

[illegible]

# Schlumberger

**Company: Kerr McGee Oil and Gas Onshore, LP**

Well: Parterre 13-16

Field: **Spindle**

County: **Adams** State: **Colorado**

# Platform Express Triple Combo

County: Adams	
Field: Spindle	
Location: NWSW Sec. 16, T 1S , R 67W	
Well: Parterre 13-16	
Company: Kerr McGee Oil and Gas Onshore	
<div>Platform Express</div> <div>Triple Combo</div>	
LOCATION	
NWSW Sec. 16, T 1S , R 67W SHL: 1515' FSL / 1274' FWL NWSW BHL: 581' FSL / 608' FWL SWSW (est)	Elev.: K.B. 5175.00 ft G.L. 5160.00 ft D.F. 5174.00 ft
Permanent Datum: _____ Log Measured From: _____ Drilling Measured From: _____	Elev.: 5160.00 ft _____ 15.00 ft above Perm. Datum
API Serial No. 05-001-09685-000C	Section 16 Township 1S Range 67W

[illegible]

Logging Date	2-Dec-2009		
Run Number	1		
Depth Driller	8870 ft		
Schlumberger Depth	8796 ft		
Bottom Log Interval	8788 ft		
Top Log Interval	1220 ft		
Casing Driller Size @ Depth	8.625 in @ 1220 ft	@	
Casing Schlumberger	1220 ft		
Bit Size	7.875 in		
Type Fluid In Hole	Fresh Water		
Density	8.5 lbm/gal	2.8 s	
Fluid Loss	PH		
Source Of Sample	Flowline		
RM @ Measured Temperature	1.420 ohm.m @ 72 degF	@	
RMF @ Measured Temperature	1.065 ohm.m @ 0 degF	@	
RMC @ Measured Temperature	2.130 ohm.m @ 0 degF	@	
Source RMF	Calculated	Calculated	
RM @ MRT	0.522 @ 208	0.034 @ 208	@
Maximum Recorded Temperatures	208 degF		@
Circulation Stopped	2-Dec-2009	3:00	
Logger On Bottom	2-Dec-2009	11:24	
Unit Number	3055	Fort Morgan, CO	
Recorded By	Jared R. Hoskins		
Witnessed By	Marvin Hackworth & Mark Scannell		

Logging Date				
Run Number				
Depth Driller				
Schlumberger Depth				
Bottom Log Interval				
Top Log Interval				
Casing Driller Size @ Depth		@		
Casing Schlumberger				
Bit Size				
Type Fluid In Hole				
Density	Viscosity			
Fluid Loss	PH			
Source Of Sample				
RM @ Measured Temperature		@		
RMF @ Measured Temperature		@		
RMC @ Measured Temperature		@		
Source RMF	RMC			
RM @ MRT	RMF @ MRT	@	@	@
Maximum Recorded Temperatures				
Circulation Stopped	Time			
Logger On Bottom	Time			
Unit Number	Location			
Recorded By				
Witnessed By				

Run 4

Date Created: 2-DEC-2009 12:19:29

## Logging Cable

Type:	7-39P LXS
Serial Number:	708273
Length:	13900 FT
<hr/>	
Conveyance Method:	Wireline
Rig Type:	LAND

Log Sequence:	First Log In the Well
Rig Up Length At Surface:	0.00 FT
Rig Up Length At Bottom:	0.00 FT
Rig Up Length Correction:	0.00 FT
Stretch Correction:	4.50 FT
Tool Zero Check At Surface:	0.00 FT

1. All Schlumberger depth policy procedures applied
2. This is the primary depth reference
- 3.
- 4.
- 5.
- 6.

THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.

OTHER SERVICES2  
OS1:  
OS2:  
OS3:  
OS4:  
OS5:

REMARKS: RUN NUMBER 2

1. This is the first run in hole.
2. Tool run as per tool sketch.
3. Matrix changes are as noted on porosity log.
4. Toolstring run with minimum jewelry.
5. Fresh water does have any mud to press. Values were calculated.
6. Aaron Vandenberg, Herb Meighan, and Peter Hook are also witnesses.

Rig: Extreme 11	
Crew: Tim Ludgate	

Crew: Tim Ludgate

RUN 1 SERVICE ORDER #: AXB6-00073 PROGRAM VERSION: 17C0-154 FLUID LEVEL:			RUN 2 SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

SERVICE ORDER #: AXB6-00073  
PROGRAM VERSION: 17C0-154  
FLUID LEVEL:

LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

SERVICE ORDER #:  
PROGRAM VERSION:  
FLUID LEVEL:

LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

START

**STOP**

LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

START

**STOP**

[illegible]

	RUN 1	RUN 2
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	1	1
8	1	1
9	1	1
10	1	1
11	1	1
12	1	1
13	1	1
14	1	1
15	1	1
16	1	1
17	1	1
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94	1	1
95	1	1
96	1	1
97	1	1
98	1	1
99	1	1
100	1	1

RUN 2

## SURFACE EQUIPMENT

WITM (DTS)-A

GSR-U/Y  
NCT-B  
CNB-AB  
NCS-VB

## DOWNHOLE EQUIPMENT

LEH-QT  
LEH-QT 2552



43.6

DTC-H  
ECH-KC  
DTCH0-A 8980  
DTCH1-A

CTEM

TelStatus  
ToolStatu  
HGNS HTEM  
LIMQA

\_\_\_\_\_ 39.7

40.6

376

\_\_\_\_\_ 37.6

36.9

37.6

HILTB-FTB  
HGNSD-B  
HMCA  
HGNH  
NLS-KL  
NSR-F 5068  
HACCZ 749  
HCNT  
HGR  
HRCC-B 1813  
HRMS-B 821  
HRGD-B 1879  
GLS-VJ 5416  
MCFL Device  
HILT Nucl. LS 42767  
HILT Nucl. SS 42767  
HILT Nucl. BS 42767  
NPV-N

HGNS Gamm

HGNS Neut  
HGNS Neut

HGNS sens

HRCC cart

31.1

30.6

28.2

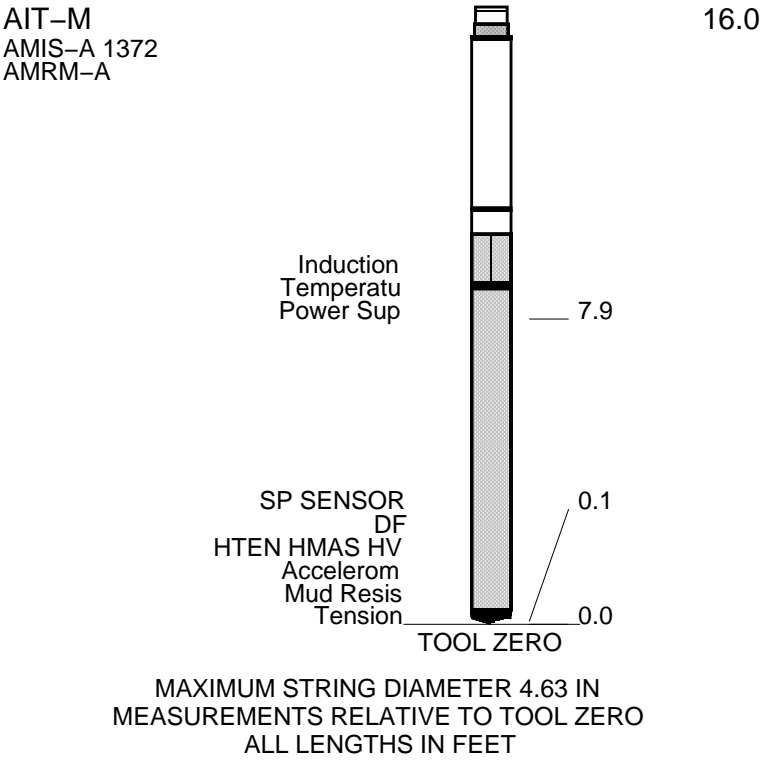
\_\_\_\_\_ 24.2

MCFL  
HILT cali  
HRDD-LS  
HRDD-SS  
HRDD-BS

18.8

18.3

17.9



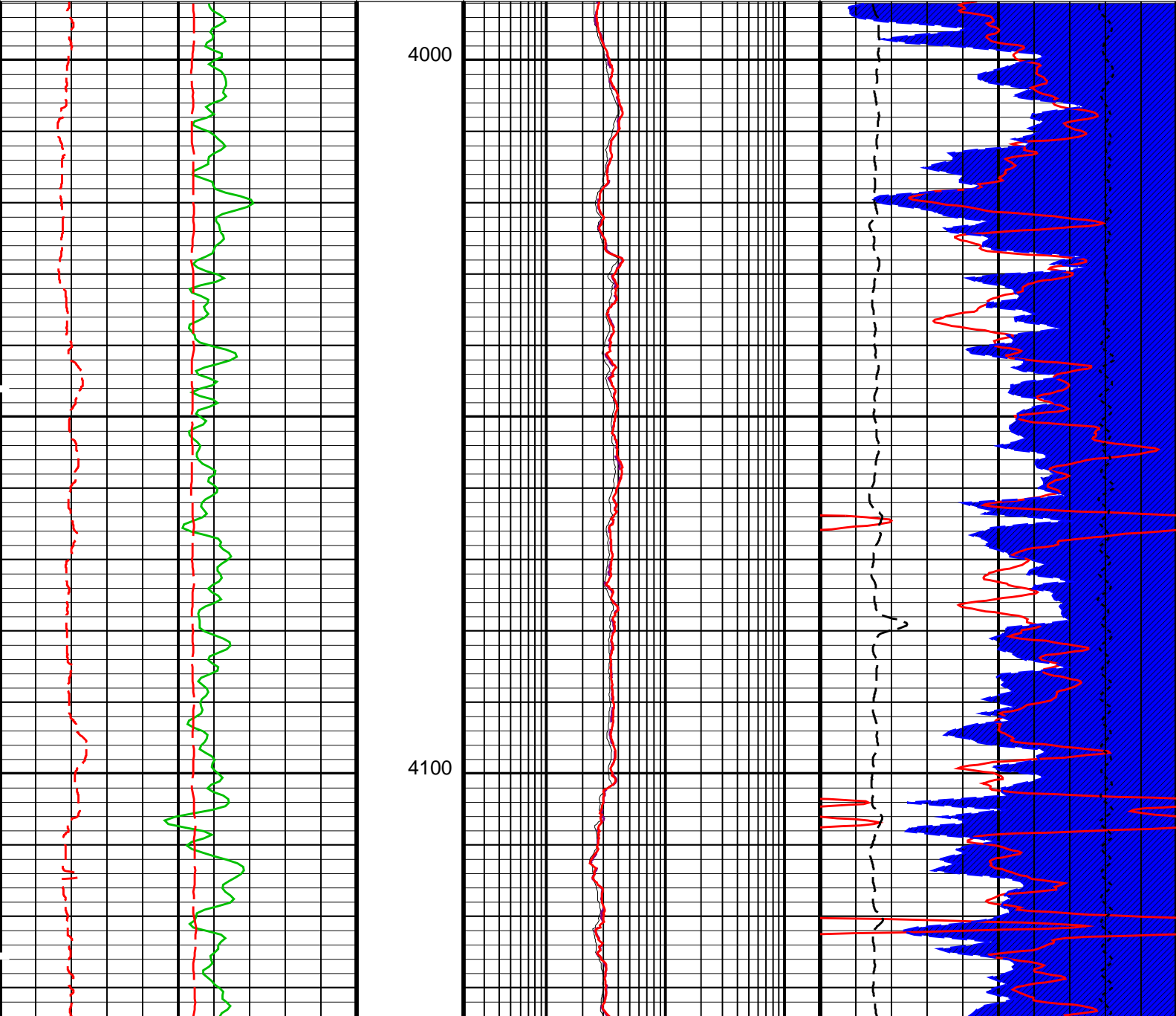
Production String	(in)		(ft)	Well Schematic	(ft)	(in)		Casing String
	OD	ID	MD		MD	OD	ID	
					0.0	8.625		Casing String
					1220.0	8.625		Casing Shoe
					1220.0	7.875		Borehole Segment

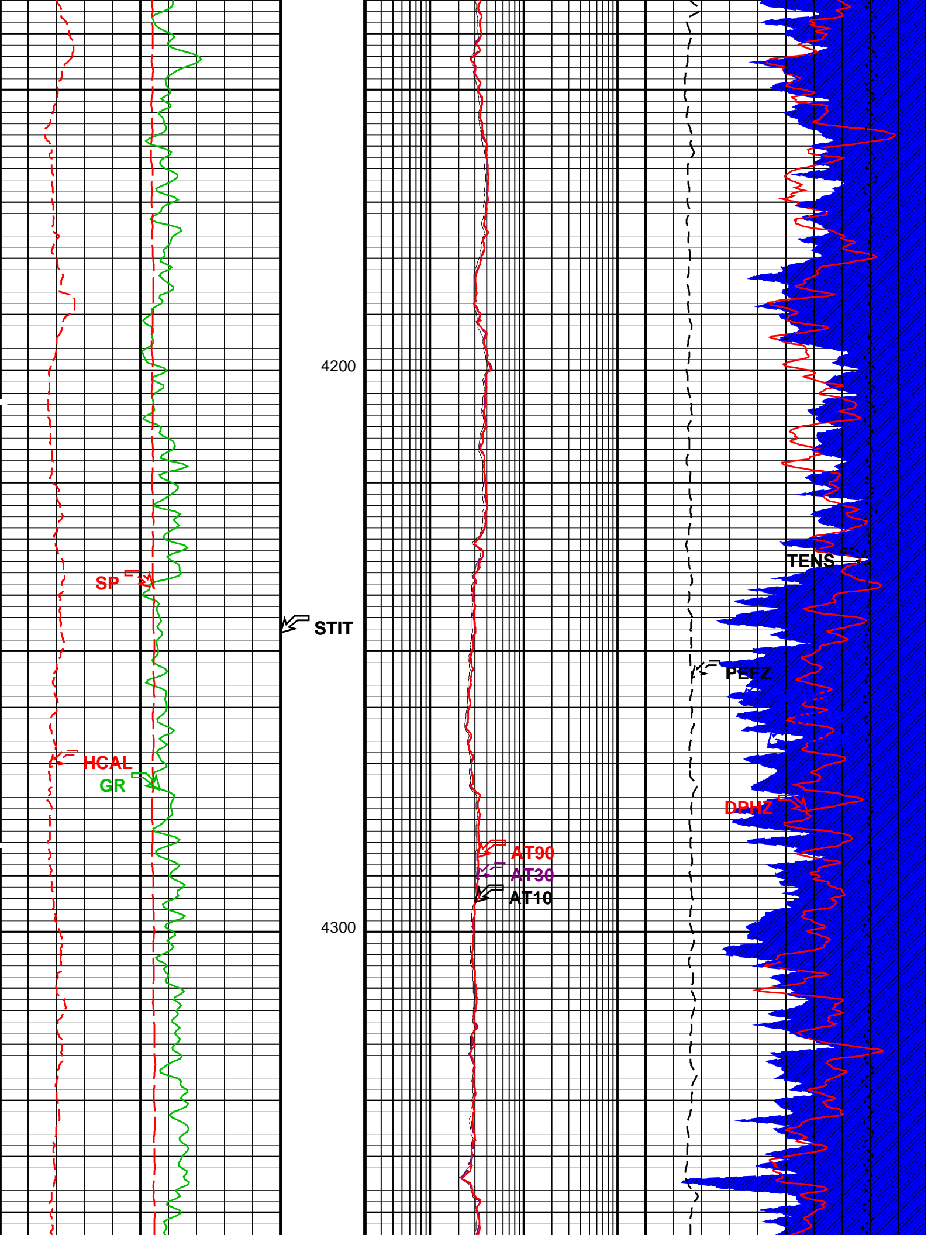


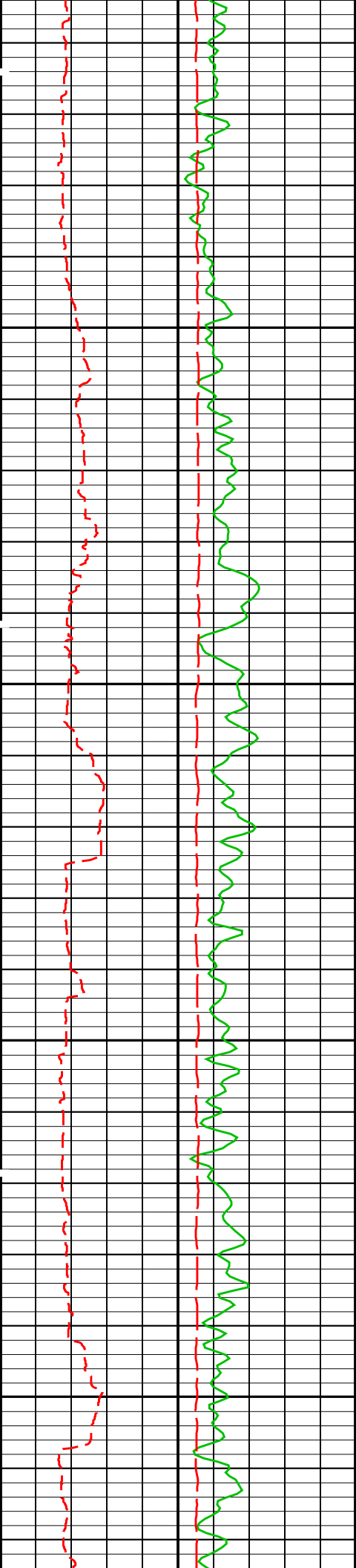
PIP SUMMARY

Time Mark Every 60 S

		Std. Res. Formation Pe (PEFZ)	
		0 (----) 10	
		Alpha Processed Neutron Porosity (NPOR)	
		0.2 (V/V) 0	
		Tension (TENS)	
		10000 (LBF) 0	
SP (SP) (MV)		AIT 90 Inch Investigation (AT90) (OHMM)	GAS EFFECT From DPHZ to NPOR 1
-160 40		0.2 200	
HILT Caliper (HCAL) (IN)		AIT 30 Inch Investigation (AT30) (OHMM)	NPOR BACKUP From NPOR 2 to T3
6 16		0.2 200	
Gamma Ray (GR) (GAPI)		AIT 10 Inch Investigation (AT10) (OHMM)	Std. Res. Density Porosity (DPHZ)
0 200		0.2 200	
Stuck Stretch (STIT)		0.2 (V/V) 0	
0 (F) 50			

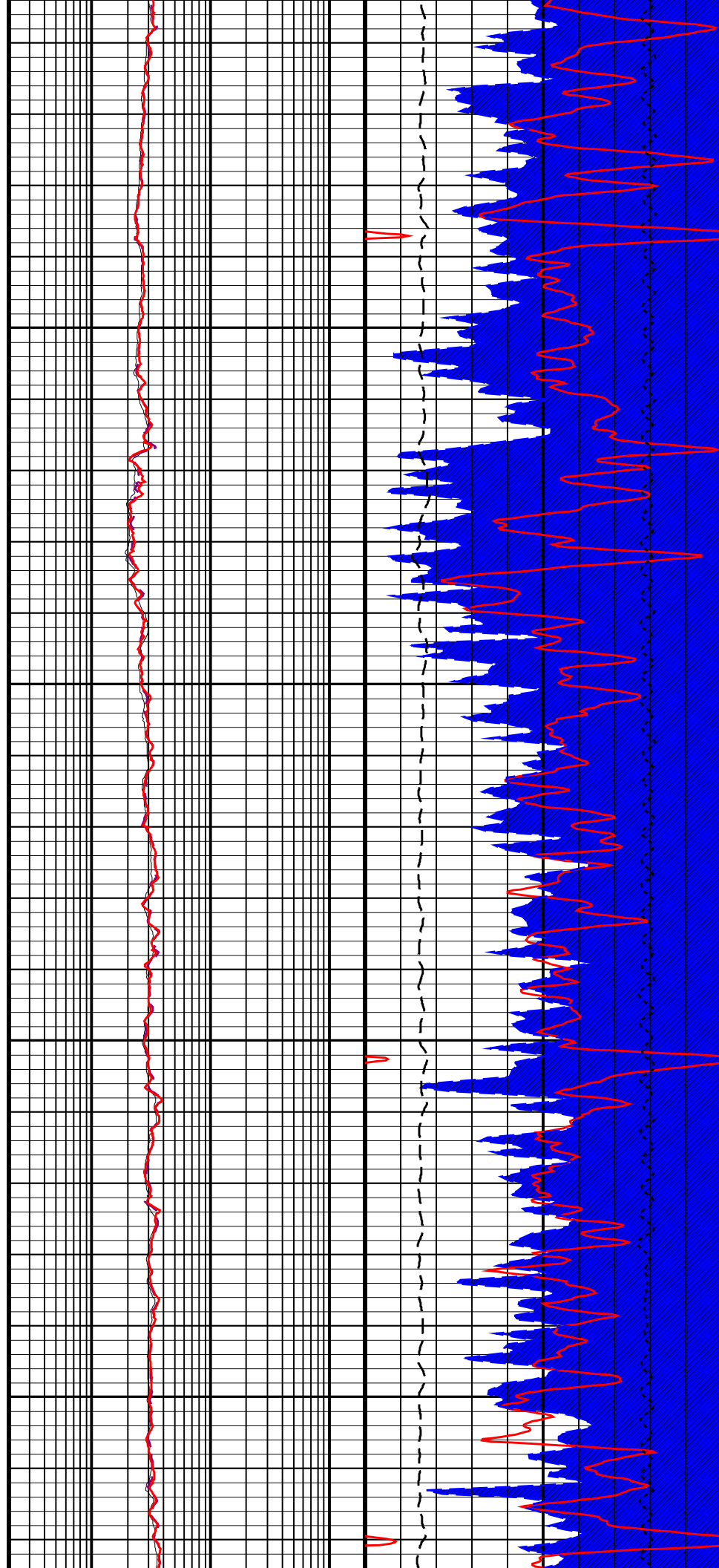


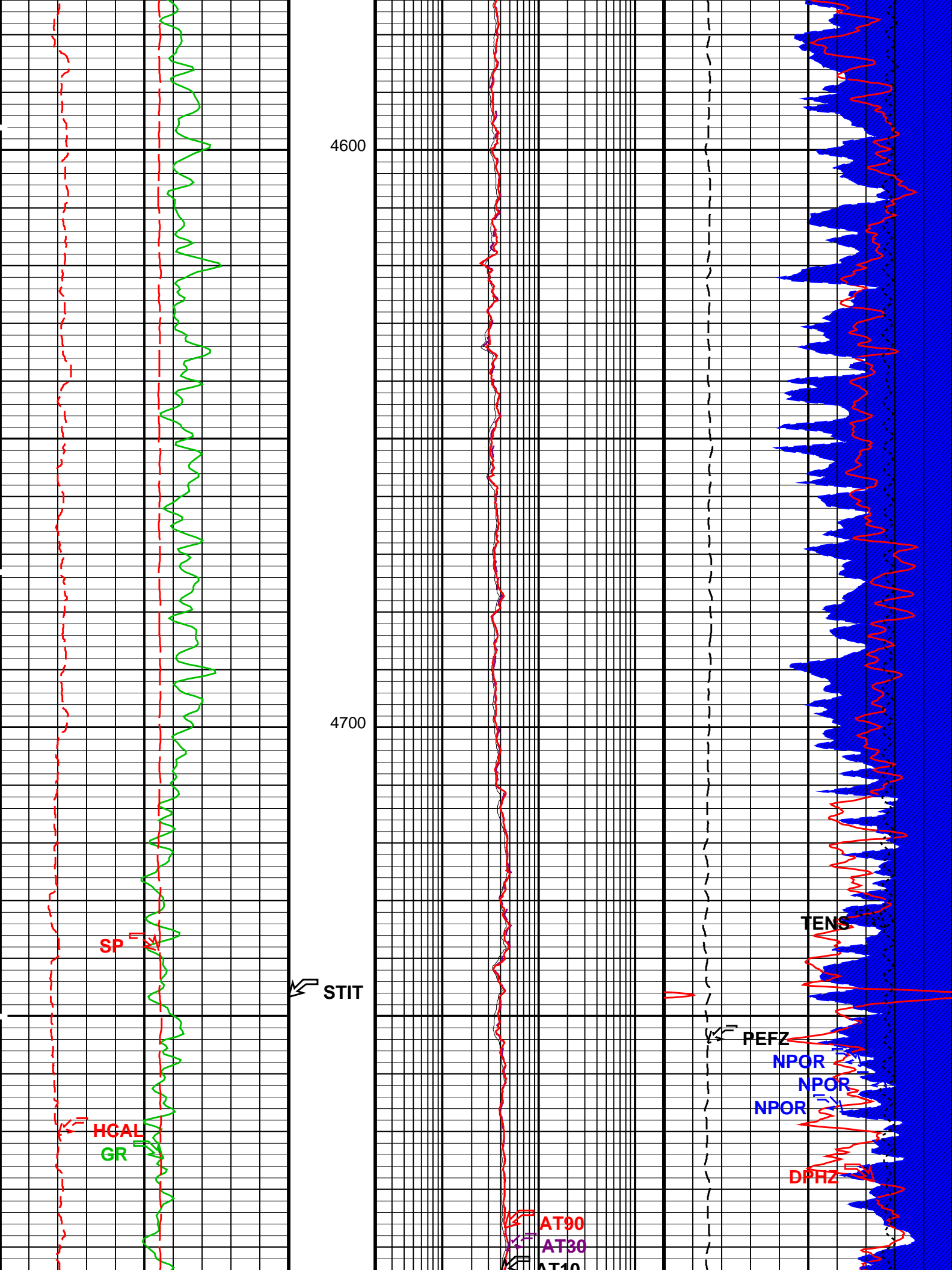


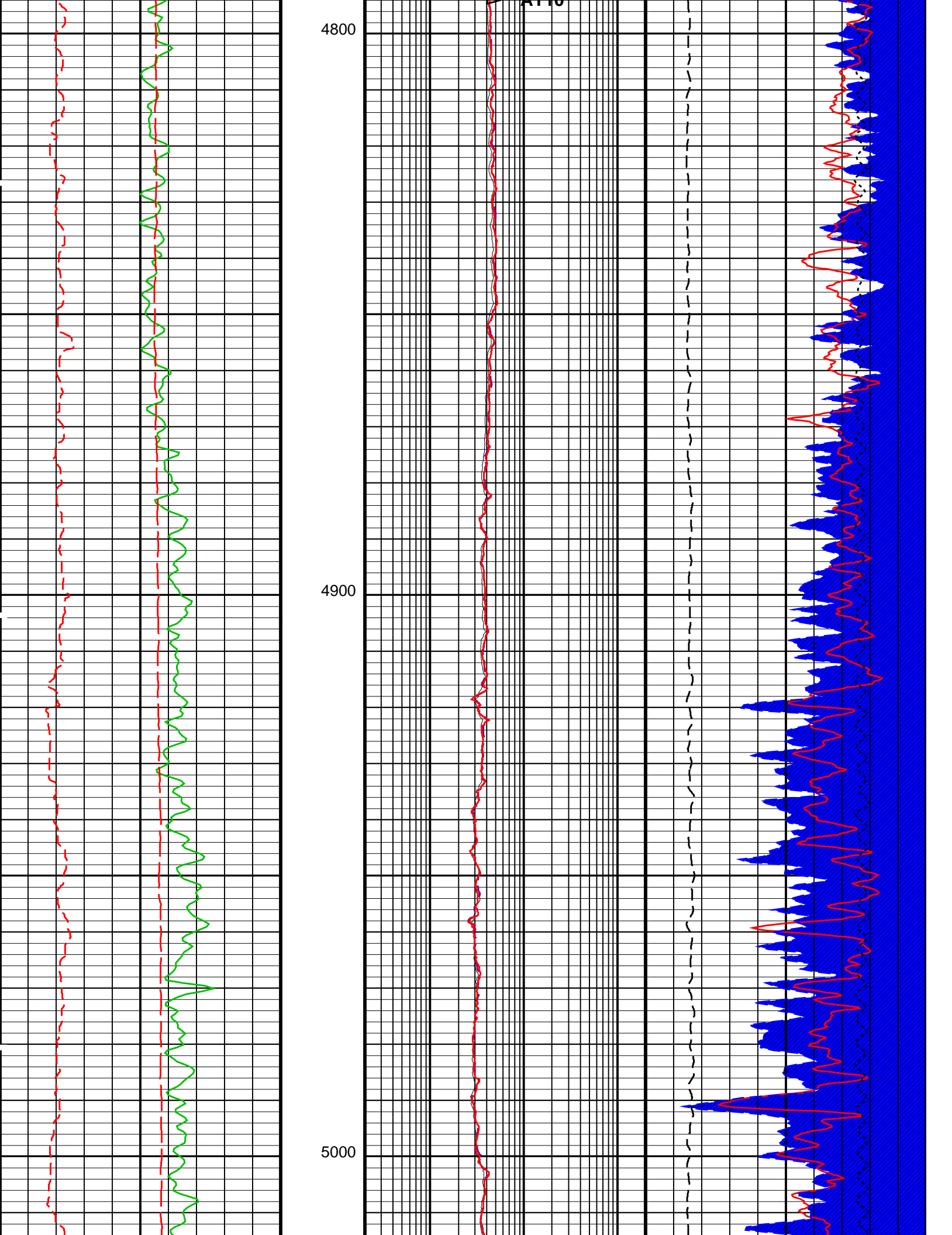


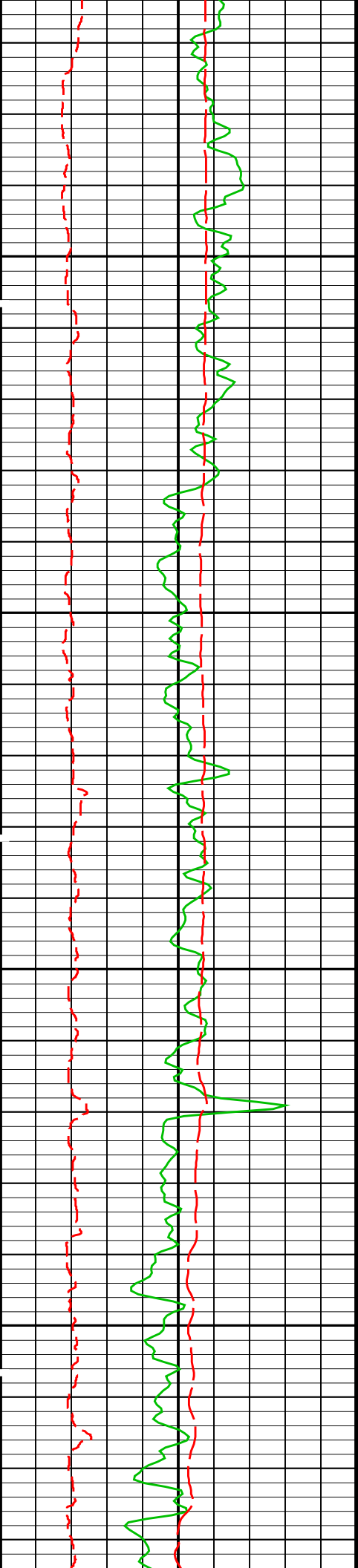
4400

4500



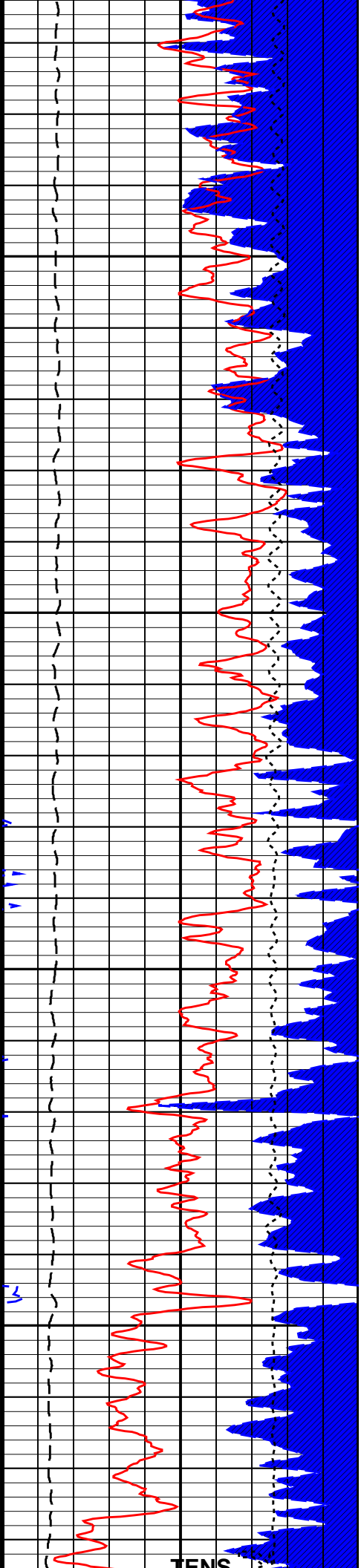
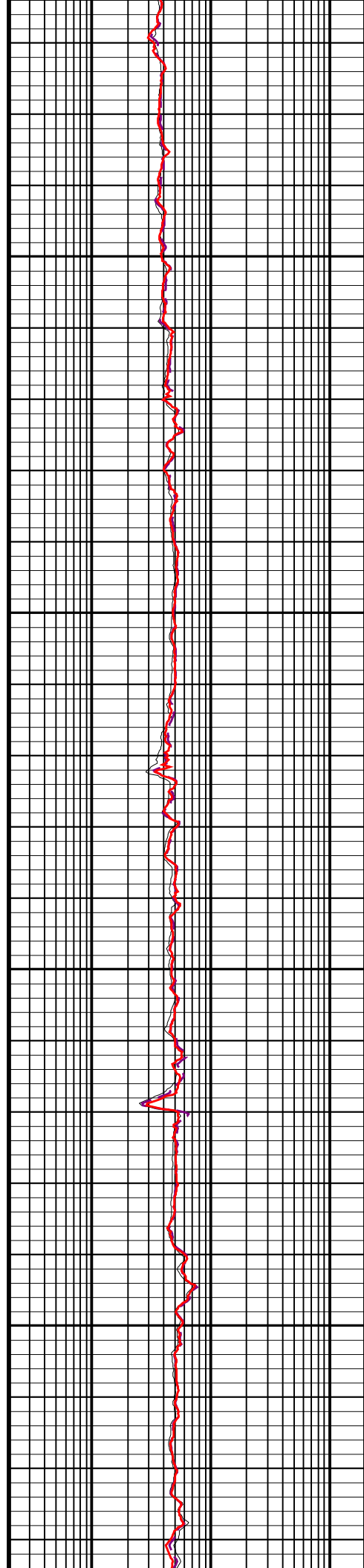




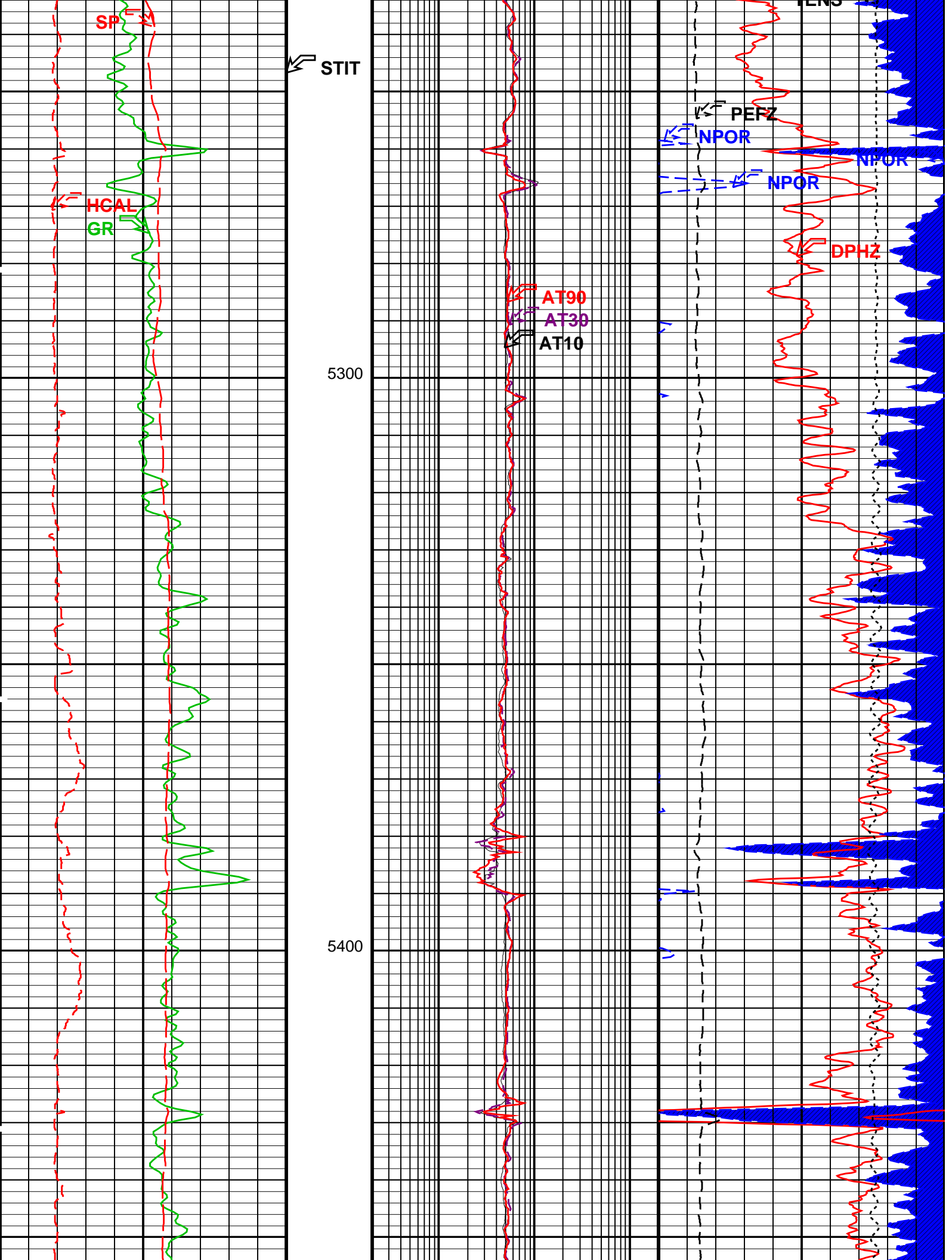


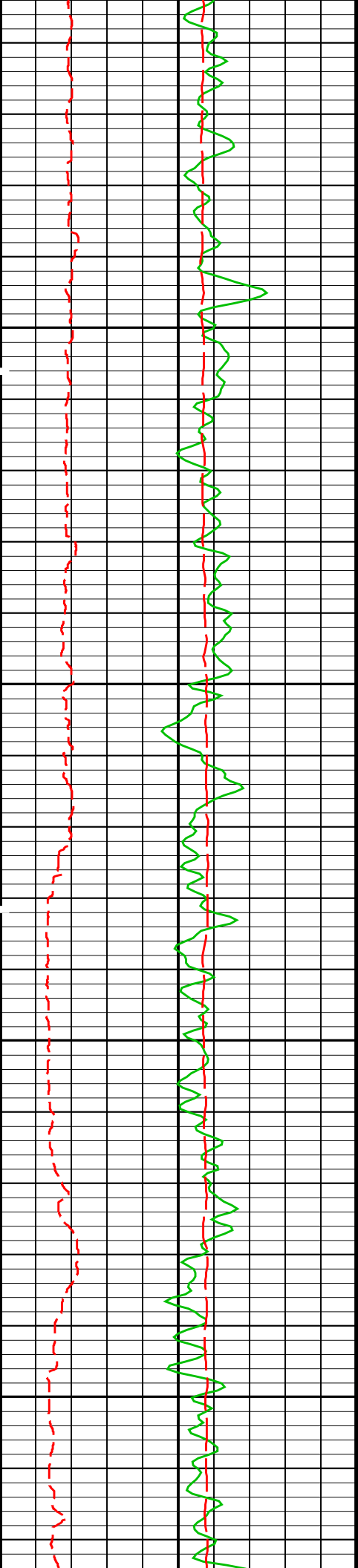
5100

5200



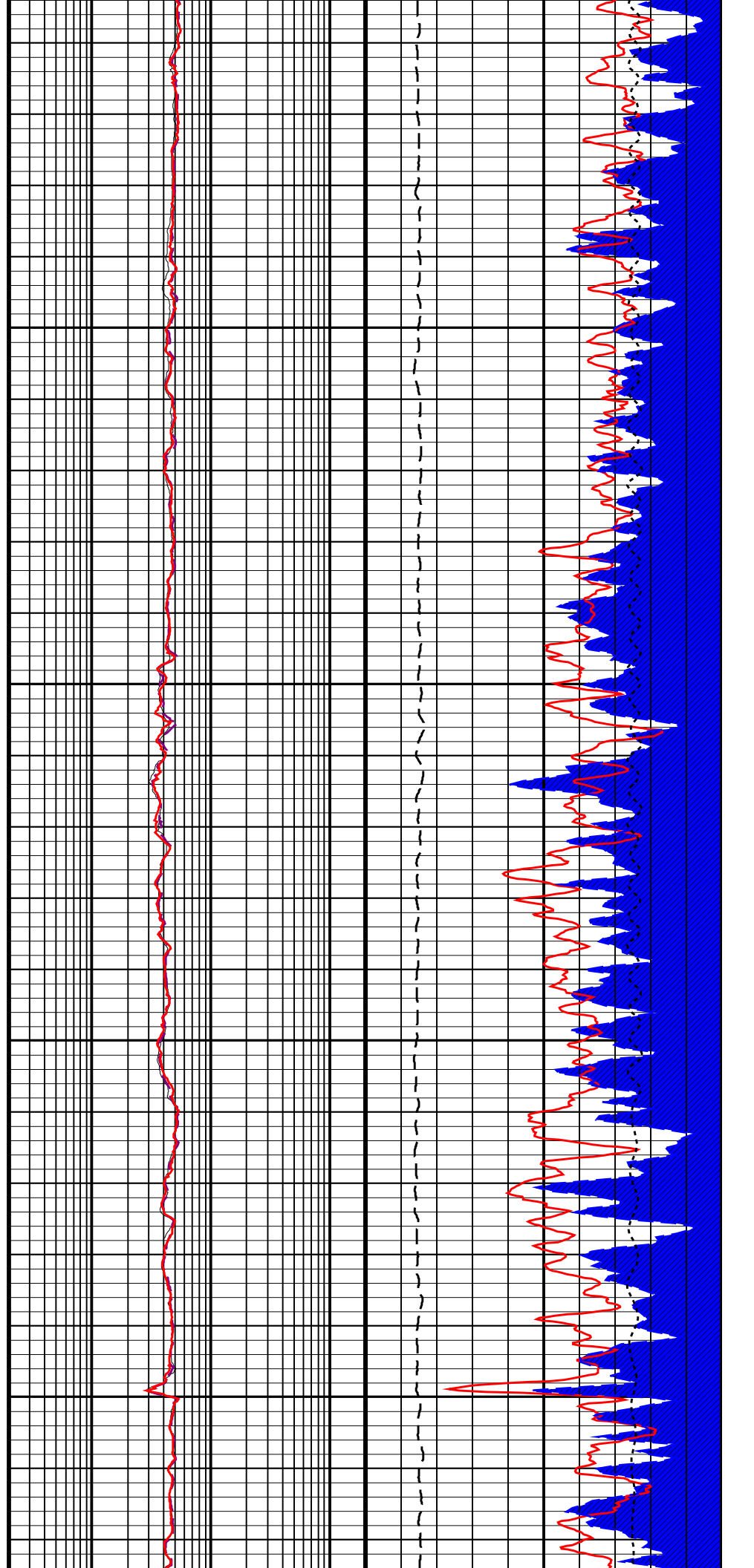
TENS

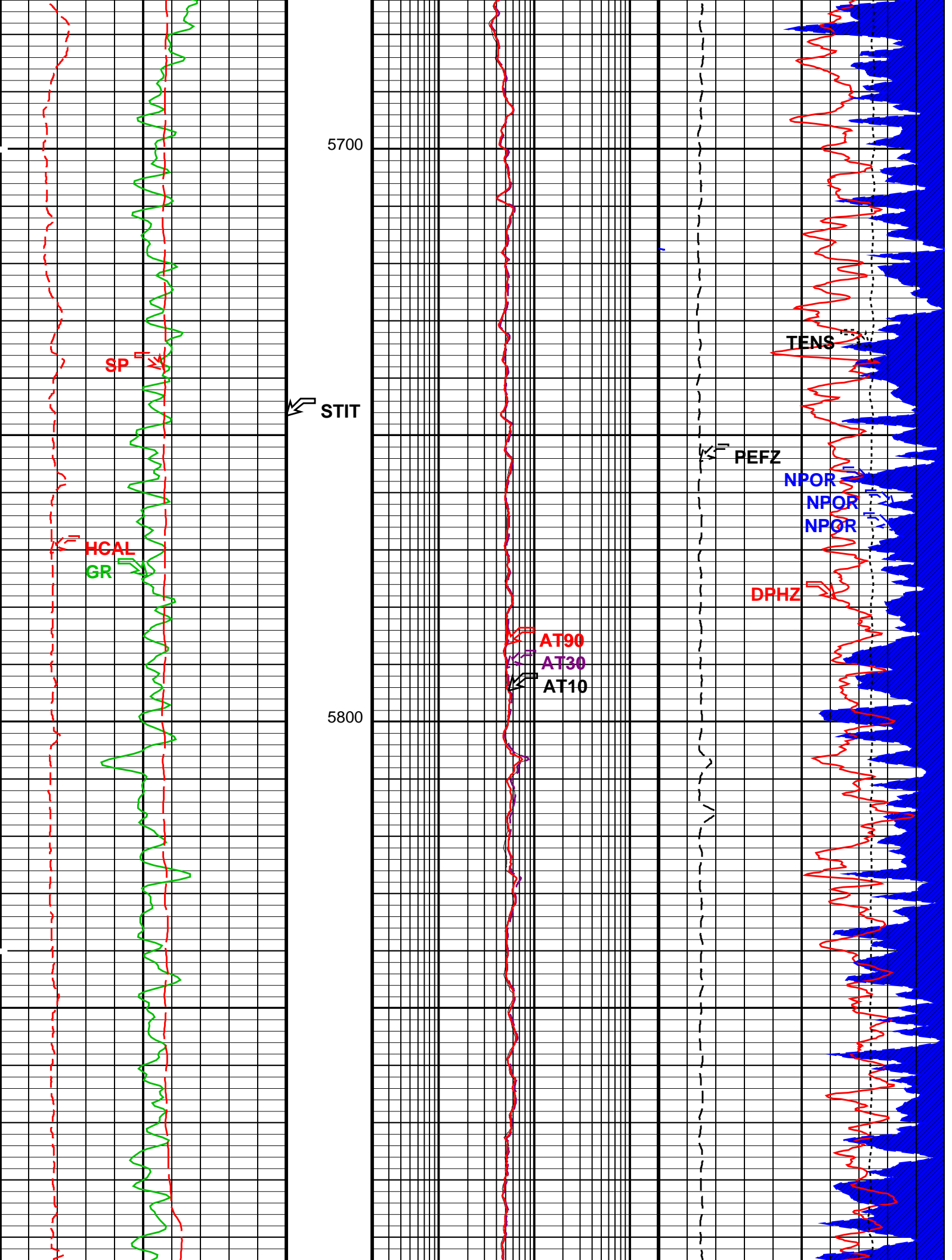


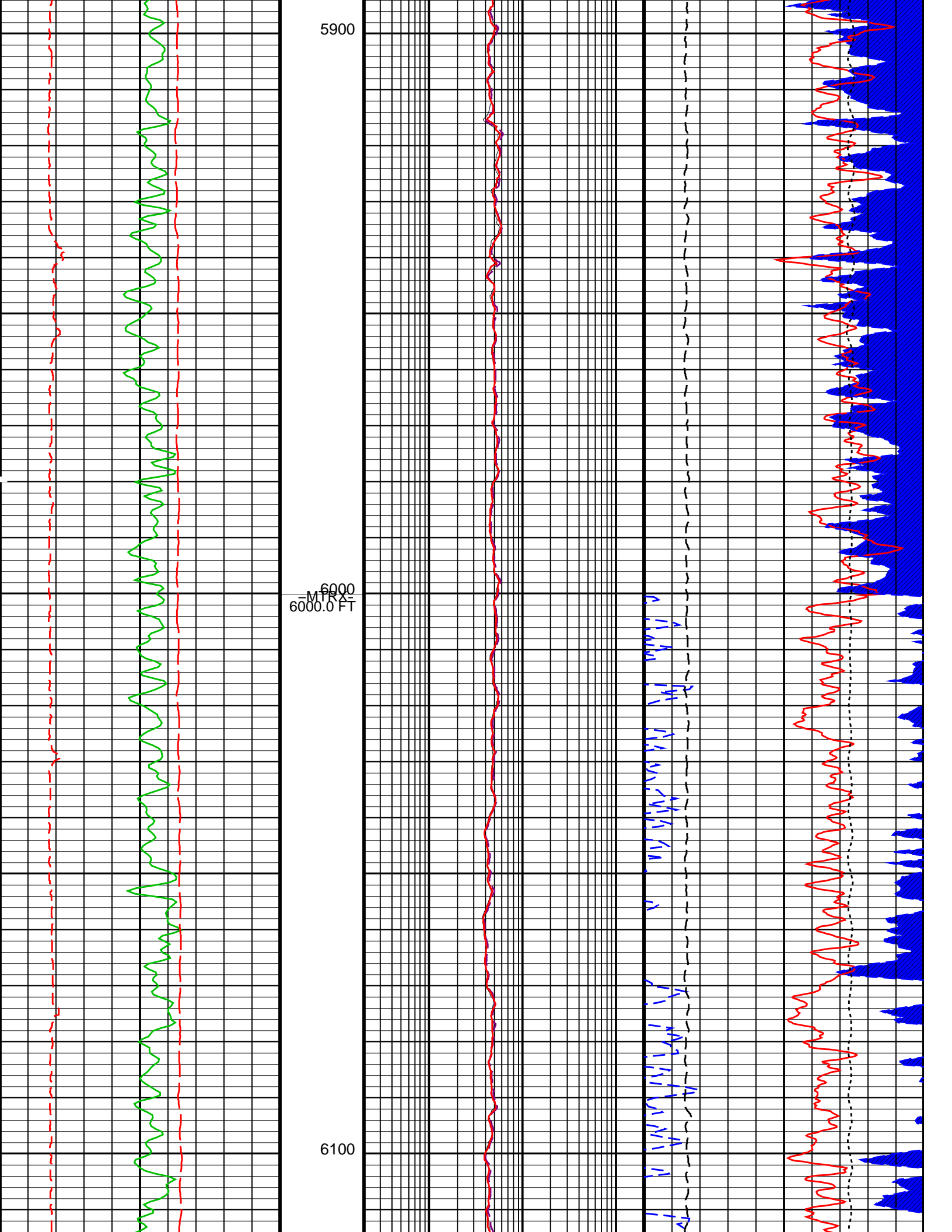


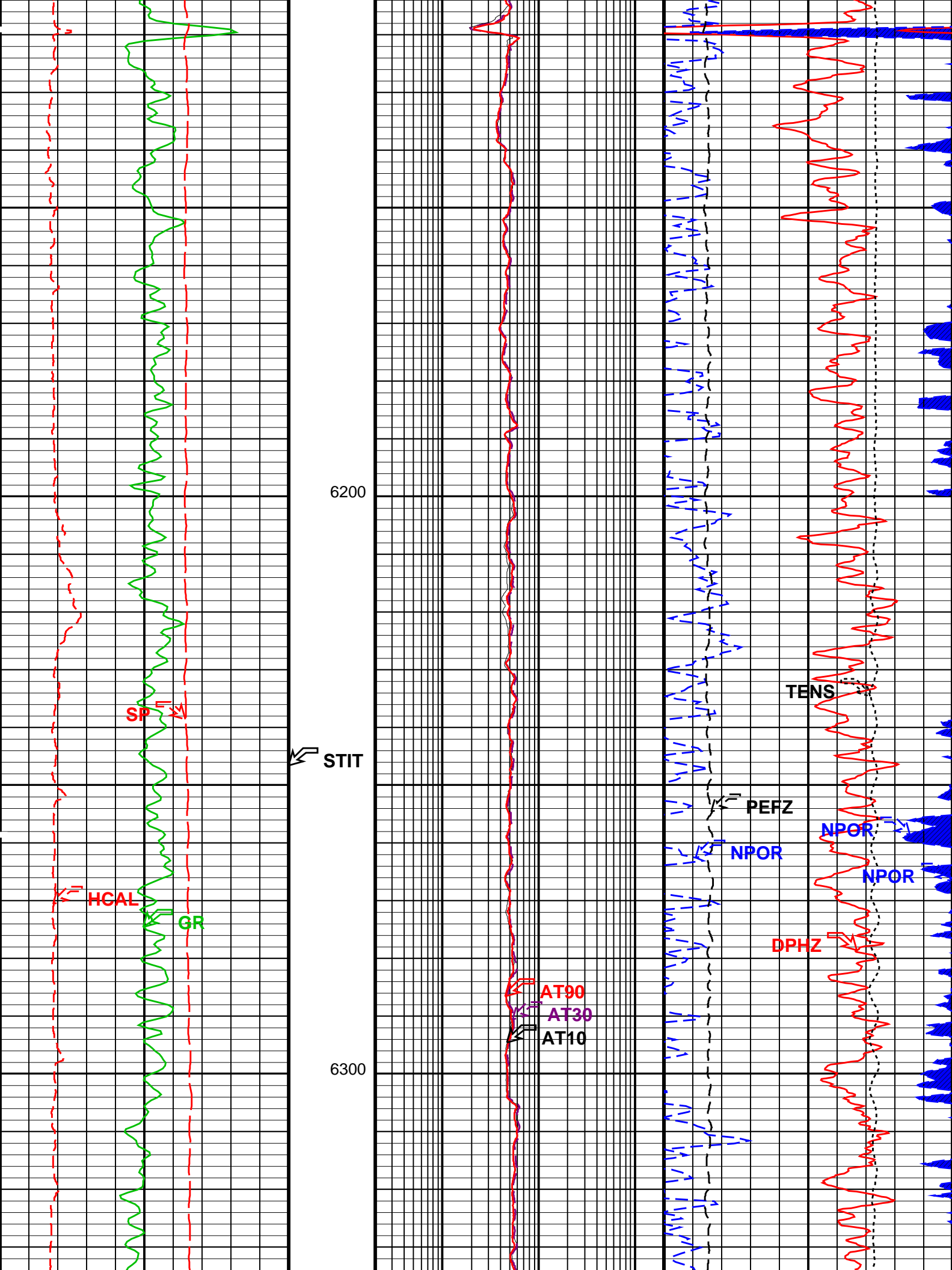
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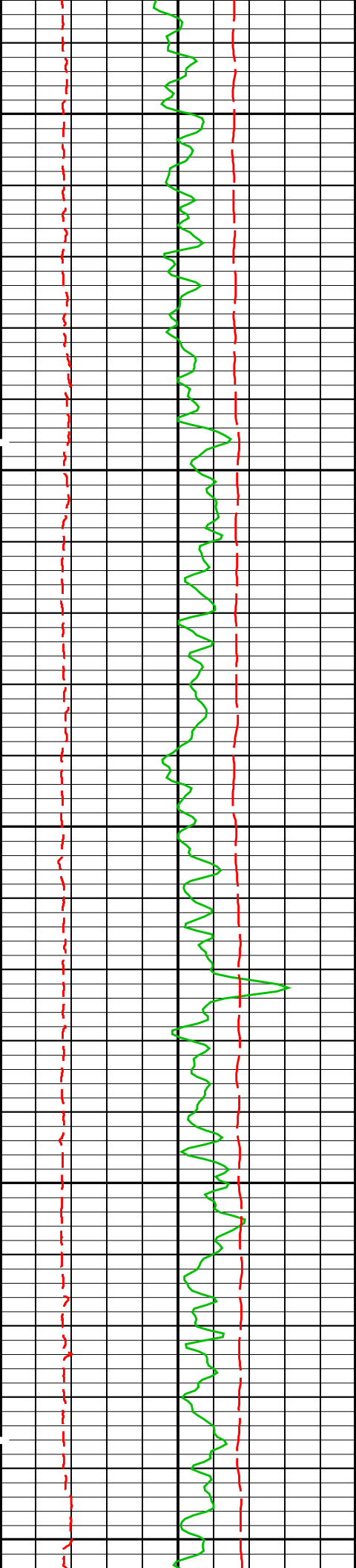
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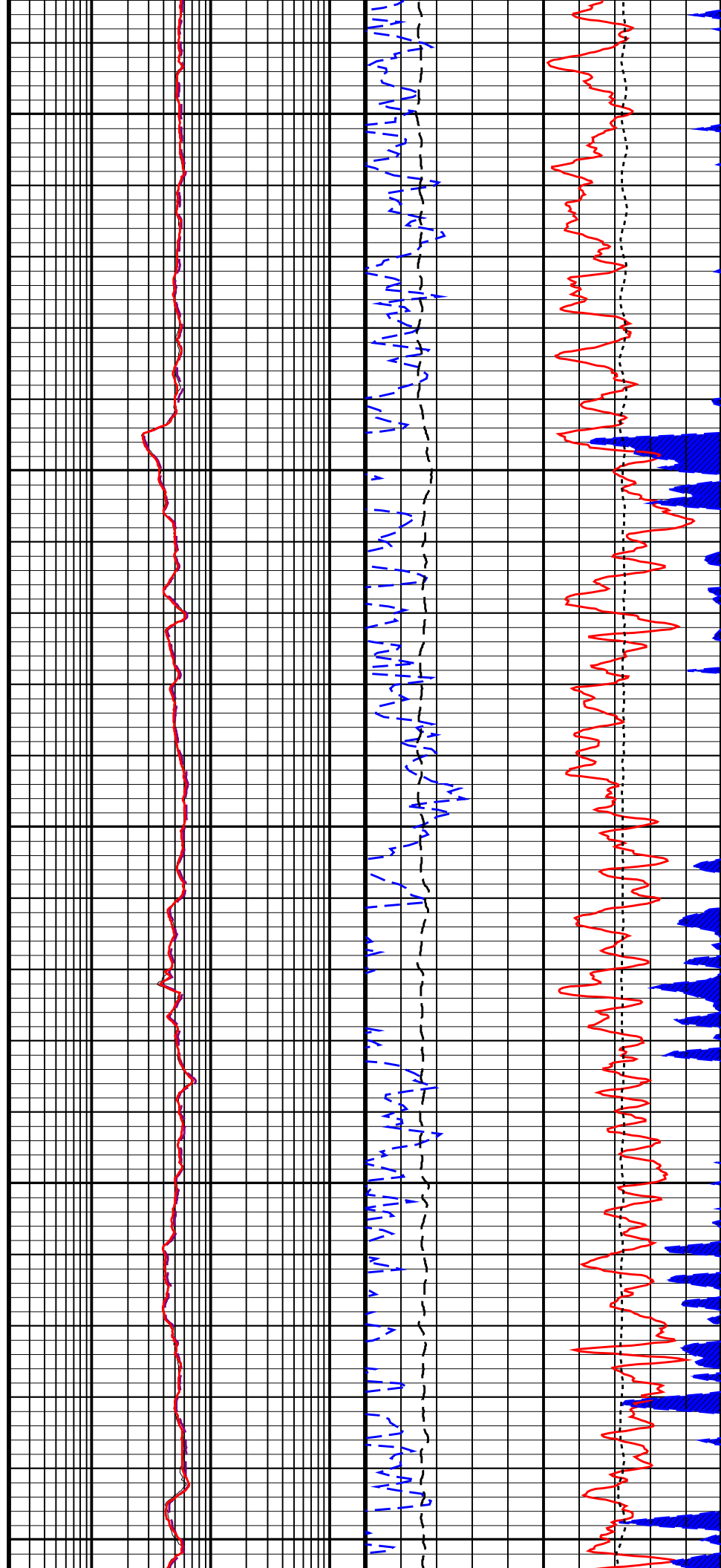


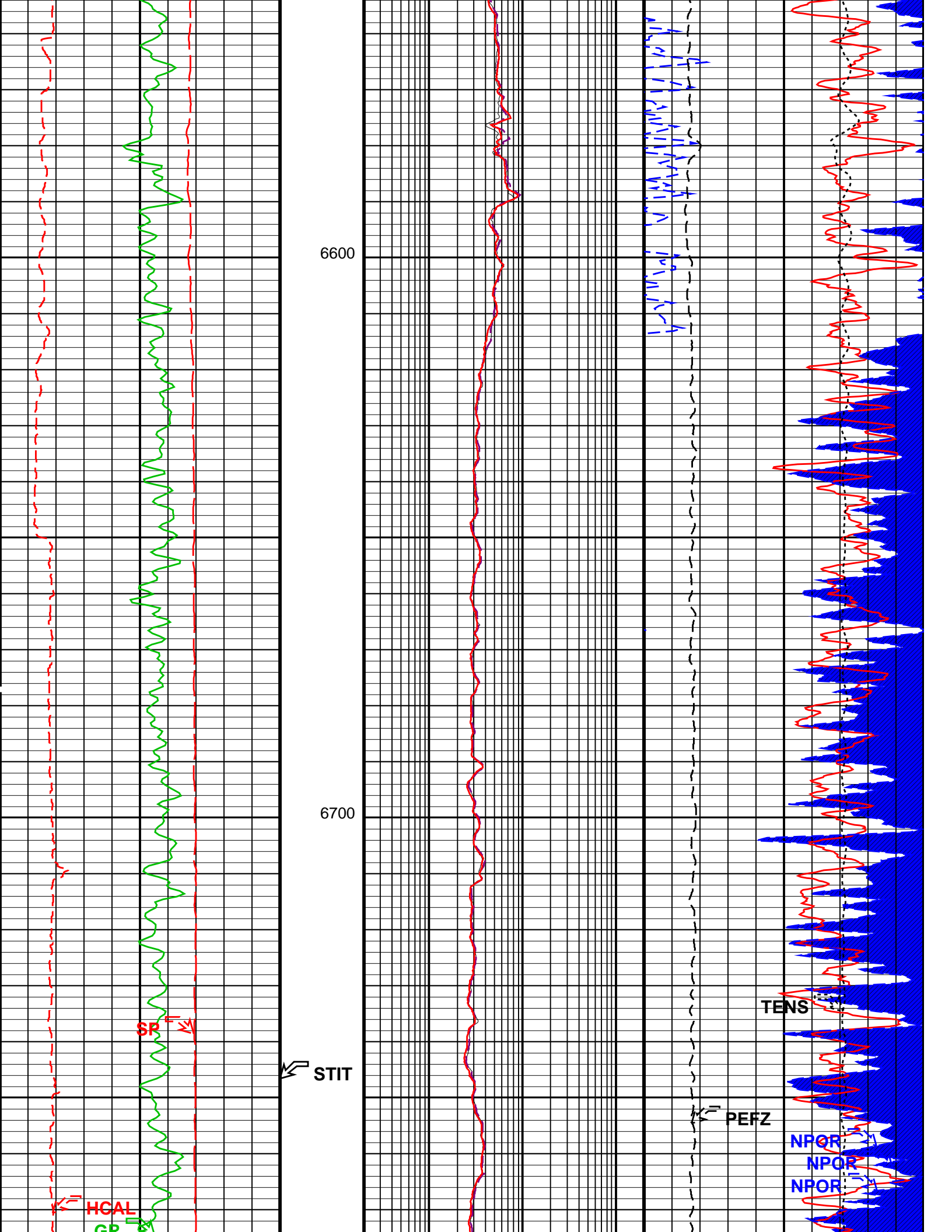


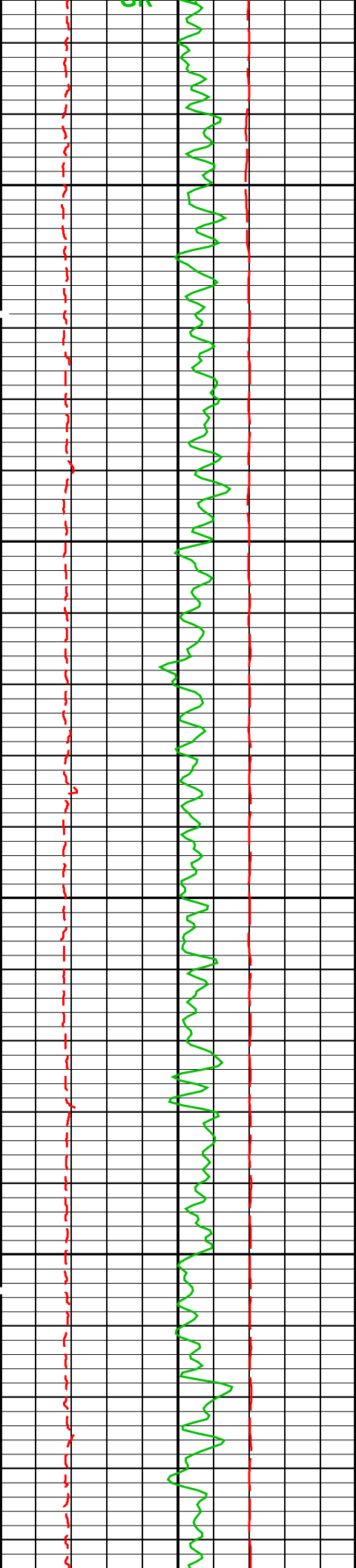


6400

6500

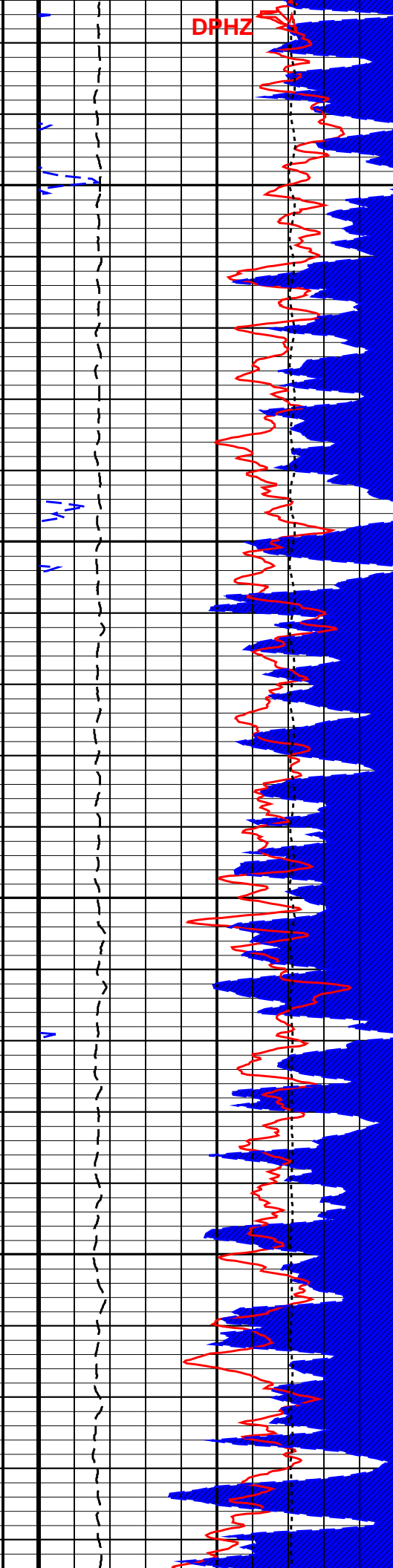
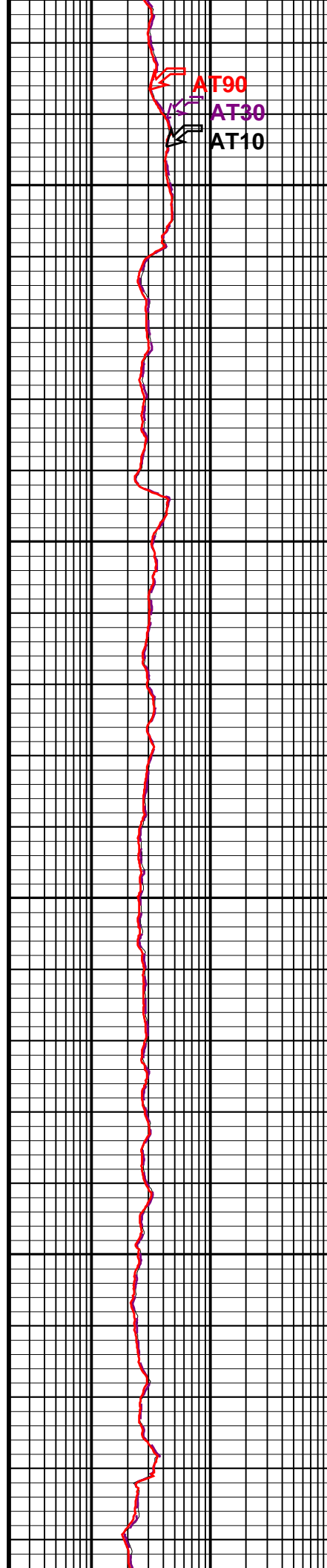


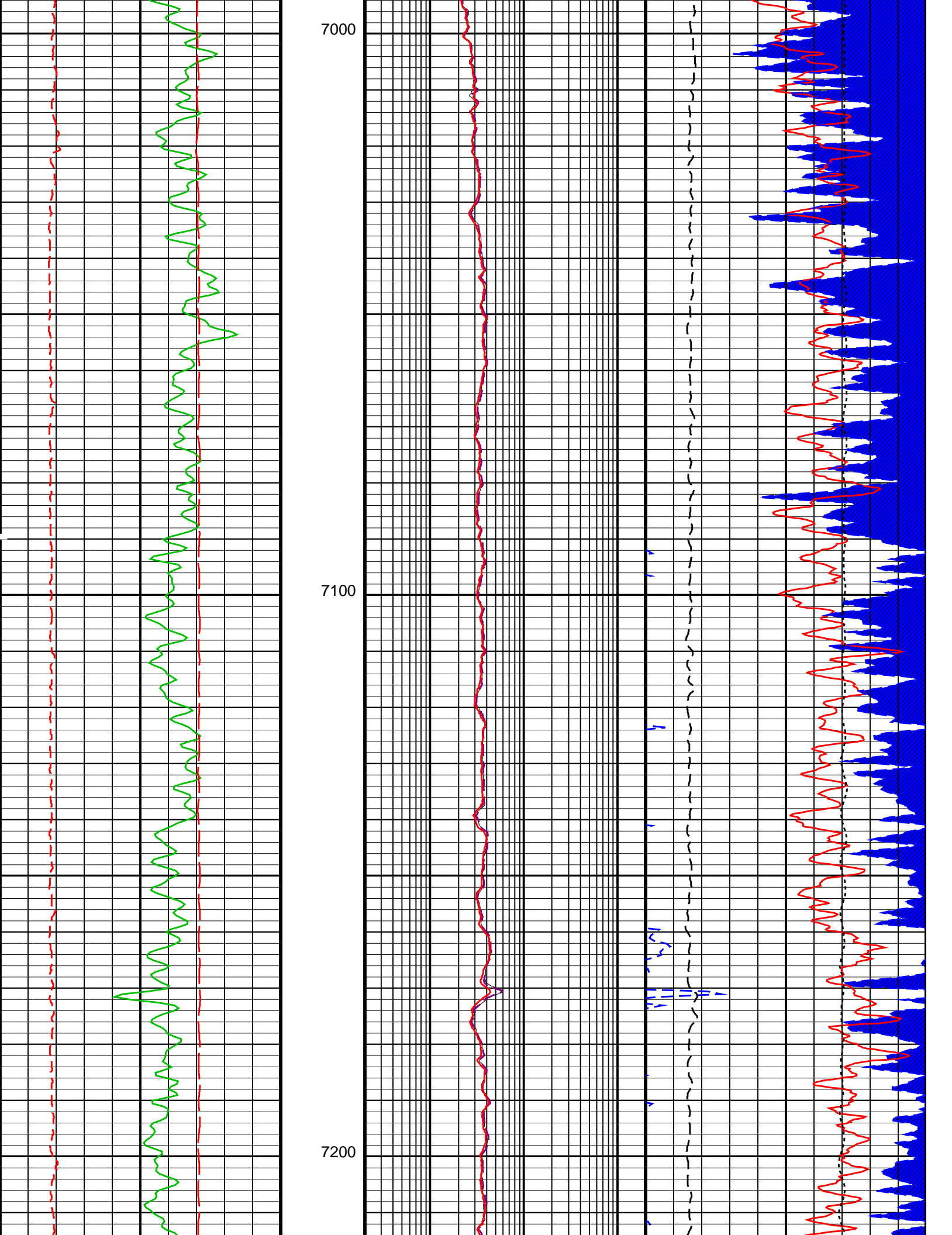


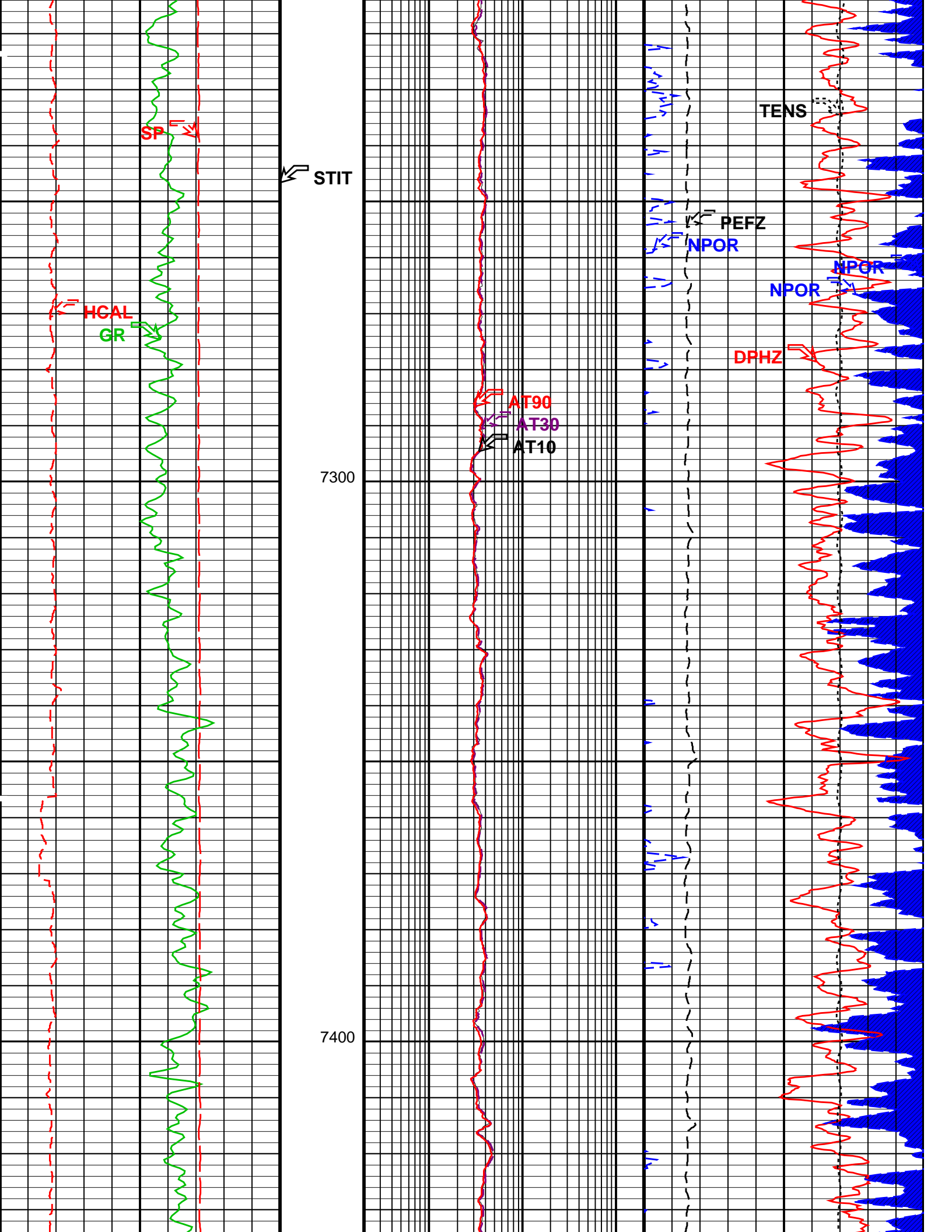


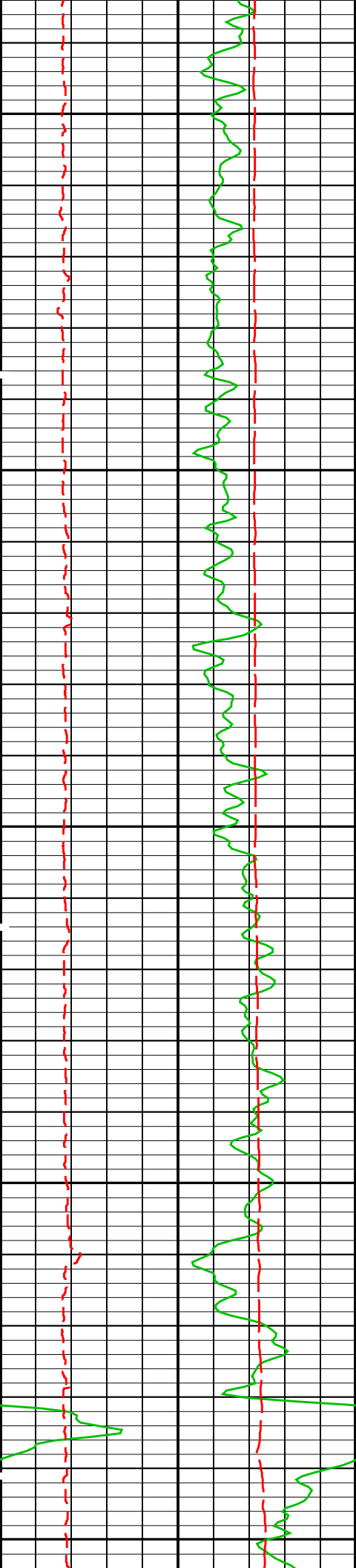
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6900



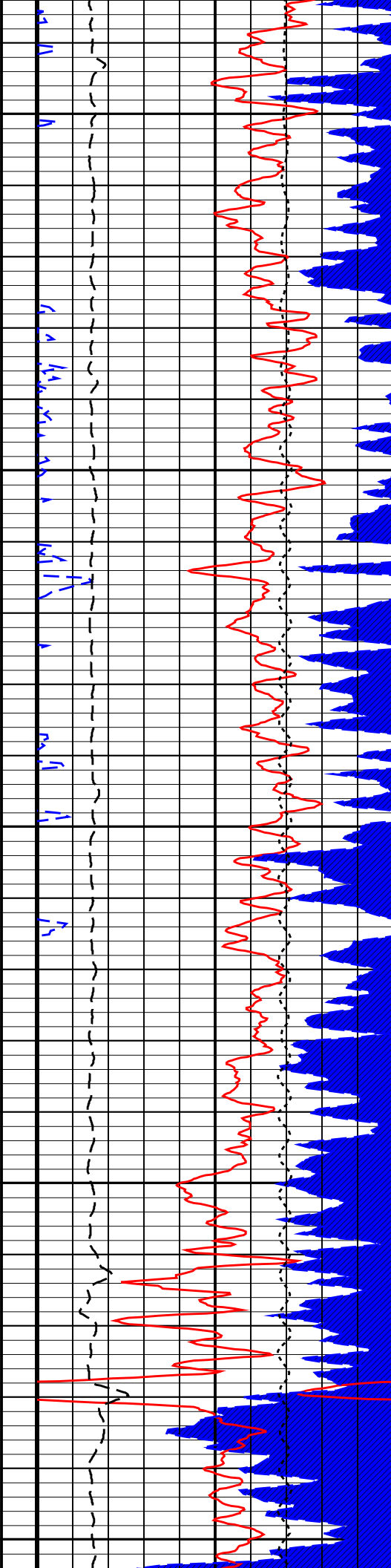
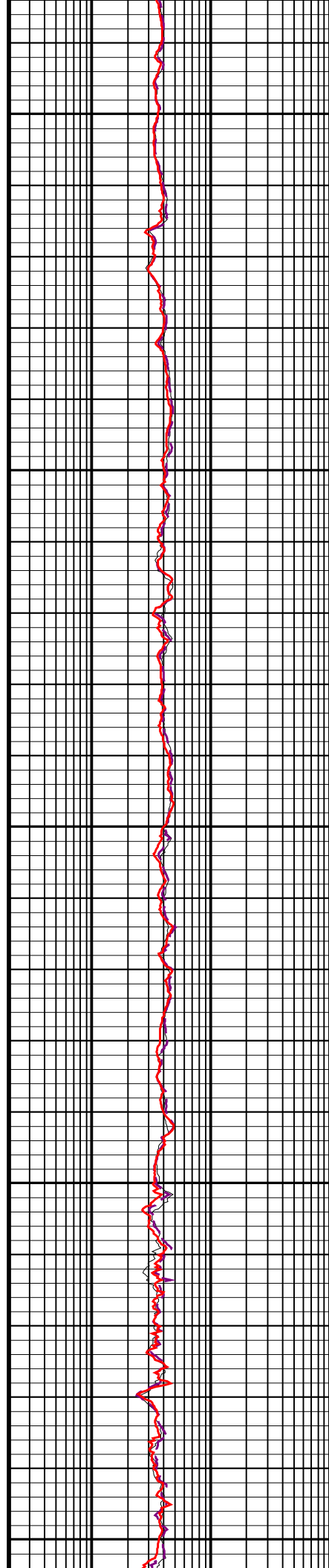


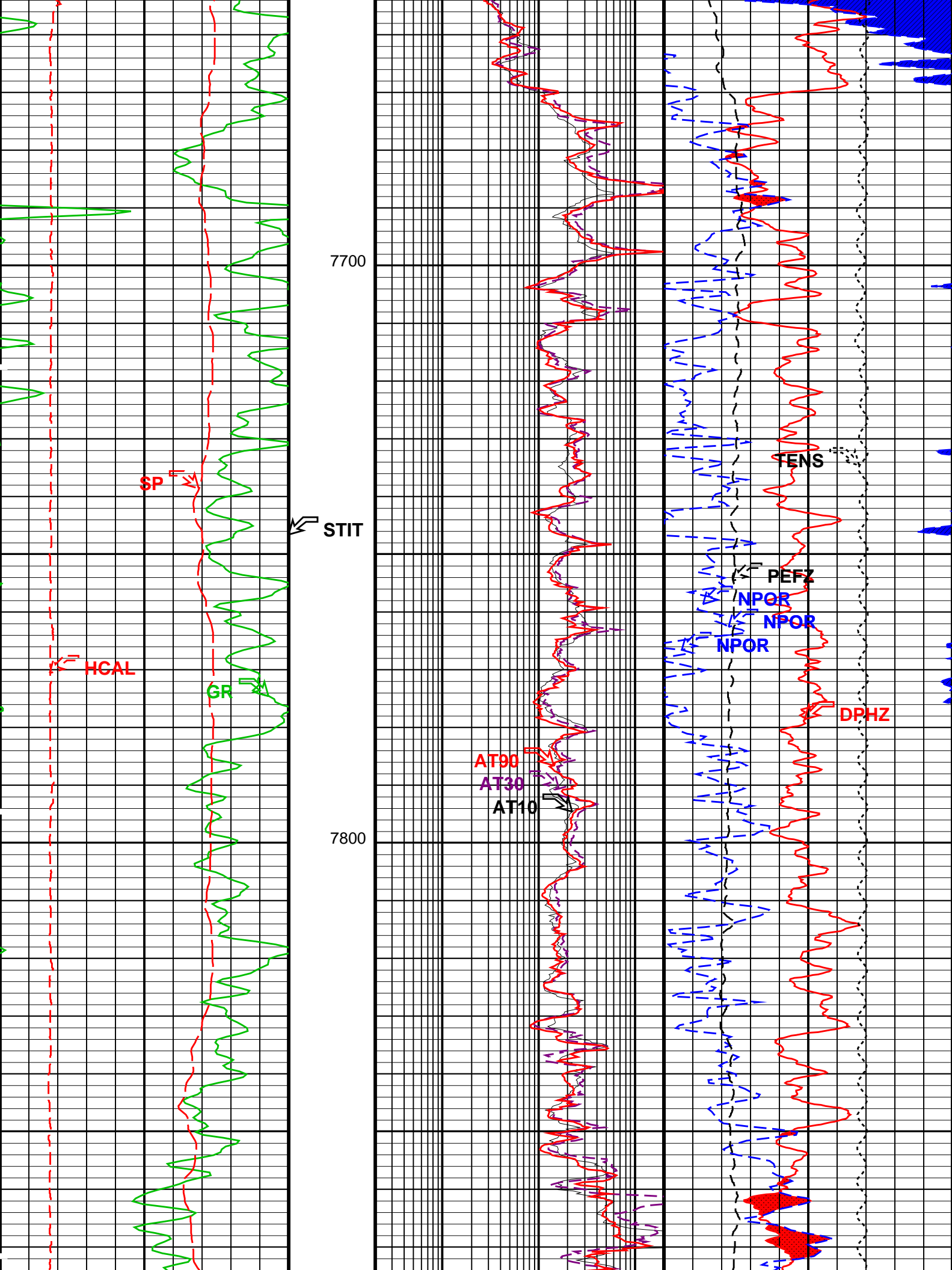


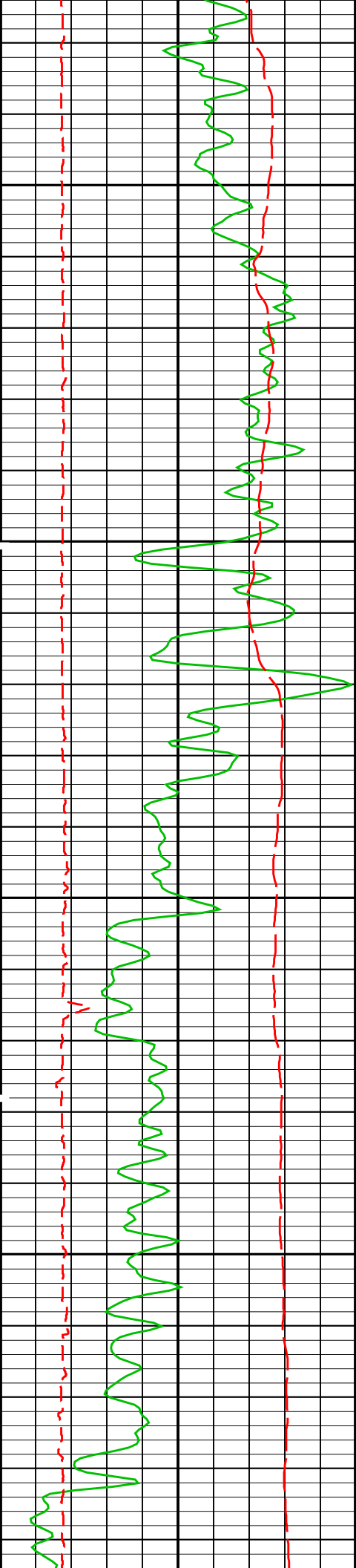


7500

7600

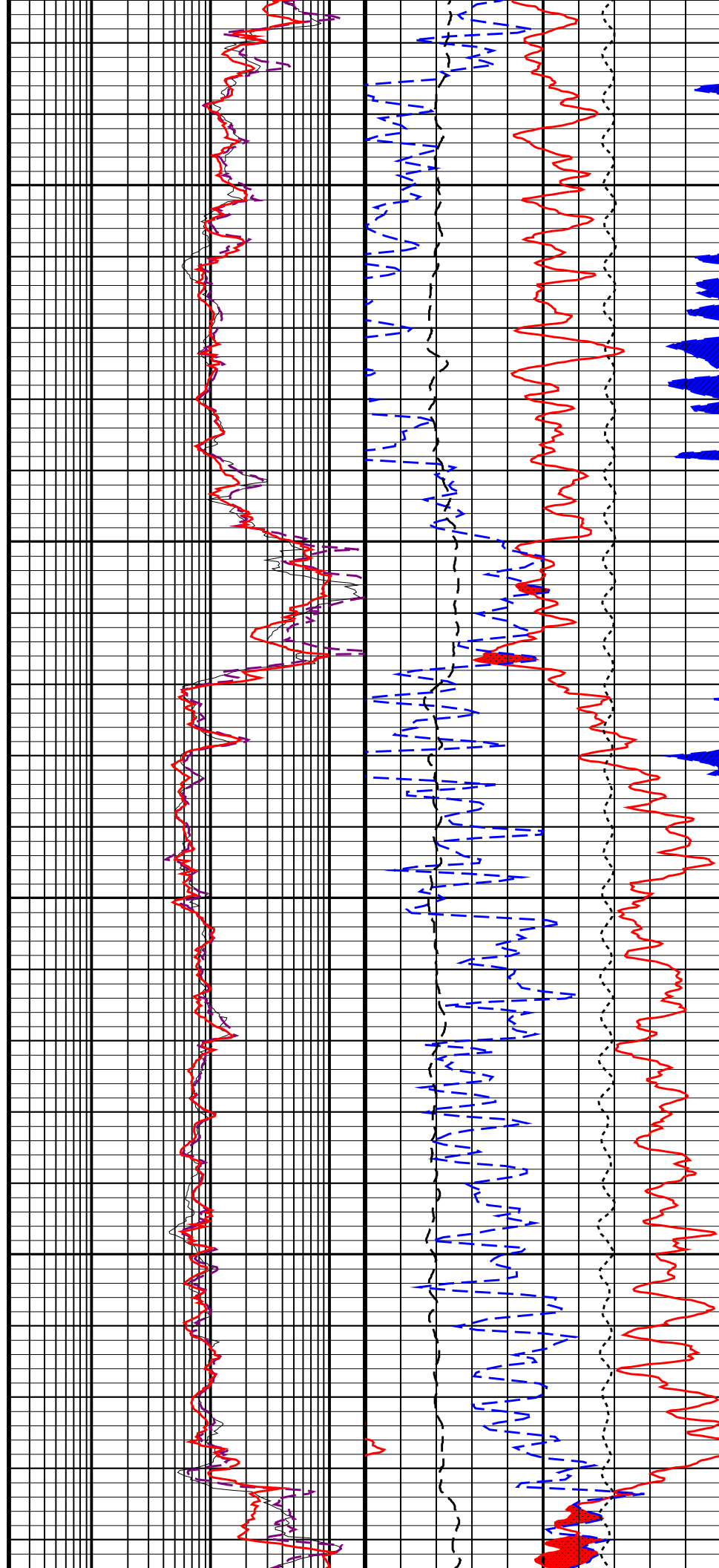


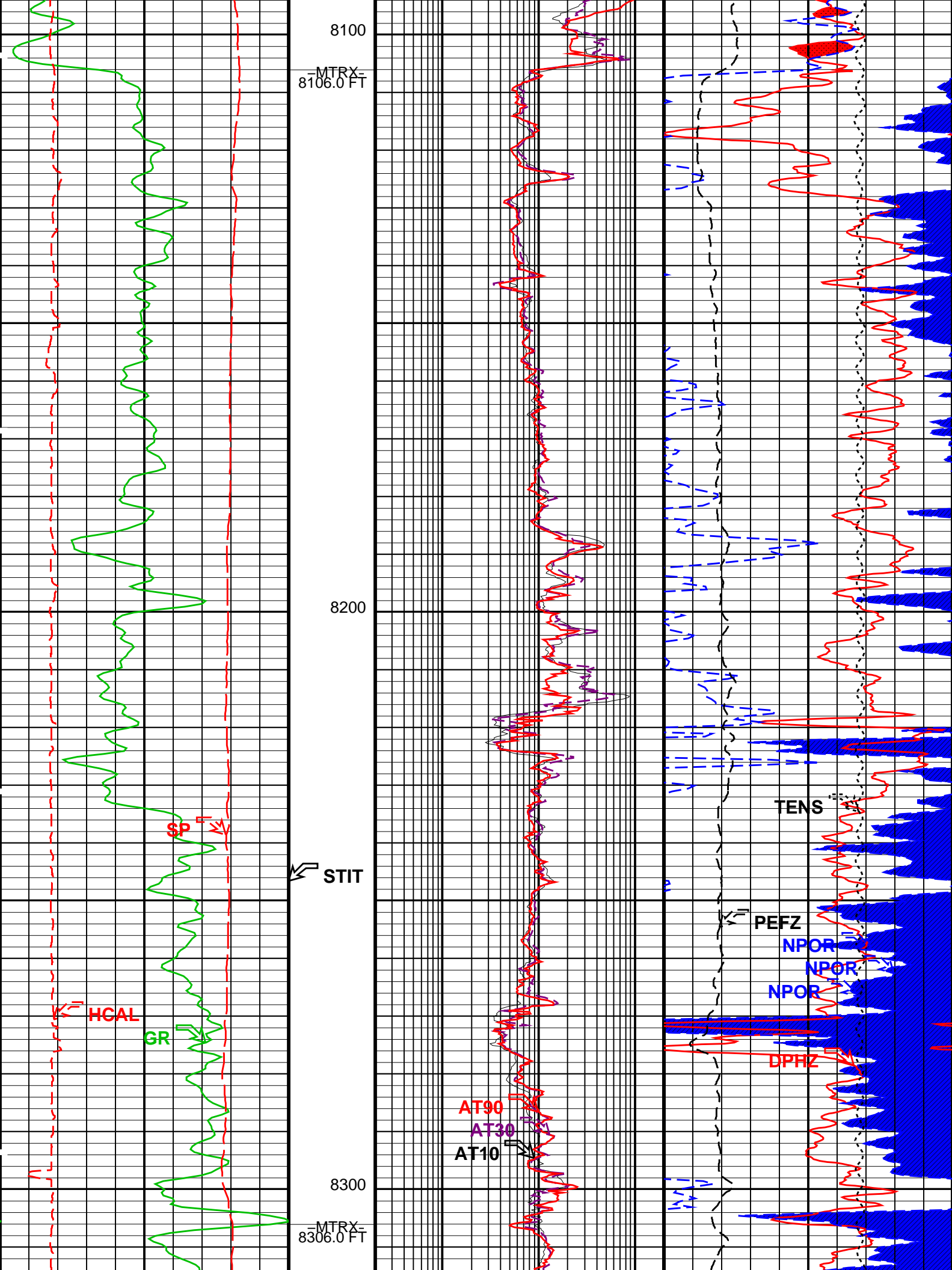


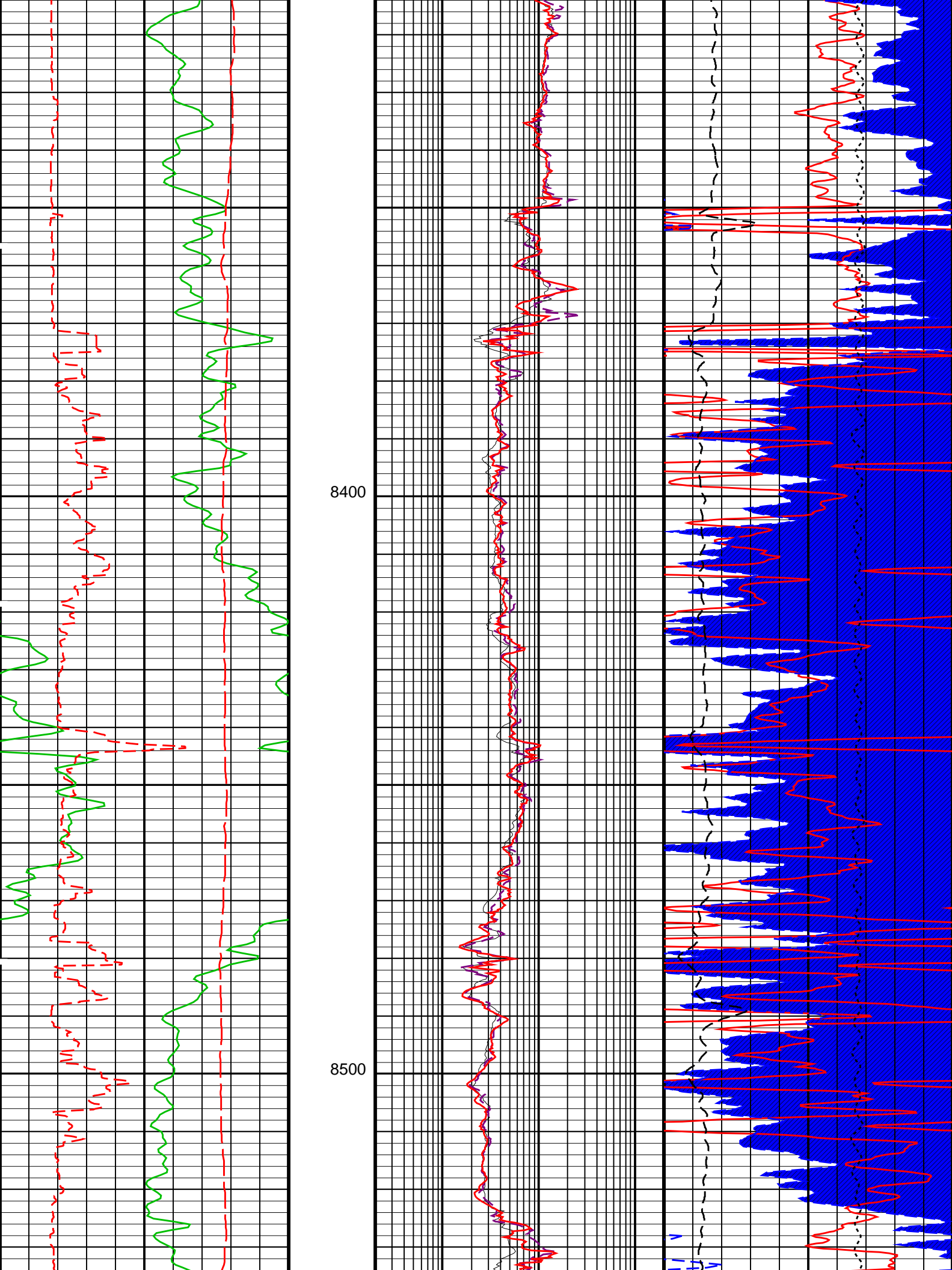


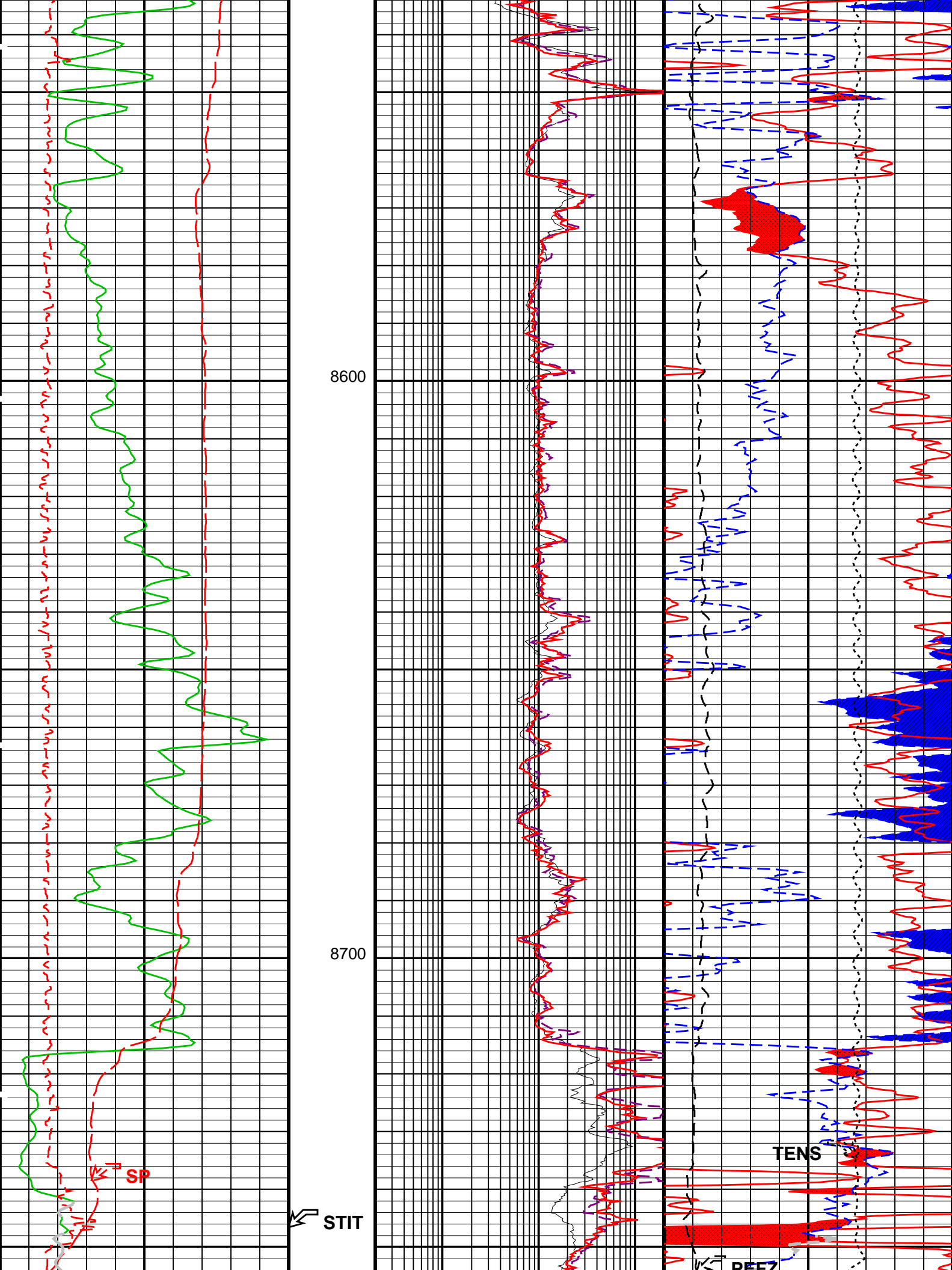
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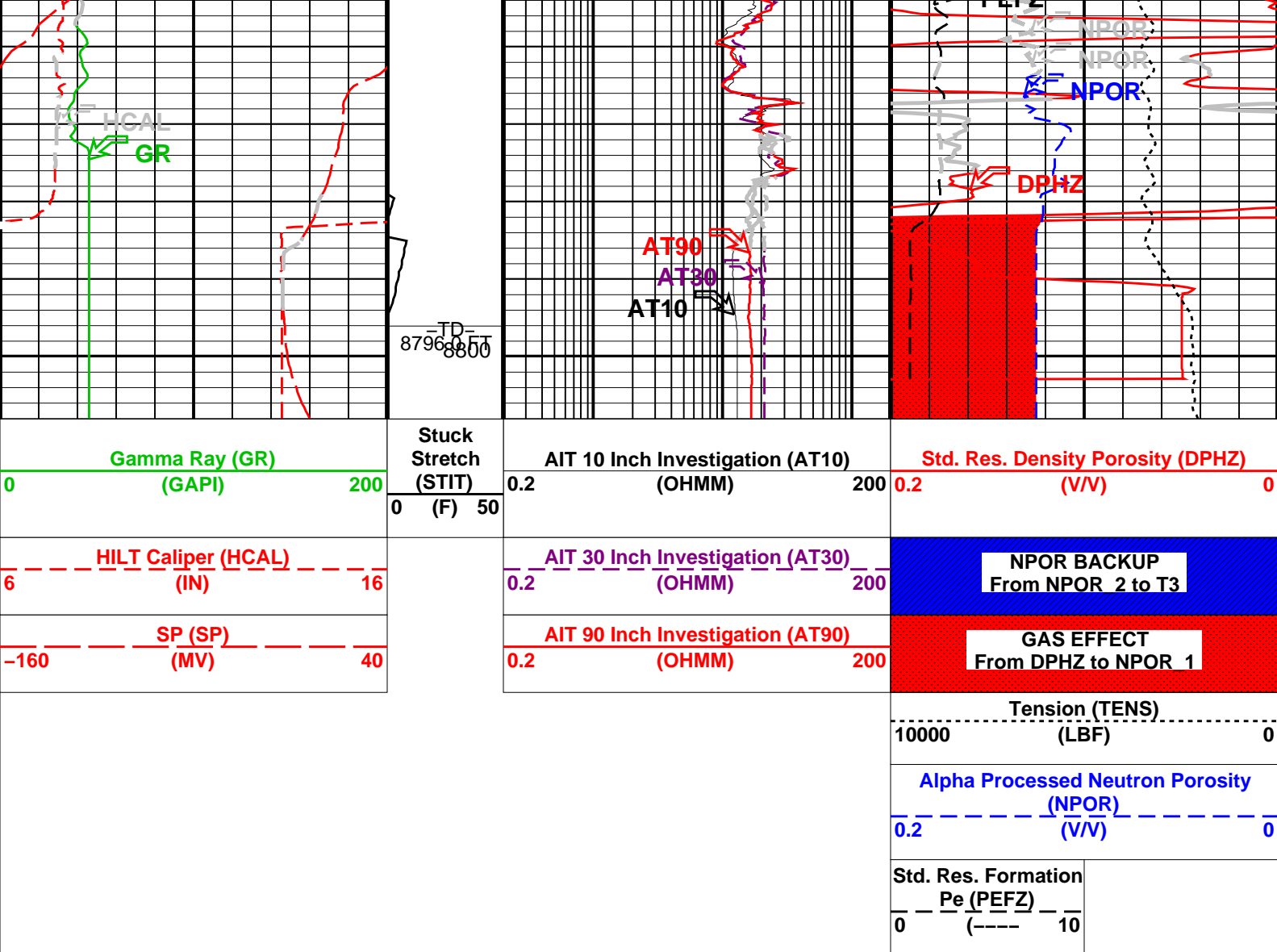
8000











### PIP SUMMARY

Time Mark Every 60 S

### Parameters

DLIS Name	Description	Value
AIT-M: Array Induction Tool - M		
ABHM	Array Induction Borehole Correction Mode	2_ComputeStandoff
ABHV	Array Induction Borehole Correction Code Version Number	900
ABLM	Array Induction Basic Logs Mode	6_One_Two_and_Four
ABLV	Array Induction Basic Logs Code Version Number	223
ACDE	Array Induction Casing Detection Enable	Yes
ACEN	Array Induction Tool Centering Flag (in Borehole)	Eccentered
ACSED	Array Induction Casing Shoe Estimated Depth	-50000 FT
AETP	Array Induction Enable Sonde Error Temp&Pres Corr	Yes
AFRSV	Array Induction Response Set Version for Four ft Resolution	41.70.24.20
AIGS	Array Induction Select Akima Interpolation Gating	On
AMRF	Array Induction Mud Resistivity Factor	1
AORSV	Array Induction Response Set Version for One ft Resolution	41.70.24.20
ARFV	Array Induction Radial Profiling Code Version Number	701
ARPV	Array Induction Radial Parametrization Code Version Number	232
ASTA	Array Induction Tool Standoff	0.25 IN
ATRSV	Array Induction Response Set Version for Two ft Resolution	41.70.24.20
ATSE	Array Induction Temperature Selection(Sonde Error Correction)	Internal
AULV	Array Induction User Level Control	Normal
AZRSV	Array Induction Response Set Version for Z Resolution	00.10.25.00
BHS	Borehole Status	OPEN
BHT	Bottom Hole Temperature (used in calculations)	212 DEGF
FEXP	Form Factor Exponent	2
FNUM	Form Factor Numerator	1
GCSE	Generalized Caliper Selection	HCAL
GDEV	Average Angular Deviation of Borehole from Normal	0 DEG
GGRD	Geothermal Gradient	0.01 DF/F
GRSE	Generalized Mud Resistivity Selection	AITM_RESIST
GTSE	Generalized Temperature Selection	USTS_UTEM

GTSE	Generalized Temperature Selection	HSTS_HTEM	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	68
SHT	Surface Hole Temperature		DEGF
SPNV	SP Next Value		0
HILTB-FTB: High resolution Integrated Logging Tool-DTS			
BHFL	Borehole Fluid Type	WATER	
BHFL_TLD	HILT Nuclear Mud Base	WATER	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	212	DEGF
BSCO	Borehole Salinity Correction Option	NO	
CCCO	Casing & Cement Thickness Correction Option	NO	
DHC	Density Hole Correction	BS	
FD	Fluid Density	1	G/C3
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
FSAL	Formation Salinity	-50000	PPM
FSCO	Formation Salinity Correction Option	NO	
GCLF	Germany Coal-like Formation Option	NO	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITM_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
HSCO	Hole Size Correction Option	YES	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	NATU	
MDEN	Matrix Density	2.68	G/C3
MWCO	Mud Weight Correction Option	NO	
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	StdRes	
NSAR	HRDD Depth Sampling Rate	1	IN
PTCO	Pressure/Temperature Correction Option	NO	
SDAT	Standoff Data Source	SOCN	
SHT	Surface Hole Temperature	68	DEGF
SOCN	Standoff Distance	0.125	IN
SOCO	Standoff Correction Option	YES	
FEQL: Formation Evaluation Quick Look			
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
HOLEV: Integrated Hole/Cement Volume			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	212	DEGF
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITM_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
SHT	Surface Hole Temperature	68	DEGF
PERT: Preliminary Evaluation - Real Time			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	212	DEGF
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITM_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
SHT	Surface Hole Temperature	68	DEGF
STI: Stuck Tool Indicator			
LBFR	Trigger for MAXIS First Reading Label	TDL	
STKT	STI Stuck Threshold	2.5	FT
TDD	Total Depth - Driller	88870.00	FT
TDL	Total Depth - Logger	88870.00	FT
System and Miscellaneous			
BS	Bit Size	7.875	IN
BSAL	Borehole Salinity	-50000.00	PPM
CSIZ	Current Casing Size	8.625	IN
CWEI	Casing Weight	24.00	LB/F
DFD	Drilling Fluid Density	8.50	LB/G
DORL	Depth Offset for Repeat Analysis	0.0	FT
FLEV	Fluid Level	-50000.00	FT
MST	Mud Sample Temperature	72.20	DEGF
RMFS	Resistivity of Mud Filtrate Sample	1.0650	OHMM
TD	Total Depth	88870	FT

AIT-M DTC-H	17C0-154 17C0-154	HILTB-FTB	17C0-154
Output DLIS Files			
DEFAULT	AIT_TLD_MCFL_CNL_010LUP	FN:9	PRODUCER 02-Dec-2009 11:46
Company:	Kerr McGee Oil and Gas Onshore, LP		Schlumberger
Well:	Parterre 13-16		
Field:	Spindle		
County:	Adams		
State:	Colorado		
	Platform Express Triple Combo		