

County: Weld

Field: Wattenberg

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Schlumberger

Conquest Oil Co.

SWD 1-8B

Wattenberg

Weld

State: Colorado

Platform Express Triple Combo

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

[illegible]

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

EQUIPMENT DESCRIPTION

RUN 1

RUN 2

SURFACE EQUIPMENT

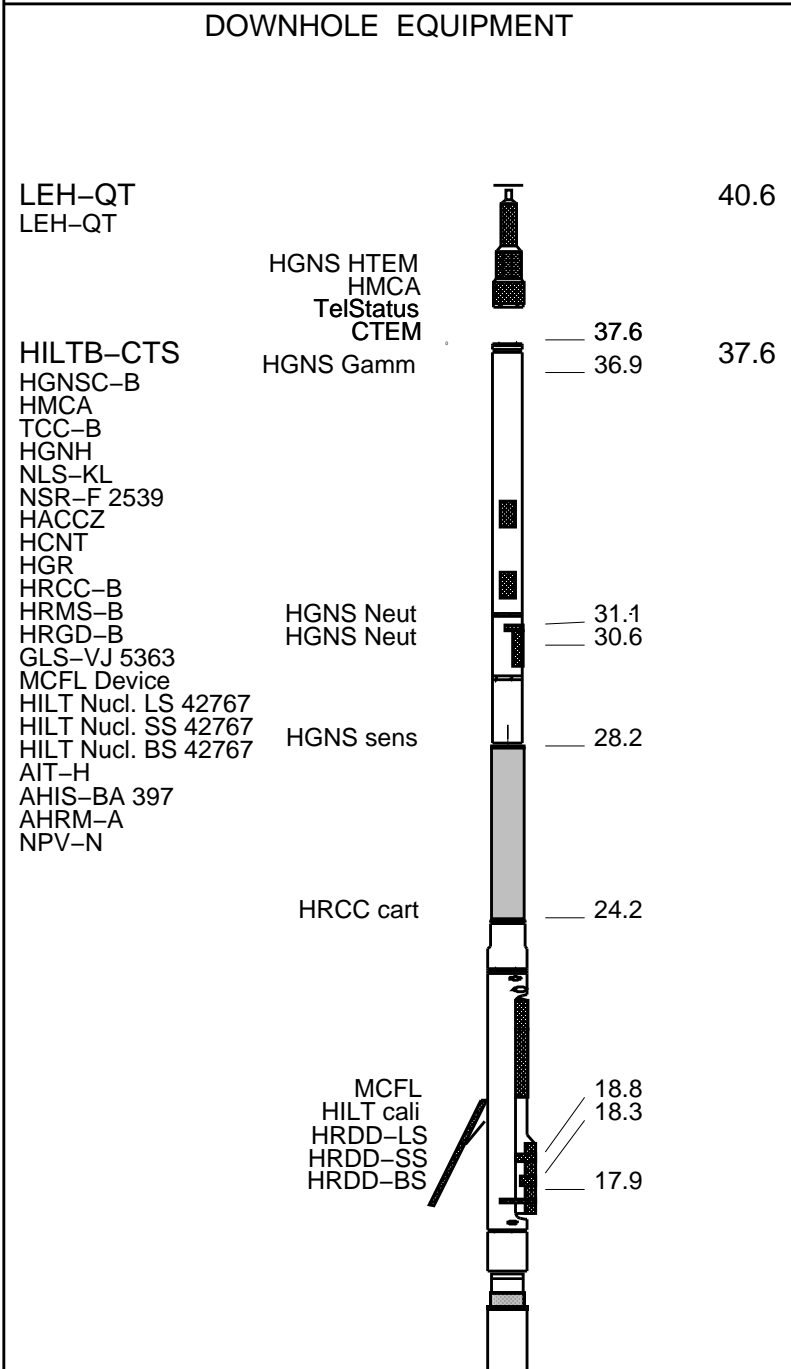
WITM (CTS)-A

GSR-U/Y

NCT-B

CNB-AB

NCS-VB



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

COMBO LOG 5" = 100'

MAXIS Field Log

Company: Conquest Oil Co.

Well: SWD 1-8B

Input DLIS Files

DEFAULT AIT_TLD_MCFL_CNL_014LUP FN:12 PRODUCER 09-Jan-2009 19:25 10026.0 FT 495.5 FT

OP System Version: 15C0-309

MCM

HILTC 15C0-309

PIP SUMMARY

Time Mark Every 60 S

Std. Res. Formation
Pe (PEFZ)
0 (----) 10

Alpha Processed Neutron Porosity
(NPOR)
0.2 (V/V) 0

Tension (TENS)
10000 (LBF) 0

SP (SP)
-160 (MV) 40

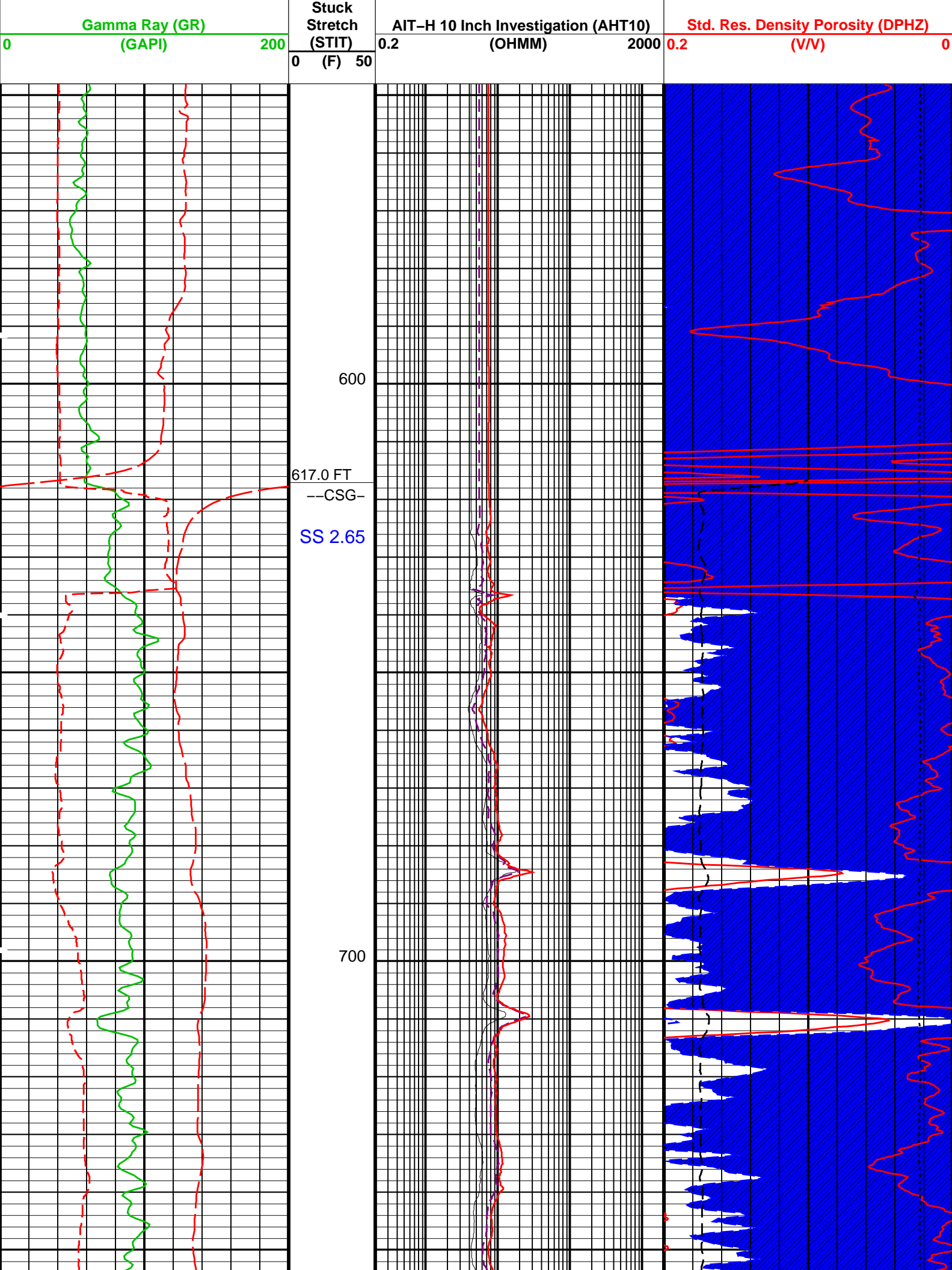
HILT Caliper (HCAL)
6 (IN) 16

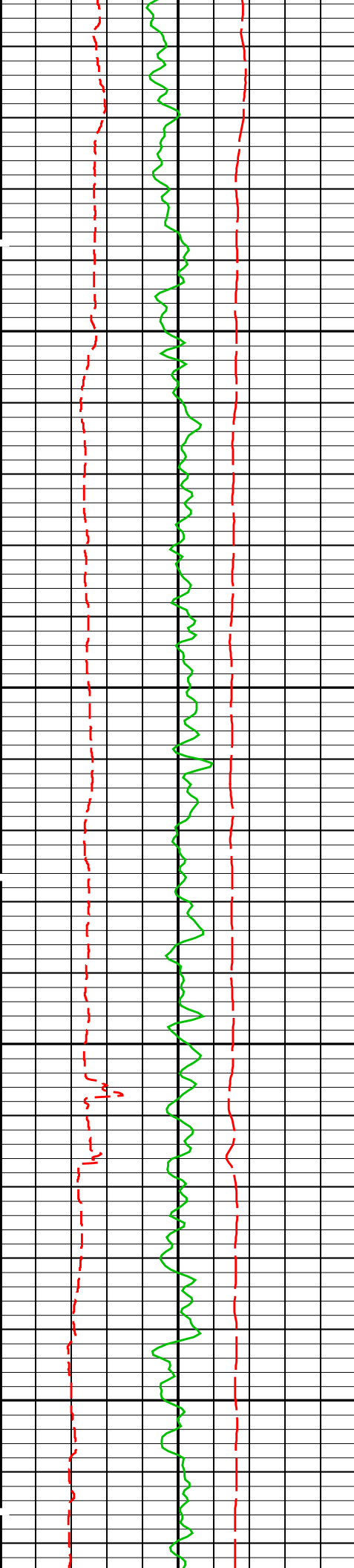
AIT-H 90 Inch Investigation (AHT90)
0.2 (OHMM) 2000

AIT-H 30 Inch Investigation (AHT30)
0.2 (OHMM) 2000

GAS EFFECT
From DPHZ to NPOR_1

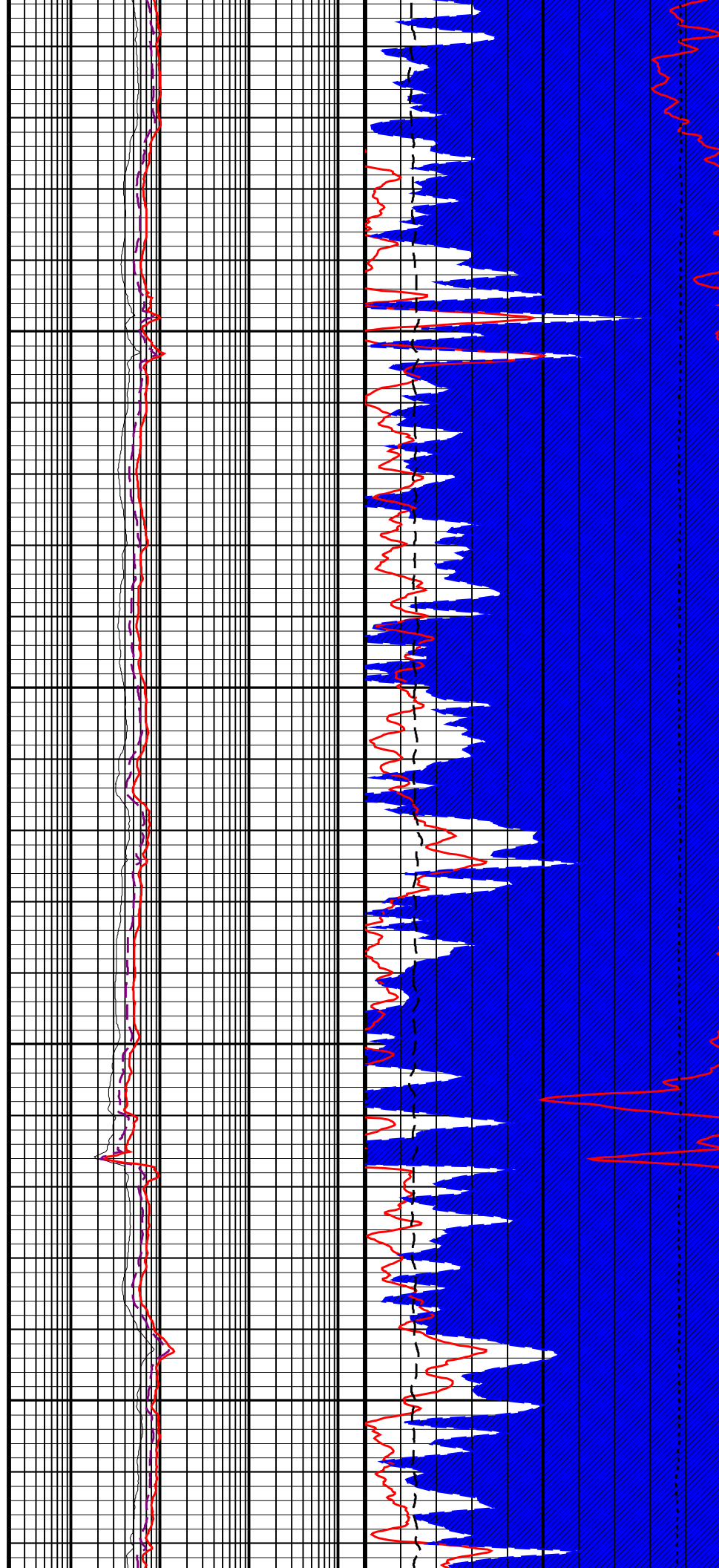
NPOR BACKUP
From NPOR_2 to T3

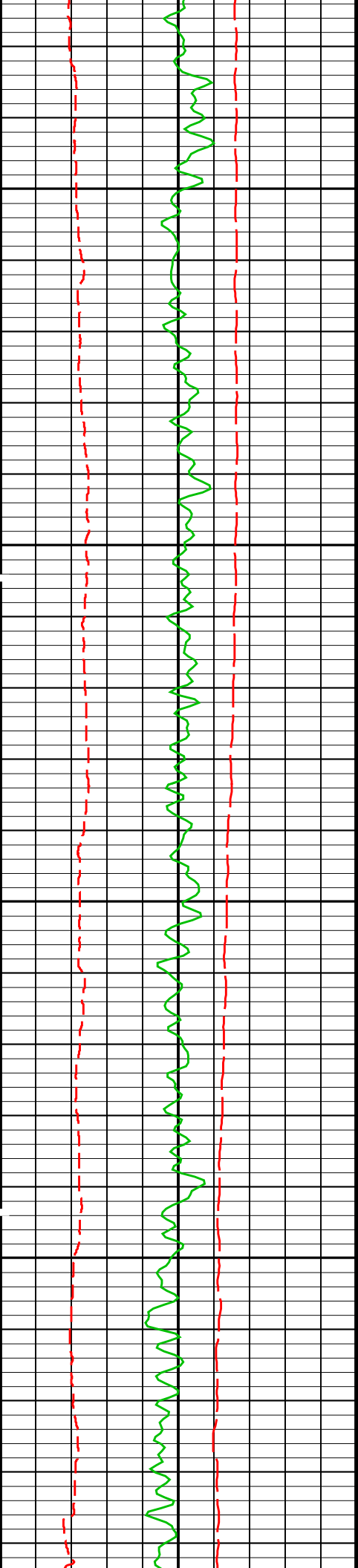




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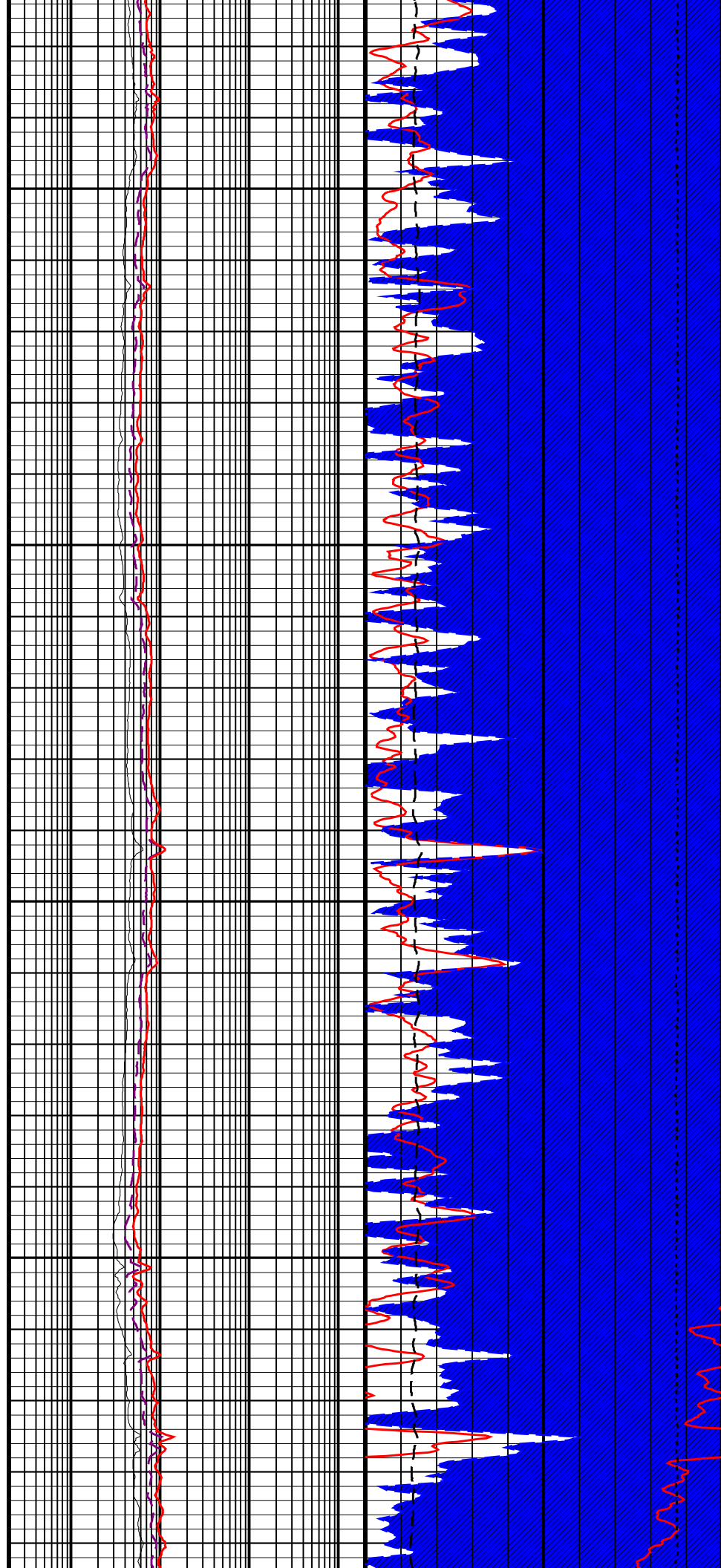
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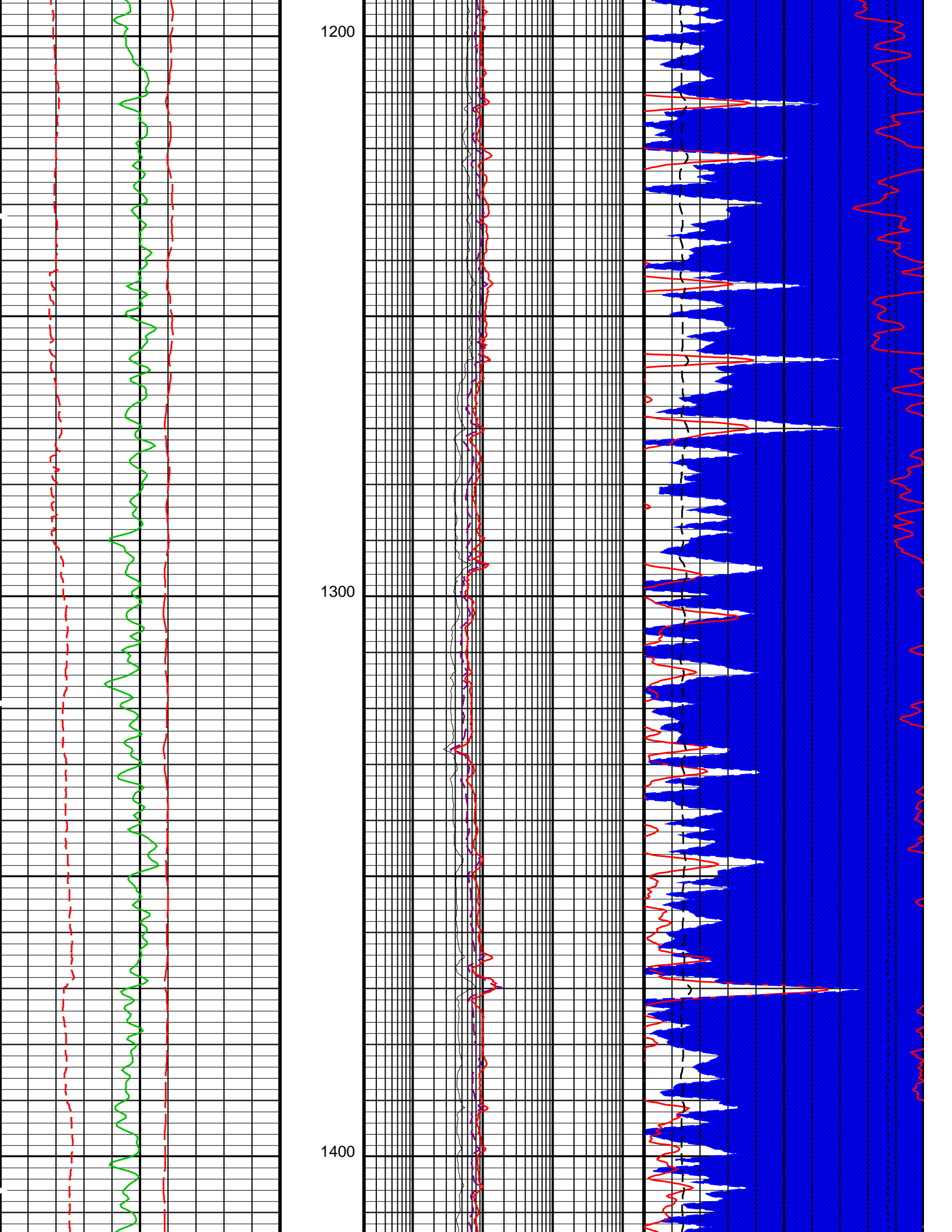


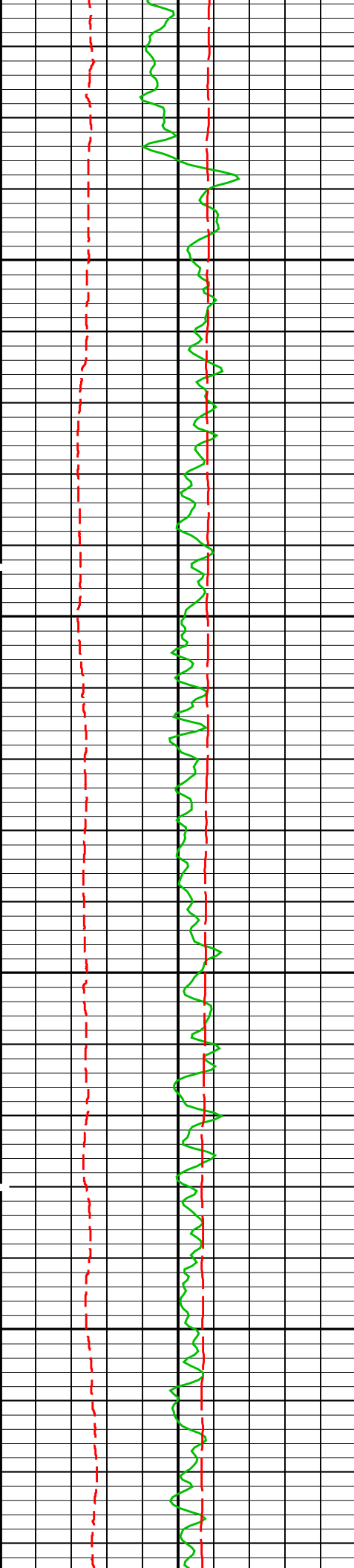


1000

1100

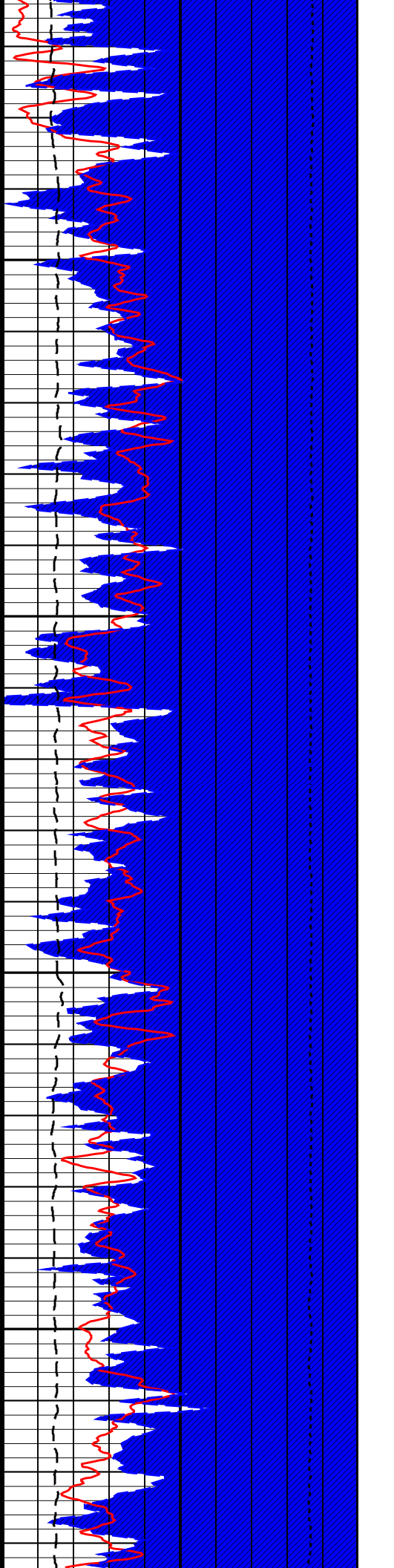
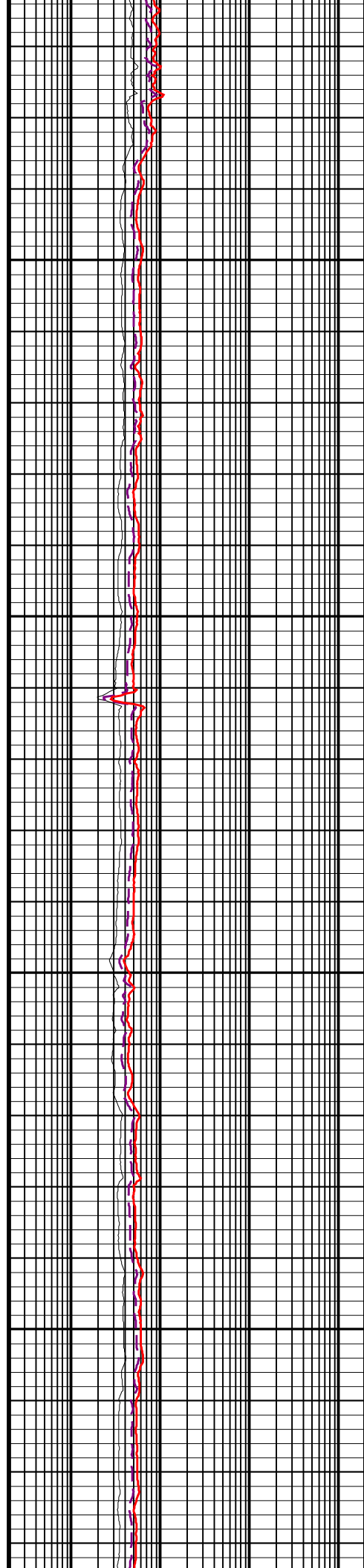


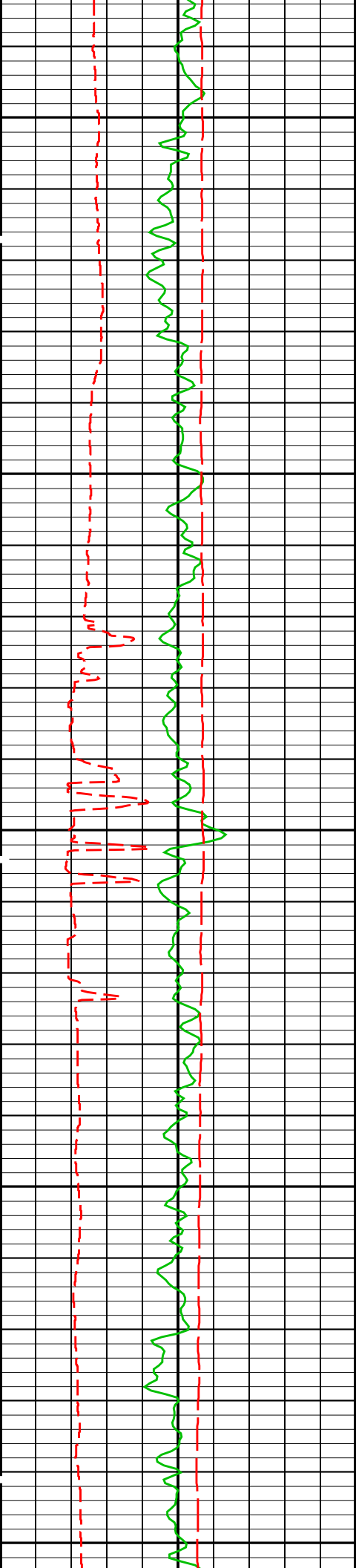




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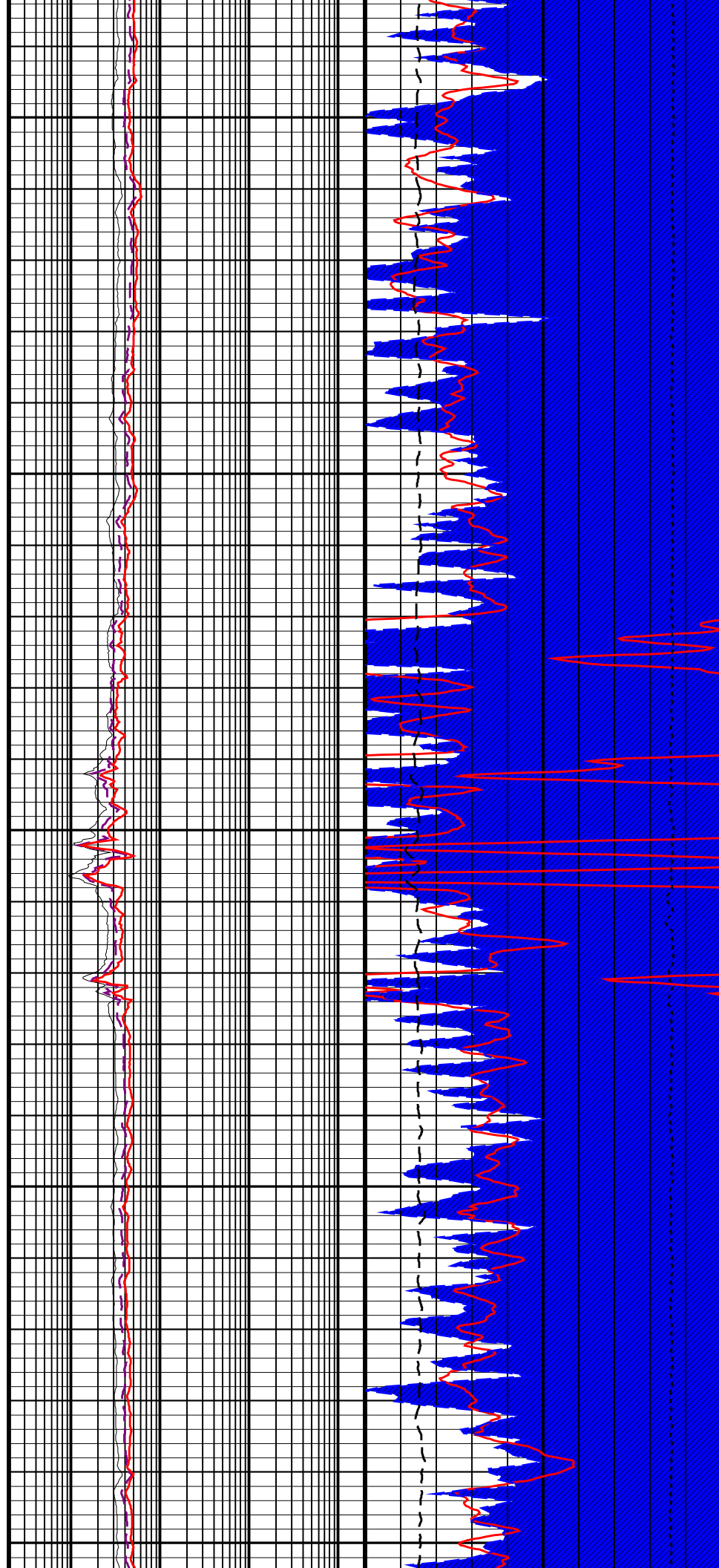
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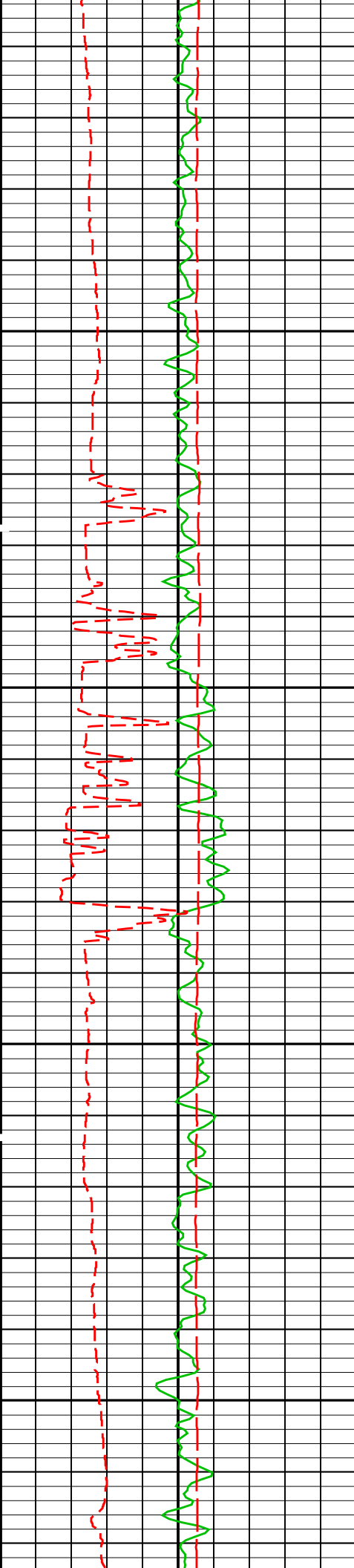




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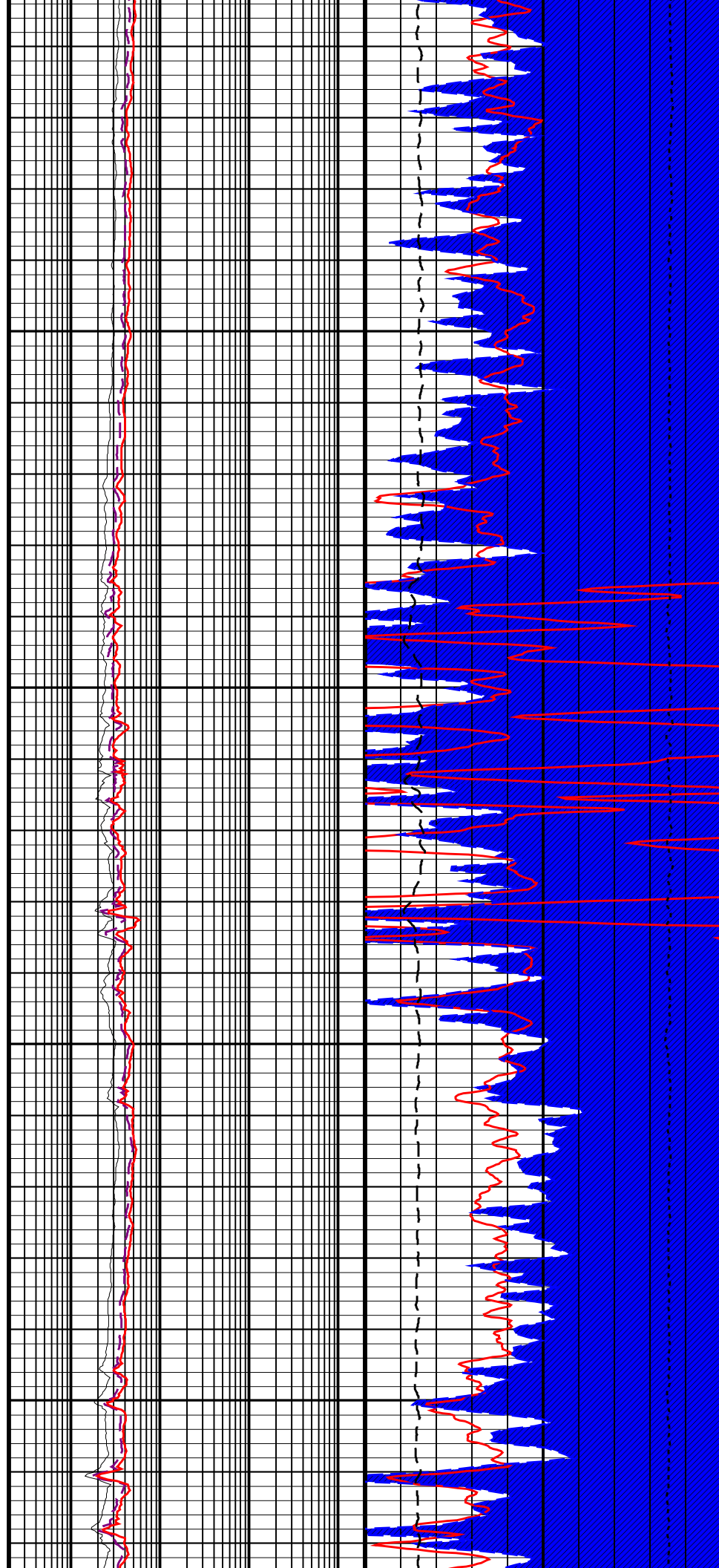
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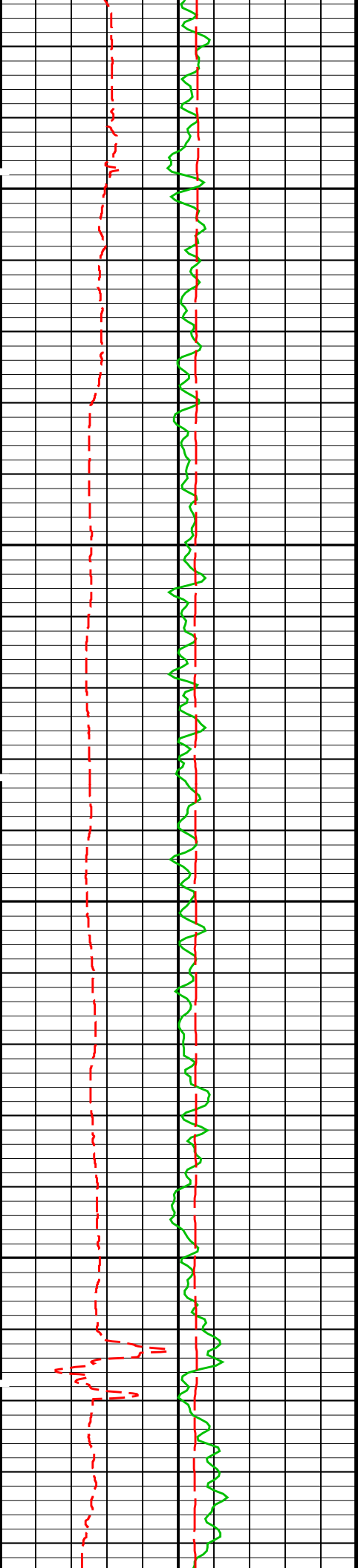




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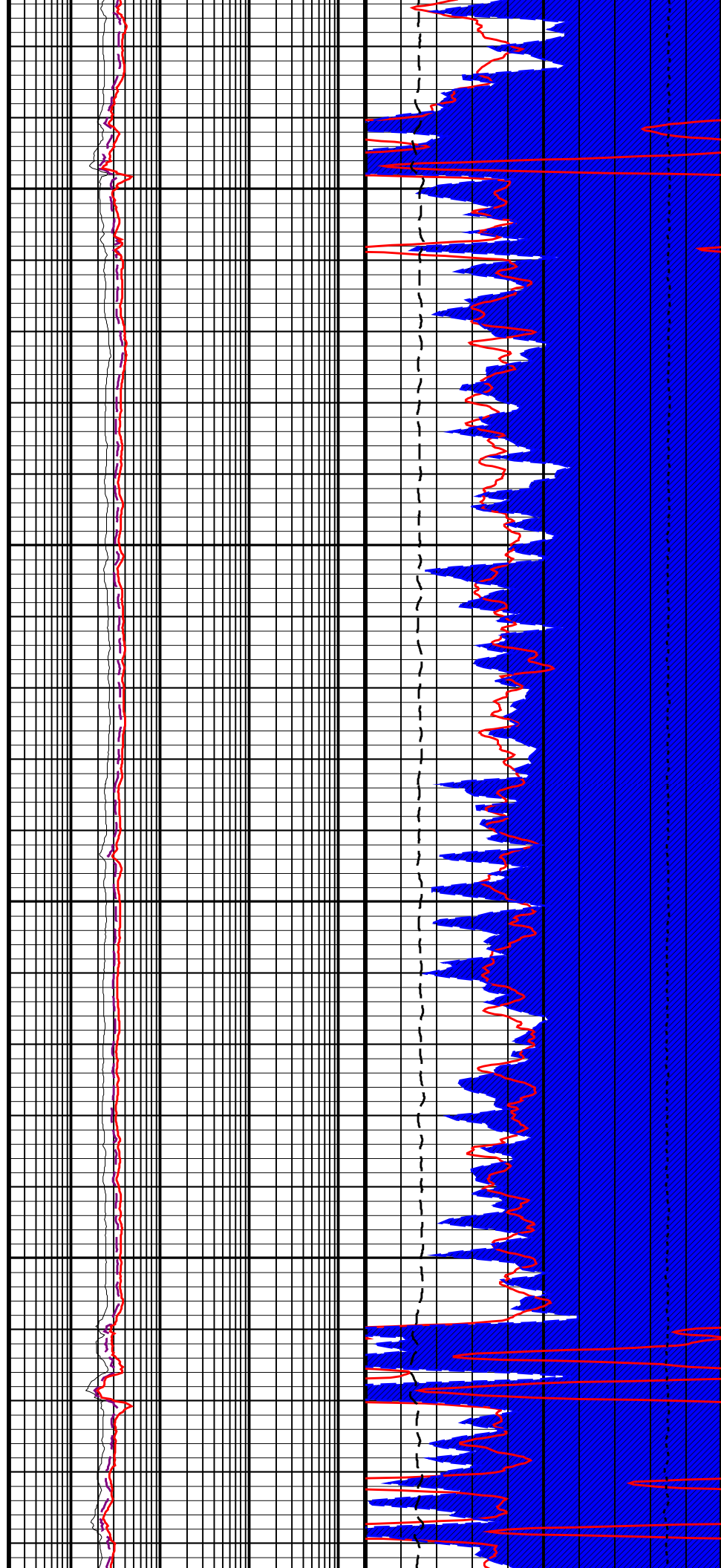
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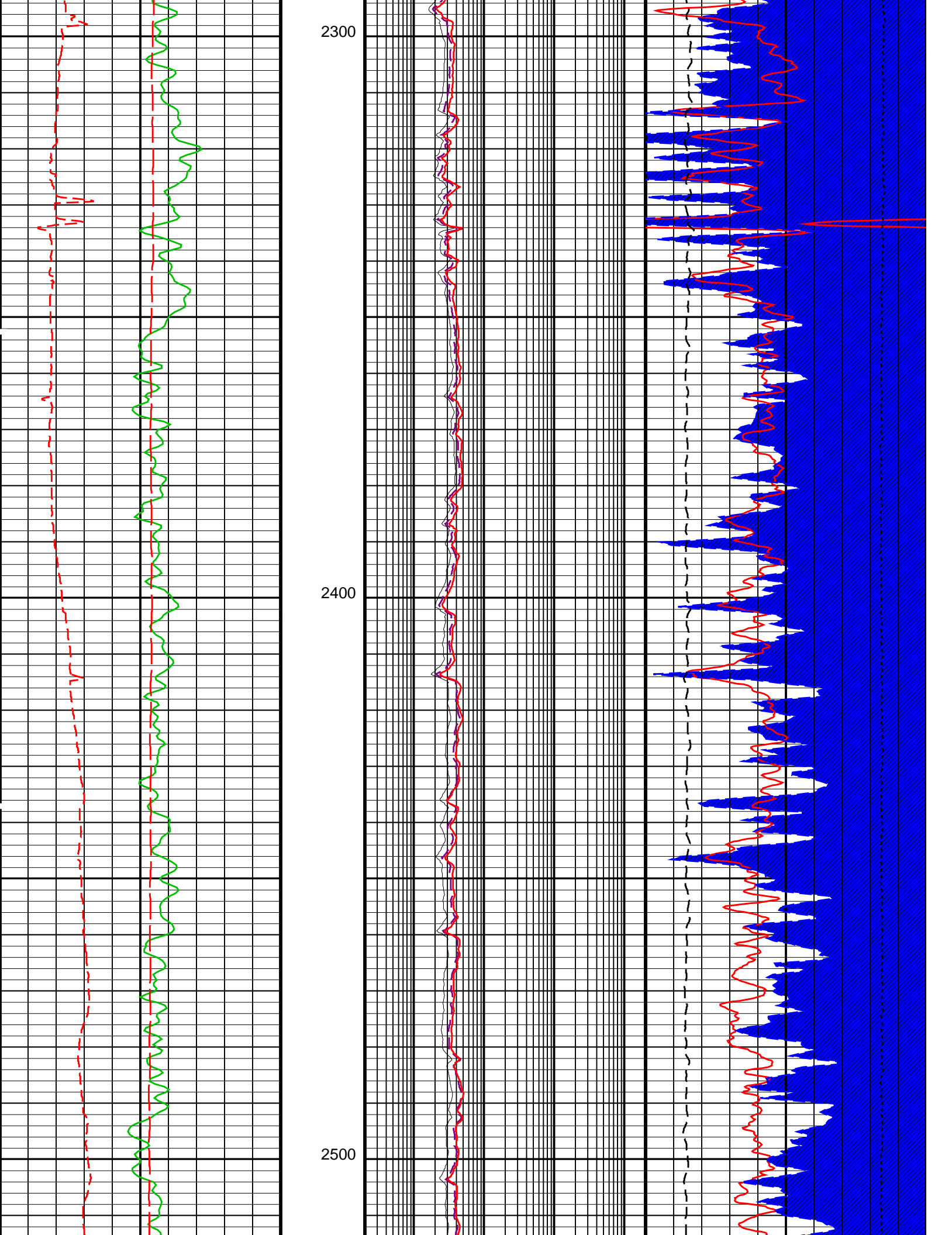


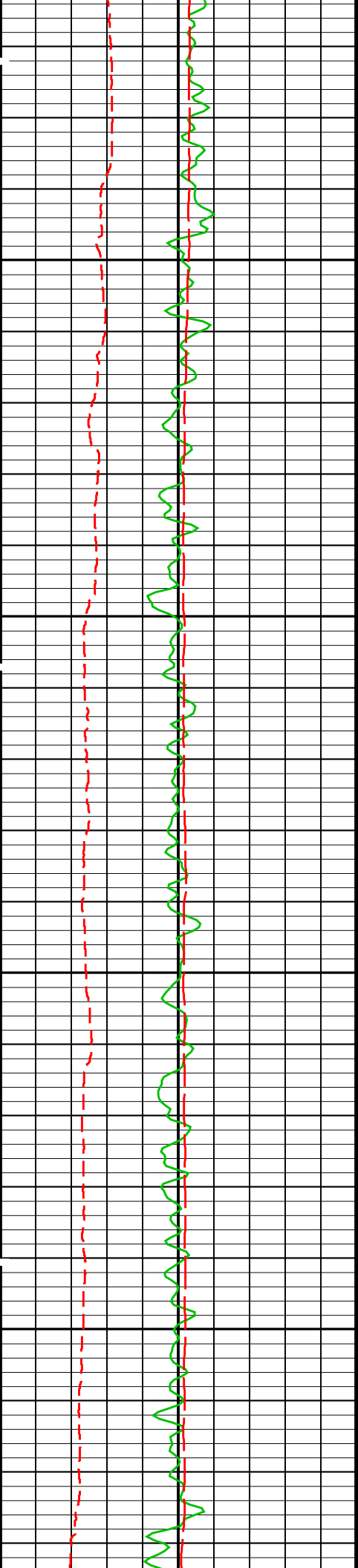


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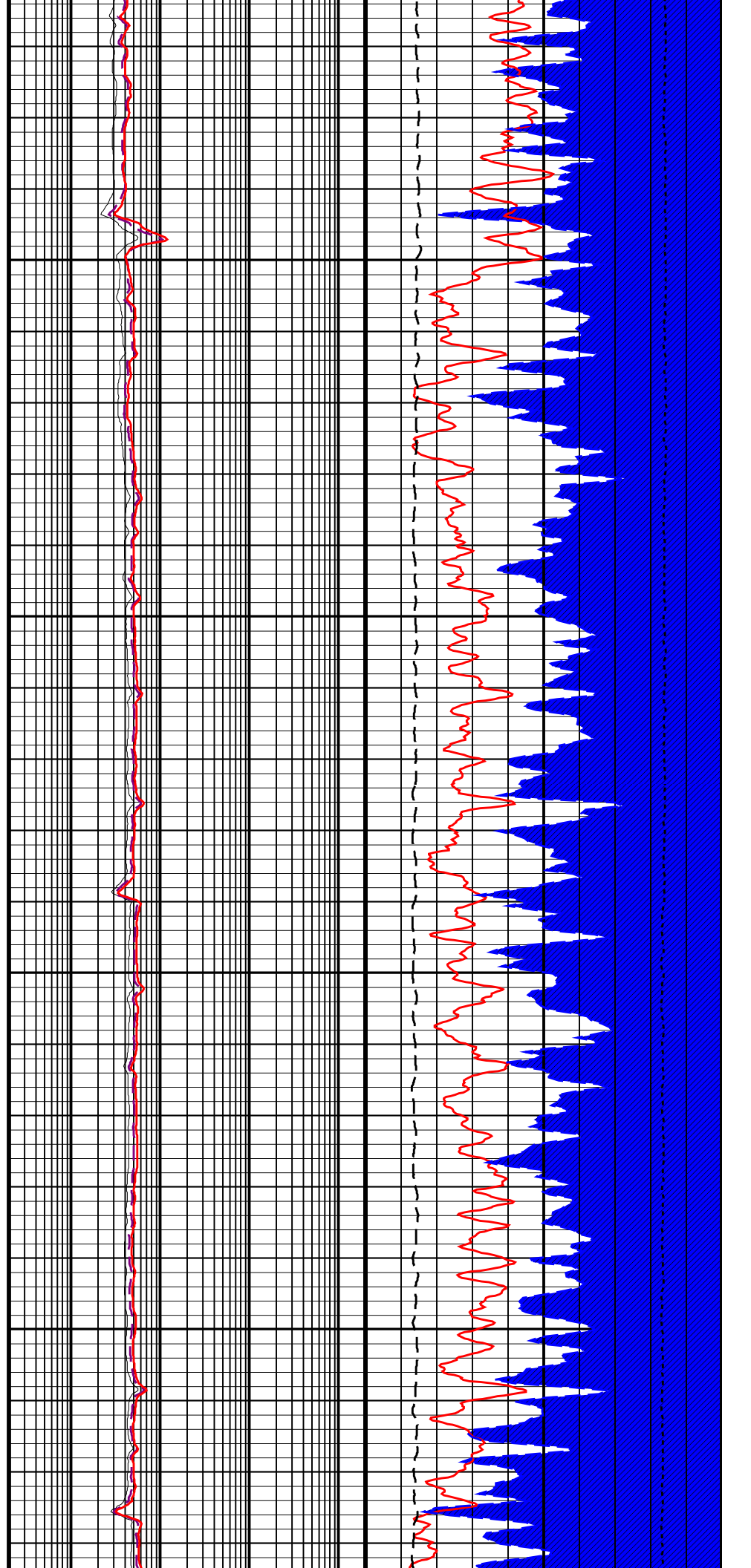


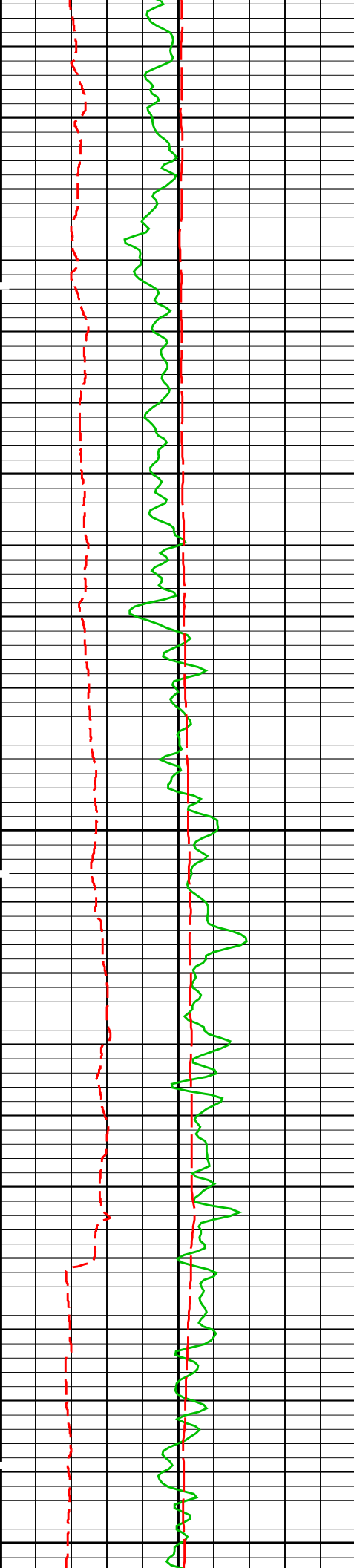




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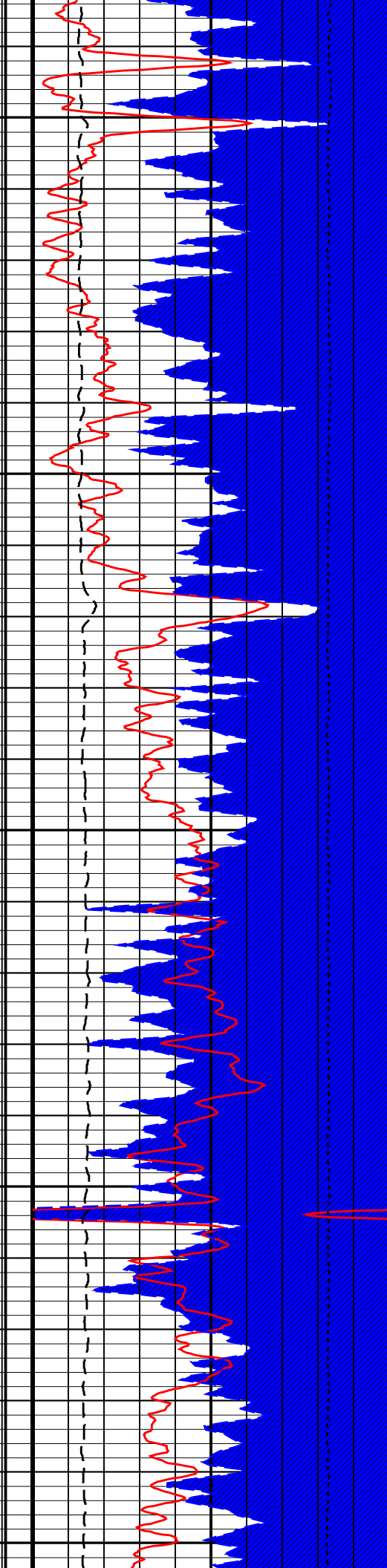
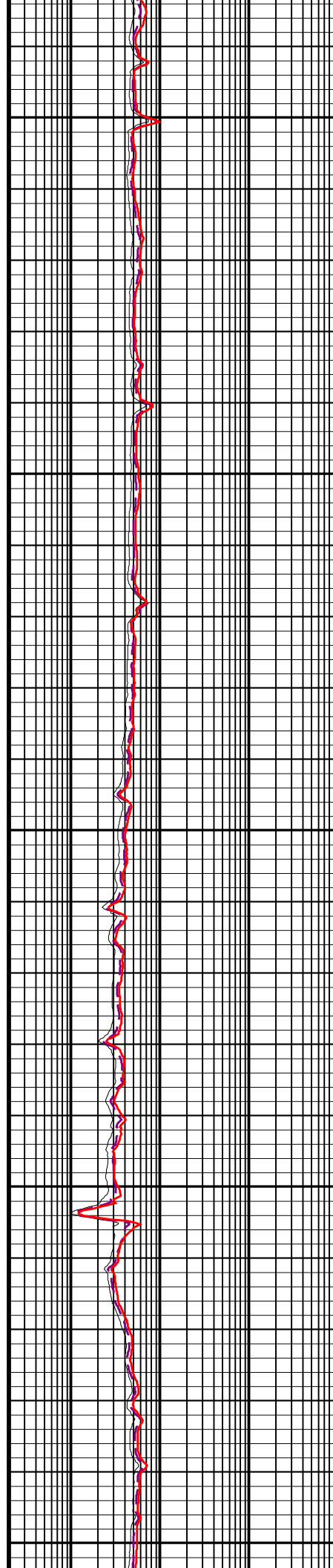
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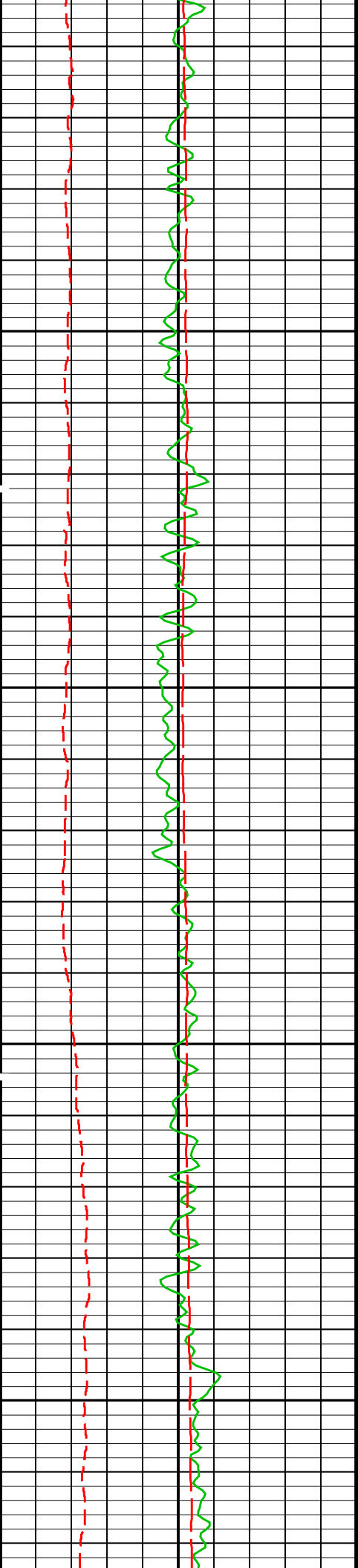




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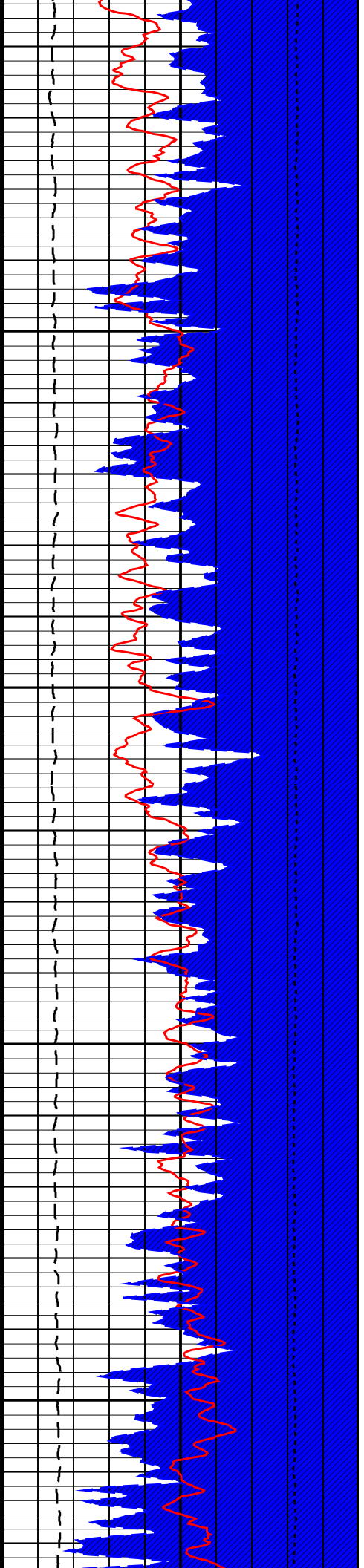
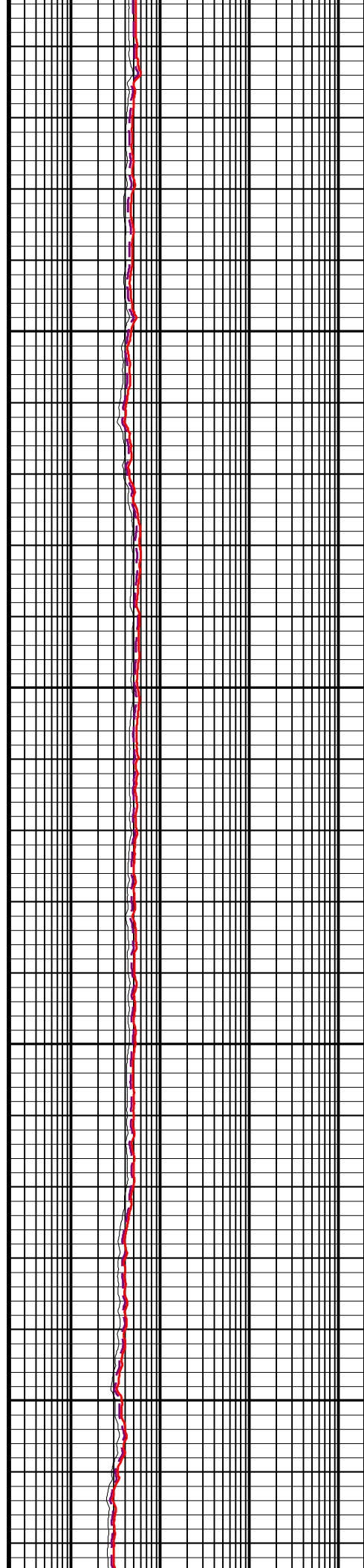
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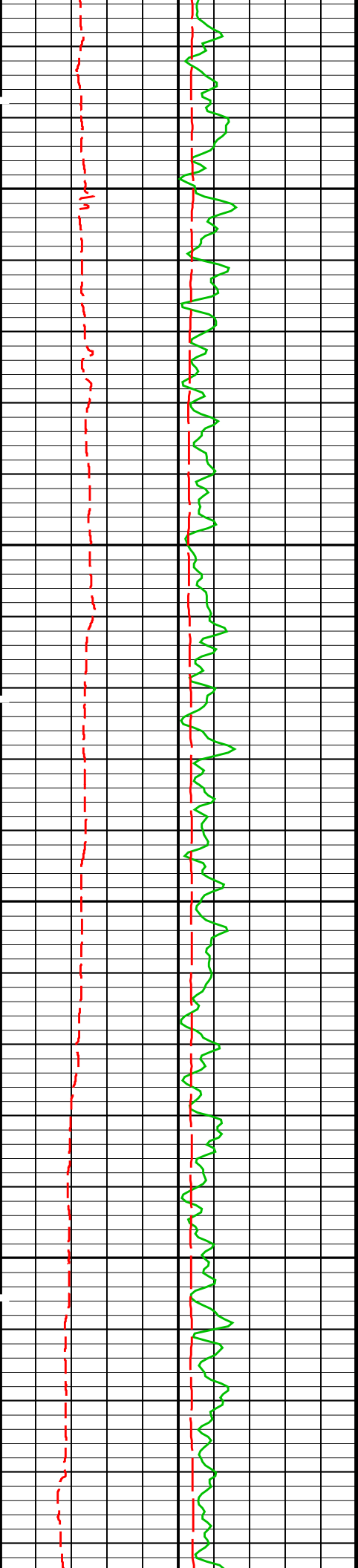




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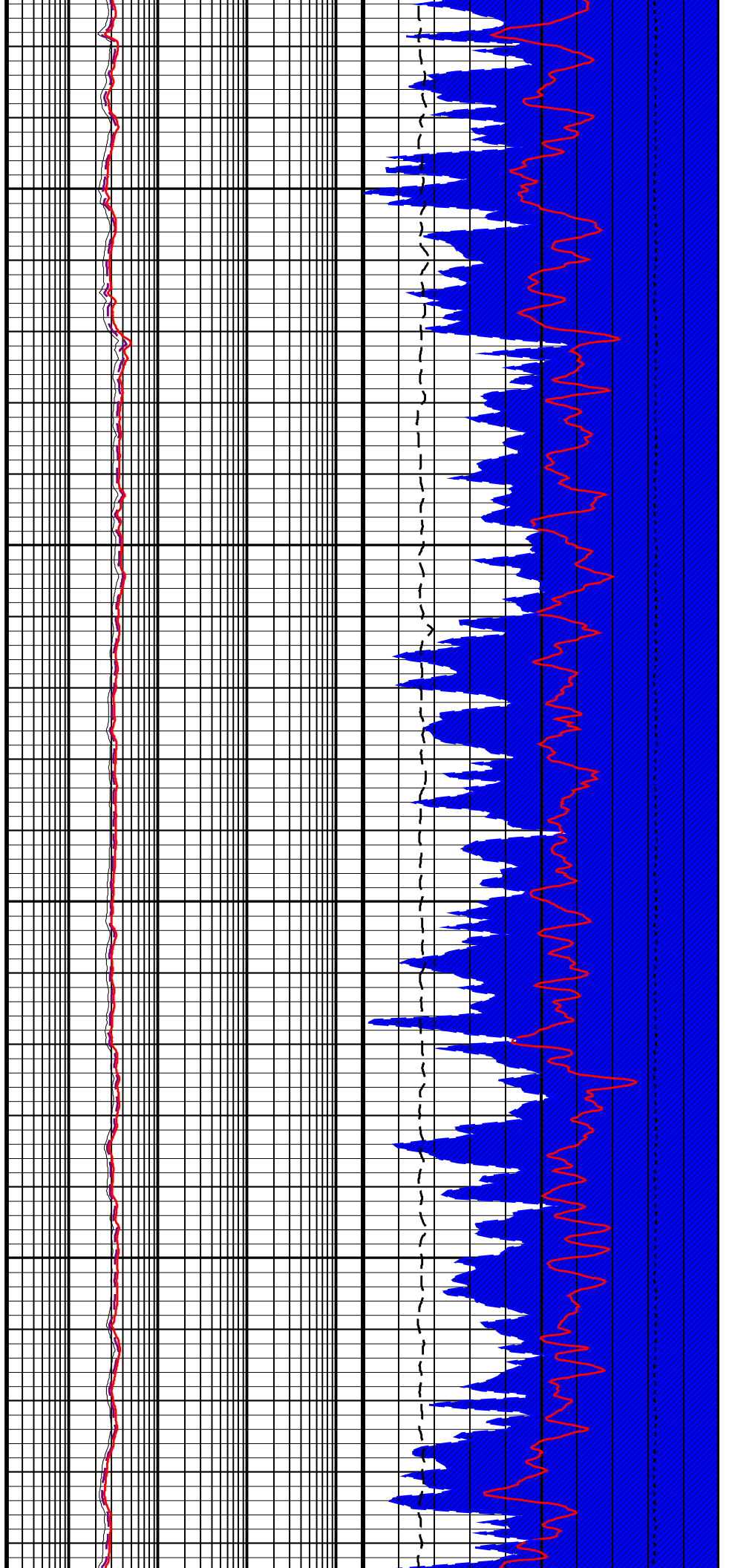
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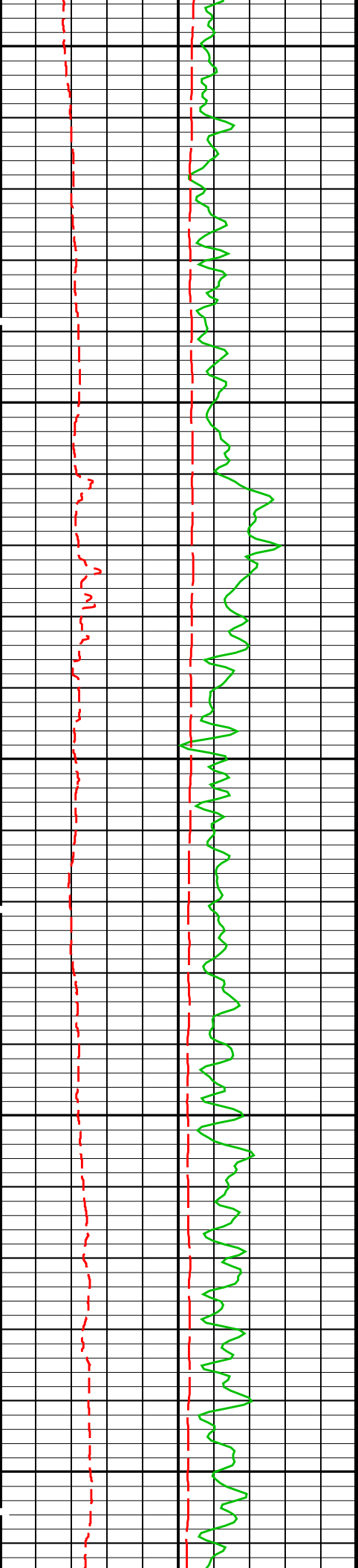




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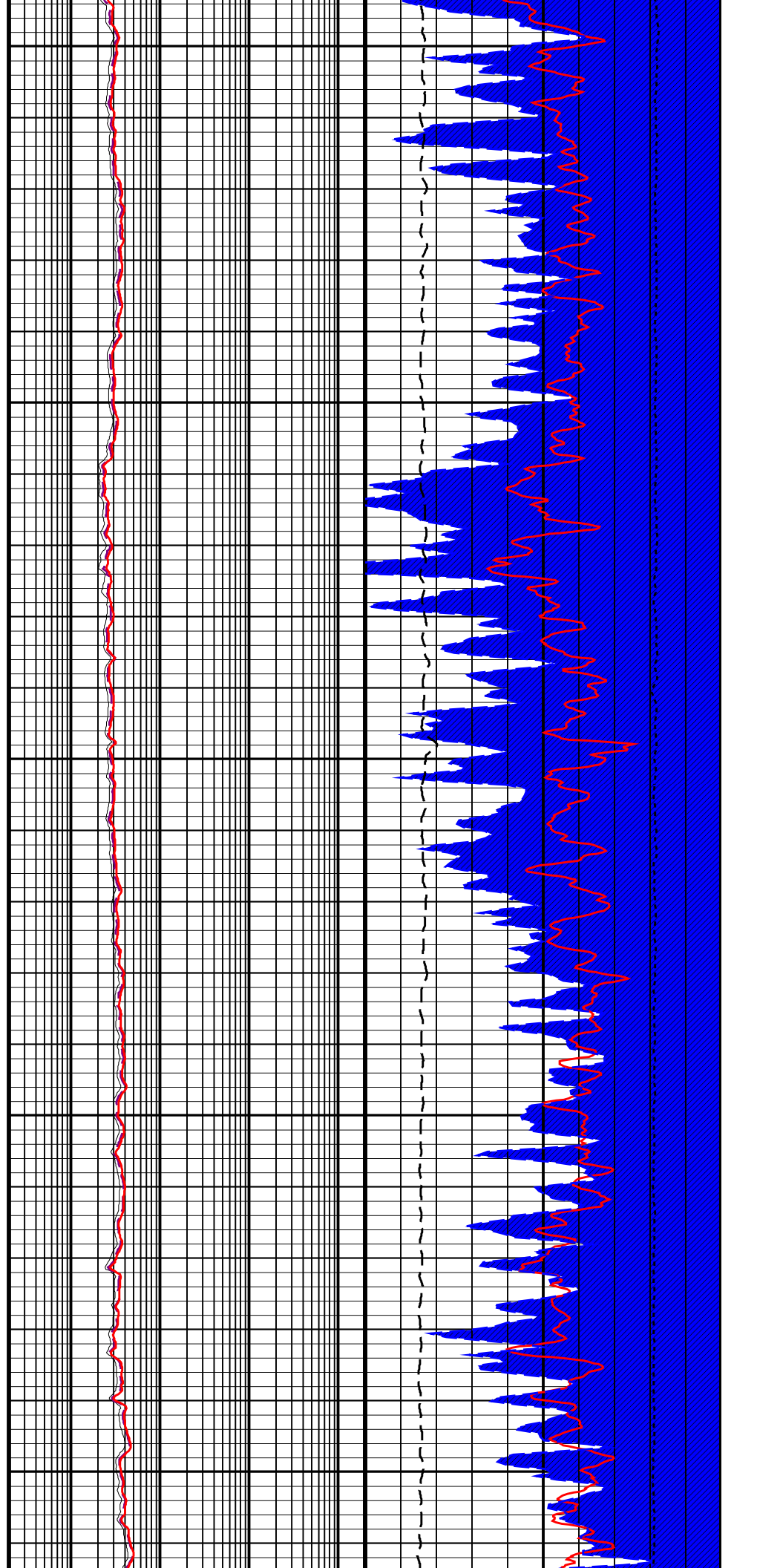


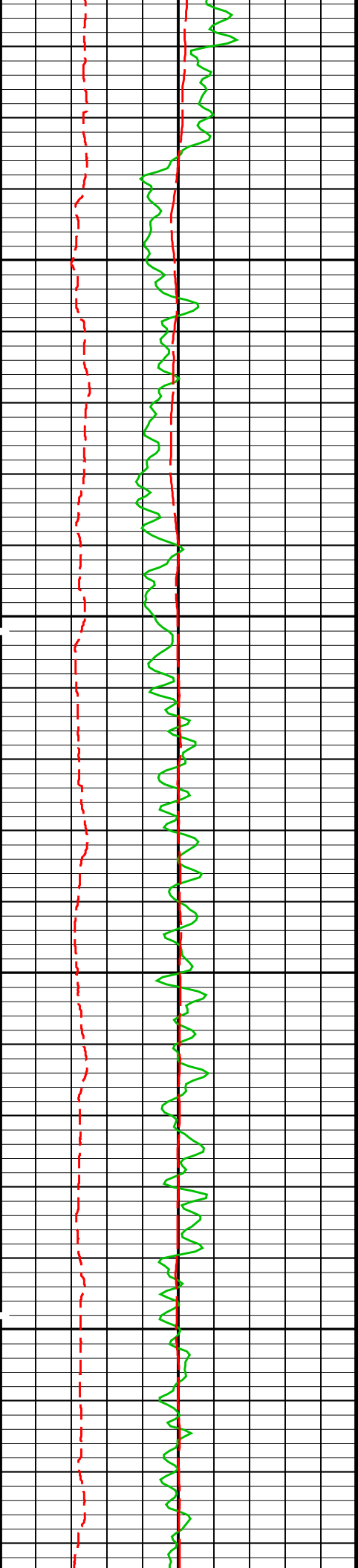


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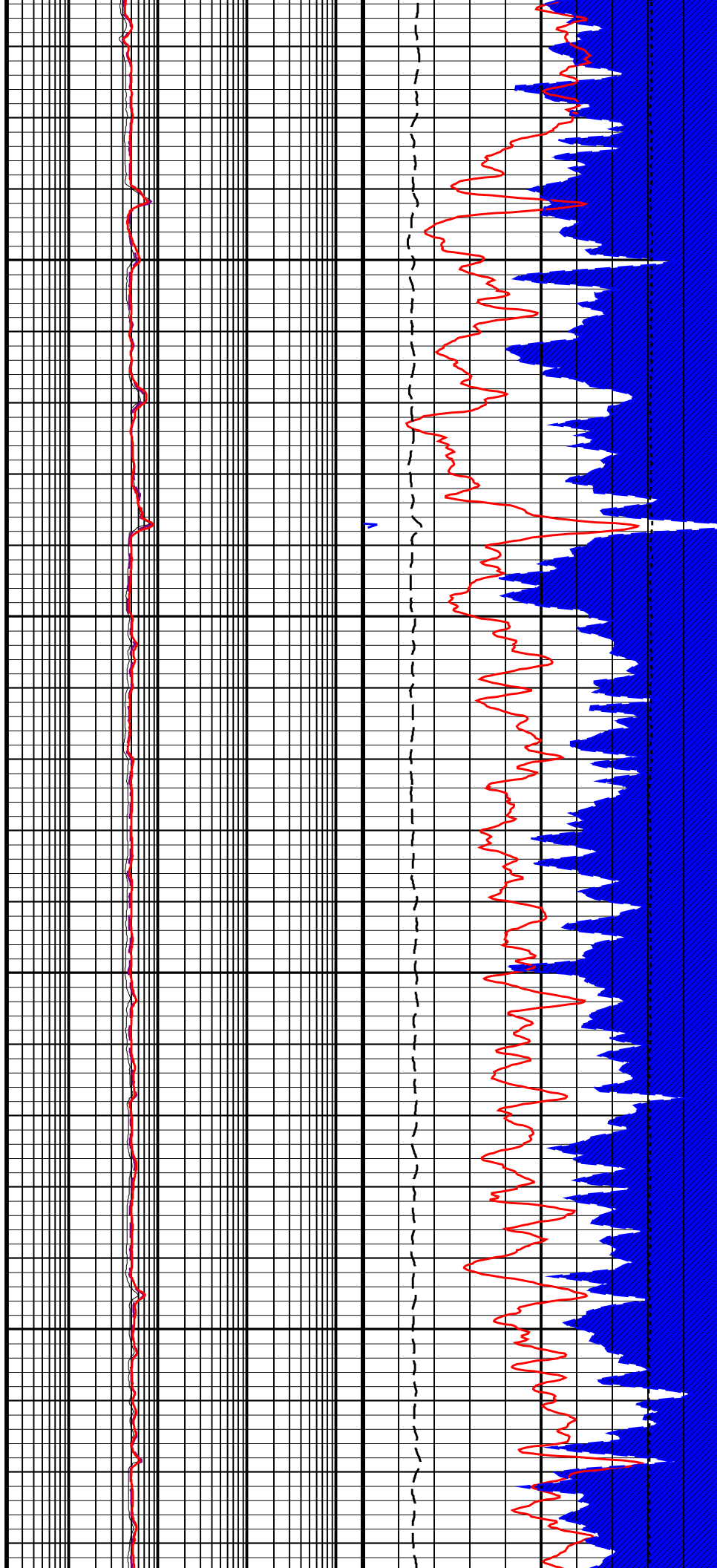
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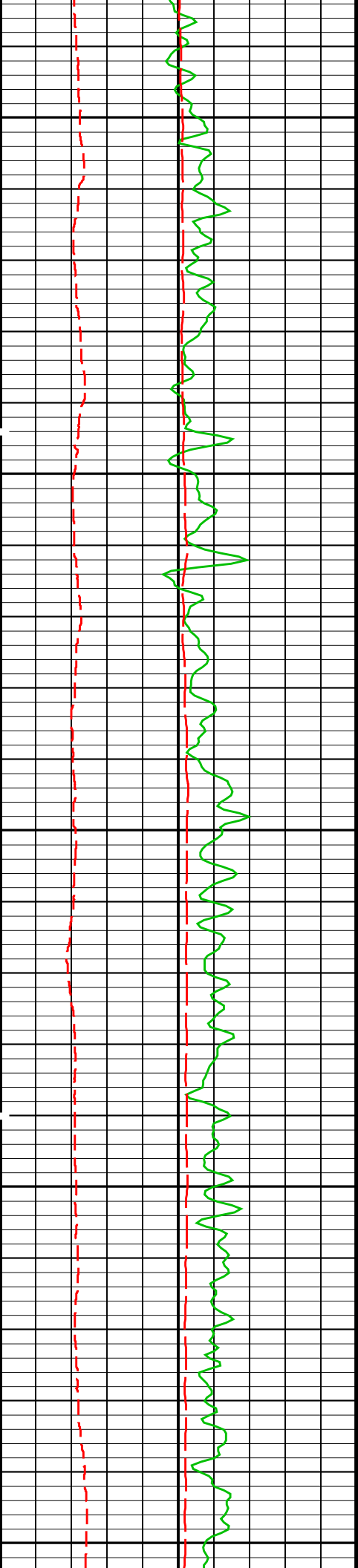




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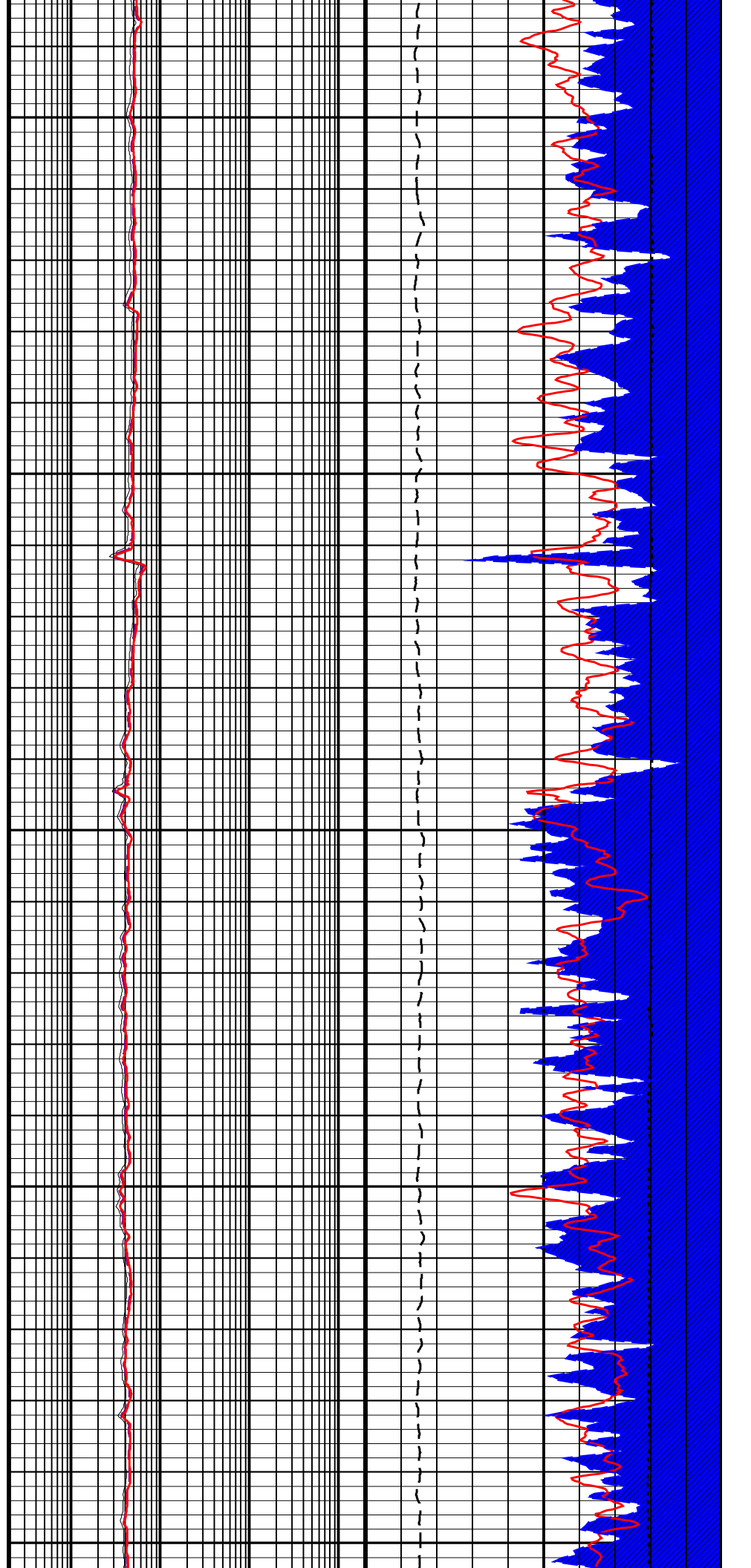
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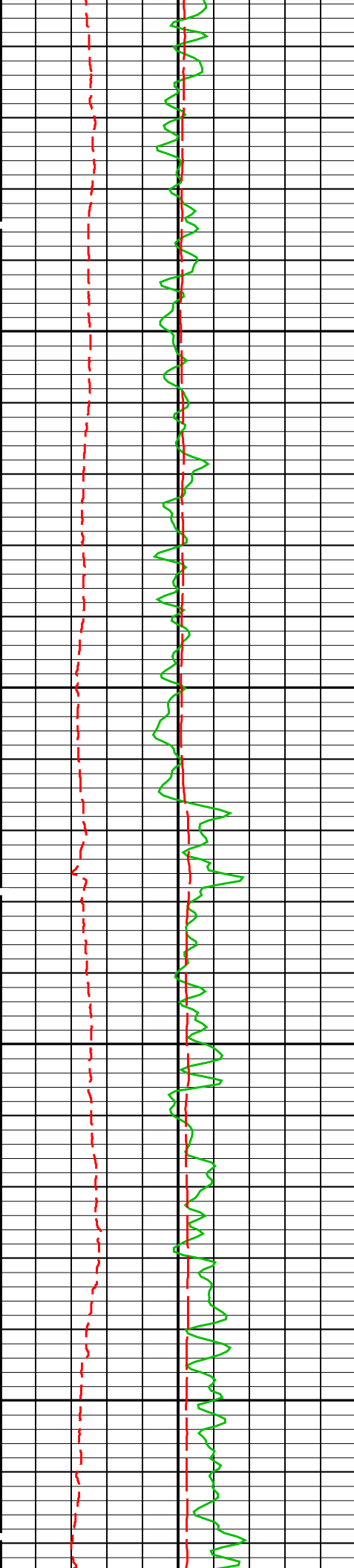




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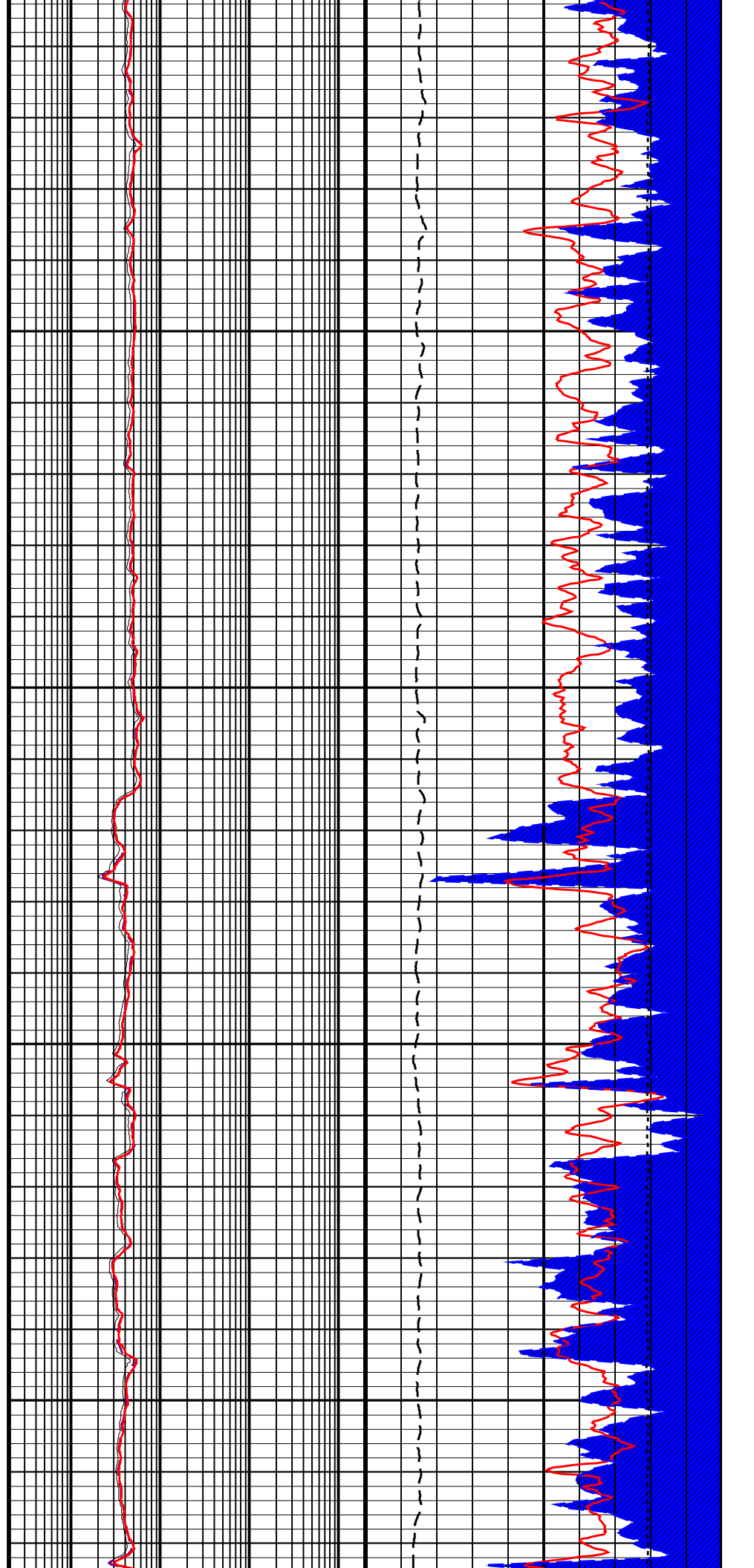
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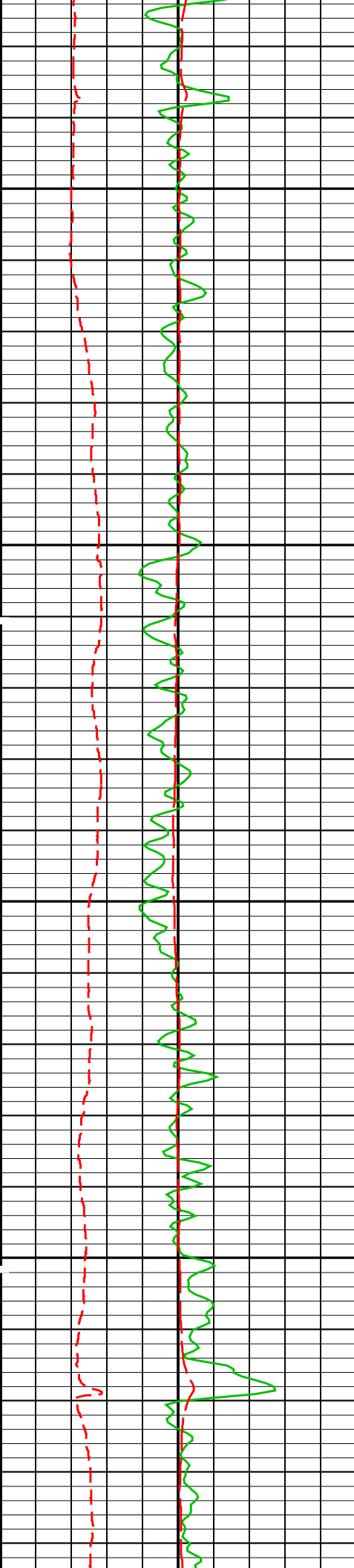




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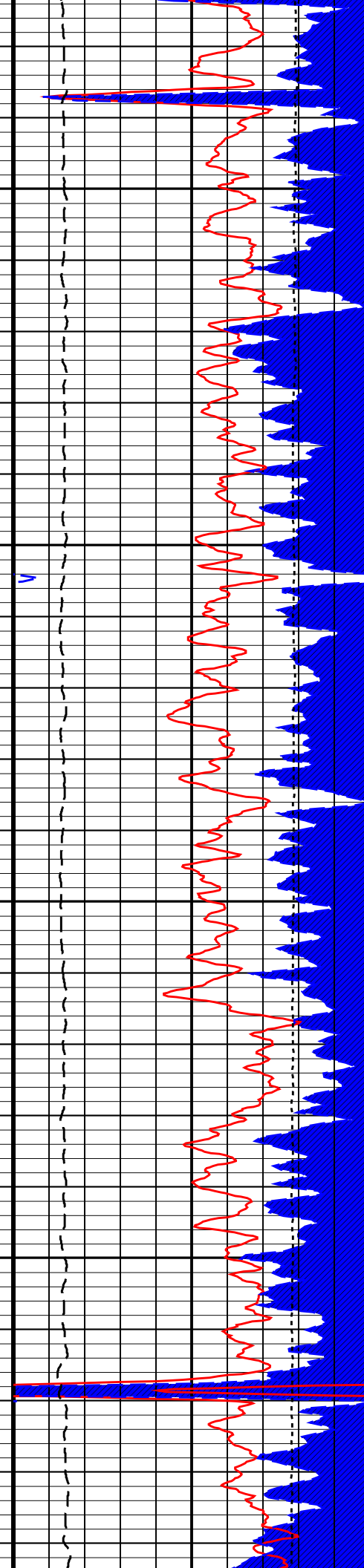
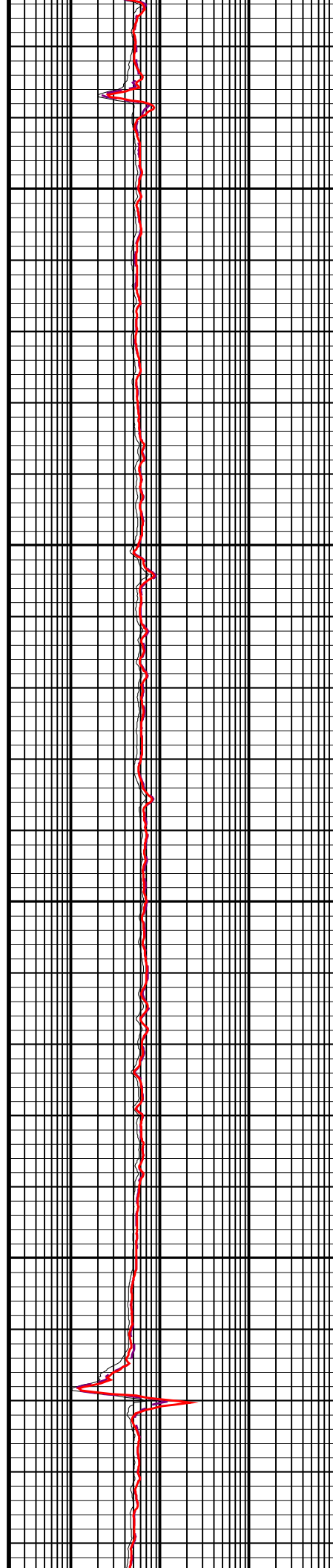
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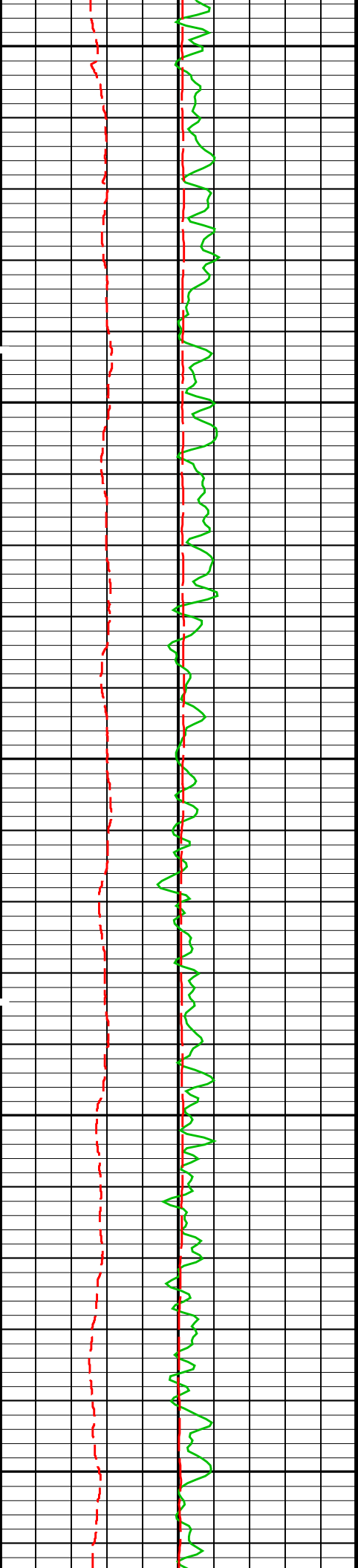




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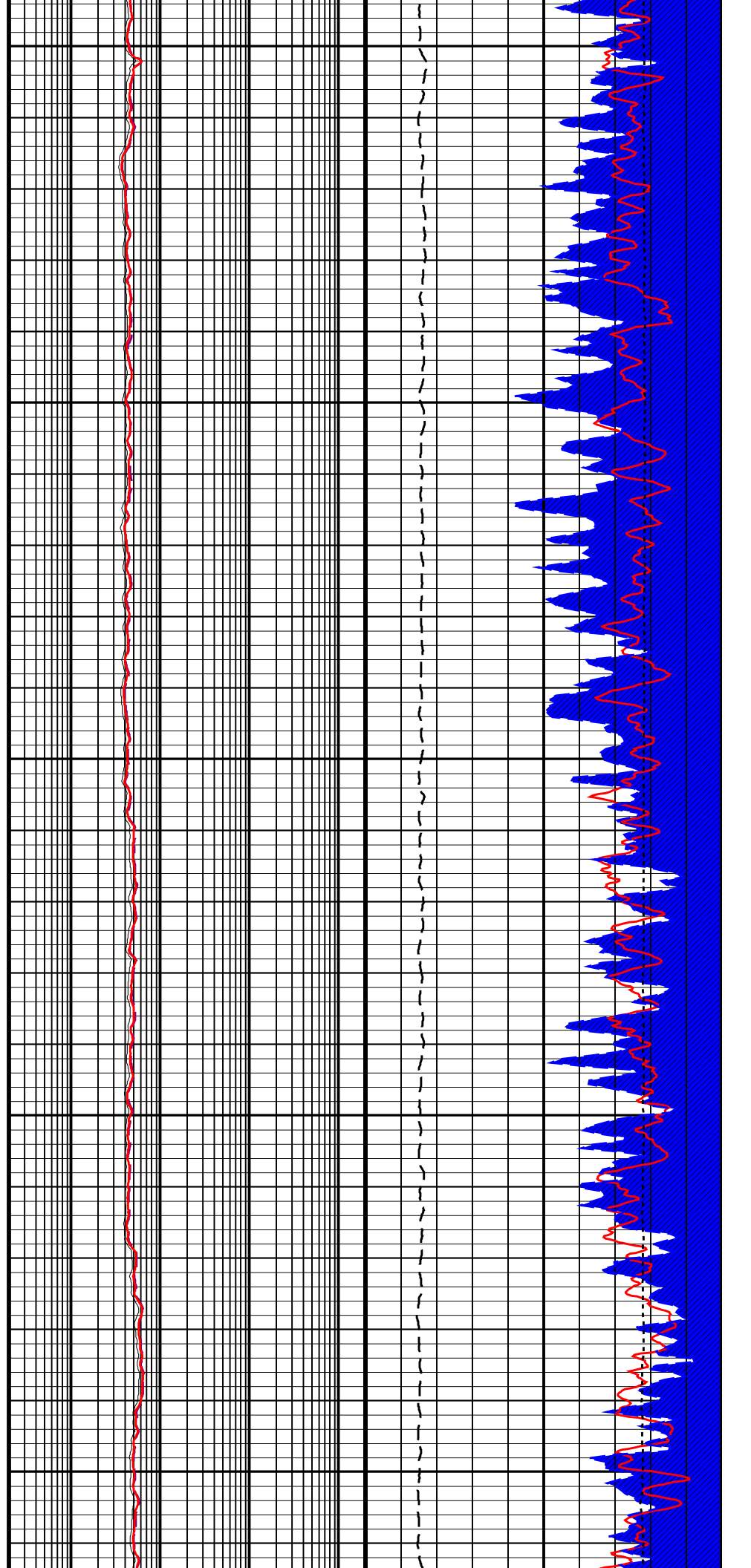


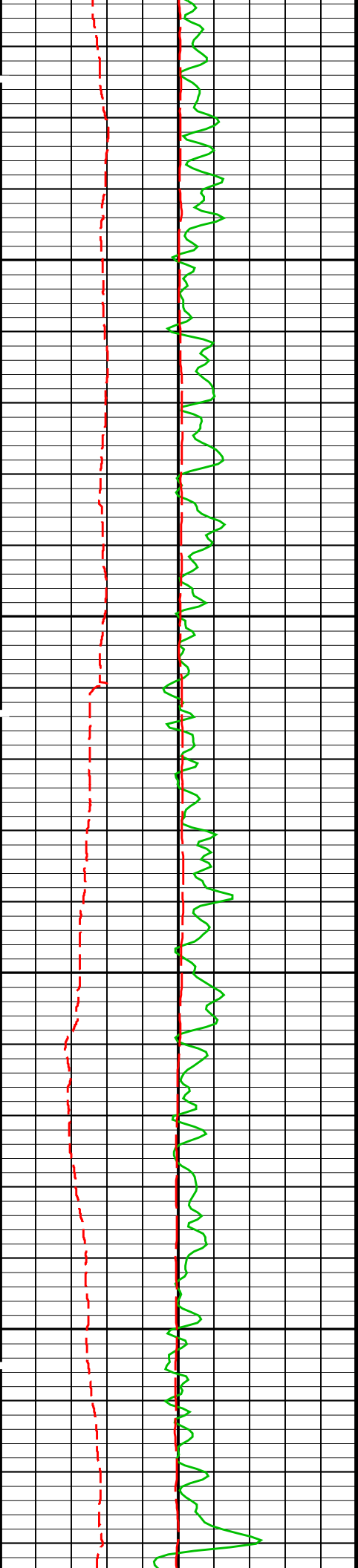


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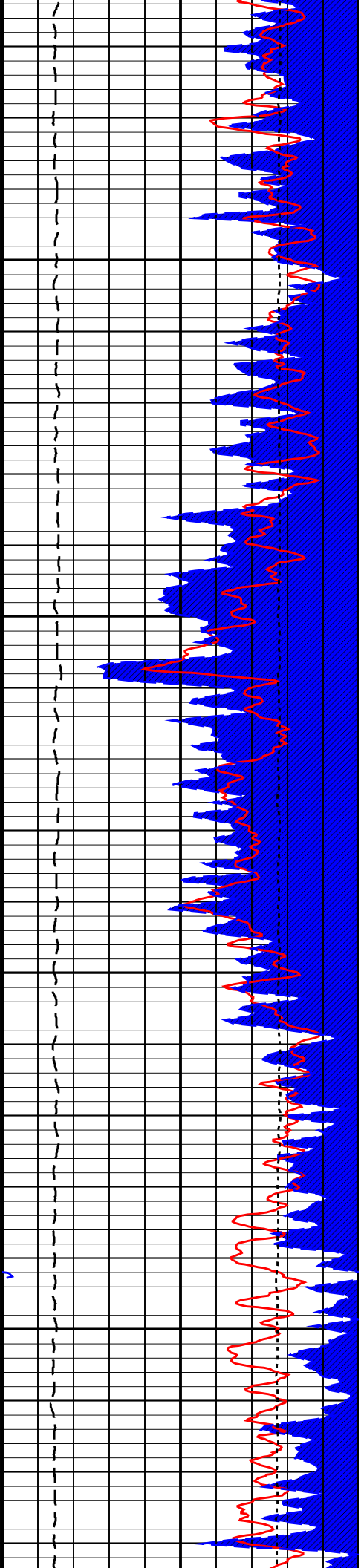
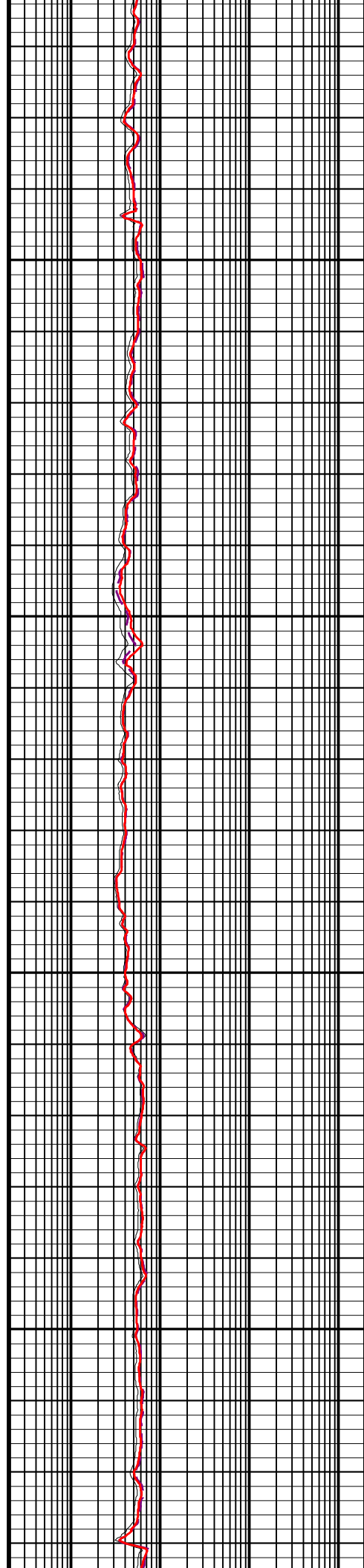
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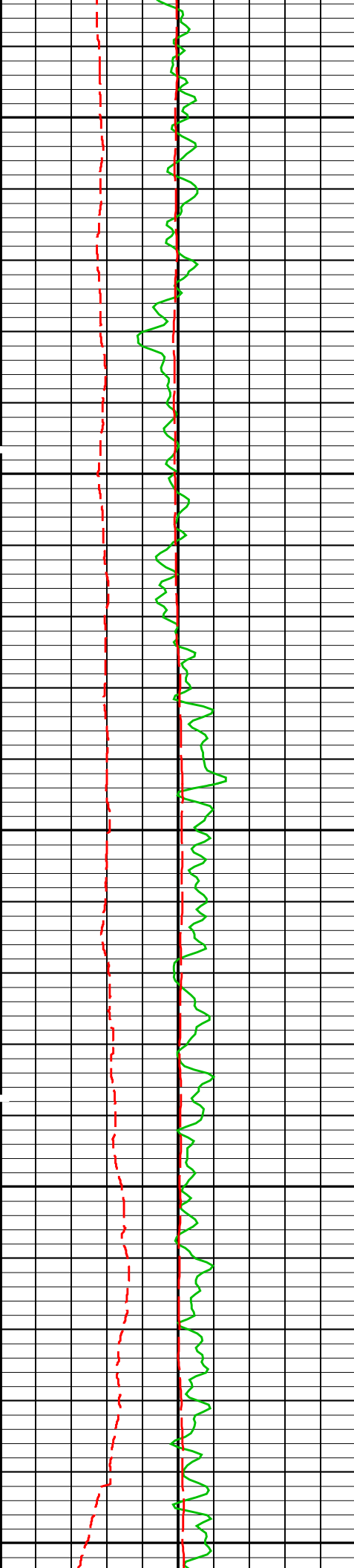




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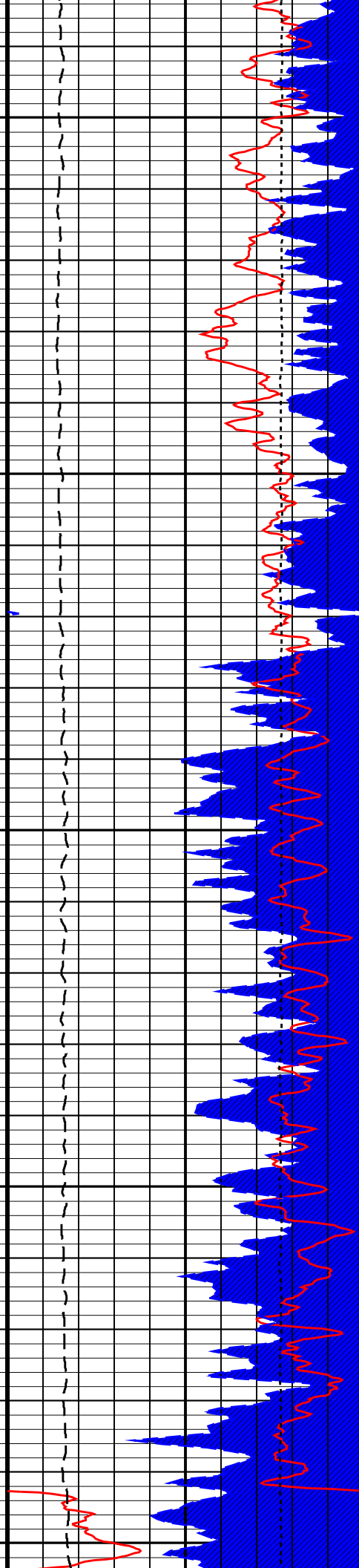
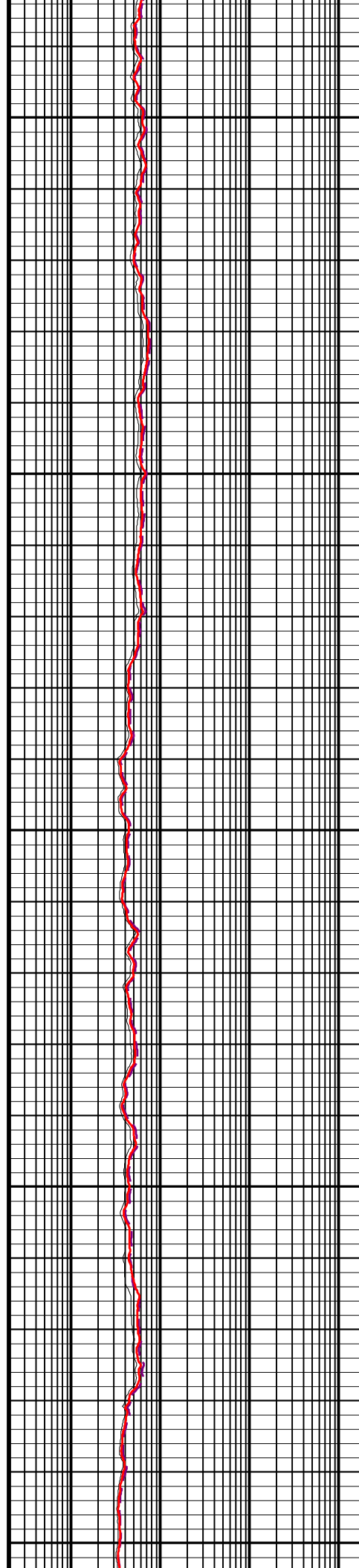
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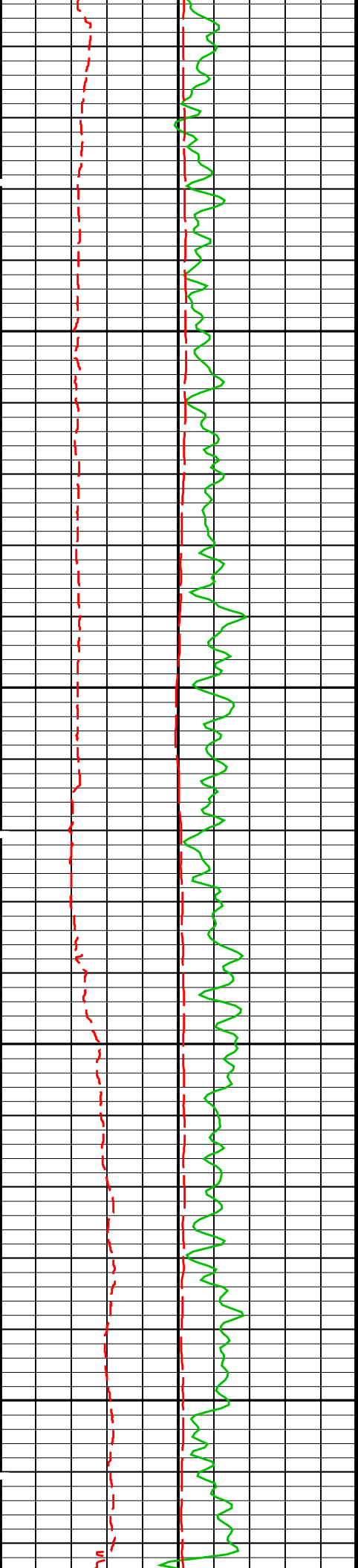




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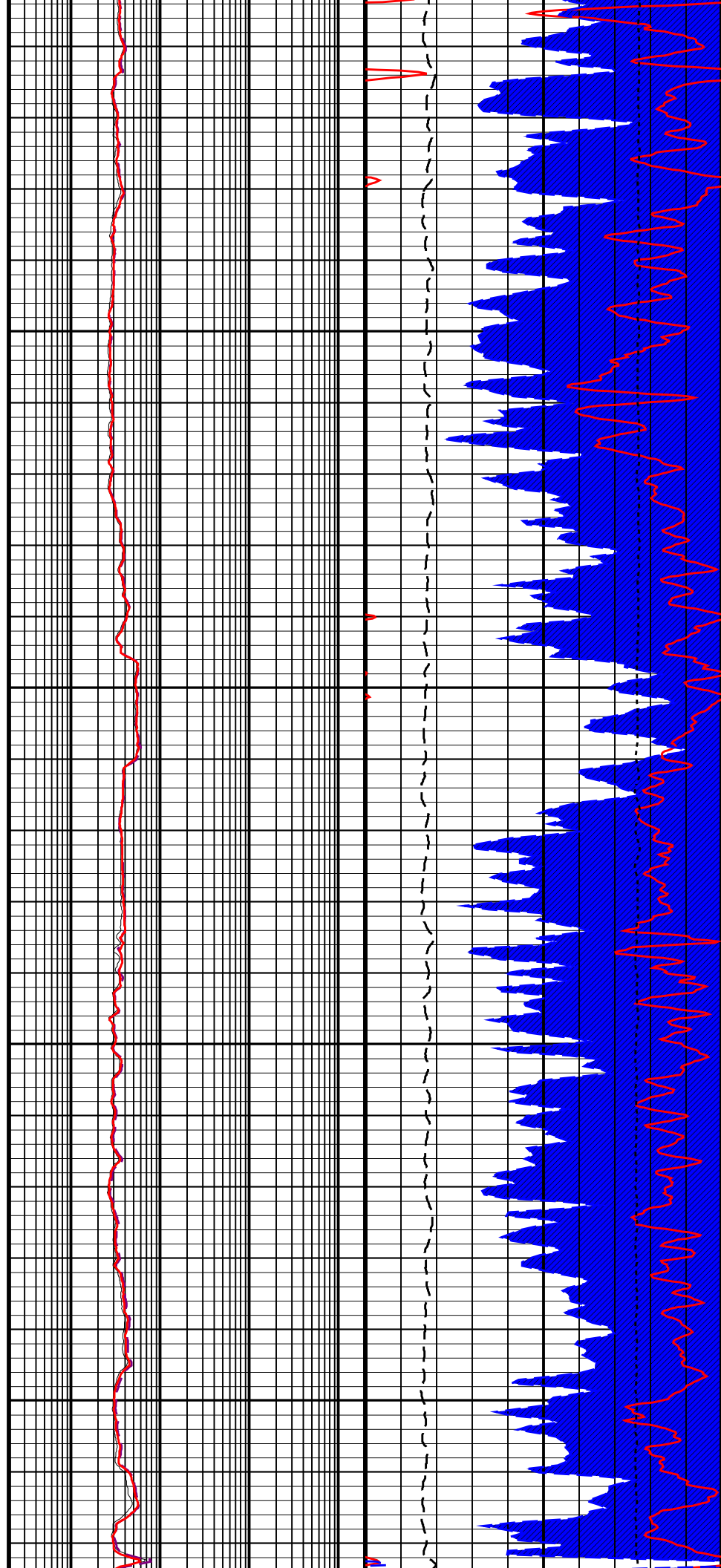
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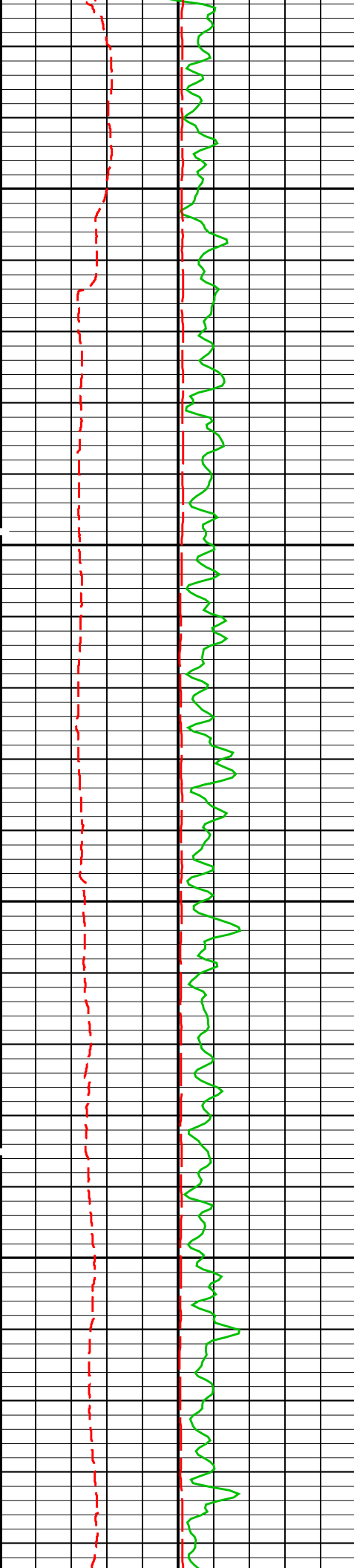




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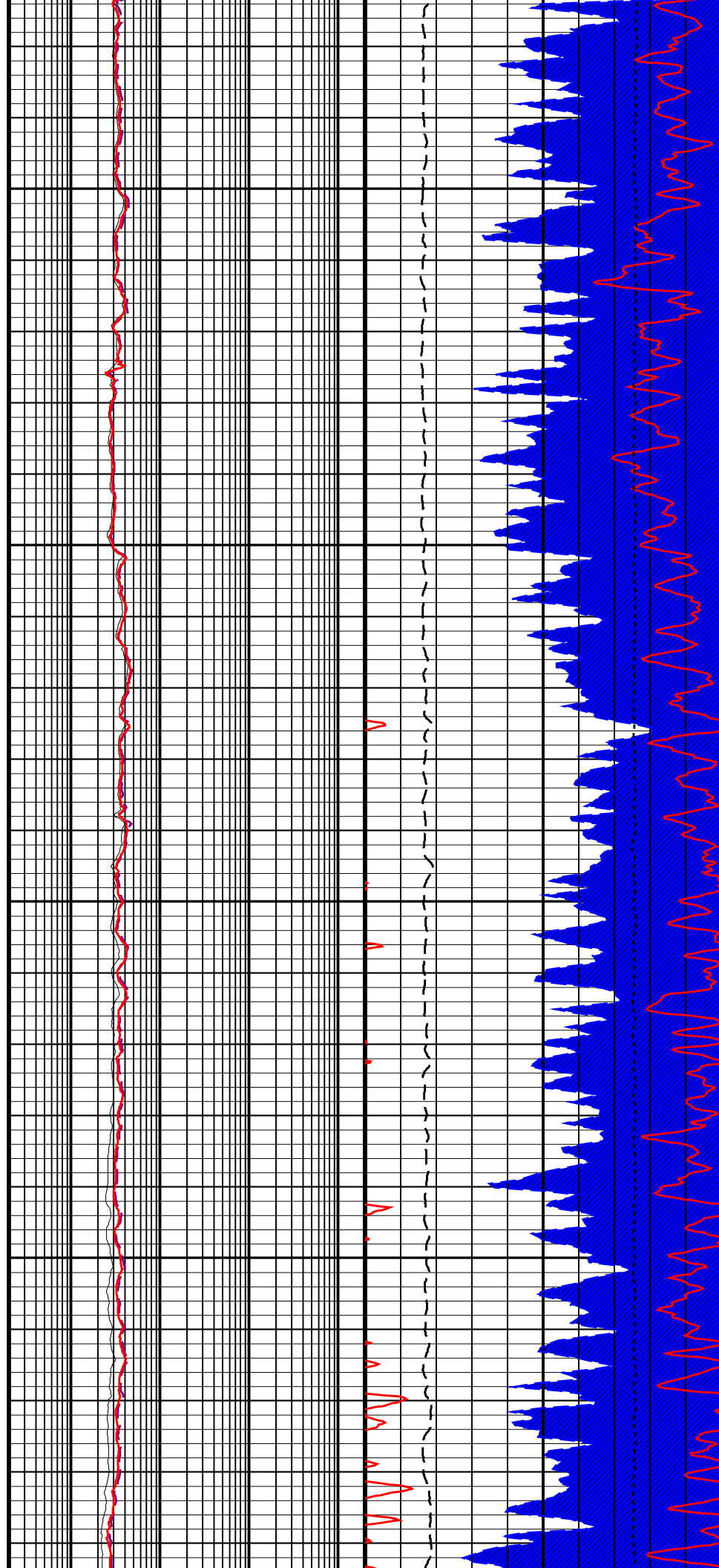
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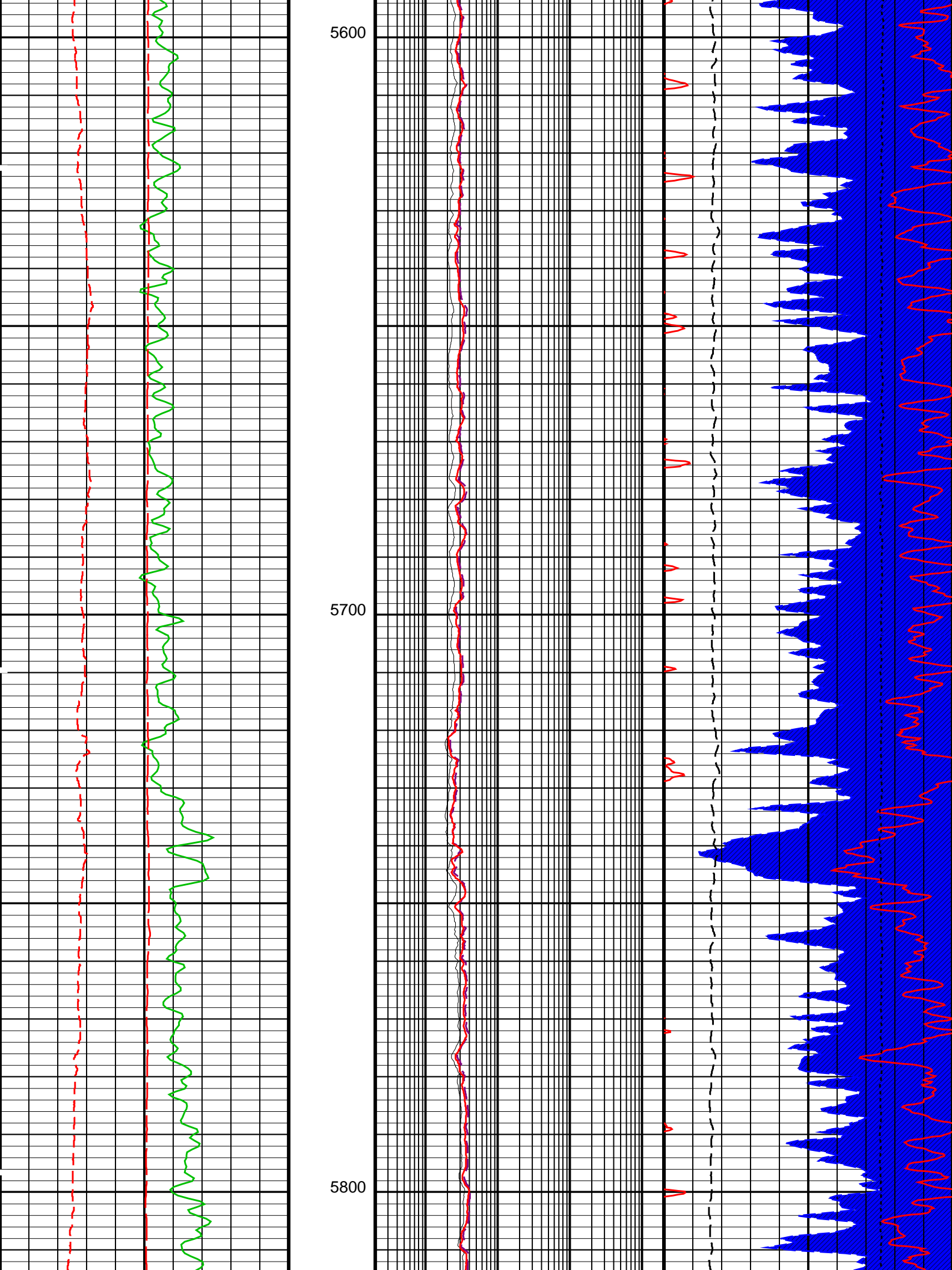


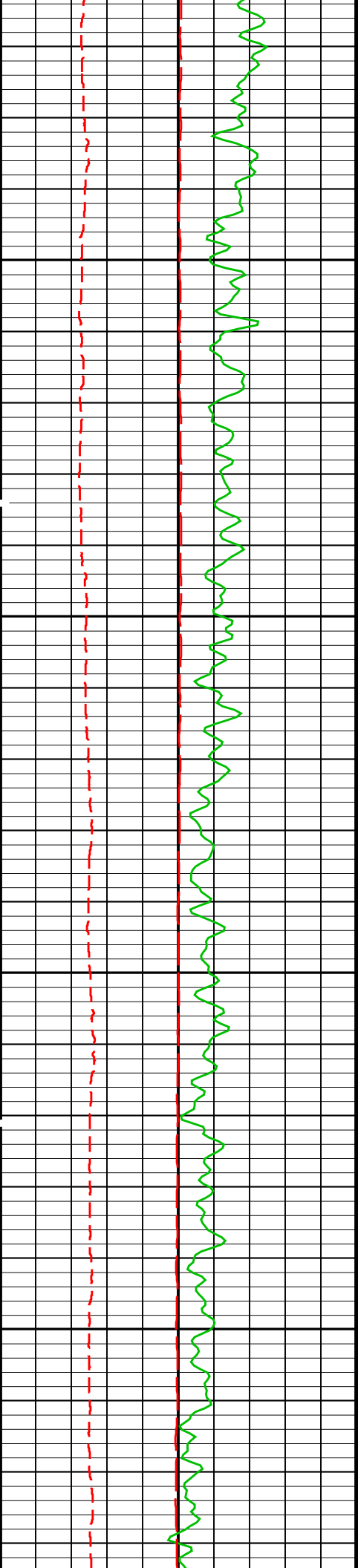


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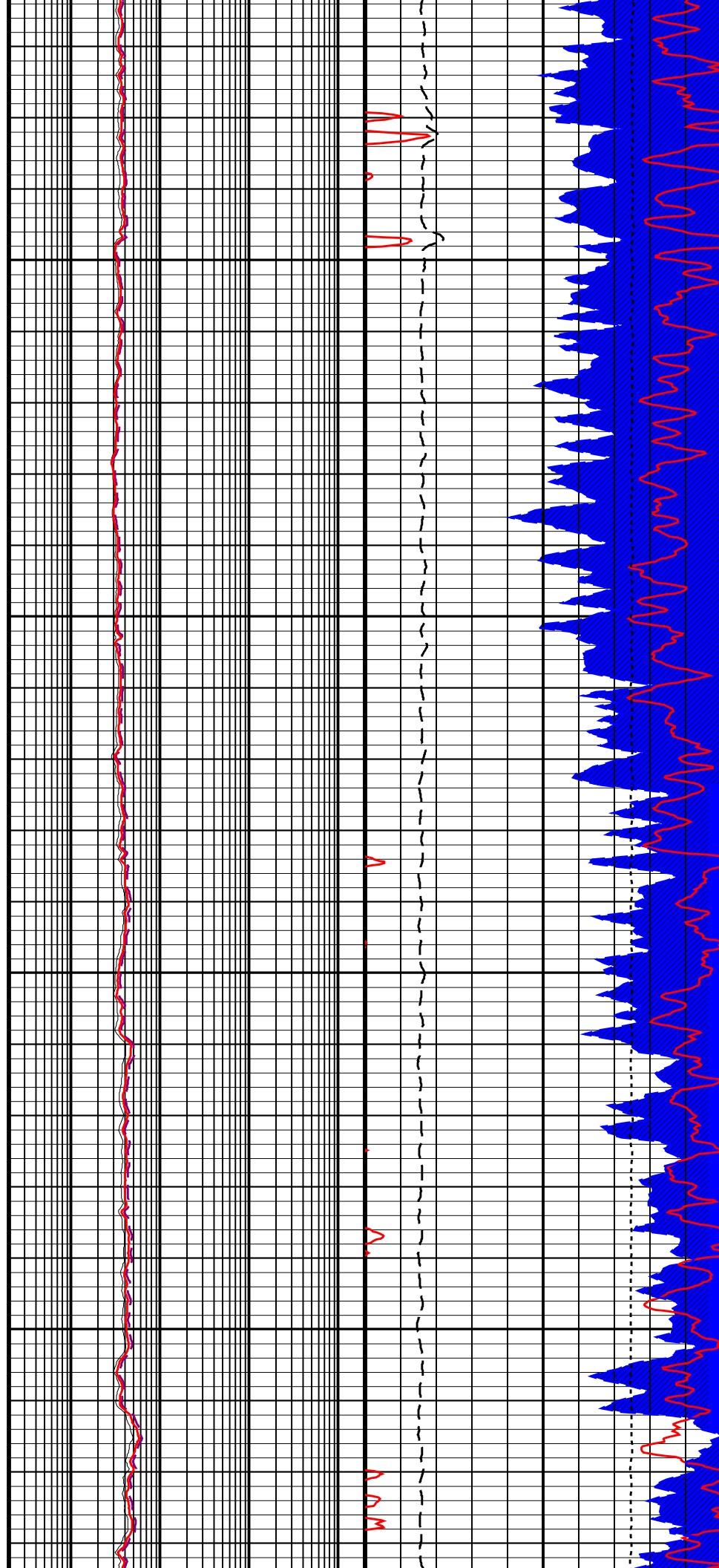


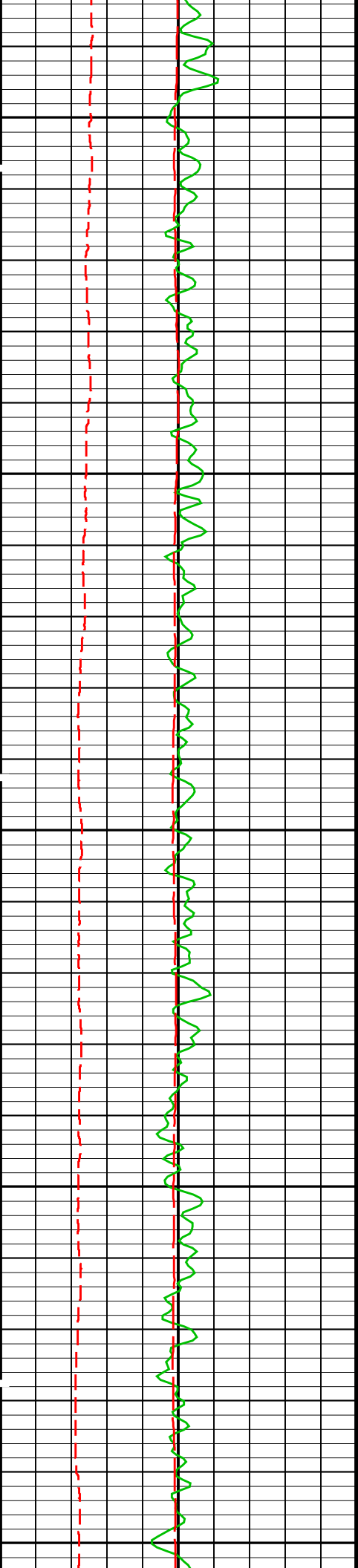




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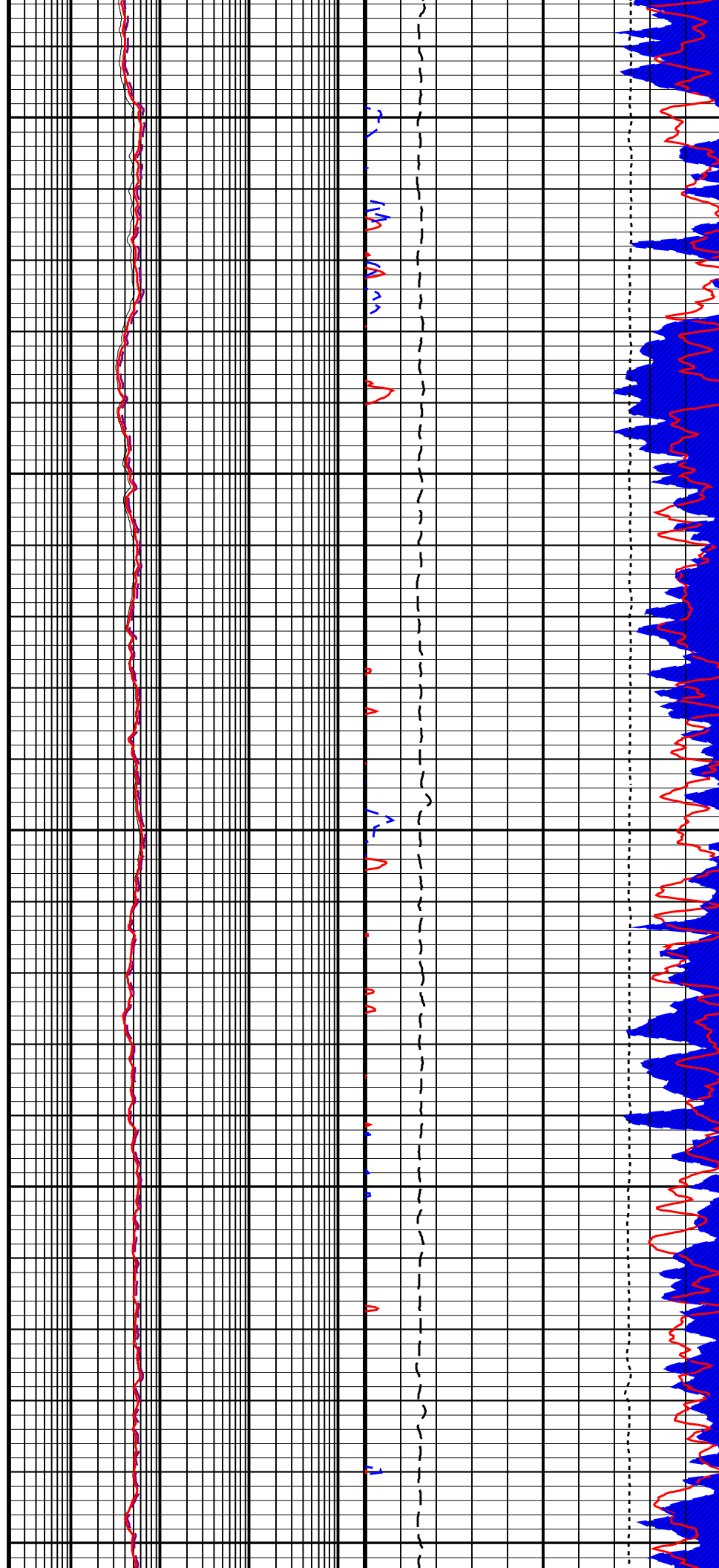
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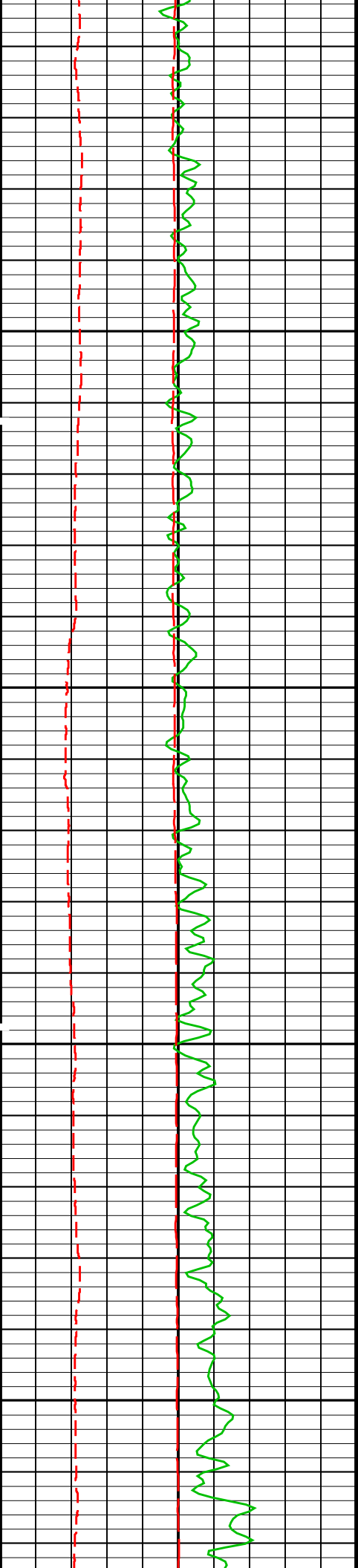




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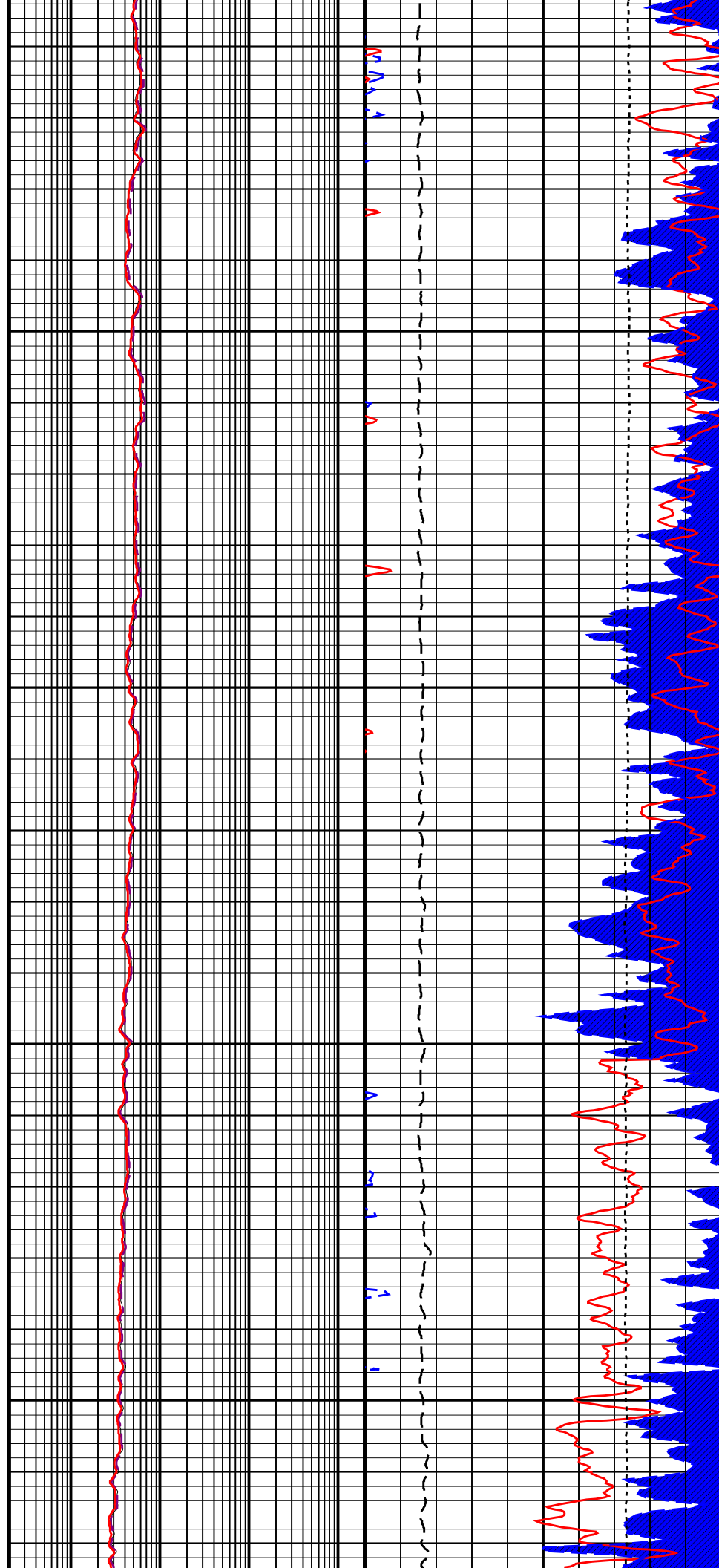
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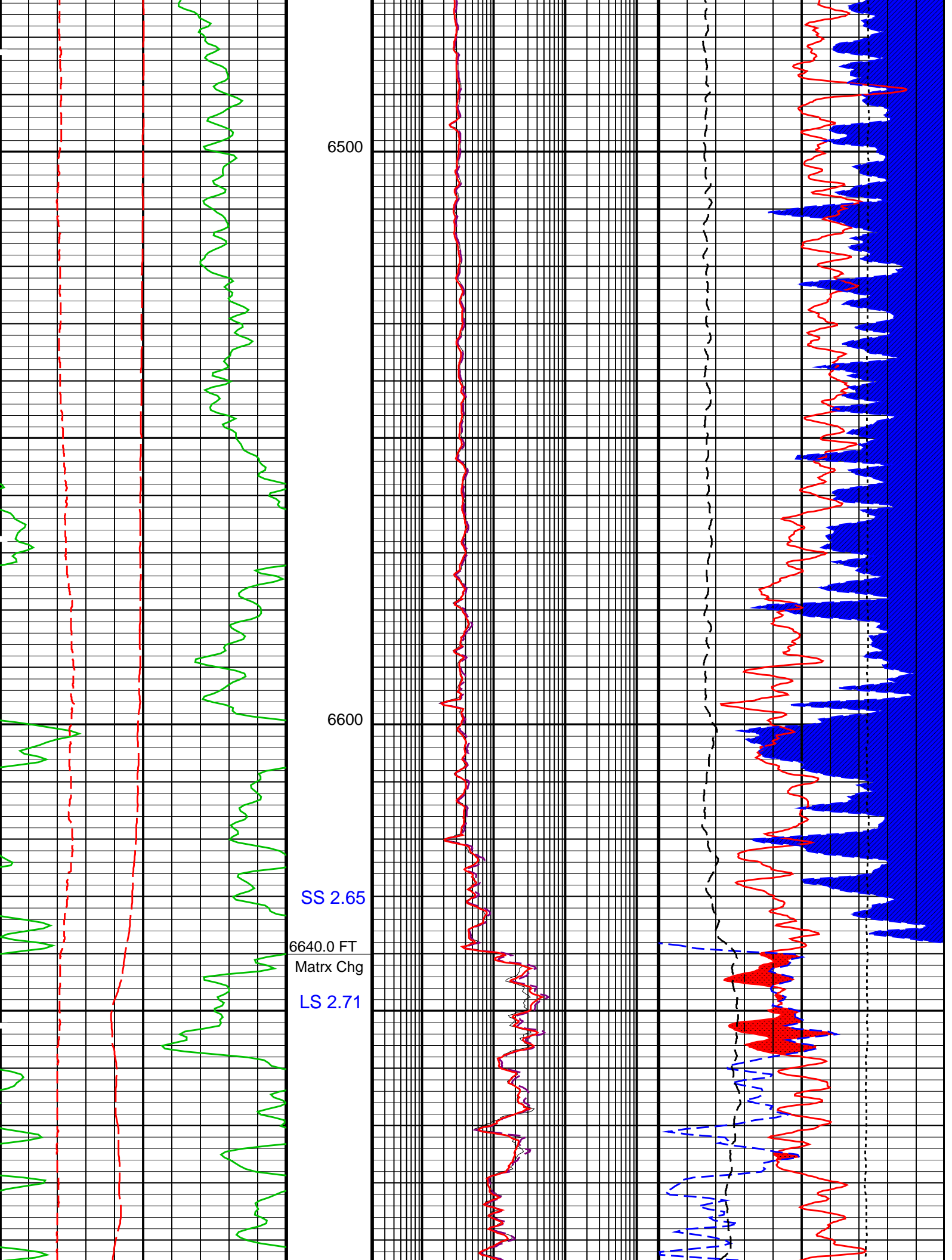


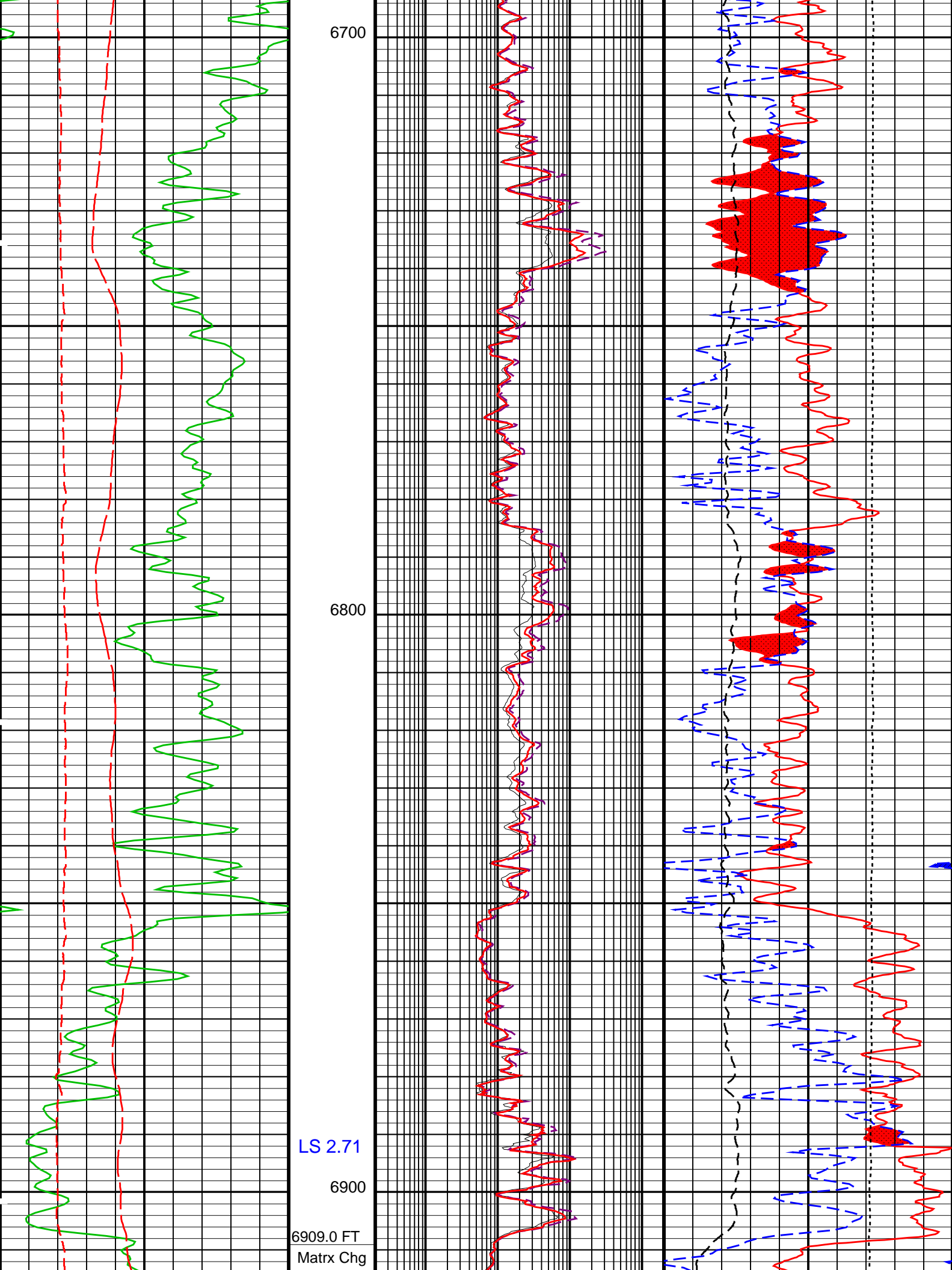


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6400



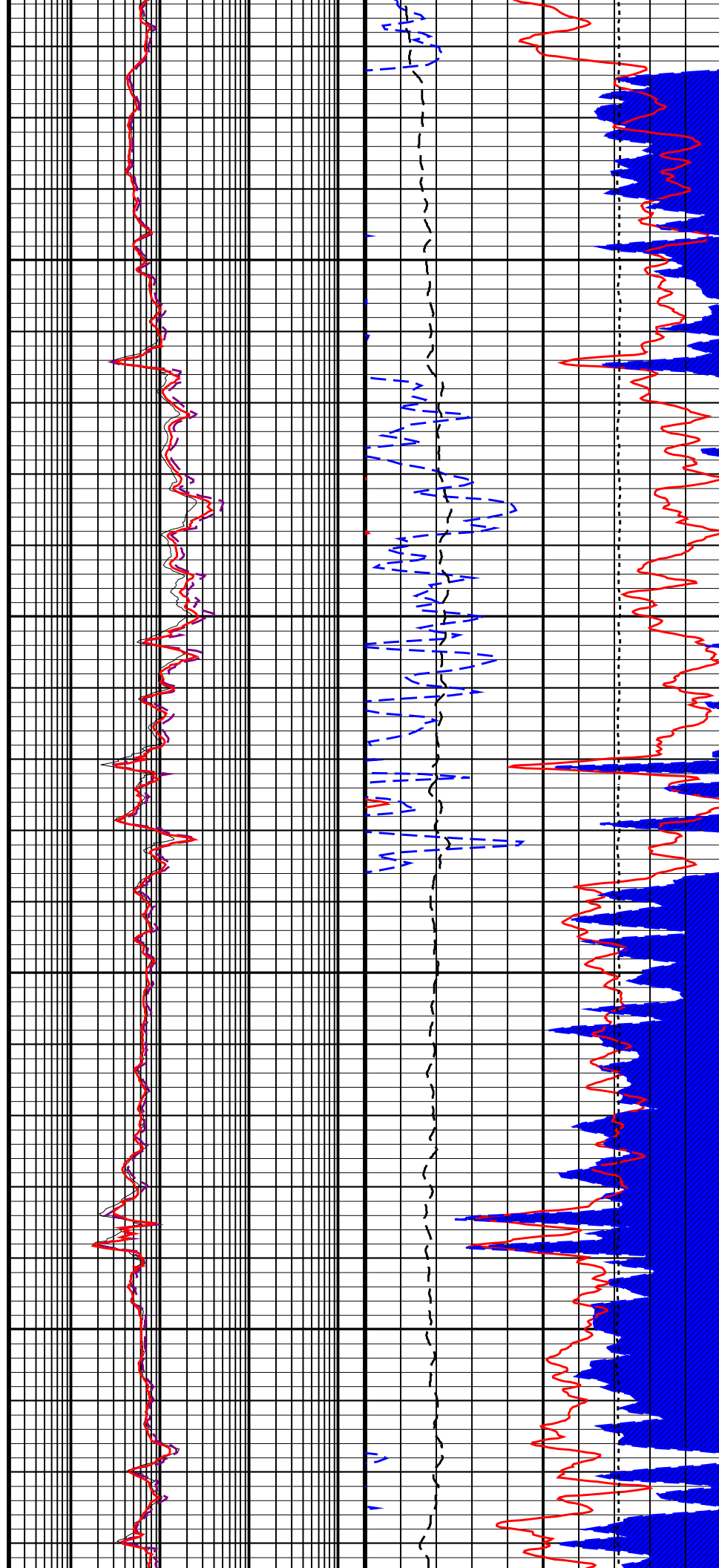
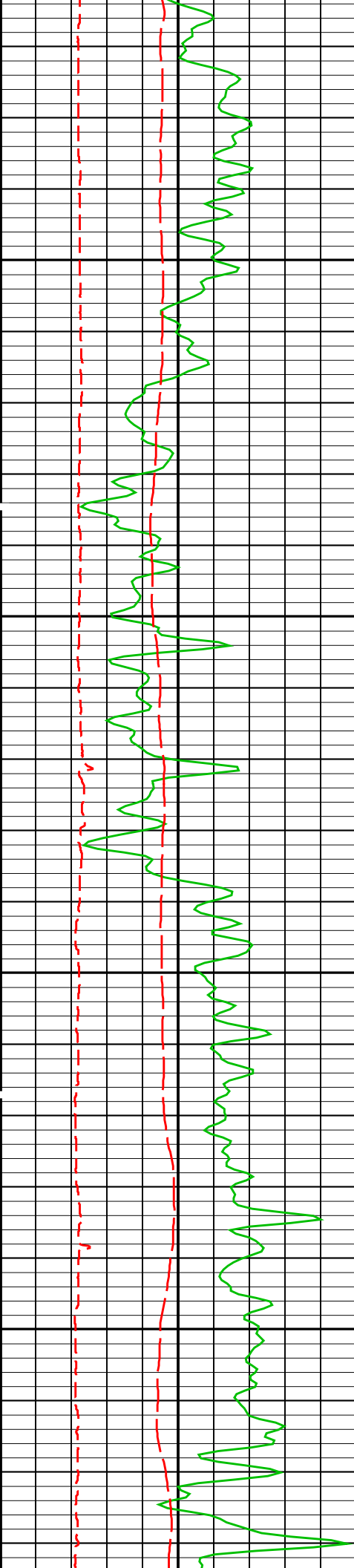


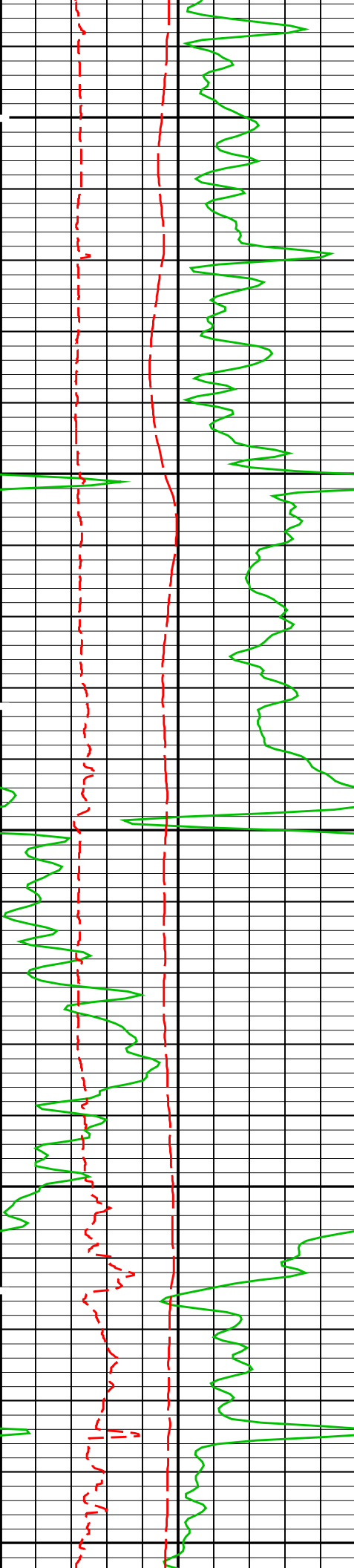


SS 2.65

7000

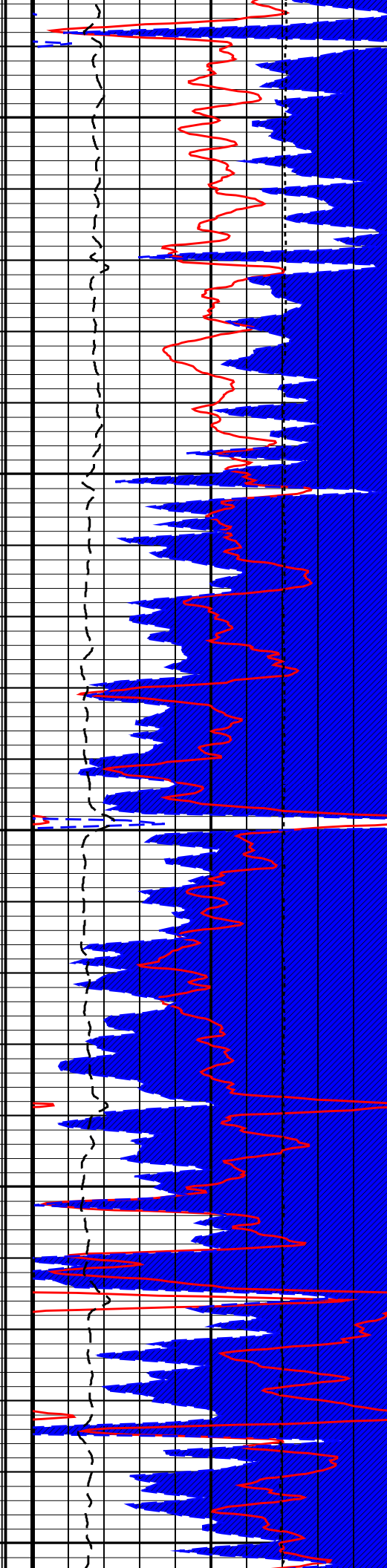
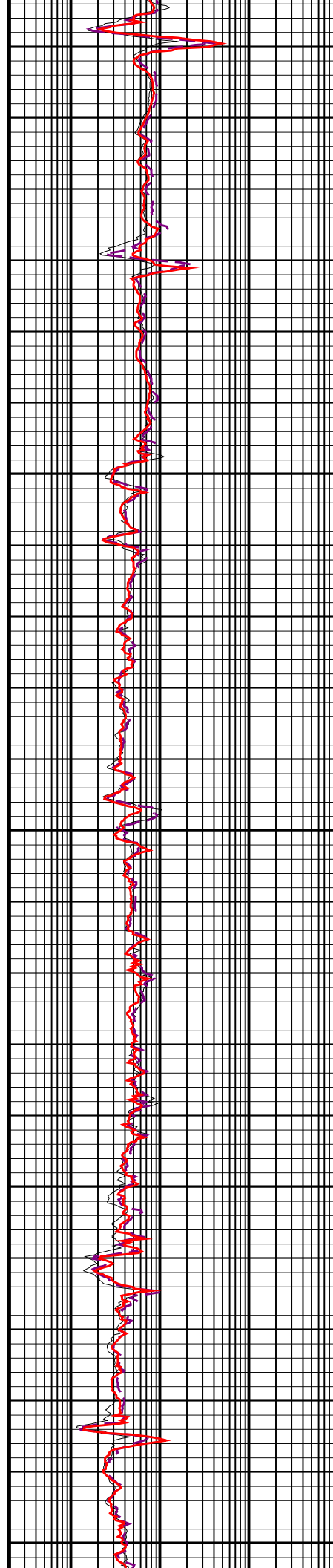
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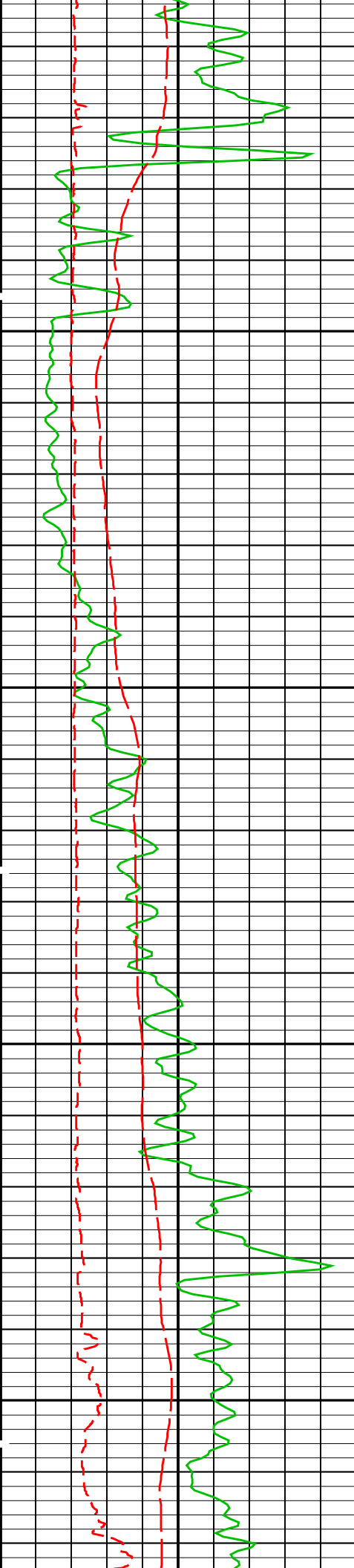




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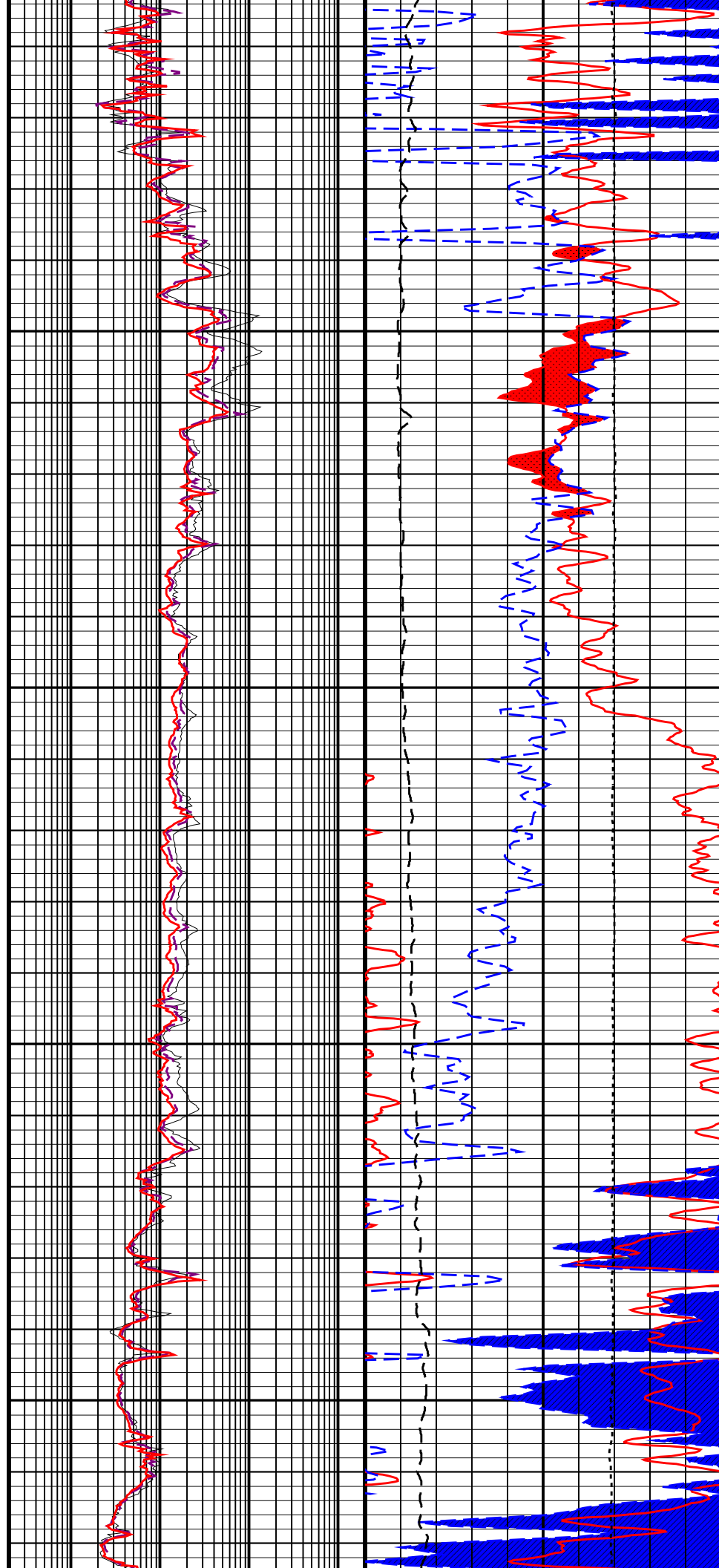
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7400

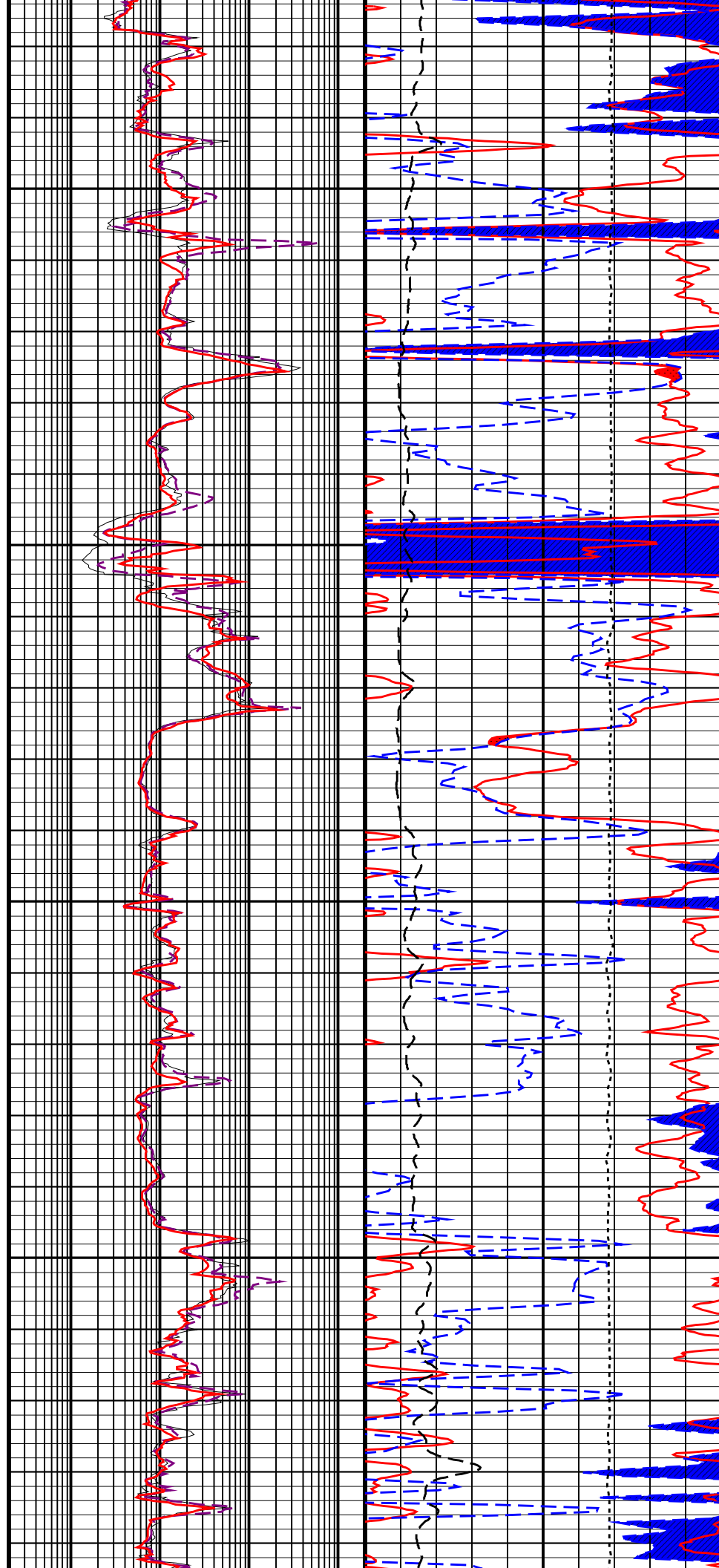
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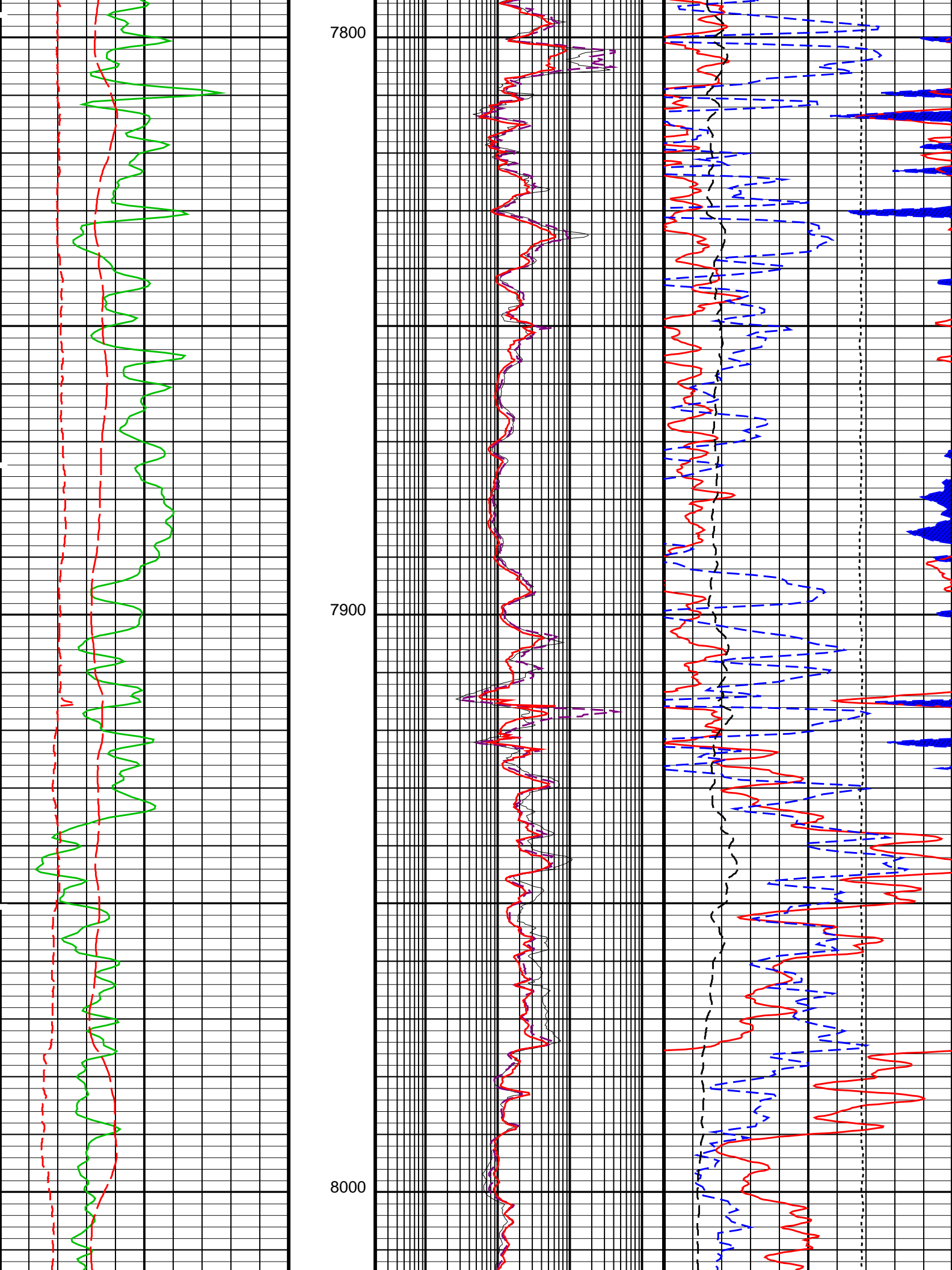


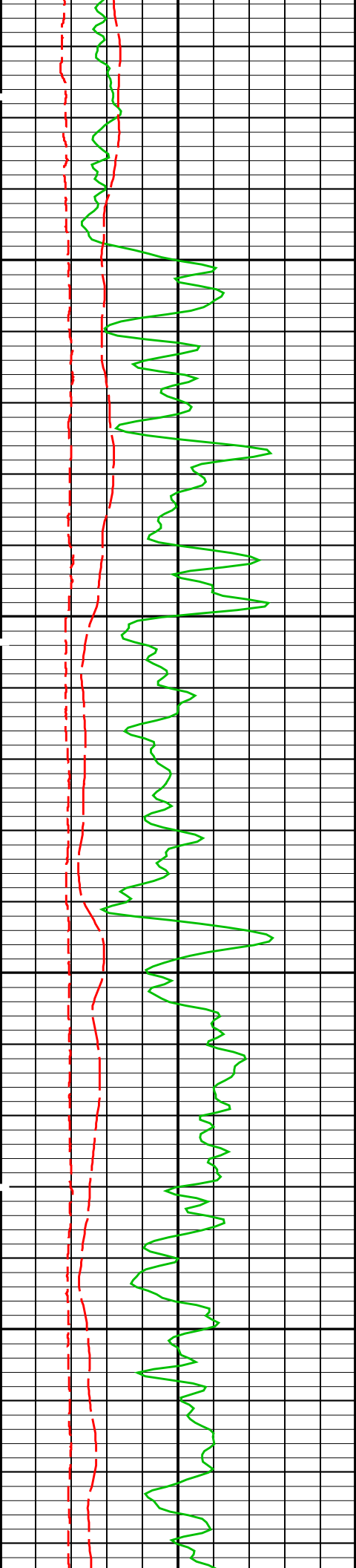


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7700

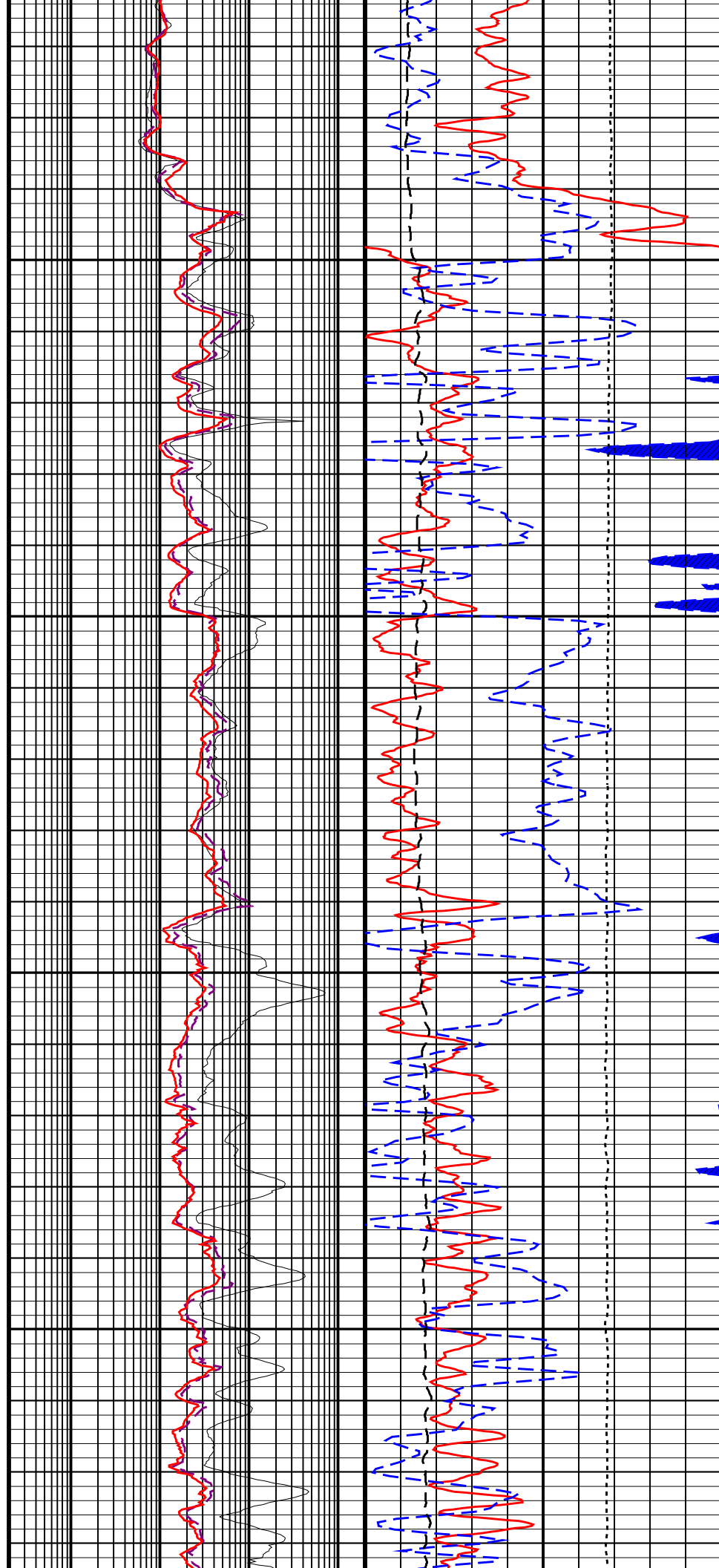


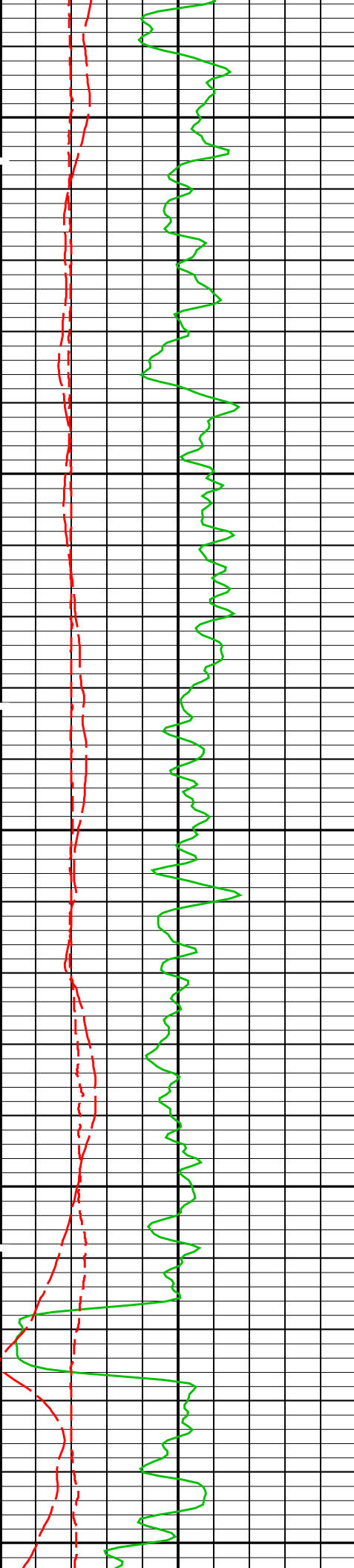




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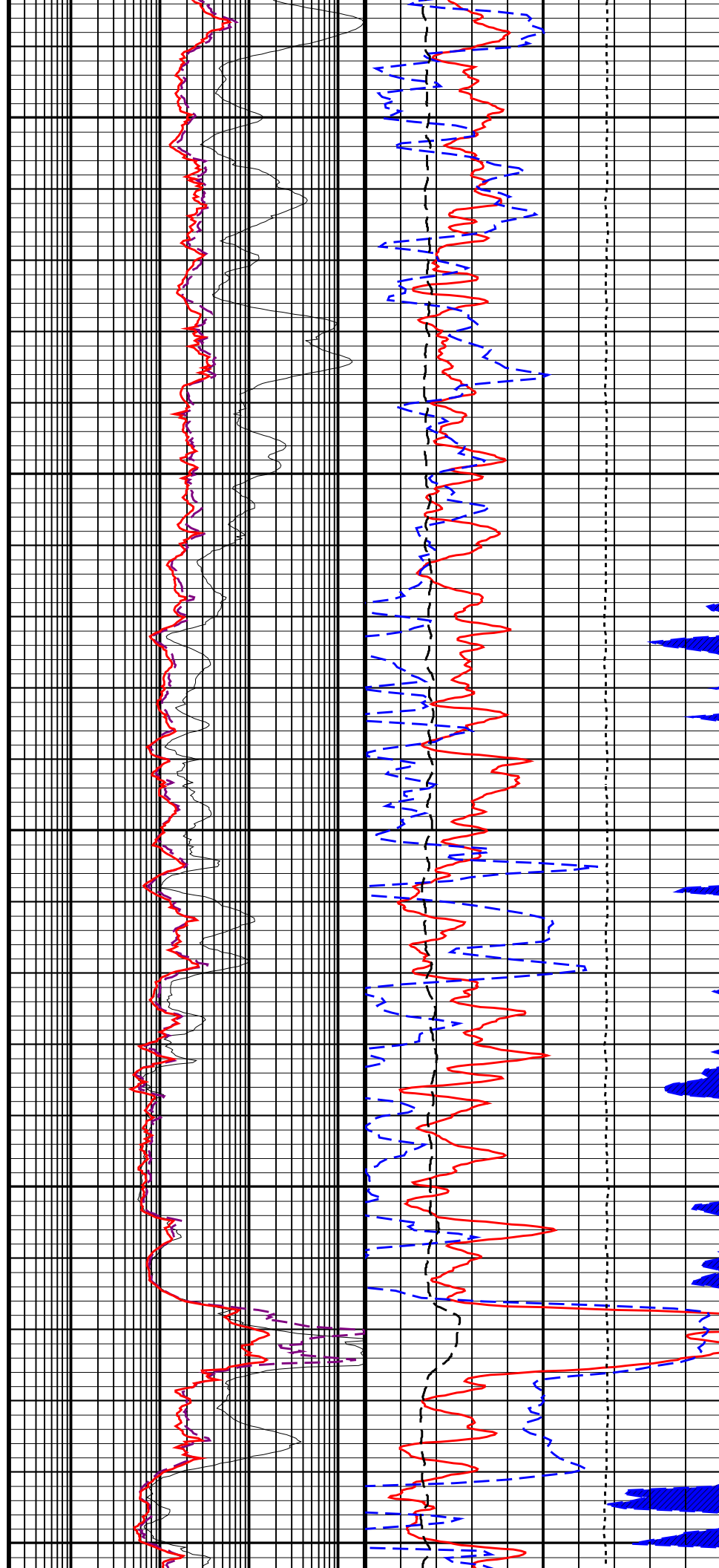
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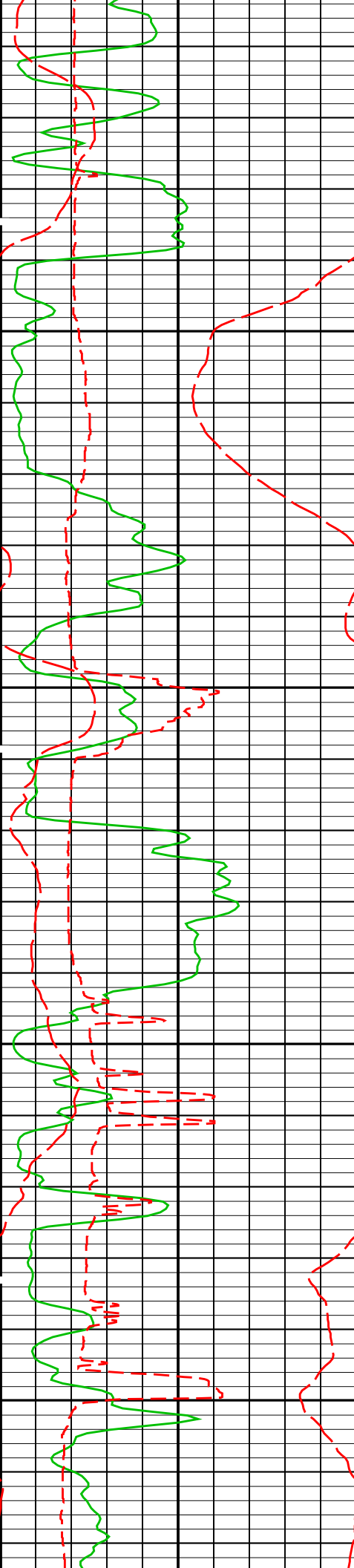




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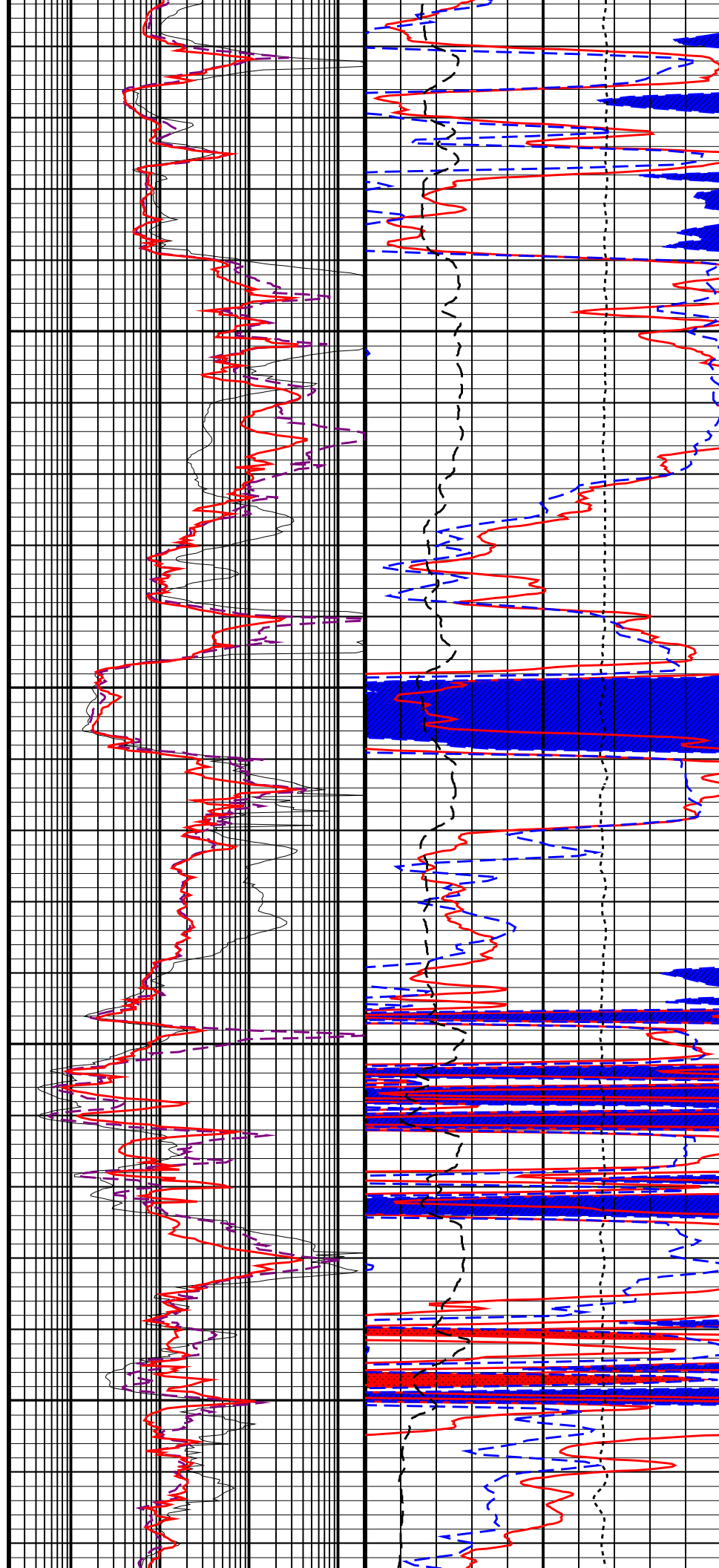
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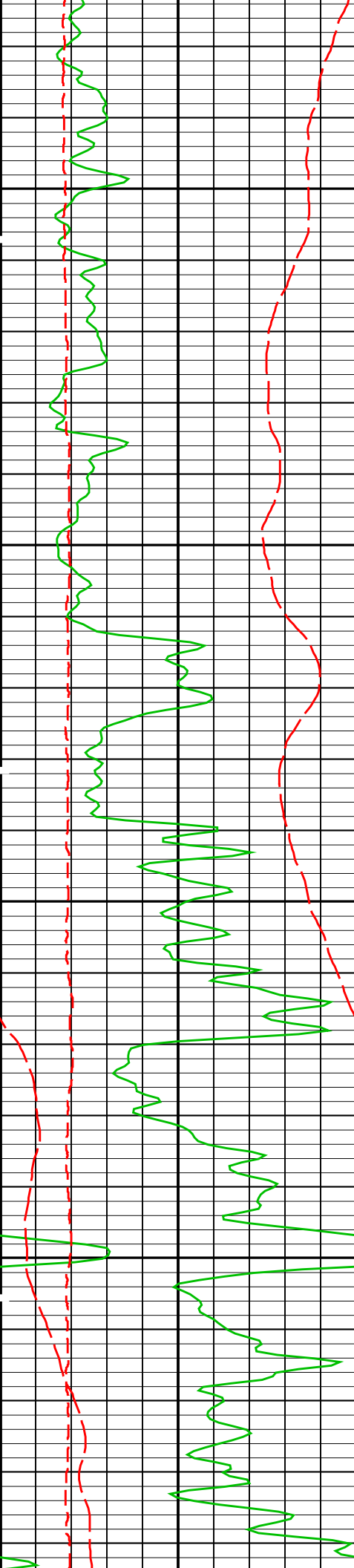




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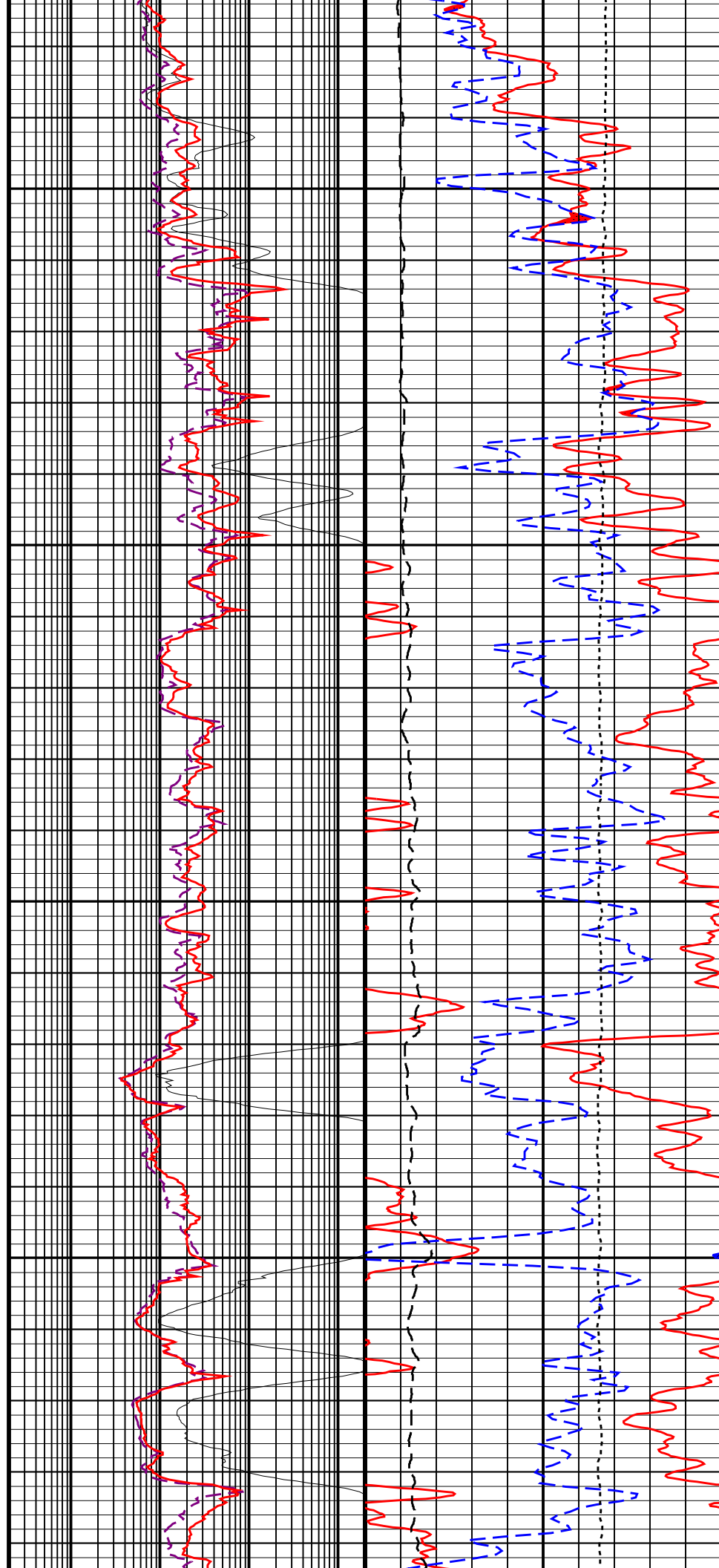
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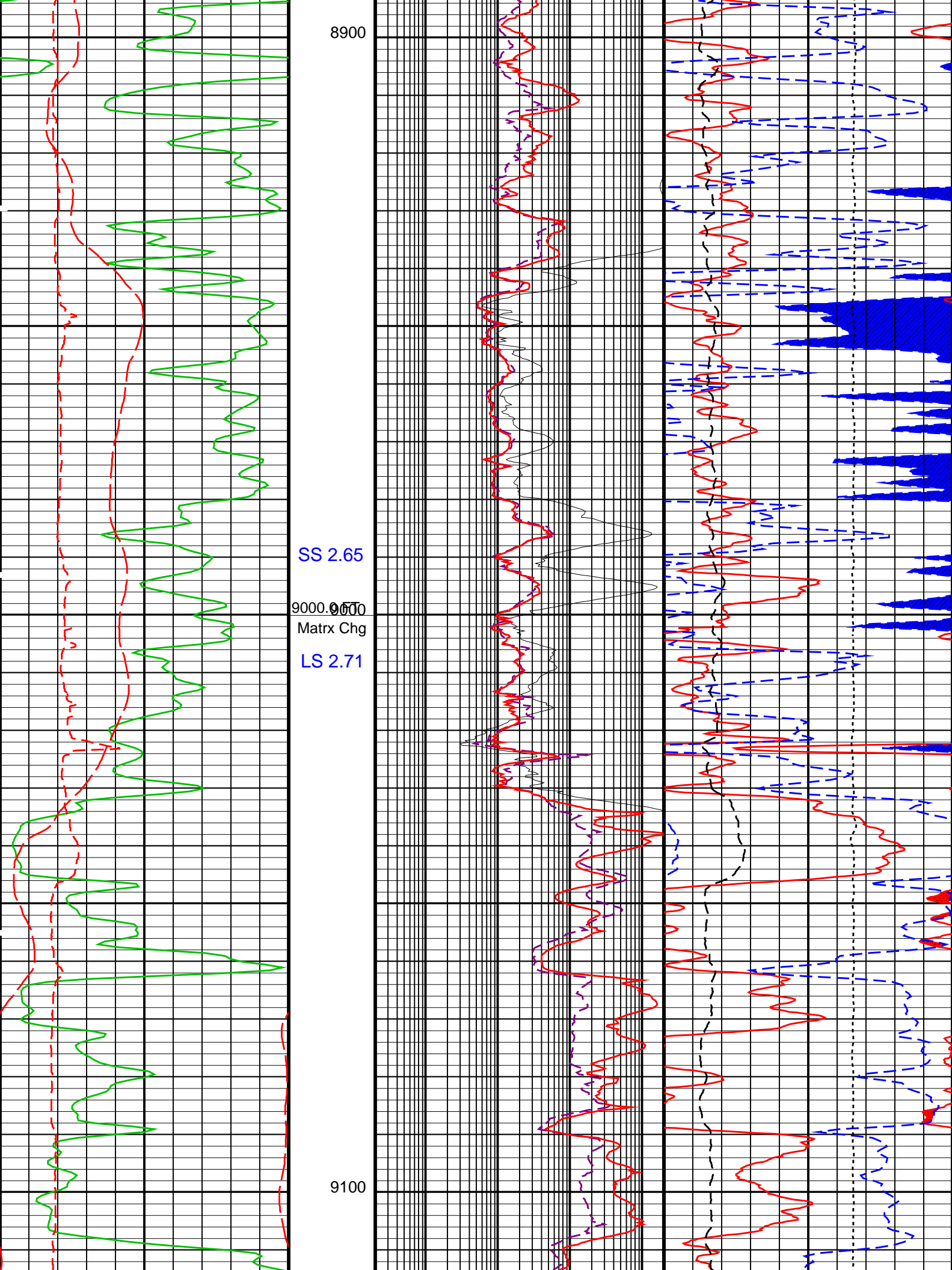


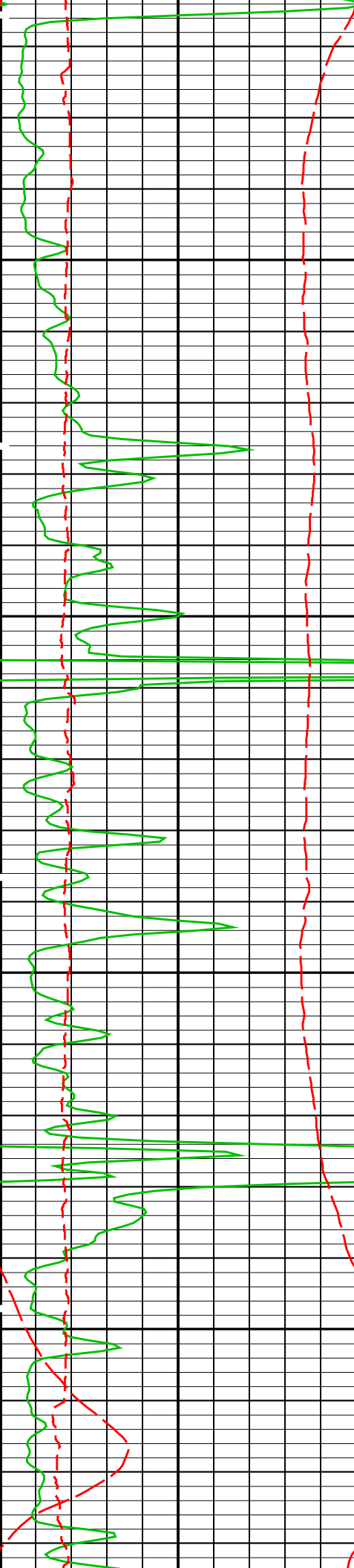


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8800

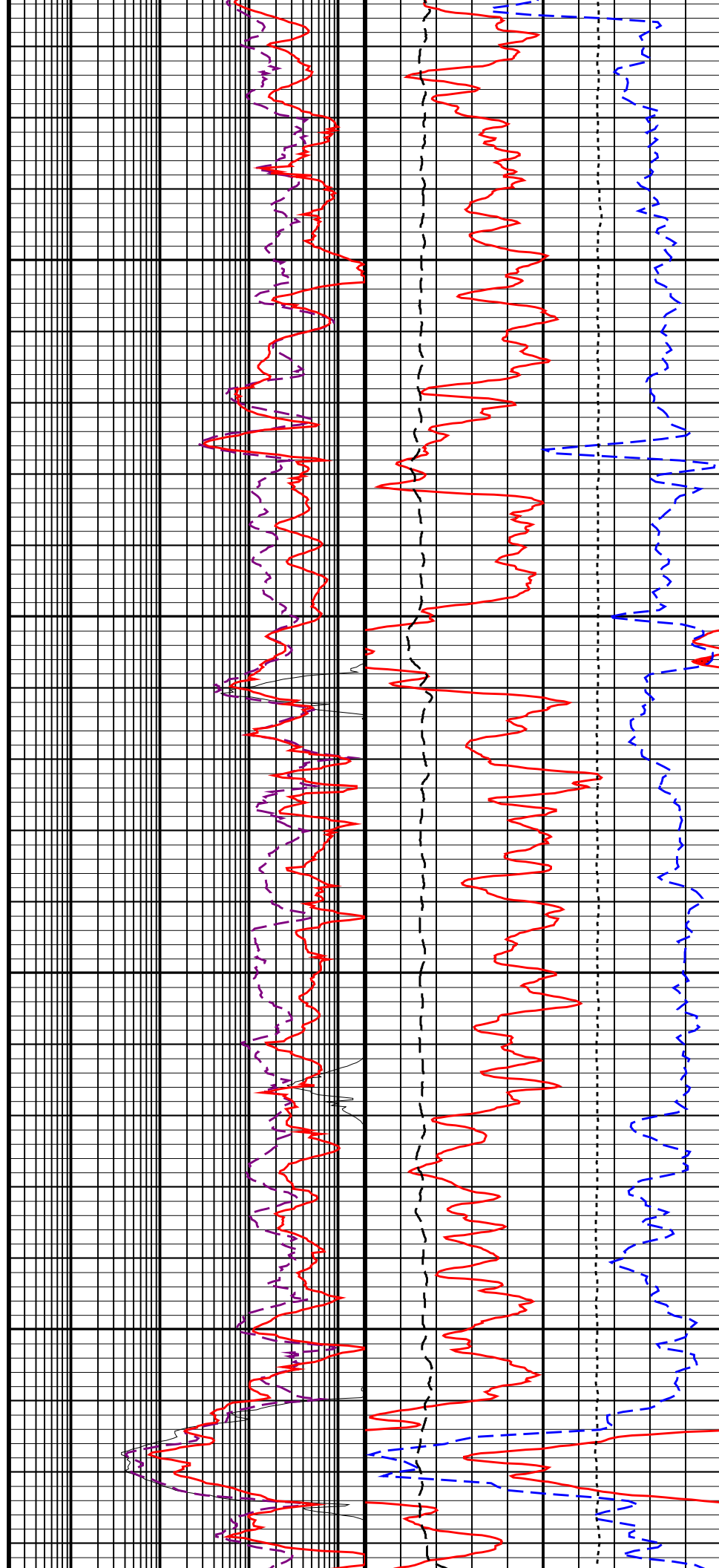


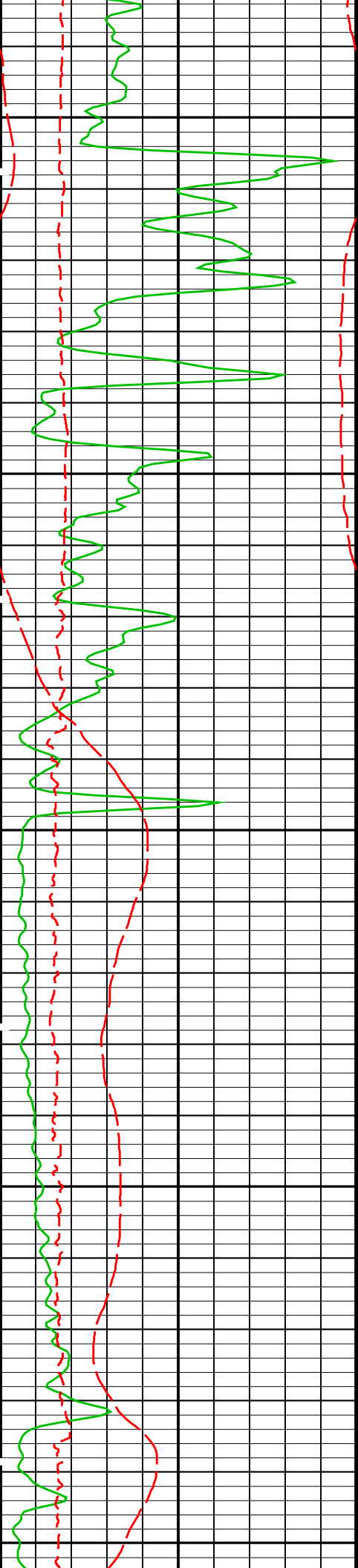




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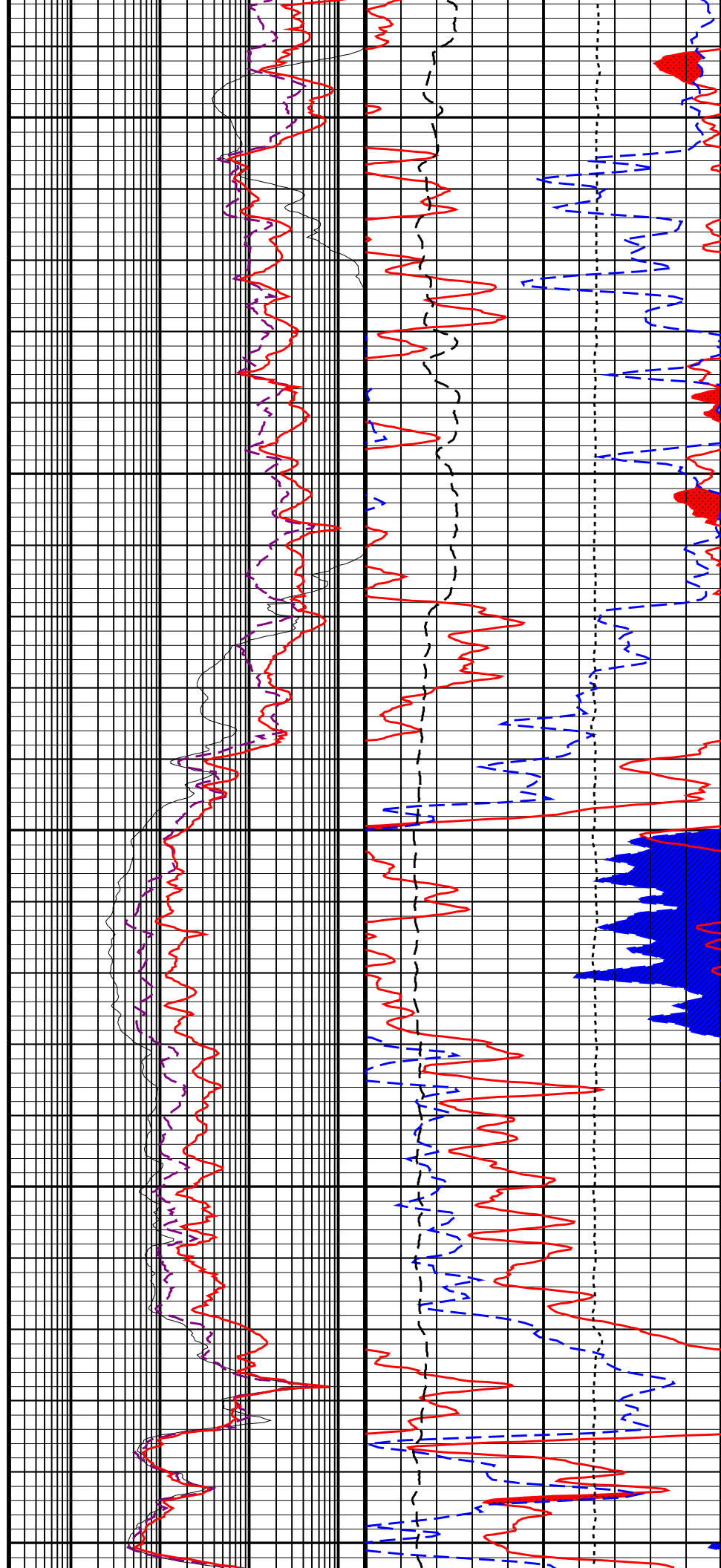
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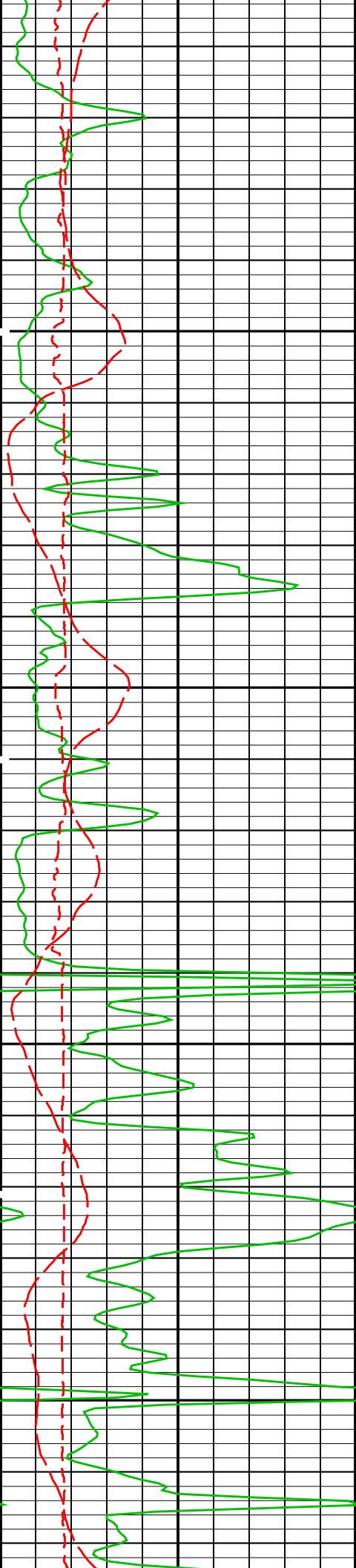




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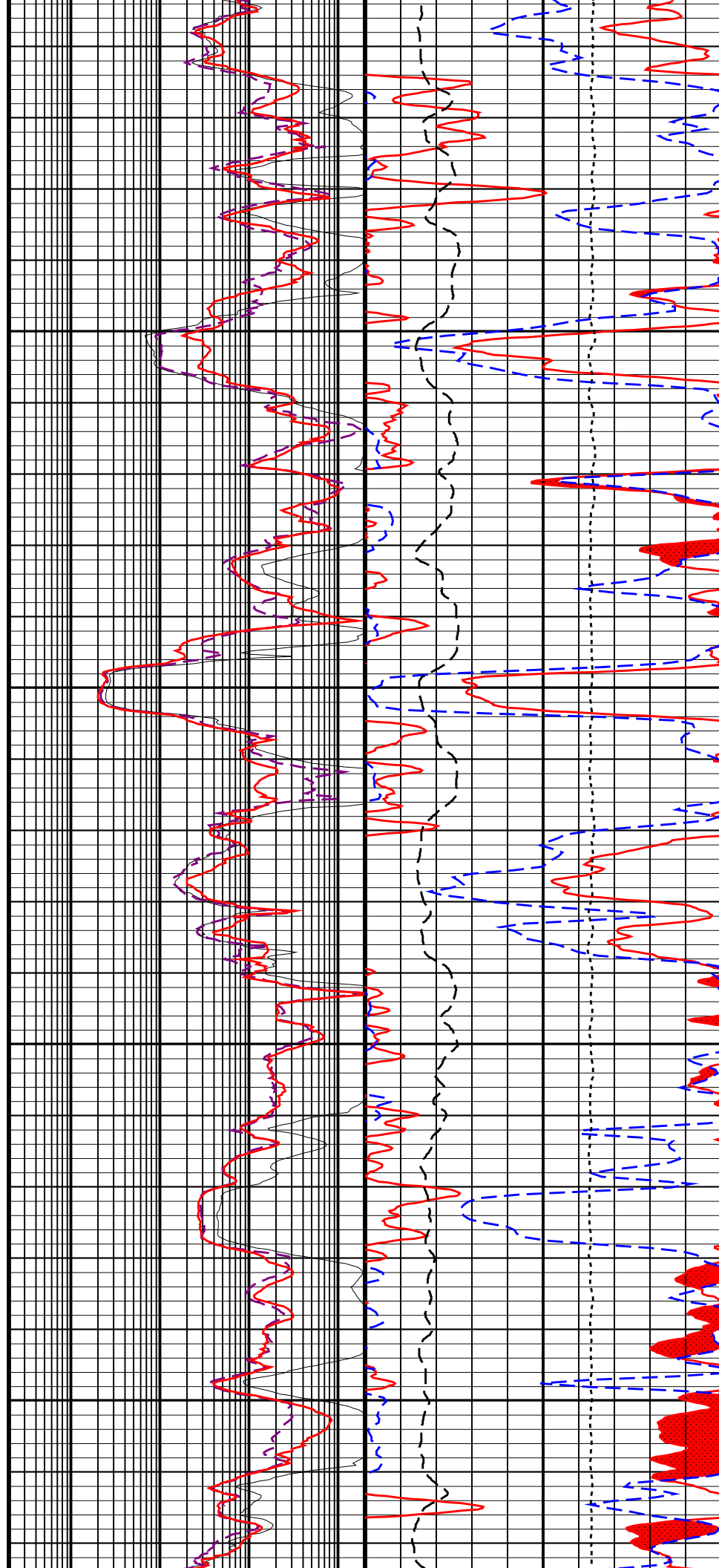
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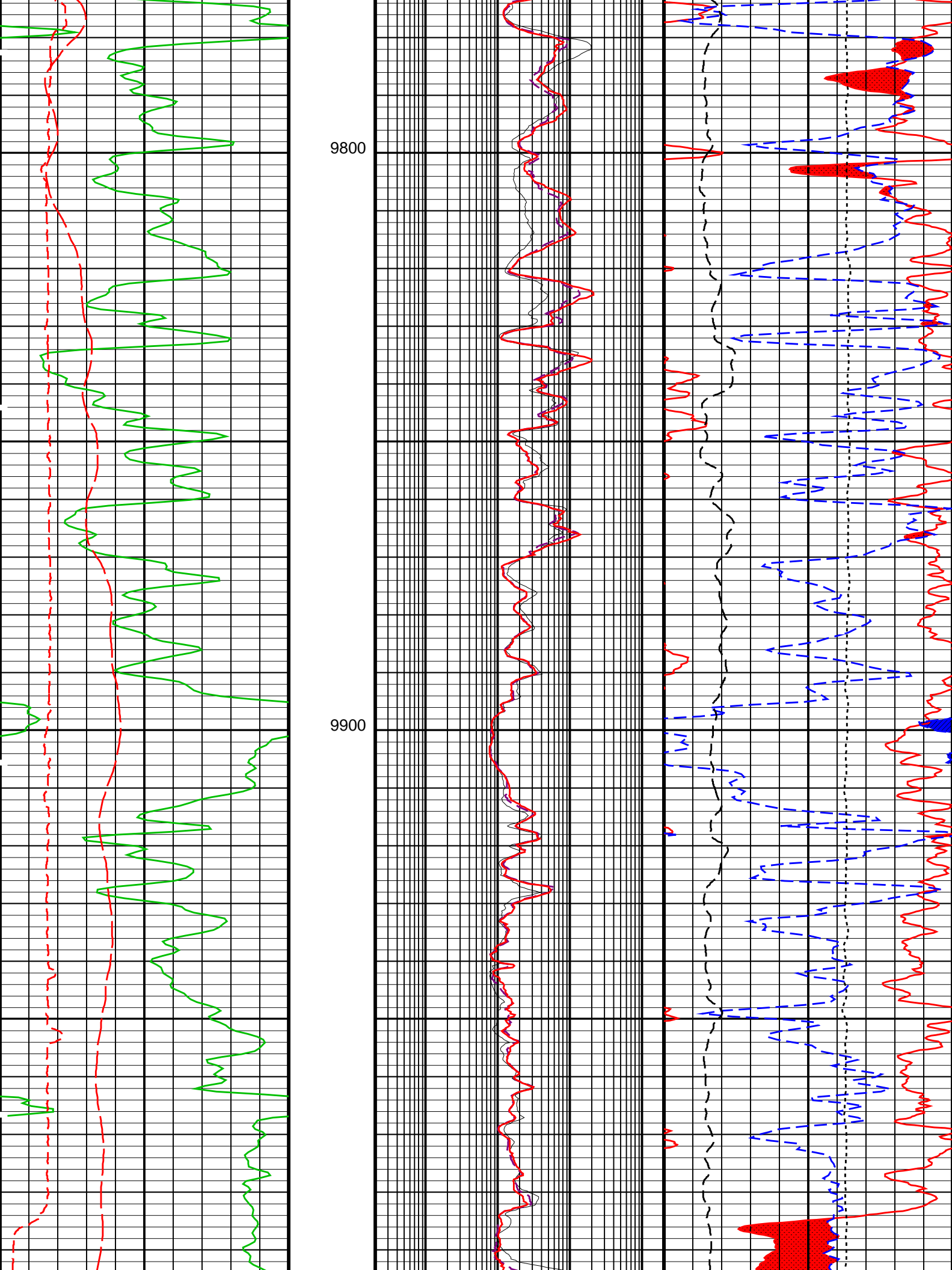


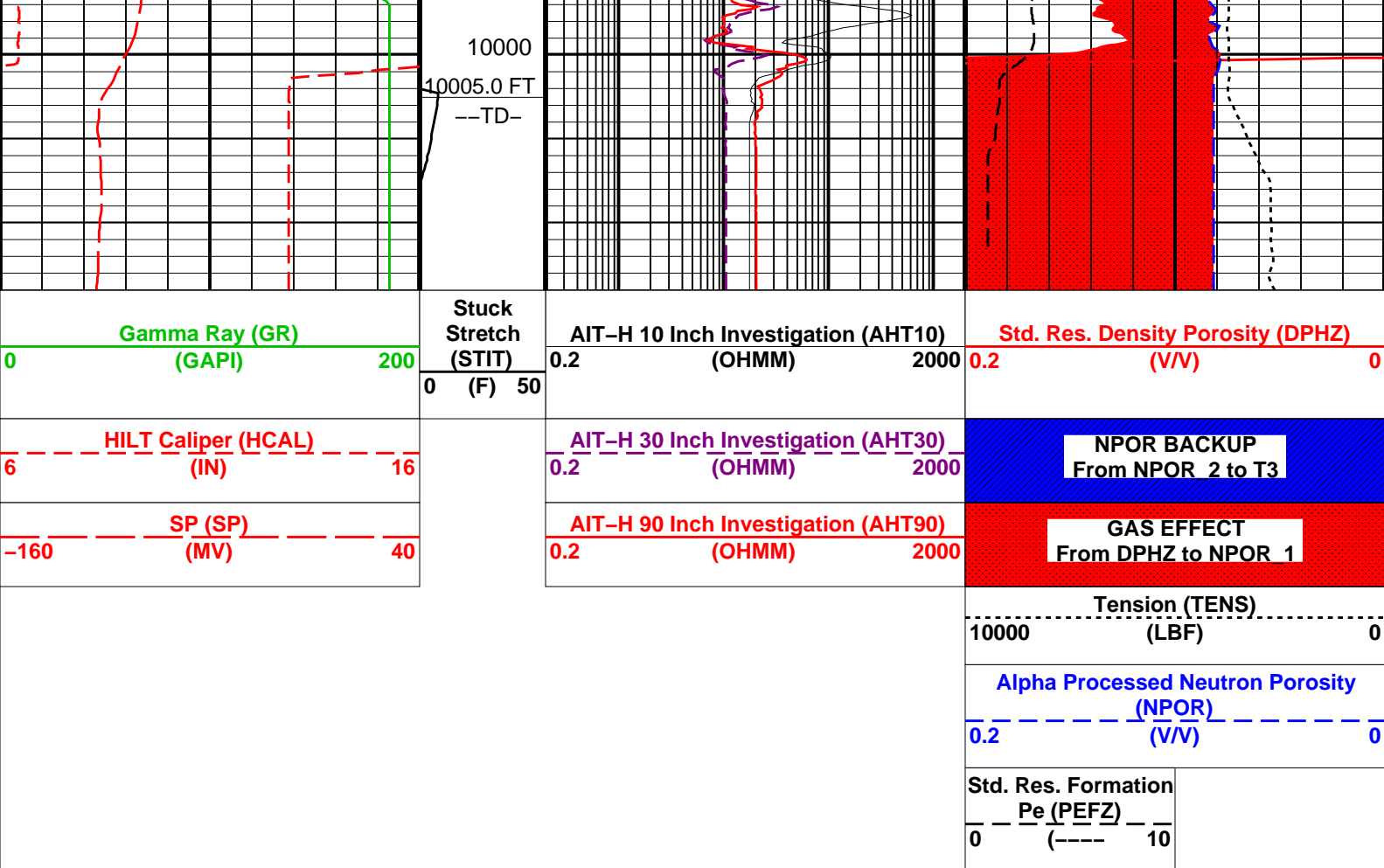


9600

9700







PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
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
BHFL	Borehole Fluid Type	WATER
BHFL_TLD	HILT Nuclear Mud Base	WATER
BHS	Borehole Status	OPEN
BHT	Bottom Hole Temperature (used in calculations)	212.0 degF
BSCO	Borehole Salinity Correction Option	NO
CCCO	Casing & Cement Thickness Correction Option	NO
DHC	Density Hole Correction	BS
DO	Depth Offset	2.0 ft
FD	Fluid Density	1.000 g/cm3
FEXP	Form Factor Exponent	2.000
FNUM	Form Factor Numerator	1.000
FSCO	Formation Salinity Correction Option	NO
GCLF	Germany Coal-like Formation Option	NO
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
HSCO	Hole Size Correction Option	YES
MATR	Rock Matrix for Neutron Porosity Corrections	SAND
MCCO	Mud Cake Correction Option	NO

MCOR	Mud Correction	NATU	2.650	g/cm3
MDEN	Matrix Density	NO		
MWCO	Mud Weight Correction Option	OFF		
NAAC	HRDD APS Activation Correction	NOBARITE		
NMT	HILT Nuclear Mud Type	STDRES		
NPRM	HRDD Processing Mode	1.000	in	
NSAR	HRDD Depth Sampling Rate	NO		
PTCO	Pressure/Temperature Correction Option	SOCN		
SDAT	Standoff Data Source	68.000	degF	
SHT	Surface Hole Temperature	0.125	in	
SOCN	Standoff Distance	YES		
SOCO	Standoff Correction Option	0.000	mV/ft	
SPDR	SP Drift	0.000	mV	
SPNV	SP Next Value			
ALLRES: Basic Resistivity Transforms				
DO	Depth Offset	2.0	ft	
STI: Stuck Tool Indicator				
DO	Depth Offset	2.0	ft	
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				
BHS	Borehole Status	OPEN		
BHT	Bottom Hole Temperature (used in calculations)	212.0	degF	
DO	Depth Offset	2.0	ft	
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		
MATR	Rock Matrix for Neutron Porosity Corrections	SAND		
SHT	Surface Hole Temperature	68.000	degF	
HOLEV: Integrated Hole/Cement Volume				
BHS	Borehole Status	OPEN		
BHT	Bottom Hole Temperature (used in calculations)	212.0	degF	
DO	Depth Offset	2.0	ft	
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		
MATR	Rock Matrix for Neutron Porosity Corrections	SAND		
SHT	Surface Hole Temperature	68.000	degF	
FEQL: Formation Evaluation Quick Look				
DO	Depth Offset	2.0	ft	
FEXP	Form Factor Exponent	2.000		
FNUM	Form Factor Numerator	1.000		
System and Miscellaneous				
BS	Bit Size	7.875	in	
BSAL	Borehole Salinity			
CSIZ	Current Casing Size	8.675	in	
CWEI	Casing Weight	24.000	lbm/ft	
DFD	Drilling Fluid Density	9.300	lbm/gal	
DO	Depth Offset	2.0	ft	
FLEV	Fluid Level			
FSAL	Formation Salinity			
MST	Mud Sample Temperature	238.0	degF	
RMFS	Resistivity of Mud Filtrate Sample	0.124	ohm.m	
TD	Total Depth	10005.0	ft	

Format: COMBO Vertical Scale: 5" per 100' Graphics File Created: 09-Jan-2009 21:39

OP System Version: 15C0-309

MCM

HILTC 15C0-309

Input DLIS Files

DEFAULT AIT_TLD_MCFL_CNL_014LUP FN:12 PRODUCER 09-Jan-2009 19:25 10026.0 FT 495.5 FT

Schlumberger

REPEAT ANALYSIS

Company: Conquest Oil Co. Well: SWD 1-8B

Input DLIS Files

DEFAULT AIT_TLD_MCFL_CNL_012PUP FN:10 PRODUCER 09-Jan-2009 18:35 10027.0 FT 9048.5 FT

Output DLIS Files

DEFAULT AIT_TLD_MCFL_CNL_014LUP FN:12 PRODUCER 09-Jan-2009 19:25 10026.0 FT 0.0 FT

OP System Version: 15C0-309
MCM

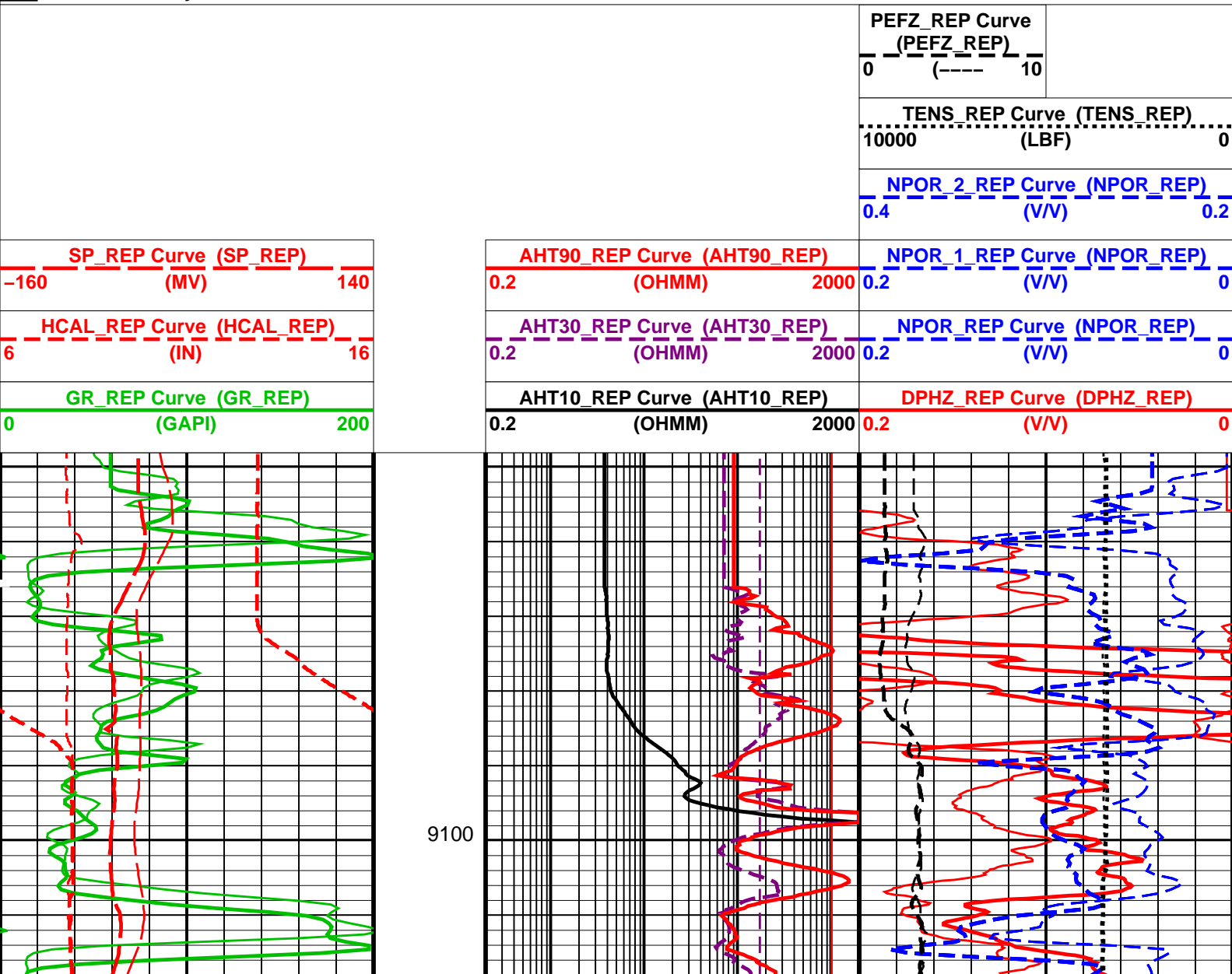
HILTB-CTS 15C0-309

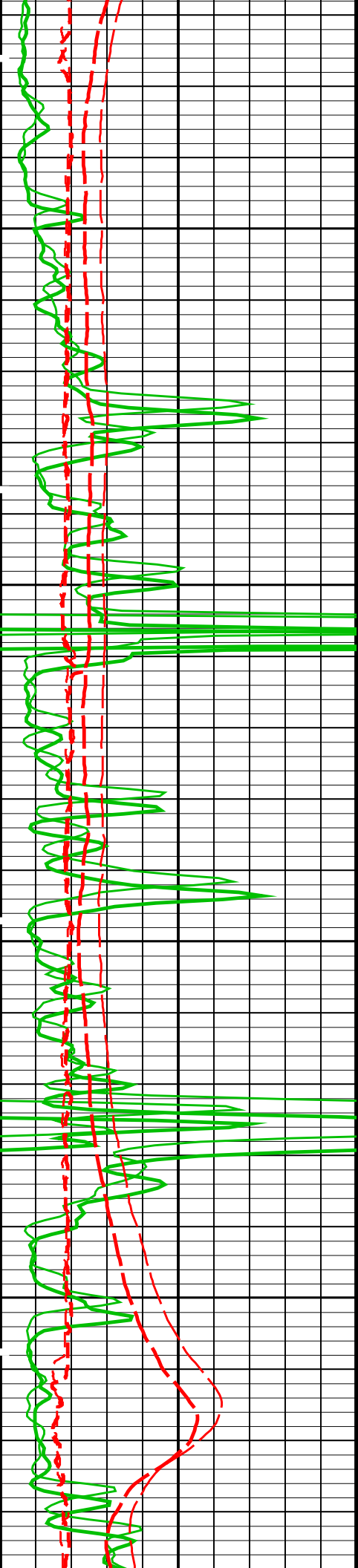
Changed Parameter Summary

DLIS Name	New Value	Previous Value	Depth & Time
MATR	LIMESTONE	SANDSTONE	10026.0 19:33:21
MDEN	2.71 G/C3	2.65 G/C3	10026.0 19:33:21

PIP SUMMARY

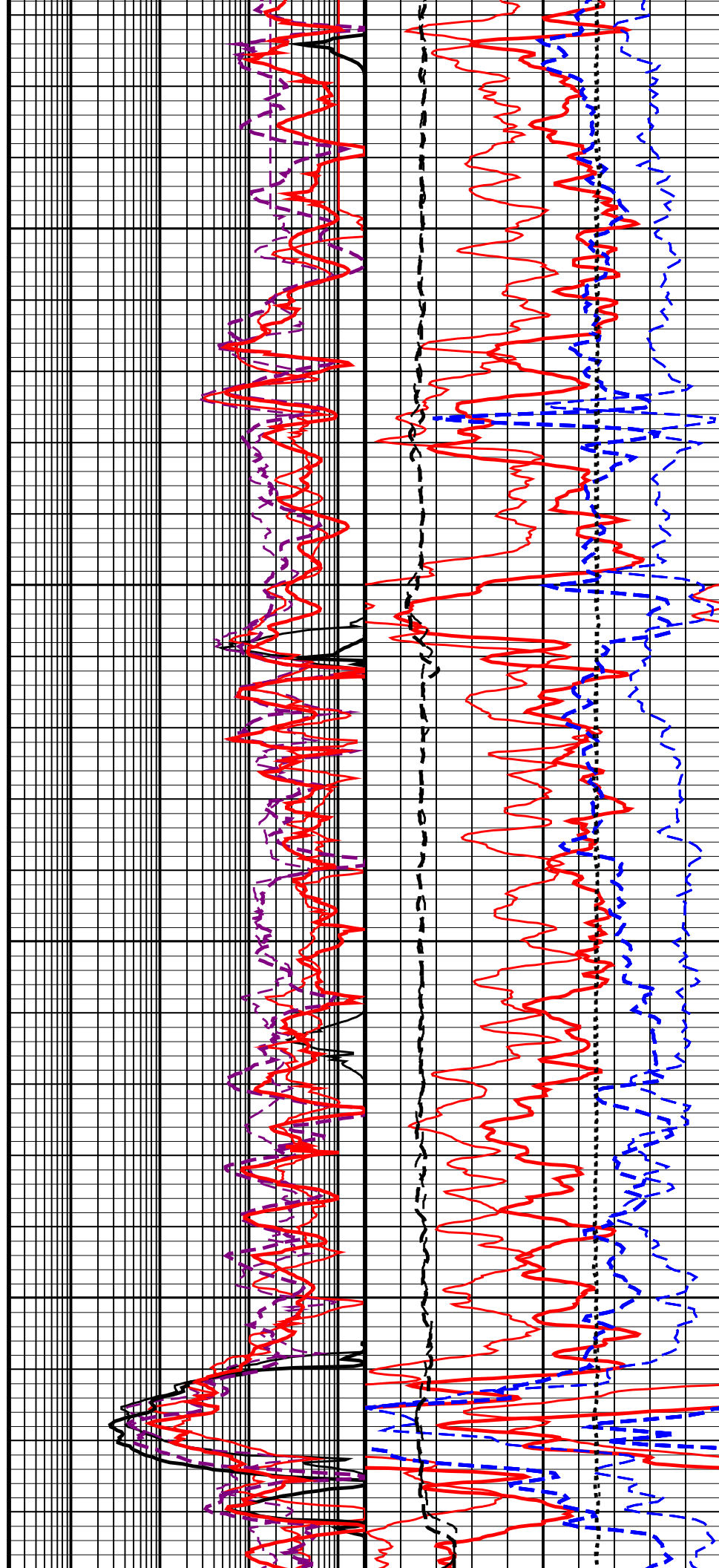
Time Mark Every 60 S

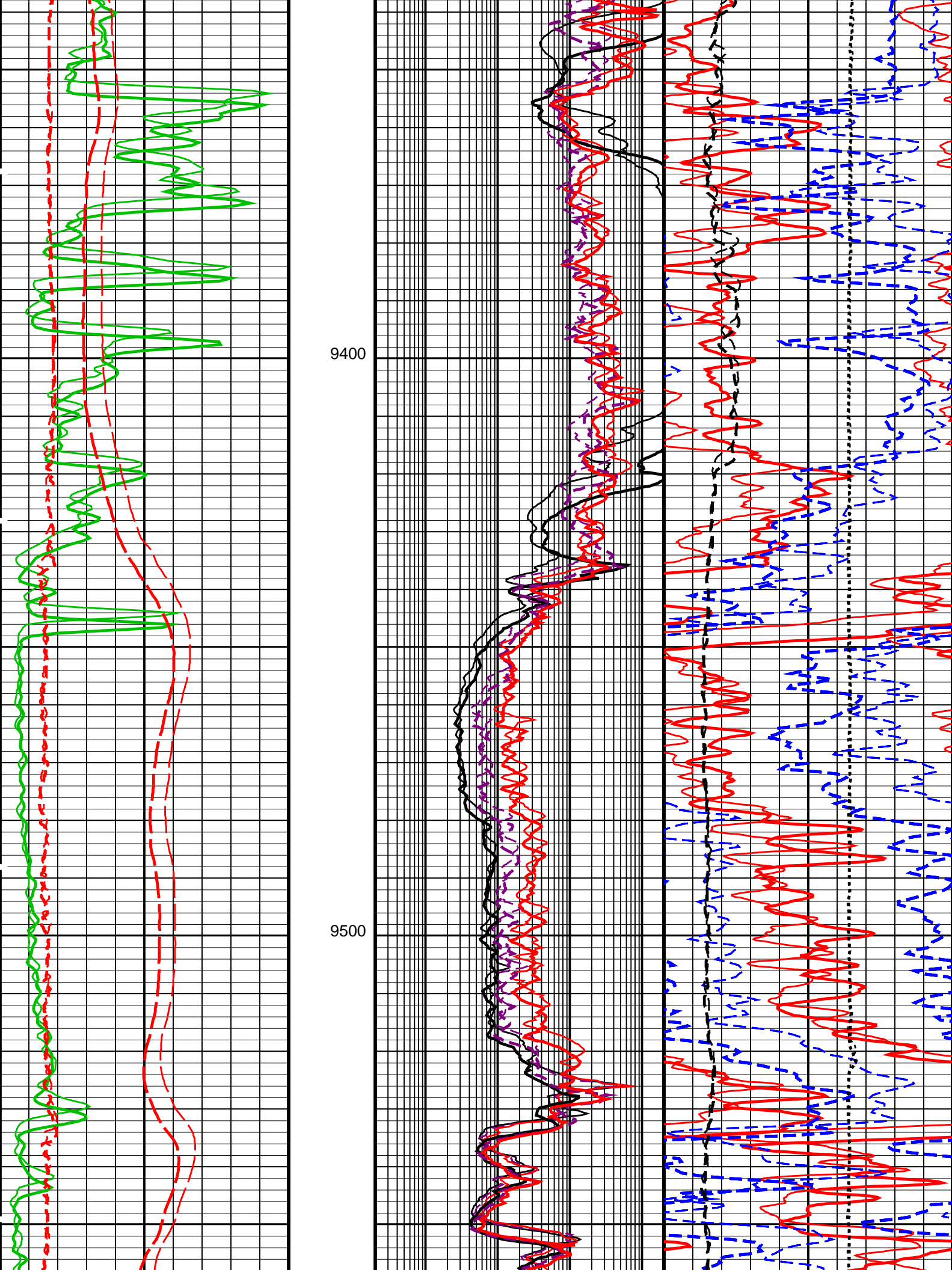


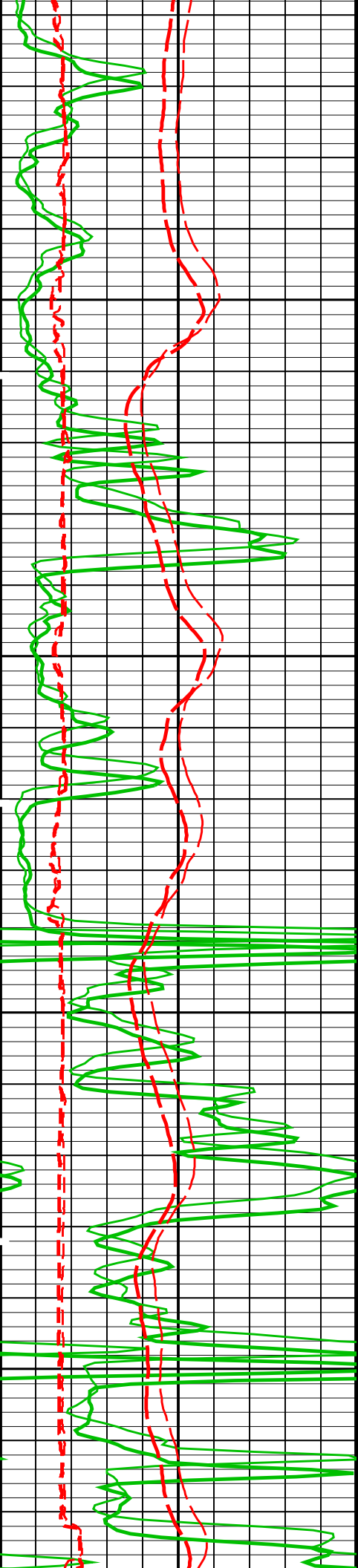


9200

9300

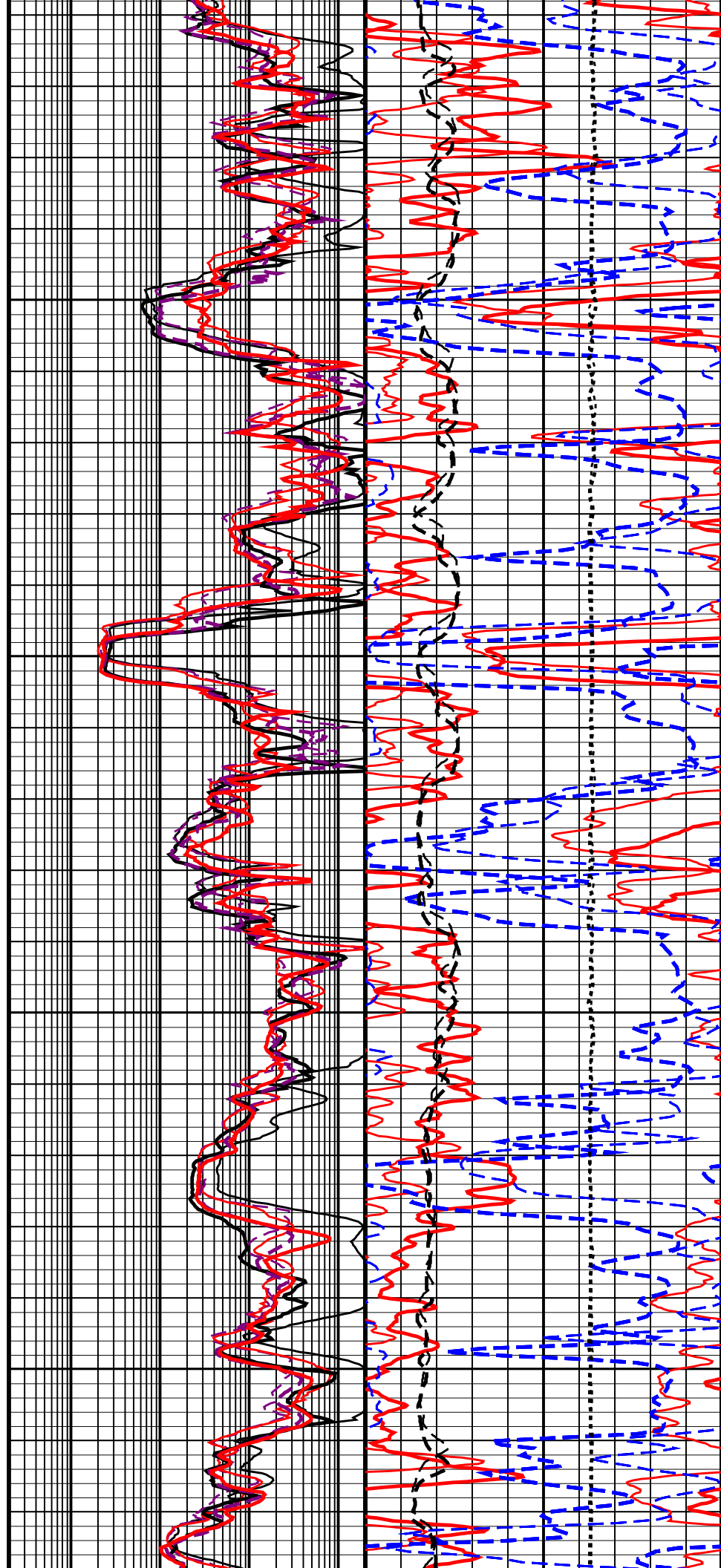






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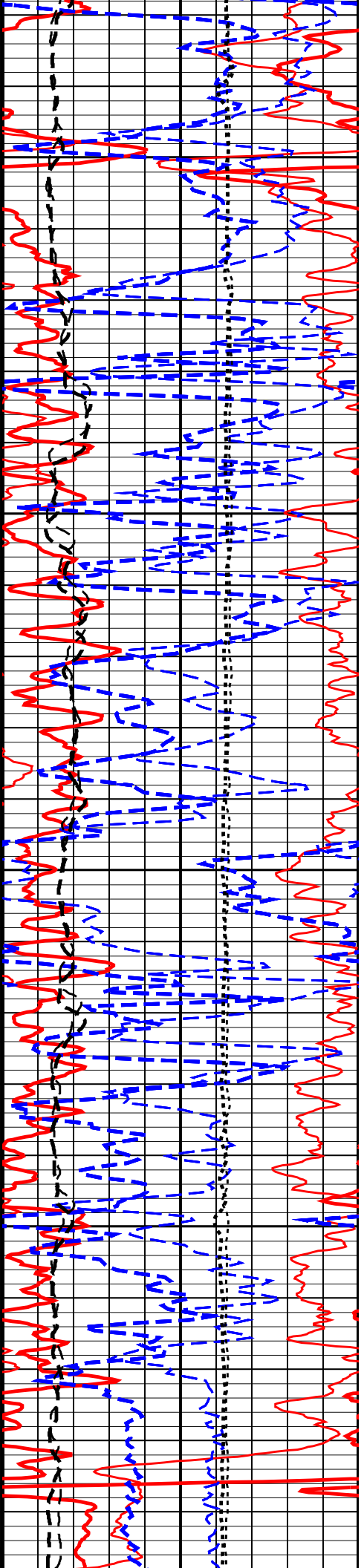
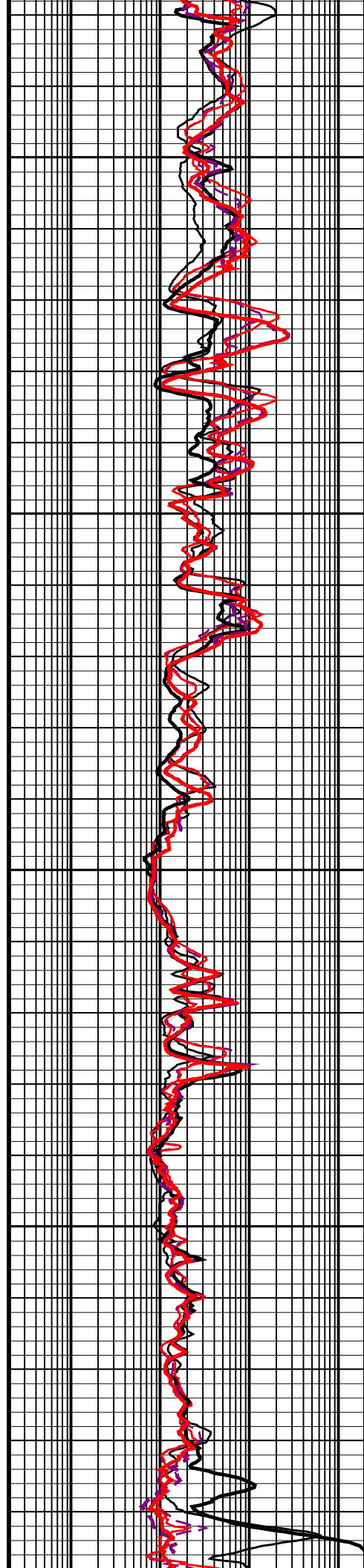
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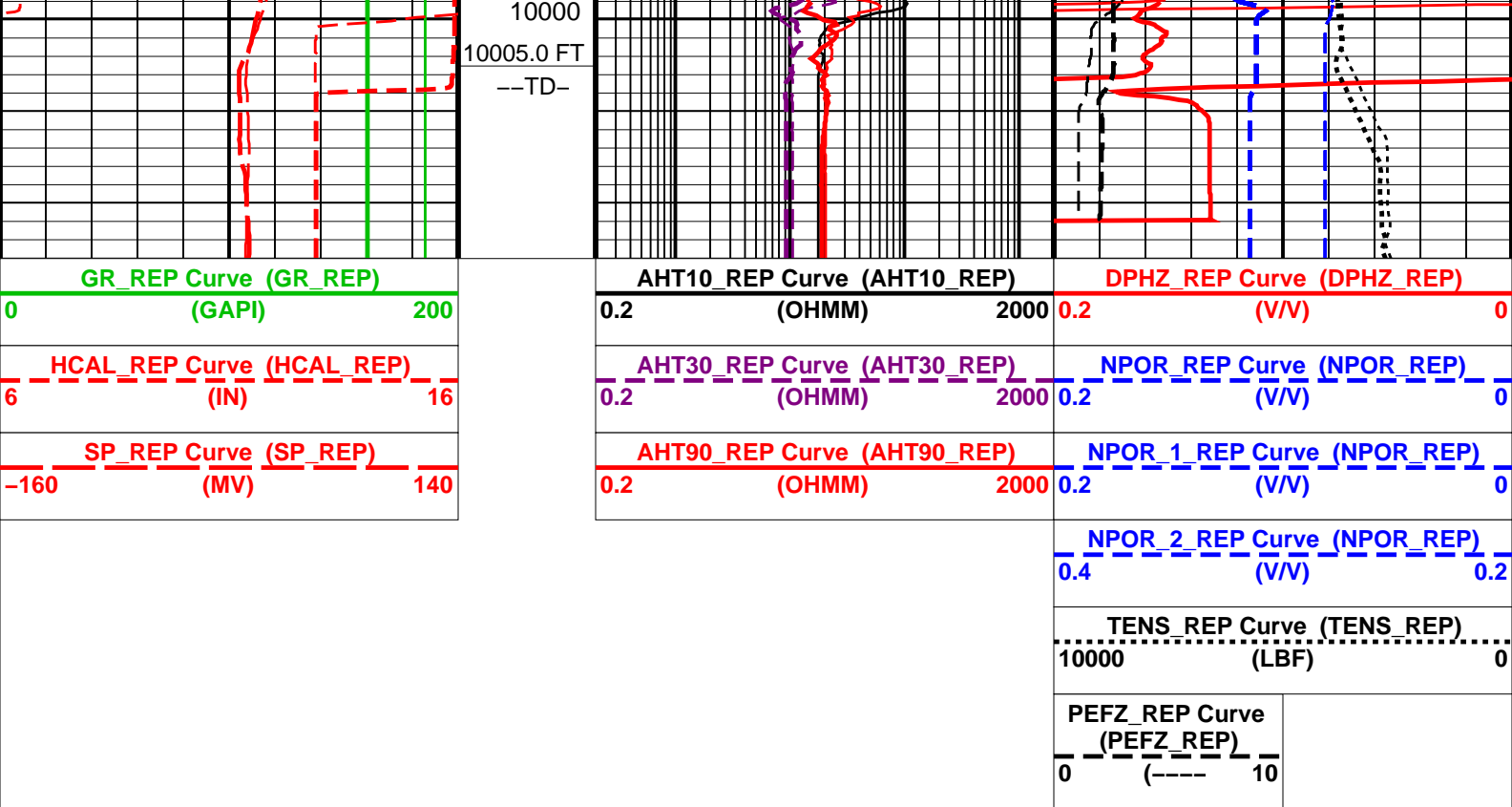




9800

9900





PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
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
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
AHSTA	Array Induction Tool Standoff	0.125 IN
AHTRSV	Array Induction Response Set Version for Two ft Resolution	41.70.24.20
BHFL	Borehole Fluid Type	WATER
BHFL_TLD	HILT Nuclear Mud Base	WATER
BHS	Borehole Status	OPEN
BHT	Bottom Hole Temperature (used in calculations)	212 DEGF
BSCO	Borehole Salinity Correction Option	NO
CCCO	Casing & Cement Thickness Correction Option	NO
DHC	Density Hole Correction	BS
FD	Fluid Density	1 G/C3
FEXP	Form Factor Exponent	2
FNUM	Form Factor Numerator	1
FSAL	Formation Salinity	-50000 PPM
FSCO	Formation Salinity Correction Option	NO
GCLF	Germany Coal-like Formation Option	NO
GCSE	Generalized Caliper Selection	HCAL
GDEV	Average Angular Deviation of Borehole from Normal	0 DEG
GGRD	Geothermal Gradient	0.01 DF/F
GRSE	Generalized Mud Resistivity Selection	AITH_RESIST
GTSE	Generalized Temperature Selection	HSTS_HTEM
HSCO	Hole Size Correction Option	YES
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE
MCCO	Mud Cake Correction Option	NO
MCOR	Mud Correction	NATU
MDEN	Matrix Density	2.65 G/C3
MWCO	Mud Weight Correction Option	NO
NAAC	HRDD APS Activation Correction	OFF
NMT	HILT Nuclear Mud Type	NOBARITE
NPRM	HRDD Processing Mode	StdRes
NSAR	HRDD Depth Sampling Rate	1 IN

PTCO	Pressure/Temperature Correction Option	NO	
SDAT	Standoff Data Source	SOCN	
SHT	Surface Hole Temperature	68	DEGF
SOCN	Standoff Distance	0.125	IN
SOCO	Standoff Correction Option	YES	
SPNV	SP Next Value	0	MV
STI: Stuck Tool Indicator			
TDL	Total Depth – Logger	10005.00	FT
PERT: Preliminary Evaluation – Real Time			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	212	DEGF
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITH_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
SHT	Surface Hole Temperature	68	DEGF
HOLEV: Integrated Hole/Cement Volume			
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	212	DEGF
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.01	DF/F
GRSE	Generalized Mud Resistivity Selection	AITH_RESIST	
GTSE	Generalized Temperature Selection	HSTS_HTEM	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
SHT	Surface Hole Temperature	68	DEGF
FEQL: Formation Evaluation Quick Look			
FEXP	Form Factor Exponent	2	
FNUM	Form Factor Numerator	1	
System and Miscellaneous			
BS	Bit Size	7.875	IN
BSAL	Borehole Salinity	-50000.00	PPM
CSIZ	Current Casing Size	8.675	IN
CWEI	Casing Weight	24.00	LB/F
DFD	Drilling Fluid Density	9.30	LB/G
DORL	Depth Offset for Repeat Analysis	0.0	FT
FLEV	Fluid Level	-50000.00	FT
MST	Mud Sample Temperature	238.00	DEGF
RMFS	Resistivity of Mud Filtrate Sample	0.1240	OHMM
TD	Total Depth	10005	FT

Format: COMBO_REP Vertical Scale: 5" per 100' Graphics File Created: 09-Jan-2009 19:25

OP System Version: 15C0-309

MCM

HILTB-CTS 15C0-309

Input DLIS Files

DEFAULT AIT_TLD_MCFL_CNL_012PUP FN:10 PRODUCER 09-Jan-2009 18:35 10027.0 FT 9048.5 FT

Output DLIS Files

DEFAULT AIT_TLD_MCFL_CNL_014LUP FN:12 PRODUCER 09-Jan-2009 19:25

Schlumberger

BEFORE CALIBRATIONS

MAXIS Field Log

Measurement	Nominal	Master	Before	After	Change	Limit	Units
High resolution Integrated Logging Tool–CTS Wellsite Calibration – Electronics Calibration Check – Thru Cal Mag. & Phase							
Master: 16–Dec–2008 16:21 Before: 9–Jan–2009 7:38							
Thru Cal Magnitude – 0	0	0.6203	0.6198	N/A	N/A	N/A	V
Thru Cal Magnitude – 1	0	1.273	1.272	N/A	N/A	N/A	V
Thru Cal Magnitude – 2	0	0.6299	0.6296	N/A	N/A	N/A	V
Thru Cal Magnitude – 3	0	0.7129	0.7124	N/A	N/A	N/A	V
Thru Cal Magnitude – 4	0	1.333	1.332	N/A	N/A	N/A	V
Thru Cal Magnitude – 5	0	1.928	1.927	N/A	N/A	N/A	V
Thru Cal Magnitude – 6	0	1.931	1.930	N/A	N/A	N/A	V
Thru Cal Magnitude – 7	0	1.358	1.357	N/A	N/A	N/A	V
Phase – 0	0	69.31	69.52	N/A	N/A	N/A	DEG
Phase – 1	0	68.33	68.53	N/A	N/A	N/A	DEG
Phase – 2	0	64.30	64.49	N/A	N/A	N/A	DEG
Phase – 3	0	63.43	63.63	N/A	N/A	N/A	DEG
Phase – 4	0	56.73	56.92	N/A	N/A	N/A	DEG
Phase – 5	0	54.63	54.81	N/A	N/A	N/A	DEG
Phase – 6	0	54.60	54.78	N/A	N/A	N/A	DEG
Phase – 7	0	49.43	49.56	N/A	N/A	N/A	DEG
High resolution Integrated Logging Tool–CTS Wellsite Calibration – Electronics Calibration Check – Auxilliary							
Master: 16–Dec–2008 16:21 Before: 9–Jan–2009 7:38							
Array Induction SPA Plus	990.5	991.9	991.8	N/A	N/A	N/A	MV
Array Induction SPA Zero	0	–0.2136	–0.2208	N/A	N/A	N/A	MV
Array Induction Temperature PI	0.9150	0.9187	0.9186	N/A	N/A	N/A	V
Array Induction Temperature Ze	0	–0.0002105	–0.0002190	N/A	N/A	N/A	V
High resolution Integrated Logging Tool–CTS Wellsite Calibration – Test Loop Gain Correction							
Master: 16–Dec–2008 16:21							
Test Loop Gain Magnitude – 0	0	1.024	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 1	0	1.014	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 2	0	1.017	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 3	0	1.011	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 4	0	0.9952	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 5	0	0.9869	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 6	0	0.9918	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 7	0	1.004	N/A	N/A	N/A	N/A	V
Phase – 0	0	0.4900	N/A	N/A	N/A	N/A	DEG
Phase – 1	0	0.6941	N/A	N/A	N/A	N/A	DEG
Phase – 2	0	0.008273	N/A	N/A	N/A	N/A	DEG
Phase – 3	0	0.08425	N/A	N/A	N/A	N/A	DEG
Phase – 4	0	0.02825	N/A	N/A	N/A	N/A	DEG
Phase – 5	0	–0.03725	N/A	N/A	N/A	N/A	DEG
Phase – 6	0	0.2549	N/A	N/A	N/A	N/A	DEG
Phase – 7	0	–0.2098	N/A	N/A	N/A	N/A	DEG
High resolution Integrated Logging Tool–CTS Wellsite Calibration – Sonde Error Correction							
Master: 16–Dec–2008 16:21							
R Sonde Error Correction – 0	0	–65.38	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 1	0	168.4	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 2	0	110.6	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 3	0	60.72	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 4	0	24.71	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 5	0	14.86	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 6	0	10.06	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 7	0	–0.9142	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 0	0	–126.0	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 1	0	164.7	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 2	0	–40.98	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 3	0	–42.32	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 4	0	0.5128	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 5	0	17.83	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 6	0	–4.973	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 7	0	–1.225	N/A	N/A	N/A	N/A	MM/M
High resolution Integrated Logging Tool–CTS Wellsite Calibration – Mud Gain Correction							
Master: 16–Dec–2008 16:21							
Coarse – Mag, Real, Imag – 0	0	0.8612	N/A	N/A	N/A	N/A	
Coarse – Mag, Real, Imag – 1	0	0.8612	N/A	N/A	N/A	N/A	
Coarse – Mag, Real, Imag – 2	0	0.8612	N/A	N/A	N/A	N/A	
Fine – Mag, Real, Imag – 0	0	0.8583	N/A	N/A	N/A	N/A	
Fine – Mag, Real, Imag – 1	0	0.8584	N/A	N/A	N/A	N/A	
Fine – Mag, Real, Imag – 2	0	0.8584	N/A	N/A	N/A	N/A	
High resolution Integrated Logging Tool–CTS Wellsite Calibration – Stab Measurement Summary							
Before: 9–Jan–2009 7:41							
BS Window Ratio	0.7400	N/A	0.7402	N/A	N/A	N/A	
BS Window Sum	10470	N/A	10480	N/A	N/A	N/A	CPS
SS Window Ratio	0.4844	N/A	0.4873	N/A	N/A	N/A	
SS Window Sum	11810	N/A	11800	N/A	N/A	N/A	CPS

LS Window Ratio	0.2928	N/A	0.2971	N/A	N/A	N/A	CPS
LS Window Sum	1152	N/A	1145	N/A	N/A	N/A	
High resolution Integrated Logging Tool–CTS Wellsite Calibration – Photo–multiplier High Voltages Calibrations							
Before: 9–Jan–2009 7:41							
BS PM High Voltage (Command)	1532	N/A	1522	N/A	N/A	N/A	V
SS PM High Voltage (Command)	1607	N/A	1612	N/A	N/A	N/A	V
LS PM High Voltage (Command)	1347	N/A	1358	N/A	N/A	N/A	V
High resolution Integrated Logging Tool–CTS Wellsite Calibration – Crystal Quality Resolutions Calibration							
Before: 9–Jan–2009 7:41							
BS Crystal Resolution	11.74	N/A	11.80	N/A	N/A	N/A	%
SS Crystal Resolution	9.254	N/A	9.443	N/A	N/A	N/A	%
LS Crystal Resolution	8.840	N/A	8.709	N/A	N/A	N/A	%
High resolution Integrated Logging Tool–CTS Wellsite Calibration – MCFL Calibration							
Before: 9–Jan–2009 7:42							
Raw B0 Resistivity	3875	N/A	3851	N/A	N/A	N/A	OHMM
Raw B1 Resistivity	3830	N/A	3811	N/A	N/A	N/A	OHMM
Raw B2 Resistivity	3830	N/A	3802	N/A	N/A	N/A	OHMM
High resolution Integrated Logging Tool–CTS Wellsite Calibration – HILT Caliper Calibration							
Before: 9–Jan–2009 7:37							
HILT Caliper Zero Measurement	8.000	N/A	8.237	N/A	N/A	N/A	IN
HILT Caliper Plus Measurement	12.00	N/A	12.41	N/A	N/A	N/A	IN
High resolution Integrated Logging Tool–CTS Wellsite Calibration – Detector Calibration							
Before: 9–Jan–2009 7:38							
Gamma Ray Background	30.00	N/A	78.64	N/A	N/A	N/A	GAPI
Gamma Ray (Jig – Bkg)	177.1	N/A	177.1	N/A	N/A	16.10	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	N/A	N/A	15.00	GAPI
High resolution Integrated Logging Tool–CTS Wellsite Calibration – Zero Measurement							
Master: 1–Dec–2008 9:48 Before: 9–Jan–2009 7:38							
CNTC Background	29.42	29.42	27.31	N/A	N/A	4.413	CPS
CFTC Background	34.28	34.28	30.45	N/A	N/A	5.142	CPS
High resolution Integrated Logging Tool–CTS Wellsite Calibration – Ratio Measurement							
Master: 1–Dec–2008 9:48							
Thermal Near Corr. (Tank)	5800	5293	N/A	N/A	N/A	N/A	CPS
Thermal Far Corr. (Tank)	2400	2278	N/A	N/A	N/A	N/A	CPS
CNTC/CFTC (Tank)	2.159	2.324	N/A	N/A	N/A	N/A	
High resolution Integrated Logging Tool–CTS Wellsite Calibration – Accelerometer Calibration							
Before: 9–Jan–2009 16:59							
Z–Axis Acceleration	32.19	N/A	32.12	N/A	N/A	N/A	F/S2
High resolution Integrated Logging Tool–CTS Master Calibration – Inversion results							
Master: 8–Jan–2009 16:33							
Rho Aluminum	2.596	2.600	--	--	--	--	G/C3
Rho Magnesium	1.686	1.687	--	--	--	--	G/C3
Pe Aluminum	2.570	2.561	--	--	--	--	
Pe Magnesium	2.650	2.615	--	--	--	--	
High resolution Integrated Logging Tool–CTS Master Calibration – Deviation Summary							
Master: 8–Jan–2009 16:33							
BS Average Deviation	0	0.1737	--	--	--	--	%
BS Max Deviation	0	0.5861	--	--	--	--	%
SS Average Deviation	0	0.1668	--	--	--	--	%
SS Max Deviation	0	1.059	--	--	--	--	%
LS Average Deviation	0	0.6537	--	--	--	--	%
LS Max Deviation	0	1.579	--	--	--	--	%
The GLS–VJ source activity is acceptable.							
The HGNS Neutron Master Calibration was done with the following parameters :							
NCT–B Water Temperature	55.0	DEGF.					
Thermal Housing Size	3.365	IN.					
NSR–F serial number	2539						

High resolution Integrated Logging Tool–CTS / Equipment Identification

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 397
 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	0.6203		0.6050	69.31		71.00
	Before	0.6198			69.52		
1	Master	1.273		1.270	68.33		70.00
	Before	1.272			68.53		
2	Master	0.6299		0.6230	64.30		66.00
	Before	0.6296			64.49		
3	Master	0.7129		0.7040	63.43		65.00
	Before	0.7124			63.63		
4	Master	1.333		1.337	56.73		59.00
	Before	1.332			56.92		
5	Master	1.928		1.955	54.63		57.00
	Before	1.927			54.81		
6	Master	1.931		1.955	54.60		57.00
	Before	1.930			54.78		
7	Master	1.358		1.415	49.43		53.00
	Before	1.357			49.56		
		60.00 % (Minimum)	(Nominal)	140.0 % (Maximum)	Nom -60.00 (Minimum)	(Nominal)	Nom + 60.00 (Maximum)

Master: 16-Dec-2008 16:21

Before: 9-Jan-2009 7:38

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			991.9	Master			-0.2136
Before			991.8	Before			-0.2208
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			0.9187	Master			-0.0002105
Before			0.9186	Before			-0.0002190
0.8700 (Minimum)			0.9150 (Nominal)	0.9600 (Maximum)			
-0.05000 (Minimum)			0 (Nominal)	0.05000 (Maximum)			
Master: 16-Dec-2008 16:21				Before: 9-Jan-2009 7:38			

Master: 16-Dec-2008 16:21

Before: 9-Jan-2009 7:38




High resolution Integrated Logging Tool—CTS Wellsite Calibration						
Test Loop Gain Correction						
Idx	Value	Test Loop Gain Magnitude V			Value	Phase DEG
0	1.024	<div><div></div></div>			0.4900	<div><div></div></div>
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal) 3.000 (Maximum)
1	1.014	<div><div></div></div>			0.6941	<div><div></div></div>
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal) 3.000 (Maximum)
2	1.017	<div><div></div></div>			0.008273	<div><div></div></div>




		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
3	1.011				0.08425			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
4	0.9952				0.02825			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
5	0.9869				-0.03725			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
6	0.9918				0.2549			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
7	1.004				-0.2098			
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)		-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
Master: 16-Dec-2008 16:21								




High resolution Integrated Logging Tool-CTS Wellsite Calibration								
Sonde Error Correction								
Idx	Value	R Sonde Error Correction MM/M			Value	X Sonde Error Correction MM/M		
0	-65.38				-126.0			
		-231.0 (Minimum)	-56.00 (Nominal)	119.0 (Maximum)		-2250 (Minimum)	0 (Nominal)	2250 (Maximum)
1	168.4				164.7			
		114.0 (Minimum)	159.0 (Nominal)	204.0 (Maximum)		-625.0 (Minimum)	0 (Nominal)	625.0 (Maximum)
2	110.6				-40.98			
		66.00 (Minimum)	111.0 (Nominal)	156.0 (Maximum)		-350.0 (Minimum)	0 (Nominal)	350.0 (Maximum)
3	60.72				-42.32			
		39.00 (Minimum)	64.00 (Nominal)	89.00 (Maximum)		-250.0 (Minimum)	0 (Nominal)	250.0 (Maximum)
4	24.71				0.5128			
		15.00 (Minimum)	25.00 (Nominal)	35.00 (Maximum)		-63.00 (Minimum)	0 (Nominal)	63.00 (Maximum)
5	14.86				17.83			
		4.000 (Minimum)	14.00 (Nominal)	24.00 (Maximum)		-50.00 (Minimum)	0 (Nominal)	50.00 (Maximum)
6	10.06				-4.973			
		5.000 (Minimum)	10.00 (Nominal)	15.00 (Maximum)		-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)
7	-0.9142				-1.225			
		-5.000 (Minimum)	0 (Nominal)	5.000 (Maximum)		-30.00 (Minimum)	0 (Nominal)	30.00 (Maximum)
Master: 16-Dec-2008 16:21								

High resolution Integrated Logging Tool-CTS Wellsite Calibration								
Mud Gain Correction								
Idx	Value	Coarse - Mag, Real, Imag			Value	Fine - Mag, Real, Imag		
0	0.8612				0.8583			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
1	0.8612				0.8584			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
2	0.8612				0.8584			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
Master: 16-Dec-2008 16:21								


High resolution Integrated Logging Tool-CTS Wellsite Calibration											
Stab Measurement Summary											
Phase	BS Window Ratio		Value	Phase	SS Window Ratio		Value	Phase	LS Window Ratio		Value
Before	<div><div></div></div>		0.7402	Before	<div><div></div></div>		0.4873	Before	<div><div></div></div>		0.2971

















High resolution Integrated Logging Tool—CTS 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				1522	Before				1612	Before				1358
	1432 (Minimum)	1532 (Nominal)	1632 (Maximum)			1507 (Minimum)	1607 (Nominal)	1707 (Maximum)			1247 (Minimum)	1347 (Nominal)	1447 (Maximum)	
Before: 9-Jan-2009 7:41														





High resolution Integrated Logging Tool-CTS Wellsite Calibration														
MCFL Calibration														
Phase	Raw B0 Resistivity OHMM			Value	Phase	Raw B1 Resistivity OHMM			Value	Phase	Raw B2 Resistivity OHMM			Value
Before				3851	Before				3811	Before				3802
	3565 (Minimum)	3875 (Nominal)	4185 (Maximum)			3524 (Minimum)	3830 (Nominal)	4136 (Maximum)			3524 (Minimum)	3830 (Nominal)	4136 (Maximum)	
Before: 9-Jan-2009 7:42														

















High resolution Integrated Logging Tool–CTS Wellsite Calibration														
Detector Calibration														
Phase	Gamma Ray Background GAPI			Value	Phase	Gamma Ray (Jig – Bkg) GAPI			Value	Phase	Gamma Ray (Calibrated) GAPI			Value
Before				78.64	Before				177.1	Before				165.0
	0 (Minimum)	30.00 (Nominal)	120.0 (Maximum)			161.0 (Minimum)	177.1 (Nominal)	193.2 (Maximum)			150.0 (Minimum)	165.0 (Nominal)	180.0 (Maximum)	
Before: 9–Jan–2009 7:38														

High resolution Integrated Logging Tool-CTS Wellsite Calibration														
Ratio Measurement														
Phase	Thermal Near Corr. (Tank) CPS			Value	Phase	Thermal Far Corr. (Tank) CPS			Value	Phase	CNTC/CFTC (Tank)			Value
Master	<div><div></div></div>			5293	Master	<div><div></div></div>			2278	Master	<div><div></div></div>			2.324
	4700 (Minimum)	5800 (Nominal)	6900 (Maximum)			1900 (Minimum)	2400 (Nominal)	2900 (Maximum)			2.120 (Minimum)	2.159 (Nominal)	2.540 (Maximum)	
Master: 1-Dec-2008 9:48														

High resolution Integrated Logging Tool–CTS			
Wellsite Calibration			
Accelerometer Calibration			
Phase	Z–Axis Acceleration F/S2		Value
Before			32.12
	31.53 (Minimum)	32.19 (Nominal)	32.84 (Maximum)
Before: 9–Jan–2009 16:59			

High resolution Integrated Logging Tool–CTS Master Calibration							
Electronics Calibration Check – Thru Cal Mag. & Phase							
Idx	Phase	Value	Thru Cal Magnitude V	Nominal	Value	Phase DEG	Nominal
0	Master	0.6203		0.6050	69.31		71.00
1	Master	1.273		1.270	68.33		70.00
2	Master	0.6299		0.6230	64.30		66.00
3	Master	0.7129		0.7040	63.43		65.00
4	Master	1.333		1.337	56.73		59.00
5	Master	1.928		1.955	54.63		57.00
6	Master	1.931		1.955	54.60		57.00
7	Master	1.358		1.415	49.43		53.00
		60.00 % (Minimum)	(Nominal)	140.0 % (Maximum)	Nom –60.00 (Minimum)	(Nominal)	Nom + 60.00 (Maximum)
Master: 16–Dec–2008 16:21							

High resolution Integrated Logging Tool–CTS Master Calibration							
Electronics Calibration Check – Auxilliary							
Phase	Array Induction SPA Plus MV		Value	Phase	Array Induction SPA Zero MV		Value
Master			991.9	Master			-0.2136
	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			0.9187	Master			-0.0002105
	0.8700 (Minimum)	0.9150 (Nominal)	0.9600 (Maximum)		-0.05000 (Minimum)	0 (Nominal)	0.05000 (Maximum)
Master: 16–Dec–2008 16:21							

High resolution Integrated Logging Tool–CTS Master Calibration				
Test Loop Gain Correction				
Idx	Value	Test Loop Gain Magnitude V	Value	Phase DEG
0	1.024		0.4900	
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)
1	1.014		0.6941	
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)
2	1.017		0.008273	
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)
3	1.011		0.08425	
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)
4	0.9952		0.02825	
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)
5	0.9869		–0.03725	
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)
6	0.9918		0.2549	
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)
7	1.004		–0.2098	
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)

	0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)	0 (Nominal)	3.000 (Maximum)
Master: 16-Dec-2008 16:21						

High resolution Integrated Logging Tool—CTS Master Calibration							
Sonde Error Correction							
Idx	Value	R Sonde Error Correction MM/M			Value	X Sonde Error Correction MM/M	
0	-65.38				-126.0		
		-231.0 (Minimum)	-56.00 (Nominal)	119.0 (Maximum)		-2250 (Minimum)	0 (Nominal) 2250 (Maximum)
1	168.4				164.7		
		114.0 (Minimum)	159.0 (Nominal)	204.0 (Maximum)		-625.0 (Minimum)	0 (Nominal) 625.0 (Maximum)
2	110.6				-40.98		
		66.00 (Minimum)	111.0 (Nominal)	156.0 (Maximum)		-350.0 (Minimum)	0 (Nominal) 350.0 (Maximum)
3	60.72				-42.32		
		39.00 (Minimum)	64.00 (Nominal)	89.00 (Maximum)		-250.0 (Minimum)	0 (Nominal) 250.0 (Maximum)
4	24.71				0.5128		
		15.00 (Minimum)	25.00 (Nominal)	35.00 (Maximum)		-63.00 (Minimum)	0 (Nominal) 63.00 (Maximum)
5	14.86				17.83		
		4.000 (Minimum)	14.00 (Nominal)	24.00 (Maximum)		-50.00 (Minimum)	0 (Nominal) 50.00 (Maximum)
6	10.06				-4.973		
		5.000 (Minimum)	10.00 (Nominal)	15.00 (Maximum)		-30.00 (Minimum)	0 (Nominal) 30.00 (Maximum)
7	-0.9142				-1.225		
		-5.000 (Minimum)	0 (Nominal)	5.000 (Maximum)		-30.00 (Minimum)	0 (Nominal) 30.00 (Maximum)
Master: 16-Dec-2008 16:21							

High resolution Integrated Logging Tool–CTS Master Calibration							
Mud Gain Correction							
Idx	Value	Coarse – Mag, Real, Imag			Value	Fine – Mag, Real, Imag	
0	0.8612				0.8583		
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal) 1.200 (Maximum)
1	0.8612				0.8584		
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal) 1.200 (Maximum)
2	0.8612				0.8584		
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal) 1.200 (Maximum)
Master: 16–Dec–2008 16:21							




Master: 16-Dec-2008 16:21

High resolution Integrated Logging Tool-CTS Master Calibration						
Inversion results						
Phase	Rho Aluminum G/C3			Phase	Rho Magnesium G/C3	
Master				2.600		
	2.586 (Minimum)	2.596 (Nominal)	2.606 (Maximum)		1.676 (Minimum)	1.686 (Nominal) 1.696 (Maximum)
Phase	Pe Aluminum			Phase	Pe Magnesium	
Master				2.561		
	2.470 (Minimum)	2.570 (Nominal)	2.670 (Maximum)		2.550 (Minimum)	2.650 (Nominal) 2.750 (Maximum)
Master: 8-Jan-2009 16:33						

High resolution Integrated Logging Tool–CTS Master Calibration												
Deviation Summary												
Phase	BS Average Deviation %		Value	Phase	SS Average Deviation %		Value	Phase	LS Average Deviation %		Value	
Master			0.1737	Master			0.1668	Master			0.6537	
-0.6000 (Minimum)			0 (Nominal)	-1.000 (Minimum)			0 (Nominal)	-1.500 (Minimum)			0 (Nominal)	1.500 (Maximum)
Phase	BS Max Deviation %		Value	Phase	SS Max Deviation %		Value	Phase	LS Max Deviation %		Value	

Master		0.5861	Master		1.059	Master		1.579
-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: 8-Jan-2009 16:33								

High resolution Integrated Logging Tool-CTS Master Calibration							
Zero Measurement							
Phase	CNTC Background CPS		Value	Phase	CFTC Background CPS		Value
Master			29.42	Master			34.28
	5.000 (Minimum)	29.42 (Nominal)	40.00 (Maximum)		5.000 (Minimum)	34.28 (Nominal)	40.00 (Maximum)
Master: 1-Dec-2008 9:48							

High resolution Integrated Logging Tool–CTS Master Calibration													
Tank Measurement													
Phase	Thermal Near Corr. (Tank) CPS			Value	Phase	Thermal Far Corr. (Tank) CPS			Value	Phase	CNTC/CFTC (Tank)		Value
Master				5293	Master				2278	Master			2.324
	4700 (Minimum)	5800 (Nominal)	6900 (Maximum)		1900 (Minimum)	2400 (Nominal)	2900 (Maximum)		2.120 (Minimum)	2.159 (Nominal)	2.540 (Maximum)		
Master: 1–Dec–2008 9:48													

Company:

Conquest Oil Co.

Well:

SWD 1-8B

Field:

Wattenberg

County:

Weld

State:

Colorado

Schlumberger

Platform Express

Triple Combo