



Weatherford®

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

Company: Anadarko
Well: Haymaker 29N-9HZ
Field: Wattenberg
Rig: H & P 307
County: Weld

COMPANY	<u>Anadarko</u>
WELL	<u>Haymaker 29N-9HZ</u>
FIELD	<u>Wattenberg</u>
RIG	<u>H & P 307</u>
COUNTY	<u>Weld</u>
API #	<u>05-123-35660-0000</u>
STATE	<u>Colorado</u>

Location	
Latitude: 40.147054° N	X = 3,230,041.05 ft
Longitude: 104.677089° W	Y = 1,297,482.60 ft
Mag Decl: 8.56°	
Mag Dip: 66.93°	
Other Services: Temperature and Directional	

Permanent Datum: <u>Mean Sea Level</u>	
Log Measured From: <u>Drill Floor</u>	Elev: <u>4922 ft</u> above perm. datum
Depth Reference: <u>Drillers Tally</u>	Total Depth: <u>11591 ft</u>
Depth Logged: 6688 ft	to 11591 ft
Runs: 5	
Date Logged: 13-Nov-12	to 20-Nov-12
Spud Date: 13-Oct-12	

Elevation	K.B. Top Drive
G.L. 4897.0 ft	
D.F. 4922.0 ft	
W.D. Land	

Borehole Record			Casing Record			
Hole Size	From	To	Size	Weight	From	To
8.750 in.	911 ft	7486 ft	9.625 in.	53.5 lb/ft	Surface	911 ft
6.125 in.	7486 ft	11591 ft	7.000 in.	26.0 lb/ft	Surface	7486 ft

Borehole Deviation Record			Mud Record			
Hole Size	Min. Inc.	Max. Inc.	Type	Weight	From	To
8.750 in.	0.69°	88.11°	WBM	8.40 - 8.60 ppɡ	1125 ft	6673 ft
6.125 in.	87.66°	92.83°	WBM	8.60 - 10.25 ppɡ	6673 ft	7658 ft
			WBM	8.60 - 10.30 ppɡ	7658 ft	11591 ft

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							
M/LWD Run Number		2	3	4	5		
Bit Size	in.	8.750	6.125	6.125	6.125		
Bit Type		PDC	PDC	PDC	PDC		
Bit TFA	sq.in.	0.650	0.648	0.648	0.648		
Bit Start Depth	ft	6688	7462	9590	11178		
Bit End Depth	ft	7462	9590	11178	11591		
Top Log Interval	ft	6630	7387	9515	11103		
Bottom Log Interval	ft	7462	9590	11178	11591		
Begin Log Time	hrs	20:59	22:12	9:51	19:58		
Begin Log Date	DD-MMM-YY	13-Nov-12	16-Nov-12	18-Nov-12	19-Nov-12		
End Log Time	hrs	21:14	15:38	3:06	0:28		
End Log Date	DD-MMM-YY	14-Nov-12	17-Nov-12	19-Nov-12	20-Nov-12		
Drill or Wipe		Drill	Drill	Drill	Drill		
Flow Rate	gal/min	615	275	296	297.5		
Max AV / CV @ MWD	ft/min	486 / 166	451 / 317	488 / 317	488 / 266		
Min Inc @ Depth	deg @ ft	0.69 @ 1043	0.44 @ 6635	89.38 @ 9726	89.47 @ 11339		
Max Inc @ Depth	deg @ ft	88.11 @ 7428	87.72 @ 9252	92.53 @ 11055	92.83 @ 11149		
MUD DATA							
Depth	ft	6688	7462	9590	11591		
Fluid Type		WBM	WBM	WBM	WBM		
Mud Weight	ppg	10.00	10.10	9.90	10.00		
Plastic Viscosity	cP	12	11	11	9		
Solids / Sand	%	8.0 / 0.25	7.4 / 0.25	7.4 / 0.25	8.0 / .30		
Total Chlorides	ppm	1100	1500	1500	1700		
pH		6	10	10	8.7		
Oil:Water Ratio	% Vol	89.0:11.0	89.0:11.0	89.0:11.0	89.0 : 11.0		
Rm @ Temperature	ohm-m @ deg F	N/A	0.78 @ 70	0.78 @ 70	0.78 @ 70		
Rmc @ Temperature	ohm-m @ deg F	N/A	1.96 @ 70	1.96 @ 70	1.96 @ 70		
Rmf @ Temperature	ohm-m @ deg F	N/A	1.95 @ 70	1.95 @ 70	1.95 @ 70		
KCl	% Vol	0	0	0	0		
Client Representative		D. Barone	D. Barone	D. Barone	D. Barone		
WeatherfordM/LWD Engineer		R. Komrs	P. Hashman	P. Hashman	P. Hashman		

EQUIPMENT SUMMARY					
M/LWD Run Number	2	3	4	5	
MWD Build Number	CP20001PDRBY-02	N/A	N/A	N/A	
HEL Serial Number	N/A	NW22044PDBB4.75	NW22040PDBB4.75-M4	NW22040PDBB4.75-M4	
MFR Serial Number	N/A	NW22045RBK4.75-M2	NW22045RBK4.75-M2	NW22045RBK4.75-M2	
IDS Serial Number	N/A	NW22544BI4.75	NW22544BI4.75	NW22544BI4.75	
SAGR Serial Number	N/A	NW22546JB4.75	NW22546JB4.75	NW22546JB4.75	
Sensor to Bit Offsets / Acquisition Rates					
Directional	ft / sec	57.88 / RT	53.69 / RT	53.69 / RT	53.81 / RT
Gamma Ray	ft / sec	43.67 / RT	39.12 / 5	39.12 / 5	39.28 / 5
Resistivity	ft / sec	N/A	74.80 / 5	74.80 / 5	74.96 / 5
Other Information					
Total BHA Length	ft	1470.63	5696.39	5696.39	5696.39
BHA Assembly Type		Steerable	Steerable	Steerable	Steerable
Stabilizer Location	ft	N/A	34.20	34.20	34.20
Run Circulating Time	hr	31.49	22.53	21.53	15.34
Run Drilling Time	hr	15.87	10.24	10.39	2.43

MUD SUMMARY

Date and Time	Run	Bit Depth	Mud Weight	% K	Rm @ Temp	Rmf @ Temp	Rmc @ Temp	BHCT
13 Nov 12 @ 20:59	02	6688 ft	10.00 ppg	0	N/A	N/A	N/A	166 F
16 Nov 12 @ 22:12	03	7462 ft	10.10 ppg	0	0.78 @ 70	1.95 @ 70	1.96 @ 70	210 F
17 Nov 12 @ 09:51	04	9590 ft	9.90 ppg	0	1.96 @ 70	1.95 @ 70	1.96 @ 70	213 F
19 Nov 12 @ 13:00	05	11178 ft	9.90 ppg	0	1.96 @ 70	1.95 @ 70	1.96 @ 70	232 F

M/LWD RUN REMARKS		
Run Number: 2 :: REAL TIME DATA LOG		
WFT Services Provided:		
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.:	3.250 in.	
K1 Factor:	3.975	
KCl Concentration:	0%	
Run Number: 3 :: RECORDED DATA LOG		
WFT Services Provided:		
Recorded and Real Time Logging: Gamma Ray, Deep, Medium 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:	10.10 ppg	Resistivities: Corrected for borehole temperature, hole size, drilling fluid resistivity
Borehole Temperature:	172° F	and dielectric correction.
Drilling Fluid Resistivity:	0.918 ohm-m	
KCl Concentration:	0%	
Run Number: 4 :: RECORDED DATA LOG		
WFT Services Provided:		
Recorded and Real Time Logging: Gamma Ray, Deep, Medium 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:	9.90 ppg	Resistivities: Corrected for borehole temperature, hole size, drilling fluid resistivity
Borehole Temperature:	210° F	and dielectric correction.
Drilling Fluid Resistivity:	0.780 ohm-m	
KCl Concentration:	0%	
Run Number: 5 :: RECORDED DATA LOG		
WFT Services Provided:		
Recorded and Real Time Logging: Gamma Ray, Deep, Medium 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:	9.90 ppg	Resistivities: Corrected for borehole temperature, hole size, drilling fluid resistivity
Borehole Temperature:	210° F	and dielectric correction.
Drilling Fluid Resistivity:	0.780 ohm-m	
KCl Concentration:	0%	

M/LWD LOG COMMENTS

Comment No. 2-1

REAL TIME DATA LOG

Start of MWD Drilling Run 02

Weatherford International provided 6 3/4 in. Directional, Gamma Ray and Temperature for Run 02.

Run 02 started formation drilling November 13, 2012 at 20:59 at 6688 MD / 6600 TVD. Weatherford International logged the 8.750 in. borehole.

The WBM at the start of drilling was 10.10 ppg.

Comment No. 2-2

End of MWD Drilling Run 02

Run 02 ended drilling formation November 14, 2012 at 21:14 at 7462 MD / 7004 TVD.

The WBM at the end of drilling was 10.10 ppg.

Comment No. 3-1

RECORDED DATA LOG

Start of LWD Drilling Run 03

Weatherford International provided 4 3/4 in. Directional, Resistivity, Gamma Ray, and Temperature for Run 03.

Run 03 started formation drilling November 16, 2012 at 22:12 at 7462 MD / 7004 TVD. Weatherford International logged the 6.125 in. borehole.

The WBM at the start of drilling was 10.10 ppg.

Comment No. 3-2

End of LWD Drilling Run 02

Run 02 ended drilling formation November 17, 2012 at 15:38 at 9590 MD / 7022 TVD.

The WBM at the end of drilling was 9.90 ppg.

Comment No. 4-1

RECORDED DATA LOG

Start of LWD Drilling Run 04

Weatherford International provided 4 3/4 in. Directional, Resistivity, Gamma Ray, and Temperature for Run 04.

Run 04 started formation drilling November 18, 2012 at 09:51 at 9590 MD / 7022 TVD. Weatherford International logged the 6.125 in. borehole.

The WBM at the start of drilling was 9.90 ppg.

Comment No. 4-2

End of LWD Drilling Run 04

Run 04 ended drilling formation November 19, 2012 at 03:06 at 11178 MD / 7027 TVD.

The WBM at the end of drilling was 10.10 ppg.

Comment No. 5-1

RECORDED DATA LOG

Start of LWD Drilling Run 05

Weatherford International provided 4 3/4 in. Directional, Resistivity, Gamma Ray, and Temperature for Run 05.

Run 05 started formation drilling November 19, 2012 at 19:58 at 11178 MD / 7027 TVD. Weatherford International logged the 6.125 in. borehole.

The WBM at the start of drilling was 9.90 ppg.

Comment No. 5-2

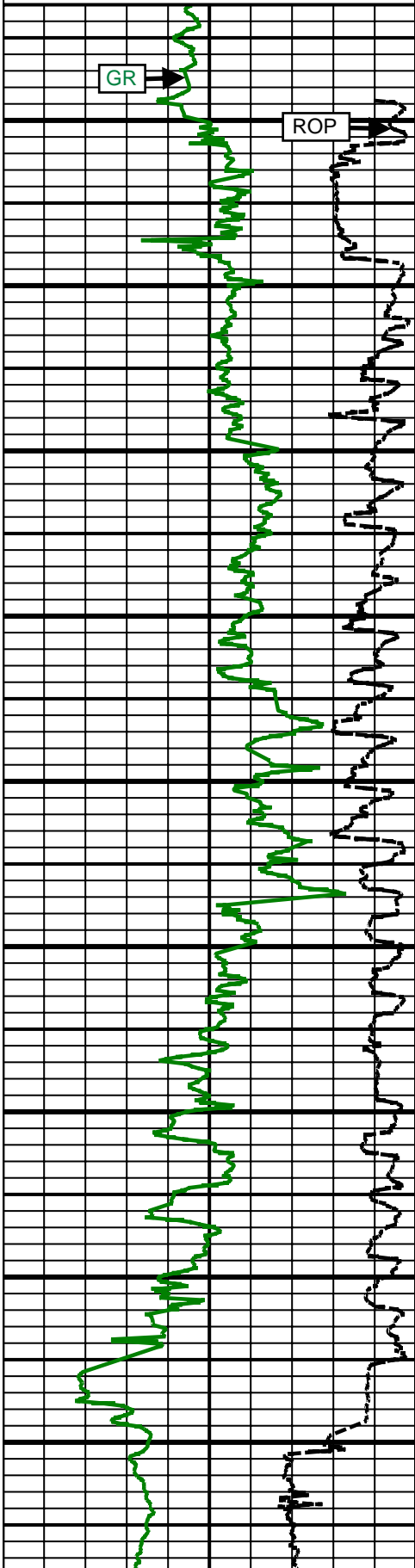
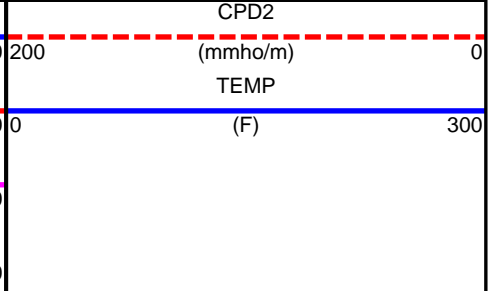
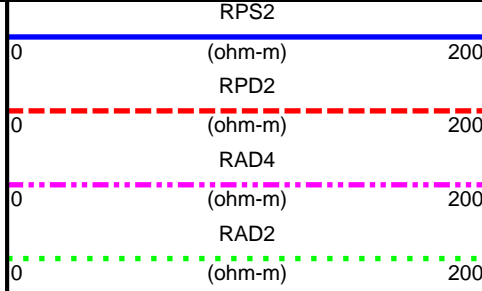
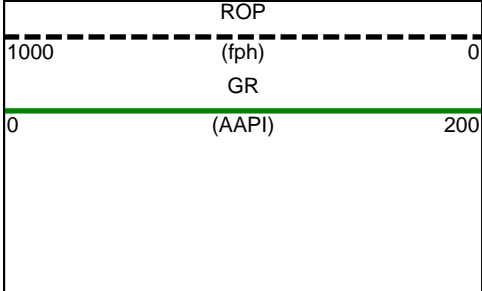
End of LWD Drilling Run 05

Run 05 ended drilling formation November 20, 2012 at 00:28 at 11590 MD / 7037 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 M/LWD Run Remarks
Deep Phase Resistivity	RPD2	ohm-m	2 MHz Deep Phase Resistivity 3.0 ft window 0.5 ft Exponential Smoothing	
Deep Attenuation Resistivity	RAD2	ohm-m	2 MHz Deep Attenuation Resistivity 3.0 ft window 0.5 ft Exponential Smoothing	
Deep Attenuation Resistivity	RAD4	ohm-m	400 kHz Deep Attenuation Resistivity 3.0 ft window 0.5 ft Exponential Smoothing	
Shallow Phase Resistivity	RPS2	ohm-m	2 MHz Shallow Phase Resistivity 3.0 ft window 0.5 ft Exponential Smoothing	
Deep Phase Conductivity	CPD2	mmho/m	2 MHz Deep Phase Conductivity 3.0 ft window 0.5 ft Exponential Smoothing	
Temperature	TEMP	F	Temperature 3.0 ft window 0.5 ft Exponential Smoothing	None

1 Inch - Measured Depth



6700 MD

6800 MD

6900 MD

7000 MD

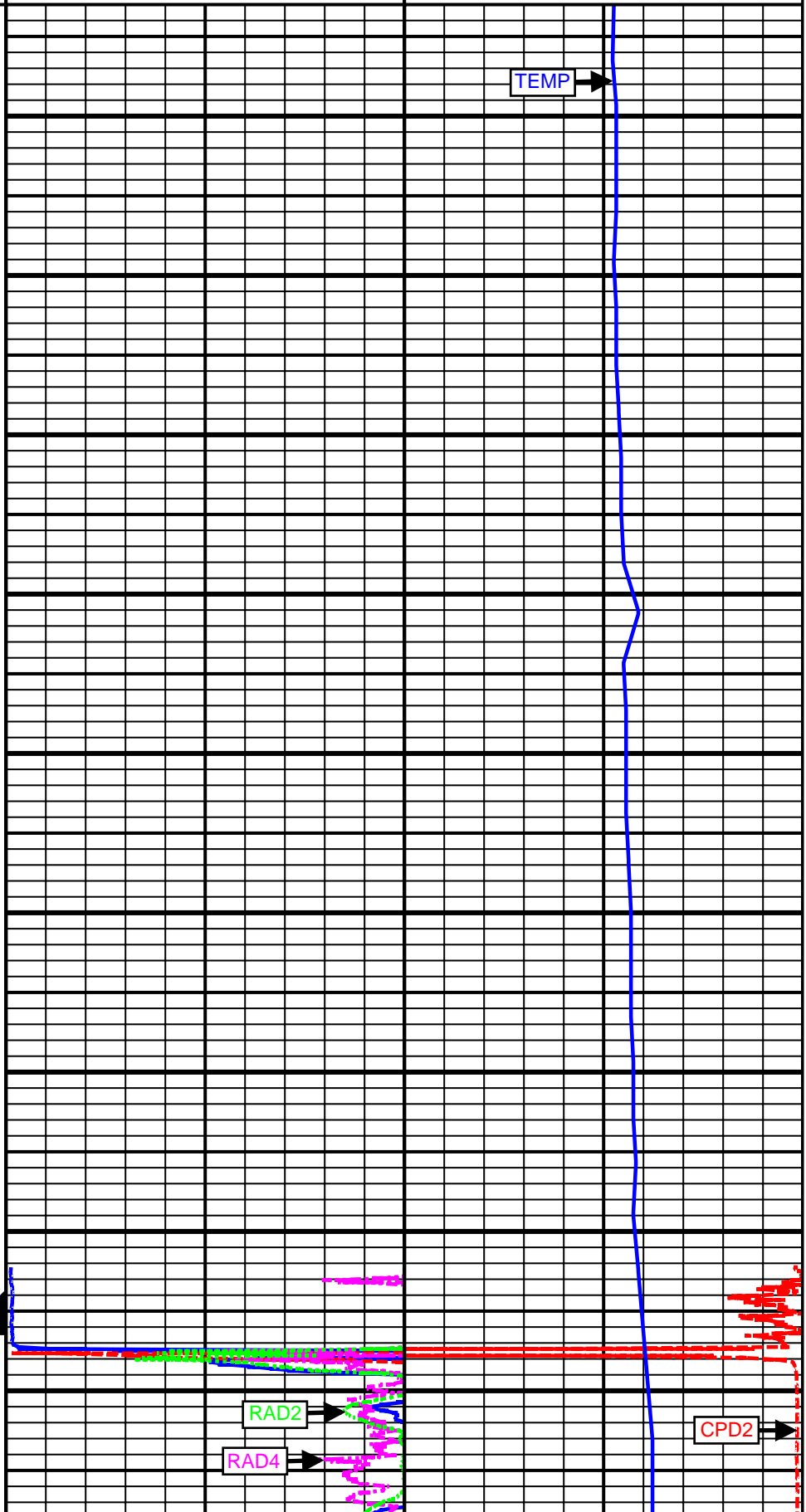
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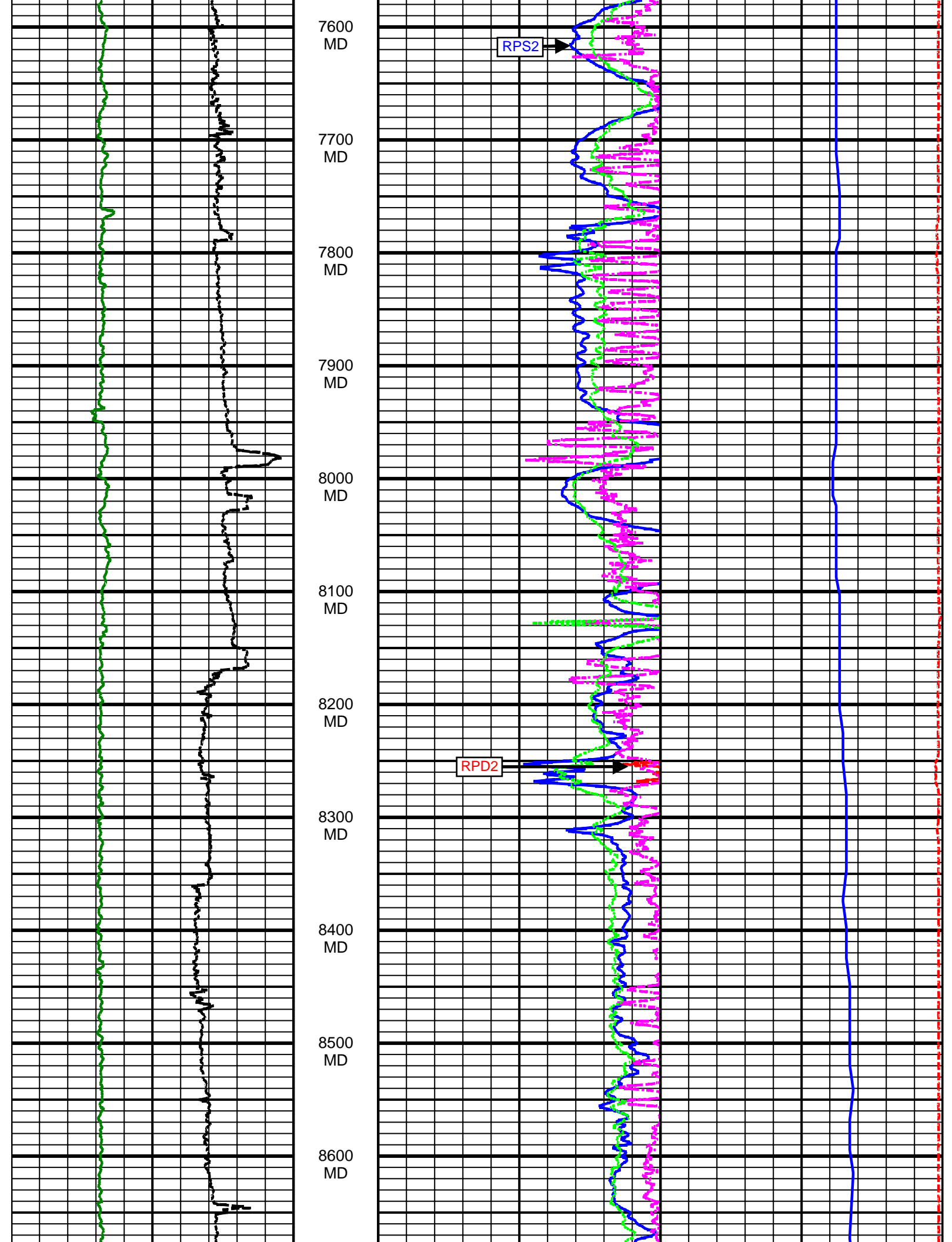
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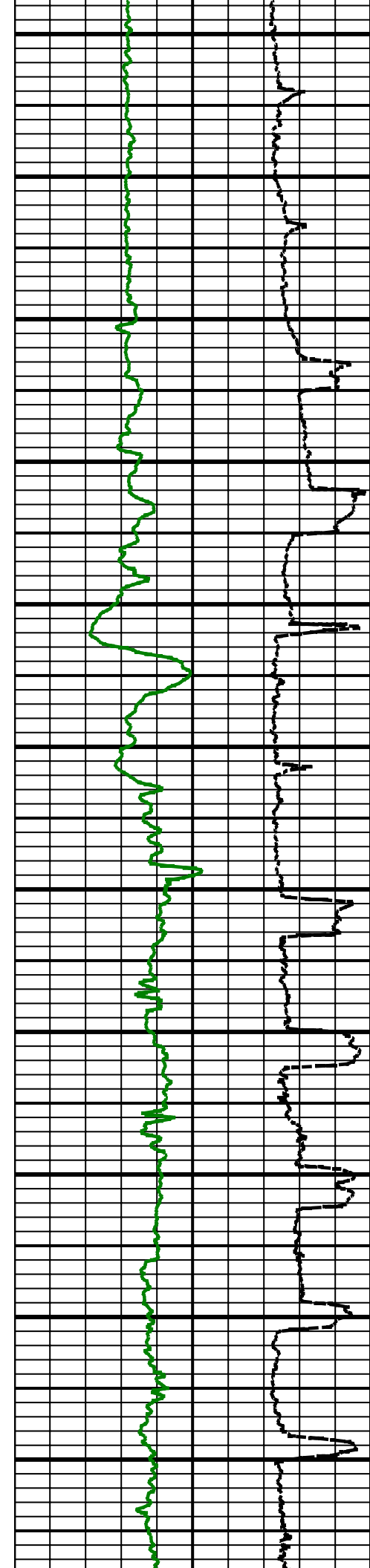
7300 MD

7400 MD

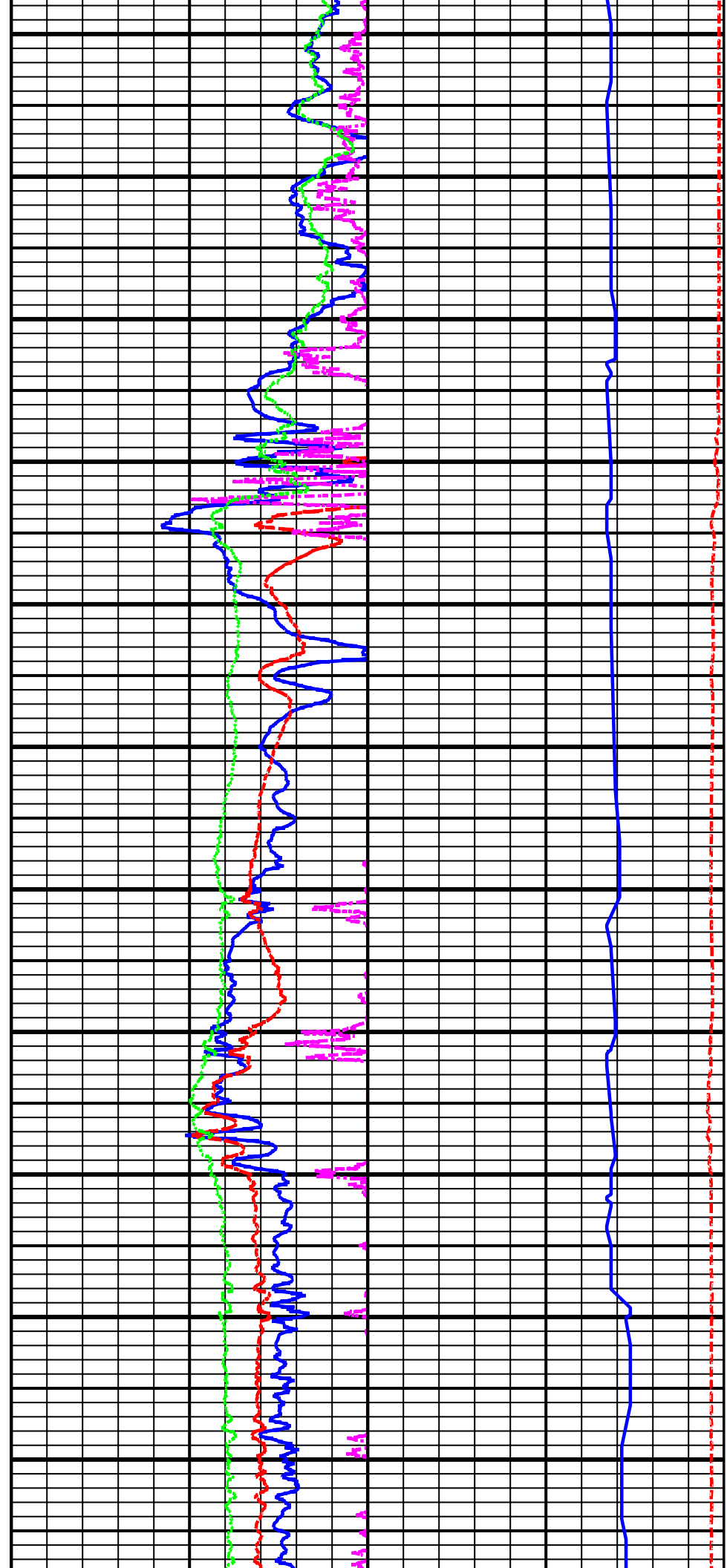
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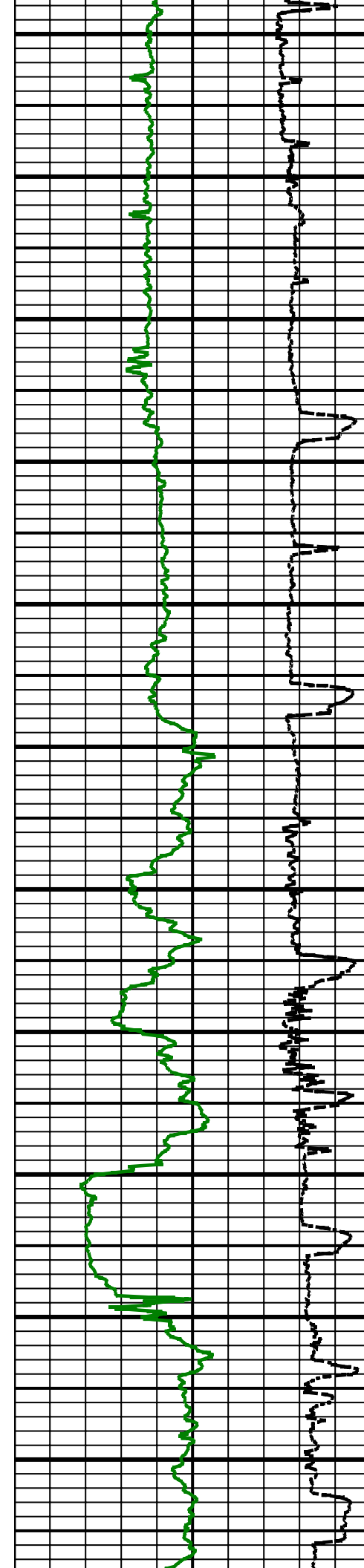




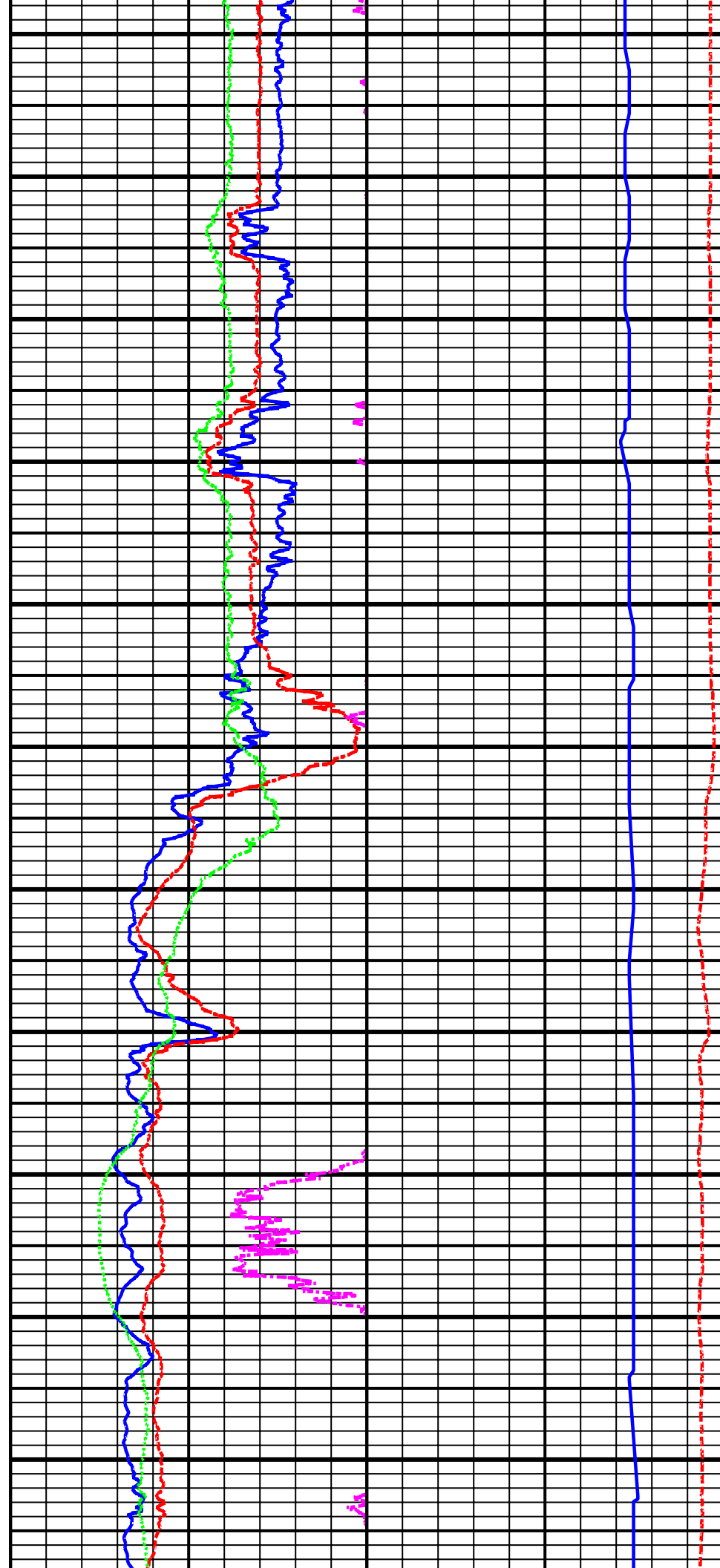


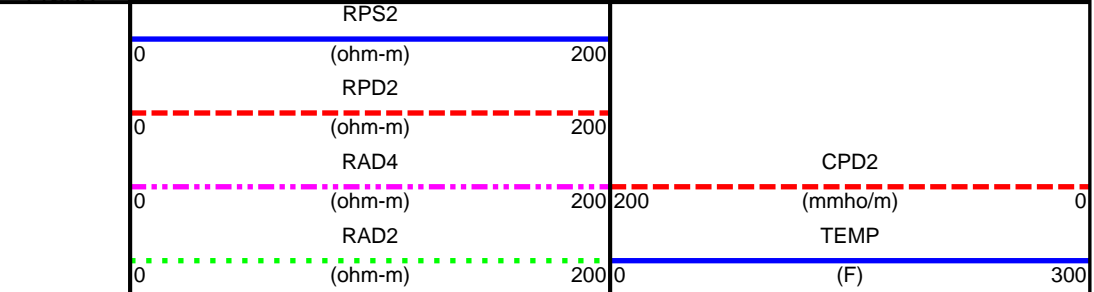
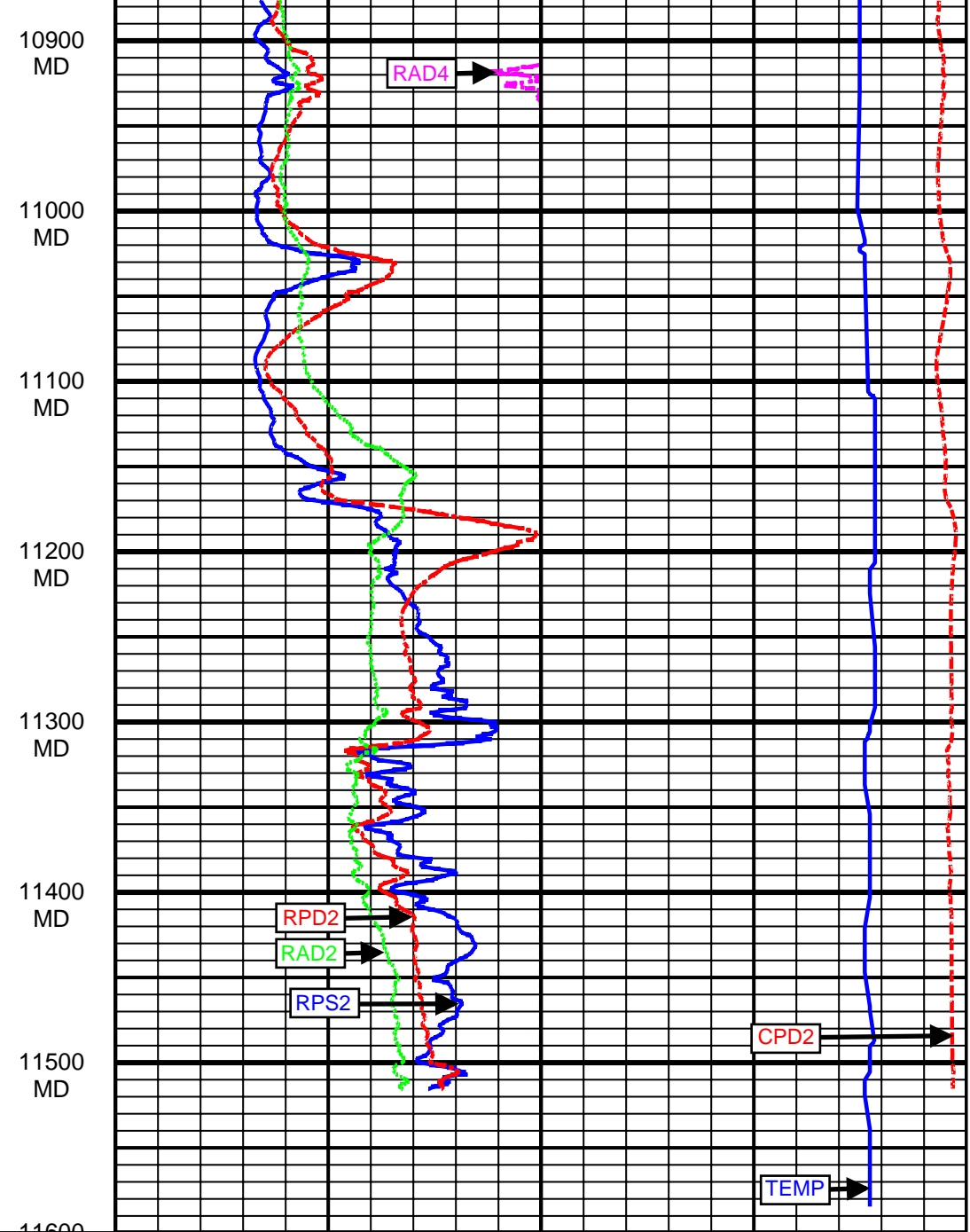
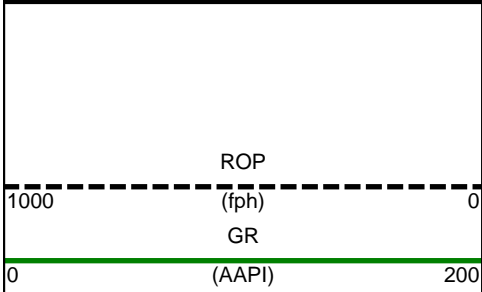
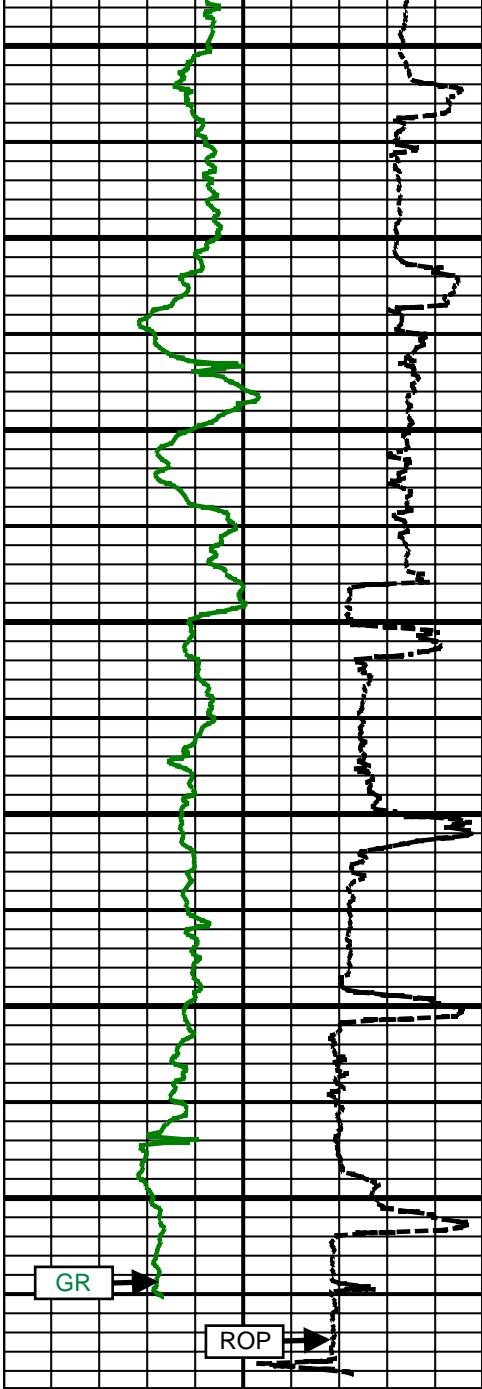
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8800 MD
8900 MD
9000 MD
9100 MD
9200 MD
9300 MD
9400 MD
9500 MD
9600 MD
9700 MD



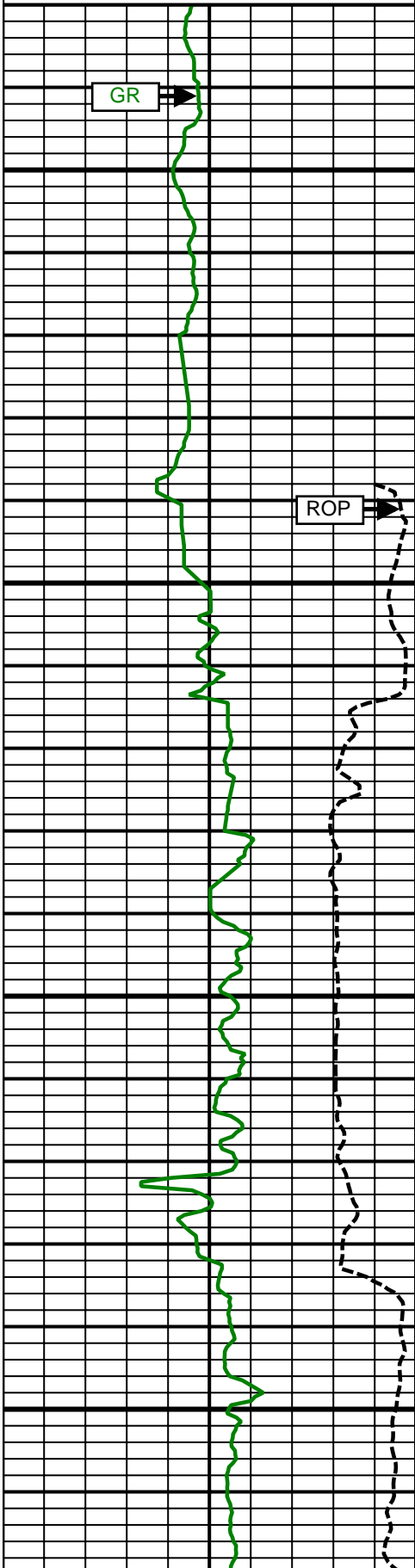
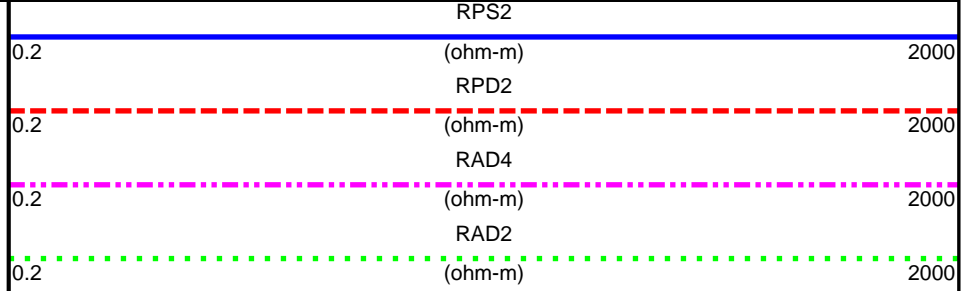
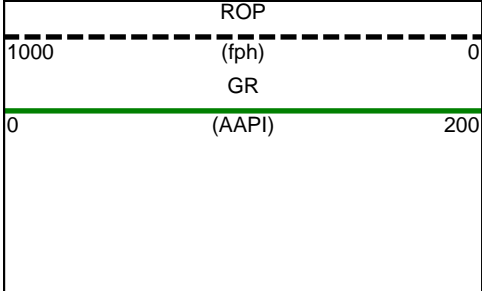


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9900 MD
10000 MD
10100 MD
10200 MD
10300 MD
10400 MD
10500 MD
10600 MD
10700 MD
10800 MD





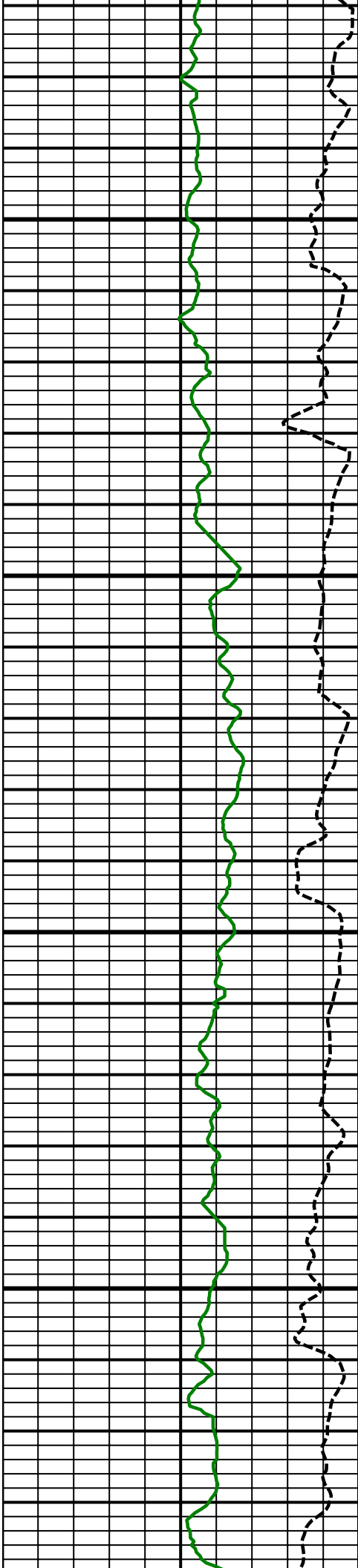
5 Inch - Measured Depth



Comment
2-1

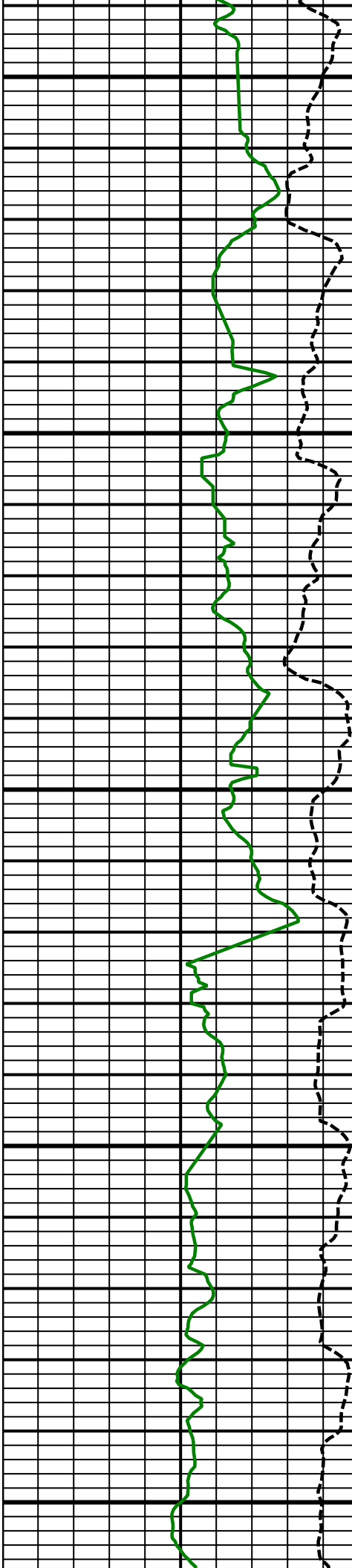
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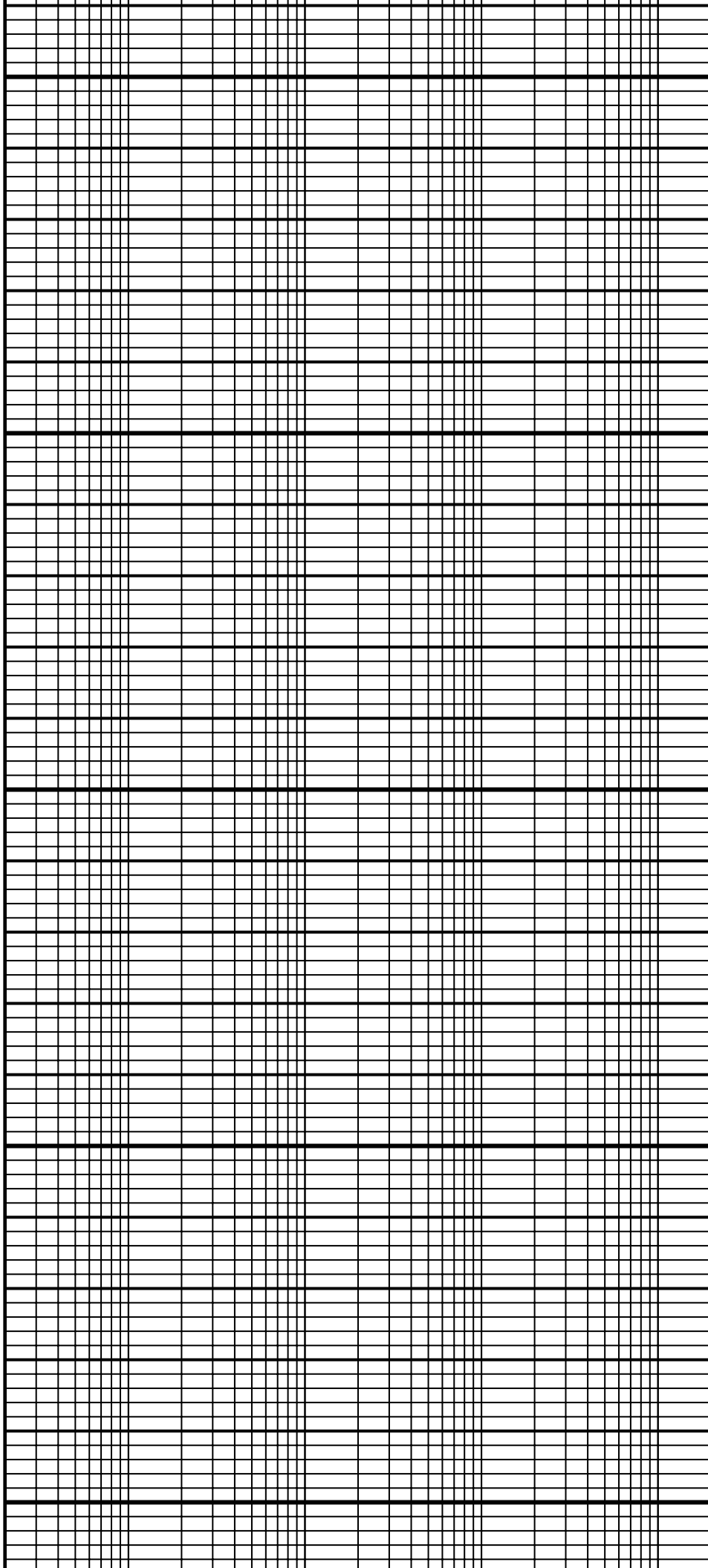
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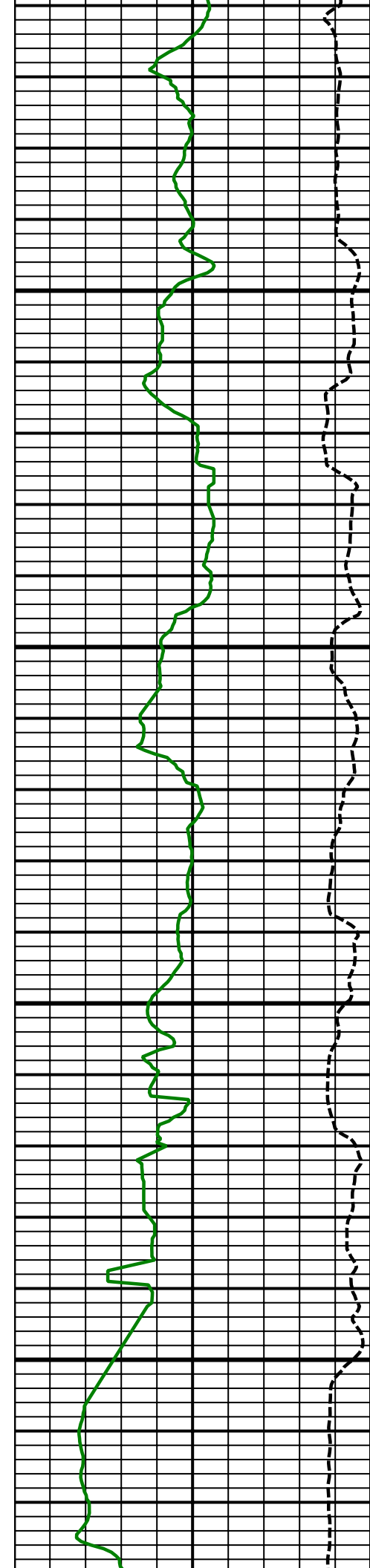
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7100
MD

7200
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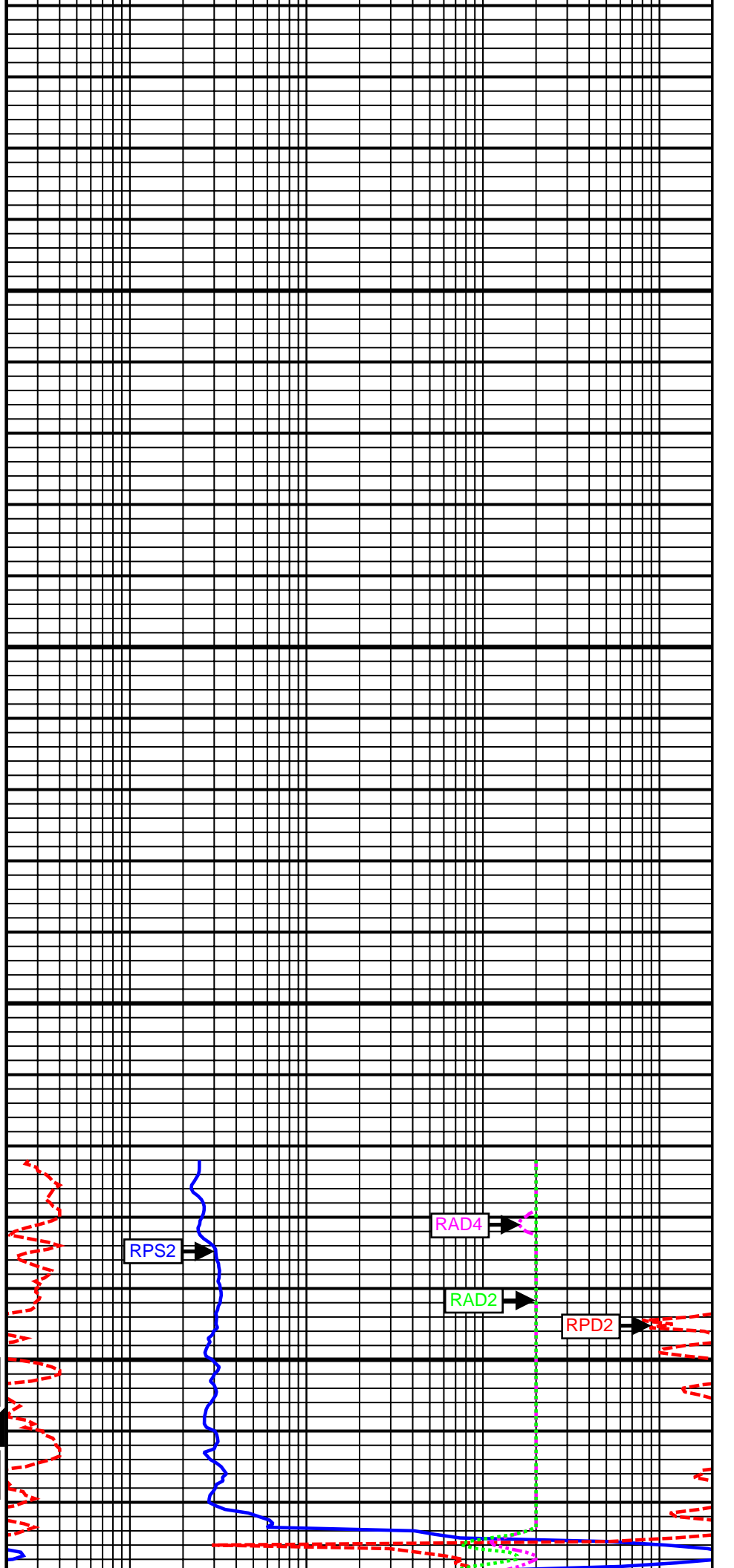


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7400
MD

Comment
2-2

Comment
3-1

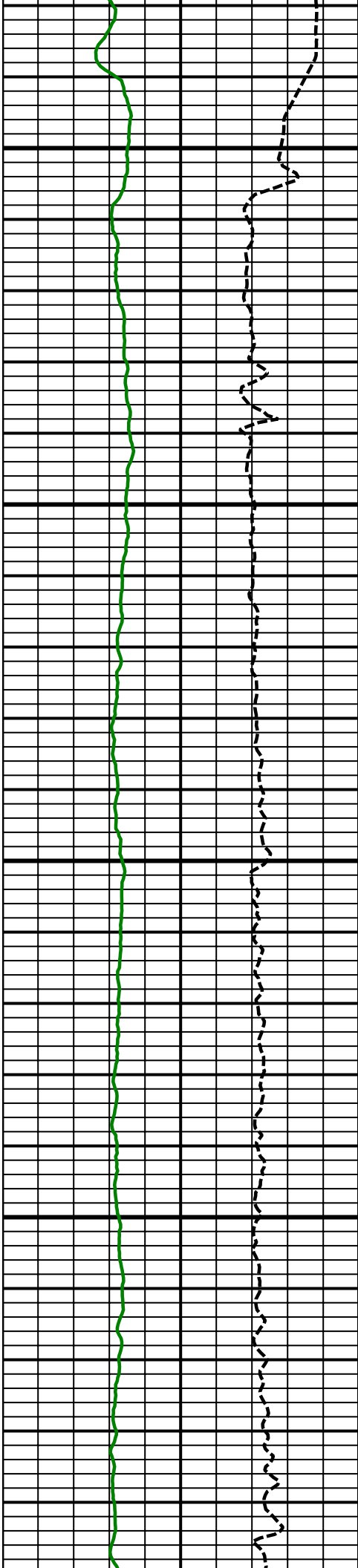


RPS2

RAD4

RAD2

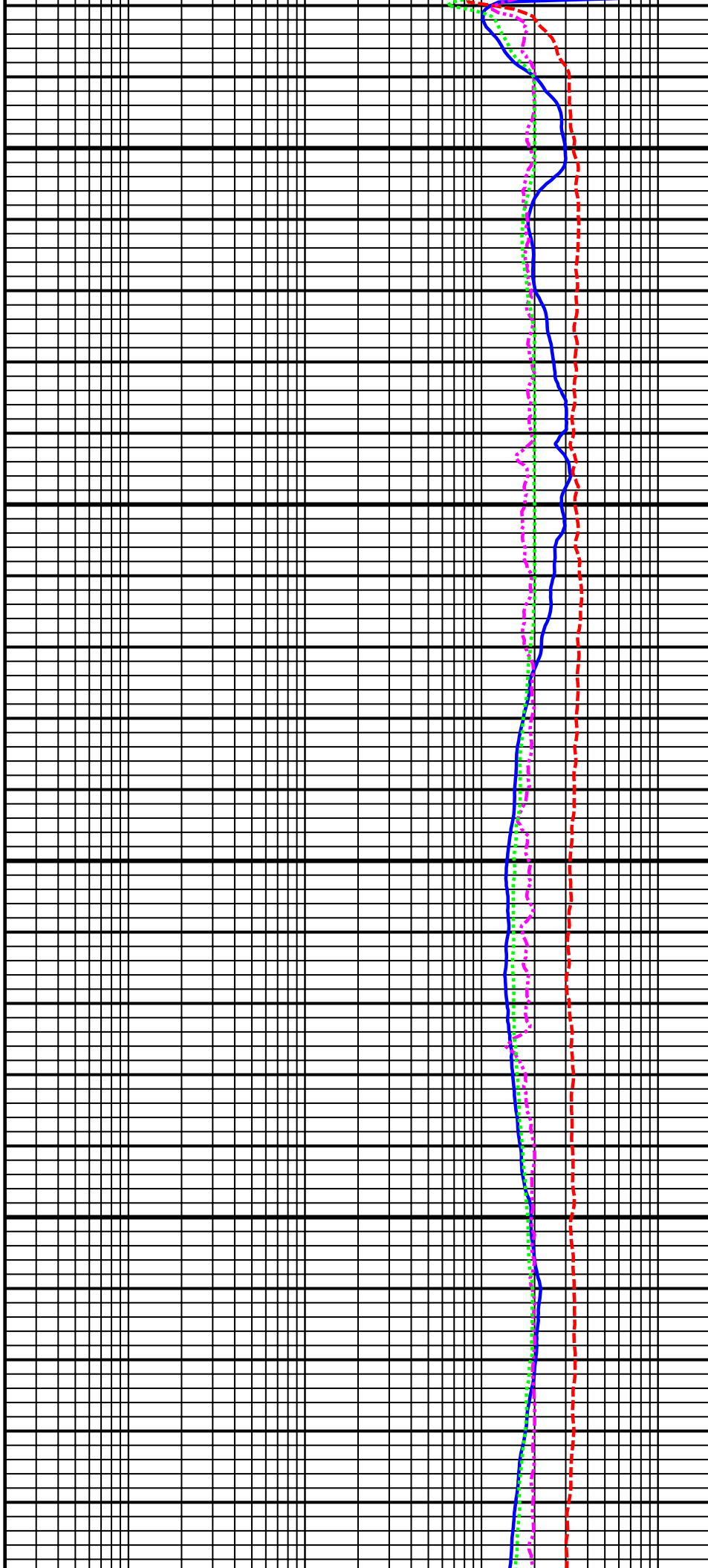
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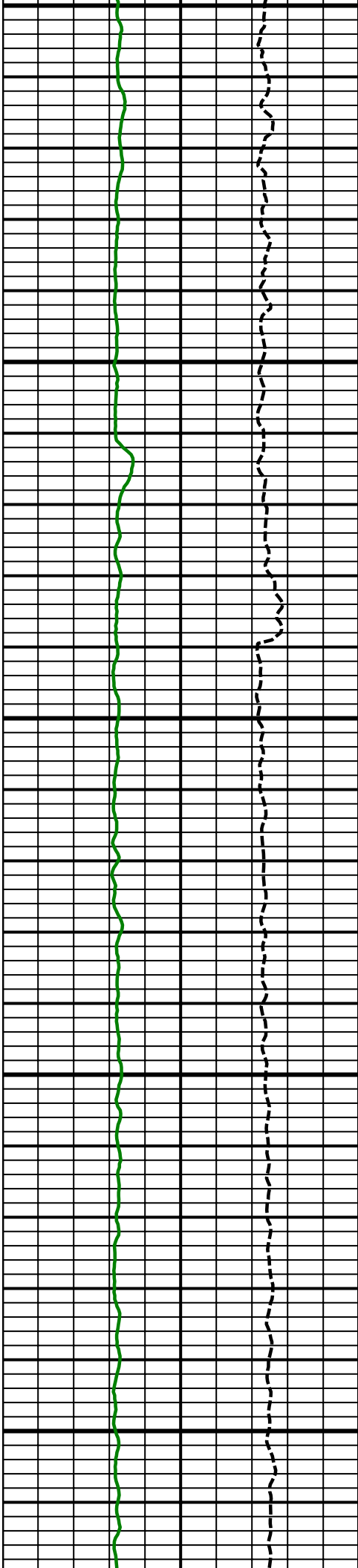


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MD

7700
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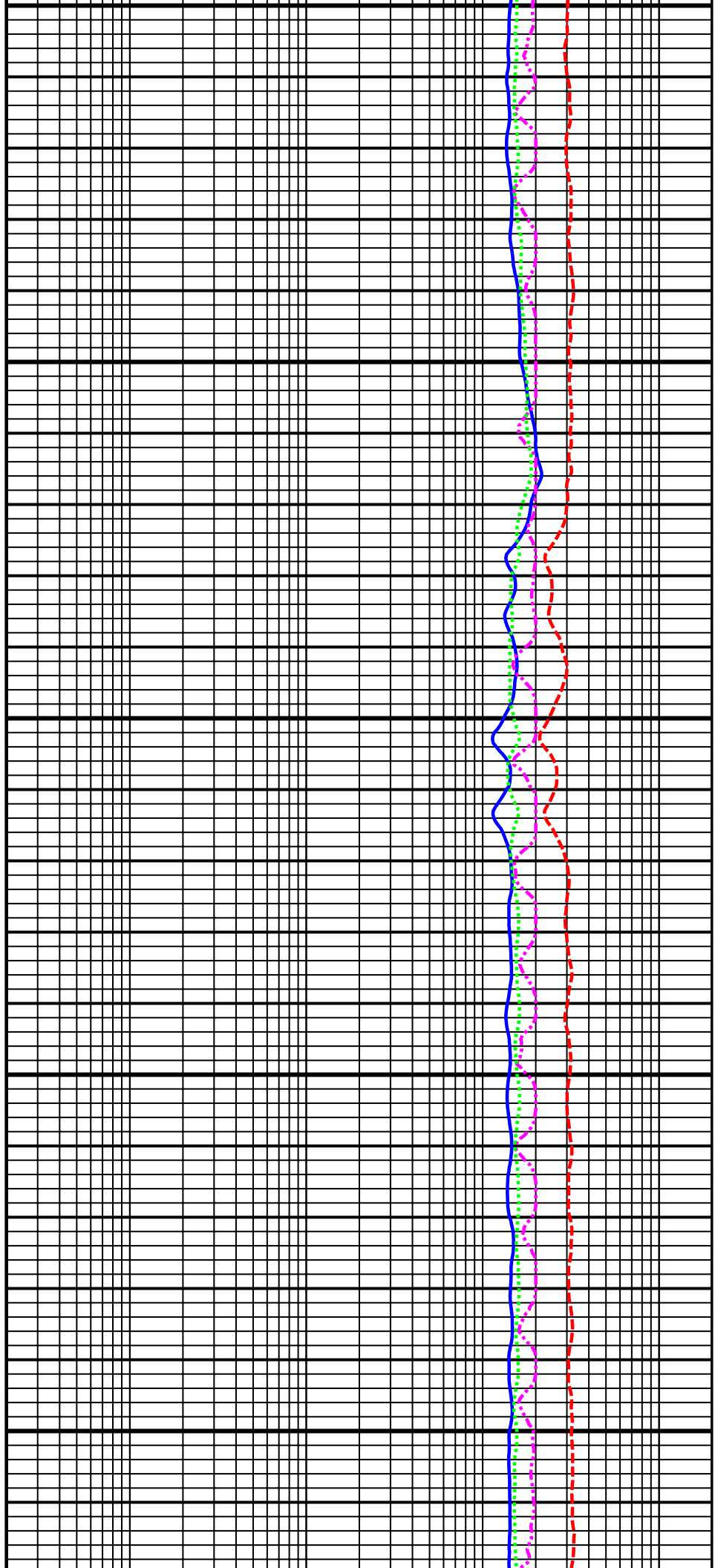


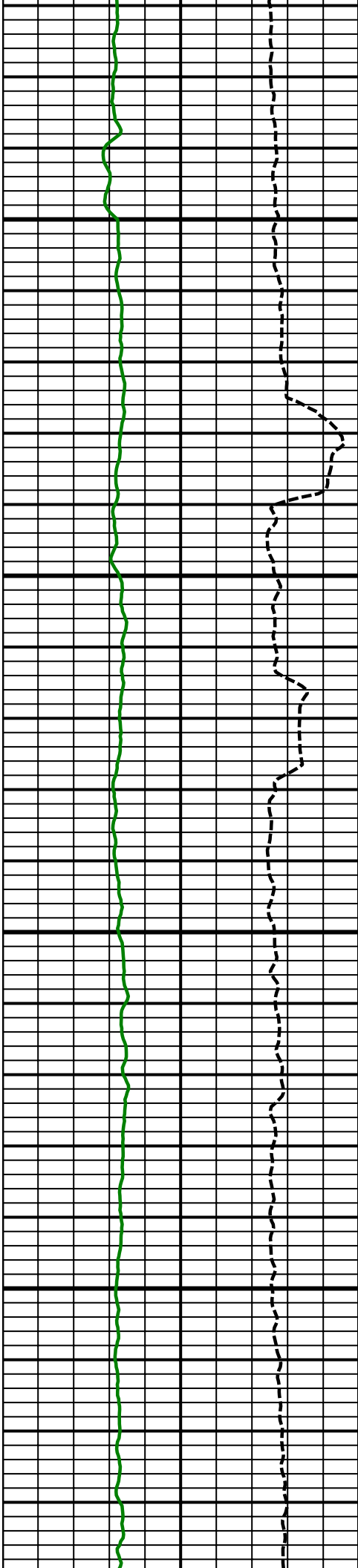


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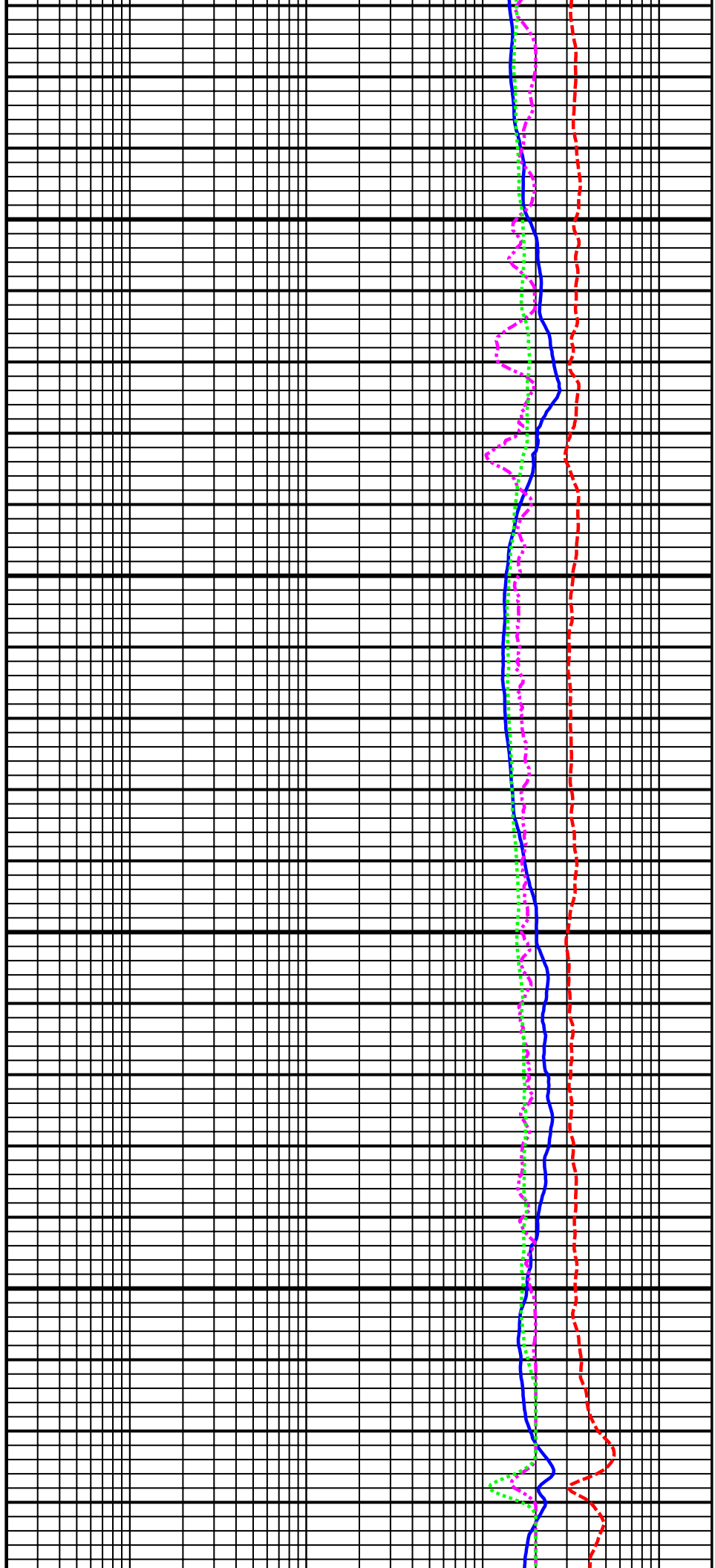
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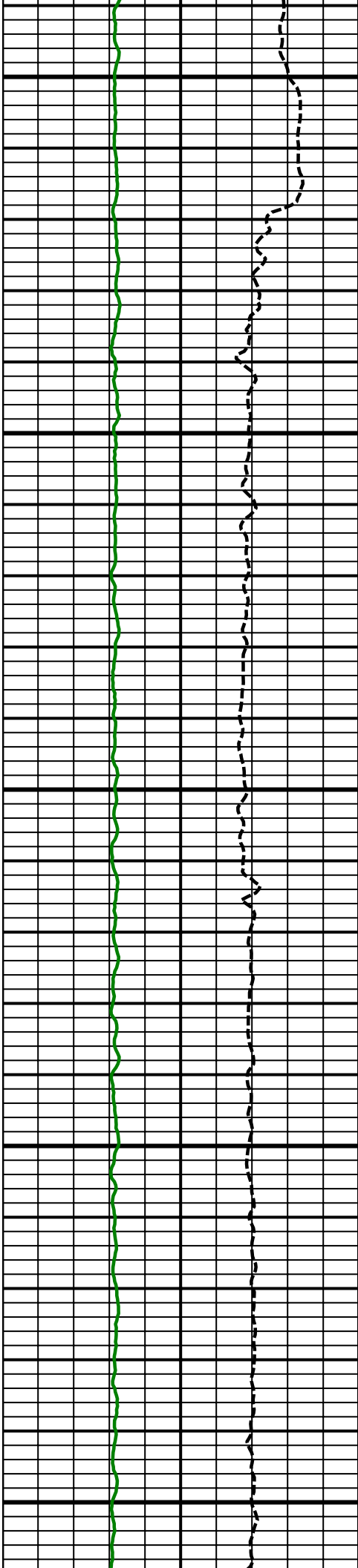




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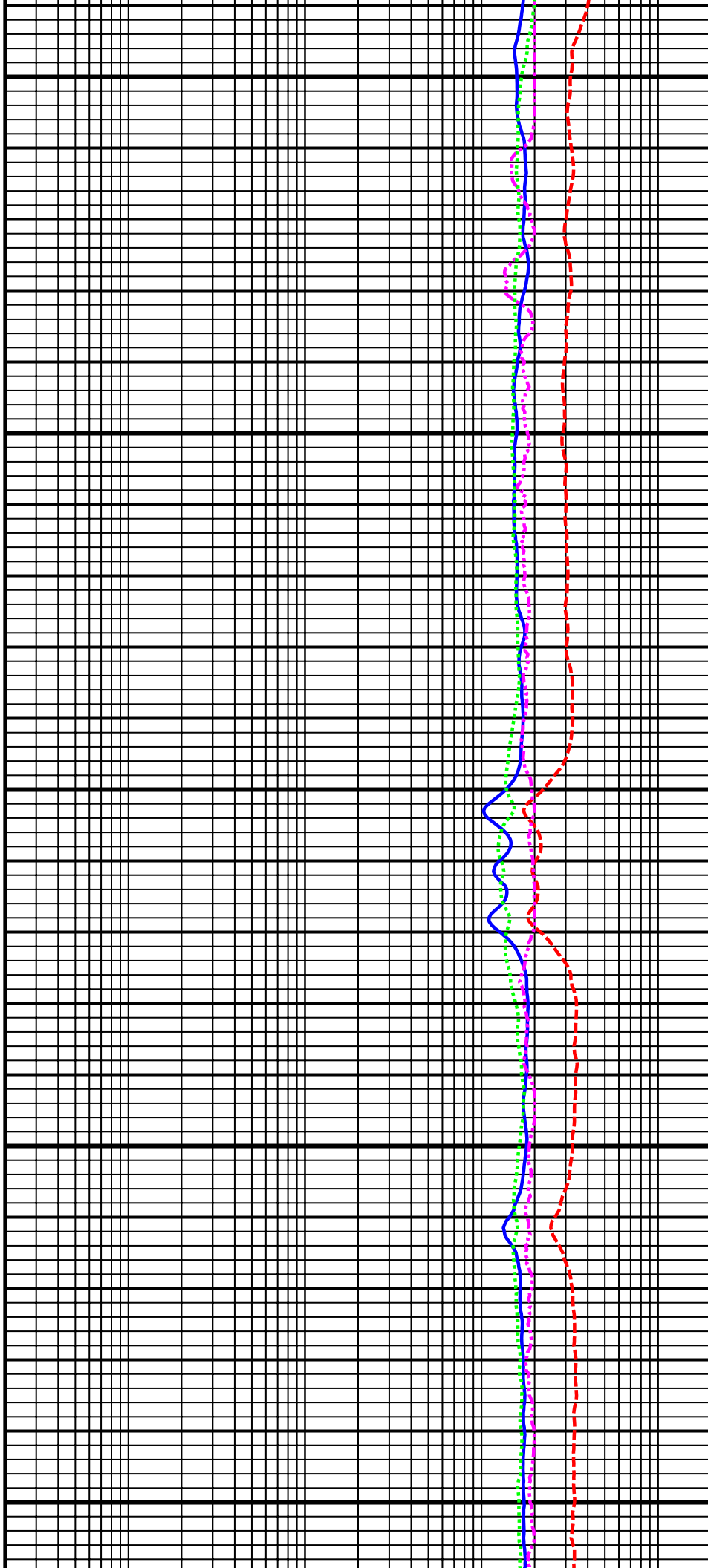
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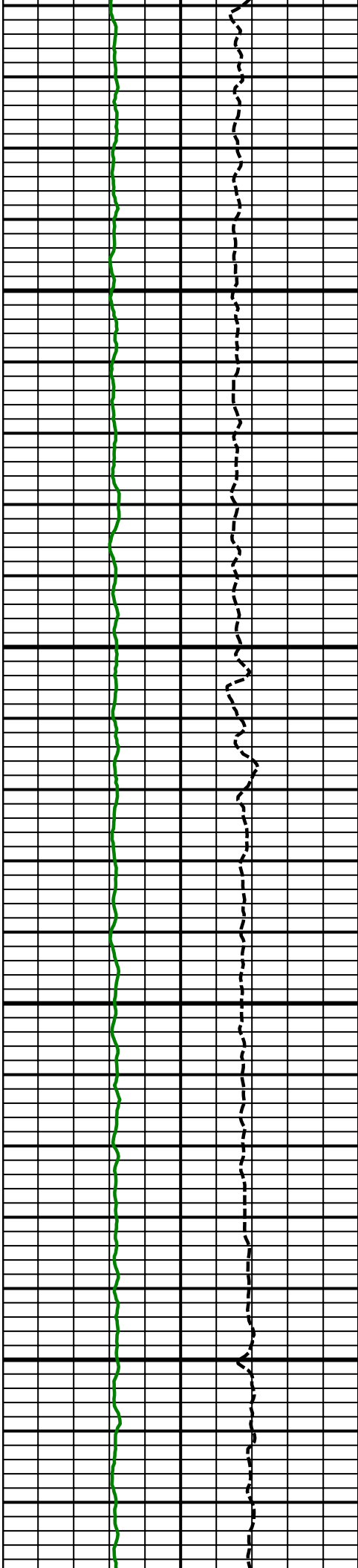




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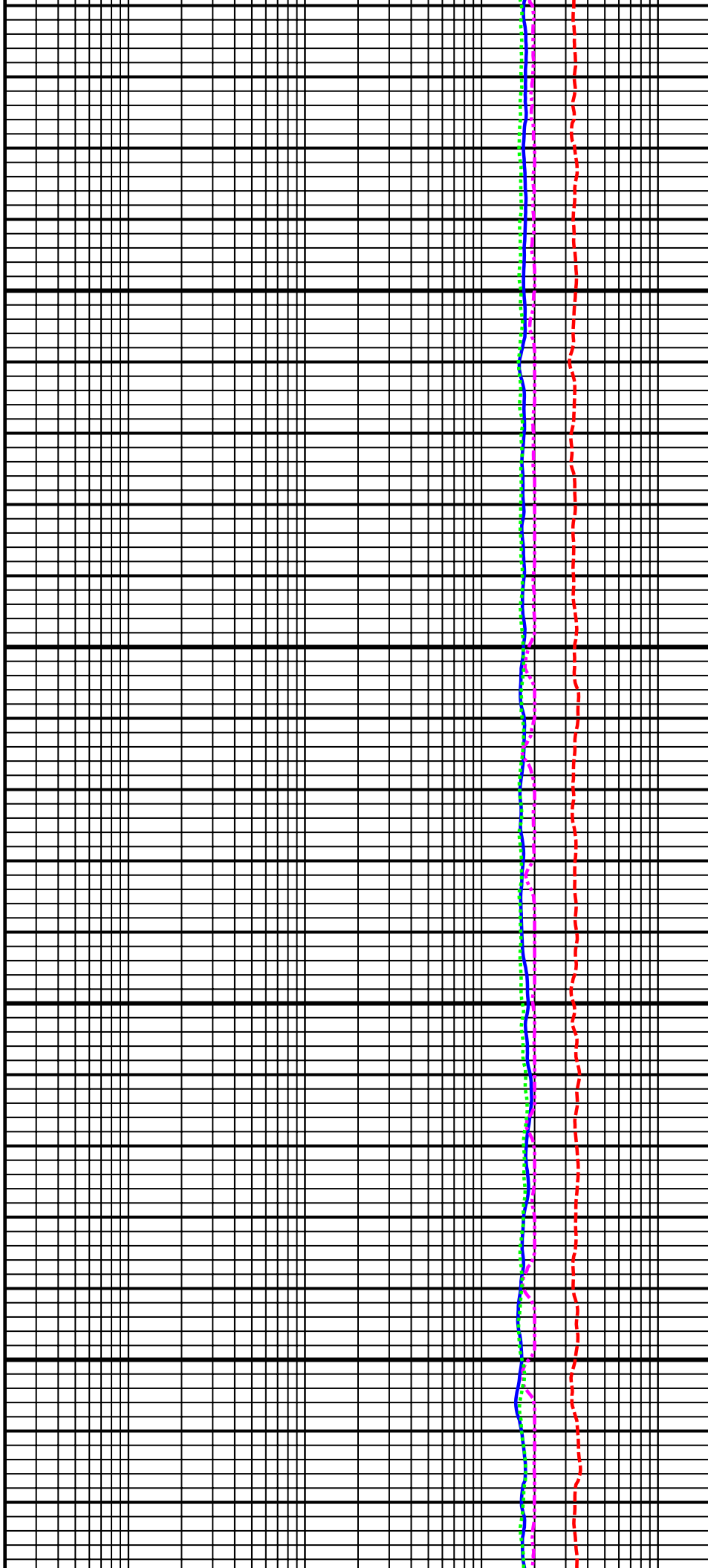
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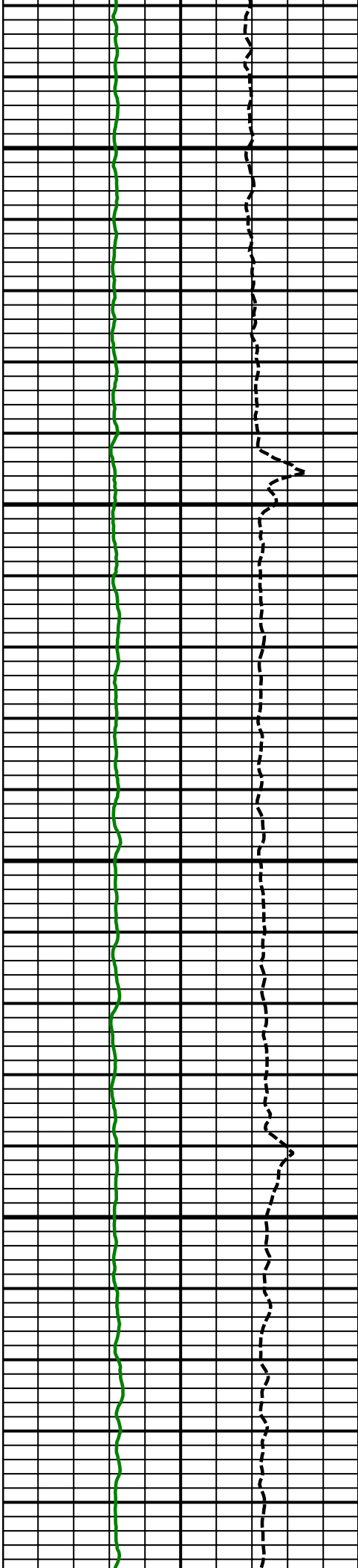




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8500
MD

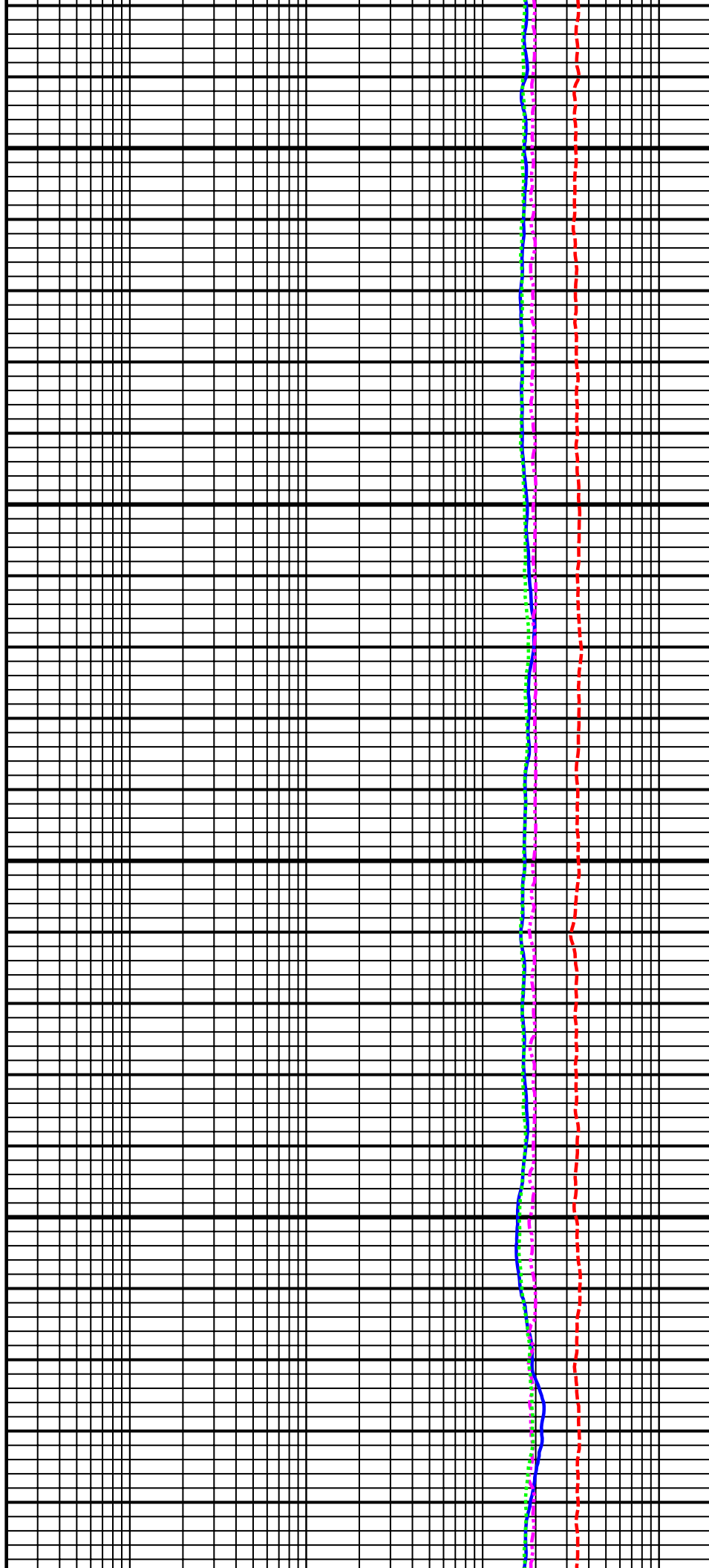


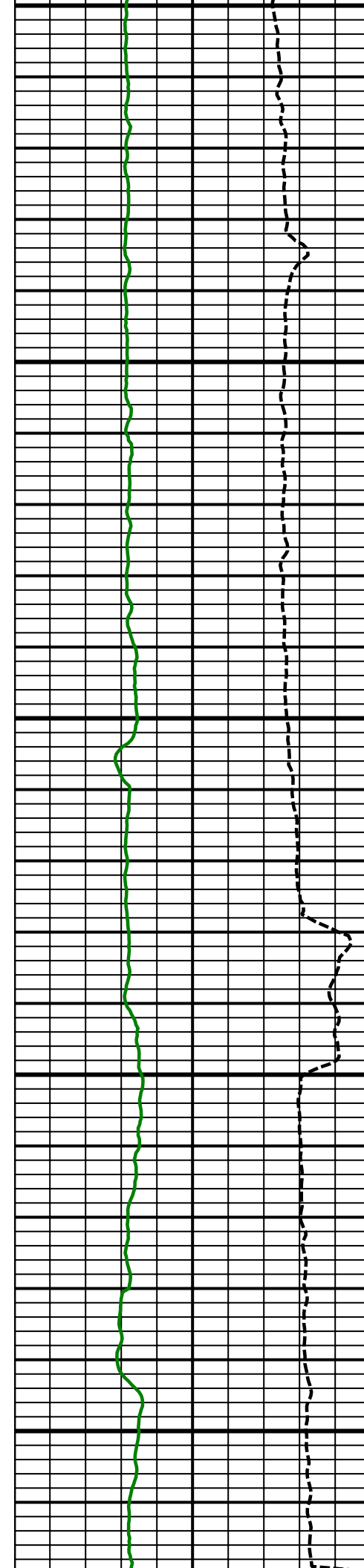


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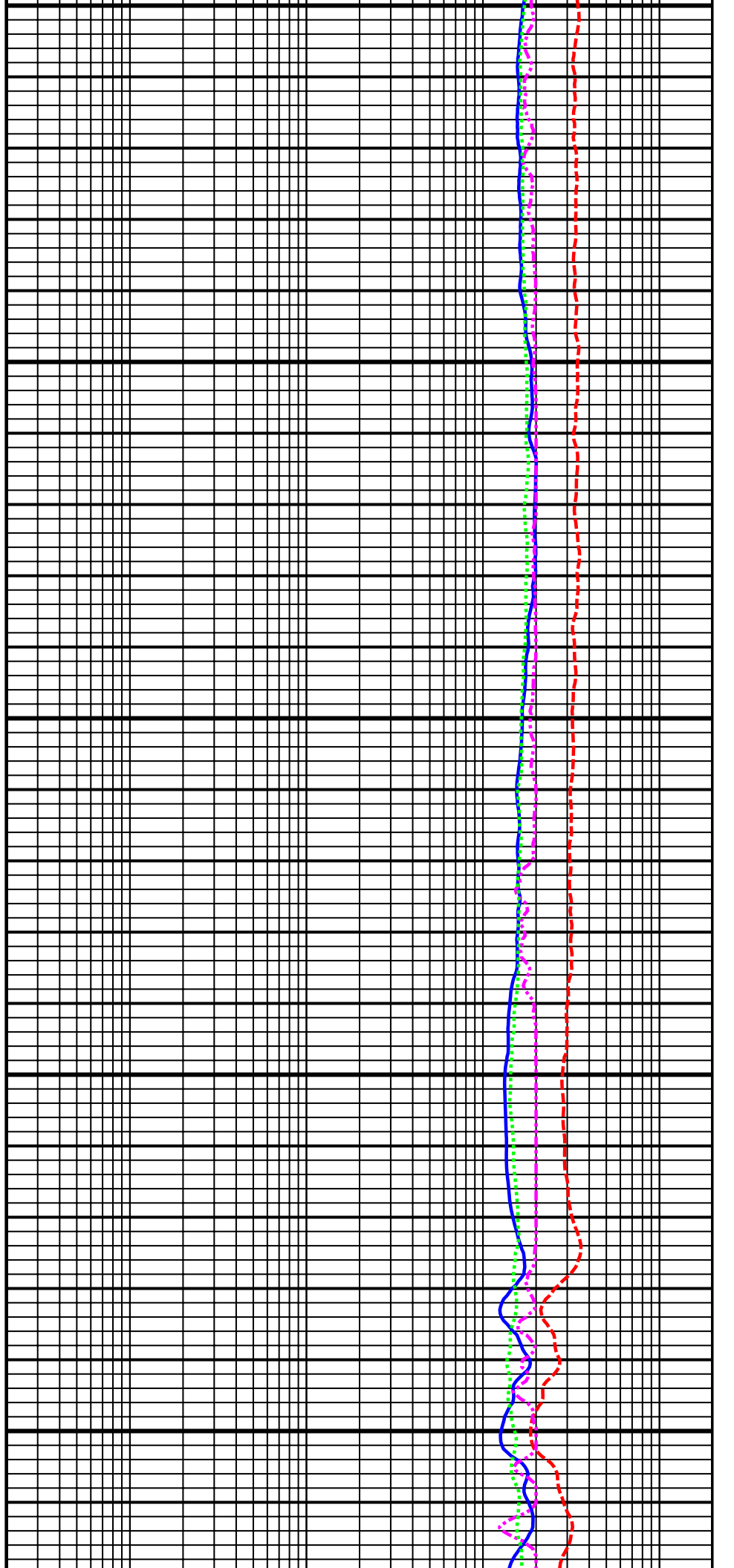


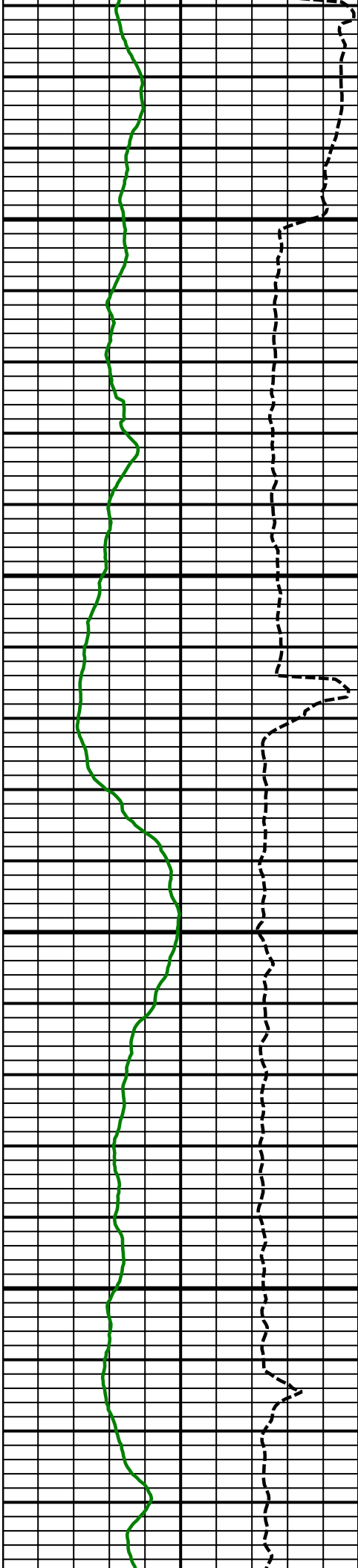


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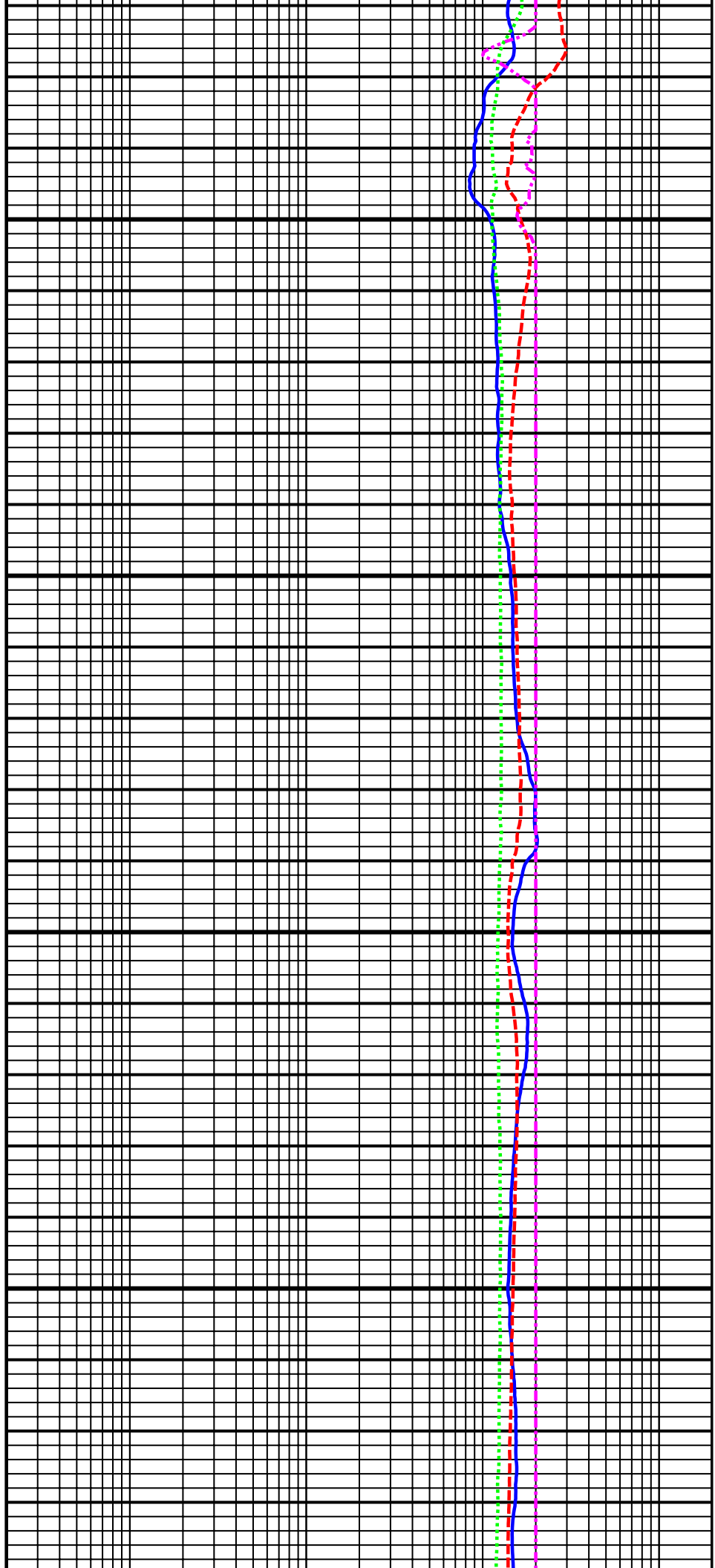
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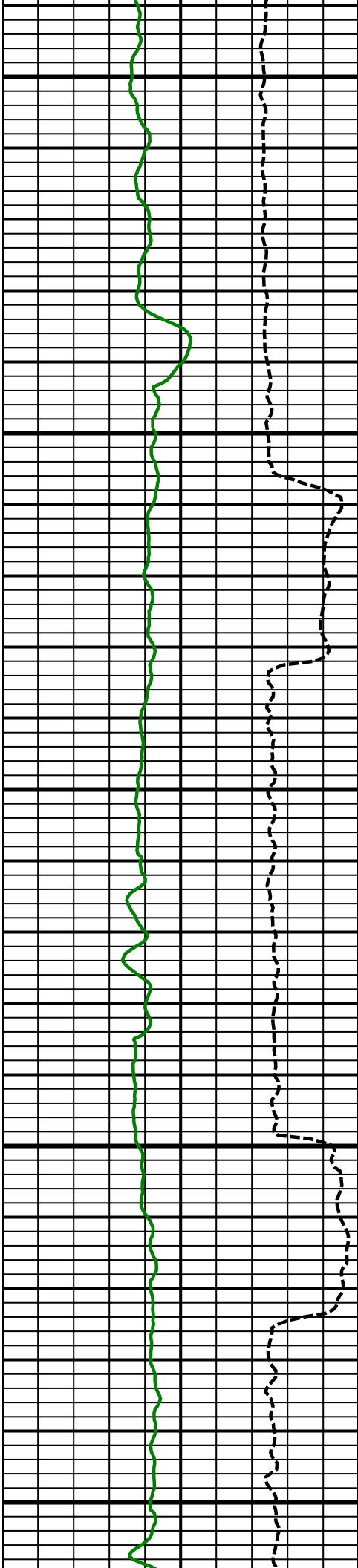




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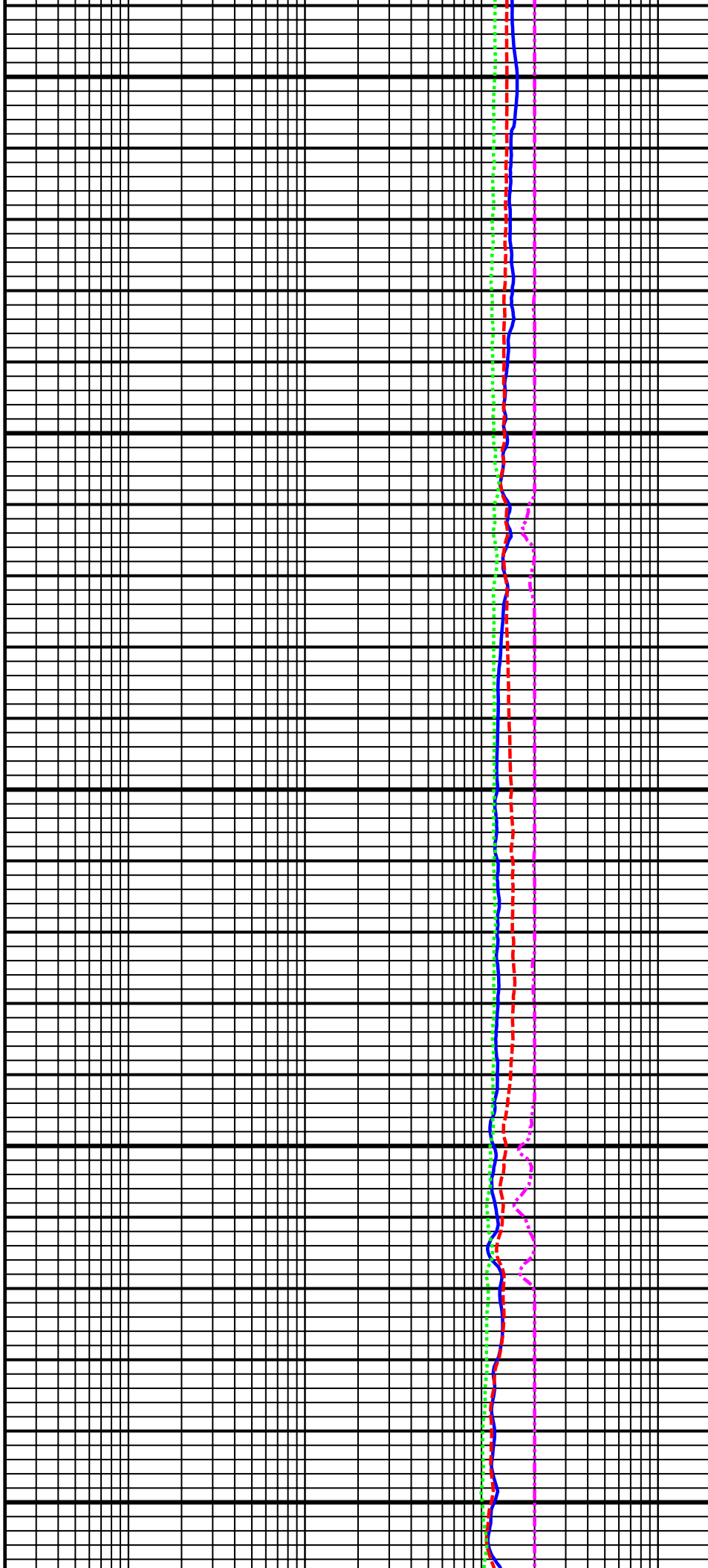
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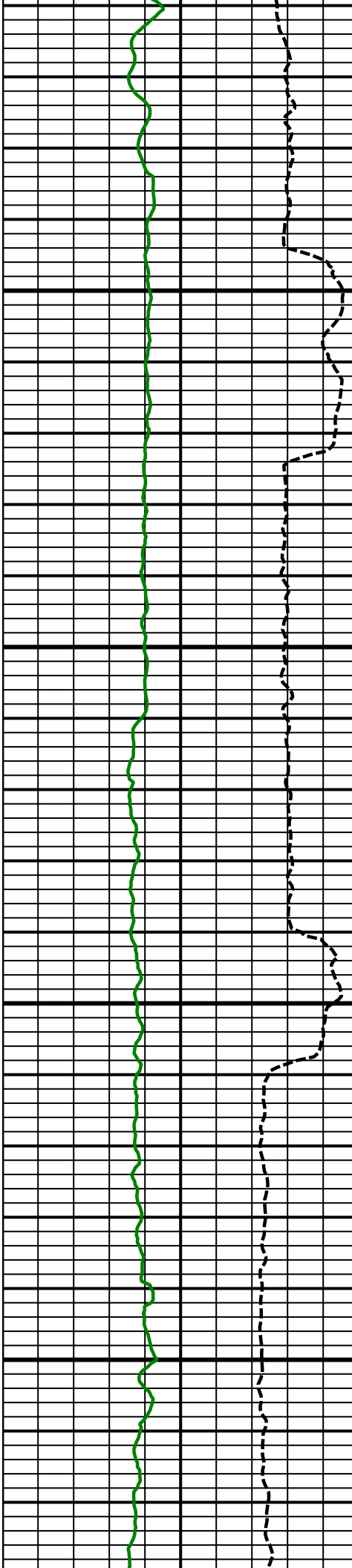




9300
MD

9400
MD

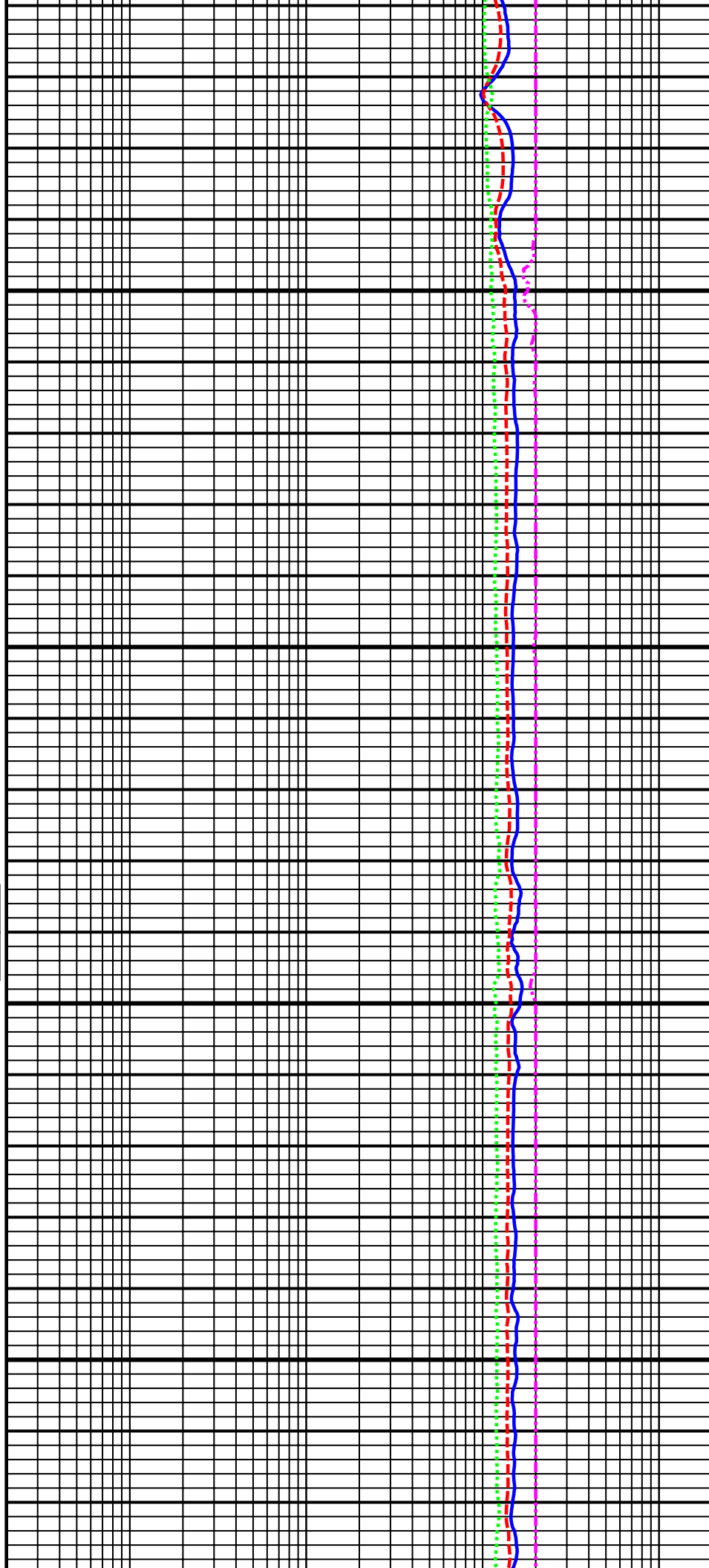


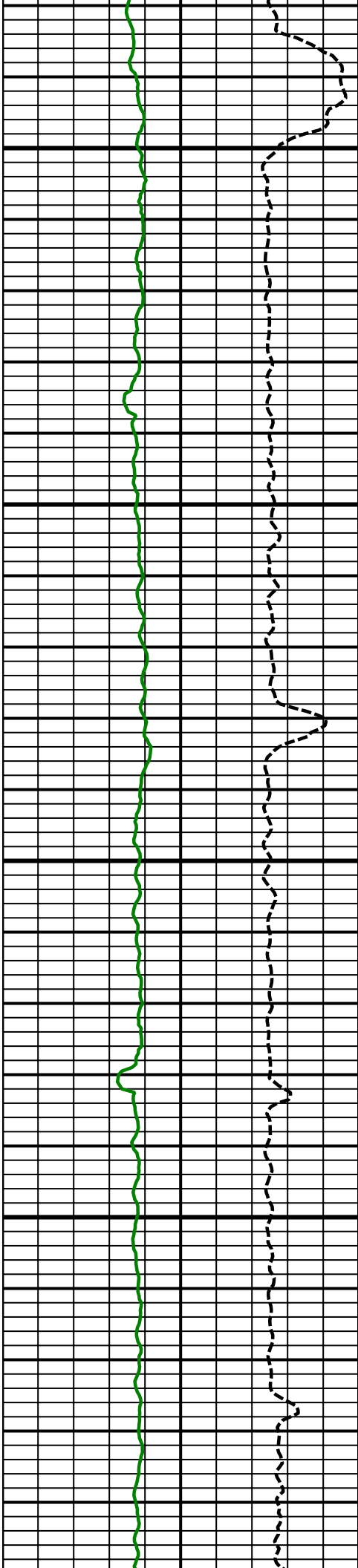


9500
MD

Comment
3-2
Comment
4-1

9600
MD

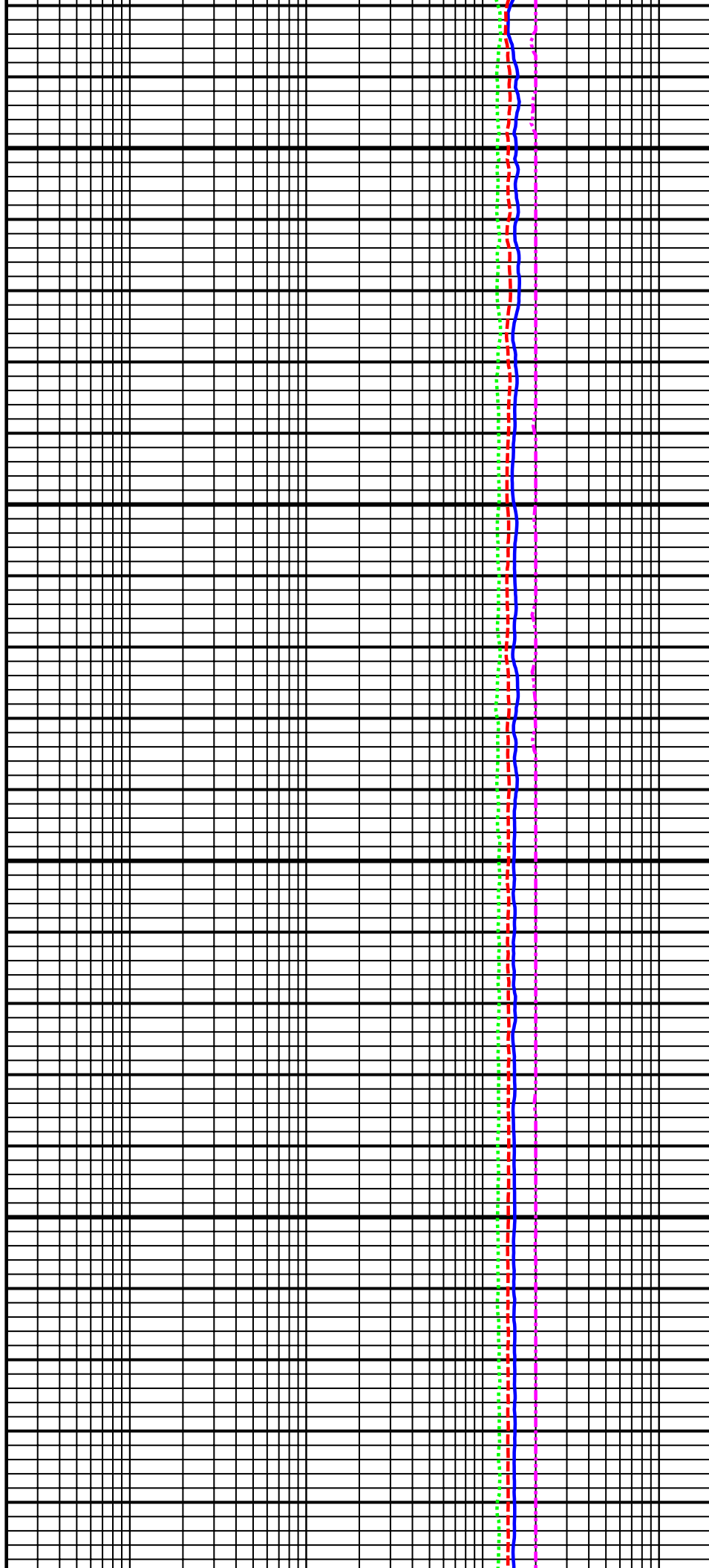


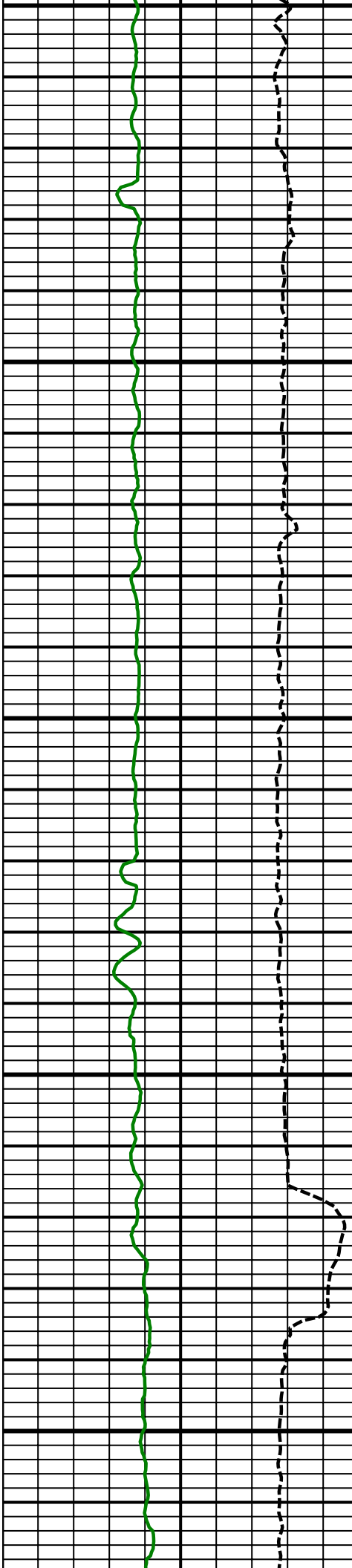


9700
MD

9800
MD

9900

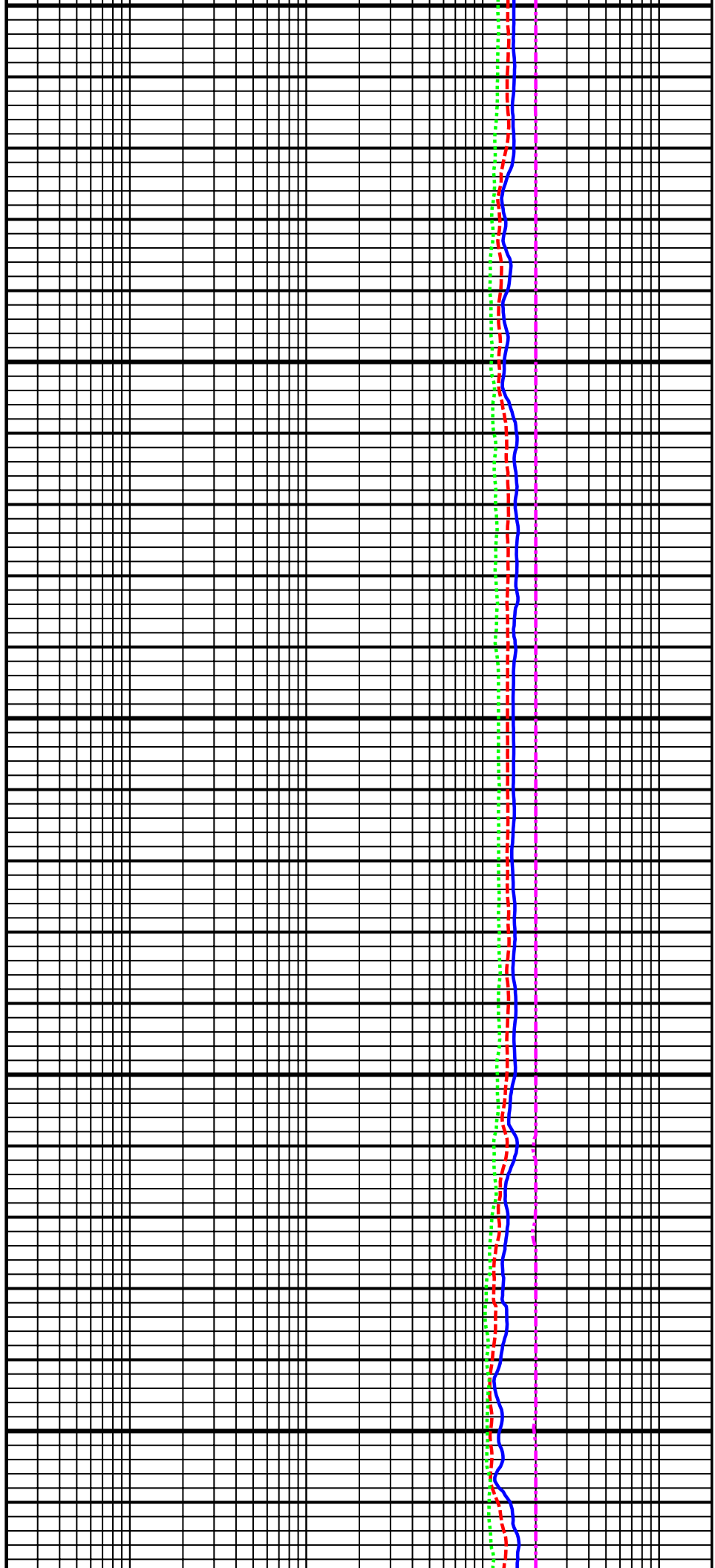


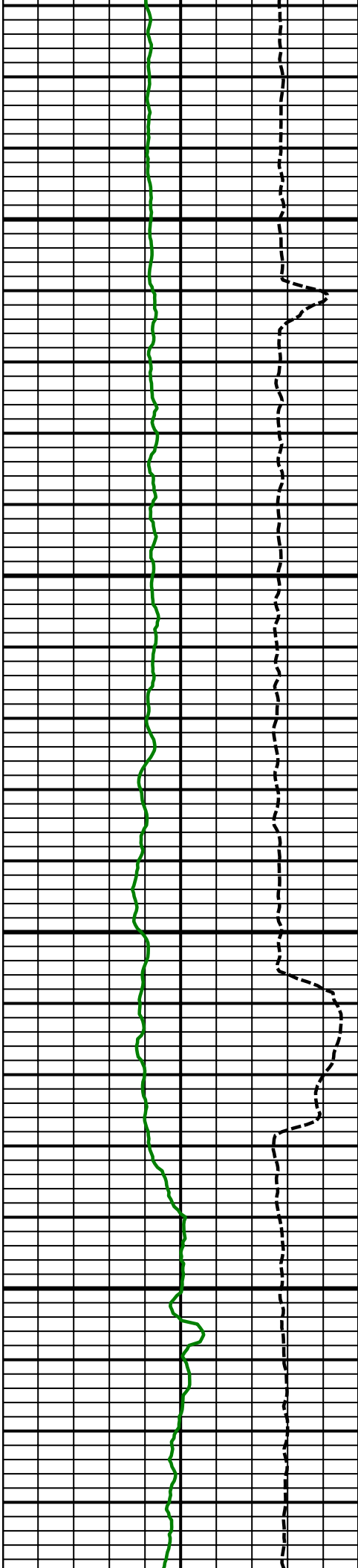


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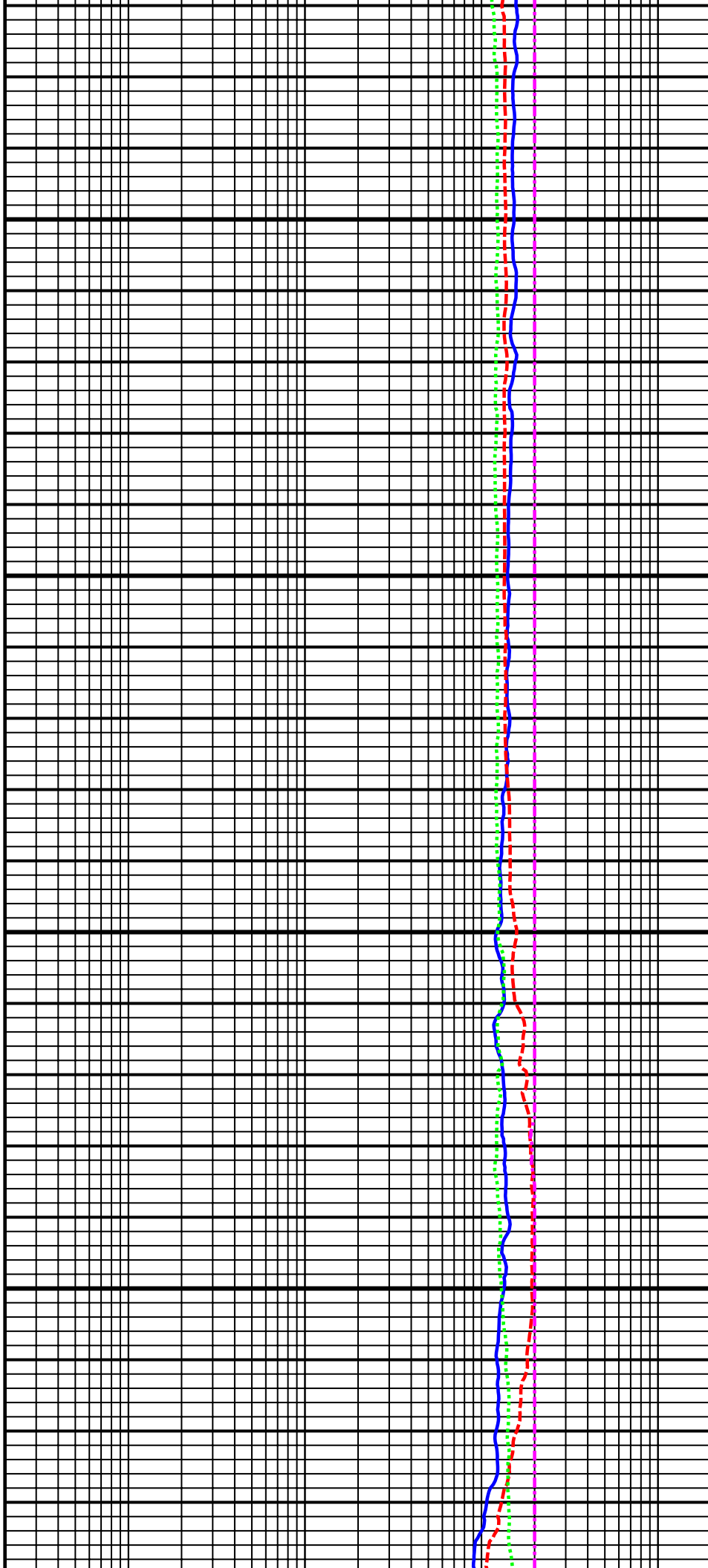
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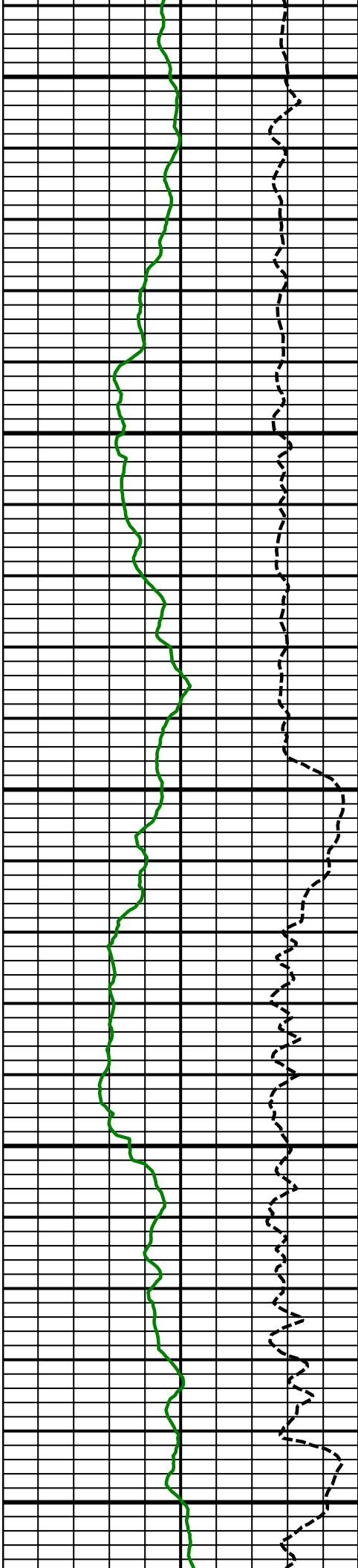




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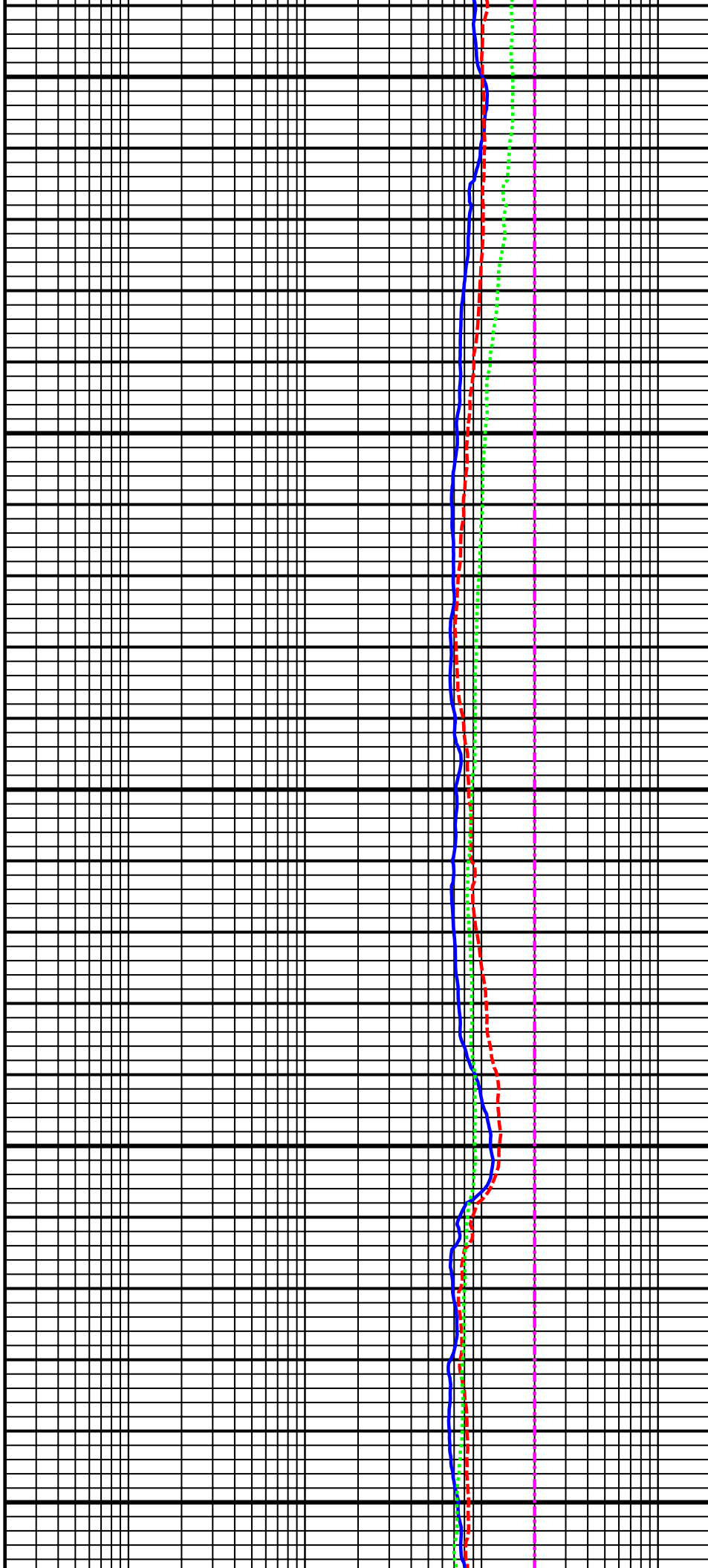
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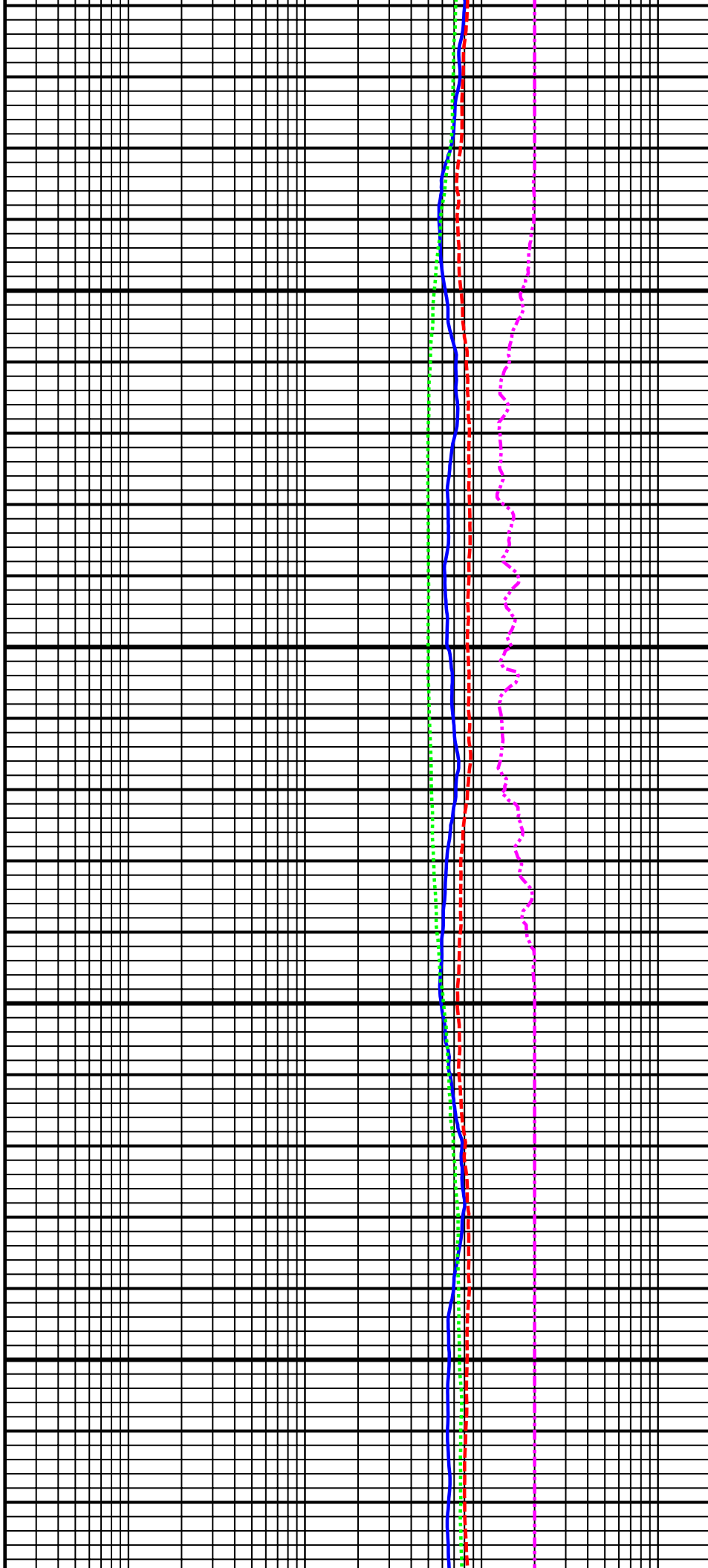
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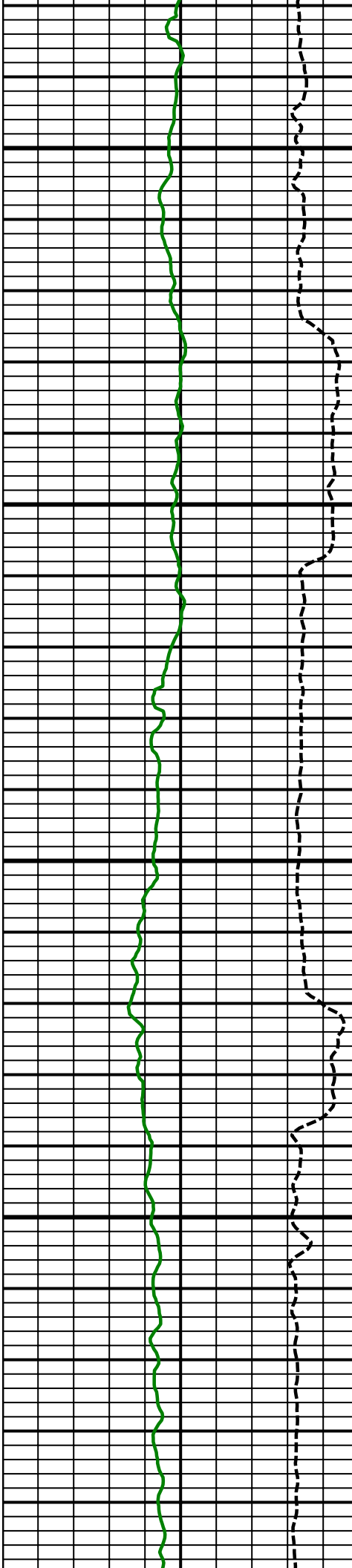




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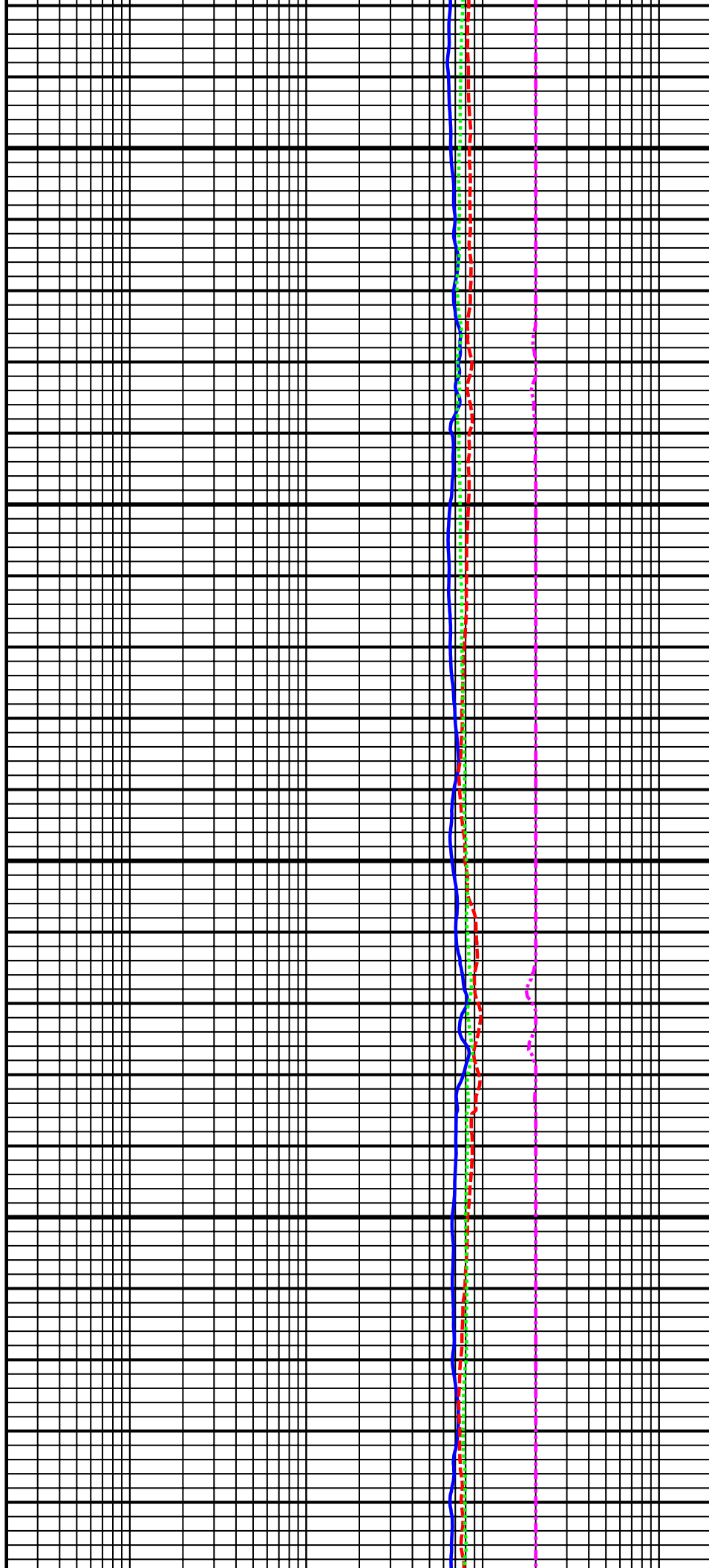


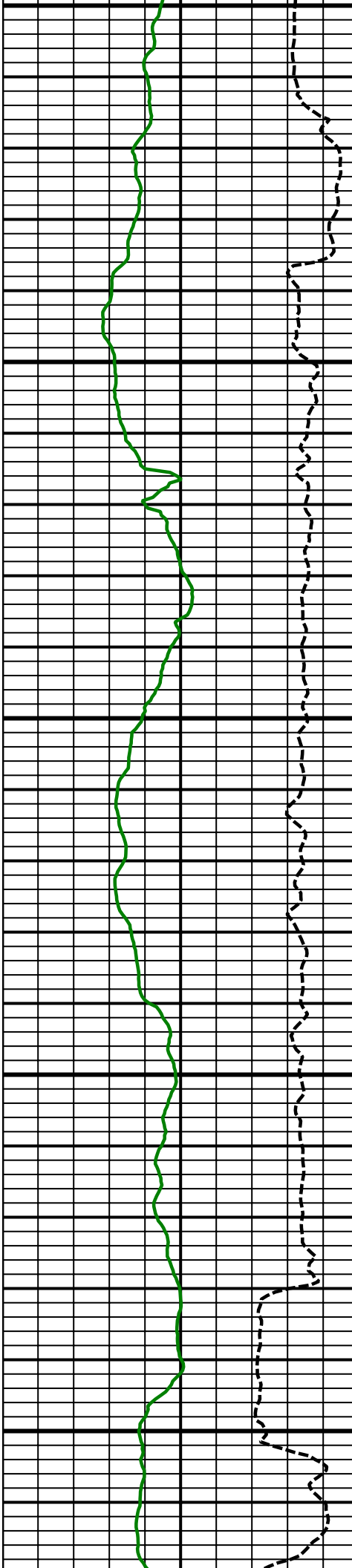


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10900
MD

11000



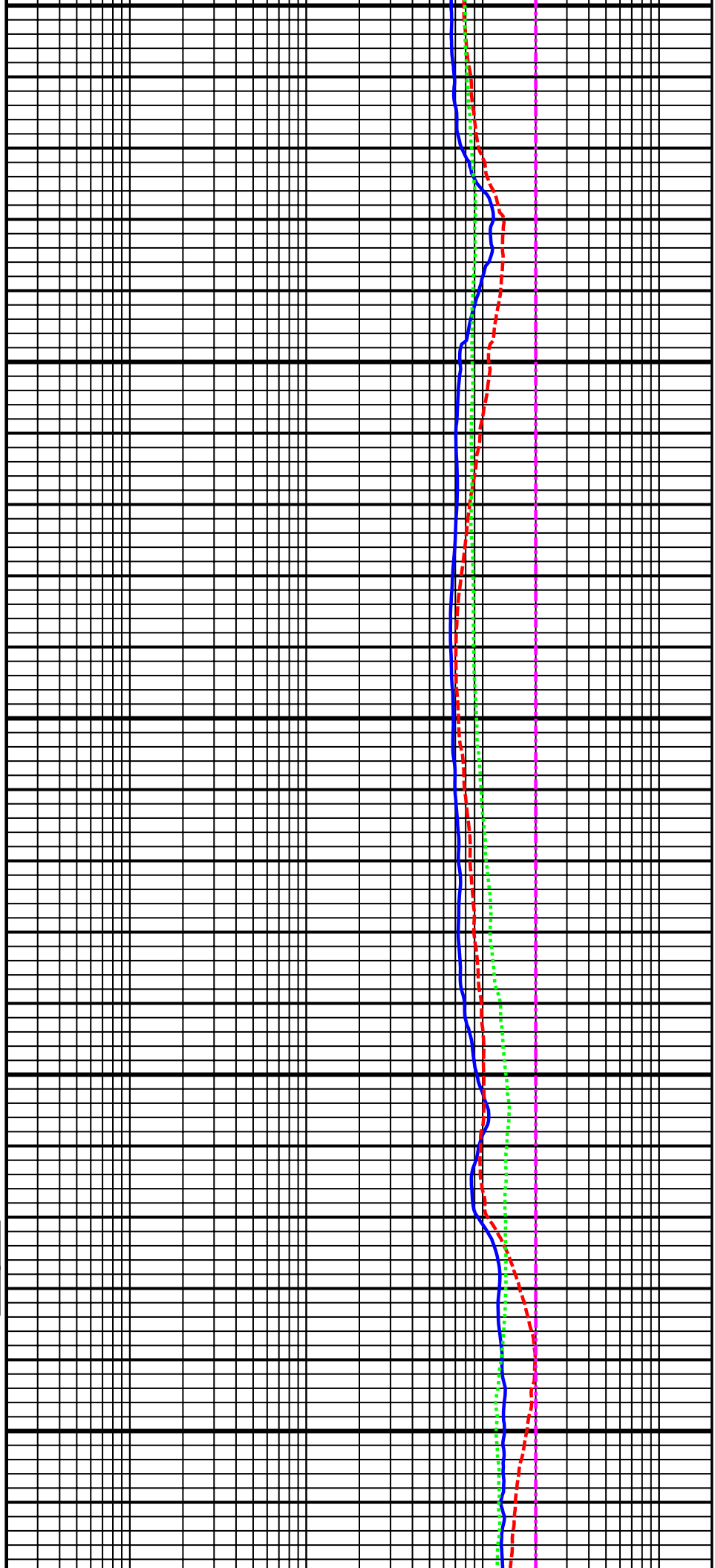


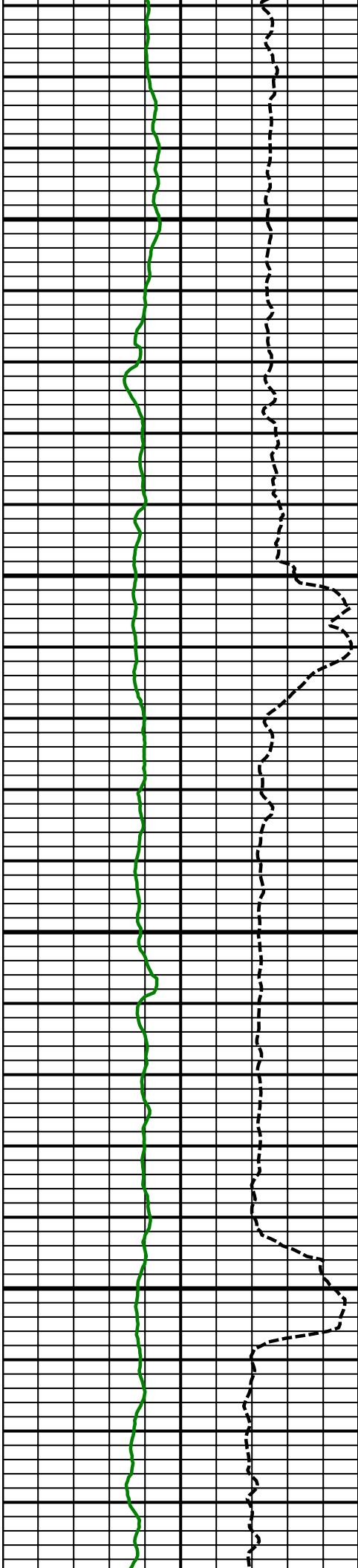
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11100
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Comment 4-2
Comment 5-1

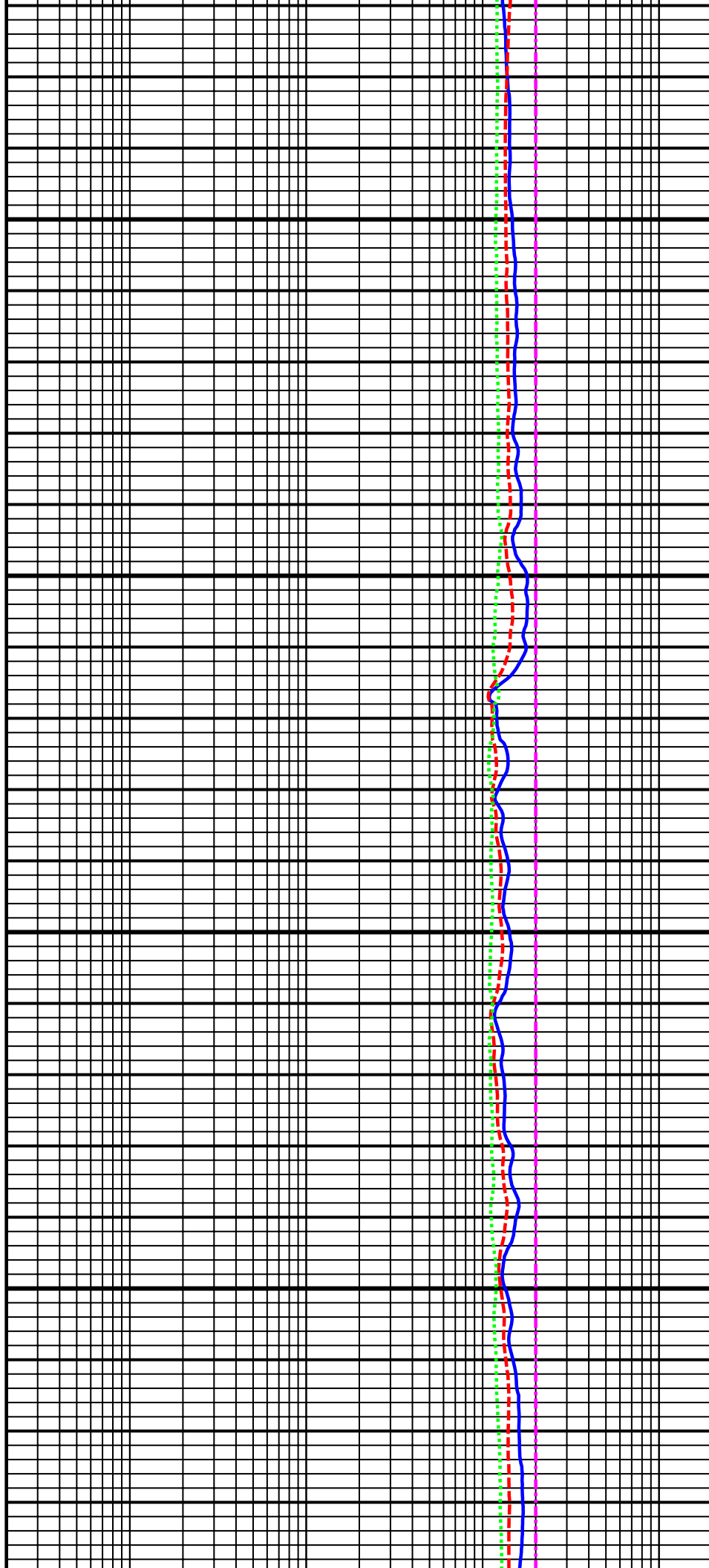
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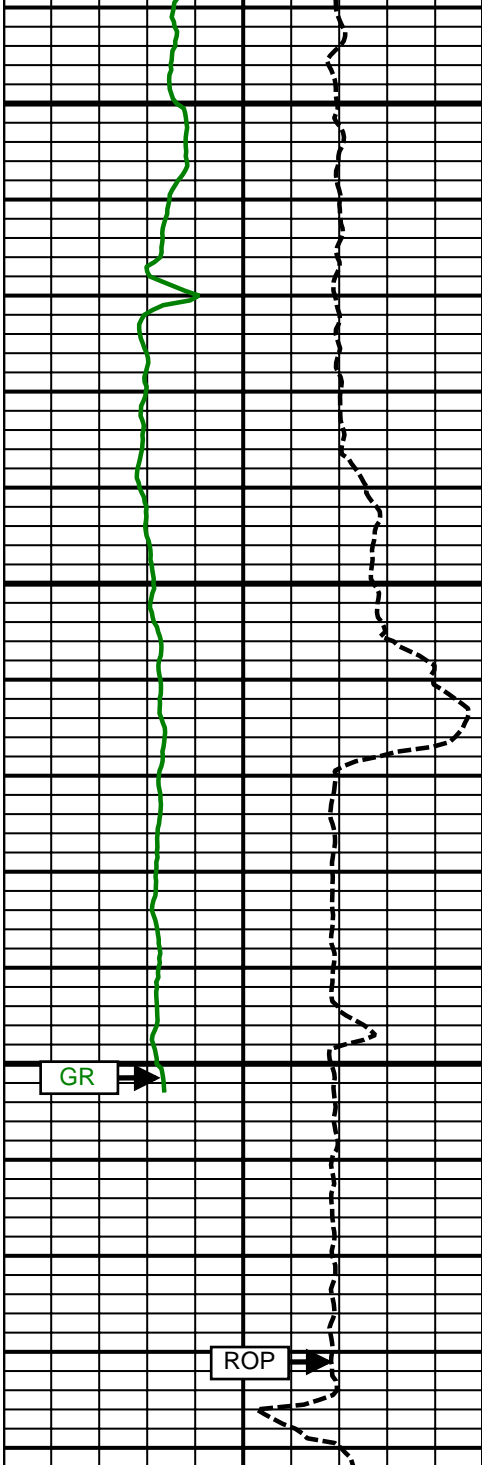




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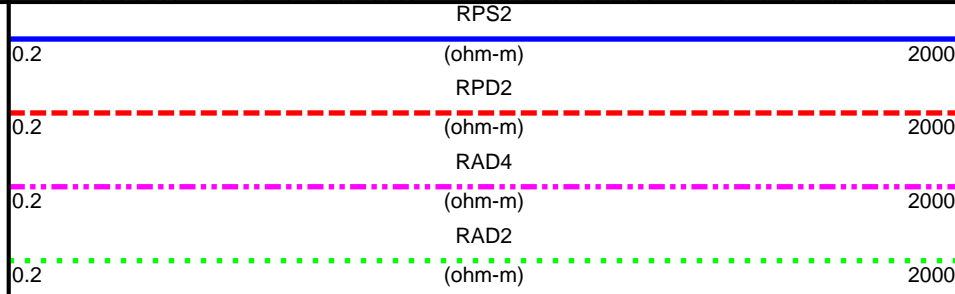
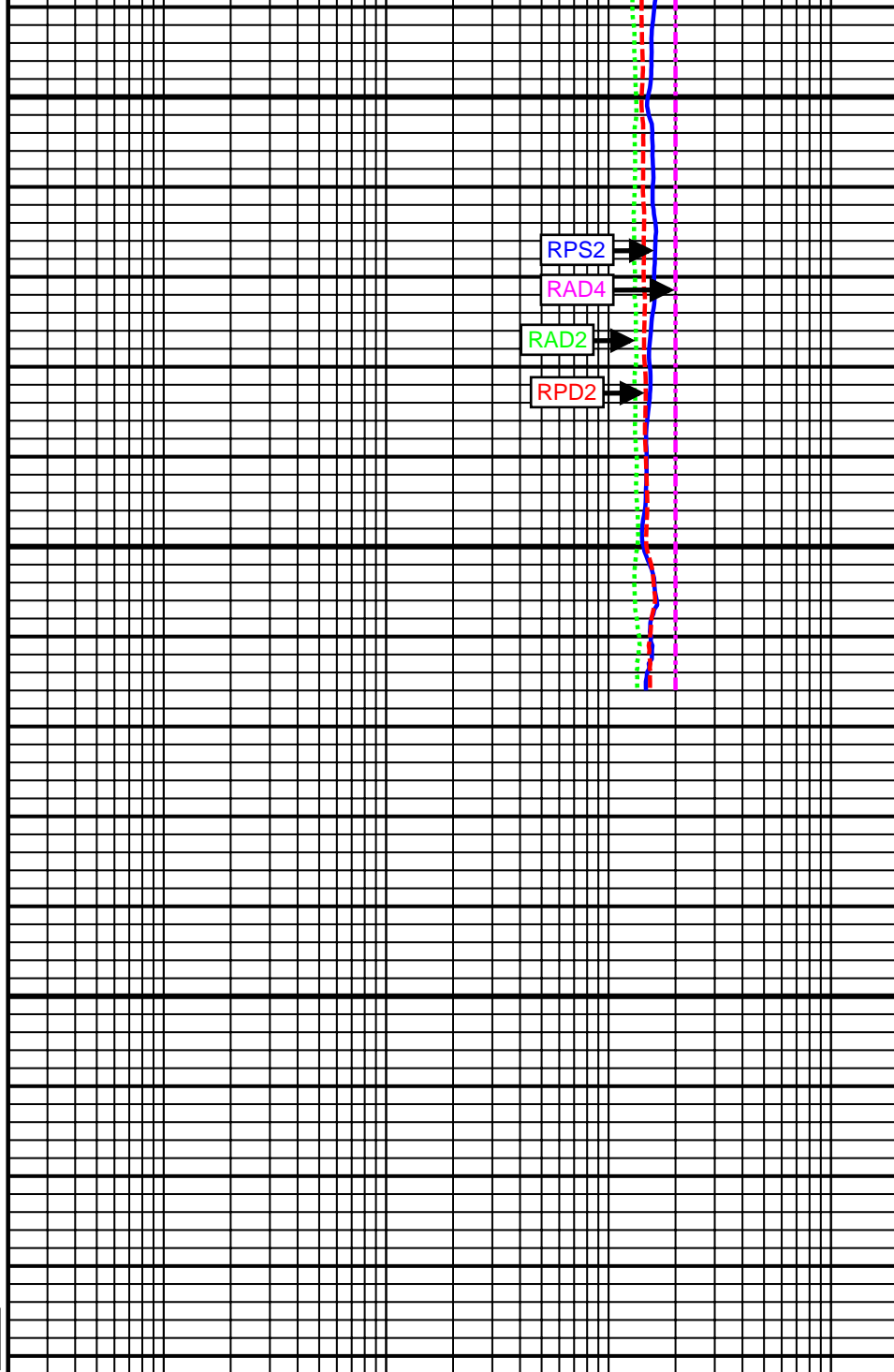
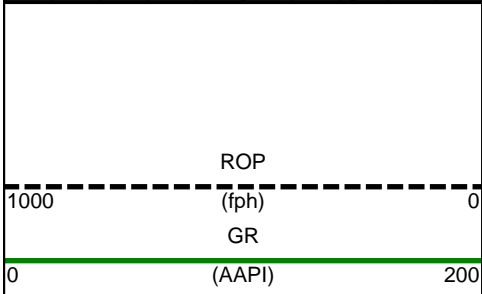
11400
MD





11500
MD

Comment
5-2



SURVEY						
Survey Calculation Method: Minimum Curvature						
Magnetic Reference	Target Direction	Total Magnetic Field	Magnetic Dip Angle	Magnetic Declination	Grid Convergence	Total Correction
True North	12.73 deg	52930 nT	66.93 deg	8.56 deg	0.00 deg	8.56 deg
Survey Tie-On	Depth	INC	AZ	TVD	NS	EW
	911.00 ft	0.76 deg	280.76 deg	910.97 ft	-2.51 ft	-4.51 ft

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		VSect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
1043.00	0.69	331.34	1042.96	-1.65	-5.75	-2.88	0.47
1134.00	1.51	103.61	1133.95	-1.45	-4.85	-2.48	2.24
1228.00	3.88	113.08	1227.84	-2.99	-0.72	-3.07	2.56
1320.00	5.87	105.79	1319.50	-5.49	6.67	-3.88	2.26
1412.00	7.84	116.93	1410.85	-9.61	16.80	-5.67	2.57
1507.00	9.79	113.36	1504.72	-15.75	29.99	-8.75	2.13
1602.00	11.02	110.53	1598.16	-22.14	45.91	-11.48	1.40
1696.00	10.99	110.36	1690.43	-28.40	62.72	-13.89	0.05
1791.00	10.30	107.33	1783.79	-34.09	79.32	-15.77	0.93
1886.00	9.43	104.96	1877.39	-38.62	94.94	-16.75	1.01
1981.00	10.15	107.90	1971.00	-43.21	110.43	-17.81	0.92
2075.00	10.76	111.02	2063.44	-48.90	126.50	-19.82	0.89
2170.00	11.72	107.99	2156.62	-55.06	143.96	-21.99	1.19
2265.00	9.77	107.01	2249.95	-60.40	160.84	-23.47	2.06
2359.00	10.43	108.37	2342.50	-65.41	176.55	-24.90	0.75
2454.00	12.18	114.62	2435.65	-72.30	193.82	-27.81	2.25
2549.00	9.99	113.17	2528.87	-79.72	210.51	-31.37	2.32
2644.00	10.13	119.77	2622.42	-87.11	225.34	-35.31	1.22
2738.00	11.80	120.73	2714.70	-96.12	240.77	-40.71	1.79
2834.00	9.51	118.97	2809.04	-104.98	256.15	-45.96	2.41
2929.00	11.44	118.81	2902.45	-113.32	271.27	-50.76	2.03
3024.00	11.44	116.37	2995.56	-122.05	287.97	-55.59	0.51
3119.00	12.47	118.31	3088.50	-131.10	305.44	-60.57	1.16
3214.00	10.38	117.62	3181.61	-139.93	322.06	-65.52	2.20
3309.00	10.18	121.34	3275.09	-148.27	336.81	-70.40	0.73
3405.00	11.45	122.26	3369.38	-157.76	352.11	-76.30	1.34
3499.00	10.83	120.25	3461.61	-167.19	367.63	-82.07	0.78
3594.00	11.54	116.54	3554.81	-175.94	383.84	-87.03	1.06
3689.00	12.68	115.60	3647.69	-184.69	401.75	-91.62	1.22
3784.00	9.77	112.93	3740.86	-192.33	418.58	-95.37	3.11
3879.00	10.95	116.20	3834.31	-199.46	434.10	-98.90	1.39
3973.00	13.07	113.26	3926.25	-207.60	451.88	-102.92	2.35
4068.00	11.95	114.01	4019.00	-215.84	470.73	-106.81	1.19
4163.00	11.69	114.26	4111.98	-223.80	488.49	-110.66	0.28
4258.00	10.48	112.01	4205.21	-230.99	505.27	-113.97	1.35
4353.00	12.12	102.57	4298.37	-236.40	523.02	-115.34	2.60
4448.00	11.50	100.17	4391.36	-240.24	542.08	-114.89	0.83
4542.00	9.89	96.37	4483.73	-242.79	559.32	-113.58	1.87
4638.00	10.48	101.68	4578.21	-245.48	576.07	-112.50	1.15
4733.00	9.77	98.94	4671.73	-248.48	592.49	-111.81	0.90
4828.00	11.25	106.79	4765.14	-252.41	609.33	-111.93	2.16
4923.00	12.08	117.92	4858.19	-259.74	626.99	-115.20	2.52

5018.00	10.75	112.38	4951.31	-267.77	643.96	-119.29	1.81
5114.00	11.07	112.66	5045.58	-274.73	660.75	-122.38	0.34
5209.00	10.62	118.08	5138.88	-282.36	676.89	-126.27	1.17
5304.00	10.98	120.27	5232.20	-291.04	692.42	-131.31	0.57
5399.00	8.23	116.77	5325.86	-298.67	706.31	-135.69	2.96
5494.00	8.70	115.68	5419.83	-304.85	718.86	-138.95	0.52
5589.00	7.43	124.68	5513.89	-311.45	730.38	-142.85	1.88
5683.00	8.13	121.49	5607.02	-318.38	741.05	-147.26	0.87
5778.00	9.46	115.24	5700.91	-325.22	753.84	-151.11	1.72
5873.00	9.40	108.19	5794.63	-330.97	768.27	-153.54	1.22
5967.00	9.73	101.14	5887.32	-334.91	783.36	-154.05	1.29
6062.00	6.88	94.47	5981.32	-336.90	796.91	-153.01	3.16
6157.00	6.96	94.39	6075.63	-337.78	808.32	-151.36	0.08
6252.00	5.57	93.27	6170.06	-338.49	818.67	-149.77	1.47
6347.00	4.30	95.47	6264.70	-339.09	826.82	-148.56	1.35
6442.00	2.03	89.57	6359.55	-339.42	832.04	-147.73	2.41
6453.00	1.78	84.31	6370.55	-339.40	832.41	-147.63	2.77
6473.00	1.68	88.05	6390.54	-339.36	833.01	-147.46	0.75
6505.00	1.97	42.12	6422.52	-338.93	833.85	-146.86	4.53
6537.00	5.45	13.06	6454.45	-337.04	834.56	-144.86	12.03
6569.00	9.79	2.37	6486.16	-332.84	835.02	-140.66	14.21
6600.00	13.52	358.52	6516.52	-326.59	835.03	-134.55	12.28
6632.00	16.12	357.90	6547.45	-318.41	834.77	-126.63	8.14
6663.00	19.57	2.93	6576.96	-308.92	834.88	-117.35	12.18
6695.00	23.35	6.40	6606.74	-297.26	835.86	-105.76	12.46
6727.00	24.01	7.31	6636.04	-284.50	837.40	-92.98	2.36
6758.00	23.07	6.03	6664.46	-272.20	838.84	-80.67	3.45
6790.00	25.50	4.49	6693.63	-259.10	840.04	-67.62	7.85
6822.00	29.03	2.65	6722.07	-244.47	840.94	-53.15	11.34
6854.00	33.42	3.45	6749.43	-227.91	841.82	-36.81	13.78
6886.00	36.65	3.86	6775.62	-209.58	843.00	-18.67	10.12
6917.00	40.69	3.91	6799.82	-190.26	844.31	0.47	13.03
6950.00	44.02	2.98	6824.21	-168.07	845.64	22.41	10.27
6982.00	48.10	0.73	6846.41	-145.05	846.37	45.02	13.72
7013.00	51.69	359.64	6866.37	-121.34	846.44	68.16	11.89
7045.00	55.16	359.24	6885.44	-95.65	846.19	93.17	10.89
7076.00	58.67	359.24	6902.36	-69.68	845.84	118.42	11.32
7107.00	61.66	359.39	6917.78	-42.79	845.52	144.58	9.65
7139.00	64.65	359.84	6932.23	-14.24	845.33	172.38	9.43
7170.00	67.41	0.17	6944.82	14.08	845.34	200.01	8.96
7202.00	70.15	0.37	6956.40	43.91	845.48	229.13	8.58
7233.00	72.54	0.56	6966.32	73.27	845.72	257.83	7.73
7265.00	73.27	0.22	6975.73	103.86	845.92	287.71	2.50
7297.00	75.37	359.56	6984.37	134.67	845.86	317.75	6.86
7328.00	78.61	358.88	6991.35	164.86	845.45	347.11	10.67
7360.00	81.72	359.12	6996.82	196.38	844.90	377.74	9.75
7391.00	84.12	359.23	7000.64	227.14	844.46	407.64	7.75
7428.00	88.11	358.47	7003.14	264.04	843.72	443.47	10.98
7544.00	89.51	357.06	7005.55	379.92	839.19	555.51	1.71
7638.00	89.65	357.63	7006.24	473.82	834.84	646.14	0.62
7733.00	90.26	358.16	7006.32	568.75	831.35	737.97	0.85
7828.00	90.35	358.86	7005.81	663.72	828.88	830.06	0.74
7923.00	91.50	0.27	7004.28	758.70	828.16	922.54	1.92
8018.00	90.00	359.99	7003.03	853.69	828.37	1015.24	1.61
8113.00	88.77	358.51	7004.05	948.67	827.13	1107.62	2.03
8208.00	89.03	358.69	7005.88	1043.63	824.81	1199.73	0.33
8303.00	88.94	358.33	7007.56	1138.58	822.34	1291.80	0.39
8398.00	89.29	359.04	7009.03	1233.54	820.16	1383.95	0.83
8493.00	89.75	359.66	7009.82	1328.53	819.08	1476.37	0.81
8589.00	89.74	0.63	7010.25	1424.53	819.33	1570.06	1.01
8683.00	89.57	0.97	7010.82	1518.52	820.64	1662.03	0.40

8778.00	89.56	2.04	7011.54	1613.48	823.13	1755.20	1.13
8873.00	89.74	3.09	7012.12	1708.38	827.39	1848.71	1.12
8967.00	90.25	2.58	7012.13	1802.27	832.03	1941.31	0.77
9063.00	88.03	0.25	7013.57	1898.22	834.41	2035.42	3.35
9158.00	87.78	0.04	7017.04	1993.15	834.65	2128.08	0.34
9252.00	87.72	358.49	7020.73	2087.07	833.44	2219.42	1.65
9347.00	88.77	0.35	7023.64	2182.01	832.48	2311.82	2.25
9442.00	91.23	1.68	7023.64	2276.99	834.16	2404.83	2.94
9537.00	90.44	4.15	7022.26	2371.85	838.99	2498.42	2.73
9631.00	89.51	5.96	7022.30	2465.48	847.28	2591.58	2.16
9726.00	89.38	7.39	7023.22	2559.83	858.32	2686.04	1.51
9821.00	89.63	7.06	7024.04	2654.07	870.26	2780.60	0.44
9917.00	89.81	6.93	7024.51	2749.35	881.96	2876.12	0.23
10012.00	90.00	5.98	7024.66	2843.75	892.64	2970.55	1.02
10107.00	89.38	8.05	7025.18	2938.03	904.24	3065.07	2.27
10202.00	88.70	7.47	7026.77	3032.15	917.06	3159.70	0.94
10297.00	88.52	9.76	7029.07	3126.04	931.29	3254.42	2.42
10392.00	87.66	9.11	7032.24	3219.70	946.85	3349.21	1.13
10486.00	88.77	8.31	7035.17	3312.57	961.08	3442.93	1.46
10581.00	89.01	8.00	7037.01	3406.59	974.55	3537.61	0.41
10676.00	90.80	7.03	7037.17	3500.77	986.98	3632.21	2.14
10770.00	90.00	6.31	7036.51	3594.13	997.89	3725.68	1.14
10866.00	91.11	3.15	7035.58	3689.79	1005.81	3820.73	3.49
10960.00	89.63	0.48	7034.97	3783.73	1008.79	3913.01	3.25
11055.00	92.53	1.16	7033.18	3878.69	1010.14	4005.94	3.14
11149.00	92.83	1.39	7028.79	3972.56	1012.23	4097.97	0.40
11244.00	92.10	0.93	7024.70	4067.45	1014.15	4190.95	0.91
11339.00	89.47	359.39	7023.40	4162.43	1014.42	4283.65	3.21
11434.00	91.42	359.58	7022.66	4257.42	1013.57	4376.12	2.06
11528.00	90.12	359.59	7021.40	4351.41	1012.89	4467.65	1.38
11537.00	90.49	359.70	7021.35	4360.41	1012.83	4476.41	4.29
11591.00	90.49	359.70	7020.89	4414.41	1012.55	4529.02	0.00

Weatherford M/LWD Surveys from 1043.00 ft MD to 11537.00 ft MD.

TD 11591.00 ft MD.

The total correction is 8.56 deg relative to True North.



Weatherford®

Field Print

COMPANY	<u>Anadarko</u>		
WELL	<u>Haymaker 29N-9HZ</u>		
FIELD	<u>Wattenberg</u>		
RIG	<u>H & P 307</u>		
LOC.	<u>Colorado</u>	COUNTY	<u>Weld</u>