Schlumberger

Company: University Of Utah

Well: FORGE 78B-32

Field: None

County: Beaver State: Utah

County: Beaver
Field: None
Location: Lat: 38.500171, Long: -112.88221
Well: FORGE 78B-32
Company: University Of Utah

Platform Express

Compensated Neutron

Litho-Density

Location:			
Lat: 38.500171, Long: -112.88221		Elev.: K.B.	5565.50 ft
		G.L.	5536.00 ft
		D.F.	
Permanent Datum:	Ground Level	Elev.:	5536.00 f
Log Measured From:	Kelly Bushing	29.50 ft	above Perm.Datum
Drilling Measured From:	Kelly Bushing		

API Serial No.	Max.Hole Deviation	Longitude:	Latitude:
NRC 42-00090-03	0 deg	-112.88221 degrees	38.500171 degrees

Logging Date		19-Jul-2021			
Run Number		2A			
Depth Driller		8540.00 ft			
Schlumberger Depth		8540.00 ft			
Bottom Log Interval		8540.00 ft			
Top Log Interval		2988.00 ft			
Casing Driller Size @ Depth		11.75 in @ 2989.00 ft			
Casing Schlumberger		2988 ft			
Bit Size		8.75 in			
Type Fluid In Hole		Water			
MUD Density	Viscosity	8.3 lbm/gal			
MUD Fluid Loss	PH				
MUD Source of Sample		Active Tank			
RM @ Meas Temp		2.84 ohm.m @ 95 degF			
RMF @ Meas Temp		2.13 ohm.m @ 95 degF			
RMC @ Meas Temp		4.26 ohm.m @ 95 degF			
Source RMF	RMC	Calculated	Calculated		
RM @ BHT	RMF @ BHT	0.8 @ 353.72	0.6 @ 353.72		
Max Recorded Temperatures		354.56 degF			
Circulation Stopped	Time	19-Jul-2021	03:00:00		
Logger on Bottom	Time	19-Jul-2021	15:16:00		
Unit Number	Location:	9108	F.Morgan		
Recorded By		T.Mozena/C.Stiles/I.Nasir			
Witnessed By		Virgil Welch			

Disclaimer

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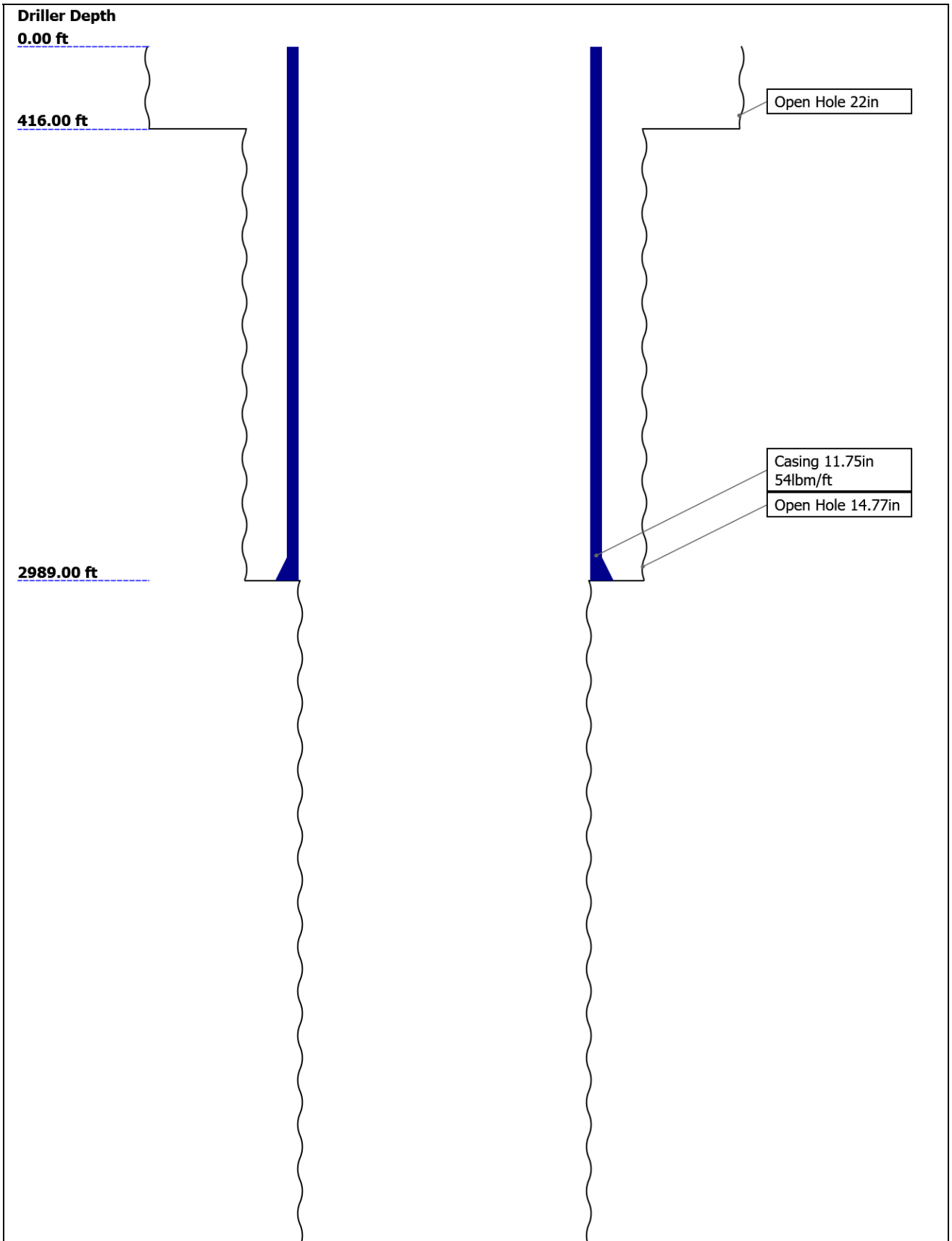
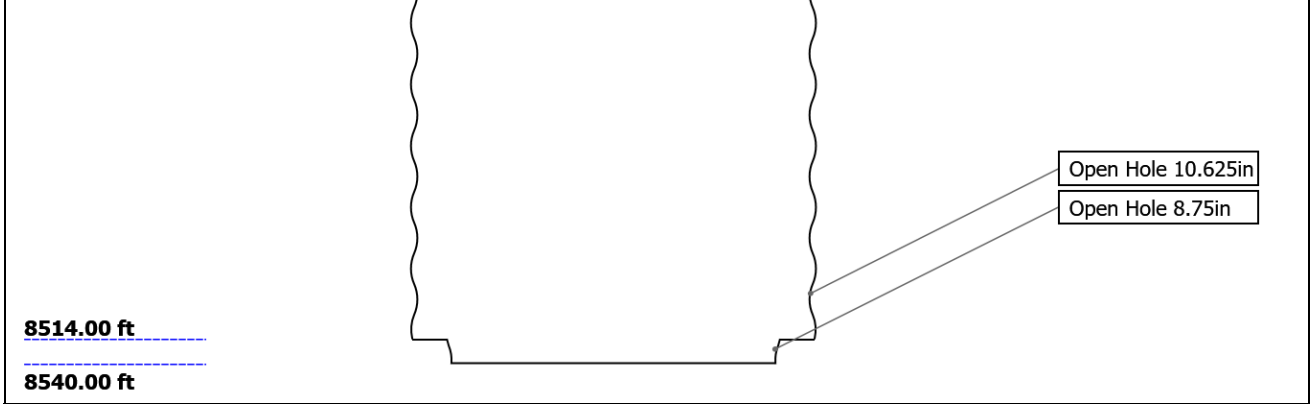
Well Sketch





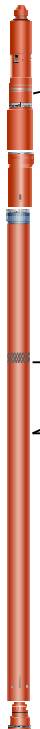
Borehole Size/Casing/Tubing Record

Bit						
Bit Size (in)	22	14.77	10.625	8.75		
Top Driller (ft)	0	416	2989	8514		
Top Logger (ft)	0	416	2989	8514		
Bottom Driller (ft)	416	2989	8514	8540		
Bottom Logger (ft)	416	2989	8514	8540		
Casing						
Size (in)	11.75					
Weight (lbm/ft)	54					
Inner Diameter (in)	10.88					
Grade	N/A					
Top Driller (ft)	0					
Top Logger (ft)	0					
Bottom Driller (ft)	2989					
Bottom Logger (ft)	2988					

Remarks and Equipment Summary

2A: Toolstring

Equip name	Length	MP name	Offset
LEH-MT LEH-MT	**91.28**		
		Mud Temperature	**89.34**
AH-234[2]	**88.13**		
QTGC-B UDFH-PL STGC-GR STGC-ACC Z:7 STGC-B:8121	**86.94**		
		GR	**83.59**
		STGC	**0.00**
		Accelerometer	**0.00**
QILE-A	**76.27**		

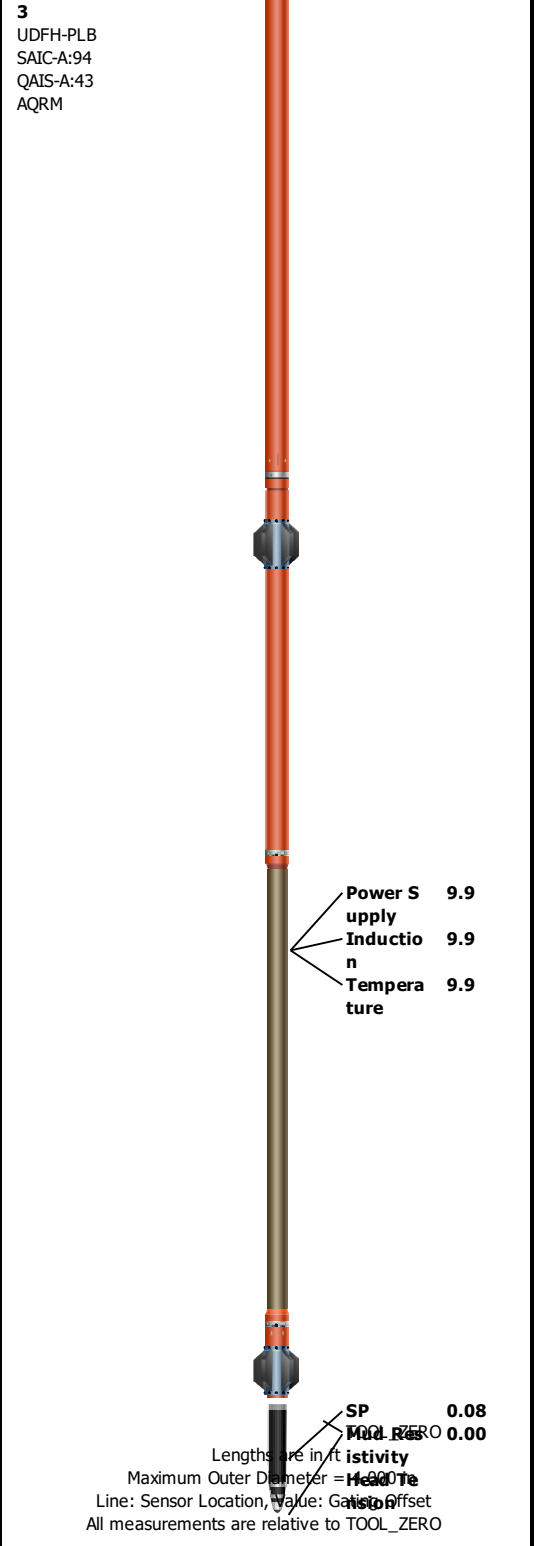


2A: Remarks

Tool was run as per tool sketch

All logging intervals as per client request

QCNT 68.62
UDFH-PAT
NPV-S
NSR-L:4545
QCNC-A:2
CNTM 62.66
CNL Porosity 59.26
AH-233 56.71
LDSC-B:513 55.47
LDSH-A:405
LDSC-B:513
Tel Status 53.72
HLDS-D:65 51.97
HEH-H:91
HLDV-D:9690
HLDS-D:65
HLDP-C:93
GGLS-EZ:3535
Tel Status 38.66
Caliper 38.66
Density 38.66
AH-234[1] 36.16
AH-238[2] 34.97
AH-238[1] 32.97
QAIT-A:4 30.97



Depth Summary

	2A		
Depth Measuring Device			
Type	IDW-JA		
Serial Number	6160		
Calibration Date	30-Sep-2020		
Calibrator Serial Number	57		
Calibration Cable Type	7-46 AXS		
Wheel Correction 1	-9		
Wheel Correction 2	-7		
Tension Device			
Type	CMTD-B/A		

Type	CMTD-B/A		
Serial Number	946		
Calibration Date	02-Jun-2020		
Calibrator Serial Number	78165A		
Number of Calibration Points	10		
Calibration Root Mean Square Error	8		
Calibration Peak Error	12		

Logging Cable

Type	7-46A-XS		
Serial Number	1219083		
Length	18000.00 ft		
Conveyance Type	Wireline		
Rig Type	Land		

2A:Depth Control Parameters		Depth Control Remarks
Log Sequence	First Log In the Well	Schlumberger depth control procedures followed
Rig Up Length At Surface		IDW used as primary depth control system
Rig Up Length At Bottom		Z-Chart used as secondary depth control system
Rig Up Length Correction		
Stretch Correction		
Tool Zero Check At Surface		

2A

5" Porosity

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
2A	Log[2]:Up	Up	2858.91 ft	8563.43 ft	19-Jul-2021 3:16:18 PM	19-Jul-2021 6:22:02 PM	ON	3.65 ft	Yes

All depths are referenced to toolstring zero

Log

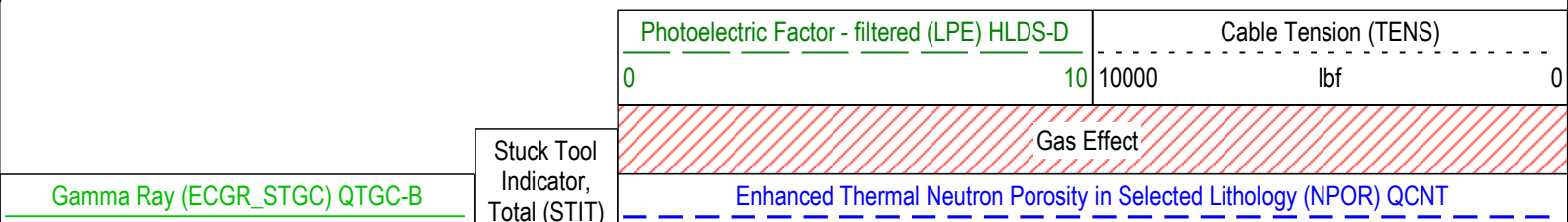
Company:University Of Utah Well:FORGE 78B-32

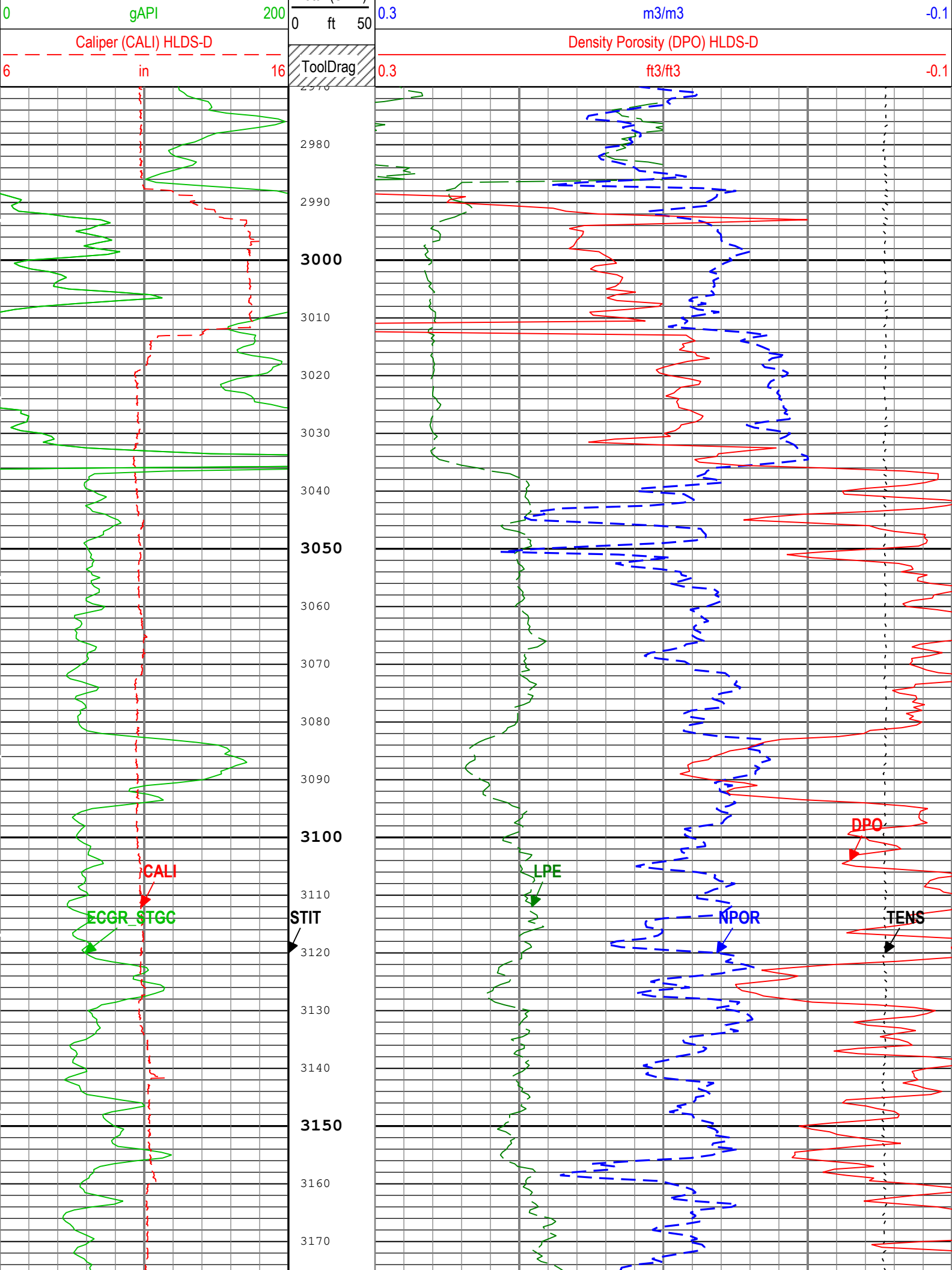
2A: Log[2]:Up:S016

Description: HGNS standard resolution porosities for Platform Express Format: Log (Porosity-5) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 20-Jul-2021 01:38:24

Channel	Source	Sampling
CALI	HLDS-D:HLDS-Sonde Segment:HLDS-D	1in
DPHI	HLDS-D:HLDS-Sonde Segment:HLDS-D	6in
GR	QTGC-B:QTGC-B:STGC-B	6in
NPOR	QCNT:QCNT:QCNC-A	6in
PEF	HLDS-D:HLDS-Sonde Segment:HLDS-D	6in
STIT	DepthCorrection	6in
TENS	WLWorkflow	6in
TIME_1900	WLWorkflow	0.1in

TIME_1900 - Time Marked every 60.00 (s)

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gAPI
200
Caliper (CALI) HLDS-D
6
in
16
0
ft
50
ToolDrag
0.3
m3/m3
-0.1
Density Porosity (DPO) HLDS-D
0.3
ft3/ft3
-0.1
2980
2990
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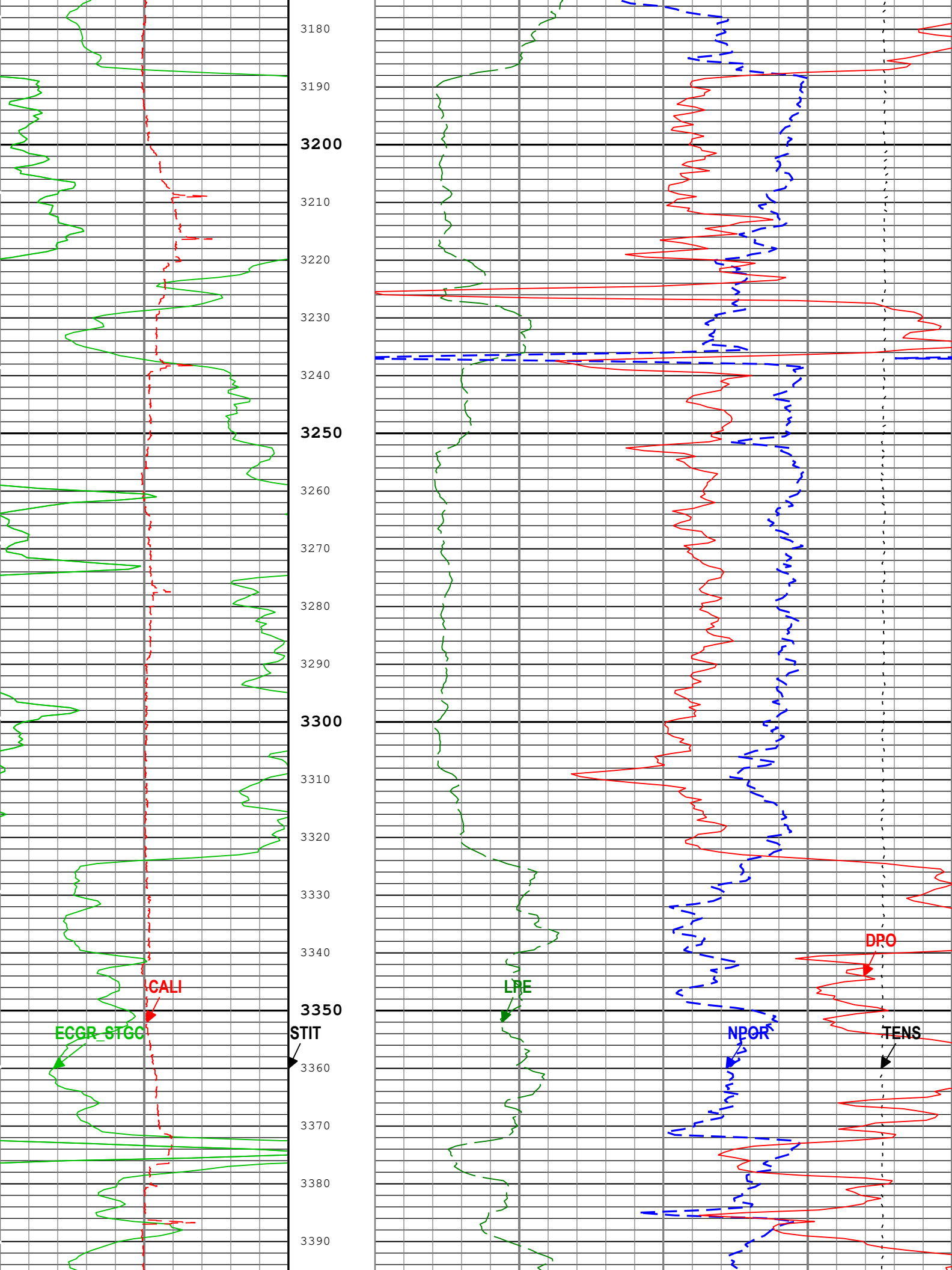
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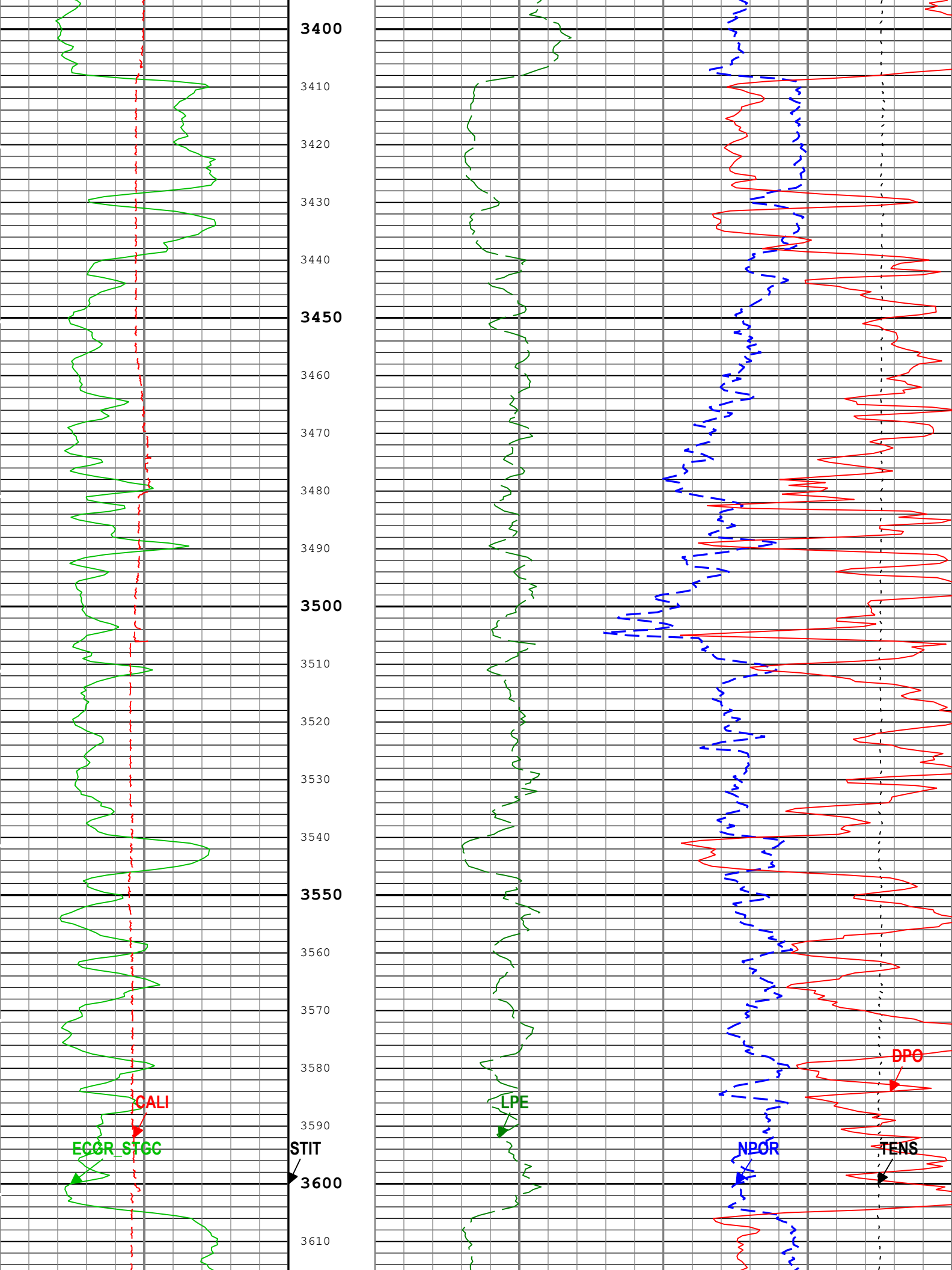
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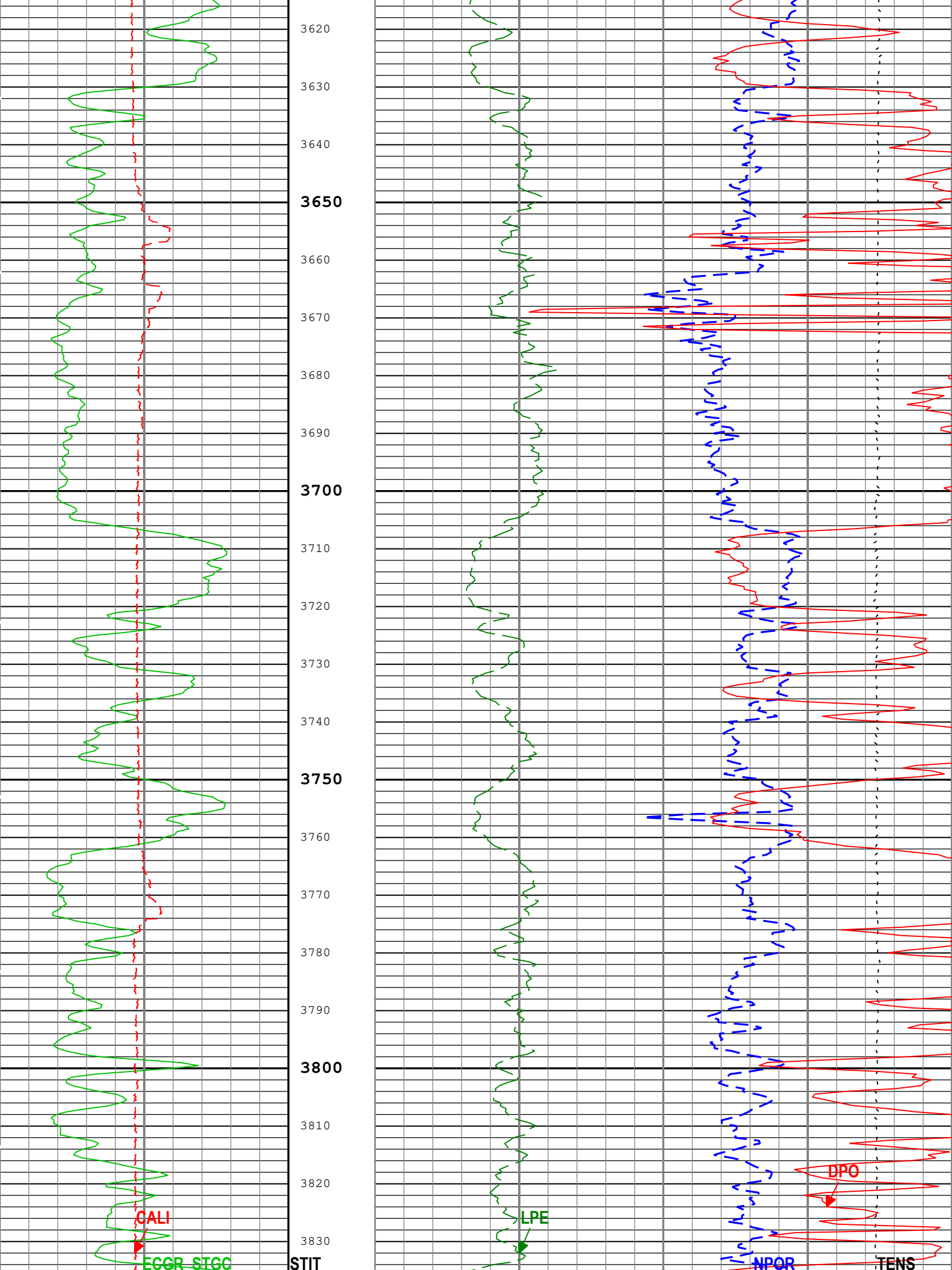
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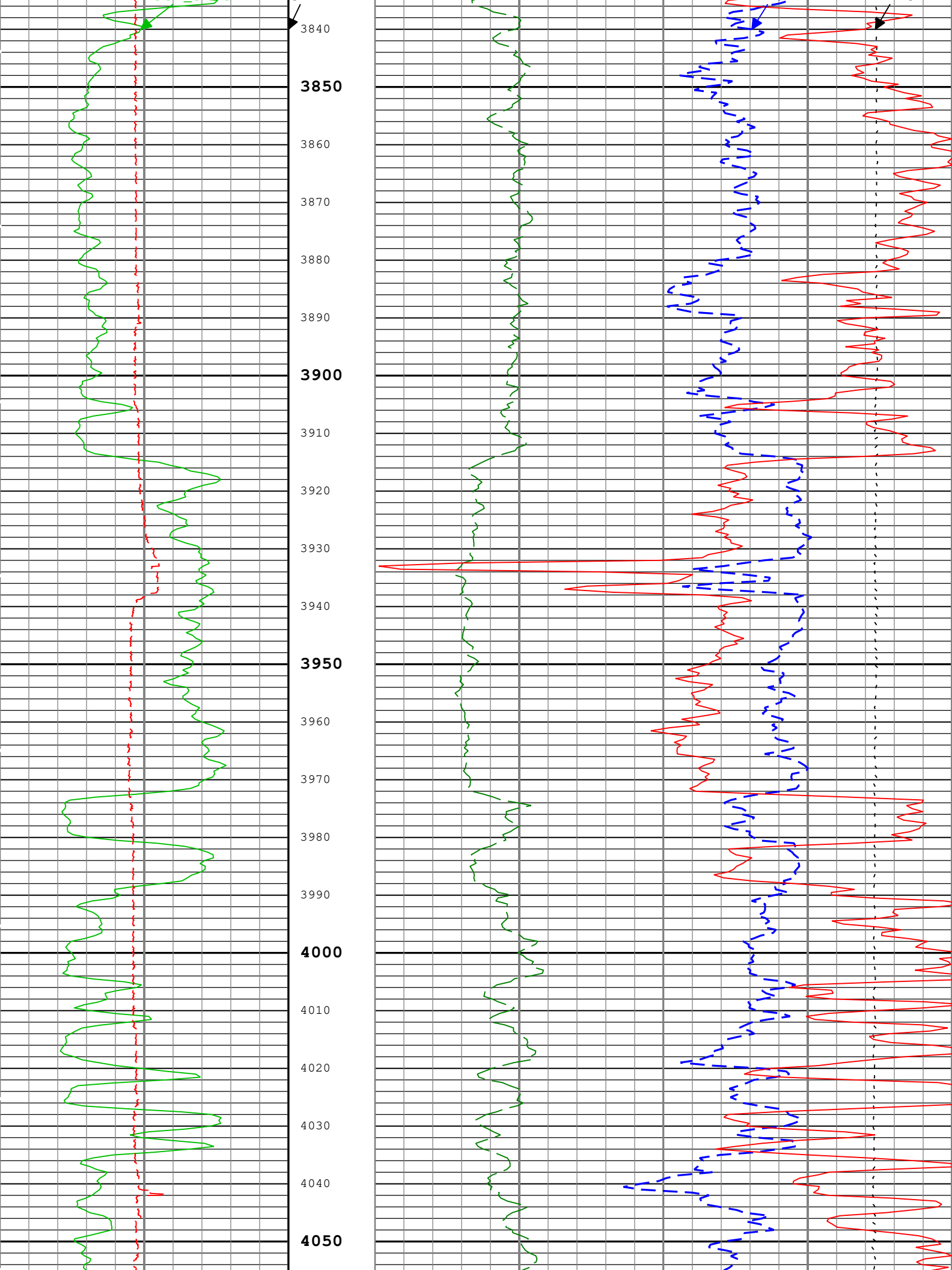
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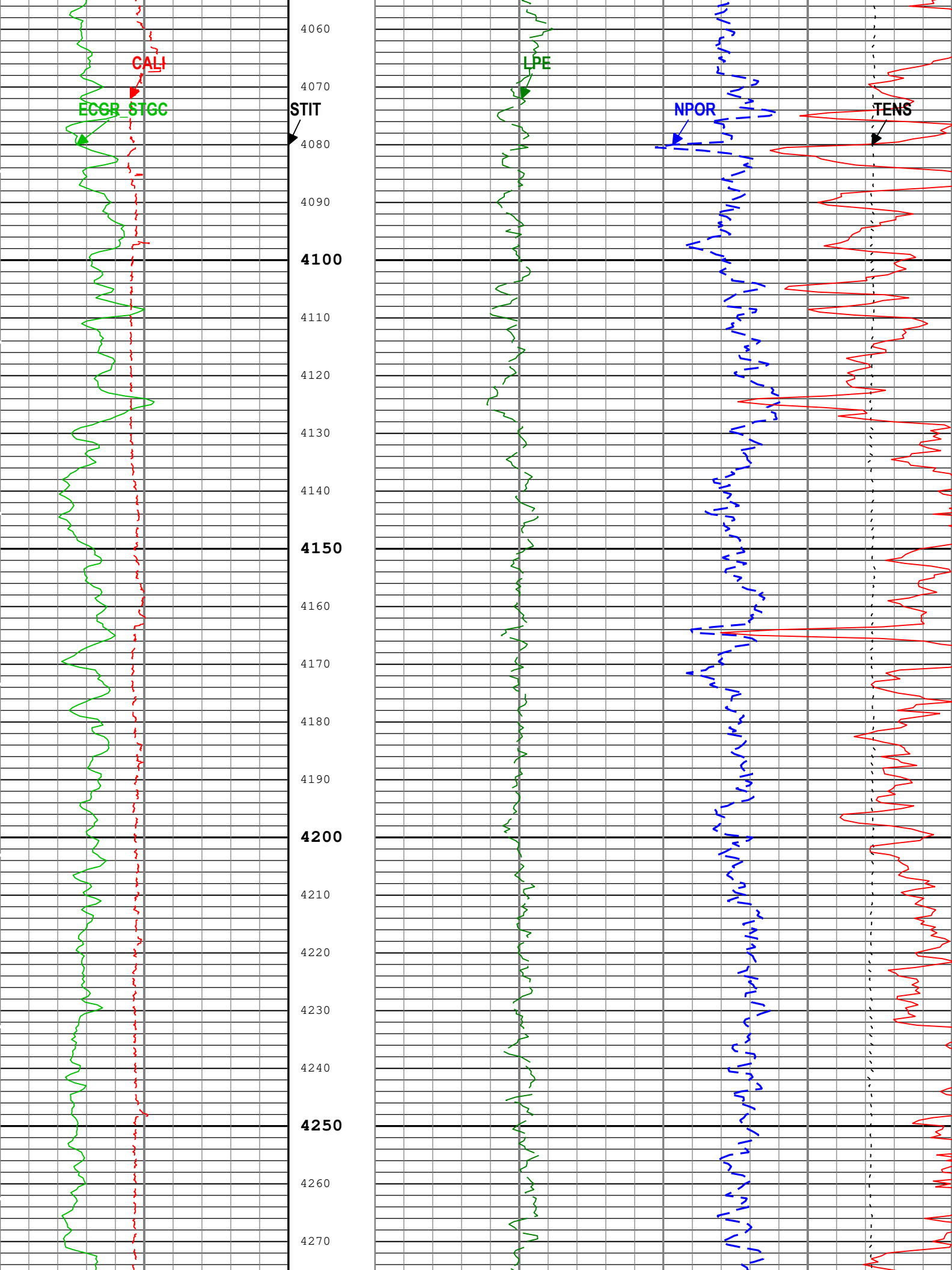
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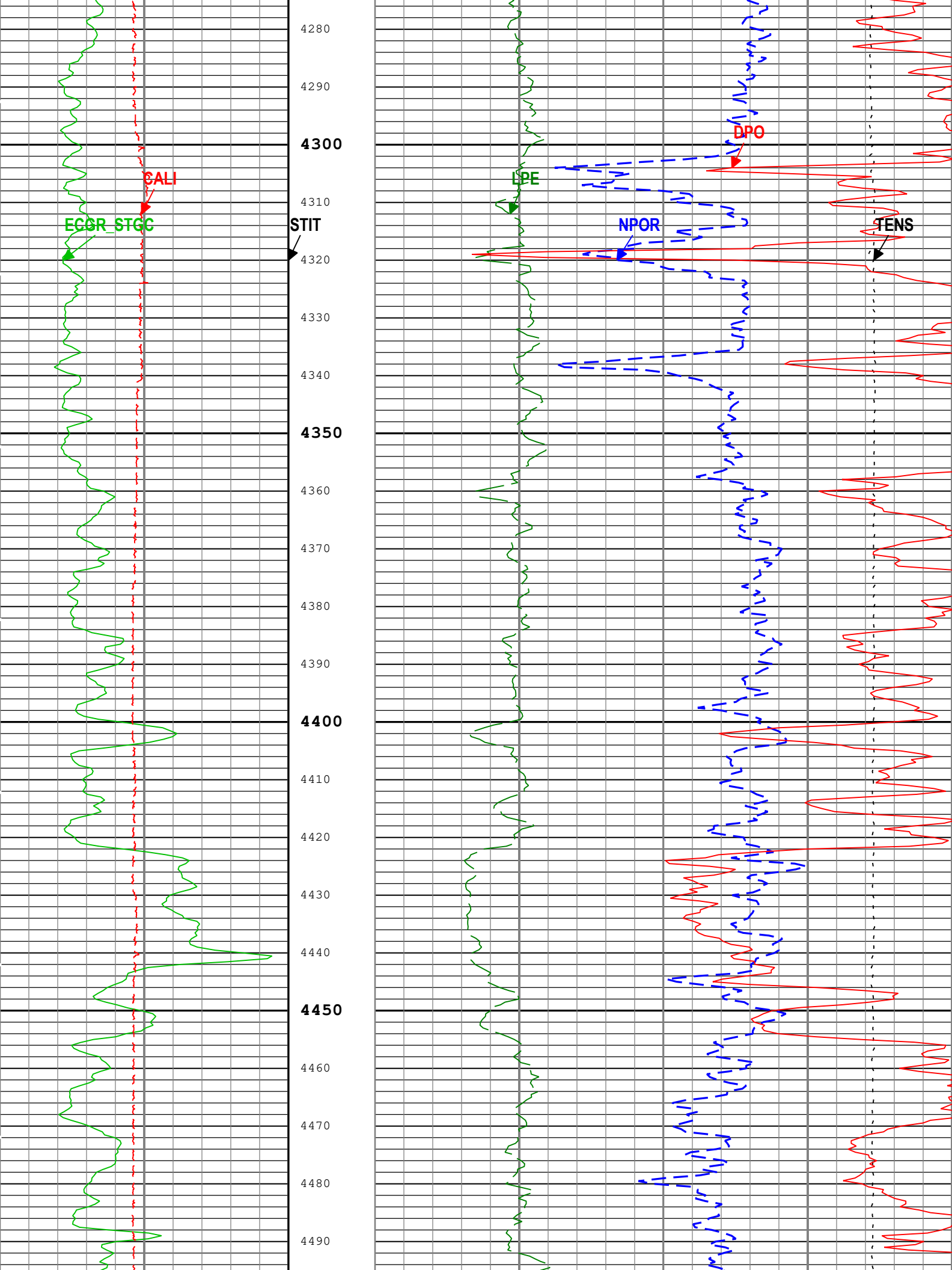
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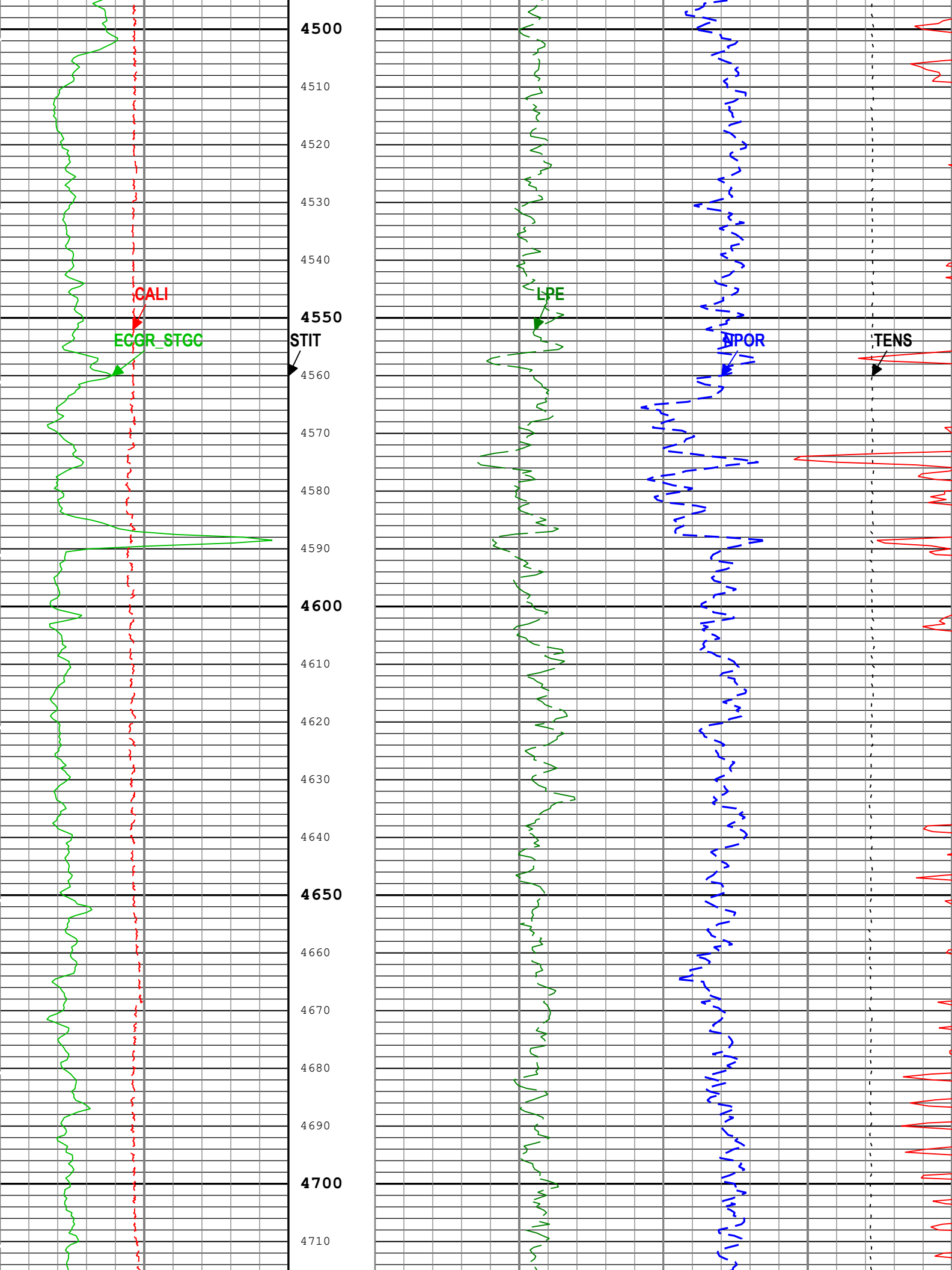
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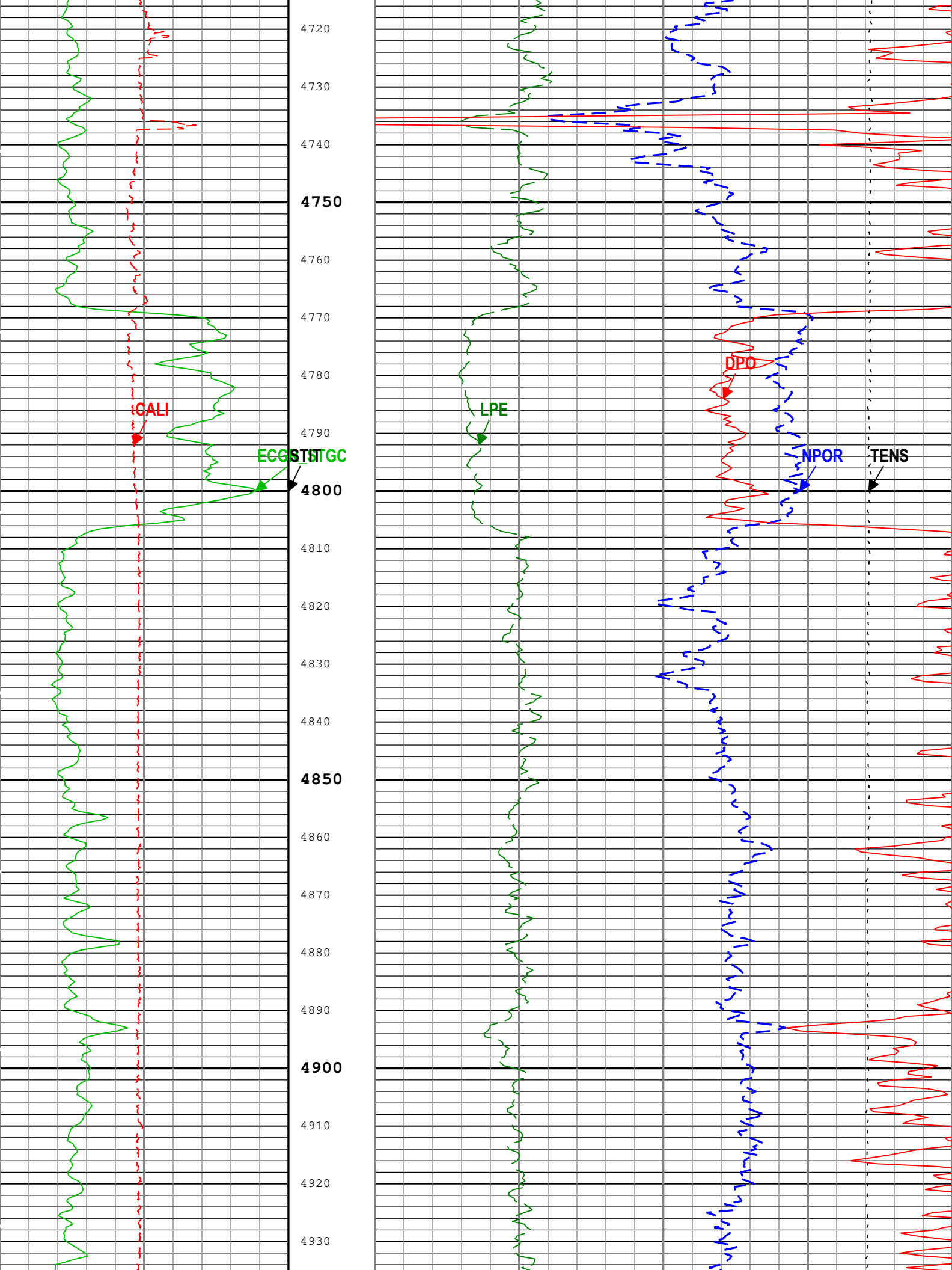
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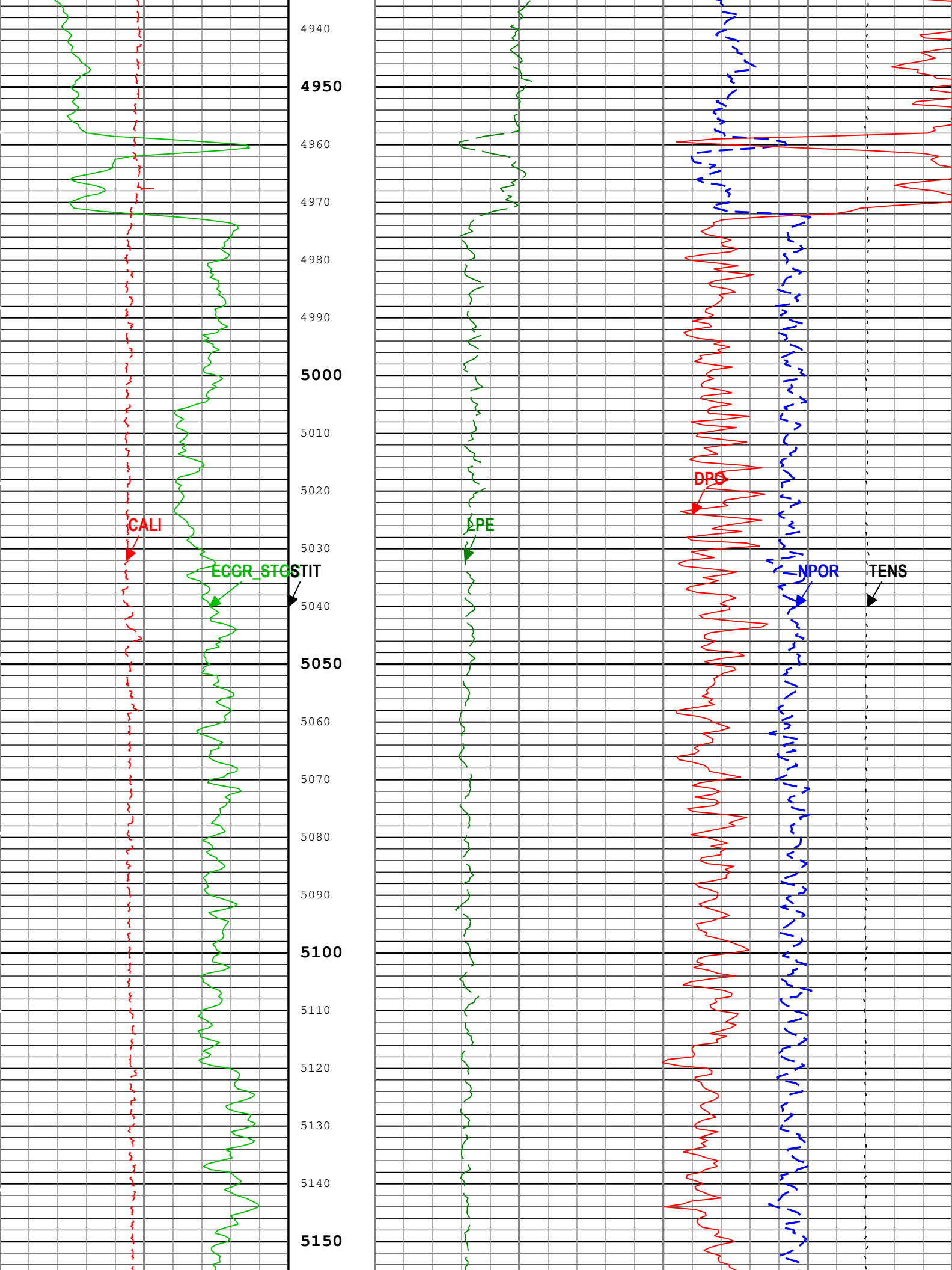
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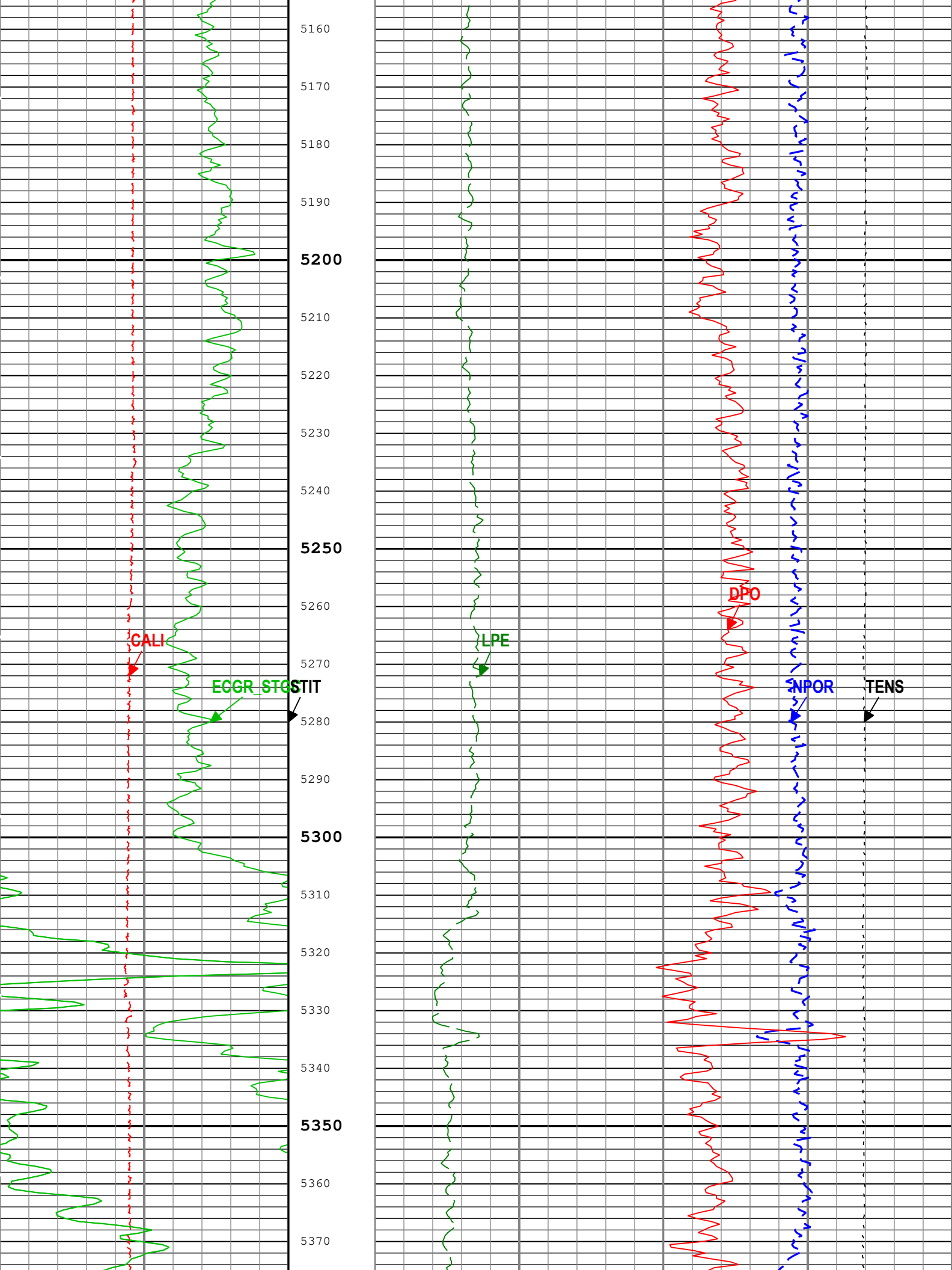
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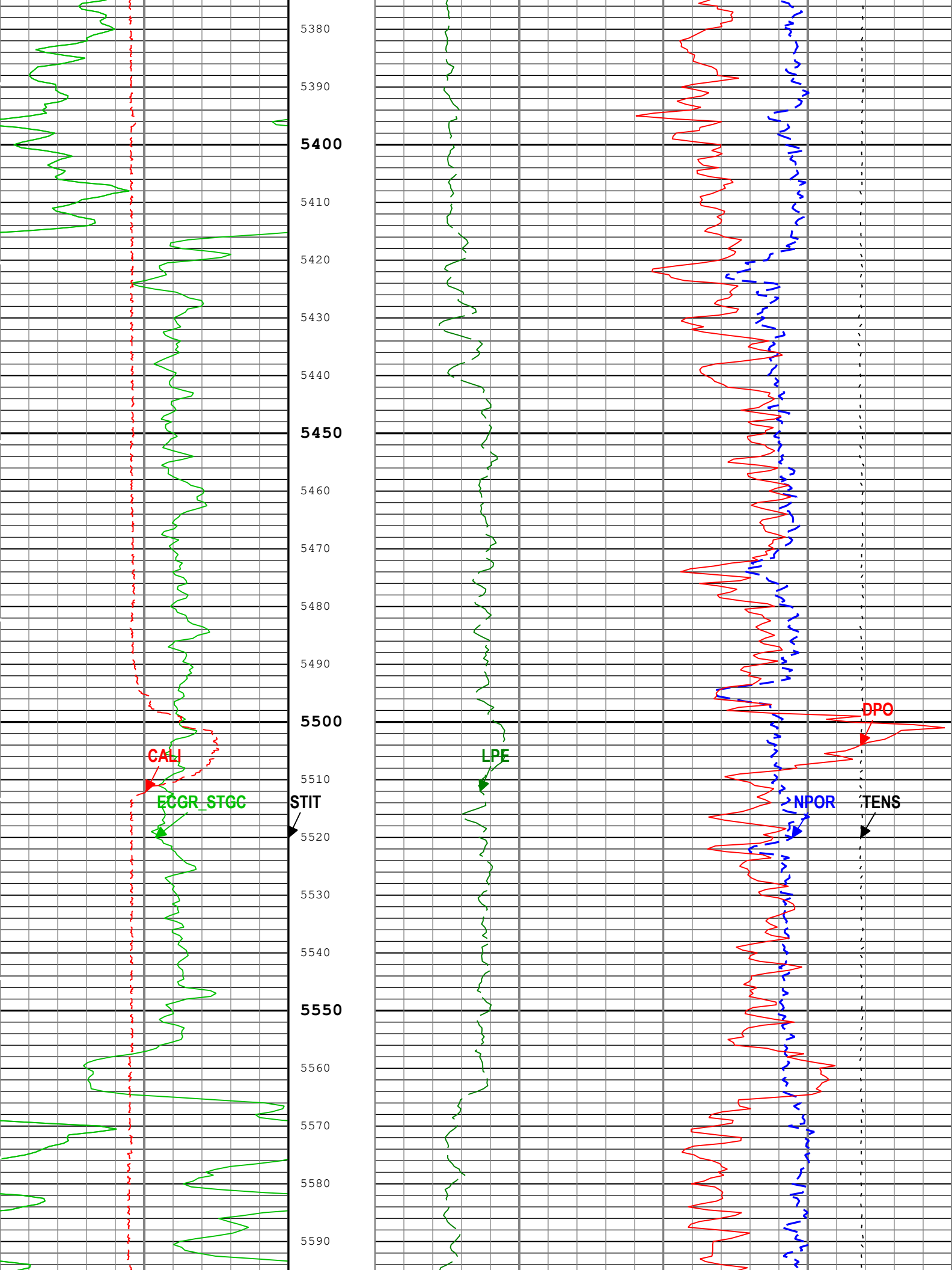
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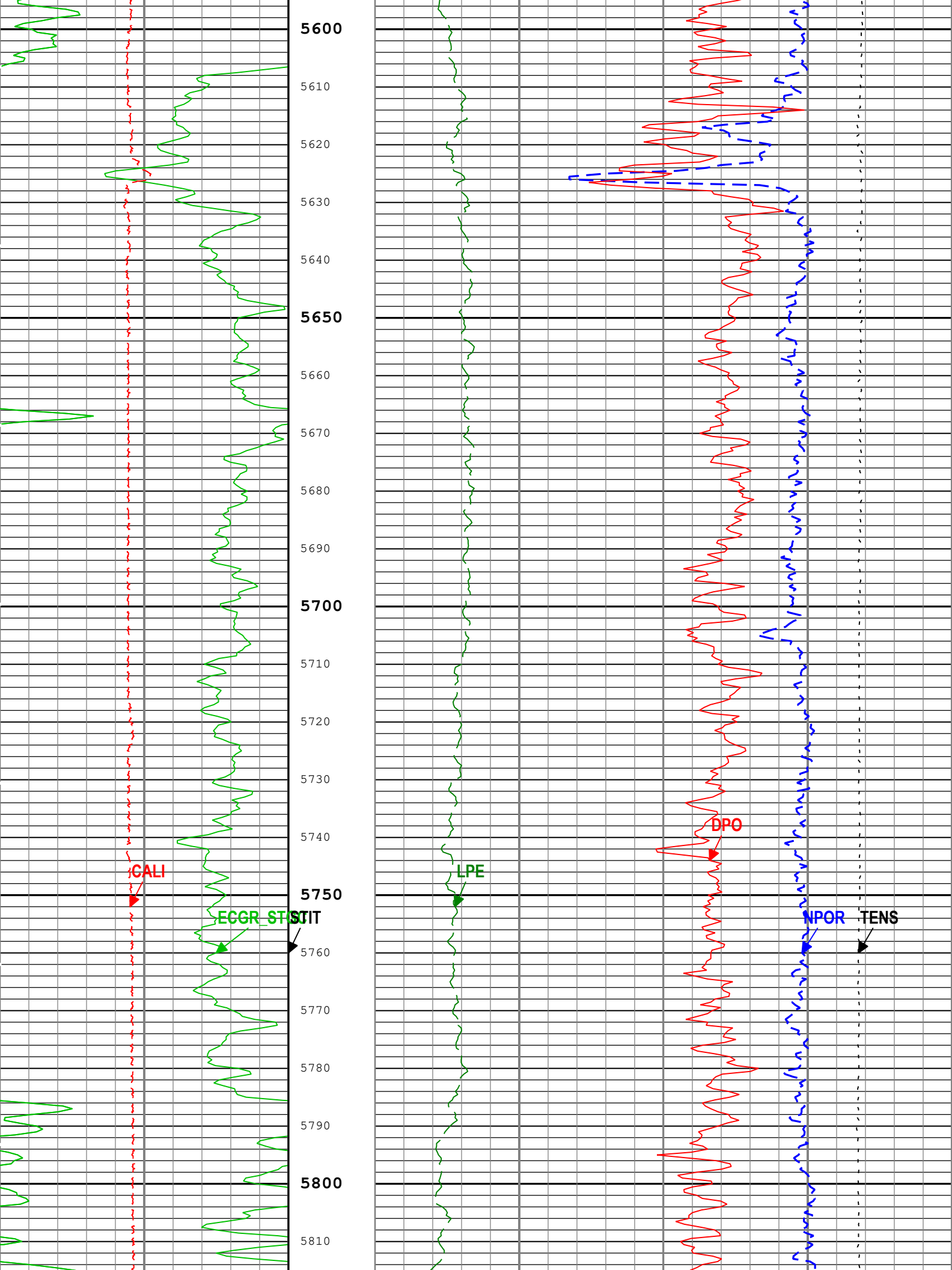
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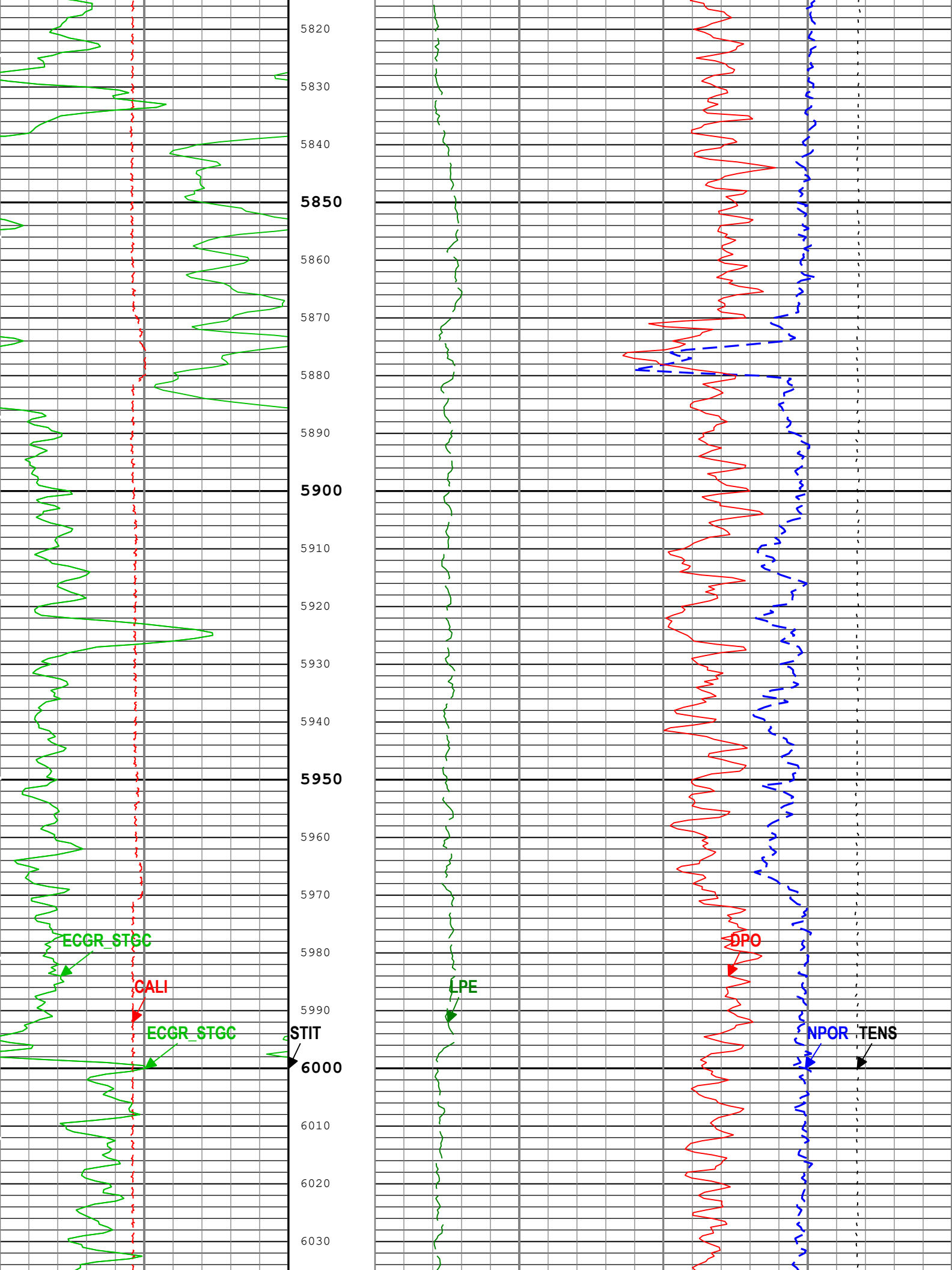
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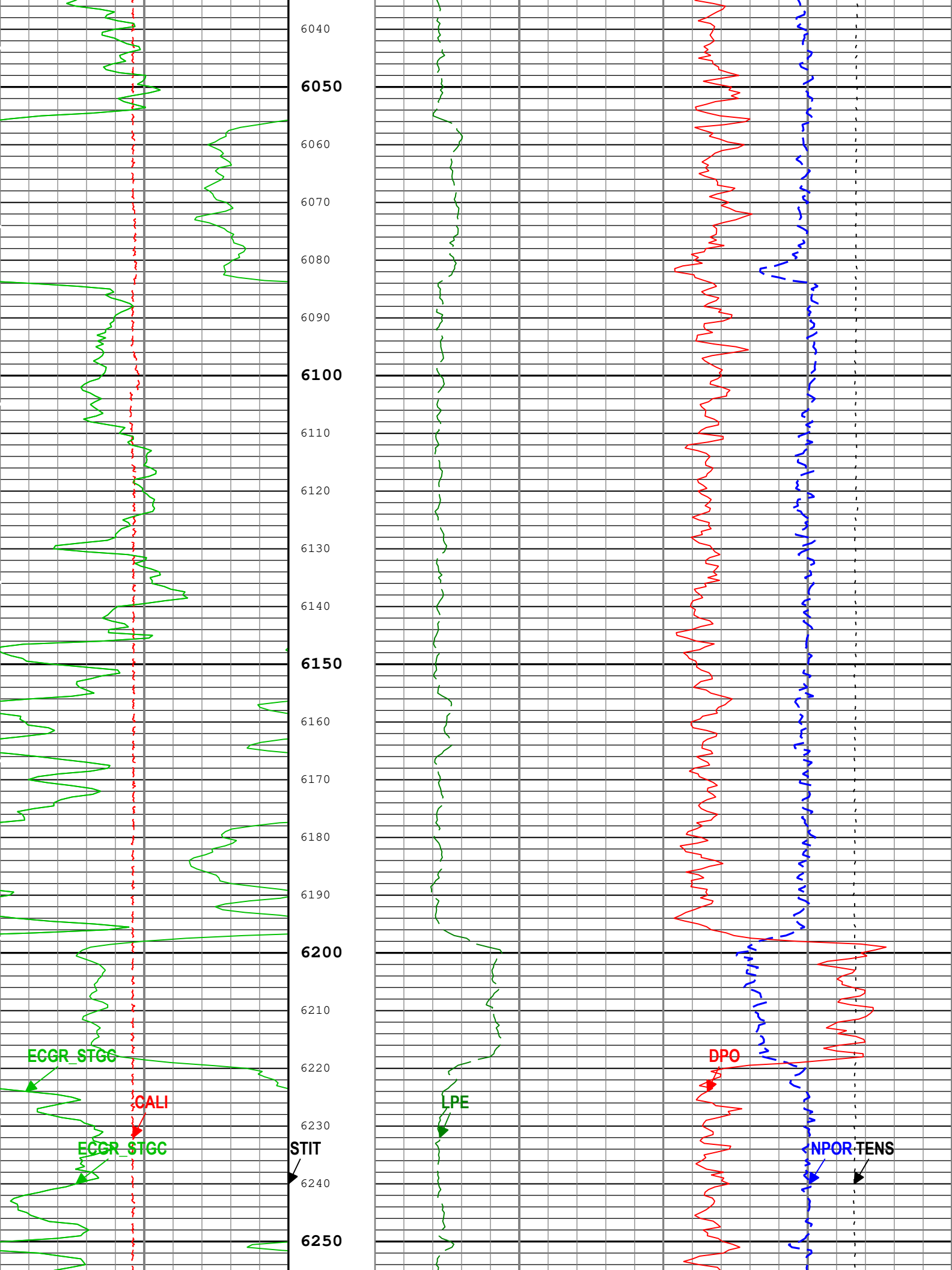
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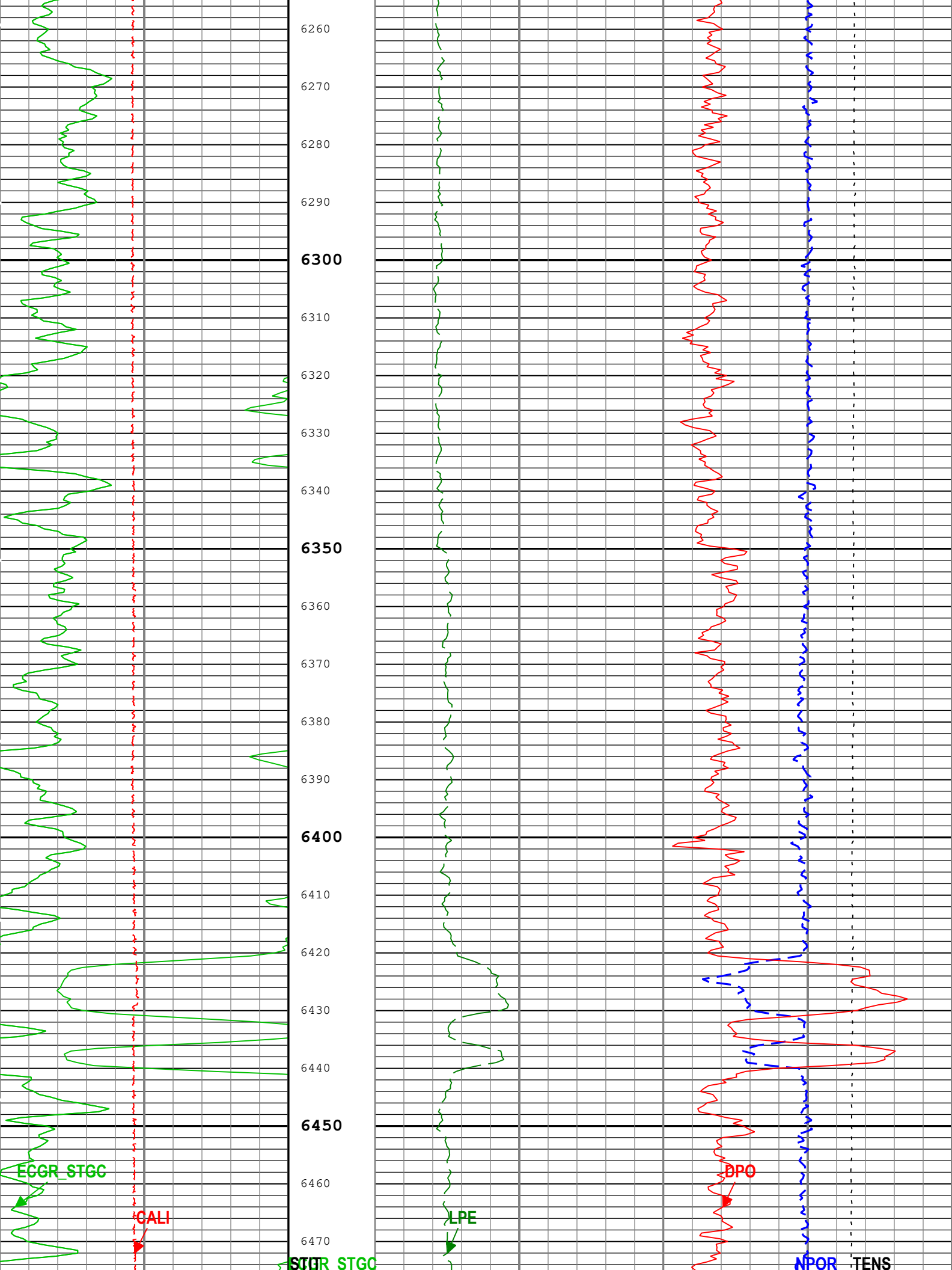
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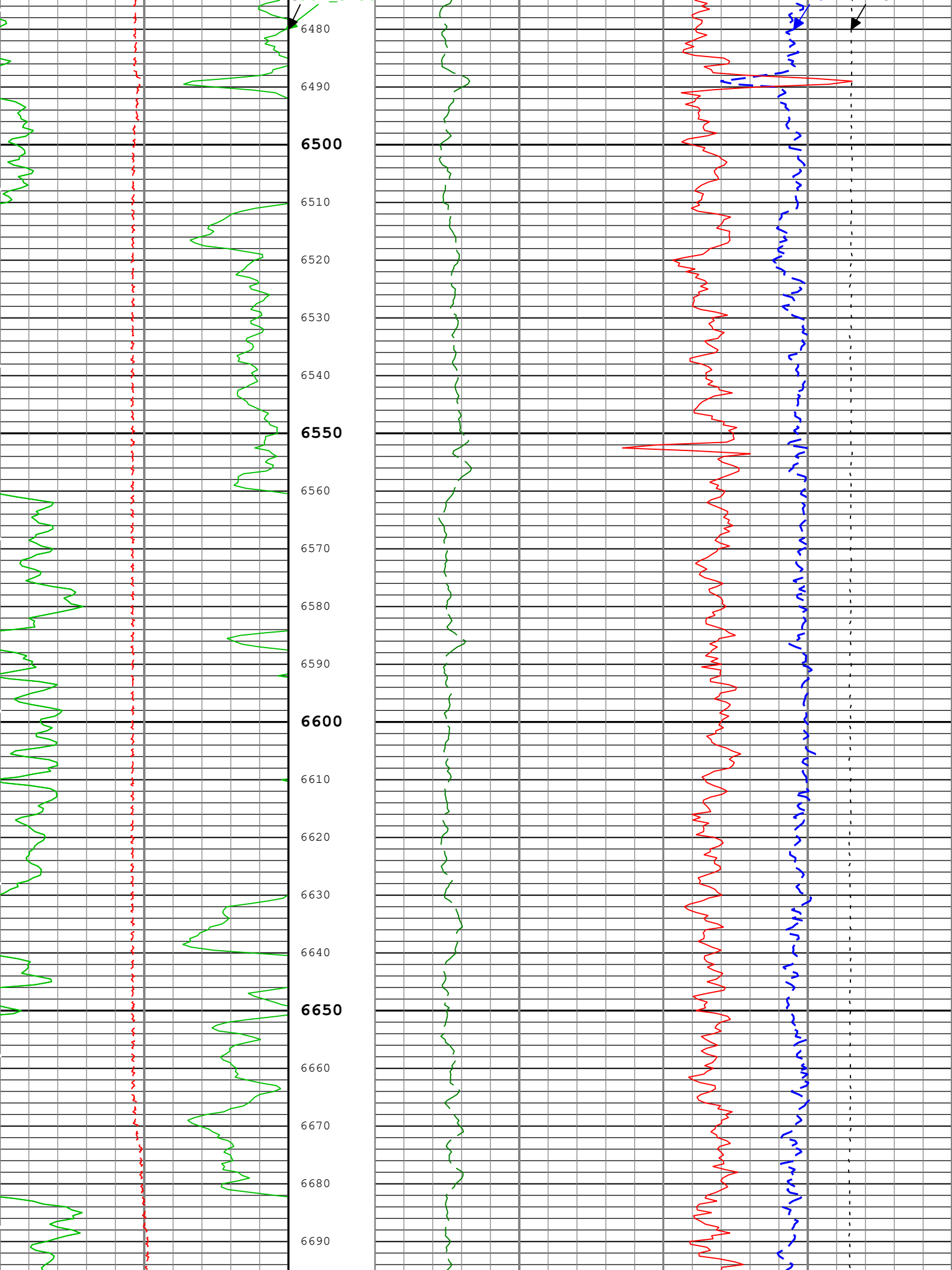
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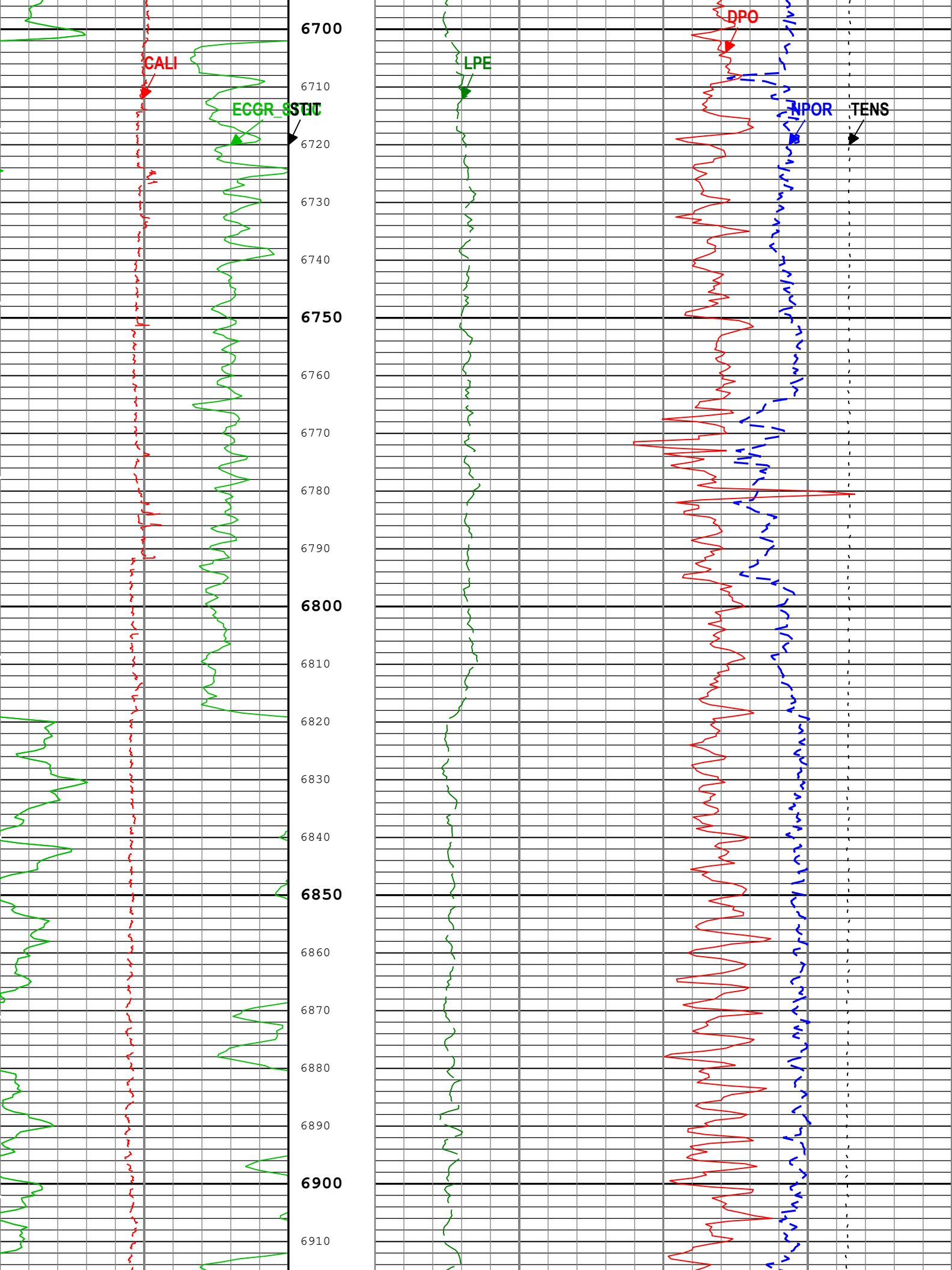
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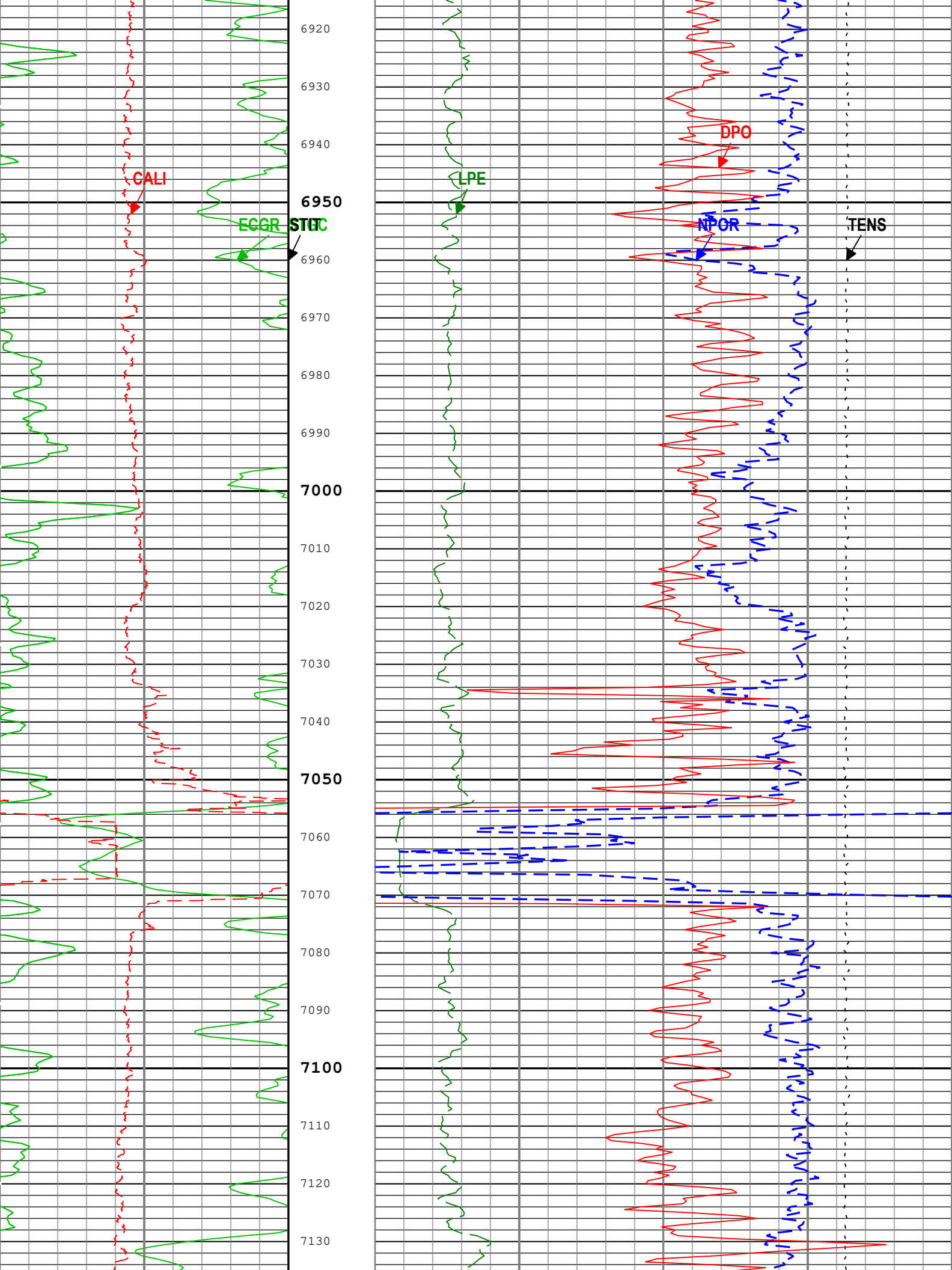
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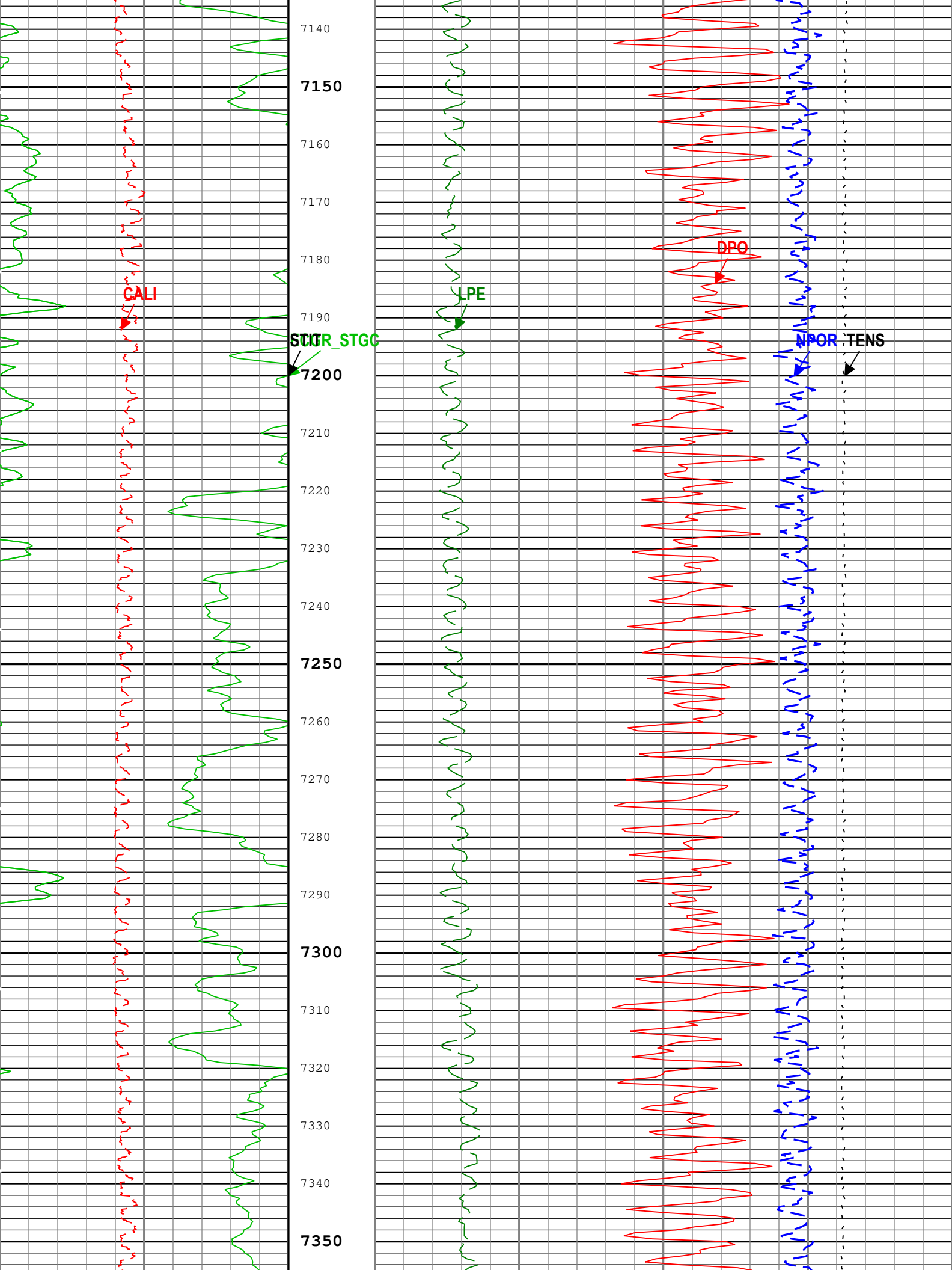
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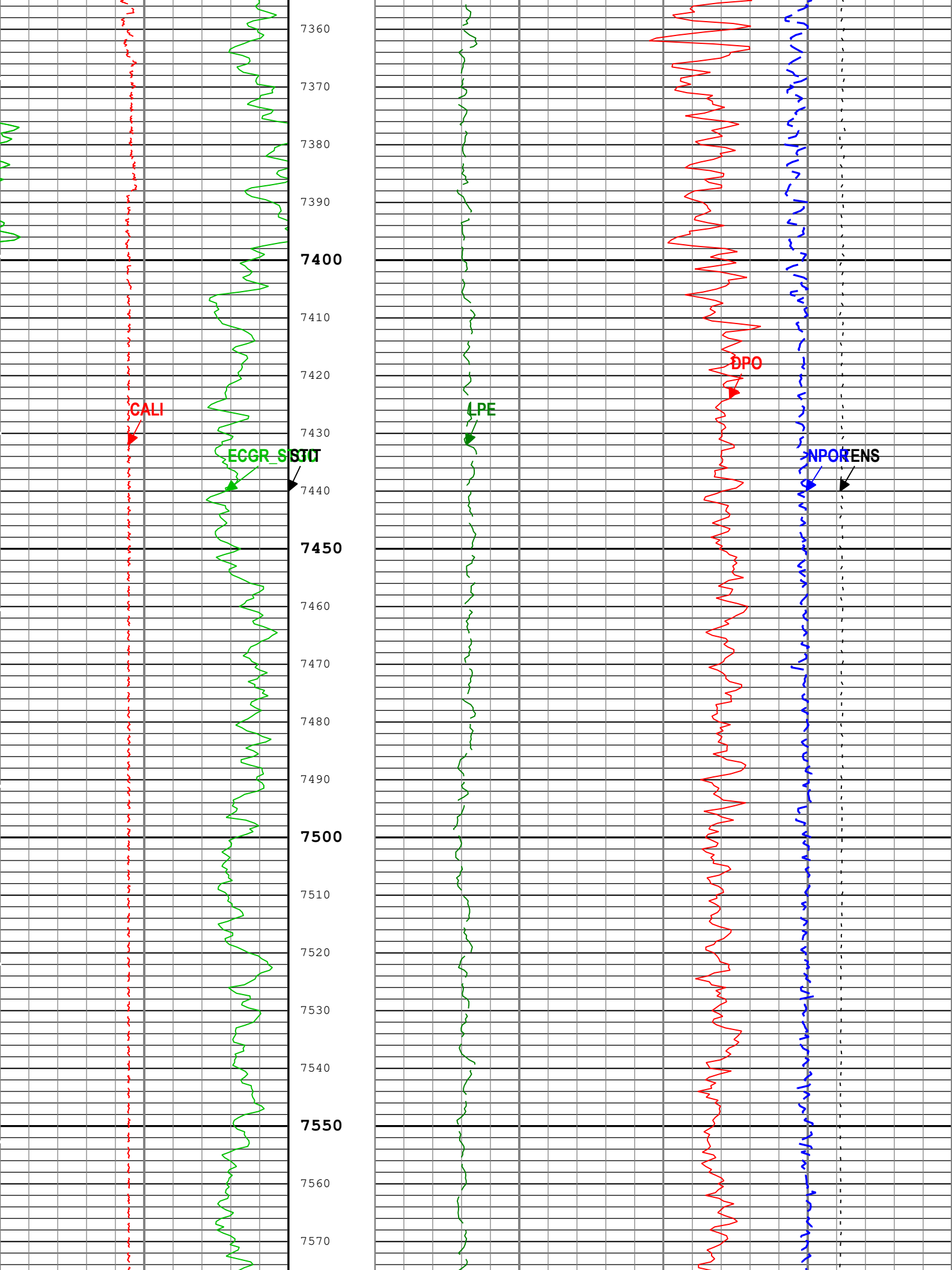
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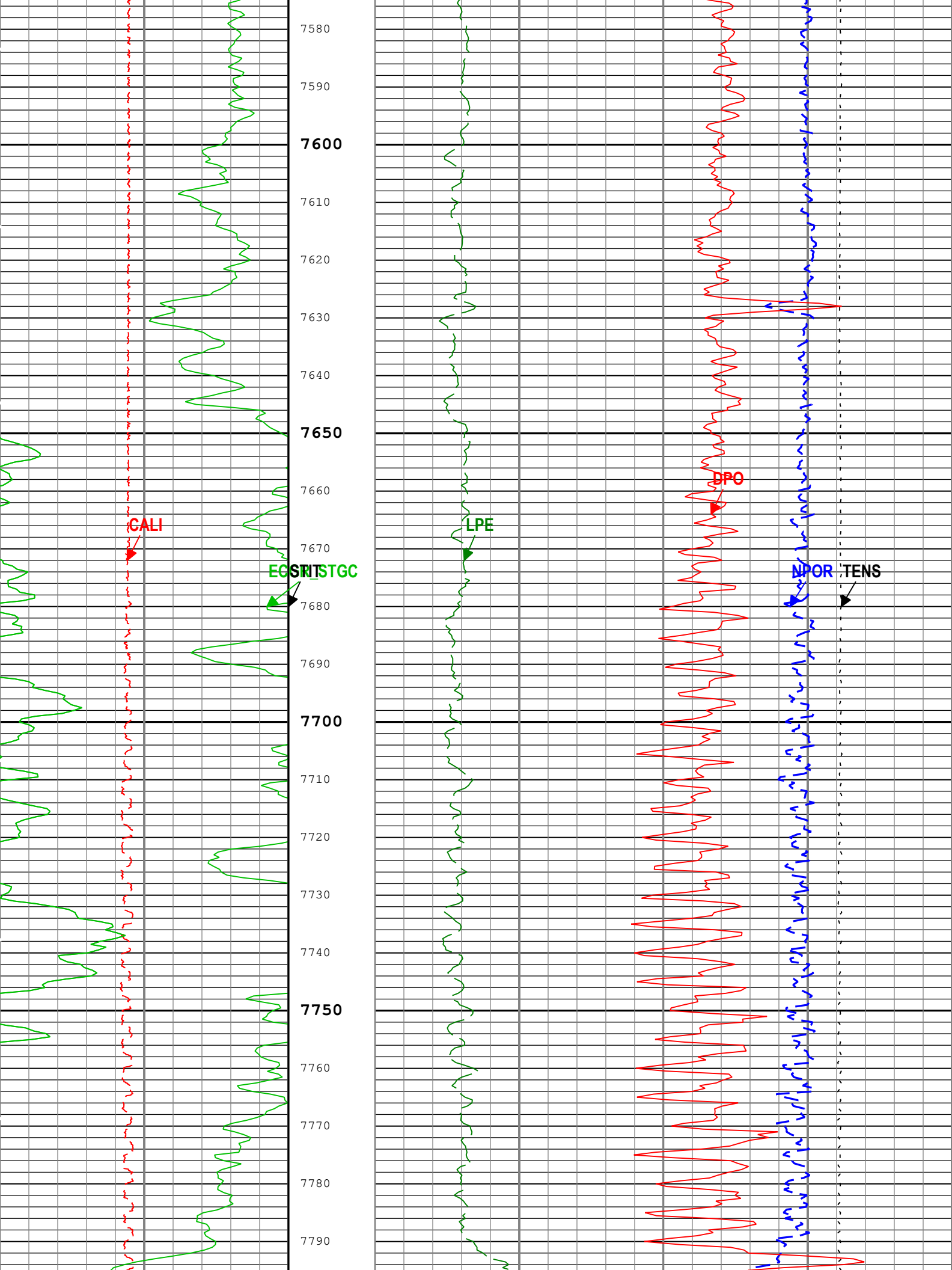
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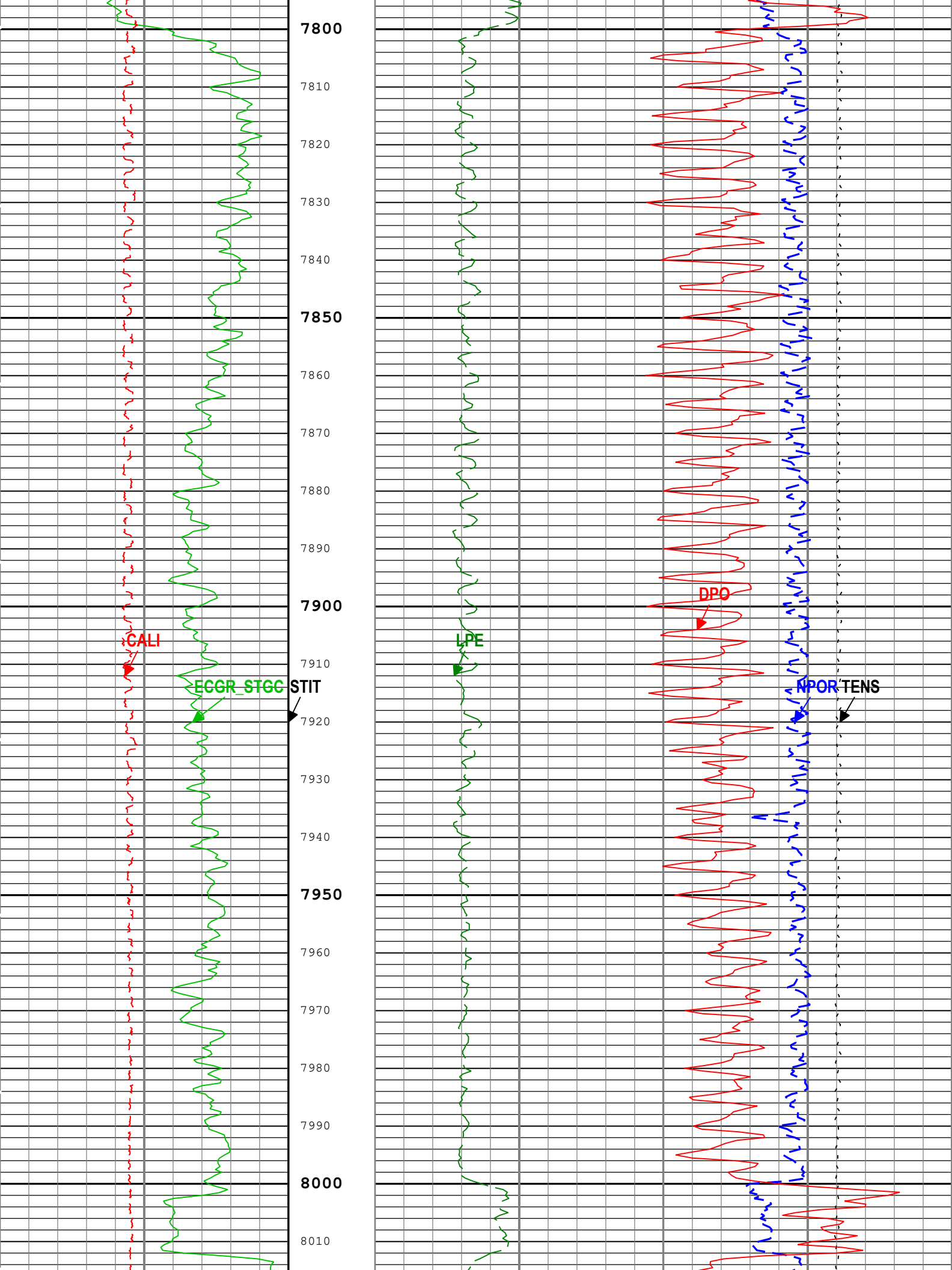
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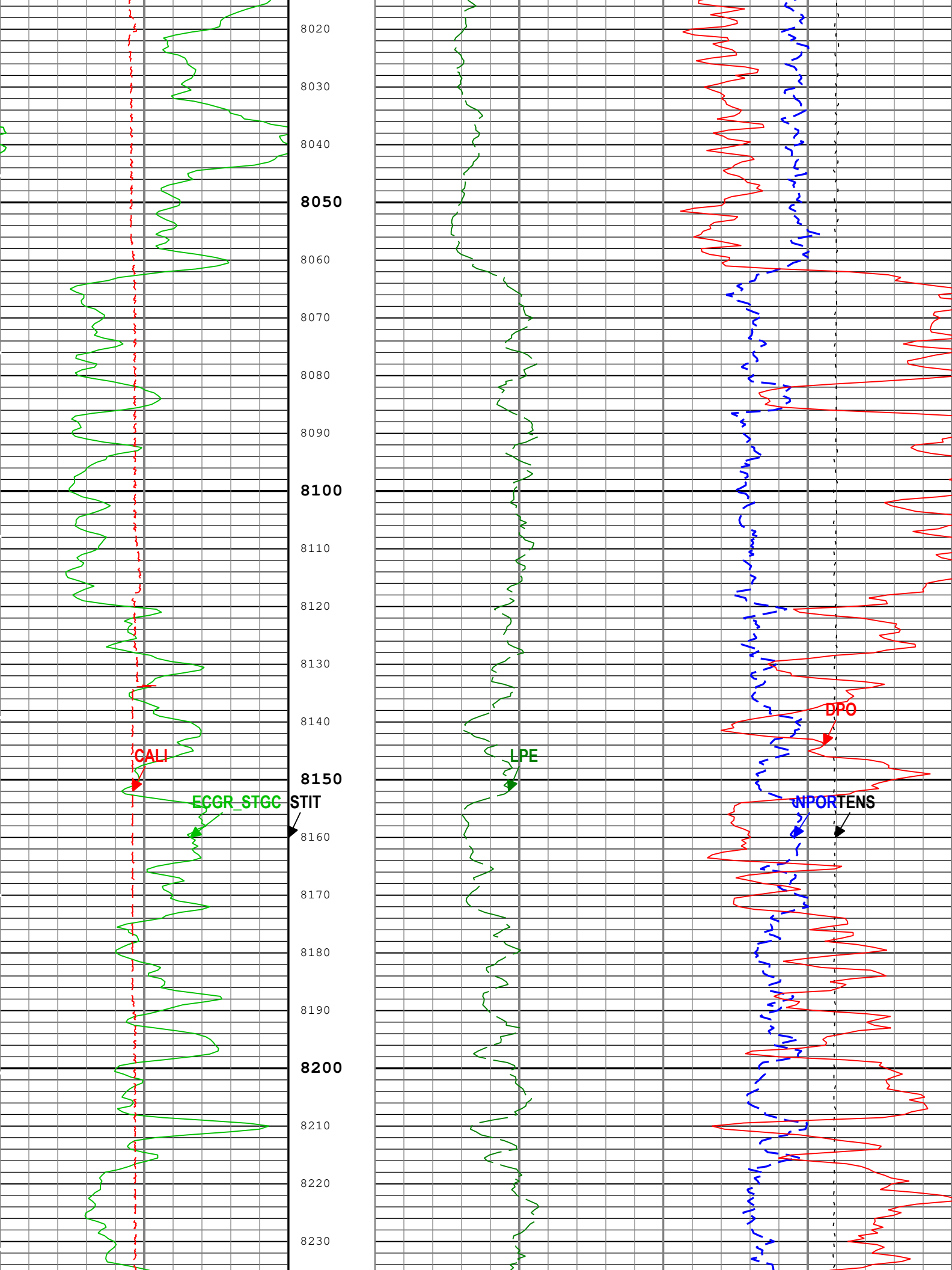
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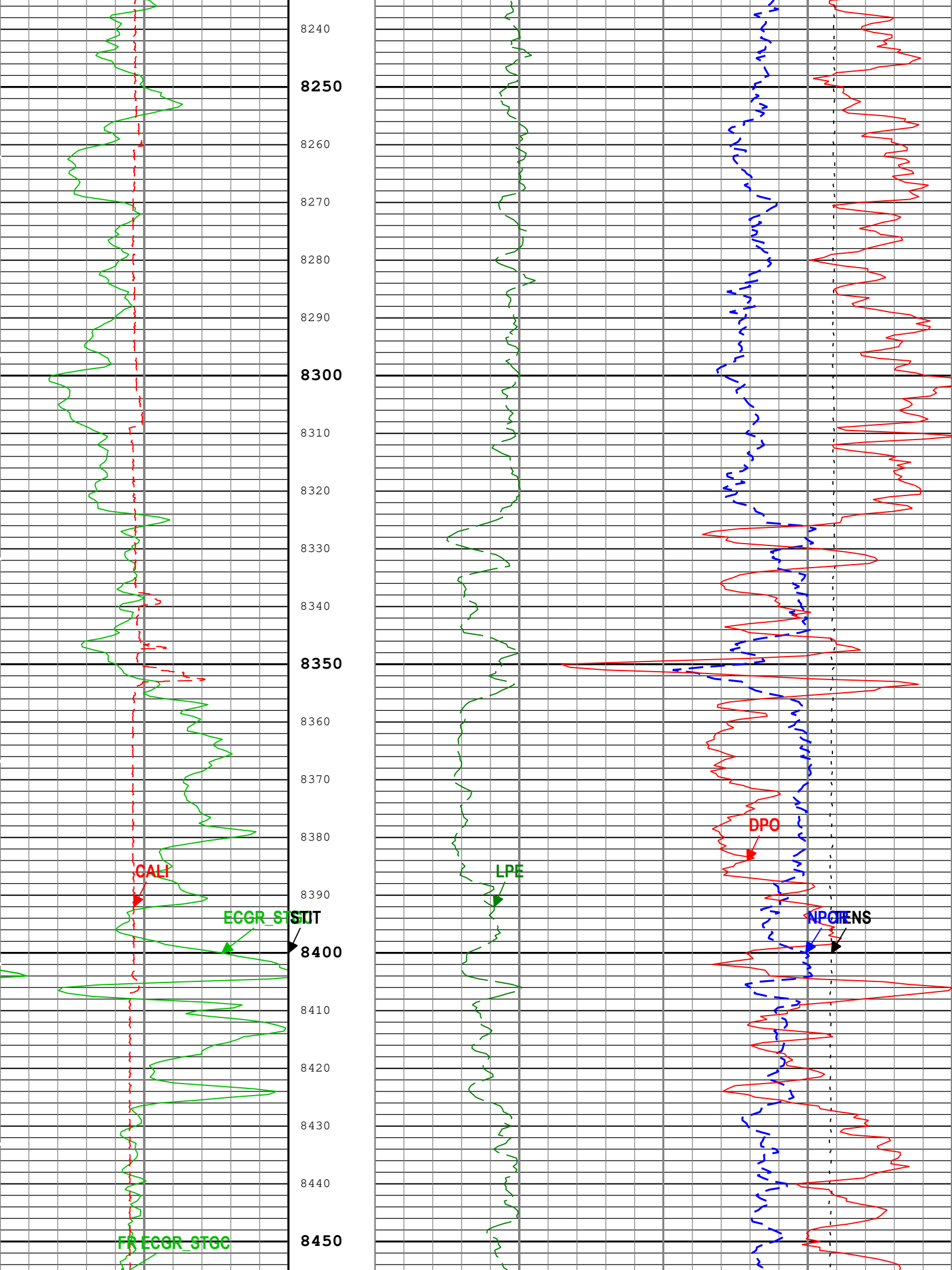
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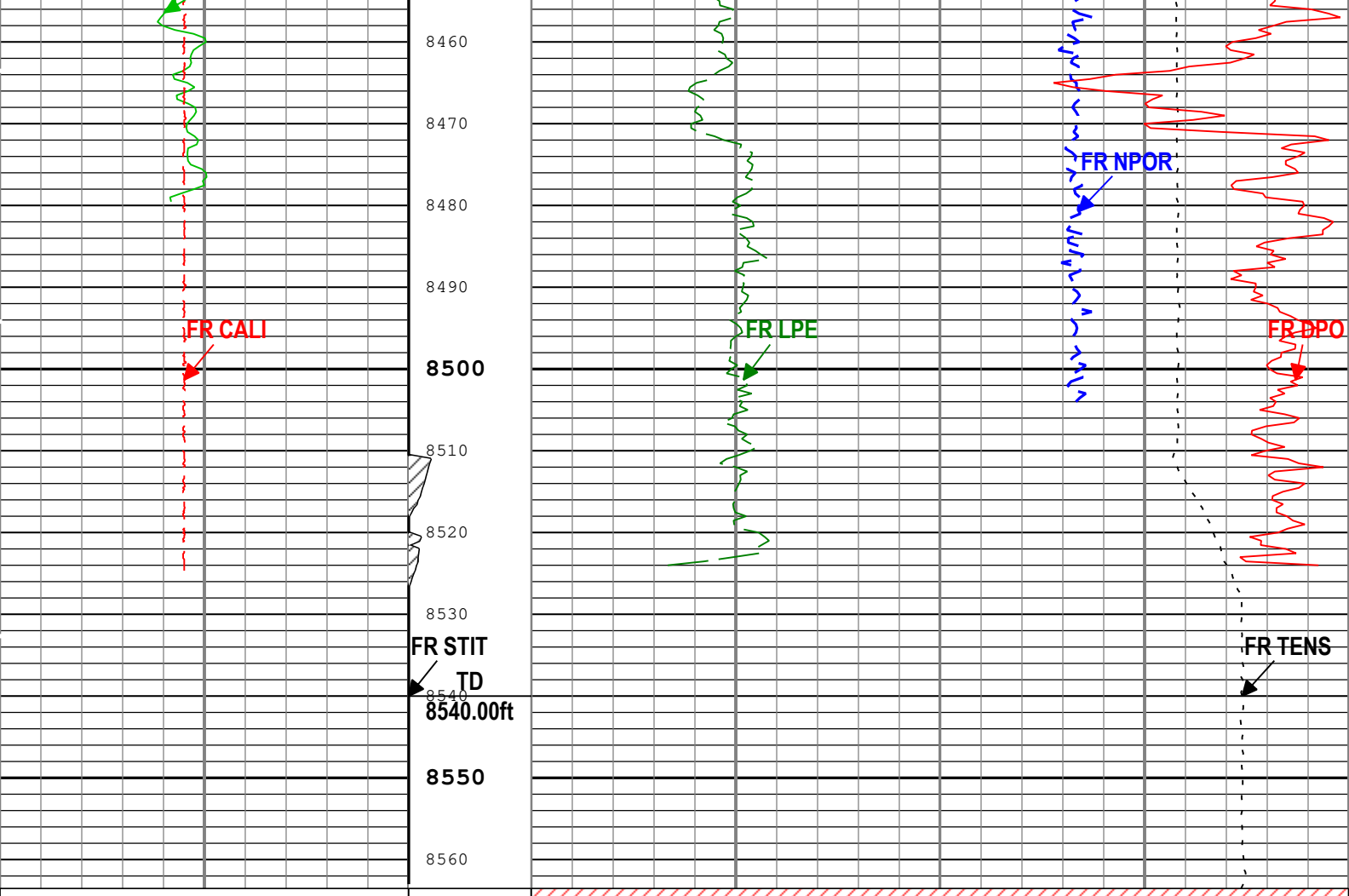


Gamma Ray (ECGR_STGC) QTGC-B
0 gAPI 200

Caliper (CALI) HLDS-D
6 in 16

Stuck Tool Indicator, Total (STIT)
0 ft 50

ToolDrag

Gas Effect

Enhanced Thermal Neutron Porosity in Selected Lithology (NPOR) QCNT
0.3 m3/m3 -0.1

Density Porosity (DPO) HLDS-D
0.3 ft3/ft3 -0.1

Photoelectric Factor - filtered (LPE) HLDS-D
0 10

Cable Tension (TENS)
10000 lbf 0

TIME_1900 - Time Marked every 60.00 (s)

Description: HGNS standard resolution porosities for Platform Express Format: Log (Porosity-5) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 20-Jul-2021 01:38:24

Channel Processing Parameters

2A: Parameters

Parameter	Description	Tool	Value	Unit
BARI(ISSBAR)	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Open	
BHT	Bottom Hole Temperature	Borehole	353.72	degF
BS	Bit Size	WLSESSION	Depth Zoned	in
BSAL	Borehole Salinity	Borehole	0	ppm
CALI_SHIFT	CALI Supplementary Offset	HLDS-D	-0.217	in
CBLO	Casing Bottom (Logger)	WLSESSION	2988	ft
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	8.3	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	

DHC	Density Hole Correction	HLDS-D	Bit Size	
FD	Fluid Density	Borehole	1	g/cm3
FSAL	Formation Salinity	Borehole	0	ppm
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	
GTSE	Generalized Temperature Selection, from Measured or Computed Temperature	Borehole	MTEM	
LATC	Activation Correction Switch	HLDS-D	On	
MATR	Rock Matrix for Neutron Porosity Corrections	Borehole	LIMESTONE	
MDEN	Matrix Density for Density Porosity	Borehole	2.71	g/cm3
MFST	Mud Filtrate Sample Temperature	Borehole	95	degF
MST	Mud Sample Temperature	Borehole	95	degF
RMFS	Resistivity of Mud Filtrate Sample	Borehole	2.13	ohm.m
RMS	Resistivity of Mud Sample	Borehole	2.84	ohm.m
SOCN	Standoff Distance of the Gamma Ray Tool	QTGC-B	0	in
TD	Total Measured Depth	Borehole	8540	ft
TPOS_STGC	Tool Position: Centered or Eccentered	QTGC-B	Eccentered	

Depth Zone Parameters

Parameter	Value	Start (ft)	Stop (ft)
BS	14.77	2970	2989
BS	10.625	2989	8514
BS	8.75	8514	8540

All depth are actual.

Tool Control Parameters

2A: Parameters

Parameter	Description	Tool	Value	Unit
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	1800	ft/h

2A

5" Density

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
2A	Log[2]:Up	Up	2858.91 ft	8563.43 ft	19-Jul-2021 3:16:18 PM	19-Jul-2021 6:22:02 PM	ON	3.65 ft	Yes

All depths are referenced to toolstring zero

Log

Company:University Of Utah Well:FORGE 78B-32

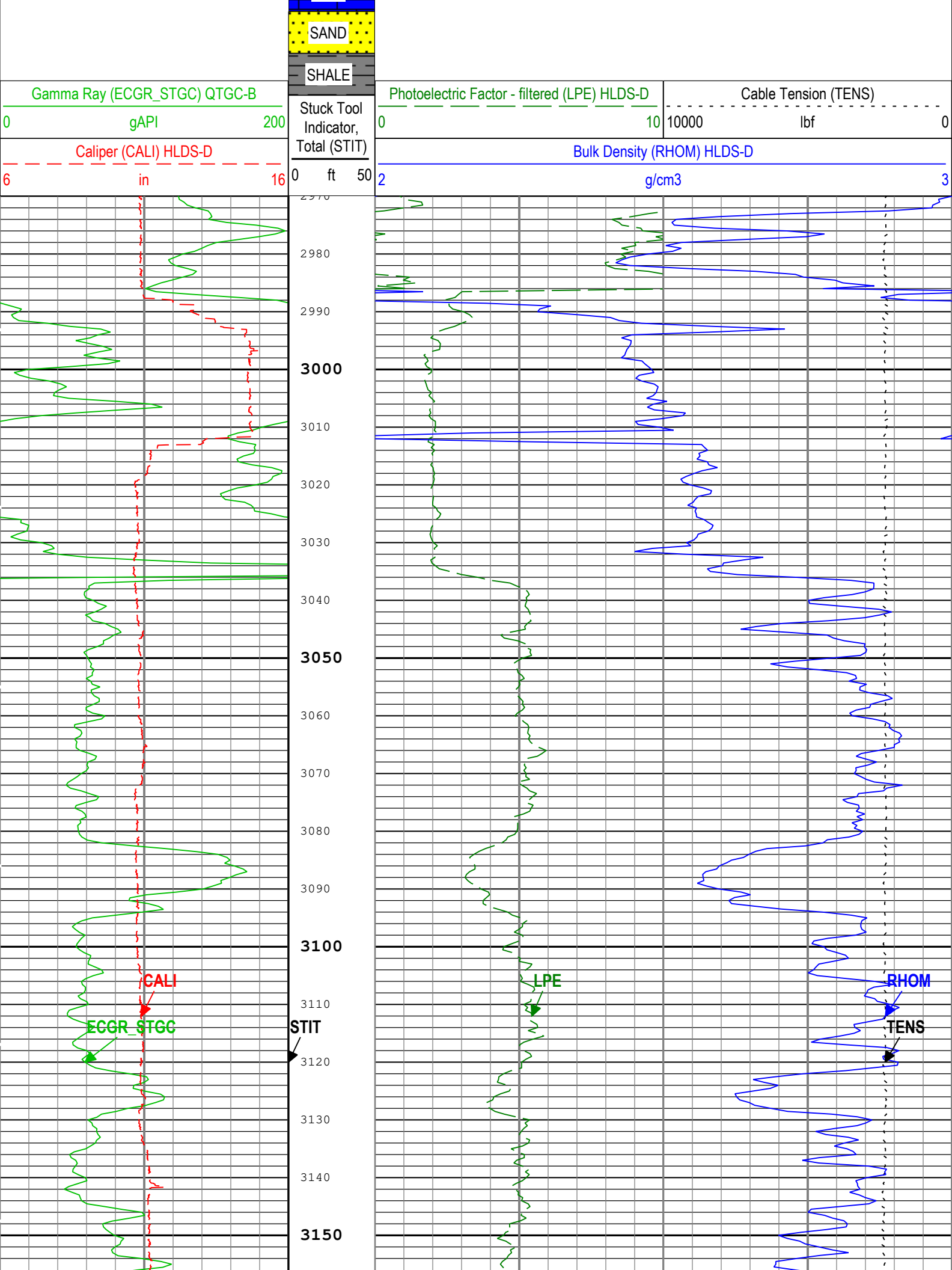
2A: Log[2]:Up:S016

Description: HGNS standard resolution porosities for Platform Express Format: Log (Density-5) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 20-Jul-2021 01:38:30

Channel	Source	Sampling
CALI	HLDS-D:HLDS-Sonde Segment:HLDS-D	1in
GR	QTGC-B:QTGC-B:STGC-B	6in
PEF	HLDS-D:HLDS-Sonde Segment:HLDS-D	6in
RHOB	HLDS-D:HLDS-Sonde Segment:HLDS-D	6in
STIT	DepthCorrection	6in
TENS	WLWorkflow	6in
TIME_1900	WLWorkflow	0.1in

TIME_1900 - Time Marked every 60.00 (s)

LIME


SAND
SHALE
Gamma Ray (ECGR_STGC) QTGC-B
0 gAPI 200
Caliper (CALI) HLDS-D
6 in 16
Stuck Tool Indicator, Total (STIT)
0 ft 50
Photoelectric Factor - filtered (LPE) HLDS-D
0 10
Cable Tension (TENS)
10000 lbf 0
Bulk Density (RHOM) HLDS-D
2 g/cm3 3
2980
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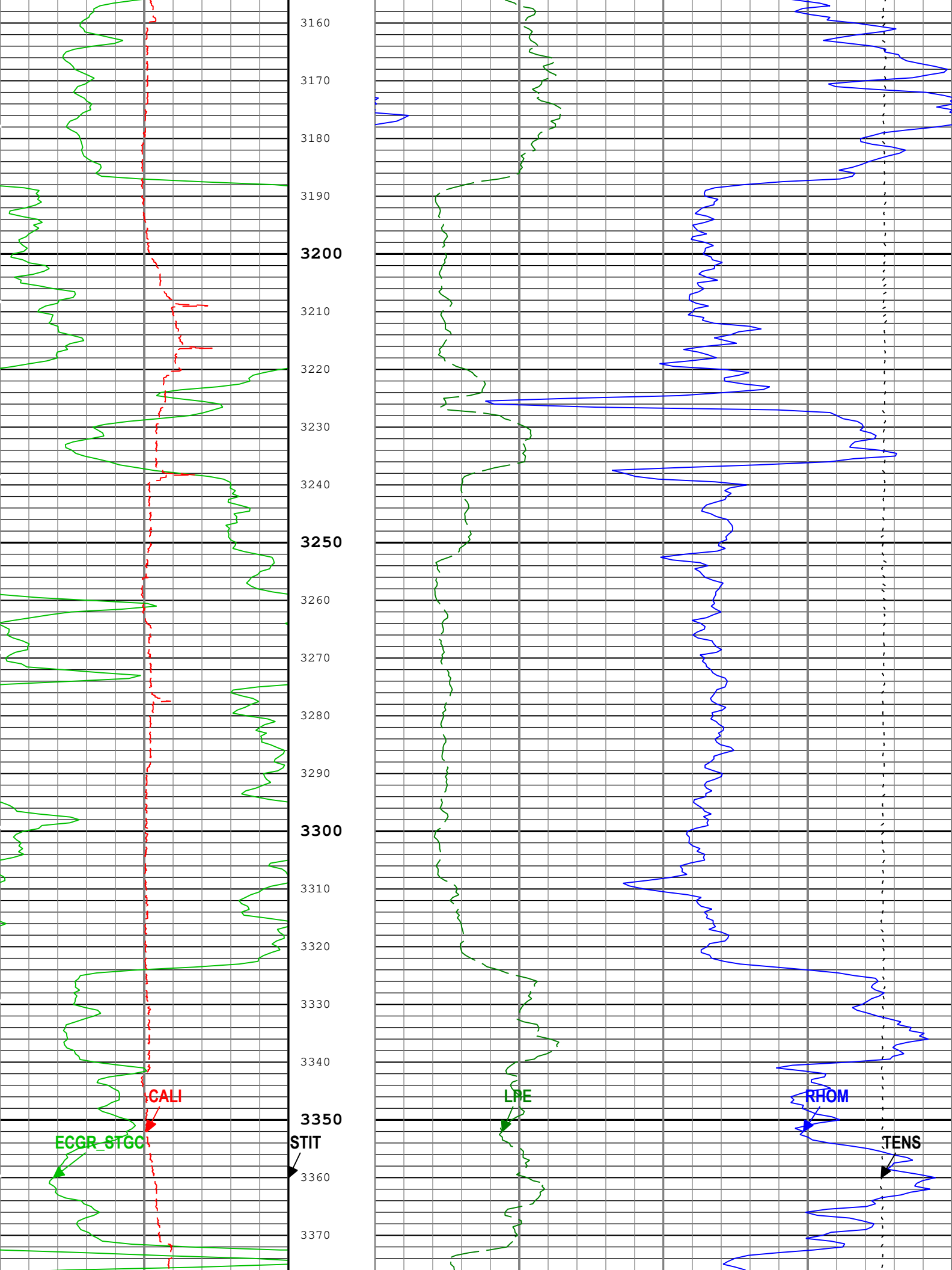
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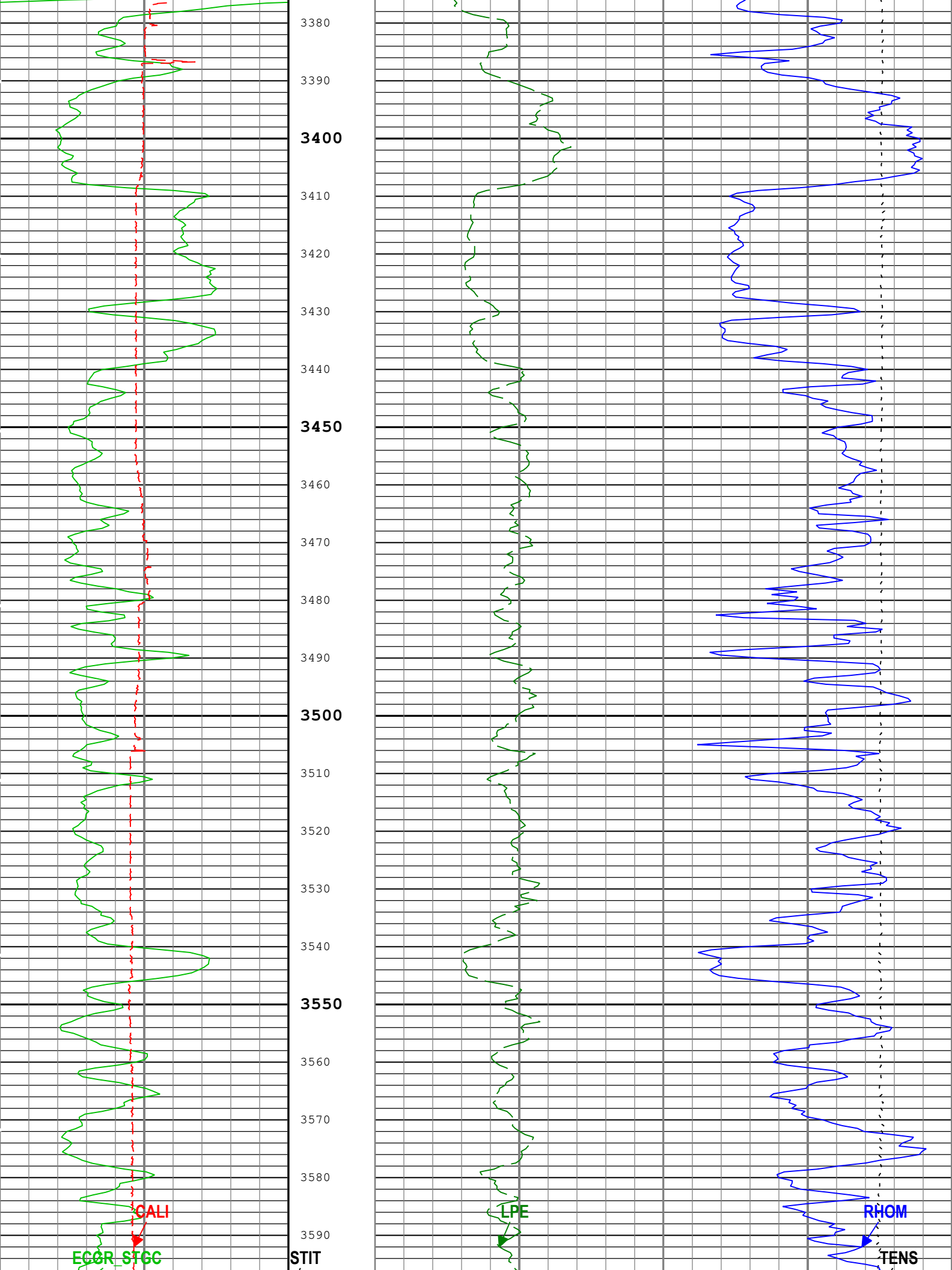
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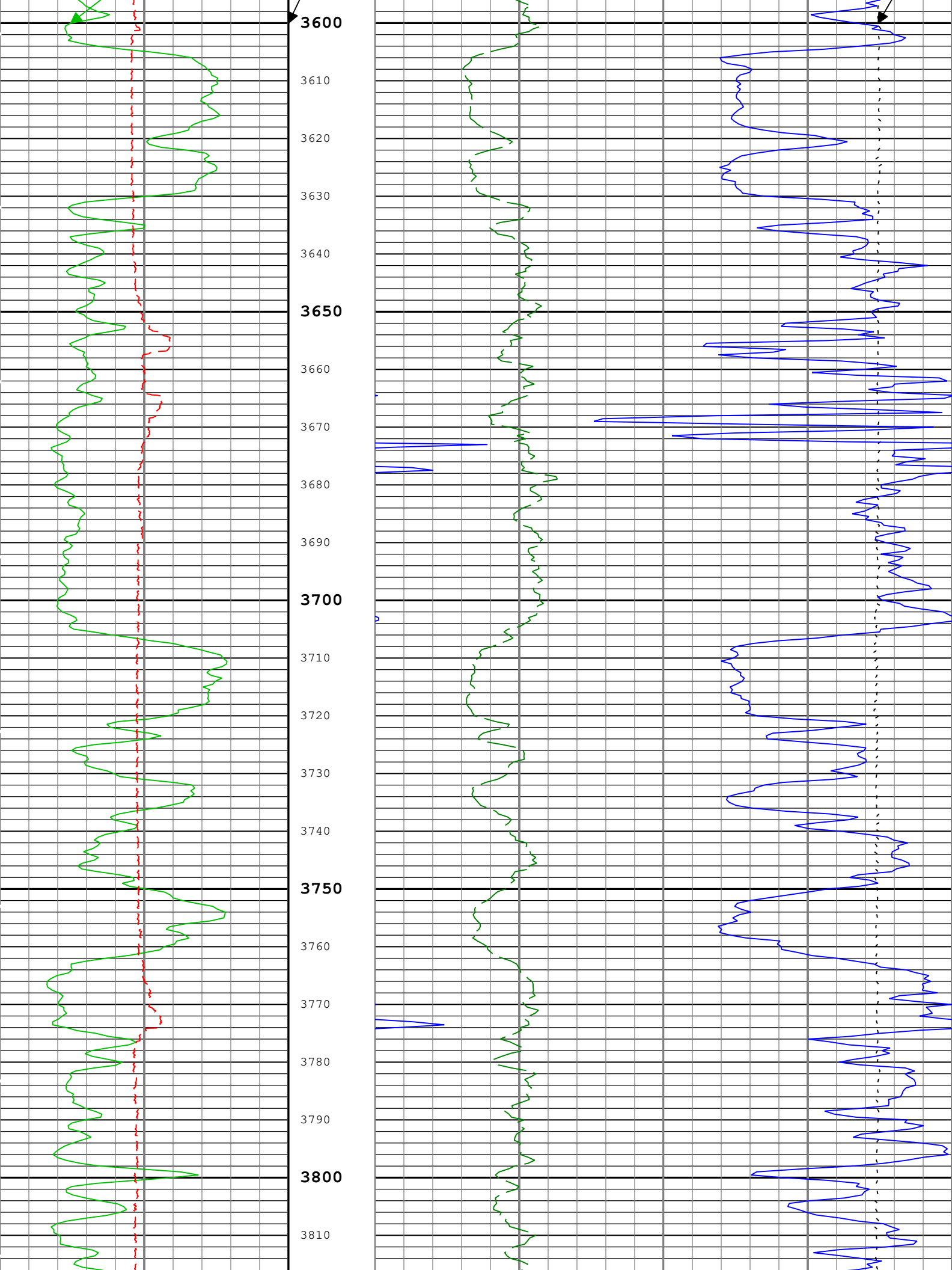
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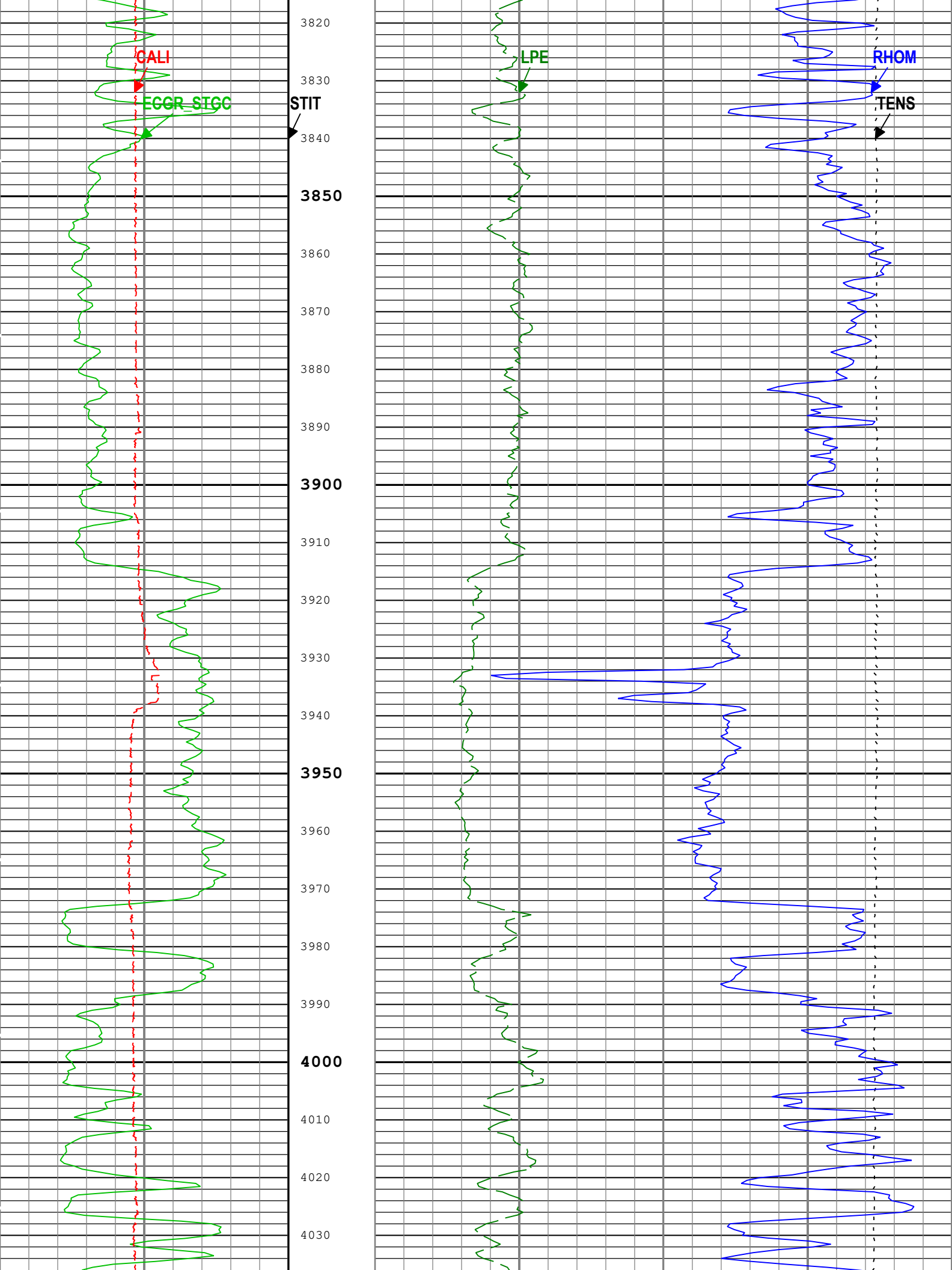
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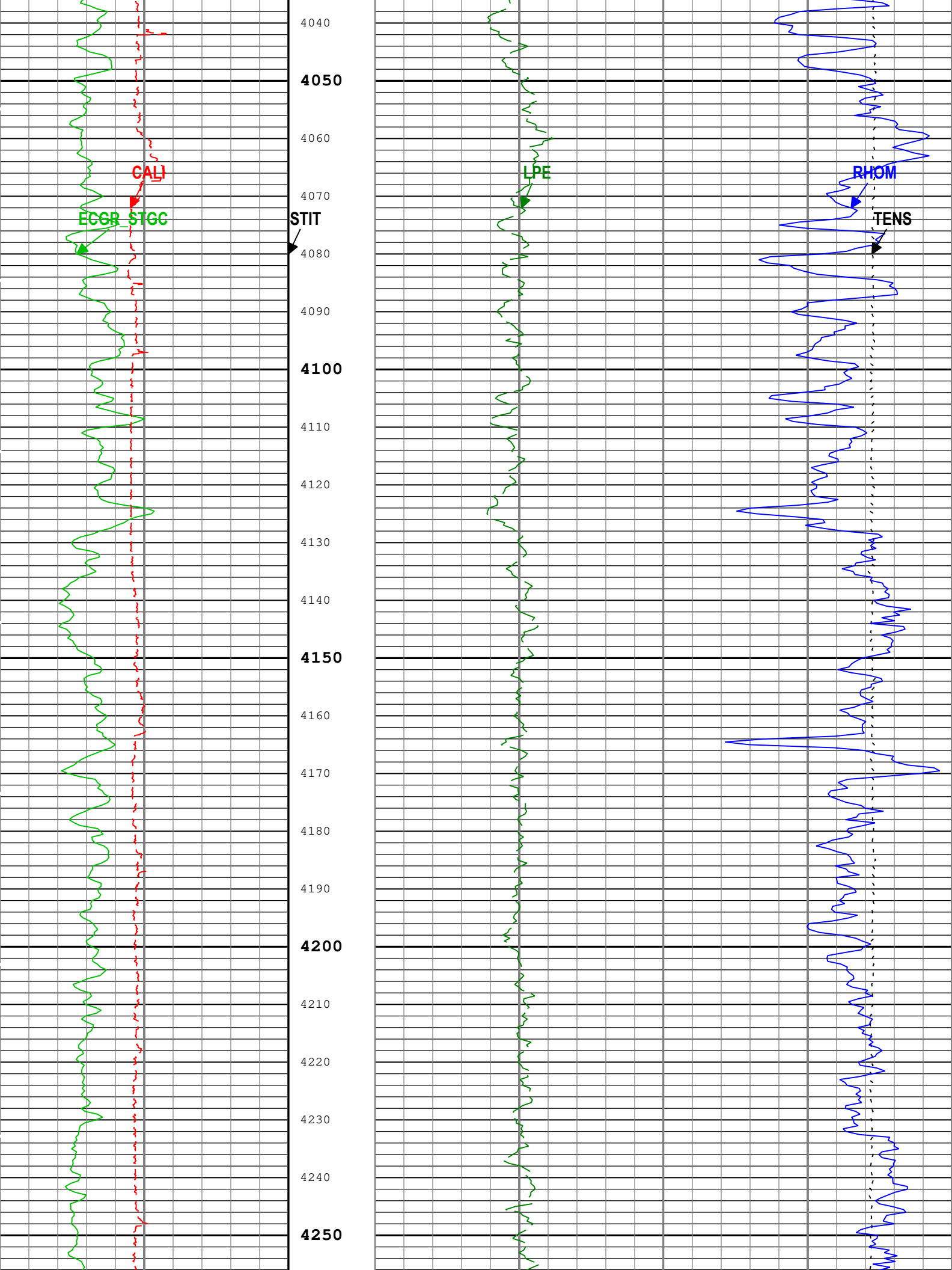
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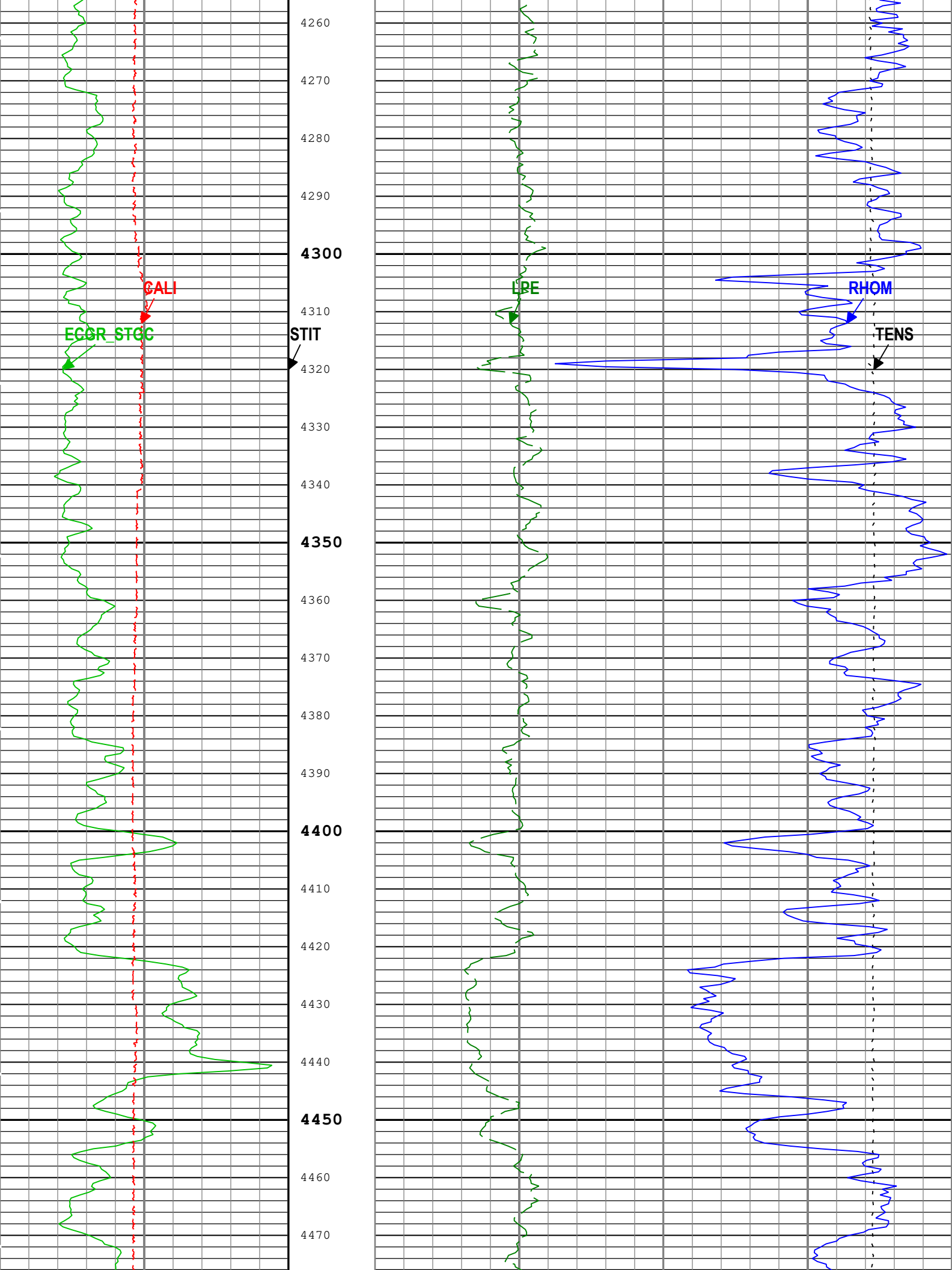
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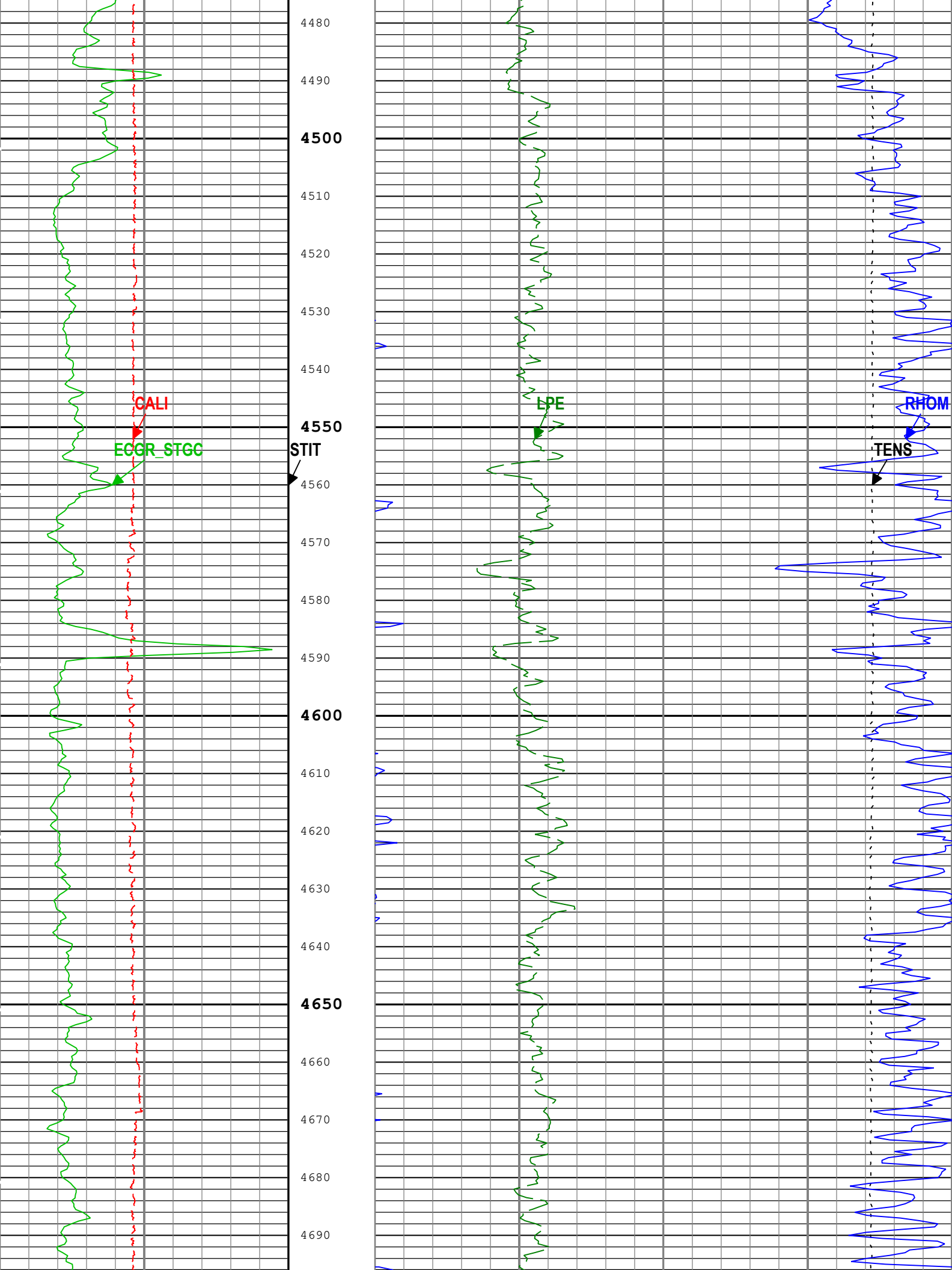
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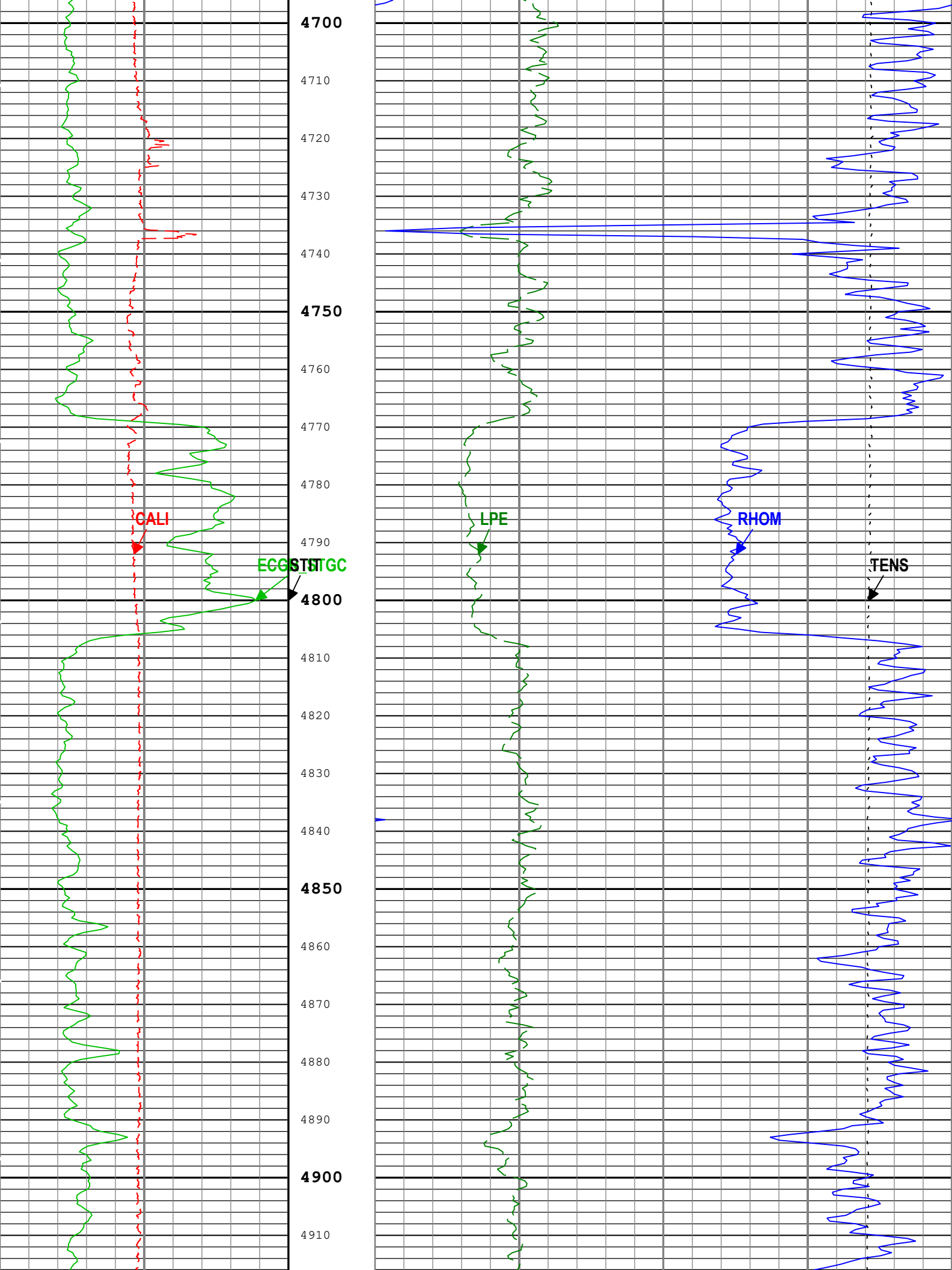
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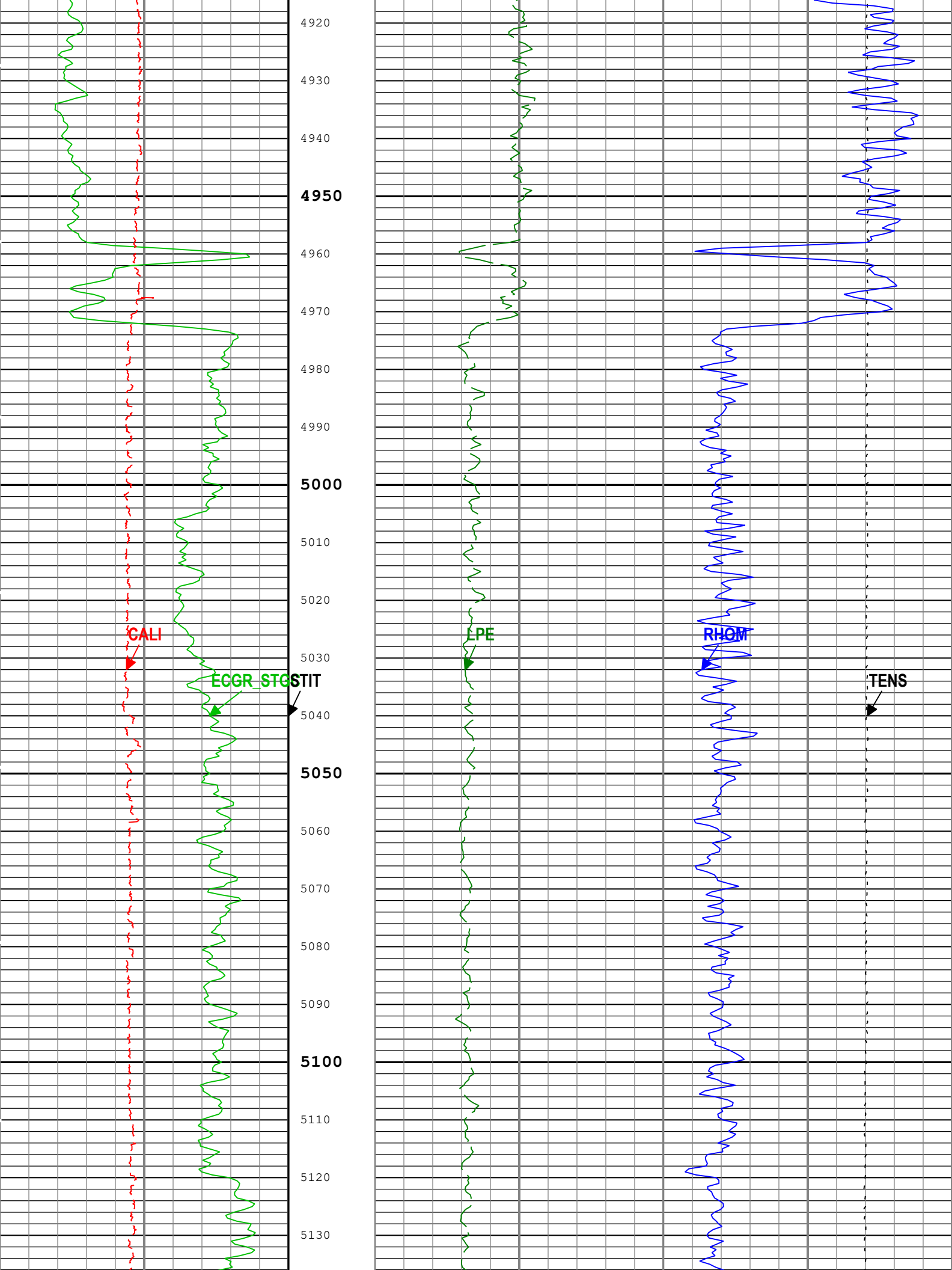
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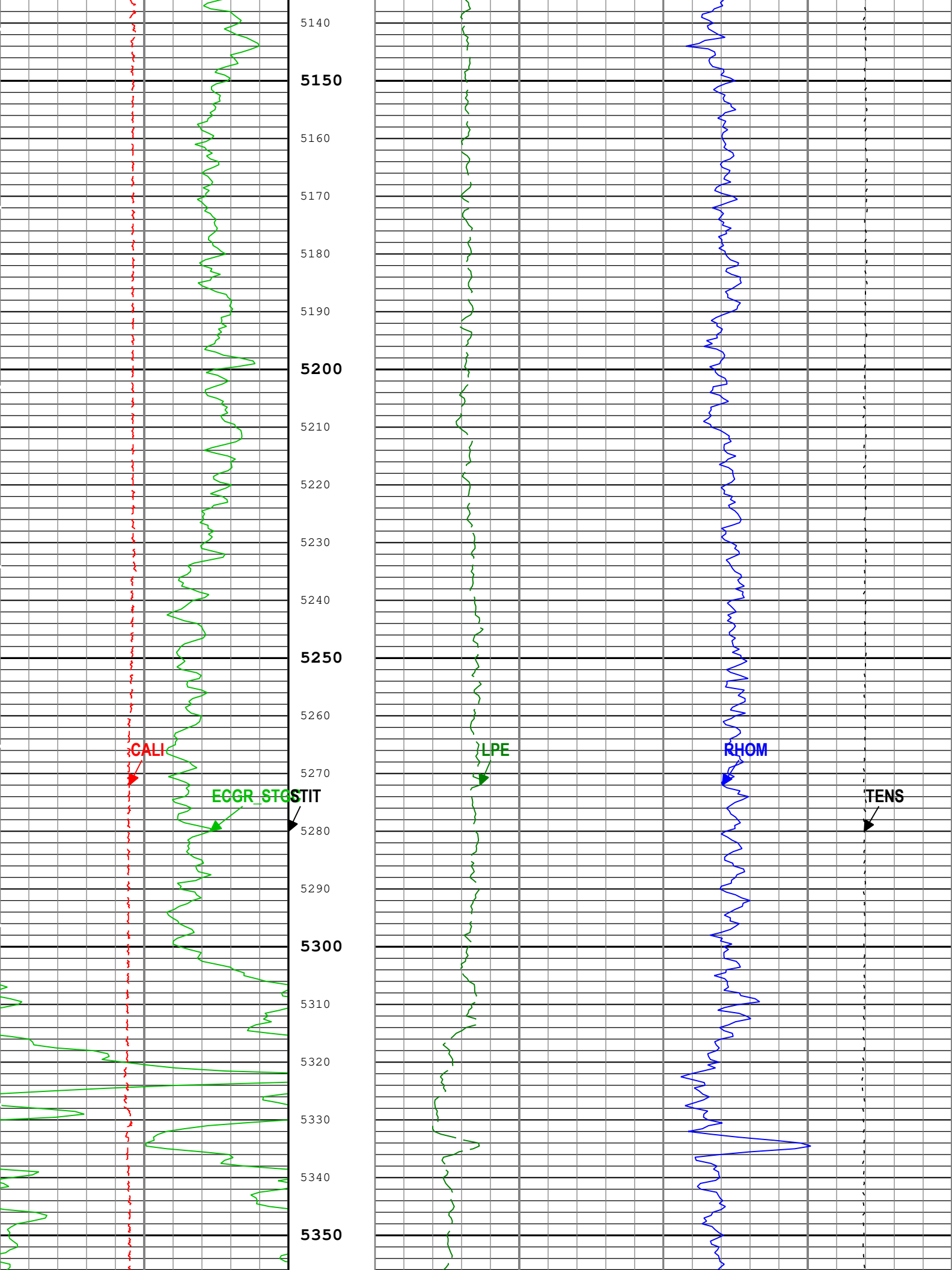
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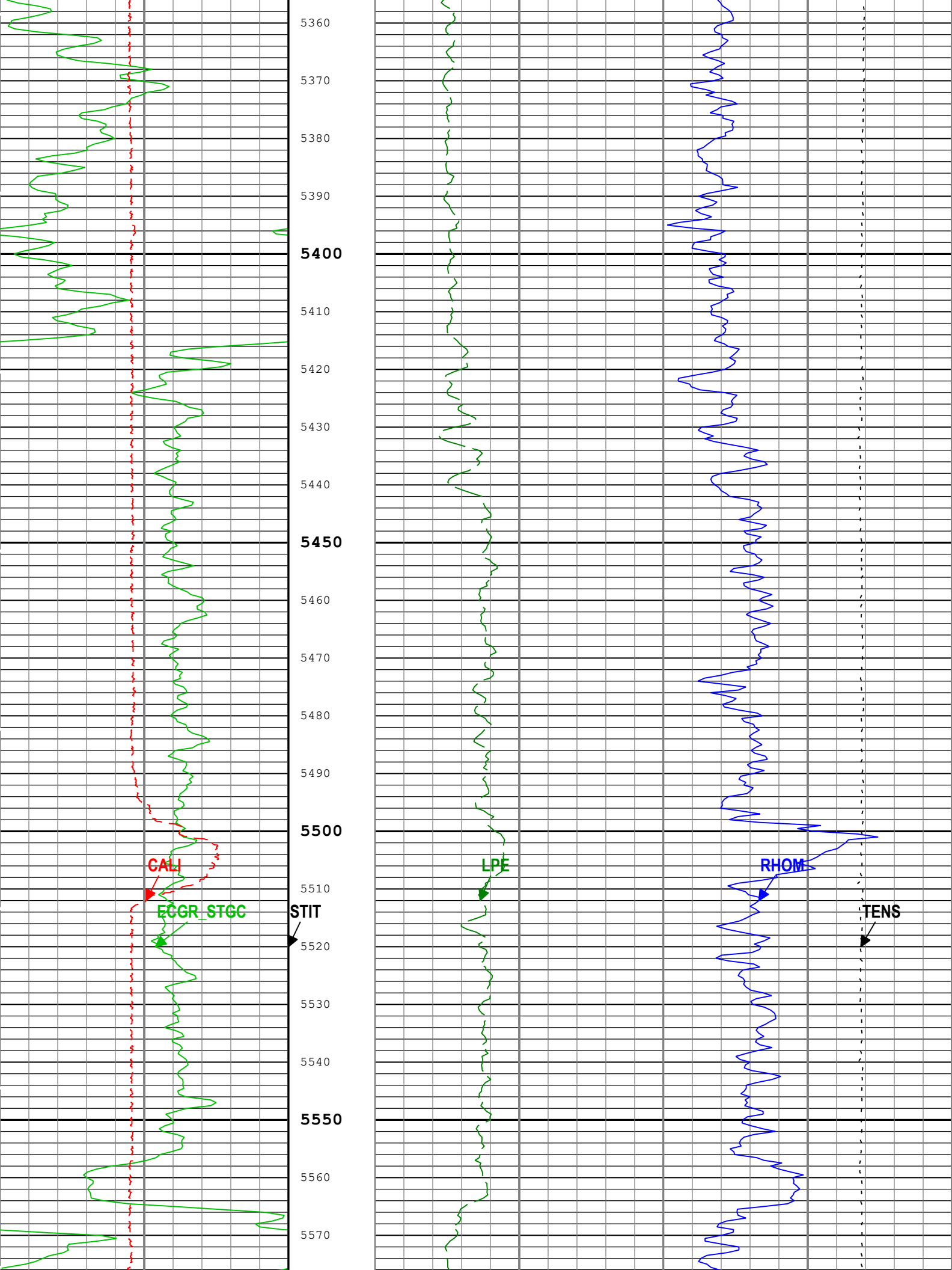
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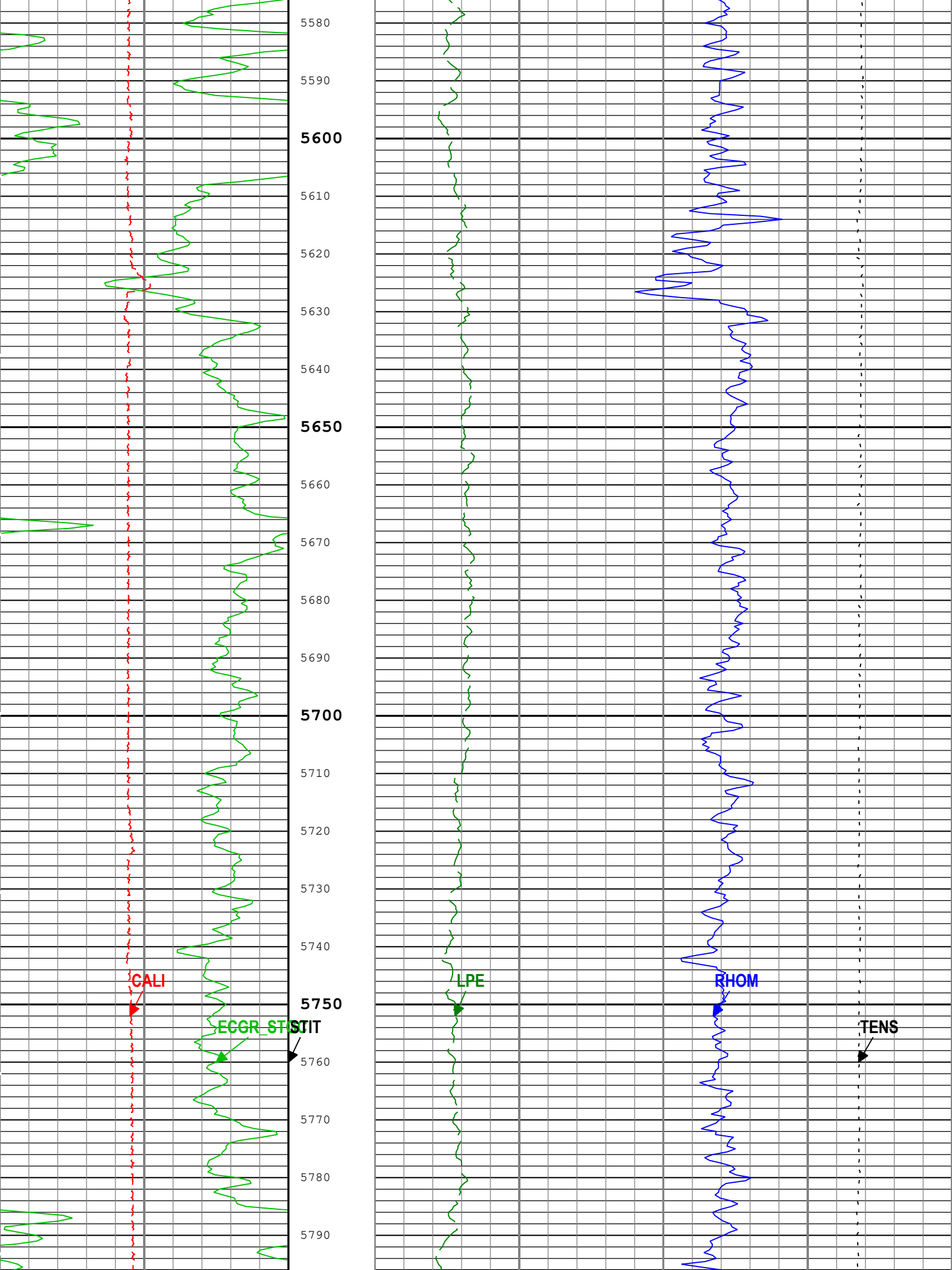
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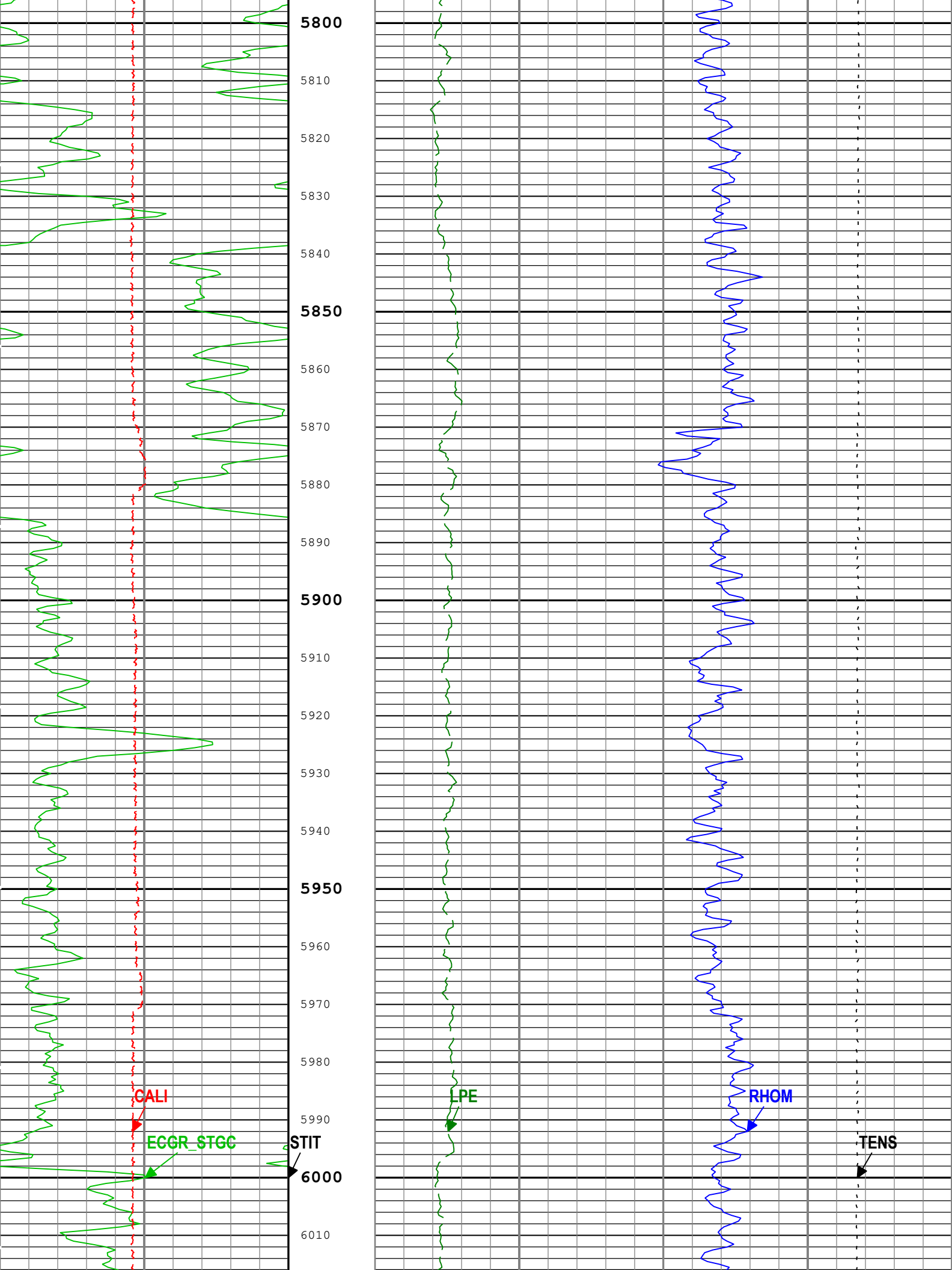
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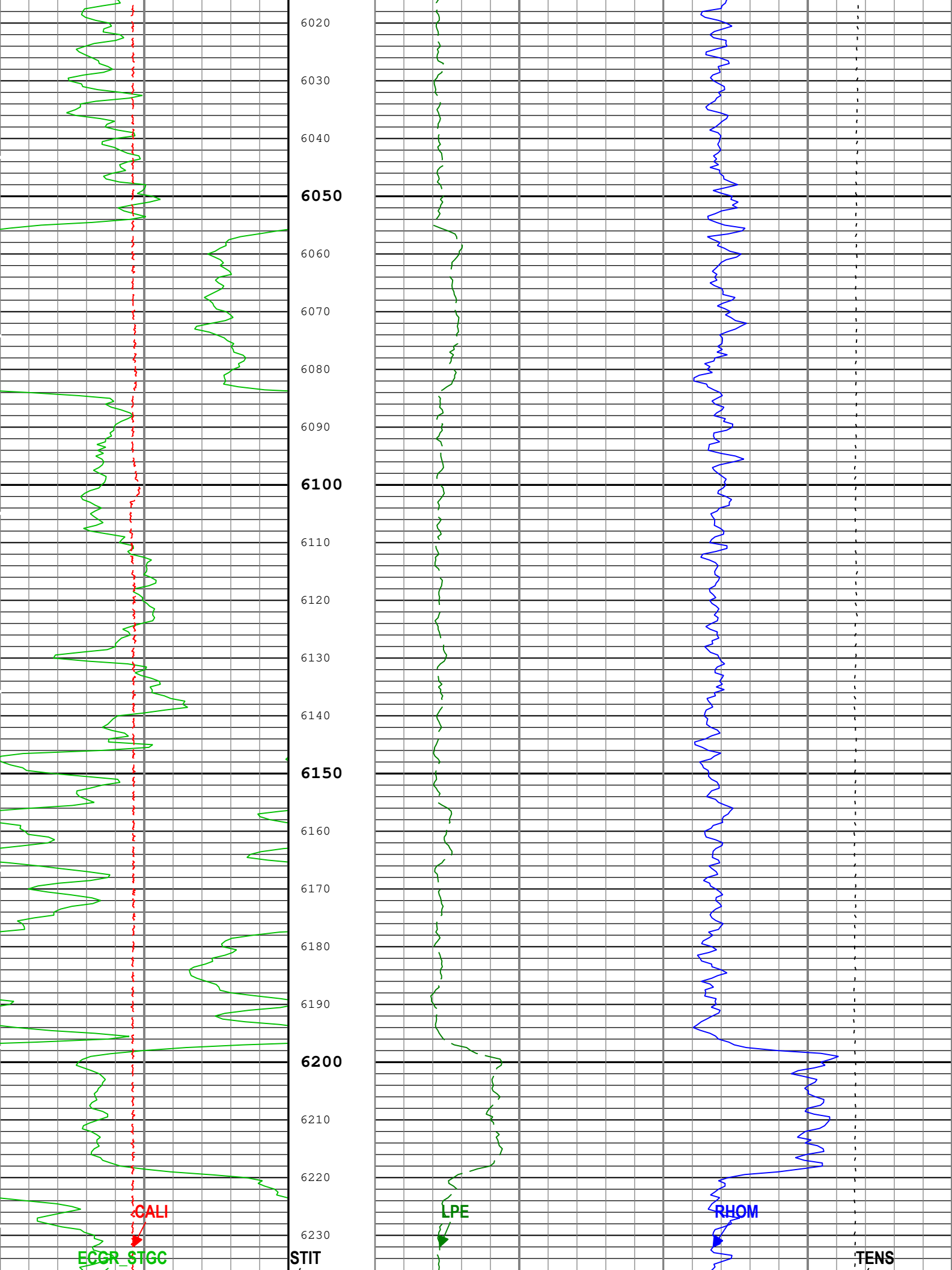
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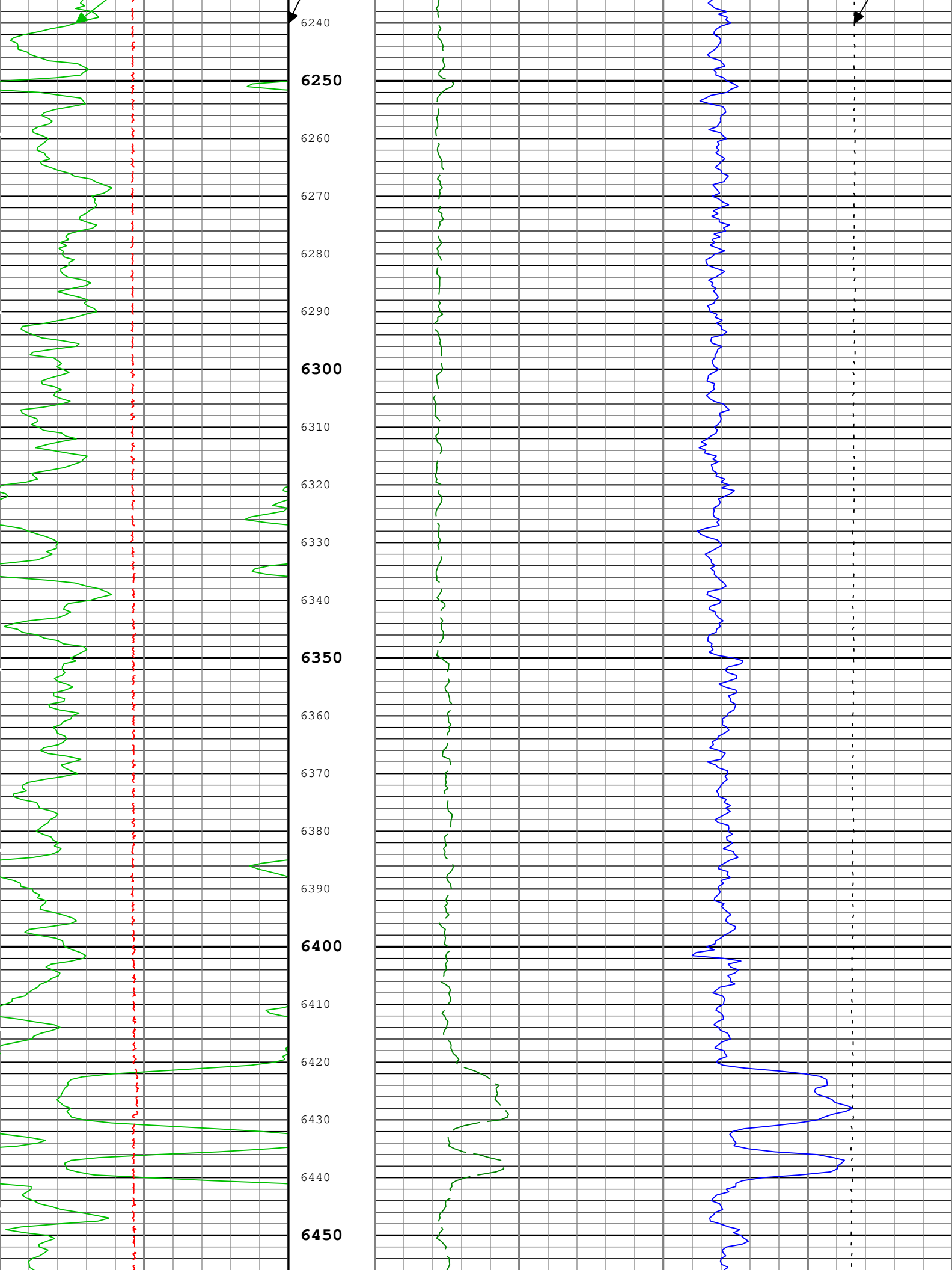
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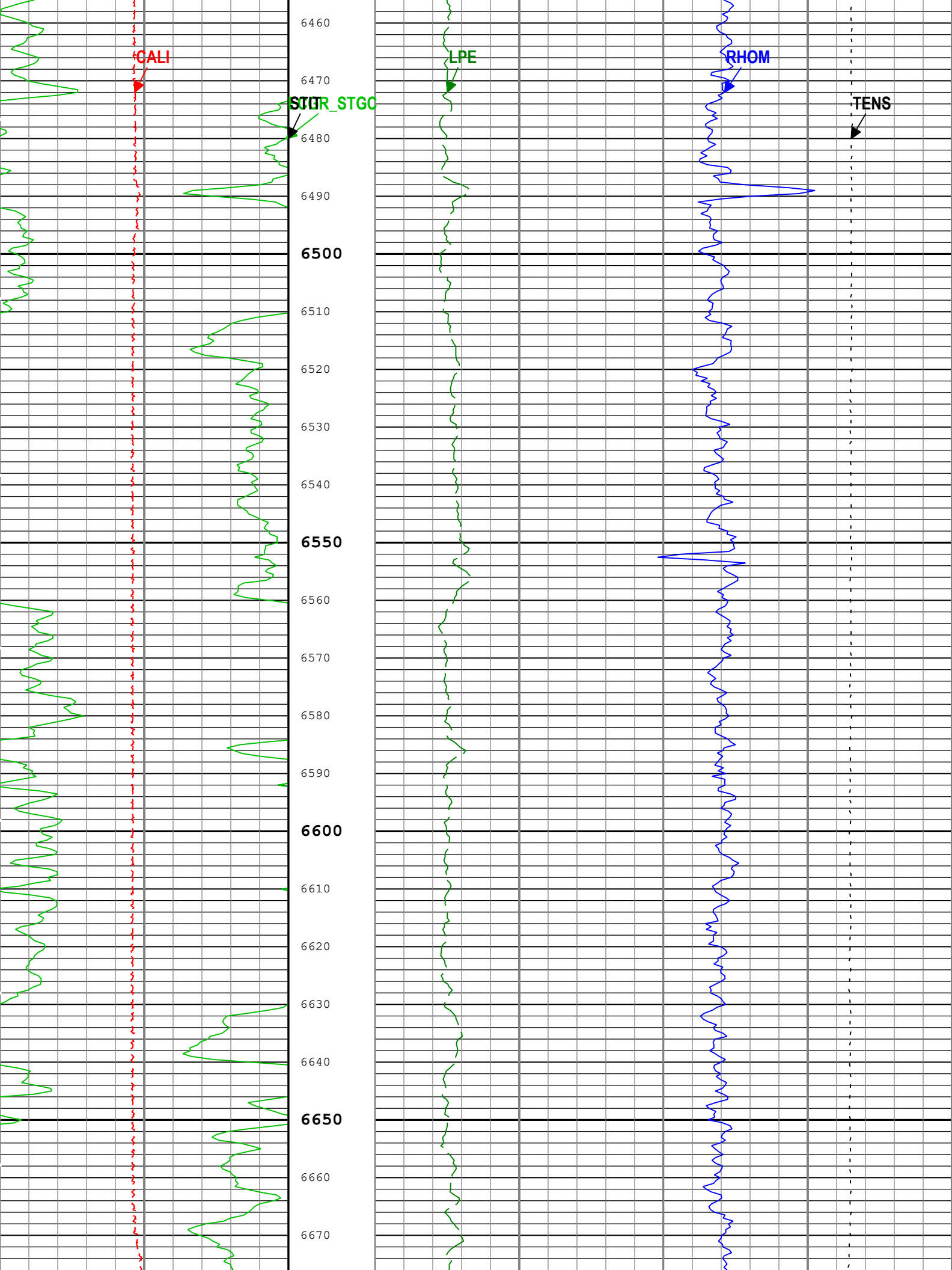
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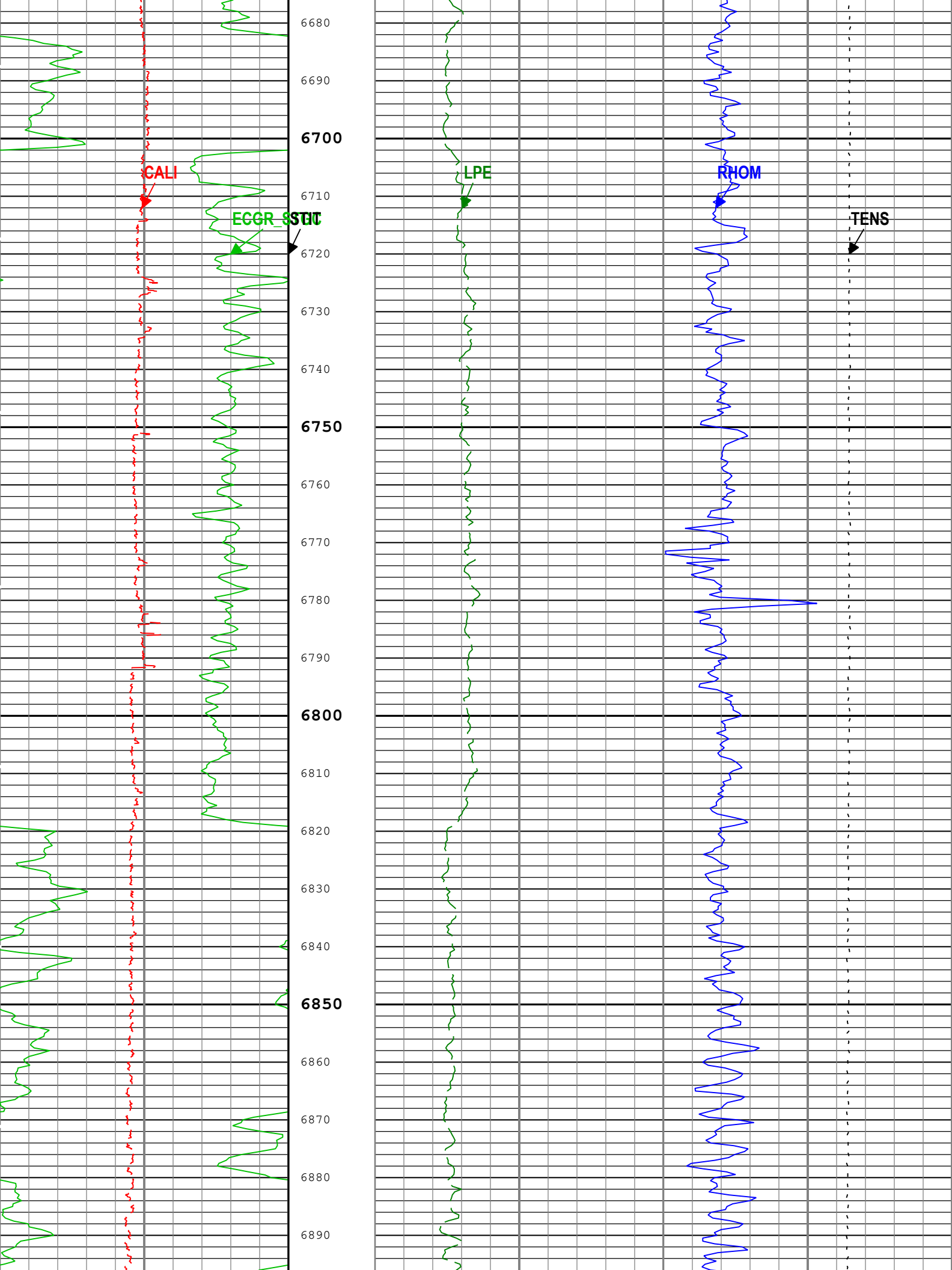
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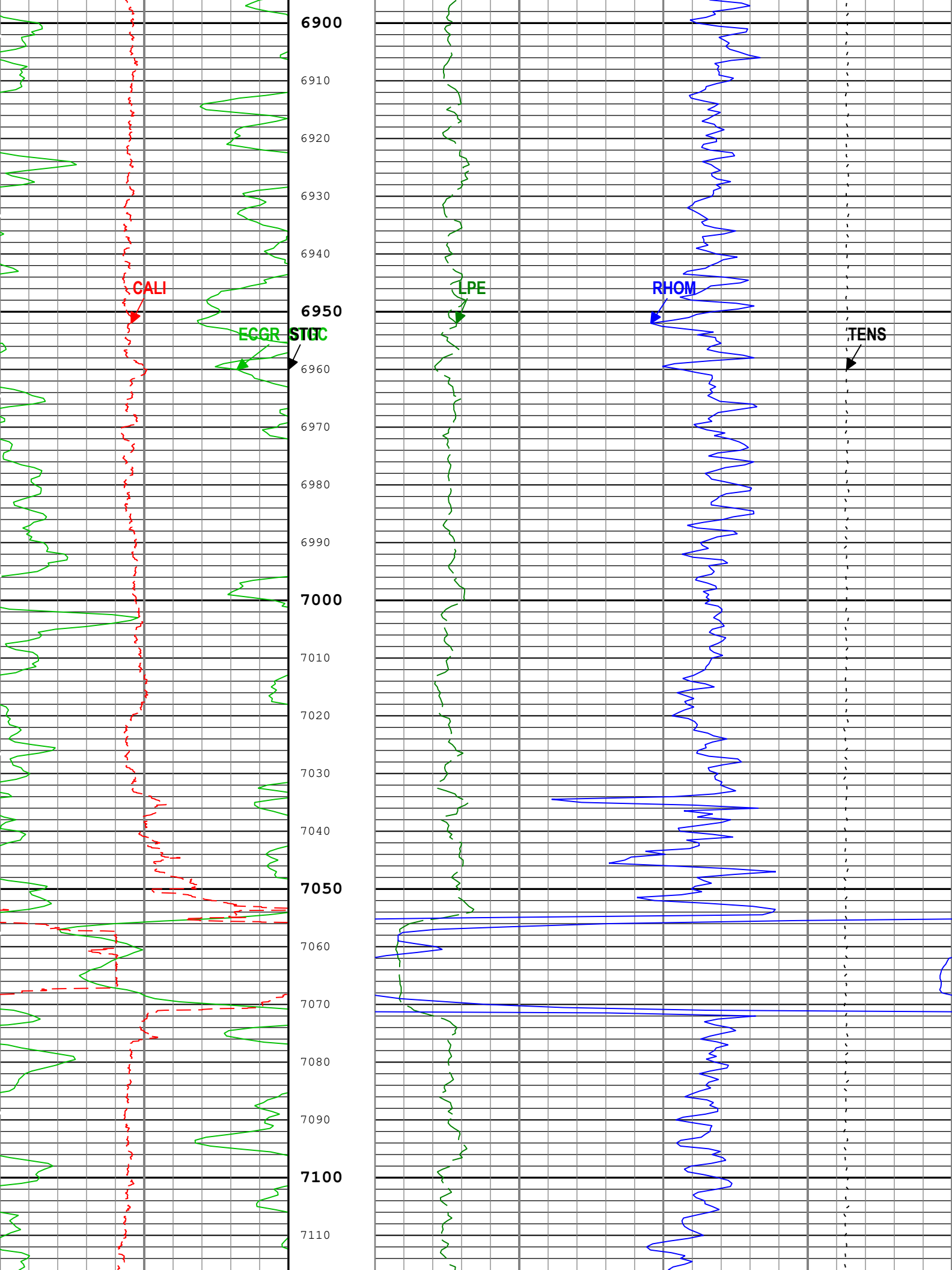
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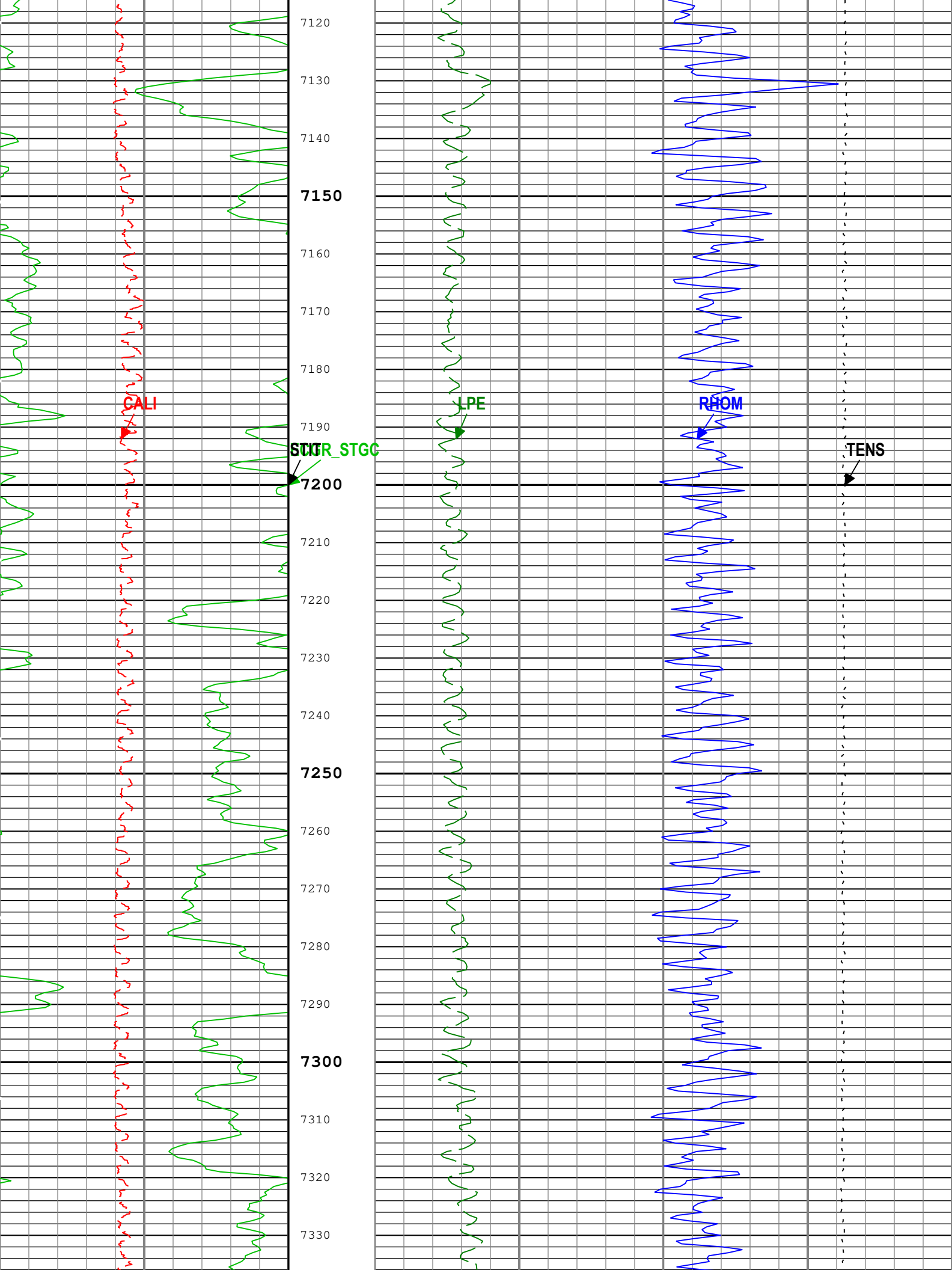
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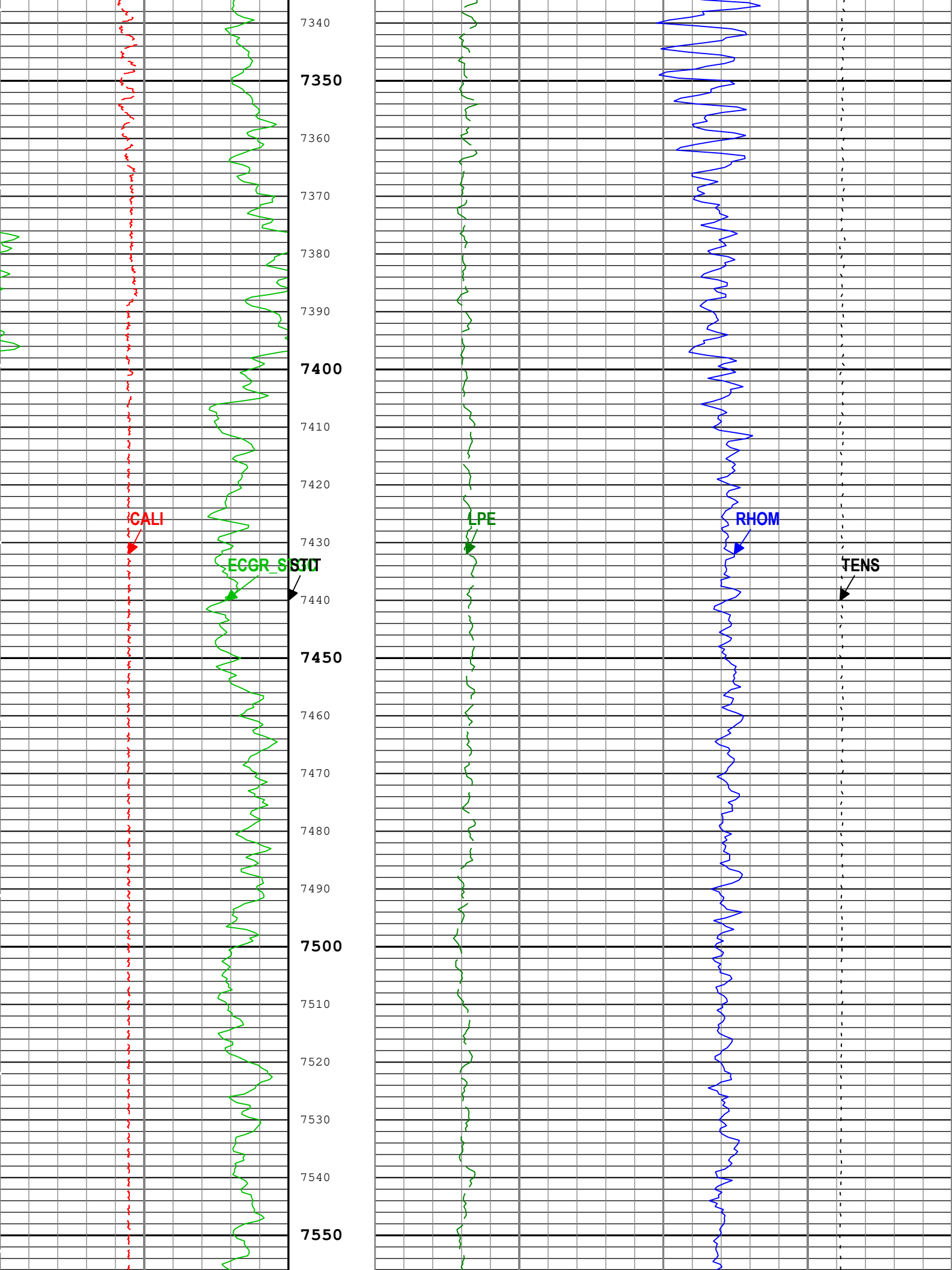
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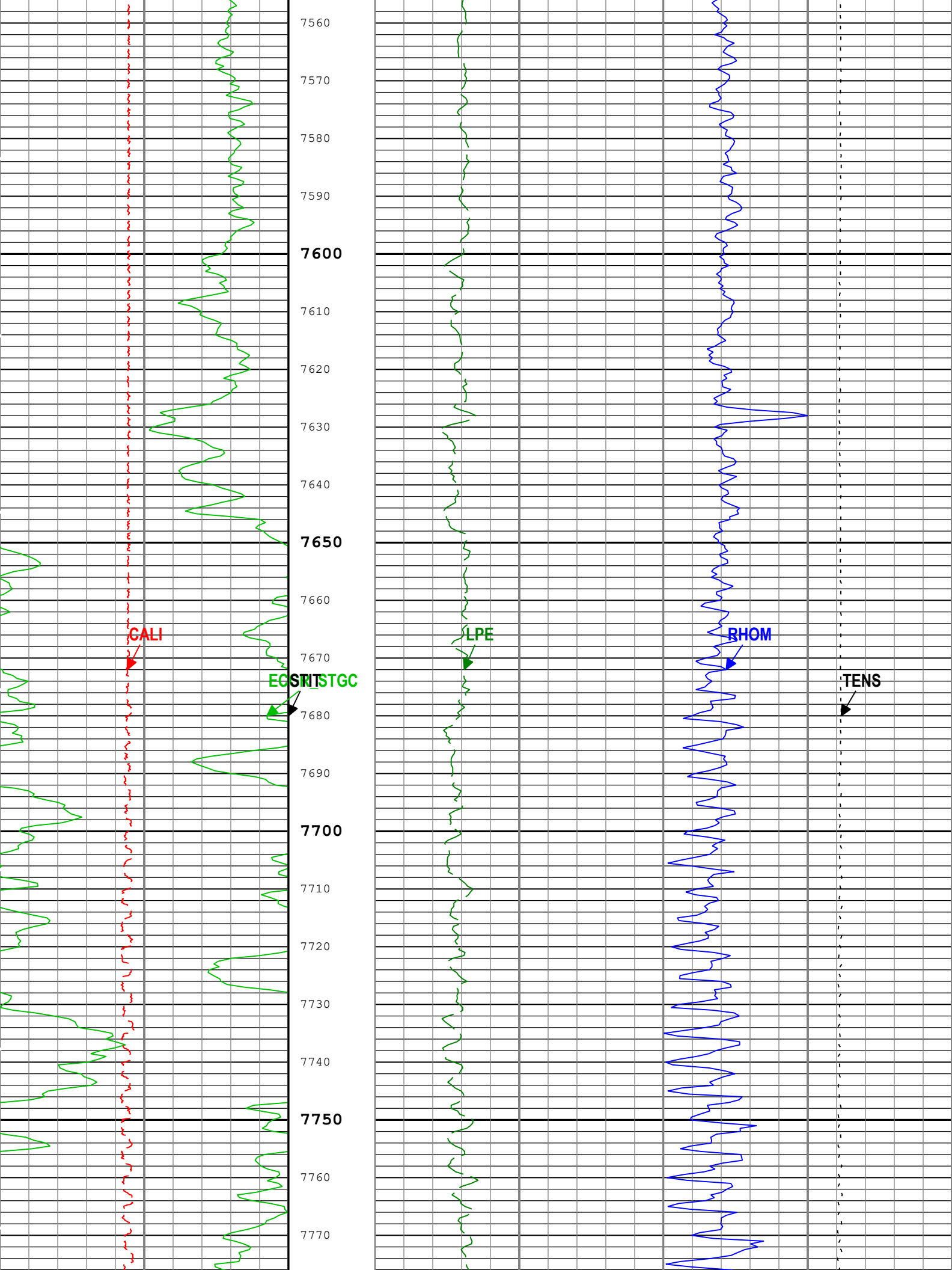
LPE
RHOM
TENS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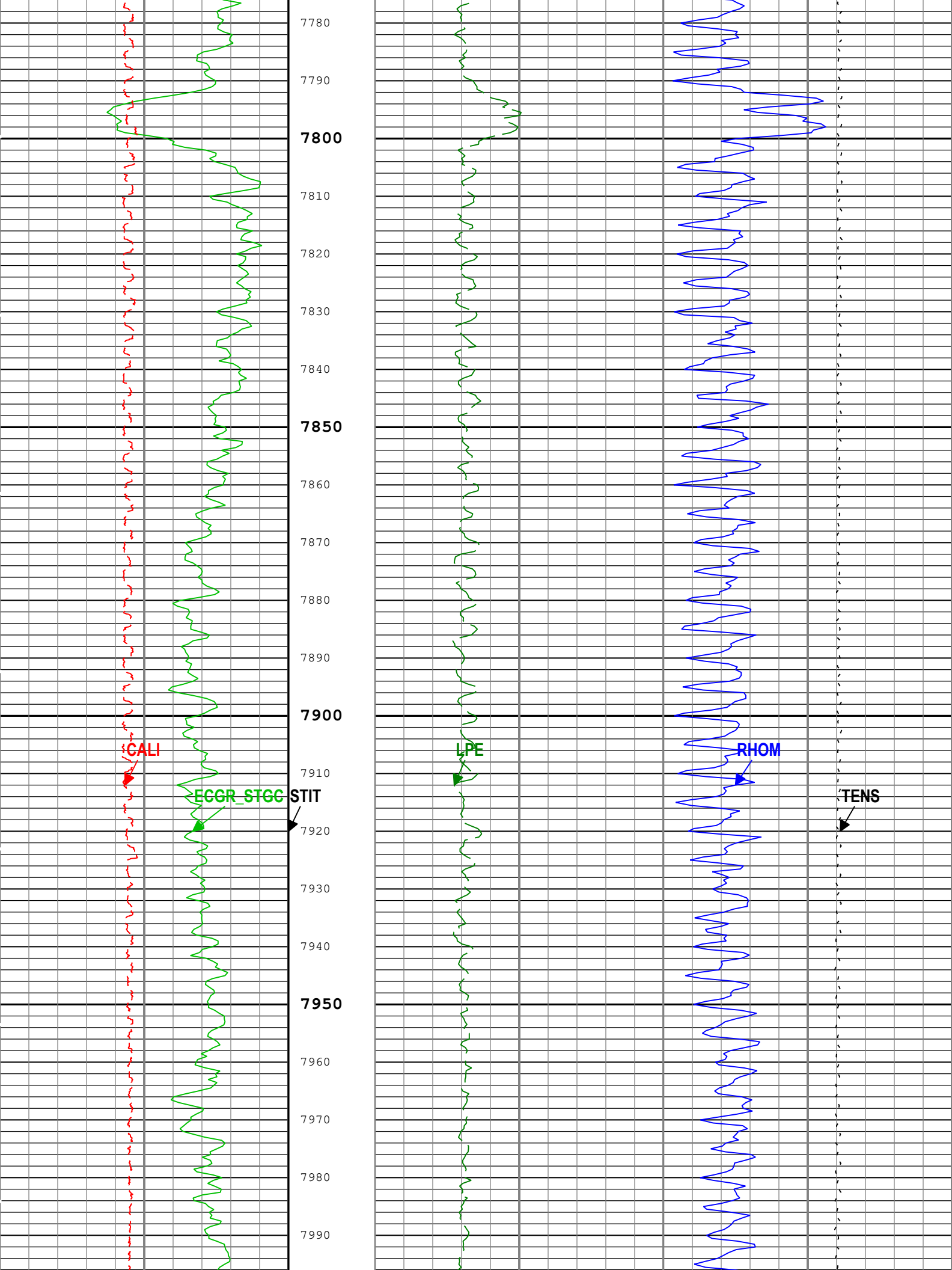
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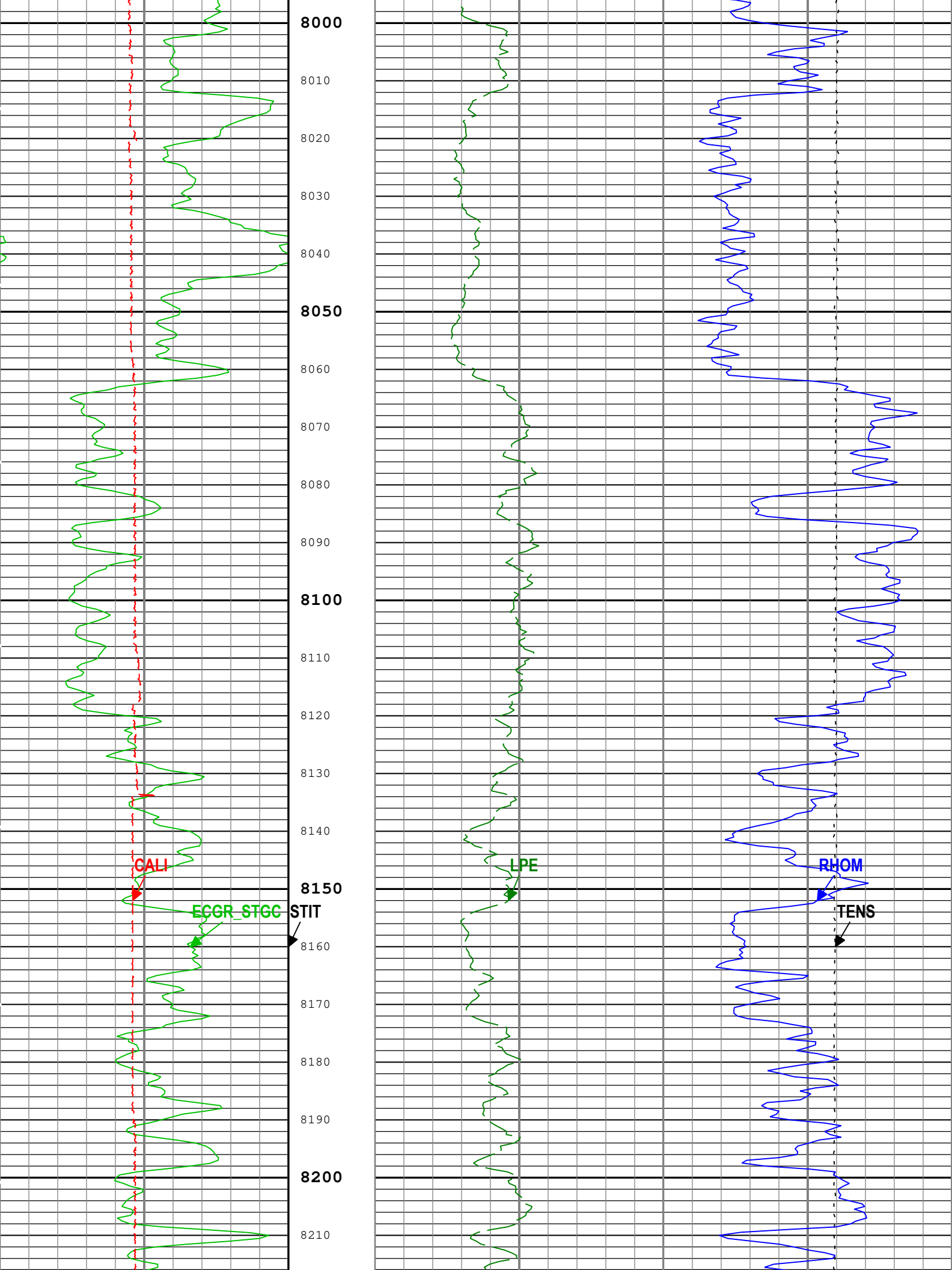
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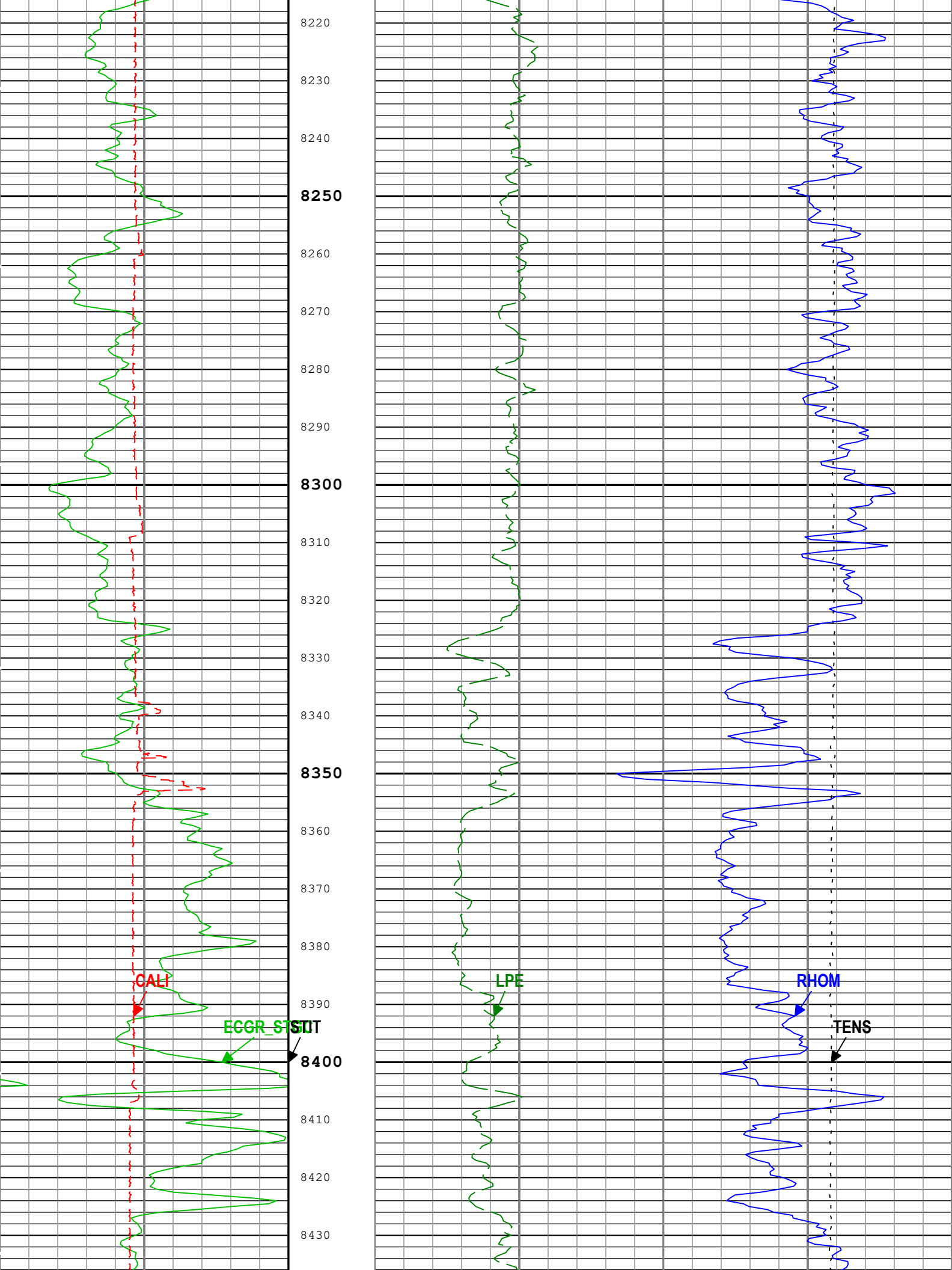
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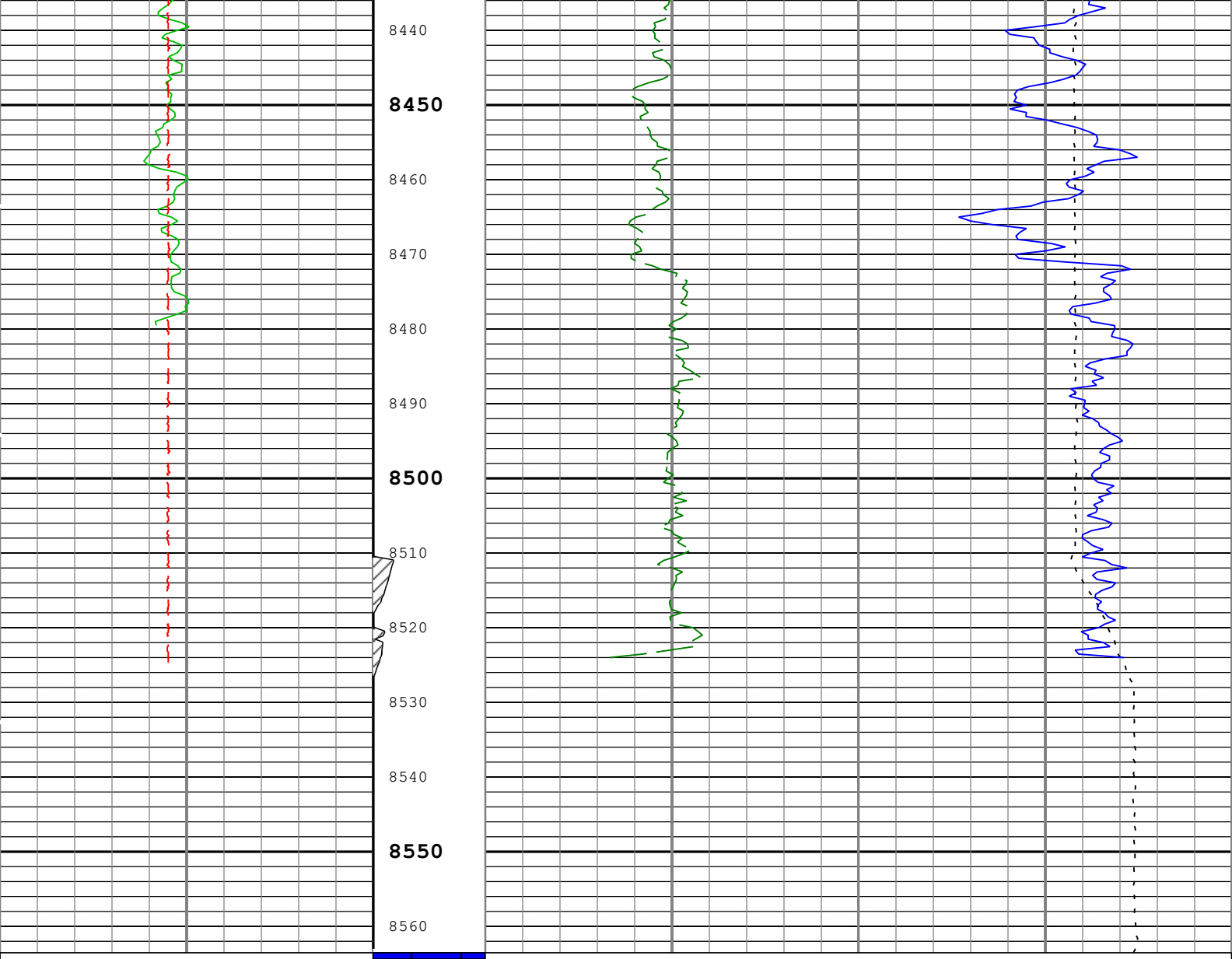


TIME_1900 - Time Marked every 60.00 (s)

Description: HGNS standard resolution porosities for Platform Express Format: Log (Density-5) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 20-Jul-2021 01:38:30

Channel Processing Parameters

2A: 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	HLDS-D	-0.217	in
CBLO	Casing Bottom (Logger)	WLSESSION	2988	ft
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	8.3	lbm/gal

DHC	Density Hole Correction	HLDS-D	Bit Size	
FD	Fluid Density	Borehole	1	g/cm3
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	
LATC	Activation Correction Switch	HLDS-D	On	
MDEN	Matrix Density for Density Porosity	Borehole	2.71	g/cm3
SOCN	Standoff Distance of the Gamma Ray Tool	QTGC-B	0	in
TD	Total Measured Depth	Borehole	8540	ft
TPOS_STGC	Tool Position: Centered or Eccentered	QTGC-B	Eccentered	

Depth Zone Parameters

Parameter	Value	Start (ft)	Stop (ft)
BS	14.77	2970	2989
BS	10.625	2989	8514
BS	8.75	8514	8540

All depth are actual.

Tool Control Parameters

2A: Parameters

Parameter	Description	Tool	Value	Unit
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	1800	ft/h

2A

5" Porosity

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
2A	Log[2]:Up	Up	2858.91 ft	8563.43 ft	19-Jul-2021 3:16:18 PM	19-Jul-2021 6:22:02 PM	ON	3.65 ft	Yes
2A	Repeat[3]:Up	Up	2896.15 ft	3507.15 ft	19-Jul-2021 6:28:06 PM	19-Jul-2021 6:49:45 PM	ON	4.69 ft	Yes

All depths are referenced to toolstring zero

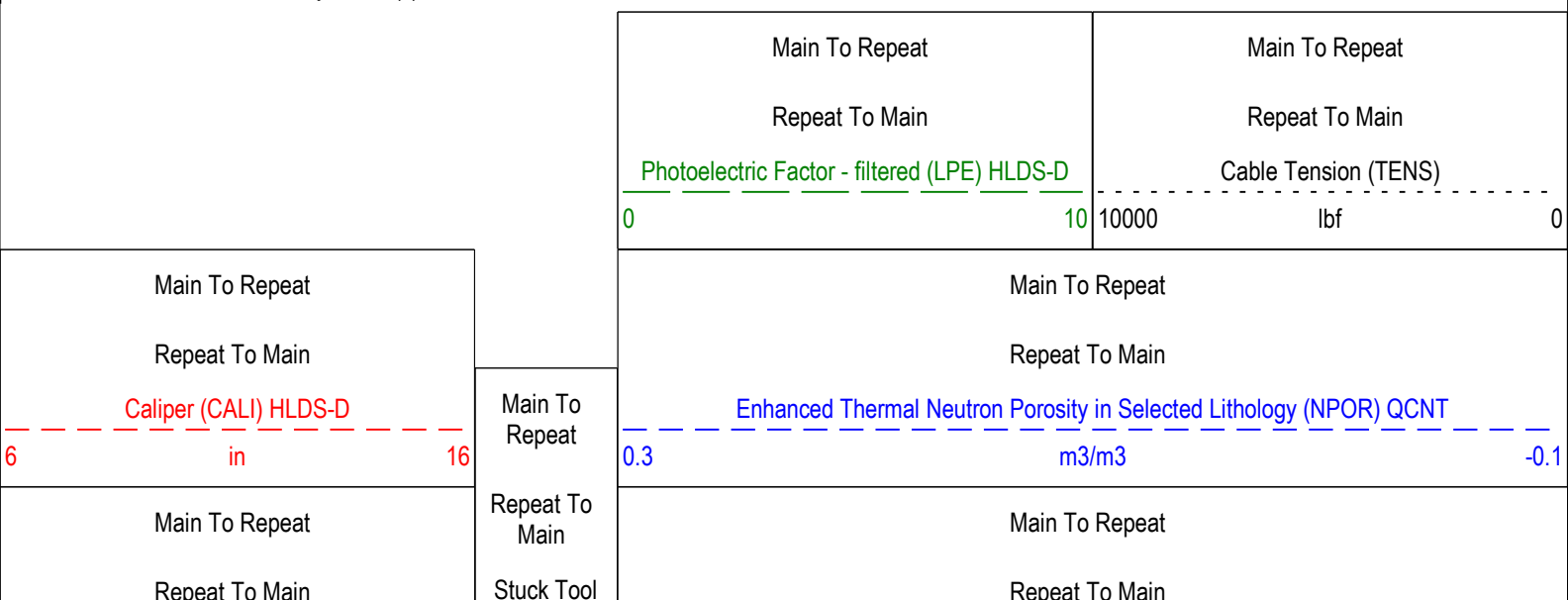
Log

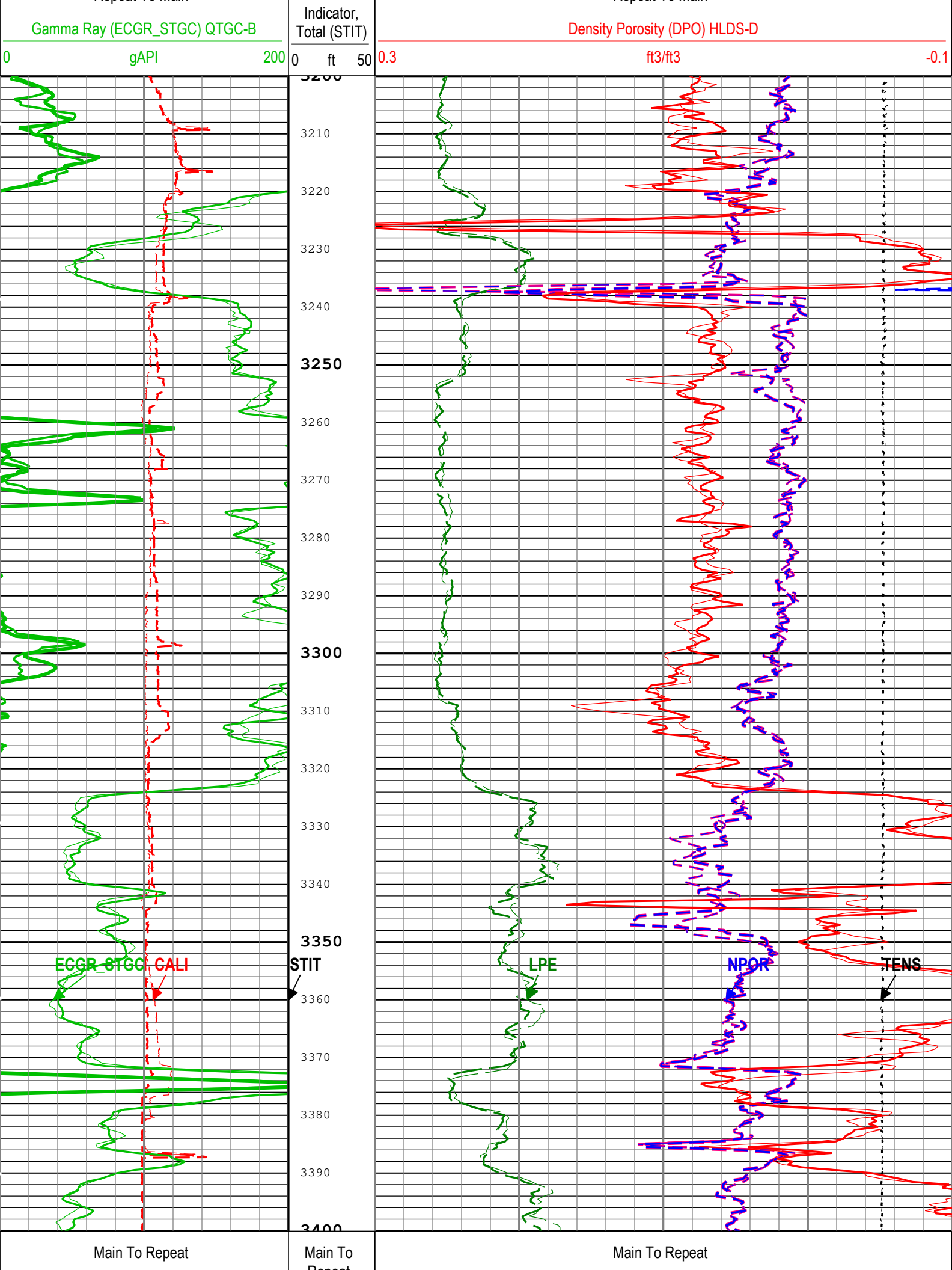
Company:University Of Utah Well:FORGE 78B-32

2A: Log[2]:Up:S016

Description: HGNS standard resolution porosities for Platform Express Format: Log (Porosity-5 RA) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 20-Jul-2021 01:38:37

TIME_1900 - Time Marked every 60.00 (s)




Gamma Ray (ECGR_STGC) QTGC-B
0
gAPI
200
Indicator, Total (STIT)
0
ft
50
Density Porosity (DPO) HLDS-D
0.3
ft3/ft3
-0.1
3210
3220
3230
3240
3250
3260
3270
3280
3290
3300
3310
3320
3330
3340
3350
3360
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3390
ECGR_STGC
CALI
STIT
LPE
NPOR
TENS
Main To Repeat
Main To Repeat
Main To Repeat

Repeat To Main

Caliper (CALI) HLDS-D

6 in 16

Repeat

Repeat To Main

Stuck Tool Indicator, Total (STIT)

0 ft 50

Repeat To Main

Enhanced Thermal Neutron Porosity in Selected Lithology (NPOR) QCNT

0.3 m3/m3 -0.1

Main To Repeat

Repeat To Main

Gamma Ray (ECGR_STGC) QTGC-B

0 gAPI 200

Main To Repeat

Repeat To Main

Density Porosity (DPO) HLDS-D

0.3 ft3/ft3 -0.1

Main To Repeat

Repeat To Main

Photoelectric Factor - filtered (LPE) HLDS-D

0 10

Main To Repeat

Repeat To Main

Cable Tension (TENS)

10000 lbf 0

TIME_1900 - Time Marked every 60.00 (s)

Description: HGNS standard resolution porosities for Platform Express Format: Log (Porosity-5 RA) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 20-Jul-2021 01:38:37

Channel Processing Parameters

2A: Parameters

Parameter	Description	Tool	Value	Unit
BARI(ISSBAR)	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Open	
BHT	Bottom Hole Temperature	Borehole	353.72	degF
BS	Bit Size	WLSESSION	10.625	in
BSAL	Borehole Salinity	Borehole	0	ppm
CALI_SHIFT	CALI Supplementary Offset	HLDS-D	-0.217	in
CBLO	Casing Bottom (Logger)	WLSESSION	2988	ft
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	8.3	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
DHC	Density Hole Correction	HLDS-D	Bit Size	
FD	Fluid Density	Borehole	1	g/cm3
FSAL	Formation Salinity	Borehole	0	ppm
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	
GTSE	Generalized Temperature Selection, from Measured or Computed Temperature	Borehole	MTEM	
LATC	Activation Correction Switch	HLDS-D	On	
MATR	Rock Matrix for Neutron Porosity Corrections	Borehole	LIMESTONE	
MDEN	Matrix Density for Density Porosity	Borehole	2.71	g/cm3
MFST	Mud Filtrate Sample Temperature	Borehole	95	degF
MST	Mud Sample Temperature	Borehole	95	degF
RMFS	Resistivity of Mud Filtrate Sample	Borehole	2.13	ohm.m
RMS	Resistivity of Mud Sample	Borehole	2.84	ohm.m
SOCN	Standoff Distance of the Gamma Ray Tool	QTGC-B	0	in
TD	Total Measured Depth	Borehole	8540	ft
TPOS_STGC	Tool Position: Centered or Eccentered	QTGC-B	Eccentered	

Tool Control Parameters

2A: Parameters

Parameter	Description	Tool	Value	Unit
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	1800	ft/h

Calibration Report

QAIT-A (Slim Hostile Array Induction Tool - A) Calibration - Run 2A

Primary Equipment :

Slim Hot Array Induction Sonde	QAIS-A	43

Auxiliary Equipment :

File code for AIT Bottom Nose Tool Element	AQRM	
Slim Array Induction Electronics Cartridge	SAIC-A	94

AIT Sonde Calibration - Test Loop Gain

Master (EEPROM): 03:47:46 11-Mar-2021

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Test Loop Gain - 0		Master	1.000	0.950	1.012	1.050
Test Loop Phase - 0	deg	Master	0	-3.000	0.326	3.000
Test Loop Gain - 1		Master	1.000	0.950	1.011	1.050
Test Loop Phase - 1	deg	Master	0	-3.000	0.454	3.000
Test Loop Gain - 2		Master	1.000	0.950	1.016	1.050
Test Loop Phase - 2	deg	Master	0	-3.000	0.012	3.000
Test Loop Gain - 3		Master	1.000	0.950	1.011	1.050
Test Loop Phase - 3	deg	Master	0	-3.000	0.112	3.000
Test Loop Gain - 4		Master	1.000	0.950	1.008	1.050
Test Loop Phase - 4	deg	Master	0	-3.000	0.052	3.000
Test Loop Gain - 5		Master	1.000	0.950	1.017	1.050
Test Loop Phase - 5	deg	Master	0	-3.000	0.268	3.000
Test Loop Gain - 6		Master	1.000	0.950	1.025	1.050
Test Loop Phase - 6	deg	Master	0	-3.000	0.262	3.000
Test Loop Gain - 7		Master	1.000	0.950	1.023	1.050
Test Loop Phase - 7	deg	Master	0	-3.000	-0.272	3.000

AIT Sonde Calibration - Sonde Error Correction

Master (EEPROM): 03:47:46 11-Mar-2021

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Sonde Error Correction Real - 0	mS/m	Master	-----	-1166.000	-535.925	-216.000
Sonde Error Correction Quad - 0		Master	-----	-2700.000	729.997	2700.000
Sonde Error Correction Real - 1	mS/m	Master	-----	187.000	280.733	377.000
Sonde Error Correction Quad - 1		Master	-----	-625.000	139.282	625.000
Sonde Error Correction Real - 2	mS/m	Master	-----	24.000	93.836	174.300
Sonde Error Correction Quad - 2		Master	-----	-350.000	16.560	350.000
Sonde Error Correction Real - 3	mS/m	Master	-----	5.000	55.223	95.000
Sonde Error Correction Quad - 3		Master	-----	-250.000	102.589	250.000
Sonde Error Correction Real - 4	mS/m	Master	-----	-2.000	19.493	40.000
Sonde Error Correction Quad - 4		Master	-----	-63.000	11.885	63.000
Sonde Error Correction Real - 5	mS/m	Master	-----	-9.000	3.589	15.000
Sonde Error Correction Quad - 5		Master	-----	-50.000	13.356	50.000
Sonde Error Correction Real - 6	mS/m	Master	-----	-2.000	3.067	10.000
Sonde Error Correction Quad - 6		Master	-----	-30.000	-11.403	30.000
Sonde Error Correction Real - 7	mS/m	Master	-----	-5.000	-0.098	5.000
Sonde Error Correction Quad - 7		Master	-----	-30.000	-1.876	30.000

AIT Mud Calibration - Mud Calibration Gain

Master (EEPROM): 03:47:46 11-Mar-2021

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Coarse Gain		Master	1.000	0.800	1.038	1.200
Fine Gain		Master	1.000	0.800	1.039	1.200

AIT Electronics Check - Thru Calibration Check

Master (EEPROM): 03:47:46 11-Mar-2021 Before (Measured): 18:27:42 19-Jul-2021 After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit

Thru Cal Mag - 0	V	Master	-----	0.330	0.555	0.770
		Before	-----	0.330	0.553	0.770
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-0.002	-----
		After-Before	-----	-----	-----	-----
Thru Cal Phase - 0	deg	Master	-----	137.000	-135.247	-103.000
		Before	-----	137.000	-143.163	-103.000
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-7.916	-----
		After-Before	-----	-----	-----	-----
Thru Cal Mag - 1	V	Master	-----	0.594	0.992	1.386
		Before	-----	0.594	0.988	1.386
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-0.004	-----
		After-Before	-----	-----	-----	-----
Thru Cal Phase - 1	deg	Master	-----	136.000	-136.315	-104.000
		Before	-----	136.000	-144.242	-104.000
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-7.927	-----
		After-Before	-----	-----	-----	-----
Thru Cal Mag - 2	V	Master	-----	0.312	0.521	0.728
		Before	-----	0.312	0.518	0.728
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-0.003	-----
		After-Before	-----	-----	-----	-----
Thru Cal Phase - 2	deg	Master	-----	132.000	-141.557	-108.000
		Before	-----	132.000	-149.513	-108.000
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-7.956	-----
		After-Before	-----	-----	-----	-----
Thru Cal Mag - 3	V	Master	-----	0.384	0.633	0.896
		Before	-----	0.384	0.629	0.896
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-0.004	-----
		After-Before	-----	-----	-----	-----
Thru Cal Phase - 3	deg	Master	-----	131.000	-143.431	-109.000
		Before	-----	131.000	-151.402	-109.000
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-7.971	-----
		After-Before	-----	-----	-----	-----
Thru Cal Mag - 4	V	Master	-----	0.726	1.162	1.694
		Before	-----	0.726	1.155	1.694
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-0.007	-----
		After-Before	-----	-----	-----	-----
Thru Cal Phase - 4	deg	Master	-----	125.000	-152.689	-115.000
		Before	-----	125.000	-160.734	-115.000
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-8.045	-----
		After-Before	-----	-----	-----	-----
Thru Cal Mag - 5	V	Master	-----	1.068	1.683	2.492
		Before	-----	1.068	1.673	2.492
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-0.010	-----
		After-Before	-----	-----	-----	-----
Thru Cal Phase - 5	deg	Master	-----	122.000	-154.900	-118.000
		Before	-----	122.000	-162.982	-118.000
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-8.082	-----
		After-Before	-----	-----	-----	-----
Thru Cal Mag - 6	V	Master	-----	1.170	1.816	2.730
		Before	-----	1.170	1.807	2.730
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-0.009	-----

		After-Before	-----	-----	-----	-----
Thru Cal Phase - 6	deg	Master	-----	121.000	-156.659	-119.000
		Before	-----	121.000	-164.785	-119.000
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-8.126	-----
		After-Before	-----	-----	-----	-----
Thru Cal Mag - 7	V	Master	-----	0.852	1.330	1.988
		Before	-----	0.852	1.318	1.988
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-0.012	-----
		After-Before	-----	-----	-----	-----
Thru Cal Phase - 7	deg	Master	-----	115.000	-156.577	-125.000
		Before	-----	115.000	-165.043	-125.000
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-8.466	-----
		After-Before	-----	-----	-----	-----
SPA Zero	mV	Master	-----	-50.000	-0.138	50.000
		Before	-----	-50.000	-0.094	50.000
		After	-----	-----	-----	-----
		Before-Master	-----	-----	0.044	-----
		After-Before	-----	-----	-----	-----
SPA Plus	mV	Master	-----	941.000	990.201	1040.000
		Before	-----	941.000	990.888	1040.000
		After	-----	-----	-----	-----
		Before-Master	-----	-----	0.687	-----
		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	0.917	0.960
		Before	-----	0.870	0.918	0.960
		After	-----	-----	-----	-----
		Before-Master	-----	-----	0.001	-----
		After-Before	-----	-----	-----	-----

HLDS-D (Hostile-environment Litho-Density Sonde) Calibration - Run 2A

Primary Equipment :

This is a hostile-environment litho-density tool derived from the HLDT to run as part of the Xtreme Platform	HLDS-D	65

Auxiliary Equipment :

Radioactive Gamma Source	GGLS-EZ	3535
This is the housing for the HLDV-D asset	HEH-H	91
HLDP housing contains the preamplifiers and detectors and houses the Cesium 137 source	HLDP-C	93
HLDV-D contains high voltage electronics for the detectors and controls for the caliper arm motor	HLDV-D	9690
Litho-Density Spectroscopy Cartridge	LDSC-B	513
Housing for the LDSC	LDSH-A	405

HLDS-D Aluminum Calibration - Aluminum Measurement

Master (EEPROM): 06:56:54 23-Jun-2021

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
SS1 Corrected Window Countrate	1/s	Master	2800.000	2100.000	2436.000	3500.000
SS2 Corrected Window Countrate	1/s	Master	8000.000	6000.000	6757.000	9600.000
SS3 Corrected Window Countrate	1/s	Master	11600.000	8500.000	9379.000	14000.000
SS4 Corrected Window Countrate	1/s	Master	5000.000	3500.000	3822.000	5900.000
SS5 Corrected Window Countrate	1/s	Master	660.000	410.000	462.000	770.000
LS1 Corrected Window Countrate	1/s	Master	600.000	460.000	523.000	750.000
LS2 Corrected Window Countrate	1/s	Master	900.000	720.000	815.000	1100.000
LS3 Corrected Window Countrate	1/s	Master	1100.000	850.000	978.000	1320.000

LS4 Corrected Window Countrate	1/s	Master	580.000	410.000	487.000	660.000
LS5 Corrected Window Countrate	1/s	Master	570.000	380.000	448.000	630.000

HLDS-D Aluminum Calibration - Insert Water/Aluminum Pad Wear Check

Master (EEPROM): 06:56:54 23-Jun-2021

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
LS Water/Aluminum Ratio		Master	0.995	0.980	0.000	1.010
SS Water/Aluminum Ratio		Master	1.003	0.990	1.000	1.015

HLDS-D Aluminum Calibration - Quality Ratio Computation

Master (EEPROM): 06:56:54 23-Jun-2021

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
SS Quality Ratio		Master	2.039	1.800	2.000	2.278
LS Quality Ratio		Master	1.000	0.900	1.000	1.100
LIR Quality Ratio		Master	0.525	0.400	0.000	0.650
LI Quality Ratio		Master	0.550	0.450	0.000	0.650
Quality Ratio - 0		Master	-----	-----	-----	-----

HLDS-D Lithology Calibration - Lithology Measurement

Master (EEPROM): 06:56:54 23-Jun-2021

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
SS1 Corrected Window Countrate	1/s	Master	2100.000	1600.000	1782.000	2500.000
SS2 Corrected Window Countrate	1/s	Master	6800.000	5100.000	5611.000	7900.000
SS3 Corrected Window Countrate	1/s	Master	10800.000	7800.000	8482.000	12100.000
SS4 Corrected Window Countrate	1/s	Master	4600.000	3250.000	3445.000	5300.000
SS5 Corrected Window Countrate	1/s	Master	580.000	360.000	407.000	680.000
LS1 Corrected Window Countrate	1/s	Master	400.000	310.000	350.000	500.000
LS2 Corrected Window Countrate	1/s	Master	730.000	570.000	648.000	860.000
LS3 Corrected Window Countrate	1/s	Master	1000.000	750.000	863.000	1150.000
LS4 Corrected Window Countrate	1/s	Master	520.000	370.000	440.000	600.000
LS5 Corrected Window Countrate	1/s	Master	470.000	340.000	400.000	600.000

HLDS-D Water Insert Calibration - Insert Water/Dry Pad Wear Check

Master (EEPROM): 06:56:54 23-Jun-2021

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
LS Water/Air Ratio		Master	-----	0.975	0.000	0.996
SS Water/Air Ratio		Master	-----	0.980	0.000	1.000

HLDS-D Background Calibration - Background Measurement

Master (EEPROM): 06:56:54 23-Jun-2021 Before (Measured): 09:30:59 18-Jul-2021 After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
SS Cs Resolution Bkg		Master	9.000	7.000	7.000	11.000
		Before	9.000	7.000	7.817	11.000
		After	9.000	7.000	NOT DONE	11.000
		Before-Master	-----	-----	0.817	-----
		After-Before	-----	-----	-----	-----
LS Cs Resolution Bkg		Master	9.000	7.000	8.000	11.000
		Before	9.000	7.000	8.176	11.000
		After	9.000	7.000	NOT DONE	11.000
		Before-Master	-----	-----	0.176	-----
		After-Before	-----	-----	-----	-----
SS1 Corrected Window Countrate	1/s	Master	100.000	65.000	87.000	130.000
		Before	100.000	65.000	86.959	130.000
		After	100.000	65.000	NOT DONE	130.000
		Before-Master	-----	-----	-0.041	-----
		After-Before	-----	-----	-----	-----
SS2 Corrected Window Countrate	1/s	Master	200.000	110.000	154.000	230.000
		Before	200.000	110.000	154.619	230.000
		After	200.000	110.000	NOT DONE	230.000
		Before-Master	-----	-----	0.619	-----
		After-Before	-----	-----	-----	-----
SS3 Corrected Window Countrate	1/s	Master	500.000	300.000	419.000	600.000
		Before	500.000	300.000	418.815	600.000
		After	500.000	300.000	NOT DONE	600.000
		Before-Master			0.185	

		Before-Master	-----	-----	-0.185	-----
		After-Before	-----	-----	-----	-----
SS4 Corrected Window Countrate	1/s	Master	270.000	150.000	215.000	350.000
		Before	270.000	150.000	218.035	350.000
		After	270.000	150.000	NOT DONE	350.000
		Before-Master	-----	-----	3.035	-----
		After-Before	-----	-----	-----	-----
SS5 Corrected Window Countrate	1/s	Master	200.000	110.000	156.000	250.000
		Before	200.000	110.000	155.098	250.000
		After	200.000	110.000	NOT DONE	250.000
		Before-Master	-----	-----	-0.902	-----
		After-Before	-----	-----	-----	-----
LS1 Corrected Window Countrate	1/s	Master	100.000	70.000	77.000	120.000
		Before	100.000	70.000	77.678	120.000
		After	100.000	70.000	NOT DONE	120.000
		Before-Master	-----	-----	0.678	-----
		After-Before	-----	-----	-----	-----
LS2 Corrected Window Countrate	1/s	Master	100.000	65.000	74.000	112.000
		Before	100.000	65.000	72.593	112.000
		After	100.000	65.000	NOT DONE	112.000
		Before-Master	-----	-----	-1.407	-----
		After-Before	-----	-----	-----	-----
LS3 Corrected Window Countrate	1/s	Master	200.000	150.000	168.000	250.000
		Before	200.000	150.000	165.354	250.000
		After	200.000	150.000	NOT DONE	250.000
		Before-Master	-----	-----	-2.646	-----
		After-Before	-----	-----	-----	-----
LS4 Corrected Window Countrate	1/s	Master	250.000	180.000	205.000	320.000
		Before	250.000	180.000	203.702	320.000
		After	250.000	180.000	NOT DONE	320.000
		Before-Master	-----	-----	-1.298	-----
		After-Before	-----	-----	-----	-----
LS5 Corrected Window Countrate	1/s	Master	600.000	410.000	446.000	690.000
		Before	600.000	410.000	450.857	690.000
		After	600.000	410.000	NOT DONE	690.000
		Before-Master	-----	-----	4.857	-----
		After-Before	-----	-----	-----	-----

HLDS-D Caliper Calibration - Caliper Calibration

Before (Measured): 09:37:56 18-Jul-2021

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
HLDS Caliper Large Ring	in	Before	12.000	9.000	13.993	16.800
HLDS Caliper Small Ring	in	Before	8.000	6.000	9.933	12.000

QCNT (SlimExtreme Compensated Neutron Tool) Calibration - Run 2A

Primary Equipment :

Compensated Neutron Cartridge SlimXtreme QCNC-A 2

Auxiliary Equipment :

Doubly encapsulated AmBe radioactive source material NSR-L 4545

Calibration Parameter :

Water Temperature

CNT Neutron Calibration - CNT Neutron Accumulations

Master (Measured): 20:46:51 17-Jul-2021 Before (Measured): 09:41:51 18-Jul-2021 After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Near Zero Measurement	1/s	Master	-----	0	0.668	5.000
		Before	-----	0	0.267	5.000
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-0.401	-----
		After-Before	-----	-----	-----	-----
Far Zero Measurement	1/s	Master	-----	0	1.636	5.000

		Before	-----	0	0.999	5.000
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-0.637	-----
		After-Before	-----	-----	-----	-----
Near Plus Measurement	1/s	Master	7328.000	5600.000	5955.926	8700.000
		Before	-----	-----	-----	-----
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----
Far Plus Measurement	1/s	Master	1600.000	1300.000	1496.078	1900.000
		Before	-----	-----	-----	-----
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----

CNT Neutron Calibration - CNT Neutron Coefficients

Master (Measured): 20:46:51 17-Jul-2021 Before (Measured): 09:41:51 18-Jul-2021 After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Near Corrected Plus Measurement	1/s	Master	7328.000	5600.000	5980.594	8700.000
		Before	-----	-----	-----	-----
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----
Far Corrected Plus Measurement	1/s	Master	1600.000	1300.000	1515.994	1900.000
		Before	-----	-----	-----	-----
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----
Near Corrected Gain		Master	1.000	0.797	1.225	1.304
		Before	-----	-----	-----	-----
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----
Far Corrected Gain		Master	1.000	0.842	1.055	1.231
		Before	-----	-----	-----	-----
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----
Computed Thermal Neutron Ratio Average		Master	4.240	3.740	3.945	4.740
		Before	-----	-----	-----	-----
		After	-----	-----	-----	-----
		Before-Master	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----

CNT Neutron Calibration - CNT Neutron Ratio R6 Measurement

Master (Measured): 20:46:51 17-Jul-2021 Before (Measured): 09:41:51 18-Jul-2021 After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Near R6 Measurement	1/s	Master	5000.000	4750.000	4999.806	5250.000
		Before	5000.000	4750.000	4999.871	5250.000
		After	-----	-----	-----	-----
		Before-Master	-----	-----	0.065	-----
		After-Before	-----	-----	-----	-----
Far R6 Measurement	1/s	Master	833.330	791.660	833.301	875.000
		Before	833.330	791.660	833.323	875.000
		After	-----	-----	-----	-----
		Before-Master	-----	-----	0.022	-----
		After-Before	-----	-----	-----	-----
Ratio R6 Computed Ratio		Master	6.000	5.430	6.000	6.630
		Before	6.000	5.430	6.000	6.630
		After	6.000	5.430	NOT DONE	6.630
		Before-Master	-----	-----	0.000	-----
		After-Before	-----	-----	-----	-----

QTGC-B (SlimXtreme Telemetry Gamma-ray Cartridge - B (3.0 in. OD)) Calibration - Run 2A

QTGC-B (SlimXtreme Telemetry Gamma-Ray Cartridge - B (3.0 in. OD)) Calibration - Run 2A

Primary Equipment :

STGC-B Cartridge	STGC-B	8121

Auxiliary Equipment :

Accelerometer	STGC-ACCZ	7

Calibration Parameter :

JIG-BKG (Jig minus background reference)	165

STGC Accelerometer Calibration - STGC Read EEPROM Coefficient

Master (EEPROM): 14:58:40 19-Jul-2021

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Accelerometer Coefficients - 0		Master	0	-----	3.79700E+000	-----
Accelerometer Coefficients - 1		Master	0	-----	-3.90300E-003	-----
Accelerometer Coefficients - 2		Master	0	-----	2.97600E-005	-----
Accelerometer Coefficients - 3		Master	0	-----	-4.56300E-008	-----
Accelerometer Coefficients - 4		Master	0	-----	2.74030E+000	-----
Accelerometer Coefficients - 5		Master	0	-----	2.64830E-004	-----
Accelerometer Coefficients - 6		Master	0	-----	4.39200E-007	-----
Accelerometer Coefficients - 7		Master	0	-----	2.85580E-010	-----
Accelerometer Coefficients - 8		Master	0	-----	-2.73150E+002	-----
Accelerometer Coefficients - 9		Master	0	-----	1.00000E+000	-----

STGC Gamma-Ray Calibration - Gamma-Ray Coefficients

Before (Measured): 09:32:58 18-Jul-2021 Expired by 1 days After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
Gamma-Ray Gain		Before	1.000	0.900	1.029	1.100
		After	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----

STGC Gamma-Ray Calibration - Gamma-Ray Accumulations

Before (Measured): 09:32:58 18-Jul-2021 Expired by 1 days After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
RGR Background Measurement	gAPI	Before	-----	0	77.109	120.000
		After	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----
RGR Plus Measurement	gAPI	Before	191.400	172.260	185.968	210.540
		After	-----	-----	NOT DONE	-----
		After-Before	-----	-----	-----	-----

STGC Gamma-Ray Plateau Check - Gamma-Ray Plateau Check

Before: After:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
RGR Zero Plateau Check - 0	gAPI	Before	-----	-----	-----	-----
		After	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----
RGR Plus Plateau Check - 0	gAPI	Before	-----	-----	-----	-----
		After	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----
RGR Minus Plateau Check - 0	gAPI	Before	-----	-----	-----	-----
		After	-----	-----	-----	-----
		After-Before	-----	-----	-----	-----

LEH-MT (Logging Equipment Head - MT, 3-3/8 inch 31 pin HPHT with Tension and Temperature Sensor (Need STGC/HTGC to process temperature signal)) Calibration - Run 2A

Primary Equipment :

Logging Equipment Head - MT, 3-3/8 inch 31 pin HPHT with Tension and Temperature Sensor (Need STGC/HTGC to process temperature signal)	LEH-MT

HTEN Master Calibration - HTEN Master Calibration

Master:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit
HTEN Shop Gain		Master	1.000	0.800	NOT DONE	4.500

HTEN Shop Offset	lbf	Master	0	-1000.000	NOT DONE	1000.000	

HTEN Before Calibration - HTEN Before Calibration

Before:

Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
RHTE Zero Measurement - 0	lbf	Before	-----	-----	-----	-----	
RHTE Plus Measurement - 0	lbf	Before	-----	-----	-----	-----	
HTEN Gain - 0		Before	-----	-----	-----	-----	
HTEN Offset - 0	lbf	Before	-----	-----	-----	-----	

Company:	University Of Utah
Well:	FORGE 78B-32
Field:	None
County:	Beaver
State:	Utah

Schlumberger

Platform Express
Compensated Neutron
Litho-Density