

**Schlumberger**

Company: Vecta Oil & Gas Ltd

Well: Cottonwood Grazing 3-22

Field: Wildcat

County: Lincoln State: Colorado

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[illegible][illegible]

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

Rig: Black Gold 69	
Crew: Ian Derry, Gary Lapp	

RUN 1 SERVICE ORDER #: BHDJ-00092 PROGRAM VERSION: 18C0-147 FLUID LEVEL: 25 ft			RUN 2 SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

[illegible]

## SURFACE EQUIPMENT

## DOWNHOLE EQUIPMENT

HGNS HTEM  
HMCA  
TelStatus  
CTEM

HGNS Gamm

HILTB-CTS

HGNSC-B

HMCA

TCC-B

HGNH  
NLS-K

NLS-KL  
NSD FA

NSR=F 3168  
HACC7 749

HCNT

HGR

HRCC-B  
HRMC-BHRMS-B  
HPLC-B

ARGD-B  
GLS-V.15363

MCFL Device

HILT Nucl. LS 42767

HILT Nucl. SS 42767

HILTI Nucl. BS 42767  
AIT H

ATI-H  
AHIS-I

AHRM-A

BOW-SP

NPV-N

HRCC cart

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

37.6

36.9

31.1

30.6

HGNS sens

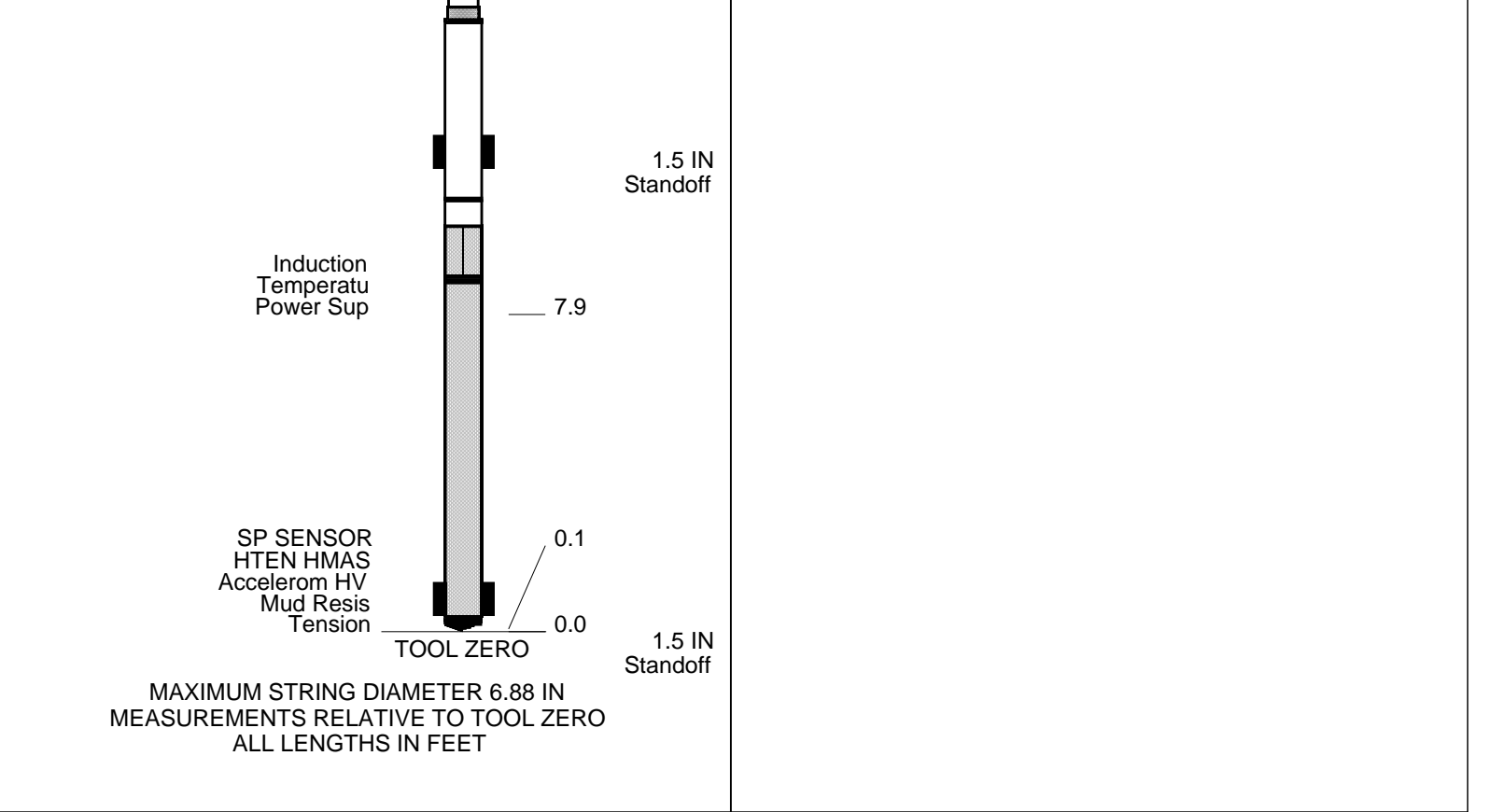
28.2

\_\_\_\_\_ 24.2

18.8

18.3

17.9



Production String	(in)		(ft)	Well Schematic	(ft)	(in)		Casing String
	OD	ID	MD		MD	OD	ID	
					0.0	9.625		Casing String
					420.0	9.625		Casing Shoe
					420.0	7.875		Borehole Segment

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All Depths are Driller's  
Depths



MAIN MICROLOG 5" = 100'

MAXIS Field Log

Output DLIS Files

DEFAULT      AIT\_TLD\_MCFL\_CNL\_007LUP      FN:6      PRODUCER      03-Apr-2011 03:18

OP System Version: 18C0-147

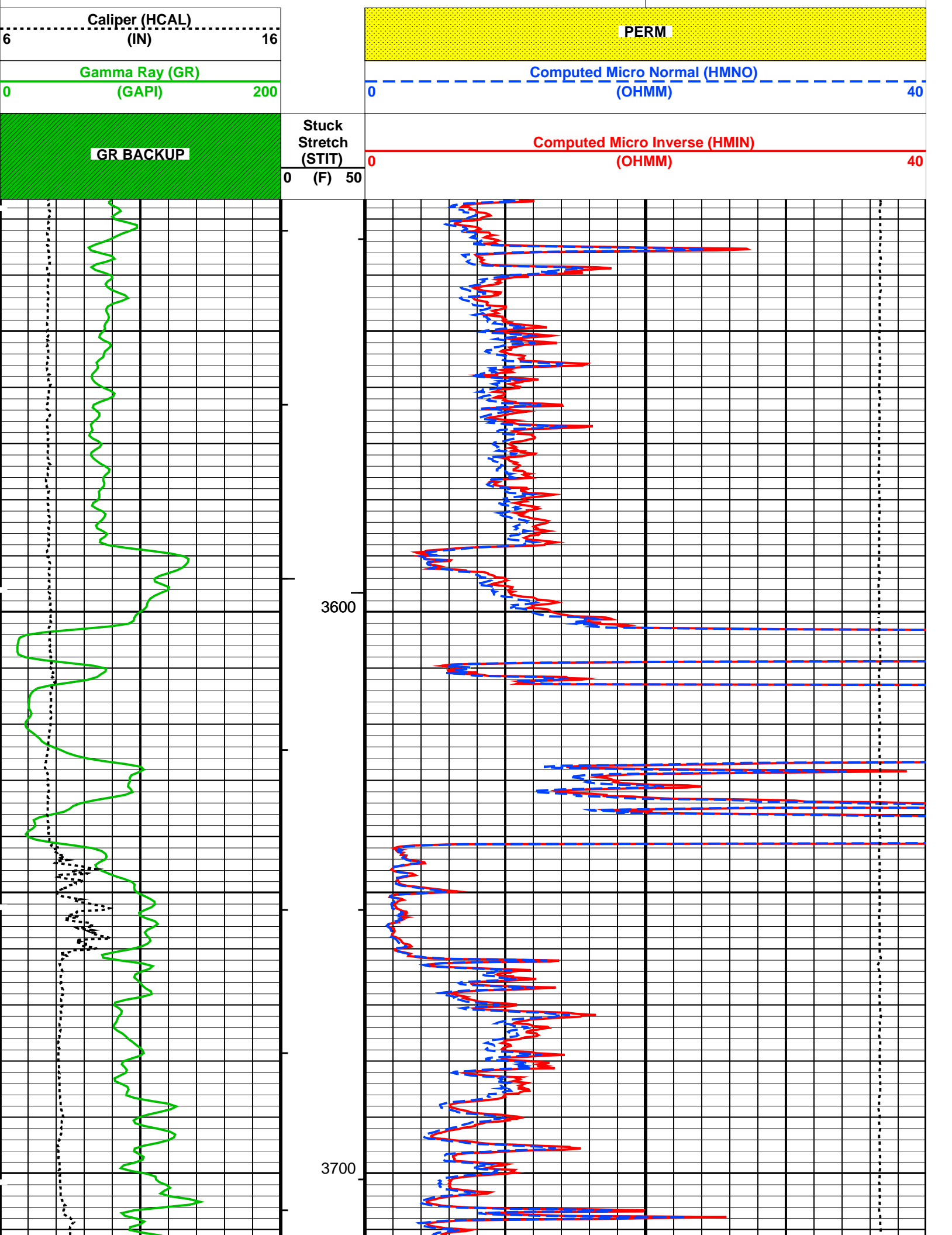
HILTB-CTS      18C0-147

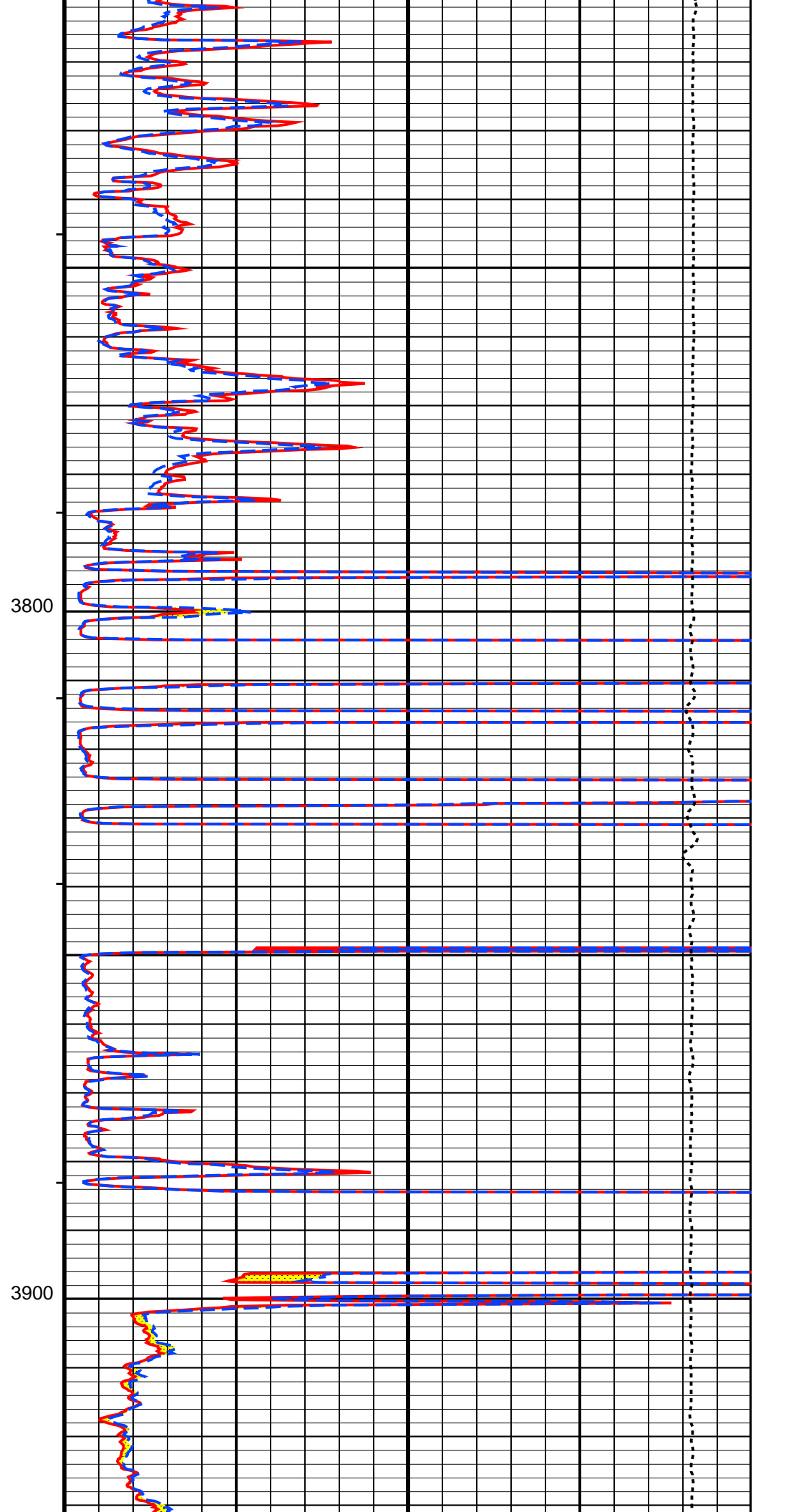
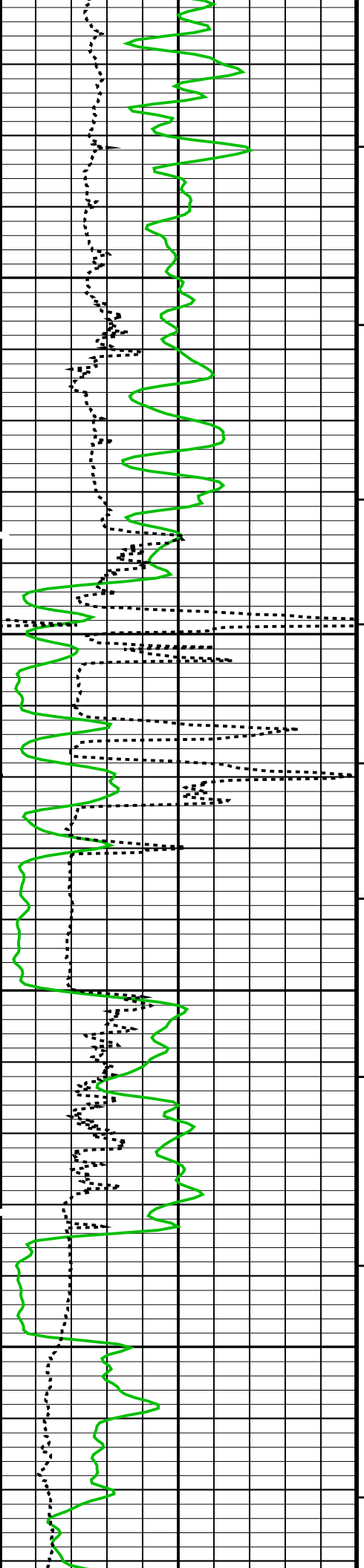
PIP SUMMARY

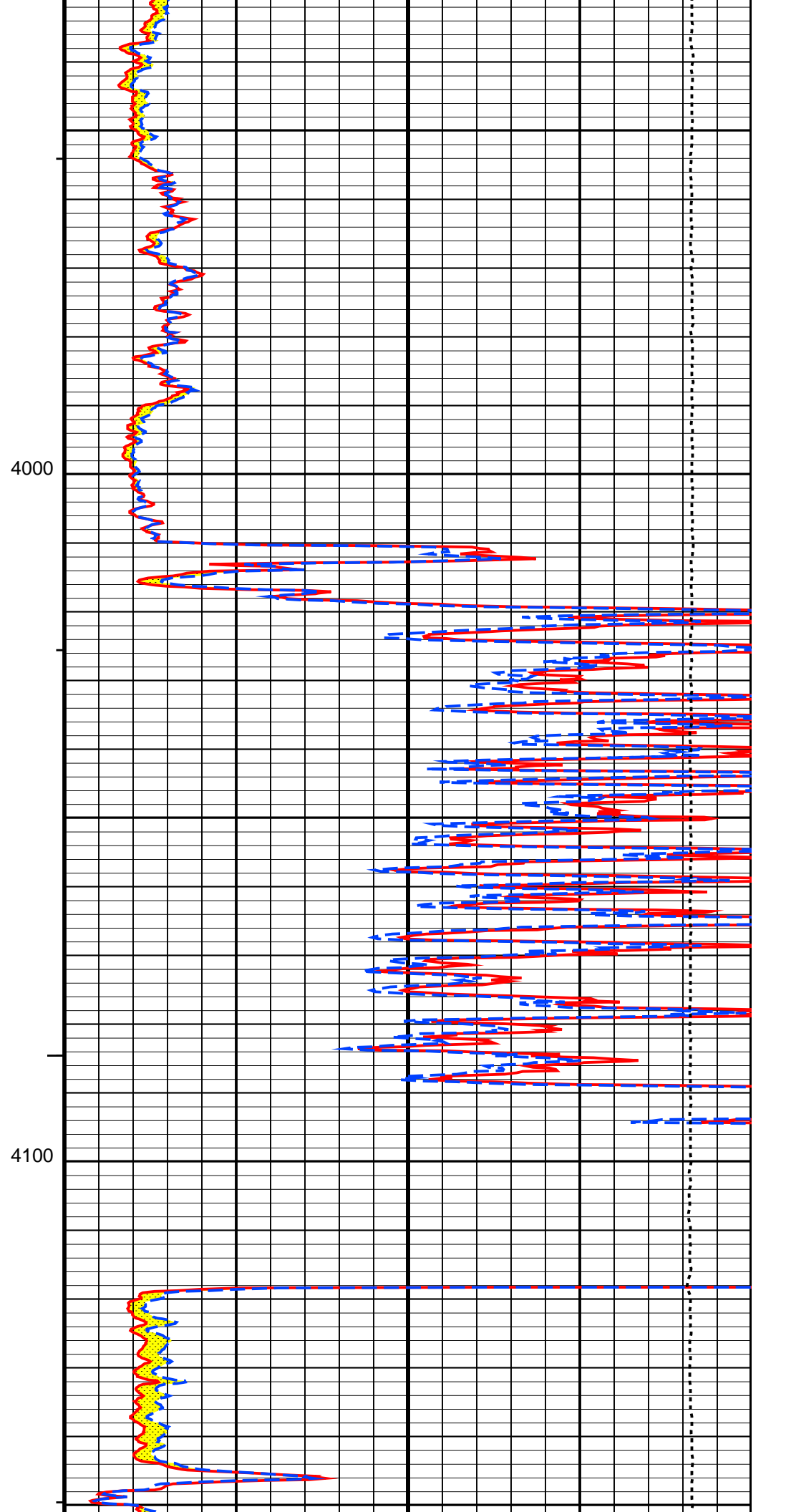
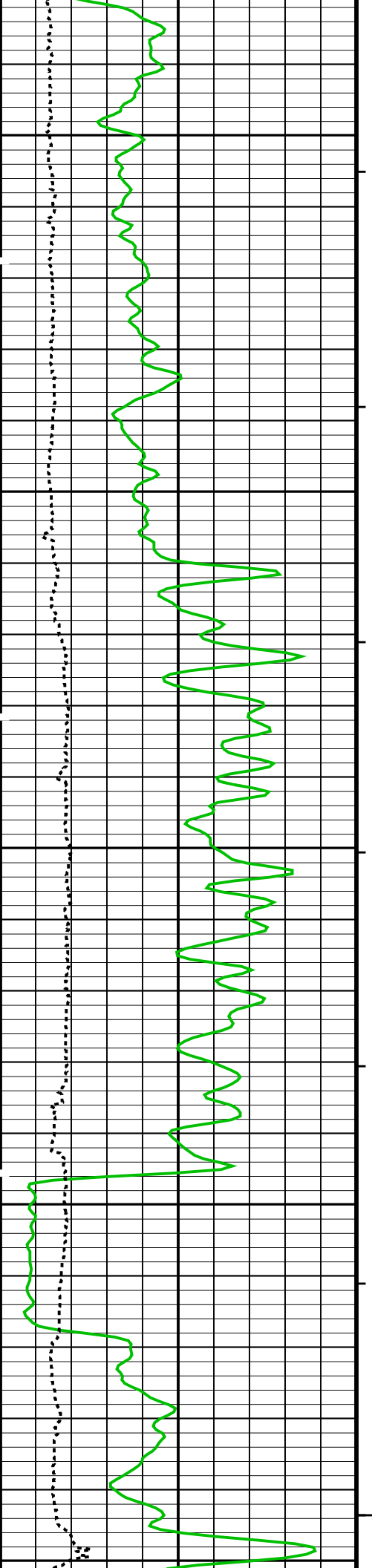
- └ Integrated Hole Volume Minor Pip Every 10 F3
- └ Integrated Hole Volume Major Pip Every 100 F3
  - └ Integrated Cement Volume Minor Pip Every 10 F3
  - └ Integrated Cement Volume Major Pip Every 100 F3

Time Mark Every 60 S

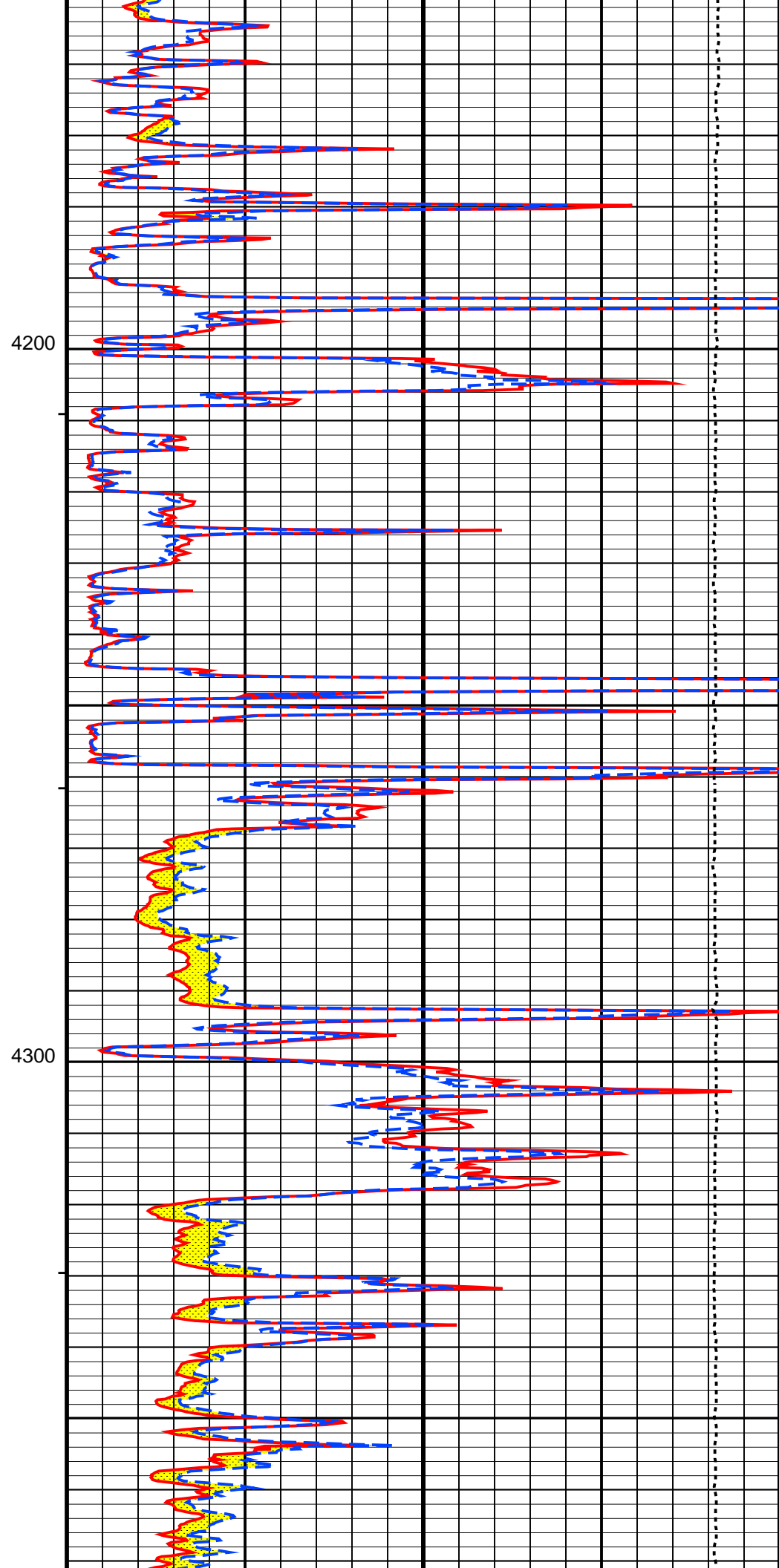
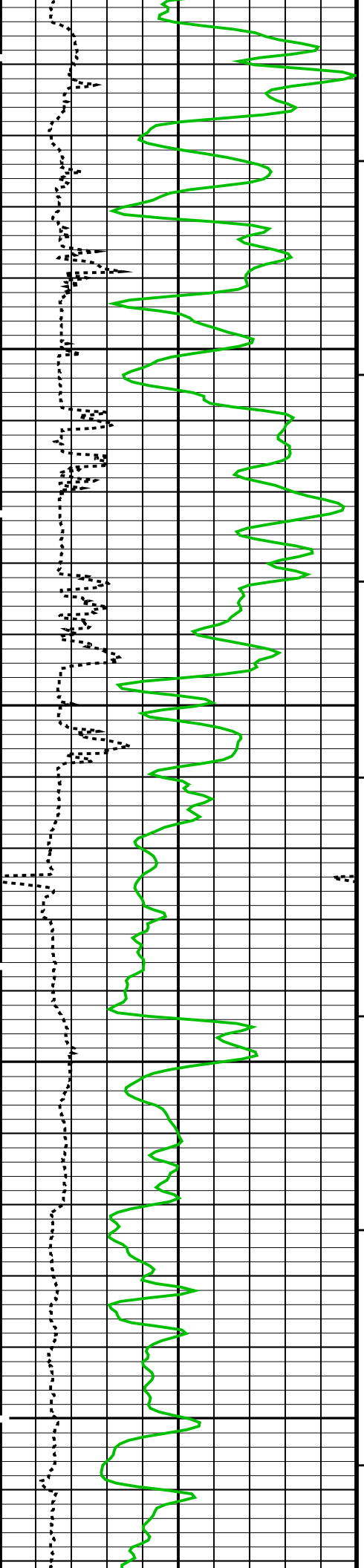
	Tension (TENS)	
10000	(LBF)	0

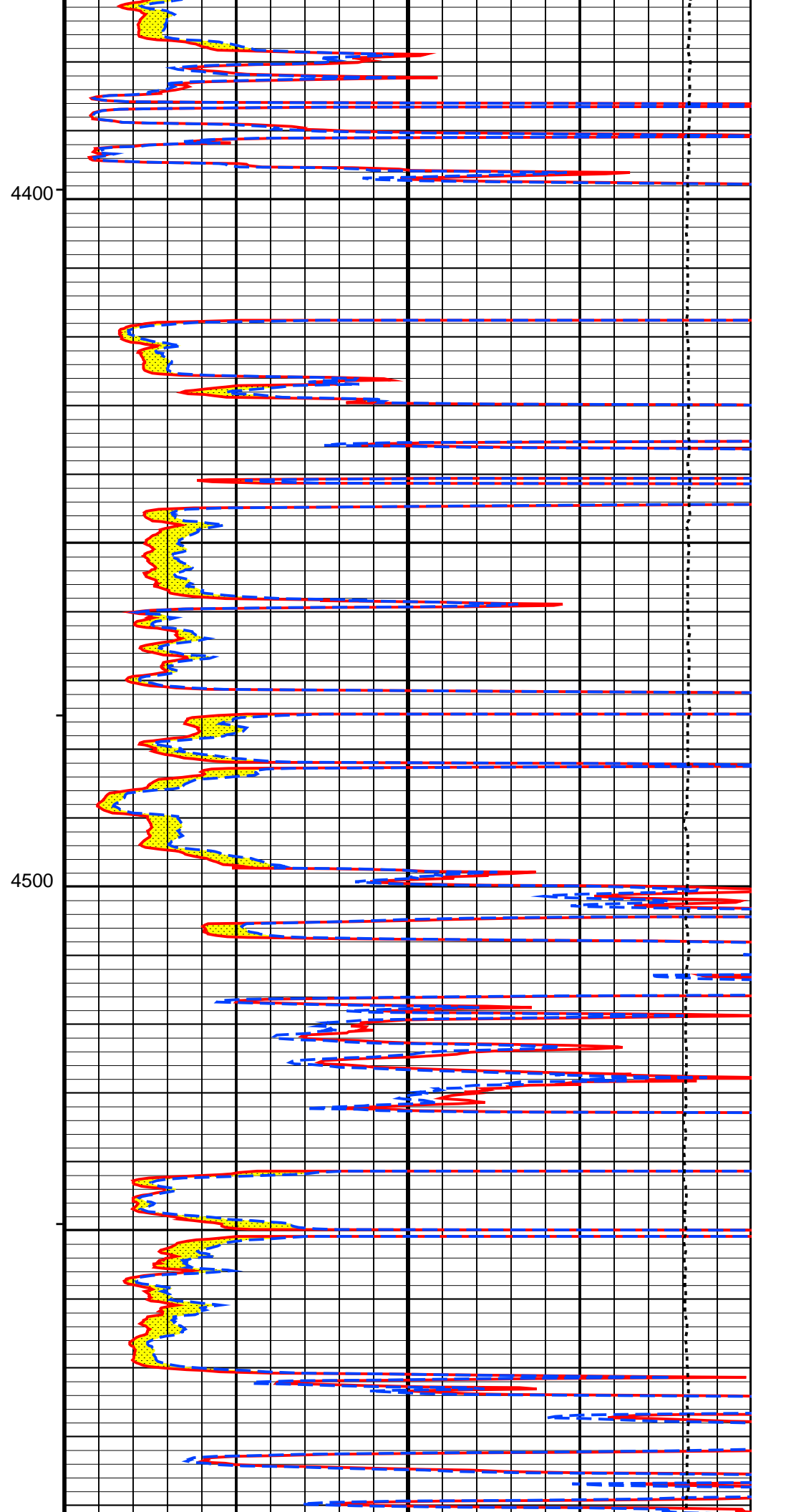
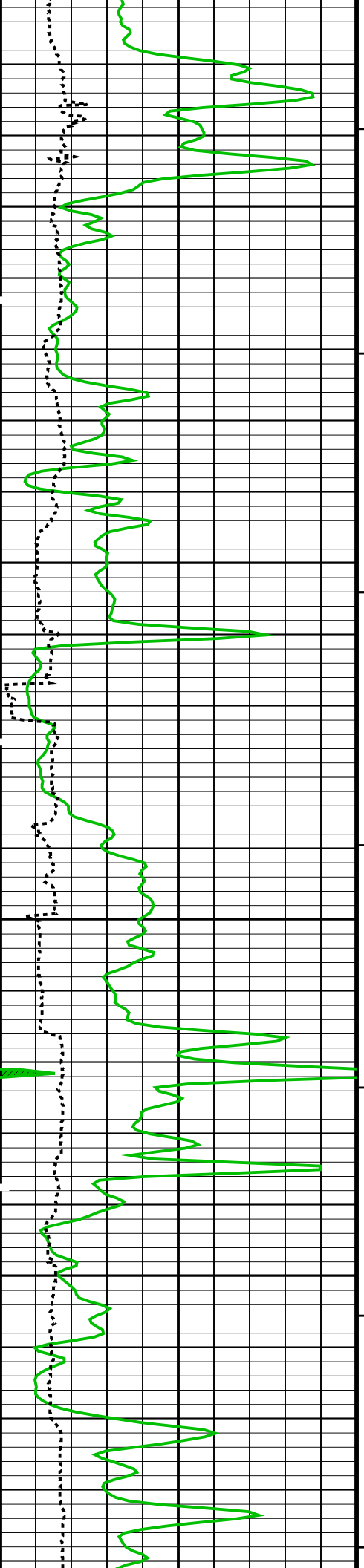


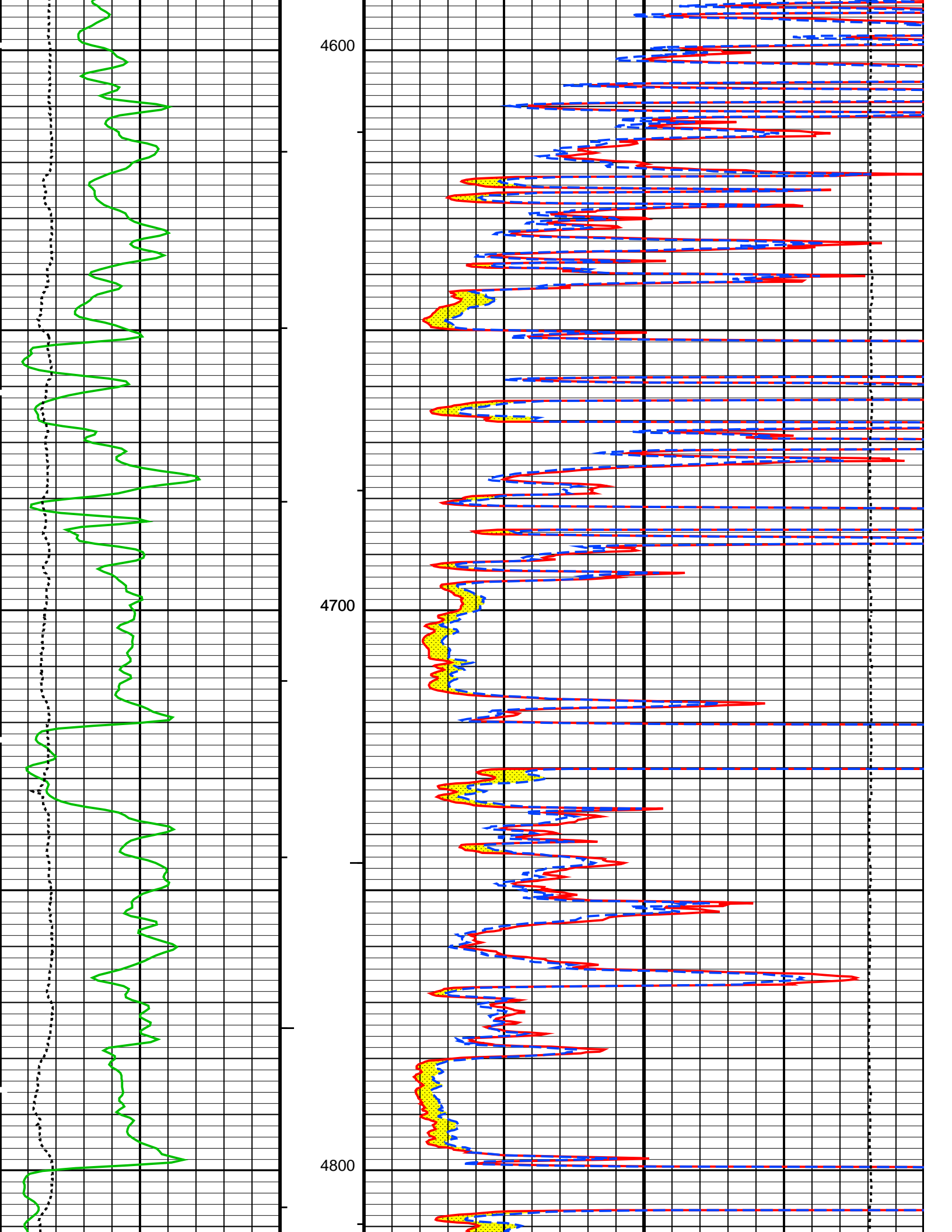


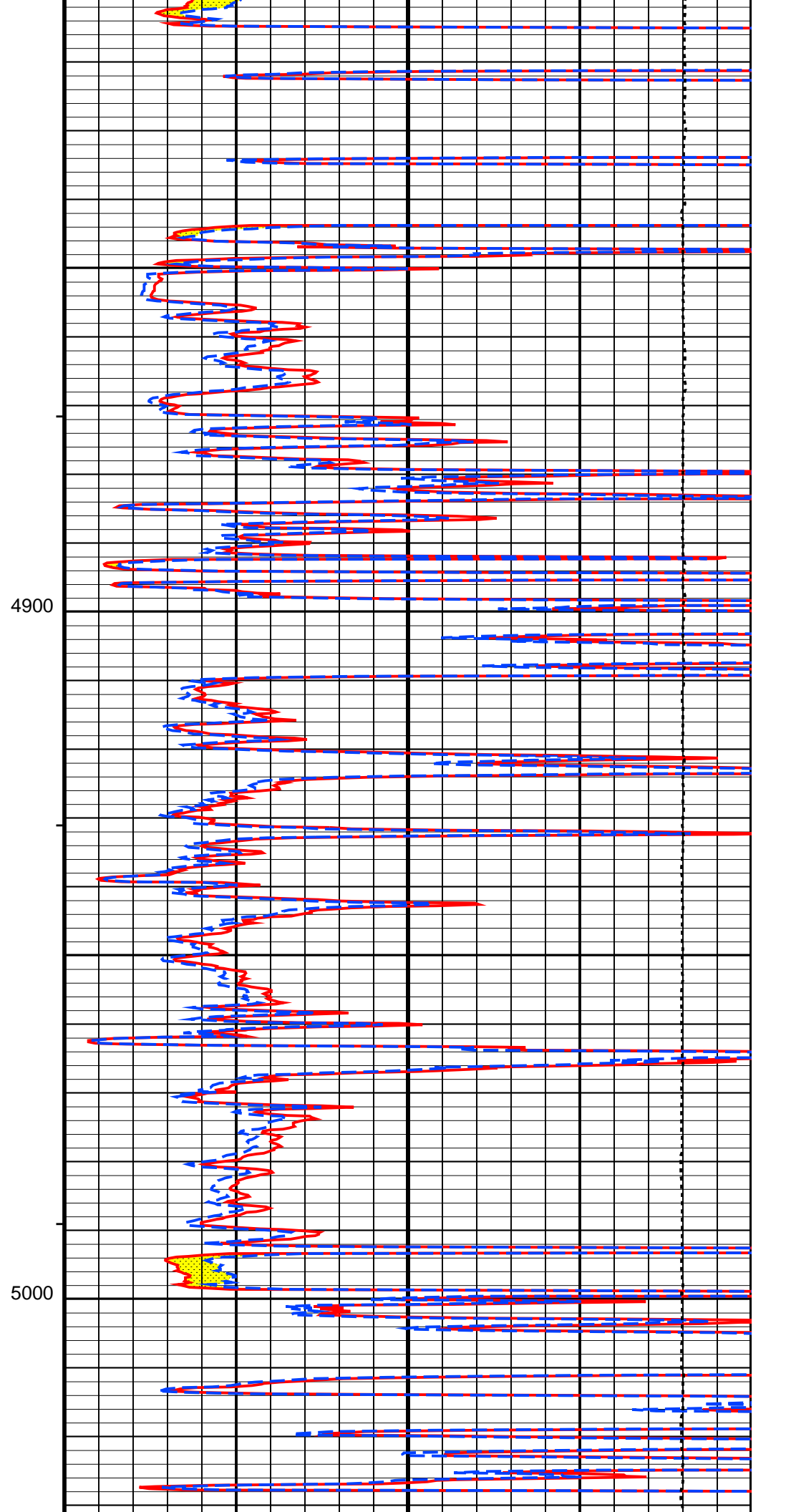
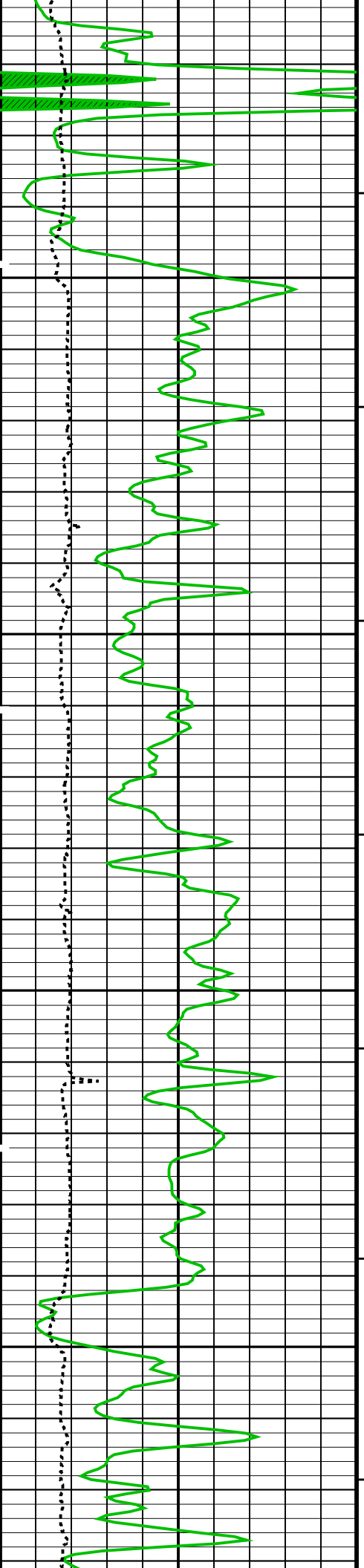


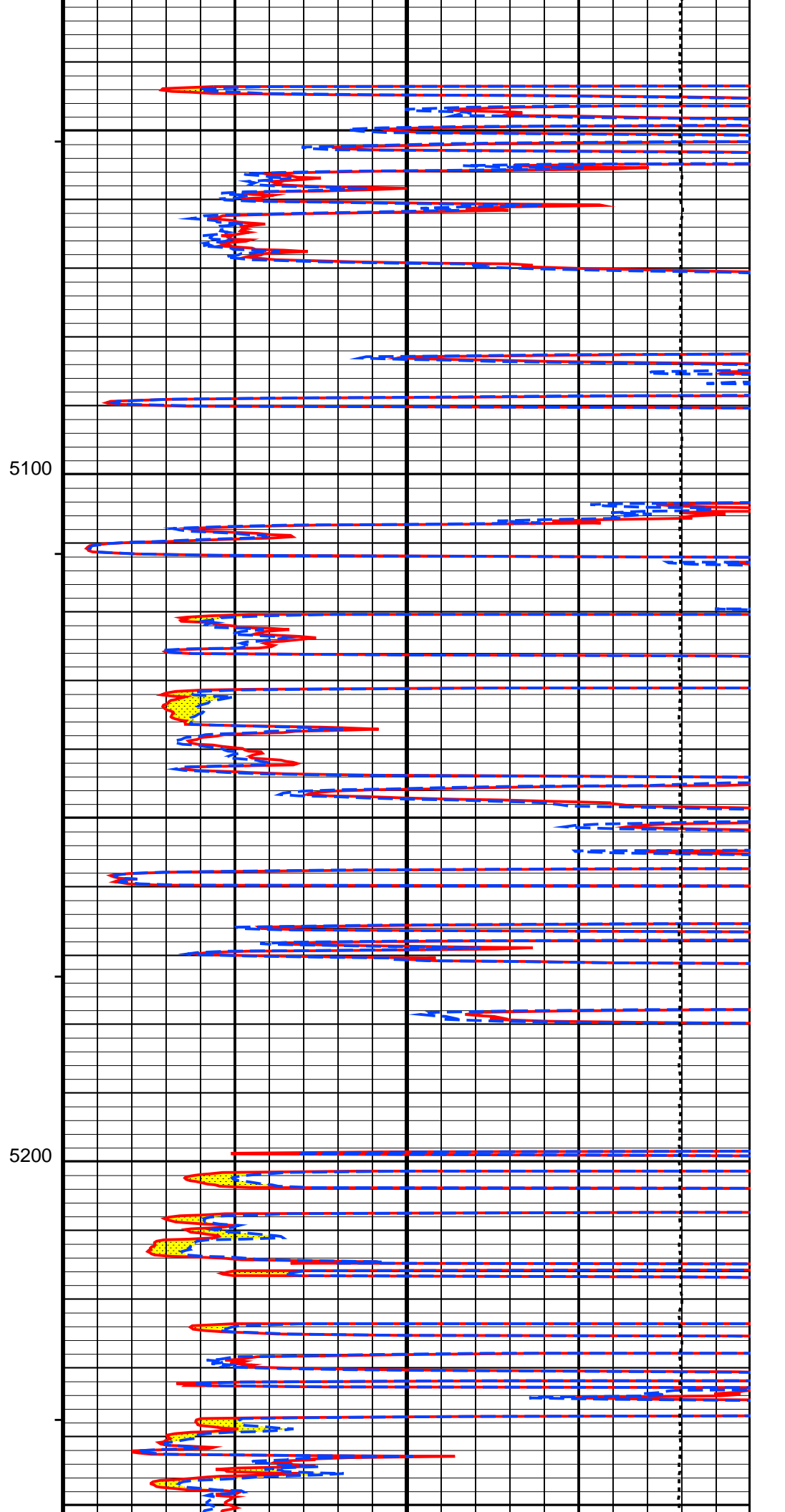
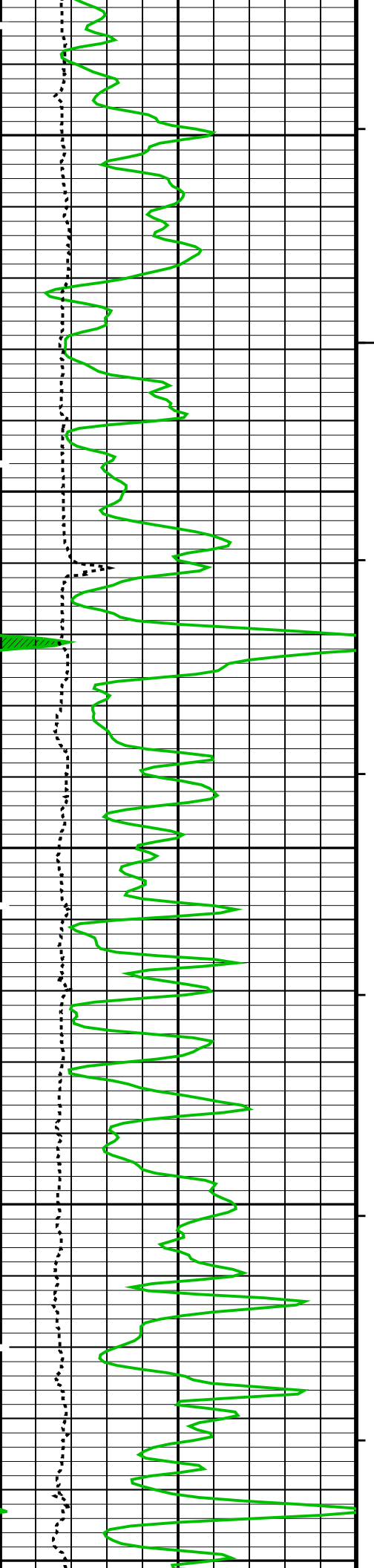


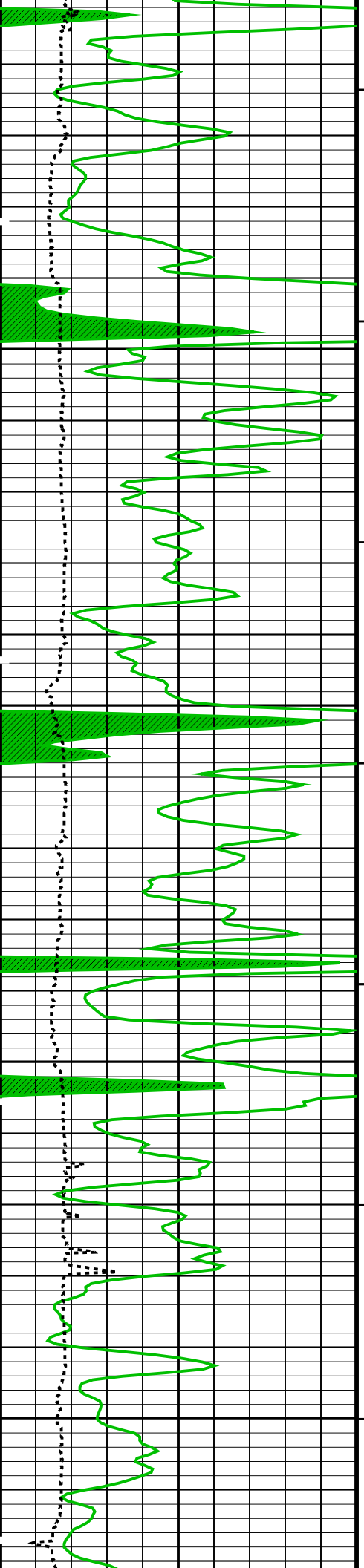






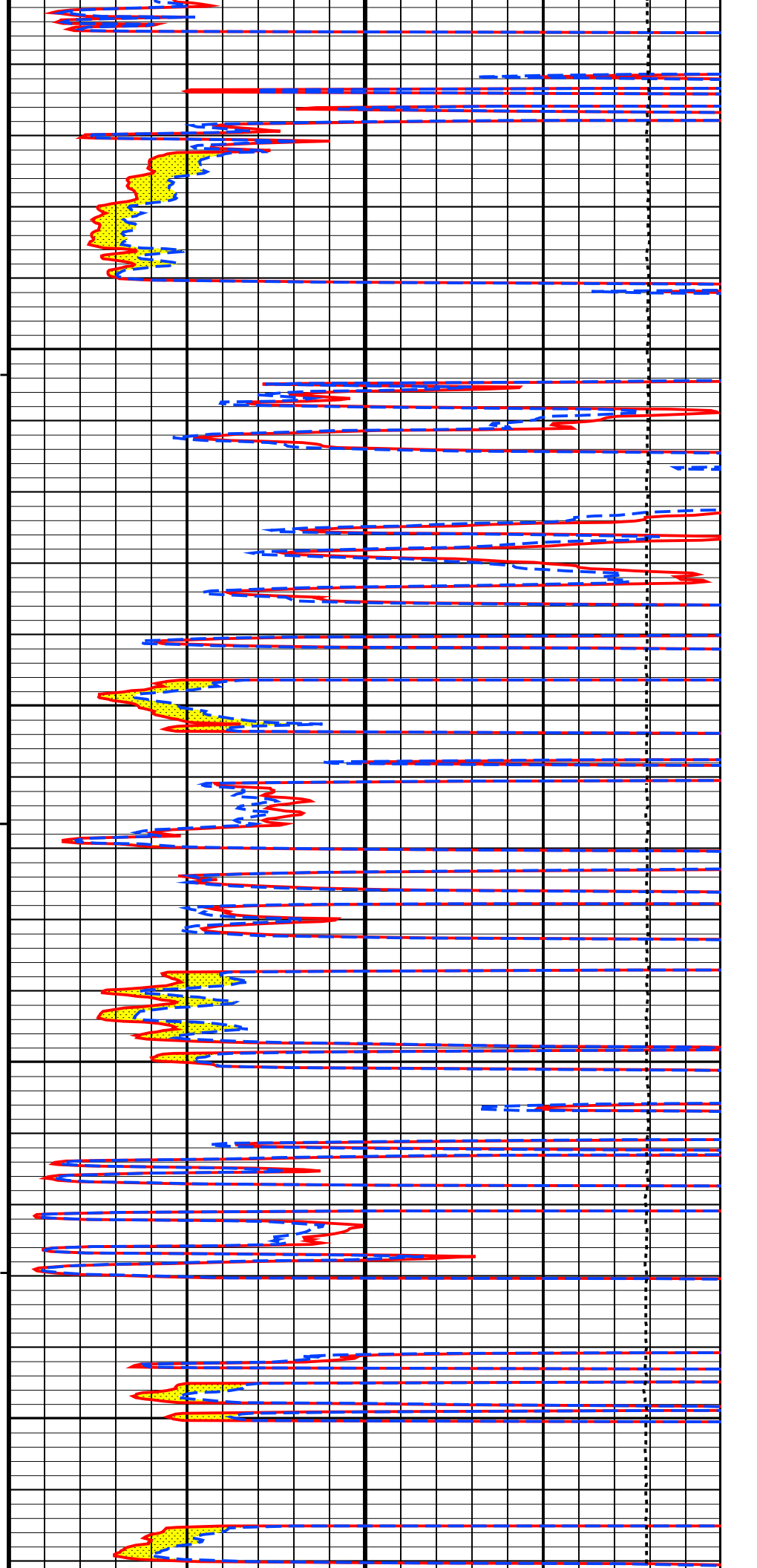


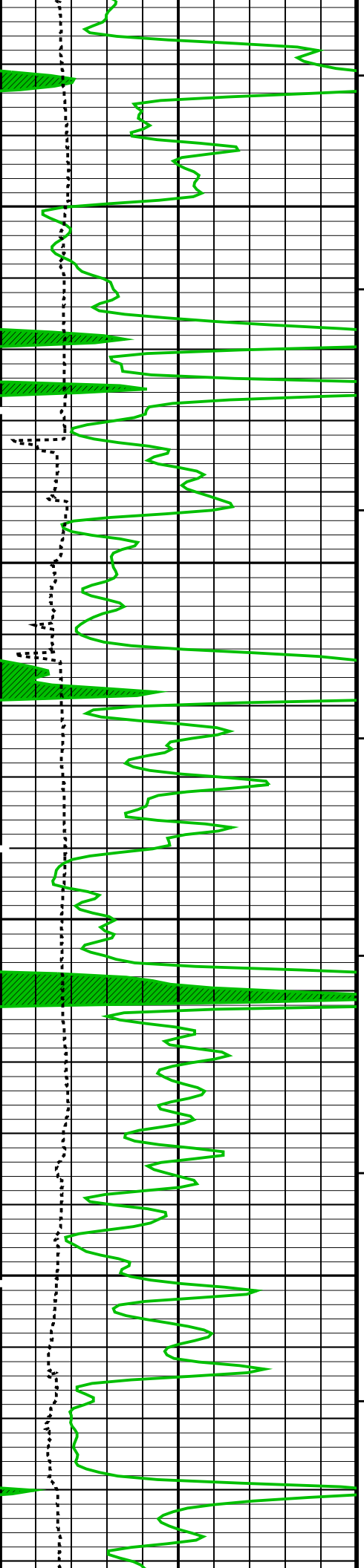




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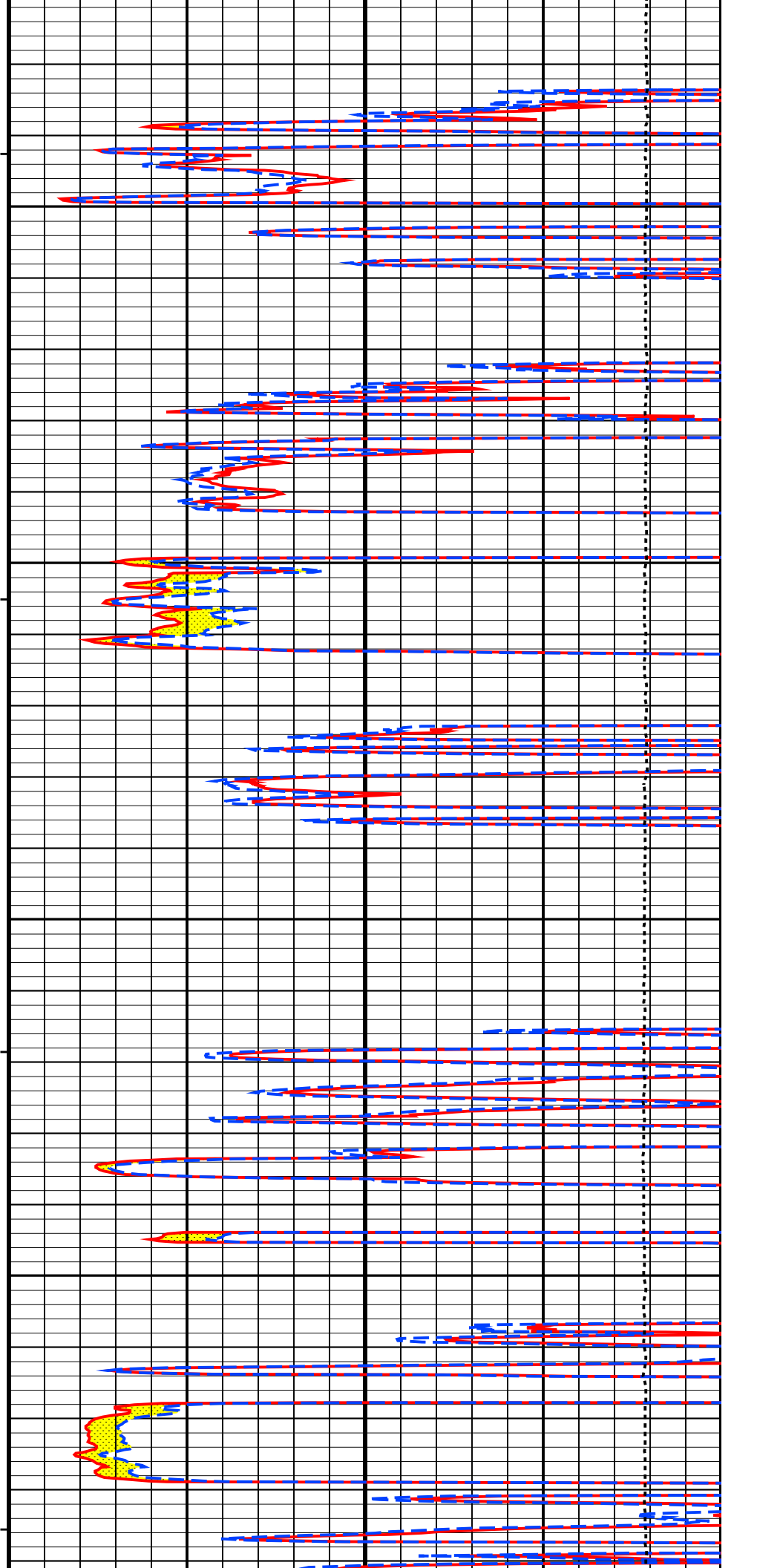
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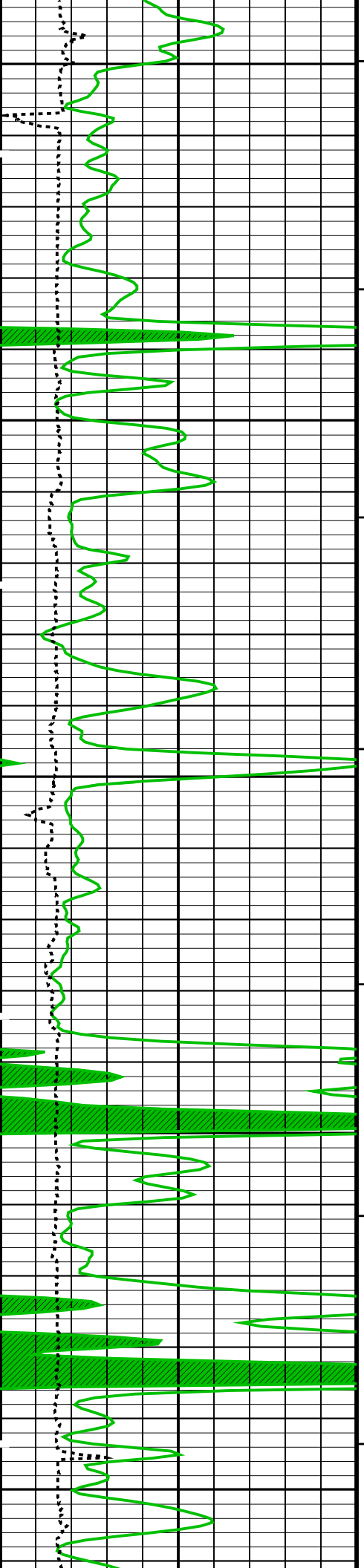




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5600

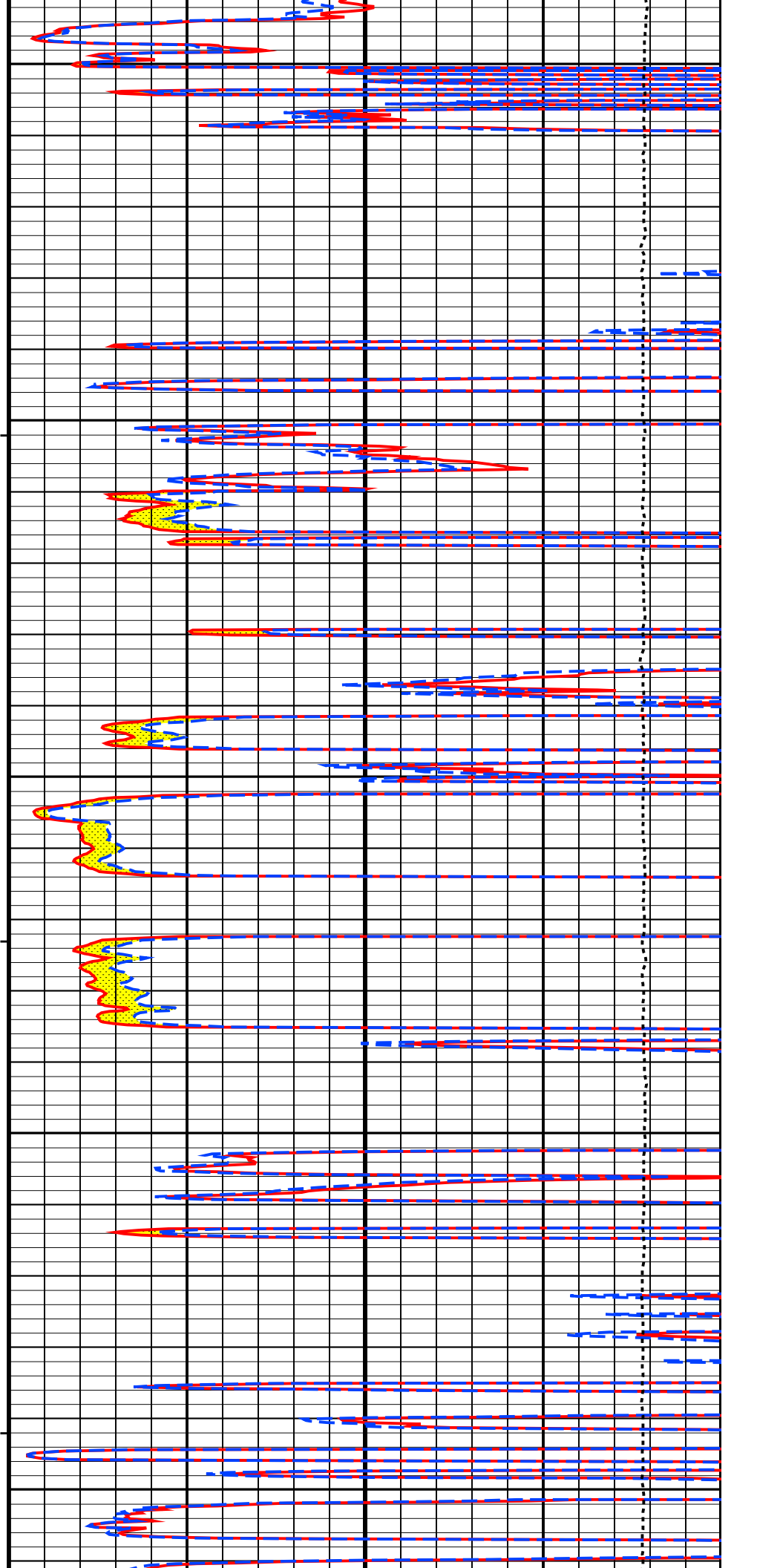




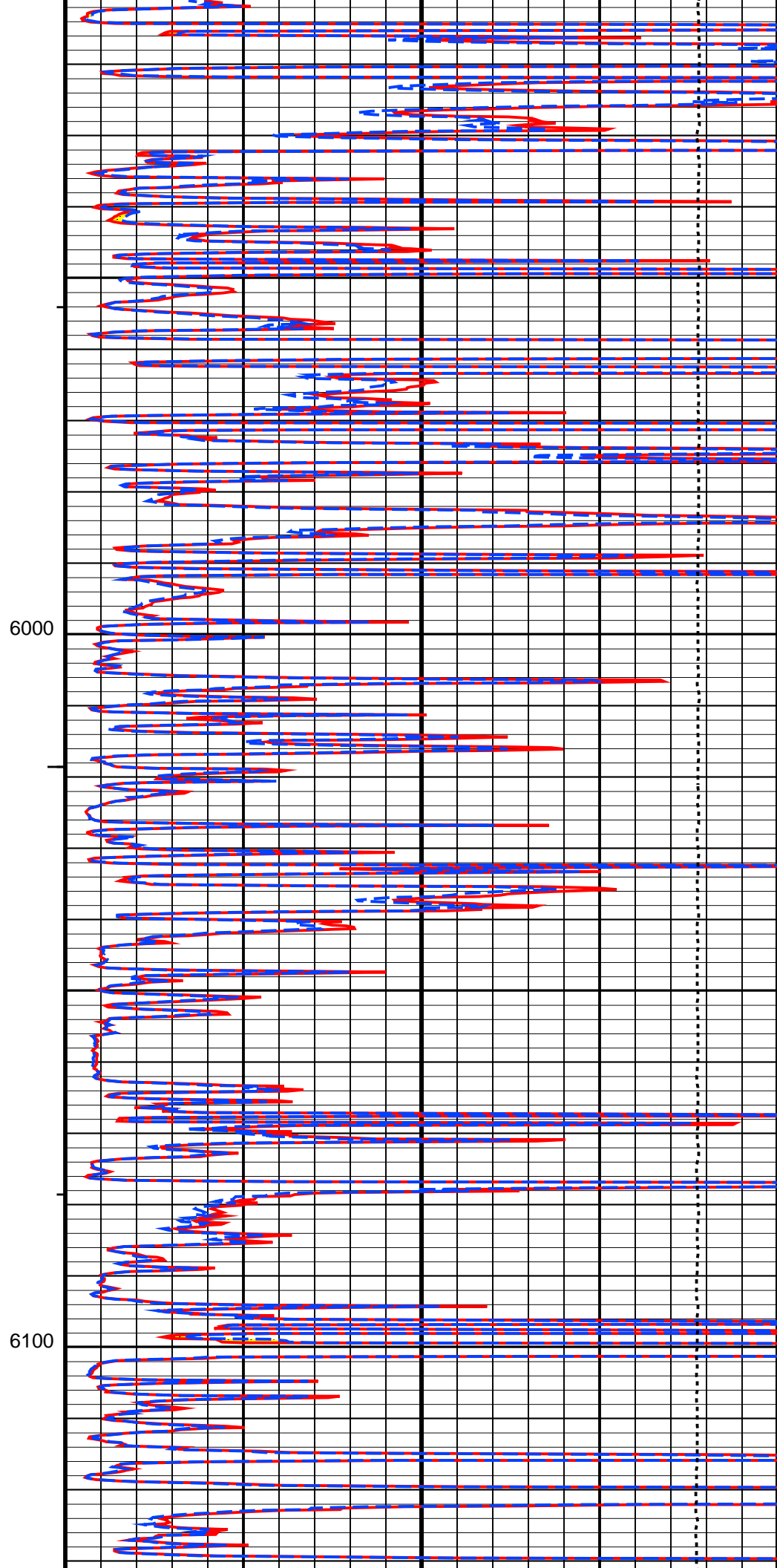
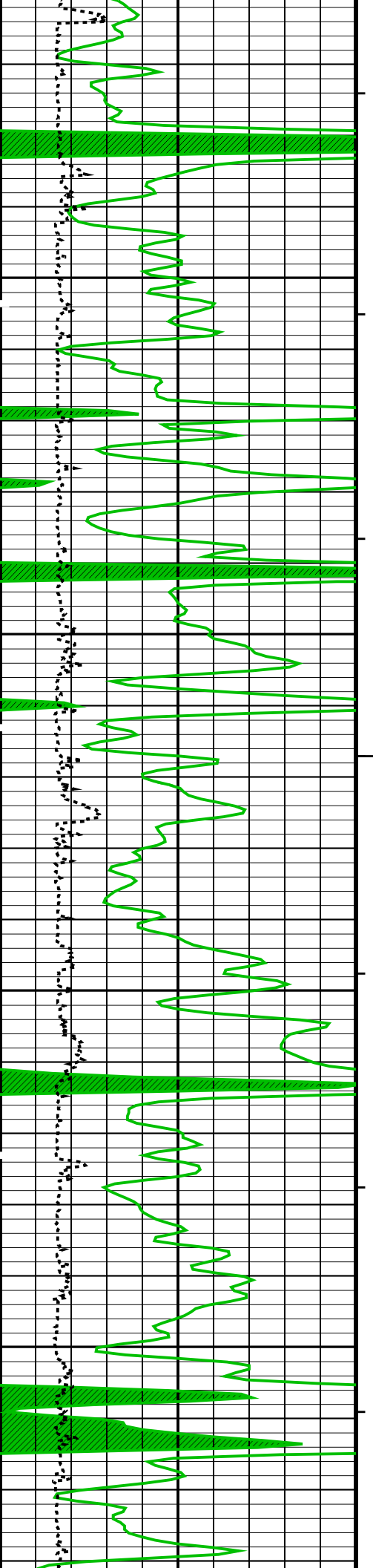
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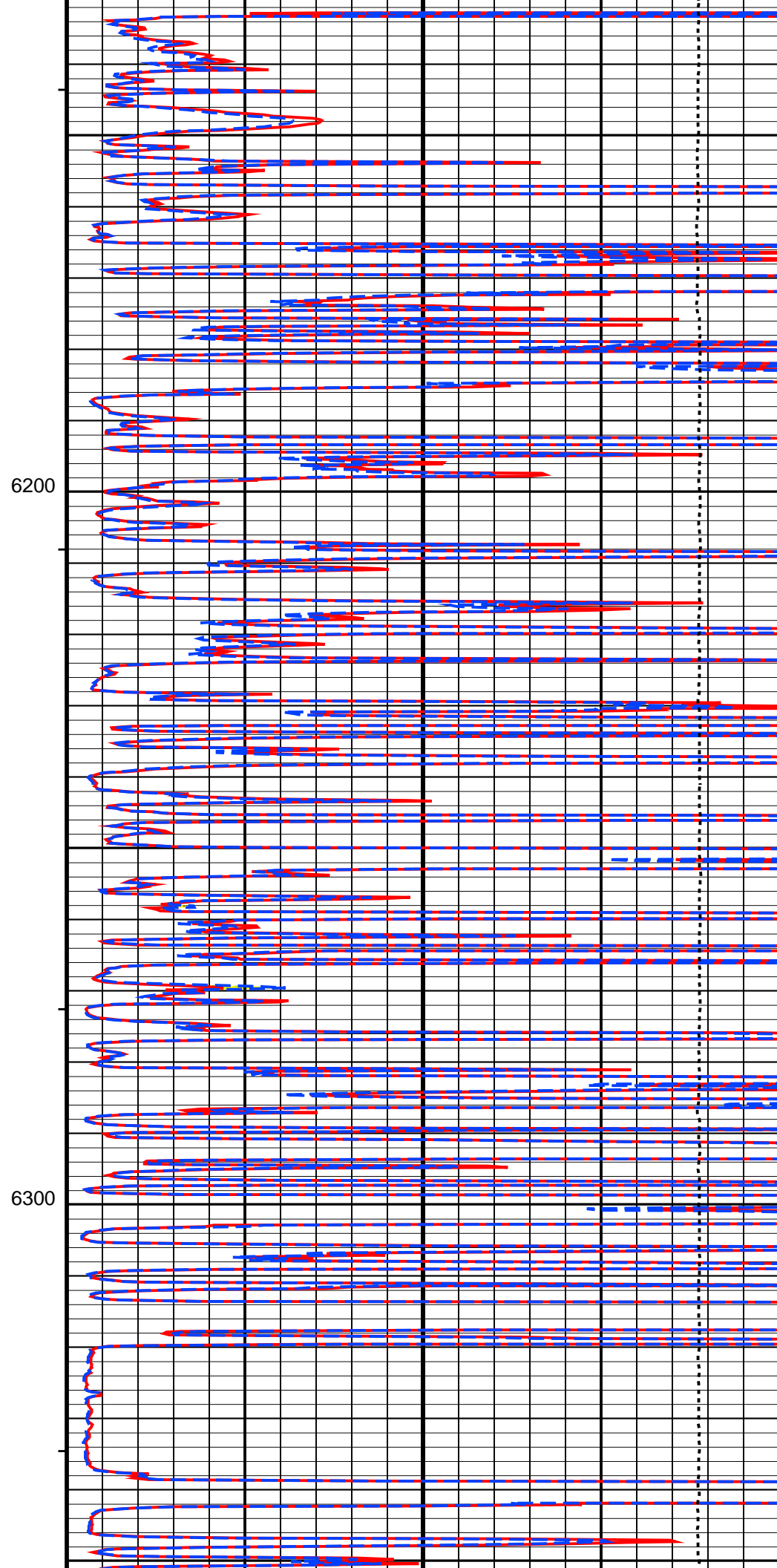
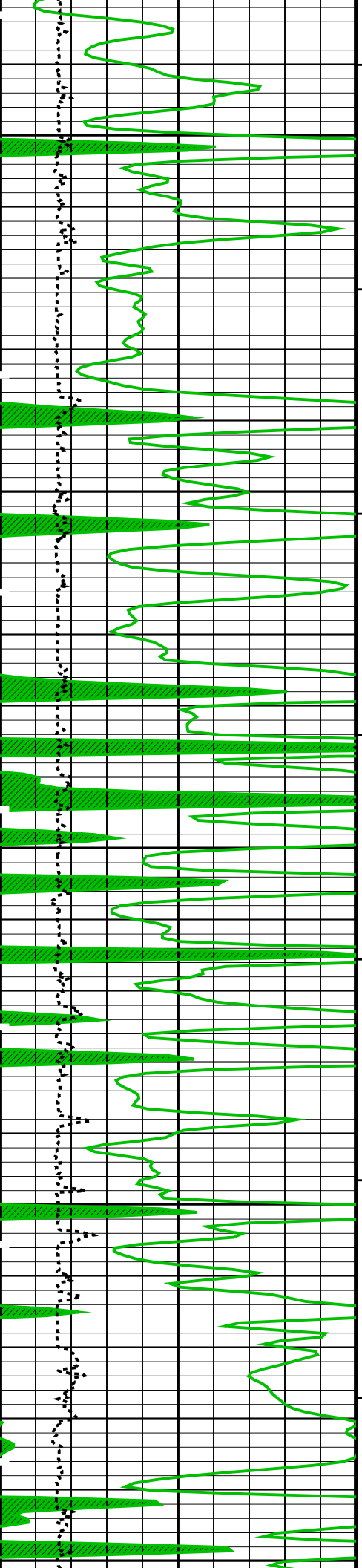
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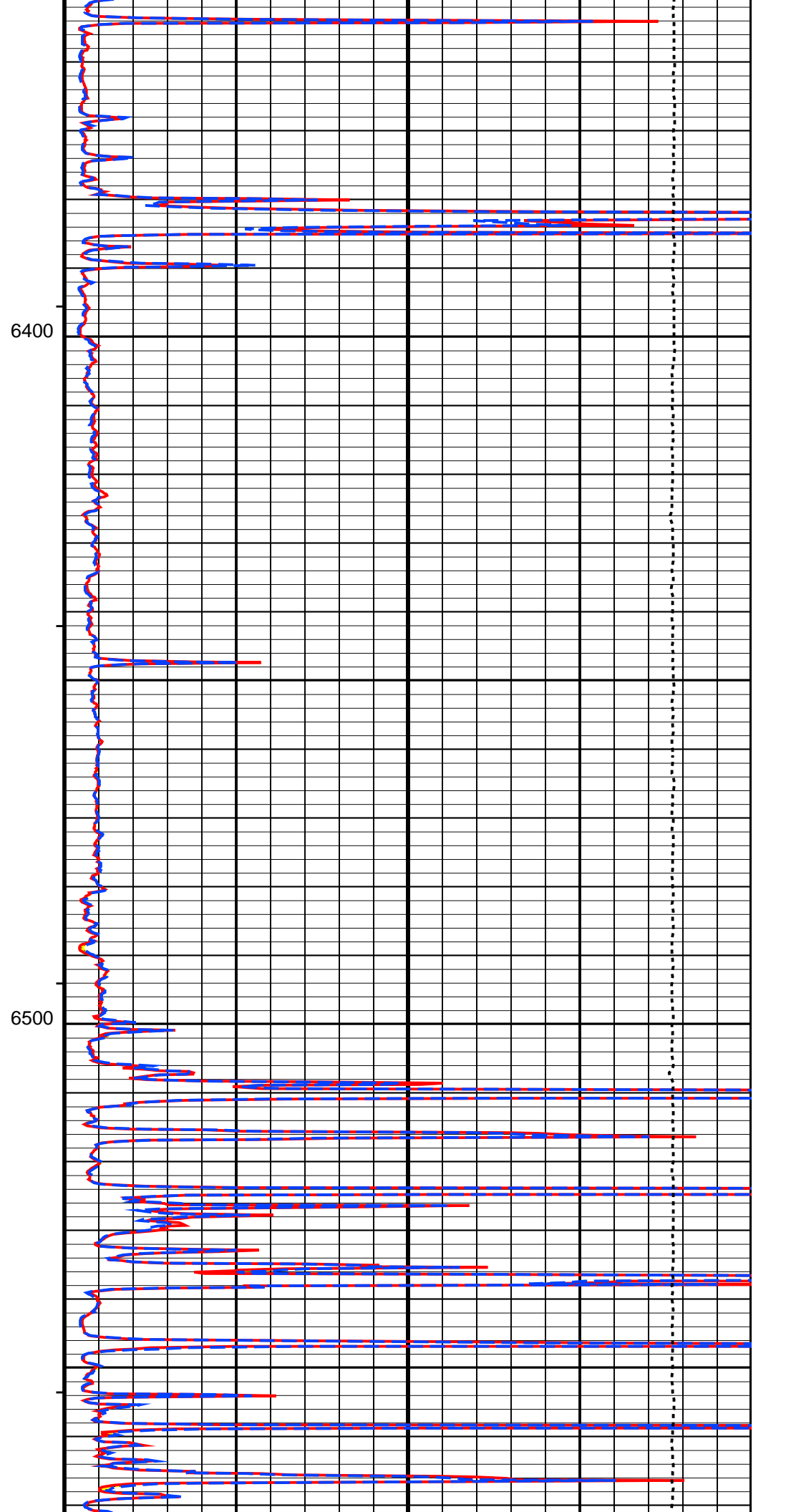
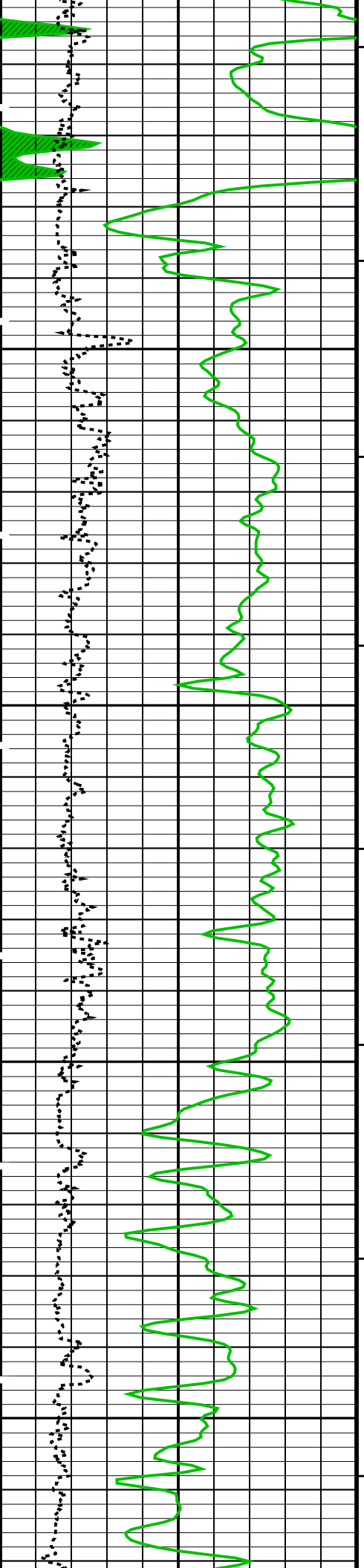
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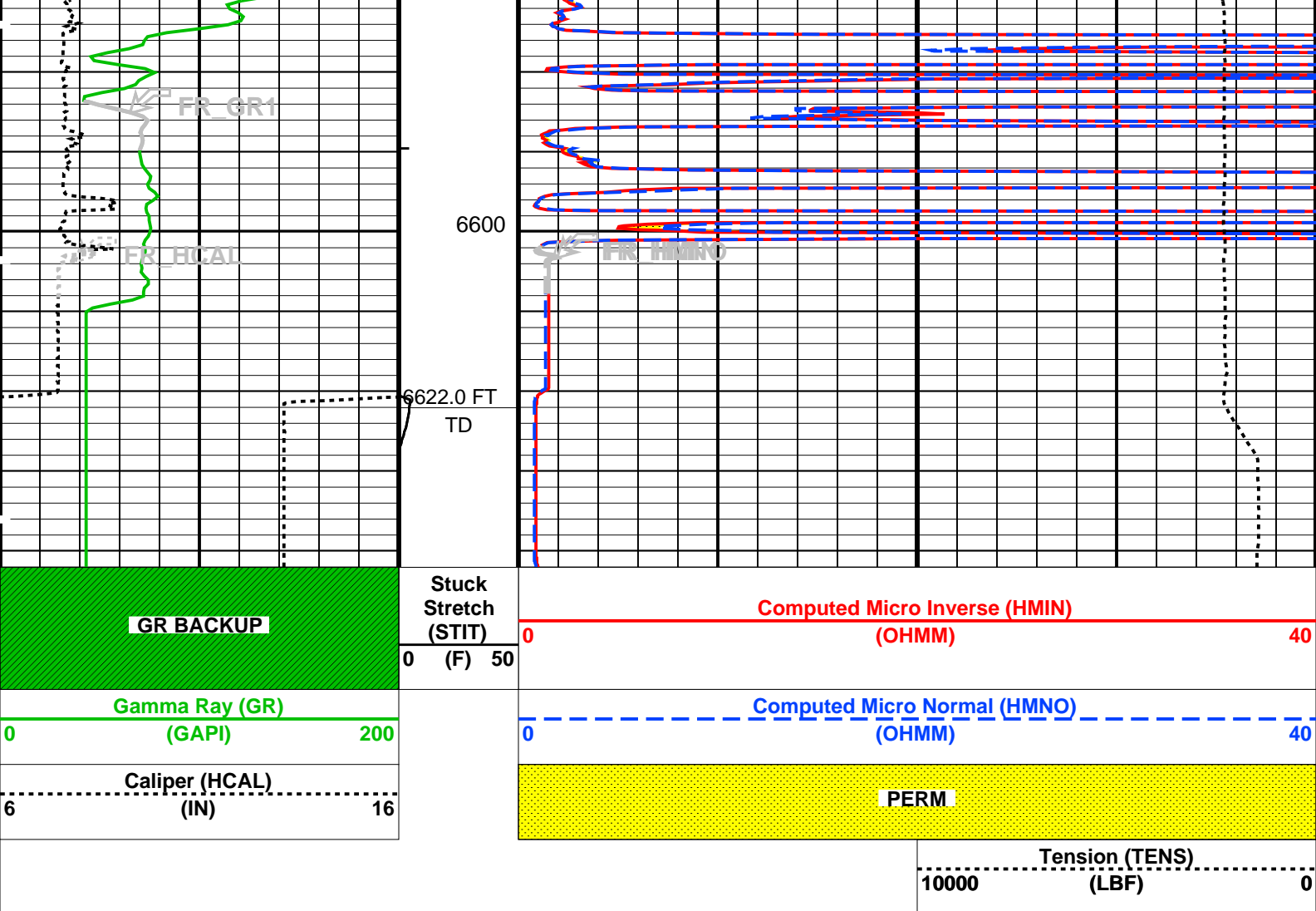












#### PIP SUMMARY

- └ 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
LBFR	STI: Stuck Tool Indicator	TDL
STKT	Trigger for MAXIS First Reading Label	2.5 FT
TDD	STI Stuck Threshold	6623.00 FT
TDL	Total Depth - Driller	6622.00 FT
	Total Depth - Logger	
FCD	HOLEV: Integrated Hole/Cement Volume	5.5 IN
HVCS	Future Casing (Outer) Diameter	AUTOMATIC
	Integrated Hole Volume Caliper Selection	
BS	System and Miscellaneous	
DORL	Bit Size	7.875 IN
TD	Depth Offset for Repeat Analysis	0.0 FT
	Total Depth	6622 FT

Format: MLT Vertical Scale: 5" per 100'

Graphics File Created: 03-Apr-2011 03:18

#### OP System Version: 18C0-147

HILTB-CTS 18C0-147

#### Output DLIS Files

DEFAULT AIT\_TLD\_MCFL\_CNL\_007LUP FN:6 PRODUCER 03-Apr-2011 03:18

**Input DLIS Files**

DEFAULT AIT\_TLD\_MCFL\_CNL\_006PUP FN:5 PRODUCER 03-Apr-2011 03:16 6640.5 FT 6036.5 FT

**Output DLIS Files**

DEFAULT AIT\_TLD\_MCFL\_CNL\_007LUP FN:6 PRODUCER 03-Apr-2011 03:18

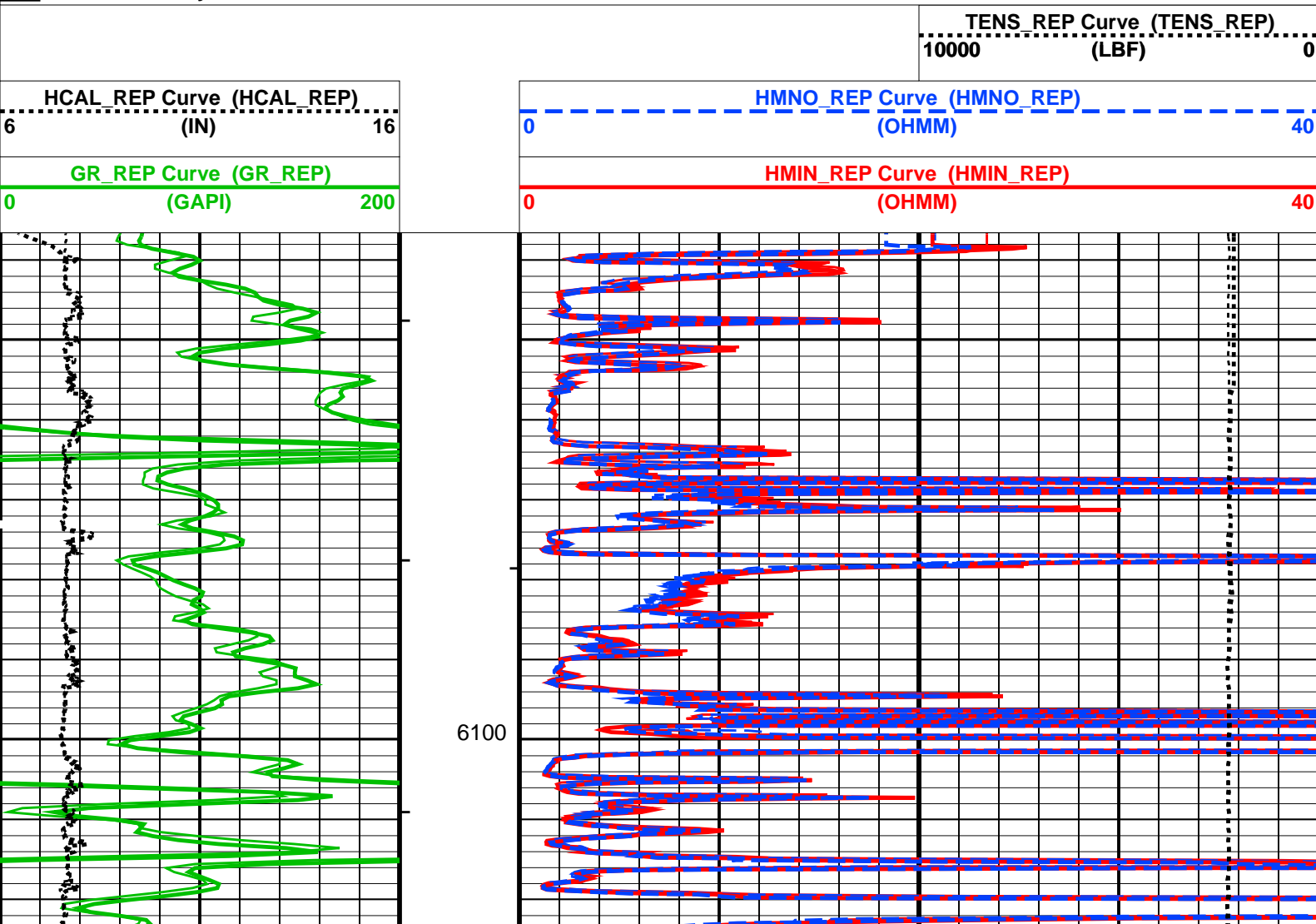
**OP System Version: 18C0-147**

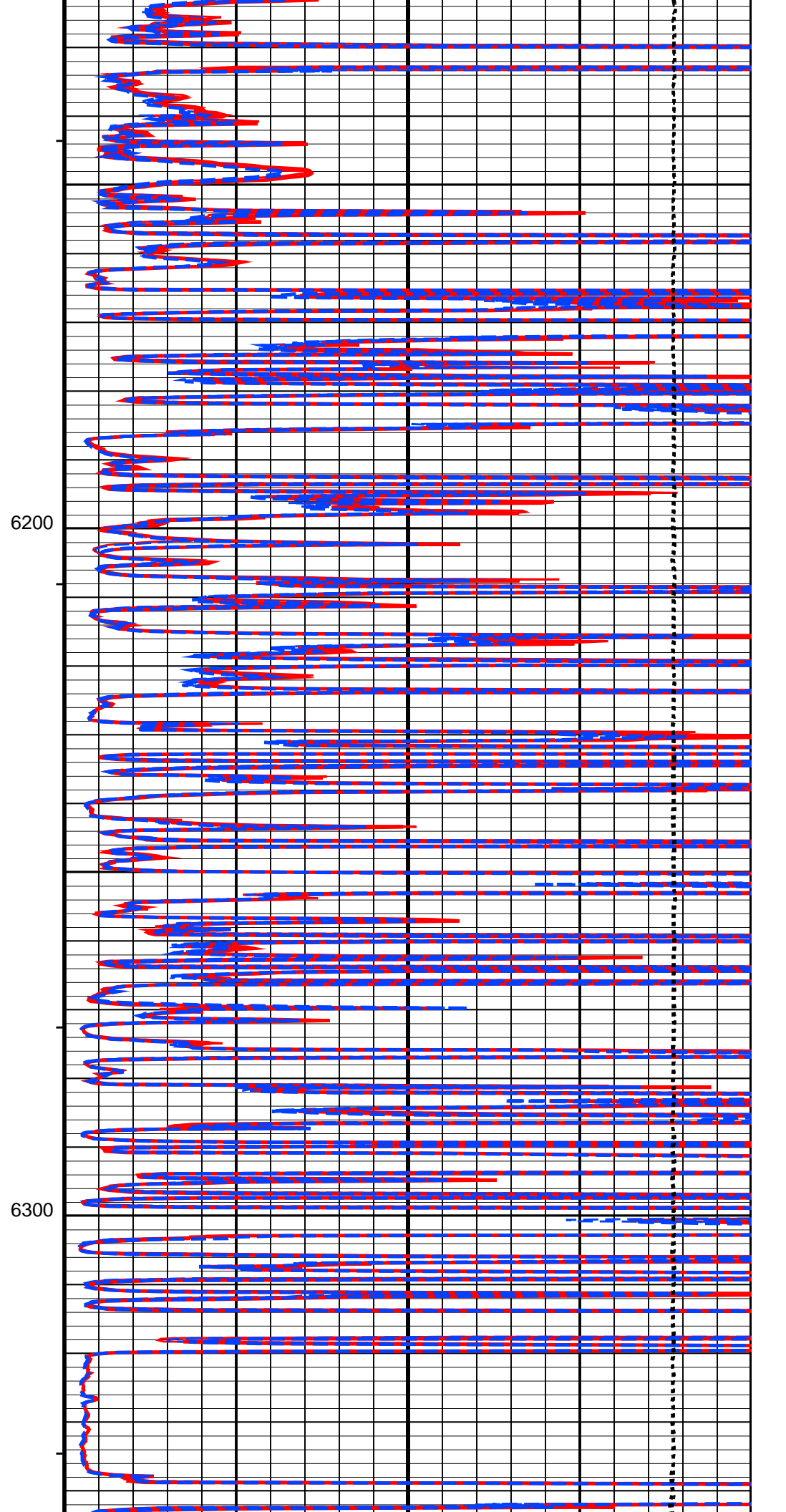
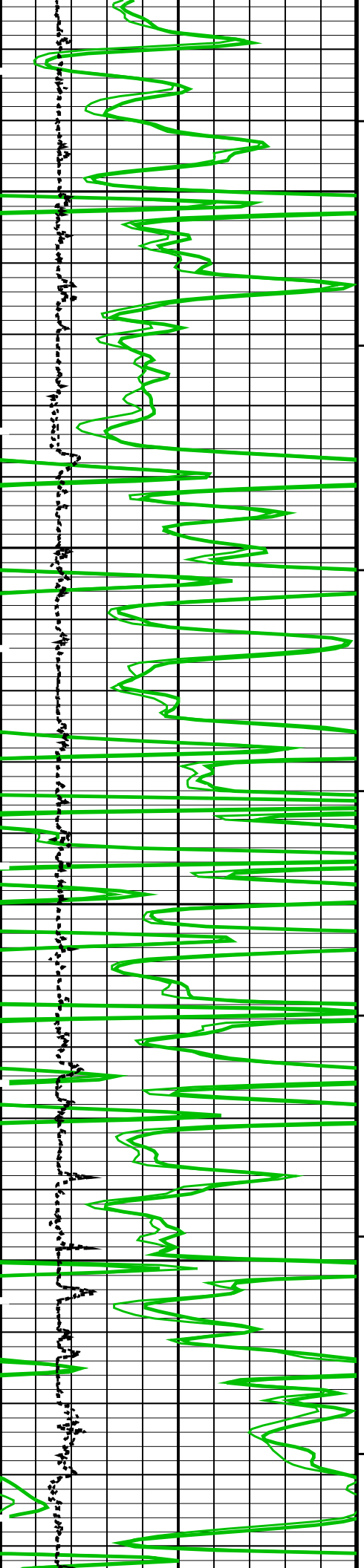
HILTB-CTS 18C0-147

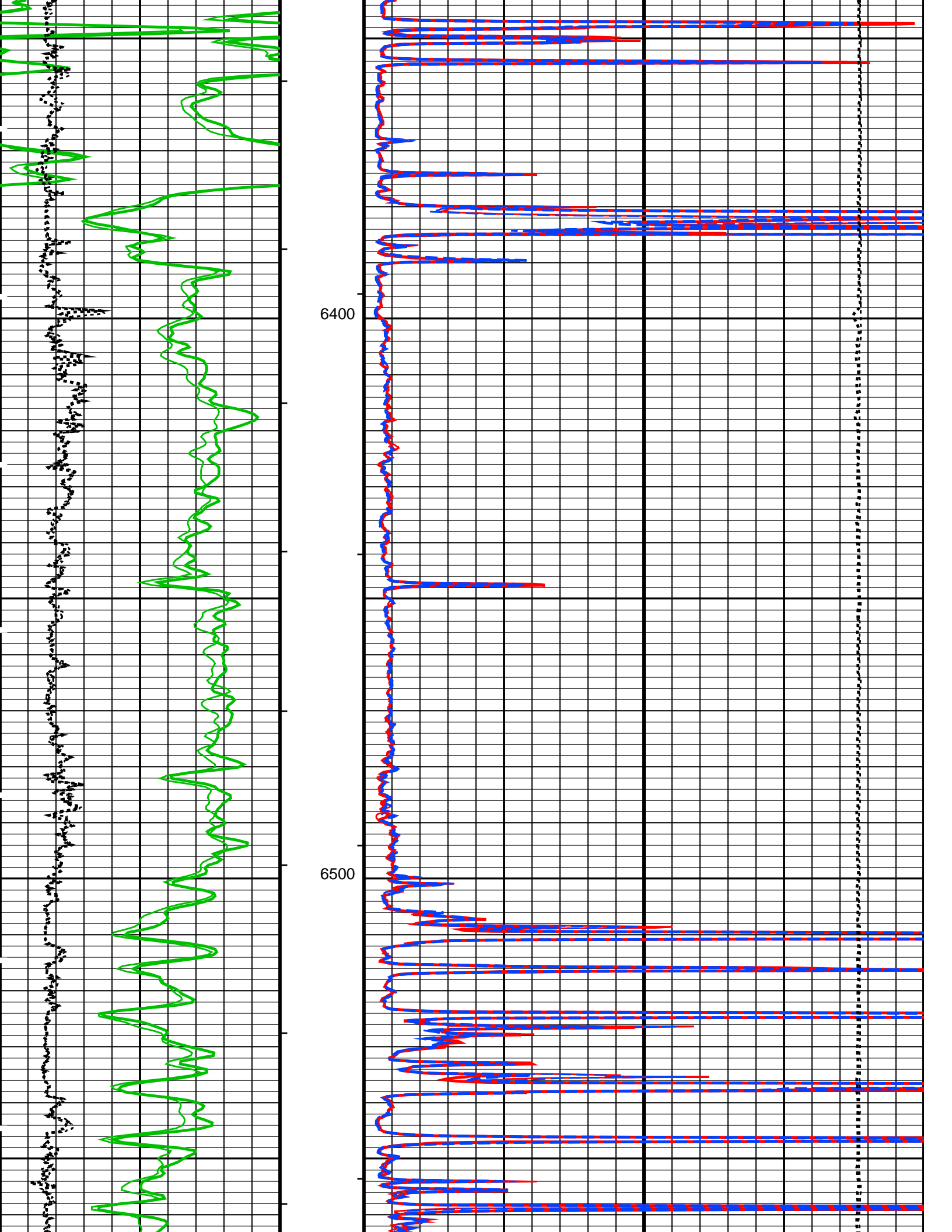
**PIP SUMMARY**

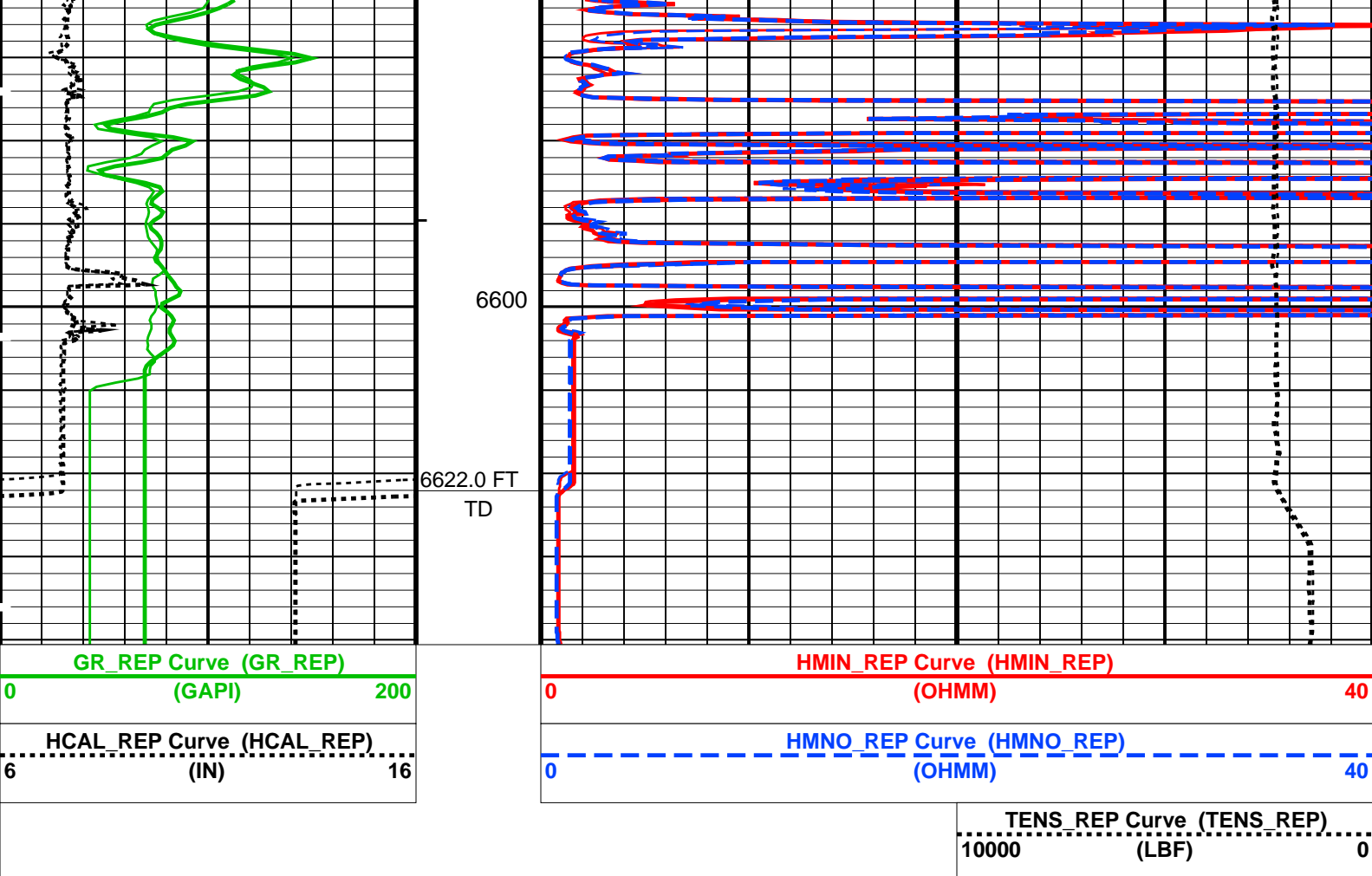
- └ Integrated Hole Volume Minor Pip Every 10 F3
- └ Integrated Hole Volume Major Pip Every 100 F3
  - └ Integrated Cement Volume Minor Pip Every 10 F3
  - └ Integrated Cement Volume Major Pip Every 100 F3

Time Mark Every 60 S









#### PIP SUMMARY

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- └ 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

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MPOF	HILTB-CTS: High resolution Integrated Logging Tool-CTS MCFL Processing Operation Mode	ON
FCD	HOLEV: Integrated Hole/Cement Volume	5.5 IN
HVCS	Future Casing (Outer) Diameter Integrated Hole Volume Caliper Selection	AUTOMATIC
BS	System and Miscellaneous Bit Size	7.875 IN
DORL	Depth Offset for Repeat Analysis	0.0 FT
TD	Total Depth	6622 FT

Format: MLT\_REP Vertical Scale: 5" per 100'

Graphics File Created: 03-Apr-2011 03:18

#### OP System Version: 18C0-147

HILTB-CTS 18C0-147

#### Input DLIS Files

DEFAULT AIT\_TLD\_MCFL\_CNL\_006PUP FN:5 PRODUCER 03-Apr-2011 03:16 6640.5 FT 6036.5 FT

#### Output DLIS Files

DEFAULT AIT\_TLD\_MCFL\_CNL\_007LUP FN:6 PRODUCER 03-Apr-2011 03:18



## 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: 19–Jan–2011 13:04 Before: 2–Apr–2011 20:19							
Thru Cal Magnitude – 0	0	0.6296	0.6289	N/A	N/A	N/A	V
Thru Cal Magnitude – 1	0	1.290	1.289	N/A	N/A	N/A	V
Thru Cal Magnitude – 2	0	0.6393	0.6391	N/A	N/A	N/A	V
Thru Cal Magnitude – 3	0	0.7227	0.7221	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	1.973	1.970	N/A	N/A	N/A	V
Thru Cal Magnitude – 6	0	1.972	1.970	N/A	N/A	N/A	V
Thru Cal Magnitude – 7	0	1.411	1.408	N/A	N/A	N/A	V
Phase – 0	0	51.97	51.63	N/A	N/A	N/A	DEG
Phase – 1	0	50.95	50.60	N/A	N/A	N/A	DEG
Phase – 2	0	47.20	46.83	N/A	N/A	N/A	DEG
Phase – 3	0	46.41	46.04	N/A	N/A	N/A	DEG
Phase – 4	0	40.06	39.65	N/A	N/A	N/A	DEG
Phase – 5	0	38.17	37.74	N/A	N/A	N/A	DEG
Phase – 6	0	38.16	37.73	N/A	N/A	N/A	DEG
Phase – 7	0	34.45	33.82	N/A	N/A	N/A	DEG

## High resolution Integrated Logging Tool–CTS Wellsite Calibration – Electronics Calibration Check – Auxilliary

Master: 19–Jan–2011 13:04 Before: 2–Apr–2011 20:19

Array Induction SPA Plus	990.5	993.8	993.4	N/A	N/A	N/A	MV
Array Induction SPA Zero	0	–0.05445	–0.04840	N/A	N/A	N/A	MV
Array Induction Temperature PI	0.9150	0.9219	0.9216	N/A	N/A	N/A	V
Array Induction Temperature Ze	0	–0.00005082	–0.00004719	N/A	N/A	N/A	V

## High resolution Integrated Logging Tool–CTS Wellsite Calibration – Test Loop Gain Correction

Master: 19–Jan–2011 13:04

Test Loop Gain Magnitude – 0	0	1.008	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 1	0	1.010	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 2	0	1.010	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 3	0	1.010	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 4	0	0.9926	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 5	0	0.9849	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 6	0	0.9857	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 7	0	0.9991	N/A	N/A	N/A	N/A	V
Phase – 0	0	–0.6562	N/A	N/A	N/A	N/A	DEG
Phase – 1	0	0.9957	N/A	N/A	N/A	N/A	DEG
Phase – 2	0	–0.03108	N/A	N/A	N/A	N/A	DEG
Phase – 3	0	–0.01144	N/A	N/A	N/A	N/A	DEG
Phase – 4	0	–0.2043	N/A	N/A	N/A	N/A	DEG
Phase – 5	0	–0.1739	N/A	N/A	N/A	N/A	DEG
Phase – 6	0	1.290	N/A	N/A	N/A	N/A	DEG
Phase – 7	0	–0.1598	N/A	N/A	N/A	N/A	DEG

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

Master: 19–Jan–2011 13:04

R Sonde Error Correction – 0	0	–93.49	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 1	0	167.9	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 2	0	115.7	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 3	0	59.53	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 4	0	27.36	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 5	0	14.17	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 6	0	10.80	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 7	0	–1.341	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 0	0	–229.8	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 1	0	8.961	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 2	0	–193.6	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 3	0	–81.11	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 4	0	–13.84	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 5	0	–14.82	N/A	N/A	N/A	N/A	MM/M

X Sonde Error Correction – 6	0	-5.302	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 7	0	2.499	N/A	N/A	N/A	N/A	MM/M

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

Master: 19–Jan–2011 13:04

Coarse – Mag, Real, Imag – 0	0	0.8308	N/A	N/A	N/A	N/A	
Coarse – Mag, Real, Imag – 1	0	0.8308	N/A	N/A	N/A	N/A	
Coarse – Mag, Real, Imag – 2	0	0.8308	N/A	N/A	N/A	N/A	
Fine – Mag, Real, Imag – 0	0	0.8306	N/A	N/A	N/A	N/A	
Fine – Mag, Real, Imag – 1	0	0.8306	N/A	N/A	N/A	N/A	
Fine – Mag, Real, Imag – 2	0	0.8306	N/A	N/A	N/A	N/A	

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

Before: 2–Apr–2011 20:15

BS Window Ratio	0.7424	N/A	0.7438	N/A	N/A	N/A	
BS Window Sum	10030	N/A	10020	N/A	N/A	N/A	CPS
SS Window Ratio	0.4767	N/A	0.4782	N/A	N/A	N/A	
SS Window Sum	10210	N/A	10200	N/A	N/A	N/A	CPS
LS Window Ratio	0.2975	N/A	0.2939	N/A	N/A	N/A	
LS Window Sum	1105	N/A	1099	N/A	N/A	N/A	CPS

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

Before: 2–Apr–2011 20:15

BS PM High Voltage (Command)	1511	N/A	1534	N/A	N/A	N/A	V
SS PM High Voltage (Command)	1653	N/A	1652	N/A	N/A	N/A	V
LS PM High Voltage (Command)	1551	N/A	1566	N/A	N/A	N/A	V

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

Before: 2–Apr–2011 20:15

BS Crystal Resolution	11.52	N/A	11.56	N/A	N/A	N/A	%
SS Crystal Resolution	10.46	N/A	10.48	N/A	N/A	N/A	%
LS Crystal Resolution	9.578	N/A	9.263	N/A	N/A	N/A	%

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

Before: 2–Apr–2011 20:18

Raw B0 Resistivity	3875	N/A	3834	N/A	N/A	N/A	OHMM
Raw B1 Resistivity	3830	N/A	3792	N/A	N/A	N/A	OHMM
Raw B2 Resistivity	3830	N/A	3797	N/A	N/A	N/A	OHMM

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

Before: 2–Apr–2011 20:12

HILT Caliper Zero Measurement	8.000	N/A	8.124	N/A	N/A	N/A	IN
HILT Caliper Plus Measurement	12.00	N/A	12.25	N/A	N/A	N/A	IN

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

Before: 2–Apr–2011 20:17

Gamma Ray Background	30.00	N/A	72.34	N/A	N/A	N/A	GAPI
Gamma Ray (Jig – Bkgd)	165.0	N/A	166.5	N/A	N/A	15.00	GAPI

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

Master: 31–Jan–2011 13:40 Before: 2–Apr–2011 20:13

CNTC Background	25.85	25.85	26.70	N/A	N/A	3.878	CPS
CFTC Background	27.22	27.22	26.65	N/A	N/A	4.083	CPS

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

Master: 31–Jan–2011 13:40

Thermal Near Corr. (Tank)	5800	5290	N/A	N/A	N/A	N/A	CPS
Thermal Far Corr. (Tank)	2400	2218	N/A	N/A	N/A	N/A	CPS
CNTC/CFTC (Tank)	2.159	2.385	N/A	N/A	N/A	N/A	

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

Before: 3–Apr–2011 2:31

Z–Axis Acceleration	32.19	N/A	32.24	N/A	N/A	N/A	F/S2
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The GLS–VJ source activity is acceptable.

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

NCT–B Water Temperature 42.0 DEG.  
Thermal Housing Size 3.369 IN.  
NSR–F serial number 5168





Primary Equipment:  
 Array Induction Tool – H  
 Rm/SP Bottom Nose  
 Array Induction Sonde  
 HILT high-Resolution Mechanical Sonde  
 HILT Rxo Gamma-ray Device  
 HILT Micro Cylindrically Focused Log Dev  
 GR Logging Source  
 HILT High Res. Control Cartridge

AIT – H  
 AHRM – A  
 AHIS – BA 216  
 HRMS – B  
 HRGD – B  
 MCFL –  
 GLS – VJ 5363  
 HRCC – B

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	0.6296		0.6050	51.97		71.00
	Before	0.6289			51.63		
1	Master	1.290		1.270	50.95		70.00
	Before	1.289			50.60		
2	Master	0.6393		0.6230	47.20		66.00
	Before	0.6391			46.83		
3	Master	0.7227		0.7040	46.41		65.00
	Before	0.7221			46.04		
4	Master	1.359		1.337	40.06		59.00
	Before	1.358			39.65		
5	Master	1.973		1.955	38.17		57.00
	Before	1.970			37.74		
6	Master	1.972		1.955	38.16		57.00
	Before	1.970			37.73		
7	Master	1.411		1.415	34.45		53.00
	Before	1.408			33.82		
		60.00 % (Minimum)	(Nominal)	140.0 % (Maximum)	Nom -60.00 (Minimum)	(Nominal)	Nom + 60.00 (Maximum)
Master: 19-Jan-2011 13:04				Before: 2-Apr-2011 20:19			

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			993.8	Master			-0.05445		
Before			993.4	Before			-0.04840		
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			0.9219	Master			-5.082E-00		
Before			0.9216	Before			-4.719E-00		
0.8700 (Minimum)			0.9150 (Nominal)	0.9600 (Maximum)	-0.05000 (Minimum)			0 (Nominal)	0.05000 (Maximum)
Master: 19-Jan-2011 13:04				Before: 2-Apr-2011 20:19					

High resolution Integrated Logging Tool—CTS Wellsite Calibration						
Test Loop Gain Correction						
Idx	Value	Test Loop Gain Magnitude V			Value	Phase DEG
0	1.008				-0.6562	
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal) 3.000 (Maximum)
1	1.010				0.9957	
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal) 3.000 (Maximum)



Before: 2-Apr-2011 20:15

Before: 2-Apr-2011 20:15


Before: 2-Apr-2011 20:15

Before: 2-Apr-2011 20:18

Before: 2-Apr-2011 20:12

Before: 2-Apr-2011 20:17

Master: 31-Jan-2011 13:4Master 01 Jan 2014 10:4

High resolution Integrated Logging Tool-CTS		
Wellsite Calibration		
Accelerometer Calibration		
Phase	Z-Axis Acceleration F/S2	Value
Before		32.24
31.53 (Minimum)	32.19 (Nominal)	32.84 (Maximum)
Before: 3-Apr-2011 2:31		

Company: **Vecta Oil & Gas Ltd**

**Schlumberger**

Well: **Cottonwood Grazing 3-22**

Field: **Wildcat**

County: **Lincoln**

State: **Colorado**

Platform Express  
Micro Log