

Company: Bonanza Creek Energy, Inc

Well: NMU 11-12H

Field: McCallum

County: Jackson State: Colorado

Platform Express

Triple Combo

Location: NWNE Sec 11, T9N, R79W
 Well: NMU 11-12H
 Company: Bonanza Creek Energy, Inc

Location:		NWNE Sec 11, T9N, R79W	Elev.:	K.B.	8187.00 ft
SHL: 413' FNL X 1886' FEL			G.L.	8165.00 ft	
Lat/Long: 40.77169/-106.23007			D.F.	8186.00 ft	
Permanent Datum:	Ground Level		Elev.:	8165.00 f	
Log Measured From:	Kelly Bushing		22.00 ft	above Perm.Datum	
Drilling Measured From:	Kelly Bushing				
API Serial No.	Section:	11	Township:	11N	Range:
05-057-06532-0000					79W

Logging Date: 25-Oct-2014

Run Number: One

Depth Driller: 5500.00 ft

Schlumberger Depth: 5506.00 ft

Bottom Log Interval: 5506.00 ft

Top Log Interval: 2686.00 ft

Casing Driller Size @ Depth: 9.625 in @ 2690.00 ft

Casing Schlumberger: 2686 ft

Bit Size: 8.75 in

Type Fluid In Hole: LSND

Density: 10 lbm/gal

Viscosity: 72 s

Fluid Loss: 7.2 cm3

PH: 7.6

Source of Sample: Active Tank

RM @ Meas Temp: 1.26 ohm.m @ 57 degF

RMF @ Meas Temp: 0.78 ohm.m @ 73 degF

RMC @ Meas Temp: 1.68 ohm.m @ 64 degF

Source RMF: RMC Pressed

RM @ BHT: RMC @ BHT 0.55 @ 140 0.42 @ 140

Max Recorded Temperatures: 24-Oct-2014 23:00:00

Circulation Stopped: 25-Oct-2014 08:35:00

Logger on Bottom: 2379

Unit Number: A Becker/B Makinson

Recorded By: Casper

Witnessed By: Chris Martin

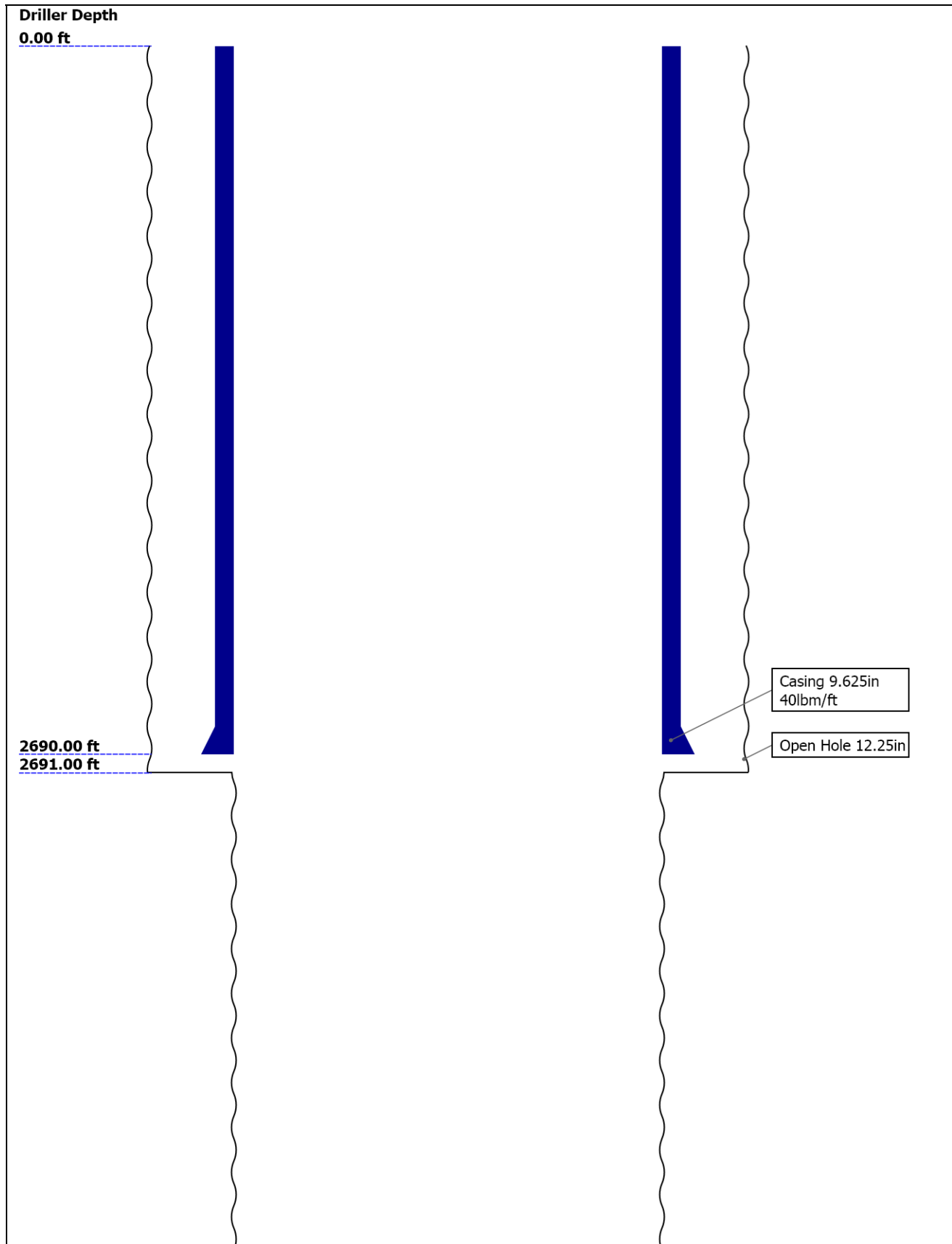
Disclaimer

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Well Sketch



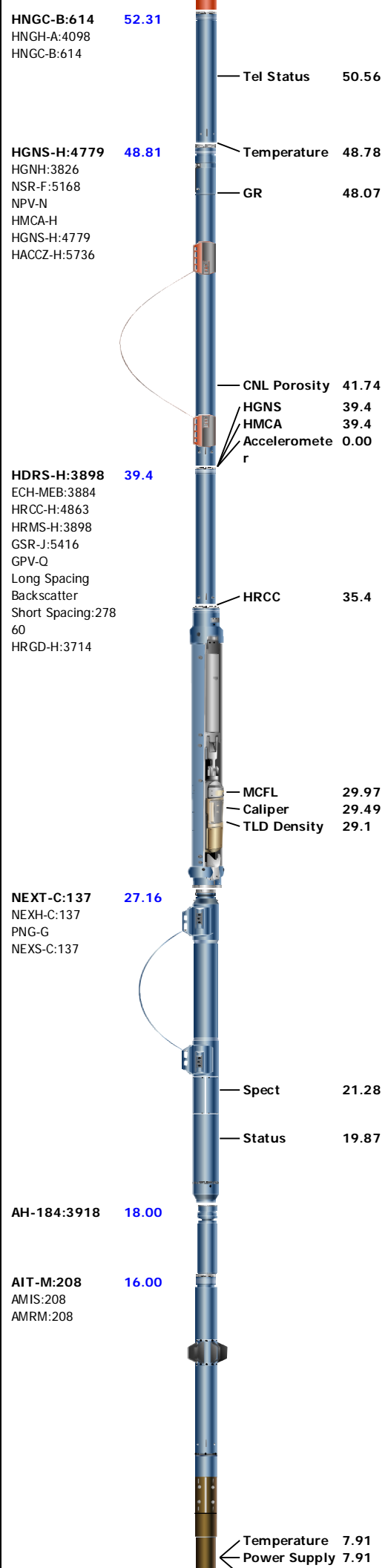


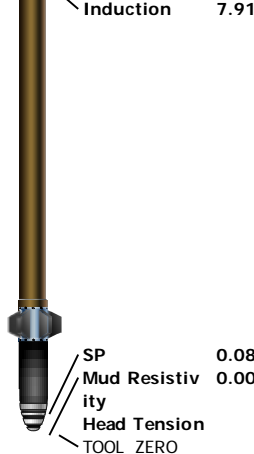
Borehole Size/Casing/Tubing Record

Bit						
Bit Size (in)	12.25	8.75				
Top Driller (ft)	0	2691				
Top Logger (ft)	0	2691				
Bottom Driller (ft)	2691	5500				
Bottom Logger (ft)	2691	5506				
Casing						
Size (in)	9.625					
Weight (lbm/ft)	40					
Inner Diameter (in)	8.835					
Grade	N/A					
Top Driller (ft)	0					
Top Logger (ft)	0					
Bottom Driller (ft)	2690					
Bottom Logger (ft)	2686					

Remarks and Equipment Summary

One: Toolstring	One: Remarks																	
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Equip name</td> <td style="width: 15%;">Length</td> <td style="width: 20%;">MP name</td> <td style="width: 45%;">Offset</td> </tr> <tr> <td>LEH-QT LEH-QT</td> <td style="color: blue;">69.92</td> <td></td> <td></td> </tr> <tr> <td>EDTC-B:8593 EDTH-B:8625 EDTG-A:77756 EDTC-B:8593</td> <td style="color: blue;">67.00</td> <td></td> <td></td> </tr> <tr> <td>HNGS-BA:337 HEH-K:337 HNGS-BA:337</td> <td style="color: blue;">60.5</td> <td></td> <td></td> </tr> </table>	Equip name	Length	MP name	Offset	LEH-QT LEH-QT	69.92			EDTC-B:8593 EDTH-B:8625 EDTG-A:77756 EDTC-B:8593	67.00			HNGS-BA:337 HEH-K:337 HNGS-BA:337	60.5			<p>Thank you for choosing Schlumberger</p> <p>Rig: Frontier 7</p> <p>Crew: Brett Bradley & Robert Yoder</p> <p>Toolstring run as per tool sketch</p> <p>Matrix: Limestone, 2.71 g/cc</p> <p>Cement volume calculated assuming FCD= / in</p> <p>Caliper check in casing=8.85 in, within tolerance</p>	
Equip name	Length	MP name	Offset															
LEH-QT LEH-QT	69.92																	
EDTC-B:8593 EDTH-B:8625 EDTG-A:77756 EDTC-B:8593	67.00																	
HNGS-BA:337 HEH-K:337 HNGS-BA:337	60.5																	





Lengths are in ft
 Maximum Outer Diameter = 6.370 in
 Line: Sensor Location, Value: Gating Offset
 All measurements are relative to TOOL_ZERO

Depth Summary

One

Depth Measuring Device

Type	IDW-JA
Serial Number	4913
Calibration Date	19-Sep-2014
Calibrator Serial Number	
Calibration Cable Type	7-46A-XS
Wheel Correction 1	0
Wheel Correction 2	-2

Tension Device

Type	CMTD-B/A
Serial Number	2300
Calibration Date	14-Oct-2014
Calibrator Serial Number	
Number of Calibration Points	10
Calibration Root Mean Square Error	22
Calibration Peak Error	41

Logging Cable

Type	7-46A-XS
Serial Number	U714024
Length	21000.00 ft
Conveyance Type	Wireline
Rig Type	Land

One:Depth Control Parameters

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	

Depth Control Remarks

First run in well depth control procedures followed
 IDW used as primary depth devize, z-chart used for secondary

One

5" Triple Combo

Pass Summary

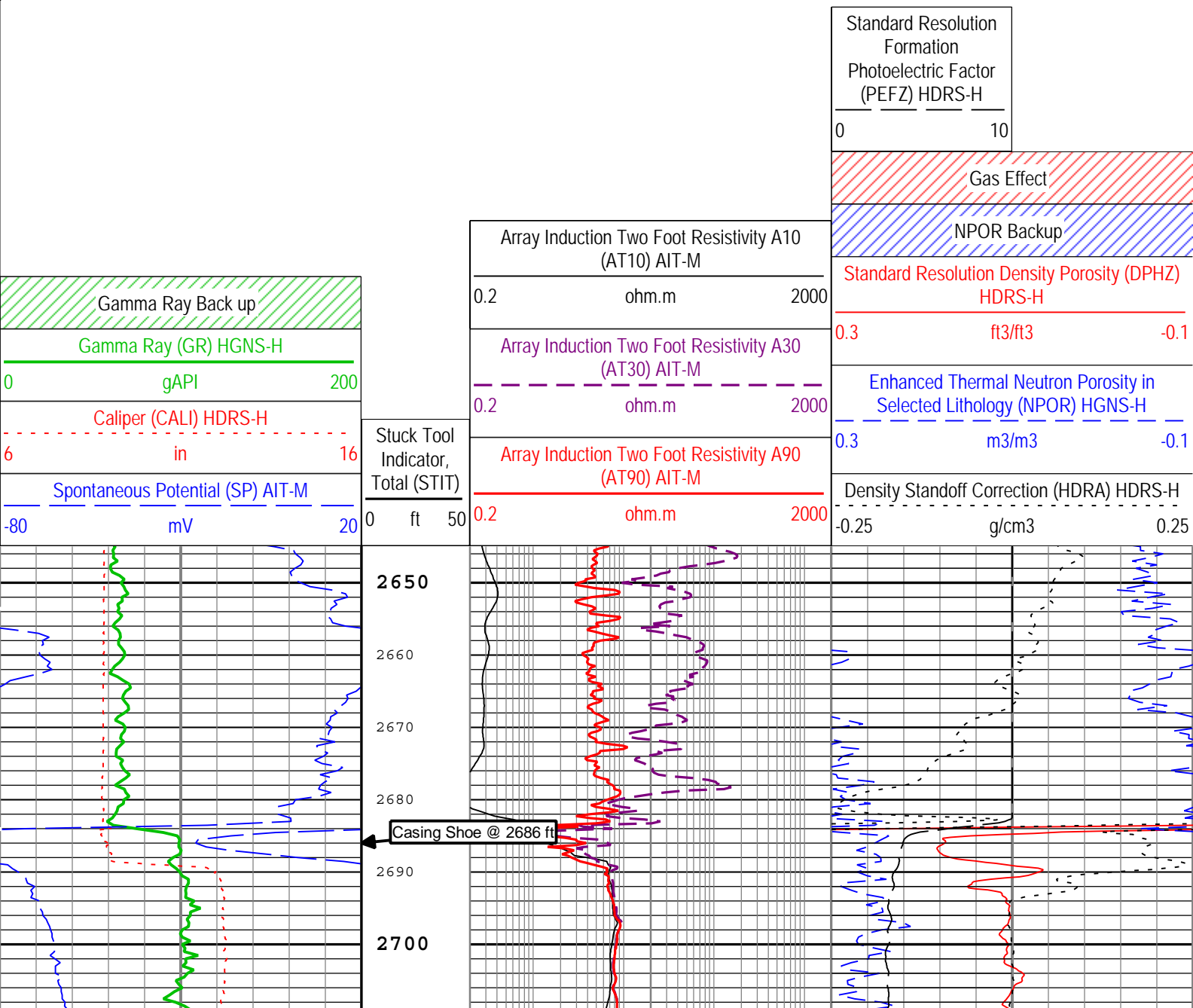
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[3]:Up	Up	2489.71 ft	5523.18 ft	25-Oct-2014 9:03:31 AM	25-Oct-2014 1:21:45 PM	ON	0.00 ft	No

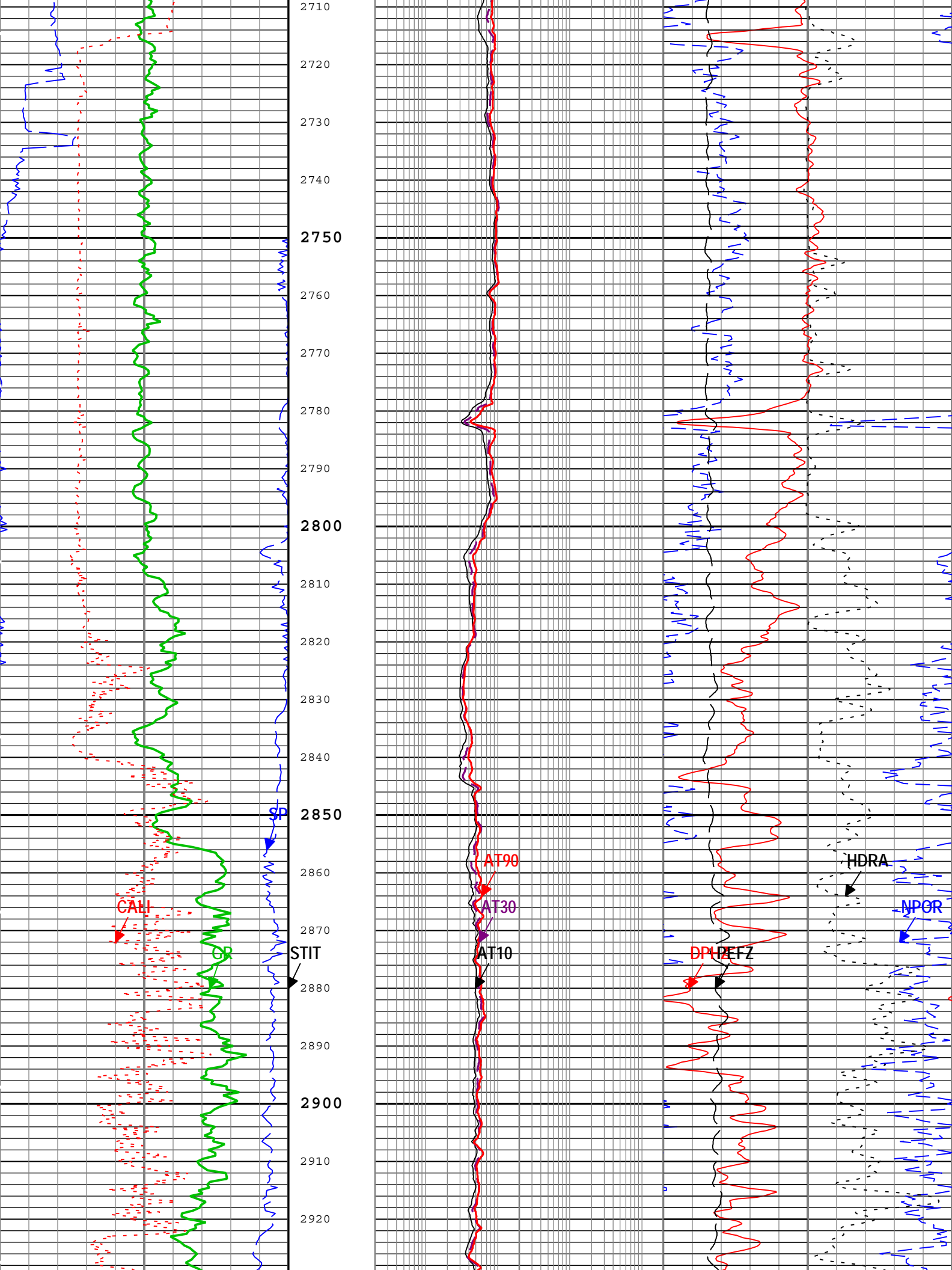
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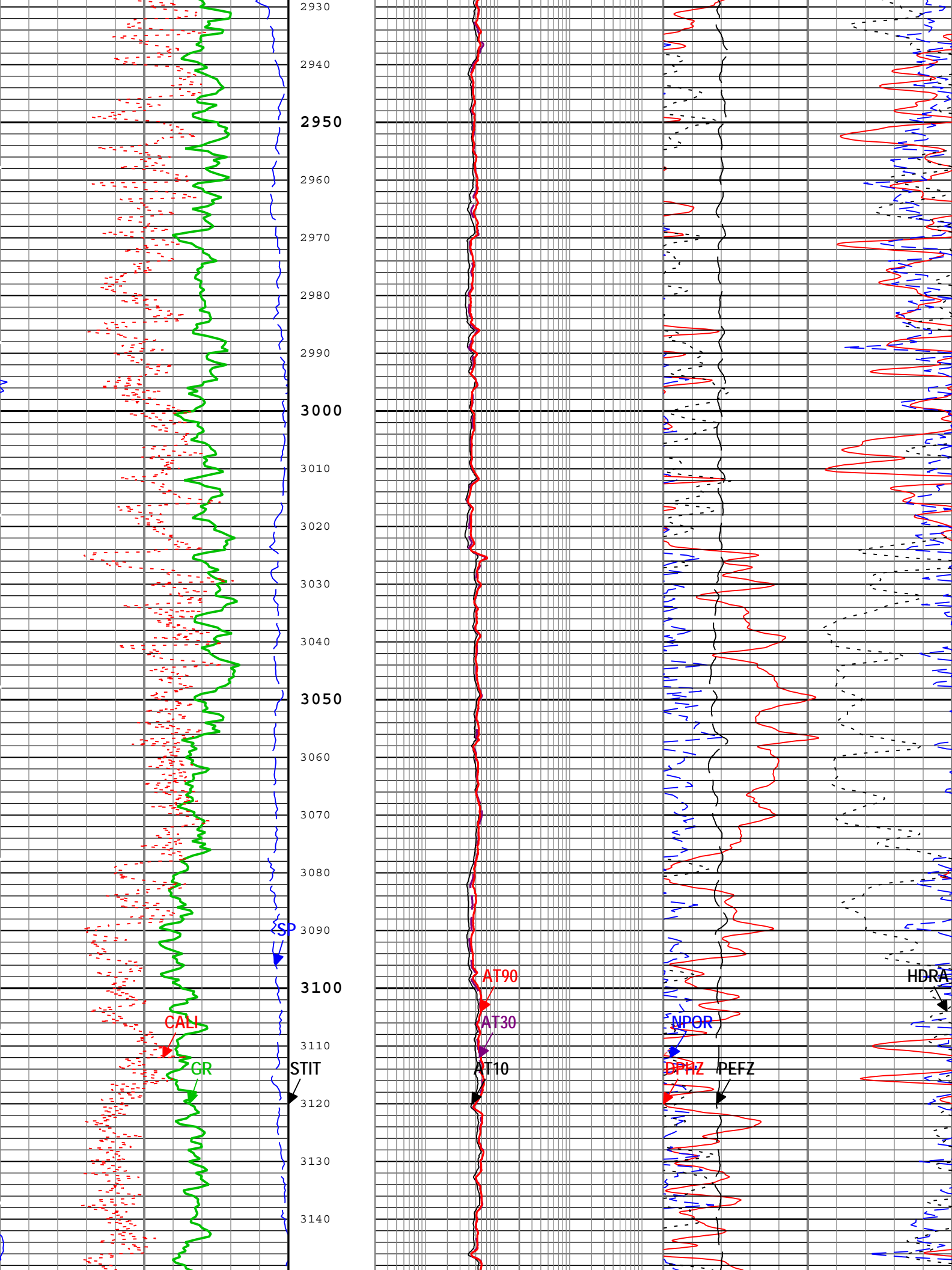
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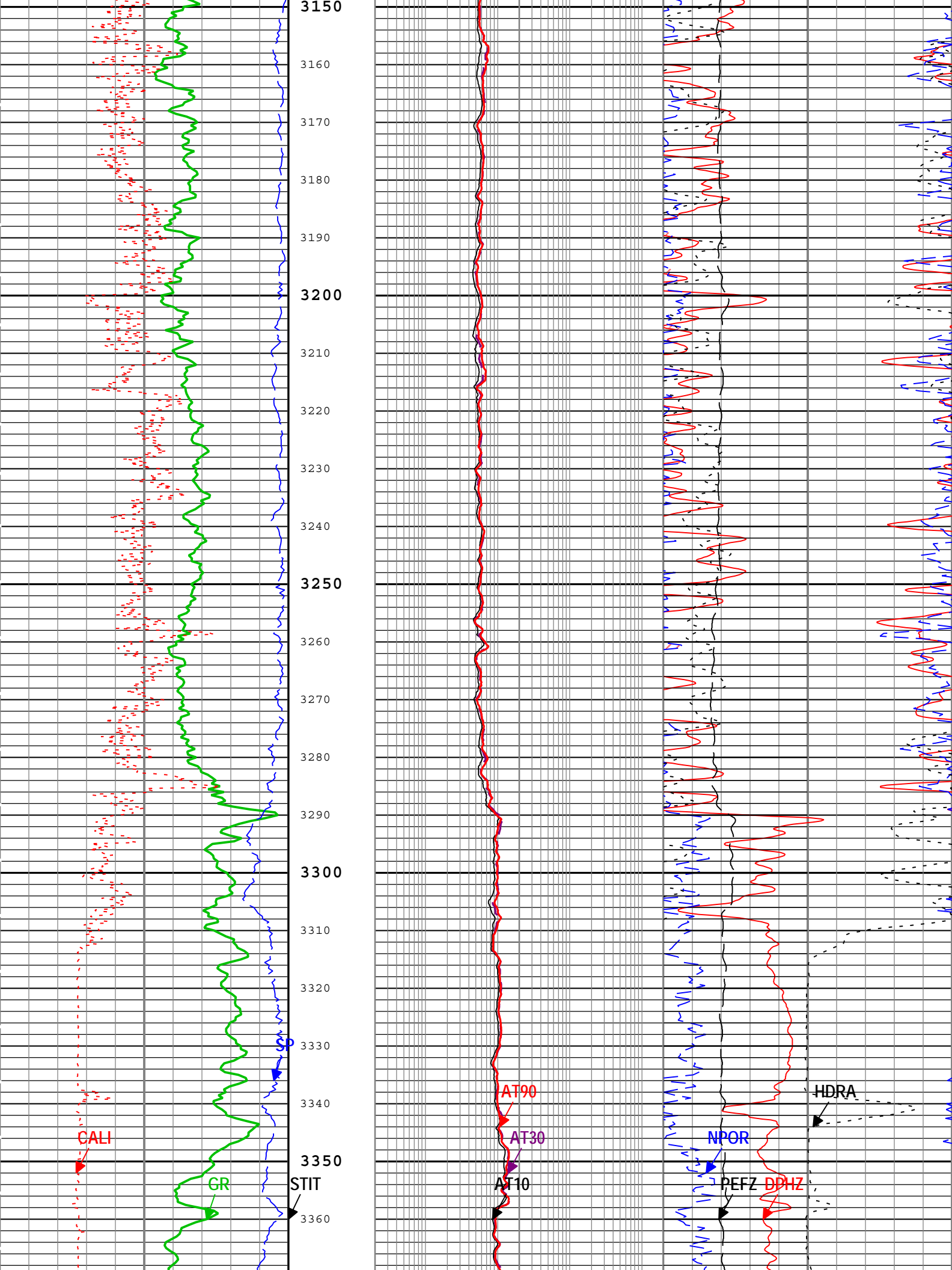
Channel	Source	Sampling
AT10	AIT-M:AMIS:AMIS	3in
AT30	AIT-M:AMIS:AMIS	3in
AT90	AIT-M:AMIS:AMIS	3in
CALI	HDRS-H:HRCC-H:HRCC-H	1in
DPHZ	HDRS-H:HRMS-H:HRGD-H	2in
GR	HGNS-H:HGNS-H:HGNS-H	6in
HDRA	HDRS-H:HRMS-H:HRGD-H	2in
NPOR	HGNS-H:HGNS-H:HGNS-H	6in
PEFZ	HDRS-H:HRMS-H:HRGD-H	2in
SP	AIT-M:AMIS:AMIS	6in
STIT	DepthCorrection	6in
TIME_1900	WLWorkflow	0.1in

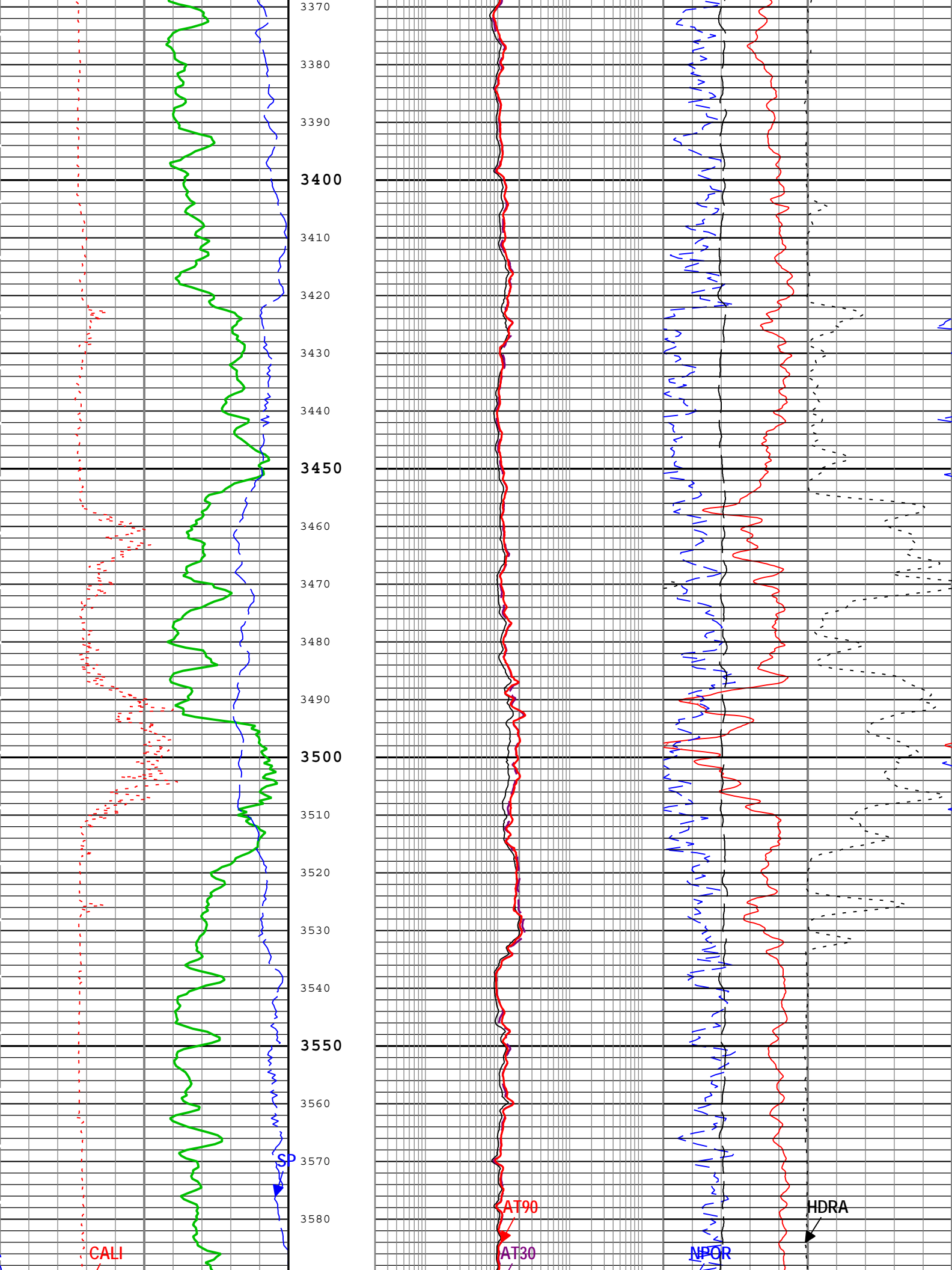
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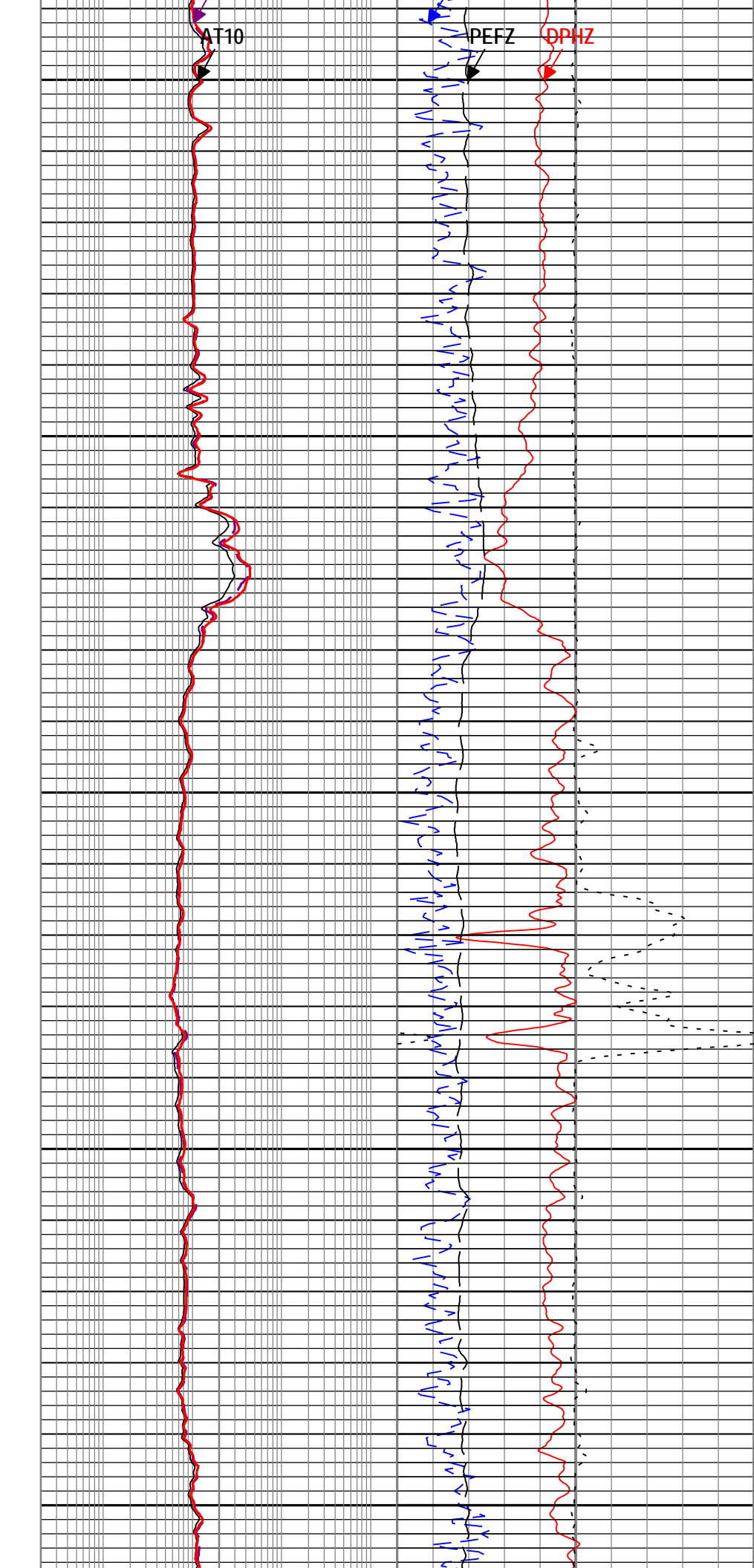
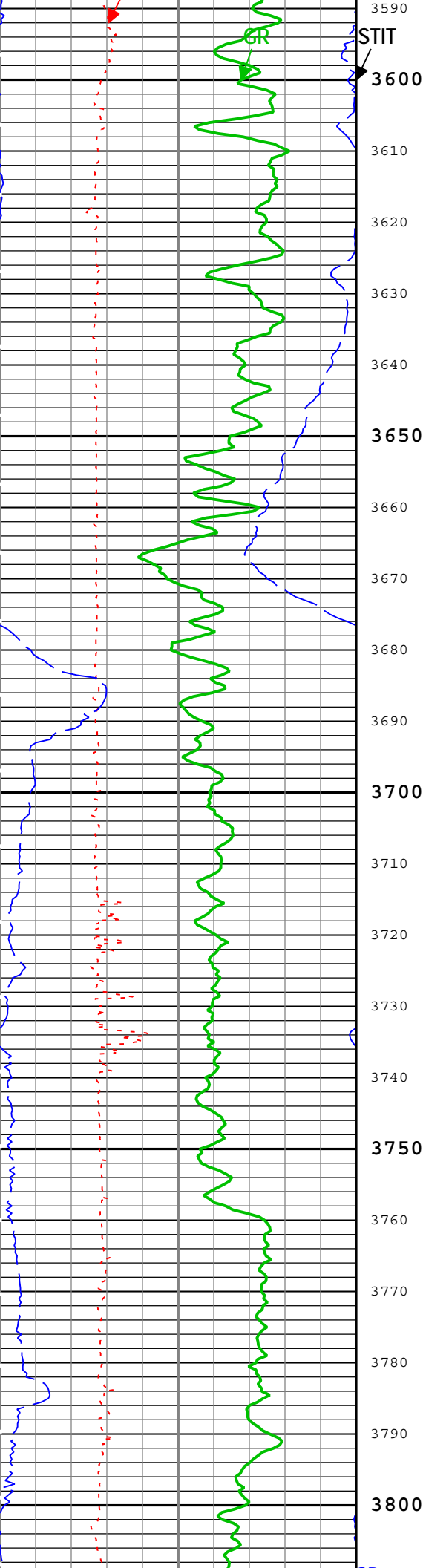












STIT

AT10

PEFZ

DPHZ

3600

3600

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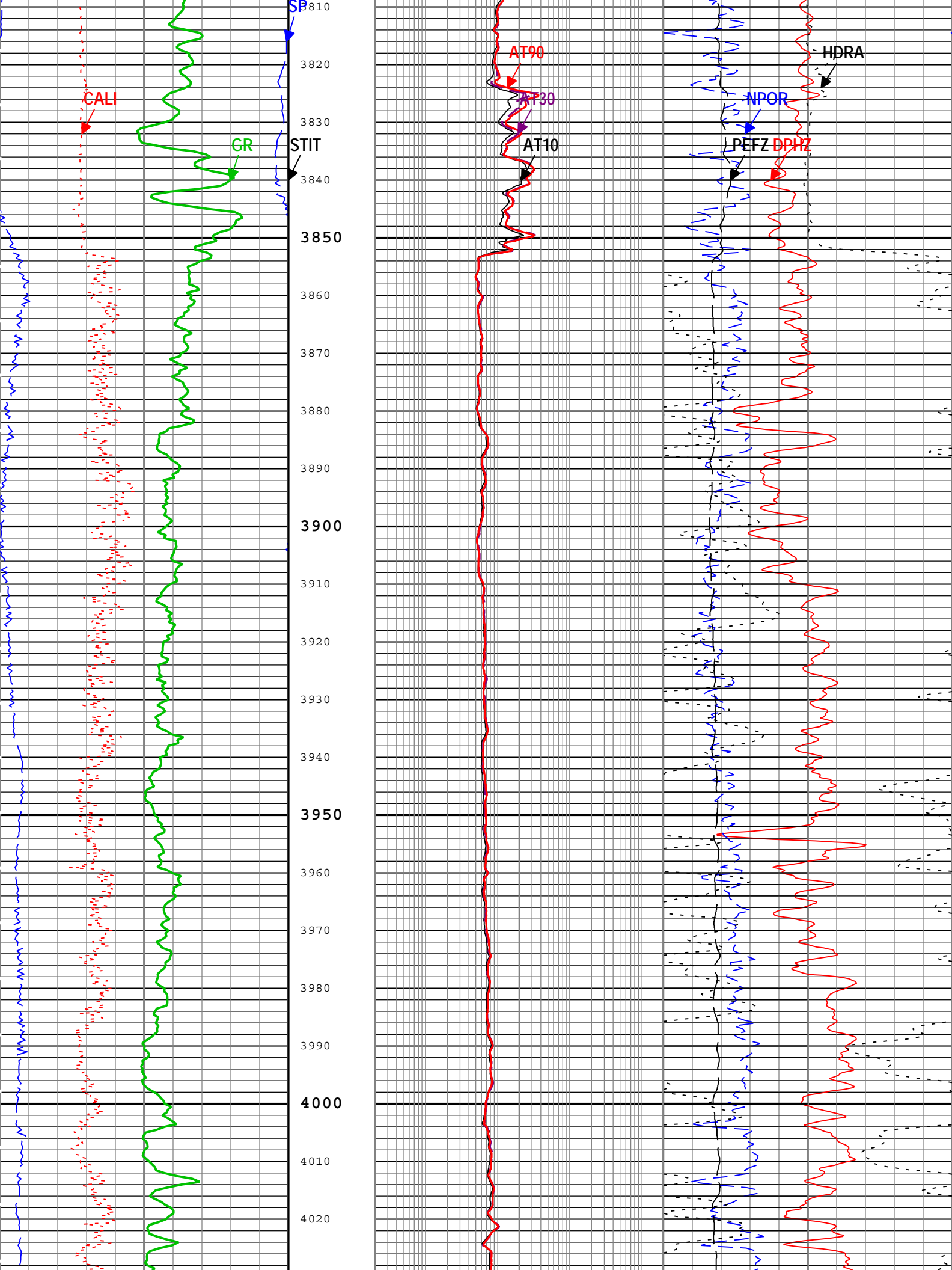
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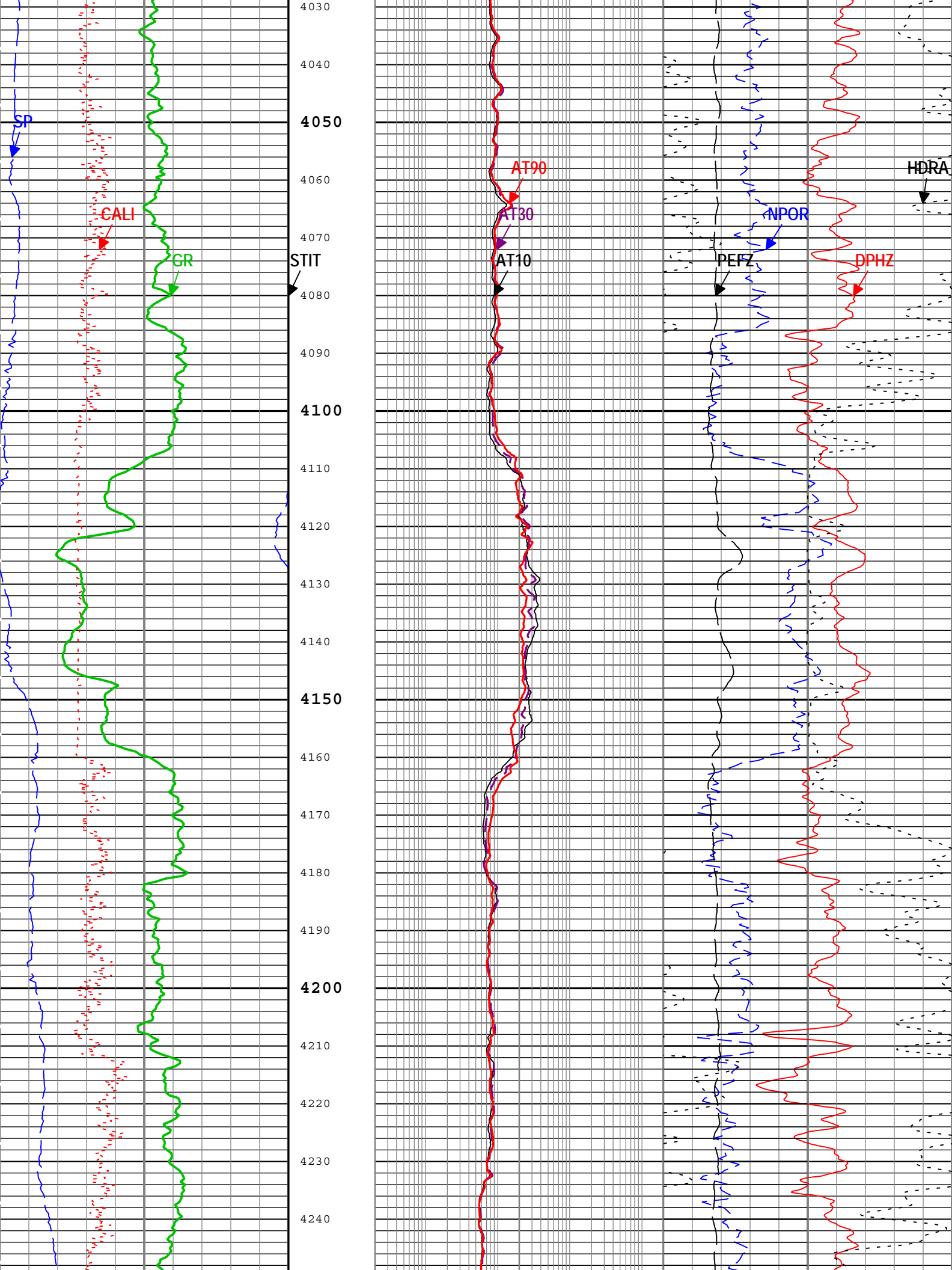
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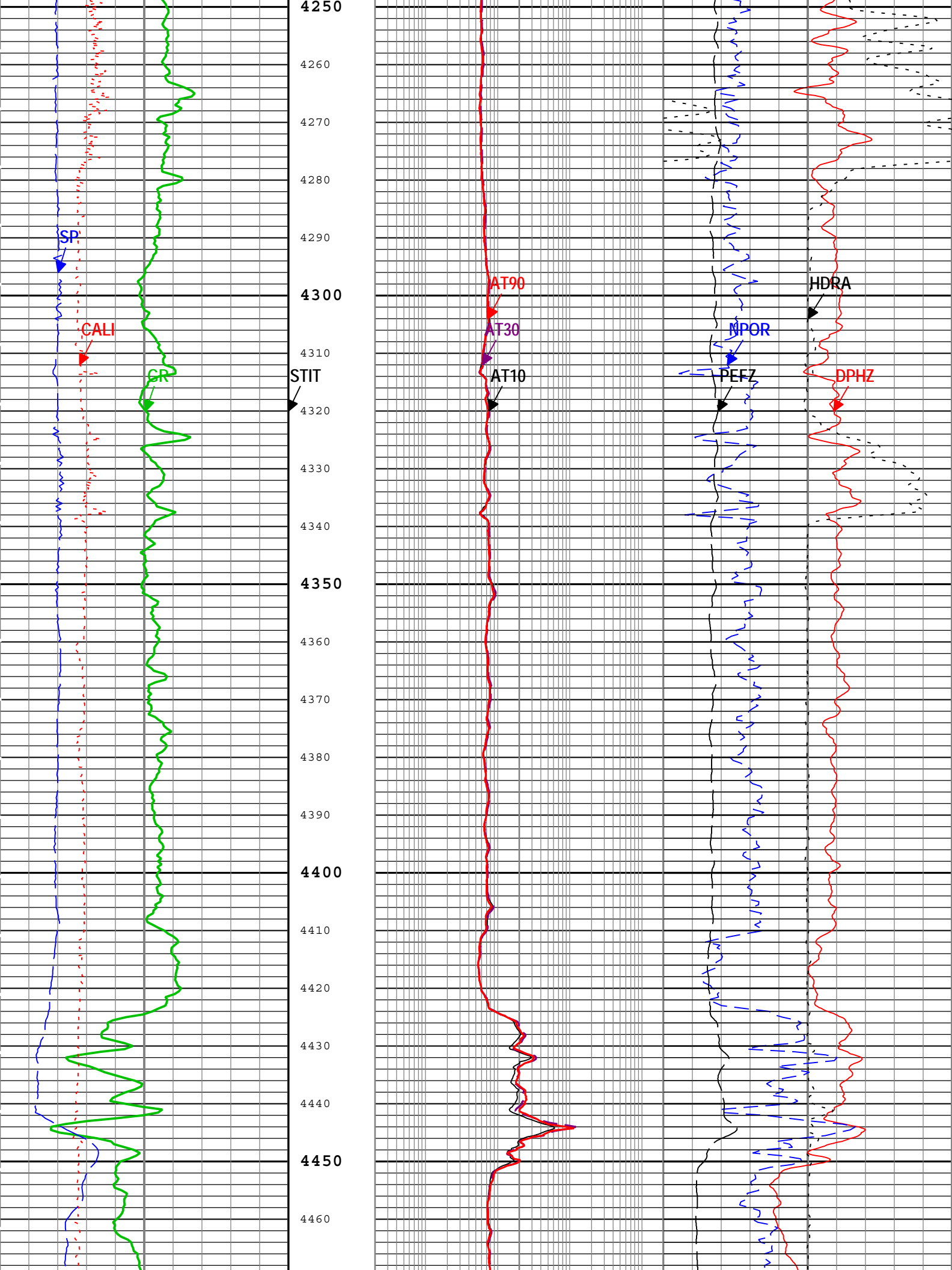
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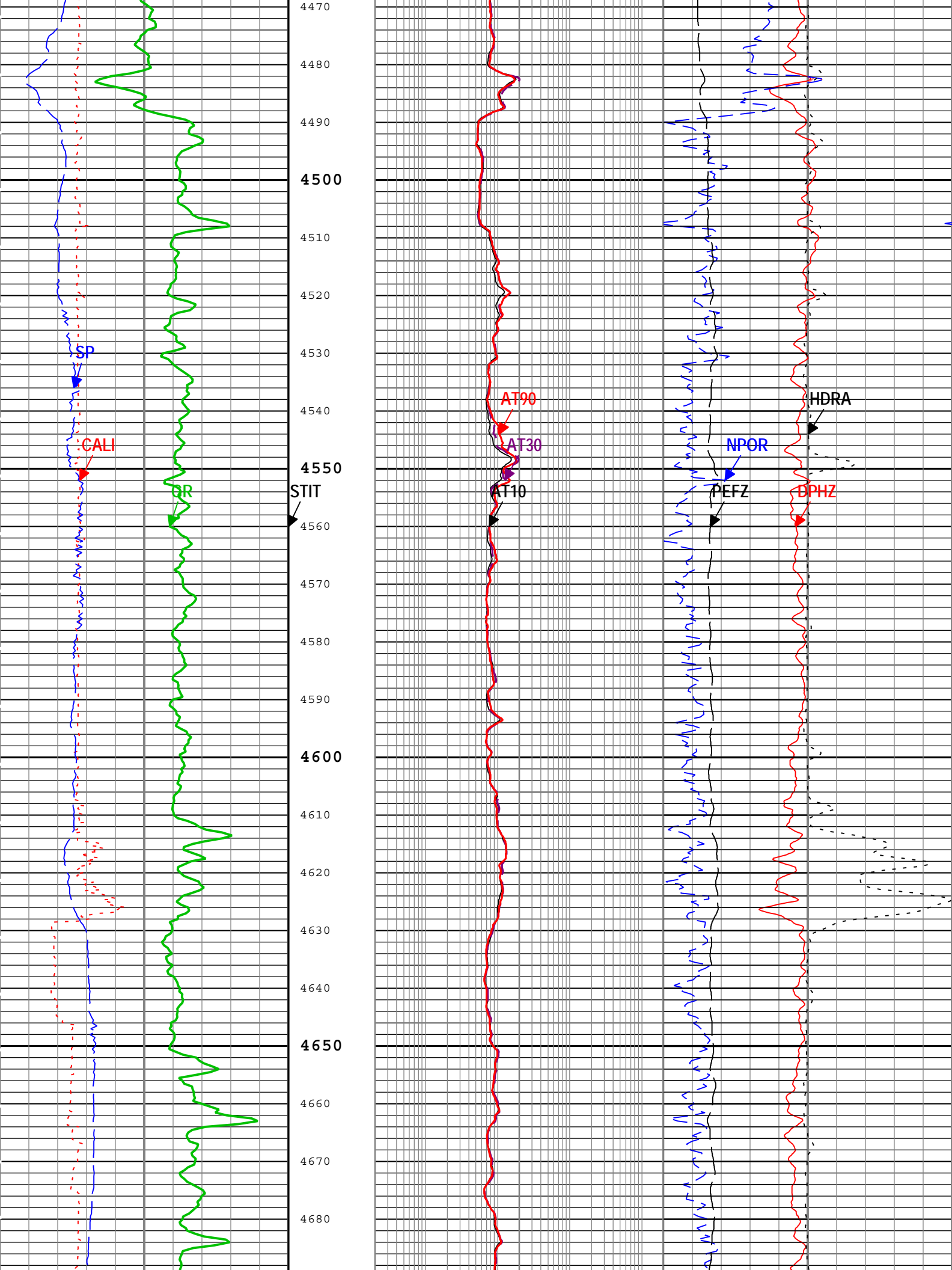
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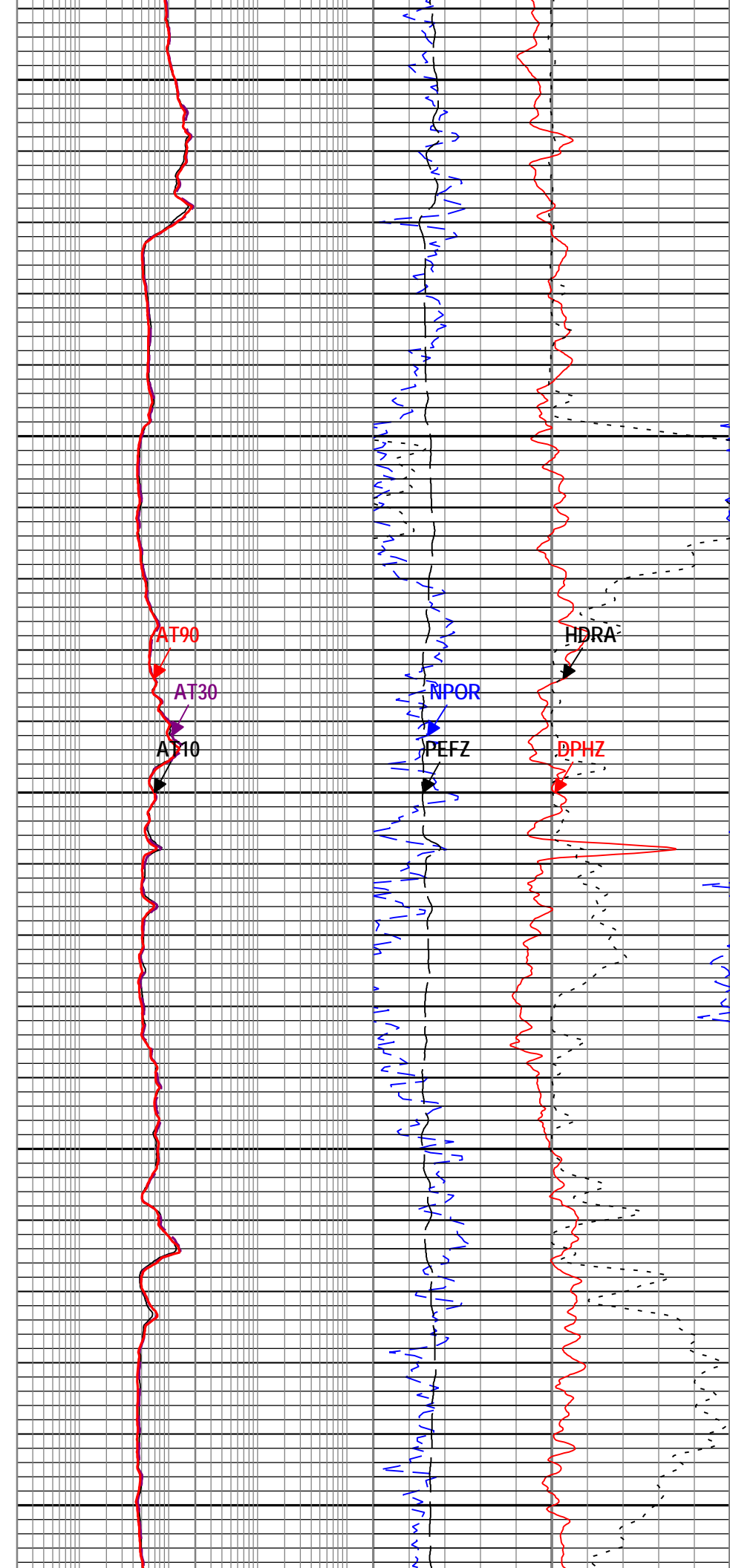
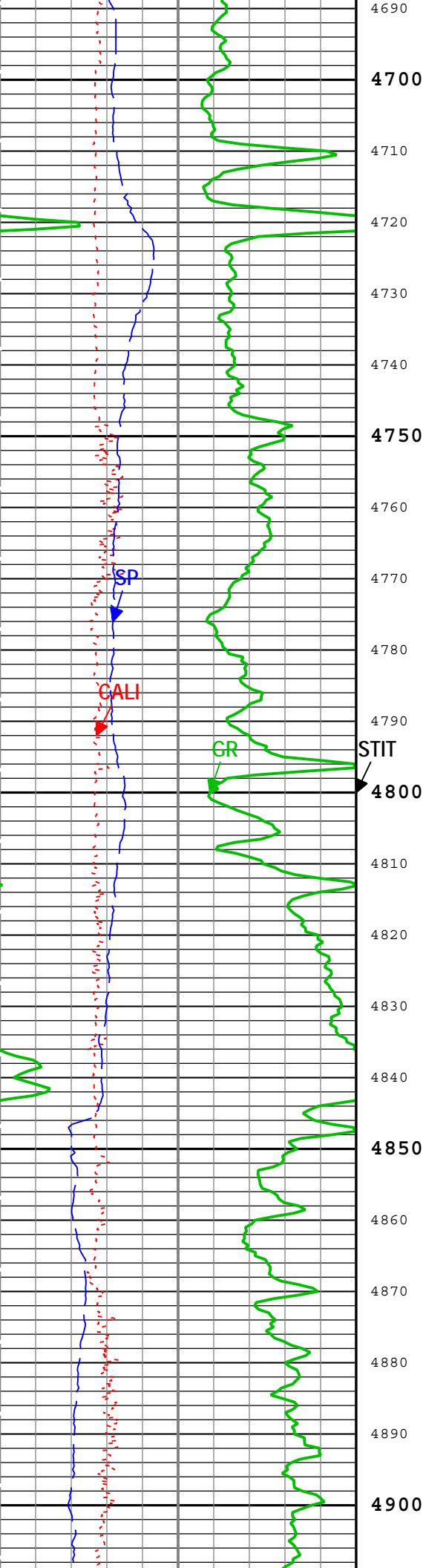
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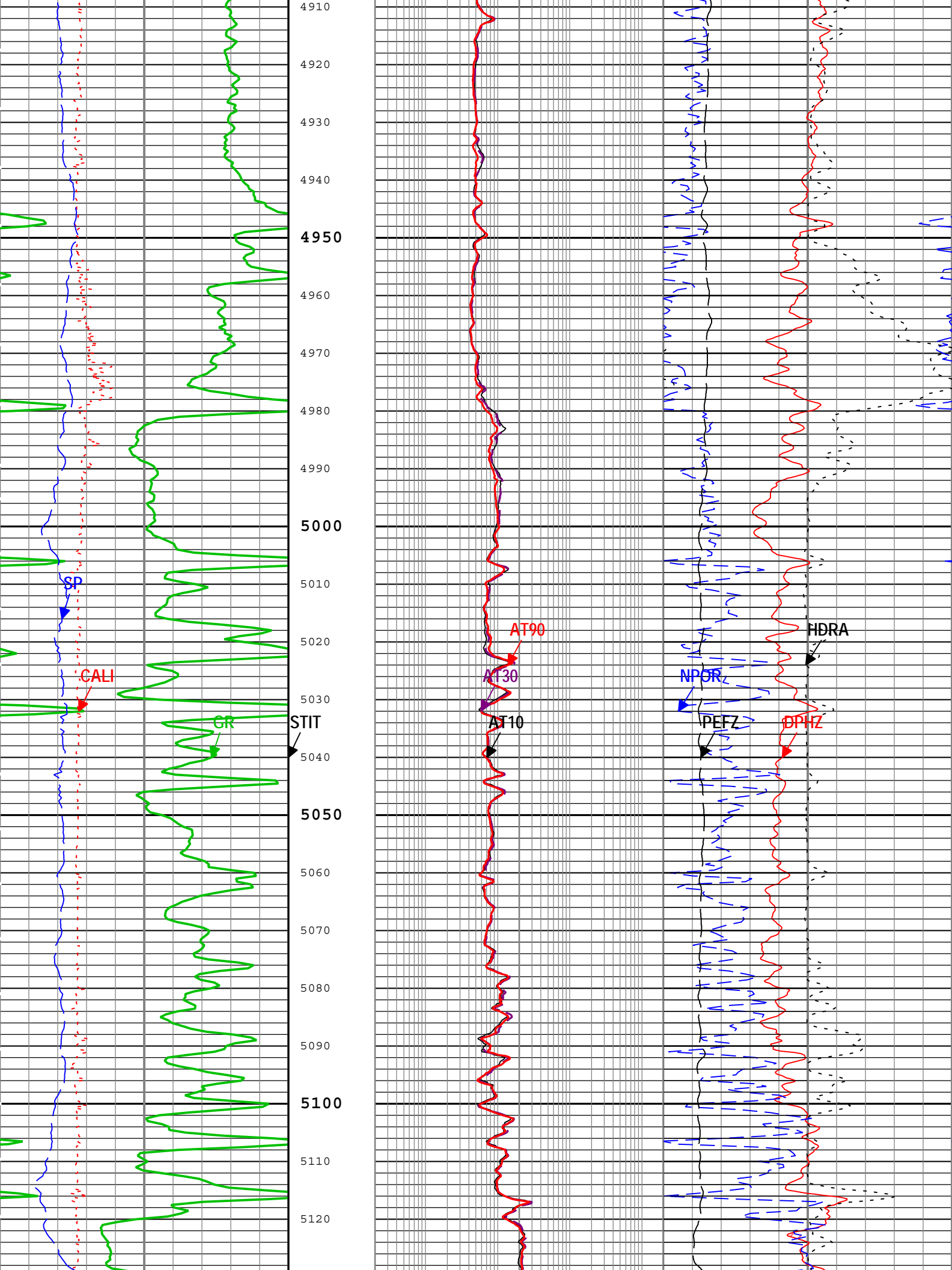


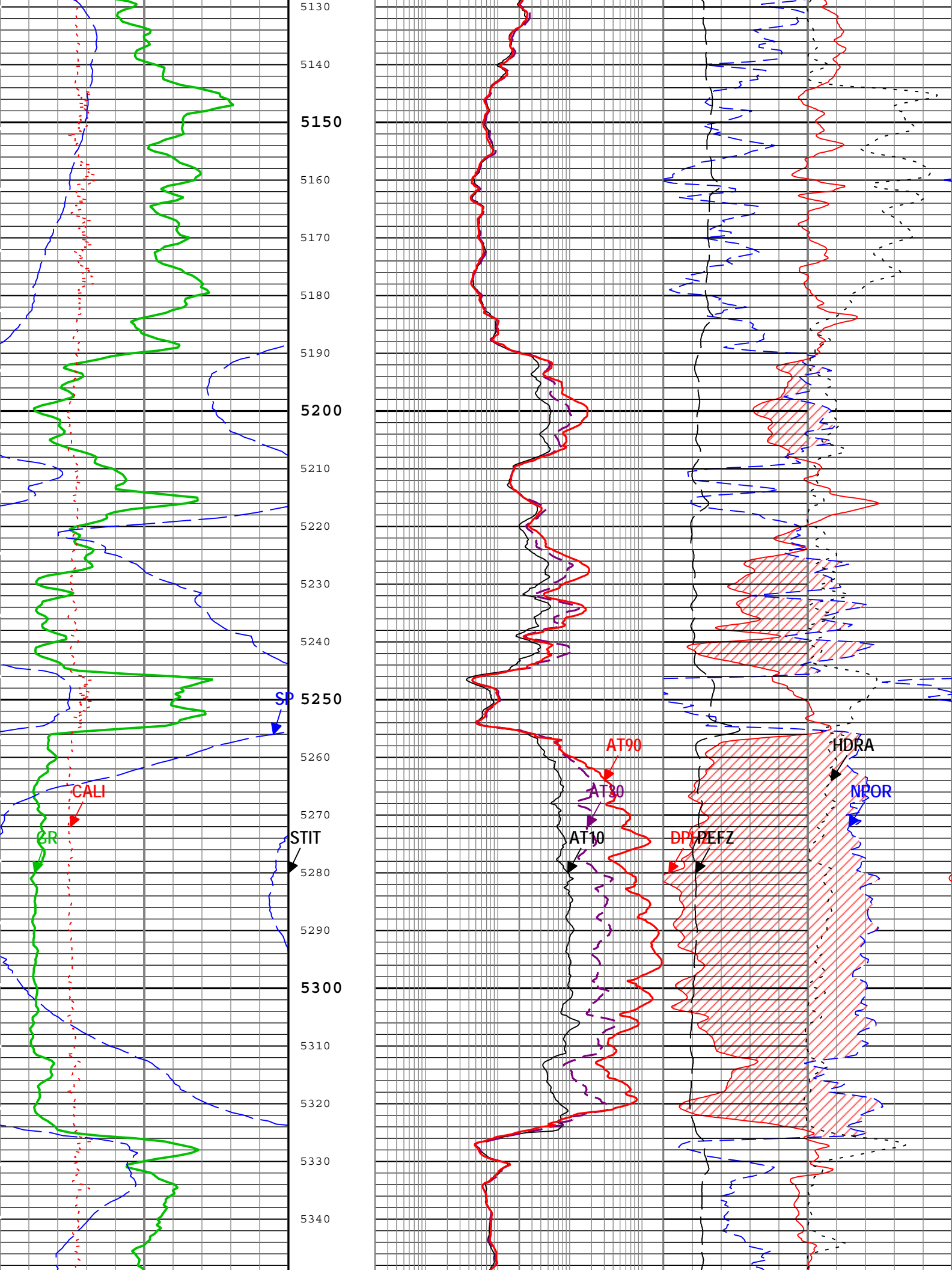


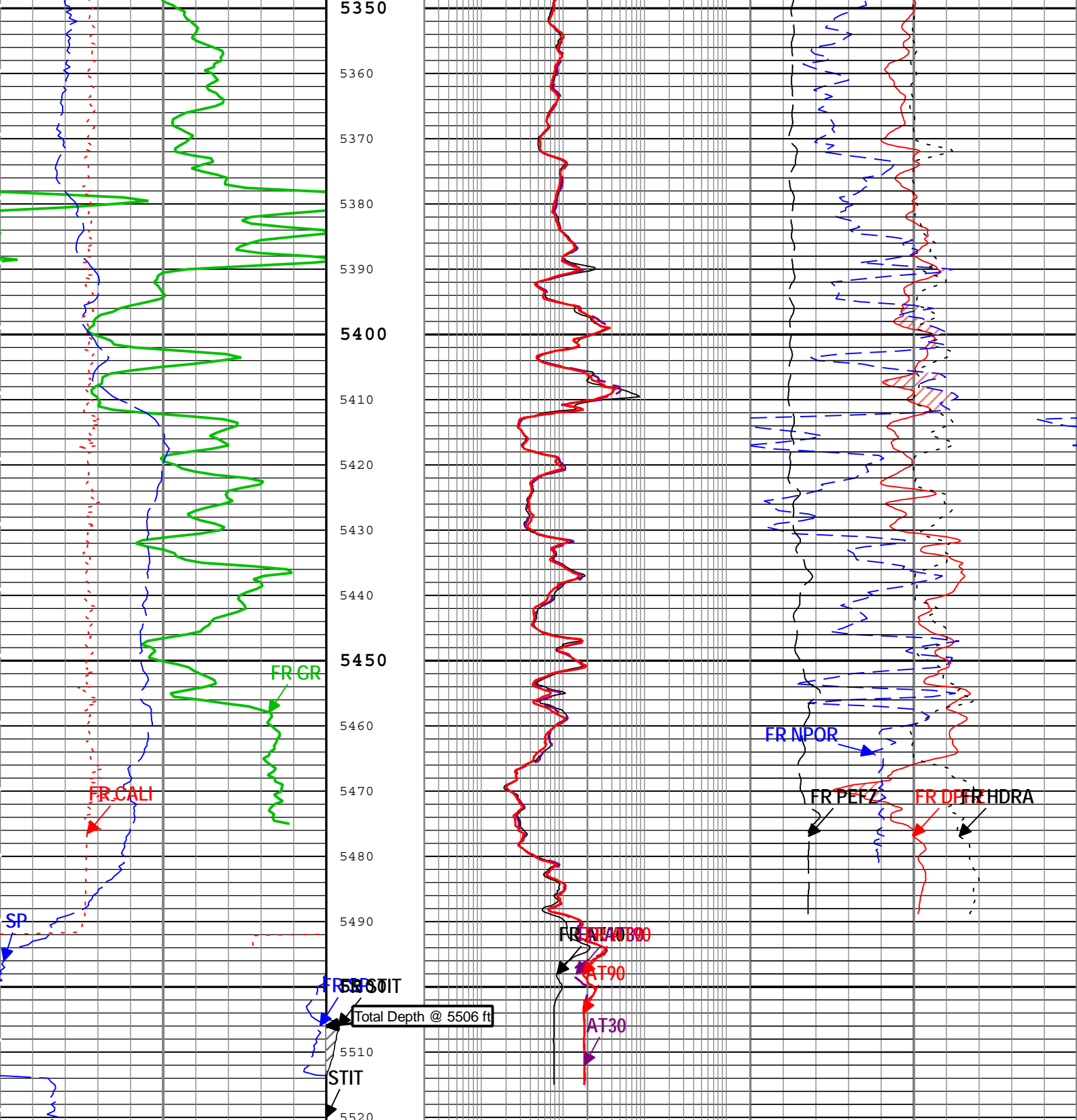












Gamma Ray Back up	
Gamma Ray (GR) HGNS-H	
0	200
gAPI	
Caliper (CALI) HDRS-H	
6	16
in	
Spontaneous Potential (SP) AIT-M	
-80	20
mV	

Stuck Tool Indicator, Total (STIT)	Array Induction Two Foot Resistivity A10 (AT10) AIT-M
0	0.2
ft	ohm.m
50	2000
Array Induction Two Foot Resistivity A30 (AT30) AIT-M	
0.2	2000
ohm.m	
Array Induction Two Foot Resistivity A90 (AT90) AIT-M	
0.2	2000
ohm.m	

Gas Effect	
NPOR Backup	
Standard Resolution Density Porosity (DPHZ) HDRS-H	
0.3	-0.1
ft ³ /ft ³	
Enhanced Thermal Neutron Porosity in Selected Lithology (NPOR) HGNS-H	
0.3	-0.1
m ³ /m ³	

Density Standoff Correction (HDRA) HDRS-H	-0.25	g/cm3	0.25
Standard Resolution Formation Photoelectric Factor (PEFZ) HDRS-H	0		10

TIME_1900 - Time Marked every 60.00 (s)

Description: HGNS standard resolution porosities for Platform Express Format: Log (TripleCombo-5) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 25-Oct-2014 13:24:28

Channel Processing Parameters				
Parameter	Description	Tool	Value	Unit
ABHM	Array Induction Borehole Correction Mode	AIT-M	Compute Standoff	
ACDE	Array Induction Casing Detection Enable	AIT-M	No	
ASTA	Array Induction Tool Standoff	AIT-M	1	in
BARI	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Open	
BHT	Bottom Hole Temperature	Borehole	140	degF
BS	Bit Size	WLSESSION	Depth Zoned	in
BSAL	Borehole Salinity	Borehole	0	ppm
CALI_SHIFT	CALI Supplementary Offset	HDRS-H	0	in
CBLO	Casing Bottom (Logger)	WLSESSION	2686	ft
CDEN	Cement Density	HGNS-H	2	g/cm3
DFD	Drilling Fluid Density	Borehole	10	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	
DFT_WATER	Drilling Fluid Water Type	Borehole	LSND	
DHC	Density Hole Correction	HDRS-H	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	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	CALI	
GRSE	Generalized Mud Resistivity Selection, from Measured or Computed Mud Resistivity	Borehole	AMF	
GTSE	Generalized Temperature Selection, from Measured or Computed Temperature	Borehole	CTEM	
HSCO	Hole Size Correction Option	HGNS-H	Yes	
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	73	degF
RMFS	Resistivity of Mud Filtrate Sample	Borehole	0.78	ohm.m
SOCO	Standoff Correction Option	HGNS-H	Yes	
SPDR	SP Drift Per Foot	AIT-M	0	mV/ft
TD	Total Measured Depth	Borehole	5506	ft

Depth Zone Parameters			
Parameter	Value	Start (ft)	Stop (ft)
BS	12.25	2645	2691
BS	8.75	2691	5506

All depth are actual.

Tool Control Parameters				
Parameter	Description	Tool	Value	Unit
HMCA_BRD_TYPE	HMCA Board Type	HGNS-H	1	

HRGD_BRD_TYPE	HRGD Board Type	HDRS-H	WITH_HET
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	1800 ft/h

One

5" Triple Combo

Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[2]:Up	Up	5292.26 ft	5520.13 ft	25-Oct-2014 8:34:25 AM	25-Oct-2014 8:53:06 AM	OFF	4.20 ft	No
One	Log[3]:Up	Up	2489.71 ft	5523.18 ft	25-Oct-2014 9:03:31 AM	25-Oct-2014 1:21:45 PM	ON	0.00 ft	No

All depths are referenced to toolstring zero

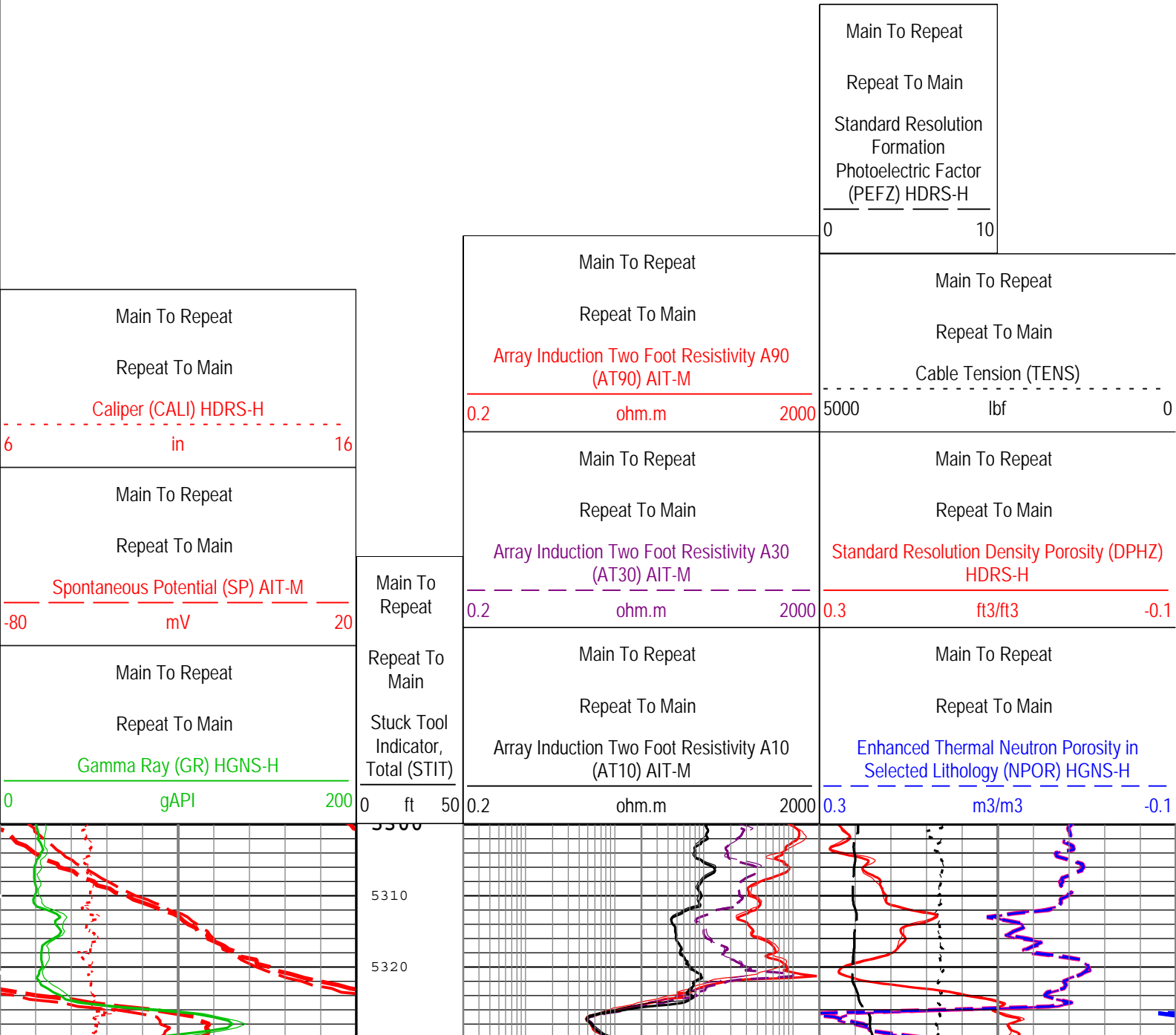
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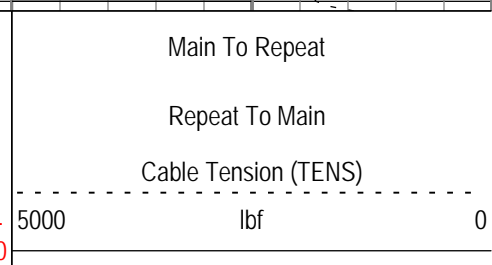
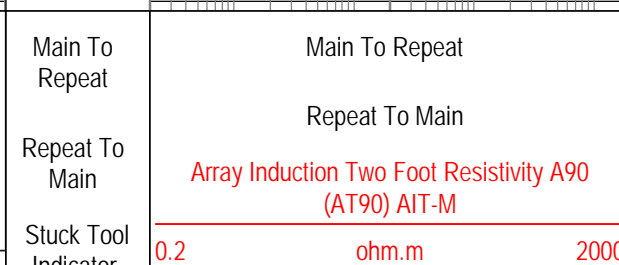
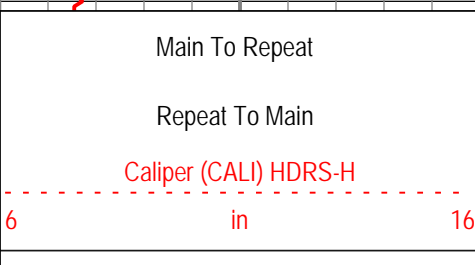
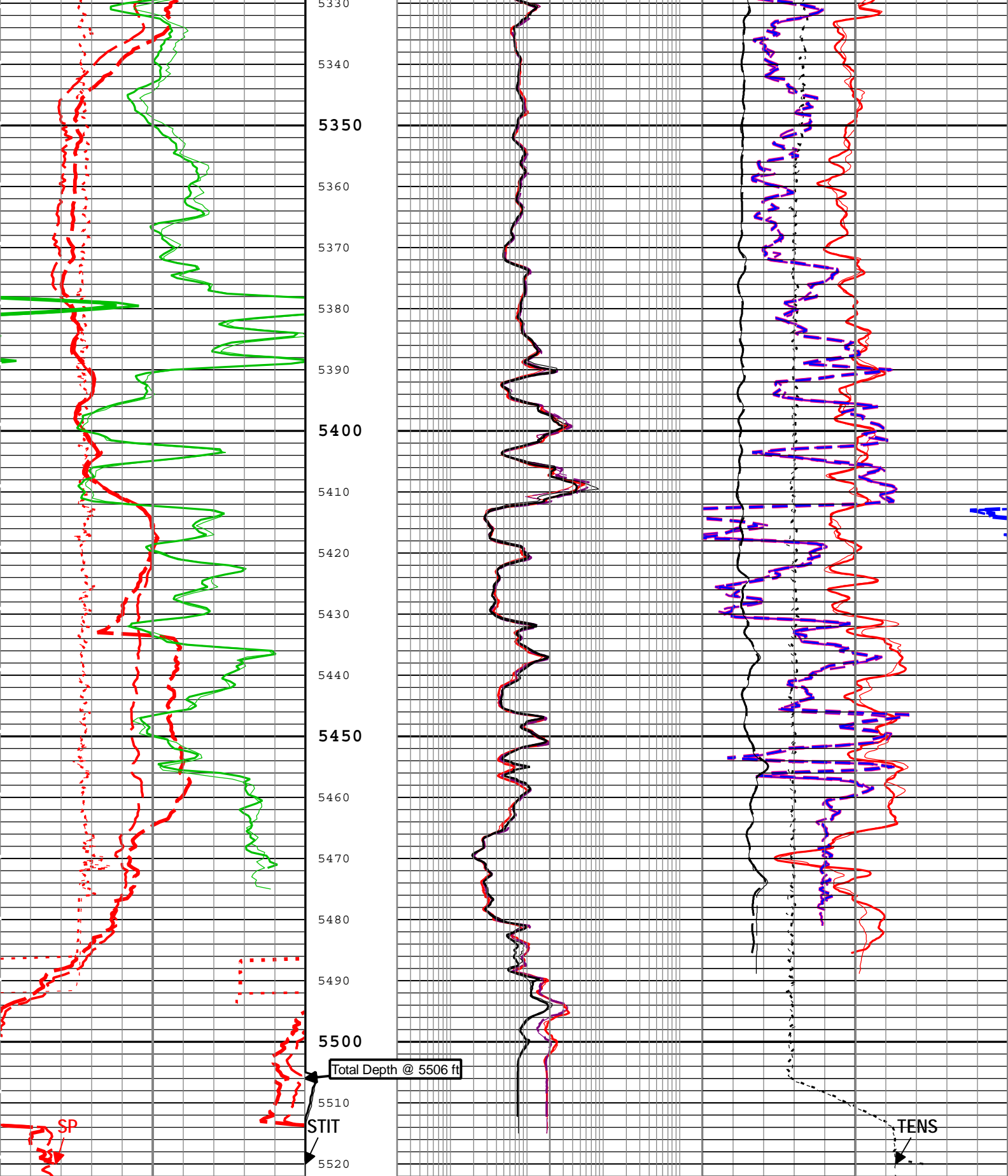
Company: Bonanza Creek Energy, Inc Well: NMU 11-12H

One: Log[3]:Up:S007

Description: HGNS standard resolution porosities for Platform Express Format: Log (TripleCombo-5 RA) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 25-Oct-2014 13:24:29

TIME_1900 - Time Marked every 60.00 (s)





Main To Repeat		
Repeat To Main		
<u>Spontaneous Potential (SP) AIT-M</u>		
-80	mV	20
Main To Repeat		
Repeat To Main		
<u>Gamma Ray (GR) HGNS-H</u>		
0	gAPI	200

Indicator,
Total (STIT)
0 ft 50

Main To Repeat		
Repeat To Main		
<u>Array Induction Two Foot Resistivity A30 (AT30) AIT-M</u>		
0.2	ohm.m	2000
Main To Repeat		
Repeat To Main		
<u>Array Induction Two Foot Resistivity A10 (AT10) AIT-M</u>		
0.2	ohm.m	2000

Main To Repeat		
Repeat To Main		
<u>Standard Resolution Density Porosity (DPHZ) HDRS-H</u>		
0.3	ft3/ft3	-0.1
Main To Repeat		
Repeat To Main		
<u>Enhanced Thermal Neutron Porosity in Selected Lithology (NPOR) HGNS-H</u>		
0.3	m3/m3	-0.1
Main To Repeat		
Repeat To Main		
<u>Standard Resolution Formation Photoelectric Factor (PEFZ) HDRS-H</u>		
0		10

TIME_1900 - Time Marked every 60.00 (s)

Description: HGNS standard resolution porosities for Platform Express Format: Log (TripleCombo-5 RA) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 25-Oct-2014 13:24:29

Company: Bonanza Creek Energy, Inc

Schlumberger

Well: NMU 11-12H

Field: McCallum

County: Jackson

State: Colorado

Platform Express

Triple Combo