



OTHER SERVICES1	OTHER SERVICES2
OS1: CMR	OS1:
OS2: BHC	OS2:
OS3: MDT	OS3:
OS4:	OS4:
OS5:	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
This is the first run in hole	
Toolstring run as per tool sketch	
Matrix: Limestone (2.71 g/cc)	

[illegible]

DSLCT-B  
ECH-KH  
SLS-W

USN  
UHN  
USF UHF  
LSF LHF  
LHN  
LSN  
DSLCT Aux.

24.2  
23.4  
23.2  
20.4  
20.2  
19.4

16.0

HAIT-H  
AHIS-BA 216  
AHRM-A

Induction  
Temperatu  
Power Sup  
SP SENSOR  
DF  
HTEN HMAS HV  
Accelerom  
Mud Resis  
Tension

TOOL ZERO

7.9  
0.1  
0.0

16.0

1.0 IN  
Standoff

1.0 IN  
Standoff

MAXIMUM STRING DIAMETER 6.60 IN  
MEASUREMENTS RELATIVE TO TOOL ZERO  
ALL LENGTHS IN FEET

**Schlumberger**

**MAIN POROSITY 5" = 100'**

MAXIS Field Log

### Input DLIS Files

DEFAULT	Splice_AIT_SONIC_032CUP	FN:1	PRODUCER	05-Aug-2013 19:39	6816.0 FT	99.5 FT
---------	-------------------------	------	----------	-------------------	-----------	---------

### Output DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_033PUP	FN:31	PRODUCER	05-Aug-2013 19:41	6816.0 FT	100.0 FT
---------	---------------------------	-------	----------	-------------------	-----------	----------

### Integrated Hole/Cement Volume Summary

Hole Volume = 2937.84 F3

Cement Volume = 1901.06 F3 (assuming 5.50 IN casing O.D.)

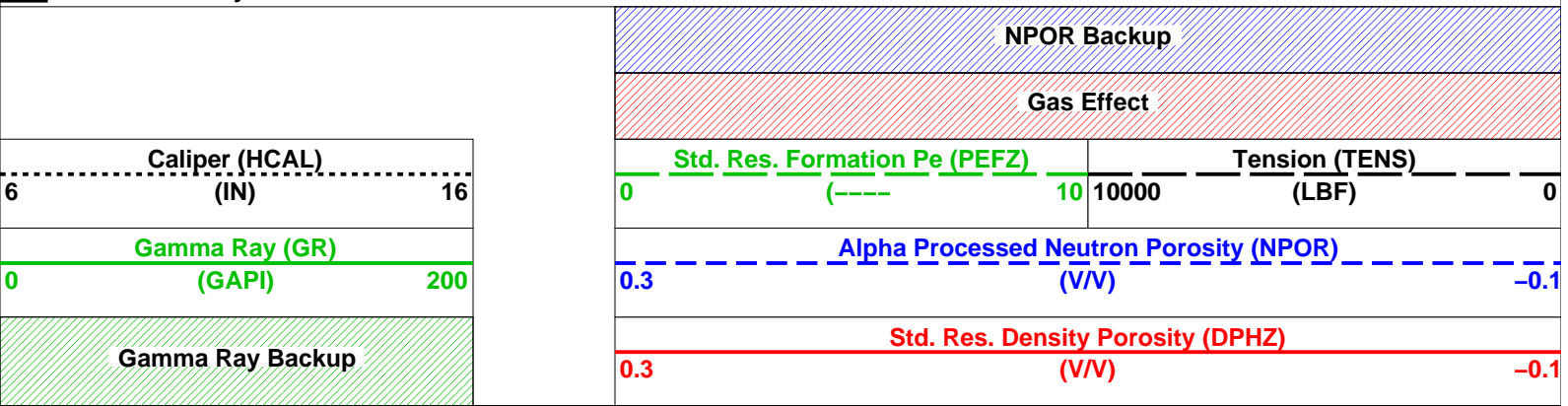
Computed from 6800.0 FT to 516.0 FT using data channel(s) HCAL

### OP System Version: 19C2-270

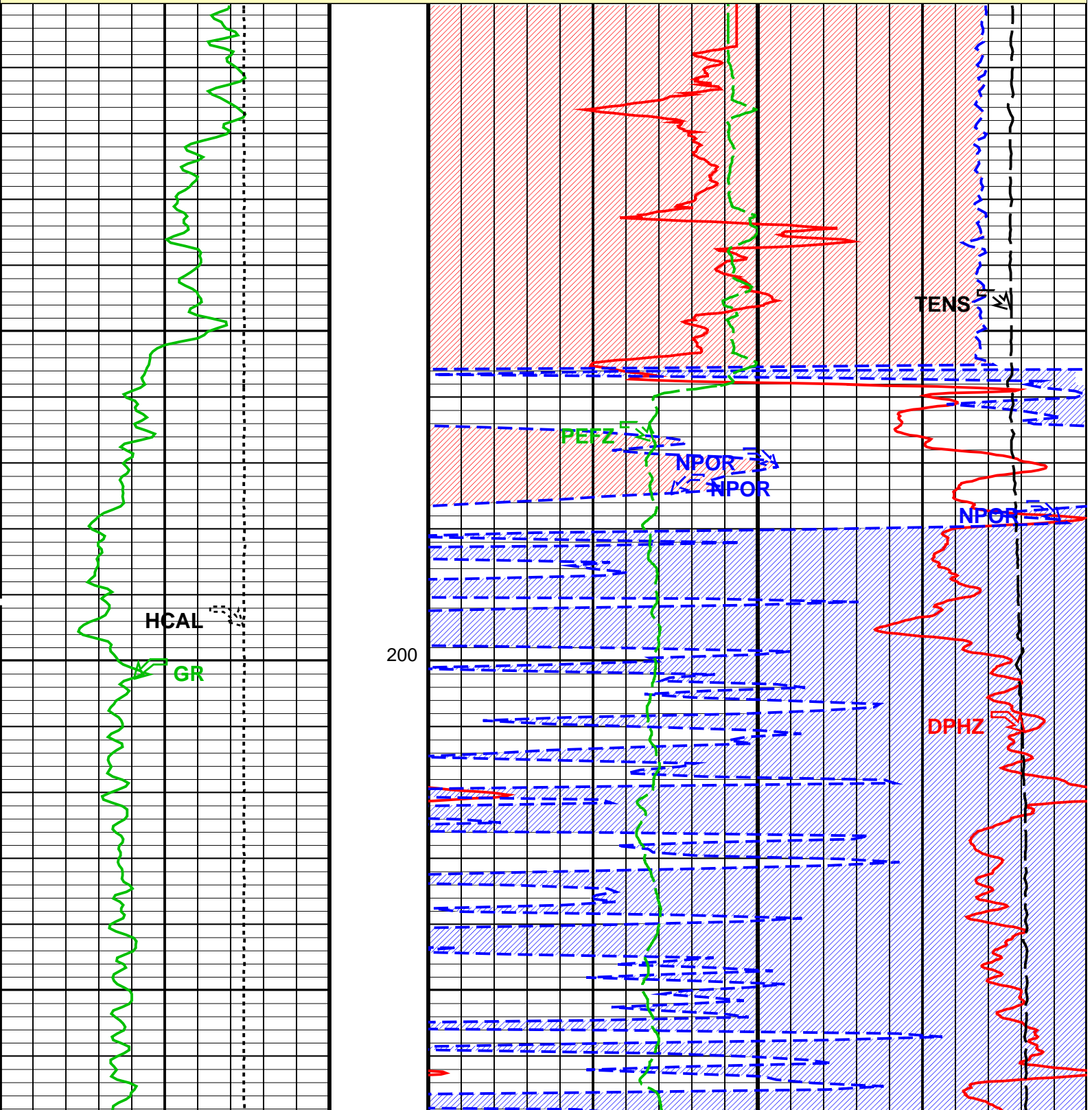
HAIT-H	19C2-270	DSLCT-FTB	19C2-270
HILTH-FTB	19C2-270	CMRT-B	19C2-270
DTC-H	19C2-270		

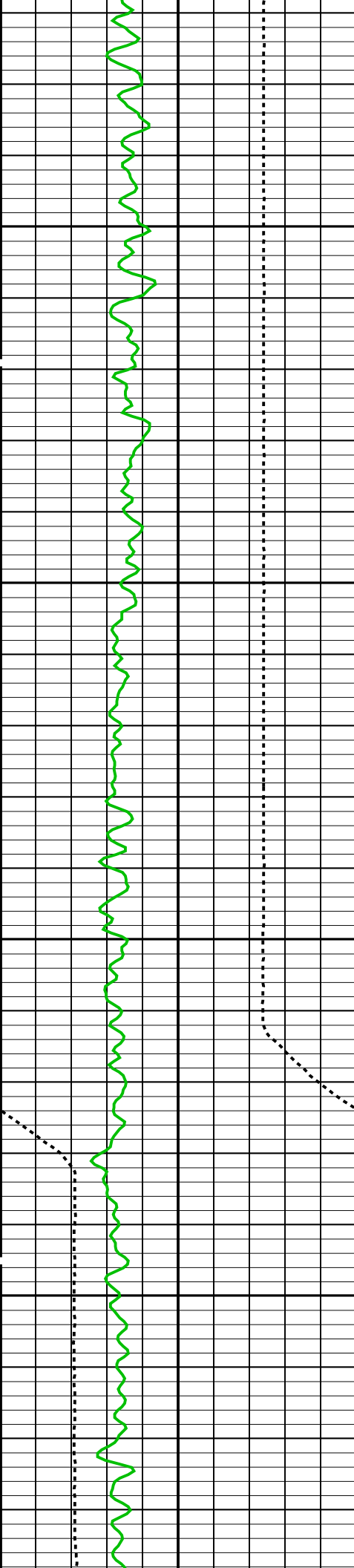
### PIP SUMMARY

- └ Integrated Hole Volume Minor Pip Every 10 F3
- └ Integrated Hole Volume Major Pip Every 100 F3
- └ Integrated Cement Volume Minor Pip Every 10 F3
- └ Integrated Cement Volume Major Pip Every 100 F3



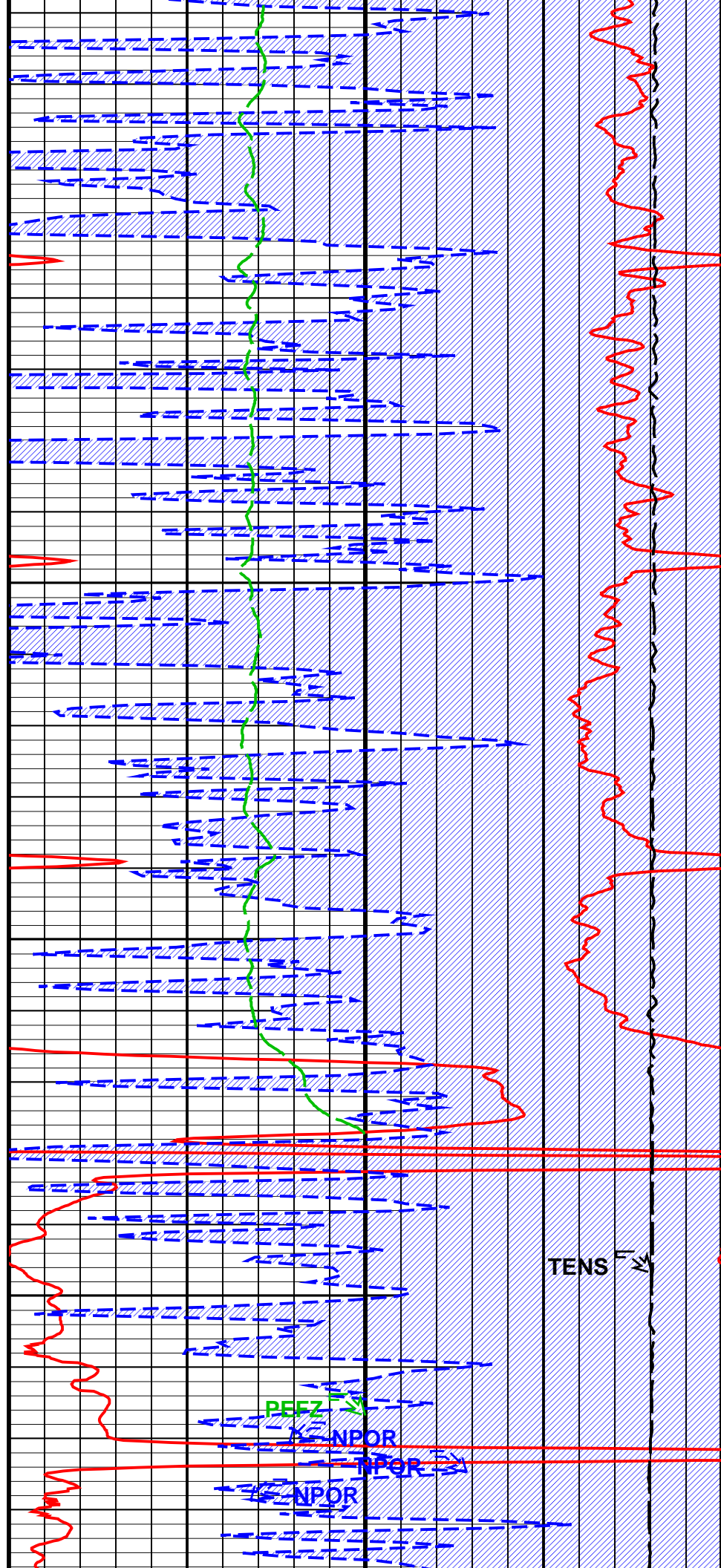
MAIN PASS: \*\*\* PLATFORM EXPRESS – NUCLEAR POROSITY \*\*\*





300

400



TENS  $\vec{F}$

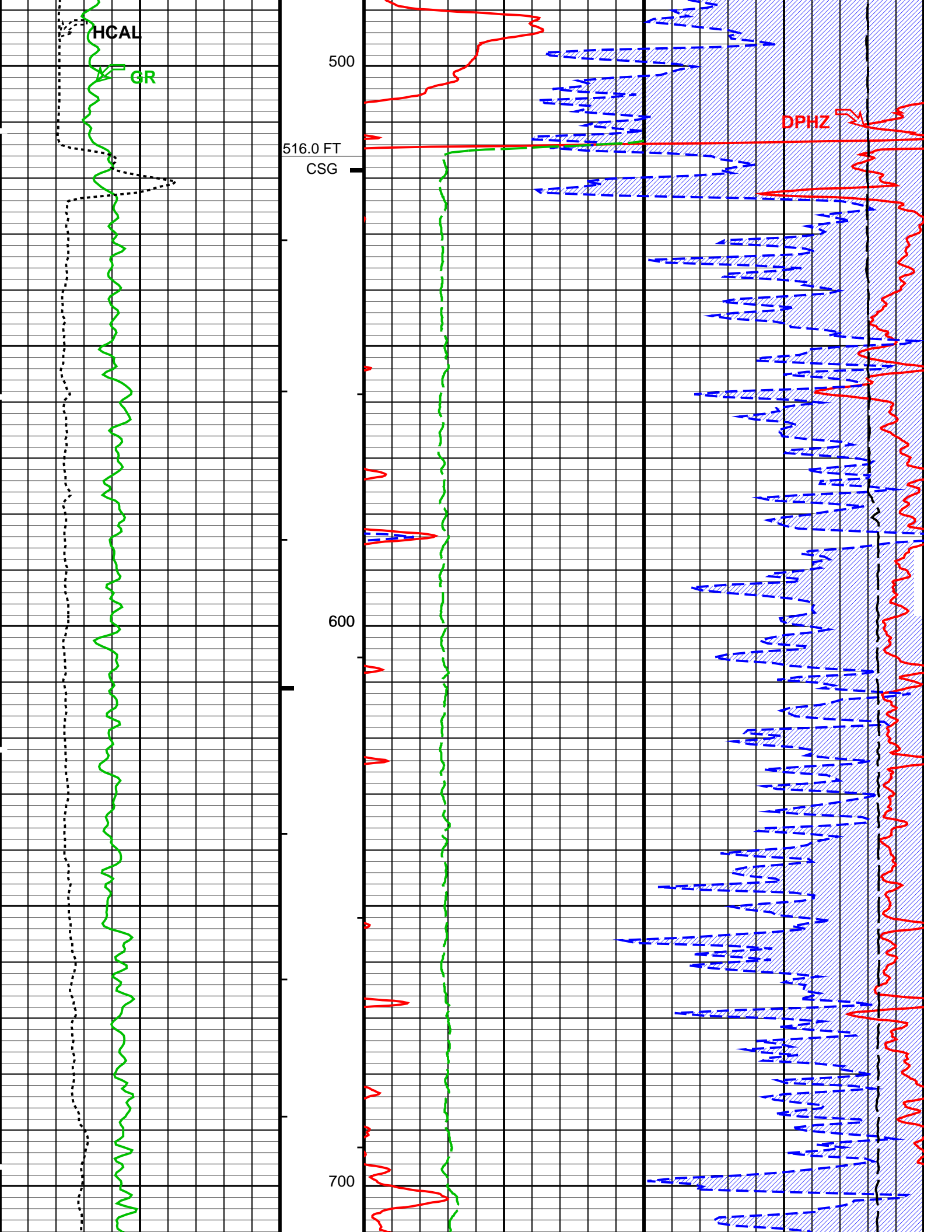
PEFZ  $\vec{F}$

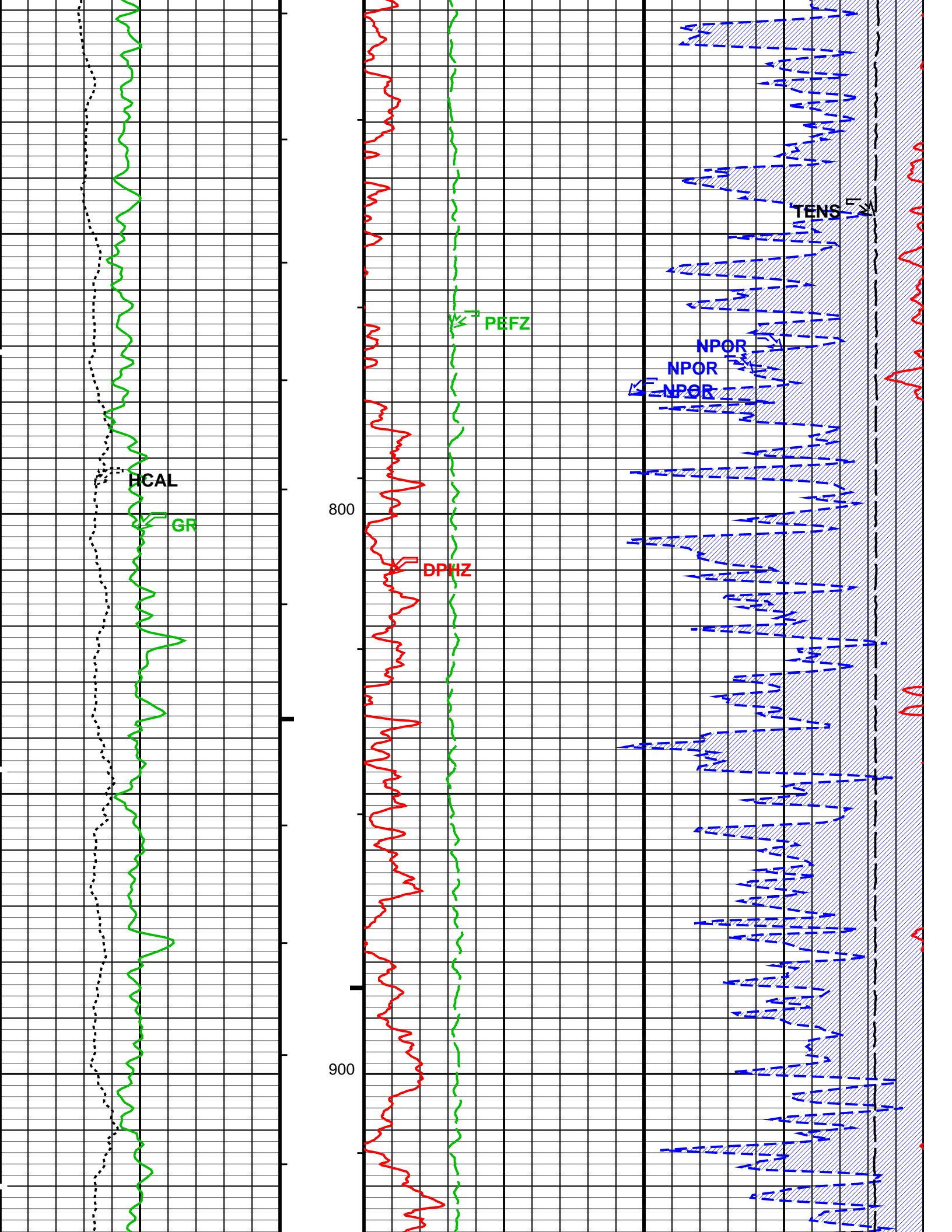
NPOR  $\vec{F}$

NPOR  $\vec{F}$

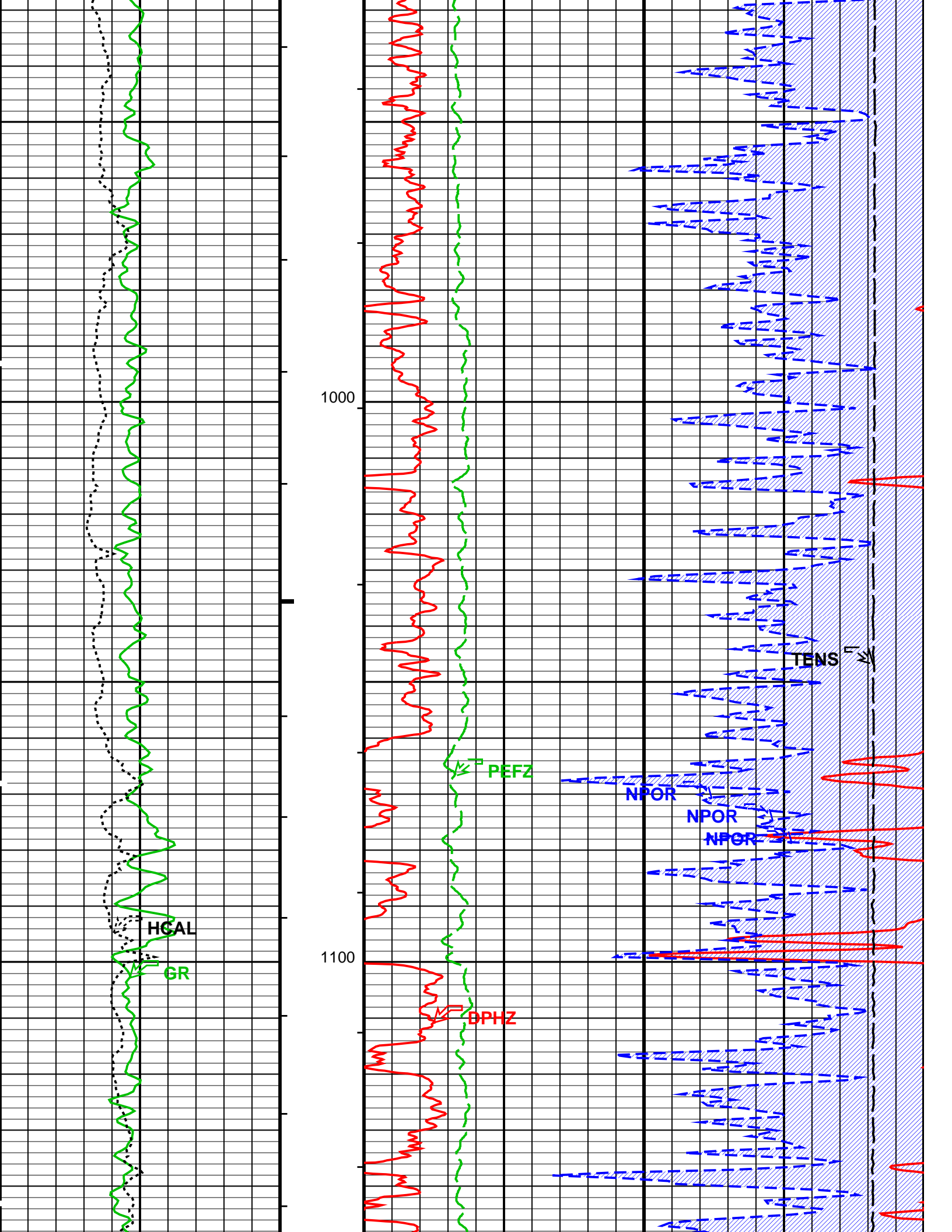
NPOR  $\vec{F}$

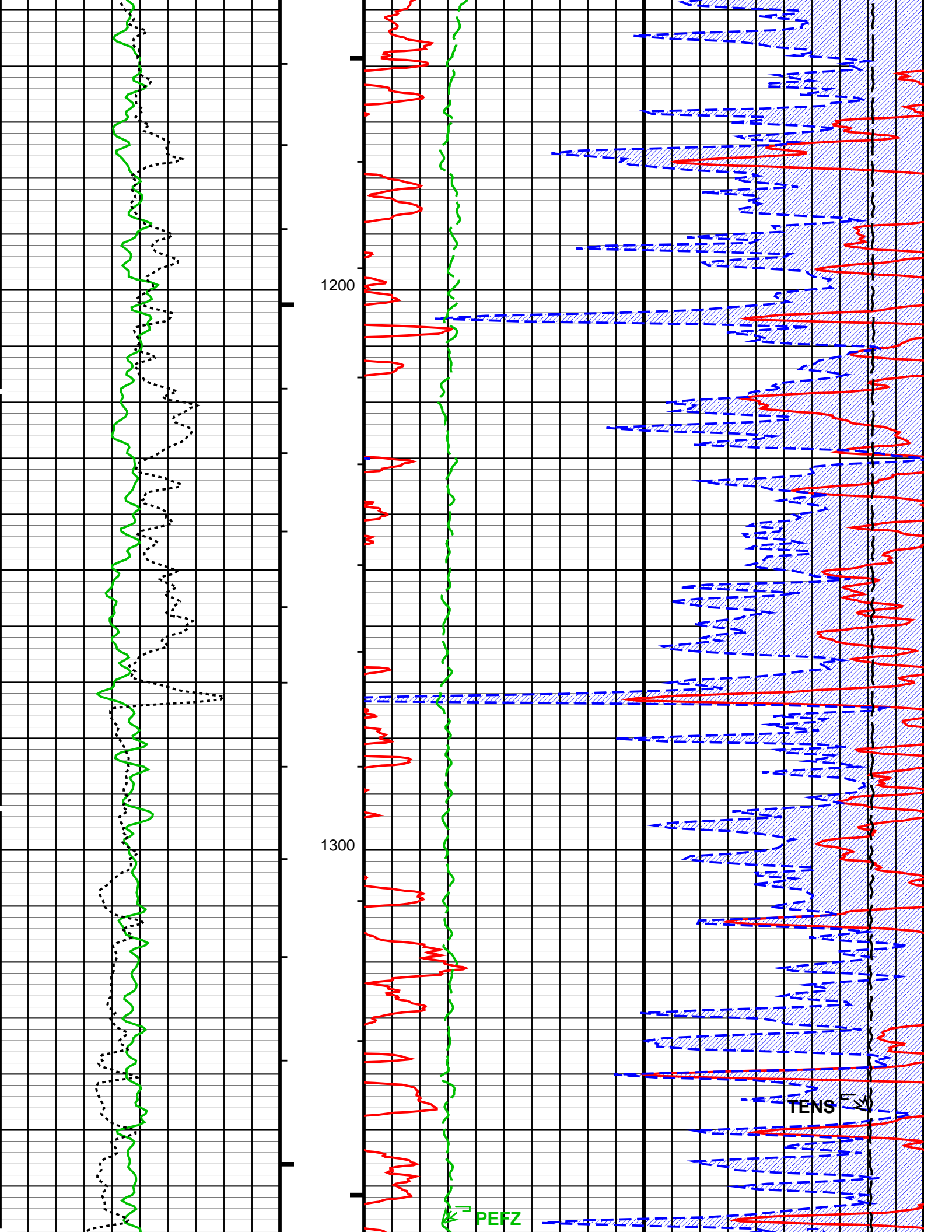


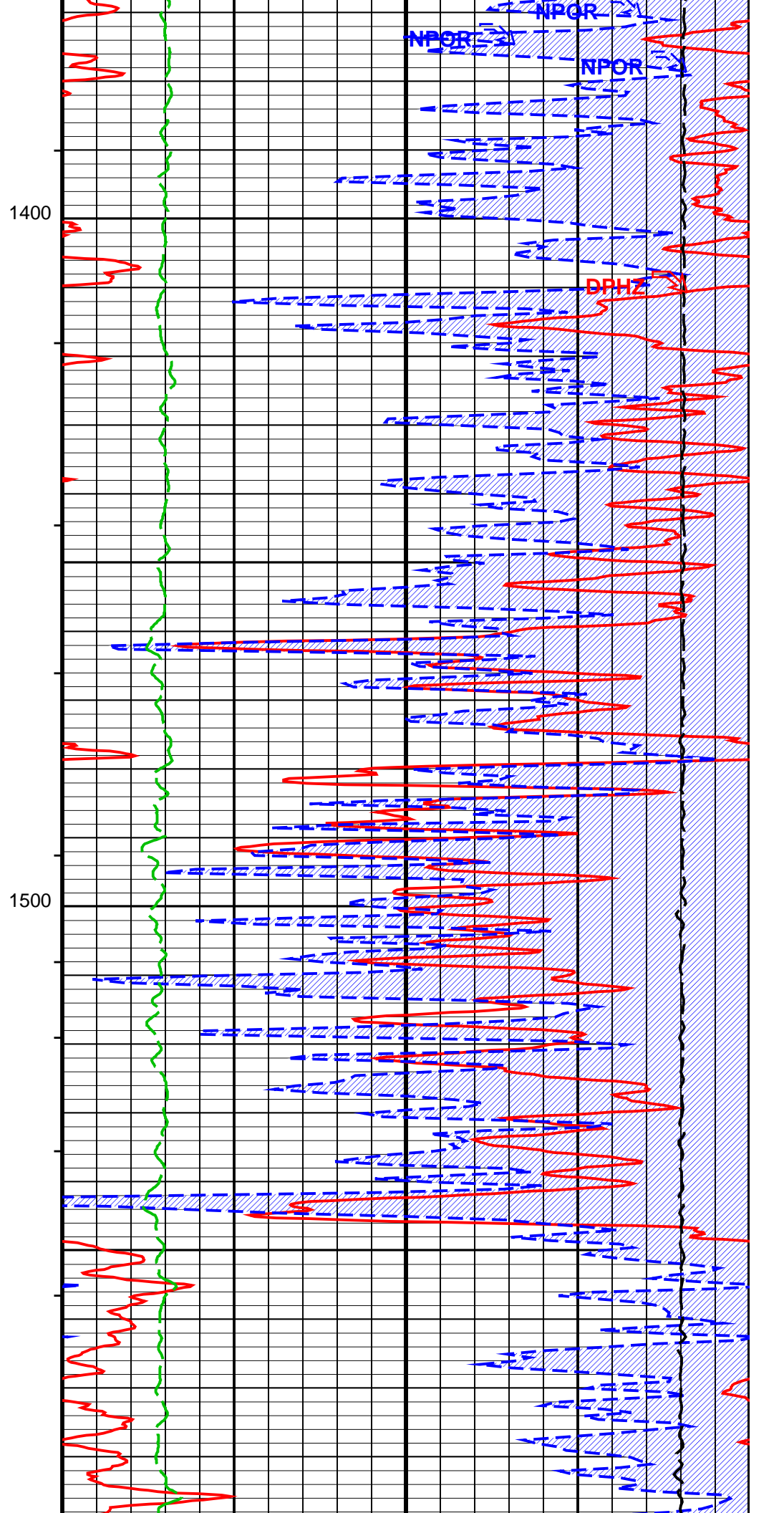
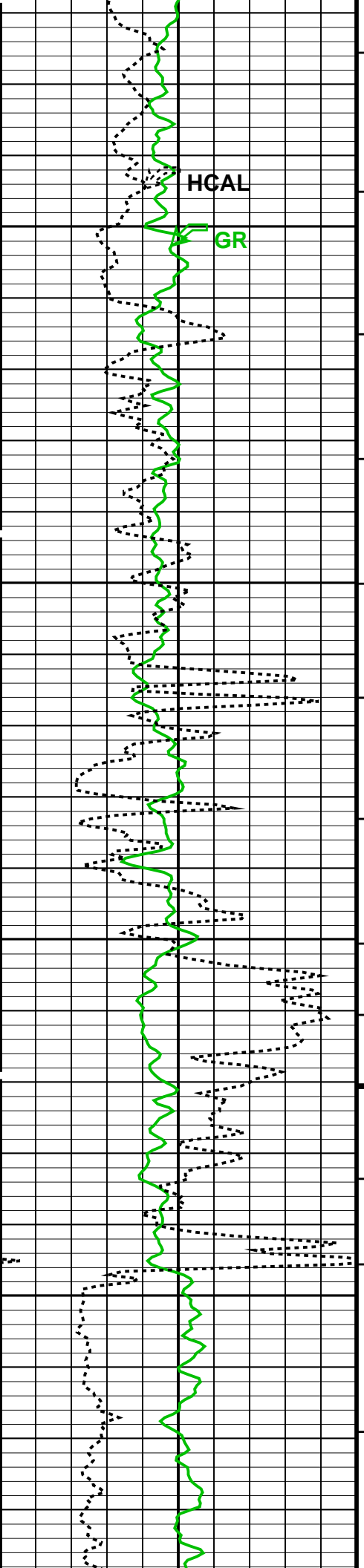


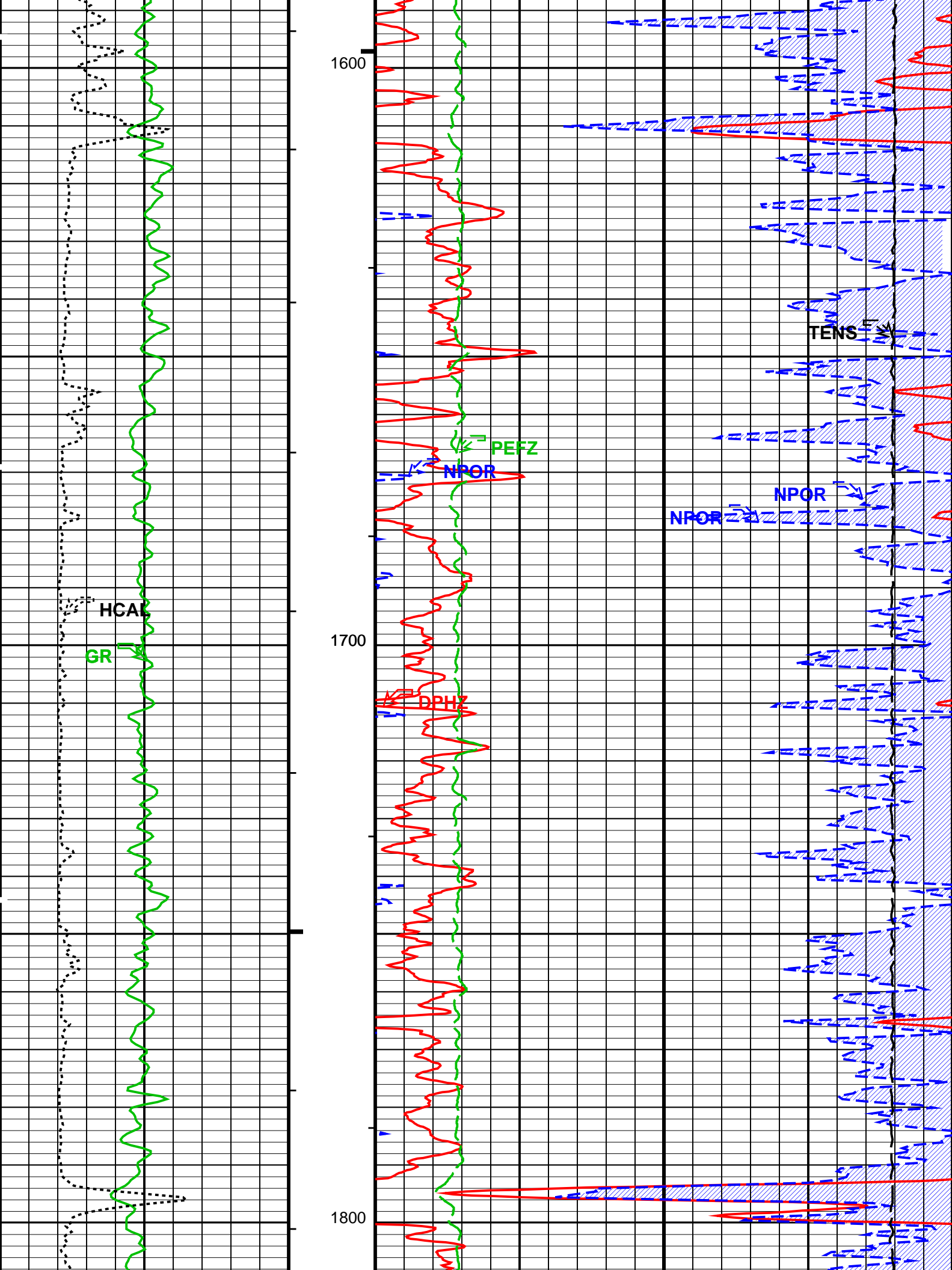




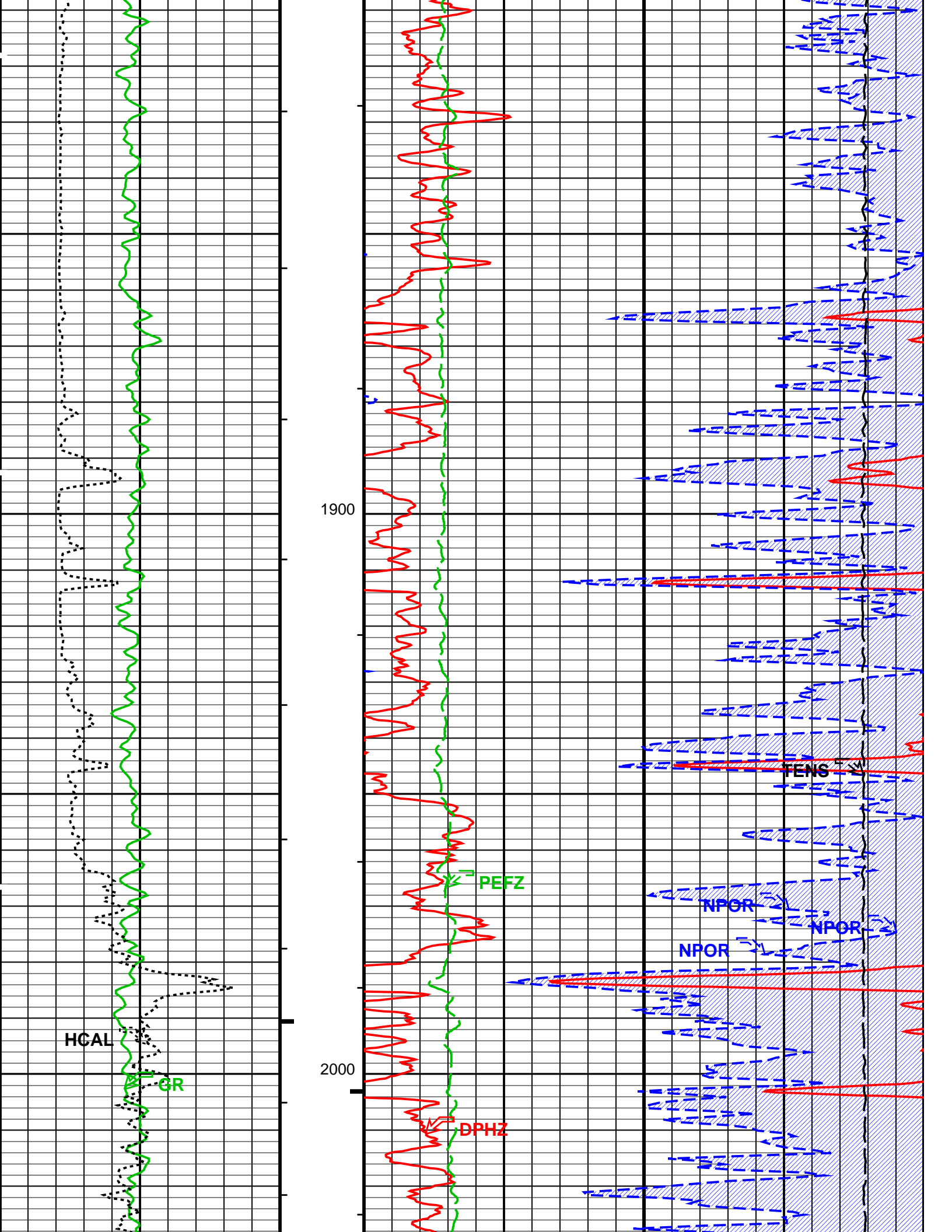




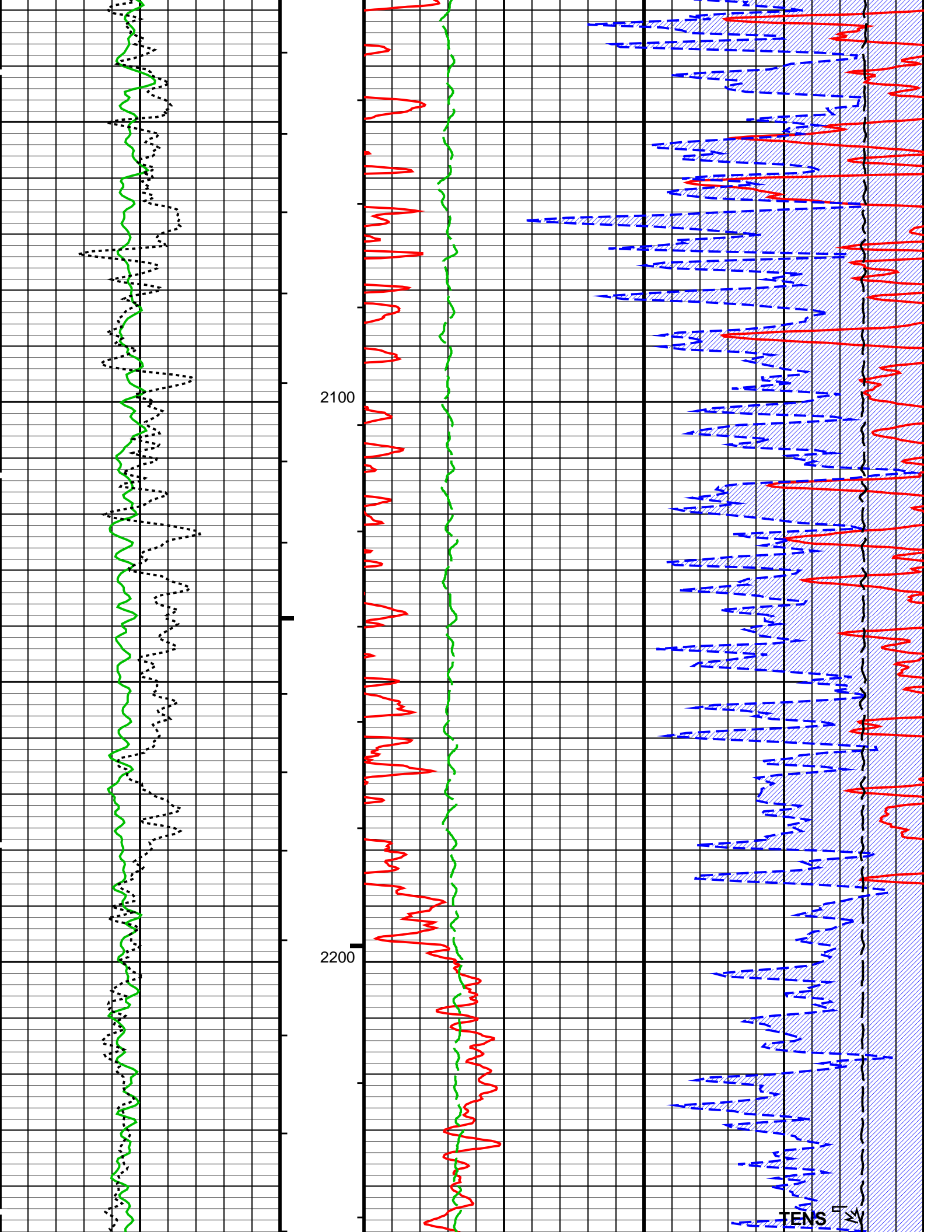


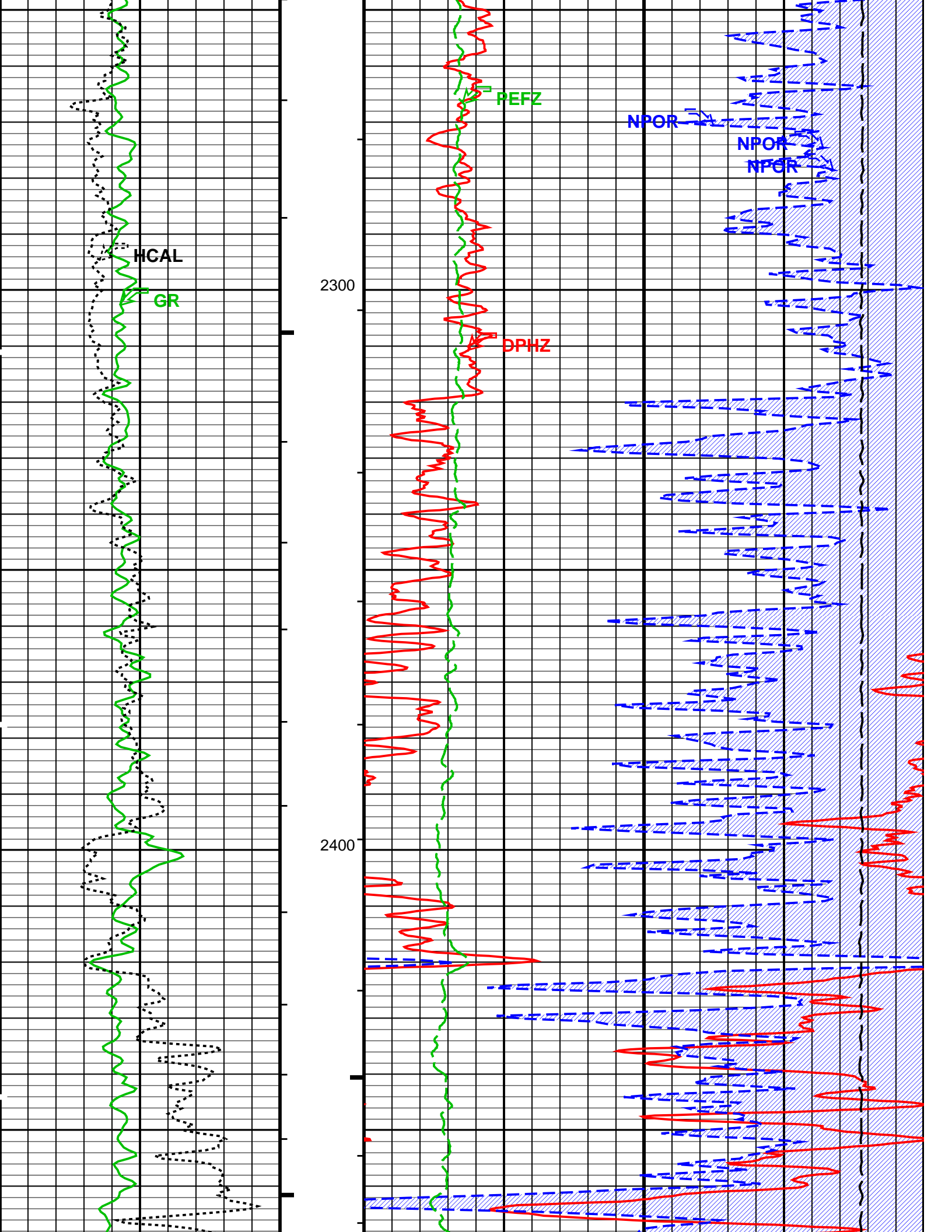


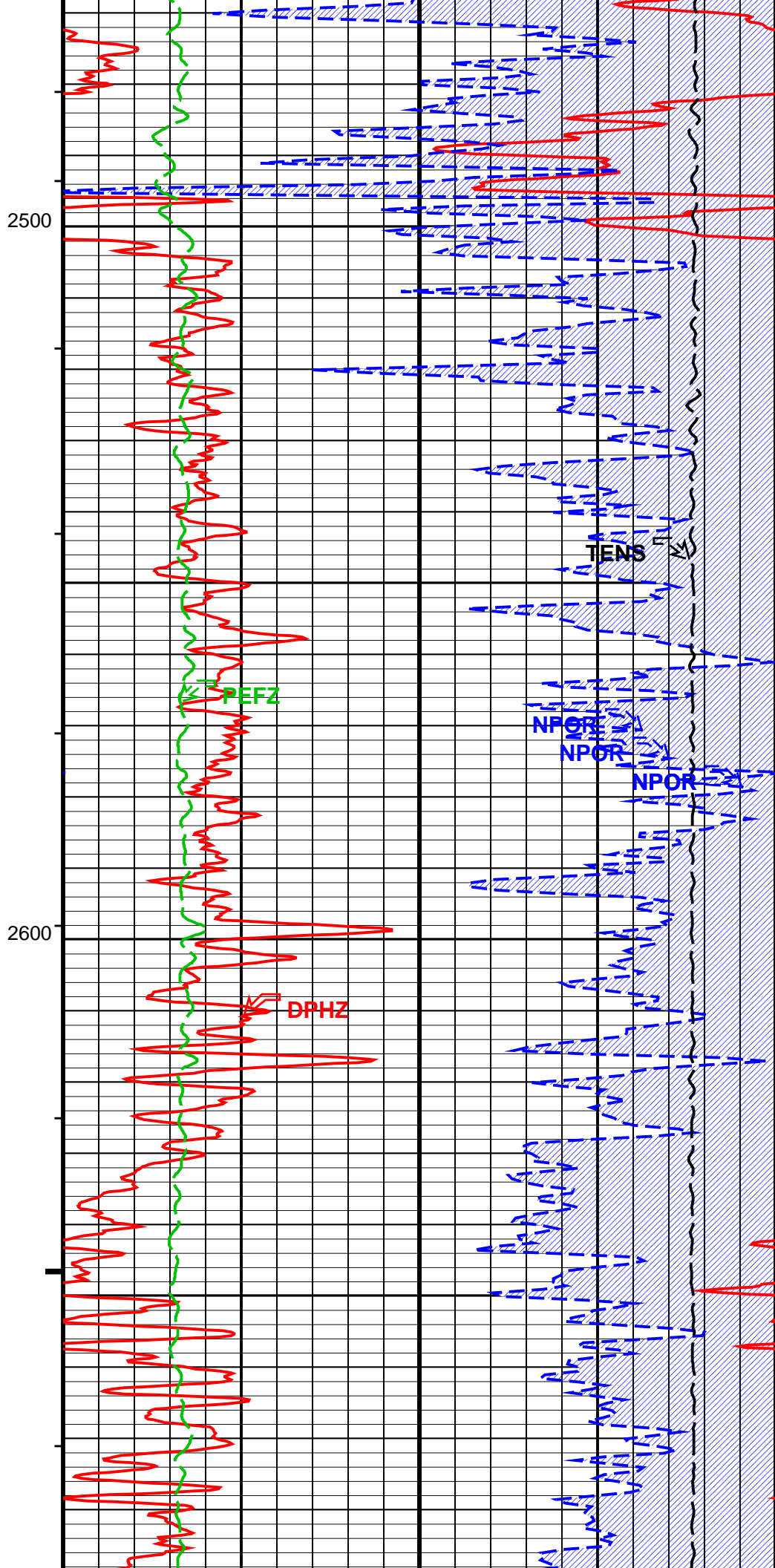
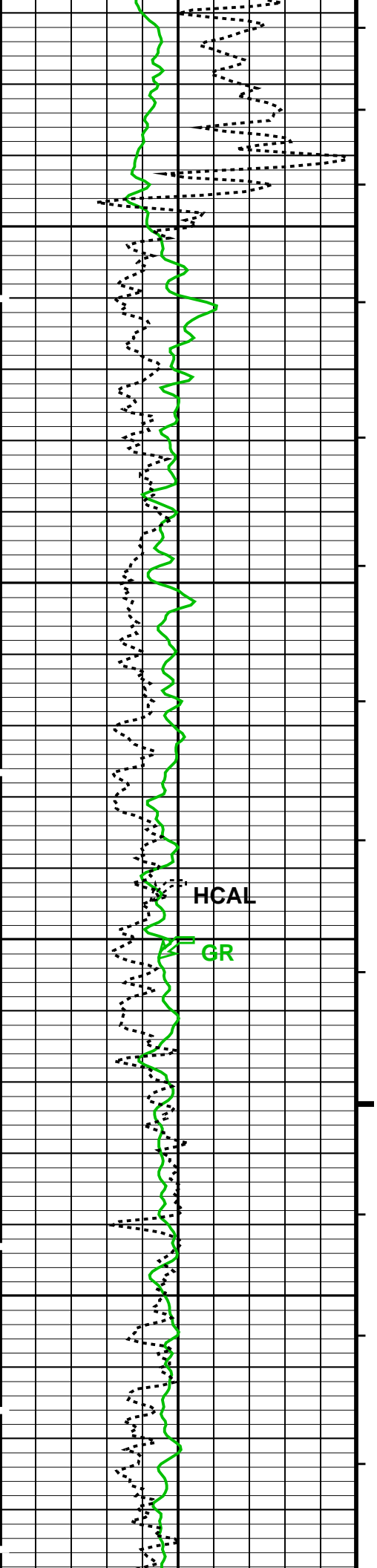


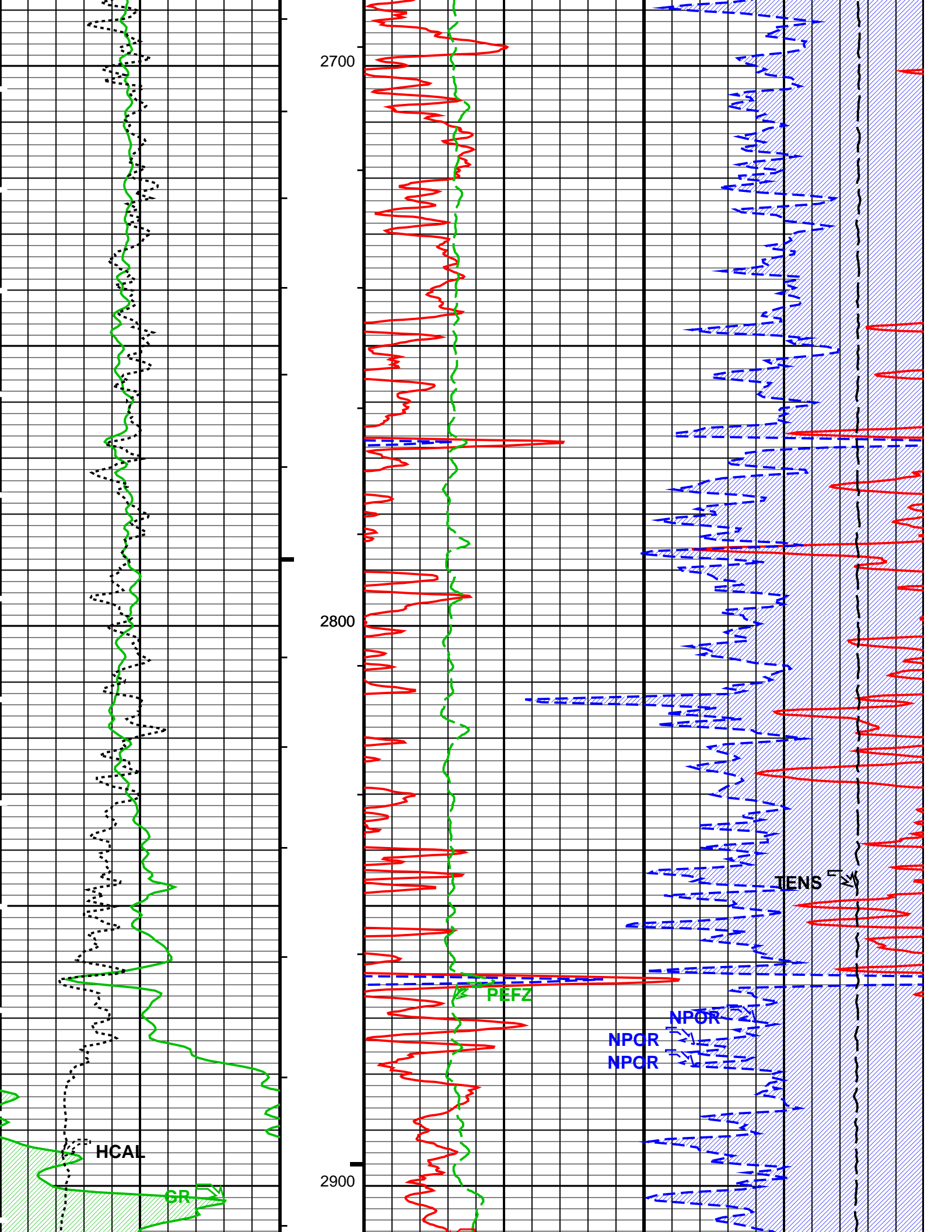




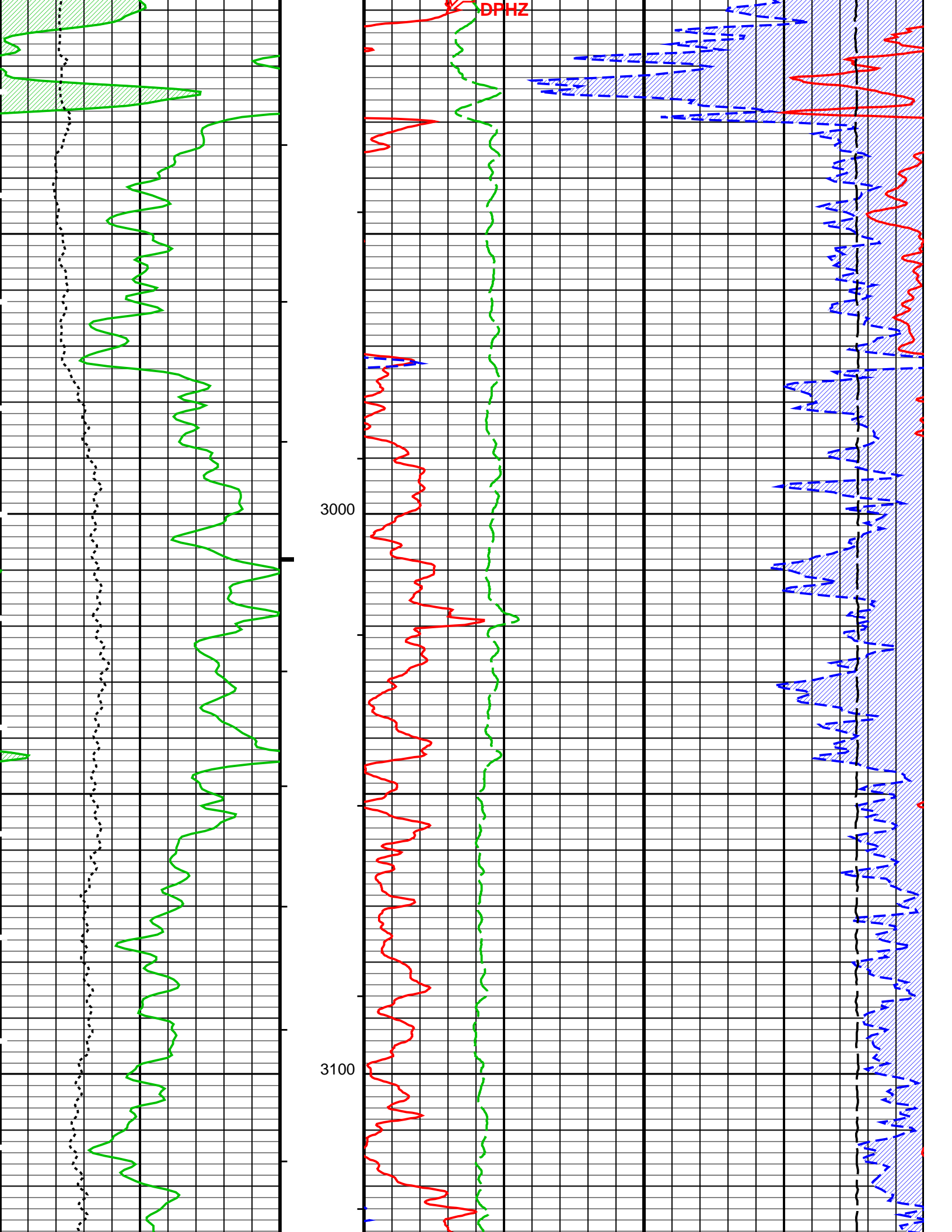




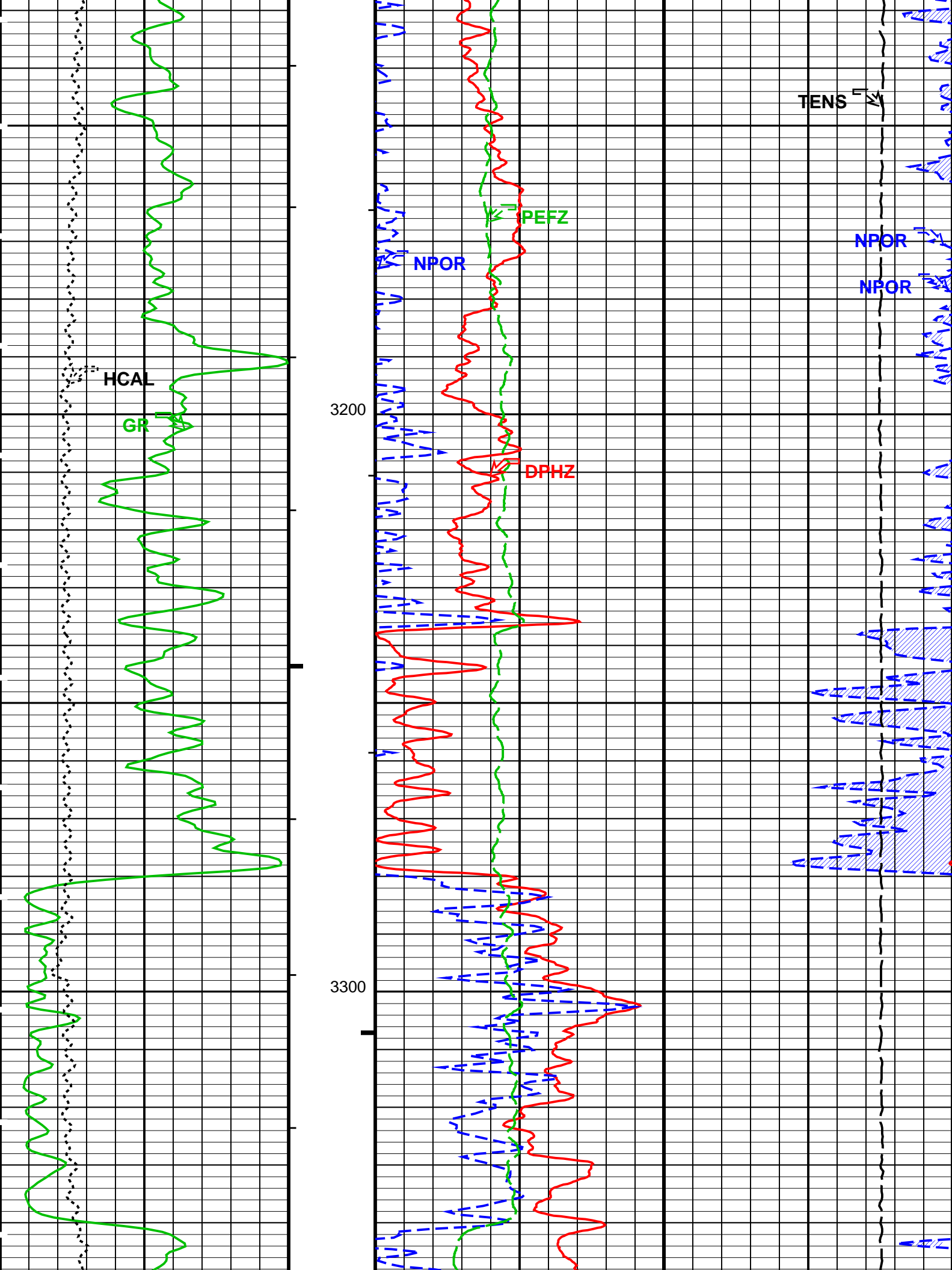


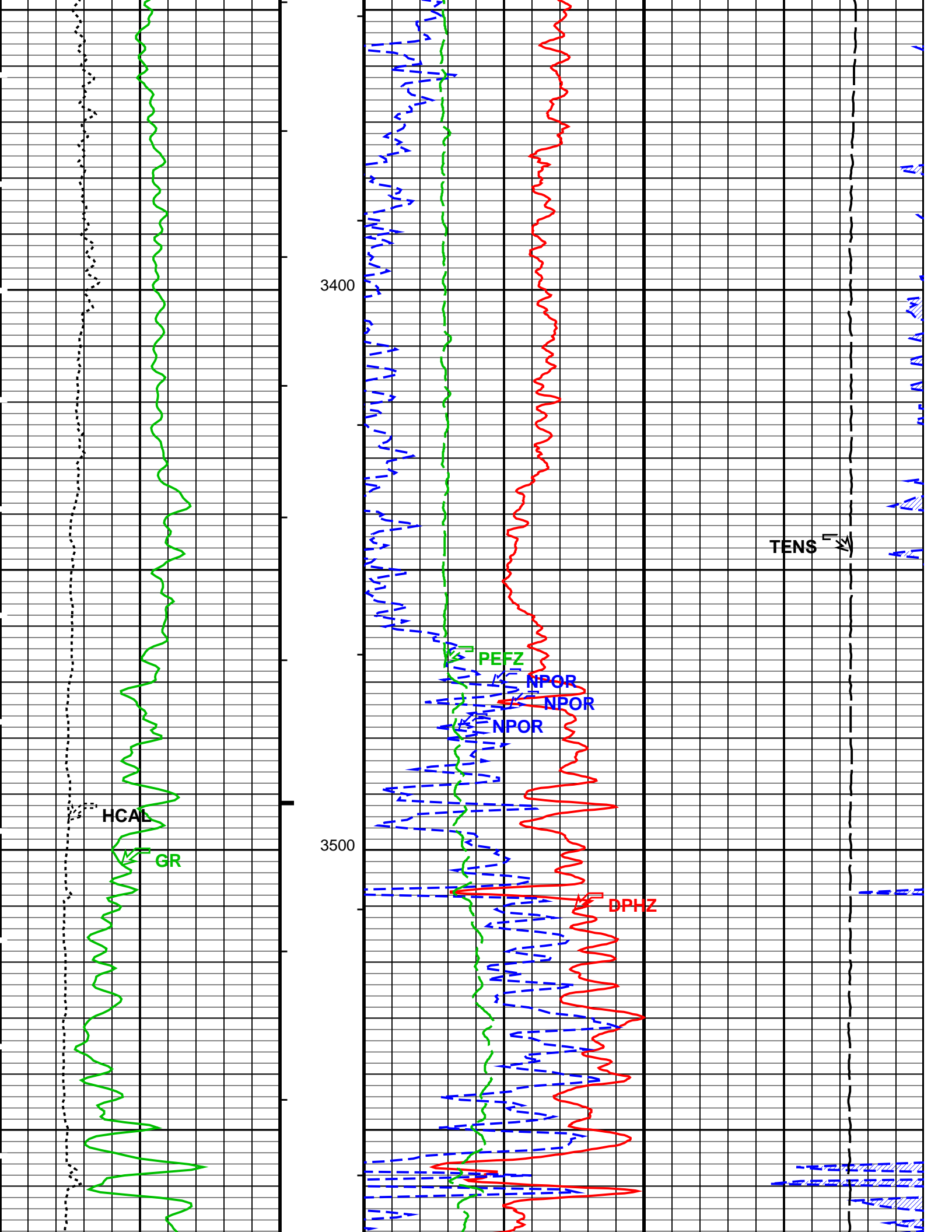


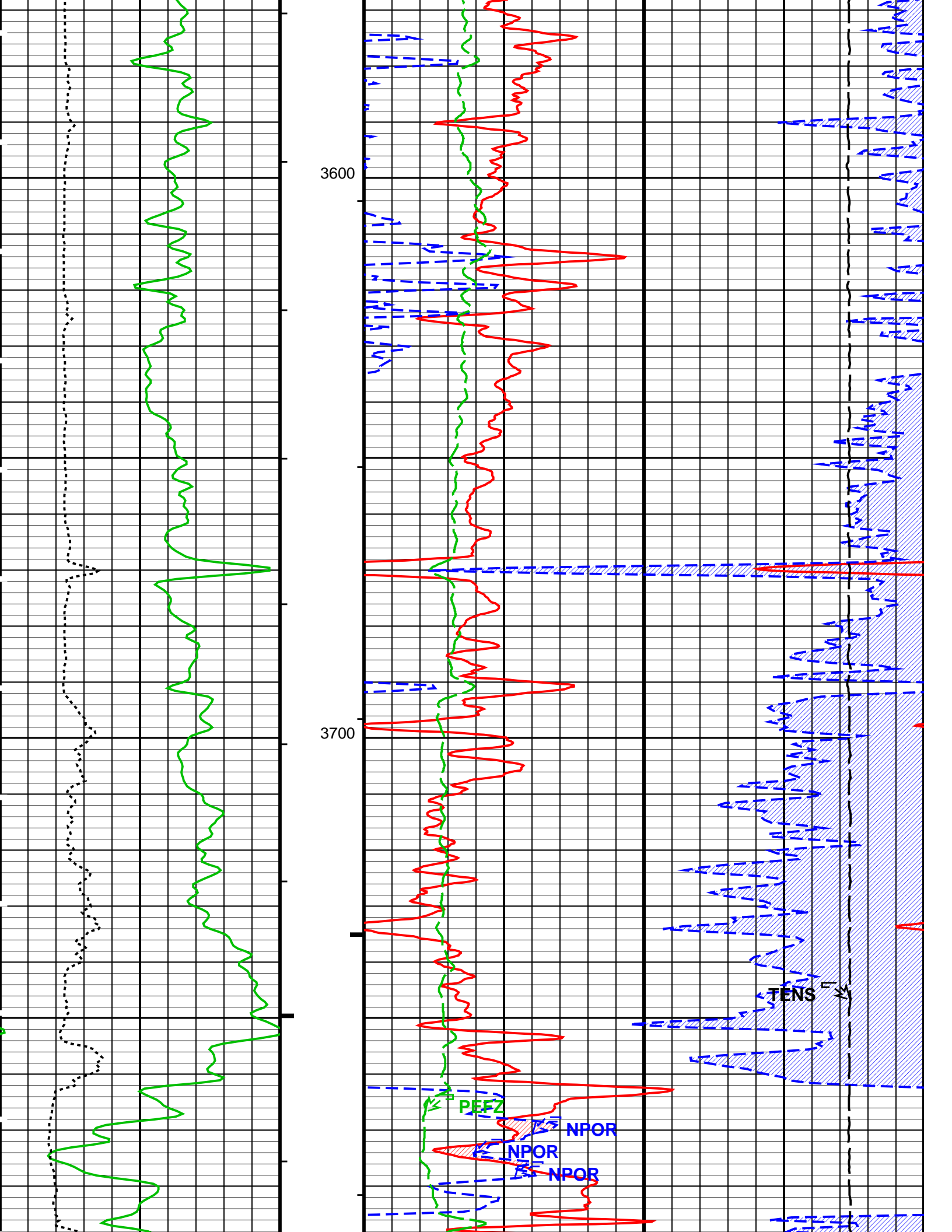


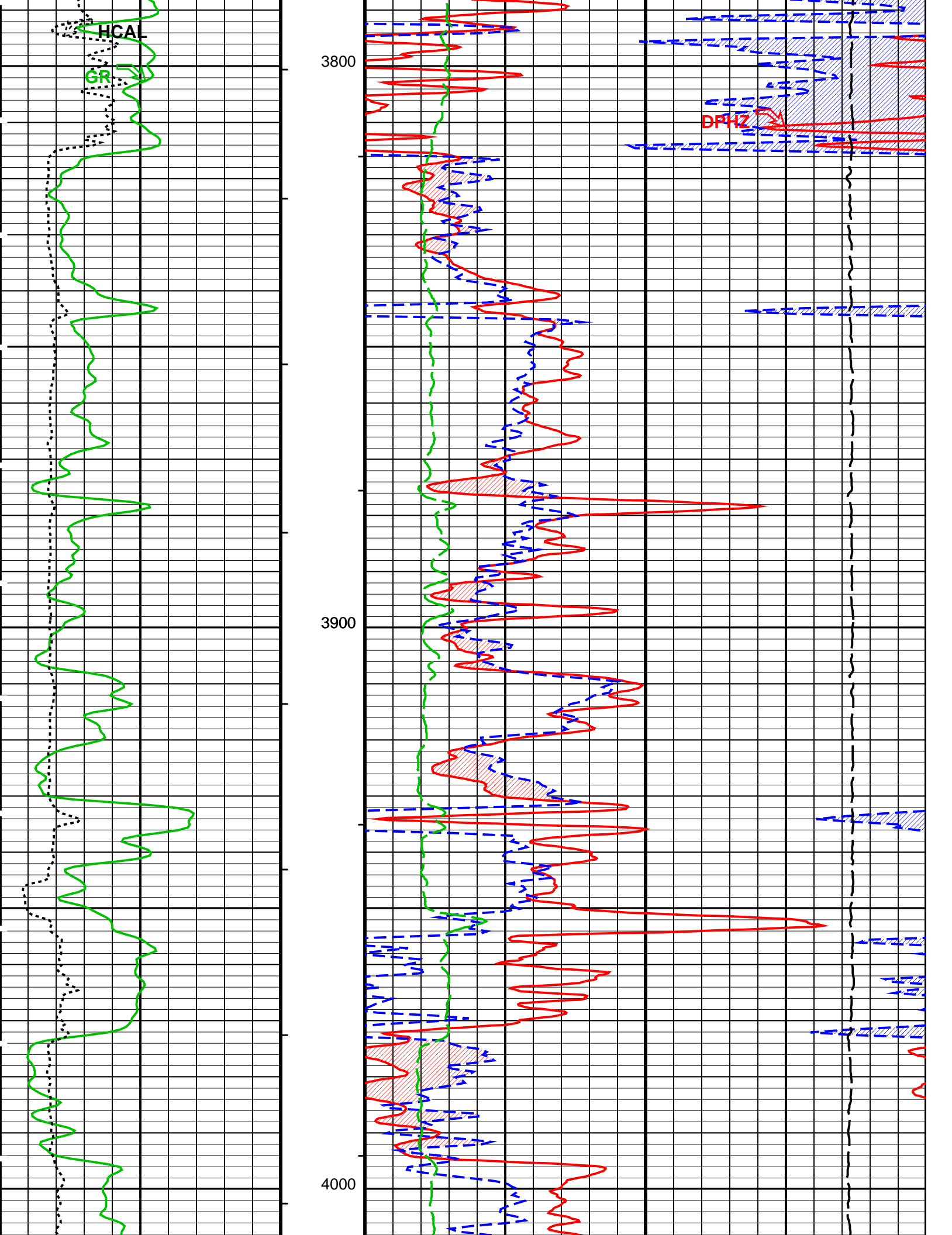


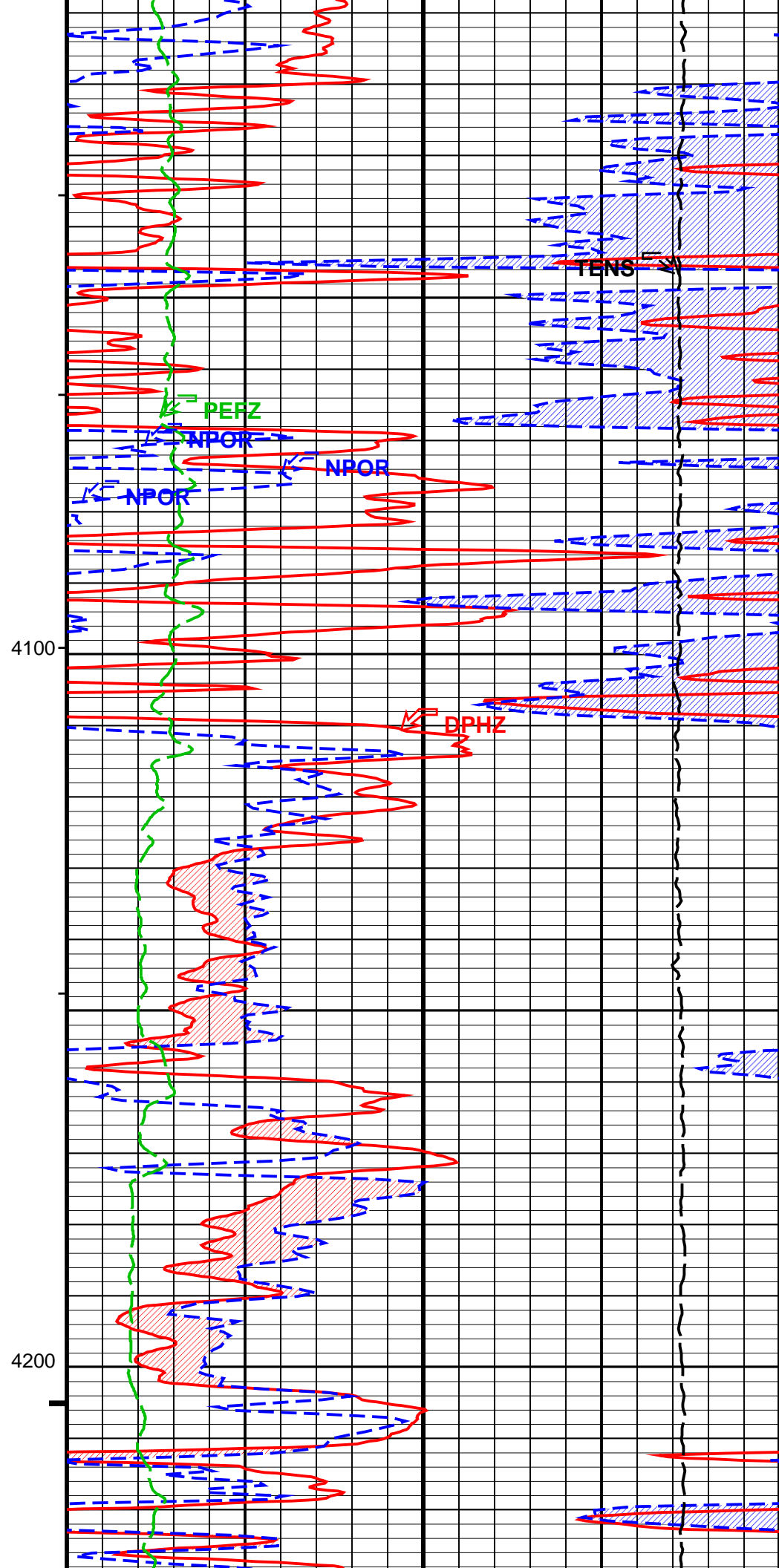
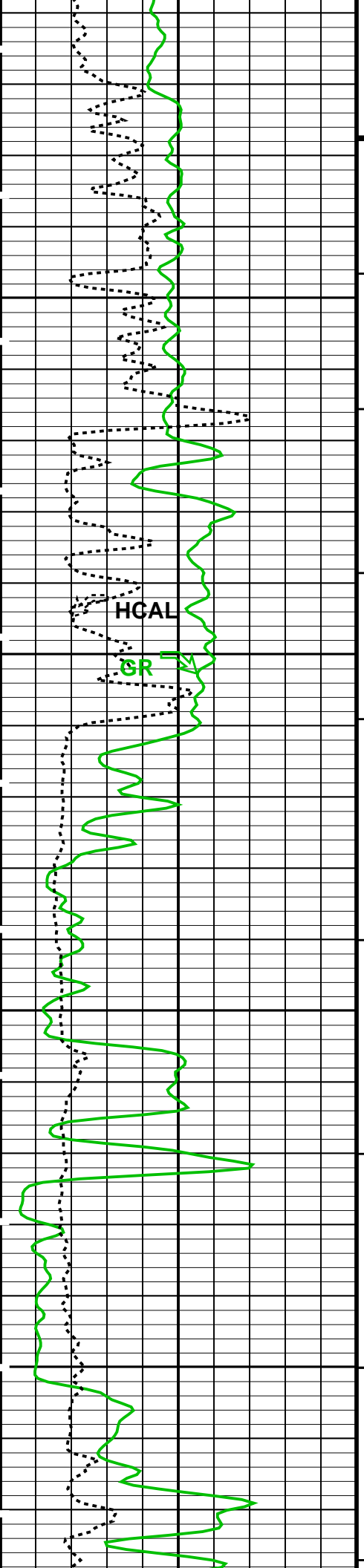




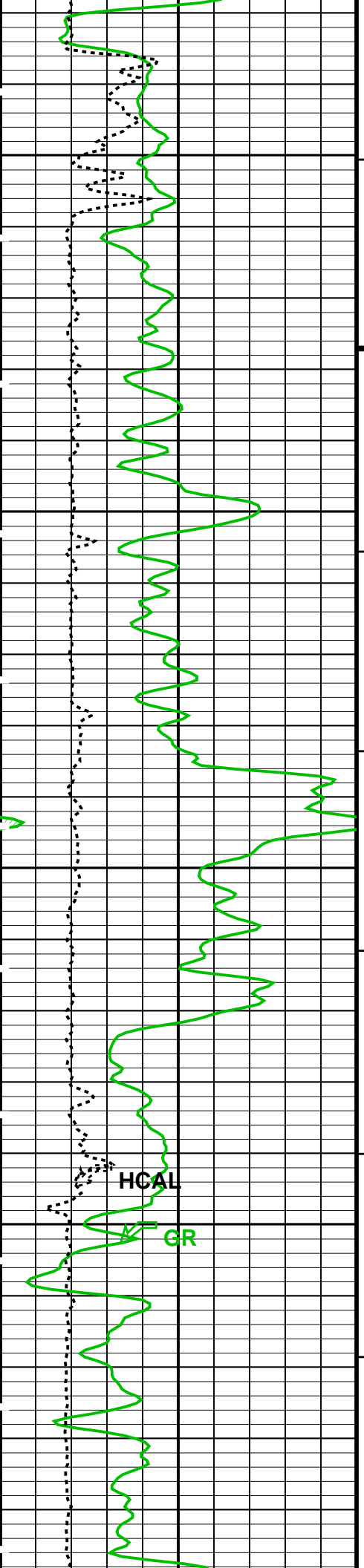






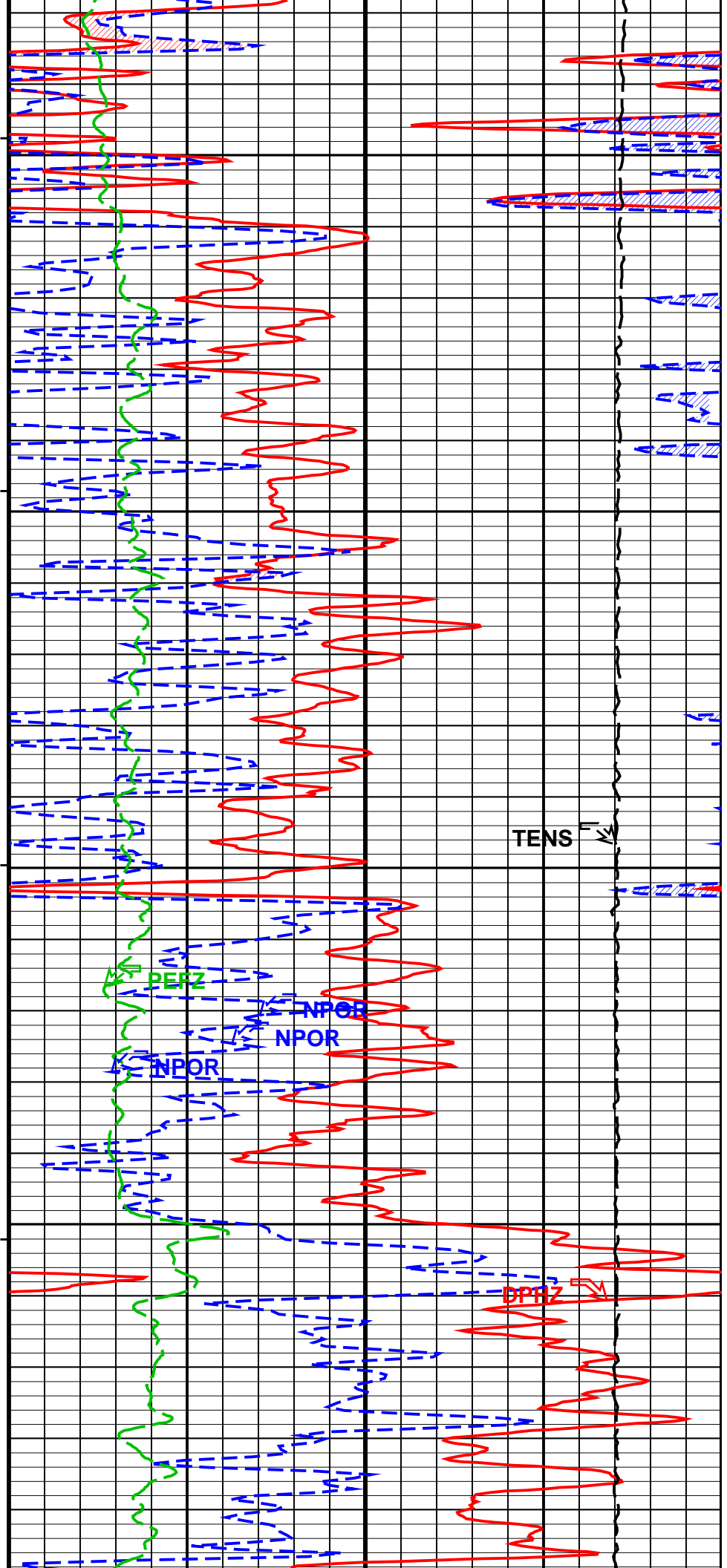


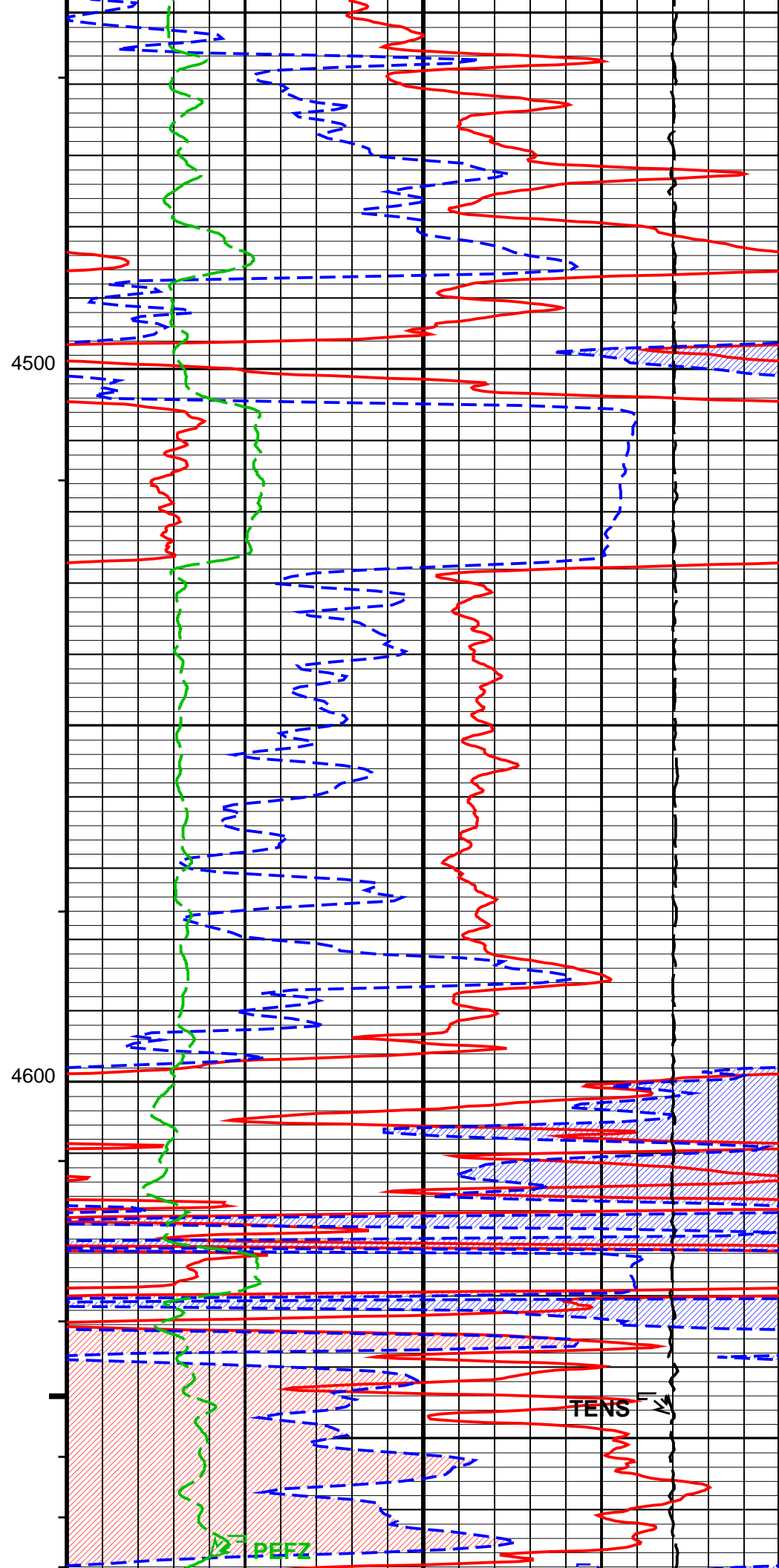
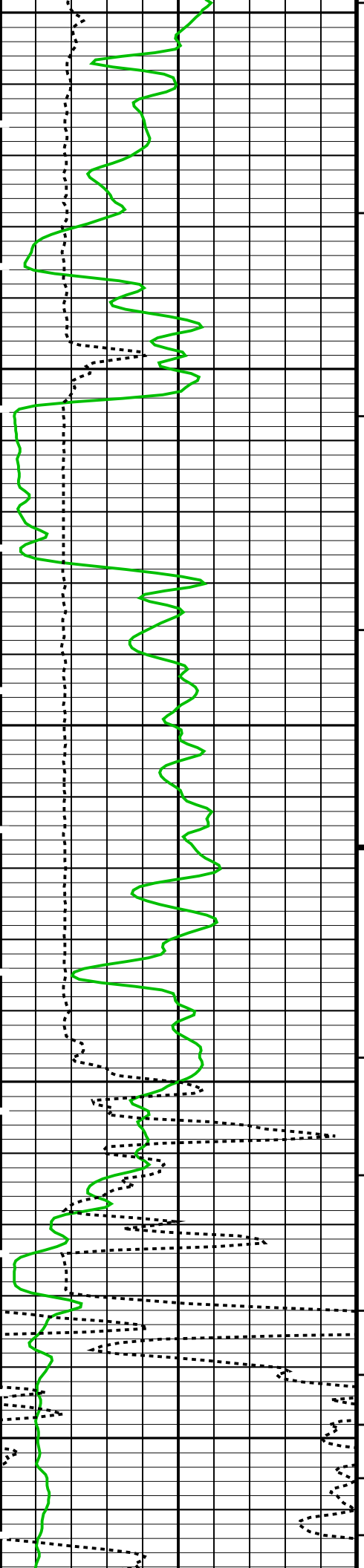


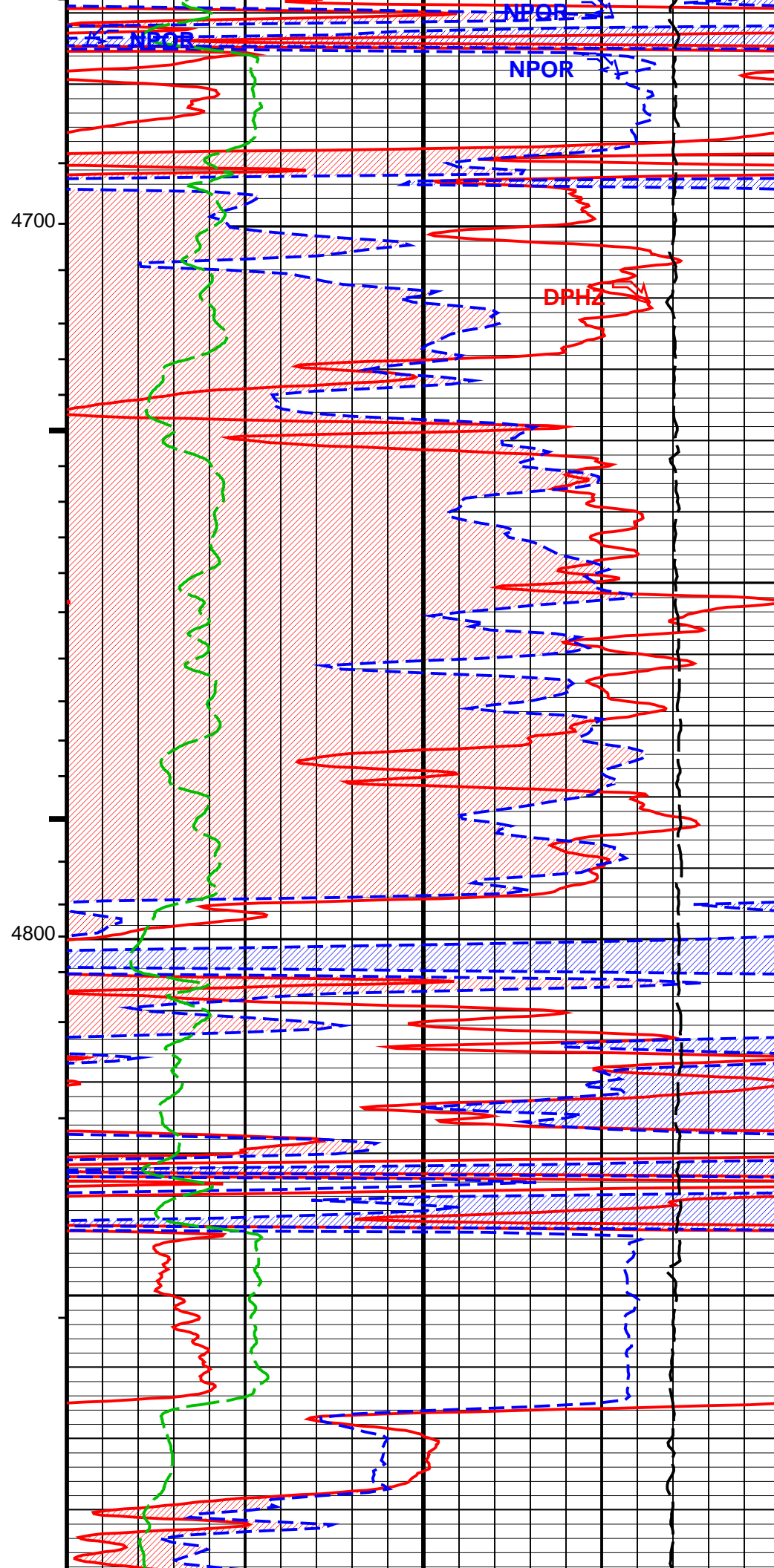
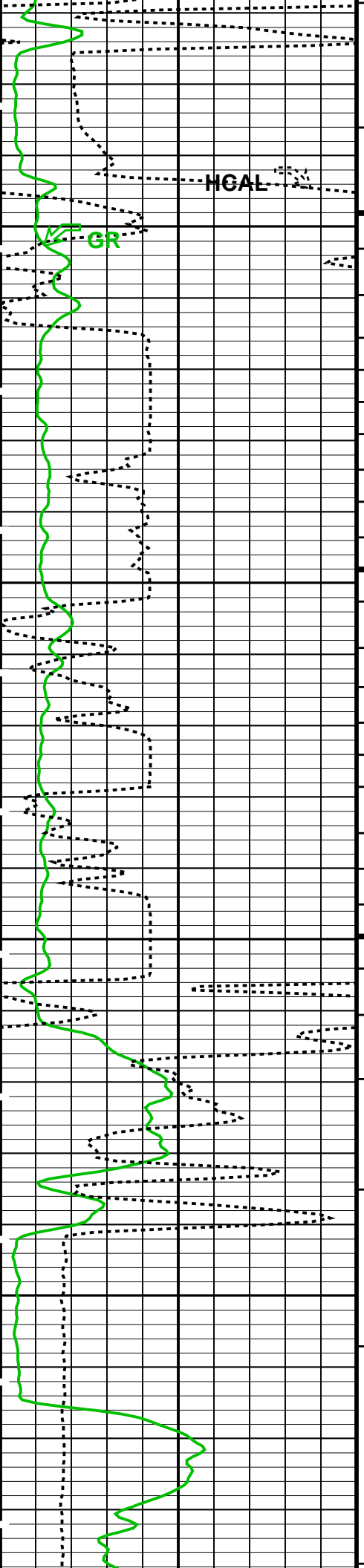


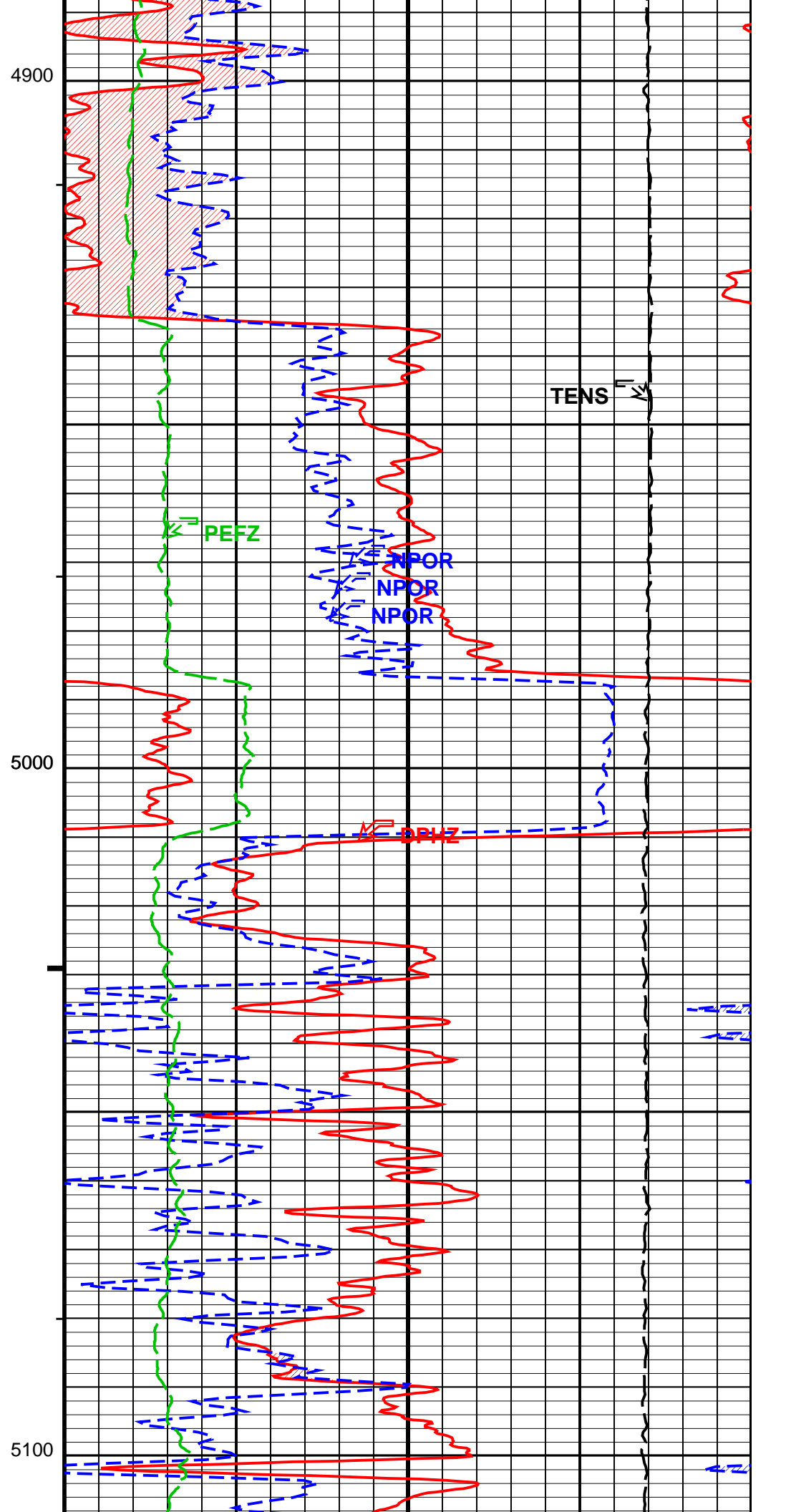
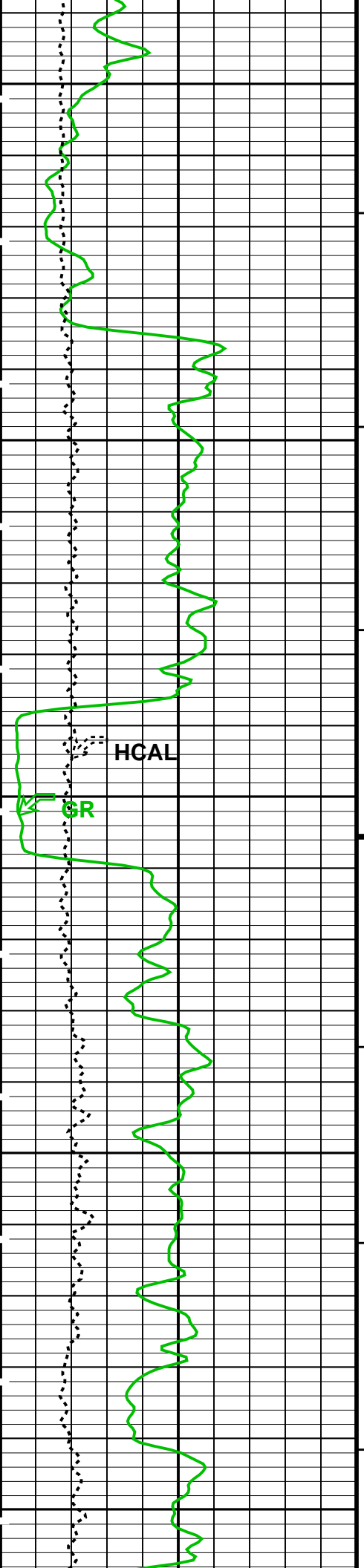
4300

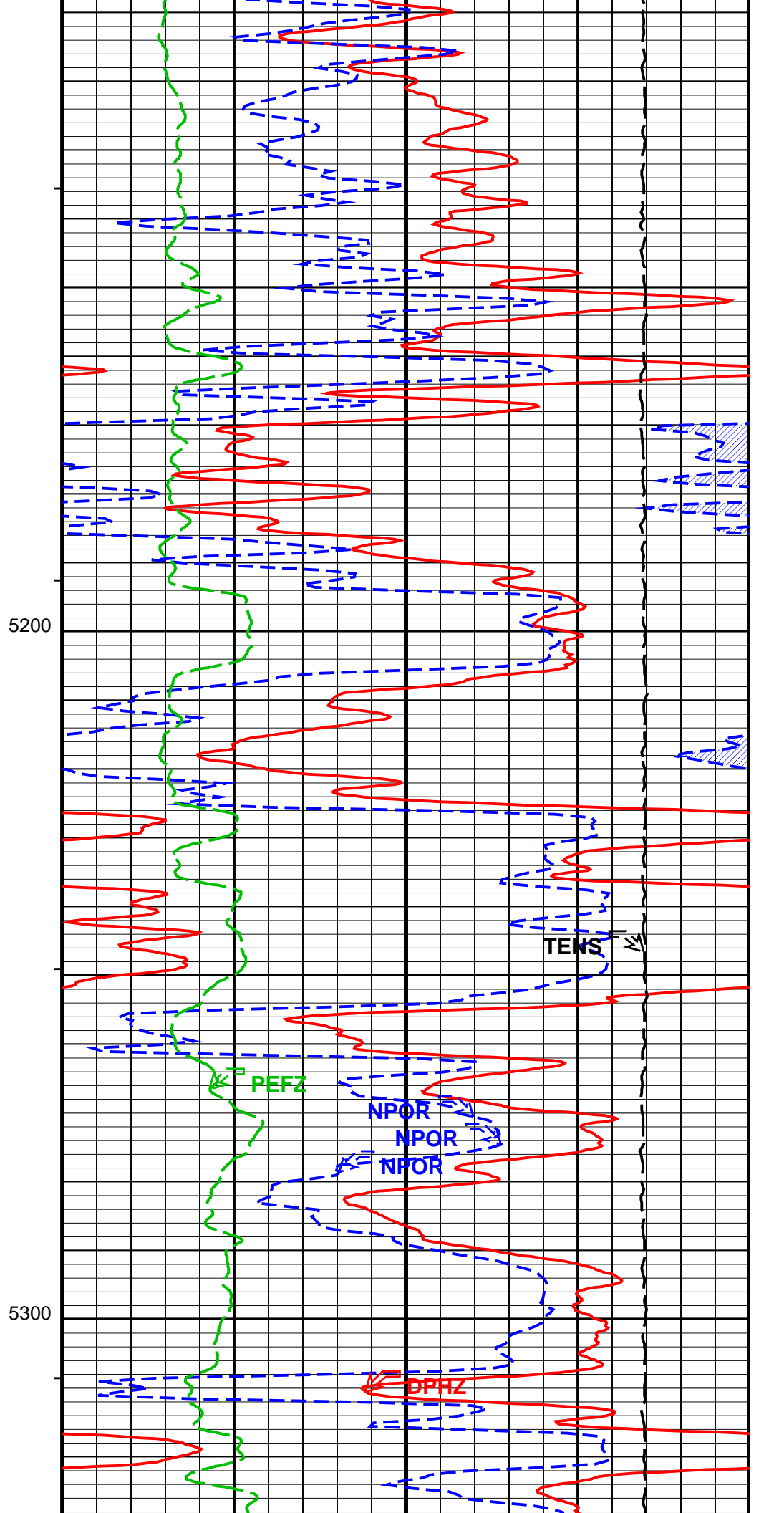
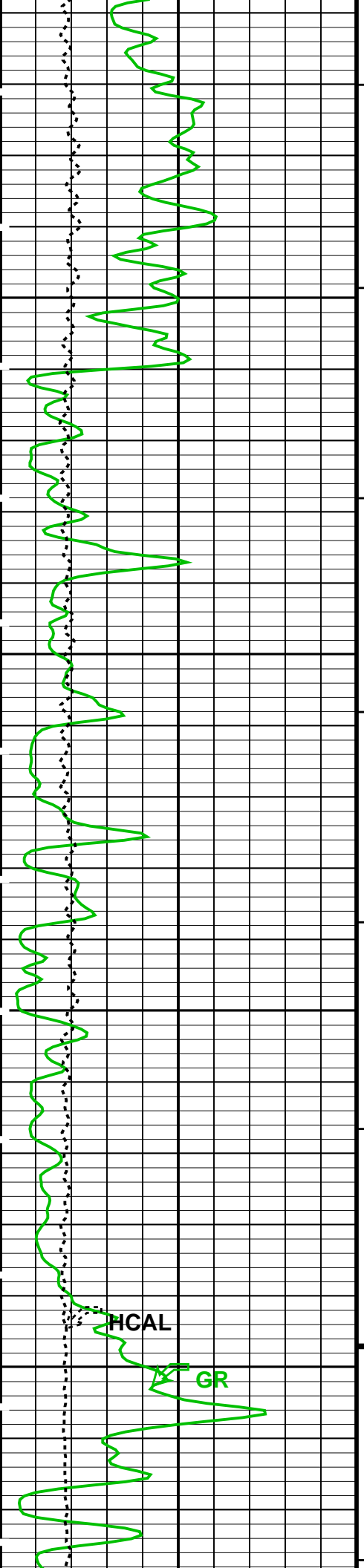
4400



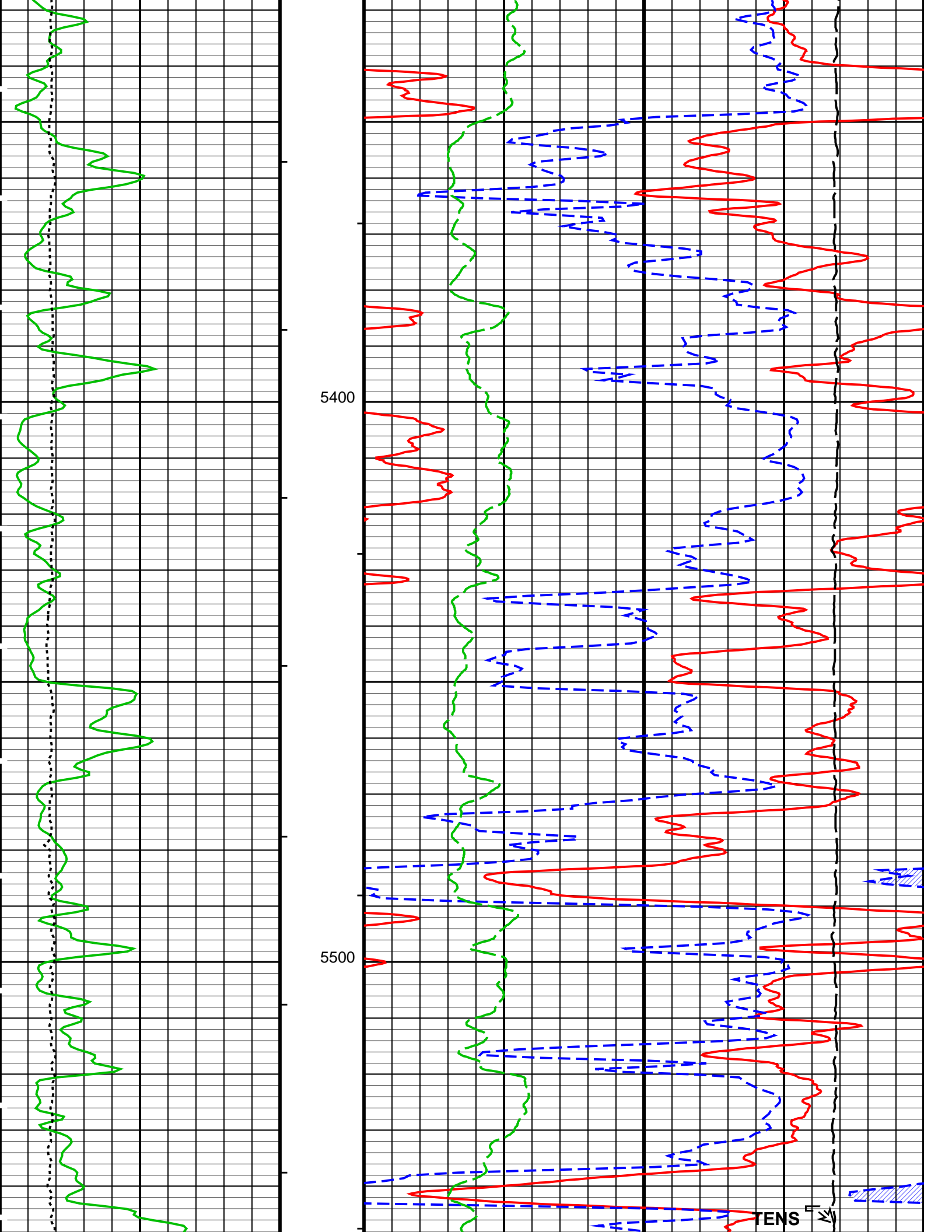


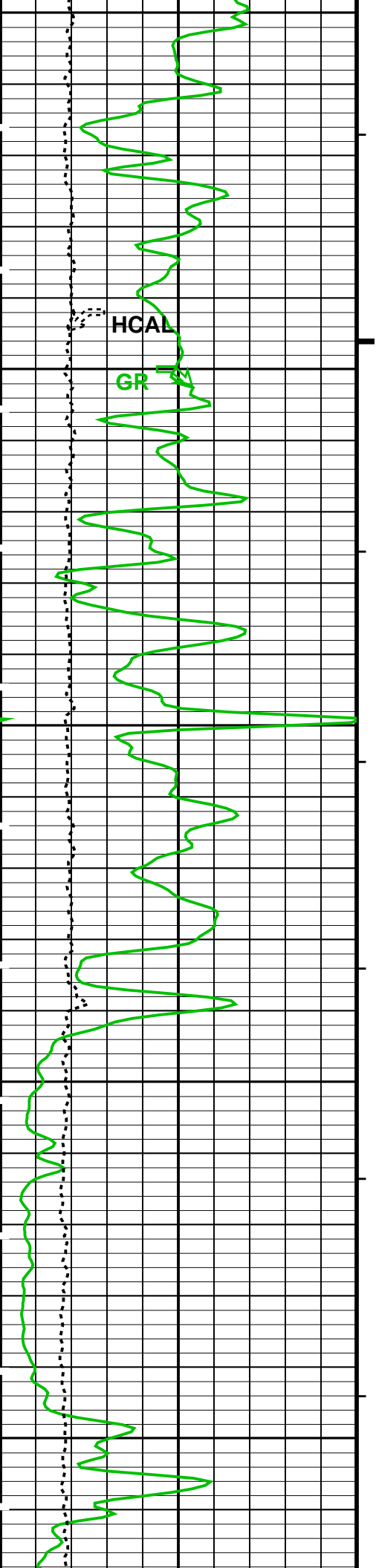






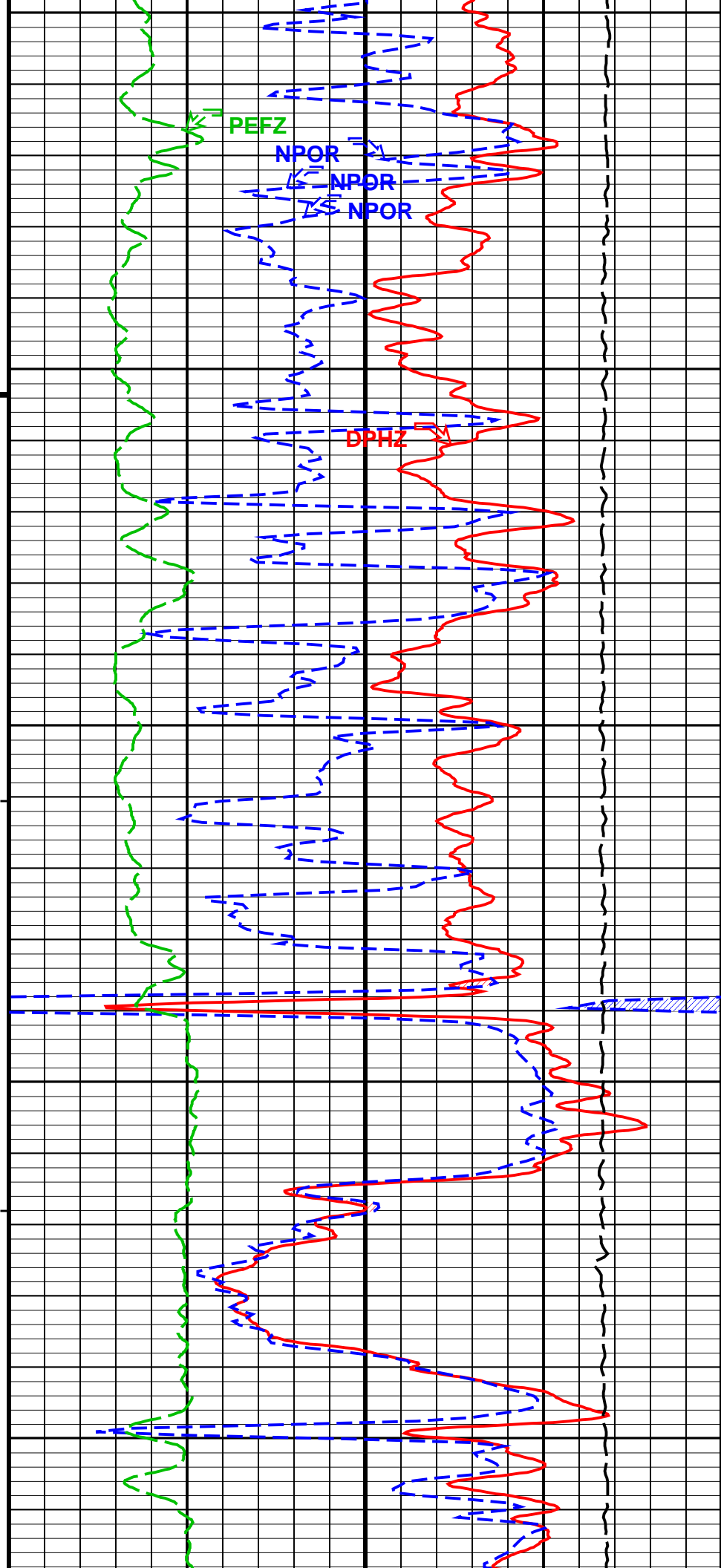


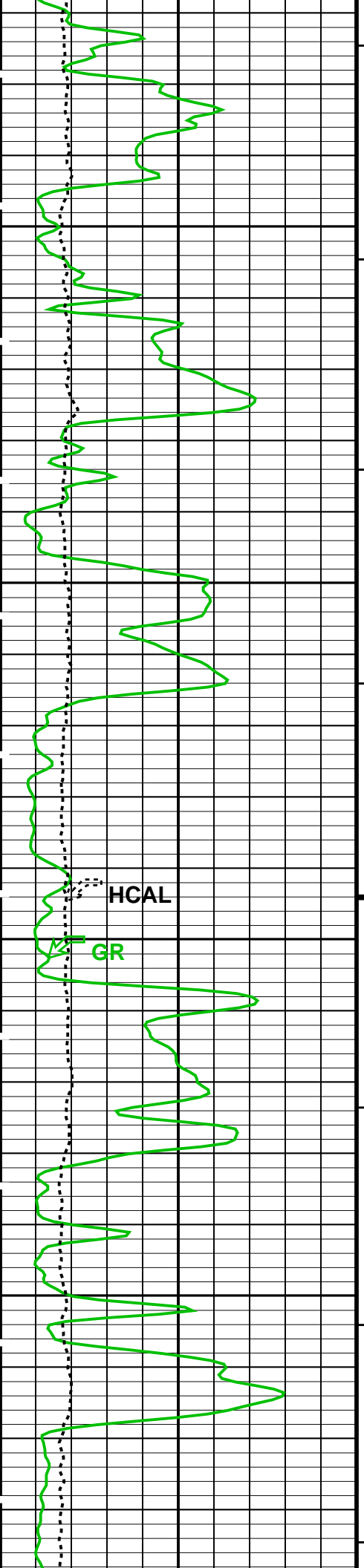




5600

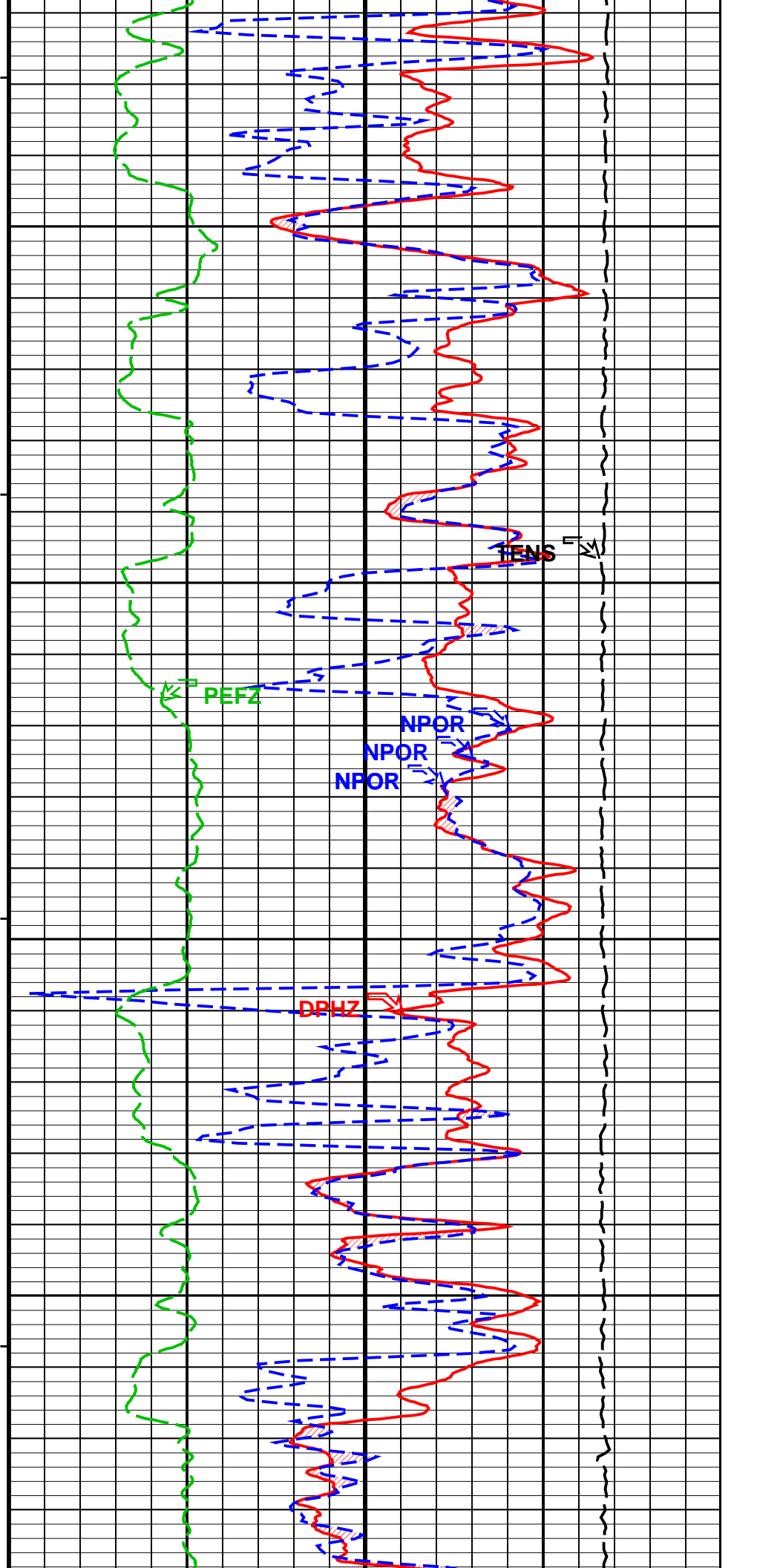
5700

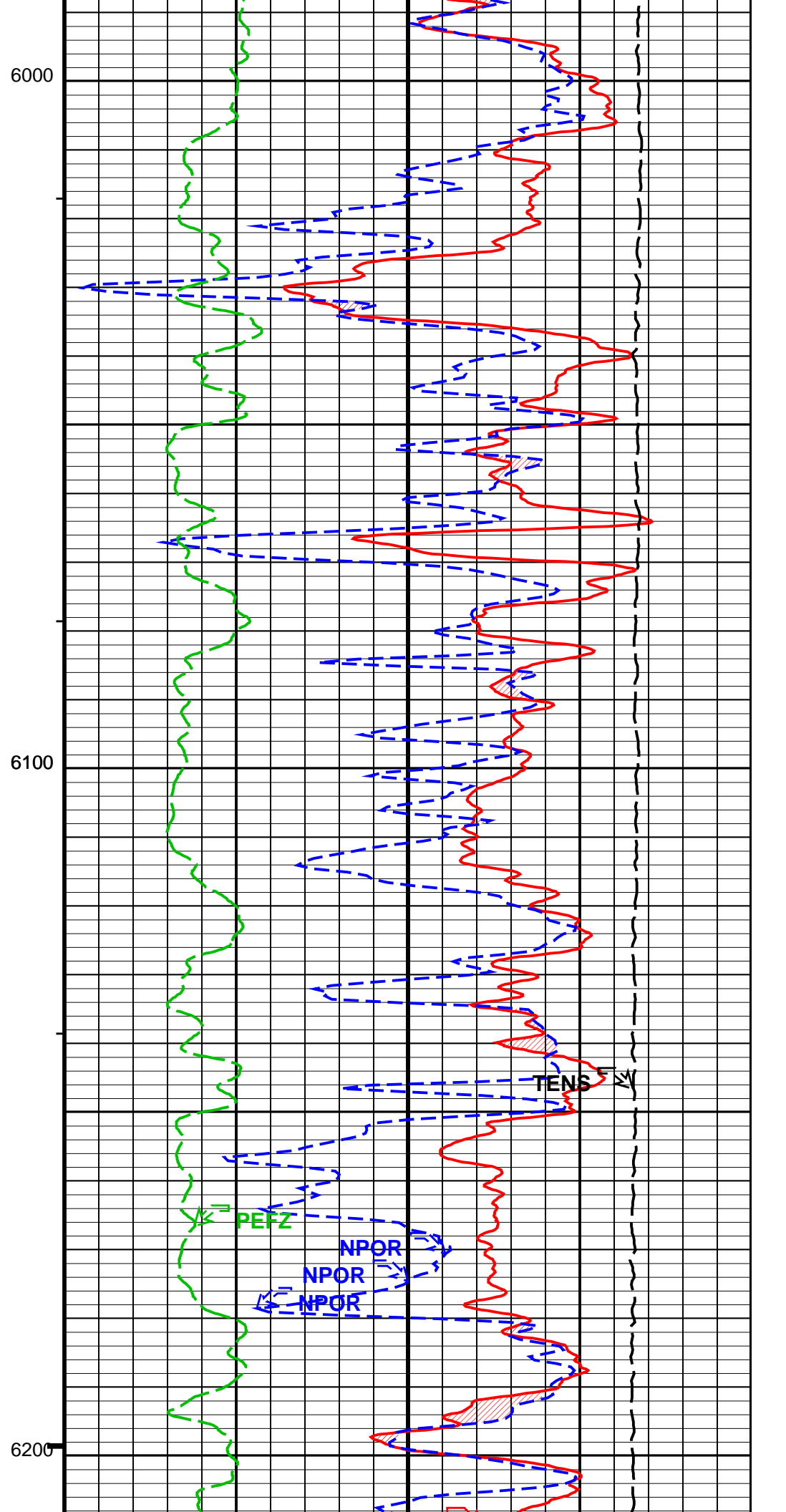
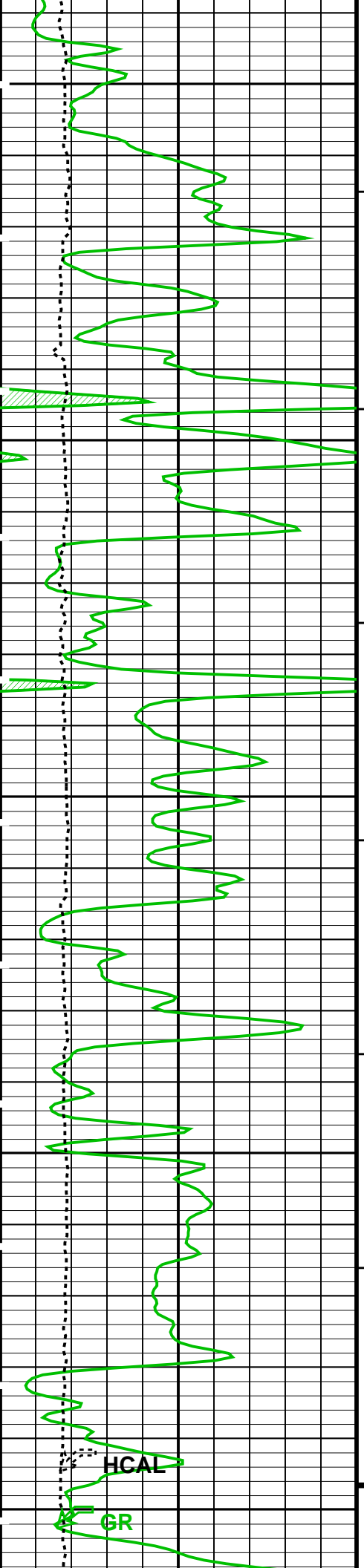


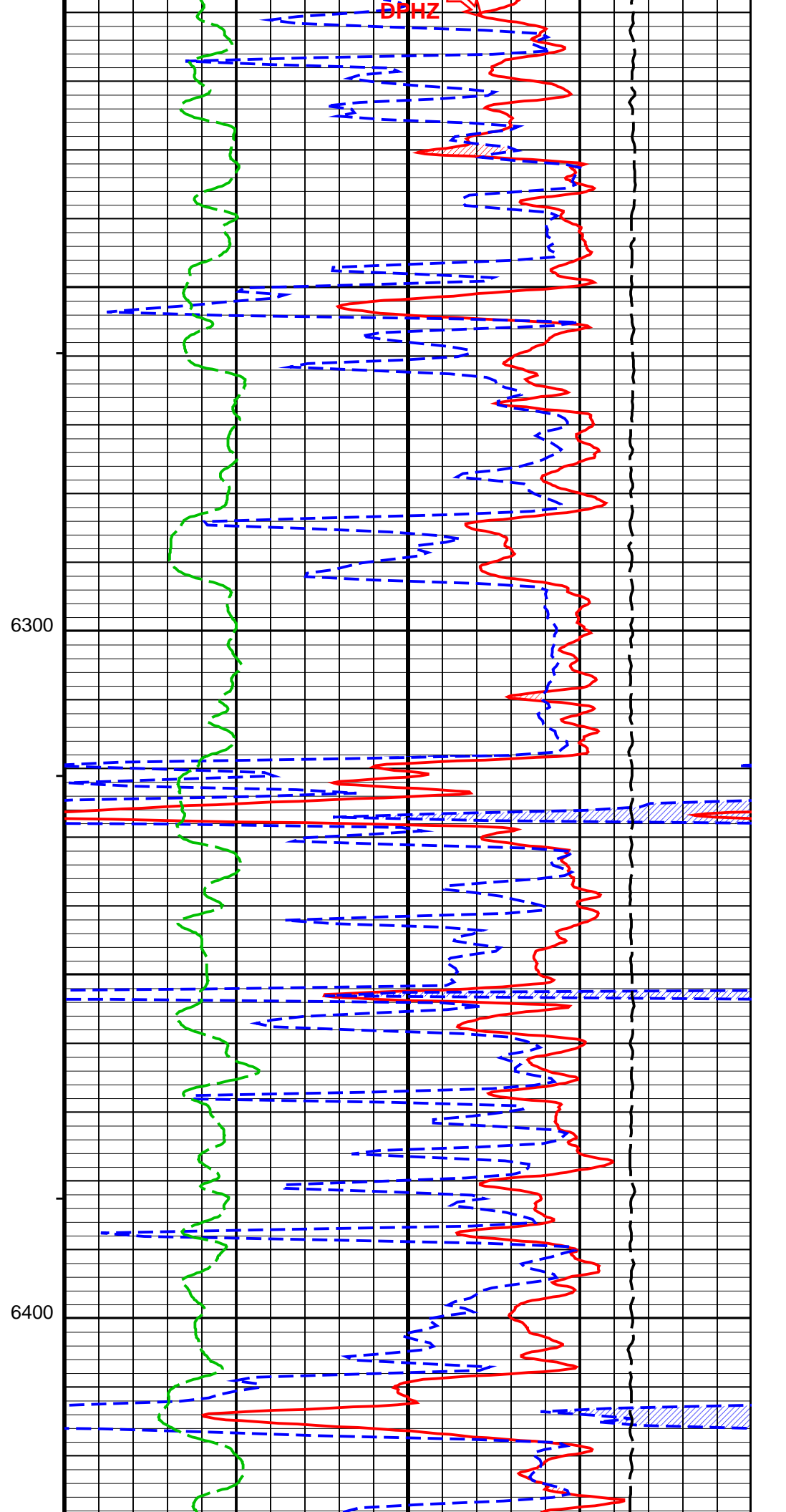
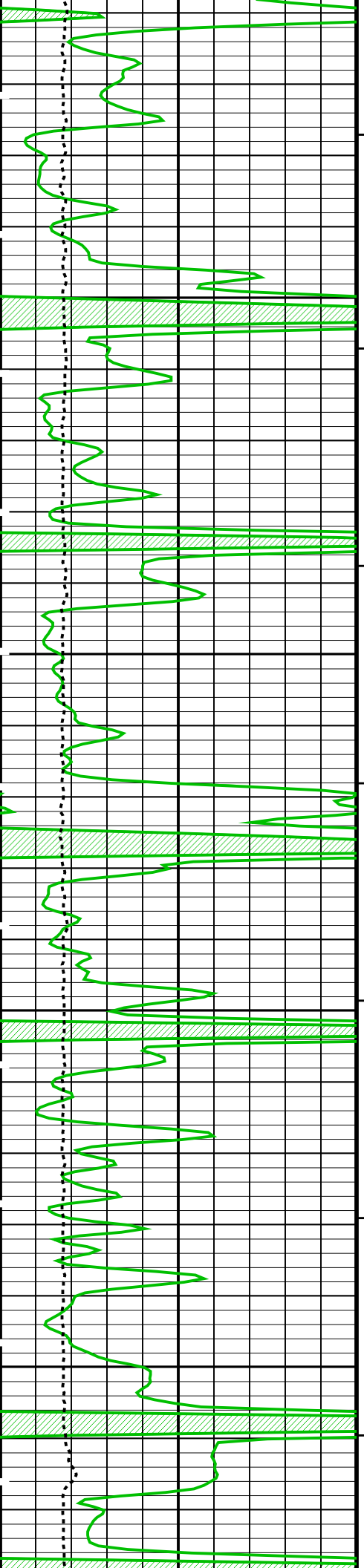


5800

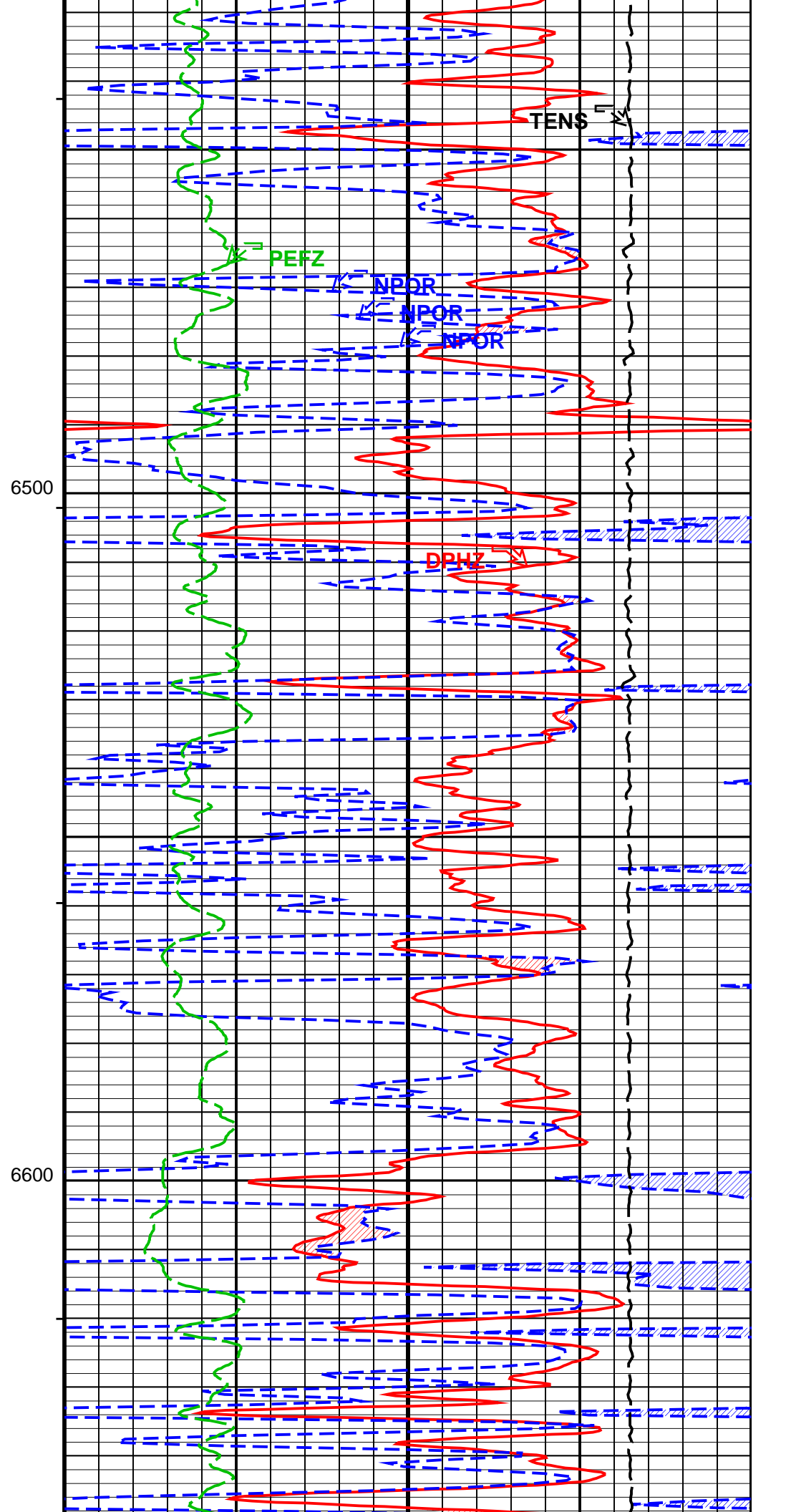
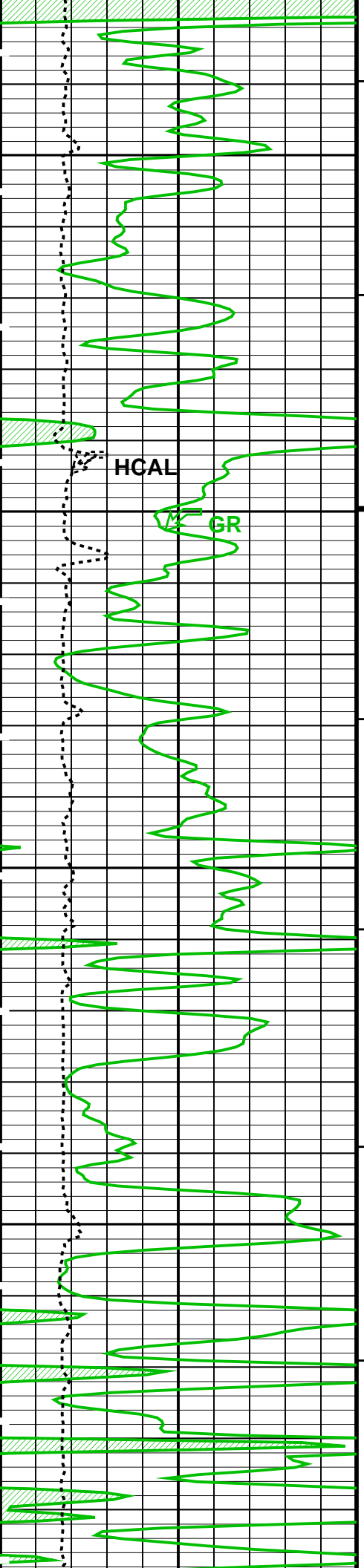
5900

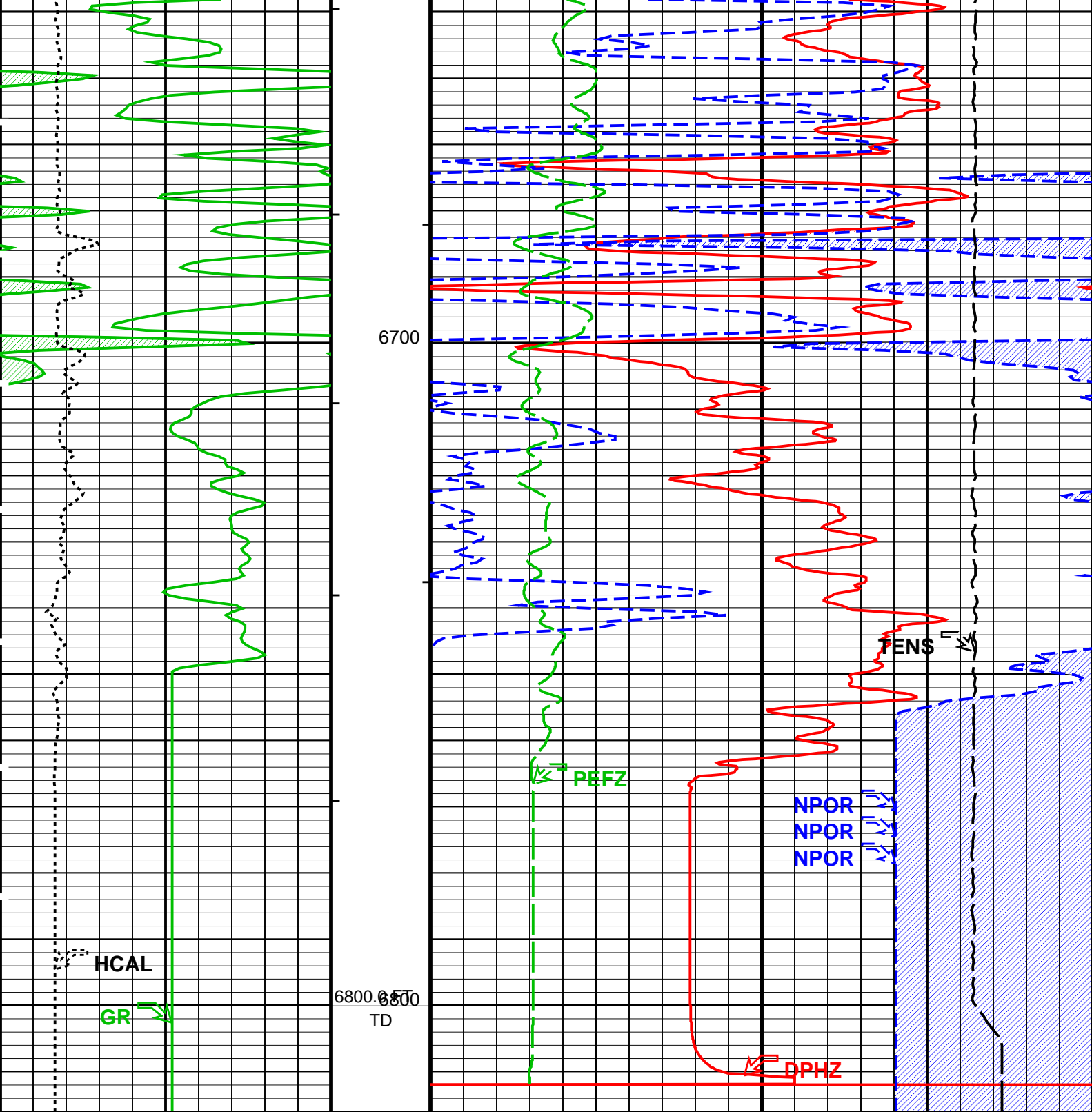












MAIN PASS: \*\*\* PLATFORM EXPRESS - NUCLEAR POROSITY \*\*\*

Gamma Ray Backup		Std. Res. Density Porosity (DPHZ)	
Gamma Ray (GR) (GAPI)		Alpha Processed Neutron Porosity (NPOR)	
Caliper (HCAL) (IN)		Std. Res. Formation Pe (PEFZ)	Tension (TENS)
		Gas Effect	
		NPOR Backup	

- └ Integrated Hole Volume Minor Pip Every 10 F3
- └ Integrated Hole Volume Major Pip Every 100 F3
  - └ Integrated Cement Volume Minor Pip Every 10 F3
  - └ Integrated Cement Volume Major Pip Every 100 F3

Time Mark Every 60 S

## Parameters

DLIS Name	Description	Value	
HAIT-H: Array Induction Tool – H			
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
SHT	Surface Hole Temperature	68	DEGF
HILTH-FTB: High resolution Integrated Logging Tool-DTS			
BHFL	Borehole Fluid Type	WATER	
BHFL_TLD	HILT Nuclear Mud Base	WATER	
BHS	Borehole Status	OPEN	
BSCO	Borehole Salinity Correction Option	NO	
CCCO	Casing & Cement Thickness Correction Option	NO	
DHC	Density Hole Correction	BS	
FD	Fluid Density	1	G/C3
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
HSCO	Hole Size Correction Option	YES	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	NATU	
MDEN	Matrix Density	2.71	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	
CMRT-B: Combinable Magnetic Resonance Tool – B			
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
SHT	Surface Hole Temperature	68	DEGF
HOLEV: Integrated Hole/Cement Volume			
BHS	Borehole Status	OPEN	
FCD	Future Casing (Outer) Diameter	5.5	IN
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
HVCS	Integrated Hole Volume Caliper Selection	AUTOMATIC	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
SHT	Surface Hole Temperature	68	DEGF
PERT: Preliminary Evaluation – Real Time			
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
SHT	Surface Hole Temperature	68	DEGF
STI: Stuck Tool Indicator			
TDL	Total Depth – Logger	6800.00	FT
System and Miscellaneous			
BS	Bit Size	7.875	IN
BSAL	Borehole Salinity	–50000.00	PPM
CSIZ	Current Casing Size	8.625	IN
DO	Depth Offset for Playback	0.0	FT
MST	Mud Sample Temperature	95.00	DEGF
PP	Playback Processing	RECOMPUTE	
RMFS	Resistivity of Mud Filtrate Sample	0.0830	OHMM
TD	Total Depth	6800	FT

# OP System Version: 19C2-270

HAIT-H	19C2-270	DSLT-FTB	19C2-270
HILTH-FTB	19C2-270	CMRT-B	19C2-270
DTC-H	19C2-270		

## Input DLIS Files

DEFAULT	Splice_AIT_SONIC_032CUP	FN:1	PRODUCER	05-Aug-2013 19:39	6816.0 FT	99.5 FT
---------	-------------------------	------	----------	-------------------	-----------	---------

## Output DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_033PUP	FN:31	PRODUCER	05-Aug-2013 19:41
---------	---------------------------	-------	----------	-------------------

**Schlumberger**

## REPEAT ANALYSIS

MAXIS Field Log

## Input DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_014PUP	FN:13	PRODUCER	05-Aug-2013 10:06	6816.0 FT	6508.0 FT
---------	---------------------------	-------	----------	-------------------	-----------	-----------

## Output DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_015LUP	FN:14	PRODUCER	05-Aug-2013 10:10
---------	---------------------------	-------	----------	-------------------

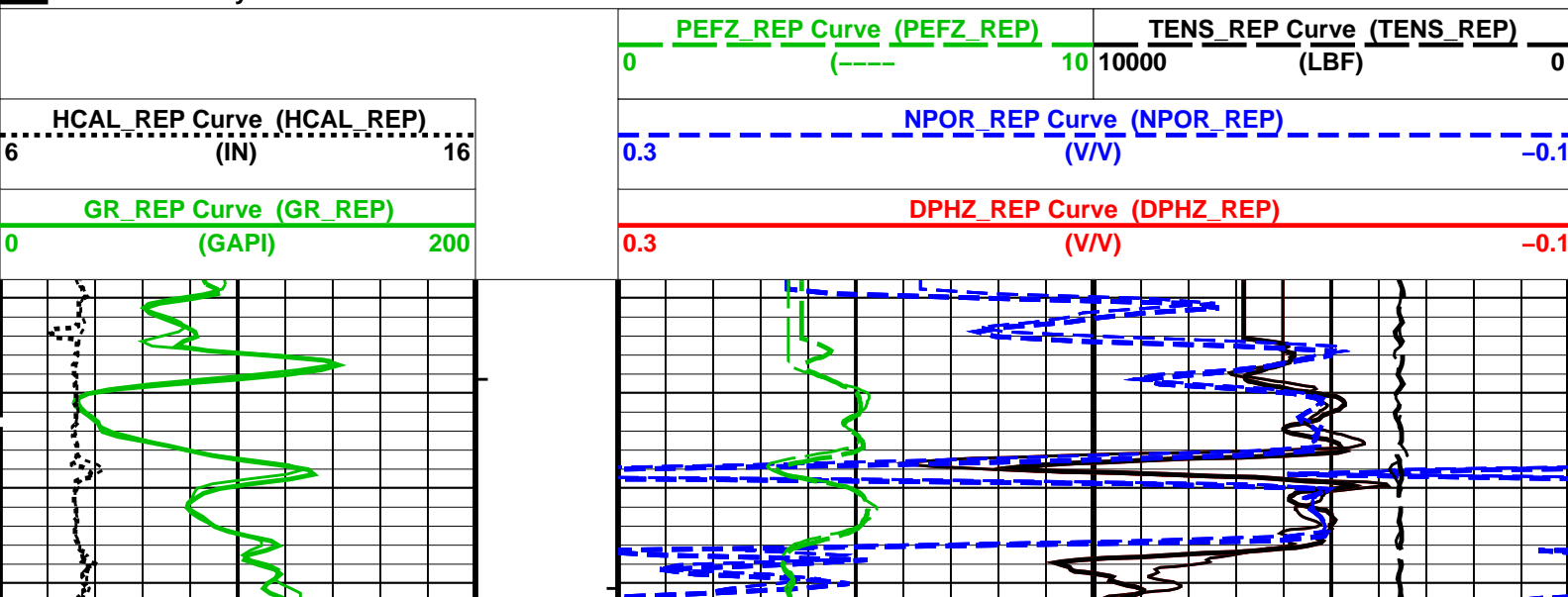
# OP System Version: 19C2-270

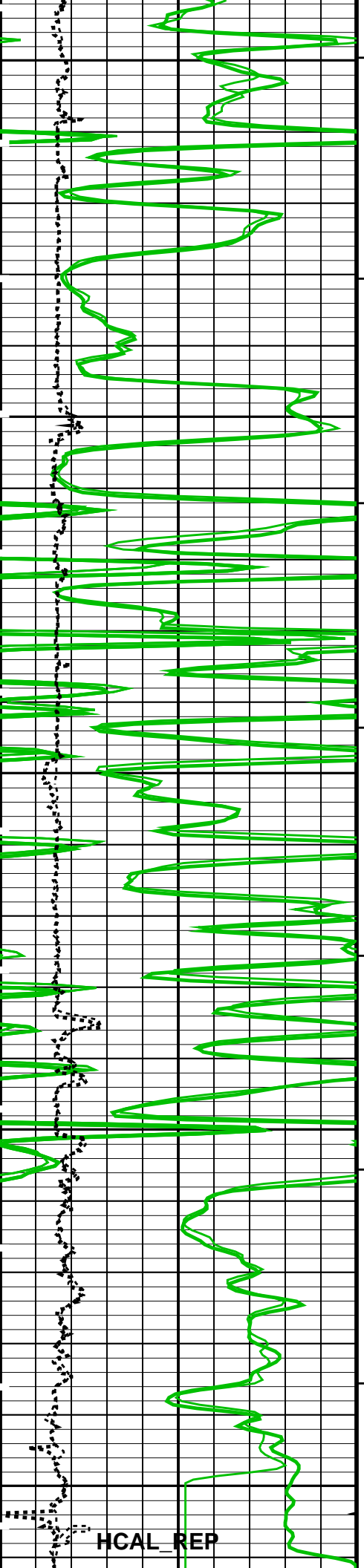
HAIT-H	19C2-270	DSLT-FTB	19C2-270
HILTH-FTB	19C2-270	CMRT-B	19C2-270
DTC-H	19C2-270		

## PIP SUMMARY

- └ Integrated Hole Volume Minor Pip Every 10 F3
- └ Integrated Hole Volume Major Pip Every 100 F3
  - └ Integrated Cement Volume Minor Pip Every 10 F3
  - └ Integrated Cement Volume Major Pip Every 100 F3

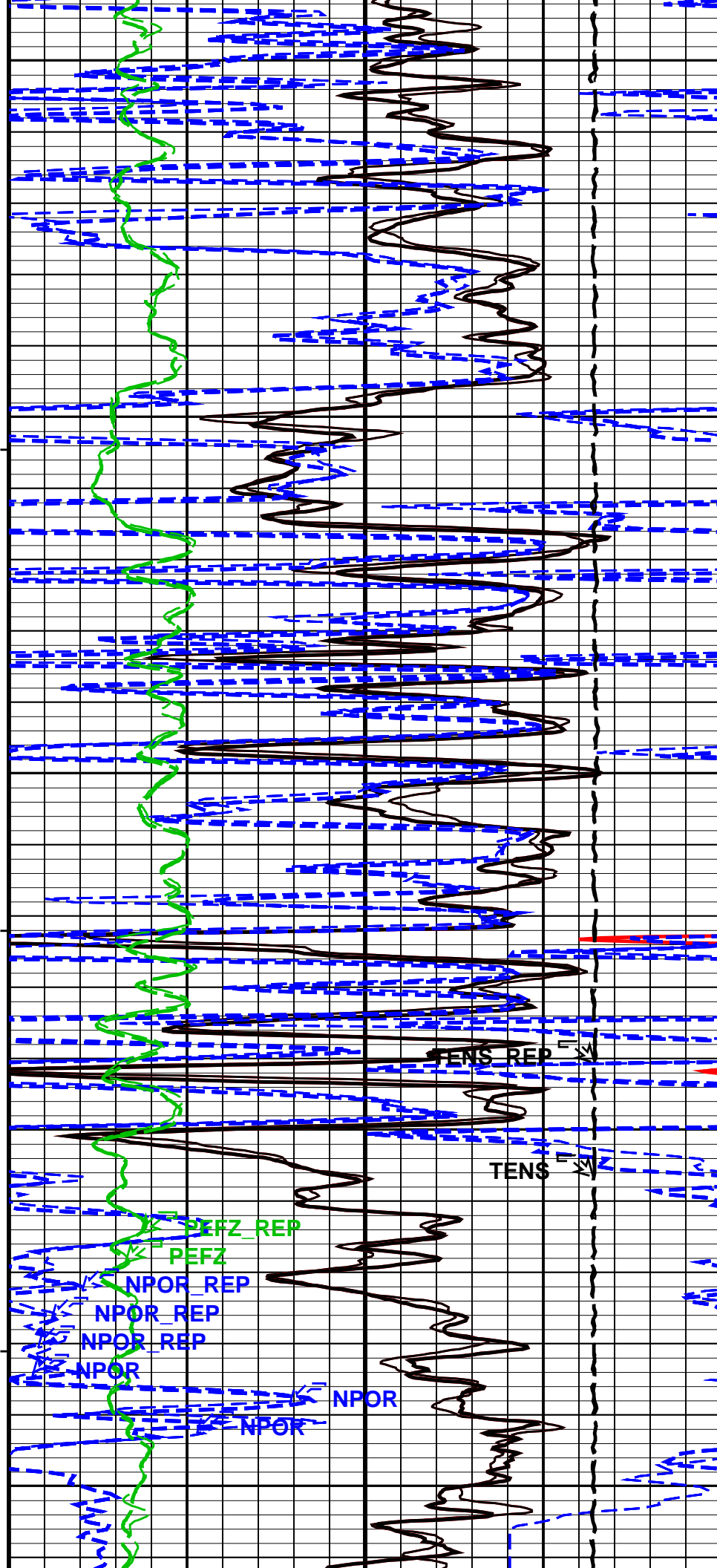
Time Mark Every 60 S



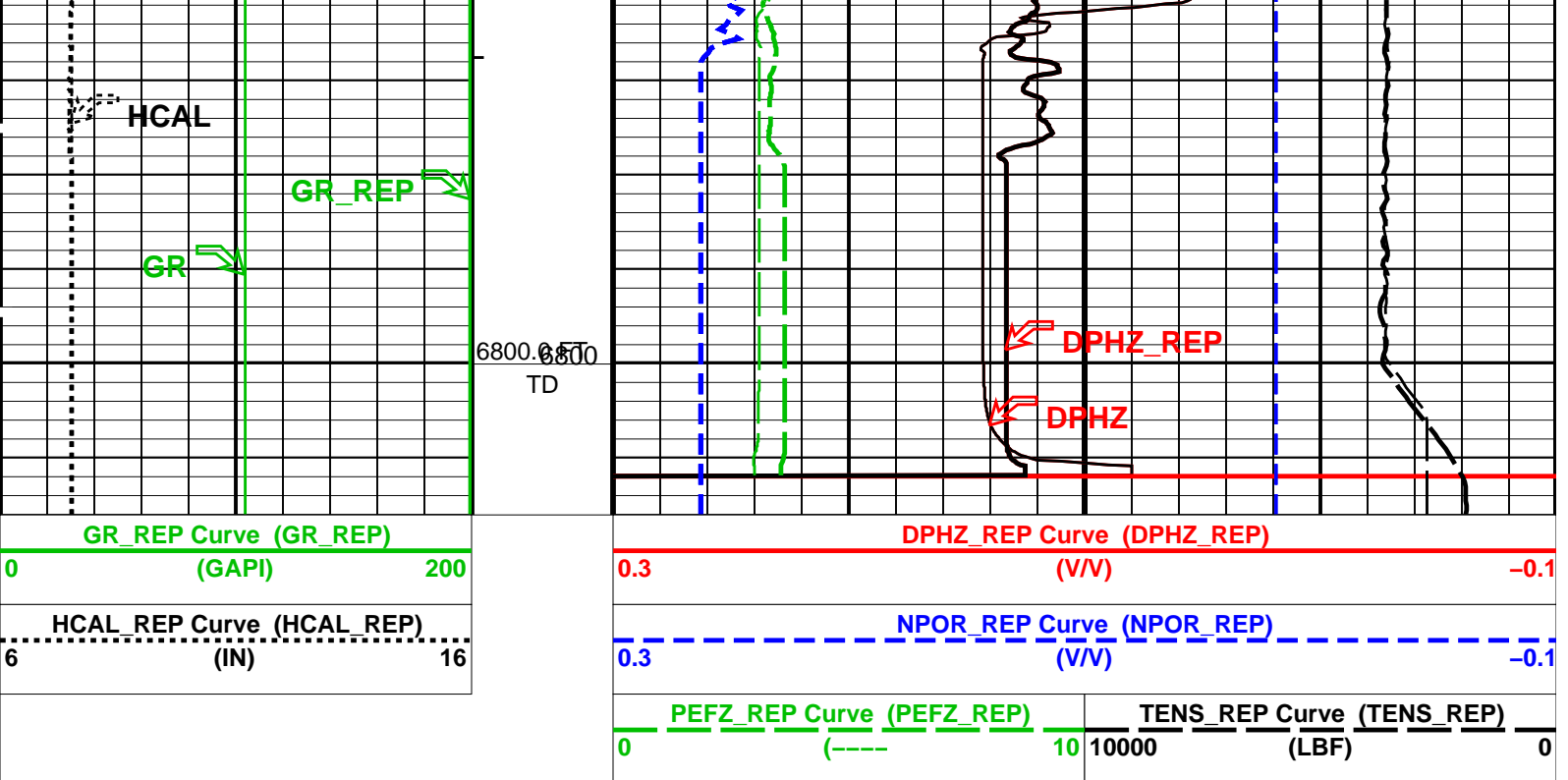


6600

6700







#### PIP SUMMARY

- └ Integrated Hole Volume Minor Pip Every 10 F3
- └ Integrated Hole Volume Major Pip Every 100 F3
- └ Integrated Cement Volume Minor Pip Every 10 F3
- └ Integrated Cement Volume Major Pip Every 100 F3

Time Mark Every 60 S

#### Parameters

DLIS Name	Description	Value
HAIT-H: Array Induction Tool - H		
BHS	Borehole Status	OPEN
GCSE	Generalized Caliper Selection	HCAL
GDEV	Average Angular Deviation of Borehole from Normal	0 DEG
GGRD	Geothermal Gradient	0.01 DF/F
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE
SHT	Surface Hole Temperature	68 DEGF
HILTH-FTB: High resolution Integrated Logging Tool-DTS		
BHFL	Borehole Fluid Type	WATER
BHFL_TLD	HILT Nuclear Mud Base	WATER
BHS	Borehole Status	OPEN
BSCO	Borehole Salinity Correction Option	NO
CCCO	Casing & Cement Thickness Correction Option	NO
DHC	Density Hole Correction	BS
FD	Fluid Density	1 G/C3
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
HSCO	Hole Size Correction Option	YES
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE
MCCO	Mud Cake Correction Option	NO
MCOR	Mud Correction	NATU
MDEN	Matrix Density	2.71 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
CMRT-B: Combinable Magnetic Resonance Tool - B		
BHS	Borehole Status	OPEN
GCSE	Generalized Caliper Selection	HCAL

GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
SHT	Surface Hole Temperature	68	DEGF
HOLEV: Integrated Hole/Cement Volume			
BHS	Borehole Status	OPEN	
FCD	Future Casing (Outer) Diameter	5.5	IN
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
HVCS	Integrated Hole Volume Caliper Selection	AUTOMATIC	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
SHT	Surface Hole Temperature	68	DEGF
PERT: Preliminary Evaluation – Real Time			
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
SHT	Surface Hole Temperature	68	DEGF
STI: Stuck Tool Indicator			
TDL	Total Depth – Logger	6800.00	FT
System and Miscellaneous			
BS	Bit Size	7.875	IN
BSAL	Borehole Salinity	-50000.00	PPM
DFD	Drilling Fluid Density	9.70	LB/G
DORL	Depth Offset for Repeat Analysis	0.0	FT
MST	Mud Sample Temperature	95.00	DEGF
RMFS	Resistivity of Mud Filtrate Sample	0.0830	OHMM
TD	Total Depth	6800	FT

Format: PORO\_REP      Vertical Scale: 5" per 100'      Graphics File Created: 05-Aug-2013 10:10

## OP System Version: 19C2-270

HAIT-H	19C2-270	DSLT-FTB	19C2-270
HILTH-FTB	19C2-270	CMRT-B	19C2-270
DTC-H	19C2-270		

## Input DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_014PUP	FN:13	PRODUCER	05-Aug-2013 10:06	6816.0 FT	6508.0 FT
---------	---------------------------	-------	----------	-------------------	-----------	-----------

## Output DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_015LUP	FN:14	PRODUCER	05-Aug-2013 10:10		
---------	---------------------------	-------	----------	-------------------	--	--

**Schlumberger**

**MAIN DENSITY 5" = 100'**

MAXIS Field Log

## Input DLIS Files

DEFAULT	Splice_AIT_SONIC_032CUP	FN:1	PRODUCER	05-Aug-2013 19:39	6816.0 FT	99.5 FT
---------	-------------------------	------	----------	-------------------	-----------	---------

## Output DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_033PUP	FN:31	PRODUCER	05-Aug-2013 19:41	6816.0 FT	100.0 FT
---------	---------------------------	-------	----------	-------------------	-----------	----------

## OP System Version: 19C2-270

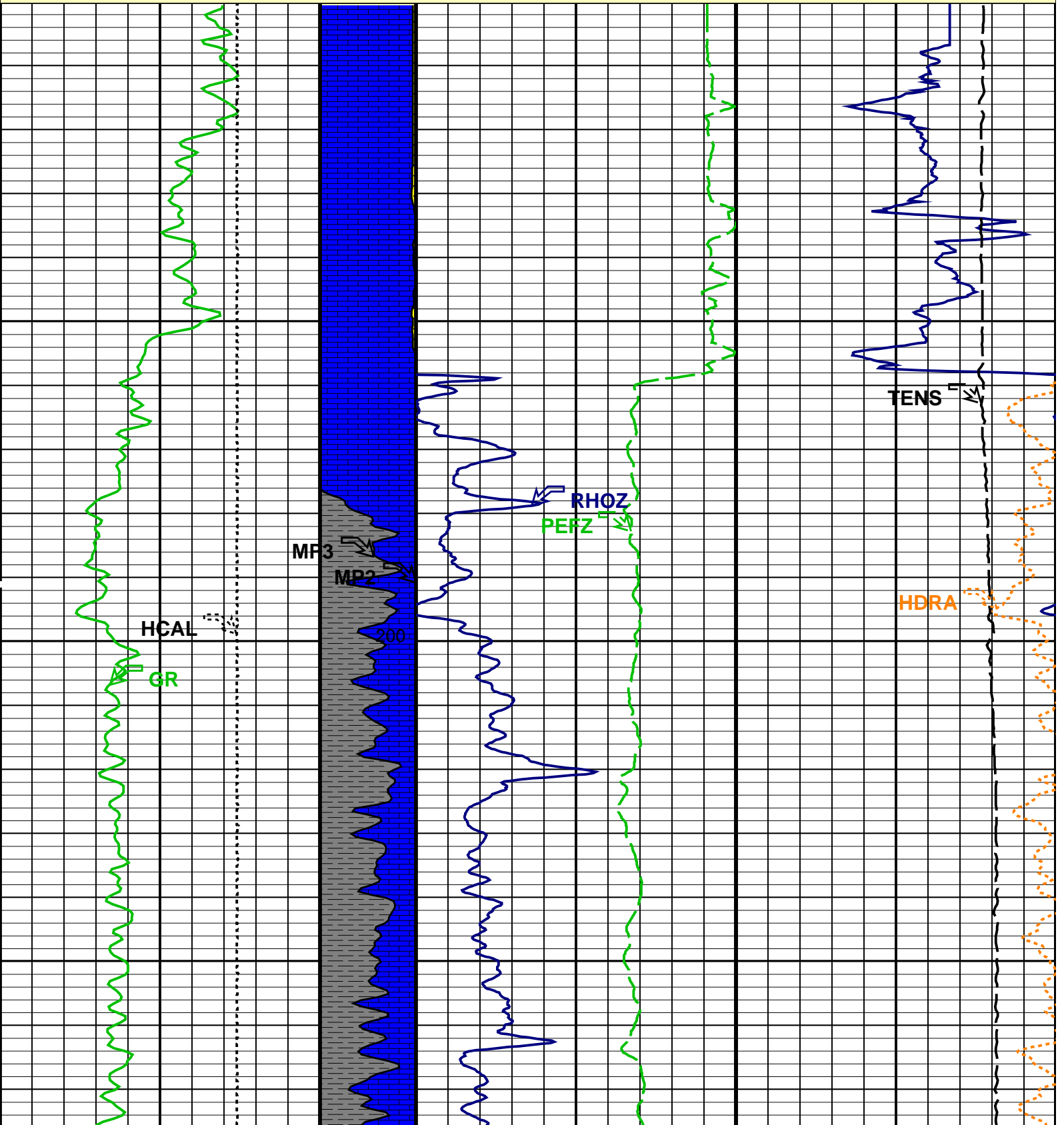
HAIT-H	19C2-270	DSLT-FTB	19C2-270
HILTH-FTB	19C2-270	CMRT-B	19C2-270
DTC-H	19C2-270		

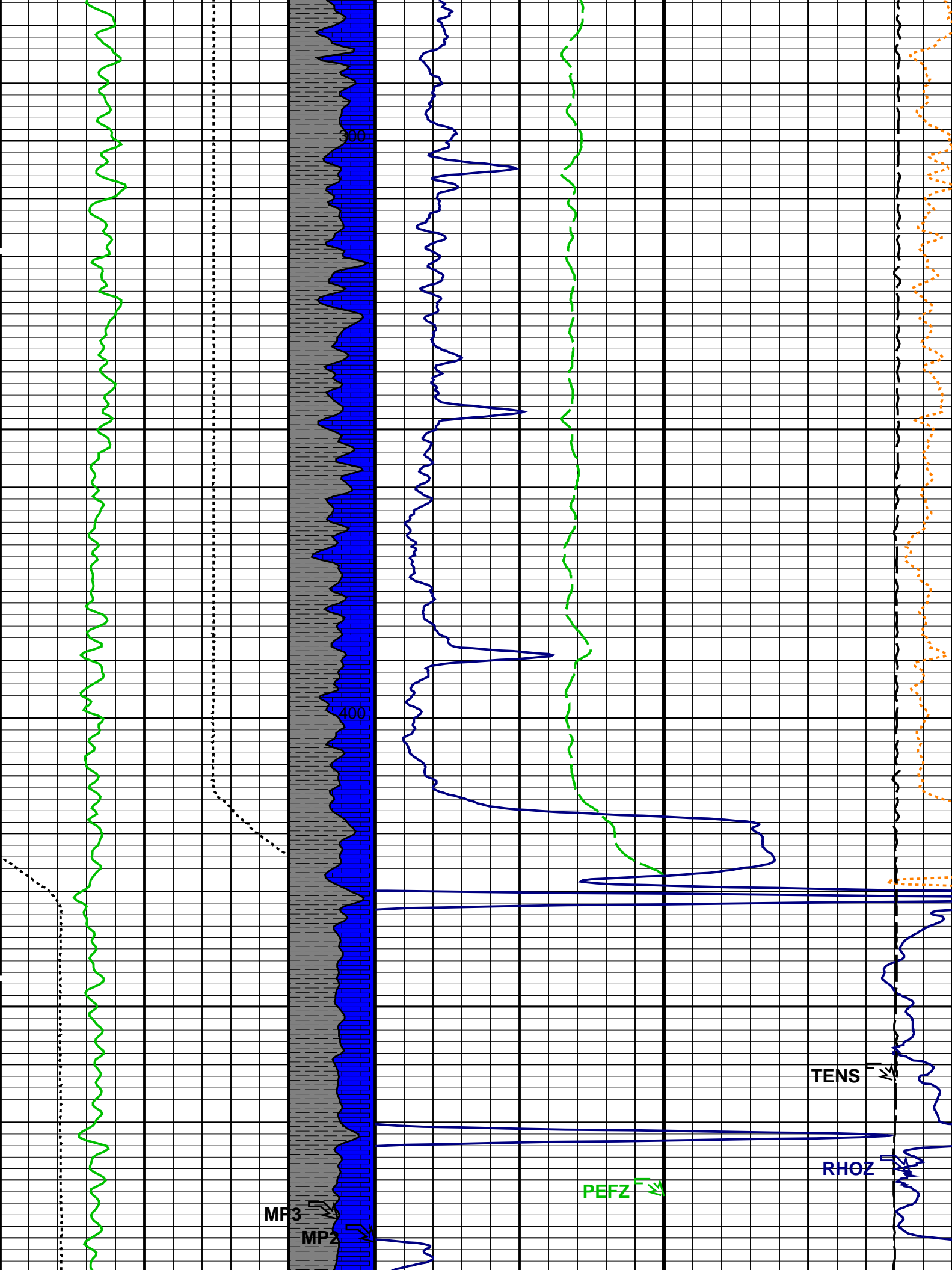
# PIP SUMMARY

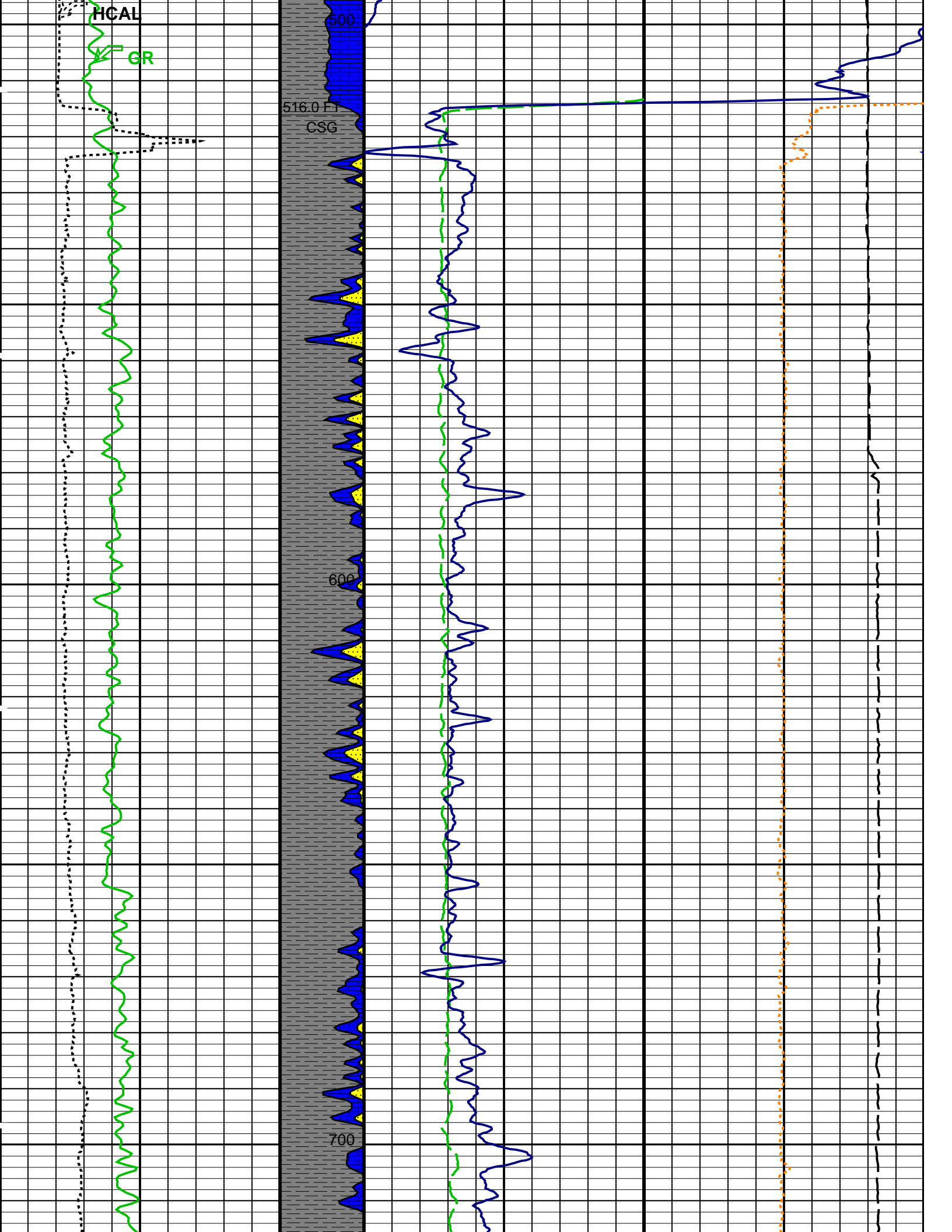
Time Mark Every 60 S

Caliper (HCAL) (IN)		SHALE	Tension (TENS) (LBF)	
6	16		10000	0
Gamma Ray (GR) (GAPI)		SAND	Std. Res. Formation Density (RHOZ) (G/C3)	
0	200		2	3
Gamma Ray Backup		LIME	Std. Res. Formation Pe (PEFZ) (-----)	Density Correction (HDRA) (G/C3)
			0 10	-0.25 0.25

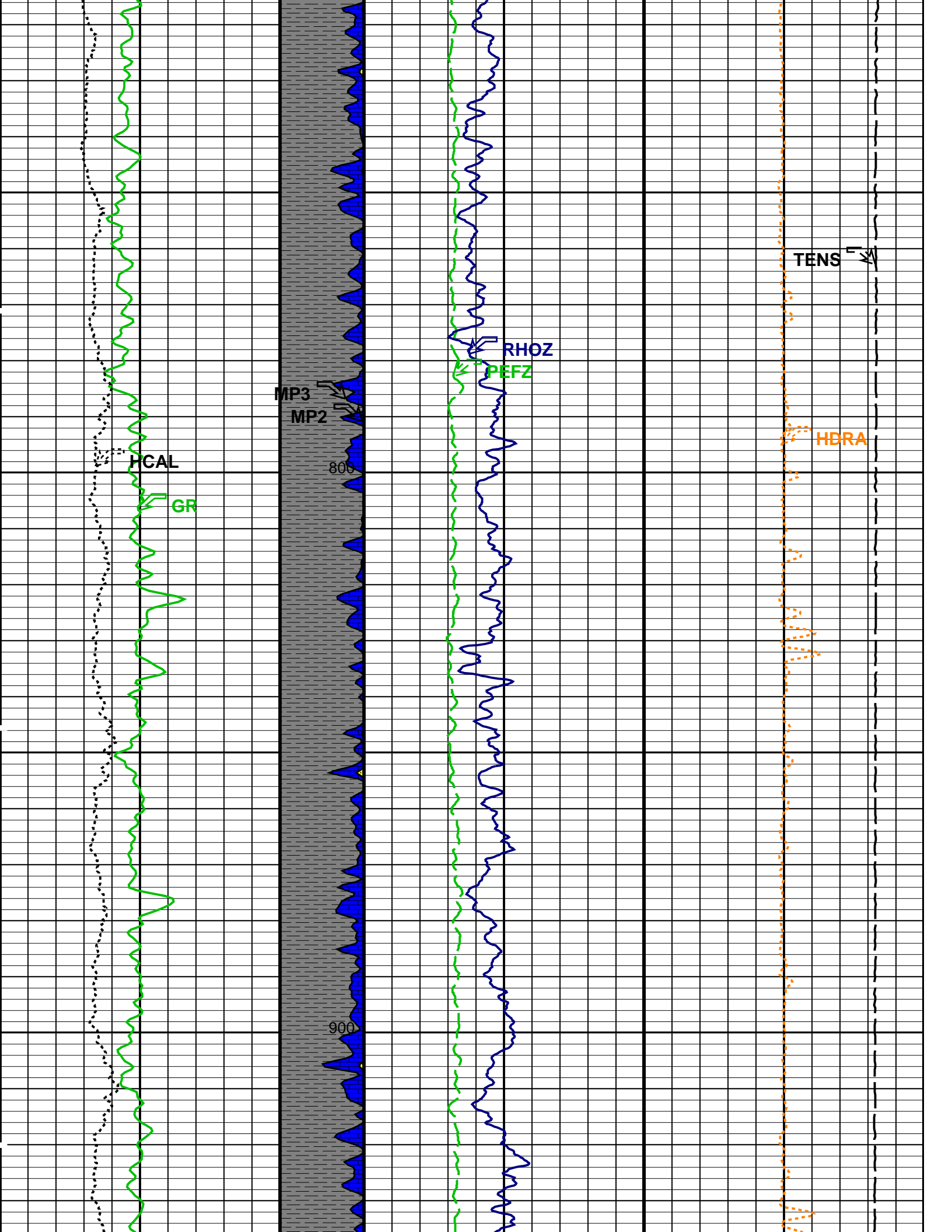
MAIN PASS: \*\*\* PLATFORM EXPRESS - LITHOLOGY DENSITY \*\*\*

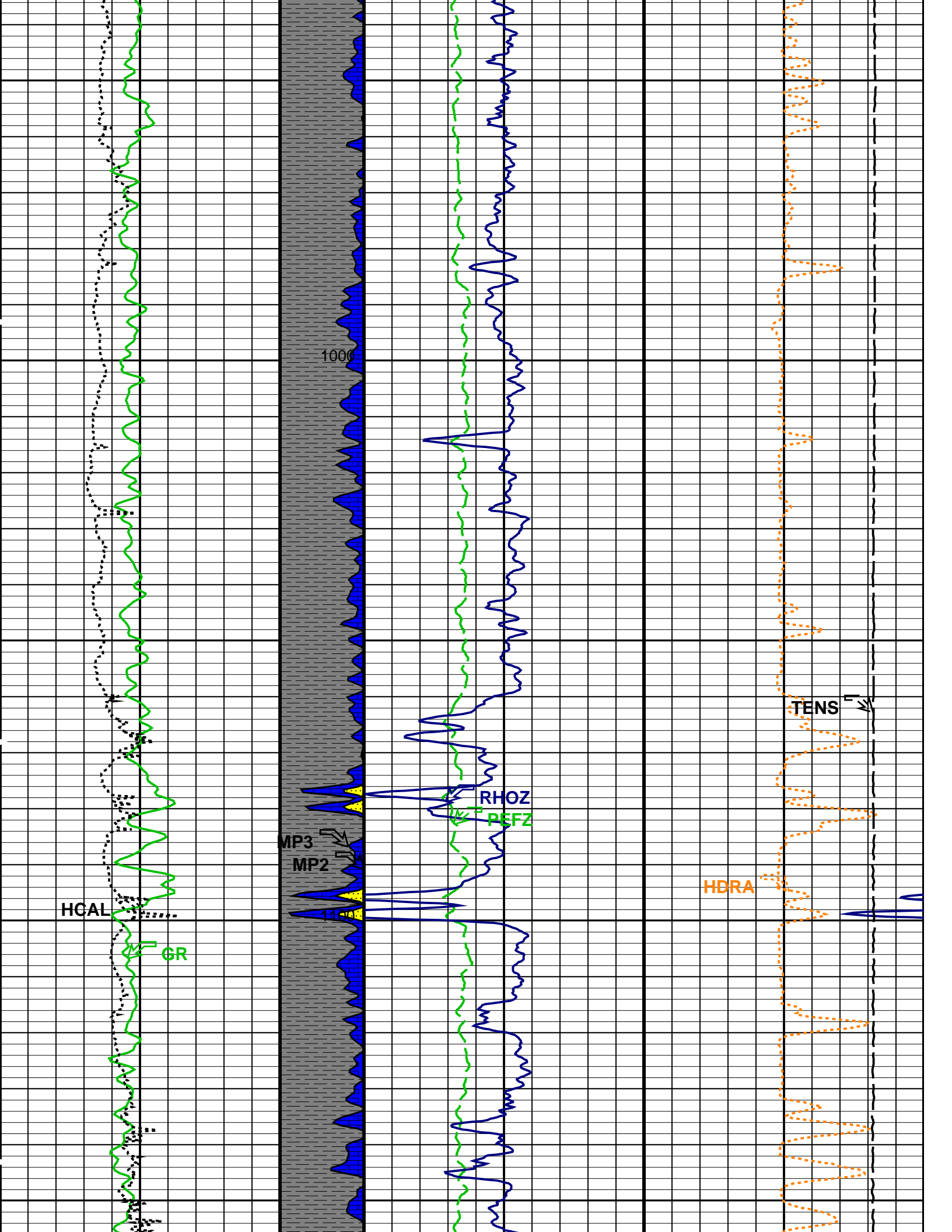


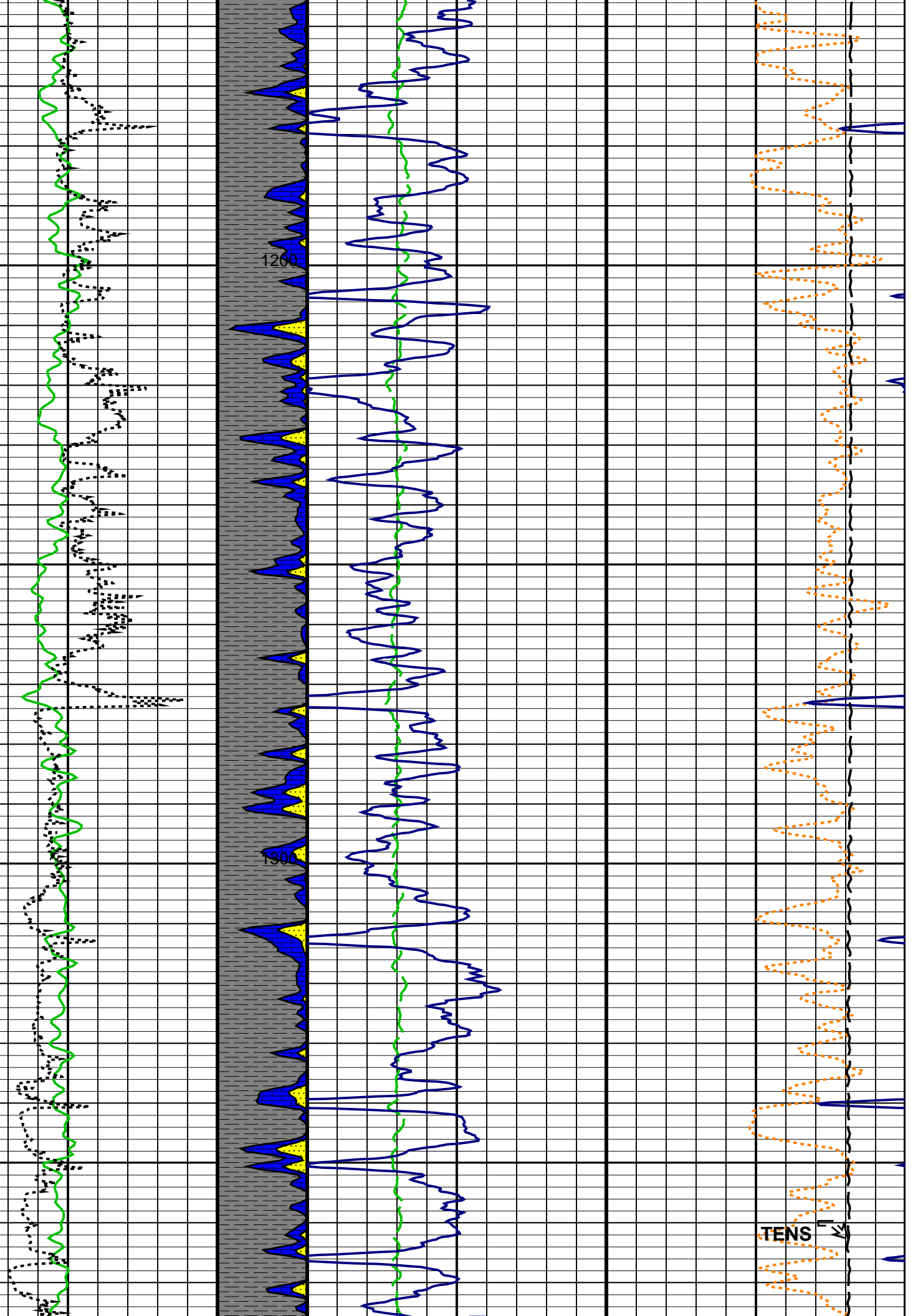


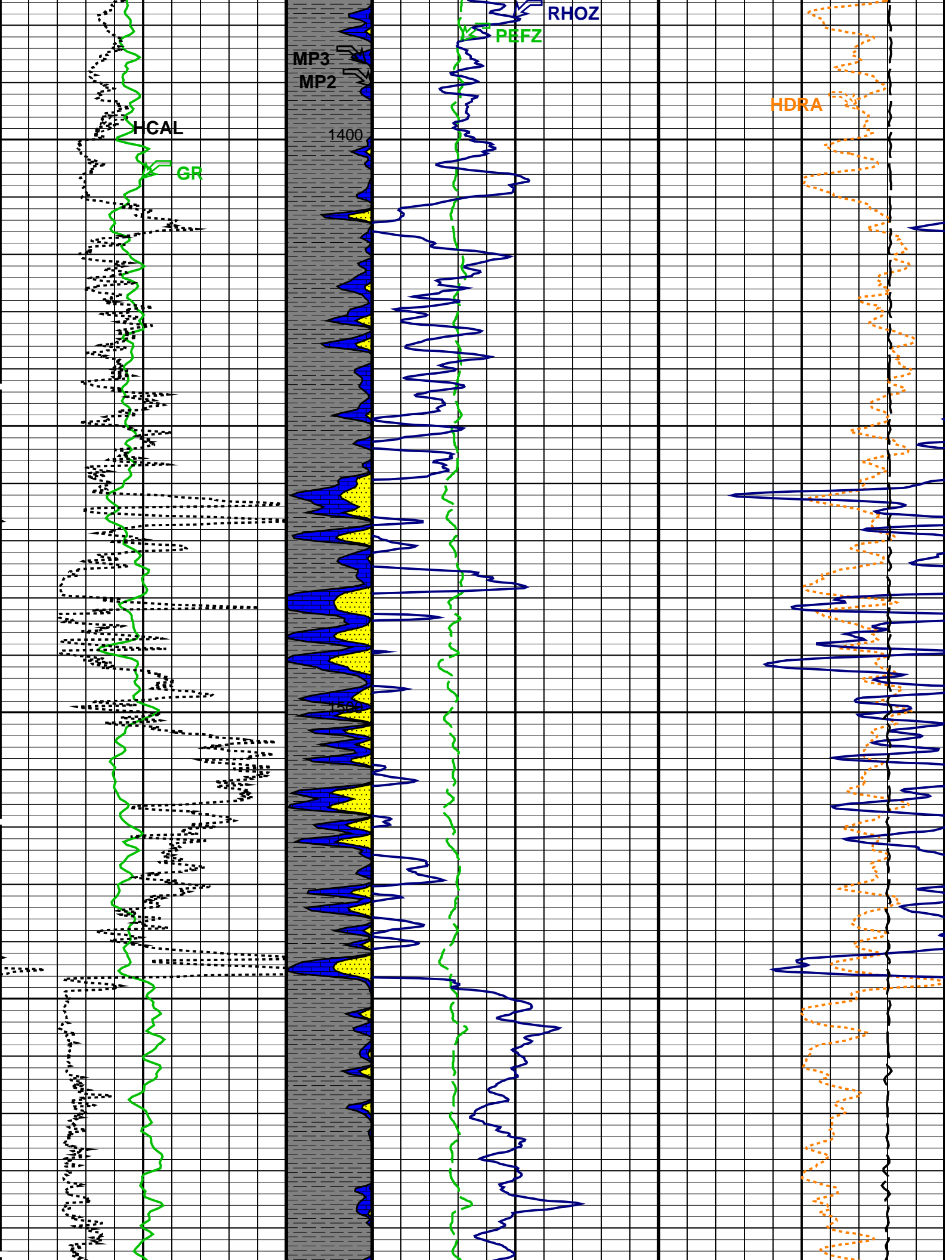


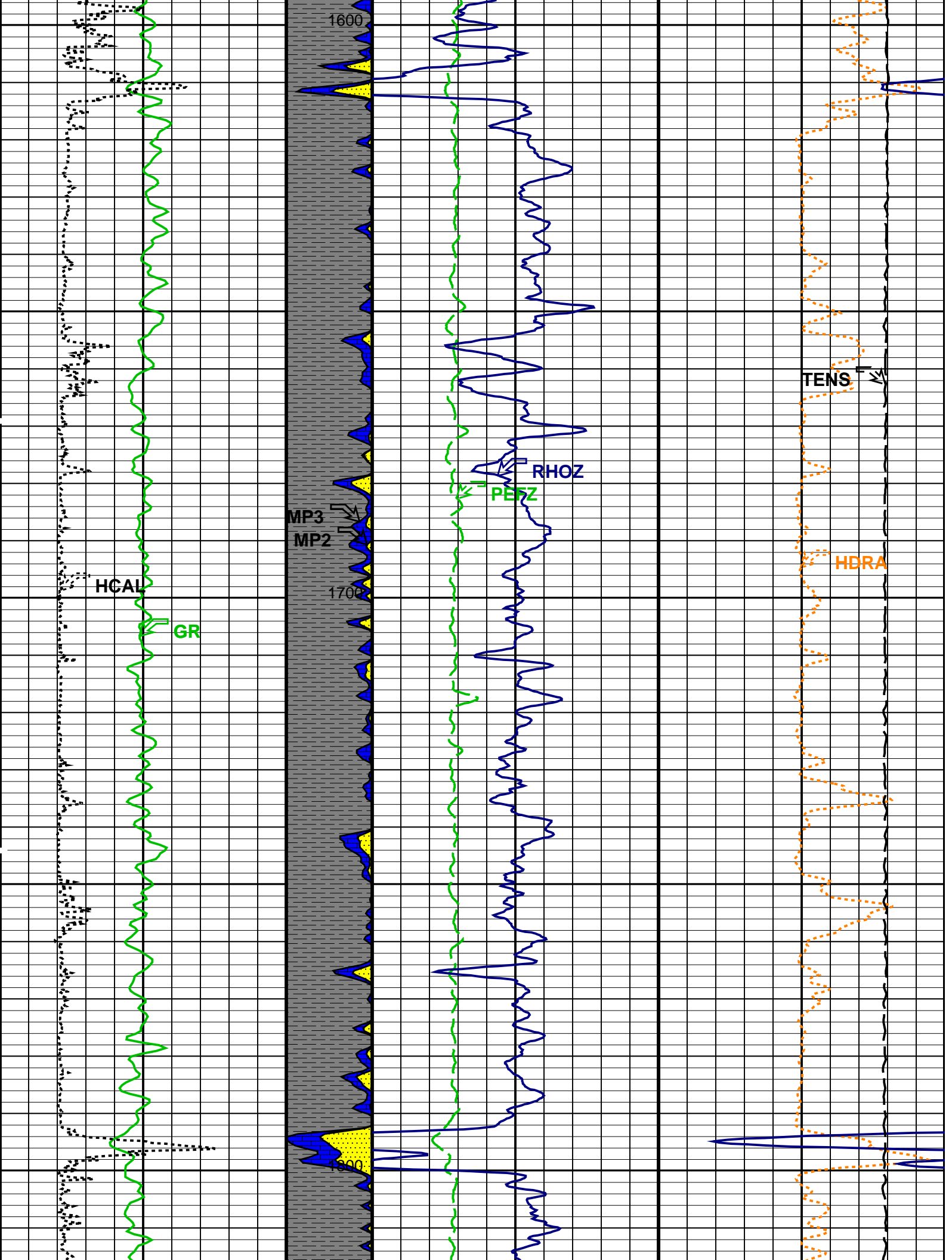




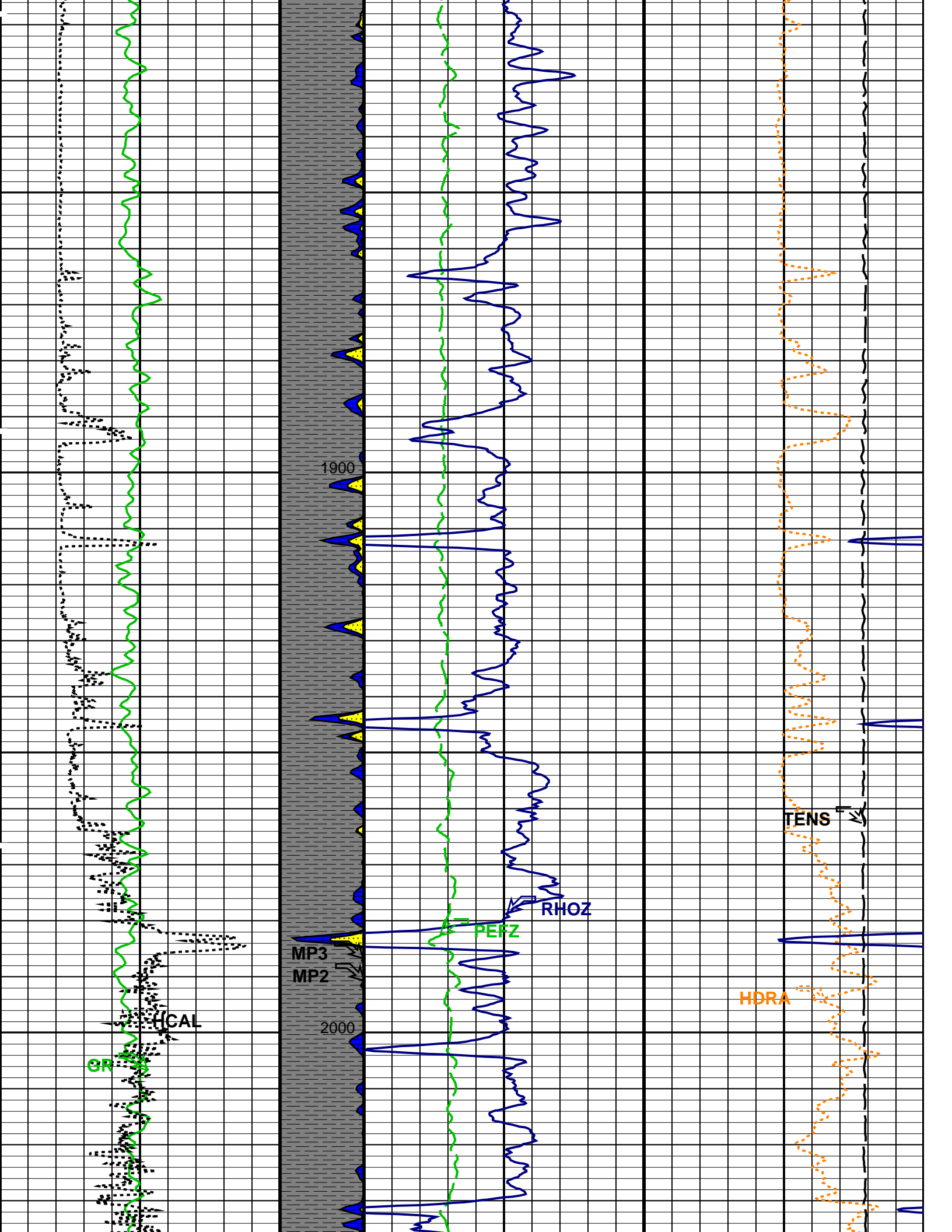


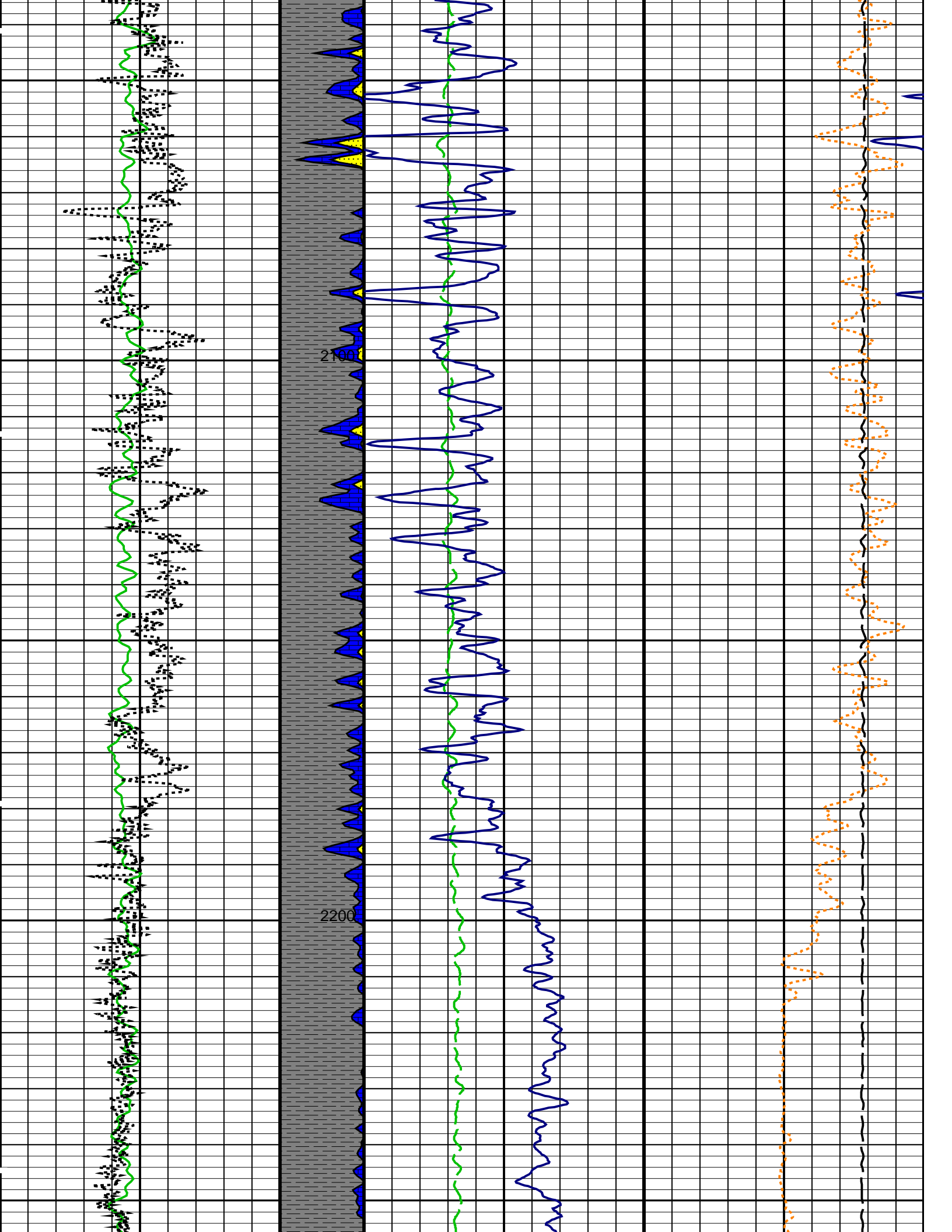


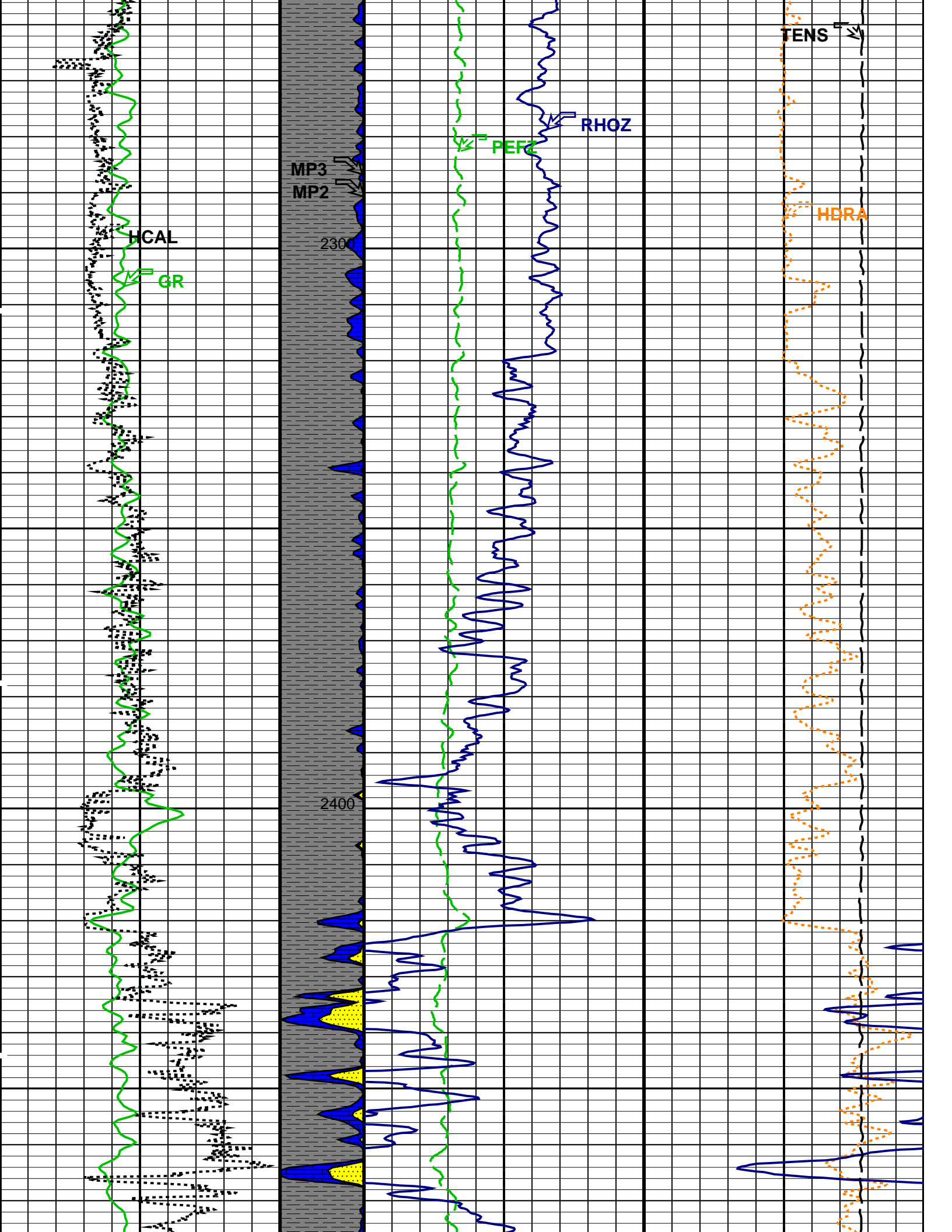


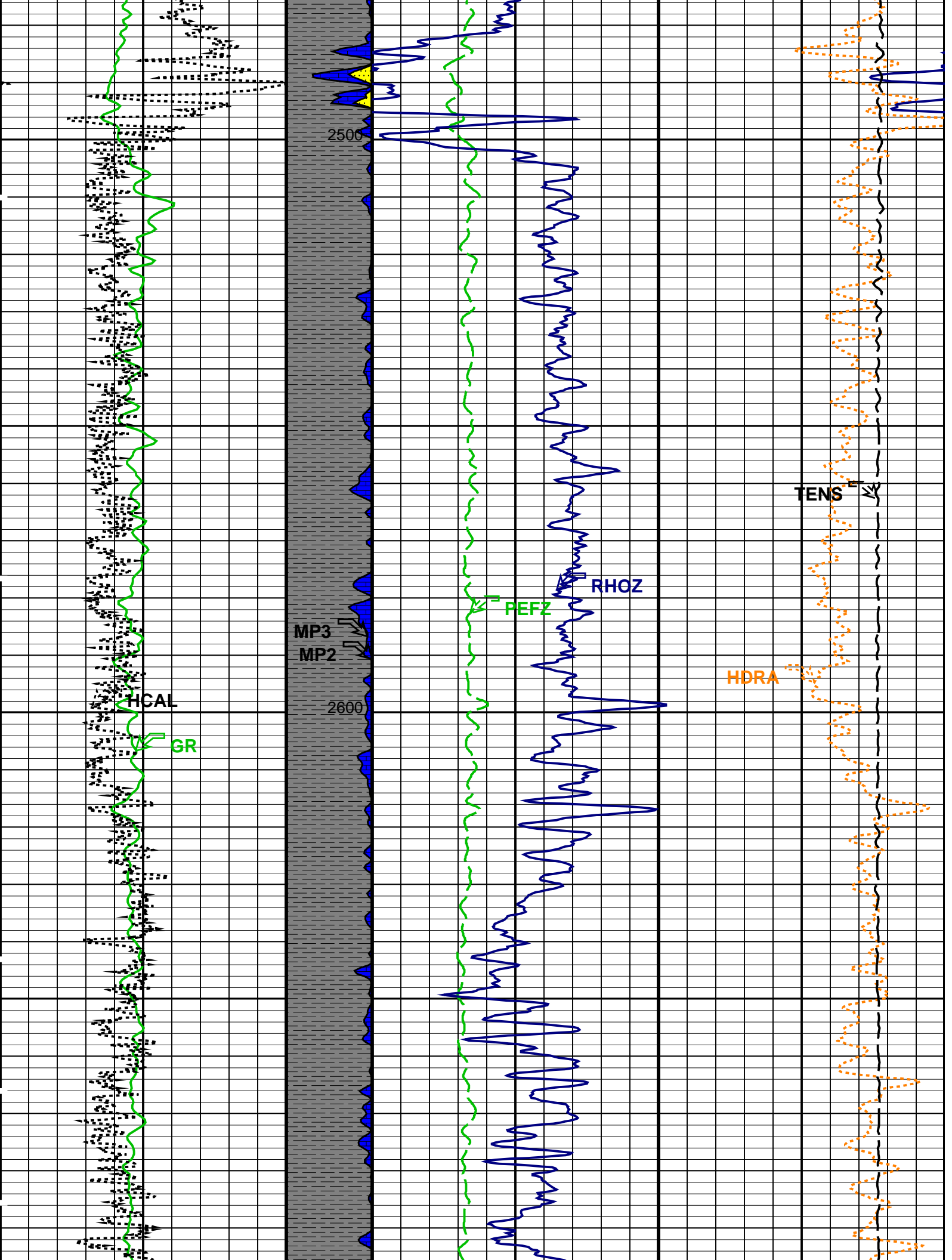


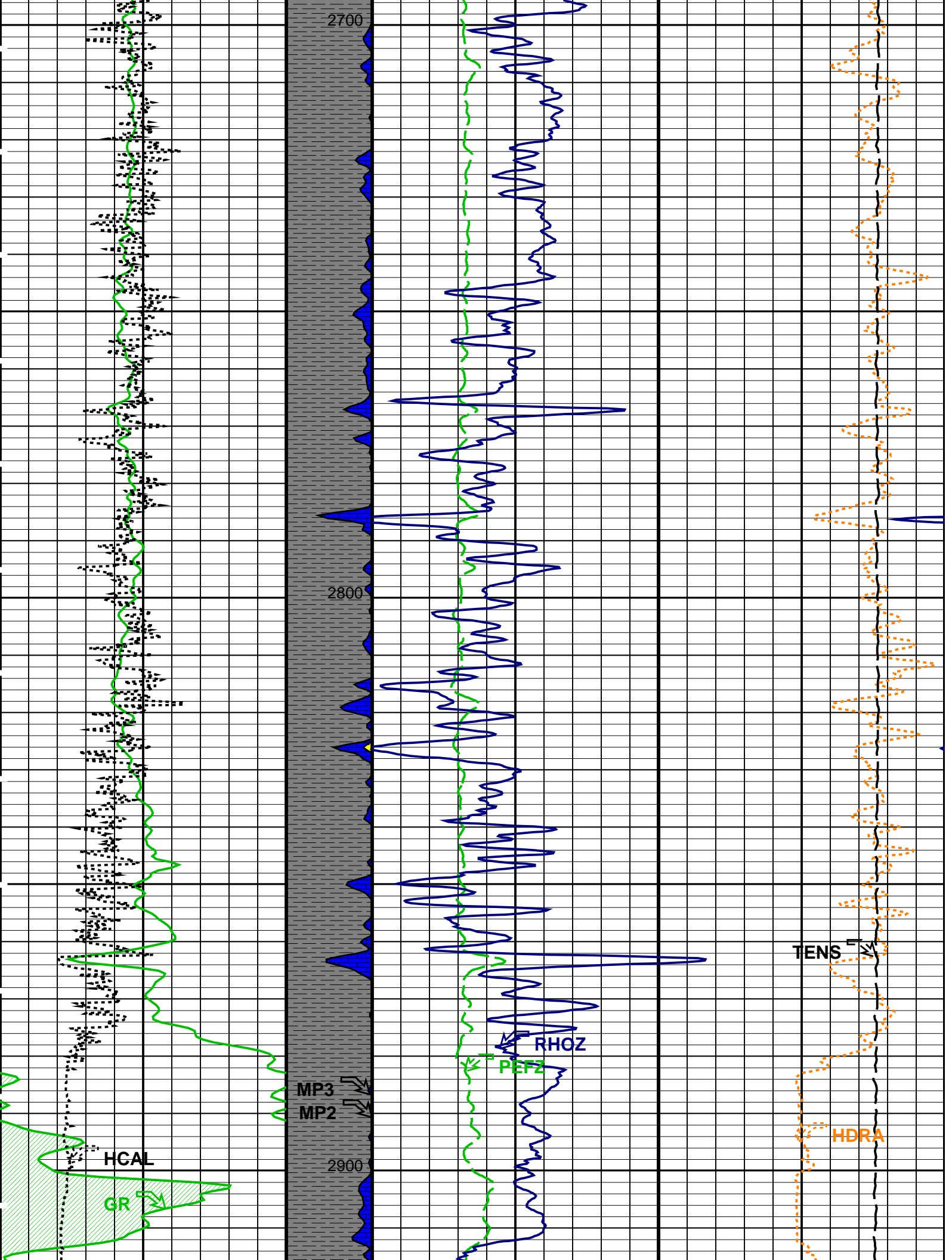


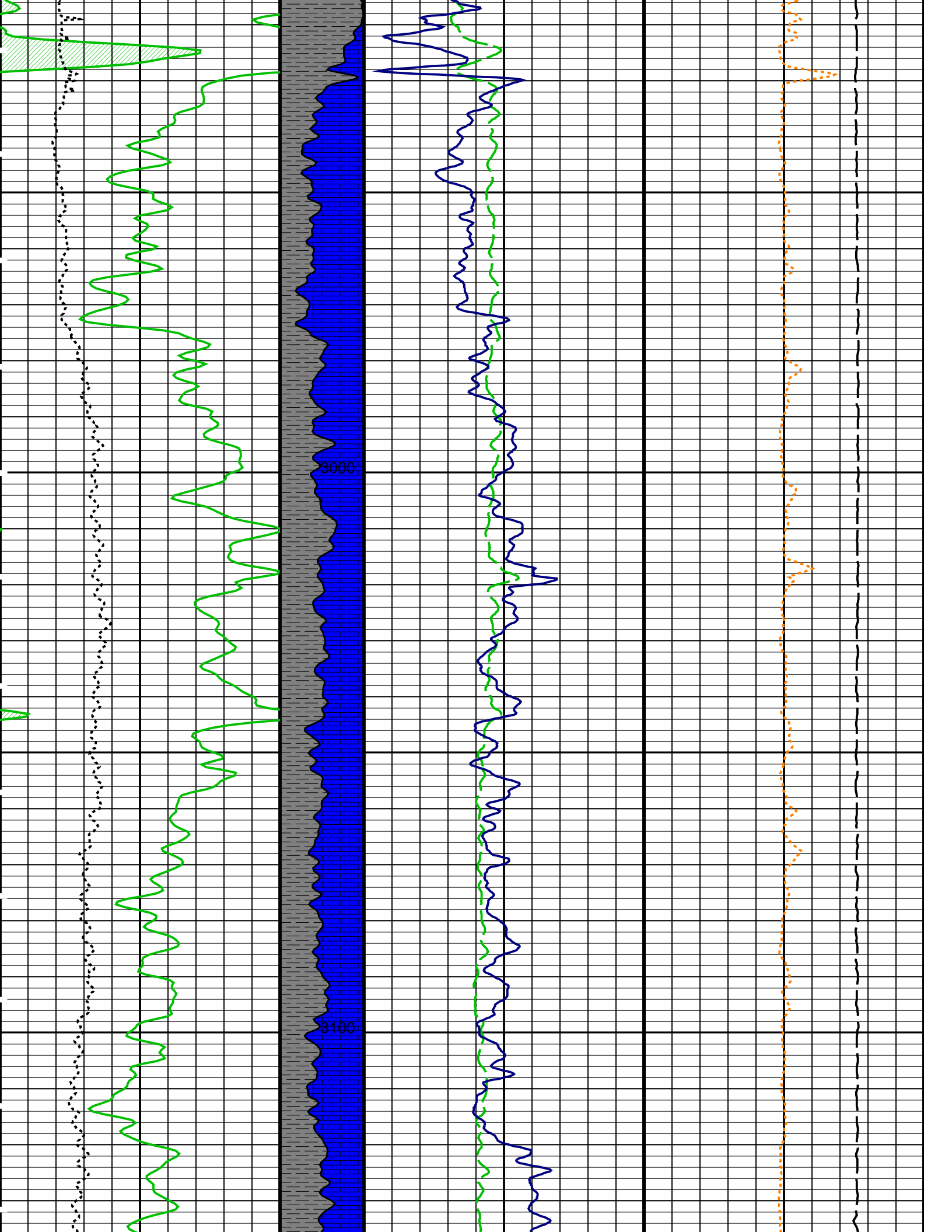




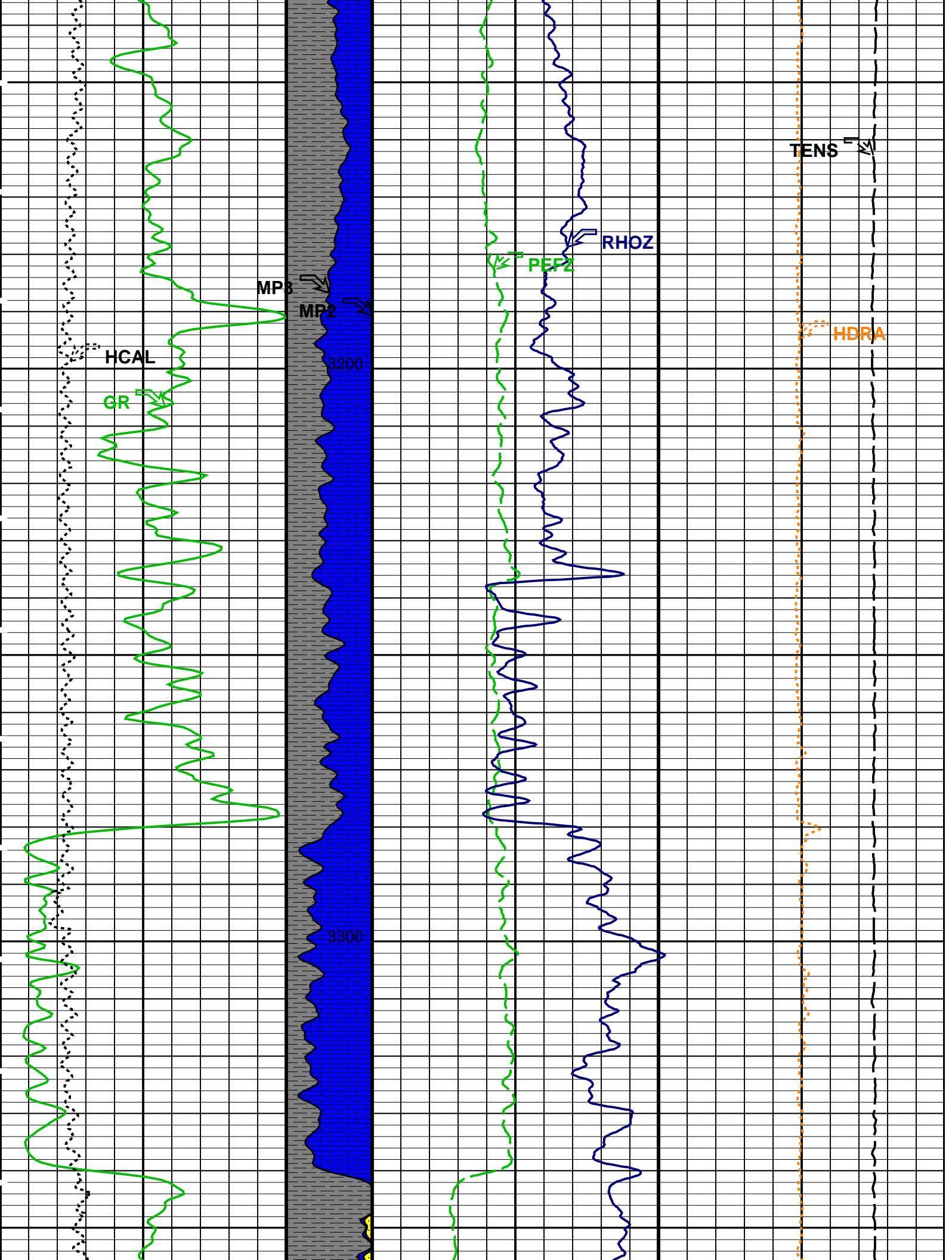


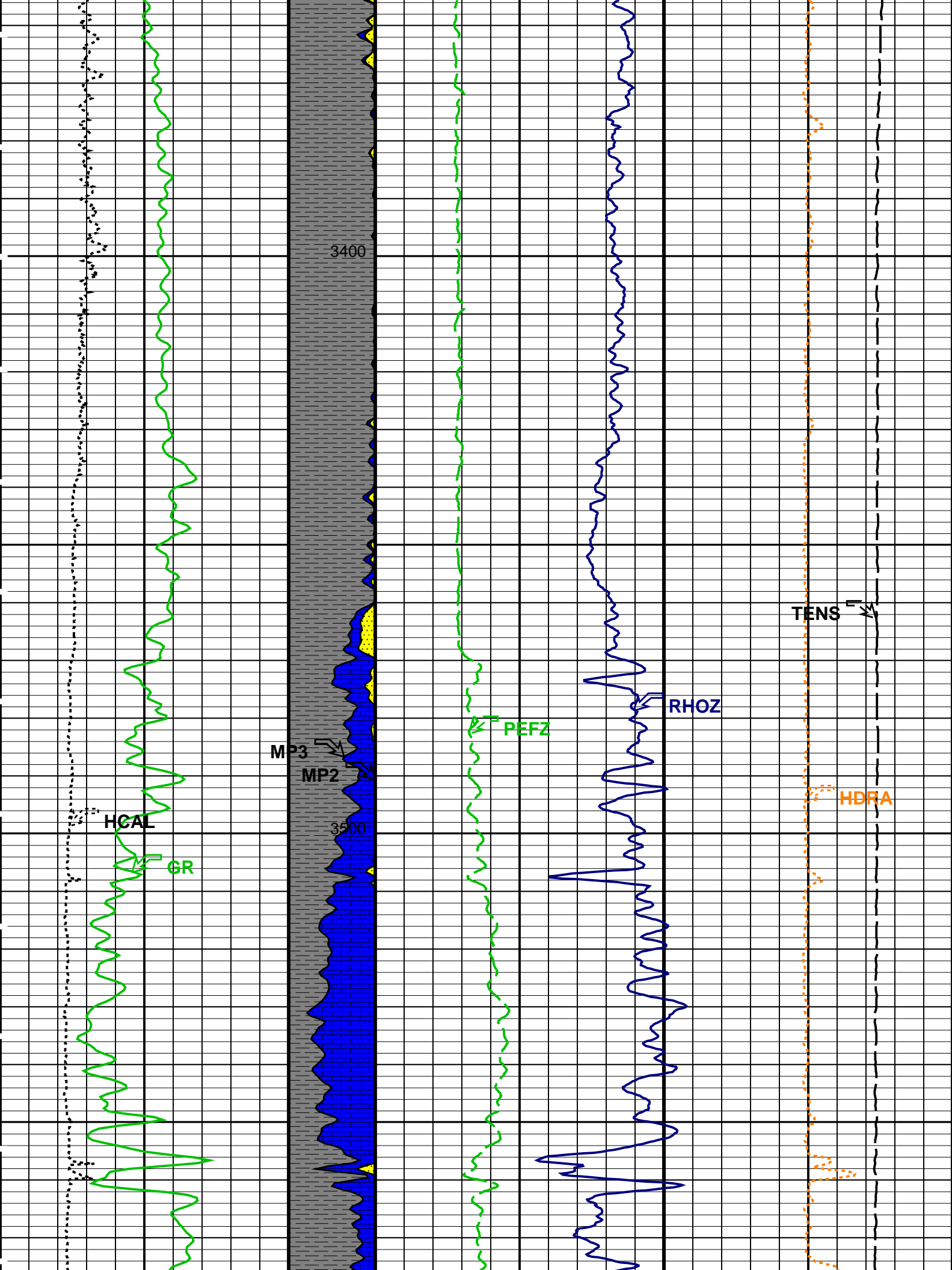


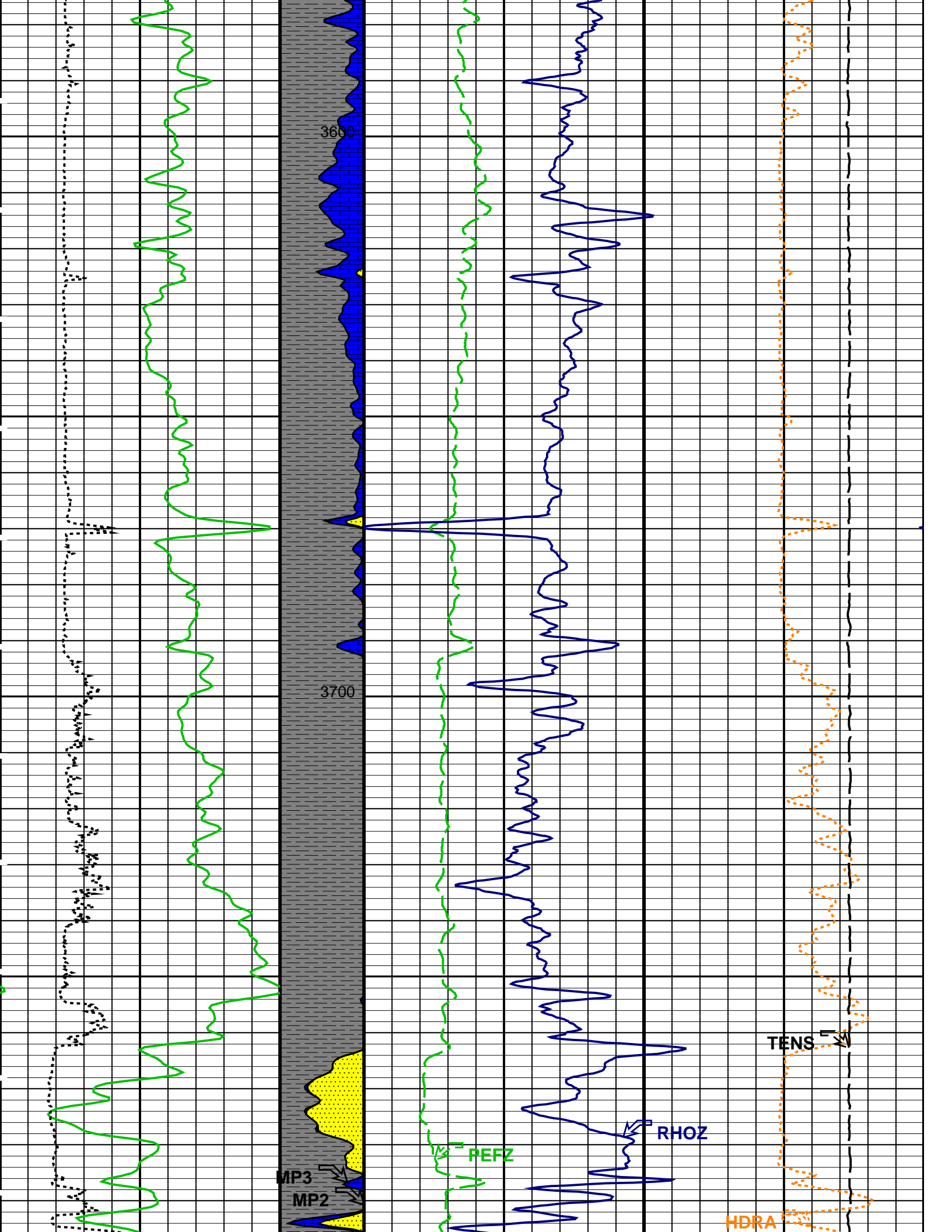


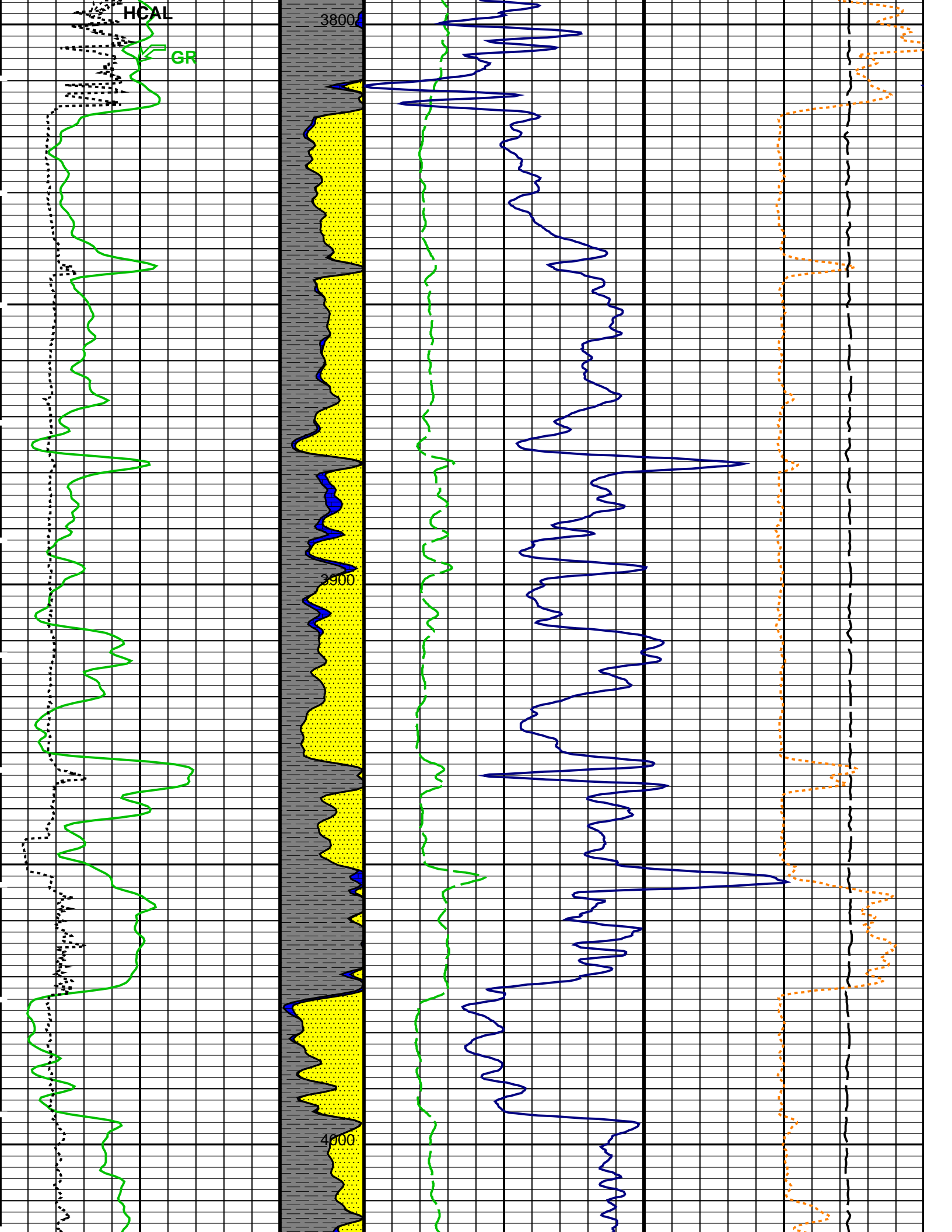


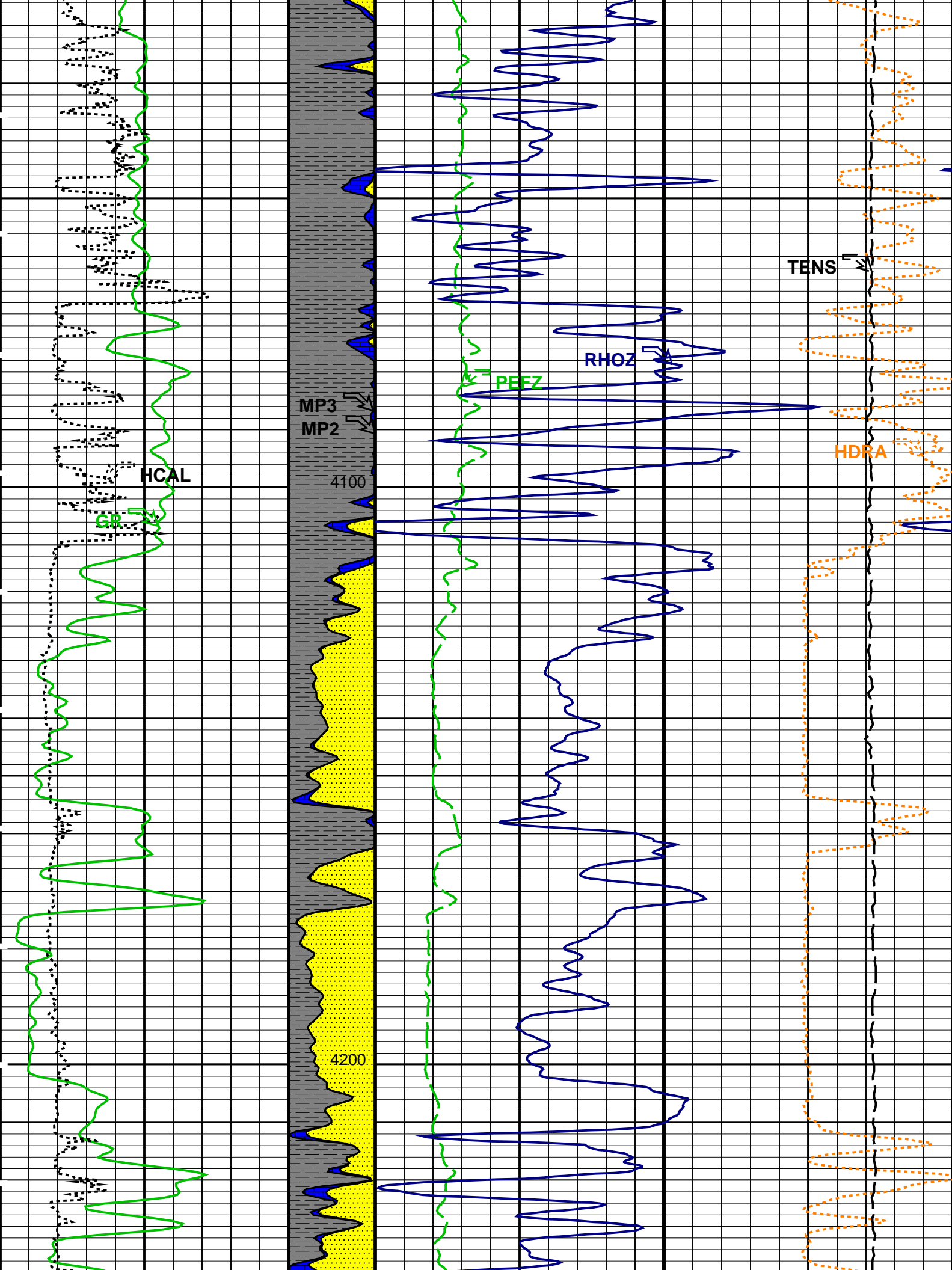


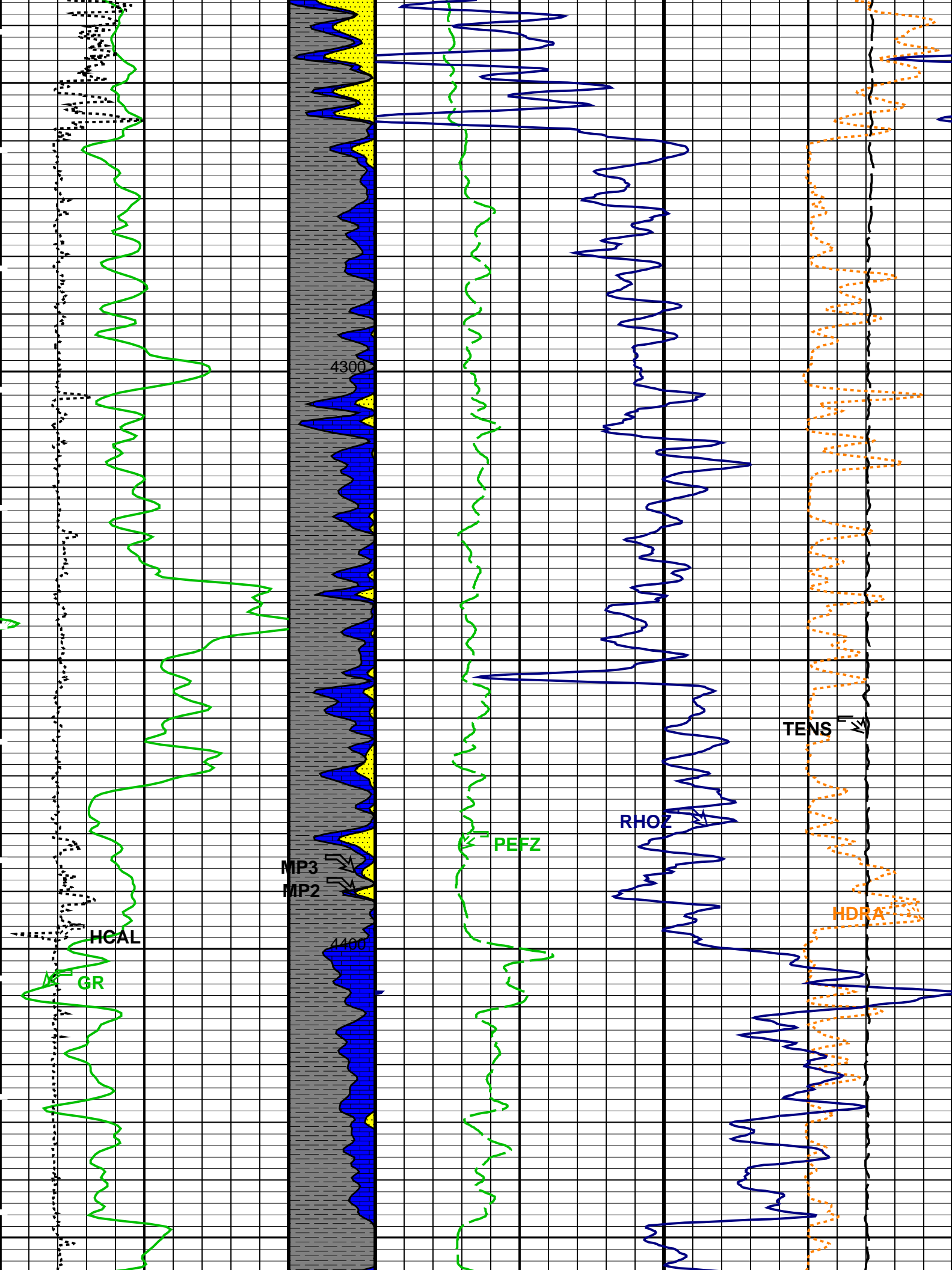




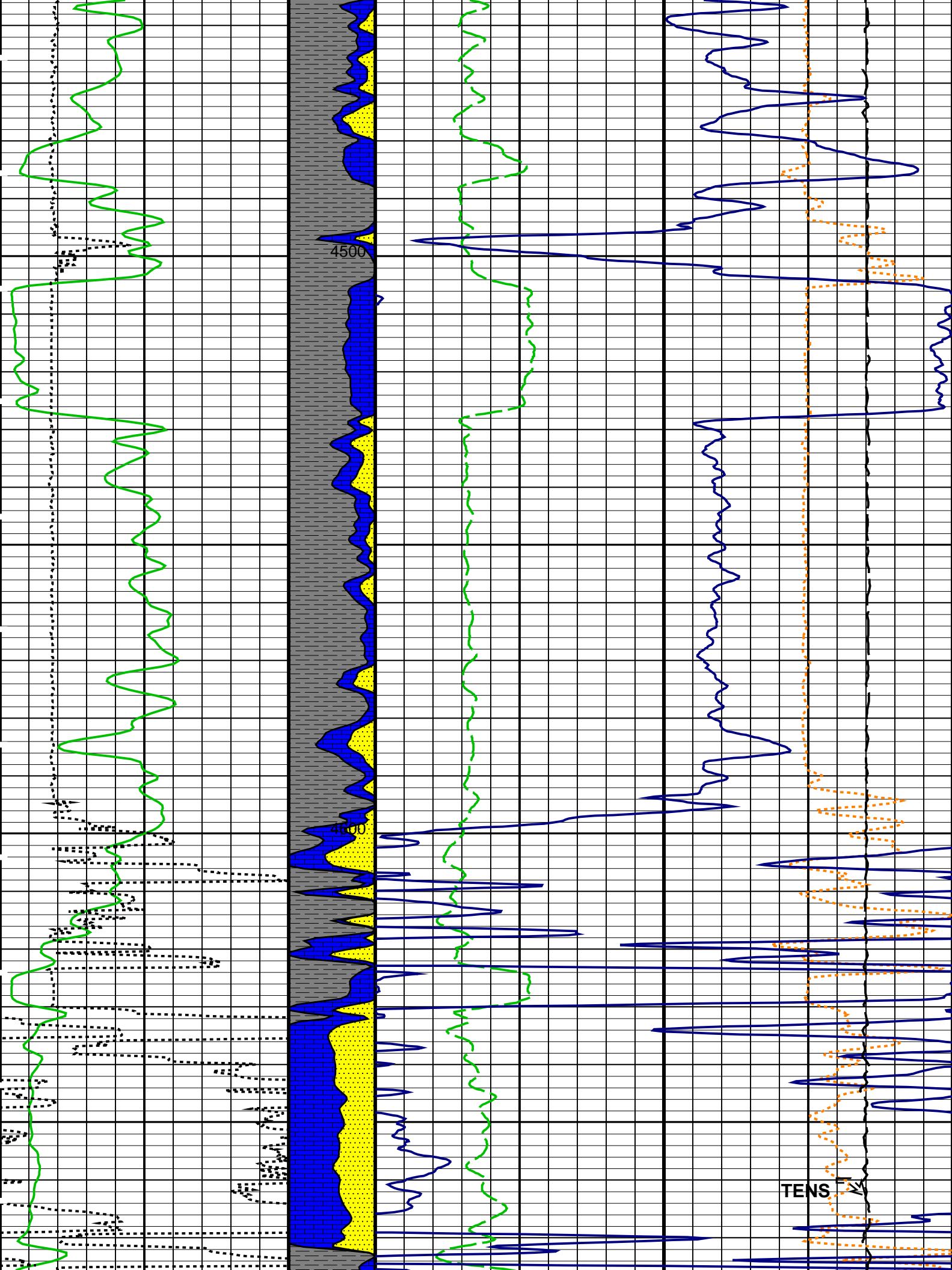


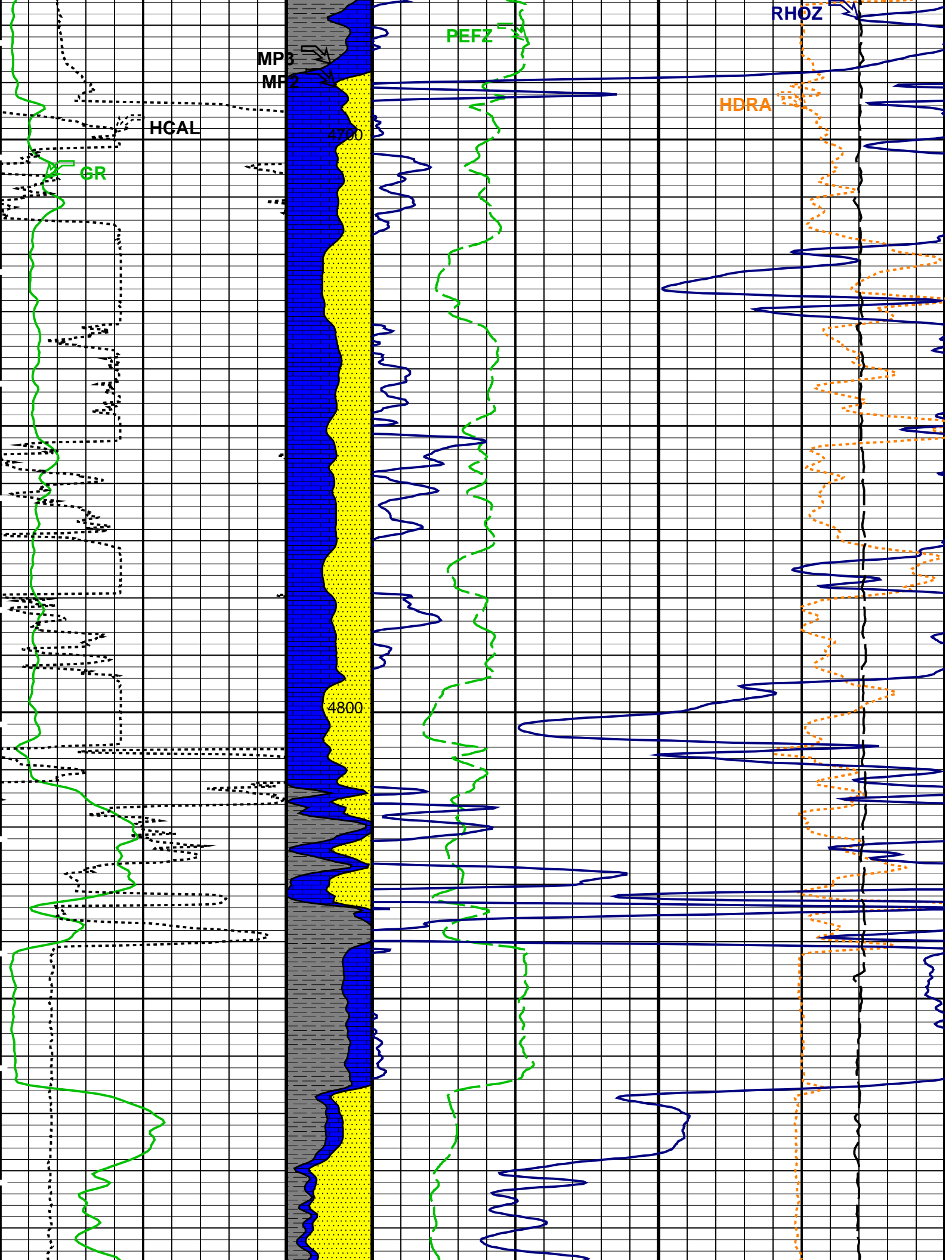


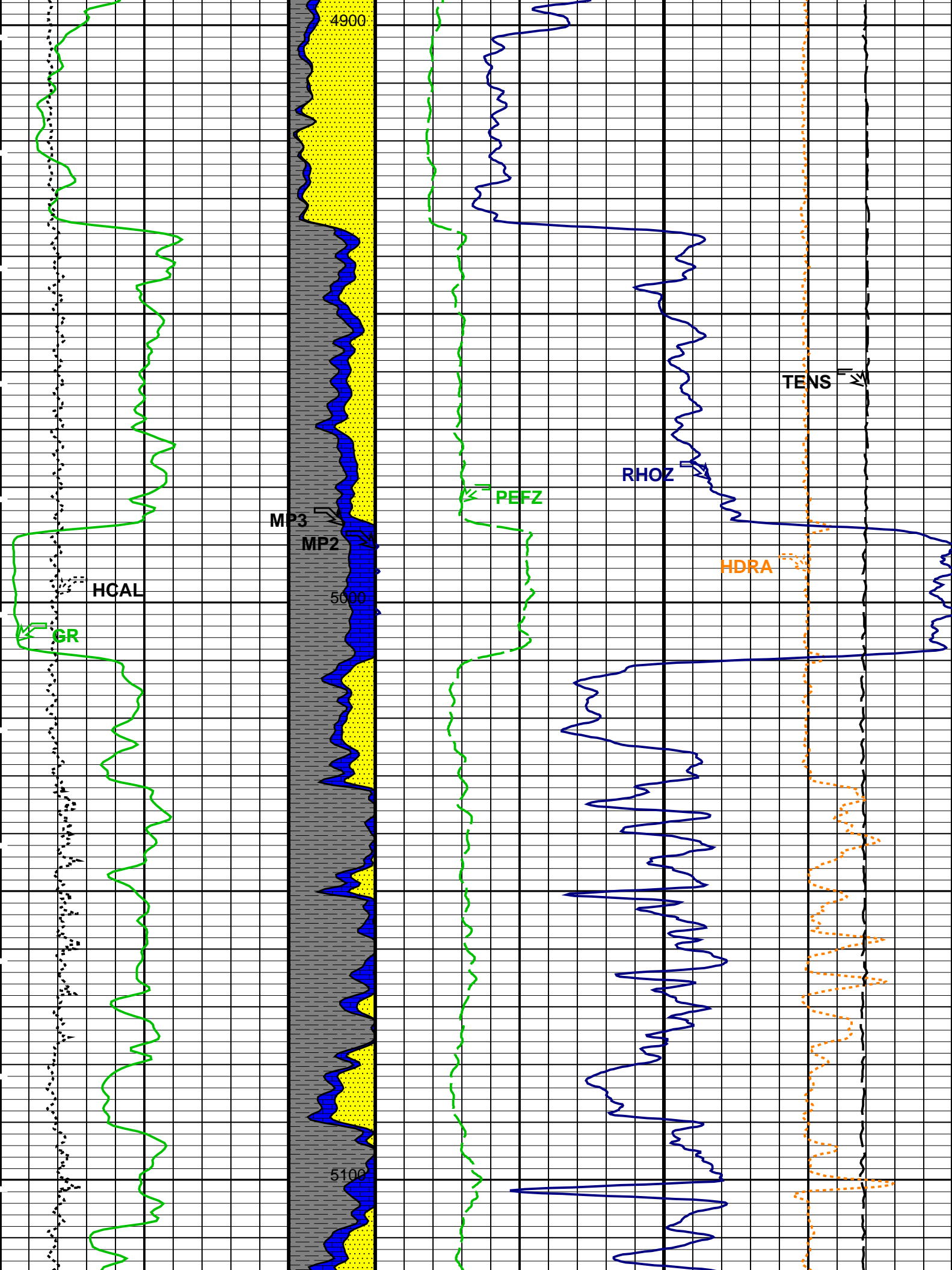


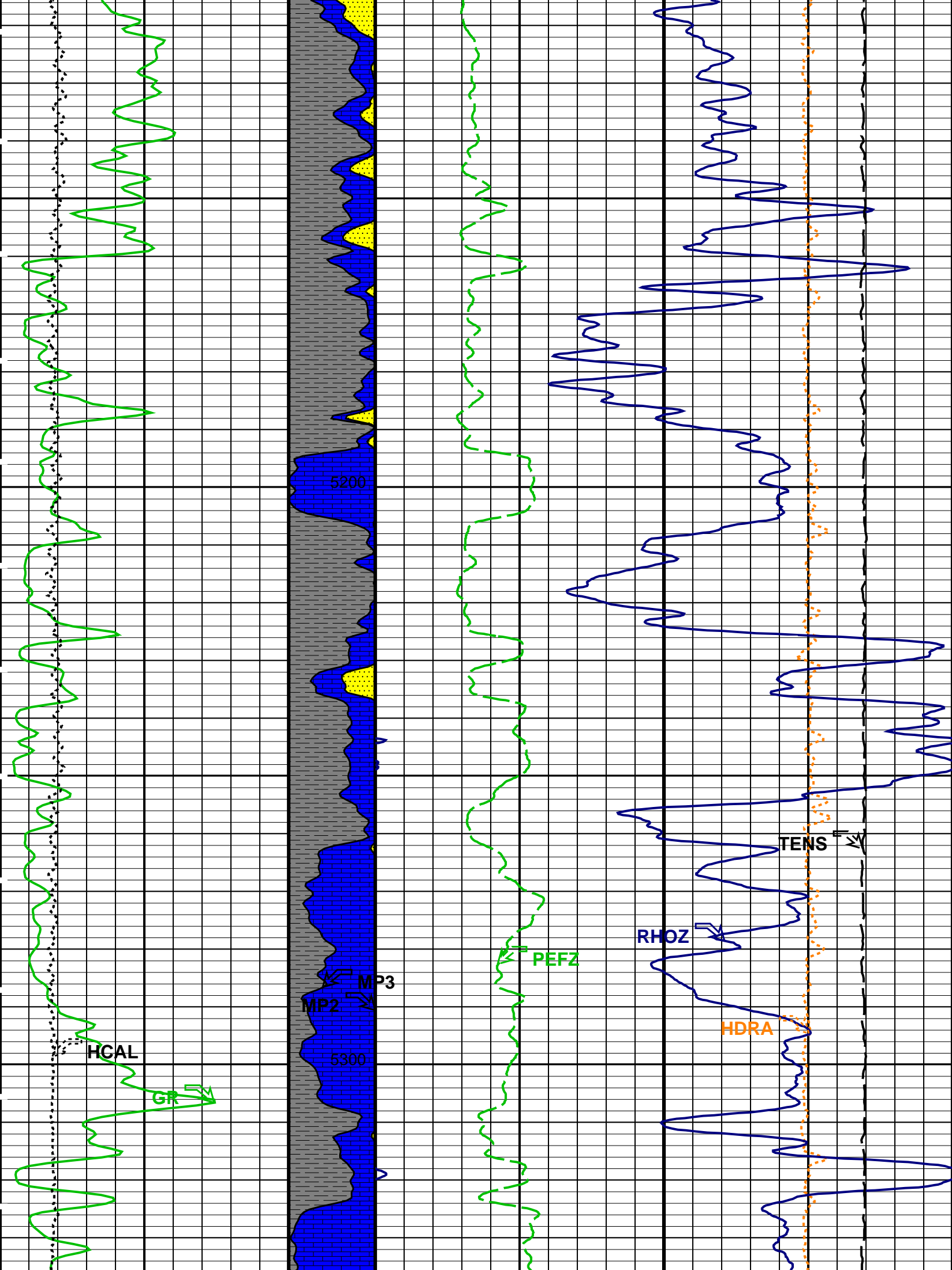


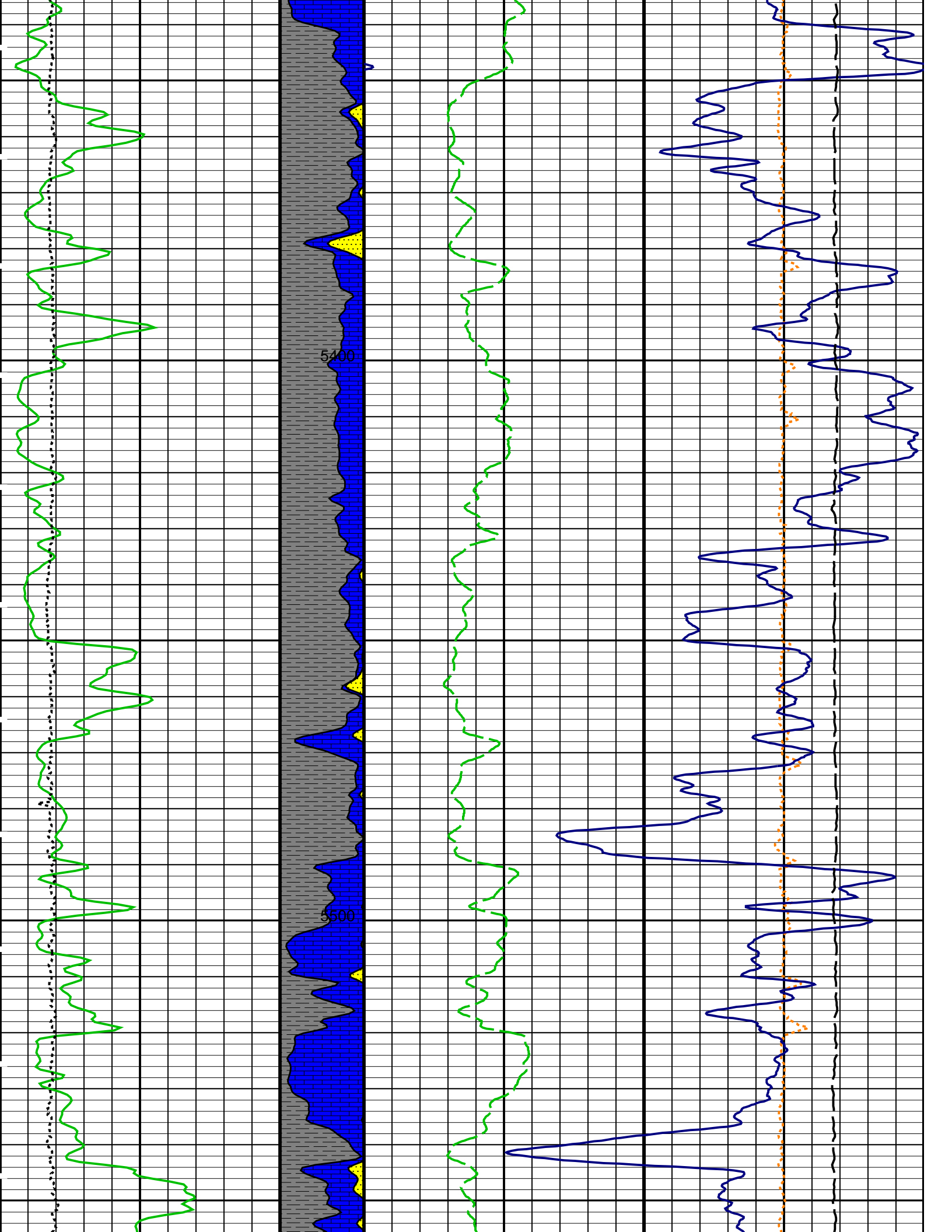


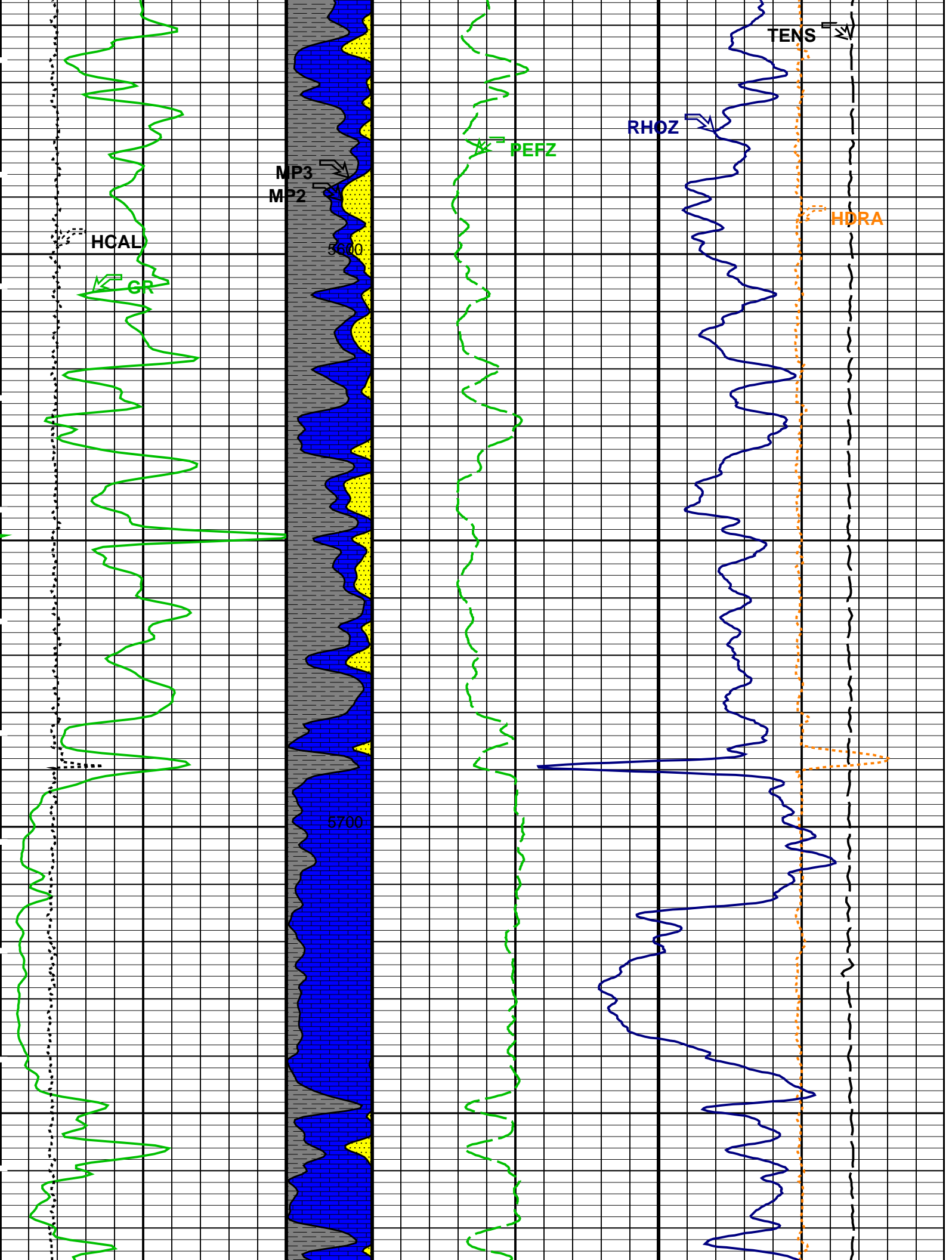




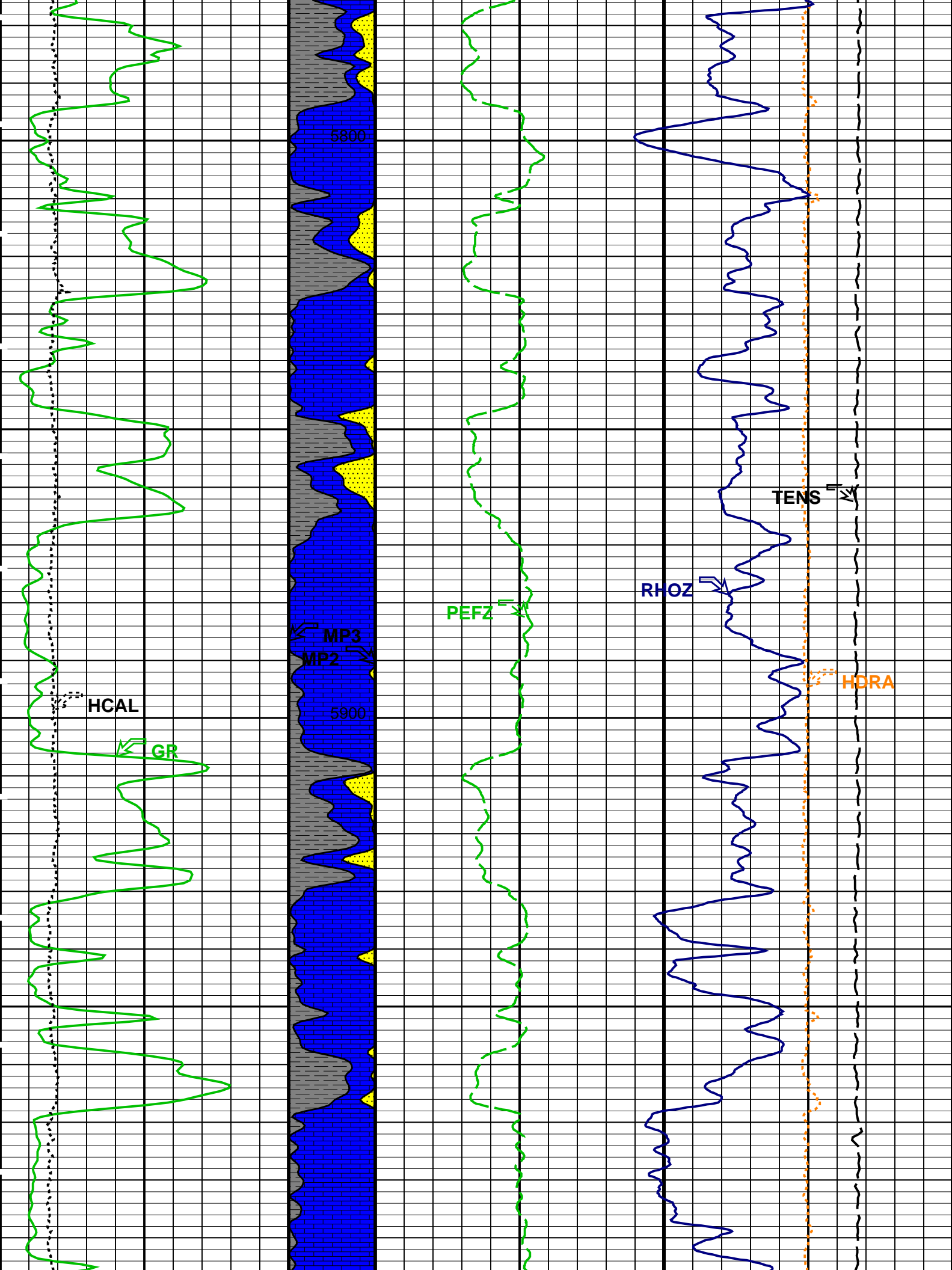


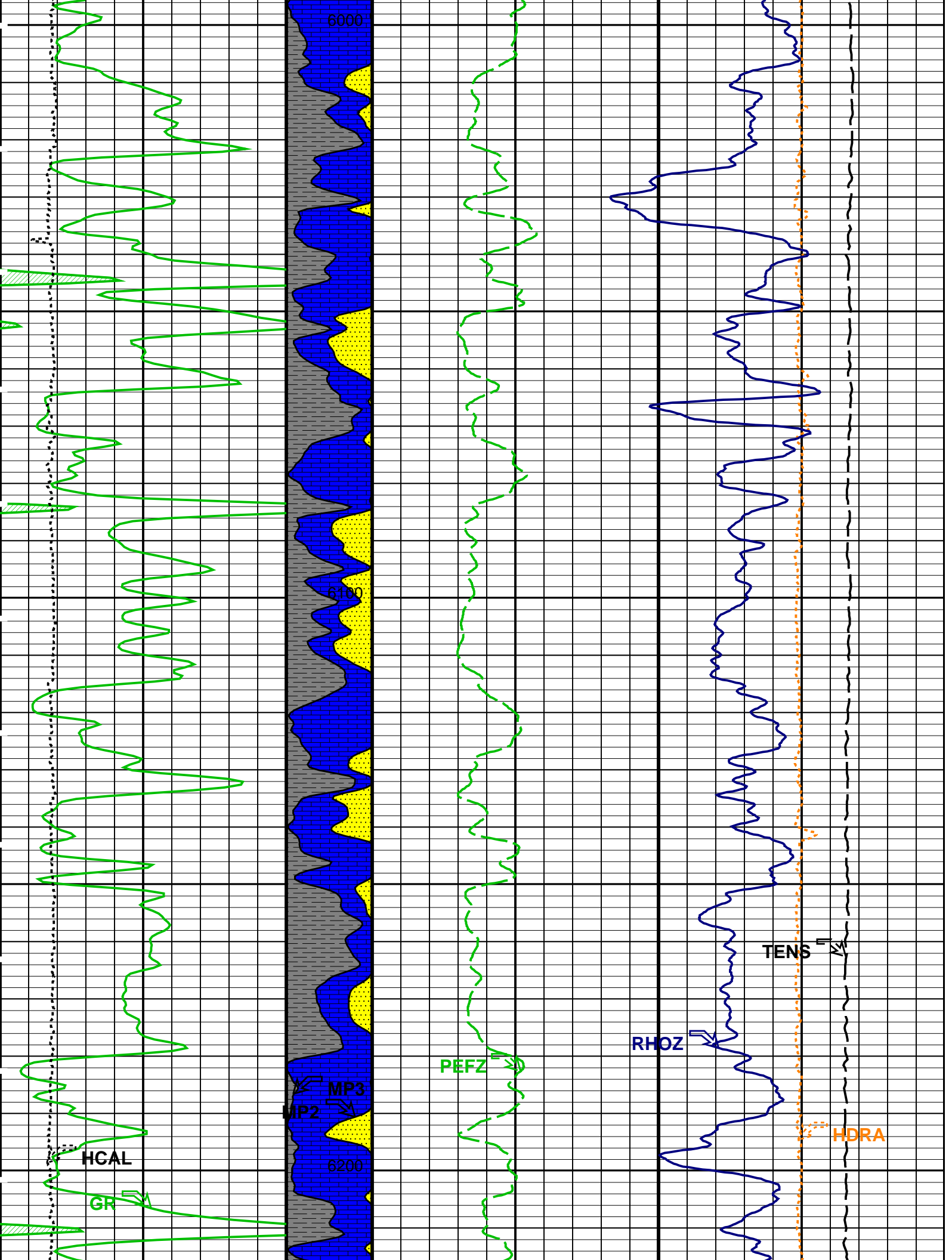


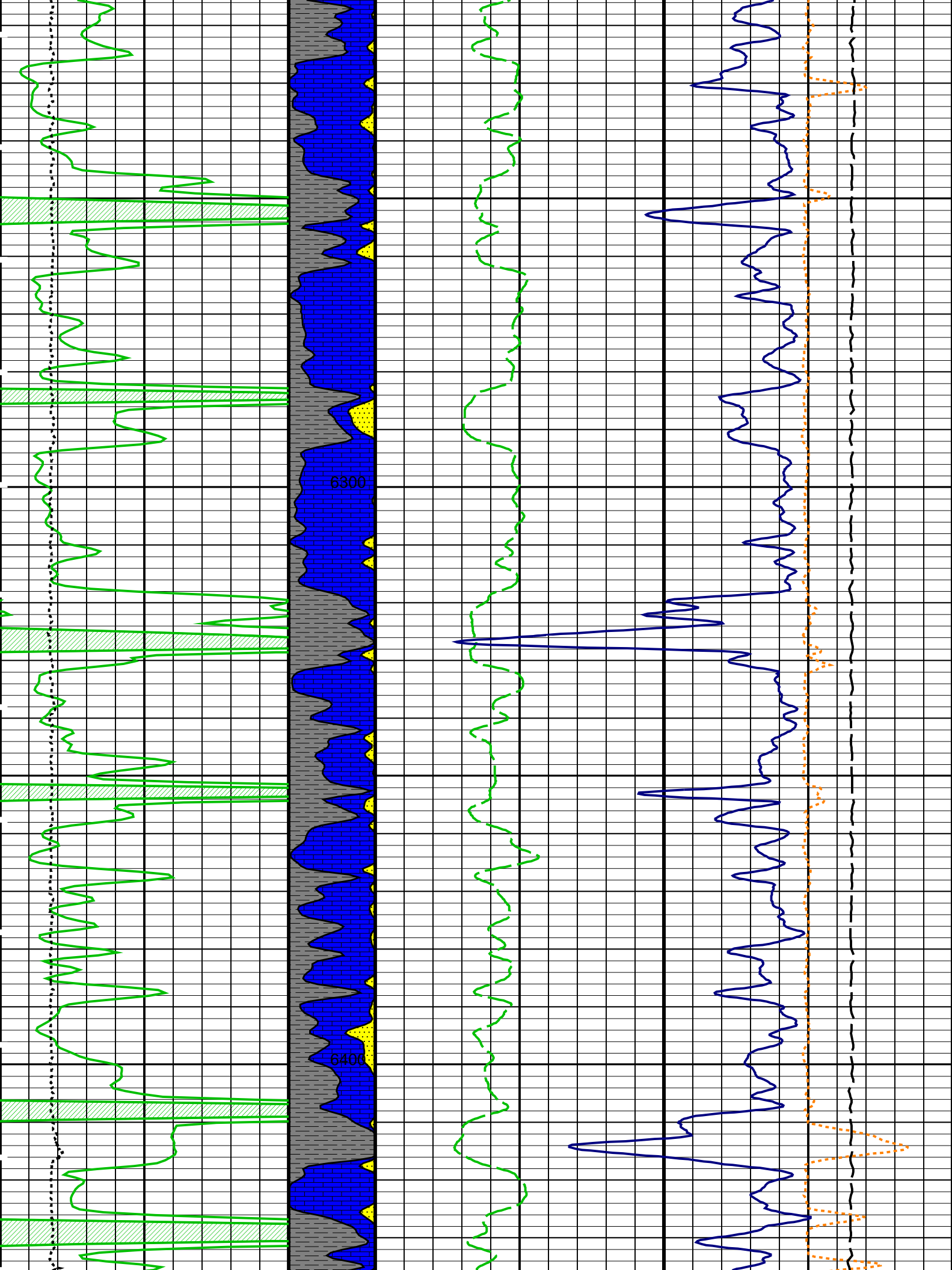


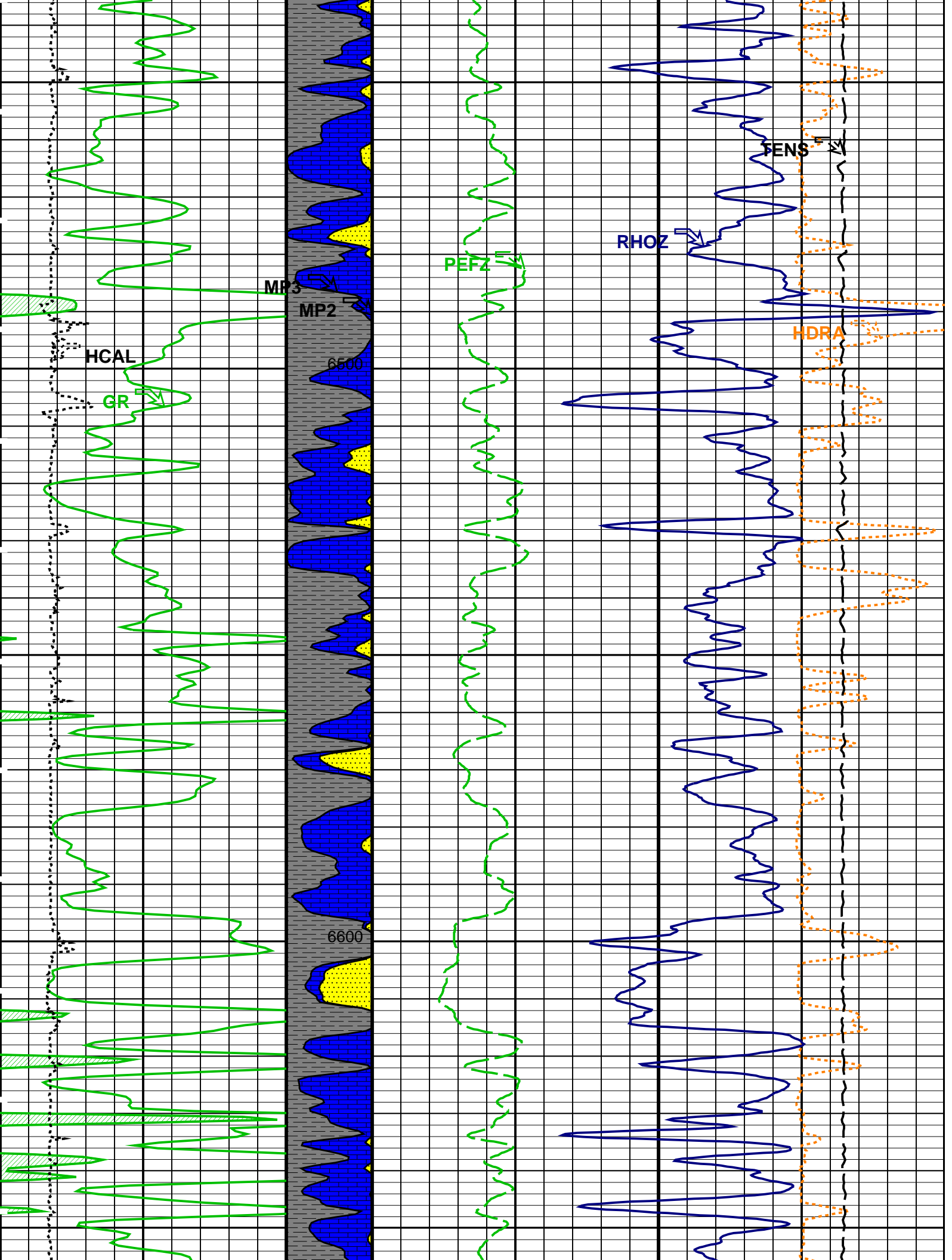


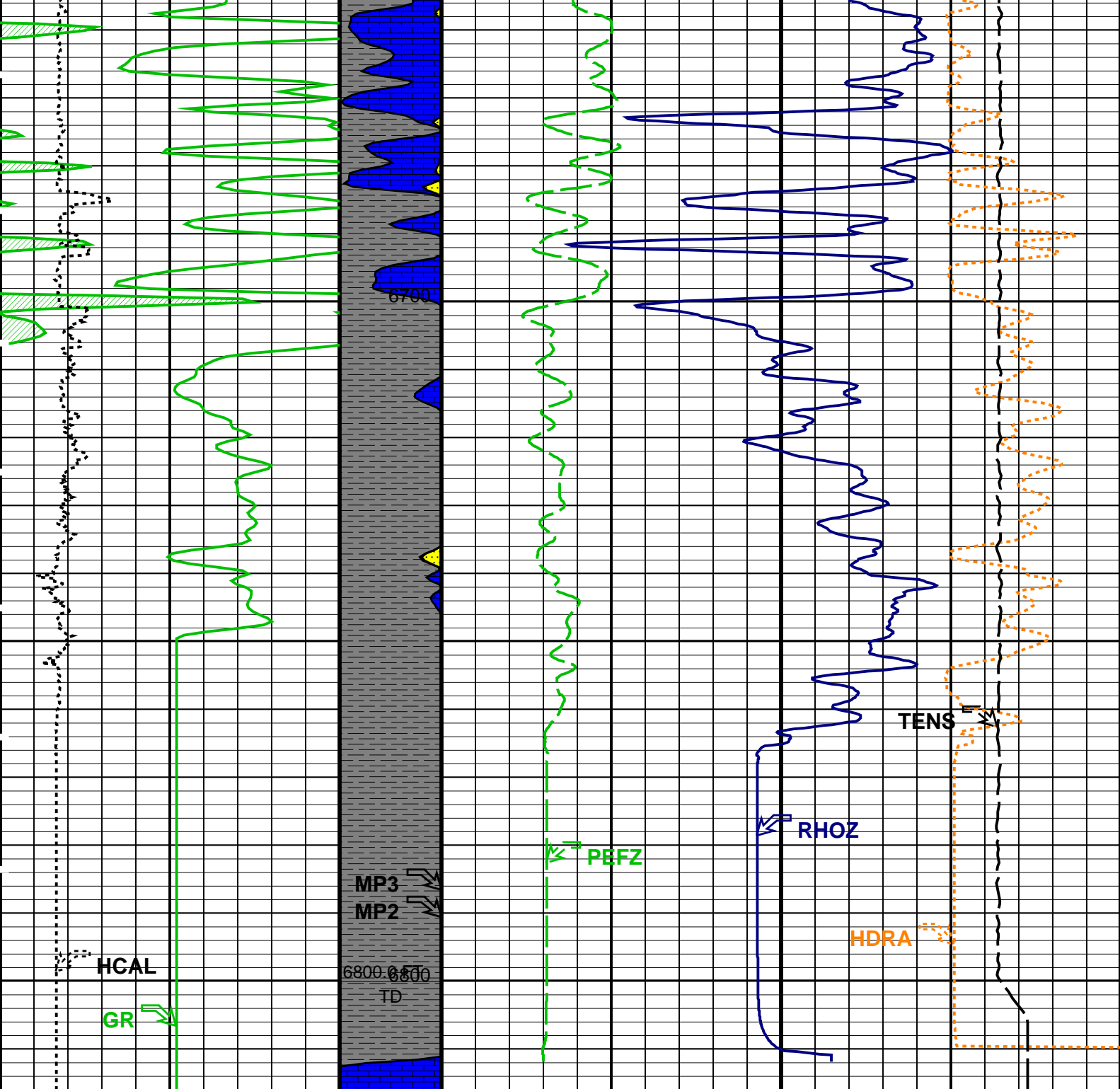












MAIN PASS: \*\*\* PLATFORM EXPRESS – LITHOLOGY DENSITY \*\*\*

Gamma Ray Backup	LIME	0	Std. Res. Formation Pe (PEFZ)	10	-0.25	Density Correction (HDRA)	0.25
		(GAPI)	(----	(G/C3)	(G/C3)	(G/C3)	(G/C3)
Gamma Ray (GR)	SAND	2	Std. Res. Formation Density (RHOZ)				
(GAPI)			(G/C3)				
Caliper (HCAL)	SHALE		Tension (TENS)				
(IN)			(LBF)				

PIP SUMMARY

Time Mark Every 60 S

## Parameters

DLIS Name	Description	Value
-----------	-------------	-------

HAIT-H: Array Induction Tool – H

BHT	Bottom Hole Temperature (used in calculations)	185	DEGF
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
GGRD	Geothermal Gradient	0.01	DF/F
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
SHT	Surface Hole Temperature	68	DEGF
DSLT-FTB: Digitizing			
CDTS	Sonic Logging Tool		
DTF	C-Delta-T Shale	100	US/F
SPFS	Delta-T Fluid	189	US/F
SPSO	Sonic Porosity Formula	RAYMER_HUNT	
	Sonic Porosity Source	DT	
HILTH-FTB: High resolution Integrated Logging Tool-DTS			
BHFL_TLD	HILT Nuclear Mud Base	WATER	
BHT	Bottom Hole Temperature (used in calculations)	185	DEGF
DHC	Density Hole Correction	BS	
FD	Fluid Density	1	G/C3
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
GCLF	Germany Coal-like Formation Option	NO	
GGRD	Geothermal Gradient	0.01	DF/F
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	StdRes	
NSAR	HRDD Depth Sampling Rate	1	IN
SHT	Surface Hole Temperature	68	DEGF
CMRT-B: Combinable Magnetic Resonance Tool - B			
BHT	Bottom Hole Temperature (used in calculations)	185	DEGF
GGRD	Geothermal Gradient	0.01	DF/F
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
SHT	Surface Hole Temperature	68	DEGF
FEQL: Formation Evaluation Quick Look			
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
HOLEV: Integrated Hole/Cement Volume			
BHT	Bottom Hole Temperature (used in calculations)	185	DEGF
GGRD	Geothermal Gradient	0.01	DF/F
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
SHT	Surface Hole Temperature	68	DEGF
PERT: Preliminary Evaluation - Real Time			
BDPS	Bulk Density Processing Selector	Standard	
BHT	Bottom Hole Temperature (used in calculations)	185	DEGF
CLIM	Caliper Limit for Bad Hole	999	IN
CNPS	Corrected Neutron Porosity Selector	NPHI	
DRUL	DRHO Upper Limit	999	G/C3
FCAL	Caliper Presence Flag	PRESENT	
FCGR	CGR Presence Flag	PRESENT	
FEXP	Form Factor Exponent	2	
FLDT	Bulk Density Presence Flag	PRESENT	
FNUM	Form Factor Numerator	1	
FSON	Sonic Presence Flag	ABSENT	
GGRD	Geothermal Gradient	0.01	DF/F
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE	
PMAX	PHI Maximum	0.5	CFCF
POUT	Porosity Output Lithology	LIMESTONE	
RG21	RHO Grain (2-Mineral Model, Min-1)	2.71	G/C3
RG22	RHO Grain (2-Mineral Model, Min-2)	2.644	G/C3
RG23	RHO Grain (2-Mineral Model, Min-3)	2.877	G/C3
RG31	RHO Grain (3-Mineral Model, Min-1)	2.71	G/C3
RG32	RHO Grain (3-Mineral Model, Min-2)	2.644	G/C3
RG33	RHO Grain (3-Mineral Model, Min-3)	2.877	G/C3
RTLFL	RT Limit Flag	NO_LIMIT	
RWF	Resistivity of Free Water	0.02	OHMM
SHT	Surface Hole Temperature	68	DEGF
UF	U Fluid	0.398	
UM21	U Matrix (2-Mineral Model, Min-1)	13.77	
UM22	U Matrix (2-Mineral Model, Min-2)	4.779	
UM23	U Matrix (2-Mineral Model, Min-3)	8.997	
UM31	U Matrix (3-Mineral Model, Min-1)	13.77	
UM32	U Matrix (3-Mineral Model, Min-2)	4.779	
UM33	U Matrix (3-Mineral Model, Min-3)	8.997	
System and Miscellaneous			
BS	Bit Size	7.875	IN
DO	Depth Offset for Playback	0.0	FT
PP	Playback Processing	RECOMPUTE	
RMFS	Resistivity of Mud Filtrate Sample	0.0830	OHMM
TD	Total Depth	6800	FT
TWS	Temperature of Connate Water Sample	100.00	DEGF



# OP System Version: 19C2-270

HAIT-H	19C2-270	DSLT-FTB	19C2-270
HILTH-FTB	19C2-270	CMRT-B	19C2-270
DTC-H	19C2-270		

## Input DLIS Files

DEFAULT	Splice_AIT_SONIC_032CUP	FN:1	PRODUCER	05-Aug-2013 19:39	6816.0 FT	99.5 FT
---------	-------------------------	------	----------	-------------------	-----------	---------

## Output DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_033PUP	FN:31	PRODUCER	05-Aug-2013 19:41
---------	---------------------------	-------	----------	-------------------

**Schlumberger**

**BEFORE CALIBRATIONS**

MAXIS Field Log

### Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Array Induction Tool – H Wellsite Calibration – Electronics Calibration Check – Thru Cal Mag. & Phase							
Master: 24-Jun-2013 13:36 Before: 3-Aug-2013 18:59							
Thru Cal Magnitude – 0	0	0.6284	0.6288	N/A	N/A	N/A	V
Thru Cal Magnitude – 1	0	1.289	1.289	N/A	N/A	N/A	V
Thru Cal Magnitude – 2	0	0.6392	0.6391	N/A	N/A	N/A	V
Thru Cal Magnitude – 3	0	0.7217	0.7219	N/A	N/A	N/A	V
Thru Cal Magnitude – 4	0	1.359	1.358	N/A	N/A	N/A	V
Thru Cal Magnitude – 5	0	1.969	1.970	N/A	N/A	N/A	V
Thru Cal Magnitude – 6	0	1.968	1.970	N/A	N/A	N/A	V
Thru Cal Magnitude – 7	0	1.402	1.407	N/A	N/A	N/A	V
Phase – 0	0	51.01	51.84	N/A	N/A	N/A	DEG
Phase – 1	0	49.97	50.81	N/A	N/A	N/A	DEG
Phase – 2	0	46.16	47.03	N/A	N/A	N/A	DEG
Phase – 3	0	45.37	46.24	N/A	N/A	N/A	DEG
Phase – 4	0	38.91	39.85	N/A	N/A	N/A	DEG
Phase – 5	0	36.97	37.93	N/A	N/A	N/A	DEG
Phase – 6	0	36.96	37.92	N/A	N/A	N/A	DEG
Phase – 7	0	32.69	33.98	N/A	N/A	N/A	DEG
Array Induction Tool – H Wellsite Calibration – Electronics Calibration Check – Auxilliary							
Master: 24-Jun-2013 13:36 Before: 3-Aug-2013 18:59							
Array Induction SPA Plus	990.5	991.9	993.0	N/A	N/A	N/A	MV
Array Induction SPA Zero	0	0.04840	-0.03146	N/A	N/A	N/A	MV
Array Induction Temperature PI	0.9150	0.9202	0.9212	N/A	N/A	N/A	V
Array Induction Temperature Ze	0	0.00005566	-0.00002783	N/A	N/A	N/A	V
Array Induction Tool – H Wellsite Calibration – Test Loop Gain Correction							
Master: 24-Jun-2013 13:36							
Test Loop Gain Magnitude – 0	0	1.010	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 1	0	1.011	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 2	0	1.012	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 3	0	1.014	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 4	0	0.9963	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 5	0	0.9871	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 6	0	0.9876	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 7	0	1.000	N/A	N/A	N/A	N/A	V
Phase – 0	0	0.4079	N/A	N/A	N/A	N/A	DEG
Phase – 1	0	0.4401	N/A	N/A	N/A	N/A	DEG
Phase – 2	0	-0.1075	N/A	N/A	N/A	N/A	DEG

Phase – 3	0	–0.04307	N/A	N/A	N/A	N/A	DEG
Phase – 4	0	–0.1595	N/A	N/A	N/A	N/A	DEG
Phase – 5	0	–0.3086	N/A	N/A	N/A	N/A	DEG
Phase – 6	0	1.269	N/A	N/A	N/A	N/A	DEG
Phase – 7	0	–0.2832	N/A	N/A	N/A	N/A	DEG

#### Array Induction Tool – H Wellsite Calibration – Sonde Error Correction

Master: 24–Jun–2013 13:36

R Sonde Error Correction – 0	0	–89.27	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 1	0	164.9	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 2	0	113.6	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 3	0	59.90	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 4	0	26.21	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 5	0	13.27	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 6	0	10.28	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 7	0	–0.3196	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 0	0	–129.9	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 1	0	–37.62	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 2	0	–149.2	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 3	0	–28.97	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 4	0	–16.68	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 5	0	–17.94	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 6	0	0.1348	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 7	0	2.617	N/A	N/A	N/A	N/A	MM/M

#### Array Induction Tool – H Wellsite Calibration – Mud Gain Correction

Master: 24–Jun–2013 13:36

Coarse – Mag, Real, Imag – 0	0	0.8608	N/A	N/A	N/A	N/A	
Coarse – Mag, Real, Imag – 1	0	0.8608	N/A	N/A	N/A	N/A	
Coarse – Mag, Real, Imag – 2	0	0.8608	N/A	N/A	N/A	N/A	
Fine – Mag, Real, Imag – 0	0	0.8623	N/A	N/A	N/A	N/A	
Fine – Mag, Real, Imag – 1	0	0.8623	N/A	N/A	N/A	N/A	
Fine – Mag, Real, Imag – 2	0	0.8623	N/A	N/A	N/A	N/A	

#### High resolution Integrated Logging Tool–DTS Wellsite Calibration – Stab Measurement Summary

Before: 3–Aug–2013 19:01

BS Window Ratio	0.7398	N/A	0.7409	N/A	N/A	N/A	
BS Window Sum	24360	N/A	24050	N/A	N/A	N/A	CPS
SS Window Ratio	0.4923	N/A	0.4918	N/A	N/A	N/A	
SS Window Sum	13870	N/A	13850	N/A	N/A	N/A	CPS
LS Window Ratio	0.3038	N/A	0.2993	N/A	N/A	N/A	
LS Window Sum	1246	N/A	1243	N/A	N/A	N/A	CPS

#### High resolution Integrated Logging Tool–DTS Wellsite Calibration – Photo–multiplier High Voltages Calibrations

Before: 3–Aug–2013 19:01

BS PM High Voltage (Command)	1665	N/A	1682	N/A	N/A	N/A	V
SS PM High Voltage (Command)	1710	N/A	1719	N/A	N/A	N/A	V
LS PM High Voltage (Command)	1328	N/A	1331	N/A	N/A	N/A	V

#### High resolution Integrated Logging Tool–DTS Wellsite Calibration – Crystal Quality Resolutions Calibration

Before: 3–Aug–2013 19:01

BS Crystal Resolution	11.49	N/A	11.59	N/A	N/A	N/A	%
SS Crystal Resolution	10.15	N/A	10.16	N/A	N/A	N/A	%
LS Crystal Resolution	8.223	N/A	8.246	N/A	N/A	N/A	%

#### High resolution Integrated Logging Tool–DTS Wellsite Calibration – MCFL Calibration

Before: 3–Aug–2013 19:02

Raw B0 Resistivity	3875	N/A	3914	N/A	N/A	N/A	OHMM
Raw B1 Resistivity	3830	N/A	3855	N/A	N/A	N/A	OHMM
Raw B2 Resistivity	3830	N/A	3873	N/A	N/A	N/A	OHMM

#### High resolution Integrated Logging Tool–DTS Wellsite Calibration – HILT Caliper Calibration

Before: 3–Aug–2013 18:57

HILT Caliper Zero Measurement	8.000	N/A	7.878	N/A	N/A	N/A	IN
HILT Caliper Plus Measurement	12.00	N/A	12.17	N/A	N/A	N/A	IN

#### High resolution Integrated Logging Tool–DTS Wellsite Calibration – Detector Calibration

Before: 3–Aug–2013 18:57

Gamma Ray Background	30.00	N/A	83.98	N/A	N/A	N/A	GAPI
Gamma Ray (Jig – Bkgd)	165.0	N/A	173.4	N/A	N/A	15.00	GAPI

#### High resolution Integrated Logging Tool–DTS Wellsite Calibration – Zero Measurement

Master: 17–May–2013 14:28 Before: 3–Aug–2013 18:58

CNTC Background	27.37	27.37	26.96	N/A	N/A	4.106	CPS
CFTC Background	27.33	27.33	29.29	N/A	N/A	4.100	CPS

#### High resolution Integrated Logging Tool–DTS Wellsite Calibration – Ratio Measurement

Master: 17–May–2013 14:28

Thermal Near Corr. (Tank)	5800	5686	N/A	N/A	N/A	N/A	CPS
Thermal Far Corr. (Tank)	2400	2326	N/A	N/A	N/A	N/A	CPS
CNTC/CFTC (Tank)	2.159	2.445	N/A	N/A	N/A	N/A	

The GLS–VJ source activity is acceptable.

The HGNS Neutron Master Calibration was done with the following parameters :

NCT–B Water Temperature 120.0 DEGF.  
Thermal Housing Size 3.373 IN.  
NSR–F serial number 2554

Array Induction Tool – H / Equipment Identification

Primary Equipment:  
Rm/SP Bottom Nose AHRM – A  
Array Induction Sonde AHIS – BA 216  
Auxiliary Equipment:

Array Induction Tool – H Wellsite Calibration							
Electronics Calibration Check – Thru Cal Mag. & Phase							
Idx	Phase	Value	Thru Cal Magnitude V	Nominal	Value	Phase DEG	Nominal
0	Master	0.6284		0.6050	51.01		71.00
	Before	0.6288			51.84		
1	Master	1.289		1.270	49.97		70.00
	Before	1.289			50.81		
2	Master	0.6392		0.6230	46.16		66.00
	Before	0.6391			47.03		
3	Master	0.7217		0.7040	45.37		65.00
	Before	0.7219			46.24		
4	Master	1.359		1.337	38.91		59.00
	Before	1.358			39.85		
5	Master	1.969		1.955	36.97		57.00
	Before	1.970			37.93		
6	Master	1.968		1.955	36.96		57.00
	Before	1.970			37.92		
7	Master	1.402		1.415	32.69		53.00
	Before	1.407			33.98		
		60.00 % (Minimum)	(Nominal)	140.0 % (Maximum)	Nom –60.00 (Minimum)	(Nominal)	Nom + 60.00 (Maximum)
Master: 24–Jun–2013 13:36				Before: 3–Aug–2013 18:59			

Array Induction Tool – H Wellsite Calibration							
Electronics Calibration Check – Auxilliary							
Phase	Array Induction SPA Plus MV		Value	Phase	Array Induction SPA Zero MV		Value
Master			991.9	Master			0.04840
Before			993.0	Before			-0.03146
941.0 (Minimum)		990.5 (Nominal)	1040 (Maximum)	-50.00 (Minimum)		0 (Nominal)	50.00 (Maximum)
Phase	Array Induction Temperature Plus V		Value	Phase	Array Induction Temperature Zero V		Value
Master			0.9202	Master			5.566E-00
Before			0.9212	Before			-2.783E-00

0.8700 (Minimum)	0.9150 (Nominal)	0.9600 (Maximum)	-0.05000 (Minimum)	0 (Nominal)	0.05000 (Maximum)
Master: 24-Jun-2013 13:36			Before: 3-Aug-2013 18:59		

Array Induction Tool – H Wellsite Calibration							
Test Loop Gain Correction							
Idx	Value	Test Loop Gain Magnitude V			Value	Phase DEG	
0	1.010				0.4079		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
1	1.011				0.4401		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
2	1.012				-0.1075		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
3	1.014				-0.04307		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
4	0.9963				-0.1595		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
5	0.9871				-0.3086		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
6	0.9876				1.269		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
7	1.000				-0.2832		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
Master: 24-Jun-2013 13:36							

Array Induction Tool – H Wellsite Calibration							
Sonde Error Correction							
Idx	Value	R Sonde Error Correction MM/M			Value	X Sonde Error Correction MM/M	
0	-89.27				-129.9		
		-231.0 (Minimum)	-56.00 (Nominal)	119.0 (Maximum)	-2250 (Minimum)	0 (Nominal)	2250 (Maximum)
1	164.9				-37.62		
		114.0 (Minimum)	159.0 (Nominal)	204.0 (Maximum)	-625.0 (Minimum)	0 (Nominal)	625.0 (Maximum)
2	113.6				-149.2		
		66.00 (Minimum)	111.0 (Nominal)	156.0 (Maximum)	-350.0 (Minimum)	0 (Nominal)	350.0 (Maximum)
3	59.90				-28.97		
		39.00 (Minimum)	64.00 (Nominal)	89.00 (Maximum)	-250.0 (Minimum)	0 (Nominal)	250.0 (Maximum)
4	26.21				-16.68		
		15.00 (Minimum)	25.00 (Nominal)	35.00 (Maximum)	-63.00 (Minimum)	0 (Nominal)	63.00 (Maximum)
5	13.27				-17.94		
		4.000 (Minimum)	14.00 (Nominal)	24.00 (Maximum)	-50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)
6	10.28				0.1348		
		5.000 (Minimum)	10.00 (Nominal)	15.00 (Maximum)	-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)
7	-0.3196				2.617		
		-5.000 (Minimum)	0 (Nominal)	5.000 (Maximum)	-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)
Master: 24-Jun-2013 13:36							

Array Induction Tool – H Wellsite Calibration				
Mud Gain Correction				
Idx	Value	Coarse – Mag, Real, Imag		Fine – Mag, Real, Imag
0	0.8608			

		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
1	0.8608				0.8623			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
2	0.8608				0.8623			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)

Master: 24-Jun-2013 13:36

### Digitizing Sonic Logging Tool / Equipment Identification

#### Primary Equipment:

BHC Sonde  
Digitizing Sonic Logging Cartridge

SLS – W  
DSLC – B

#### Auxiliary Equipment:

Electronics Cartridge Housing

ECH – KH

### High resolution Integrated Logging Tool–DTS / Equipment Identification

#### Primary Equipment:

HILT high-Resolution Mechanical Sonde  
HILT Rxo Gamma-ray Device  
HILT Micro Cylindrically Focused Log Dev  
GR Logging Source  
HILT High Res. Control Cartridge  
HILT Gamma-Ray Neutron Sonde–DTS  
HGNS Gamma-Ray Device  
HGNS Neutron Detector with Alpha Source

HRMS – H  
HRGD – H  
MCFL – H  
GLS – VJ  
HRCC – H  
HGNS – H  
HGR –  
HCNT – H

5471

#### Auxiliary Equipment:

Neutron Calibration Tank  
Gamma Source Radioactive  
HGNS Housing

NCT – B  
GSR – U/Y  
HGNH –

### High resolution Integrated Logging Tool–DTS Wellsite Calibration

#### Stab Measurement Summary

Phase	BS Window Ratio	Value	Phase	SS Window Ratio	Value	Phase	LS Window Ratio	Value
Before		0.7409	Before		0.4918	Before		0.2993
	0.7028 (Minimum)	0.7398 (Nominal)	0.7767 (Maximum)		0.4677 (Minimum)	0.4923 (Nominal)	0.5169 (Maximum)	
						0.2886 (Minimum)	0.3038 (Nominal)	0.3190 (Maximum)
Phase	BS Window Sum CPS	Value	Phase	SS Window Sum CPS	Value	Phase	LS Window Sum CPS	Value
Before		24050	Before		13850	Before		1243
	23150 (Minimum)	24360 (Nominal)	25580 (Maximum)		13180 (Minimum)	13870 (Nominal)	14560 (Maximum)	
						1184 (Minimum)	1246 (Nominal)	1309 (Maximum)

Before: 3-Aug-2013 19:01

### High resolution Integrated Logging Tool–DTS Wellsite Calibration

#### Photo-multiplier High Voltages Calibrations

Phase	BS PM High Voltage (Command) V	Value	Phase	SS PM High Voltage (Command) V	Value	Phase	LS PM High Voltage (Command) V	Value
Before		1682	Before		1719	Before		1331
	1565 (Minimum)	1665 (Nominal)	1765 (Maximum)		1610 (Minimum)	1710 (Nominal)	1810 (Maximum)	
						1228 (Minimum)	1328 (Nominal)	1428 (Maximum)

Before: 3-Aug-2013 19:01

### High resolution Integrated Logging Tool–DTS Wellsite Calibration




#### Crystal Quality Resolutions Calibration



Phase	BS Crystal Resolution %	Value	Phase	SS Crystal Resolution %	Value	Phase	LS Crystal Resolution %	Value
Before		11.59	Before		10.16	Before		8.246
	10.49 (Minimum)	11.49 (Nominal)	12.49 (Maximum)		9.153 (Minimum)	10.15 (Nominal)	11.15 (Maximum)	
						7.223 (Minimum)	8.223 (Nominal)	9.223 (Maximum)



Before: 3-Aug-2013 19:01





### High resolution Integrated Logging Tool–DTS Wellsite Calibration




#### MCFI Calibration


Phase	Raw B0 Resistivity OHMM	Value	Phase	Raw B1 Resistivity OHMM	Value	Phase	Raw B2 Resistivity OHMM	Value
Before		3914	Before		3855	Before		3873
3565 (Minimum)	3875 (Nominal)	4185 (Maximum)	3524 (Minimum)	3830 (Nominal)	4136 (Maximum)	3524 (Minimum)	3830 (Nominal)	4136 (Maximum)
Before: 3-Aug-2013 19:02								

High resolution Integrated Logging Tool-DTS Wellsite Calibration					
HILT Caliper Calibration					
Phase	HILT Caliper Zero Measurement IN	Value	Phase	HILT Caliper Plus Measurement IN	Value
Before		7.878	Before		12.17
6.000 (Minimum)	8.000 (Nominal)	10.00 (Maximum)	9.000 (Minimum)	12.00 (Nominal)	15.00 (Maximum)
Before: 3-Aug-2013 18:57					

High resolution Integrated Logging Tool-DTS Wellsite Calibration					
Detector Calibration					
Phase	Gamma Ray Background GAPI	Value	Phase	Gamma Ray (Jig - Bkgd) GAPI	Value
Before		83.98	Before		173.4
0 (Minimum)	30.00 (Nominal)	120.0 (Maximum)	157.1 (Minimum)	165.0 (Nominal)	206.3 (Maximum)
Before: 3-Aug-2013 18:57					

High resolution Integrated Logging Tool-DTS Wellsite Calibration					
Zero Measurement					
Phase	CNTC Background CPS	Value	Phase	CFTC Background CPS	Value
Master		27.37	Master		27.33
Before		26.96	Before		29.29
5.000 (Minimum)	27.37 (Nominal)	40.00 (Maximum)	5.000 (Minimum)	27.33 (Nominal)	40.00 (Maximum)
Master: 17-May-2013 14:28			Before: 3-Aug-2013 18:58		

High resolution Integrated Logging Tool-DTS Wellsite Calibration											
Ratio Measurement											
Phase	Thermal Near Corr. (Tank) CPS		Value	Phase	Thermal Far Corr. (Tank) CPS		Value	Phase	CNTC/CFTC (Tank)		Value
Master			5686	Master			2326	Master			2.445
	4700 (Minimum)	5800 (Nominal)	6900 (Maximum)		1900 (Minimum)	2400 (Nominal)	2900 (Maximum)		2.120 (Minimum)	2.159 (Nominal)	2.540 (Maximum)
Master: 17-May-2013 14:28											

High resolution Integrated Logging Tool-DTS Wellsite Calibration		
Accelerometer Calibration		
Phase	Z-Axis Acceleration F/S2	Value
Before		32.10
31.53 (Minimum)	32.19 (Nominal)	32.84 (Maximum)
Before: 5-Aug-2013 7:45		

Combinable Magnetic Resonance Tool - B / Equipment Identification		
Primary Equipment:		
CMR Cartridge	CMRC - B	283
CMR-B Sonde	CMRS - BA	265
Auxiliary Equipment:		
CMR Housing	CMRH - AA	

DTS Telemetry Tool / Equipment Identification	
Primary Equipment:	
DTC-H Auxiliary Cartridge	DTCH - A
DTC-H Telemetry Cartridge	DTCH - A
Auxiliary Equipment:	

Company: **Omimex Petroleum Inc**

**Schlumberger**

Well: **Vega 4–29–1–49**

Field: **Wildcat**

County: **Washington**

State: **Colorado**

Platform Express  
Compensated Neutron  
Litho Density