



Schlumberger

Company: Conquest Oil Co.

Well: SWD 1-8B

Field: Wattenberg

County: Weld

State: Colorado

Platform Express  
Array Induction  
with Linear Correlation

Field:	Wattenberg
Location:	Sec. 8 T4N R64W
Well:	SWD 1-8B
Company:	Conquest Oil Co.
LOCATION	
Sec. 8 T4N R64W	Elev.: K.B. 4722 ft
SHL 423' FSL / 414' FEL	G.L. 4710 ft
Lat. 40.32083 / Long. 104.56654	D.F. 4721 ft
Permanent Datum:	GROUND LEVEL
Log Measured From:	Kelly Bushing
Drilling Measured From:	Kelly Bushing
API Serial No. 05-123-29536-0C	Section 8
	Township 4N
	Range 64W

Logging Date	9-Jan-2009
Run Number	1
Depth Driller	10000 ft
Schlumberger Depth	10005 ft
Bottom Log Interval	9997 ft
Top Log Interval	617 ft
Leasing Driller Size @ Depth	8.675 in @ 600 ft
Leasing Schlumberger	617 ft
Bit Size	7.875 in
Type Fluid In Hole	KCL Polymer
Density	9.3 lbm/gal
Fluid Loss	PH
Source Of Sample	AIT mud Sensor
RM @ Measured Temperature	0.155 ohm.m @ 238 degF
RMF @ Measured Temperature	0.124 ohm.m @ 238 degF
RMF @ Measured Temperature	0.186 ohm.m @ 238 degF
Source RMF	Calculated
RM @ MRT	@
RMF @ MRT	@
Maximum Recorded Temperatures	
Circulation Stopped	Time
Logger On Bottom	Time
Unit Number	Location
Recorded By	
Witnessed By	

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

DEPTH SUMMARY LISTING
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Date Created: 9-JAN-2009 21:04:07

Depth System Equipment
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Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW-B	Type:	CMTD-B/A	Type:	7-39P-LXS
Serial Number:	3006	Serial Number:	1431	Serial Number:	4217
Calibration Date:	16-Sep-2008	Calibration Date:	2-Dec-2008	Length:	15100.00 FT
Calibrator Serial Number:	33	Calibrator Serial Number:	100513		
Calibration Cable Type:	7-39P-LXS	Calibration Gain:	1.21	Conveyance Method:	Wireline
Wheel Correction 1:	-3	Calibration Offset:	622.00	Rig Type:	LAND
Wheel Correction 2:	-2				

Depth Control Parameters	
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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:	8.00 FT
Tool Zero Check At Surface:	0.00 FT

Depth Control Remarks
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- |  |
|--|
| <ol style="list-style-type: none"><li>1. All Schlumberger depth policy procedures applied</li><li>2. This is the primary depth reference</li><li>3.</li><li>4.</li><li>5.</li><li>6.</li></ol> |
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<p style="text-align: center;">DISCLAIMER</p> <p>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.</p>
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OTHER SERVICES1	OTHER SERVICES2
OS1: None	OS1:
OS2:	OS2:
OS3:	OS3:
OS4:	OS4:
OS5:	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
This is the first run in hole.	
Tool run as per tool sketch.	
No Bowspring or standoff per Company request.	
Rmf and Rmc calculated using Gen-7	

Rig: Ensign 17	
Crew: Derrick Hunter and Tyson Kral	
<div>RUN 1</div> <div> <div>SERVICE ORDER #:</div> <div>PROGRAM VERSION:</div> <div>FLUID LEVEL:</div> </div> <div> <div>LOGGED INTERVAL</div> <div>START</div> <div>STOP</div> </div>	<div>RUN 2</div> <div> <div>SERVICE ORDER #:</div> <div>PROGRAM VERSION:</div> <div>FLUID LEVEL:</div> </div> <div> <div>LOGGED INTERVAL</div> <div>START</div> <div>STOP</div> </div>

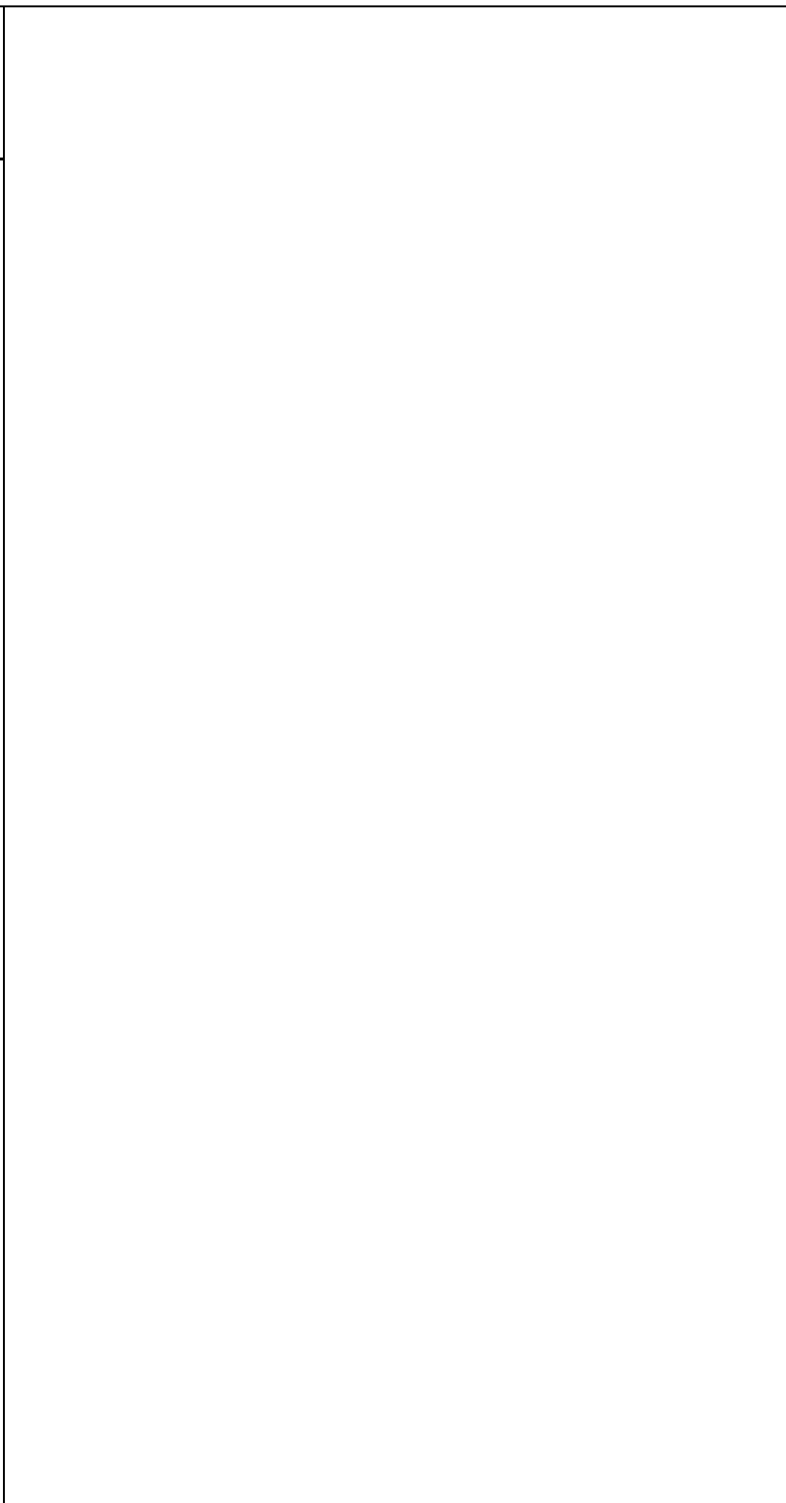
EQUIPMENT DESCRIPTION

RUN 1

RUN 2

SURFACE EQUIPMENT
<div> <div>WITM (CTS)-A</div> <div>GSR-U/Y</div> <div>NCT-B</div> <div>CNB-AB</div> </div> <div> <div>NCS-VB</div> </div>

DOWNHOLE EQUIPMENT
<div> <div> <div>LEH-QT</div> <div>LEH-QT</div> </div> <div> <div>HILTB-CTS</div> <div>HGNSC-B</div> <div>HMCA</div> <div>TCC-B</div> <div>HGNH</div> <div>NLS-KL</div> <div>NSR-F 2539</div> <div>HACCZ 430</div> <div>HCNT</div> <div>HGR</div> <div>HRCC-B</div> <div>HRMS-B</div> <div>HRGD-B</div> <div>GLS-VJ 5363</div> <div>MCFL Device</div> <div>HILT Nucl. LS 42767</div> <div>HILT Nucl. SS 42767</div> <div>HILT Nucl. BS 42767</div> <div>AIT-H</div> <div>AHIS-BA 397</div> <div>AHRM-A</div> <div>NPV-N</div> </div> <div> <div>HGNS HTEM</div> <div>HMCA</div> <div>TelStatus</div> <div>CTEM</div> <div>HGNS Gamm</div> <div>HGNS Neut</div> <div>HGNS Neut</div> <div>HGNS sens</div> <div>HRCC cart</div> <div> <div>MCFL</div> <div>HILT cali</div> <div>HRDD-LS</div> <div>HRDD-SS</div> <div>HRDD-BS</div> </div> </div> <div> <div>40.6</div> <div>37.6</div> <div>36.9</div> <div>31.1</div> <div>30.6</div> <div>28.2</div> <div>24.2</div> <div>18.8</div> <div>18.3</div> <div>17.9</div> </div> <div> <div>37.6</div> </div> </div>



Induction  
Temperatu  
Power Sup

7.9

SP SENSOR  
HTEN HMAS  
Accelerom HV  
Mud Resis  
Tension

0.1

0.0

TOOL ZERO

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

**Schlumberger**

## MAIN RESISTIVITY LOG 5" = 100'

MAXIS Field Log

### Input DLIS Files

HILTC .019

FN:13

09-Jan-2009 20:03

10028.0 FT

497.5 FT

### Integrated Hole/Cement Volume Summary

Hole Volume = 3508.76 ft3

Cement Volume = 1959.91 ft3 (assuming 5.50 in casing O.D.)

Computed from 10005.0 ft to 619.0 ft

### OP System Version: 15C0-309

MCM

HILTC

15C0-309

### 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

AIT-H 90 Inch Investigation (AHT90)

0.2

(OHMM)

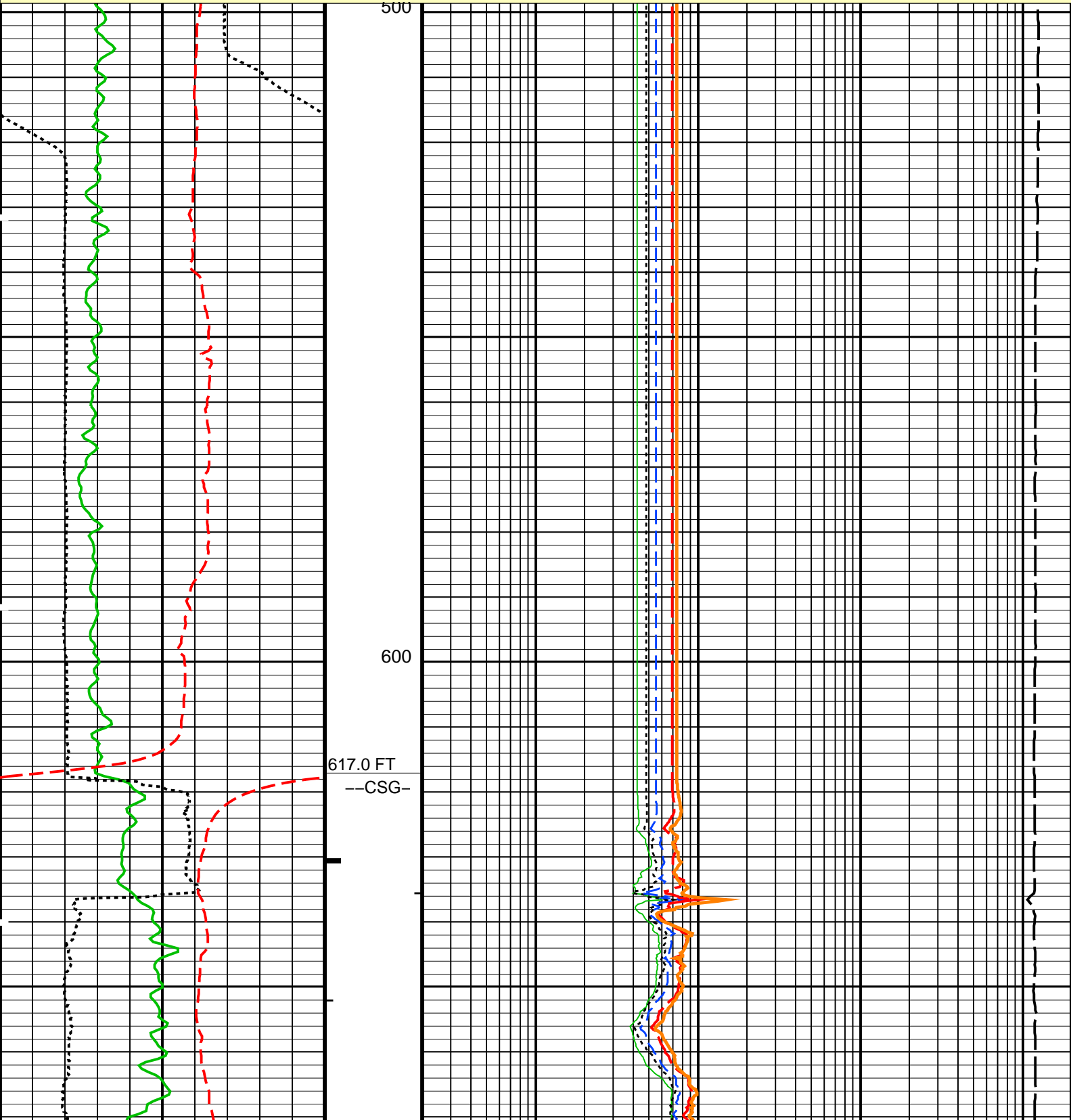
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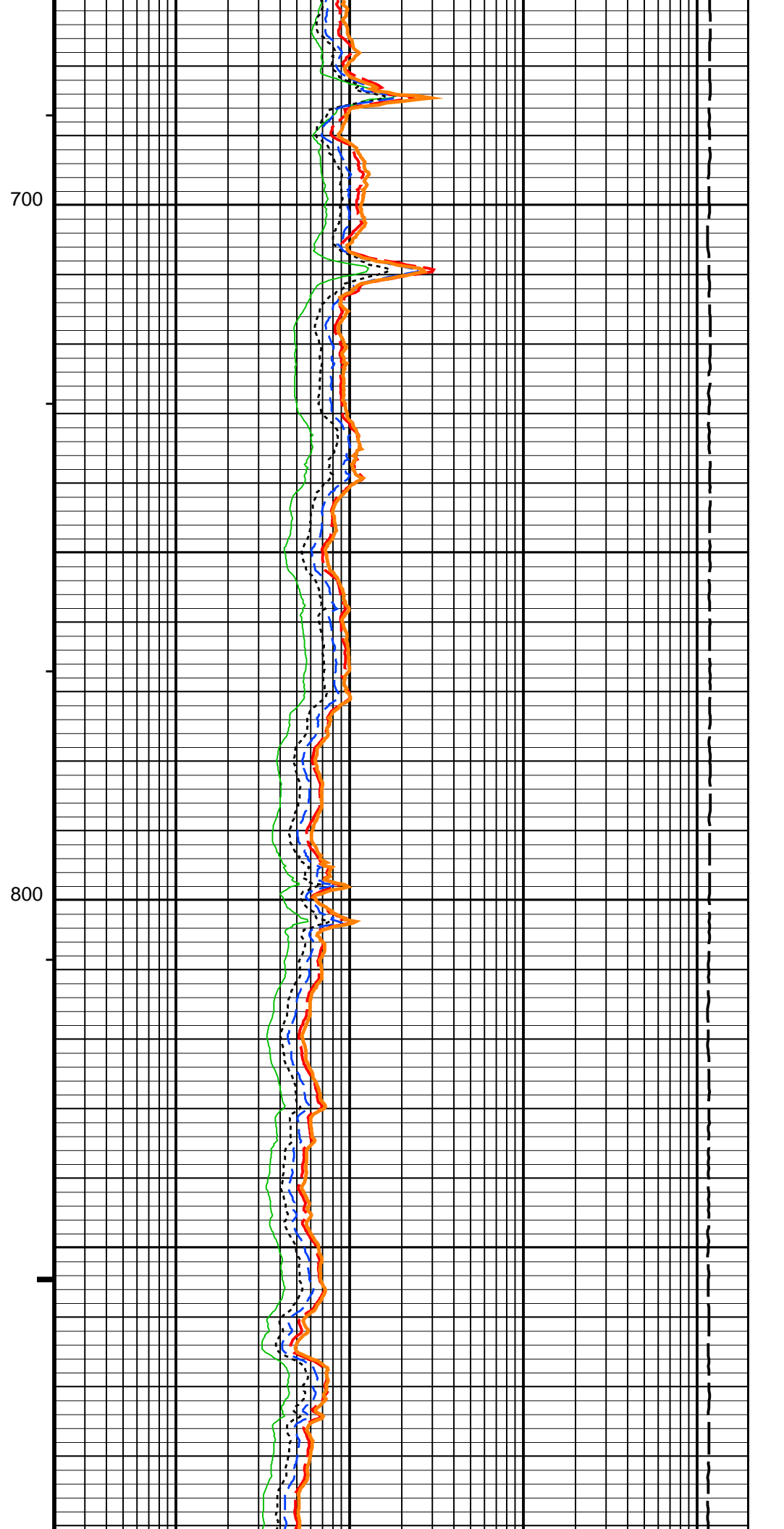
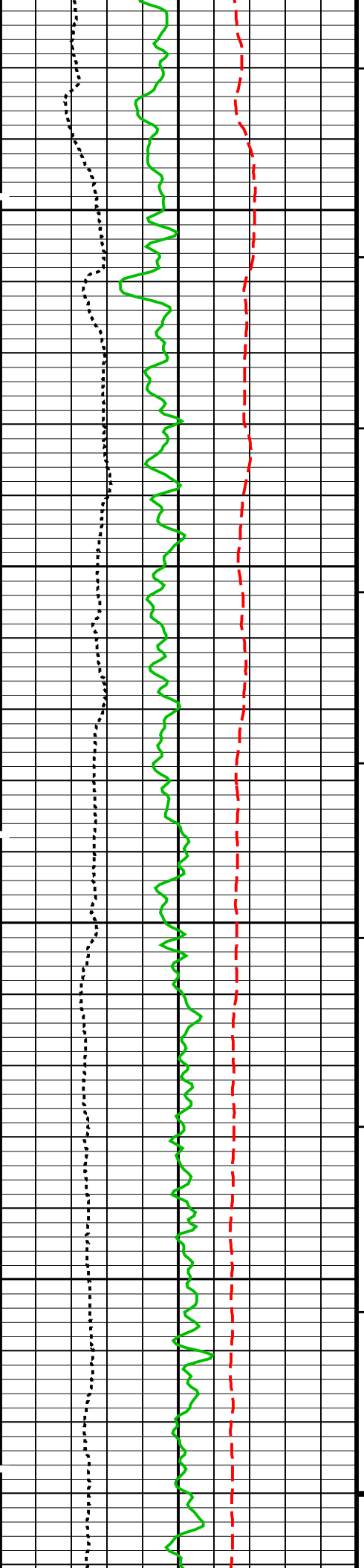
SP (SP)

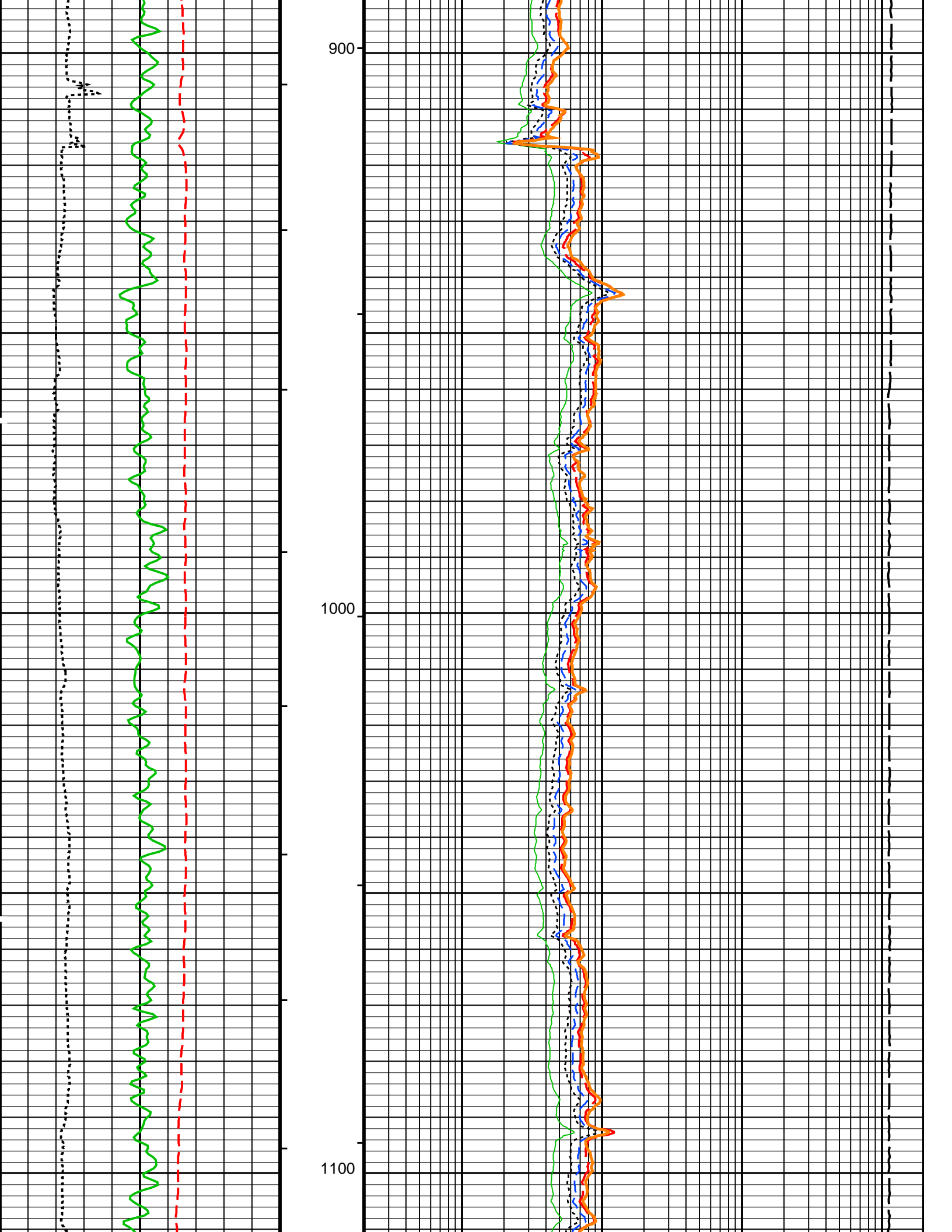
AIT-H 60 Inch Investigation (AHT60)

-160	(MV)	40		0.2	(OHMM)	2000
Caliper (HCAL) (IN)			Stuck Stretch (STIT)	AIT-H 30 Inch Investigation (AHT30) (OHMM)		
6		16	0 (F) 50	0.2		2000
Gamma Ray (GR) (GAPI)			Tool/Tot. Drag	AIT-H 20 Inch Investigation (AHT20) (OHMM)		
0		200		0.2		2000
Gamma Ray Backup			Cable Drag	AIT-H 10 Inch Investigation (AHT10) (OHMM)		
				0.2		2000

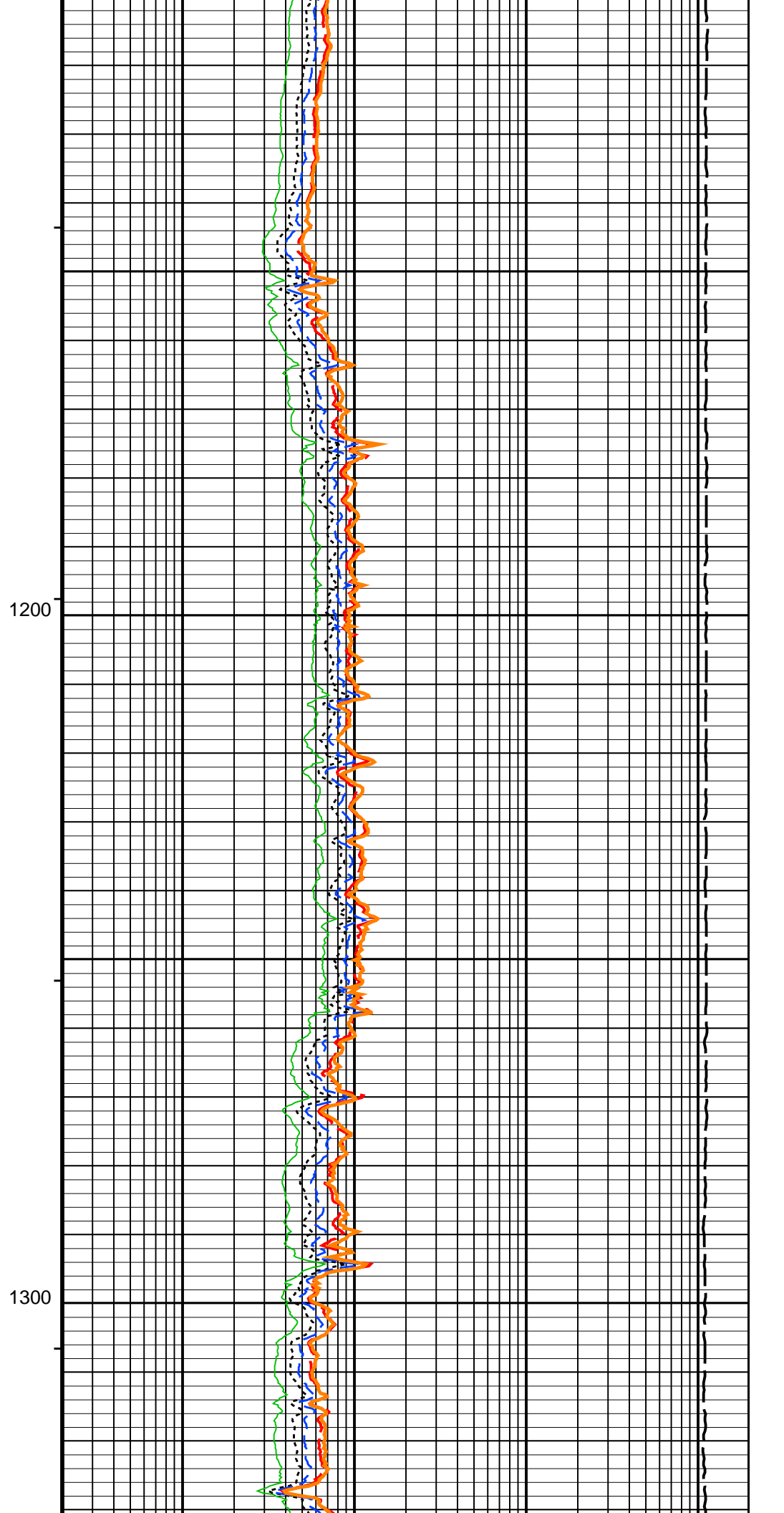
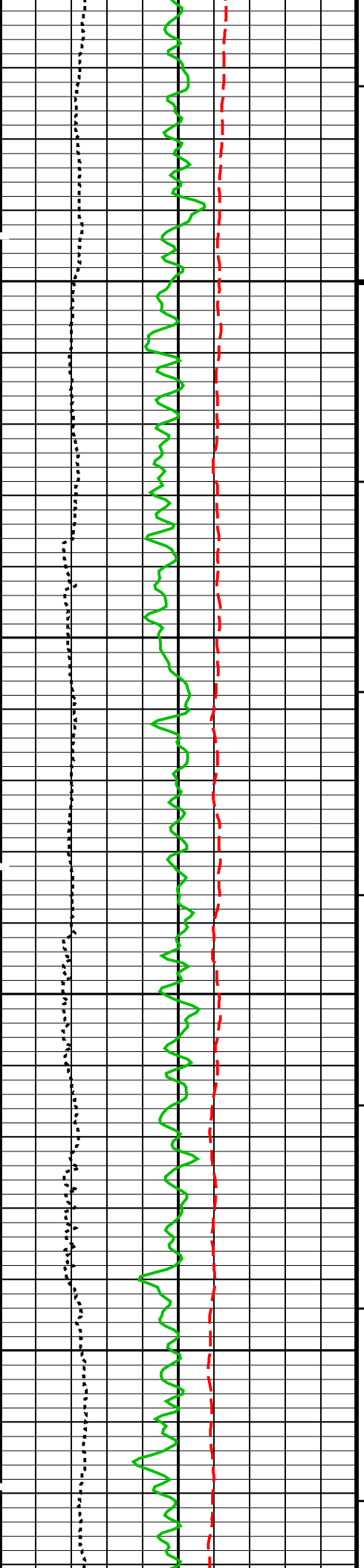
MAIN PASS: \*\*\* PLATFORM EXPRESS – ARRAY INDUCTION \*\*\*

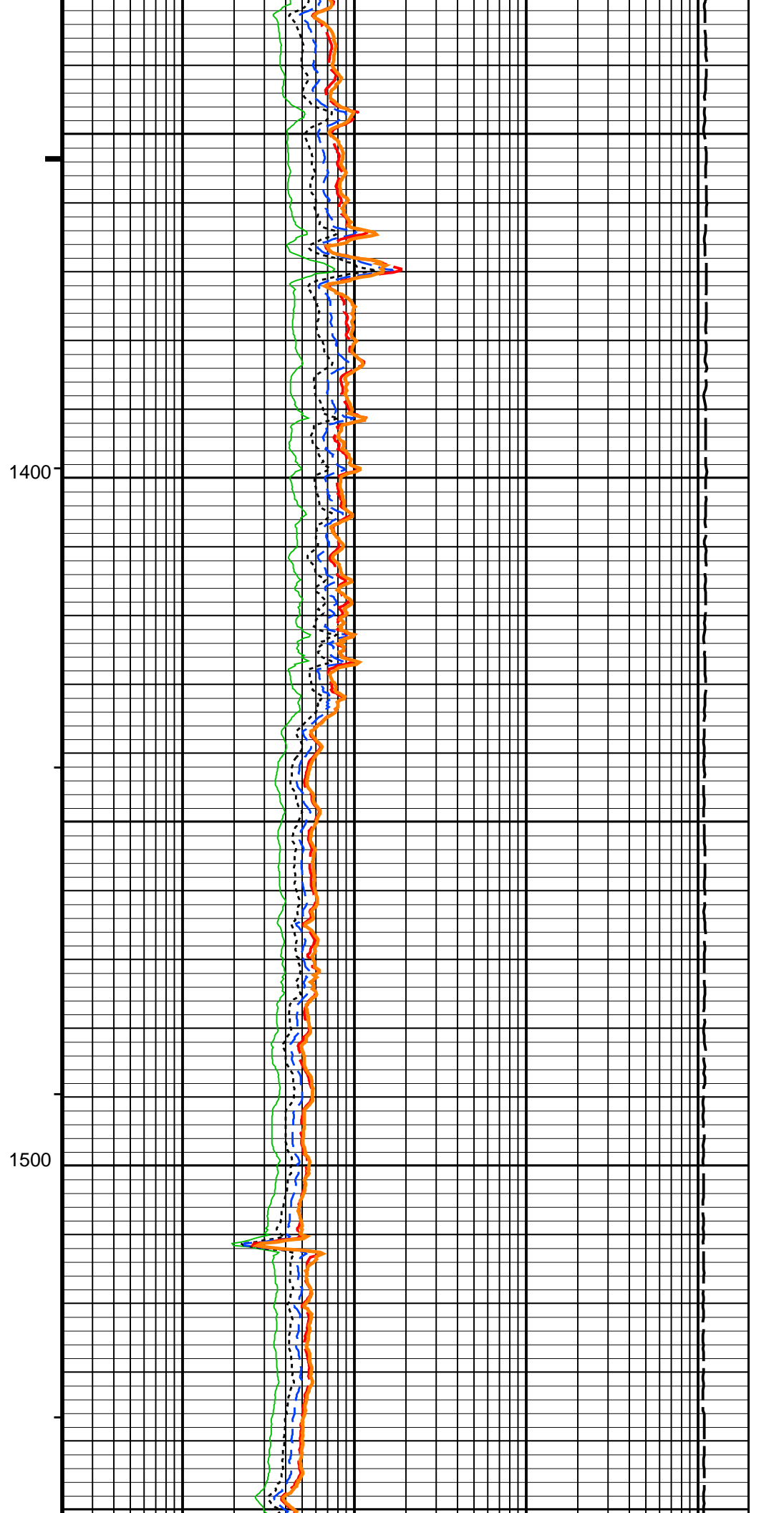
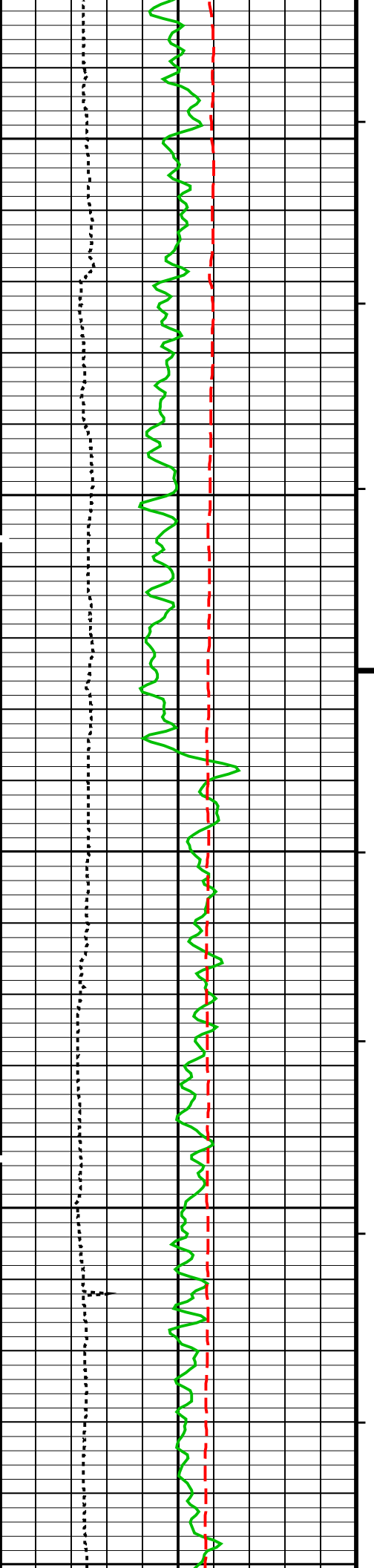


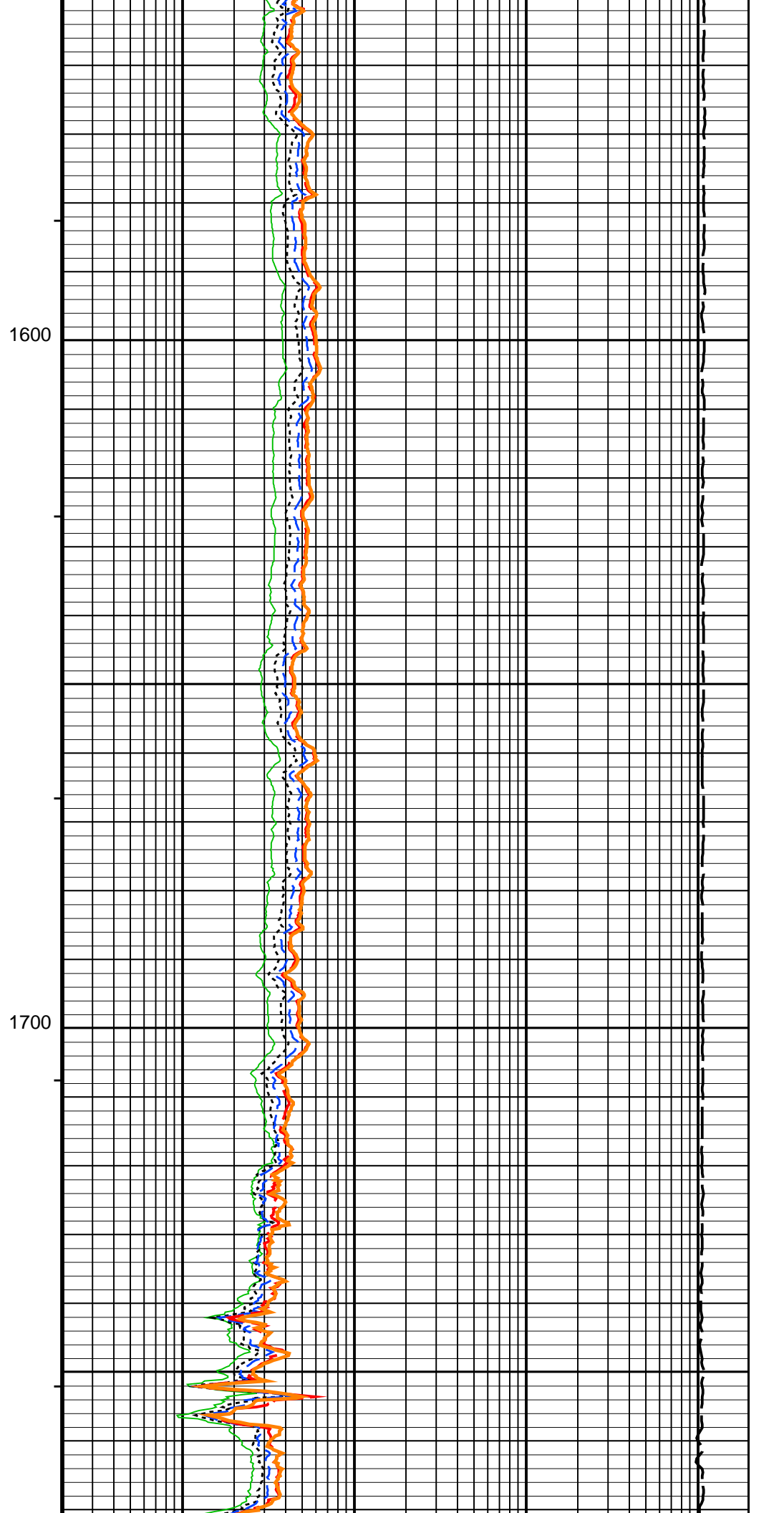
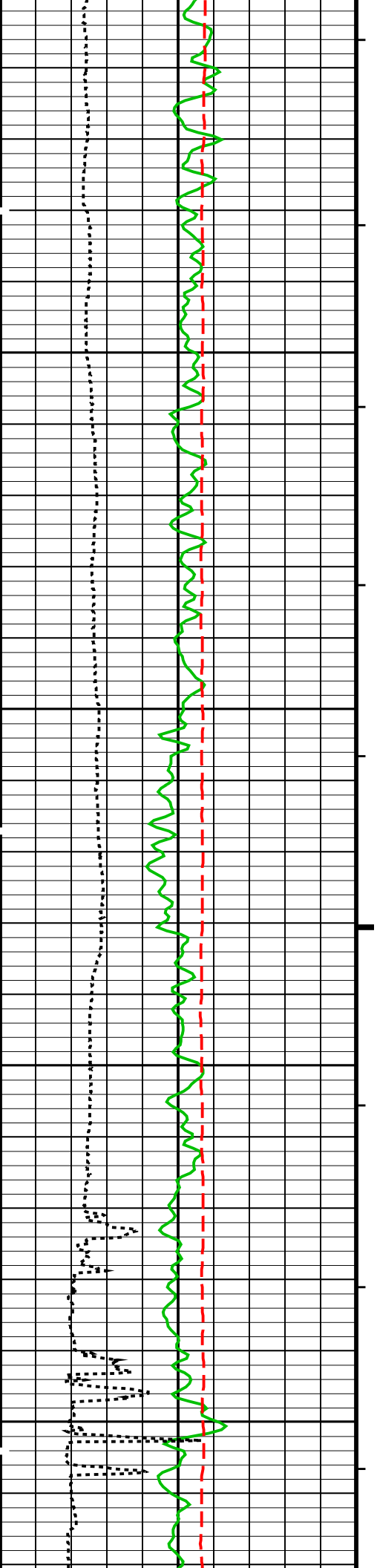


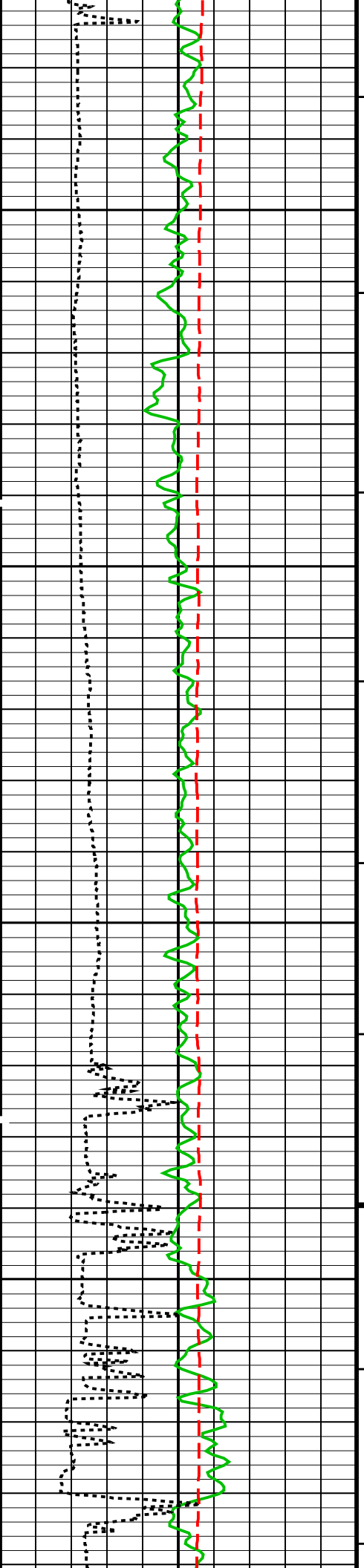






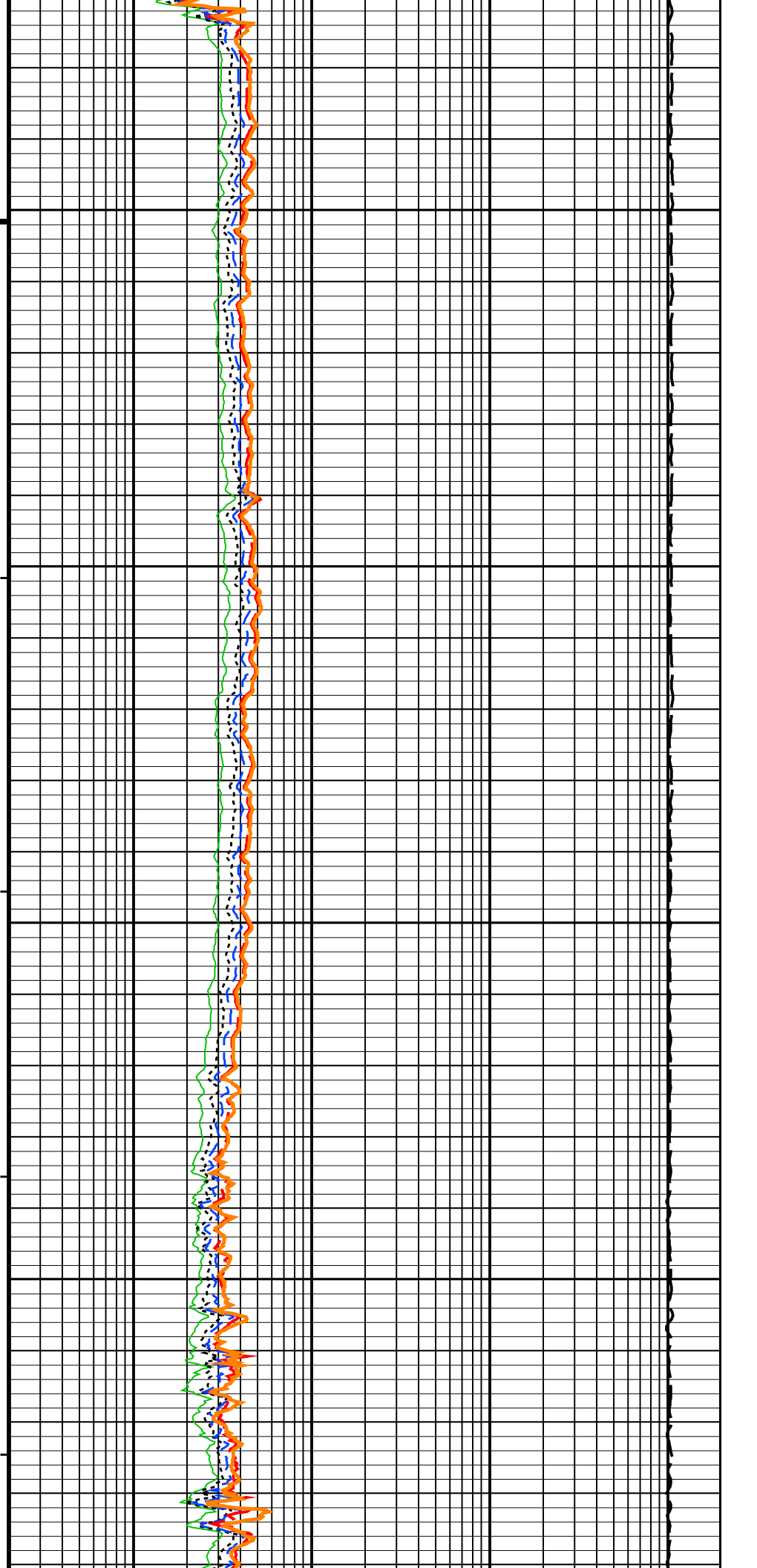


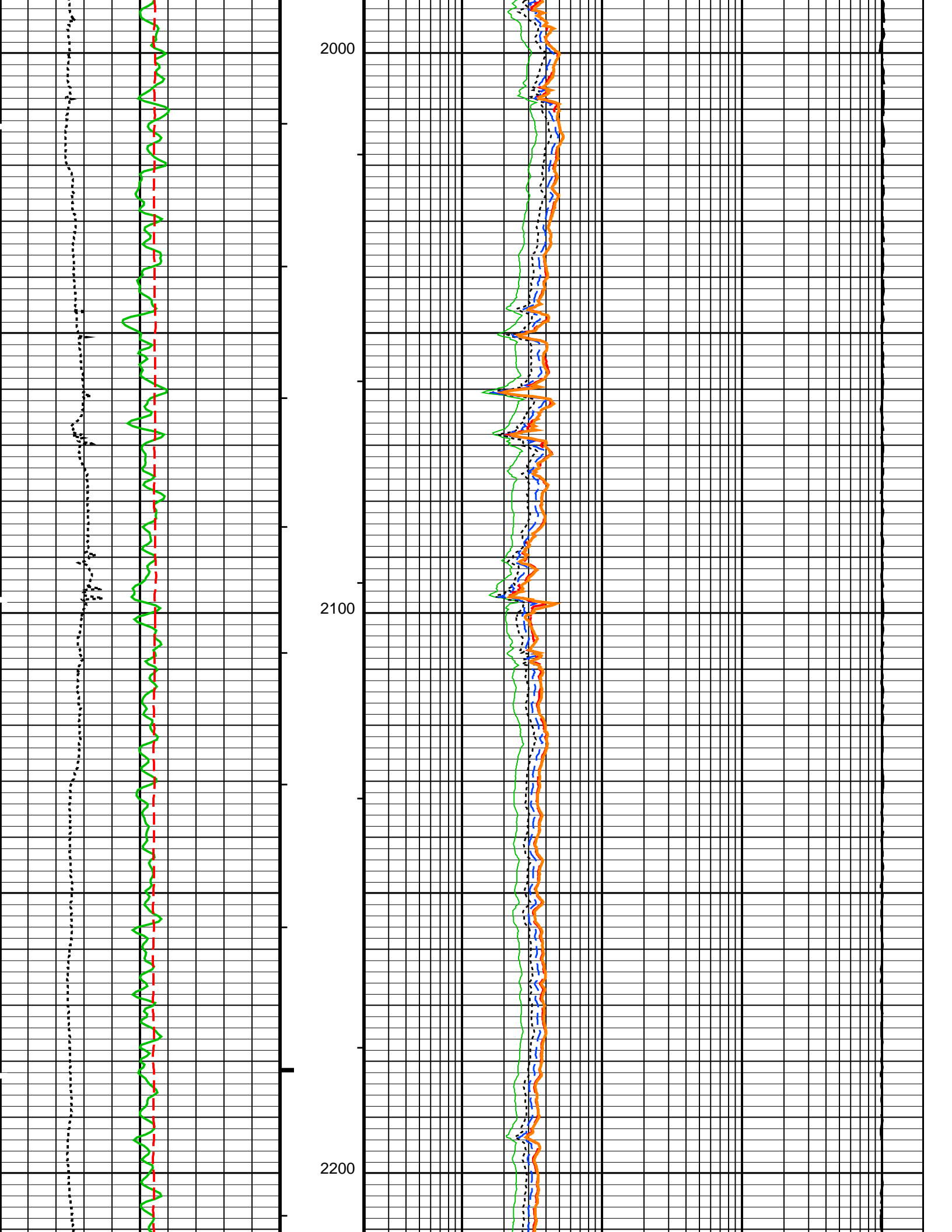


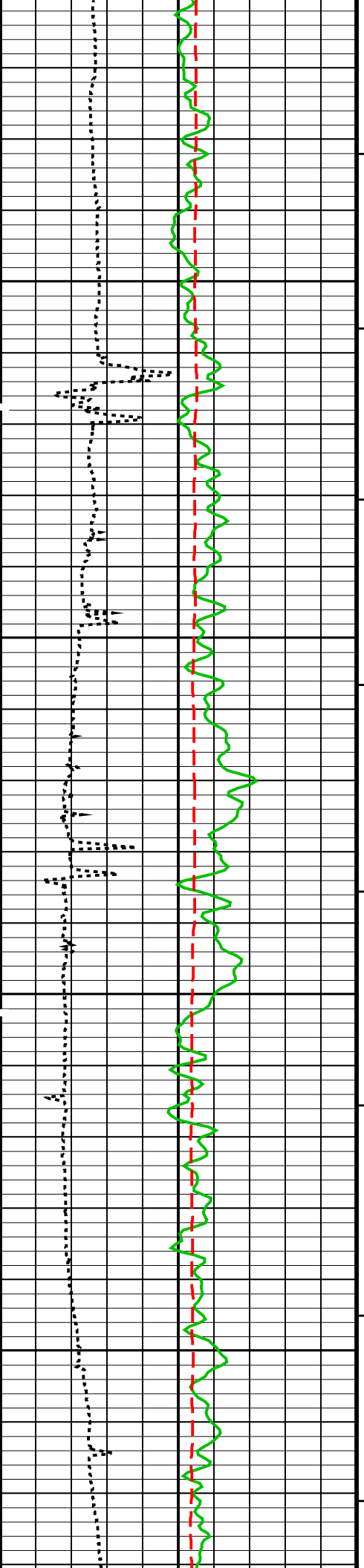


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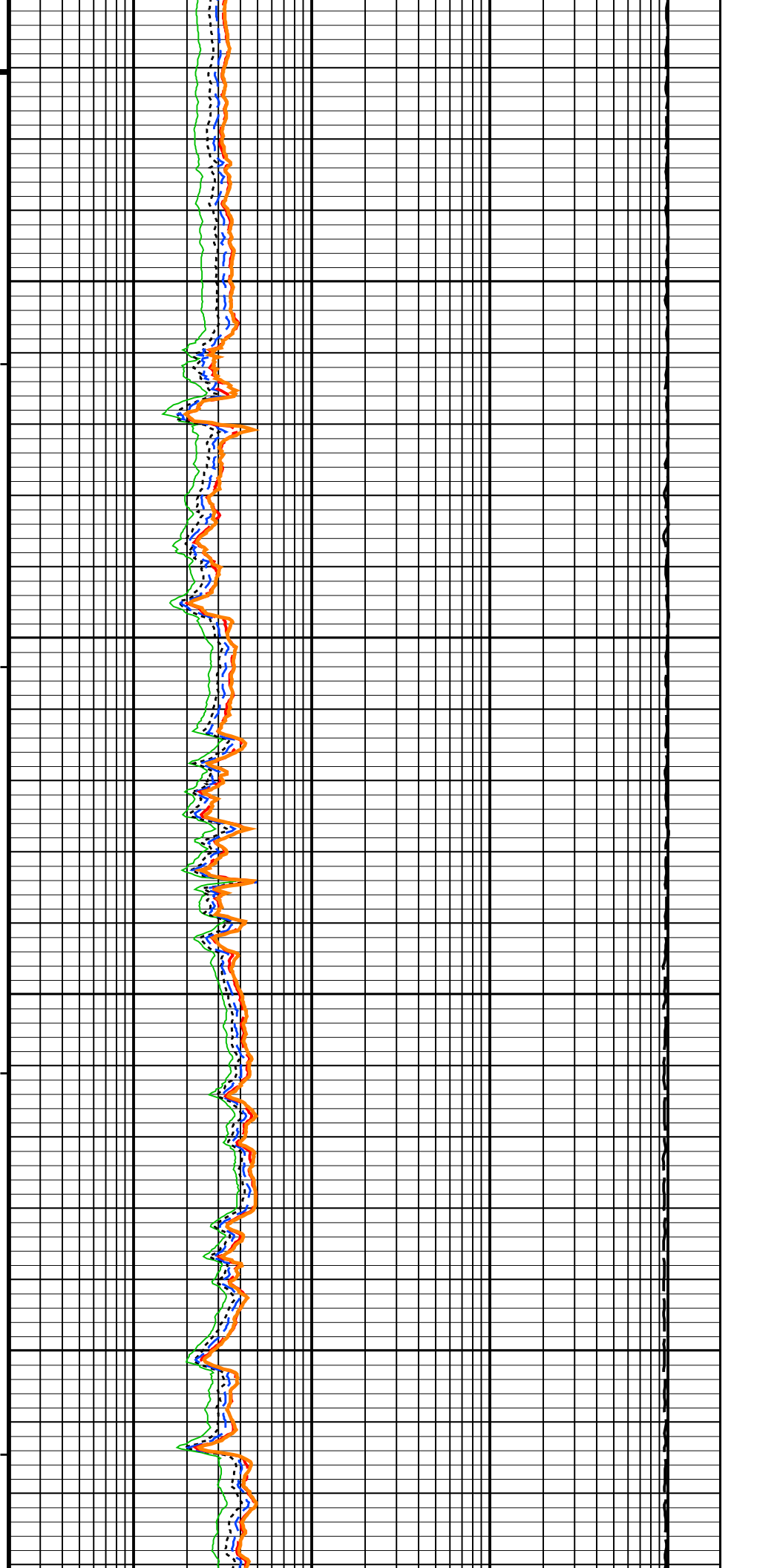


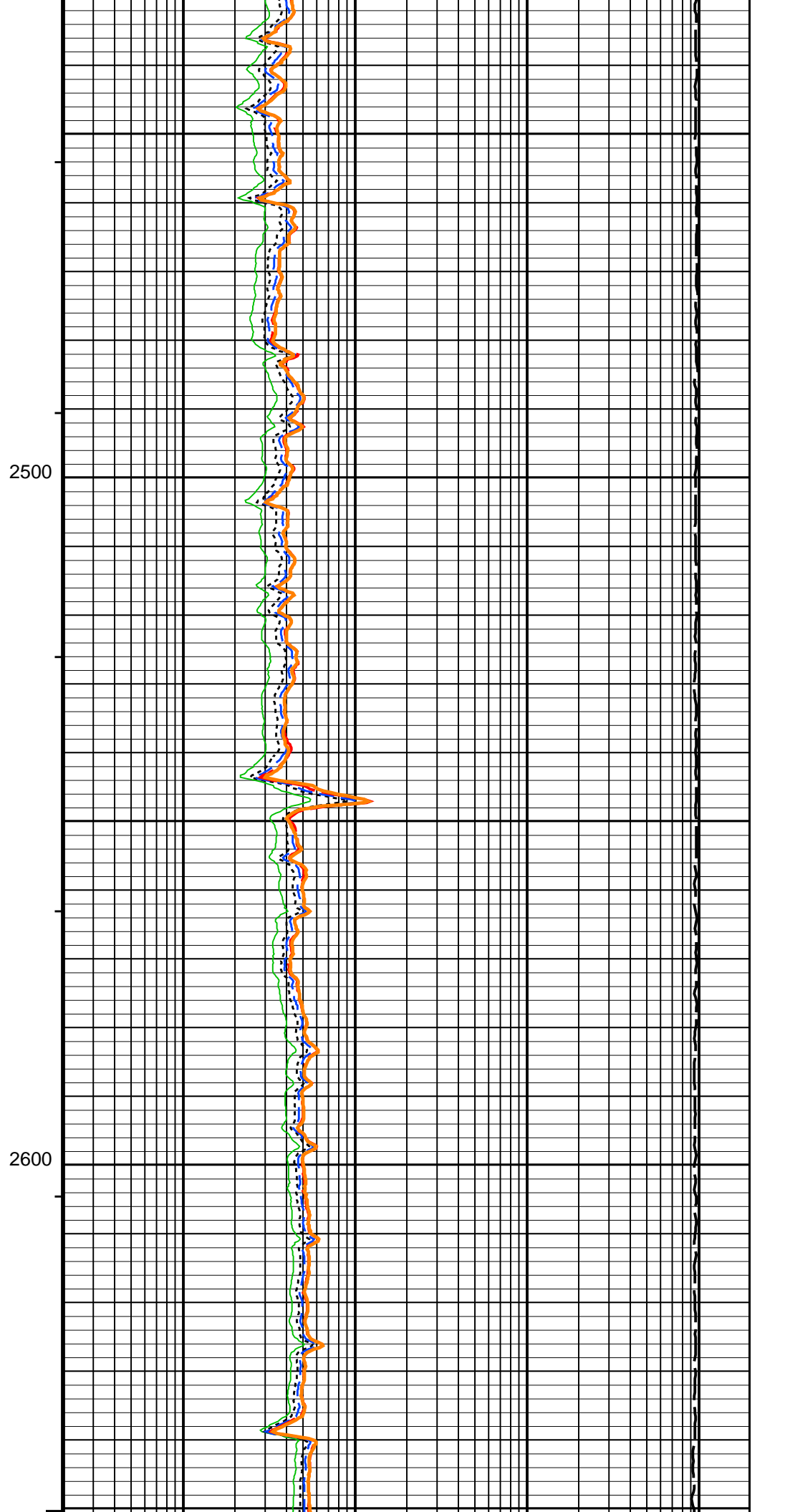
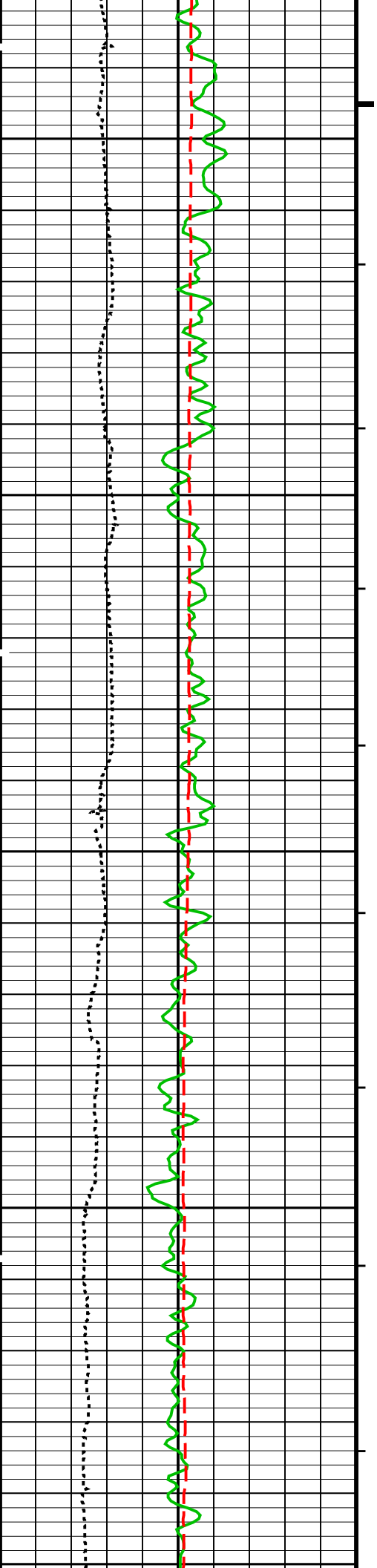


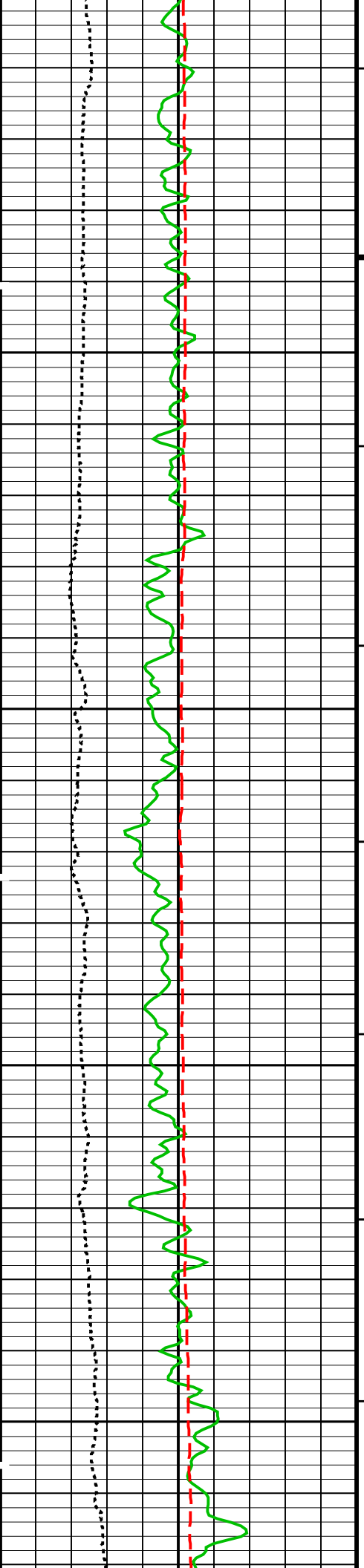


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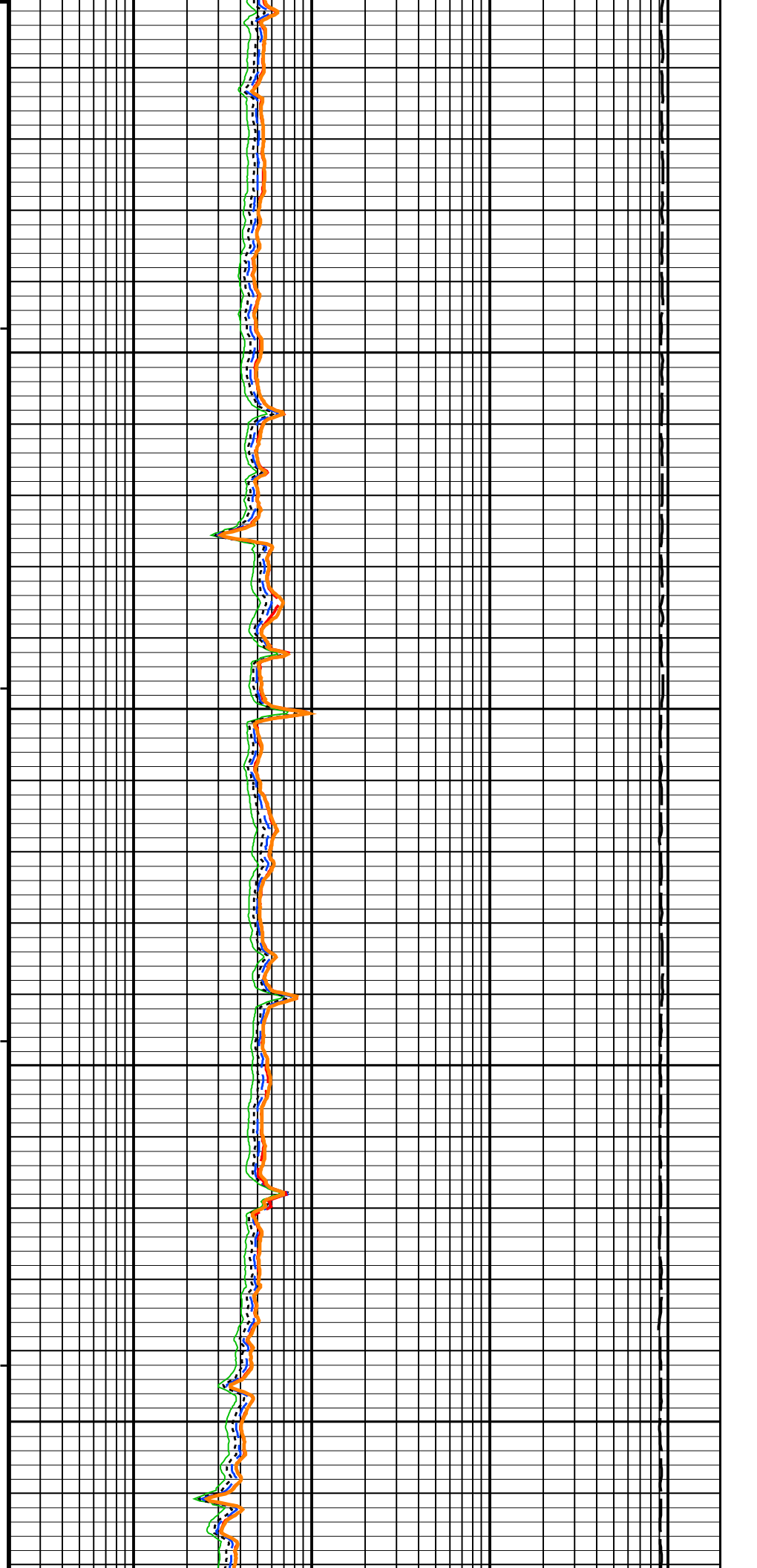




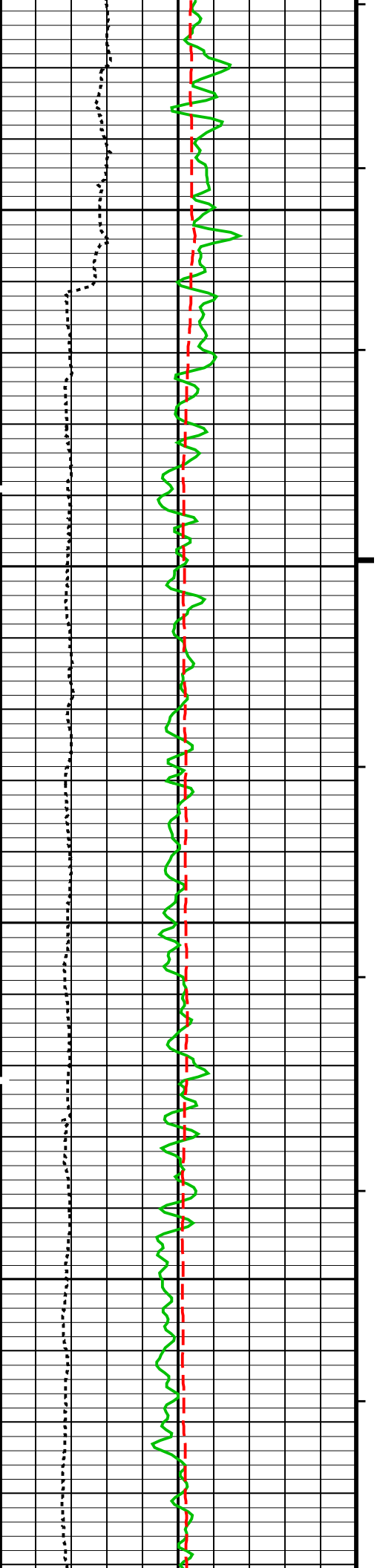


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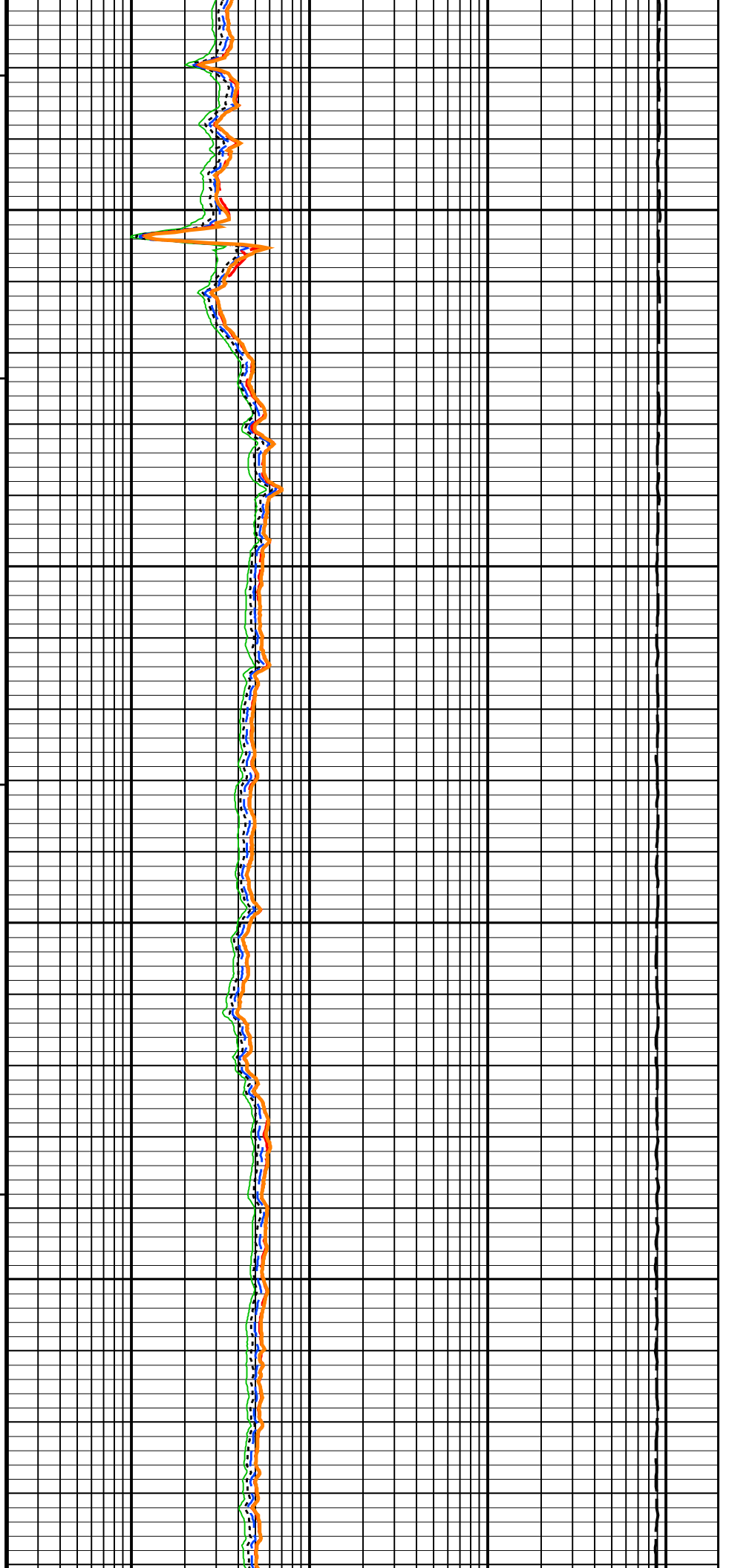


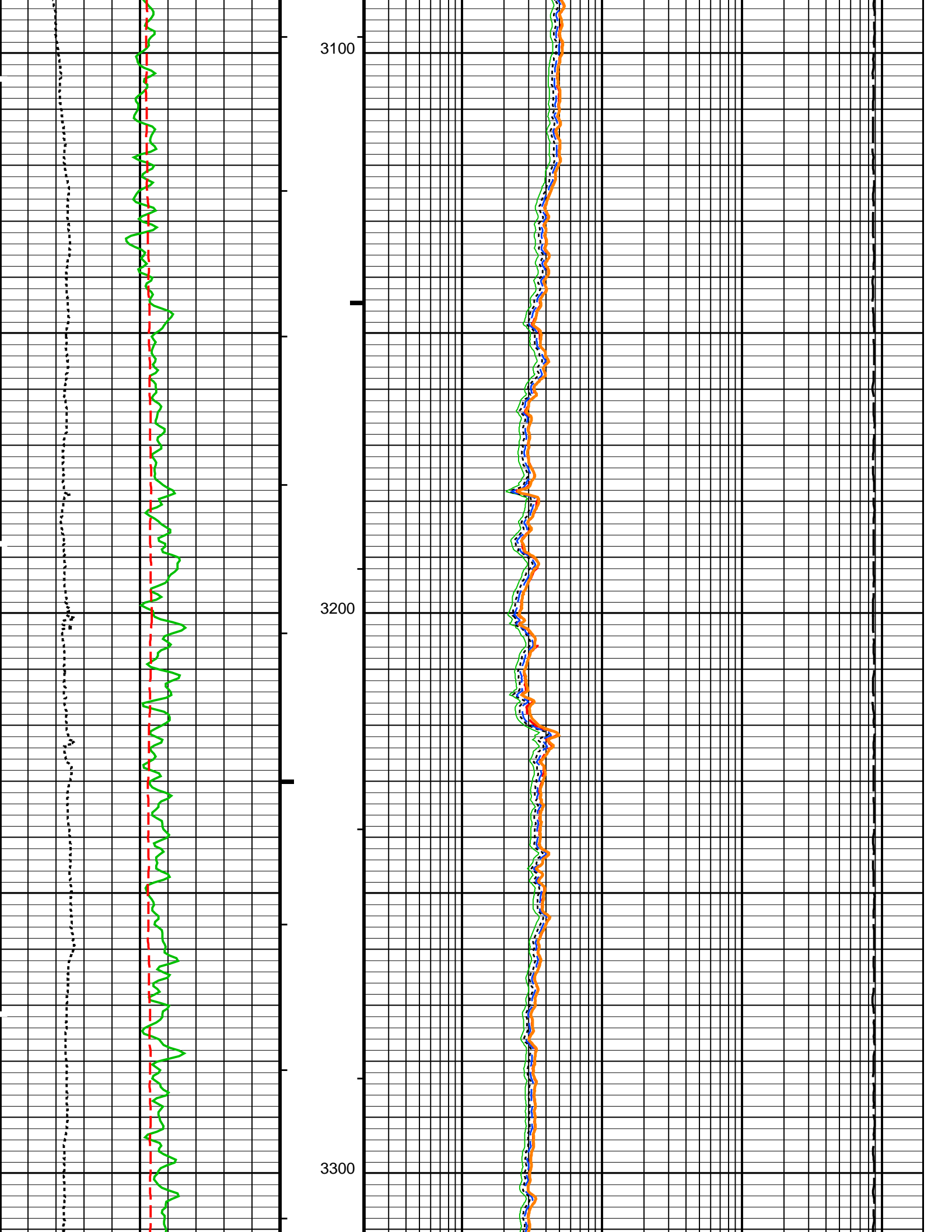


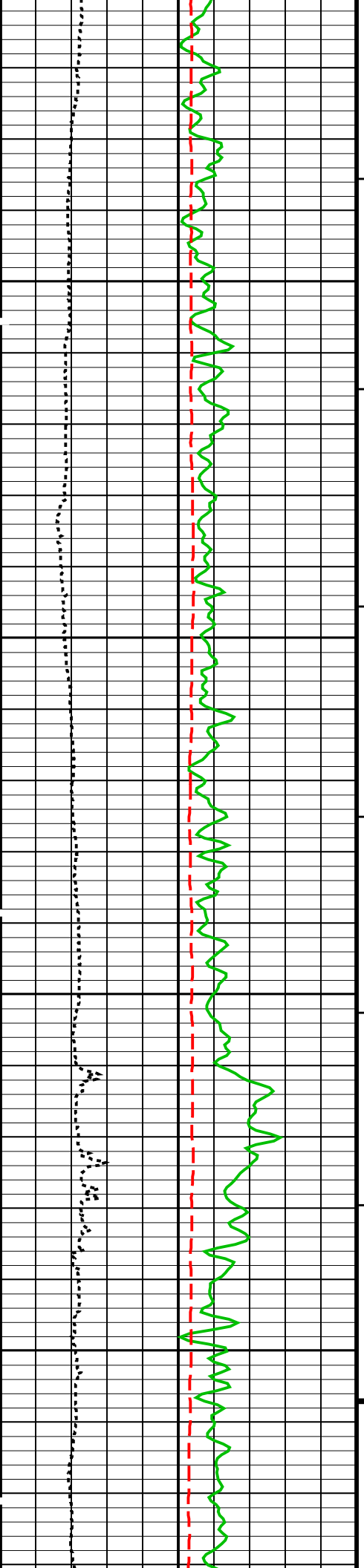


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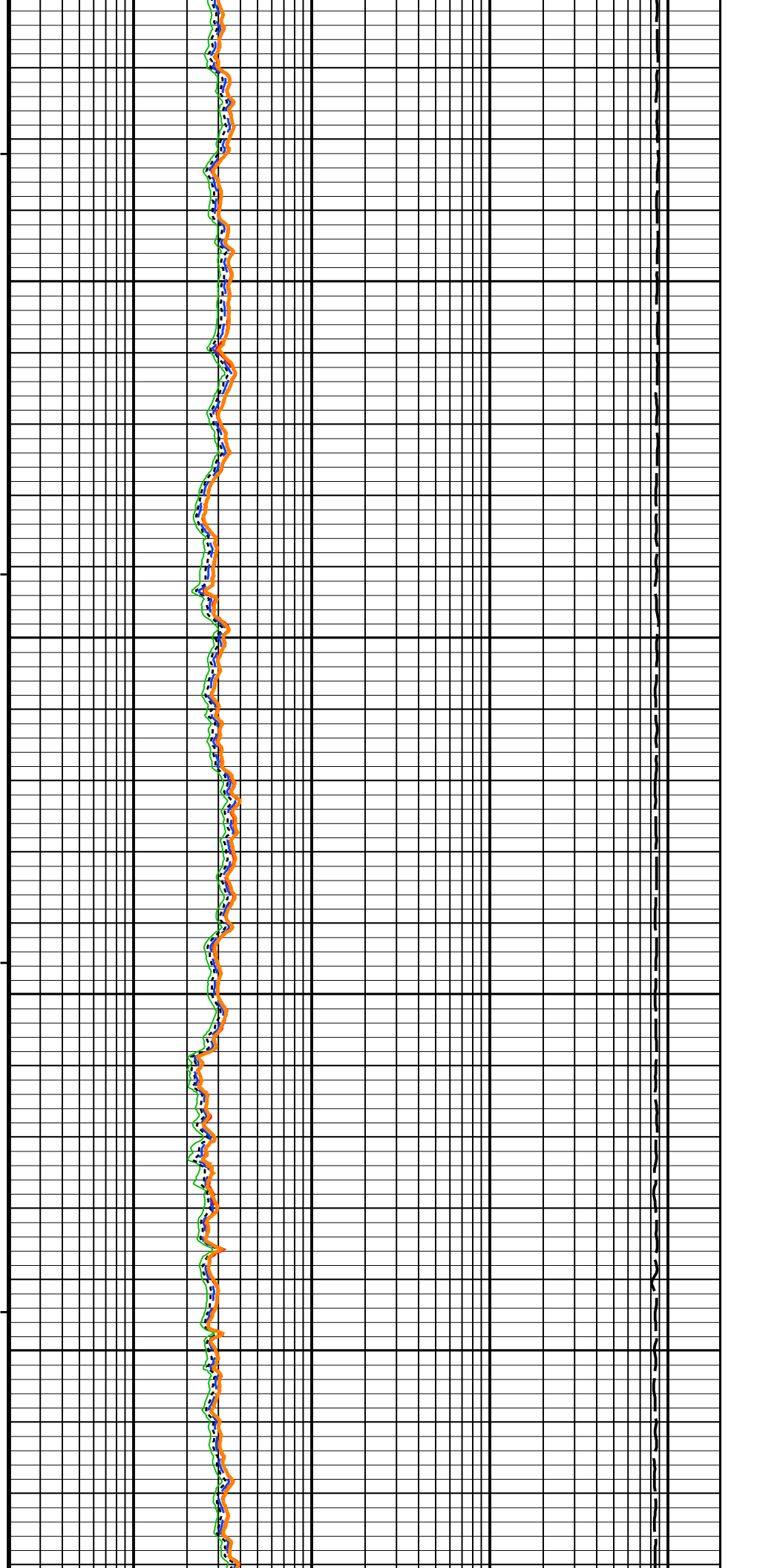


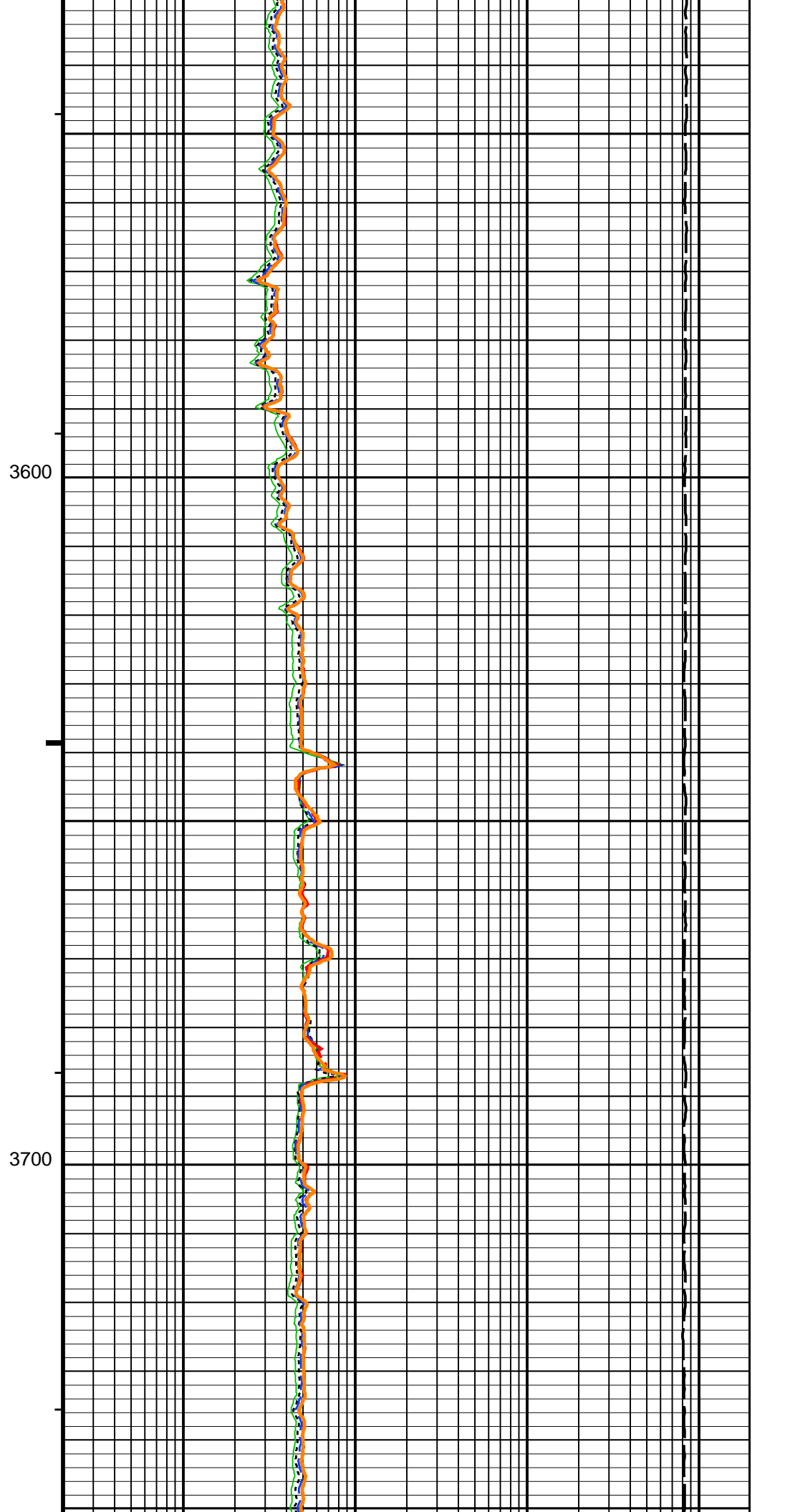
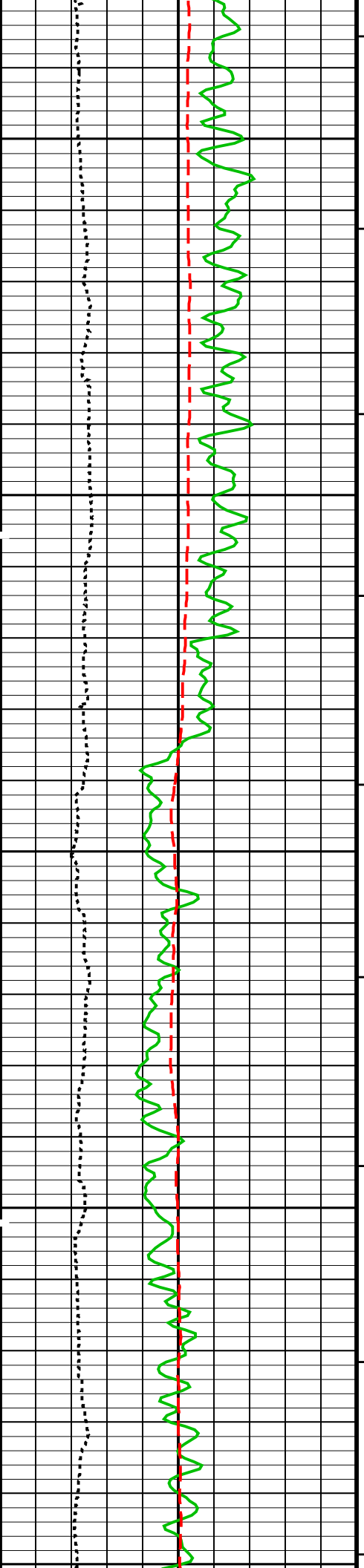


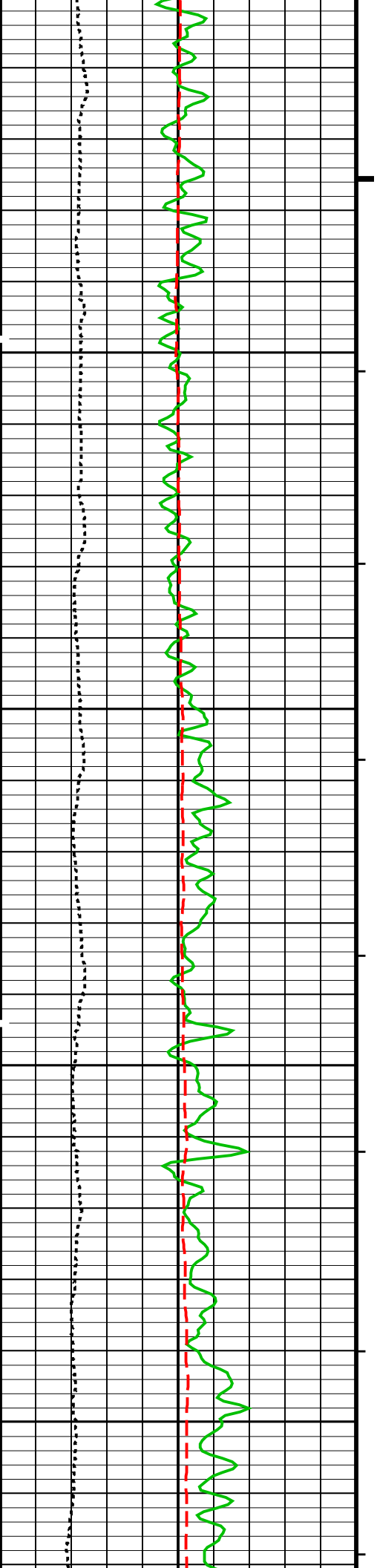


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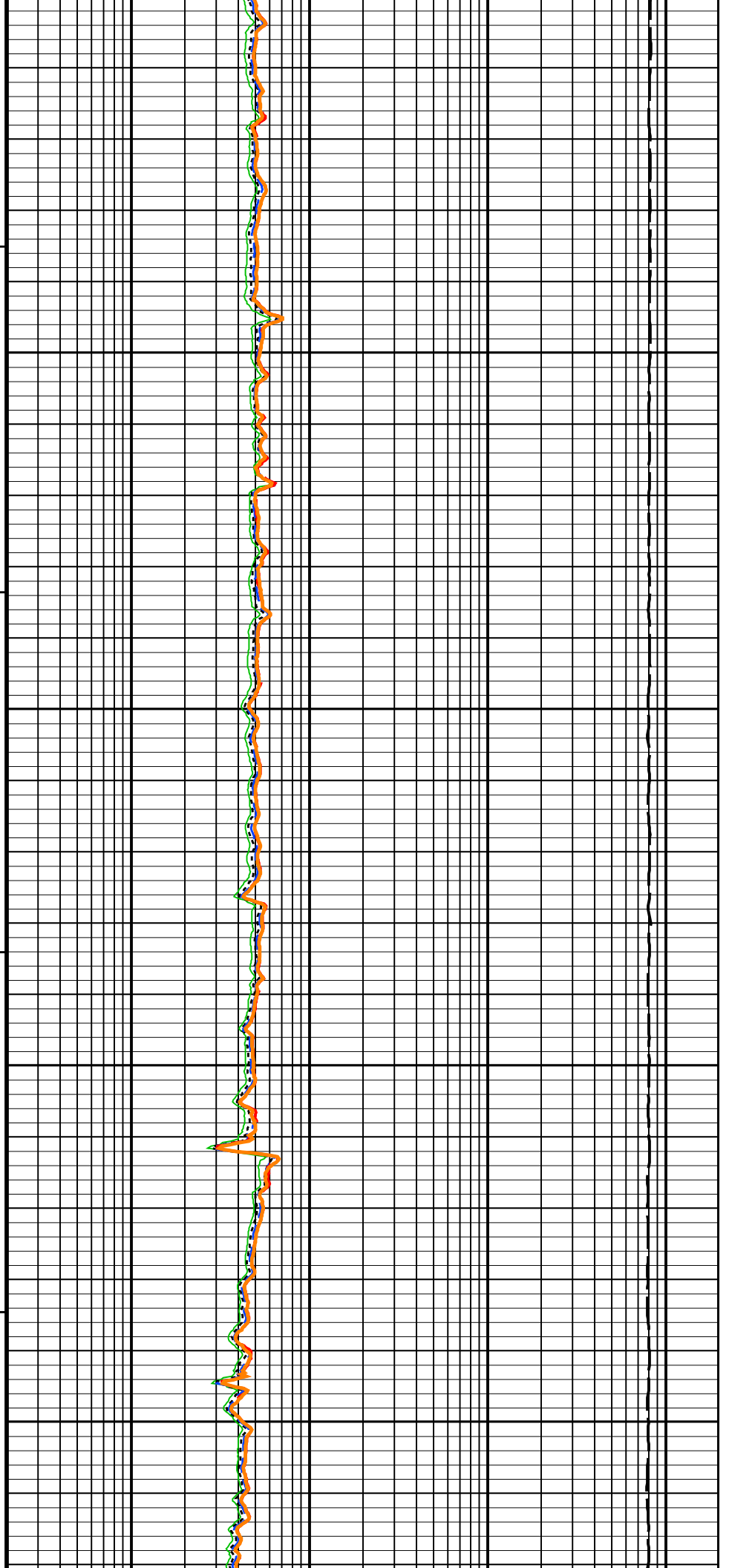


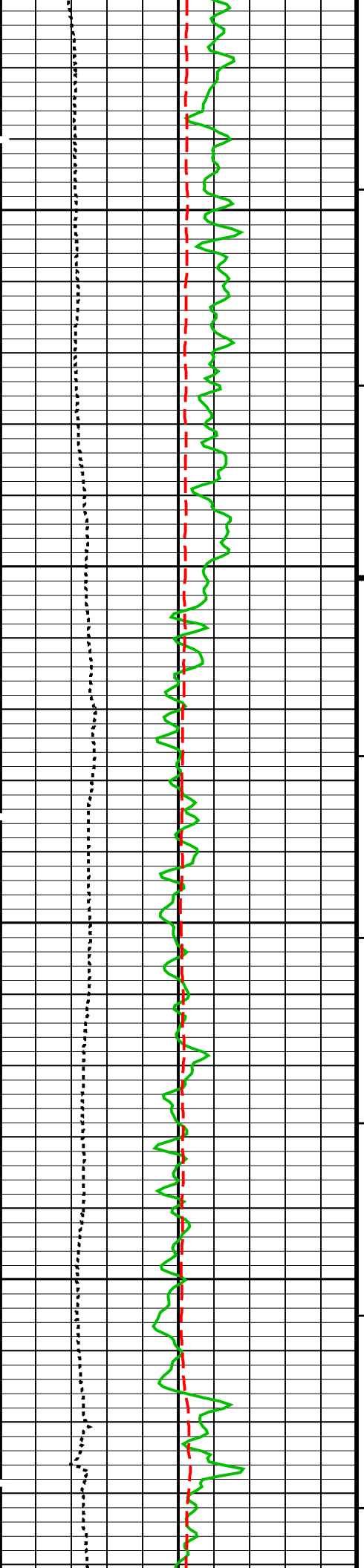




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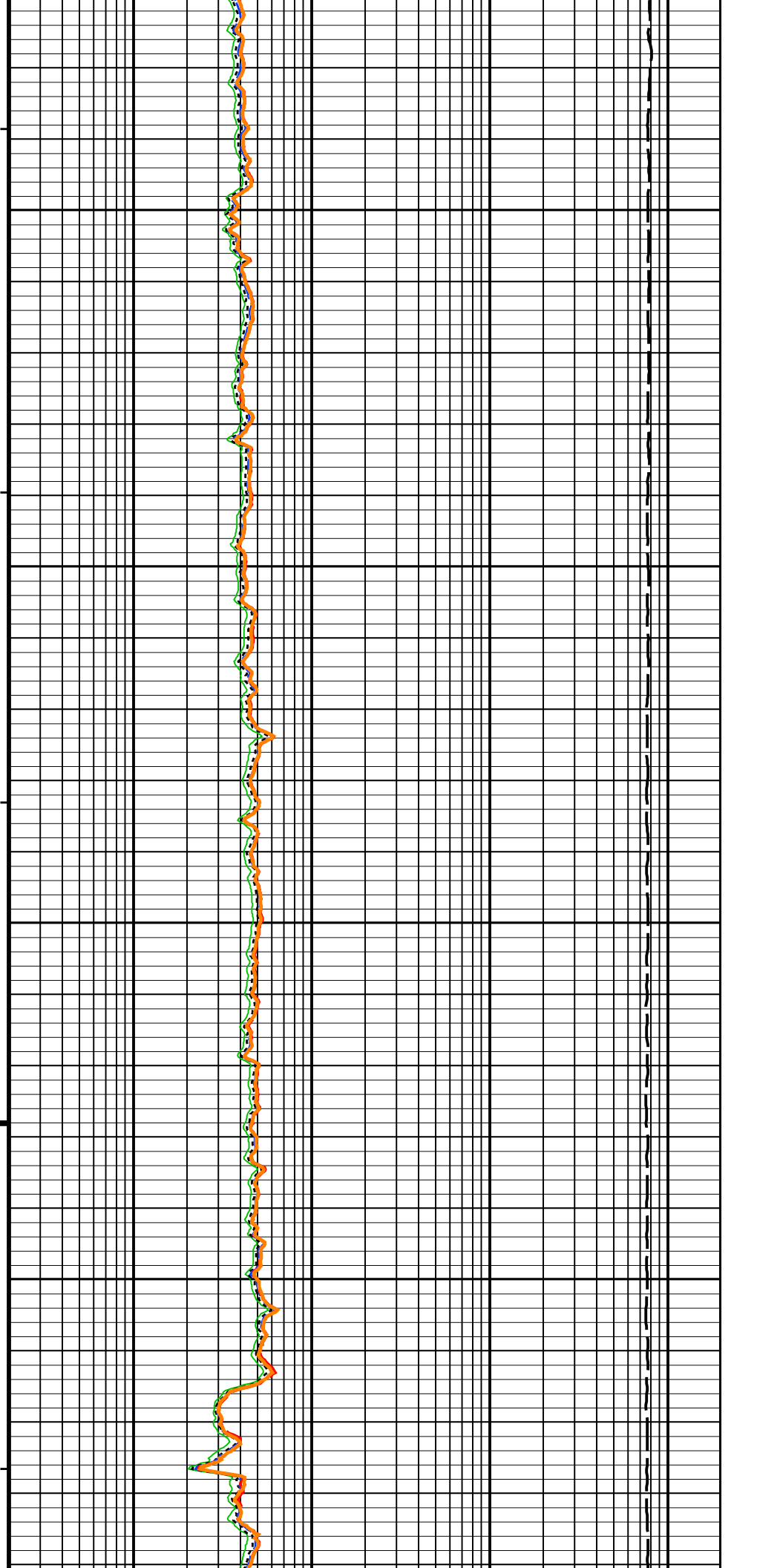
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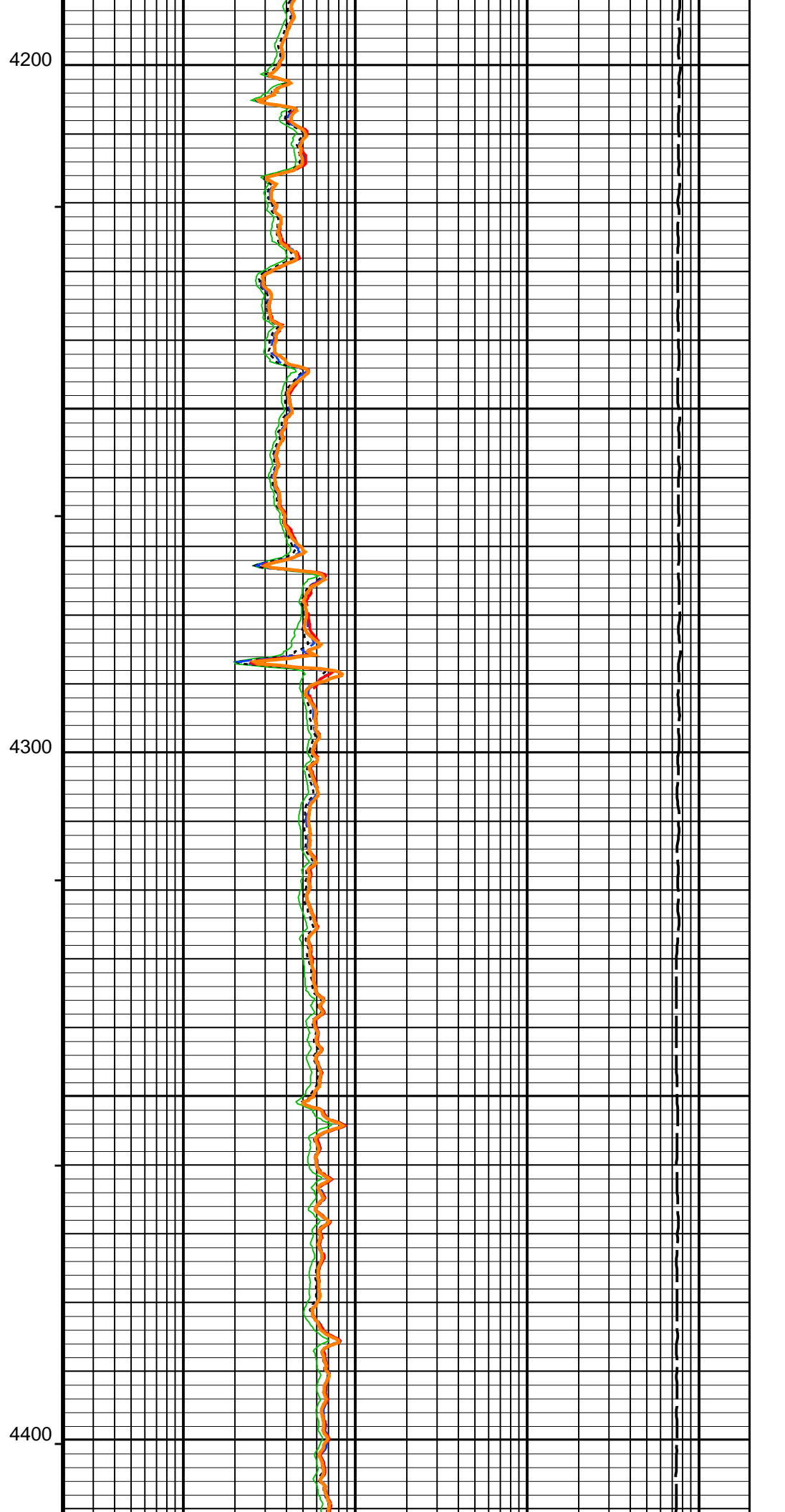
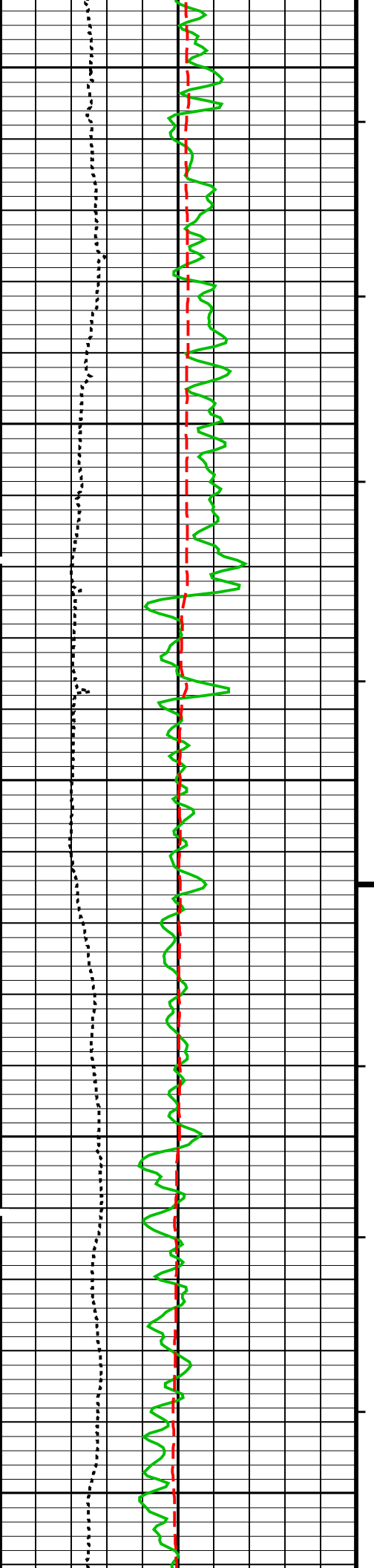


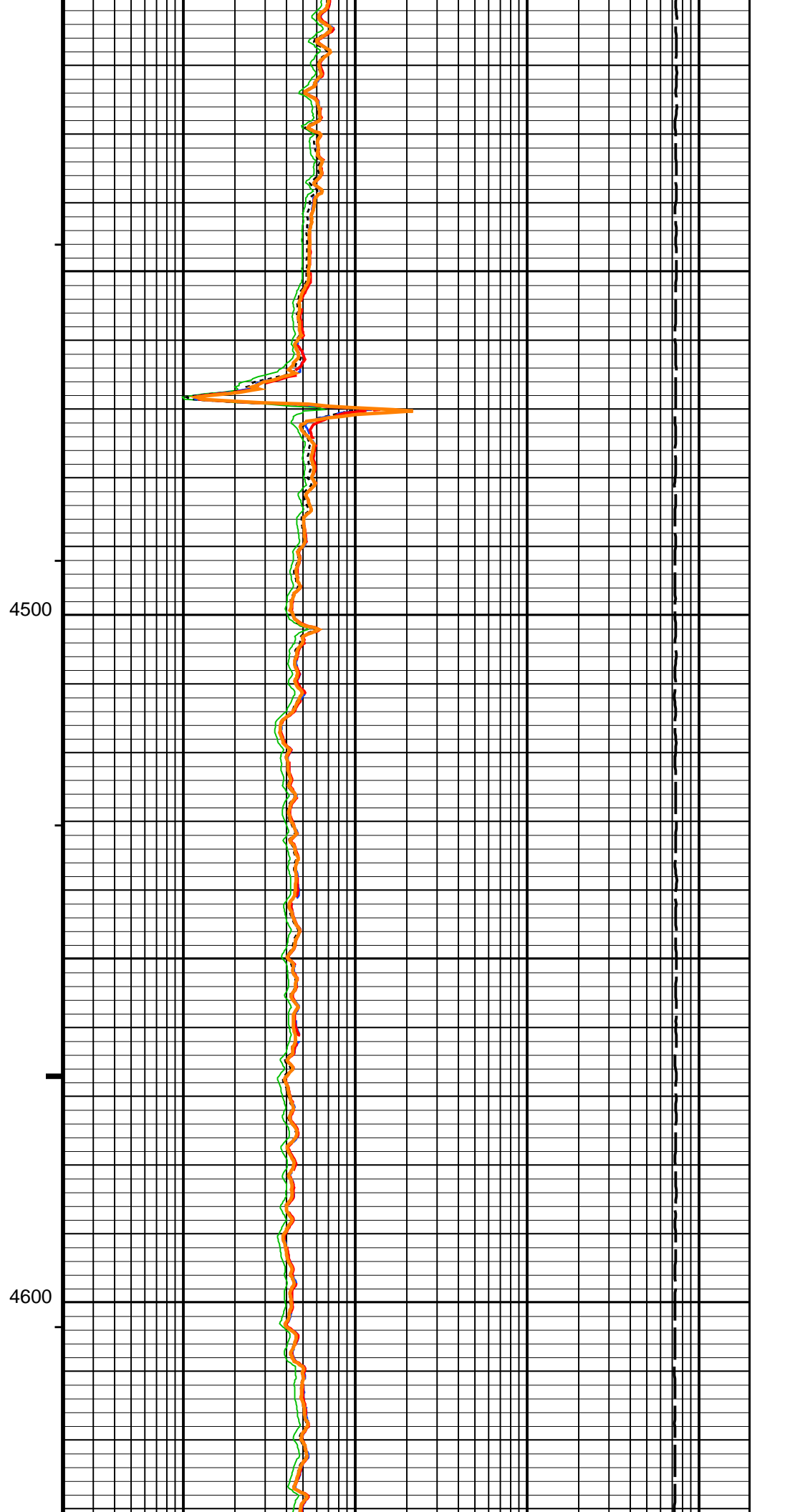
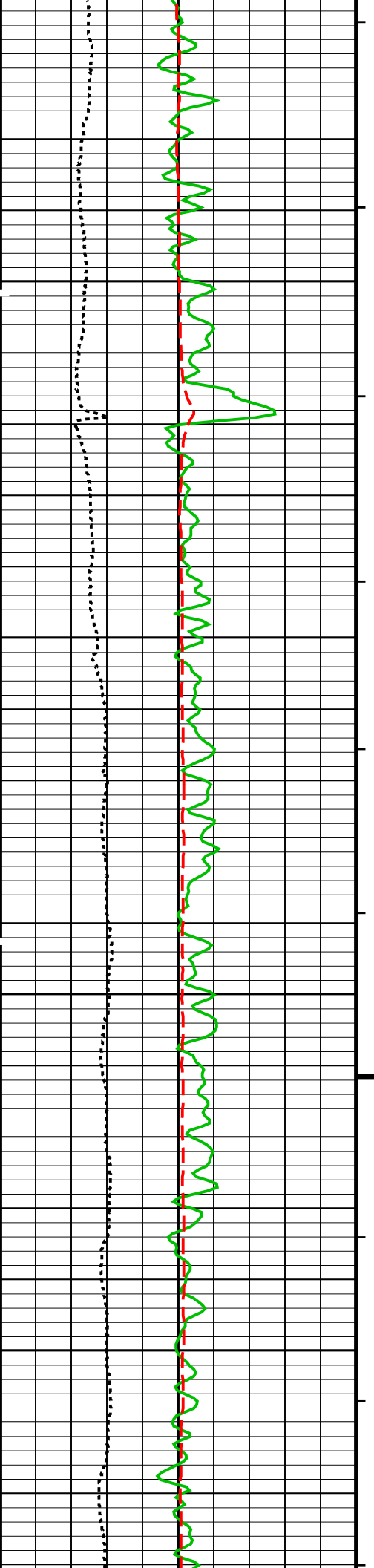


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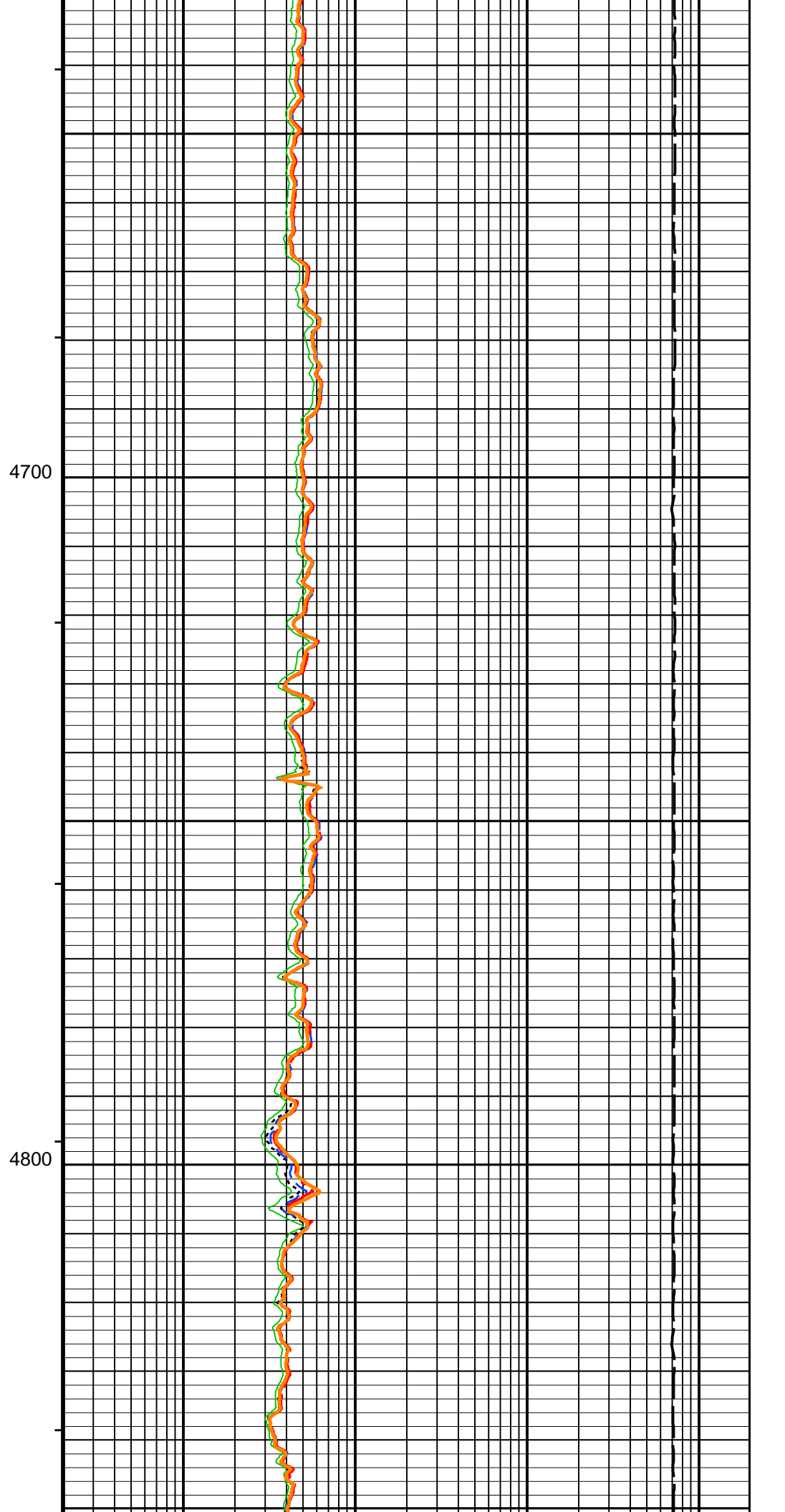
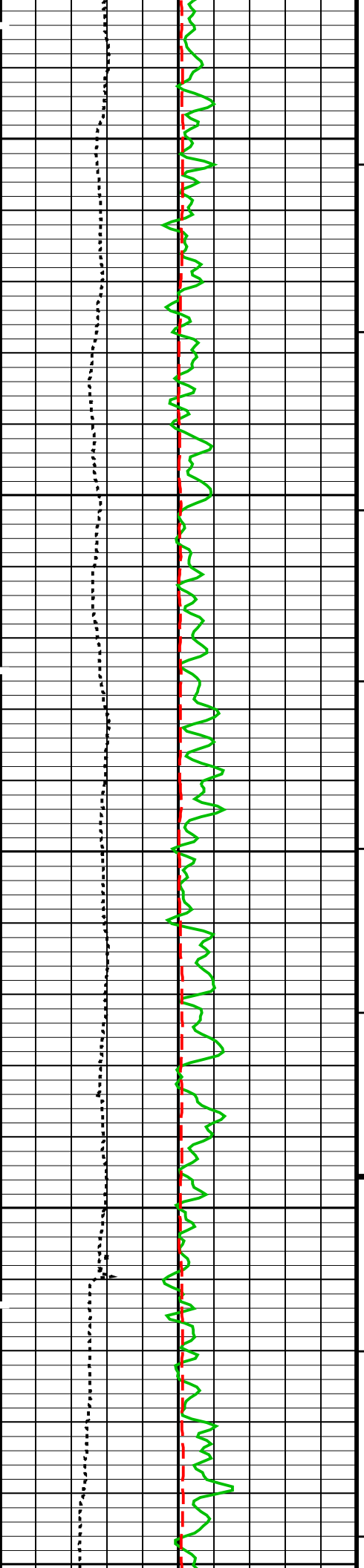
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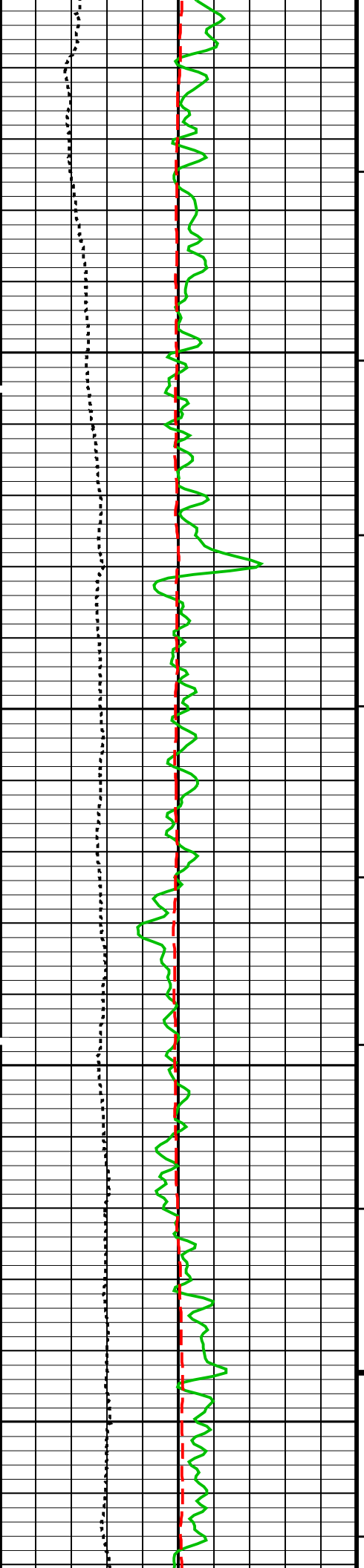






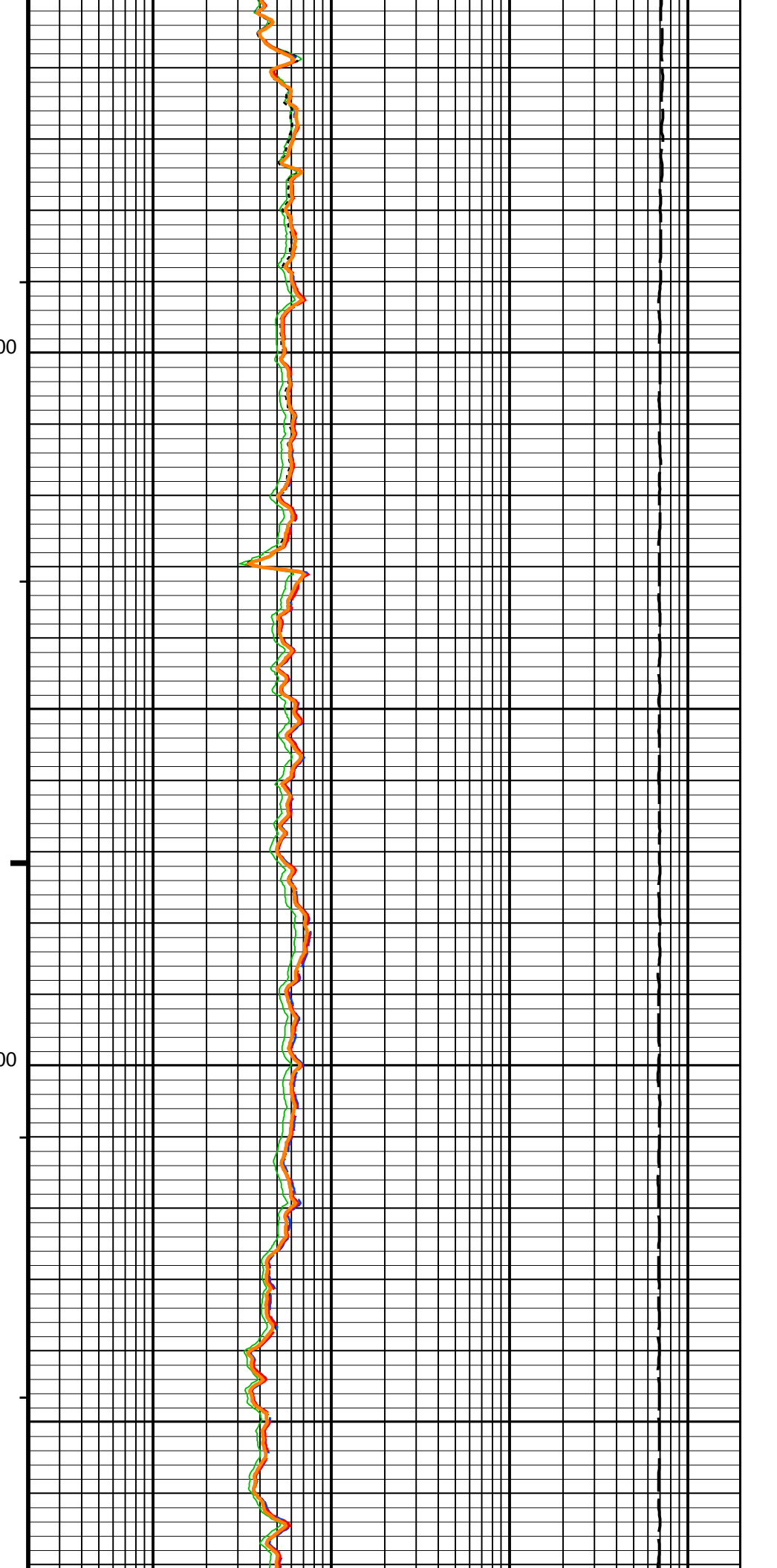


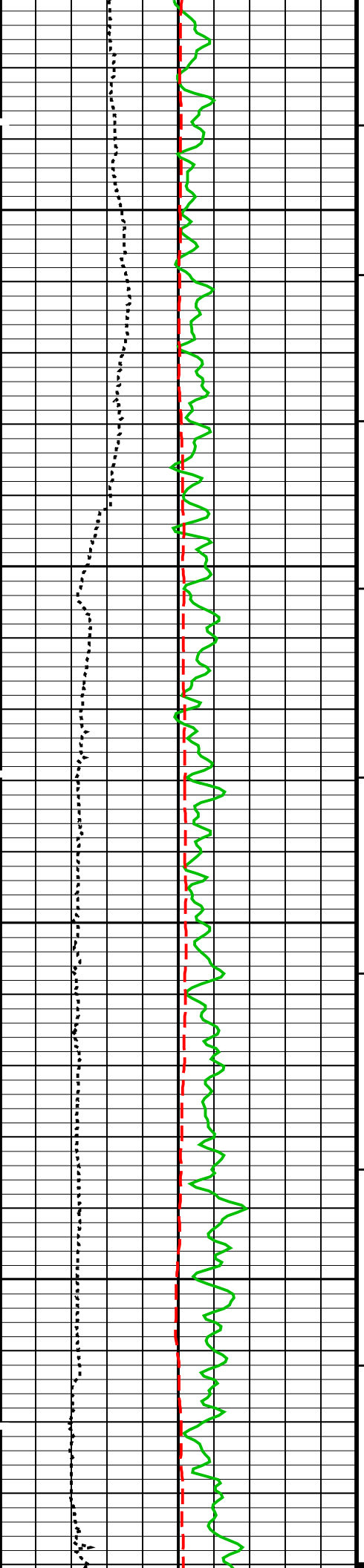




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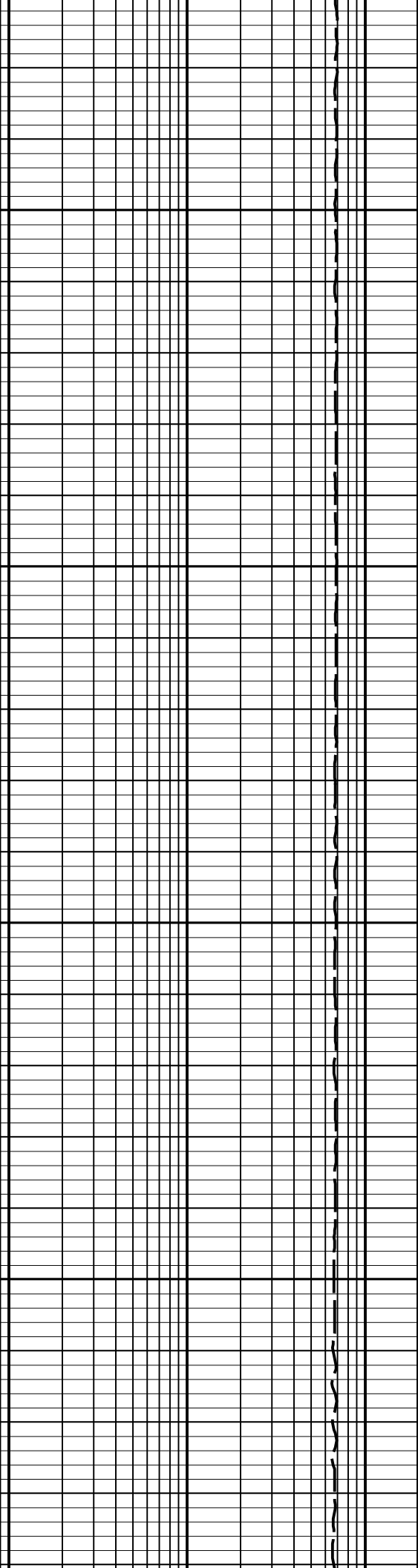
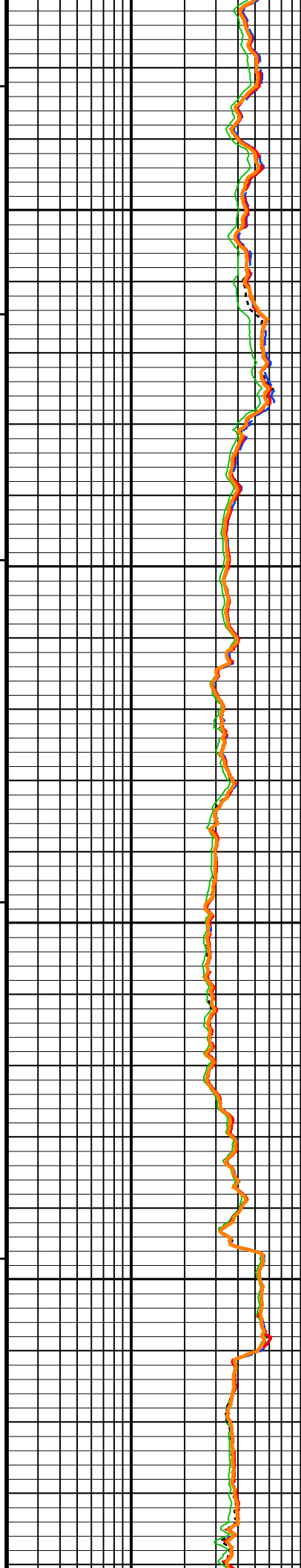
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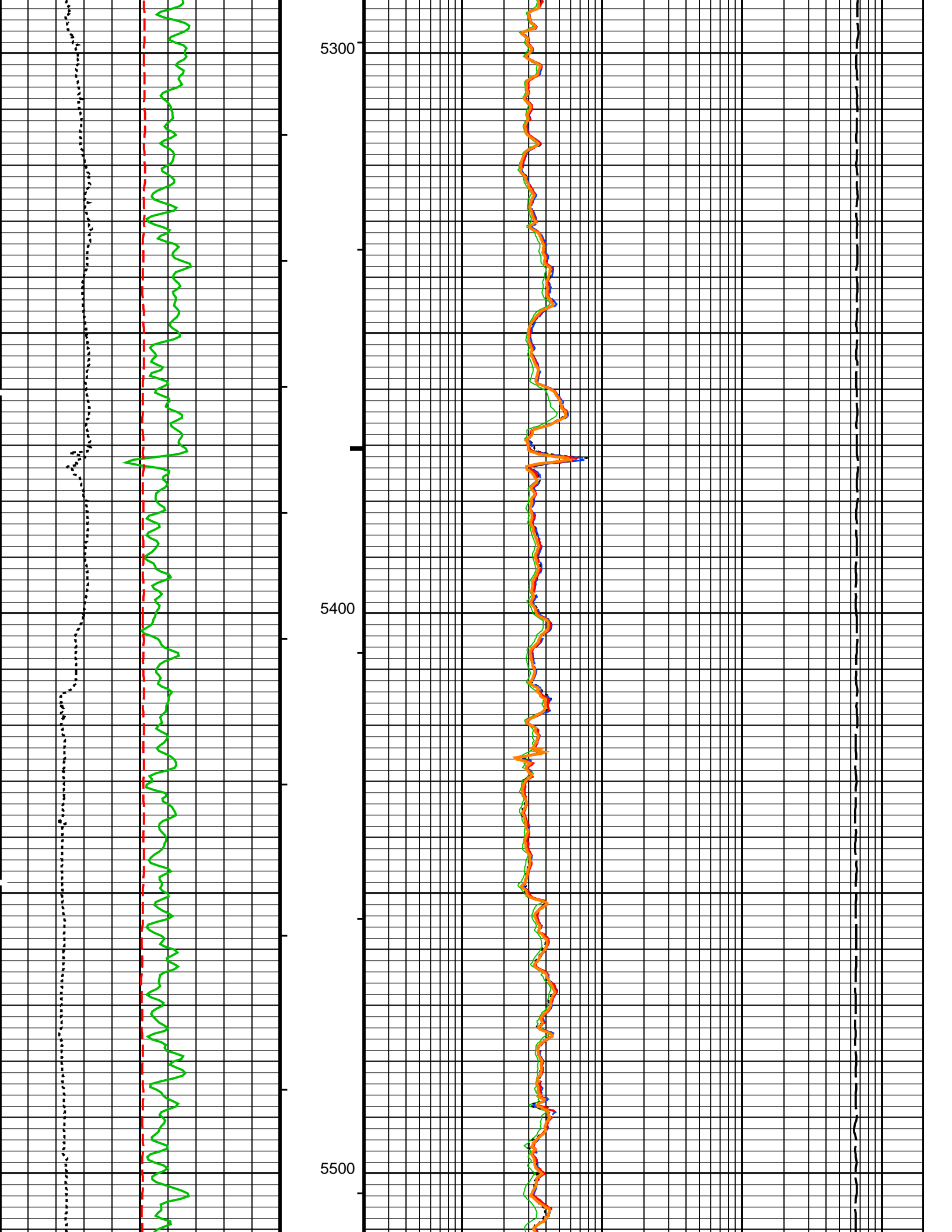


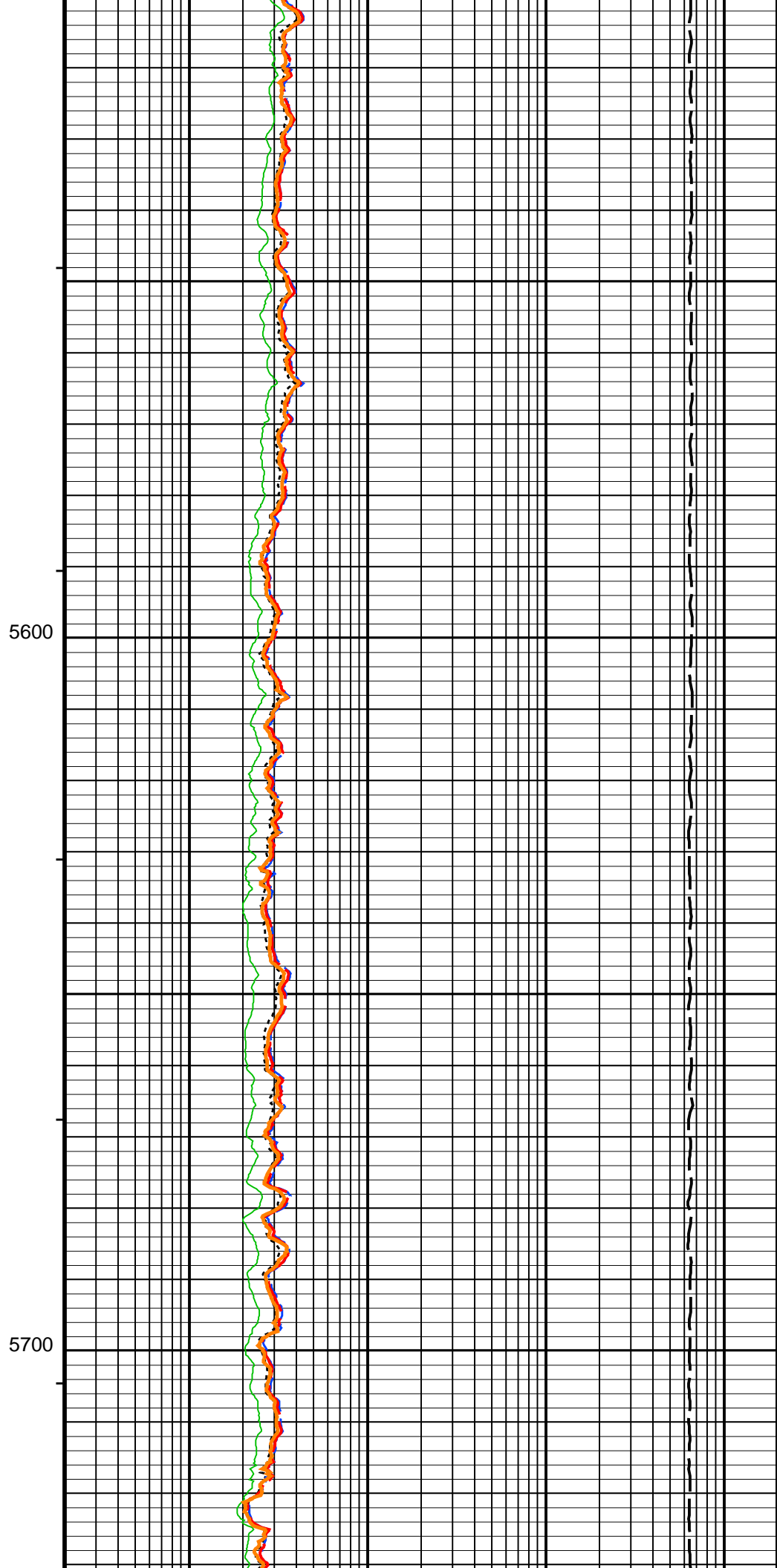
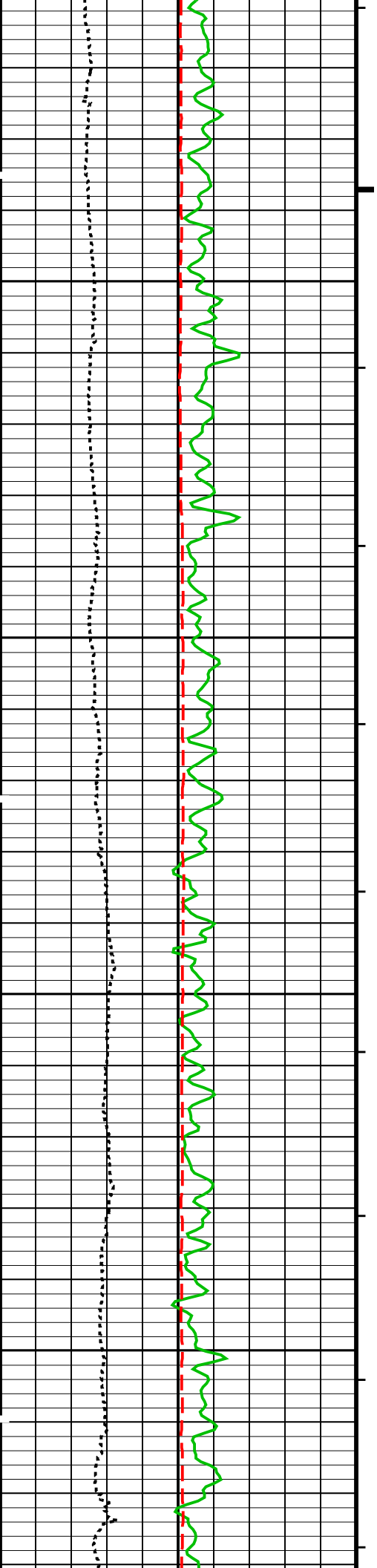


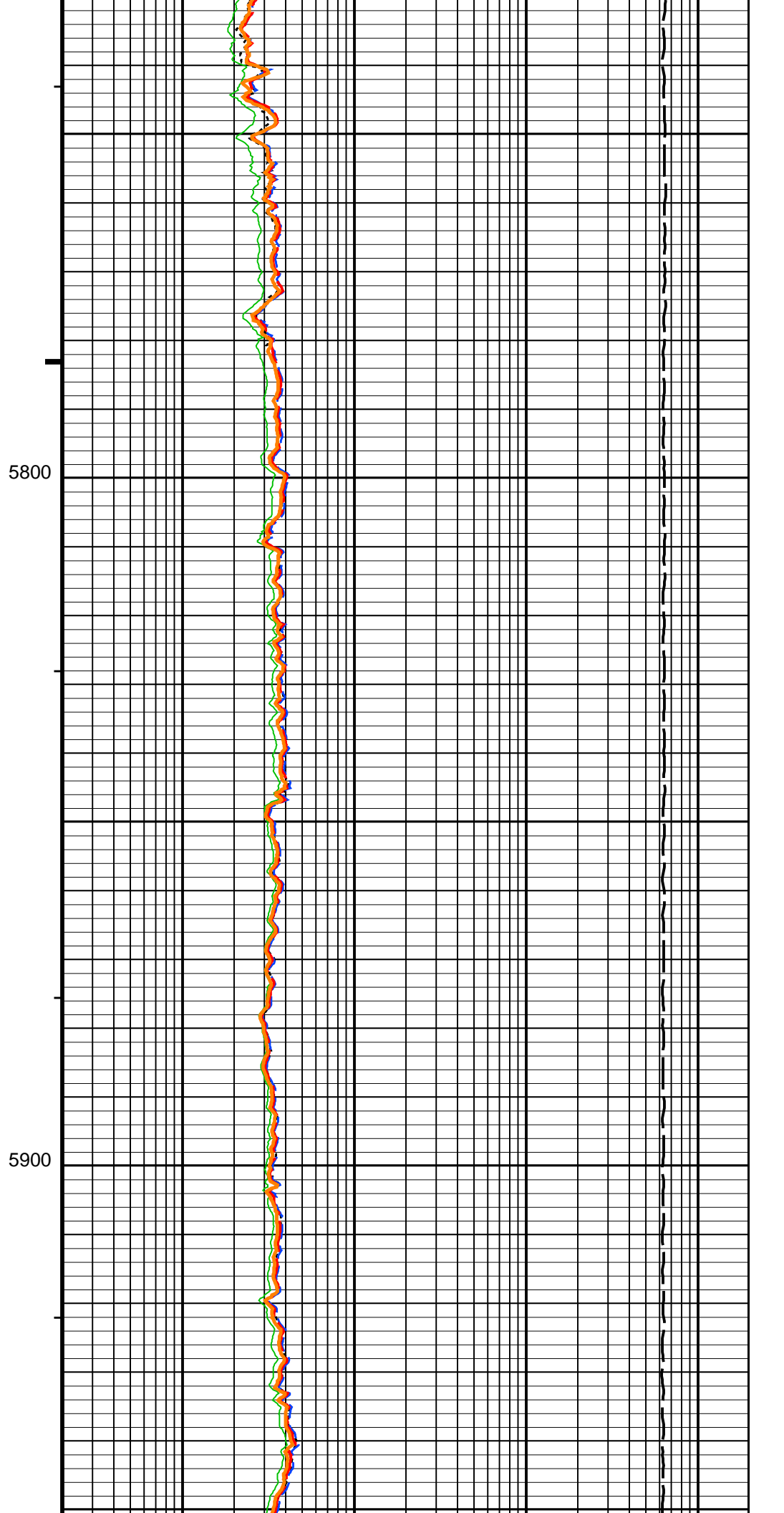
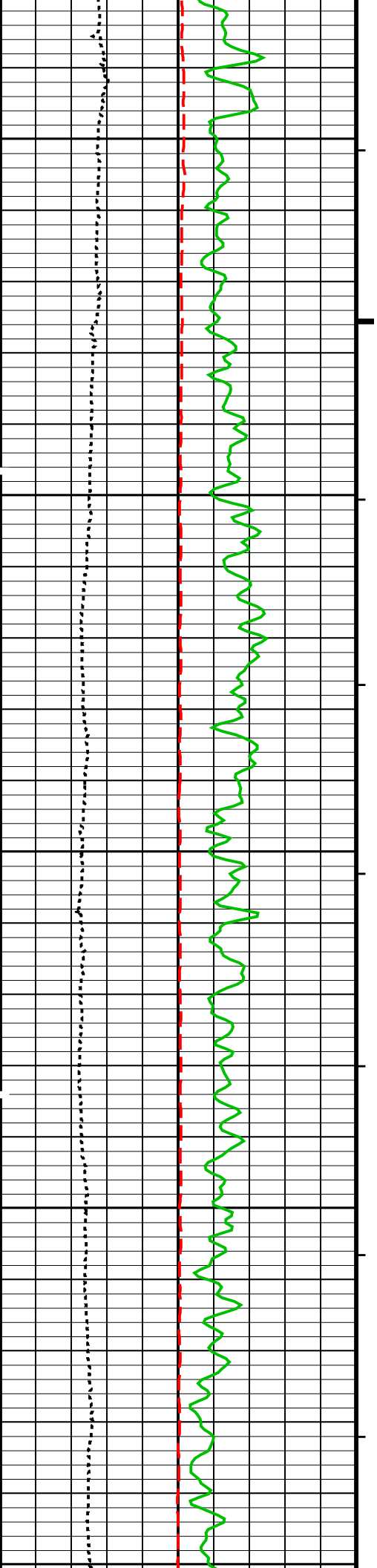
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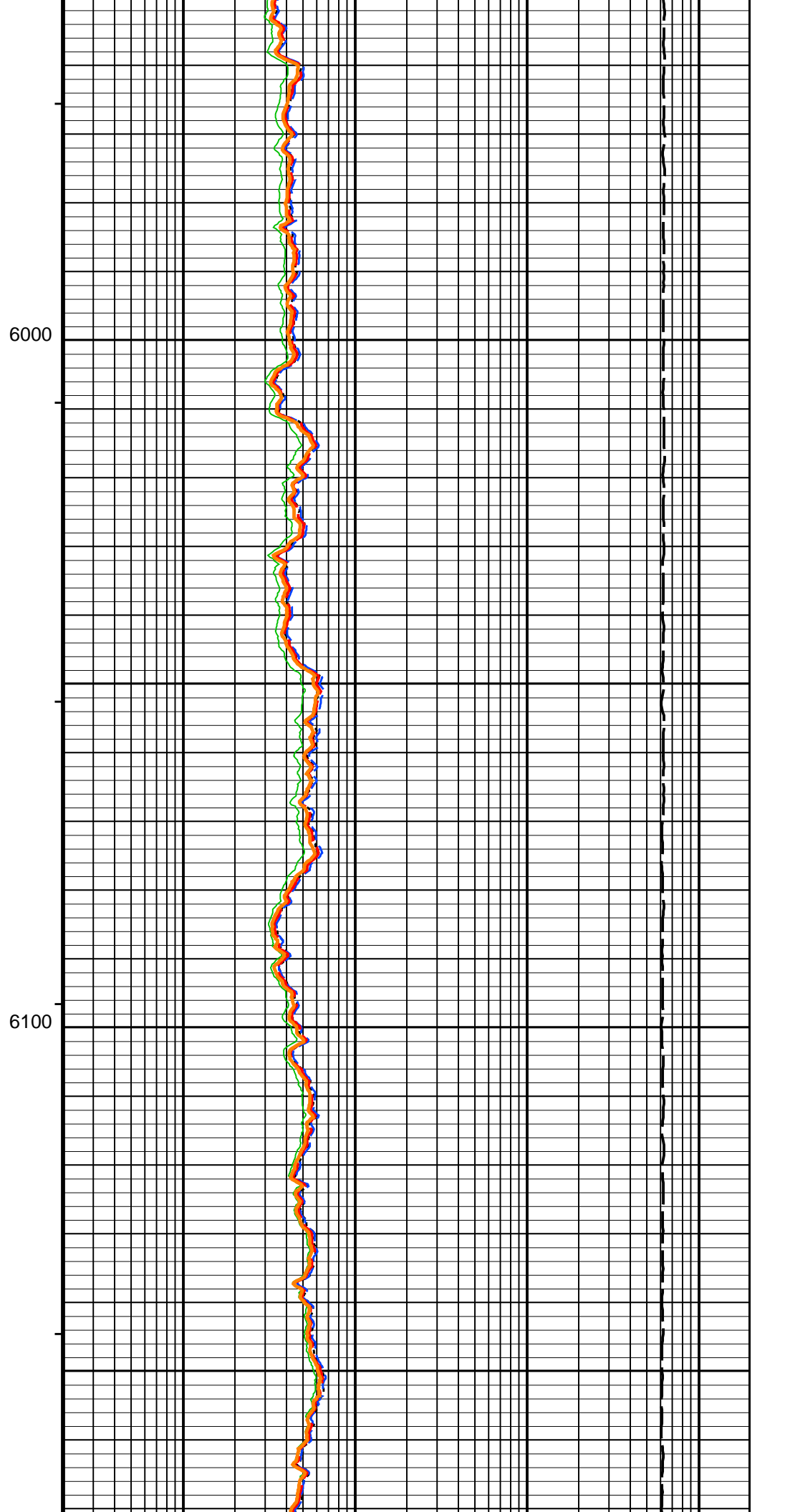
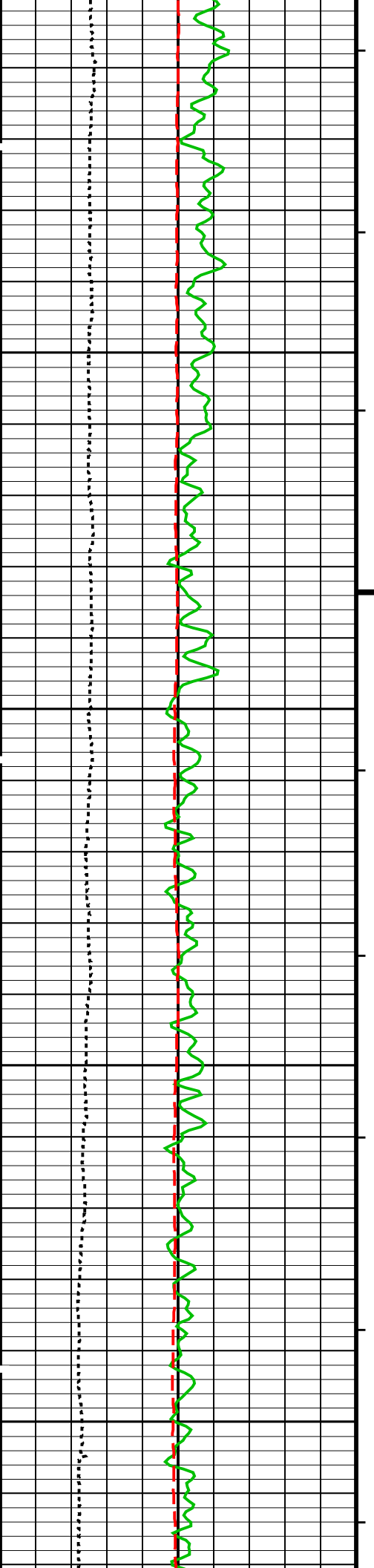
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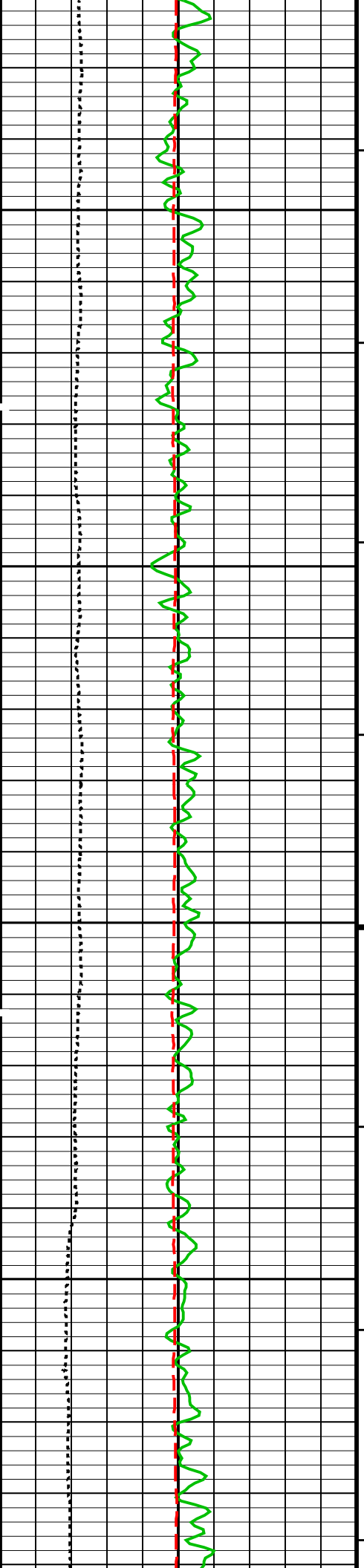






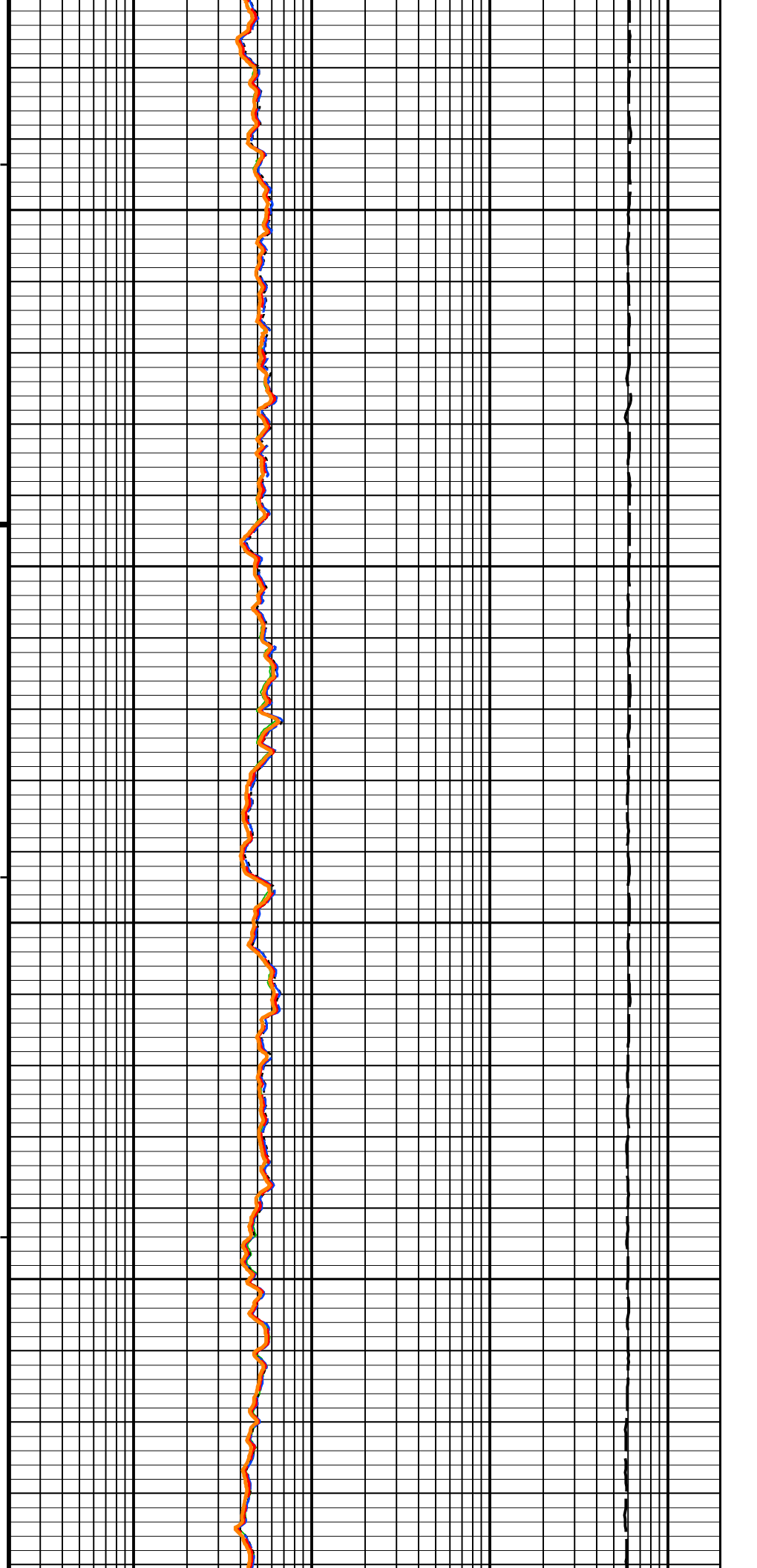




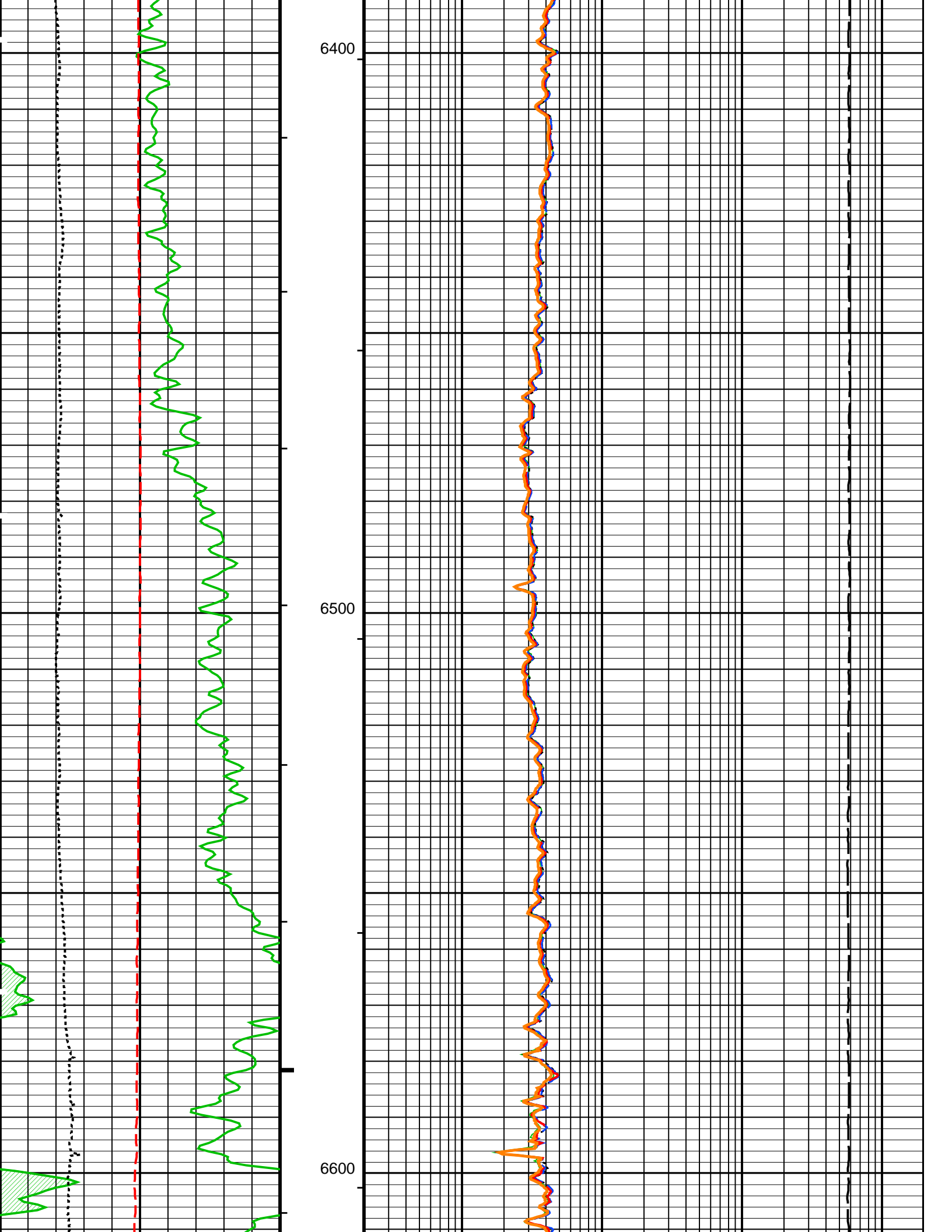


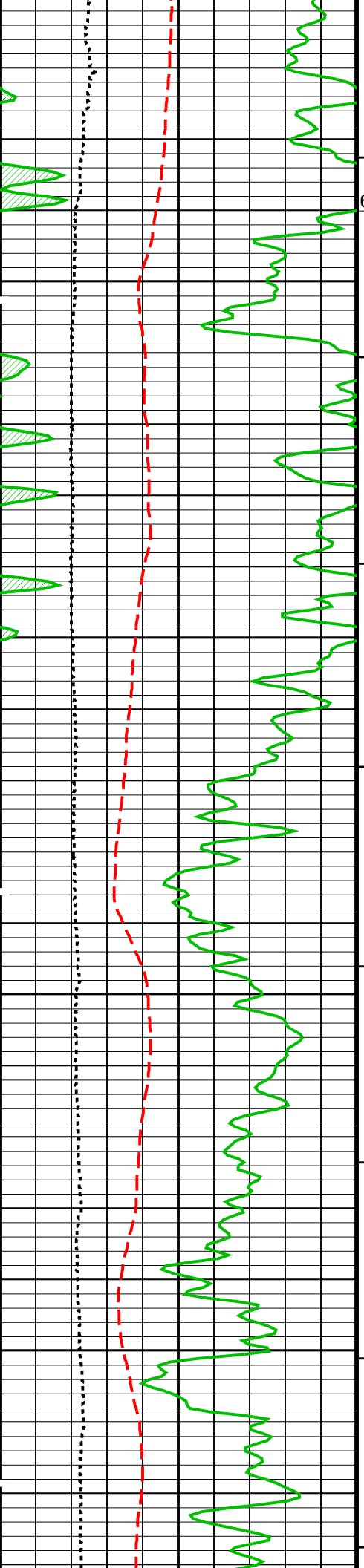
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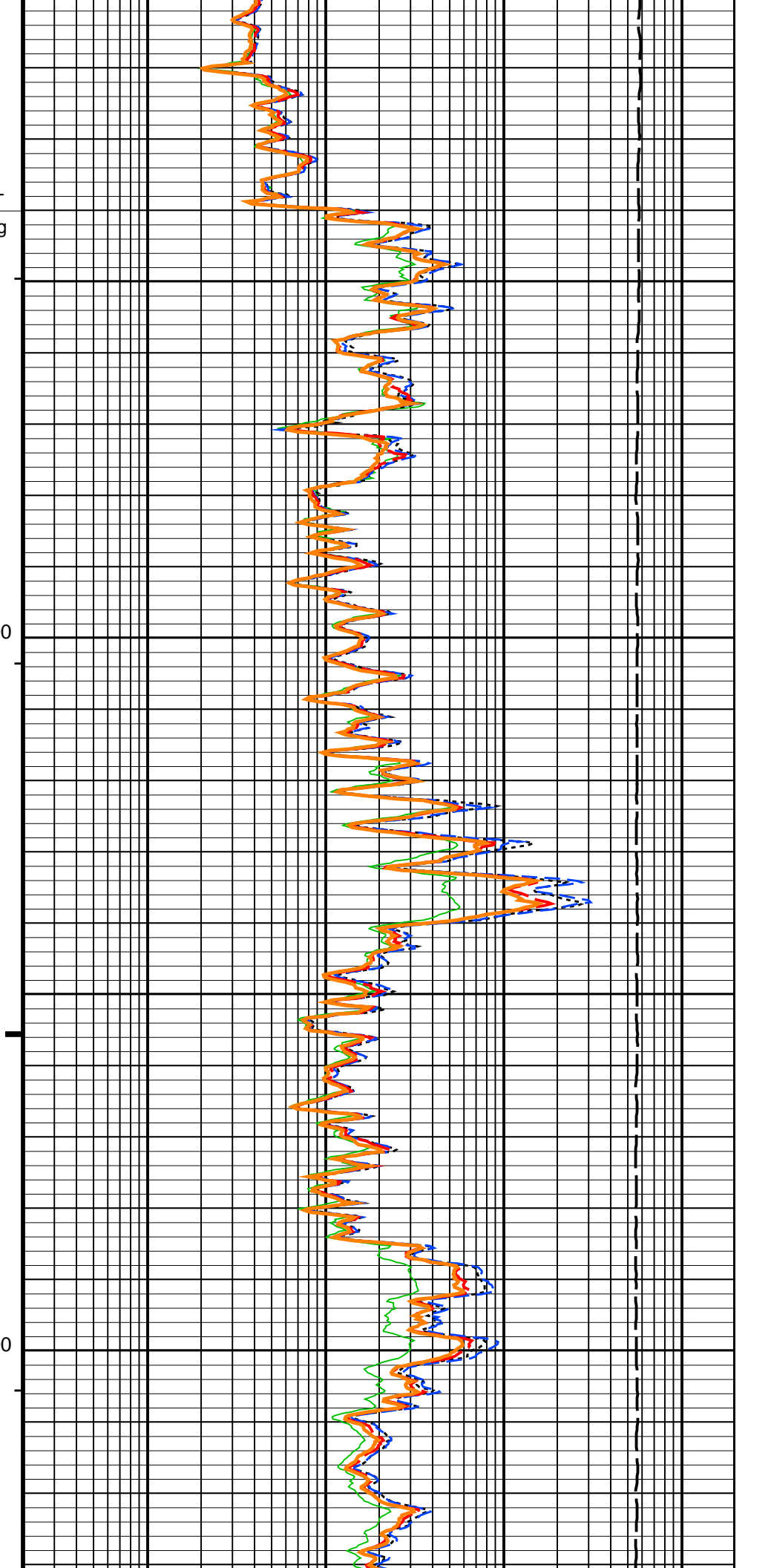


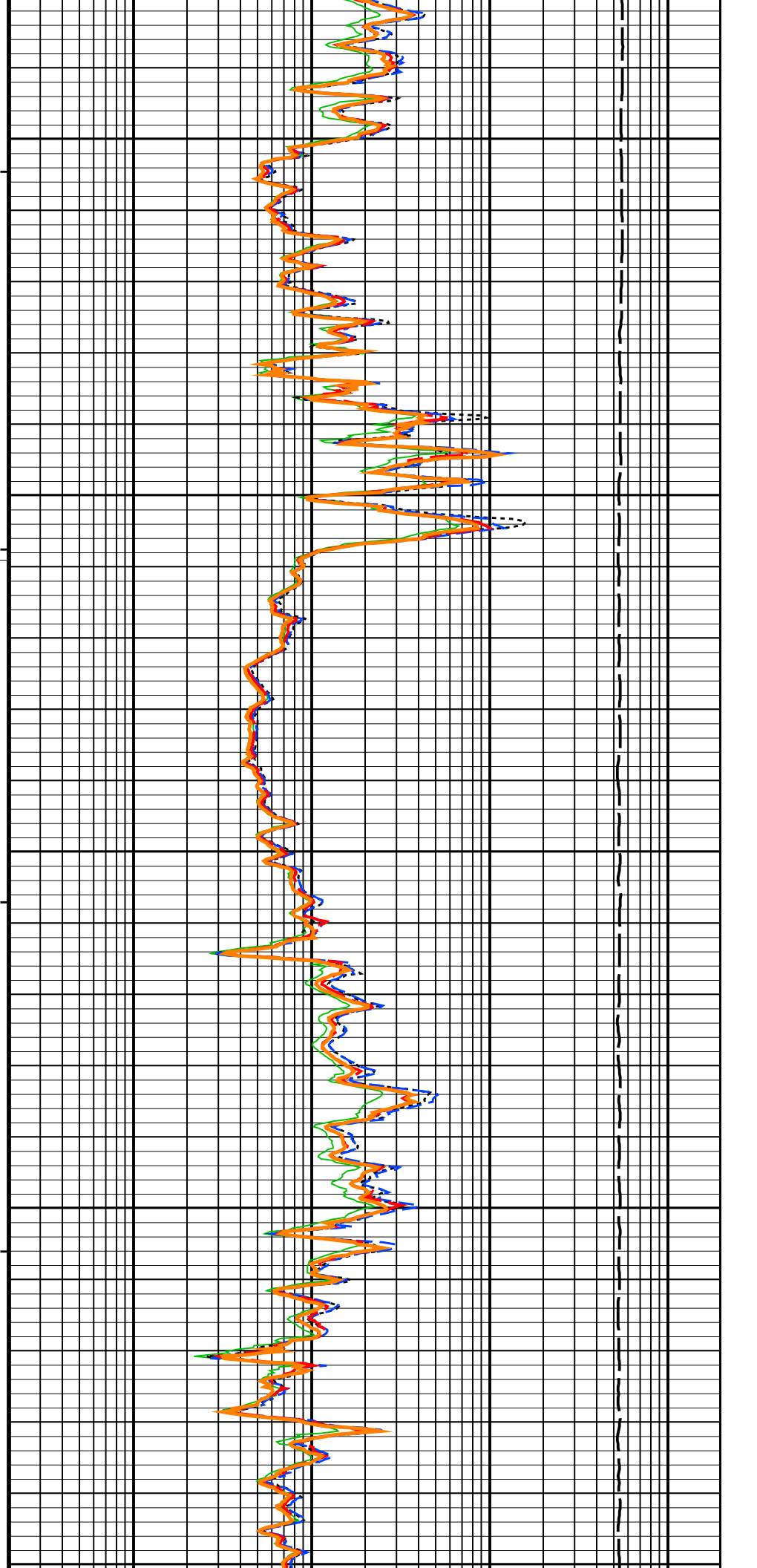
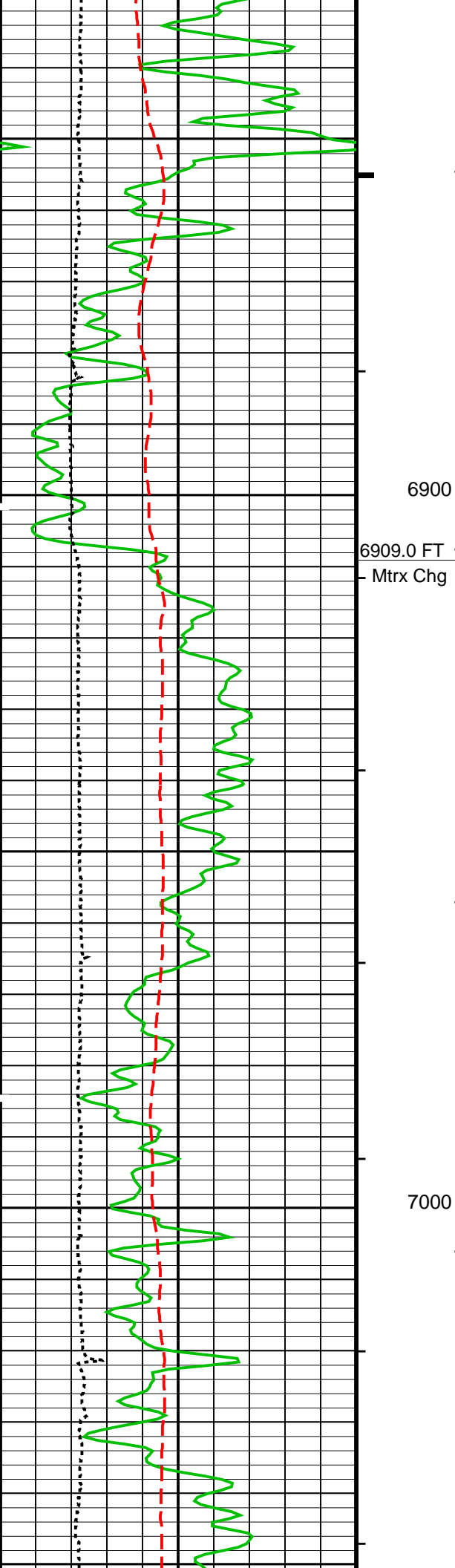


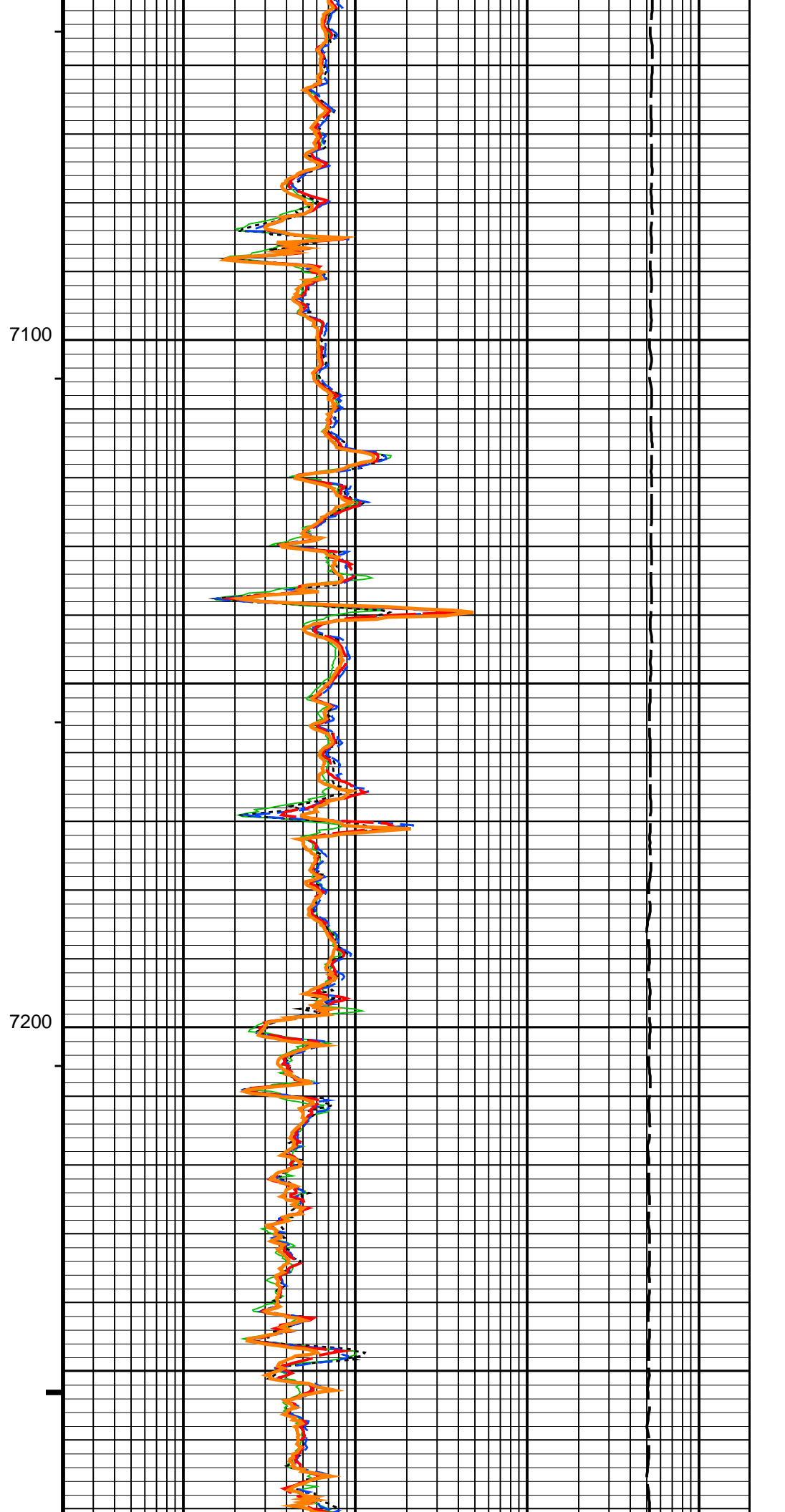
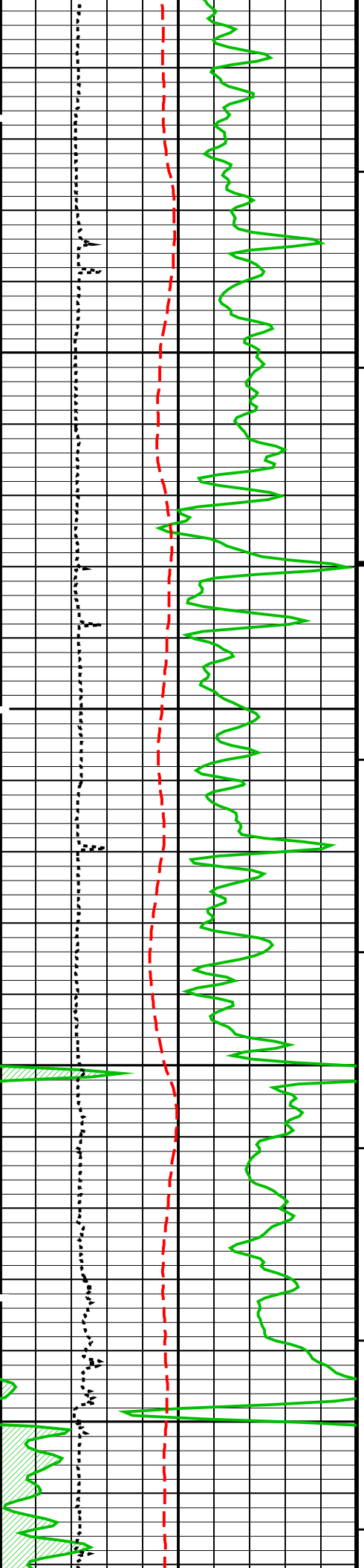
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Mtrx Chg

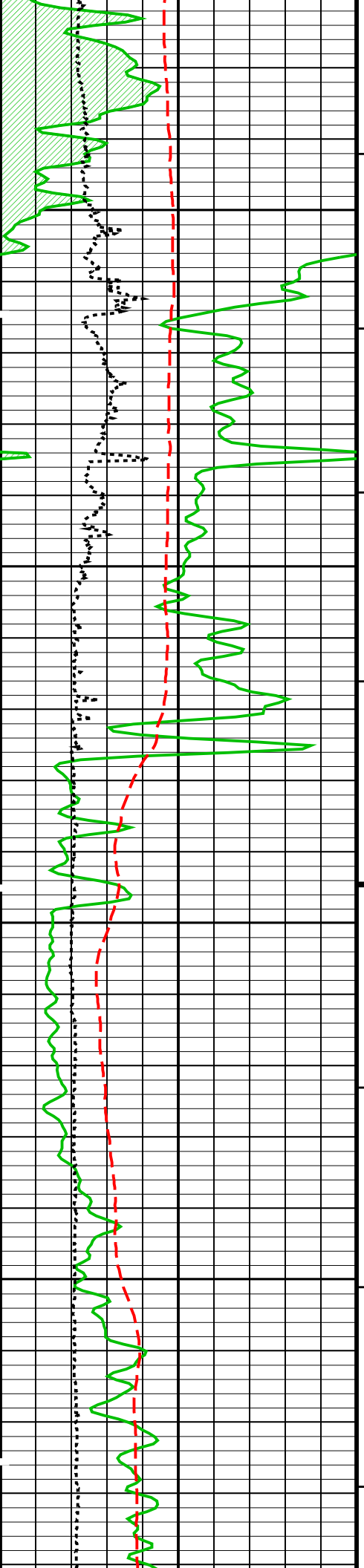
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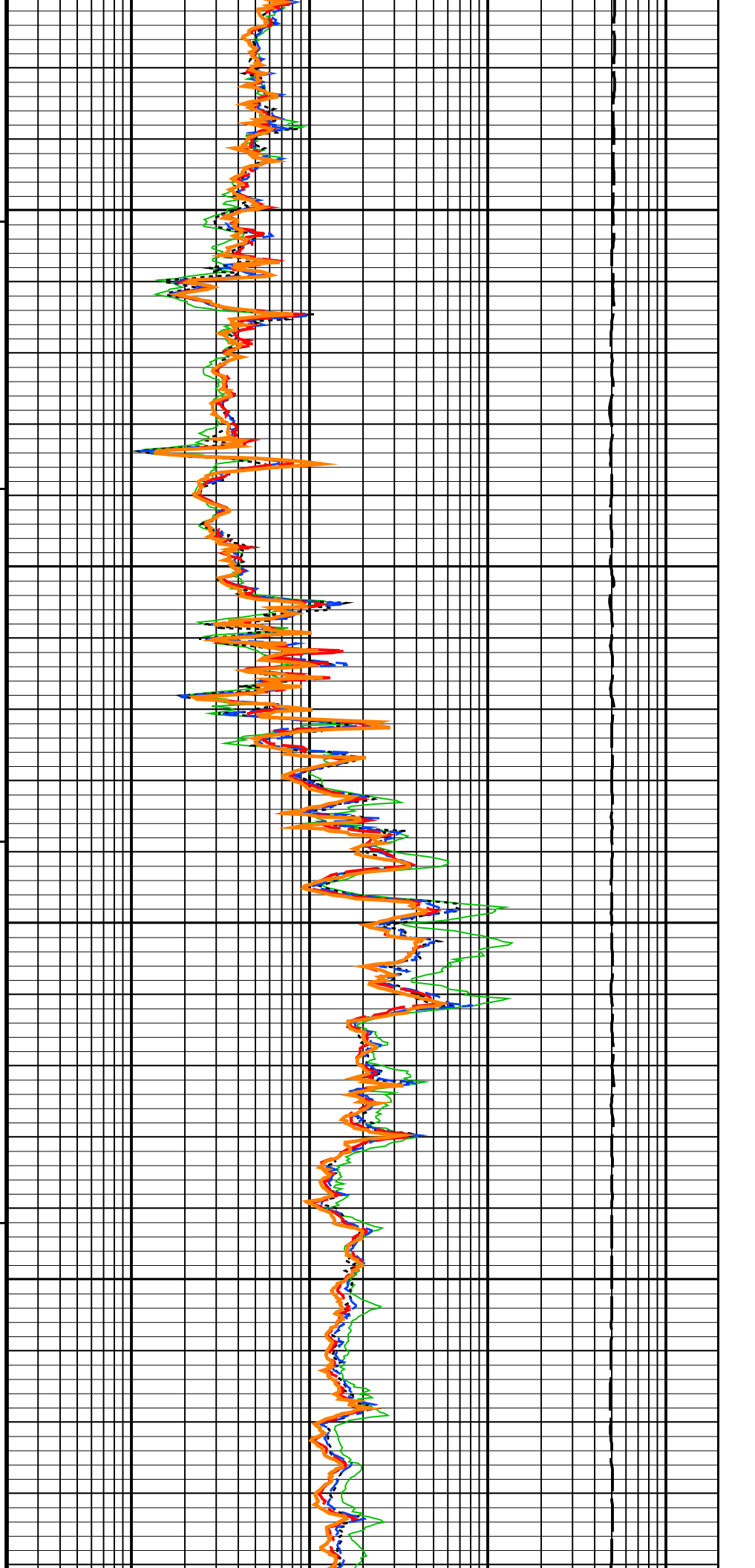


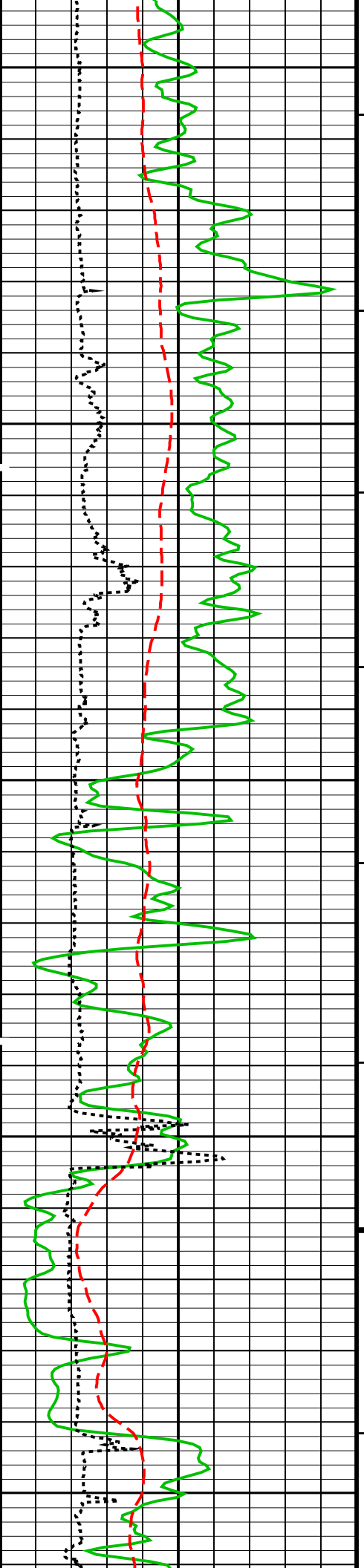




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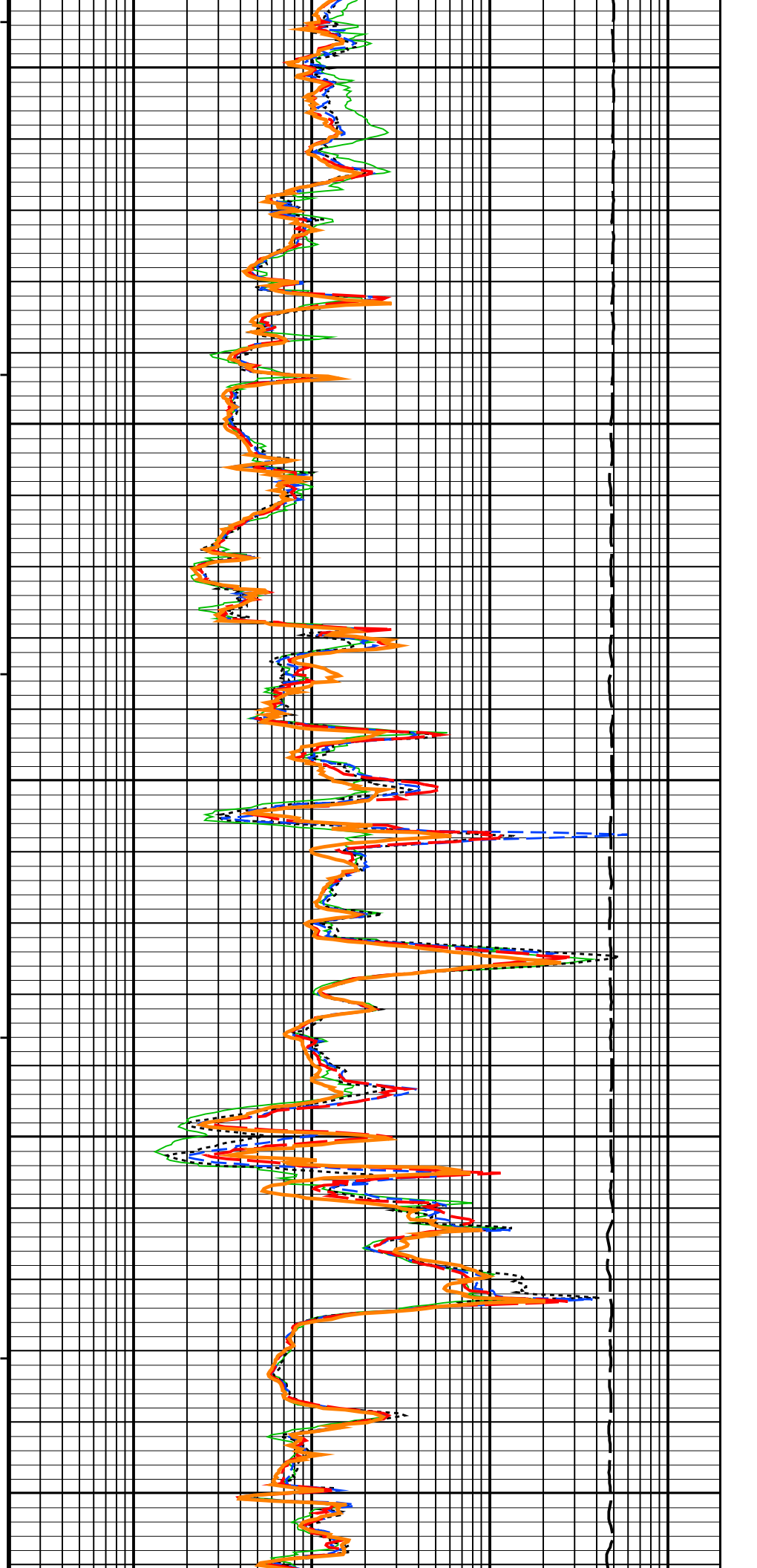


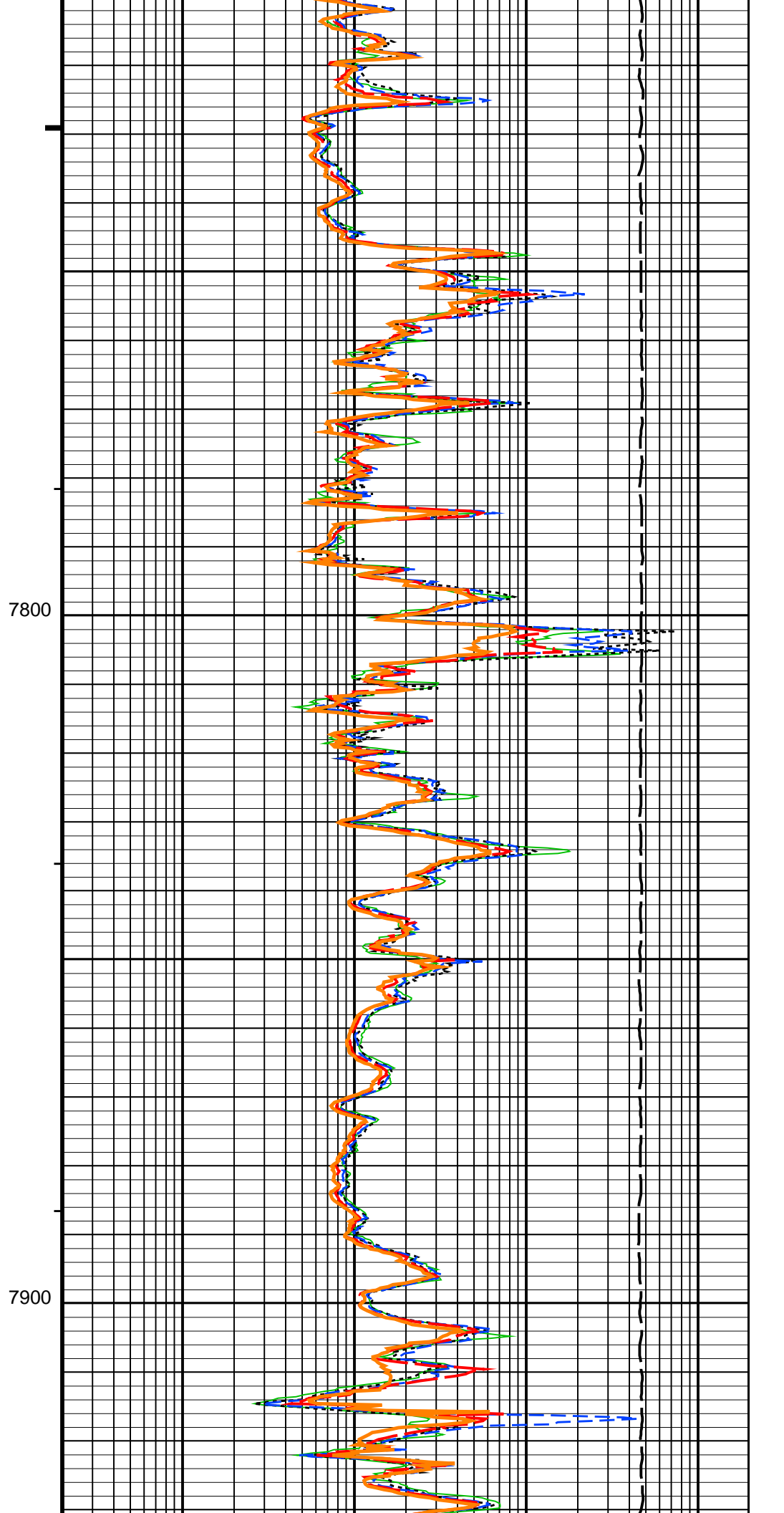
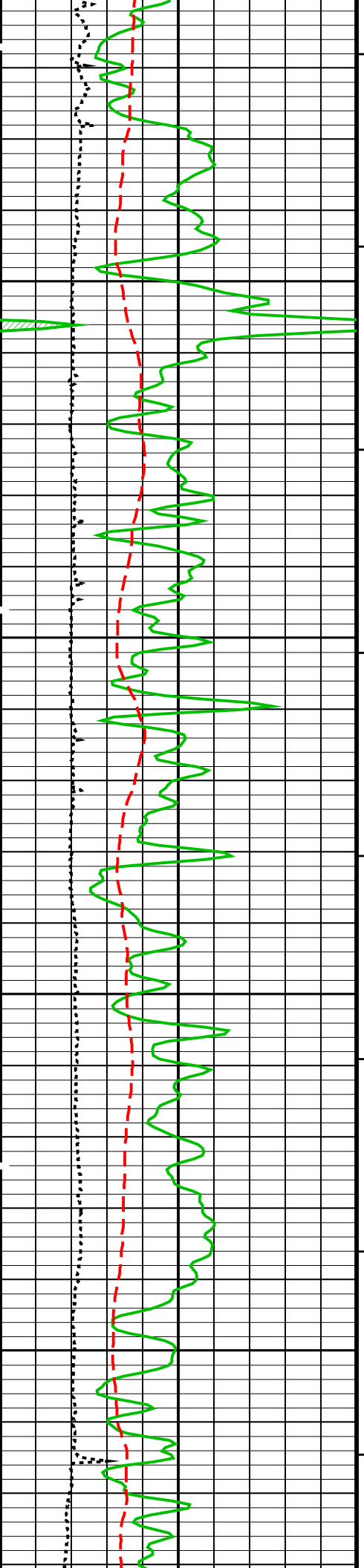


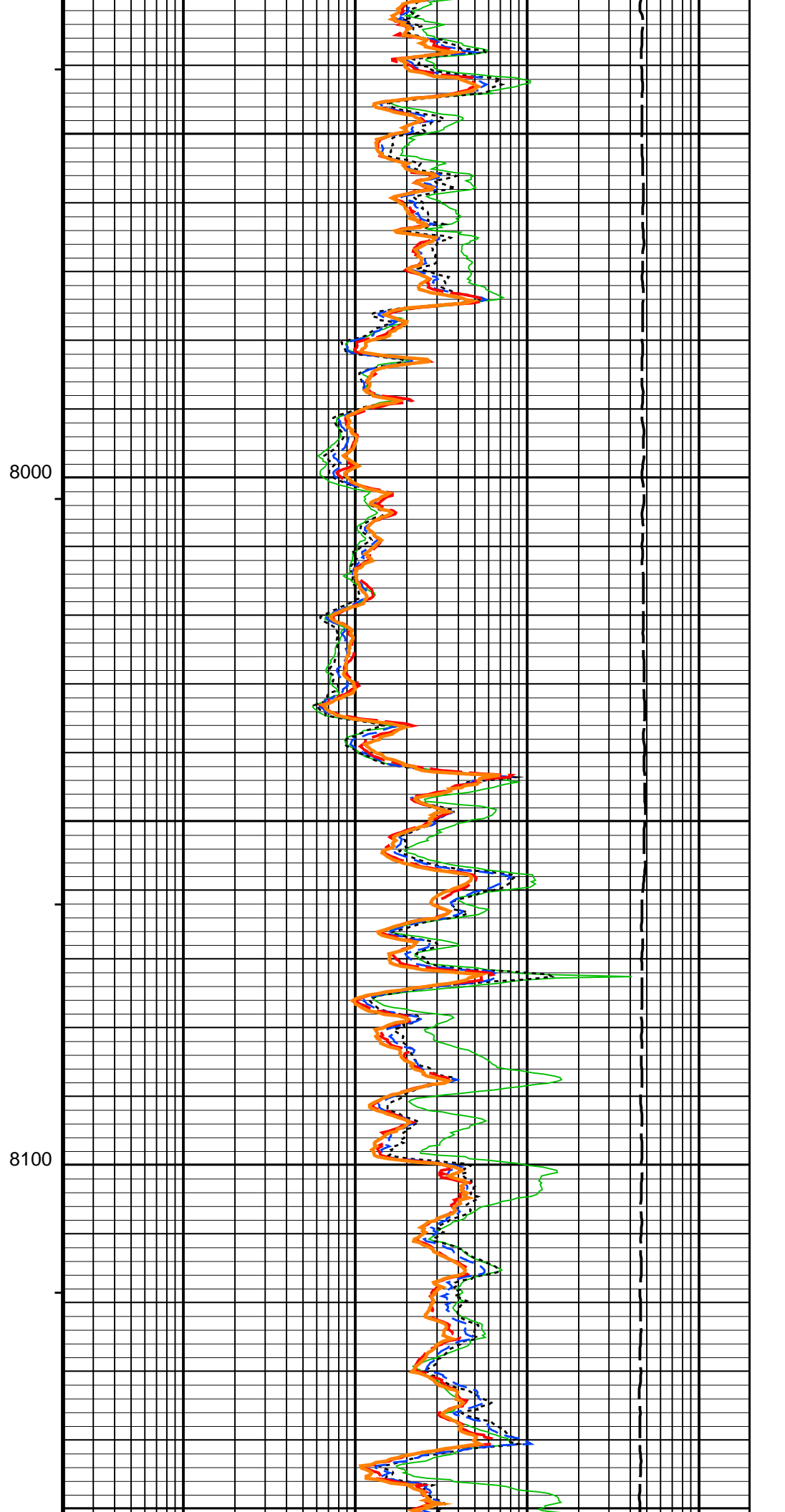
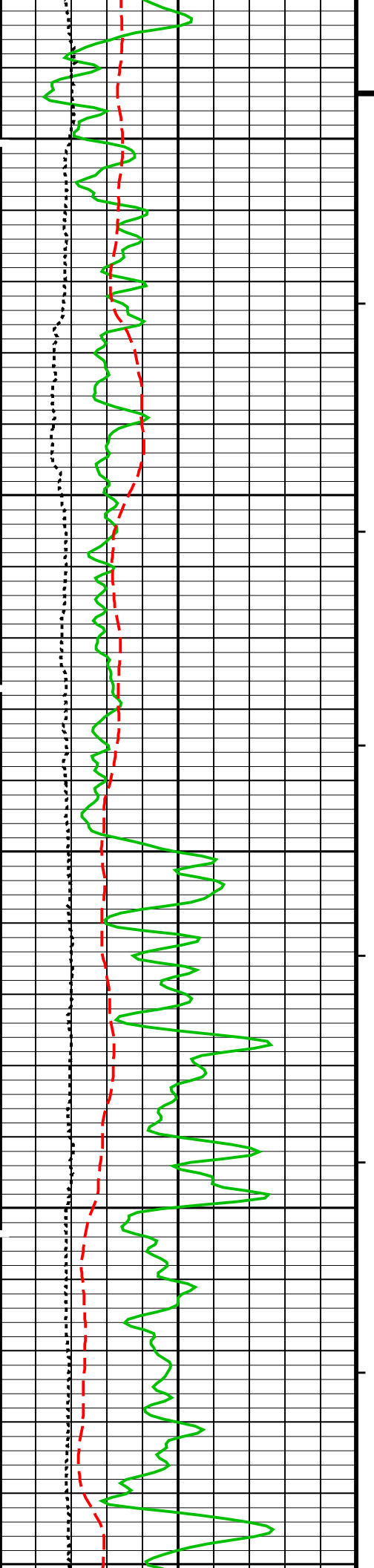
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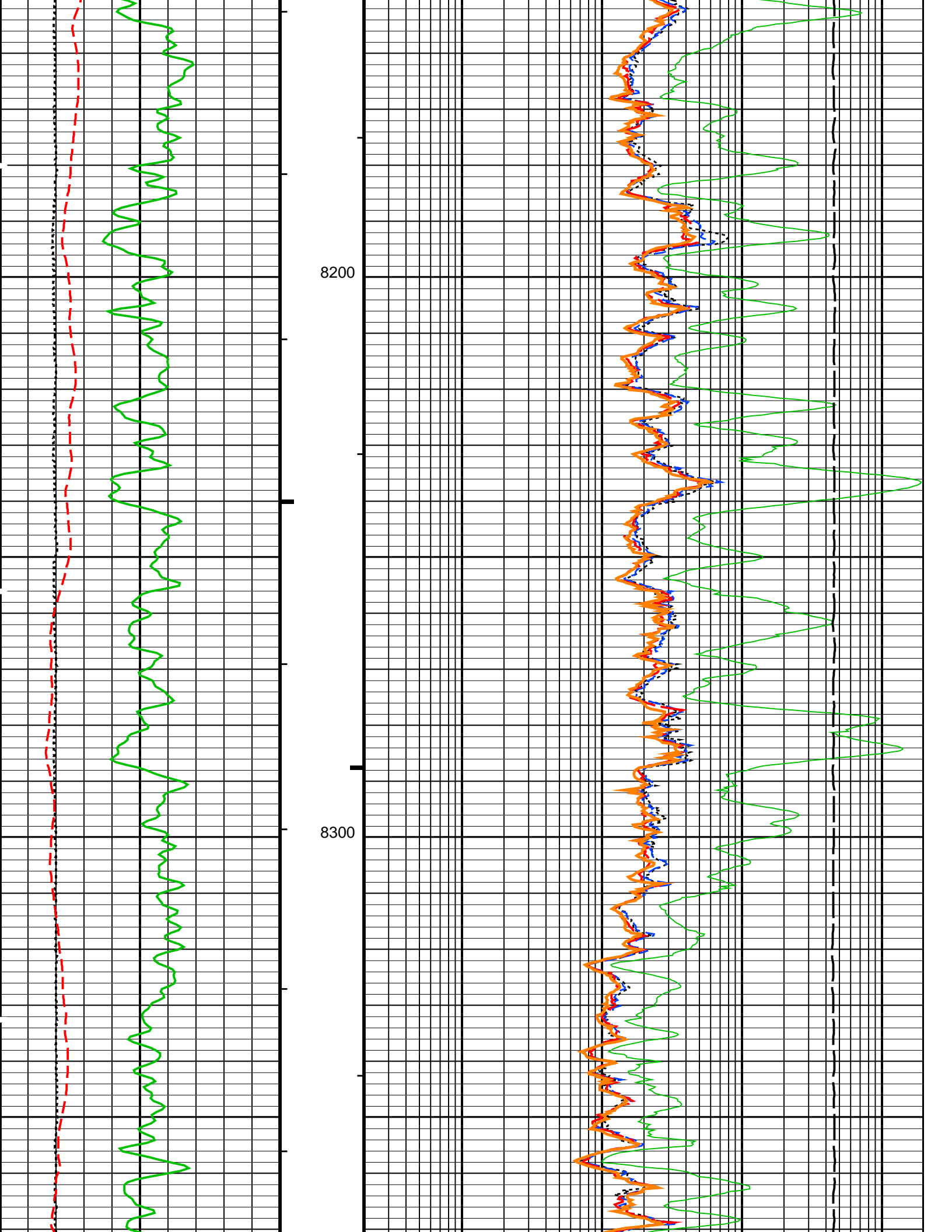
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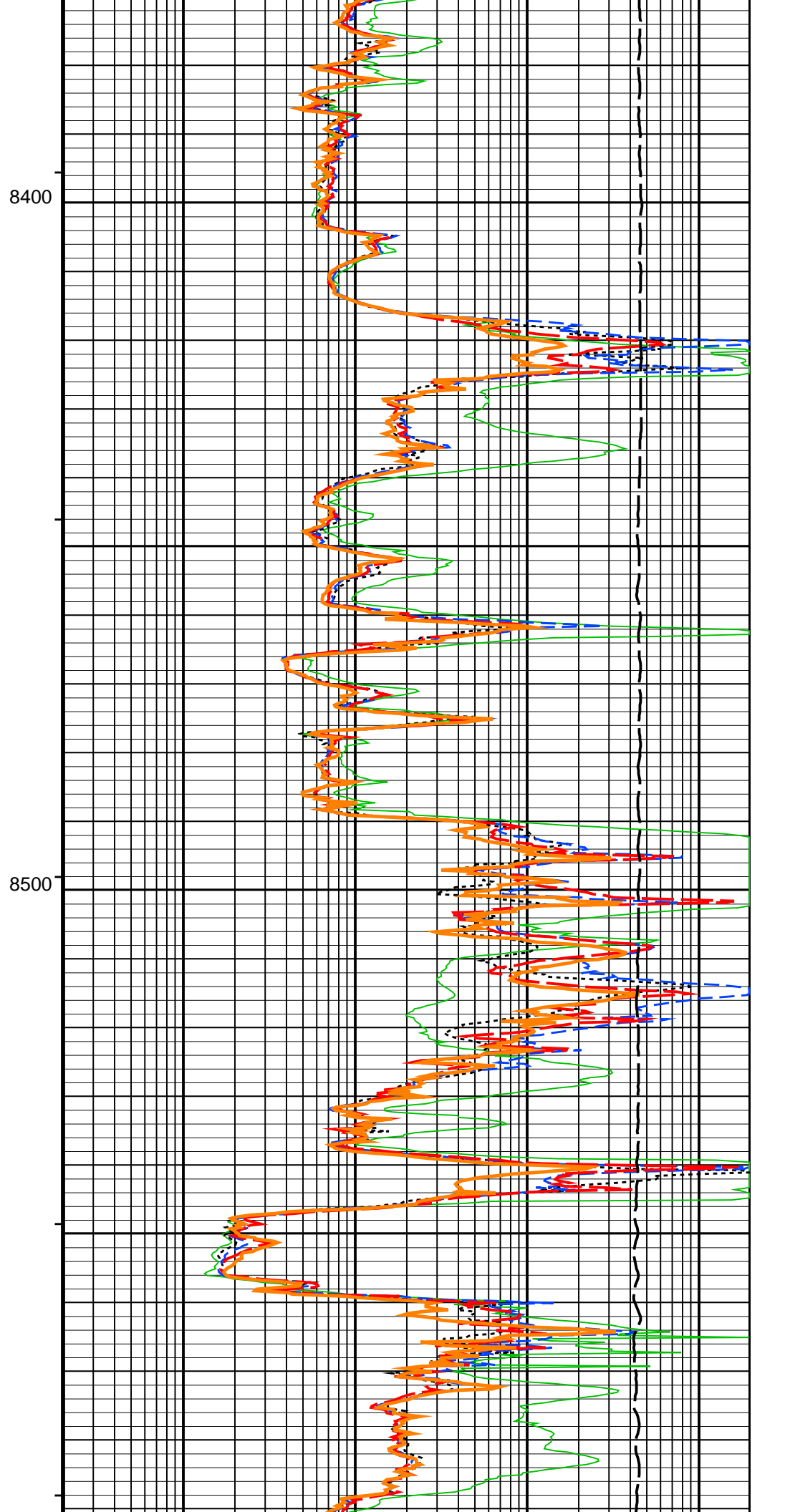
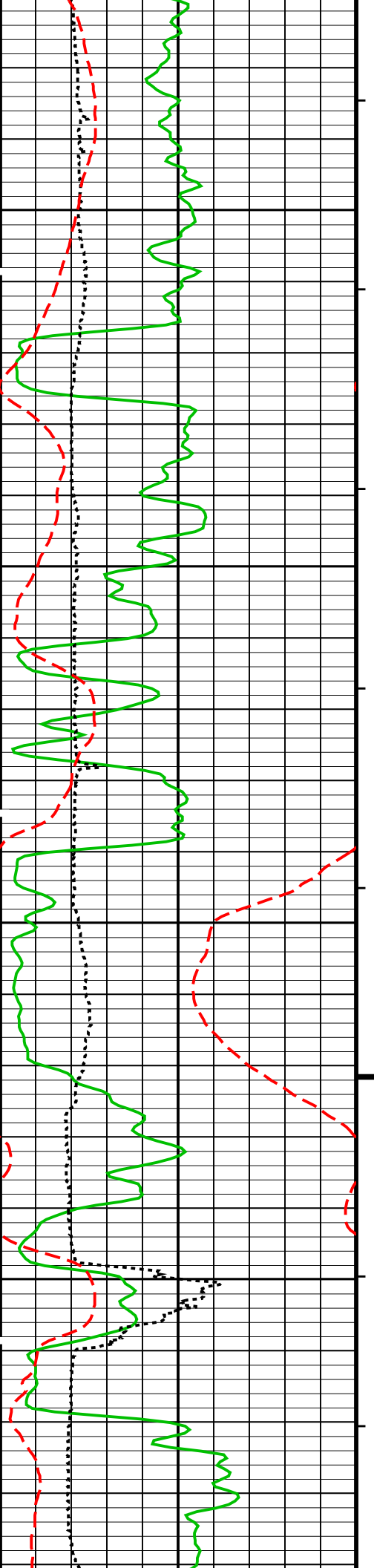


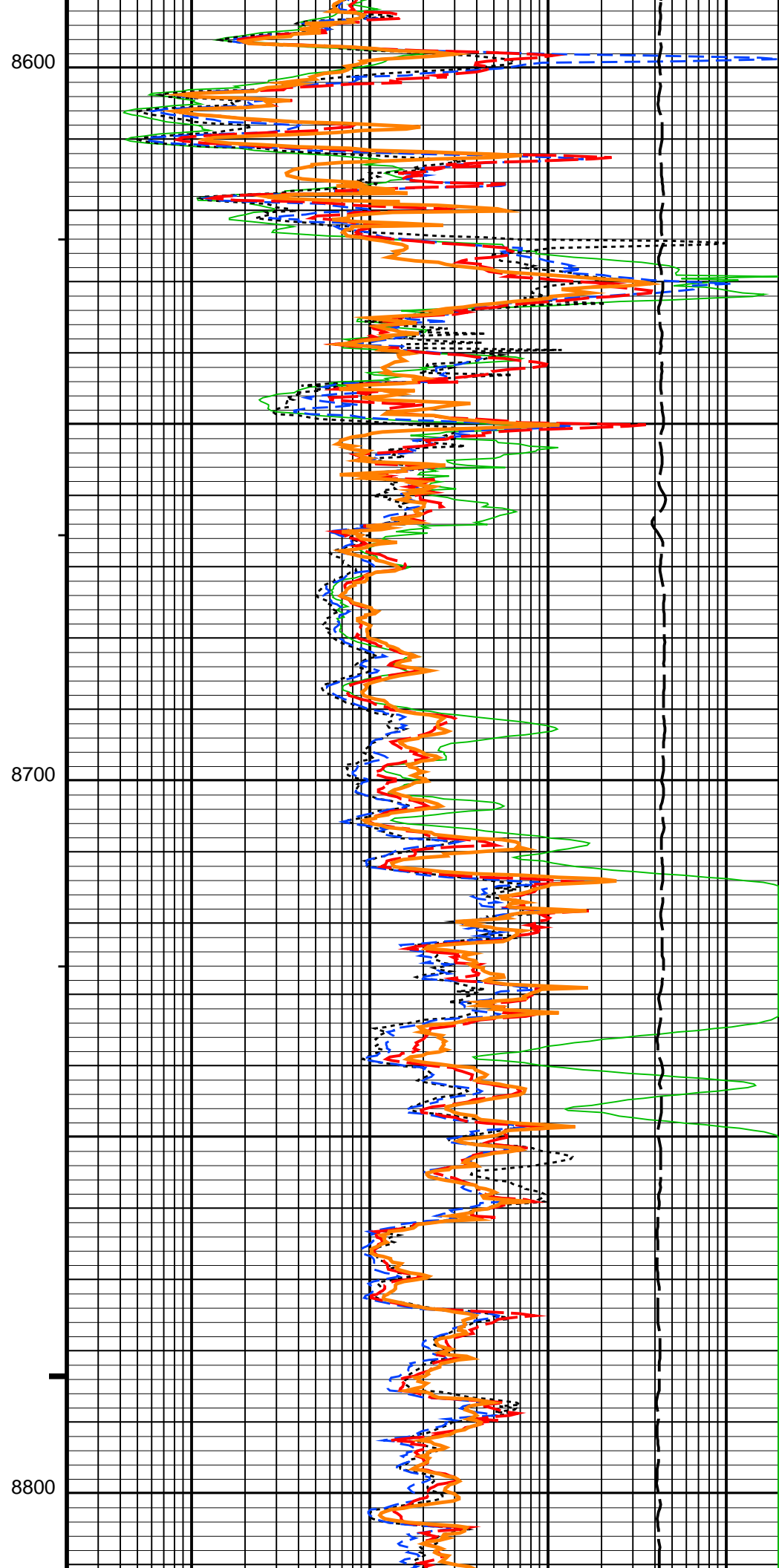
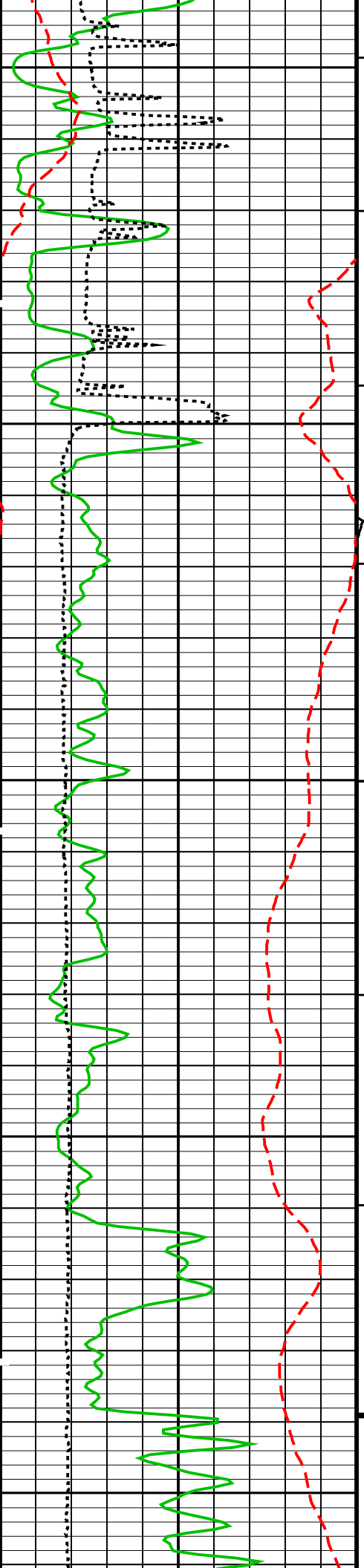


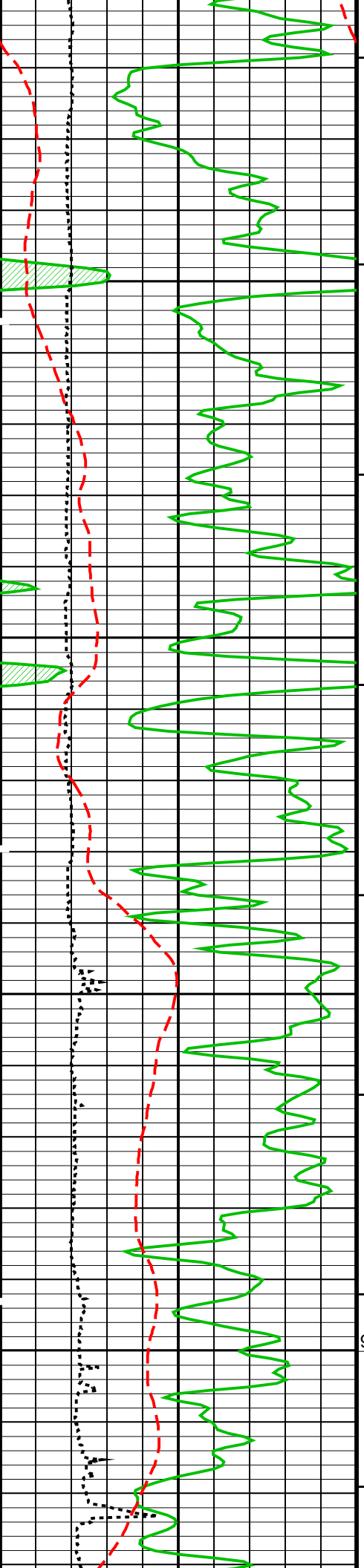






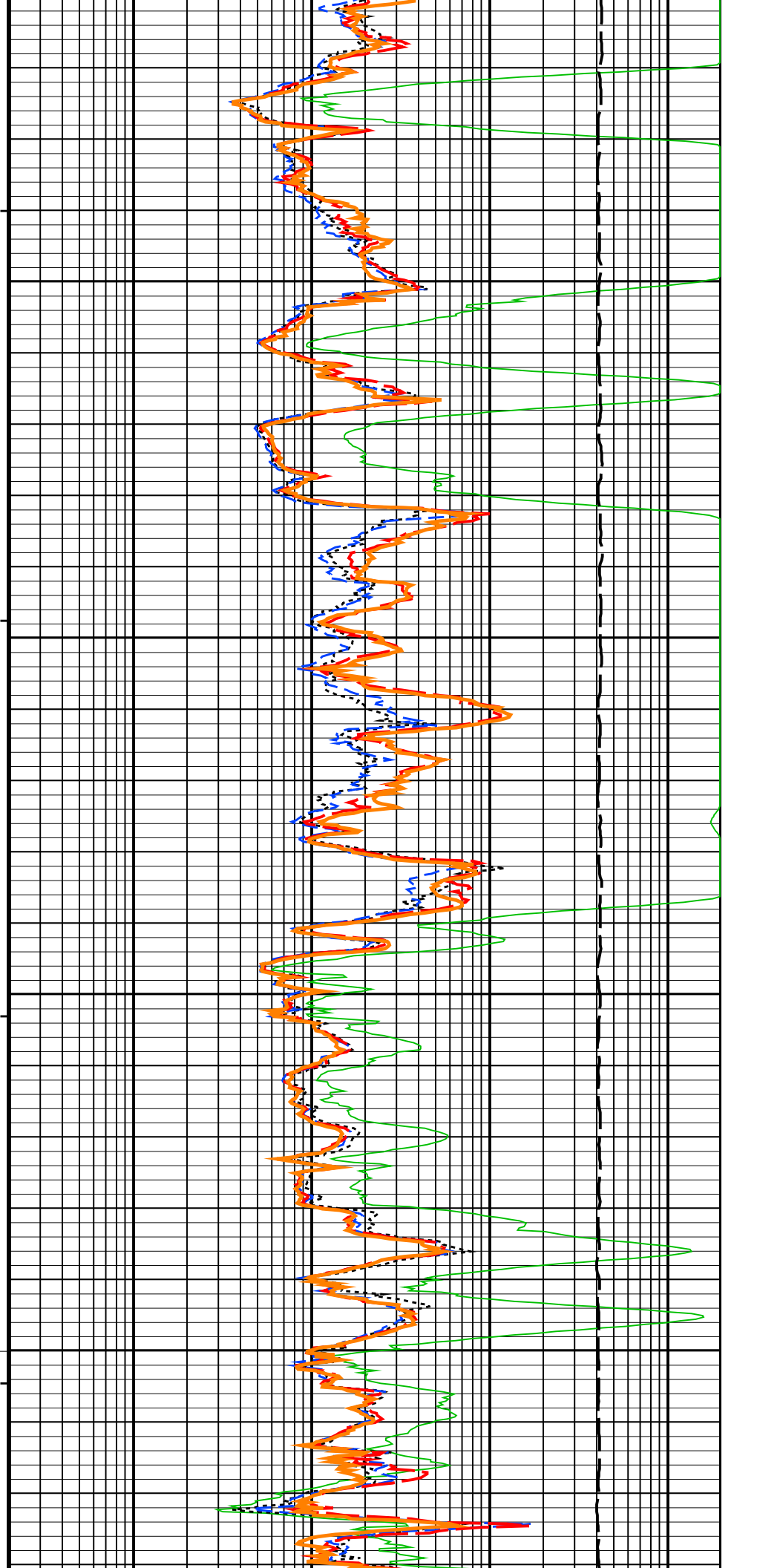


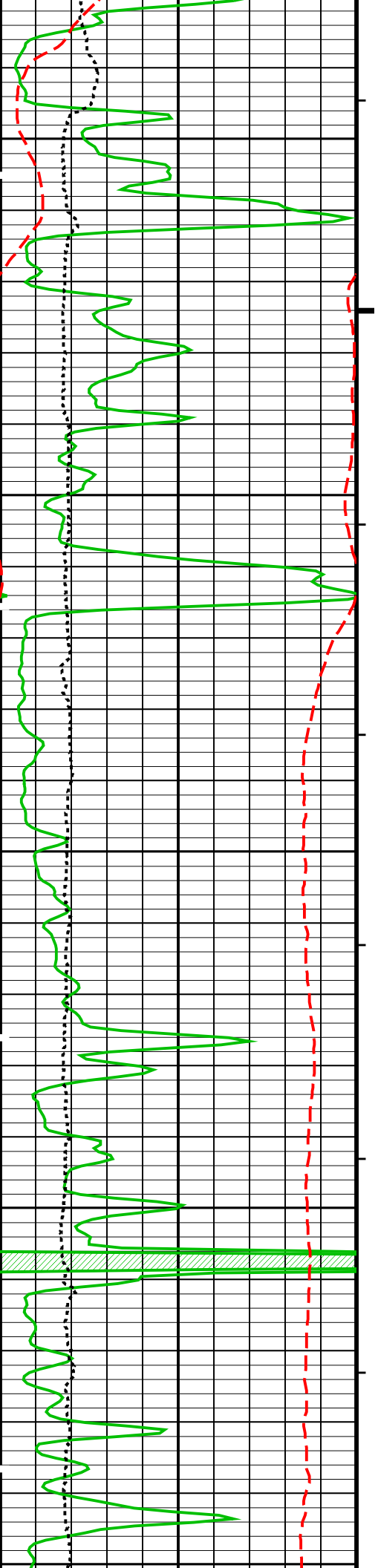




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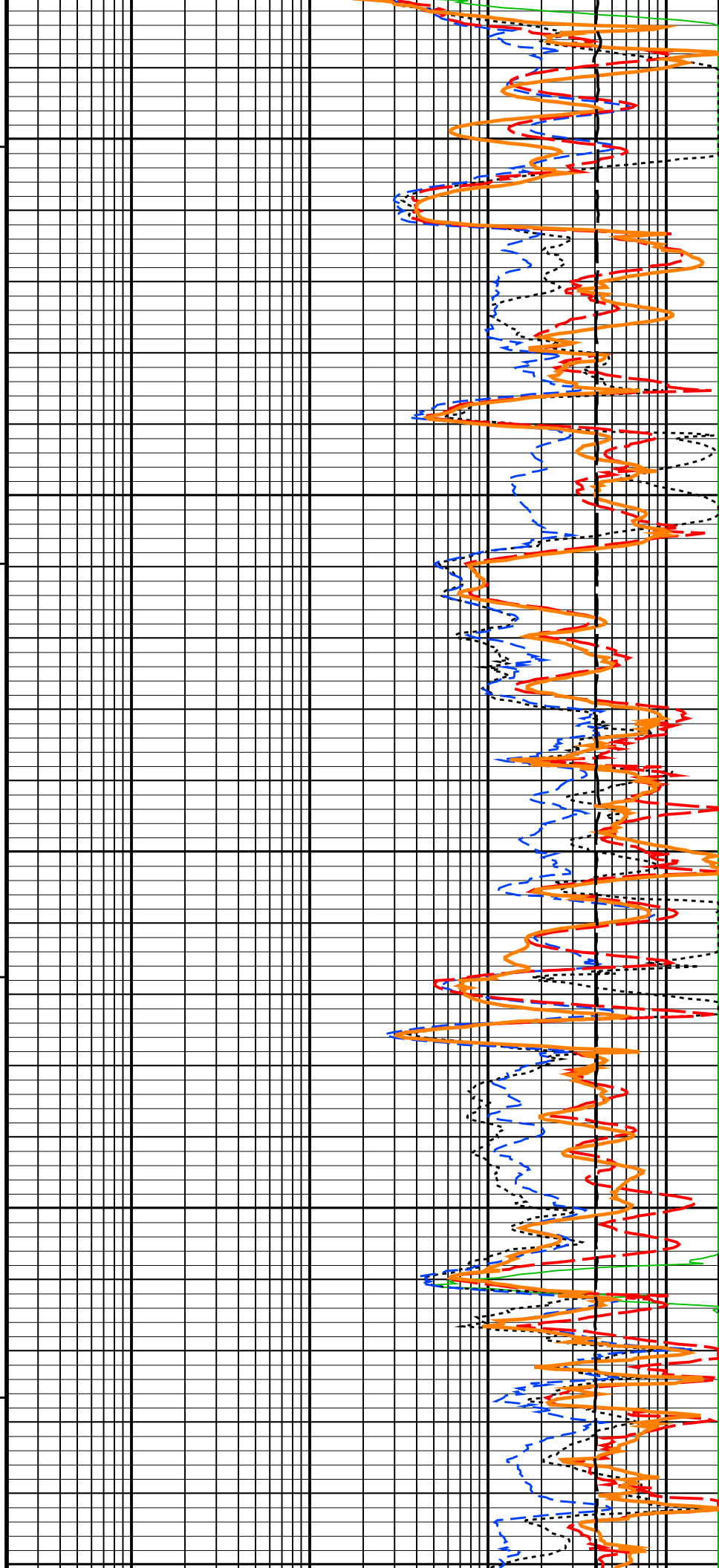
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9050.0  
Mtrx Chg

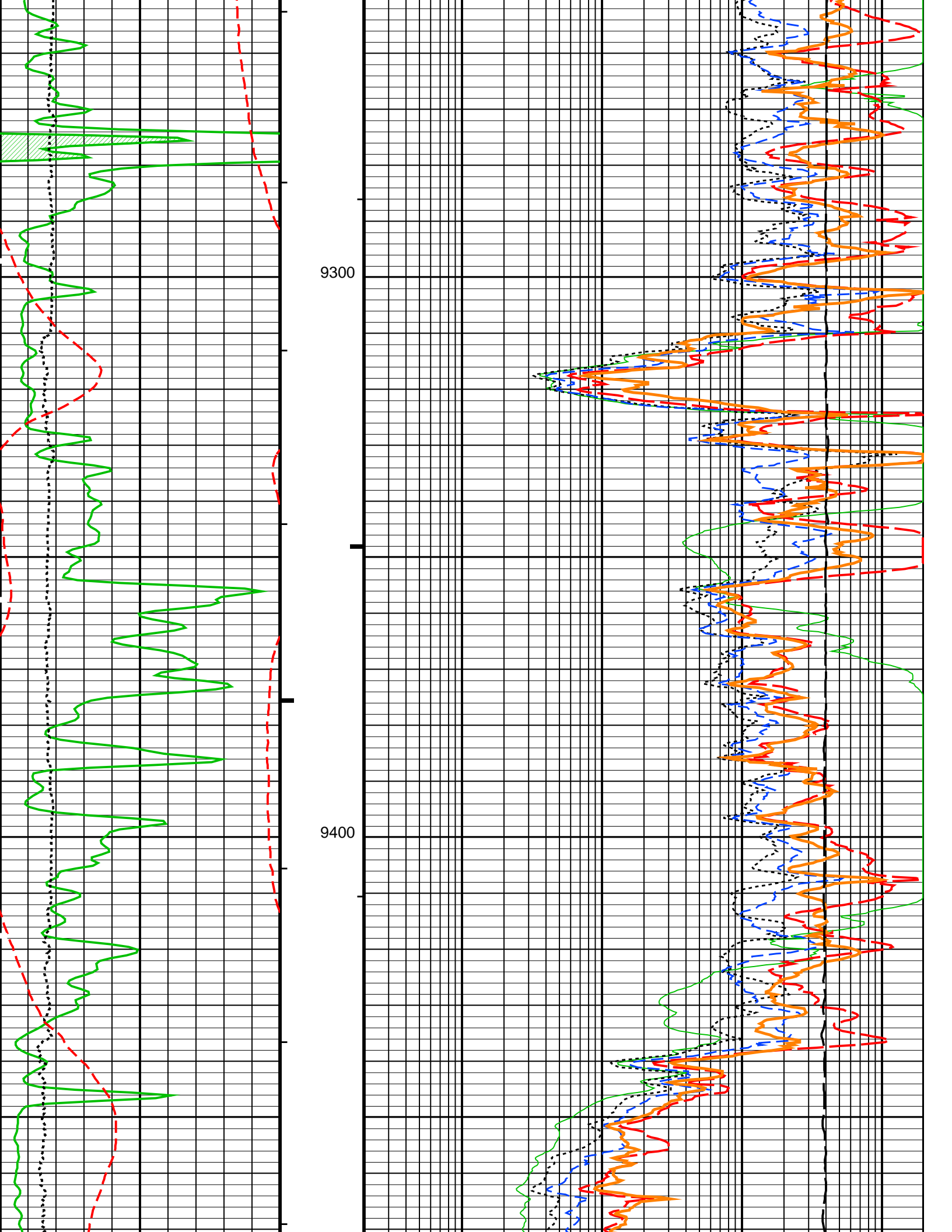


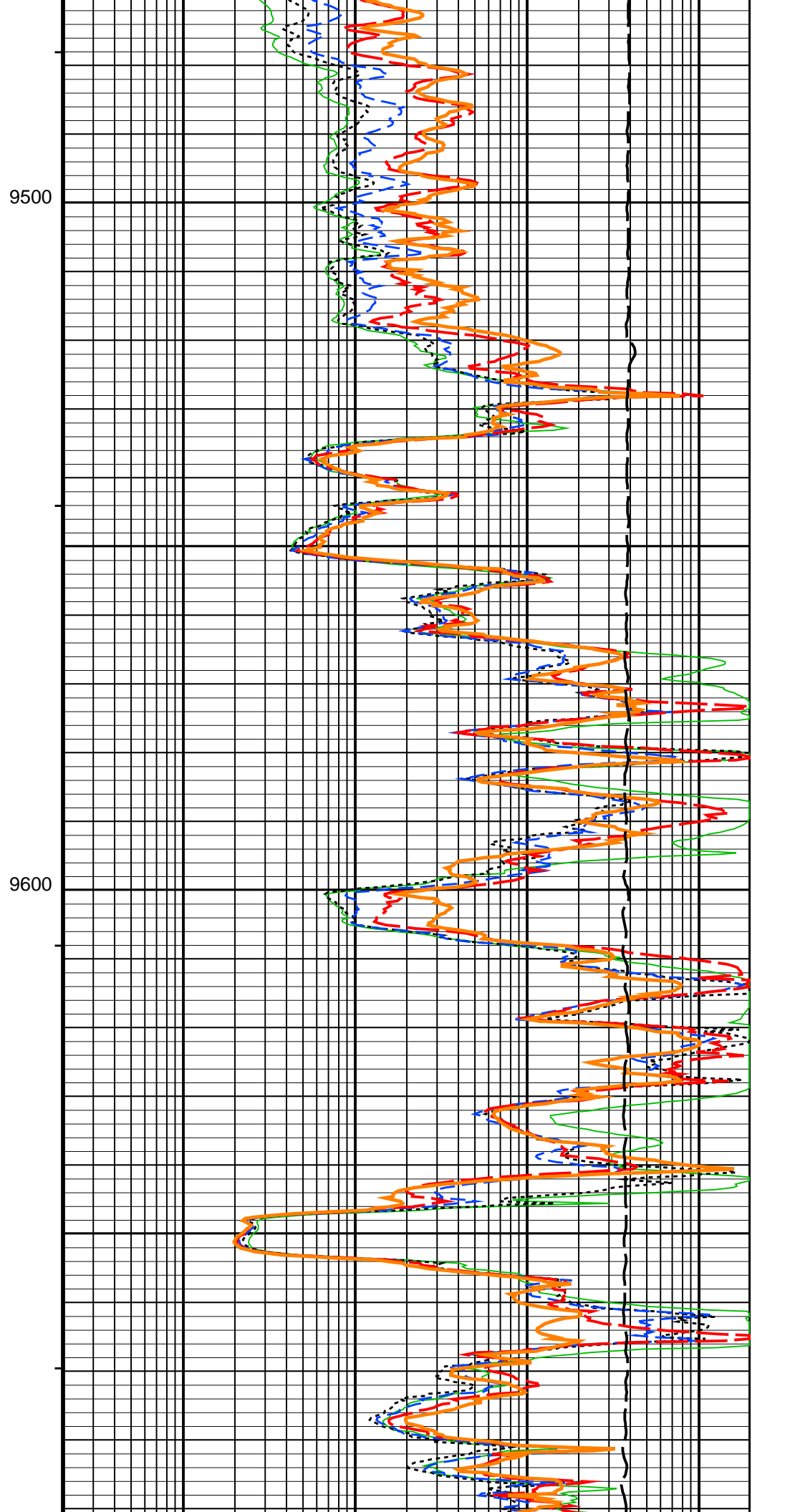
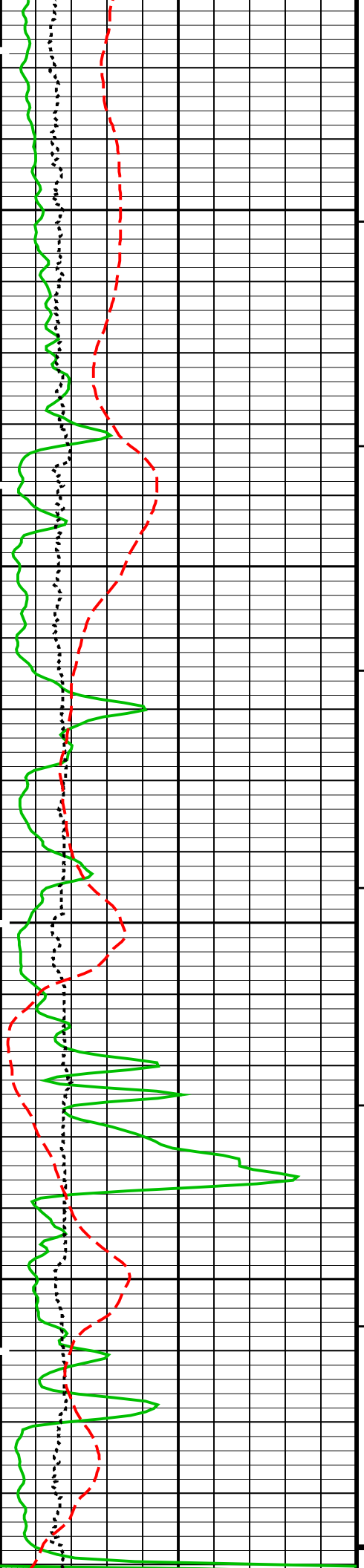


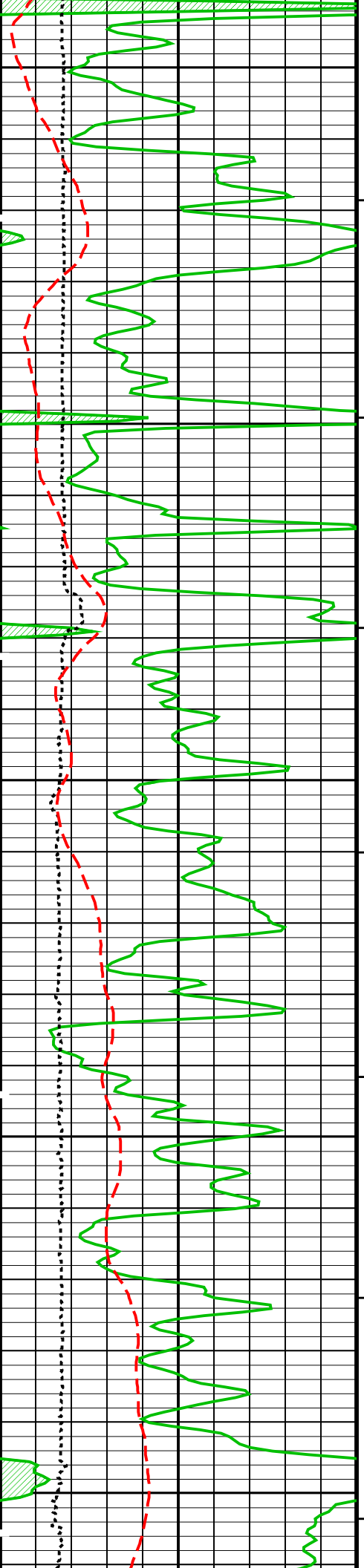
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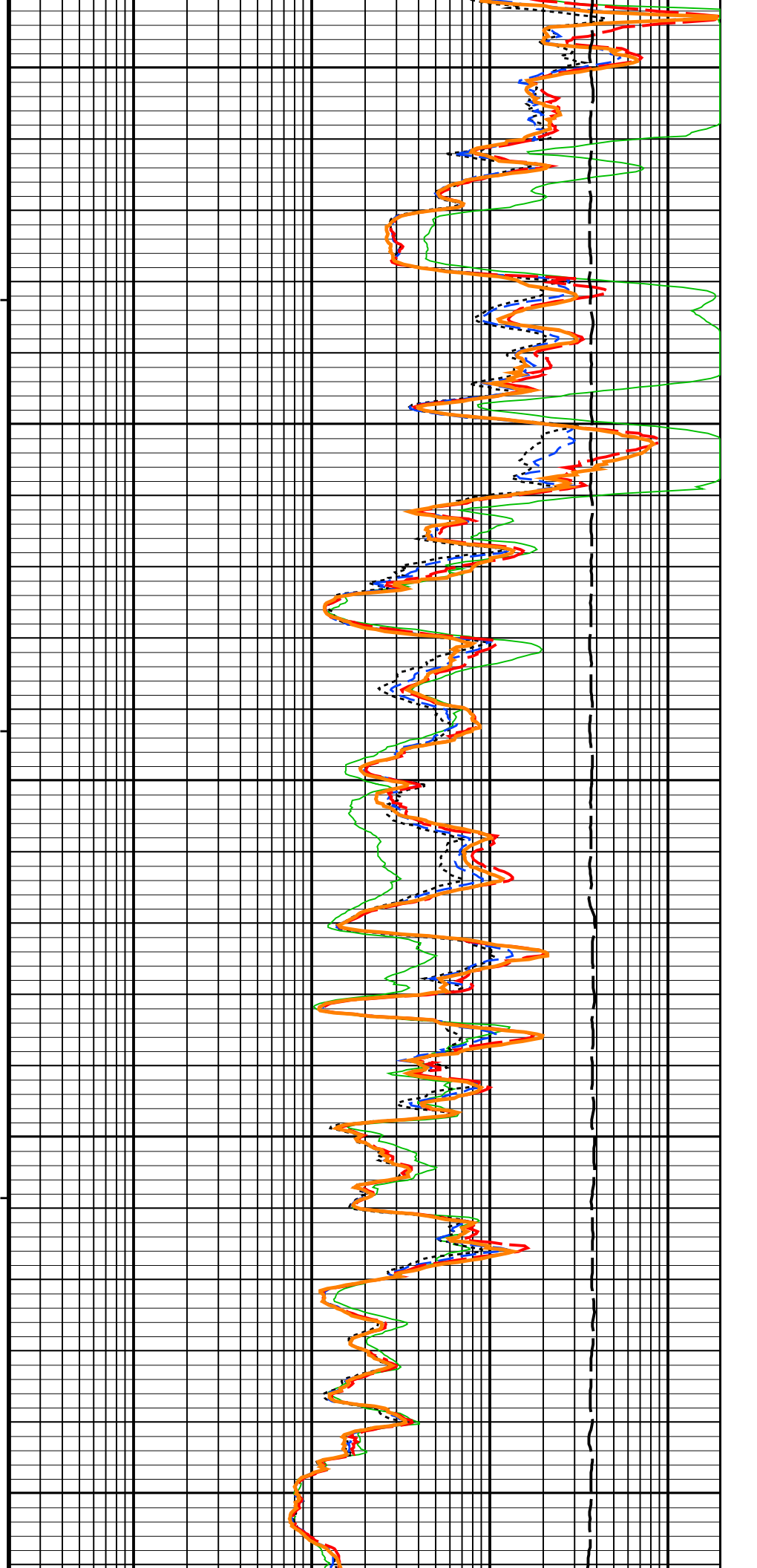




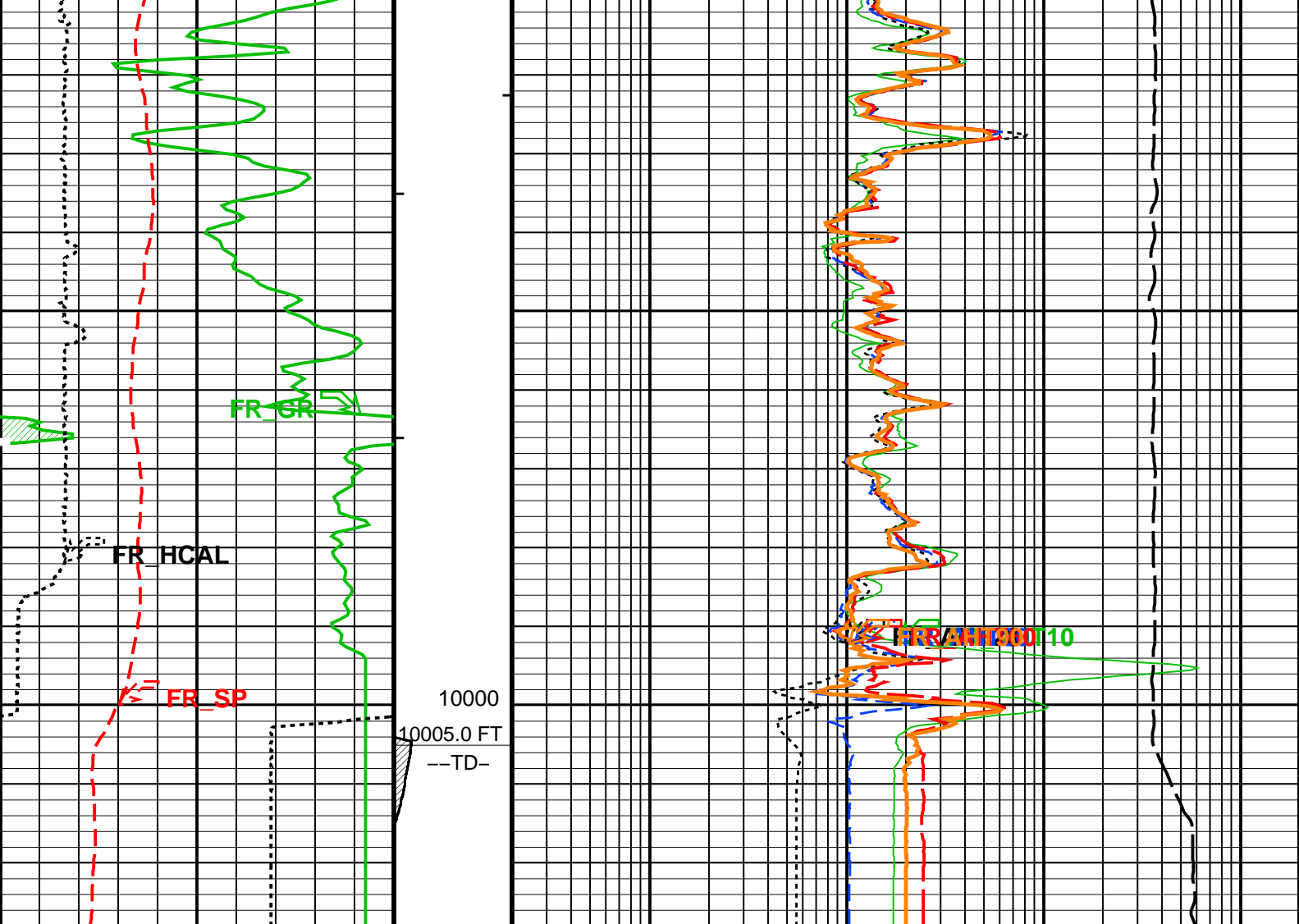
9700

9800

9900







MAIN PASS: \*\*\* PLATFORM EXPRESS – ARRAY INDUCTION \*\*\*

Gamma Ray Backup	Cable Drag	0.2	AIT-H 10 Inch Investigation (AHT10) (OHMM)	2000
Gamma Ray (GR) (GAPI)	Tool/Tot. Drag	0.2	AIT-H 20 Inch Investigation (AHT20) (OHMM)	2000
Caliper (HCAL) (IN)	Stuck Stretch (STIT) (F)	0.2	AIT-H 30 Inch Investigation (AHT30) (OHMM)	2000
SP (SP) (MV)		0.2	AIT-H 60 Inch Investigation (AHT60) (OHMM)	2000
		0.2	AIT-H 90 Inch Investigation (AHT90) (OHMM)	2000
		Tension (TENS) (LBF)		
		10000		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
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HILTB-CTS: High resolution Integrated Logging Tool-CTS			
AHBHM	Array Induction Borehole Correction Mode	2_COMPUTESTANDOFF	
AHBHV	Array Induction Borehole Correction Code Version Number	900	
AHBLM	Array Induction Basic Logs Mode	6_ONE_TWO_AND_FOUR	
AHBLV	Array Induction Basic Logs Code Version Number	223	
AHCDE	Array Induction Casing Detection Enable	YES	
AHCEN	Array Induction Tool Centering Flag (in Borehole)	ECCENTERED	
AHFRSV	Array Induction Response Set Version for Four ft Resolution	41.70.24.20	
AHMRF	Array Induction Mud Resistivity Factor	1.000	
AHORSV	Array Induction Response Set Version for One ft Resolution	41.70.24.20	
AHRFV	Array Induction Radial Profiling Code Version Number	701	
AHRPV	Array Induction Radial Parametrization Code Version Number	232	
AHSAP	Array Induction Suspend Answer Product Processing	0_NOSUSPENSION	
AHSTA	Array Induction Tool Standoff	0.125	in
AHTRSV	Array Induction Response Set Version for Two ft Resolution	41.70.24.20	
BHT	Bottom Hole Temperature (used in calculations)	212.0	degF
FEXP	Form Factor Exponent	2.000	
FNUM	Form Factor Numerator	1.000	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0.000	deg
GGRD	Geothermal Gradient	0.010	degF/ft
GRSE	Generalized Mud Resistivity Selection	AHMF	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
SHT	Surface Hole Temperature	68.000	degF
SPDR	SP Drift	0.000	mV/ft
SPNV	SP Next Value	0.000	mV
STI: Stuck Tool Indicator			
STKT	STI Stuck Threshold	2.500	ft
TDD	Total Depth - Driller	10000.0	ft
TDL	Total Depth - Logger	10005.0	ft
PERT: Preliminary Evaluation - Real Time			
BHT	Bottom Hole Temperature (used in calculations)	212.0	degF
FEXP	Form Factor Exponent	2.000	
FNUM	Form Factor Numerator	1.000	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0.000	deg
GGRD	Geothermal Gradient	0.010	degF/ft
GRSE	Generalized Mud Resistivity Selection	AHMF	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
SHT	Surface Hole Temperature	68.000	degF
HOLEV: Integrated Hole/Cement Volume			
BHT	Bottom Hole Temperature (used in calculations)	212.0	degF
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0.000	deg
GGRD	Geothermal Gradient	0.010	degF/ft
GRSE	Generalized Mud Resistivity Selection	AHMF	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
SHT	Surface Hole Temperature	68.000	degF
FEQL: Formation Evaluation Quick Look			
FEXP	Form Factor Exponent	2.000	
FNUM	Form Factor Numerator	1.000	
System and Miscellaneous			
BS	Bit Size	7.875	in
DFD	Drilling Fluid Density	9.300	lbm/gal
FLEV	Fluid Level		
MST	Mud Sample Temperature	238.0	degF
TD	Total Depth	10005.0	ft

Format: UPPER\_GRES    Vertical Scale: 5" per 100'    Graphics File Created: 10-Feb-2009 15:48

## OP System Version: 15C0-309

MCM

HILTC    15C0-309

### Input DLIS Files

HILTC .019    FN:13    09-Jan-2009 20:03    10028.0 FT    497.5 FT

**Schlumberger**

**BEFORE CALIBRATIONS**

Company:

Well:

Field:

County:

State:

Conquest Oil Co.

SWD 1–8B

Wattenberg

Weld

Colorado

Schlumberger

Platform Express  
Array Induction  
with Linear Correlation