

Schlumberger

Company: **Vecta Oil & Gas, LTD.**

Well: Red Cloud 44-5

Field: **Eureka Creek**County: **Cheyenne**

State: Colorado

Platform Express

Micro Log

Field:		Eureka Creek	
Location:		Sec. 5 , T13S, R47W	
Well:		Red Cloud 44-5	
Company:		Vecta Oil & Gas, LTD.	
LOCATION			
Sec. 5 , T13S, R47W SHL: 635' FSL X 891' FEL SESE		Elev.: K.B. 4458.00 ft G.L. 4447.00 ft D.F. 4457.00 ft	
Permanent Datum: _____ Log Measured From: _____ Drilling Measured From: _____		Ground Level _____ Kelly Bushing _____ Kelly Bushing _____	
API Serial No. 05-017-07693-000C		Section 5 Township 13S Range 47W	

[illegible]

Logging Date	23-Mar-2010					
Run Number	1					
Depth Driller	5760 ft					
Schlumberger Depth	5759 ft					
Bottom Log Interval	5751 ft					
Top Log Interval	449 ft					
Casing Driller Size @ Depth	8.625 in @ 451 ft					
Casing Schlumberger ft Size	449 ft					
Type Fluid In Hole	7.875 in					
Density	Gel & Chemical					
Fluid Loss	9.1 lbm/gal 55 s					
PH	8 cm3 10					
Source Of Sample	Mud Tank					
M @ Measured Temperature	1.624 ohm.m @ 61 degF					
MMF @ Measured Temperature	1.218 ohm.m @ 61 degF					
MMC @ Measured Temperature	2.436 ohm.m @ 61 degF					
RMF	Calculated					
RMC	Calculated					
RMF @ MRT	0.783 @ 134 0.587 @ 134					
Maximum Recorded Temperatures	134 degF					
Calculation Stopped	Time					
Drigger On Bottom	Time					
Run Number	Location					
Recorded By	Philip Grant					
Witnessed By	Matt Goolsby, Randy Say					

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

Run 4

Date Created: 23-MAR-2010 14:06:28

Logging Cable

Type:	7-39P LXS
Serial Number:	708273
Length:	16360 FT
<hr/>	
Conveyance Method:	Wireline
Rig Type:	LAND

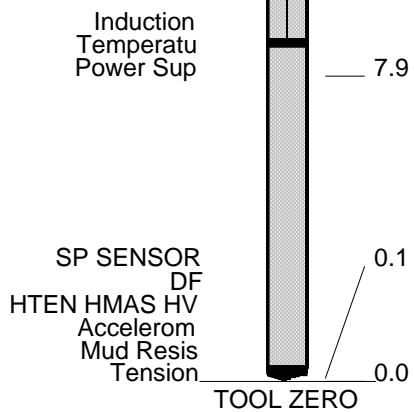
Log Sequence:	First Log In the Well
Rig Up Length At Surface:	0.00 FT
Rig Up Length At Bottom:	0.00 FT
Rig Up Length Correction:	0.00 FT
Stretch Correction:	0.00 FT
Tool Zero Check At Surface:	0.00 FT

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

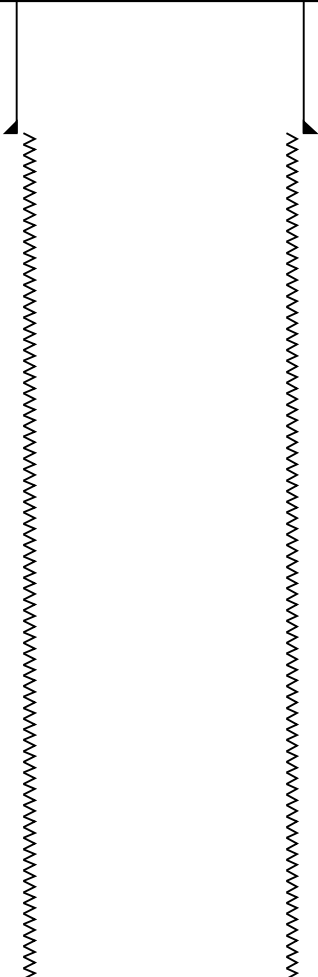
THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA;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

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

REMARKS: RUN NUMBER 2Matrix changes noted on porosity print



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

Production String	(in)		(ft)	Well Schematic	(ft)	(in)		Casing String
	OD	ID	MD		MD	OD	ID	
					0.0	8.625		Casing String
					451.0	8.625		Casing Shoe
					451.0	7.875		Borehole Segment

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

All depths are driller's depths

Schlumberger

Main Pass

MAXIS Field Log

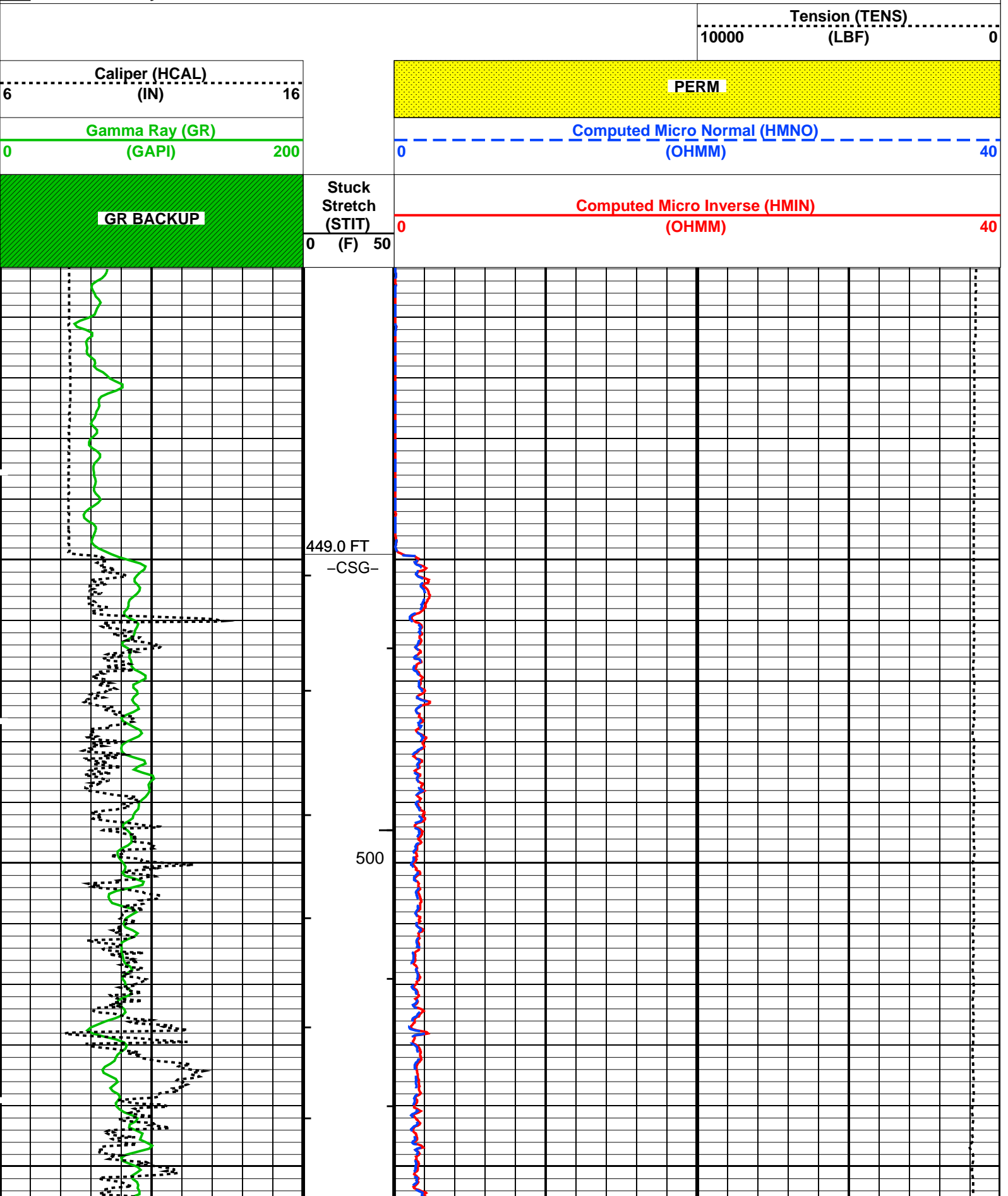
Input DLIS Files						
DEFAULT	AIT_TLD_MCFL_CNL_008LUP	FN:7	PRODUCER	23-Mar-2010 13:43	5775.0 FT	401.5 FT
Output DLIS Files						
DEFAULT	AIT_TLD_MCFL_CNL_017PUP	FN:16	PRODUCER	23-Mar-2010 15:04	5775.0 FT	401.5 FT
Integrated Hole/Cement Volume Summary						
Hole Volume = 2791.86 F3						
Cement Volume = 1915.71 F3 (assuming 5.50 IN casing O.D.)						
Computed from 5759.0 FT to 449.0 FT using data channel(s) HCAL						

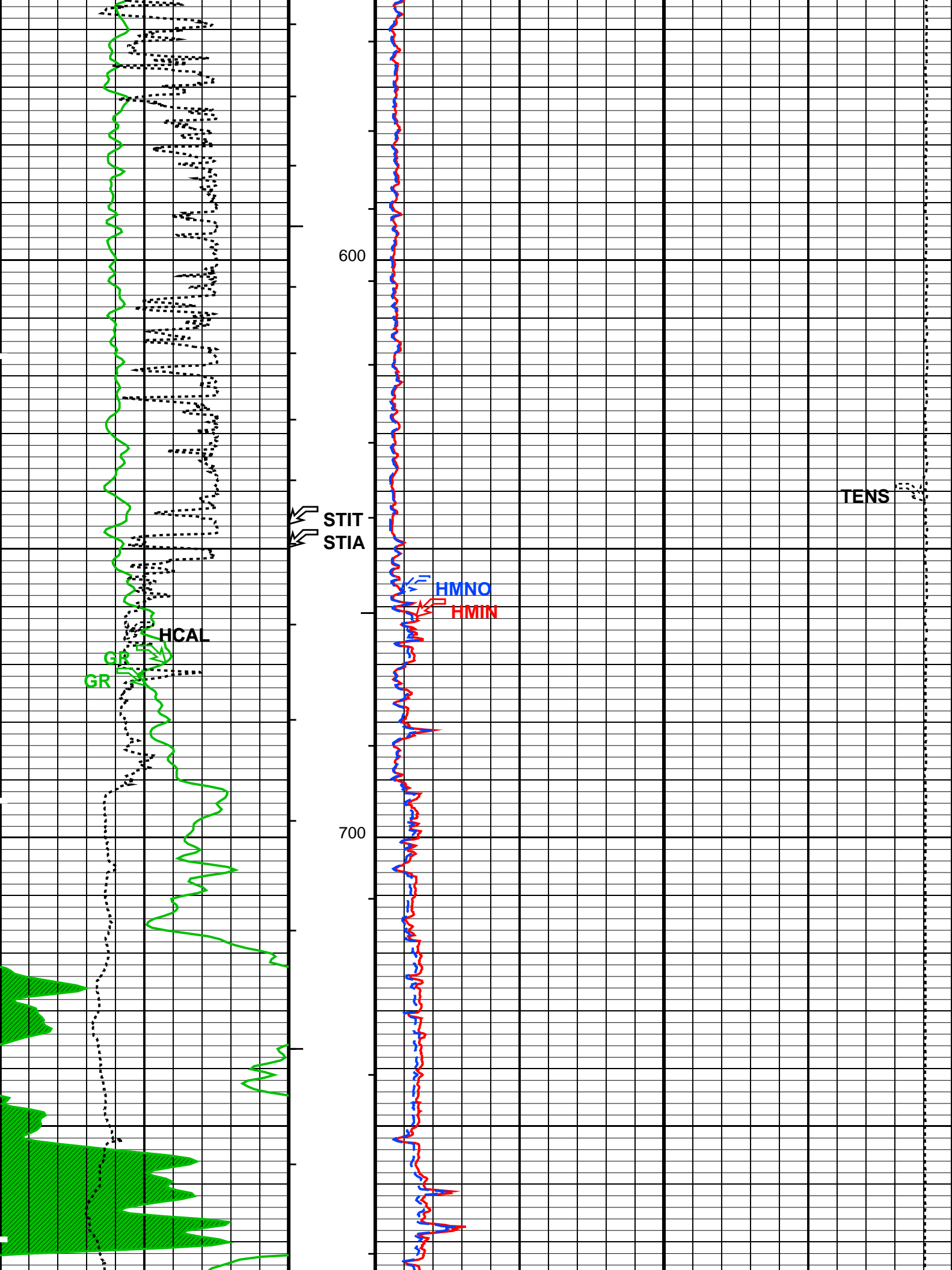
OP System Version: 17C0-154

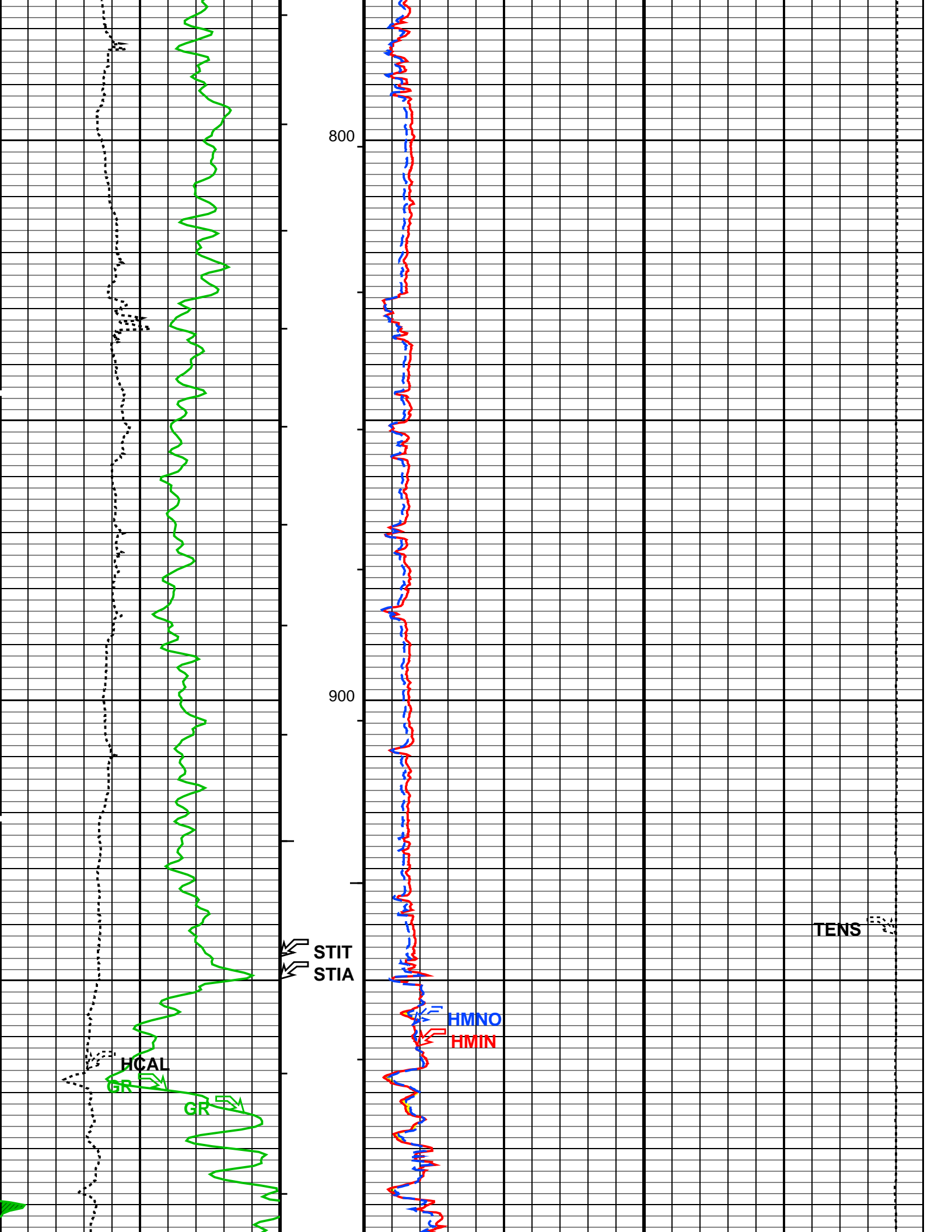
PIP SUMMARY

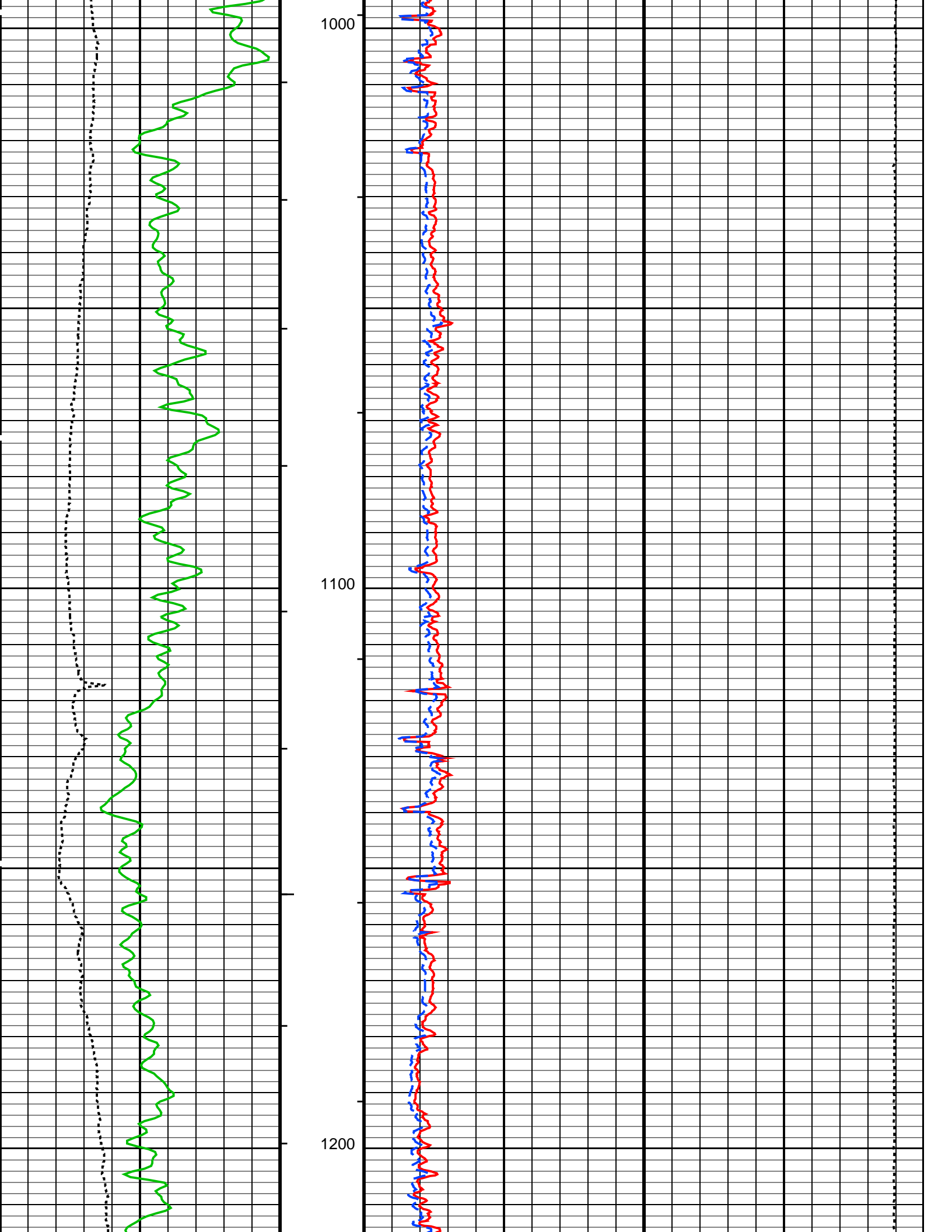
- └ Integrated Hole Volume Minor Pip Every 10 F3
- └ Integrated Hole Volume Major Pip Every 100 F3
 - └ Integrated Cement Volume Minor Pip Every 10 F3
 - └ Integrated Cement Volume Major Pip Every 100 F3

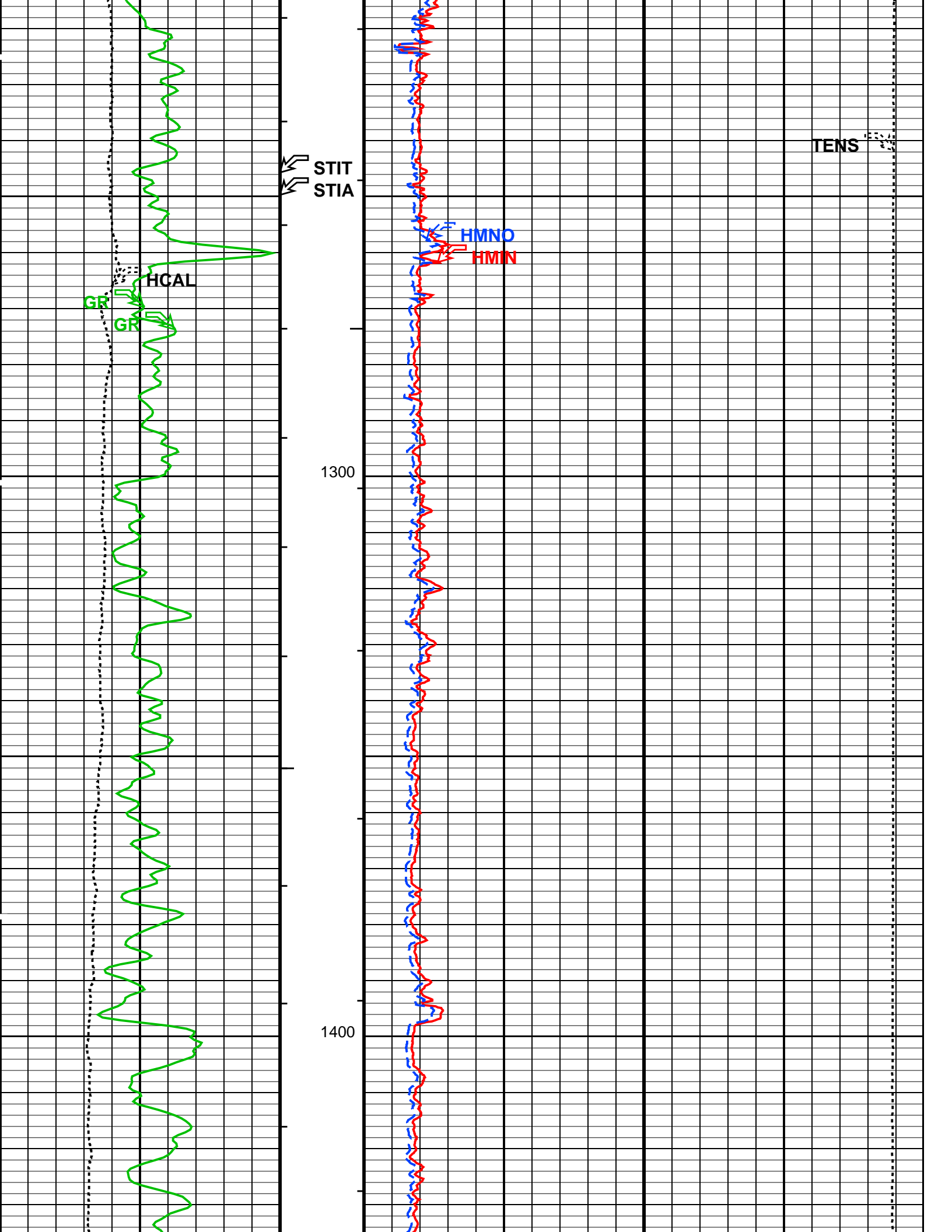
Time Mark Every 60 S

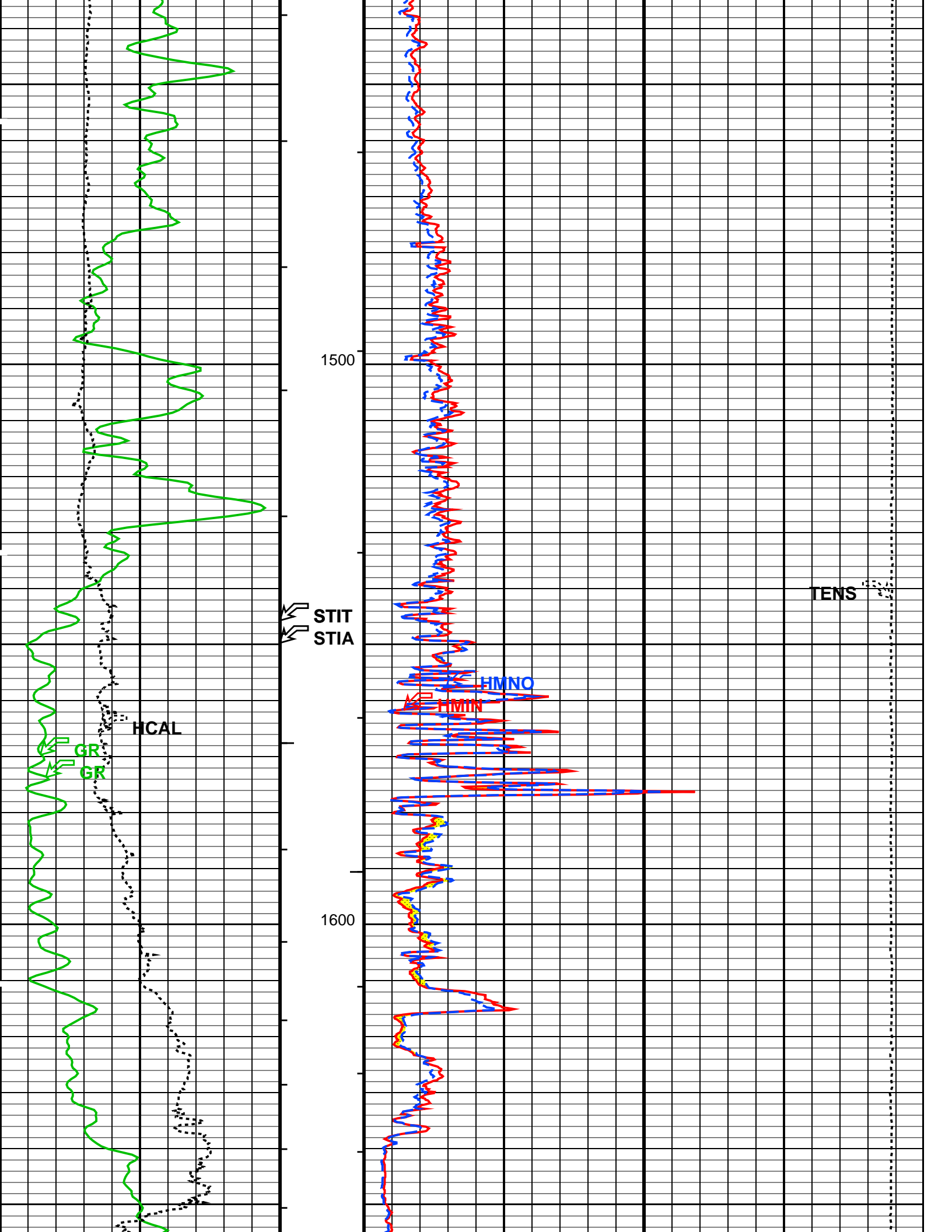


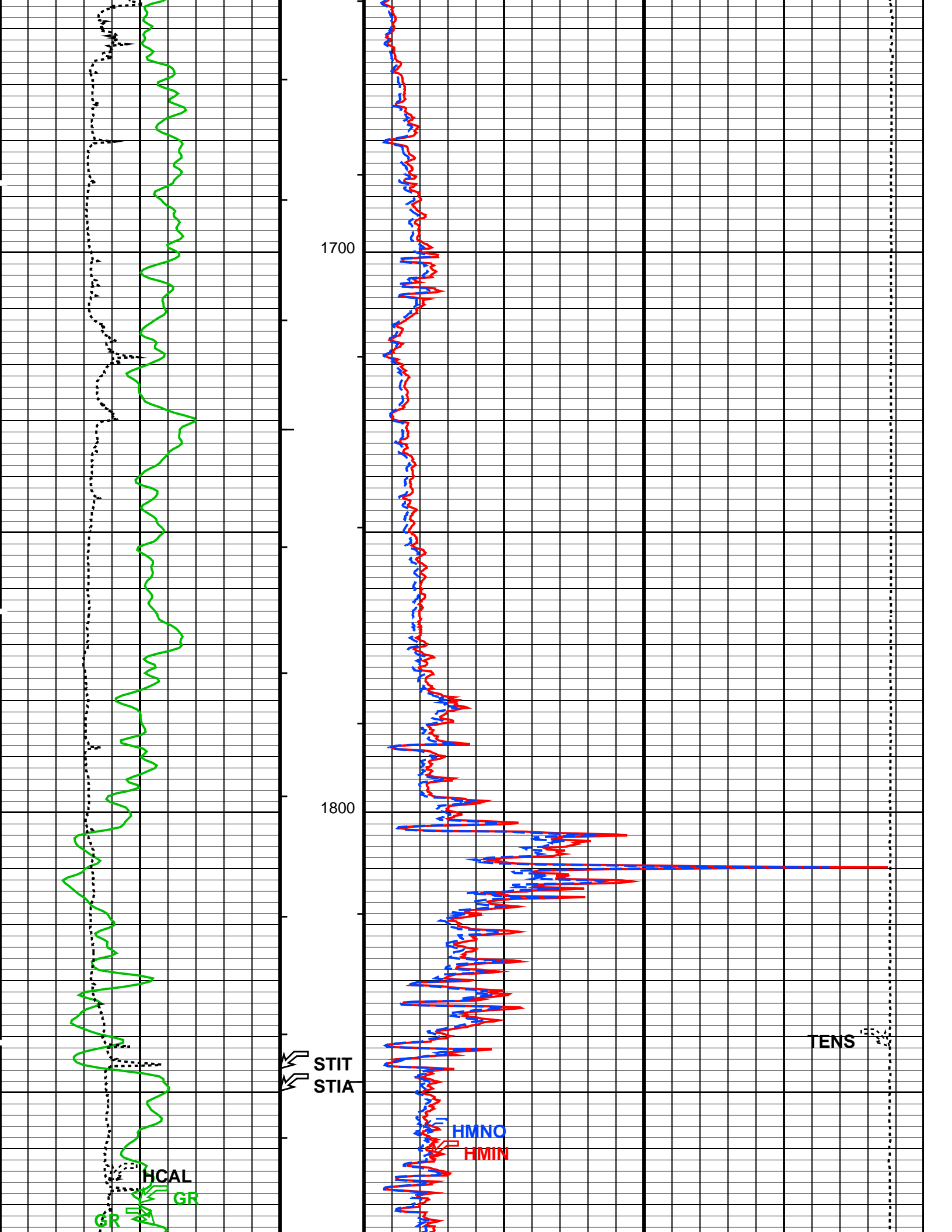


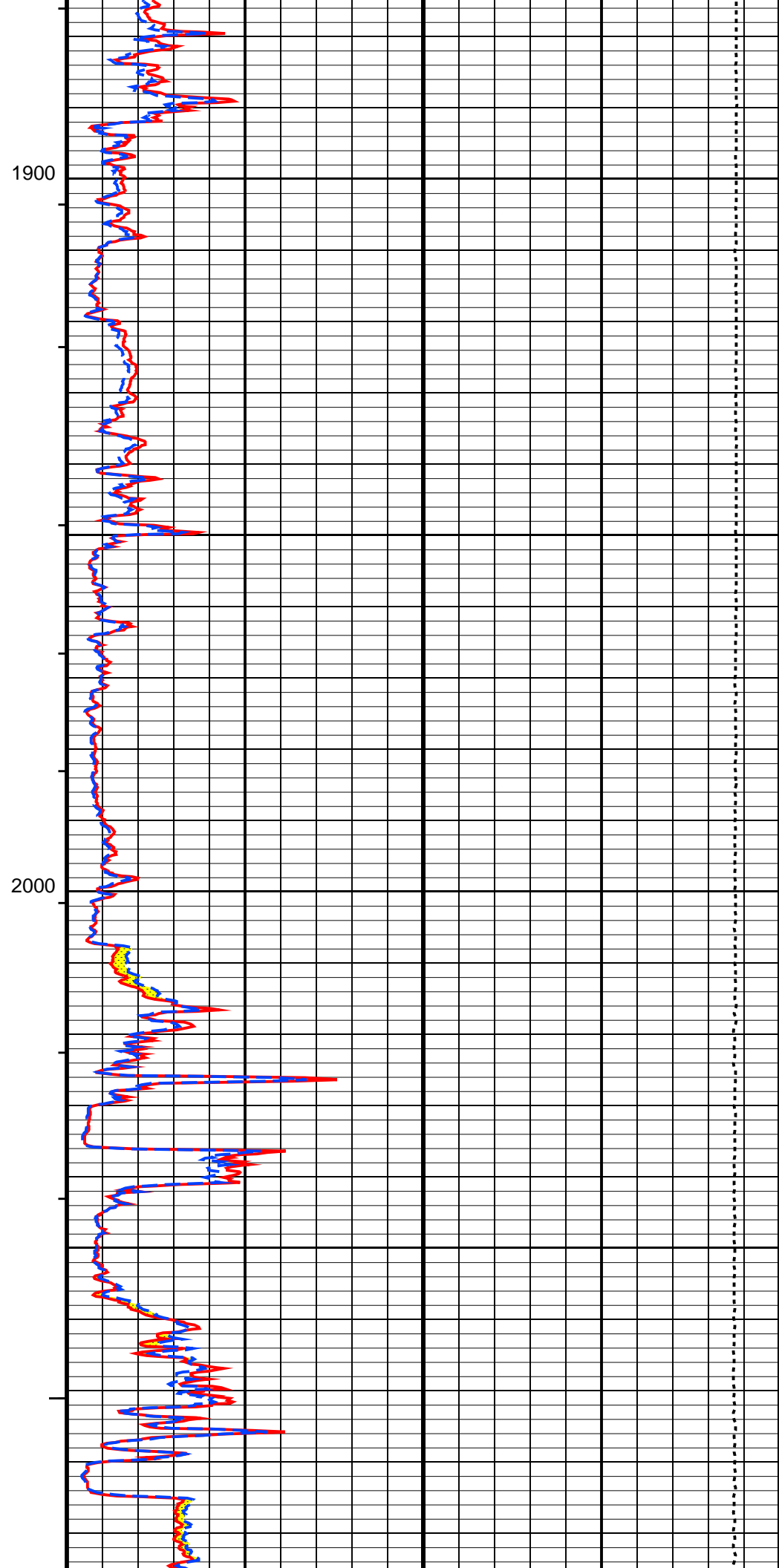
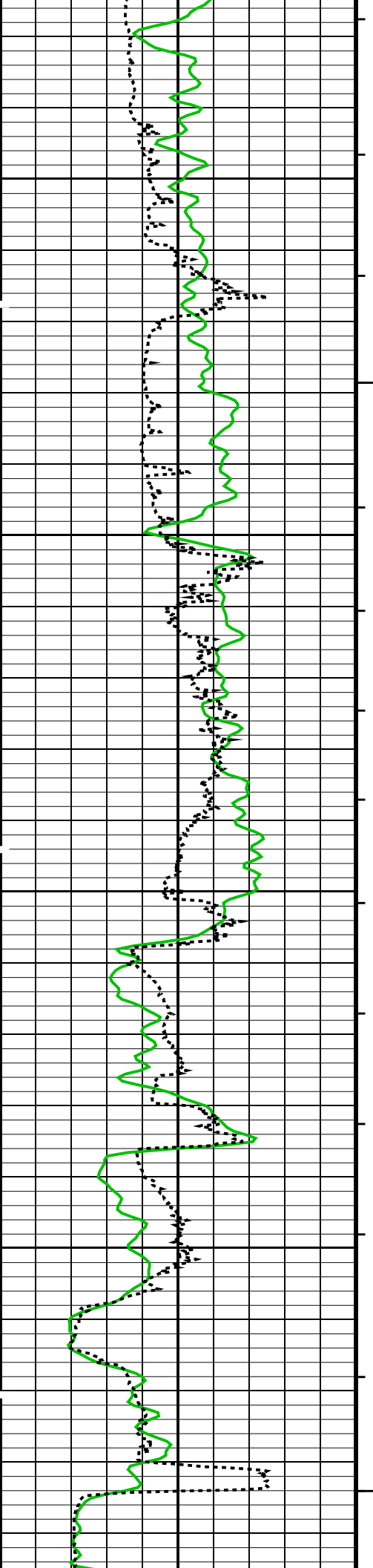


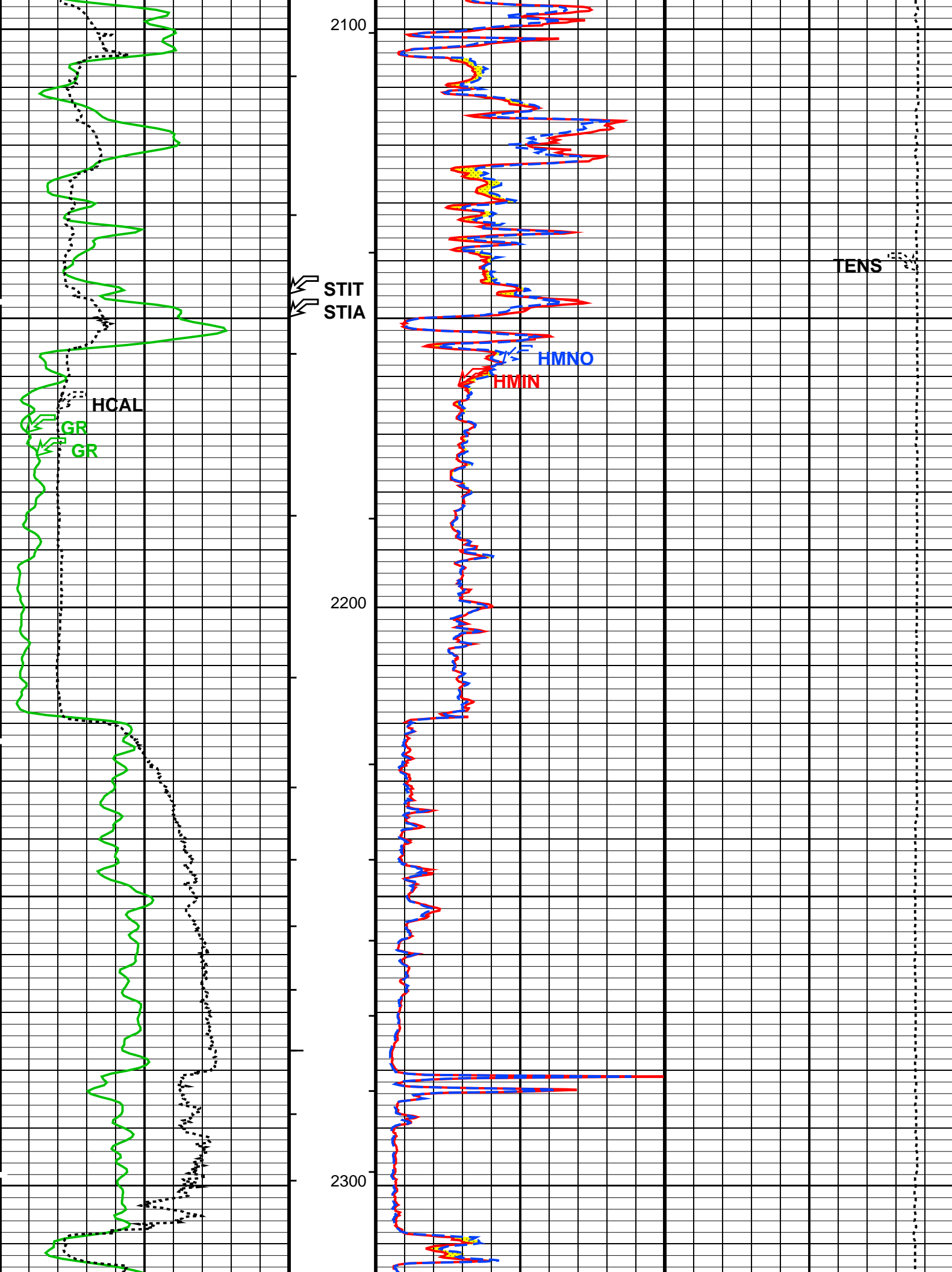


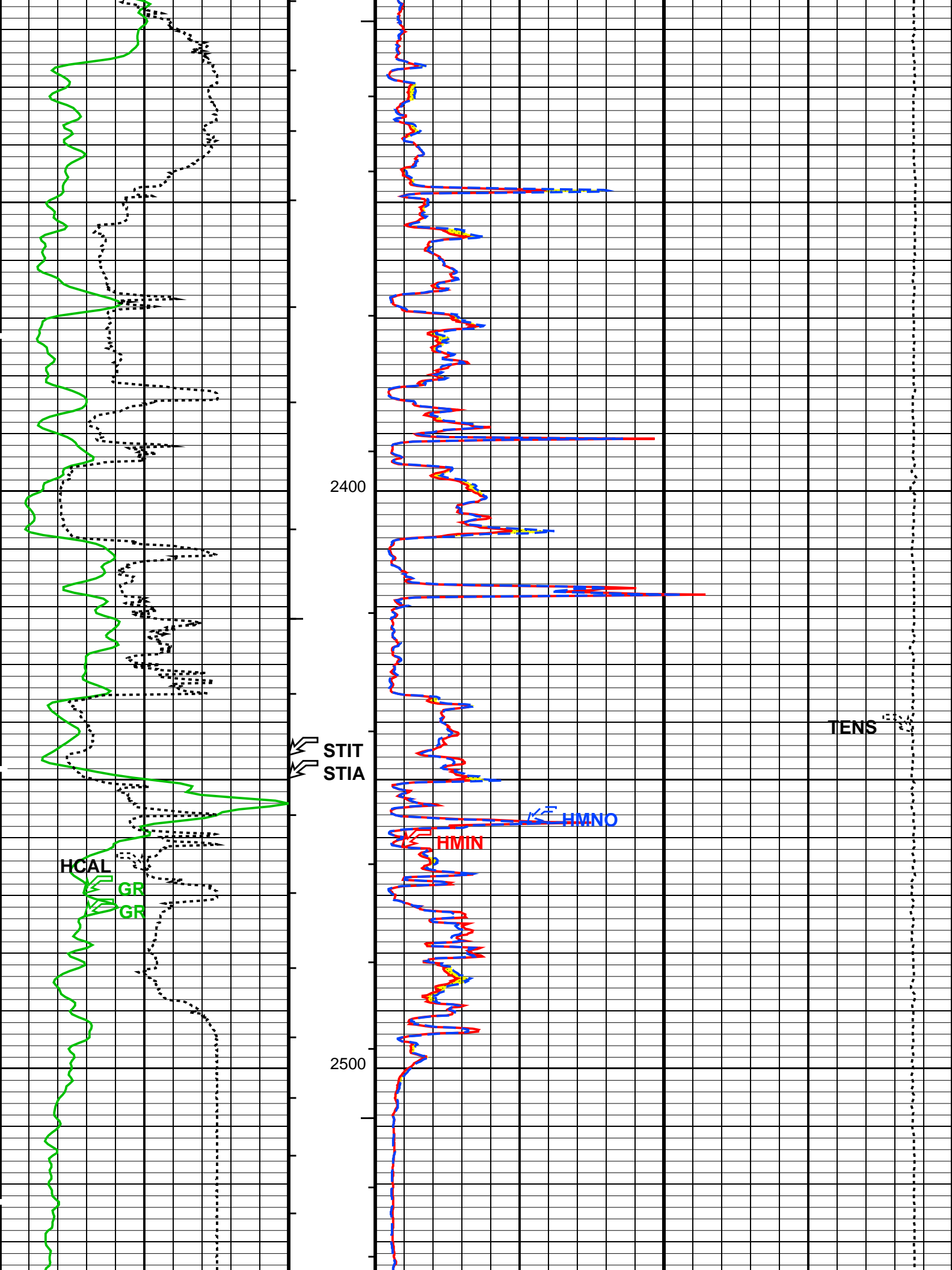


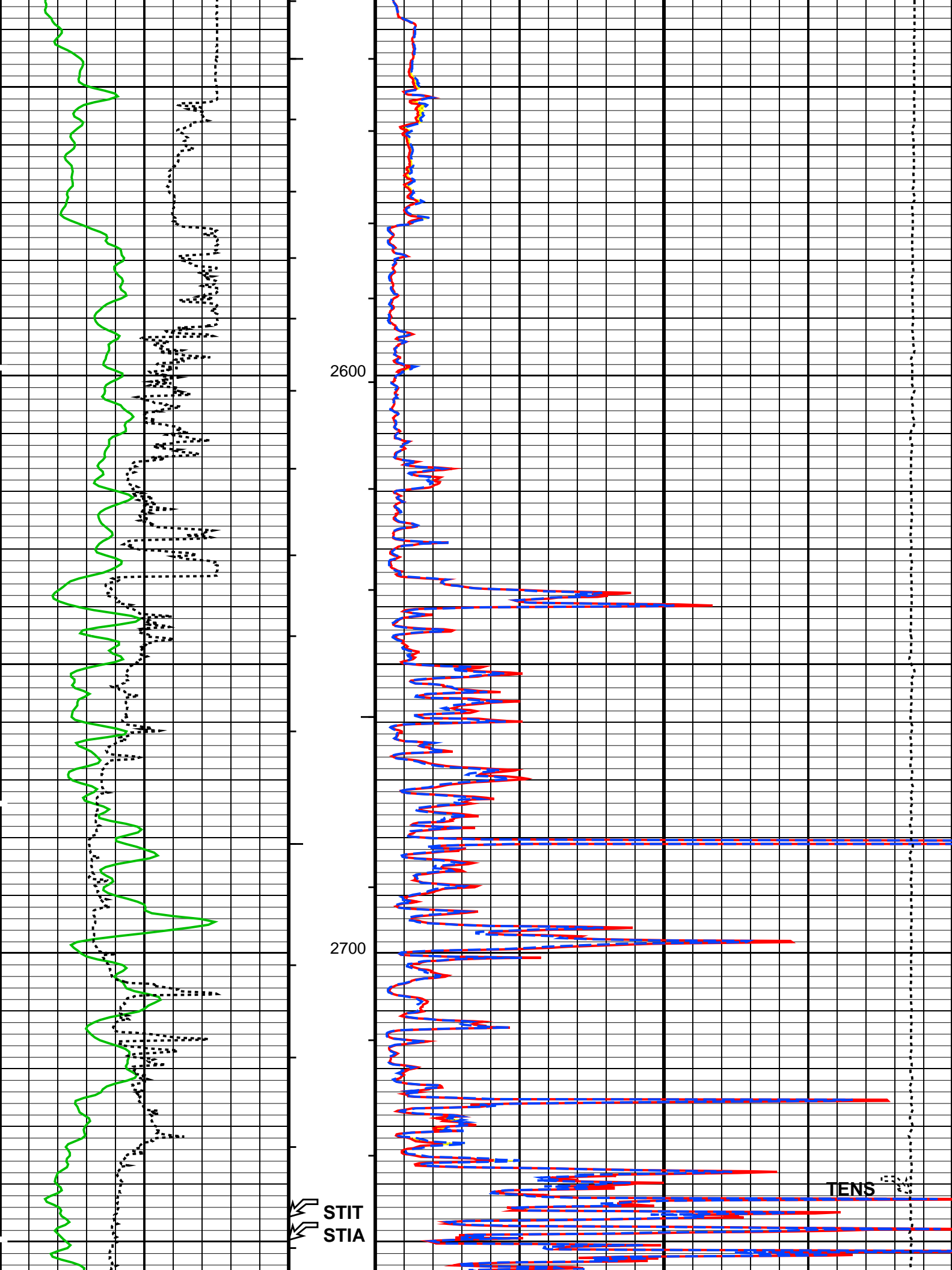


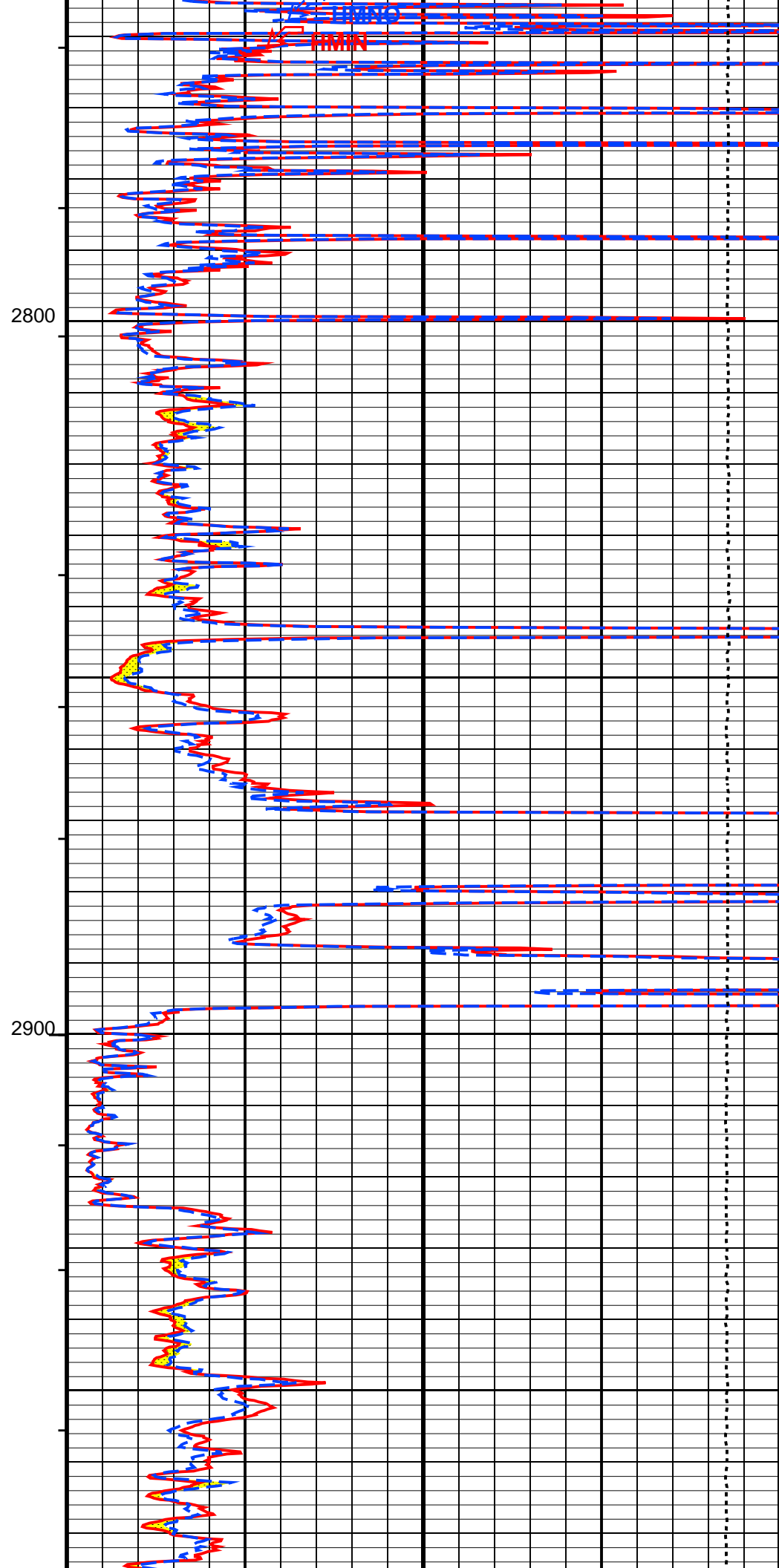
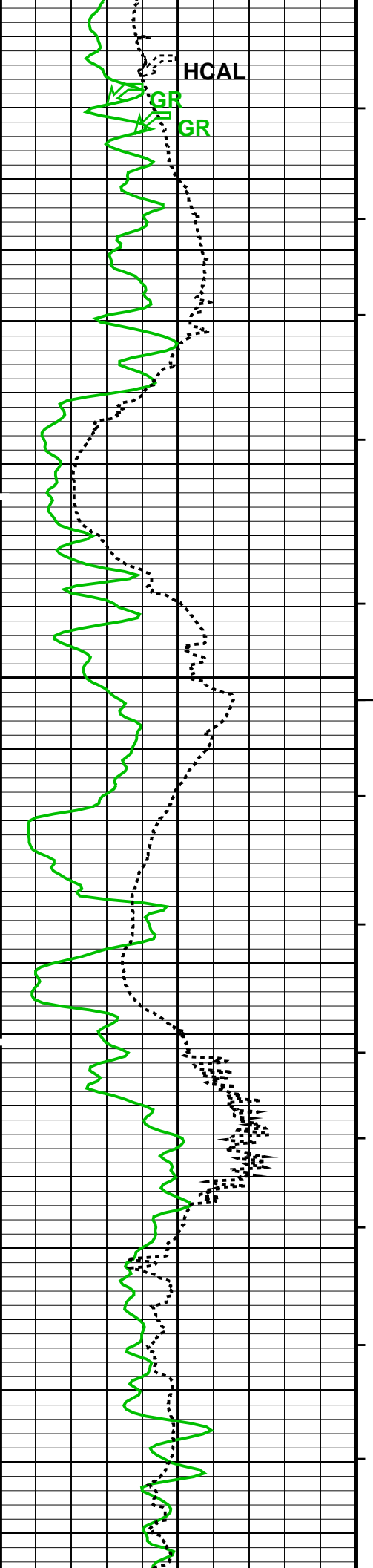


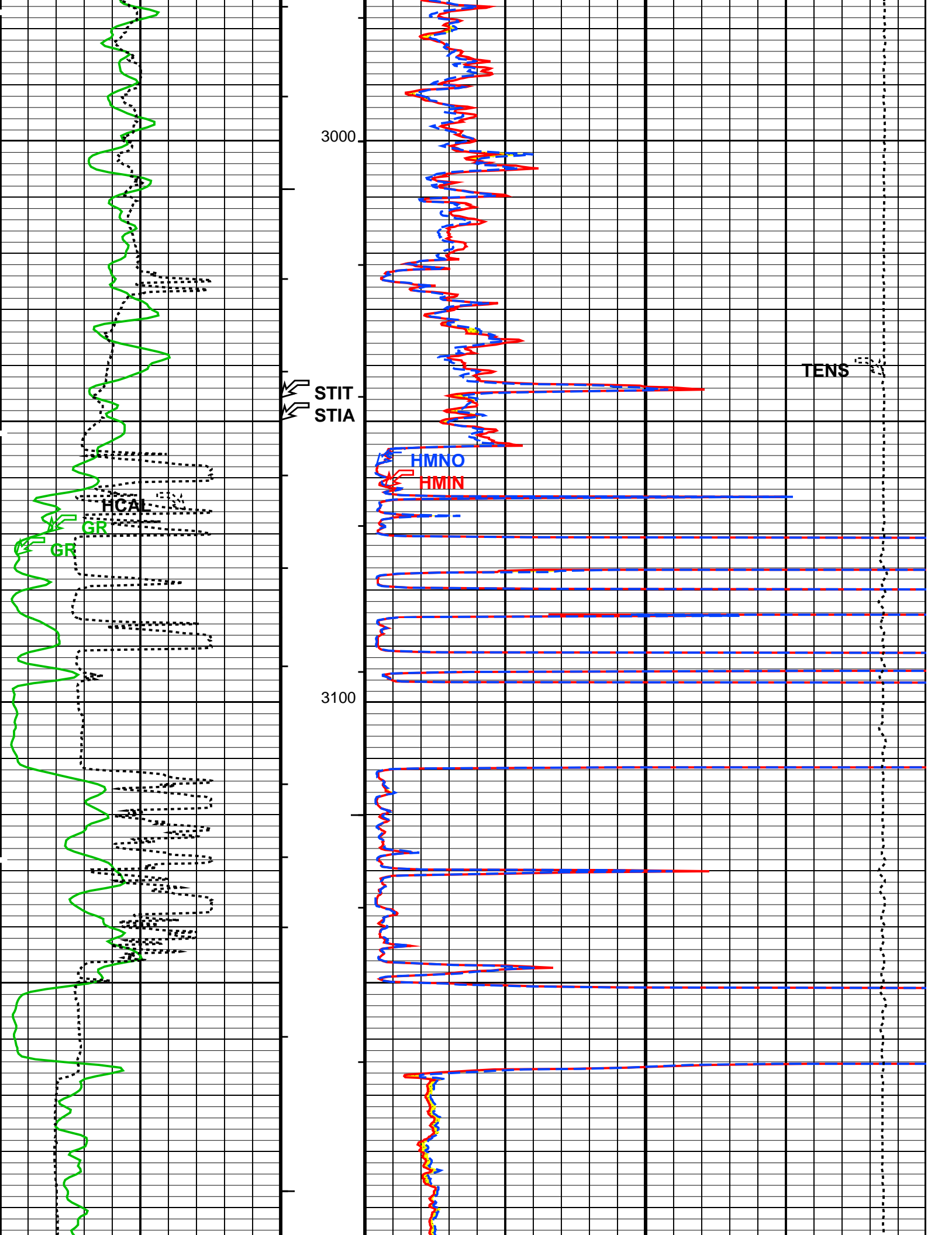


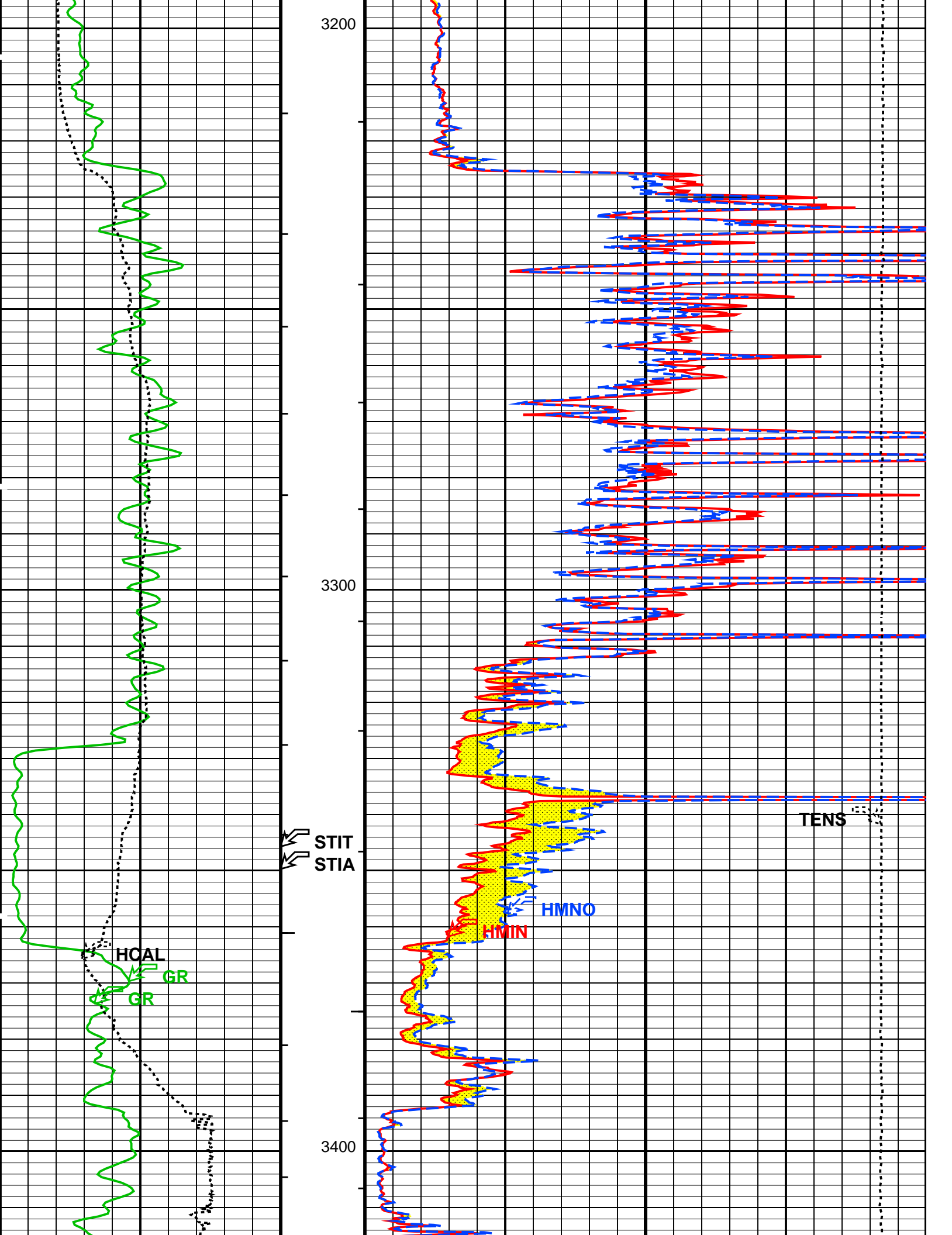


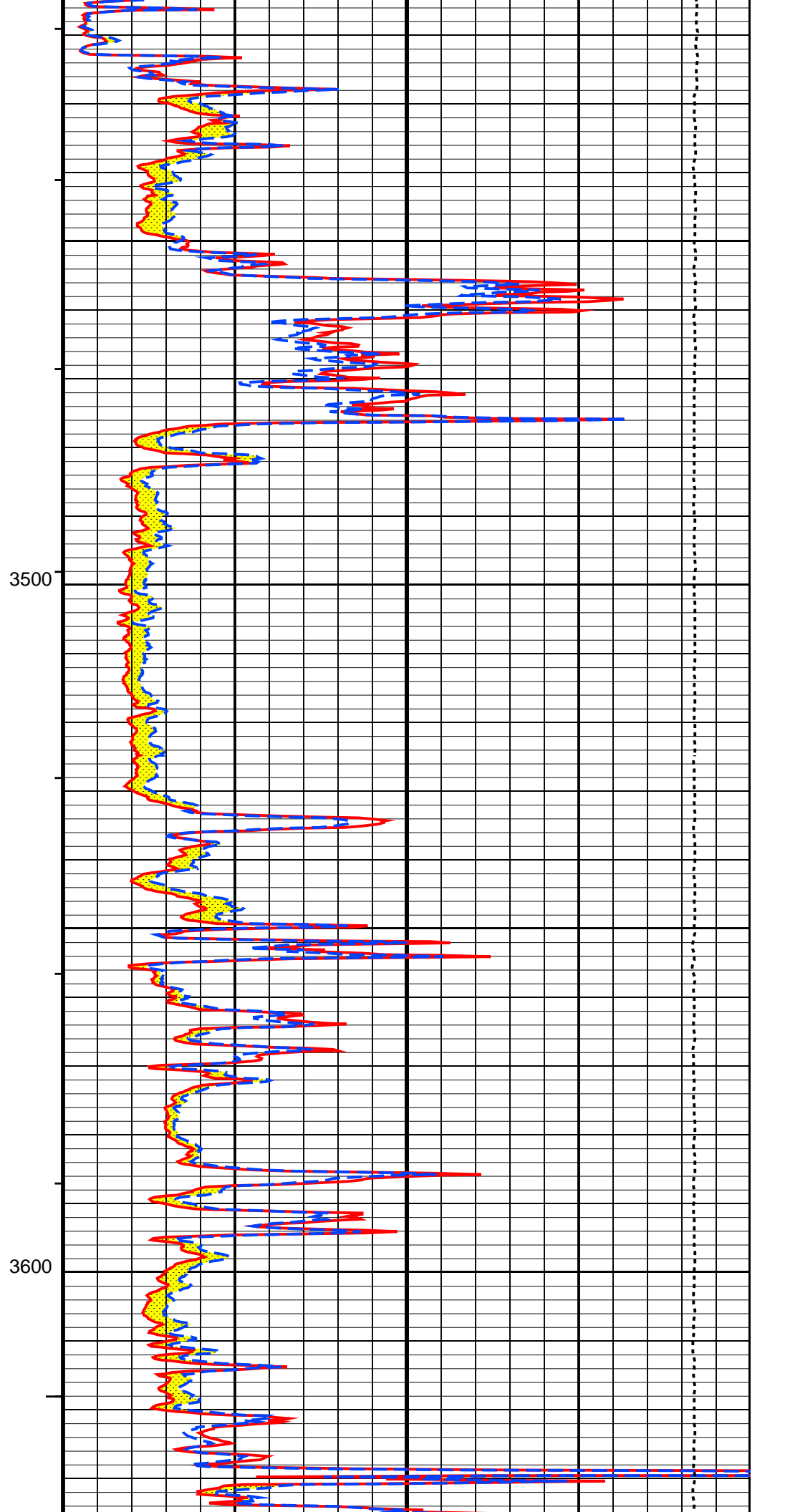
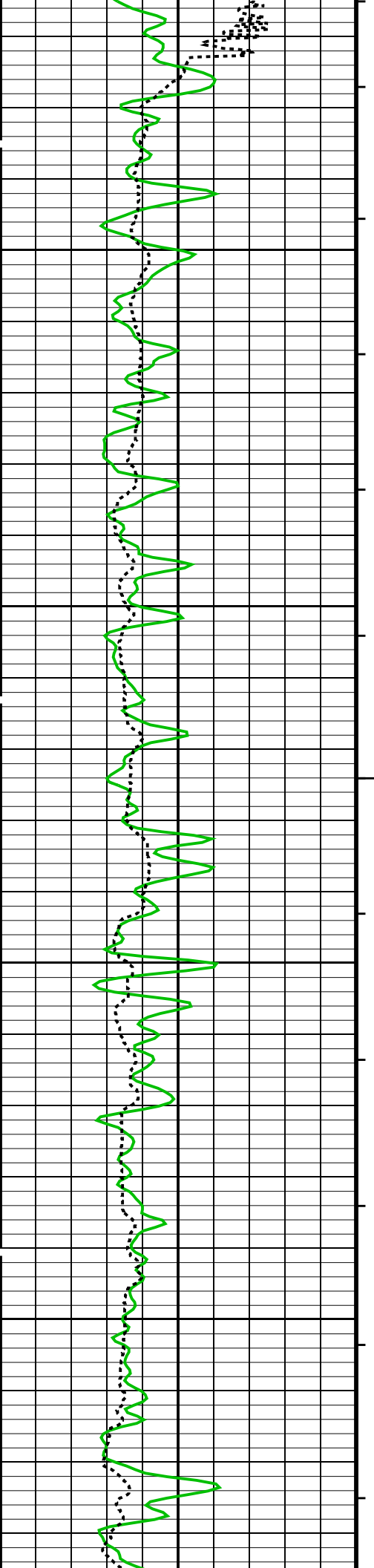


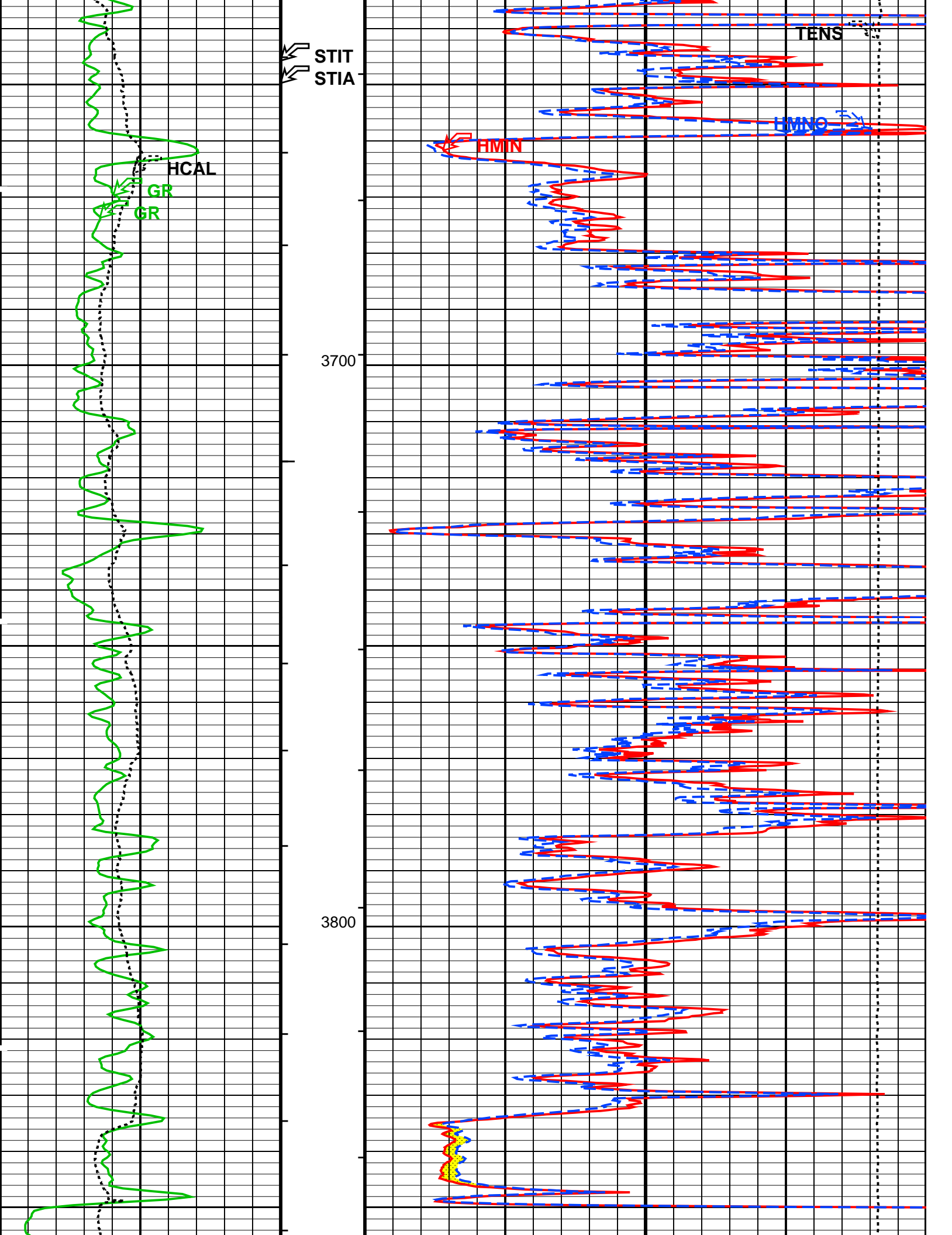


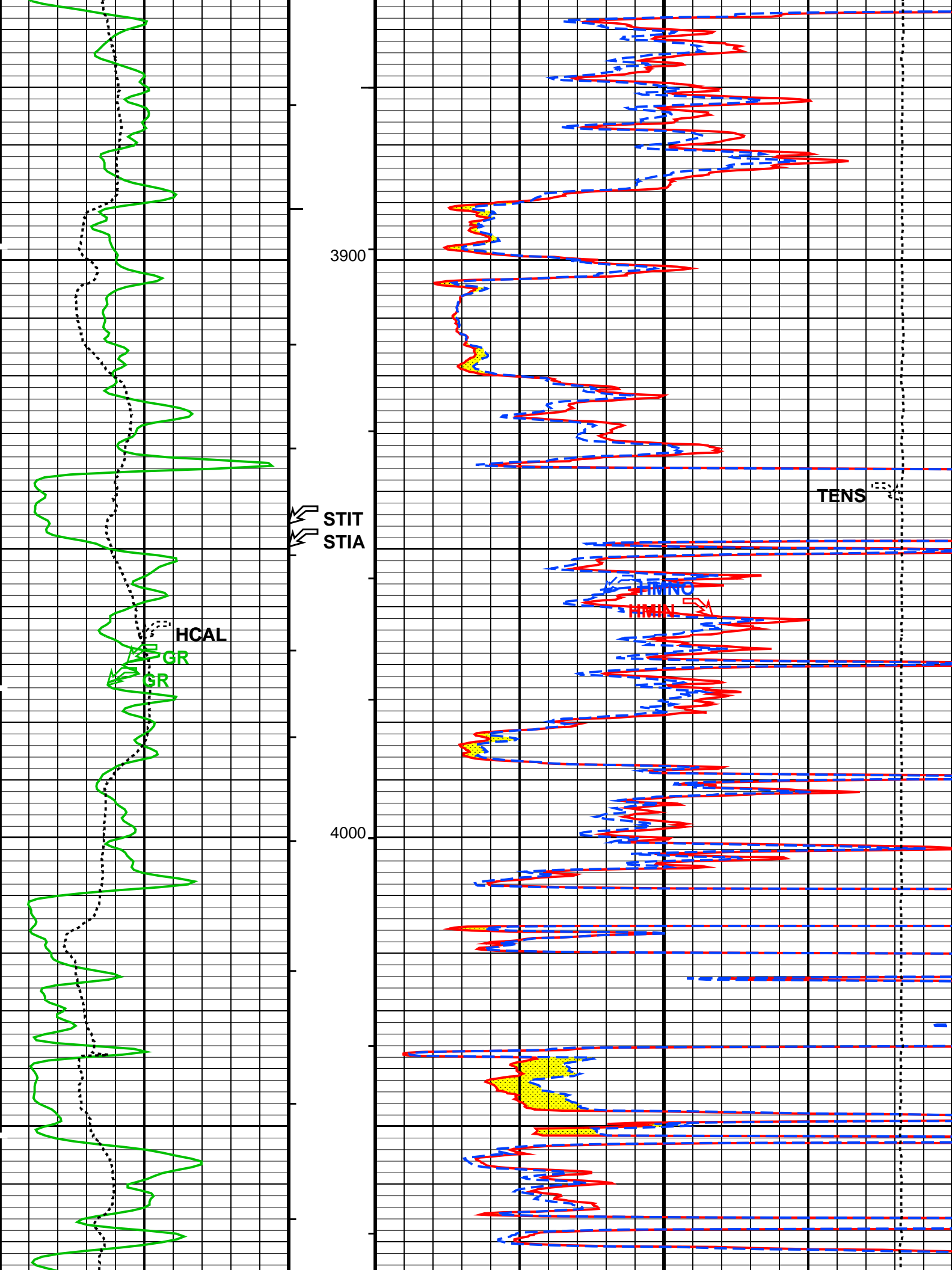


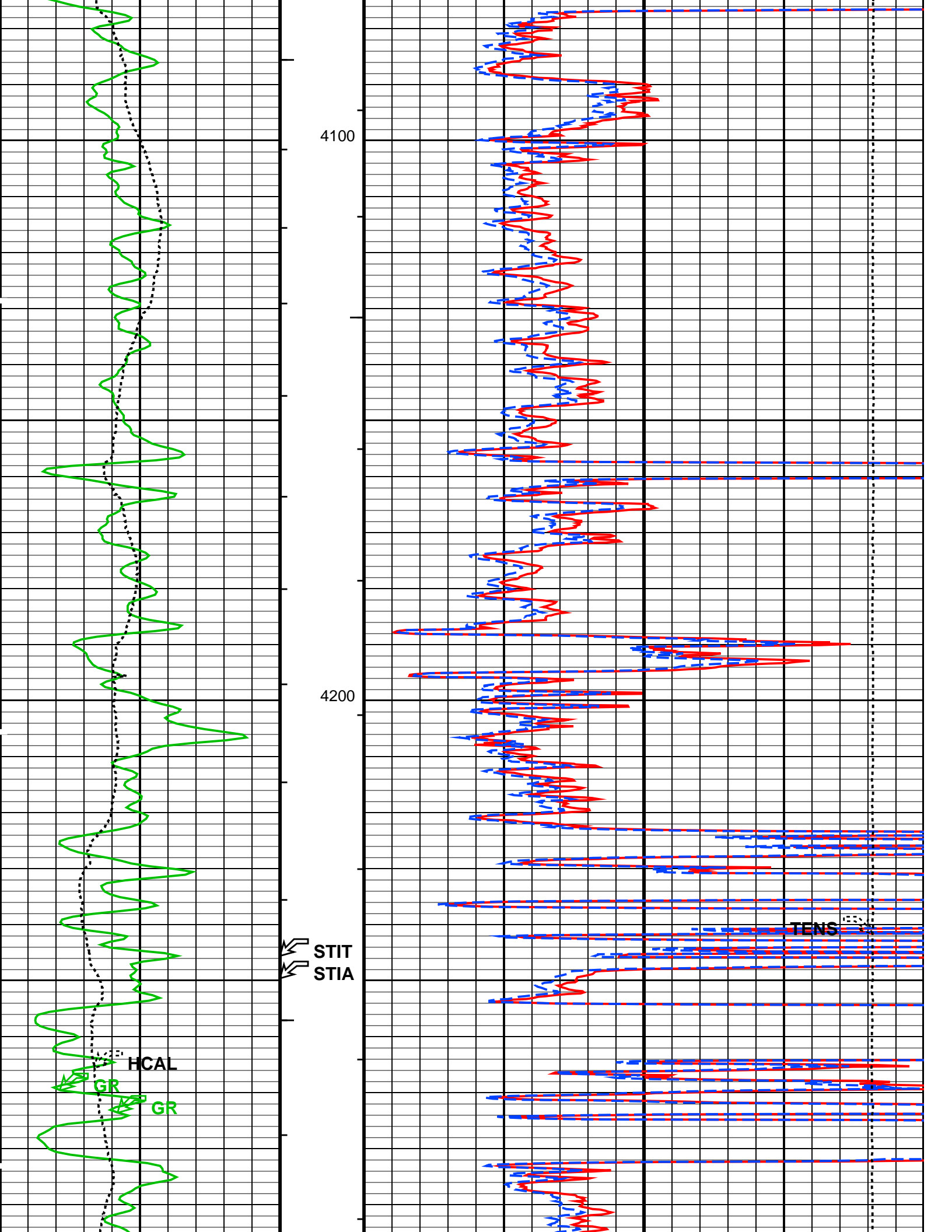


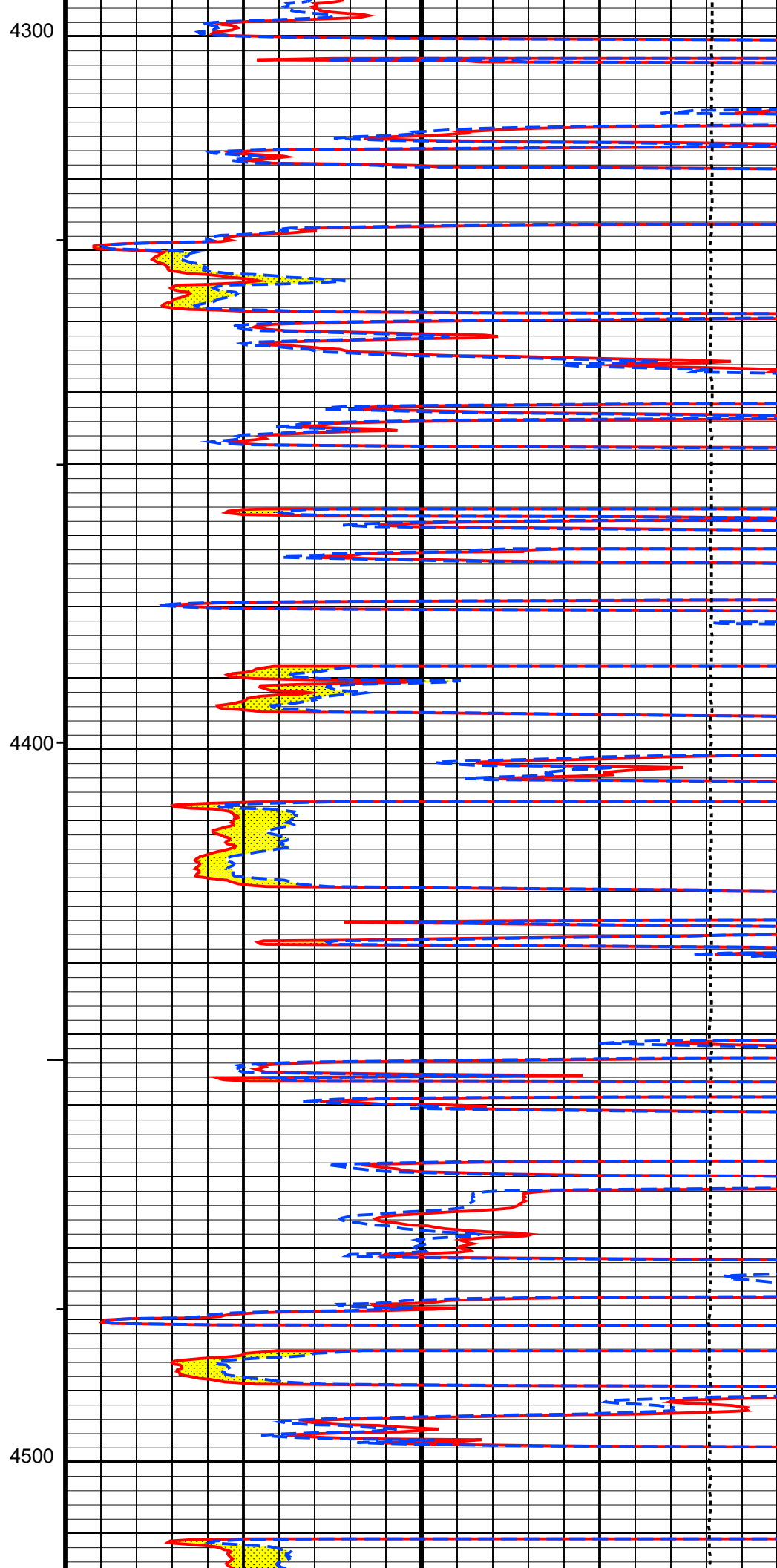
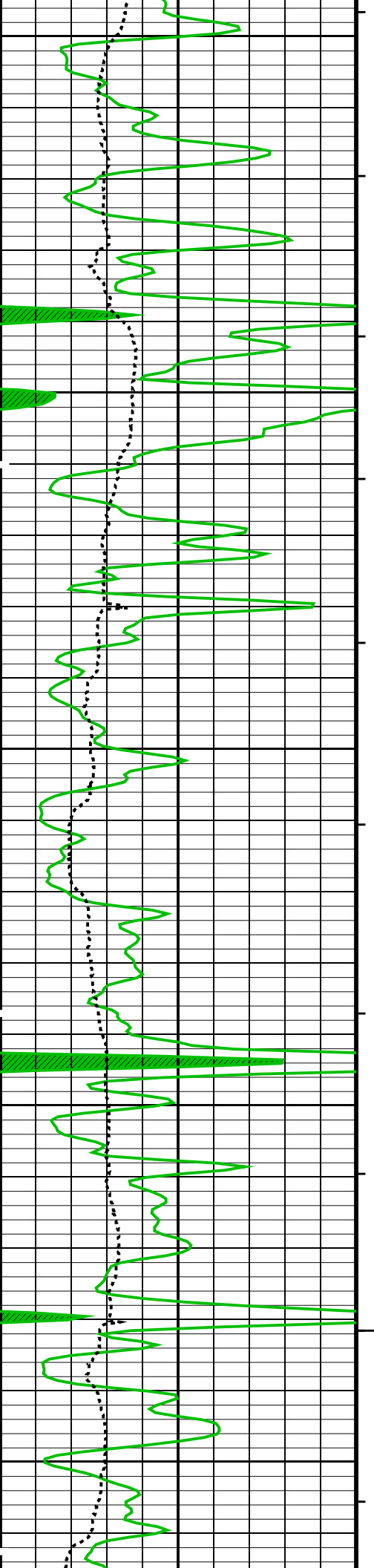


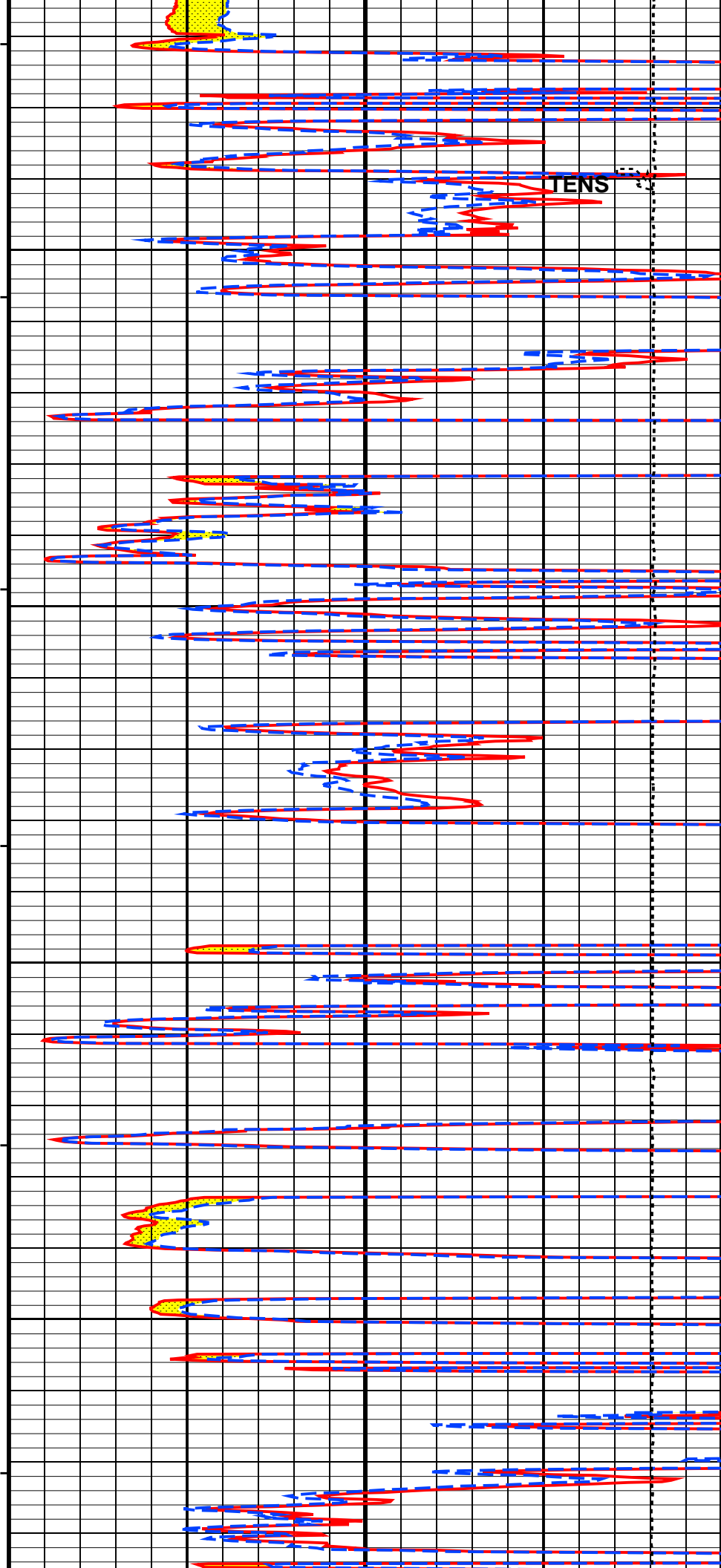
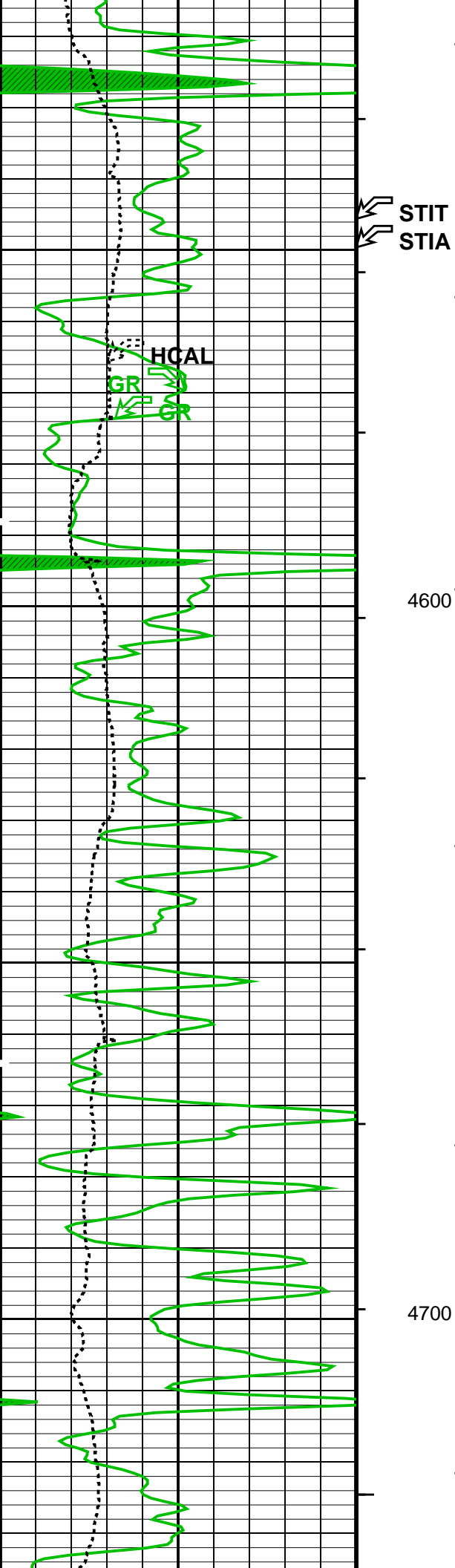


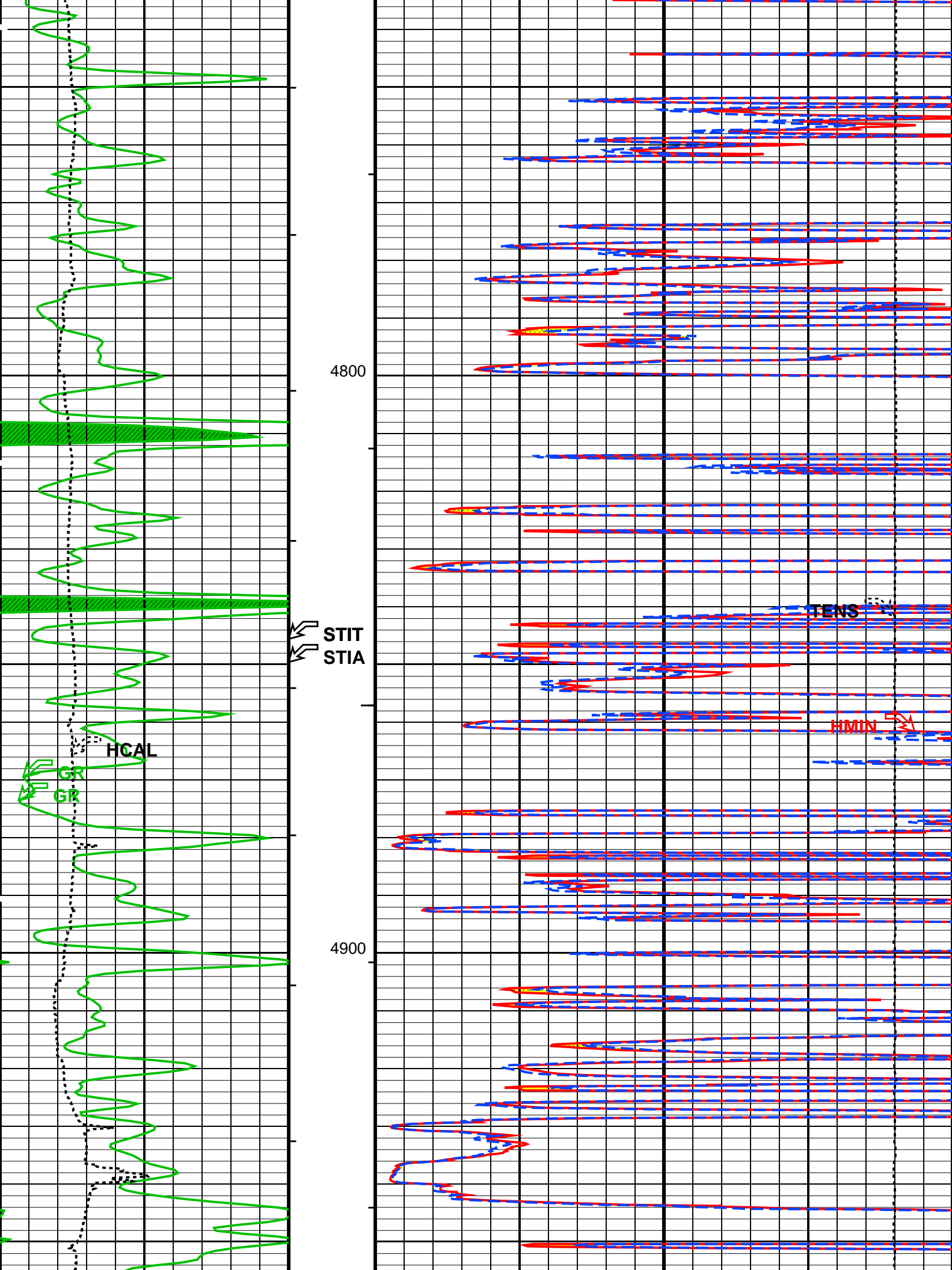


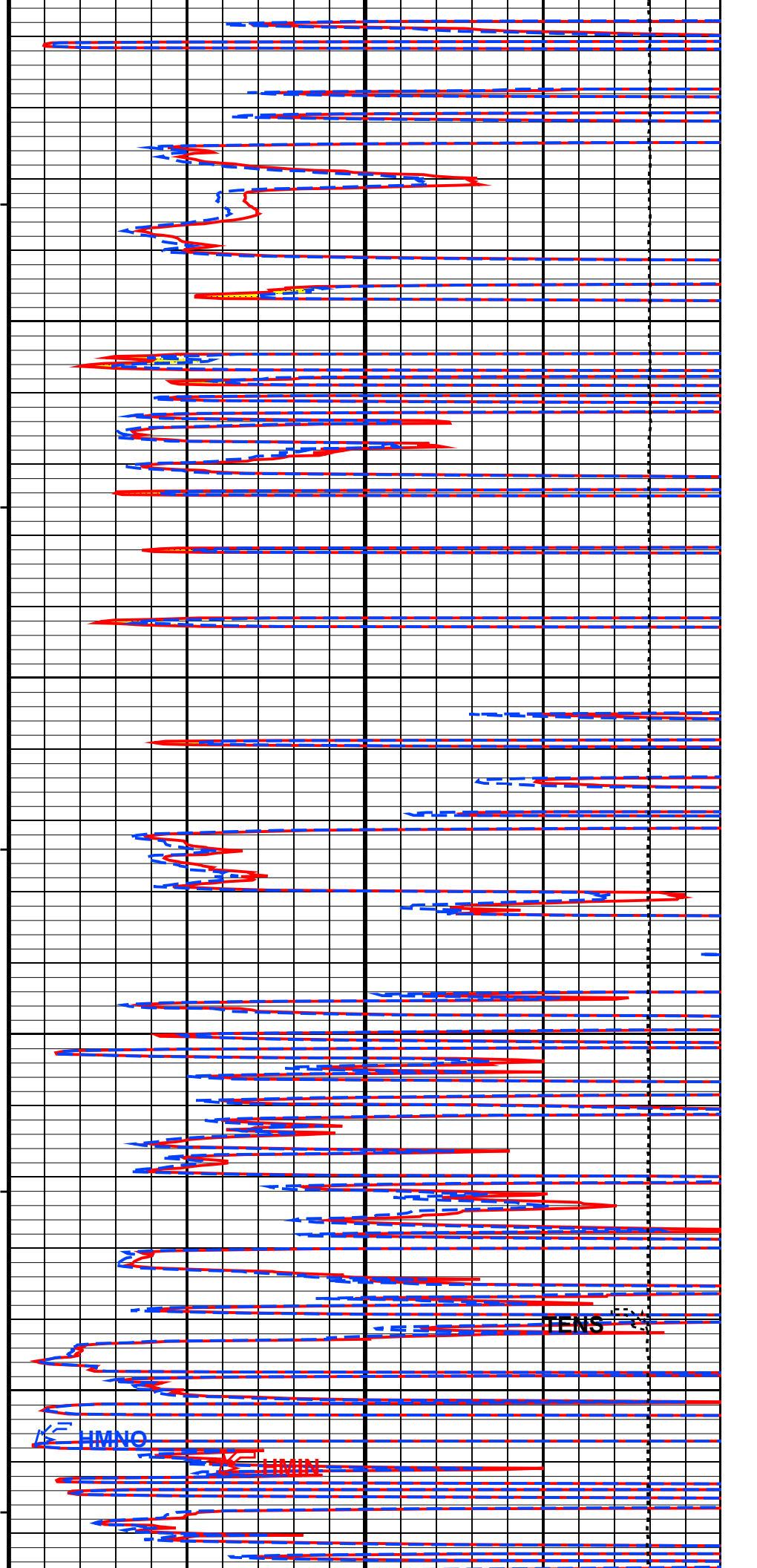
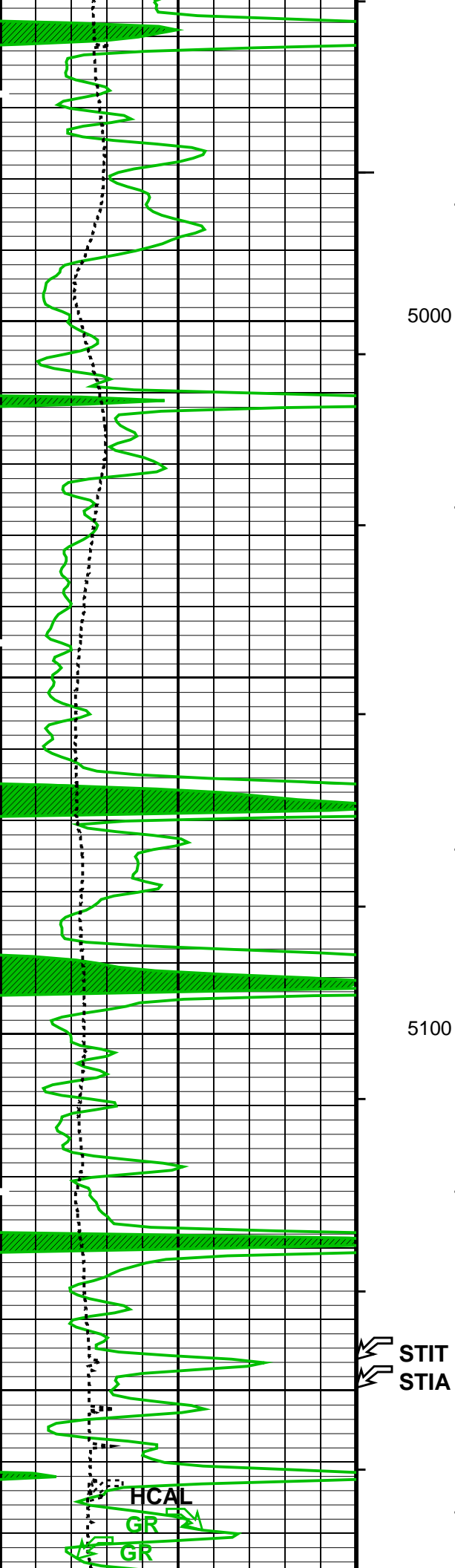


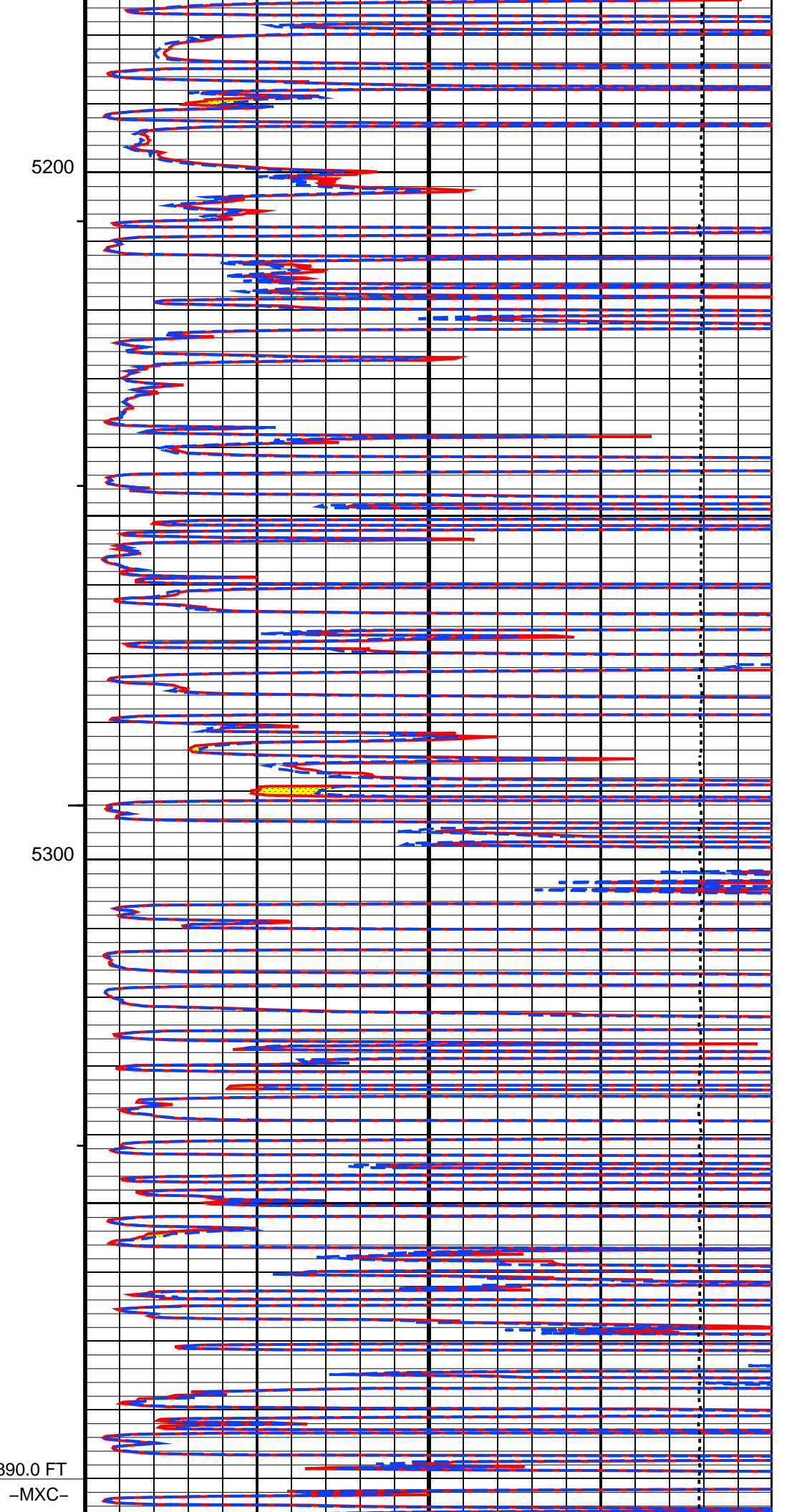
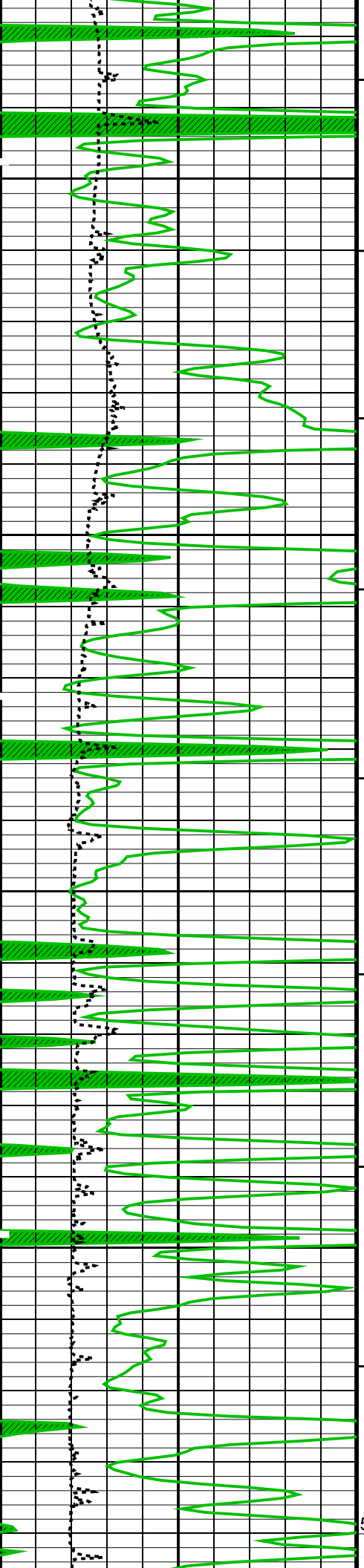


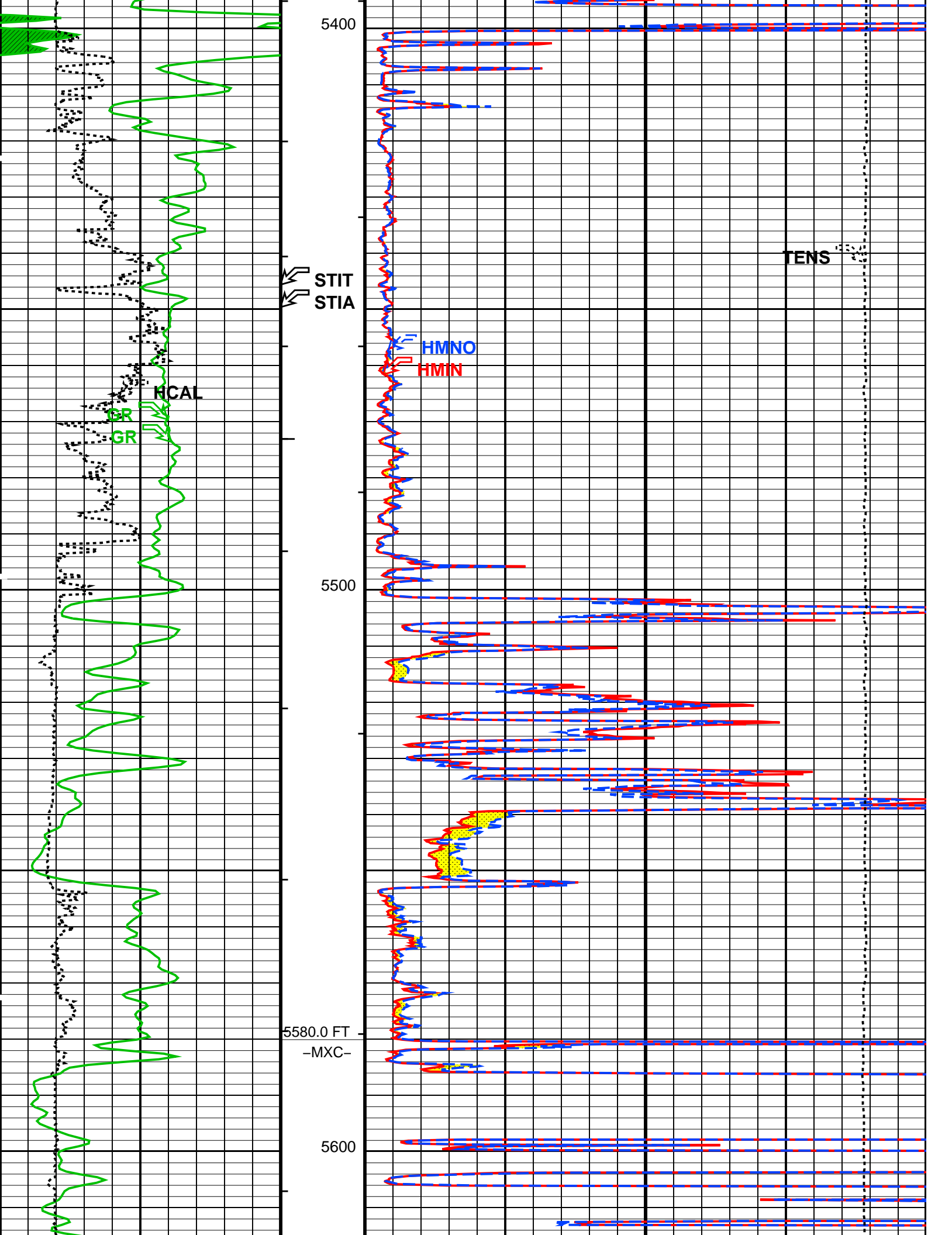


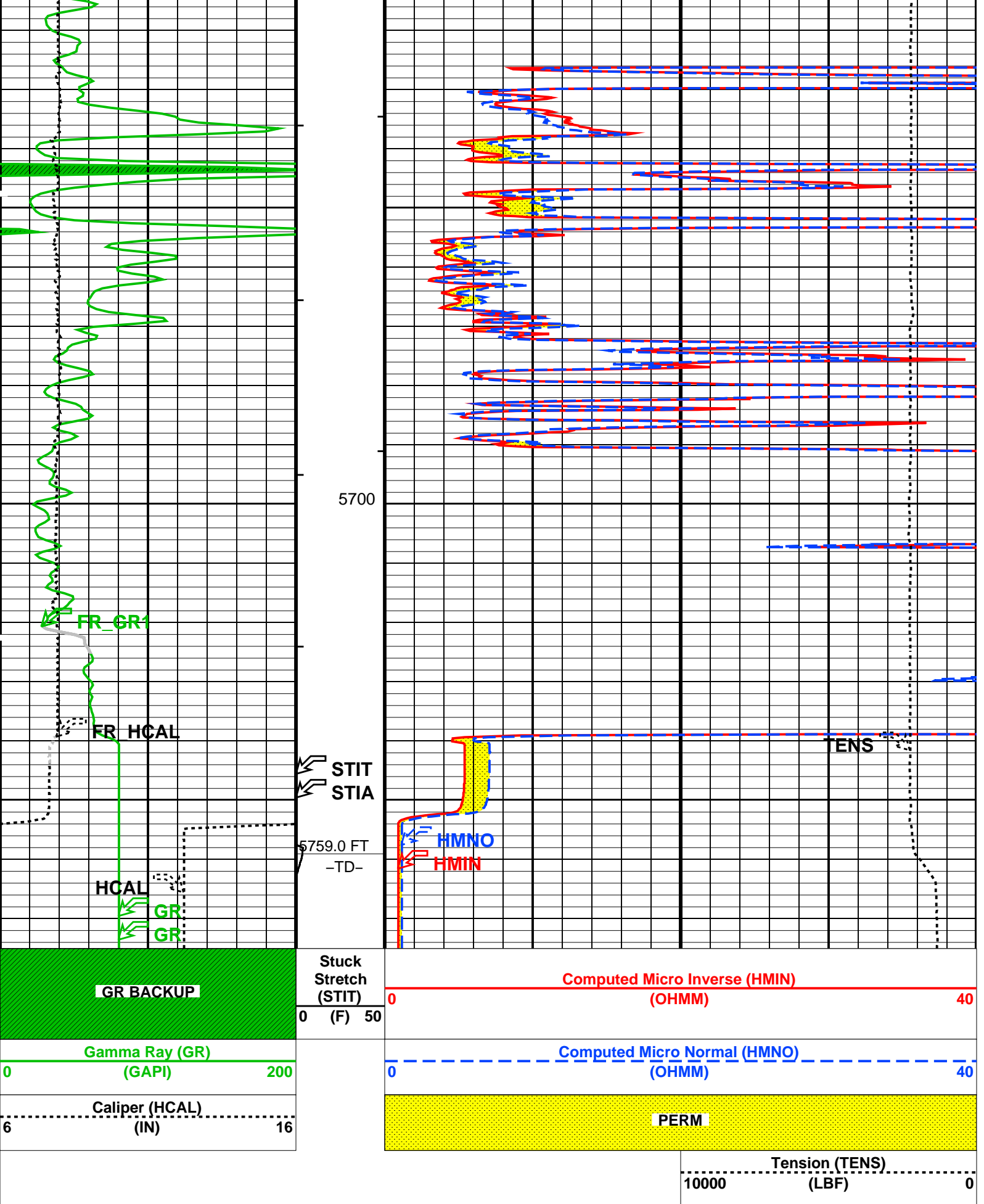












PIP SUMMARY

- ┌ 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

Parameters

DLIS Name	Description	Value
MPOF	HILTB-FTB: High resolution Integrated Logging Tool-DTS MCFL Processing Operation Mode	ON
LBFR	STI: Stuck Tool Indicator	STI
STKT	Trigger for MAXIS First Reading Label	2.5 FT
TDD	STI Stuck Threshold	5760.00 FT
TDL	Total Depth - Driller	5759.00 FT
	Total Depth - Logger	
FCD	HOLEV: Integrated Hole/Cement Volume	5.5 IN
HVCS	Future Casing (Outer) Diameter	HCAL
	Integrated Hole Volume Caliper Selection	
BS	System and Miscellaneous	7.875 IN
DO	Bit Size	0.0 FT
DORL	Depth Offset for Playback	0.0 FT
PP	Depth Offset for Repeat Analysis	NORMAL
TD	Playback Processing	5759 FT
	Total Depth	

Format: MLT Vertical Scale: 5" per 100'

Graphics File Created: 23-Mar-2010 15:04

OP System Version: 17C0-154

AIT-M	17C0-154	HILTB-FTB	17C0-154
DTC-H	17C0-154		

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_008LUP	FN:7	PRODUCER	23-Mar-2010 13:43	5775.0 FT	401.5 FT
---------	-------------------------	------	----------	-------------------	-----------	----------

Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_017PUP	FN:16	PRODUCER	23-Mar-2010 15:04
---------	-------------------------	-------	----------	-------------------



Repeat Analysis

MAXIS Field Log

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_008LUP	FN:7	PRODUCER	23-Mar-2010 13:43	5775.0 FT	401.5 FT
DEFAULT	AIT_TLD_MCFL_CNL_016PUP	FN:15	PRODUCER	23-Mar-2010 15:02	5772.0 FT	4565.5 FT

Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_017PUP	FN:16	PRODUCER	23-Mar-2010 15:04
---------	-------------------------	-------	----------	-------------------

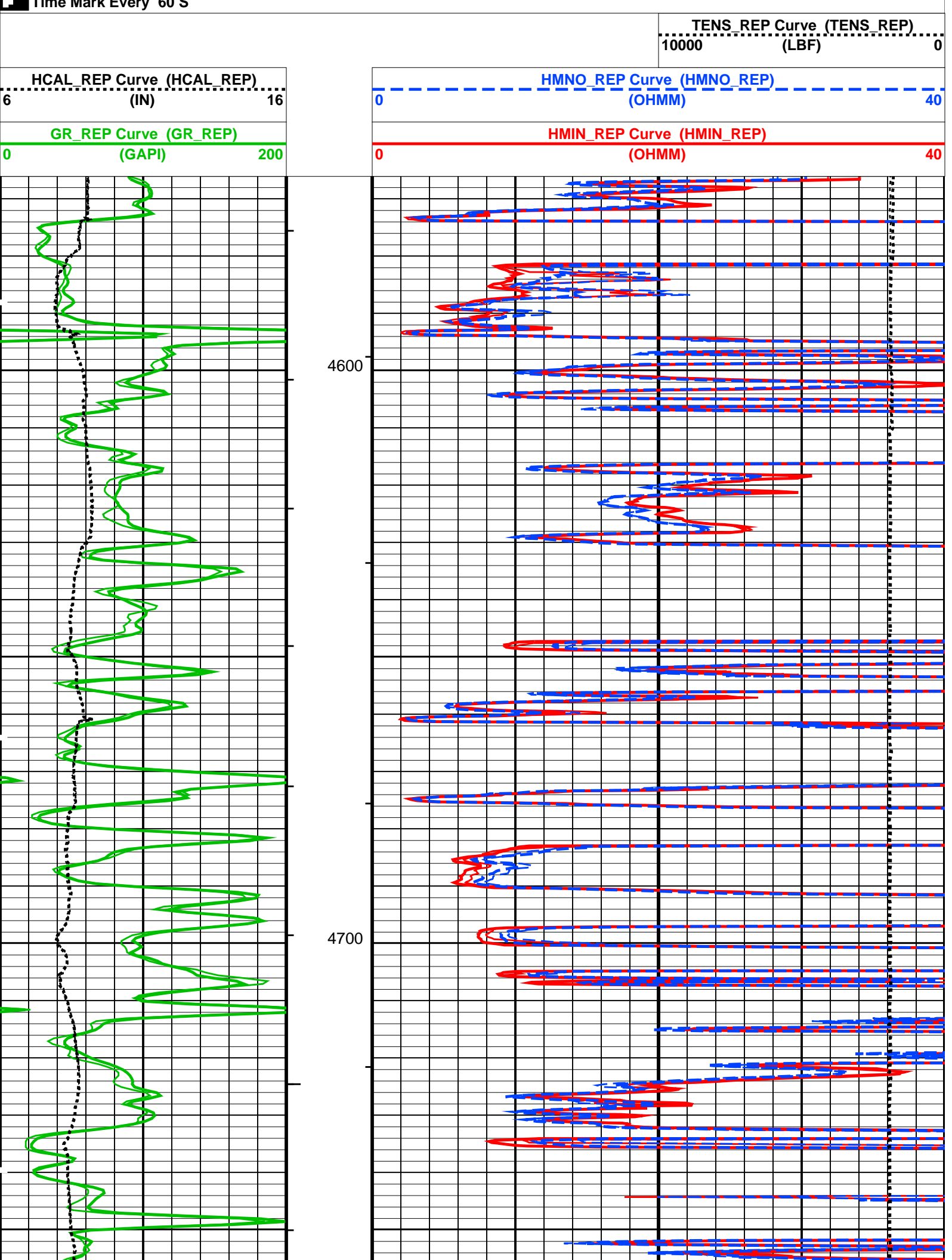
OP System Version: 17C0-154

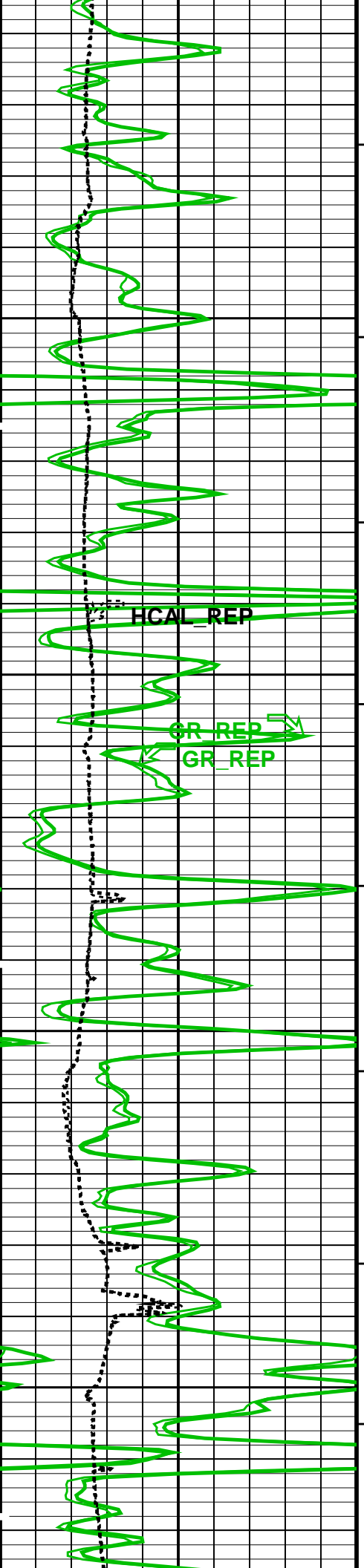
AIT-M	17C0-154	HILTB-FTB	17C0-154
DTC-H	17C0-154		

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



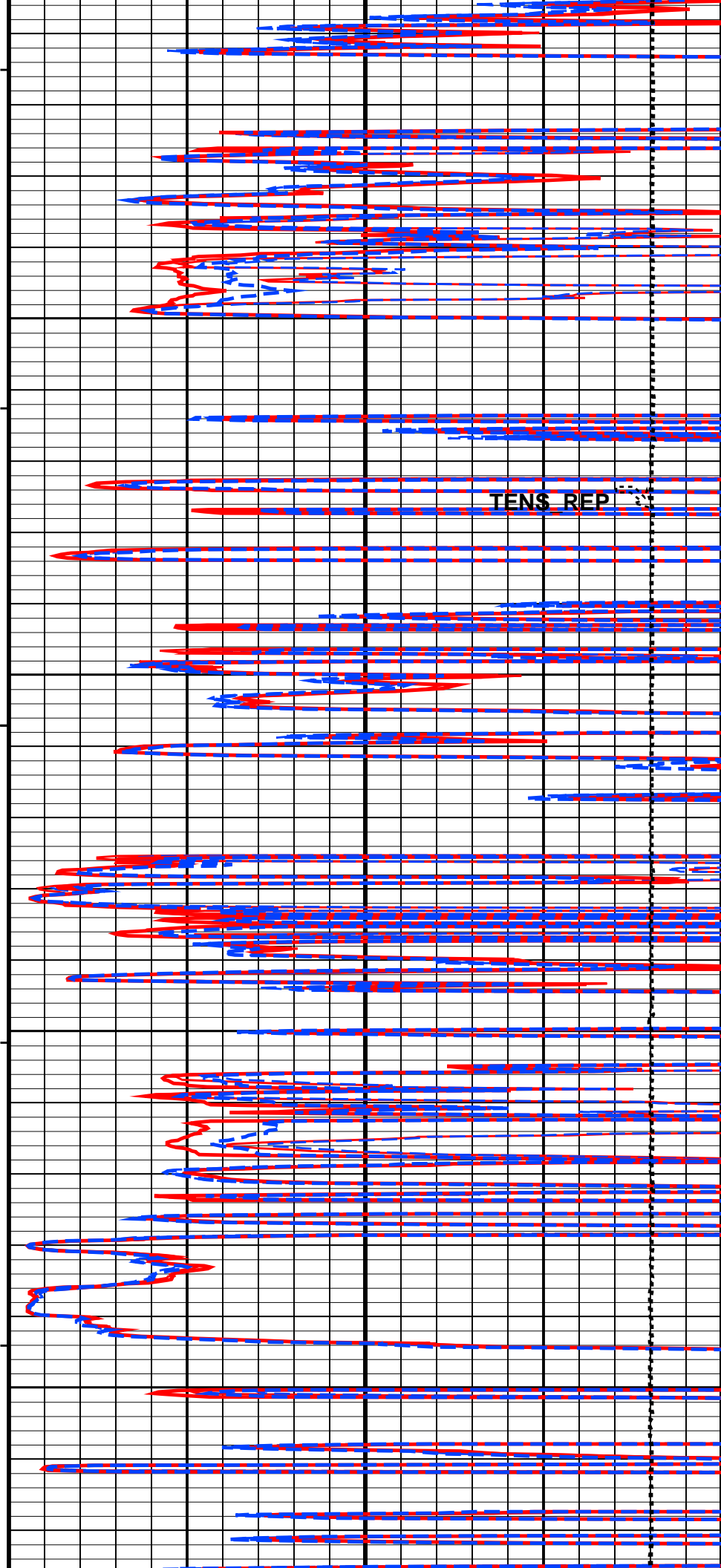


HCAL REP

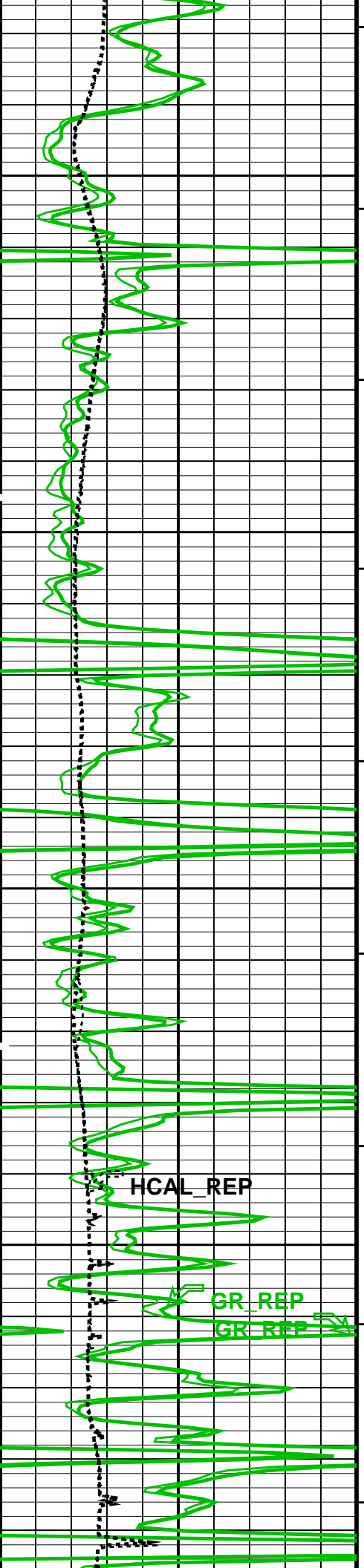
GR REP
GR REP

4800

4900

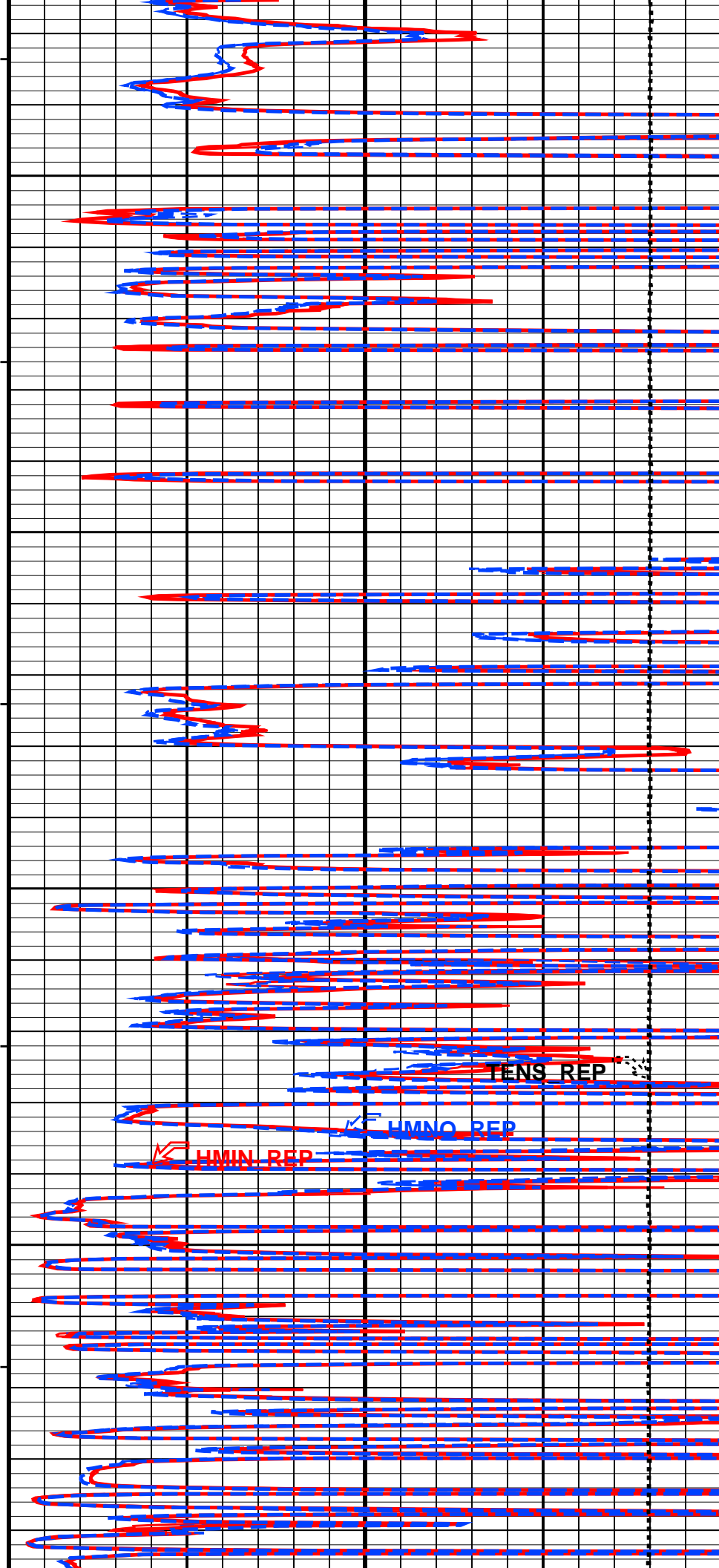


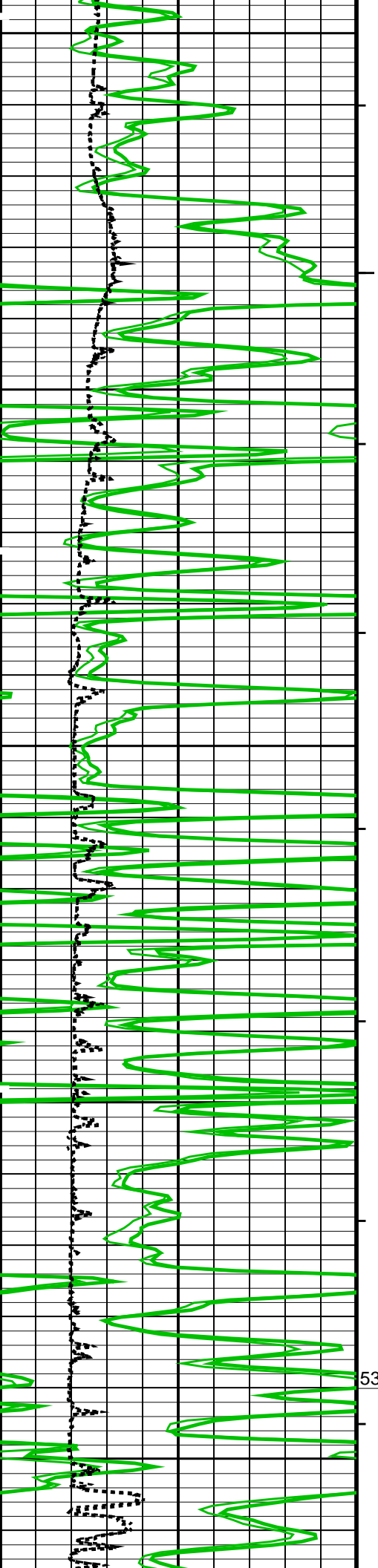
TENS REP



5000

5100



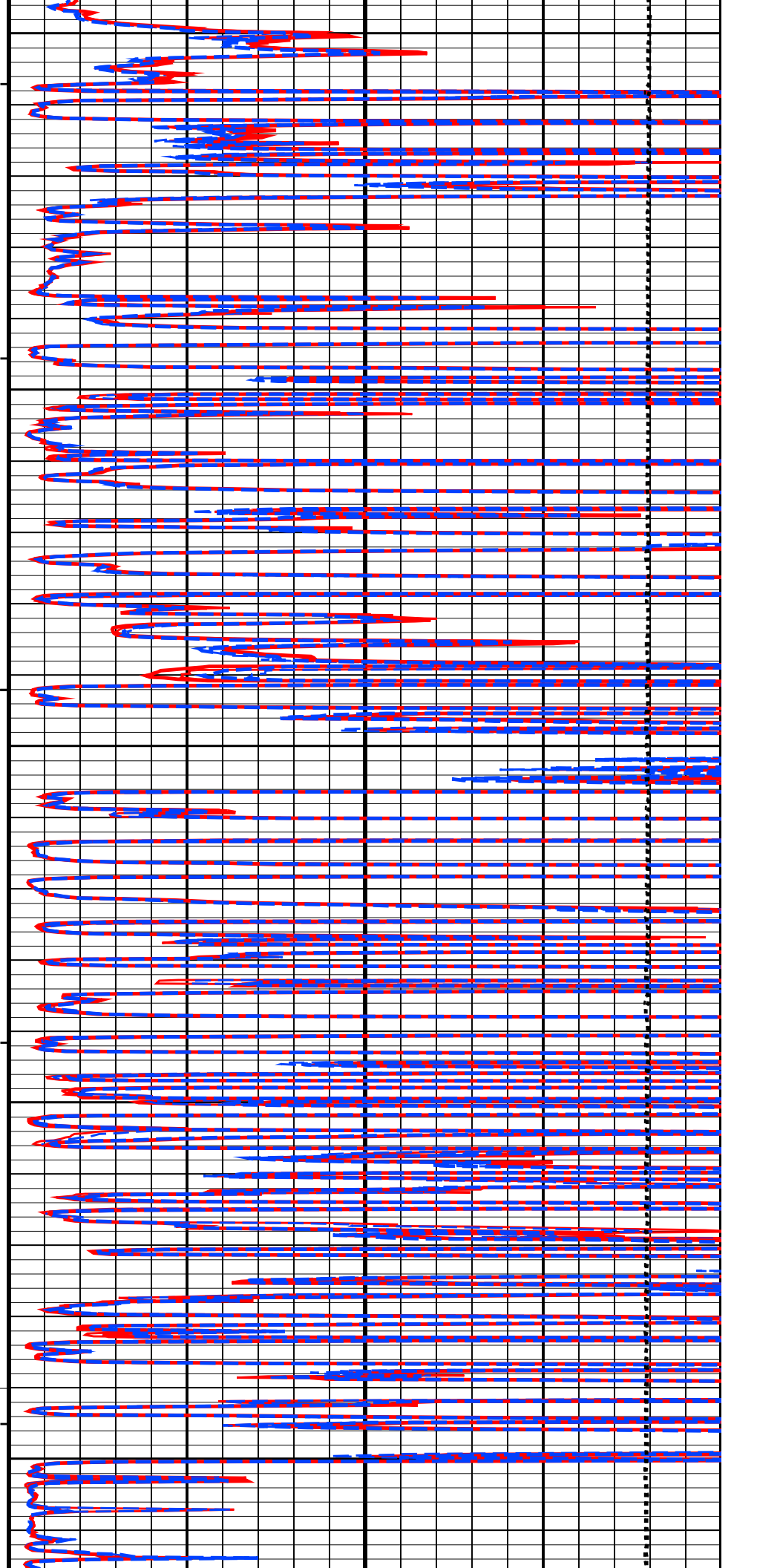


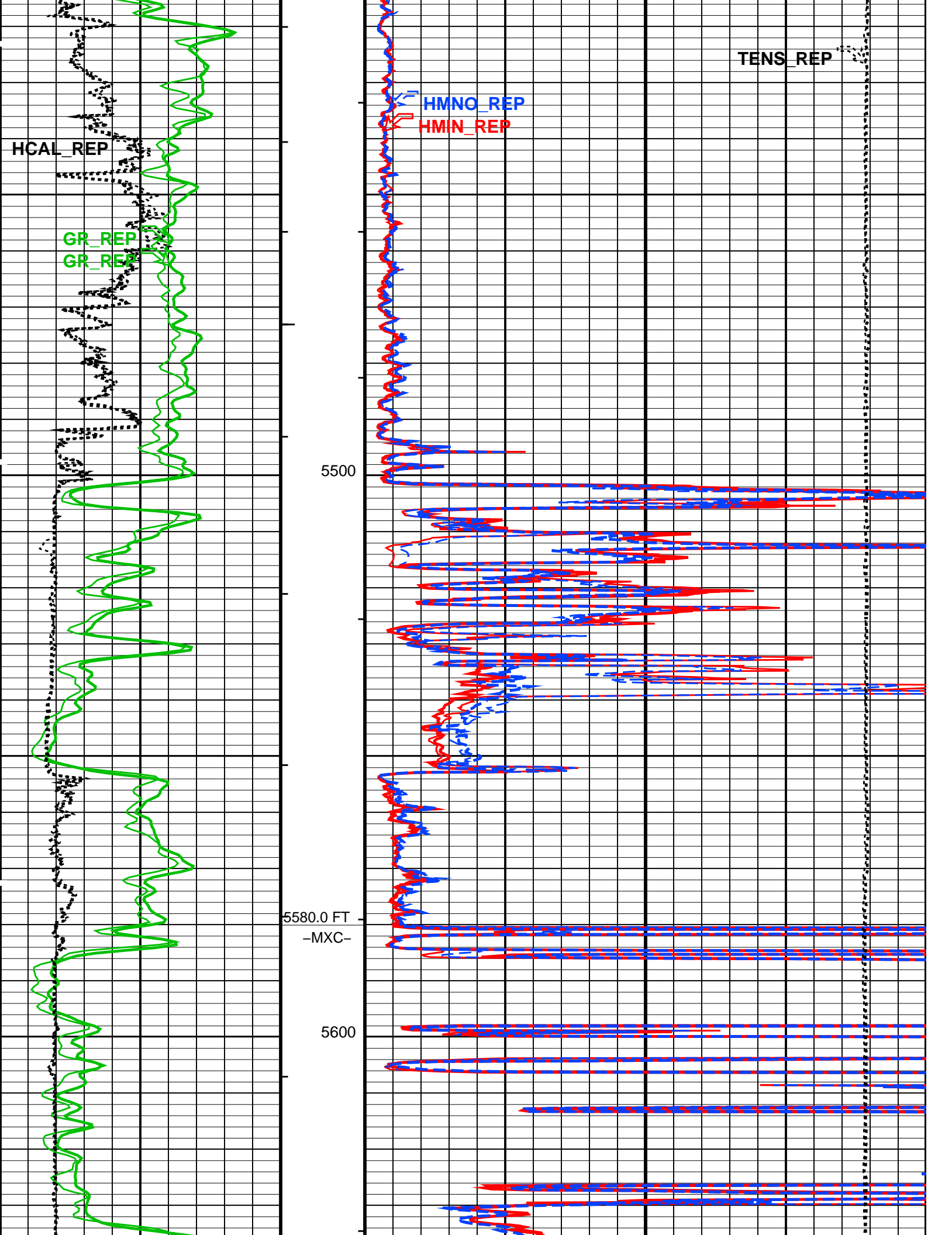
5200

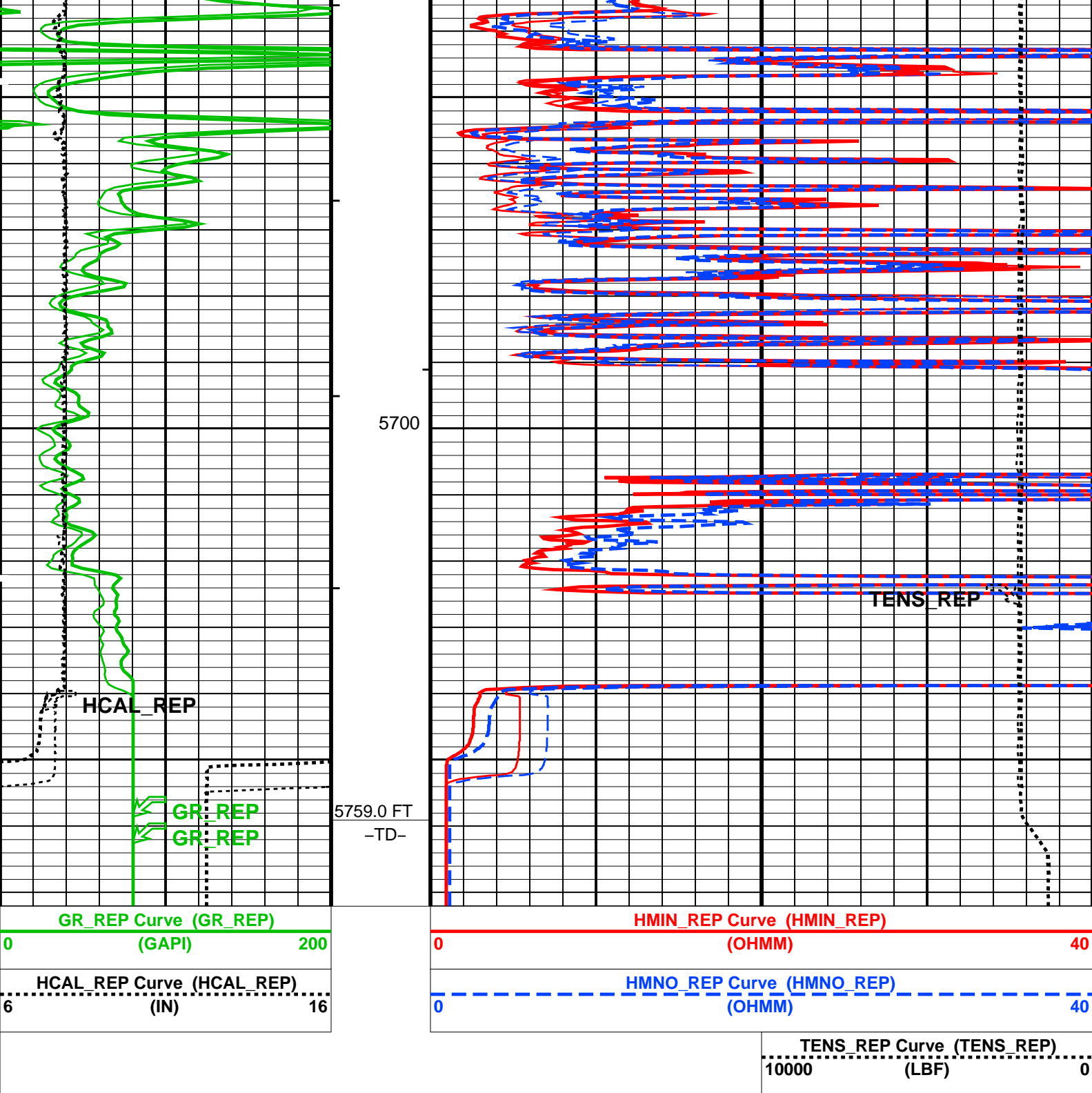
5300

5390.0 FT
-MXC-

5400







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

DORL
PP
TD

Depth Offset for Playback
Depth Offset for Repeat Analysis
Playback Processing
Total Depth

0.0
0.0
NORMAL
5759
FT
FT

Format: MLT_REP
Vertical Scale: 5" per 100'
Graphics File Created: 23-Mar-2010 15:04

OP System Version: 17C0-154

AIT-M
DTC-H

17C0-154
17C0-154

HILTB-FTB

17C0-154

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_008LUP	FN:7	PRODUCER	23-Mar-2010 13:43	5775.0 FT	401.5 FT
DEFAULT	AIT_TLD_MCFL_CNL_016PUP	FN:15	PRODUCER	23-Mar-2010 15:02	5772.0 FT	4565.5 FT

Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_017PUP	FN:16	PRODUCER	23-Mar-2010 15:04
---------	-------------------------	-------	----------	-------------------

Schlumberger

BEFORE CALIBRATIONS

MAXIS Field Log

Calibration and Check Summary							
Measurement	Nominal	Master	Before	After	Change	Limit	Units
Array Induction Tool – M Wellsite Calibration – Electronics Calibration Check – Thru Cal Mag. & Phase							
Master: 17-Mar-2010 8:50 Before: 22-Mar-2010 22:03							
Thru Cal Magnitude – 0	0	0.6194	0.6193	N/A	N/A	N/A	V
Thru Cal Magnitude – 1	0	1.269	1.269	N/A	N/A	N/A	V
Thru Cal Magnitude – 2	0	0.6307	0.6306	N/A	N/A	N/A	V
Thru Cal Magnitude – 3	0	0.7118	0.7117	N/A	N/A	N/A	V
Thru Cal Magnitude – 4	0	1.332	1.332	N/A	N/A	N/A	V
Thru Cal Magnitude – 5	0	1.950	1.950	N/A	N/A	N/A	V
Thru Cal Magnitude – 6	0	1.946	1.946	N/A	N/A	N/A	V
Thru Cal Magnitude – 7	0	1.418	1.417	N/A	N/A	N/A	V
Thru Cal Phase – 0	0	180.0	179.9	N/A	N/A	N/A	DEG
Thru Cal Phase – 1	0	178.9	178.8	N/A	N/A	N/A	DEG
Thru Cal Phase – 2	0	175.3	175.3	N/A	N/A	N/A	DEG
Thru Cal Phase – 3	0	174.6	174.5	N/A	N/A	N/A	DEG
Thru Cal Phase – 4	0	168.4	168.4	N/A	N/A	N/A	DEG
Thru Cal Phase – 5	0	166.7	166.7	N/A	N/A	N/A	DEG
Thru Cal Phase – 6	0	166.8	166.7	N/A	N/A	N/A	DEG
Thru Cal Phase – 7	0	165.9	165.9	N/A	N/A	N/A	DEG
Array Induction Tool – M Wellsite Calibration – Electronics Calibration Check – Auxiliary							
Master: 17-Mar-2010 8:50 Before: 22-Mar-2010 22:03							
Array Induction SPA Plus	991.0	983.6	983.5	N/A	N/A	N/A	MV
Array Induction SPA Zero	0	-0.2001	-0.1835	N/A	N/A	N/A	MV
Array Induction Temperature PI	0.9170	0.9114	0.9115	N/A	N/A	N/A	V
Array Induction Temperature Ze	0	-0.0002014	-0.0001035	N/A	N/A	N/A	V
Array Induction Tool – M Wellsite Calibration – Test Loop Gain Correction							
Master: 17-Mar-2010 8:50							
Test Loop Gain Correctio – 0	0	1.015	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio – 1	0	1.012	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio – 2	0	1.016	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio – 3	0	1.012	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio – 4	0	0.9937	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio – 5	0	0.9890	N/A	N/A	N/A	N/A	V

Test Loop Gain Correctio – 6	0	0.9937	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio – 7	0	1.006	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio – 0	0	0.3332	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio – 1	0	0.6161	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio – 2	0	0.1287	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio – 3	0	0.1700	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio – 4	0	0.1124	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio – 5	0	-0.06042	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio – 6	0	0.2973	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio – 7	0	-0.06541	N/A	N/A	N/A	N/A	DEG

Array Induction Tool – M Wellsite Calibration – Sonde Error Correction

Master: 17-Mar-2010 8:50

R Sonde Error Correction – 0	0	-65.75	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 1	0	176.6	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 2	0	119.4	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 3	0	66.51	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 4	0	27.71	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 5	0	12.62	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 6	0	9.430	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 7	0	-1.425	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 0	0	-316.9	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 1	0	108.6	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 2	0	44.39	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 3	0	-31.03	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 4	0	20.82	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 5	0	-16.06	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 6	0	-4.953	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 7	0	-11.76	N/A	N/A	N/A	N/A	MM/M

Array Induction Tool – M Wellsite Calibration – Mud Gain Correction

Master: 17-Mar-2010 8:50

Coarse – Mag, Real, Imag – 0	0	0.8486	N/A	N/A	N/A	N/A
Coarse – Mag, Real, Imag – 1	0	0.8487	N/A	N/A	N/A	N/A
Coarse – Mag, Real, Imag – 2	0	0.8487	N/A	N/A	N/A	N/A
Fine – Mag, Real, Imag – 0	0	0.8511	N/A	N/A	N/A	N/A
Fine – Mag, Real, Imag – 1	0	0.8512	N/A	N/A	N/A	N/A
Fine – Mag, Real, Imag – 2	0	0.8512	N/A	N/A	N/A	N/A

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

Before: 22-Mar-2010 22:07

BS Window Ratio	0.7392	N/A	0.7378	N/A	N/A	N/A	
BS Window Sum	10690	N/A	10700	N/A	N/A	N/A	CPS
SS Window Ratio	0.4732	N/A	0.4735	N/A	N/A	N/A	
SS Window Sum	10190	N/A	10190	N/A	N/A	N/A	CPS
LS Window Ratio	0.2975	N/A	0.2981	N/A	N/A	N/A	
LS Window Sum	1166	N/A	1163	N/A	N/A	N/A	CPS

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

Before: 22-Mar-2010 22:07

BS PM High Voltage (Command)	1509	N/A	1533	N/A	N/A	N/A	V
SS PM High Voltage (Command)	1777	N/A	1786	N/A	N/A	N/A	V
LS PM High Voltage (Command)	1896	N/A	1904	N/A	N/A	N/A	V

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

Before: 22-Mar-2010 22:07

BS Crystal Resolution	11.23	N/A	11.26	N/A	N/A	N/A	%
SS Crystal Resolution	11.03	N/A	11.11	N/A	N/A	N/A	%
LS Crystal Resolution	9.873	N/A	9.632	N/A	N/A	N/A	%

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

Before: 22-Mar-2010 22:08

Raw B0 Resistivity	3875	N/A	3858	N/A	N/A	N/A	OHMM
Raw B1 Resistivity	3830	N/A	3808	N/A	N/A	N/A	OHMM
Raw B2 Resistivity	3830	N/A	3821	N/A	N/A	N/A	OHMM

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

Before: 22-Mar-2010 22:03

HILT Caliper Zero Measurement	8.000	N/A	9.711	N/A	N/A	N/A	IN
HILT Caliper Plus Measurement	12.00	N/A	13.84	N/A	N/A	N/A	IN

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

Before: 22-Mar-2010 21:59

Gamma Ray Background	30.00	N/A	77.67	N/A	N/A	N/A	GAPI
Gamma Ray (Jig – Bkg)	177.2	N/A	177.2	N/A	N/A	16.11	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	N/A	N/A	15.00	GAPI

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

Master: 20-Mar-2010 17:38 Before: 22-Mar-2010 22:05

CNTC Background	28.30	28.30	26.87	N/A	N/A	4.245	CPS
CFTC Background	26.92	26.92	28.29	N/A	N/A	4.038	CPS

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

Master: 20–Mar–2010 17:38							
Thermal Near Corr. (Tank)	5800	5716	N/A	N/A	N/A	N/A	CPS
Thermal Far Corr. (Tank)	2400	2390	N/A	N/A	N/A	N/A	CPS
CNTC/CFTC (Tank)	2.159	2.392	N/A	N/A	N/A	N/A	

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

Before: 23–Mar–2010 12:28							
Z–Axis Acceleration	32.19	N/A	31.78	N/A	N/A	N/A	F/S2

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

Master: 22–Mar–2010 21:20							
Rho Aluminum	2.596	2.602	--	--	--	--	G/C3
Rho Magnesium	1.686	1.688	--	--	--	--	G/C3
Pe Aluminum	2.570	2.565	--	--	--	--	
Pe Magnesium	2.650	2.609	--	--	--	--	

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

Master: 22–Mar–2010 21:20							
BS Average Deviation	0	0.3292	--	--	--	--	%
BS Max Deviation	0	0.6568	--	--	--	--	%
SS Average Deviation	0	0.4057	--	--	--	--	%
SS Max Deviation	0	1.954	--	--	--	--	%
LS Average Deviation	0	0.8119	--	--	--	--	%
LS Max Deviation	0	1.606	--	--	--	--	%

The GLS–VJ source activity is acceptable.

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

NCT–B Water Temperature 61.6 DEGF.
Thermal Housing Size 3.380 IN.
NSR–F serial number 5068

Array Induction Tool – M / Equipment Identification

Primary Equipment:

Rm/SP Bottom Nose
Array Induction Sonde

AMRM – A
AMIS – A

1372

Auxiliary Equipment:

Array Induction Tool – M Wellsite Calibration							
Electronics Calibration Check – Thru Cal Mag. & Phase							
Idx	Phase	Value	Thru Cal Magnitude V	Nominal	Value	Thru Cal Phase DEG	Nominal
0	Master	0.6194	<div></div>	0.6100	180.0	<div></div>	197.0
	Before	0.6193	<div></div>		179.9	<div></div>	
1	Master	1.269	<div></div>	1.270	178.9	<div></div>	196.0
	Before	1.269	<div></div>		178.8	<div></div>	
2	Master	0.6307	<div></div>	0.6200	175.3	<div></div>	192.0
	Before	0.6306	<div></div>		175.3	<div></div>	
3	Master	0.7118	<div></div>	0.7000	174.6	<div></div>	191.0
	Before	0.7117	<div></div>		174.5	<div></div>	
4	Master	1.332	<div></div>	1.340	168.4	<div></div>	185.0
	Before	1.332	<div></div>		168.4	<div></div>	
5	Master	1.950	<div></div>	1.960	166.7	<div></div>	182.0
	Before	1.950	<div></div>		166.7	<div></div>	
6	Master	1.946	<div></div>	1.960	166.8	<div></div>	181.0
	Before	1.946	<div></div>		166.7	<div></div>	
			<div></div>			<div></div>	

7	Master	1.418		1.410	165.9		175.0
	Before	1.417					
		60.00 % (Minimum)	(Nominal)	140.0 % (Maximum)	Nom -60.00 (Minimum)	(Nominal)	Nom + 60.00 (Maximum)

Master: 17-Mar-2010 8:50

Before: 22-Mar-2010 22:03

Array Induction Tool – M Wellsite Calibration							
Electronics Calibration Check – Auxiliary							
Phase	Array Induction SPA Plus MV		Value	Phase	Array Induction SPA Zero MV		Value
Master			983.6	Master			-0.2001
Before			983.5	Before			-0.1835
	941.0 (Minimum)	991.0 (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			0.9114	Master			-0.0002014
Before			0.9115	Before			-0.0001035
	0.8710 (Minimum)	0.9170 (Nominal)	0.9630 (Maximum)		-0.05000 (Minimum)	0 (Nominal)	0.05000 (Maximum)
Master: 17–Mar–2010 8:50				Before: 22–Mar–2010 22:03			

Master: 17-Mar-2010 8:50

Before: 22-Mar-2010 22:03

Array Induction Tool – M Wellsite Calibration							
Test Loop Gain Correction							
Idx	Value	Test Loop Gain Correction Magnitude V			Value	Test Loop Gain Correction Phase DEG	
0	1.015				0.3332		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
1	1.012				0.6161		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
2	1.016				0.1287		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
3	1.012				0.1700		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
4	0.9937				0.1124		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
5	0.9890				-0.06042		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
6	0.9937				0.2973		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
7	1.006				-0.06541		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)

Master: 17-Mar-2010 8:50

Master: 17-Mar-2010 8:50

Array Induction Tool – M Wellsite Calibration							
Sonde Error Correction							
Idx	Value	R Sonde Error Correction MM/M			Value	X Sonde Error Correction MM/M	
0	-65.75				-316.9		
		-231.0 (Minimum)	-56.00 (Nominal)	119.0 (Maximum)	-2250 (Minimum)	0 (Nominal)	2250 (Maximum)
1	176.6				108.6		
		114.0 (Minimum)	159.0 (Nominal)	204.0 (Maximum)	-625.0 (Minimum)	0 (Nominal)	625.0 (Maximum)
2	119.4				44.39		
		66.00 (Minimum)	111.0 (Nominal)	156.0 (Maximum)	-350.0 (Minimum)	0 (Nominal)	350.0 (Maximum)
3	66.51				-31.03		
		39.00 (Minimum)	64.00 (Nominal)	89.30 (Maximum)	-250.0 (Minimum)	0 (Nominal)	250.0 (Maximum)
4	65.74				20.00		

4	27.71	15.00 (Minimum)	25.00 (Nominal)	35.00 (Maximum)	20.82	-63.00 (Minimum)	0 (Nominal)	63.00 (Maximum)
5	12.62				-16.06			
		4.000 (Minimum)	14.00 (Nominal)	24.00 (Maximum)		-50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)
6	9.430				-4.953			
		5.000 (Minimum)	10.00 (Nominal)	15.00 (Maximum)		-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)
7	-1.425				-11.76			
		-5.000 (Minimum)	0 (Nominal)	5.000 (Maximum)		-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)
Master: 17-Mar-2010 8:50								

Array Induction Tool – M Wellsite Calibration								
Mud Gain Correction								
Idx	Value	Coarse – Mag, Real, Imag			Value	Fine – Mag, Real, Imag		
0	0.8486				0.8511			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
1	0.8487				0.8512			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
2	0.8487				0.8512			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
Master: 17-Mar-2010 8:50								

Array Induction Tool – M Master Calibration							
Electronics Calibration Check – Thru Cal Mag. & Phase							
Idx	Phase	Value	Thru Cal Magnitude V	Nominal	Value	Thru Cal Phase DEG	Nominal
0	Master	0.6194		0.6100	180.0		197.0
1	Master	1.269		1.270	178.9		196.0
2	Master	0.6307		0.6200	175.3		192.0
3	Master	0.7118		0.7000	174.6		191.0
4	Master	1.332		1.340	168.4		185.0
5	Master	1.950		1.960	166.7		182.0
6	Master	1.946		1.960	166.8		181.0
7	Master	1.418		1.410	165.9		175.0
		60.00 % (Minimum)	(Nominal)	140.0 % (Maximum)	Nom -60.00 (Minimum)	(Nominal)	Nom + 60.00 (Maximum)
Master: 17-Mar-2010 8:50							

Array Induction Tool – M Master Calibration									
Electronics Calibration Check – Auxiliary									
Phase	Array Induction SPA Plus MV			Value	Phase	Array Induction SPA Zero MV			Value
Master	<div><div></div></div>			983.6	Master	<div><div></div></div>			−0.2001
	941.0 (Minimum)	991.0 (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	<div><div></div></div>			0.9114	Master	<div><div></div></div>			−0.0002014
	0.8710 (Minimum)	0.9170 (Nominal)	0.9630 (Maximum)			−0.05000 (Minimum)	0 (Nominal)	0.05000 (Maximum)	
Master: 17–Mar–2010 8:50									







Array Induction Tool – M Master Calibration									
Test Loop Gain Correction									
Idx	Value	Test Loop Gain Correction Magnitude V			Value	Test Loop Gain Correction Phase DEG			
0	1.015	<div><div></div></div>			0.3332	<div><div></div></div>			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)	
1	1.012	<div><div></div></div>			0.6161	<div><div></div></div>			

	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
2	1.016				0.1287		
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
3	1.012				0.1700		
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
4	0.9937				0.1124		
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
5	0.9890				-0.06042		
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
6	0.9937				0.2973		
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
7	1.006				-0.06541		
	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)

Master: 17-Mar-2010 8:50

Array Induction Tool – M Master Calibration							
Sonde Error Correction							
Idx	Value	R Sonde Error Correction MM/M			Value	X Sonde Error Correction MM/M	
0	-65.75				-316.9		
		-231.0 (Minimum)	-56.00 (Nominal)	119.0 (Maximum)		-2250 (Minimum)	0 (Nominal) 2250 (Maximum)
1	176.6				108.6		
		114.0 (Minimum)	159.0 (Nominal)	204.0 (Maximum)		-625.0 (Minimum)	0 (Nominal) 625.0 (Maximum)
2	119.4				44.39		
		66.00 (Minimum)	111.0 (Nominal)	156.0 (Maximum)		-350.0 (Minimum)	0 (Nominal) 350.0 (Maximum)
3	66.51				-31.03		
		39.00 (Minimum)	64.00 (Nominal)	89.30 (Maximum)		-250.0 (Minimum)	0 (Nominal) 250.0 (Maximum)
4	27.71				20.82		
		15.00 (Minimum)	25.00 (Nominal)	35.00 (Maximum)		-63.00 (Minimum)	0 (Nominal) 63.00 (Maximum)
5	12.62				-16.06		
		4.000 (Minimum)	14.00 (Nominal)	24.00 (Maximum)		-50.00 (Minimum)	0 (Nominal) 50.00 (Maximum)
6	9.430				-4.953		
		5.000 (Minimum)	10.00 (Nominal)	15.00 (Maximum)		-30.00 (Minimum)	0 (Nominal) 30.00 (Maximum)
7	-1.425				-11.76		
		-5.000 (Minimum)	0 (Nominal)	5.000 (Maximum)		-30.00 (Minimum)	0 (Nominal) 30.00 (Maximum)
Master: 17-Mar-2010 8:50							

Master: 17-Mar-2010 8:50

Array Induction Tool – M Master Calibration							
Mud Gain Correction							
Idx	Value	Coarse – Mag, Real, Imag			Value	Fine – Mag, Real, Imag	
0	0.8486				0.8511		
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal) 1.200 (Maximum)
1	0.8487				0.8512		
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal) 1.200 (Maximum)
2	0.8487				0.8512		
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal) 1.200 (Maximum)
Master: 17–Mar–2010 8:50							

Master: 17-Mar-2010 8:50

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 – B
HRGD – B
MCFL –
GLS – VJ 5416
HRCC – B
HGNS – B
HGR –
HCNT –







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			0.7378	Before			0.4735	Before			0.2981
	0.7022 (Minimum)	0.7392 (Nominal)	0.7762 (Maximum)		0.4496 (Minimum)	0.4732 (Nominal)	0.4969 (Maximum)		0.2827 (Minimum)	0.2975 (Nominal)	0.3124 (Maximum)
Phase	BS Window Sum CPS		Value	Phase	SS Window Sum CPS		Value	Phase	LS Window Sum CPS		Value
Before			10700	Before			10190	Before			1163
	10160 (Minimum)	10690 (Nominal)	11230 (Maximum)		9680 (Minimum)	10190 (Nominal)	10700 (Maximum)		1108 (Minimum)	1166 (Nominal)	1224 (Maximum)

Before: 22–Mar–2010 22:07

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				1533	Before				1786	Before				1904
	1409 (Minimum)	1509 (Nominal)	1609 (Maximum)		1677 (Minimum)	1777 (Nominal)	1877 (Maximum)			1796 (Minimum)	1896 (Nominal)	1996 (Maximum)		

Before: 22–Mar–2010 22:07

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			11.26	Before			11.11	Before			9.632
	10.23 (Minimum)	11.23 (Nominal)	12.23 (Maximum)		10.03 (Minimum)	11.03 (Nominal)	12.03 (Maximum)		8.873 (Minimum)	9.873 (Nominal)	10.87 (Maximum)

Before: 22–Mar–2010 22:07

High resolution Integrated Logging Tool–DTS Wellsite Calibration

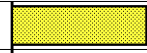
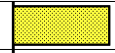
MCFL Calibration

Phase	Raw B0 Resistivity OHMM			Value	Phase	Raw B1 Resistivity OHMM			Value	Phase	Raw B2 Resistivity OHMM			Value
Before				3858	Before				3808	Before				3821
	3565 (Minimum)	3875 (Nominal)	4185 (Maximum)		3524 (Minimum)	3830 (Nominal)	4136 (Maximum)			3524 (Minimum)	3830 (Nominal)	4136 (Maximum)		

Before: 22–Mar–2010 22:08

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				9.711	Before				13.84
	6.000 (Minimum)	8.000 (Nominal)	10.00 (Maximum)			9.000 (Minimum)	12.00 (Nominal)	15.00 (Maximum)	

Before: 22–Mar–2010 22:03

High resolution Integrated Logging Tool–DTS Wellsite Calibration

Detector Calibration

Detector Calibration								
Phase	Gamma Ray Background GAPI	Value	Phase	Gamma Ray (Jig – Bkg) GAPI	Value	Phase	Gamma Ray (Calibrated) GAPI	Value
Before		77.67	Before		177.2	Before		165.0
0 (Minimum)	30.00 (Nominal)	120.0 (Maximum)	161.1 (Minimum)	177.2 (Nominal)	193.3 (Maximum)	150.0 (Minimum)	165.0 (Nominal)	180.0 (Maximum)

Before: 22–Mar–2010 21:58

High resolution Integrated Logging Tool-DTS Wellsite Calibration					
Zero Measurement					
Phase	CNTC Background CPS	Value	Phase	CFTC Background CPS	Value
Master		28.30	Master		26.92
Before		26.87	Before		28.29
5.000 (Minimum) 28.30 (Nominal) 40.00 (Maximum)			5.000 (Minimum) 26.92 (Nominal) 40.00 (Maximum)		
Master: 20-Mar-2010 17:38			Before: 22-Mar-2010 22:05		

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			5716	Master			2390	Master			2.392
4700 (Minimum) 5800 (Nominal) 6900 (Maximum)				1900 (Minimum) 2400 (Nominal) 2900 (Maximum)				2.120 (Minimum) 2.159 (Nominal) 2.540 (Maximum)			
Master: 20–Mar–2010 17:38											

High resolution Integrated Logging Tool-DTS Wellsite Calibration		
Accelerometer Calibration		
Phase	Z-Axis Acceleration F/S2	Value
Before		31.78
31.53 (Minimum) 32.19 (Nominal) 32.84 (Maximum)		
Before: 23-Mar-2010 12:28		

High resolution Integrated Logging Tool-DTS Master Calibration							
Inversion results							
Phase	Rho Aluminum G/C3		Value	Phase	Rho Magnesium G/C3		Value
Master			2.602	Master			1.688
2.586 (Minimum)				1.676 (Minimum)			
2.596 (Nominal)				1.686 (Nominal)			
2.606 (Maximum)				1.696 (Maximum)			
Phase	Pe Aluminum		Value	Phase	Pe Magnesium		Value
Master			2.565	Master			2.609
2.470 (Minimum)				2.550 (Minimum)			
2.570 (Nominal)				2.650 (Nominal)			
2.670 (Maximum)				2.750 (Maximum)			
Master: 22-Mar-2010 21:20							

High resolution Integrated Logging Tool-DTS Master Calibration											
Deviation Summary											
Phase	BS Average Deviation %		Value	Phase	SS Average Deviation %		Value	Phase	LS Average Deviation %		Value
Master	<div><div></div></div>		0.3292	Master	<div><div></div></div>		0.4057	Master	<div><div></div></div>		0.8119
-0.6000 (Minimum) 0 (Nominal) 0.6000 (Maximum)				-1.000 (Minimum) 0 (Nominal) 1.000 (Maximum)				-1.500 (Minimum) 0 (Nominal) 1.500 (Maximum)			
Phase	BS Max Deviation %		Value	Phase	SS Max Deviation %		Value	Phase	LS Max Deviation %		Value
Master	<div><div></div></div>		0.6568	Master	<div><div></div></div>		1.954	Master	<div><div></div></div>		1.606
-1.600 (Minimum) 0 (Nominal) 1.600 (Maximum)				-2.500 (Minimum) 0 (Nominal) 2.500 (Maximum)				-3.500 (Minimum) 0 (Nominal) 3.500 (Maximum)			
Master: 22-Mar-2010 21:20											

High resolution Integrated Logging Tool-DTS Master Calibration									
Zero Measurement									
Phase	CNTC Background CPS			Value	Phase	CFTC Background CPS			Value
Master				28.30	Master				26.92
5.000 (Minimum) 28.30 (Nominal) 40.00 (Maximum)					5.000 (Minimum) 26.92 (Nominal) 40.00 (Maximum)				
Master: 20-Mar-2010 17:38									

High resolution Integrated Logging Tool-DTS Master Calibration									
Tank Measurement									
Phase	Thermal Near Corr. (Tank) CPS	Value	Phase	Thermal Far Corr. (Tank) CPS	Value	Phase	CNTC/CFTC (Tank)	Value	
Master		5716	Master		2390	Master		2.392	
4700 (Minimum) 5800 (Nominal) 6900 (Maximum)			1900 (Minimum) 2400 (Nominal) 2900 (Maximum)			2.120 (Minimum) 2.159 (Nominal) 2.540 (Maximum)			

DTS Telemetry Tool / Equipment Identification

Primary Equipment:

DTC-H Auxiliary Cartridge
DTC-H Telemetry Cartridge

DTCH - A
DTCH - A

Auxiliary Equipment:

DTCH Telemetry Cartridge Housing

ECH - KC

Company: **Vecta Oil & Gas, LTD.**

Schlumberger

Well: **Red Cloud 44-5**

Field: **Eureka Creek**

County: **Cheyenne**

State: **Colorado**

Platform Express

Micro Log