

Company: XTO Energy, Inc.

Well: Remuda 25 Observation Well 1

Field: Remuda Basin

County: Eddy State: New Mexico

SPECTRAL DENSITY

DUAL SPACED NEUTRON

County:	Eddy				
Field:	Remuda Basin				
Location:	2107' FNL & 485' FWL				
Well:	Remuda 25 Observation Well 1				
Company:	XTO Energy, Inc.				
		Location:			
		2107' FNL & 485' FWL	Elev.:		K.B.
		Section 25, Township 23 S, Range 29 E	G.L.		3064.00 ft
		Survey Mark Dillon Harp	D.F.		3070.00 ft
		Permanent Datum:	Ground Level	Elev.:	3064.00 f
		Log Measured From:	Ground Level	0.00 ft	above Perm.Datum
		Drilling Measured From:	Ground Level		
		API Serial No.	Section:	Township:	Range:
		30-015-45751	25	23 S	29 E

Logging Date	12-Mar-2019				
Run Number	1A				
Depth Driller	1000.00 ft				
Schlumberger Depth	1000.00 ft				
Bottom Log Interval	1000.00 ft				
Top Log Interval	1.00 ft				
Casing Driller Size @ Depth	7 in @ 321.00 ft				
Casing Schlumberger	321 ft				
Bit Size	5.125 in				
Type Fluid In Hole	Salt Brine				
Dens	Density	10.4 lbm/gal	44 s		
	Fluid Loss	PH	8		
Mud	Source of Sample				
RM @ Meas Temp	0.07 ohm.m @ 68 degF				
RMF @ Meas Temp	0.06 ohm.m @ 68 degF				
RMC @ Meas Temp	0.1 ohm.m @ 68 degF				
Source RMF	RMC	Calculated	Calculated		
RM @ BHT	RMF @ BHT	0.06 @ 74	0.06 @ 74		
Max Recorded Temperatures			74 degF		
Circulation Stopped		Time	12-Mar-2019	04:00:00	
Logger on Bottom		Time	12-Mar-2019	09:00:00	
Unit Number	Location:	9104	Midland		
Recorded By		Brenton Atkinson			
Witnessed By		Hannah Kadir			

Disclaimer

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Remarks and Equipment Summary

1A: Toolstring				1A: Remarks
Equip name	Length	MP name	Offset	Logging objectives: Well evaluation. All tools ran as per tool sketch. All logs affected by borehole conditions. Your crew today has been Brenton, Hector, Adrian and Carlos. Thankyou for choosing Schlumberger ThruBit/ ThruBit level 1 Real time log on Wireline cable. Third Party Gyro ran for Imager/Sonic processing.
PEH-EFA	55.99			
AH-317-TB	53.63			
TBCCL-A	52.57			
TMG-A:102	50.86	CCL	50.86	
TMG-A:102		Gamma-Ray	50.06	
TILE-AB	44.73	Status	44.73	
TBN-B:66	40.23			
TBN-B:66		Neutron Porosity	37.92	
TBLA-A:20	35.46			
TBLA-A:20		Laterolog	23.26	



Depth Summary

	1A		
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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	2950		
Calibration Date	06-Mar-2019		
Calibrator Serial Number	1113		
Number of Calibration Points	10		
Calibration Root Mean Square Error	18		
Calibration Peak Error	34		

Logging Cable

Type	7-46P-XS		
Serial Number			

Serial Number	
Length	24000.00 ft
Conveyance Type	Wireline
Rig Type	Land

1A:Depth Control Parameters		Depth Control Remarks
Log Sequence	First Log In the Well	First run
Rig Up Length At Surface		
Rig Up Length At Bottom		
Rig Up Length Correction		
Stretch Correction	0.00 ft	
Tool Zero Check At Surface		

1A

POROSITY 5 INCH

Software Version

Acquisition System	Version
Maxwell 2018 SP1	8.1.99839.3100
Application Patch	Wireline_Testkit-CMR-NG-2018SP1_8.1.102925

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
1A	Log[4]:Up	Up	41.03 ft	1004.96 ft	12-Mar-2019 8:59:31 AM	12-Mar-2019 9:28:07 AM	ON	0.00 ft	Yes

All depths are referenced to toolstring zero

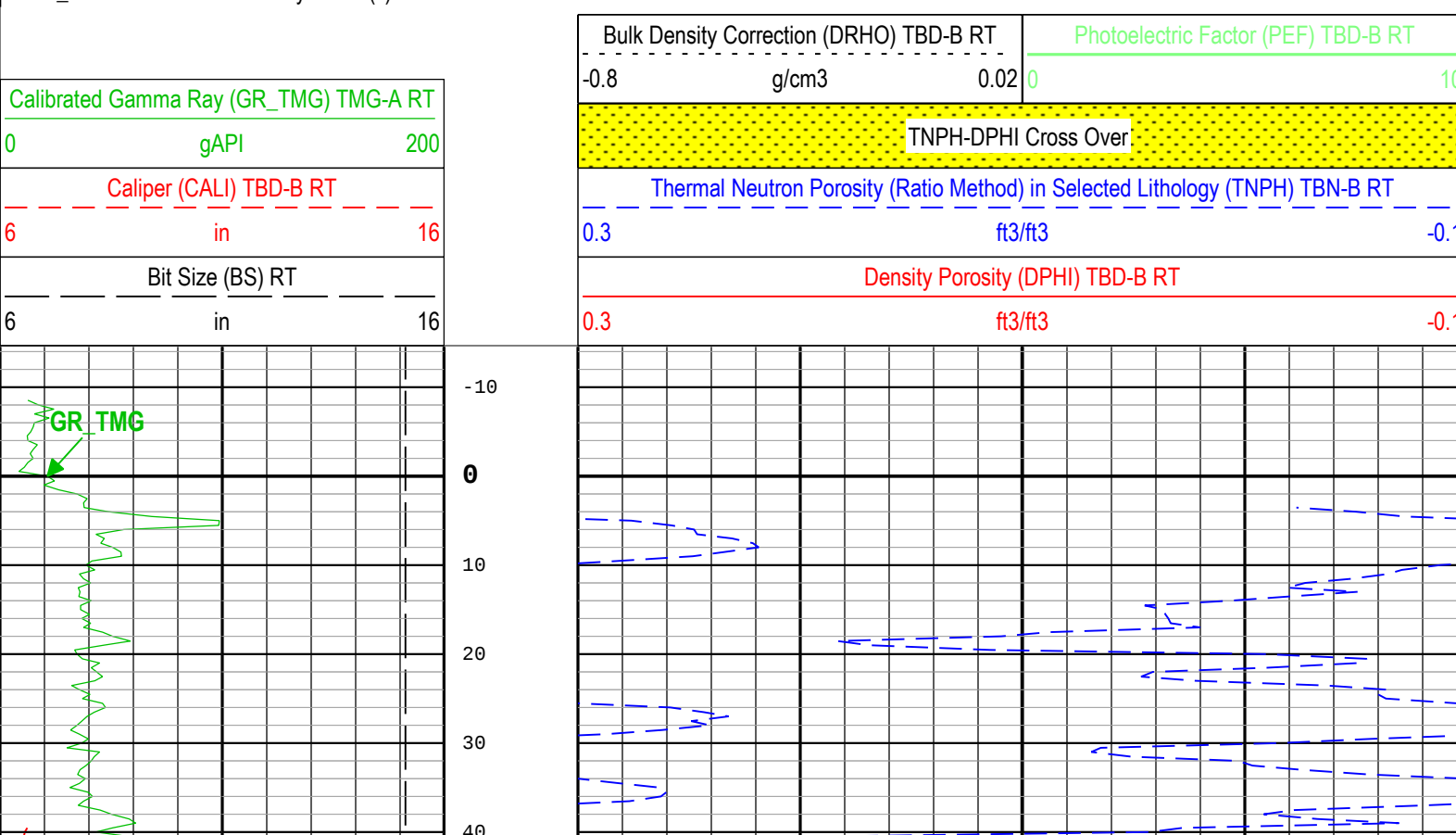
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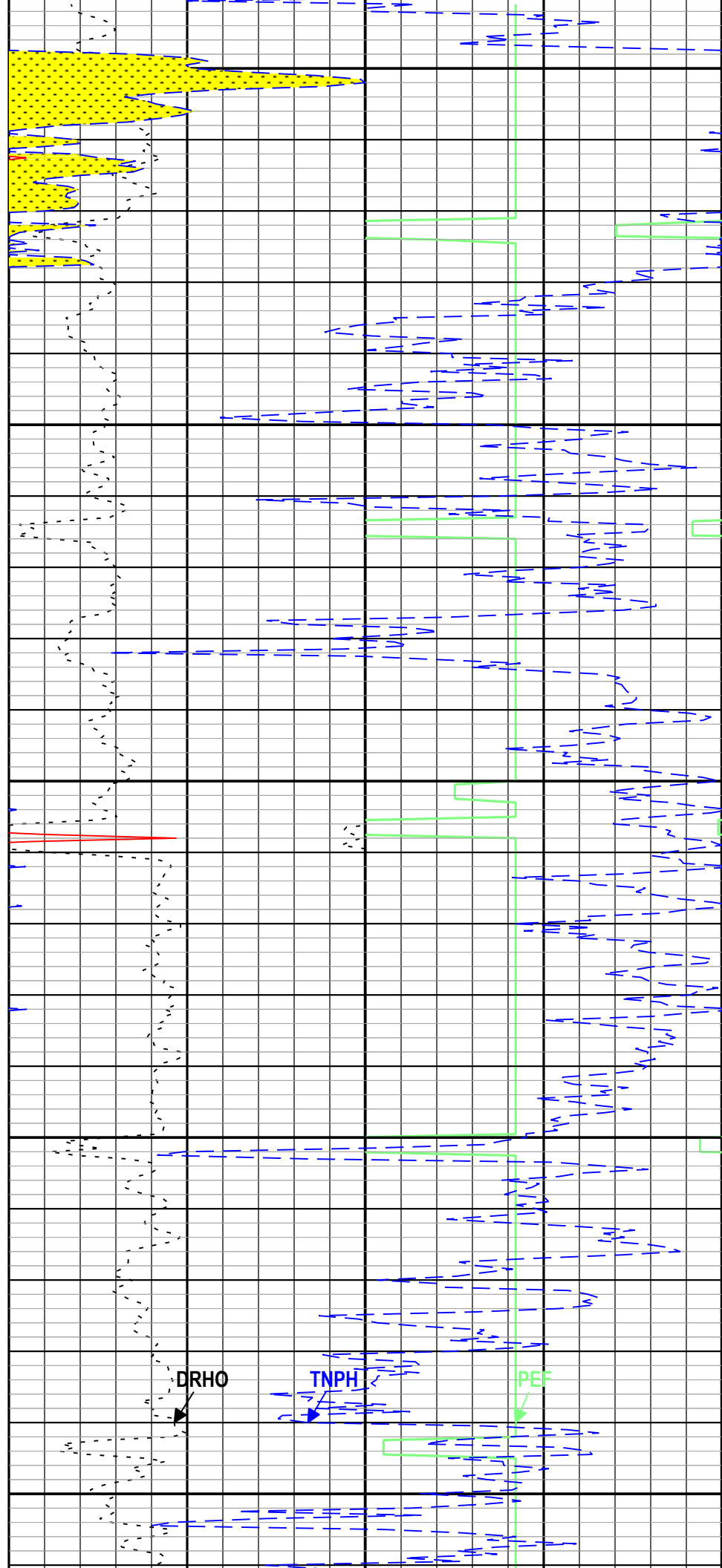
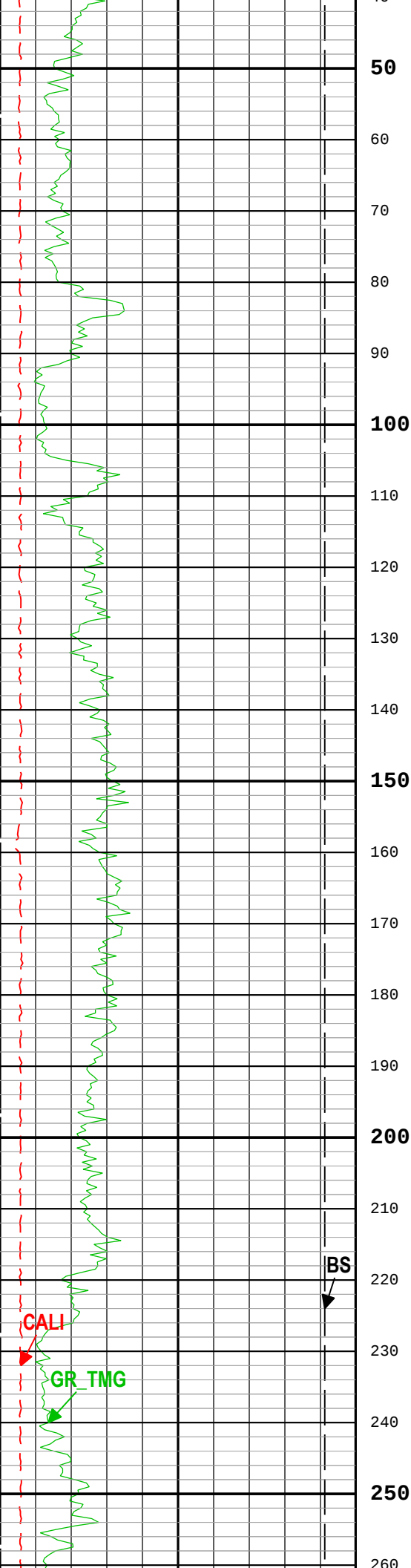
Company:XTO Energy, Inc. Well:Remuda 25 Observation Well 1

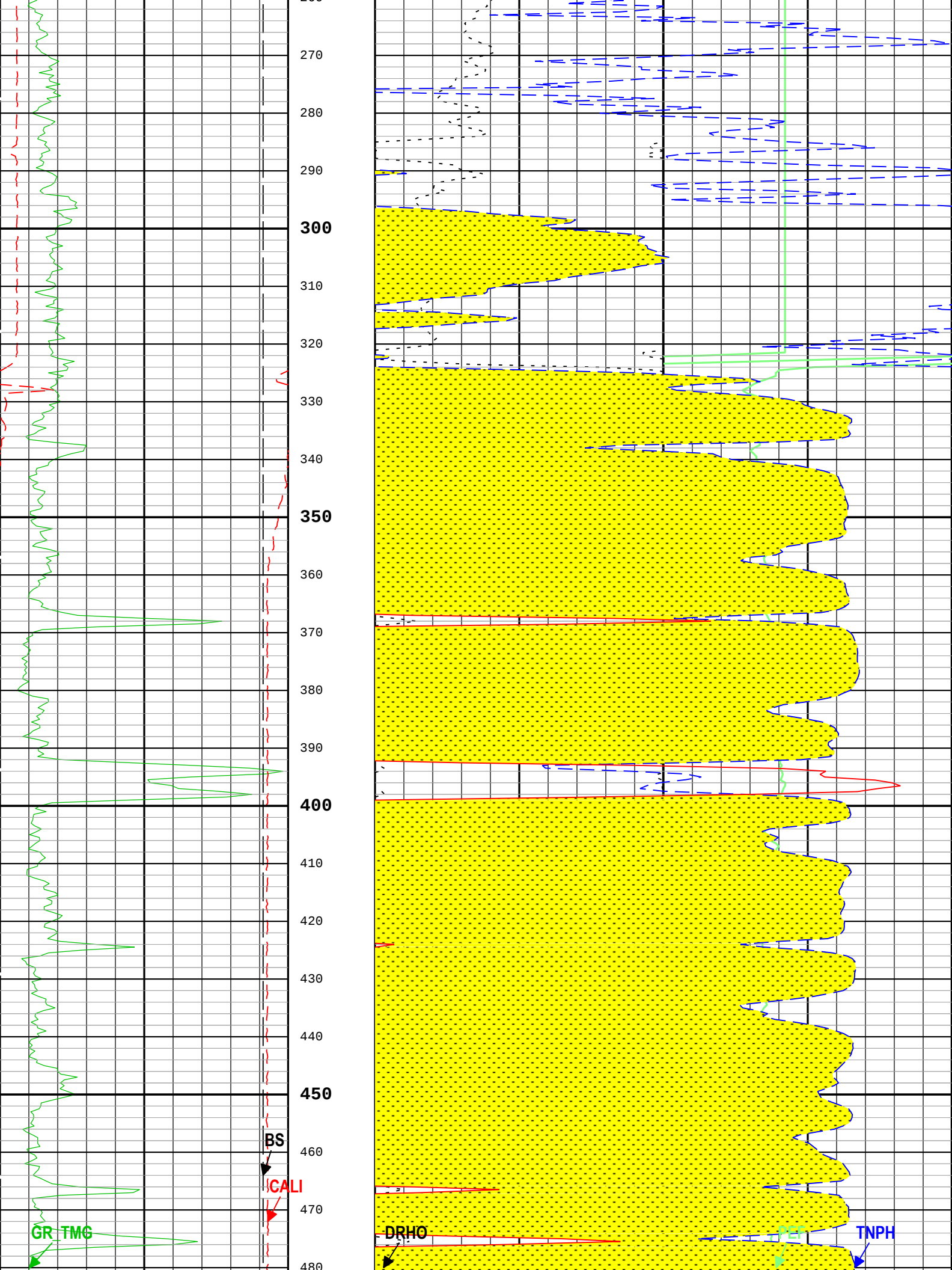
1A: Log[4]:Up:S004

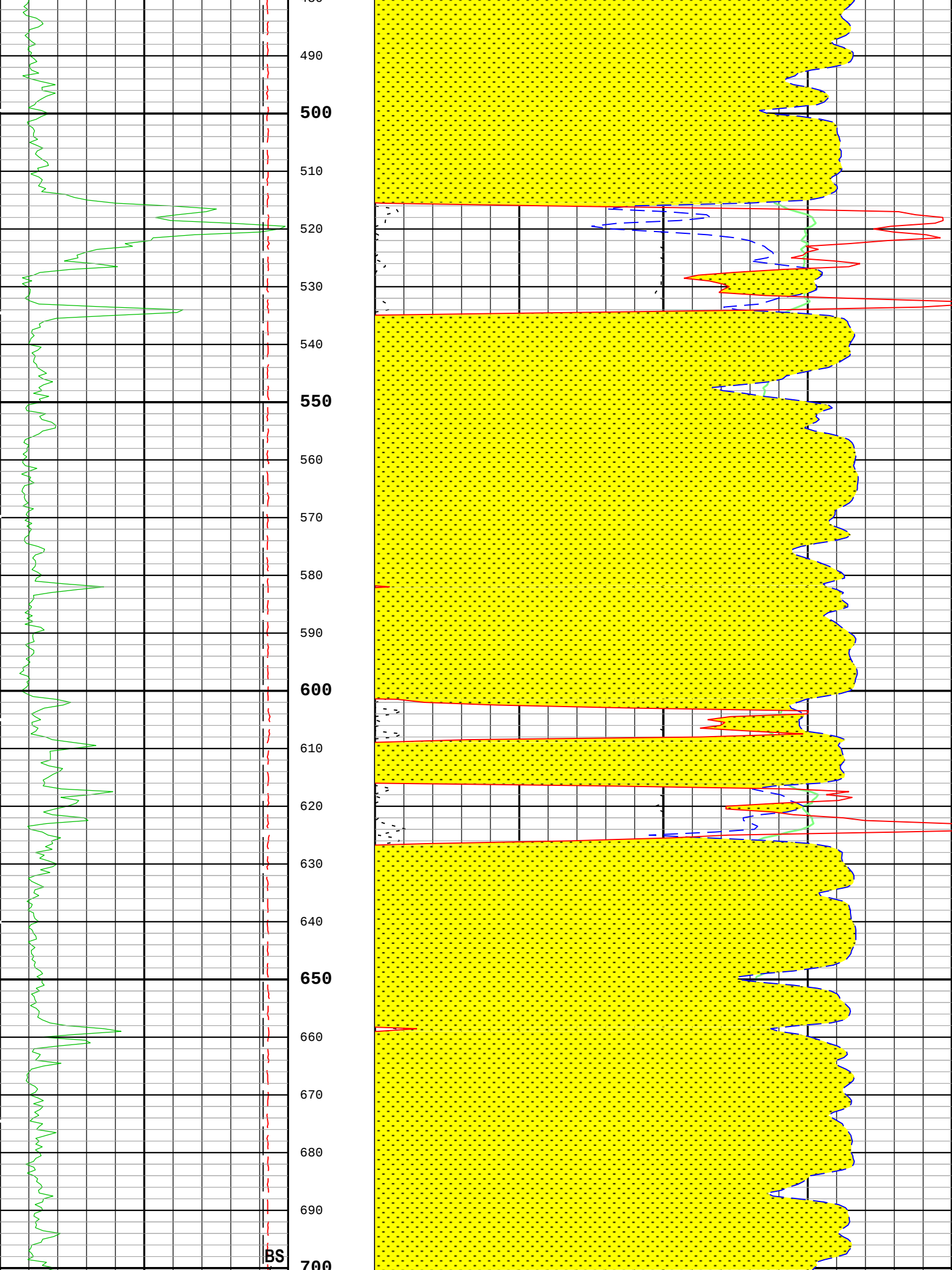
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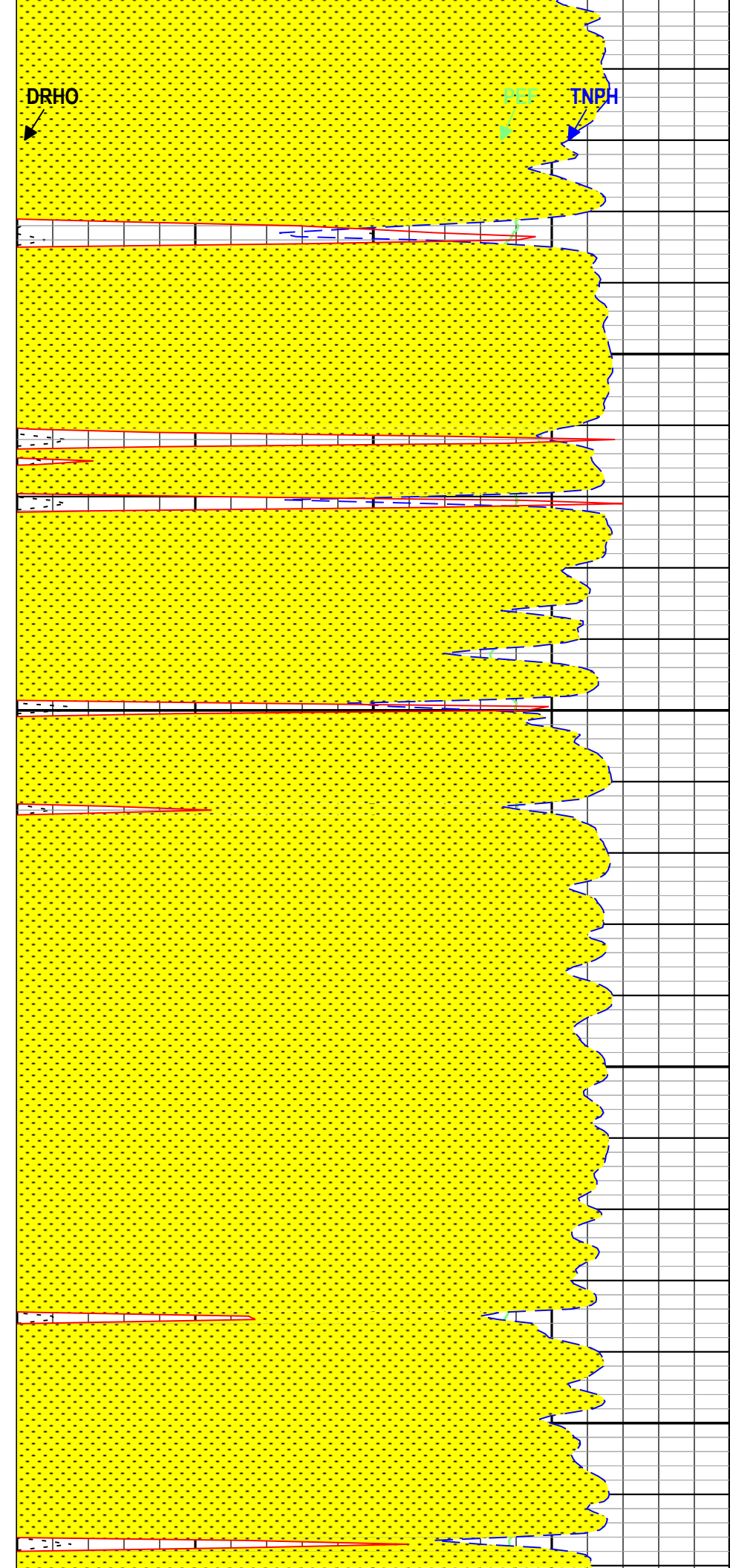
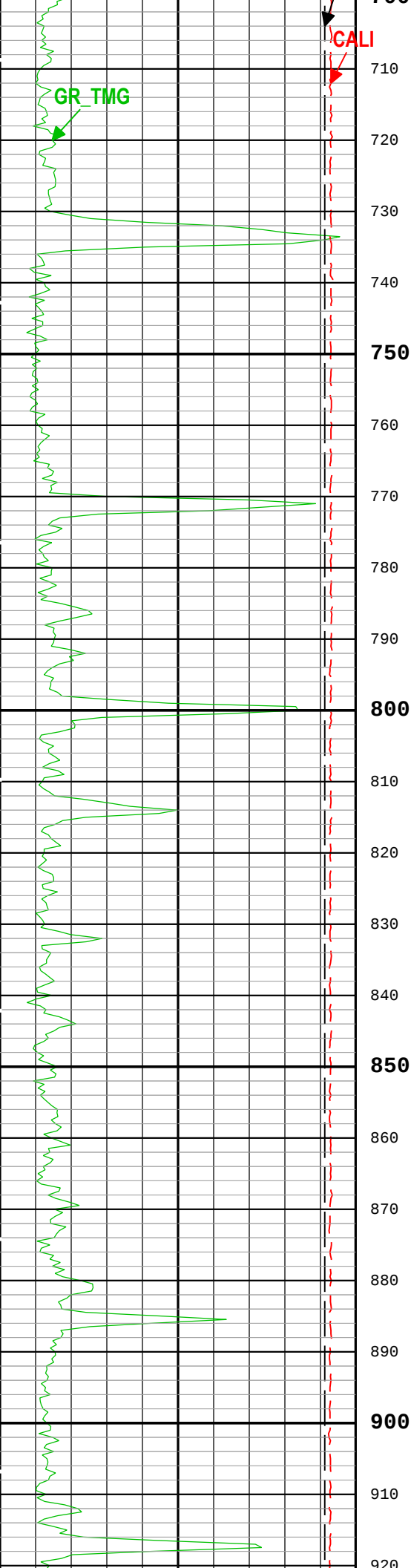
TIME 1900 - Time Marked every 60.00 (s)

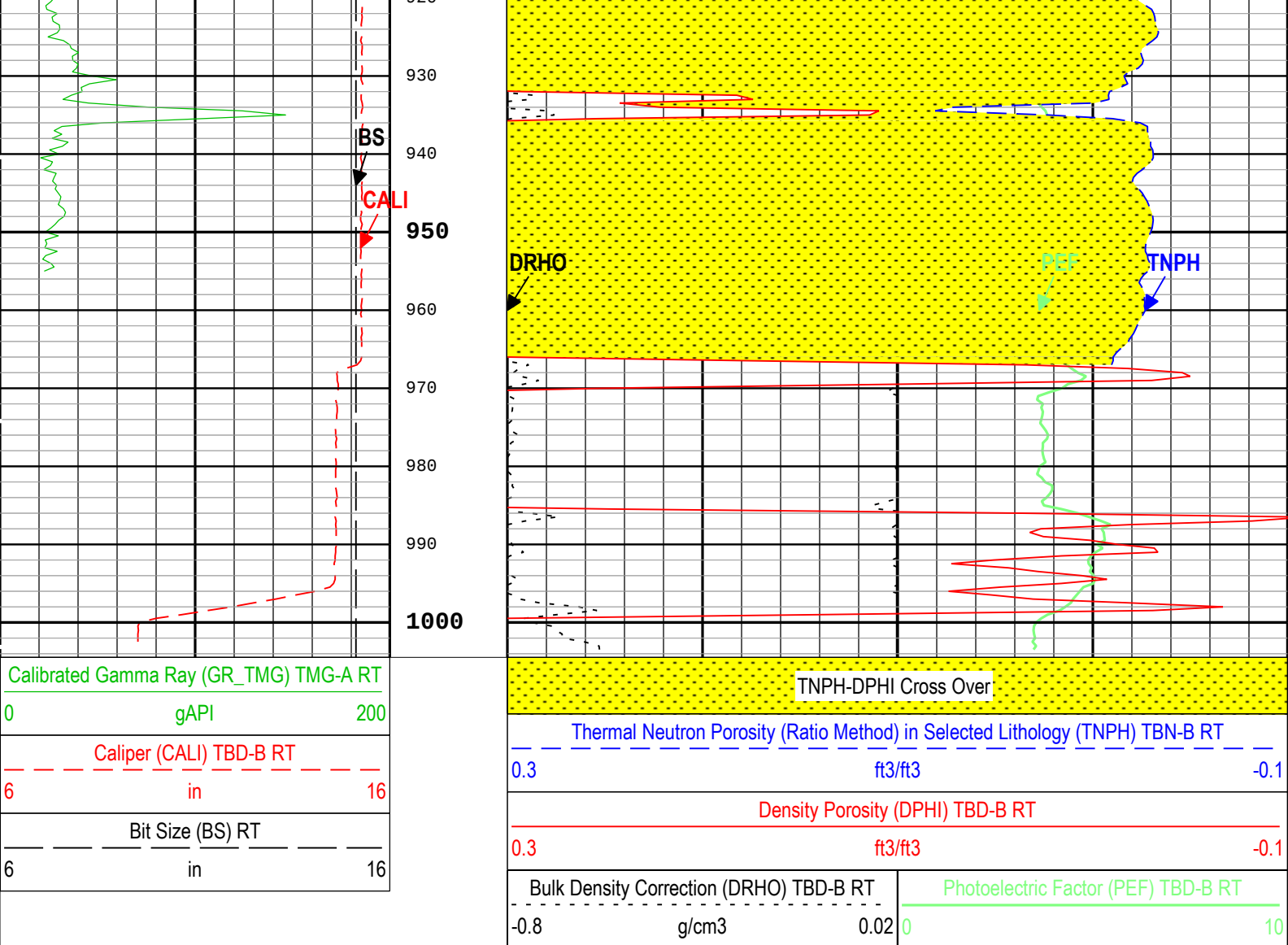












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Channel Processing Parameters

1A: Parameters

Parameter	Description	Tool	Value	Unit
BHS	Borehole Status (Open or Cased Hole)	Borehole	Depth Zoned	
BS	Bit Size	WLSESSION	5.125	in
BSAL	Borehole Salinity	Borehole	247000	ppm
BSCO	Borehole Salinity Correction Option	TBN-B	No	
CALI_SHIFT	CALI Supplementary Offset	TBD-B	0	in
CBLO	Casing Bottom (Logger)	WLSESSION	321	ft
CQCO	Cement Quality Correction Option	TBN-B	No	
CSAL	Cement Salinity	TBN-B	0	ppm
CSCOR	Cement Salinity Correction Option	TBN-B	No	
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	10.4	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
DHC	Density Hole Correction	TBD-B	Bit Size	
ECCO	Eccentricity Coorection Option	TBN-B	No	
FD	Fluid Density	Borehole	1	g/cm3
FSAL	Formation Salinity	Borehole	0	ppm
FSCO	Formation Salinity Correction Option	TBN-B	No	

GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS(RT)	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	CALI(RT)	
HSCOT	Hole Size Correction Option (None, Bit Size, Density Caliper, GCSE)	TBN-B	GCSE	
TBN_WPRE	Well Pressure for Horizontal Section	TBN-B	0	psi
MATR	Rock Matrix for Neutron Porosity Corrections	Borehole	LIMESTONE	
MDEN	Matrix Density for Density Porosity	Borehole	2.71	g/cm3
MWCO	Mud Weight Correction Option	TBN-B	No	
PTCO	Pressure Temperature Correction Option	TBN-B	No	
SOCN	Standoff Distance	TBN-B	0.125	in
SOCO	Standoff Correction Option	TBN-B	No	
TBD_SPIKE_REJECT	Spike Detection Option	TBD-B	Correct	
TBD_SPIKE_THRESHOLD	Attenuation Change Threshold for Spike Detection	TBD-B	5	%
TBN_ALGO	TBN Porosity Algorithm Option	TBN-B	Schmid_McKeon	

Depth Zone Parameters			
Parameter	Value	Start (ft)	Stop (ft)
BHS	Cased	0	321
BHS	Open	321	1004.5
All depth are actual.			

Tool Control Parameters	
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Field: Remuda Basin

County: Eddy

State: New Mexico

SPECTRAL DENSITY
DUAL SPACED NEUTRON