

Company: Noble Energy Inc

Well: Tripucka State LD02-74-1AHN

Field: Wildcat

County: Weld State: Colorado

Compensated Neutron

USIT-Lite

County:	Weld			
Field:	Wildcat			
Location:	SWSE Sec. 2, T9N, R58W			
Well:	Tripucka State LD02-74-1AHN			
Company:	Noble Energy Inc			
Location:		SWSE Sec. 2, T9N, R58W	Elev.:	K.B. 4705.00 ft
		SHL: 615' FSL & 1878' FEL		G.L. 4675.00 ft
		Lat/Long: 40.775020/-103.828450		D.F. 4704.00 ft
Permanent Datum:		Ground Level	Elev.:	4675.00 f
Log Measured From:		Kelly Bushing	30.00 ft	above Perm.Datum
Drilling Measured From:		Kelly Bushing		
API Serial No.	Section:	Township:	Range:	
05-123-39878-0000	2	9N	58W	
Logging Date	13-Feb-2015			

Run Number	Run 1		
Depth Driller	5926.00 ft		
Schlumberger Depth	5785.00 ft		
Bottom Log Interval	5785.00 ft		
Top Log Interval	30.00 ft		
Casing Fluid Type	Water		
Salinity			
Density	8.7 lbm/gal		
Fluid Level	8.00 ft		
BIT/CASING/TUBING STRING			
Bit Size	8.75 in		
From	1249.00 ft		
To	5785.00 ft		
Casing/Tubing Size	7 in		
Weight	26 lbm/ft		
Grade	P110		
From	30.00 ft		
To	5915.70 ft		
Max Recorded Temperatures			
Logger on Bottom	Time	13-Feb-2015	10:10:00
Unit Number	Location:	3022	Fort Morgan, CO
Recorded By	Keri Ondrus		
Witnessed By			

Disclaimer

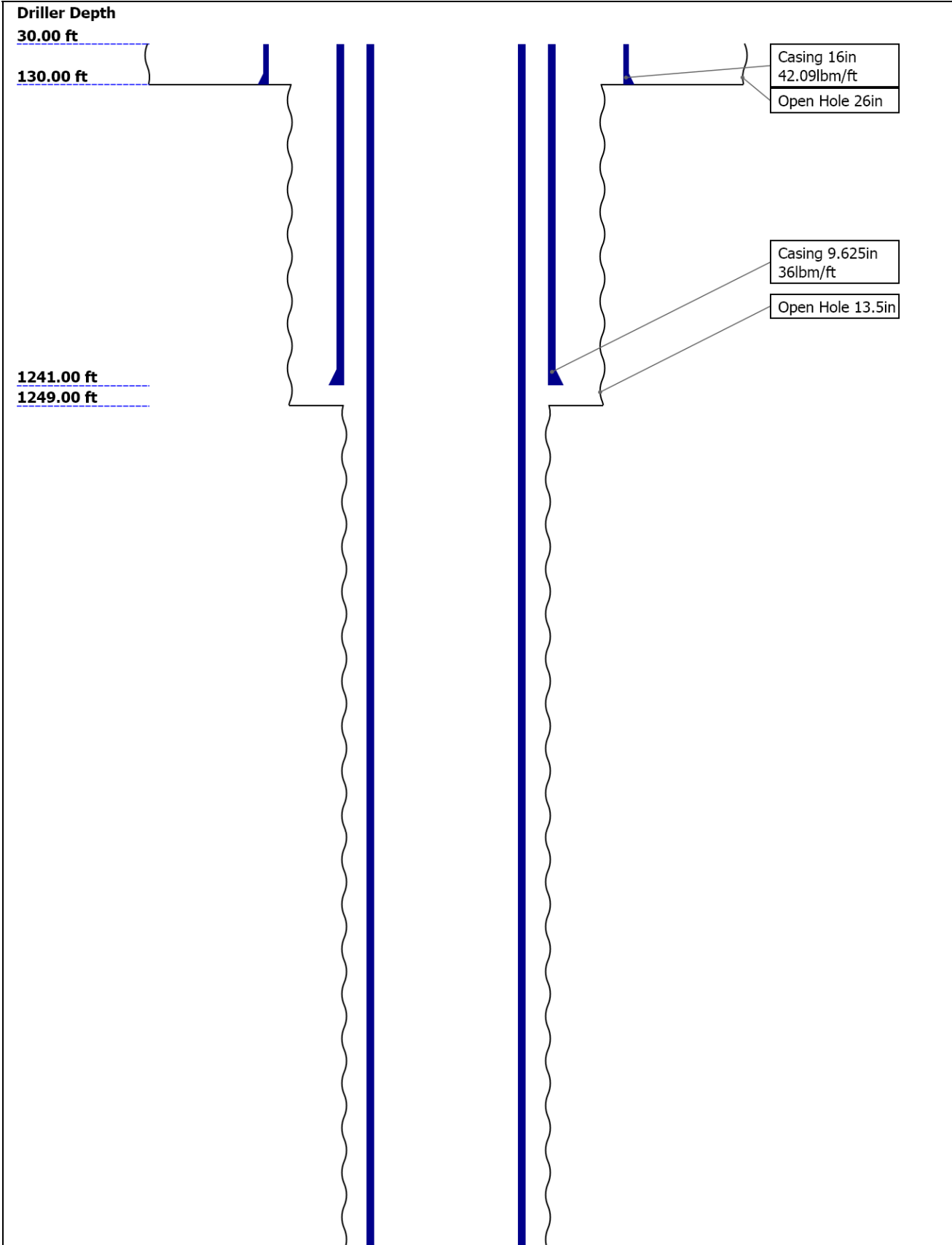
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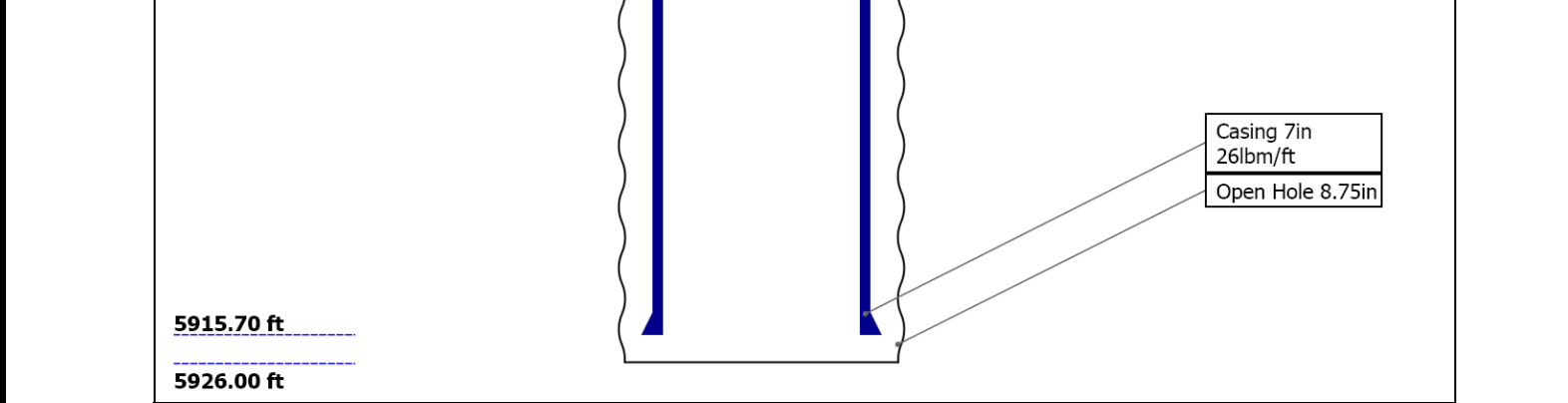
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Well Sketch





Borehole Size/Casing/Tubing Record

Bit						
Bit Size (in)	26	13.5	8.75			
Top Driller (ft)	30	130	1249			
Top Logger (ft)	30	130	1249			
Bottom Driller (ft)	130	1249	5926			
Bottom Logger (ft)	130	1249	5785			
Casing						
Size (in)	16	9.625	7			
Weight (lbm/ft)	42.09	36	26			
Inner Diameter (in)	15.511	8.921	6.276			
Grade	N/A	J55	P110			
Top Driller (ft)	30	30	30			
Top Logger (ft)	30	30	30			
Bottom Driller (ft)	130	1241	5915.7			
Bottom Logger (ft)	130	1241	5915.7			

Operational Run Summary

Parameter (unit)	Run 1					
Date Log Started	13-Feb-2015					
Time Log Started	09:17:03					
Date Log Finished	13-Feb-2015					
Time Log Finished	11:44:45					
Top Log Interval (ft)						
Bottom Log Interval (ft)						
Total Depth (ft)	5785.00					
Max Hole Deviation (deg)						
Azimuth of Max Deviation (deg)						
Bit Size (in)	8.750					
Logging Unit Number	3022					
Logging Unit Location	Fort Morgan, CO					
Recorded By	Keri Ondrus					

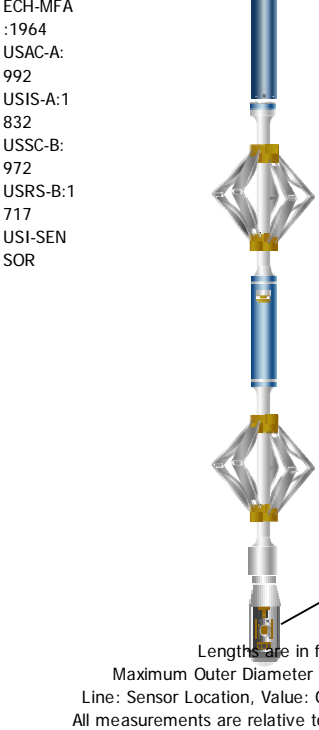
Witnessed By						
Service Order Number	BX19-00233					

Borehole Fluids

Parameter(unit)	Run 1					
Fluid Type	Water					
Max Recorded Temperatures (degF)	NaN					
Salinity (ppm)	0					
Density (lbm/gal)	8.7					
Date Logger on Bottom	13-Feb-2015					
Time Logger on Bottom	10:10:00					
Total Solid (%)						
High Gravity Solids (%)						

Remarks and Equipment Summary

Run 1: Toolstring	Run 1: Remarks
<div> <div> <div>Equip nameLength</div> <div>LEH-QT 44.16</div> <div>LEH-QT</div> </div> <div> <div>MP nameOffset</div> <div></div> <div></div> </div> </div>	This is the first run in hole.
	Toolstring run as per toolsketch.
	Log objective: Cement Evaluation and Neutron log
	0 PSI repeat pass and 2500 PSI main pass.
	Estimated TOC @ 1700'. Expected TOC @ 1500'.
	Top of 4.5" liner at 5799.5'.
	Bottom log interval at 5785' to maintain distance from top of liner.
	Bottom hole temperature was 206.96 degF.
	Thank you for choosing Schlumberger Wireline!
	SLB crew: Ian Derry, Derrick Hunter, and Keri Ondrus.
<div> <div> <div>Equip nameLength</div> <div>DTC-H:9 469 (41.24)</div> <div>ECH-KC: 10530</div> <div>DTC-H:9 469</div> <div>SGT-N (38.24)</div> <div>SGH-K</div> <div>SGC-TB</div> <div>SGD-TAA</div> </div> <div> <div>MP nameOffset</div> <div>CTEM 40.35</div> <div>HV 0.00</div> <div>TelStatus 38.24</div> <div>ToolStatus 38.24</div> <div>GR 37.33</div> </div> </div> <div> <div> <div>Equip nameLength</div> <div>HGNS-H (32.74)</div> <div>HGNH</div> <div>NSR-F:52 15</div> <div>NPV-N</div> <div>HGNS-H</div> <div>HMCA-H</div> <div>HACCZ-H :5955</div> </div> <div> <div>MP nameOffset</div> <div>Temperature 32.72</div> <div>GR 32.00</div> </div> </div> <div> <div> <div>Equip nameLength</div> <div>AH-184 [2] (23.34)</div> <div>AH-184 [1] (21.34)</div> <div>CME-AF (19.34)</div> <div>USIT-E:9 92 (15.54)</div> </div> <div> <div>MP nameOffset</div> <div>CNL Porosity 25.67</div> <div>HMCA 23.34</div> <div>HGNS 23.34</div> <div>Accelerometer 0.00</div> <div>3916</div> <div>2746</div> <div>589</div> </div> </div>	



Depth Summary

Run 1

Depth Measuring Device

Type	IDW-B
Serial Number	5896
Calibration Date	13-Aug-2014
Calibrator Serial Number	
Calibration Cable Type	7-39 PLXS
Wheel Correction 1	-3
Wheel Correction 2	-2

Tension Device

Type	CMTD-B/A
Serial Number	1109
Calibration Date	12-Feb-2015
Calibrator Serial Number	78135A
Number of Calibration Points	10
Calibration Root Mean Square Error	13
Calibration Peak Error	7

Logging Cable

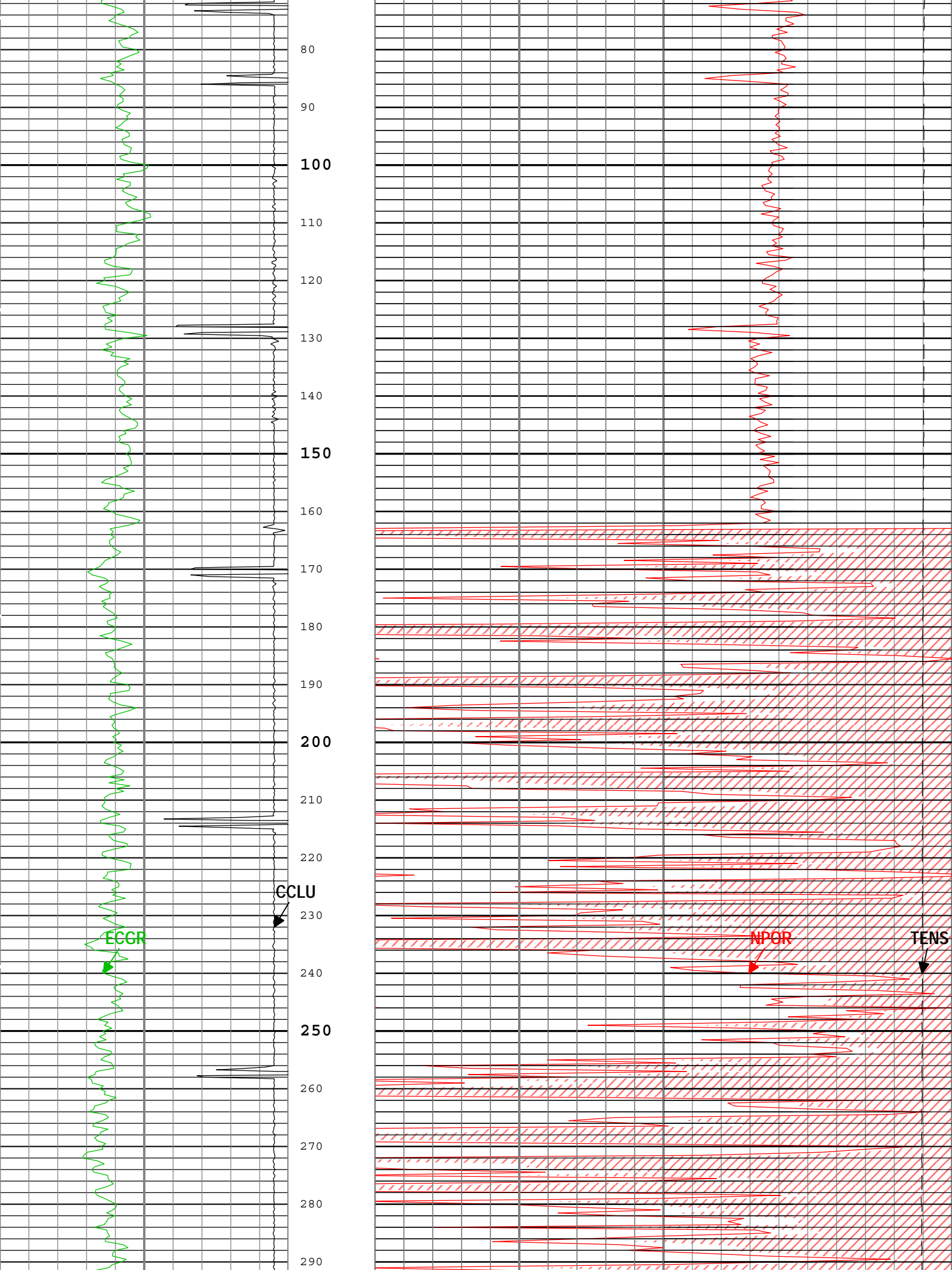
Type	7-39P-LXS
Serial Number	F713384
Length	14000.00 ft
Conveyance Type	Wireline
Rig Type	Crane

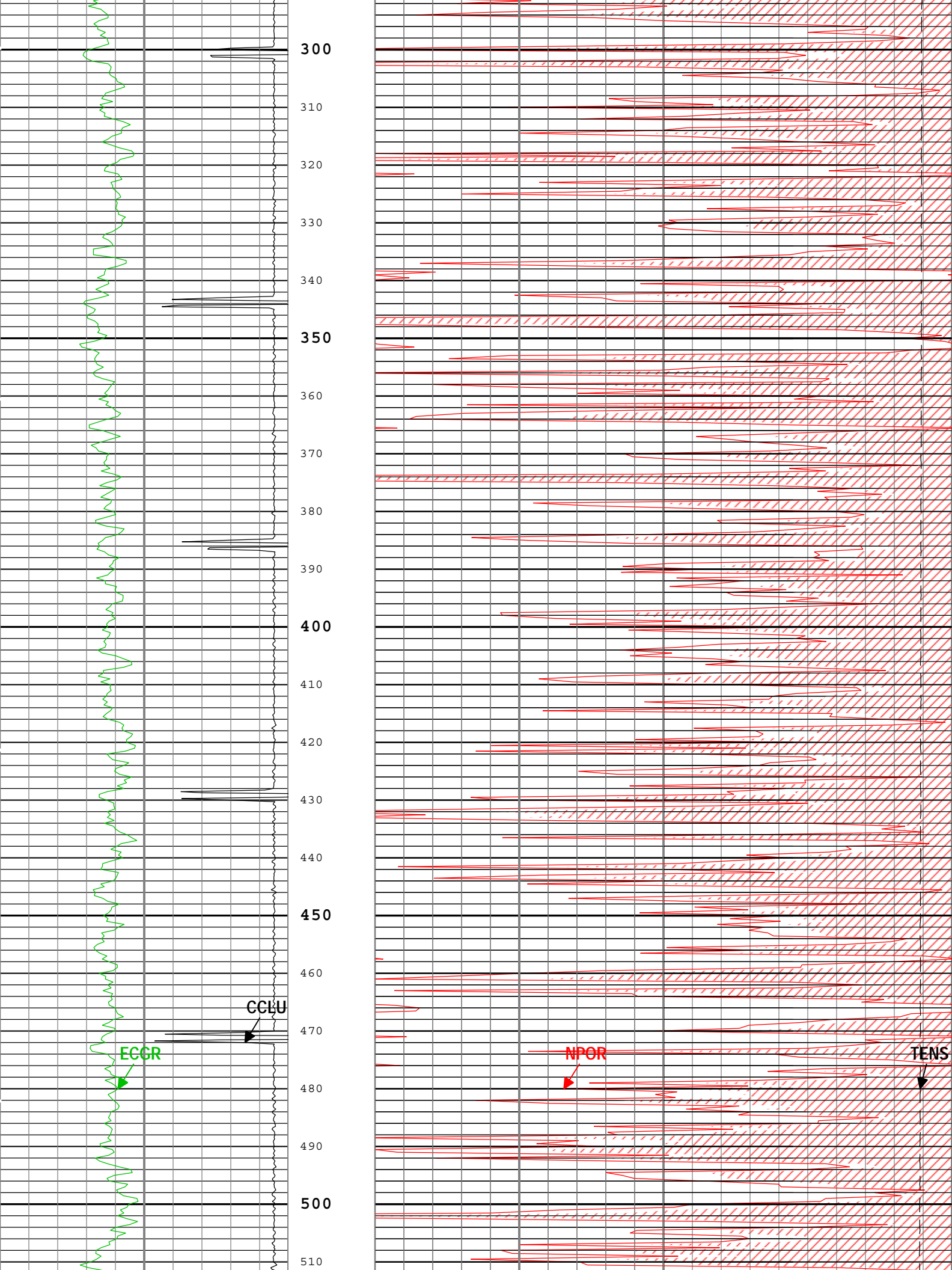
Run 1:Depth Control Parameters

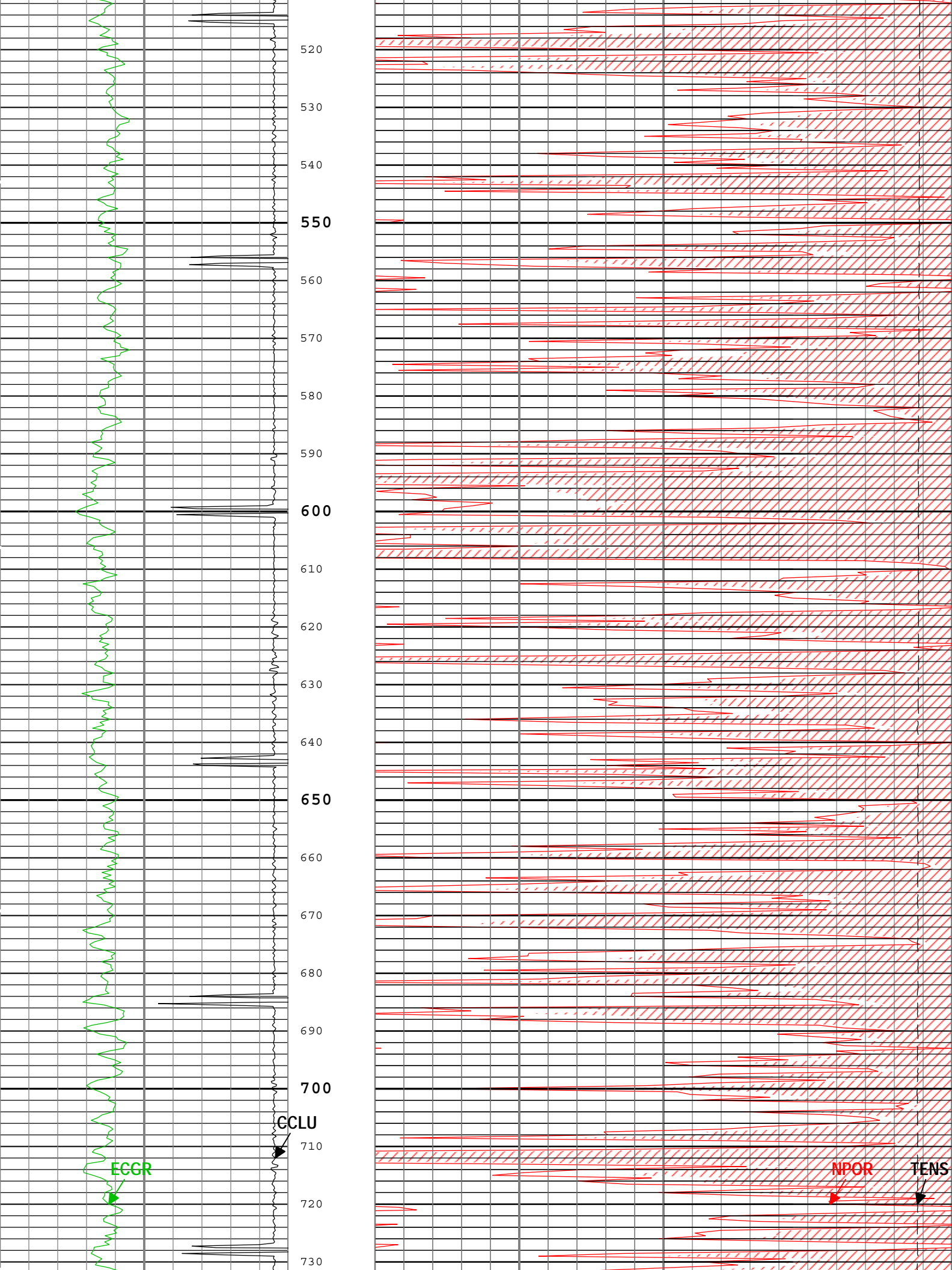
Depth Control Remarks

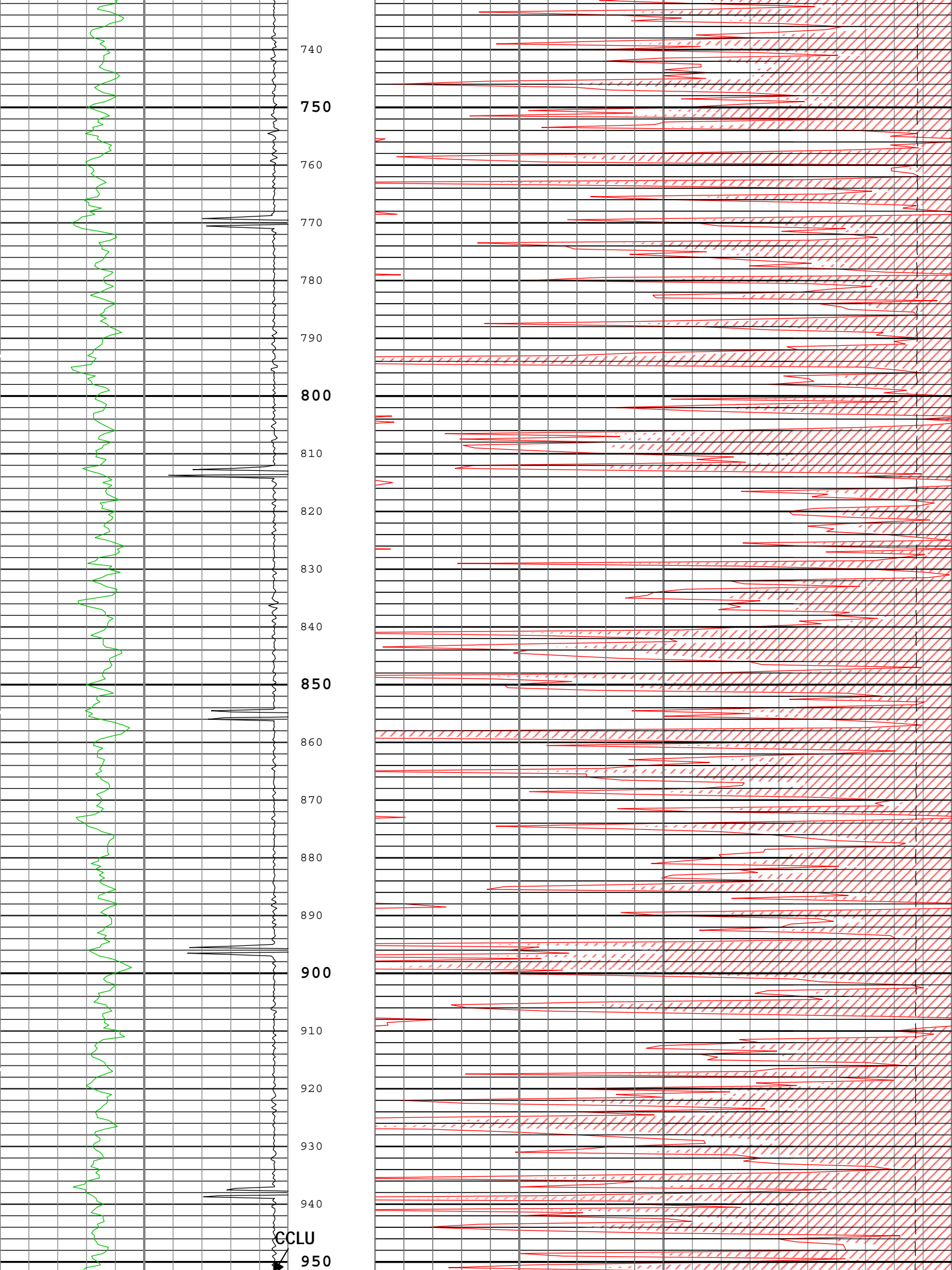
Log Sequence	First Log In the Well
Rig Up Length At Surface	
Rig Up Length At Bottom	
Rig Up Length Correction	
Stretch Correction	
Tool Zero Check At Surface	

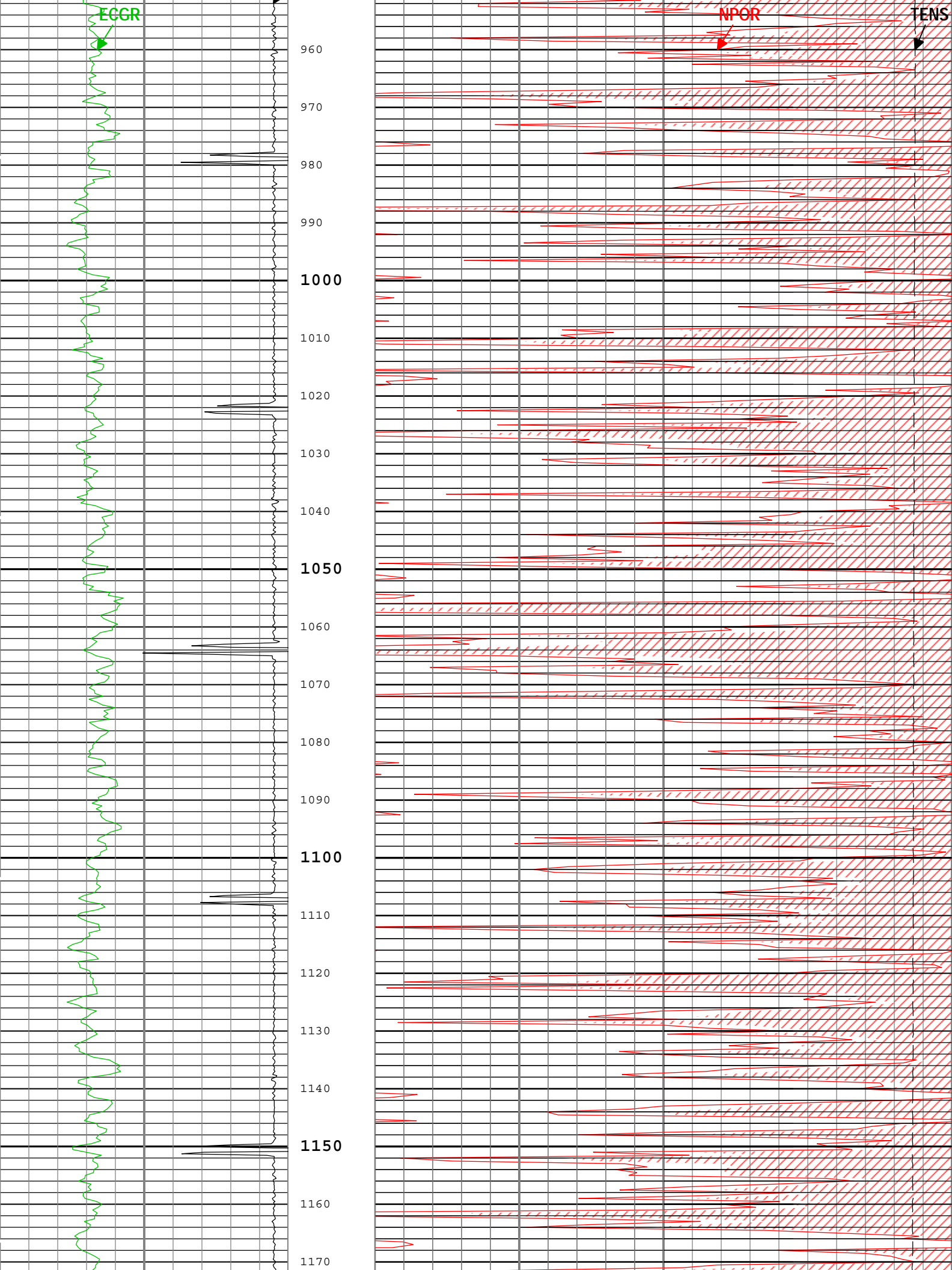
Run 1

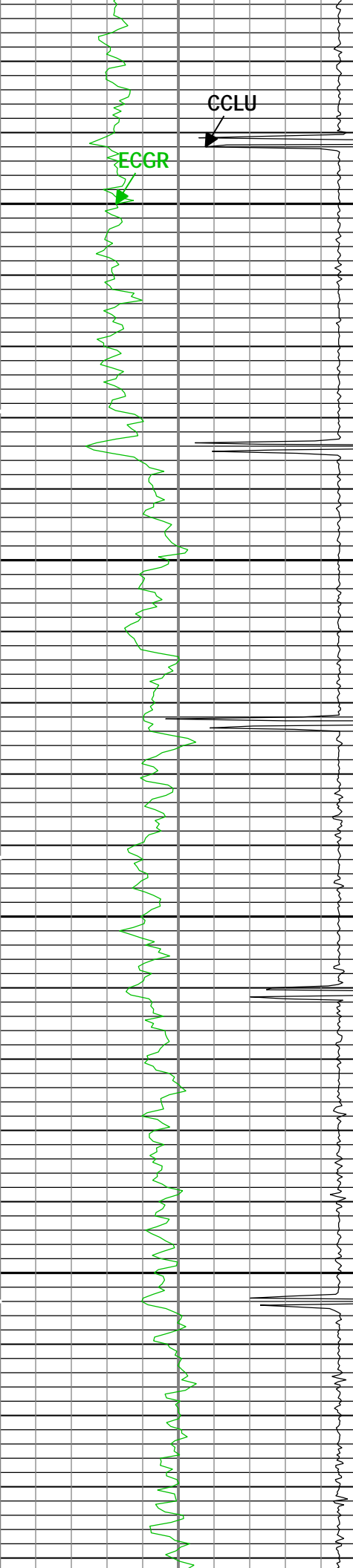




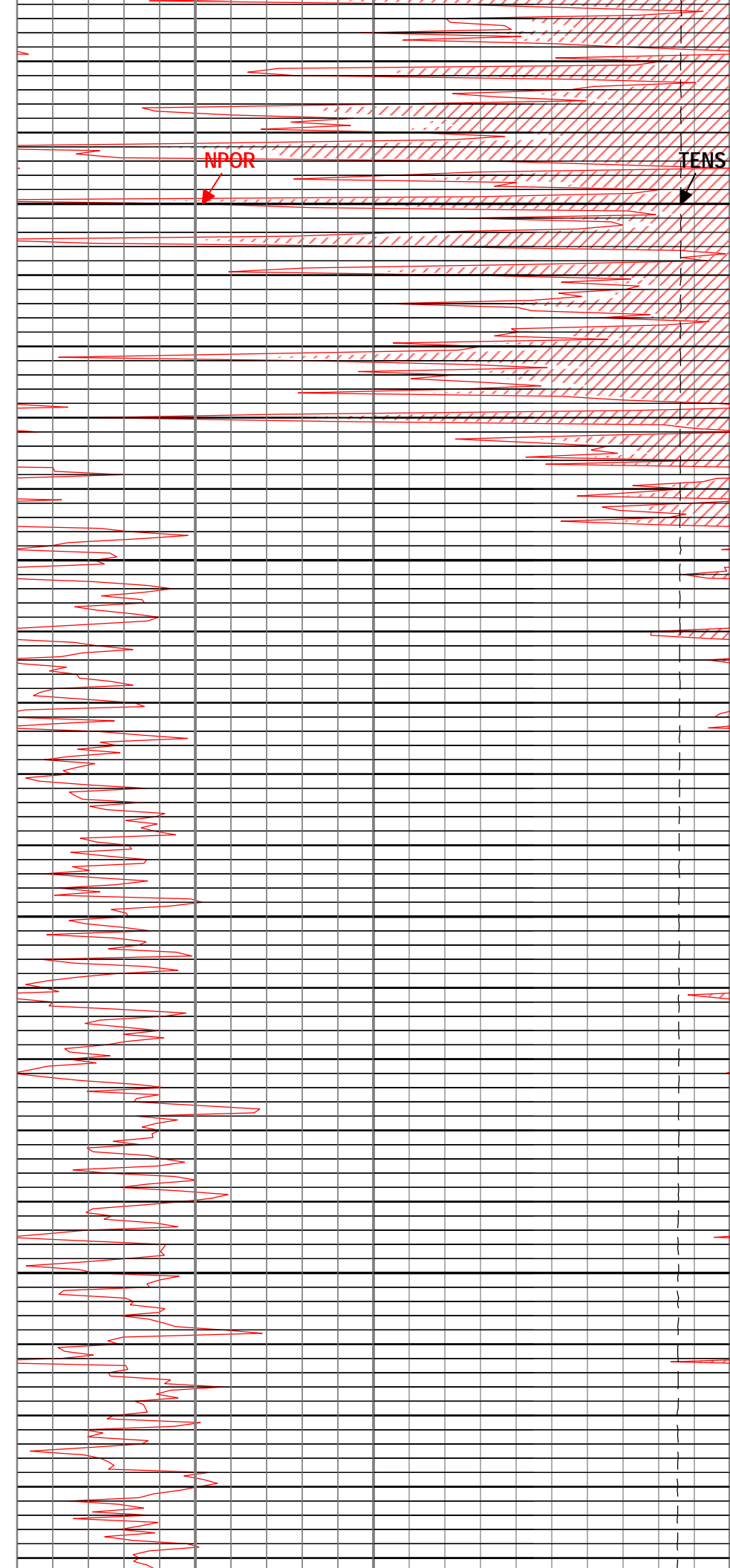


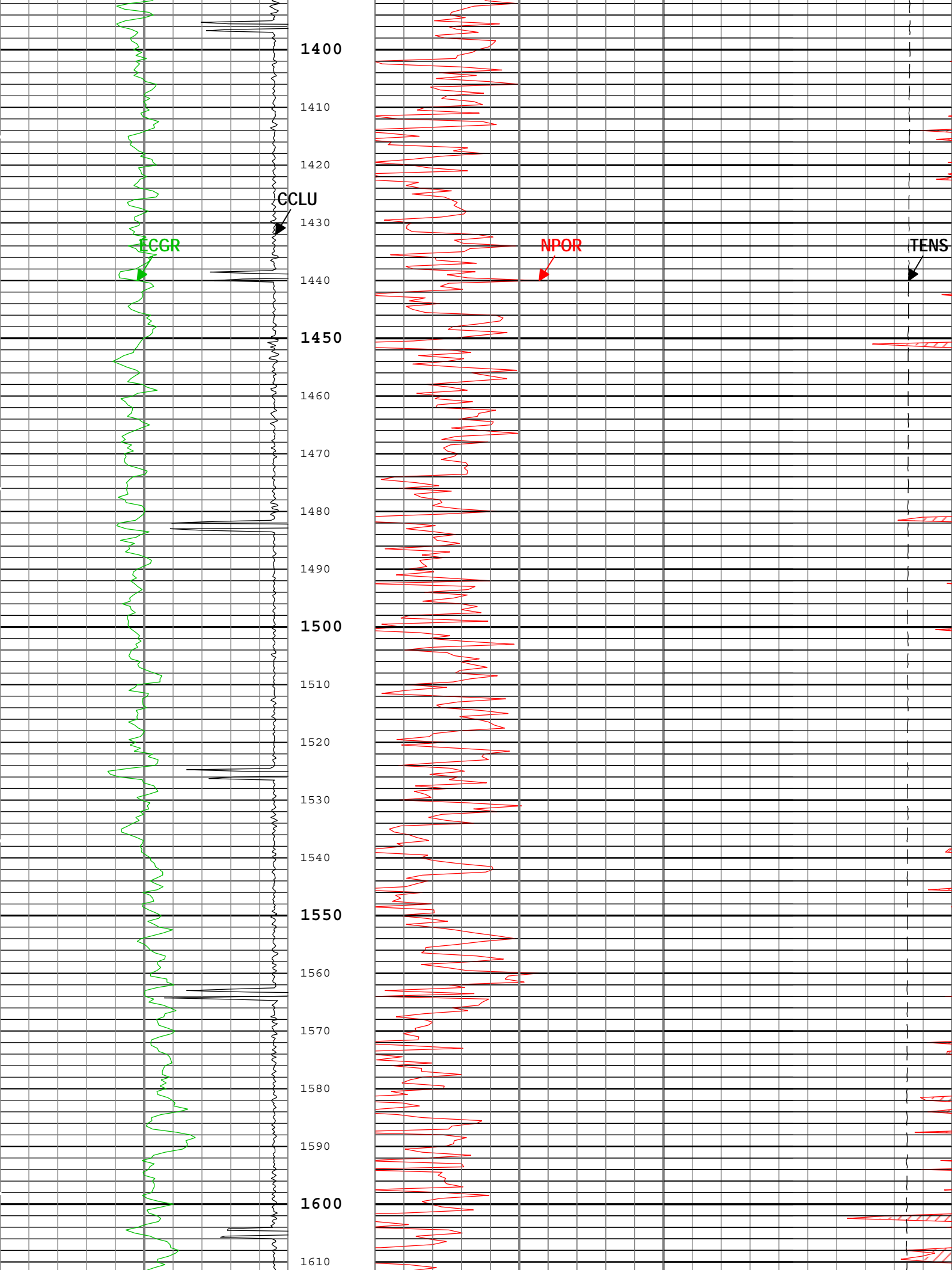


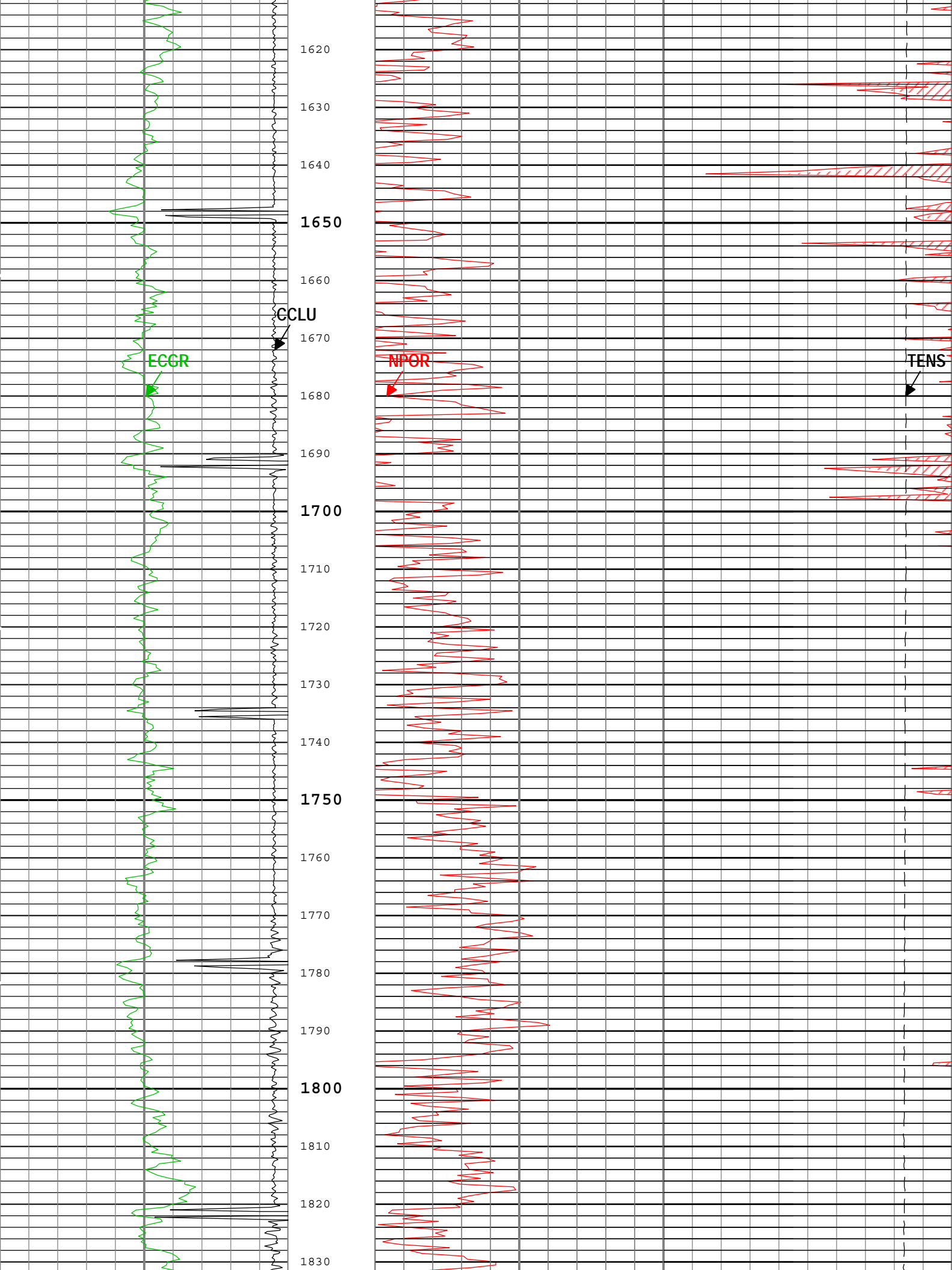


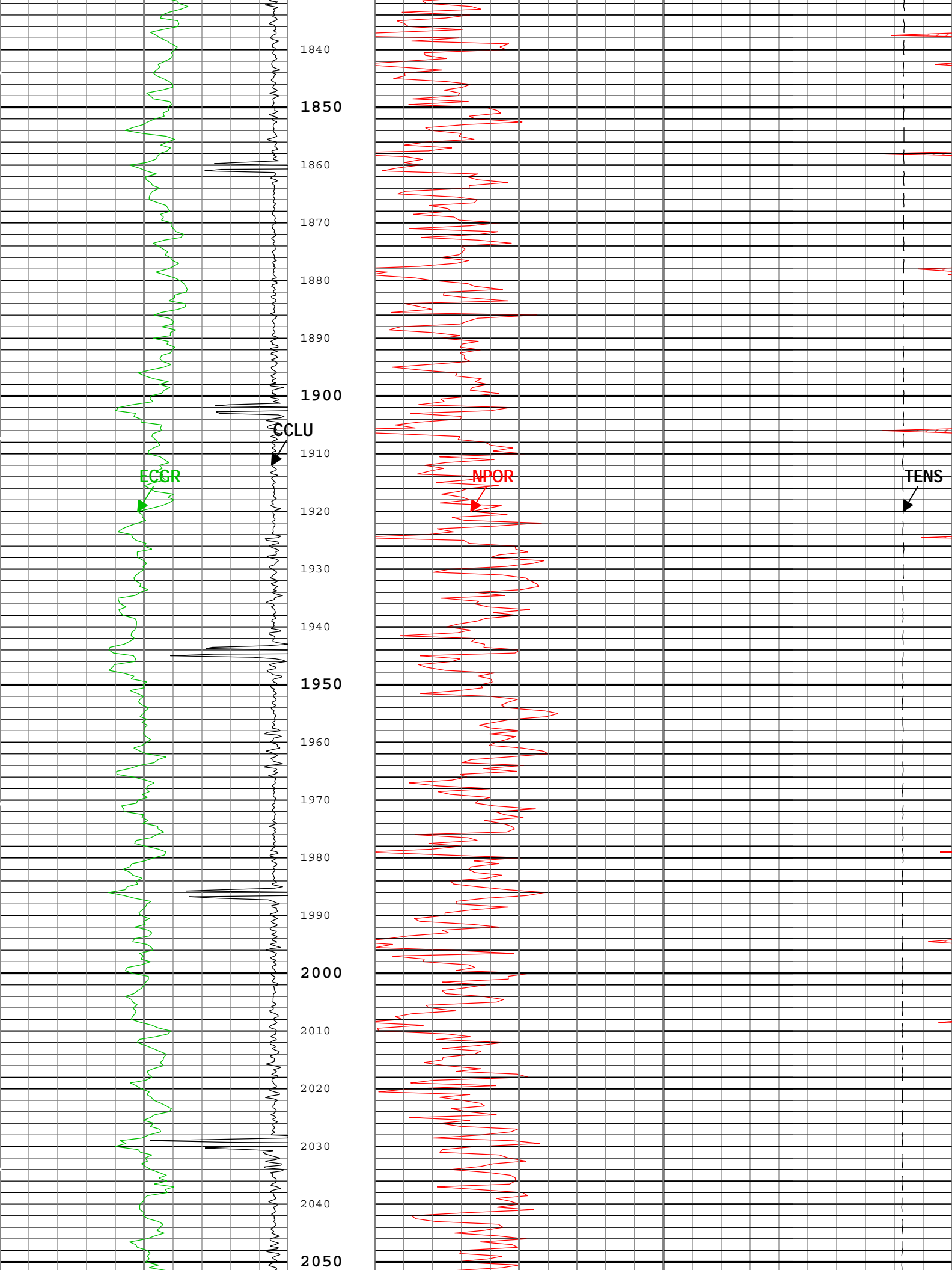


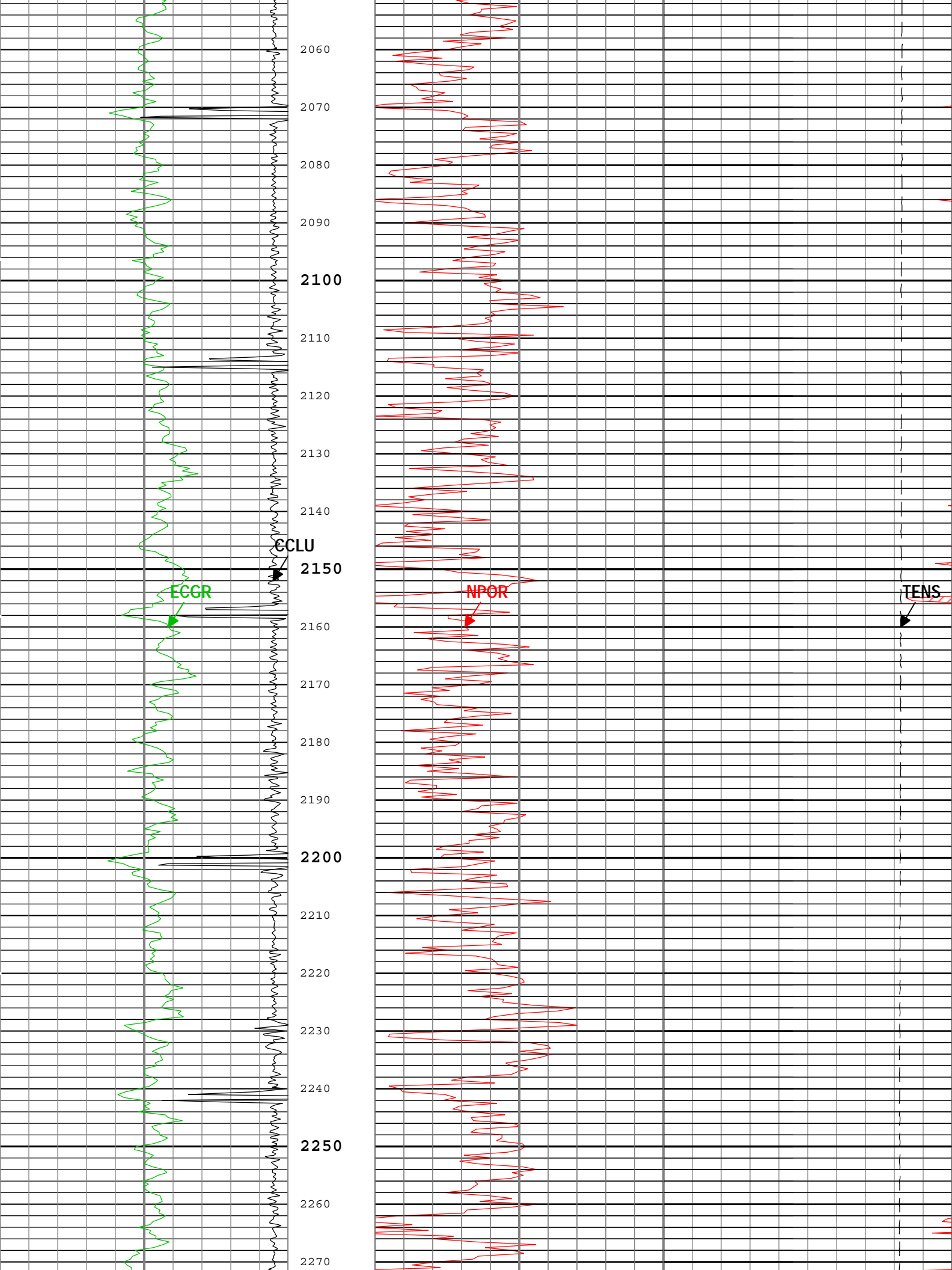
1180
1190
1200
1210
1220
1230
1240
1250
1260
1270
1280
1290
1300
1310
1320
1330
1340
1350
1360
1370
1380
1390

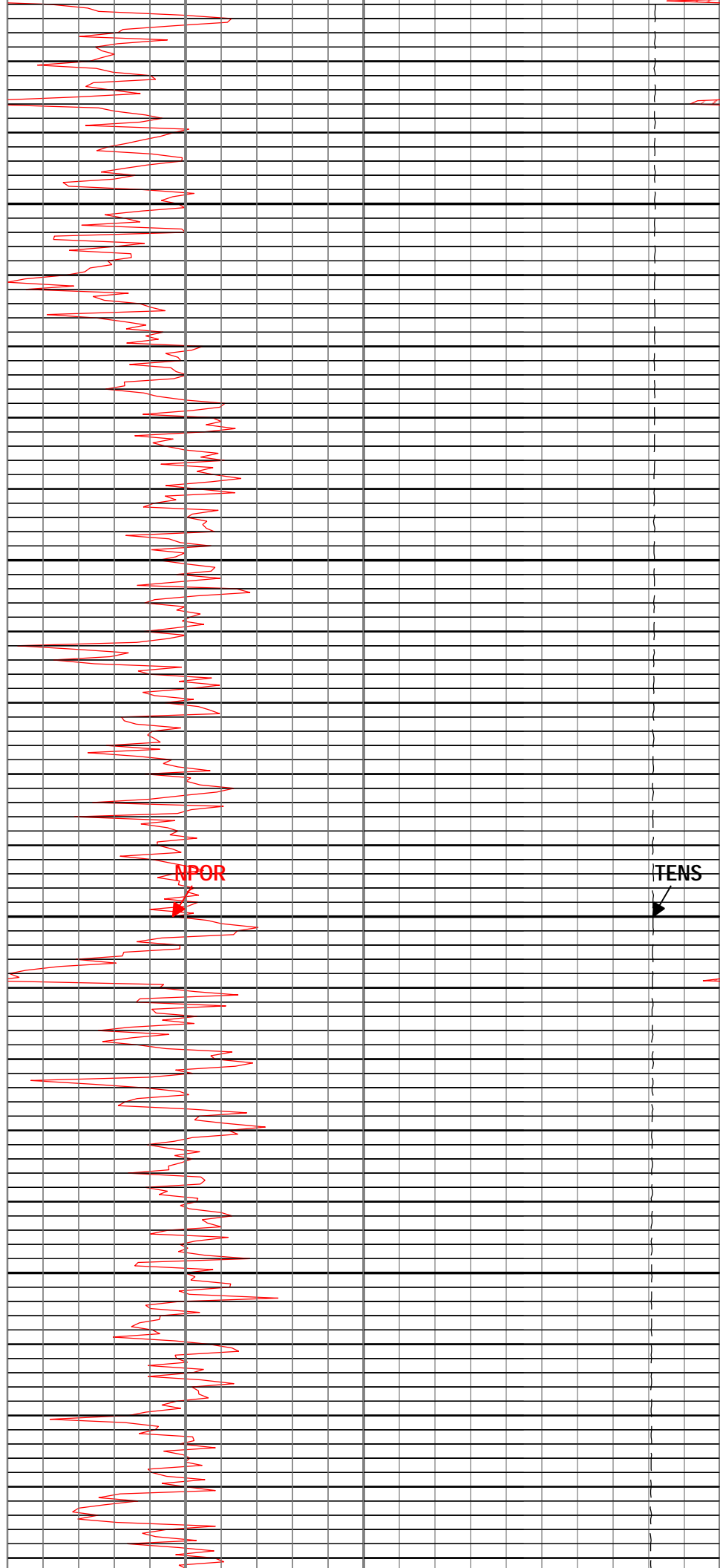
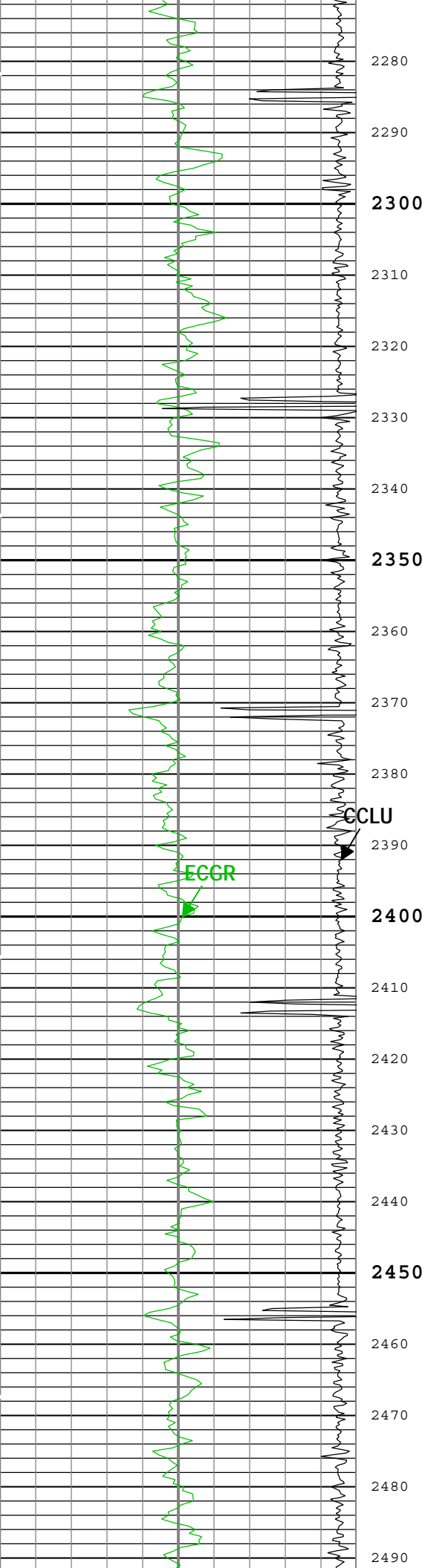


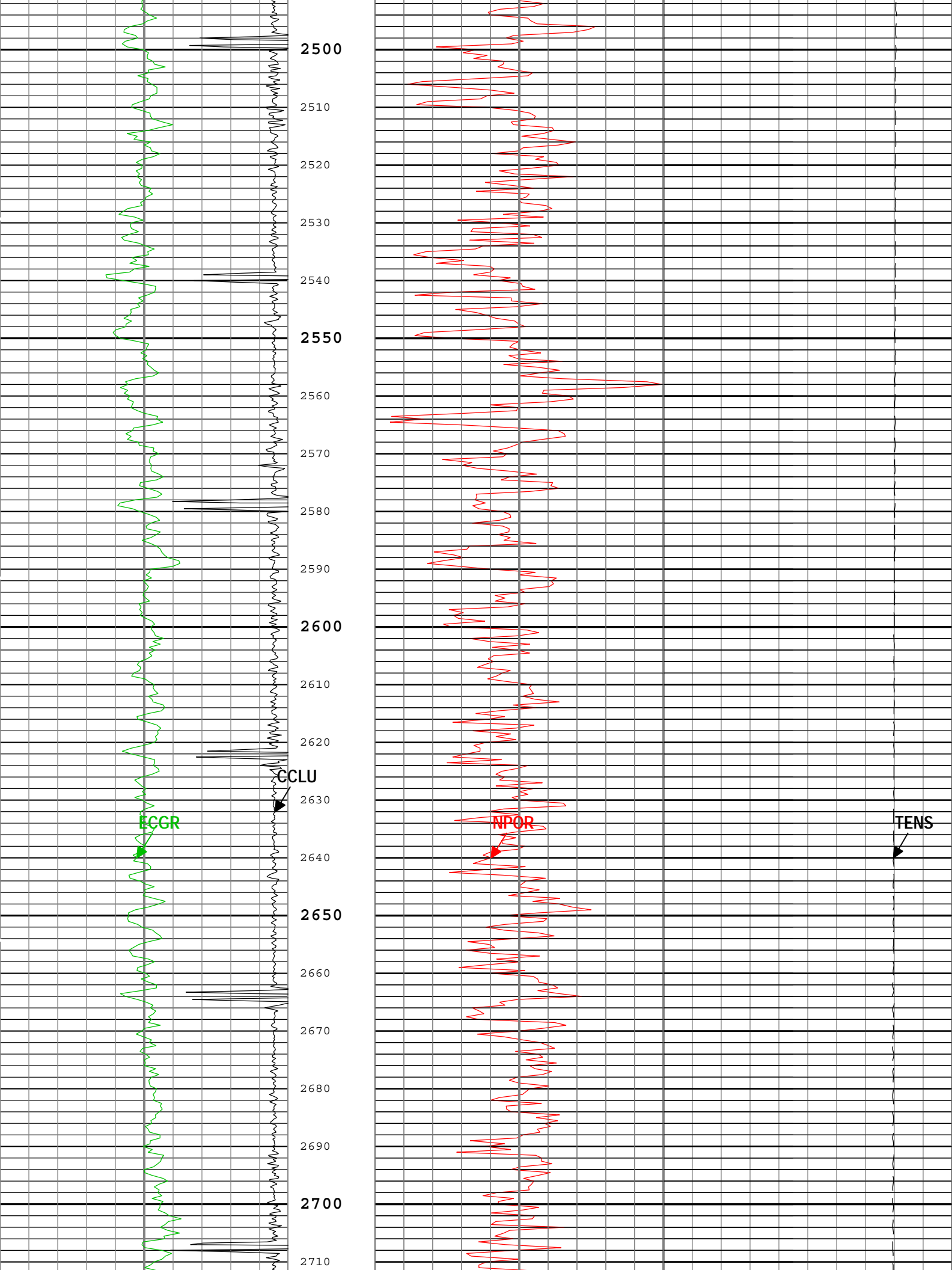


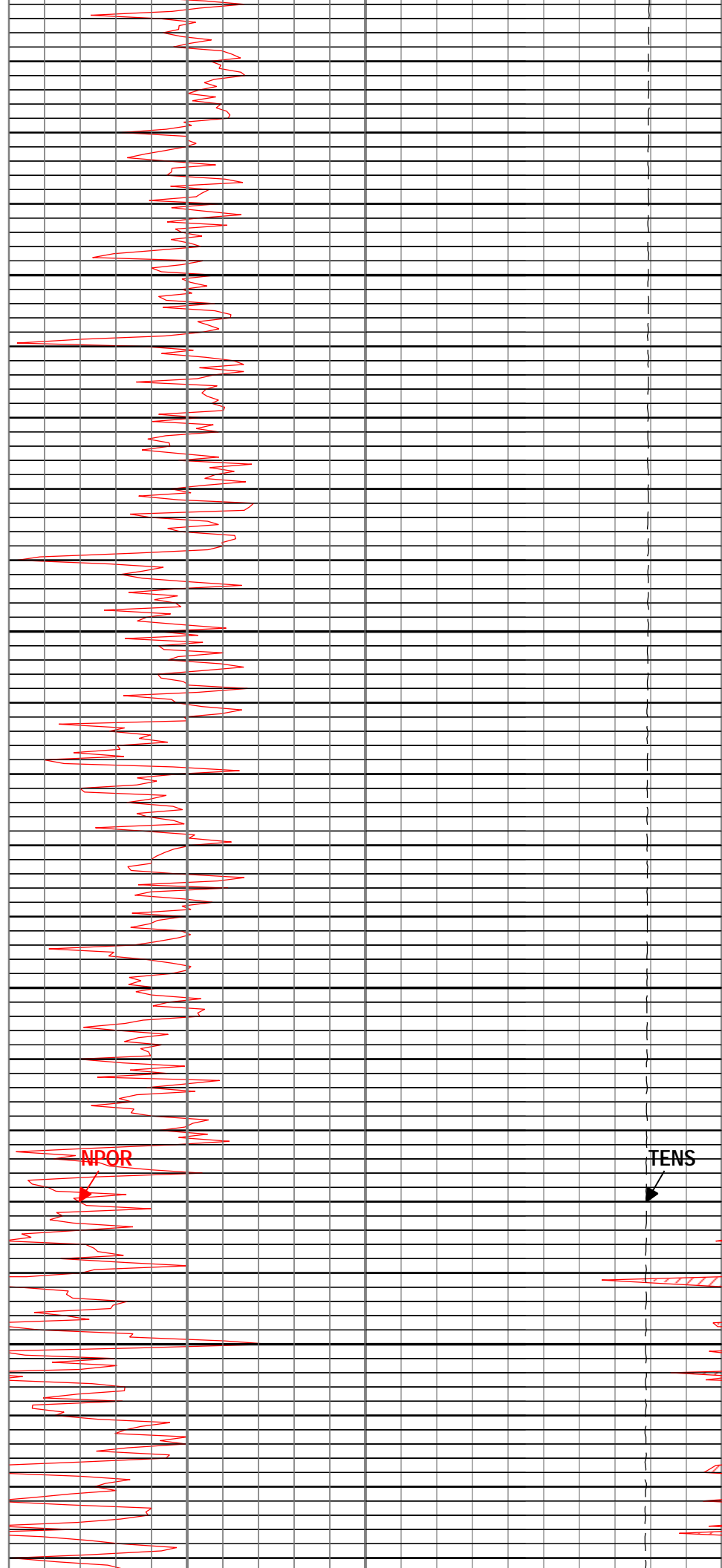
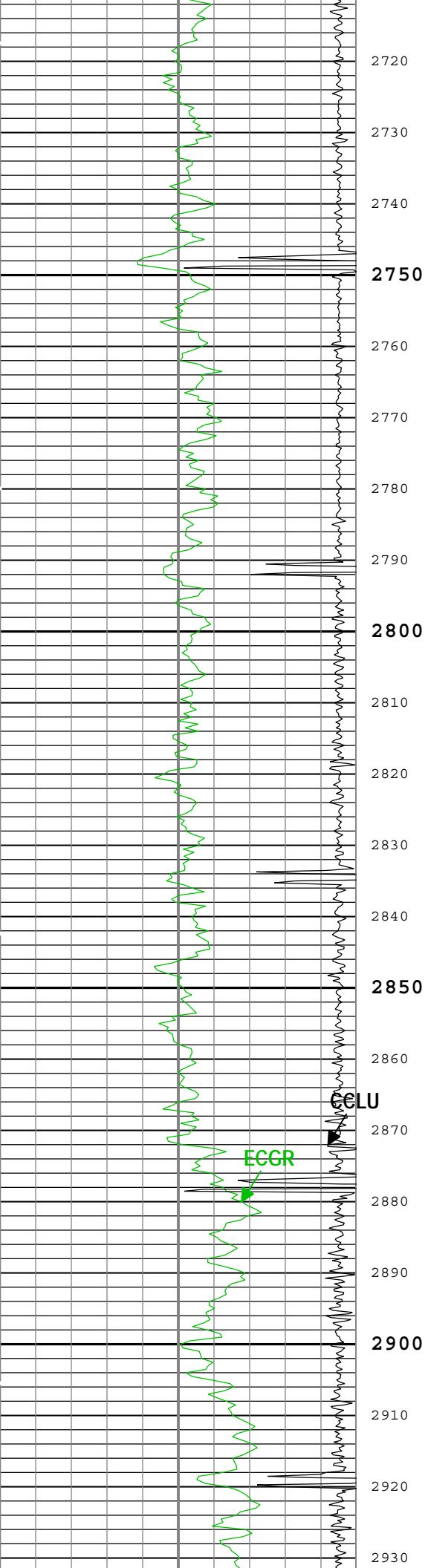


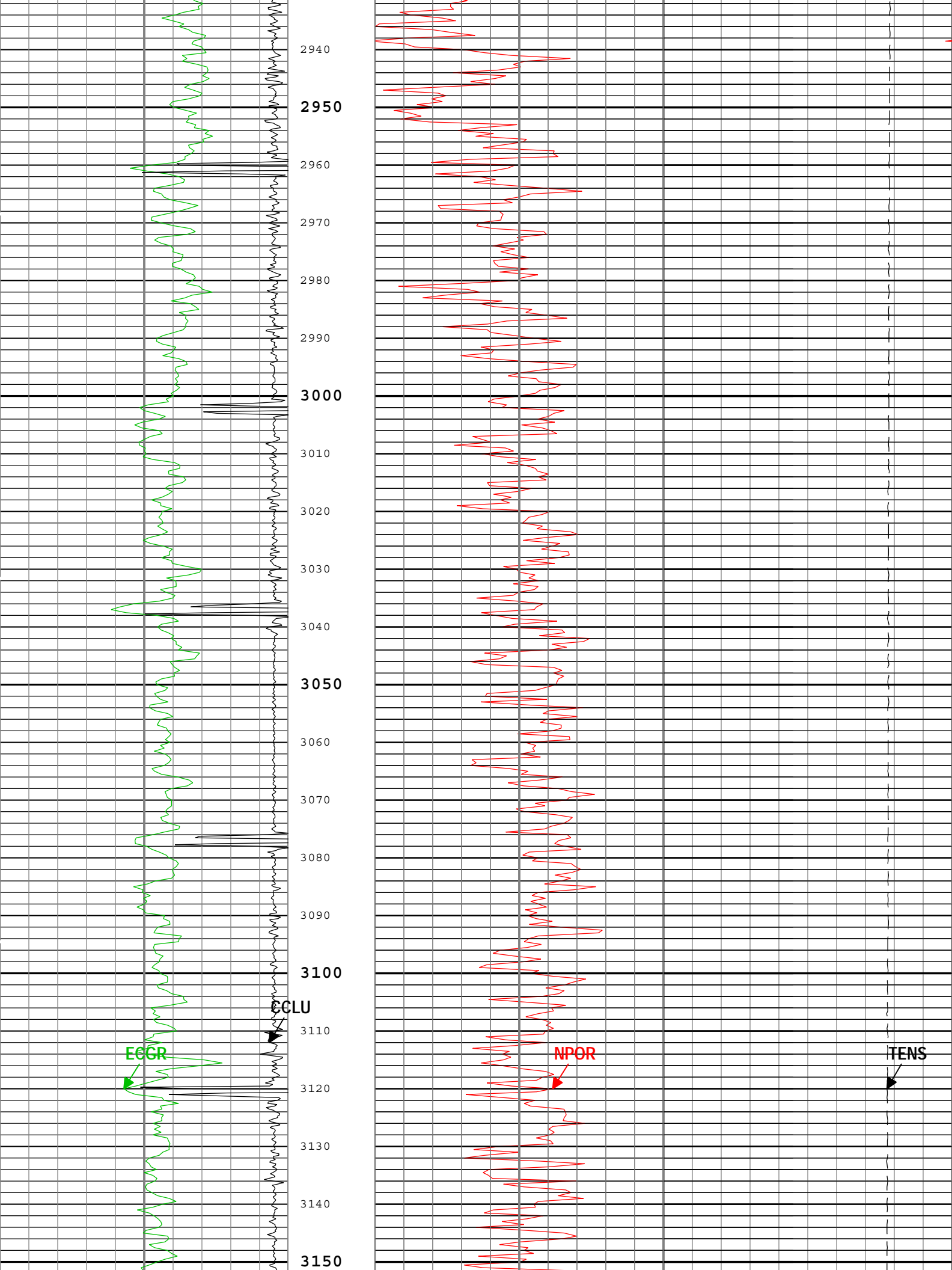


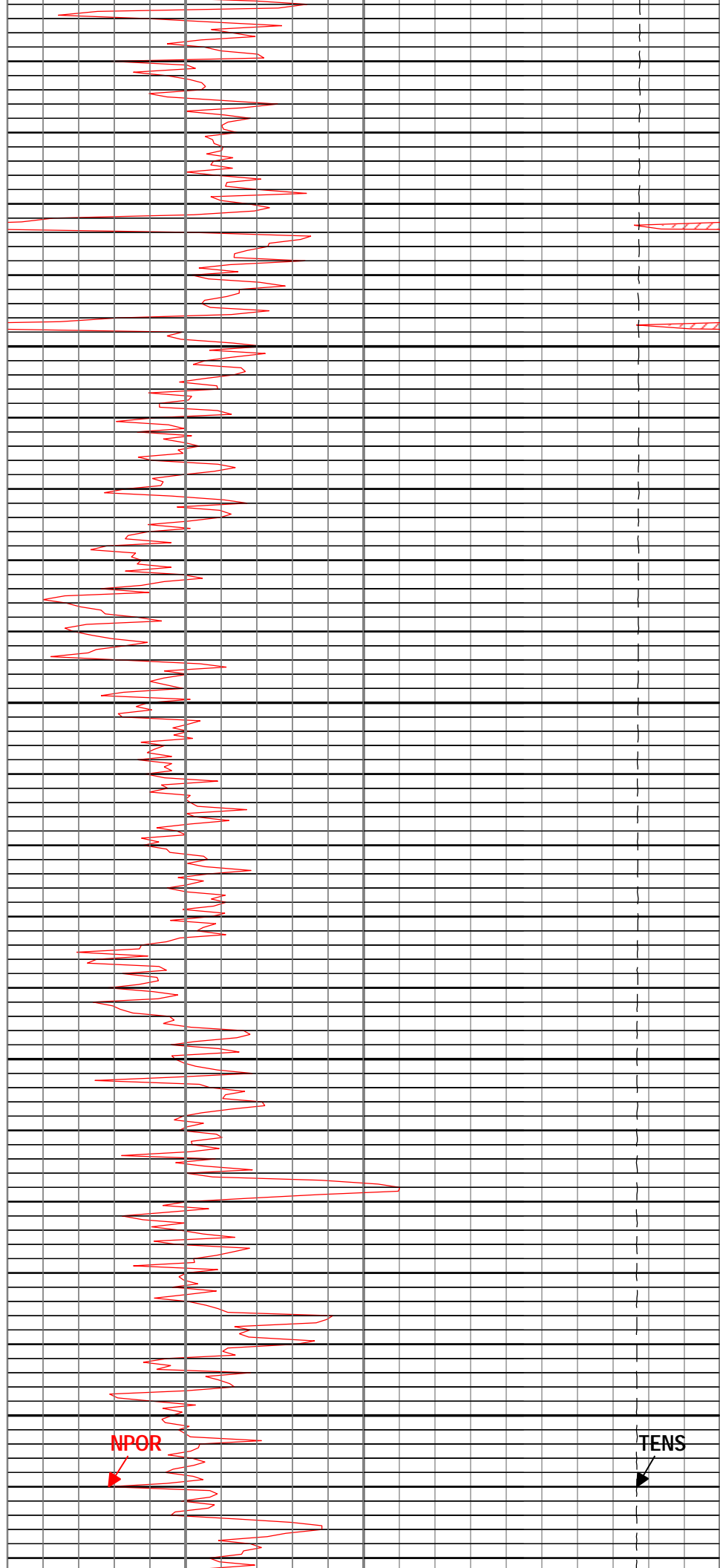
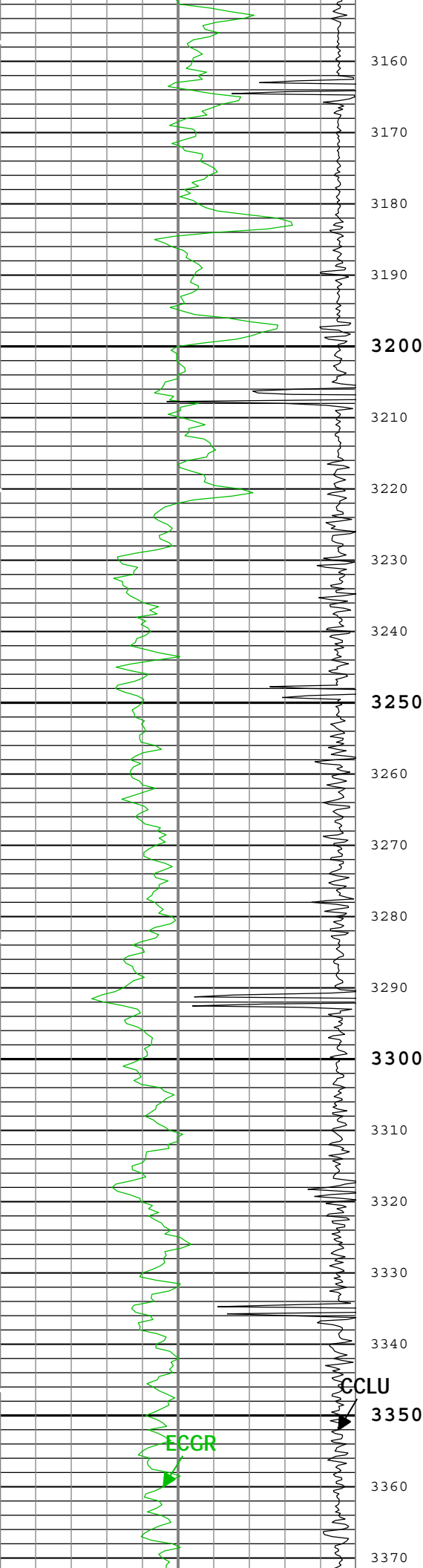


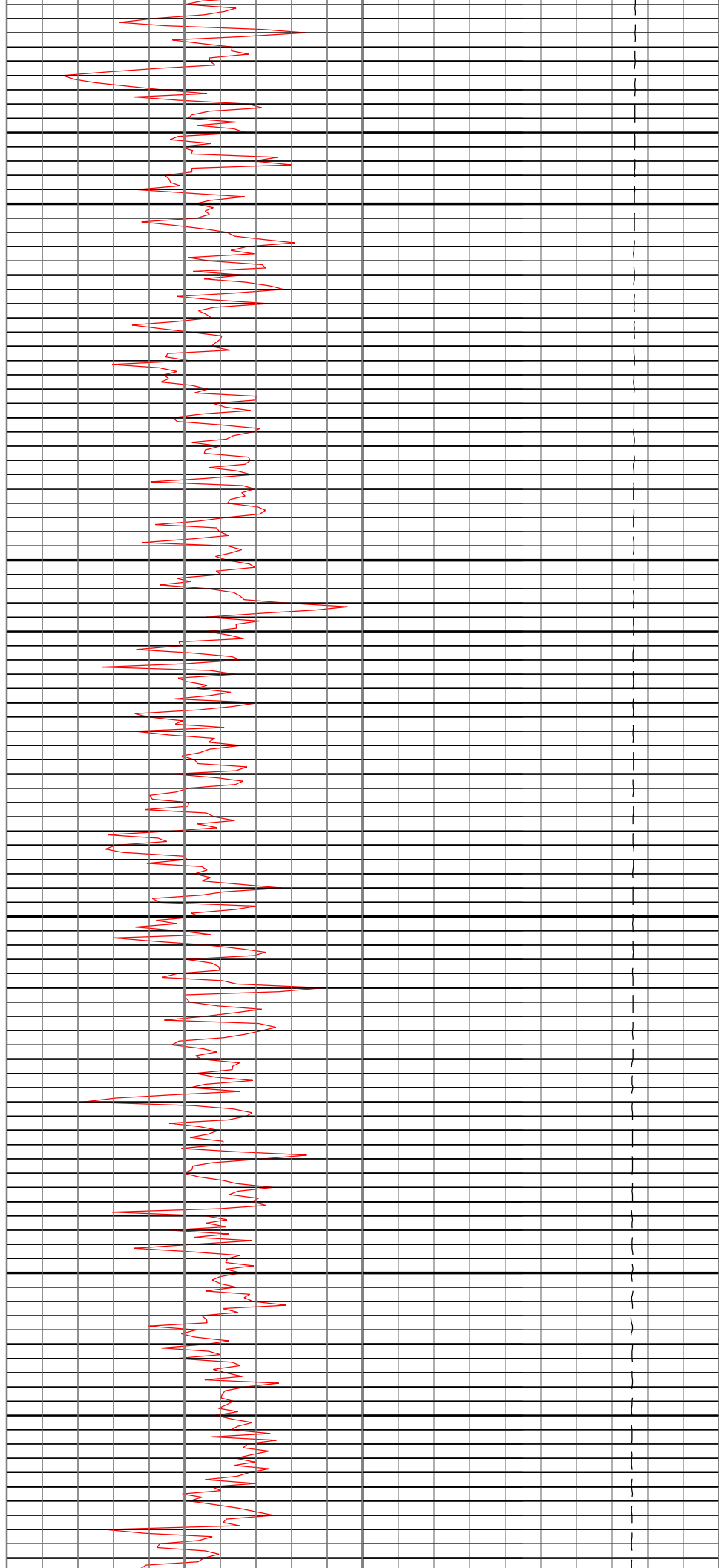
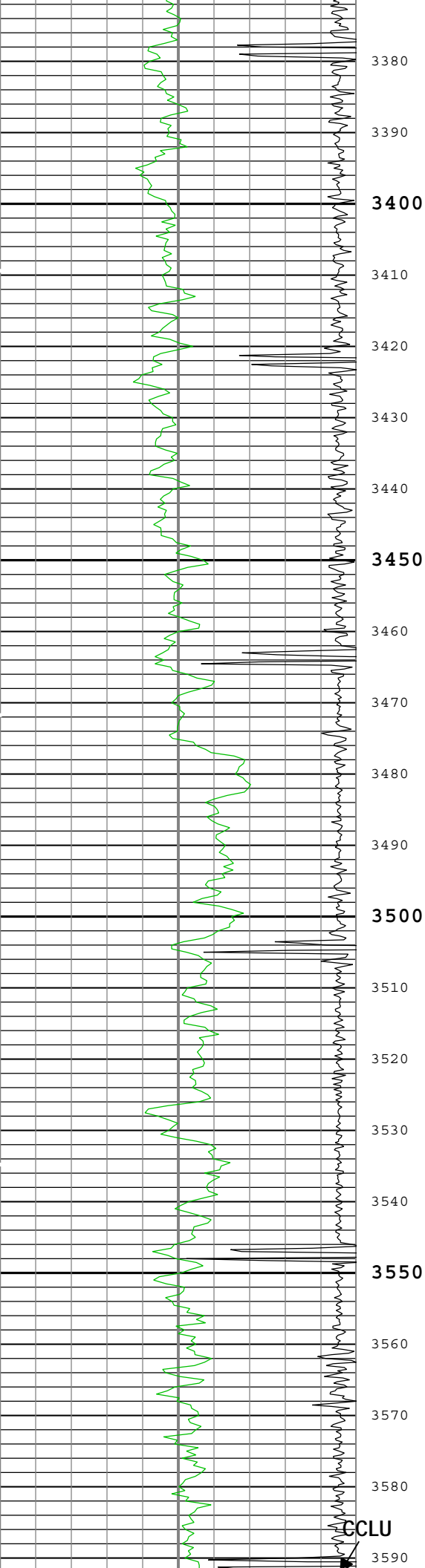


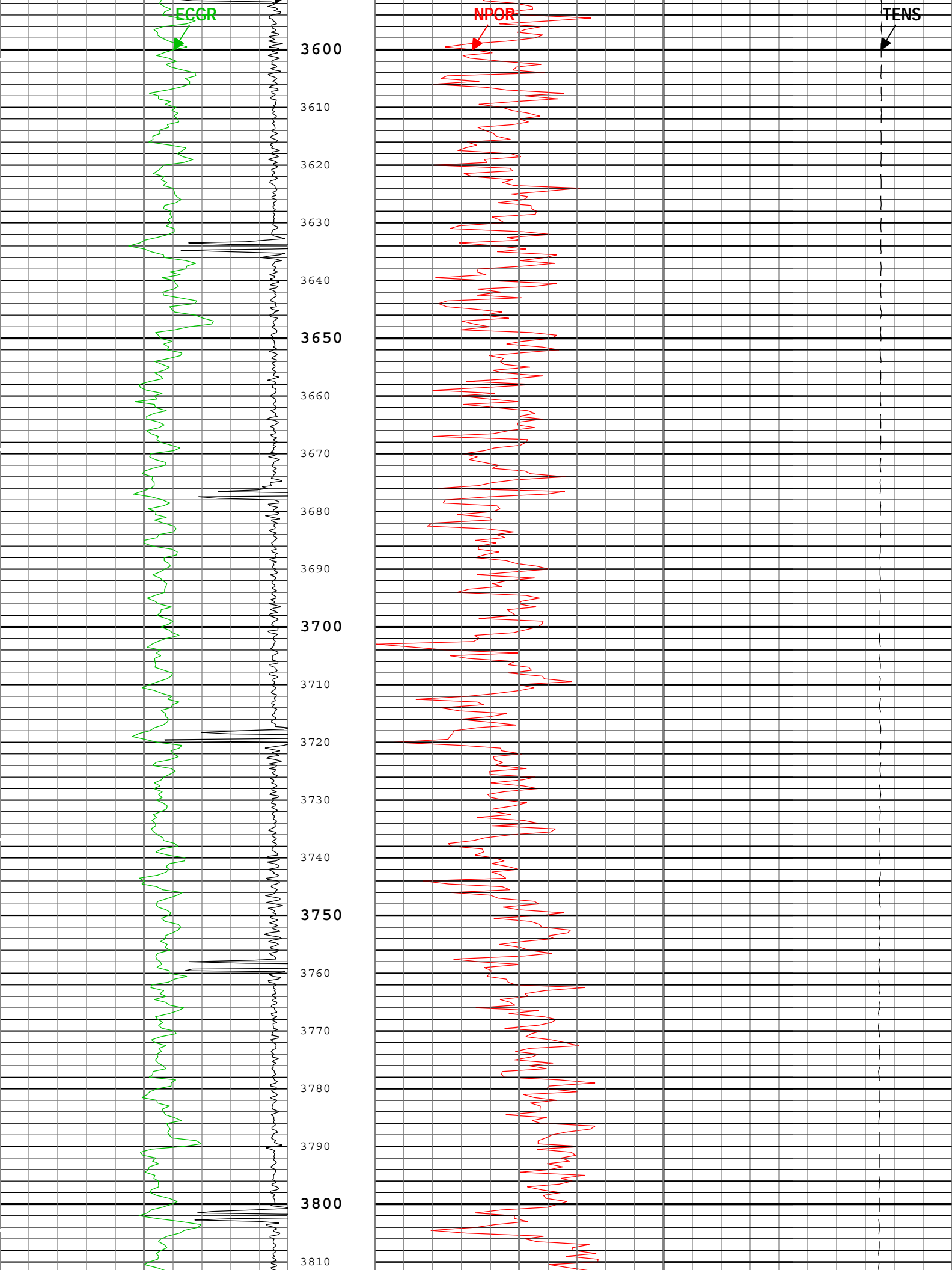


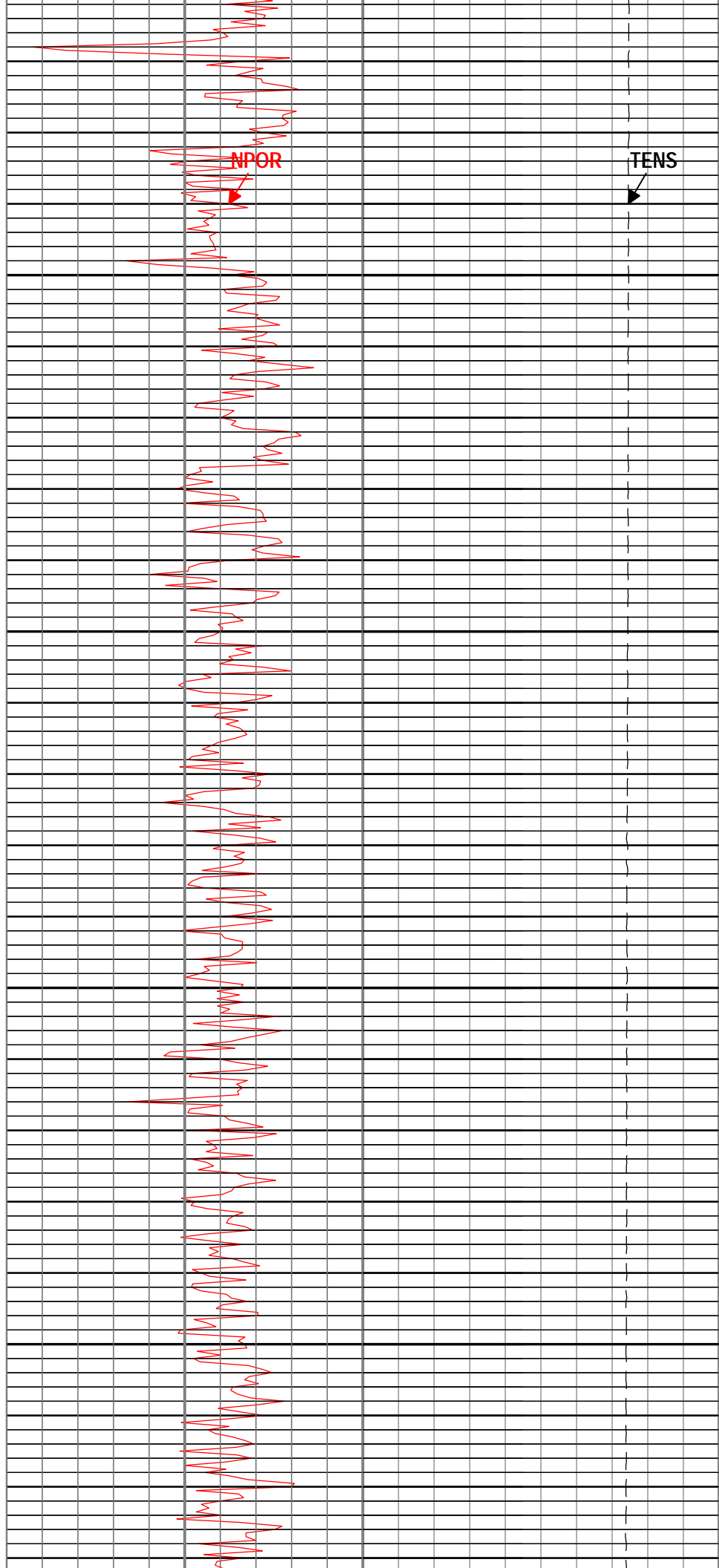
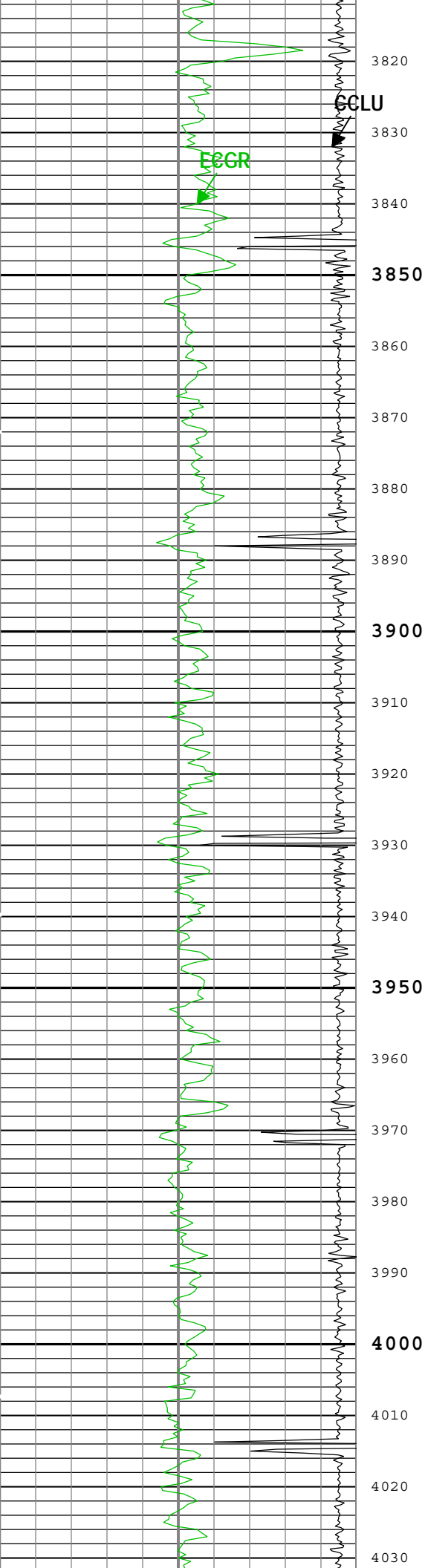


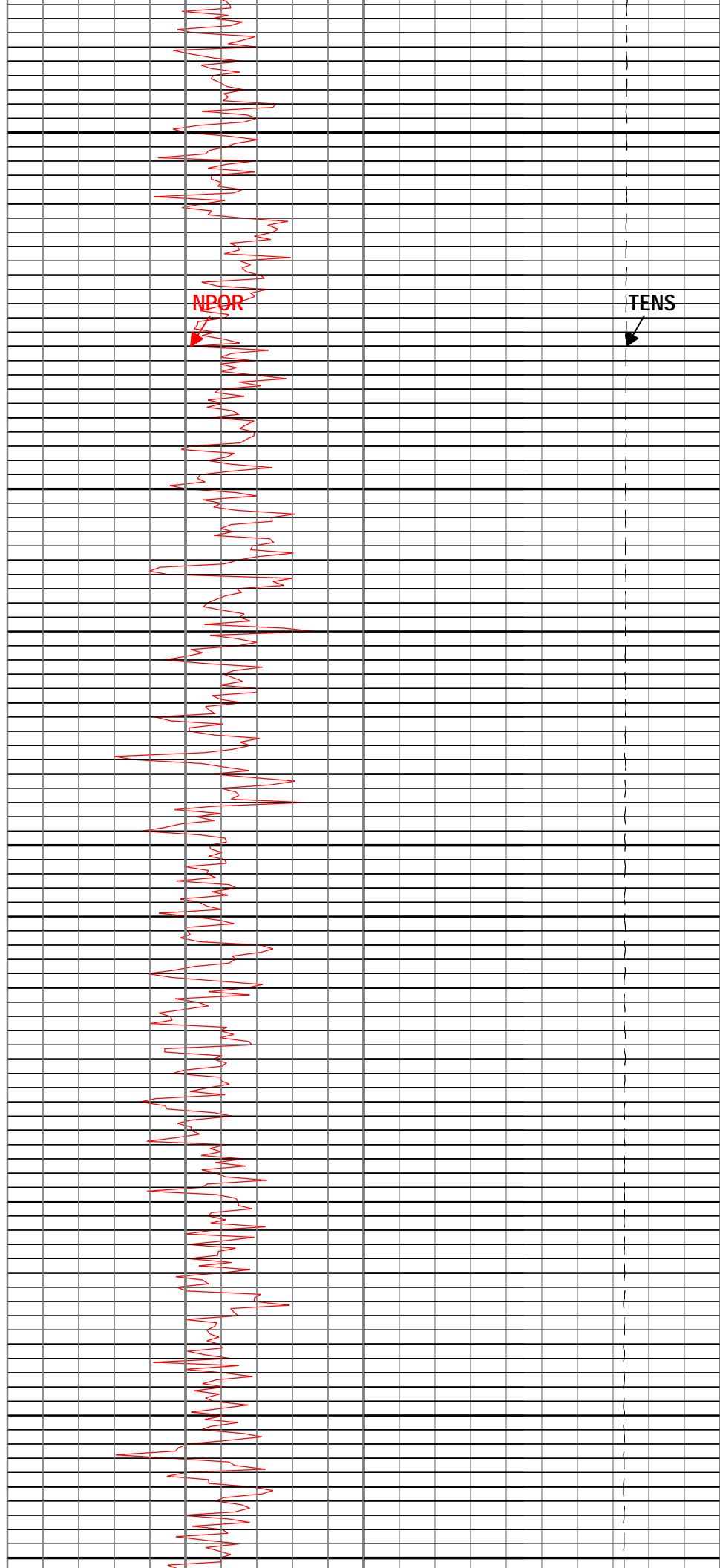
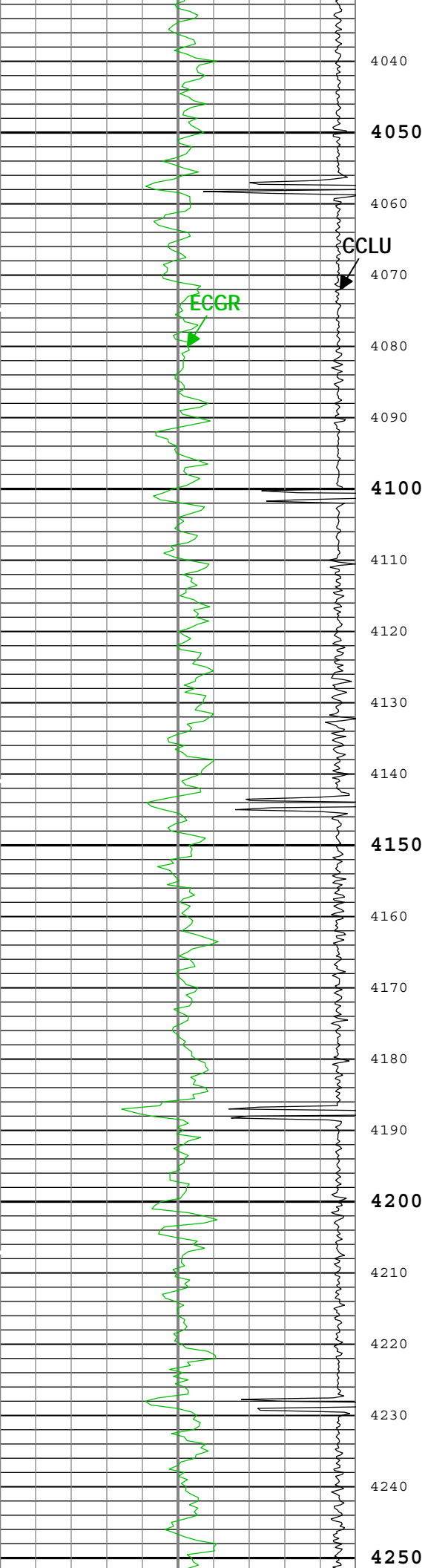


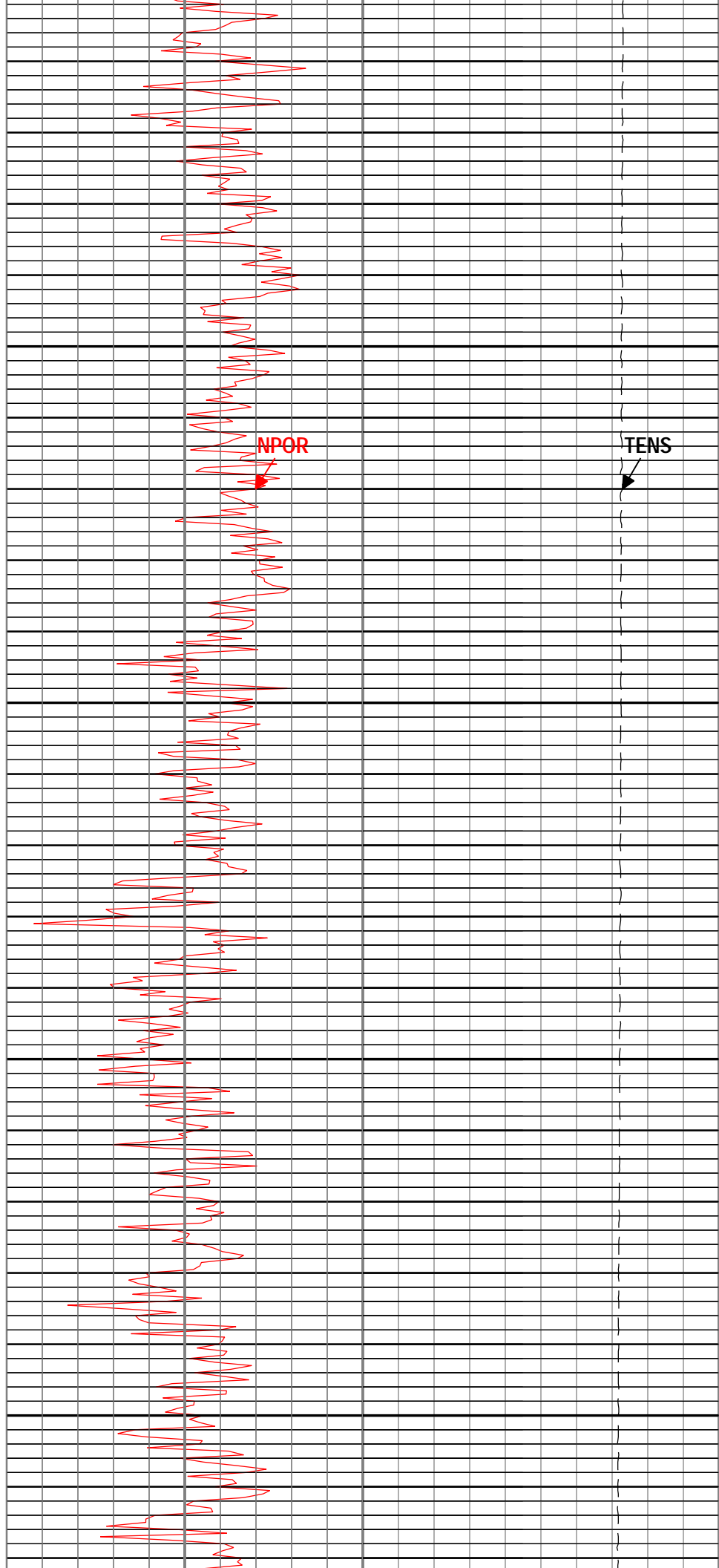
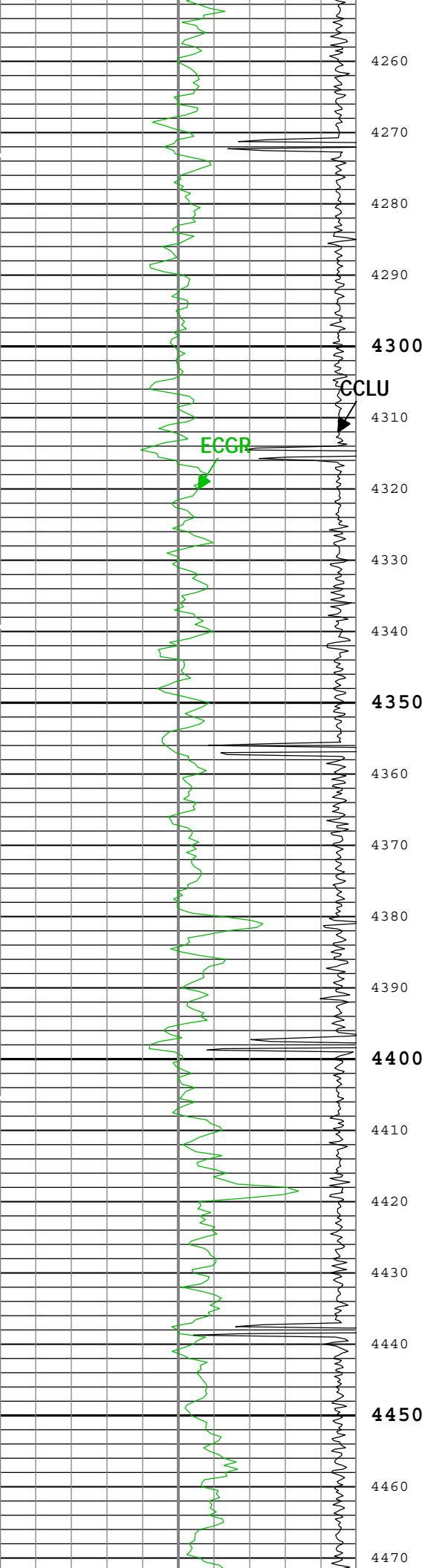


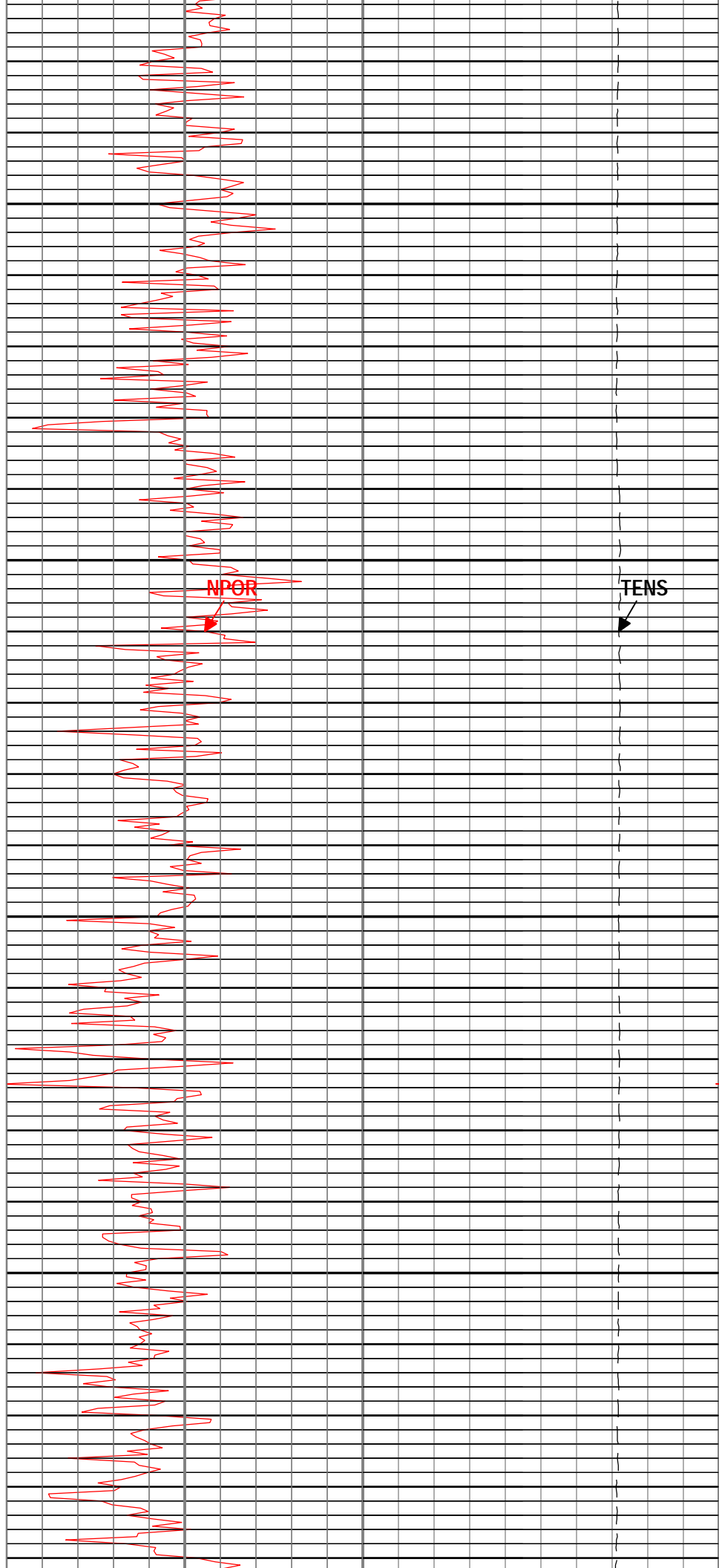
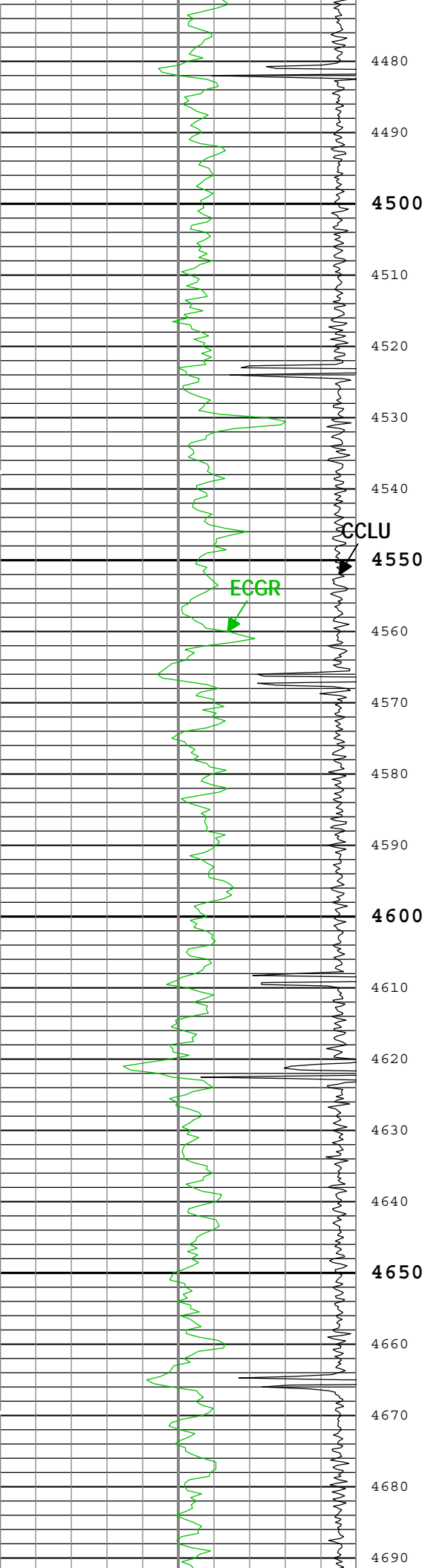


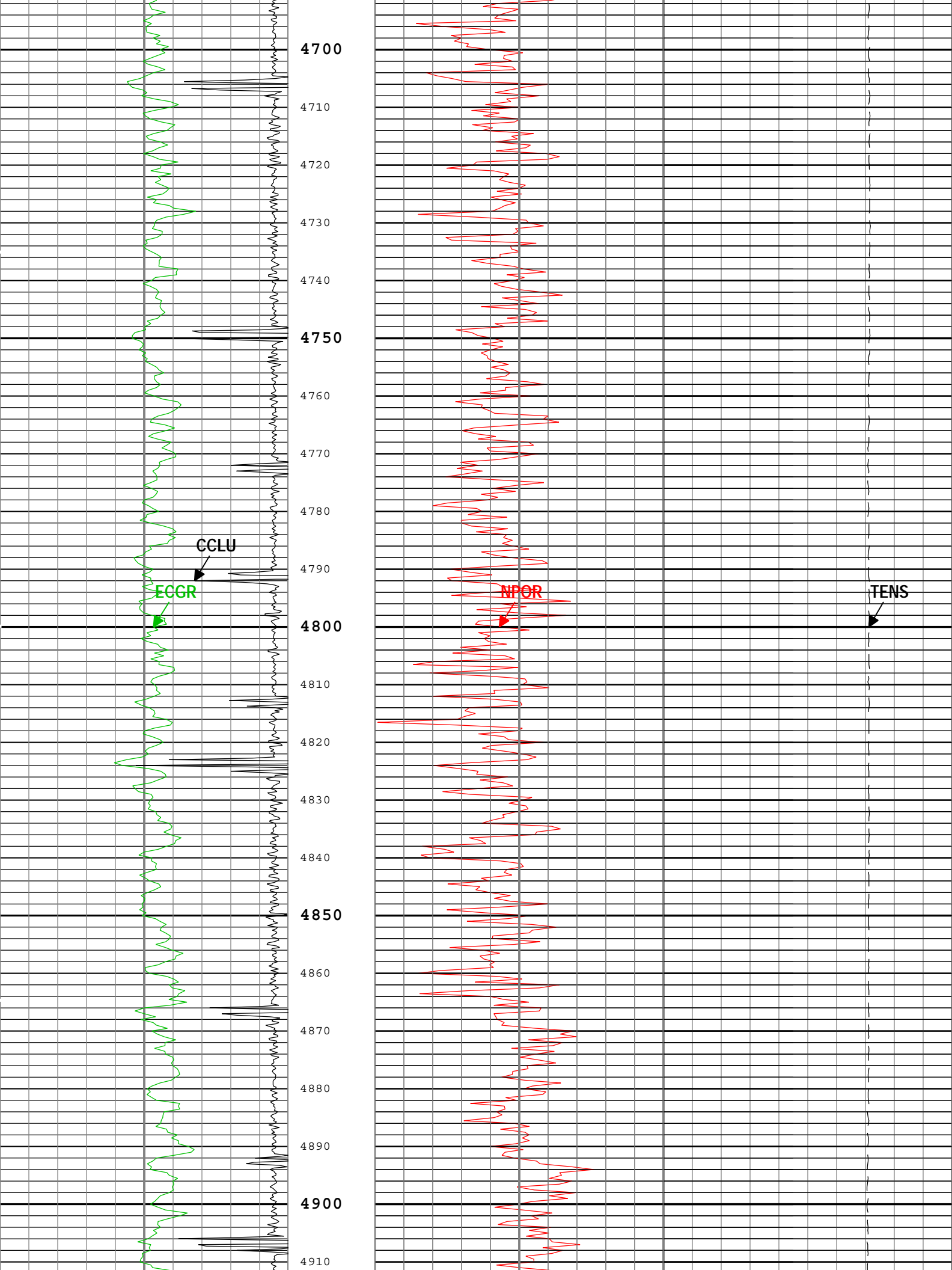


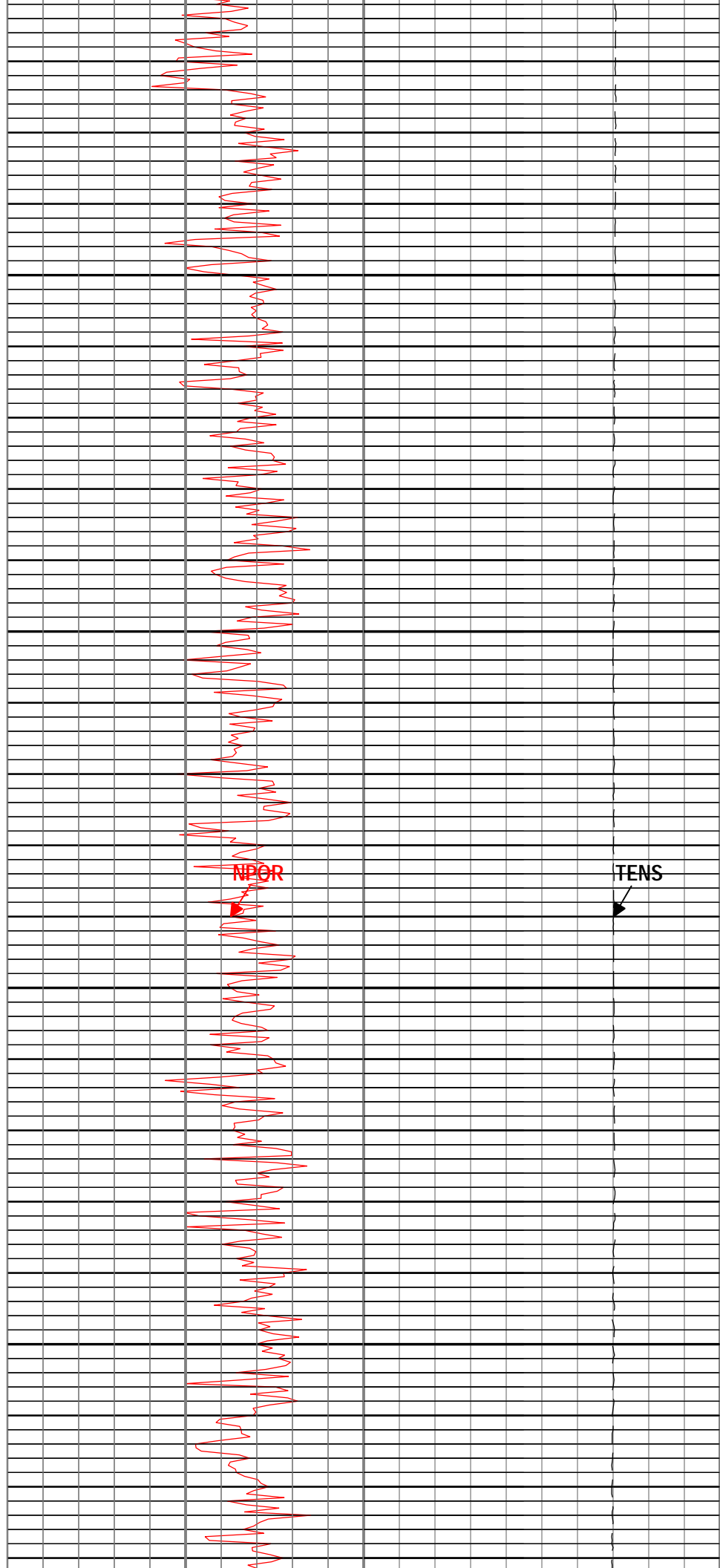
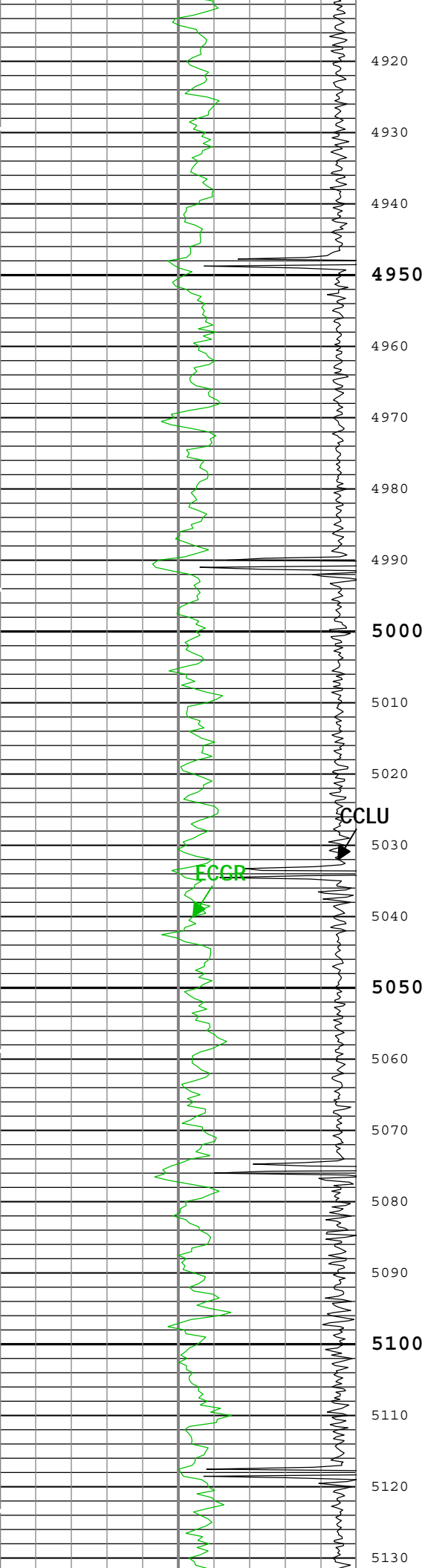


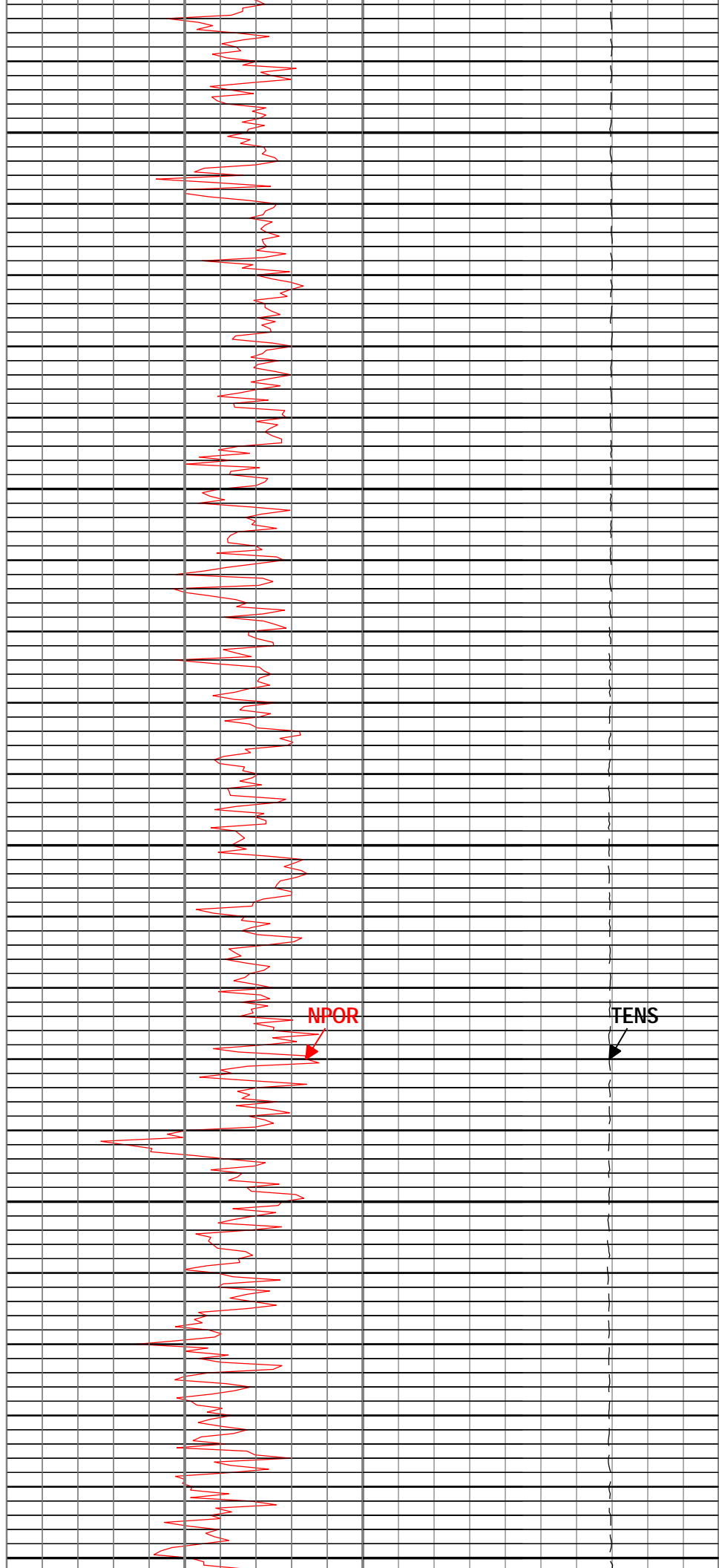
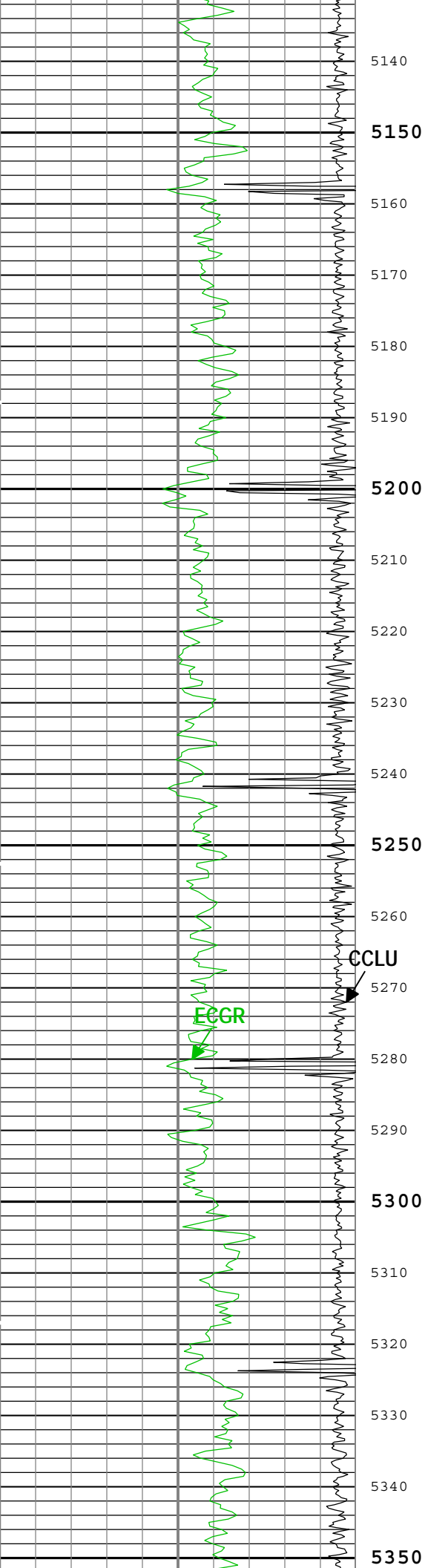


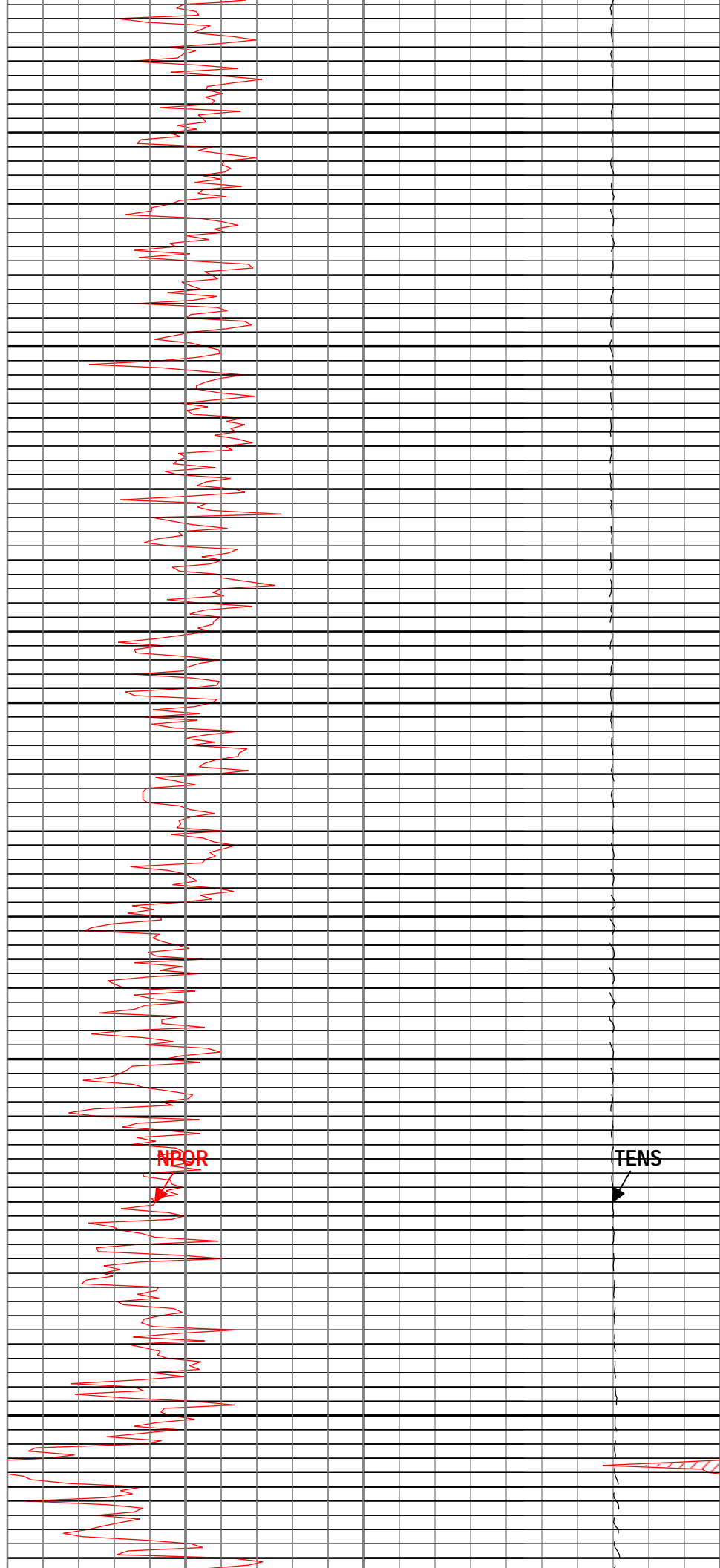
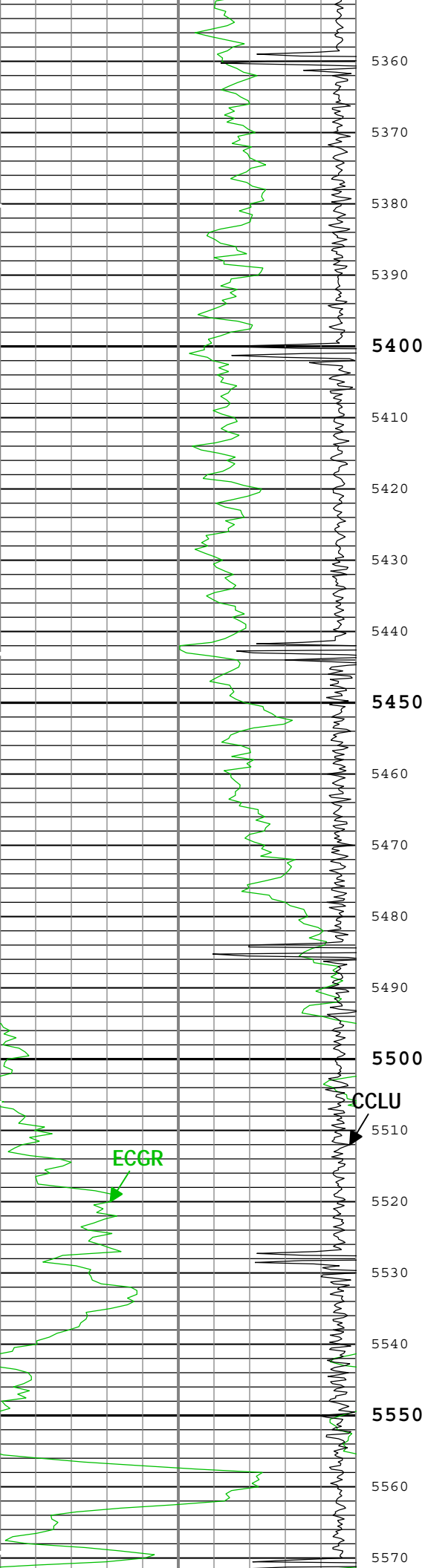


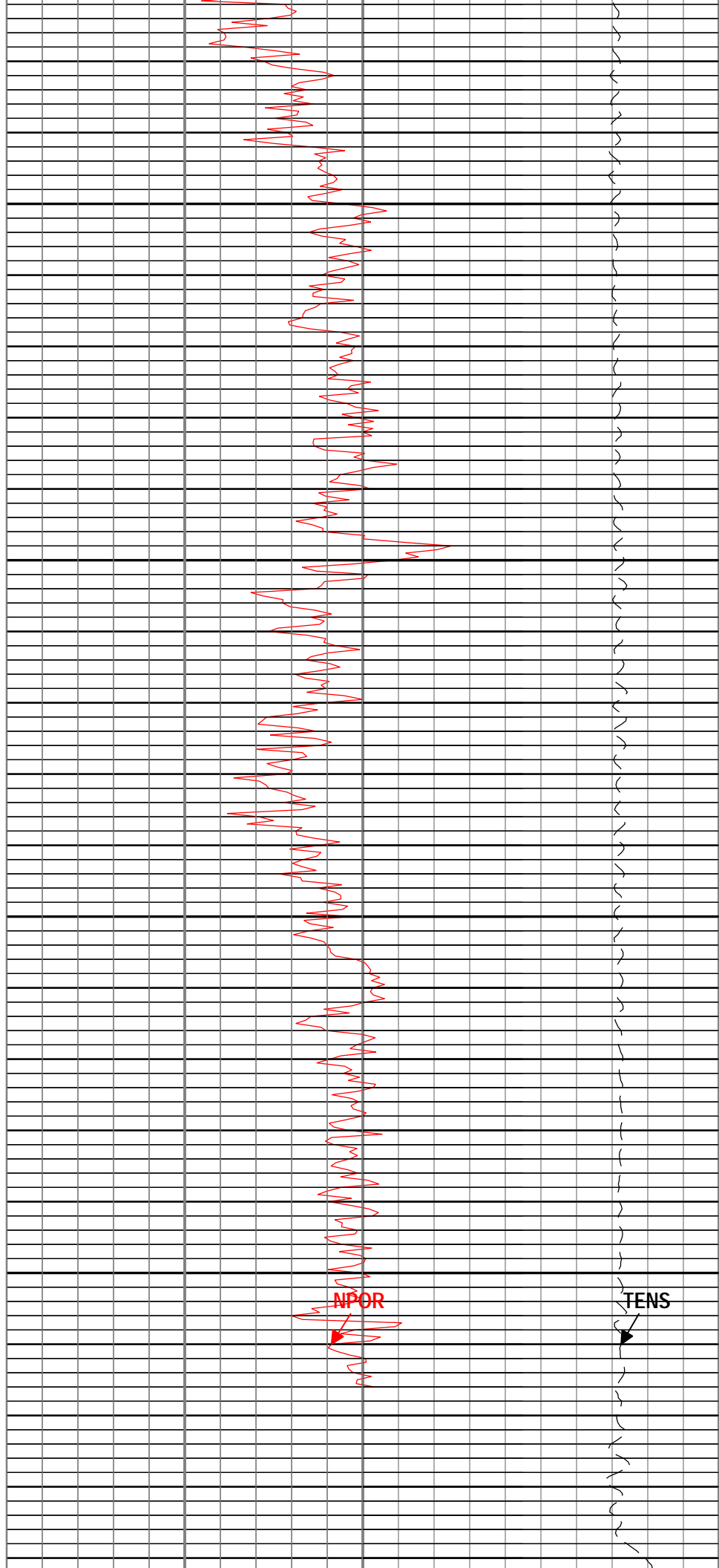
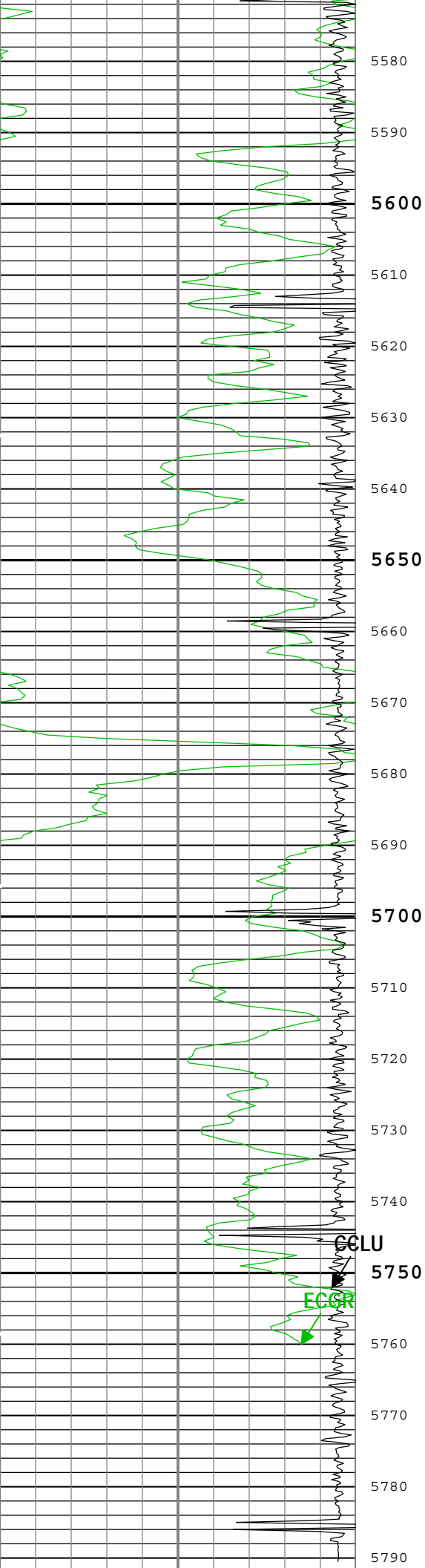












GR Backup			NPOR Backup		
Gamma Ray (ECGR) HGNS-H			Enhanced Thermal Neutron Porosity in Selected Lithology (NPOR) HGNS-H		
0	gAPI	150	0.45	ft3/ft3	-0.15
Casing Collar Locator Ultrasonic (CCLU) USIT-E			Cable Tension (TENS)		
-19	in	1	5000	lbf	0

TIME_1900 - Time Marked every 60.00 (s)

ICV - Integrated Cement Volume every 100.00 (ft3)

ICV - Integrated Cement Volume every 10.00 (ft3)

IHV - Integrated Hole Volume every 100.00 (ft3)

IHV - Integrated Hole Volume every 10.00 (ft3)

Description: AIT Basic Log Two

Format: Log (Noble Nuclear)

Index Scale: 5 in per 100 ft

Index Unit: ft

Index Type: Measured Depth

Creation Date: 13-Feb-2015 12:11:05

Channel Processing Parameters				
Run 1: Parameters				
Parameter	Description	Tool	Value	Unit
ISSBAR	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Cased	
BHT	Bottom Hole Temperature	Borehole	212	degF
BS	Bit Size	WLSESSION	Depth Zoned	in
BSAL	Borehole Salinity	Borehole	0	ppm
CBLO	Casing Bottom (Logger)	WLSESSION	5915.7	ft
CDEN	Cement Density	HGNS-H	2	g/cm3
CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Light Cement	
CSODDRL	Casing Outer Diameter - Zoned along driller depths	WLSESSION	7	in
THNO	Nominal Casing Thickness - Zoned along logger depths	WLSESSION	0.362	in
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	8.7	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	206	us/ft
FCD	Future Casing (Outer) Diameter	WLSESSION	0	in
FD	Fluid Density	USIT-E	1.2	g/cm3
FDII	FPM Data Interpolation Interval	USIT-E	0	ft
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	BS	
GRSE	Generalized Mud Resistivity Selection, from Measured or Computed Mud Resistivity	Borehole	REMS	
GTSE	Generalized Temperature Selection, from Measured or Computed Temperature	Borehole	CTEM	
HEMA	Hematite Presence Flag	Borehole	No	
HSCO	Hole Size Correction Option	HGNS-H	Yes	
ICE_PROCESS	ICE Processing	USIT-E	Yes	
IMAR	Image Rotation	USIT-E	Off	
MATR	Rock Matrix for Neutron Porosity Corrections	Borehole	LIMESTONE	
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	Depth Zoned	us
MFST	Mud Filtrate Sample Temperature	Borehole	68	degF
MST	Mud Sample Temperature	Borehole	68	degF
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	1.04	

RMFS	Resistivity of Mud Filtrate Sample	Borehole	0.15	ohm.m
RMS	Resistivity of Mud Sample	Borehole	0.2	ohm.m
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	0	Mrayl
UFGDE	Fiberglass Density	USIT-E	1.95	g/cm3
UFGPS	Fiberglass Processing Selection	USIT-E	No	
UFGVL	Fiberglass Velocity	USIT-E	9678.48	ft/s
USI_FSOD	USIT USI Fluid Slowness Fits Casing Outer Diameter	USIT-E	0_OFF	
USI_FVEL_SEL	USI Fluid Velocity Selection	USIT-E	Automatic	
USI_ZMUD_SEL	USI Mud Impedance Selection	USIT-E	FreePipe Norm.	
ZMUD	Acoustic Impedance of Mud	Borehole	Depth Zoned	Mrayl

Depth Zone Parameters

Parameter	Value	Start (ft)	Stop (ft)
BS	26	30	130
BS	13.5	130	1249
BS	8.75	1249	5785
MEAS_WLEN	20	20	30
MEAS_WLEN	22.5	30	5792
ZMUD	1.65	20	300
ZMUD	1.66	300	420
ZMUD	1.67	420	550
ZMUD	1.68	550	750
ZMUD	1.69	750	900
ZMUD	1.7	900	1300
ZMUD	1.71	1300	1500
ZMUD	1.72	1500	1810
ZMUD	1.73	1810	2020
ZMUD	1.74	2020	2400
ZMUD	1.75	2400	2850
ZMUD	1.76	2850	3500
ZMUD	1.78	3500	3920
ZMUD	1.79	3920	4500
ZMUD	1.8	4500	5100
ZMUD	1.81	5100	5400
ZMUD	1.82	5400	5650
ZMUD	1.79	5650	5792

All depth are actual.

Tool Control Parameters

Run 1: Parameters

Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	Time Zoned	dB
U-USIT_DDT5	USIC Downhole Decimation for T5 only	USIT-E	0_NONE	
EMXV	EMEX Voltage	USIT-E	Time Zoned	V
HMCA_BOARD_TYPE	HMCA Board Type	HGNS-H	1	
HRES	Horizontal Resolution	USIT-E	10 deg	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	3600	ft/h
TMUC	Type of Mud	USIT-E	BRI	
ULOG	Logging Objective	USIT-E	MEASUREMENT	
UMFR	Modulation Frequency	USIT-E	333333	Hz

USFR	Ultrasonic Sampling Frequency	USIT-E	500000	Hz
UPAT	USIT Emission Pattern	USIT-E	Pattern 375 KHz	
UWKM	USIT Working Mode	USIT-E	Uncompressed 10 deg at 3.0 in LF	
USIT_DEPTHLOG	Starting Depth Log for Ultrasonics	USIT-E	5790	ft
VRES	Vertical Resolution	USIT-E	3.0 in	
WINB	Window Begin Time	USIT-E	Time Zoned	us
WINE	Window End Time	USIT-E	Time Zoned	us

Time Zone Parameters

Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
AGMX	18	13-Feb-2015 10:04:36	13-Feb-2015 10:13:48	5792.02	5517.74
AGMX	24	13-Feb-2015 10:13:48	13-Feb-2015 11:40:26	5517.74	63.72
EMXV	65	13-Feb-2015 10:04:36	13-Feb-2015 10:11:41	5792.02	5651.93
EMXV	60	13-Feb-2015 10:11:41	13-Feb-2015 10:11:53	5651.93	5639.25
EMXV	55	13-Feb-2015 10:11:53	13-Feb-2015 10:13:41	5639.25	5525.36
EMXV	50	13-Feb-2015 10:13:41	13-Feb-2015 10:14:59	5525.36	5443.87
EMXV	52	13-Feb-2015 10:14:59	13-Feb-2015 10:15:06	5443.87	5436.54
EMXV	55	13-Feb-2015 10:15:06	13-Feb-2015 10:15:11	5436.54	5431.44
EMXV	53	13-Feb-2015 10:15:11	13-Feb-2015 10:21:18	5431.44	5039.45
EMXV	51	13-Feb-2015 10:21:18	13-Feb-2015 10:21:24	5039.45	5032.83
EMXV	49	13-Feb-2015 10:21:24	13-Feb-2015 10:29:45	5032.83	4487.18
EMXV	51	13-Feb-2015 10:29:45	13-Feb-2015 11:40:26	4487.18	63.72
WINB	32.8	13-Feb-2015 10:04:36	13-Feb-2015 10:10:00	5792.02	5757.74
WINB	31.6	13-Feb-2015 10:10:00	13-Feb-2015 10:12:15	5757.74	5616.01
WINB	26.2	13-Feb-2015 10:12:15	13-Feb-2015 10:13:35	5616.01	5532.31
WINB	23.2	13-Feb-2015 10:13:35	13-Feb-2015 10:13:36	5532.31	5530.62
WINB	20.8	13-Feb-2015 10:13:36	13-Feb-2015 10:15:32	5530.62	5409.09
WINB	23.8	13-Feb-2015 10:15:32	13-Feb-2015 11:40:26	5409.09	63.72
WINE	78.4	13-Feb-2015 10:04:36	13-Feb-2015 10:15:27	5792.02	5414.02
WINE	81.99	13-Feb-2015 10:15:27	13-Feb-2015 11:40:26	5414.02	63.72

All depth are at tool zero.

Run 1

Software Version	
Acquisition System	Version
Maxwell	5.0.29600.3100

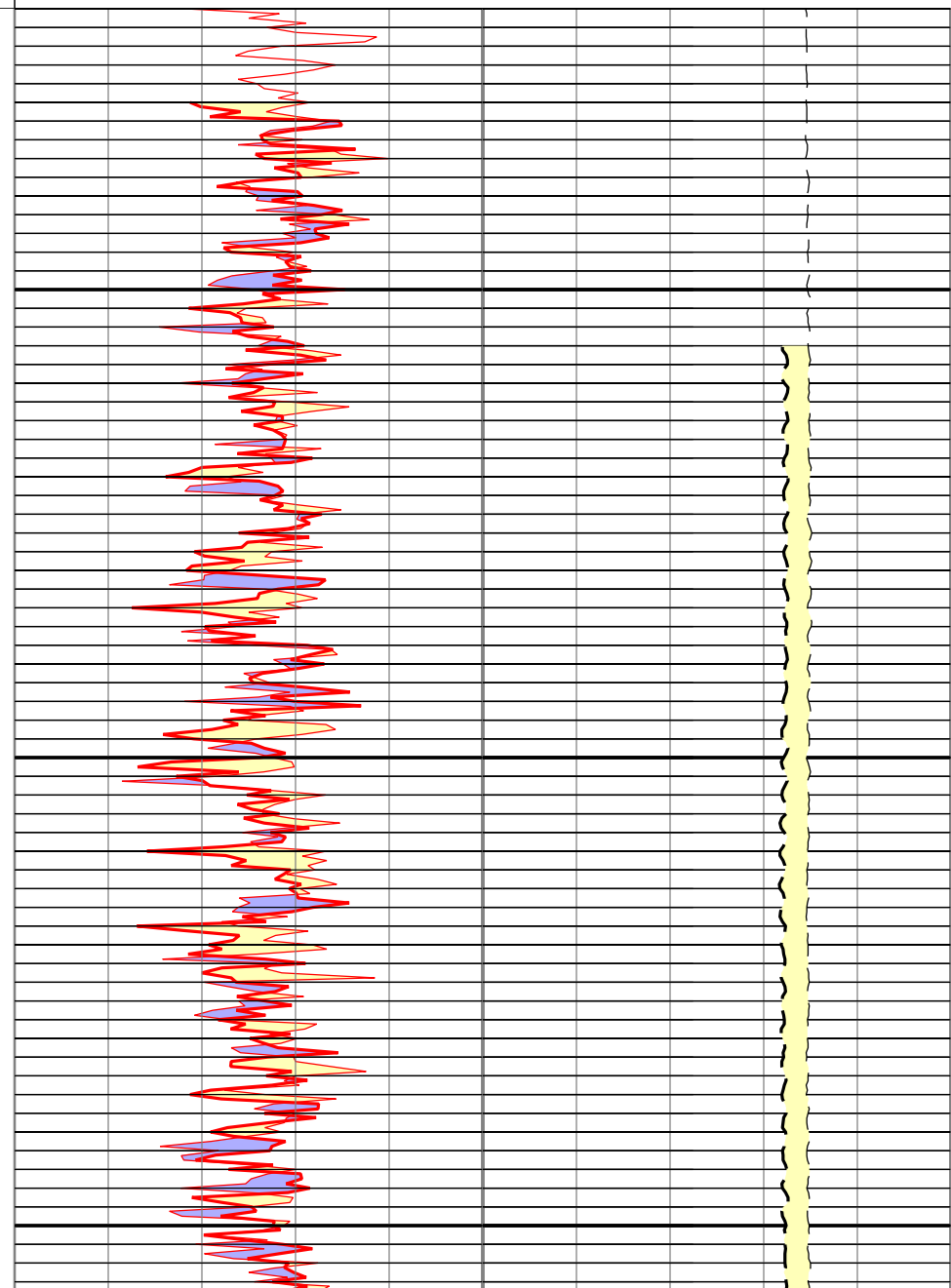
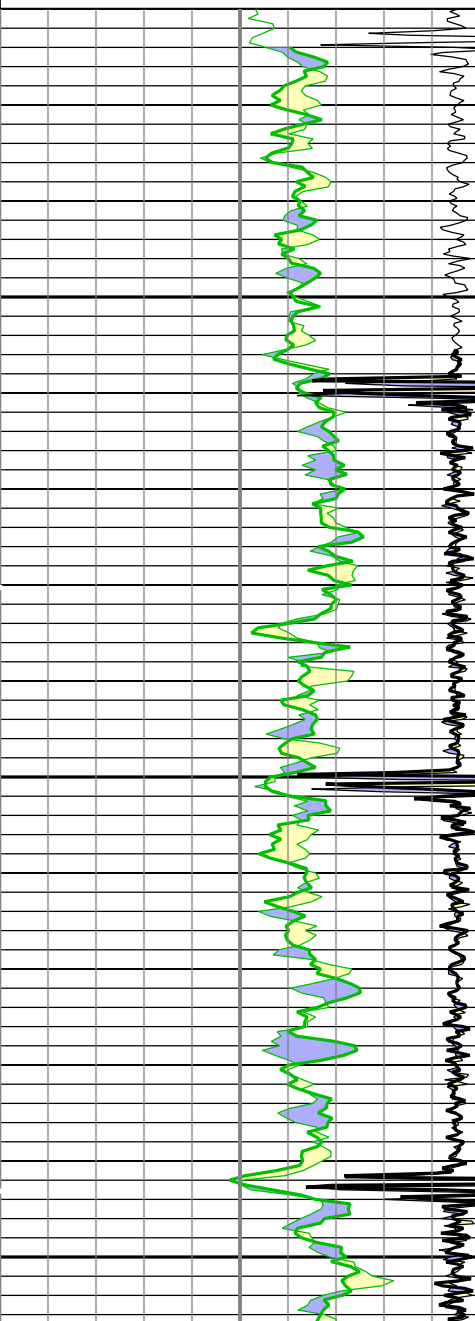
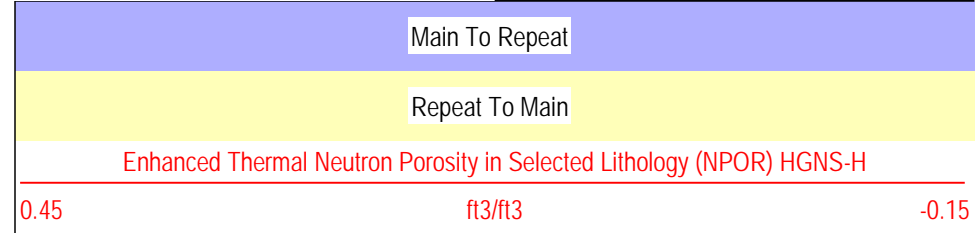
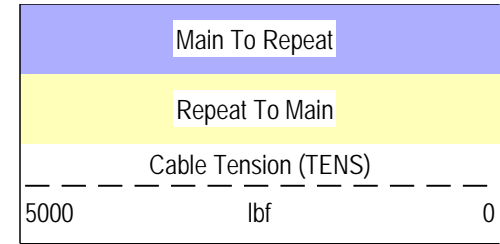
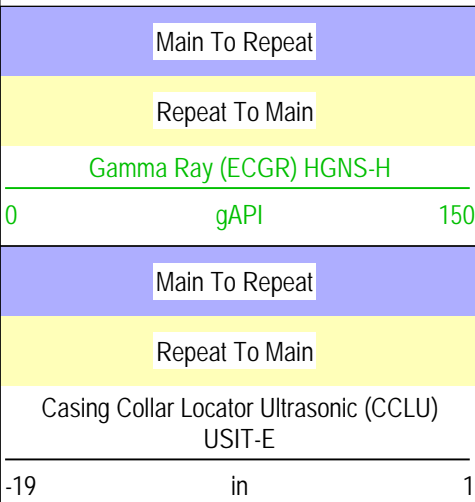
Pass Summary									
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
Run 1	Repeat[2]:Up	Up	5355.64 ft	5786.55 ft	13-Feb-2015 9:48:43 AM	13-Feb-2015 9:56:13 AM	ON	2.66 ft	No
Run 1	Main[3]:Up	Up	63.72 ft	5792.03 ft	13-Feb-2015 10:04:36 AM	13-Feb-2015 11:40:26 AM	ON	4.43 ft	No

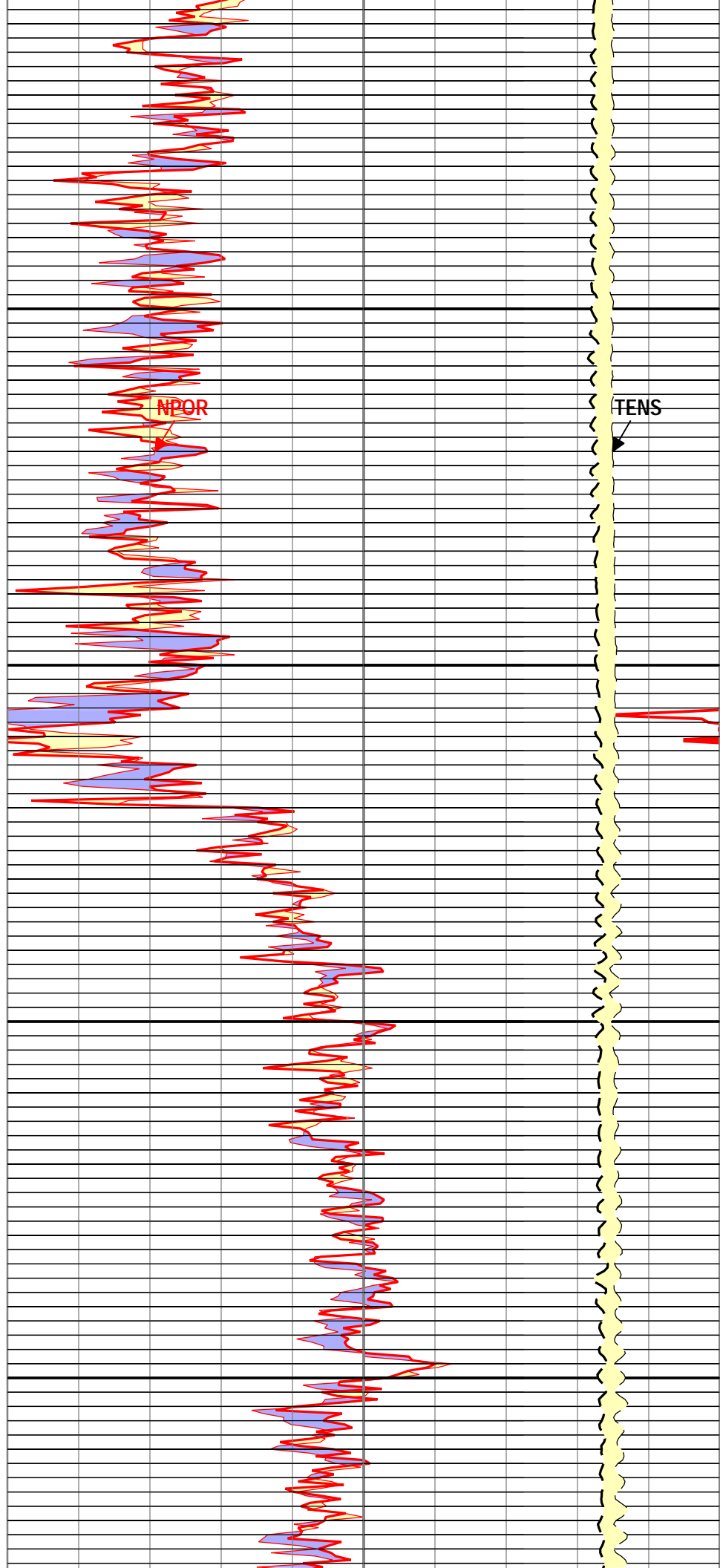
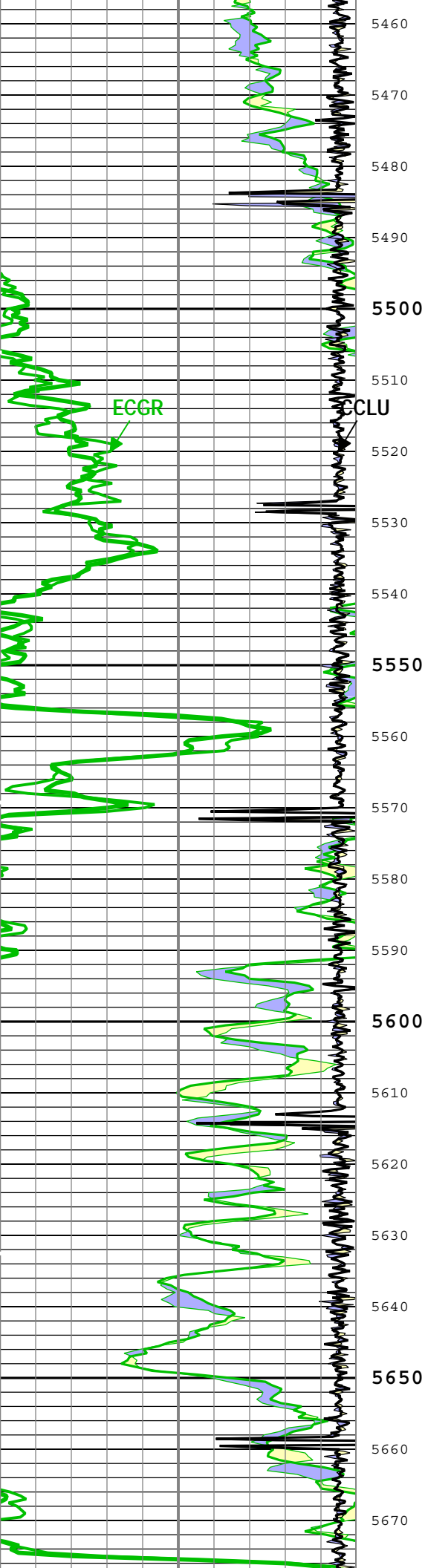
All depths are referenced to toolstring zero

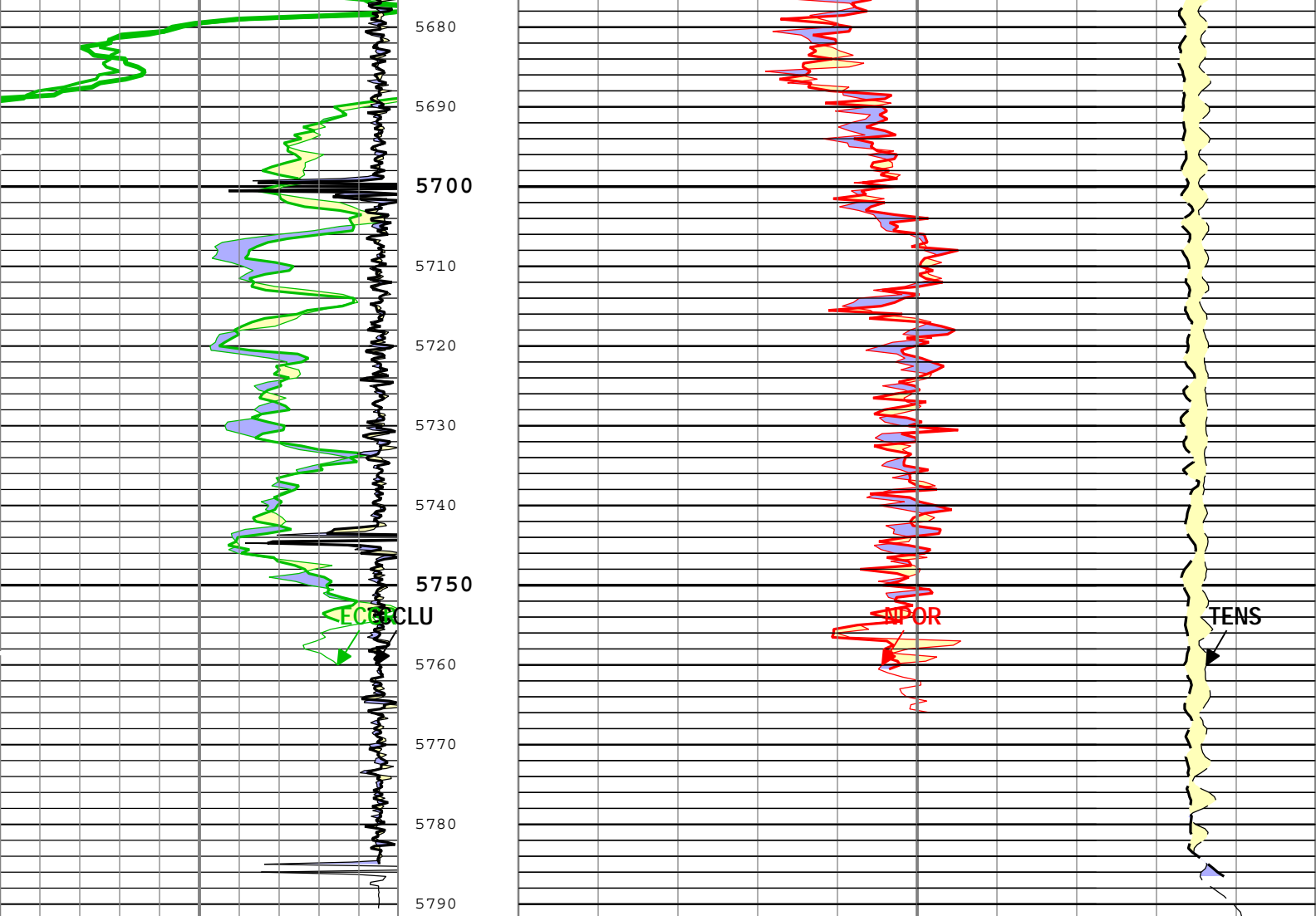
Log	Company:Noble Energy Inc	Well:Tripucka State LD02-74-1AHN
		Run 1: Main[3]:Up:S004

— 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)







Main To Repeat
Repeat To Main
Gamma Ray (ECGR) HGNS-H
0gAPI150
Main To Repeat
Repeat To Main
Casing Collar Locator Ultrasonic (CCLU) USIT-E
-19in1

Main To Repeat
Repeat To Main
Enhanced Thermal Neutron Porosity in Selected Lithology (NPOR) HGNS-H
0.45ft3/ft3-0.15
Main To Repeat
Repeat To Main
Cable Tension (TENS)
5000lbf0

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: Noble Nuclear RA Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 13-Feb-2015 12:11:09

Channel Processing Parameters				
Run 1: Parameters				
Parameter	Description	Tool	Value	Unit
ISSBAR	Barite Mud Presence Flag	Borehole	No	

BHS	Borehole Status (Open or Cased Hole)	Borehole	Cased	
BHT	Bottom Hole Temperature	Borehole	212	degF
BS	Bit Size	WLSESSION	8.75	in
BSAL	Borehole Salinity	Borehole	0	ppm
CBLO	Casing Bottom (Logger)	WLSESSION	5915.7	ft
CDEN	Cement Density	HGNS-H	2	g/cm3
CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Light Cement	
CSODDRL	Casing Outer Diameter - Zoned along driller depths	WLSESSION	7	in
THNO	Nominal Casing Thickness - Zoned along logger depths	WLSESSION	0.362	in
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	8.7	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	
DTMD	Borehole Fluid Slowness	Borehole	206	us/ft
FCD	Future Casing (Outer) Diameter	WLSESSION	0	in
FD	Fluid Density	USIT-E	1.2	g/cm3
FDII	FPM Data Interpolation Interval	USIT-E	0	ft
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	BS	
GRSE	Generalized Mud Resistivity Selection, from Measured or Computed Mud Resistivity	Borehole	REMS	
GTSE	Generalized Temperature Selection, from Measured or Computed Temperature	Borehole	CTEM	
HEMA	Hematite Presence Flag	Borehole	No	
HSCO	Hole Size Correction Option	HGNS-H	Yes	
ICE_PROCESS	ICE Processing	USIT-E	Yes	
IMAR	Image Rotation	USIT-E	Off	
MATR	Rock Matrix for Neutron Porosity Corrections	Borehole	LIMESTONE	
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	22.5	us
MFST	Mud Filtrate Sample Temperature	Borehole	68	degF
MST	Mud Sample Temperature	Borehole	68	degF
MUD_N_FRP	Free Pipe Mud Normalization Factor	USIT-E	1.04	
RMFS	Resistivity of Mud Filtrate Sample	Borehole	0.15	ohm.m
RMS	Resistivity of Mud Sample	Borehole	0.2	ohm.m
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	0	Mrayl
UFGDE	Fiberglass Density	USIT-E	1.95	g/cm3
UFGPS	Fiberglass Processing Selection	USIT-E	No	
UFGVL	Fiberglass Velocity	USIT-E	9678.48	ft/s
USI_FSOD	USIT USI Fluid Slowness Fits Casing Outer Diameter	USIT-E	0_OFF	
USI_FVEL_SEL	USI Fluid Velocity Selection	USIT-E	Automatic	
USI_ZMUD_SEL	USI Mud Impedance Selection	USIT-E	FreePipe Norm.	
ZMUD	Acoustic Impedance of Mud	Borehole	Depth Zoned	Mrayl

Depth Zone Parameters			
Parameter	Value	Start (ft)	Stop (ft)
ZMUD	1.81	5320	5400
ZMUD	1.82	5400	5650
ZMUD	1.79	5650	5792
All depth are actual.			

Tool Control Parameters	
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Run 1: Parameters

Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	Time Zoned	dB
U-USIT_DDT5	USIC Downhole Decimation for T5 only	USIT-E	0_NONE	
EMXV	EMEX Voltage	USIT-E	Time Zoned	V
HMCA_BOARD_TYPE	HMCA Board Type	HGNS-H	1	
HRES	Horizontal Resolution	USIT-E	10 deg	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	3600	ft/h
TMUC	Type of Mud	USIT-E	BRI	
ULOG	Logging Objective	USIT-E	MEASUREMENT	
UMFR	Modulation Frequency	USIT-E	333333	Hz
USFR	Ultrasonic Sampling Frequency	USIT-E	500000	Hz
UPAT	USIT Emission Pattern	USIT-E	Pattern 375 KHz	
UWKM	USIT Working Mode	USIT-E	Uncompressed 10 deg at 3.0 in LF	
USIT_DEPTHLOG	Starting Depth Log for Ultrasonics	USIT-E	5790	ft
VRES	Vertical Resolution	USIT-E	3.0 in	
WINB	Window Begin Time	USIT-E	Time Zoned	us
WINE	Window End Time	USIT-E	Time Zoned	us

Time Zone Parameters					
Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
AGMX	18	13-Feb-2015 10:04:36	13-Feb-2015 10:13:48	5792.02	5517.74
AGMX	24	13-Feb-2015 10:13:48	13-Feb-2015 11:40:26	5517.74	63.72
EMXV	65	13-Feb-2015 10:04:36	13-Feb-2015 10:11:41	5792.02	5651.93
EMXV	60	13-Feb-2015 10:11:41	13-Feb-2015 10:11:53	5651.93	5639.25
EMXV	55	13-Feb-2015 10:11:53	13-Feb-2015 10:13:41	5639.25	5525.36
EMXV	50	13-Feb-2015 10:13:41	13-Feb-2015 10:14:59	5525.36	5443.87
EMXV	52	13-Feb-2015 10:14:59	13-Feb-2015 10:15:06	5443.87	5436.54
EMXV	55	13-Feb-2015 10:15:06	13-Feb-2015 10:15:11	5436.54	5431.44
EMXV	53	13-Feb-2015 10:15:11	13-Feb-2015 10:21:18	5431.44	5039.45
EMXV	51	13-Feb-2015 10:21:18	13-Feb-2015 10:21:24	5039.45	5032.83
EMXV	49	13-Feb-2015 10:21:24	13-Feb-2015 10:29:45	5032.83	4487.18
EMXV	51	13-Feb-2015 10:29:45	13-Feb-2015 11:40:26	4487.18	63.72
WINB	32.8	13-Feb-2015 10:04:36	13-Feb-2015 10:10:00	5792.02	5757.74
WINB	31.6	13-Feb-2015 10:10:00	13-Feb-2015 10:12:15	5757.74	5616.01
WINB	26.2	13-Feb-2015 10:12:15	13-Feb-2015 10:13:35	5616.01	5532.31
WINB	23.2	13-Feb-2015 10:13:35	13-Feb-2015 10:13:36	5532.31	5530.62
WINB	20.8	13-Feb-2015 10:13:36	13-Feb-2015 10:15:32	5530.62	5409.09
WINB	23.8	13-Feb-2015 10:15:32	13-Feb-2015 11:40:26	5409.09	63.72
WINE	78.4	13-Feb-2015 10:04:36	13-Feb-2015 10:15:27	5792.02	5414.02
WINE	81.99	13-Feb-2015 10:15:27	13-Feb-2015 11:40:26	5414.02	63.72

All depth are at tool zero.	
Calibration Report	
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
Auxiliary Equipment :	

Calibration Parameter :

Water Temperature

Housing Size

JIG-BKG (Jig minus background reference)

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HGNS Accelerometer Calibration - Accelerometer Accumulations

Before (Measured): 09:18:39 13-Feb-2015

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): 13:54:00 05-Feb-2015

Before (Measured):

15:33:48 12-Feb-2015

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Near Zero Measurement	1/s	Master	0	5.0	24.2	40.0	
		Before	0	5.0	25.9	40.0	
		Before-Master	----	-3.6	1.7	3.6	
Far Zero Measurement	1/s	Master	0	5.0	28.1	40.0	
		Before	0	5.0	29.6	40.0	
		Before-Master	----	-4.2	1.5	4.2	
Near Plus Measurement	1/s	Master	6031.0	4700.0	5190.0	6900.0	
		Before	----	----	----	----	
		Before-Master	----	----	----	----	
Far Plus Measurement	1/s	Master	2793.0	1900.0	2159.0	2900.0	
		Before	----	----	----	----	
		Before-Master	----	----	----	----	
Near Corrected Plus Measurement	1/s	Master		4700.0	5328.0	6900.0	
		Before	----	----	----	----	
		Before-Master	----	----	----	----	
Far Corrected Plus Measurement	1/s	Master		1900.0	2235.0	2900.0	
		Before	----	----	----	----	
		Before-Master	----	----	----	----	

HGNS Gamma-Ray Calibration - Gamma-Ray Accumulations

Before (Measured): 15:39:07 12-Feb-2015

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
RGR Zero Measurement	gAPI	Before	30.0	0	77.3	120.0	
RGR Plus Measurement	gAPI	Before	185.4	157.1	176.2	206.3	
GR Calibration Gain		Before	0.89	0.80	0.94	1.05	

Company:	Noble Energy Inc	Schlumberger
Well:	Tripucka State LD02-74-1AHN	
Field:	Wildcat	
County:	Weld	
State:	Colorado	

Compensated Neutron
USIT-Lite

