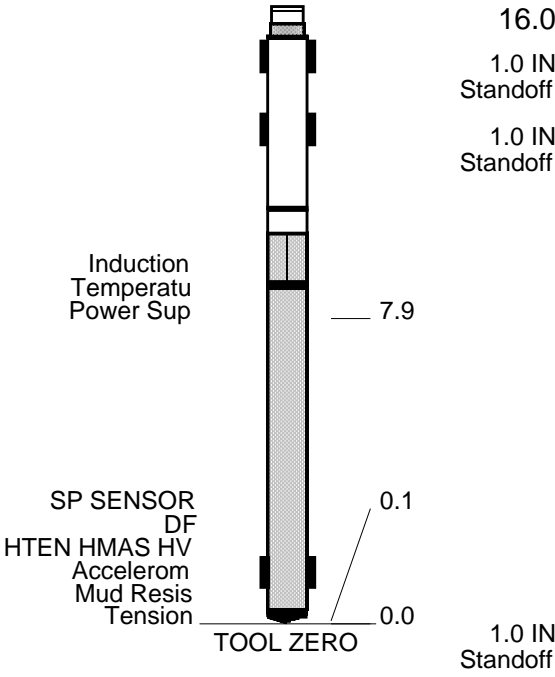




OTHER SERVICES1 OS1: MSIP OS2: OS3: OS4: OS5:	OTHER SERVICES2 OS1: OS2: OS3: OS4: OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
Tool run as per tool sketch.	
This is the first run in hole and primary depth reference.	
Data may be affected by hole rugosity.	
Matrix: Limestone 2.71	



AIT-M  
AMIS-A 1270  
AMRM-A



MAXIMUM STRING DIAMETER 5.88 IN  
MEASUREMENTS RELATIVE TO TOOL ZERO  
ALL LENGTHS IN FEET

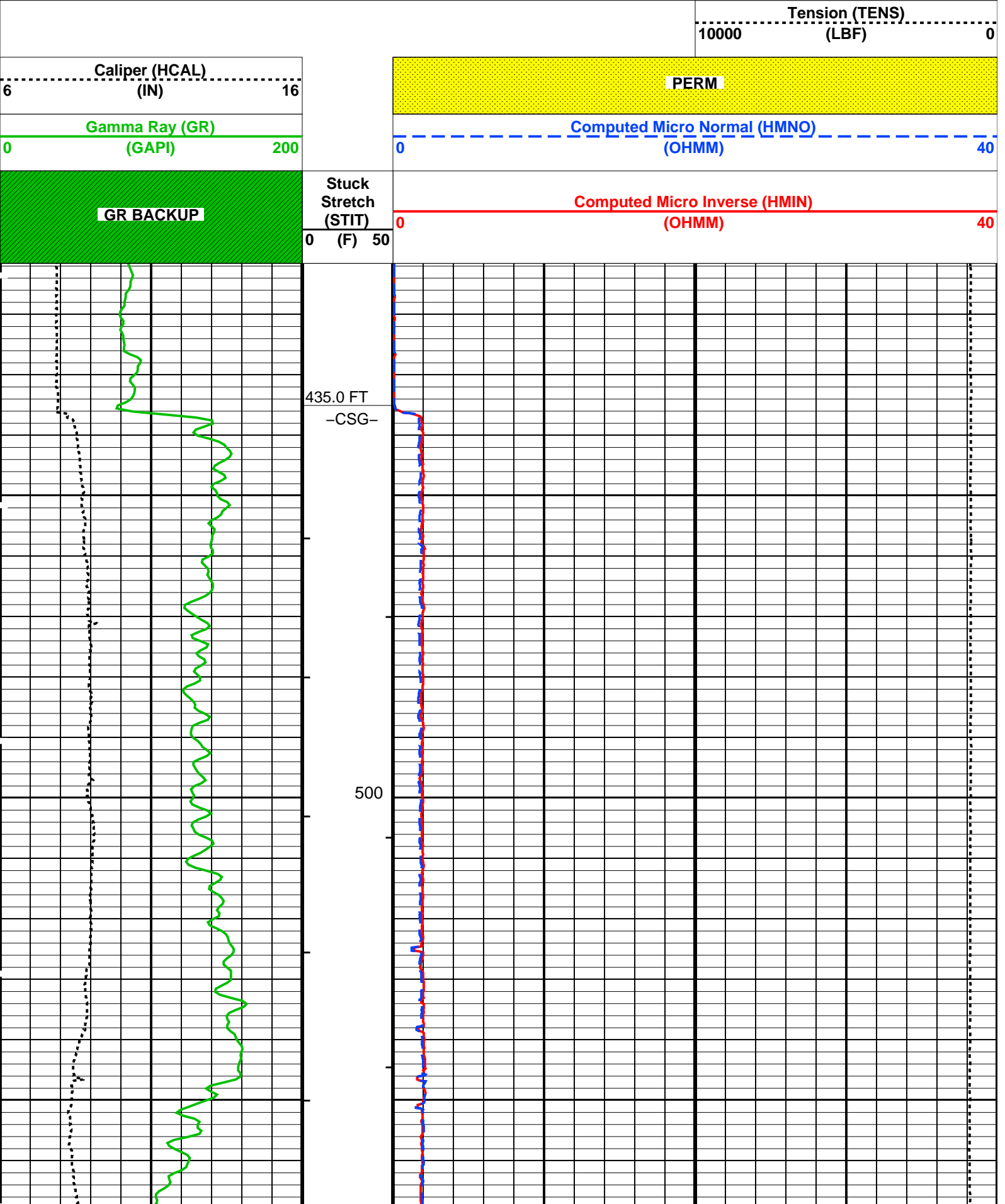
Production String	(in)		(ft)	Well Schematic	(ft)	(in)		Casing String
	OD	ID	MD		MD	OD	ID	
					0.0	8.625	8.097	Casing String
					437.0 437.0	8.625 7.875	8.097	Casing Shoe Borehole Segment

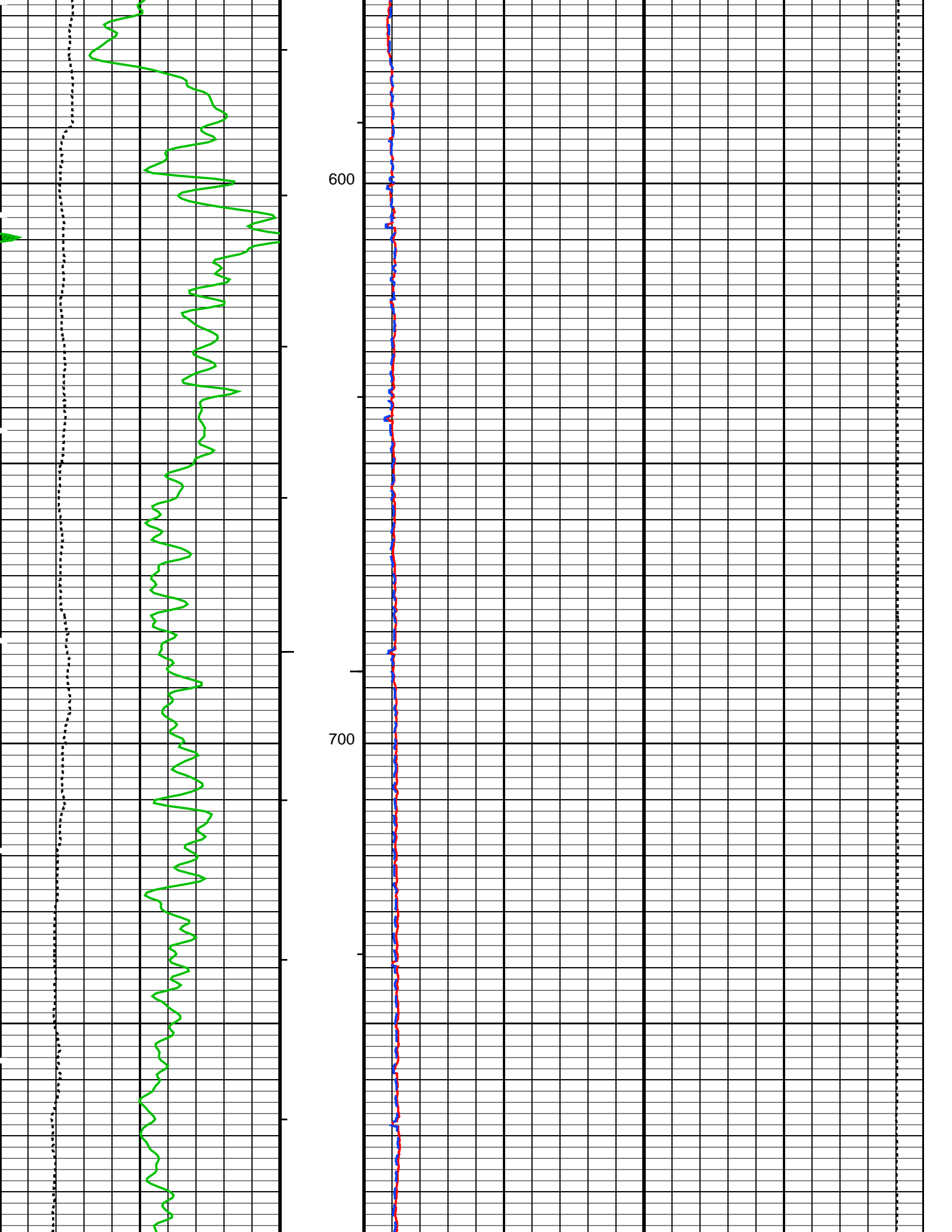
**18C0-147**

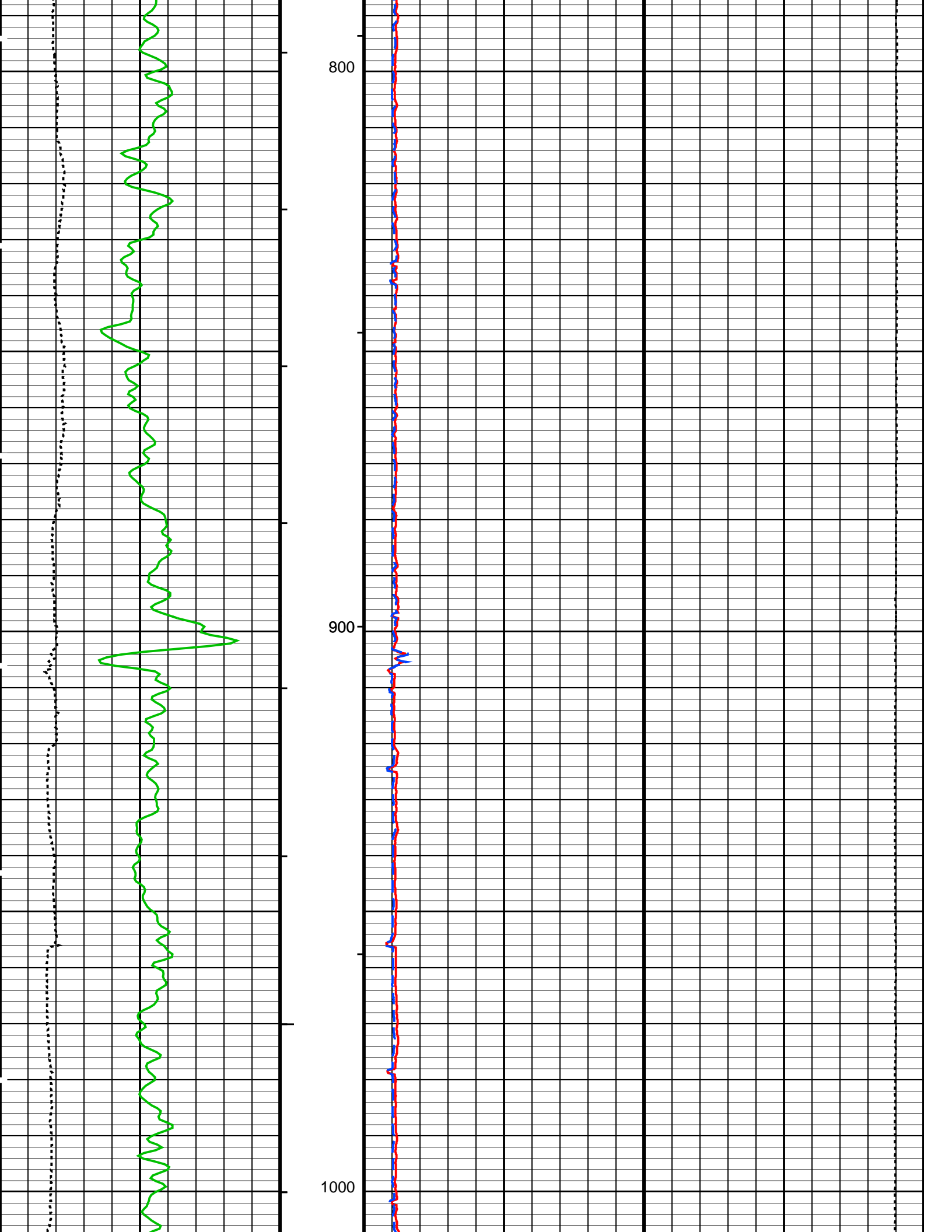
# PIP SUMMARY

- └ 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

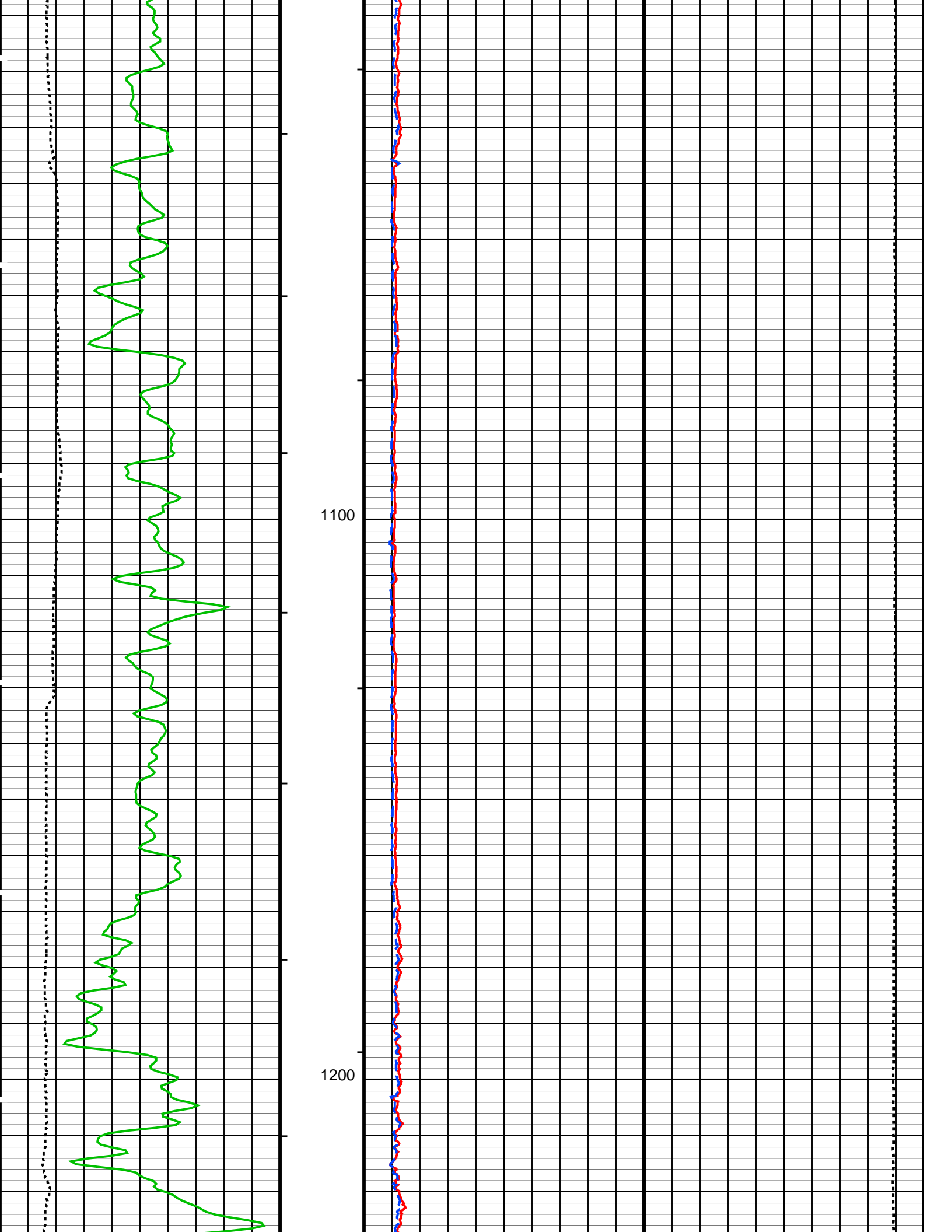
Time Mark Every 60 S

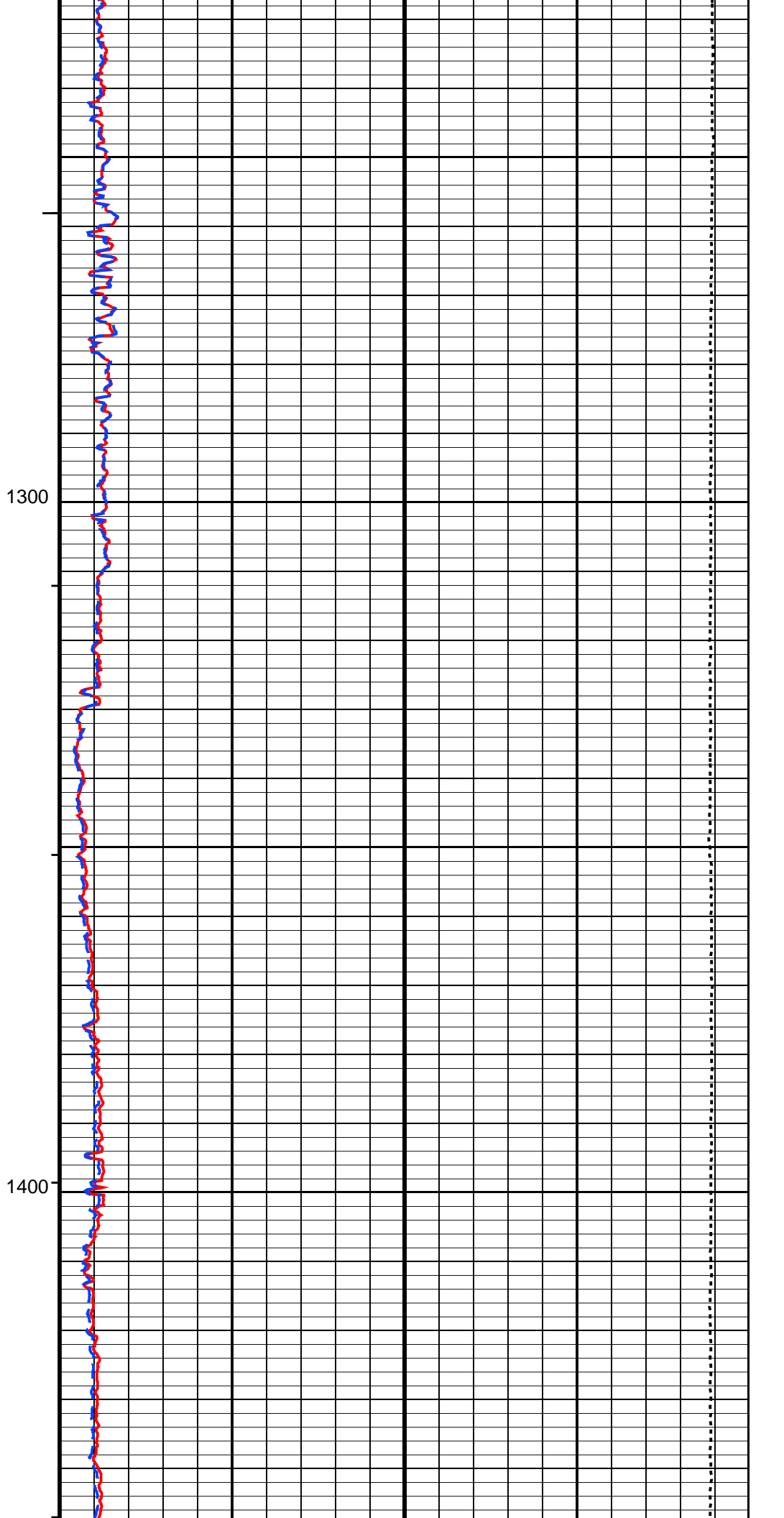
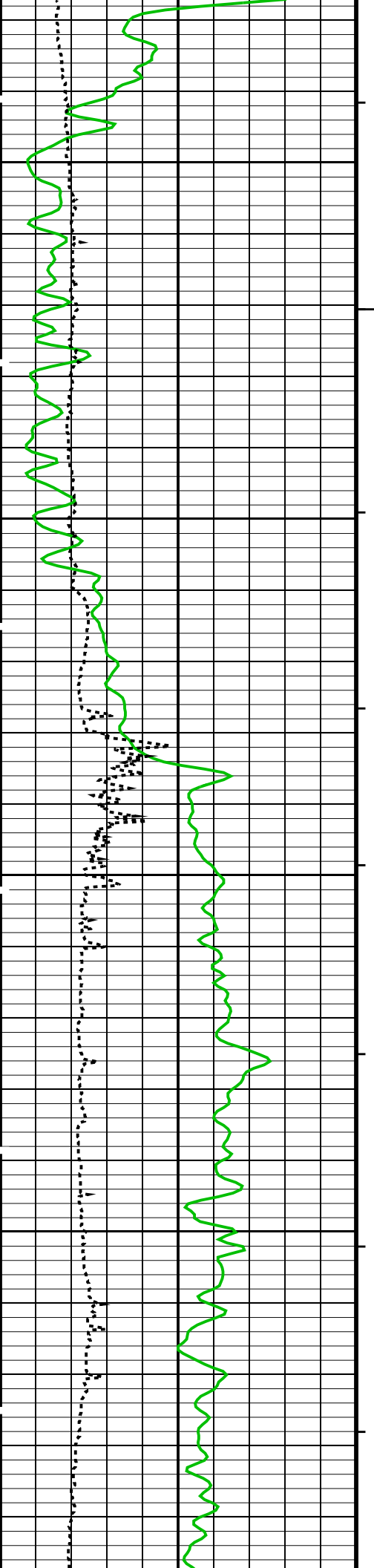


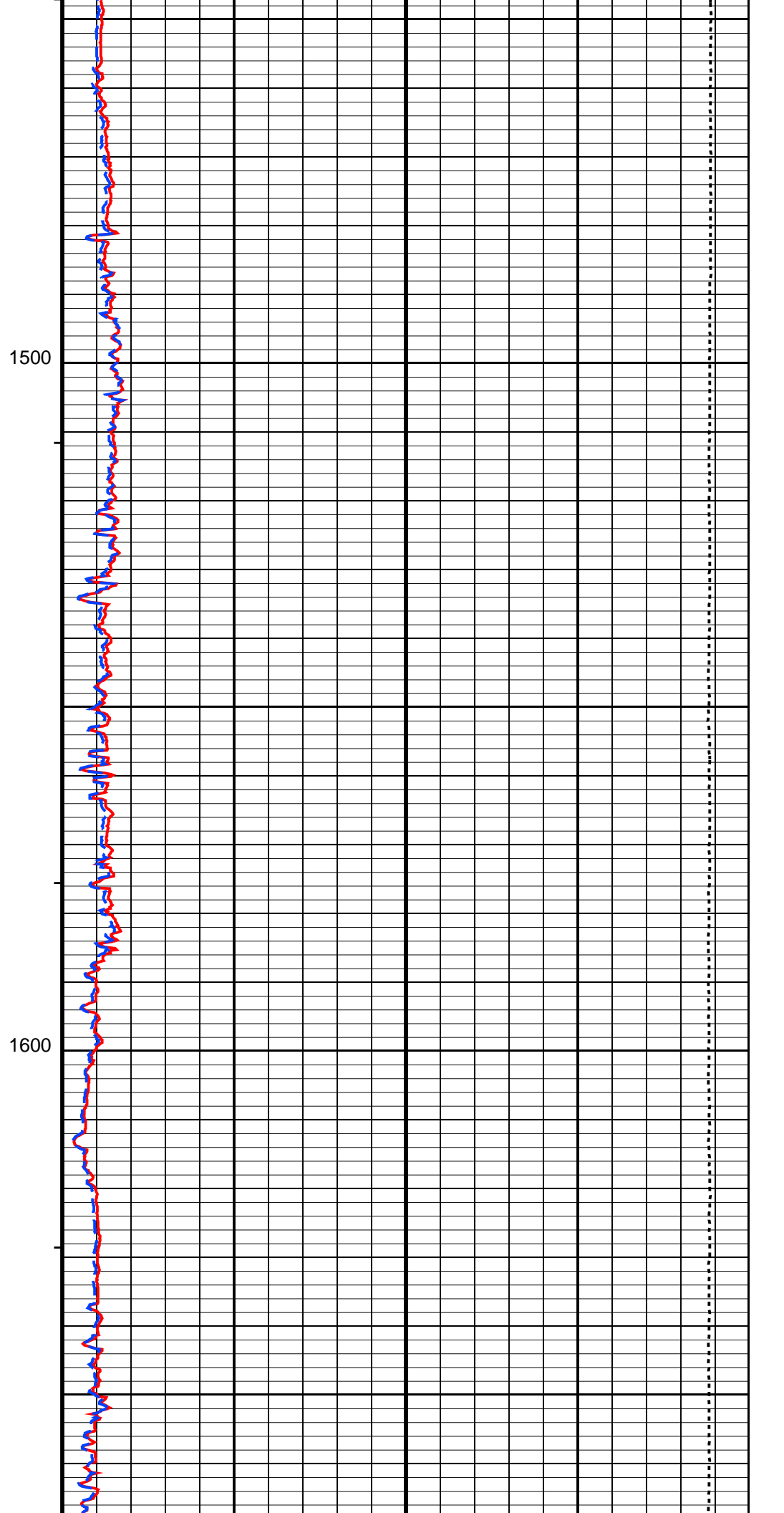
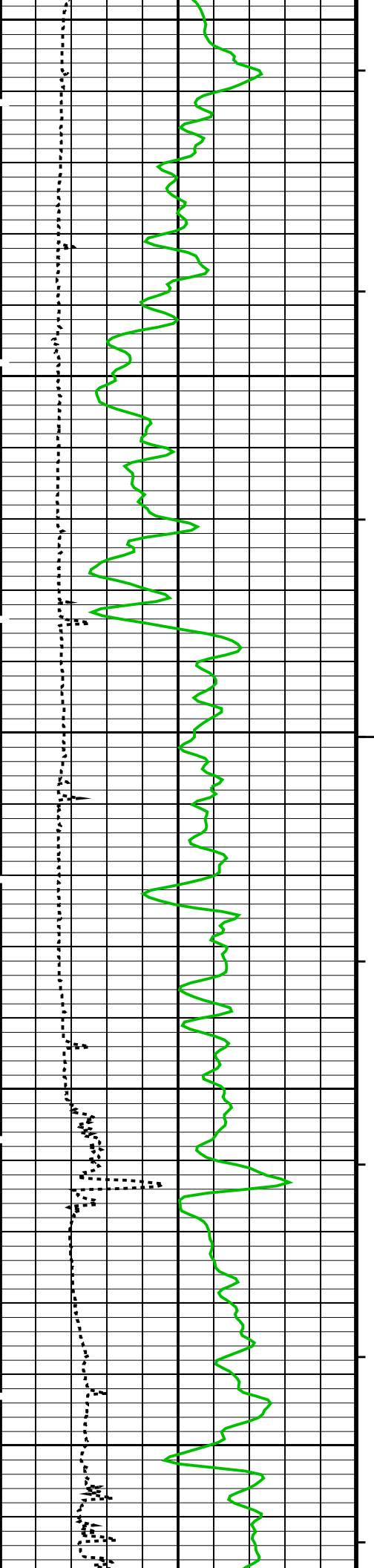


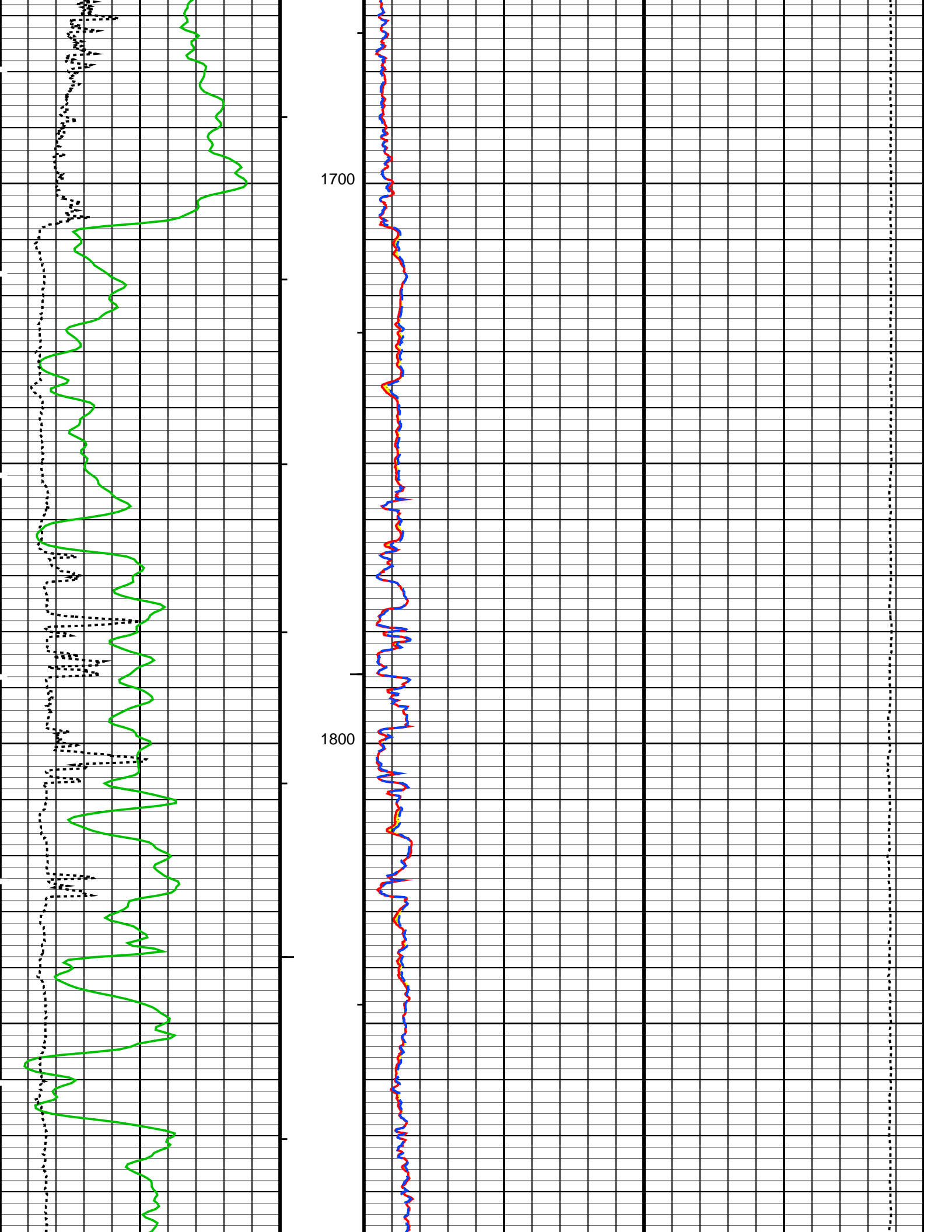


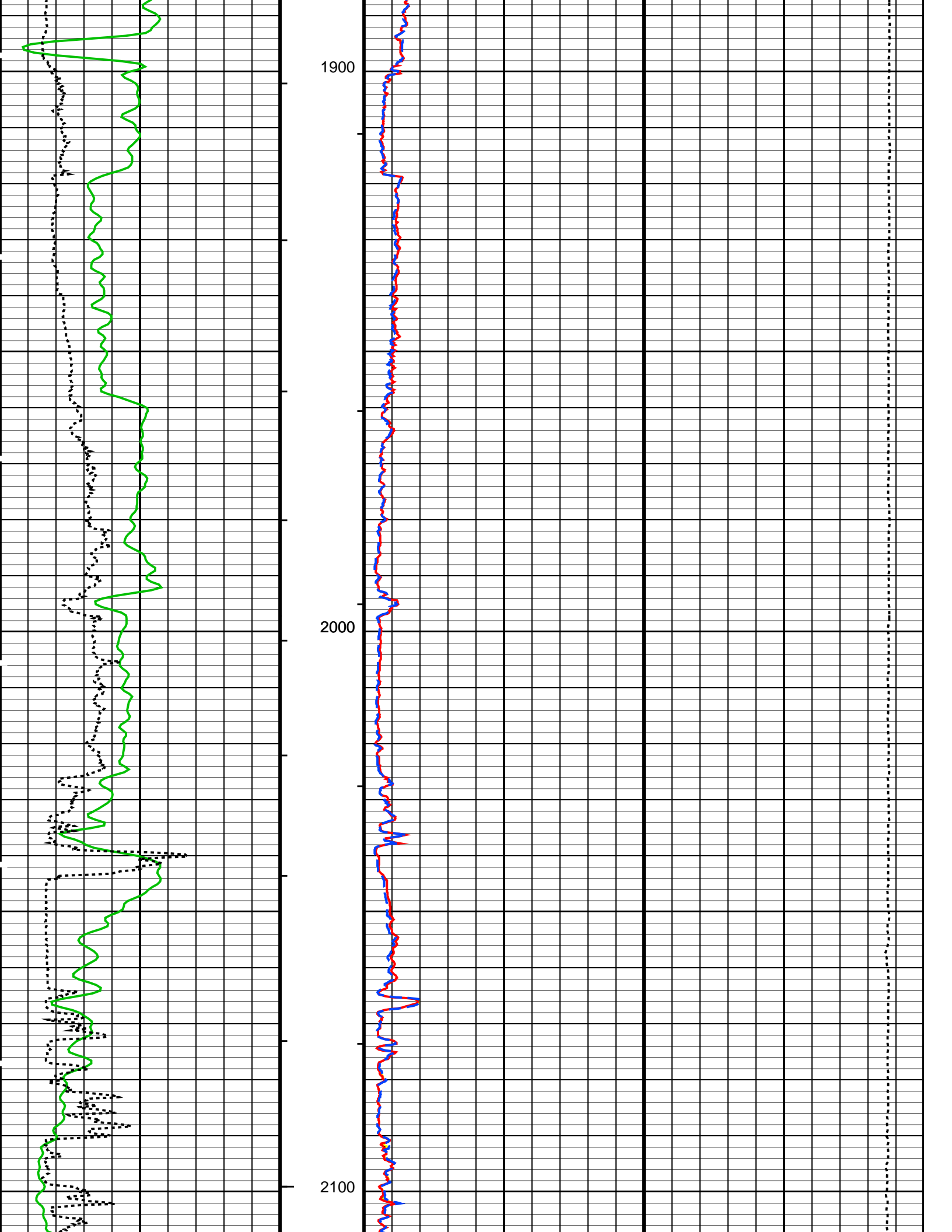


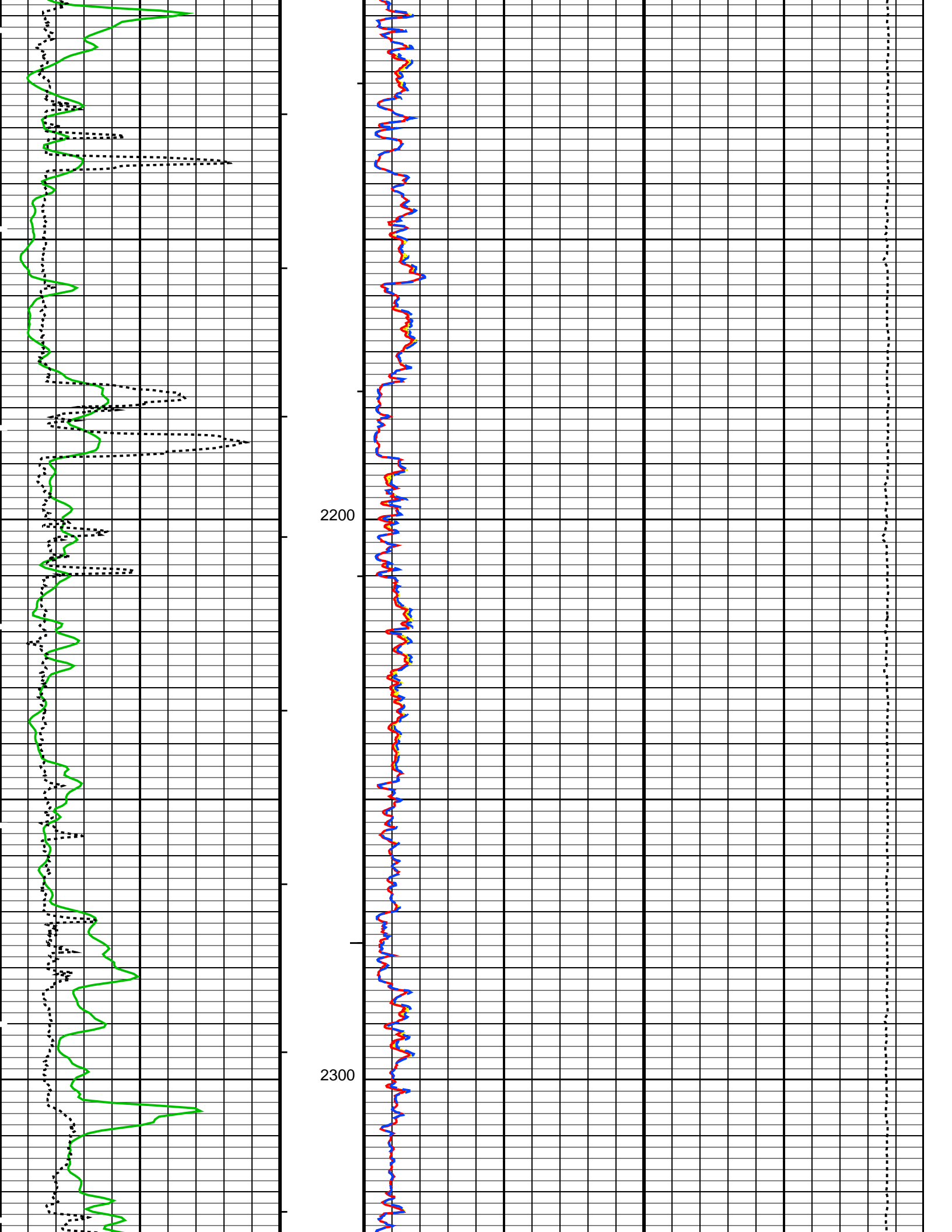


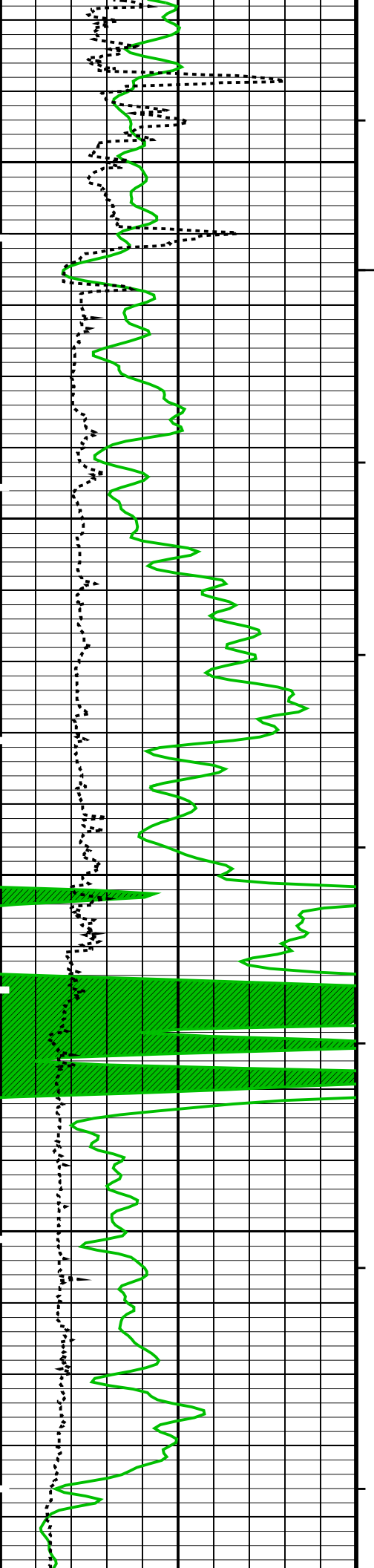






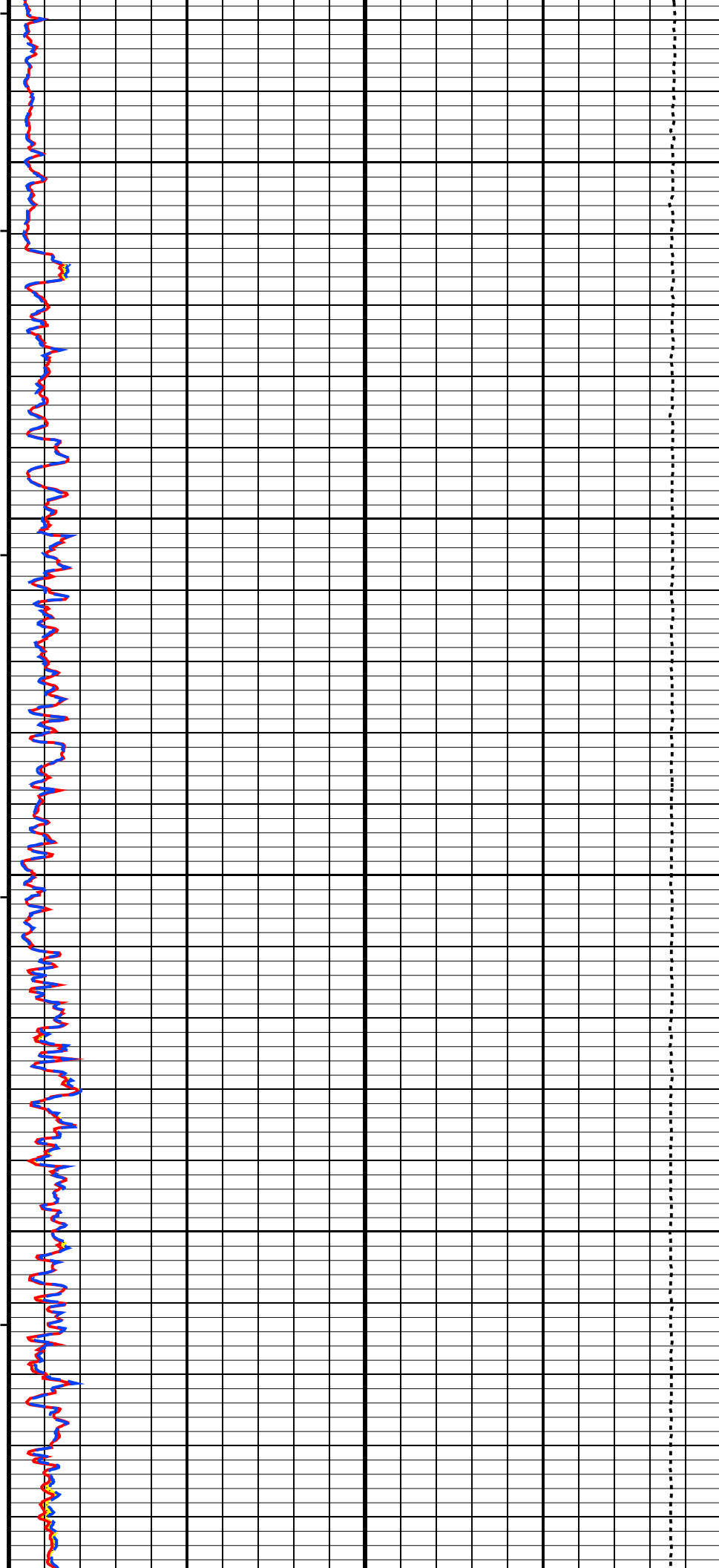


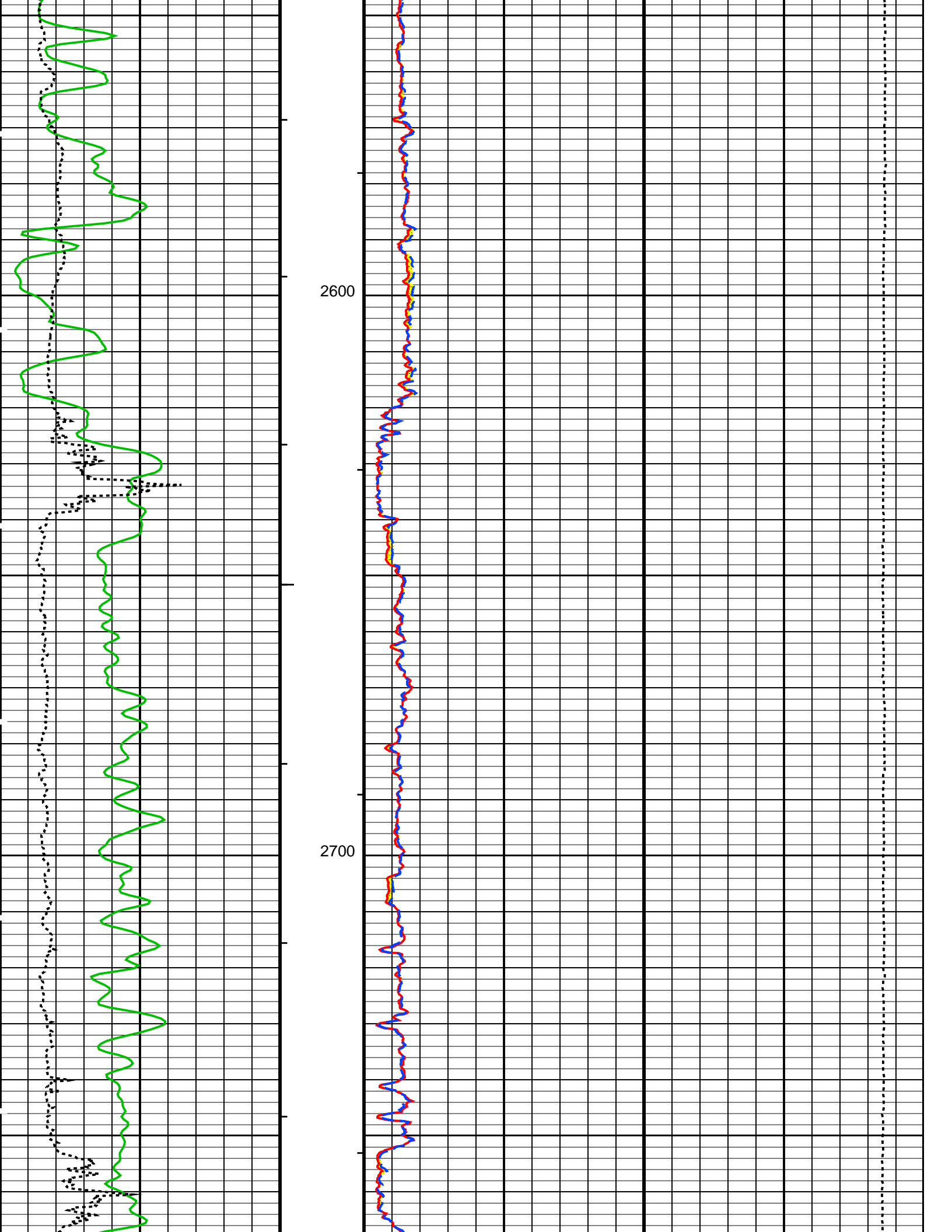




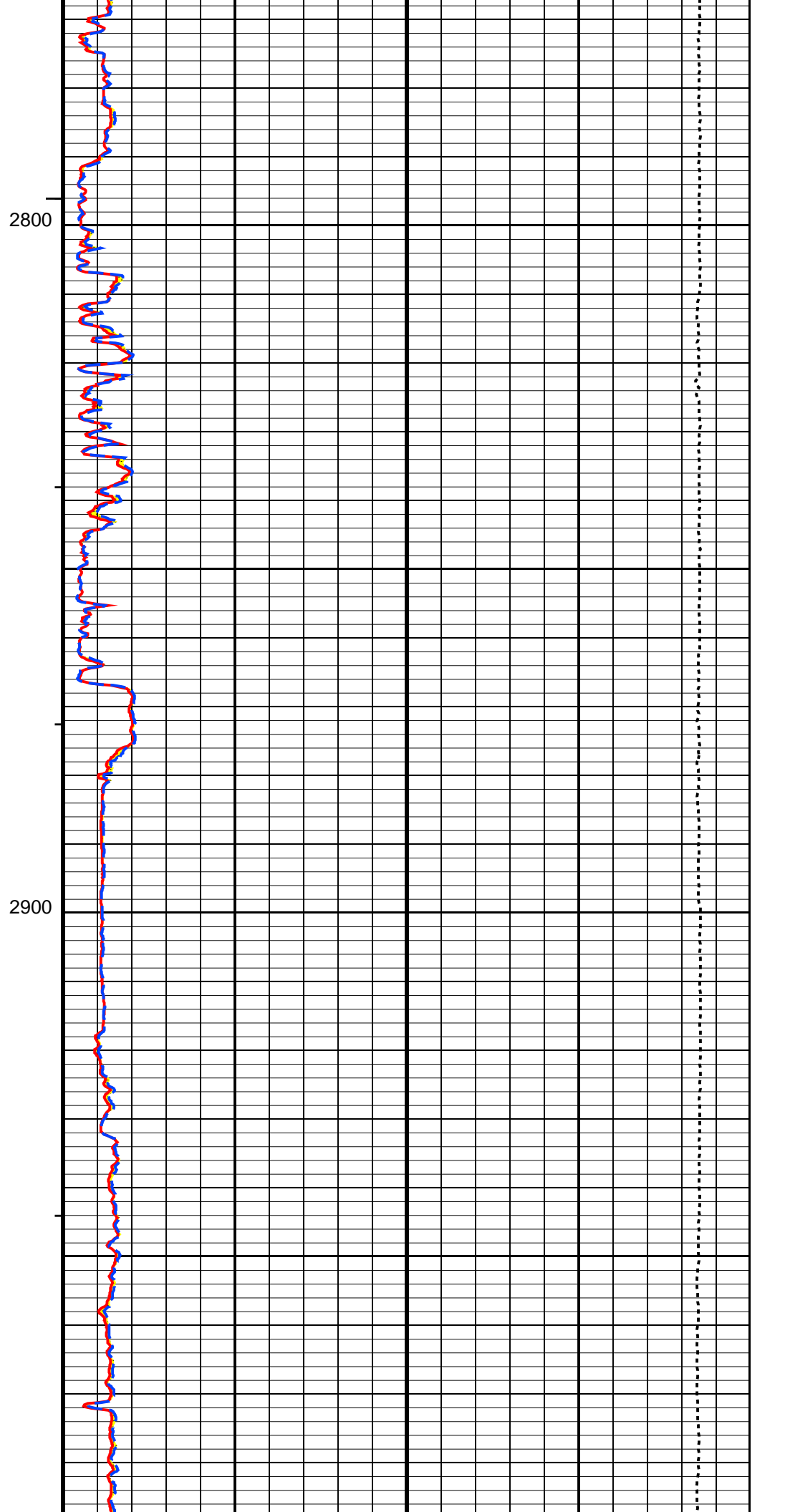
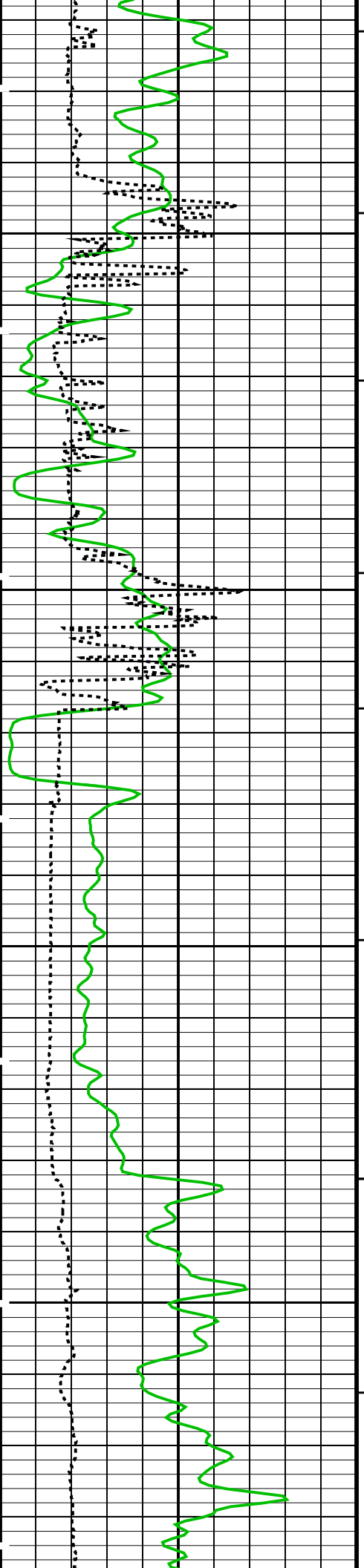
2400

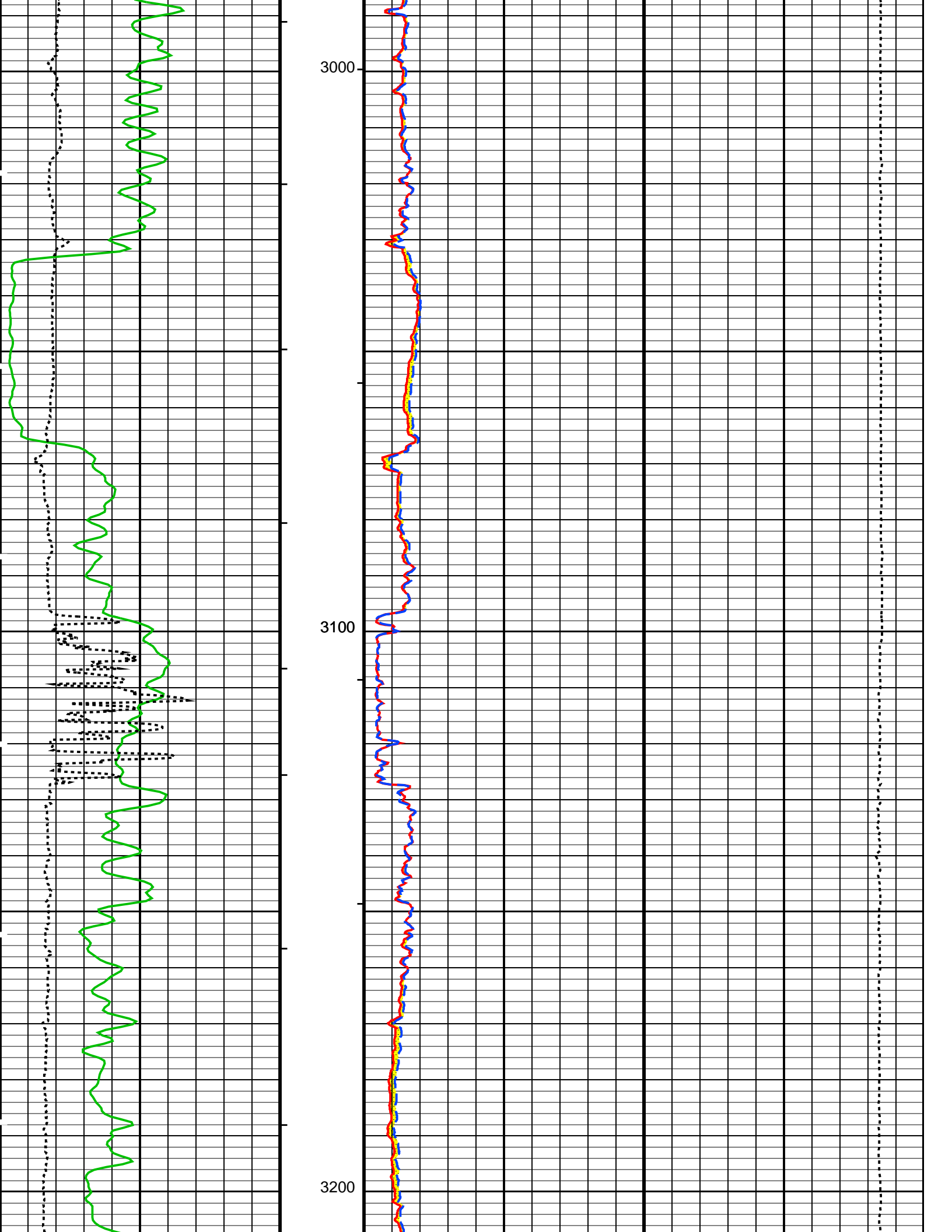
2500

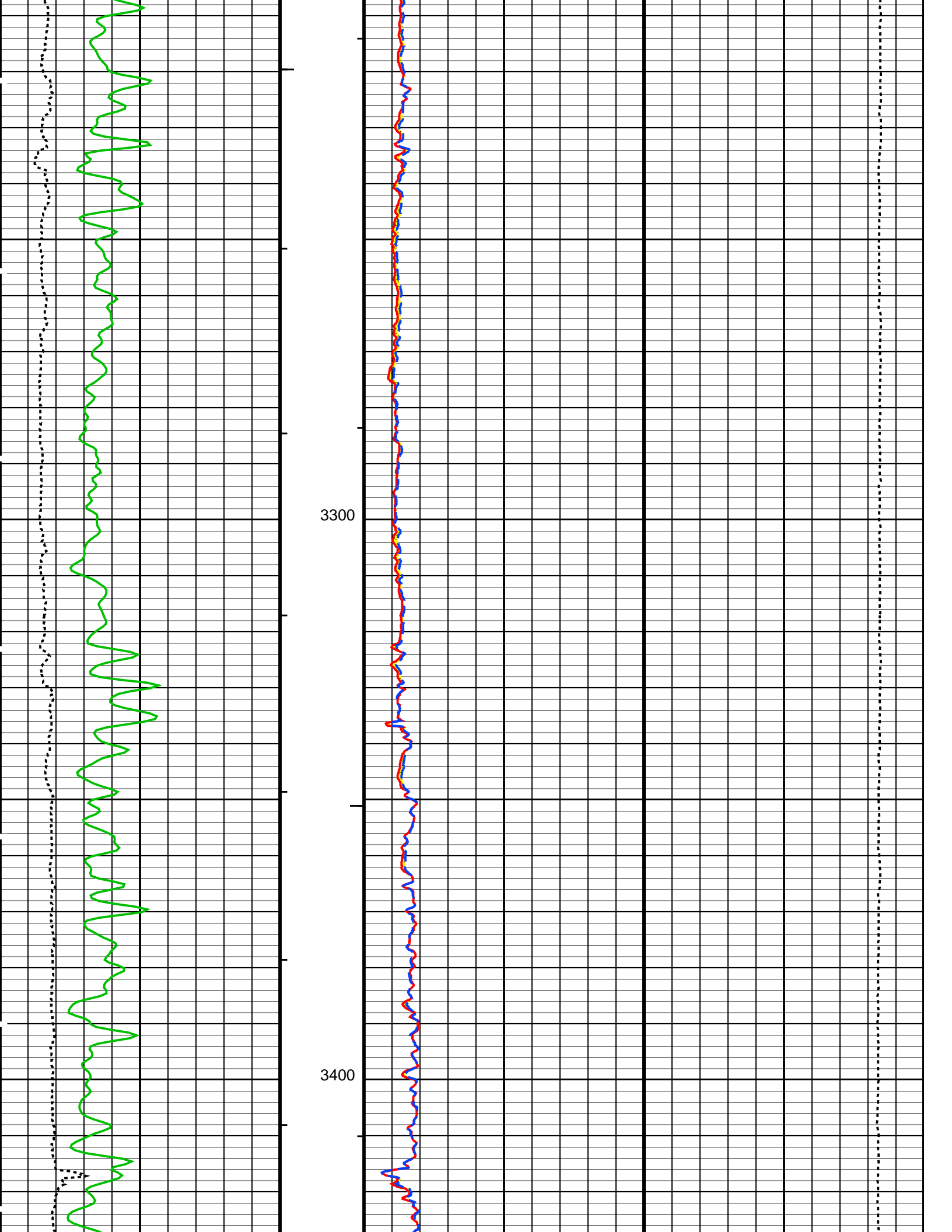


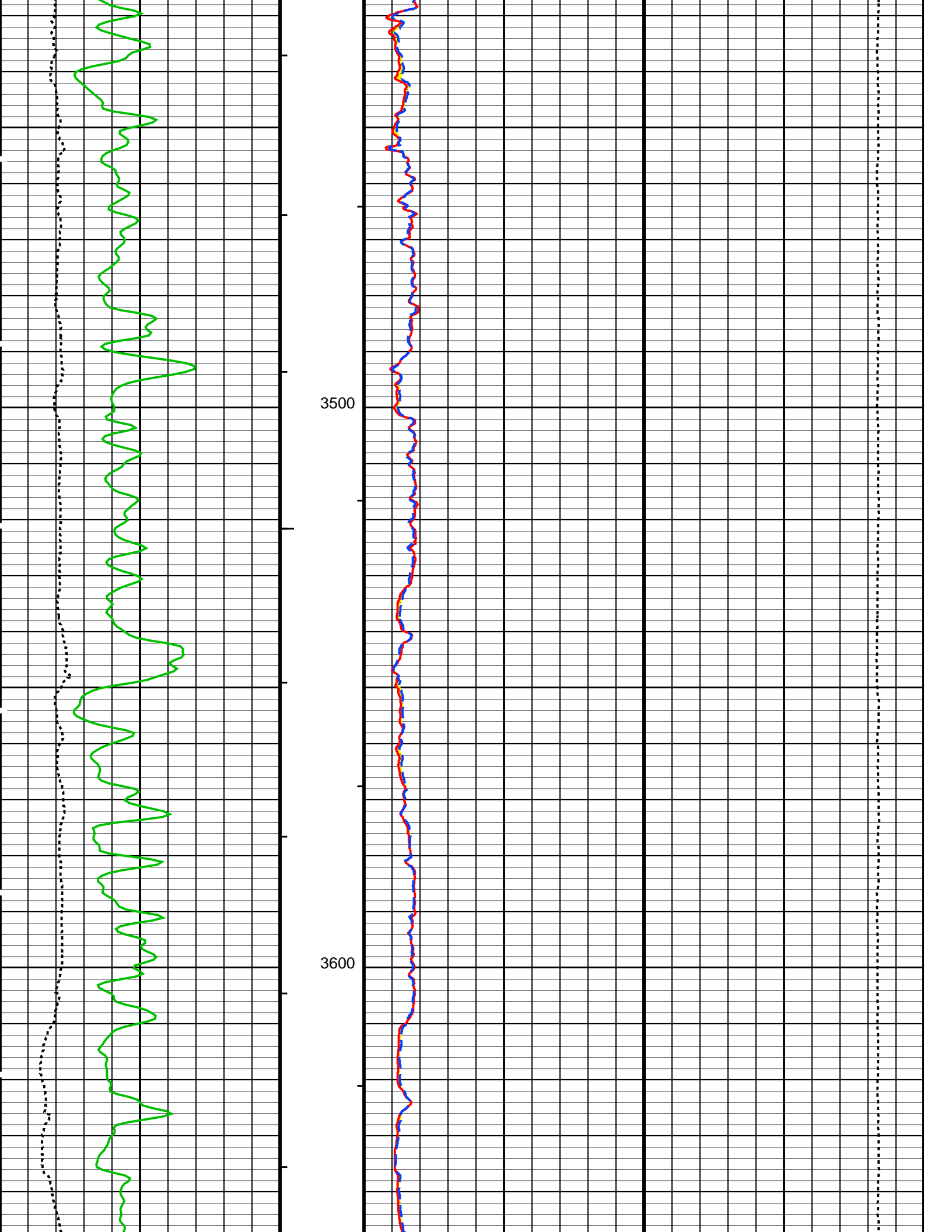


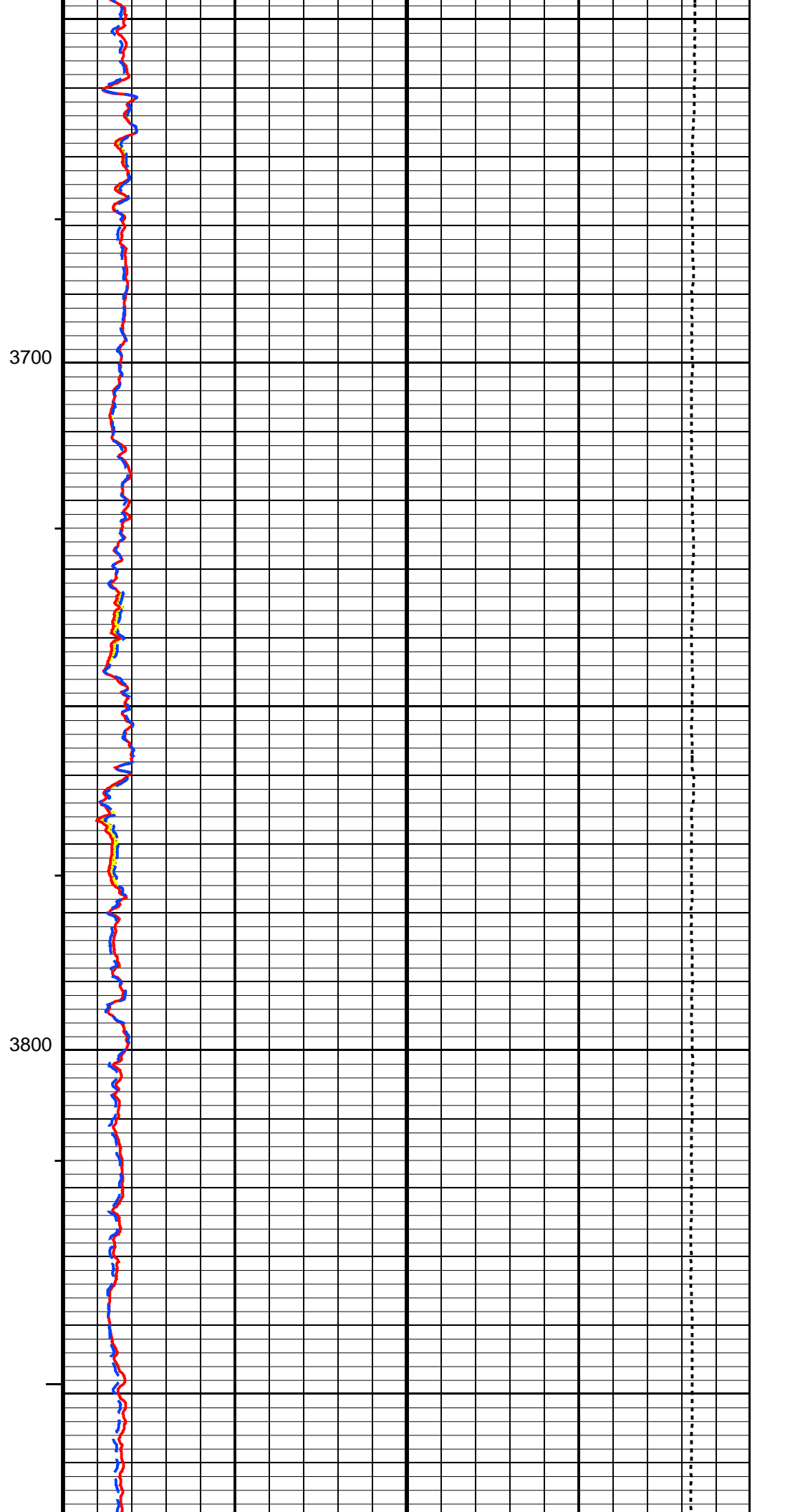
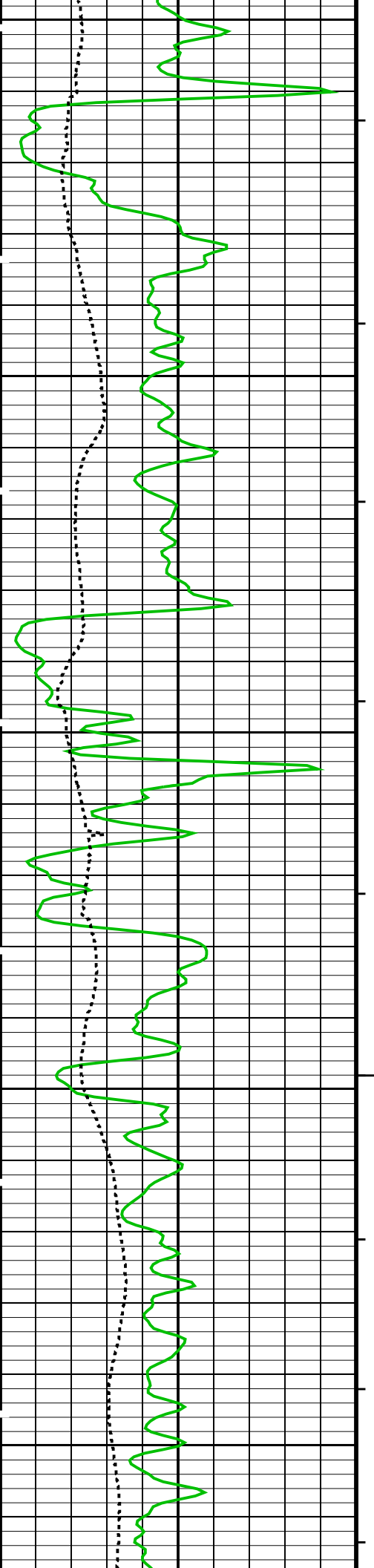


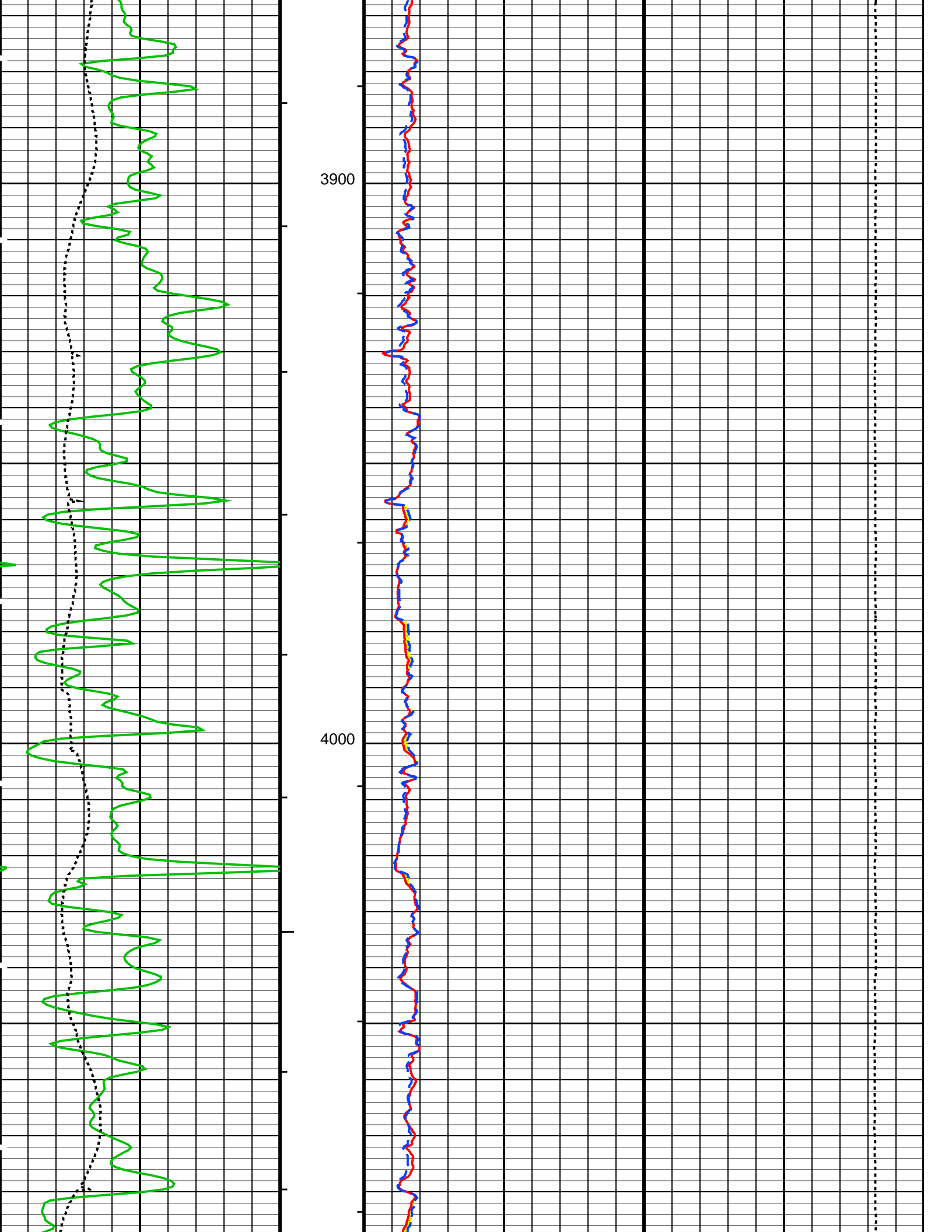


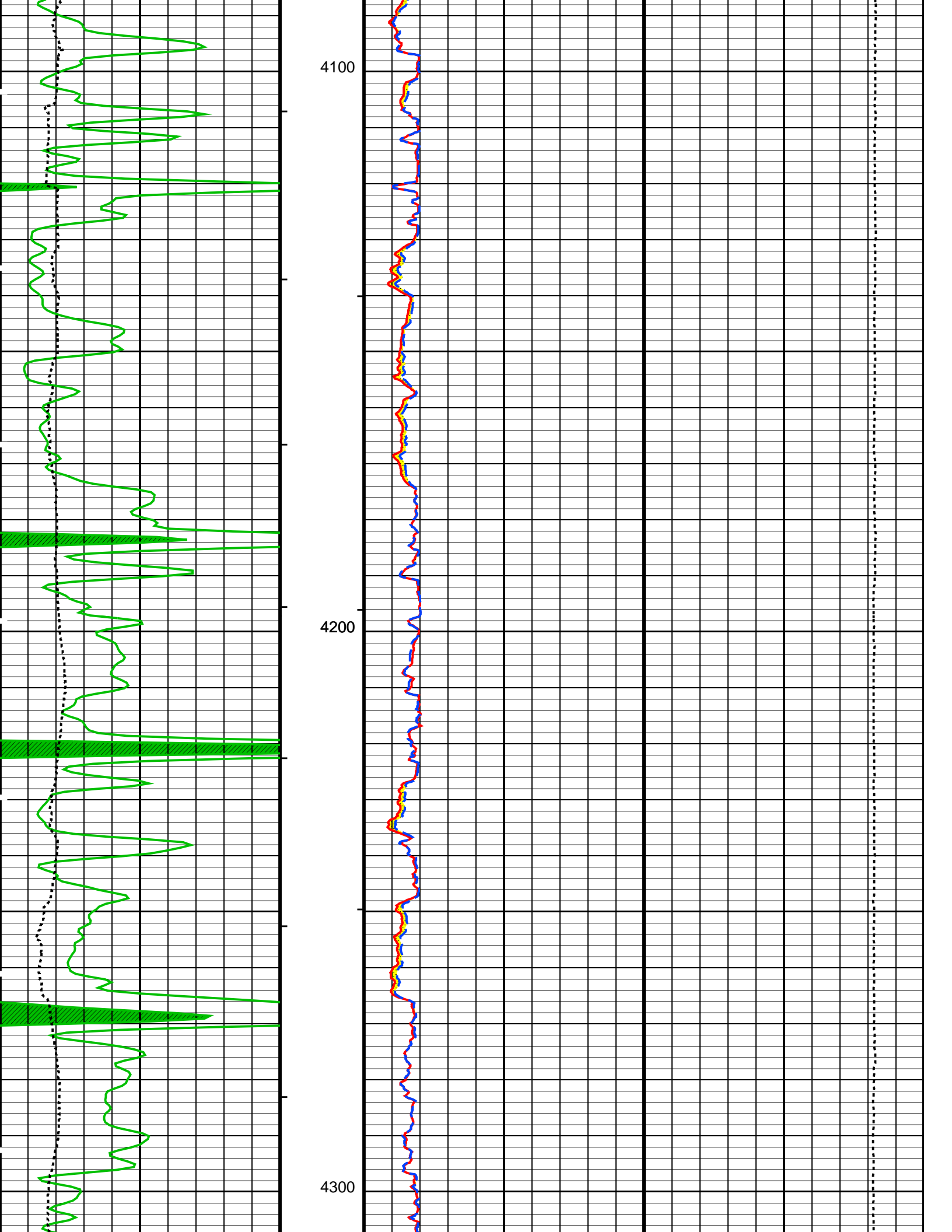


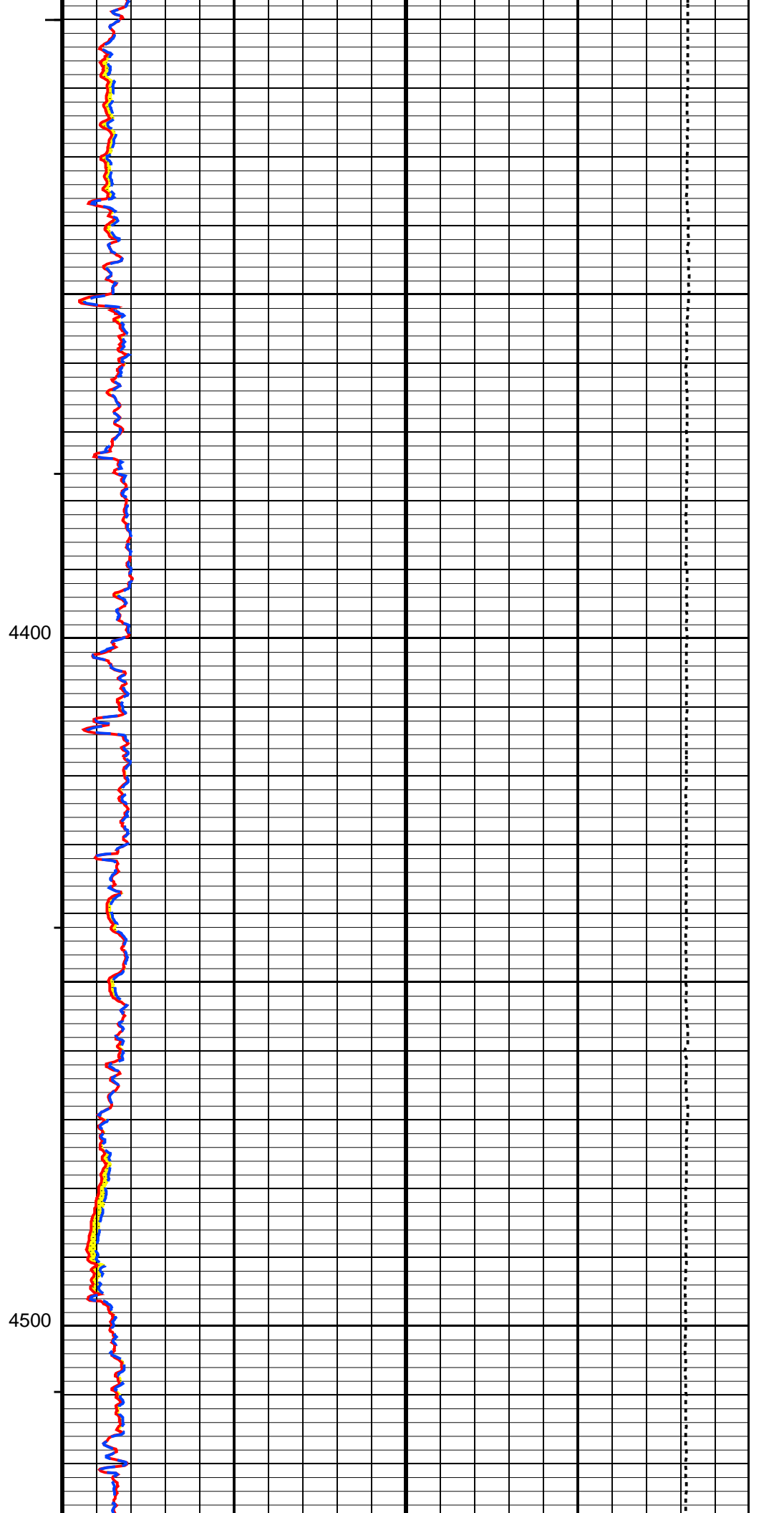
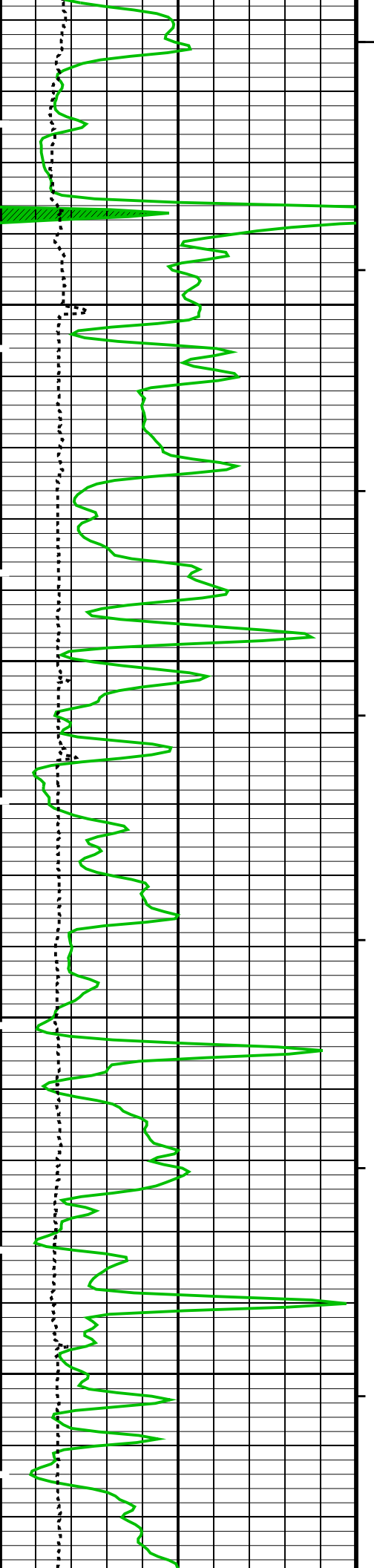




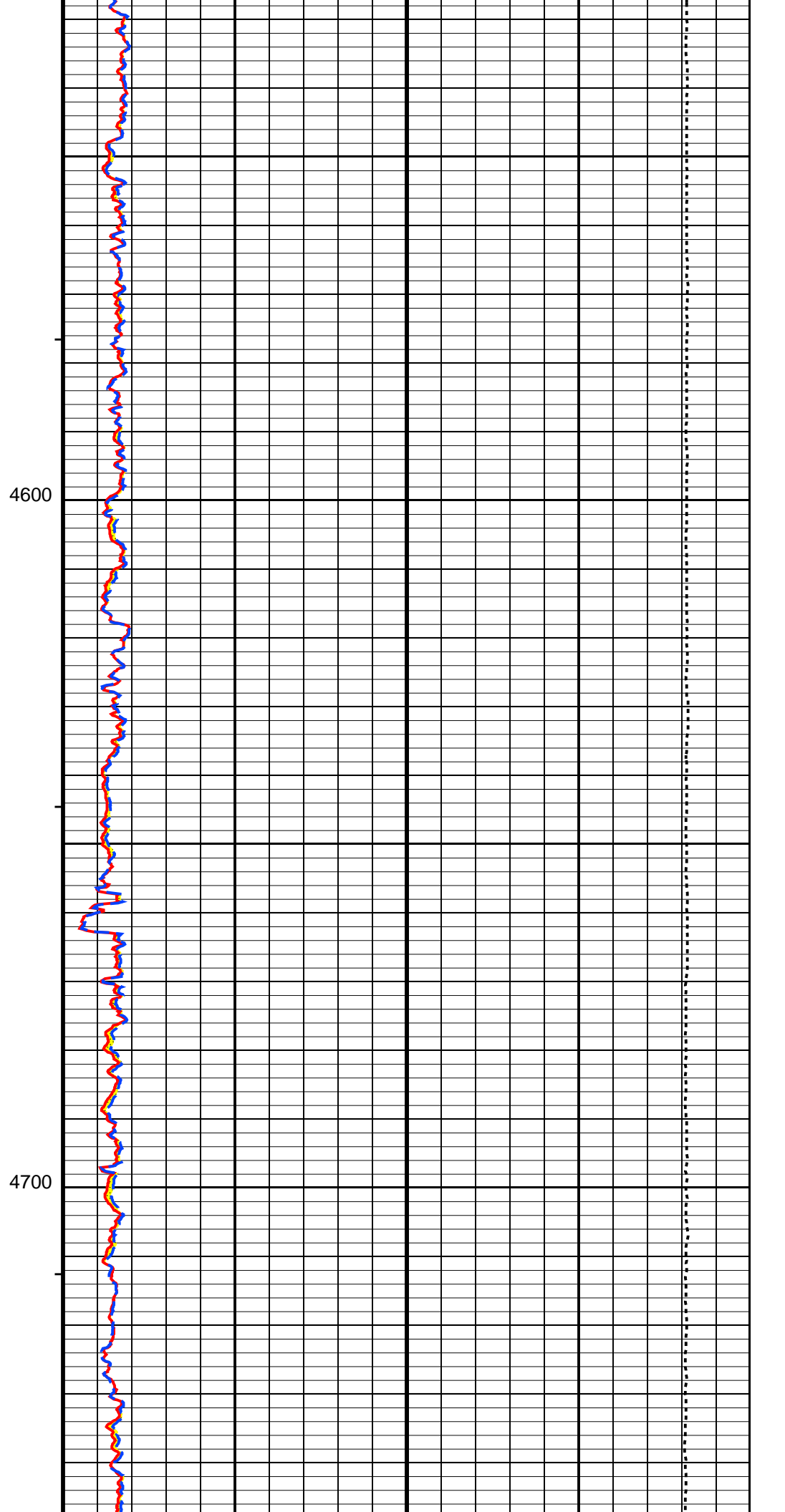
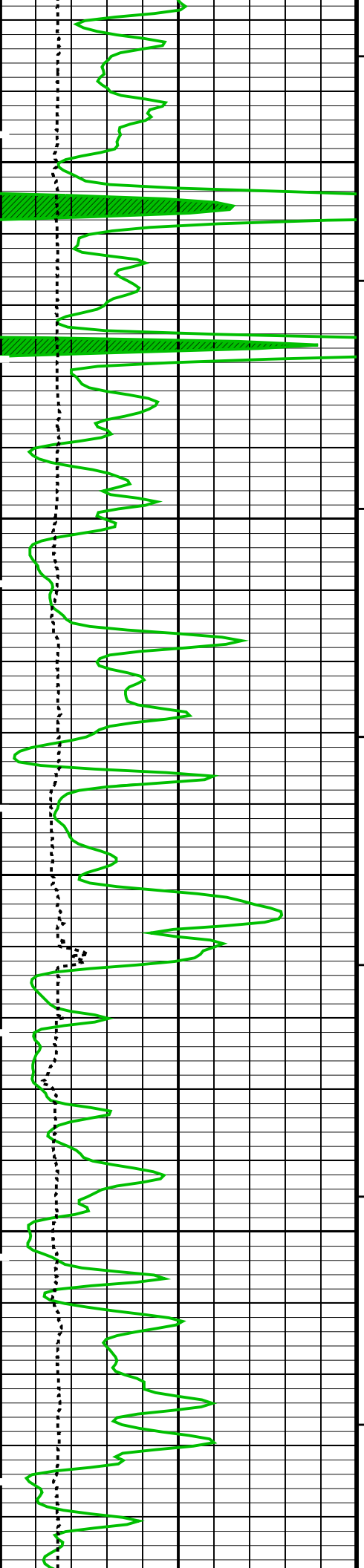


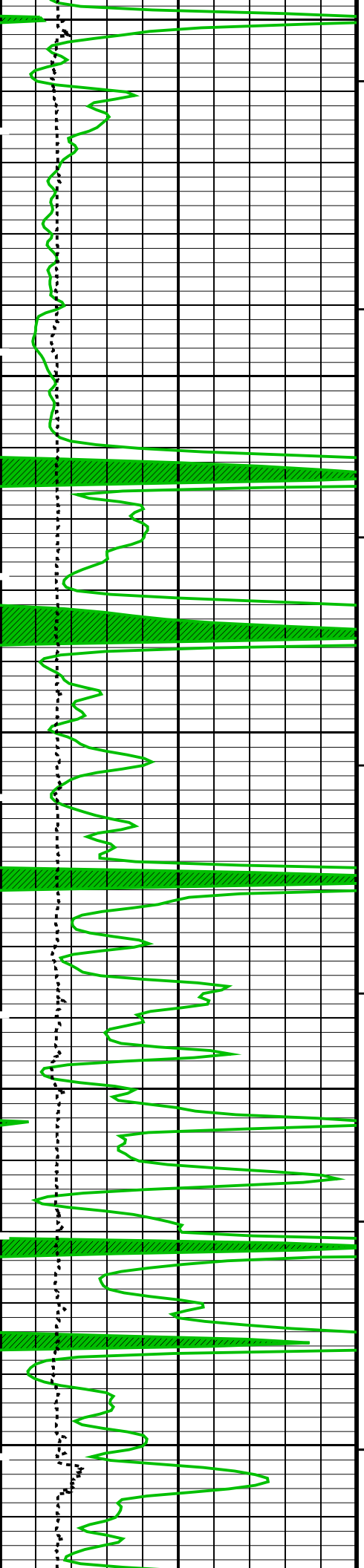






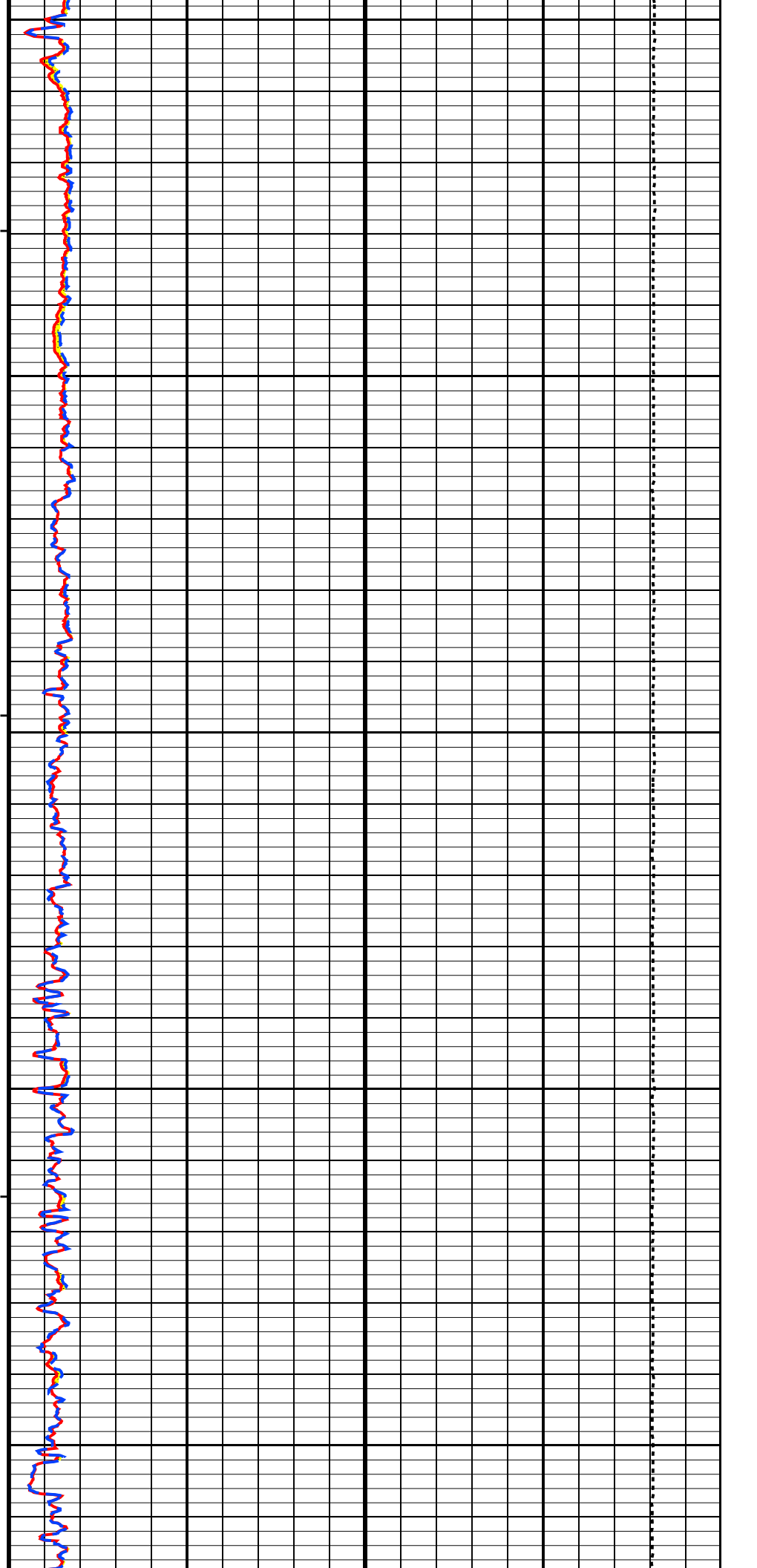


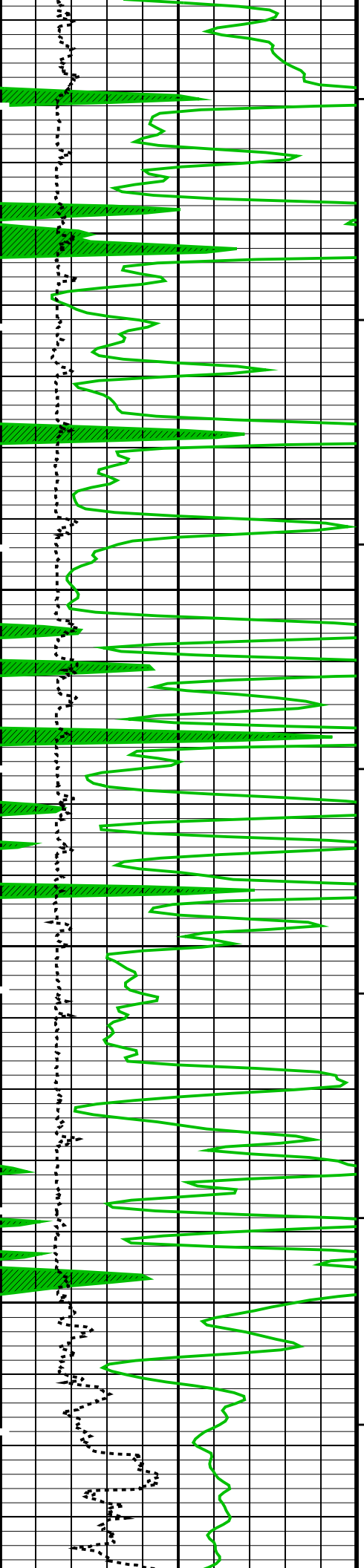




4800

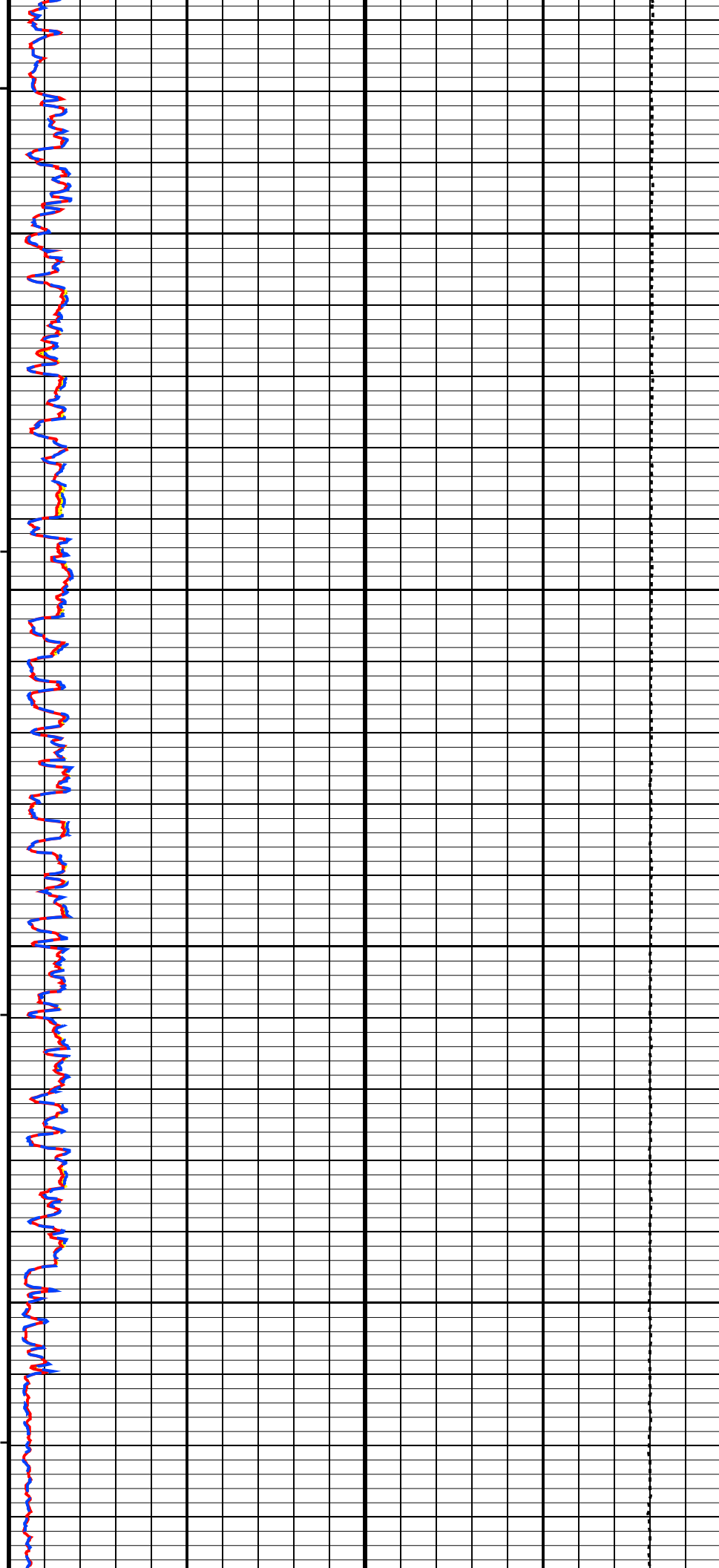
4900

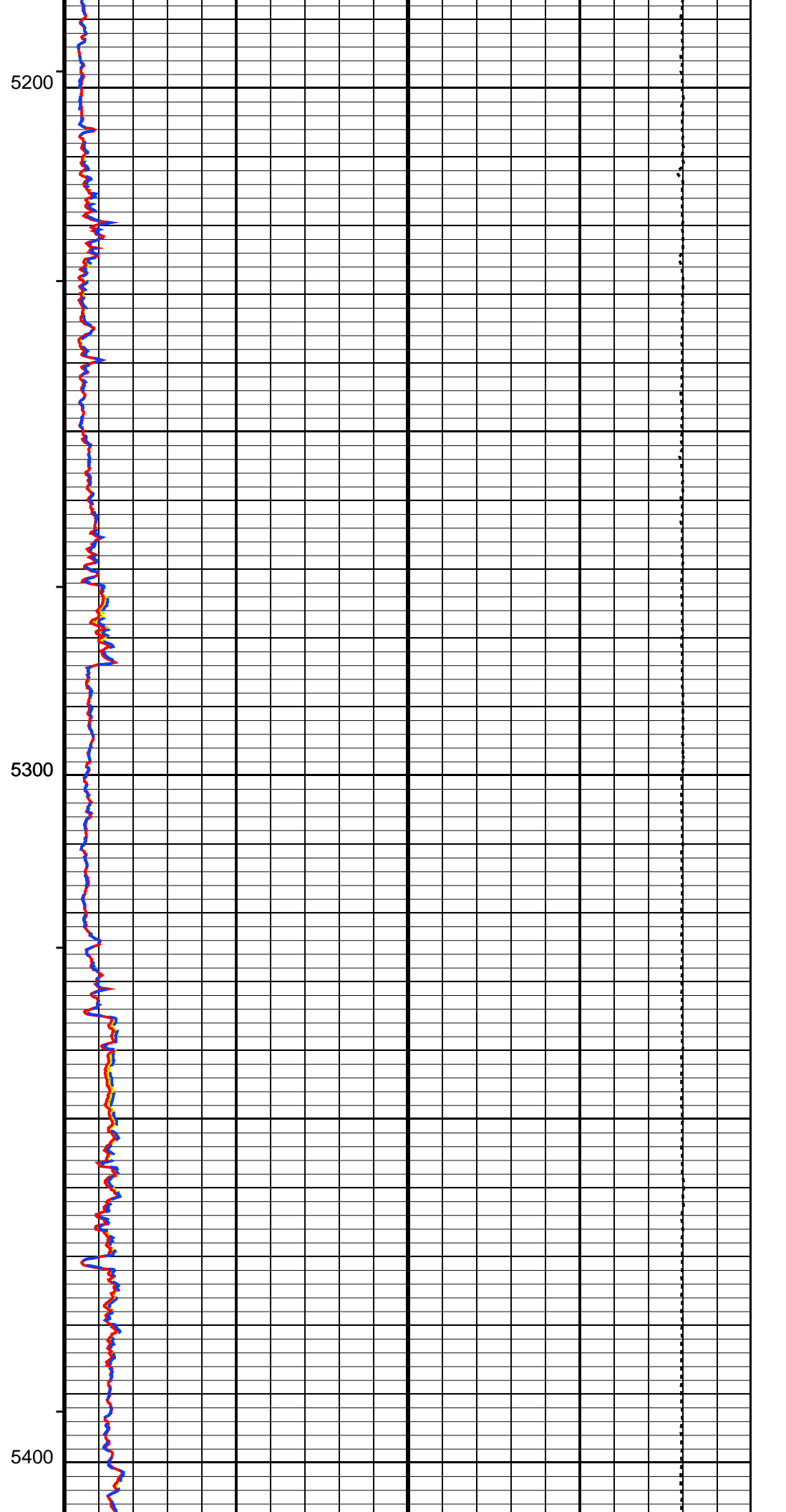
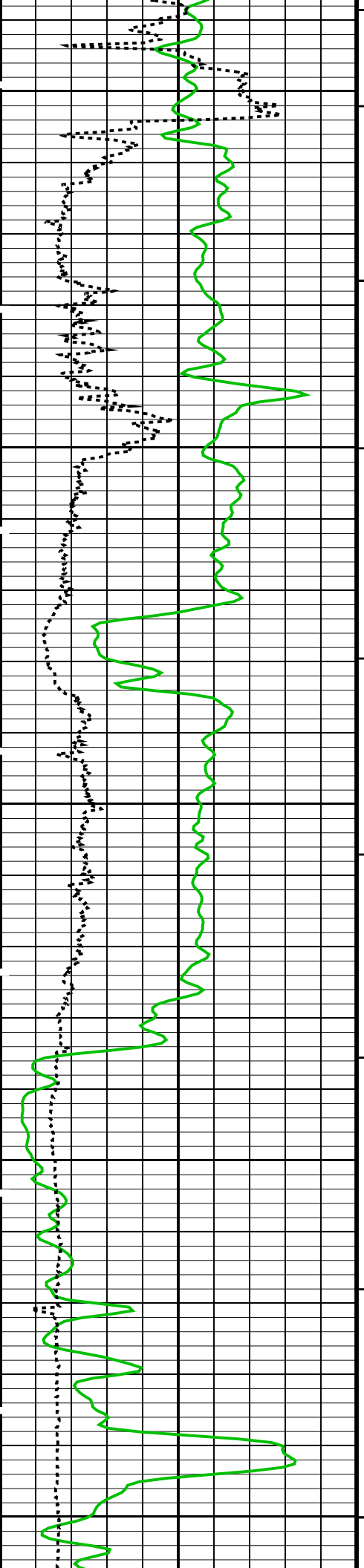


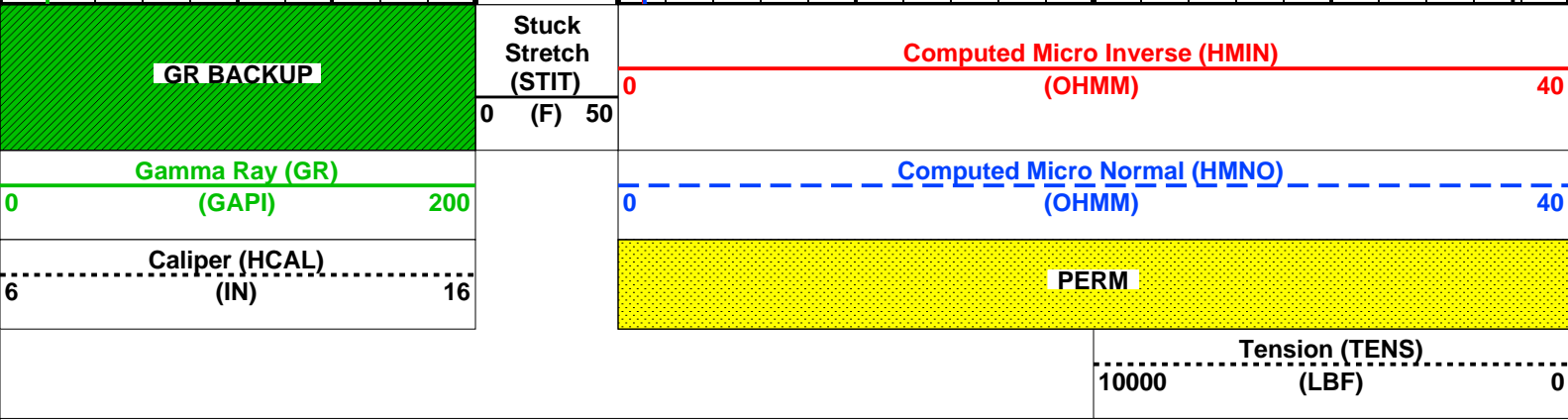
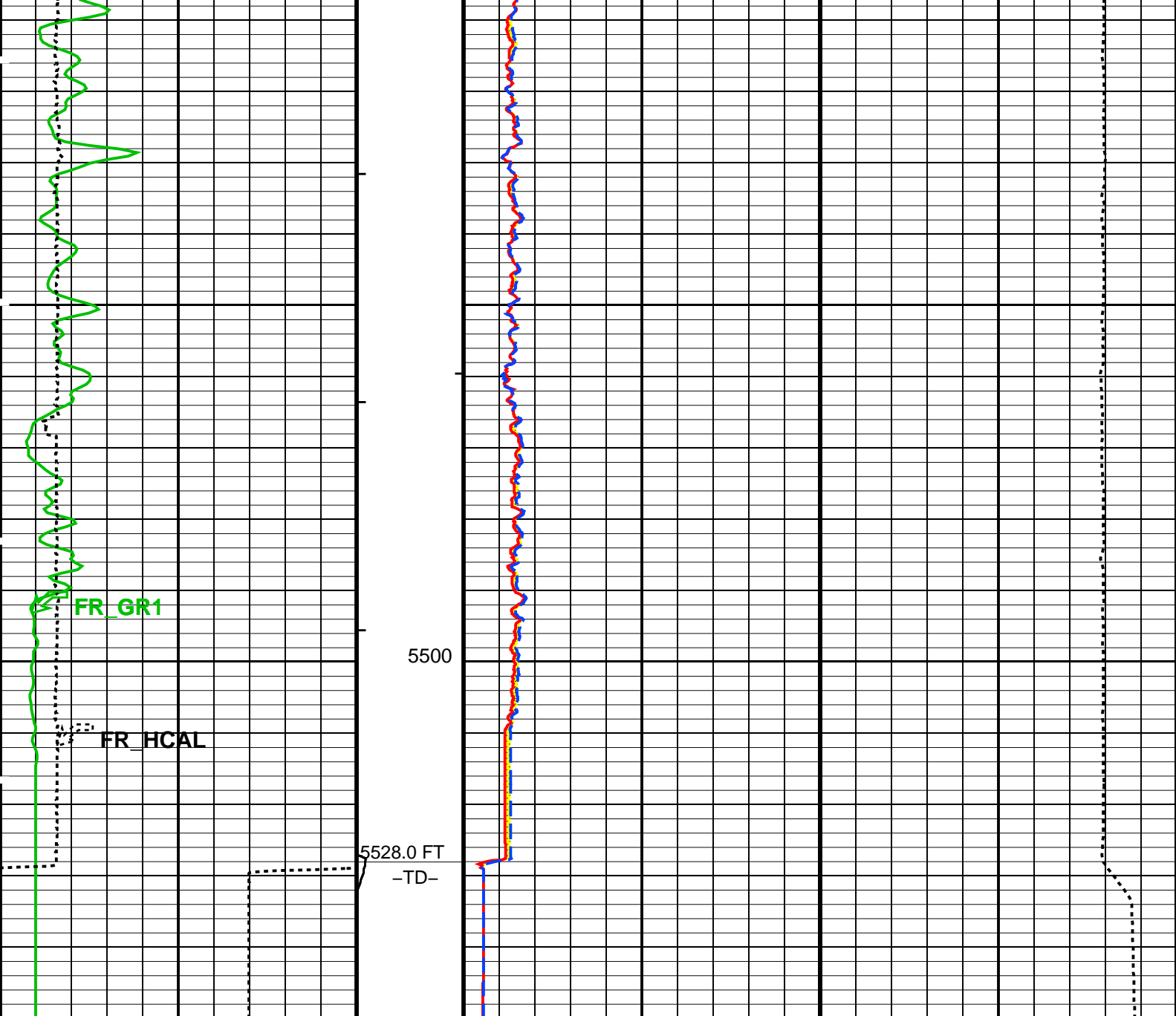


5000

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	MCFL Processing Operation Mode	ON
STKT	STI: Stuck Tool Indicator	
TDD	STI Stuck Threshold	2.500
TDL	Total Depth – Driller	5530.0
	Total Depth – Logger	5528.0
BS	System and Miscellaneous	
	Bit Size	7.875

**Format: MLT      Vertical Scale: 5" per 100'**

**Graphics File Created: 02-Aug-2011 18:56**

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

AITM	18C0-147	HILTD	18C0-147
DTCH	18C0-147		

## Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_007LUP	FN:6	PRODUCER	02-Aug-2011 16:19	5550.0 FT	411.0 FT
DEFAULT	AIT_TLD_MCFL_CNL_005PUP	FN:4	PRODUCER	02-Aug-2011 16:10	5545.5 FT	4904.0 FT



## REPEAT ANALYSIS

MAXIS Field Log

## Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_007LUP	FN:6	PRODUCER	02-Aug-2011 16:19	5550.0 FT	411.0 FT
DEFAULT	AIT_TLD_MCFL_CNL_005PUP	FN:4	PRODUCER	02-Aug-2011 16:10	5545.5 FT	4904.0 FT

## Integrated Hole/Cement Volume Summary

Hole Volume = 1798.91 ft3  
Cement Volume = 958.68 ft3 (assuming 5.50 in casing O.D.)  
Computed from 5527.5 ft to 435.0 ft

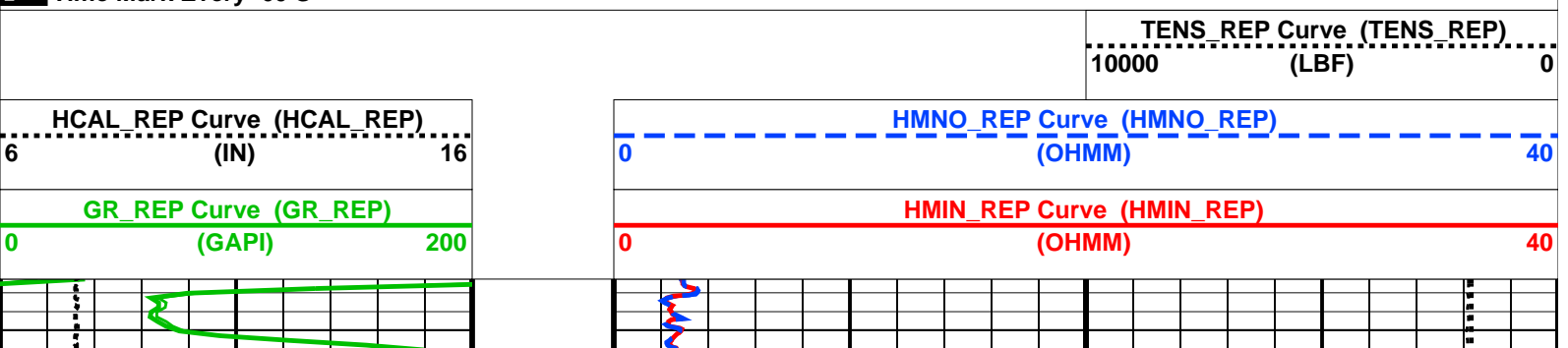
**OP System Version: 18C0-147**

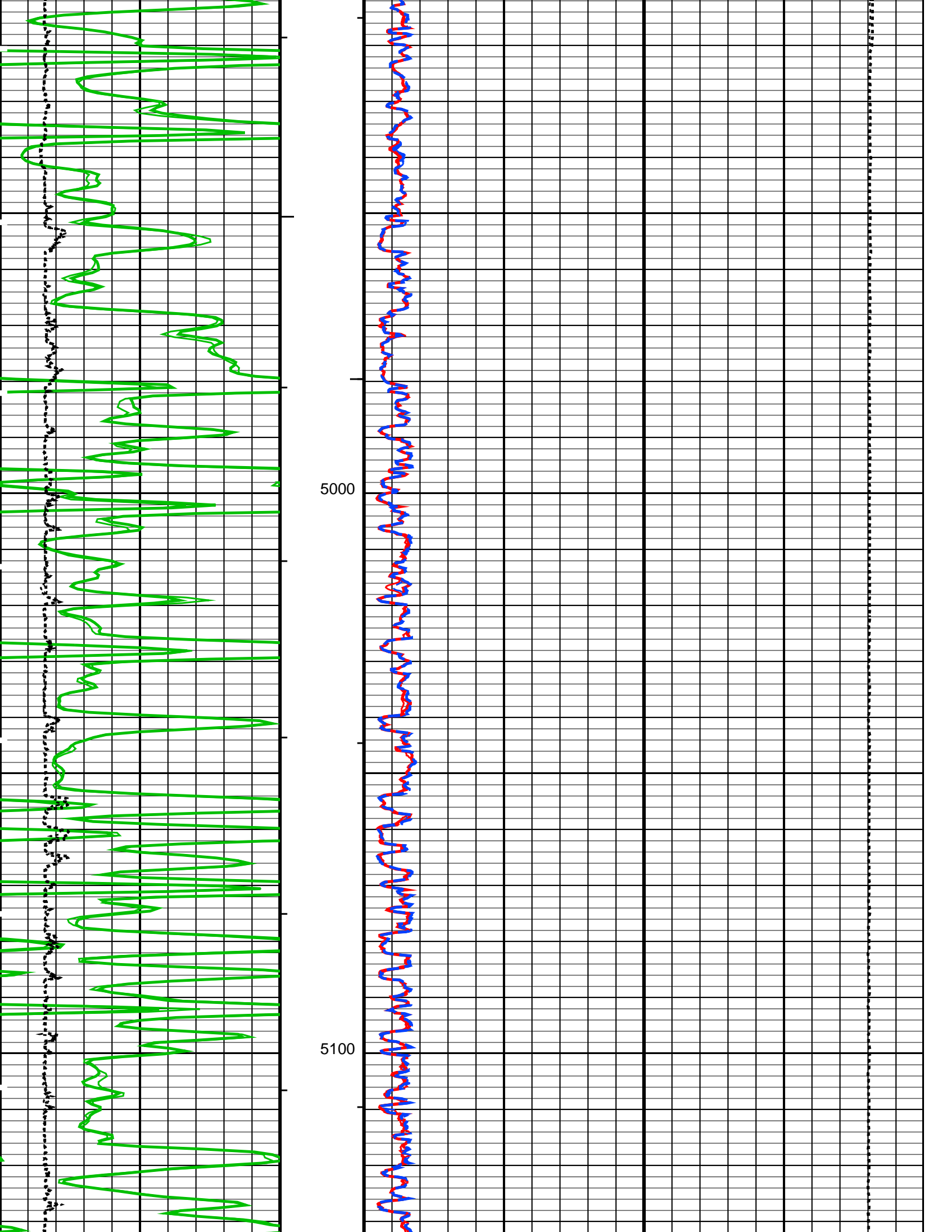
AITM	18C0-147	HILTD	18C0-147
DTCH	18C0-147		

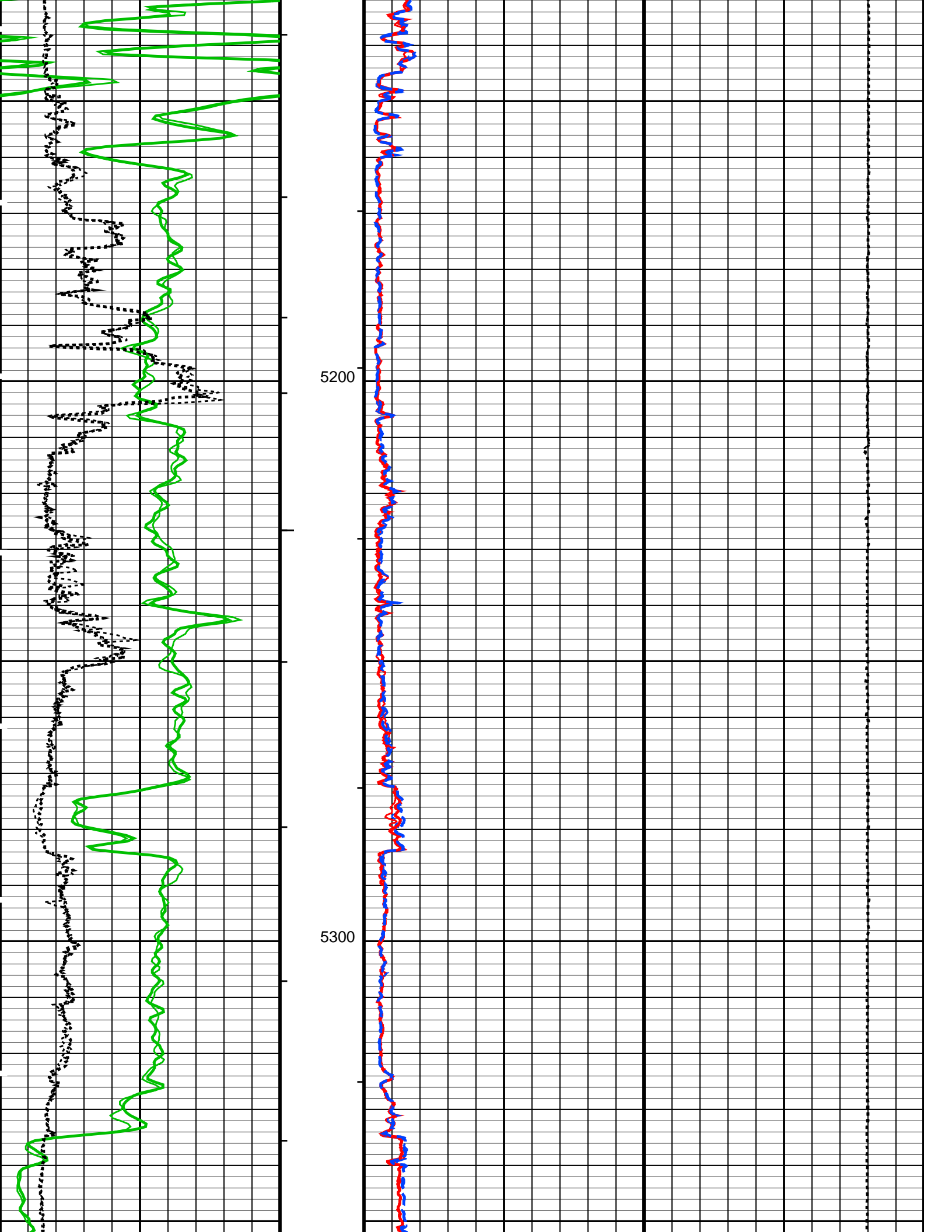
## PIP SUMMARY

- └ 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

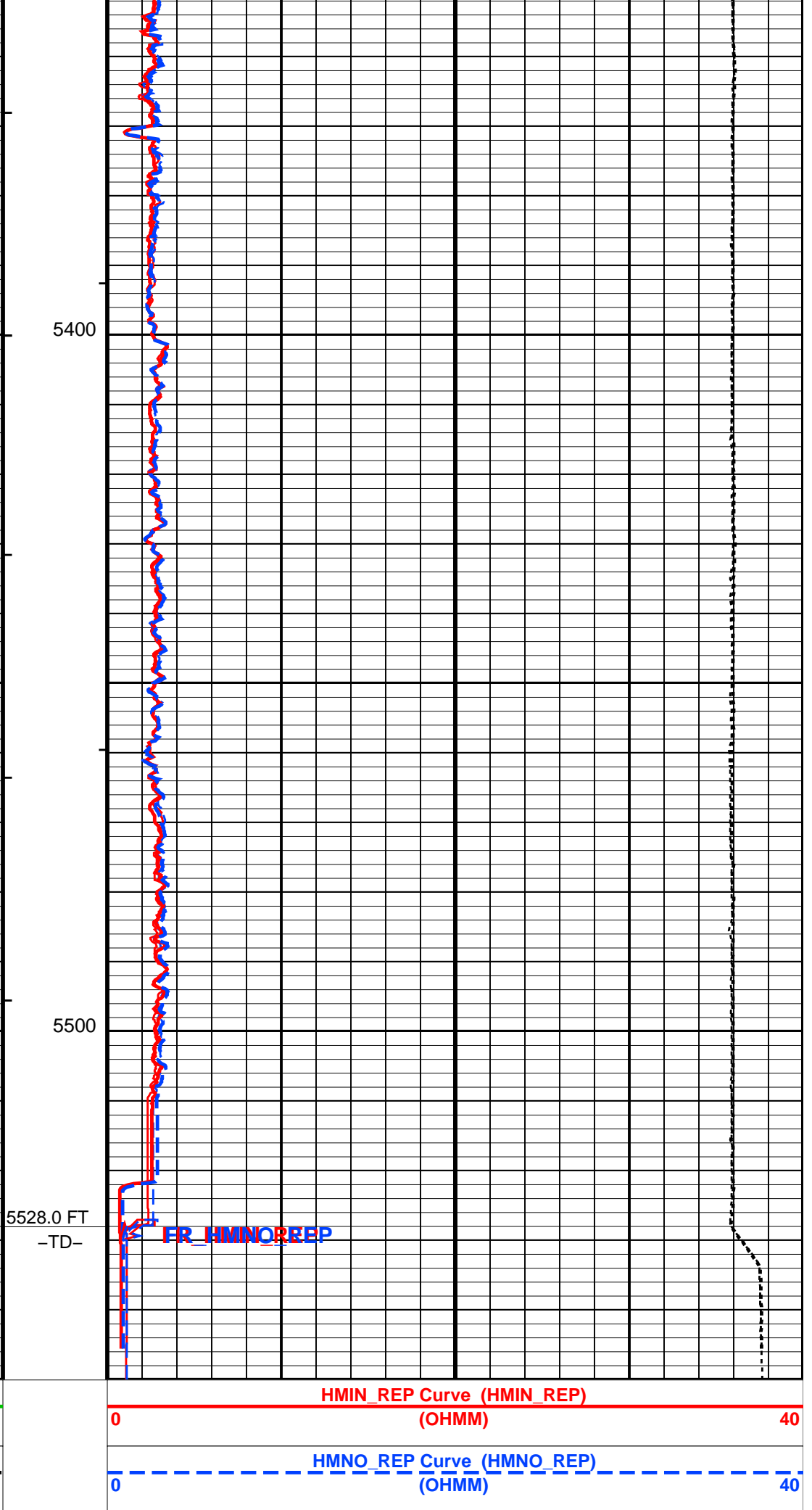
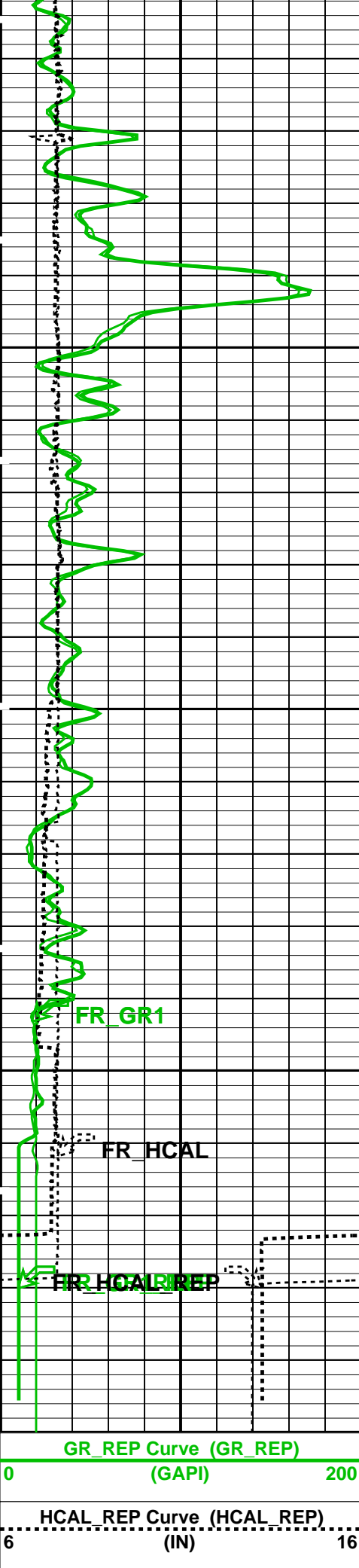
**Time Mark Every 60 S**











TENS\_REP Curve (TENS\_REP)

10000(LBF)0

PIP SUMMARY

└ Integrated Hole Volume Minor Pip Every 10 F3

└ Integrated Hole Volume Major Pip Every 100 F3

└ Integrated Cement Volume Minor Pip Every 10 F3

└ Integrated Cement Volume Major Pip Every 100 F3

Time Mark Every 60 S

Parameters

DLIS Name

Description

Value

MPOF

HILTB-FTB: High resolution Integrated Logging Tool-DTS  
MCFL Processing Operation Mode

ON

BS

System and Miscellaneous  
Bit Size

7.875 in

Format: MLT\_REP

Vertical Scale: 5" per 100'

Graphics File Created: 02-Aug-2011 18:56

OP System Version: 18C0-147

AITM

18C0-147

HILTD

18C0-147

DTCH

18C0-147

Input DLIS Files

DEFAULT

AIT\_TLD\_MCFL\_CNL\_007LUP

FN:6

PRODUCER

02-Aug-2011 16:19

5550.0 FT

411.0 FT

DEFAULT

AIT\_TLD\_MCFL\_CNL\_005PUP

FN:4

PRODUCER

02-Aug-2011 16:10

5545.5 FT

4904.0 FT

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: 16-Jun-2011 9:20 Before: 1-Aug-2011 4:59

Thru Cal Magnitude – 0

0

0.6232

0.6232

N/A

N/A

N/A

V

Thru Cal Magnitude – 1

0

1.277

1.277

N/A

N/A

N/A

V

Thru Cal Magnitude – 2

0

0.6338

0.6338

N/A

N/A

N/A

V

Thru Cal Magnitude – 3

0

0.7158

0.7159

N/A

N/A

N/A

V

Thru Cal Magnitude – 4

0

1.343

1.343

N/A

N/A

N/A

V

Thru Cal Magnitude – 5

0

1.953

1.953

N/A

N/A

N/A

V

Thru Cal Magnitude – 6

0

1.956

1.956

N/A

N/A

N/A

V

Thru Cal Magnitude – 7

0

1.427

1.427

N/A

N/A

N/A

V

Thru Cal Phase – 0

0

187.1

186.8

N/A

N/A

N/A

DEG

Thru Cal Phase – 1

0

186.1

185.8

N/A

N/A

N/A

DEG

Thru Cal Phase – 2

0

182.5

182.2

N/A

N/A

N/A

DEG

Thru Cal Phase – 3

0

181.8

181.4

N/A

N/A

N/A

DEG

Thru Cal Phase – 4

0

175.6

175.3

N/A

N/A

N/A

DEG

Thru Cal Phase – 5

0

174.0

173.7

N/A

N/A

N/A

DEG

Thru Cal Phase – 6

0

174.0

173.7

N/A

N/A

N/A

DEG

Thru Cal Phase – 7

0

173.0

172.7

N/A

N/A

N/A

DEG

Array Induction Tool – M Wellsite Calibration – Electronics Calibration Check – Auxiliary

Master: 16-Jun-2011 9:20 Before: 1-Aug-2011 4:59

Array Induction SPA Plus

991.0

992.6

992.6

N/A

N/A

N/A

MV

Array Induction SPA Zero

0

0.6312

0.6546

N/A

N/A

N/A

MV

Array Induction Temperature PI	0.9170	0.9195	0.9196	N/A	N/A	N/A	V
Array Induction Temperature Ze	0	0.0006374	0.0007223	N/A	N/A	N/A	V

#### Array Induction Tool – M Wellsite Calibration – Test Loop Gain Correction

Master: 16-Jun-2011 9:20

Test Loop Gain Correctio – 0	0	1.043	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio – 1	0	1.017	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio – 2	0	1.026	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio – 3	0	1.021	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio – 4	0	1.002	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio – 5	0	0.9904	N/A	N/A	N/A	N/A	V
Test Loop Gain Correctio – 6	0	0.9975	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	0.4529	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio – 1	0	0.7686	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio – 2	0	0.05323	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio – 3	0	0.1755	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio – 4	0	0.08051	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio – 5	0	-0.09107	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio – 6	0	0.2852	N/A	N/A	N/A	N/A	DEG
Test Loop Gain Correctio – 7	0	-0.07289	N/A	N/A	N/A	N/A	DEG

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

Master: 16-Jun-2011 9:20

R Sonde Error Correction – 0	0	-83.51	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 1	0	161.1	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 2	0	110.8	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 3	0	68.40	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 4	0	27.47	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 5	0	12.19	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 6	0	9.946	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 7	0	-1.793	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 0	0	-403.9	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 1	0	-99.44	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 2	0	64.35	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 3	0	-104.3	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 4	0	-21.13	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 5	0	-14.49	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 6	0	-9.579	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 7	0	-3.504	N/A	N/A	N/A	N/A	MM/M

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

Master: 16-Jun-2011 9:20

Coarse – Mag, Real, Imag – 0	0	0.8589	N/A	N/A	N/A	N/A
Coarse – Mag, Real, Imag – 1	0	0.8589	N/A	N/A	N/A	N/A
Coarse – Mag, Real, Imag – 2	0	0.8589	N/A	N/A	N/A	N/A
Fine – Mag, Real, Imag – 0	0	0.8618	N/A	N/A	N/A	N/A
Fine – Mag, Real, Imag – 1	0	0.8619	N/A	N/A	N/A	N/A
Fine – Mag, Real, Imag – 2	0	0.8619	N/A	N/A	N/A	N/A

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

Before: 1-Aug-2011 5:01

BS Window Ratio	0.7278	N/A	0.7271	N/A	N/A	N/A	
BS Window Sum	9473	N/A	9480	N/A	N/A	N/A	CPS
SS Window Ratio	0.4775	N/A	0.4778	N/A	N/A	N/A	
SS Window Sum	9398	N/A	9390	N/A	N/A	N/A	CPS
LS Window Ratio	0.2927	N/A	0.2887	N/A	N/A	N/A	
LS Window Sum	1040	N/A	1042	N/A	N/A	N/A	CPS

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

Before: 1-Aug-2011 5:01

BS PM High Voltage (Command)	1664	N/A	1676	N/A	N/A	N/A	V
SS PM High Voltage (Command)	1426	N/A	1433	N/A	N/A	N/A	V
LS PM High Voltage (Command)	1530	N/A	1528	N/A	N/A	N/A	V

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

Before: 1-Aug-2011 5:01

BS Crystal Resolution	11.56	N/A	11.63	N/A	N/A	N/A	%
SS Crystal Resolution	10.01	N/A	10.03	N/A	N/A	N/A	%
LS Crystal Resolution	8.870	N/A	8.954	N/A	N/A	N/A	%

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

Before: 1-Aug-2011 5:02

Raw B0 Resistivity	3875	N/A	3868	N/A	N/A	N/A	OHMM
Raw B1 Resistivity	3830	N/A	3806	N/A	N/A	N/A	OHMM
Raw B2 Resistivity	3830	N/A	3801	N/A	N/A	N/A	OHMM

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

Before: 1-Aug-2011 4:56

HILT Caliper Zero Measurement	8.000	N/A	8.608	N/A	N/A	N/A	IN
HILT Caliper Plus Measurement	12.00	N/A	12.84	N/A	N/A	N/A	IN

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

Before: 1–Aug–2011 4:57

Gamma Ray Background	30.00	N/A	74.76	N/A	N/A	N/A	GAPI
Gamma Ray (Jig – Bkgd)	165.0	N/A	179.5	N/A	N/A	15.00	GAPI

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

Master: 26–Jul–2011 8:44 Before: 1–Aug–2011 4:58

CNTC Background	28.13	28.13	26.81	N/A	N/A	4.220	CPS
CFTC Background	25.95	25.95	25.73	N/A	N/A	3.893	CPS

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

Master: 26–Jul–2011 8:44

Thermal Near Corr. (Tank)	5800	4840	N/A	N/A	N/A	N/A	CPS
Thermal Far Corr. (Tank)	2400	2064	N/A	N/A	N/A	N/A	CPS
CNTC/CFTC (Tank)	2.159	2.345	N/A	N/A	N/A	N/A	

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

Before: 2–Aug–2011 15:23

Z–Axis Acceleration	32.19	N/A	32.12	N/A	N/A	N/A	F/S2
---------------------	-------	-----	-------	-----	-----	-----	------

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

Master: 28–Jul–2011 15:04

Rho Aluminum	2.596	2.597	--	--	--	--	G/C3
Rho Magnesium	1.686	1.688	--	--	--	--	G/C3
Pe Aluminum	2.570	2.539	--	--	--	--	
Pe Magnesium	2.650	2.629	--	--	--	--	

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

Master: 28–Jul–2011 15:04

BS Average Deviation	0	0.4013	--	--	--	--	%
BS Max Deviation	0	0.8638	--	--	--	--	%
SS Average Deviation	0	0.3115	--	--	--	--	%
SS Max Deviation	0	0.8795	--	--	--	--	%
LS Average Deviation	0	0.5381	--	--	--	--	%
LS Max Deviation	0	1.410	--	--	--	--	%

The GLS–VJ source activity is acceptable.



















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

NCT–B Water Temperature 70.0 DEGF.  
Thermal Housing Size 3.372 IN.  
NSR–F serial number 5068

Array Induction Tool – M / Equipment Identification

Primary Equipment:  
Rm/SP Bottom Nose AMRM – A  
Array Induction Sonde AMIS – A 1270

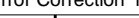
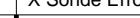
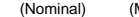

Auxiliary Equipment:

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	0.6232		0.6100	187.1		197.0
	Before	0.6232			186.8		
1	Master	1.277		1.270	186.1		196.0
	Before	1.277			185.8		
2	Master	0.6338		0.6200	182.5		192.0
	Before	0.6338			182.2		
3	Master	0.7158		0.7000	181.8		191.0
	Before	0.7159			181.4		
	Master	1.343			175.6		

	Before	1.343		1.340	175.3		185.0
5	Master	1.953		1.960	174.0		182.0
	Before	1.953			173.7		
6	Master	1.956		1.960	174.0		181.0
	Before	1.956			173.7		
7	Master	1.427		1.410	173.0		175.0
	Before	1.427			172.7		
		60.00 % (Minimum)	(Nominal)	140.0 % (Maximum)	Nom -60.00 (Minimum)	(Nominal)	Nom + 60.00 (Maximum)
Master: 16-Jun-2011 9:20				Before: 1-Aug-2011 4:59			







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			992.6	Master			0.6312
Before			992.6	Before			0.6546
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			0.9195	Master			0.0006374
Before			0.9196	Before			0.0007223
0.8710 (Minimum)			0.9170 (Nominal)	0.9630 (Maximum)			
-0.05000 (Minimum)			0 (Nominal)	0.05000 (Maximum)			
Master: 16-Jun-2011 9:20				Before: 1-Aug-2011 4:59			

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	1.043				0.4529			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
1	1.017				0.7686			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
2	1.026				0.05323			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
3	1.021				0.1755			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
4	1.002				0.08051			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
5	0.9904				-0.09107			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
6	0.9975				0.2852			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
7	1.006				-0.07289			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
Master: 16-Jun-2011 9:20								

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	-83.51				-403.9		
		-231.0 (Minimum)	-56.00 (Nominal)	119.0 (Maximum)		-2250 (Minimum)	0 (Nominal) 2250 (Maximum)
1	161.1				-99.44		

		114.0 (Minimum)	159.0 (Nominal)	204.0 (Maximum)		-625.0 (Minimum)	0 (Nominal)	625.0 (Maximum)
2	110.8					64.35		
		66.00 (Minimum)	111.0 (Nominal)	156.0 (Maximum)		-350.0 (Minimum)	0 (Nominal)	350.0 (Maximum)
3	68.40					-104.3		
		39.00 (Minimum)	64.00 (Nominal)	89.30 (Maximum)		-250.0 (Minimum)	0 (Nominal)	250.0 (Maximum)
4	27.47					-21.13		
		15.00 (Minimum)	25.00 (Nominal)	35.00 (Maximum)		-63.00 (Minimum)	0 (Nominal)	63.00 (Maximum)
5	12.19					-14.49		
		4.000 (Minimum)	14.00 (Nominal)	24.00 (Maximum)		-50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)
6	9.946					-9.579		
		5.000 (Minimum)	10.00 (Nominal)	15.00 (Maximum)		-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)
7	-1.793					-3.504		
		-5.000 (Minimum)	0 (Nominal)	5.000 (Maximum)		-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)





Master: 16-Jun-2011 9:20

Array Induction Tool – M Wellsite Calibration								
Mud Gain Correction								
Idx	Value	Coarse – Mag, Real, Imag			Value	Fine – Mag, Real, Imag		
0	0.8589				0.8618			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
1	0.8589				0.8619			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
2	0.8589				0.8619			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
Master: 16-Jun-2011 9:20								

















Master: 16-Jun-2011 9:20

















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	0.6232			0.6100	187.1			197.0
1	Master	1.277			1.270	186.1			196.0
2	Master	0.6338			0.6200	182.5			192.0
3	Master	0.7158			0.7000	181.8			191.0
4	Master	1.343			1.340	175.6			185.0
5	Master	1.953			1.960	174.0			182.0
6	Master	1.956			1.960	174.0			181.0
7	Master	1.427			1.410	173.0			175.0
		60.00 % (Minimum)	(Nominal)		140.0 % (Maximum)	Nom -60.00 (Minimum)	(Nominal)		Nom + 60.00 (Maximum)
Master: 16-Jun-2011 9:20									





Master: 16-Jun-2011 9:20

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				992.6	Master				0.6312
	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				0.9195	Master				0.0006374
	0.8710 (Minimum)	0.9170 (Nominal)	0.9630 (Maximum)			-0.05000 (Minimum)	0 (Nominal)	0.05000 (Maximum)	
Master: 16-Jun-2011 9:20									

Master: 16-Jun-2011 9:20

Array Induction Tool – M Master Calibration							
Test Loop Gain Correction							
Idx	Value	Test Loop Gain Correction Magnitude			Value	Test Loop Gain Correction Phase DEG	
0	1.043				0.4529		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
1	1.017				0.7686		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
2	1.026				0.05323		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
3	1.021				0.1755		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
4	1.002				0.08051		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
5	0.9904				-0.09107		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
6	0.9975				0.2852		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
7	1.006				-0.07289		
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
Master: 16-Jun-2011 9:20							

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	-83.51				-403.9	
		-231.0 (Minimum)	-56.00 (Nominal)	119.0 (Maximum)	-2250 (Minimum)	0 (Nominal) 2250 (Maximum)
1	161.1				-99.44	
		114.0 (Minimum)	159.0 (Nominal)	204.0 (Maximum)	-625.0 (Minimum)	0 (Nominal) 625.0 (Maximum)
2	110.8				64.35	
		66.00 (Minimum)	111.0 (Nominal)	156.0 (Maximum)	-350.0 (Minimum)	0 (Nominal) 350.0 (Maximum)
3	68.40				-104.3	
		39.00 (Minimum)	64.00 (Nominal)	89.30 (Maximum)	-250.0 (Minimum)	0 (Nominal) 250.0 (Maximum)
4	27.47				-21.13	
		15.00 (Minimum)	25.00 (Nominal)	35.00 (Maximum)	-63.00 (Minimum)	0 (Nominal) 63.00 (Maximum)
5	12.19				-14.49	
		4.000 (Minimum)	14.00 (Nominal)	24.00 (Maximum)	-50.00 (Minimum)	0 (Nominal) 50.00 (Maximum)
6	9.946				-9.579	
		5.000 (Minimum)	10.00 (Nominal)	15.00 (Maximum)	-30.00 (Minimum)	0 (Nominal) 30.00 (Maximum)
7	-1.793				-3.504	
		-5.000 (Minimum)	0 (Nominal)	5.000 (Maximum)	-30.00 (Minimum)	0 (Nominal) 30.00 (Maximum)
Master: 16-Jun-2011 9:20						

Array Induction Tool – M Master Calibration						
Mud Gain Correction						
Idx	Value	Coarse – Mag, Real, Imag			Value	Fine – Mag, Real, Imag
0	0.8589				0.8618	
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)	0.8000 (Minimum)	1.000 (Nominal) 1.200 (Maximum)
1	0.8589				0.8619	

		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
2	0.8589				0.8619			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)

Master: 16-Jun-2011 9:20

### 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  
HRCC – B  
HGNS – B  
HGR –  
HCNT –

5094

#### 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
Before				0.7271	Before				0.4778
	0.6914 (Minimum)	0.7278 (Nominal)	0.7642 (Maximum)			0.4537 (Minimum)	0.4775 (Nominal)	0.5014 (Maximum)	
Phase	BS Window Sum CPS			Value	Phase	SS Window Sum CPS			Value
Before				9480	Before				9390
	9000 (Minimum)	9473 (Nominal)	9947 (Maximum)			8928 (Minimum)	9398 (Nominal)	9868 (Maximum)	
Phase	LS Window Ratio			Value	Phase	LS Window Sum CPS			Value
Before				0.2887	Before				1042
	0.2781 (Minimum)	0.2927 (Nominal)	0.3073 (Maximum)			987.9 (Minimum)	1040 (Nominal)	1092 (Maximum)	

Before: 1-Aug-2011 5:01

High resolution Integrated Logging Tool-DTS Wellsite Calibration									
Photo-multiplier High Voltages Calibrations									
Phase	BS PM High Voltage (Command) V			Value	Phase	SS PM High Voltage (Command) V			Value
Before				1676	Before				1433
	1564 (Minimum)	1664 (Nominal)	1764 (Maximum)			1326 (Minimum)	1426 (Nominal)	1526 (Maximum)	
Phase	LS PM High Voltage (Command) V			Value	Phase	LS PM High Voltage (Command) V			Value
Before				1528	Before				1528
	1430 (Minimum)	1530 (Nominal)	1630 (Maximum)			1430 (Minimum)	1530 (Nominal)	1630 (Maximum)	



Before: 1-Aug-2011 5:01

High resolution Integrated Logging Tool-DTS Wellsite Calibration									
Crystal Quality Resolutions Calibration									
Phase	BS Crystal Resolution %			Value	Phase	SS Crystal Resolution %			Value
Before				11.63	Before				10.03
	10.56 (Minimum)	11.56 (Nominal)	12.56 (Maximum)			9.007 (Minimum)	10.01 (Nominal)	11.01 (Maximum)	
Phase	LS Crystal Resolution %			Value	Phase	LS Crystal Resolution %			Value
Before				8.954	Before				8.954
	7.870 (Minimum)	8.870 (Nominal)	9.870 (Maximum)			7.870 (Minimum)	8.870 (Nominal)	9.870 (Maximum)	

Before: 1-Aug-2011 5:01



High resolution Integrated Logging Tool-DTS Wellsite Calibration									
MCFL Calibration									
Phase	Raw B0 Resistivity OHMM			Value	Phase	Raw B1 Resistivity OHMM			Value
Before				3868	Before				3806
	3565 (Minimum)	3875 (Nominal)	4185 (Maximum)			3524 (Minimum)	3830 (Nominal)	4136 (Maximum)	
Phase	Raw B2 Resistivity OHMM			Value	Phase	Raw B2 Resistivity OHMM			Value
Before				3801	Before				3801
	3524 (Minimum)	3830 (Nominal)	4136 (Maximum)			3524 (Minimum)	3830 (Nominal)	4136 (Maximum)	





Before: 1-Aug-2011 5:02




High resolution Integrated Logging Tool-DTS Wellsite Calibration							
HILT Caliper Calibration							
Phase	HILT Caliper Zero Measurement IN		Value	Phase	HILT Caliper Plus Measurement IN		Value
Before			8.608	Before			12.84
	6.000 (Minimum)	8.000 (Nominal)	10.00 (Maximum)		9.000 (Minimum)	12.00 (Nominal)	15.00 (Maximum)








Before: 1-Aug-2011 4:56

High resolution Integrated Logging Tool-DTS Wellsite Calibration							
Detector Calibration							
Phase	Gamma Ray Background GAPI		Value	Phase	Gamma Ray (Jig – Bkgd) GAPI		Value
Before			74.76	Before			179.5
	0 (Minimum)	30.00 (Nominal)	120.0 (Maximum)		157.1 (Minimum)	165.0 (Nominal)	206.3 (Maximum)
Before: 1-Aug-2011 4:57							



High resolution Integrated Logging Tool–DTS Wellsite Calibration									
Zero Measurement									
Phase	CNTC Background CPS			Value	Phase	CFTC Background CPS			Value
Master				28.13	Master				25.95
Before				26.81	Before				25.73
5.000 (Minimum)      28.13 (Nominal)      40.00 (Maximum)					5.000 (Minimum)      25.95 (Nominal)      40.00 (Maximum)				
Master: 26–Jul–2011 8:44					Before: 1–Aug–2011 4:58				

High resolution Integrated Logging Tool–DTS Wellsite Calibration														
Ratio Measurement														
Phase	Thermal Near Corr. (Tank) CPS			Value	Phase	Thermal Far Corr. (Tank) CPS			Value	Phase	CNTC/CFTC (Tank)			Value
Master				4840	Master				2064	Master				2.345
	4700 (Minimum)	5800 (Nominal)	6900 (Maximum)		1900 (Minimum)	2400 (Nominal)	2900 (Maximum)			2.120 (Minimum)	2.159 (Nominal)	2.540 (Maximum)		
Master: 26–Jul–2011 8:44														

High resolution Integrated Logging Tool-DTS Wellsite Calibration			
Accelerometer Calibration			
Phase	Z-Axis Acceleration F/S2		Value
Before			32.12
	31.53 (Minimum)	32.19 (Nominal)	32.84 (Maximum)
Before: 2-Aug-2011 15:23			




High resolution Integrated Logging Tool-DTS Master Calibration									
Inversion results									
Phase	Rho Aluminum G/C3			Value	Phase	Rho Magnesium G/C3			Value
Master				2.597	Master				1.688
	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				2.539	Master				2.629
	2.470 (Minimum)	2.570 (Nominal)	2.670 (Maximum)			2.550 (Minimum)	2.650 (Nominal)	2.750 (Maximum)	
Master: 28-Jul-2011 15:04									

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>			0.4013	Master	<div><div></div></div>			0.3115	Master	<div><div></div></div>			0.5381
	–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>			0.8638	Master	<div><div></div></div>			0.8795	Master	<div><div></div></div>			1.410
	–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: 28–Jul–2011 15:04														

High resolution Integrated Logging Tool-DTS Master Calibration							
Zero Measurement							
Phase	CNTC Background CPS		Value	Phase	CFTC Background CPS		Value
Master			28.13	Master			25.95
	5.000 (Minimum)	28.13 (Nominal)	40.00 (Maximum)		5.000 (Minimum)	25.95 (Nominal)	40.00 (Maximum)

3.000 (Minimum)	26.13 (Nominal)	40.00 (Maximum)	3.000 (Minimum)	23.93 (Nominal)	40.00 (Maximum)
--------------------	--------------------	--------------------	--------------------	--------------------	--------------------

Master: 26-Jul-2011 8:44

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			4840	Master			2064	Master			2.345
	4700 (Minimum)	5800 (Nominal)	6900 (Maximum)		1900 (Minimum)	2400 (Nominal)	2900 (Maximum)		2.120 (Minimum)	2.159 (Nominal)	2.540 (Maximum)

Master: 26-Jul-2011 8:44

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

Company:	Vecta Oil & Gas Ltd	Schlumberger
Well:	Torreys 31-4	
Field:	Wildcat	
County:	Cheyenne	
State:	Colorado	
	Platform Express	
	Micro-Log	