

Schlumberger

Company: Vecta Oil & Gas Ltd

Well: Shavano 43-35

Field: Wildcat

County: Cheyenne

State: Colorado

Platform Express
Micro-Log

Field: Wildcat		Location: Sec. 35, T13S, R46W	
Well: Shavano 43-35		Company: Vecta Oil & Gas Ltd	
LOCATION			
Sec. 35, T13S, R46W SHL: 2023' FSL X 868' FEL NESE		Elev.: K.B. 4441.00 ft G.L. 4427.00 ft D.F. 4440.00 ft	
Permanent Datum: _____ Log Measured From: Kelly Bushing _____ Drilling Measured From: Kelly Bushing _____		Ground Level _____ Elev.: 4427.00 ft 14.00 ft above Perm. Datum	
API Serial No. 05-017-07691-000C	Section 35	Township 13S	Range 46W

Logging Date	21-Jan-2010
Run Number	1
Depth Driller	5760 ft
Schlumberger Depth	5751 ft
Bottom Log Interval	5743 ft
Top Log Interval	410 ft
Casing Driller Size @ Depth	8.625 in @ 413 ft
Casing Schlumberger	410 ft
Bit Size	7.875 in
Type Fluid In Hole	Gel & Chemical
Density	8.8 lbm/gal
Viscosity	57 s
PH	
Fluid Loss	
Source Of Sample	Mud Pit
RM @ Measured Temperature	3.710 ohm.m @ 85 degF
RMF @ Measured Temperature	2.783 ohm.m @ 85 degF
RMC @ Measured Temperature	5.565 ohm.m @ 85 degF
Source RMF	Press
RM @ MRT	2.186 @ 149 1.639 @ 149
Maximum Recorded Temperatures	149 degF
Circulation Stopped	21-Jan-2010
Logger On Bottom	21-Jan-2010
Unit Number	3021
Location	Ft. Morgan, CO
Recorded By	John Risher
Witnessed By	Matt Goolsby & Randy Say

	Run 1	Run 2	Run 3
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			
PH			
Fluid Loss			
Source Of Sample			
RM @ Measured Temperature	@		
RMF @ Measured Temperature	@		
RMC @ Measured Temperature	@		
Source RMF			
RM @ MRT	@	@	@
Maximum Recorded Temperatures			
Circulation Stopped			
Logger On Bottom			
Unit Number			
Location			
Recorded By			
Witnessed By			

Induction
Temperatu
Power Sup

7.9

SP SENSOR
HTEN HMAS
Accelerom HV
Mud Resis
Tension

0.1

0.0

TOOL ZERO

MAXIMUM STRING DIAMETER 4.63 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN FEET

Production String

(in)

(ft)

OD

ID

MD

Well Schematic

(ft)

(in)

MD

OD

ID

Casing String

Casing String

Casing Shoe
Borehole Segment

0.0

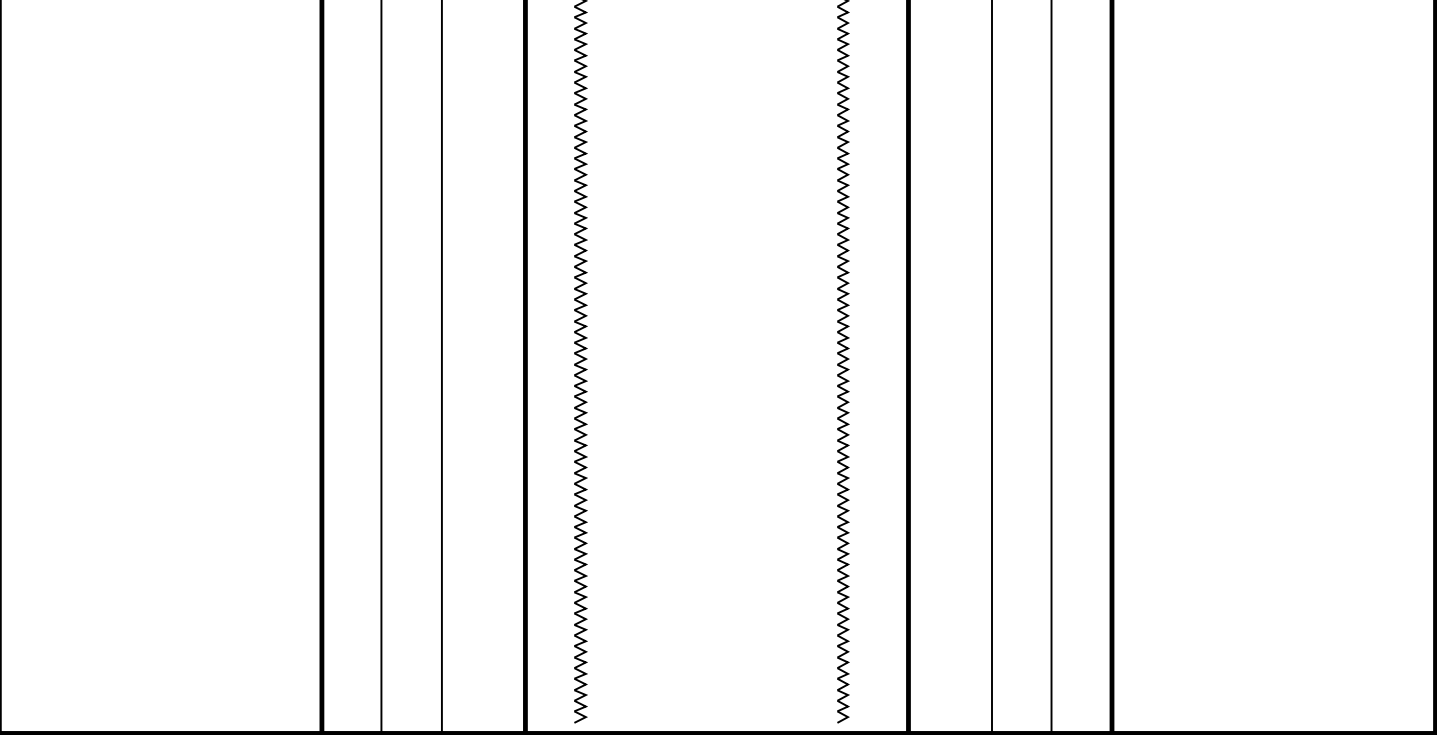
8.625

413.0

8.625

413.0

7.875



All depths are driller's depths



MAIN MICROLOG 5" = 100'

MAXIS Field Log

Input DLIS Files						
DEFAULT	AIT_TLD_MCFL_CNL_007LUP	FN:6	PRODUCER	21-Jan-2010 20:44	5772.0 FT	356.2 FT
Output DLIS Files						
DEFAULT	AIT_TLD_MCFL_CNL_016PUP	FN:15	PRODUCER	21-Jan-2010 22:44	5772.0 FT	357.0 FT

Integrated Hole/Cement Volume Summary

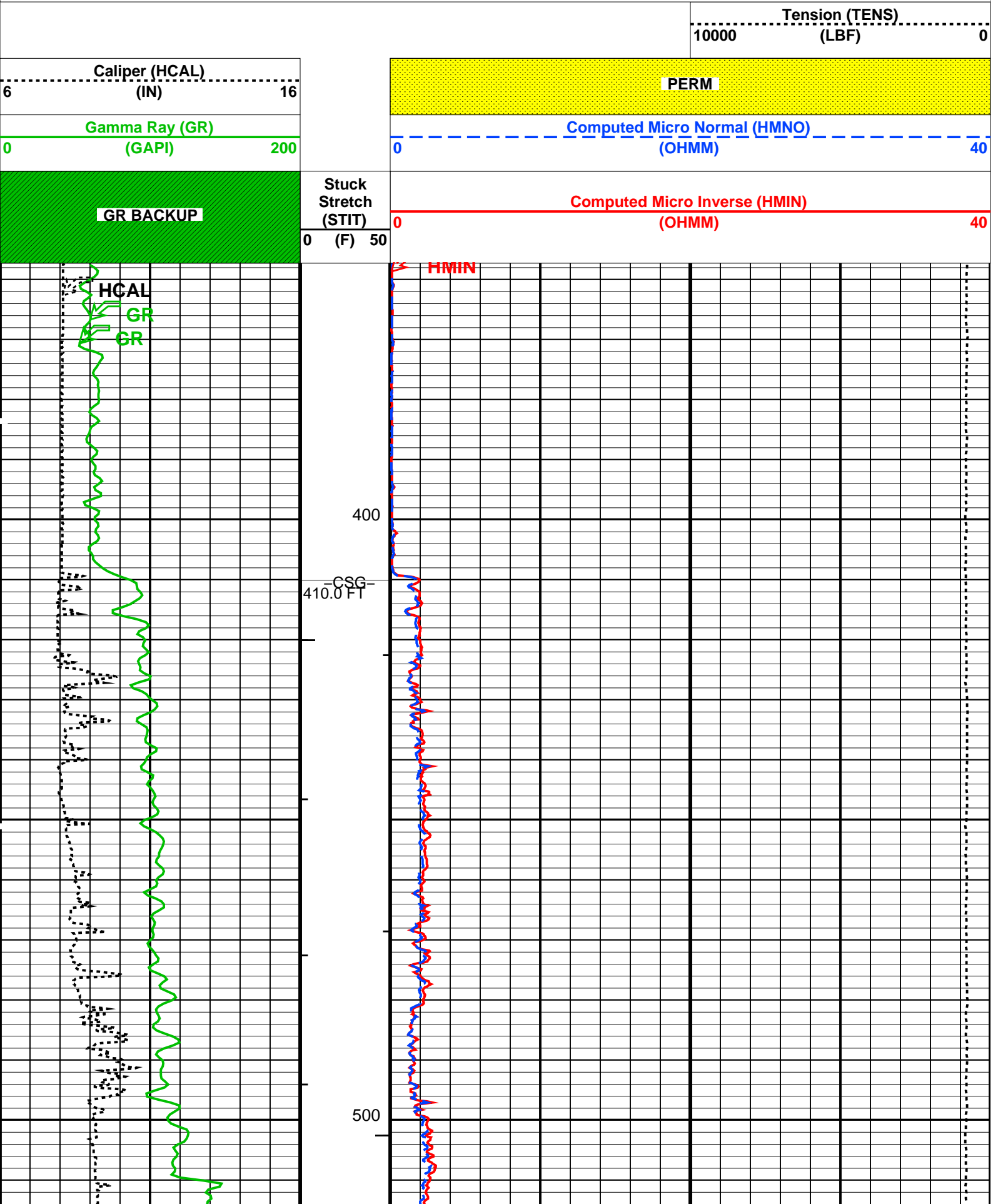
Hole Volume = 2303.64 F3
Cement Volume = 1422.41 F3 (assuming 5.50 IN casing O.D.)
Computed from 5751.0 FT to 410.0 FT using data channel(s) HCAL

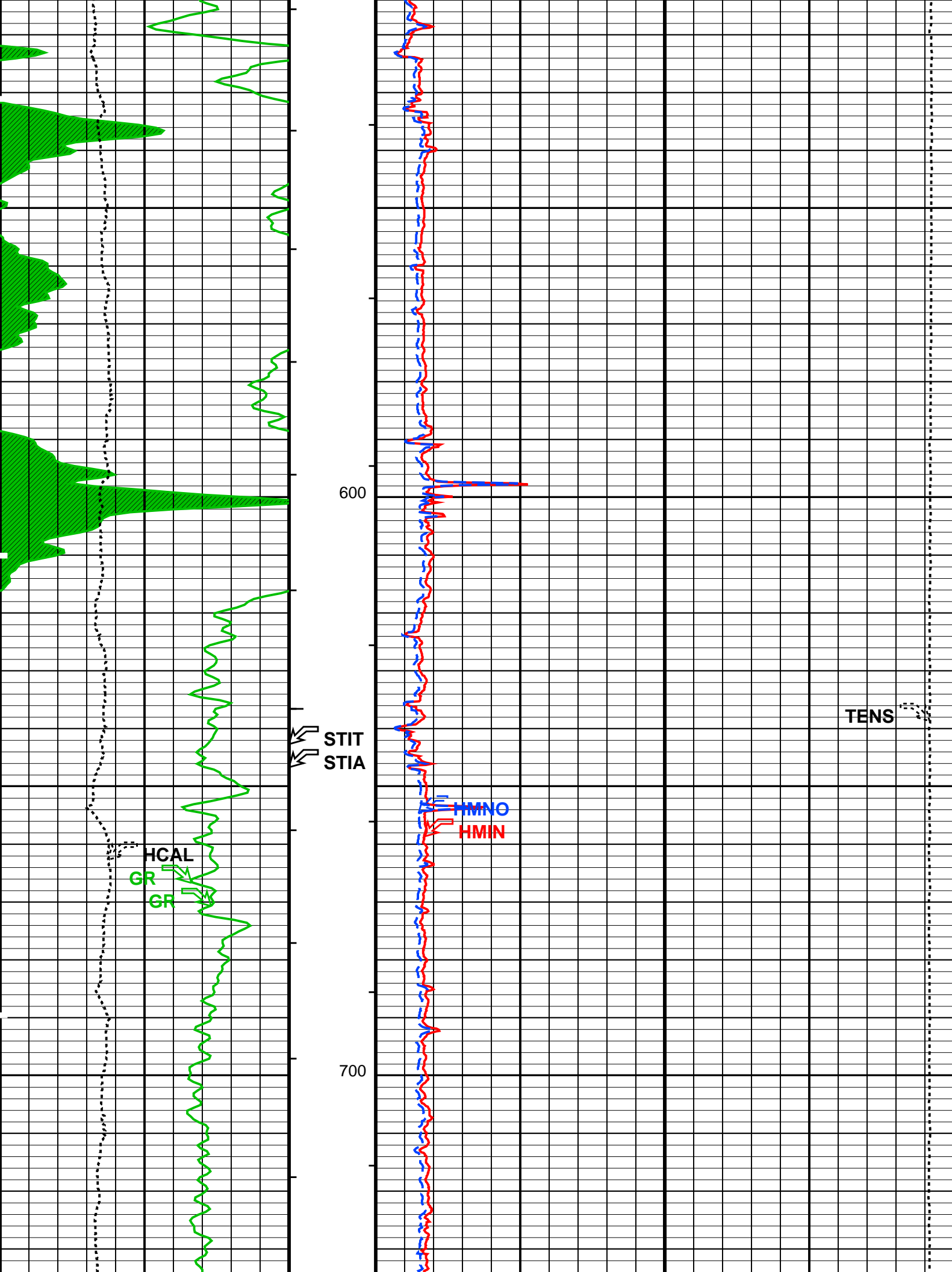
OP System Version: 17C0-154

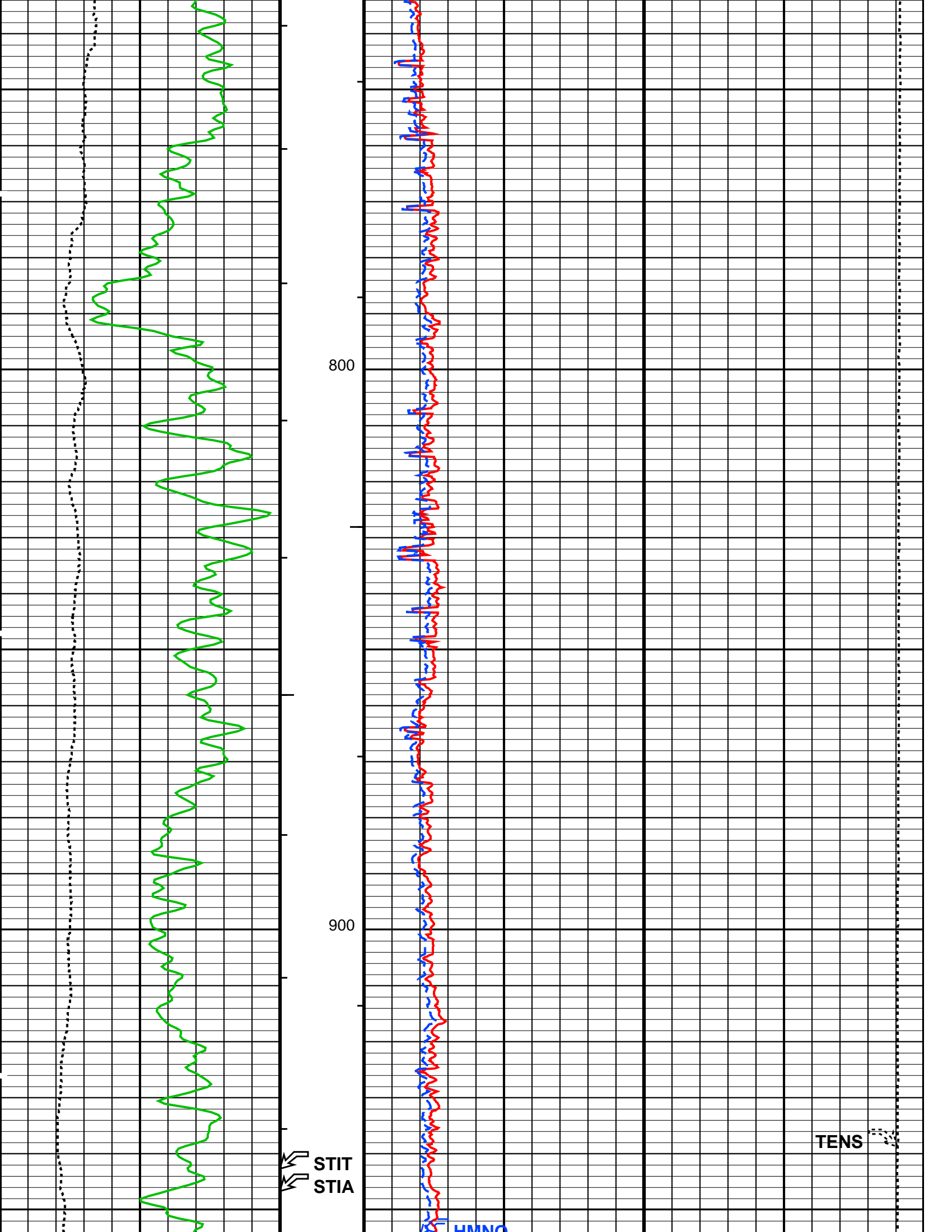
PIP SUMMARY

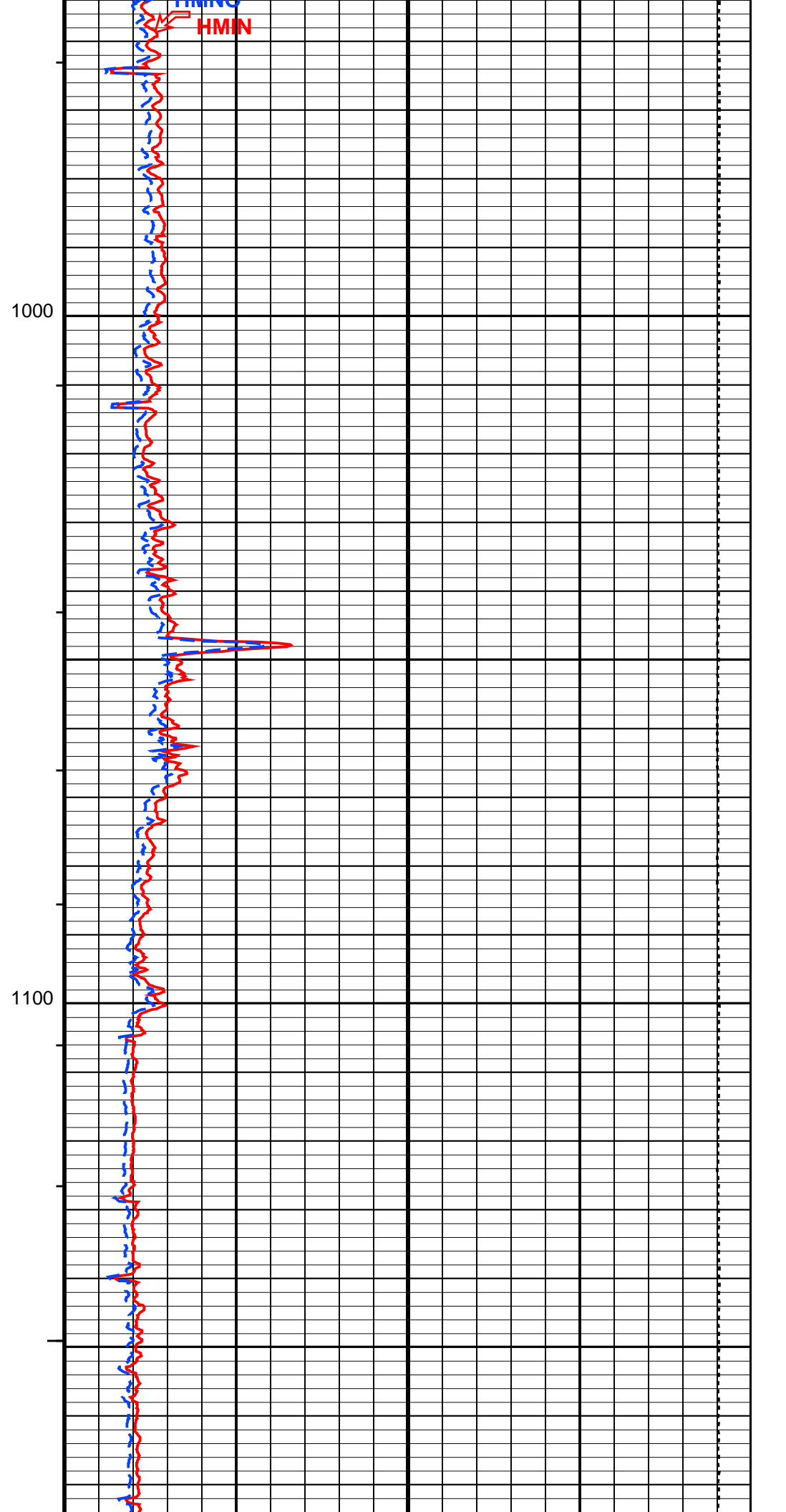
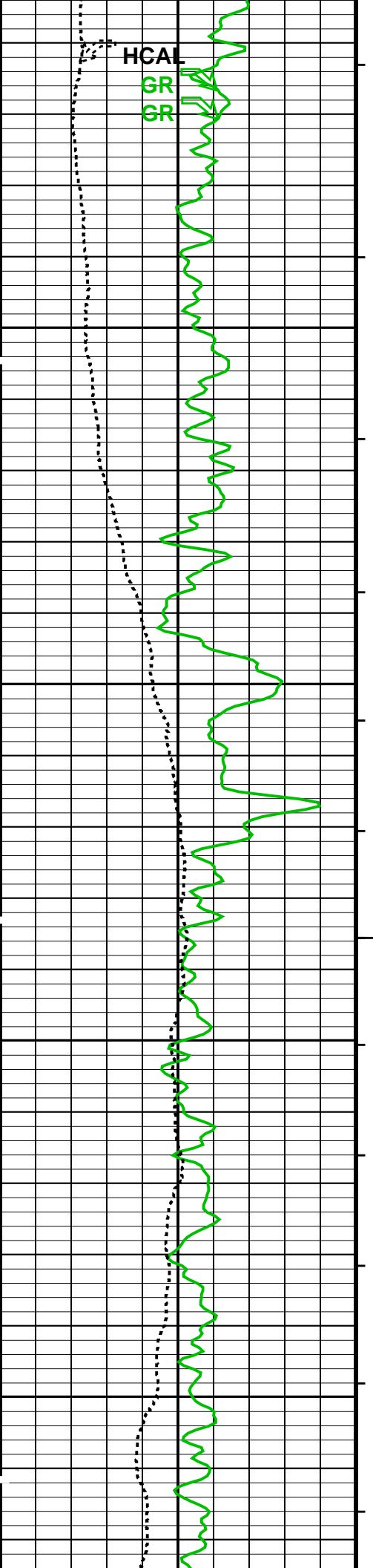
- └ Integrated Hole Volume Minor Pip Every 10 F3
- └ Integrated Hole Volume Major Pip Every 100 F3
 - └ Integrated Cement Volume Minor Pip Every 10 F3
 - └ Integrated Cement Volume Major Pip Every 100 F3

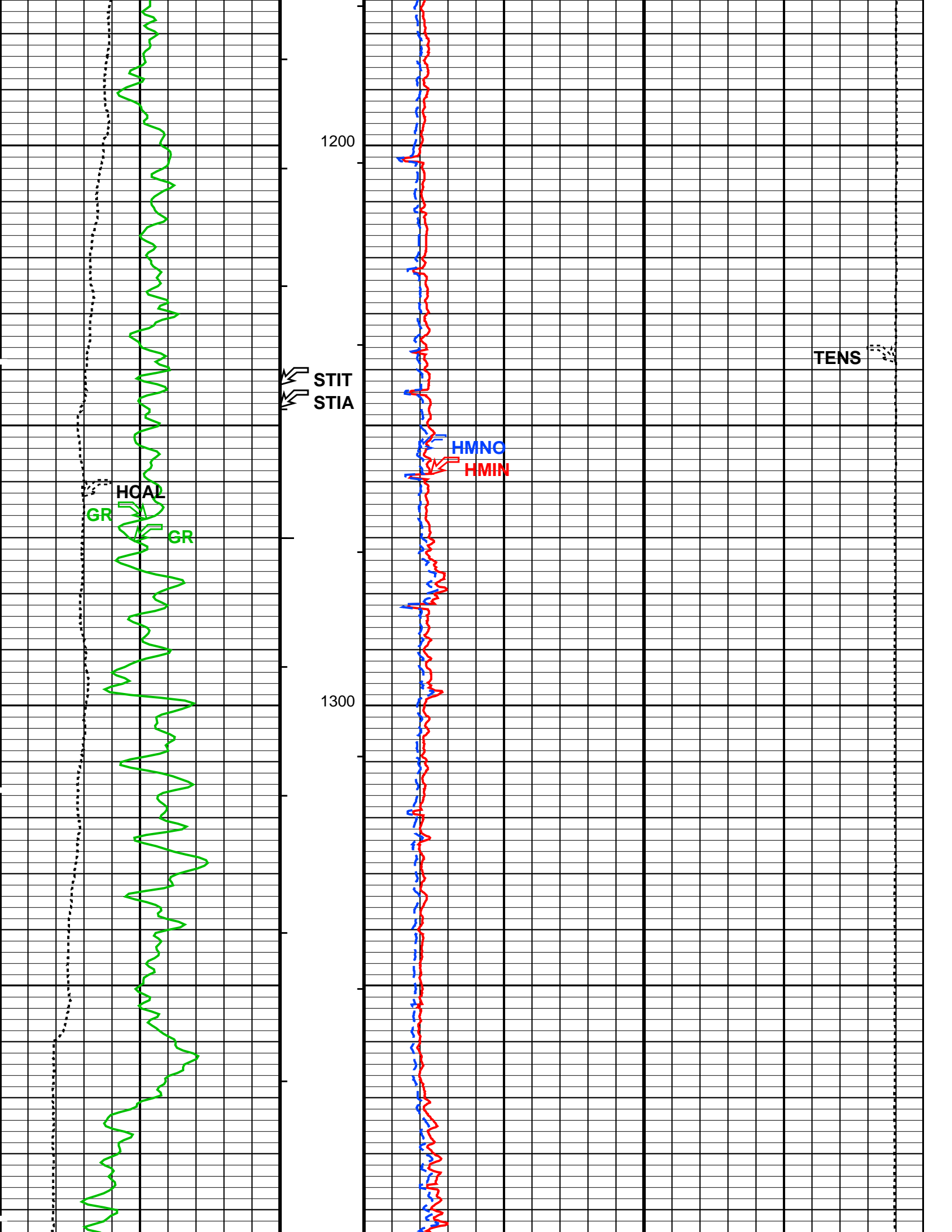
Time Mark Every 60 S

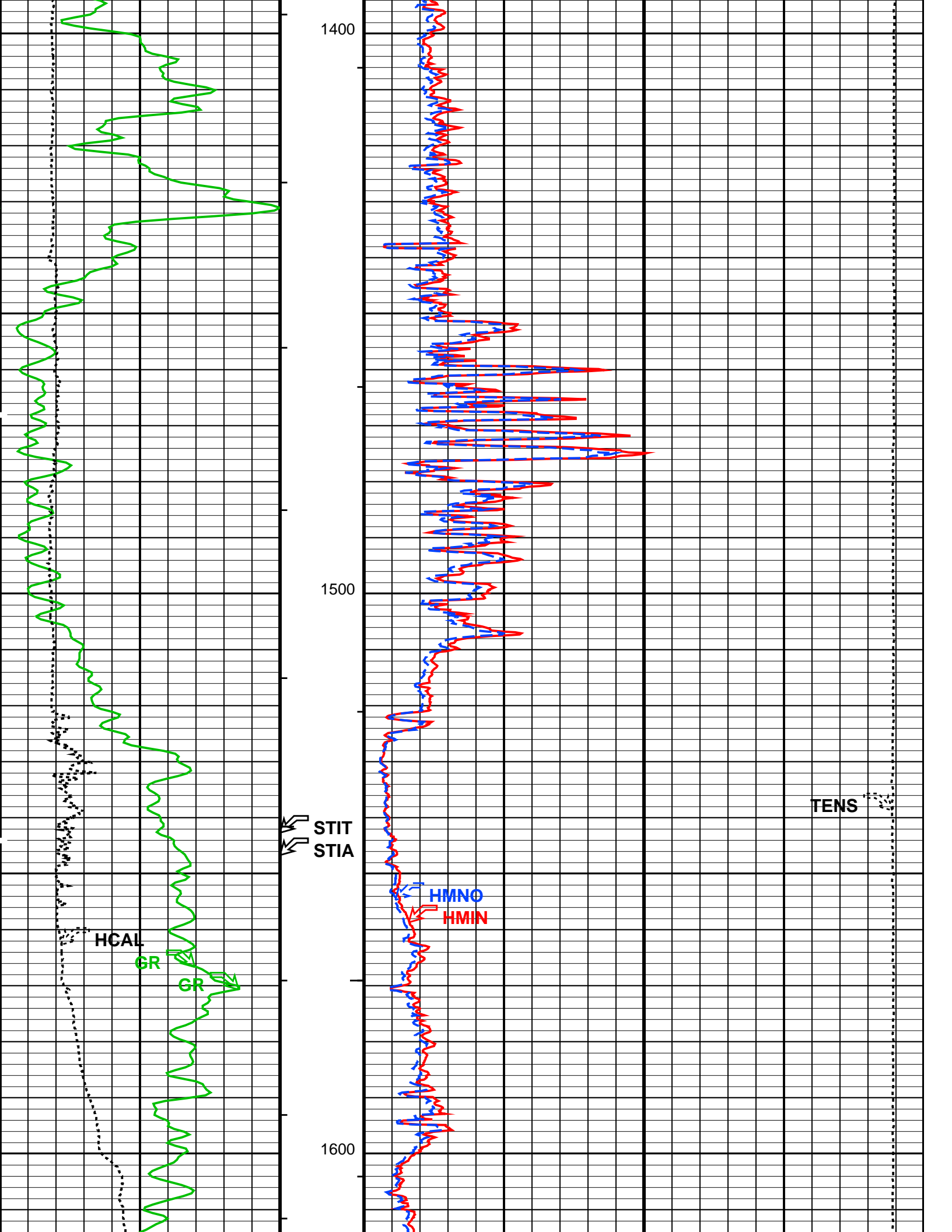


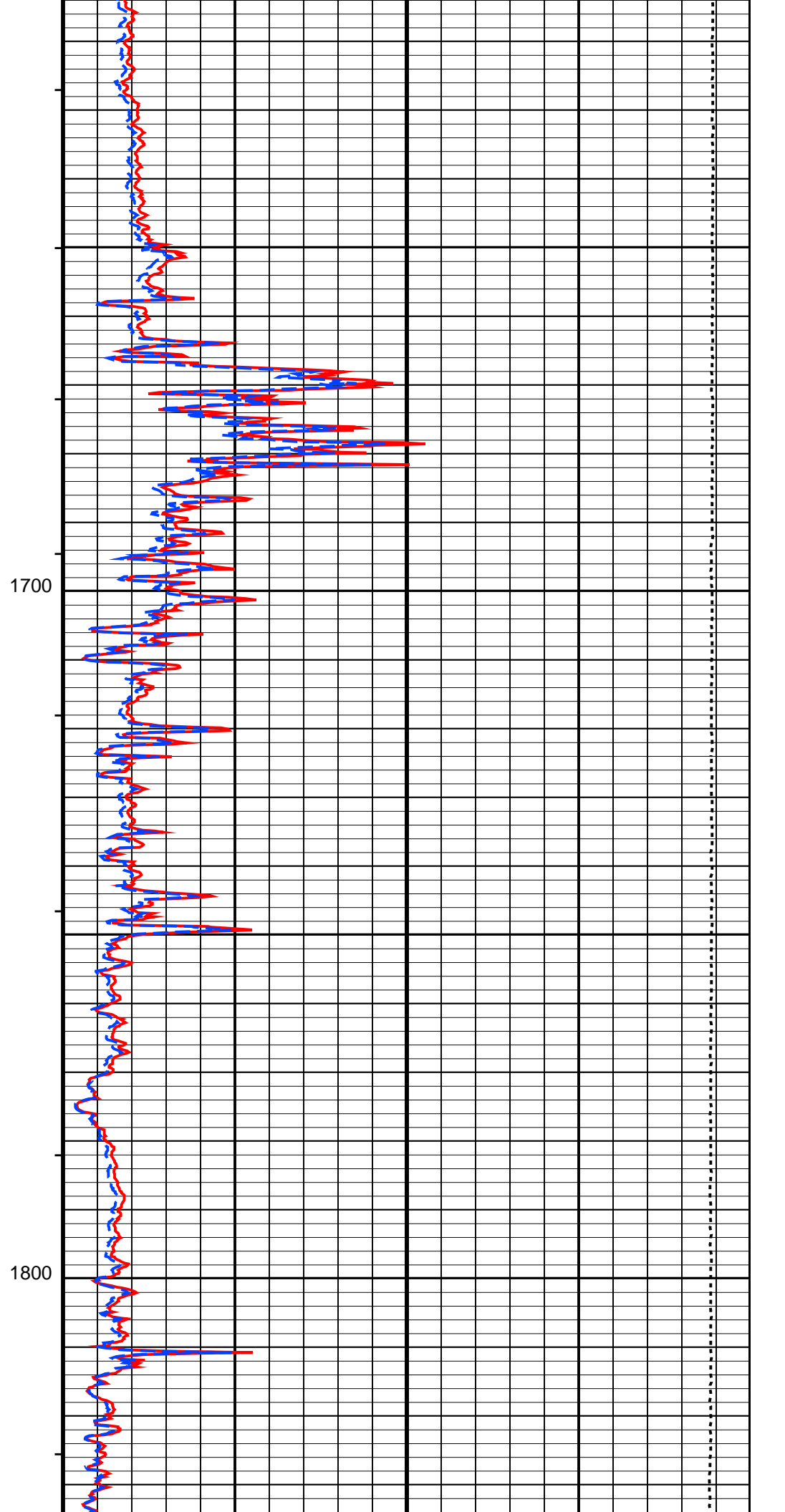
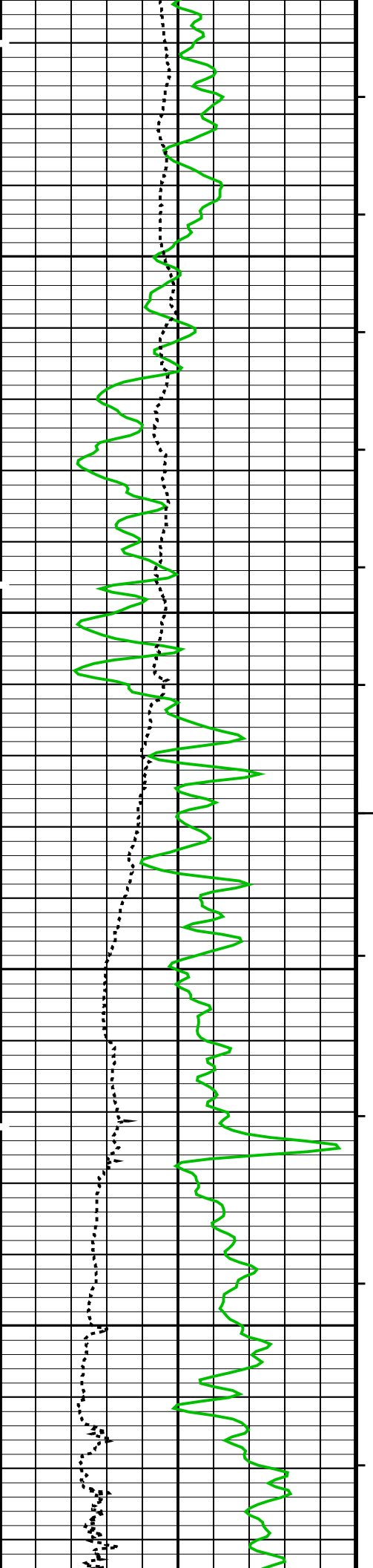


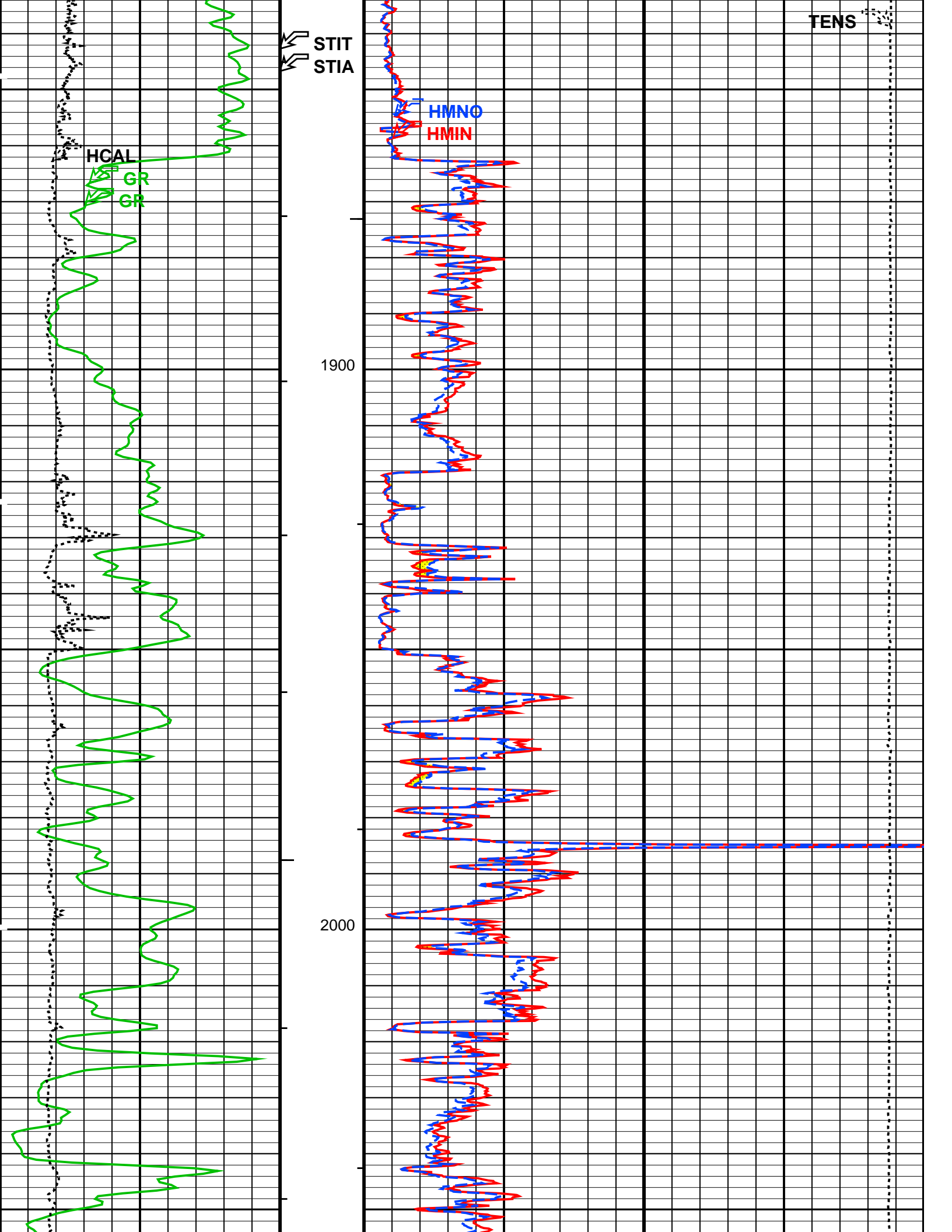


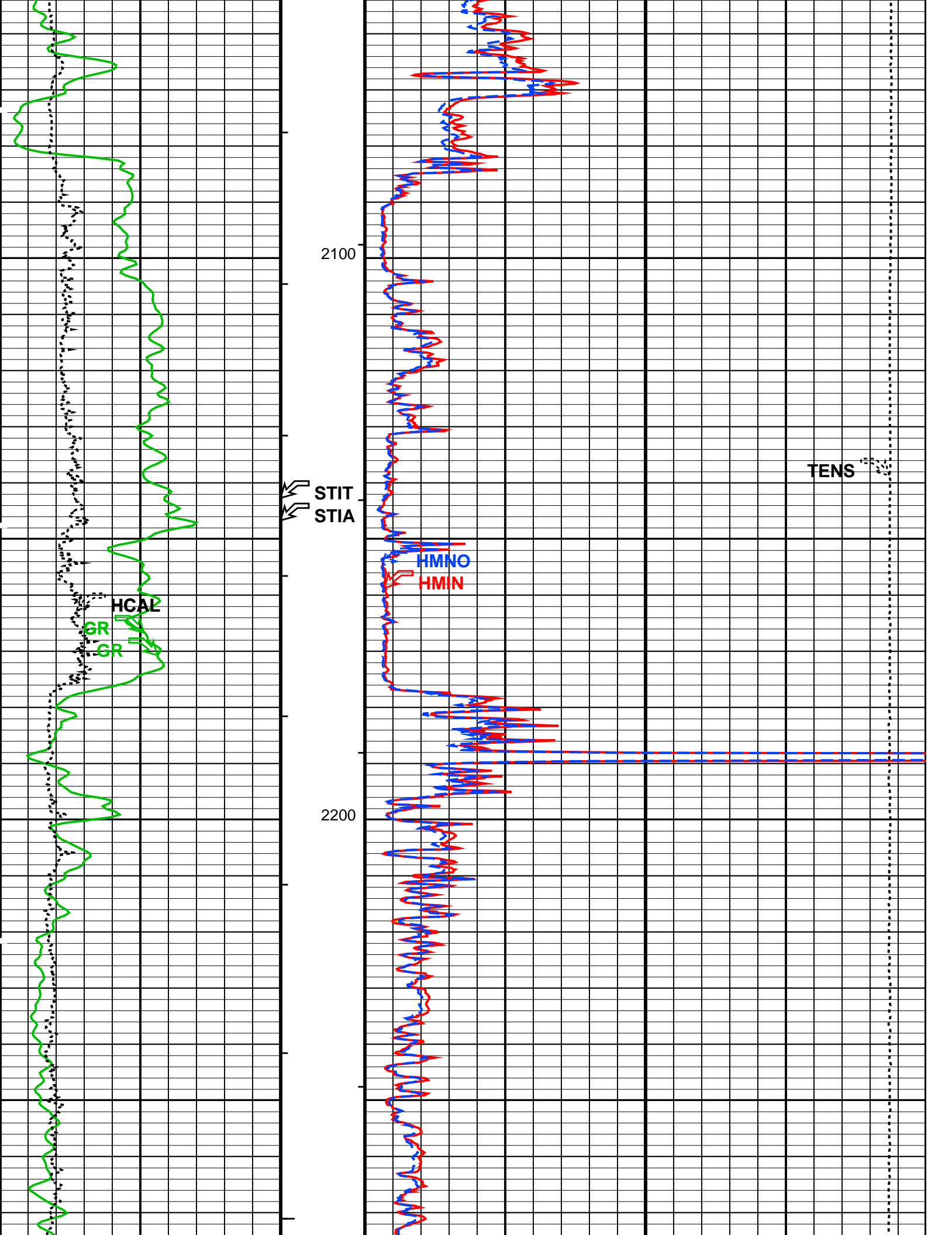


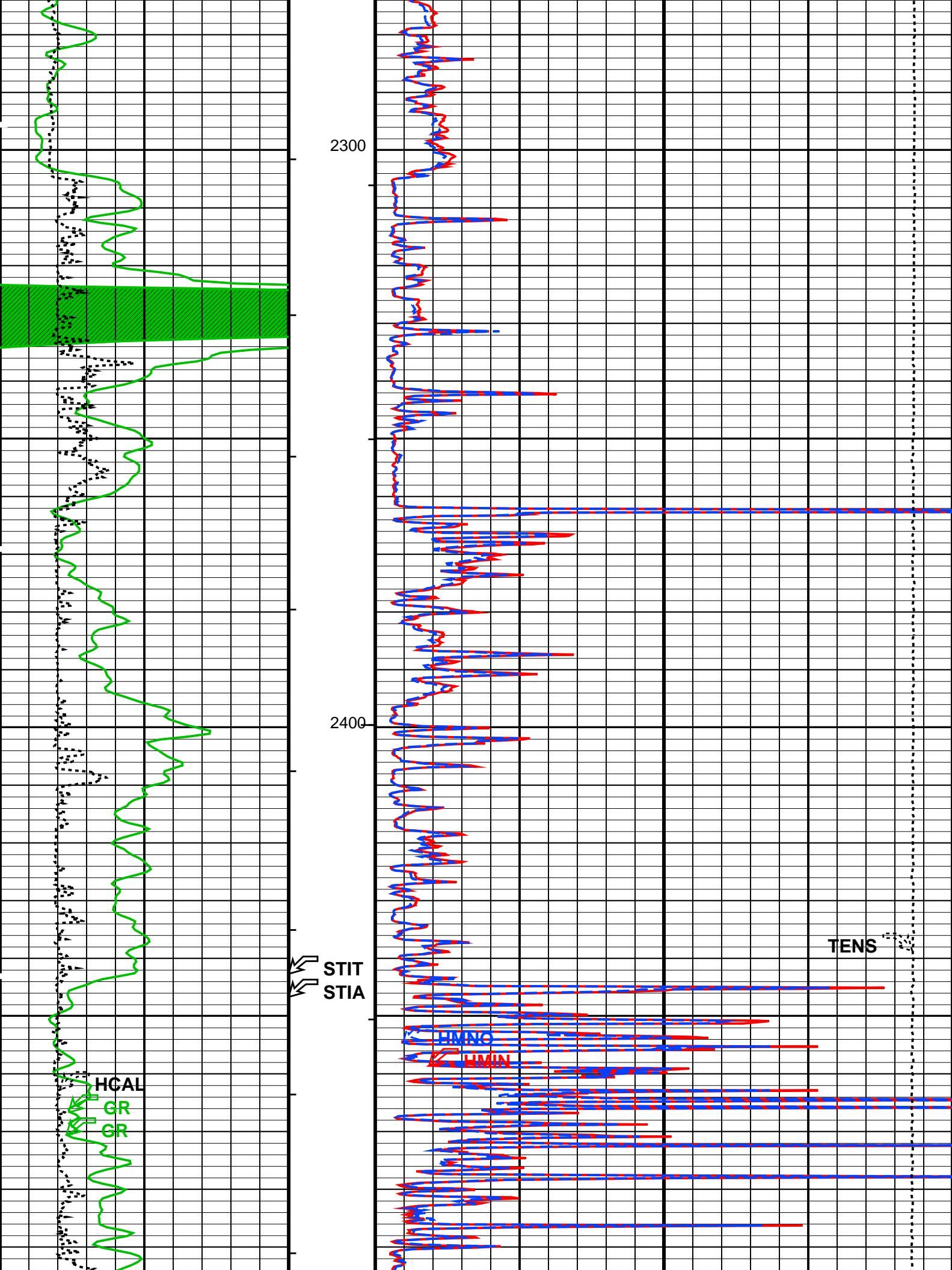


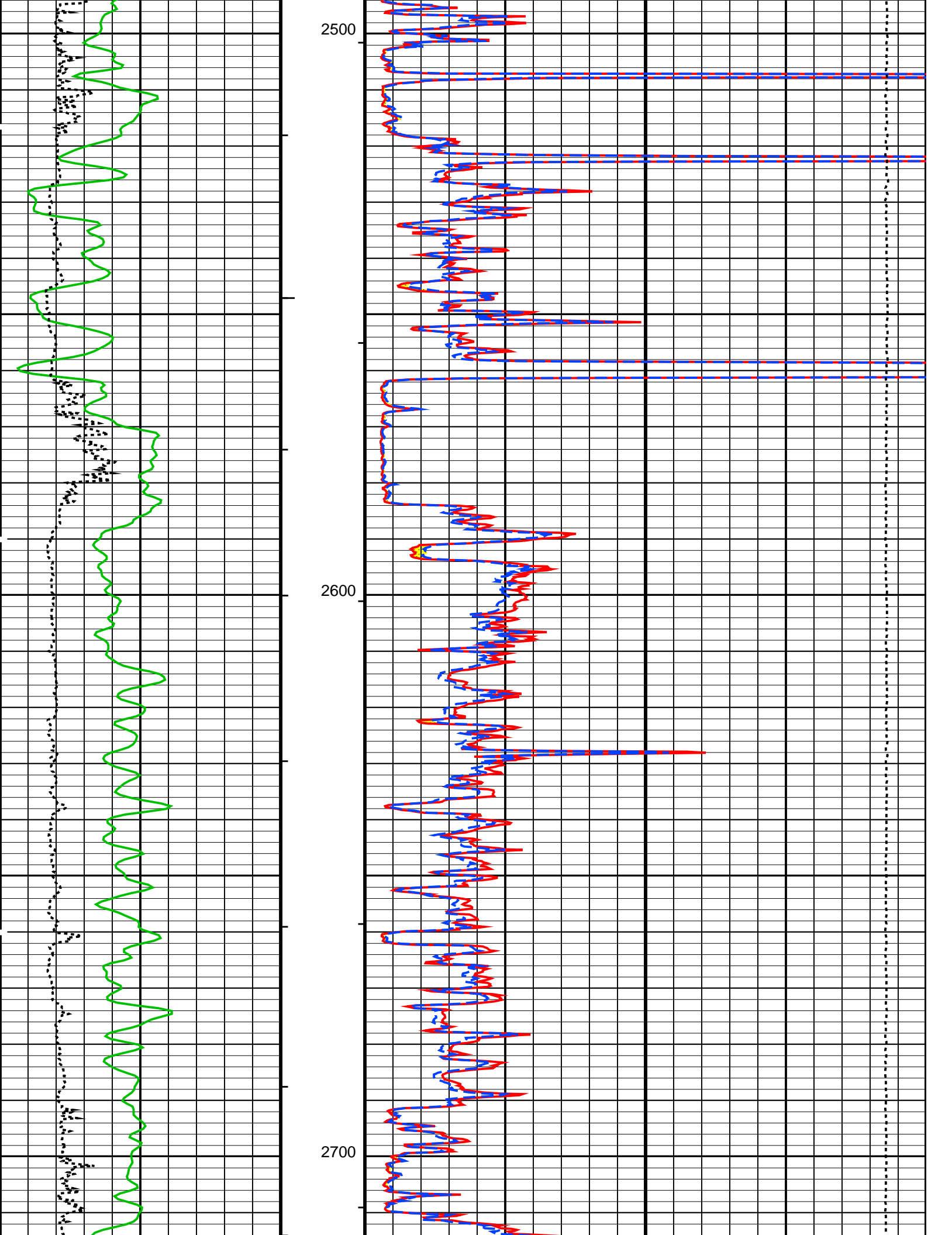


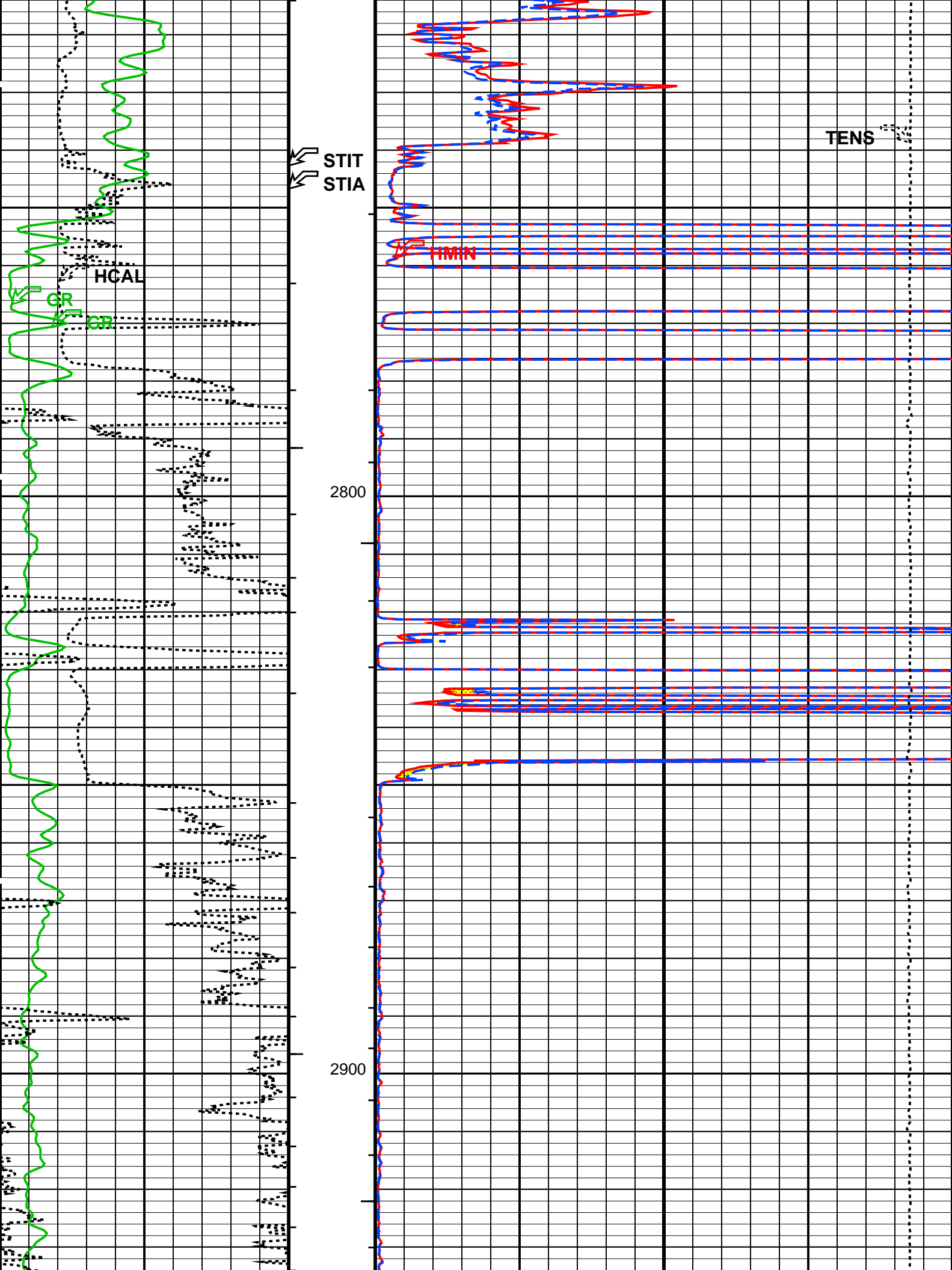


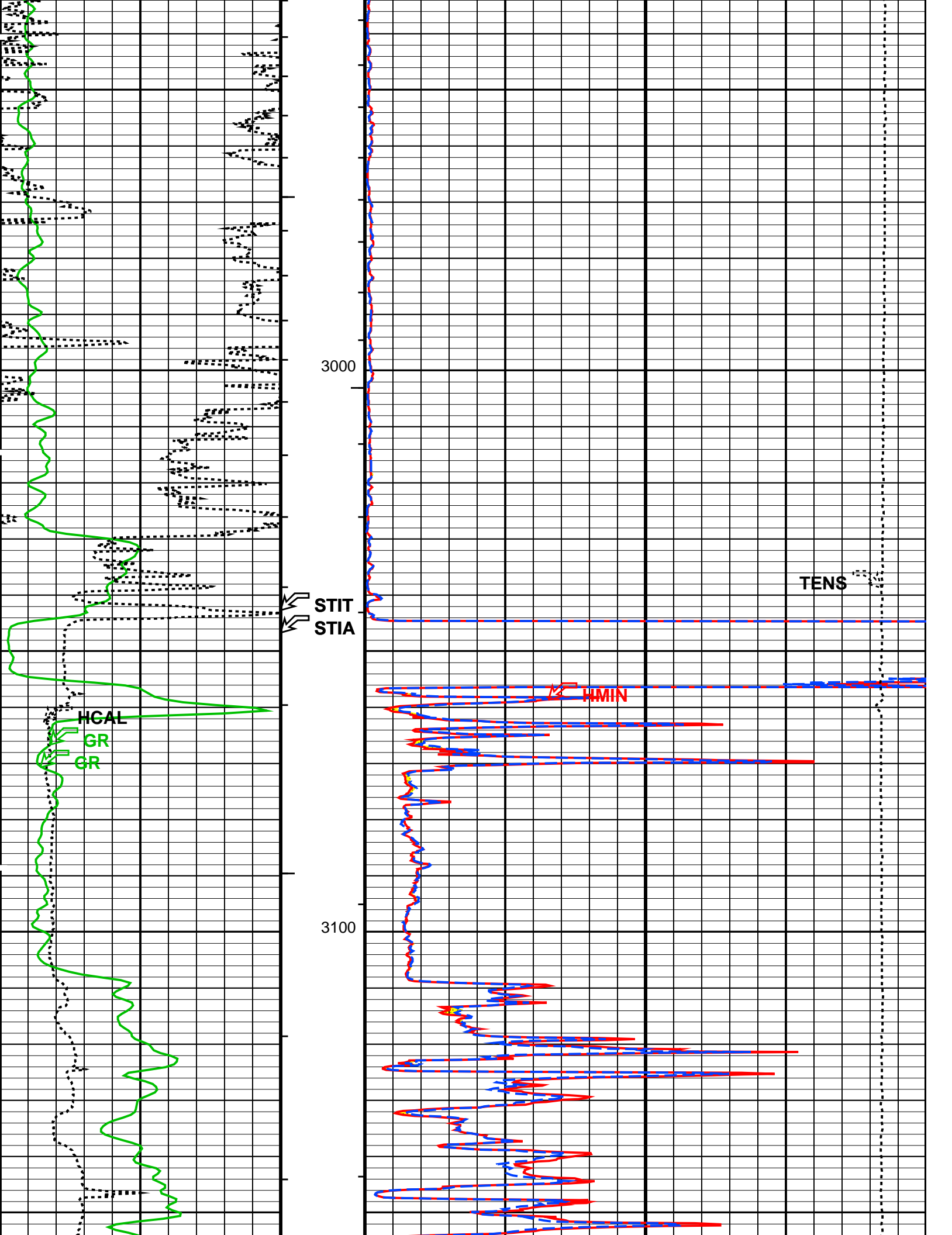


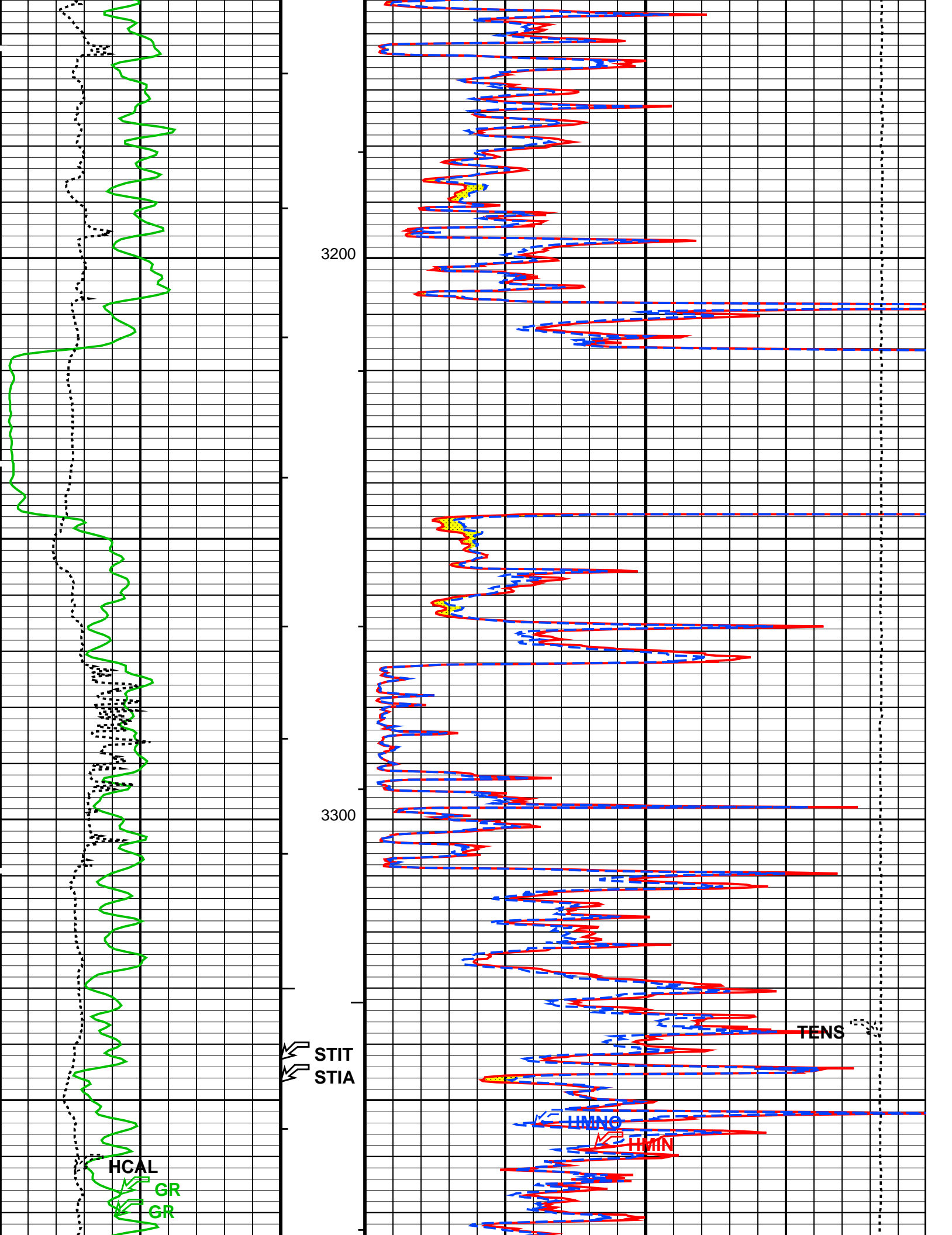


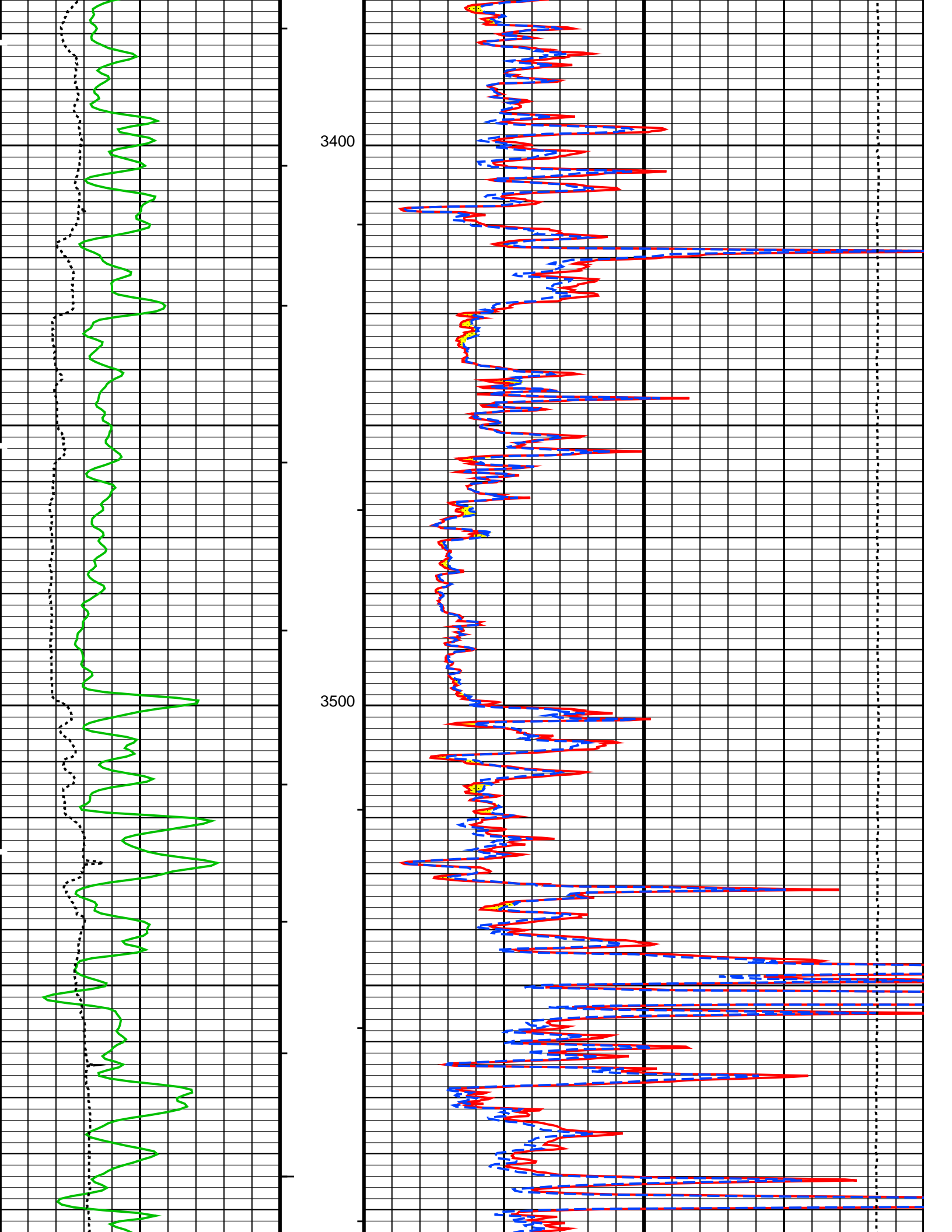


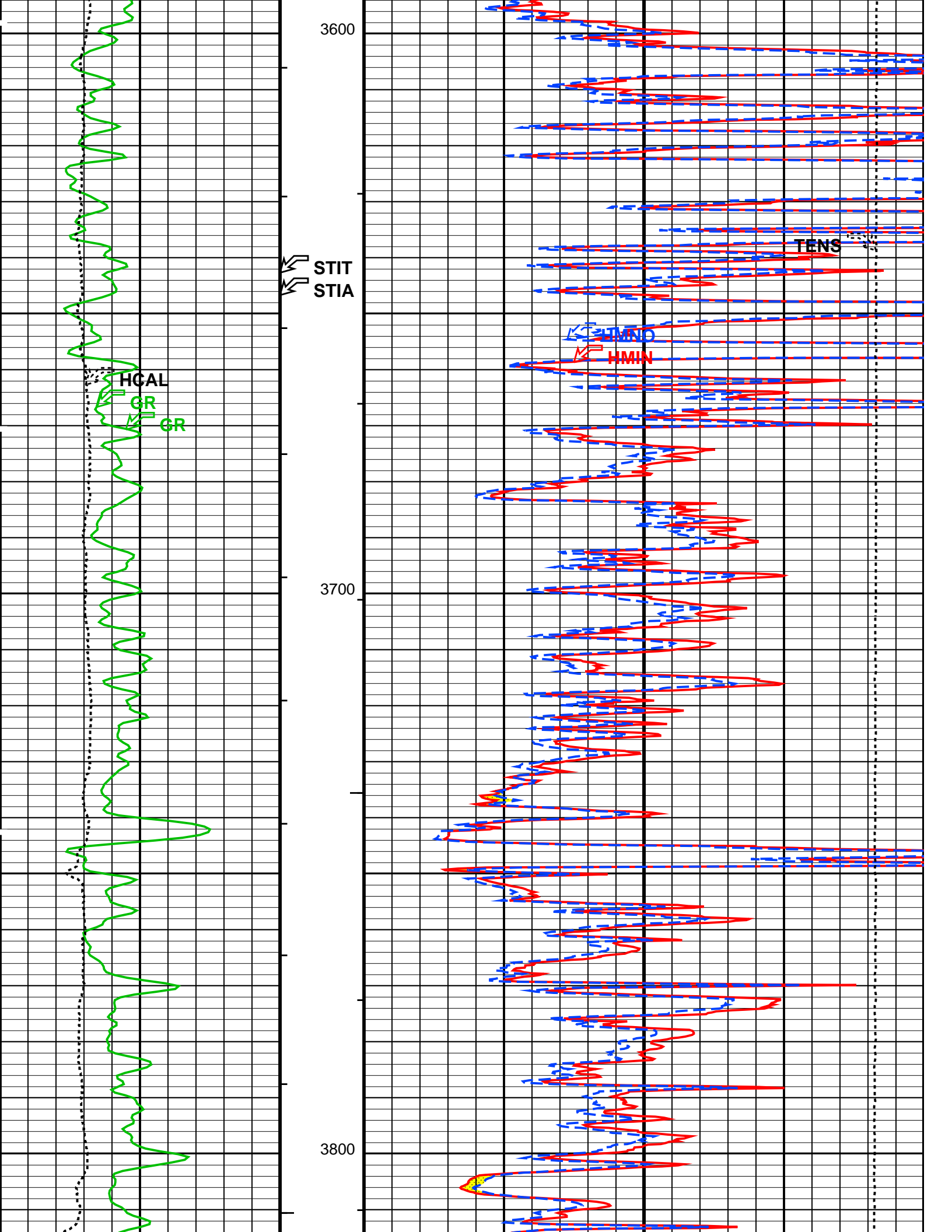


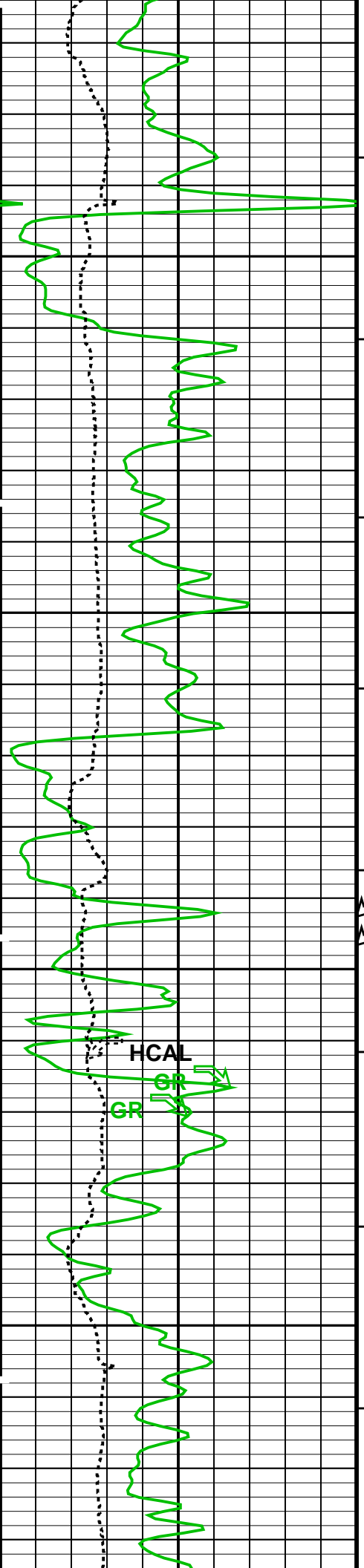












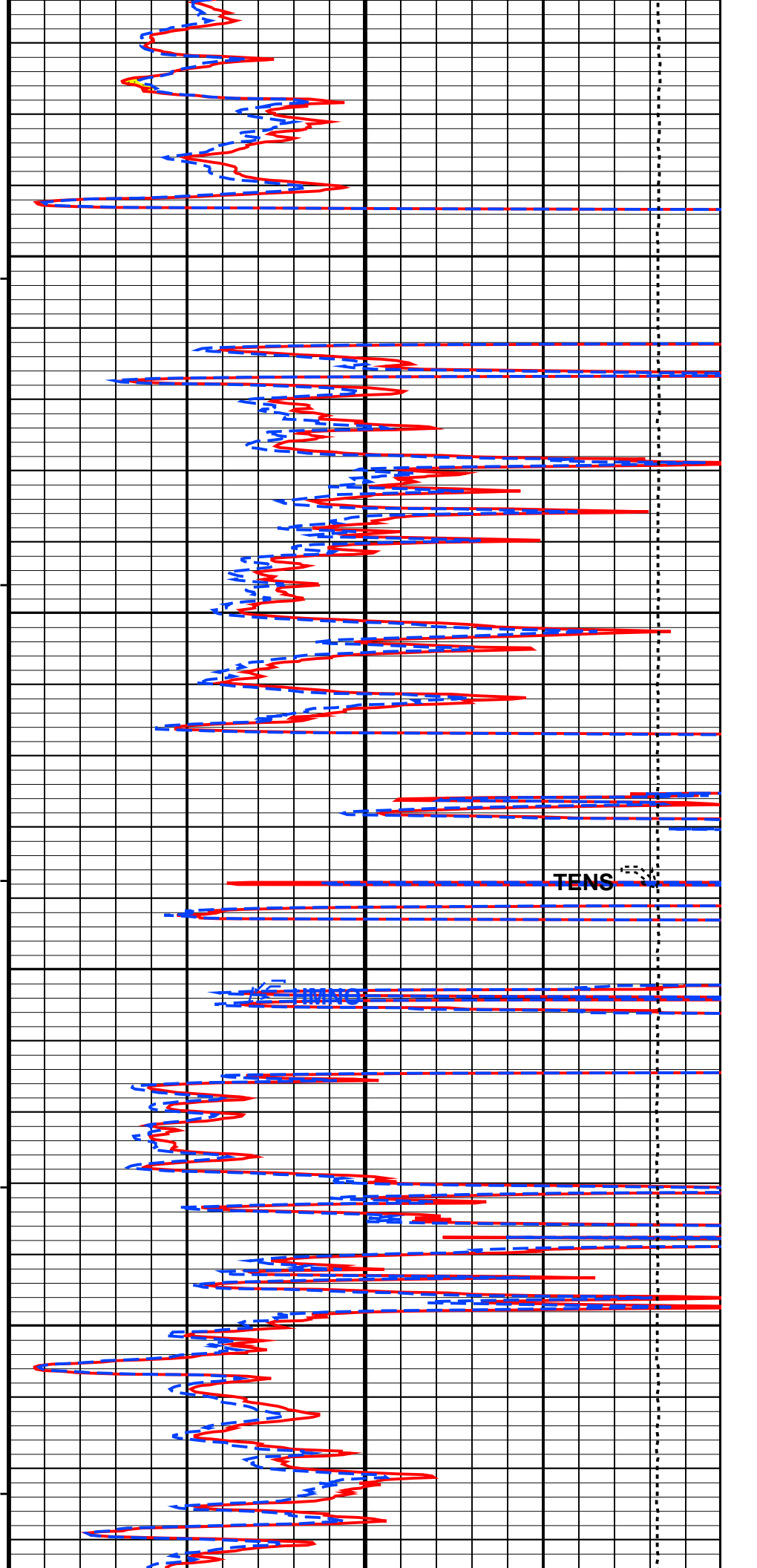
STIT
STIA

HCAL

GR
GR

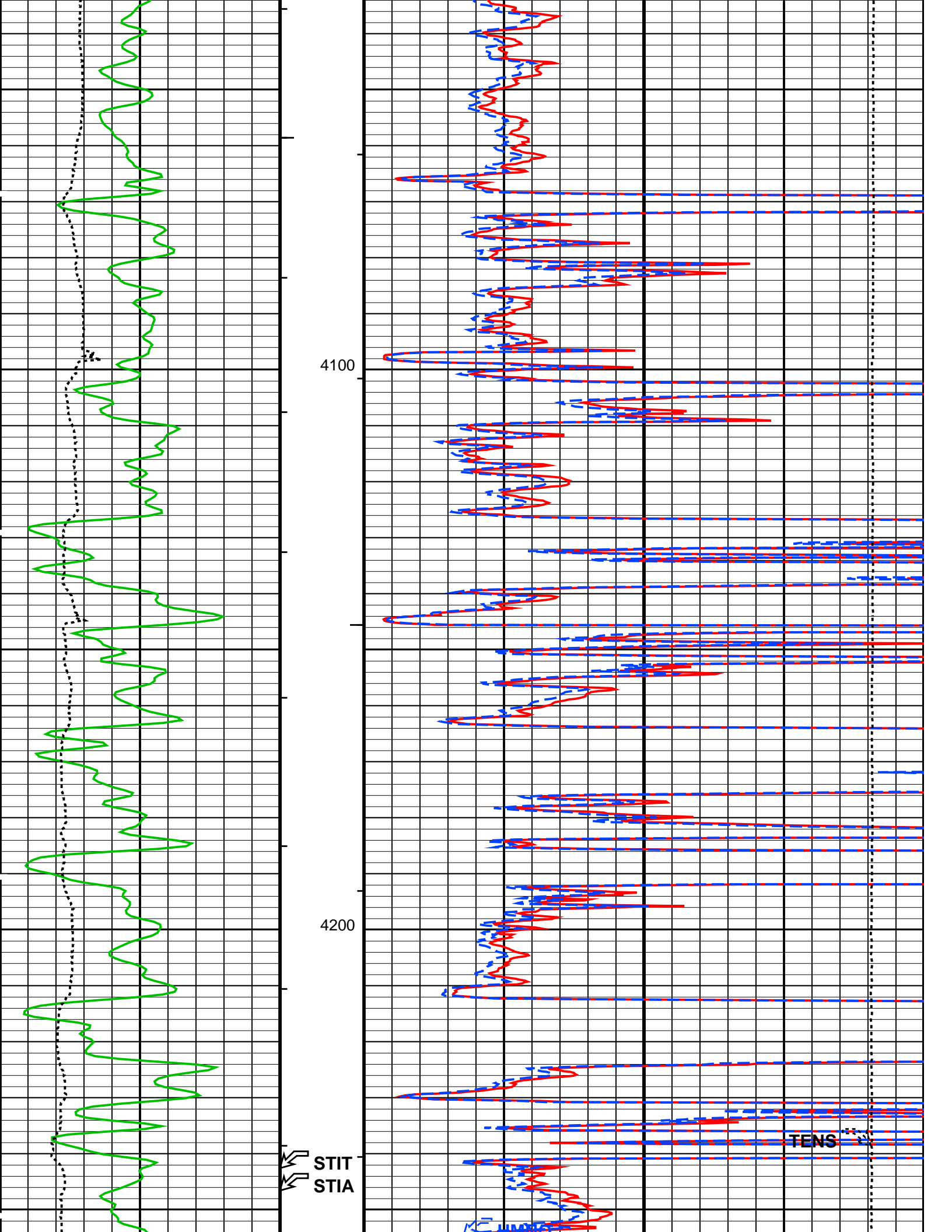
3900

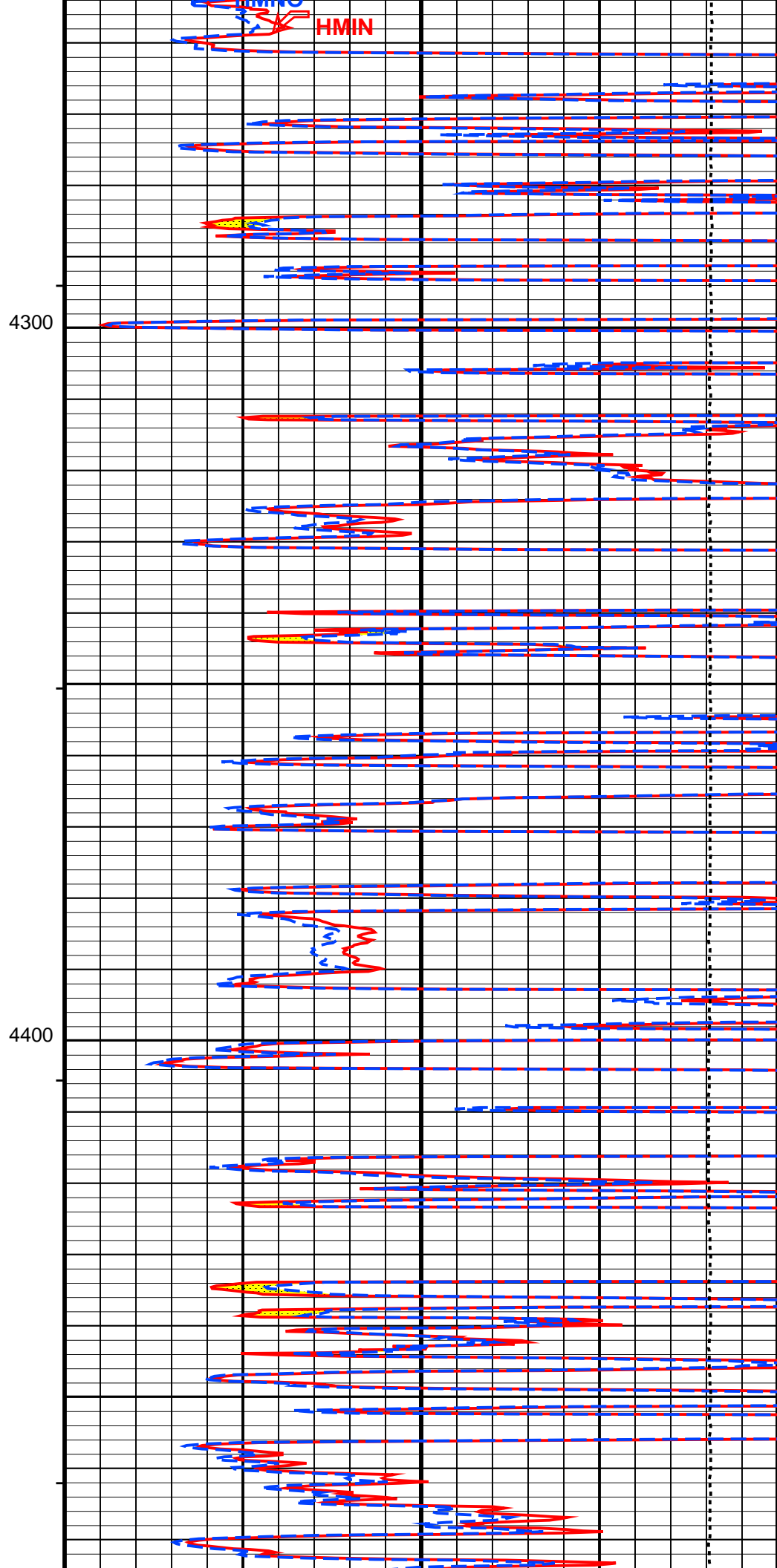
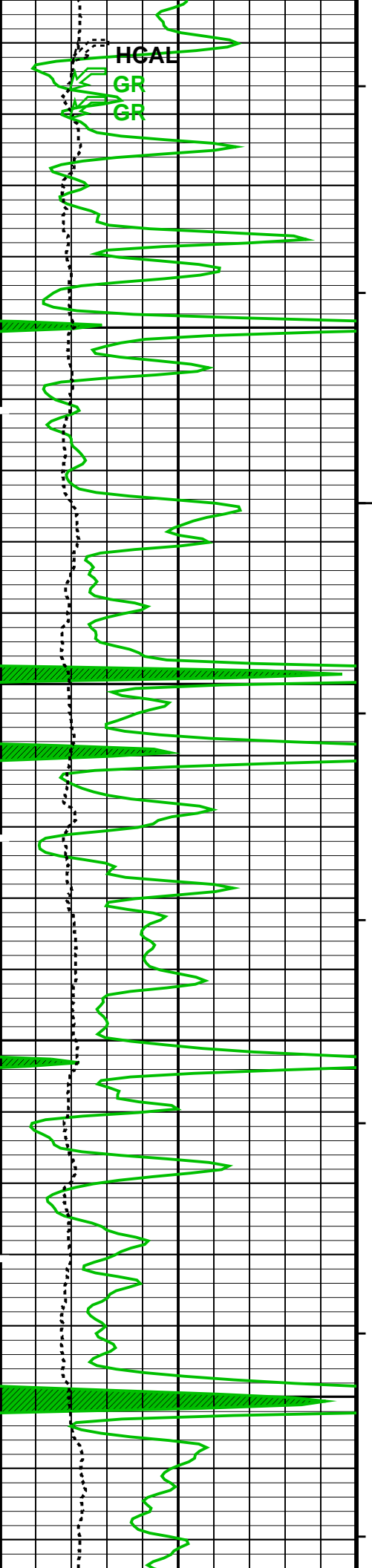
4000

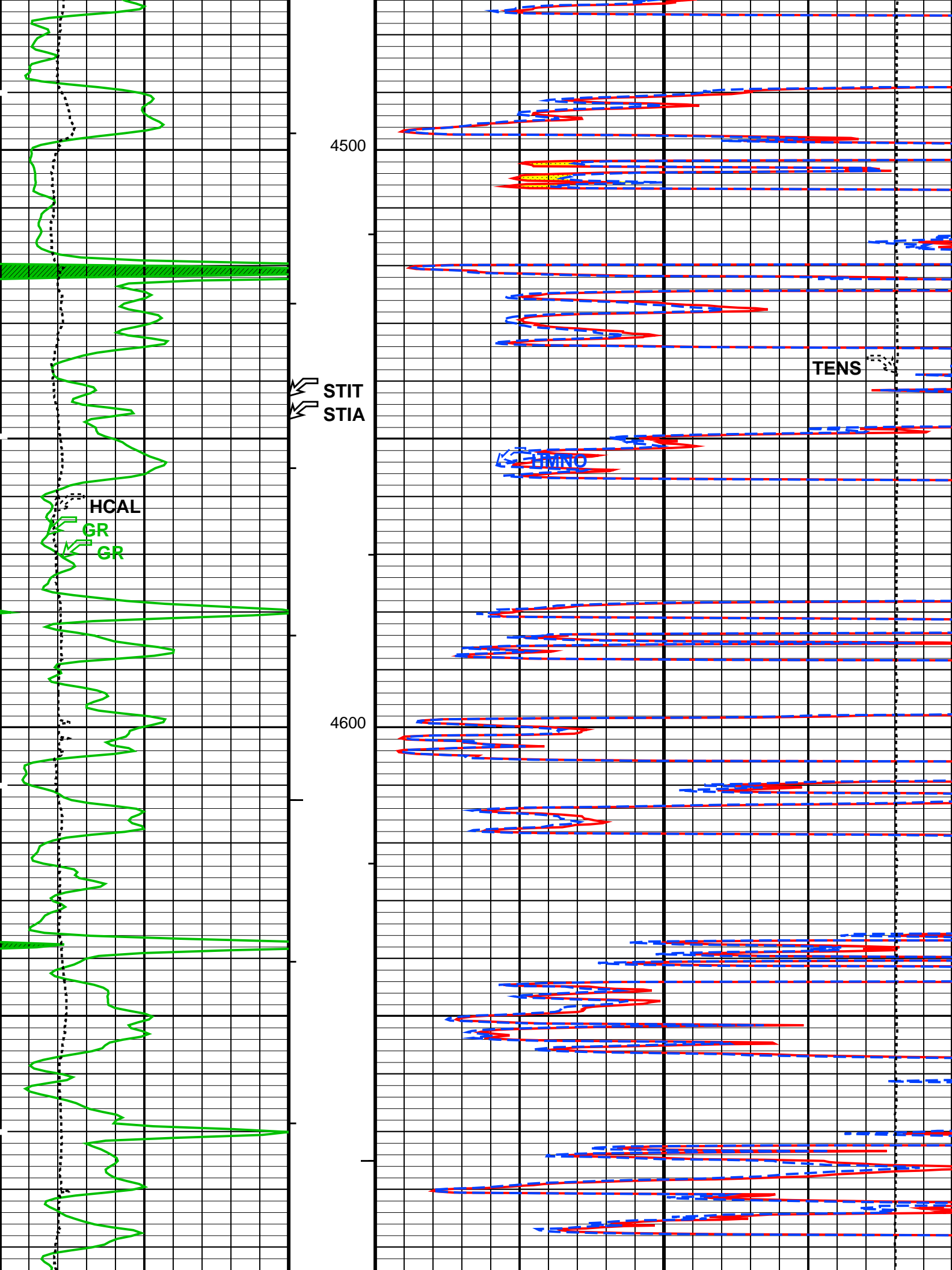


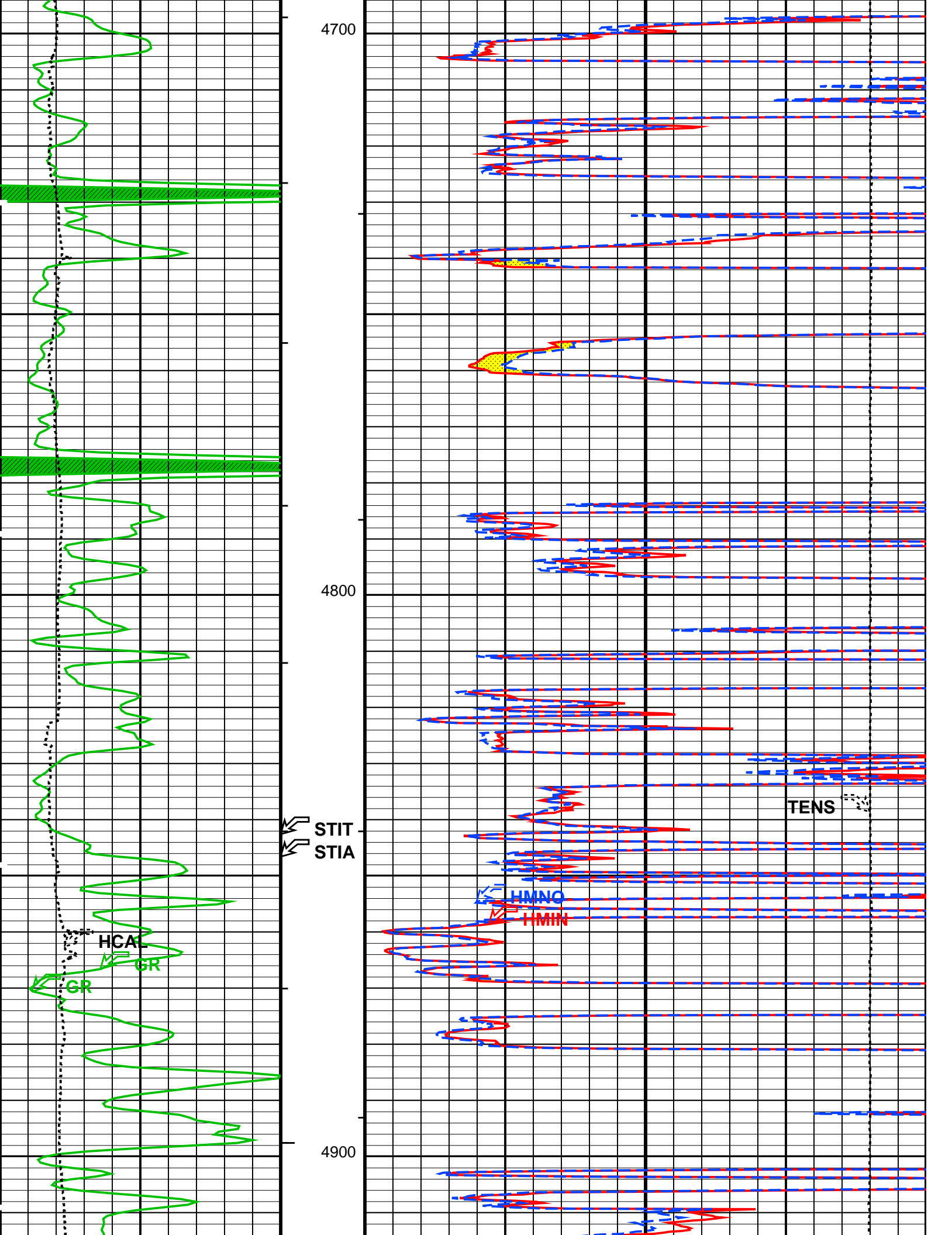
TENS

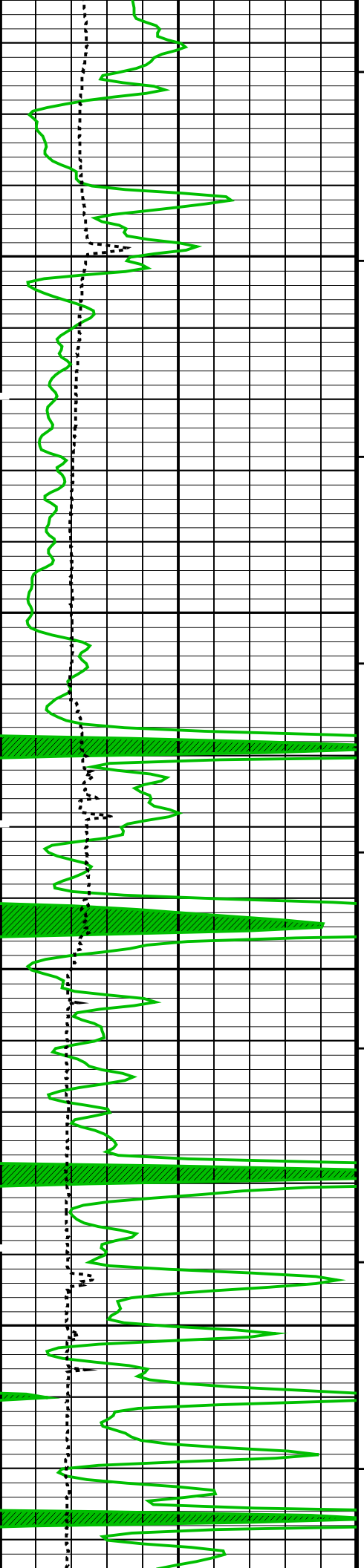
TIME





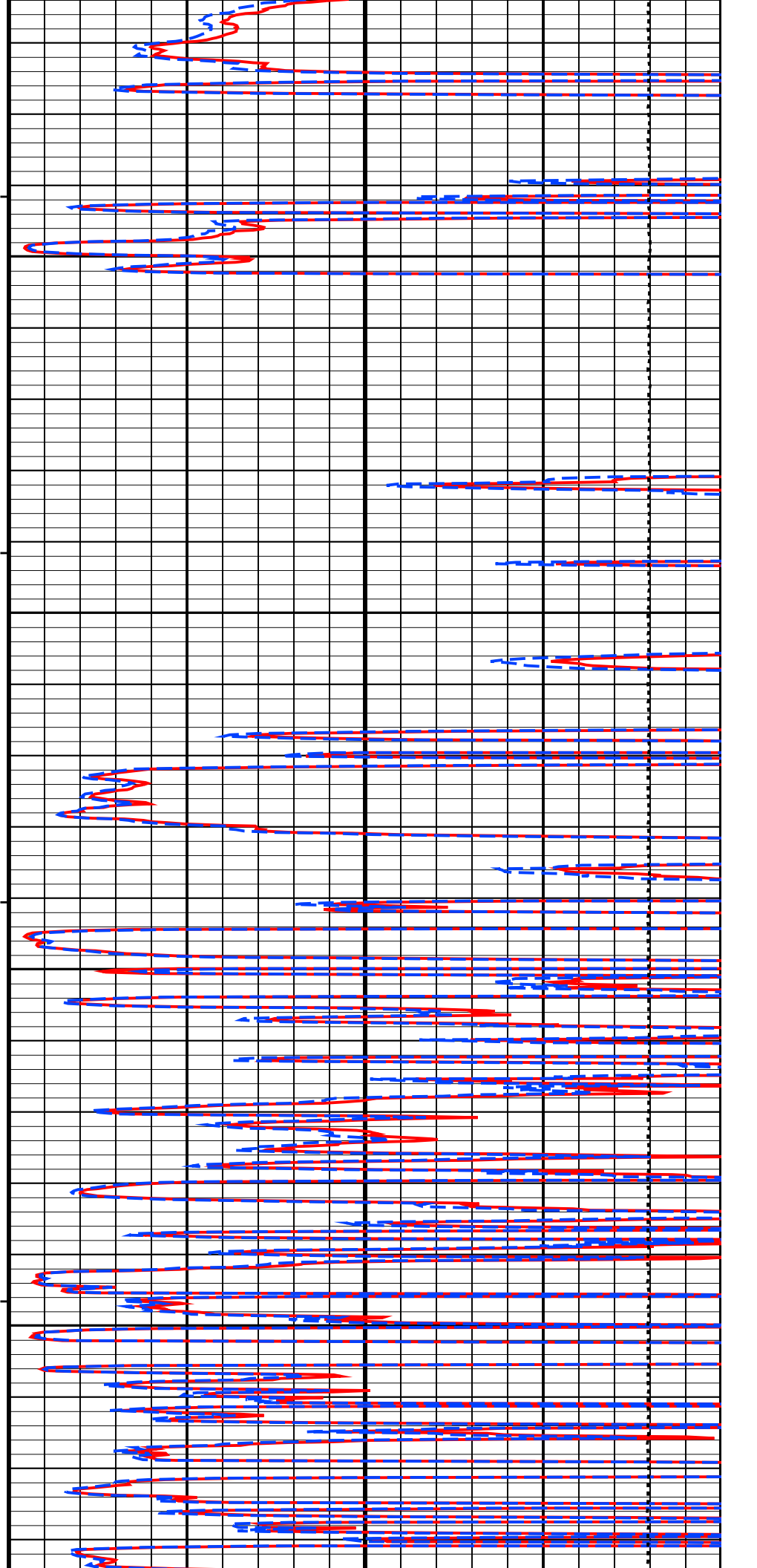


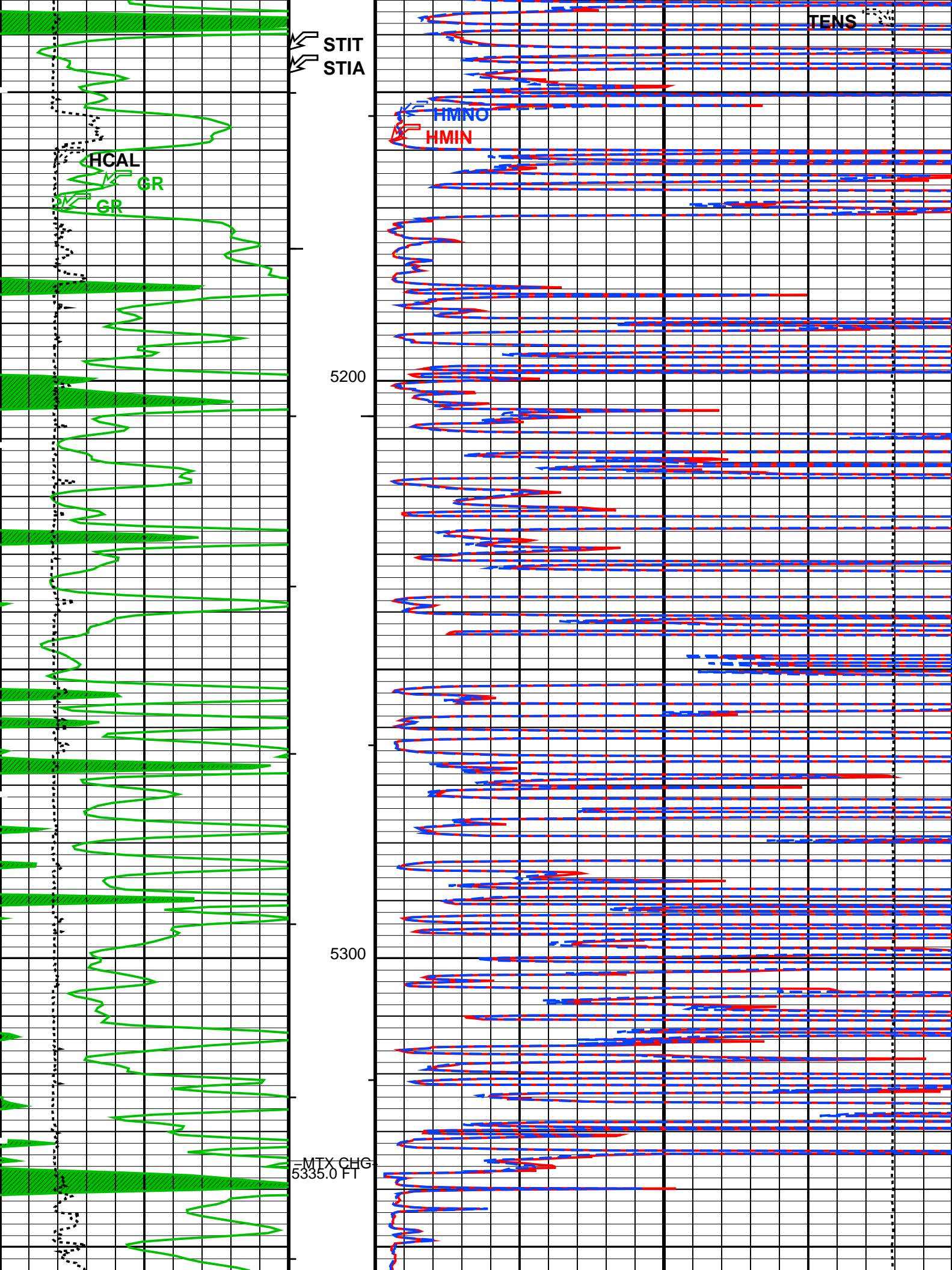


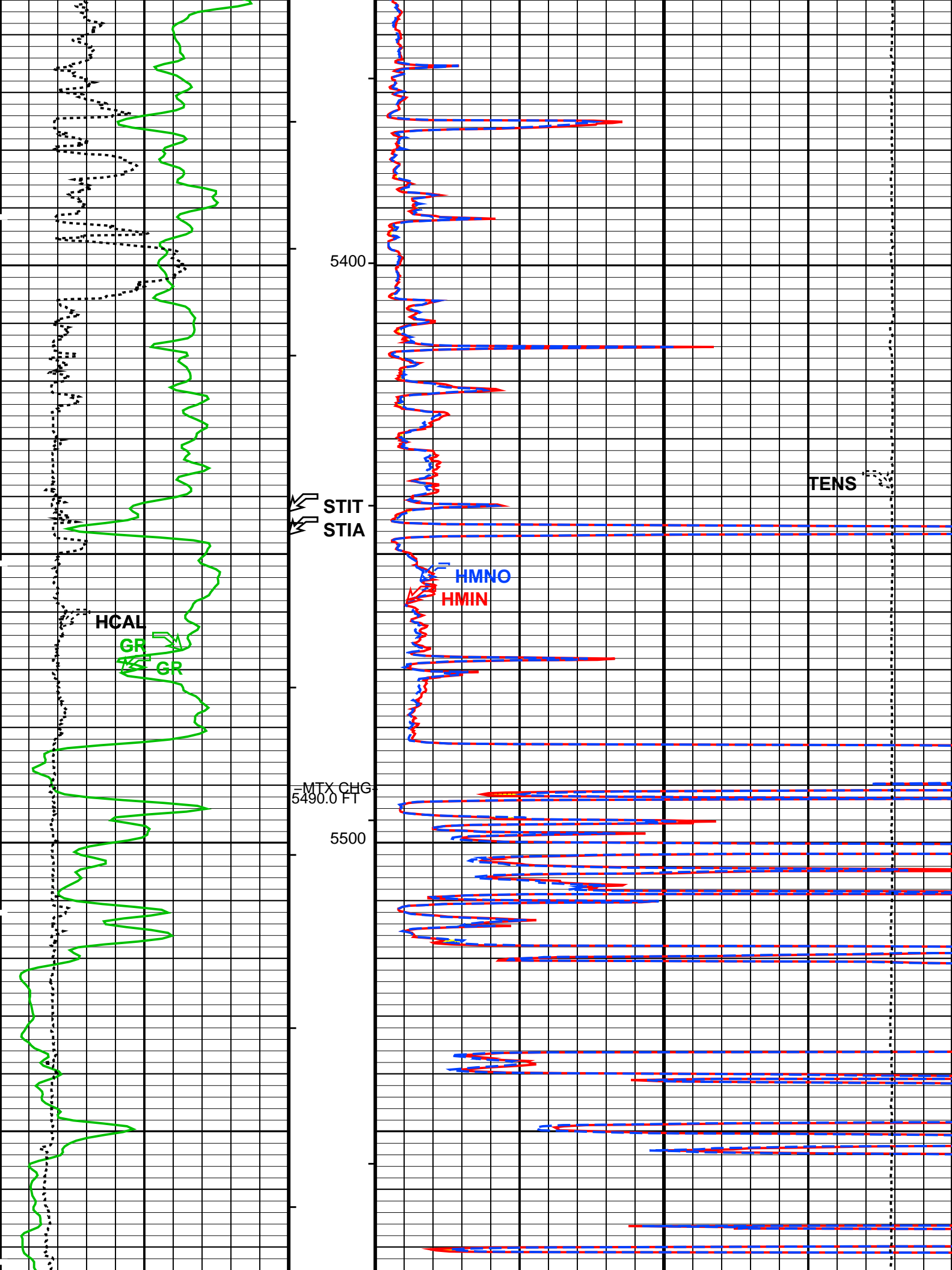


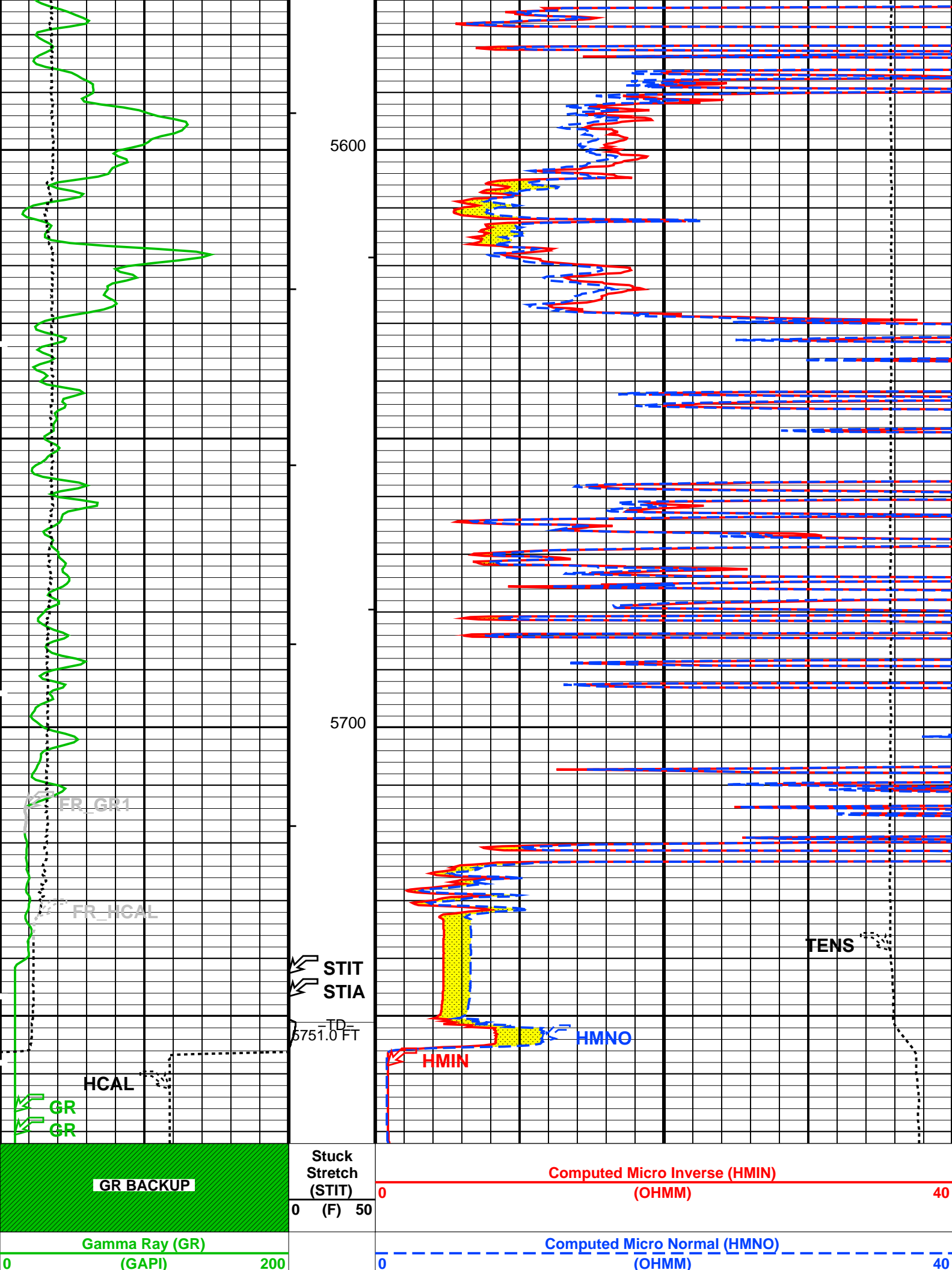
5000

5100









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	
MPOF	HILTB-CTS: High resolution Integrated Logging Tool-CTS	ON	
	MCFL Processing Operation Mode		
FCD	HOLEV: Integrated Hole/Cement Volume		
HVCS	Future Casing (Outer) Diameter	5.5	IN
	Integrated Hole Volume Caliper Selection	HCAL	
LBFR	STI: Stuck Tool Indicator		
STKT	Trigger for MAXIS First Reading Label	TDL	
TDD	STI Stuck Threshold	2.5	FT
TDL	Total Depth - Driller	5760.00	FT
	Total Depth - Logger	5751.00	FT
	System and Miscellaneous		
BS	Bit Size	7.875	IN
DO	Depth Offset for Playback	0.5	FT
DORL	Depth Offset for Repeat Analysis	0.0	FT
PP	Playback Processing	NORMAL	
TD	Total Depth	5751	FT

Format: MLT


Vertical Scale: 5" per 100'

Graphics File Created: 21-Jan-2010 22:44

OP System Version: 17C0-154

HILTB-CTS	17C0-154
-----------	----------

Input DLIS Files						
DEFAULT	AIT_TLD_MCFL_CNL_007LUP	FN:6	PRODUCER	21-Jan-2010 20:44	5772.0 FT	356.2 FT
Output DLIS Files						
DEFAULT	AIT_TLD_MCFL_CNL_016PUP	FN:15	PRODUCER	21-Jan-2010 22:44		



REPEAT ANALYSIS

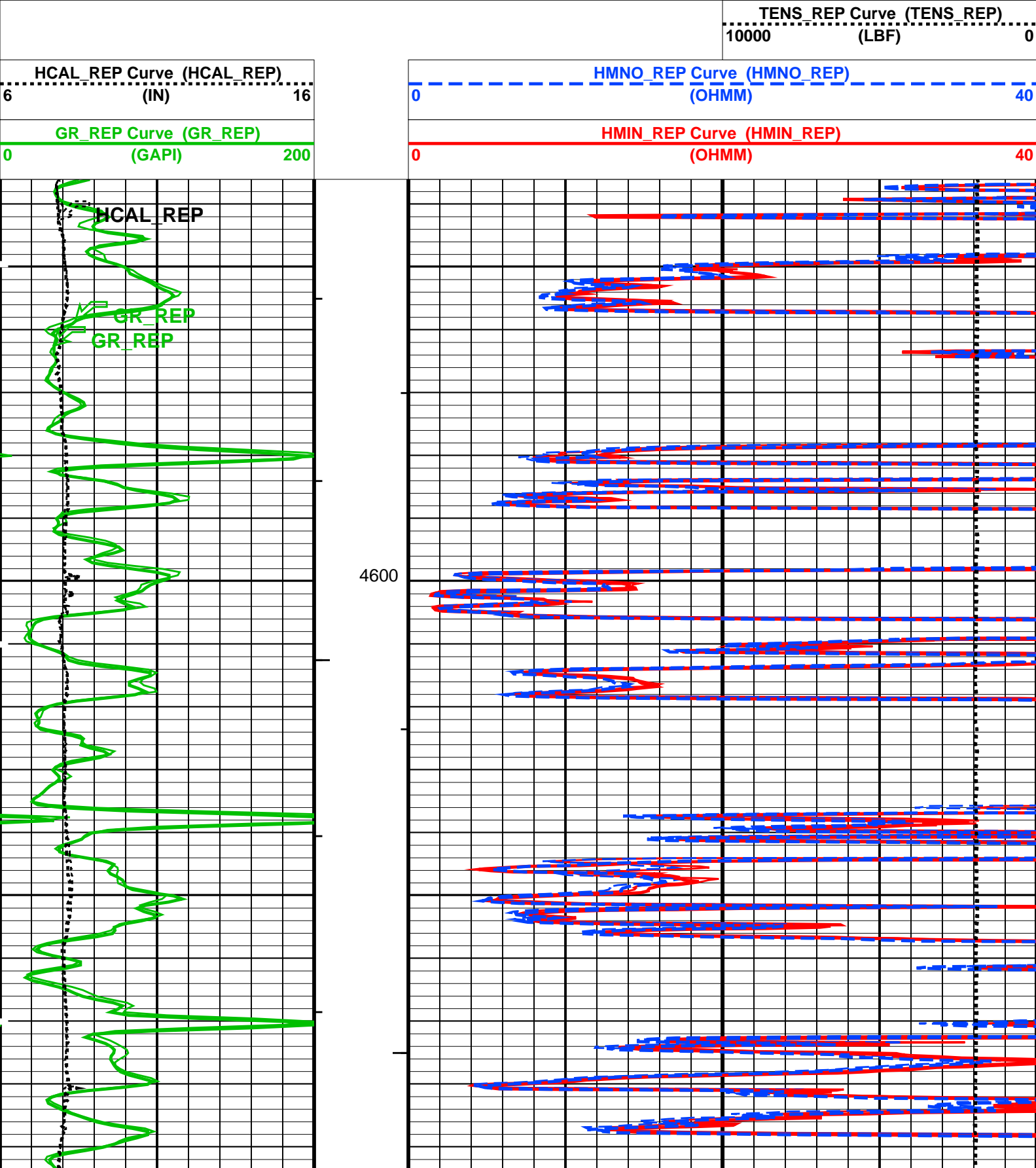
MAXIS Field Log

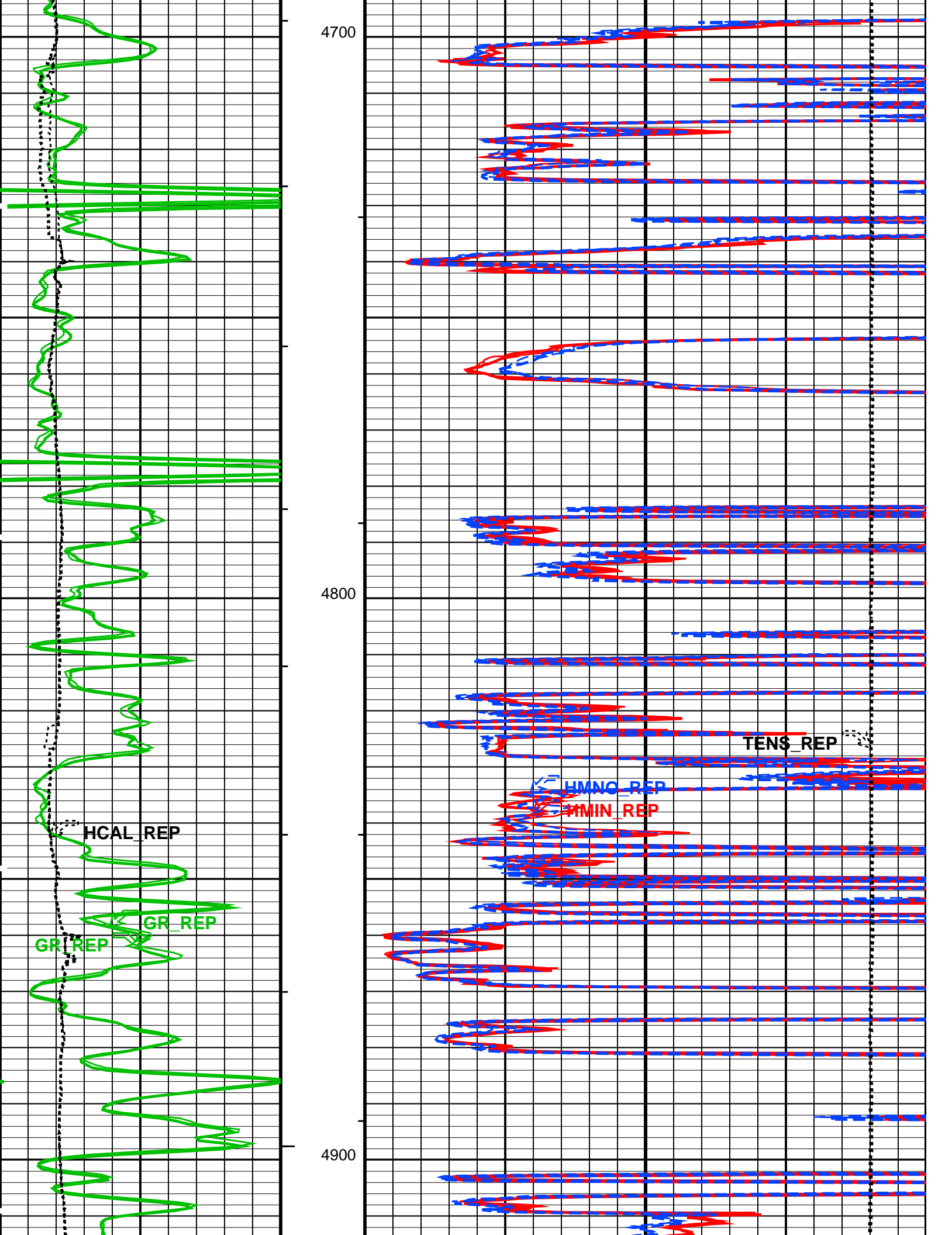
Input DLIS Files						
DEFAULT	AIT_TLD_MCFL_CNL_007LUP	FN:6	PRODUCER	21-Jan-2010 20:44	5772.0 FT	356.2 FT
DEFAULT	AIT_TLD_MCFL_CNL_006PUP	FN:5	PRODUCER	21-Jan-2010 20:42	5775.0 FT	4535.5 FT
Output DLIS Files						
DEFAULT	AIT_TLD_MCFL_CNL_016PUP	FN:15	PRODUCER	21-Jan-2010 22:44		

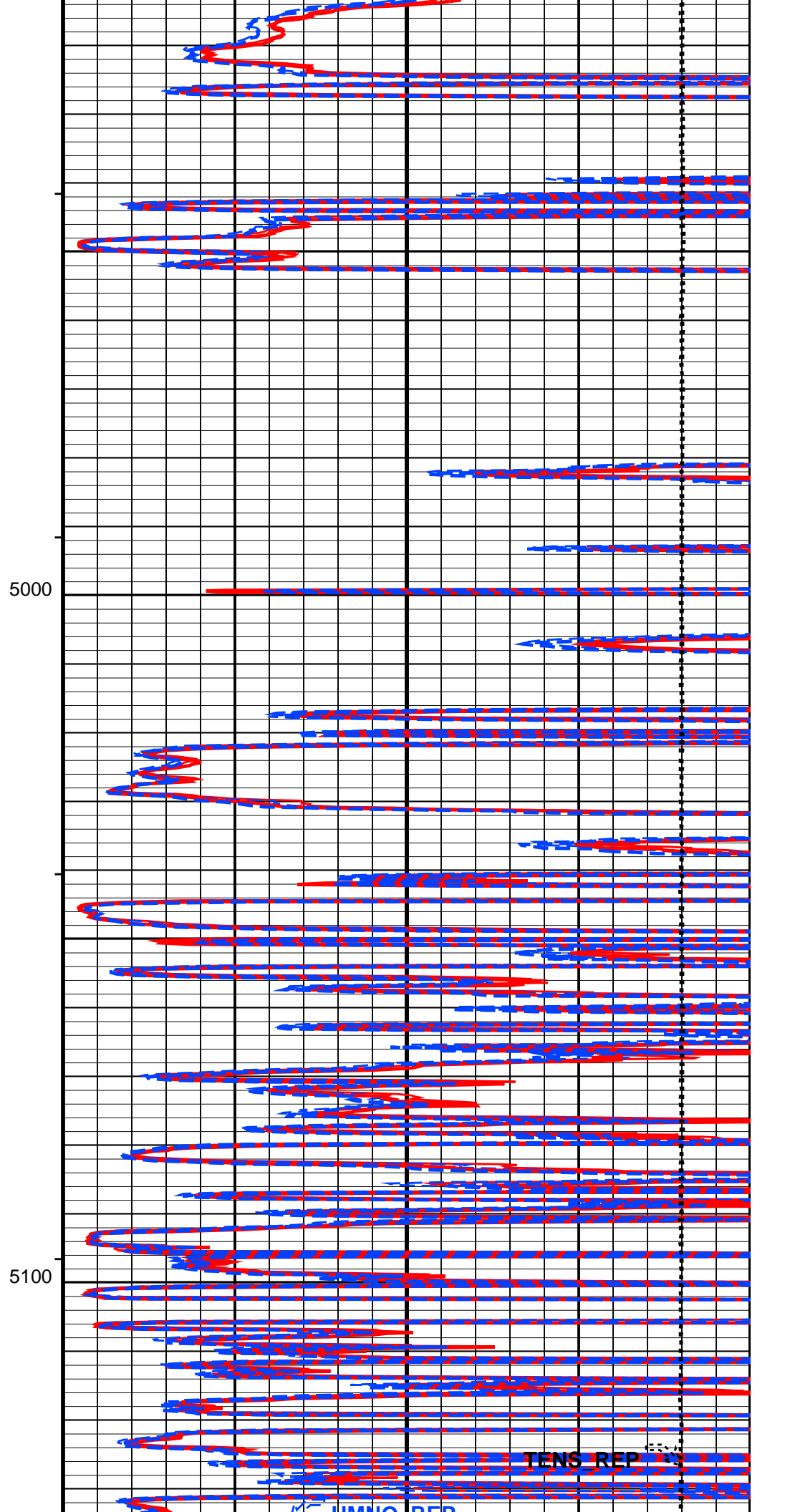
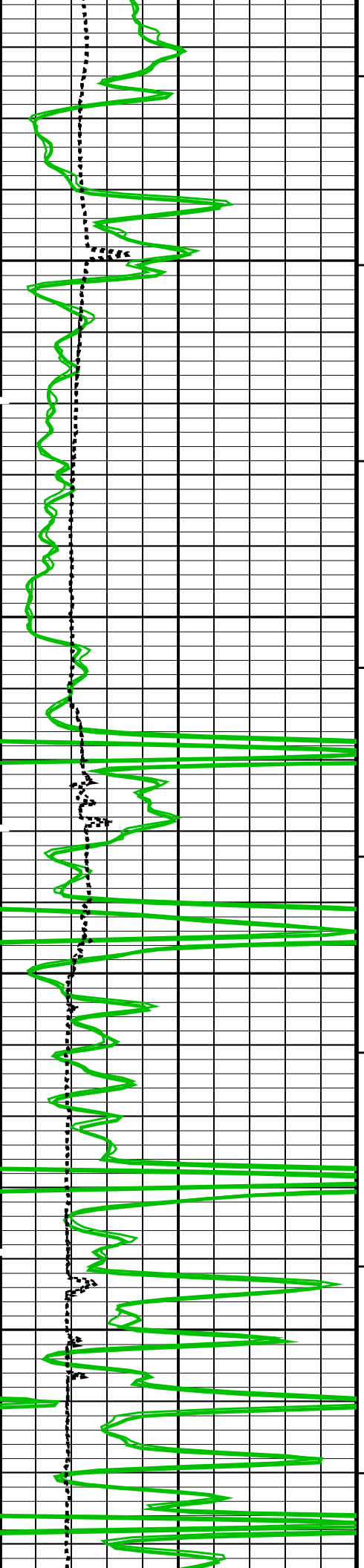
PIP SUMMARY

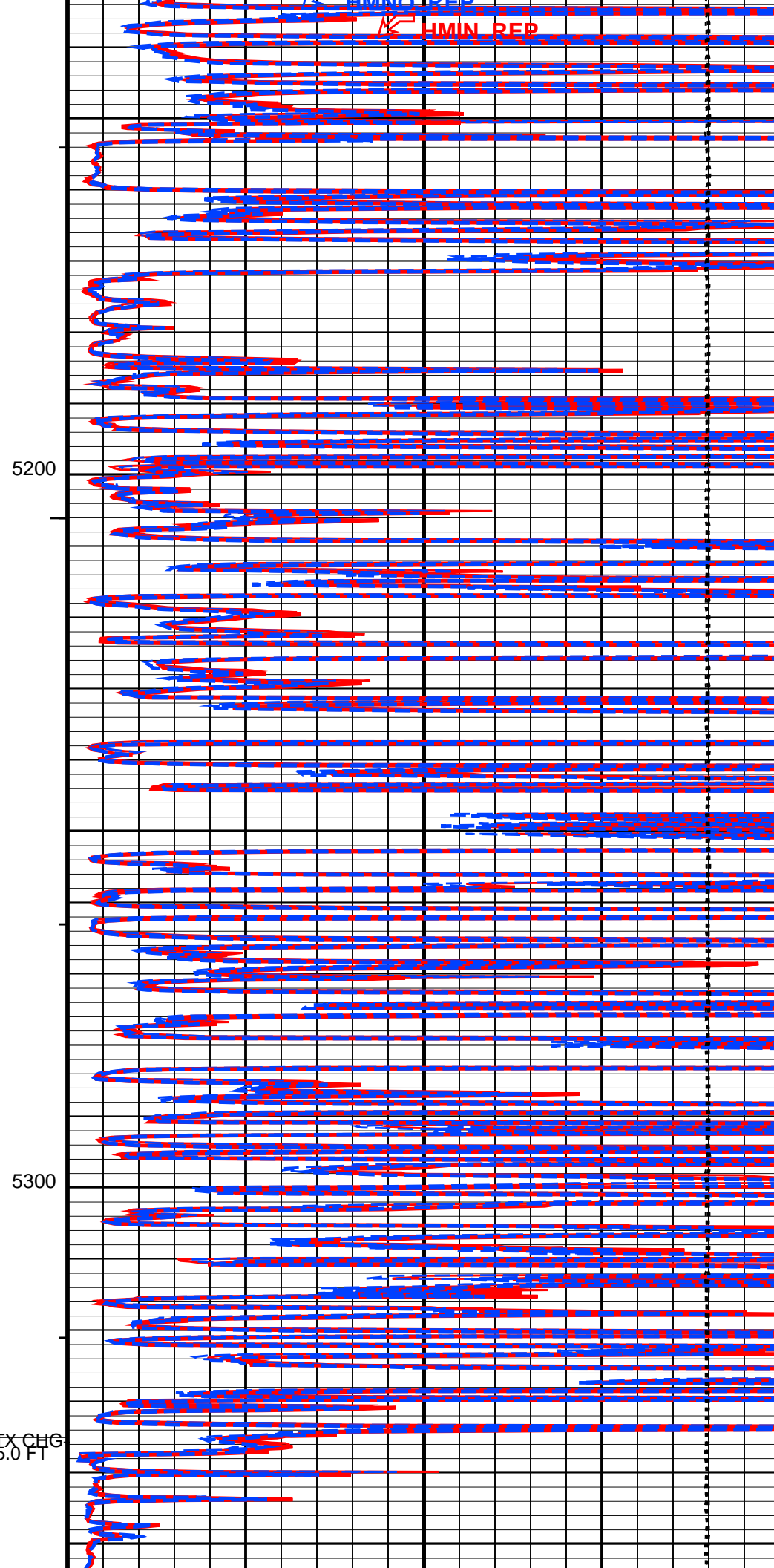
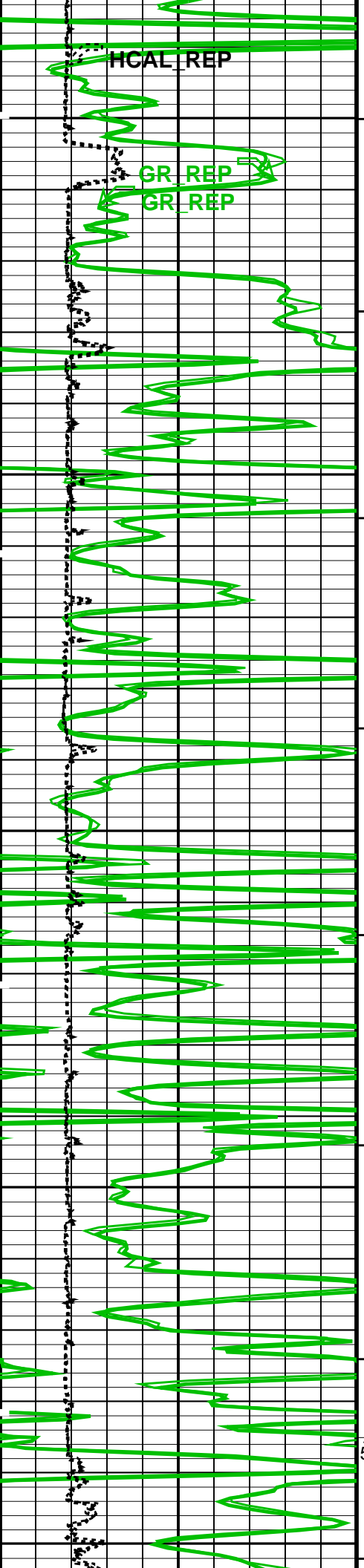
- └ Integrated Hole Volume Minor Pip Every 10 F3
- └ Integrated Hole Volume Major Pip Every 100 F3
 - └ Integrated Cement Volume Minor Pip Every 10 F3
 - └ Integrated Cement Volume Major Pip Every 100 F3

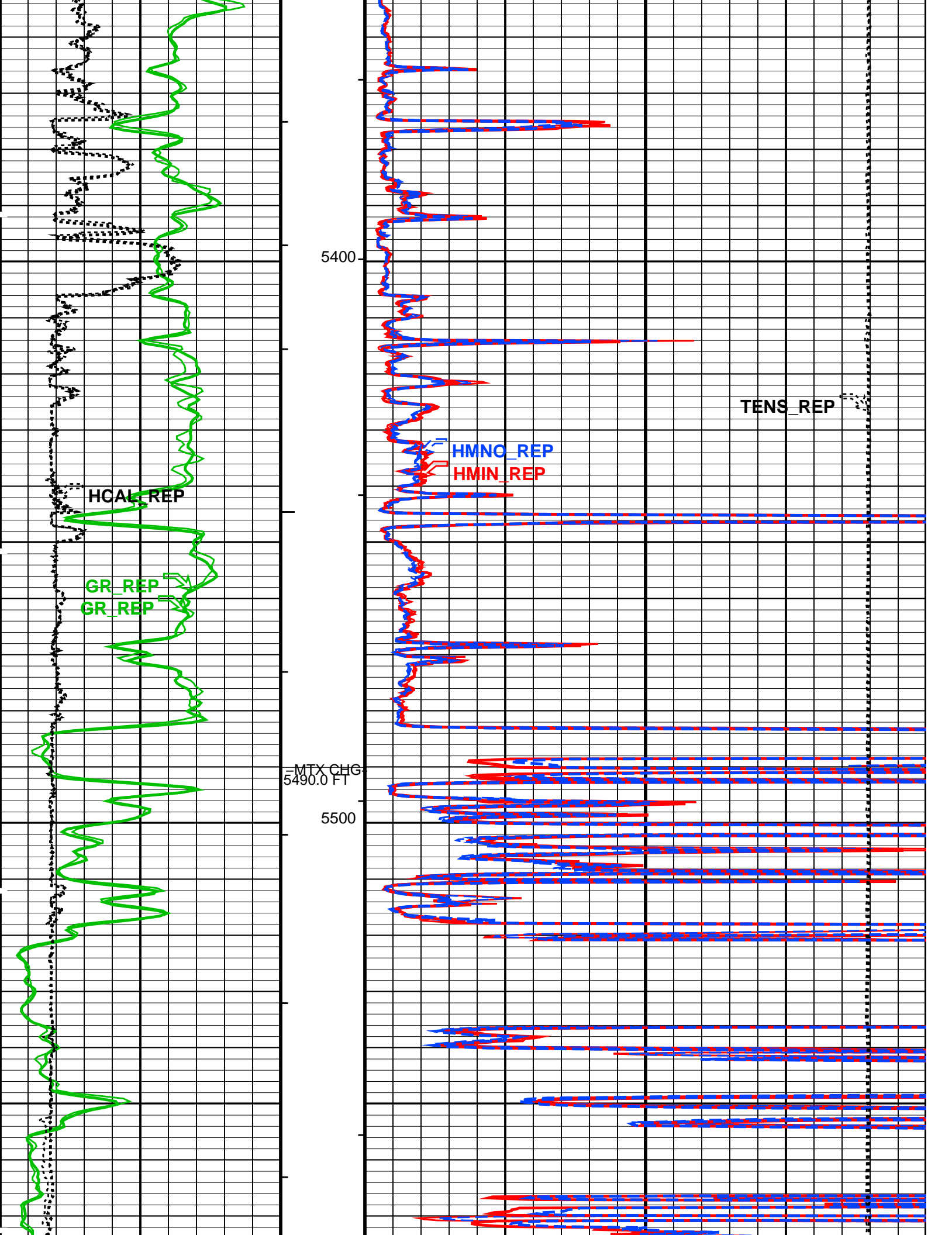
Time Mark Every 60 S

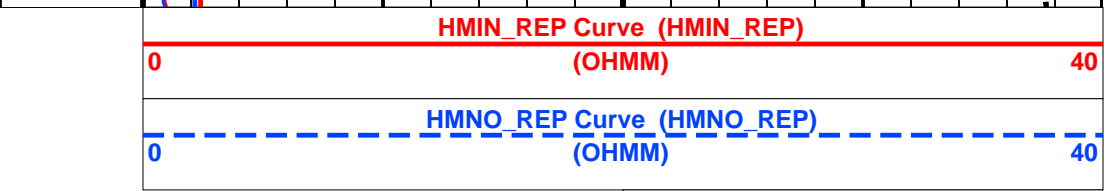
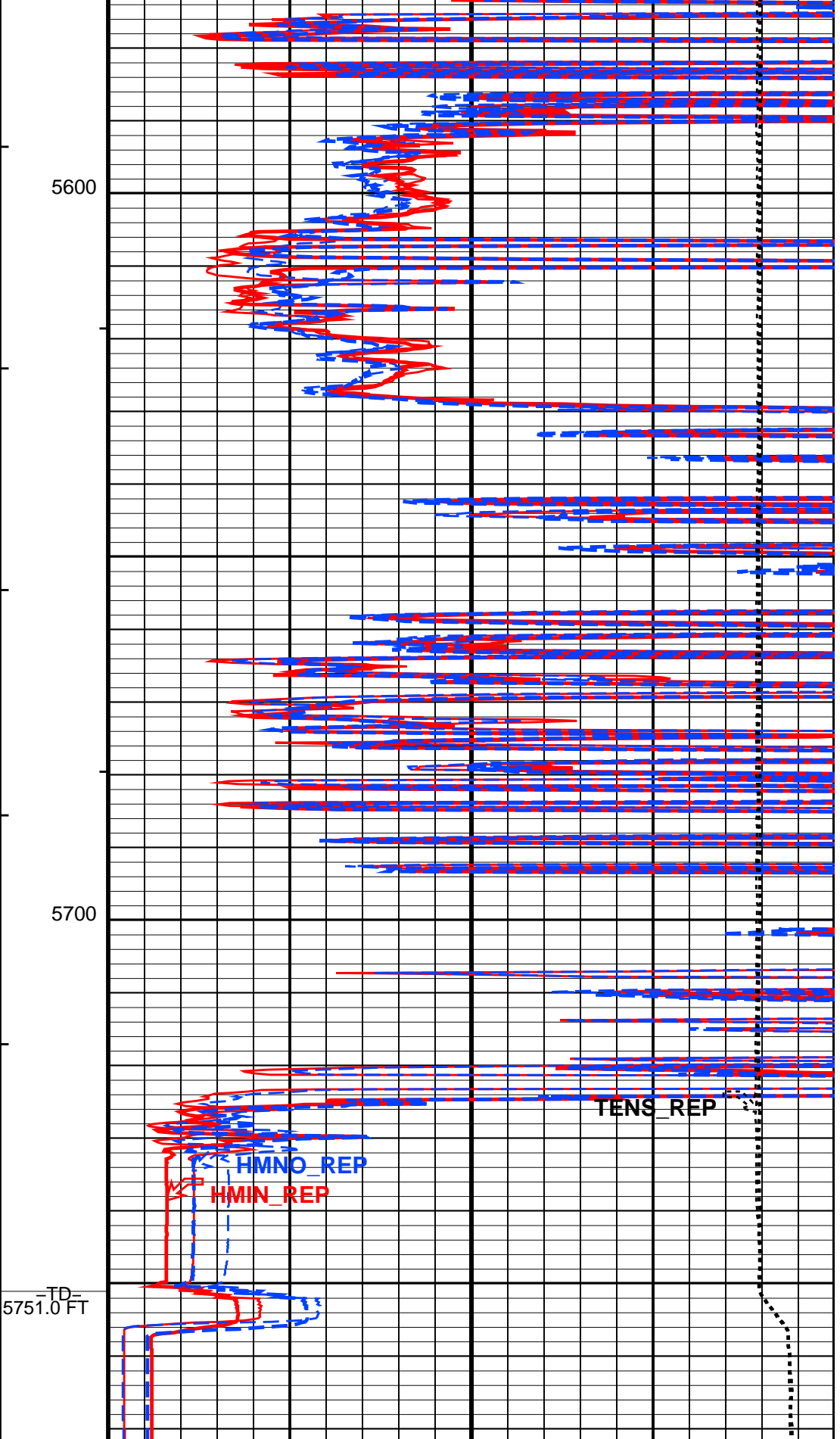
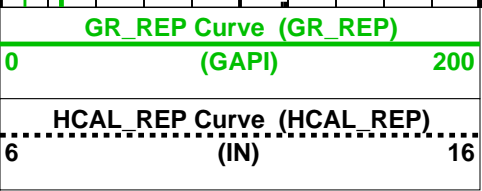
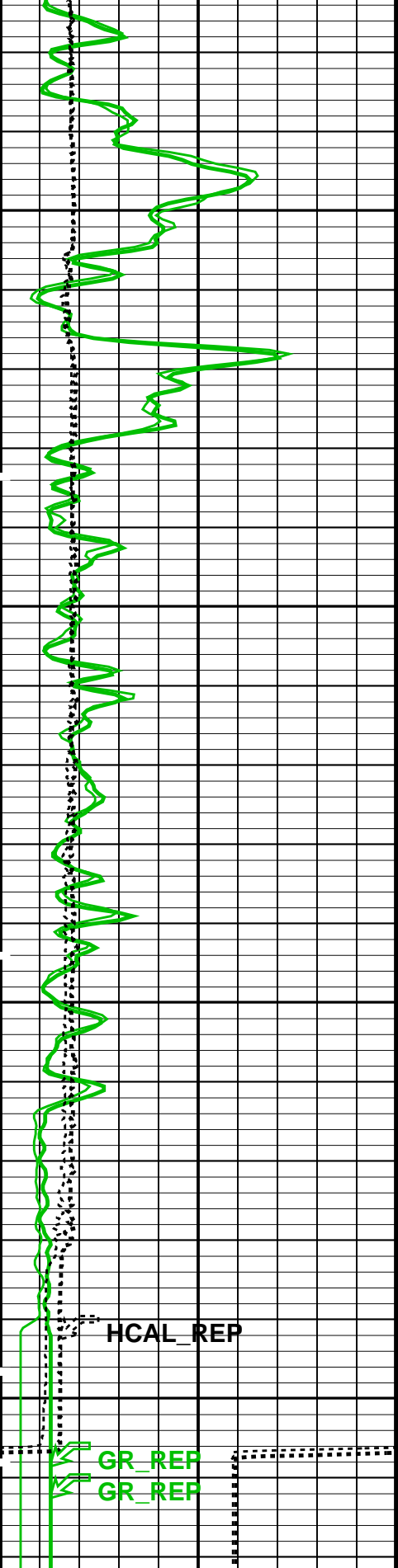












PIP SUMMARY

- └ 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	
MPOF	HILTB–CTS: High resolution Integrated Logging Tool–CTS		
	MCFL Processing Operation Mode	ON	
FCD	HOLEV: Integrated Hole/Cement Volume		
HVCS	Future Casing (Outer) Diameter	5.5	IN
	Integrated Hole Volume Caliper Selection	HCAL	
	System and Miscellaneous		
BS	Bit Size	7.875	IN
DO	Depth Offset for Playback	0.5	FT
DORL	Depth Offset for Repeat Analysis	0.0	FT
PP	Playback Processing	NORMAL	
TD	Total Depth	5751	FT

Format: MLT_REP Vertical Scale: 5" per 100' Graphics File Created: 21-Jan-2010 22:44

OP System Version: 17C0-154

HILTB-CTS 17C0-154

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_007LUP	FN:6	PRODUCER	21-Jan-2010 20:44	5772.0 FT	356.2 FT
DEFAULT	AIT_TLD_MCFL_CNL_006PUP	FN:5	PRODUCER	21-Jan-2010 20:42	5775.0 FT	4535.5 FT

Output DLIS Files

```

DEFAULT      AIT_TLD_MCFL_CNL_016PUP      FN:15      PRODUCER      21-Jan-2010 22:44

```



HIGH RESOLUTION PASS

MAXIS Field Log

Input DLIS Files

DEFAULT	AIT TLD MCFL CNL 006PUP	FN:5	PRODUCER	21-Jan-2010 20:42	5775.0 FT	4535.5 FT
---------	-------------------------	------	----------	-------------------	-----------	-----------

Integrated Hole/Cement Volume Summary

Hole Volume = 344.91 ft3
Cement Volume = 185.87 ft3 (assuming 5.50 in casing O.D.)
Computed from 5499.5 ft to 4536.0 ft

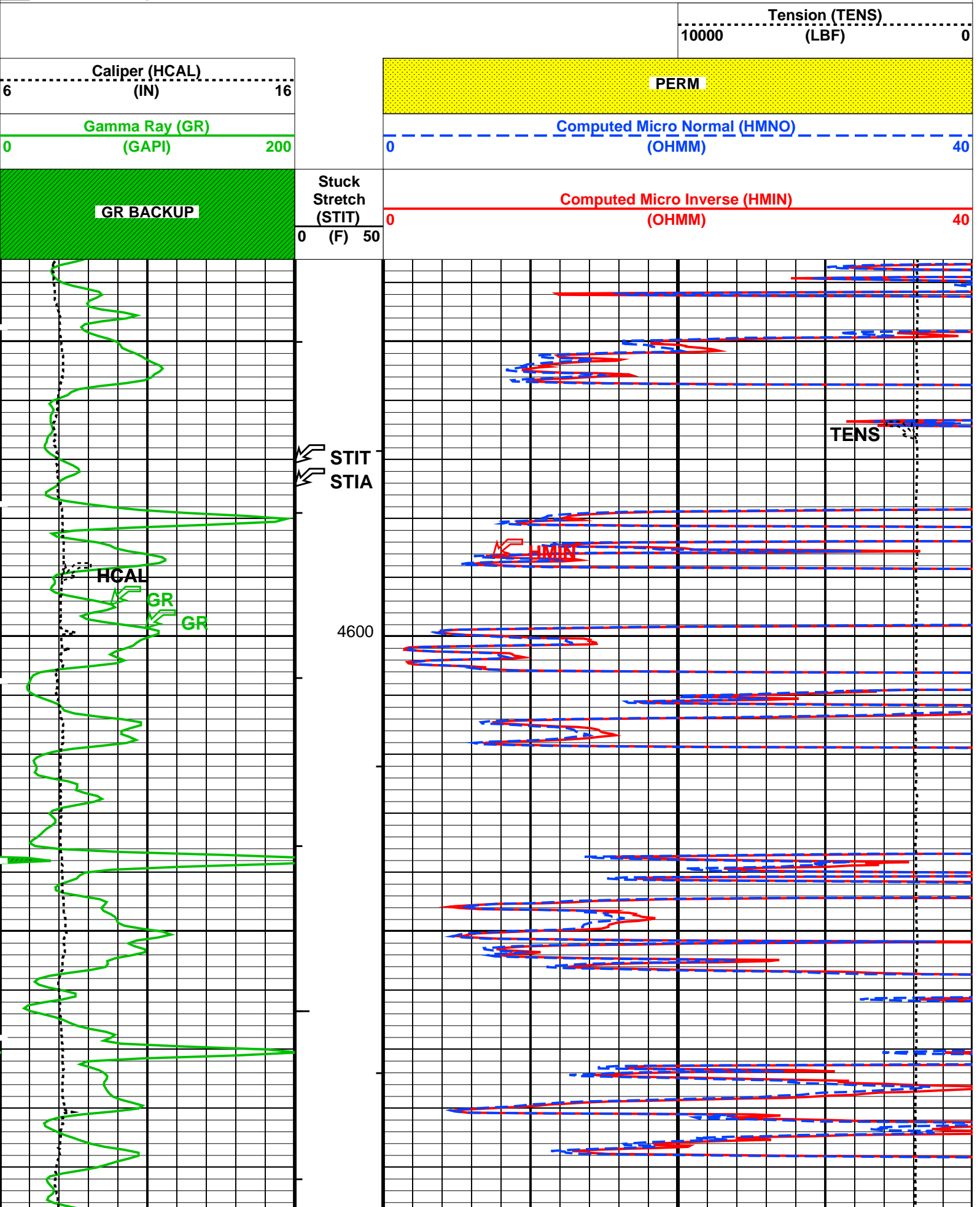
OP System Version: 17C0-154

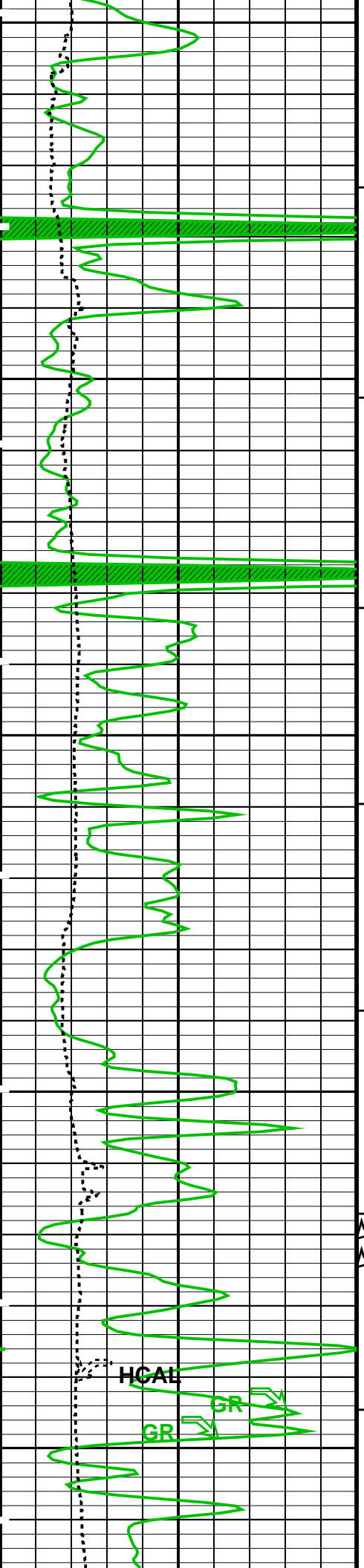
HILTC 17C0-154

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





4700

4800

4900

STIT
STIA

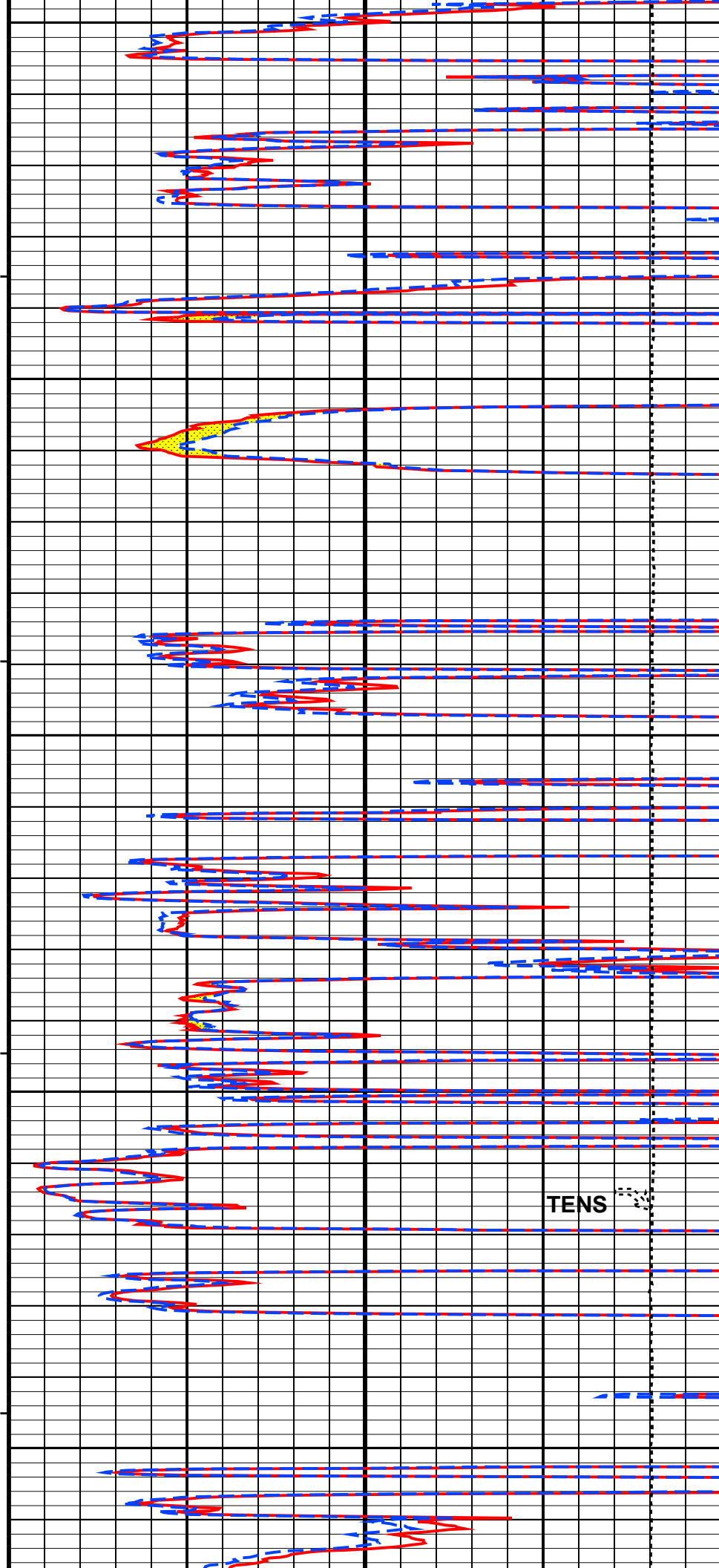
HCAL

GR

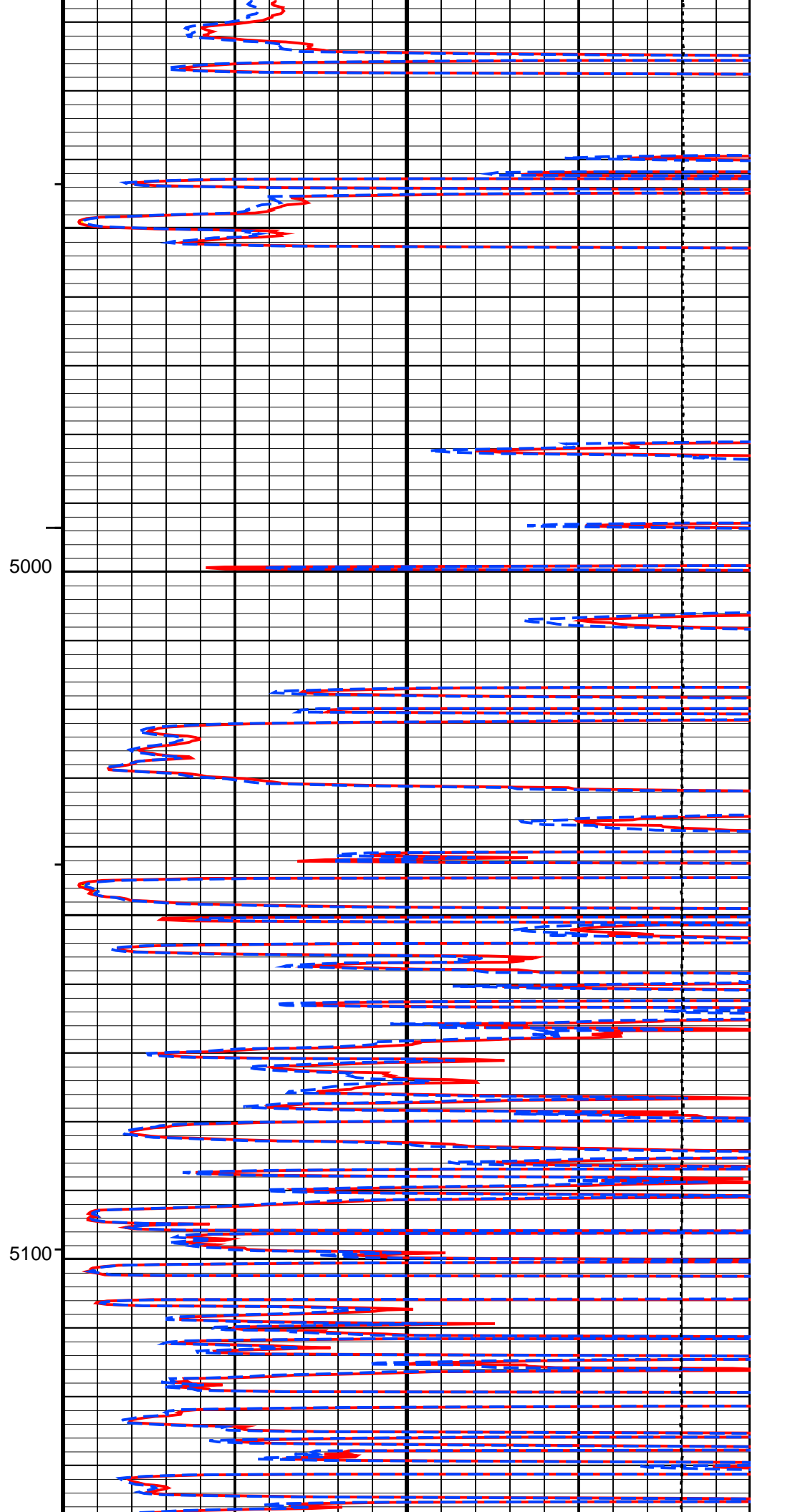
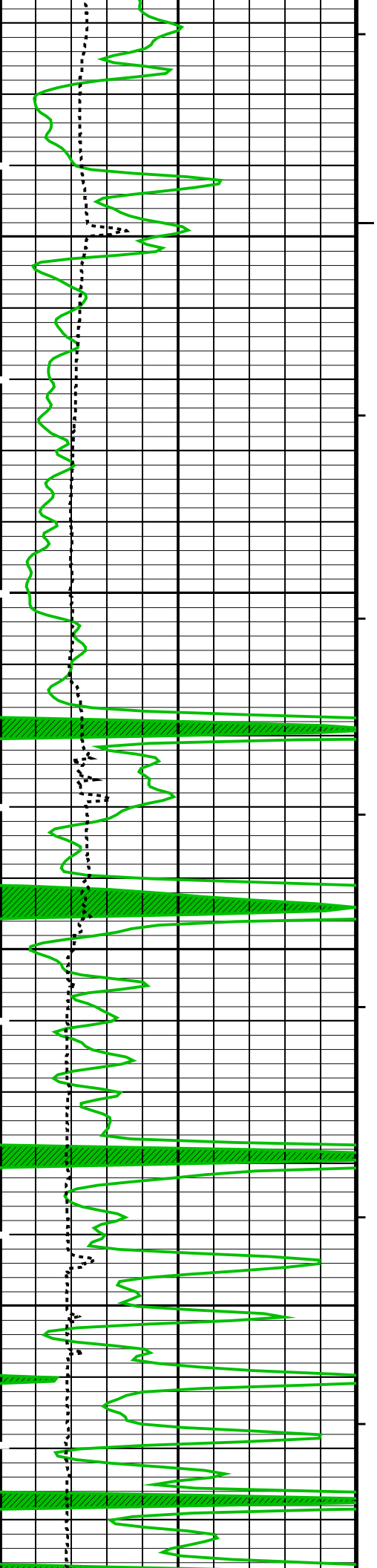
GR

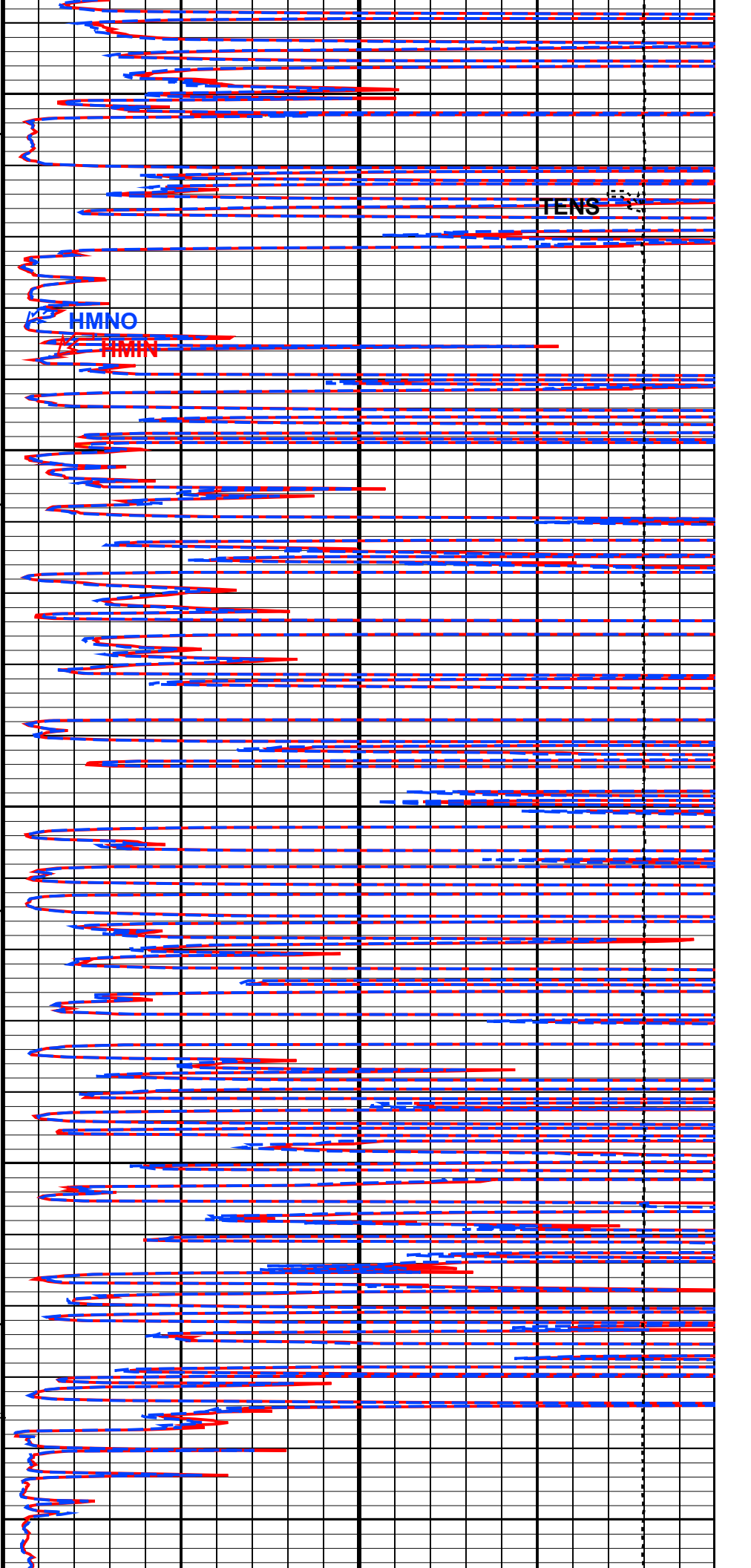
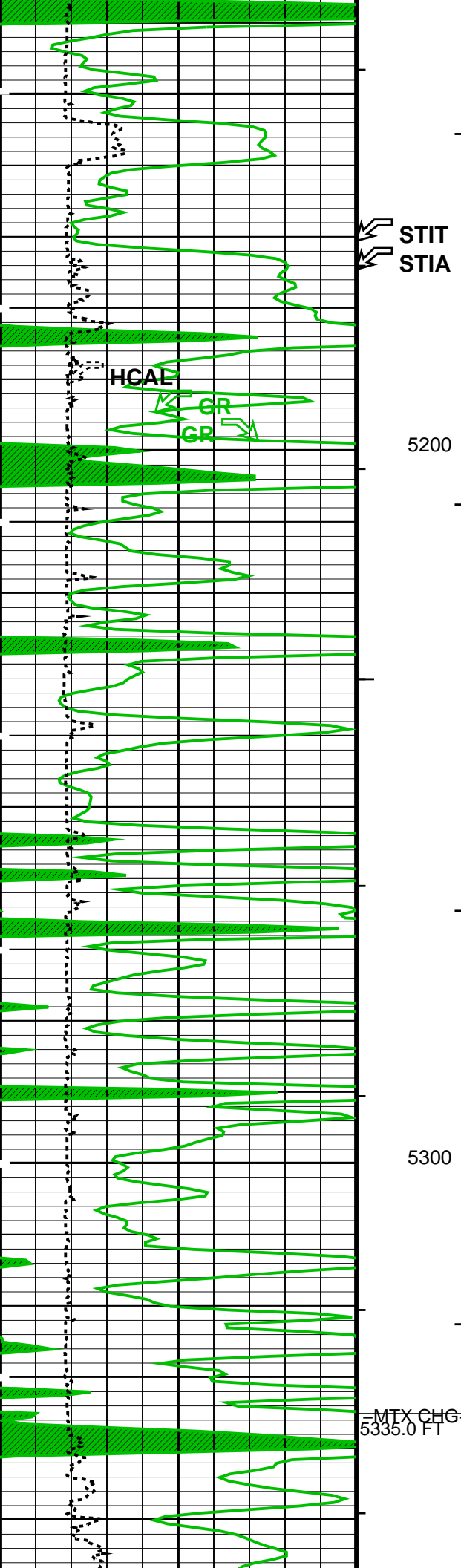
GR

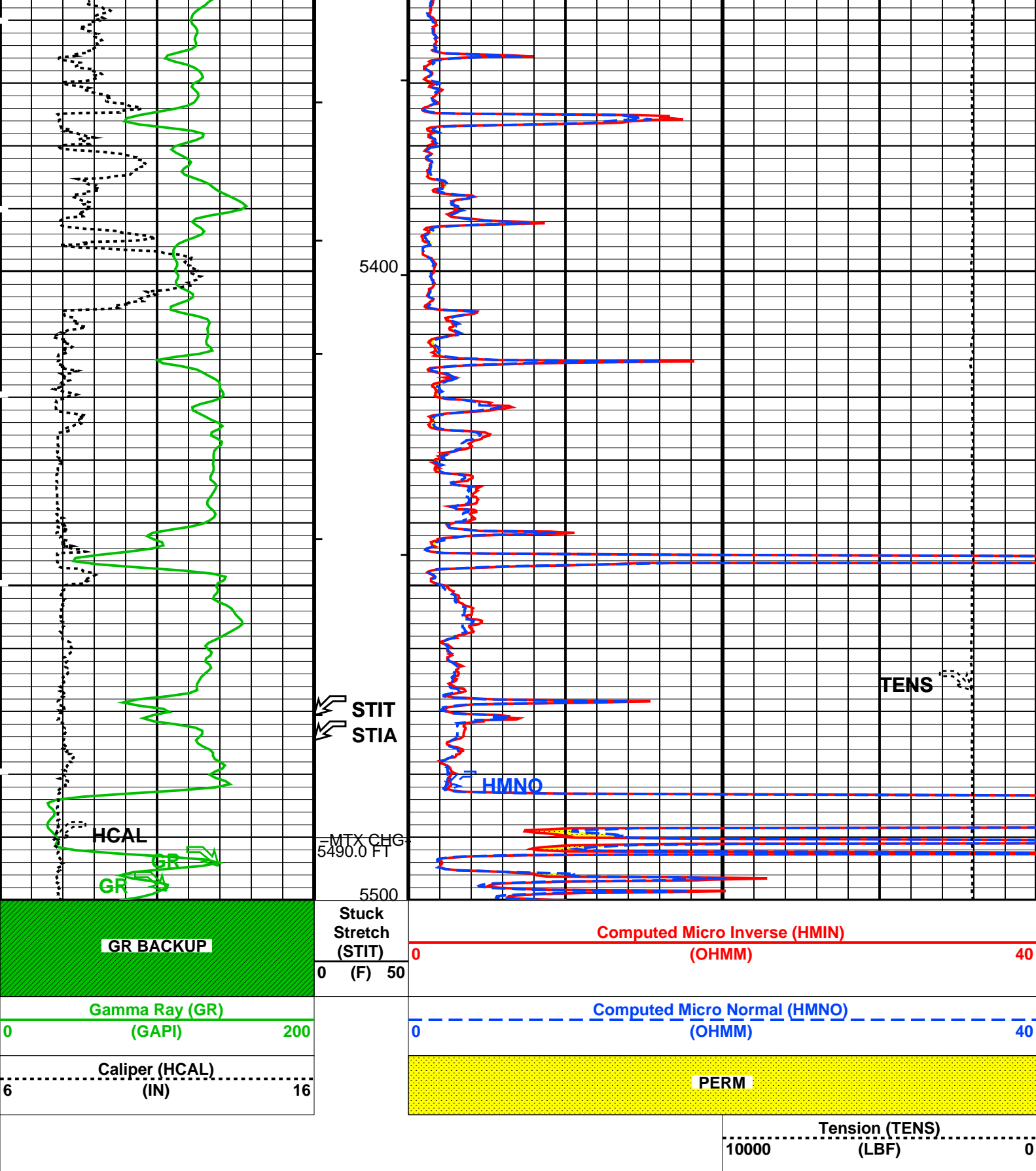
4900



TENS







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
-----------	-------------	-------

MPOF	HILTB–CTS: High resolution Integrated Logging Tool–CTS	MCFL Processing Operation Mode	ON
STKT	STI: Stuck Tool Indicator	STI Stuck Threshold	2.500 ft
TDD		Total Depth – Driller	5760.0 ft
TDL		Total Depth – Logger	5751.0 ft
BS	System and Miscellaneous	Bit Size	7.875 in

Format: MLT

Vertical Scale: 5" per 100'

Graphics File Created: 21–Jan–2010 23:27

OP System Version: 17C0–154	
HILTC	17C0–154

Input DLIS Files					
DEFAULT	AIT_TLD_MCFL_CNL_006PUP	FN:5	PRODUCER	21–Jan–2010 20:42	5775.0 FT 4535.5 FT



BEFORE CALIBRATIONS

MAXIS Field Log

Calibration and Check Summary							
Measurement	Nominal	Master	Before	After	Change	Limit	Units
High resolution Integrated Logging Tool–CTS Wellsite Calibration – Electronics Calibration Check – Thru Cal Mag. & Phase							
Master: 30–Nov–2009 14:59	Before: 21–Jan–2010 13:16						
Thru Cal Magnitude – 0	0	0.6193	0.6206	N/A	N/A	N/A	V
Thru Cal Magnitude – 1	0	1.271	1.274	N/A	N/A	N/A	V
Thru Cal Magnitude – 2	0	0.6293	0.6303	N/A	N/A	N/A	V
Thru Cal Magnitude – 3	0	0.7116	0.7134	N/A	N/A	N/A	V
Thru Cal Magnitude – 4	0	1.330	1.334	N/A	N/A	N/A	V
Thru Cal Magnitude – 5	0	1.924	1.929	N/A	N/A	N/A	V
Thru Cal Magnitude – 6	0	1.927	1.932	N/A	N/A	N/A	V
Thru Cal Magnitude – 7	0	1.353	1.360	N/A	N/A	N/A	V
Phase – 0	0	68.36	69.79	N/A	N/A	N/A	DEG
Phase – 1	0	67.36	68.81	N/A	N/A	N/A	DEG
Phase – 2	0	63.29	64.78	N/A	N/A	N/A	DEG
Phase – 3	0	62.43	63.92	N/A	N/A	N/A	DEG
Phase – 4	0	55.68	57.22	N/A	N/A	N/A	DEG
Phase – 5	0	53.53	55.13	N/A	N/A	N/A	DEG
Phase – 6	0	53.50	55.10	N/A	N/A	N/A	DEG
Phase – 7	0	48.00	49.99	N/A	N/A	N/A	DEG
High resolution Integrated Logging Tool–CTS Wellsite Calibration – Electronics Calibration Check – Auxilliary							
Master: 30–Nov–2009 14:59	Before: 21–Jan–2010 13:16						
Array Induction SPA Plus	990.5	992.6	991.7	N/A	N/A	N/A	MV
Array Induction SPA Zero	0	–0.2184	–0.2124	N/A	N/A	N/A	MV
Array Induction Temperature PI	0.9150	0.9194	0.9185	N/A	N/A	N/A	V
Array Induction Temperature Ze	0	–0.0002118	–0.0002099	N/A	N/A	N/A	V
High resolution Integrated Logging Tool–CTS Wellsite Calibration – Test Loop Gain Correction							
Master: 30–Nov–2009 14:59							
Test Loop Gain Magnitude – 0	0	1.013	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 1	0	1.015	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 2	0	1.016	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 3	0	1.012	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 4	0	0.9923	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 5	0	0.9870	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 6	0	0.9920	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 7	0	1.003	N/A	N/A	N/A	N/A	V
Phase – 0	0	2.469	N/A	N/A	N/A	N/A	DEG

Phase – 0	0	-2.409	N/A	N/A	N/A	N/A	DEG
Phase – 1	0	-0.1516	N/A	N/A	N/A	N/A	DEG
Phase – 2	0	0.9347	N/A	N/A	N/A	N/A	DEG
Phase – 3	0	0.1802	N/A	N/A	N/A	N/A	DEG
Phase – 4	0	0.1003	N/A	N/A	N/A	N/A	DEG
Phase – 5	0	-0.09392	N/A	N/A	N/A	N/A	DEG
Phase – 6	0	0.2377	N/A	N/A	N/A	N/A	DEG
Phase – 7	0	-0.1620	N/A	N/A	N/A	N/A	DEG

High resolution Integrated Logging Tool–CTS Wellsite Calibration – Sonde Error Correction

Master: 30–Nov–2009 14:59

R Sonde Error Correction – 0	0	-76.56	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 1	0	170.5	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 2	0	110.7	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 3	0	61.12	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 4	0	24.14	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 5	0	14.16	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 6	0	9.674	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 7	0	-1.714	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 0	0	-228.6	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 1	0	141.0	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 2	0	-31.72	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 3	0	-44.12	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 4	0	2.293	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 5	0	17.99	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 6	0	-4.867	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 7	0	-0.3559	N/A	N/A	N/A	N/A	MM/M

High resolution Integrated Logging Tool–CTS Wellsite Calibration – Mud Gain Correction

Master: 30–Nov–2009 14:59

Coarse – Mag, Real, Imag – 0	0	1.073	N/A	N/A	N/A	N/A	
Coarse – Mag, Real, Imag – 1	0	1.073	N/A	N/A	N/A	N/A	
Coarse – Mag, Real, Imag – 2	0	1.073	N/A	N/A	N/A	N/A	
Fine – Mag, Real, Imag – 0	0	1.072	N/A	N/A	N/A	N/A	
Fine – Mag, Real, Imag – 1	0	1.072	N/A	N/A	N/A	N/A	
Fine – Mag, Real, Imag – 2	0	1.072	N/A	N/A	N/A	N/A	

High resolution Integrated Logging Tool–CTS Wellsite Calibration – Stab Measurement Summary

Before: 21–Jan–2010 13:19

BS Window Ratio	0.7600	N/A	0.7621	N/A	N/A	N/A	
BS Window Sum	10430	N/A	10430	N/A	N/A	N/A	CPS
SS Window Ratio	0.4989	N/A	0.4965	N/A	N/A	N/A	
SS Window Sum	9869	N/A	9825	N/A	N/A	N/A	CPS
LS Window Ratio	0.2920	N/A	0.2952	N/A	N/A	N/A	
LS Window Sum	1030	N/A	1029	N/A	N/A	N/A	CPS

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

Before: 21–Jan–2010 13:19

BS PM High Voltage (Command)	1384	N/A	1377	N/A	N/A	N/A	V
SS PM High Voltage (Command)	1417	N/A	1413	N/A	N/A	N/A	V
LS PM High Voltage (Command)	1535	N/A	1537	N/A	N/A	N/A	V

High resolution Integrated Logging Tool–CTS Wellsite Calibration – Crystal Quality Resolutions Calibration

Before: 21–Jan–2010 13:19

BS Crystal Resolution	10.73	N/A	10.68	N/A	N/A	N/A	%
SS Crystal Resolution	9.263	N/A	9.524	N/A	N/A	N/A	%
LS Crystal Resolution	10.04	N/A	9.901	N/A	N/A	N/A	%

High resolution Integrated Logging Tool–CTS Wellsite Calibration – MCFL Calibration

Before: 21–Jan–2010 13:20

Raw B0 Resistivity	3875	N/A	3876	N/A	N/A	N/A	OHMM
Raw B1 Resistivity	3830	N/A	3822	N/A	N/A	N/A	OHMM
Raw B2 Resistivity	3830	N/A	3826	N/A	N/A	N/A	OHMM

High resolution Integrated Logging Tool–CTS Wellsite Calibration – HILT Caliper Calibration

Before: 21–Jan–2010 13:15

HILT Caliper Zero Measurement	8.000	N/A	9.962	N/A	N/A	N/A	IN
HILT Caliper Plus Measurement	12.00	N/A	14.05	N/A	N/A	N/A	IN

High resolution Integrated Logging Tool–CTS Wellsite Calibration – Detector Calibration

Before: 21–Jan–2010 13:15

Gamma Ray Background	30.00	N/A	109.5	N/A	N/A	N/A	GAPI
Gamma Ray (Jig – Bkg)	176.5	N/A	176.5	N/A	N/A	16.05	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	N/A	N/A	15.00	GAPI

High resolution Integrated Logging Tool–CTS Wellsite Calibration – Zero Measurement

Master: 10–Jan–2010 18:39 Before: 21–Jan–2010 13:16

CNTC Background	26.69	26.69	27.44	N/A	N/A	4.004	CPS
CFTC Background	33.46	33.46	28.57	N/A	N/A	5.019	CPS

High resolution Integrated Logging Tool–CTS Wellsite Calibration – Ratio Measurement

Master: 10–Jan–2010 18:39

Thermal Near Corr. (Tank)	5800	5102	N/A	N/A	N/A	N/A	CPS
Thermal Far Corr. (Tank)	2400	2170	N/A	N/A	N/A	N/A	CPS
CNTC/CFTC (Tank)	2.159	2.351	N/A	N/A	N/A	N/A	

High resolution Integrated Logging Tool–CTS Wellsite Calibration – Accelerometer Calibration

Before: 21–Jan–2010 18:57

Z–Axis Acceleration	32.19	N/A	32.19	N/A	N/A	N/A	F/S2
---------------------	-------	-----	-------	-----	-----	-----	------

High resolution Integrated Logging Tool–CTS Master Calibration – Inversion results

Master: 31–Dec–2009 14:37

Rho Aluminum	2.596	2.601	--	--	--	--	G/C3
Rho Magnesium	1.686	1.686	--	--	--	--	G/C3
Pe Aluminum	2.570	2.551	--	--	--	--	
Pe Magnesium	2.650	2.632	--	--	--	--	

High resolution Integrated Logging Tool–CTS Master Calibration – Deviation Summary

Master: 31–Dec–2009 14:37

BS Average Deviation	0	0.4303	--	--	--	--	%
BS Max Deviation	0	0.8202	--	--	--	--	%
SS Average Deviation	0	0.2044	--	--	--	--	%
SS Max Deviation	0	1.045	--	--	--	--	%
LS Average Deviation	0	0.5297	--	--	--	--	%
LS Max Deviation	0	1.010	--	--	--	--	%

The GLS–VJ source activity is acceptable.

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

NCT–B Water Temperature 57.6 DEGF.
Thermal Housing Size 3.357 IN.
NSR–F serial number 5168

High resolution Integrated Logging Tool–CTS / Equipment Identification























Primary Equipment:

Array Induction Tool – H	AIT – H	397
Rm/SP Bottom Nose	AHRM – A	
Array Induction Sonde	AHIS – BA	397
HILT high–Resolution Mechanical Sonde	HRMS – B	1882
HILT Rxo Gamma–ray Device	HRGD – B	898
HILT Micro Cylindrically Focused Log Dev	MCFL –	
GR Logging Source	GLS – VJ	5363
HILT High Res. Control Cartridge	HRCC – B	860

Auxiliary Equipment:

High resolution Integrated Logging Tool–CTS Wellsite Calibration

Electronics Calibration Check – Thru Cal Mag. & Phase

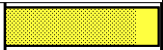
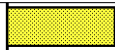
Idx	Phase	Value	Thru Cal Magnitude V	Nominal	Value	Phase DEG	Nominal
0	Master	0.6193		0.6050	68.36		71.00
	Before	0.6206			69.79		
1	Master	1.271		1.270	67.36		70.00
	Before	1.274			68.81		
2	Master	0.6293		0.6230	63.29		66.00
	Before	0.6303			64.78		
3	Master	0.7116		0.7040	62.43		65.00
	Before	0.7134			63.92		
4	Master	1.330		1.337	55.68		59.00
	Before	1.334			57.22		
5	Master	1.924		1.955	53.53		57.00
	Before	1.929			55.13		

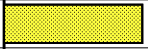


6	Master	1.927		1.955	53.50		57.00
	Before	1.932			55.10		
7	Master	1.353		1.415	48.00		53.00
	Before	1.360			49.99		
		60.00 % (Minimum)	(Nominal)	140.0 % (Maximum)	Nom -60.00 (Minimum)	(Nominal)	Nom + 60.00 (Maximum)
Master: 30-Nov-2009 14:59				Before: 21-Jan-2010 13:16			





High resolution Integrated Logging Tool-CTS Wellsite Calibration							
Electronics Calibration Check - Auxilliary							
Phase	Array Induction SPA Plus MV		Value	Phase	Array Induction SPA Zero MV		Value
Master			992.6	Master			-0.2184
Before			991.7	Before			-0.2124
	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			0.9194	Master			-0.0002118
Before			0.9185	Before			-0.0002099
	0.8700 (Minimum)	0.9150 (Nominal)	0.9600 (Maximum)		-0.05000 (Minimum)	0 (Nominal)	0.05000 (Maximum)
Master: 30-Nov-2009 14:59				Before: 21-Jan-2010 13:16			

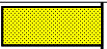


High resolution Integrated Logging Tool-CTS Wellsite Calibration						
Test Loop Gain Correction						
Idx	Value	Test Loop Gain Magnitude V			Value	Phase DEG
0	1.013				-2.469	
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal) 3.000 (Maximum)
1	1.015				-0.1516	
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal) 3.000 (Maximum)
2	1.016				0.9347	
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal) 3.000 (Maximum)
3	1.012				0.1802	
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal) 3.000 (Maximum)
4	0.9923				0.1003	
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal) 3.000 (Maximum)
5	0.9870				-0.09392	
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal) 3.000 (Maximum)
6	0.9920				0.2377	
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal) 3.000 (Maximum)
7	1.003				-0.1620	
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal) 3.000 (Maximum)
Master: 30-Nov-2009 14:59						


High resolution Integrated Logging Tool—CTS Wellsite Calibration							
Sonde Error Correction							
Idx	Value	R Sonde Error Correction MM/M			Value	X Sonde Error Correction MM/M	
0	-76.56				-228.6		
		-231.0 (Minimum)	-56.00 (Nominal)	119.0 (Maximum)	-2250 (Minimum)	0 (Nominal)	2250 (Maximum)
1	170.5				141.0		
		114.0 (Minimum)	159.0 (Nominal)	204.0 (Maximum)	-625.0 (Minimum)	0 (Nominal)	625.0 (Maximum)
2	110.7				-31.72		
		66.00 (Minimum)	111.0 (Nominal)	156.0 (Maximum)	-350.0 (Minimum)	0 (Nominal)	350.0 (Maximum)
3	22.15				22.15		
		0.00 (Minimum)	0.00 (Nominal)	0.00 (Maximum)	-25.00 (Minimum)	0 (Nominal)	25.00 (Maximum)

















High resolution Integrated Logging Tool–CTS Wellsite Calibration								
HILT Caliper Calibration								
Phase	HILT Caliper Zero Measurement IN		Value	Phase	HILT Caliper Plus Measurement IN		Value	
Before			9.962	Before			14.05	
6.000 (Minimum)			8.000 (Nominal)	9.000 (Minimum)			12.00 (Nominal)	15.00 (Maximum)
Before: 21–Jan–2010 13:15								



High resolution Integrated Logging Tool–CTS Wellsite Calibration									
Detector Calibration									
Phase	Gamma Ray Background GAPI	Value	Phase	Gamma Ray (Jig – Bkg) GAPI	Value	Phase	Gamma Ray (Calibrated) GAPI	Value	
Before		109.5	Before		176.5	Before		165.0	
	0 (Minimum)	30.00 (Nominal)	120.0 (Maximum)	160.5 (Minimum)	176.5 (Nominal)	192.6 (Maximum)	150.0 (Minimum)	165.0 (Nominal)	180.0 (Maximum)
Before: 21–Jan–2010 13:15									







High resolution Integrated Logging Tool–CTS Wellsite Calibration							
Zero Measurement							
Phase	CNTC Background CPS		Value	Phase	CFTC Background CPS		Value
Master			26.69	Master			33.46
Before			27.44	Before			28.57
5.000 (Minimum)			26.69 (Nominal)	40.00 (Maximum)			
Master: 10–Jan–2010 18:39				Before: 21–Jan–2010 13:16			

High resolution Integrated Logging Tool–CTS Wellsite Calibration									
Ratio Measurement									
Phase	Thermal Near Corr. (Tank) CPS	Value	Phase	Thermal Far Corr. (Tank) CPS	Value	Phase	CNTC/CFTC (Tank)	Value	
Master		5102	Master		2170	Master		2.351	
	4700 (Minimum)	5800 (Nominal)	6900 (Maximum)	1900 (Minimum)	2400 (Nominal)	2900 (Maximum)	2.120 (Minimum)	2.159 (Nominal)	2.540 (Maximum)
Master: 10–Jan–2010 18:39									





High resolution Integrated Logging Tool-CTS Wellsite Calibration		
Accelerometer Calibration		
Phase	Z-Axis Acceleration F/S2	Value
Before		32.19
	31.53 (Minimum)	32.84 (Maximum)
Before: 21-Jan-2010 18:57		

High resolution Integrated Logging Tool–CTS Master Calibration							
Electronics Calibration Check – Thru Cal Mag. & Phase							
Idx	Phase	Value	Thru Cal Magnitude V	Nominal	Value	Phase DEG	Nominal
0	Master	0.6193		0.6050	68.36		71.00
1	Master	1.271		1.270	67.36		70.00
2	Master	0.6293		0.6230	63.29		66.00
3	Master	0.7116		0.7040	62.43		65.00
4	Master	1.330		1.337	55.68		59.00
5	Master	1.924		1.955	53.53		57.00
6	Master	1.927		1.955	53.50		57.00
7	Master	1.353		1.415	48.00		53.00
		60.00 % (Minimum)	(Nominal)	140.0 % (Maximum)	Nom –60.00 (Minimum)	(Nominal)	Nom + 60.00 (Maximum)
Master: 30–Nov–2009 14:59							







High resolution Integrated Logging Tool–CTS Master Calibration					
Electronics Calibration Check – Auxilliary					
Phase	Array Induction SPA Plus MV	Value	Phase	Array Induction SPA Zero MV	Value
					

High resolution Integrated Logging Tool–CTS Master Calibration							
Mud Gain Correction							
Idx	Value	Coarse – Mag, Real, Imag			Value	Fine – Mag, Real, Imag	
0	1.073				1.072		
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal) 1.200 (Maximum)
1	1.073				1.072		
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal) 1.200 (Maximum)
2	1.073				1.072		
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal) 1.200 (Maximum)
Master: 30–Nov–2009 14:59							



Master: 30–Nov–2009 14:59

High resolution Integrated Logging Tool–CTS Master Calibration									
Inversion results									
Phase	Rho Aluminum G/C3			Value	Phase	Rho Magnesium G/C3			Value
Master				2.601	Master				1.686
	2.586 (Minimum)	2.596 (Nominal)	2.606 (Maximum)			1.676 (Minimum)	1.686 (Nominal)	1.696 (Maximum)	
Phase	Pe Aluminum			Value	Phase	Pe Magnesium			Value
Master				2.551	Master				2.632
	2.470 (Minimum)	2.570 (Nominal)	2.670 (Maximum)			2.550 (Minimum)	2.650 (Nominal)	2.750 (Maximum)	
Master: 31–Dec–2009 14:37									

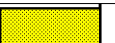
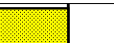


Master: 31–Dec–2009 14:37

High resolution Integrated Logging Tool–CTS Master Calibration									
Deviation Summary									
Phase	BS Average Deviation %			Value	Phase	SS Average Deviation %			Value
Master				0.4303	Master				0.2044
	-0.6000 (Minimum)	0 (Nominal)	0.6000 (Maximum)			-1.000 (Minimum)	0 (Nominal) 1.000 (Maximum)		
Phase	BS Max Deviation %			Value	Phase	SS Max Deviation %			Value
Master				0.8202	Master				1.045
	-1.600 (Minimum)	0 (Nominal)	1.600 (Maximum)			-2.500 (Minimum)	0 (Nominal) 2.500 (Maximum)		
Phase	LS Average Deviation %			Value	Phase	LS Max Deviation %			Value
Master				0.5297	Master				1.010
	-1.500 (Minimum)	0 (Nominal)	1.500 (Maximum)			-3.500 (Minimum)	0 (Nominal) 3.500 (Maximum)		

Master: 31–Dec–2009 14:37

High resolution Integrated Logging Tool–CTS Master Calibration									
Zero Measurement									
Phase	CNTC Background CPS			Value	Phase	CFTC Background CPS			Value
Master				26.69	Master				33.46
	5.000 (Minimum)	26.69 (Nominal)	40.00 (Maximum)			5.000 (Minimum)	33.46 (Nominal)	40.00 (Maximum)	
Master: 10–Jan–2010 18:39									

Master: 10–Jan–2010 18:39

High resolution Integrated Logging Tool–CTS Master Calibration									
Tank Measurement									
Phase	Thermal Near Corr. (Tank) CPS			Value	Phase	Thermal Far Corr. (Tank) CPS			Value
Master				5102	Master				2170
	4700 (Minimum)	5800 (Nominal)	6900 (Maximum)			1900 (Minimum)	2400 (Nominal) 2900 (Maximum)		
Phase	CNTC/CFTC (Tank)			Value	Phase	CNTC/CFTC (Tank)			Value
Master				2.351	Master				2.351
	2.120 (Minimum)	2.159 (Nominal)	2.540 (Maximum)			2.120 (Minimum)	2.159 (Nominal) 2.540 (Maximum)		

Master: 10–Jan–2010 18:39

Well: **Shavano 43-35**
Field: **Wildcat**
County: **Cheyenne**
State: **Colorado**

Schmidberger

Platform Express
Micro-Log