



GAMMA RAY

5" = 100' FEET TVD

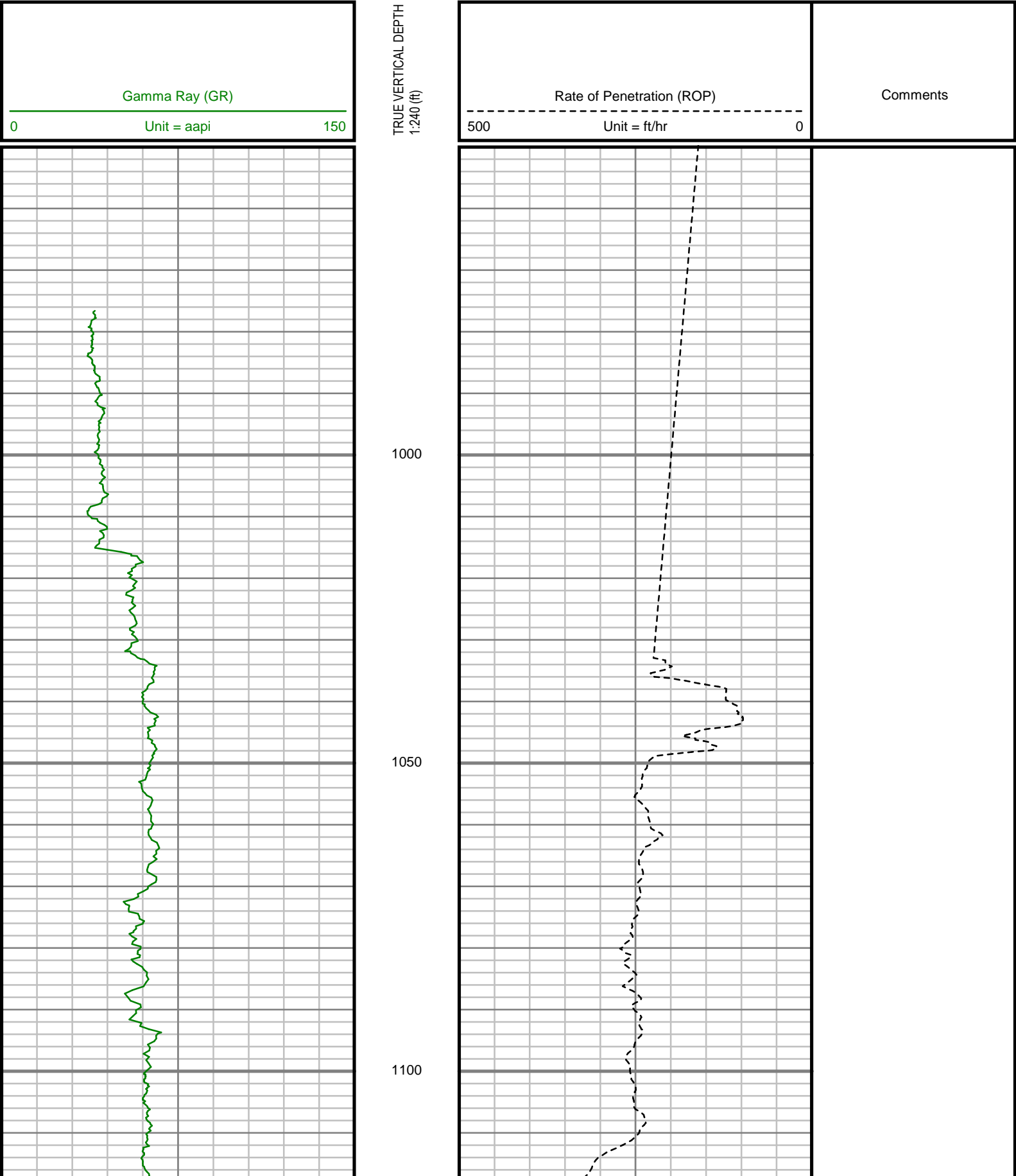
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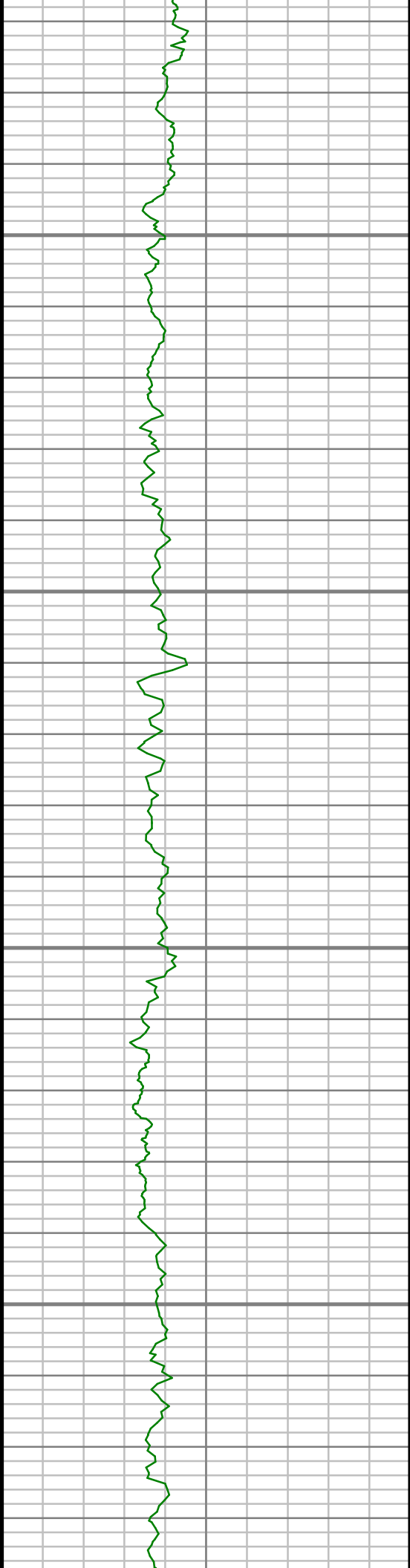
Remarks
ENCANA OIL & GAS (USA) INC PRODUCTION AFE# 13179014
SCIENTIFIC DRILLING INTERNATIONAL JOB# 232058
ALL REFERENCES IN THE DEPTH TRACK ARE AT BIT DEPTH.
ALL DATA IS MEMORY DATA UNLESS STATED OTHERWISE.
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO GAMMA RAY CURVE
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO RATE OF PENETRATION CURVE
RUN #1: MWD / DIRECTIONAL RUN
SENSORS S/N: PULSER = 128-374 / CONT = 218 / MWD EYE = 1065
BIT TO SENSOR OFFSET: SURVEY = 62.22 FT.
RUN #2: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 128-616 / CONT = 629 / MWD EYE = 0082 / GAMMA RAY = 1168
BIT TO SENSOR OFFSETS: SURVEY = 61.68 FT. / GAMMA RAY = 57.05 FT.
RUN #3: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 78-118 / CONT = 218 / MWD EYE = 1065 / GAMMA RAY = 1194
BIT TO SENSOR OFFSETS: SURVEY = 61.33 FT. / GAMMA RAY = 56.70 FT.
RUN #4: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 78-197 / CONT = 629 / MWD EYE = 0082 / GAMMA RAY = 1168
BIT TO SENSOR OFFSETS: SURVEY = 62.27 FT. / GAMMA RAY = 57.64 FT.

[illegible]

All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions as set out in our current price schedule.

ENCANA OIL AND GAS (USA) INC
NEWNAM 2F-32H-C264
WATTENBERG FIELD
WELD COUNTY, COLORADO
05-123-39778





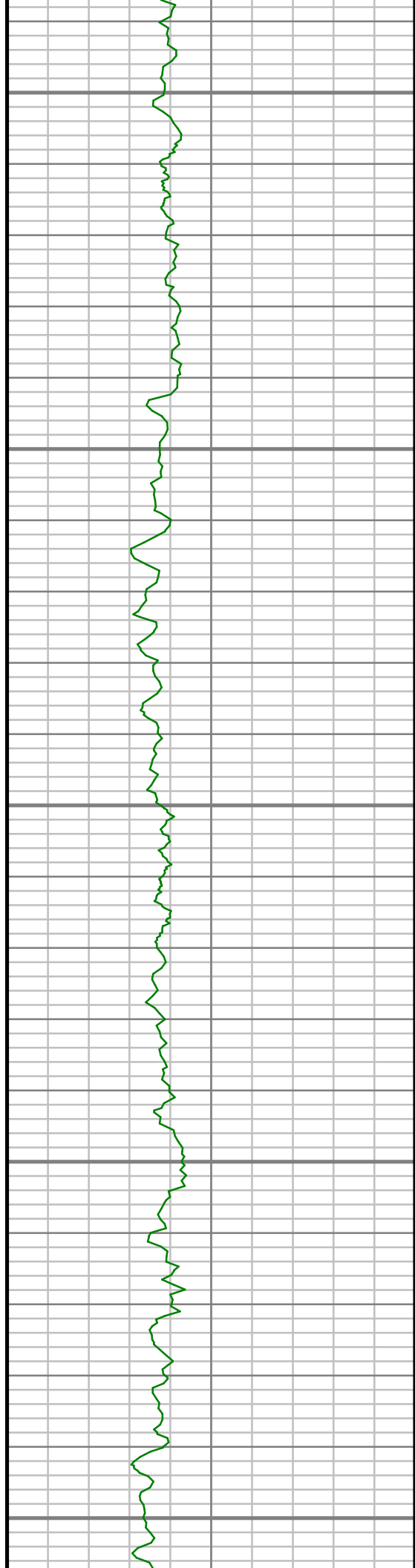
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1200

1250

1300





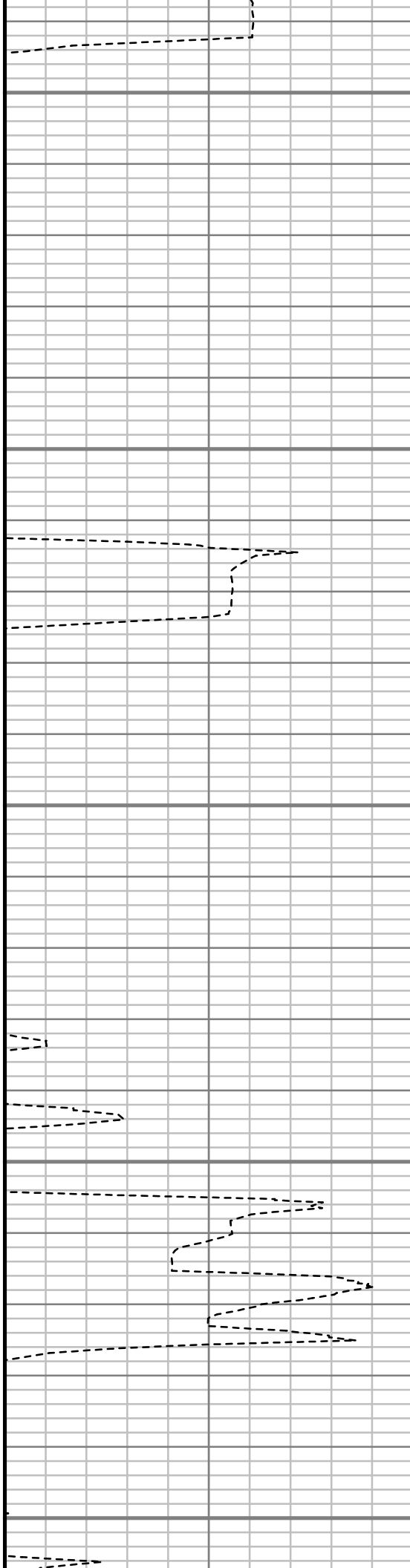
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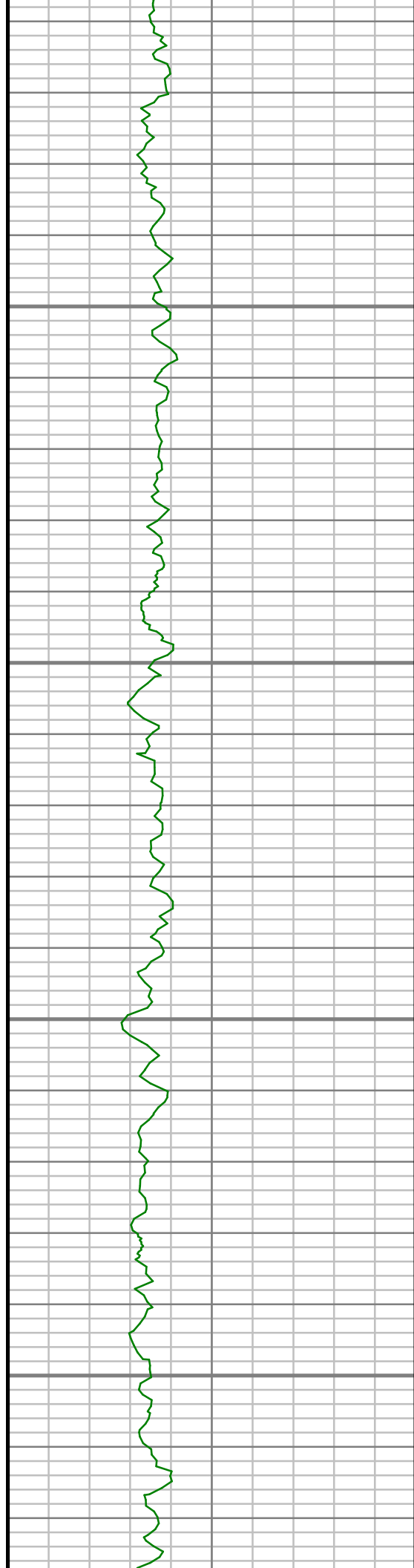
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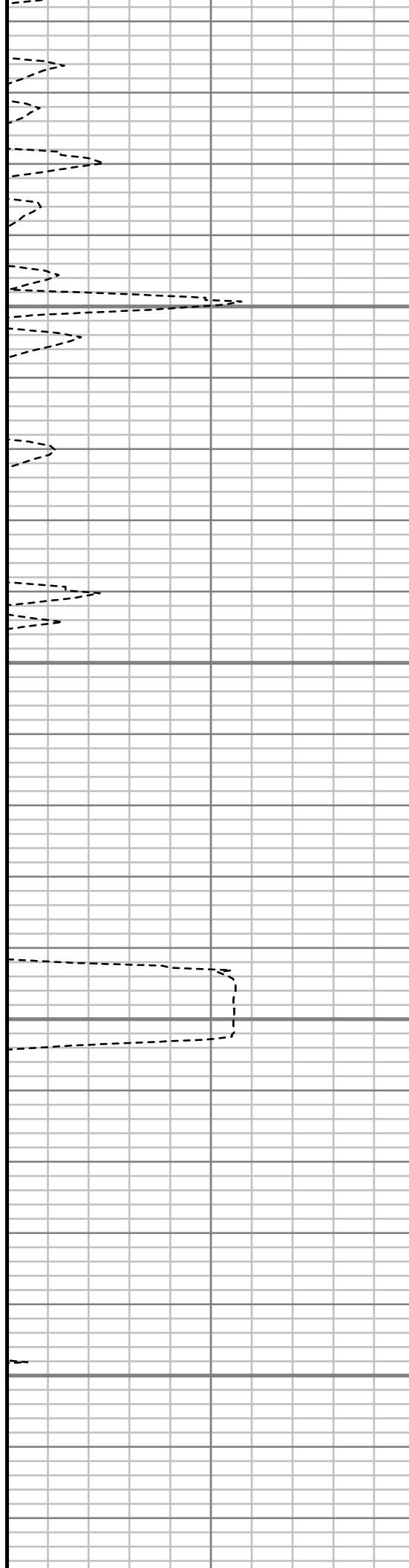


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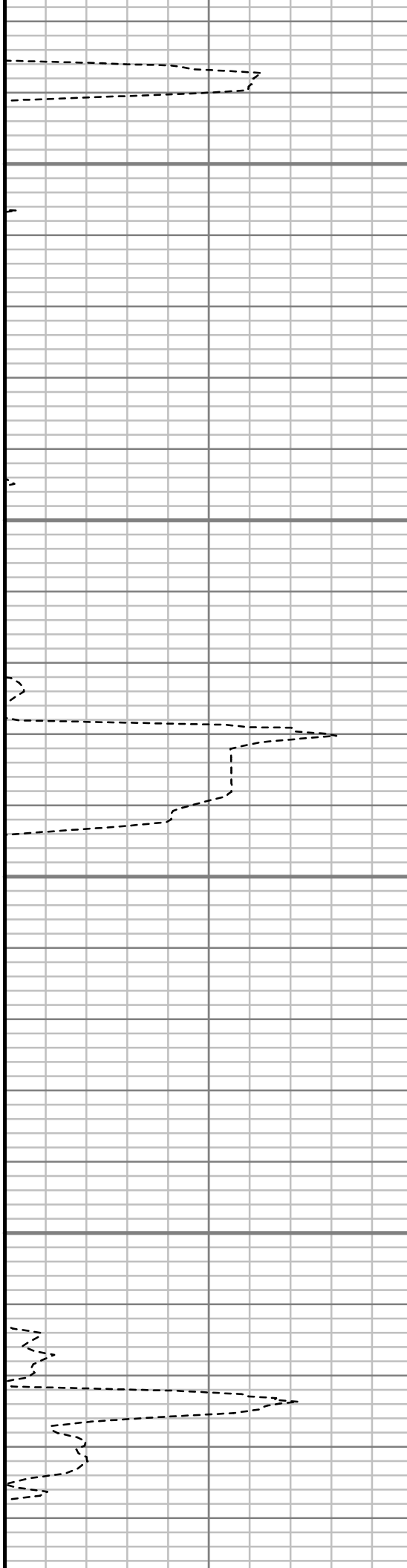


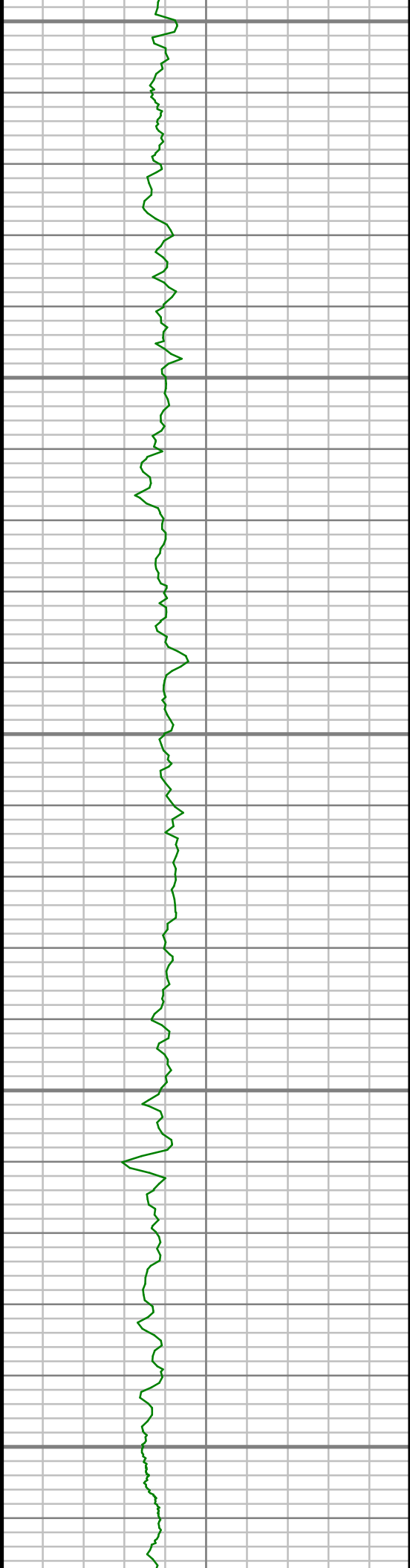
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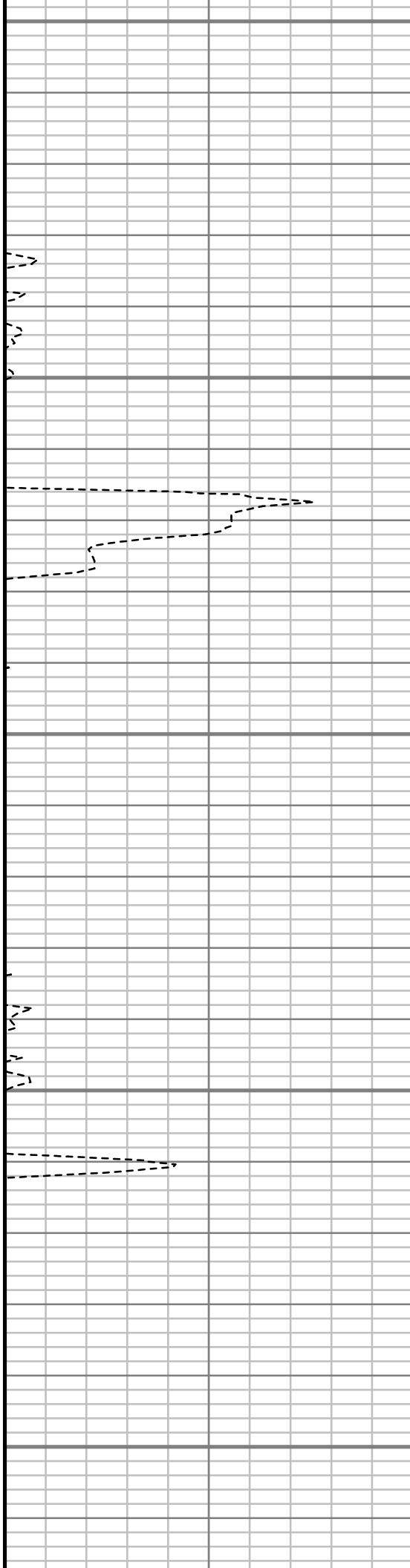
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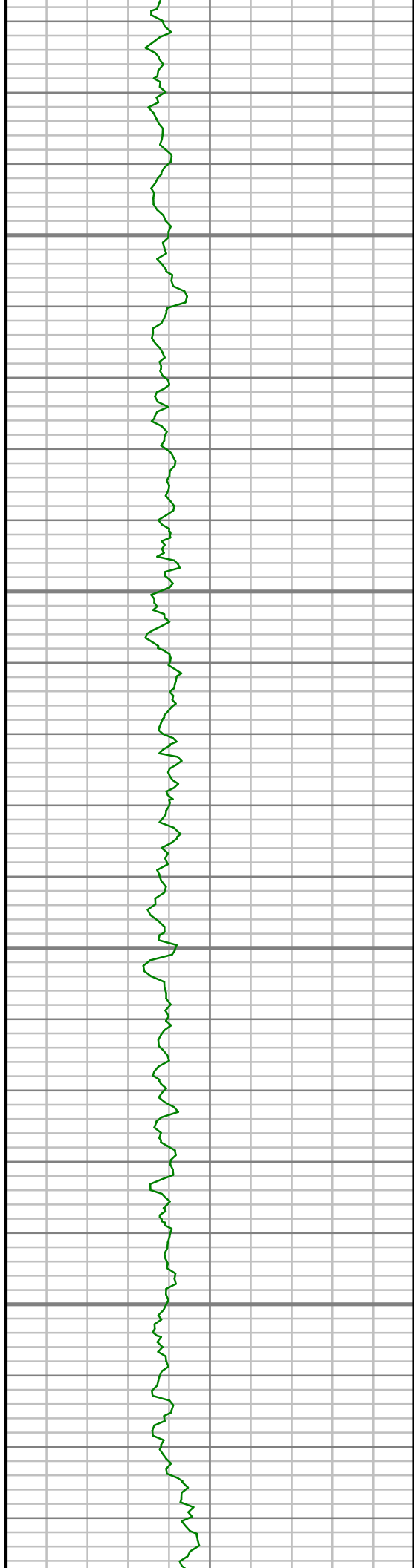
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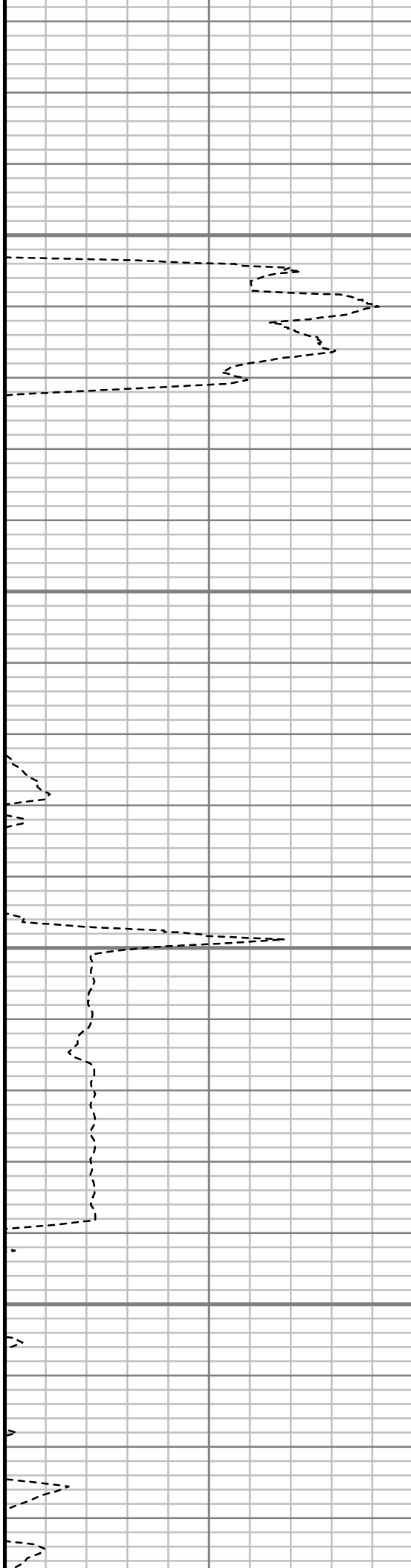
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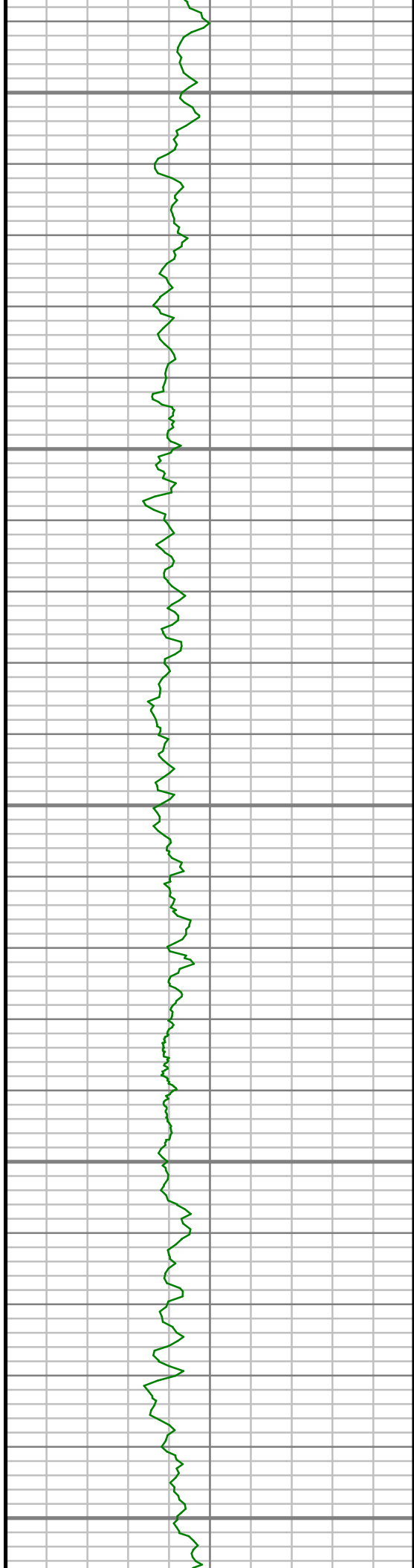
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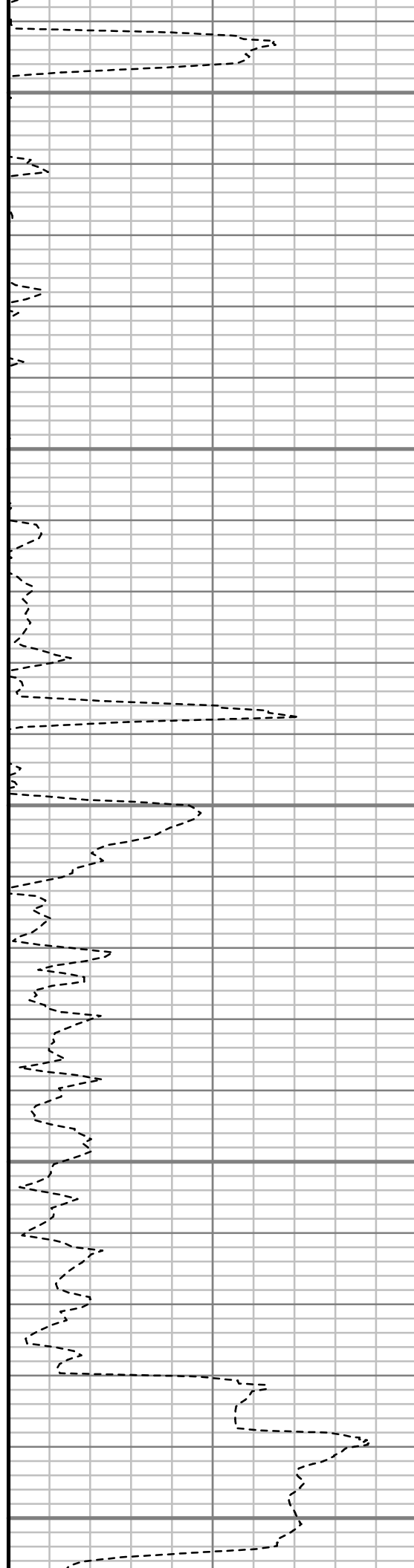
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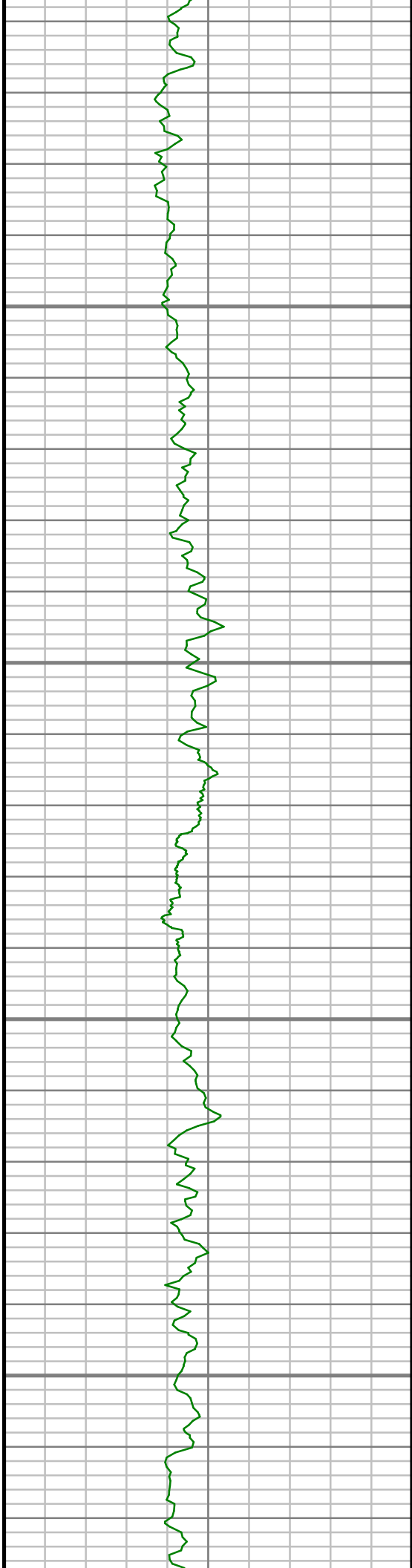
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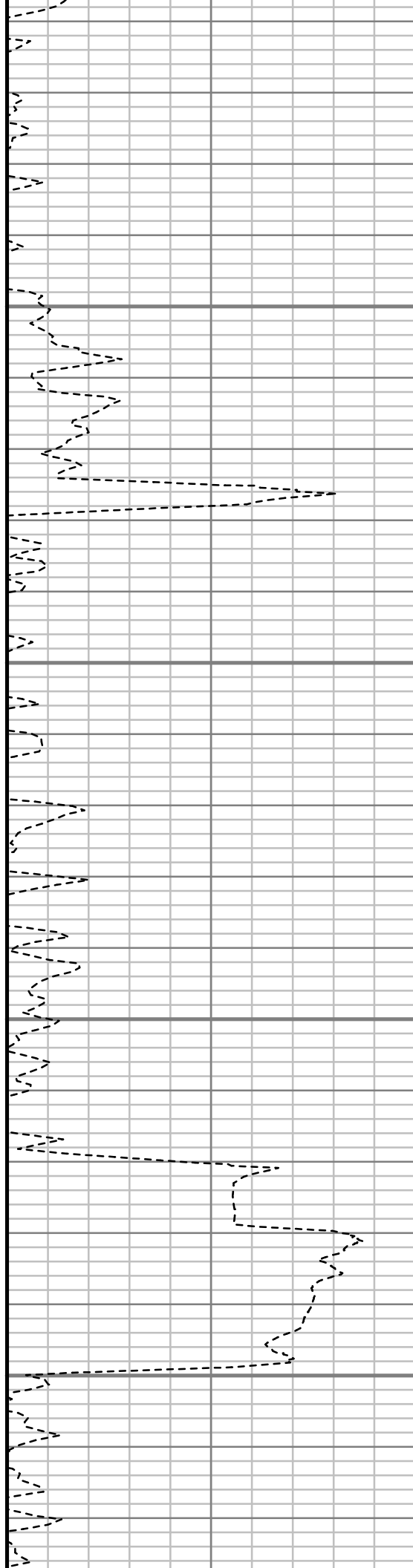


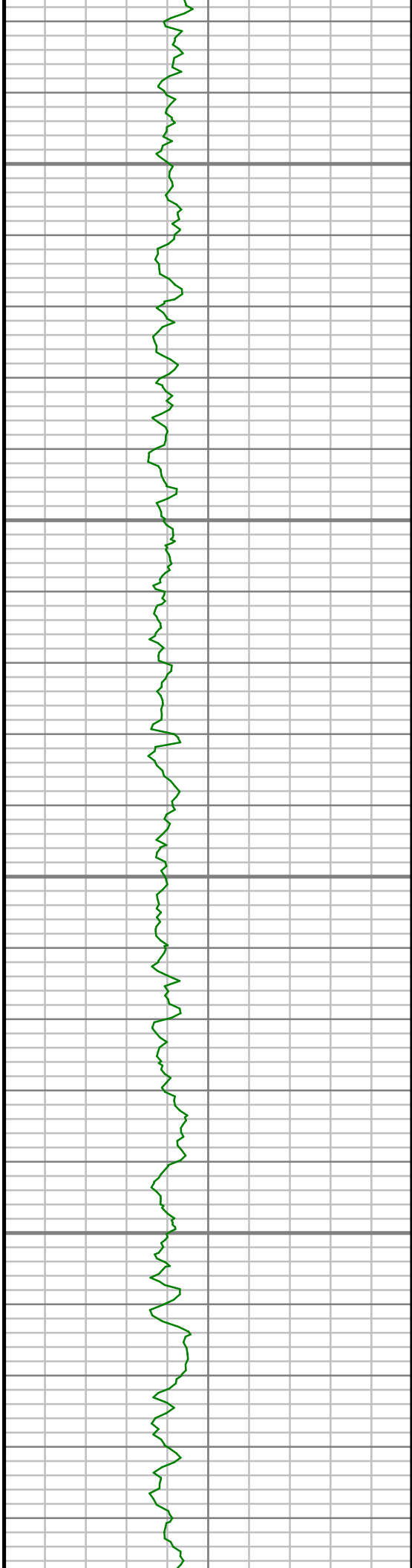
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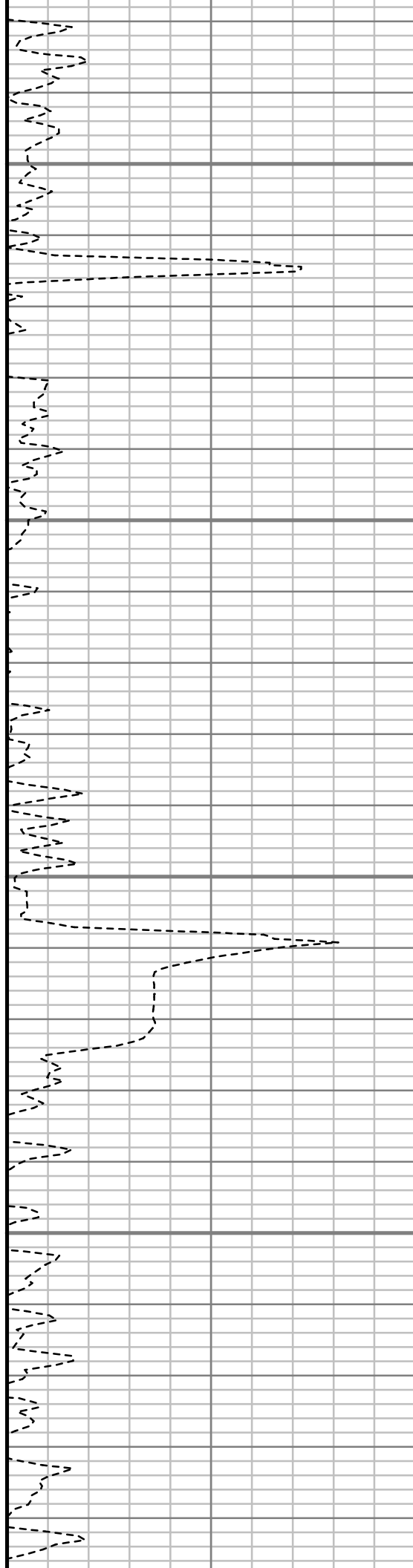


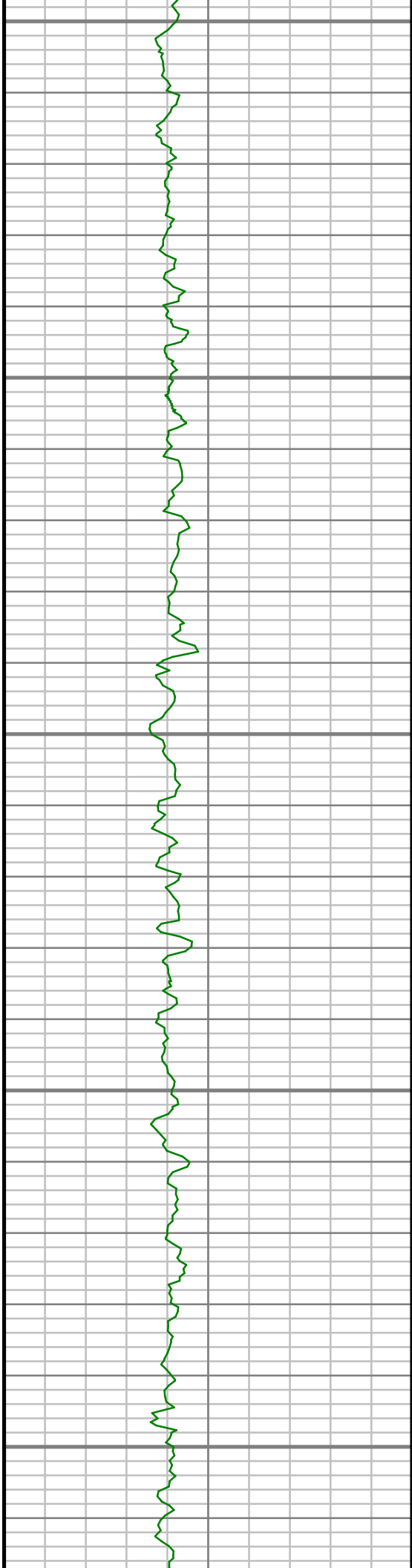
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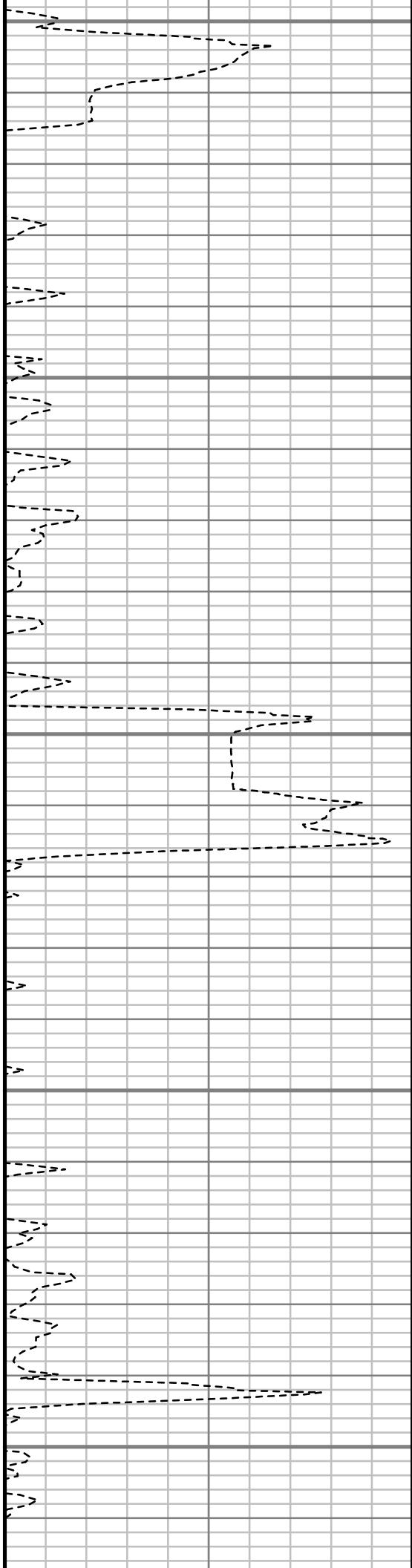
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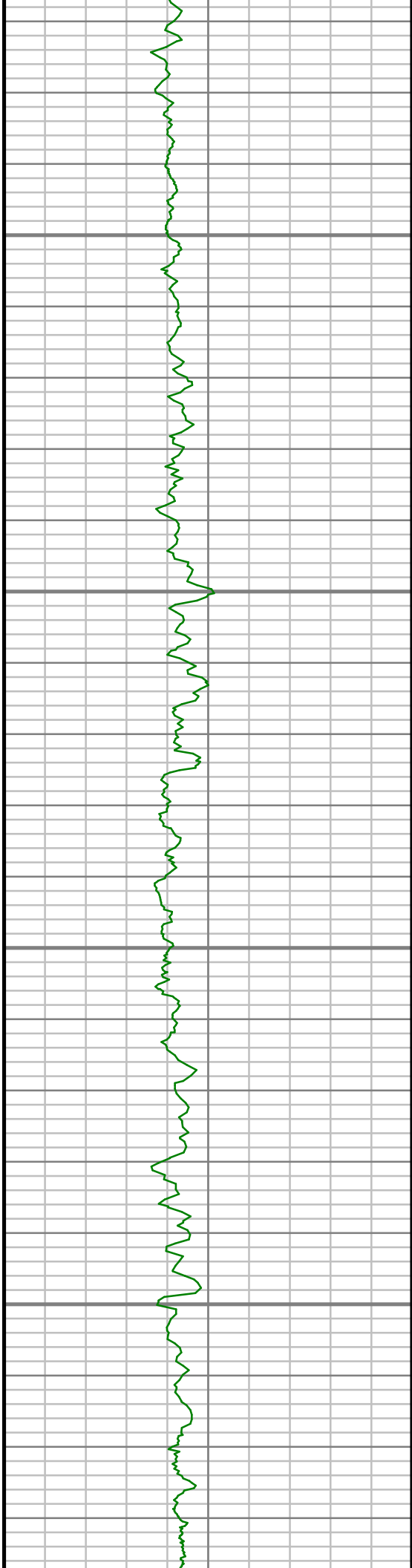


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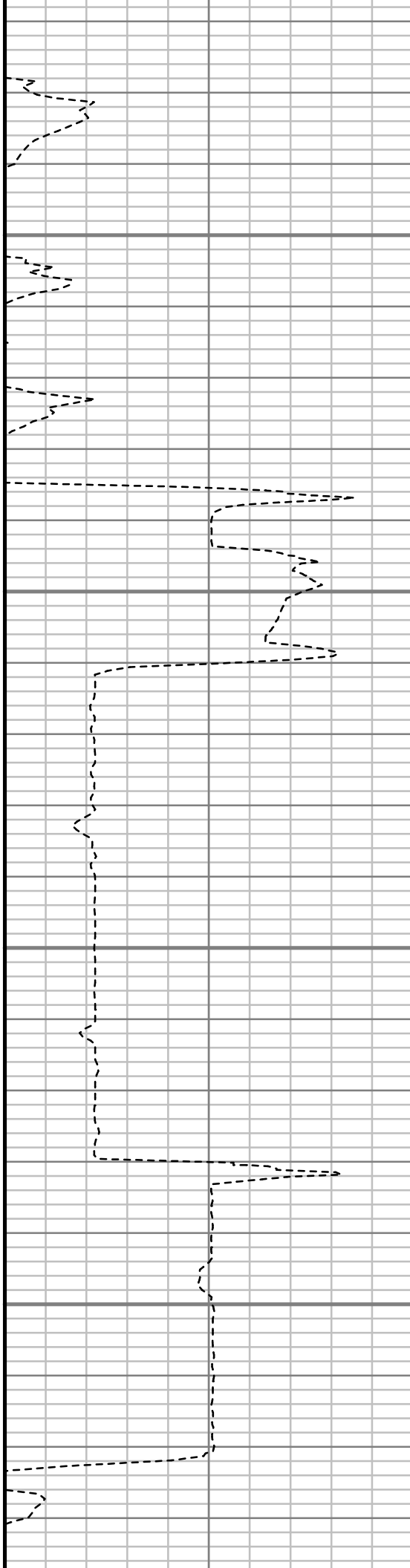


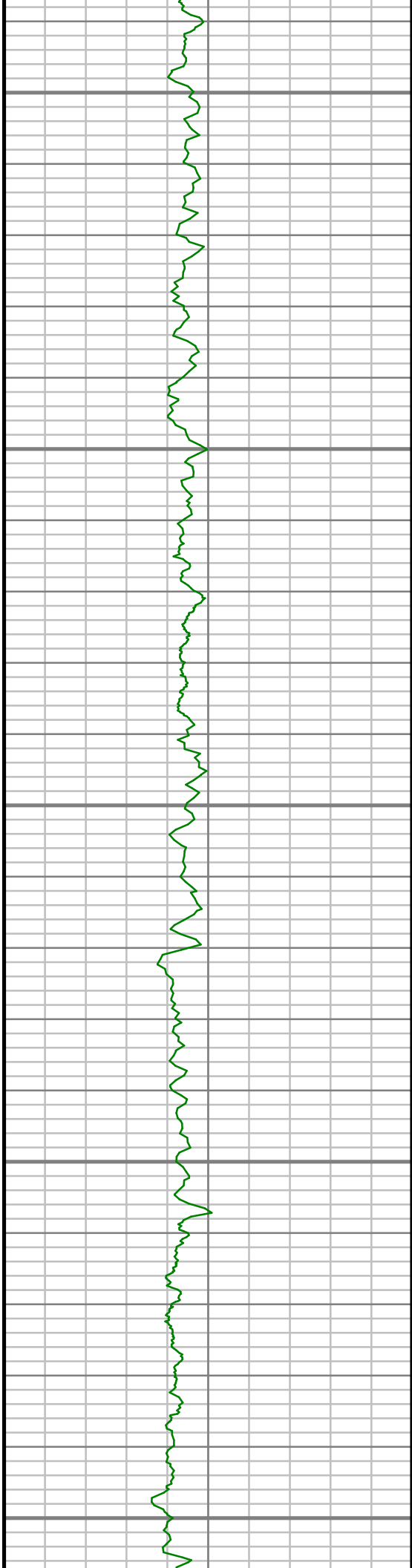
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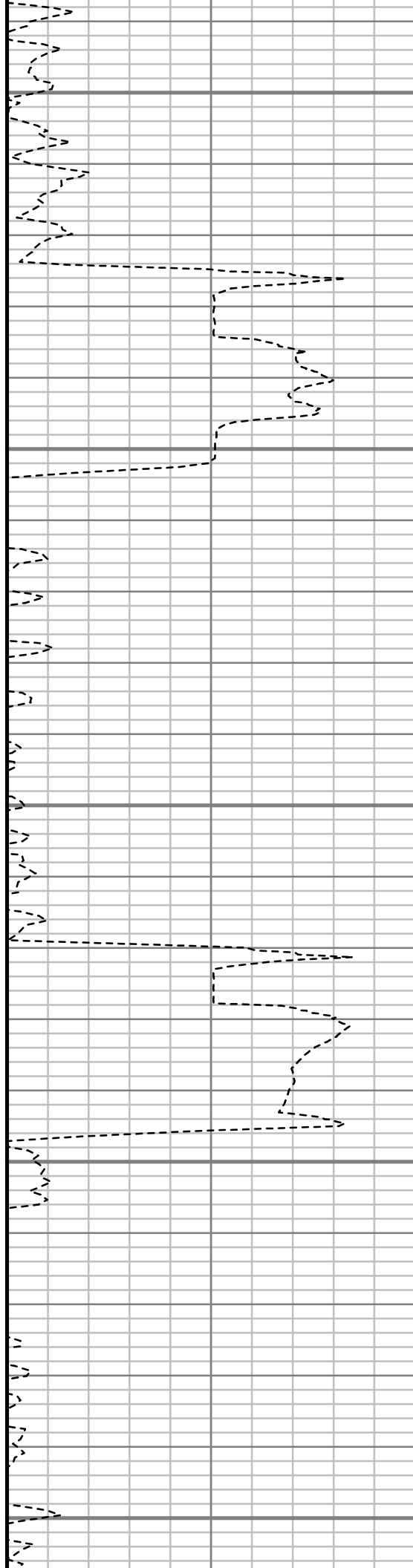
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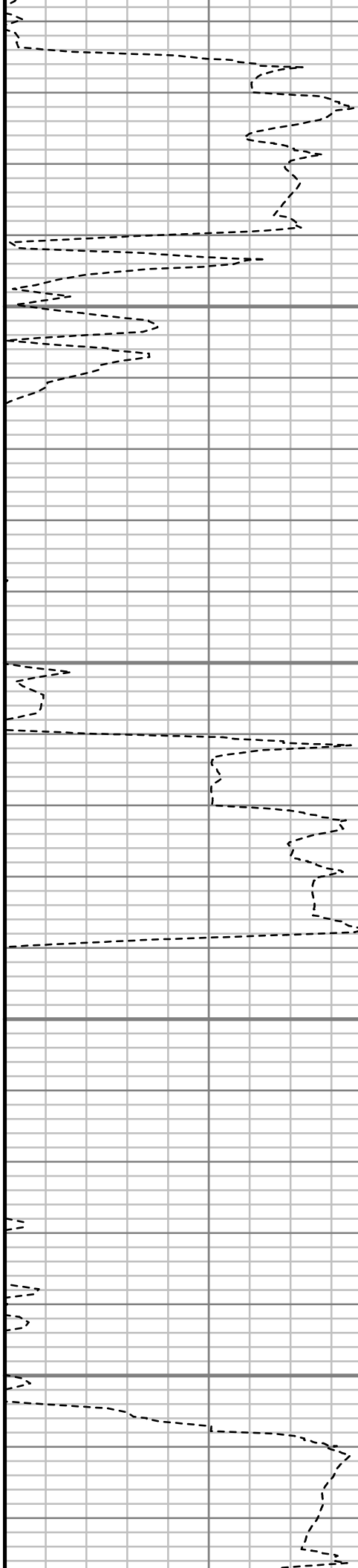


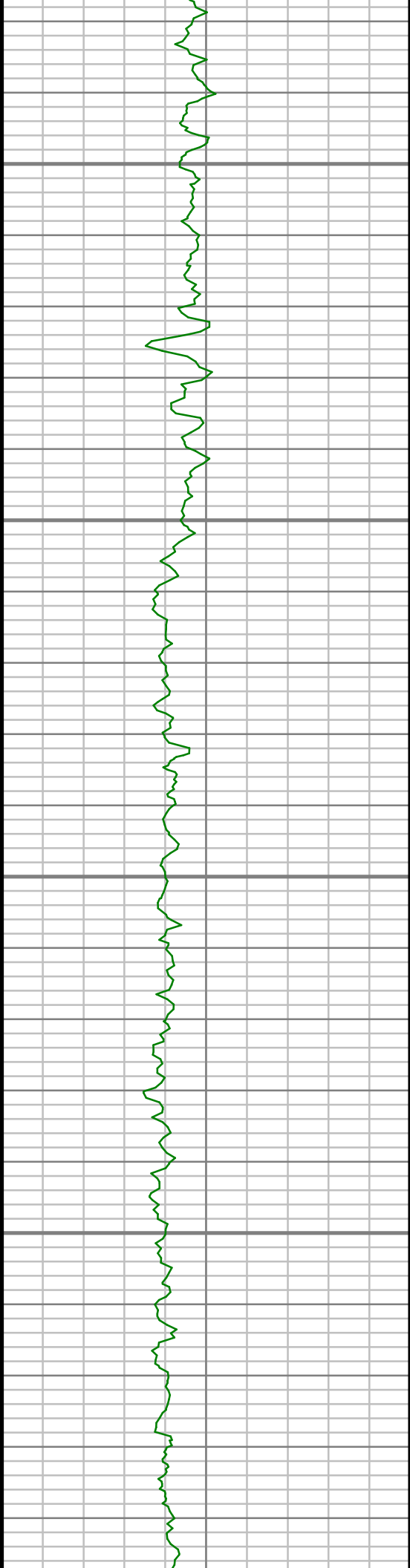
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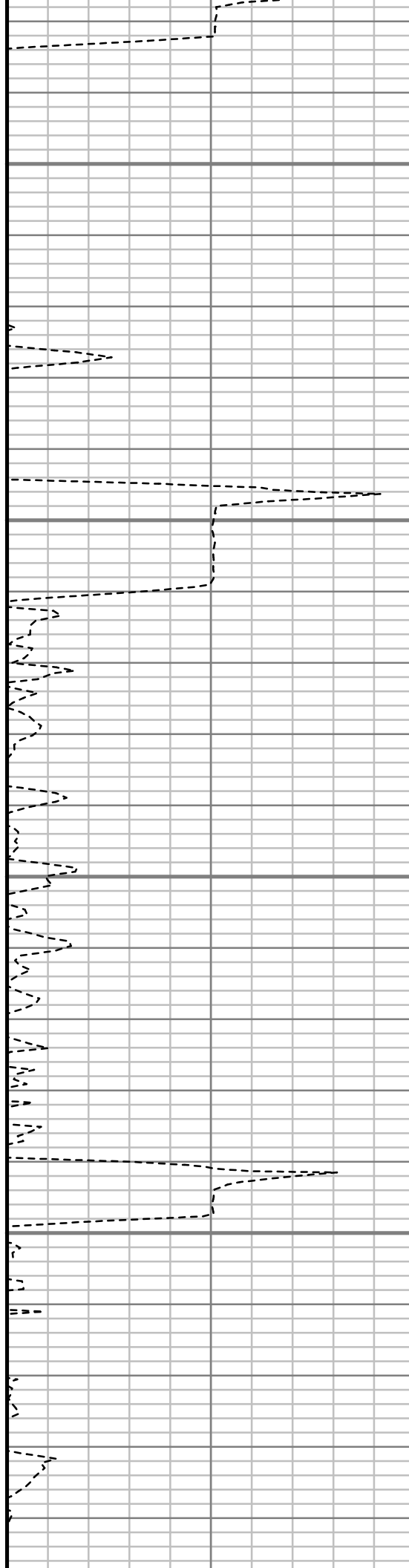


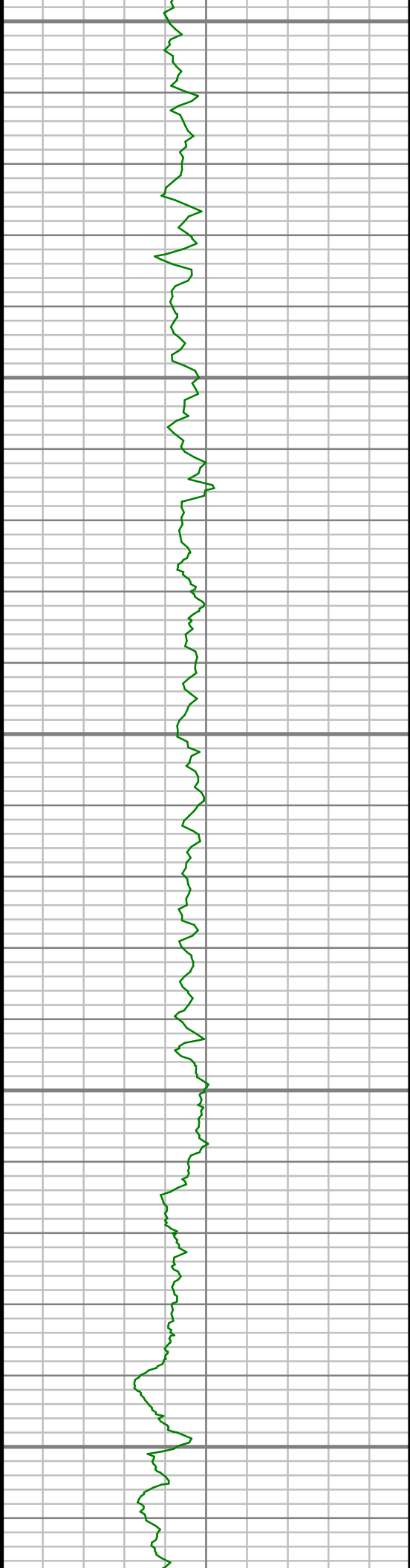
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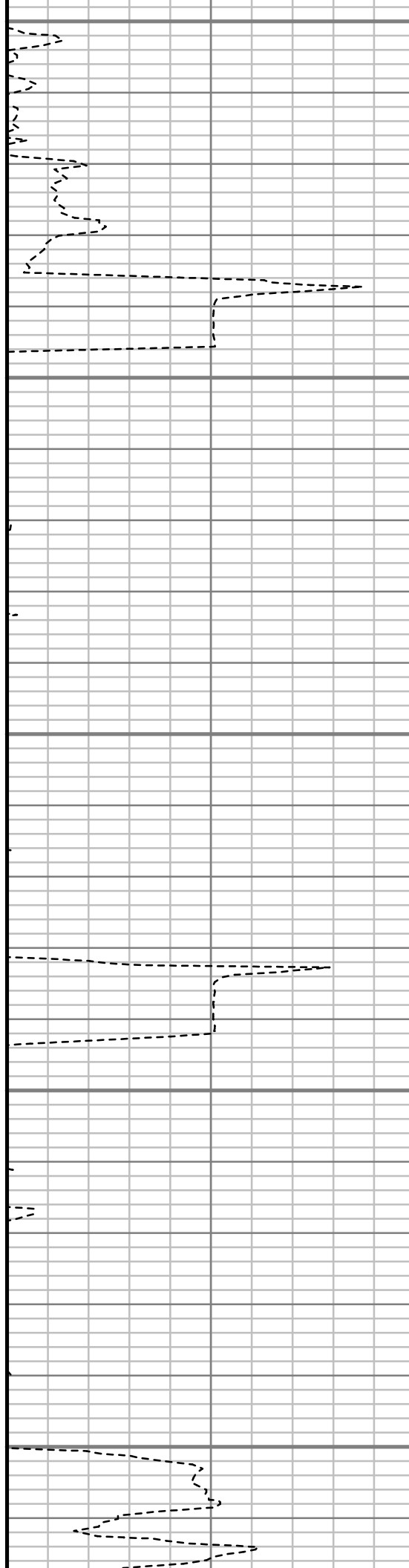
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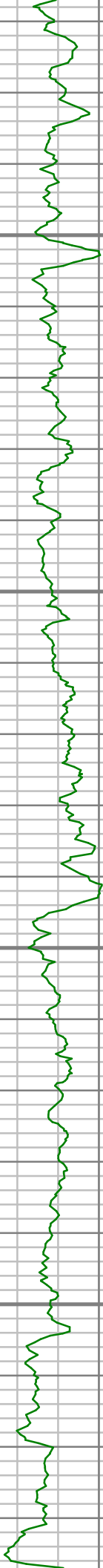
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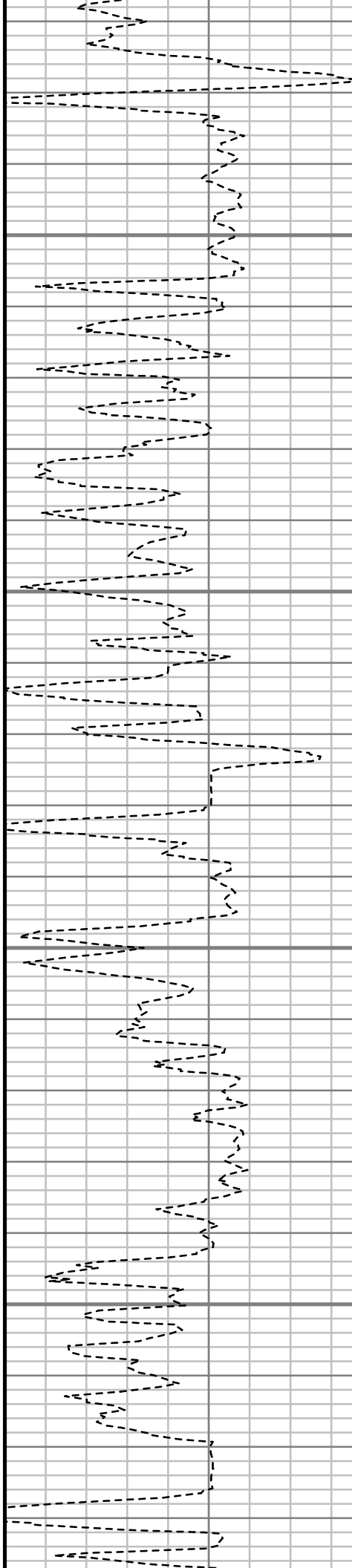


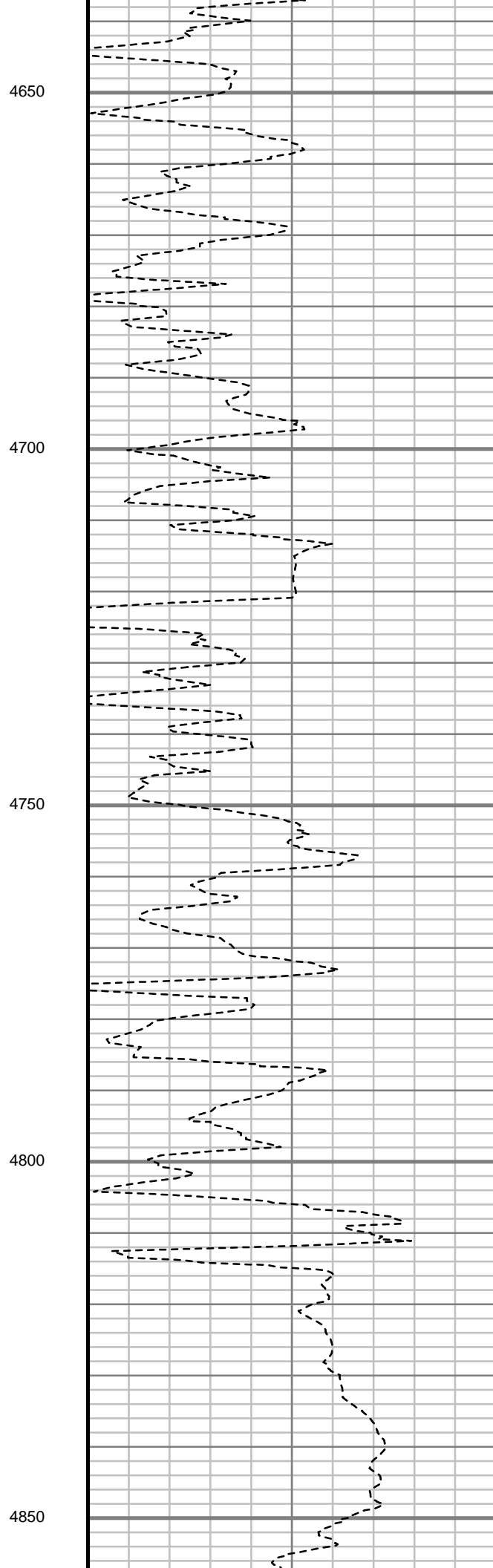
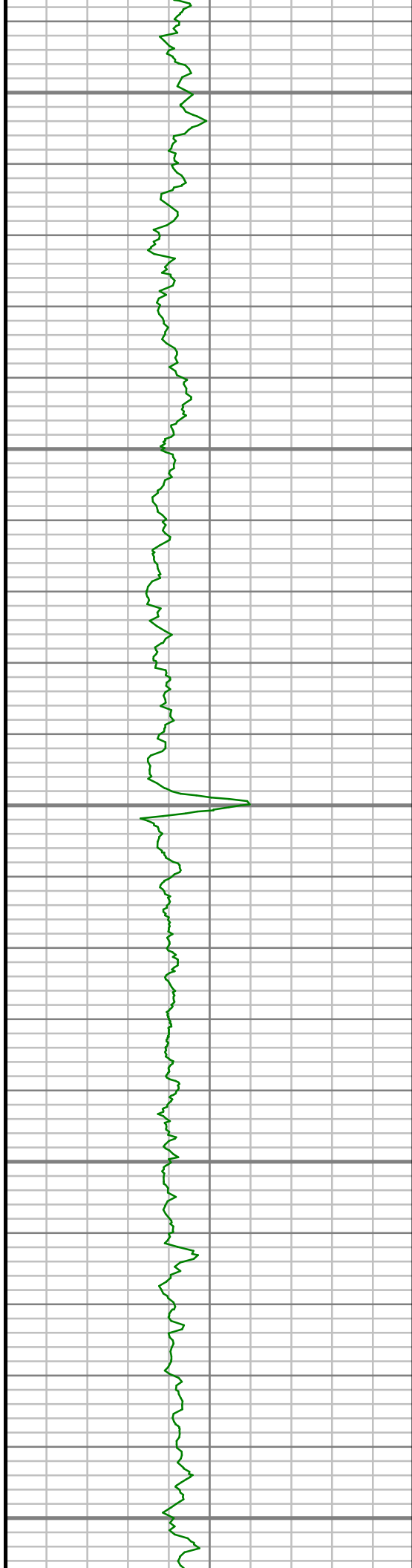
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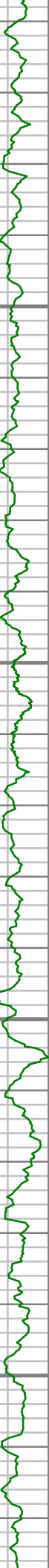
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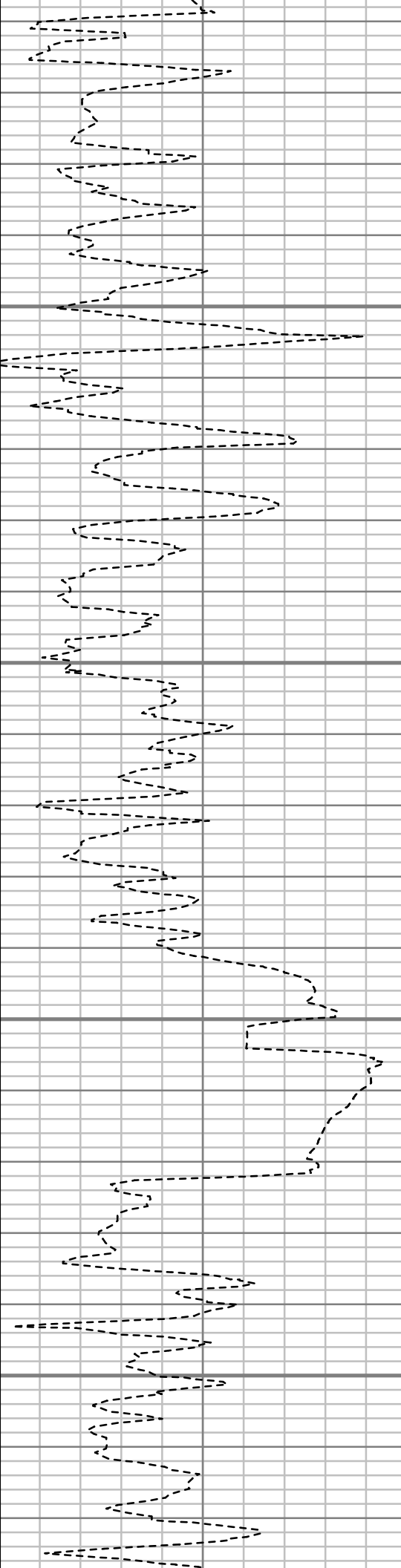


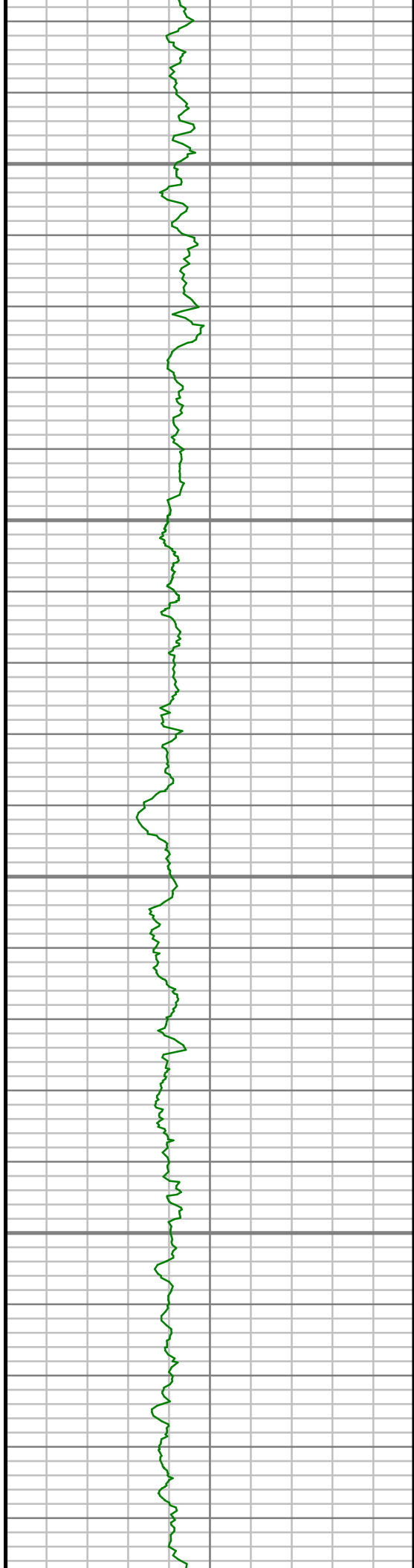
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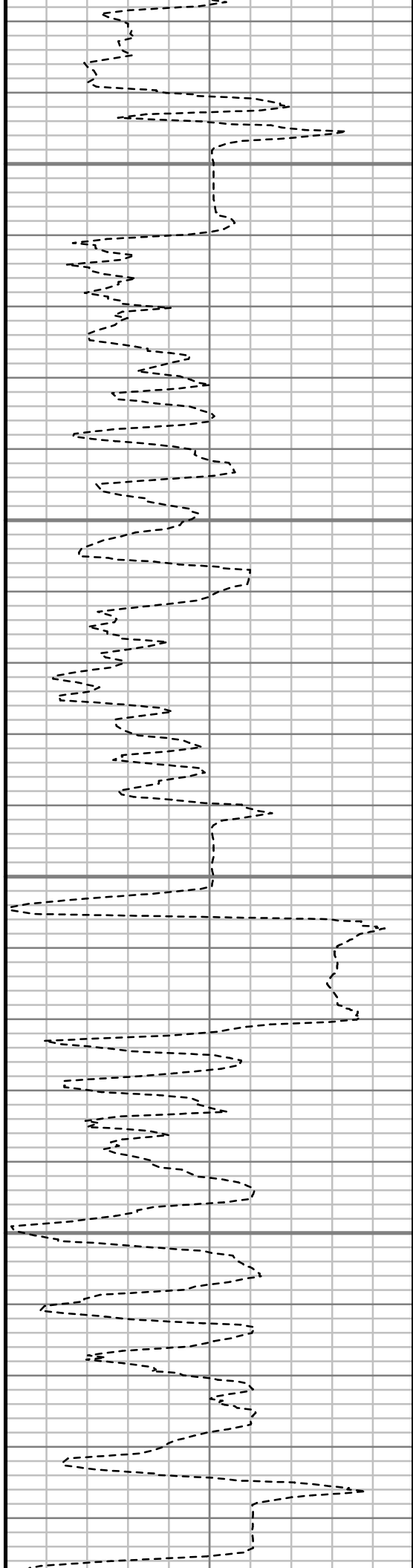


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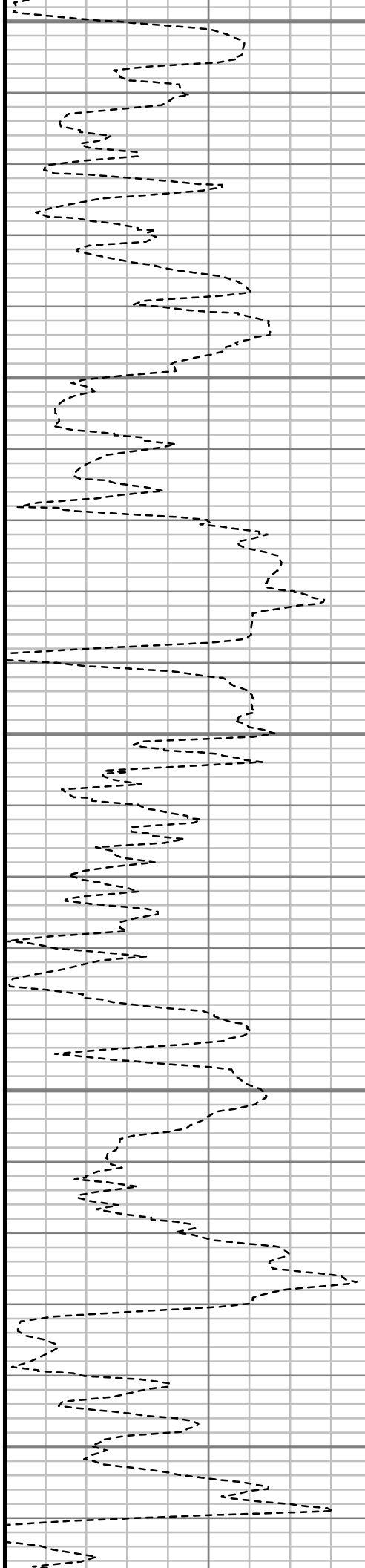
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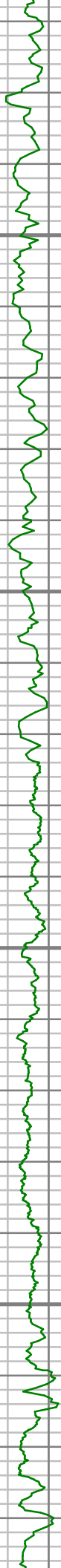
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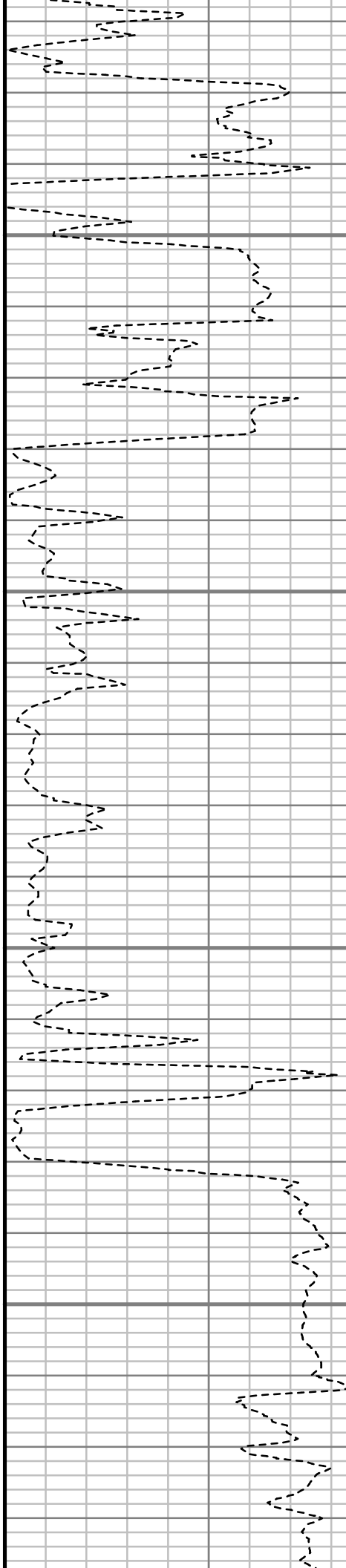


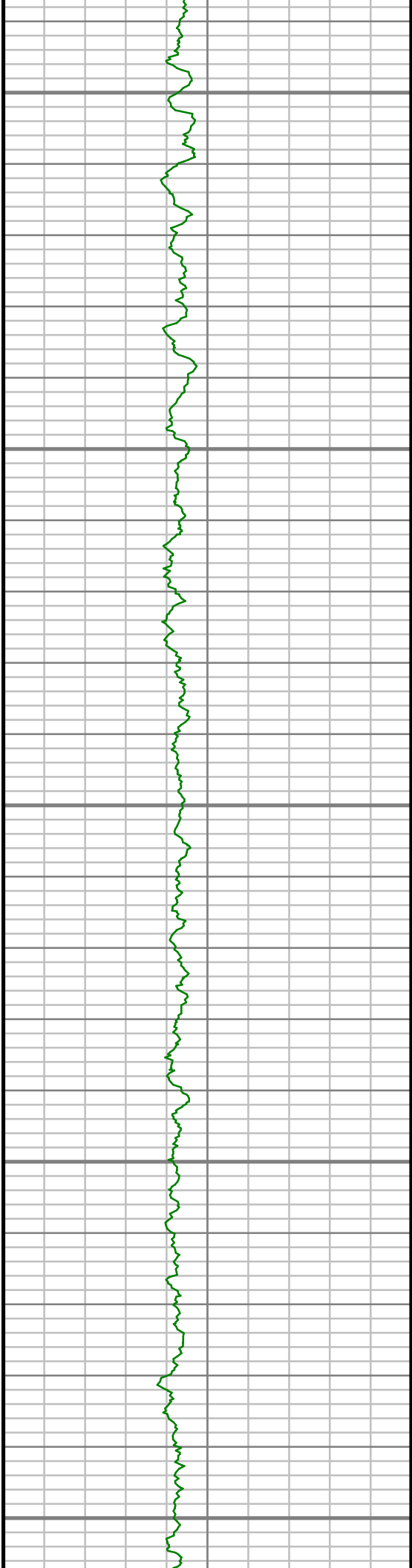
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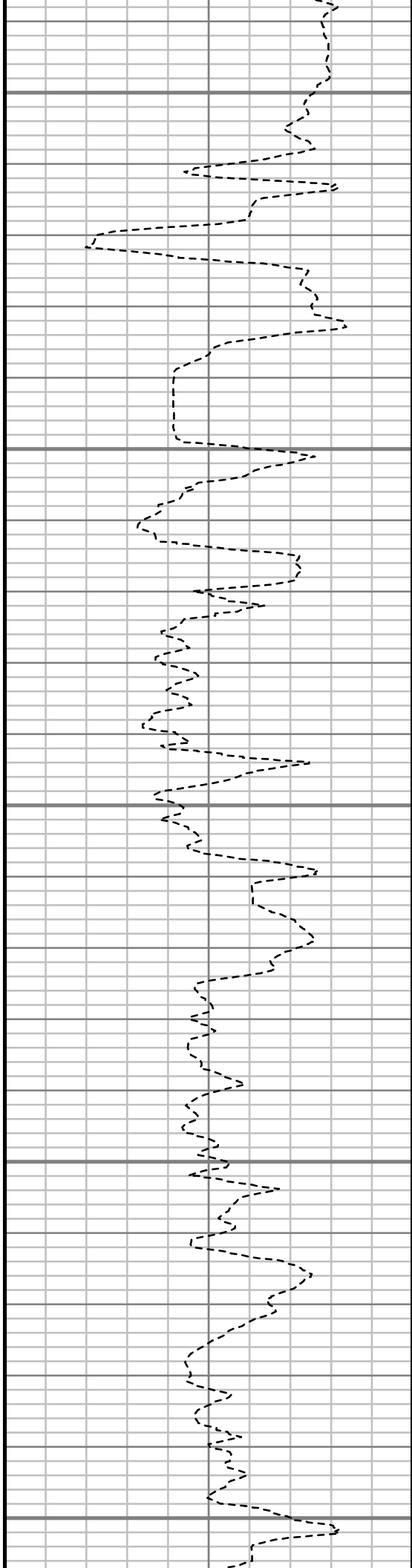
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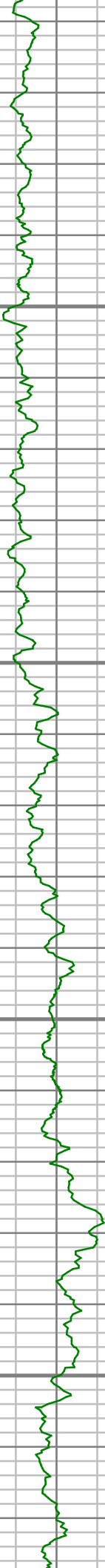
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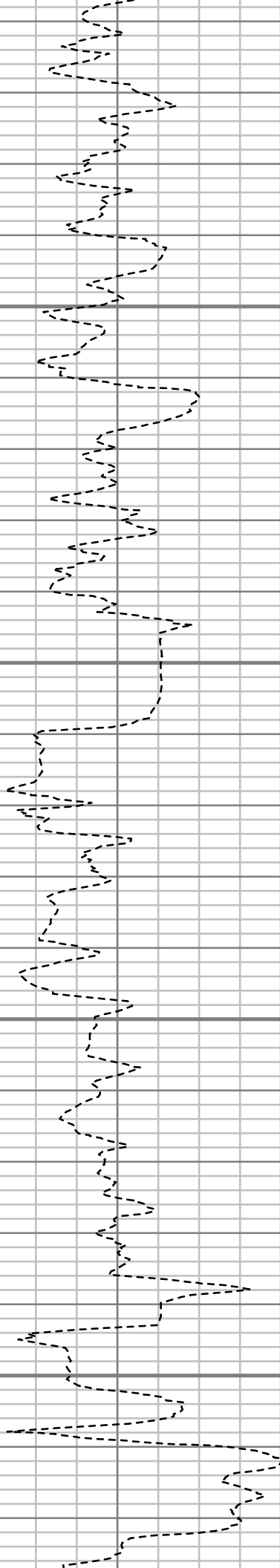


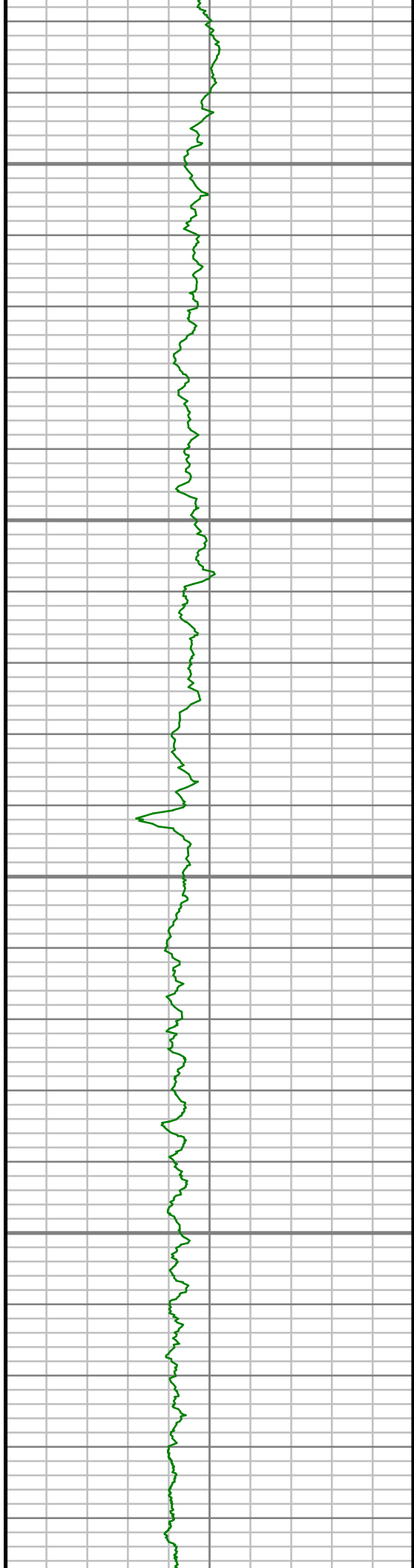
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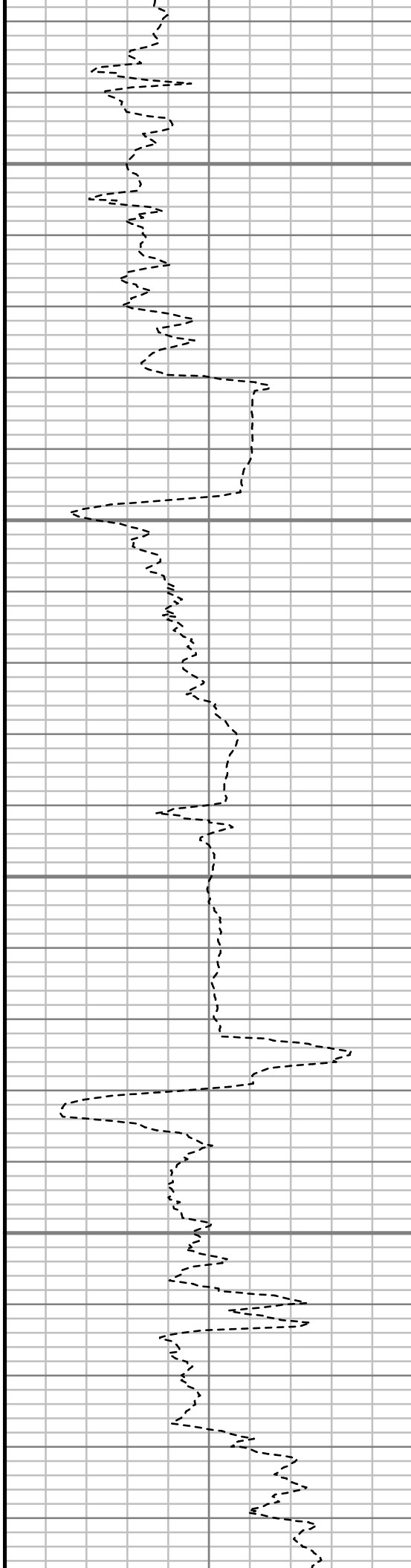


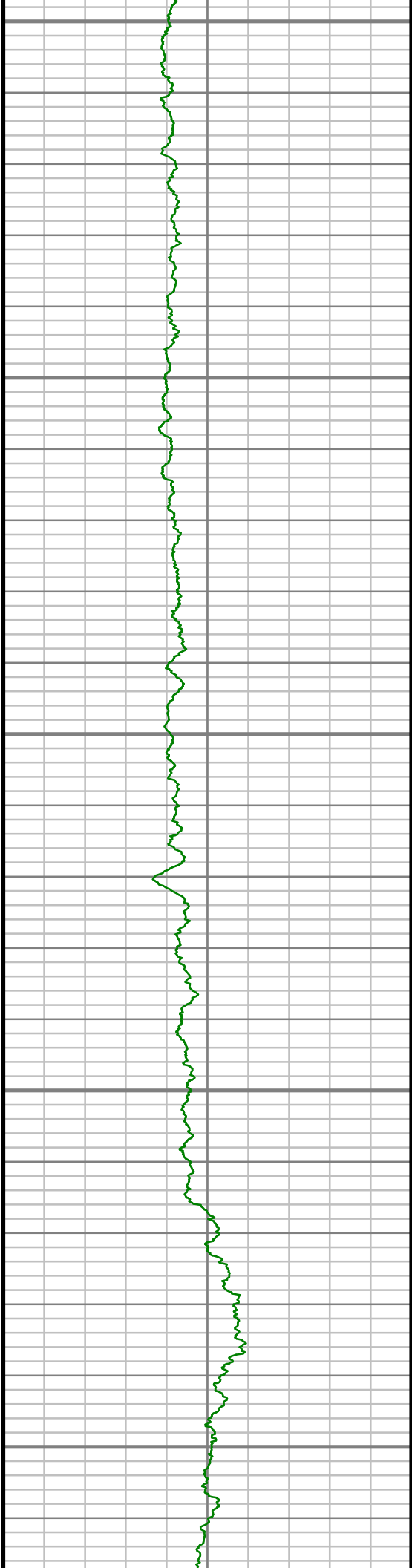
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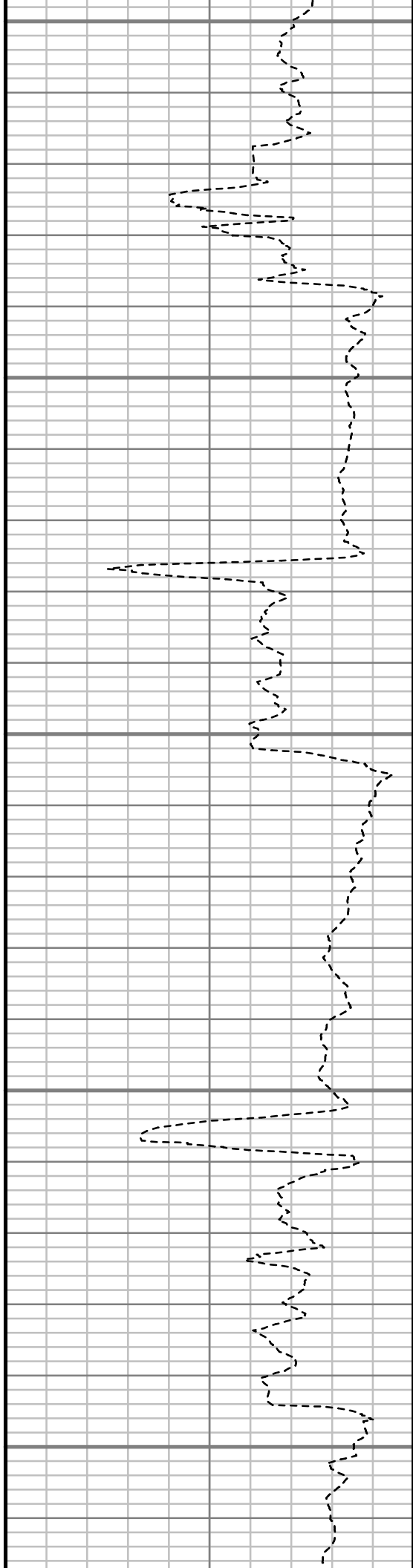
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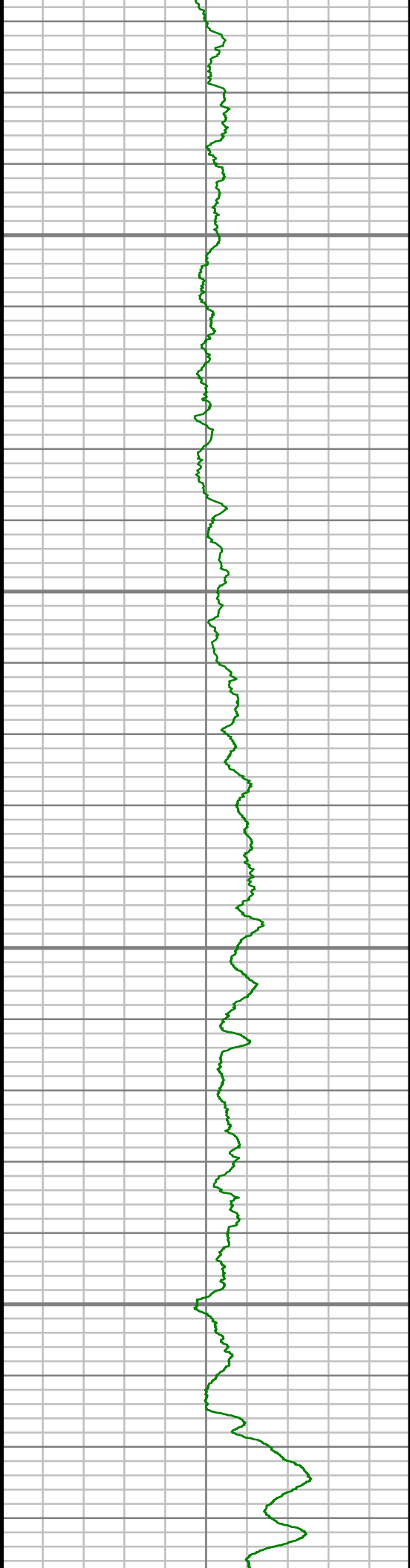
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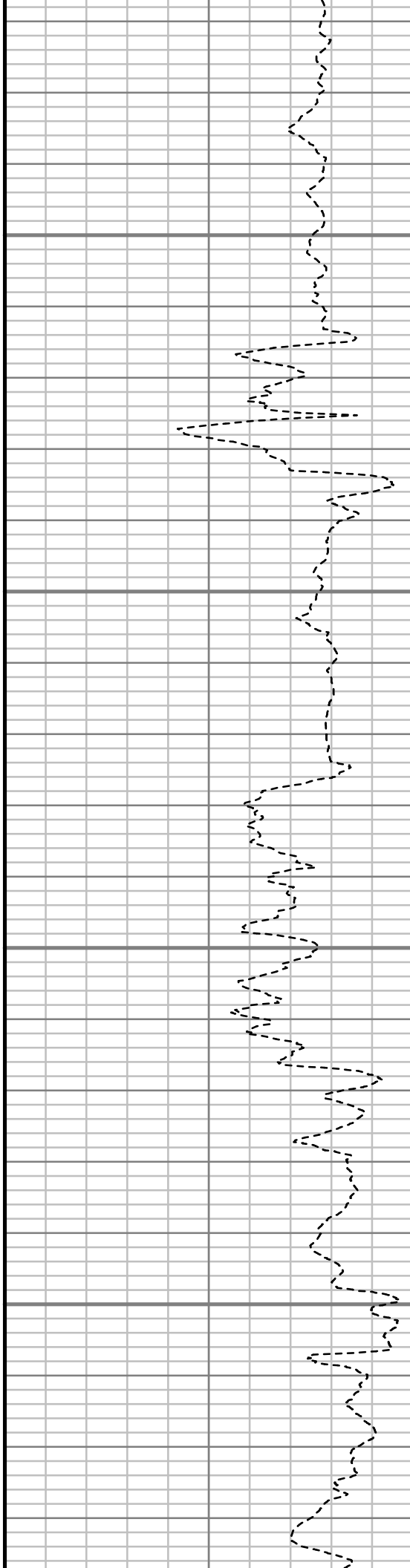


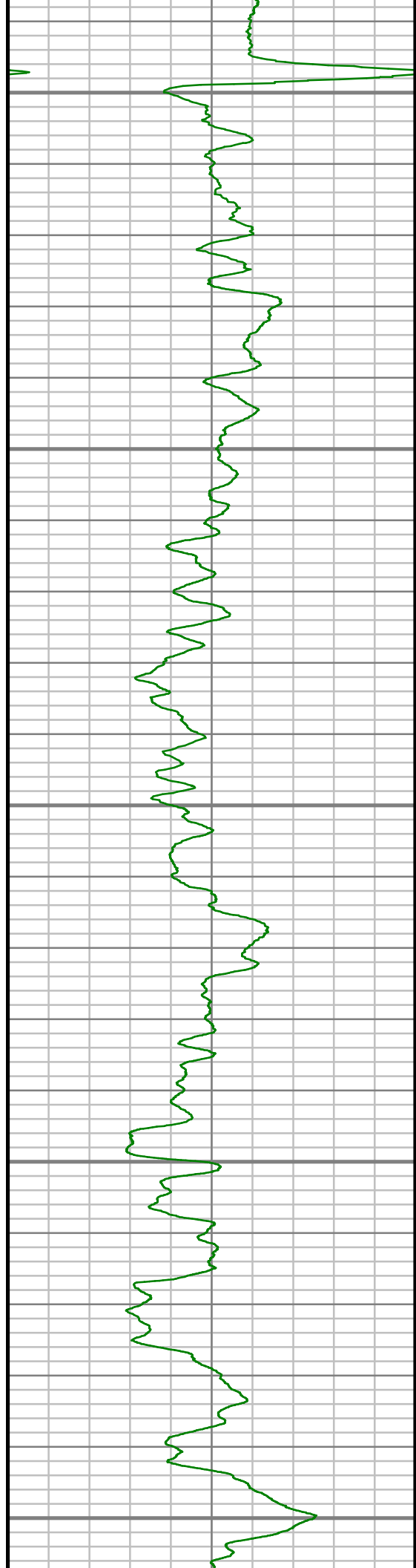
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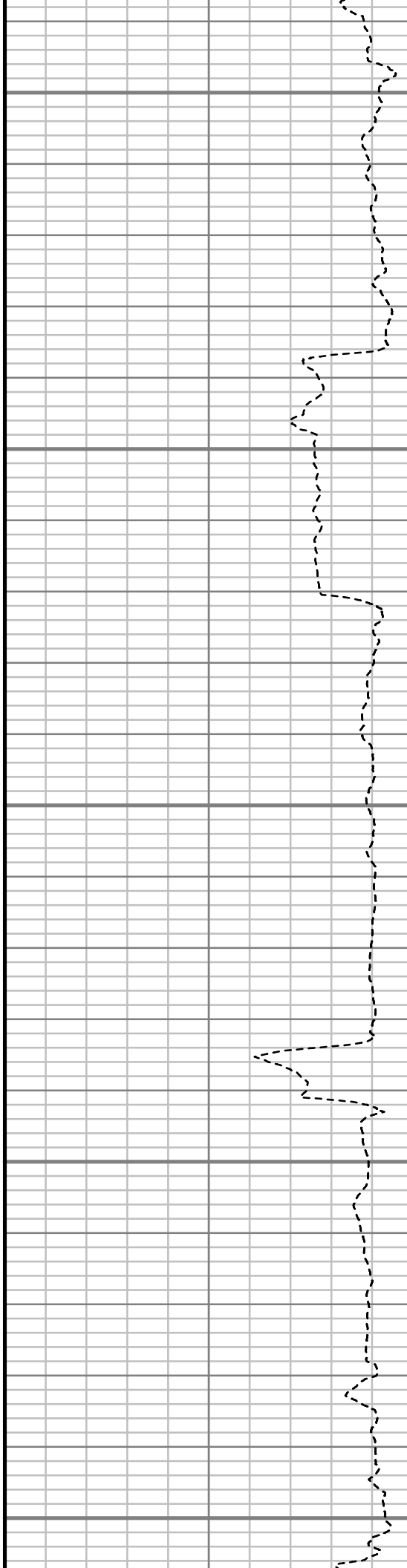
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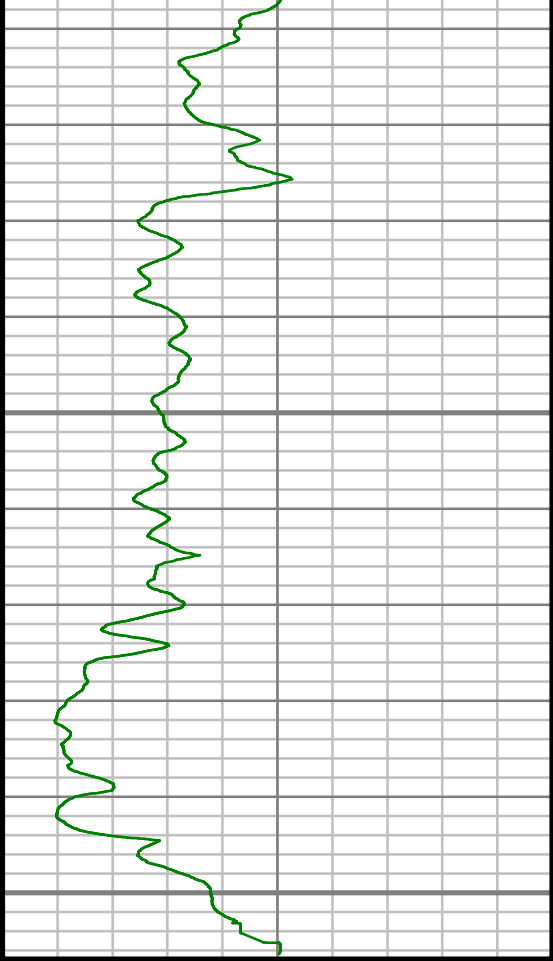
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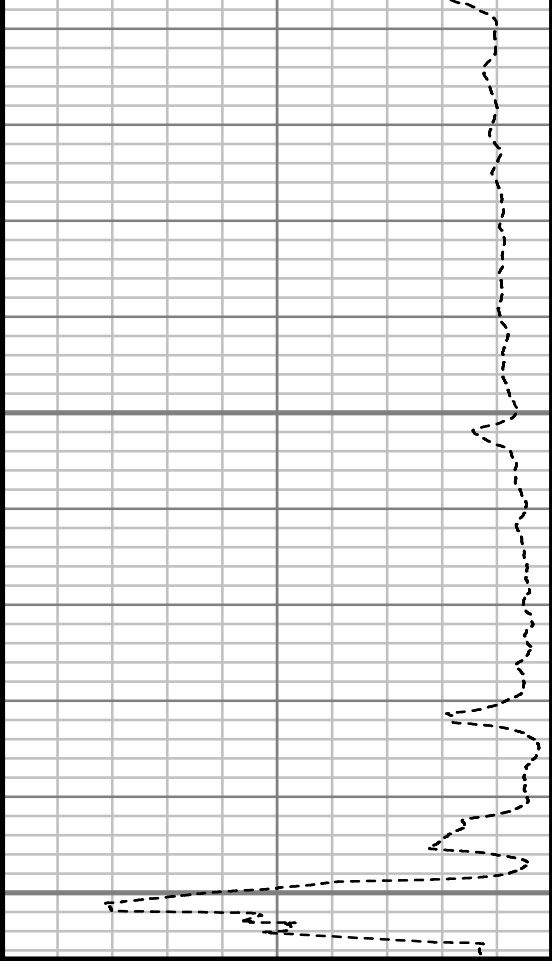
Gamma Ray (GR)

0 Unit = aapi 150

7100

7150

TRUE VERTICAL DEPTH
1:240 (ft)



Rate of Penetration (ROP)

500 Unit = ft/hr 0

Comments



MWD Survey Report

Well Location	NEWNAM
Well Name	NEWNAM 2F-32H-C264
Survey Date	12/7/2014
Latitude	40°6'5.281"N
Longitude	104°34'42.708"W
Btotal	52513 nT
Dip	66.71 deg
Magnetic Declination	8.37 deg
North Reference	True North
Grid Correction	None
Depth Reference	RKB (13.00 ft)
Calculation Method	Minimum Curvature
Section (VS) Ref	0.00N (ft), 0.00E (ft), 180.00Azim (deg)
Operator(s)	J. SMITH, M. SMITH, T. MORGAN, T. WHEELER

Well Notes

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Direction	Closure Distance	DLS
ft	deg	deg	ft	ft	ft	ft	deg	ft	"/100ft
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid
146.00	0.27	321.91	146.00	-0.27	0.27	-0.21	321.91	0.34	0.19
609.00	7.70	326.10	607.55	-26.93	26.93	-18.22	325.91	32.51	1.61
702.00	9.93	322.69	699.45	-38.48	38.48	-26.56	325.39	46.76	2.46
888.00	9.89	302.94	882.73	-59.93	59.93	-49.69	320.34	77.85	1.82
976.00	9.12	296.85	969.52	-67.19	67.19	-62.26	317.18	91.60	1.44
1085.00	7.62	293.54	1077.36	-73.98	73.98	-76.59	314.01	106.48	1.45
1271.00	11.14	288.56	1260.85	-84.62	84.62	-104.93	308.88	134.80	1.94
1457.00	10.99	286.89	1443.39	-95.49	95.49	-138.94	304.50	168.59	0.19
1647.00	12.04	295.34	1629.57	-109.24	109.24	-174.19	302.09	205.61	1.04
1838.00	12.00	292.05	1816.39	-125.22	125.22	-210.61	300.74	245.02	0.36
2028.00	11.82	290.62	2002.30	-139.49	139.49	-247.13	299.44	283.78	0.18
2219.00	10.80	287.42	2189.59	-151.74	151.74	-282.50	298.24	320.68	0.63
2409.00	10.27	294.26	2376.39	-164.03	164.03	-314.92	297.51	355.08	0.71
2600.00	8.41	293.16	2564.85	-176.52	176.52	-343.29	297.21	386.01	0.98
2791.00	8.80	305.79	2753.72	-190.55	190.55	-367.98	297.38	414.39	1.01
2981.00	10.36	306.61	2941.07	-209.24	209.24	-393.48	298.00	445.65	0.82
3172.00	8.68	306.20	3129.43	-227.99	227.99	-418.89	298.56	476.92	0.88
3362.00	7.12	305.57	3317.62	-243.31	243.31	-440.04	298.94	502.83	0.83

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Direction	Closure Distance	DLS
ft	deg	deg	ft	ft	ft	ft	deg	ft	°/100ft
3552.00	7.53	303.64	3506.07	-257.05	257.05	-459.98	299.20	526.93	0.25
3742.00	5.65	279.31	3694.84	-265.47	265.47	-479.57	298.97	548.14	1.75
3933.00	3.40	268.62	3885.24	-266.85	266.85	-494.50	298.35	561.91	1.25
4124.00	1.15	211.30	4076.10	-265.08	265.08	-501.15	297.88	566.94	1.54
4314.00	1.01	214.35	4266.06	-262.07	262.07	-503.09	297.52	567.25	0.08
4505.00	0.28	83.03	4457.05	-260.74	260.74	-503.58	297.37	567.08	0.63
4695.00	0.48	14.19	4647.05	-261.57	261.57	-502.93	297.48	566.88	0.24
4886.00	1.37	10.32	4838.02	-264.59	264.59	-502.32	297.78	567.74	0.47
5076.00	0.44	14.54	5028.00	-267.53	267.53	-501.73	298.07	568.60	0.49
5266.00	0.85	189.04	5217.99	-266.84	266.84	-501.77	298.00	568.31	0.68
5457.00	1.50	204.74	5408.95	-263.16	263.16	-503.04	297.62	567.72	0.38
5646.00	0.62	187.44	5597.92	-259.90	259.90	-504.21	297.27	567.25	0.49
5837.00	1.10	185.67	5788.89	-257.05	257.05	-504.53	297.00	566.23	0.25
6022.00	1.64	158.12	5973.84	-252.82	252.82	-503.72	296.65	563.60	0.45
6208.00	1.02	150.87	6159.79	-248.90	248.90	-501.92	296.38	560.24	0.34
6394.00	0.86	96.91	6345.77	-247.28	247.28	-499.72	296.33	557.56	0.47
6486.00	2.22	137.66	6437.74	-245.88	245.88	-497.84	296.28	555.25	1.81
6579.00	7.61	170.46	6530.37	-238.47	238.47	-495.60	295.70	549.99	6.30

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Direction	Closure Distance	DLS
ft	deg	deg	ft	ft	ft	ft	deg	ft	°/100ft
6672.00	13.80	175.24	6621.71	-221.34	221.34	-493.66	294.15	541.01	6.72
6765.00	25.38	179.66	6709.19	-190.25	190.25	-492.62	291.12	528.08	12.55
6858.00	31.30	178.32	6791.00	-146.13	146.13	-491.79	286.55	513.04	6.40
6951.00	35.47	180.13	6868.64	-94.98	94.98	-491.14	280.94	500.24	4.61
7044.00	38.65	179.27	6942.85	-38.94	38.94	-490.84	274.54	492.38	3.47
7137.00	47.90	180.17	7010.49	24.74	-24.74	-490.57	267.11	491.19	9.96
7229.00	56.94	183.57	7066.55	97.51	-97.51	-493.08	258.81	502.63	10.25
7322.00	68.38	183.78	7109.19	179.82	-179.82	-498.37	250.16	529.82	12.30
7415.00	79.16	182.81	7135.14	268.83	-268.83	-503.47	241.90	570.75	11.63
7480.00	84.42	182.46	7144.42	333.08	-333.08	-506.42	236.67	606.14	8.11
7536.00	88.09	182.57	7148.08	388.89	-388.89	-508.88	232.61	640.46	6.56
7629.00	88.52	183.13	7150.83	481.74	-481.74	-513.50	226.83	704.10	0.76
7722.00	88.79	181.11	7153.01	574.64	-574.64	-516.94	221.97	772.94	2.19
7815.00	89.87	180.85	7154.10	667.62	-667.62	-518.53	217.84	845.33	1.19
7910.00	90.10	179.64	7154.13	762.62	-762.62	-518.93	214.23	922.43	1.30
8005.00	91.41	178.96	7152.88	857.60	-857.60	-517.76	211.12	1001.78	1.55
8100.00	91.01	178.70	7150.87	952.56	-952.56	-515.82	208.44	1083.25	0.50
8196.00	90.47	177.70	7149.64	1048.50	-1048.50	-512.81	206.06	1167.19	1.18

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Direction	Closure Distance	DLS
ft	deg	deg	ft	ft	ft	ft	deg	ft	°/100ft
8291.00	91.54	178.05	7147.97	1143.42	-1143.42	-509.29	204.01	1251.71	1.19
8386.00	91.91	178.69	7145.11	1238.34	-1238.34	-506.59	202.25	1337.95	0.78
8482.00	91.41	178.90	7142.32	1334.28	-1334.28	-504.57	200.71	1426.50	0.56
8577.00	89.43	179.51	7141.63	1429.26	-1429.26	-503.25	199.40	1515.27	2.18
8672.00	87.48	179.04	7144.19	1524.21	-1524.21	-502.05	198.23	1604.77	2.11
8767.00	88.19	178.96	7147.77	1619.13	-1619.13	-500.38	197.17	1694.69	0.75
8863.00	88.12	179.34	7150.86	1715.07	-1715.07	-498.96	196.22	1786.18	0.41
8958.00	88.99	180.69	7153.25	1810.04	-1810.04	-498.99	195.41	1877.56	1.69
9053.00	88.76	181.05	7155.11	1905.01	-1905.01	-500.44	194.72	1969.64	0.45
9149.00	89.80	180.38	7156.32	2000.99	-2000.99	-501.63	194.07	2062.91	1.29
9244.00	91.14	180.18	7155.54	2095.99	-2095.99	-502.09	193.47	2155.28	1.43
9339.00	92.11	180.27	7152.85	2190.95	-2190.95	-502.46	192.92	2247.82	1.03
9435.00	92.21	179.78	7149.23	2286.88	-2286.88	-502.50	192.39	2341.43	0.52
9530.00	91.27	180.72	7146.34	2381.83	-2381.83	-502.92	191.92	2434.35	1.40
9625.00	91.24	179.37	7144.25	2476.80	-2476.80	-503.00	191.48	2527.36	1.43
9720.00	89.70	178.87	7143.47	2571.79	-2571.79	-501.53	191.03	2620.23	1.70
9815.00	90.57	177.94	7143.25	2666.75	-2666.75	-498.89	190.60	2713.01	1.34
9910.00	90.67	178.60	7142.22	2761.70	-2761.70	-496.02	190.18	2805.89	0.71

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Direction	Closure Distance	DLS
ft	deg	deg	ft	ft	ft	ft	deg	ft	°/100ft
10006.00	90.54	178.20	7141.21	2857.66	-2857.66	-493.33	189.79	2899.93	0.44
10101.00	91.21	178.83	7139.77	2952.61	-2952.61	-490.87	189.44	2993.14	0.97
10196.00	90.00	178.52	7138.77	3047.58	-3047.58	-488.67	189.11	3086.51	1.31
10292.00	91.75	181.20	7137.30	3143.55	-3143.55	-488.43	188.83	3181.27	3.33
10387.00	93.29	182.14	7133.13	3238.42	-3238.42	-491.19	188.62	3275.46	1.90
10483.00	91.54	180.97	7129.08	3334.29	-3334.29	-493.79	188.42	3370.66	2.18
10578.00	91.88	183.09	7126.24	3429.18	-3429.18	-497.16	188.25	3465.04	2.26
10673.00	87.24	182.97	7126.97	3524.02	-3524.02	-502.18	188.11	3559.62	4.88
10769.00	87.75	183.04	7131.16	3619.80	-3619.80	-507.21	187.98	3655.16	0.53
10864.00	89.13	183.27	7133.75	3714.62	-3714.62	-512.44	187.85	3749.80	1.47
10959.00	88.79	182.87	7135.48	3809.47	-3809.47	-517.53	187.74	3844.46	0.55
11054.00	88.83	181.77	7137.45	3904.37	-3904.37	-521.37	187.61	3939.02	1.16
11150.00	89.29	180.55	7139.03	4000.33	-4000.33	-523.31	187.45	4034.41	1.36
11245.00	90.07	180.29	7139.56	4095.33	-4095.33	-524.01	187.29	4128.71	0.86
11340.00	89.43	179.08	7139.97	4190.32	-4190.32	-523.50	187.12	4222.89	1.44
11435.00	90.10	179.16	7140.36	4285.31	-4285.31	-522.04	186.95	4316.99	0.71
11530.00	90.67	178.35	7139.72	4380.28	-4380.28	-519.97	186.77	4411.04	1.04
11568.00	91.18	178.14	7139.11	4418.26	-4418.26	-518.81	186.70	4448.62	1.44

5" = 100' FEET TVD