

Company: LARAMIE ENERGY LLC

Well: CC 0697-04-08E

Field: GRAND VALLEY

County: GARFIELD State: Colorado

ThruBit	
Borehole	
4-6S-97W	Elev.: K.B. 8632.00 ft G.L. 8602.00 ft D.F. 8632.00 ft
Location:	Permanent Datum: Ground Level Log Measured From: Kelly Bushing Drilling Measured From: Kelly Bushing
API Serial No. 05-045-23987	Section: 4 Township: 6S Range: 97W
County: GARFIELD	
Field: GRAND VALLEY	
Location: 4-6S-97W	
Well: CC 0697-04-08E	
Company: LARAMIE ENERGY LLC	

Logging Date	19-May-2019
Run Number	ThruBit
Depth Driller	9953.00 ft
Schlumberger Depth	9953.00 ft
Bottom Log Interval	9890.00 ft
Top Log Interval	2568.00 ft
Casing Driller Size @ Depth	9.625 in @ 2568.00 ft
Casing Schlumberger	2568 ft
Bit Size	8.75 in
Type Fluid In Hole	Water
Density	8.8 lbm/gal
Fluid Loss	PH
Source of Sample	Flowline
RM @ Meas Temp	2.54 ohm.m @ 92 degF
RMF @ Meas Temp	2.16 ohm.m @ 92 degF
RMC @ Meas Temp	2.92 ohm.m @ 92 degF
Source RMF	RMC
RM @ BHT	1.15 @ 212 0.98 @ 212
Max Recorded Temperatures	174 degF
Circulation Stopped	19-May-2019 02:30:00
Logger on Bottom	19-May-2019 05:30:00
Unit Number	MSLC-AR2 2161 FtMorgan
Recorded By	L. Awalt
Witnessed By	Aaron Duncan

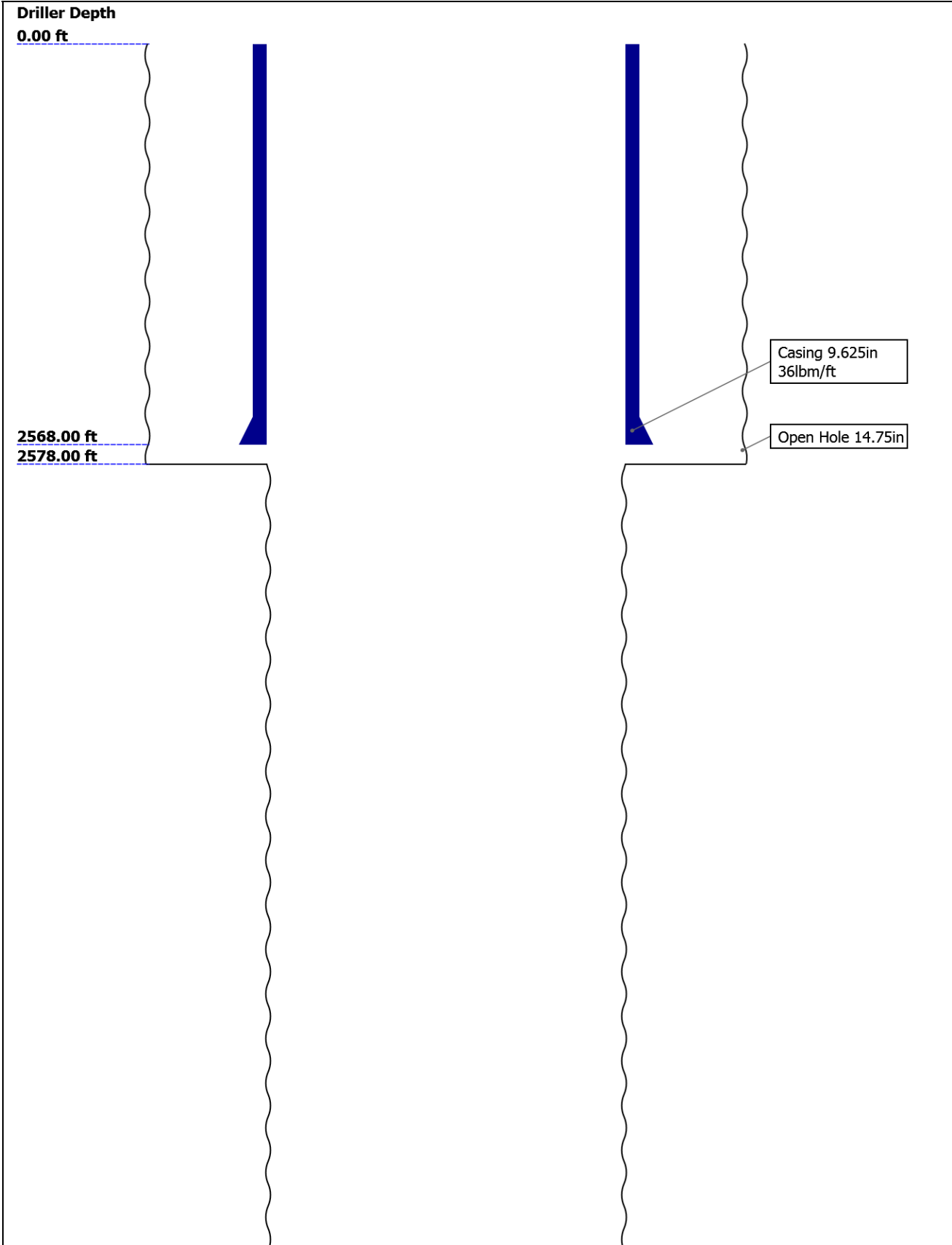
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Well Sketch





Borehole Size/Casing/Tubing Record

Bit						
Bit Size (in)	14.75	8.75				
Top Driller (ft)	0	2578				
Top Logger (ft)	0	2578				
Bottom Driller (ft)	2578	9953				
Bottom Logger (ft)	2578	9953				
Casing						
Size (in)	9.625					
Weight (lbm/ft)	36					
Inner Diameter (in)	8.921					
Grade	N/A					
Top Driller (ft)	0					
Top Logger (ft)	0					
Bottom Driller (ft)	2568					
Bottom Logger (ft)	2568					

Remarks and Equipment Summary

ThruBit: Toolstring				ThruBit: Remarks	
Equip name	Length	MP name	Offset	Thank you for choosing Schlumberger	
PEH-EFA	67.02			Log run for formation evaluation	
				Tools run as per tool sketch	
AH-317-TB	64.66			Matrix: LimeStone 2.71 g/cc	
TBCCL-A	63.59			Client choice to run at higher speeds than recommended for certian intervals of log, shown below	
TBCCL-A				TD-6000' @ 30ft/min	
TBDOT-BA	61.88	CCL	61.88	6000'-5100' @ 60 ft/min	
				5100-4300 @ 30 ft/min	
				4300-Casing @ 90 ft/min	
TBHO-BA	58.4			Log correlated to Casing Shoe @ 2568ft	
				Rig lost connection to Pason during trip out from 8240ft-8160ft	
				Crew: Tyler Mozena, Jake Quinn	

SAH-TB 52.45

TBSB-BA:1 50.12
TBSB-BA:1

TMG-A:106 43.99
TMG-A:106

Status 43.99
Gamma-Ray 43.19

TILE-AB 37.86

Status 37.86

TBN-B:58 33.36
TBN-B:58
NNLS-EWA:5975

Neutron Porosity 31.05

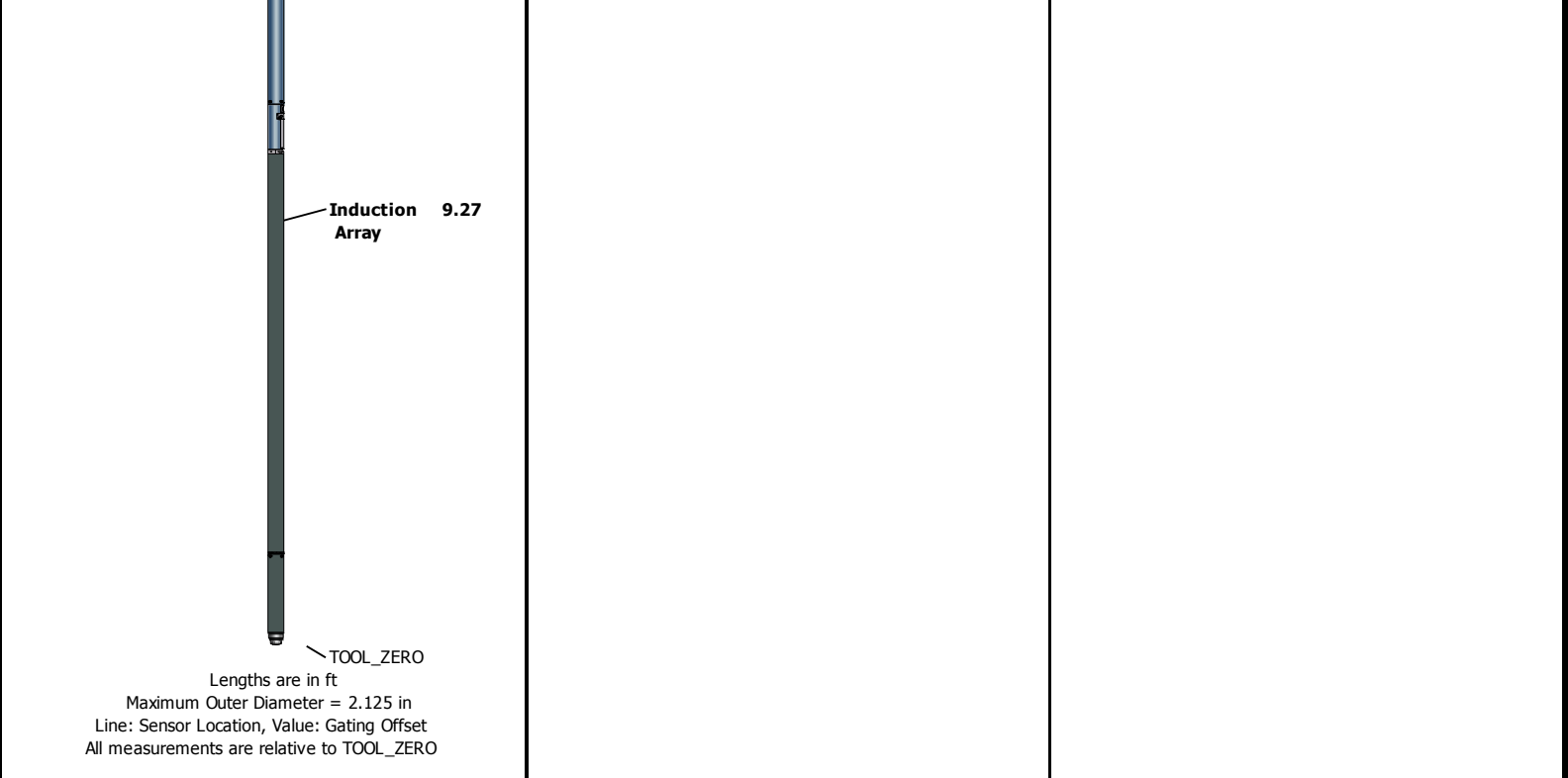
TBD-B:43 28.59
TBD-B:43
GGLS-FZ:3398

Density Log 20.07
Caliper 19.94
Density Sensor 19.68

KAH-TB[2] 18.11

KAH-TB[1] 16.7

TBIT-A:47 15.28
TBIT-A:47



Depth Summary			
	ThruBit		
Depth Measuring Device			
Type	IDW-B		
Serial Number			
Calibration Date			
Calibrator Serial Number			
Calibration Cable Type			
Wheel Correction 1	0		
Wheel Correction 2	0		
Tension Device			
Type	CMTD-B/A		
Serial Number			
Calibration Date			
Calibrator Serial Number			
Number of Calibration Points	0		
Logging Cable			
Type	7-39AI-XS		
Serial Number			
Length	15000.00 ft		
Conveyance Type	Wireline		
Rig Type			
ThruBit: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			

ThruBit

Integration Summary				
Output Channel(s)	Output Description	Input Parameter	Output Value	Unit
ICV	Integrated Cement Volume	GCSE_UP_PASS, FCD	2263.47	ft3
IHV	Integrated Hole Volume	GCSE_UP_PASS	3074.1	ft3

Software Version	
Acquisition System	Version
Maxwell 2018 SP2	8.2.104493.3100

Pass Summary									
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
ThruBit	Log[1]:Up	Up	2180.17 ft	9911.67 ft	19-May-2019 6:26:19 AM	19-May-2019 11:57:23 AM	ON	-7.17 ft	Yes
All depths are referenced to toolstring zero									

Log	Company:LARAMIE ENERGY LLC	Well:CC 0697-04-08E
		ThruBit: Log[1]:Up:S016

Description: ThruBit_TBLA_RESISTIVITY_RM Format: Log (ThruBit_Caliper) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth

Creation Date: 21-May-2019 17:07:50

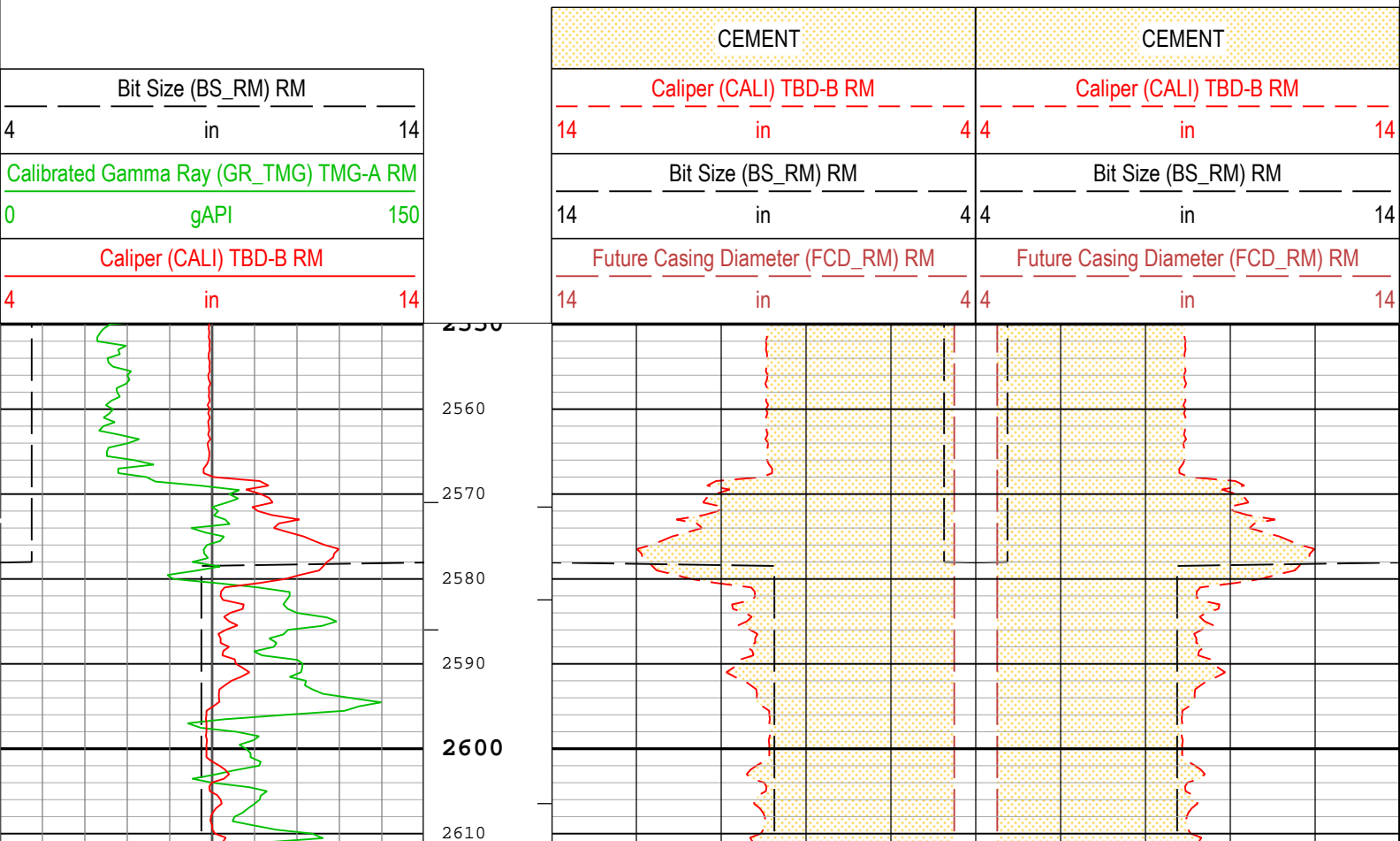
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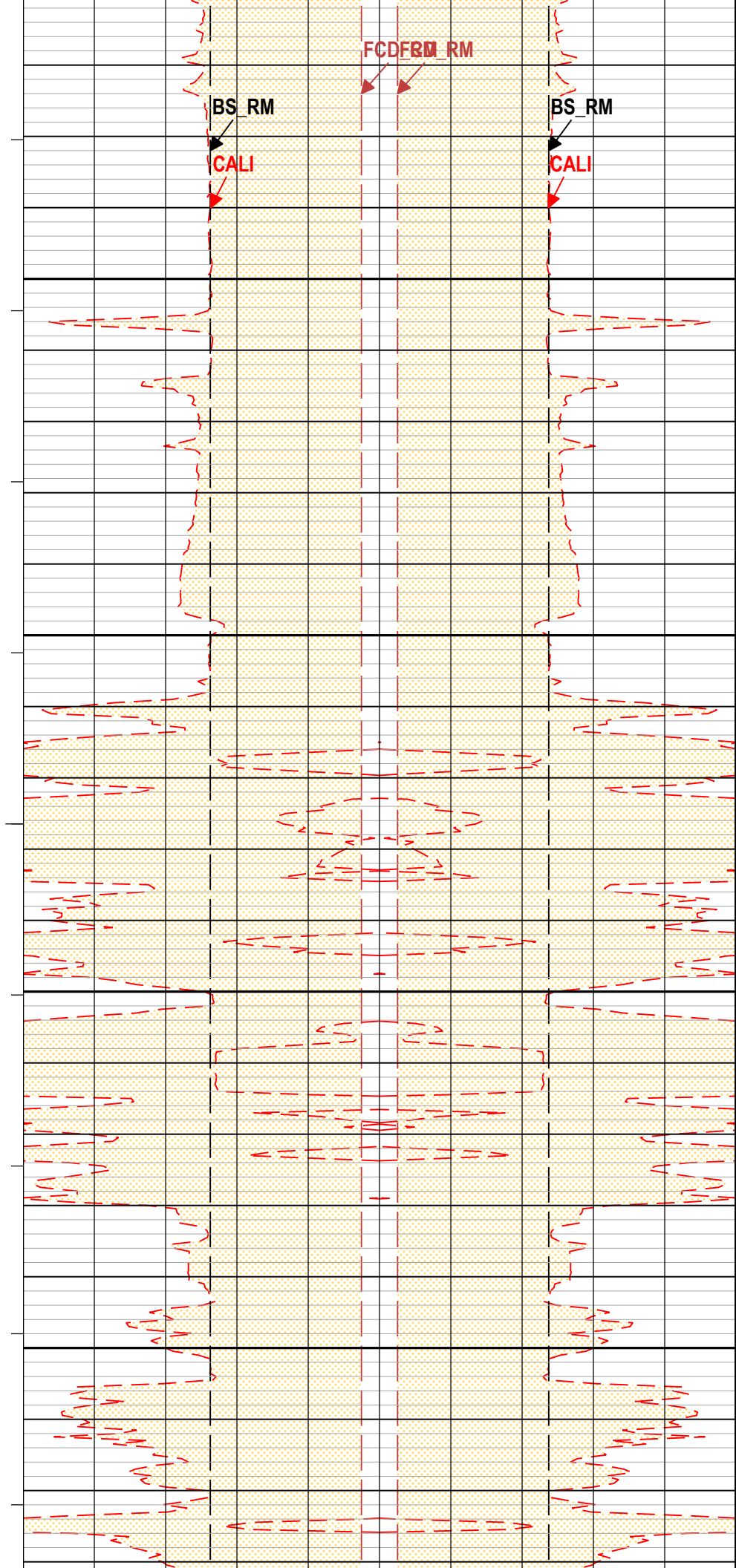
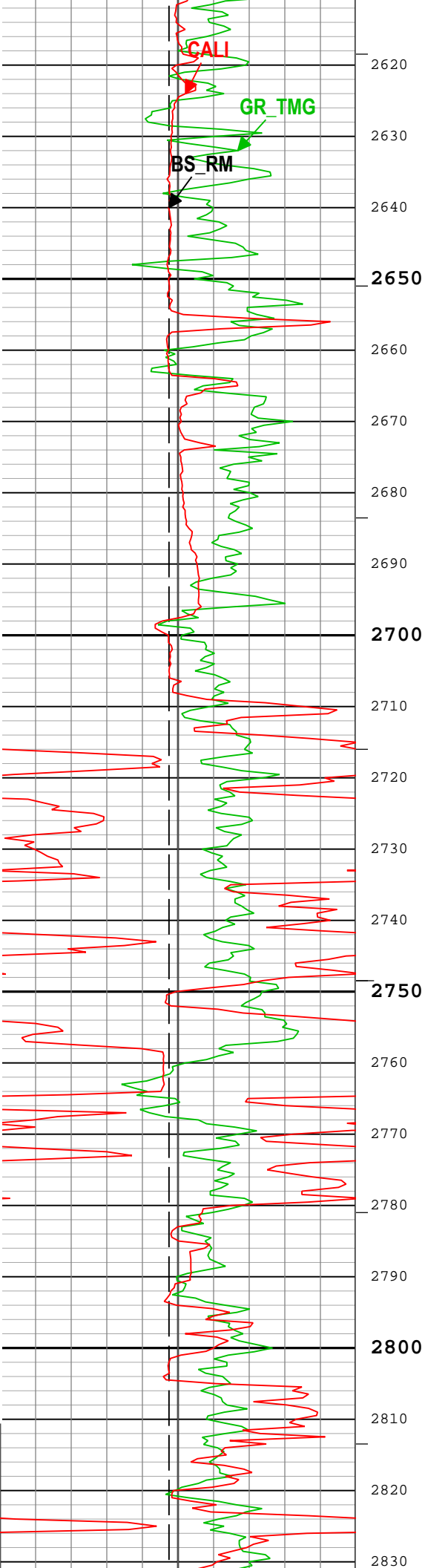
—IHV_RM - Integrated Hole Volume every 10.00 (ft3)

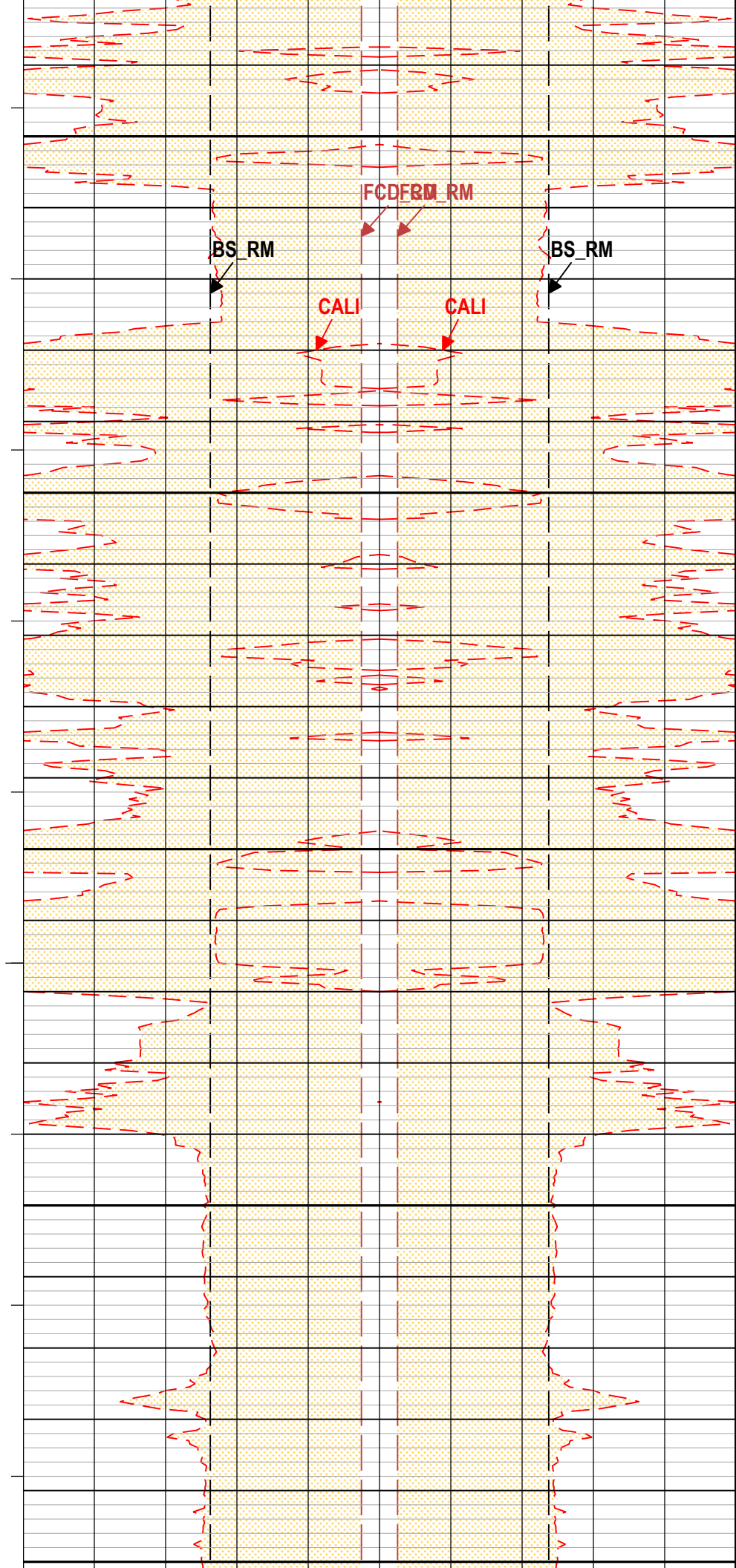
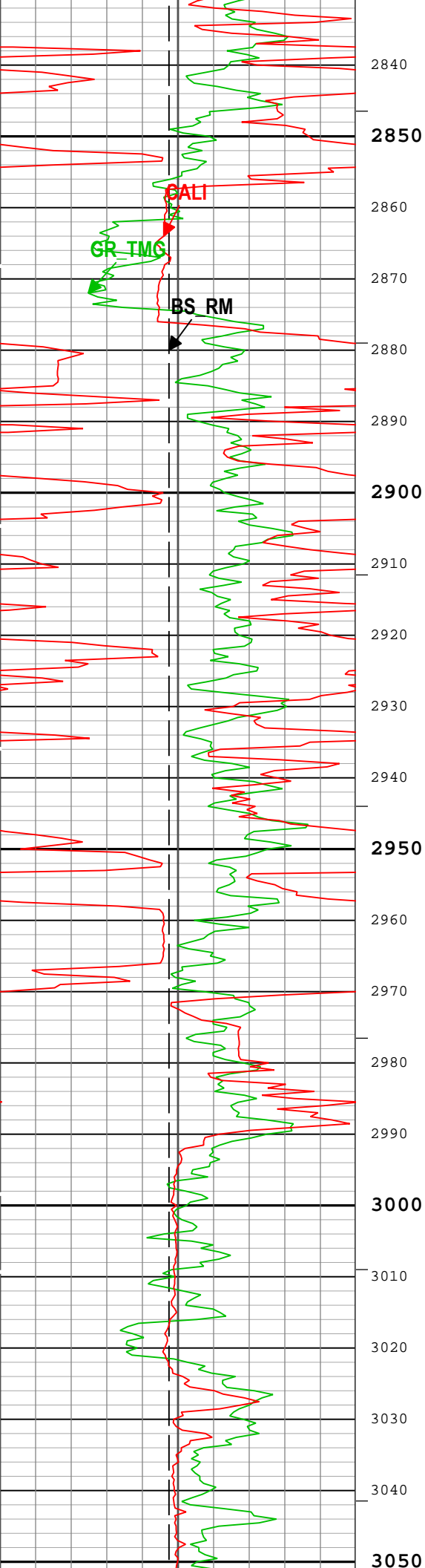
—IHV_RM - Integrated Hole Volume every 100.00 (ft3)

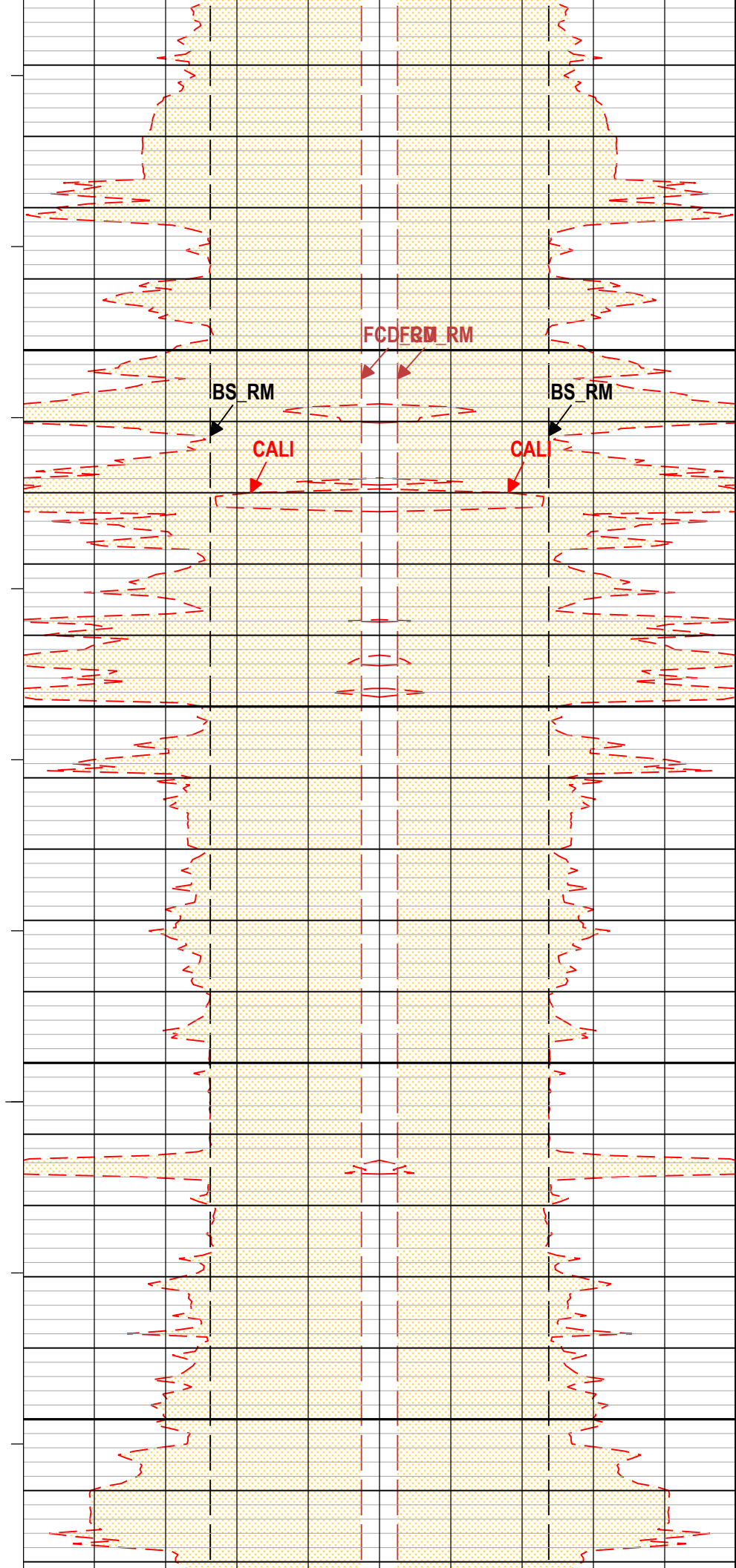
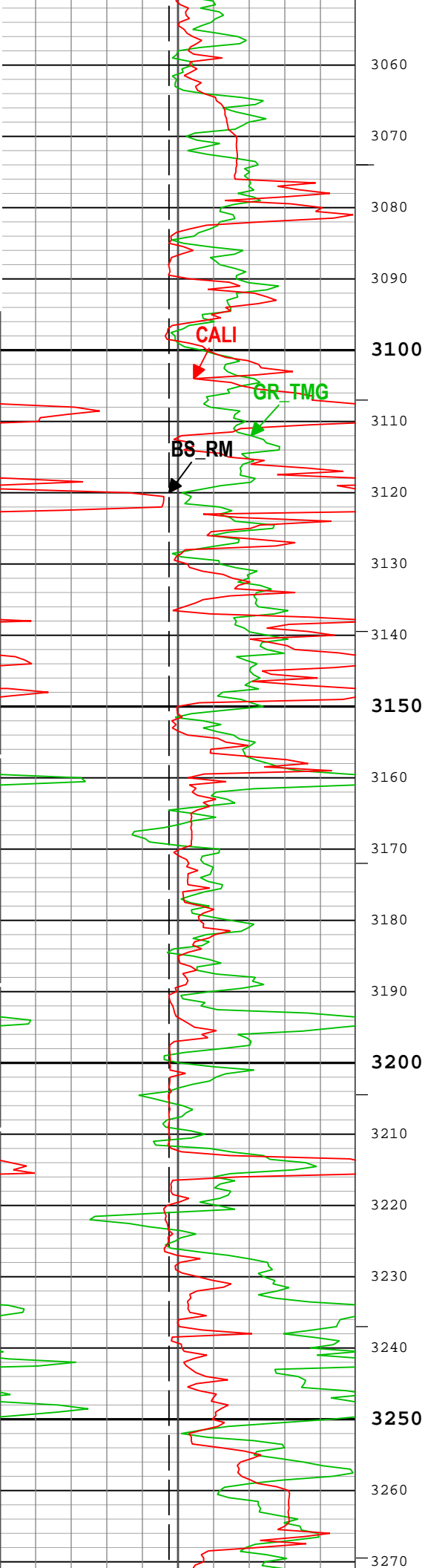
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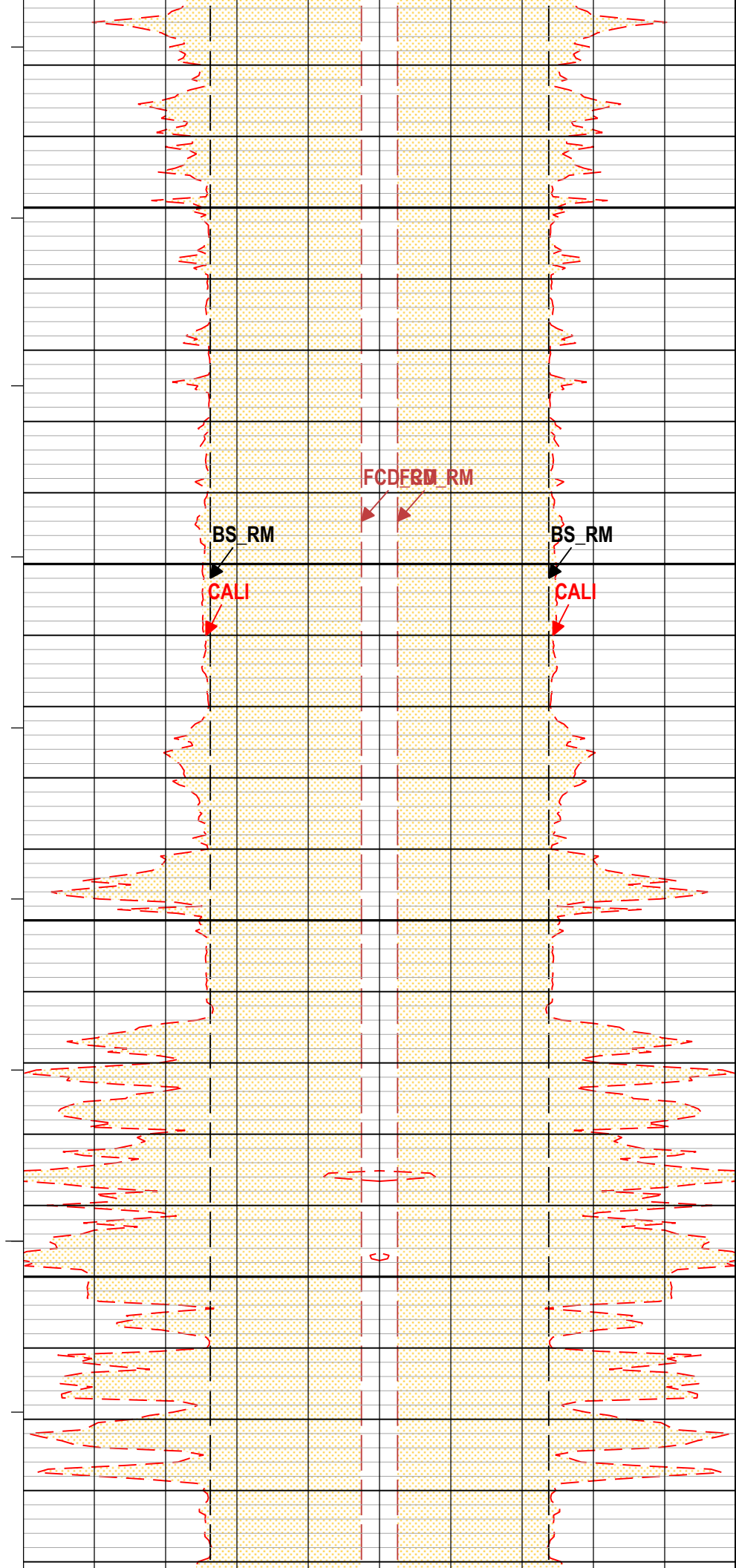
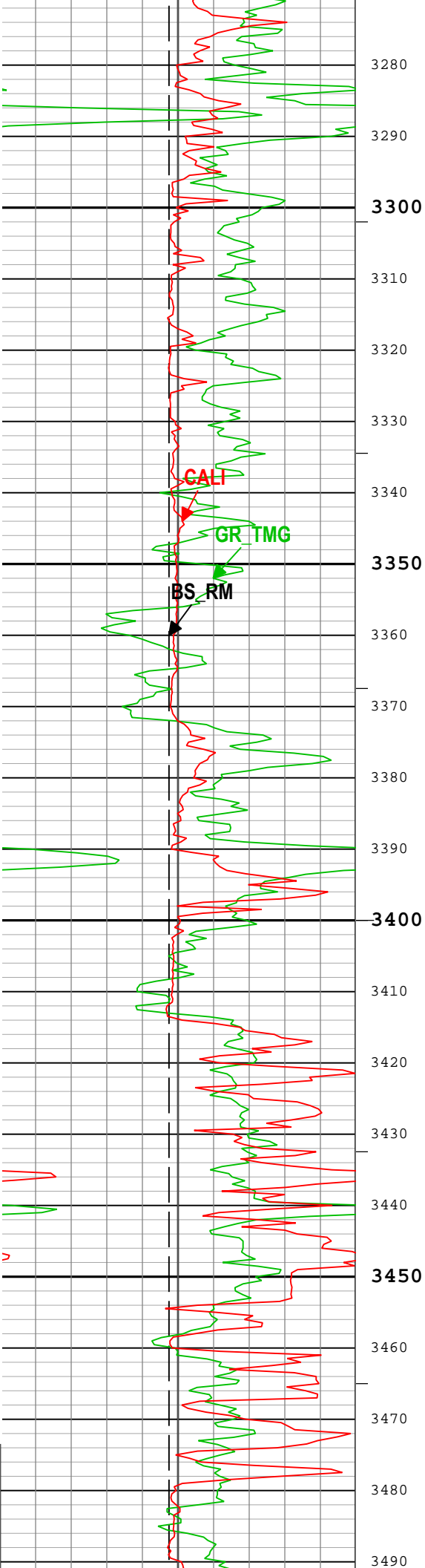
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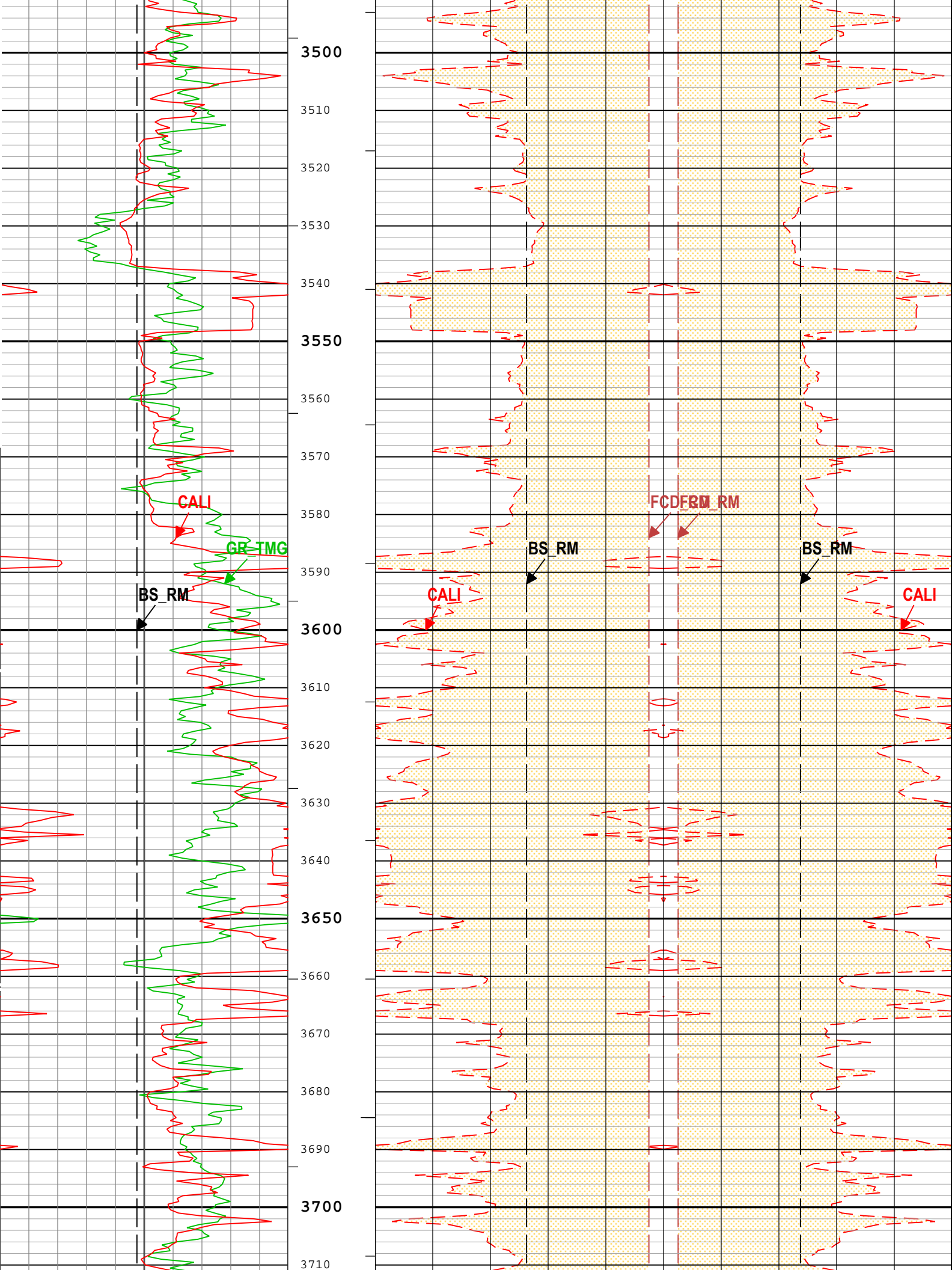


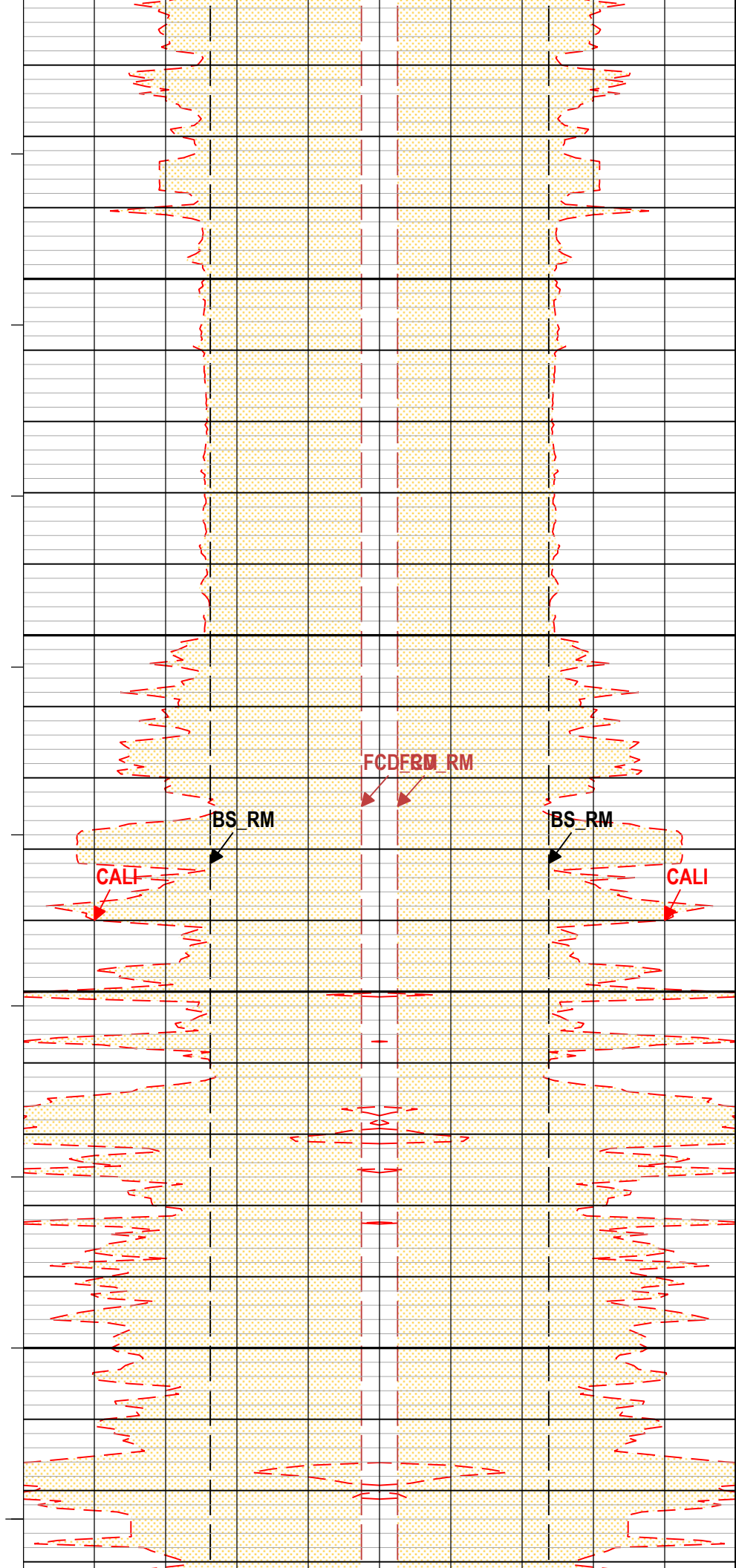
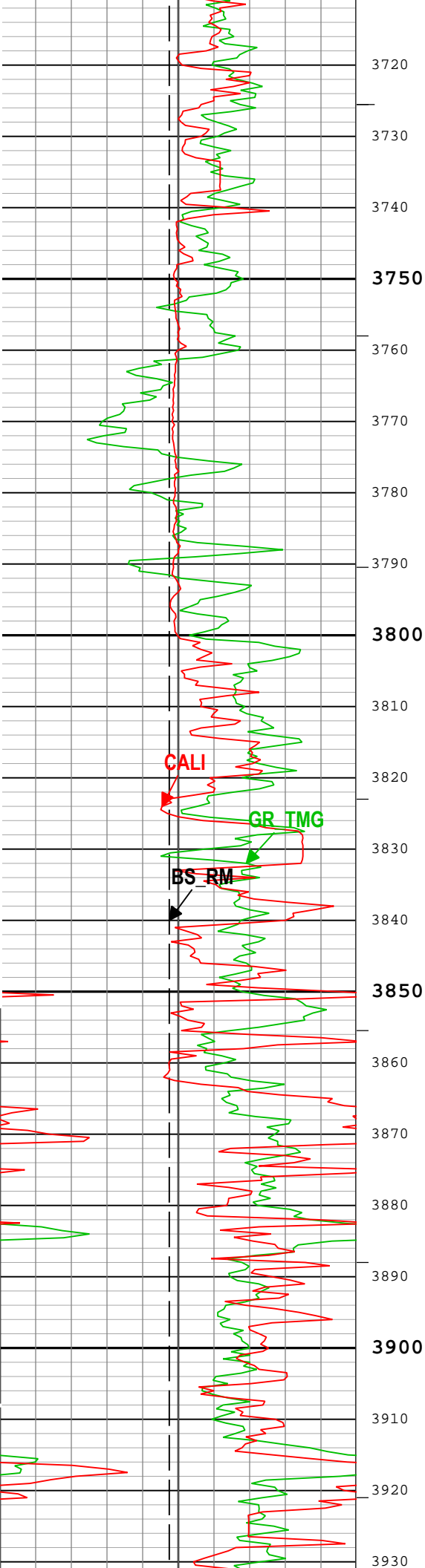


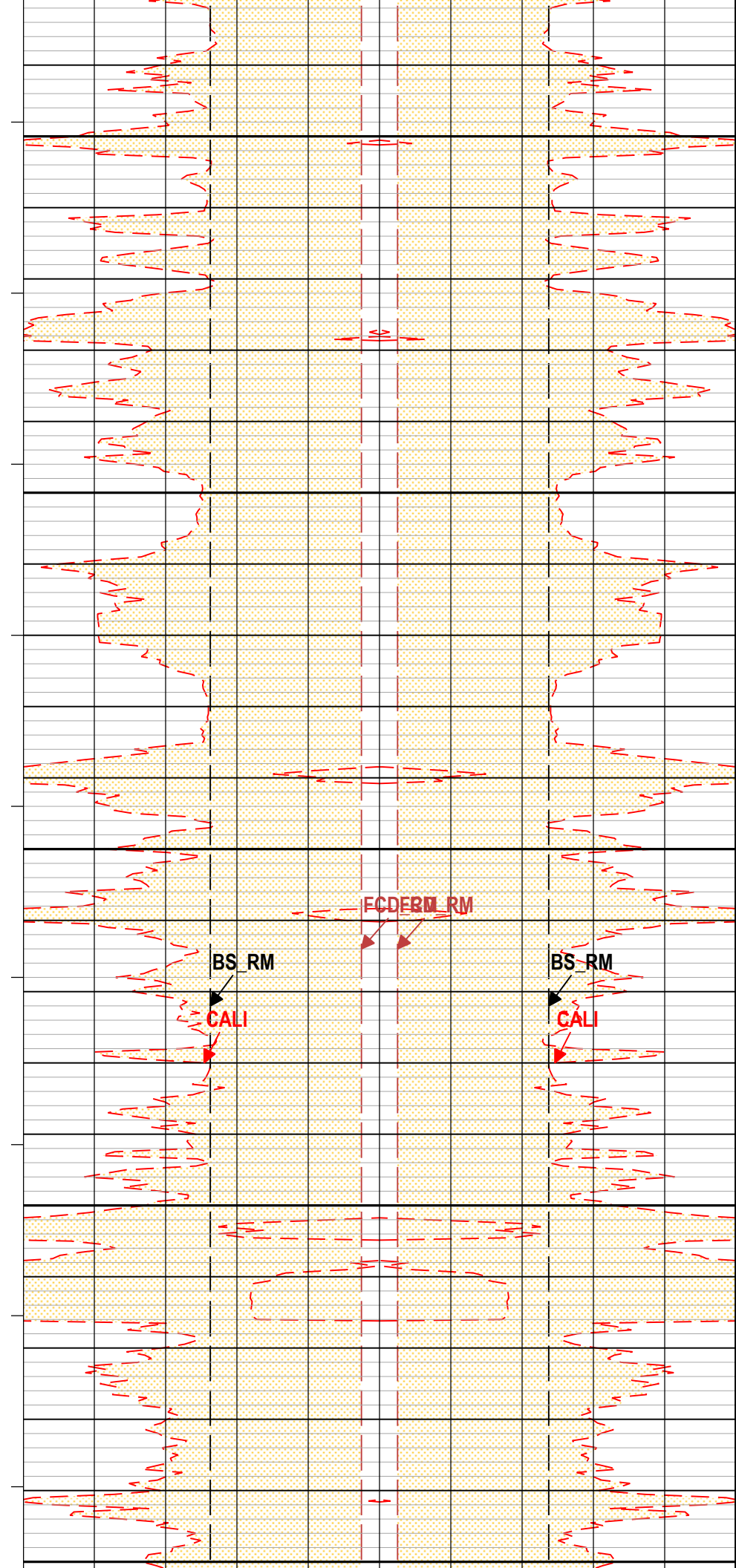
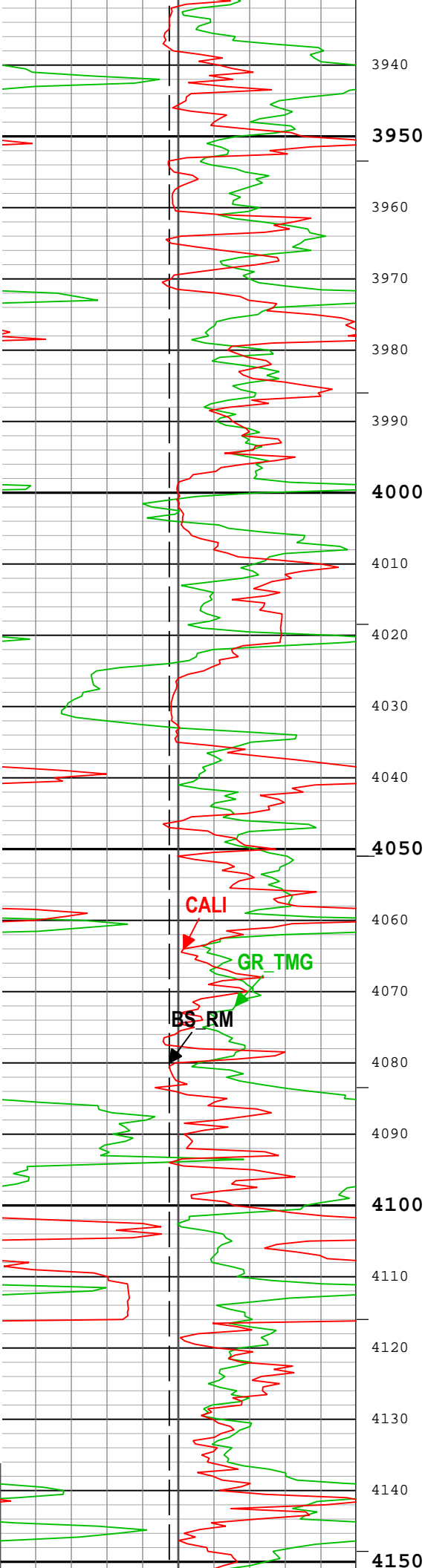


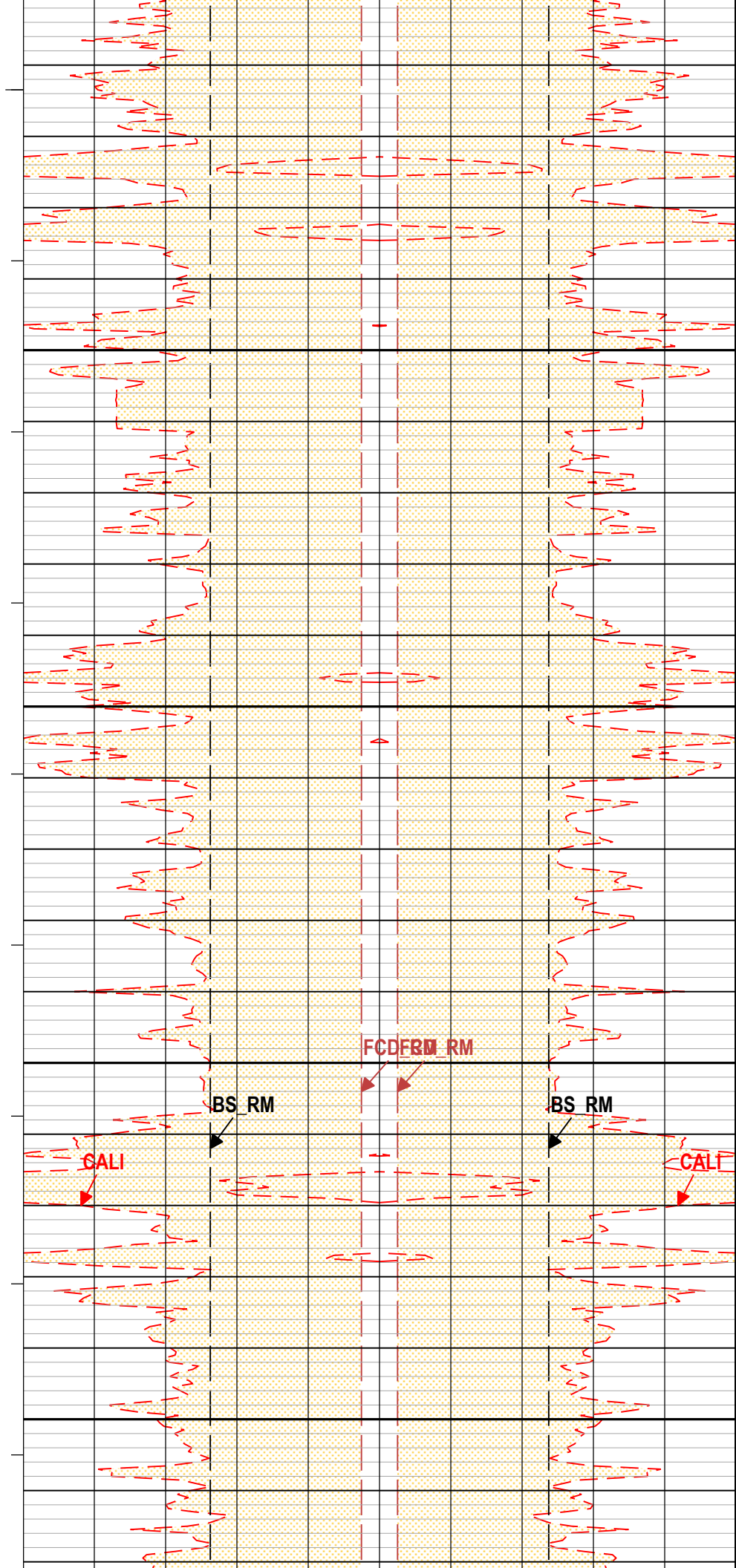
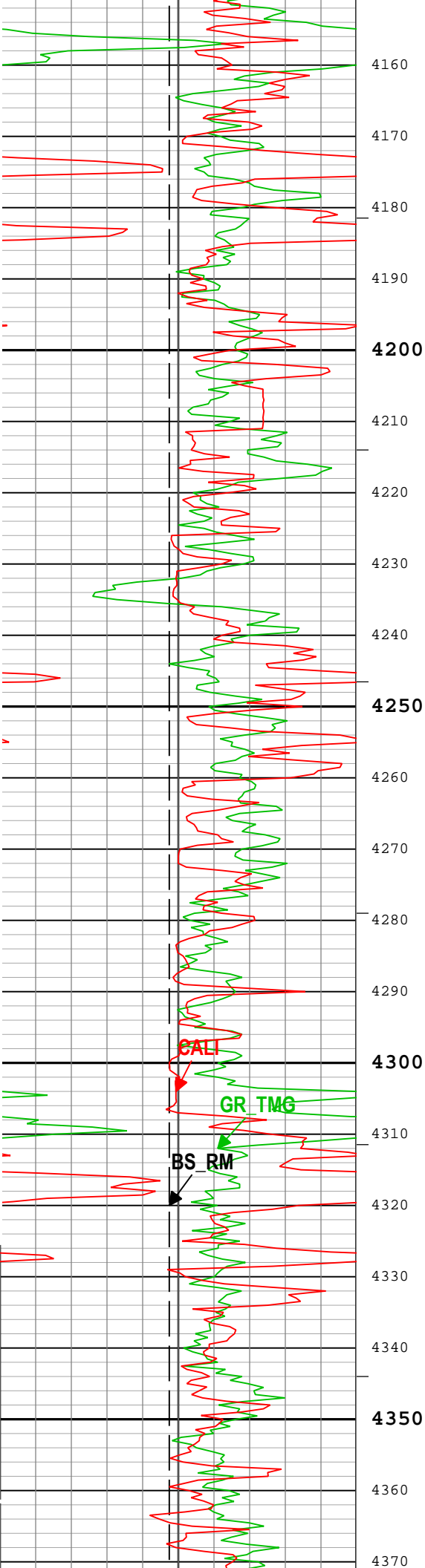


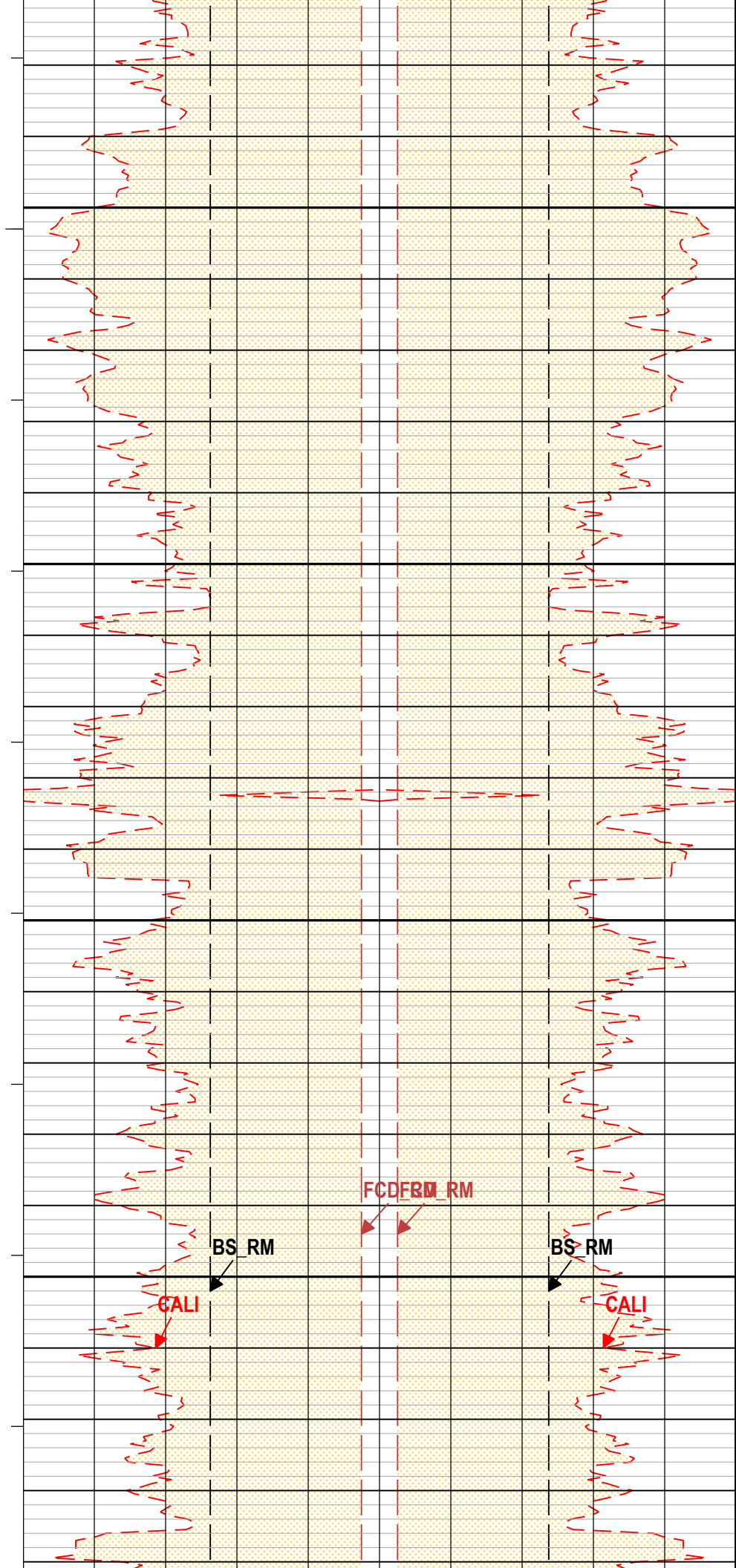
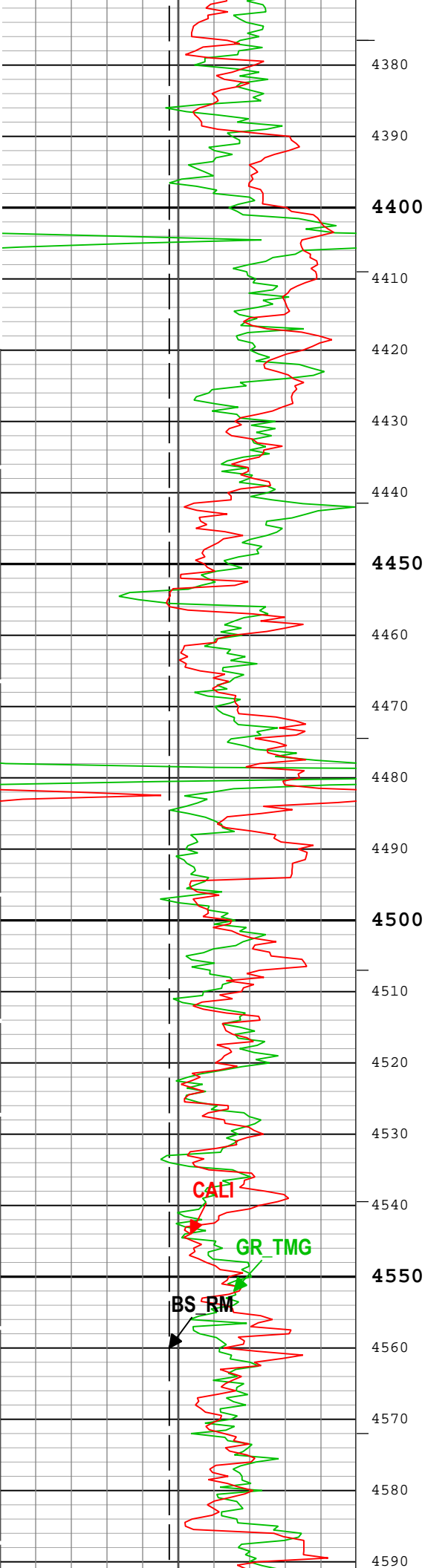


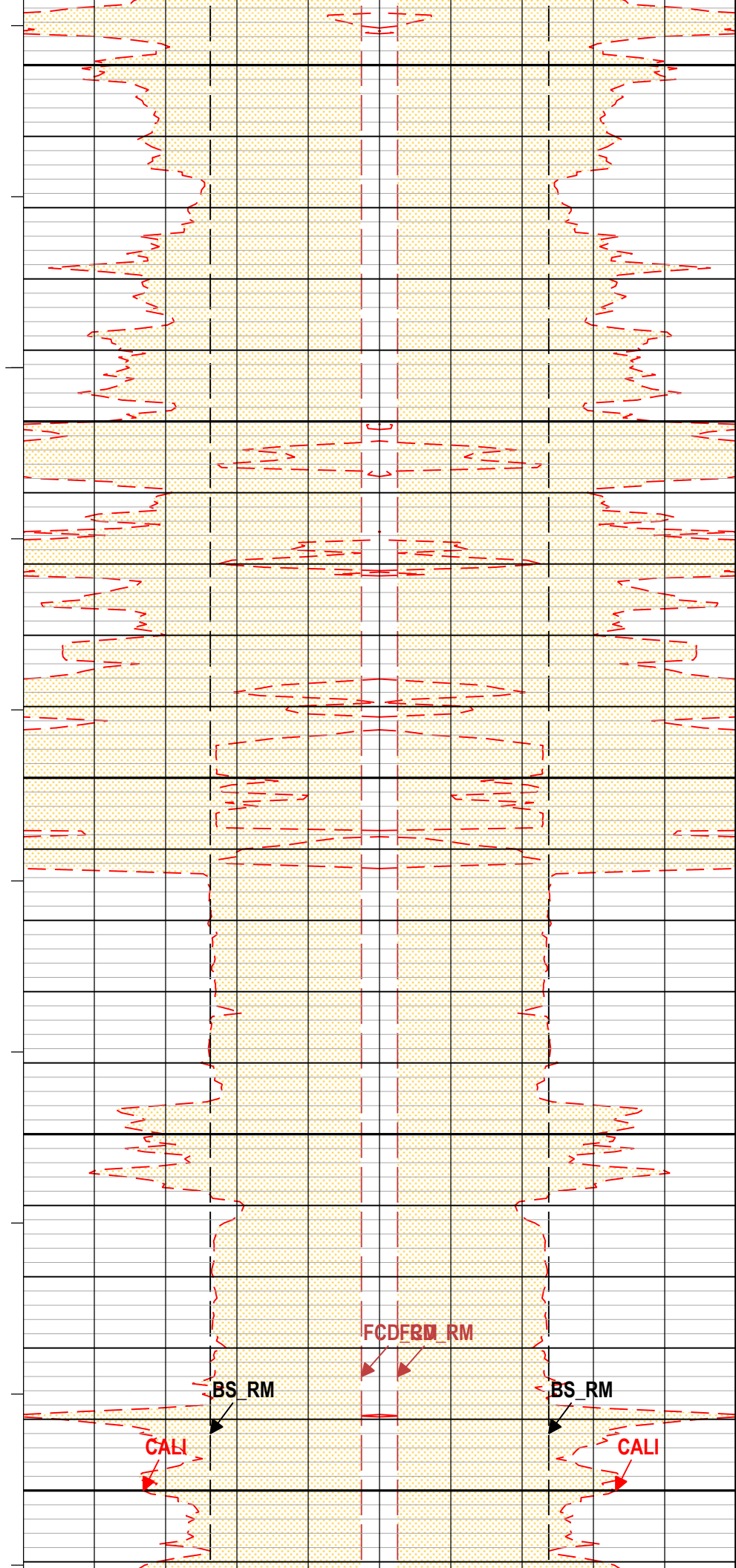
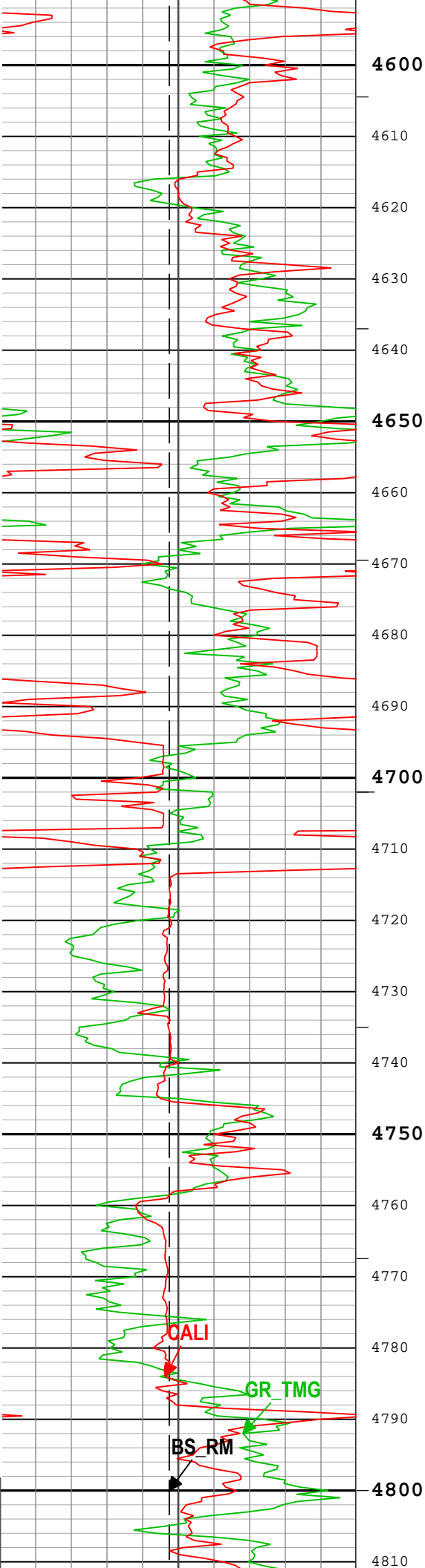


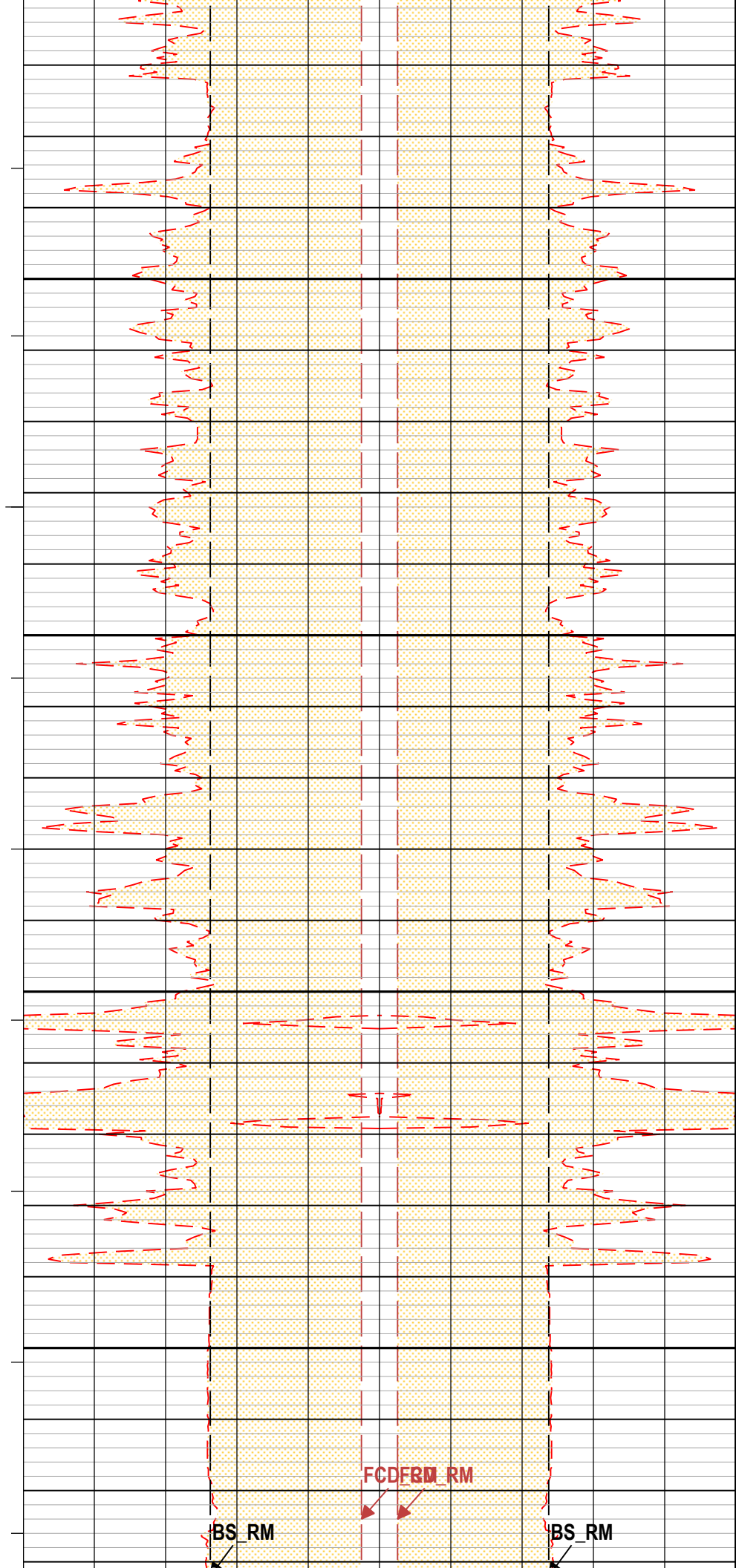
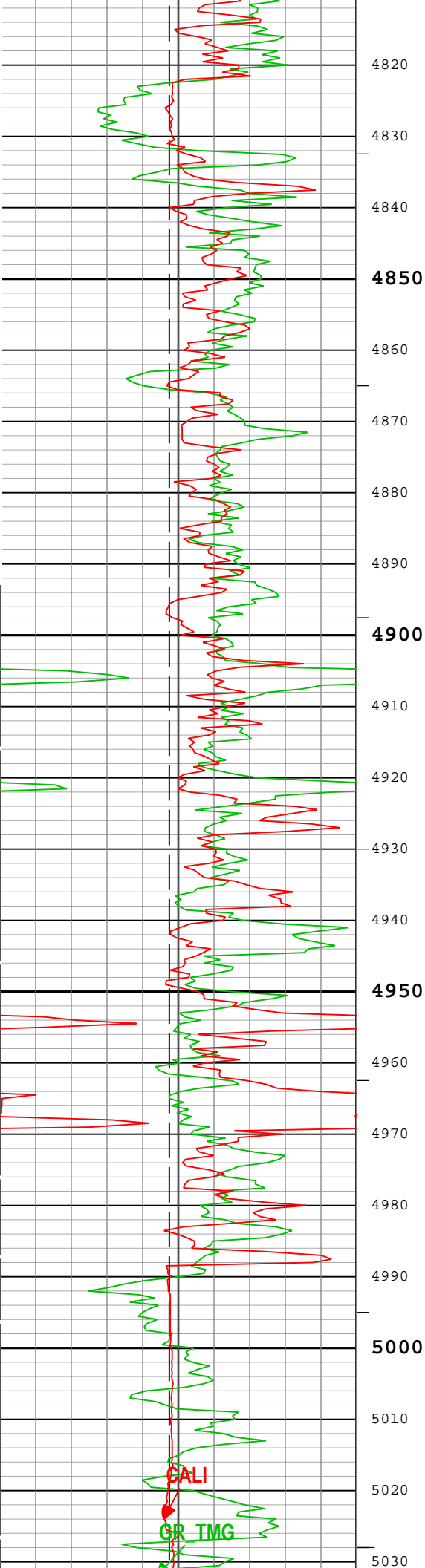


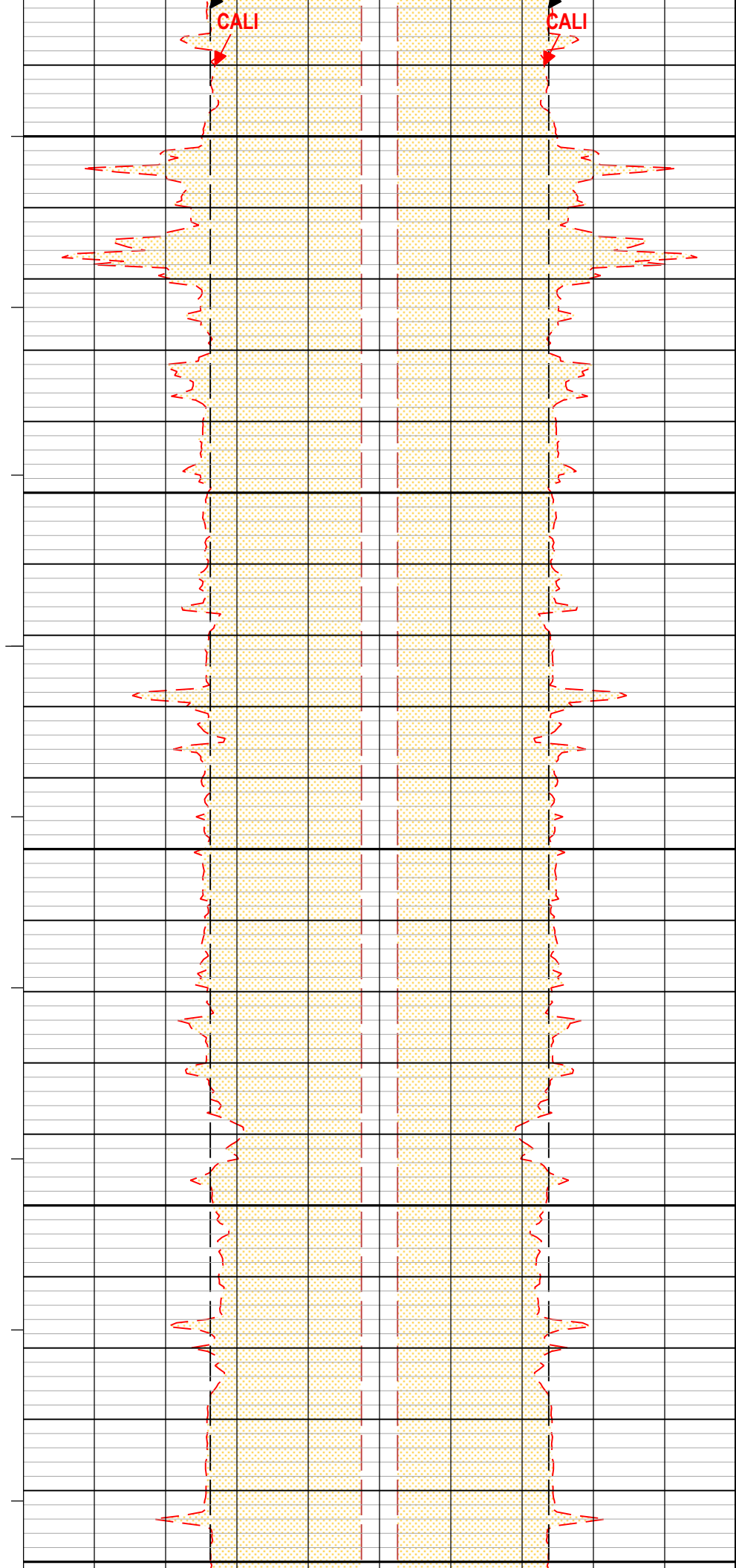
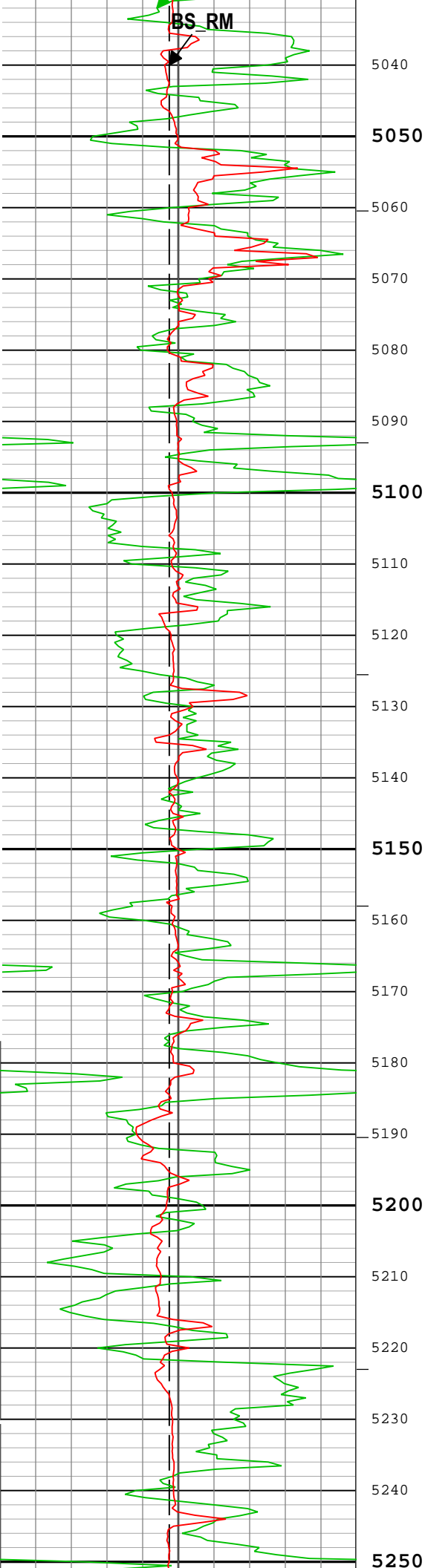


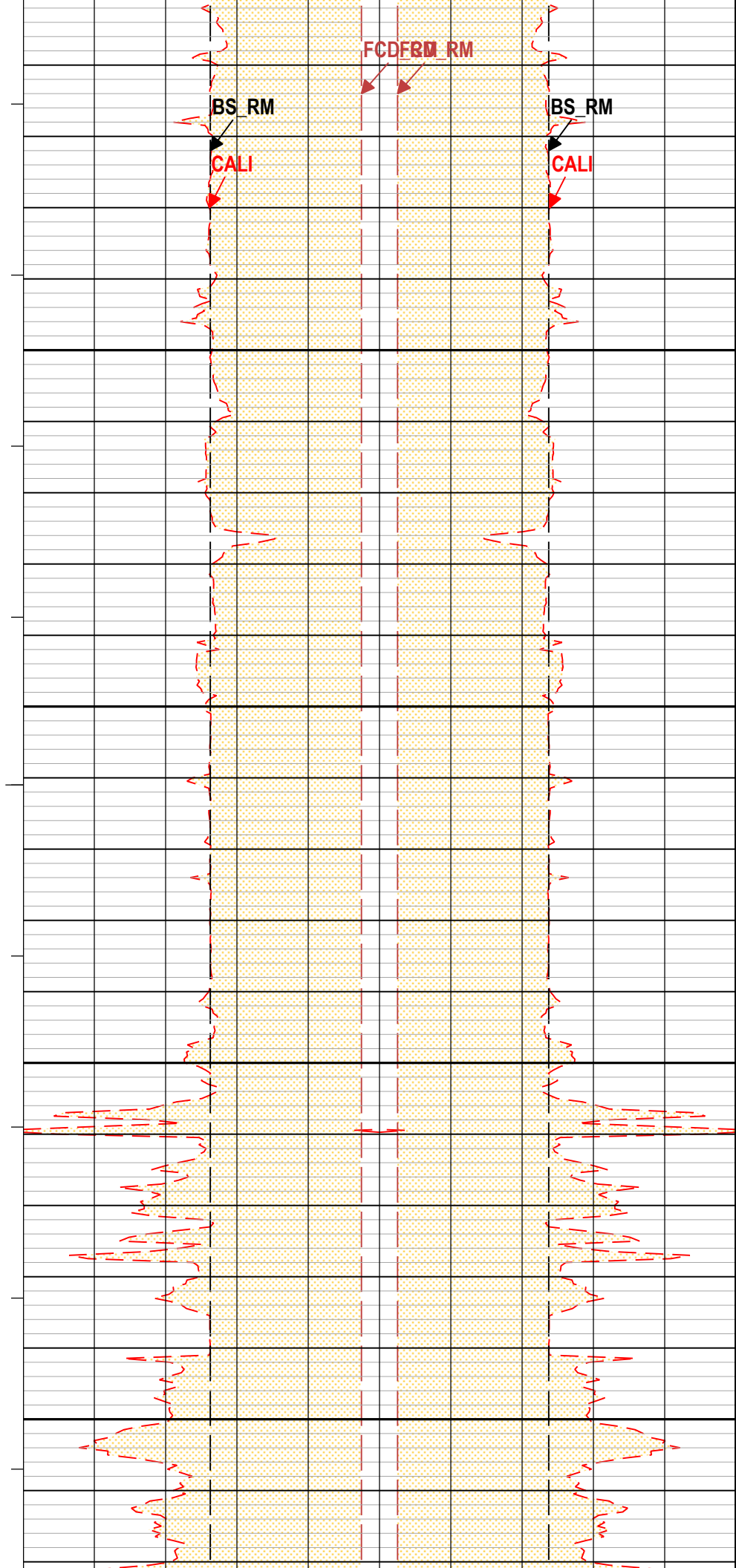
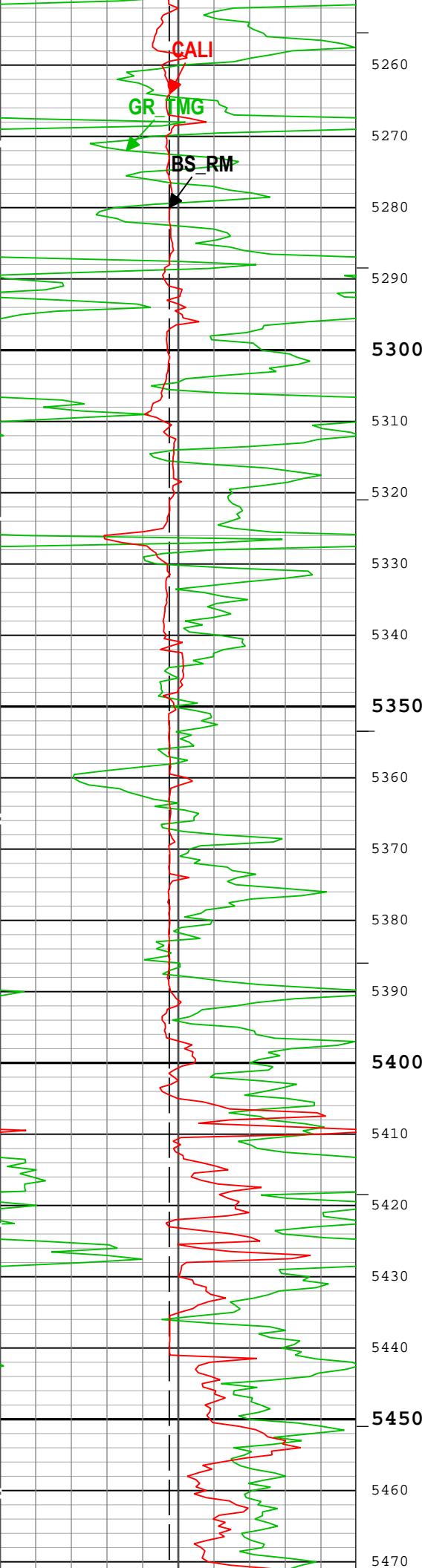


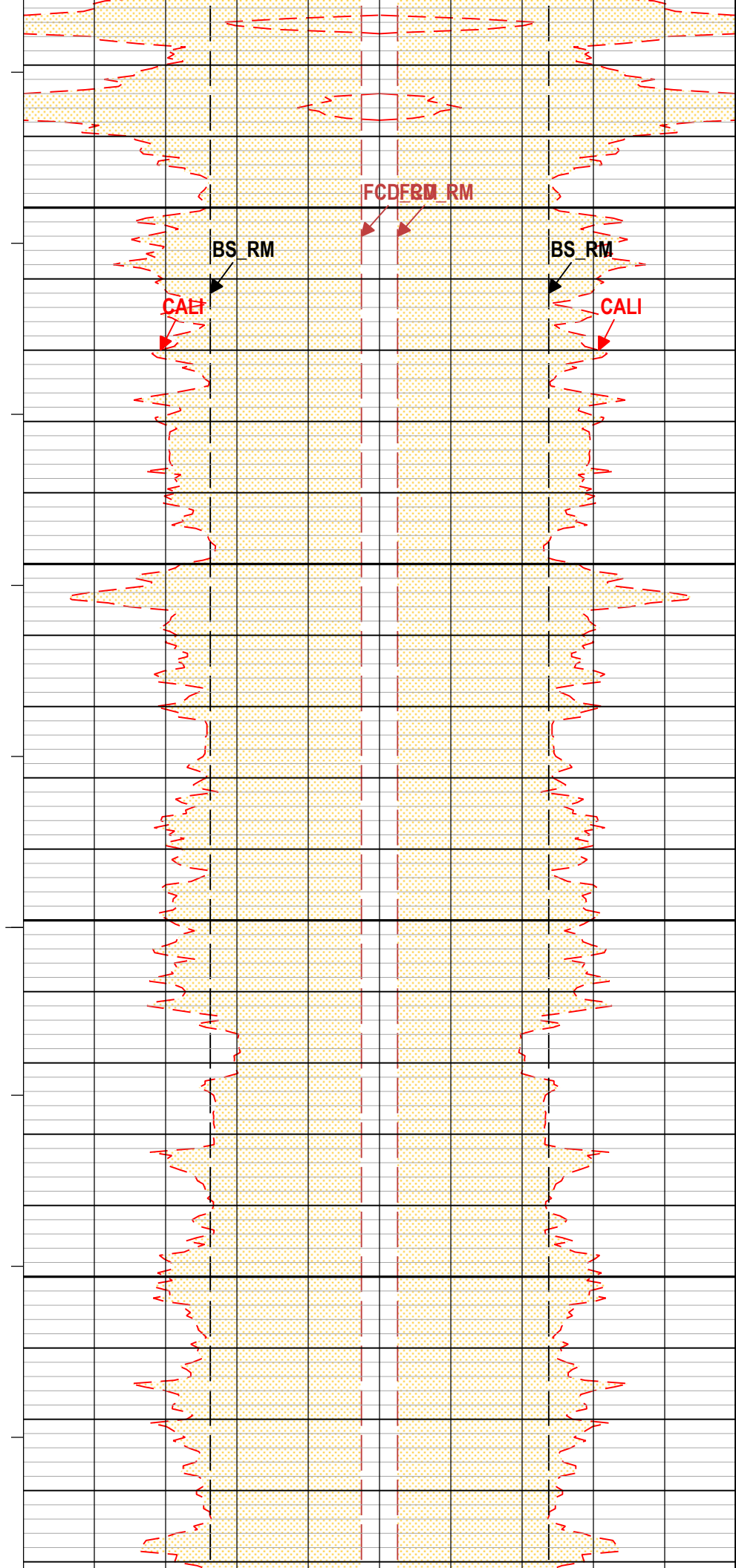
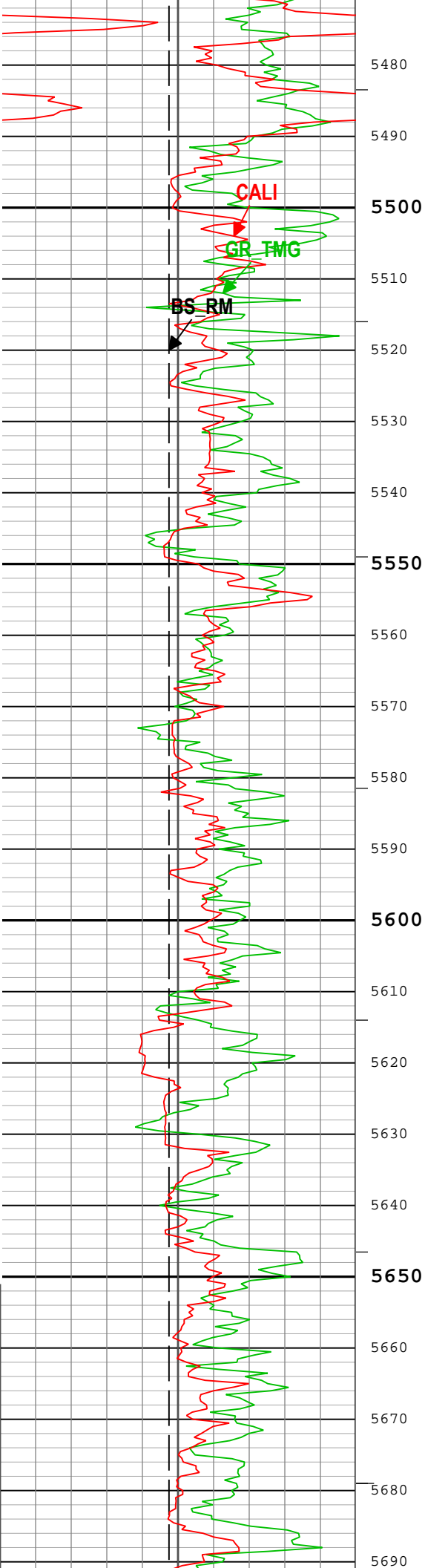


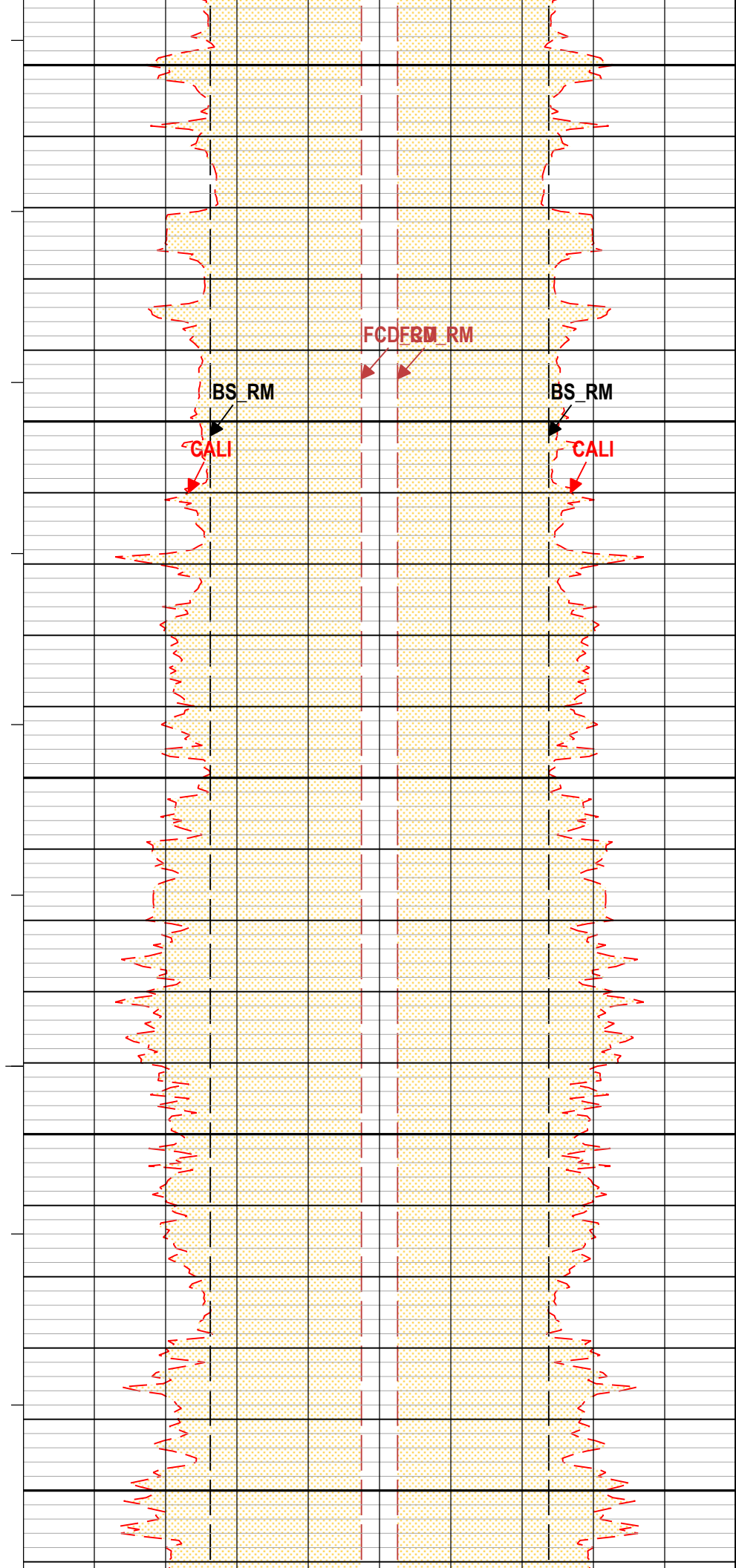
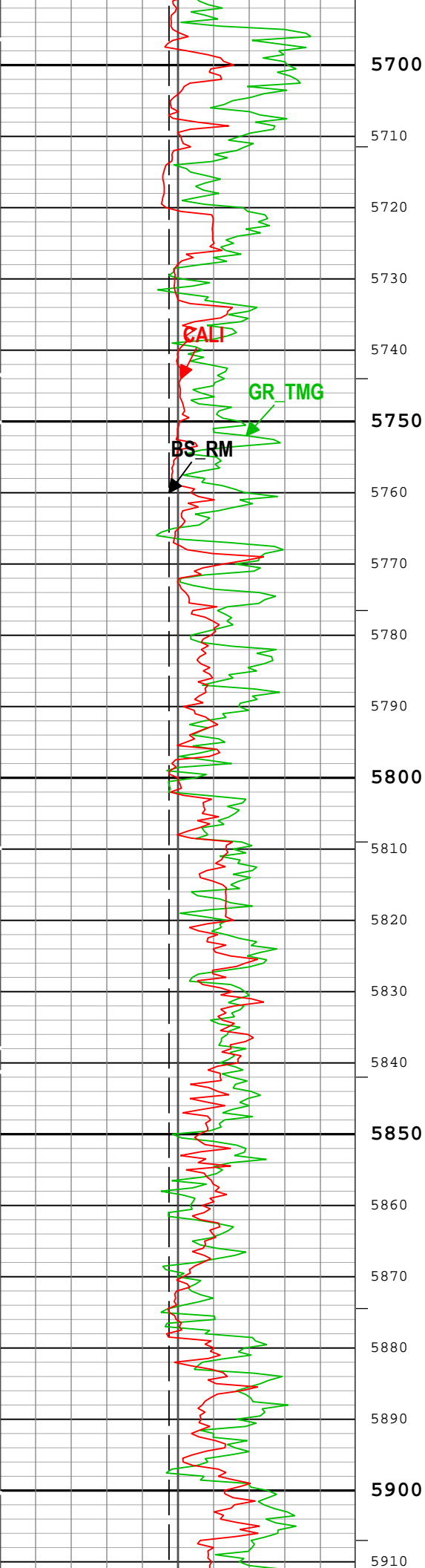


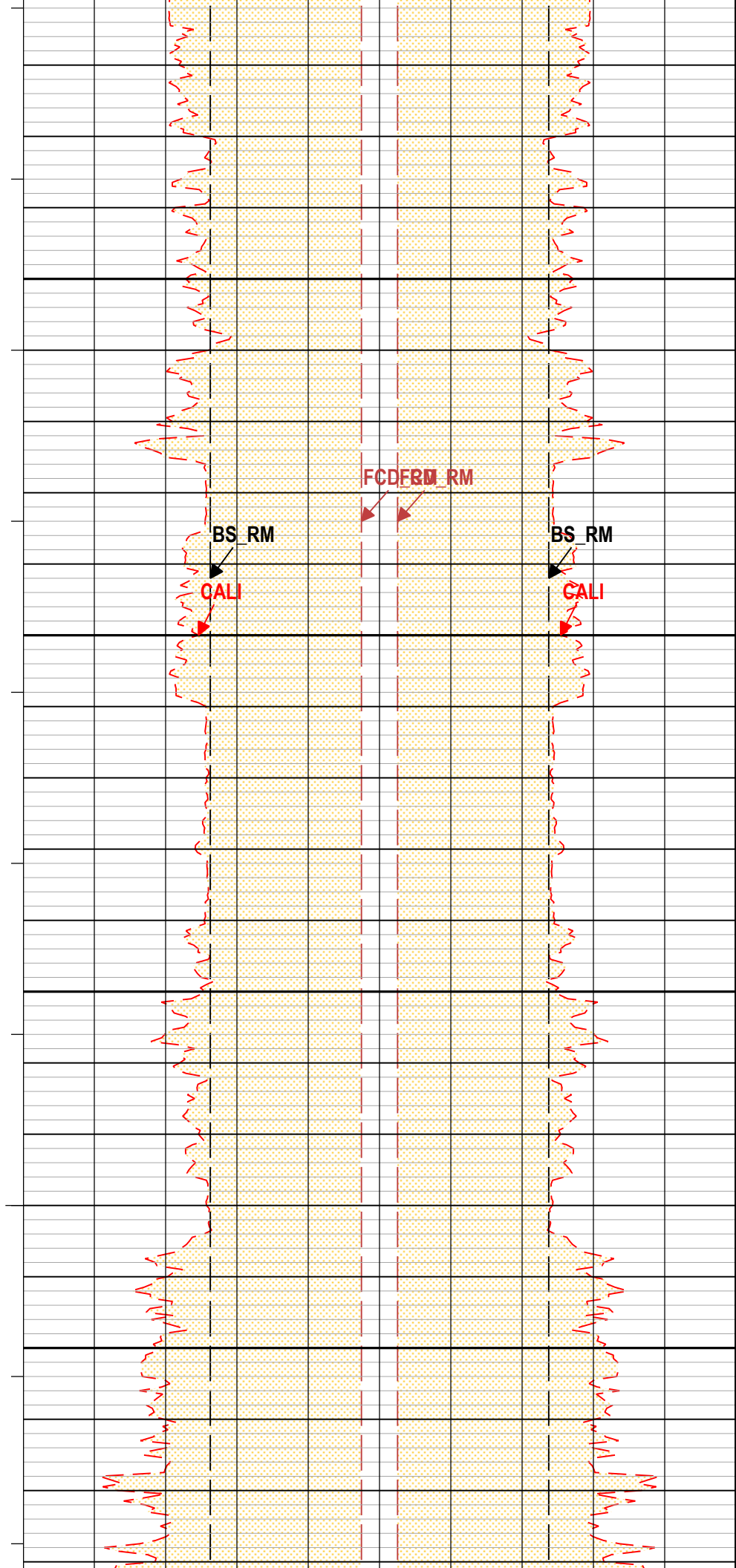
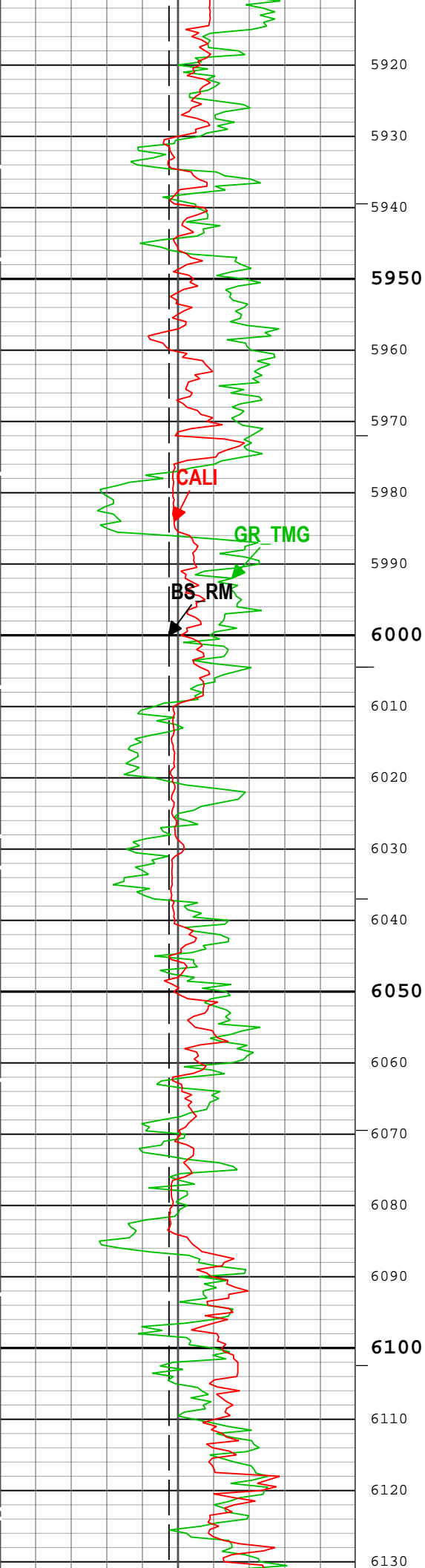


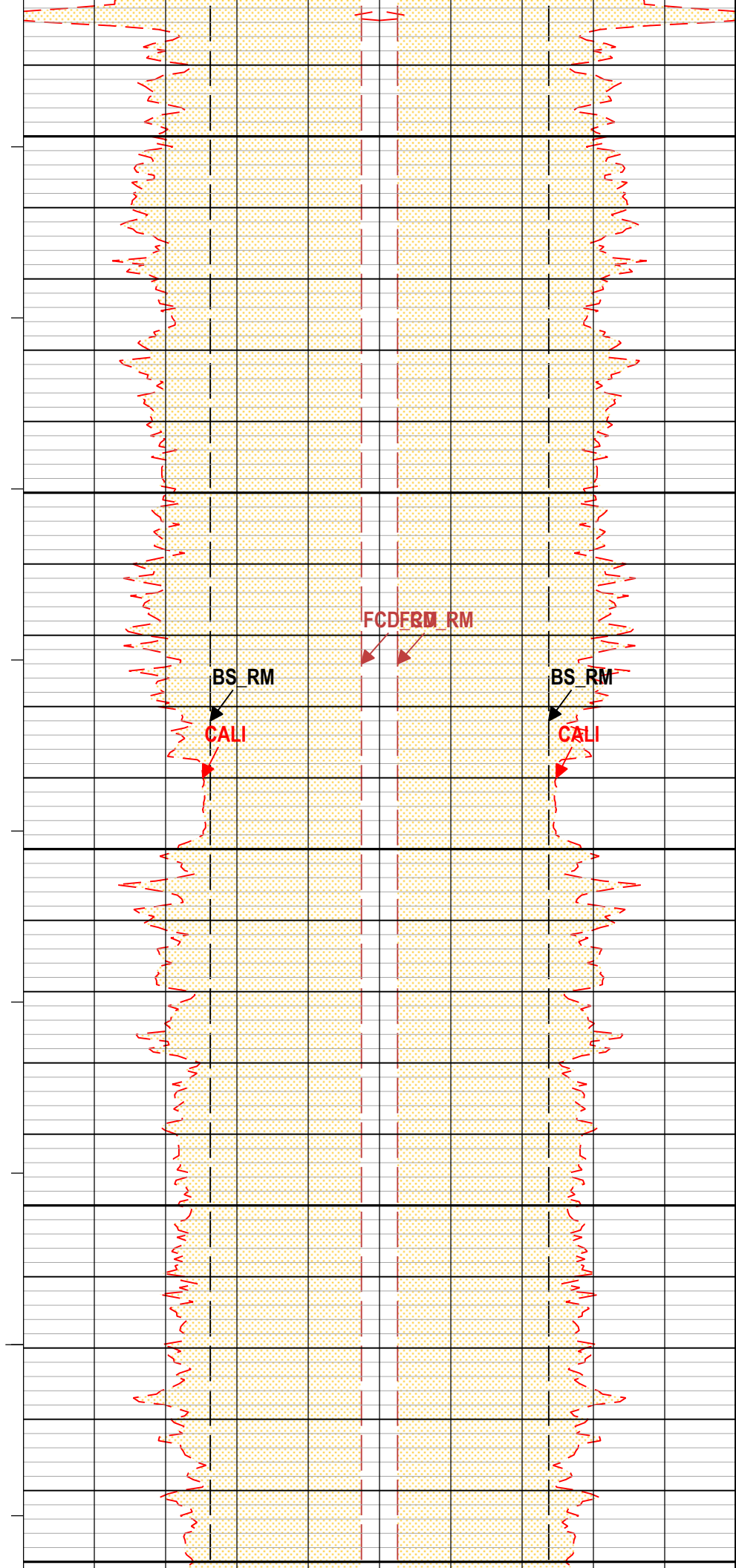
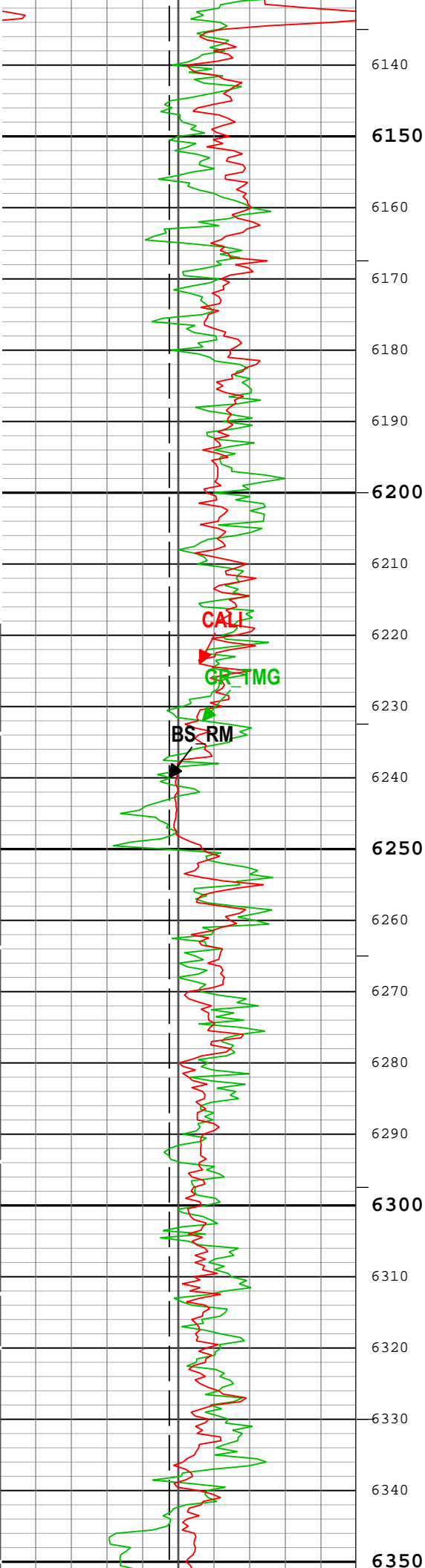


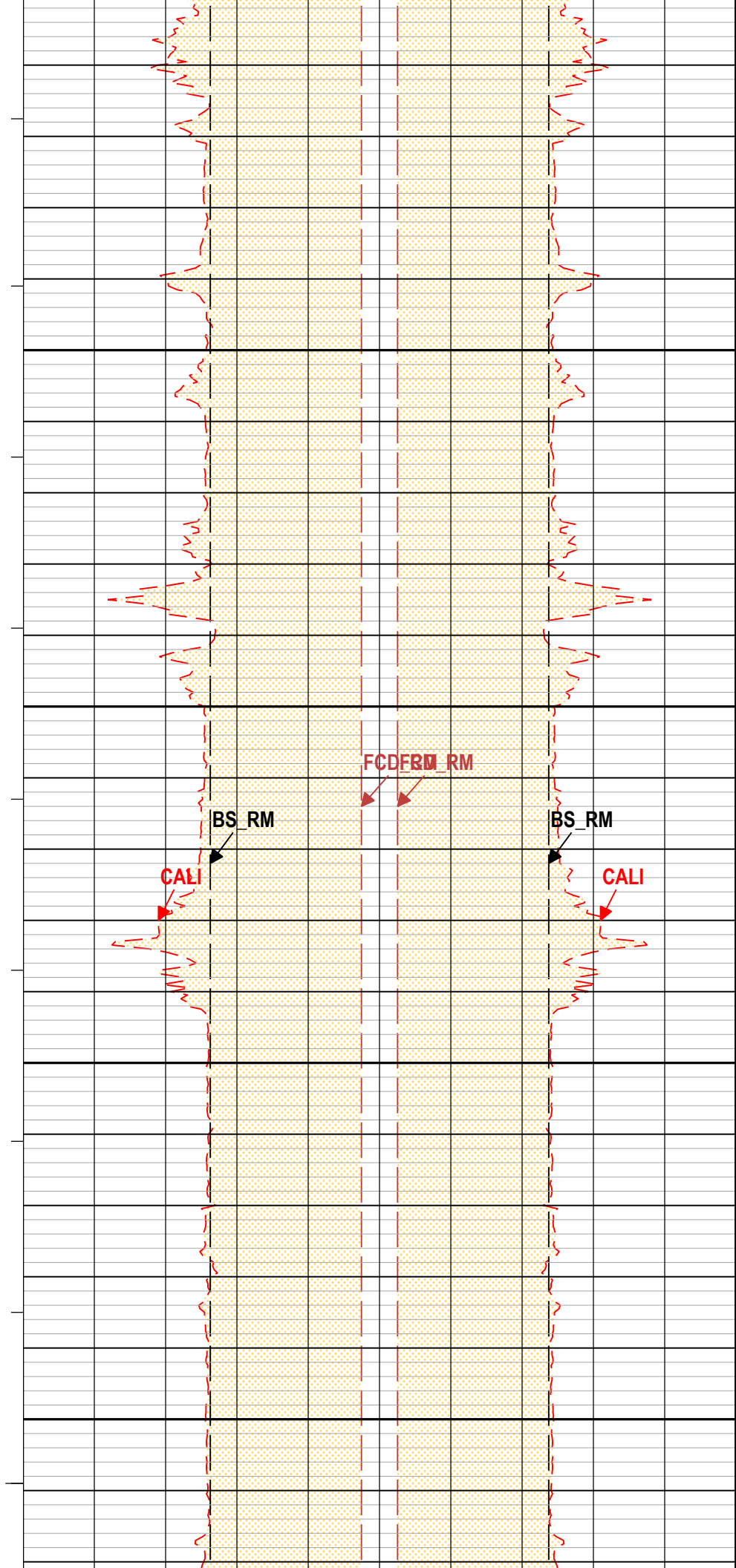
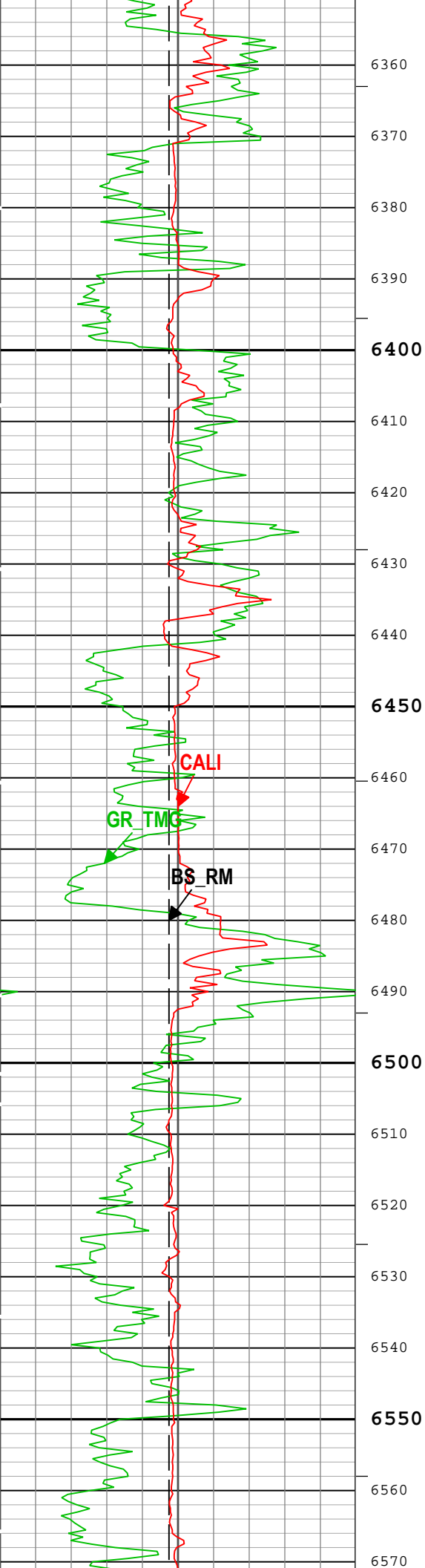


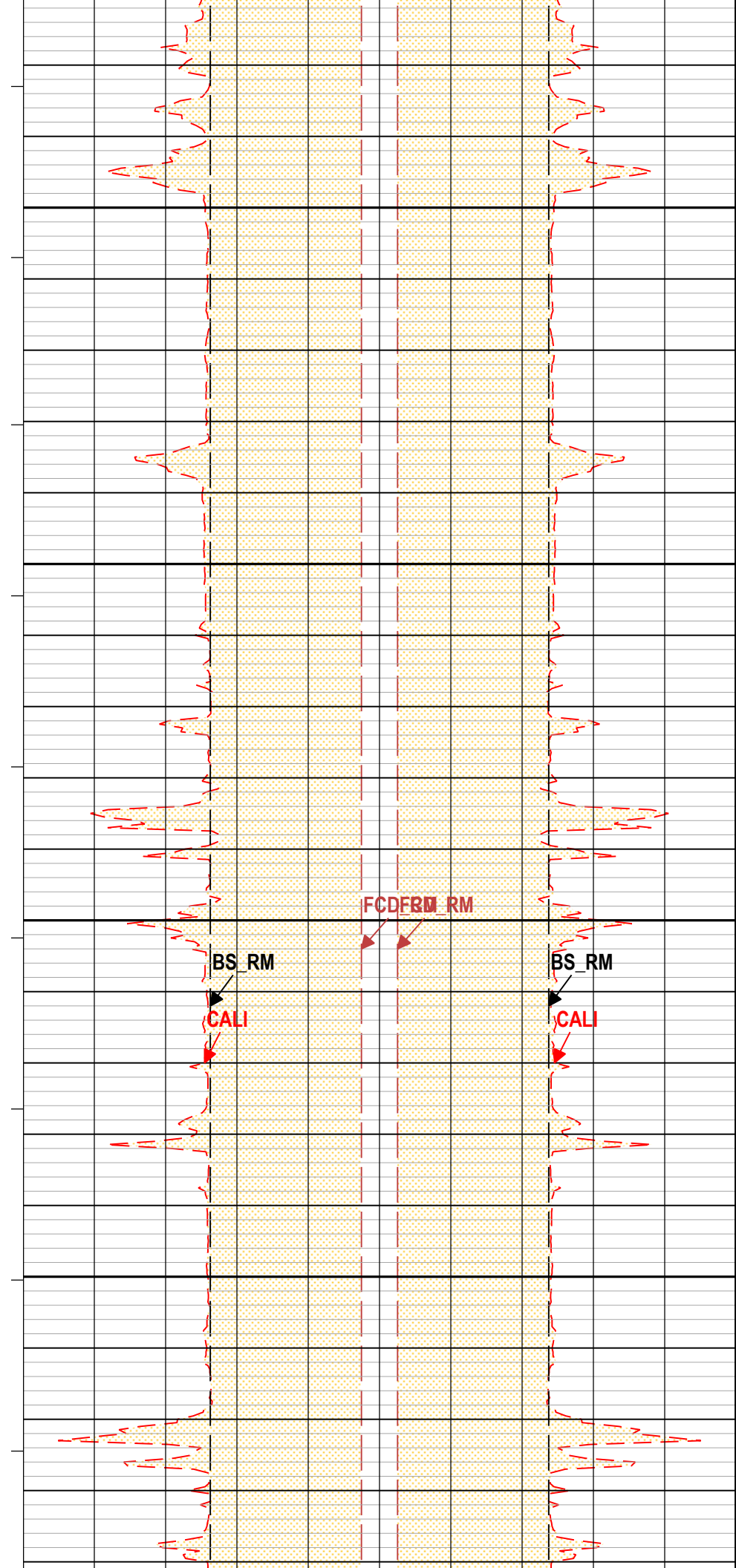
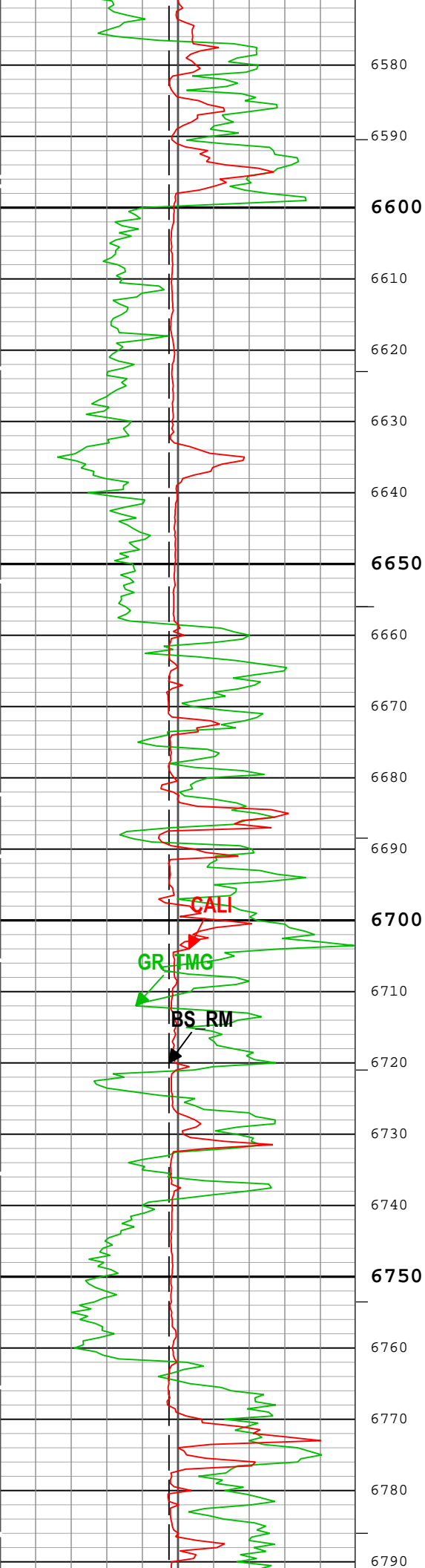


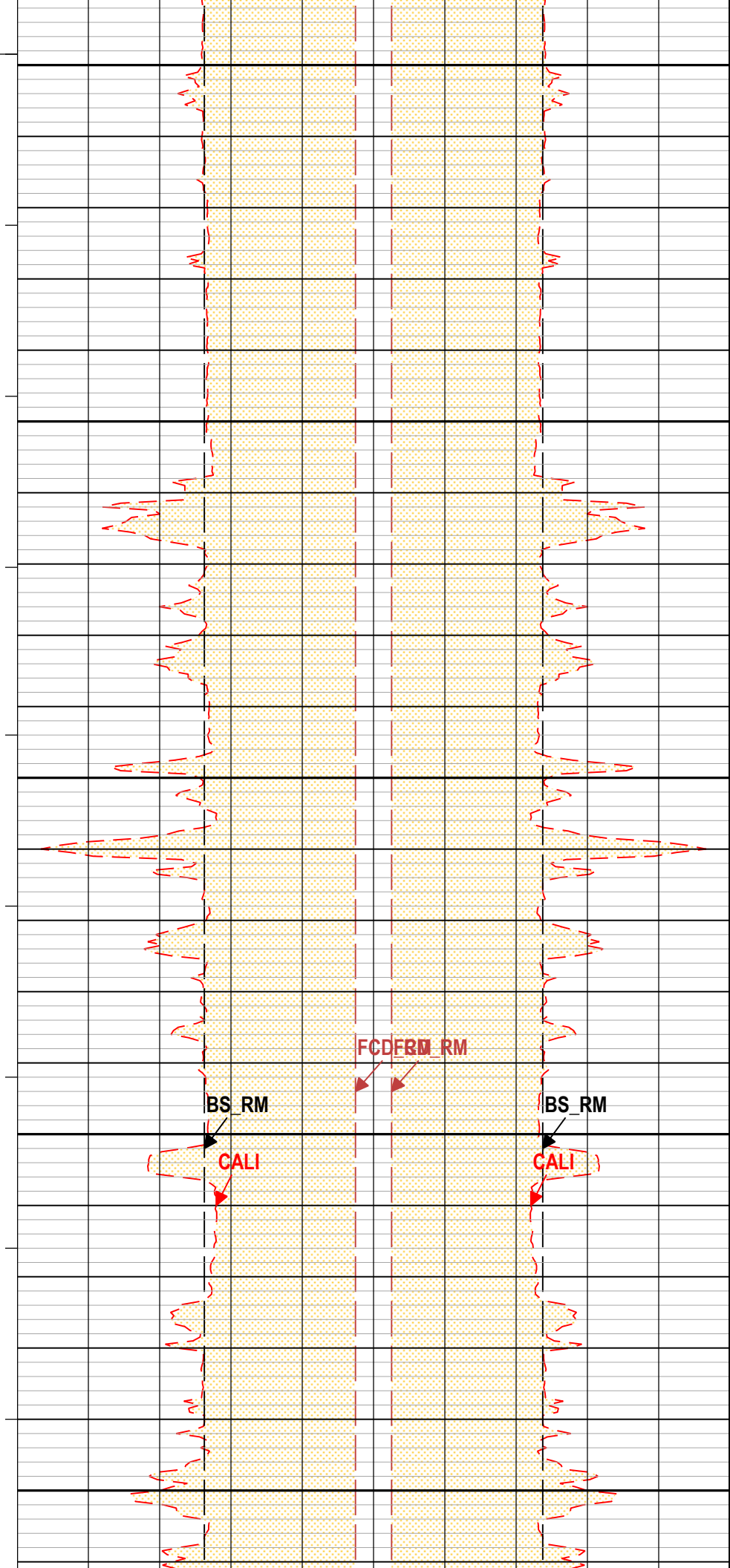
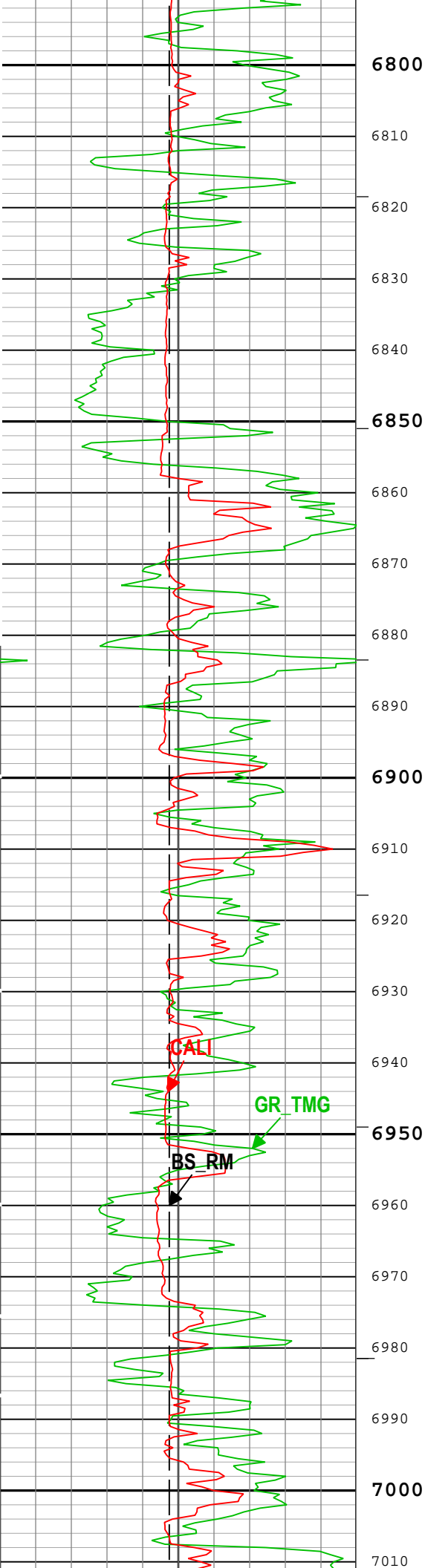


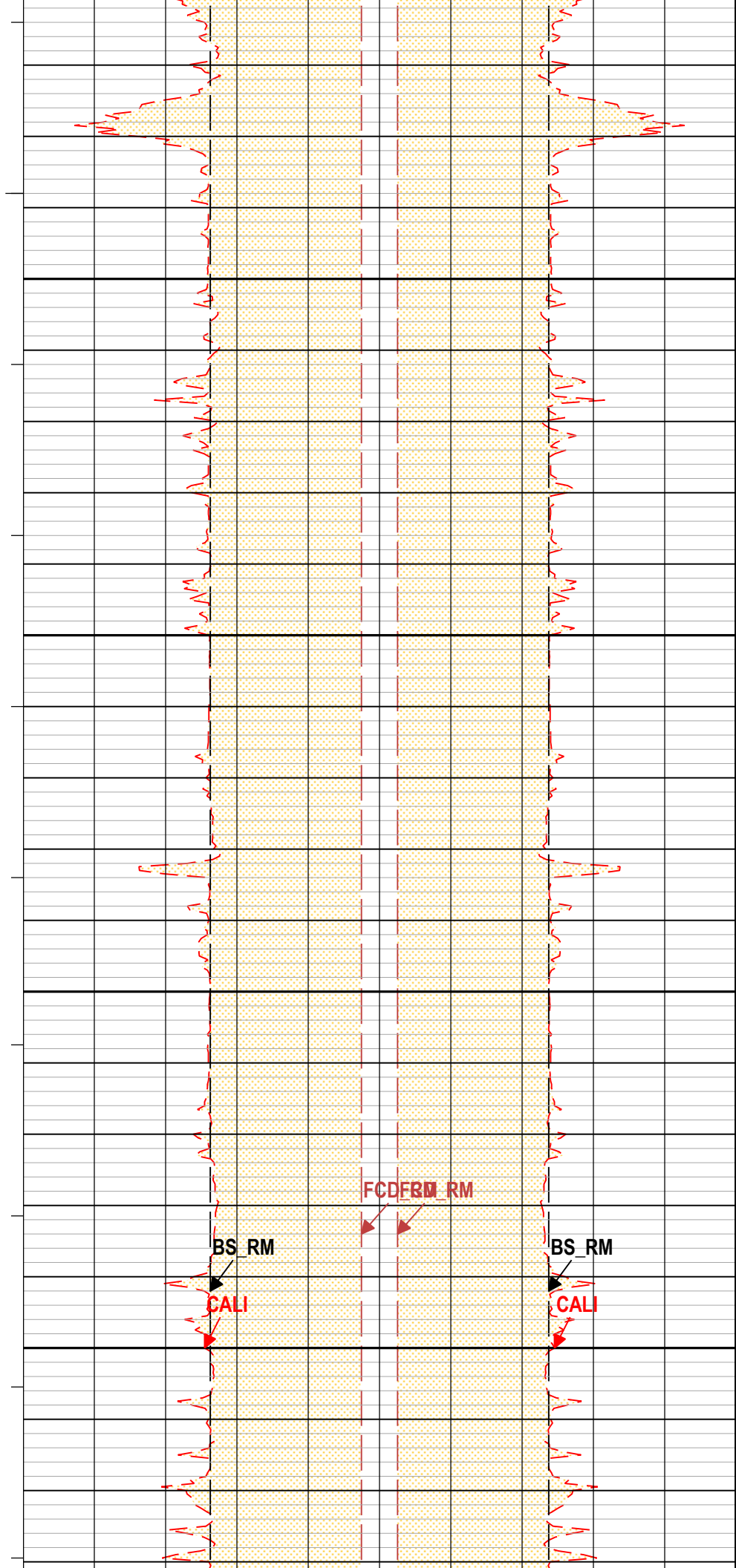
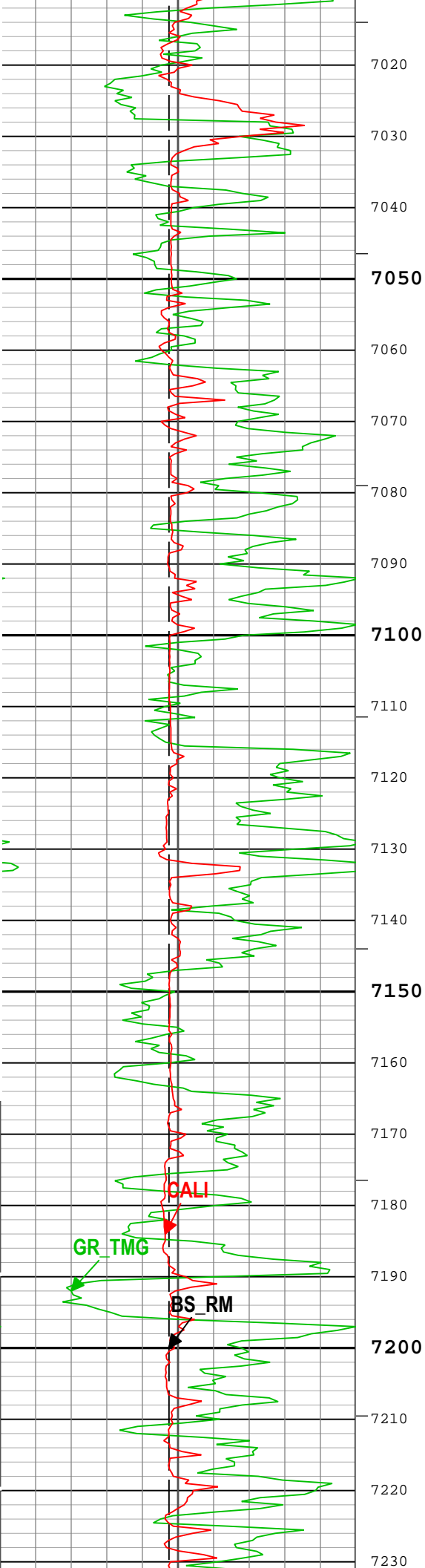


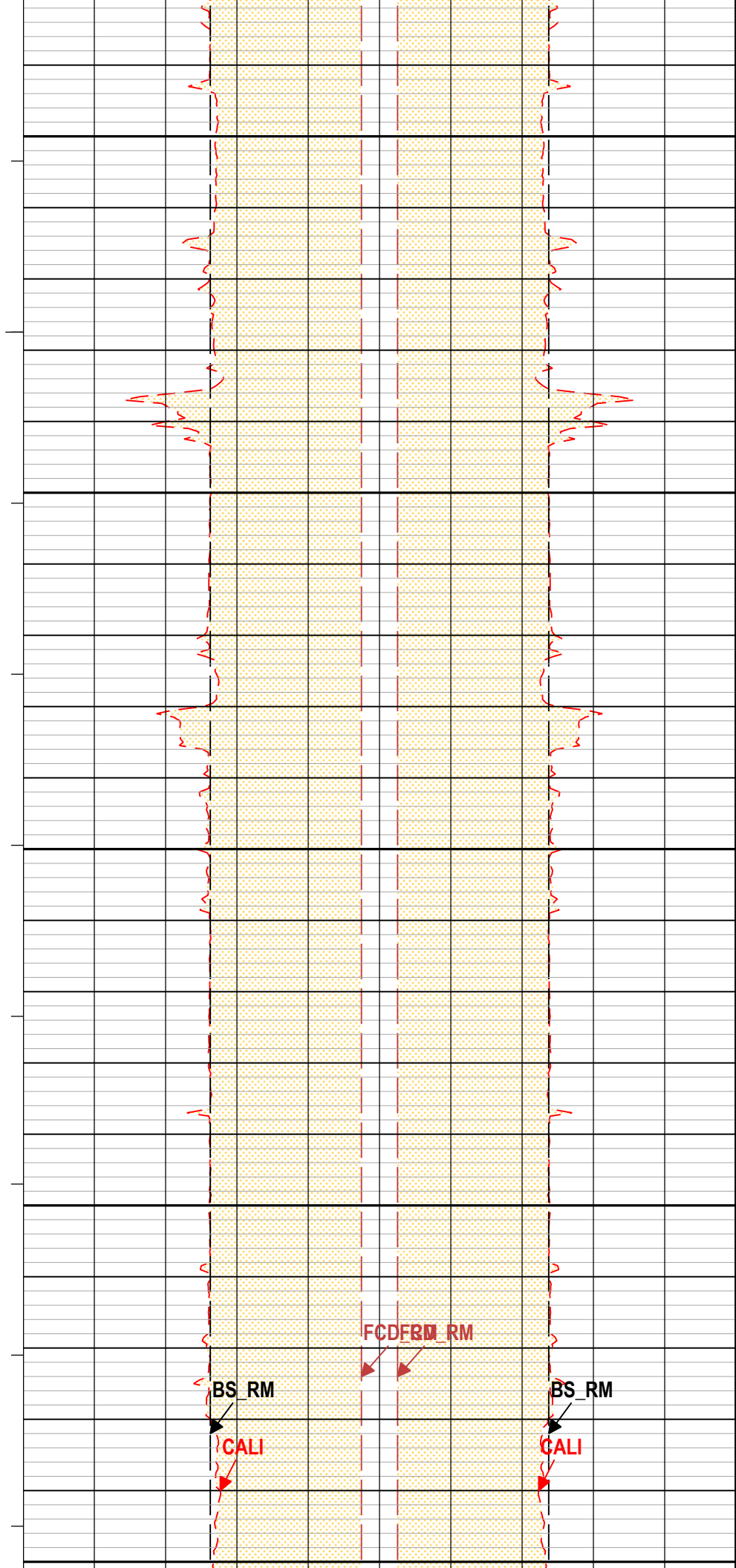
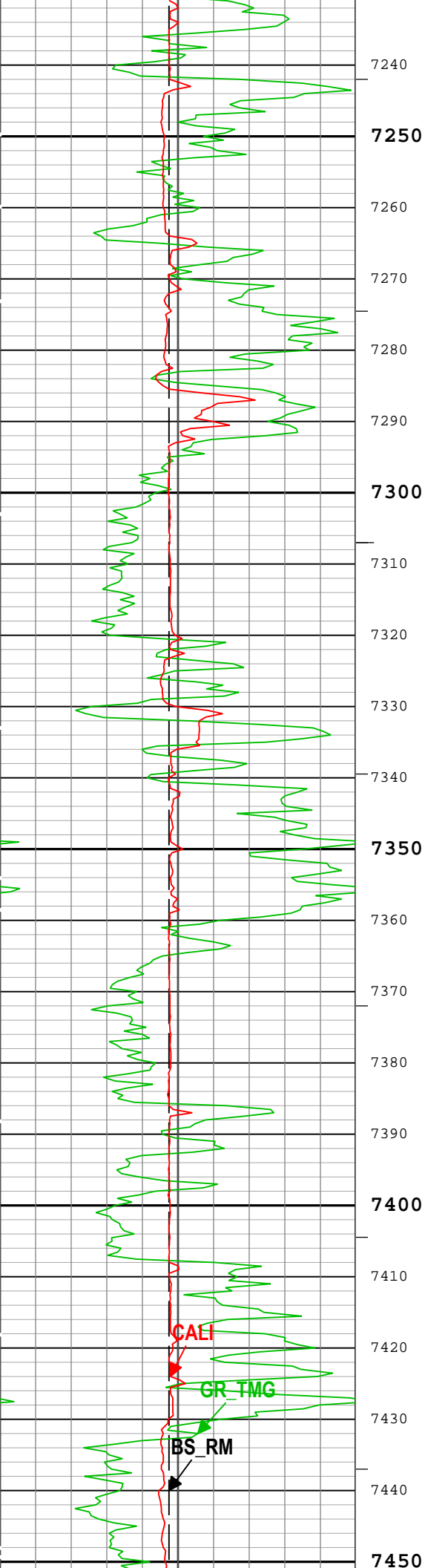


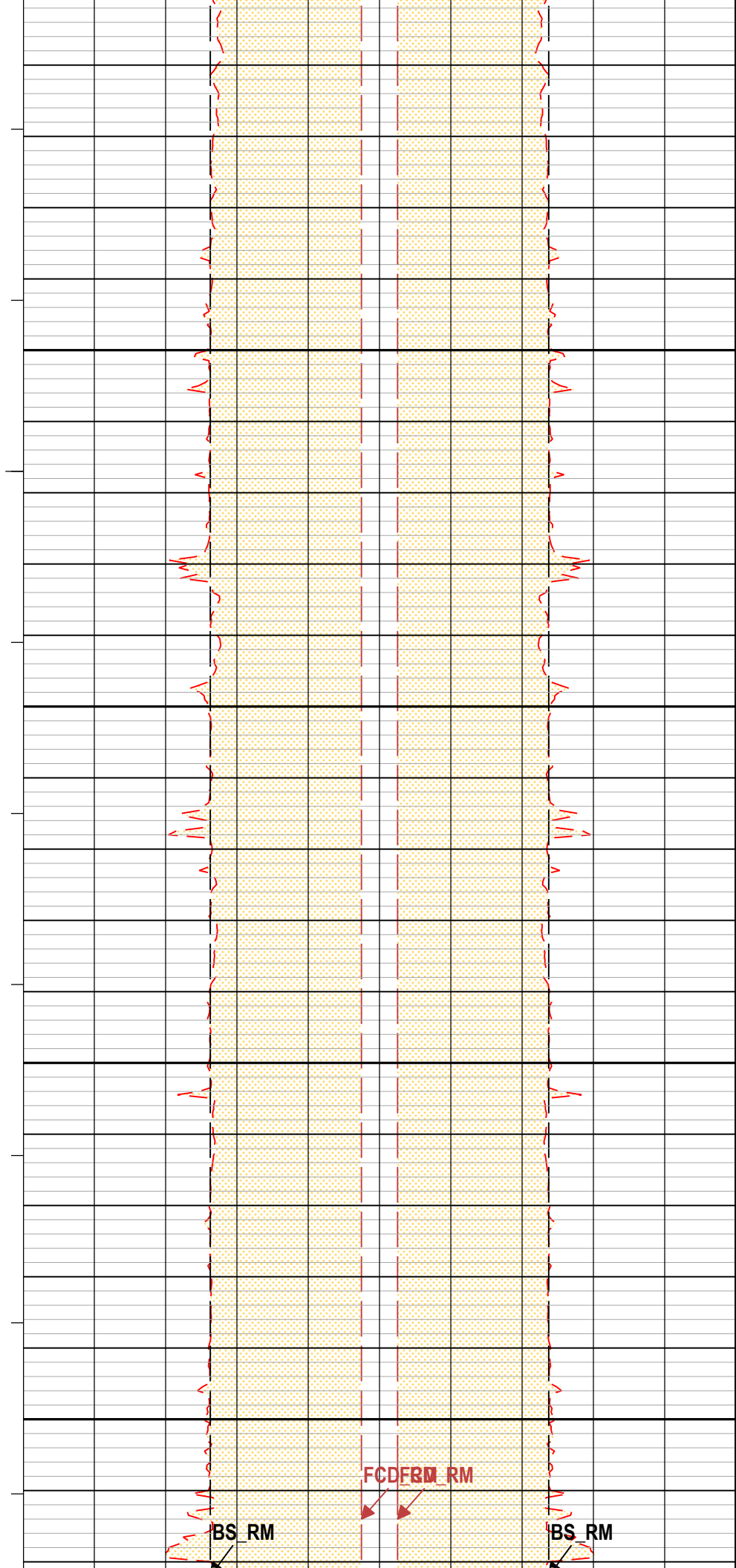
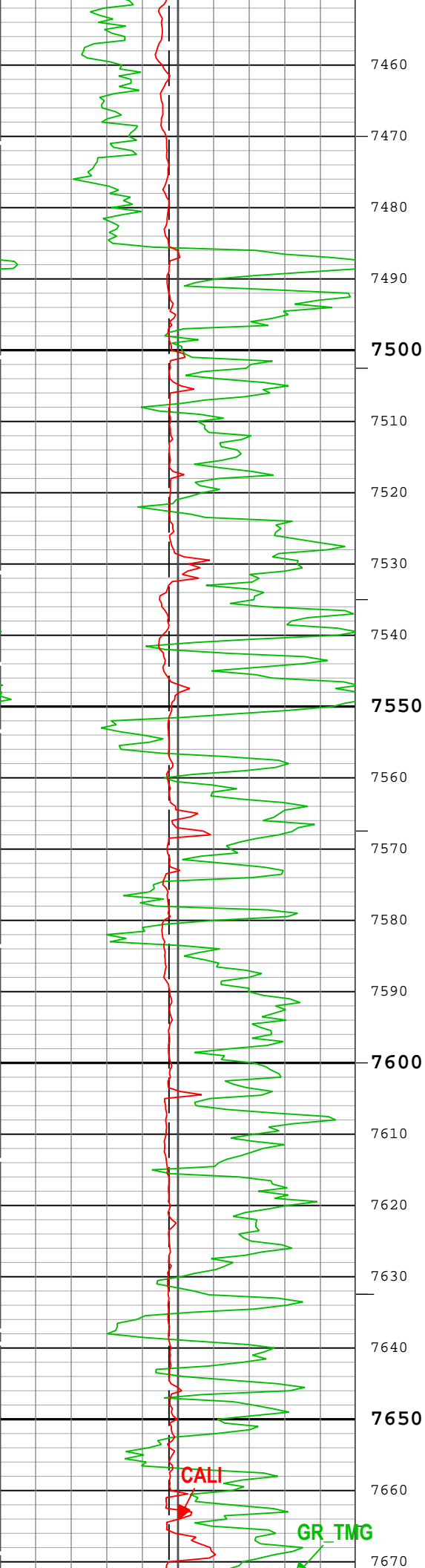


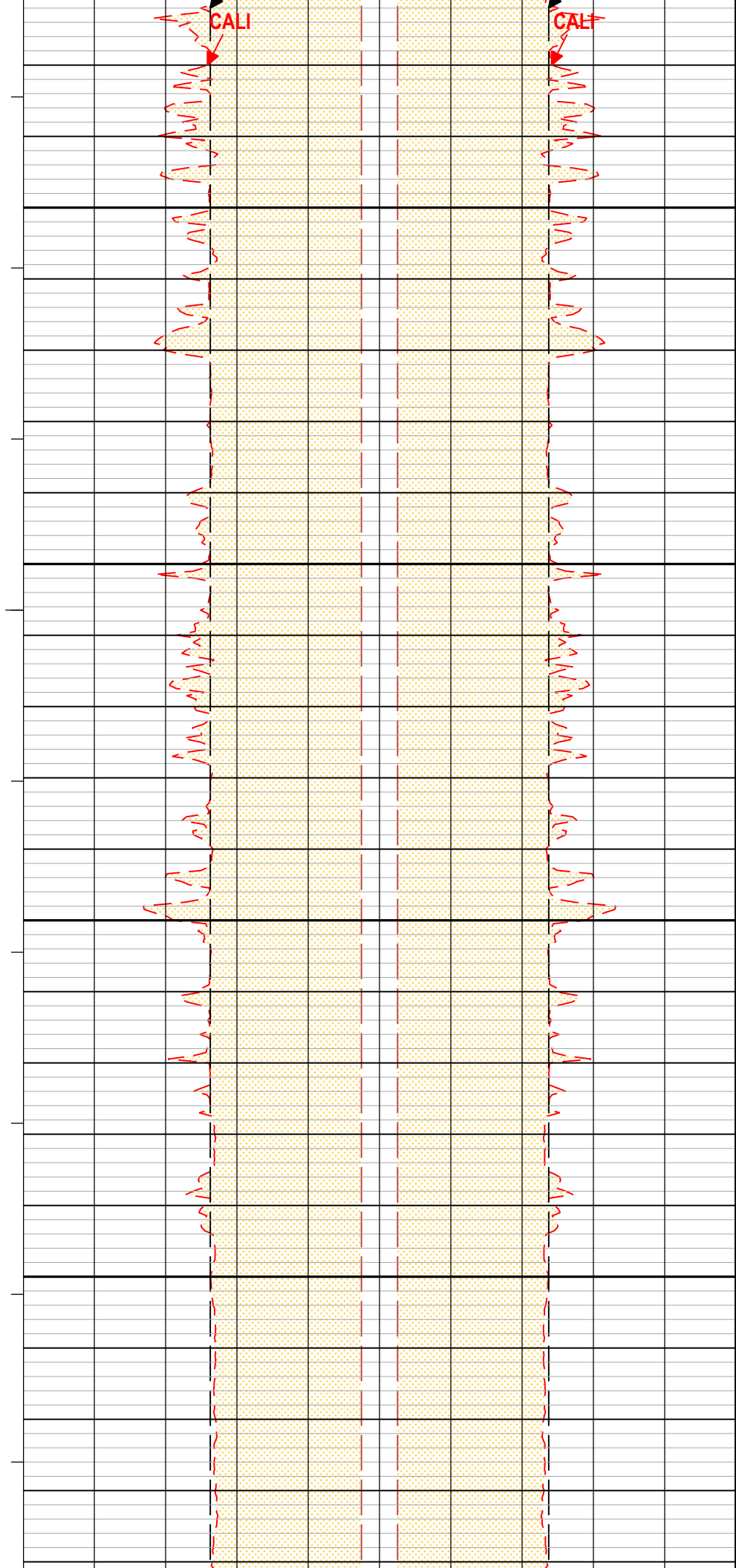
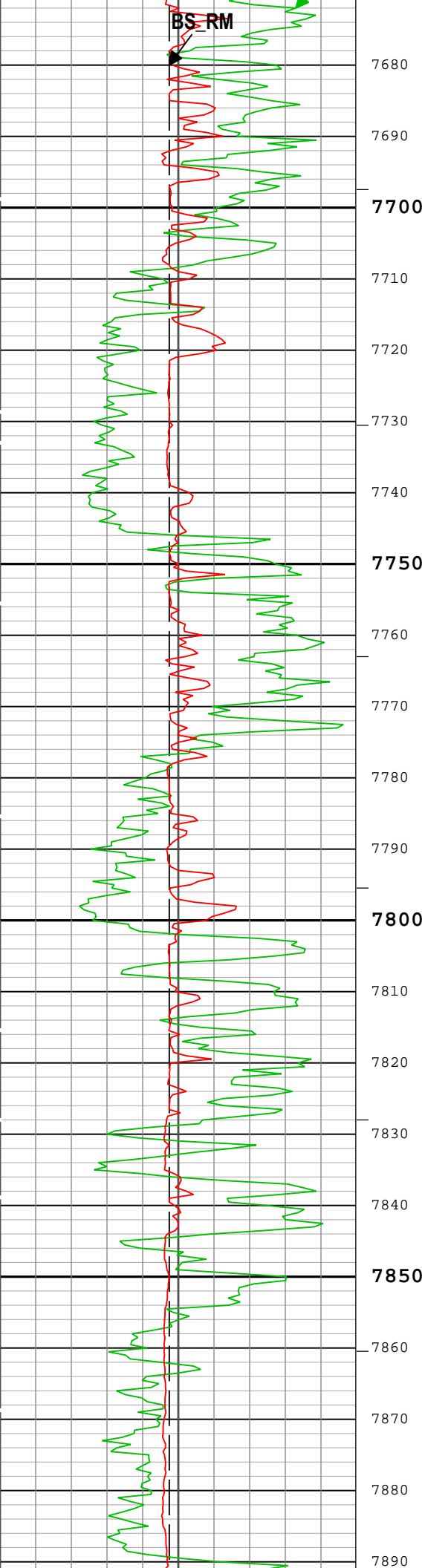


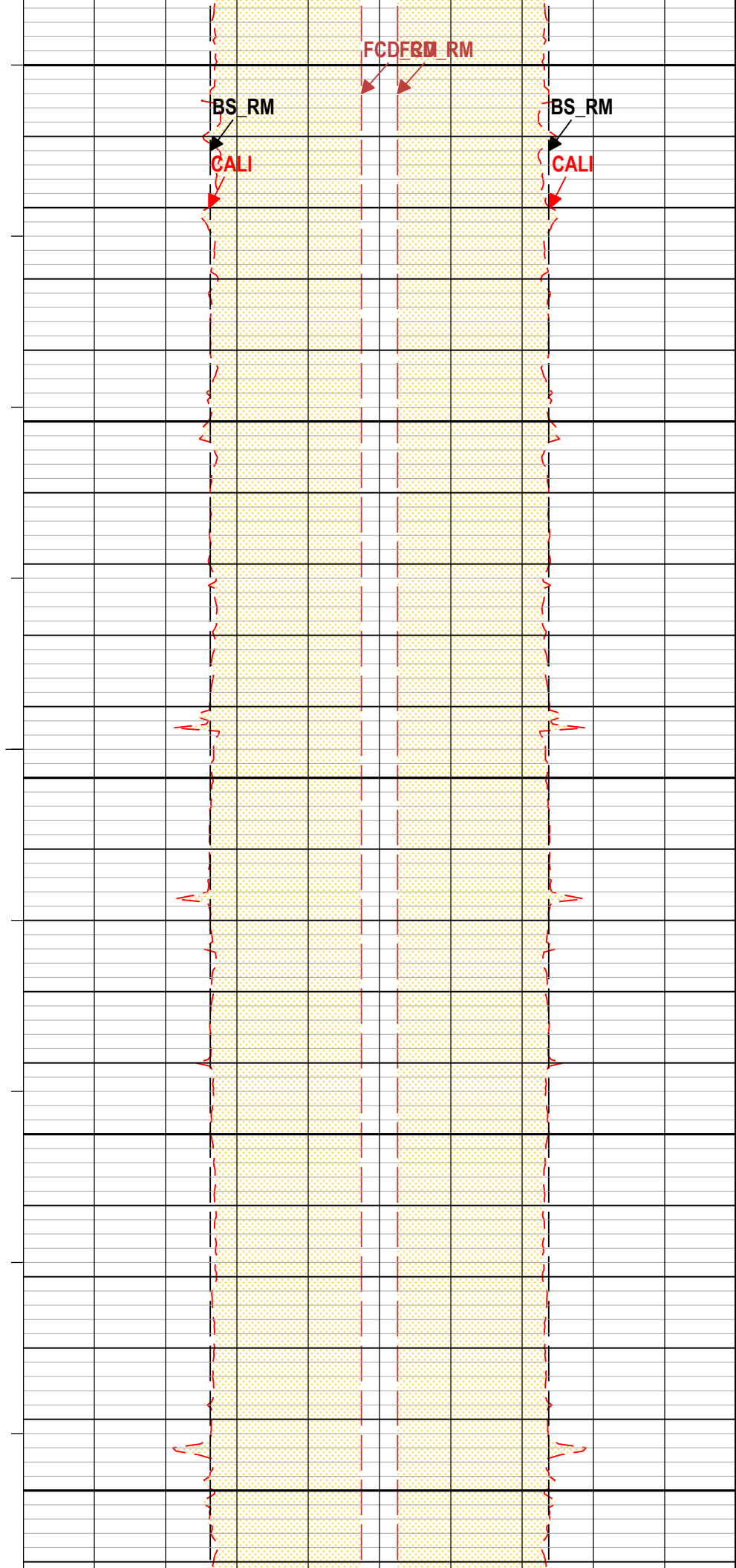
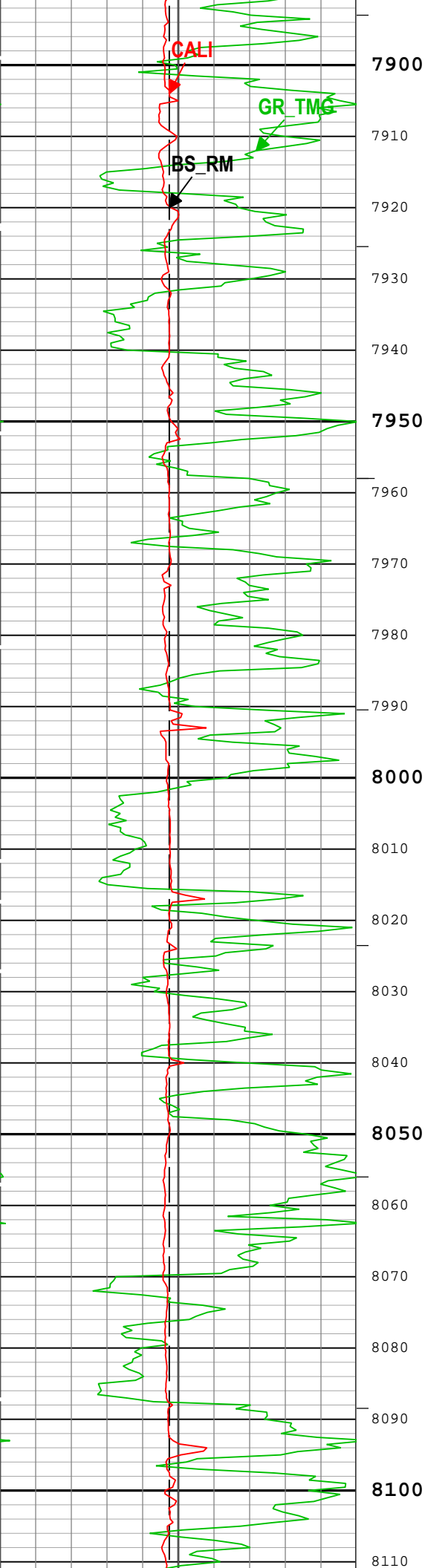


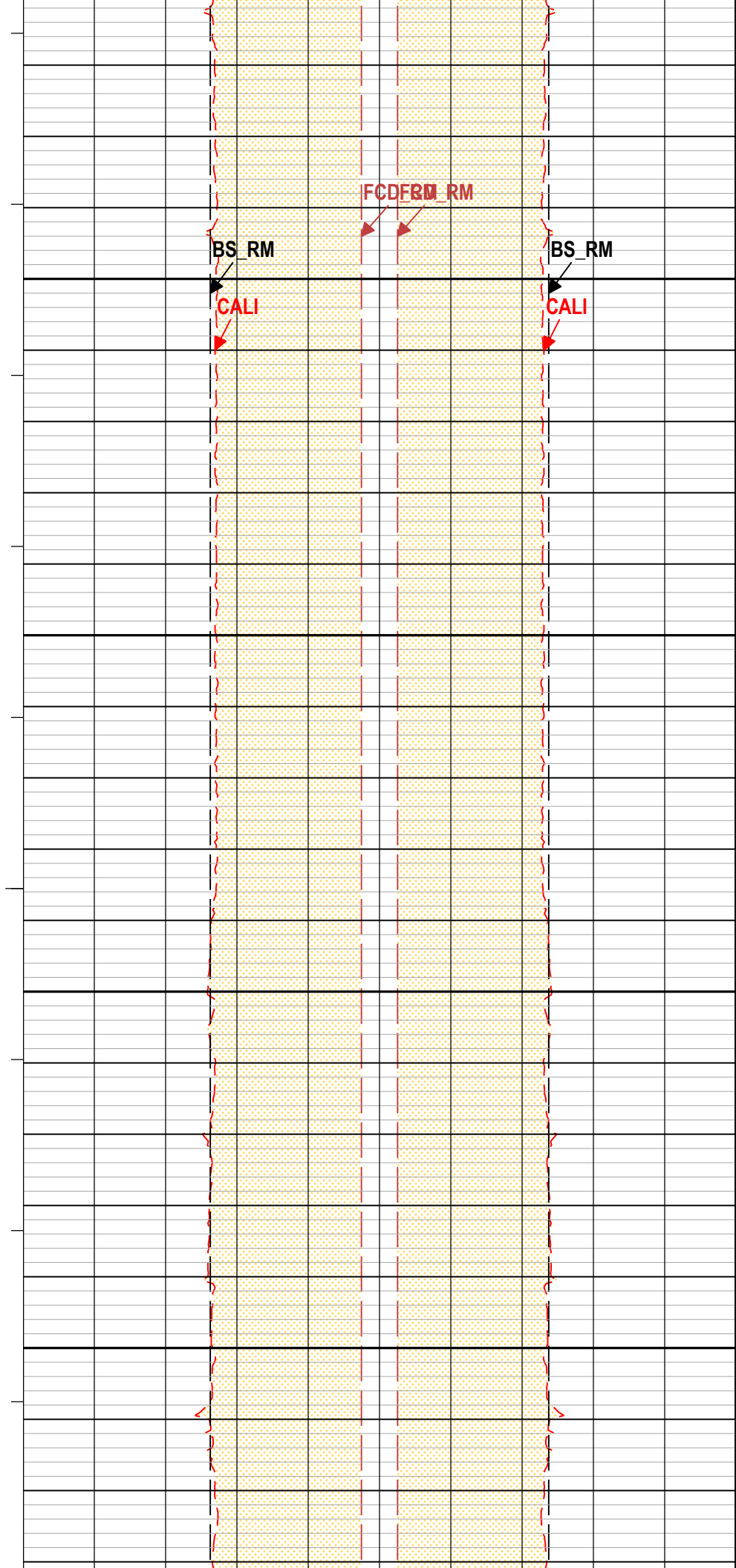
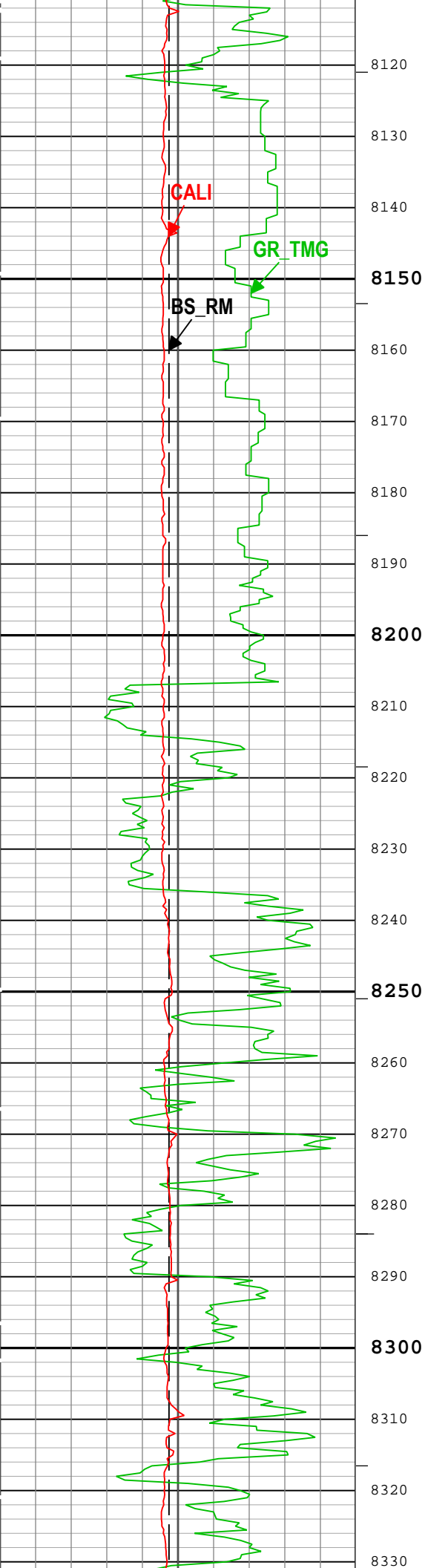


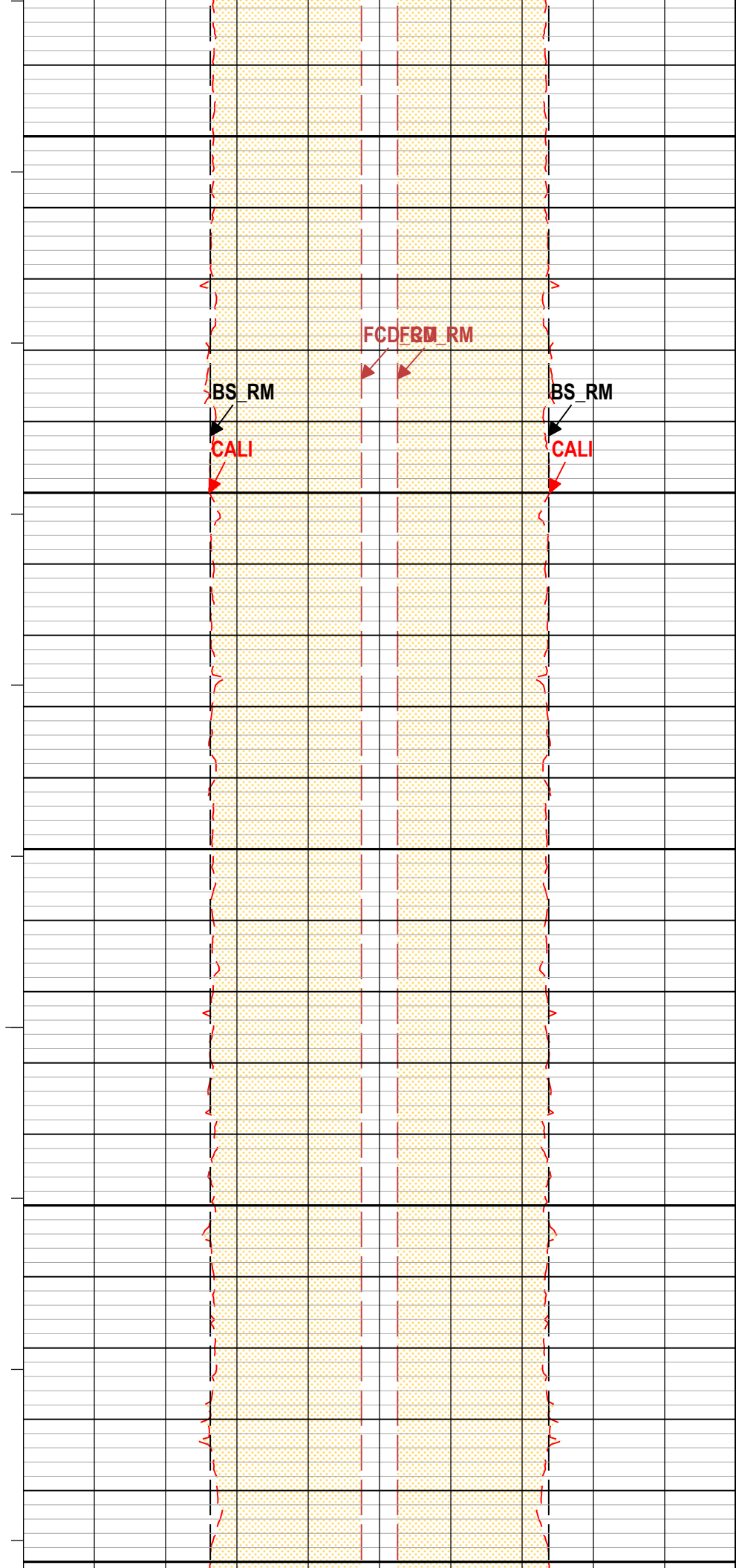
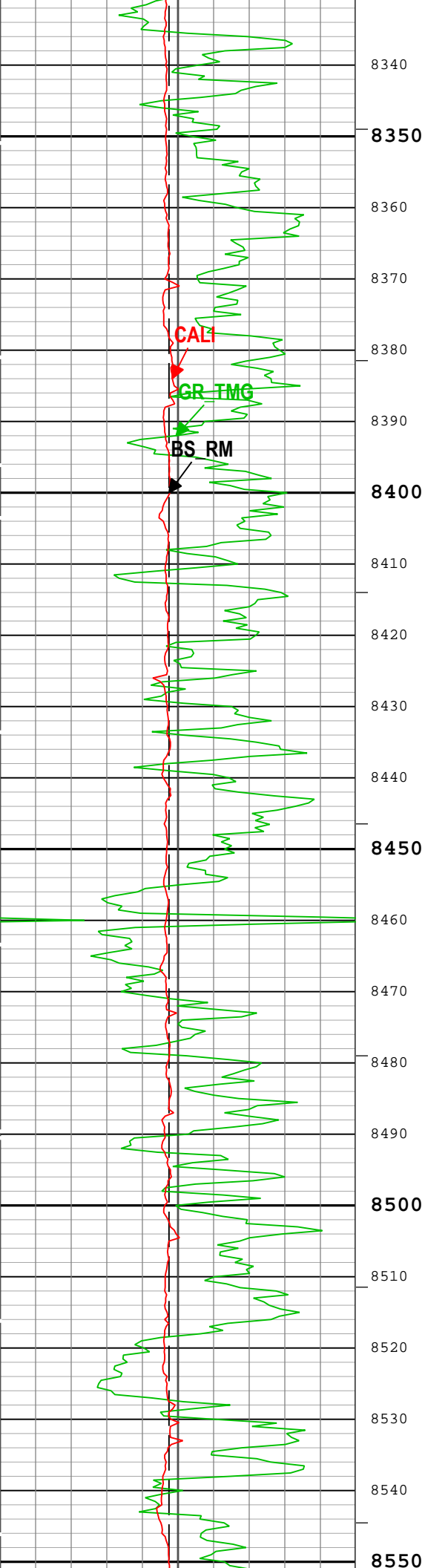


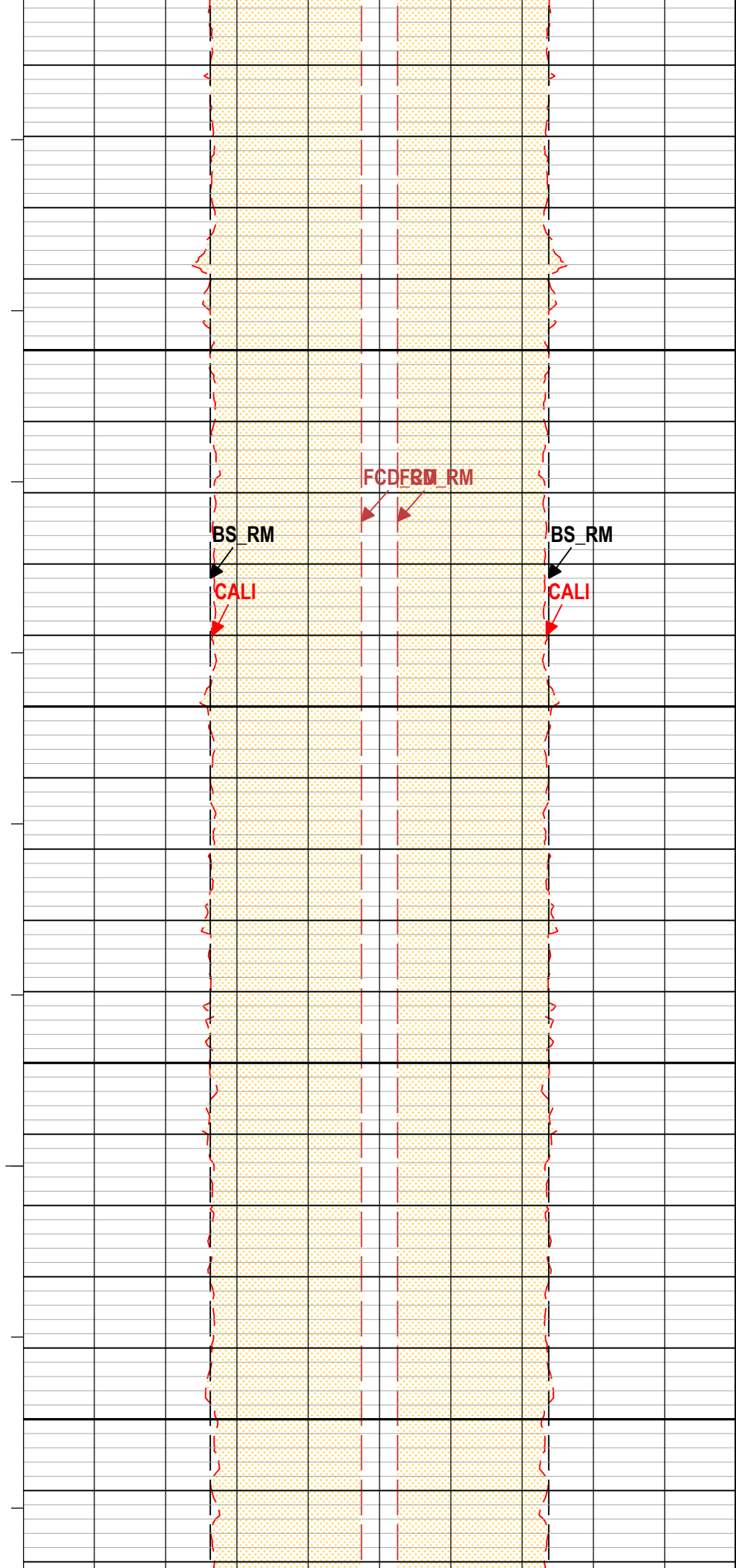
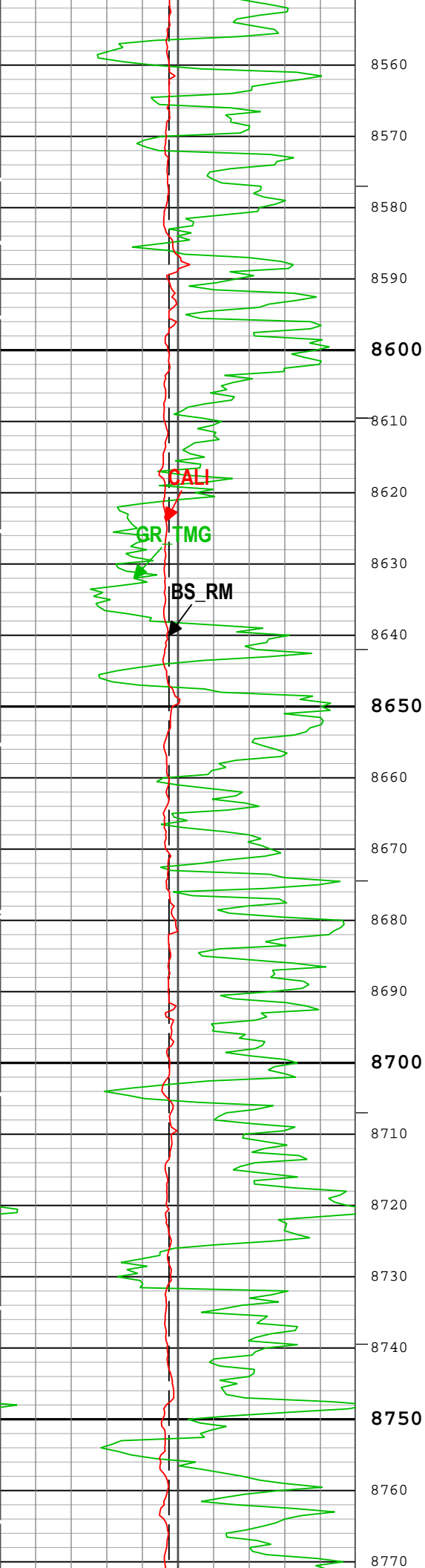


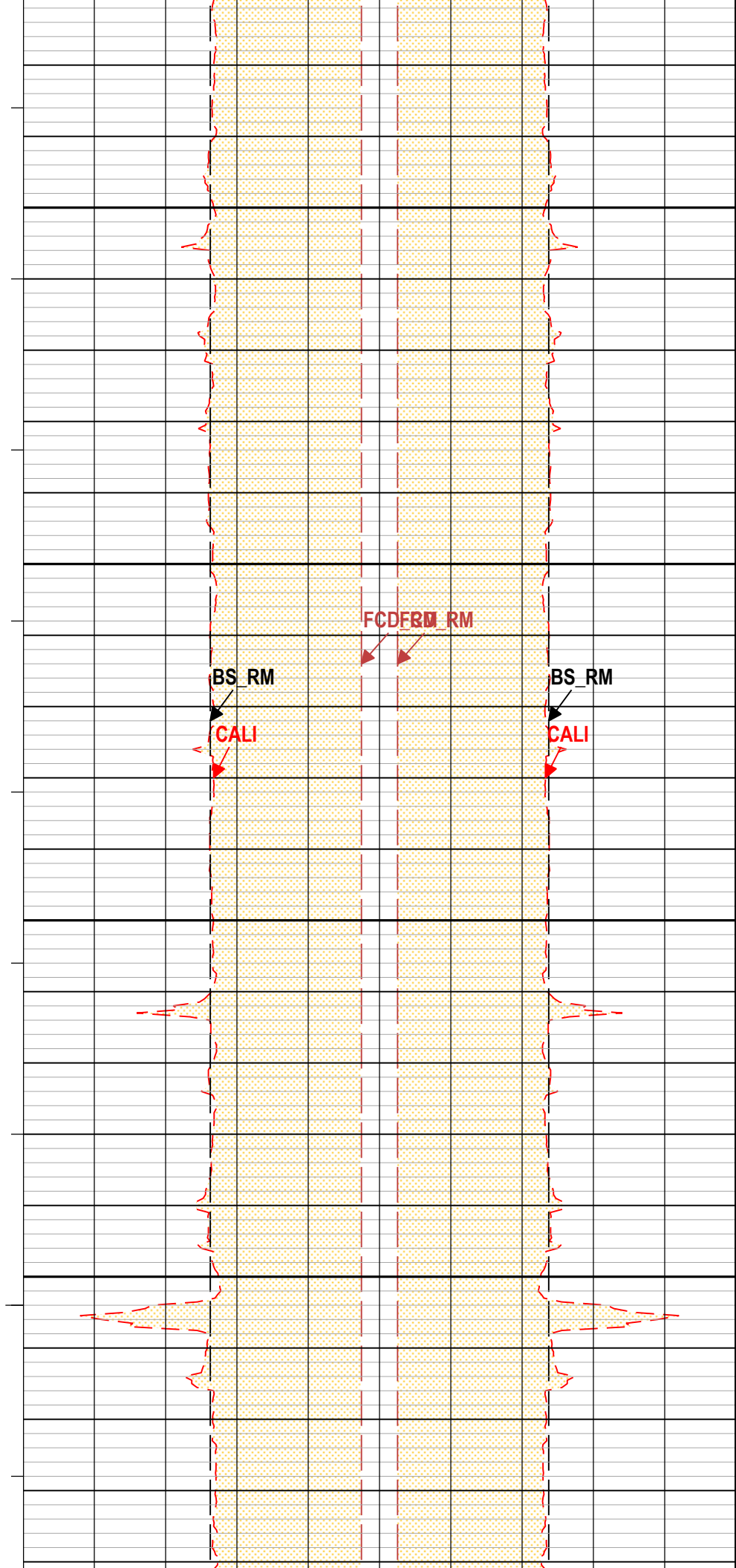
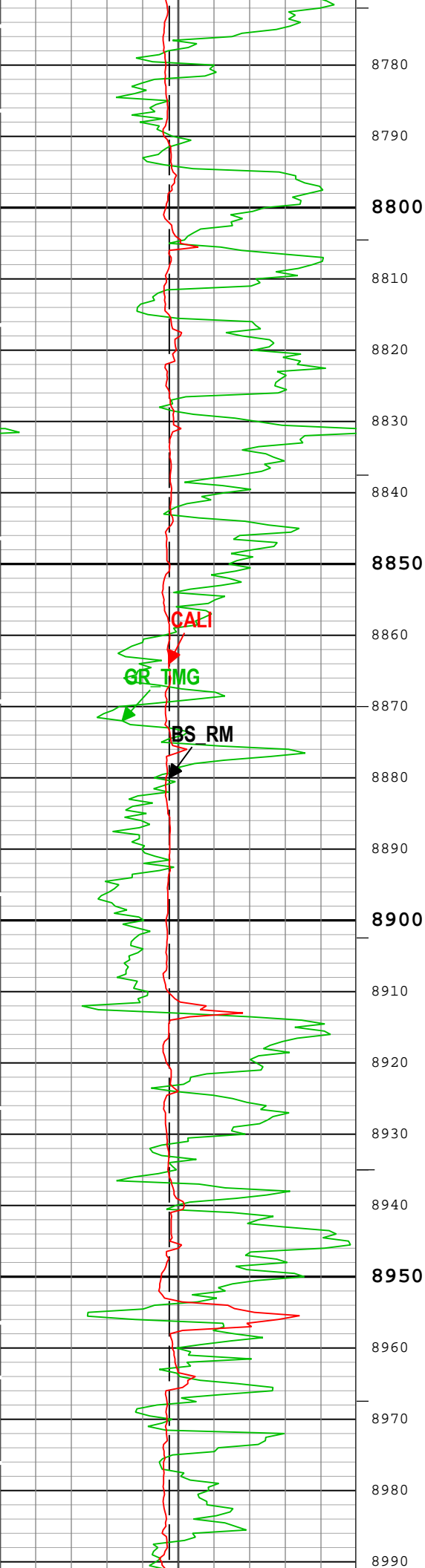


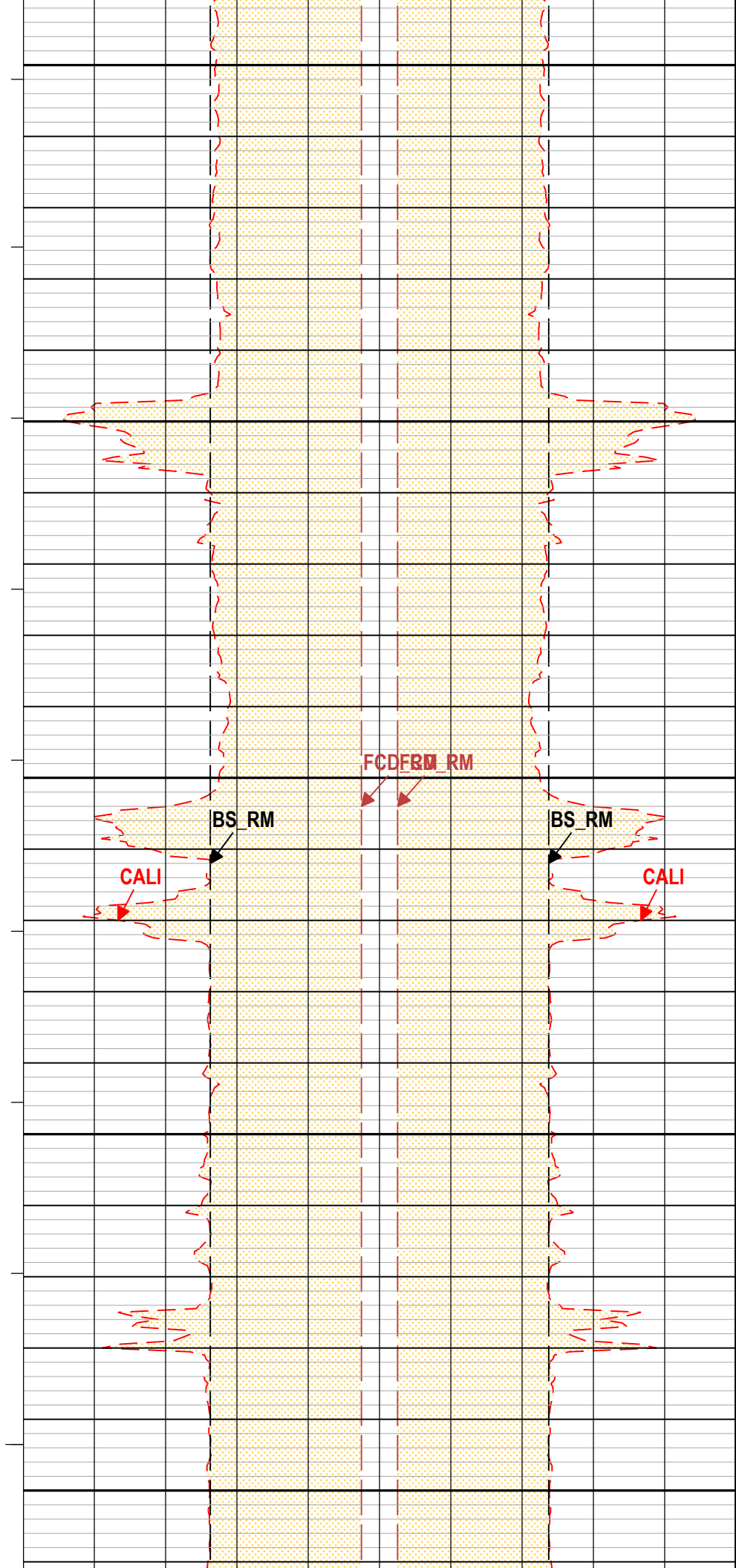
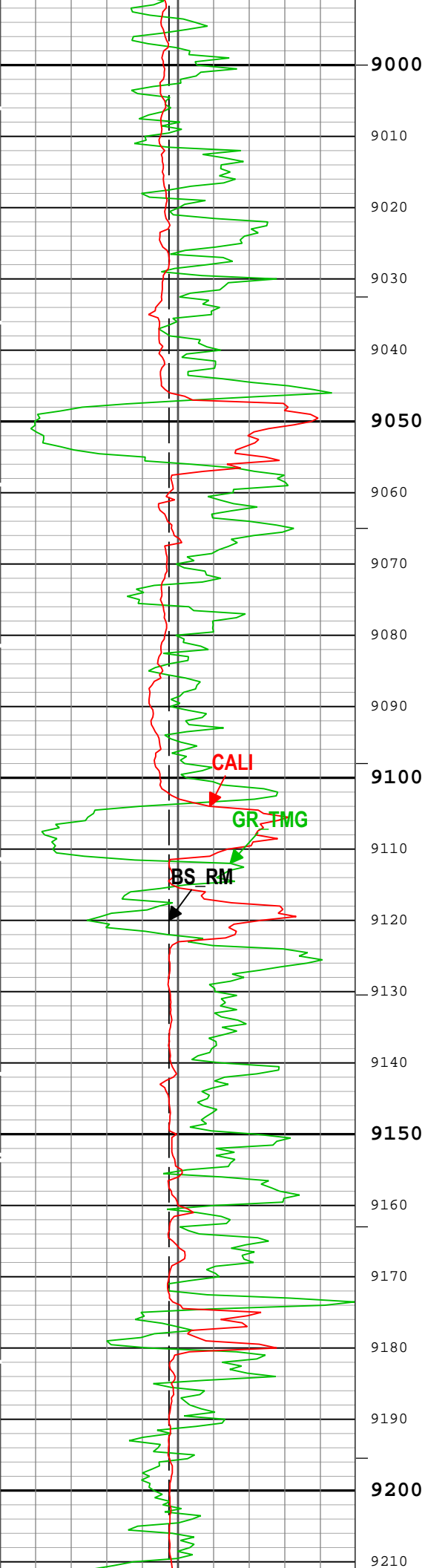


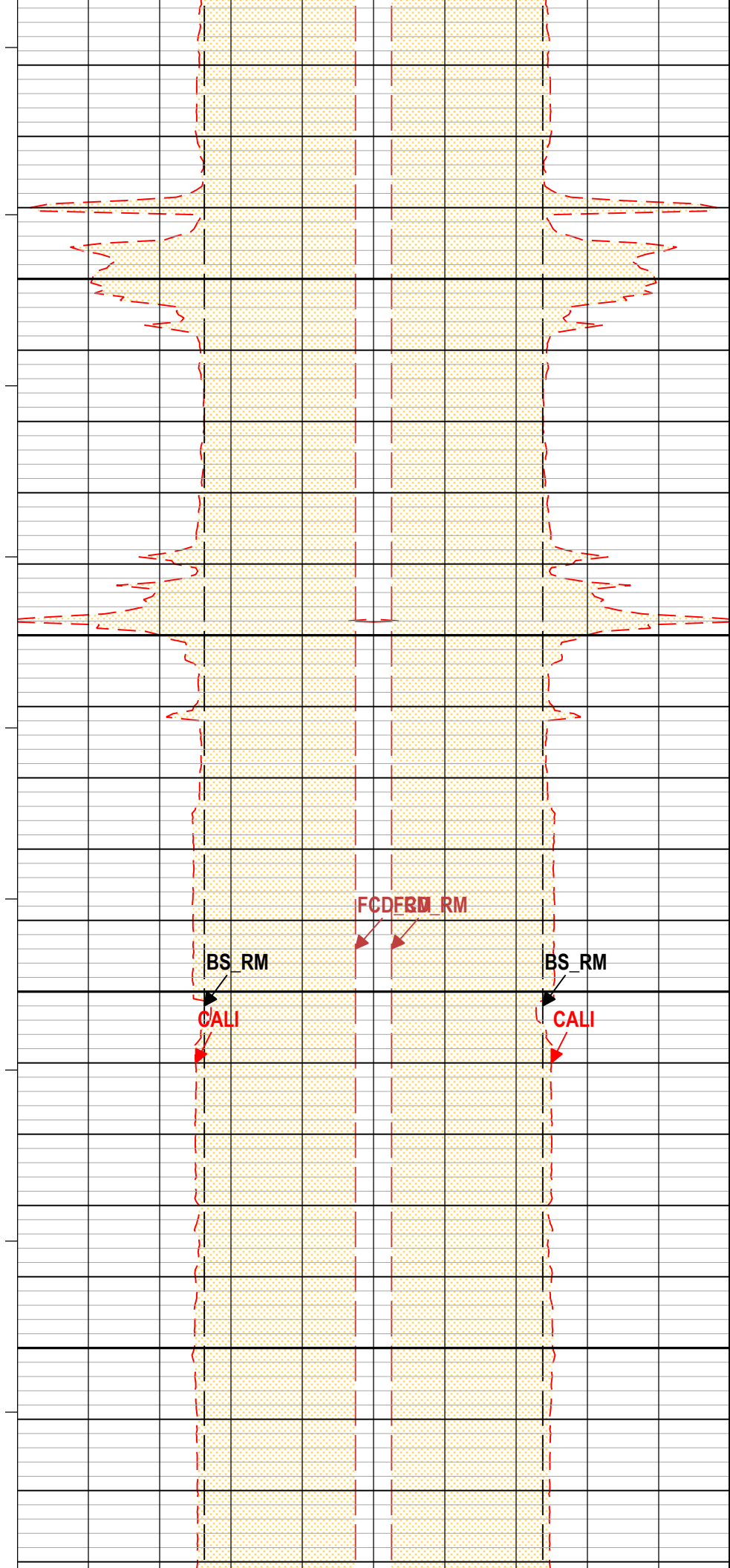
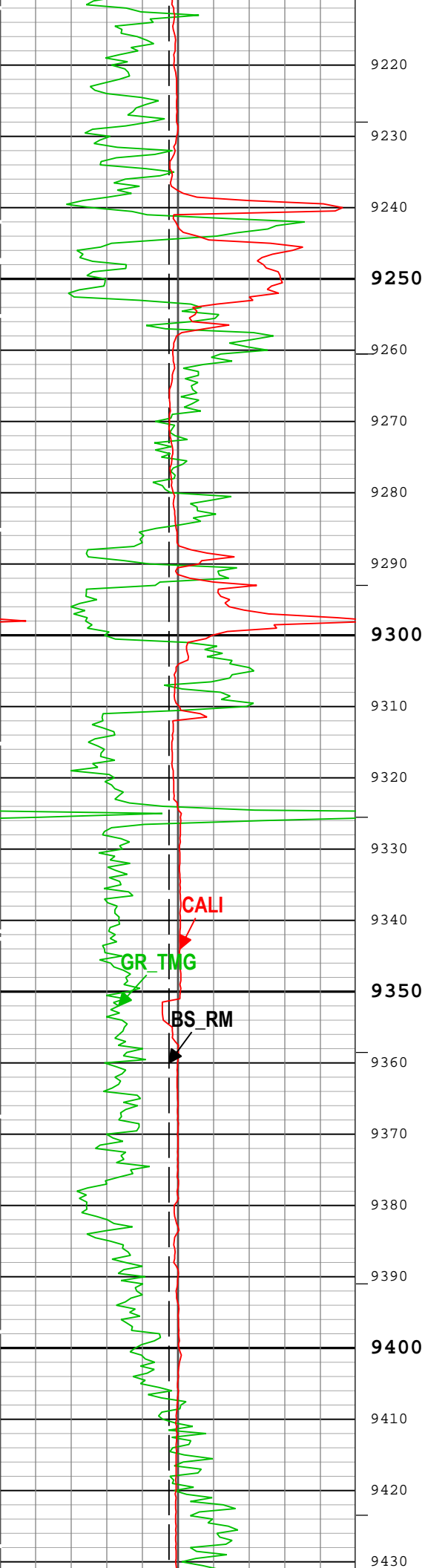


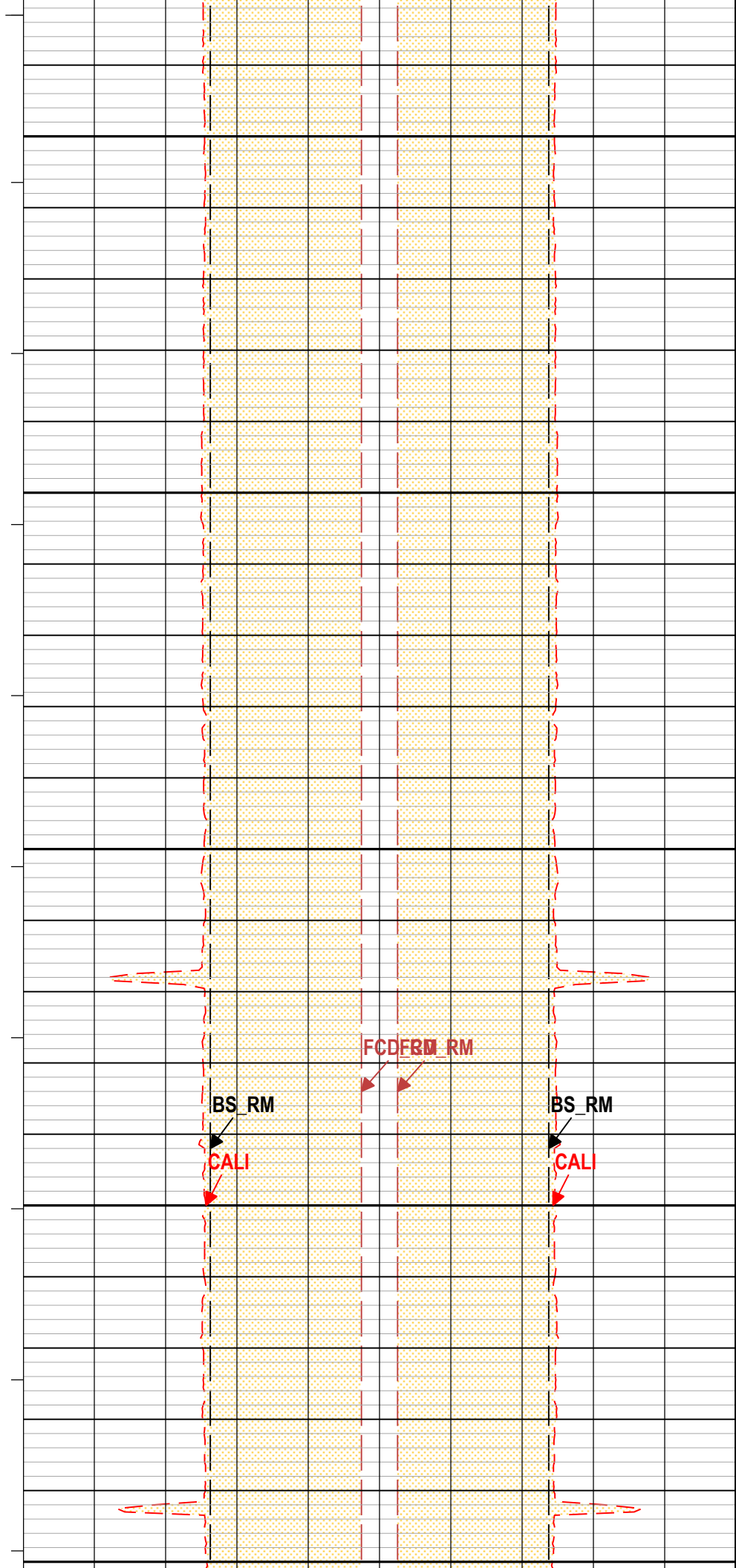
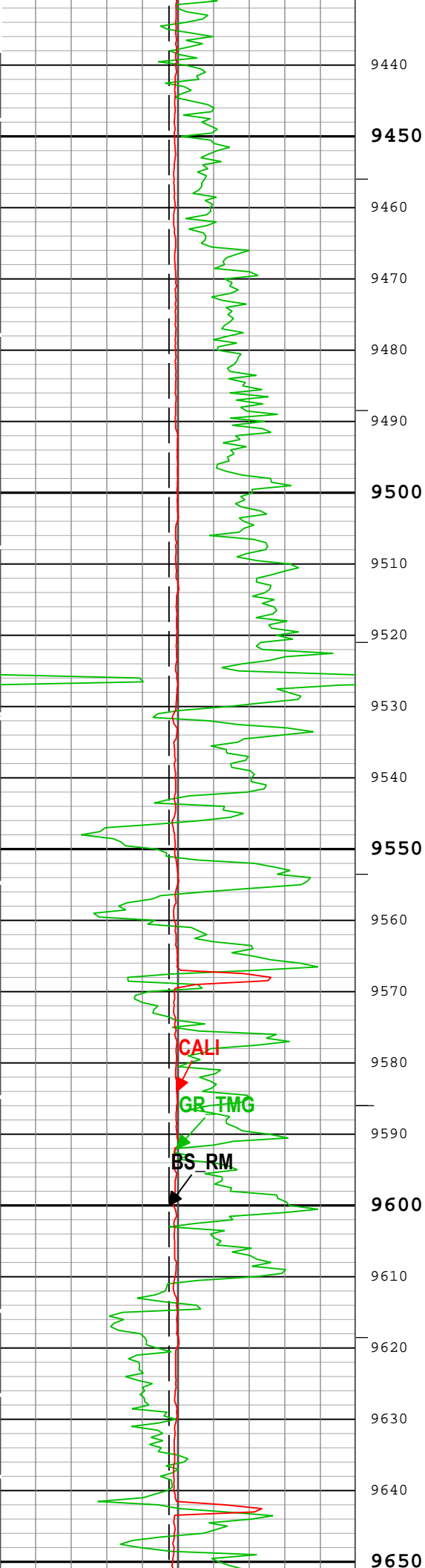


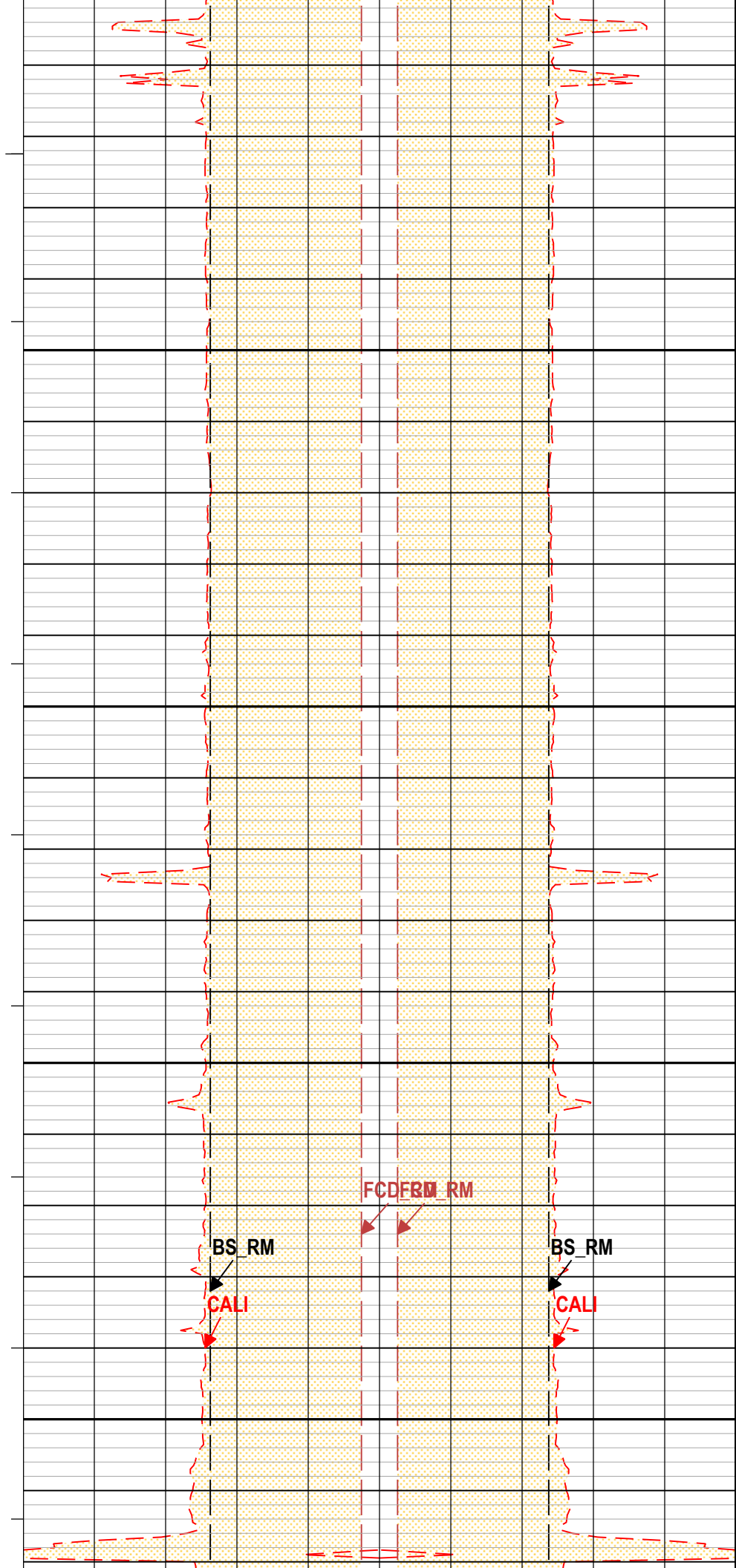
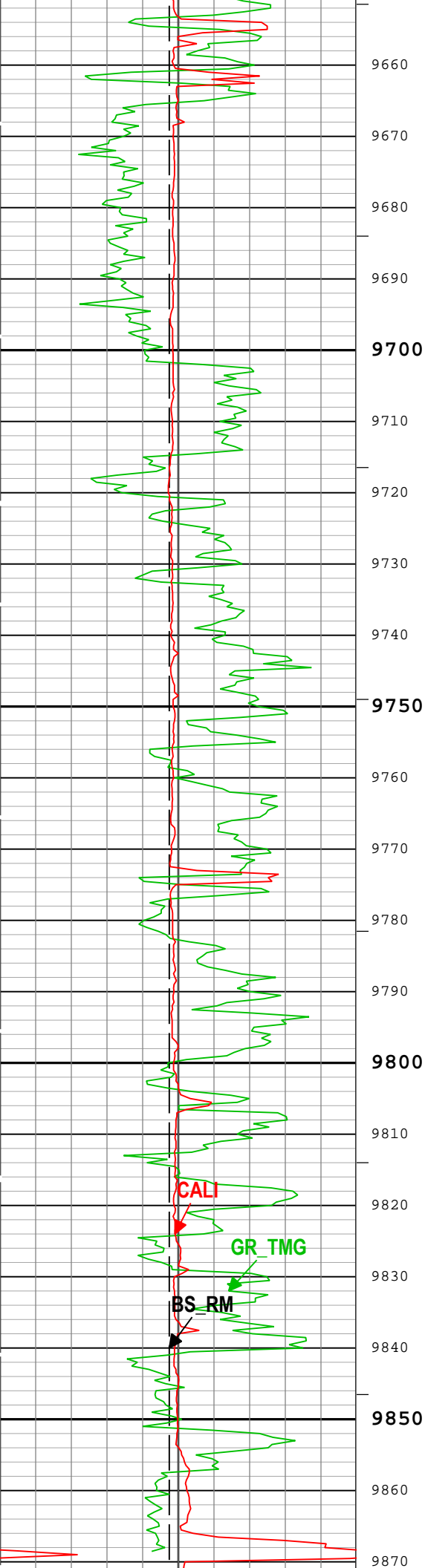


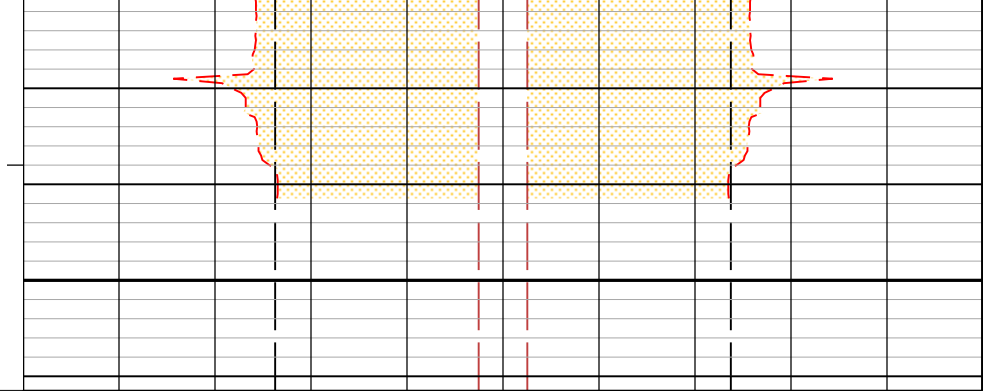
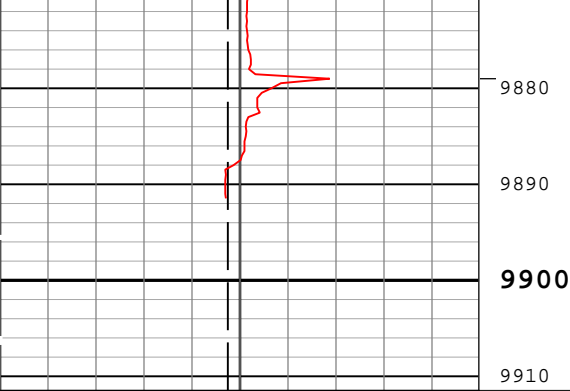












Bit Size (BS_RM) RM		
4	in	14
Calibrated Gamma Ray (GR_TMG) TMG-A RM		
0	gAPI	150
Caliper (CALI) TBD-B RM		
4	in	14

CEMENT			CEMENT		
Caliper (CALI) TBD-B RM			Caliper (CALI) TBD-B RM		
14	in	4	4	in	14
Bit Size (BS_RM) RM			Bit Size (BS_RM) RM		
14	in	4	4	in	14
Future Casing Diameter (FCD_RM) RM			Future Casing Diameter (FCD_RM) RM		
14	in	4	4	in	14

- ICV_RM - Integrated Cement Volume every 100.00 (ft3)
- ICV_RM - Integrated Cement Volume every 10.00 (ft3)
- IHV_RM - Integrated Hole Volume every 100.00 (ft3)
- IHV_RM - Integrated Hole Volume every 10.00 (ft3)

TIME_1900 - Time Marked every 60.00 (s)

Description: ThruBit_TB LA_RESISTIVITY_RM Format: Log (ThruBit_Caliper) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth
Creation Date: 21-May-2019 17:07:50

Channel Processing Parameters

ThruBit: Parameters

Parameter	Description	Tool	Value	Unit
BHS	Borehole Status (Open or Cased Hole)	Borehole	Open	
BS	Bit Size	WLSESSION	Depth Zoned	in
CALI_SHIFT	CALI Supplementary Offset	TBD-B	-0.379	in
CBLO	Casing Bottom (Logger)	WLSESSION	2568	ft
CSODDRL	Casing Outer Diameter - Zoned along driller depths	WLSESSION	9.625	in
FCD	Future Casing (Outer) Diameter	WLSESSION	4.5	in

Depth Zone Parameters

Parameter	Value	Start (ft)	Stop (ft)
BS	14.75	2550	2578
BS	8.75	2578	9911.5

All depth are actual.

Tool Control Parameters

Company:	LARAMIE ENERGY LLC	Schlumberger
Well:	CC 0697-04-08E	
Field:	GRAND VALLEY	
County:	GARFIELD	
State:	Colorado	
ThruBit Borehole		