



**6 3/4 in. & 4 3/4 in. WeatherfordLWD™
Spectral Gamma Ray & Resistivity
5 in. MEASURED DEPTH
RECORDED DATA
FINAL PRINT**

Location	
Latitude:	40.17594° N
Longitude:	104.70771° W
Other Services:	Directional and Temperature

Permanent Datum: <u>Mean Sea Level</u>				K.B. na		
Log Measured From:	Drill Floor	Elev: <u>497.5 ft</u>	above perm. datum		G.L. 4950 ft	
Depth Reference:	<u>Drillers Tally</u>		Total Depth: <u>14144 ft</u>	D.F. 4975 ft		
Depth Logged: 6300ft	to 14144 ft	Runs: 6		Elevation W.D. na		
Date Logged: 21-May-12 to 31-May-12			Spud Date: 5-May-12			
Borehole Record			Casing Record			
Hole Size	From	To	Size	Weight	From	To
13.500 in.	0 ft	854 ft	9.625 in.	53.5 lb/ft	Surface	847 ft
8.750 in.	854 ft	7567 ft	7.000 in.	39.0 lb/ft	Surface	7543 ft
6.125 in.	7567 ft	14144 ft				
Borehole Deviation Record			Mud Record			
Hole Size	Min. Inc.	Max. Inc.	Type	Weight	From	To
13.500 in.	0.07°	1.82°	WBM	8.33 - 10.20 ppG	854 ft	14144 ft
8.750 in.	0.14°	86.78°				
6.125 in.	88.09°	92.84°				

All interpretations of log data are opinions based on inferences from electrical or other measurements. Weatherford International does not guarantee the accuracy or correctness of any interpretation or recommendation and we shall not be liable or responsible for any loss, cost, damages or expenses incurred or sustained by anyone resulting from any interpretation or recommendation made by any of our employees or agents.

RUN SUMMARY							
MWD/LWD Run Number	1	2	3	4	5	6	7
Bit Size in.	8.750	8.750	8.750	6.125	6.125	6.125	
Bit Type	PDC	PDC	PDC	PDC	PDC	PDC	
Bit TFA sq.in.	1.242	1.242	0.950	0.610	0.610	0.610	
Bit Start Depth ft	854	1345	6303	7567	10297	12964	
Bit End Depth ft	1345	6226	7567	10297	12964	14144	
Top Log Interval ft	-	-	6300	7567	10297	12964	
Bottom Log Interval ft	-	-	7519	10297	12964	14144	
Begin Log Time hrs	-	-	3:42	17:33	17:29	17:21	
Begin Log Date DD-MMM-YY	-	-	21-May-12	25-May-12	27-May-12	30-May-12	
End Log Time hrs	-	-	21:37	19:14	11:14	6:11	
End Log Date DD-MMM-YY	-	-	22-May-12	26-May-12	29-May-12	31-May-12	
Drill or Wipe	Drill	Drill	Drill	Drill/Wipe	Drill/Wipe	Drill/Wipe	
Flow Rate gal/min	357	649	649	296	296	296	
Max AV / CV @ MWD ft/min	282 / 117	399 / 168	399 / 250	485 / 330	485 / 315	485 / 325	
Min Inc @ Depth deg @ ft	0.07 @ 888	6.13 @ 2357	10.21 @ 6423	87.17 @ 10056	88.64 @ 11674	88.77 @ 14088	
Max Inc @ Depth deg @ ft	5.97 @ 1255	13.58 @ 5108	80.86 @ 7476	92.04 @ 8537	90.74 @ 11294	92.84 @ 13693	
MUD DATA							
Depth ft	1345	6226	7567	10297	12964	14144	
Fluid Type	WBM	WBM	WBM	WBM	WBM	WBM	
Mud Weight ppG	8.33	8.70	8.60	9.85	10.15	10.20	
Plastic Viscosity cP	2	1	5	11	11	12	
Solids / Sand %	0 / 0	2.3 / 0.01	1.9 / 0.01	7.7 / 0.04	7.7 / 0.04	8.7 / 0.08	
NaCl Equiv. Chlorides ppm	0	1320	1320	900	900	1000	
pH	WBM	WBM	WBM	WBM	WBM	WBM	
Oil:Water Ratio % Vol	0.0 : 100.0	0.0 : 100.0	0.0 : 100.0	1.0 : 99.0	1.0 : 99.0	0.0 : 100.0	
Rm @ Temperature ohm-m @ deg F	na	na	na	1.12 @ 61	1.14 @ 63	1.21 @ 68	
Rmc @ Temperature ohm-m @ deg F	na	na	na	1.38 @ 61	1.48 @ 63	1.60 @ 68	
Rmf @ Temperature ohm-m @ deg F	na	na	na	0.99 @ 61	1.08 @ 63	1.08 @ 68	
KCl % Vol	0	0	0	0	0	0	
Client Representative	D. Barrone	D. Barrone	D. Barrone	P. Cain	P. Cain	P. Cain	
WeatherfordLWD Engineer	J. Leger	J. Leger	J. Leger	S. Gray	S. Gray	S. Gray	

EQUIPMENT SUMMARY						
MWD/LWD Run Number	1	2	3	4	5	
PP Serial Number	CP20306PDIRHY-T01	CP20306PDIRHY-T01	CP20306PDIRHY-T01	na	na	
HEL Serial Number	na	na	na	NW20798PDB4.75	NW20802PDBB4.75	
MFR Serial Number	na	na	na	NW20799RBBK4.75	NW20799RBBK4.75	
IDS Serial Number	na	na	na	NW20800BI4.75	NW20800BI4.75	
SAGR Serial Number	na	na	na	NW20801JB4.75	NW20801JB4.75	
Sensor to Bit Offsets / Acquisition Rates						
Directional	ft / sec	59.29 / RT	59.29 / RT	59.26 / RT	50.22 / RT	50.22 / RT
Gamma Ray	ft / sec	na	na	45.05 / 10	35.58 / 10	35.58 / 10
Resistivity	ft / sec	na	na	na	71.39 / 10	71.39 / 10
Other Information						
Total BHA Length	ft	98.06	98.06	94.95	140.06	140.10
BHA Assembly Type		Steerable	Steerable	Steerable	Steerable	Steerable
Run Circulating Time	hr	5.90	46.06	44.60	23.12	36.53
Run Drilling Time	hr	0.34	31.15	18.76	15.65	17.70
LWD Run Number	6					
HEL Serial Number	NW20802PDBB4.75					
MFR Serial Number	NW20799RBBK4.75					
IDS Serial Number	NW20800BI4.75					
SAGR Serial Number	NW20801JB4.75					
Sensor to Bit Offsets / Acquisition Rates						
Directional	ft / sec	54.41 / RT				
Gamma Ray	ft / sec	39.76 / 10				
Resistivity	ft / sec	75.58 / 10				
Other Information						
Total BHA Length	ft	144.29				
BHA Assembly Type		Steerable				
Stabilizer Location	ft	35.15				
Stabilizer Location	ft	110.62				
Run Circulating Time	hr	7.43				
Run Drilling Time	hr	3.44				

MUD SUMMARY

Date and Time	Run	Bit Depth	Mud Weight	% K	Rm @ Temp	Rmf @ Temp	Rmc @ Temp	BHCT
16 May 12 @ 14:39	01	854 ft	8.33 ppg	0	na	na	na	74 F
18 May 12 @ 00:00	02	1345 ft	8.70 ppg	0	na	na	na	155 F
20 May 12 @ 17:00	03	6303 ft	8.60 ppg	0	na	na	na	180 F
24 May 12 @ 11:15	04	7567 ft	9.85 ppg	0	1.12 @ 61 F	0.99 @ 61 F	1.38 @ 61 F	221 F
27 May 12 @ 15:46	05	10297 ft	10.15 ppg	0	1.14 @ 63 F	1.08 @ 63 F	1.48 @ 63 F	238 F
30 May 12 @ 09:00	06	12964 ft	10.20 ppg	0	1.21 @ 68 F	1.08 @ 68 F	1.60 @ 68 F	250 F

MWD/LWD RUN REMARKS		
Run Number: 1 :: RECORDED DATA LOG		
WFT Services Provided: Real Time Logging: Temperature. Directional Services: On demand Inclination and Azimuth.		
Run Number: 2 :: RECORDED DATA LOG		
WFT Services Provided: Real Time Logging: Temperature. Directional Services: On demand Inclination and Azimuth.		
Run Number: 3 :: RECORDED DATA LOG		
WFT Services Provided: Recorded and Real Time Logging: Gamma Ray and Temperature. Directional Services: On demand Inclination and Azimuth.		
Borehole and Environmental Correction: Collar O.D.: 6.750 in. Gamma Ray: Collar O.D., Collar I.D. and K1 factor. Collar I.D.: 2.815 in. K1 Factor: 4.5590		
Run Number: 4 :: RECORDED DATA LOG		
WFT Services Provided: Recorded and Real Time Logging: Gamma Ray, Deep and Shallow Resistivity and Temperature. Directional Services: On demand Inclination and Azimuth.		
Borehole and Environmental Correction: Hole Size: 6.125 in. Gamma Ray: Corrected for mud weight, hole size and KCl concentration. Mud Weight: 9.85 ppg Resistivities: Corrected for borehole temperature, hole size, drilling fluid resistivity Borehole Temperature: 221 F and dielectric correction. Mud Type: WBM Drilling Fluid Resistivity: 1.12 ohm-m KCl Concentration: 0%		
Run Number: 5 :: RECORDED DATA LOG		
WFT Services Provided: Recorded and Real Time Logging: Gamma Ray, Deep and Shallow Resistivity and Temperature. Directional Services: On demand Inclination and Azimuth.		
Borehole and Environmental Correction: Hole Size: 6.125 in. Gamma Ray: Corrected for mud weight, hole size and KCl concentration. Mud Weight: 10.15 ppg Resistivities: Corrected for borehole temperature, hole size, drilling fluid resistivity Borehole Temperature: 238 F and dielectric correction. Mud Type: WBM Drilling Fluid Resistivity: 1.14 ohm-m KCl Concentration: 0%		
Run Number: 6 :: RECORDED DATA LOG		
WFT Services Provided: Recorded and Real Time Logging: Gamma Ray, Deep and Shallow Resistivity and Temperature. Directional Services: On demand Inclination and Azimuth.		
Borehole and Environmental Correction: Hole Size: 6.125 in. Gamma Ray: Corrected for mud weight, hole size and KCl concentration. Mud Weight: 10.20 ppg Resistivities: Corrected for borehole temperature, hole size, drilling fluid resistivity Borehole Temperature: 250 F and dielectric correction. Mud Type: WBM Drilling Fluid Resistivity: 1.21 ohm-m KCl Concentration: 0%		

MWD/LWD LOG COMMENTS	
Comment No. 1-1	<p>RECORDED DATA LOG</p> <p>Start of MWD Drilling Run 03</p> <p>Weatherford International provided 6 3/4 in. Directional, Gamma Ray and Temperature for Run 03.</p> <p>Run 03 started formation logging May 21, 2012 at 03:42 at 6300 MD / 6224 TVD. Weatherford International logged the 8.750 in. borehole.</p> <p>The WBM at the start of drilling was 8.60 ppg.</p>
Comment No. 1-2	<p>End of MWD Drilling Run 03</p> <p>Run 03 ended drilling formation May 22, 2012 at 21:37 at 7567 MD / 7133 TVD.</p> <p>The WBM at the end of drilling was 8.60 ppg.</p>
Comment No. 1-3	<p>The well was drilled from 7567 ft MD to 7663 ft MD without logging tools in the BHA. The hole drilled was a 6.125 in. borehole.</p>
Comment No. 2-1	<p>RECORDED DATA LOG</p> <p>Start of LWD Drilling Run 04</p> <p>Weatherford International provided 4 3/4 in. Directional, Resistivity, Spectral Gamma Ray and Temperature for Run 04.</p> <p>Run 04 started formation drilling May 25, 2012 at 17:33 at 7663 MD / 7131 TVD. Weatherford International logged the 6.125 in. borehole.</p> <p>The WBM at the start of drilling was 9.85 ppg.</p>
Comment No. 2-2	<p>End of LWD Drilling Run 04</p> <p>Run 04 ended drilling formation May 26, 2012 at 19:14 at 10297 MD / 7153 TVD.</p> <p>The WBM at the end of drilling was 9.85 ppg.</p>
Comment No. 3-1	<p>RECORDED DATA LOG</p> <p>Start of LWD Drilling Run 05</p> <p>Weatherford International provided 4 3/4 in. Directional, Resistivity, Spectral Gamma Ray and Temperature for Run 05.</p> <p>Run 05 started formation drilling May 27, 2012 at 17:29 at 10297 MD / 7153 TVD. Weatherford International logged the 6.125 in. borehole.</p> <p>The WBM at the start of drilling was 10.00 ppg.</p>
Comment No. 3-2	<p>End of LWD Drilling Run 05</p> <p>Run 05 ended drilling formation May 29, 2012 at 11:14 at 12964 MD / 7172 TVD.</p> <p>The WBM at the end of drilling was 10.00 ppg.</p>

Comment No. 4-1

RECORDED DATA LOG

Start of LWD Drilling Run 06

Weatherford International provided 4 3/4 in. Directional, Resistivity, Spectral Gamma Ray and Temperature for Run 06.

Run 06 started formation drilling May 30, 2012 at 17:21 at 12964 MD / 7172 TVD. Weatherford International logged the 6.125 in. borehole.

The WBM at the start of drilling was 10.15 ppg.

Comment No. 4-2

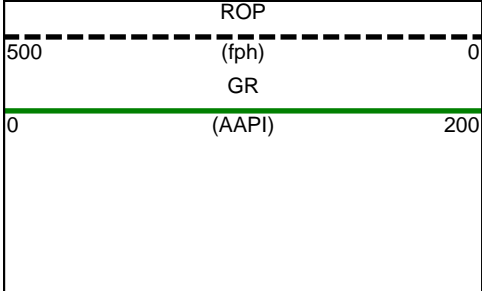
End of LWD Drilling Run 06

Run 06 ended drilling formation May 31, 2012 at 06:11 at 14144 MD / 7159 TVD.

The WBM at the end of drilling was 10.10 ppg.

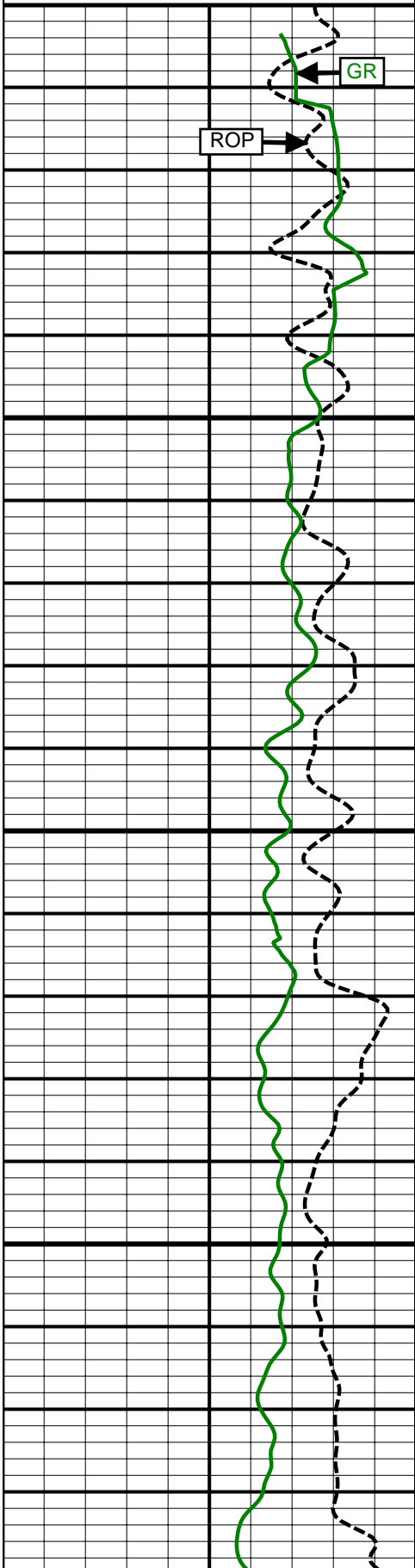
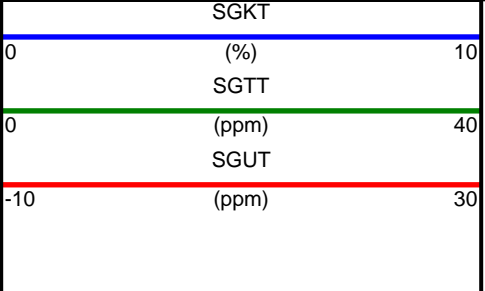
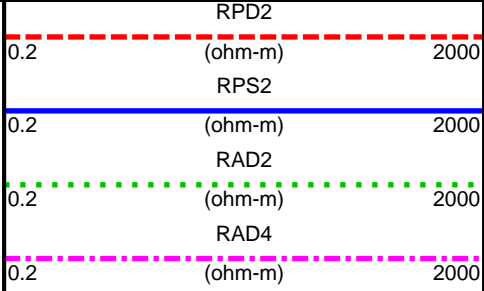
CURVE SPECIFICATIONS				
CURVE TYPE	MNEMONIC	UNITS	COMMENTS	CORRECTIONS
Rate of Penetration	ROP	fph	Rate of Penetration 3.0 ft window 0.5 ft Exponential Smoothing	None
Gamma Ray	GR	AAPI	Gamma Ray 3.0 ft window 0.5 ft Exponential Smoothing	See LWD Run Remarks
Deep Phase Resistivity	RPD2	ohm-m	2MHz Deep Phase Resistivity 3.0 ft window 0.5 ft Exponential Smoothing	
Deep Attenuation Resistivity	RAD4	ohm-m	400kHz Deep Attenuation Resistivity 3.0 ft window 0.5 ft Exponential Smoothing	
Shallow Phase Resistivity	RPS2	ohm-m	2MHz Shallow Phase Resistivity 3.0 ft window 0.5 ft Exponential Smoothing	
Deep Attenuation Resistivity	RAD2	ohm-m	2MHz Deep Attenuation Resistivity 3.0 ft window 0.5 ft Exponential Smoothing	
Potassium Total	SGKT	%	Potassium Concentration 3.0 ft window 0.5 ft Two Stage Smoothing	
Uranium Total	SGUT	ppm	Uranium Concentration 3.0 ft window 0.5 ft Two Stage Smoothing	
Thorium Total	SGTT	ppm	Thorium Concentration 3.0 ft window 0.5 ft Two Stage Smoothing	

5 Inch - Measured Depth

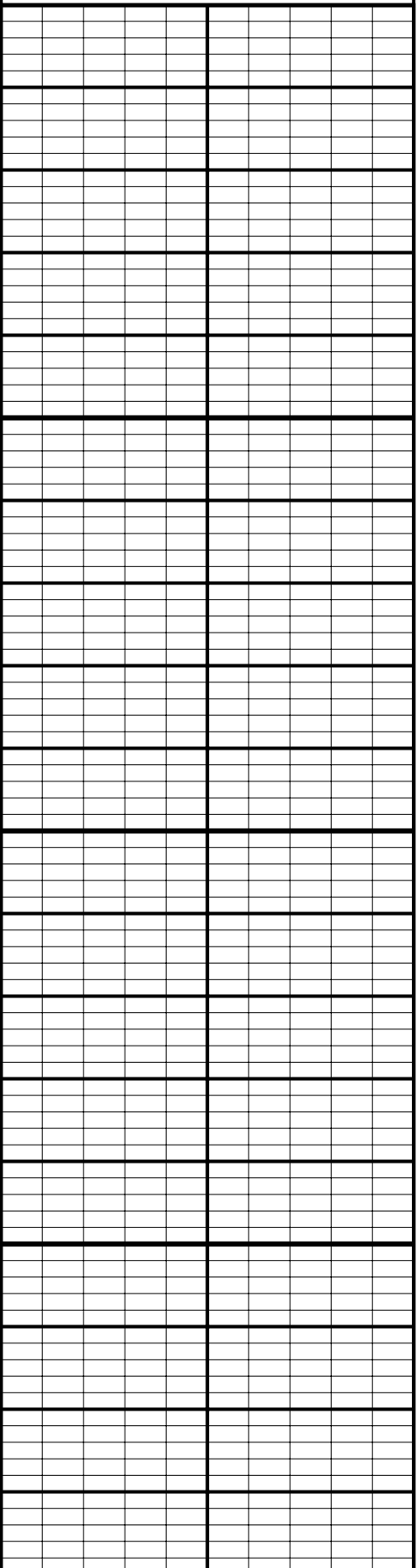
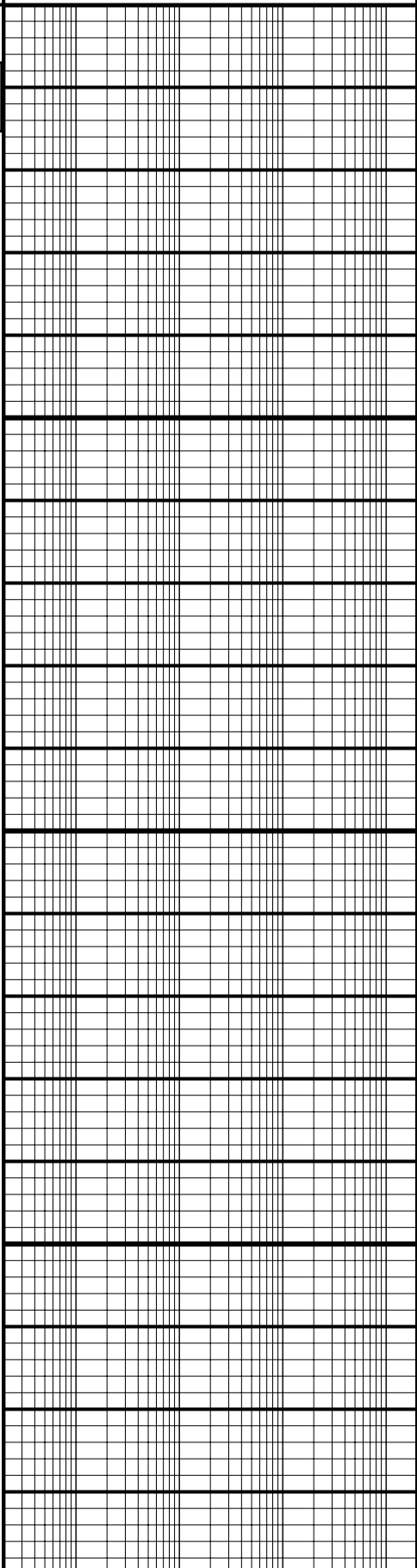


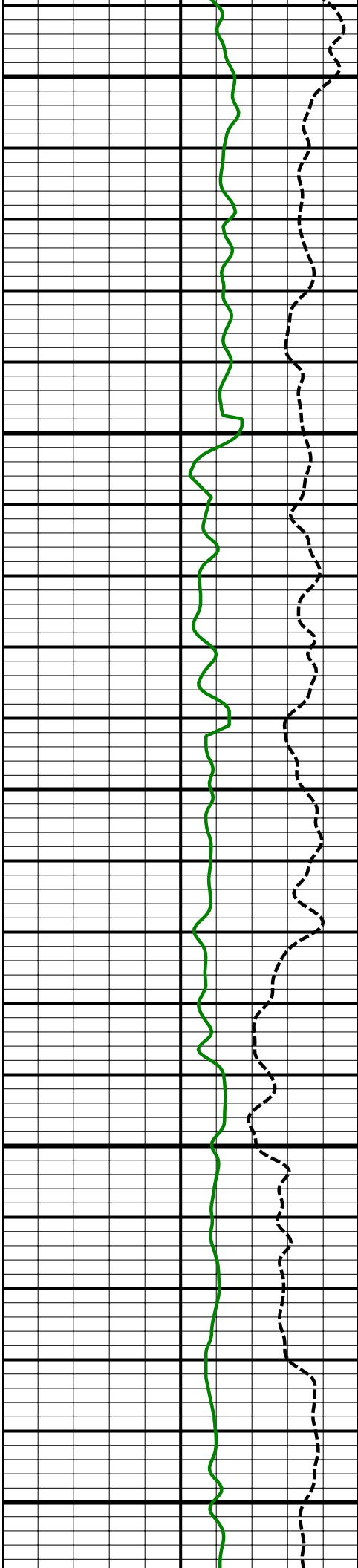
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Comment No. 1-1



6400 MD

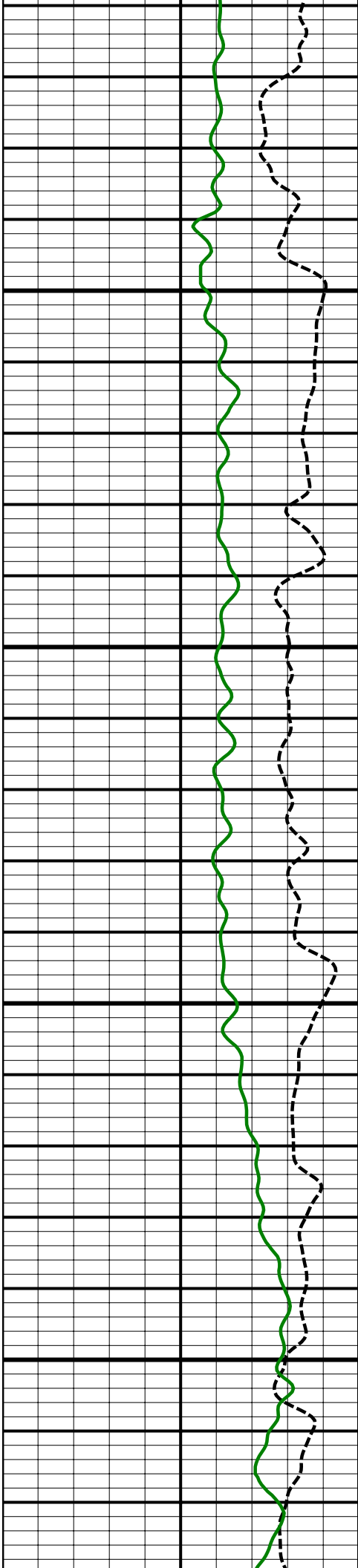




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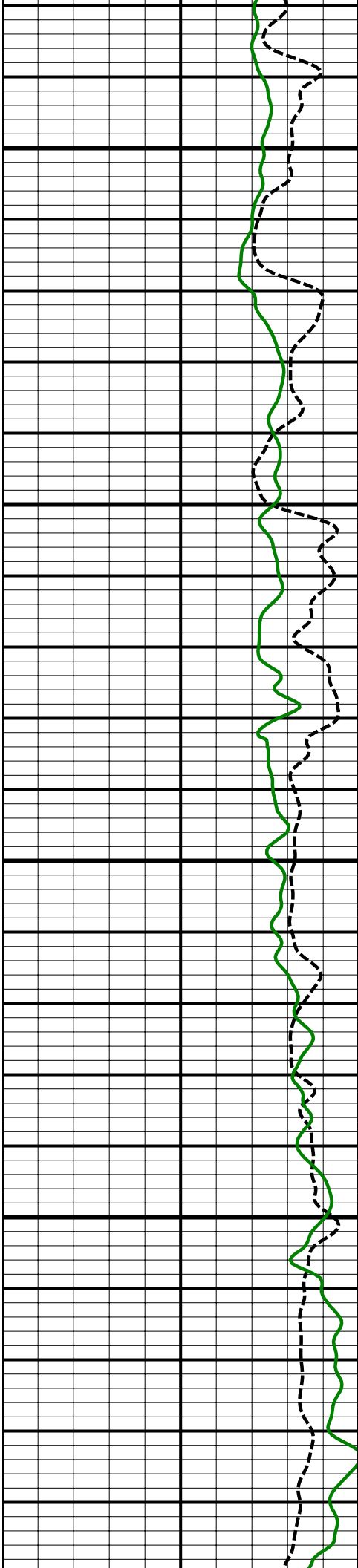
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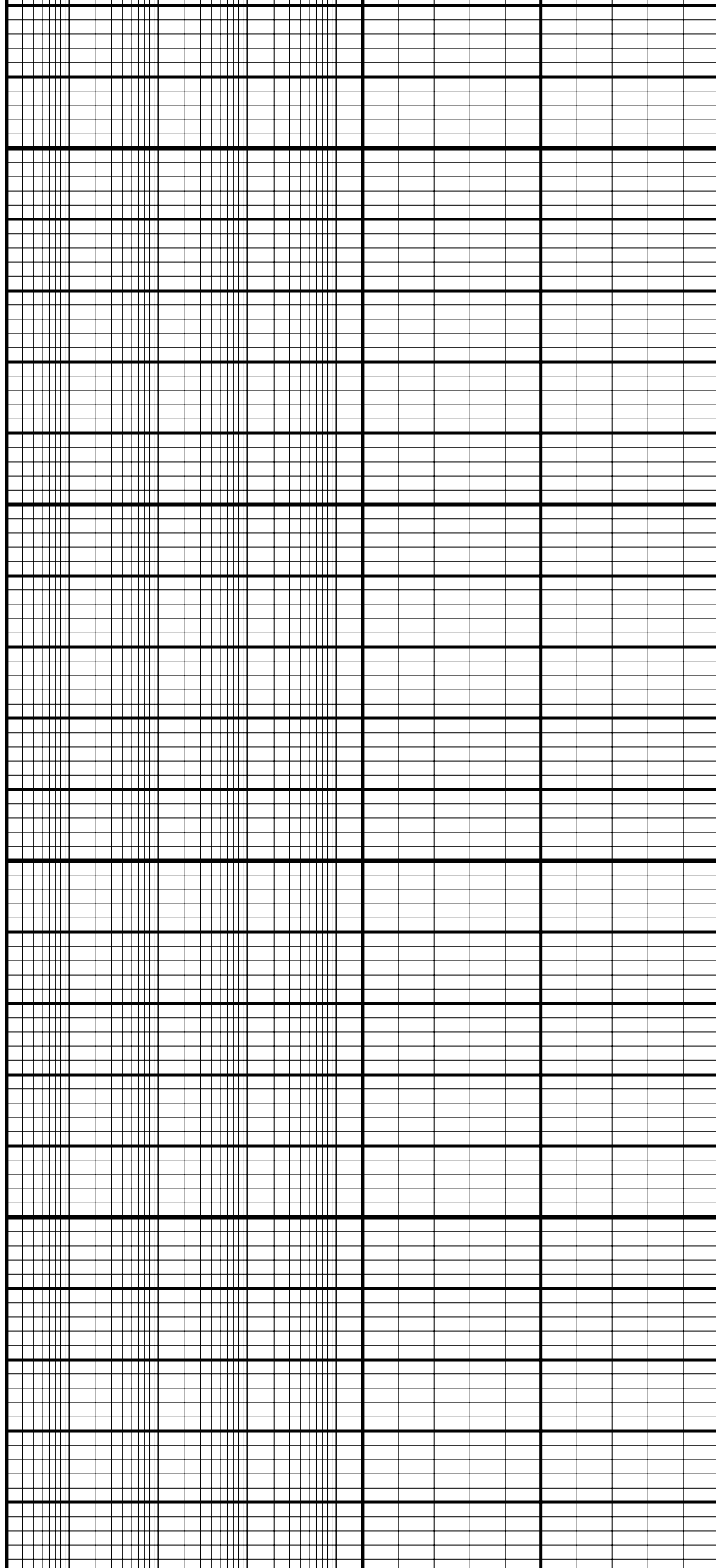
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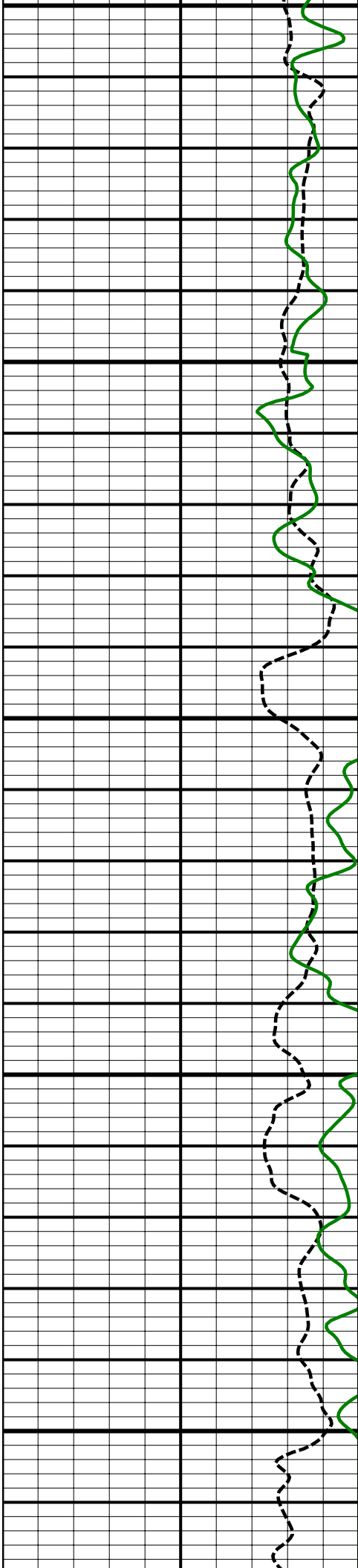
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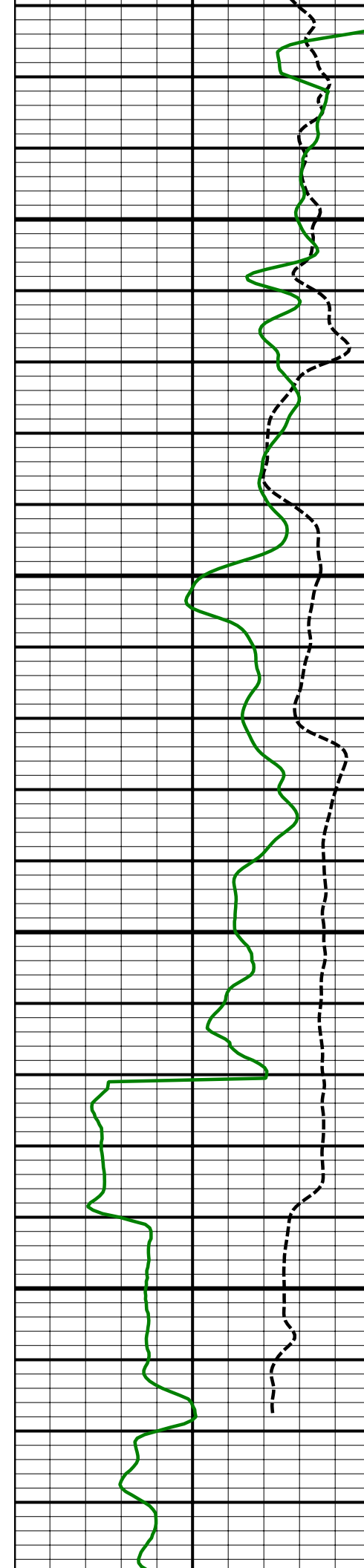
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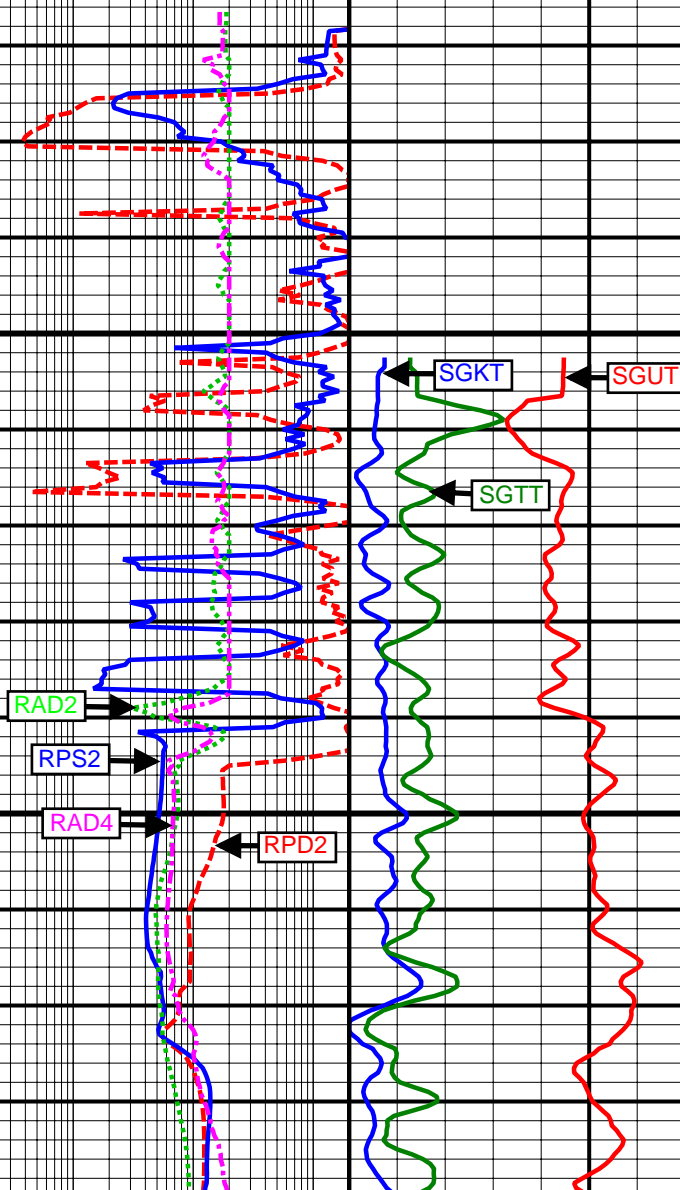
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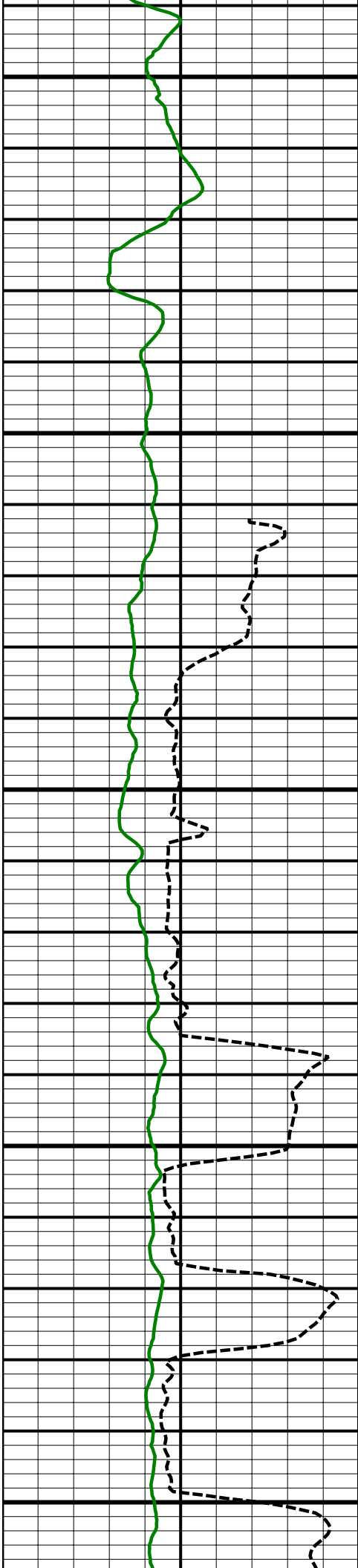


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Comment
No. 1-2





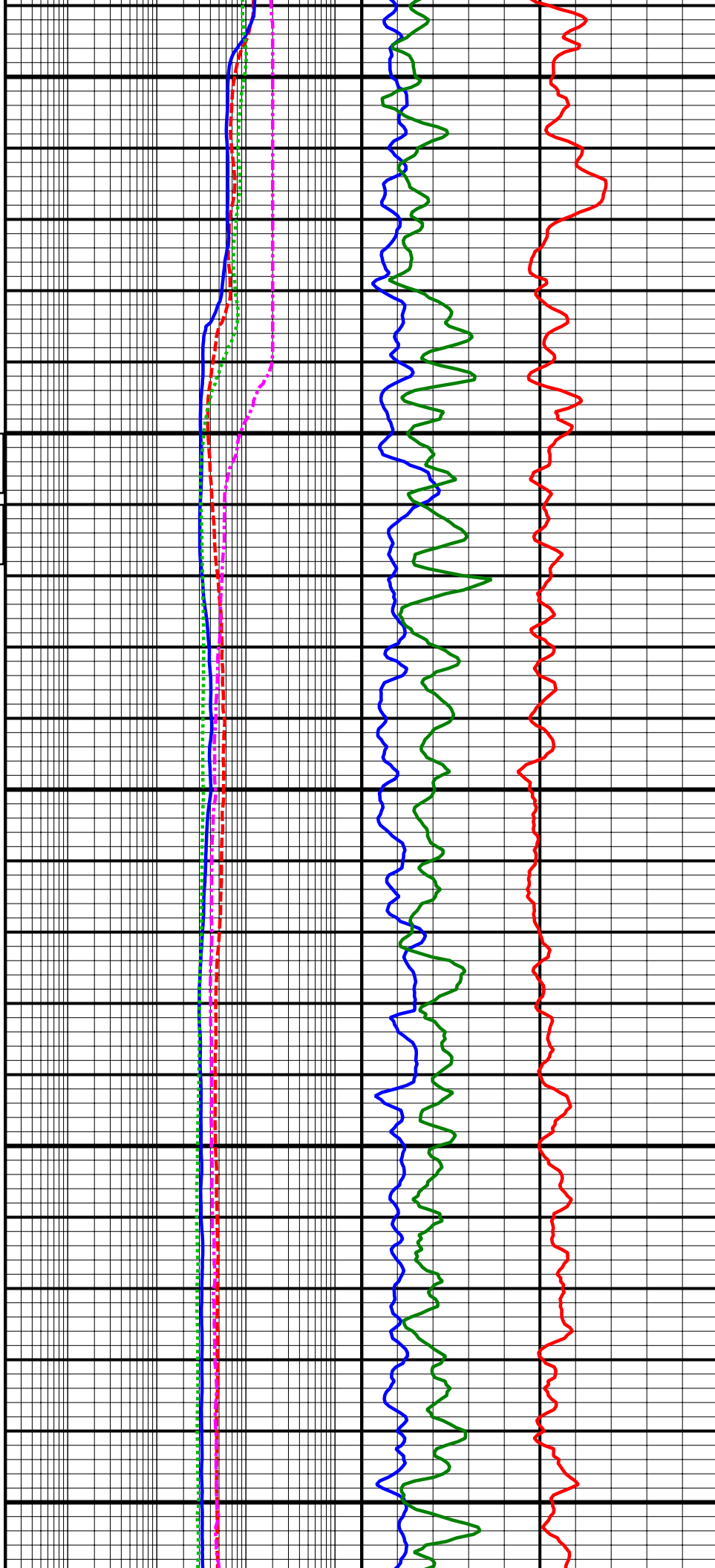
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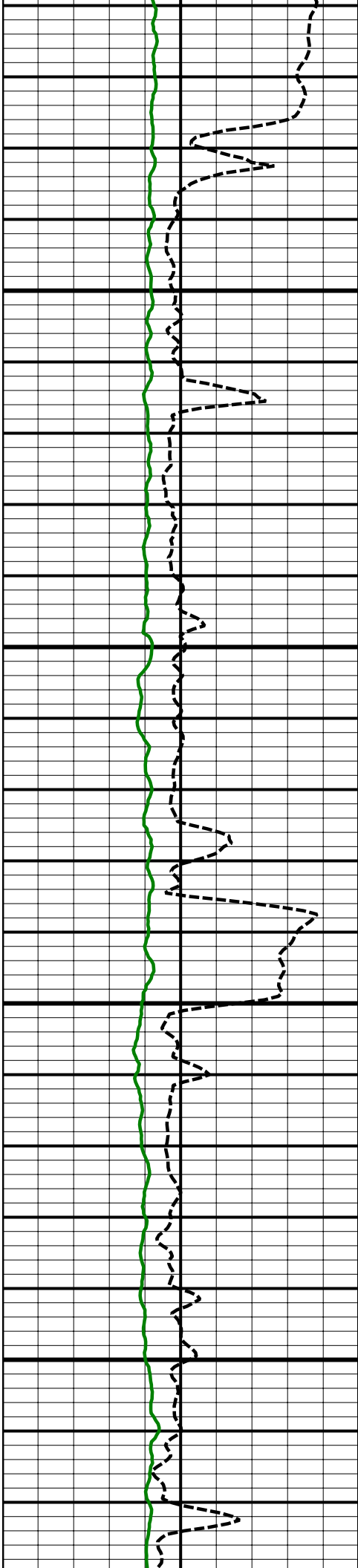
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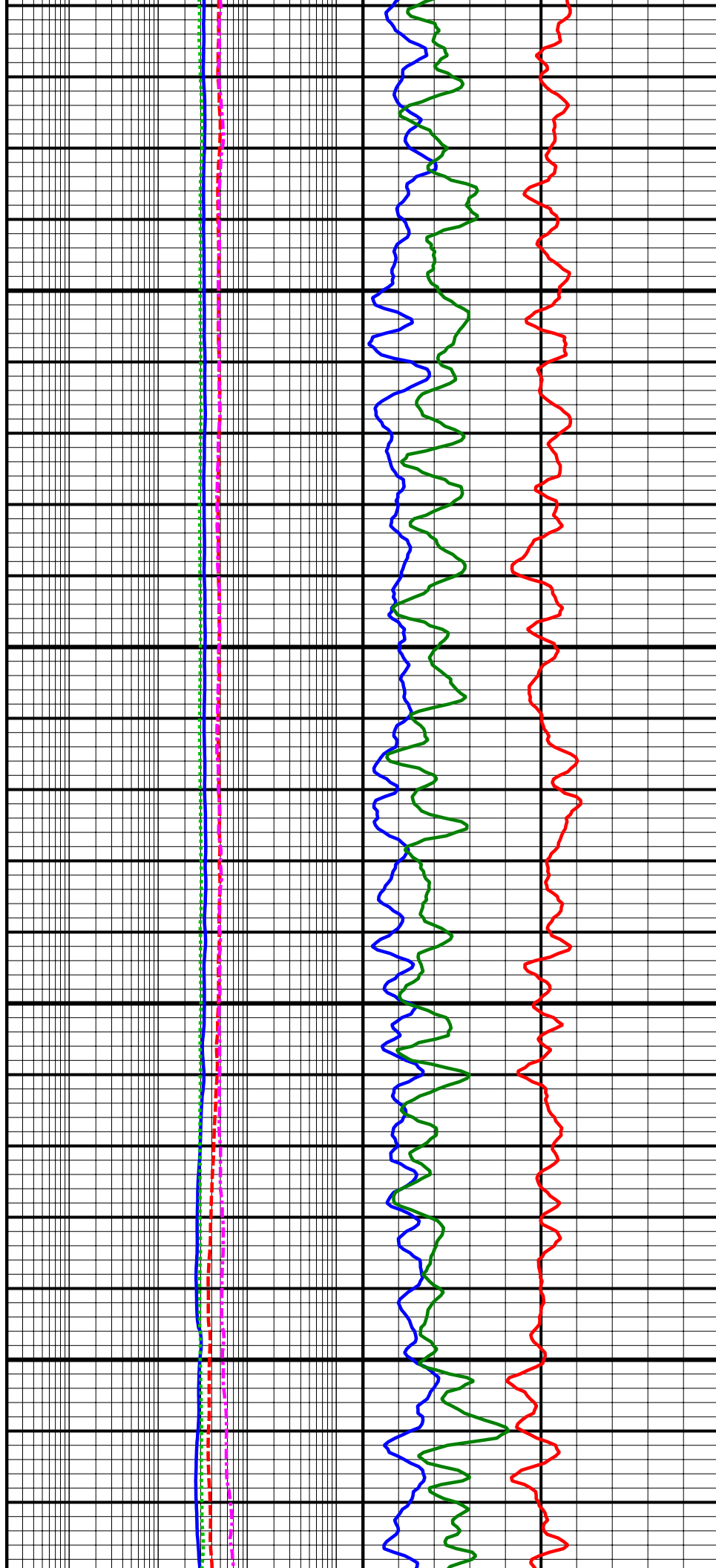
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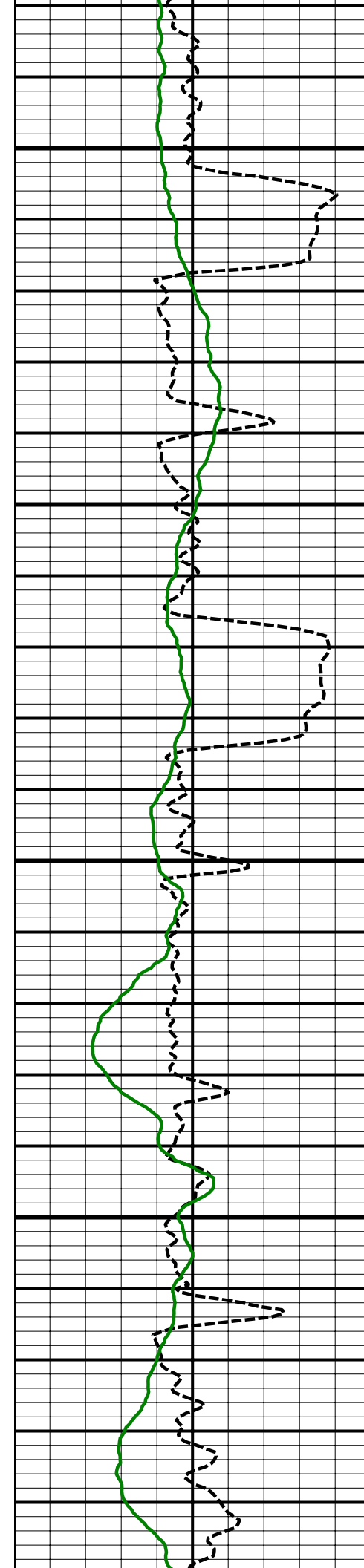




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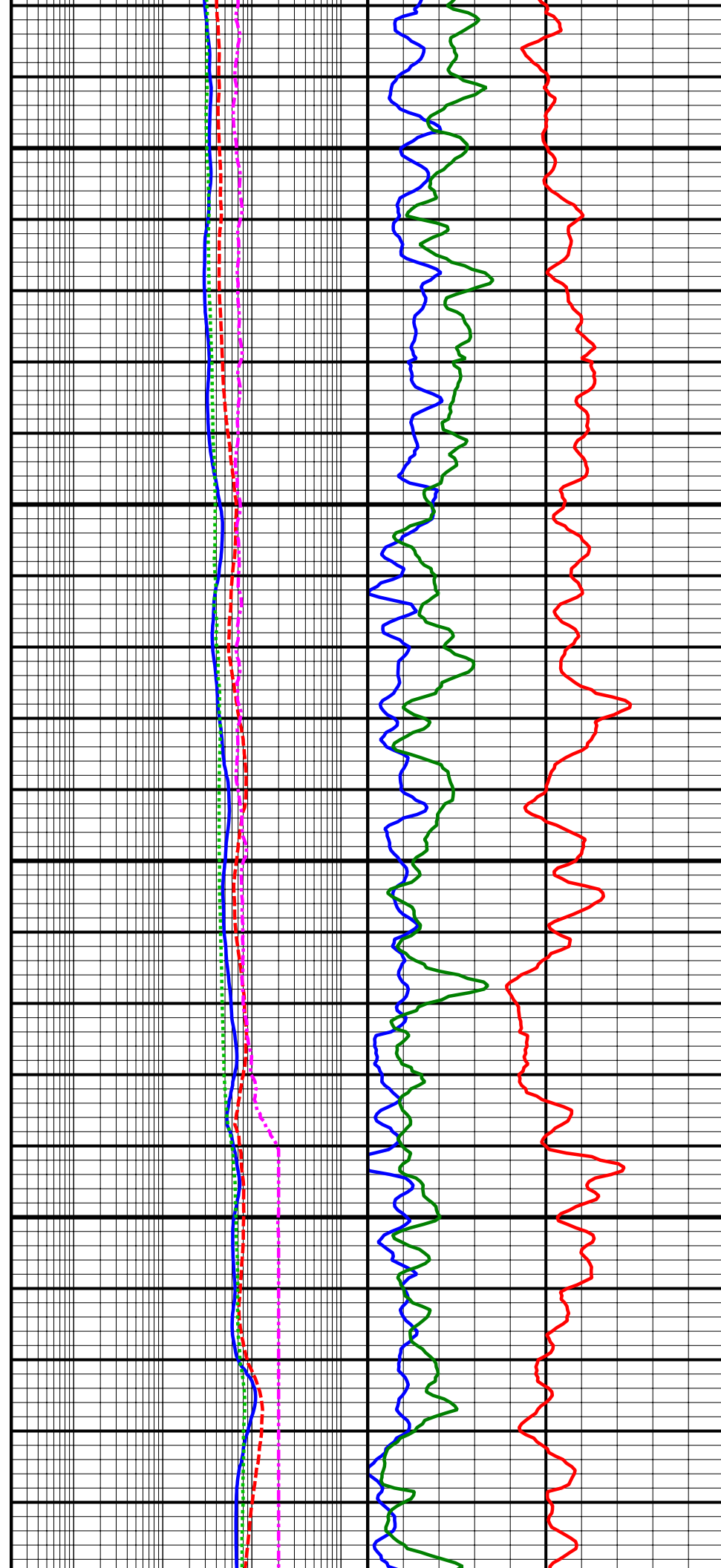
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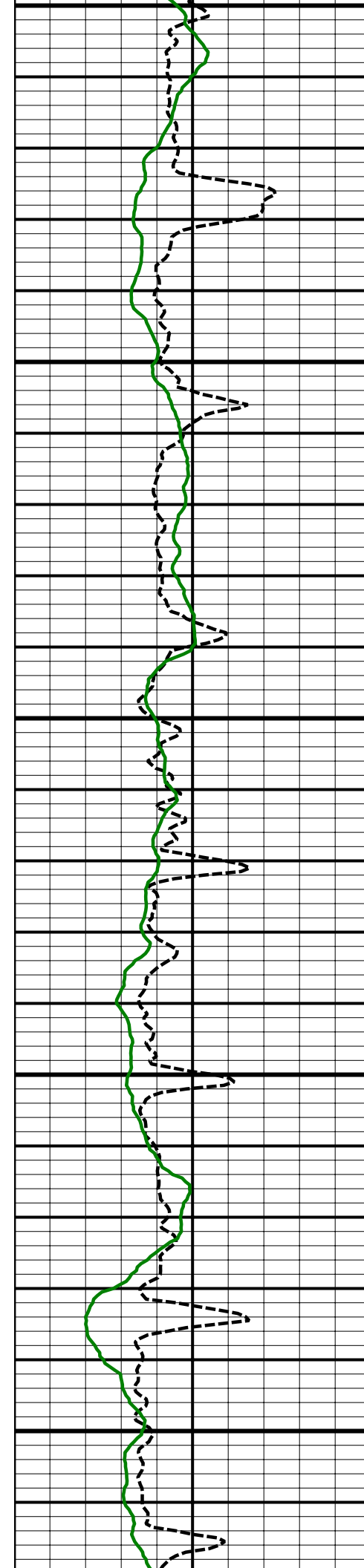




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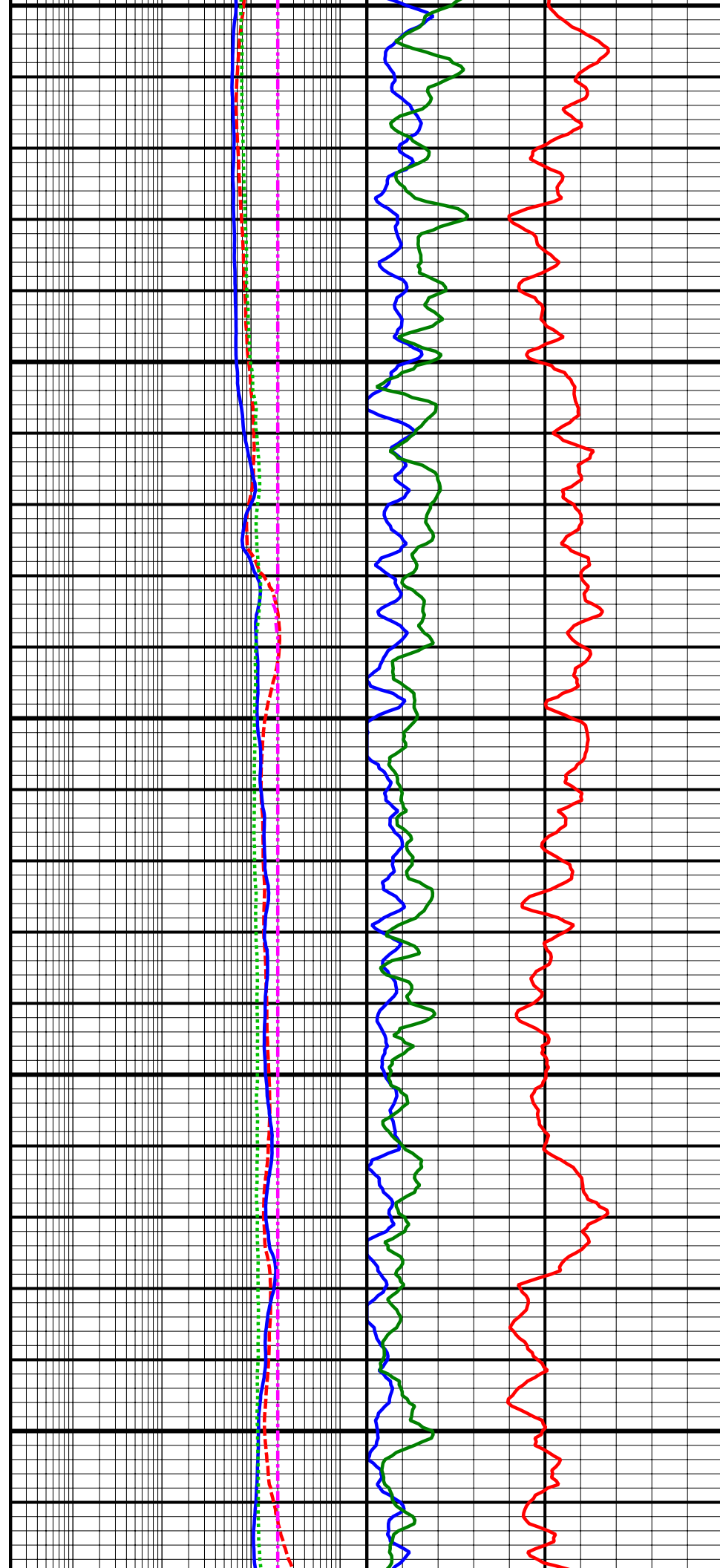
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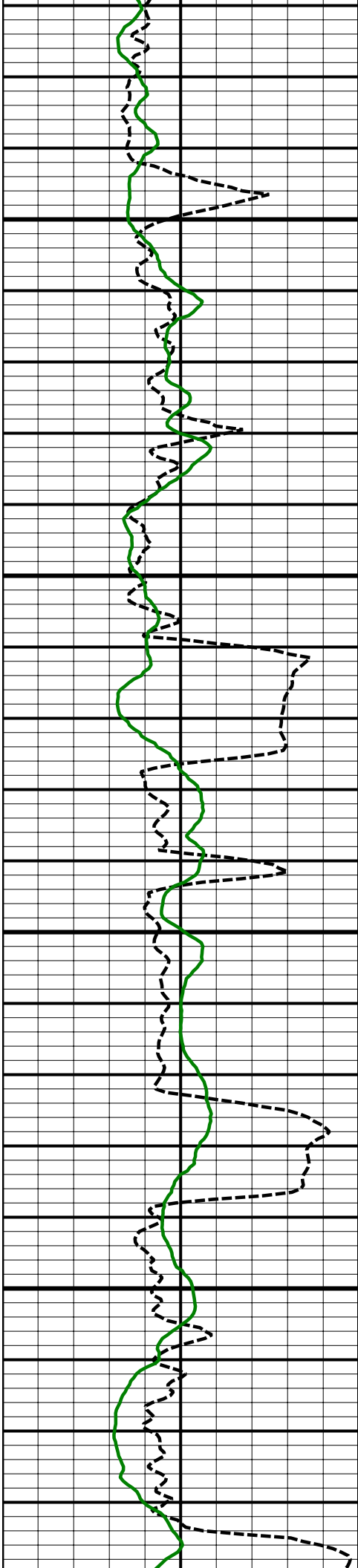




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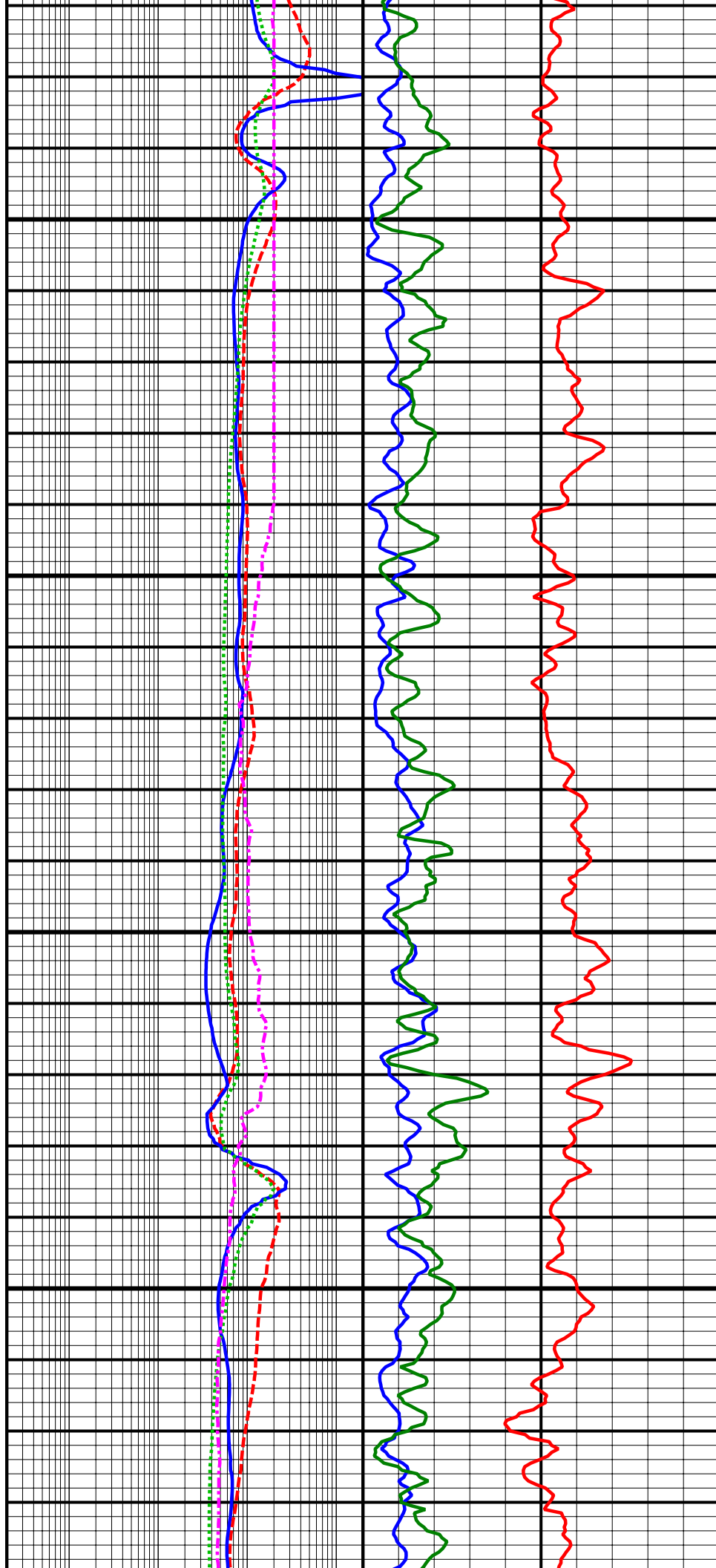
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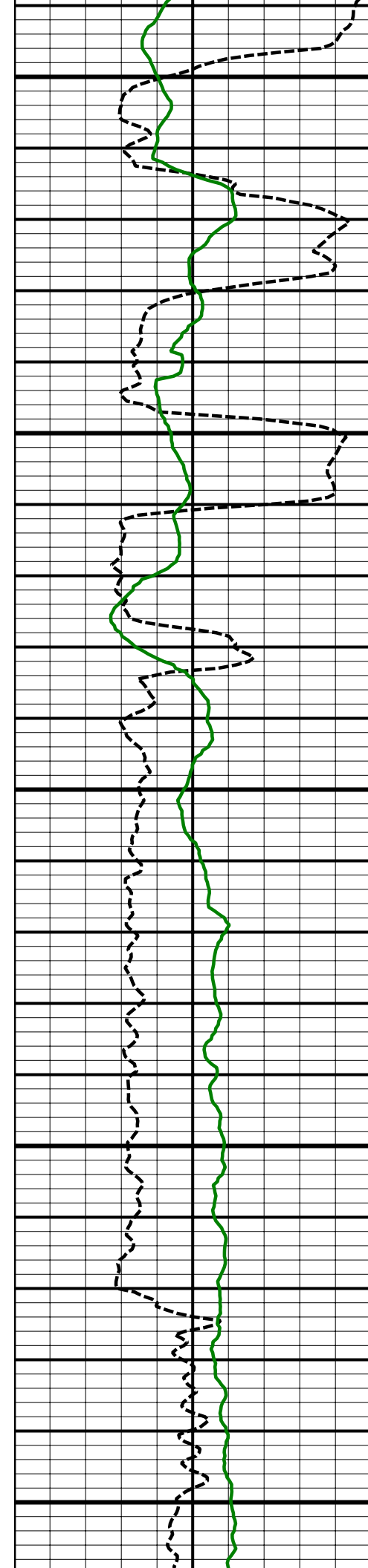




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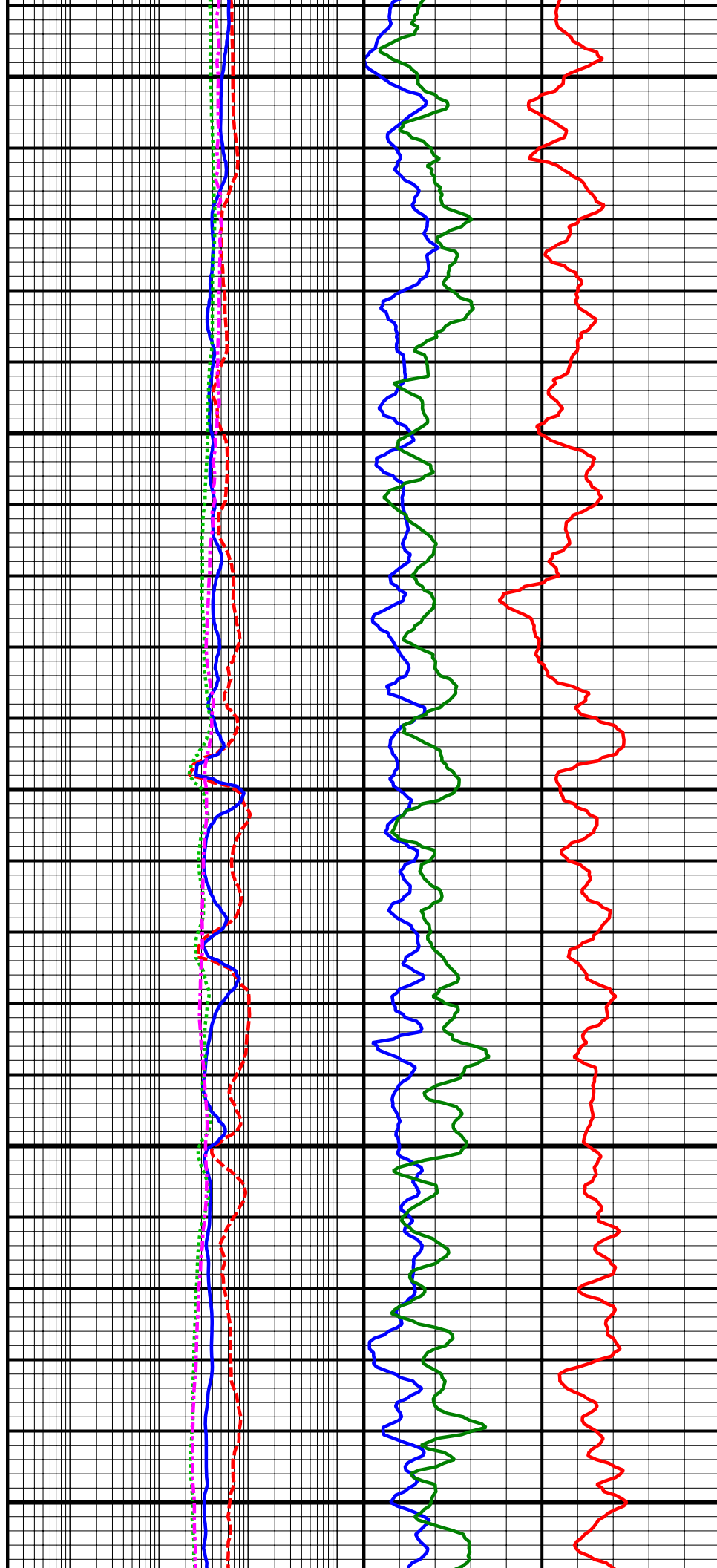


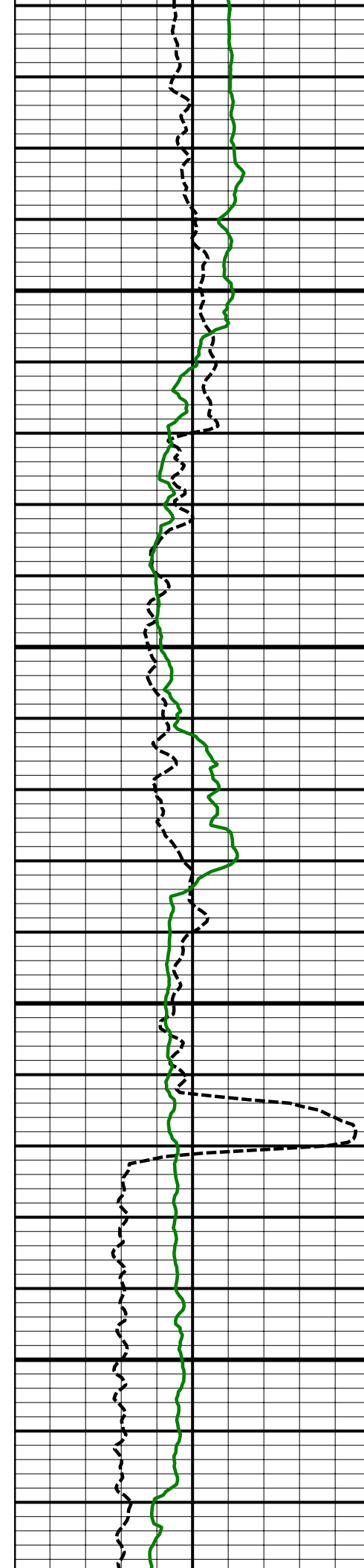


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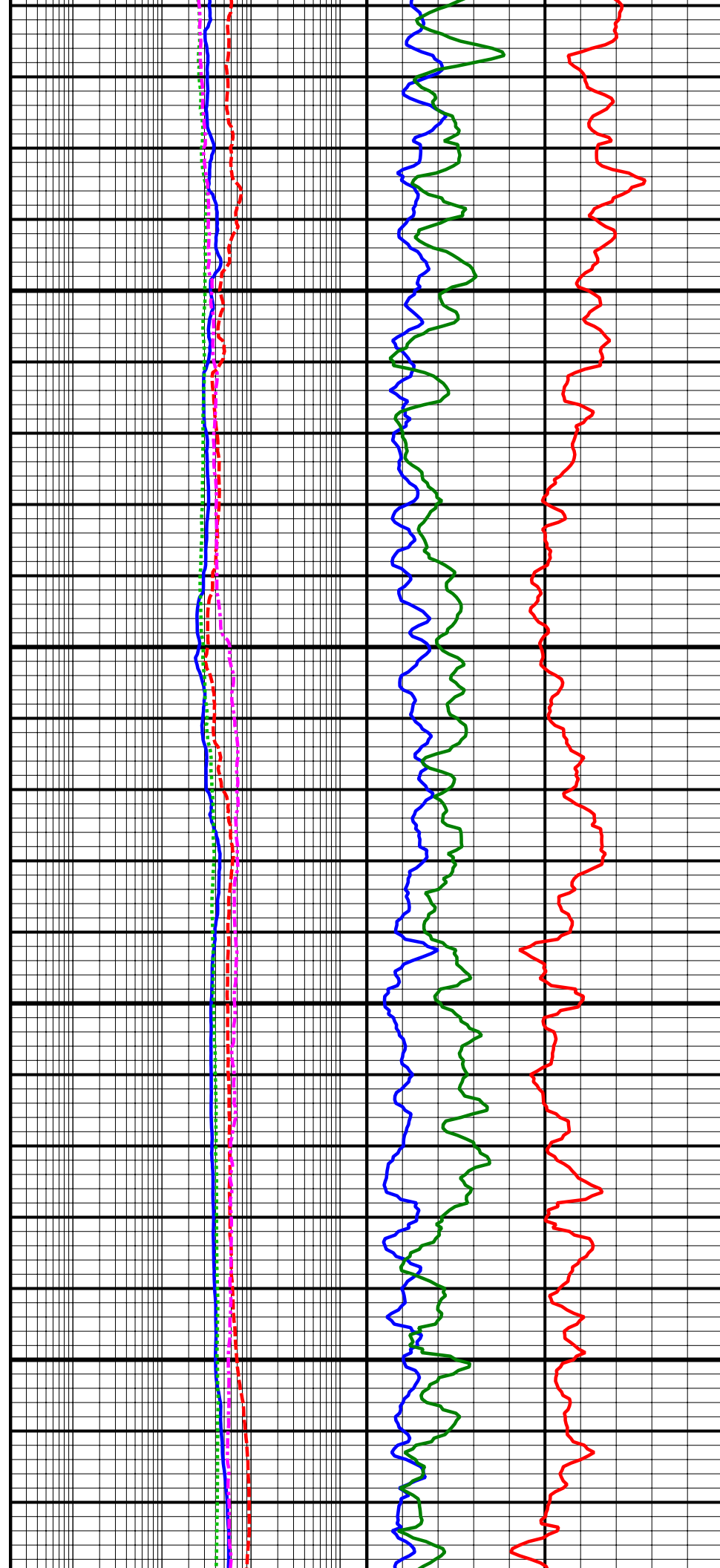
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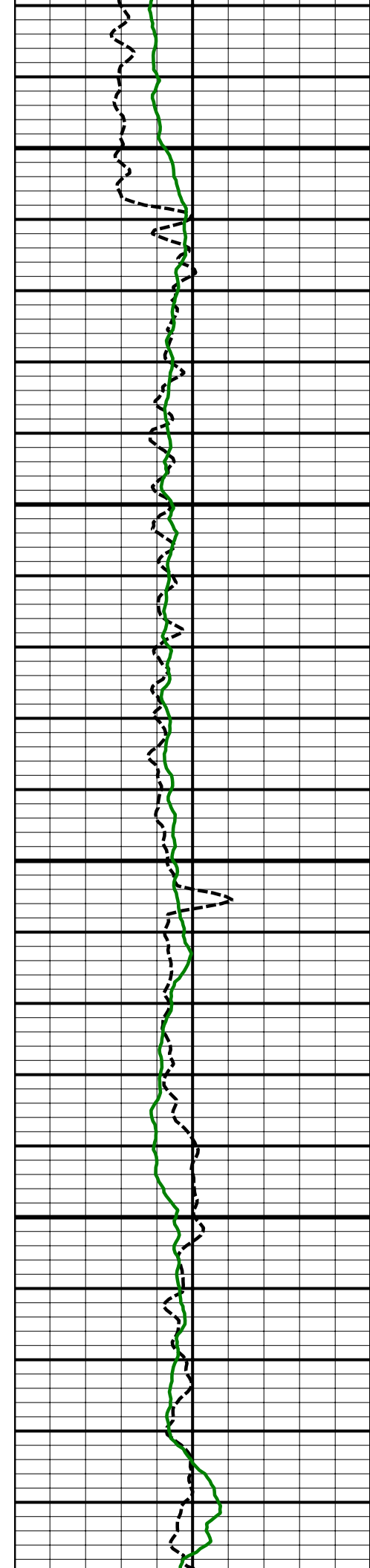




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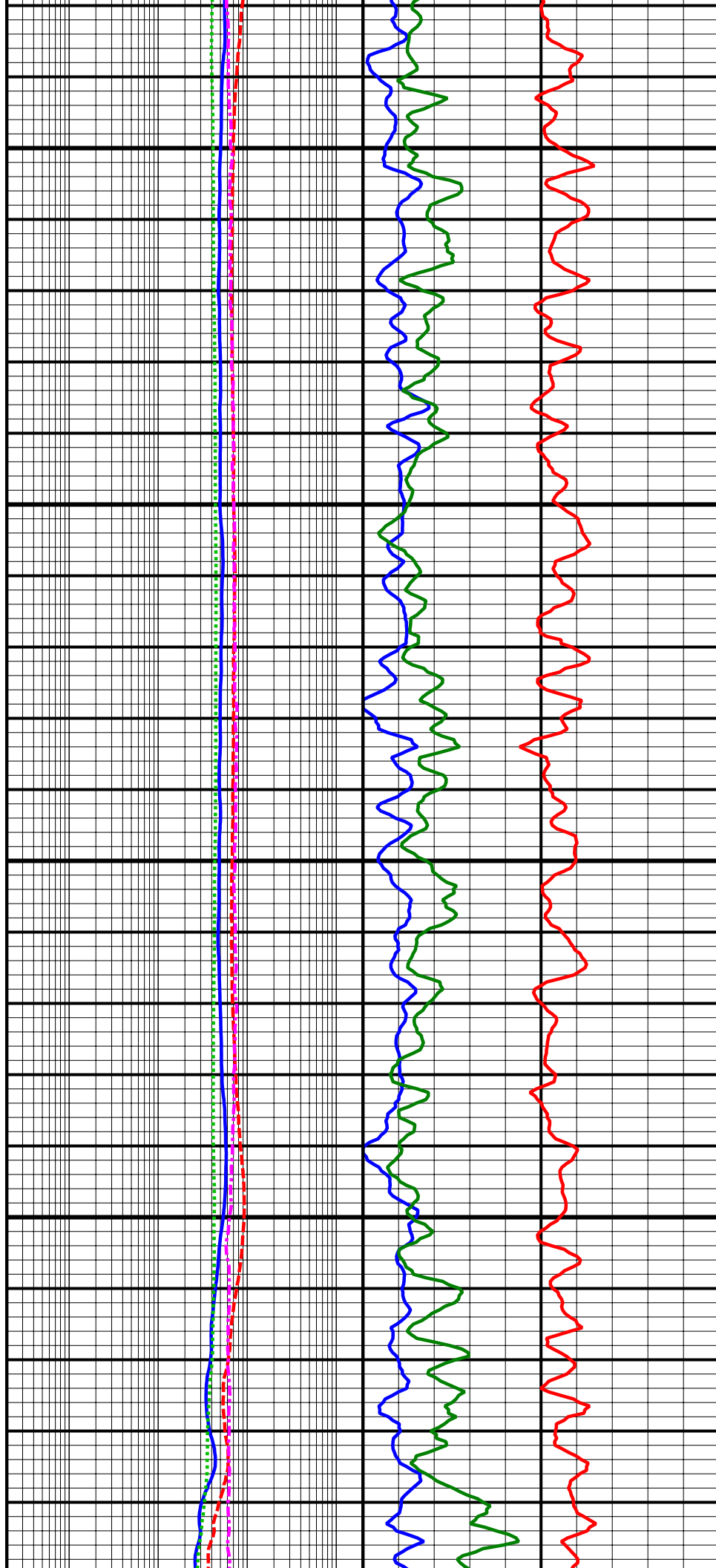
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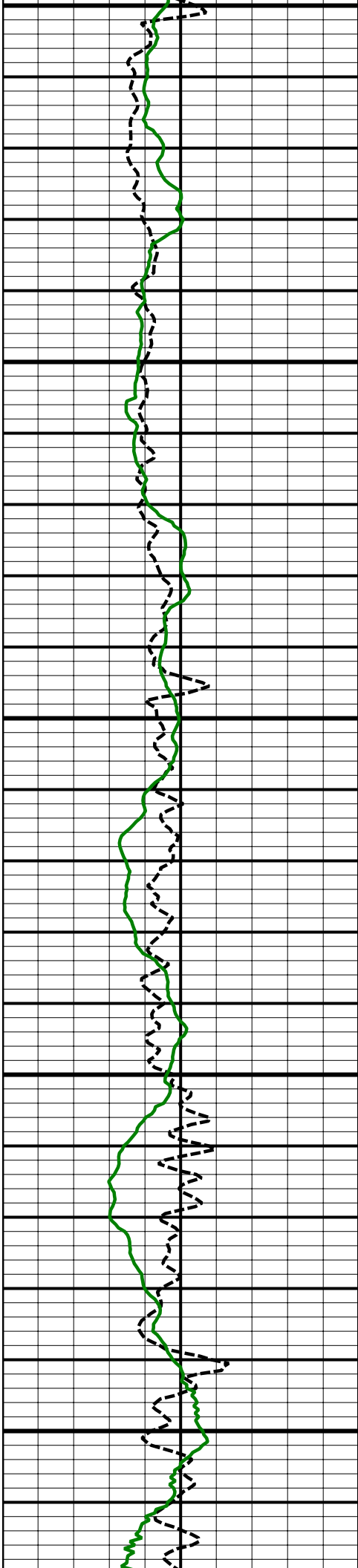




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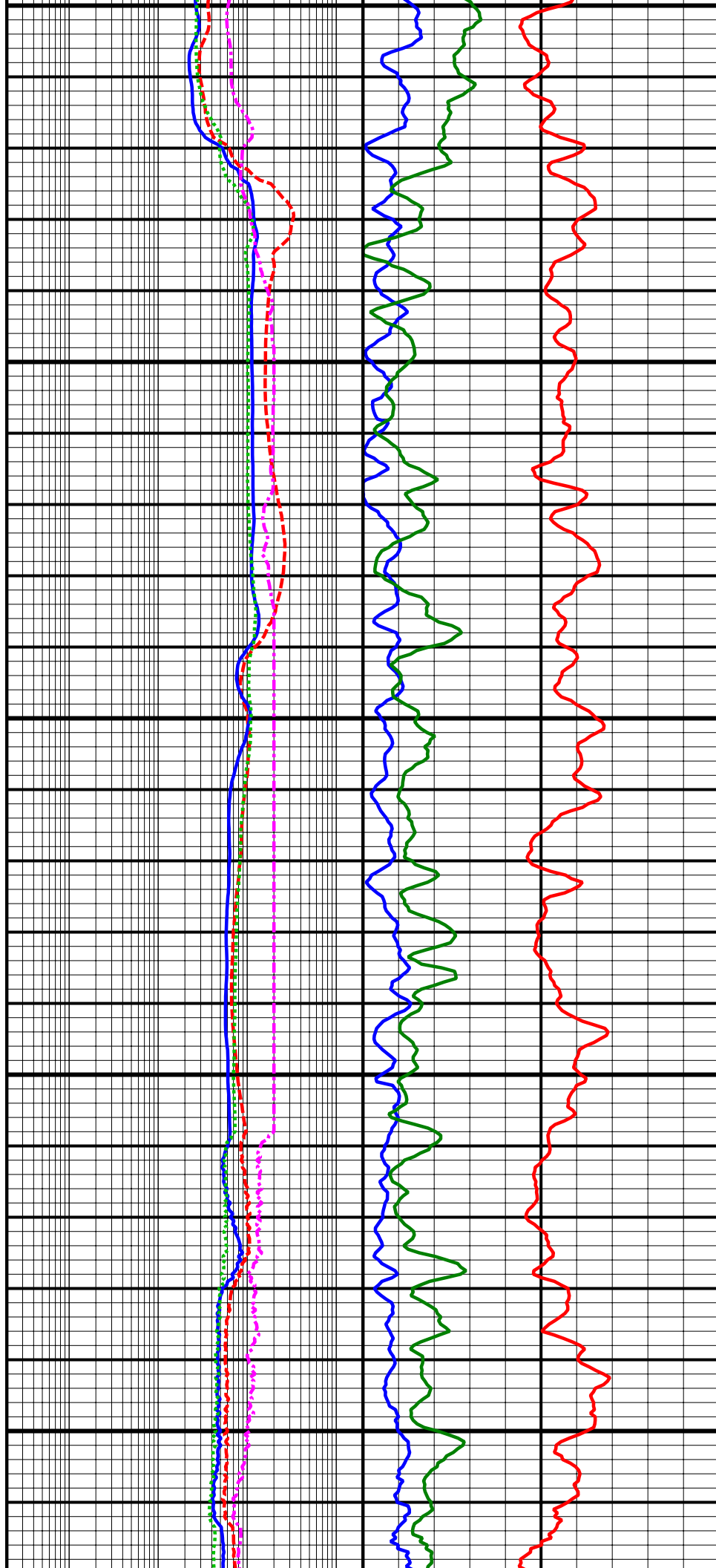
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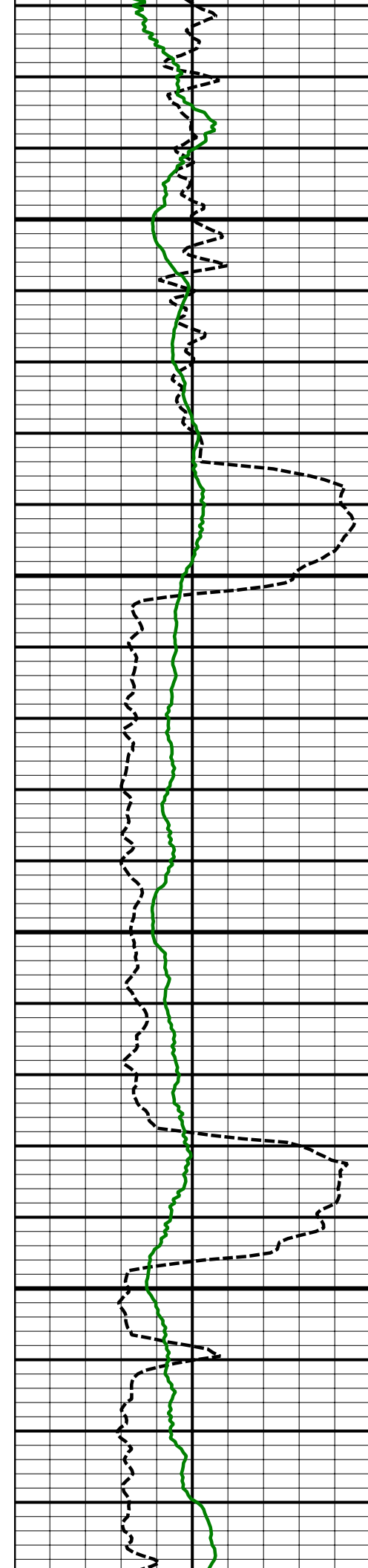




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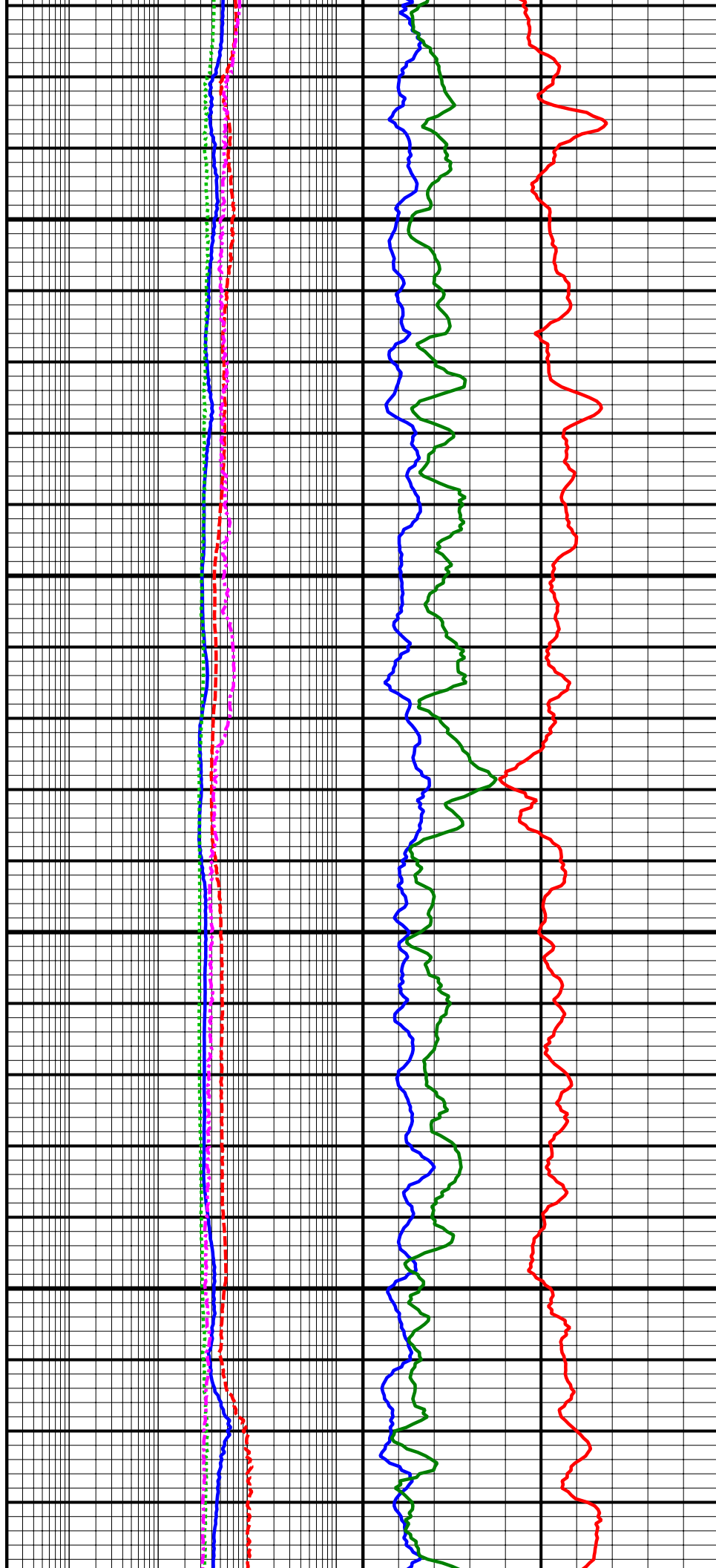
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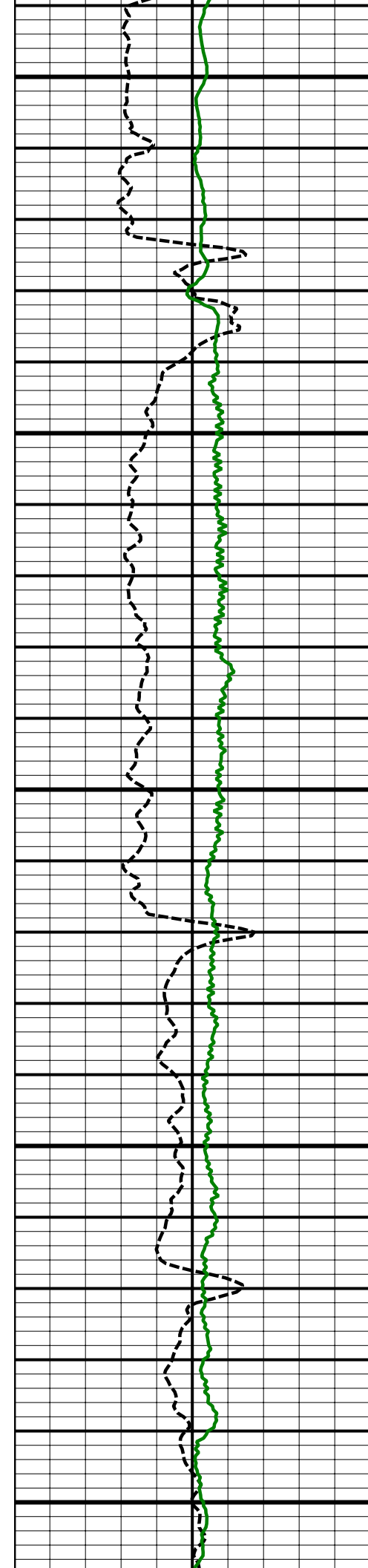




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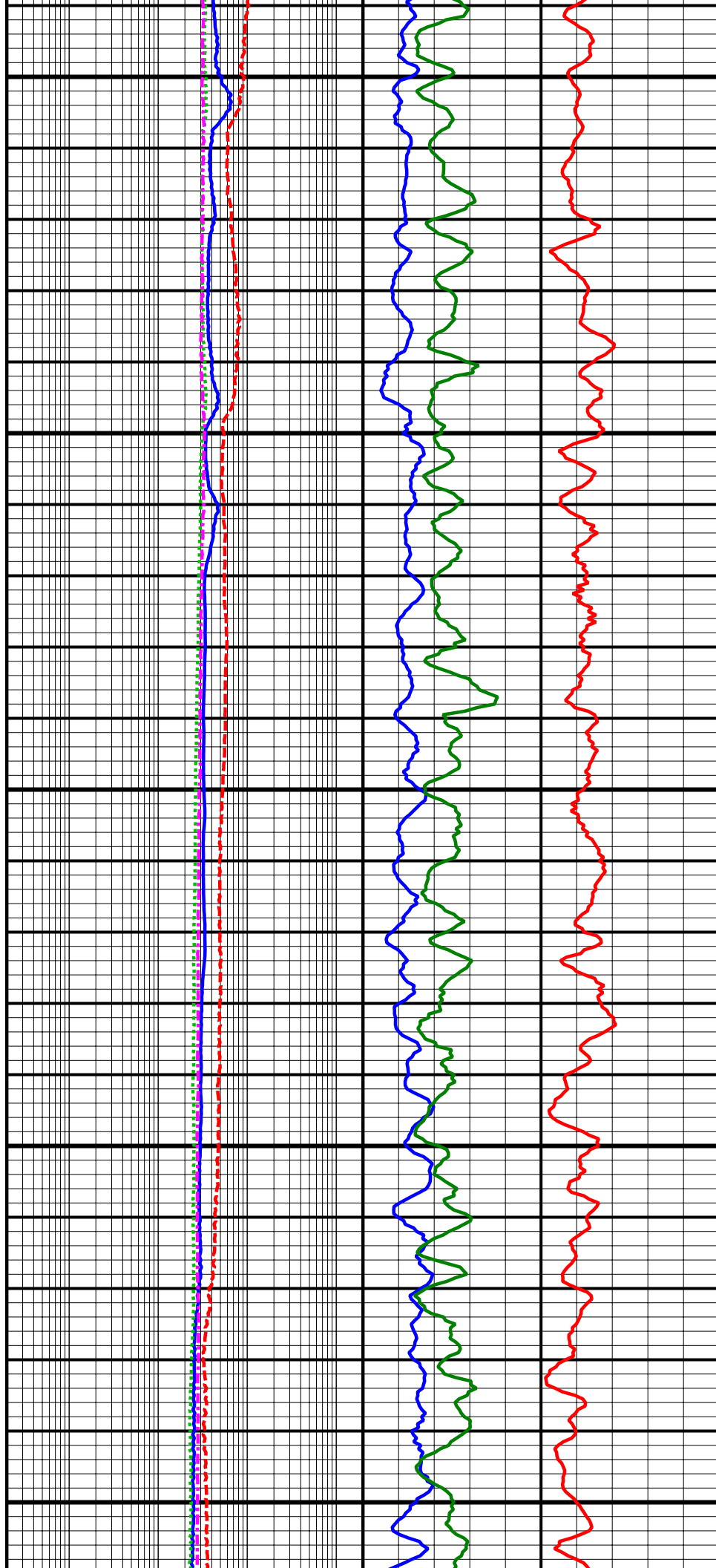


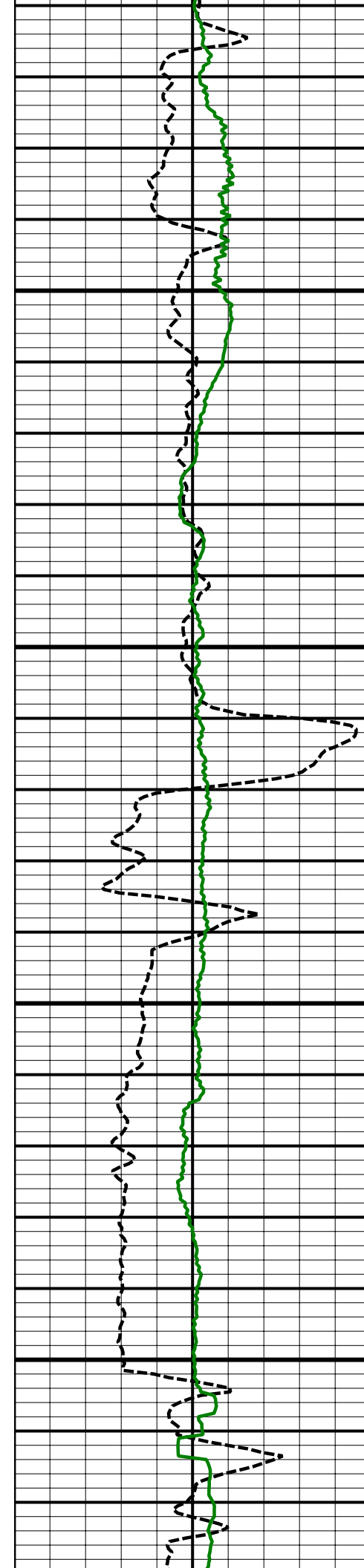


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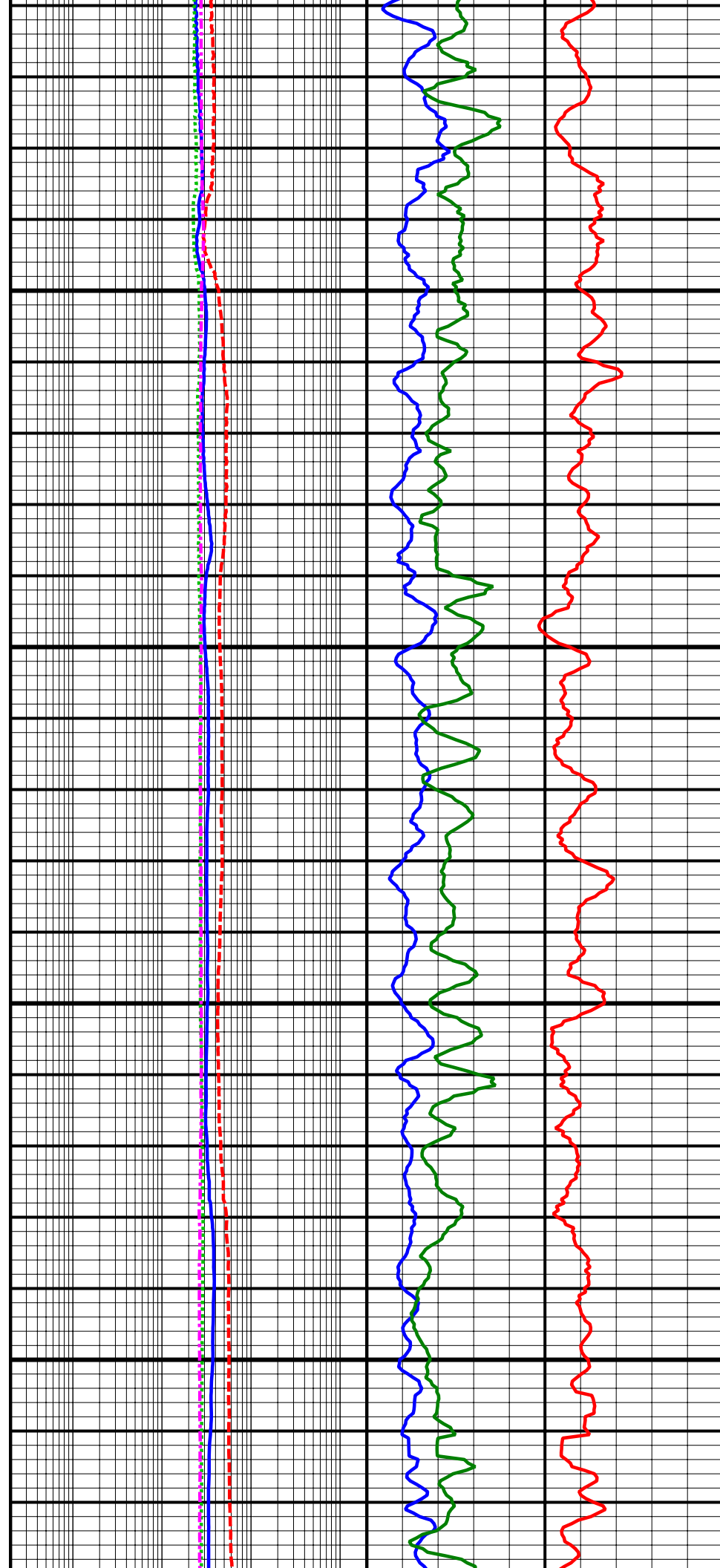
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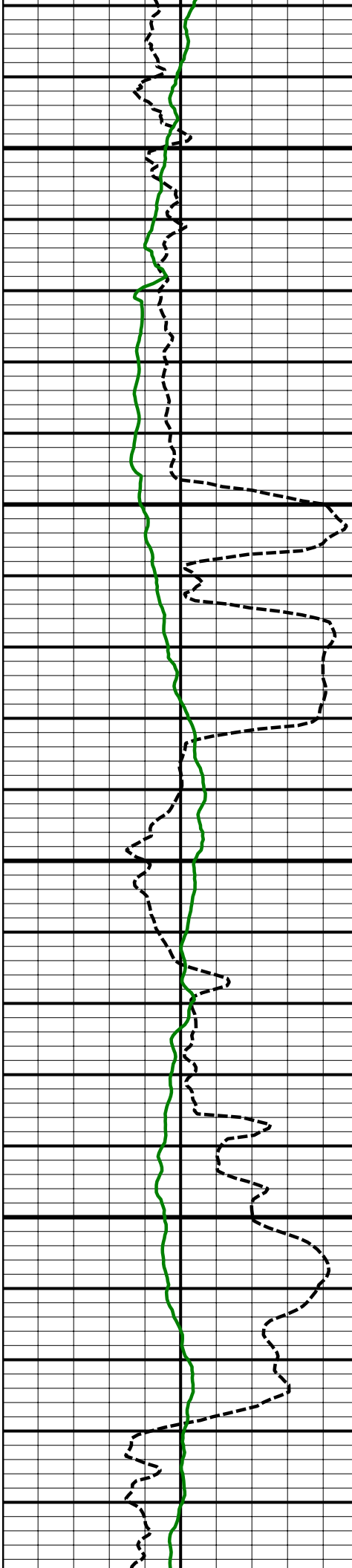




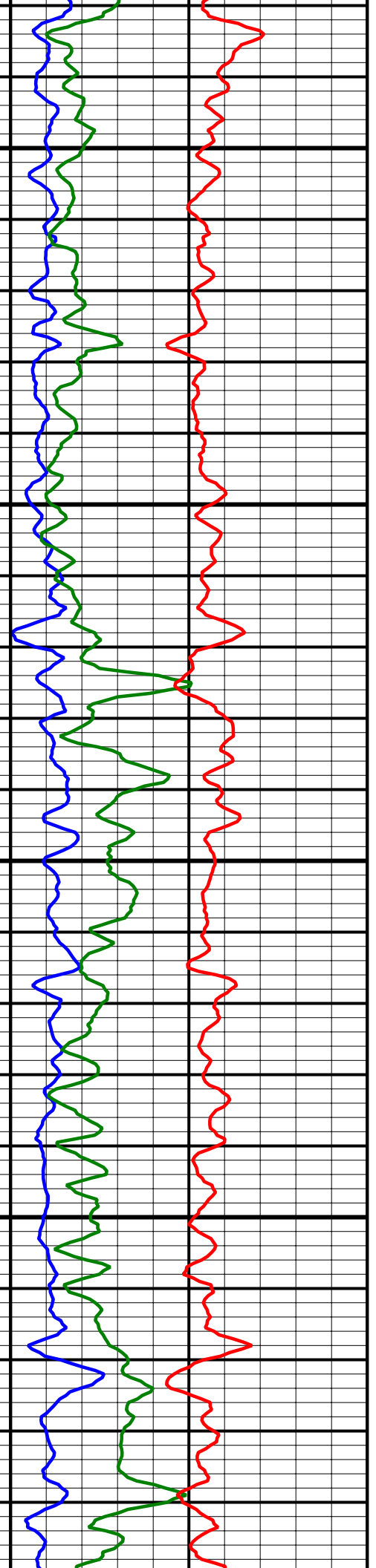
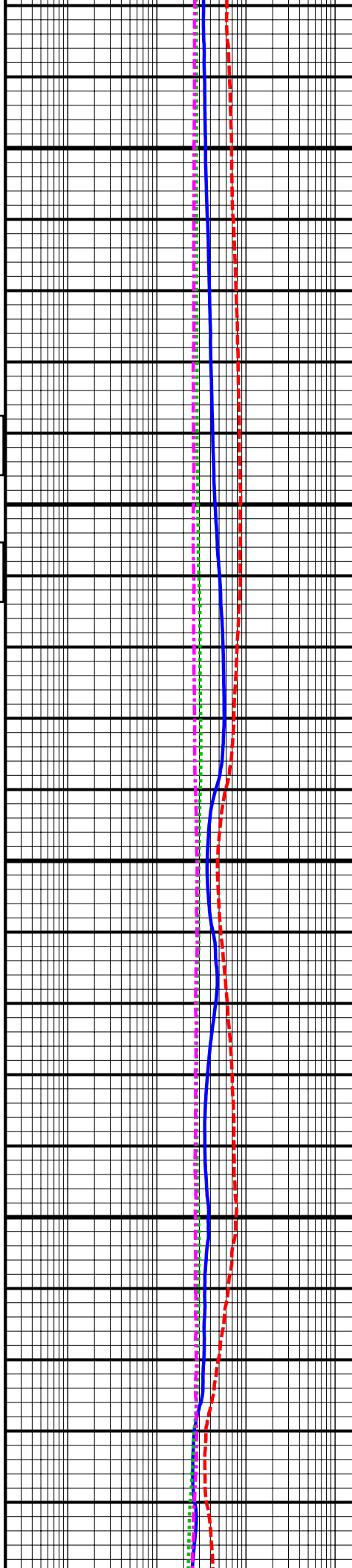
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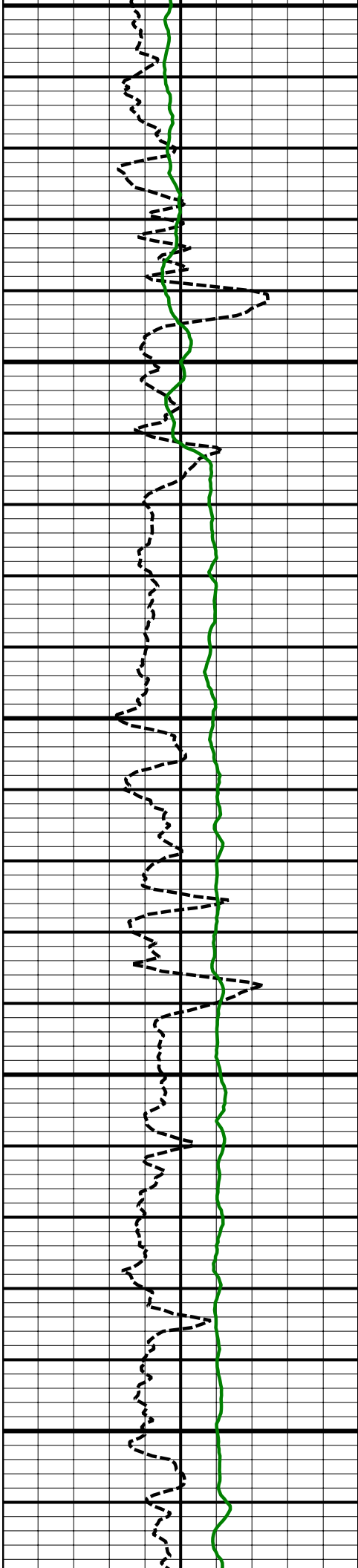
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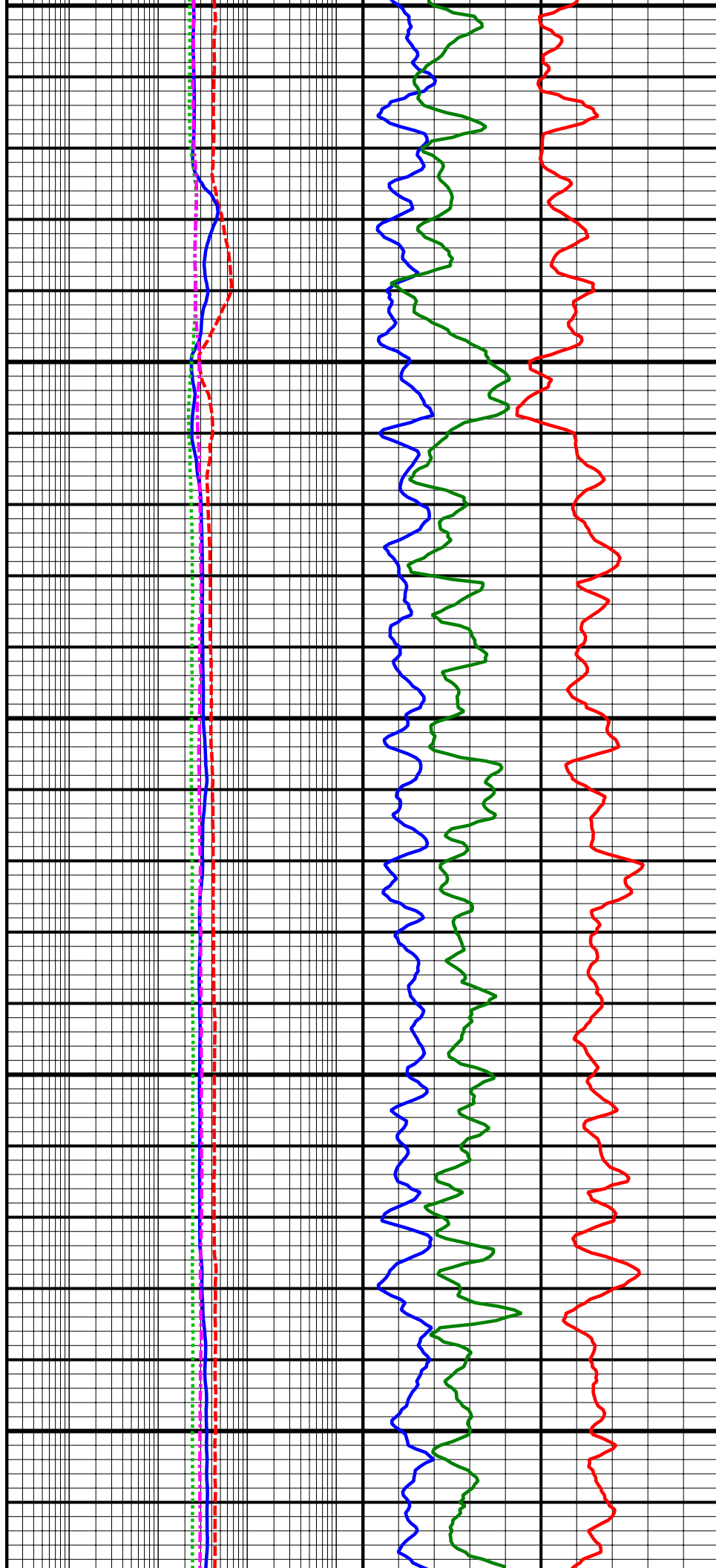
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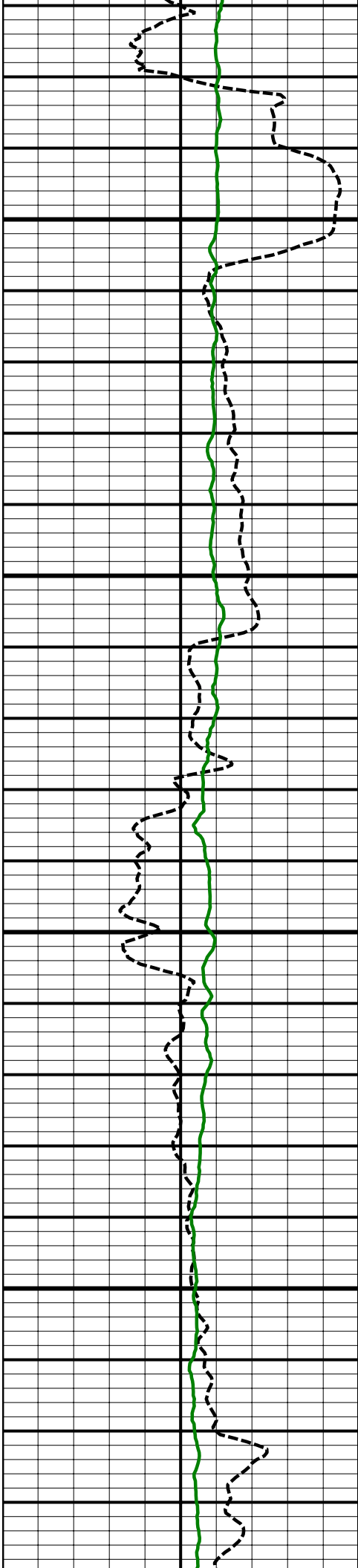




10500
MD

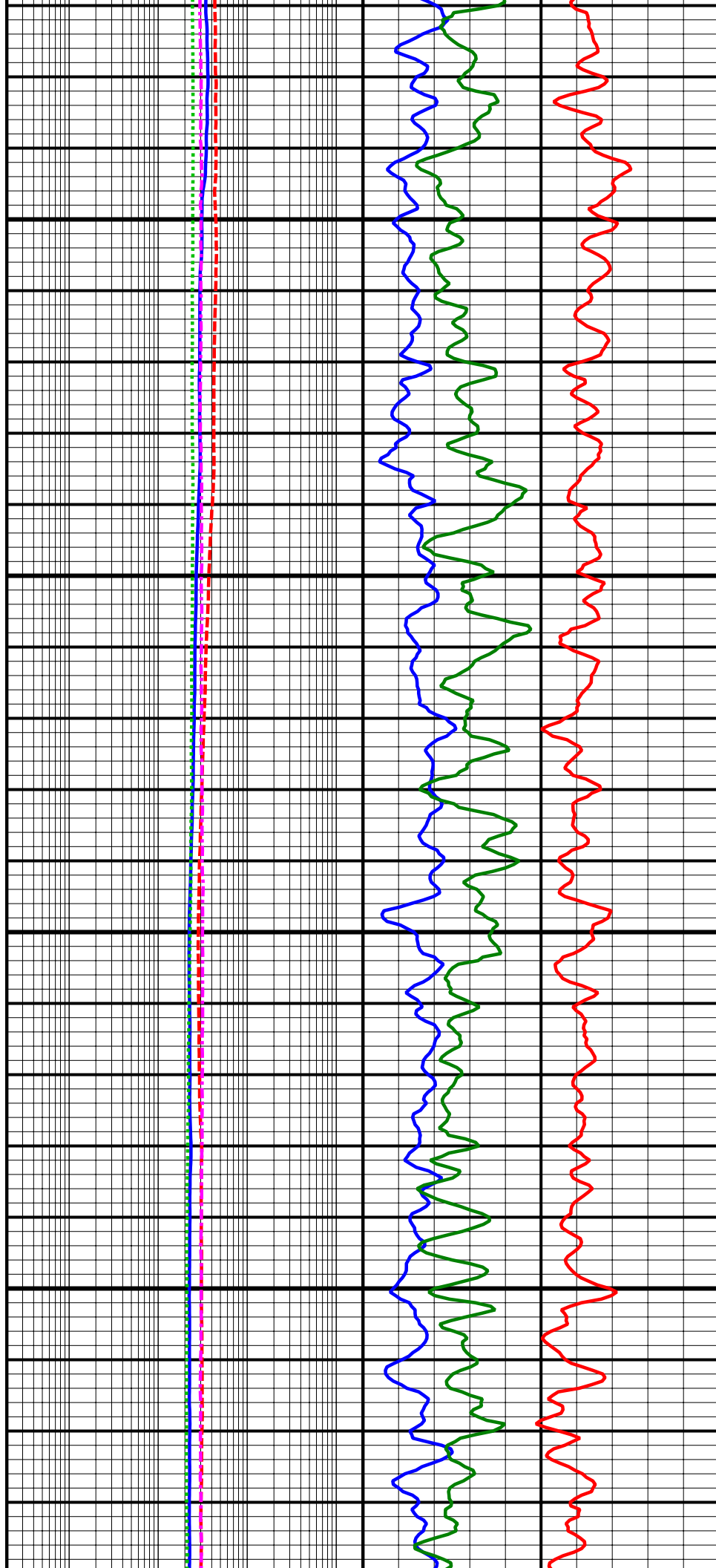
10600
MD

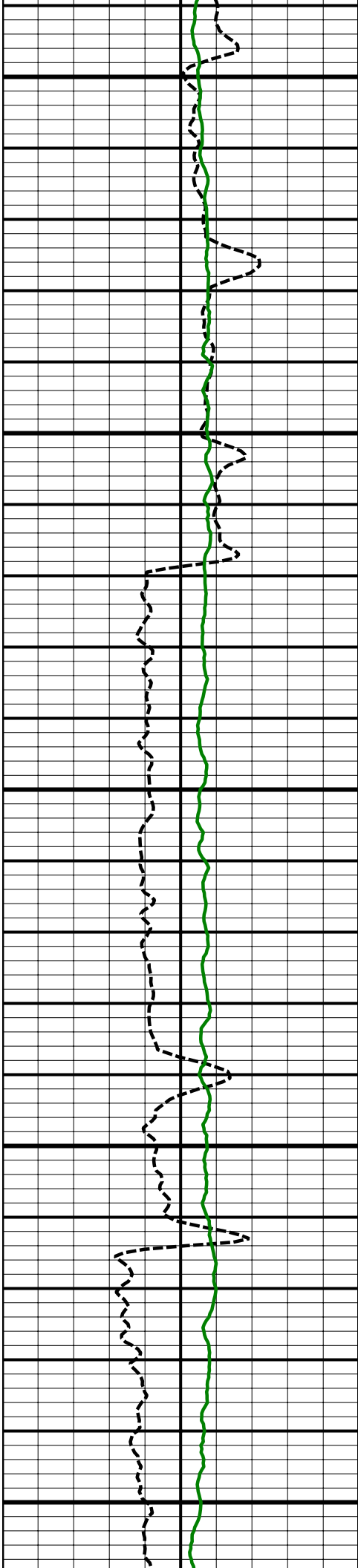




10700
MD

10800
MD

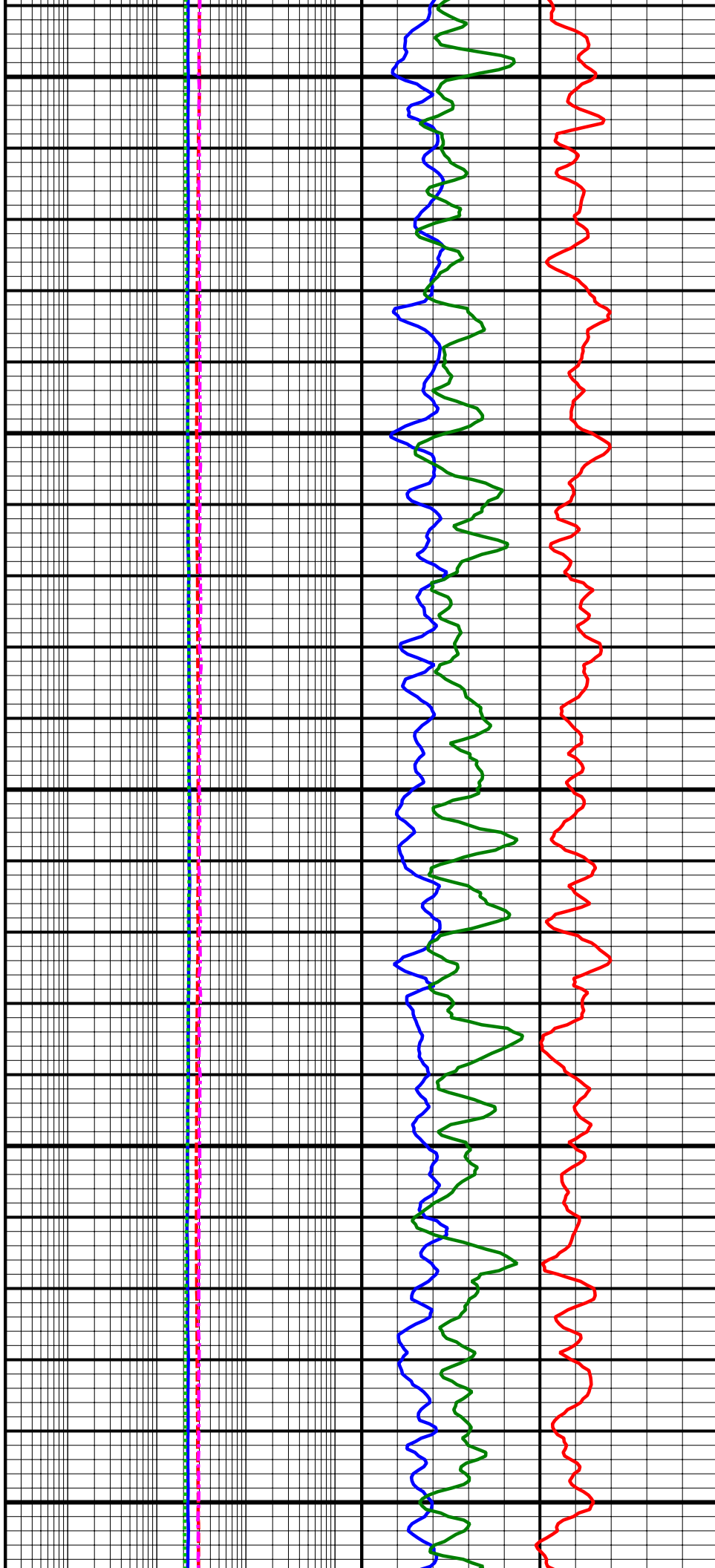


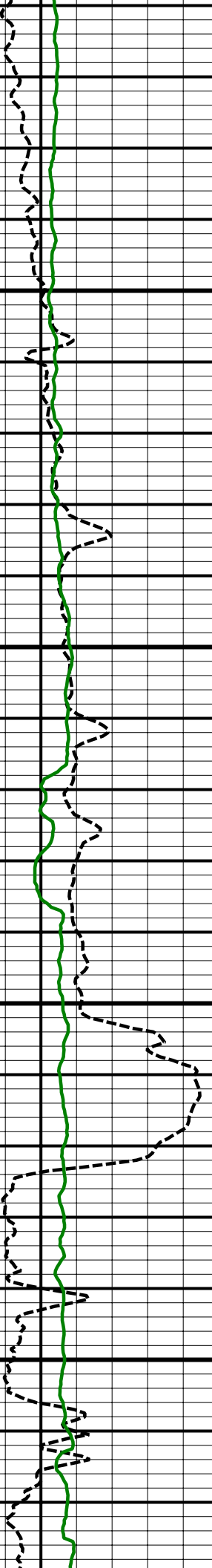


10900
MD

11000
MD

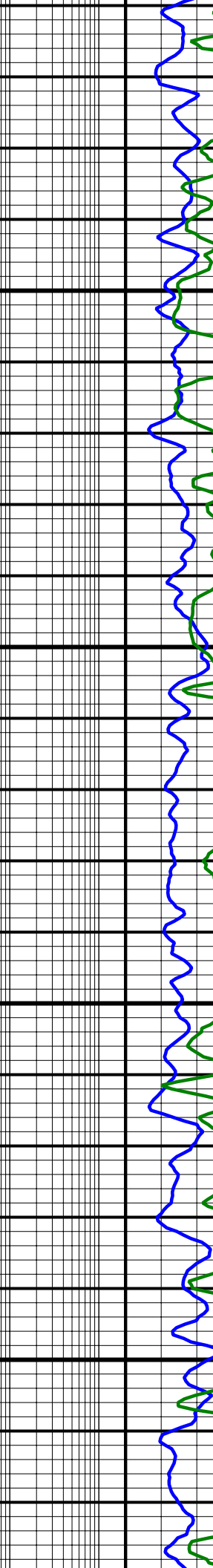
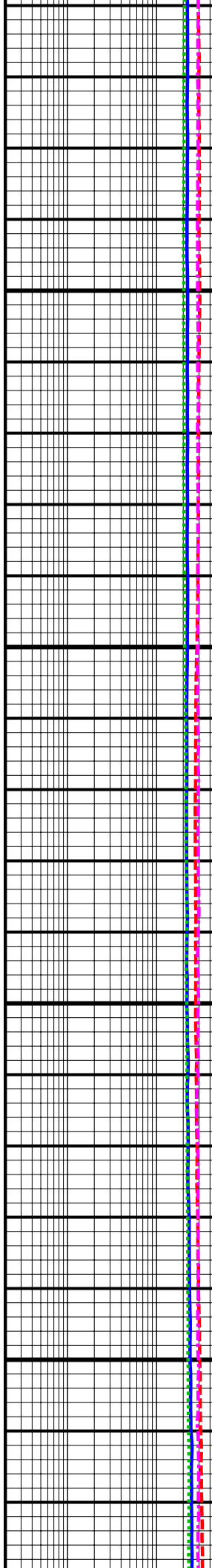
11100
MD

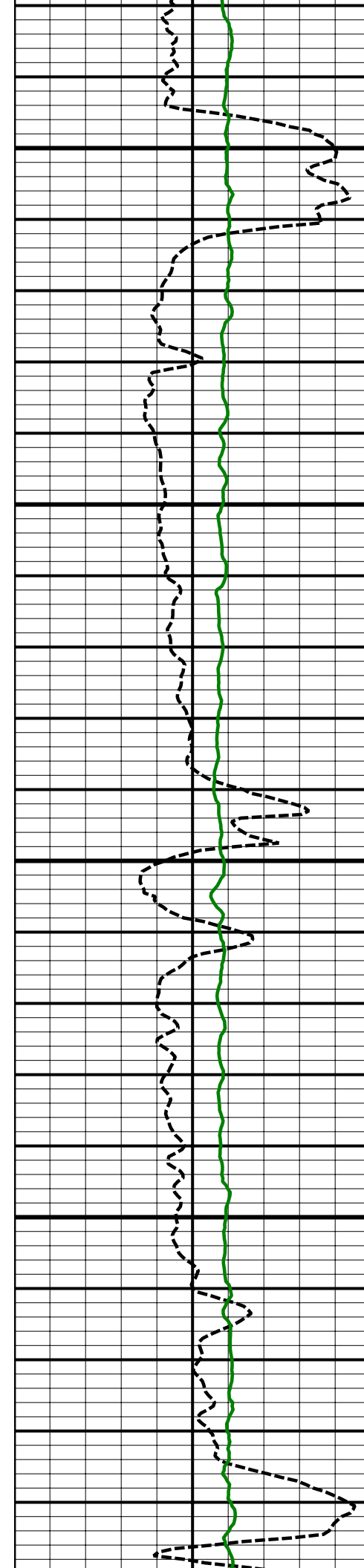




11200
MD

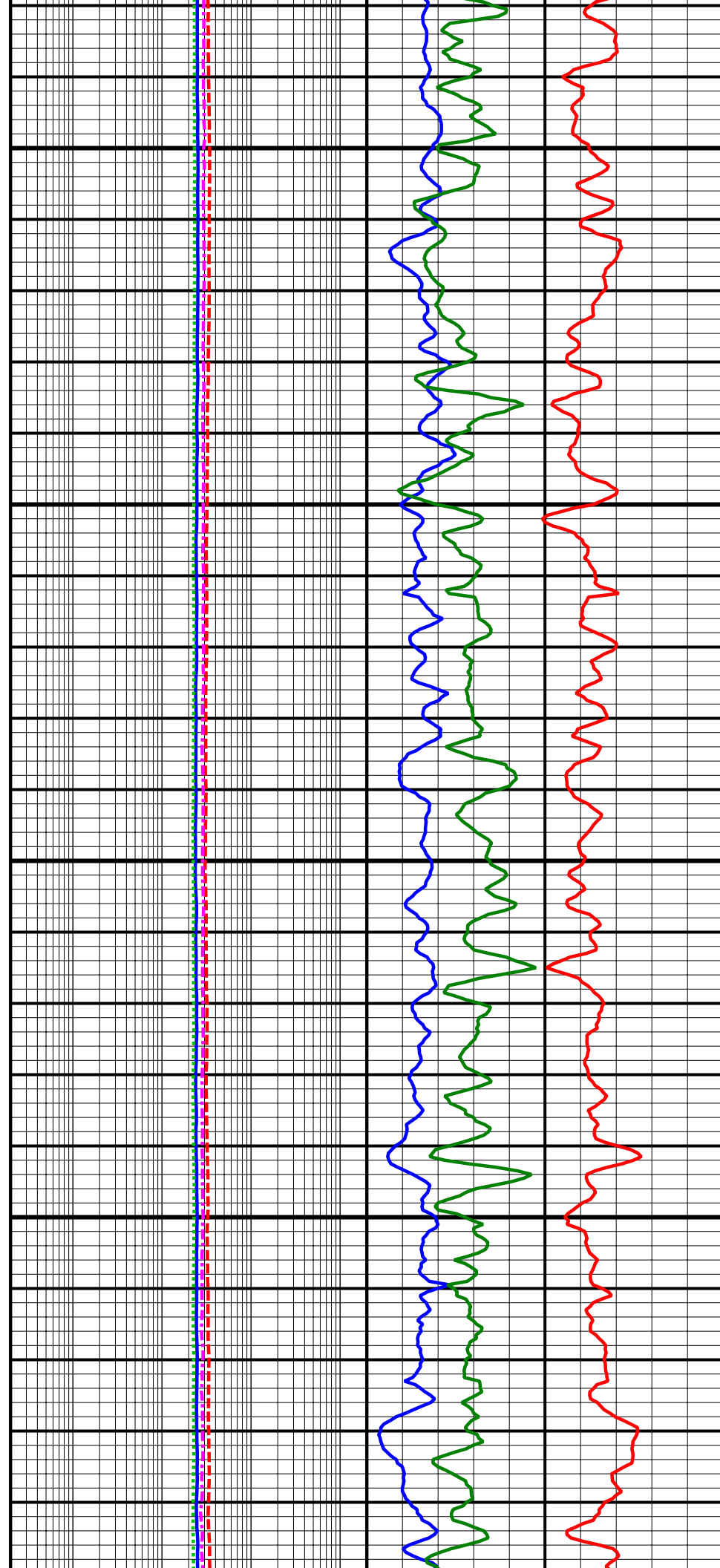
11300
MD

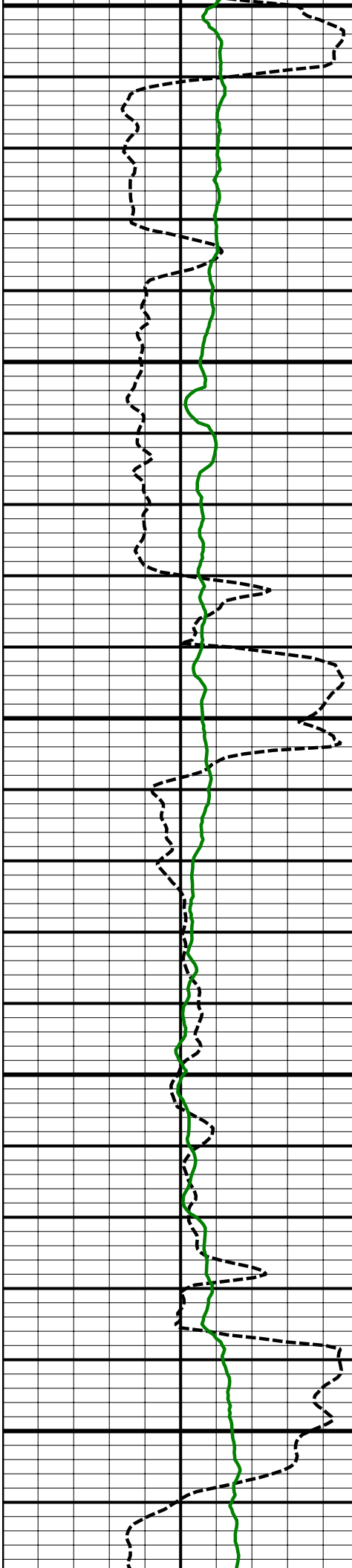




11400
MD

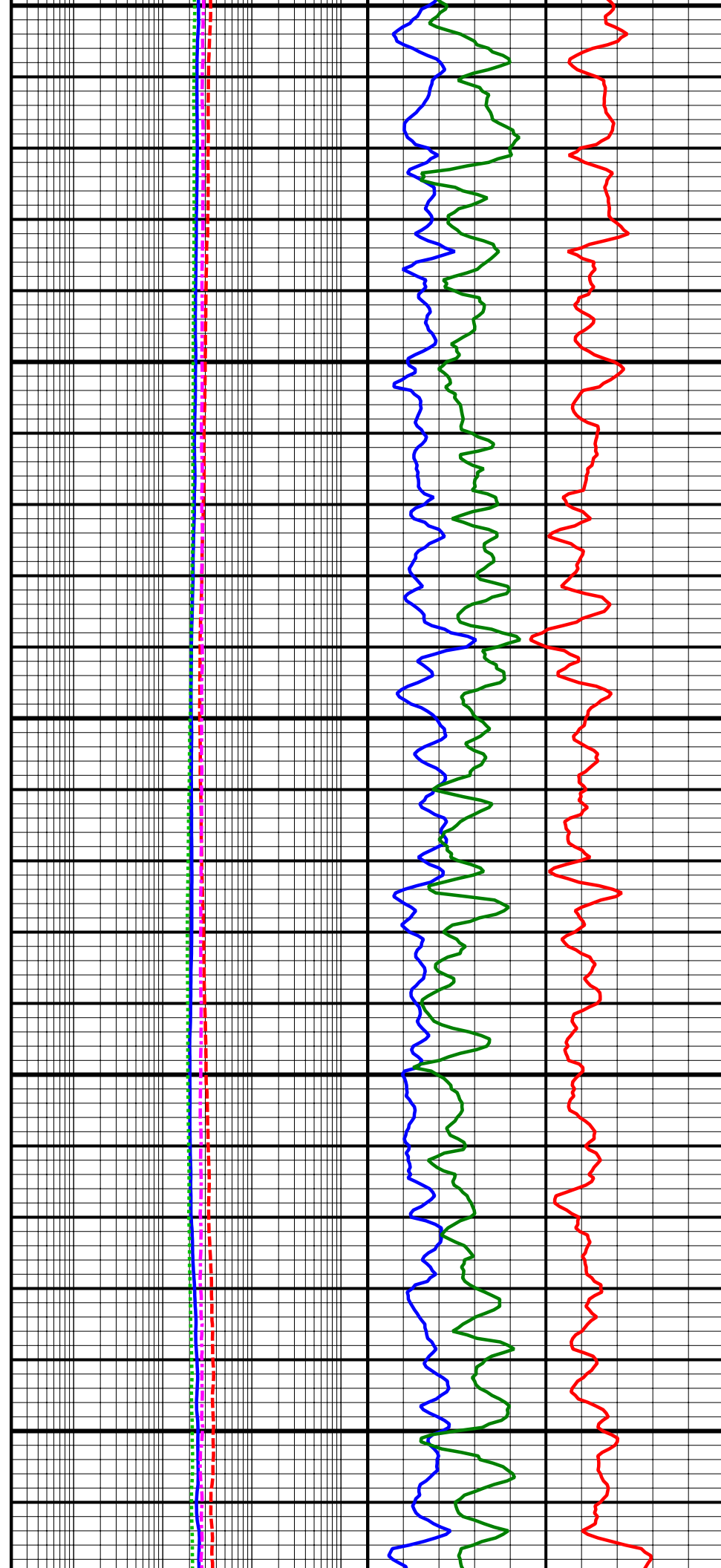
11500
MD

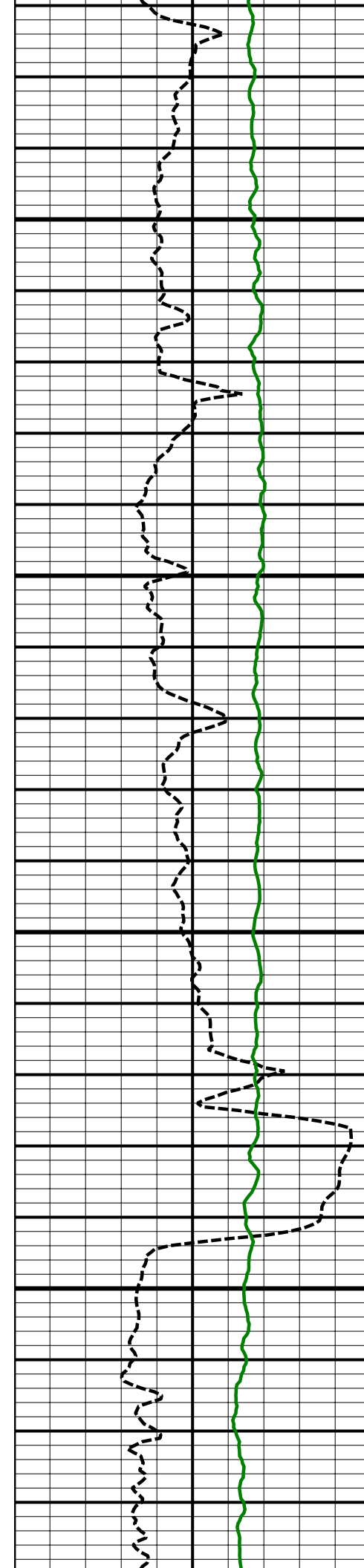




11600
MD

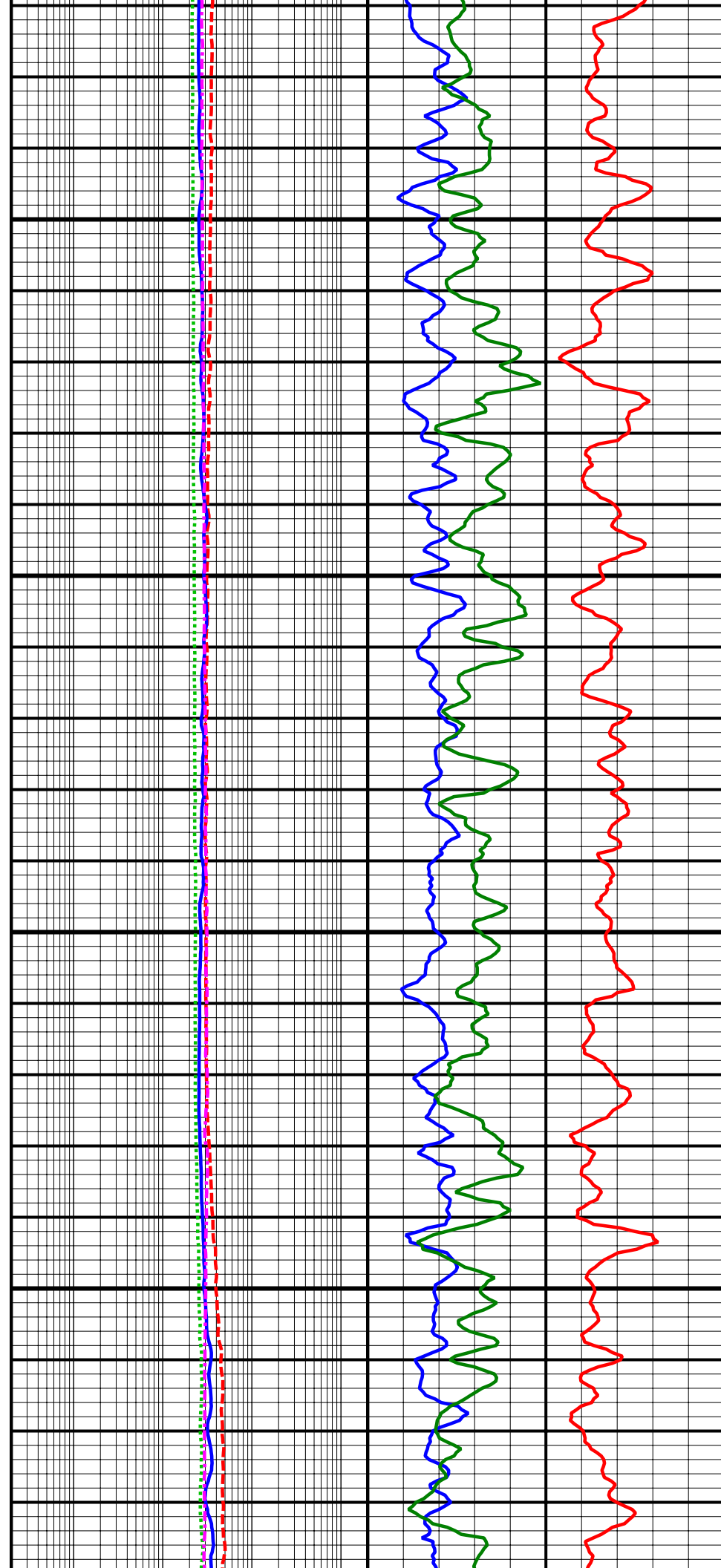
11700
MD

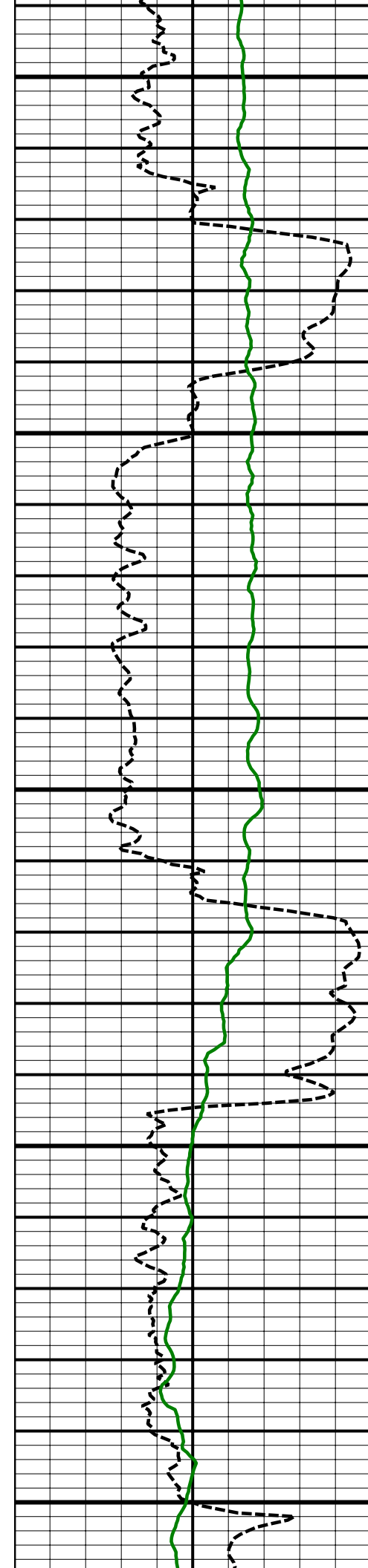




11800
MD

11900
MD

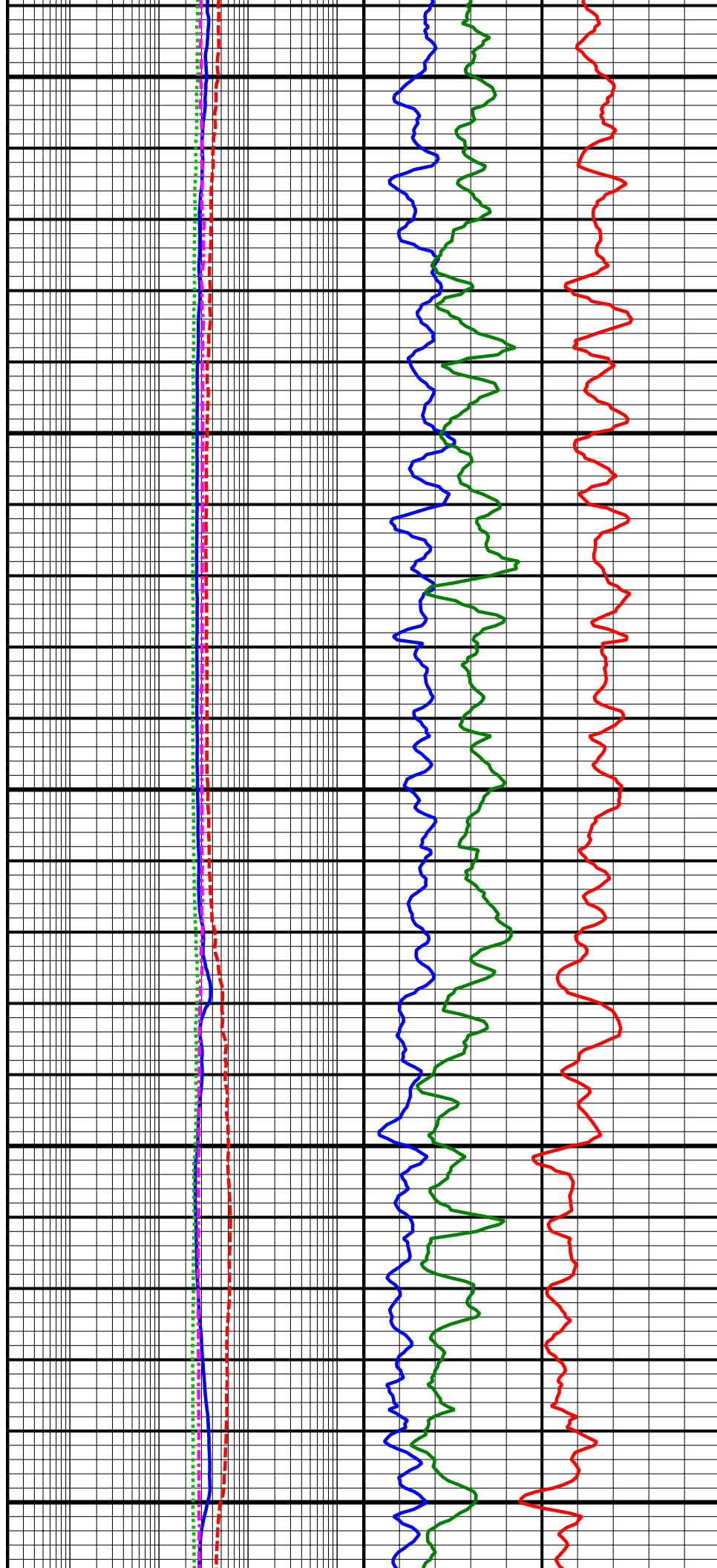


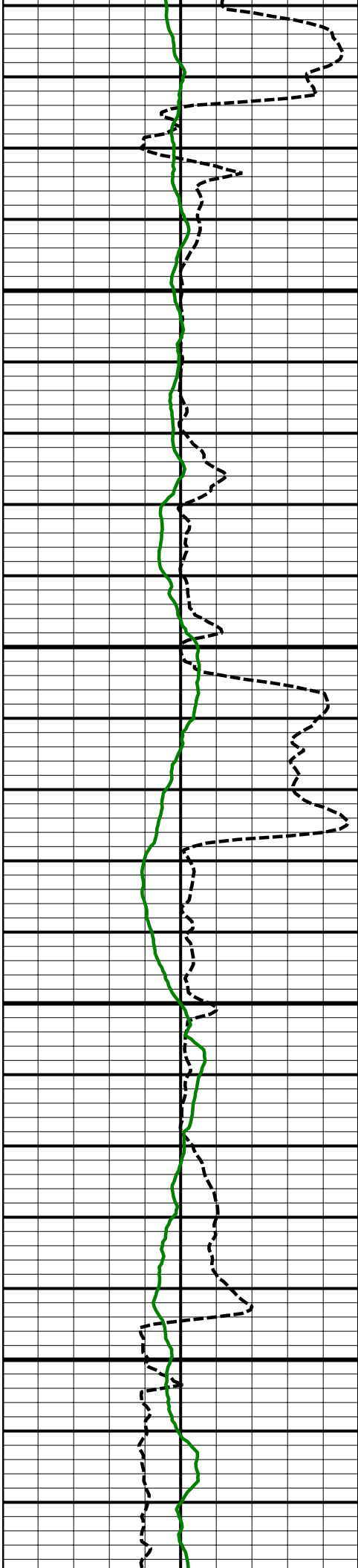


12000
MD

12100
MD

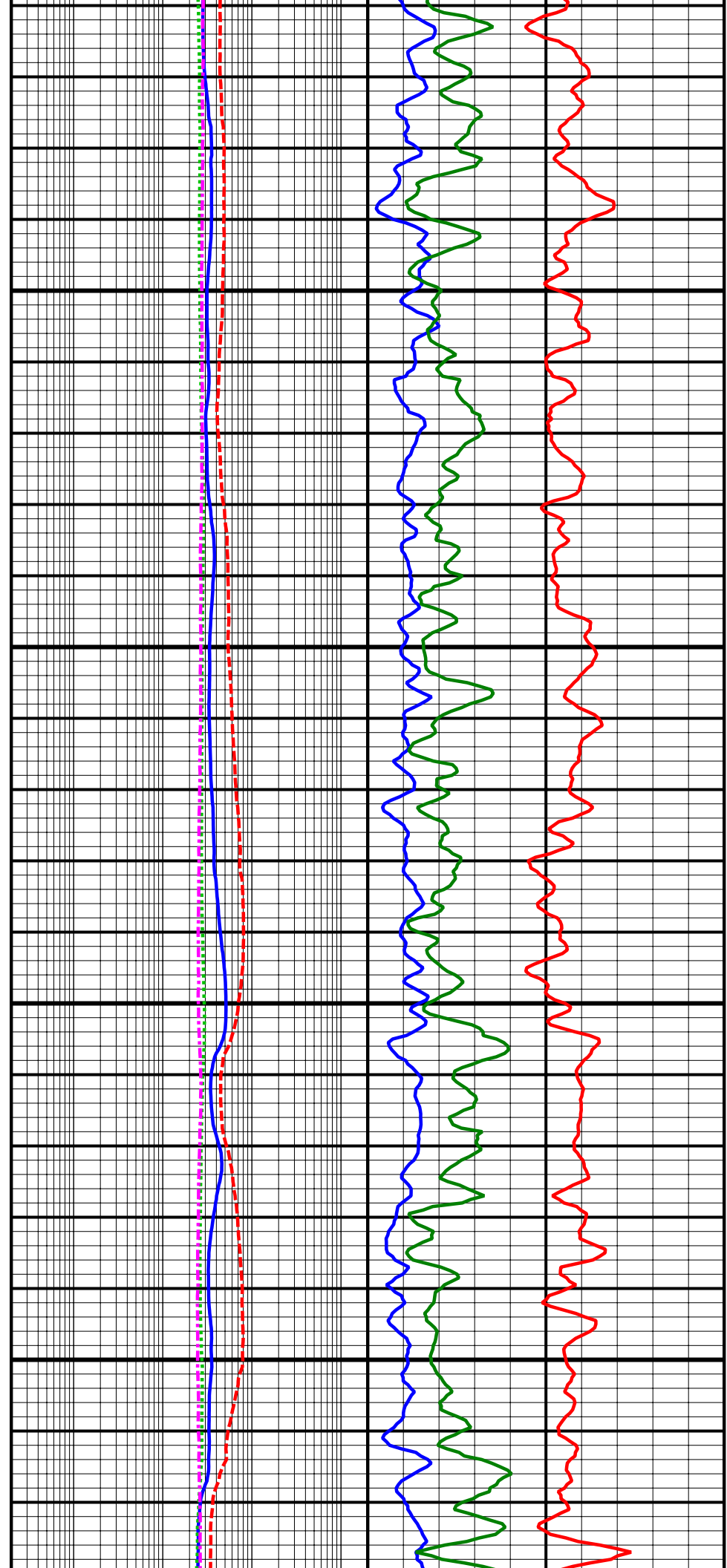
12200
MD

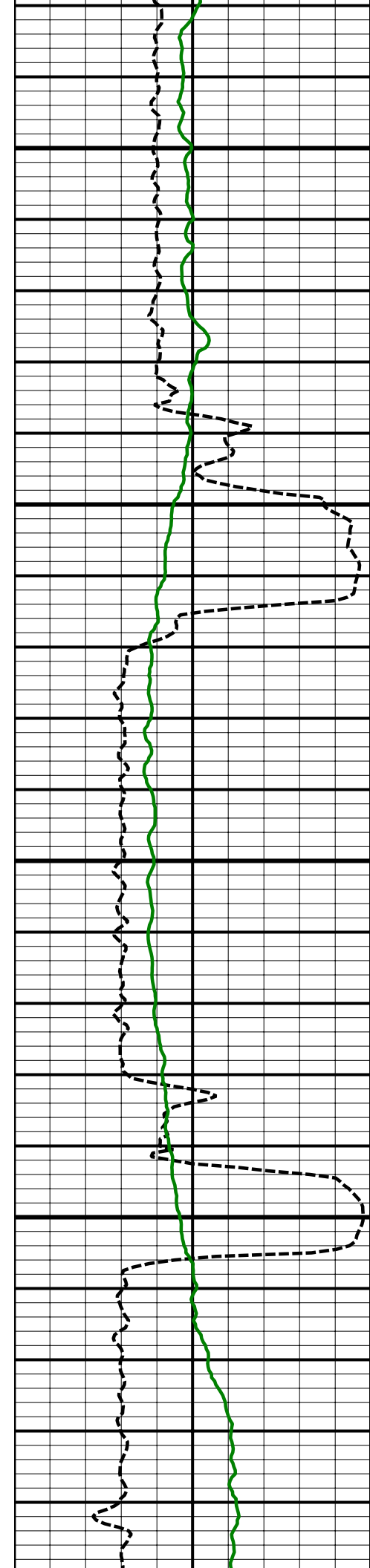




12300
MD

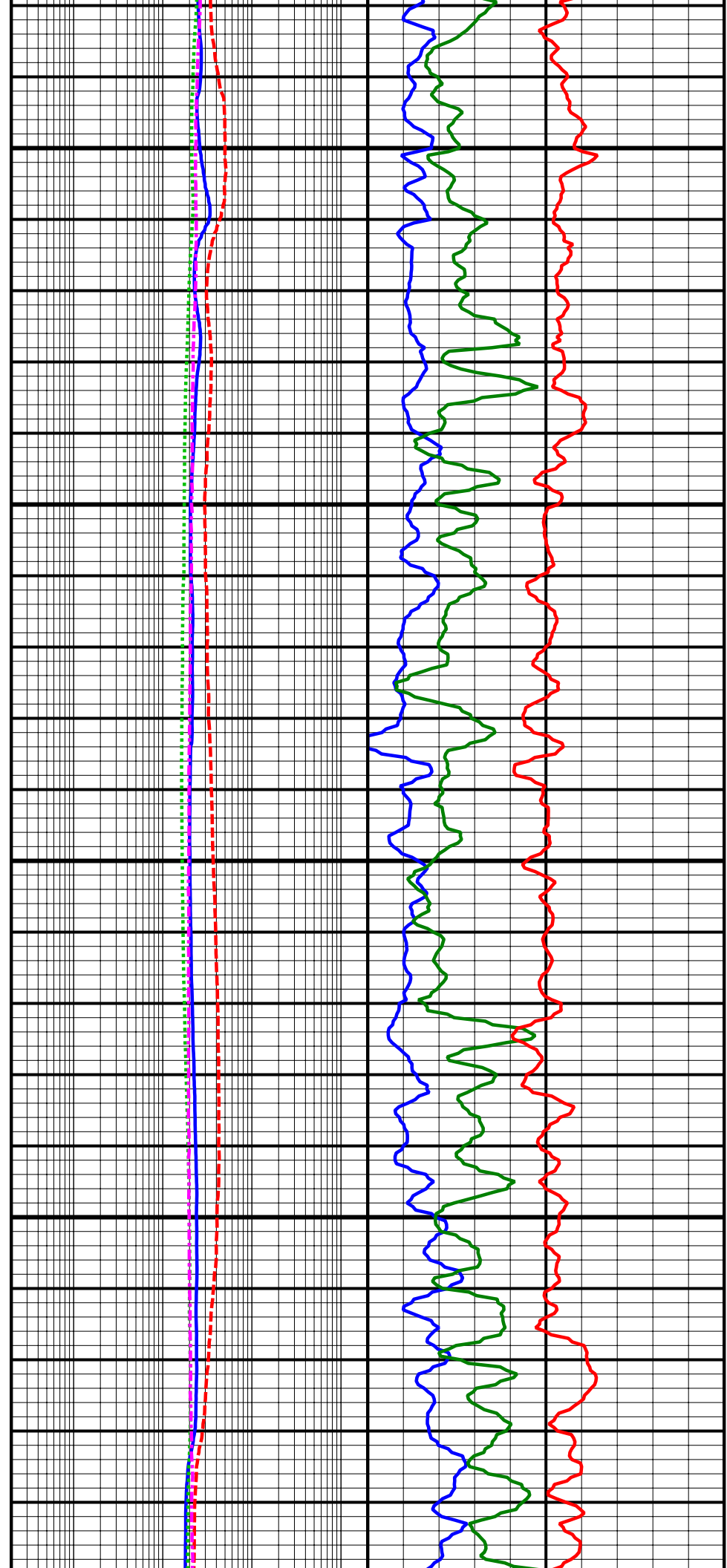
12400
MD

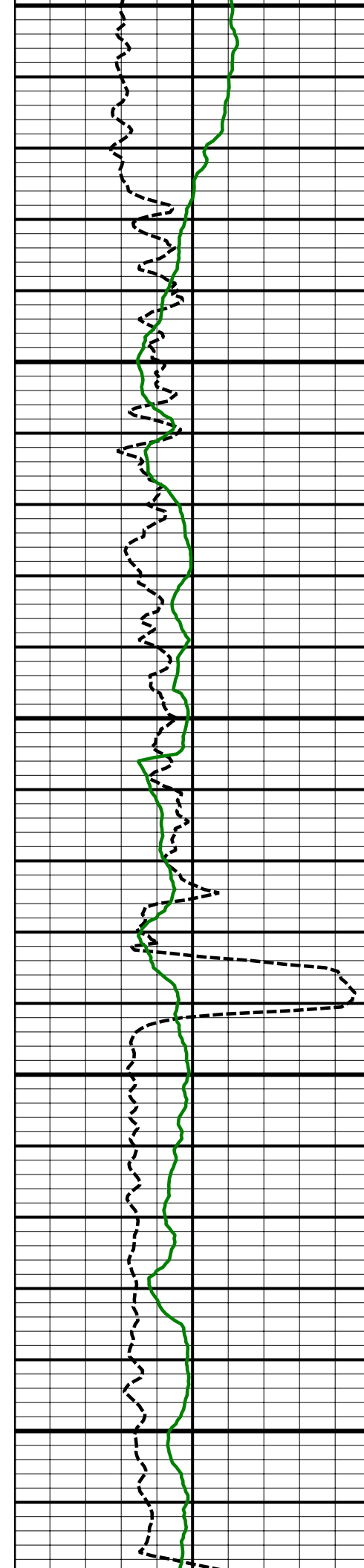




12500
MD

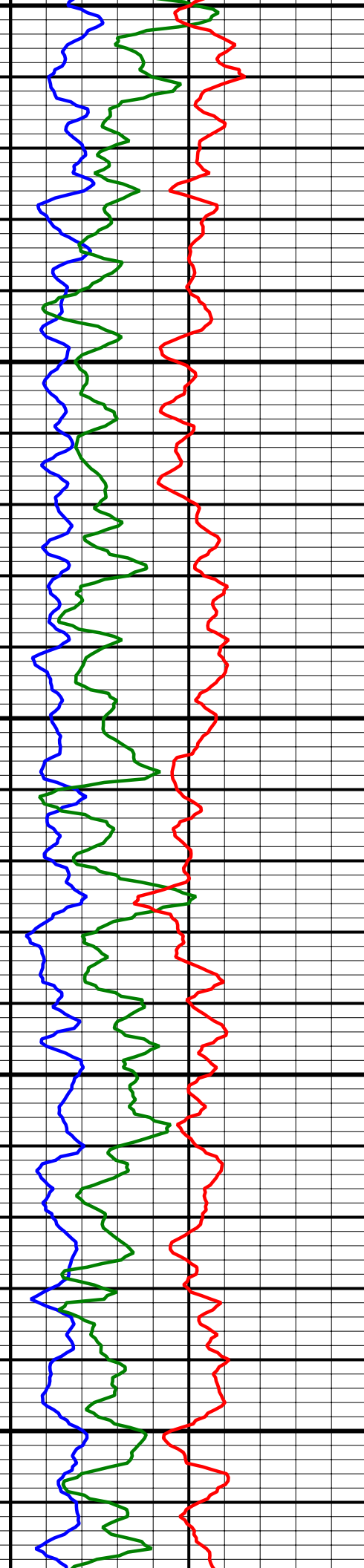
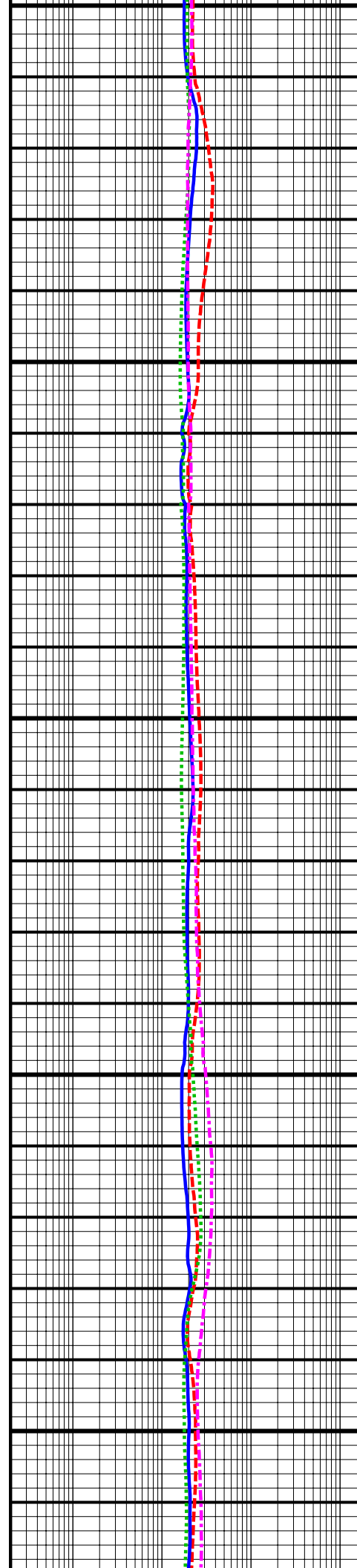
12600
MD

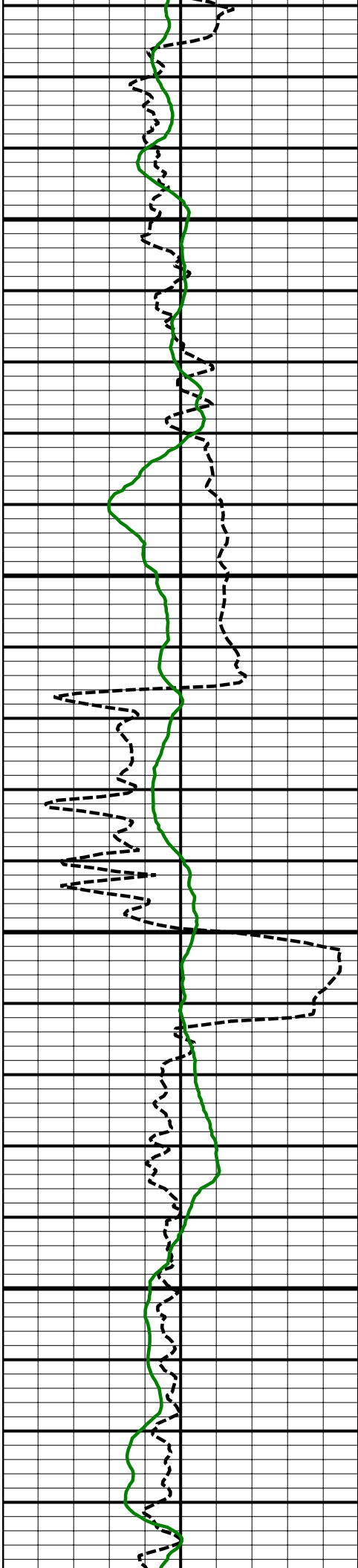




12700
MD

12800
MD



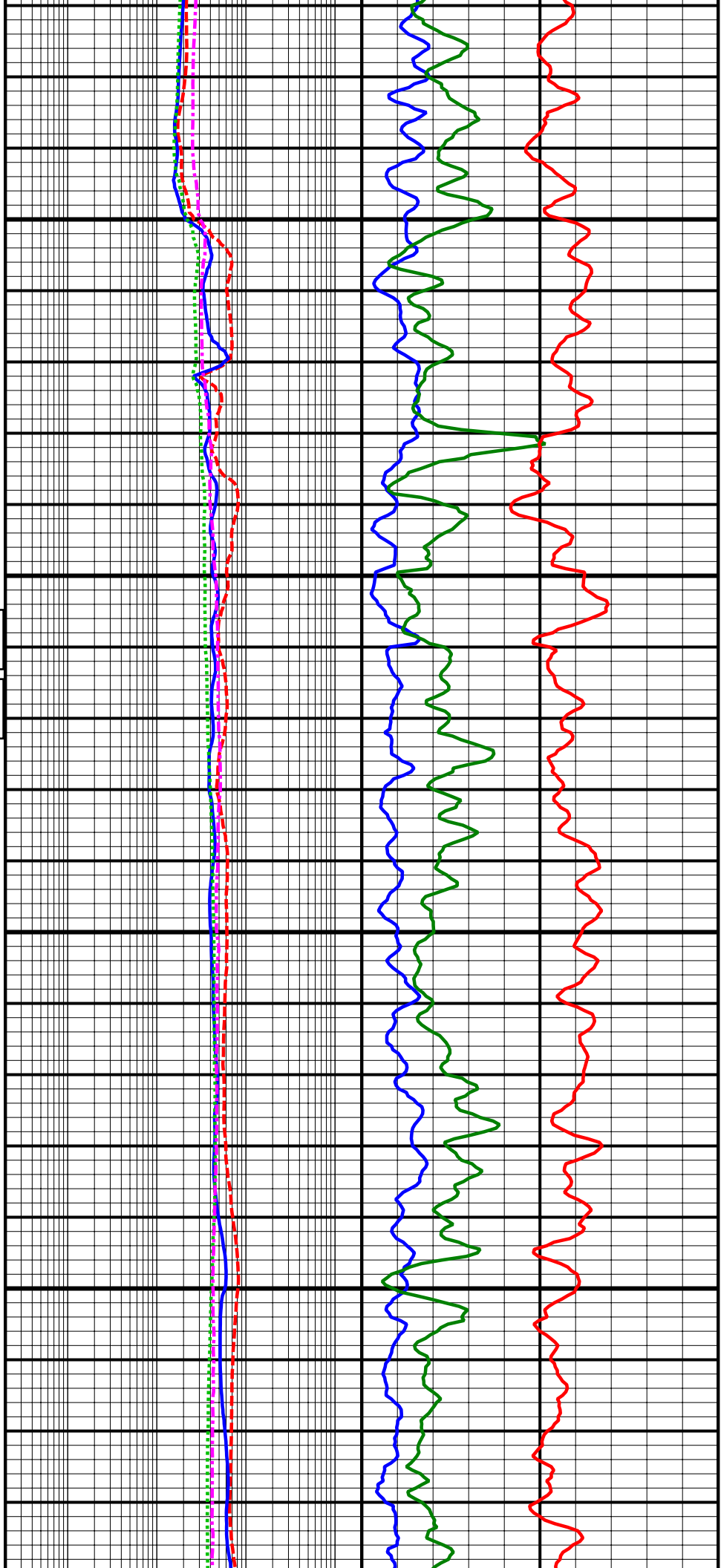


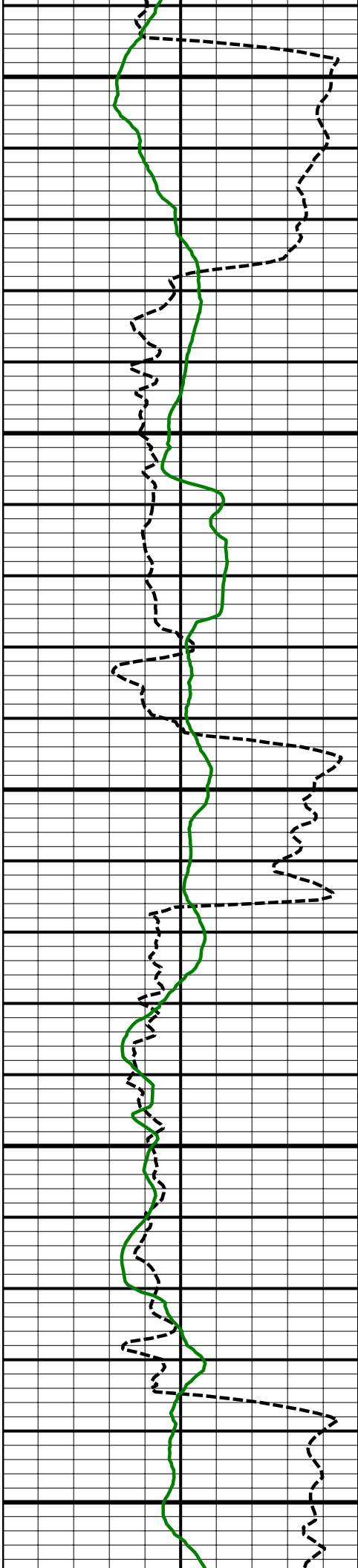
12900
MD

Comment
No. 3-2

Comment
No. 4-1

13000
MD

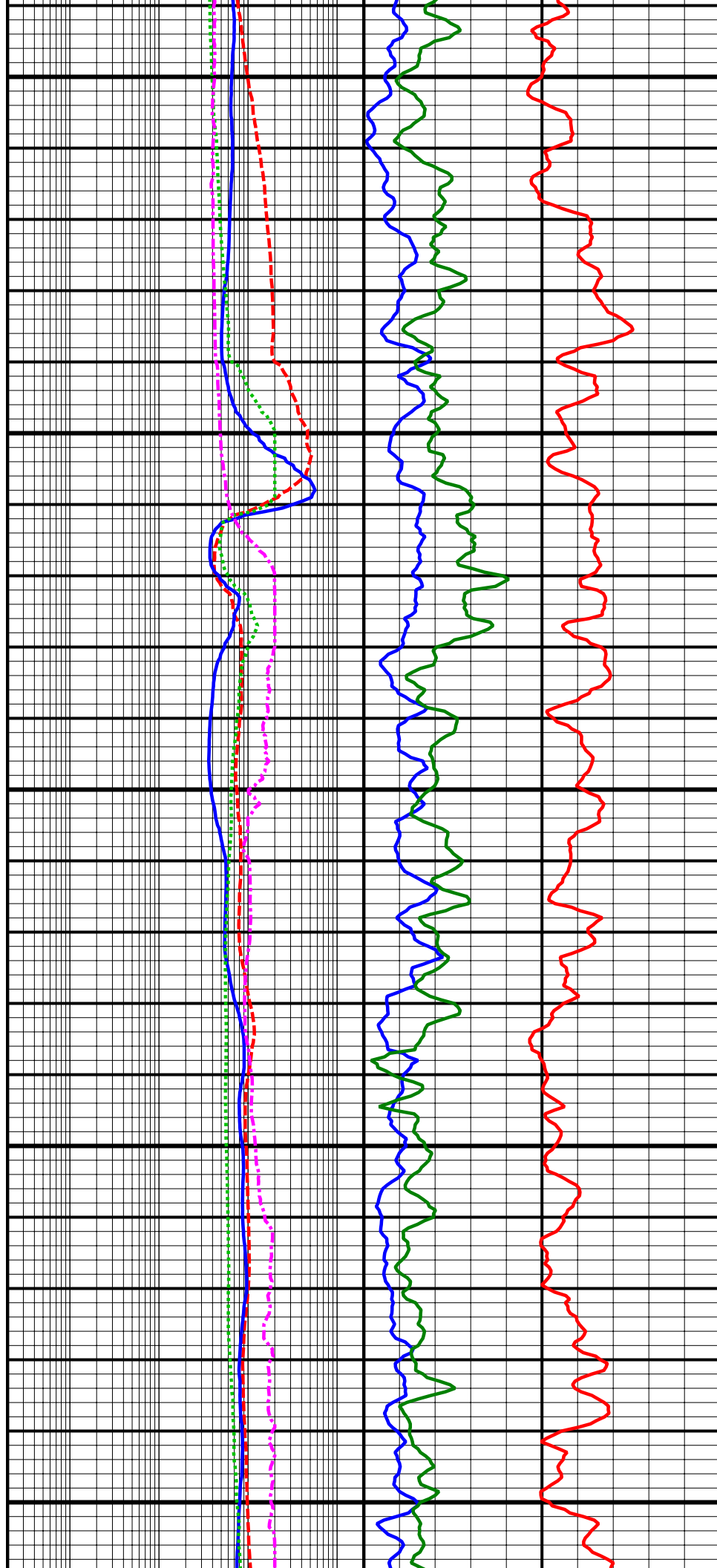


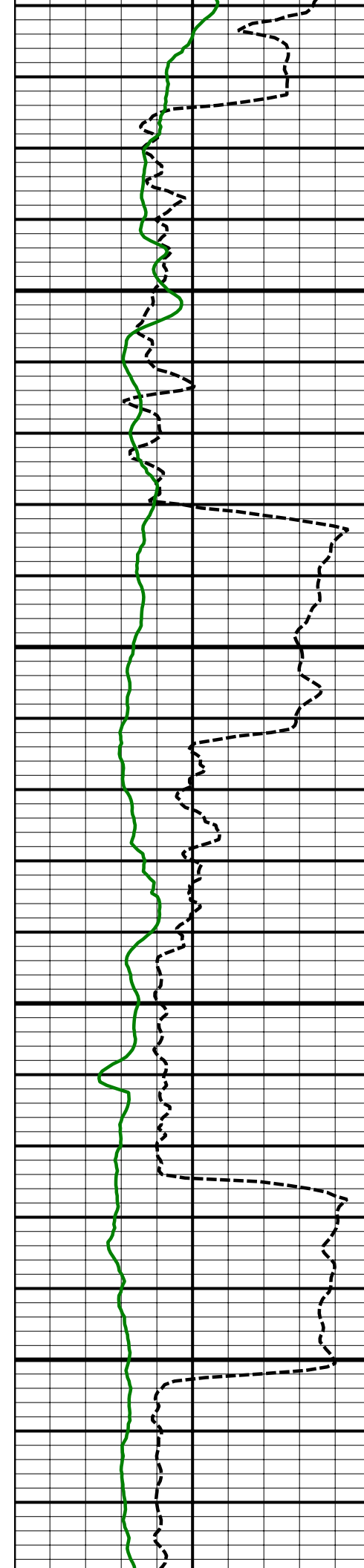


13100
MD

13200
MD

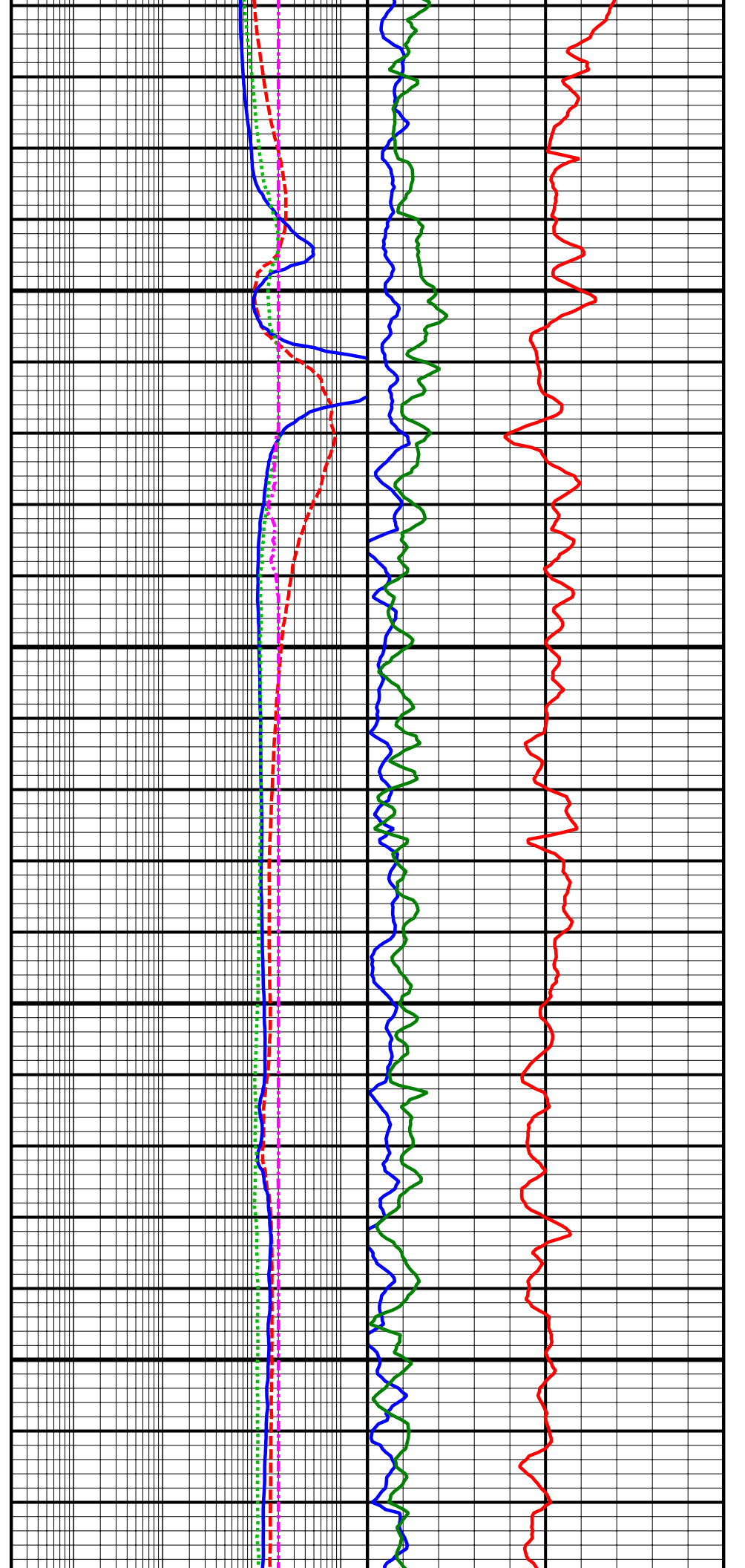
13300
MD

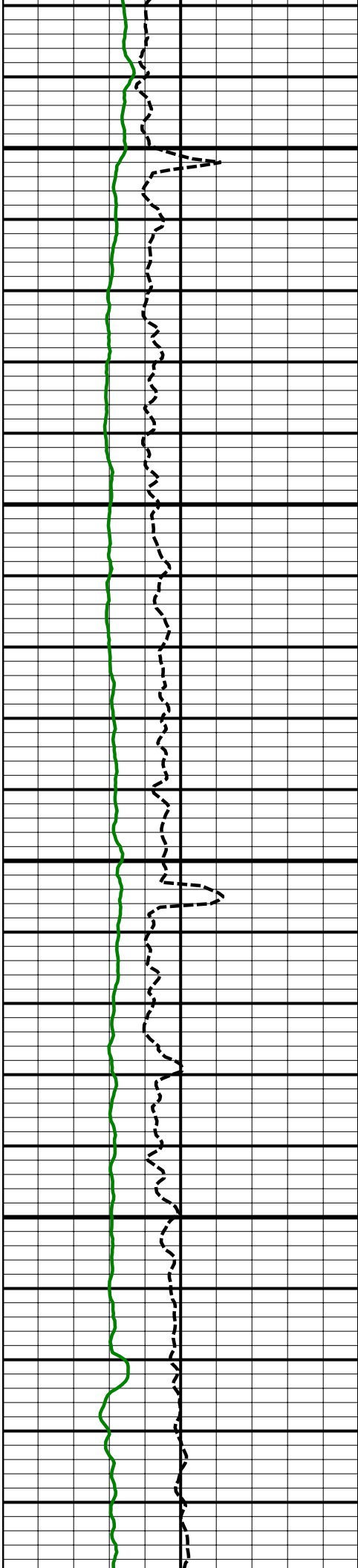




13400
MD

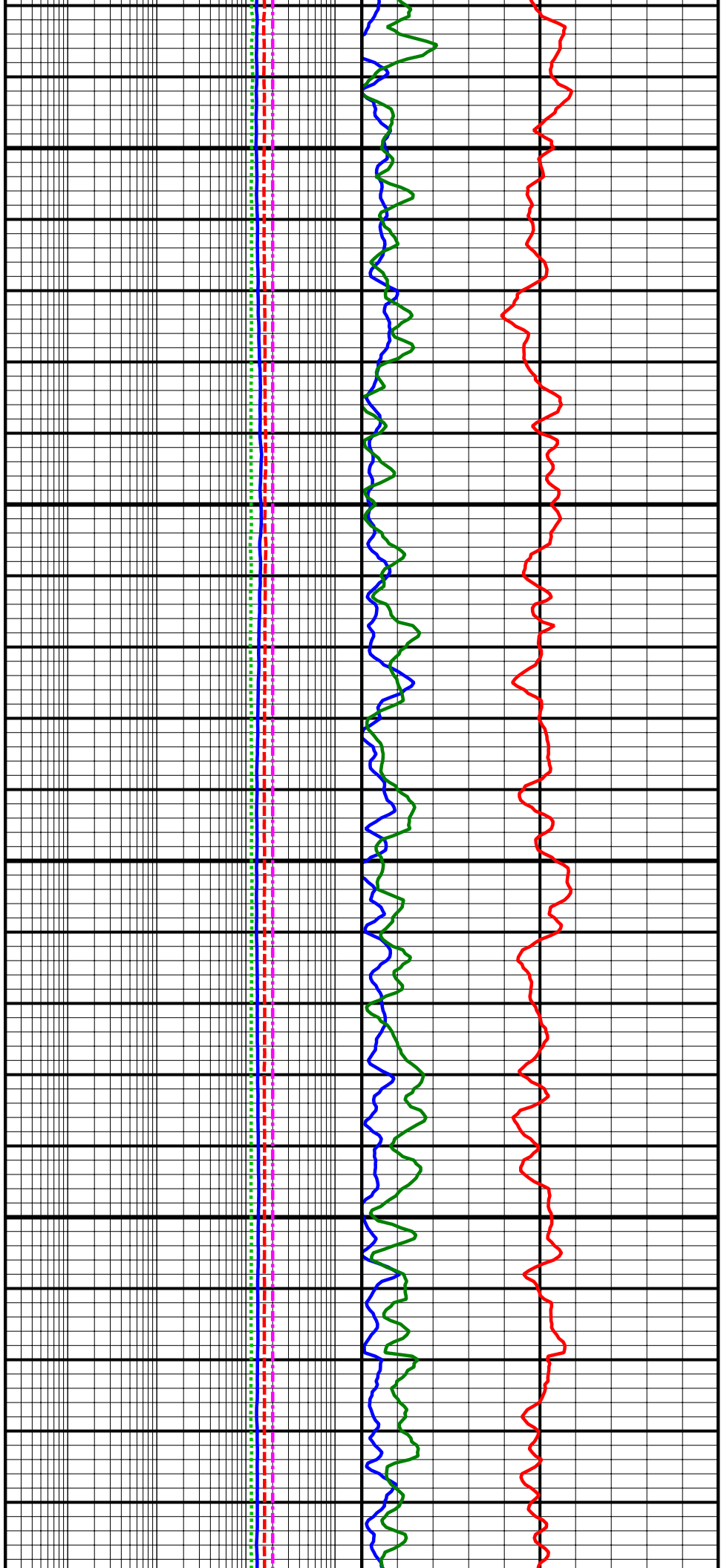
13500
MD

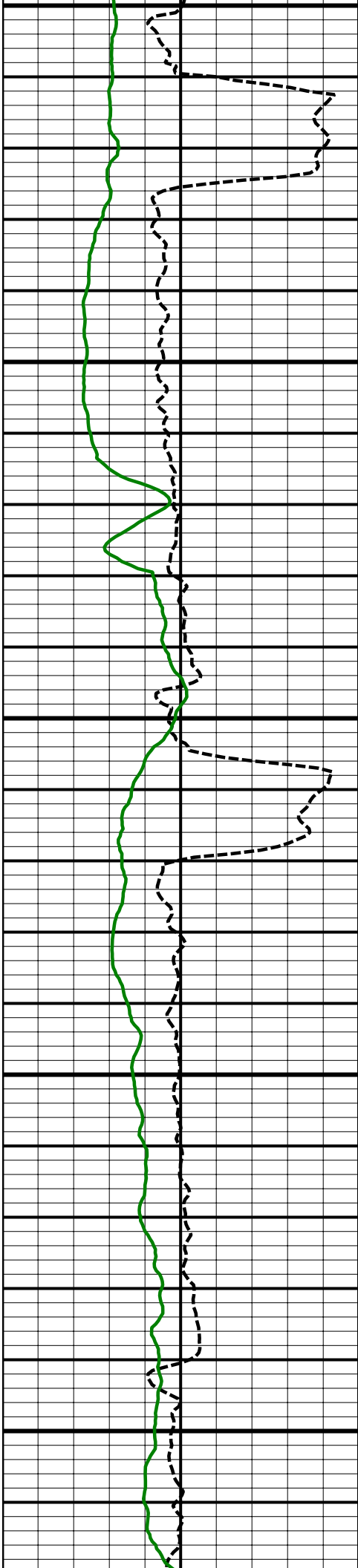




13600
MD

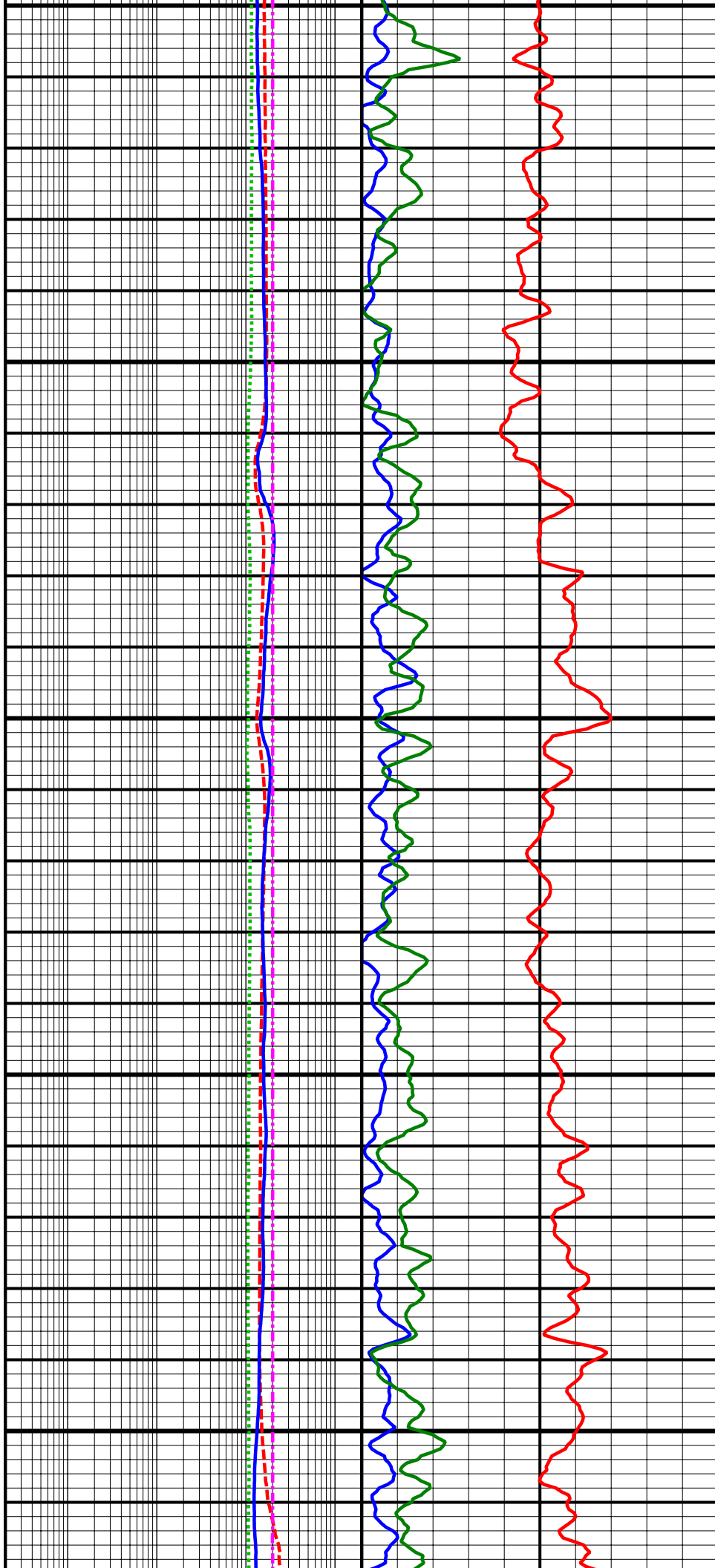
13700
MD

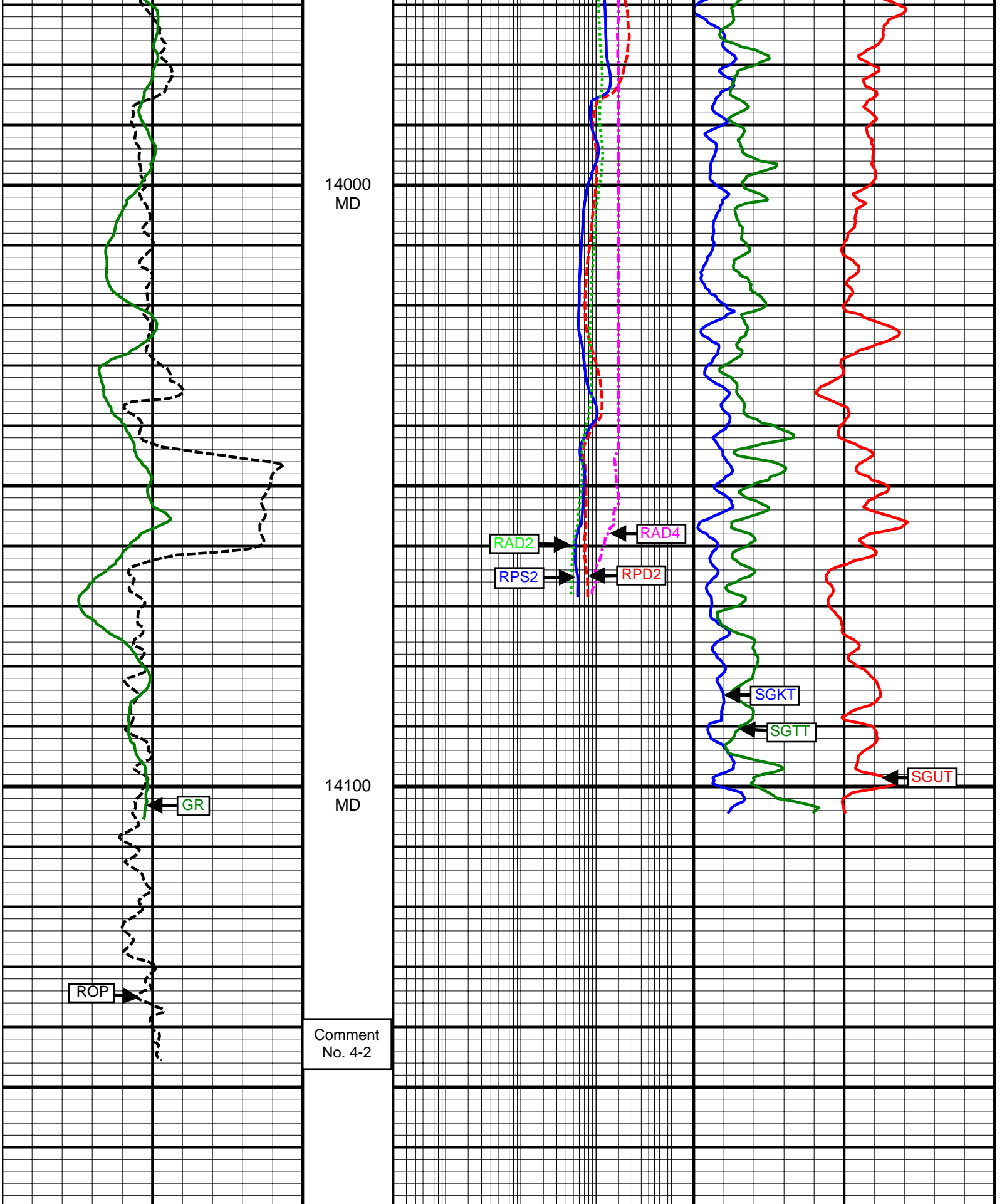




13800
MD

13900
MD





14000
MD

14100
MD

Comment
No. 4-2

RAD2

RPS2

RAD4

RPD2

SGKT

SGTT

SGUT

ROP

GR

RPD2
0.2 (ohm-m) 2000

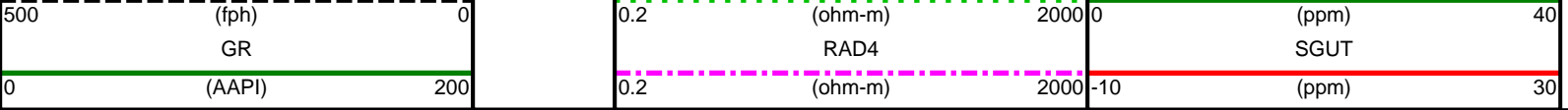
RPS2
0.2 (ohm-m) 2000

RAD2

SGKT
(%) 10

SGTT

ROP



SURVEY						
Survey Calculation Method: Minimum Curvature						
Magnetic Reference	Target Direction	Total Magnetic Field	Magnetic Dip Angle	Magnetic Declination	Grid Convergence	Total Correction
True North	350.84 deg	52873 nT	66.83 deg	8.68 deg	0.00 deg	8.68 deg
Survey Tie-On	Depth	INC	AZ	TVD	NS	EW
	11115.00 ft	89.66 deg	1.54 deg	7158.45 ft	3959.14 ft	-890.72 ft

Well Head							
Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	NS (ft)	EW (ft)	VSect (ft)	Dogleg (deg/100ft)
11199.00	90.44	2.33	7158.38	4043.09	-887.88	4132.88	1.32
11294.00	90.74	0.07	7157.40	4138.06	-885.89	4226.32	2.40
11388.00	89.94	359.54	7156.84	4232.06	-886.21	4319.16	1.02
11483.00	90.25	359.79	7156.68	4327.05	-886.77	4413.04	0.42
11578.00	88.89	358.45	7157.40	4422.04	-888.23	4507.04	2.01
11674.00	88.64	358.22	7159.47	4517.97	-891.02	4602.20	0.35
11769.00	89.38	355.91	7161.11	4612.83	-895.88	4696.62	2.55
11864.00	88.95	355.56	7162.49	4707.55	-902.94	4791.26	0.58
11959.00	89.57	354.64	7163.72	4802.20	-911.06	4885.99	1.17
12054.00	90.31	353.82	7163.82	4896.71	-920.61	4980.82	1.16
12149.00	89.20	352.05	7164.22	4990.99	-932.29	5075.75	2.20
12245.00	89.01	351.71	7165.72	5086.01	-945.85	5171.73	0.41
12340.00	89.20	350.34	7167.21	5179.83	-960.67	5266.71	1.46
12435.00	88.83	349.78	7168.84	5273.39	-977.07	5361.69	0.71
12530.00	89.91	349.64	7169.88	5366.86	-994.03	5456.66	1.15
12626.00	90.31	349.33	7169.70	5461.25	-1011.55	5552.63	0.53
12722.00	89.81	348.24	7169.60	5555.41	-1030.22	5648.57	1.25
12817.00	89.47	347.88	7170.20	5648.35	-1049.88	5743.46	0.52
12912.00	89.20	348.21	7171.30	5741.29	-1069.56	5838.34	0.45
12935.00	89.12	346.82	7171.64	5763.74	-1074.53	5861.30	6.05
13029.00	89.38	347.84	7172.87	5855.44	-1095.14	5955.11	1.12
13124.00	90.86	349.59	7172.67	5948.60	-1113.73	6050.04	2.41
13219.00	90.37	351.30	7171.65	6042.27	-1129.50	6145.03	1.87
13313.00	90.74	352.84	7170.74	6135.37	-1142.47	6239.00	1.68
13408.00	90.80	355.80	7169.46	6229.88	-1151.87	6333.80	3.12
13503.00	92.10	358.40	7167.06	6324.72	-1156.67	6428.20	3.06
13598.00	92.28	358.96	7163.43	6419.62	-1158.86	6522.24	0.62
13693.00	92.84	0.14	7159.18	6514.52	-1159.60	6616.05	1.37
13788.00	91.98	1.34	7155.19	6609.43	-1158.38	6709.55	1.55
13883.00	89.51	1.27	7153.95	6704.39	-1156.22	6802.95	2.60
13978.00	88.09	0.84	7155.94	6799.35	-1154.47	6896.42	1.56
14072.00	89.01	1.90	7158.32	6893.29	-1152.22	6988.81	1.49
14088.00	88.77	1.72	7158.63	6909.28	-1151.71	7004.51	1.87

Weatherford Surveys from 11199.00 ft MD to 14088.00 ft MD.

TD at 14134.00 ft MD.

The total correction is 8.68 deg relative to True North.



Weatherford®

Final Print

COMPANY	<u>Anadarko Petroleum Corp.</u>		
WELL	<u>Camp 25N-30HZ</u>		
FIELD	<u>Camp</u>		
RIG	<u>H&P 307</u>		
LOC.	<u>Colorado</u>	COUNTY	<u>Weld</u>