Schlumberger

Company: **Omimex Petroleum Inc**

Well: **Vega 4−29−1−49**
Field: **Wildcat**
County: **Washington** State: **Colorado**

Platform Express
Micro Log

County: Washington
Field: Wildcat
Location: NWNW Sec. 29, T1S, R49W
Well: Vega 4−29−1−4
Company: Omimex Petroleum Inc

LOCATION

NWNW Sec. 29, T1S, R49W
SHL: 1039' FNL X 751' FWL

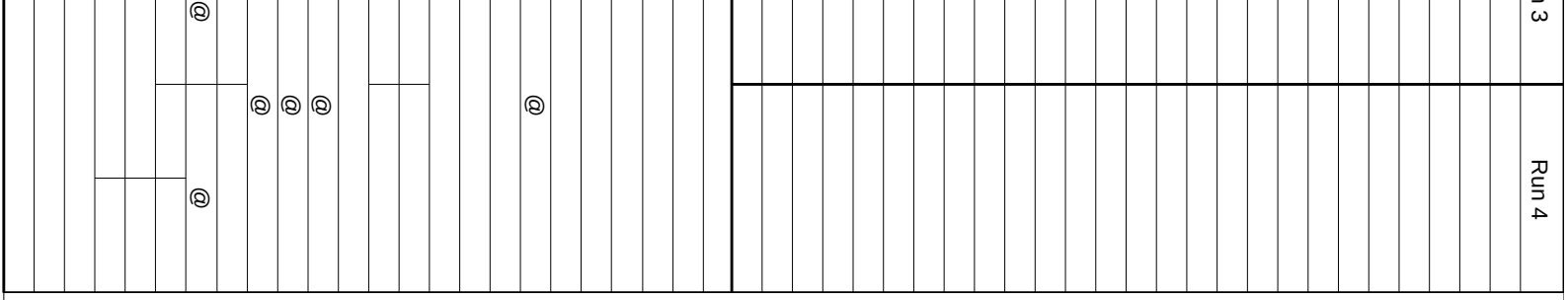
Elev.: K.B. 4393.00 ft
G.L. 4381.00 ft
D.F. 4392.00 ft

Permanent Datum: Ground Level Elev.: 4381.00 ft
Log Measured From: Kelly Bushing 12.00 ft above Perm. Datum
Drilling Measured From: Kelly Bushing

API Serial No.	Section	Township	Range
05−121−11024−0000	29	1S	49W

	Run 1	Run 2	Run
Logging Date	5−Aug−2013		
Run Number	1		
Depth Driller	6800 ft		
Schlumberger Depth	6800 ft		
Bottom Log Interval	6792 ft		
Top Log Interval	516 ft		
Casing Driller Size @ Depth	8.625 in @ 517 ft	@	@
Casing Schlumberger	516 ft		
Bit Size	7.875 in		
Type Fluid In Hole	Water Based Mud		
MUD Density / Viscosity	9.7 lbm/gal / 41 s		
MUD Fluid Loss / PH	/		
MUD Source Of Sample	Flowline		
RM @ Measured Temperature	0.100 ohm.m @ 95 degF	@	@
RMF @ Measured Temperature	0.083 ohm.m @ 95 degF	@	@
RMC @ Measured Temperature	0.115 ohm.m @ 95 degF	@	@
Source RMF / RMC	Mud Press / Mud Press		
RM @ MRT / RMF @ MRT	0.053 @ 185 / 0.044 @ 185	@ /	@
Maximum Recorded Temperatures	185 degF		
Circulation Stopped / Time	5−Aug−2013 / 0:00		
Logger On Bottom / Time	5−Aug−2013 / 9:45		
Unit Number / Location	2135 / Ft. Morgan, CO		
Recorded By	Tim Hoffman		
Witnessed By	Paul DeKaye		

	Run 1	Run 2	Run
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			
MUD Density / Viscosity	/		
MUD Fluid Loss / PH	/		
MUD 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			



DEPTH SUMMARY LISTING

Date Created: 5−AUG−2013 10:38:55

Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW−B	Type:	CMTD−B/A	Type:	7−46P−XS
Serial Number:	5852	Serial Number:	1919	Serial Number:	
Calibration Date:	12−July−2013	Calibration Date:	31−July−2013	Length:	24000 FT
Calibrator Serial Number:		Calibrator Serial Number:	78135		
Calibration Cable Type:	7−46P−XS	Number of Calibration Points:	10	Conveyance Method:	Wireline
Wheel Correction 1:	−4	Calibration RMS:	20	Rig Type:	LAND
Wheel Correction 2:	−3	Calibration Peak Error:	37		

Depth Control Parameters

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:	6.00 FT
Tool Zero Check At Surface:	

Depth Control Remarks

1. All Schlumberger depth policies followed.
2. IDW used as primary depth reference. Z−Chart used as secondary.
3.
4.
5.
6.

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)	

Rig: Excel Rig 3

Crew: Ian Derry, Jake Jump

RUN 1		
SERVICE ORDER #:	CCN1−00019	
PROGRAM VERSION:	19C2−270	
FLUID LEVEL:	200 ft	
LOGGED INTERVAL	START	STOP

RUN 2		
SERVICE ORDER #:		
PROGRAM VERSION:		
FLUID LEVEL:		
LOGGED INTERVAL	START	STOP

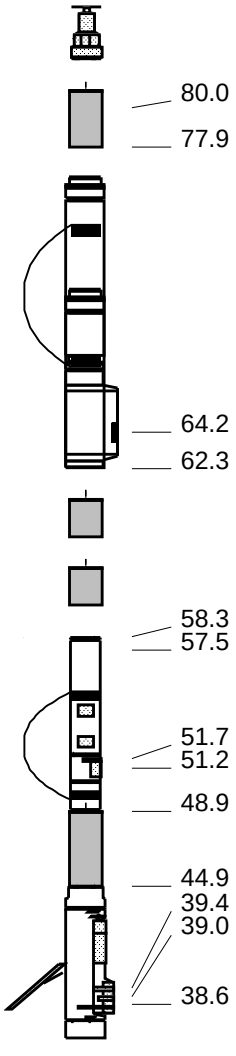
EQUIPMENT DESCRIPTION

RUN 1 RUN 2

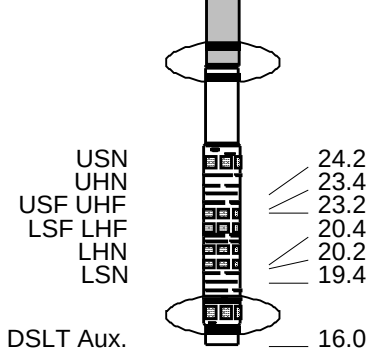
SURFACE EQUIPMENT

GSR−U/Y
NCT−B
CNB−AB
NCS−VB
WITM (DTS)−A

DOWNHOLE EQUIPMENT



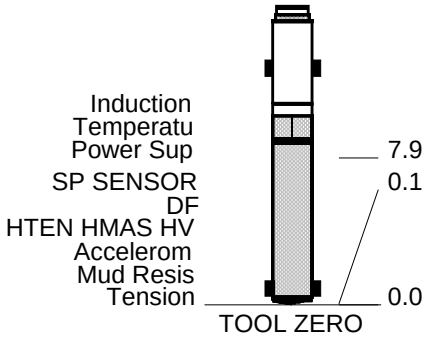
DSLC−B
ECH−KH
SLS−W



HAIT−H
AHIS−BA 216
AHRM−A

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 MICRO LOG 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**	**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

Tension (TENS)
10000 (LBF) 0

Caliper (HCAL)
6 (IN) 16

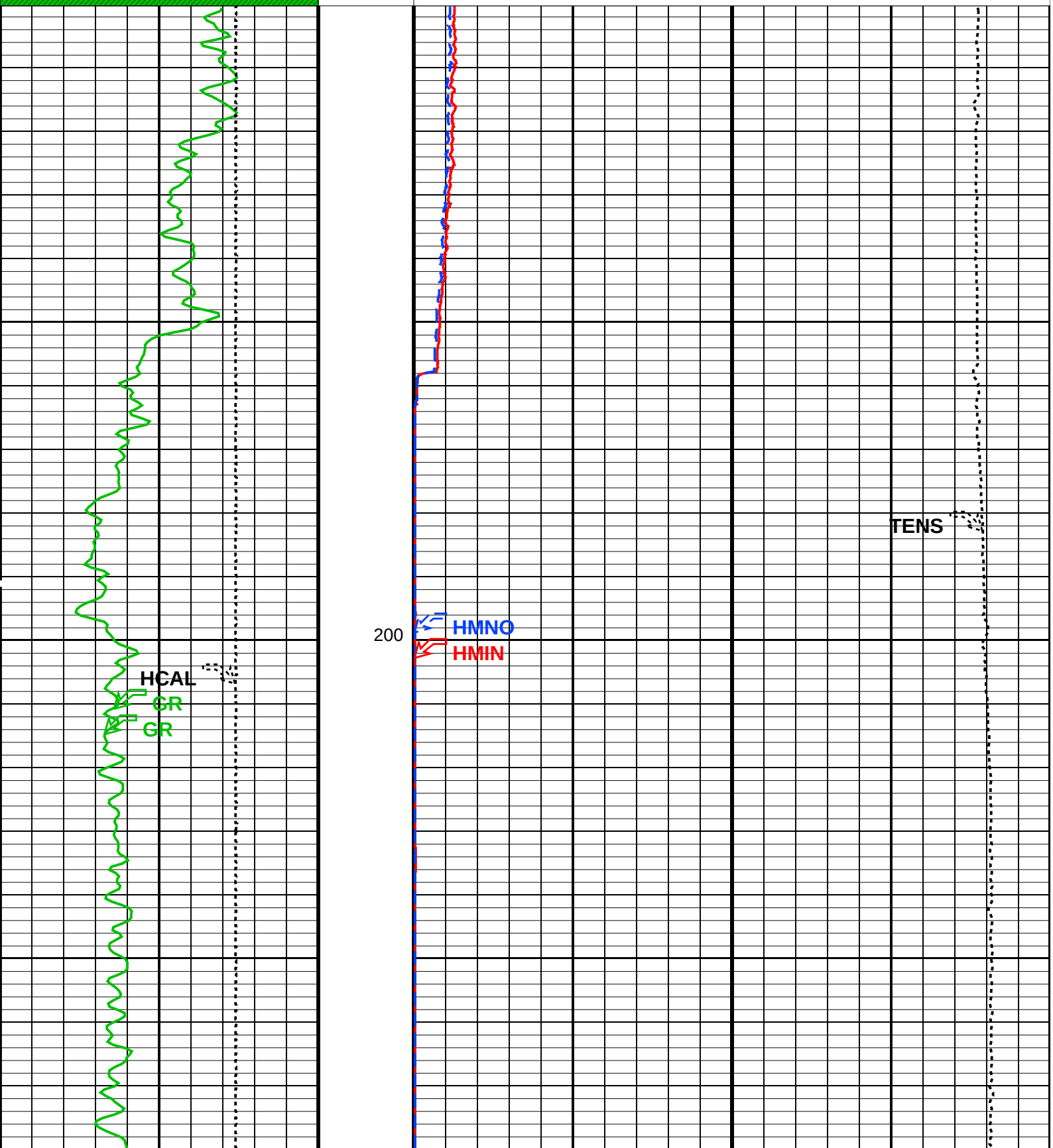
Gamma Ray (GR)
0 (GAPI) 200

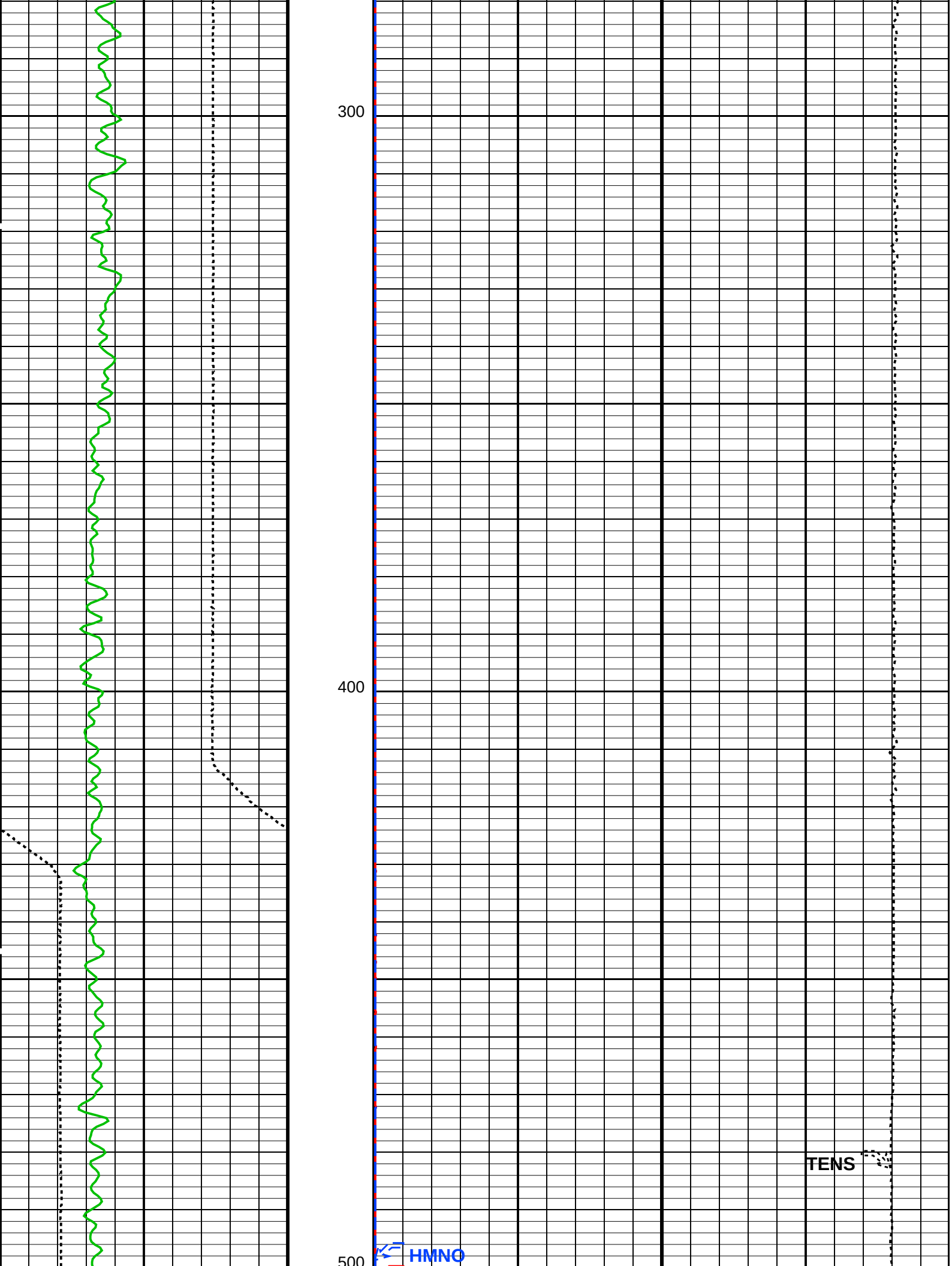
GR BACKUP

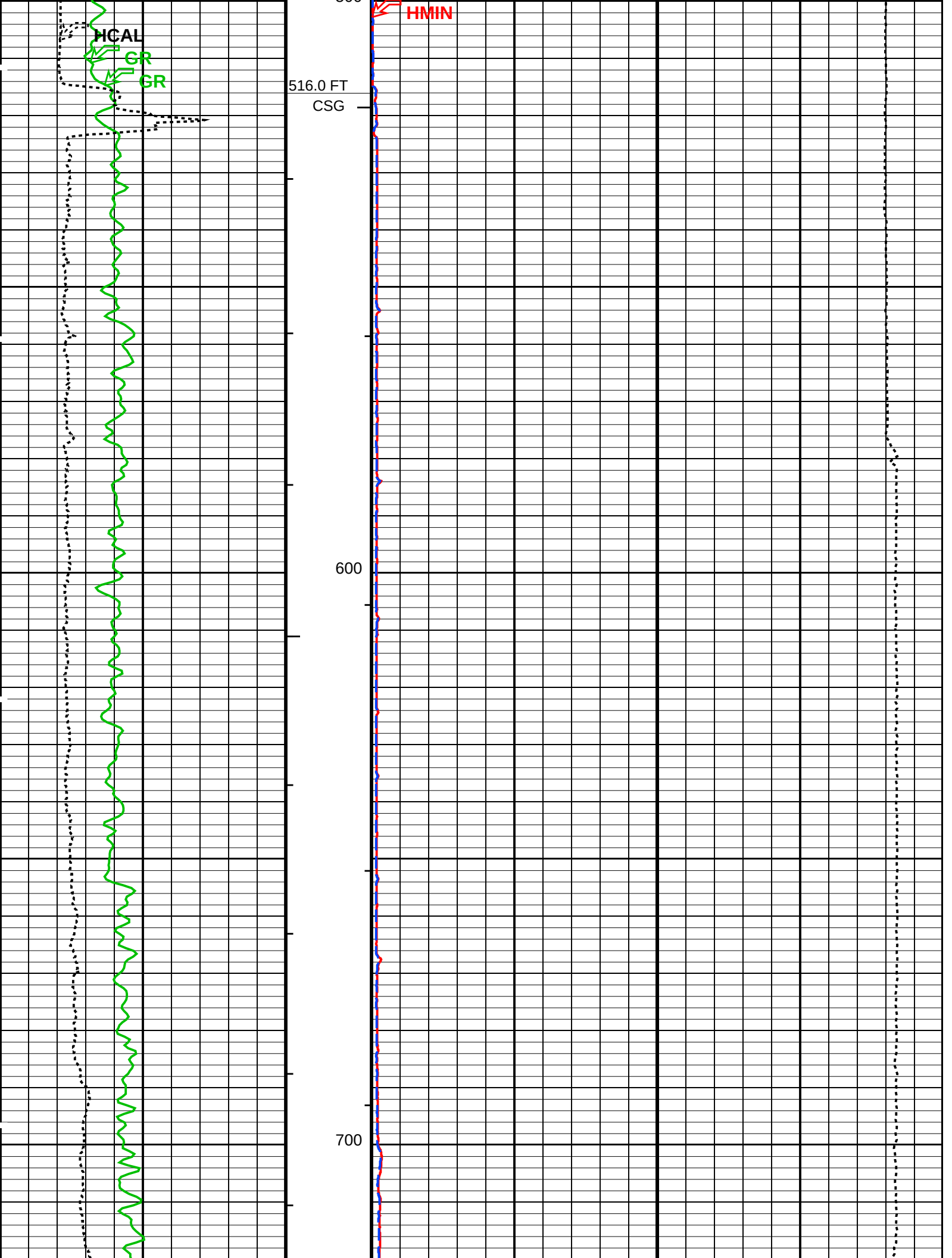
PERM

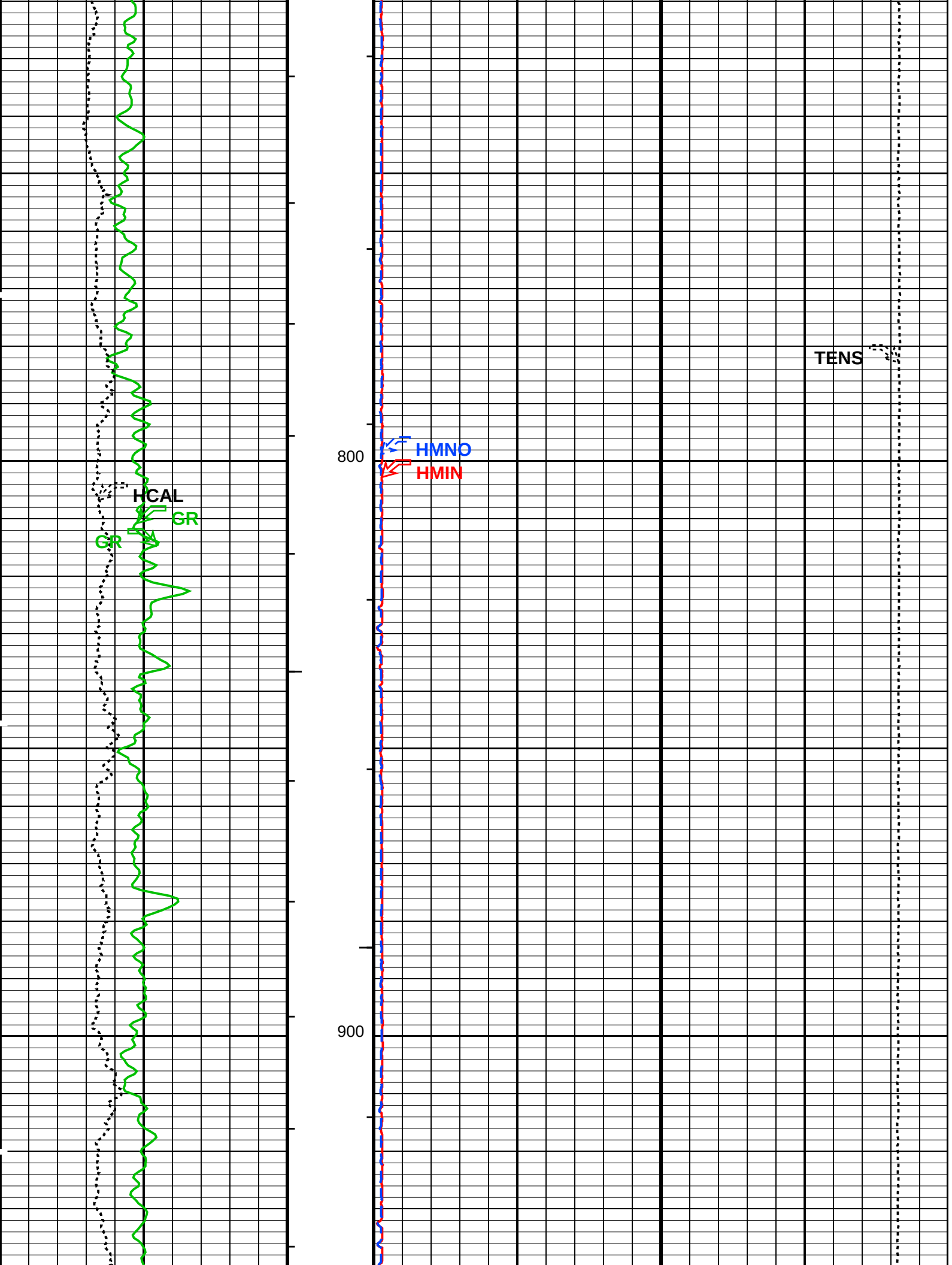
Computed Micro Normal (HMNO)
0 (OHMM) 40

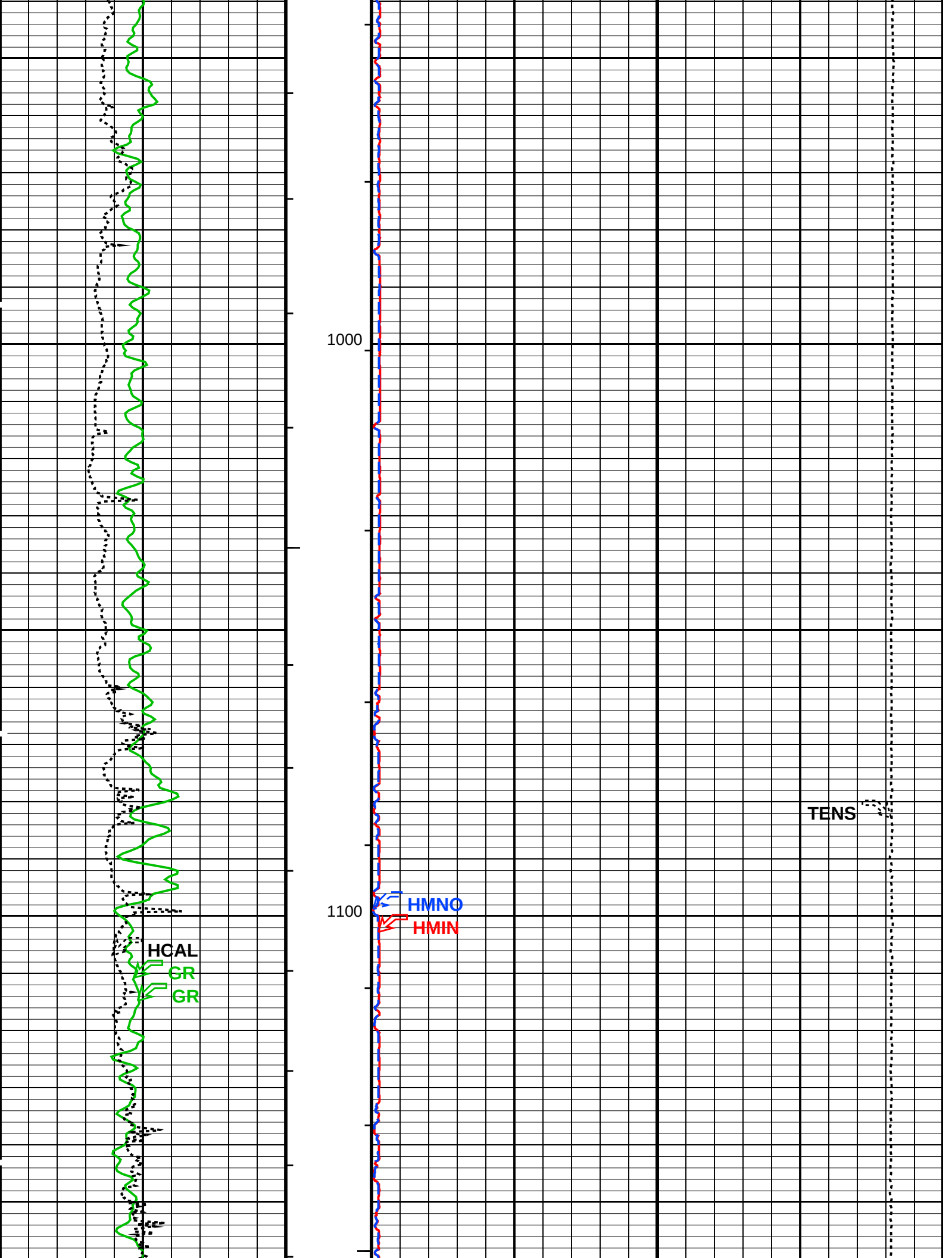
Computed Micro Inverse (HMIN)
0 (OHMM) 40

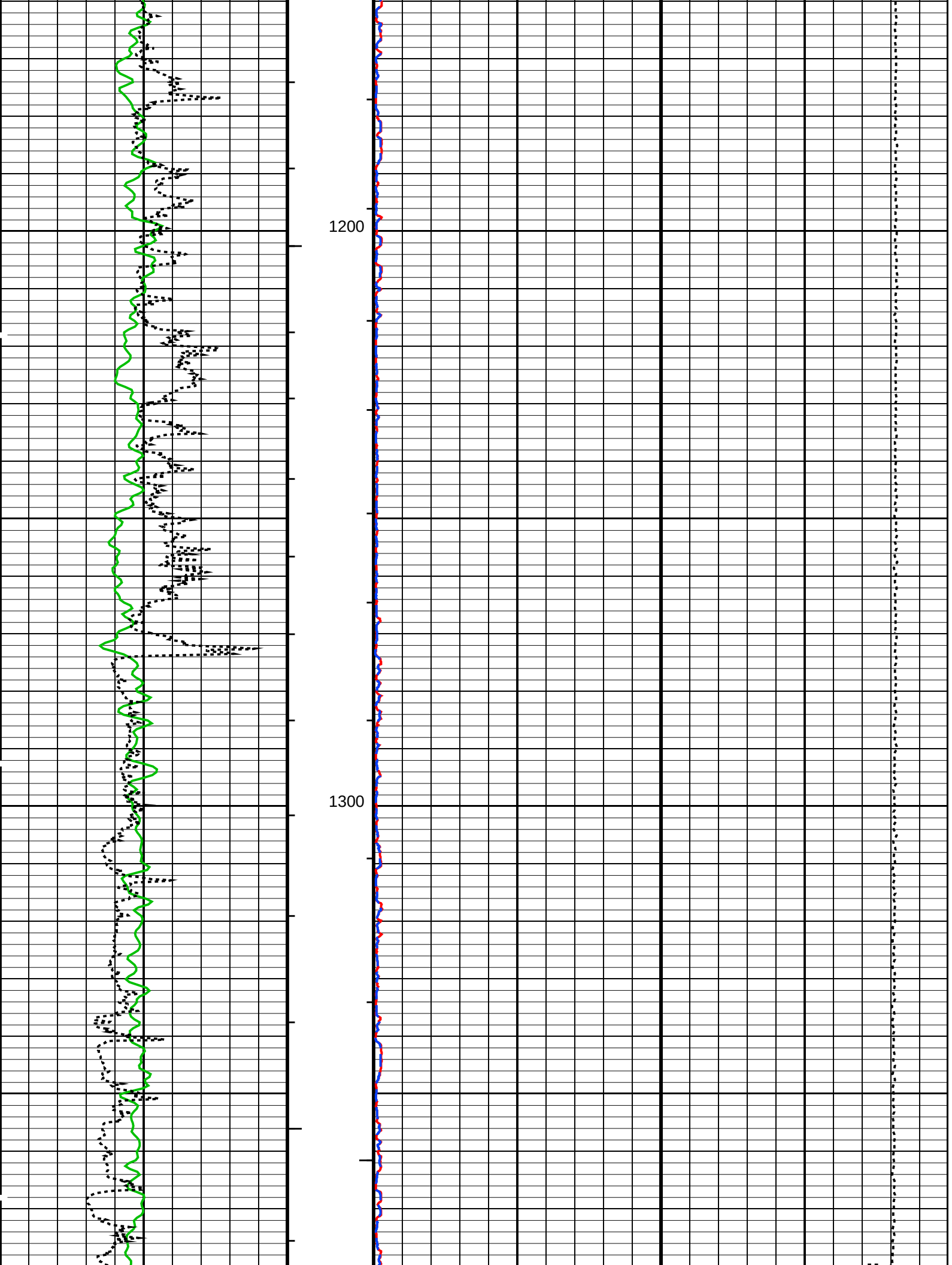


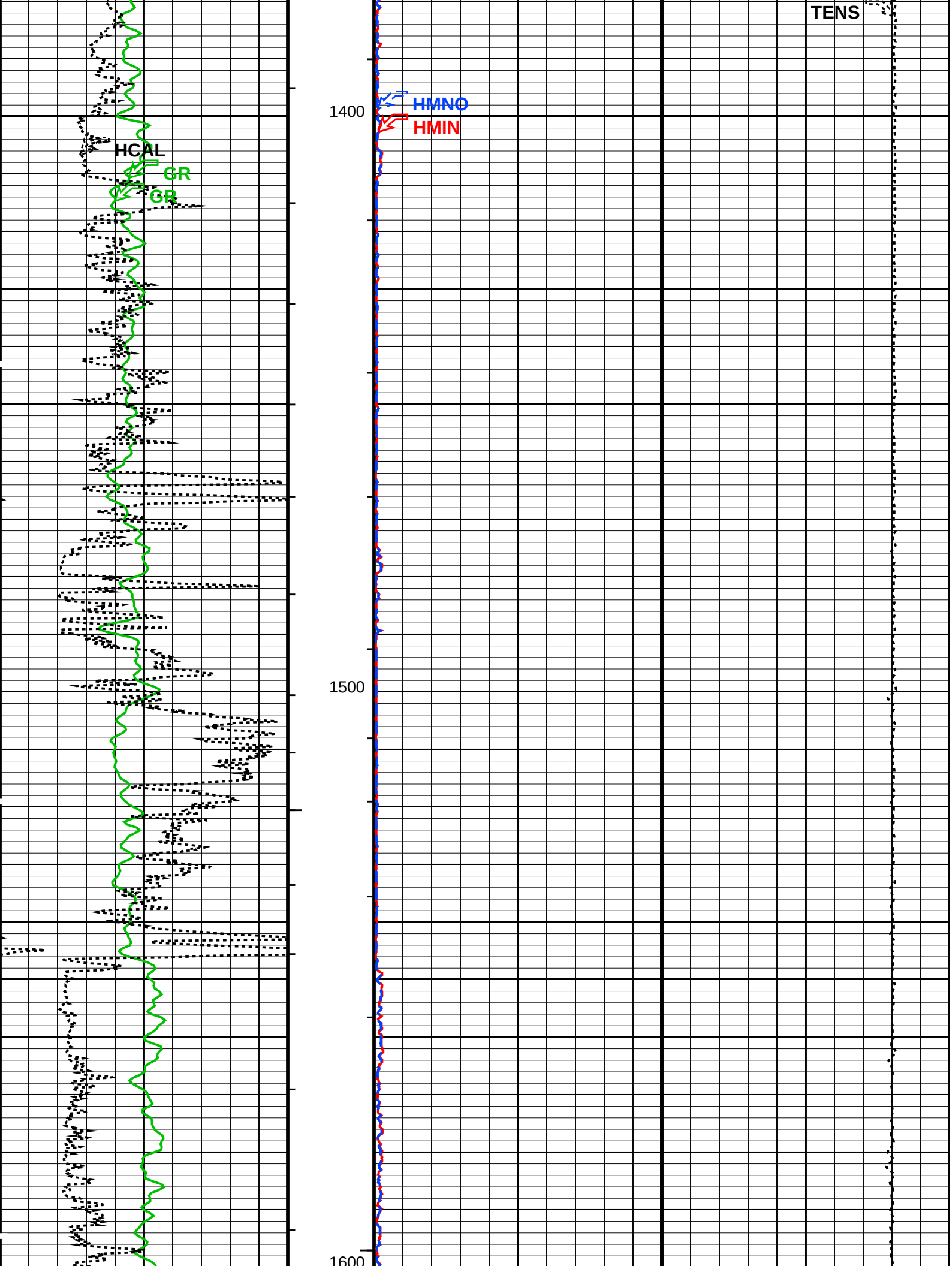

300
400
TENS
HMNO
500

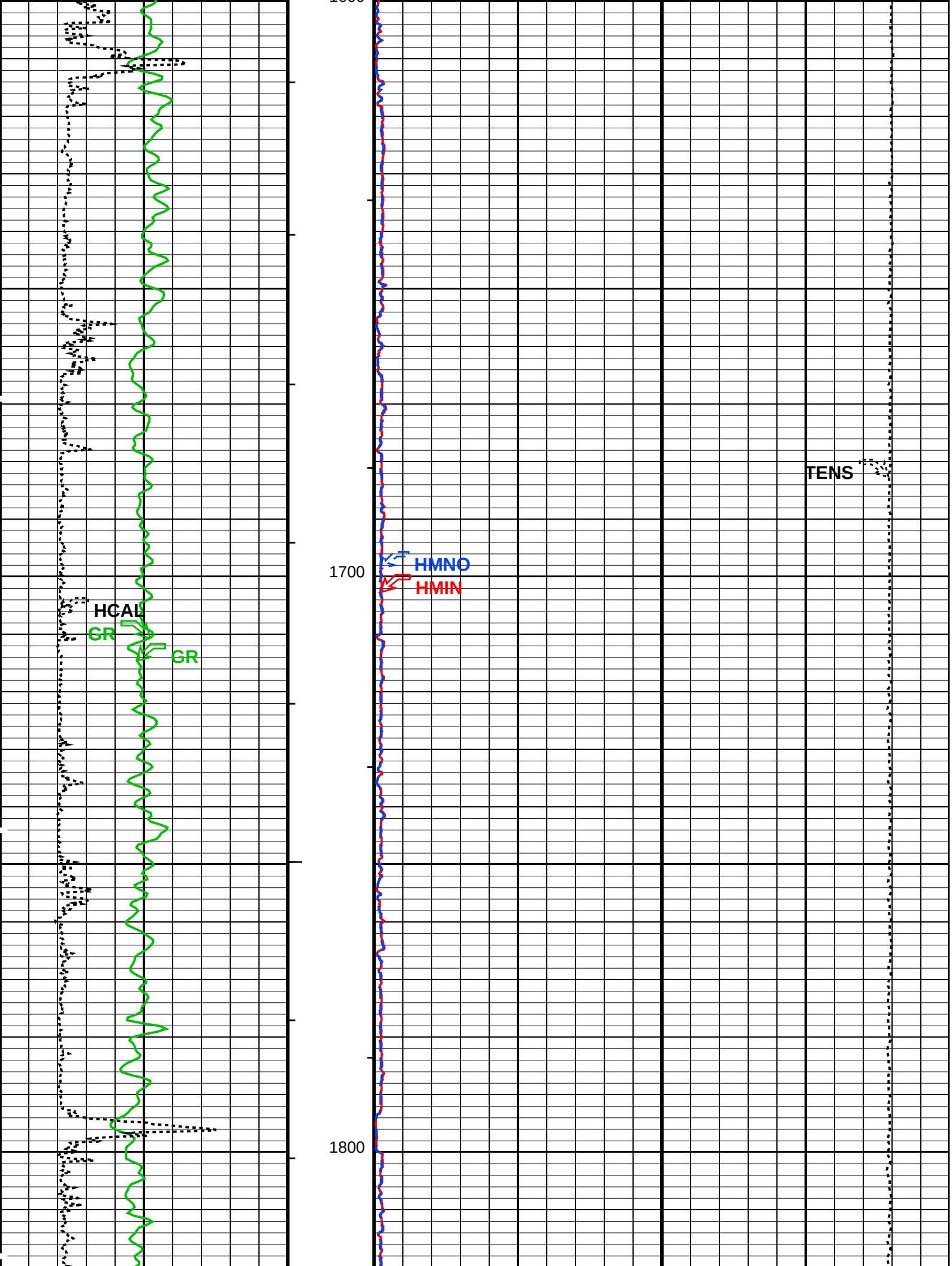

HCAL
GR
GR
HMIN
516.0 FT
CSG
600
700

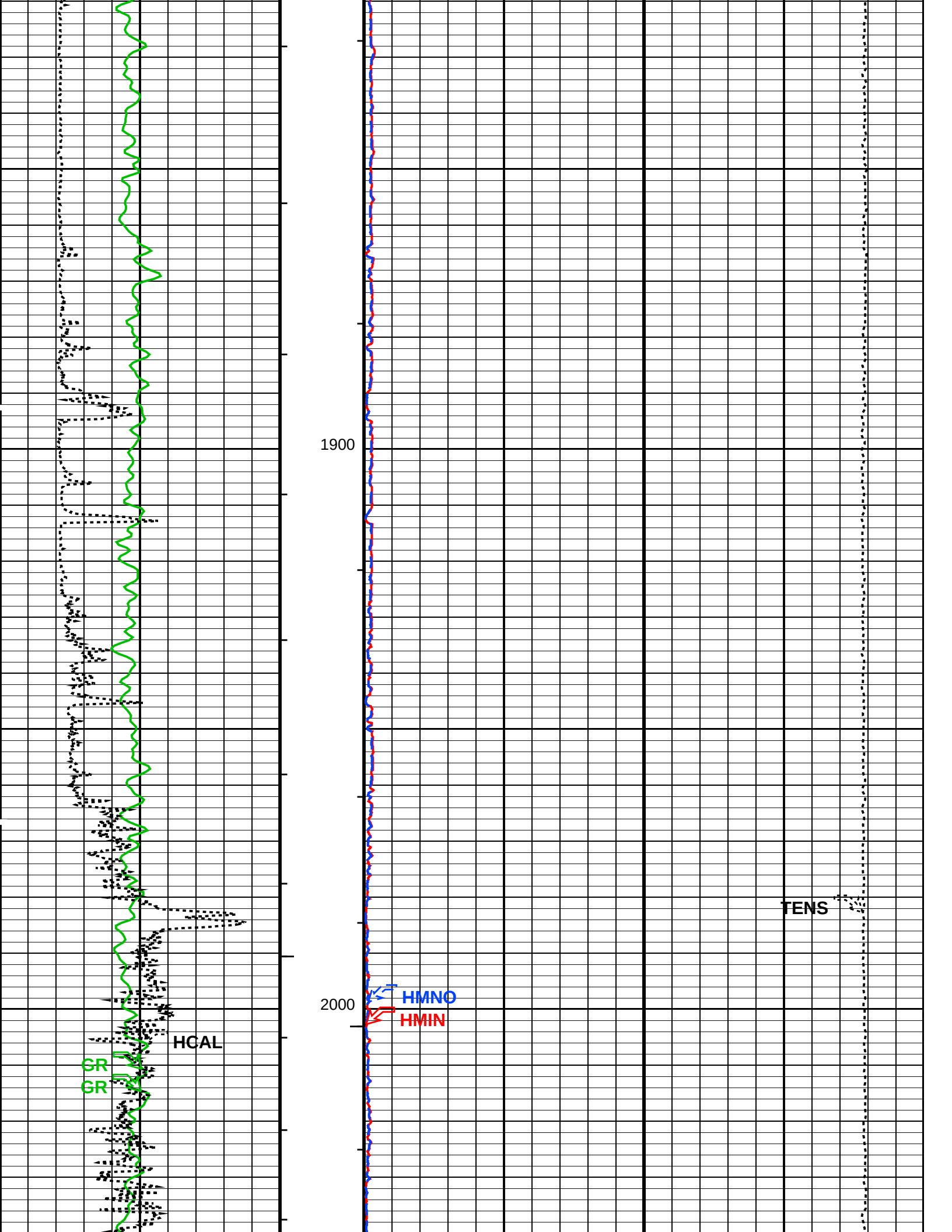

HCAL
GR
GR
800
HMNO
HMIN
TENS
900

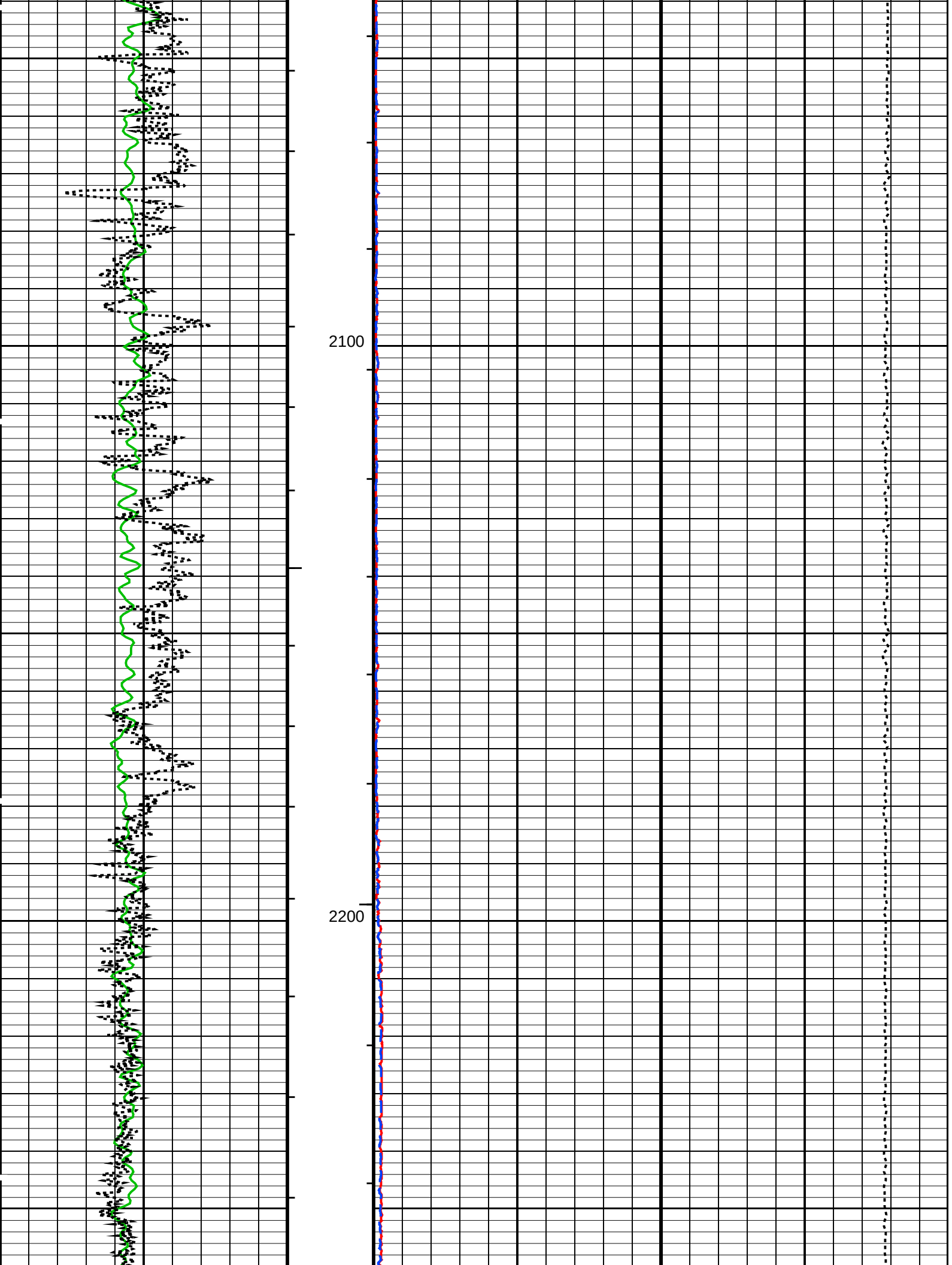

1000
1100
HCAL
GR
GR
HMNO
HMIN
TENS


1200
1300


TENS
HMNO
HMIN
HCAL
GR
GR
1400
1500
1600


HCAL
GR
GR
1700
HMNO
HMIN
TENS
1800


1900
2000
HCAL
GR
GR
HMNO
HMIN
TENS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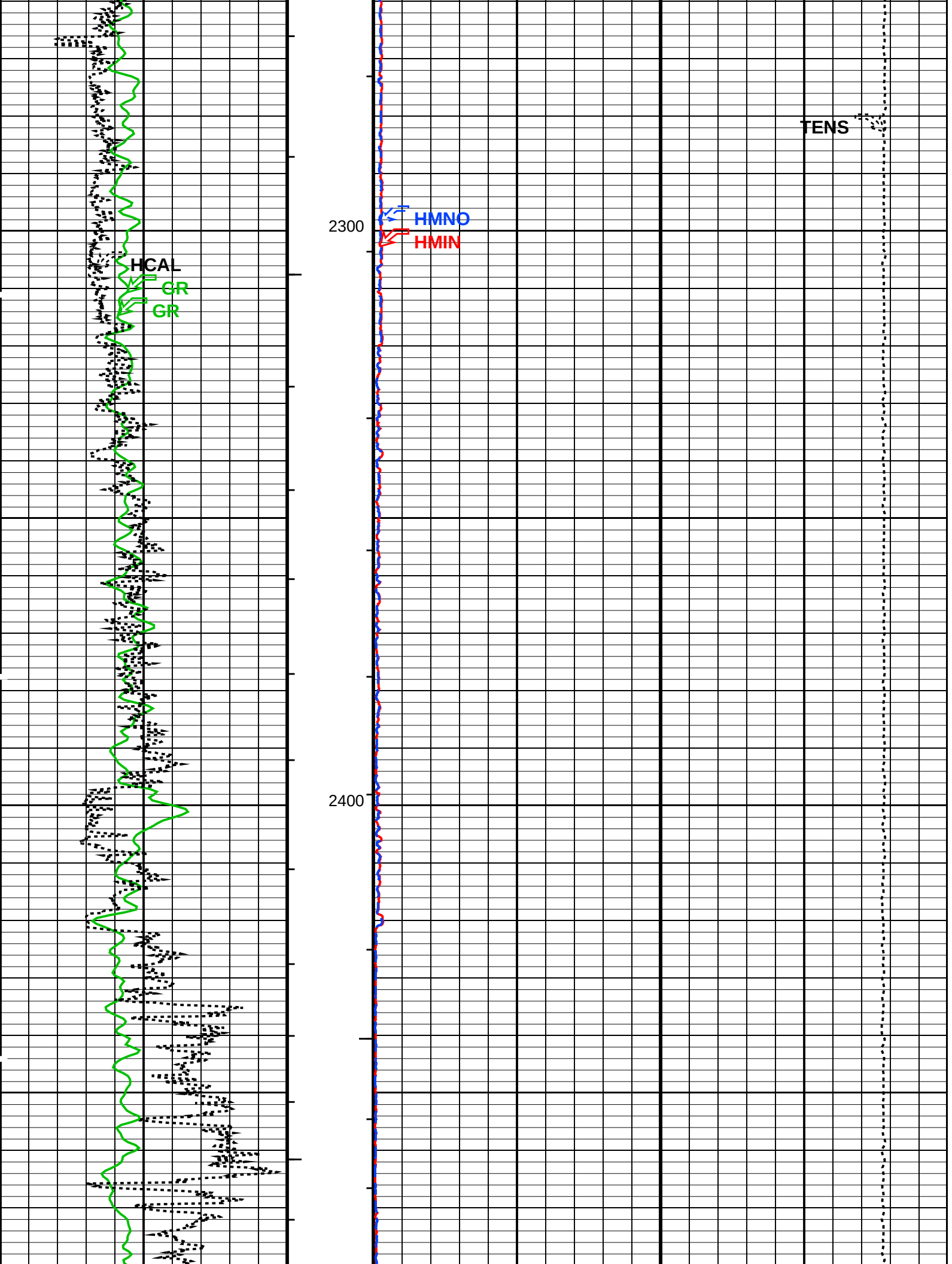
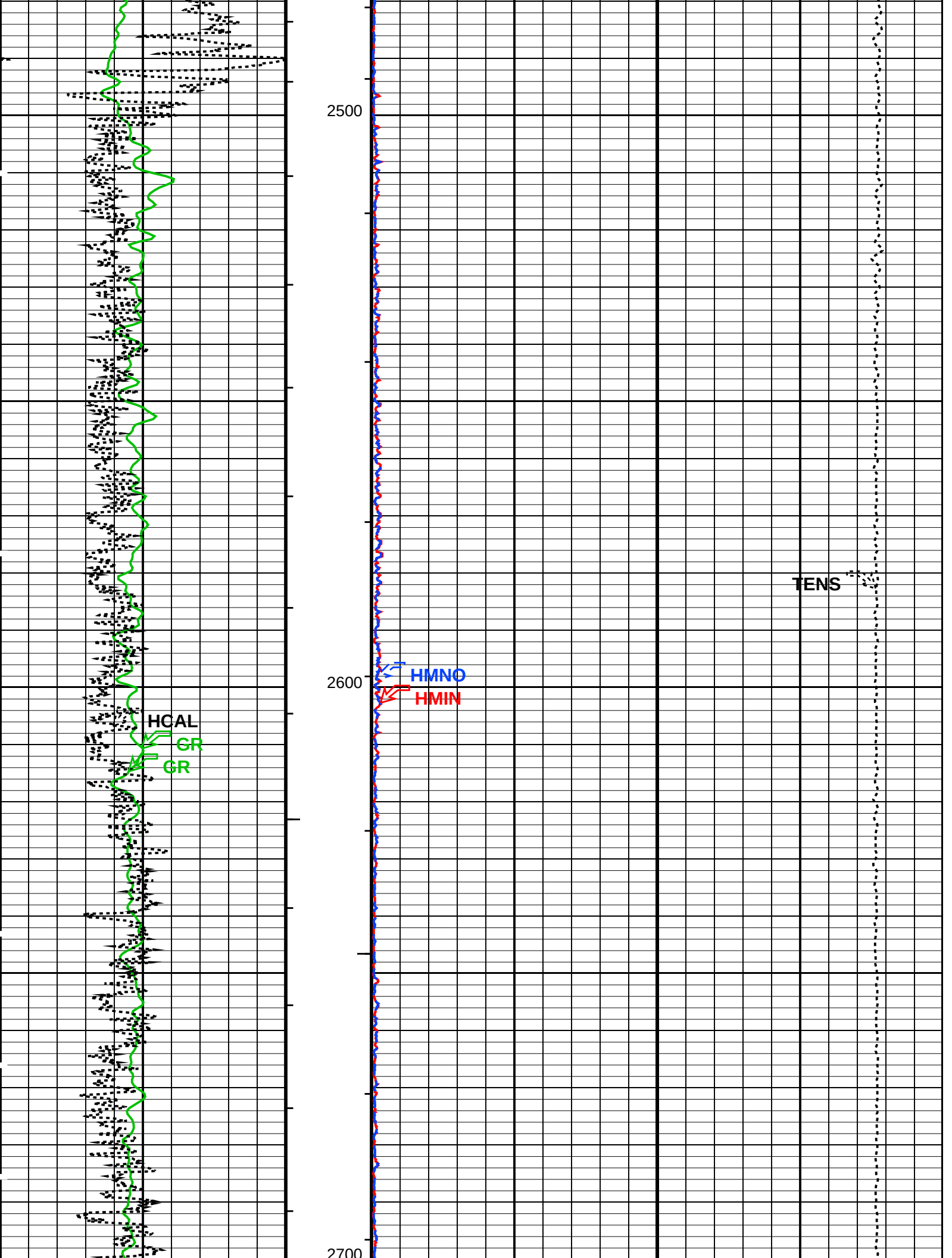
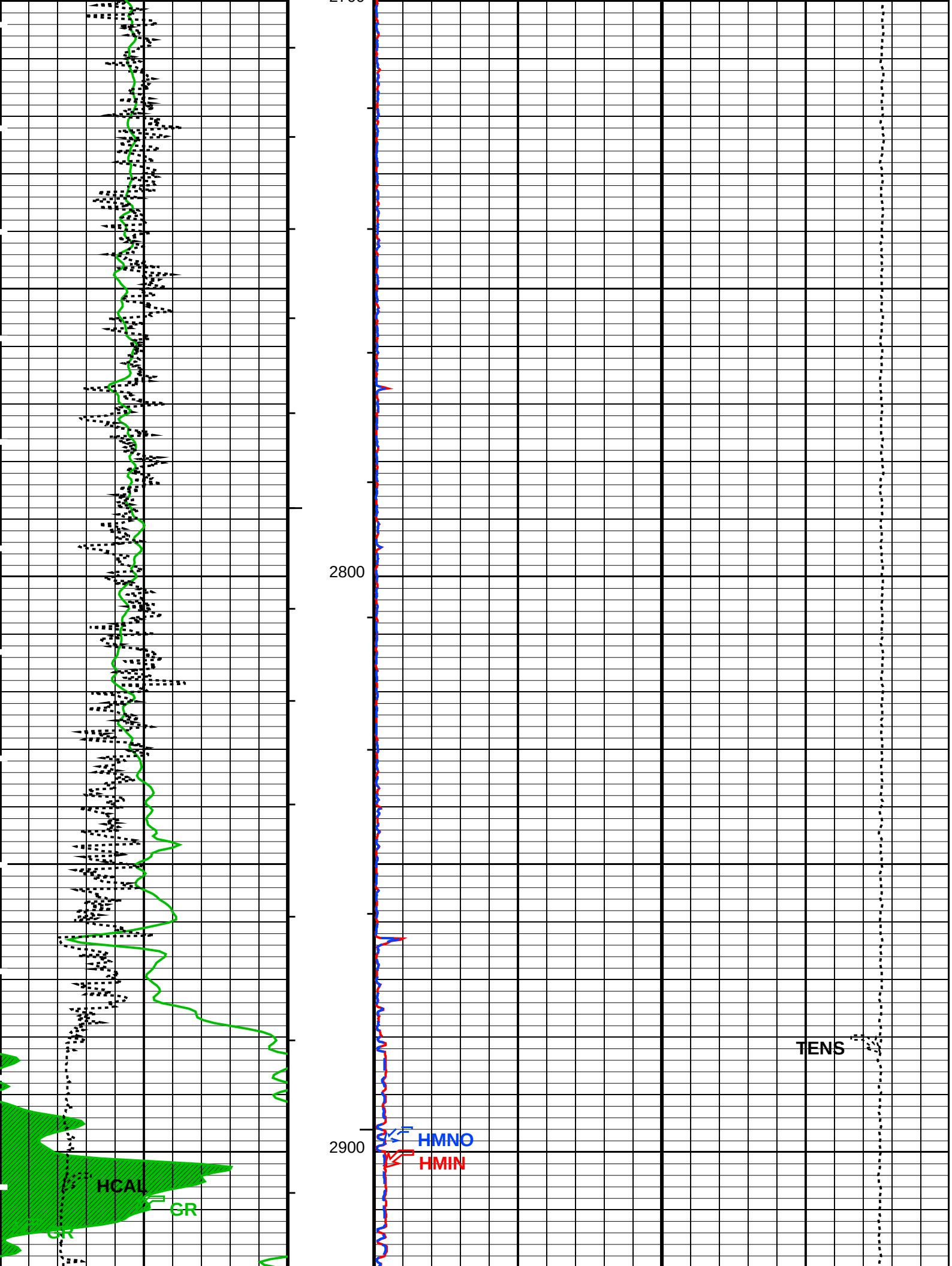
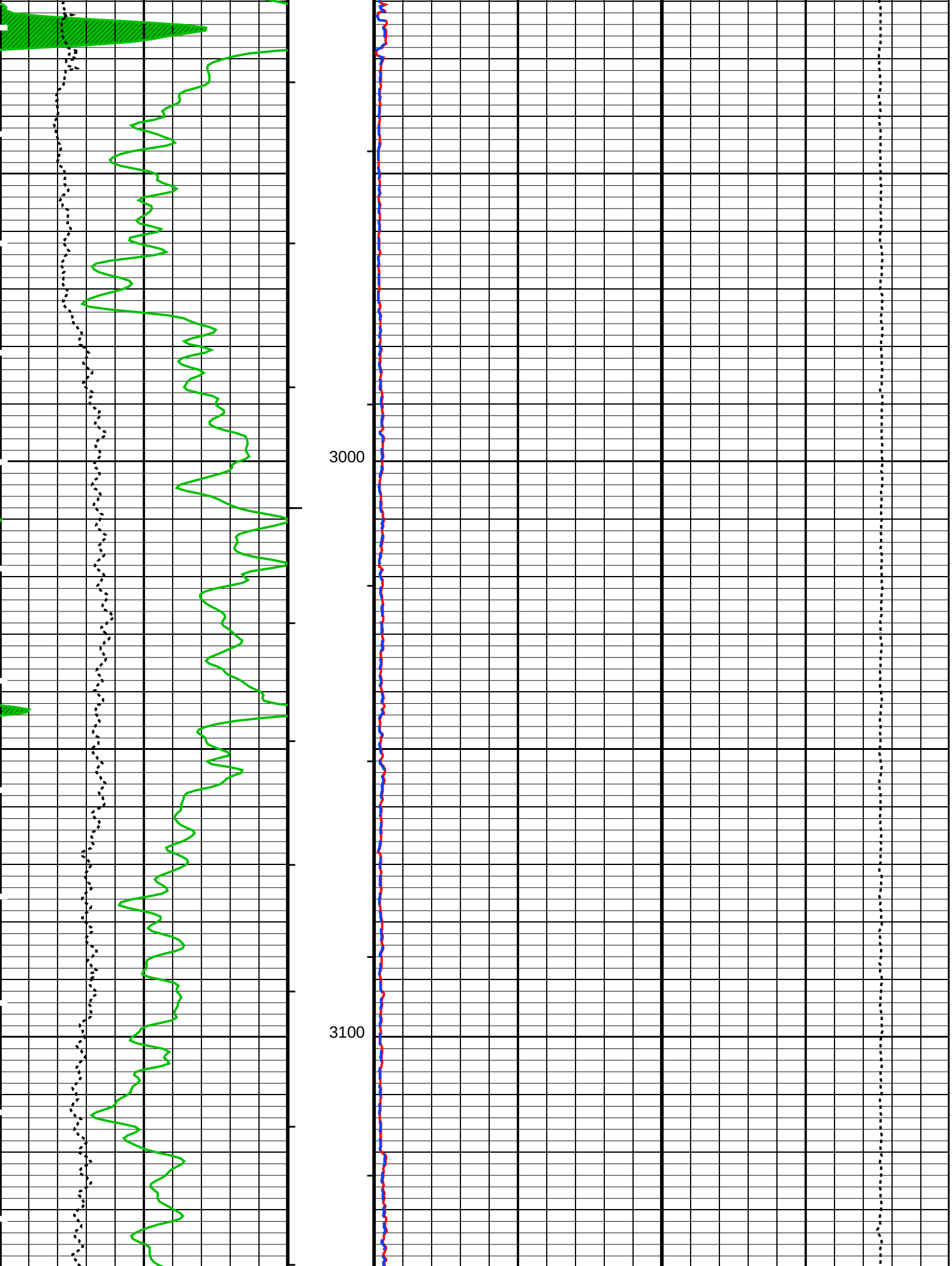
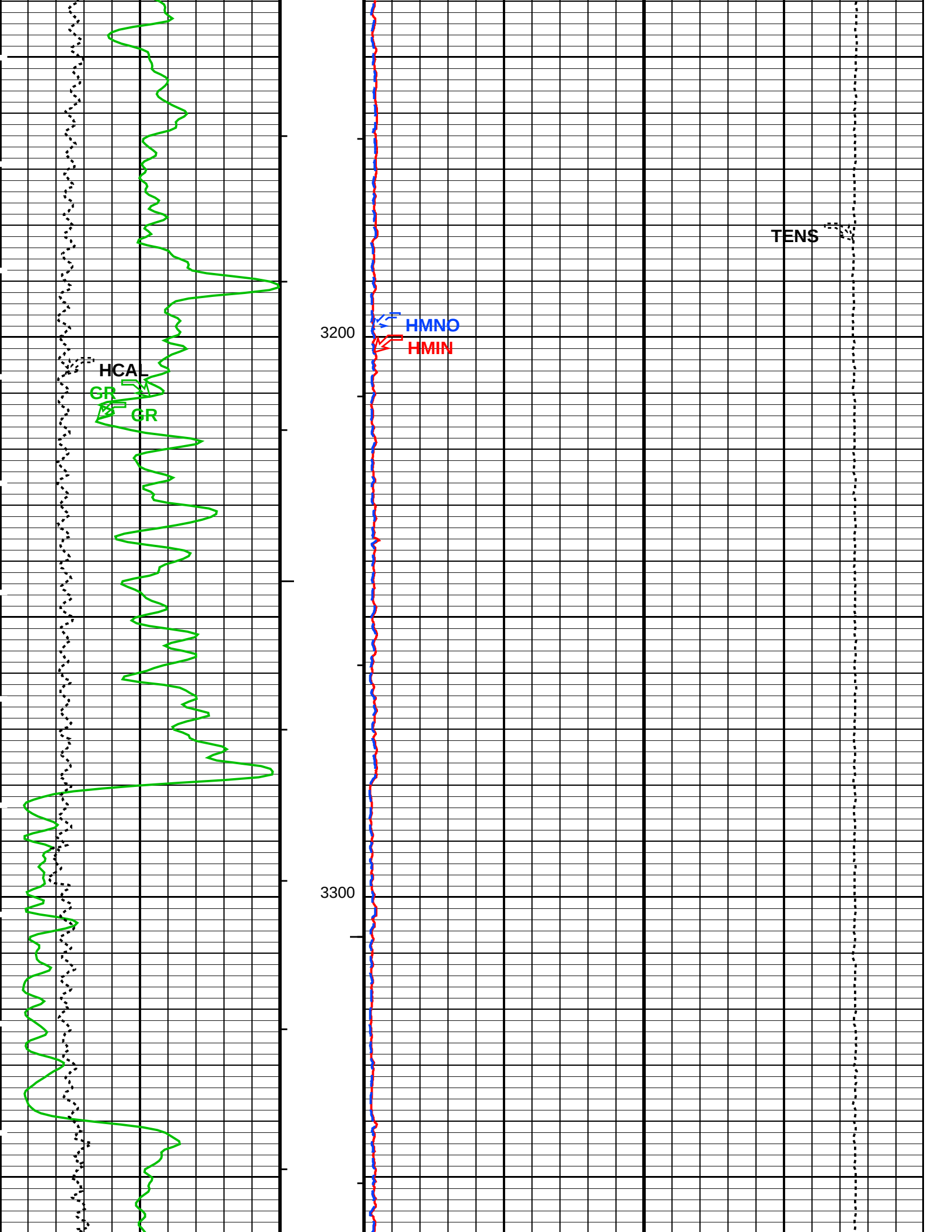
2200

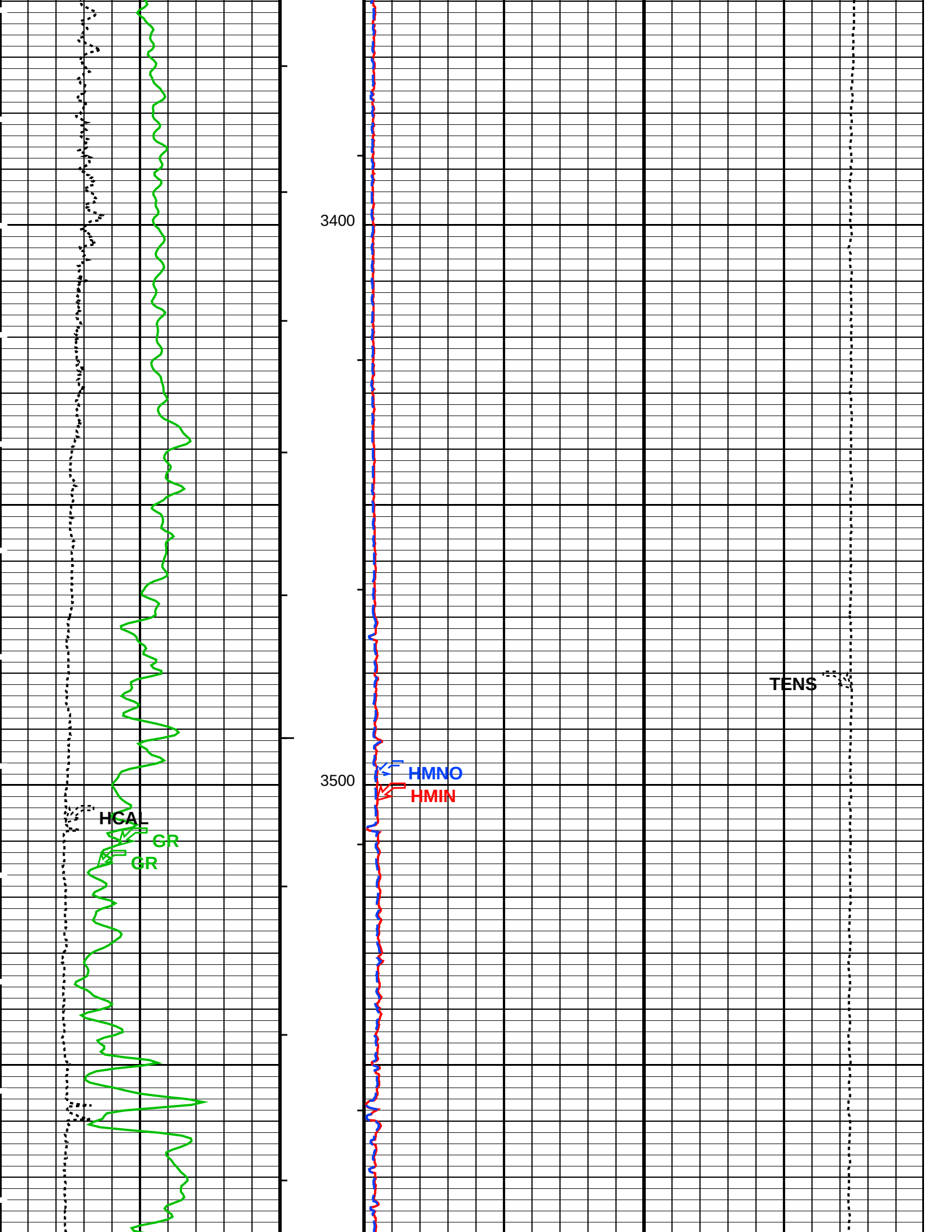

HCAL
GR
GR
2300
HMNO
HMIN
TENS
2400

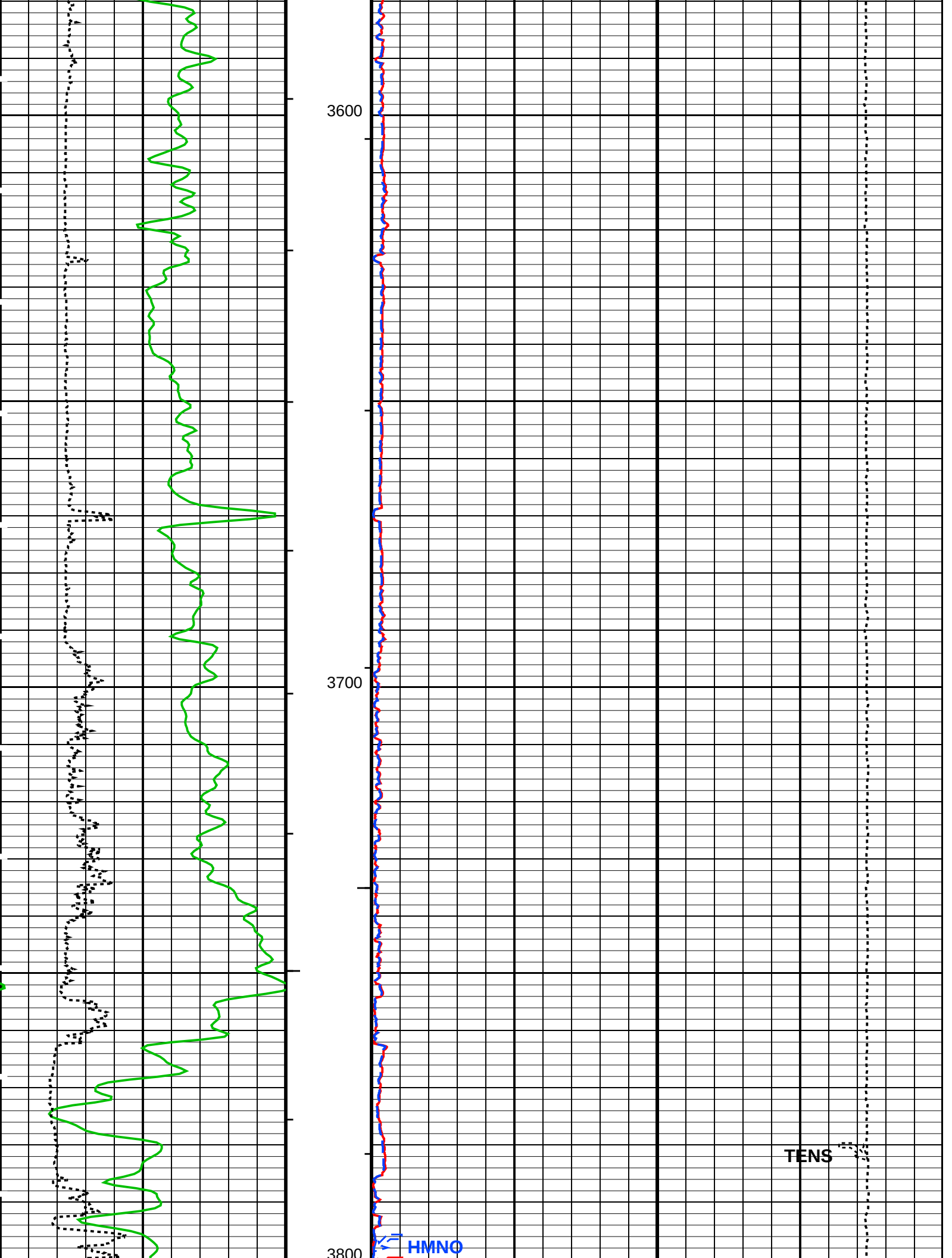

2500
2600
2700
HCAL
GR
GR
HMNO
HMIN
TENS

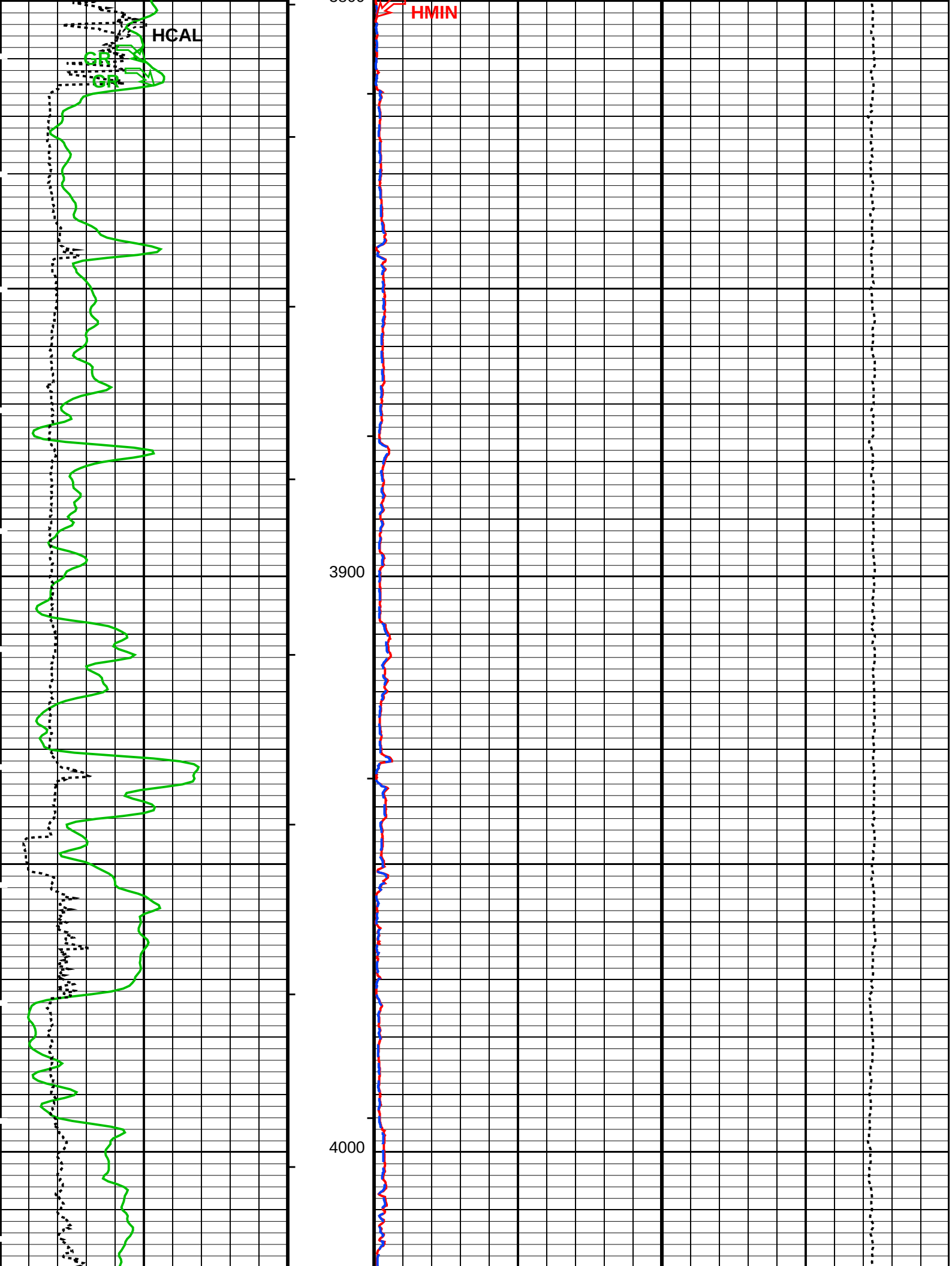

2800
2900
HCAL
GR
GR
HMNO
HMIN
TENS

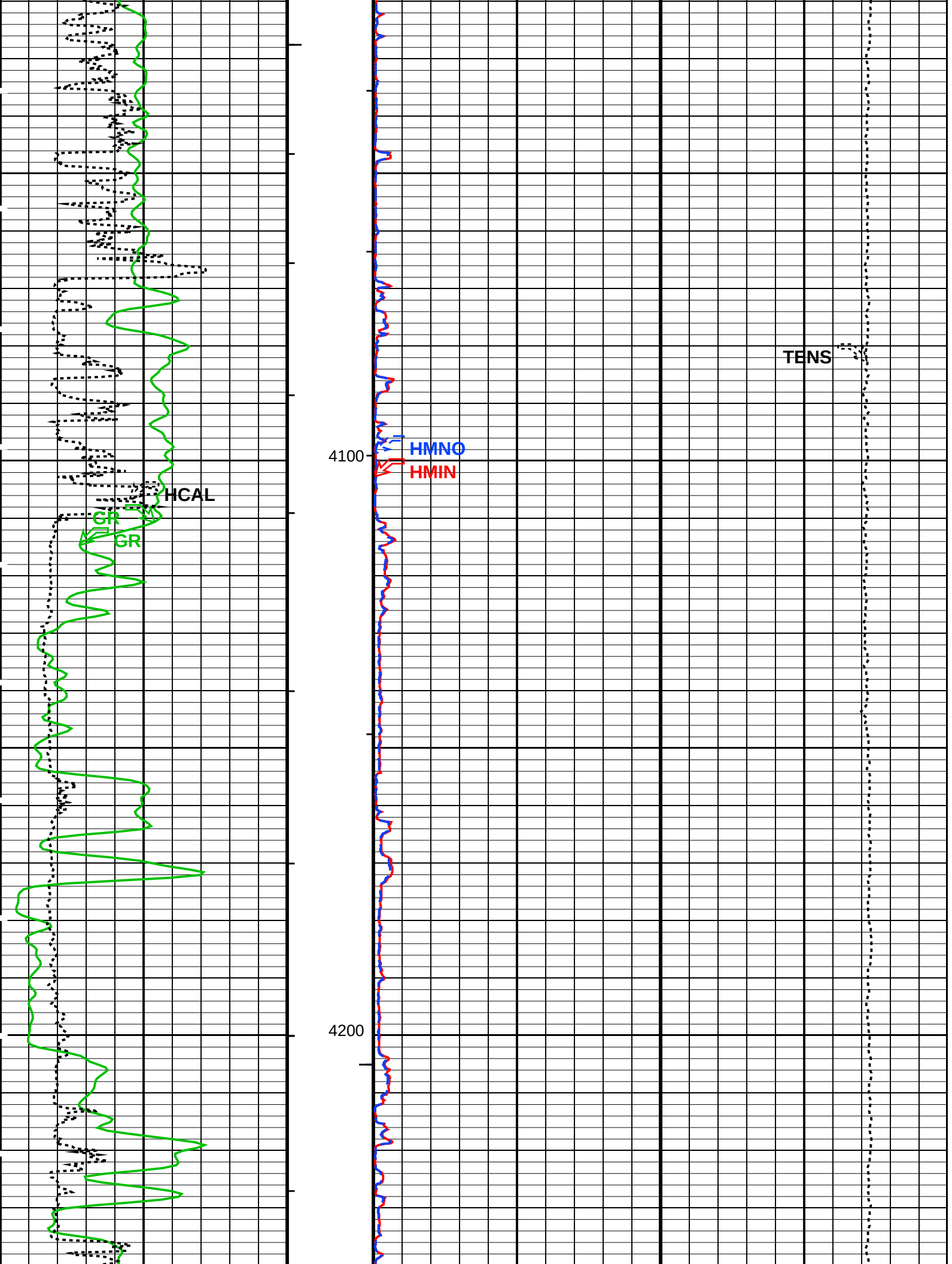

3000
3100

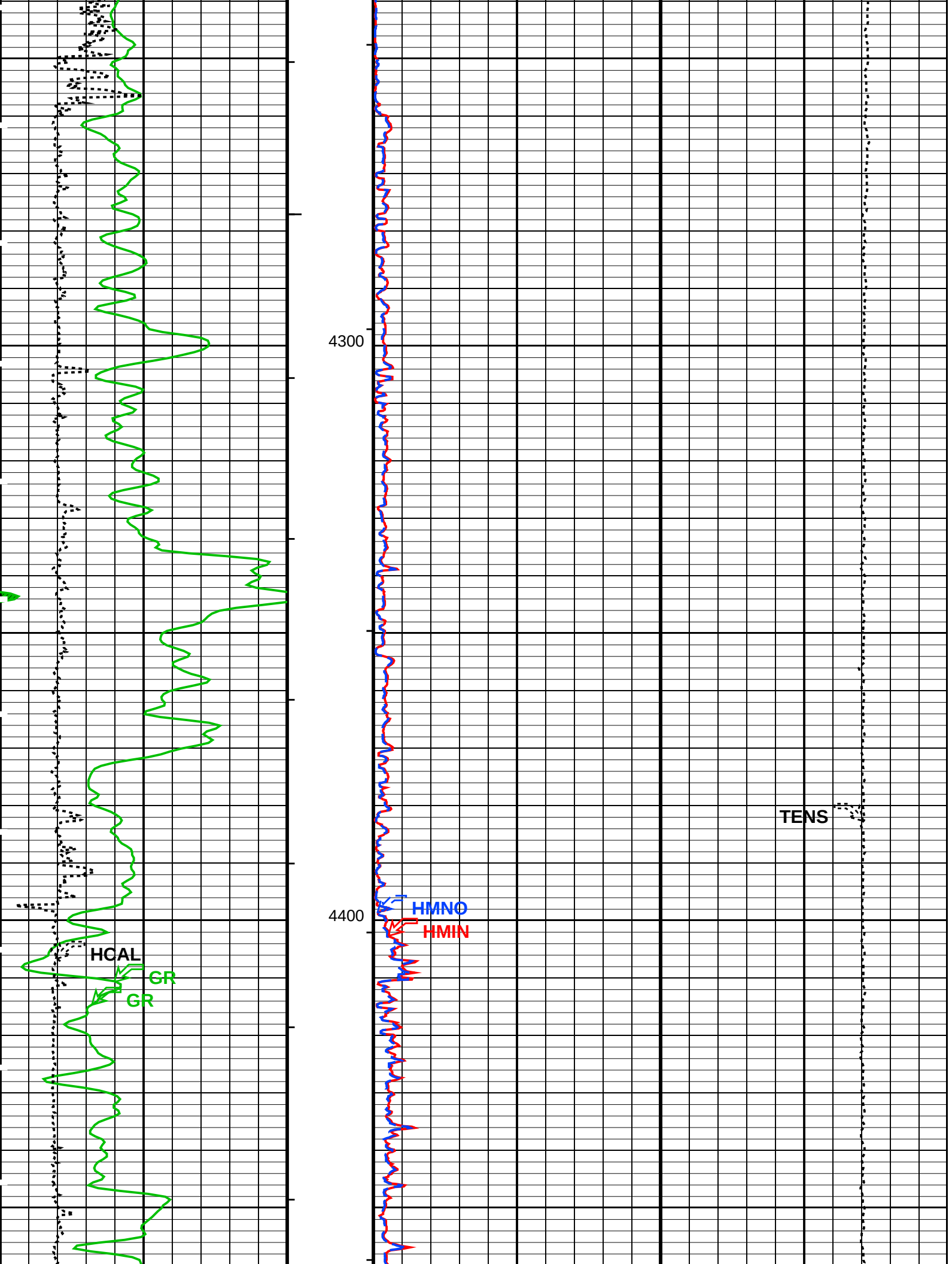

HCAL
GR
GR
HMNO
HMIN
TENS
3200
3300


3400
3500
HCAL
GR
GR
HMNO
HMIN
TENS


3600
3700
3800
HMNO
TENS


HCAL
CR
CR
HMIN
3900
4000


HCAL
GR
GR
4100
HMNO
HMIN
TENS
4200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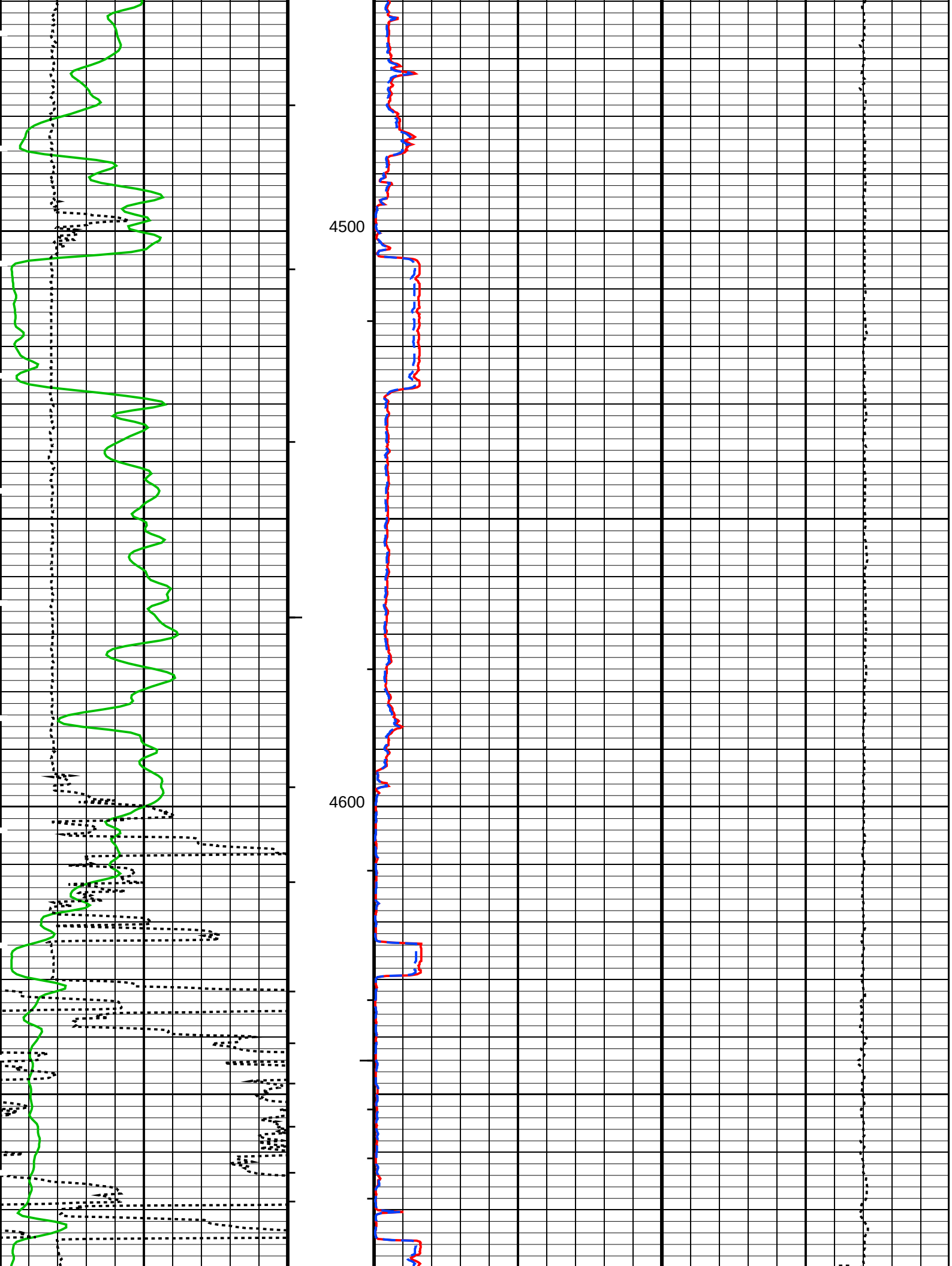
4400
HCAL
GR
GR
HMNO
HMIN
TENS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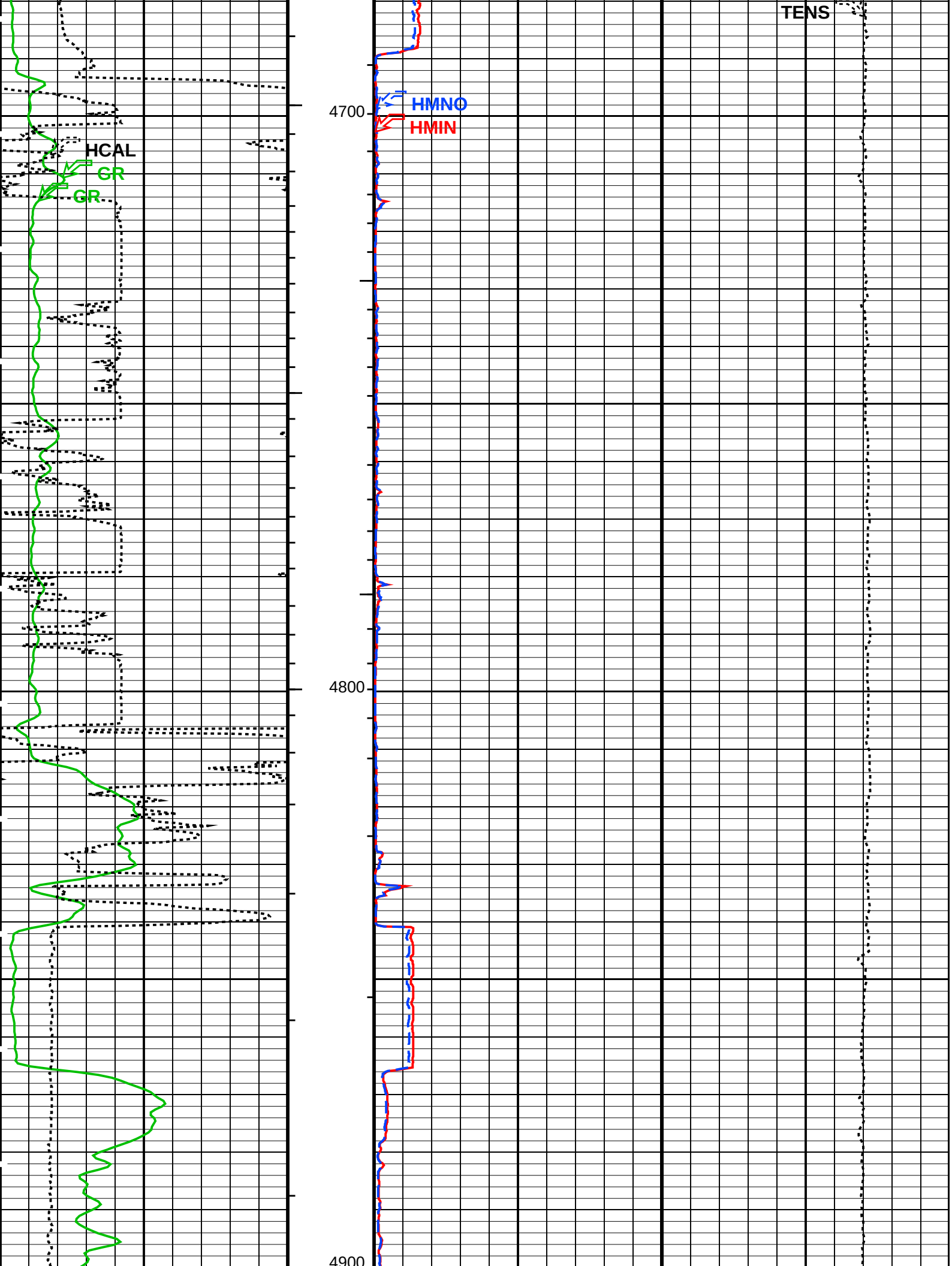
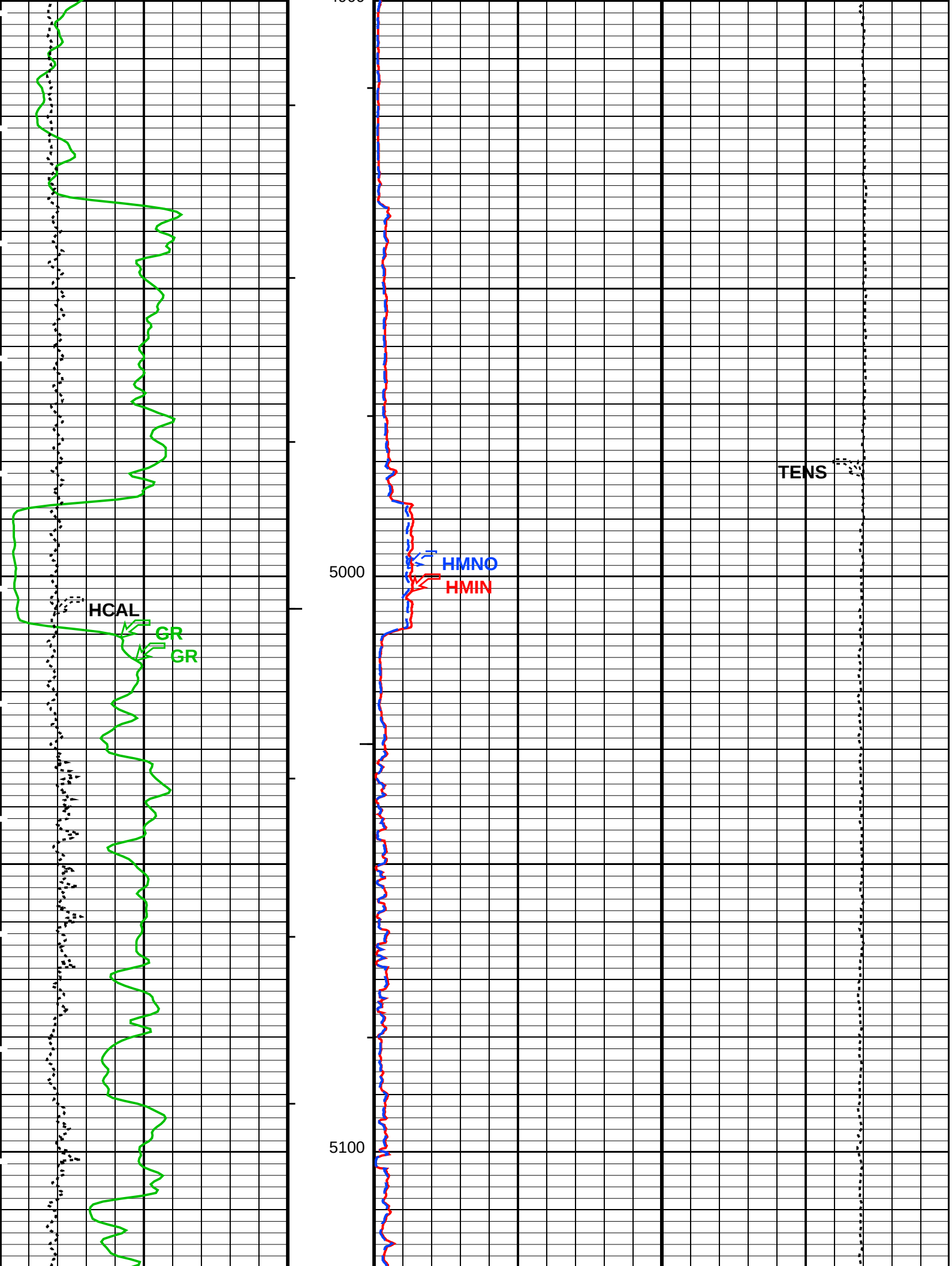
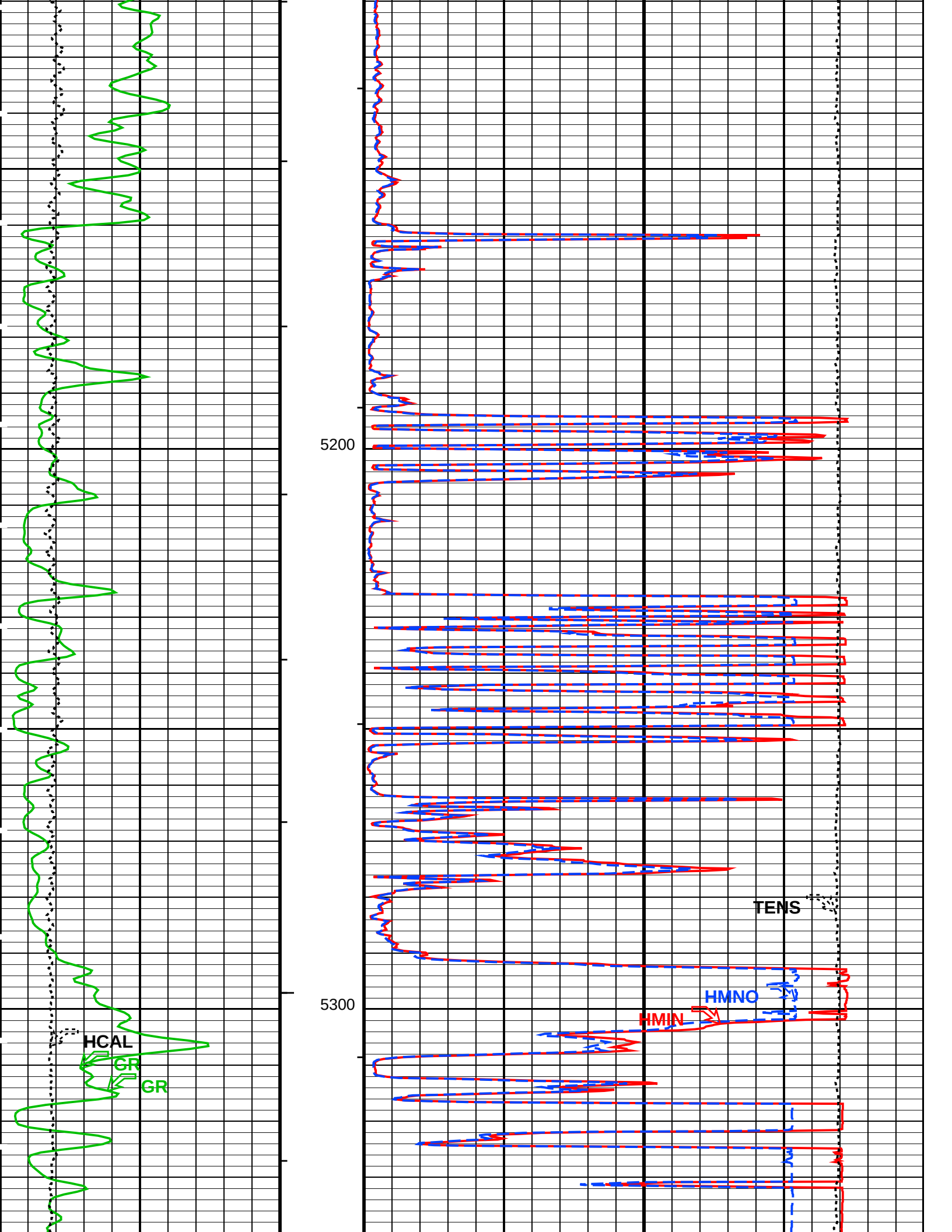
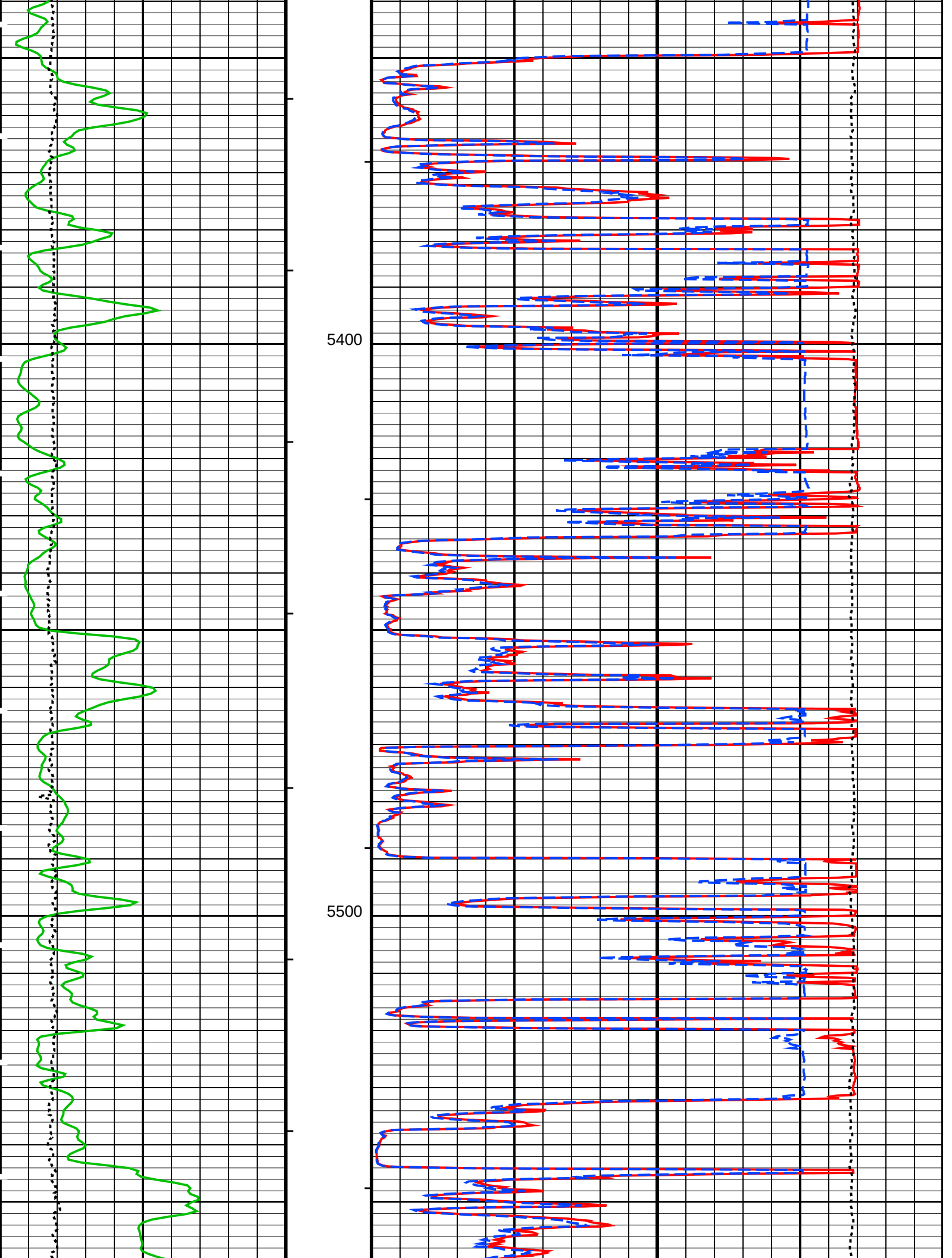

TENS
HMNO
HMIN
HCAL
GR
GR
4700
4800
4900


HCAL
GR
GR
5000
HMNO
HMIN
TENS
5100


5200
5300
TENS
HMNO
HMIN
HCAL
GR
GR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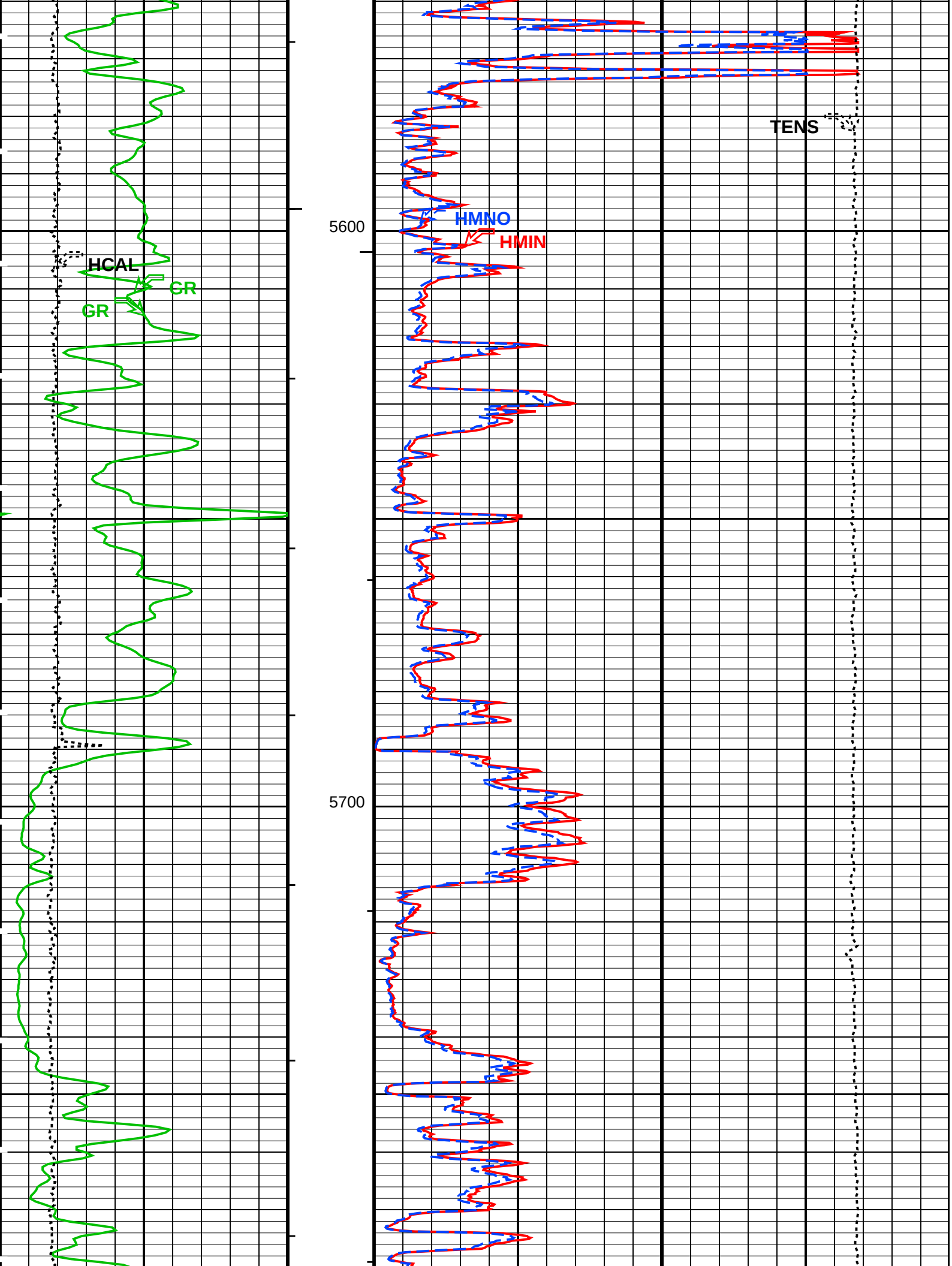
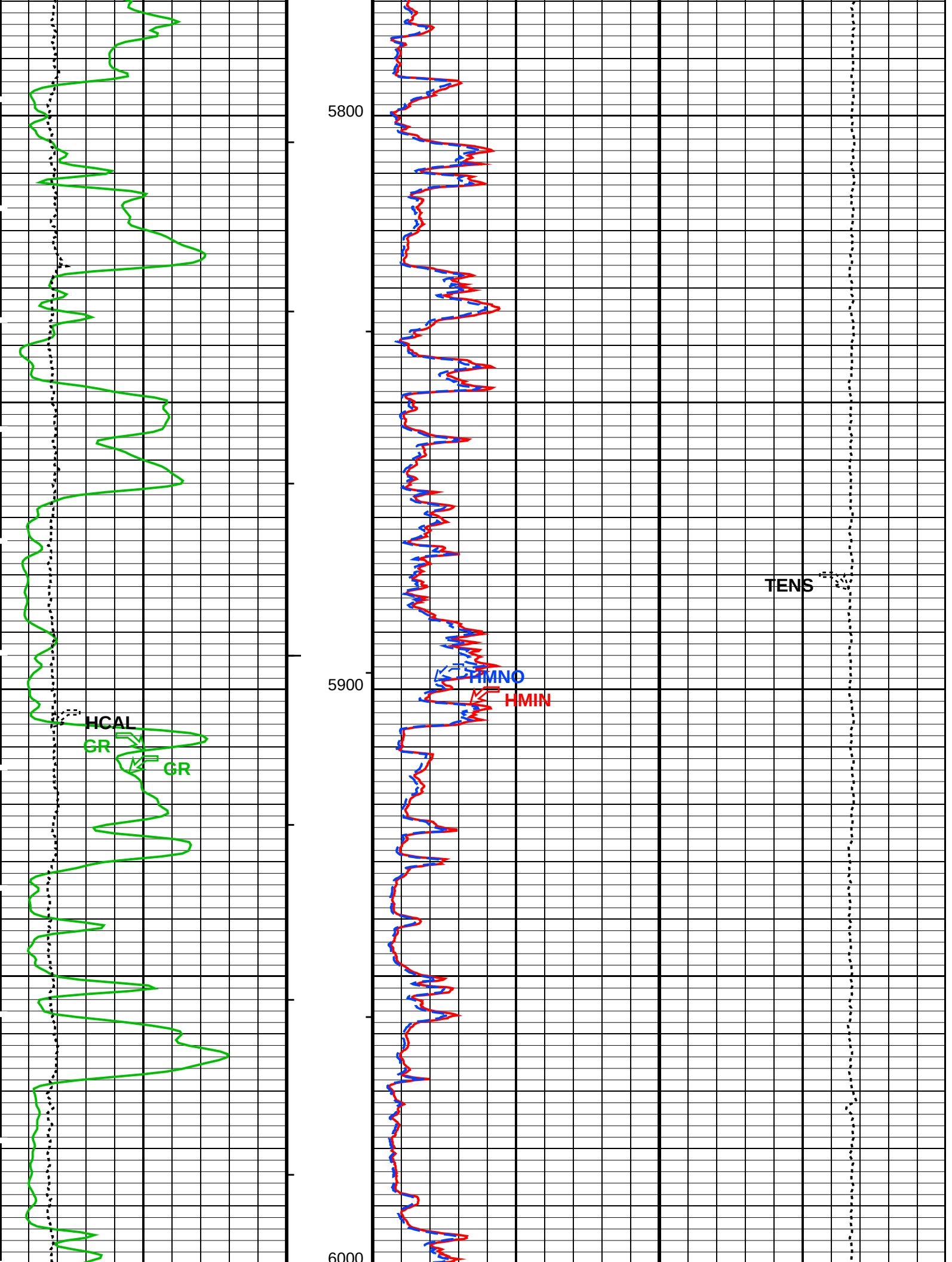
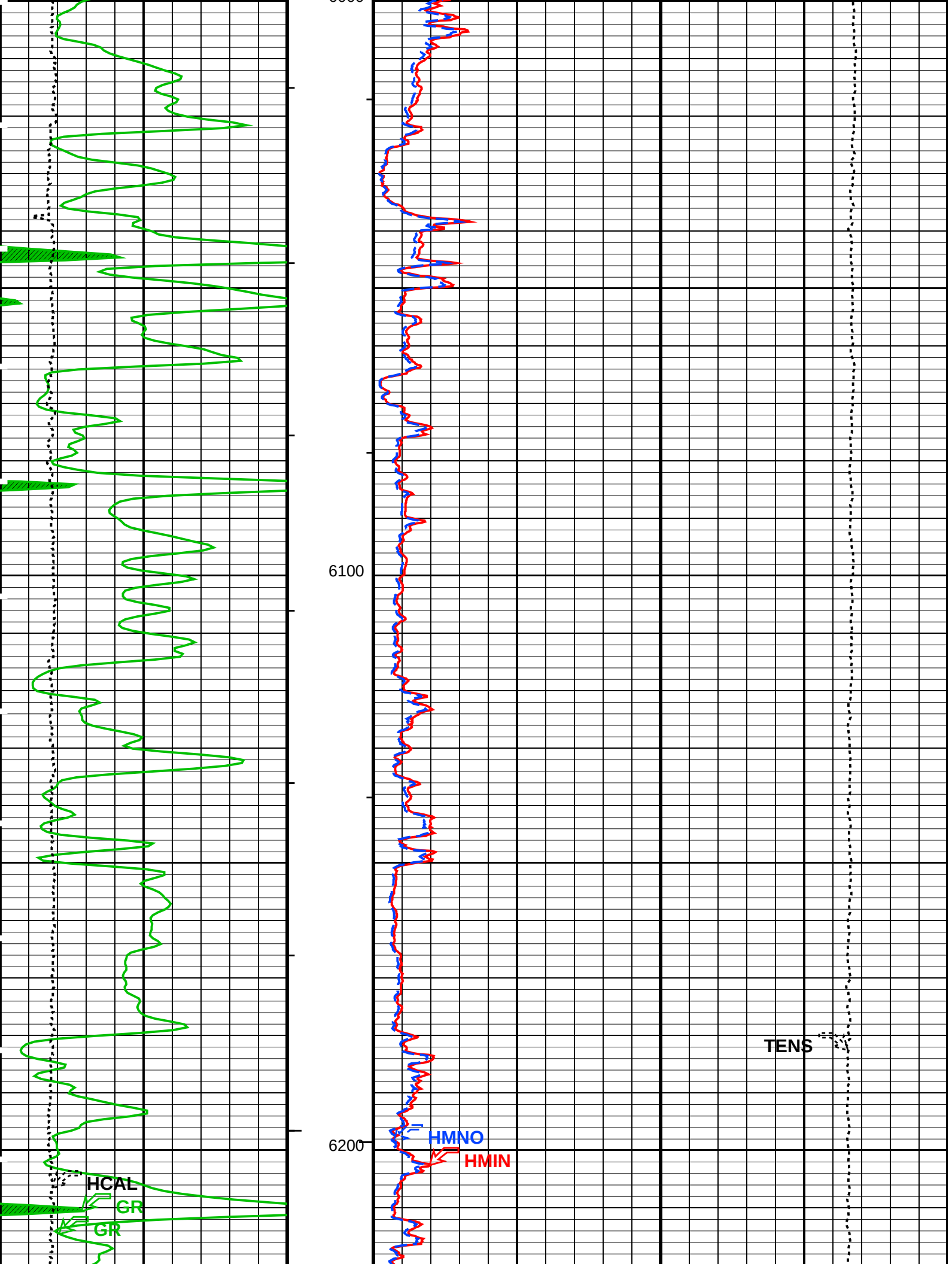
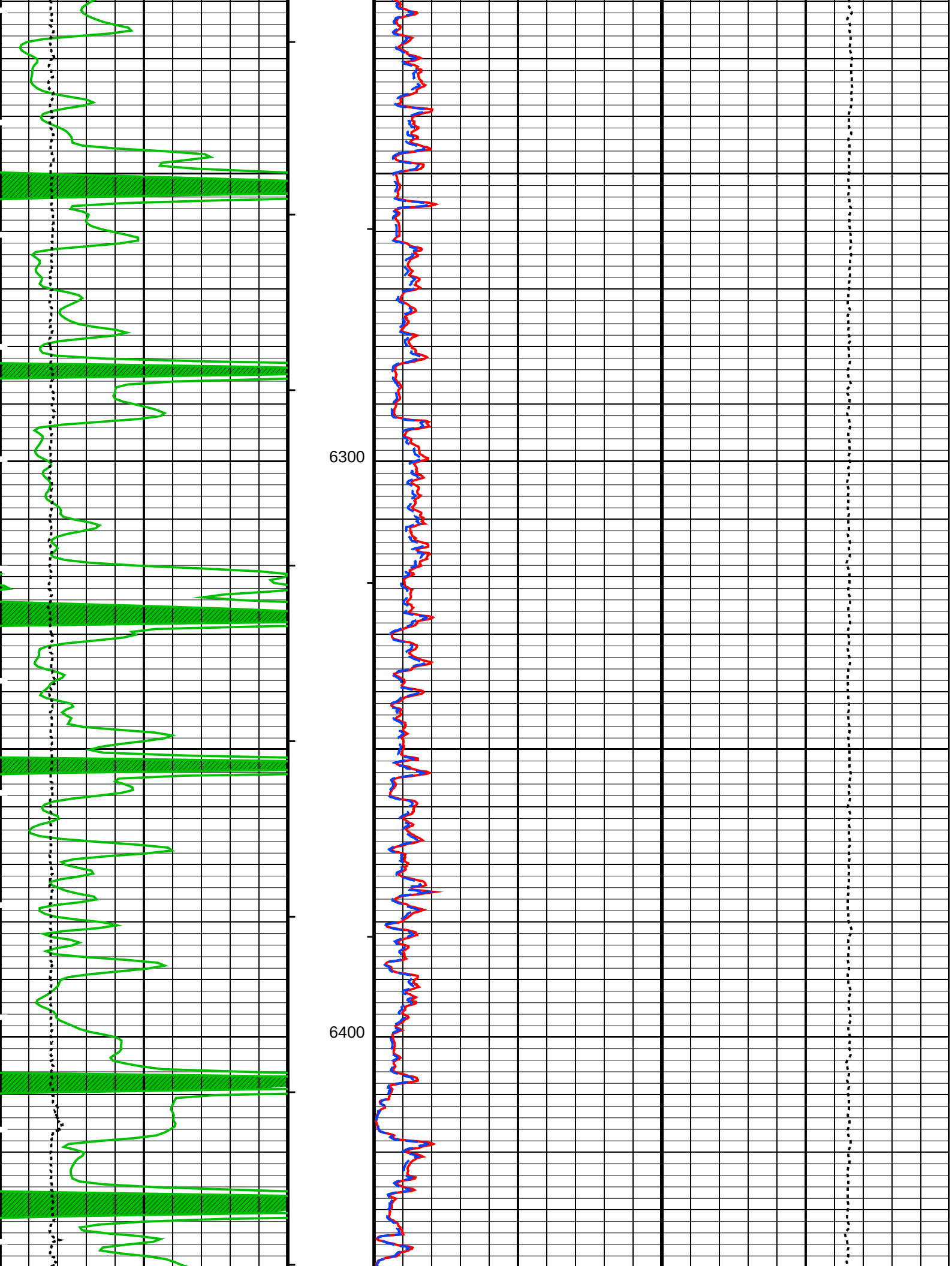

HCAL
GR
GR
TENS
HMNO
HMIN
5600
5700


5800
5900
6000
HCAL
GR
GR
HMNO
HMIN
TENS


6100
6200
HCAL
GR
GR
HMNO
HMIN
TENS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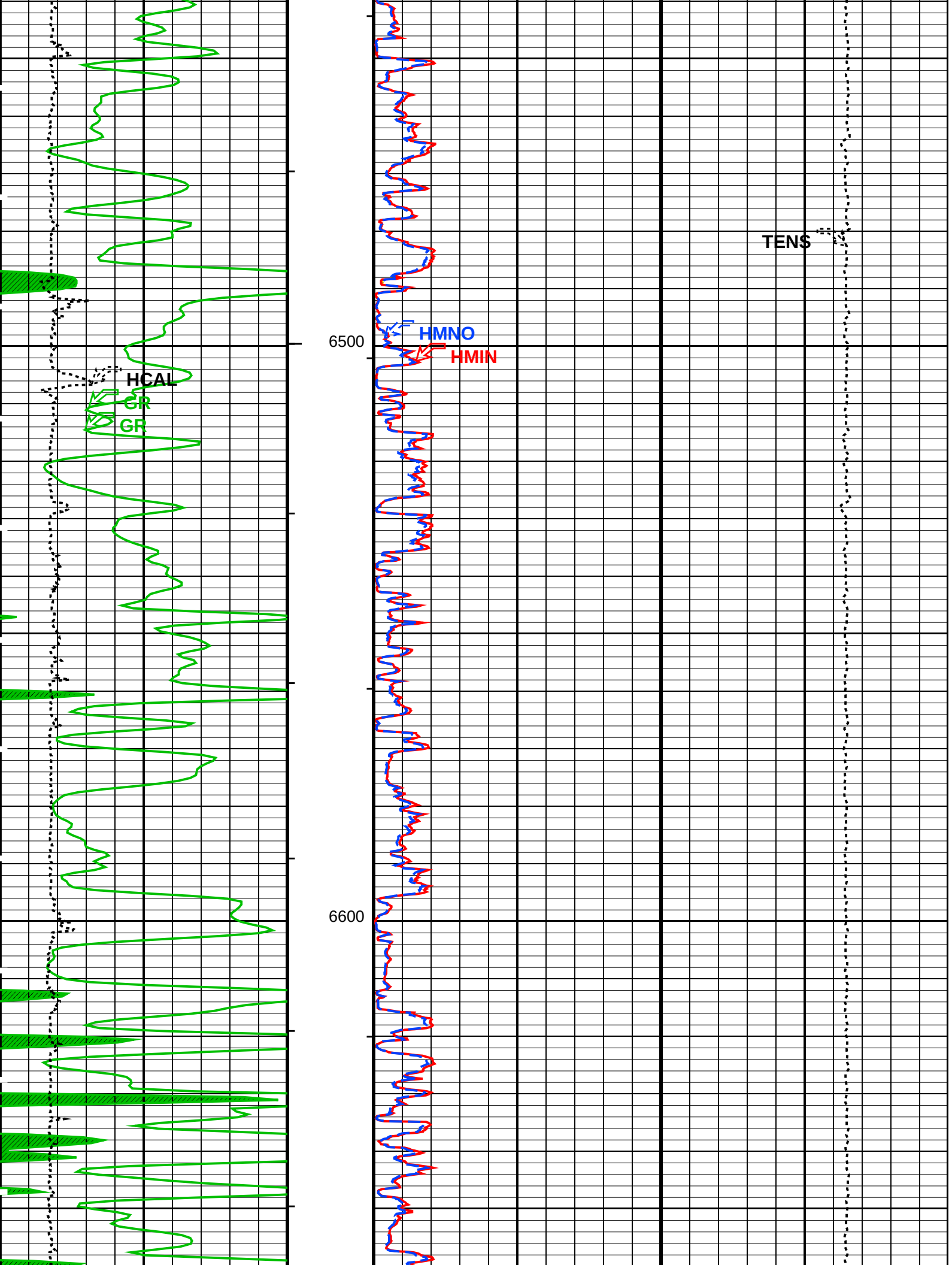
HCAL
GR
GR
6500
HMNO
HMIN
TENS
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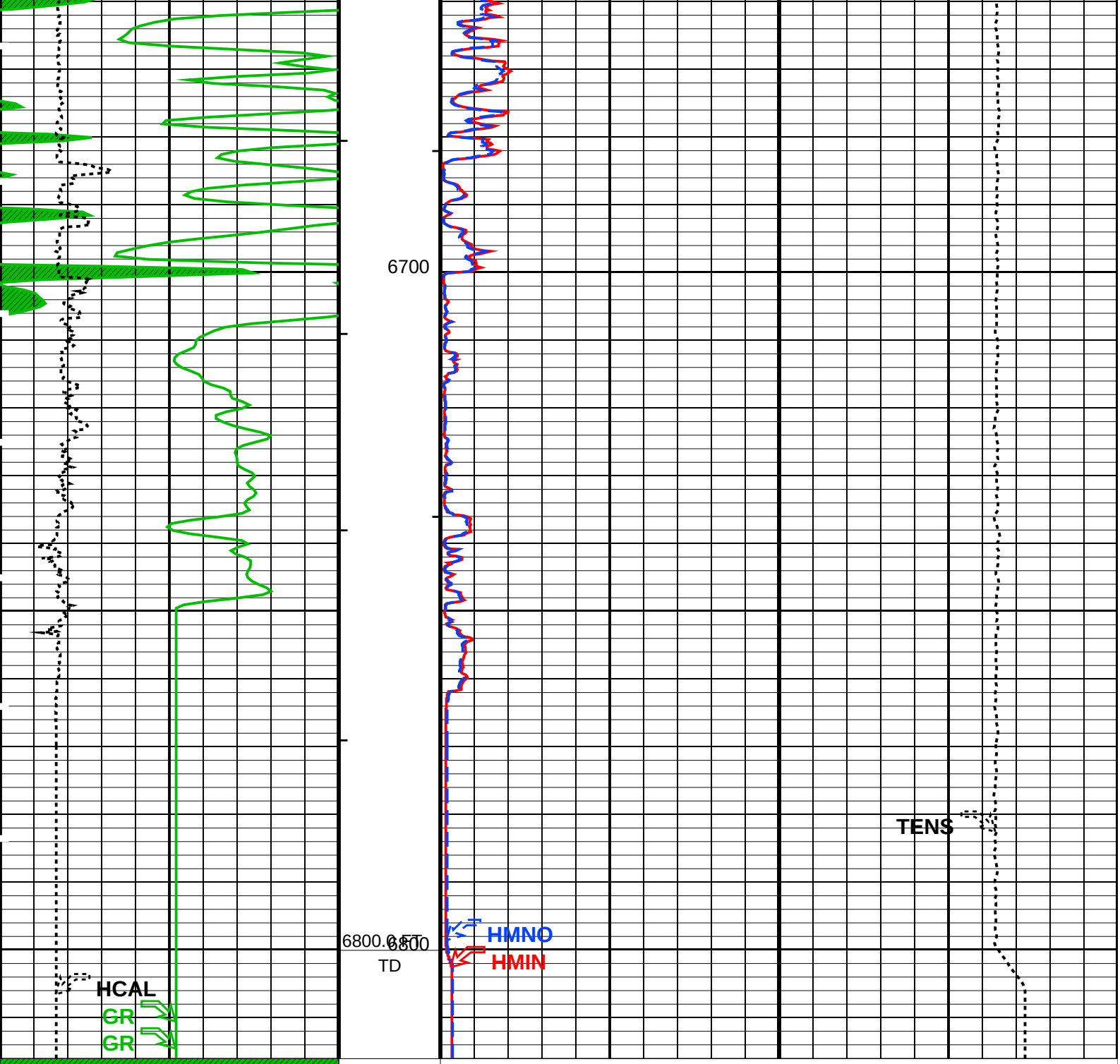


GR BACKUP

Gamma Ray (GR)
0 (GAPI) 200

Caliper (HCAL)
6 (IN) 16

Computed Micro Inverse (HMIN)
0 (OHMM) 40

Computed Micro Normal (HMNO)
0 (OHMM) 40

PERM

Tension (TENS)
10000 (LBF) 0

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	
	HILTH−FTB: High resolution Integrated Logging Tool−DTS		
MPOF	MCFL Processing Operation Mode	ON	
	HOLEV: Integrated Hole/Cement Volume		
FCD	Future Casing (Outer) Diameter	5.5	IN
HVCS	Integrated Hole Volume Caliper Selection	AUTOMATIC	
	System and Miscellaneous		
BS	Bit Size	7.875	IN
DO	Depth Offset for Playback	0.0	FT
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	6800	FT

Format: MLT Vertical Scale: 5" per 100’ Graphics File Created: 05−Aug−2013 19:41

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

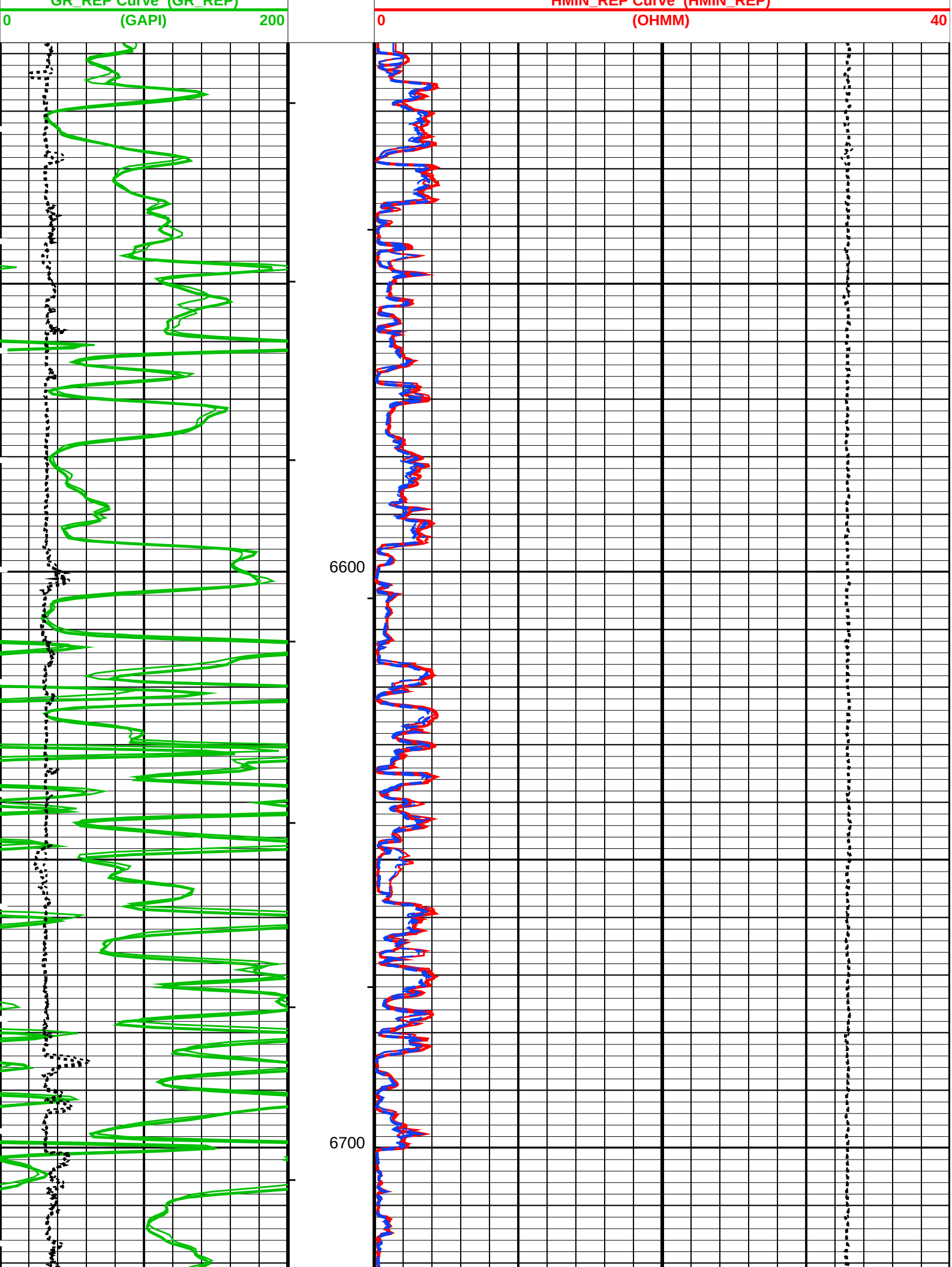
TENS_REP Curve (TENS_REP)
10000 (LBF) 0

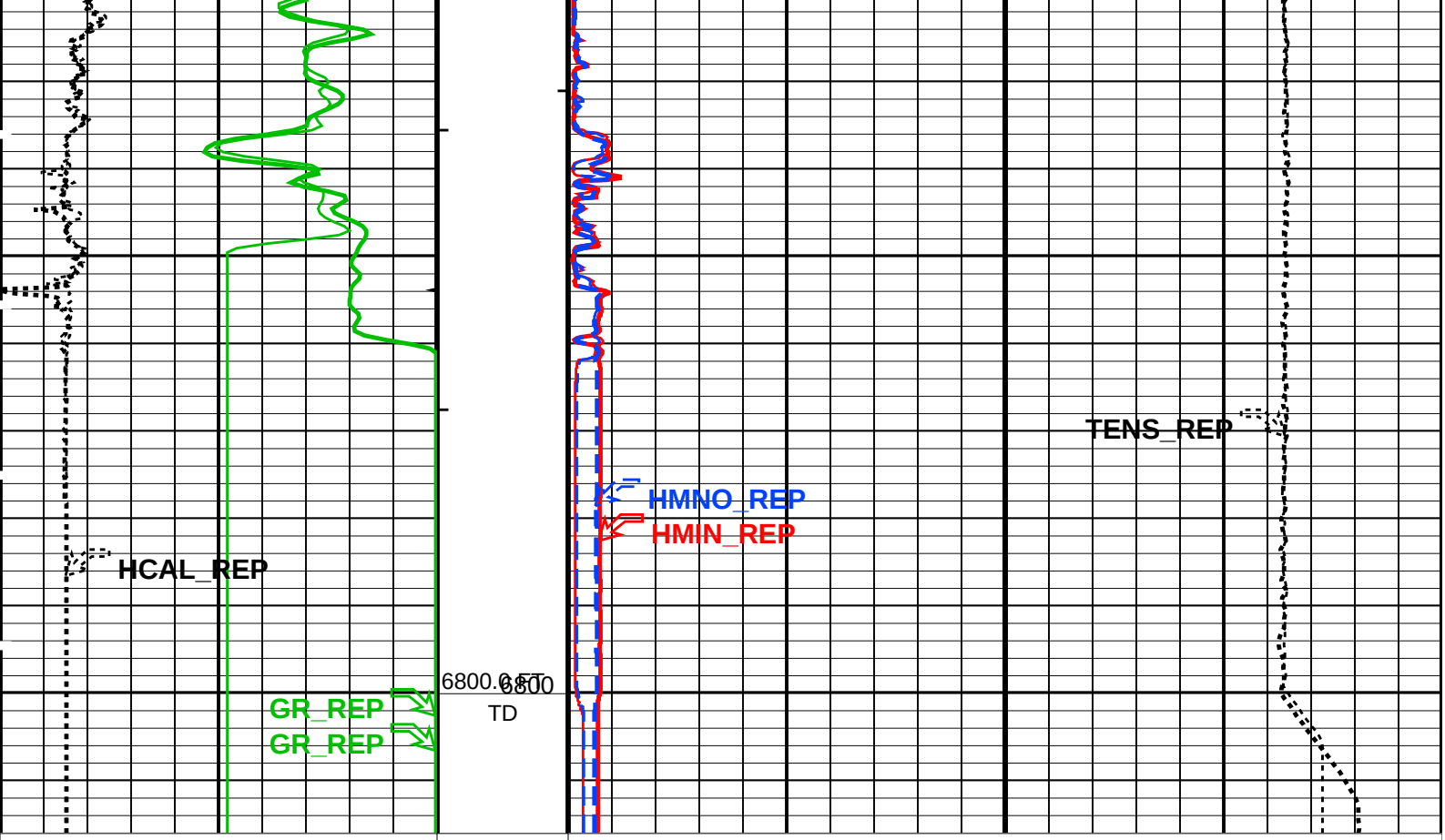
HCAL_REP Curve (HCAL_REP)
6 (IN) 16

HMNO_REP Curve (HMNO_REP)
0 (OHMM) 40

GR_REP Curve (GR_REP)

HMIN_REP Curve (HMIN_REP)


GR_REP Curve (GR_REP)
0
(GAPI)
200
HMIN_REP Curve (HMIN_REP)
0
(OHMM)
40
6600
6700



GR_REP Curve (GR_REP)
0 (GAPI) 200

HCAL_REP Curve (HCAL_REP)
6 (IN) 16

HMIN_REP Curve (HMIN_REP)
0 (OHMM) 40

HMNO_REP Curve (HMNO_REP)
0 (OHMM) 40

TENS_REP Curve (TENS_REP)
10000 (LBF) 0

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	
	HILTH−FTB: High resolution Integrated Logging Tool−DTS		
MPOF	MCFL Processing Operation Mode	ON	
	HOLEV: Integrated Hole/Cement Volume		
FCD	Future Casing (Outer) Diameter	5.5	IN
HVCS	Integrated Hole Volume Caliper Selection	AUTOMATIC	
	System and Miscellaneous		
BS	Bit Size	7.875	IN
DORL	Depth Offset for Repeat Analysis	0.0	FT
TD	Total Depth	6800	FT

Format: MLT_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

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 Pl	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	

High resolution Integrated Logging Tool−DTS Wellsite Calibration − Accelerometer Calibration
Before: 5−Aug−2013 7:45

Z−Axis Acceleration	32.19	N/A	32.10	N/A	N/A	N/A	F/S2

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

NOT 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
Master		991.9
Before		993.0
	941.0 (Minimum) 990.5 (Nominal) 1040 (Maximum)	

Phase	Array Induction SPA Zero MV	Value
Master		0.04840
Before		−0.03146
	−50.00 (Minimum) 0 (Nominal) 50.00 (Maximum)	

Phase	Array Induction Temperature Plus V	Value
Master		0.9202
Before		0.9212
	0.8700 (Minimum) 0.9150 (Nominal) 0.9600 (Maximum)	

Phase	Array Induction Temperature Zero V	Value
Master		5.566E−00
Before		−2.783E−00
	−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		0.4491	

Idx	Value	R Sonde Error Correction MM/M			Value	X Sonde Error Correction MM/M		
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			Value	Fine − Mag, Real, Imag		
0	0.8608				0.8623			
		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	SLS − W
Digitizing Sonic Logging Cartridge	DSLC − B
Auxiliary Equipment:	
Electronics Cartridge Housing	ECH − KH

High resolution Integrated Logging Tool−DTS / Equipment Identification

Primary Equipment:		
HILT high−Resolution Mechanical Sonde	HRMS − H	
HILT Rxo Gamma−ray Device	HRGD − H	
HILT Micro Cylindrically Focused Log Dev	MCFL − H	
GR Logging Source	GLS − VJ	5471
HILT High Res. Control Cartridge	HRCC − H	
HILT Gamma−Ray Neutron Sonde−DTS	HGNS − H	
HGNS Gamma−Ray Device	HGR −	
HGNS Neutron Detector with Alpha Source	HCNT − H	
Auxiliary Equipment:		
Neutron Calibration Tank	NCT − B	
Gamma Source Radioactive	GSR − U/Y	
HGNS Housing	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

MCFL 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:	
DTCH Telemetry Cartridge Housing	ECH − KC

Company:	**Omimex Petroleum Inc**
Well:	**Vega 4−29−1−49**
Field:	**Wildcat**
County:	**Washington**
State:	**Colorado**

Schlumberger

Platform Express
Micro Log