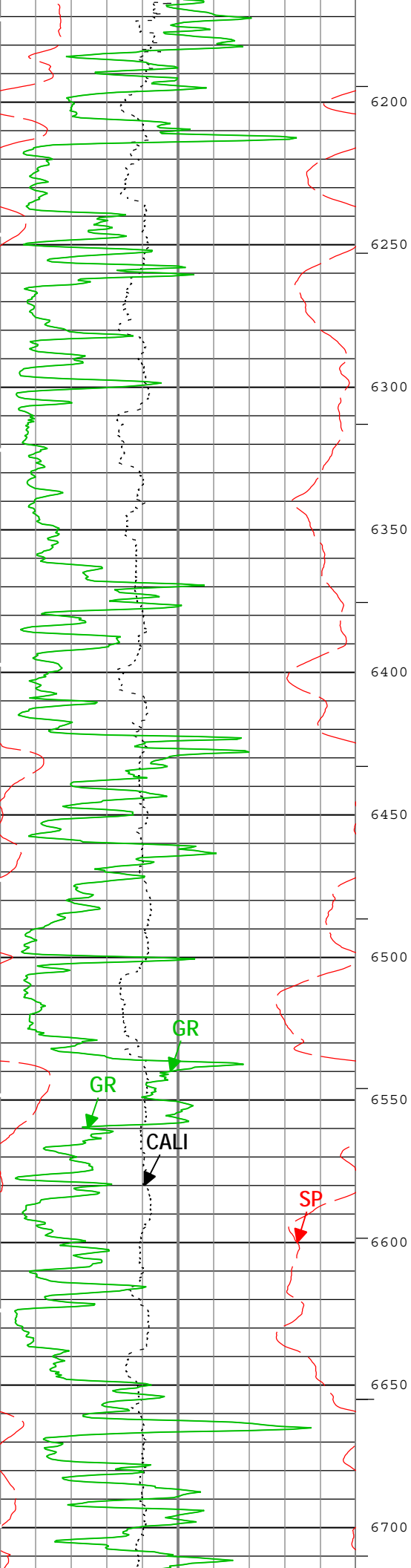


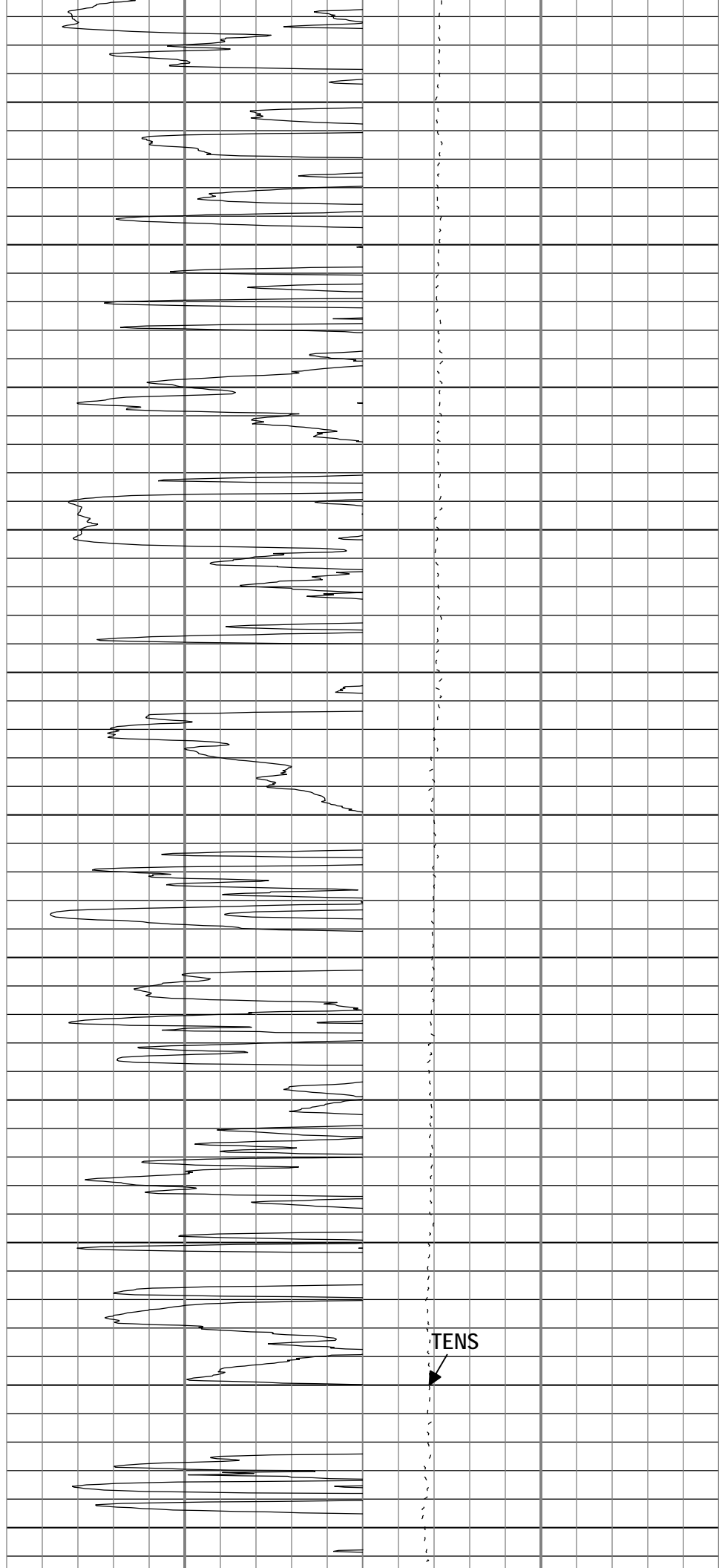
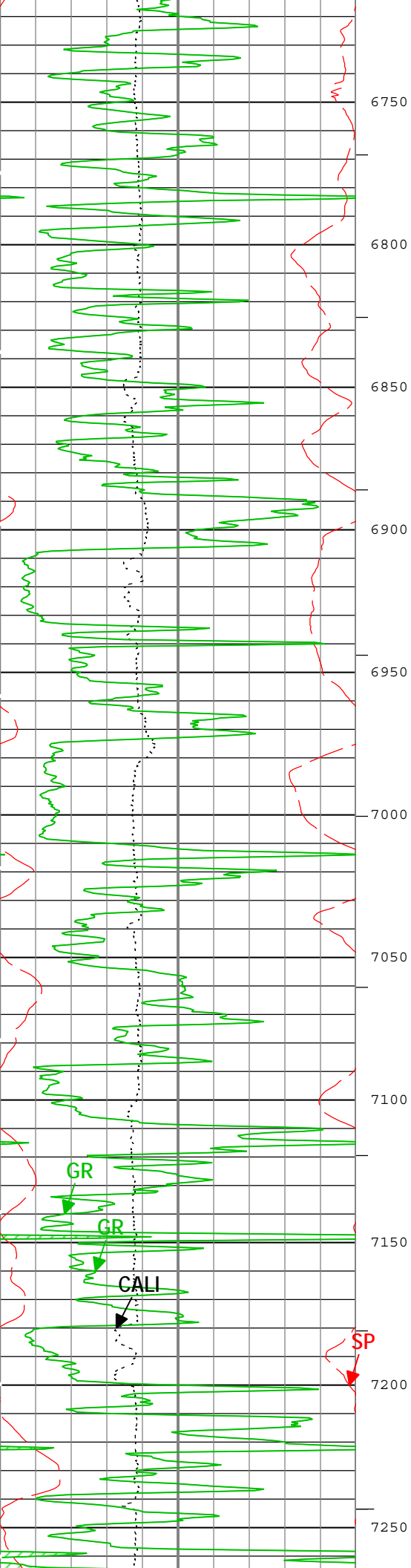


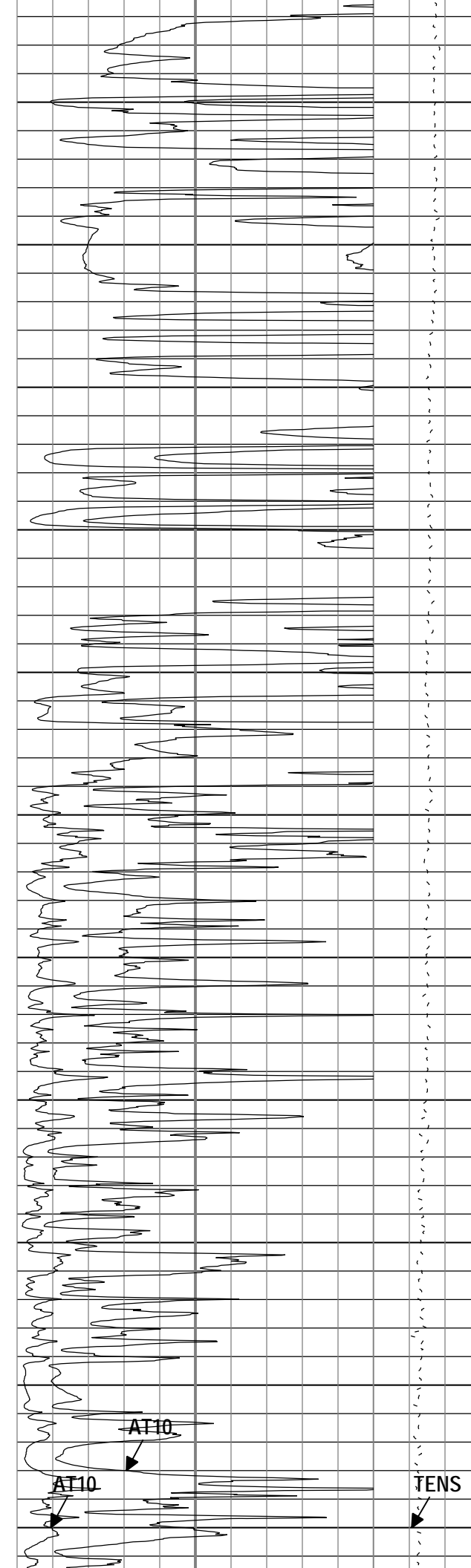
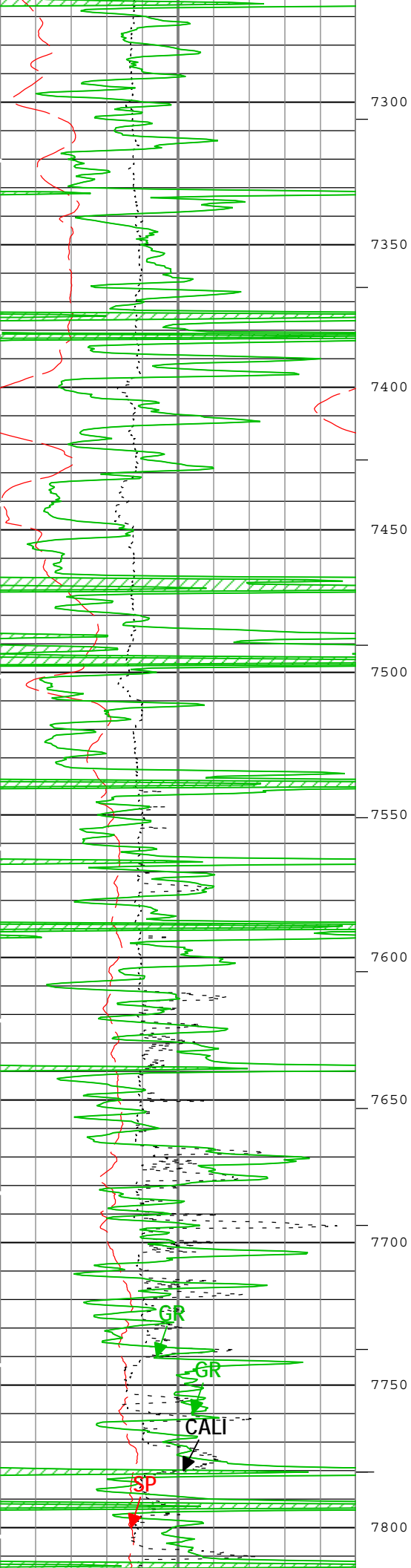


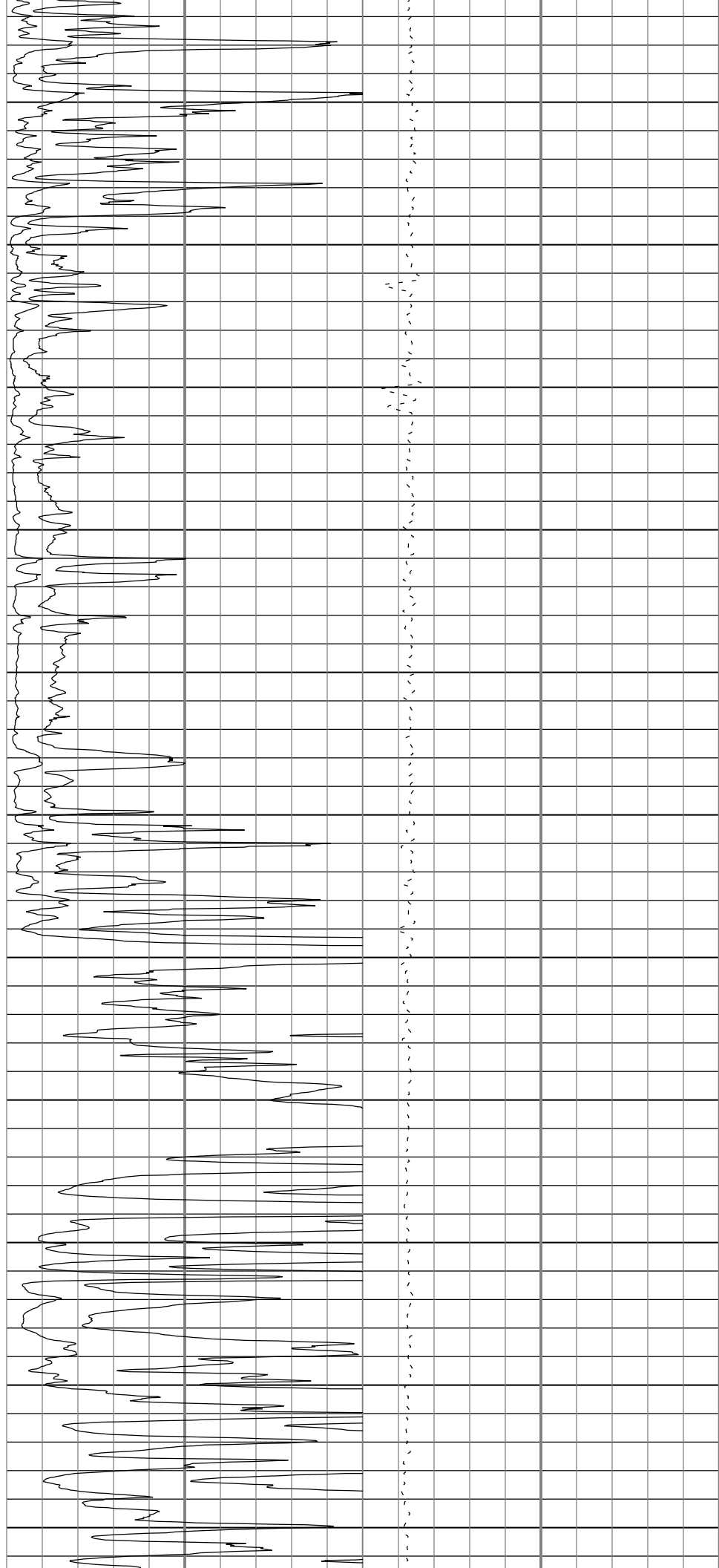
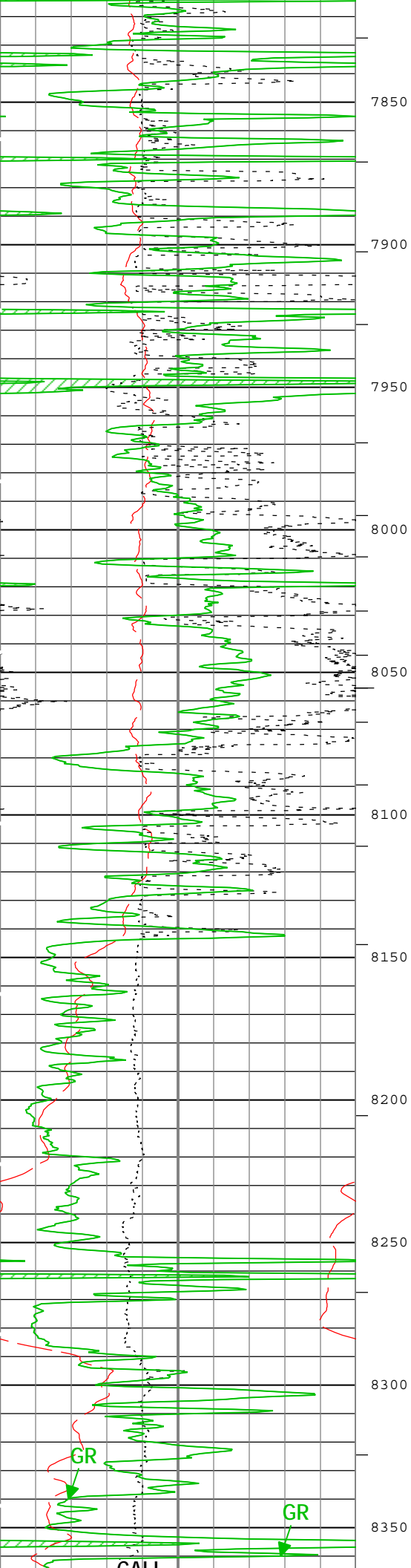


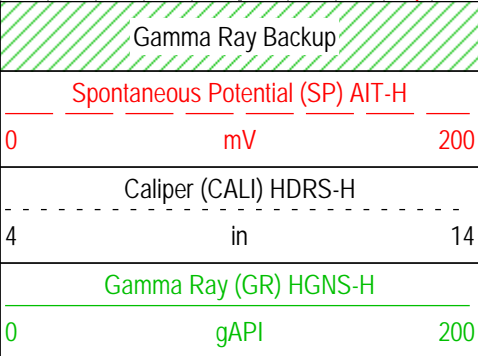
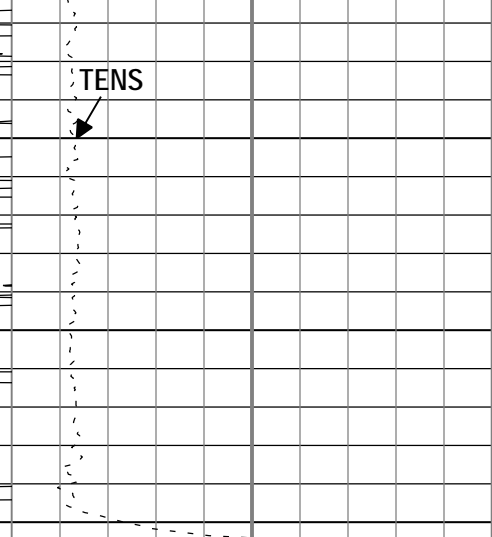
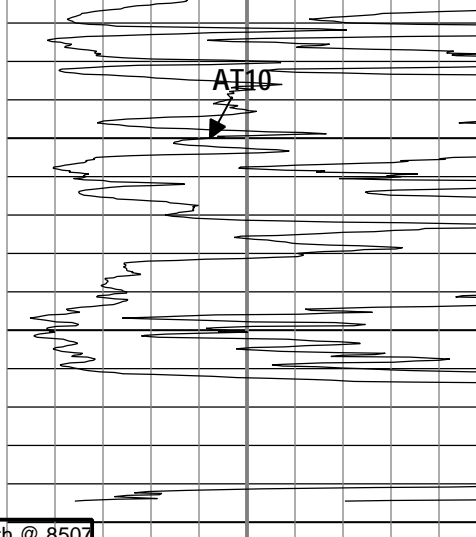
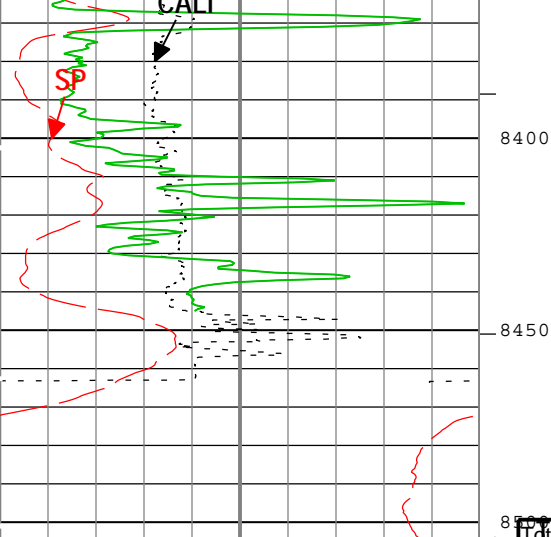












Array Induction Two Foot Resistivity A10 (AT10) AIT-H		
0	ohm.m	50
Array Induction Two Foot Resistivity A10 (AT10) AIT-H		
0	ohm.m	10

Cable Tension (TENS)		
5000	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)

Description: AIT Basic Log Two Format: Log (Import of Kerr McGee 2in Induction) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured
Depth Creation Date: 06-Nov-2012 05:43:13

Channel Processing Parameters				
Parameter	Description	Tool	Value	Unit
ABHM	Array Induction Borehole Correction Mode	AIT-H	Compute Standoff	
ABLM	Array Induction Basic Logs Mode	AIT-H	Normal	
ACDE	Array Induction Casing Detection Enable	AIT-H	Yes	
ASTA	Array Induction Tool Standoff	AIT-H	0.125	in
BARI	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Open	
BS	Bit Size	WLSESSION	Depth Zoned	in
CALI_SHIFT	CALI Supplementary Offset	HDRS-H	0	in
CBLO	Casing Bottom (Logger)	WLSESSION	410	ft
CDEN	Cement Density	HGNS-H	2	g/cm3
CSODDRL	Casing Outer Diameter - Zoned along driller depths	WLSESSION	8.625	in
DFD	Drilling Fluid Density	Borehole	9.2	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	
SOCO	Standoff Correction Option	HGNS-H	Yes	
SP_SHIFT	SP Shift	AIT-H	0	mV
SPDR	SP Drift Per Foot	AIT-H	0	mV/ft

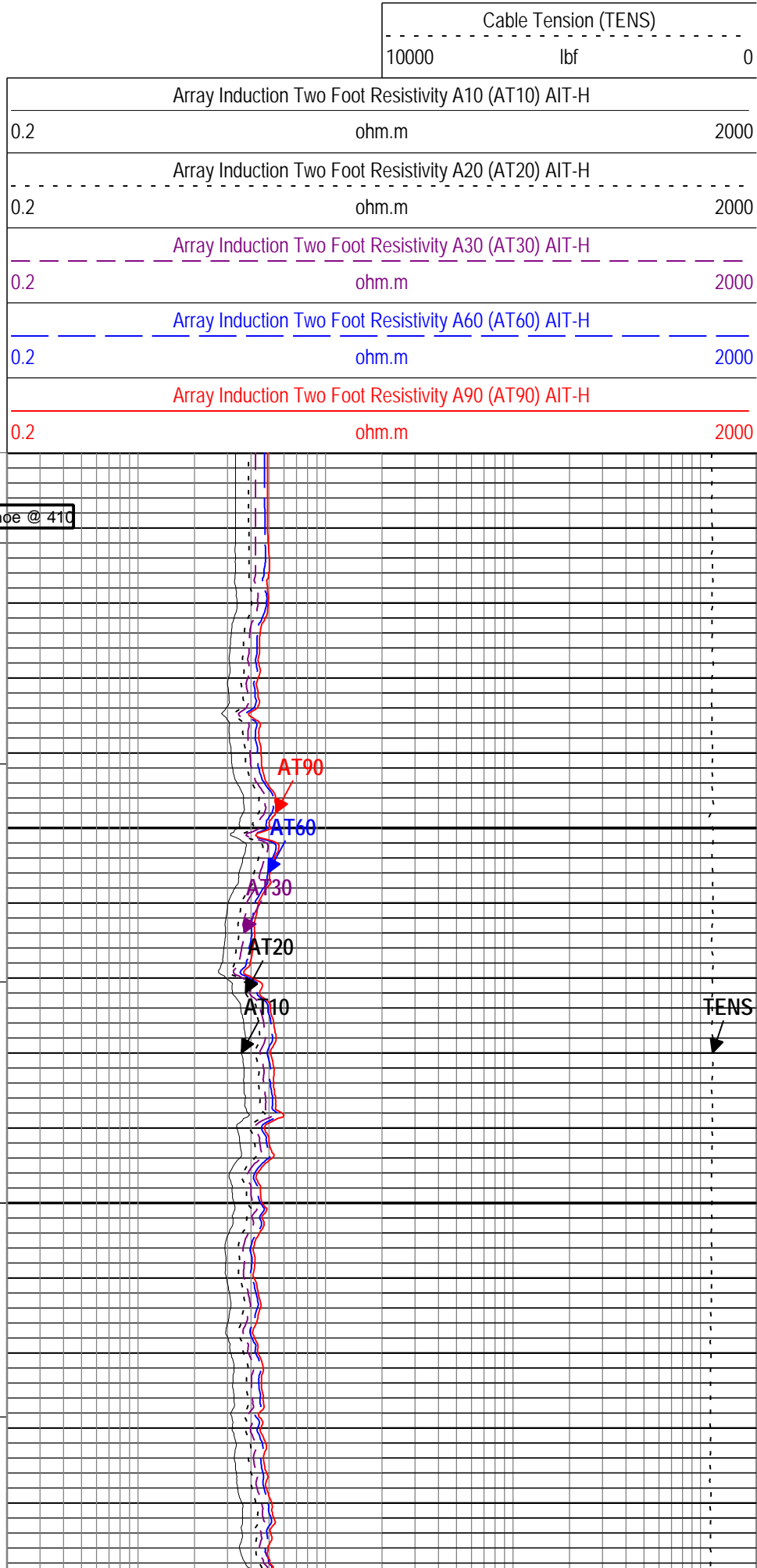
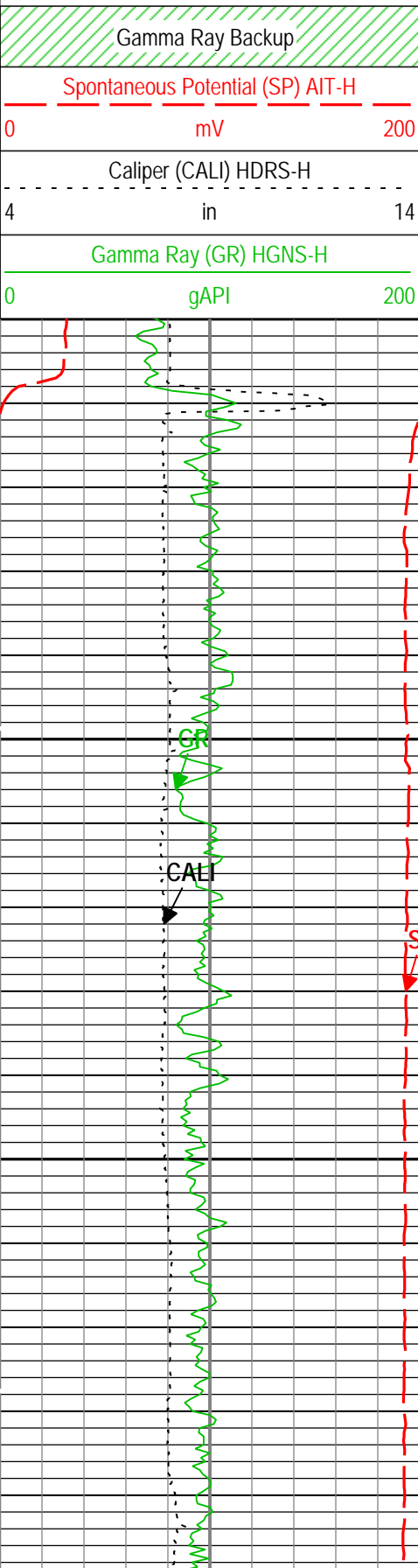
Depth Zone Parameters

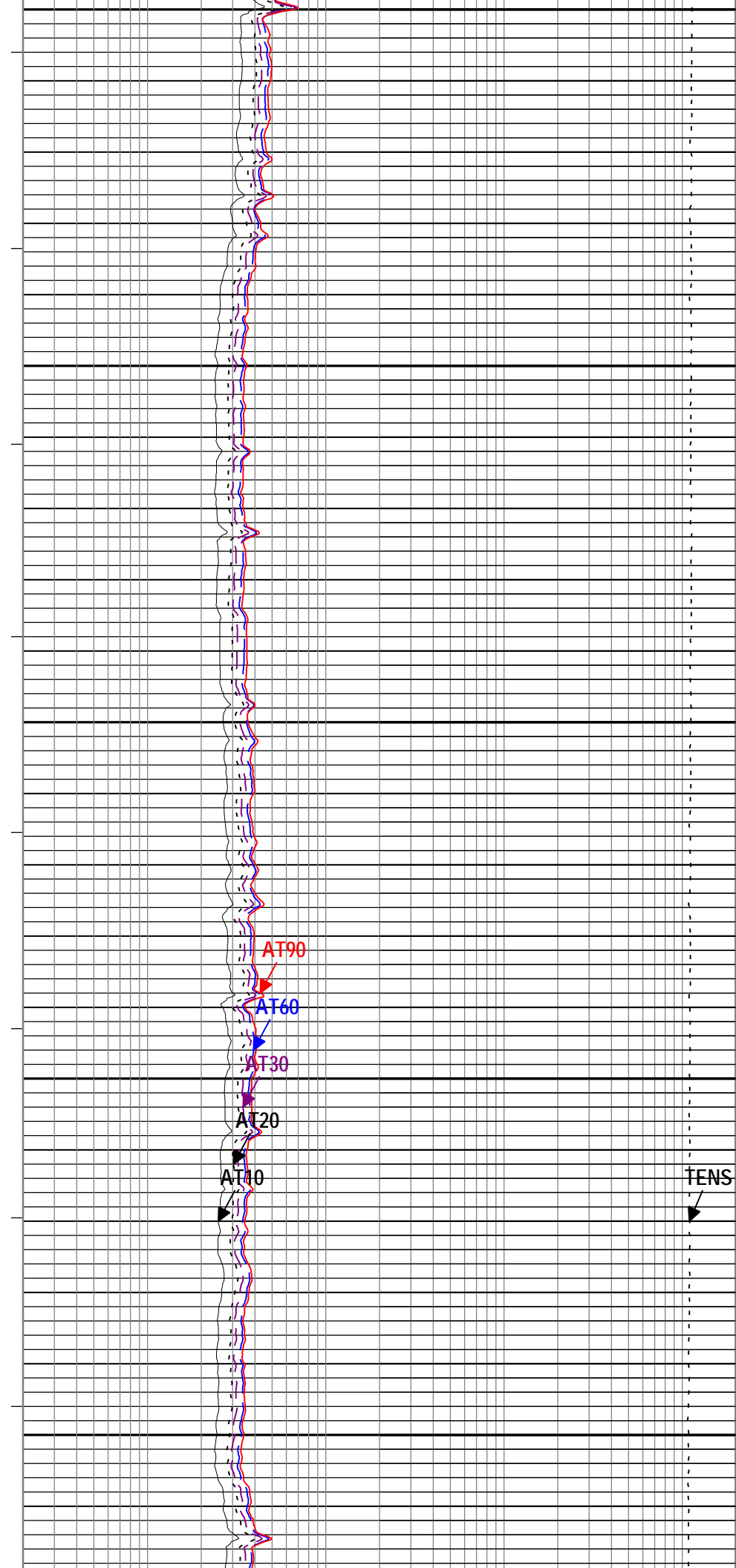
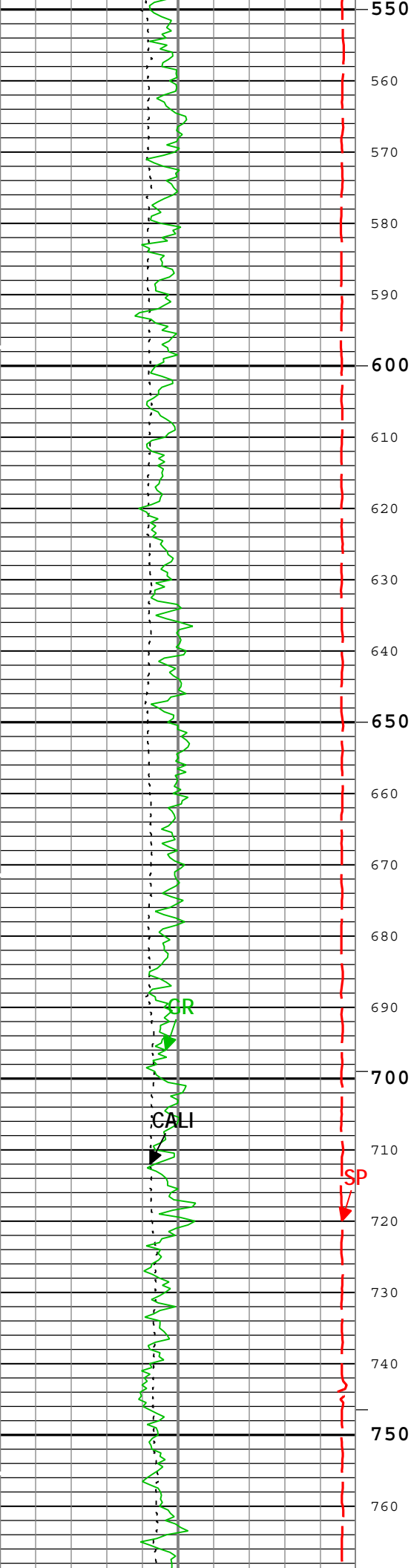
Parameter	Value	Start (ft)	Stop (ft)
BS	0	400	410

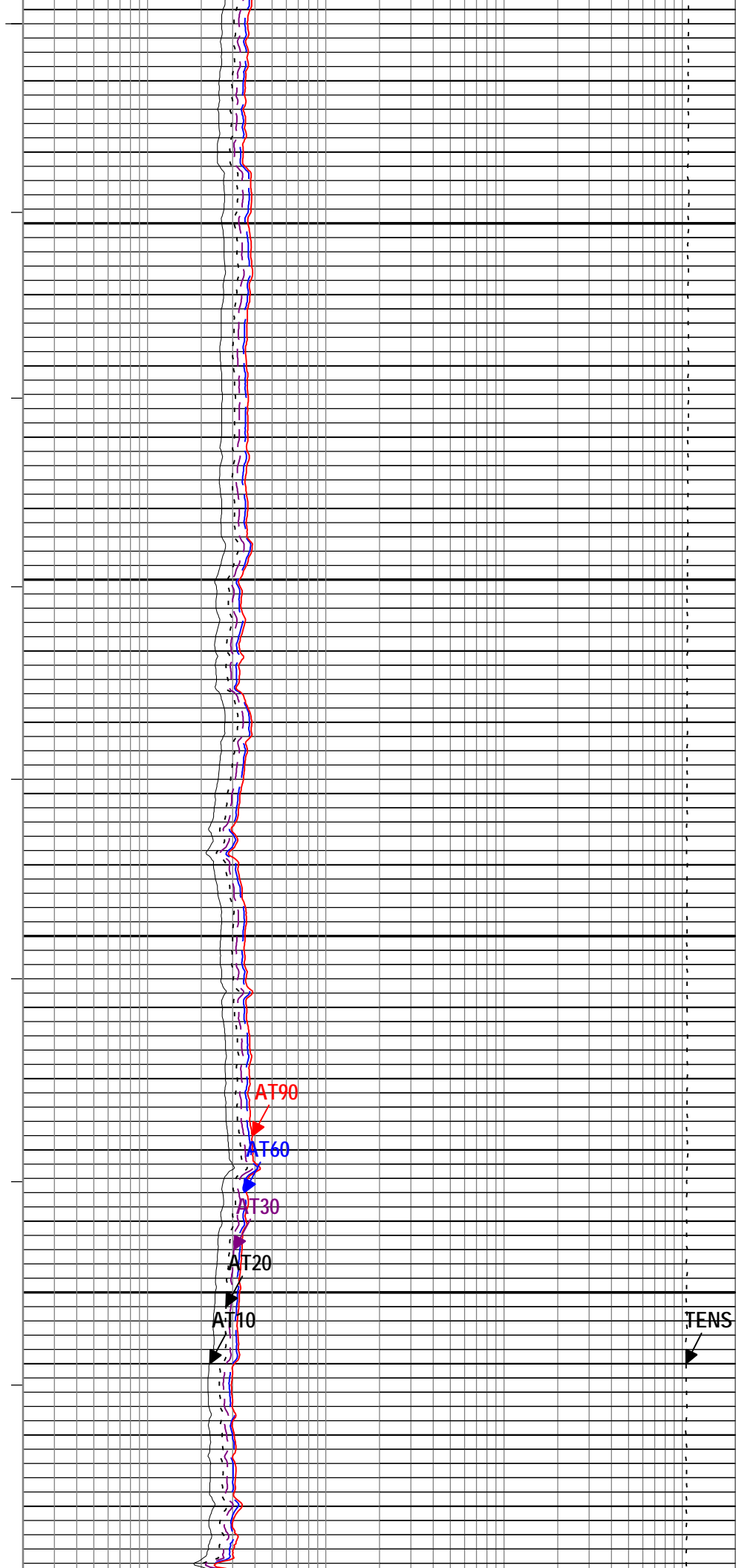
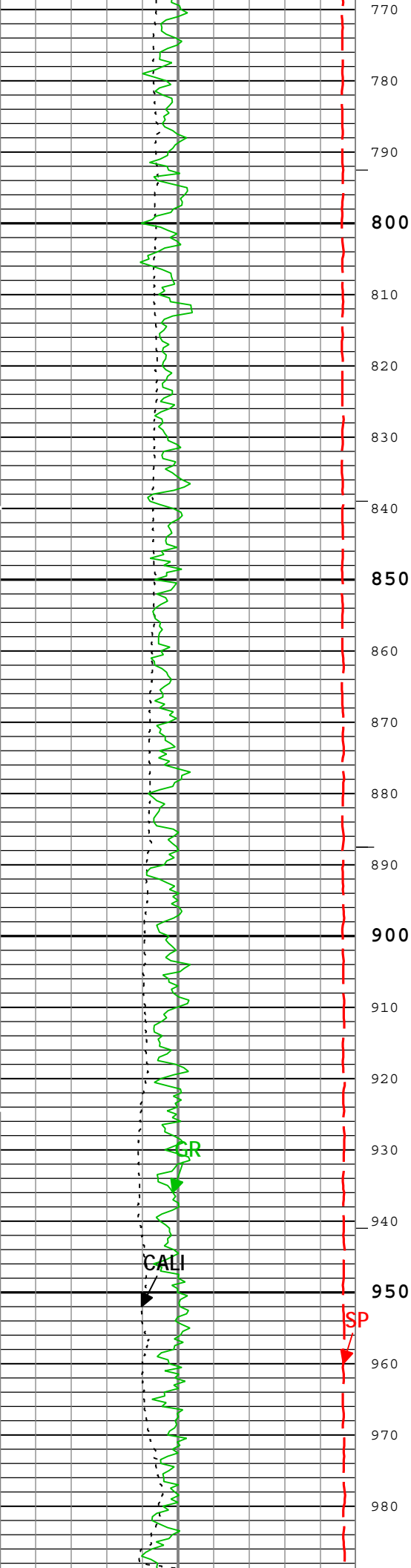
— IHV - Integrated Hole Volume every 10.00 (ft3)
— IHV - Integrated Hole Volume every 100.00 (ft3)
— ICV - Integrated Cement Volume every 10.00 (ft3)

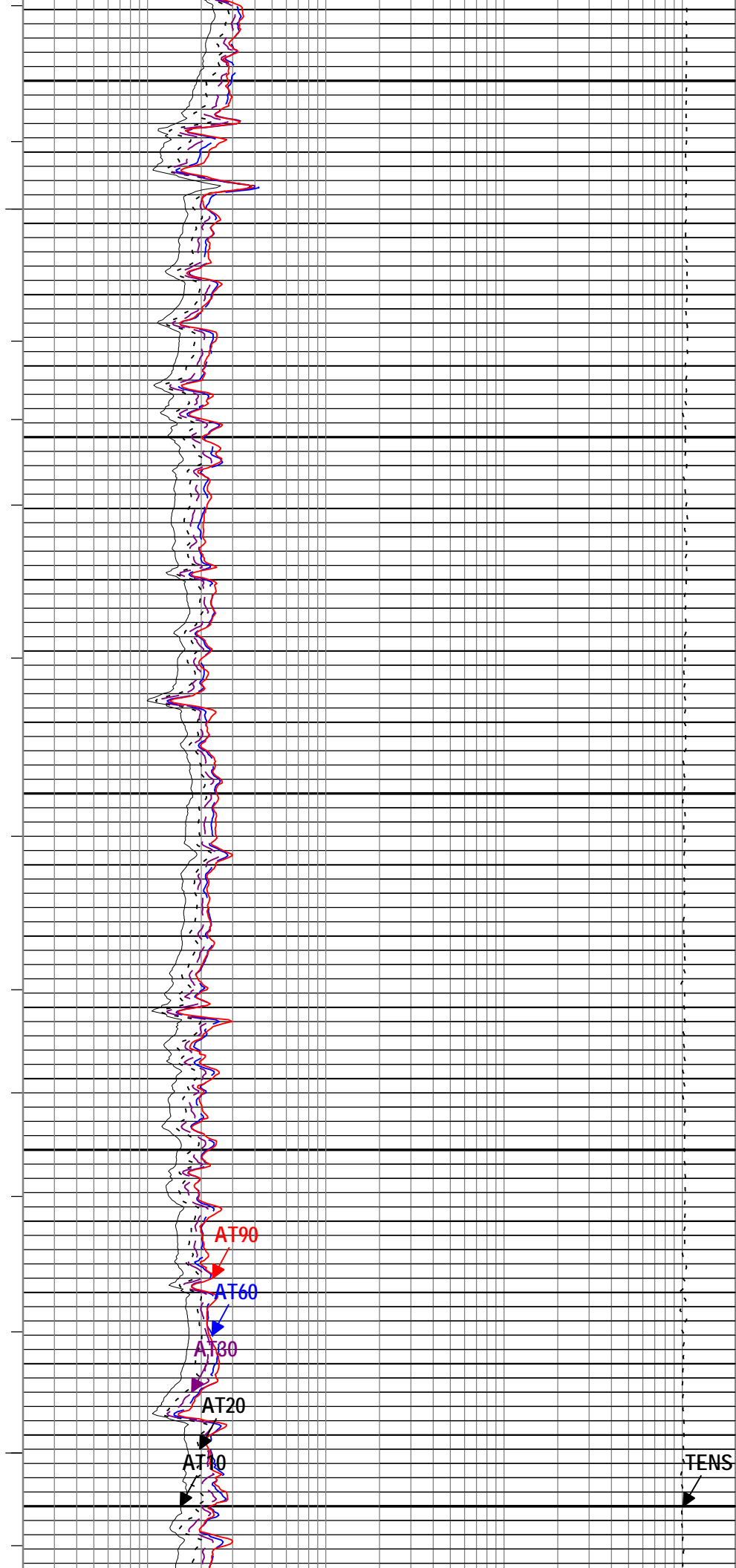
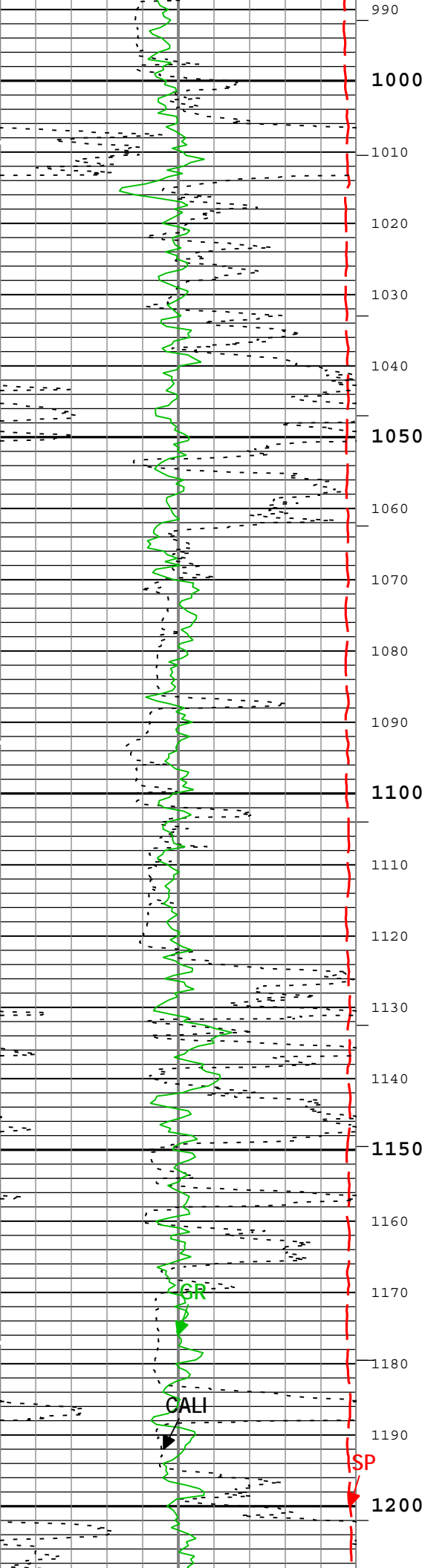
ICV - Integrated Cement Volume every 100.00 (ft3)

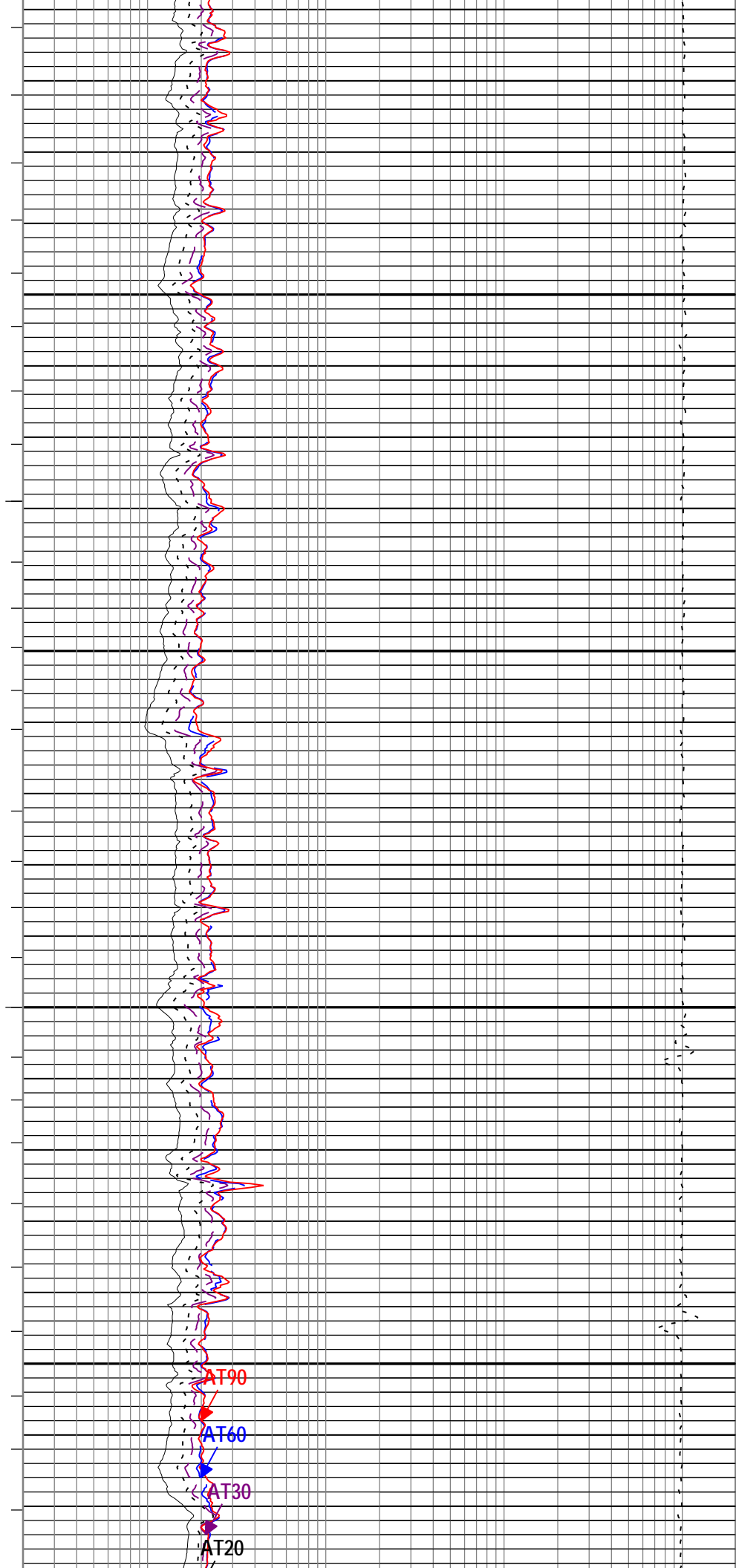
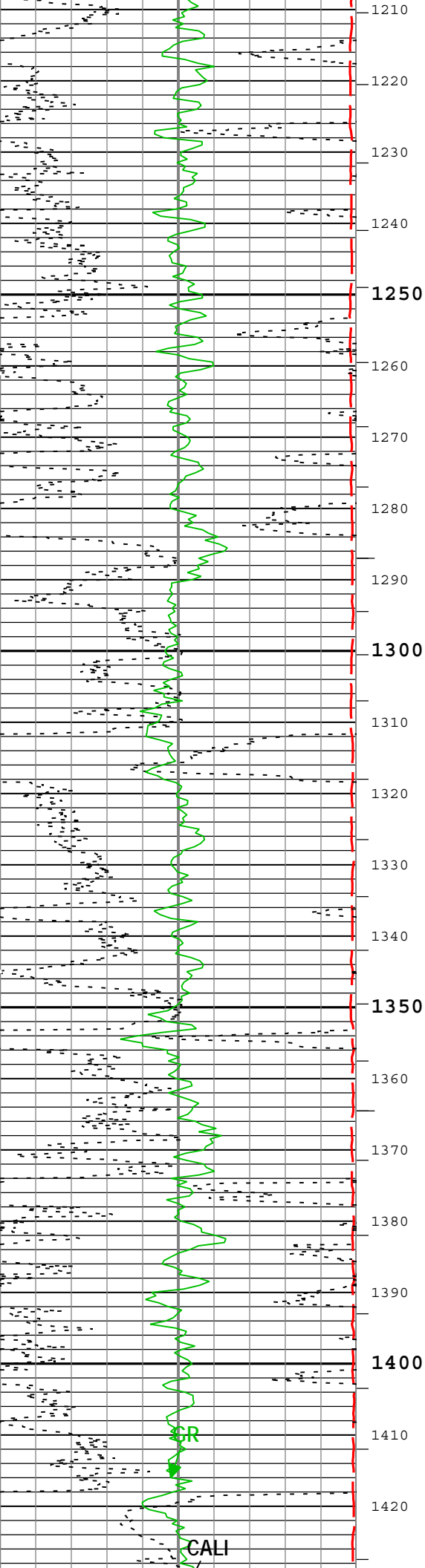
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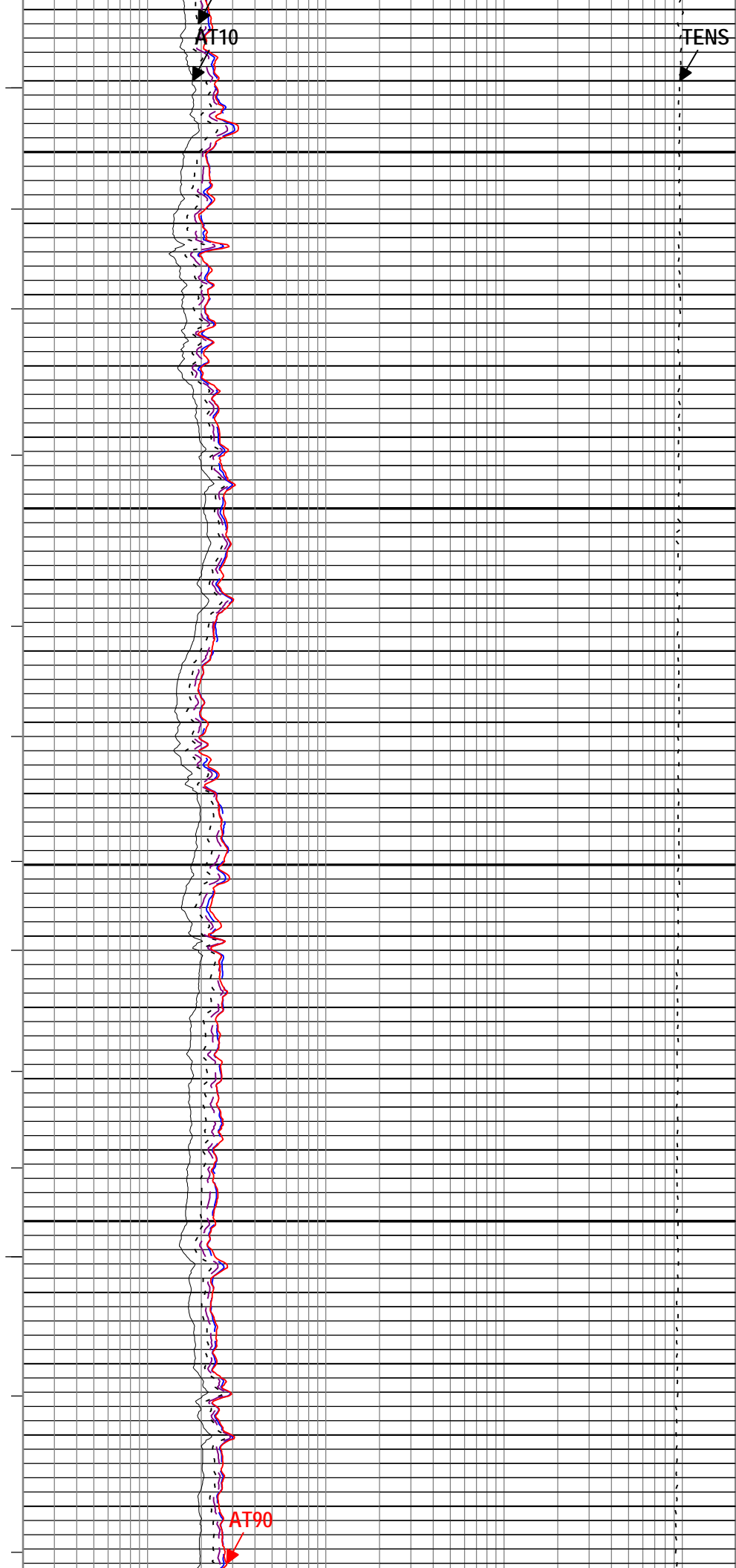
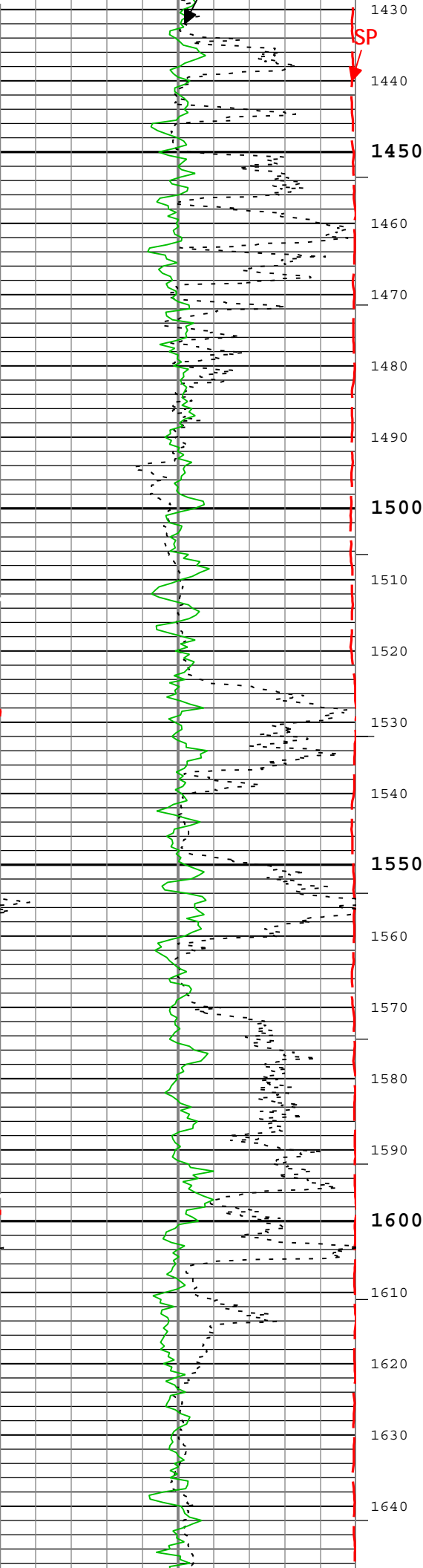


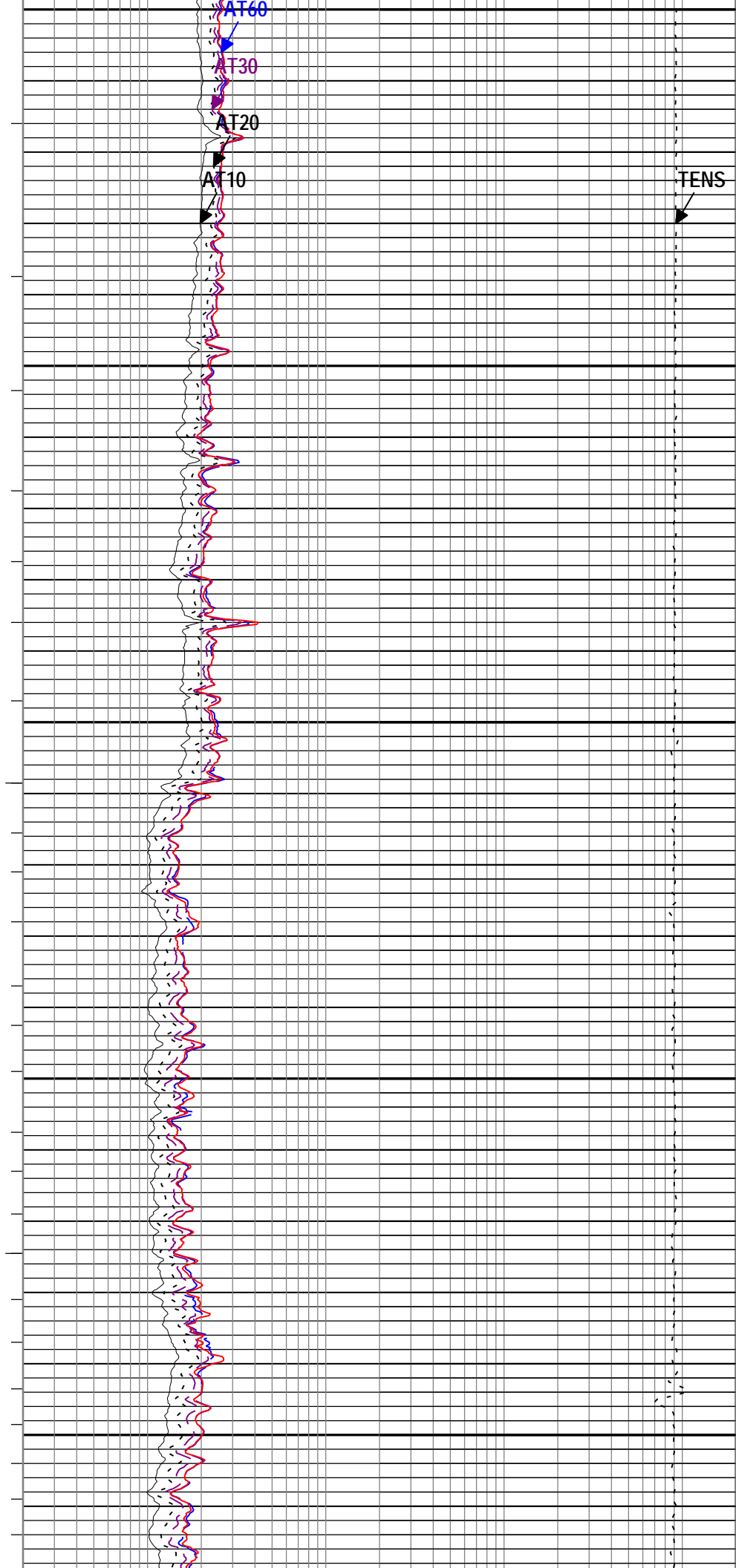
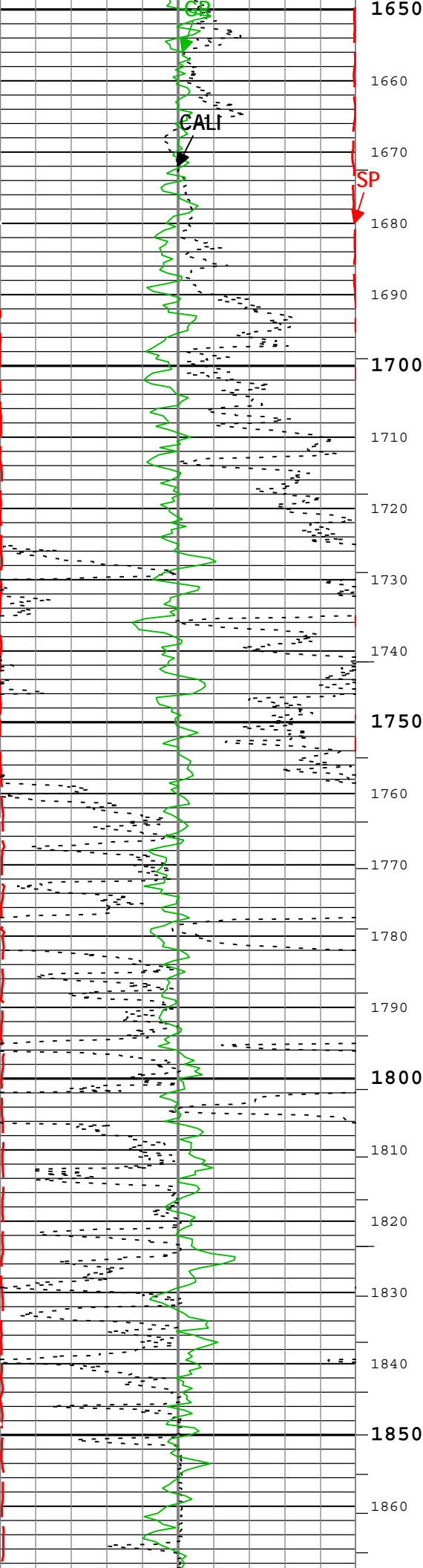


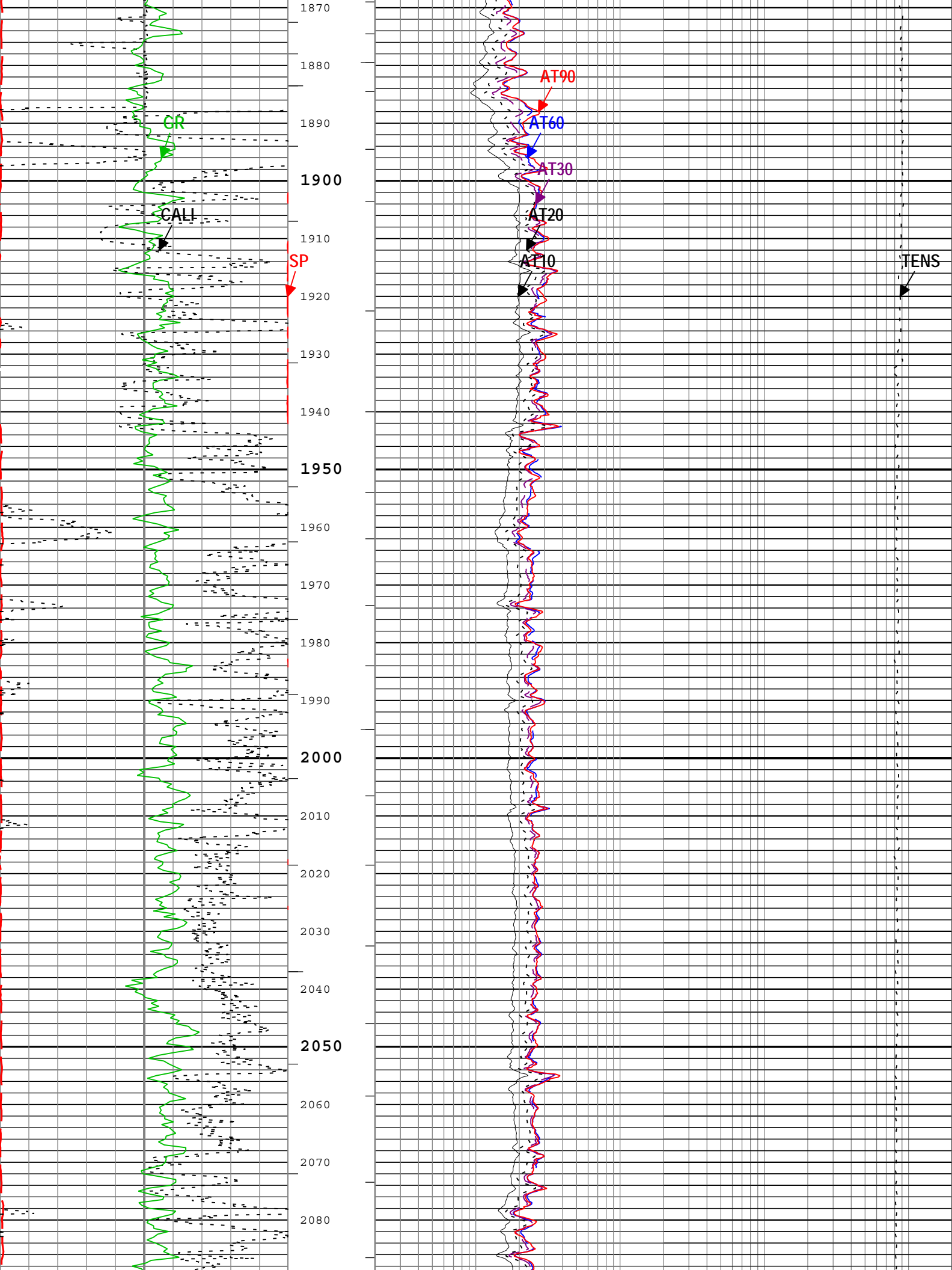


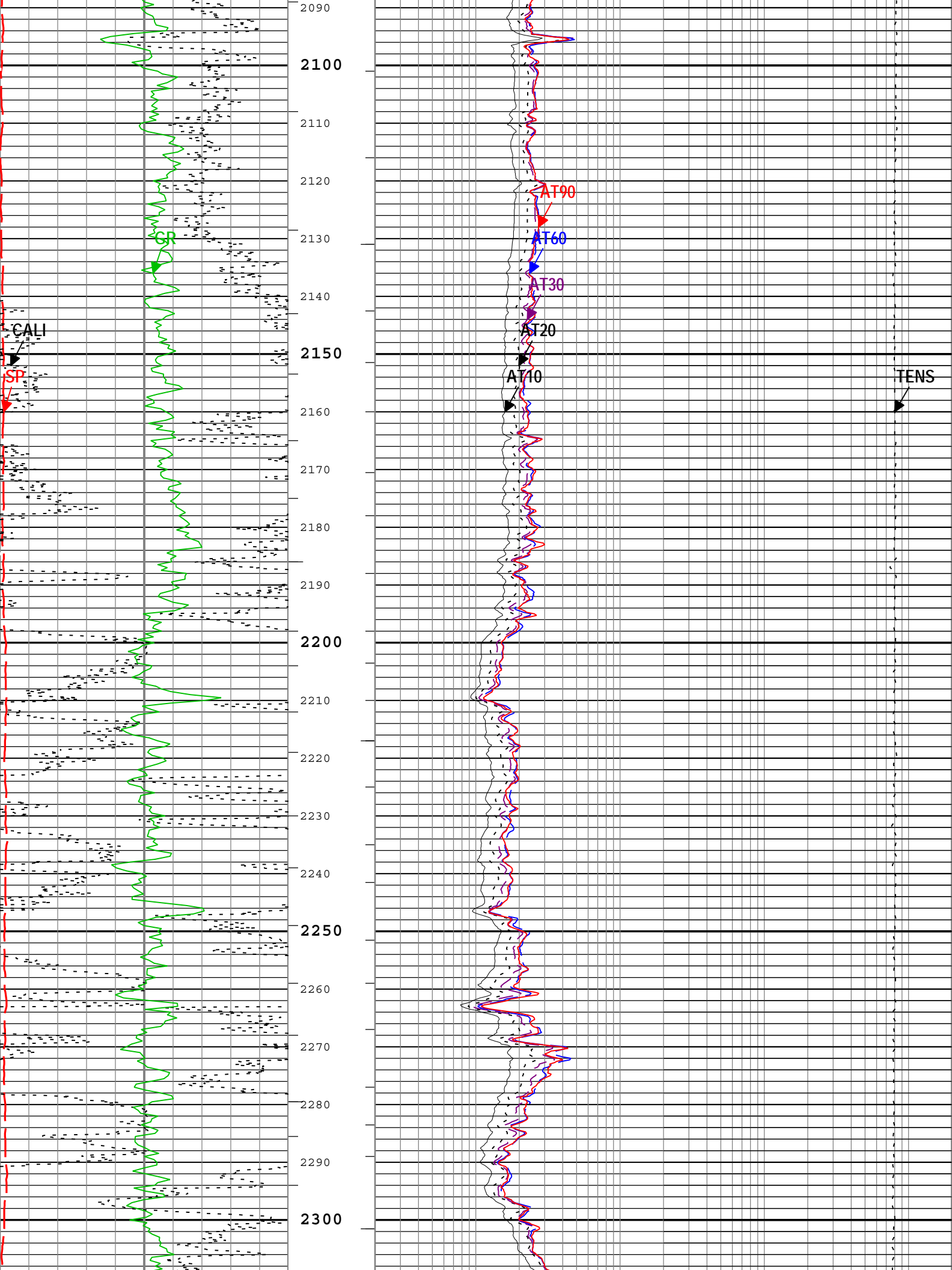


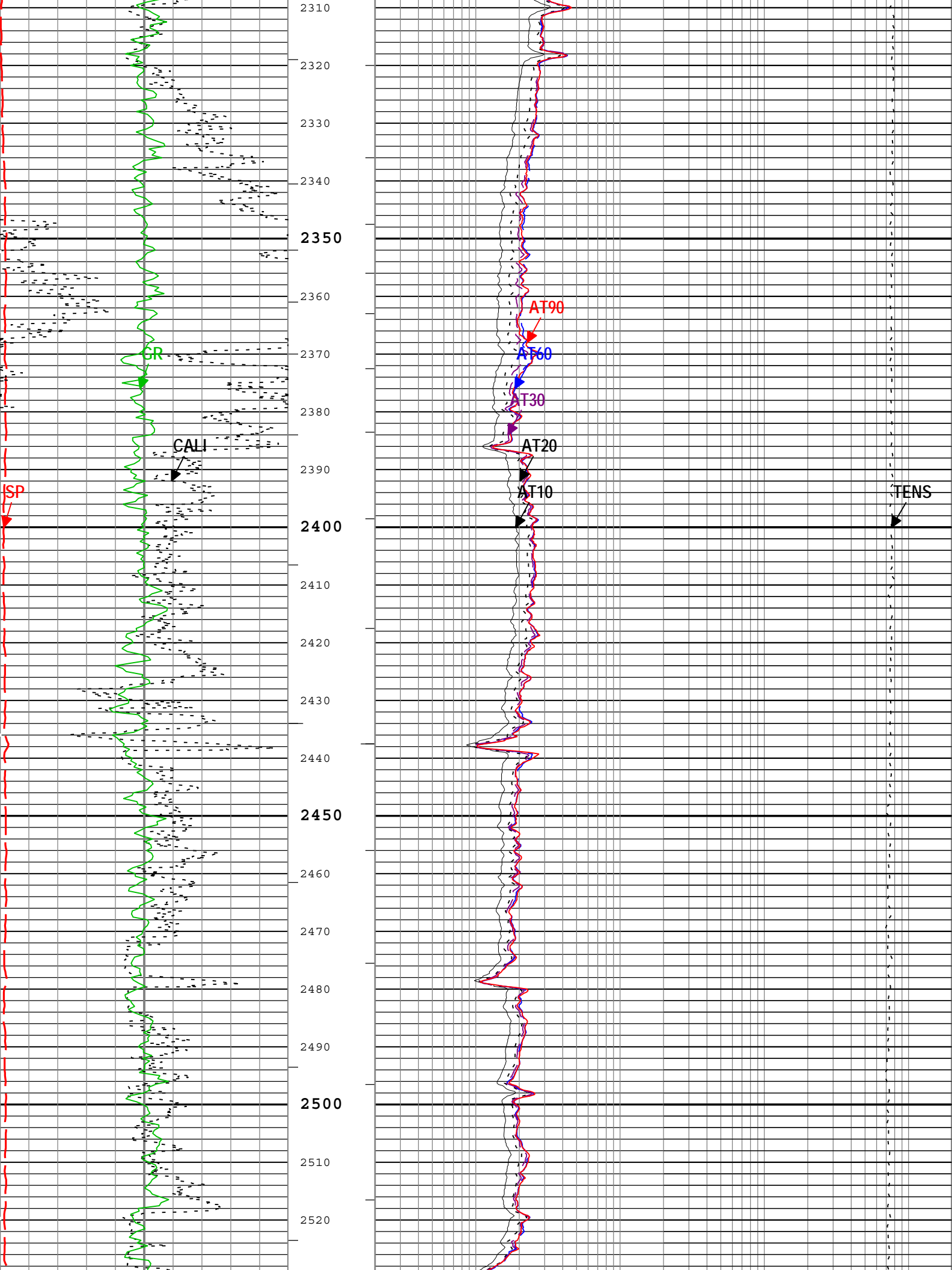


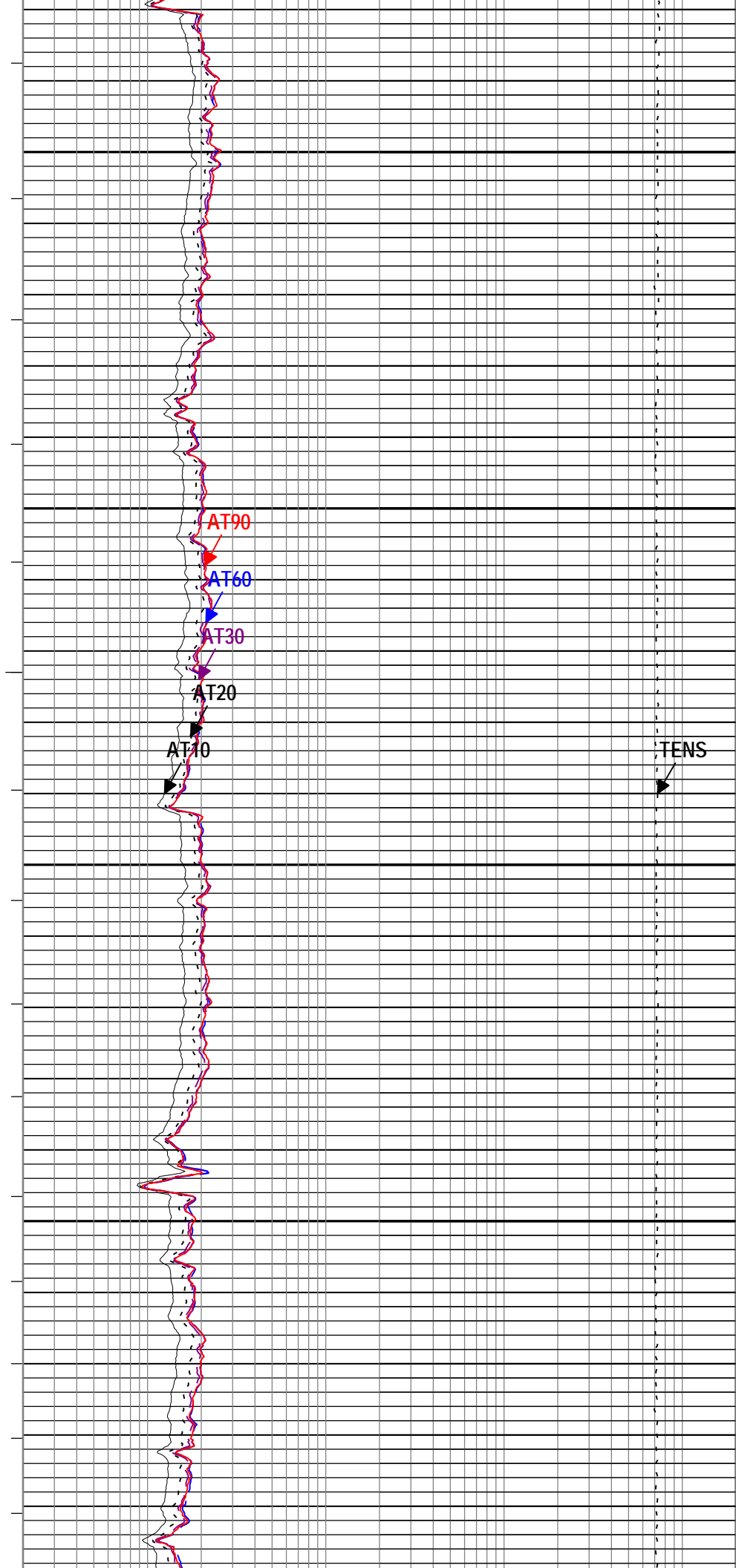
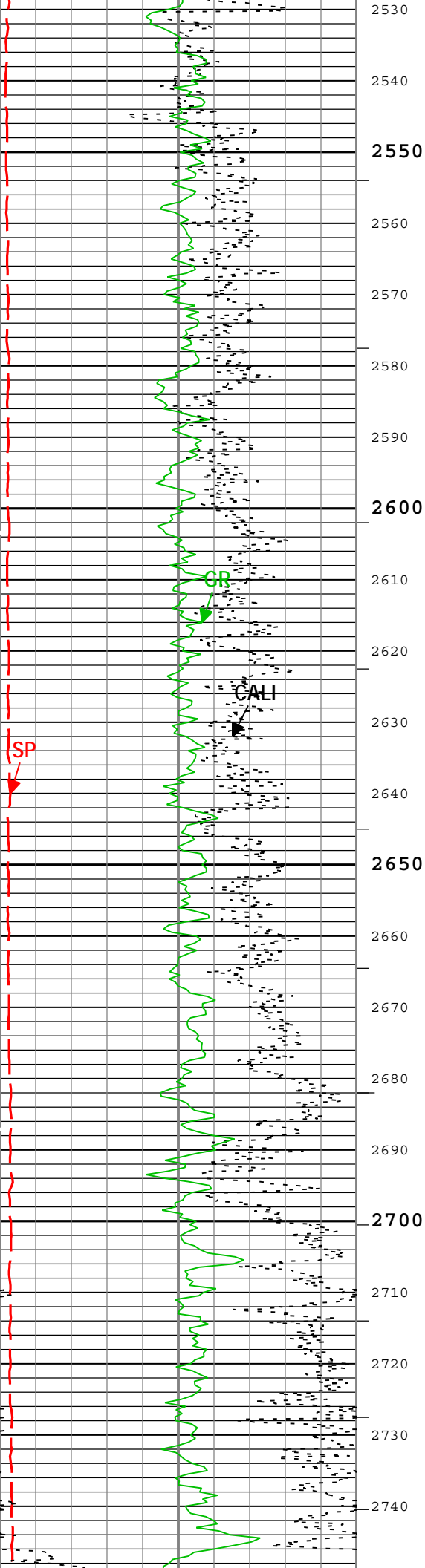


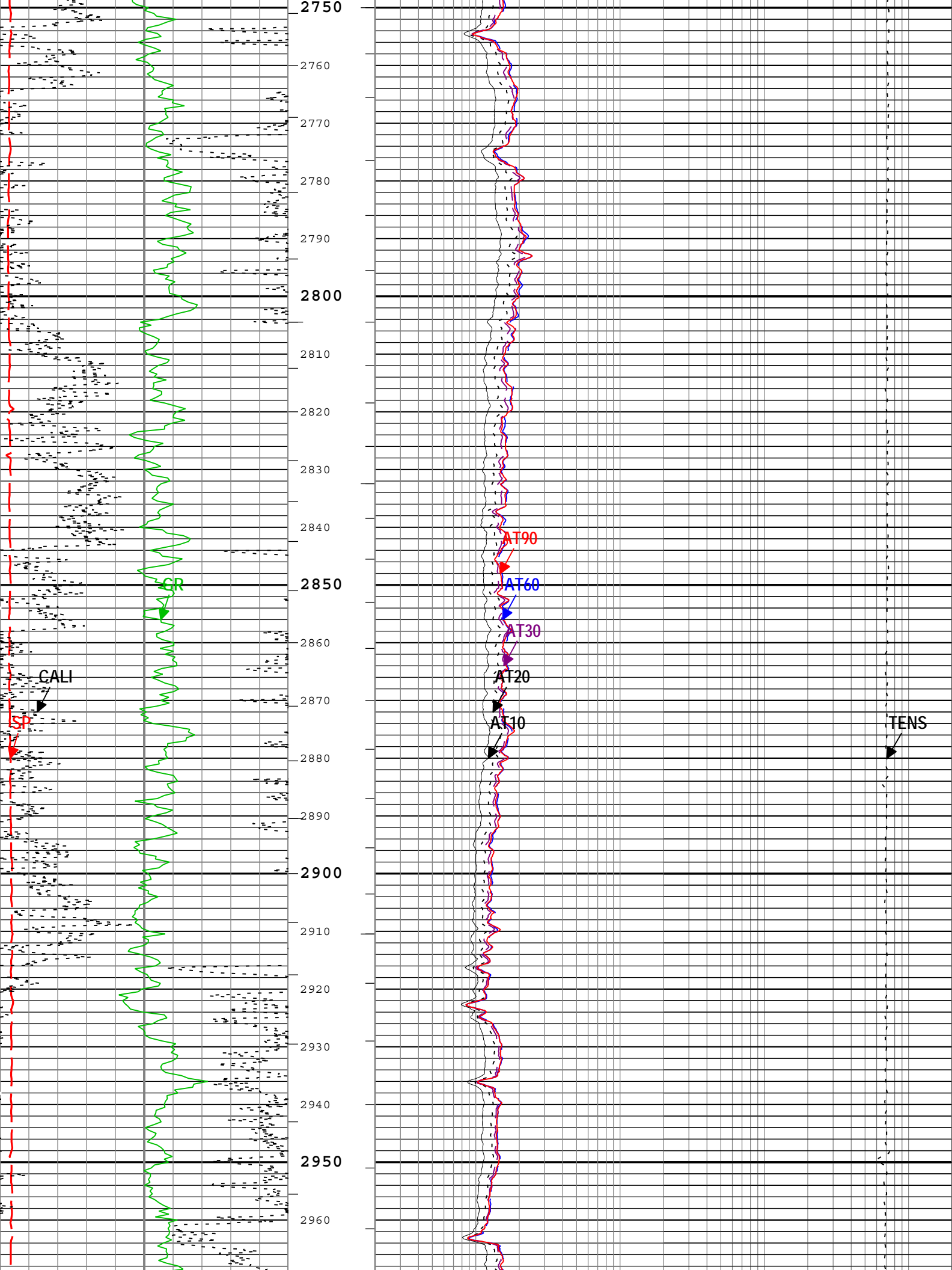


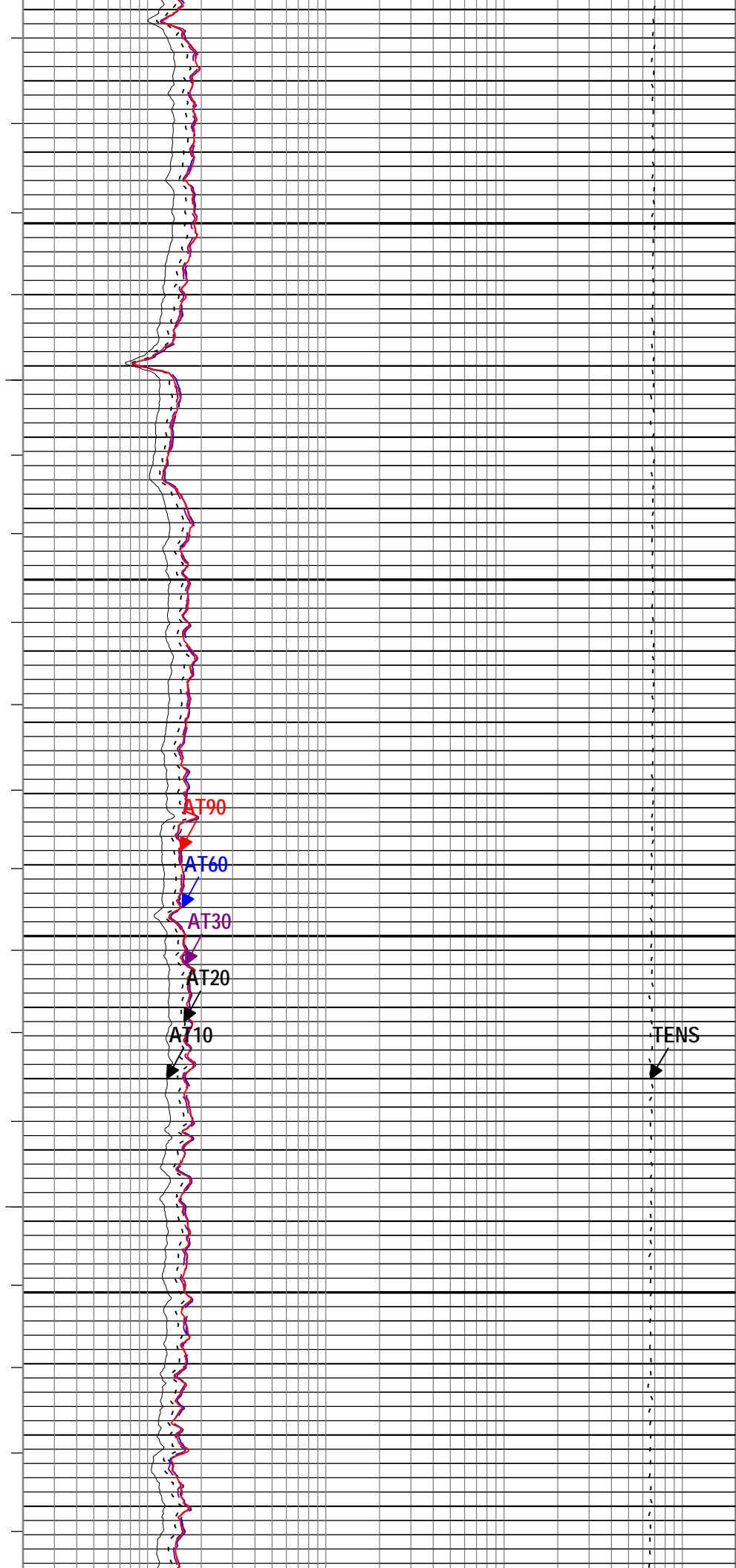
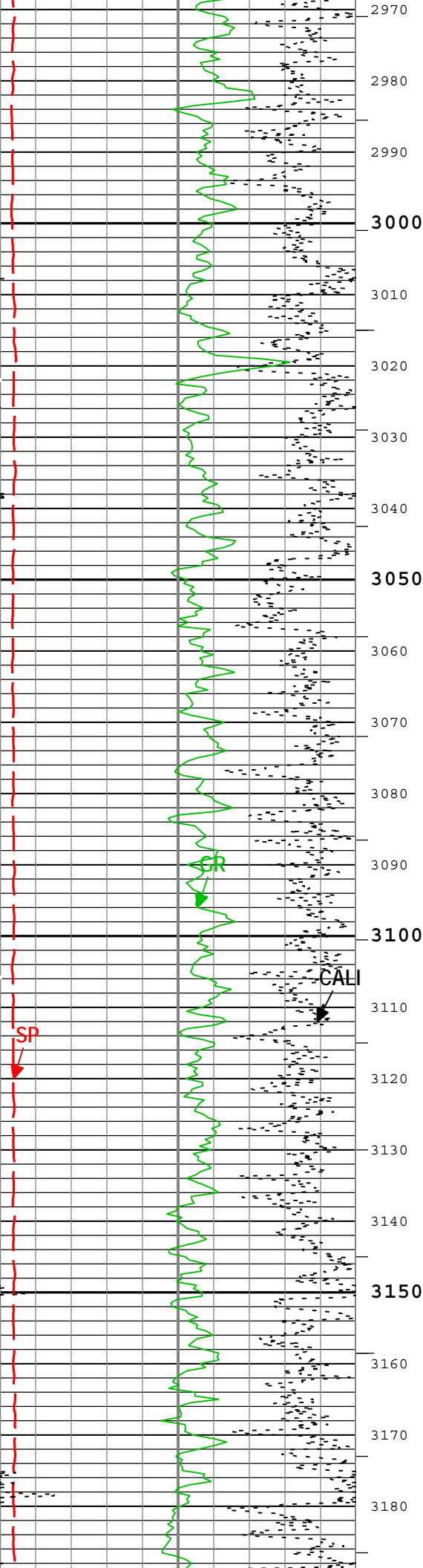


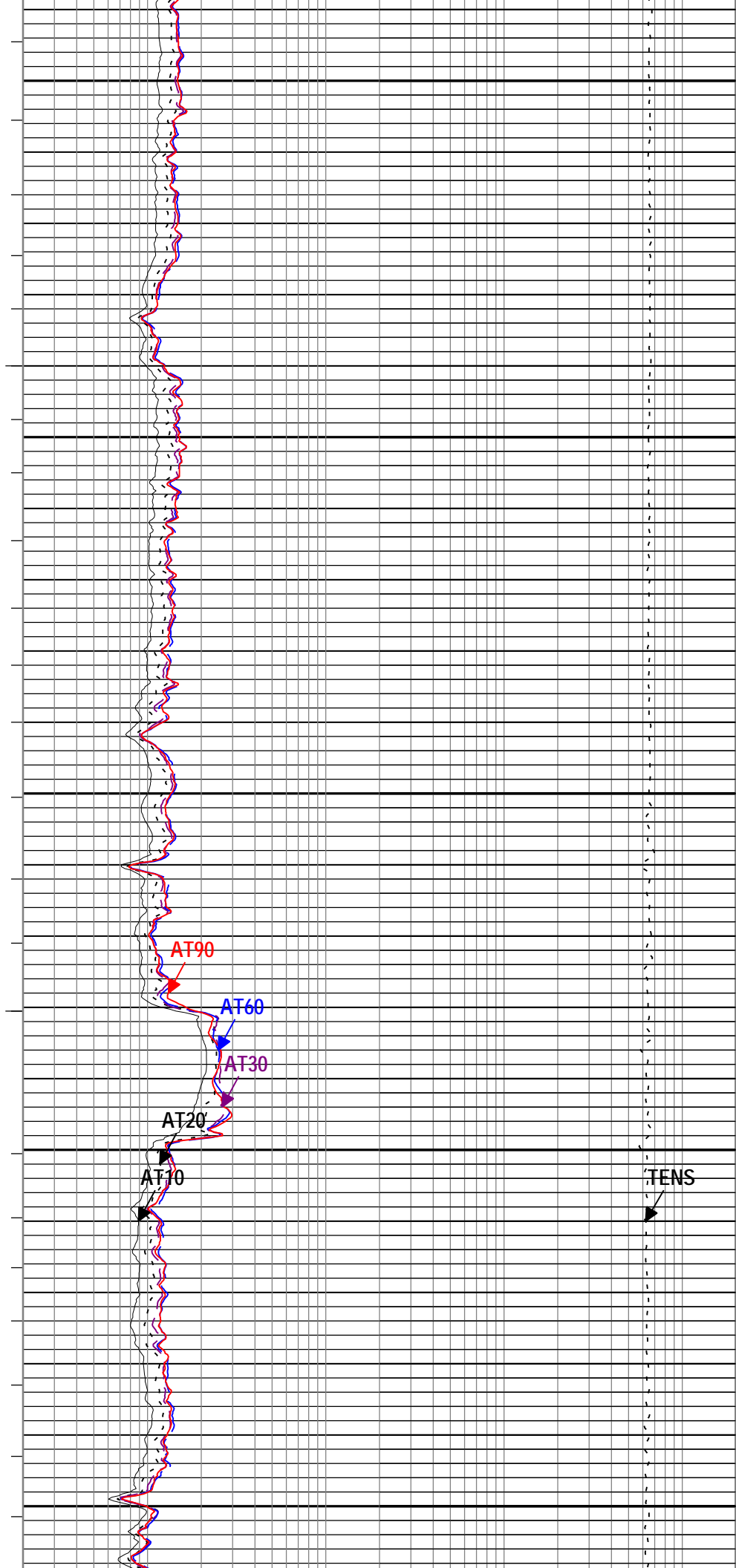
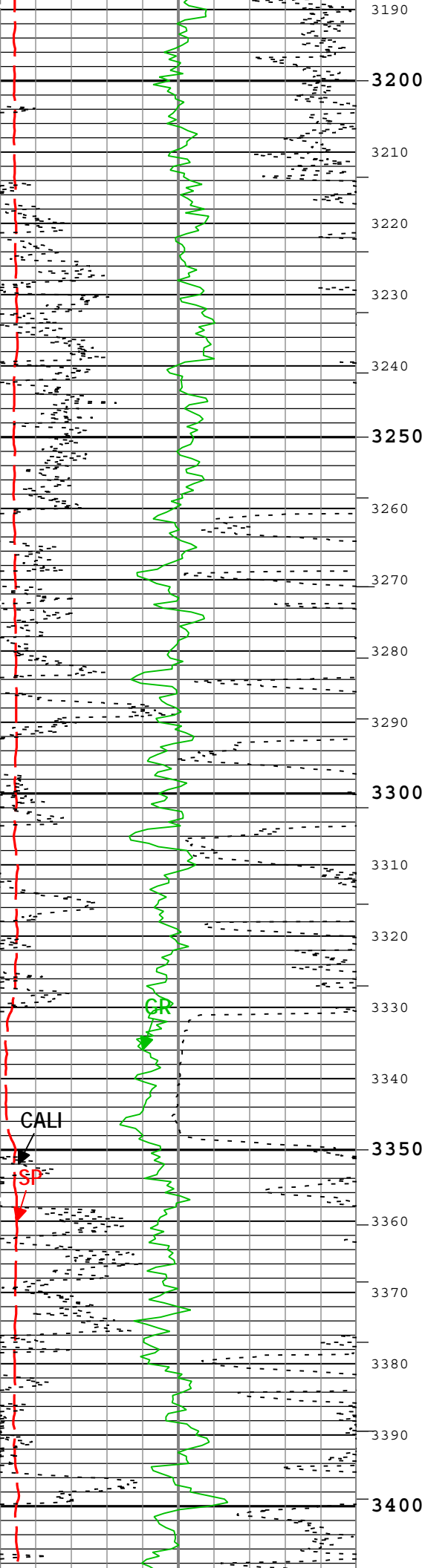


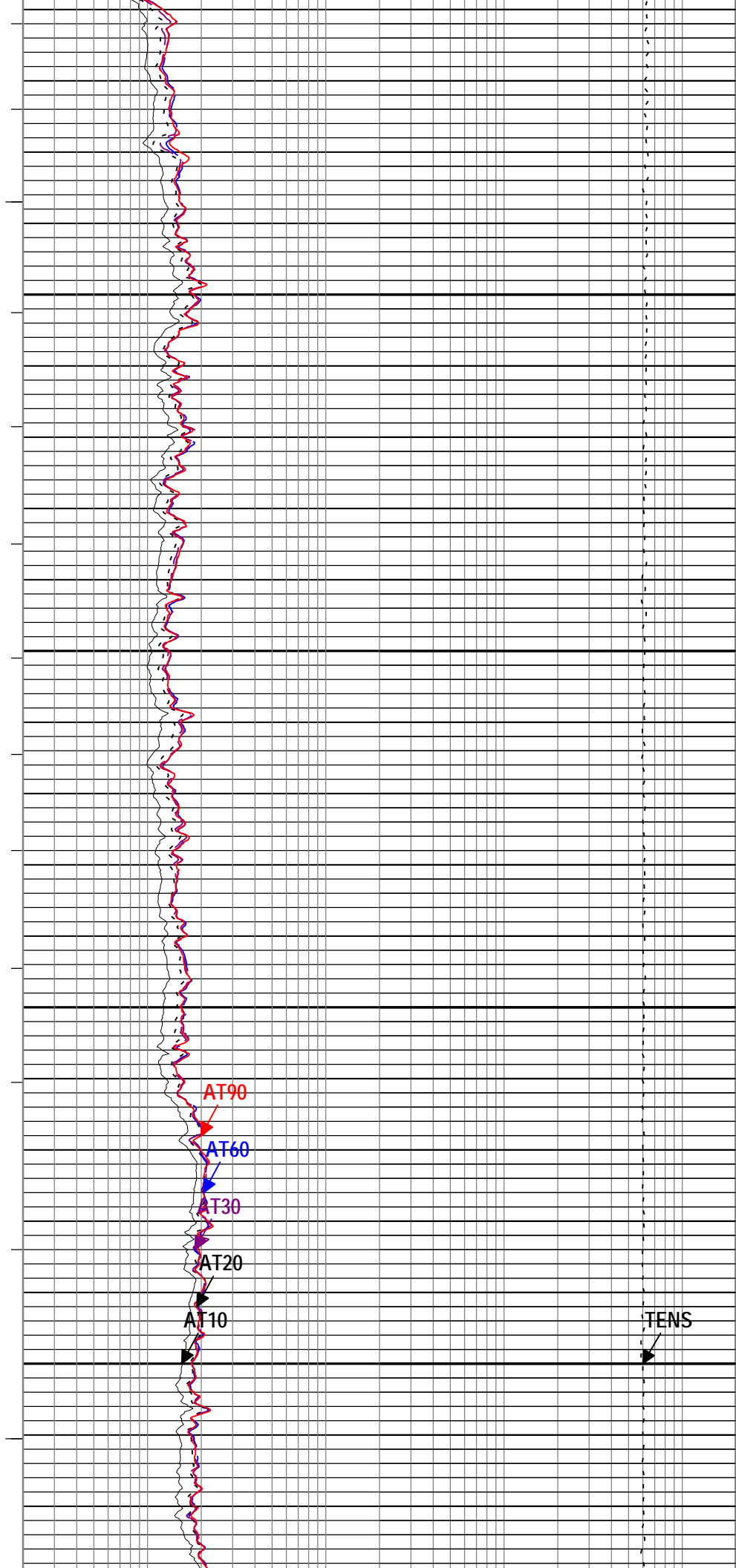
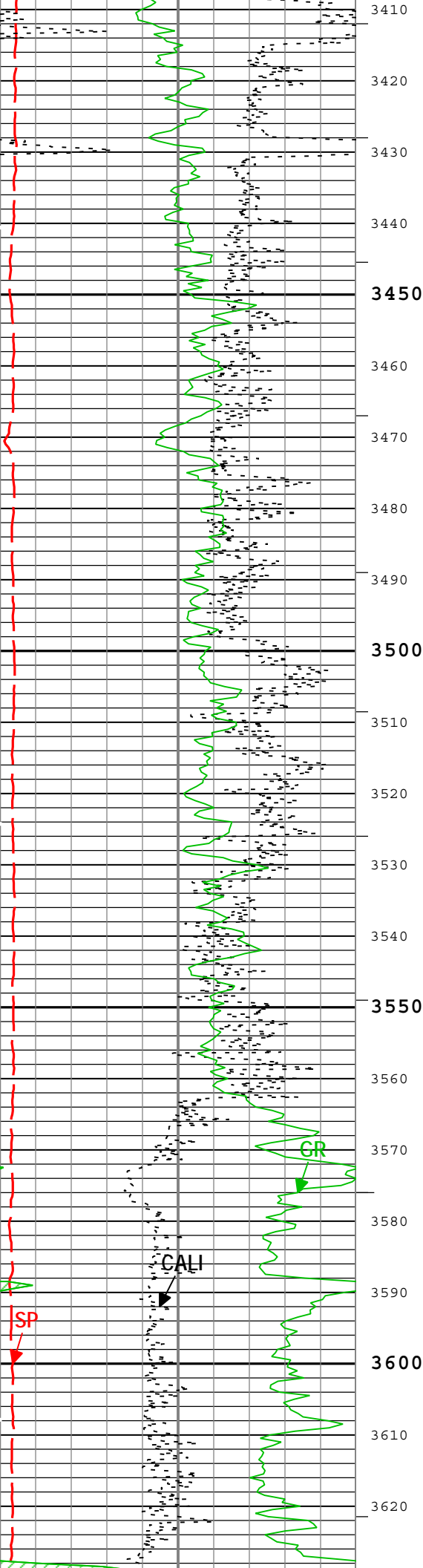


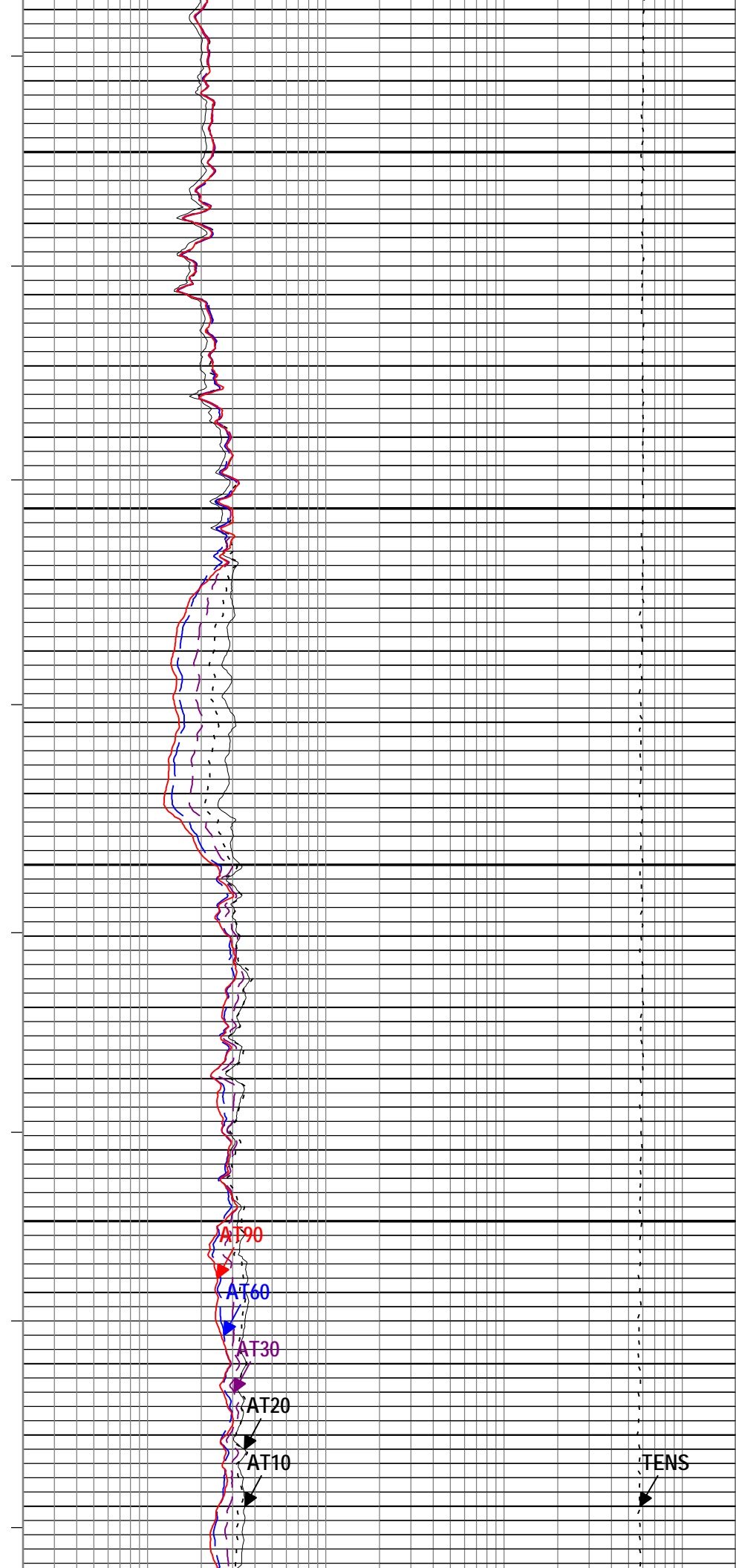
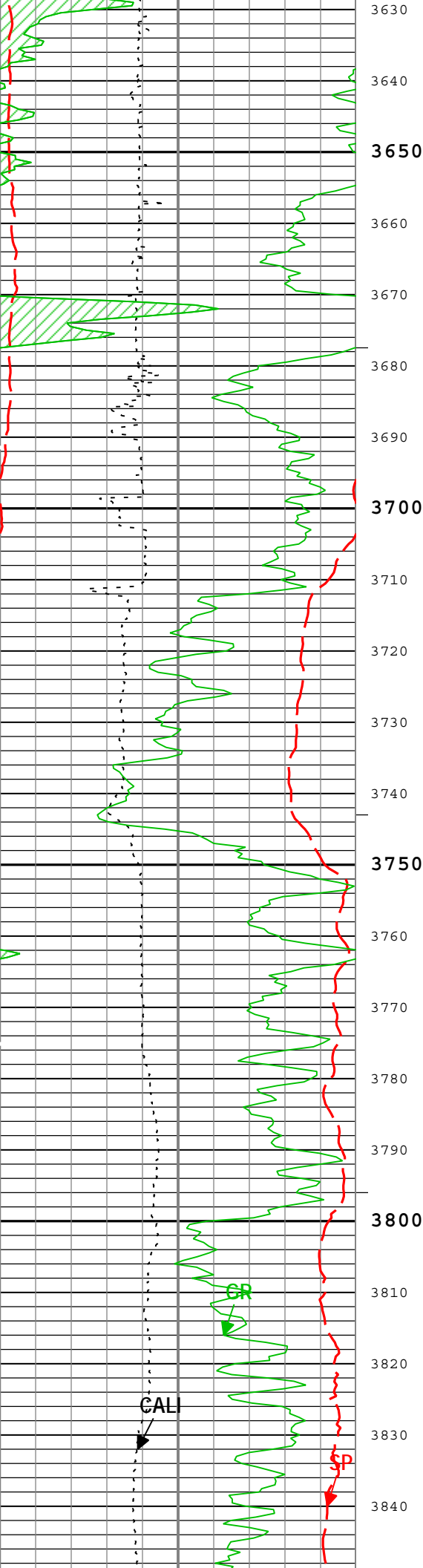


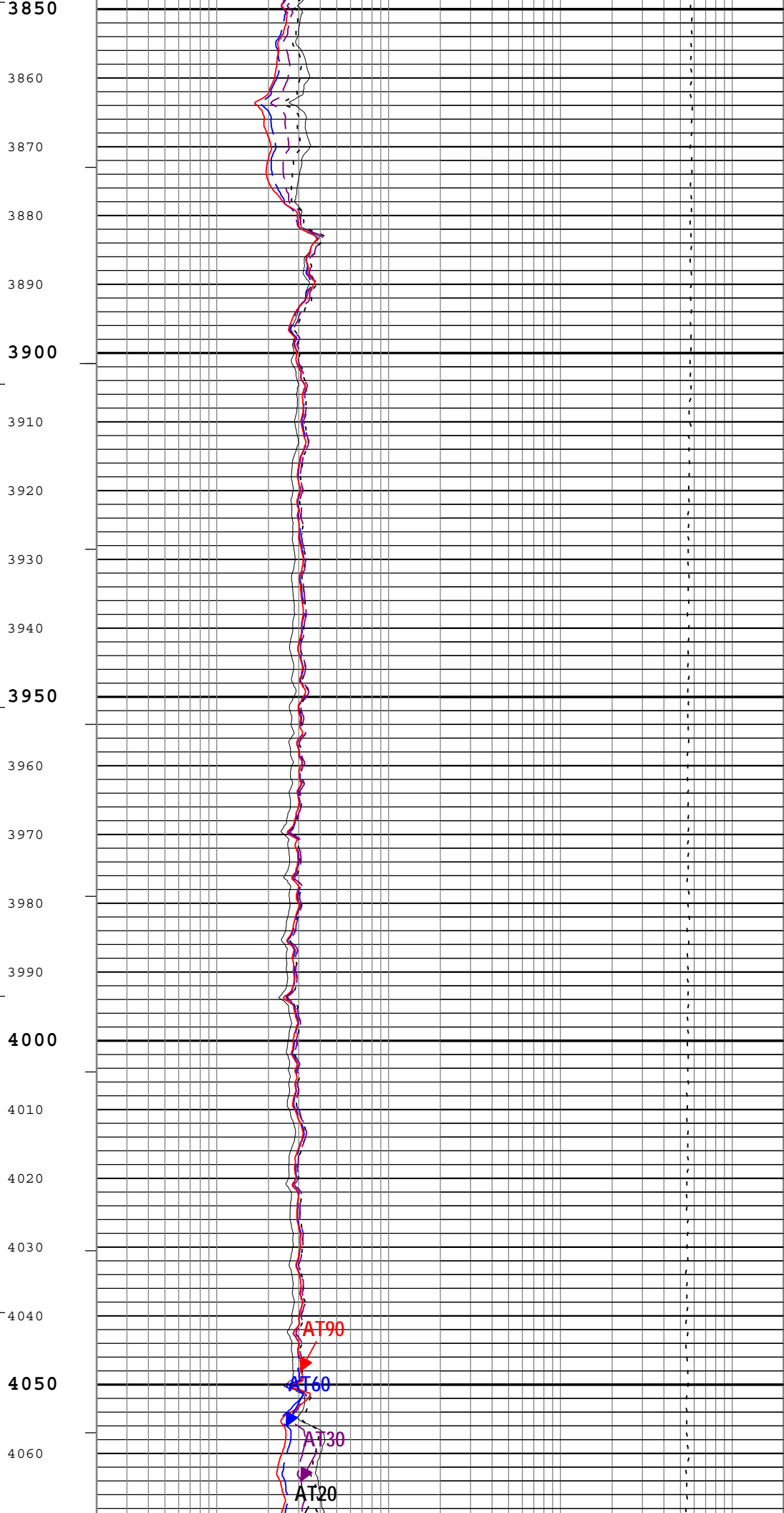
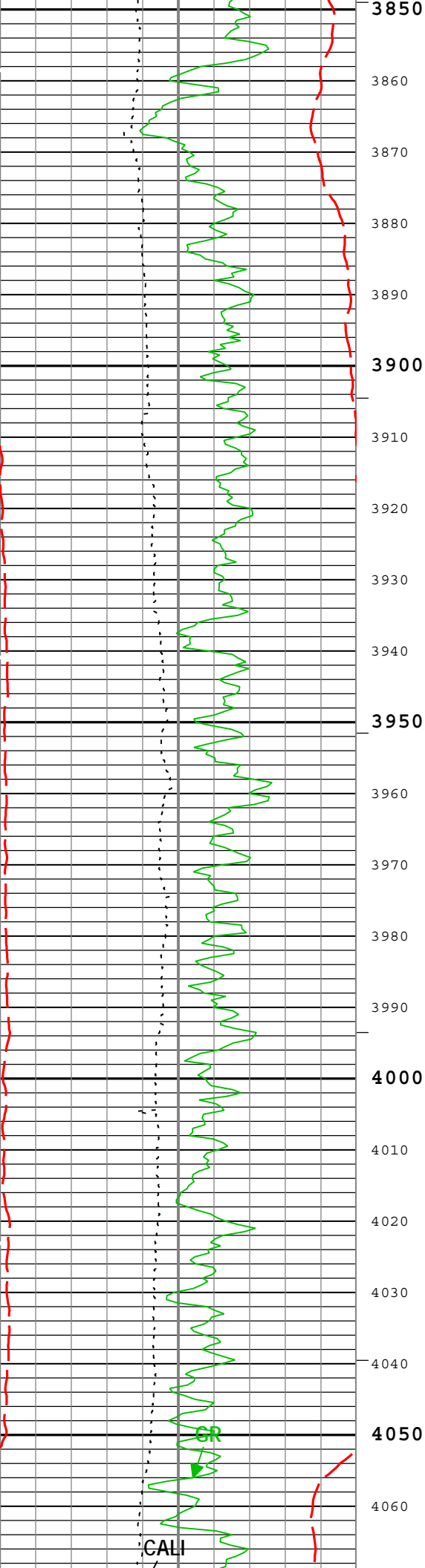


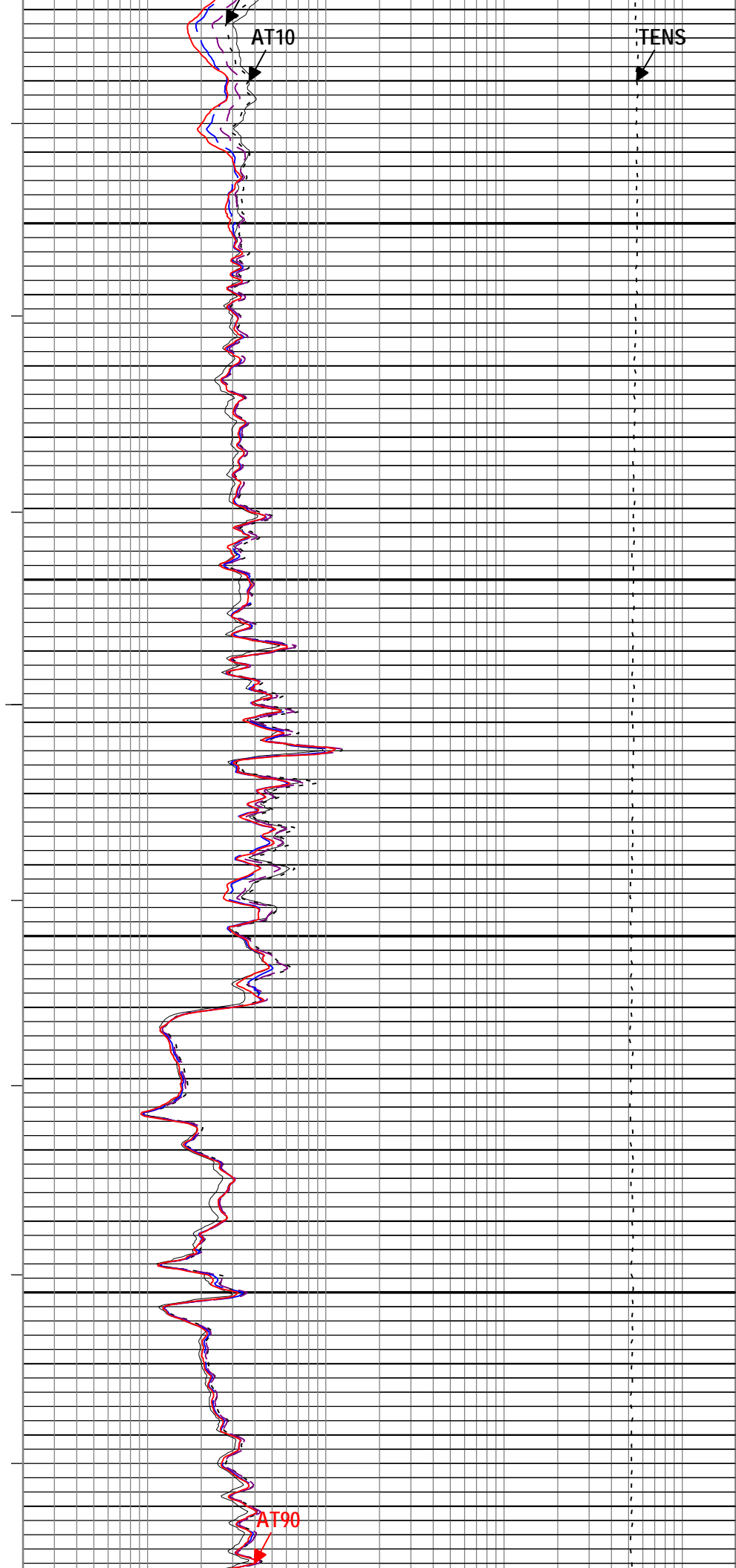
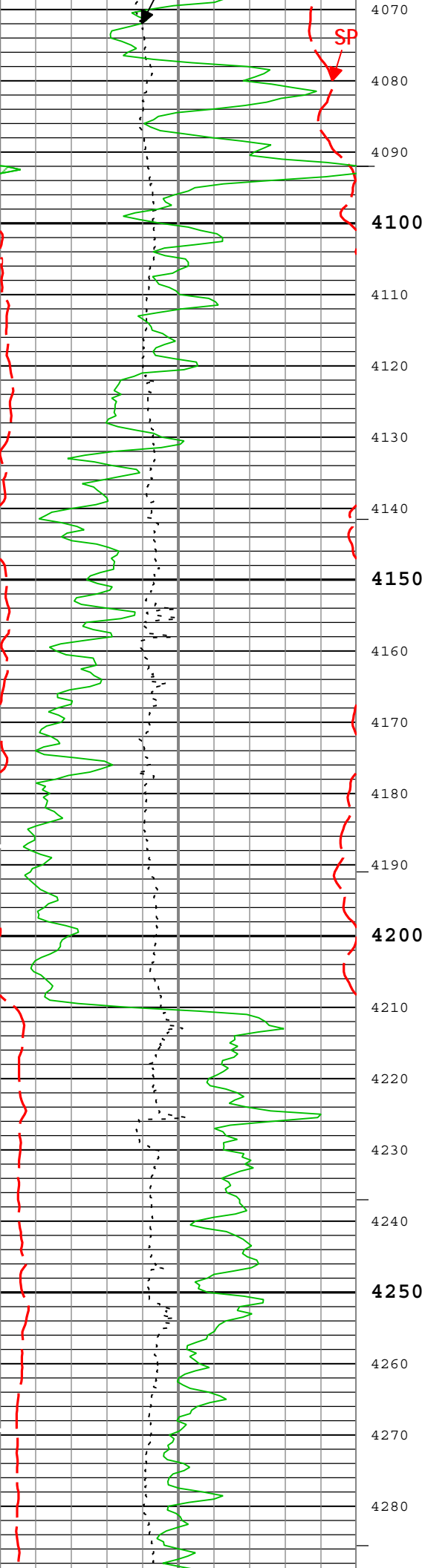


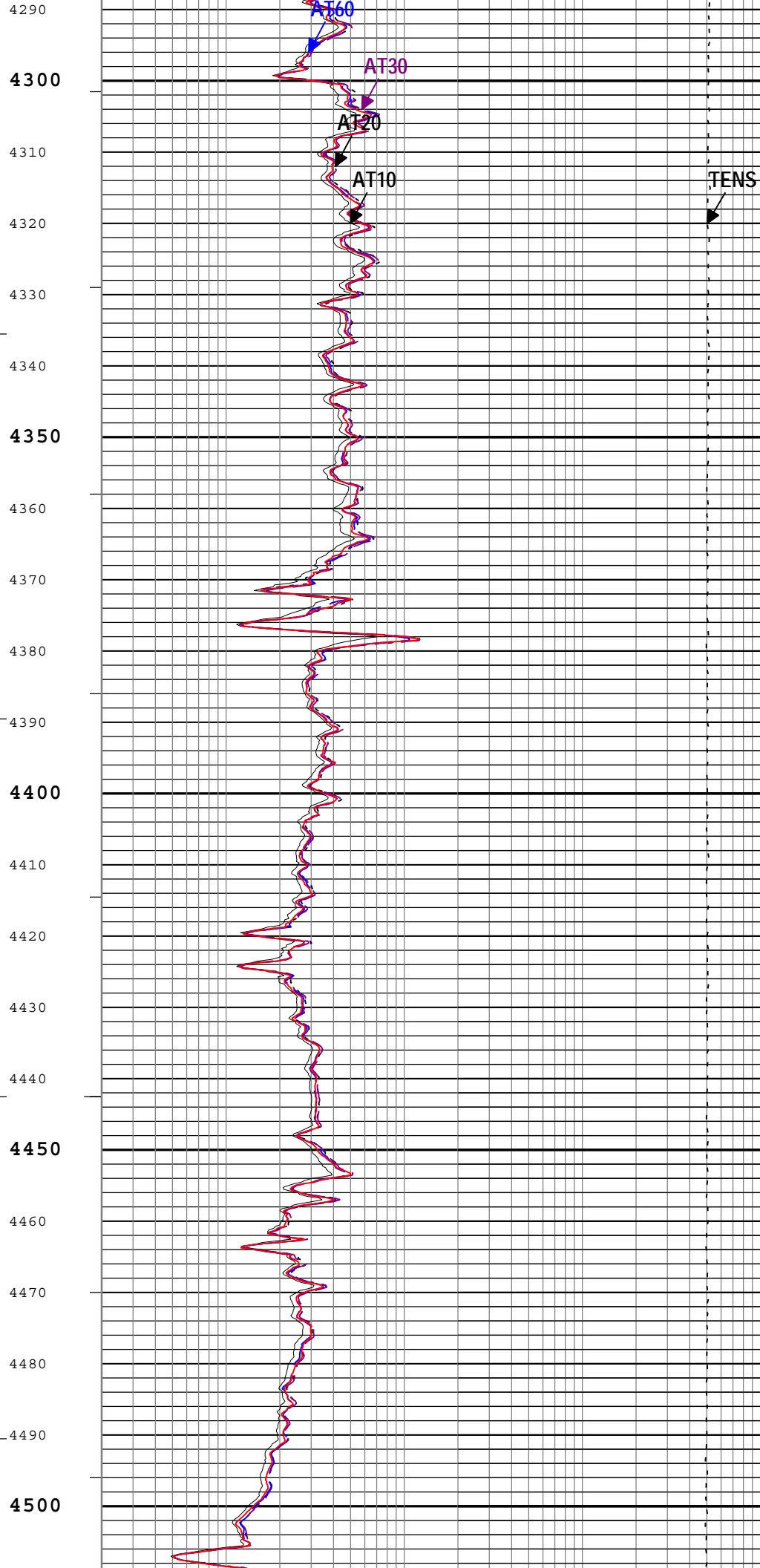
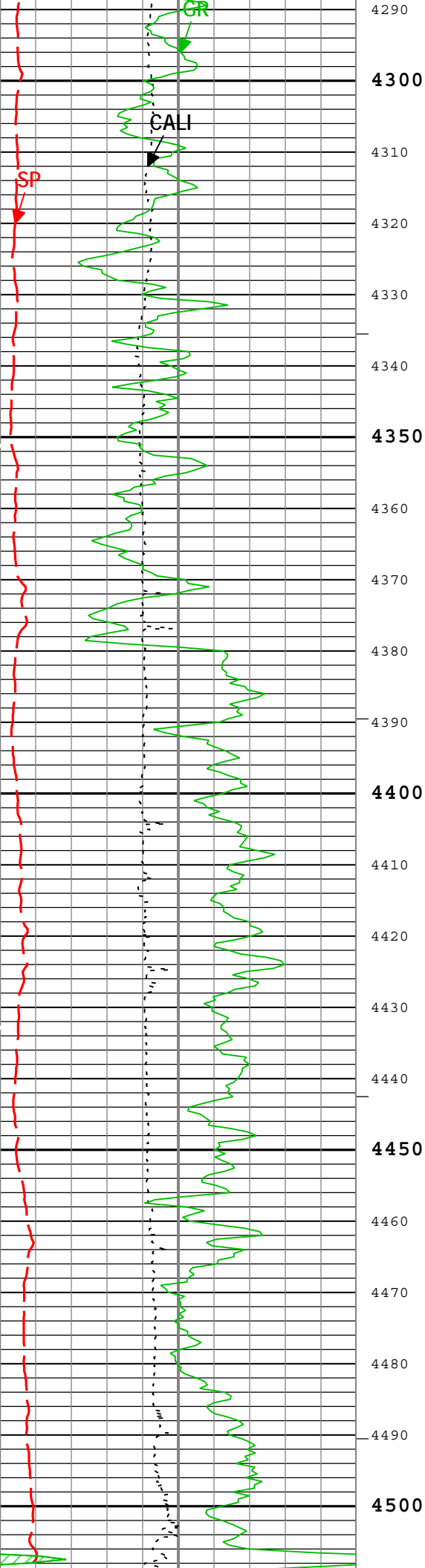


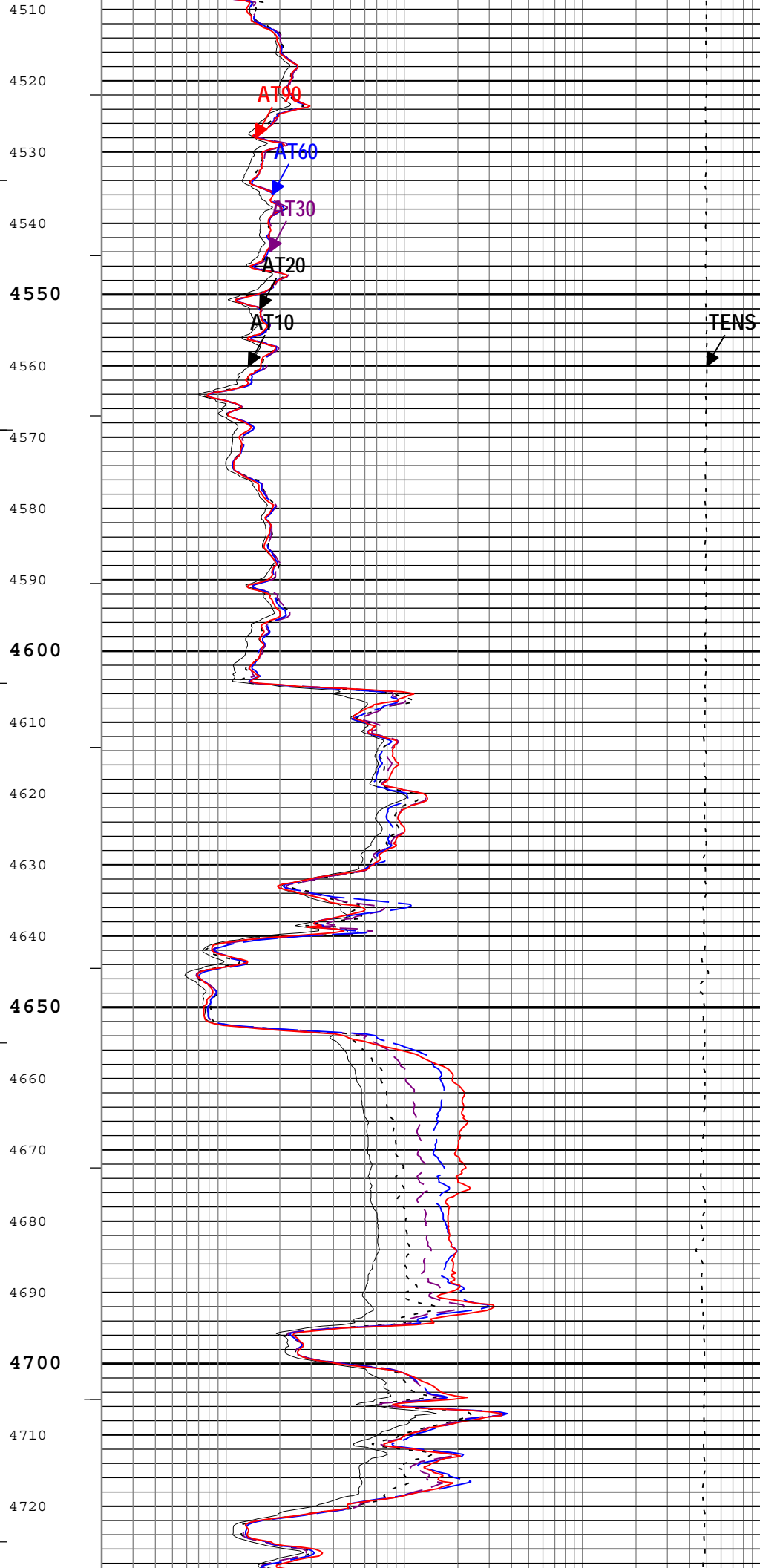
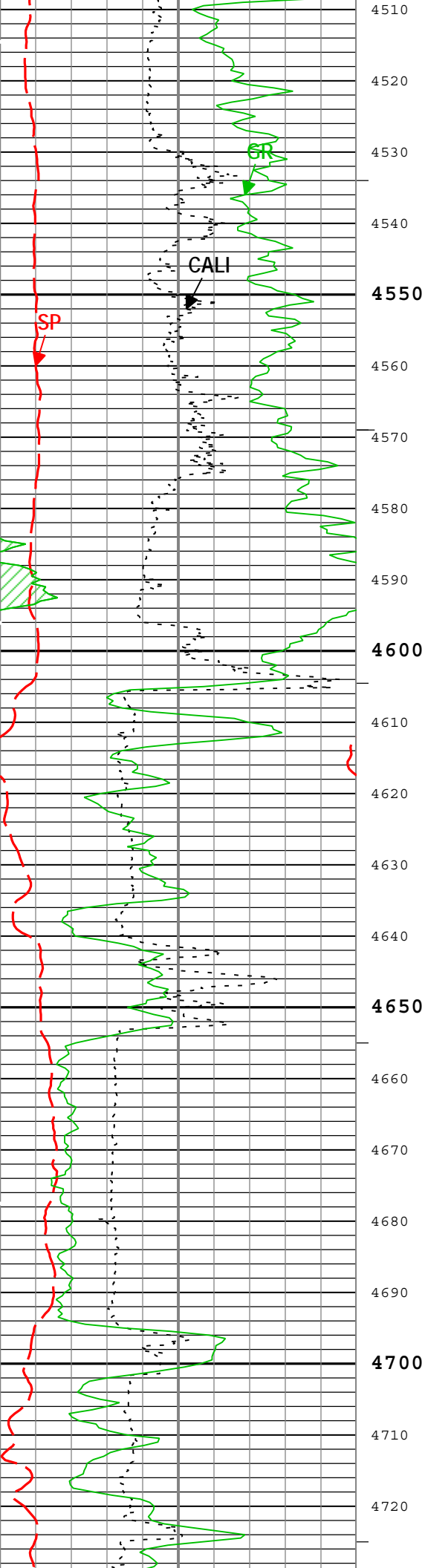


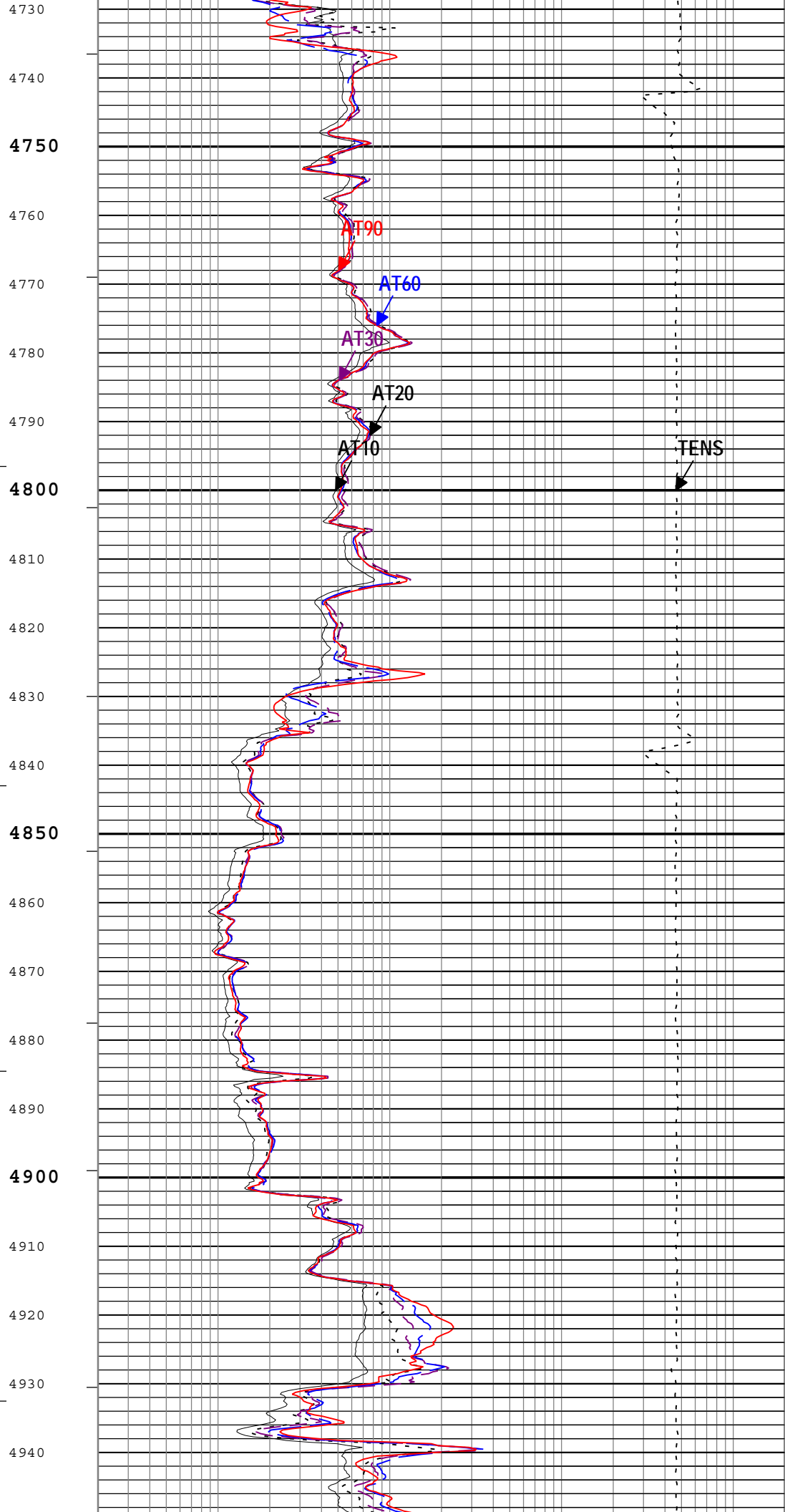
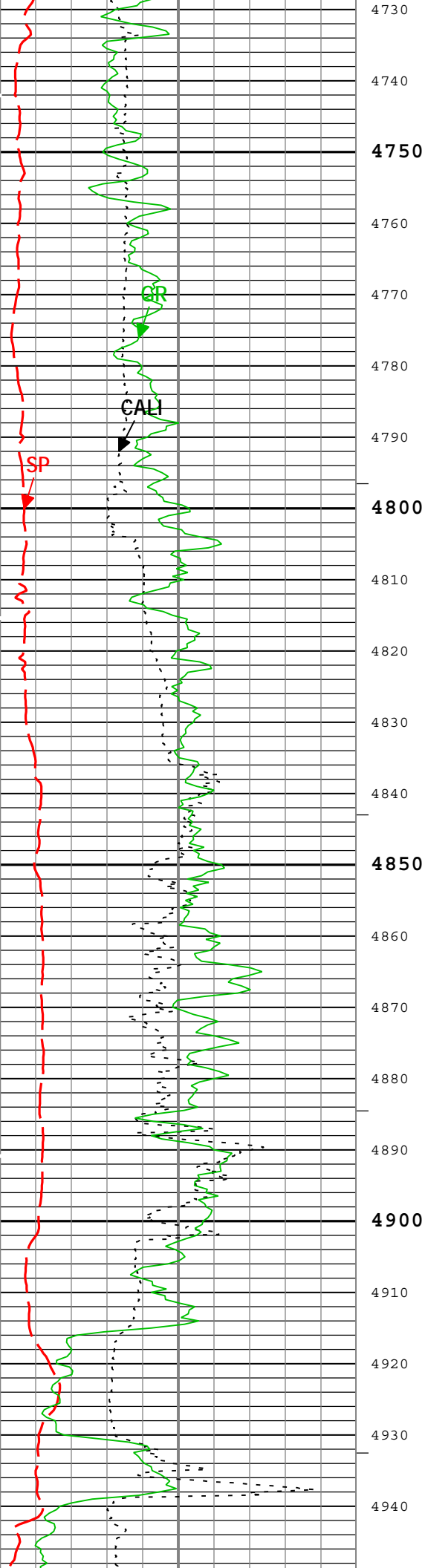


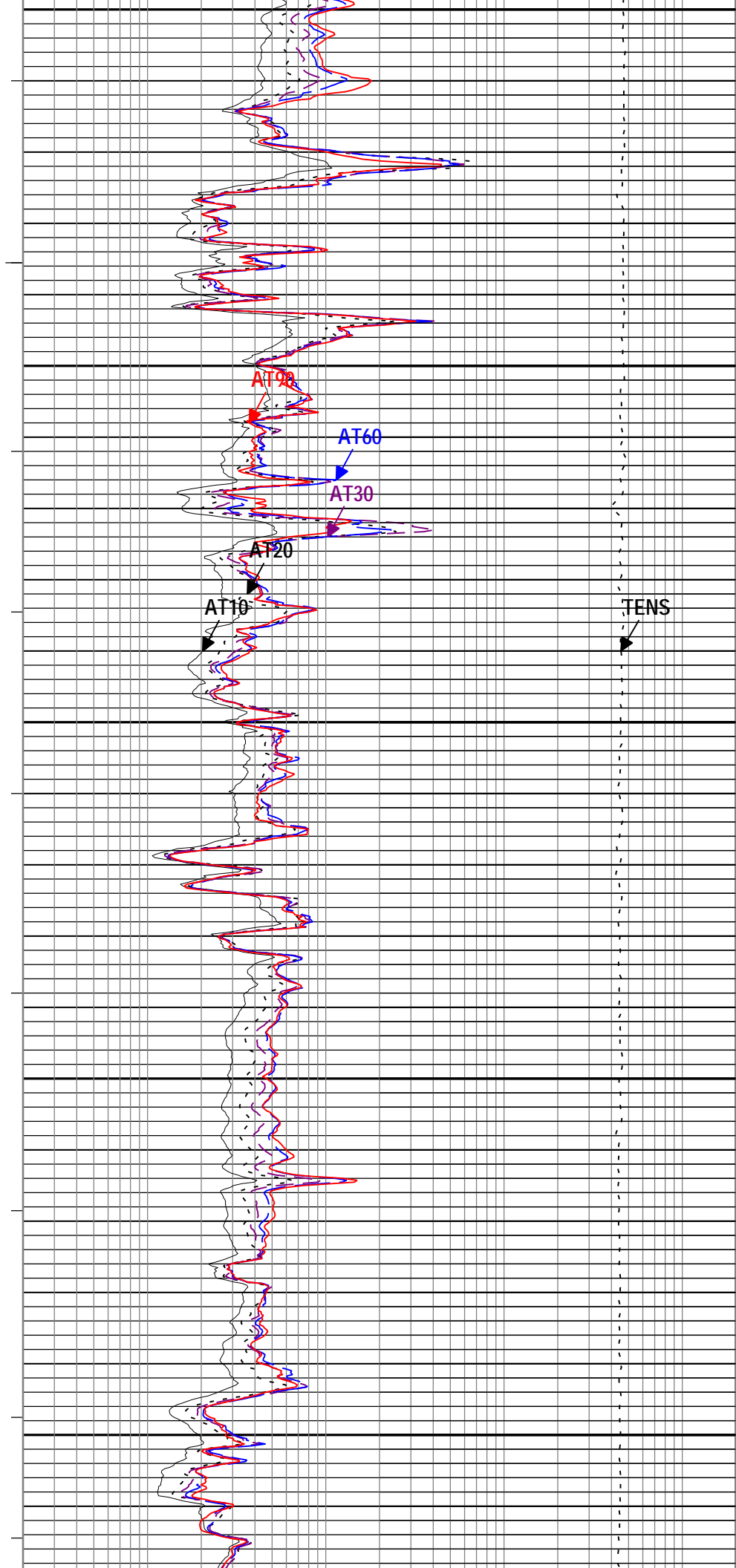
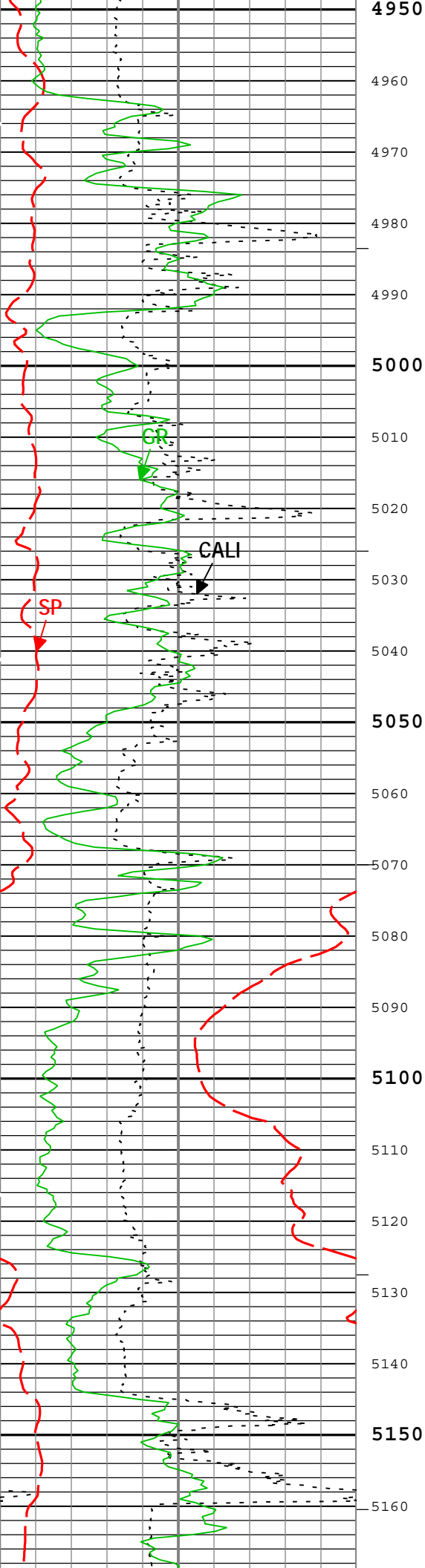


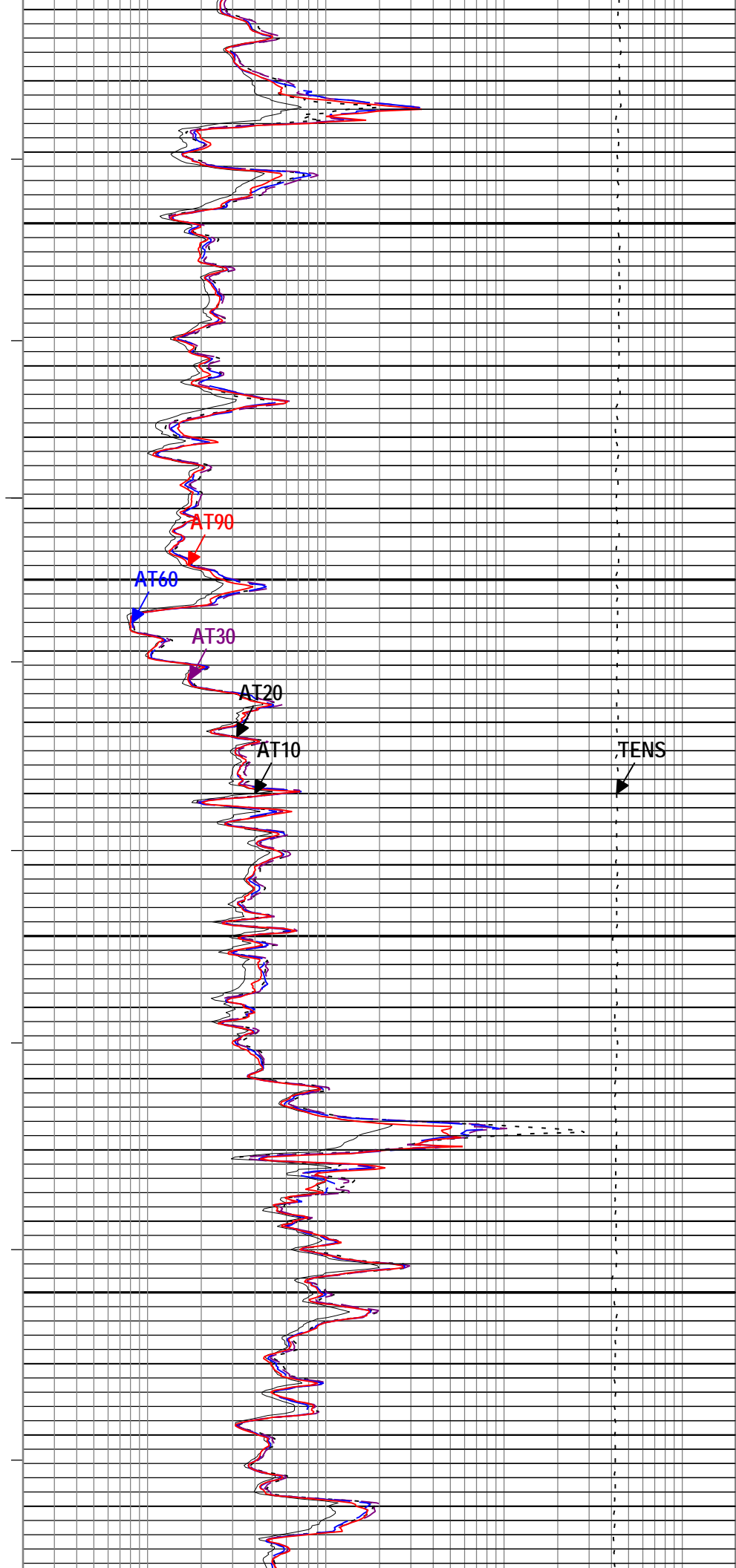
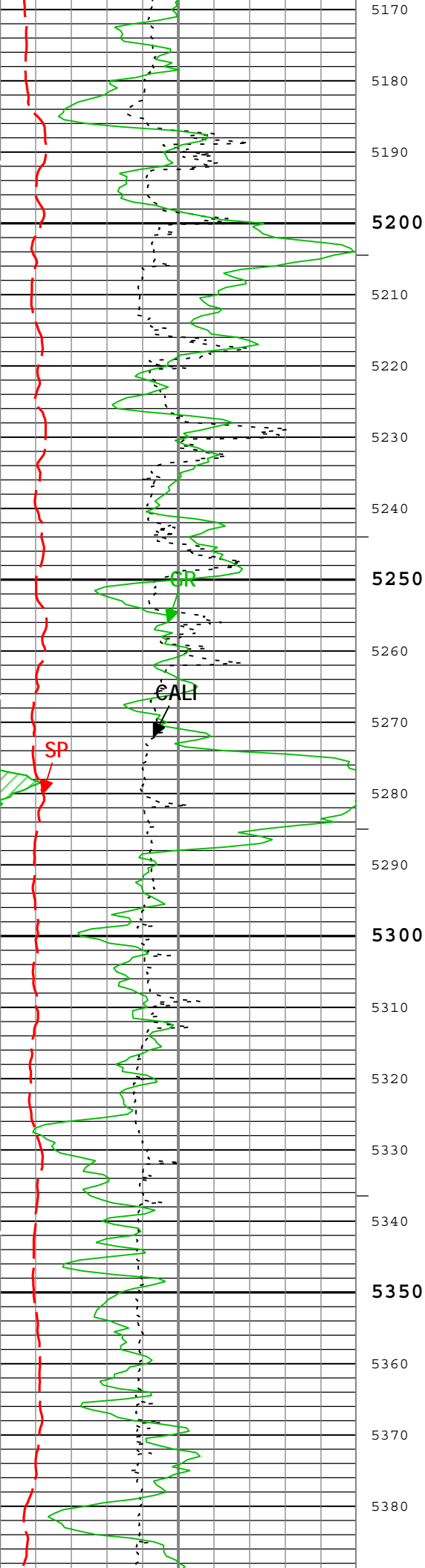


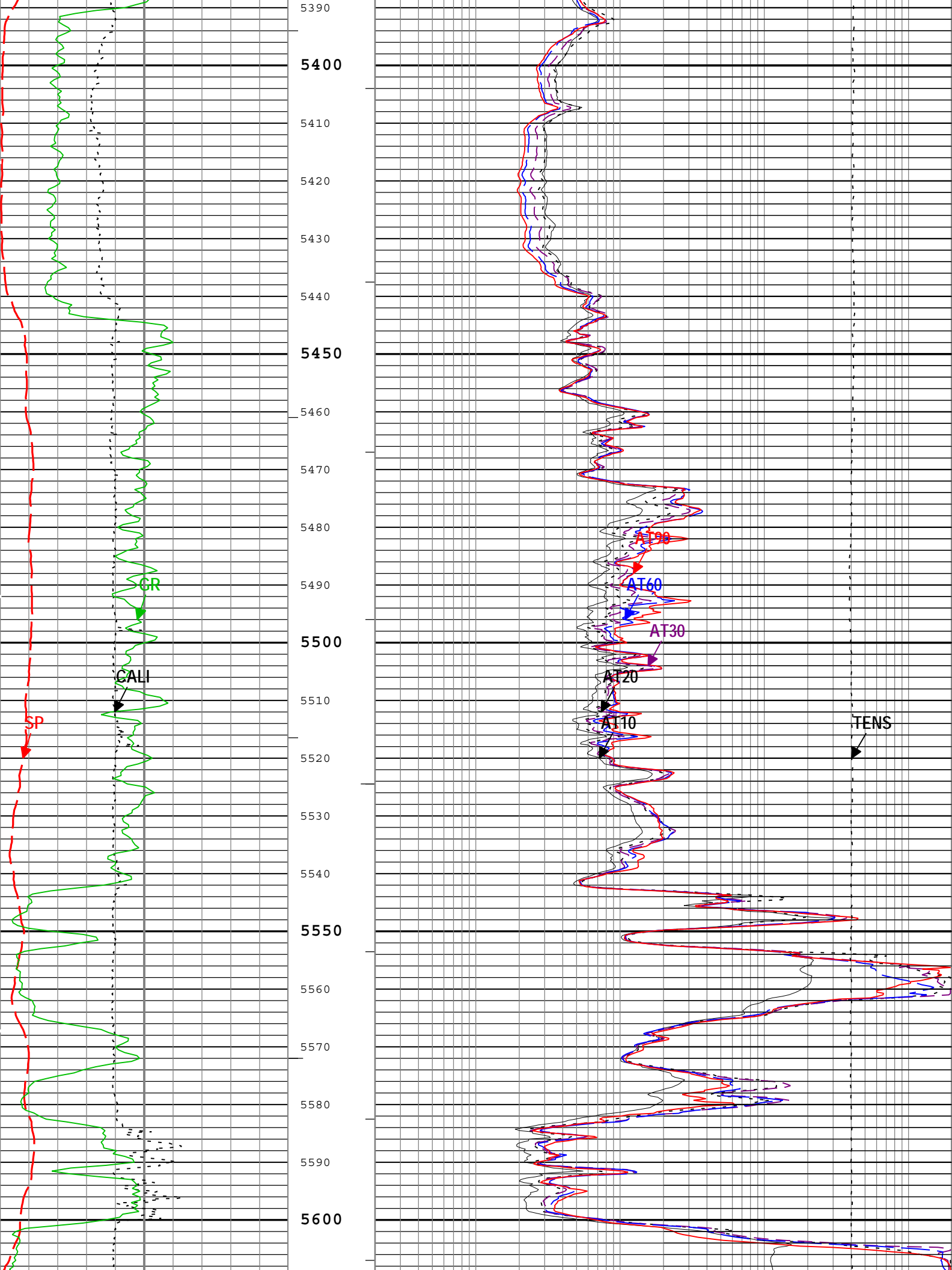


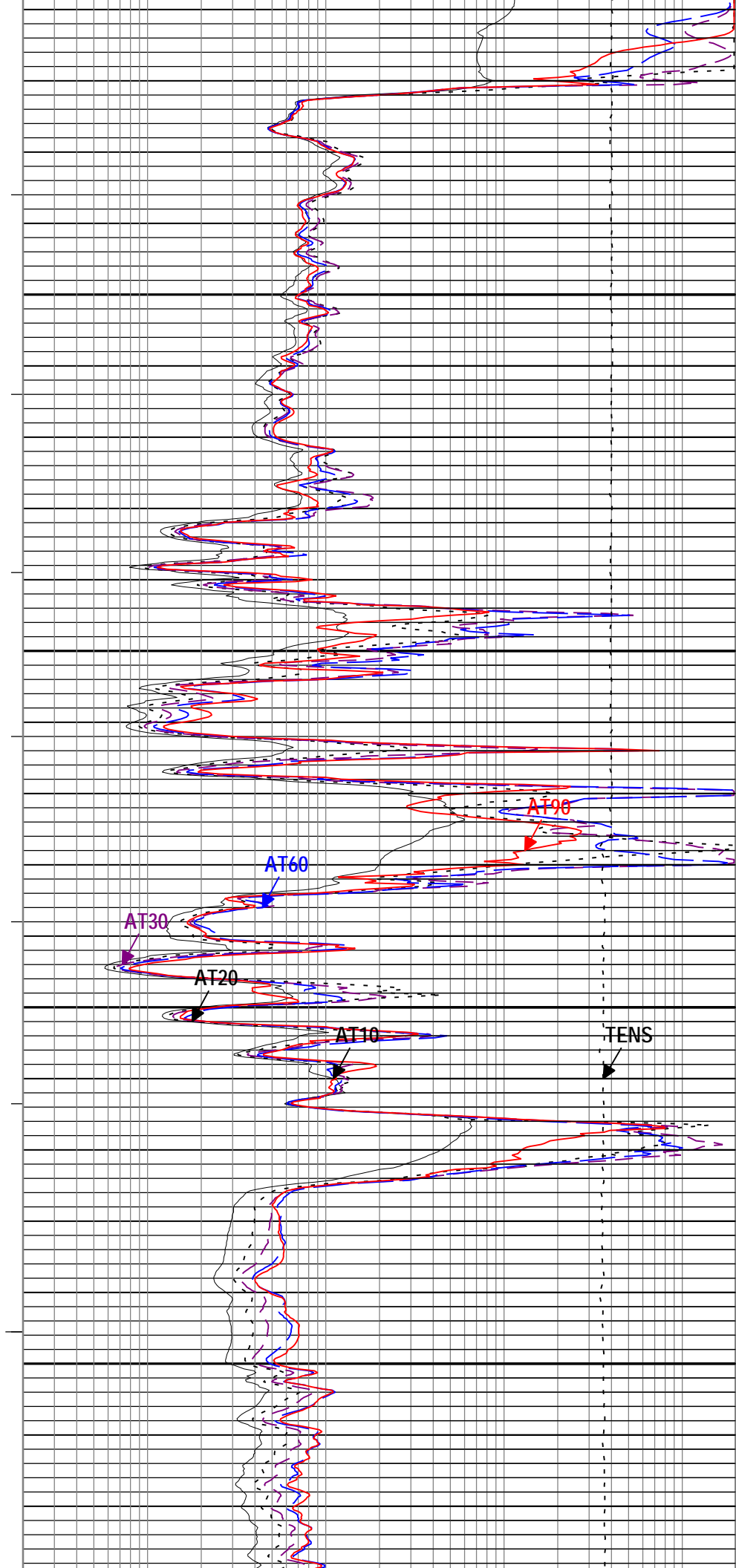
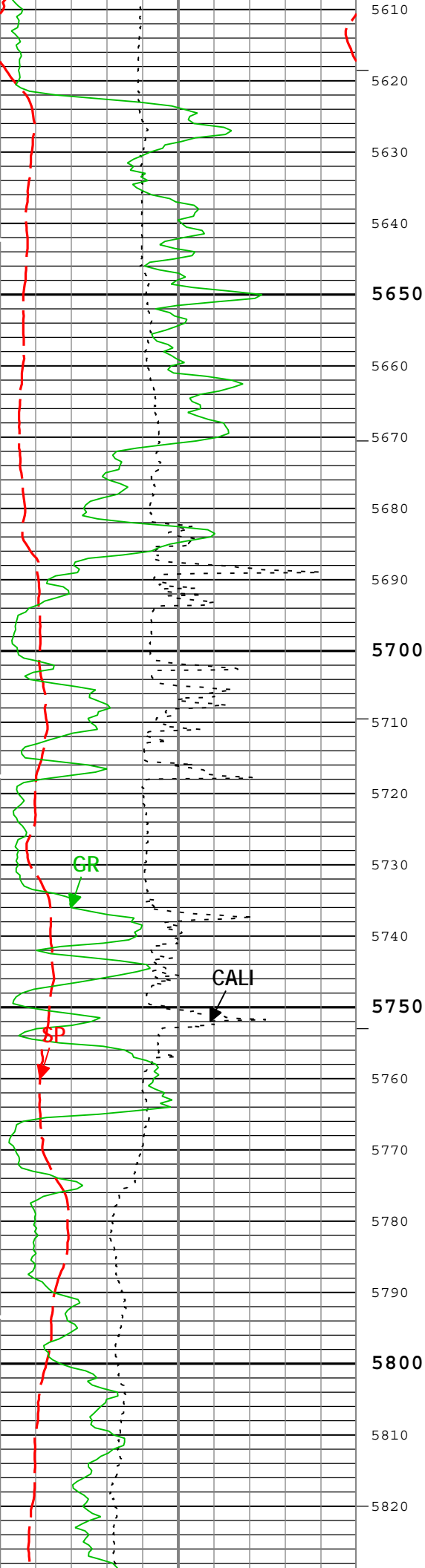


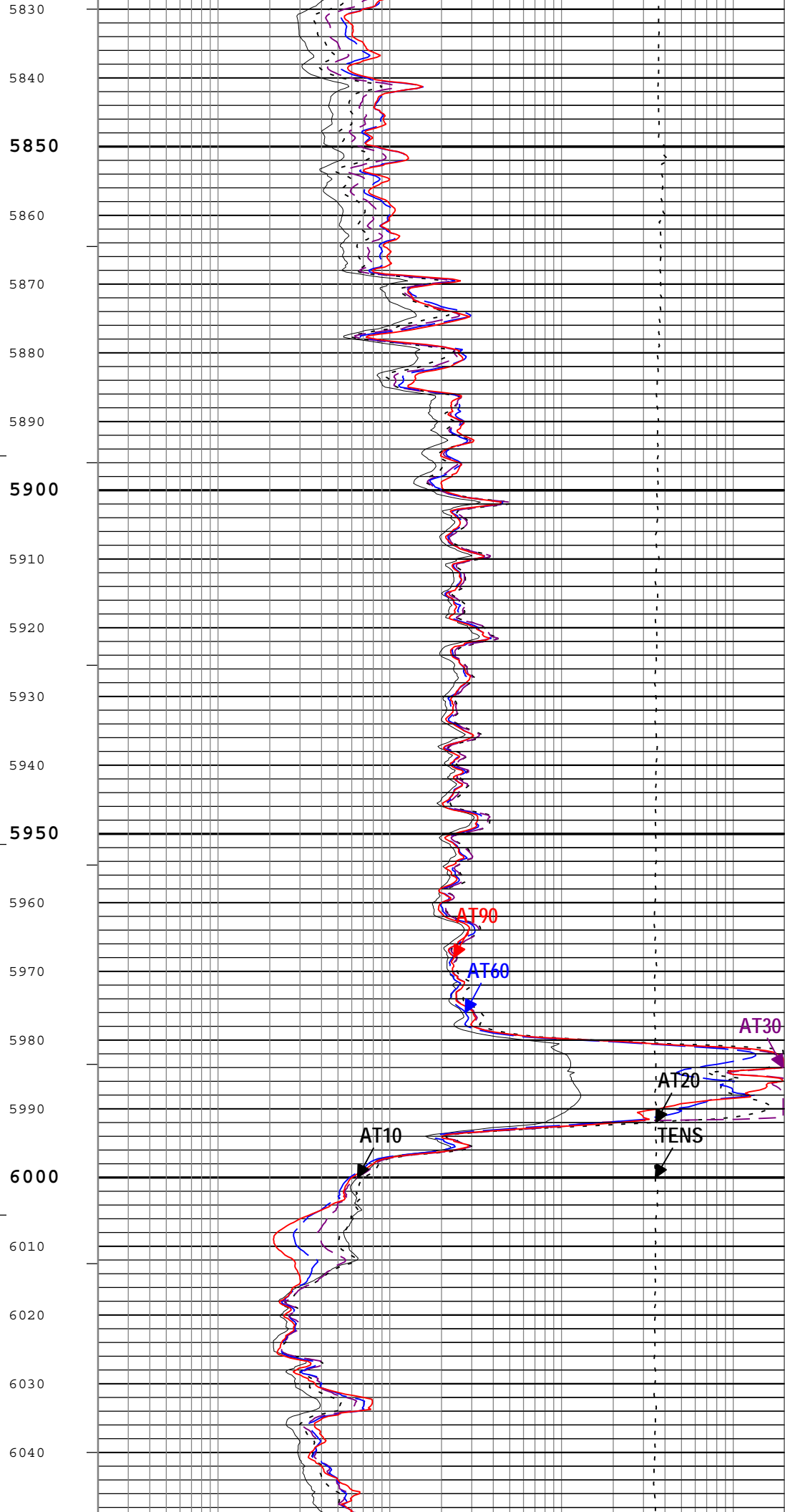
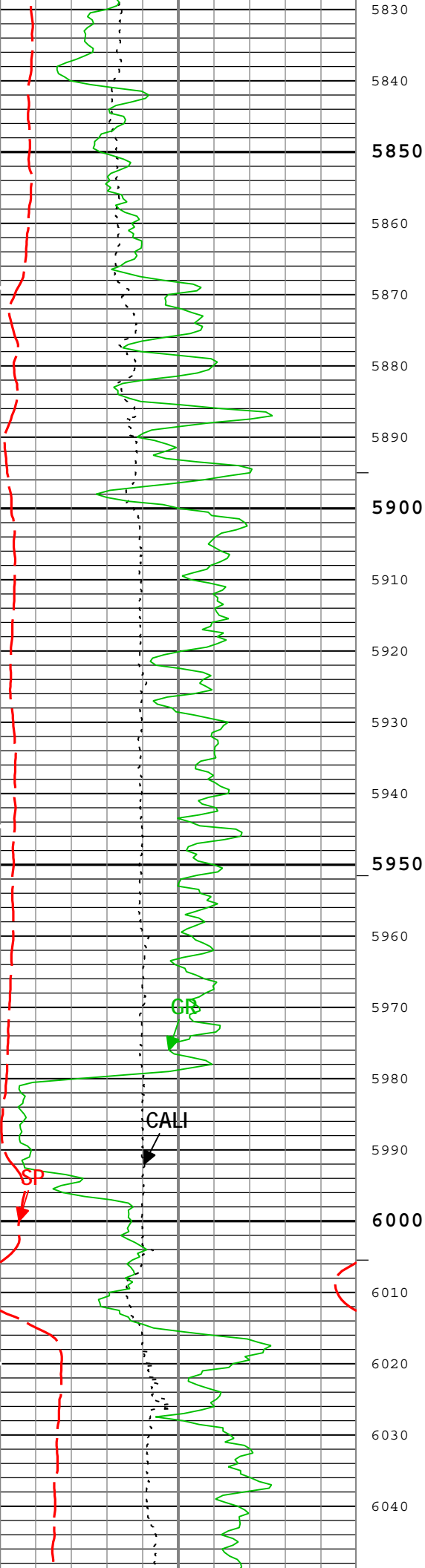


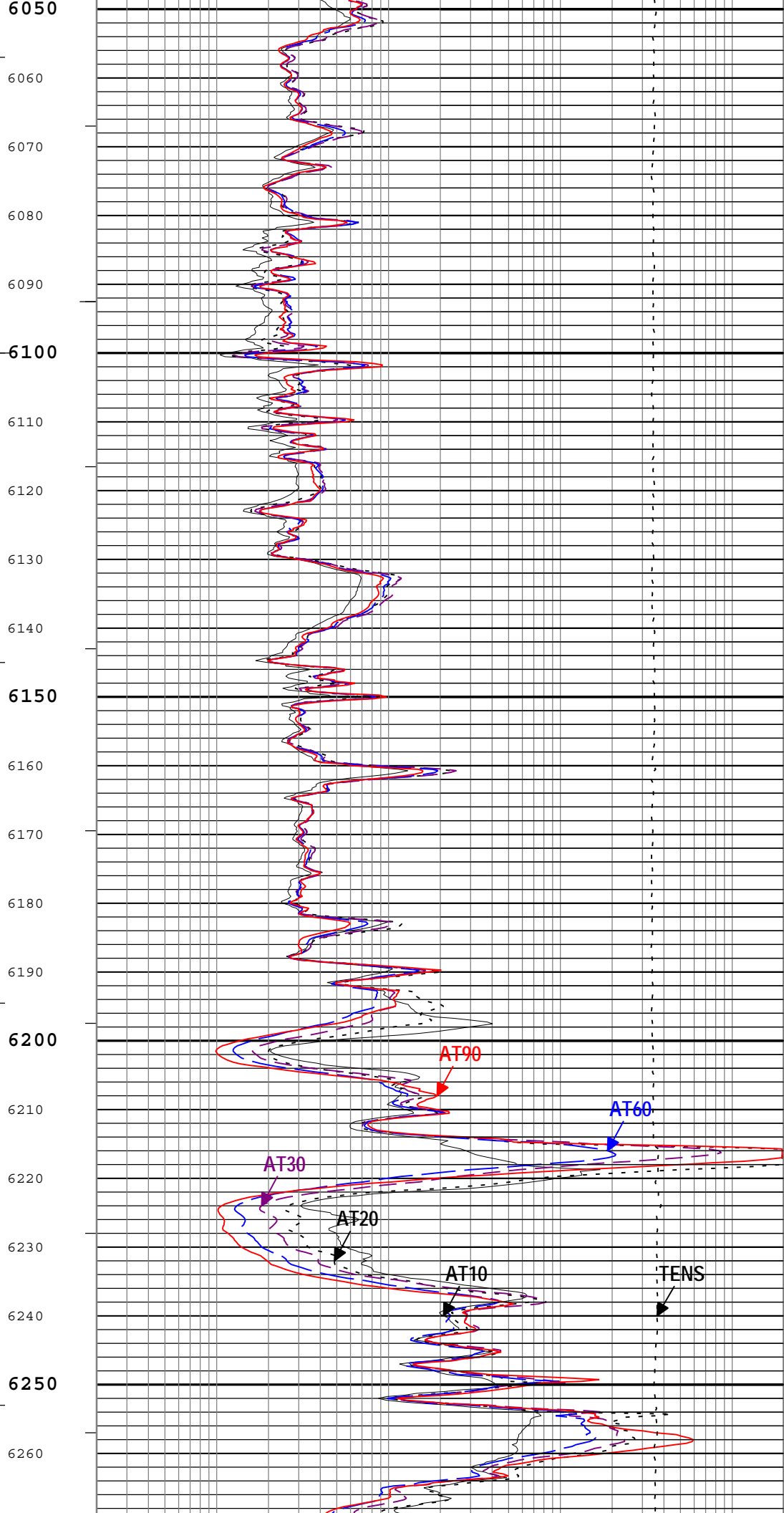
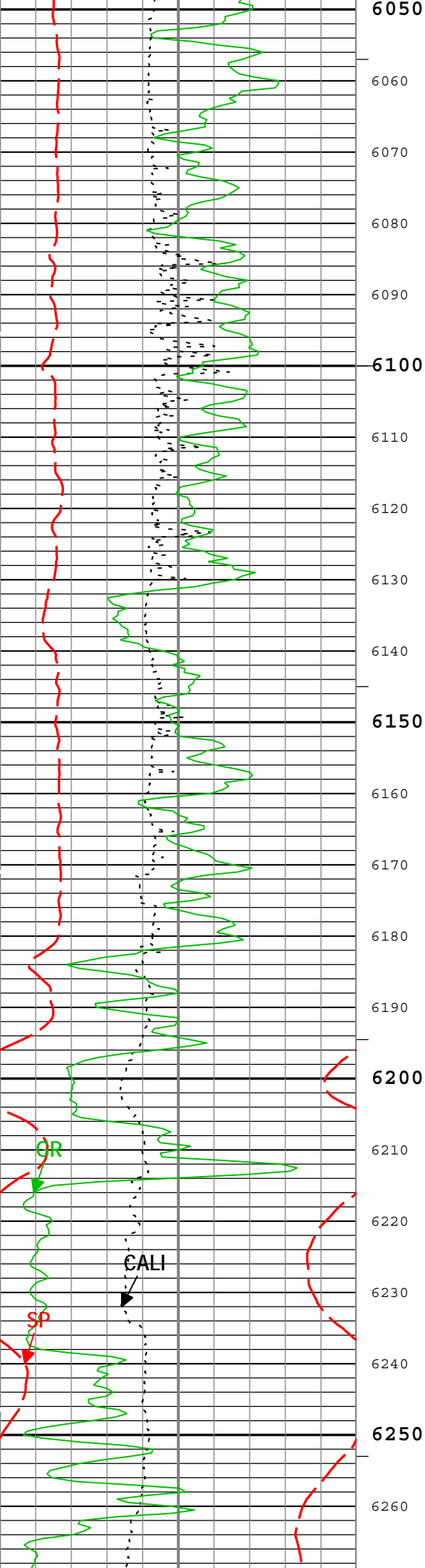


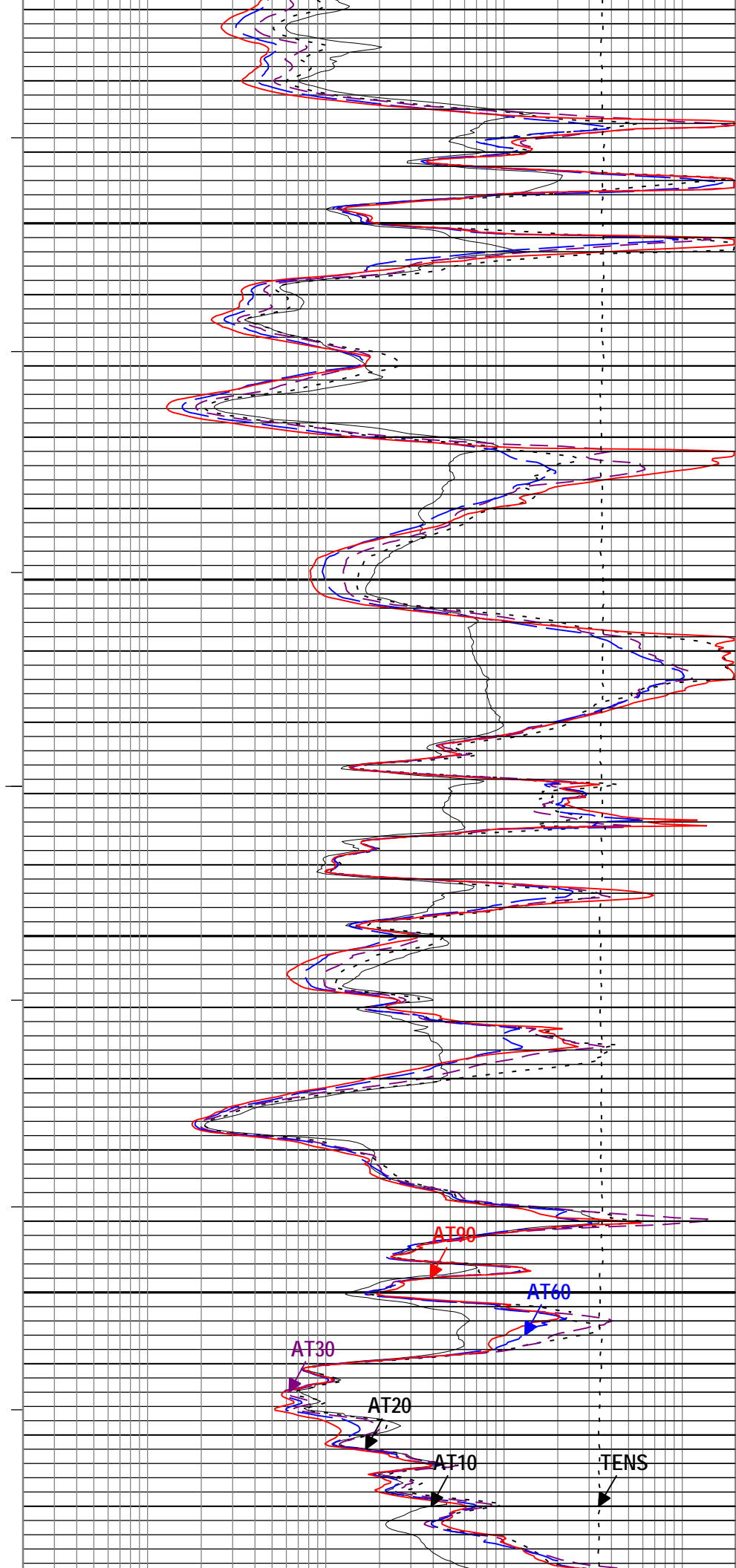
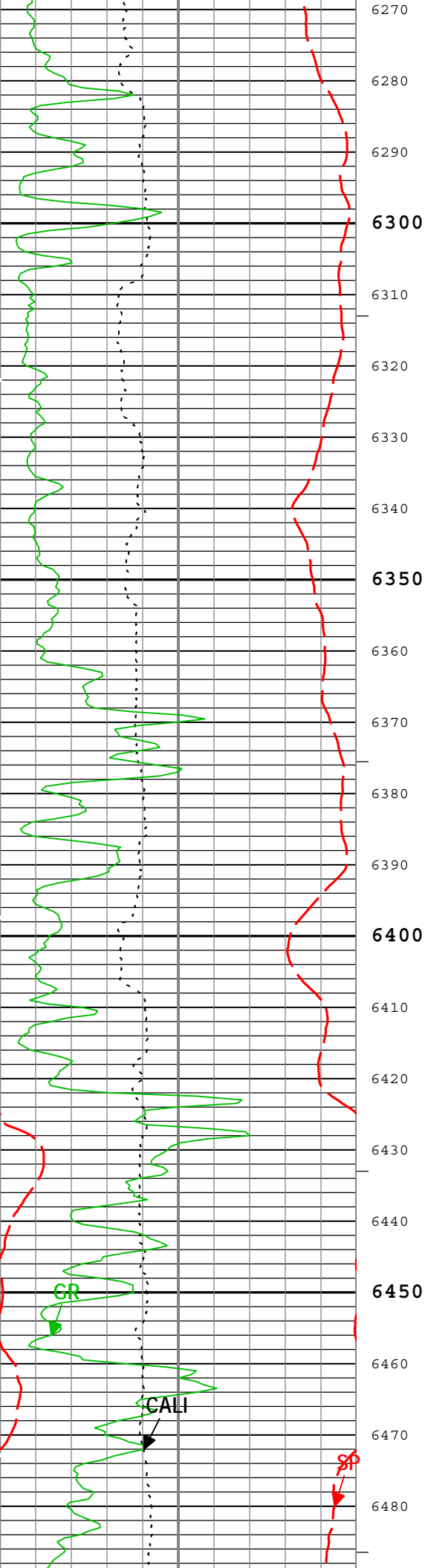


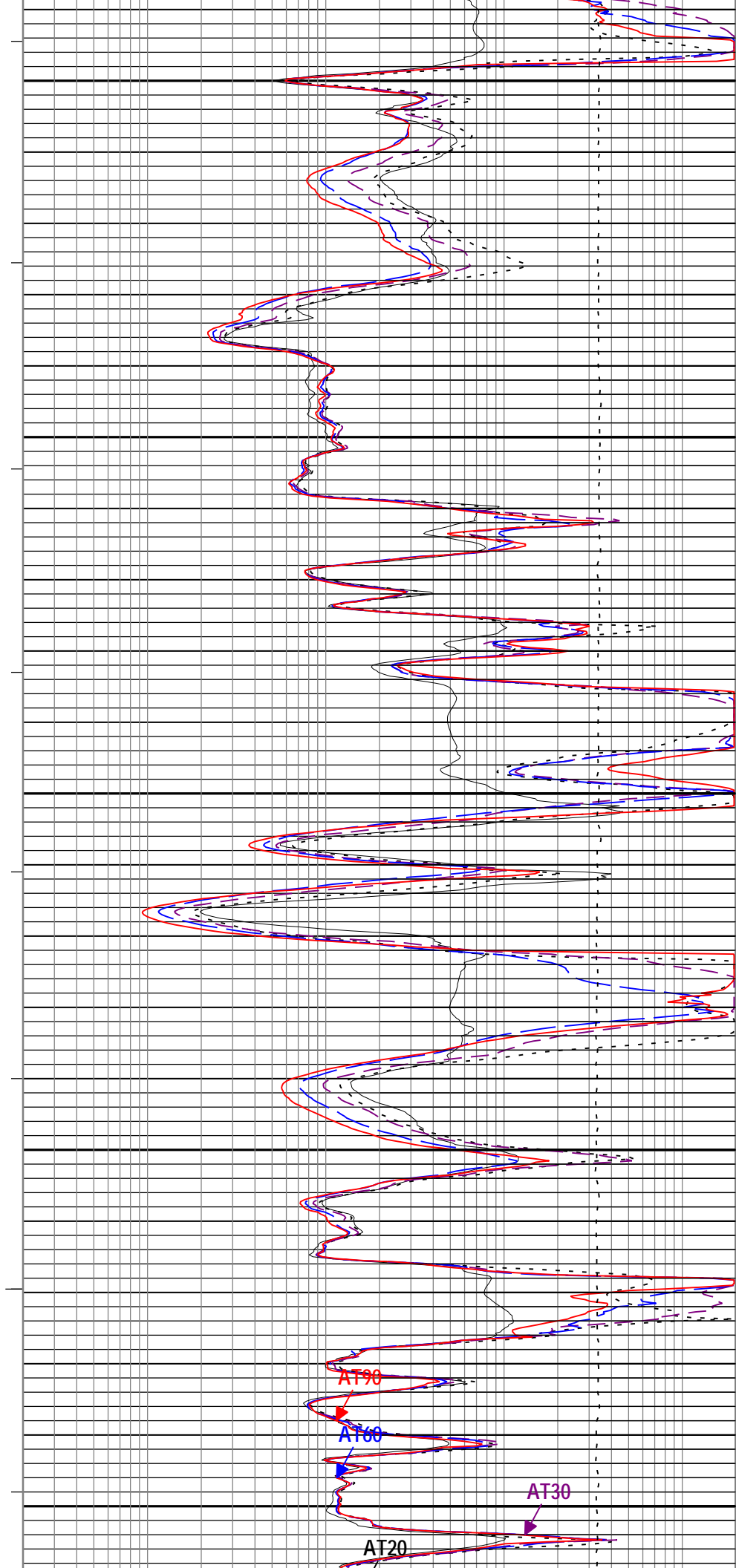
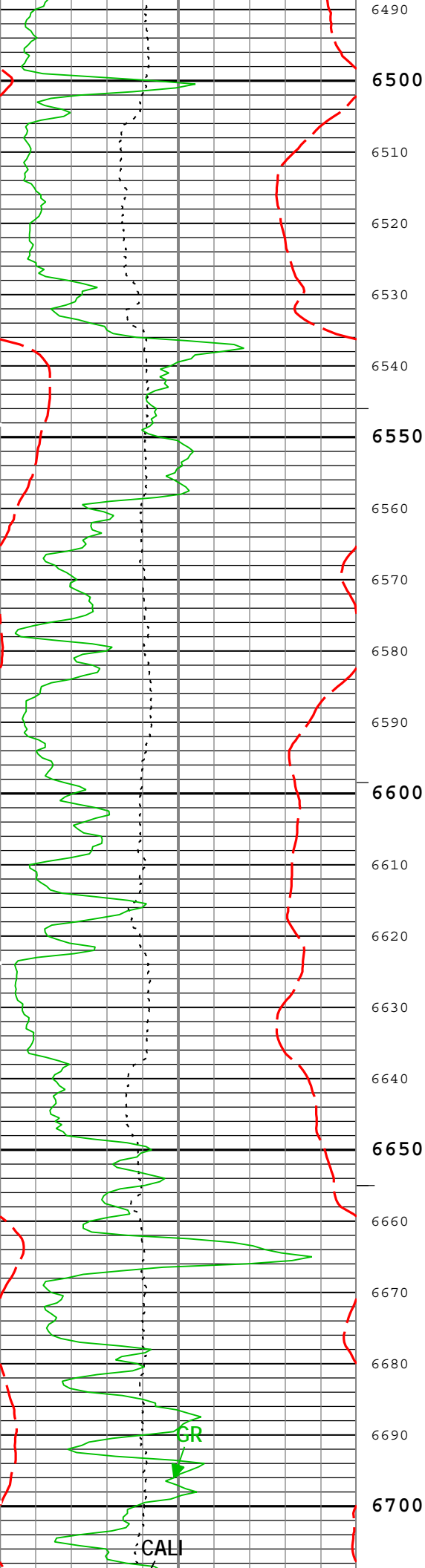


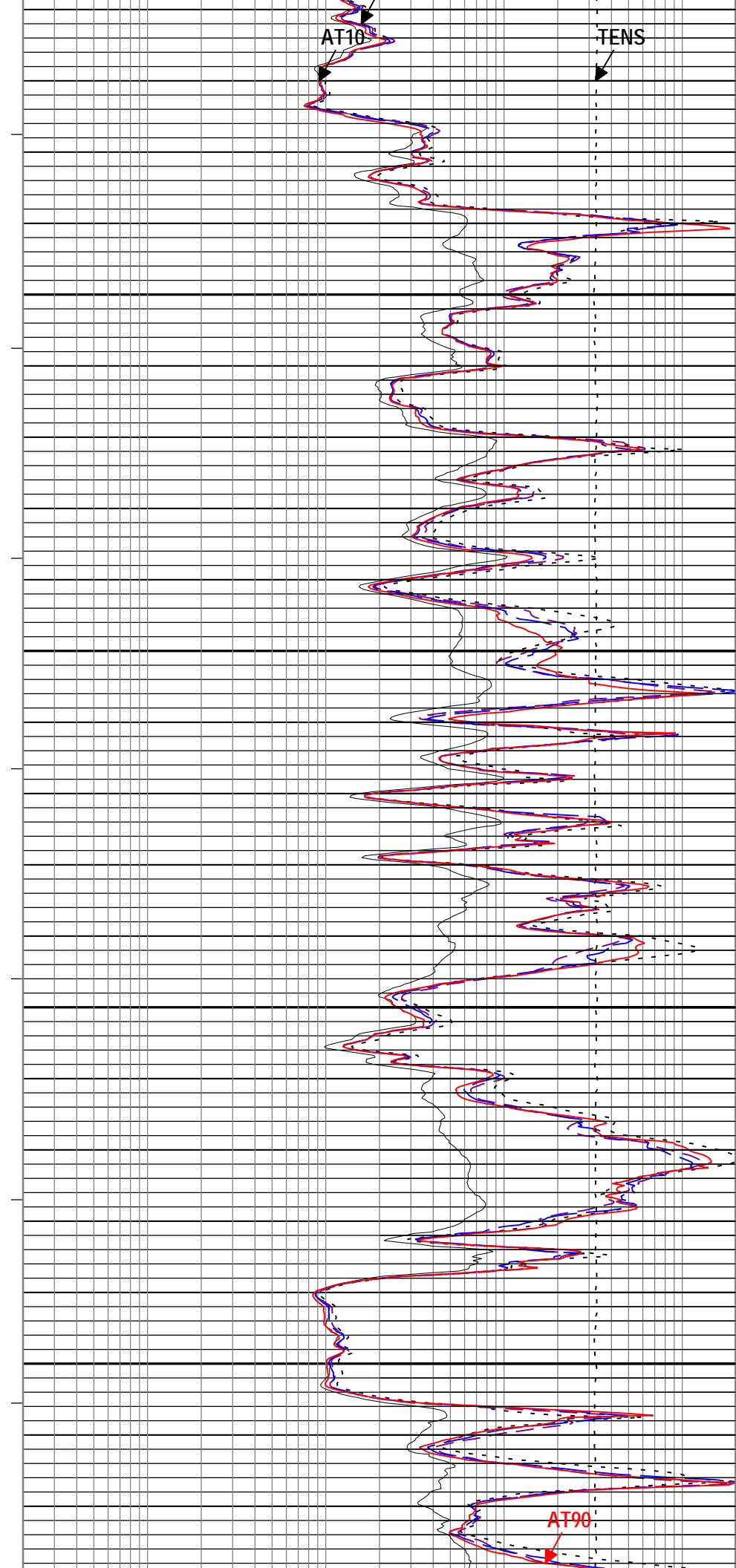
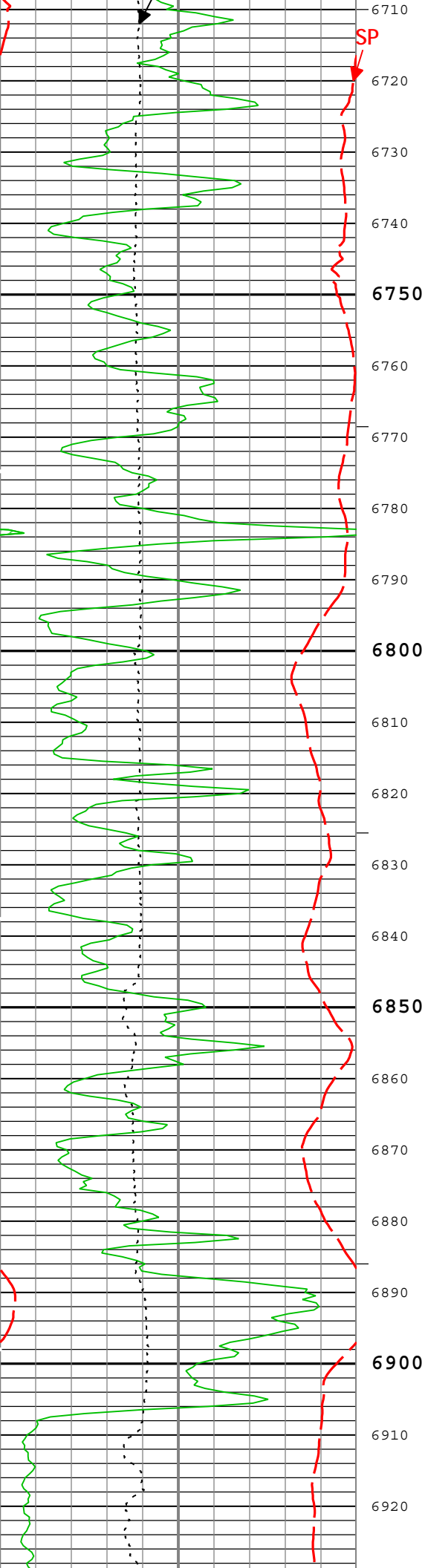


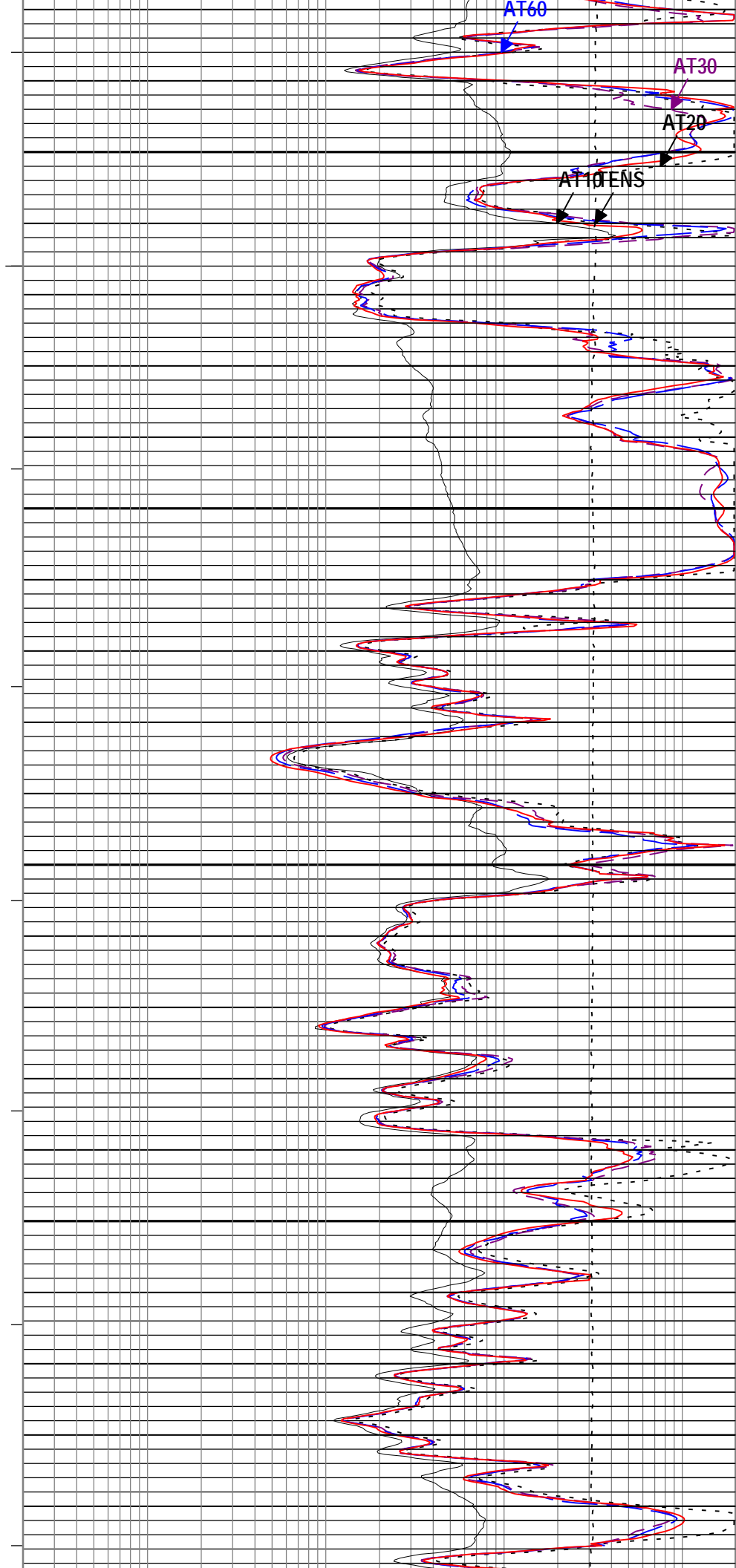
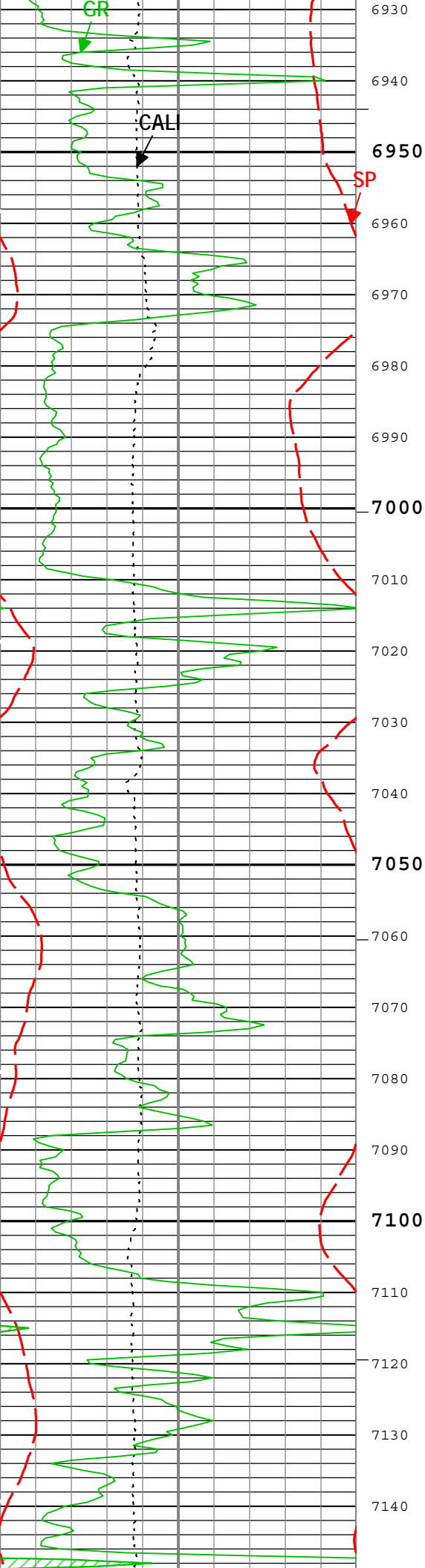


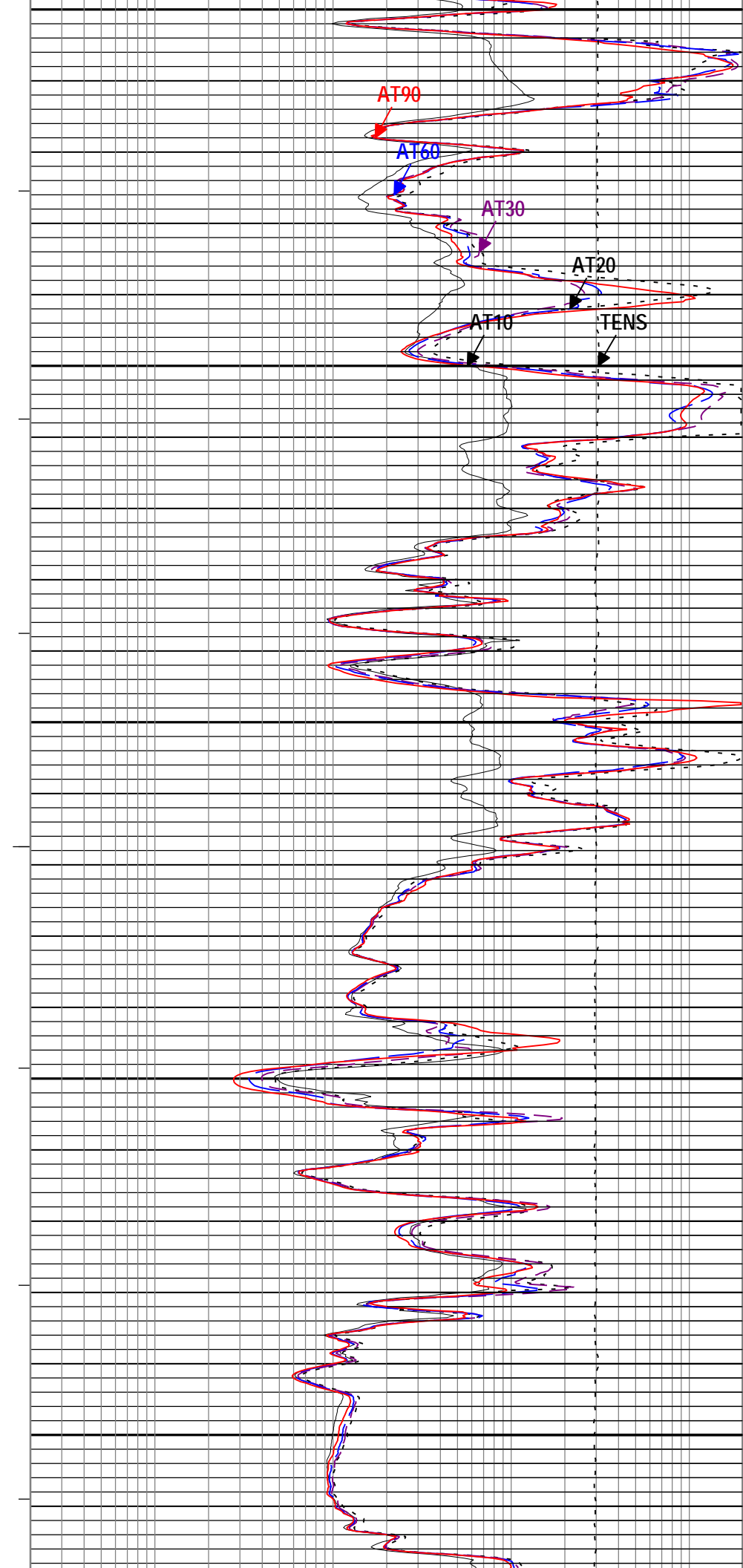
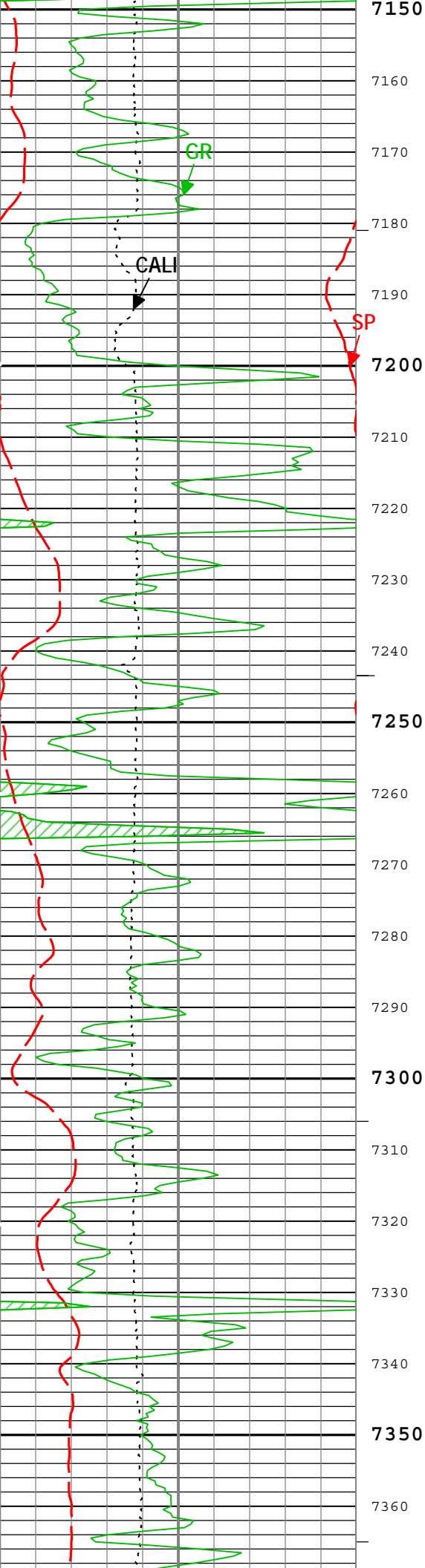


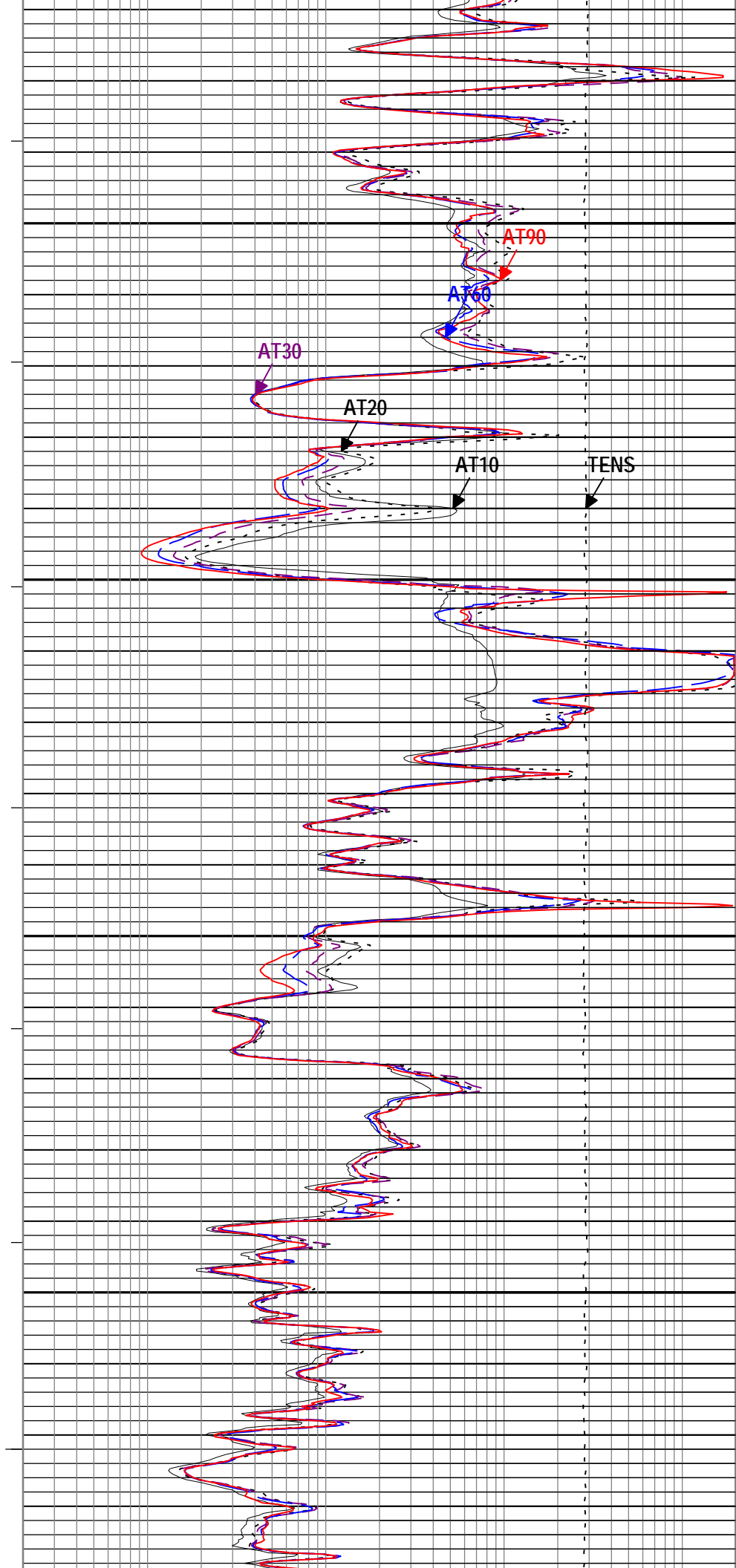
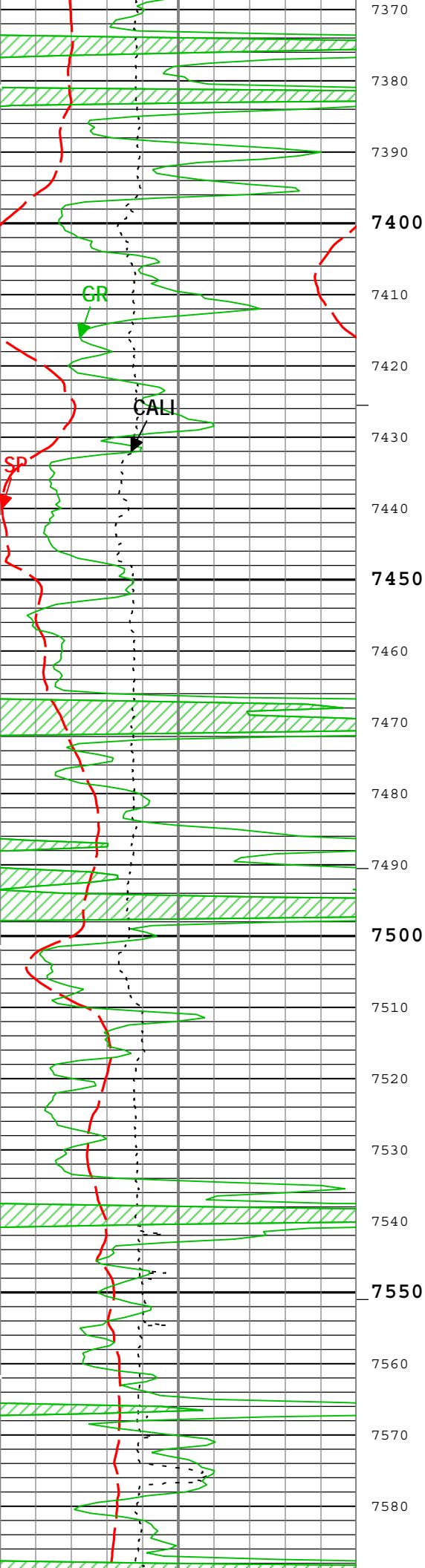


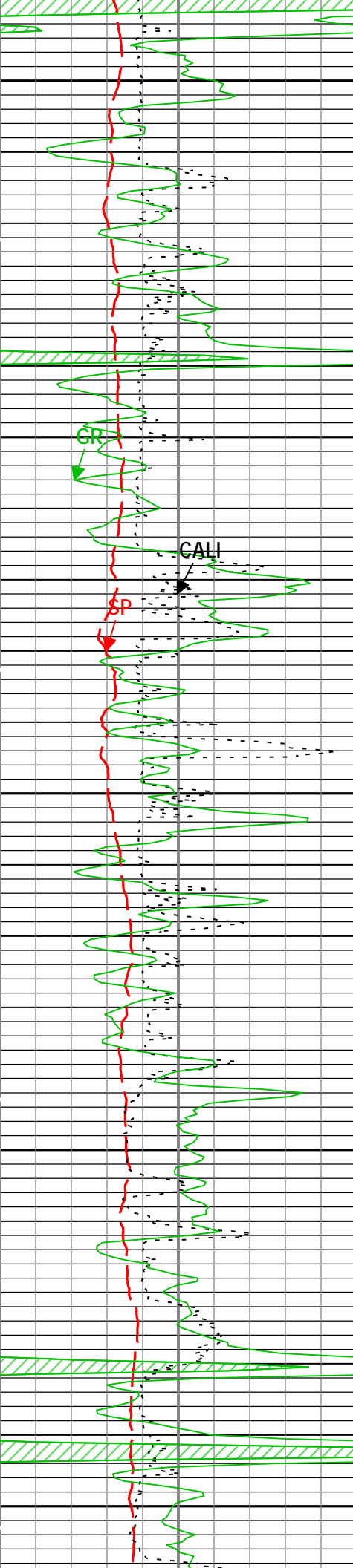




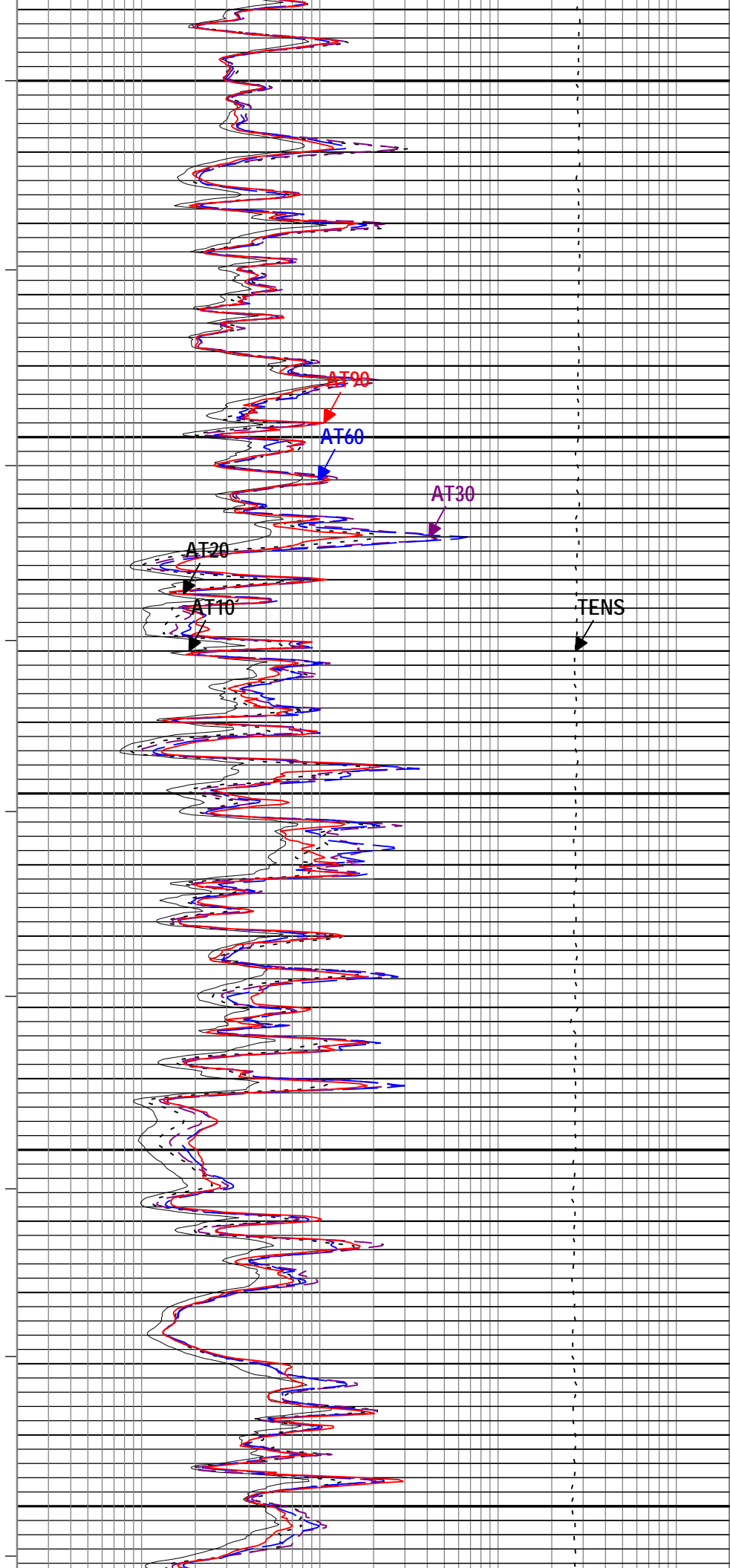


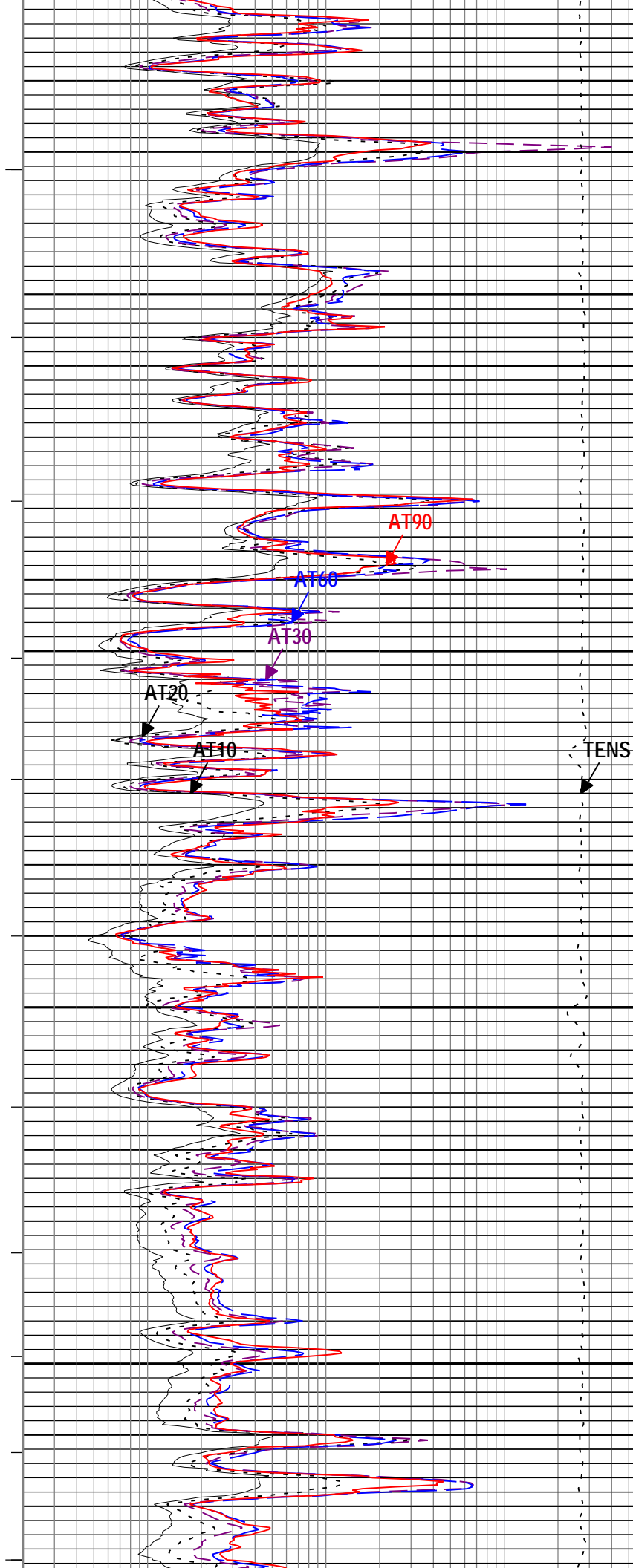
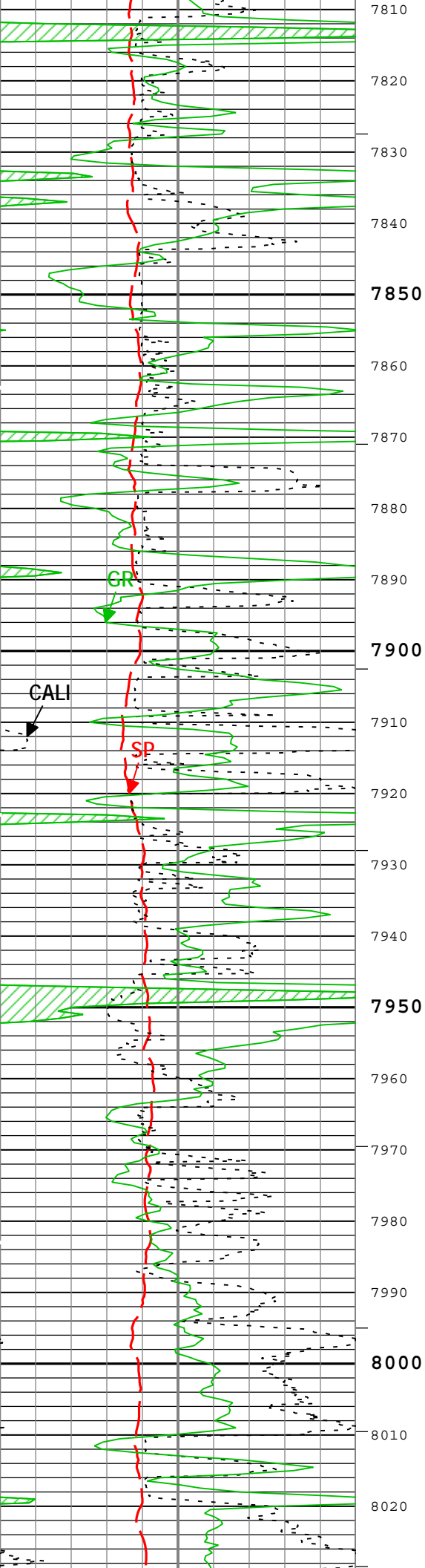


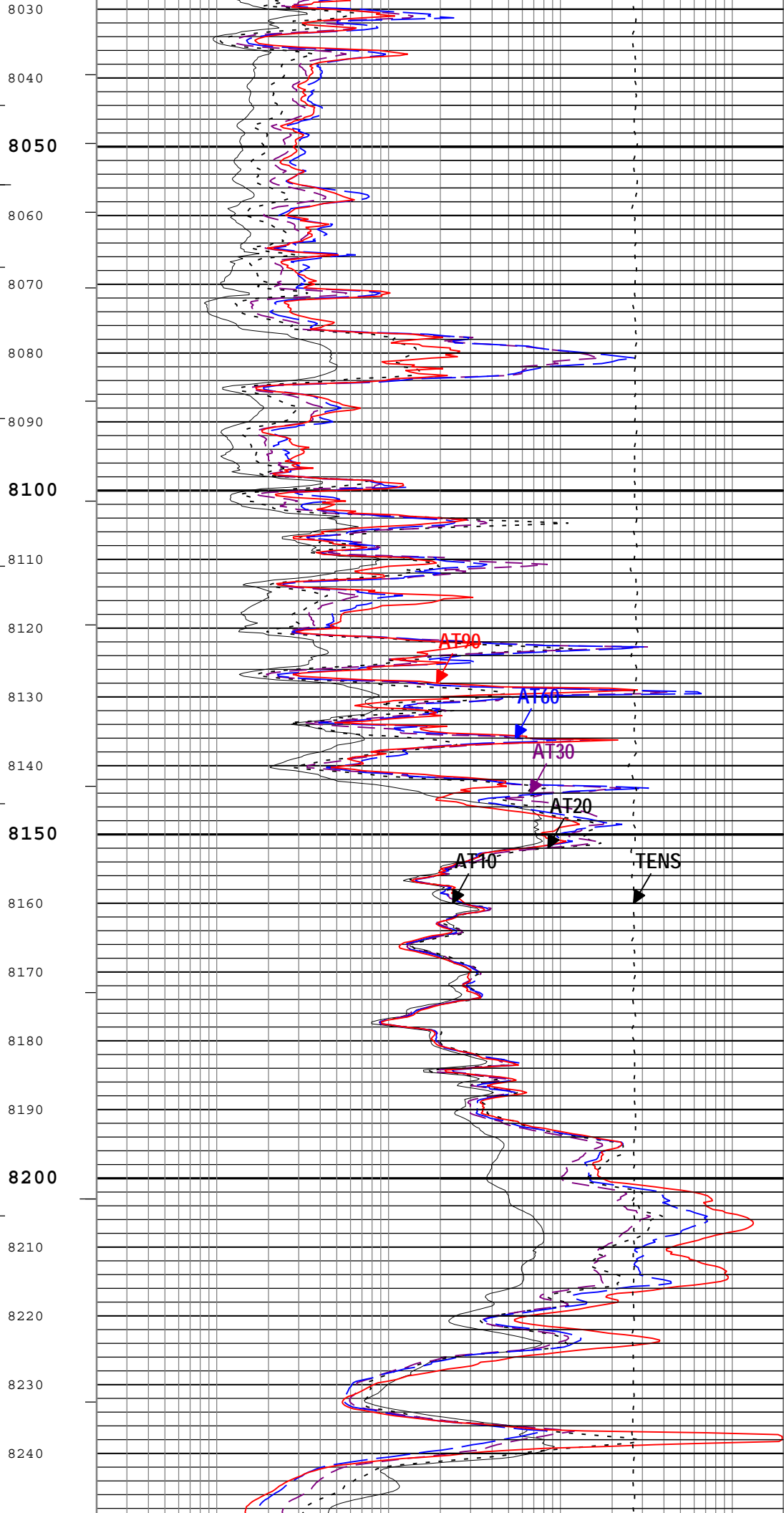
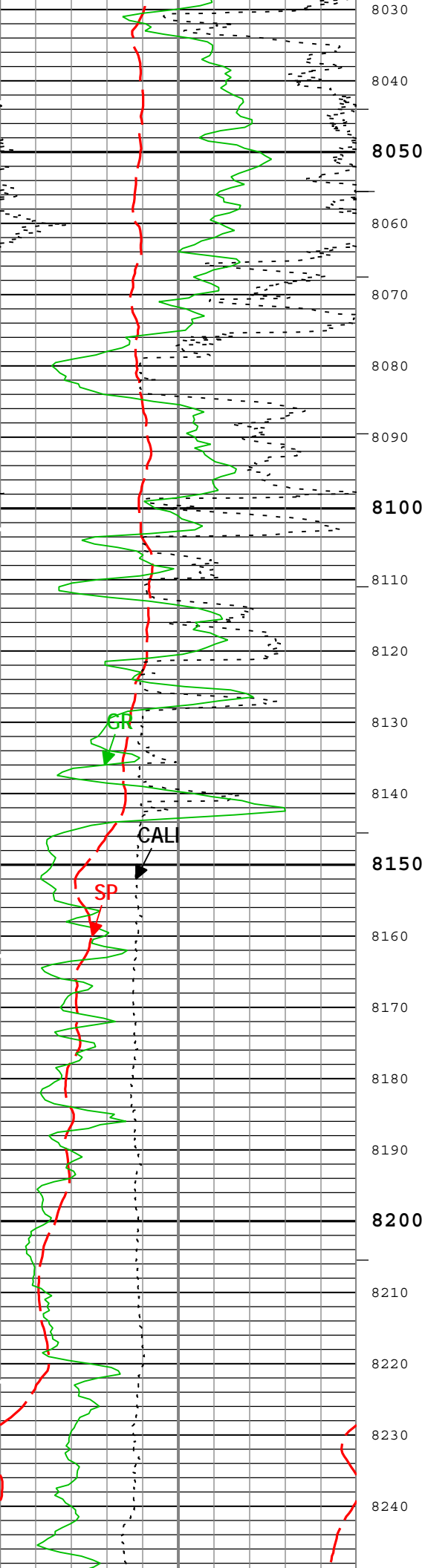


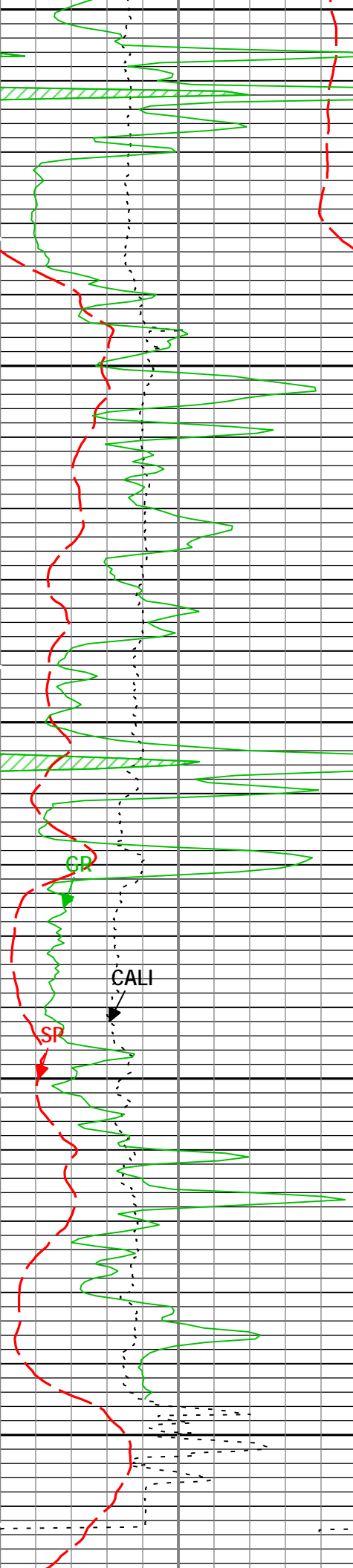


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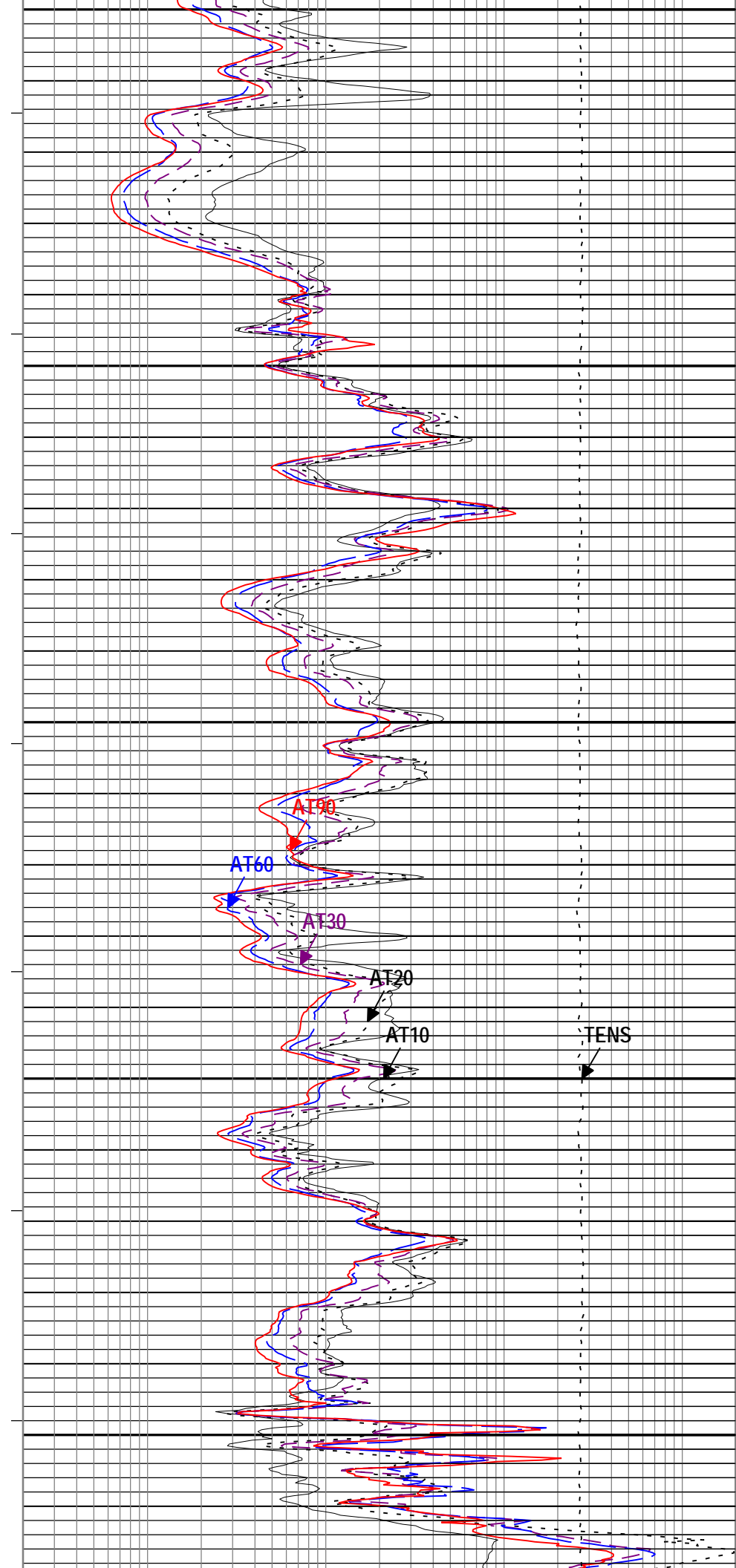


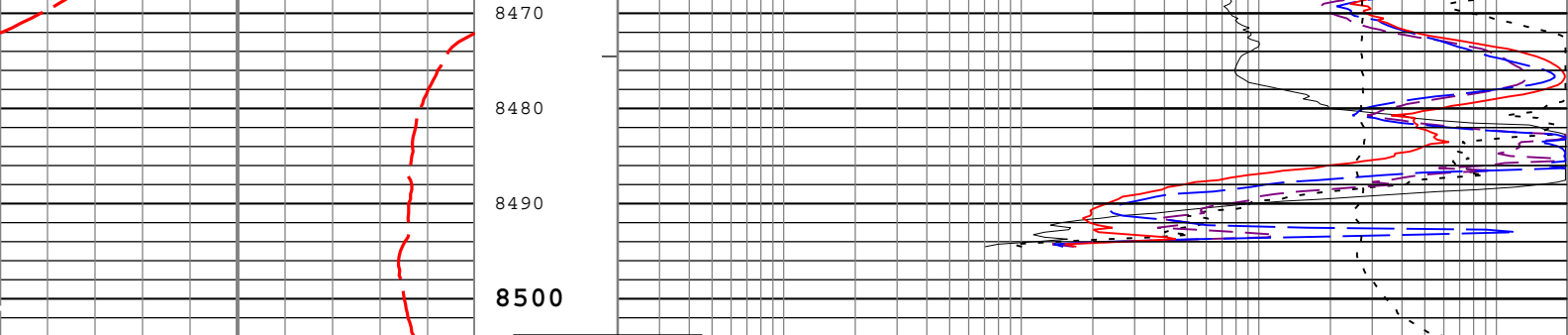






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Gamma Ray Backup		
Spontaneous Potential (SP) AIT-H		
0	mV	200
Caliper (CALI) HDRS-H		
4	in	14
Gamma Ray (GR) HGNS-H		
0	gAPI	200

Array Induction Two Foot Resistivity A10 (AT10) AIT-H		
0.2	ohm.m	2000
Array Induction Two Foot Resistivity A20 (AT20) AIT-H		
0.2	ohm.m	2000
Array Induction Two Foot Resistivity A30 (AT30) AIT-H		
0.2	ohm.m	2000
Array Induction Two Foot Resistivity A60 (AT60) AIT-H		
0.2	ohm.m	2000
Array Induction Two Foot Resistivity A90 (AT90) AIT-H		
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)

Description: AIT Basic Log Two Format: Log (EMD 5in Induction) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 06-Nov-2012 05:43:16

Channel Processing Parameters				
Parameter	Description	Tool	Value	Unit
ABHM	Array Induction Borehole Correction Mode	AIT-H	Compute Standoff	
ABLM	Array Induction Basic Logs Mode	AIT-H	Normal	
ACDE	Array Induction Casing Detection Enable	AIT-H	Yes	
ASTA	Array Induction Tool Standoff	AIT-H	0.125	in
BARI	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Open	
BS	Bit Size	WLSESSION	Depth Zoned	in
CALI_SHIFT	CALI Supplementary Offset	HDRS-H	0	in
CBLO	Casing Bottom (Logger)	WLSESSION	410	ft
CDEN	Cement Density	HGNS-H	2	g/cm3
CSODDRL	Casing Outer Diameter - Zoned along driller depths	WLSESSION	8.625	in
DFD	Drilling Fluid Density	Borehole	9.2	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	
SOCO	Standoff Correction Option	HGNS-H	Yes	
SP_SHIFT	SP Shift	AIT-H	0	mV
SPDR	SP Drift Per Foot	AIT-H	0	mV/ft

Depth Zone Parameters

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

All depth are actual.

Tool Control Parameters

Parameter	Description	Tool	Value	Unit
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	3600	ft/h

Run1

5" Induction

Pass Summary

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

All depths are referenced to toolstring zero

Log

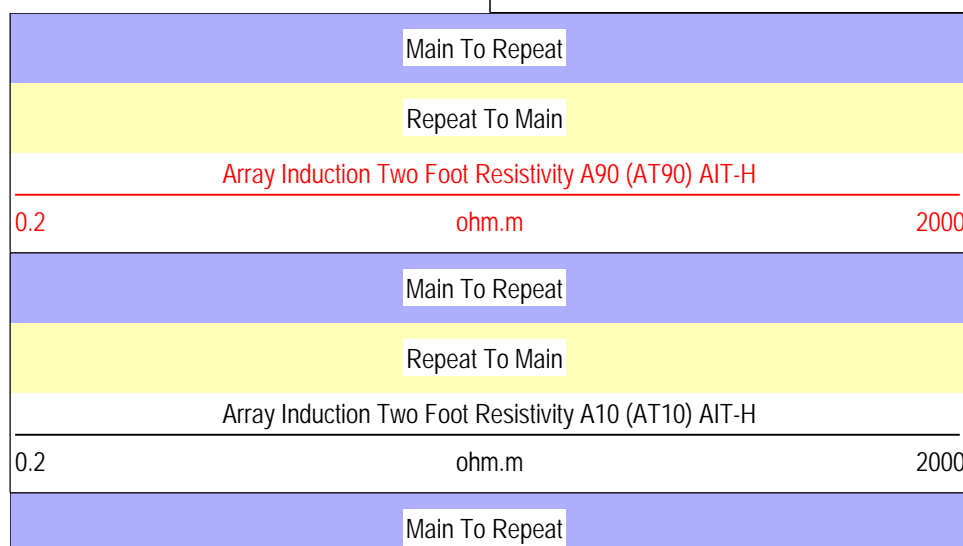
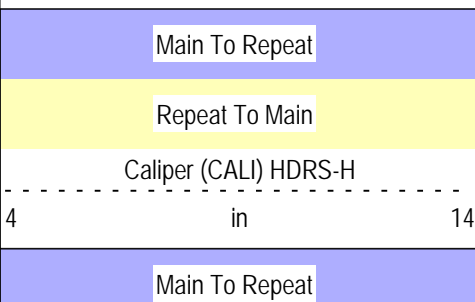
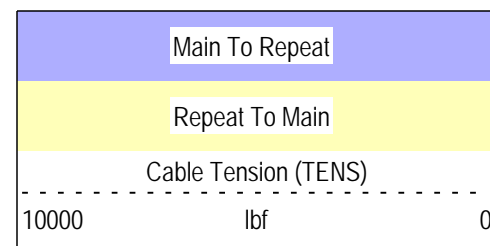
Run1: Log[3]:Up

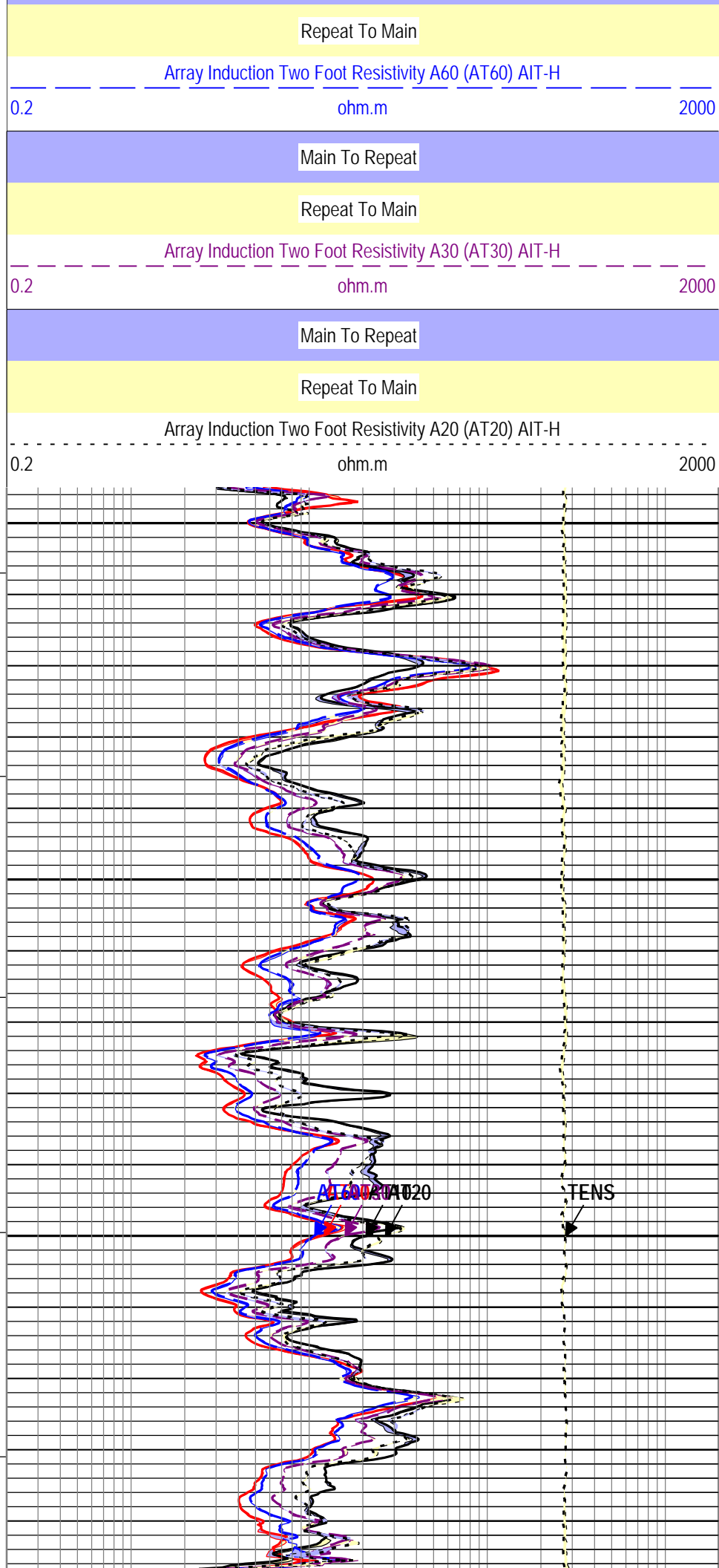
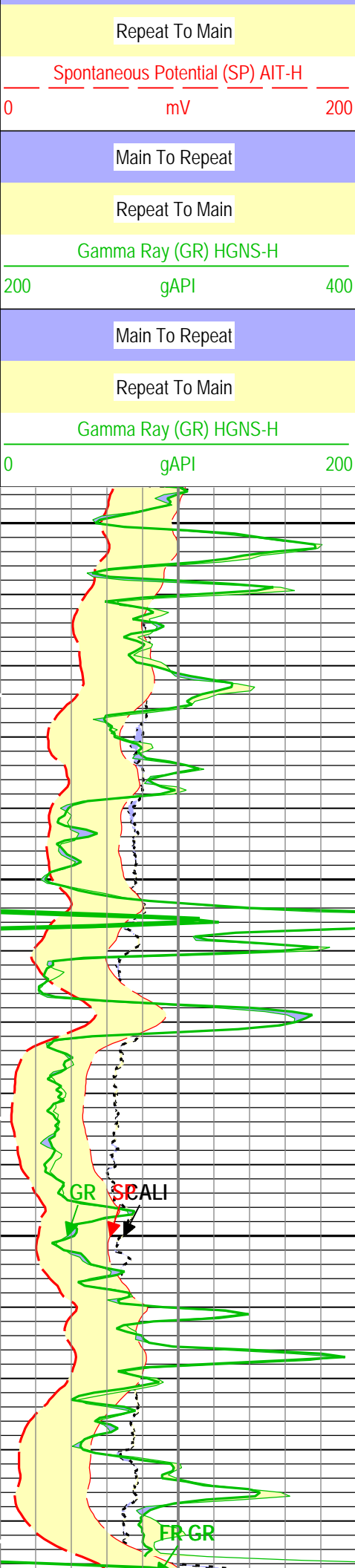
Description: AIT Basic Log Two Format: EMD 5in Induction RA Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 06-Nov-2012 05:43:19

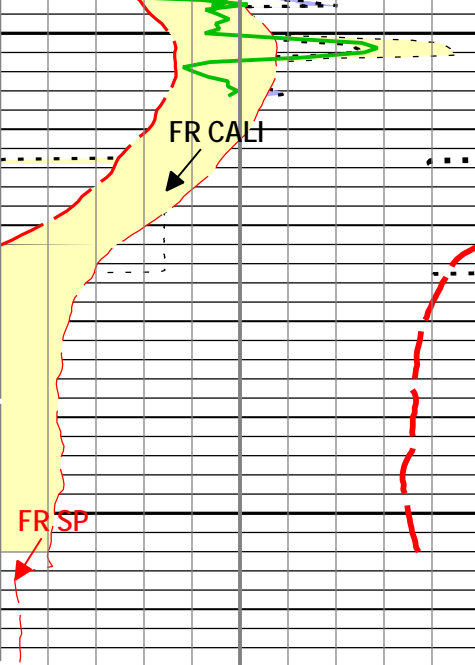
Channel	Source	Sampling
ICV	Borehole	6in
IHV	Borehole	6in
TIME_1900	WLWorkflow	0.1in

- 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)

TIME_1900 - Time Marked every 60.00 (s)

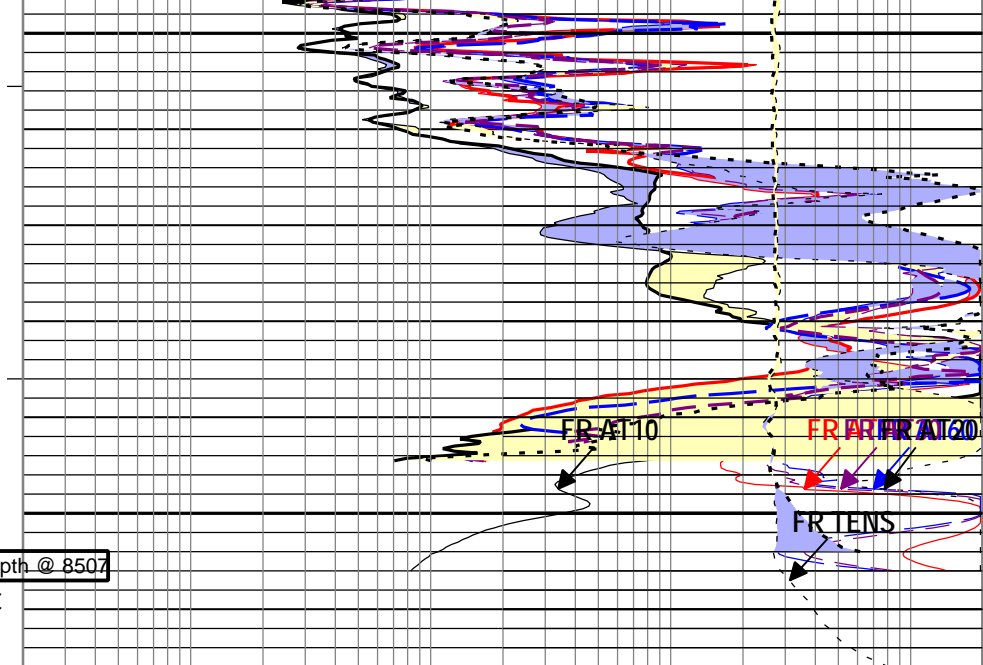






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8500
8510

Total Depth @ 8507.00ft



Main To Repeat
Repeat To Main
Caliper (CALI) HDRS-H
4 in 14
Main To Repeat
Repeat To Main
Spontaneous Potential (SP) AIT-H
0 mV 200
Main To Repeat
Repeat To Main
Gamma Ray (GR) HGNS-H
200 gAPI 400
Main To Repeat
Repeat To Main
Gamma Ray (GR) HGNS-H
0 gAPI 200

Main To Repeat
Repeat To Main
Array Induction Two Foot Resistivity A90 (AT90) AIT-H
0.2 ohm.m 2000
Main To Repeat
Repeat To Main
Array Induction Two Foot Resistivity A10 (AT10) AIT-H
0.2 ohm.m 2000
Main To Repeat
Repeat To Main
Array Induction Two Foot Resistivity A60 (AT60) AIT-H
0.2 ohm.m 2000
Main To Repeat
Repeat To Main
Array Induction Two Foot Resistivity A30 (AT30) AIT-H
0.2 ohm.m 2000
Main To Repeat
Repeat To Main
Array Induction Two Foot Resistivity A20 (AT20) AIT-H
0.2 ohm.m 2000

Main To Repeat
Repeat To Main
Cable Tension (TENS)
10000 lbf 0

└─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)

Description: AIT Basic Log Two Format: EMD 5in Induction RA Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 06-Nov-2012 05:43:19

Calibration Report**AIT-H (Array Induction Tool - H) Calibration - Run Run1**

Primary Equipment :

Array Induction Sonde - H

AHIS

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AIT Sonde Calibration - Test Loop Gain

Master (EEPROM): 16:00:26 25-Oct-2012

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Test Loop Gain - 0		Master	1.000	0.950	1.011	1.050	
Test Loop Phase - 0	deg	Master	0	-3.000	0.278	3.000	
Test Loop Gain - 1		Master	1.000	0.950	1.011	1.050	
Test Loop Phase - 1	deg	Master	0	-3.000	0.501	3.000	
Test Loop Gain - 2		Master	1.000	0.950	1.020	1.050	
Test Loop Phase - 2	deg	Master	0	-3.000	0.020	3.000	
Test Loop Gain - 3		Master	1.000	0.950	1.010	1.050	
Test Loop Phase - 3	deg	Master	0	-3.000	0.015	3.000	
Test Loop Gain - 4		Master	1.000	0.950	0.997	1.050	
Test Loop Phase - 4	deg	Master	0	-3.000	-0.018	3.000	
Test Loop Gain - 5		Master	1.000	0.950	0.990	1.050	
Test Loop Phase - 5	deg	Master	0	-3.000	-0.170	3.000	
Test Loop Gain - 6		Master	1.000	0.950	1.000	1.050	
Test Loop Phase - 6	deg	Master	0	-3.000	0.148	3.000	
Test Loop Gain - 7		Master	1.000	0.950	0.995	1.050	
Test Loop Phase - 7	deg	Master	0	-3.000	-0.296	3.000	

AIT Sonde Calibration - Sonde Error Correction

Master (EEPROM): 16:00:26 25-Oct-2012

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Sonde Error Correction Real - 0	mS/m	Master	-----	-231.000	-81.800	119.000	
Sonde Error Correction Quad - 0		Master	-----	-2250.000	-332.860	2250.000	
Sonde Error Correction Real - 1	mS/m	Master	-----	114.000	188.030	204.000	
Sonde Error Correction Quad - 1		Master	-----	-625.000	-104.997	625.000	
Sonde Error Correction Real - 2	mS/m	Master	-----	66.000	107.809	156.000	
Sonde Error Correction Quad - 2		Master	-----	-350.000	-112.075	350.000	
Sonde Error Correction Real - 3	mS/m	Master	-----	39.000	64.783	89.000	
Sonde Error Correction Quad - 3		Master	-----	-250.000	37.536	250.000	
Sonde Error Correction Real - 4	mS/m	Master	-----	15.000	25.356	35.000	
Sonde Error Correction Quad - 4		Master	-----	-63.000	-42.081	63.000	
Sonde Error Correction Real - 5	mS/m	Master	-----	4.000	13.811	24.000	
Sonde Error Correction Quad - 5		Master	-----	-50.000	4.249	50.000	
Sonde Error Correction Real - 6	mS/m	Master	-----	5.000	10.072	15.000	
Sonde Error Correction Quad - 6		Master	-----	-30.000	-4.592	30.000	
Sonde Error Correction Real - 7	mS/m	Master	-----	-5.000	-0.281	5.000	
Sonde Error Correction Quad - 7		Master	-----	-30.000	-5.939	30.000	

AIT Mud Calibration - Mud Calibration Gain

Master (Manual Entry): 16:00:26 25-Oct-2012

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Coarse Gain		Master	1.000	0.800	1.099	1.200	
Fine Gain		Master	1.000	0.800	1.100	1.200	

AIT Electronics Check - Thru Calibration Check

Master (EEPROM): 16:00:26 25-Oct-2012

Before (Measured):

16:25:44 01-Nov-2012

After:

Expired by 3 days

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Thru Cal Mag - 0	V	Master	-----	0.363	0.618	0.847	

		Before	----	0.363	0.618	0.847	<div><div></div><div></div><div></div></div>
		After	----	----	----	----	<div><div></div><div></div><div></div></div>
		Before-Master	----	----	0.000	----	<div><div></div><div></div><div></div></div>
		After-Before	----	----	----	----	<div><div></div><div></div><div></div></div>
Thru Cal Phase - 0	deg	Master	----	11.000	73.112	131.000	<div><div></div><div></div><div></div></div>
		Before	----	11.000	73.068	131.000	<div><div></div><div></div><div></div></div>
		After	----	----	----	----	<div><div></div><div></div><div></div></div>
		Before-Master	----	----	-0.044	----	<div><div></div><div></div><div></div></div>
		After-Before	----	----	----	----	<div><div></div><div></div><div></div></div>
Thru Cal Mag - 1	V	Master	----	0.762	1.263	1.778	<div><div></div><div></div><div></div></div>
		Before	----	0.762	1.263	1.778	<div><div></div><div></div><div></div></div>
		After	----	----	----	----	<div><div></div><div></div><div></div></div>
		Before-Master	----	----	0.000	----	<div><div></div><div></div><div></div></div>
		After-Before	----	----	----	----	<div><div></div><div></div><div></div></div>
Thru Cal Phase - 1	deg	Master	----	10.000	72.006	130.000	<div><div></div><div></div><div></div></div>
		Before	----	10.000	71.958	130.000	<div><div></div><div></div><div></div></div>
		After	----	----	----	----	<div><div></div><div></div><div></div></div>
		Before-Master	----	----	-0.048	----	<div><div></div><div></div><div></div></div>
		After-Before	----	----	----	----	<div><div></div><div></div><div></div></div>
Thru Cal Mag - 2	V	Master	----	0.374	0.630	0.872	<div><div></div><div></div><div></div></div>
		Before	----	0.374	0.630	0.872	<div><div></div><div></div><div></div></div>
		After	----	----	----	----	<div><div></div><div></div><div></div></div>
		Before-Master	----	----	0.000	----	<div><div></div><div></div><div></div></div>
		After-Before	----	----	----	----	<div><div></div><div></div><div></div></div>
Thru Cal Phase - 2	deg	Master	----	6.000	68.269	126.000	<div><div></div><div></div><div></div></div>
		Before	----	6.000	68.220	126.000	<div><div></div><div></div><div></div></div>
		After	----	----	----	----	<div><div></div><div></div><div></div></div>
		Before-Master	----	----	-0.049	----	<div><div></div><div></div><div></div></div>
		After-Before	----	----	----	----	<div><div></div><div></div><div></div></div>
Thru Cal Mag - 3	V	Master	----	0.422	0.712	0.986	<div><div></div><div></div><div></div></div>
		Before	----	0.422	0.712	0.986	<div><div></div><div></div><div></div></div>
		After	----	----	----	----	<div><div></div><div></div><div></div></div>
		Before-Master	----	----	0.000	----	<div><div></div><div></div><div></div></div>
		After-Before	----	----	----	----	<div><div></div><div></div><div></div></div>
Thru Cal Phase - 3	deg	Master	----	5.000	67.481	125.000	<div><div></div><div></div><div></div></div>
		Before	----	5.000	67.429	125.000	<div><div></div><div></div><div></div></div>
		After	----	----	----	----	<div><div></div><div></div><div></div></div>
		Before-Master	----	----	-0.052	----	<div><div></div><div></div><div></div></div>
		After-Before	----	----	----	----	<div><div></div><div></div><div></div></div>
Thru Cal Mag - 4	V	Master	----	0.802	1.327	1.872	<div><div></div><div></div><div></div></div>
		Before	----	0.802	1.327	1.872	<div><div></div><div></div><div></div></div>
		After	----	----	----	----	<div><div></div><div></div><div></div></div>
		Before-Master	----	----	0.000	----	<div><div></div><div></div><div></div></div>
		After-Before	----	----	----	----	<div><div></div><div></div><div></div></div>
Thru Cal Phase - 4	deg	Master	----	-1.000	61.213	119.000	<div><div></div><div></div><div></div></div>
		Before	----	-1.000	61.154	119.000	<div><div></div><div></div><div></div></div>
		After	----	----	----	----	<div><div></div><div></div><div></div></div>
		Before-Master	----	----	-0.059	----	<div><div></div><div></div><div></div></div>
		After-Before	----	----	----	----	<div><div></div><div></div><div></div></div>
Thru Cal Mag - 5	V	Master	----	1.173	1.933	2.737	<div><div></div><div></div><div></div></div>
		Before	----	1.173	1.933	2.737	<div><div></div><div></div><div></div></div>
		After	----	----	----	----	<div><div></div><div></div><div></div></div>
		Before-Master	----	----	0.000	----	<div><div></div><div></div><div></div></div>
		After-Before	----	----	----	----	<div><div></div><div></div><div></div></div>
Thru Cal Phase - 5	deg	Master	----	-3.000	59.316	117.000	<div><div></div><div></div><div></div></div>
		Before	----	-3.000	59.251	117.000	<div><div></div><div></div><div></div></div>
		After	----	----	----	----	<div><div></div><div></div><div></div></div>
		Before-Master	----	----	-0.065	----	<div><div></div><div></div><div></div></div>
		After-Before	----	----	----	----	<div><div></div><div></div><div></div></div>
Thru Cal Mag - 6	V	Master	----	1.173	1.932	2.737	<div><div></div><div></div><div></div></div>
		Before	----	1.173	1.932	2.737	<div><div></div><div></div><div></div></div>
		After	----	----	----	----	<div><div></div><div></div><div></div></div>
		Before-Master	----	----	0.000	----	<div><div></div><div></div><div></div></div>
		After-Before	----	----	----	----	<div><div></div><div></div><div></div></div>
Thru Cal Phase - 6	deg	Master	----	-3.000	59.327	117.000	<div><div></div><div></div><div></div></div>
		Before	----	-3.000	59.264	117.000	<div><div></div><div></div><div></div></div>
		After	----	----	----	----	<div><div></div><div></div><div></div></div>
		Before-Master	----	----	-0.063	----	<div><div></div><div></div><div></div></div>

		After-Before	----	----	----	----	
Thru Cal Mag - 7	V	Master	----	0.849	1.381	1.981	
		Before	----	0.849	1.380	1.981	
		After	----	----	----	----	
		Before-Master	----	----	-0.001	----	
		After-Before	----	----	----	----	
Thru Cal Phase - 7	deg	Master	----	-7.000	55.850	113.000	
		Before	----	-7.000	55.732	113.000	
		After	----	----	----	----	
		Before-Master	----	----	-0.118	----	
		After-Before	----	----	----	----	
SPA Zero	mV	Master		-50.000	-0.201	50.000	
		Before		-50.000	-0.217	50.000	
		After	----	----	----	----	
		Before-Master	----	----	-0.016	----	
		After-Before	----	----	----	----	
SPA Plus	mV	Master		941.000	991.790	1040.000	
		Before		941.000	992.062	1040.000	
		After	----	----	----	----	
		Before-Master	----	----	0.272	----	
		After-Before	----	----	----	----	
Temperature Zero	V	Master		-0.050	0.000	0.050	
		Before		-0.050	0.000	0.050	
		After	----	----	----	----	
		Before-Master	----	----	0.000	----	
		After-Before	----	----	----	----	
Temperature Plus	V	Master		0.870	0.919	0.960	
		Before		0.870	0.919	0.960	
		After	----	----	----	----	
		Before-Master	----	----	0.000	----	
		After-Before	----	----	----	----	

Company:	Nighthawk Production LLC	Schlumberger
Well:	Whistler 6-22	
Field:	Wildcat	
County:	Lincoln	
State:	Colorado	
Platform Express		
Array Induction		
with Linear Correlation		