

Schlumberger

Company: **Puckett Land Company**

Well: **RG Federal 4D-34D**

Field: **Ryan Gulch**

County: **Rio Blanco**

State: **Colorado**

	Run 1	Run 2	Run

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[illegible]

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

OTHER SERVICES1	OTHER SERVICES2
OS1: PLATFORM EXPRESS	OS1:
OS2: CALIPER PRINT	OS2:
OS3:	OS3:
OS4:	OS4:
OS5:	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
1. Tool ras as per tool sketch.	
2. HGNS ran eccentralized using a bowspring, AIT ran eccentralized usig 3	x 1.5in standoffs
3. DSLT ran centralized using 2 x CMEZs	
4. Neutron log corrected for Hole Size and Standoff	
5. Density log corrected for Bit Size	
6. PEF flags < 10% Log computed with NMT=NonBarite	
7. Max temperature reading 249degF obtained from HGNS	

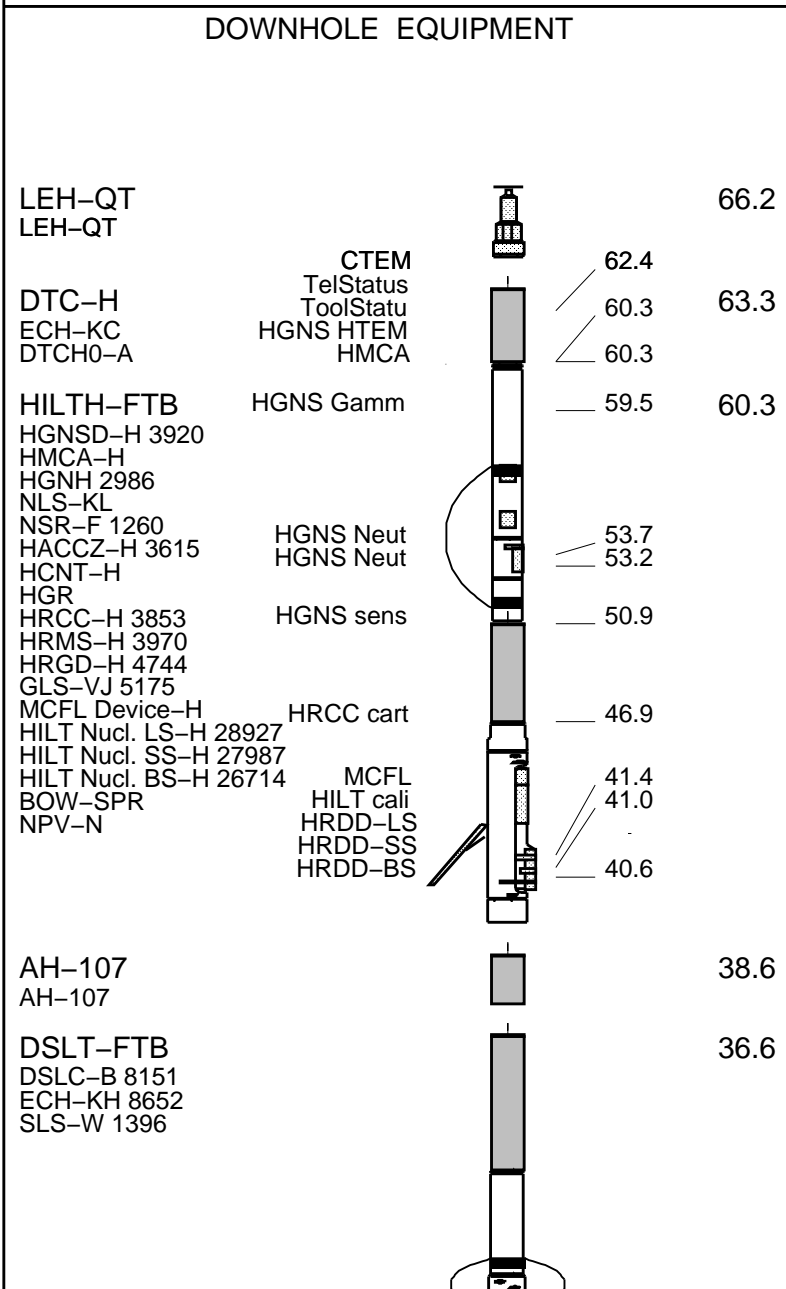
8. Matrix=SANDSTONE Density=2.68g/cc	
9. Sonic firing rate set at R15	
10. Sonic Porosity calculated using SANDSTONE matrix (55.5us/ft)	
11. Cement Volume calculated assuming future casing diameter of 4.5in	
12. Caliper check in casing within tolerance=9.625in+/-0.125in	
13. Logging speed less than 3600 ft/hr	
14. Bit sizes changes: from TD to 8634ft=7.875in and from 8634ft to surface 8.75in	
15. Tight Hole conditions may affect data	

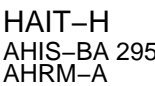
RUN 1			RUN 2		
SERVICE ORDER #:		bfjt-00033	SERVICE ORDER #:		
PROGRAM VERSION:		18C0-147	PROGRAM VERSION:		
FLUID LEVEL:		25 ft	FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION					
RUN 1			RUN 2		

SURFACE EQUIPMENT
WITM (DTS)-A

GSR-U/Y
NCT-B
CNB-AB
NCS-VB





Induction
Temperatu
Power Sup

SP SENSOR
DF
HTEN HMAS HV
Accelerom
Mud Resis
Tension

TOOL ZERO

MAXIMUM STRING DIAMETER 6.88 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN FEET

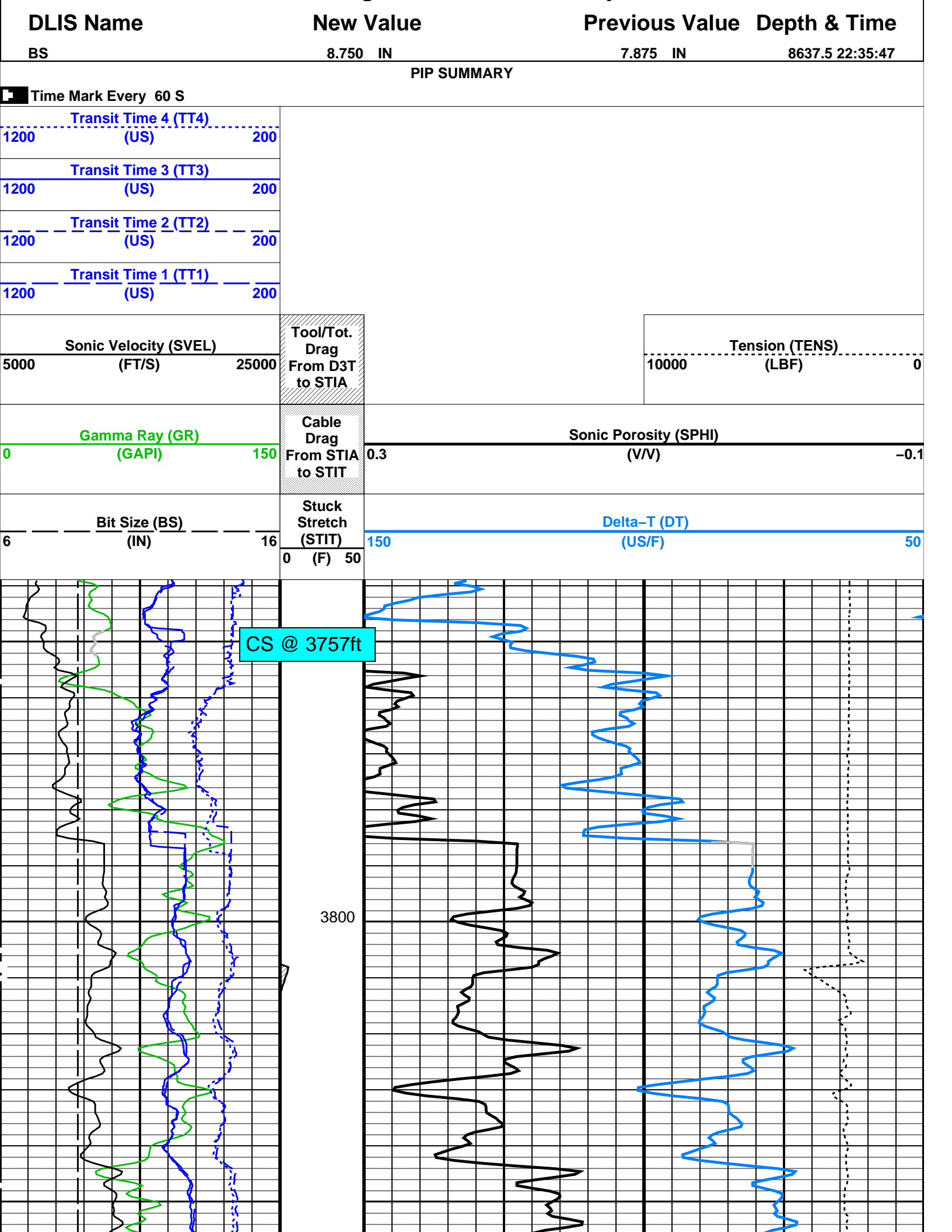
16.0
1.5 IN
Standoff
1.5 IN
Standoff

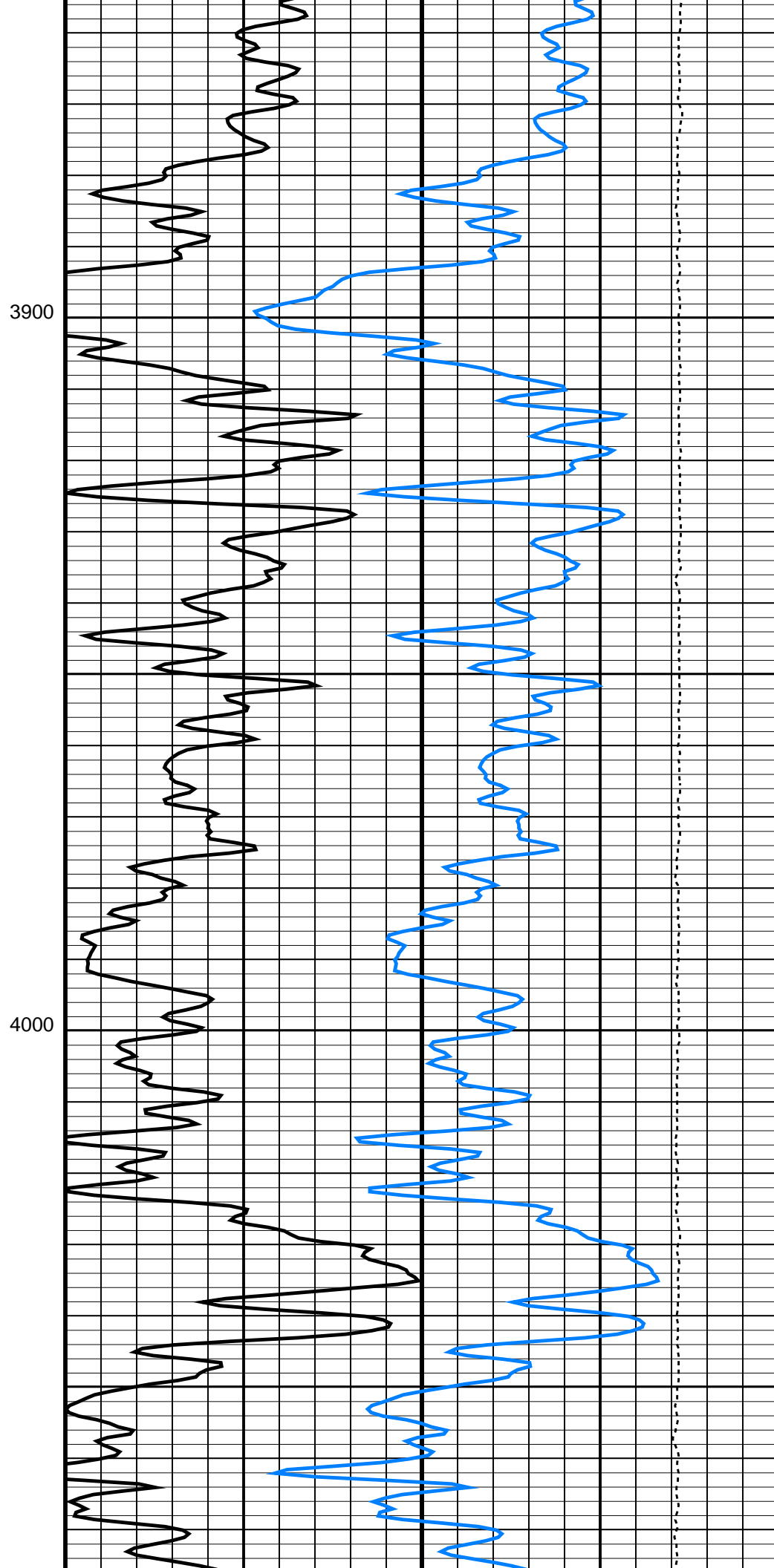
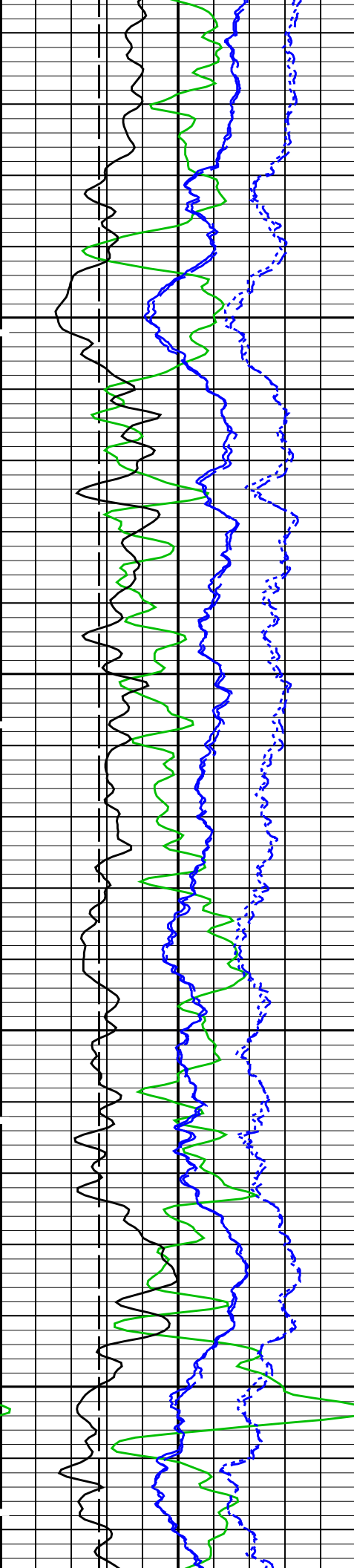
1.5 IN
Standoff

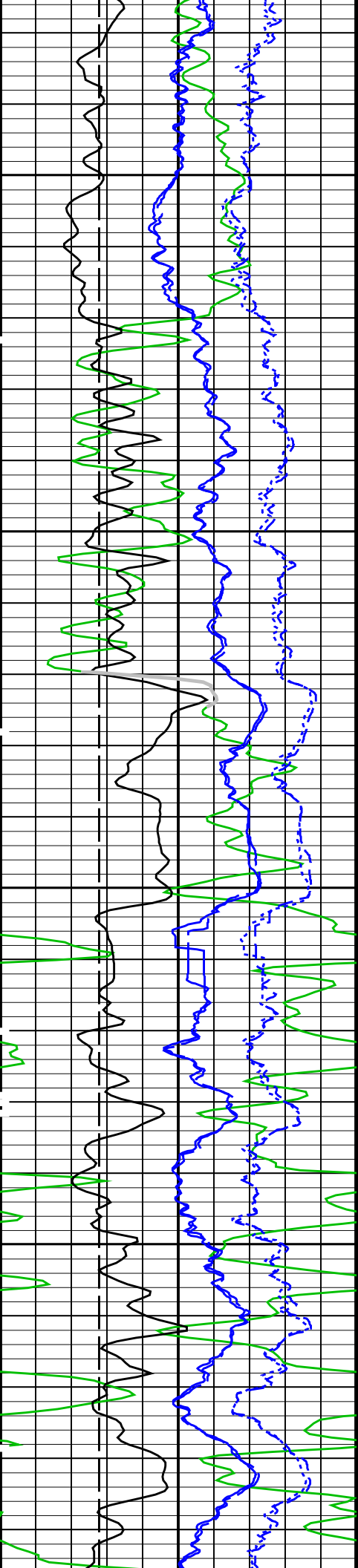
Drawing Date: 2/15/2011
API #: 05-103-11815-00

Rig Name:	Frotier # 2
Reference Datum:	Ground Level
Elevation:	6744.0 ft

Production String			Well Schematic			Casing String		
	(in)	(ft)		(ft)	(in)			
OD	ID	MD		MD	OD	ID		
				0.0	9.625			Casing String, 36.0 lbm/ft
				0.0	8.750			Borehole Segment

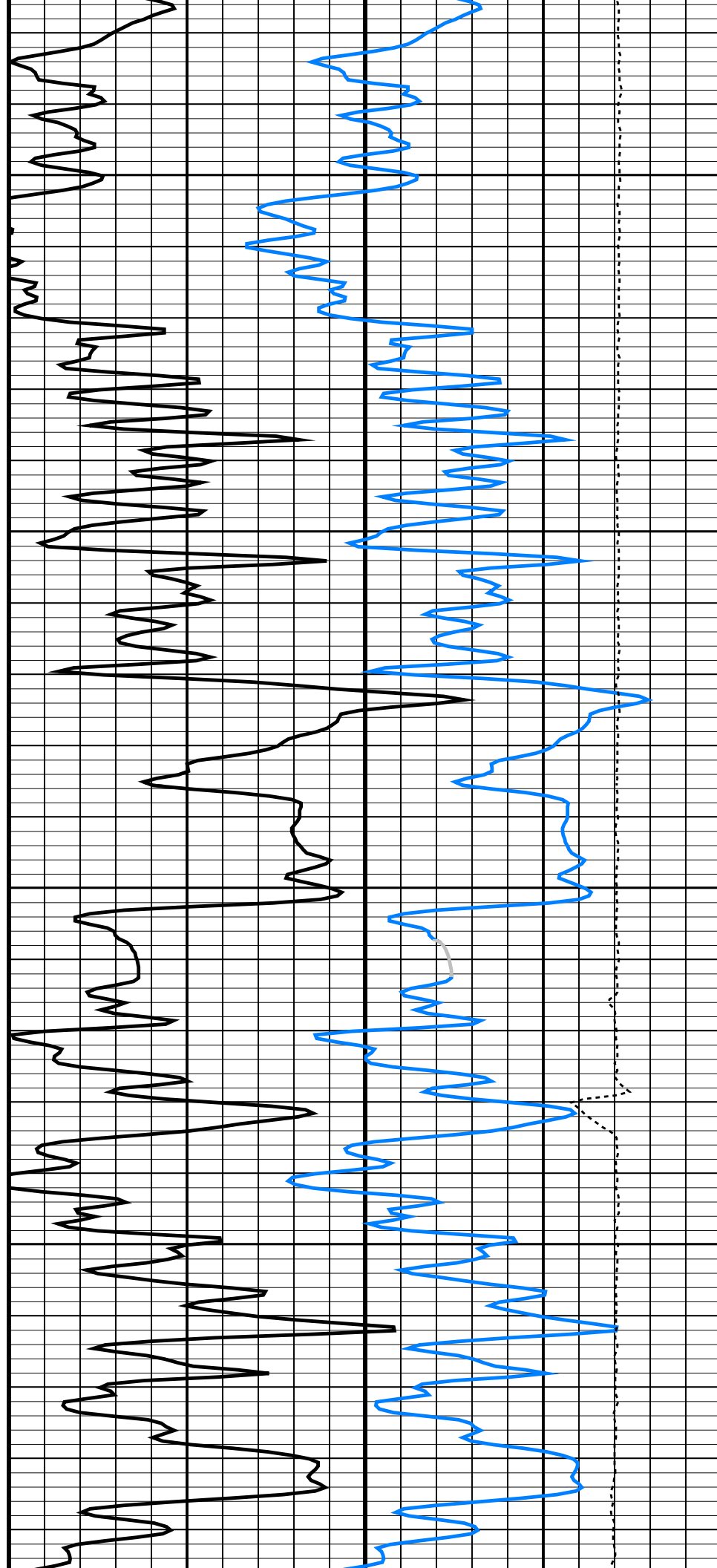


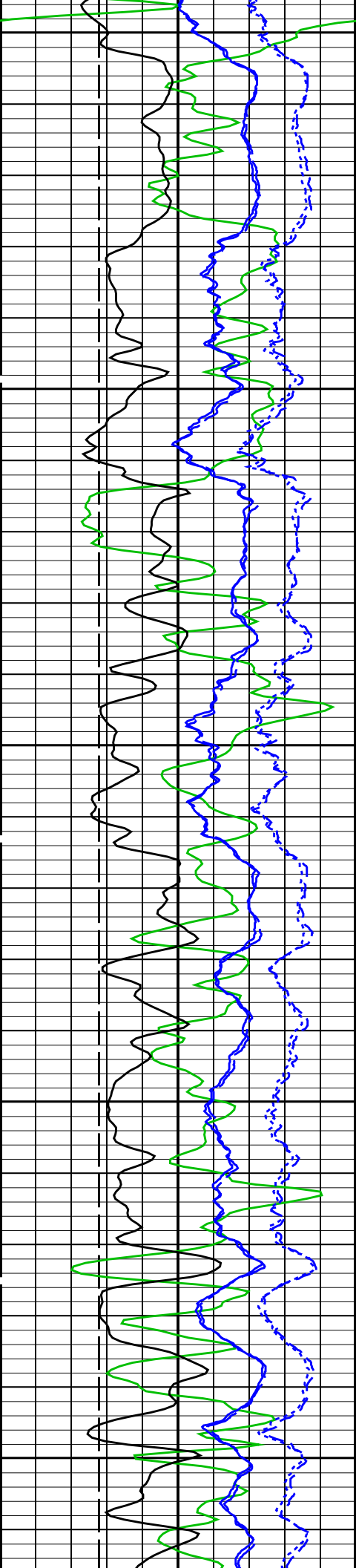




4100

4200

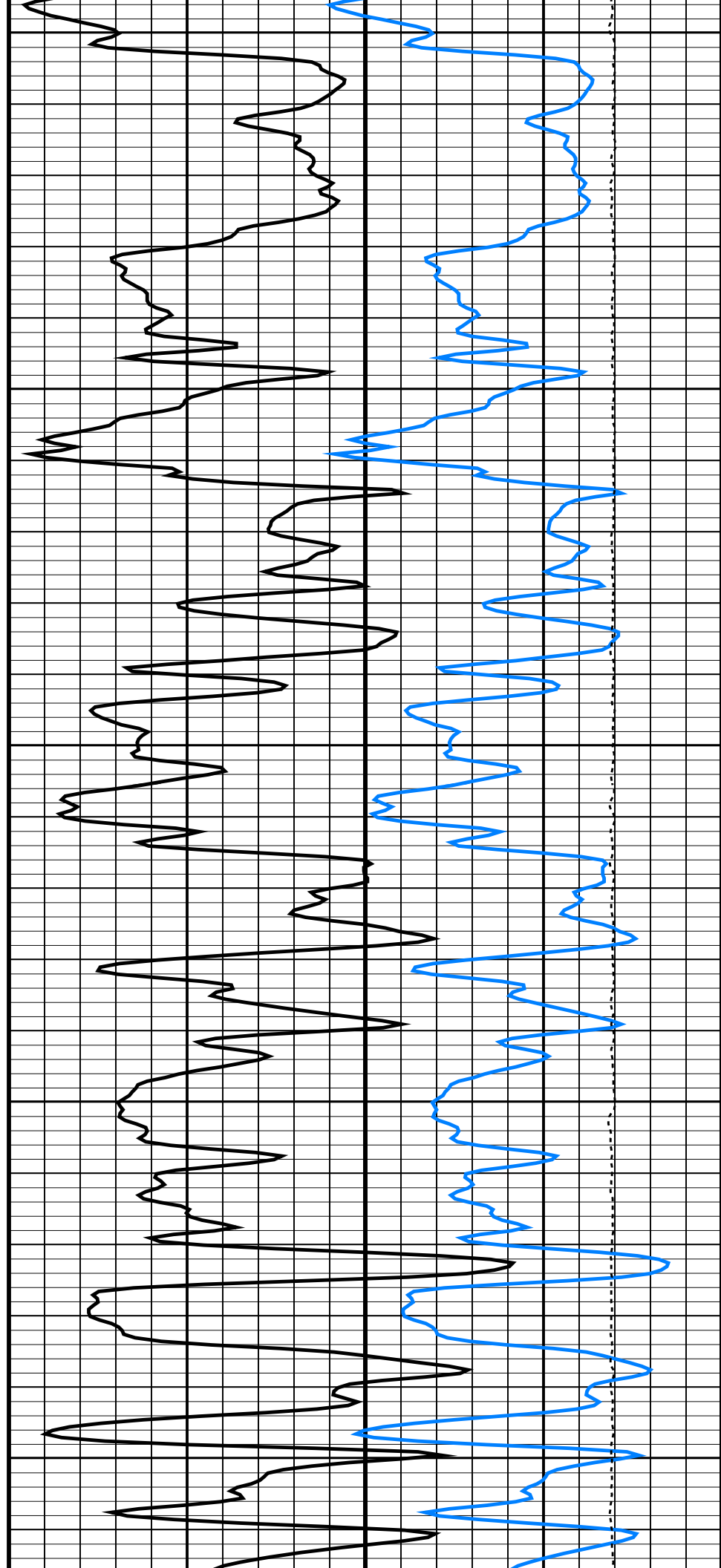


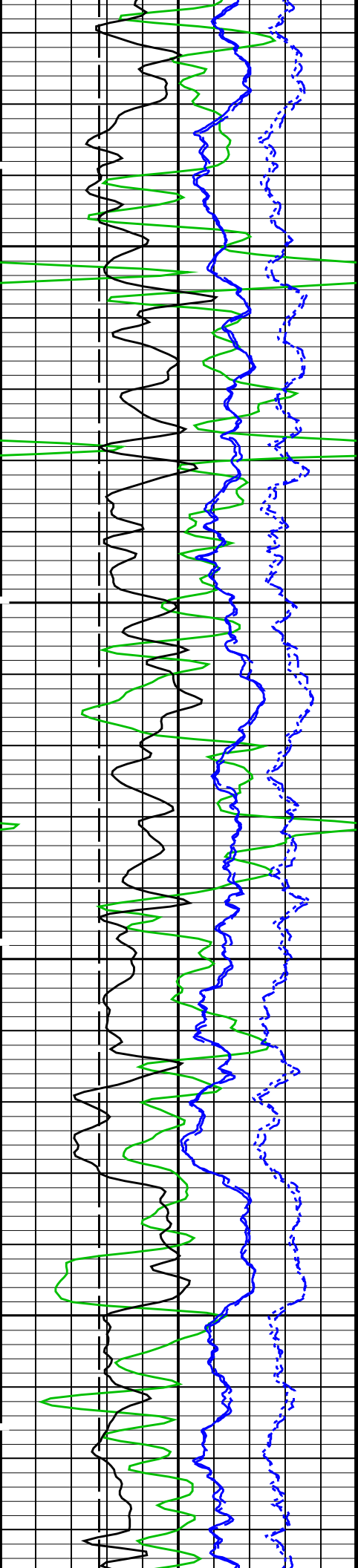


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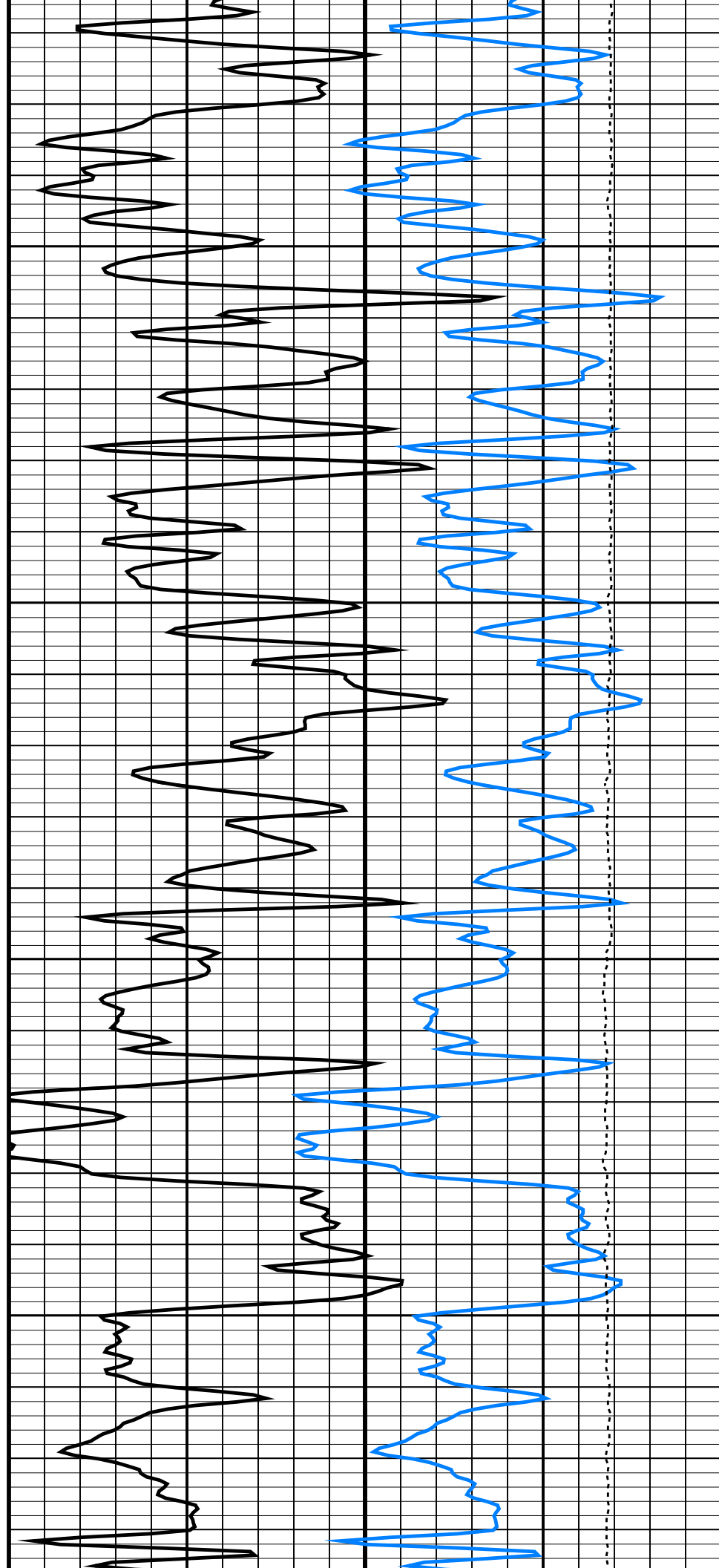
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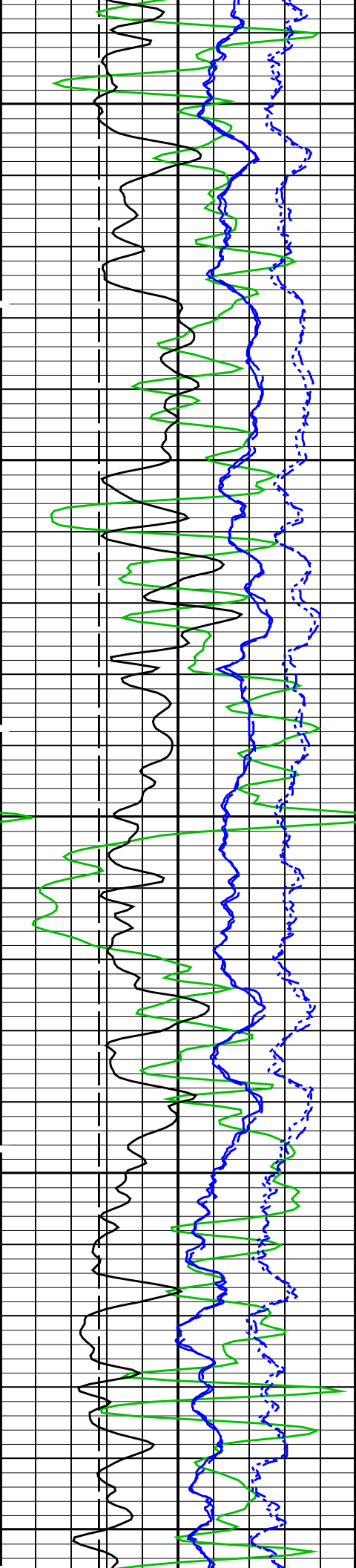




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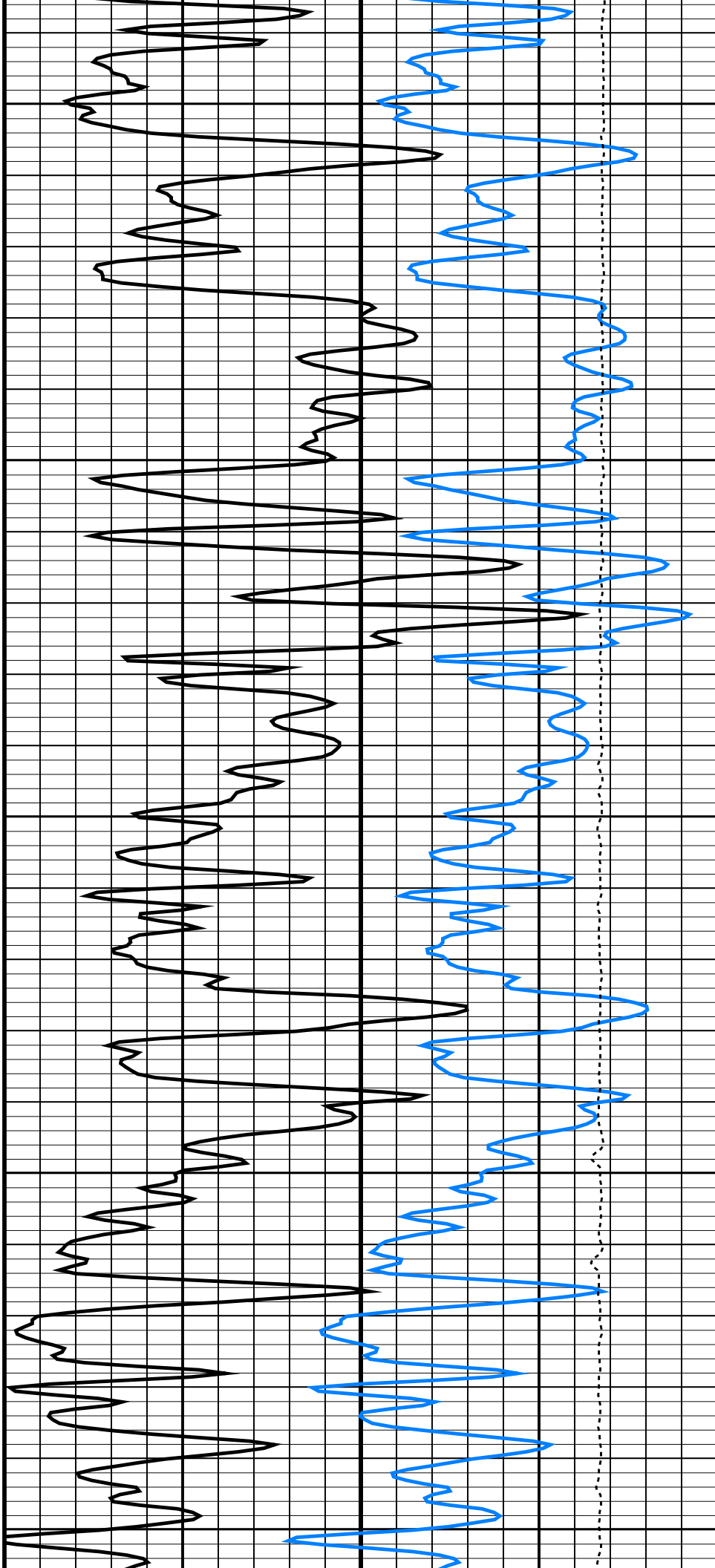
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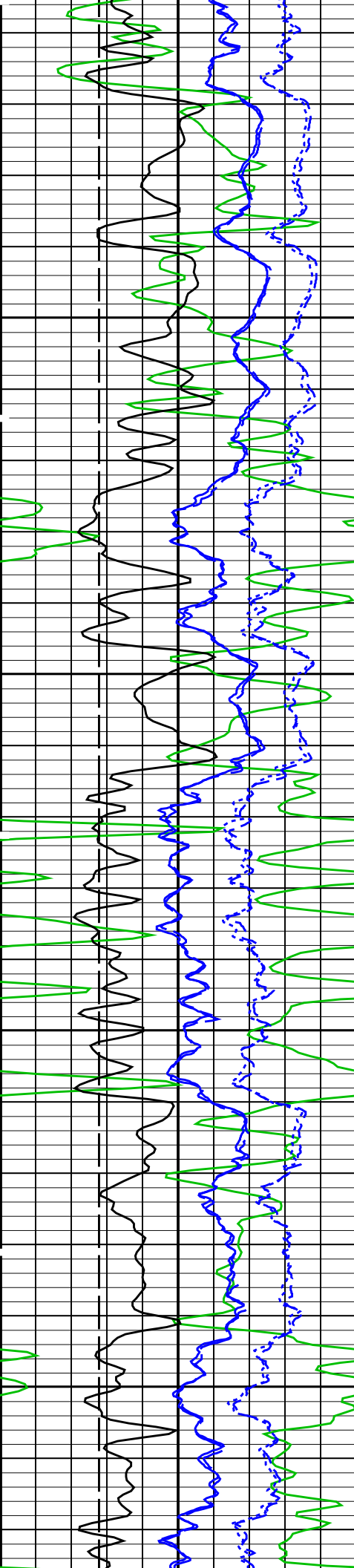




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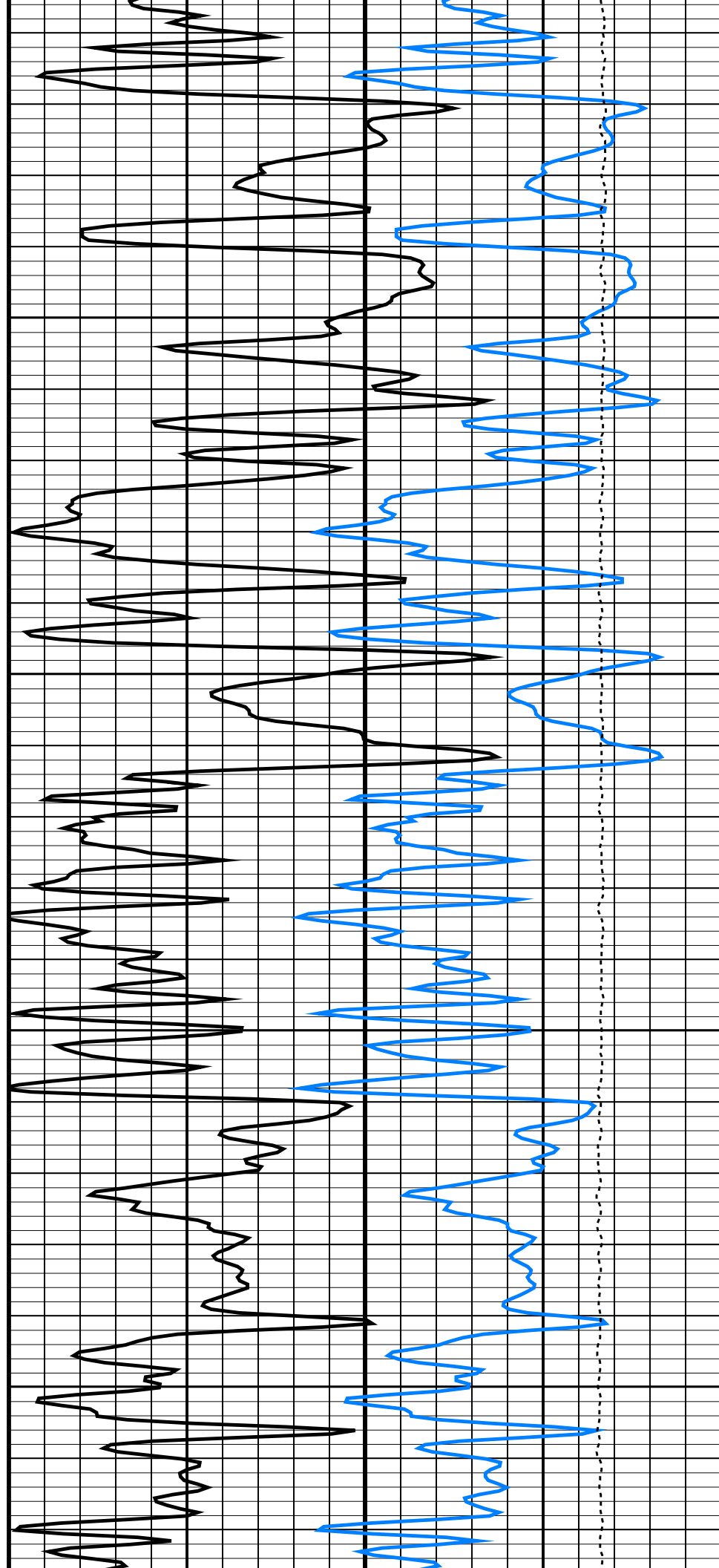
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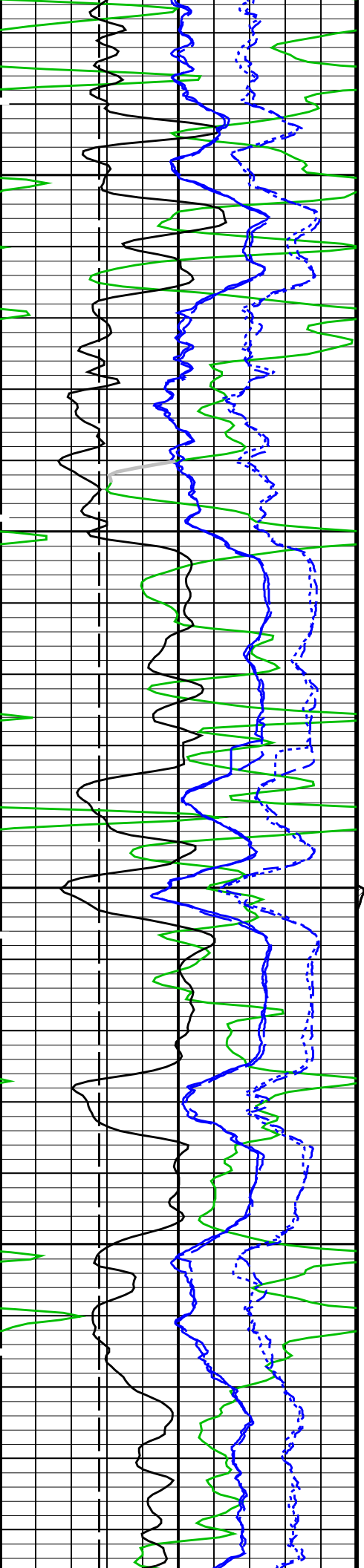




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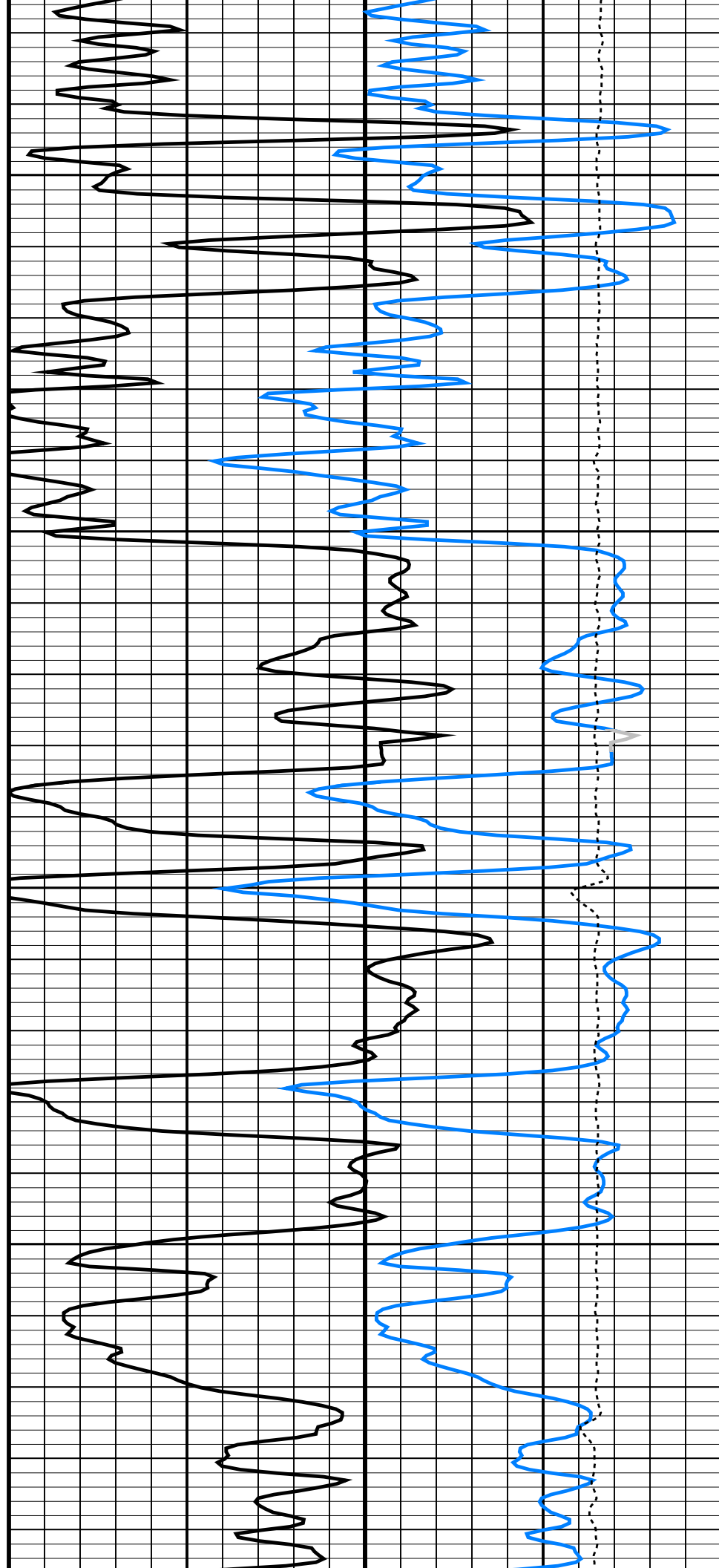
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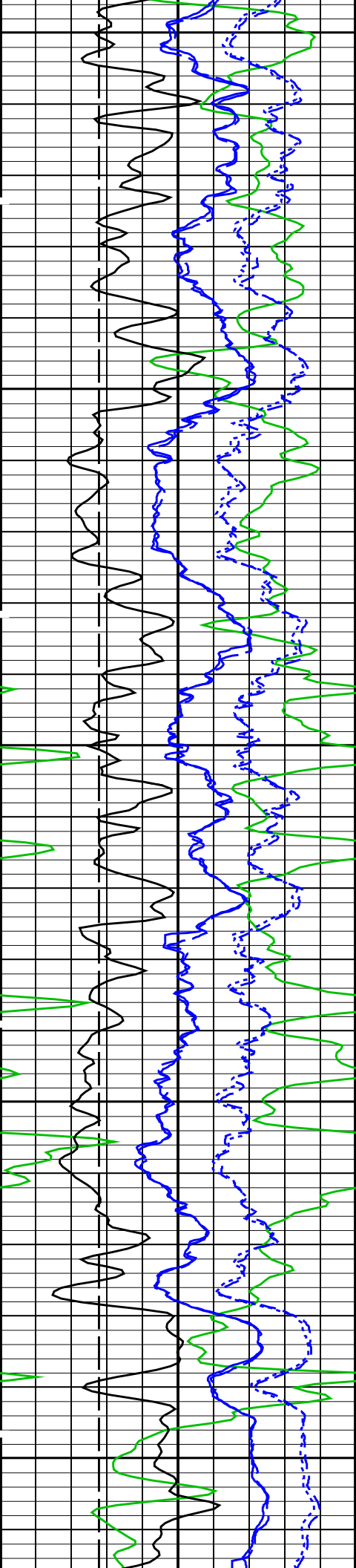




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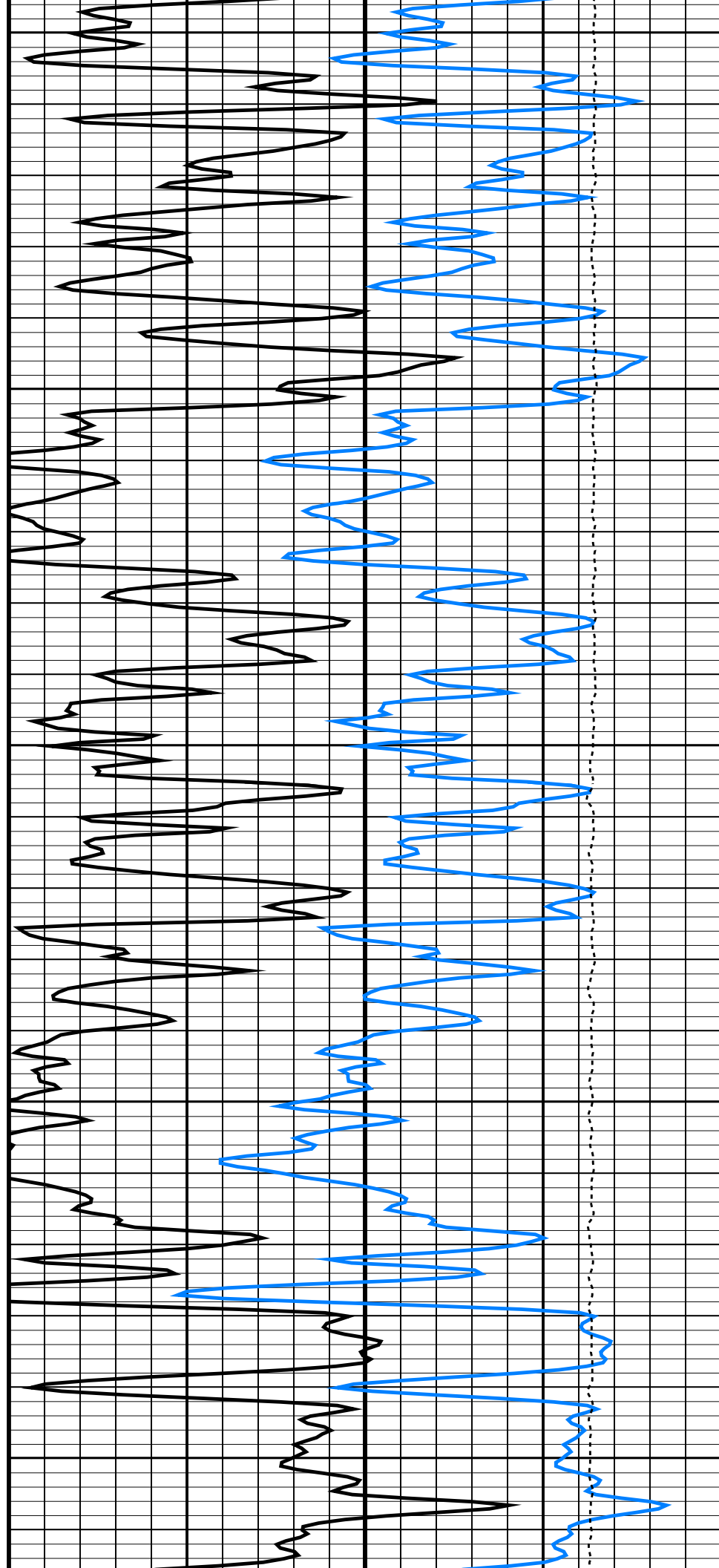


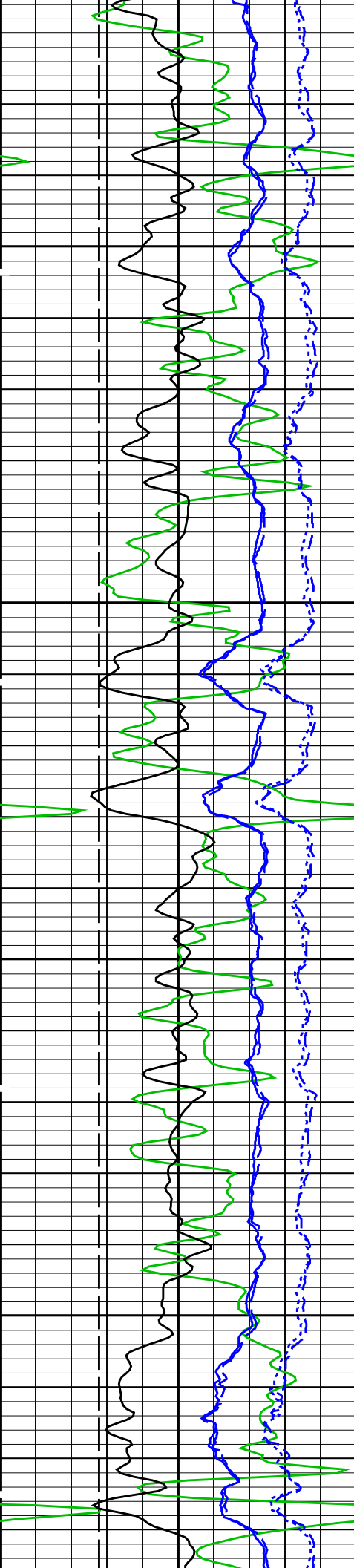


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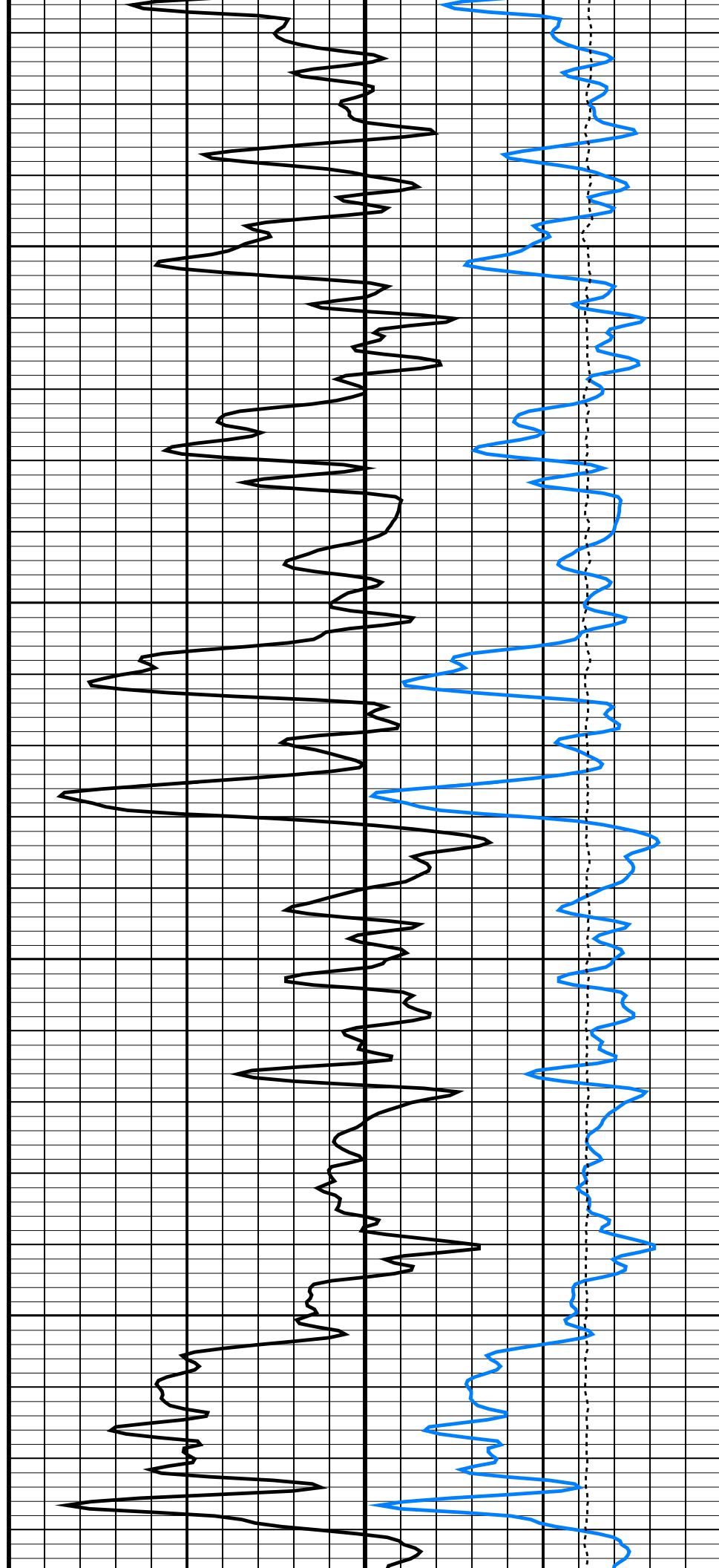
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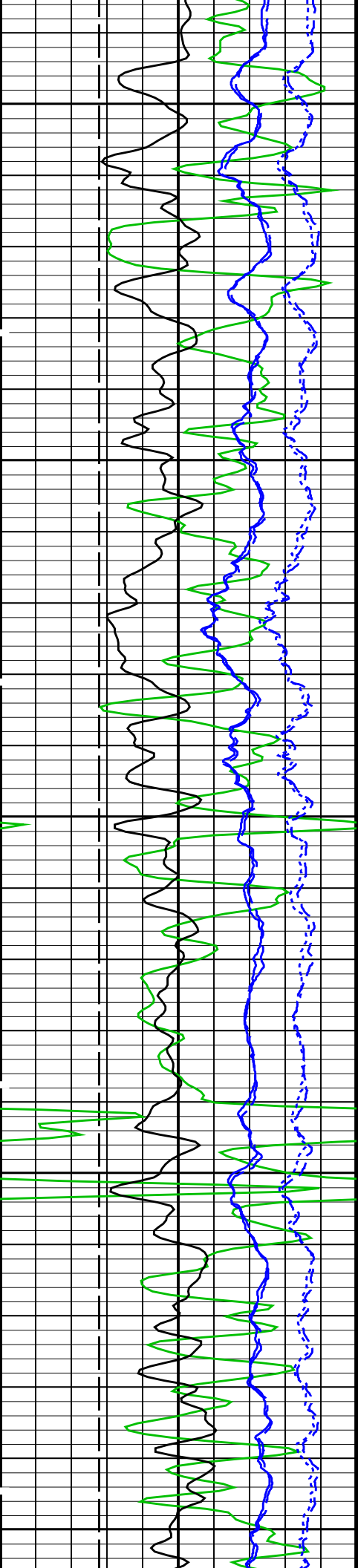




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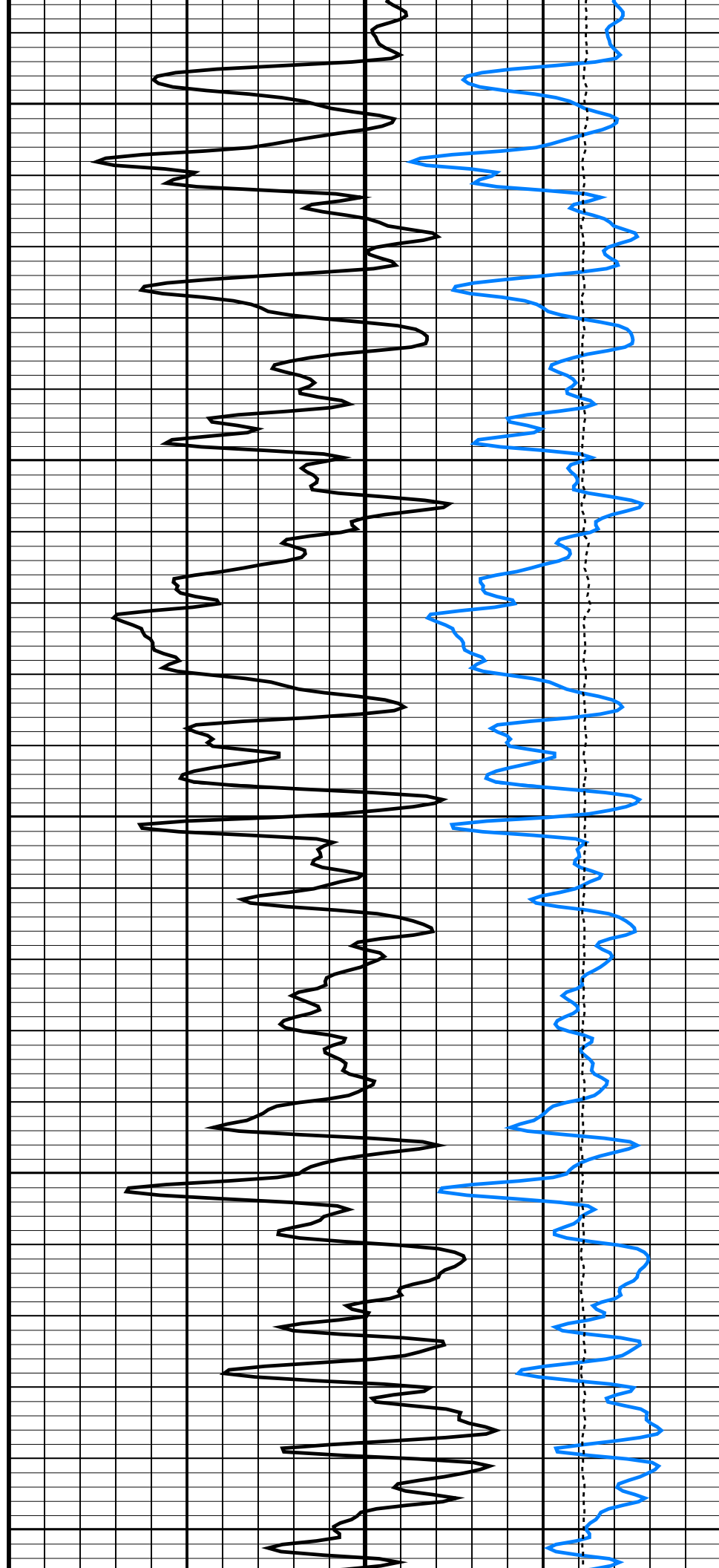
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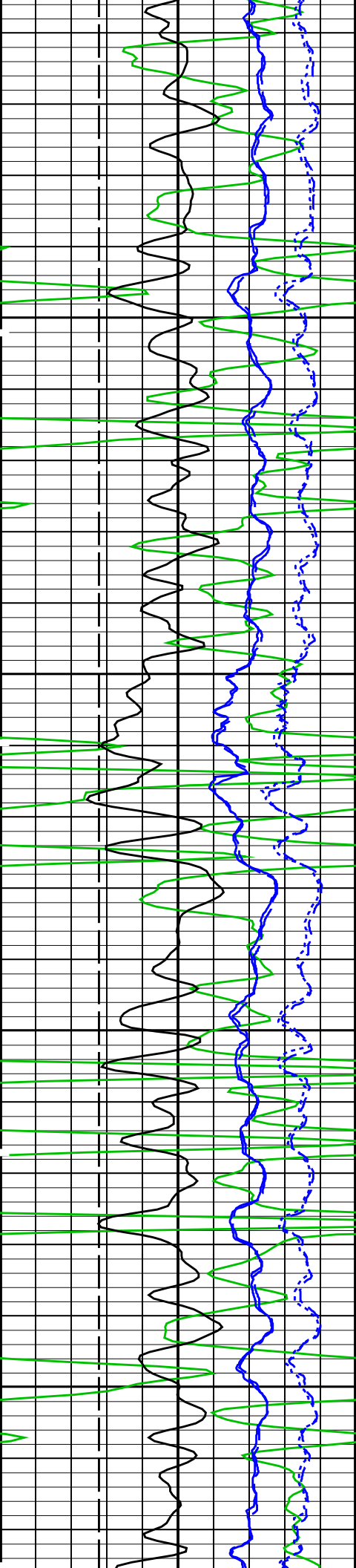




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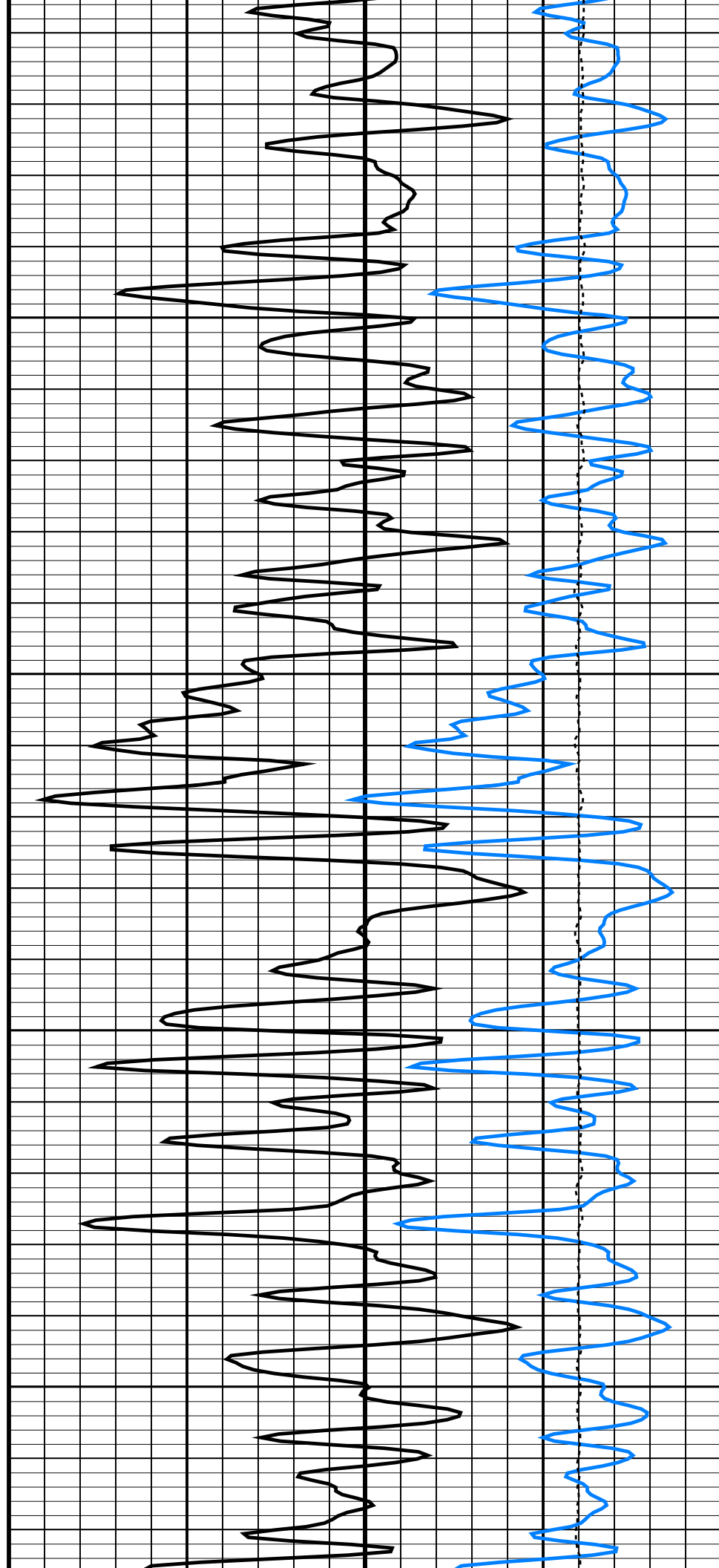
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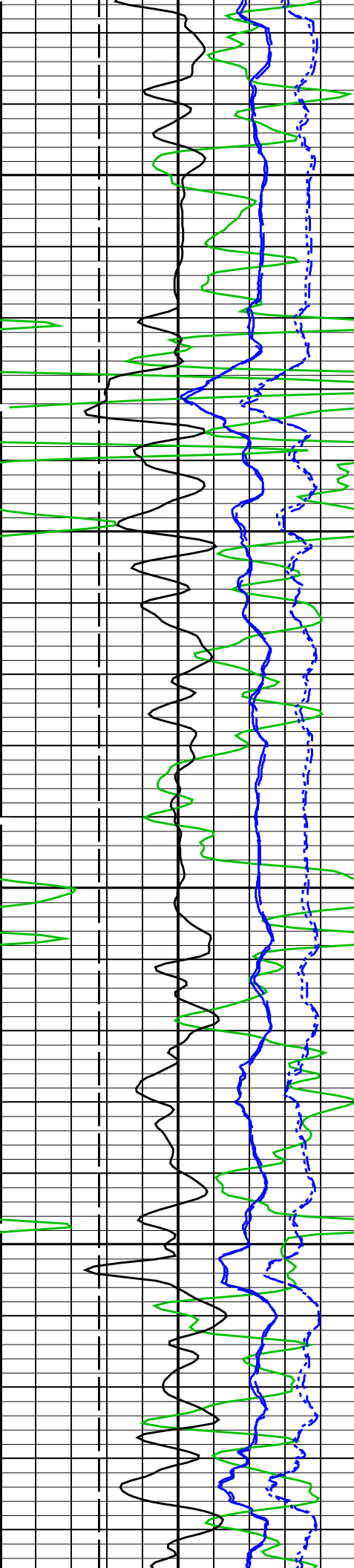




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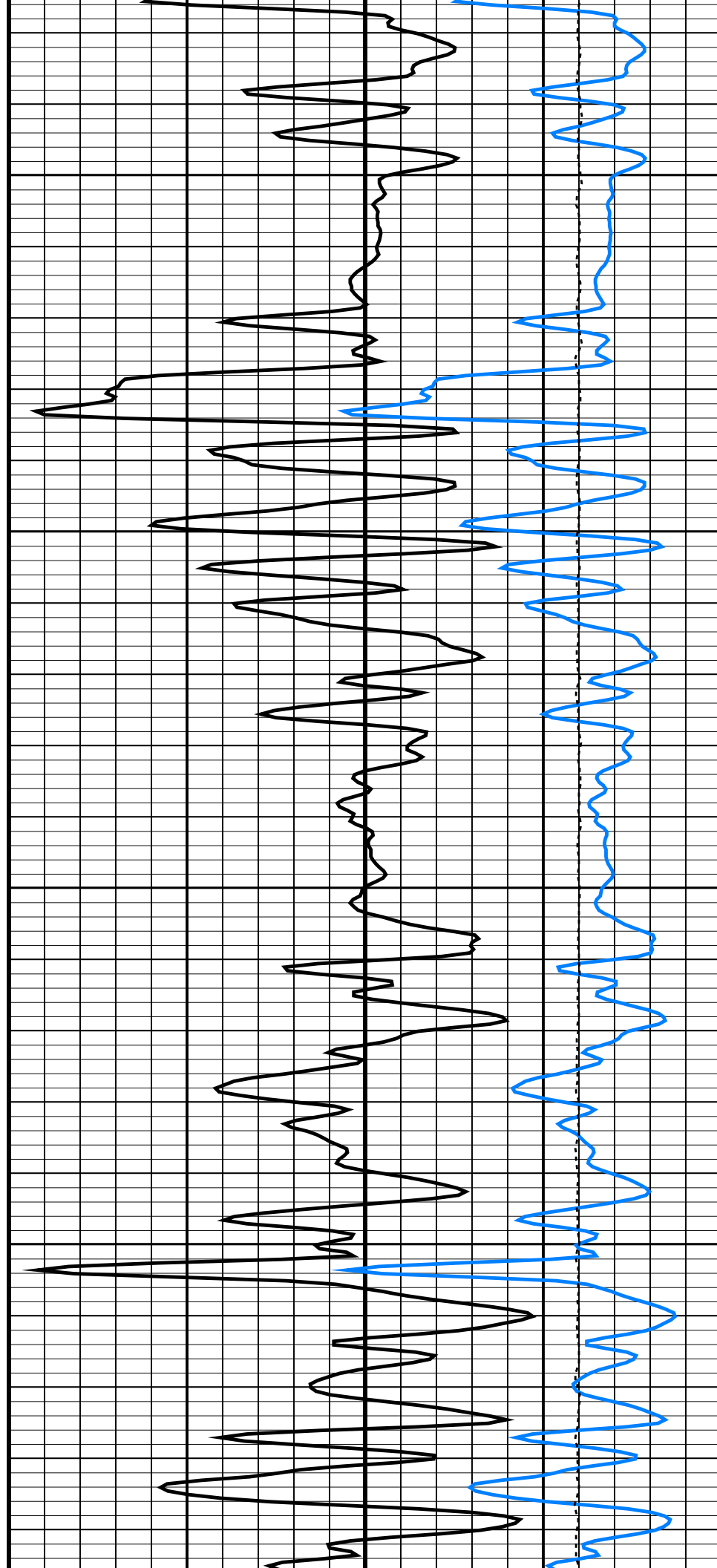
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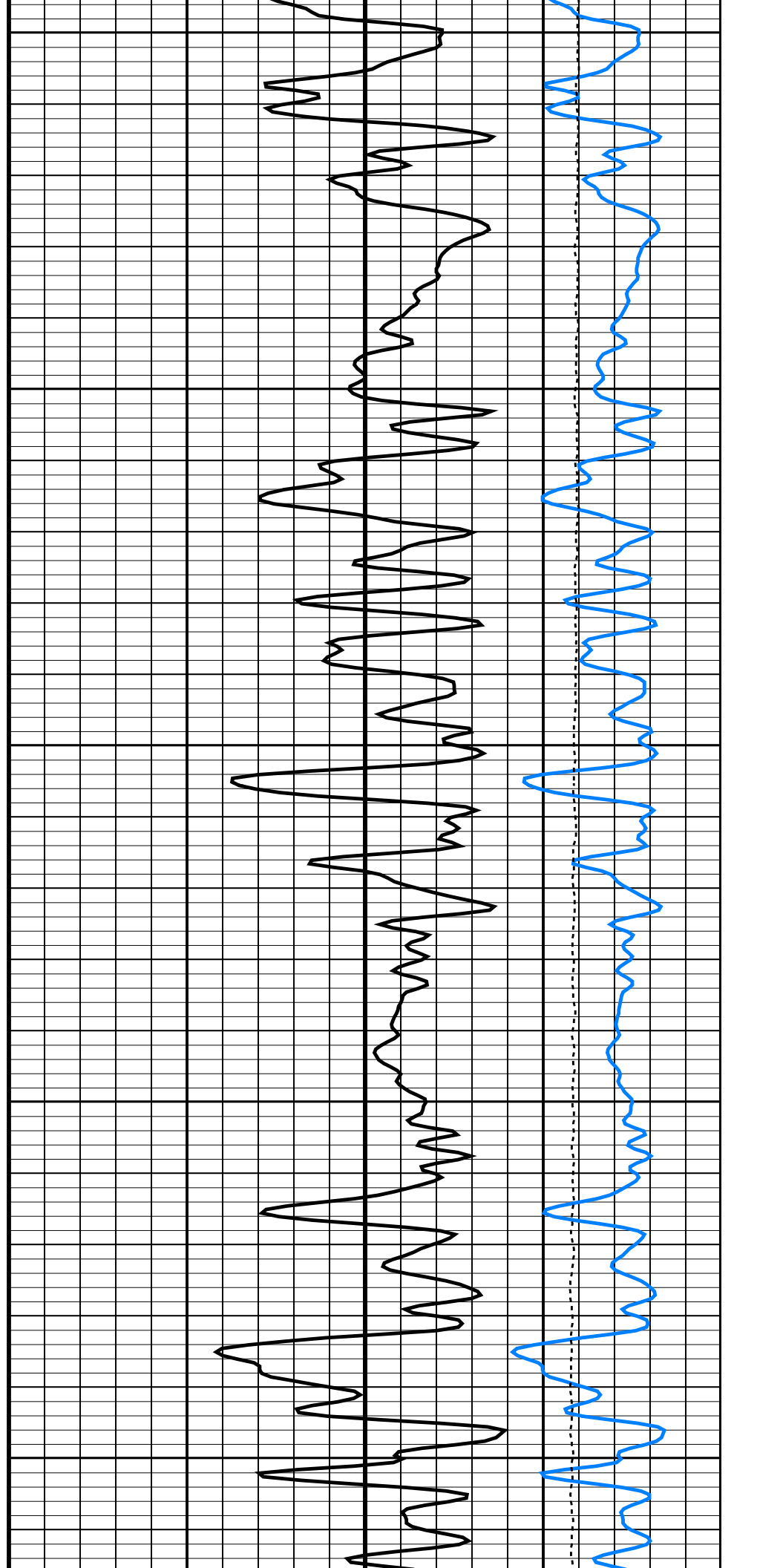
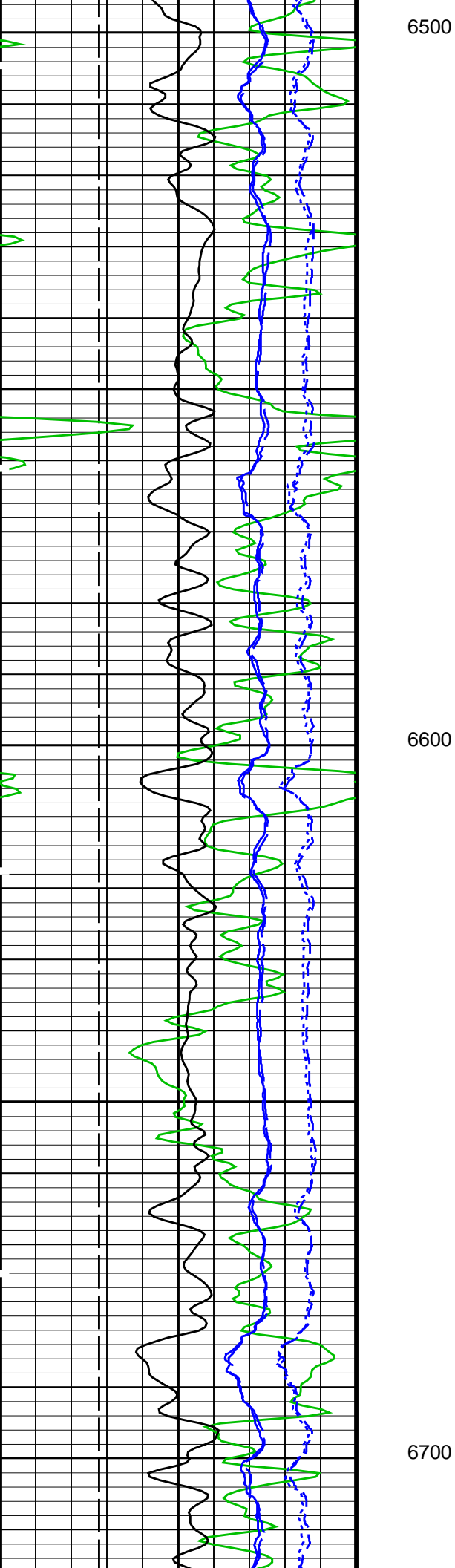


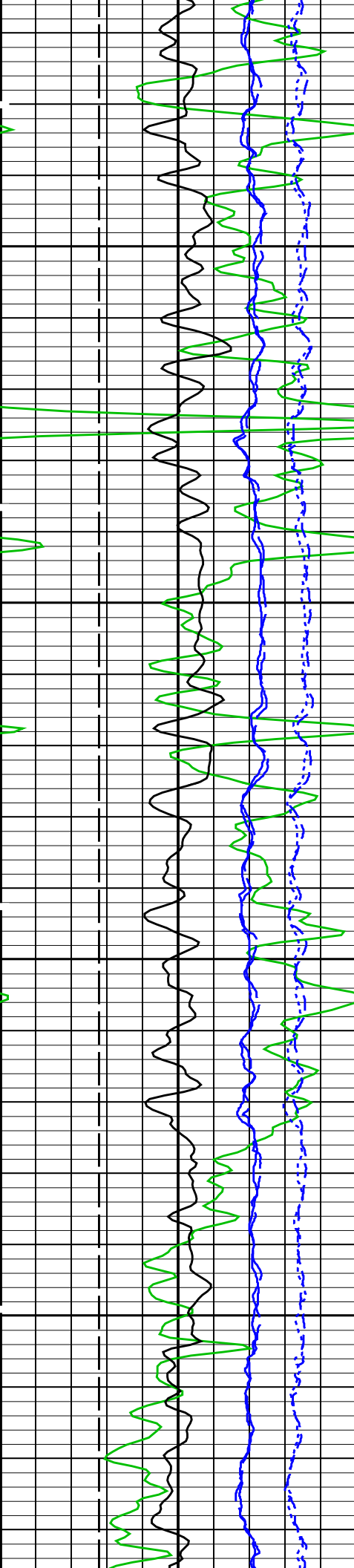


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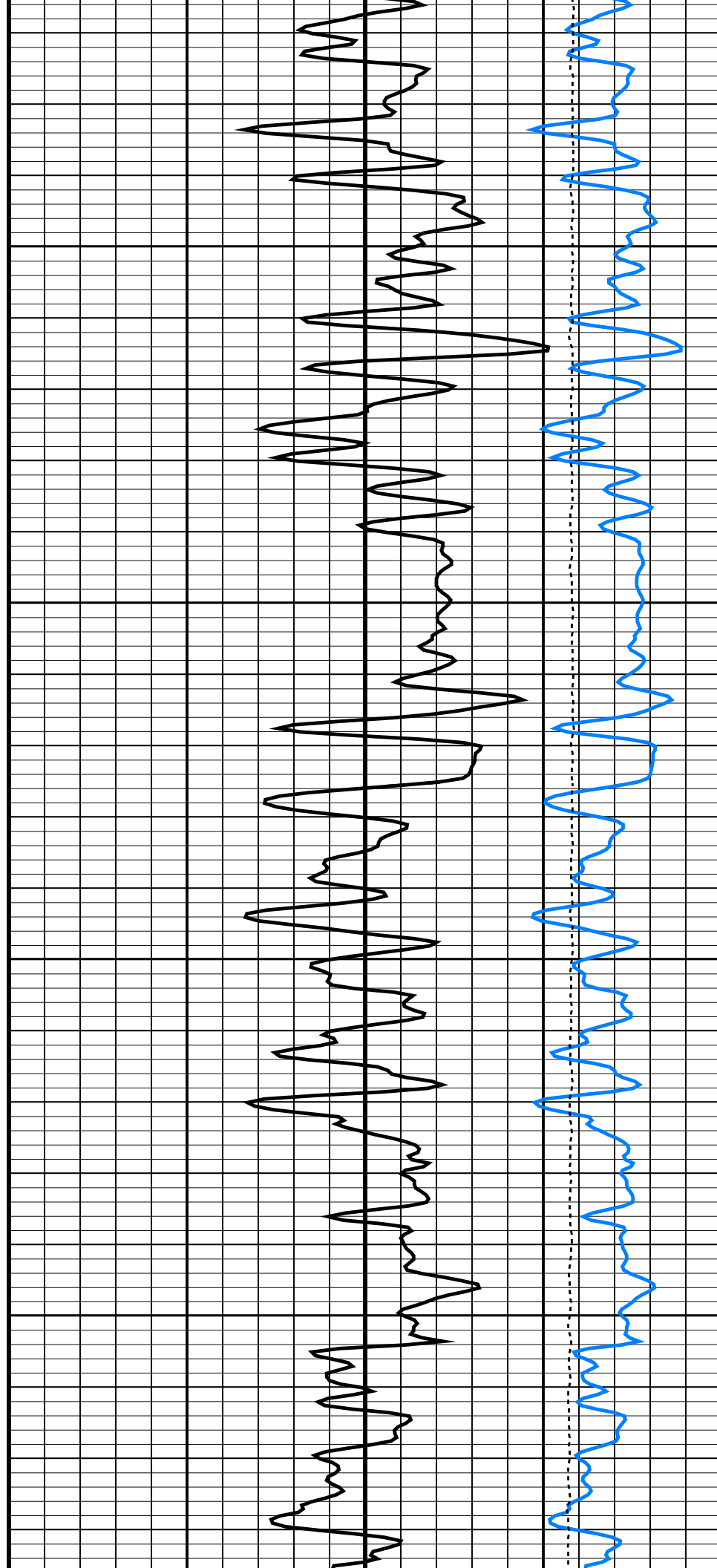


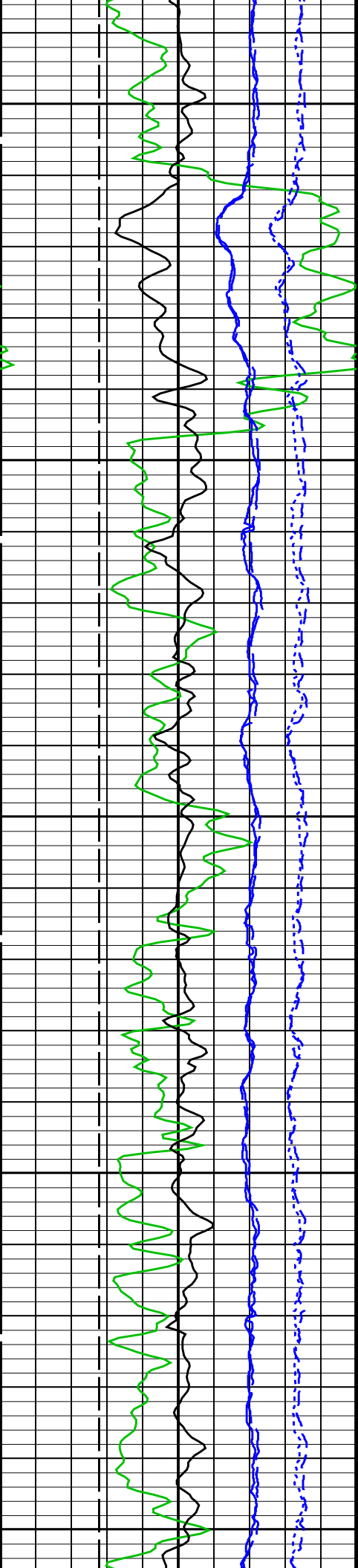




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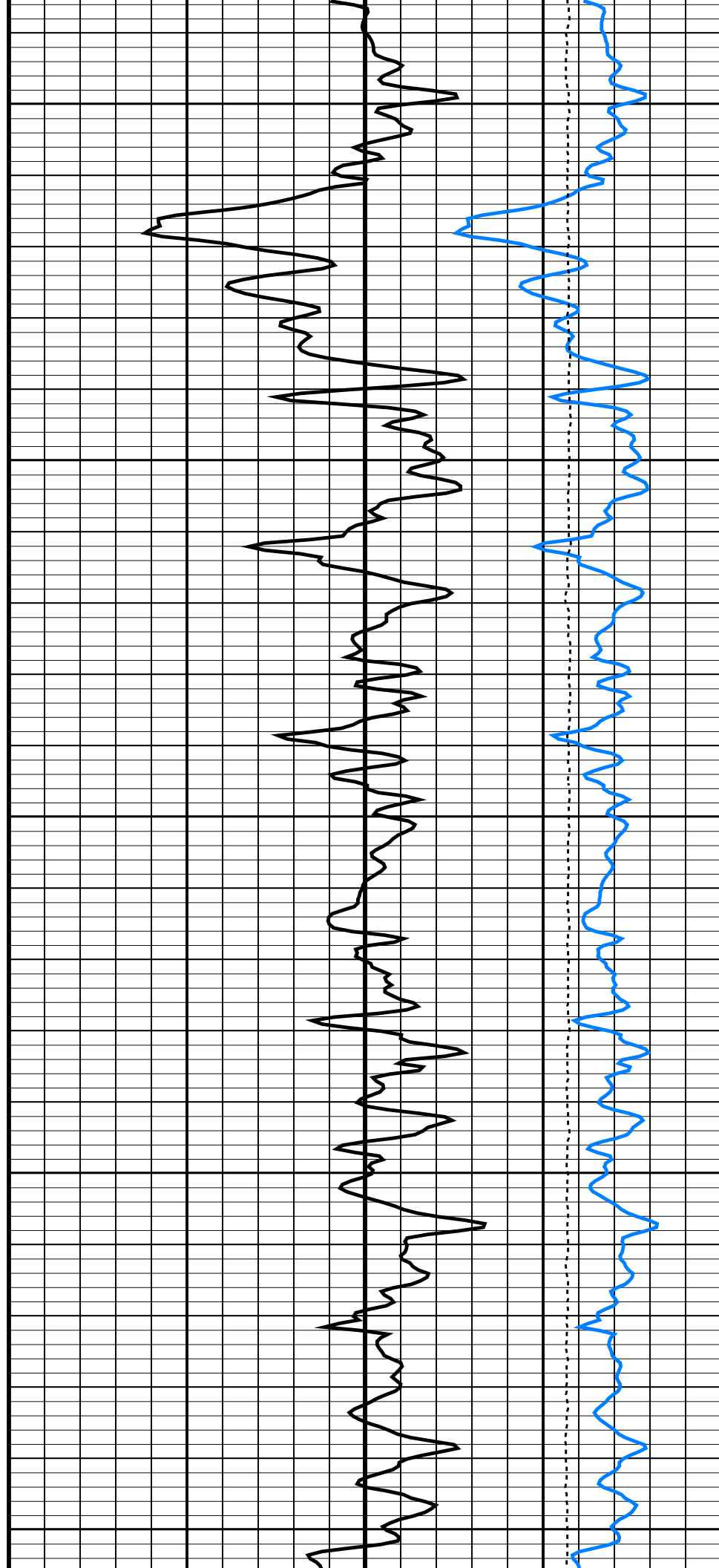
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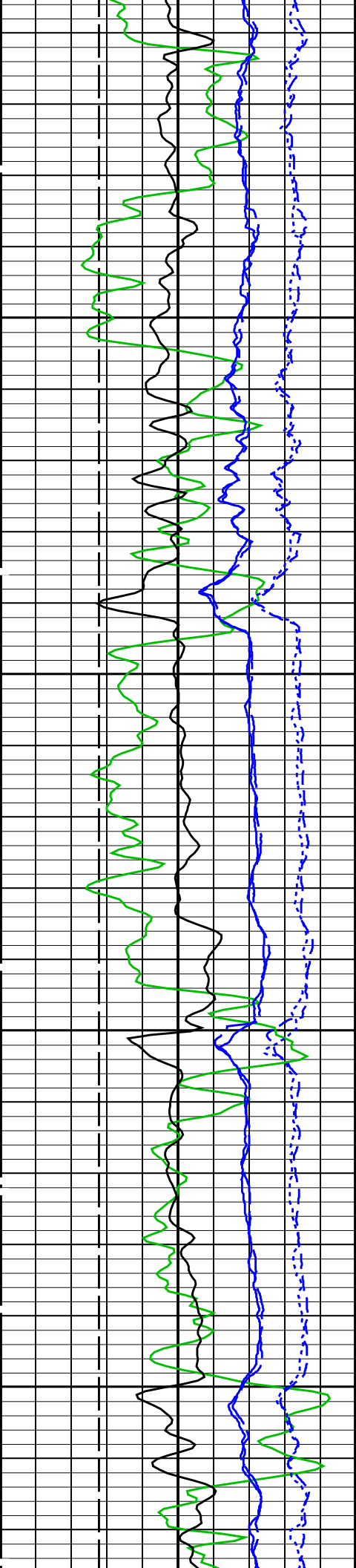




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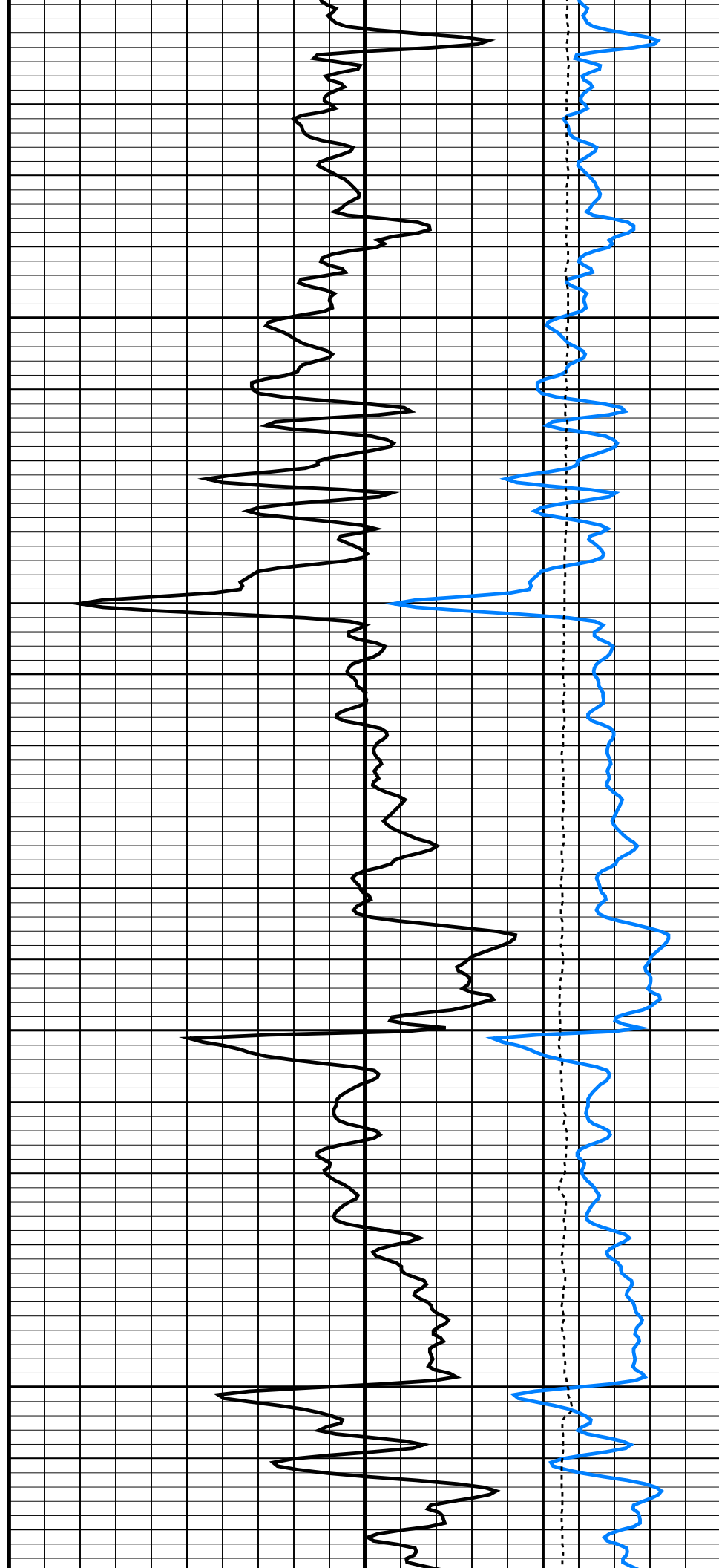
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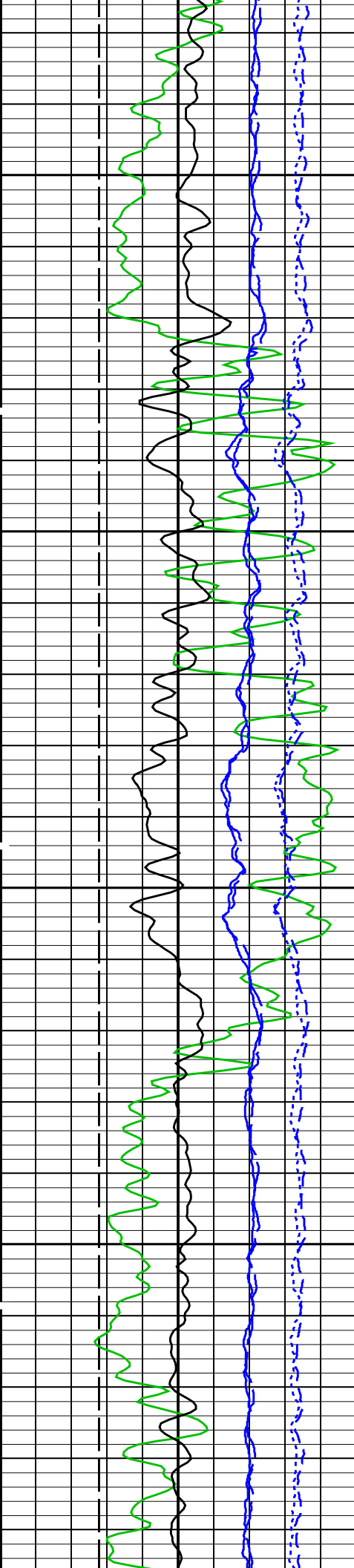




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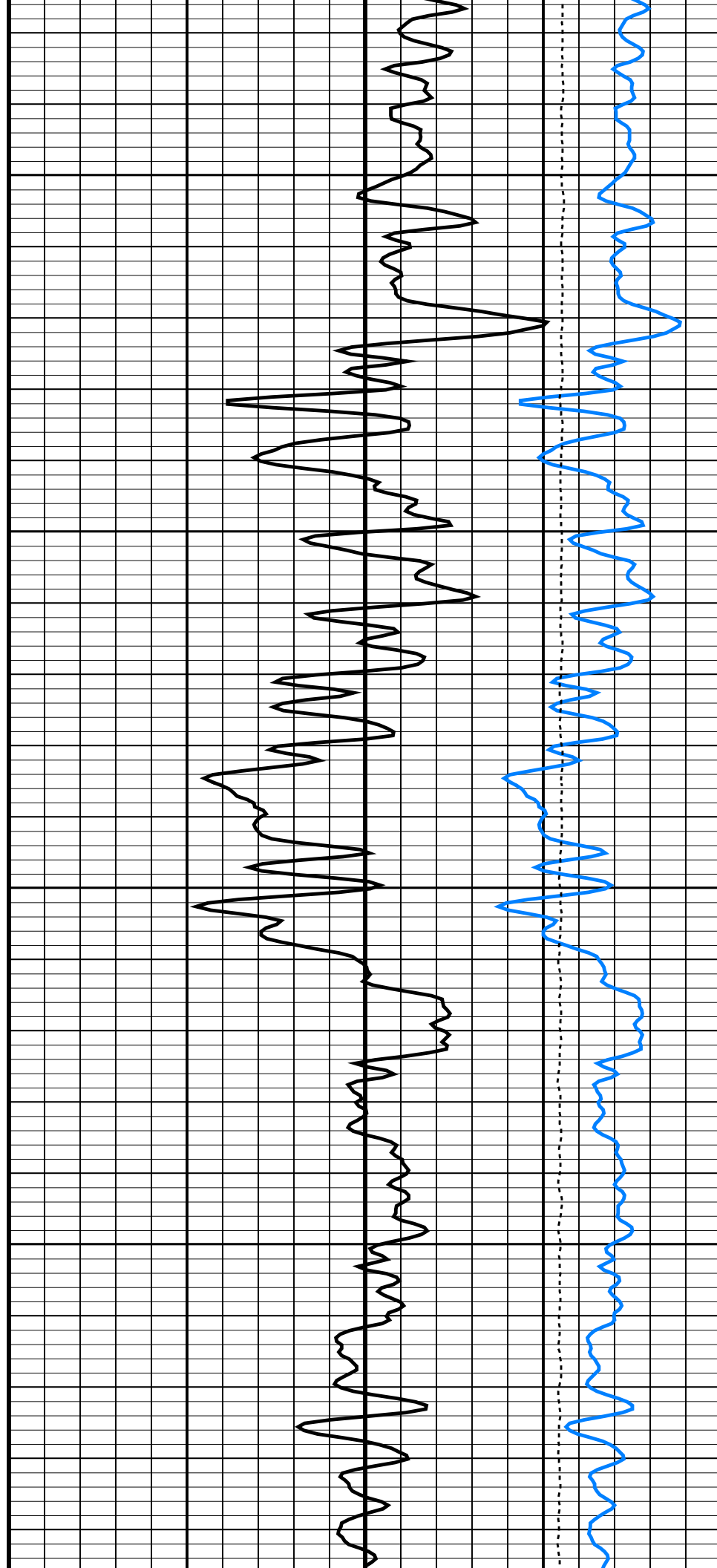
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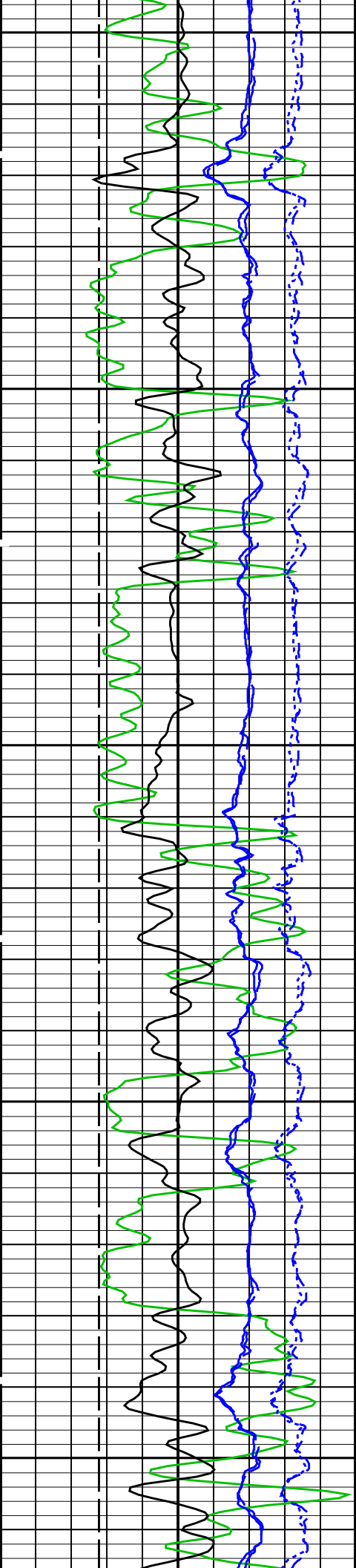




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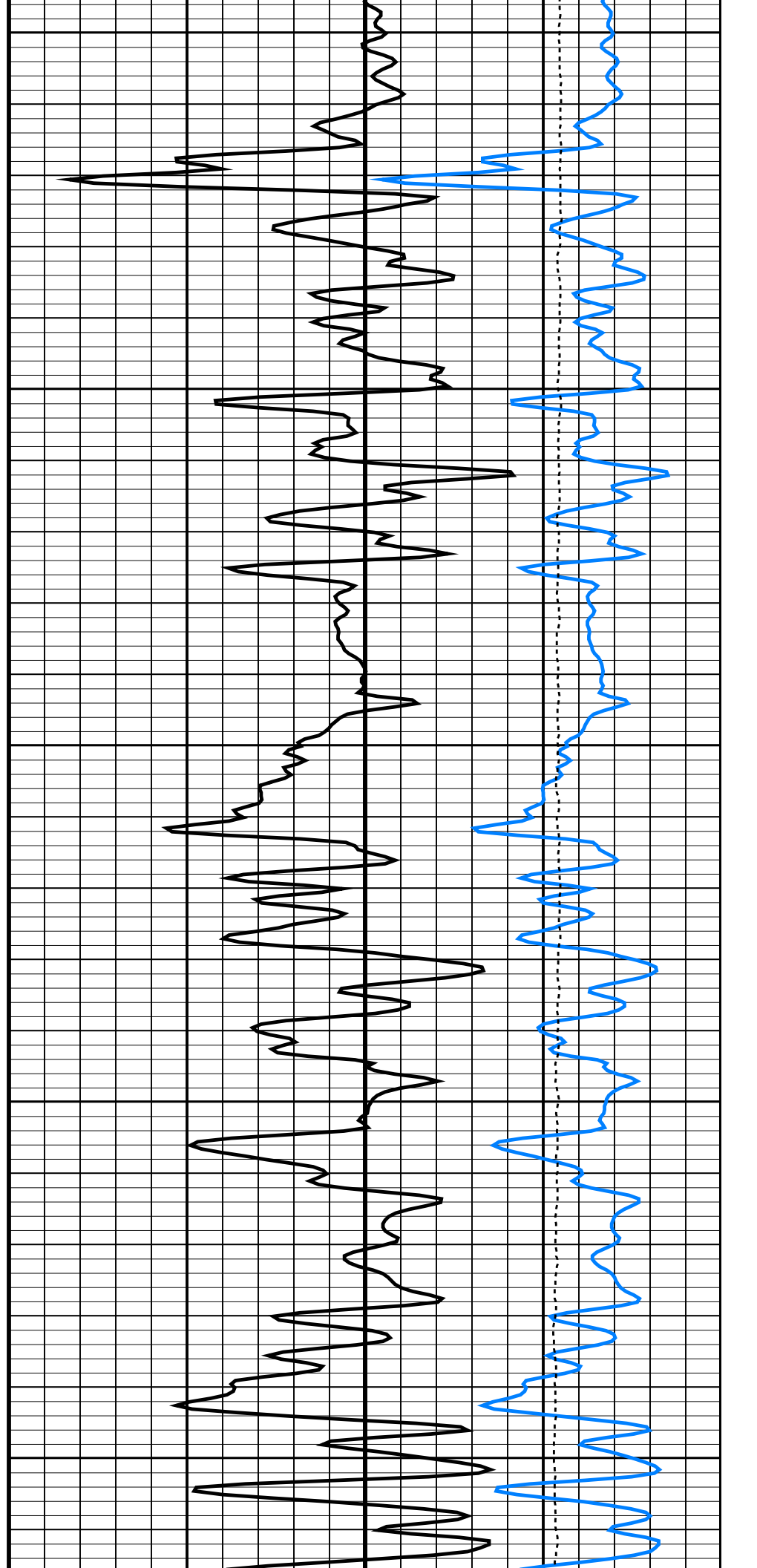


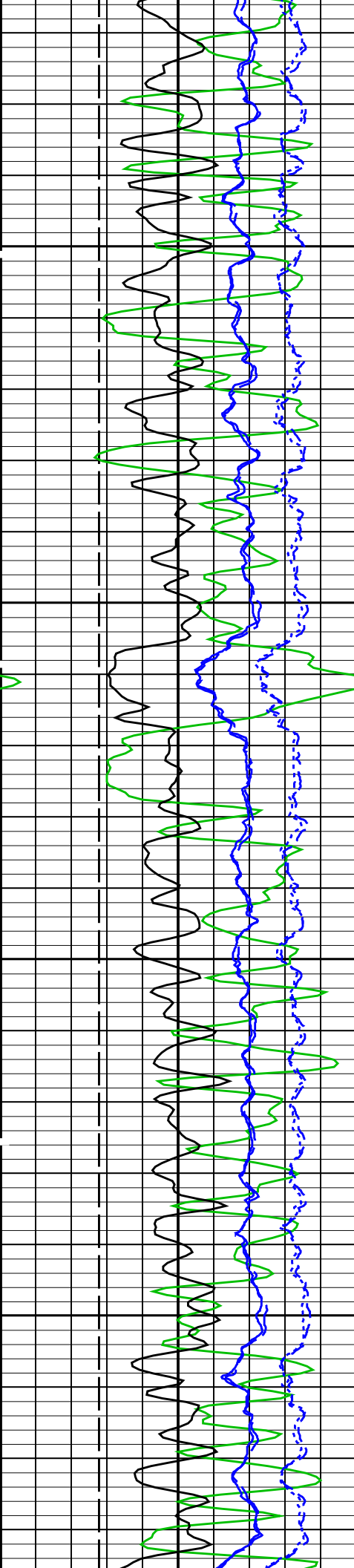


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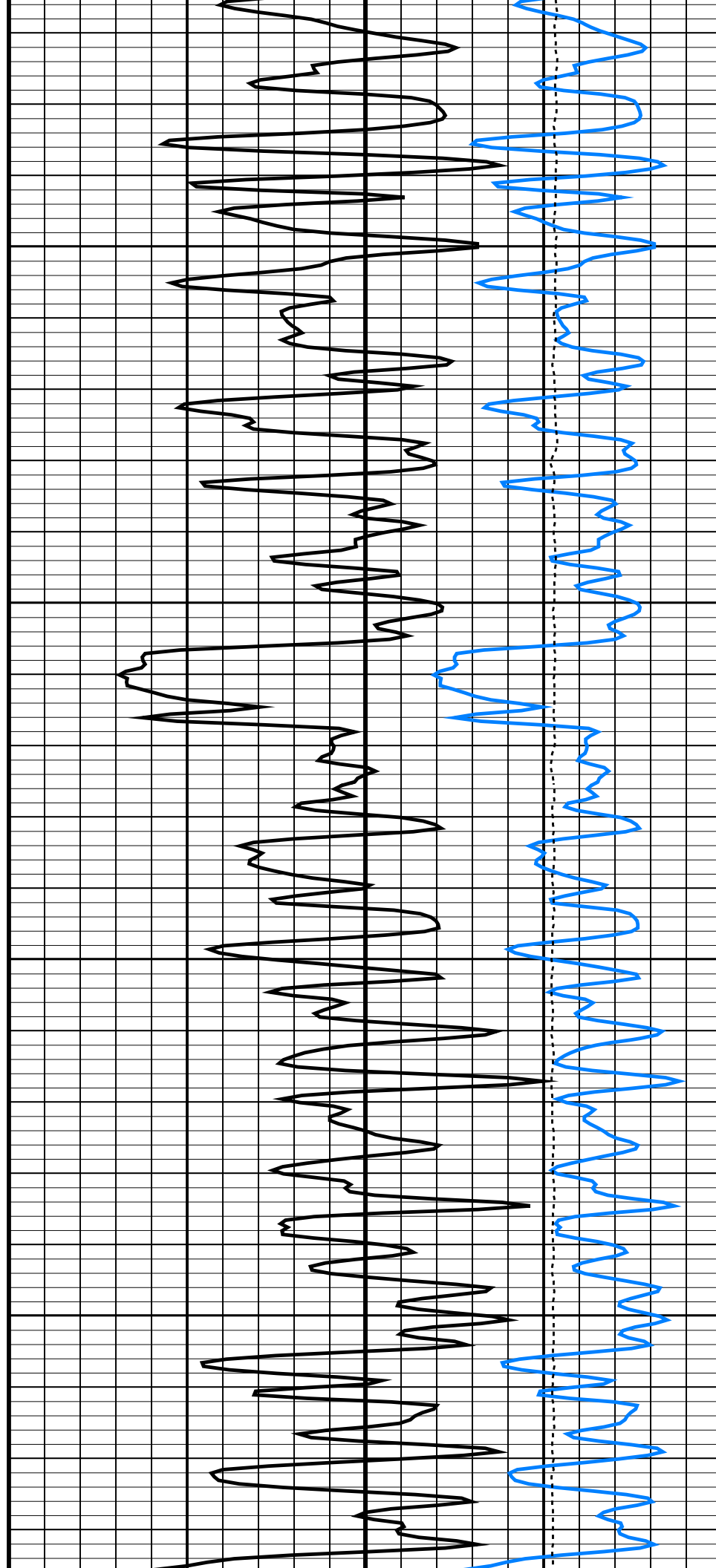
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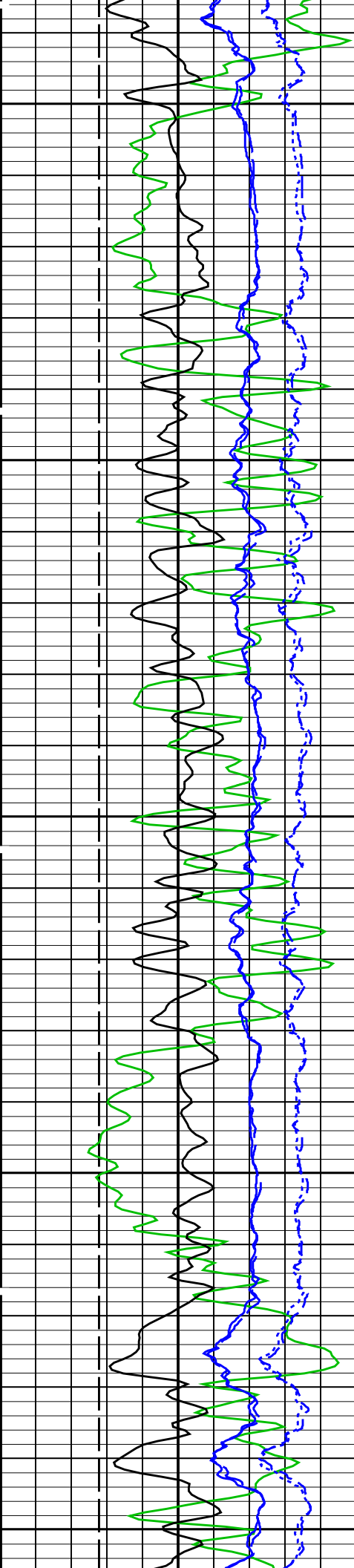




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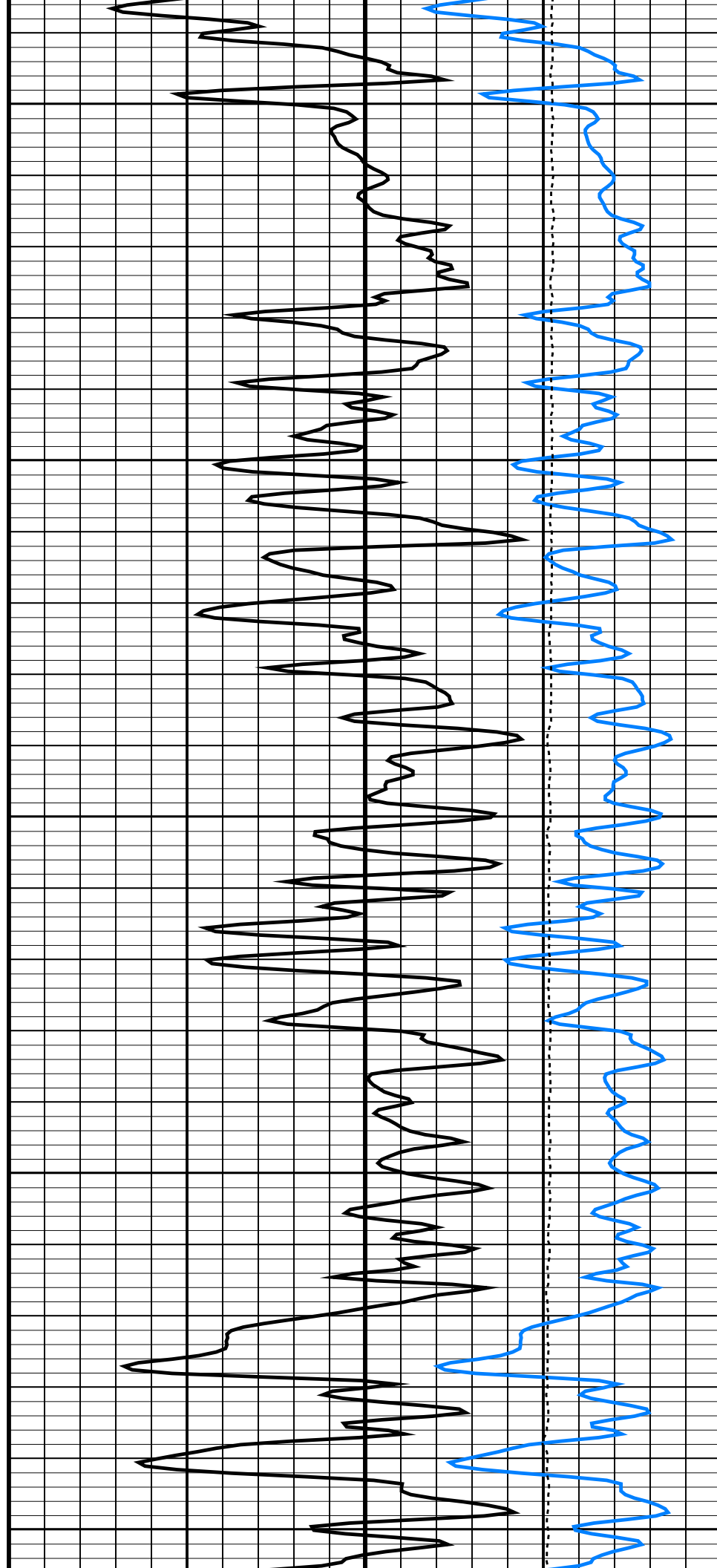
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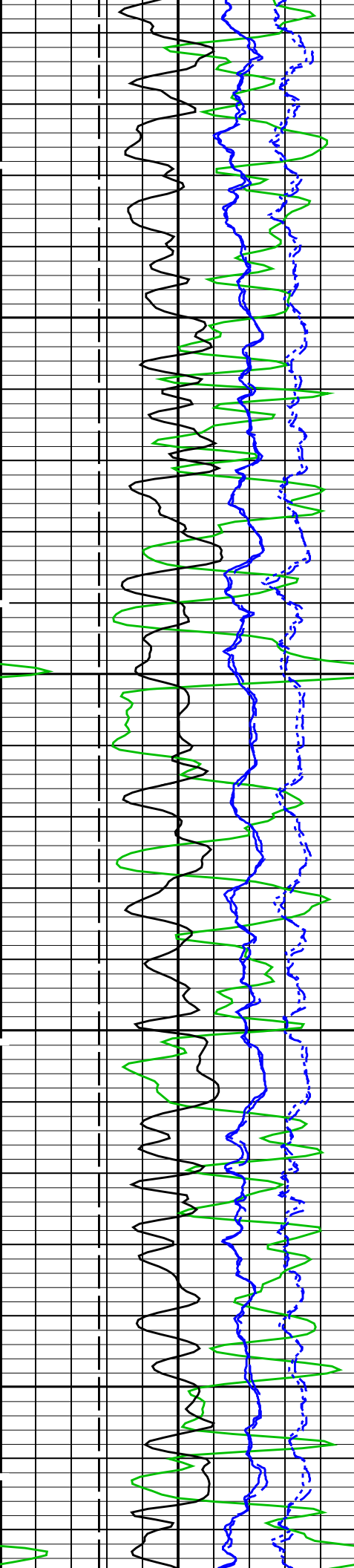




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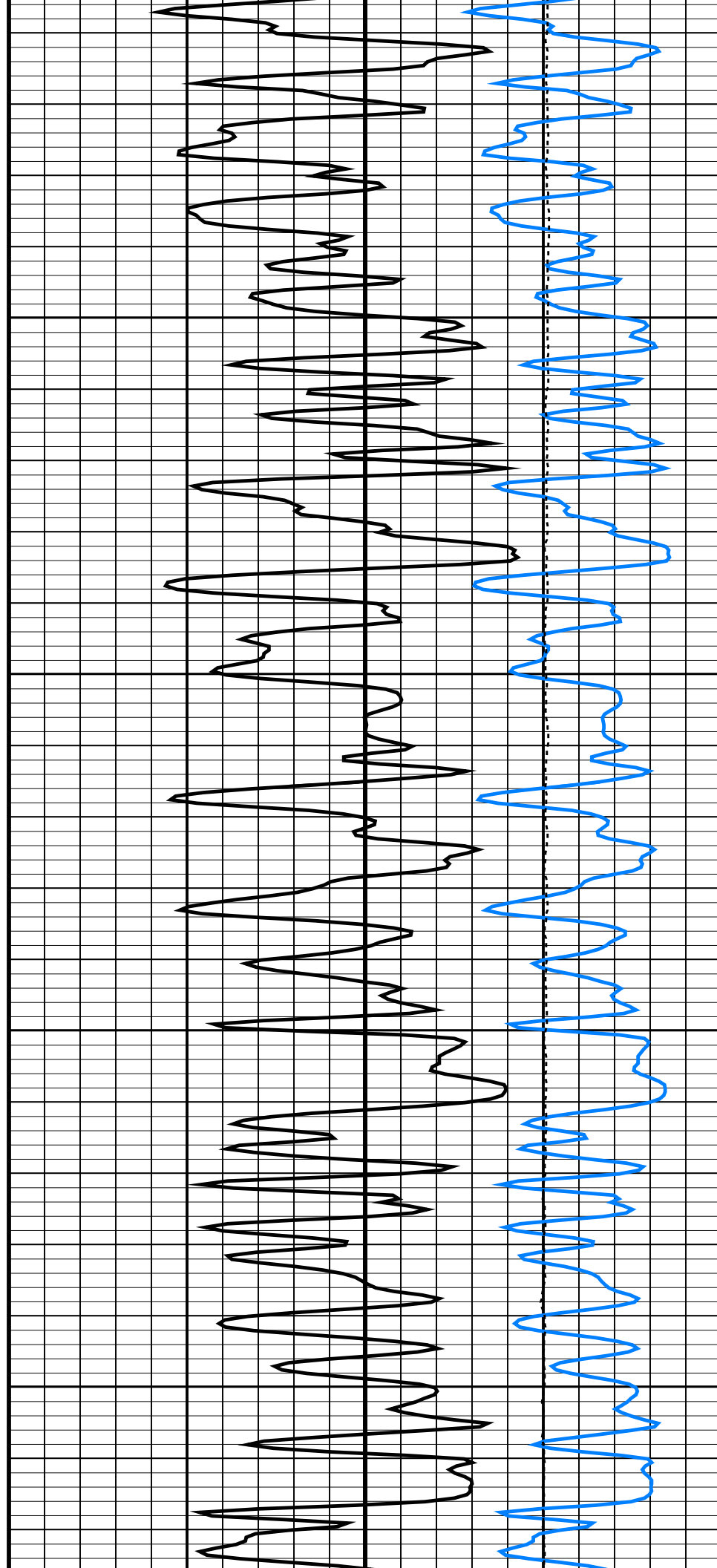
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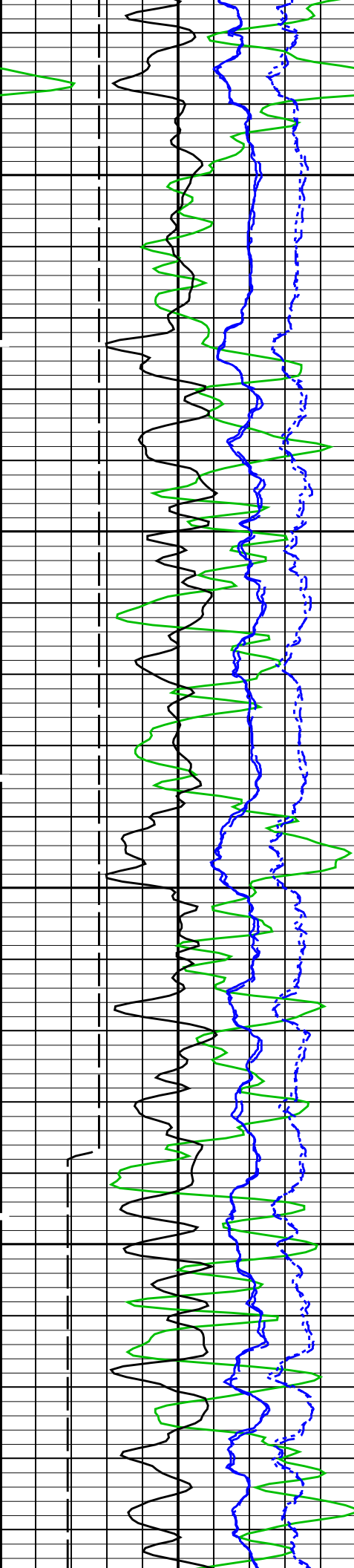




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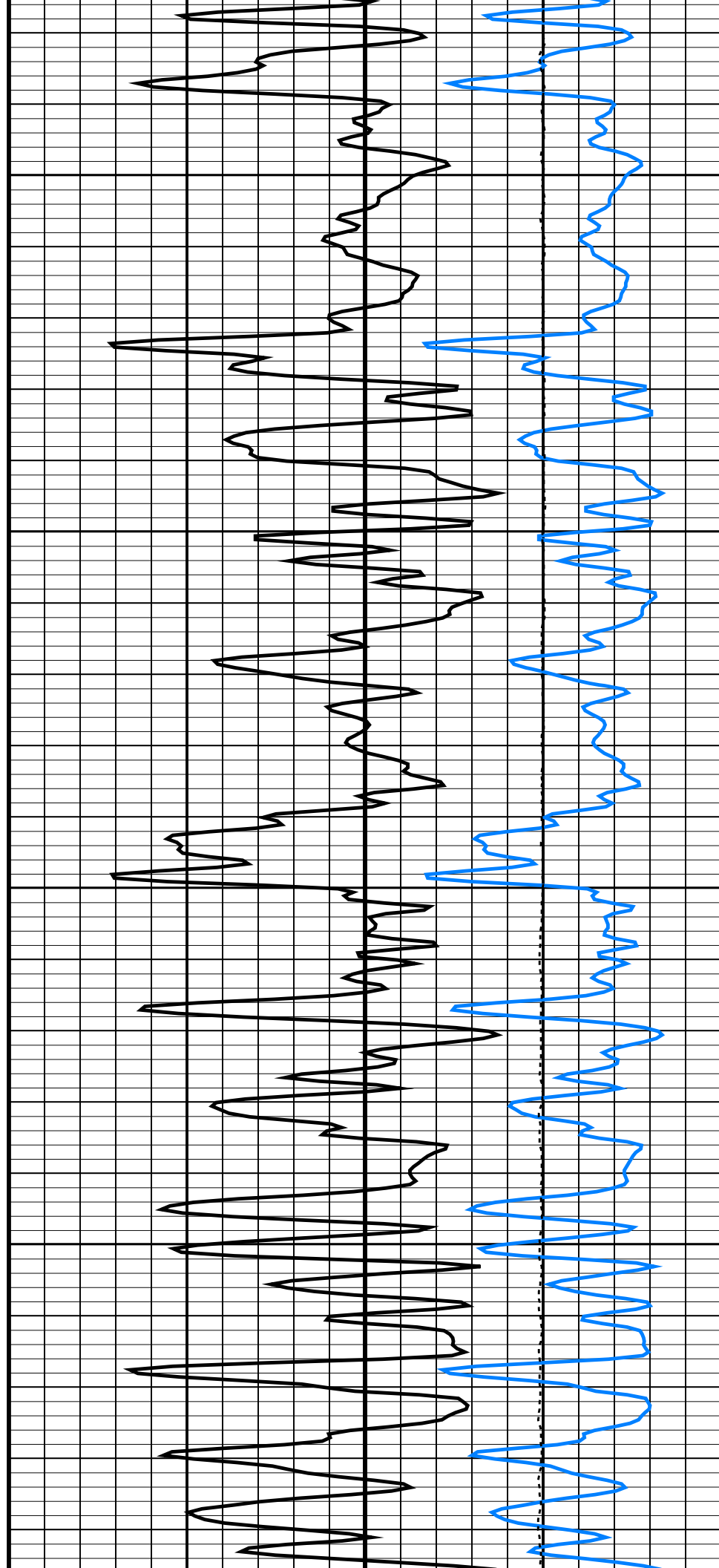
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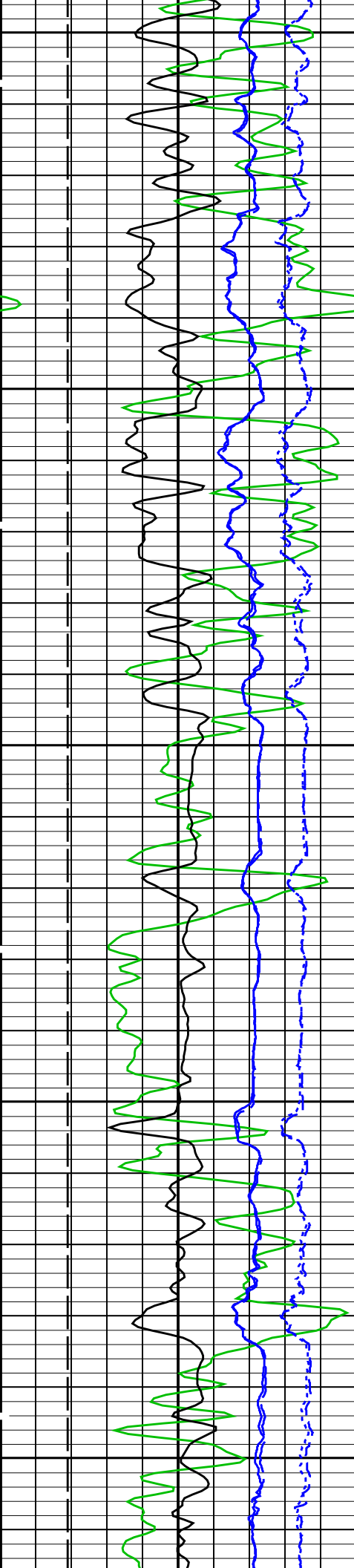




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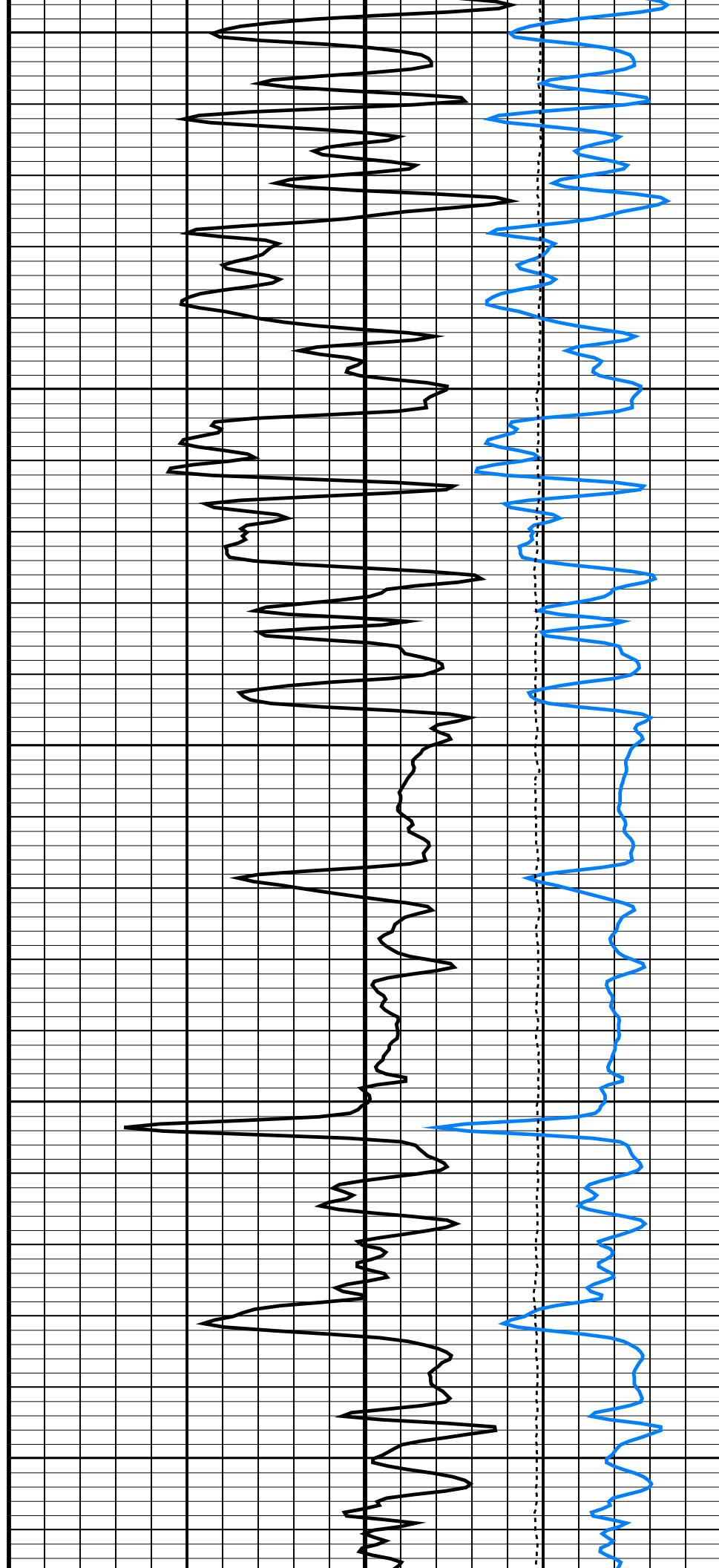


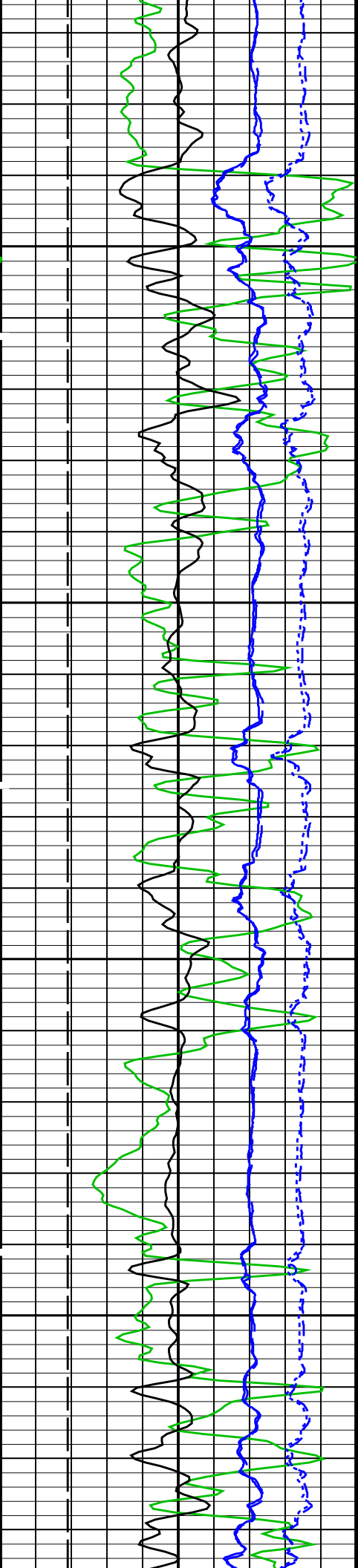


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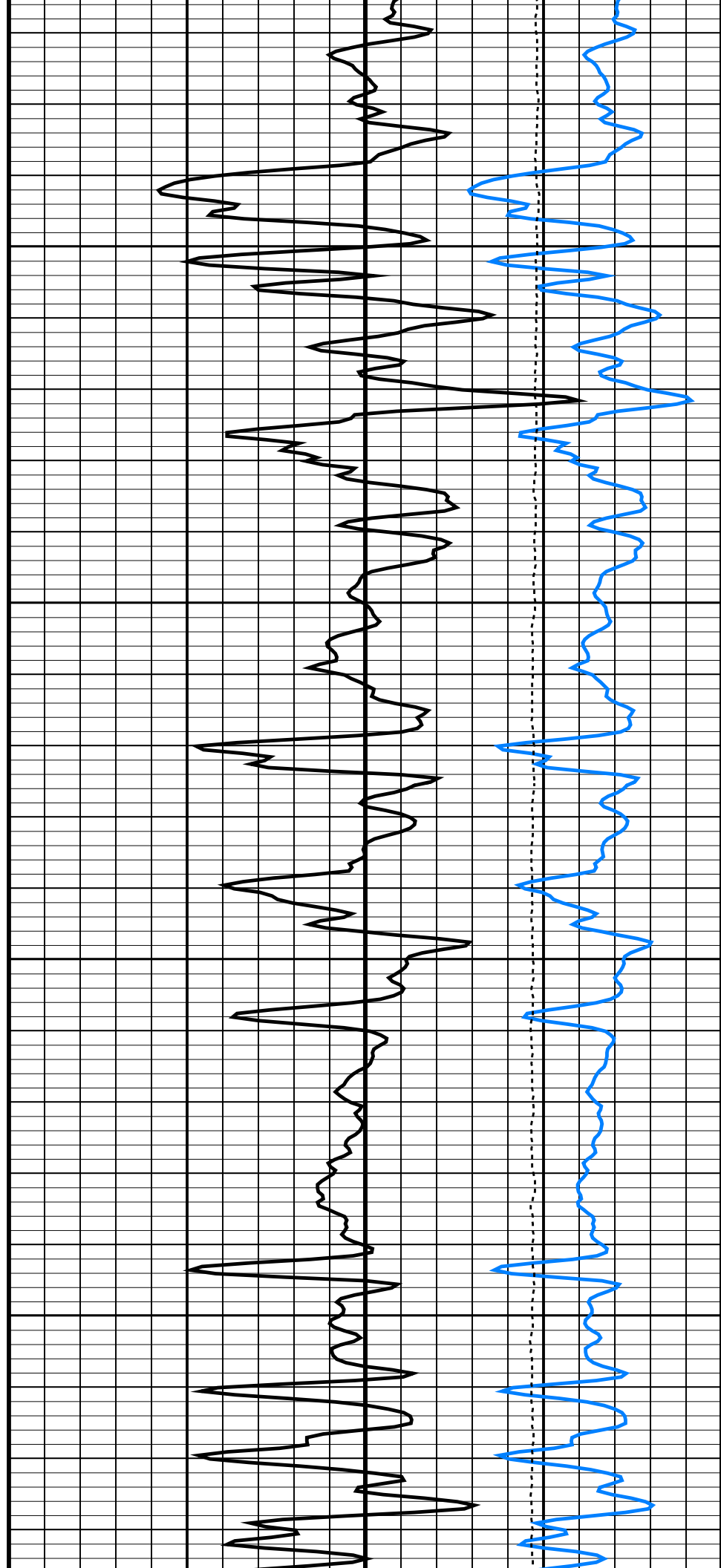
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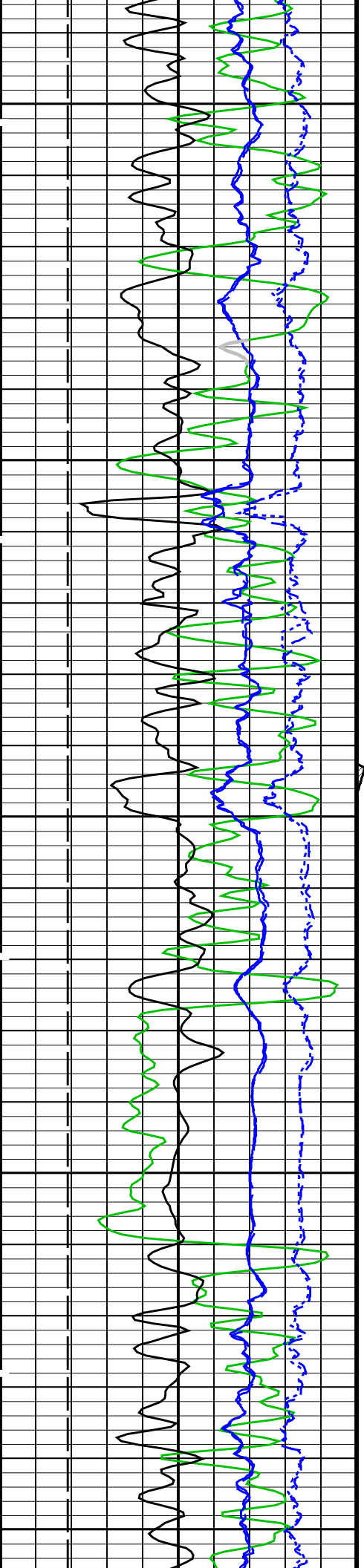




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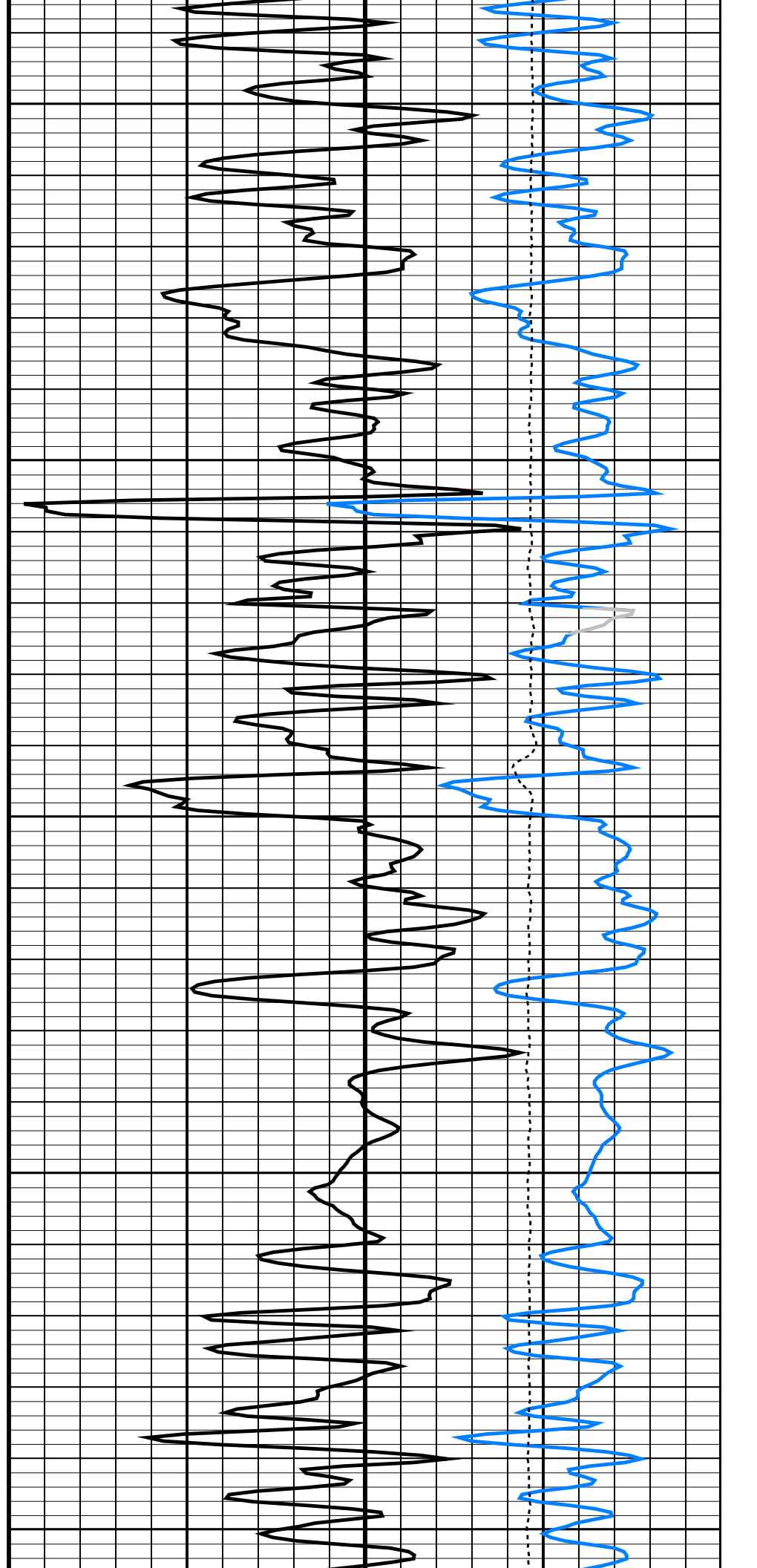
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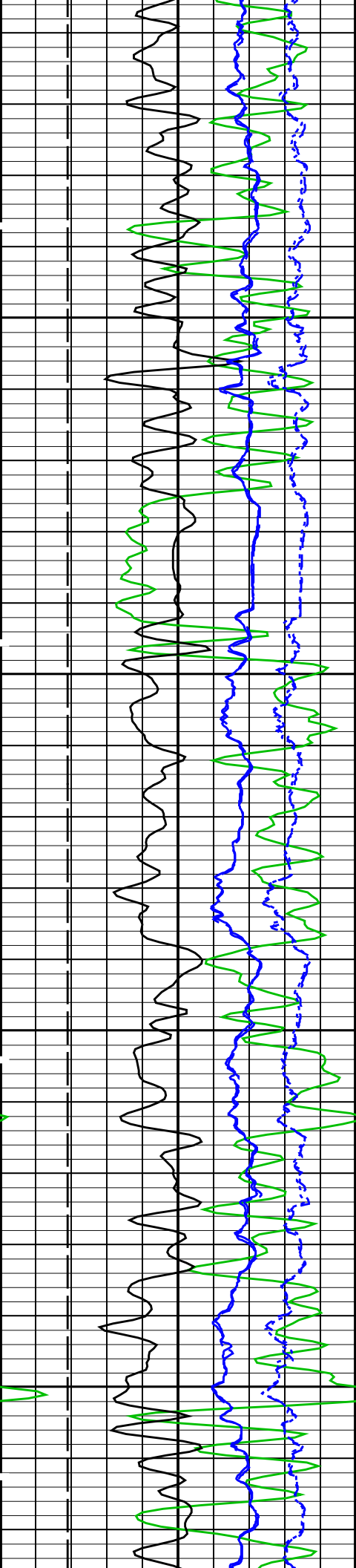




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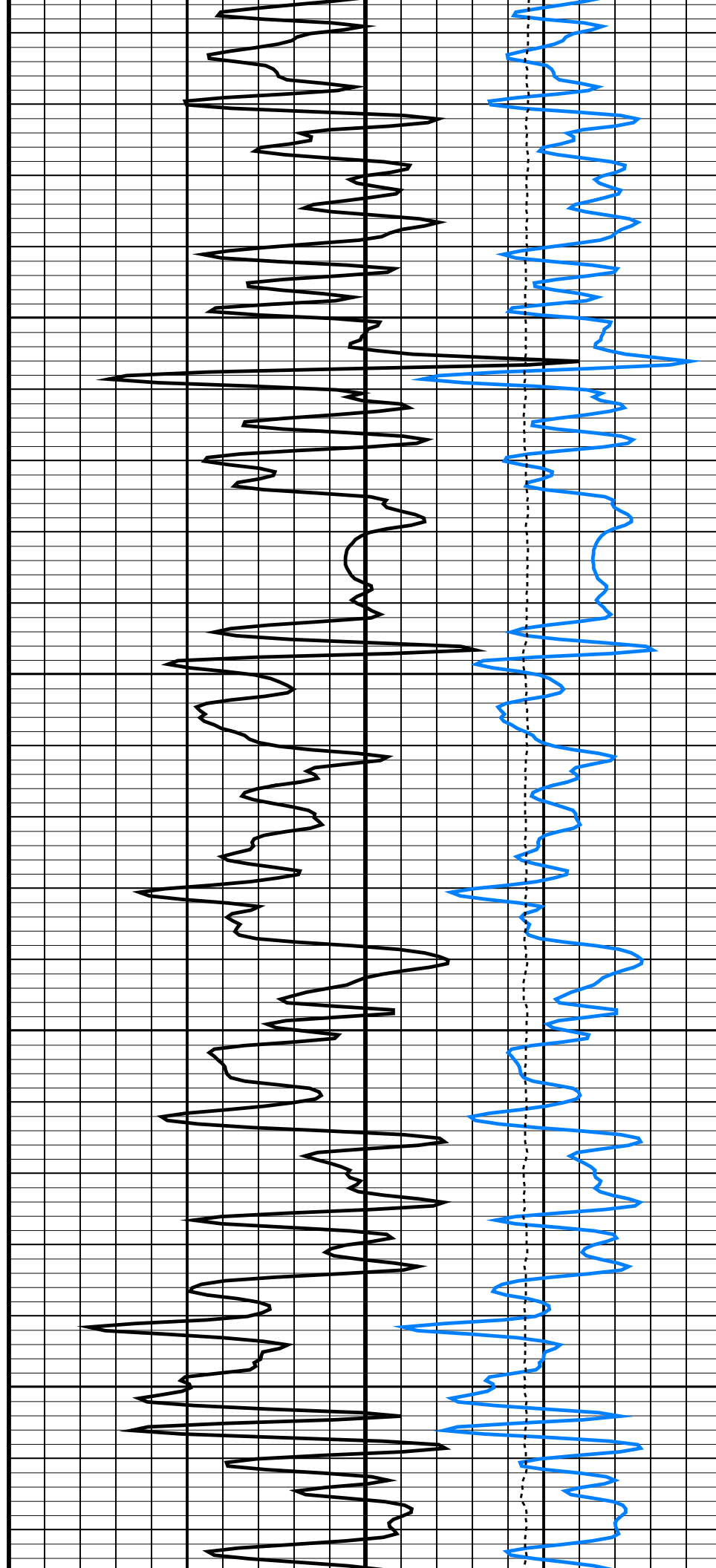
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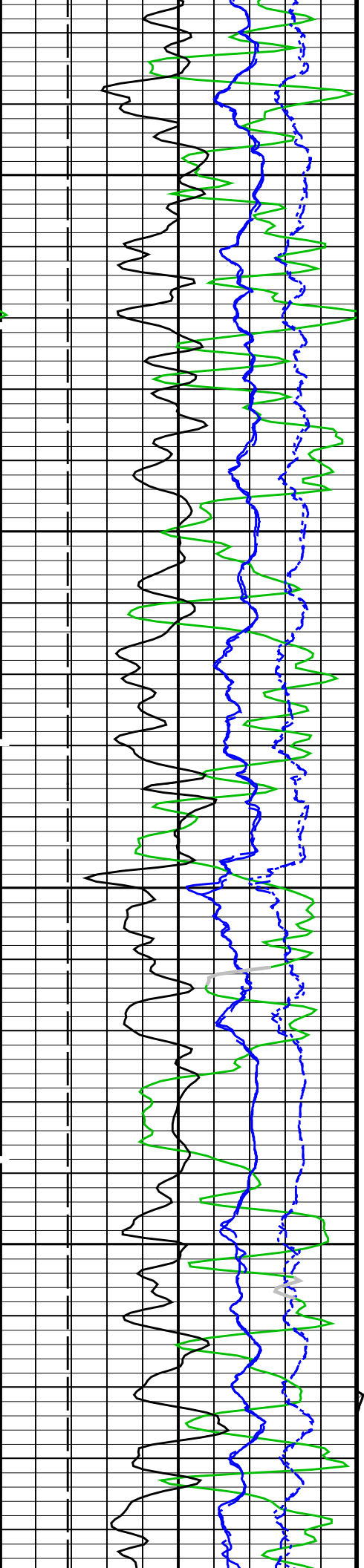




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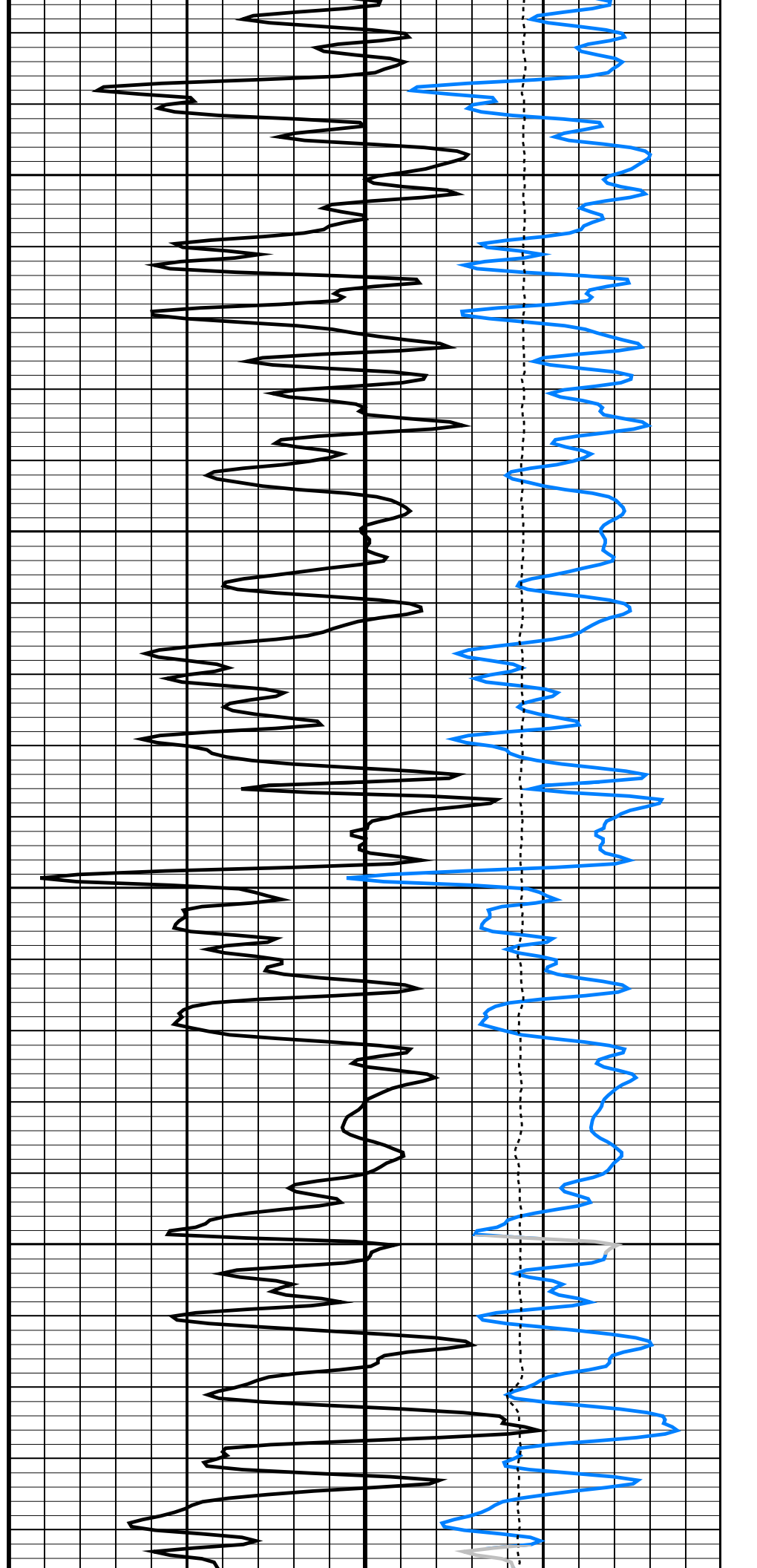
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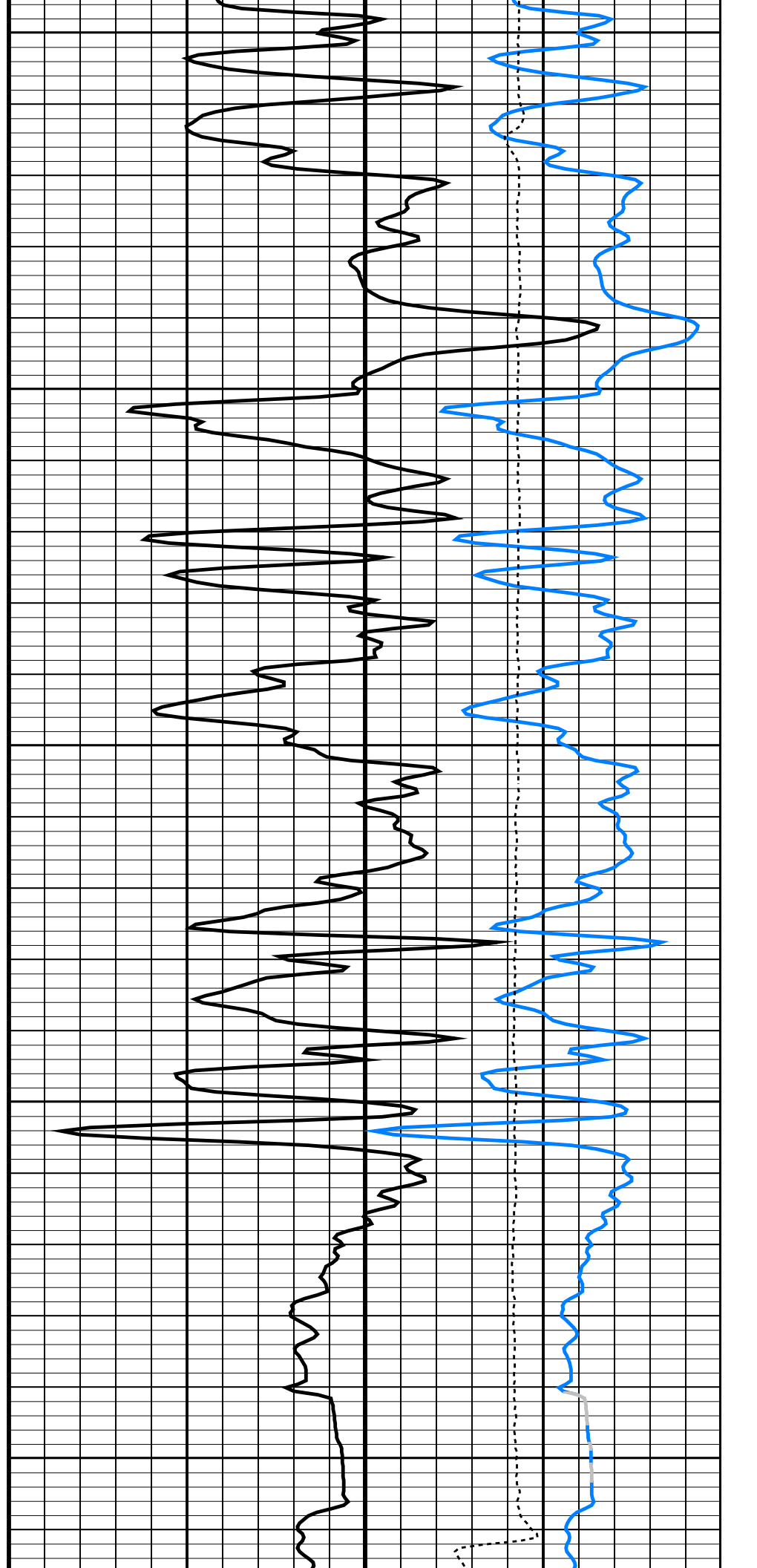
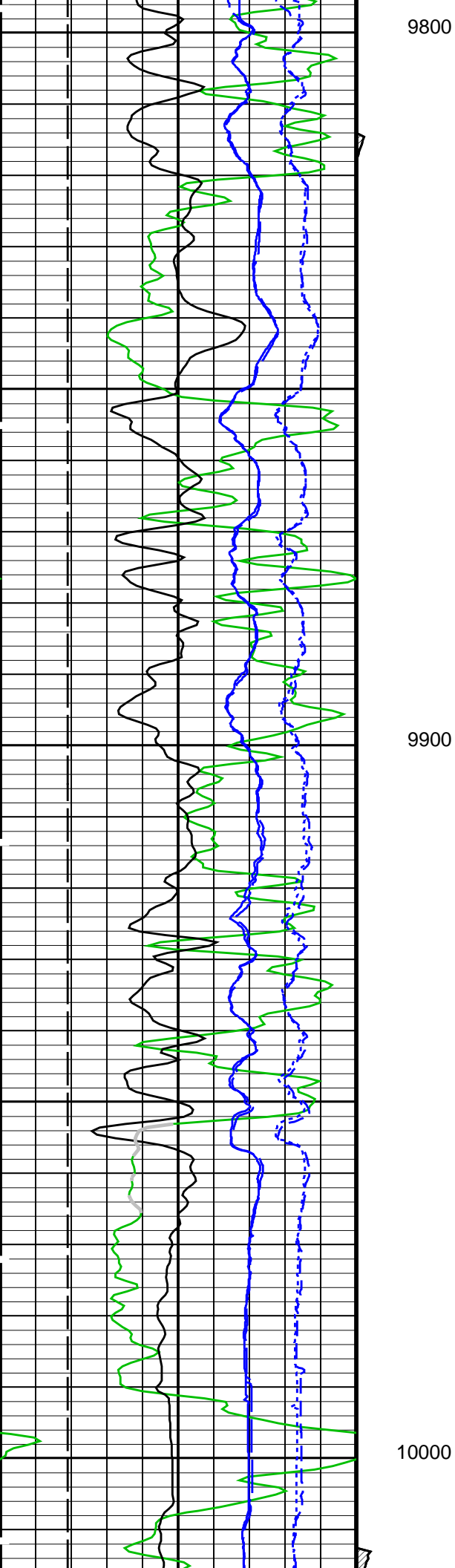


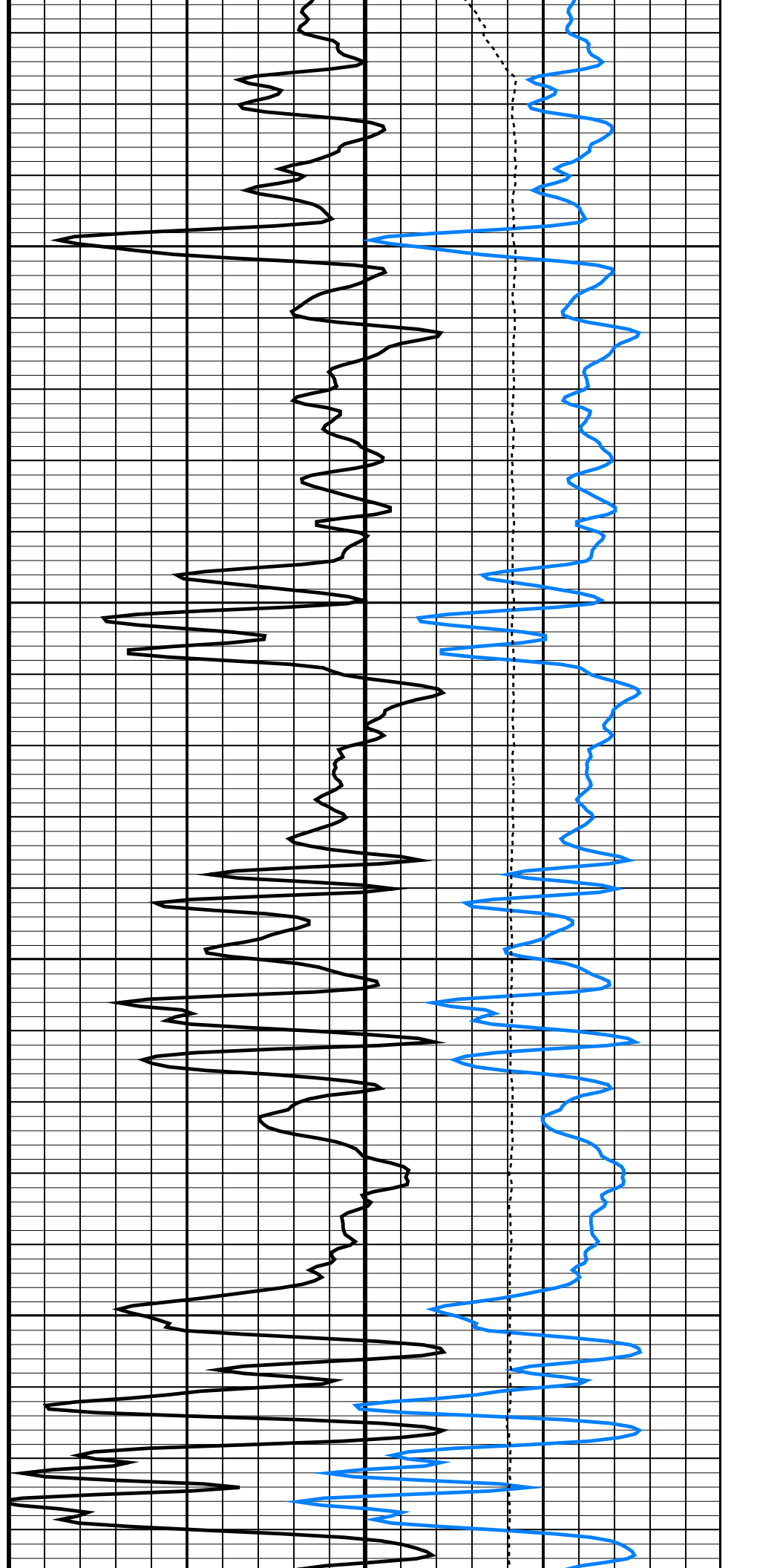
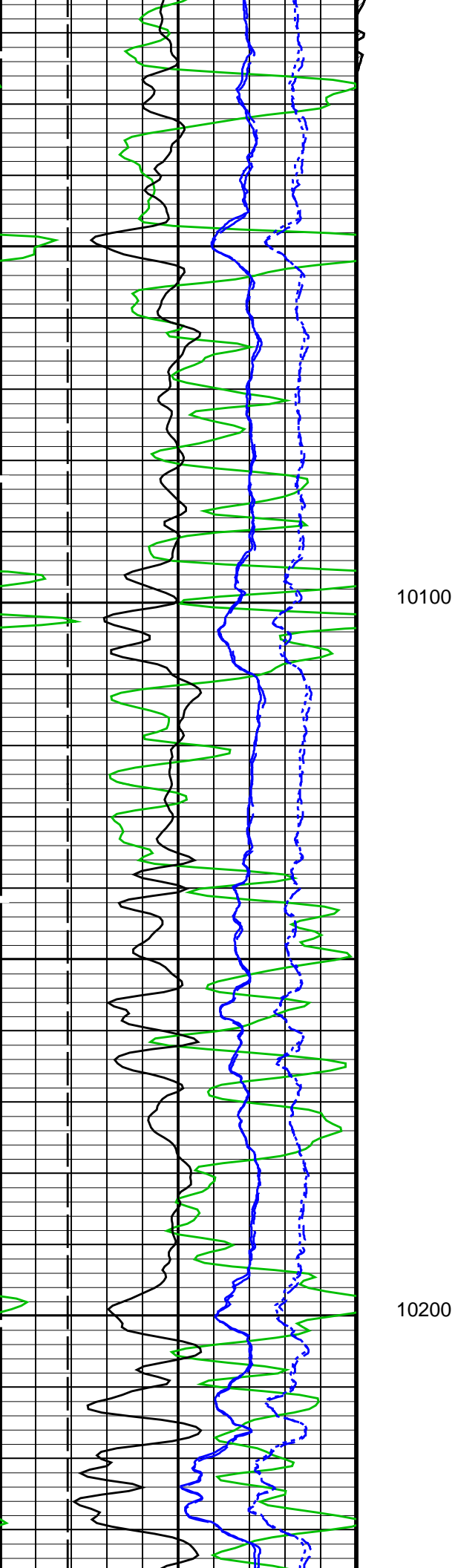


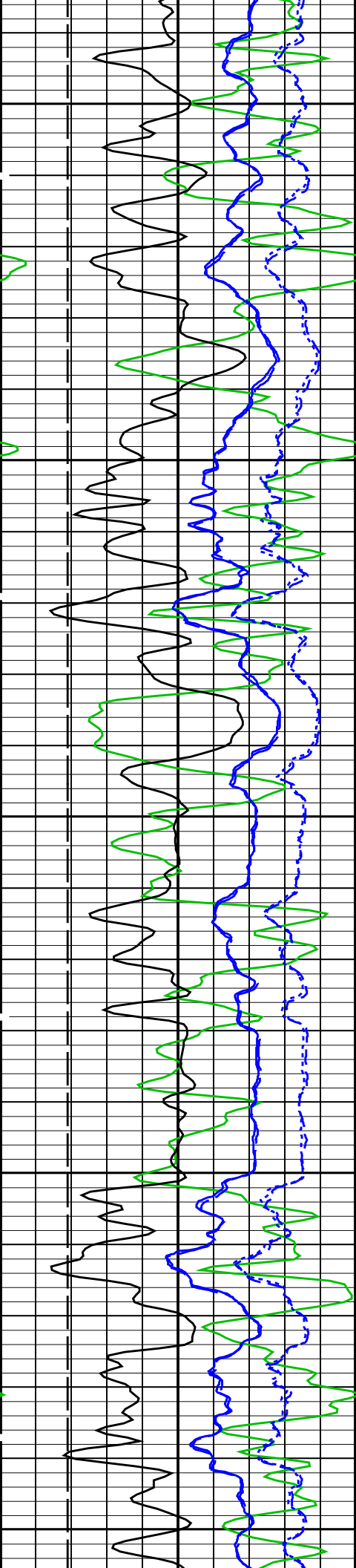
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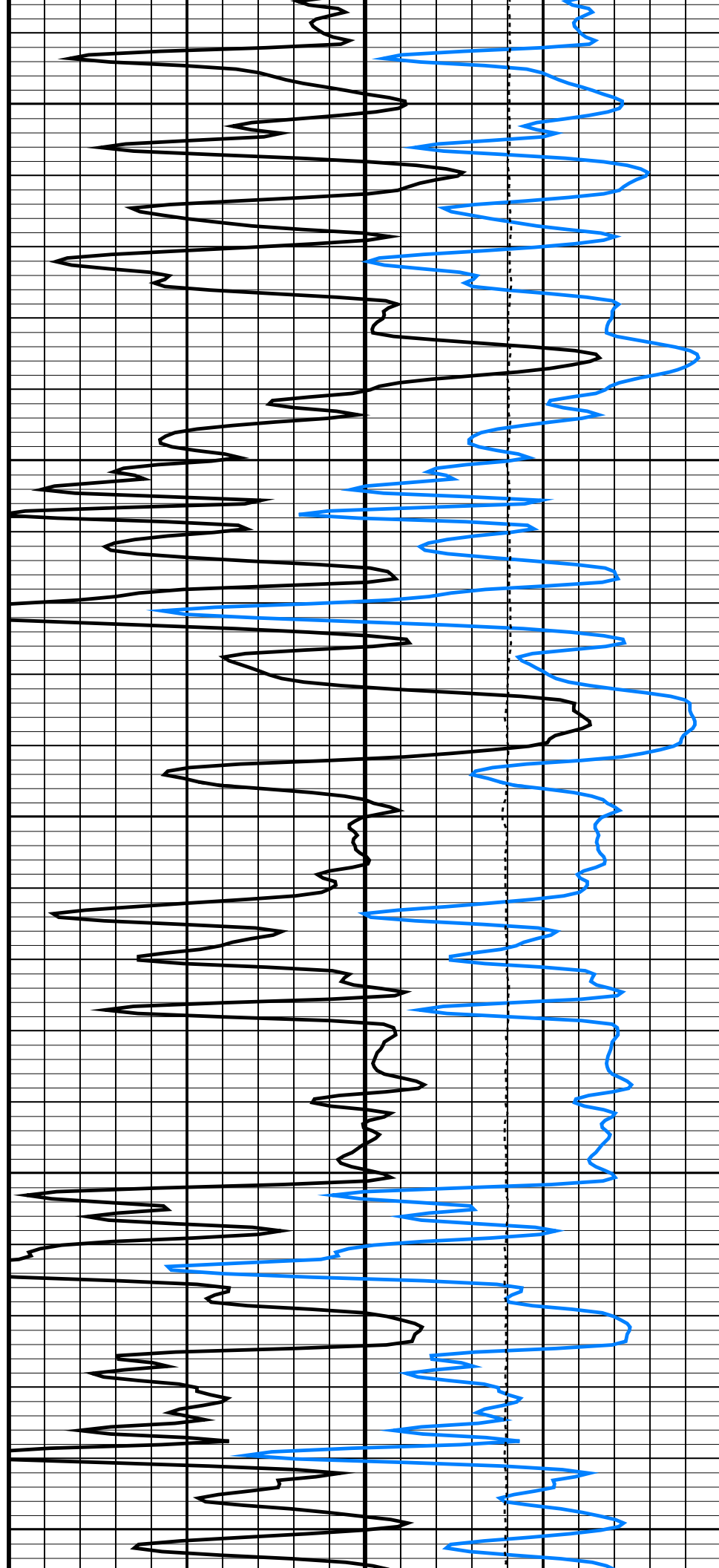


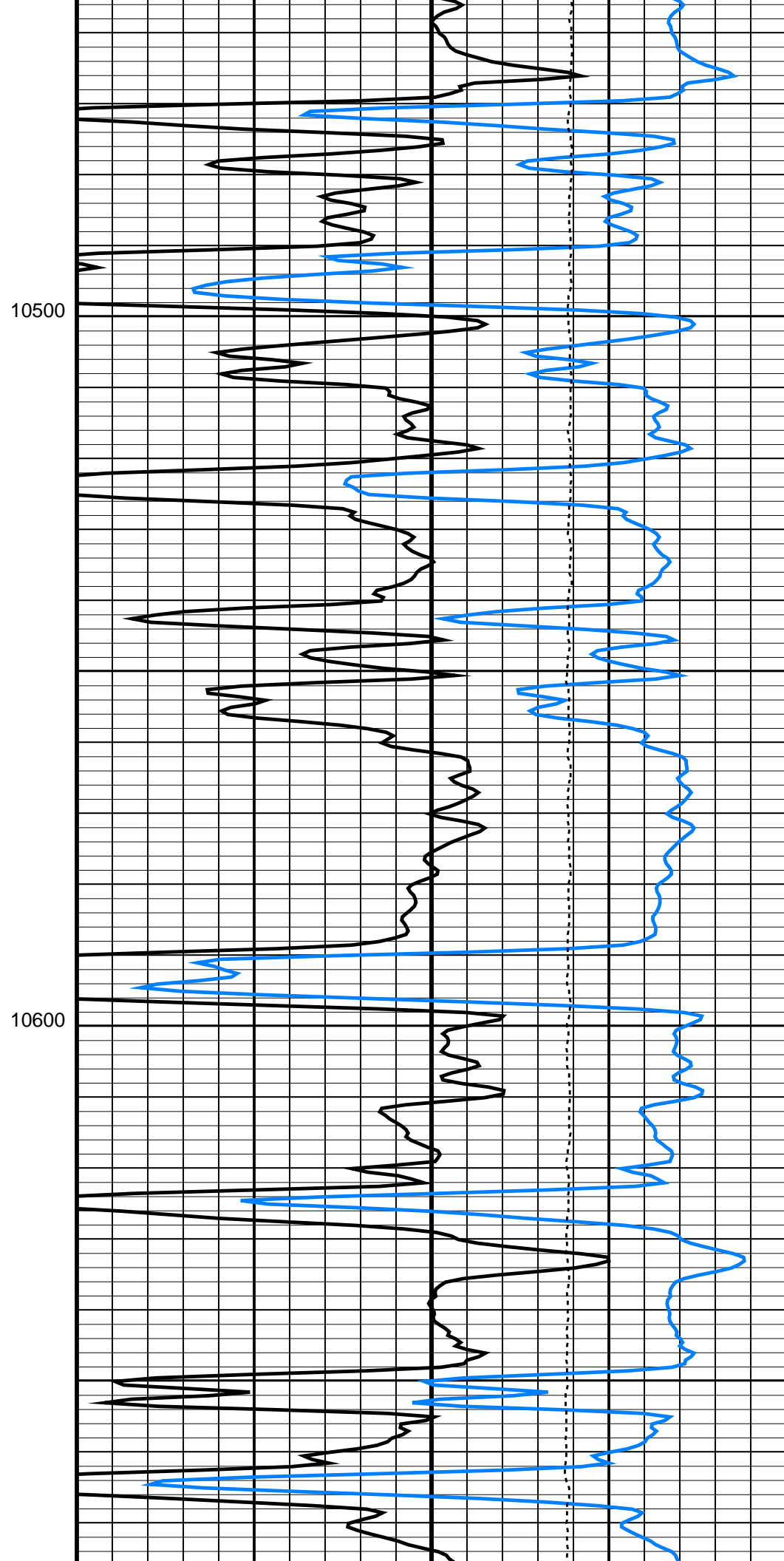
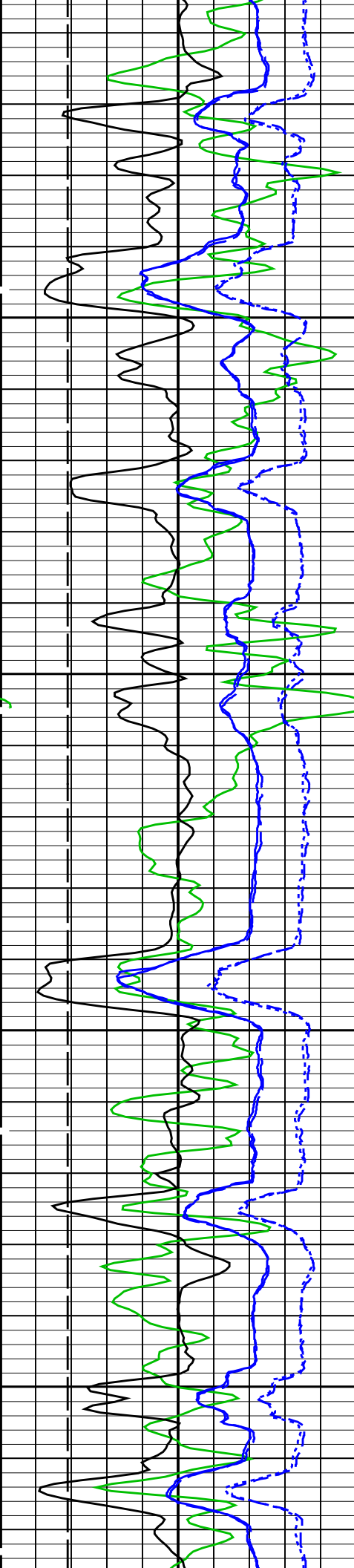


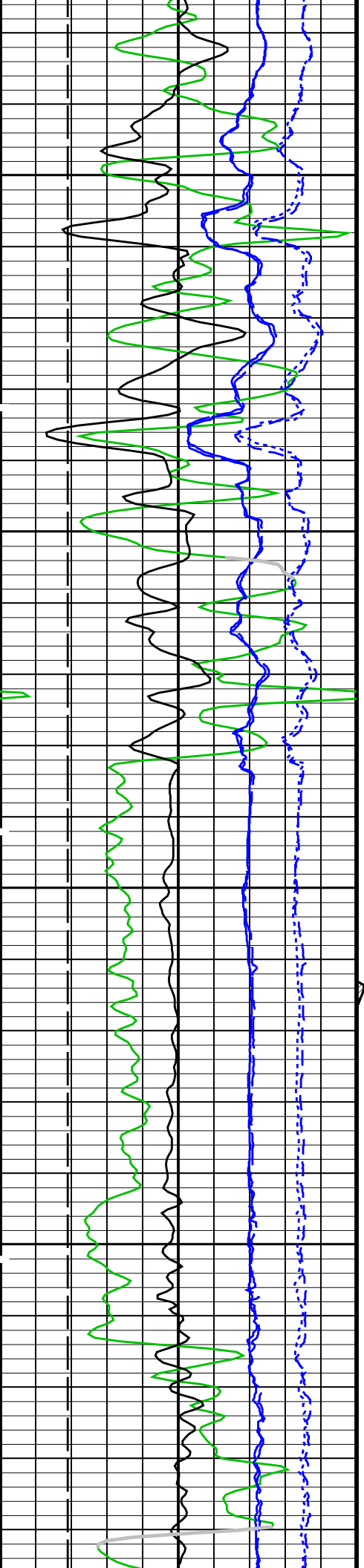


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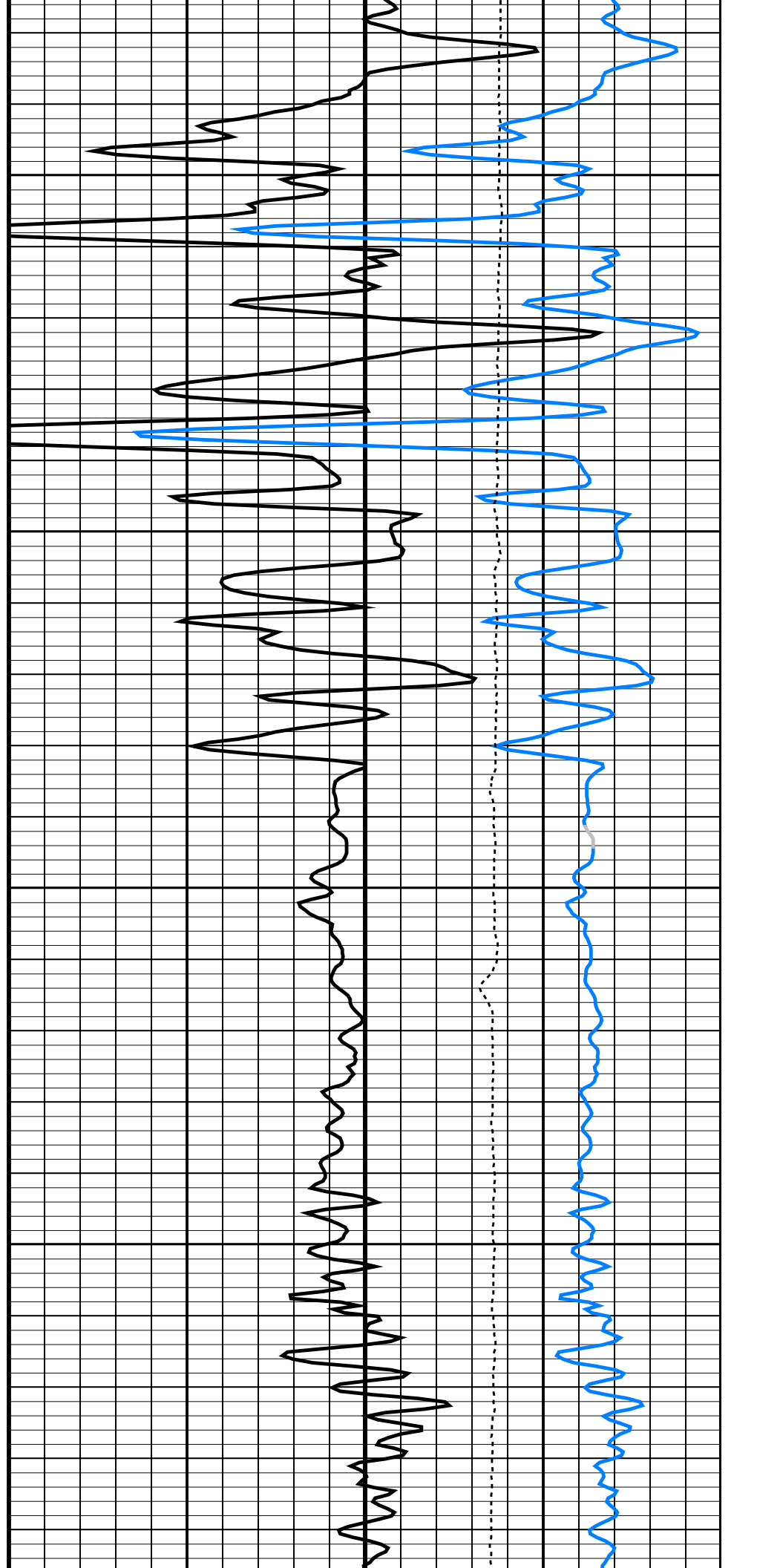


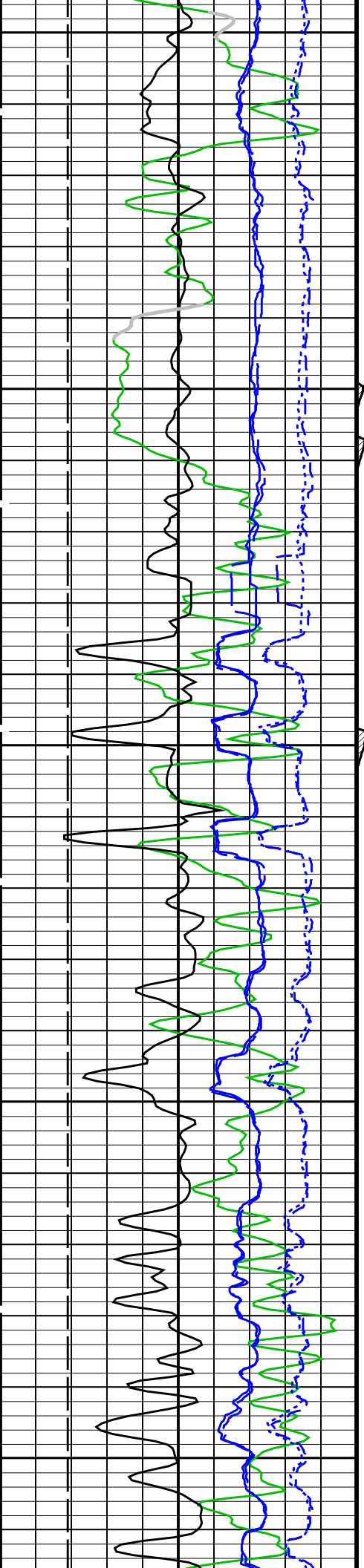




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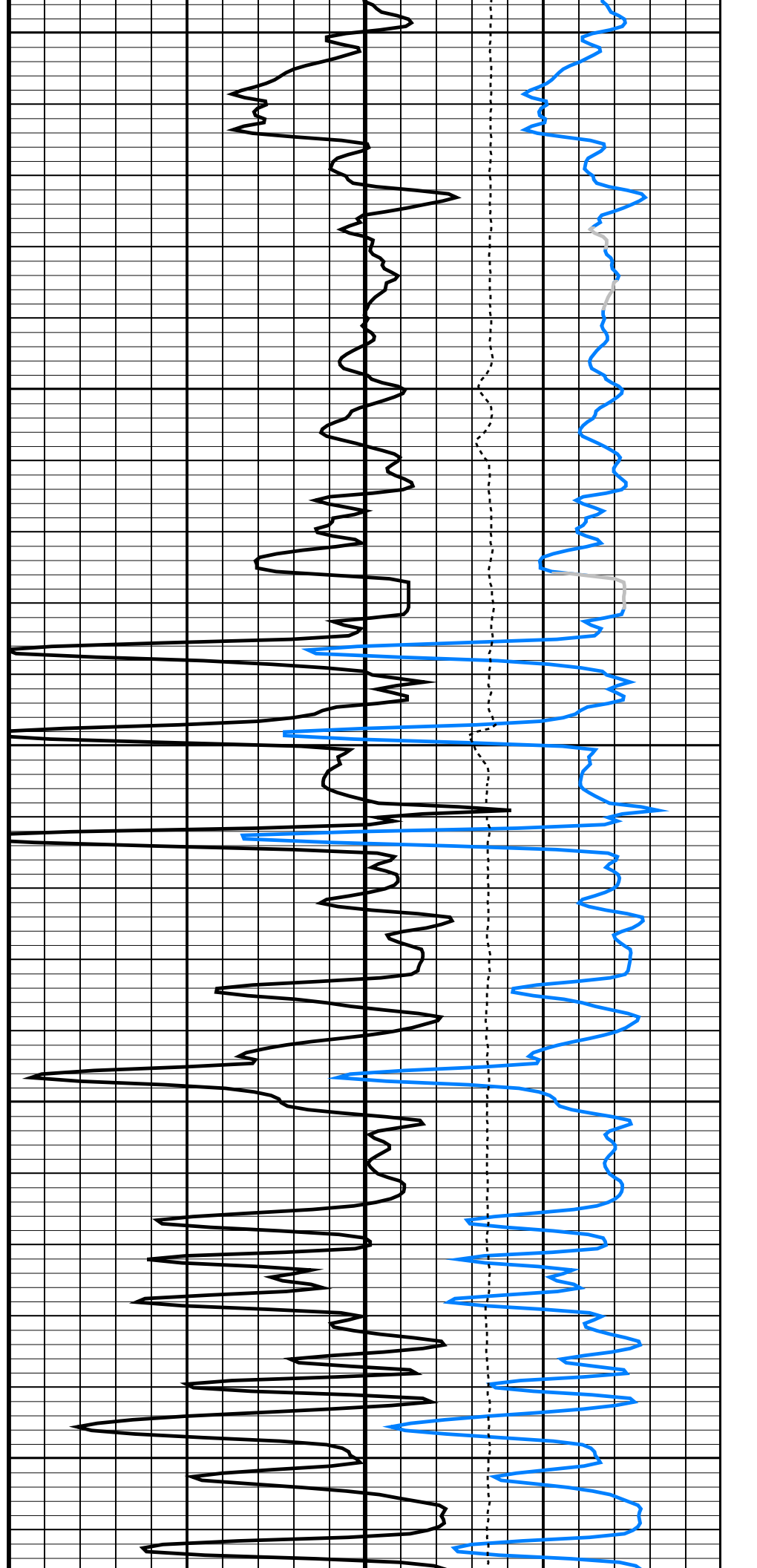


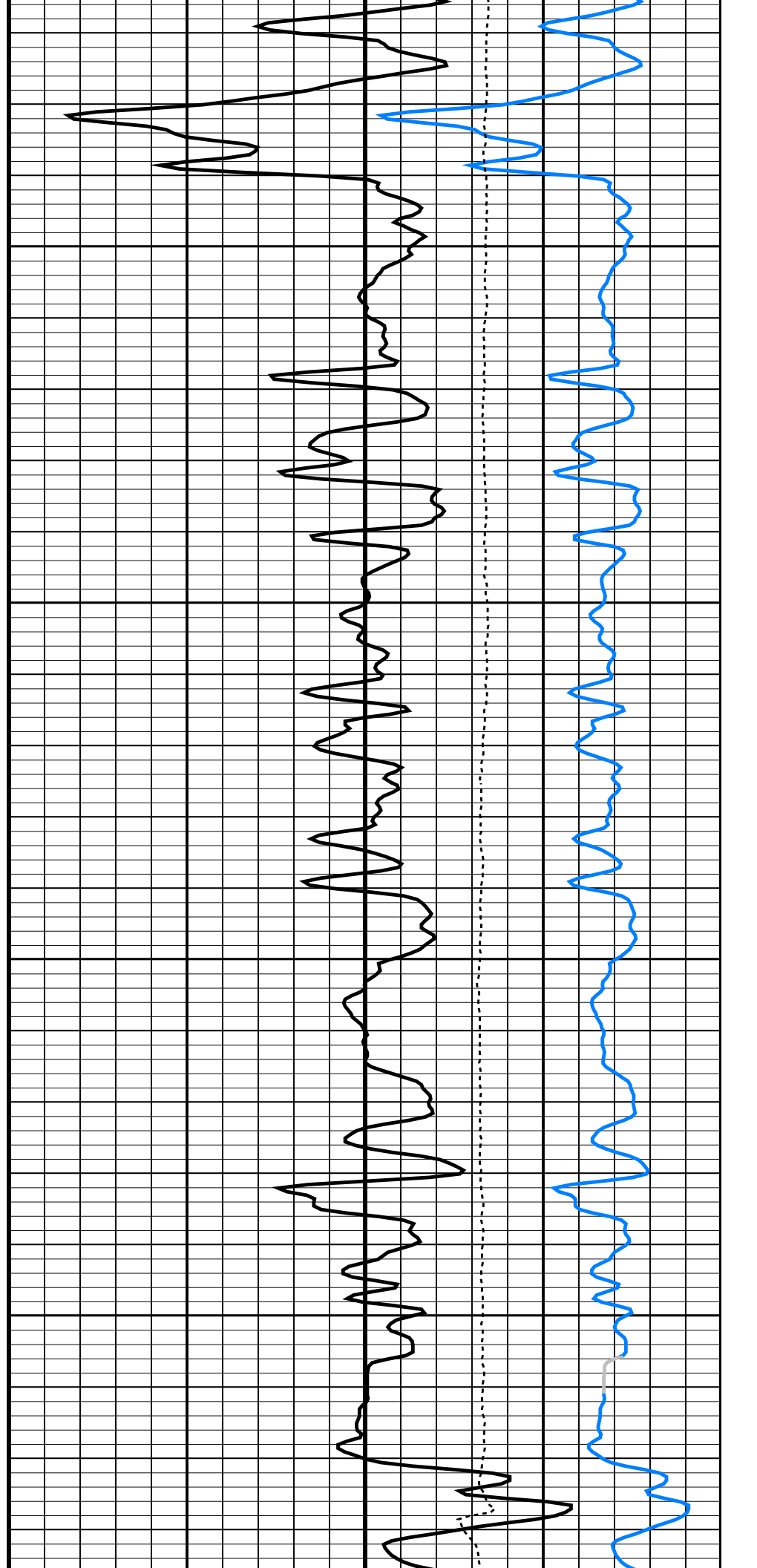
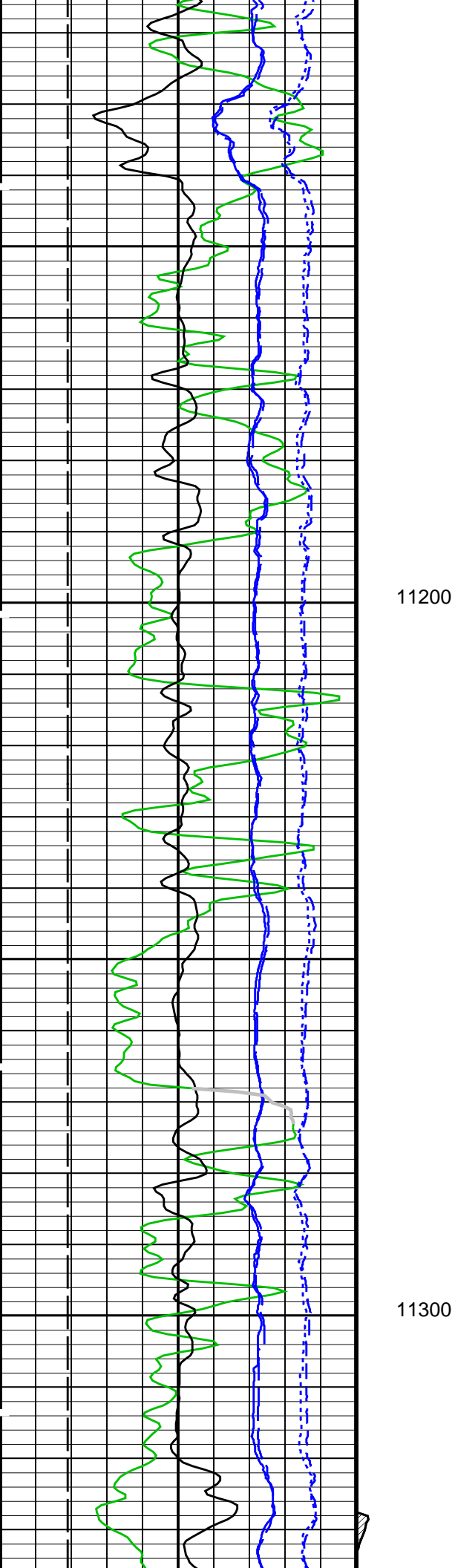


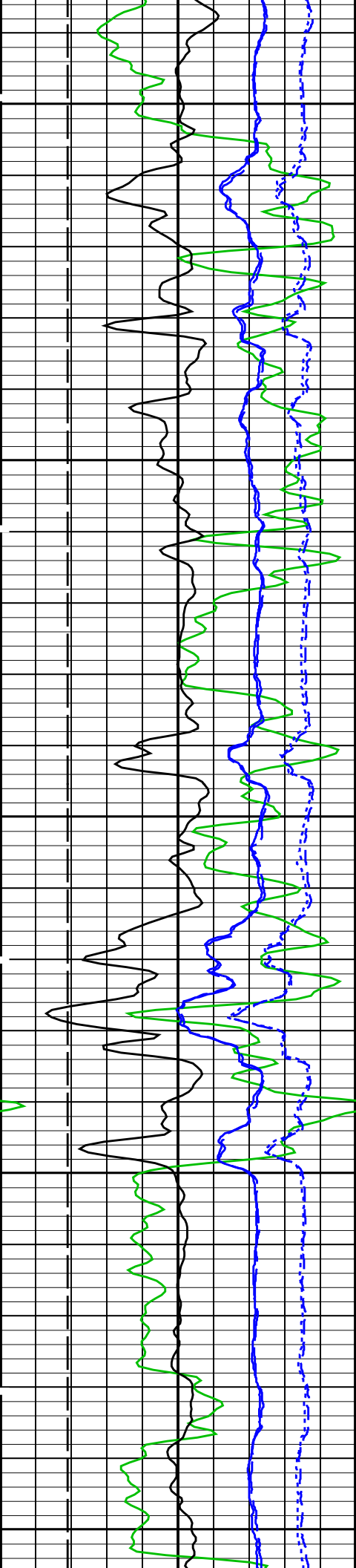
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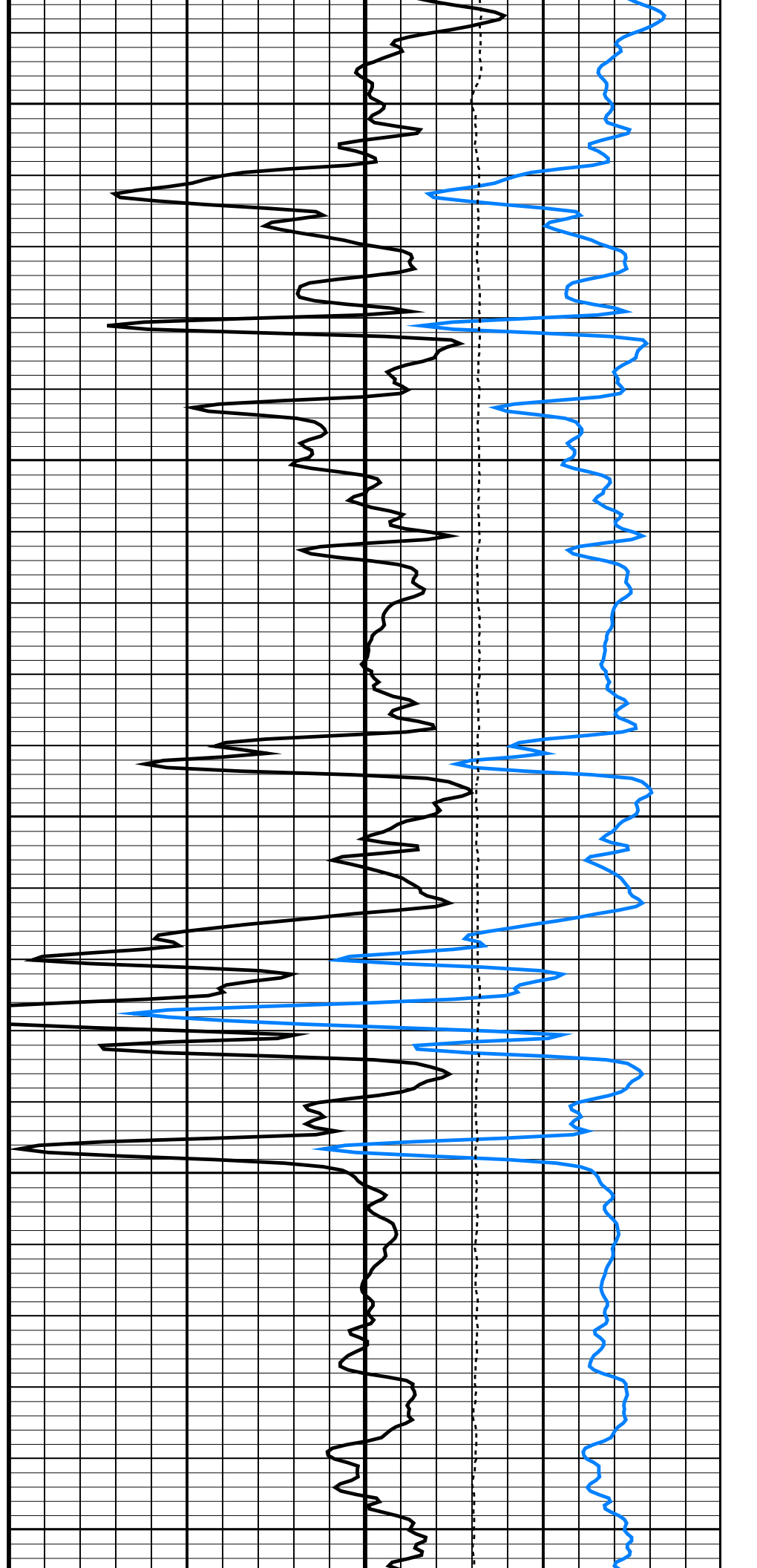


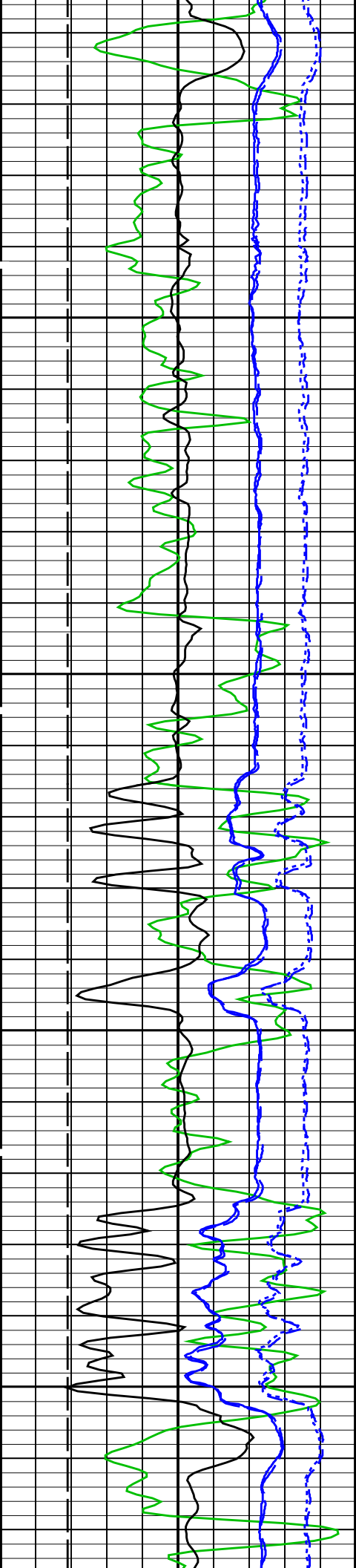




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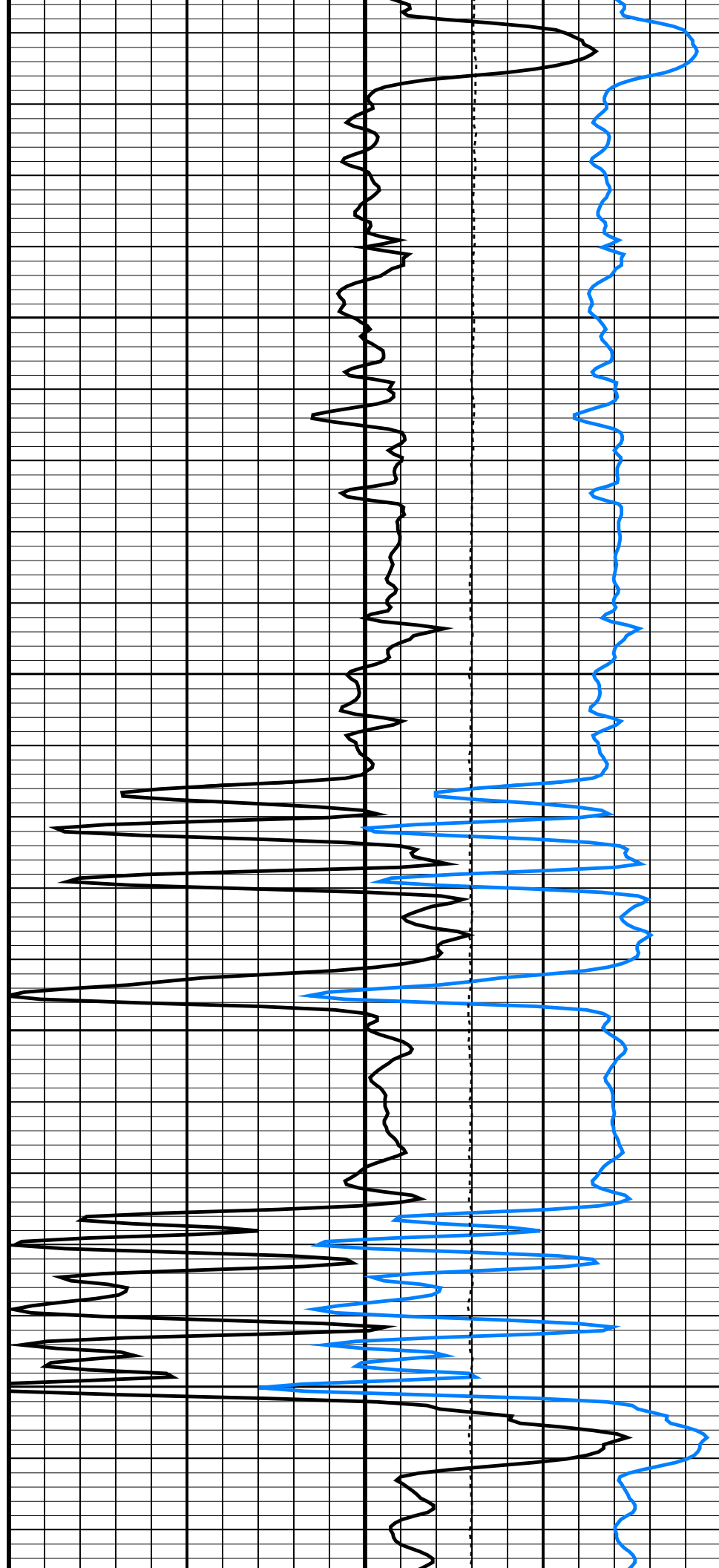
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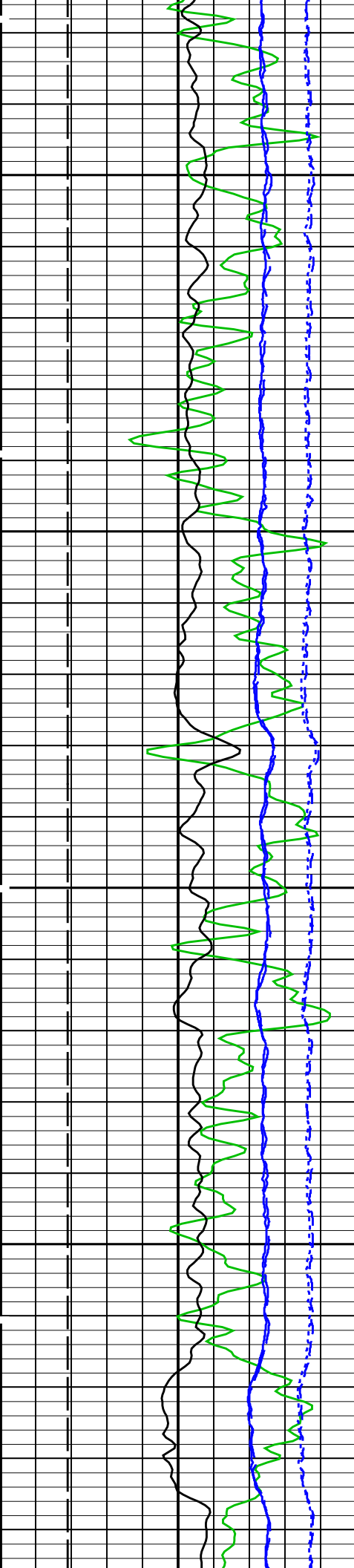




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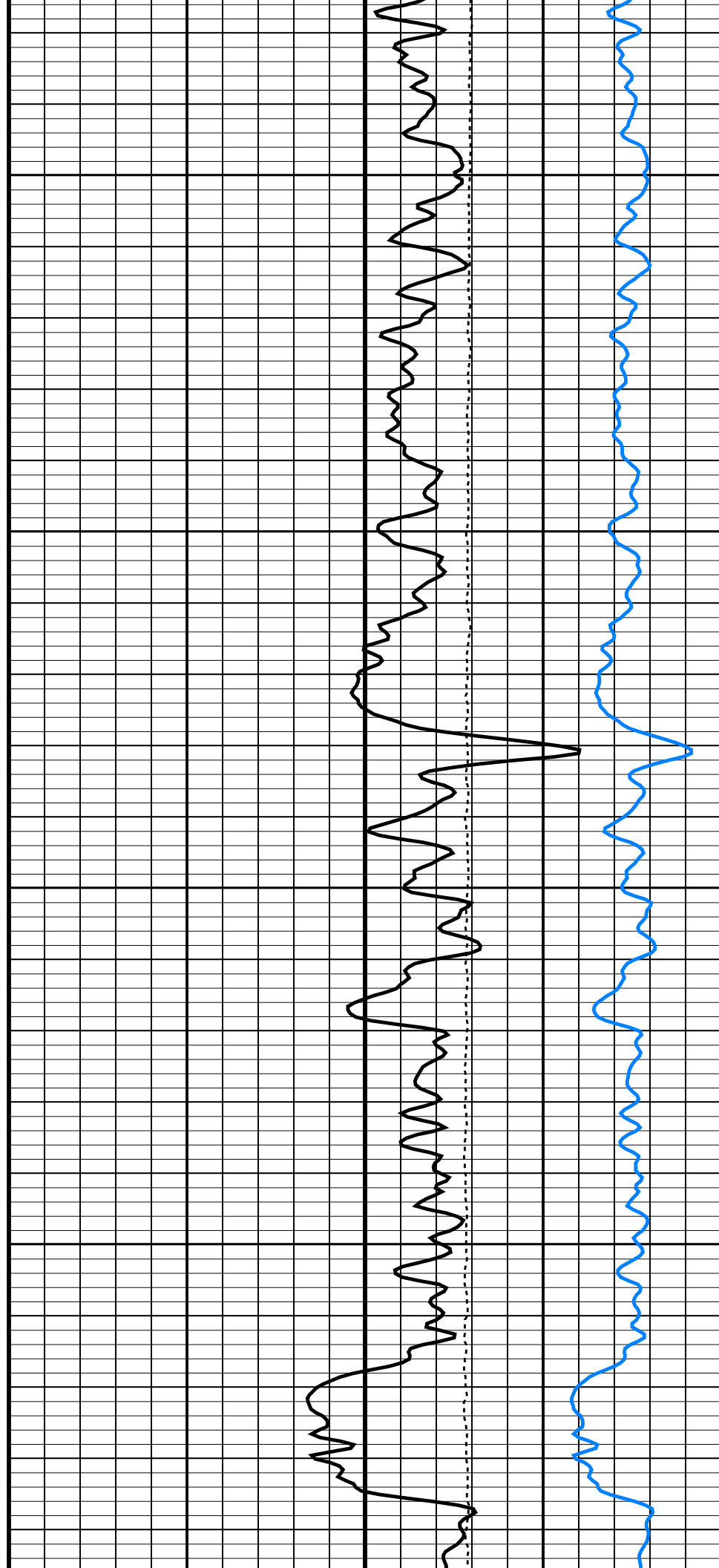
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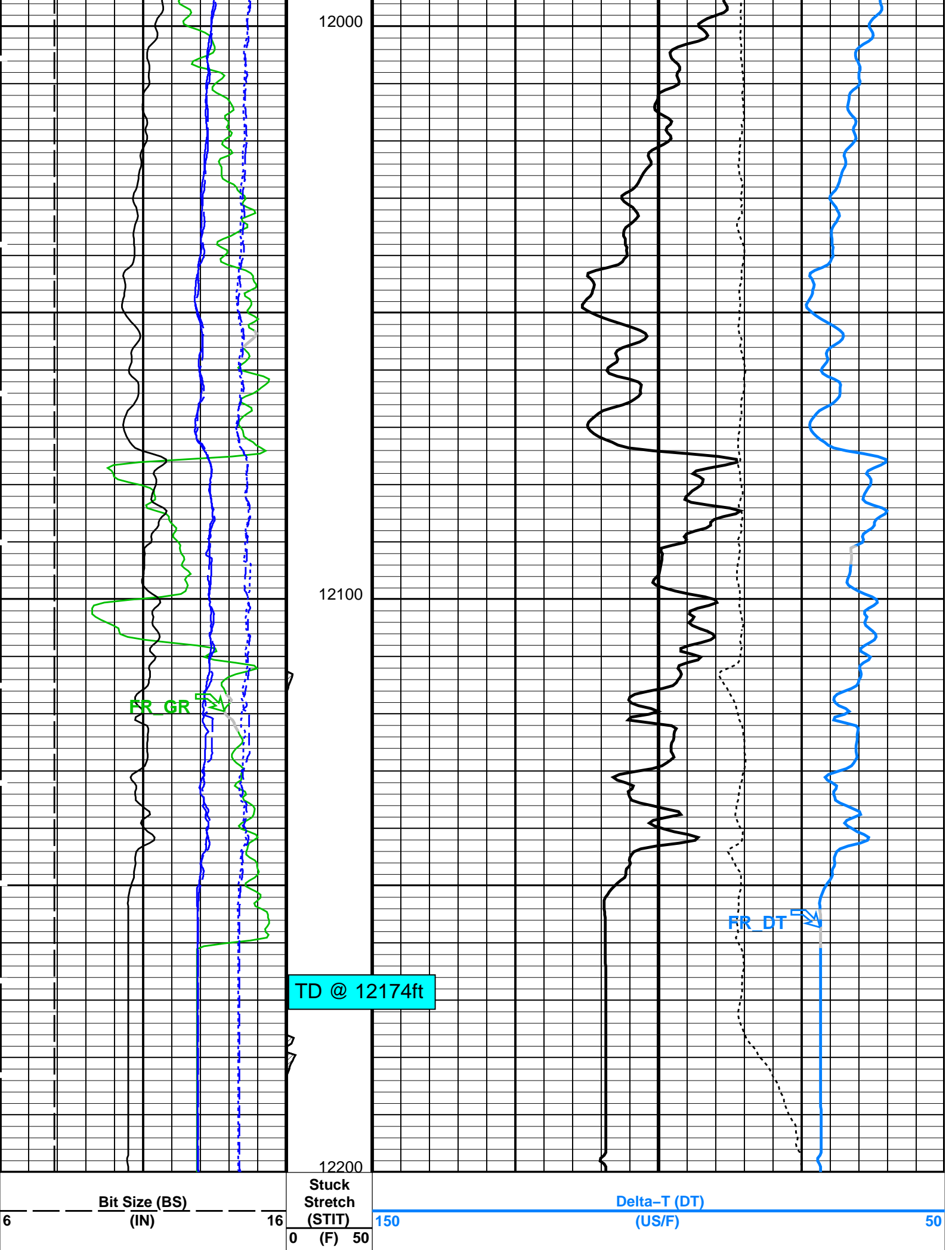




11800

11900





Gamma Ray (GR)			Cable Drag From STIA to STIT	Sonic Porosity (SPHI)		
0	(GAPI)	150		0.3	(V/V)	-0.1
Sonic Velocity (SVEL)			Tool/Tot. Drag From D3T to STIA	Tension (TENS)		
5000	(FT/S)	25000		10000	(LBF)	0
Transit Time 1 (TT1)						
1200	(US)	200				
Transit Time 2 (TT2)						
1200	(US)	200				
Transit Time 3 (TT3)						
1200	(US)	200				
Transit Time 4 (TT4)						
1200	(US)	200				

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
DSLTL-FTB: Digitizing			
	Sonic Logging Tool	BHC	
	DSLTL Firing Mode	DSLTL_FTB	
	Telemetry Mode	140	US
AMSG	Auxiliary Minimum Sliding Gate	1	
CBAF	CBL Adjustment Factor	45	US
CBLG	CBL Gate Width	100	US/F
CDTS	C-Delta-T Shale	0	US
DDEL	Digitizing Delay	20	
DIVL	DSLTL Depth Sampling Interval	100	
DRCS	DSLTL DLIS Recording Size	10	
DSIN	Digitizing Sample Interval	189	US/F
DTF	Delta-T Fluid	276	
DTFS	DSLTL Telemetry Frame Size	56	US/F
DTM	Delta-T Matrix	100	
DWCO	Digitizing Word Count	40	
GAI	Manual Gain	120	
MAHTR	Manual High Threshold Reference	60	
MGAI	Maximum Gain	100	
MNHTR	Minimum High Threshold Reference	150	US
NMSG	Near Minimum Sliding Gate	750	US
NMXG	Near Maximum Sliding Gate	R15	
RATE	Firing Rate	0	DB/F
SFAF	Sonic Formation Attenuation Factor	250	US/F
SGCL	Sliding Gate Closing Delta-T	50	US/F
SGDT	Sliding Gate Delta-T	80	US
SGW	Sliding Gate Width	5000	
SLEV	Signal Level for AGC	RAYMER_HUNT	
SPFS	Sonic Porosity Formula	DT	
SPSO	Sonic Porosity Source	OFF	
WAGC	Waveform AGC Allow/Disallow	FULL	
WMOD	Waveform Firing Mode		
STI: Stuck Tool Indicator			
LBFR	Trigger for MAXIS First Reading Label	STI	
STKT	STI Stuck Threshold	2.5	FT
TDD	Total Depth - Driller	12160.00	FT
TDL	Total Depth - Logger	12174.00	FT
System and Miscellaneous			
BS	Bit Size	7.875	IN
DO	Depth Offset for Playback	0.0	FT
DORL	Depth Offset for Repeat Analysis	0.0	FT
PP	Playback Processing	RECOMPUTE	

Format: SONI Vertical Scale: 5" per 100' Graphics File Created: 15-Feb-2011 22:29

OP System Version: 18C0-147

HAIT-H	18C0-147	DSLTL-FTB	18C0-147
HILTH-FTB	18C0-147	DTC-H	18C0-147

Input DLIS Files

DEFAULT AIT_SONIC_TLD_MCFL_009LUP FN:8 PRODUCER 15-Feb-2011 19:25

Output DLIS Files

DEFAULT AIT_SONIC_TLD_MCFL_104PUP FN:17 PRODUCER 15-Feb-2011 22:29

Schlumberger

REPEAT ANALYSIS

MAXIS Field Log

Company: Puckett Land Company

Well: RG Federal 4D-34D

Input DLIS Files

DEFAULT AIT_SONIC_TLD_MCFL_009LUP FN:8 PRODUCER 15-Feb-2011 19:25

DEFAULT AIT_SONIC_TLD_MCFL_101PUP FN:14 PRODUCER 15-Feb-2011 22:16 12200.0 FT 11920.0 FT

Output DLIS Files

DEFAULT AIT_SONIC_TLD_MCFL_104PUP FN:17 PRODUCER 15-Feb-2011 22:29

OP System Version: 18C0-147

HAIT-H 18C0-147
HILTH-FTB 18C0-147

DSLT-FTB 18C0-147
DTC-H 18C0-147

PIP SUMMARY

Time Mark Every 60 S

TT4_REP Curve (TT4_REP)
1200 (US) 200

TT3_REP Curve (TT3_REP)
1200 (US) 200

TT2_REP Curve (TT2_REP)
1200 (US) 200

TT1_REP Curve (TT1_REP)
1200 (US) 200

SVEL_REP Curve (SVEL_REP)
5000 (FT/S) 25000

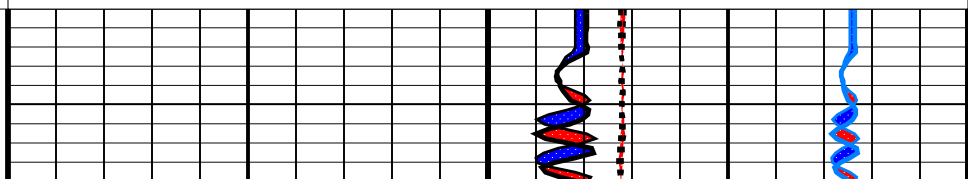
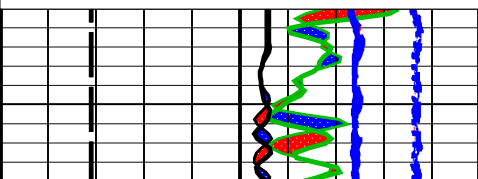
GR_REP Curve (GR_REP)
0 (GAPI) 150

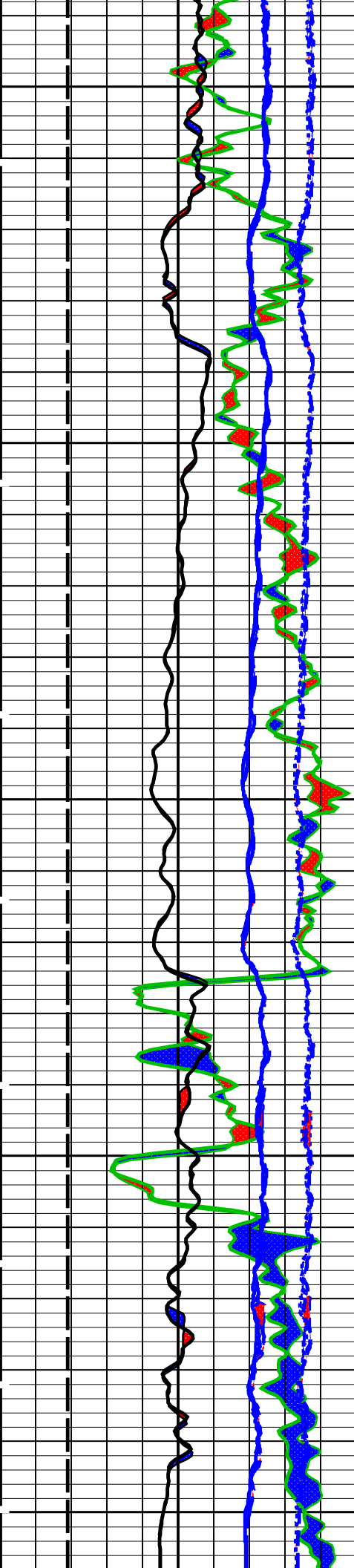
BS_REP Curve (BS_REP)
6 (IN) 16

TENS_REP Curve (TENS_REP)
10000 (LBF) 0

SPHI_REP Curve (SPHI_REP)
0.3 (V/V) -0.1

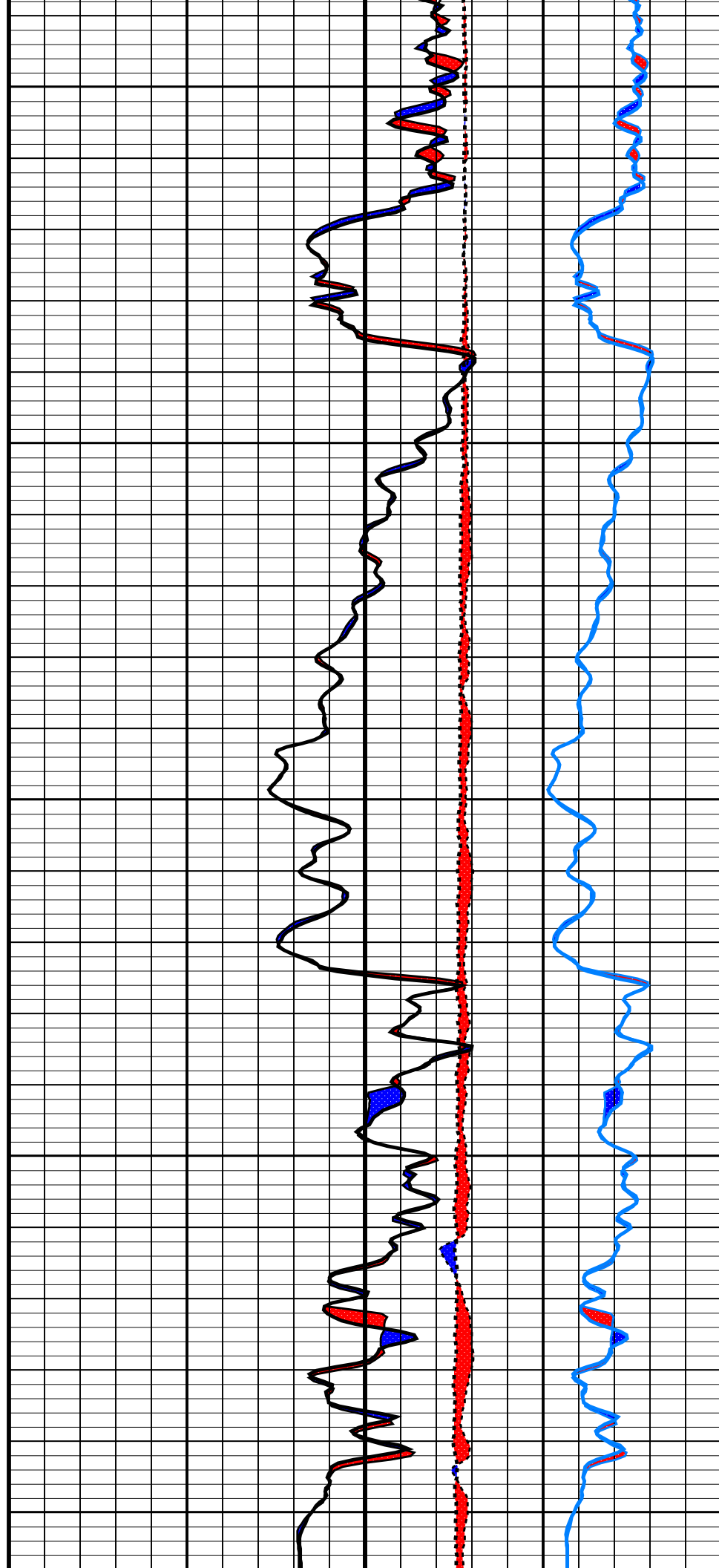
DT_REP Curve (DT_REP)
150 (US/F) 50

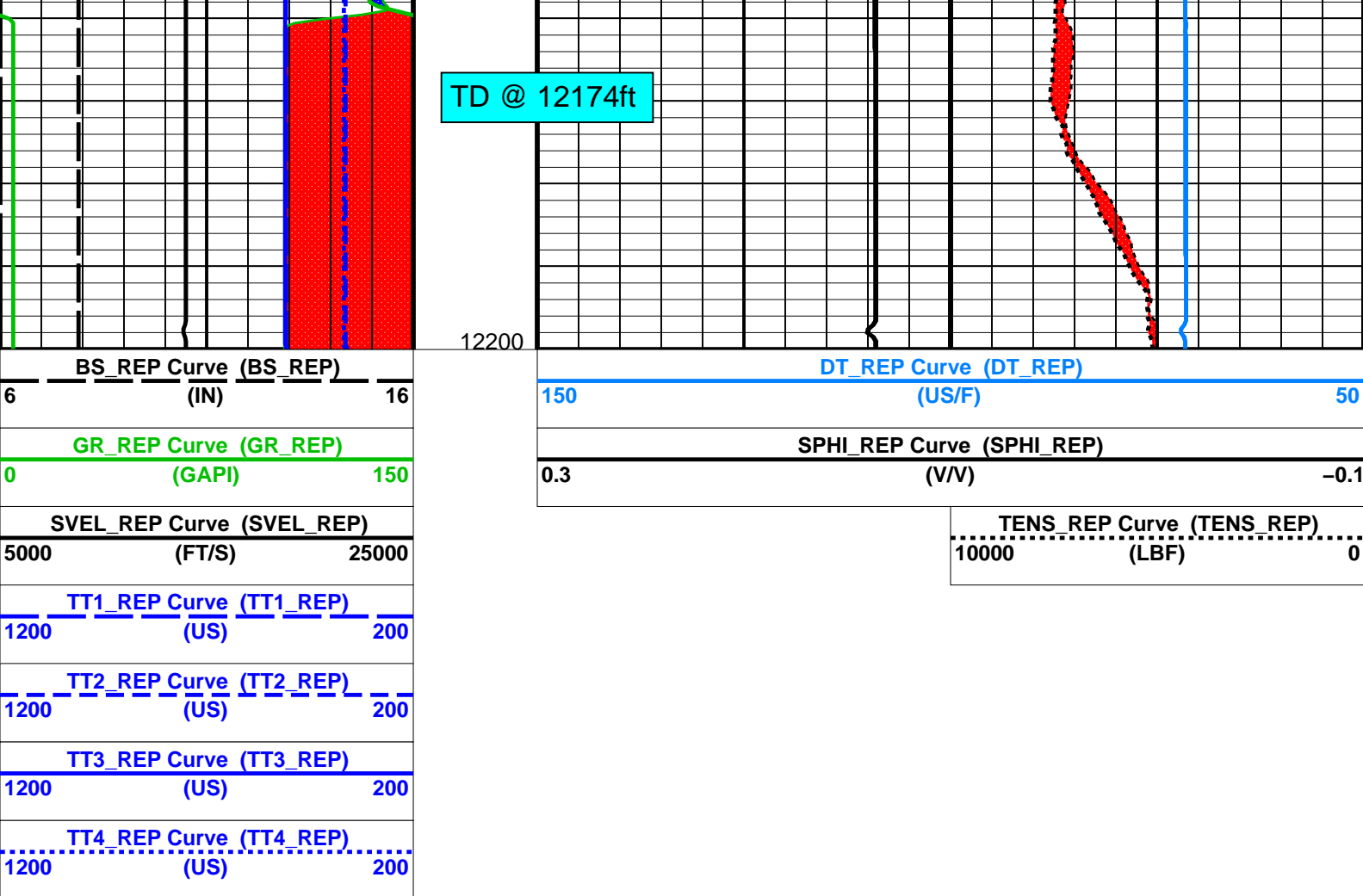




12000

12100





PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
DSLTT-FTB: Digitizing		
	Sonic Logging Tool	BHC
	DSLTT Firing Mode	DSLTT_FTB
	Telemetry Mode	140 US
AMSG	Auxiliary Minimum Sliding Gate	1
CBAF	CBL Adjustment Factor	45 US
CBLG	CBL Gate Width	100 US/F
CDTS	C-Delta-T Shale	0 US
DDEL	Digitizing Delay	20
DIVL	DSLTT Depth Sampling Interval	100
DRCS	DSLTT DLIS Recording Size	10
DSIN	Digitizing Sample Interval	189 US/F
DTF	Delta-T Fluid	276
DTFS	DSLTT Telemetry Frame Size	56 US/F
DTM	Delta-T Matrix	100
DWCO	Digitizing Word Count	40
GAI	Manual Gain	120
MAHTR	Manual High Threshold Reference	60
MGAI	Maximum Gain	100
MNHTR	Minimum High Threshold Reference	150 US
NMSG	Near Minimum Sliding Gate	750 US
NMXG	Near Maximum Sliding Gate	R15
RATE	Firing Rate	0 DB/F
SFAF	Sonic Formation Attenuation Factor	250 US/F
SGCL	Sliding Gate Closing Delta-T	50 US/F
SGDT	Sliding Gate Delta-T	80 US
SGW	Sliding Gate Width	5000
SLEV	Signal Level for AGC	RAYMER_HUNT
SPFS	Sonic Porosity Formula	DT
SPSO	Sonic Porosity Source	OFF
WAGC	Waveform AGC Allow/Disallow	FULL
WMOD	Waveform Firing Mode	
System and Miscellaneous		
BS	Bit Size	7.875 IN
DO	Depth Offset for Playback	0.0 FT

OP System Version: 18C0-147

HAIT-H	18C0-147	DSLT-FTB	18C0-147
HILTH-FTB	18C0-147	DTC-H	18C0-147

Input DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_009LUP	FN:8	PRODUCER	15-Feb-2011 19:25		
DEFAULT	AIT_SONIC_TLD_MCFL_101PUP	FN:14	PRODUCER	15-Feb-2011 22:16	12200.0 FT	11920.0 FT

Output DLIS Files

DEFAULT	AIT_SONIC_TLD_MCFL_104PUP	FN:17	PRODUCER	15-Feb-2011 22:29
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CALIBRATIONS

MAXIS Field Log

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Array Induction Tool – H Wellsite Calibration – Electronics Calibration Check – Thru Cal Mag. & Phase							
Master: 14-Feb-2011 12:05 Before: 14-Feb-2011 18:26							
Thru Cal Magnitude – 0	0	0.6254	0.6251	N/A	N/A	N/A	V
Thru Cal Magnitude – 1	0	1.281	1.281	N/A	N/A	N/A	V
Thru Cal Magnitude – 2	0	0.6361	0.6360	N/A	N/A	N/A	V
Thru Cal Magnitude – 3	0	0.7180	0.7178	N/A	N/A	N/A	V
Thru Cal Magnitude – 4	0	1.345	1.345	N/A	N/A	N/A	V
Thru Cal Magnitude – 5	0	1.956	1.955	N/A	N/A	N/A	V
Thru Cal Magnitude – 6	0	1.955	1.954	N/A	N/A	N/A	V
Thru Cal Magnitude – 7	0	1.397	1.394	N/A	N/A	N/A	V
Phase – 0	0	66.80	66.60	N/A	N/A	N/A	DEG
Phase – 1	0	65.79	65.58	N/A	N/A	N/A	DEG
Phase – 2	0	62.05	61.83	N/A	N/A	N/A	DEG
Phase – 3	0	61.28	61.06	N/A	N/A	N/A	DEG
Phase – 4	0	54.95	54.71	N/A	N/A	N/A	DEG
Phase – 5	0	53.10	52.85	N/A	N/A	N/A	DEG
Phase – 6	0	53.11	52.85	N/A	N/A	N/A	DEG
Phase – 7	0	49.83	49.43	N/A	N/A	N/A	DEG
Array Induction Tool – H Wellsite Calibration – Electronics Calibration Check – Auxilliary							
Master: 14-Feb-2011 12:05 Before: 14-Feb-2011 18:26							
Array Induction SPA Plus	990.5	991.6	991.4	N/A	N/A	N/A	MV
Array Induction SPA Zero	0	-0.1658	-0.1718	N/A	N/A	N/A	MV
Array Induction Temperature PI	0.9150	0.9180	0.9178	N/A	N/A	N/A	V
Array Induction Temperature Ze	0	-0.0001706	-0.0001724	N/A	N/A	N/A	V
Array Induction Tool – H Wellsite Calibration – Test Loop Gain Correction							
Master: 14-Feb-2011 12:05							
Test Loop Gain Magnitude – 0	0	1.009	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 1	0	1.007	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 2	0	1.013	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 3	0	1.009	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 4	0	0.9905	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 5	0	0.9866	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude – 6	0	0.9972	N/A	N/A	N/A	N/A	V

Test Loop Gain Magnitude – 7	0	1.005	N/A	N/A	N/A	N/A	V
Phase – 0	0	0.7373	N/A	N/A	N/A	N/A	DEG
Phase – 1	0	0.6740	N/A	N/A	N/A	N/A	DEG
Phase – 2	0	0.1368	N/A	N/A	N/A	N/A	DEG
Phase – 3	0	0.2430	N/A	N/A	N/A	N/A	DEG
Phase – 4	0	0.1270	N/A	N/A	N/A	N/A	DEG
Phase – 5	0	–0.1091	N/A	N/A	N/A	N/A	DEG
Phase – 6	0	0.2121	N/A	N/A	N/A	N/A	DEG
Phase – 7	0	–0.1506	N/A	N/A	N/A	N/A	DEG

Array Induction Tool – H Wellsite Calibration – Sonde Error Correction

Master: 14–Feb–2011 12:05

R Sonde Error Correction – 0	0	–125.3	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 1	0	175.7	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 2	0	111.7	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 3	0	55.55	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 4	0	26.03	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 5	0	13.91	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 6	0	8.453	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction – 7	0	–2.474	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 0	0	–562.3	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 1	0	–197.5	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 2	0	–147.5	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 3	0	15.22	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 4	0	–6.467	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 5	0	–5.642	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 6	0	–10.64	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction – 7	0	–9.860	N/A	N/A	N/A	N/A	MM/M

Array Induction Tool – H Wellsite Calibration – Mud Gain Correction

Master: 14–Feb–2011 12:05

Coarse – Mag, Real, Imag – 0	0	0.9395	N/A	N/A	N/A	N/A
Coarse – Mag, Real, Imag – 1	0	0.9395	N/A	N/A	N/A	N/A
Coarse – Mag, Real, Imag – 2	0	0.9395	N/A	N/A	N/A	N/A
Fine – Mag, Real, Imag – 0	0	0.9376	N/A	N/A	N/A	N/A
Fine – Mag, Real, Imag – 1	0	0.9376	N/A	N/A	N/A	N/A
Fine – Mag, Real, Imag – 2	0	0.9376	N/A	N/A	N/A	N/A

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

Before: 14–Feb–2011 18:35

BS Window Ratio	0.7352	N/A	0.7382	N/A	N/A	N/A	
BS Window Sum	29550	N/A	29590	N/A	N/A	N/A	CPS
SS Window Ratio	0.4749	N/A	0.4754	N/A	N/A	N/A	
SS Window Sum	11820	N/A	11790	N/A	N/A	N/A	CPS
LS Window Ratio	0.2988	N/A	0.3026	N/A	N/A	N/A	
LS Window Sum	1411	N/A	1399	N/A	N/A	N/A	CPS

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

Before: 14–Feb–2011 18:35

BS PM High Voltage (Command)	1531	N/A	1524	N/A	N/A	N/A	V
SS PM High Voltage (Command)	1406	N/A	1405	N/A	N/A	N/A	V
LS PM High Voltage (Command)	1432	N/A	1441	N/A	N/A	N/A	V

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

Before: 14–Feb–2011 18:35

BS Crystal Resolution	11.54	N/A	11.29	N/A	N/A	N/A	%
SS Crystal Resolution	9.348	N/A	9.548	N/A	N/A	N/A	%
LS Crystal Resolution	8.938	N/A	9.222	N/A	N/A	N/A	%

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

Before: 14–Feb–2011 18:43

Raw B0 Resistivity	3875	N/A	3901	N/A	N/A	N/A	OHMM
Raw B1 Resistivity	3830	N/A	3846	N/A	N/A	N/A	OHMM
Raw B2 Resistivity	3830	N/A	3834	N/A	N/A	N/A	OHMM

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

Before: 14–Feb–2011 18:43

HILT Caliper Zero Measurement	8.000	N/A	7.210	N/A	N/A	N/A	IN
HILT Caliper Plus Measurement	12.00	N/A	11.51	N/A	N/A	N/A	IN

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

Before: 14–Feb–2011 18:44

Gamma Ray Background	30.00	N/A	102.7	N/A	N/A	N/A	GAPI
Gamma Ray (Jig – Bkgd)	165.0	N/A	166.3	N/A	N/A	15.00	GAPI

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

Master: 13–Feb–2011 13:04 Before: 14–Feb–2011 18:33

CNTC Background	28.81	28.81	27.50	N/A	N/A	4.322	CPS
CFTC Background	37.74	37.74	31.32	N/A	N/A	5.661	CPS

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

Master: 13–Feb–2011 13:04





N/A

F/S2

NSR-F serial number	1260
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Auxiliary Equipment:

Before: 14-Feb-2011 18:26

Array Induction Tool – H Wellsite Calibration							
Electronics Calibration Check – Auxilliary							
Phase	Array Induction SPA Plus MV		Value	Phase	Array Induction SPA Zero MV		Value
Master			991.6	Master			-0.1658
Before			991.4	Before			-0.1718
941.0 (Minimum)				-50.00 (Minimum)			
990.5 (Nominal)				0 (Nominal)			
1040 (Maximum)				50.00 (Maximum)			
Phase	Array Induction Temperature Plus V		Value	Phase	Array Induction Temperature Zero V		Value

Master		0.9180	Master		-0.0001706
Before		0.9178	Before		-0.0001724
0.8700 (Minimum)		0.9150 (Nominal)	0.9600 (Maximum)		
			-0.05000 (Minimum)		0 (Nominal)
					0.05000 (Maximum)
Master: 14-Feb-2011 12:05			Before: 14-Feb-2011 18:26		

Array Induction Tool – H Wellsite Calibration					
Test Loop Gain Correction					
Idx	Value	Test Loop Gain Magnitude V			Phase DEG
0	1.009				0.7373
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)
					0 (Nominal)
					3.000 (Maximum)
1	1.007				0.6740
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)
					0 (Nominal)
					3.000 (Maximum)
2	1.013				0.1368
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)
					0 (Nominal)
					3.000 (Maximum)
3	1.009				0.2430
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)
					0 (Nominal)
					3.000 (Maximum)
4	0.9905				0.1270
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)
					0 (Nominal)
					3.000 (Maximum)
5	0.9866				-0.1091
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)
					0 (Nominal)
					3.000 (Maximum)
6	0.9972				0.2121
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)
					0 (Nominal)
					3.000 (Maximum)
7	1.005				-0.1506
		0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)	-3.000 (Minimum)
					0 (Nominal)
					3.000 (Maximum)
Master: 14-Feb-2011 12:05					

Array Induction Tool – H Wellsite Calibration					
Sonde Error Correction					
Idx	Value	R Sonde Error Correction MM/M			X Sonde Error Correction MM/M
0	-125.3				-562.3
		-231.0 (Minimum)	-56.00 (Nominal)	119.0 (Maximum)	-2250 (Minimum)
					0 (Nominal)
					2250 (Maximum)
1	175.7				-197.5
		114.0 (Minimum)	159.0 (Nominal)	204.0 (Maximum)	-625.0 (Minimum)
					0 (Nominal)
					625.0 (Maximum)
2	111.7				-147.5
		66.00 (Minimum)	111.0 (Nominal)	156.0 (Maximum)	-350.0 (Minimum)
					0 (Nominal)
					350.0 (Maximum)
3	55.55				15.22
		39.00 (Minimum)	64.00 (Nominal)	89.00 (Maximum)	-250.0 (Minimum)
					0 (Nominal)
					250.0 (Maximum)
4	26.03				-6.467
		15.00 (Minimum)	25.00 (Nominal)	35.00 (Maximum)	-63.00 (Minimum)
					0 (Nominal)
					63.00 (Maximum)
5	13.91				-5.642
		4.000 (Minimum)	14.00 (Nominal)	24.00 (Maximum)	-50.00 (Minimum)
					0 (Nominal)
					50.00 (Maximum)
6	8.453				-10.64
		5.000 (Minimum)	10.00 (Nominal)	15.00 (Maximum)	-30.00 (Minimum)
					0 (Nominal)
					30.00 (Maximum)
7	-2.474				-9.860
		-5.000 (Minimum)	0 (Nominal)	5.000 (Maximum)	-30.00 (Minimum)
					0 (Nominal)
					30.00 (Maximum)
Master: 14-Feb-2011 12:05					

Array Induction Tool – H Wellsite Calibration					
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Mud Gain Correction

Idx	Value	Coarse – Mag, Real, Imag			Value	Fine – Mag, Real, Imag		
0	0.9395				0.9376			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
1	0.9395				0.9376			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
2	0.9395				0.9376			
		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)		0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)

Master: 14-Feb-2011 12:05

Digitizing Sonic Logging Tool / Equipment Identification

Primary Equipment:

BHC Sonde

Digitizing Sonic Logging Cartridge

SLS – W

1396

DSLCL – B

8151

Auxiliary Equipment:

Electronics Cartridge Housing

ECH – KH

8652

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 – H

HRGD – H

MCFL – H

GLS – VJ

5175

HRCC – H

3920

HGNS – H

3920

HGR –

HCNT – H

Auxiliary Equipment:

Neutron Calibration Tank

Gamma Source Radioactive

HGNS Housing

NCT – B

GSR – U/Y

HGNH –

2986

High resolution Integrated Logging Tool–DTS Wellsite Calibration

Stab Measurement Summary

Phase	BS Window Ratio			Value	Phase	SS Window Ratio			Value	Phase	LS Window Ratio			Value
Before				0.7382	Before				0.4754	Before				0.3026
	0.6985 (Minimum)	0.7352 (Nominal)	0.7720 (Maximum)			0.4512 (Minimum)	0.4749 (Nominal)	0.4987 (Maximum)			0.2839 (Minimum)	0.2988 (Nominal)	0.3138 (Maximum)	
Phase	BS Window Sum CPS			Value	Phase	SS Window Sum CPS			Value	Phase	LS Window Sum CPS			Value
Before				29590	Before				11790	Before				1399
	28070 (Minimum)	29550 (Nominal)	31020 (Maximum)			11230 (Minimum)	11820 (Nominal)	12410 (Maximum)			1340 (Minimum)	1411 (Nominal)	1481 (Maximum)	

Before: 14-Feb-2011 18:35

High resolution Integrated Logging Tool–DTS Wellsite Calibration

Photo-multiplier High Voltages Calibrations

Phase	BS PM High Voltage (Command) V			Value	Phase	SS PM High Voltage (Command) V			Value	Phase	LS PM High Voltage (Command) V			Value
Before				1524	Before				1405	Before				1441
	1431 (Minimum)	1531 (Nominal)	1631 (Maximum)			1306 (Minimum)	1406 (Nominal)	1506 (Maximum)			1332 (Minimum)	1432 (Nominal)	1532 (Maximum)	

Before: 14-Feb-2011 18:35




High resolution Integrated Logging Tool–DTS Wellsite Calibration



Crystal Quality Resolutions Calibration



Phase	BS Crystal Resolution %			Value	Phase	SS Crystal Resolution %			Value	Phase	LS Crystal Resolution %			Value
Before				11.29	Before				9.548	Before				9.222
	10.54 (Minimum)	11.54 (Nominal)	12.54 (Maximum)			8.348 (Minimum)	9.348 (Nominal)	10.35 (Maximum)			7.938 (Minimum)	8.938 (Nominal)	9.938 (Maximum)	





Before: 14-Feb-2011 18:35




Before: 14-Feb-2011 18:35


High resolution Integrated Logging Tool-DTS Wellsite Calibration														
MCFL Calibration														
Phase	Raw B0 Resistivity OHMM			Value	Phase	Raw B1 Resistivity OHMM			Value	Phase	Raw B2 Resistivity OHMM			Value
Before				3901	Before				3846	Before				3834
	3565 (Minimum)	3875 (Nominal)	4185 (Maximum)			3524 (Minimum)	3830 (Nominal)	4136 (Maximum)			3524 (Minimum)	3830 (Nominal)	4136 (Maximum)	
Before: 14-Feb-2011 18:43														

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			7.210	Before			11.51
	6.000 (Minimum)	8.000 (Nominal)	10.00 (Maximum)		9.000 (Minimum)	12.00 (Nominal)	15.00 (Maximum)
Before: 14-Feb-2011 18:43							

High resolution Integrated Logging Tool-DTS Wellsite Calibration							
Detector Calibration							
Phase	Gamma Ray Background GAPI		Value	Phase	Gamma Ray (Jig – Bkgd) GAPI		Value
Before			102.7	Before			166.3
	0 (Minimum)	30.00 (Nominal)	120.0 (Maximum)		157.1 (Minimum)	165.0 (Nominal)	206.3 (Maximum)
Before: 14-Feb-2011 18:44							

High resolution Integrated Logging Tool-DTS Wellsite Calibration							
Zero Measurement							
Phase	CNTC Background CPS		Value	Phase	CFTC Background CPS		Value
Master			28.81	Master			37.74
Before			27.50	Before			31.32
5.000 (Minimum)			28.81 (Nominal)	40.00 (Maximum)			
Master: 13-Feb-2011 13:04				Before: 14-Feb-2011 18:33			

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				5210	Master				2187	Master				2.382
	4700 (Minimum)	5800 (Nominal)	6900 (Maximum)		1900 (Minimum)	2400 (Nominal)	2900 (Maximum)			2.120 (Minimum)	2.159 (Nominal)	2.540 (Maximum)		
Master: 13-Feb-2011 13:04														

High resolution Integrated Logging Tool-DTS Wellsite Calibration			
Accelerometer Calibration			
Phase	Z-Axis Acceleration F/S2	Value	
Before		32.11	
	31.53 (Minimum)	32.19 (Nominal)	32.84 (Maximum)

Before: 15-Feb-2011 17:06

DTS Telemetry Tool / Equipment Identification

Primary Equipment:

DTC-H Auxiliary Cartridge
DTC-H Telemetry Cartridge

DTCH - A

DTCH - A

Auxiliary Equipment:

DTCH Telemetry Cartridge Housing

ECH - KC

Company: **Puckett Land Company**



Well: **RG Federal 4D–34D**

Field: **Ryan Gulch**

County: **Rio Blanco**

State: **Colorado**

DIGITAL SONIC LOGGING TOOL
BOREHOLE COMPENSATED SONIC
GAMMA RAY – SP