

State: **VICTORIA**

Rig: ISDL 453 Field: Flounder Location: Bass Strait Well: FLA A20a Company: ESSO Australia Ltd.	Gamma Ray Service 1:200 Measured Depth Real Time Log						
	Location	Total depth: 2789.0 m			Elevation	K.B. 33.85 m	
		Spud date: 03-Feb-03				G.L. -93.0 m	
		Runs: 1 To 3				D.F. 33.85 m	
		Permanent datum: Mean Sea Level			Elev.: 93.0 m		
		Log measured from: Drill Floor			33.85 m above Perm. datum		
	Depth reference: Driller's Depth						
	API serial no.		y=5758708.90m (North) x=625840.95m (East)		Longitude Latitude		
					E148°26'21.748 S38°18'39.245		
	Depth logged: 796.4 m To 2774.4 m		Mag decl: 13.22 deg.		Other services:		
Date logged: 07-Feb-03 To 19-Feb-03		Mag dip: -68.77 deg.		Directional Drilling, D&I			
Bore hole record			Casing record				
Hole size	from	to	Size	Density	from	to	
17.5 in.	0.0 m	803.5 m	13.375 in.	157.5 lbm/m	0.0 m	803.5 m	
8.5 in.	803.5 m	2789.0 m					
Mud record			Borehole deviation record				
Type	from	to	Min	Max	from	to	
KCI/PHPA/Glycol	811.0 m	2789.0 m	25.5 deg.	48.7 deg.	800.0 m	1134.3 m	
			0.6 deg.	25.5 deg.	1134.3 m	1508.4 m	
			0.6 deg.	3.31 deg.	1508.4 m	2310.4 m	
			3.3 deg.	13.7 deg.	2310.4 m	2625.8 m	
Surface equipment		Software record					
Unit	OLU-FB-924	IDEAL Wis	ID8_0c_07				
Depth system	DES-98071	SPM	HSPM8-0c-13				
		LWD	N/A				
		MWD	6.1c00				

# Bit Run Summary

[illegible]

Type		KCl/PHPA/Glycol									
Mud weight	ppg	9.5	9.7	9.6							
Solids	%	5.2	7.0	6.6							
Chlorides	mg/L	41000	38500	37000							
Rm	ohm-m	N/A	N/A	N/A							
Rmf	ohm-m	N/A	N/A	N/A							
Rmc	ohm-m	N/A	N/A	N/A							
Potassium	%	7.5	7.0	6.6							
<b>Environmental data</b>											
<b>GR</b>											
Mud weight	ppg	9.5	9.7	9.6							
Bit size	in	8.5	8.5	8.5							
<b>Resistivity</b>											
<b>Neutron porosity</b>											
Hole Size		N/A	N/A	N/A							
Mud weight		N/A	N/A	N/A							
Temperature		N/A	N/A	N/A							
Mud salinity		N/A	N/A	N/A							
Formation salinity		N/A	N/A	N/A							
Recording rate 1	SEC	N/A	N/A	N/A							
Recording rate 2	SEC	N/A	N/A	N/A							
Filtering GR		N/A	N/A	N/A							
Filtering density		N/A	N/A	N/A							
Filtering Neutron		N/A	N/A	N/A							
Company representative		R. Morris	B. Davis								
Anadrill personnel		J. Dolan	W. Gamlin	C. Soper	B. Manjenic						

#### DISCLAIMER

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<b>OTHER SERVICES FOR RUN1</b> Gamma Ray Directional Drilling Directional Surveys			<b>OTHER SERVICES FOR RUN2</b> Gamma Ray Directional Drilling Directional Surveys			<b>OTHER SERVICES FOR RUN3</b> Gamma Ray Directional Drilling Directional Surveys		
<b>REMARKS: RUN NUMBER 1</b> 8 1/2 in. hole section was drilled from 811 m to 2330 m.  Depth is referenced to Driller's Depth.  All data presented is Real Time data.  Gamma Ray is corrected for Tool size, Bit size, Potassium content and Mud weight.  Mud type is water-based KCl/PHPA/Glycol. Barite is present in the mud system.  GR logged in casing to 803.5 m  POOH at 2330 m for a bit change due to poor penetration rate.			<b>REMARKS: RUN NUMBER 2</b> 8 1/2 in. hole section was drilled from 2330 m to 2612 m.  Depth is referenced to Driller's Depth.  All data presented is Real Time data.  Gamma Ray is corrected for Tool size, Bit size, Potassium content and Mud weight.  Mud type is water-based KCl/PHPA/Glycol. Barite is present in the mud system.  POOH at 2612 m for a bit change due to poor penetration rate.			<b>REMARKS: RUN NUMBER 3</b> 8 1/2 in. hole section was drilled from 2612 m to 2789 m.  Depth is referenced to Driller's Depth.  All data presented is Real Time data.  Gamma Ray is corrected for Tool size, Bit size, Potassium content and Mud weight.  Mud type is water-based KCl/PHPA/Glycol. Barite is present in the mud system.  Reached TD of FLA A20a at 2789 m.		

Thank you for using Schlumberger.

RUN3

DOWNHOLE EQ

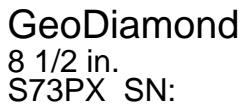
20.66 3/4 in. Pow  
MDC Z40  
MDI 11  
MEC 11  
MGR AA  
DH software:

D&I	15.2
GR	14.6

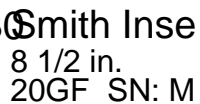
12.26 1/8 in. NM  
SN: DOTS  
8 3/8 in. Stab

10.76 3/4 in. NM  
SN: 9612

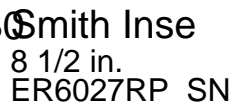
7.98 PowerPak\* M  
A675XP  
SN: 023  
1.15 deg  
8 1/8 in. moto



Maximum string diam  
All lengths in



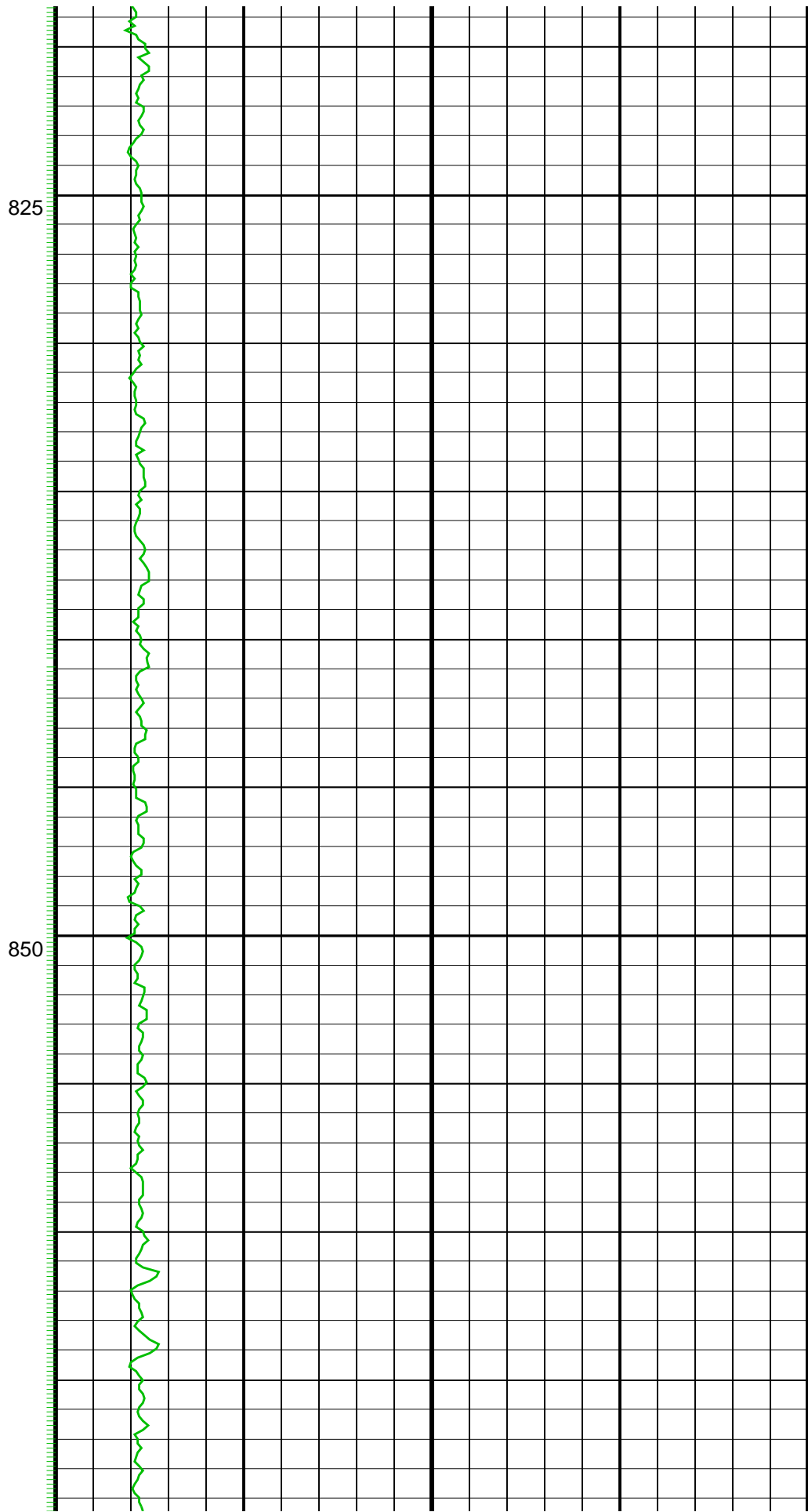
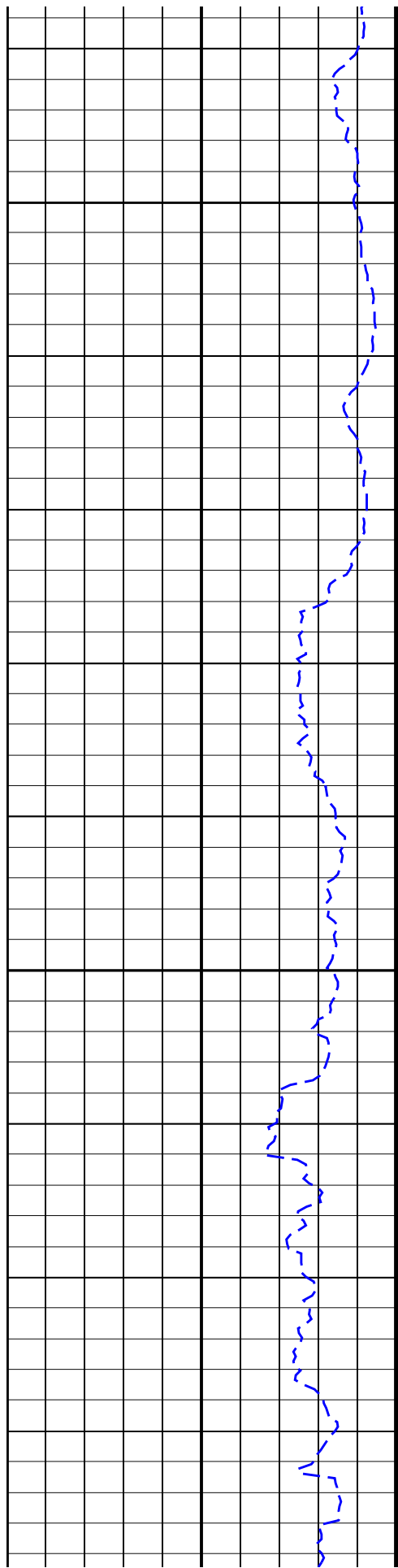
Maximum string diam  
All lengths in



Maximum string diam  
All lengths in

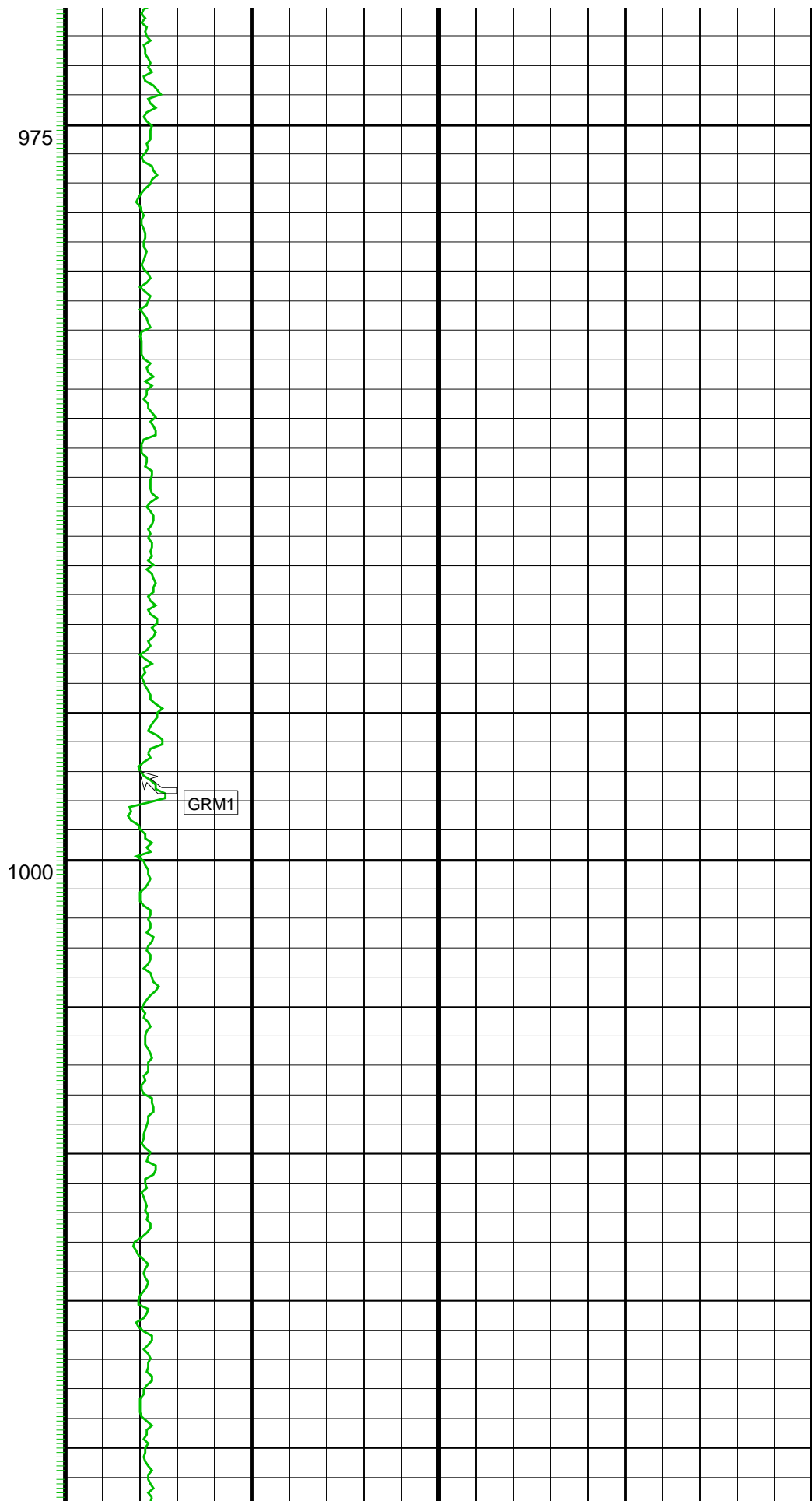
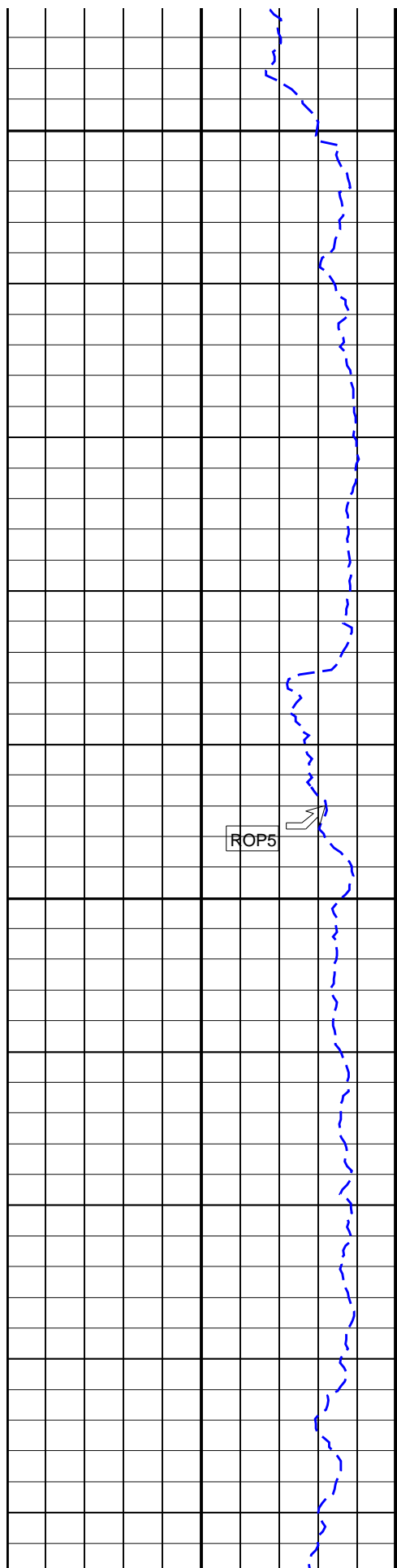
GR First reading
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13-3/8 in. casing window at 803.5 m

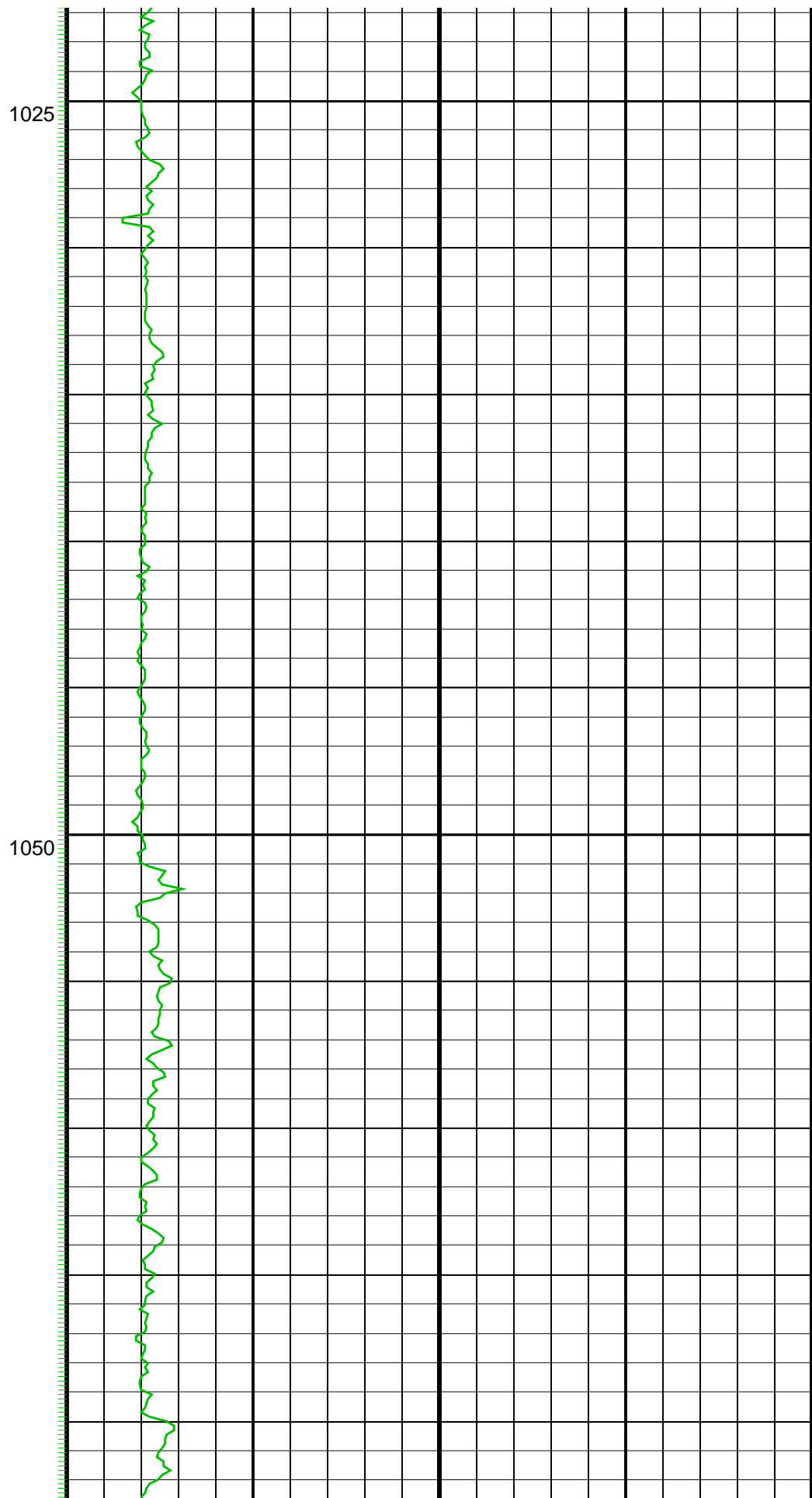
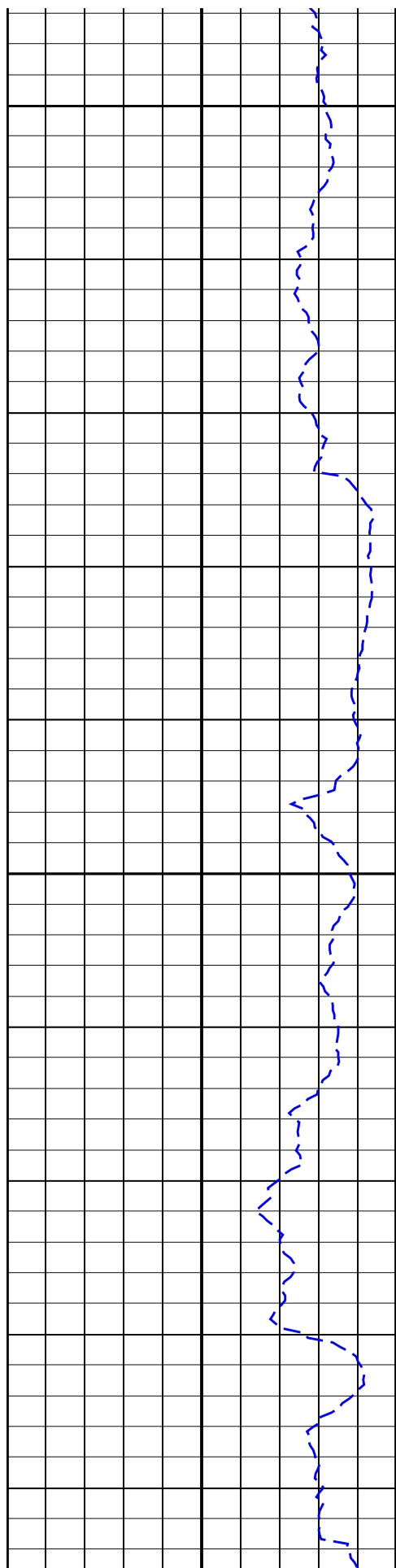


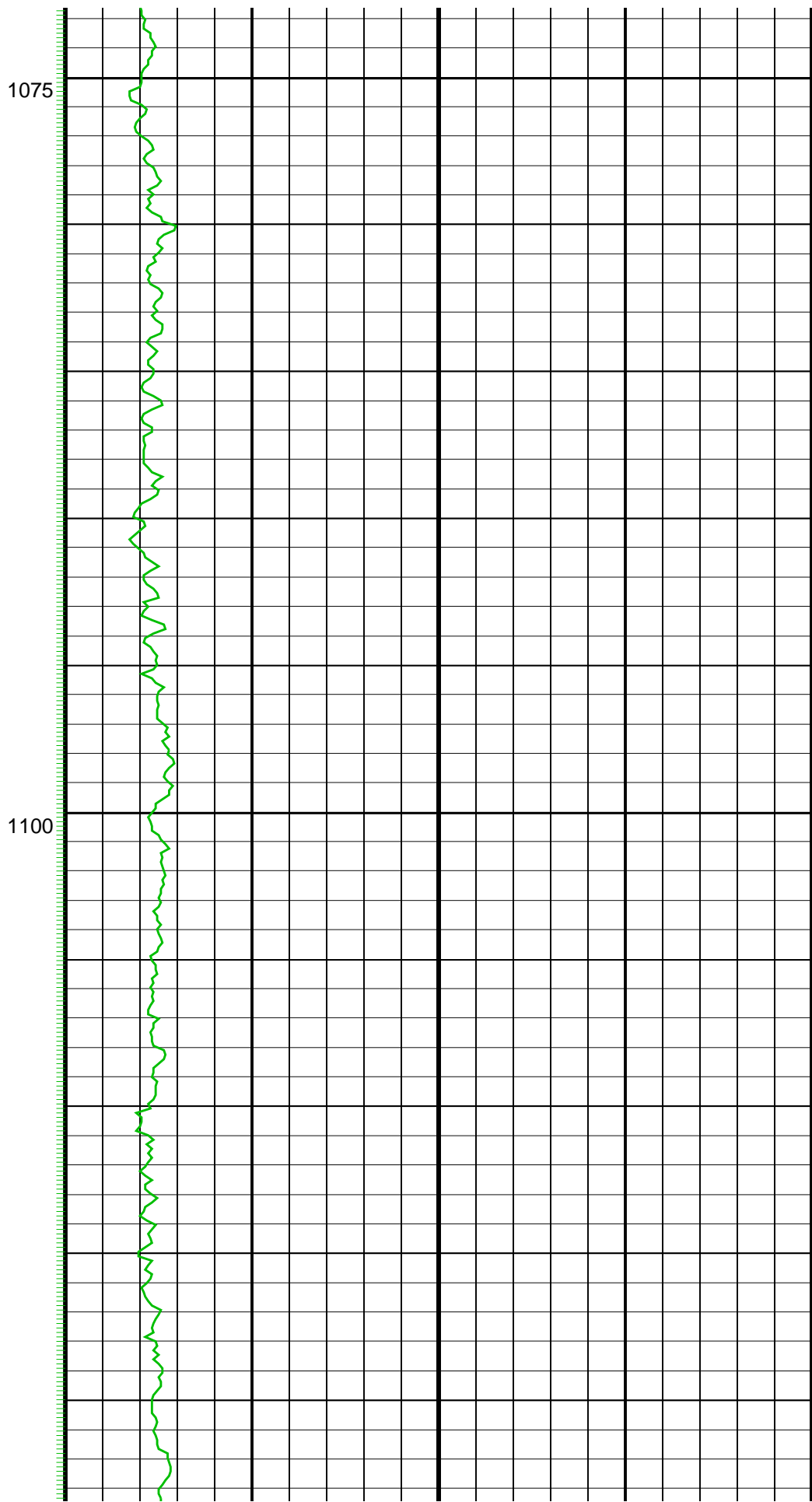
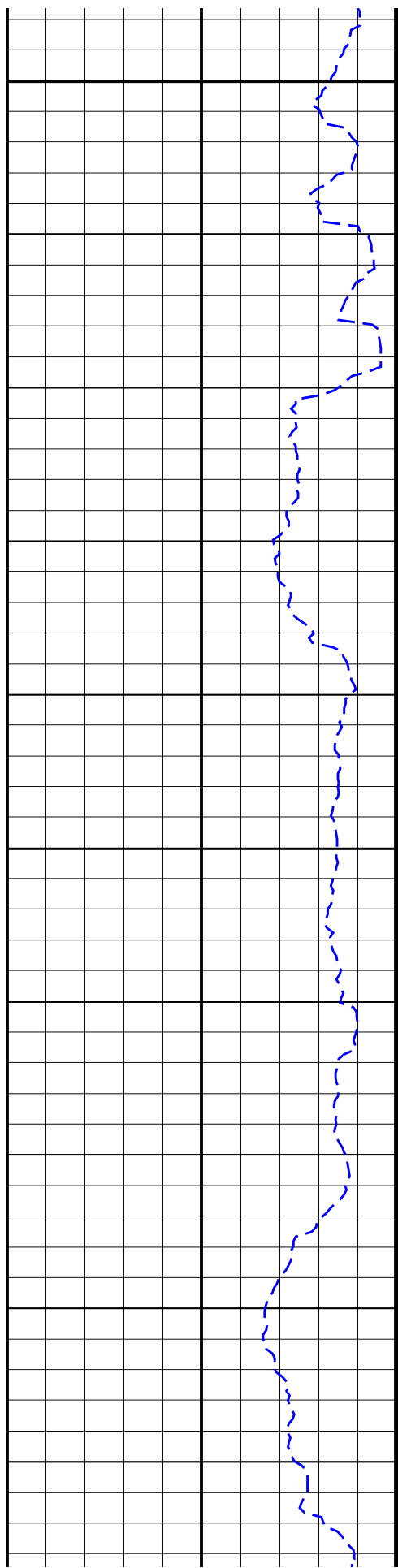


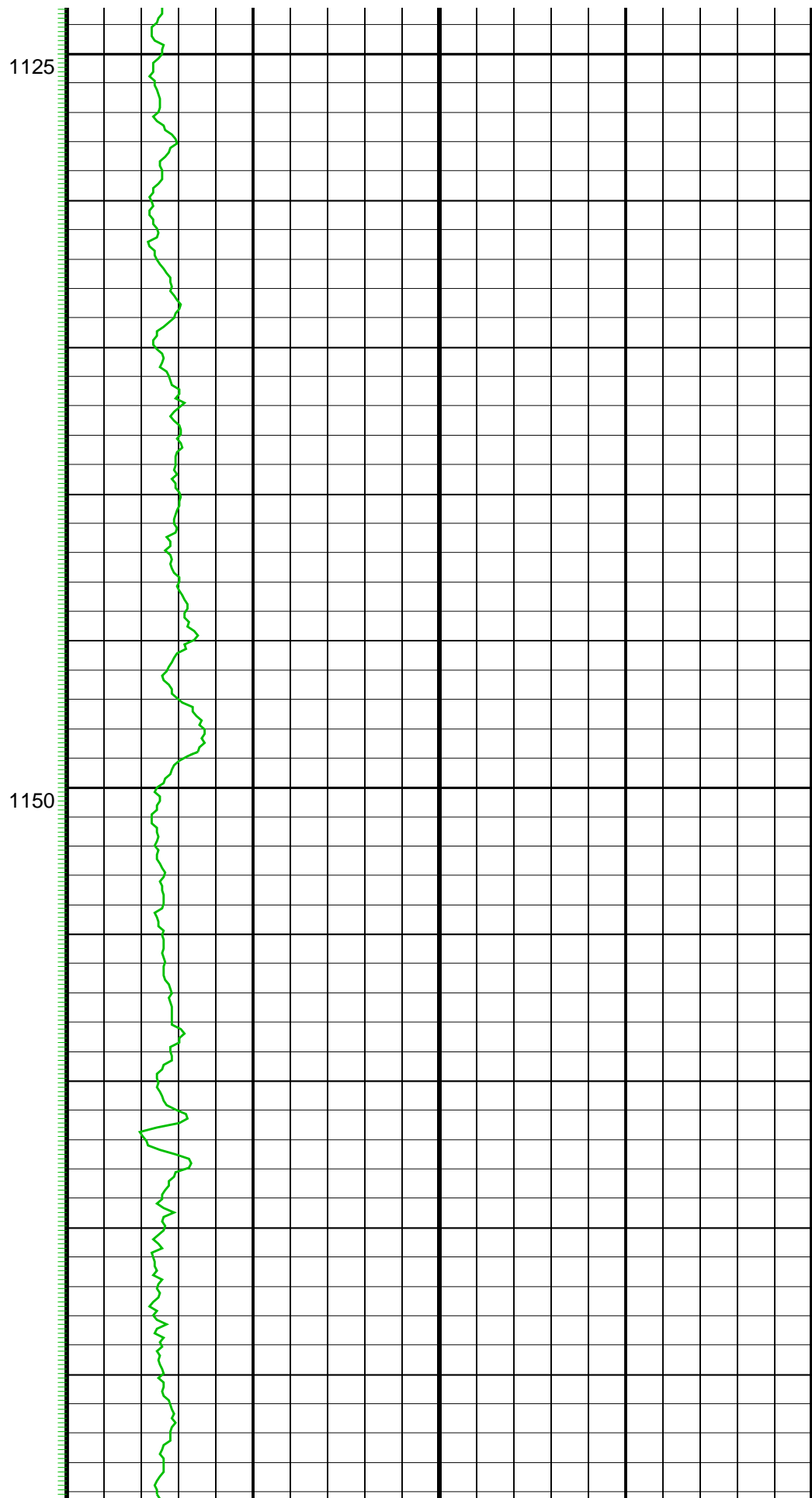
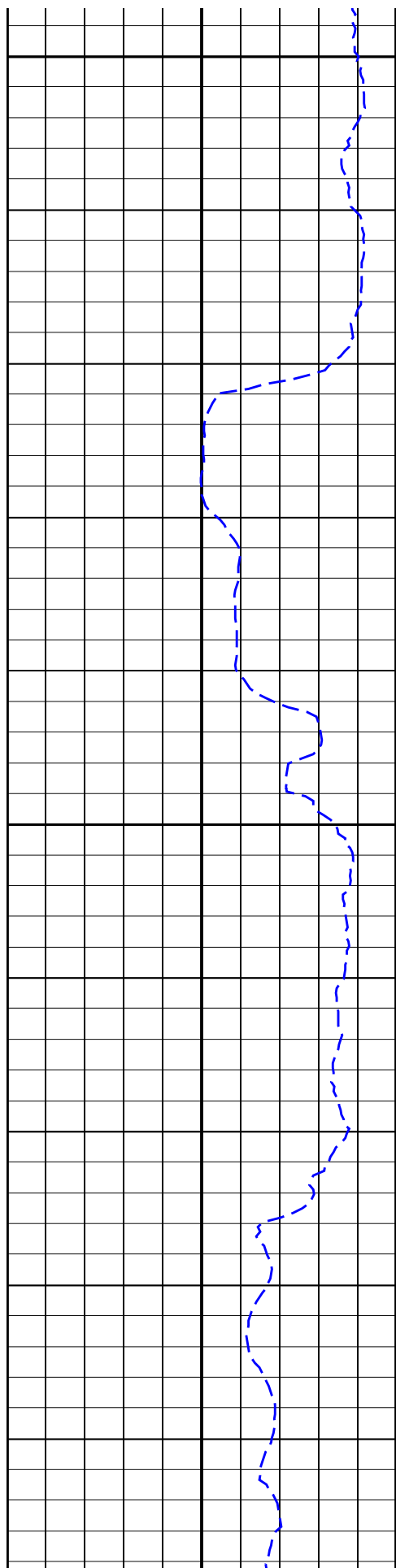


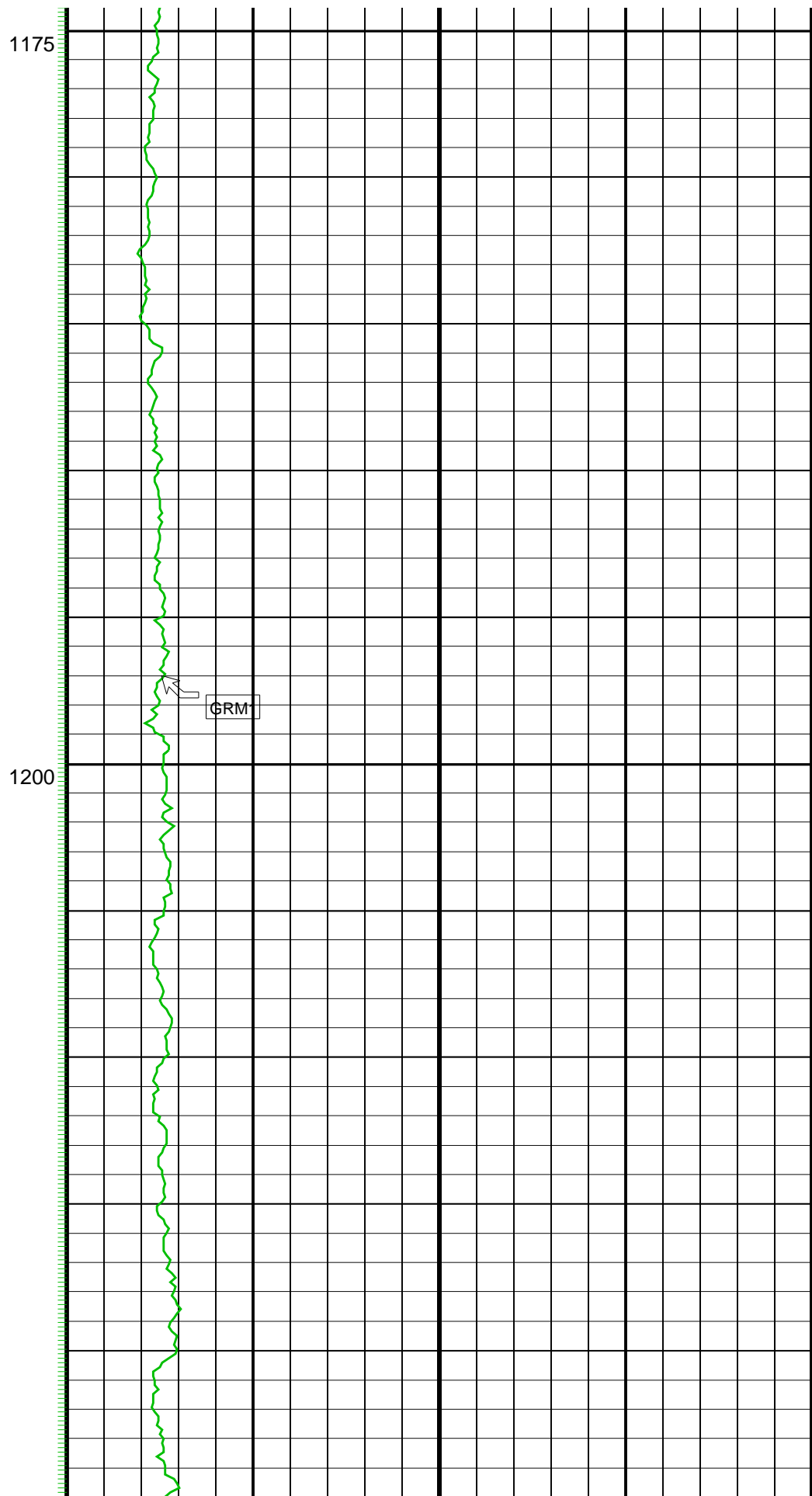
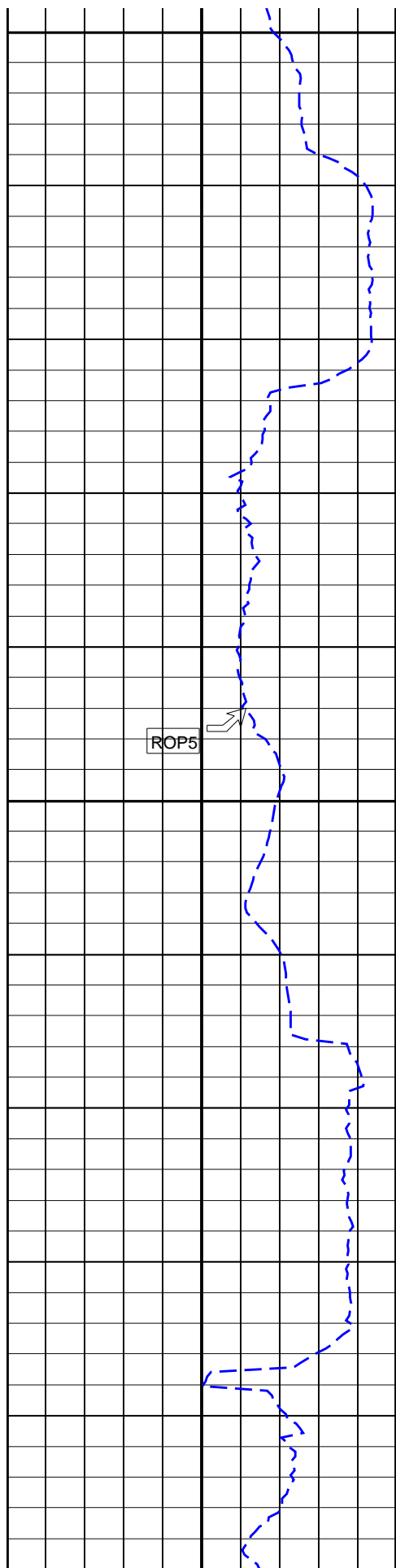


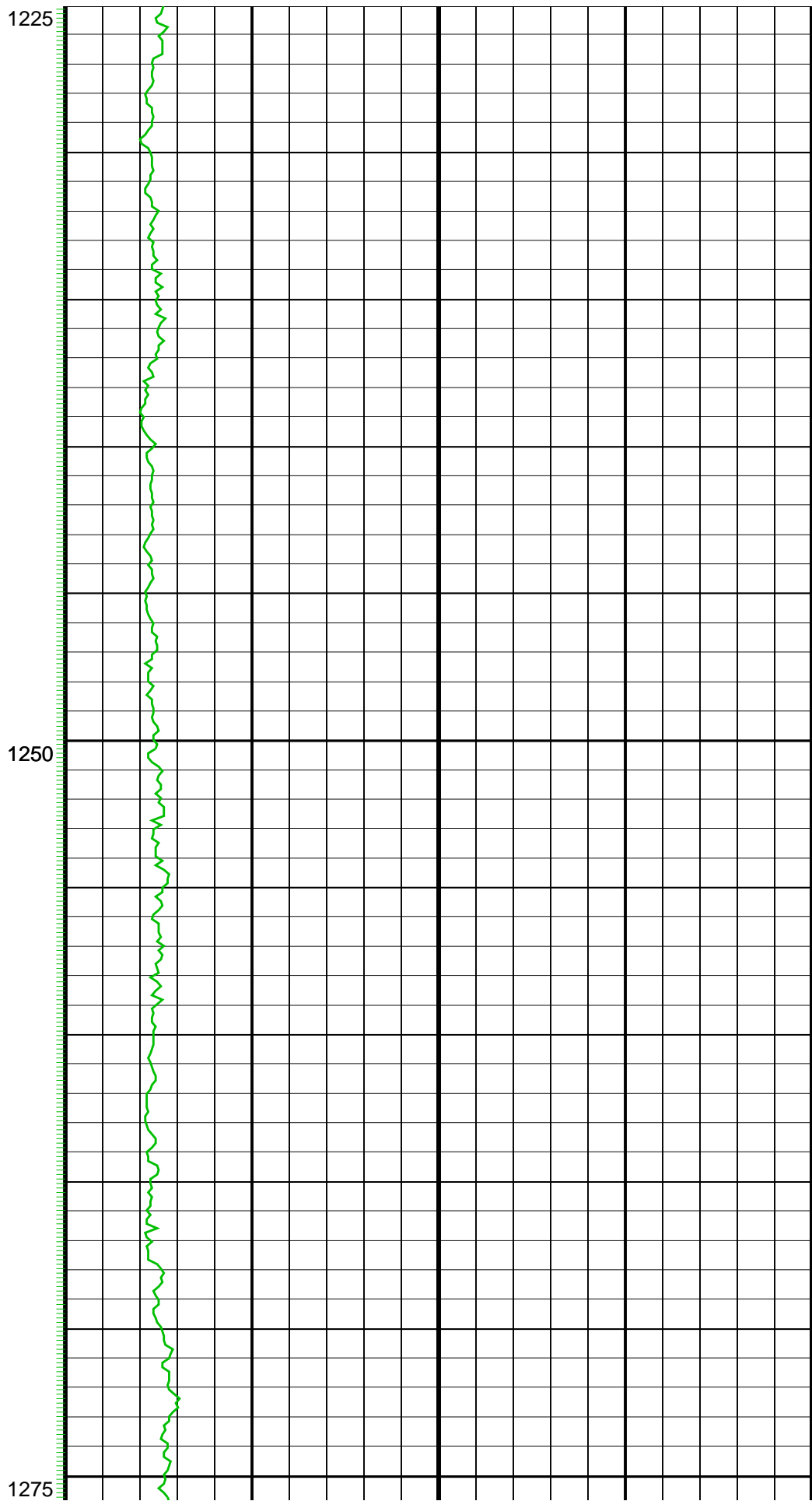
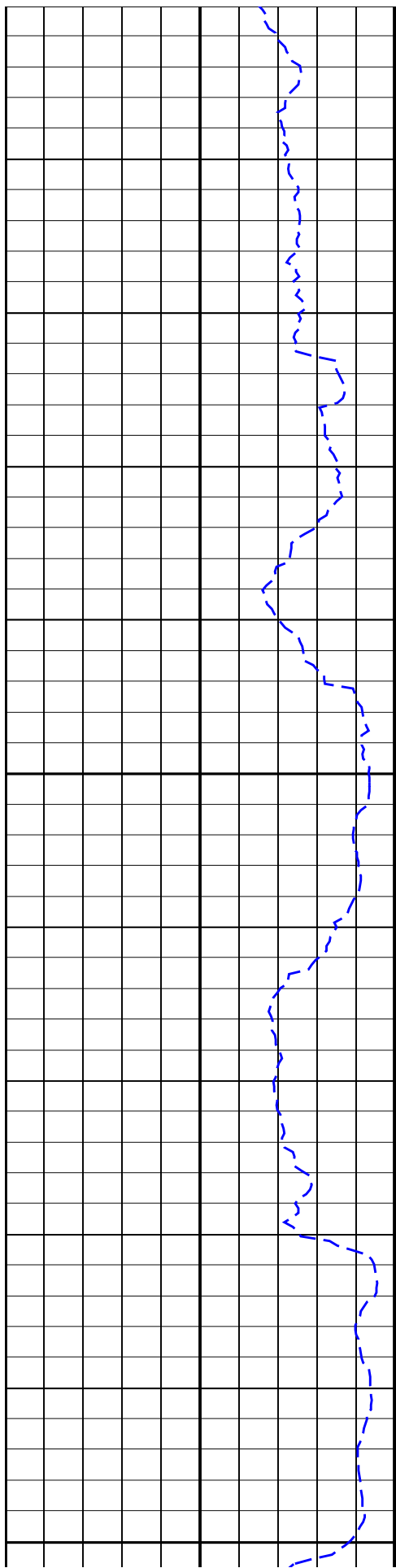


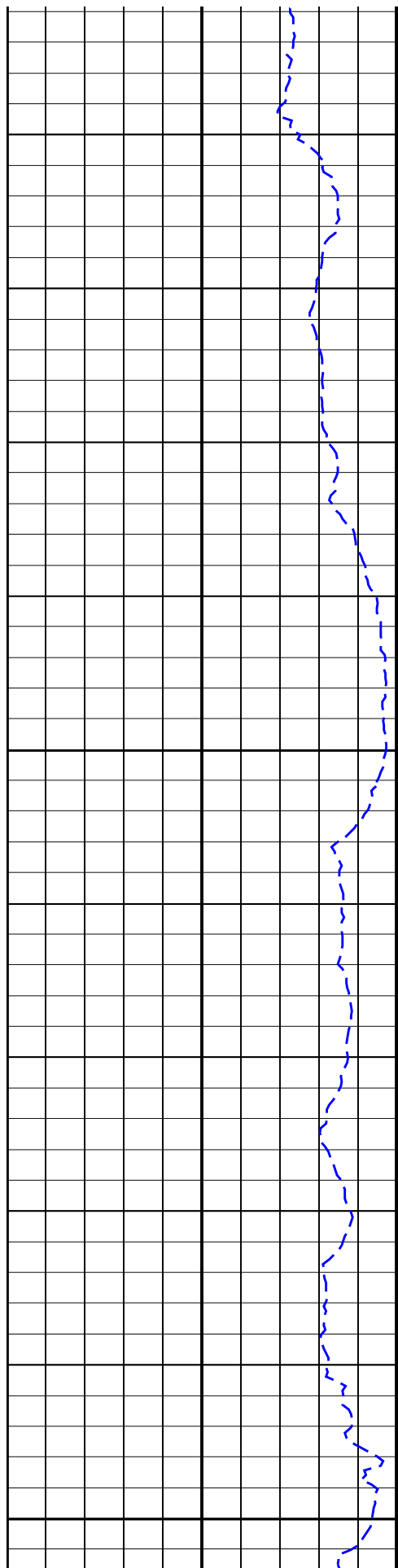






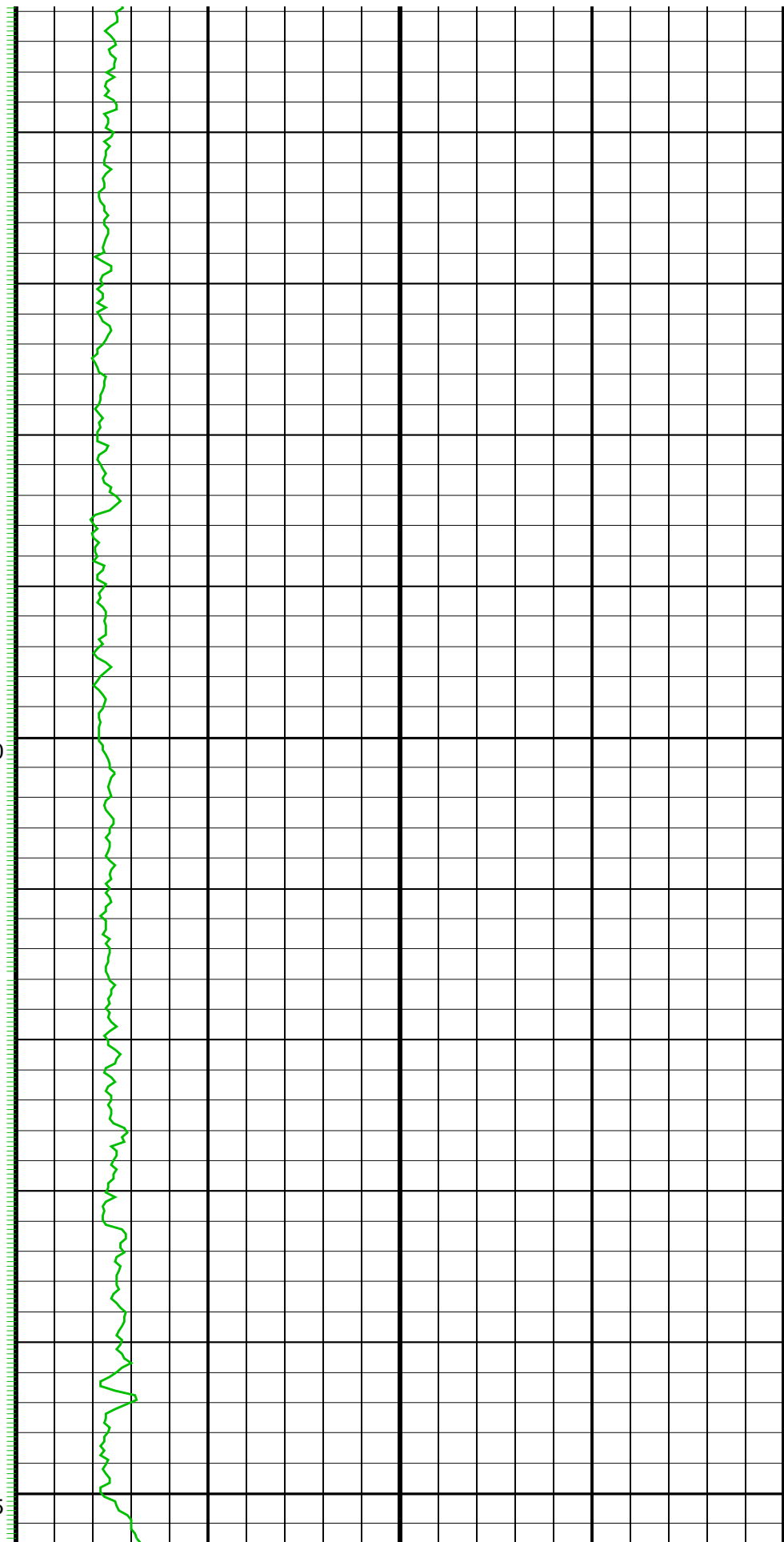


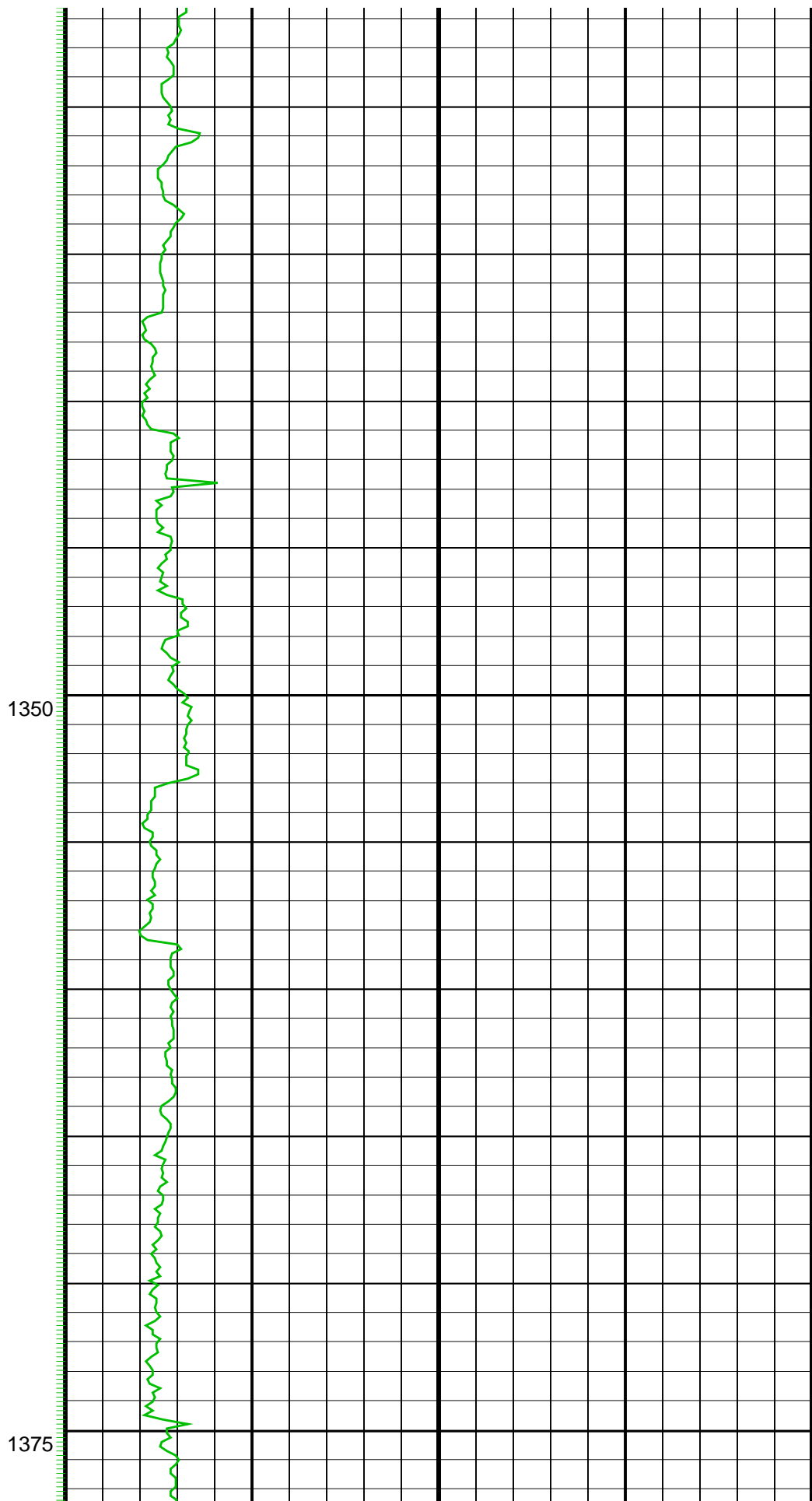
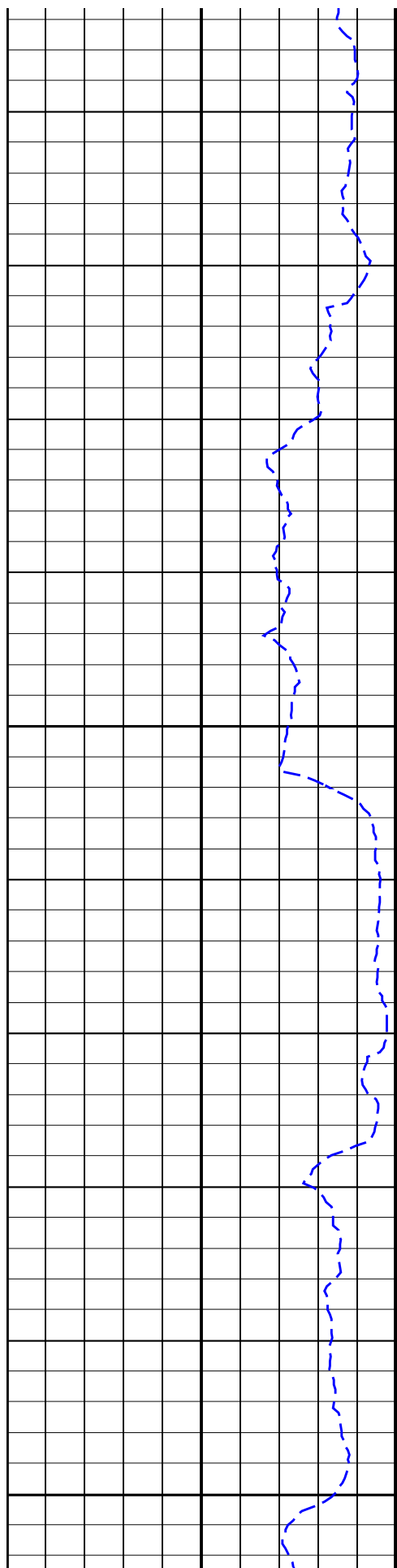




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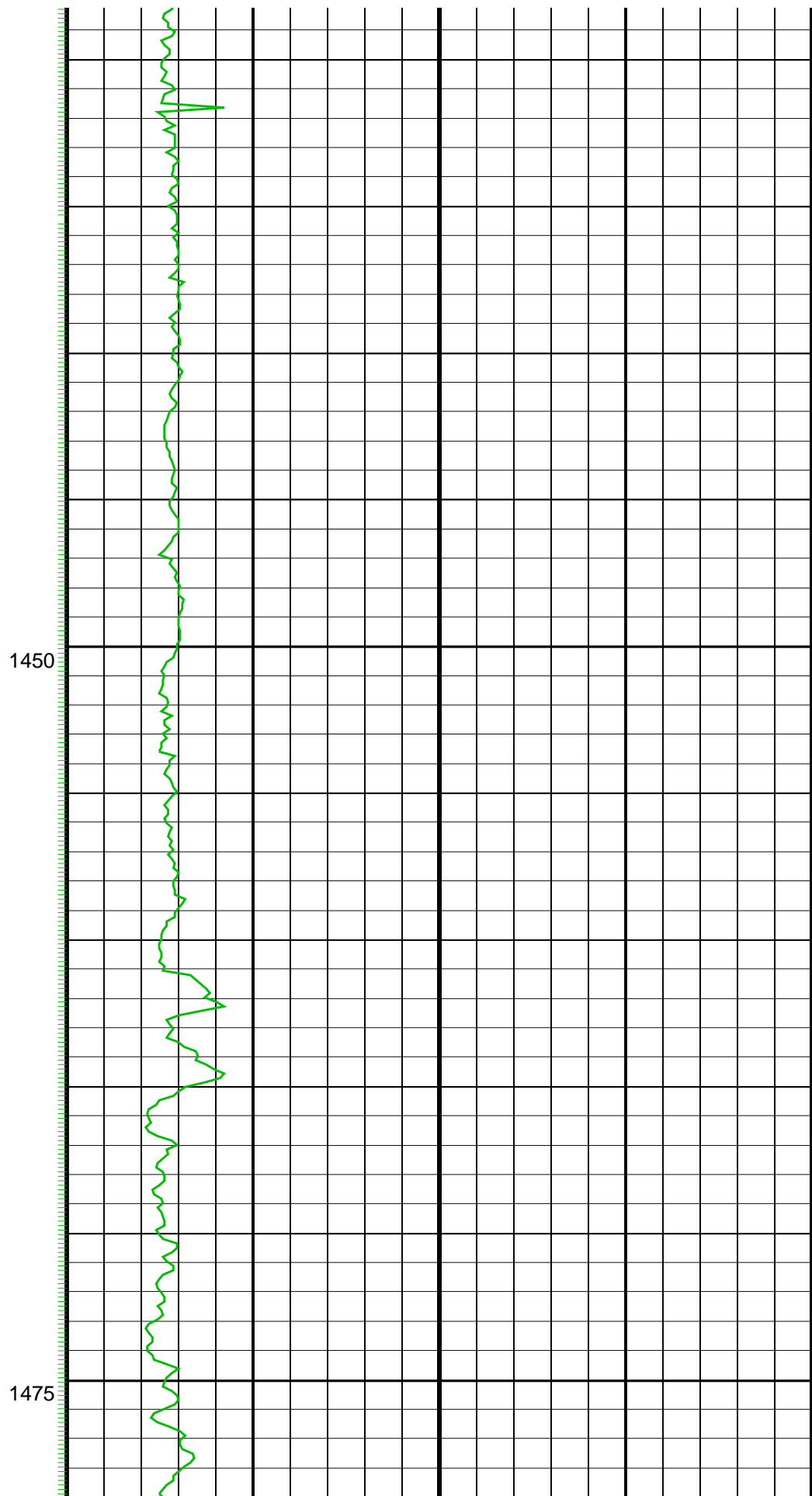
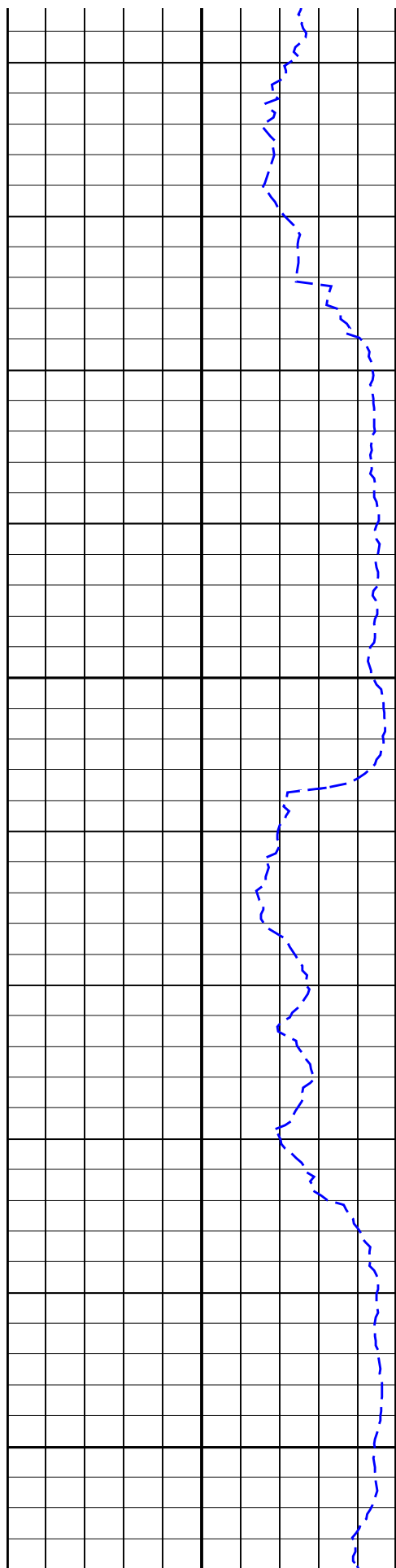
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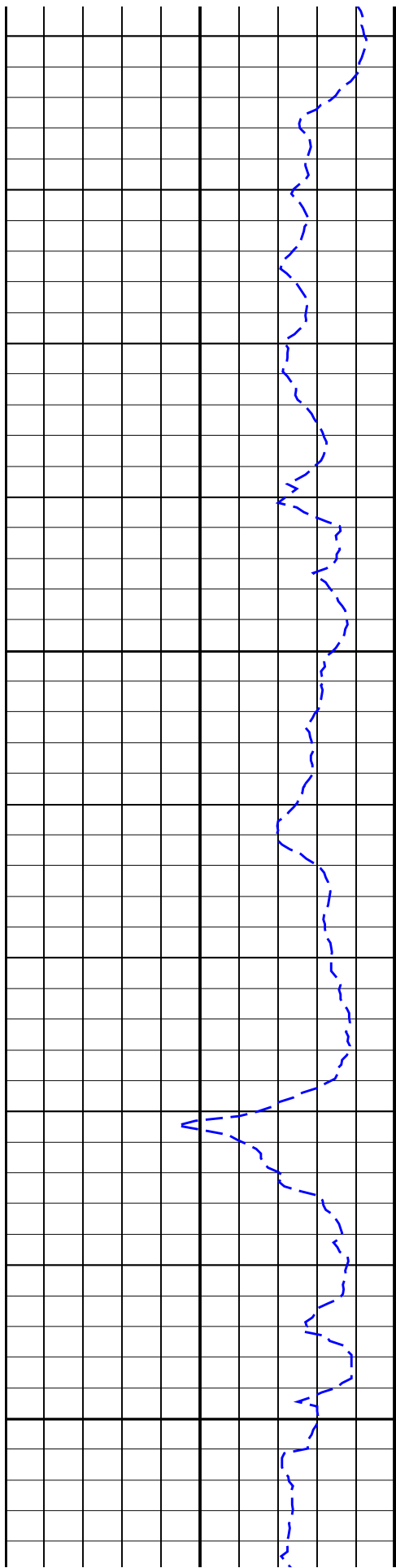






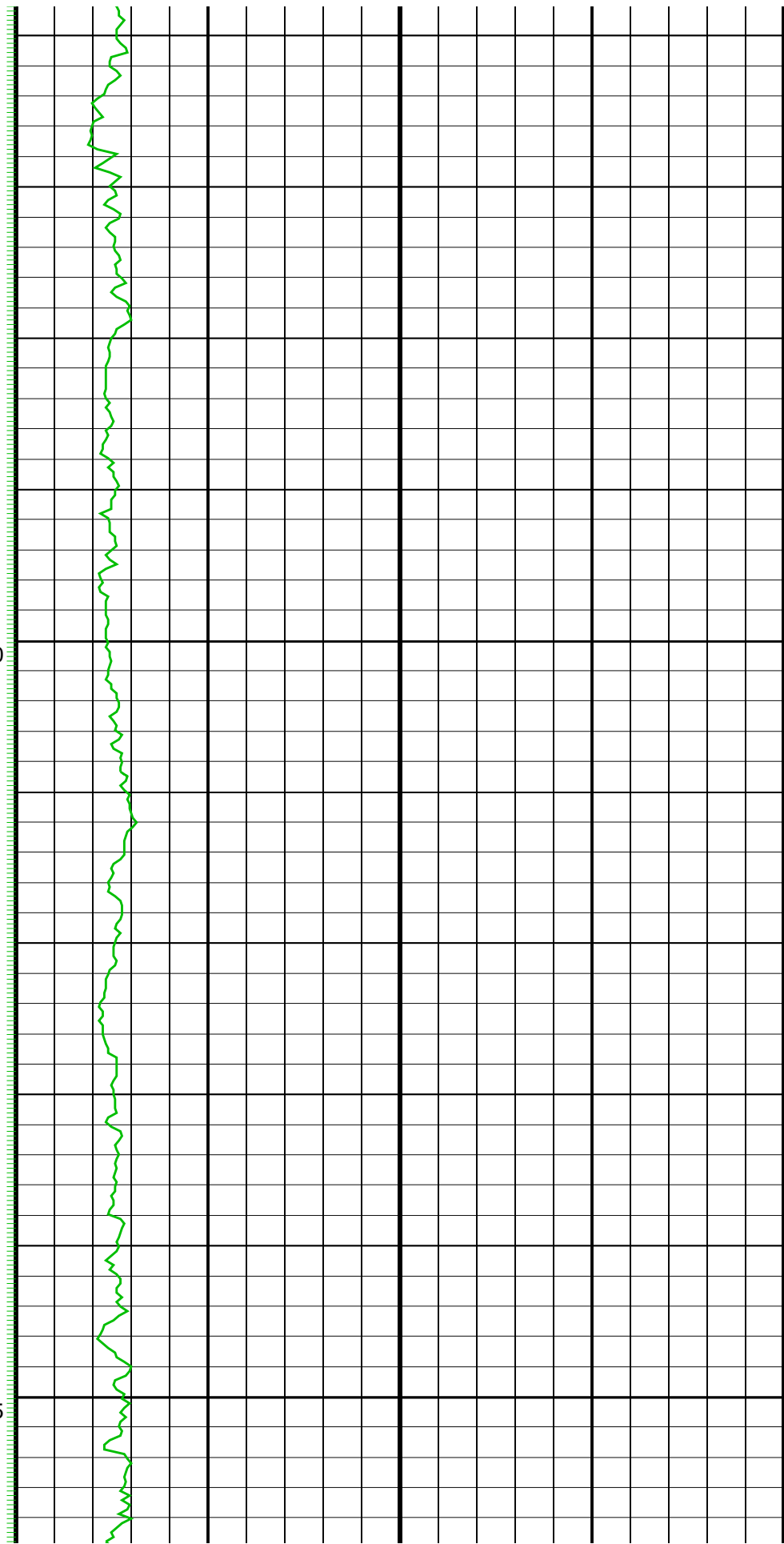


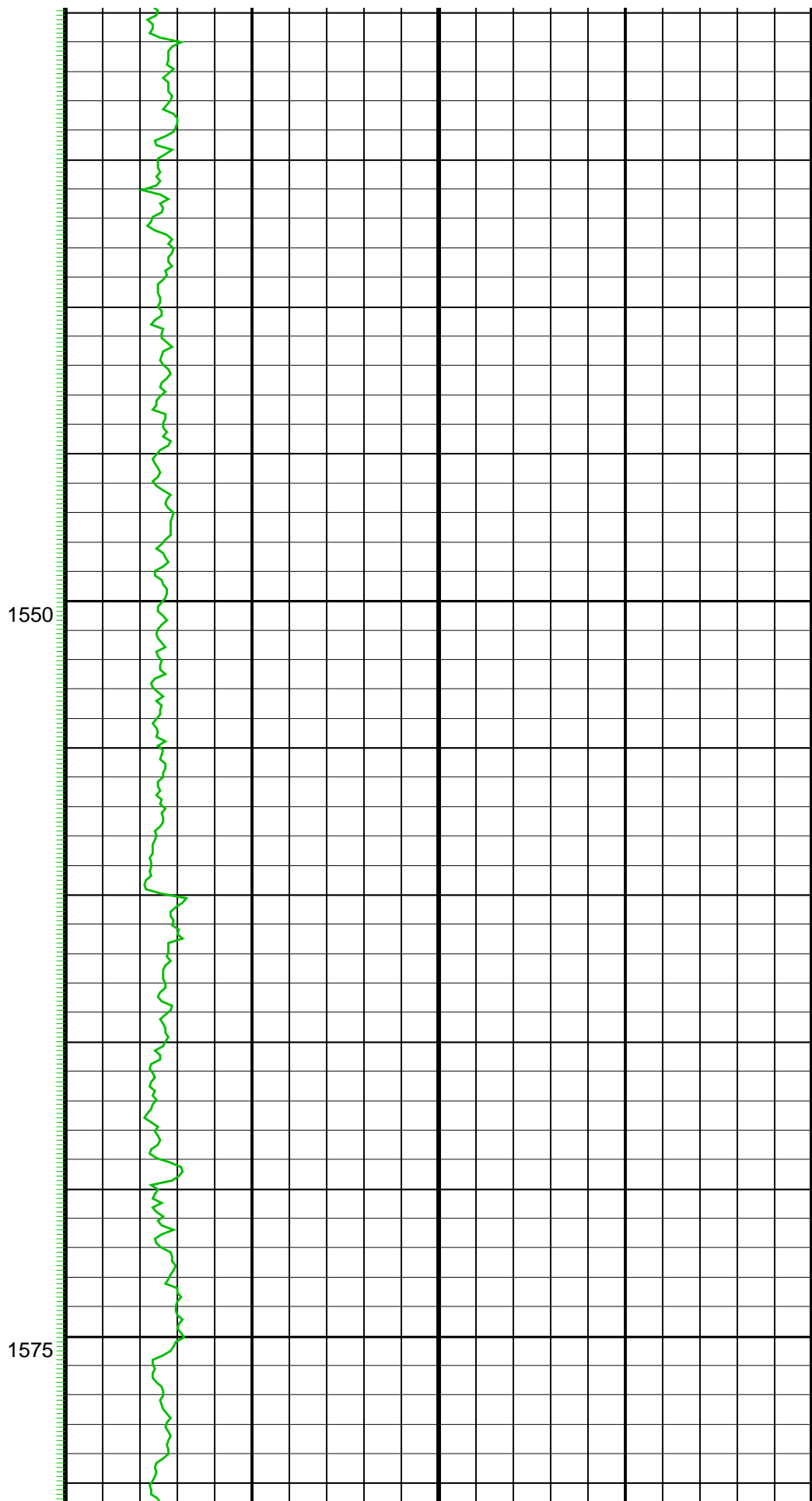
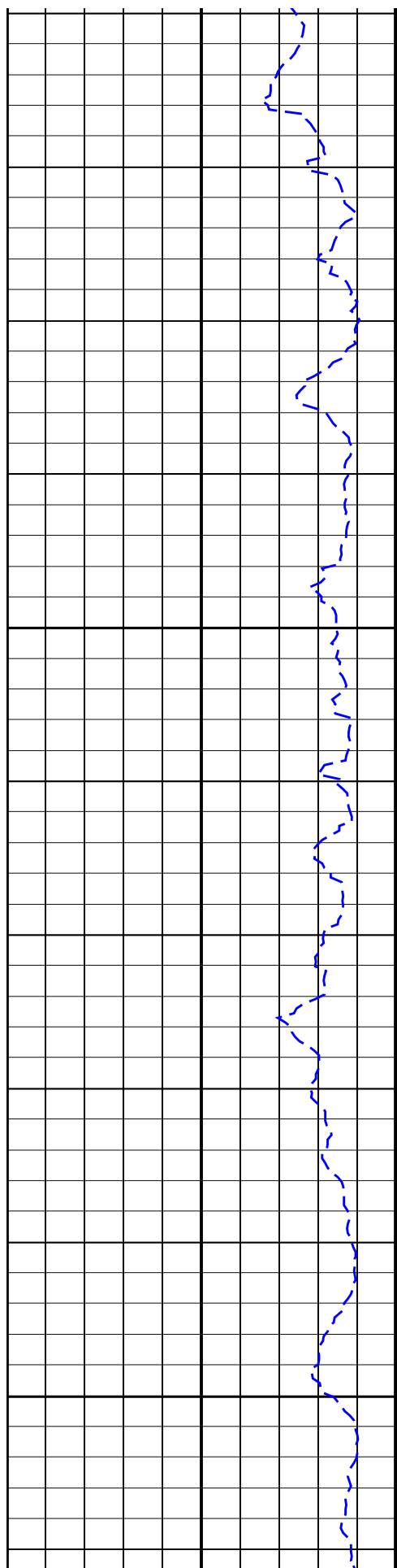




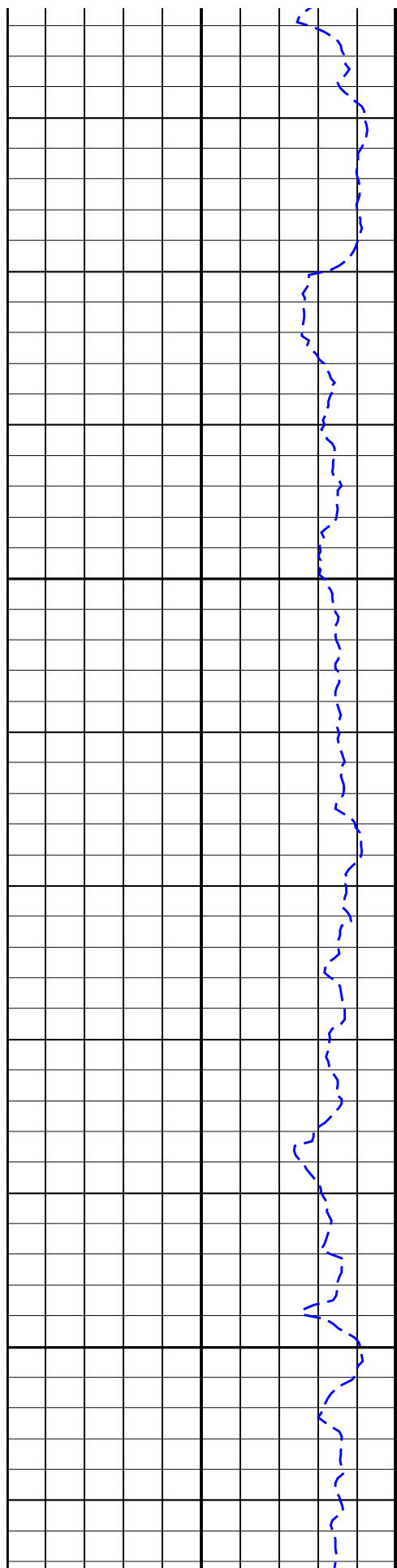
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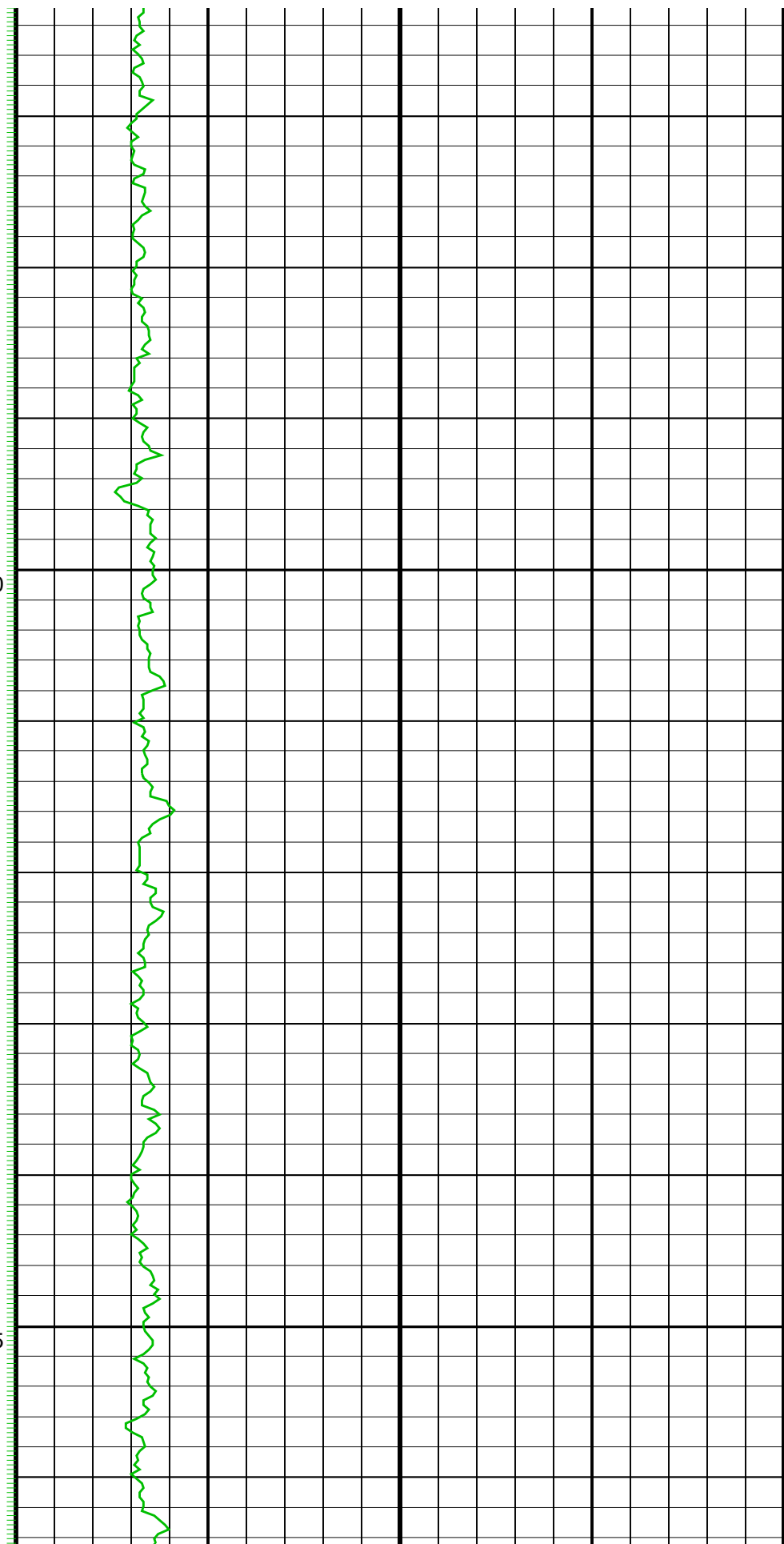


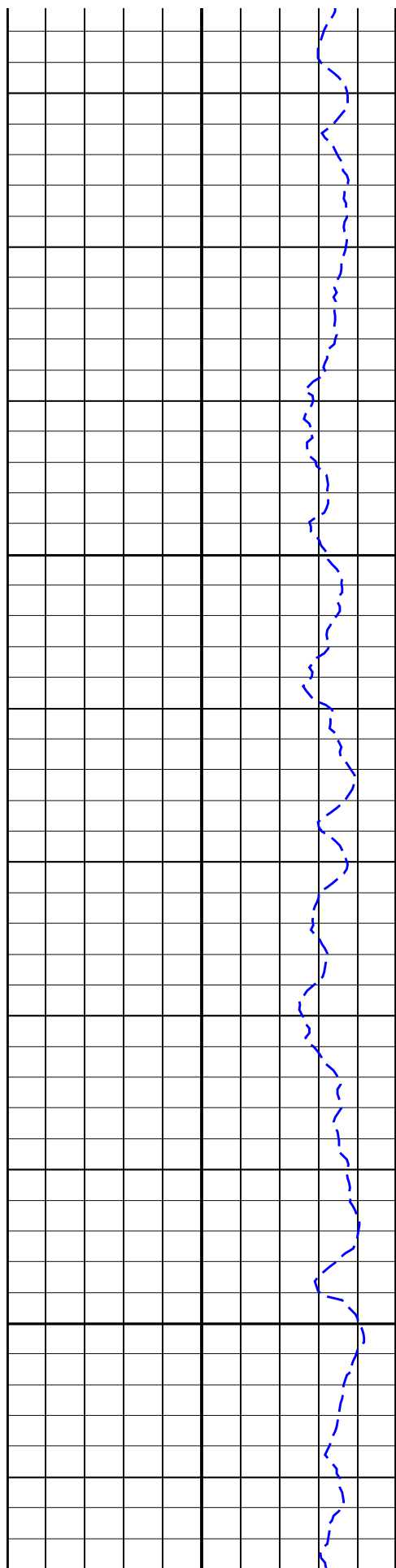




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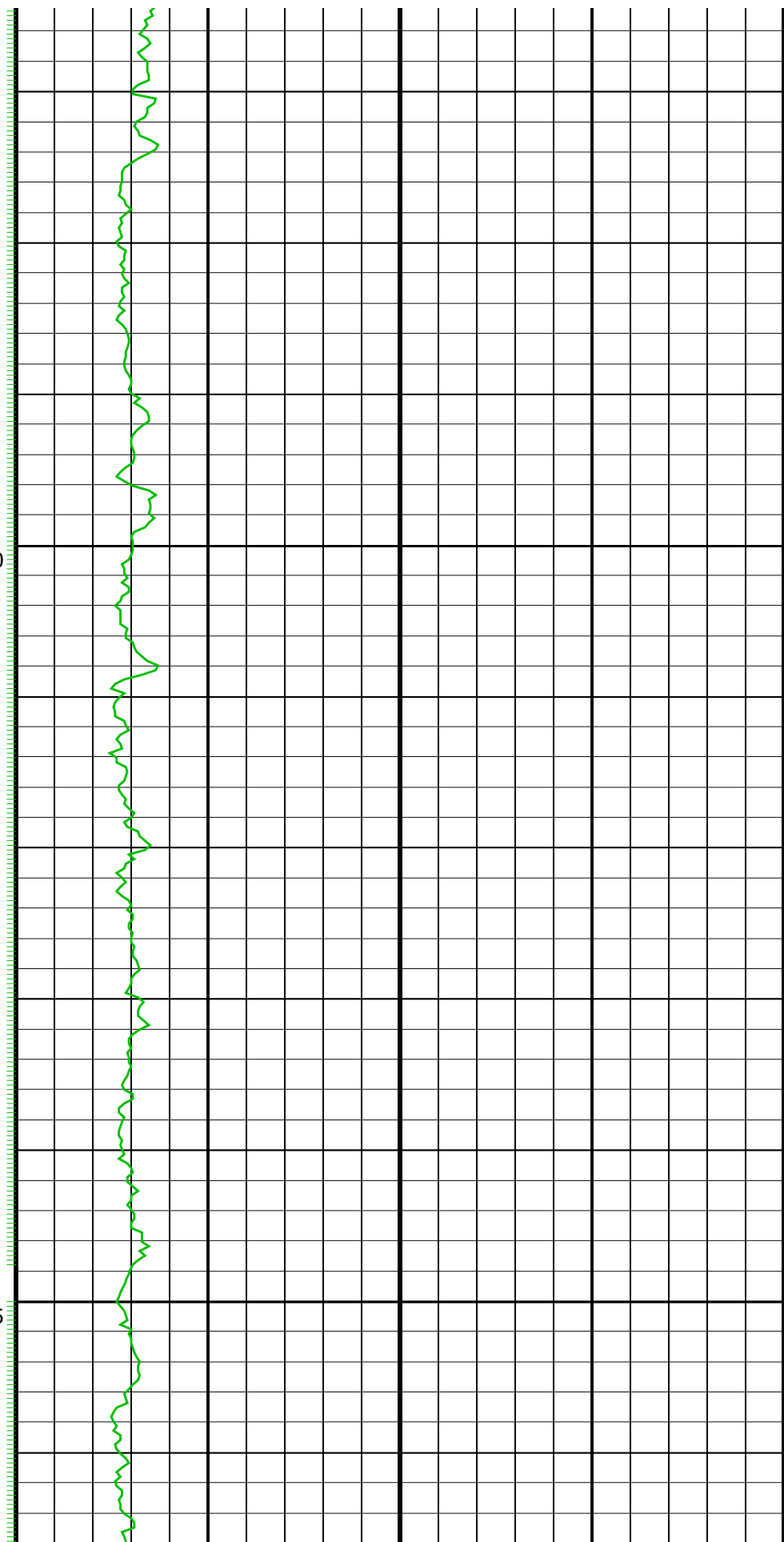
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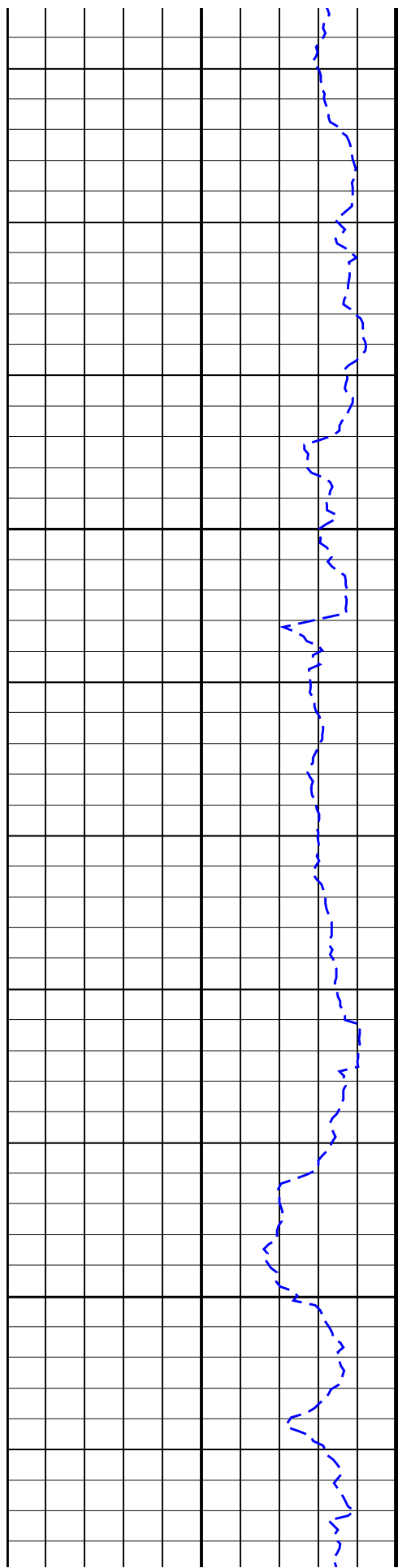




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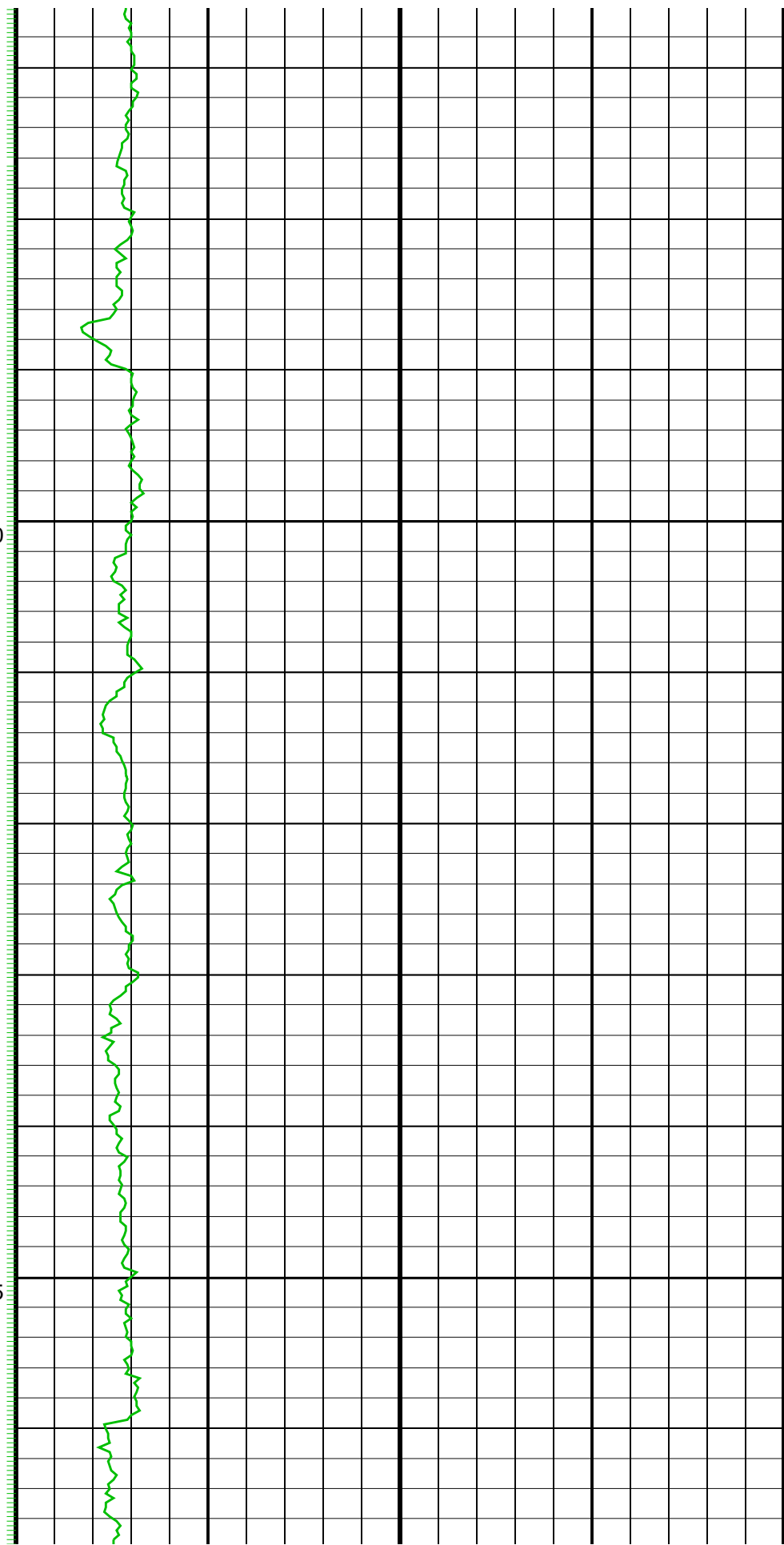
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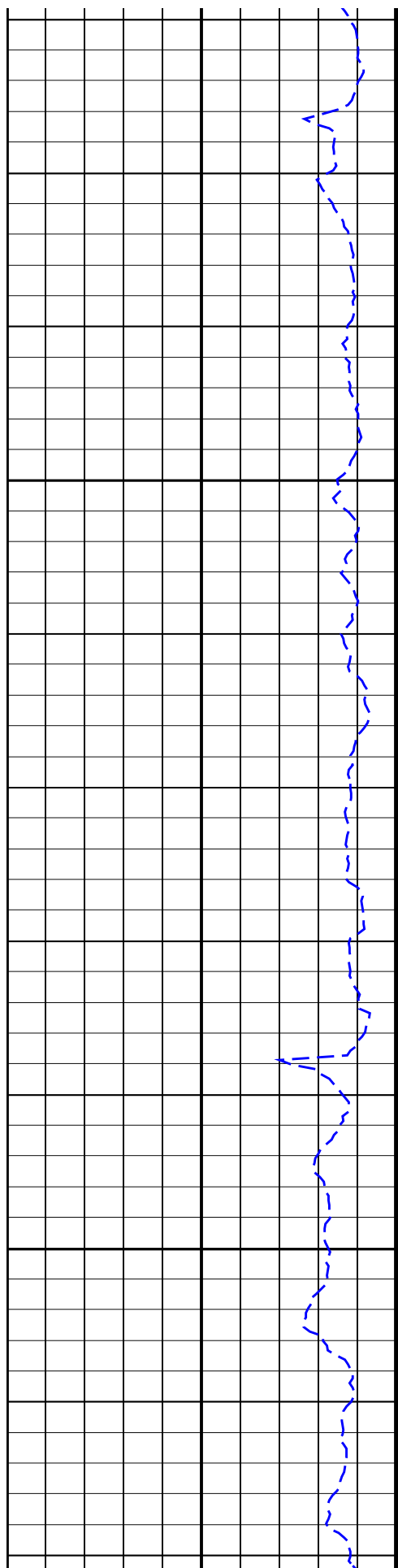
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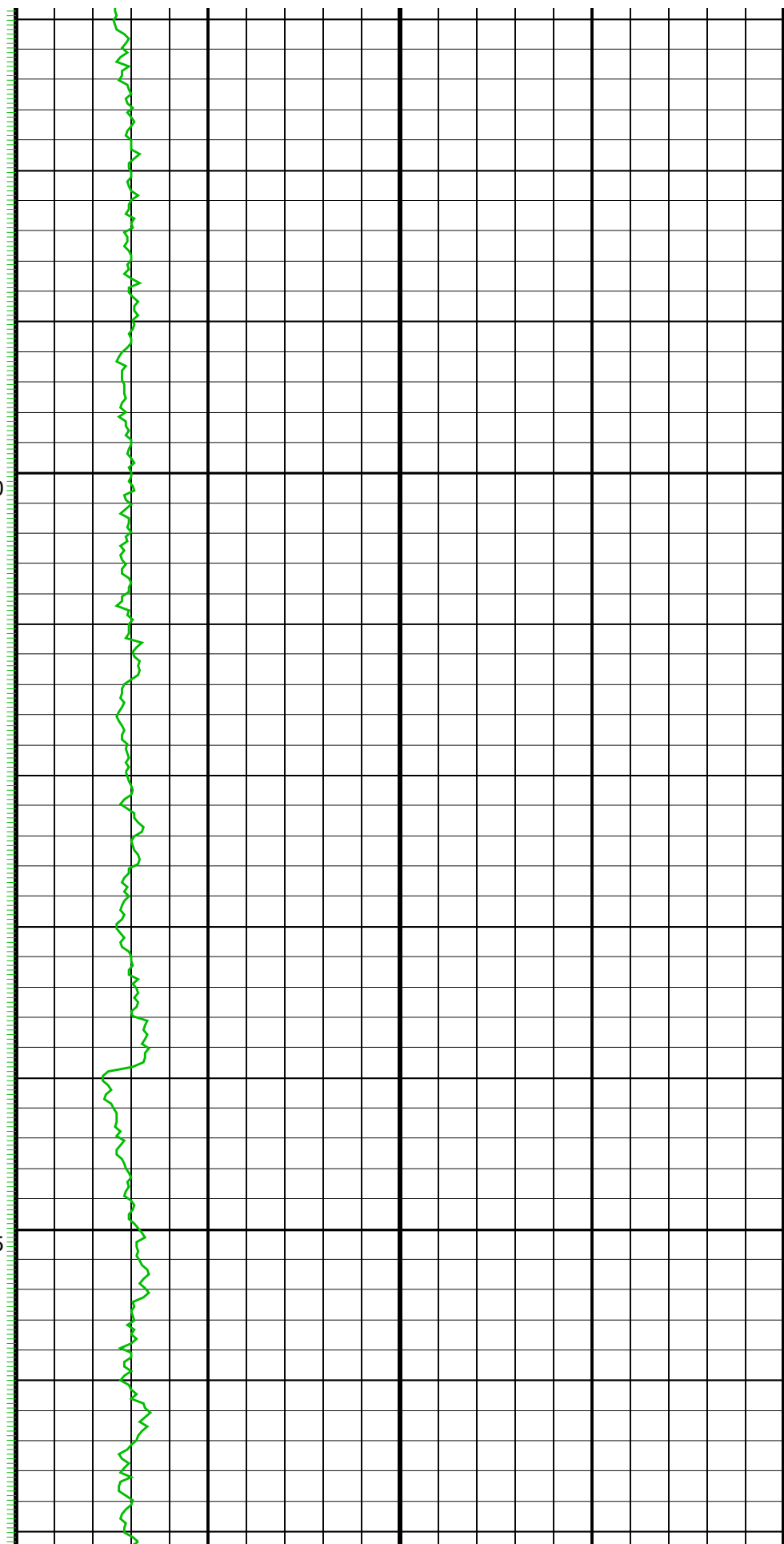


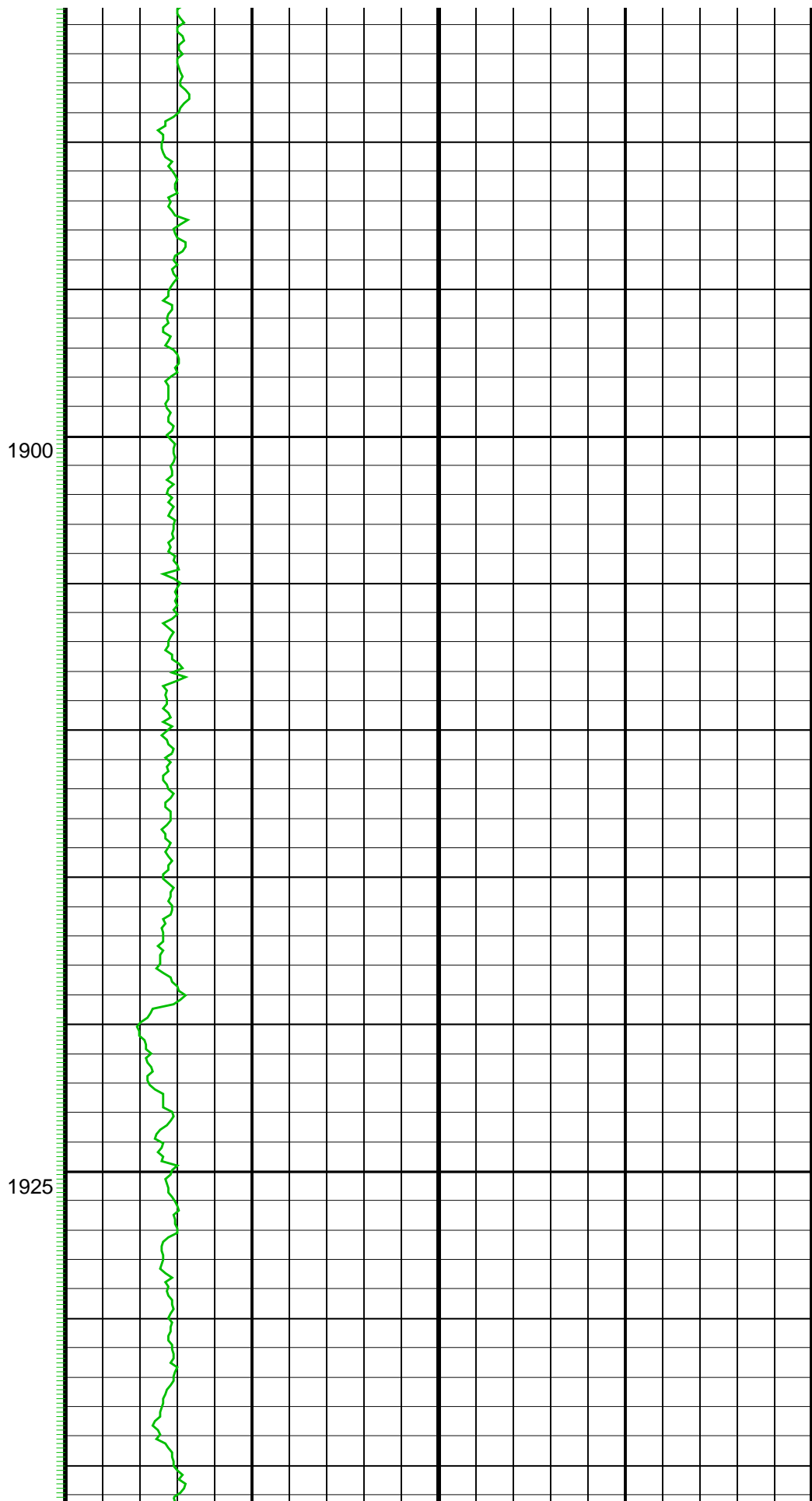
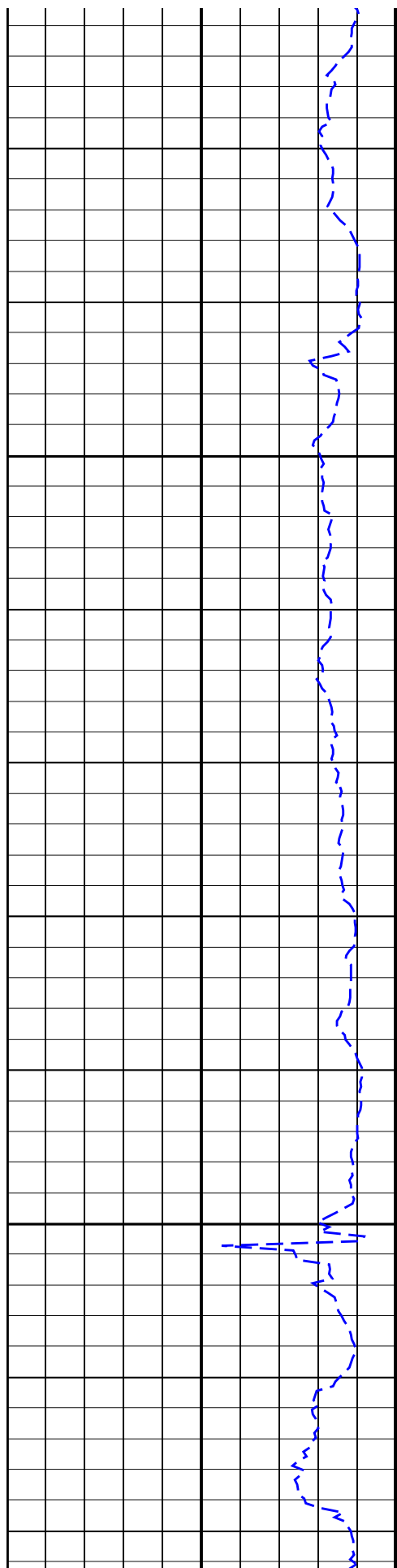


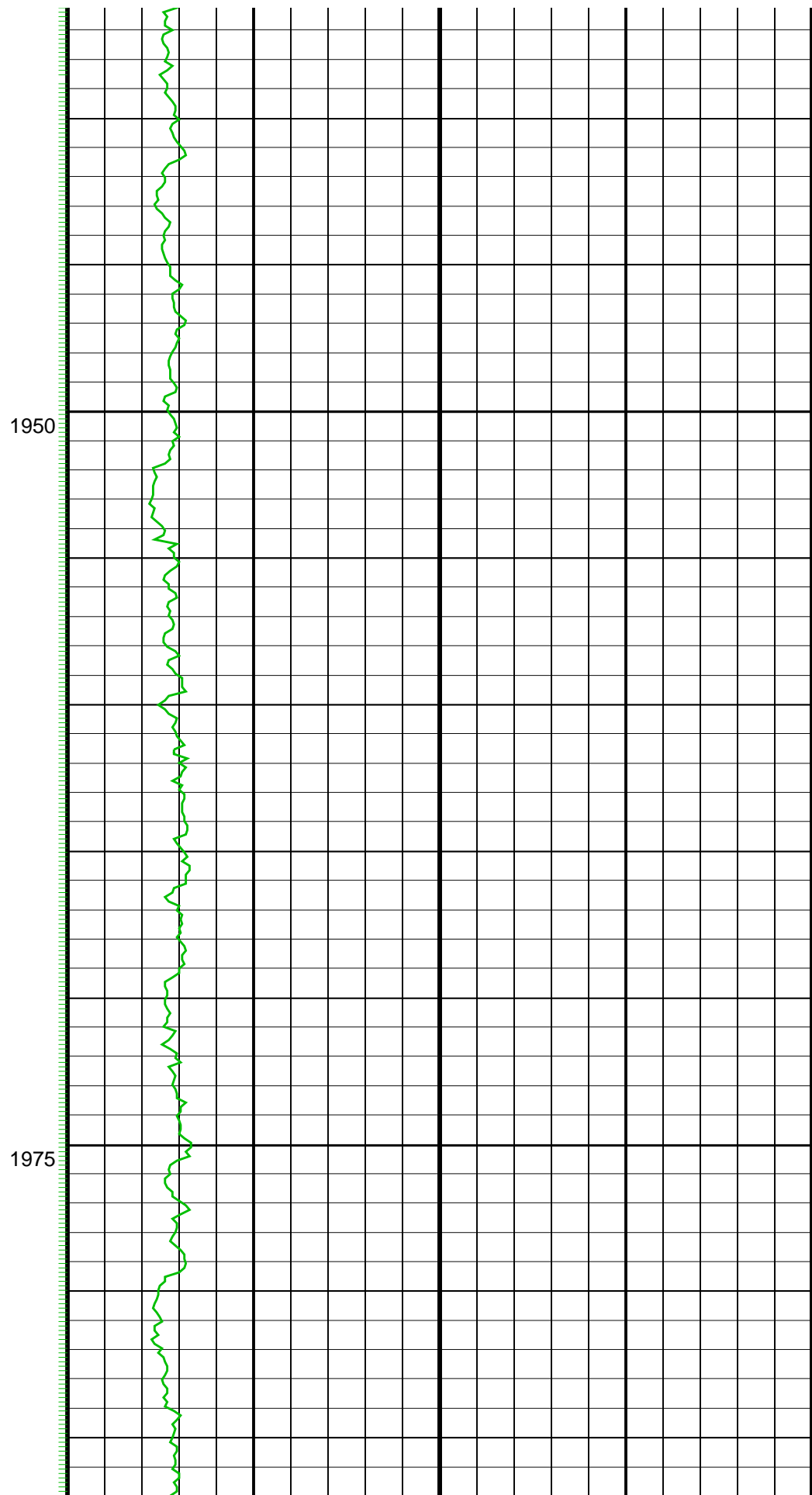
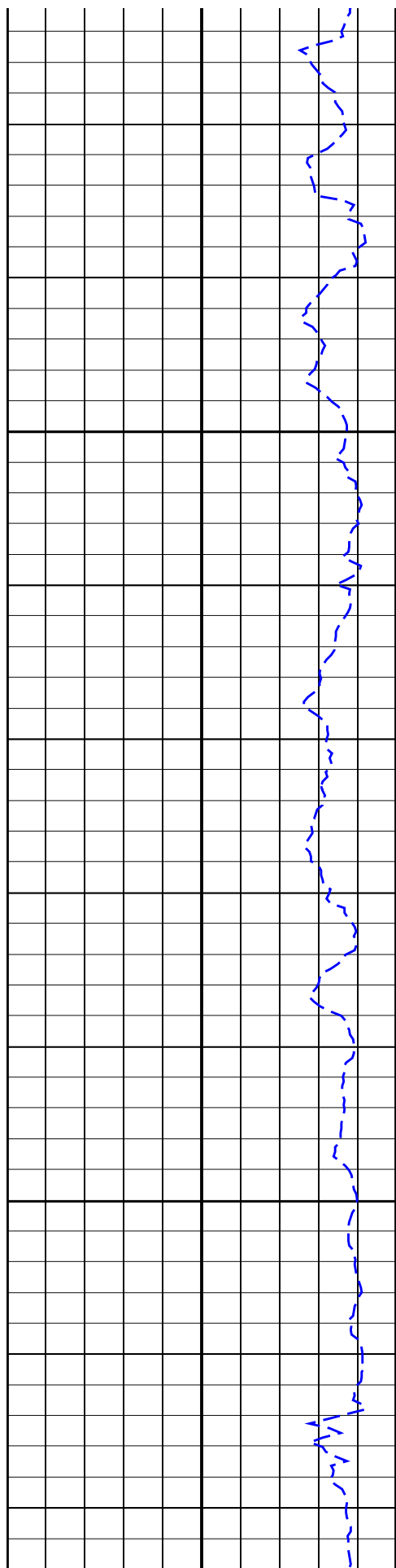


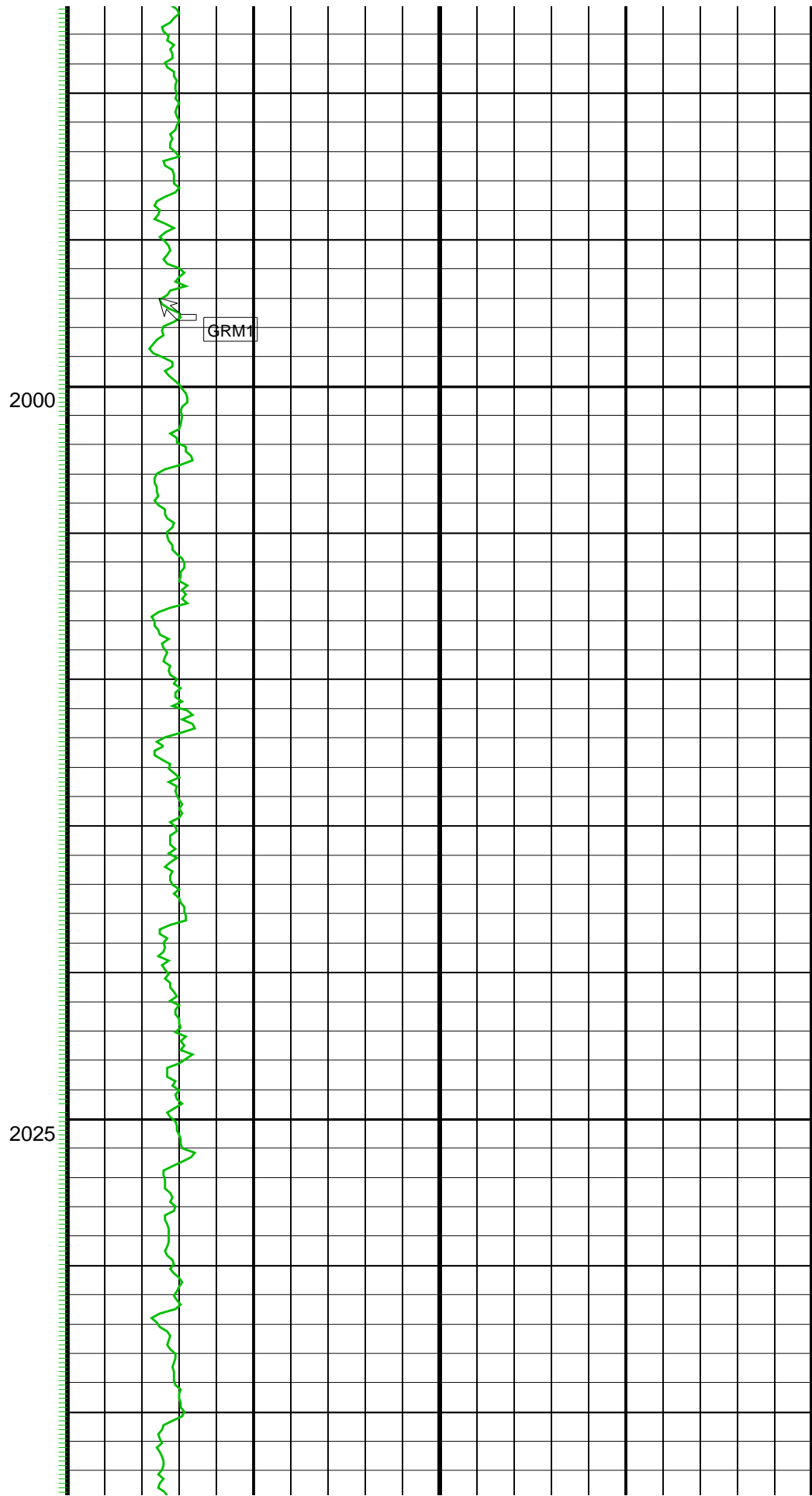
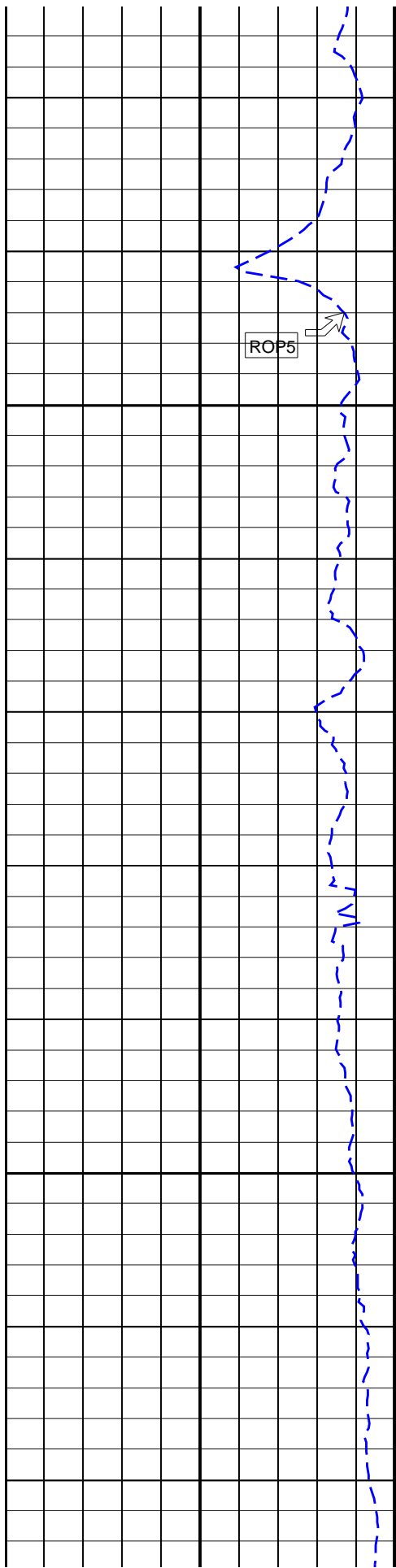
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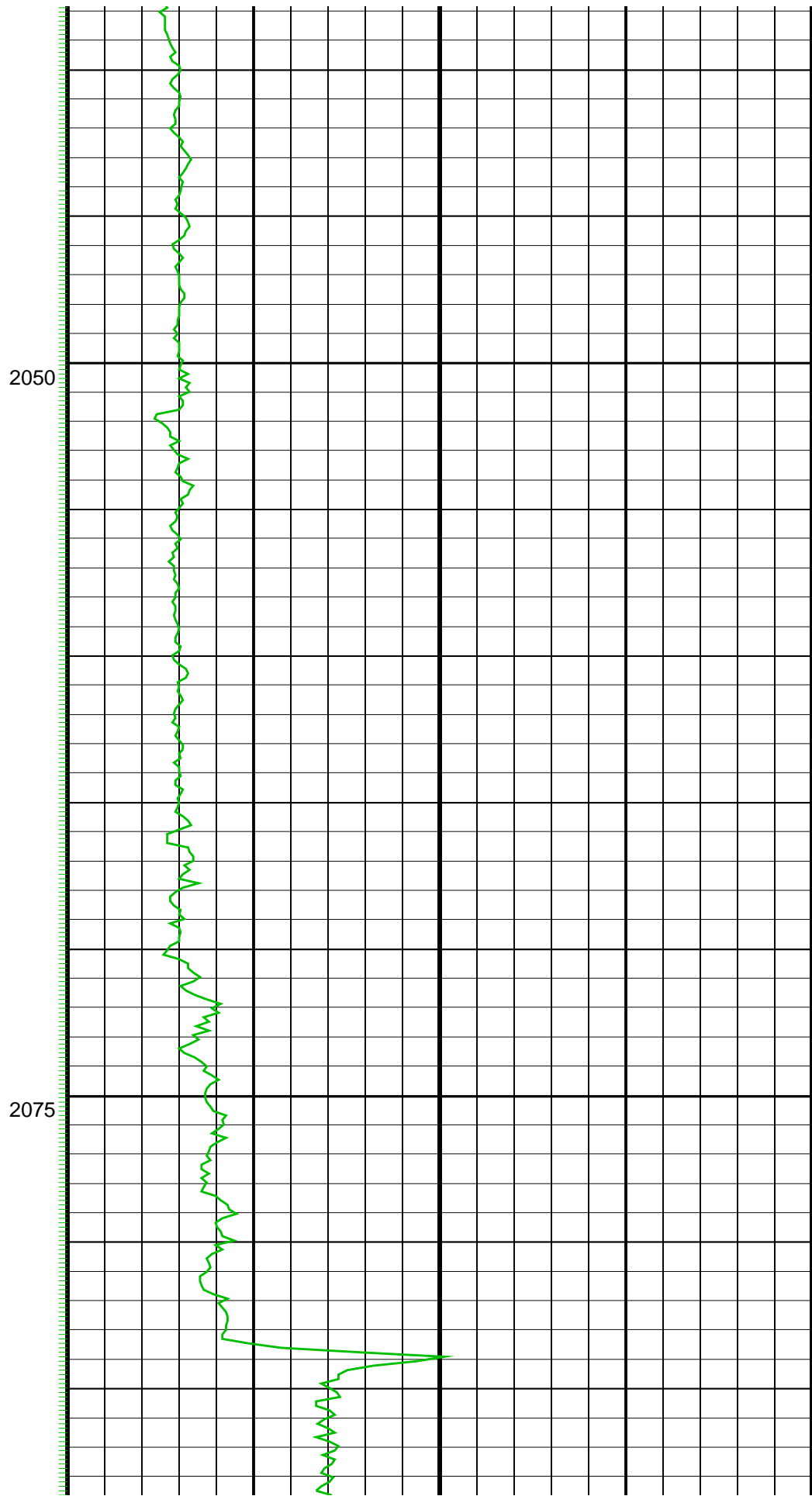
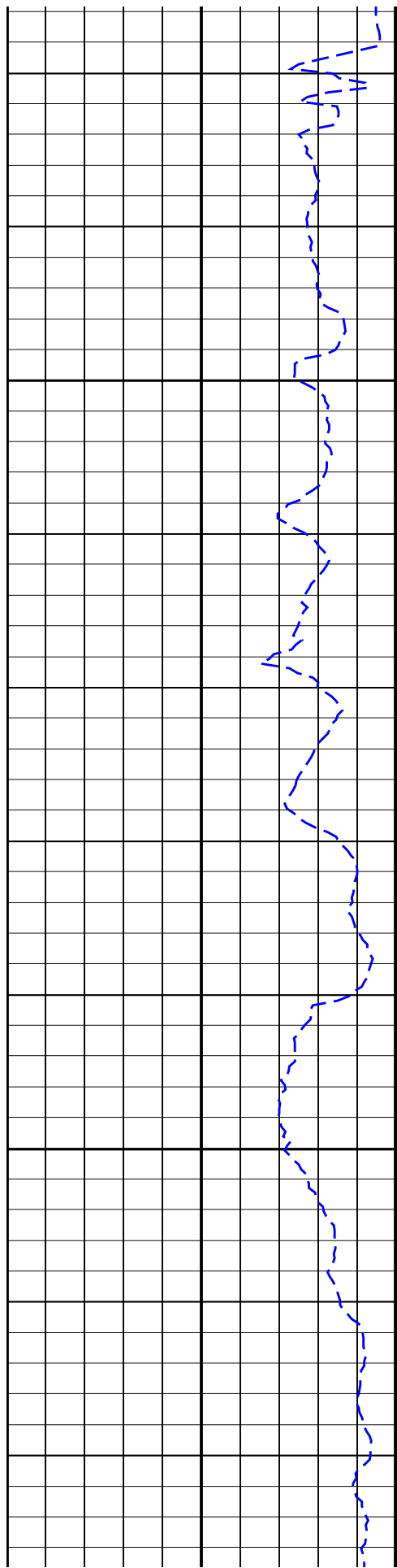
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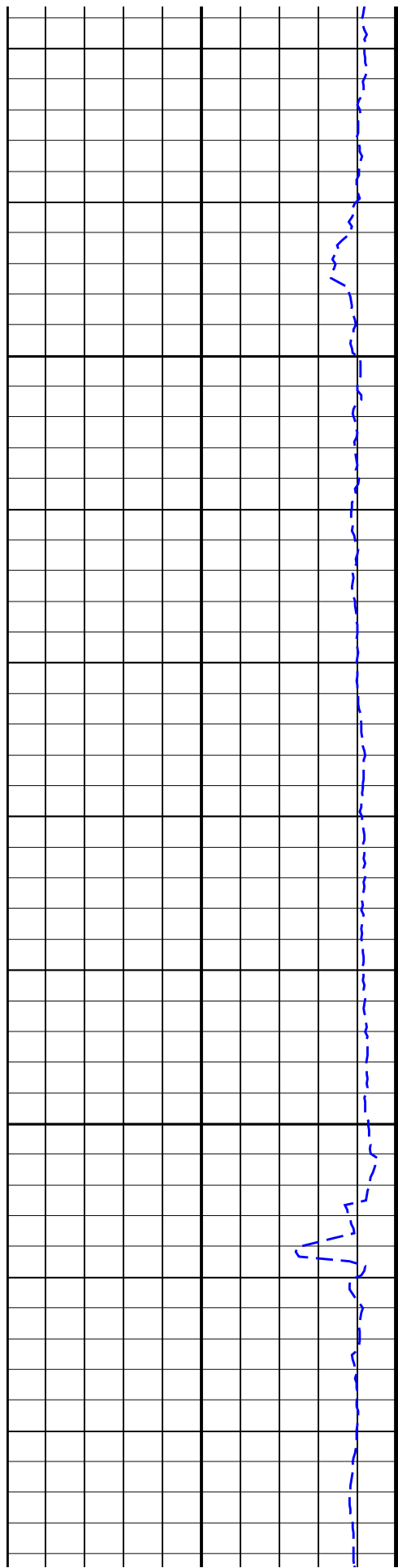






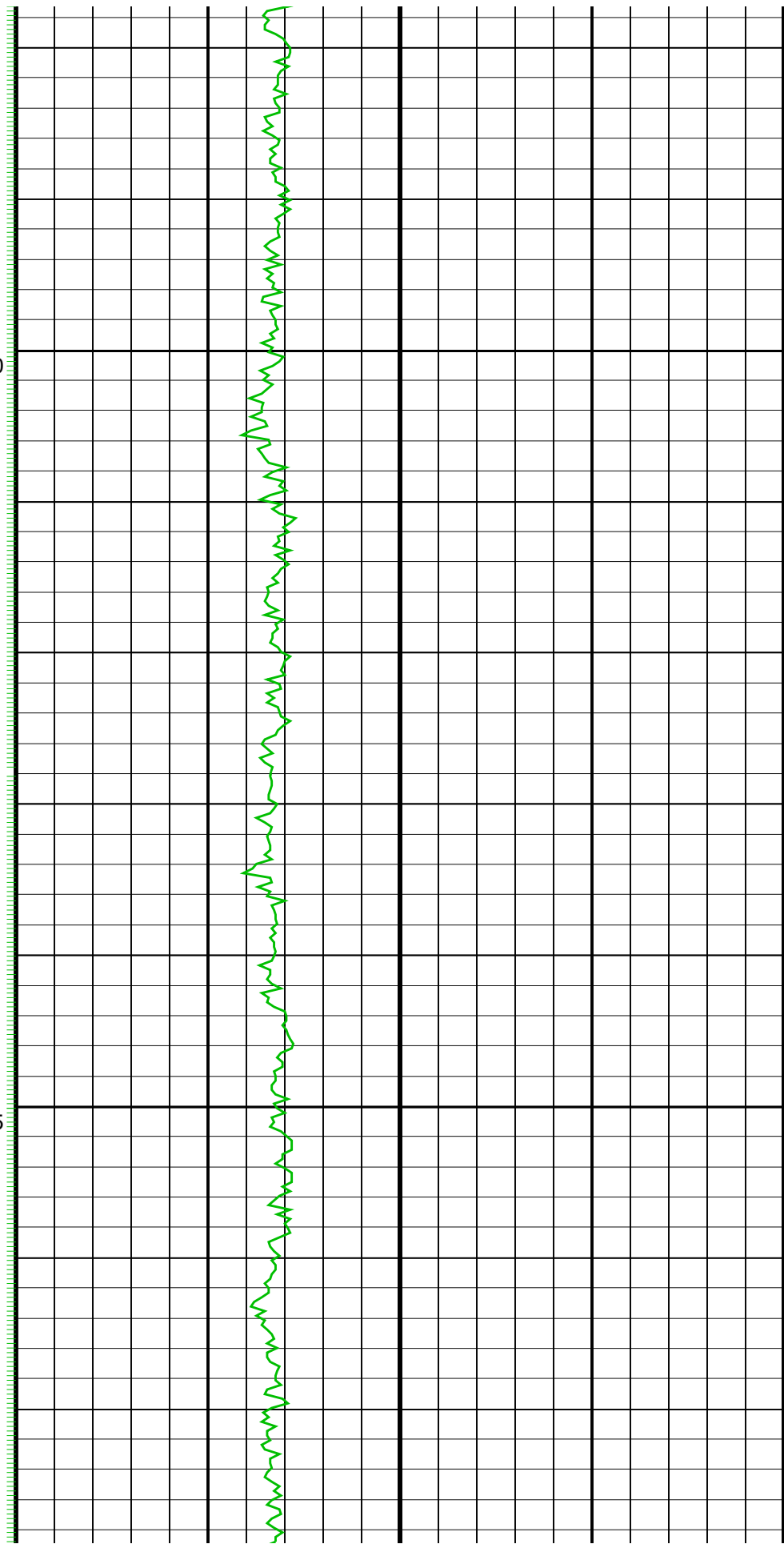


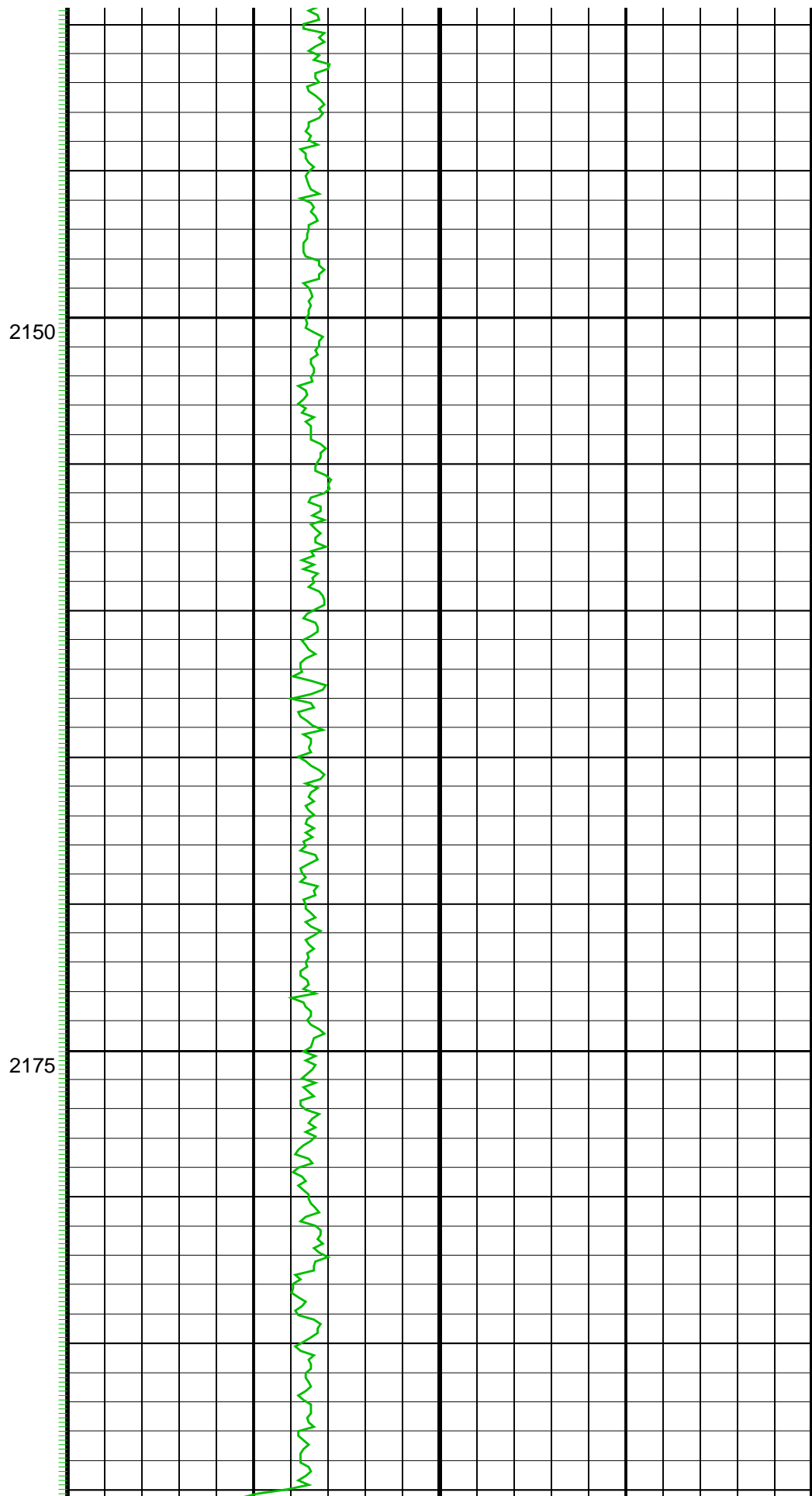
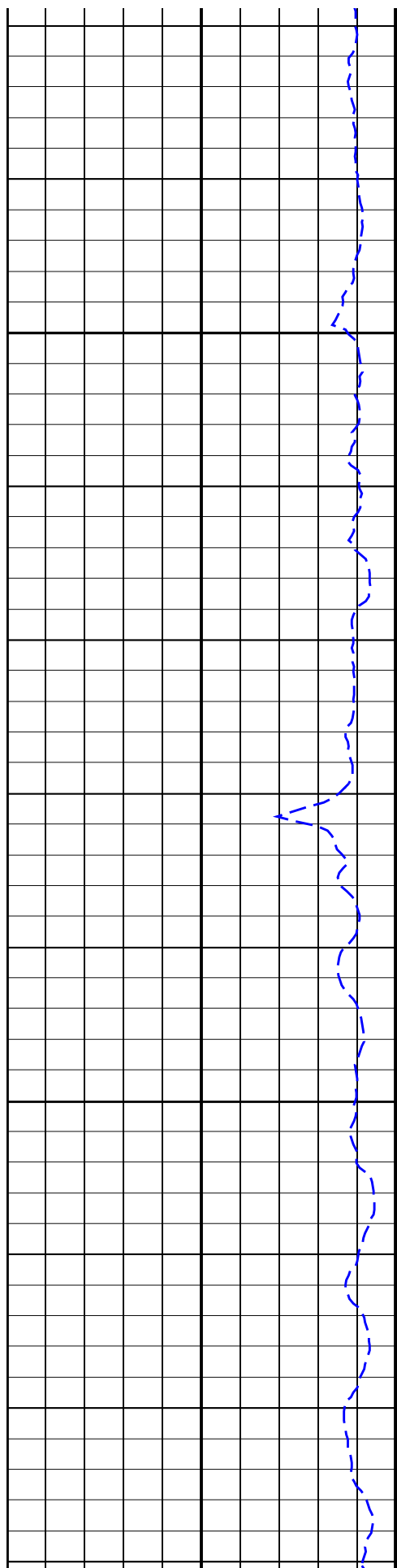




2100

2125





ROP5



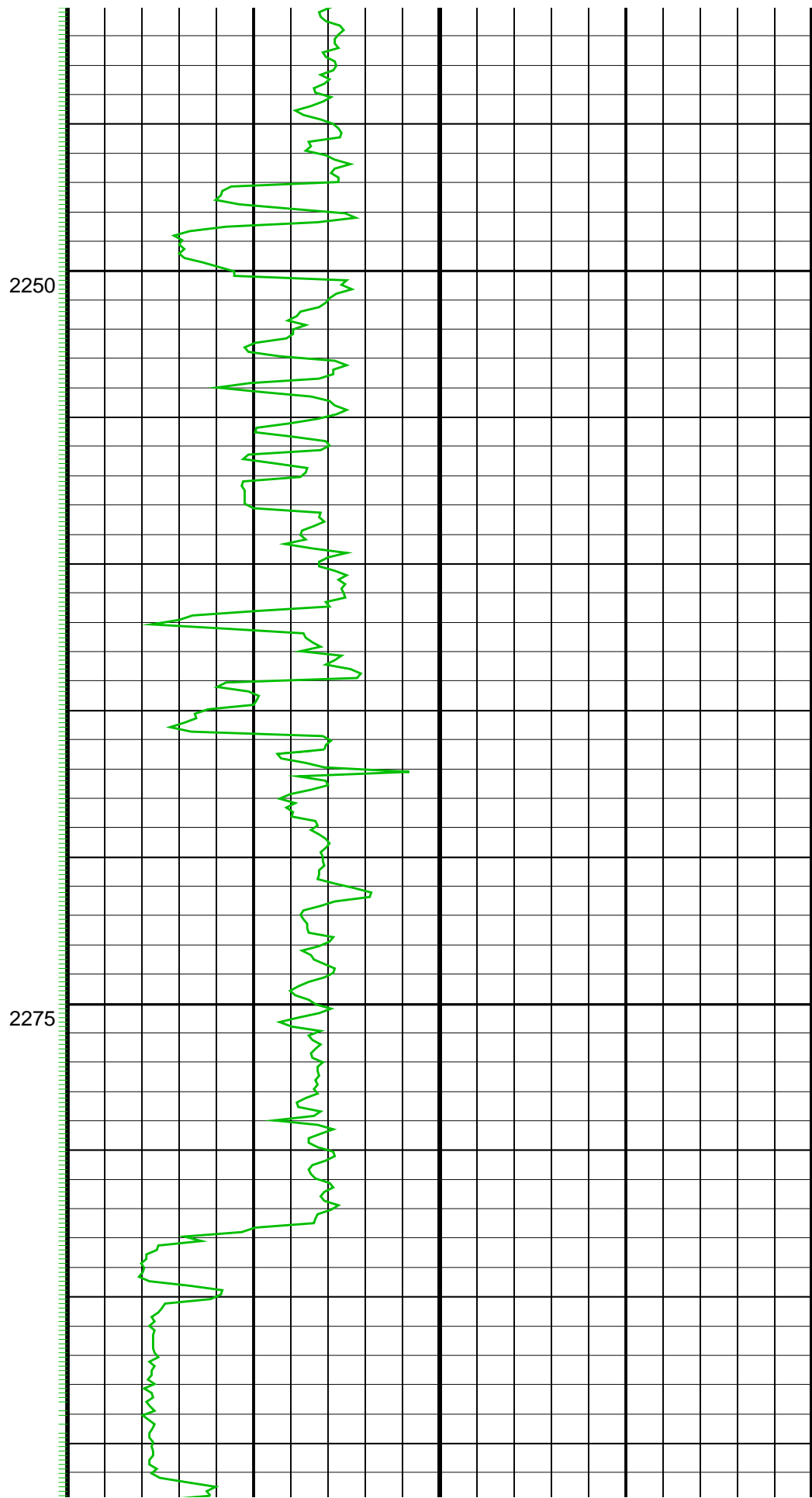
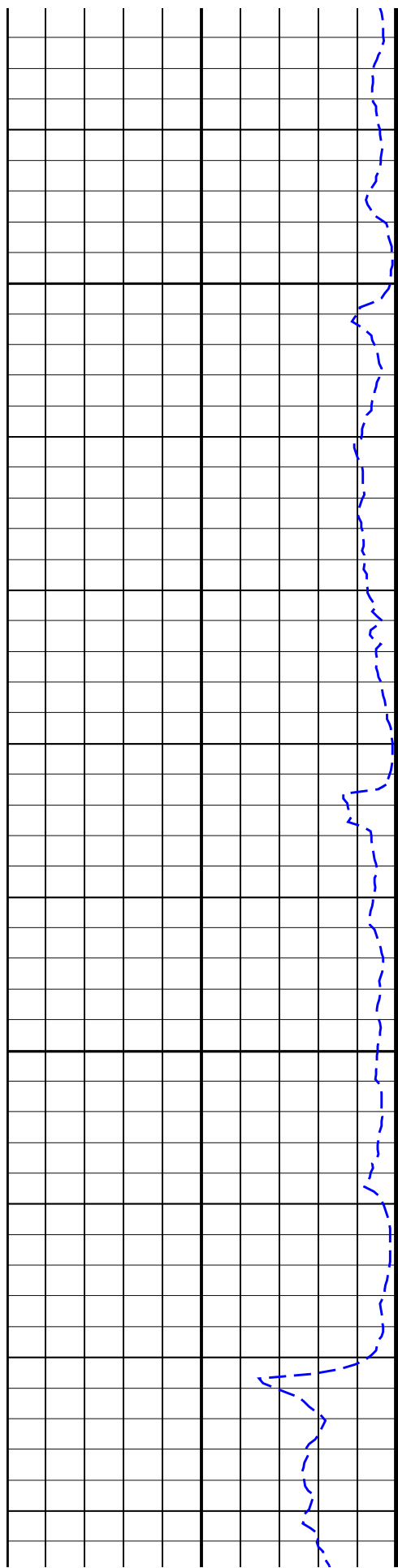
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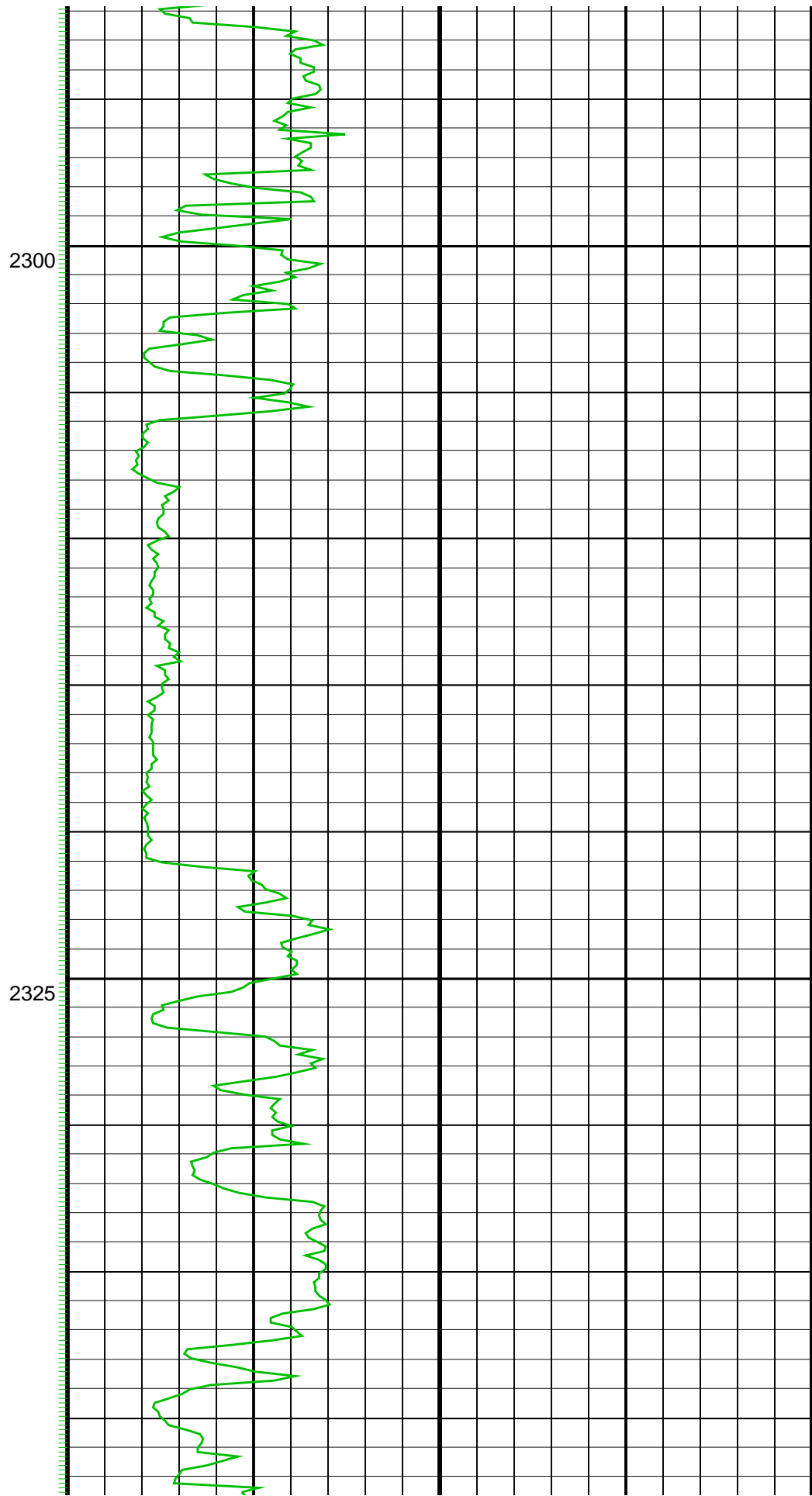
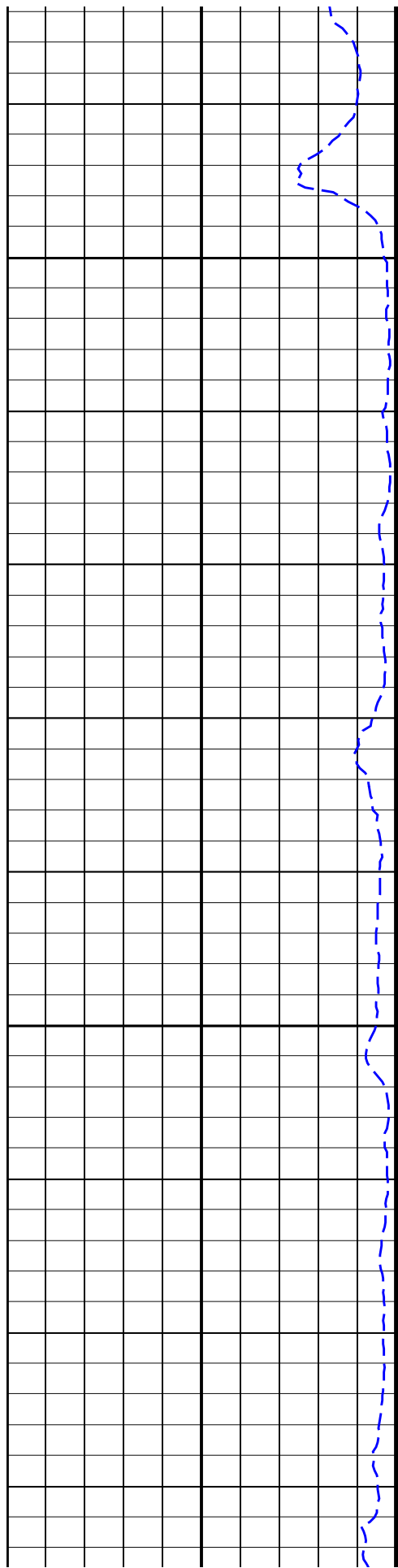


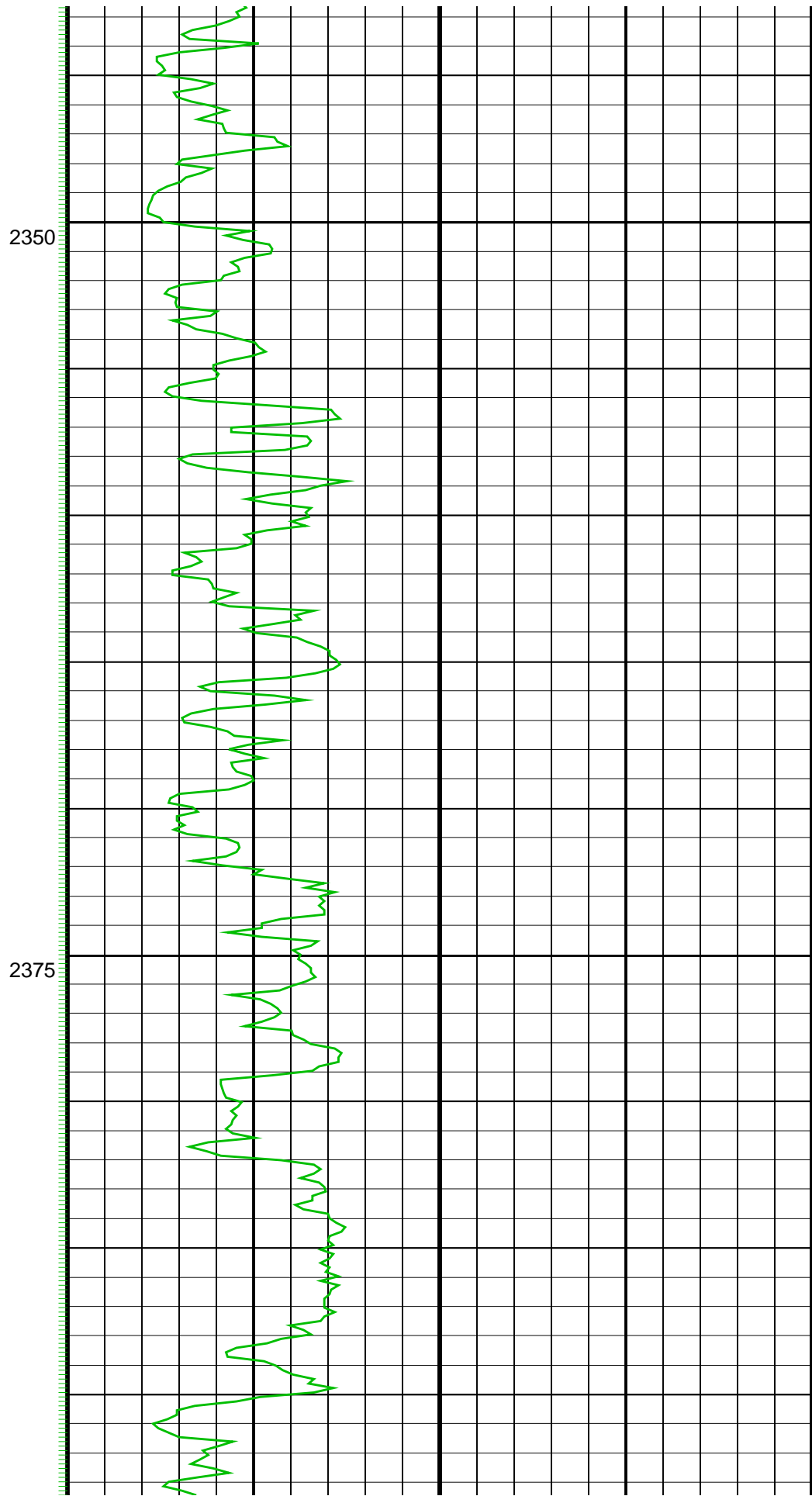
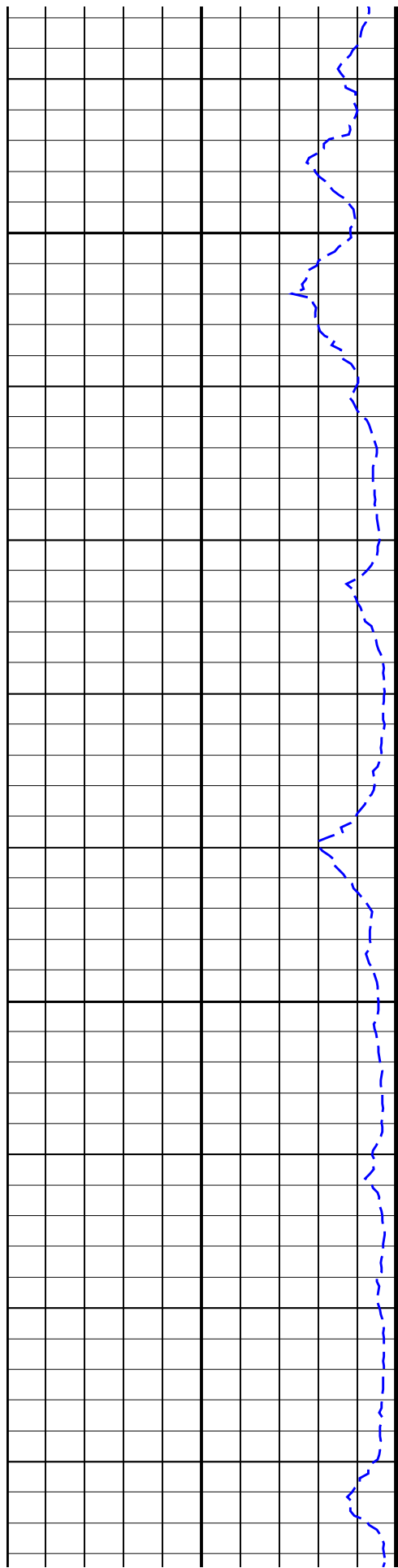
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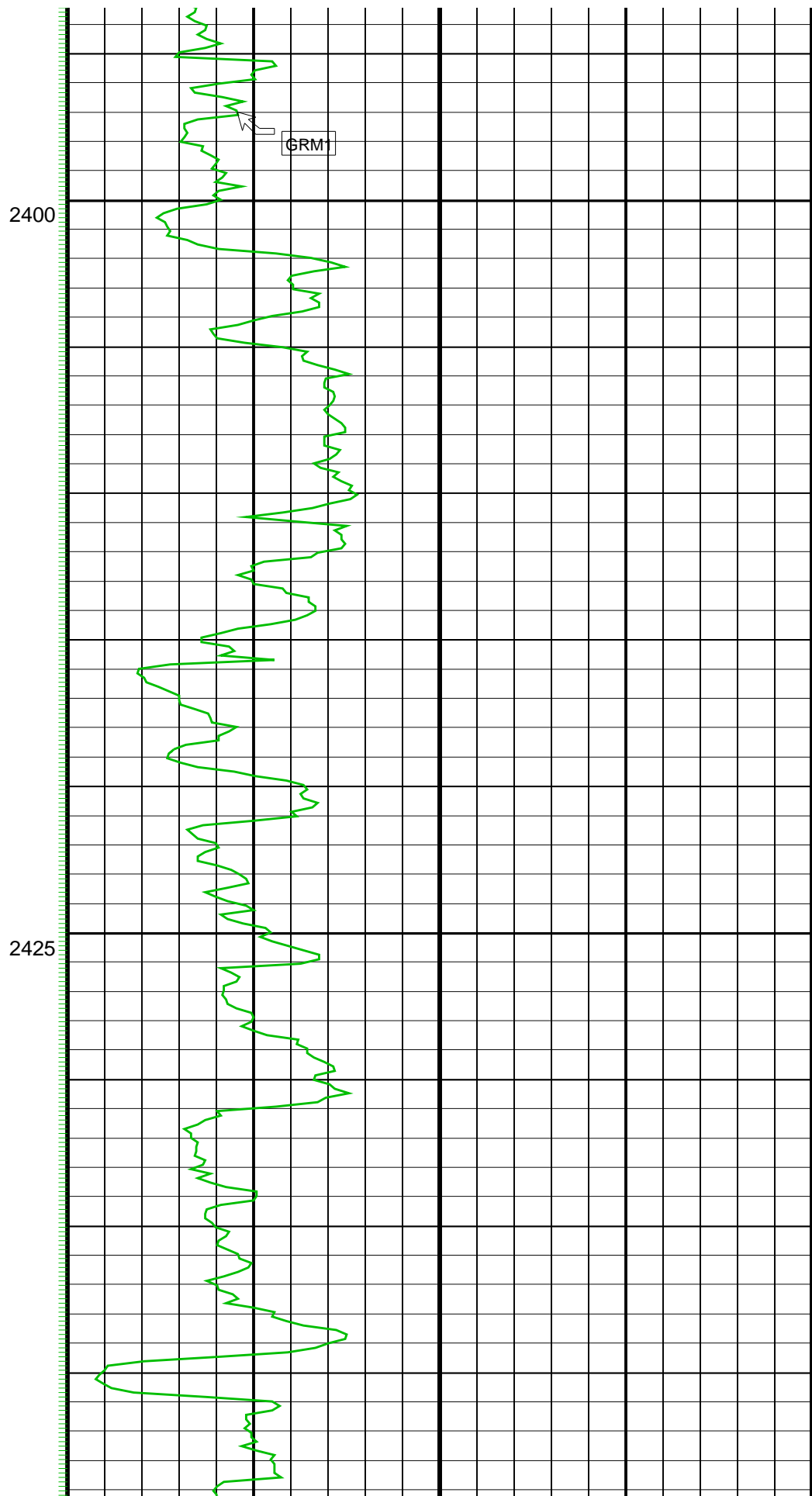
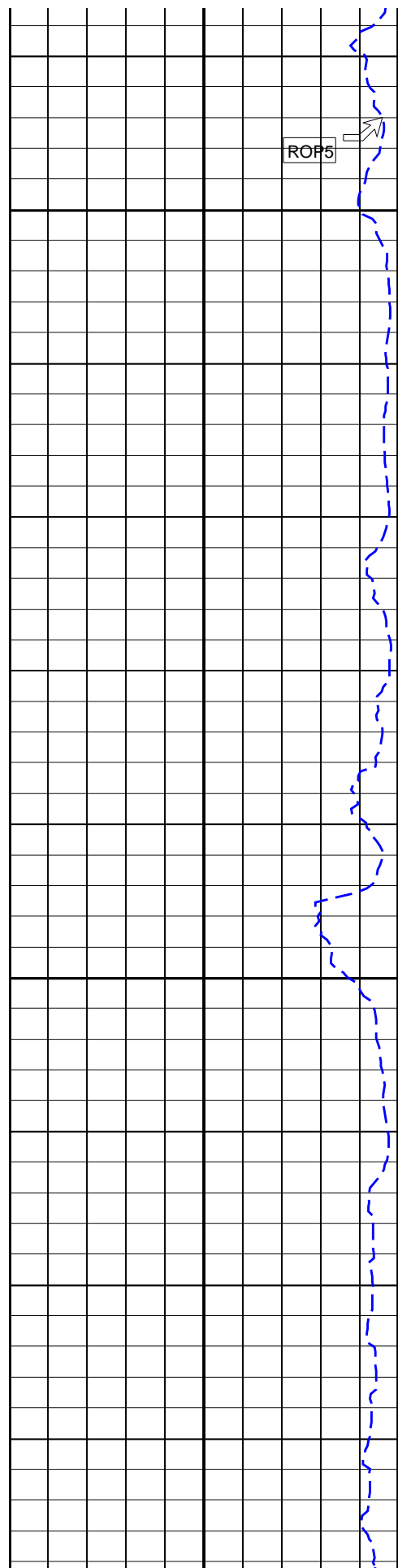
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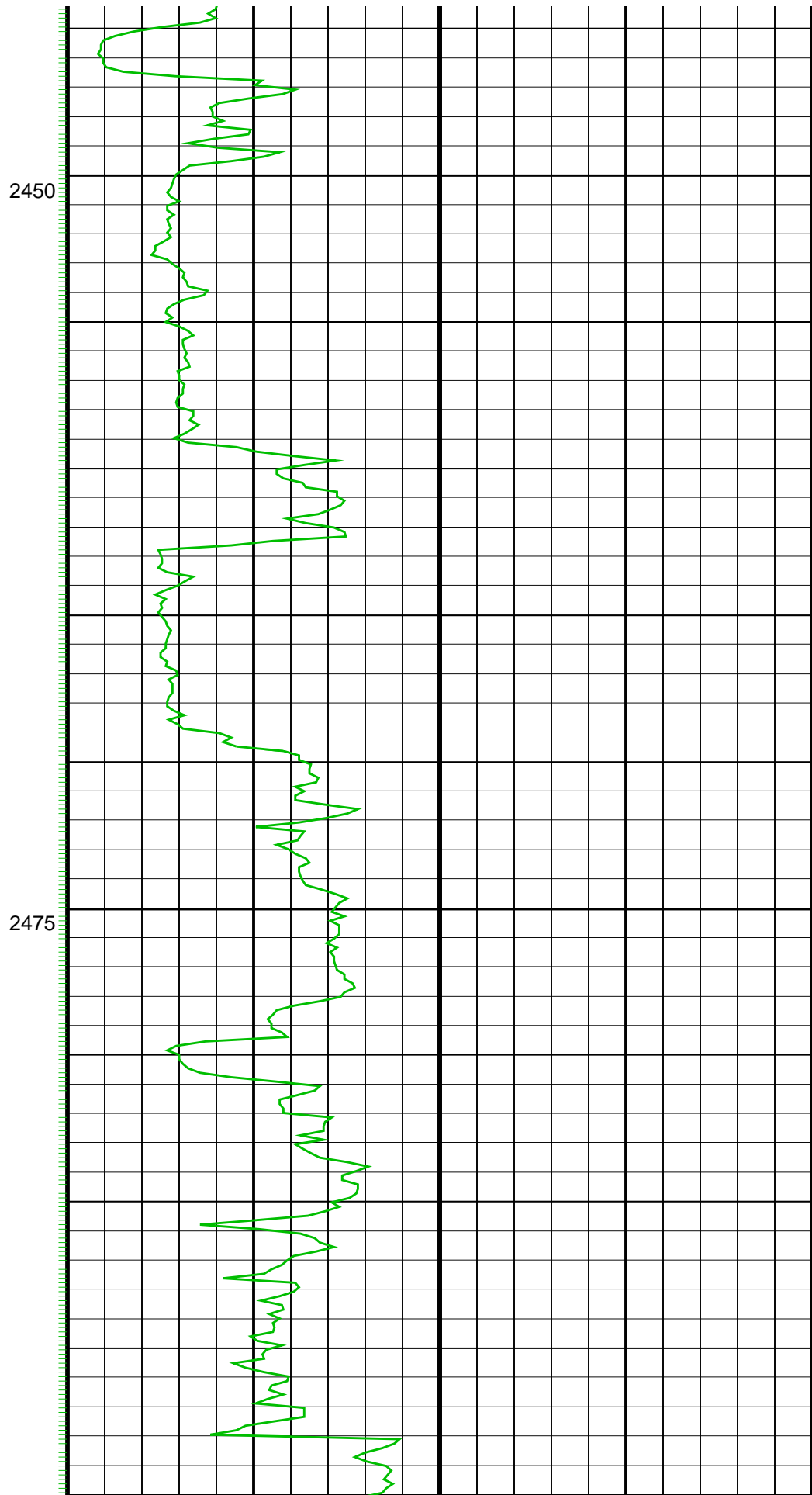
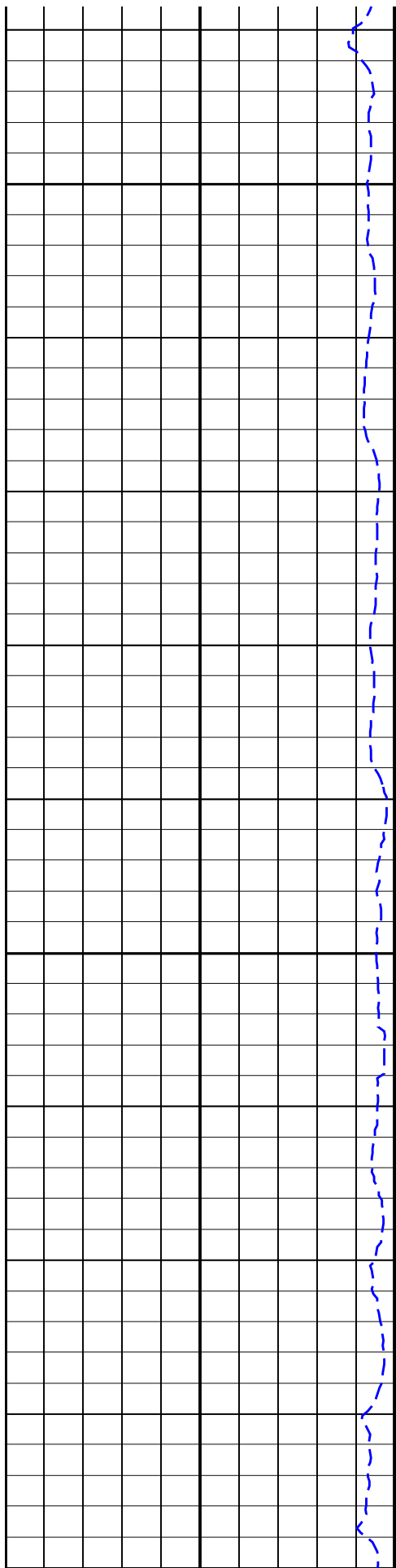


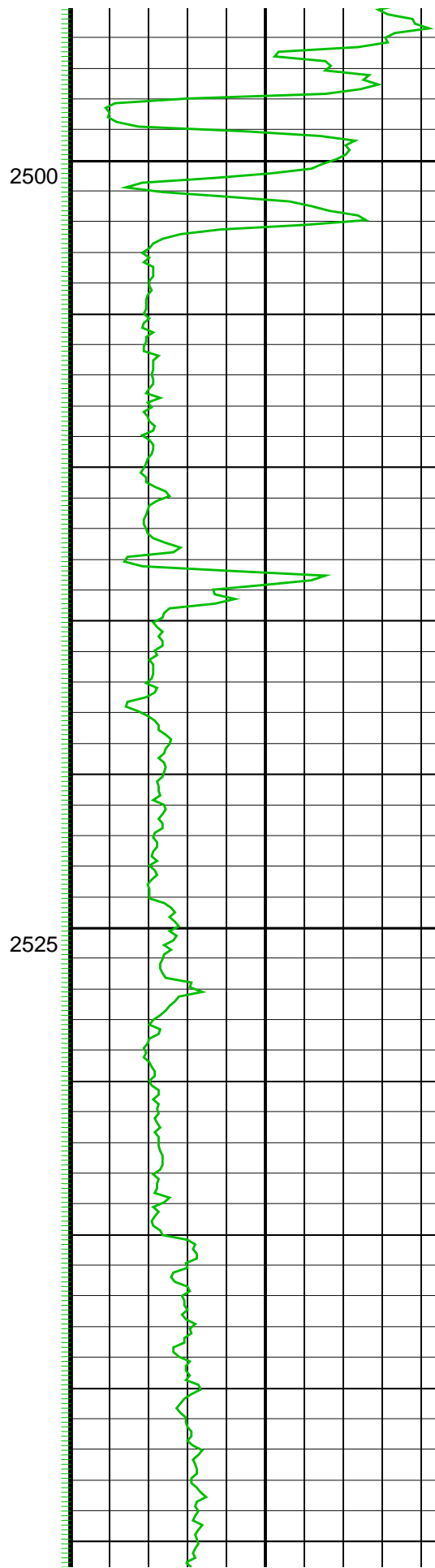
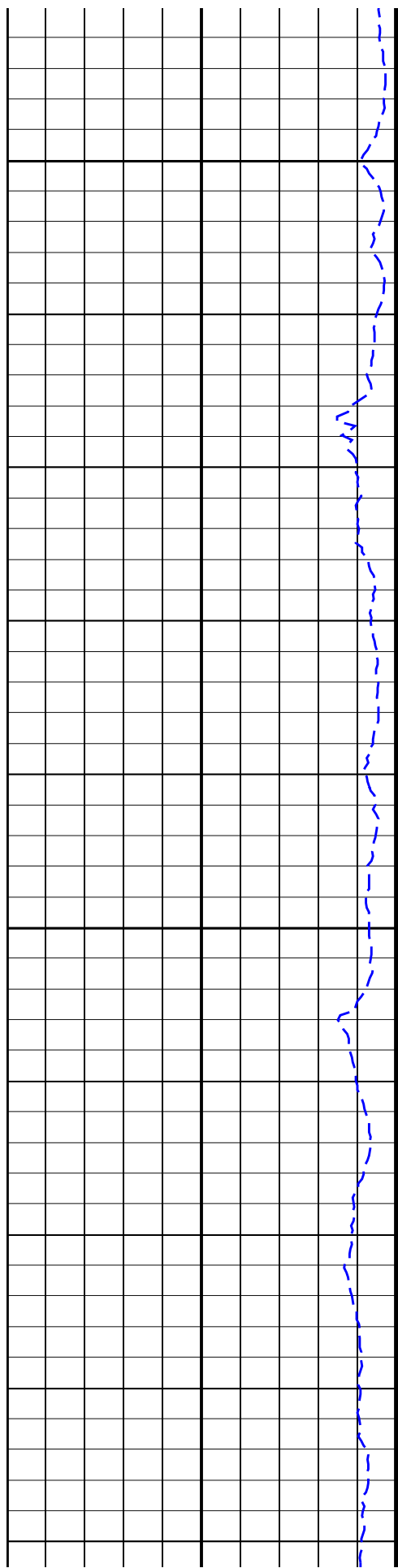






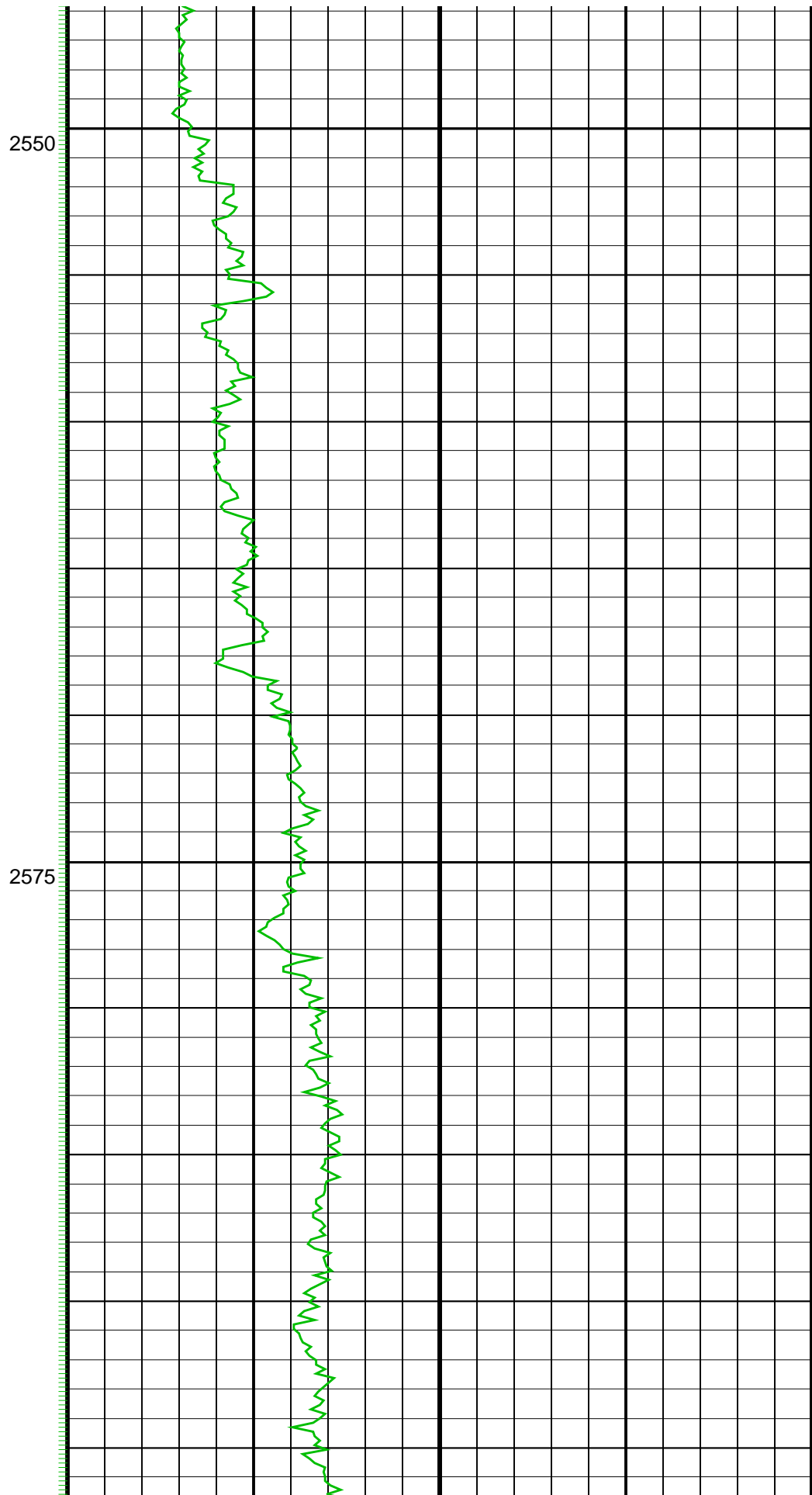
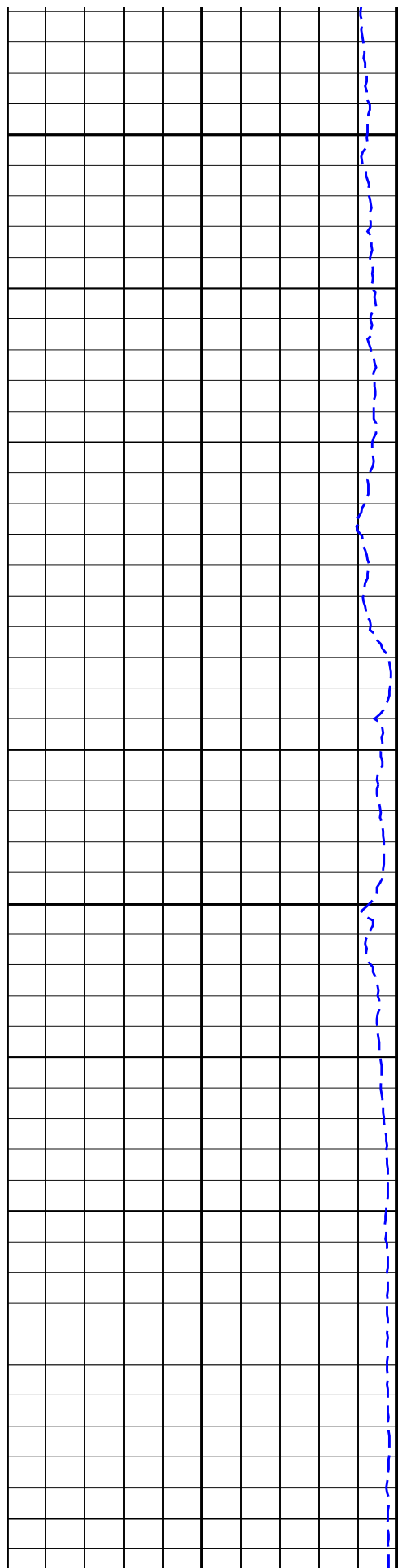


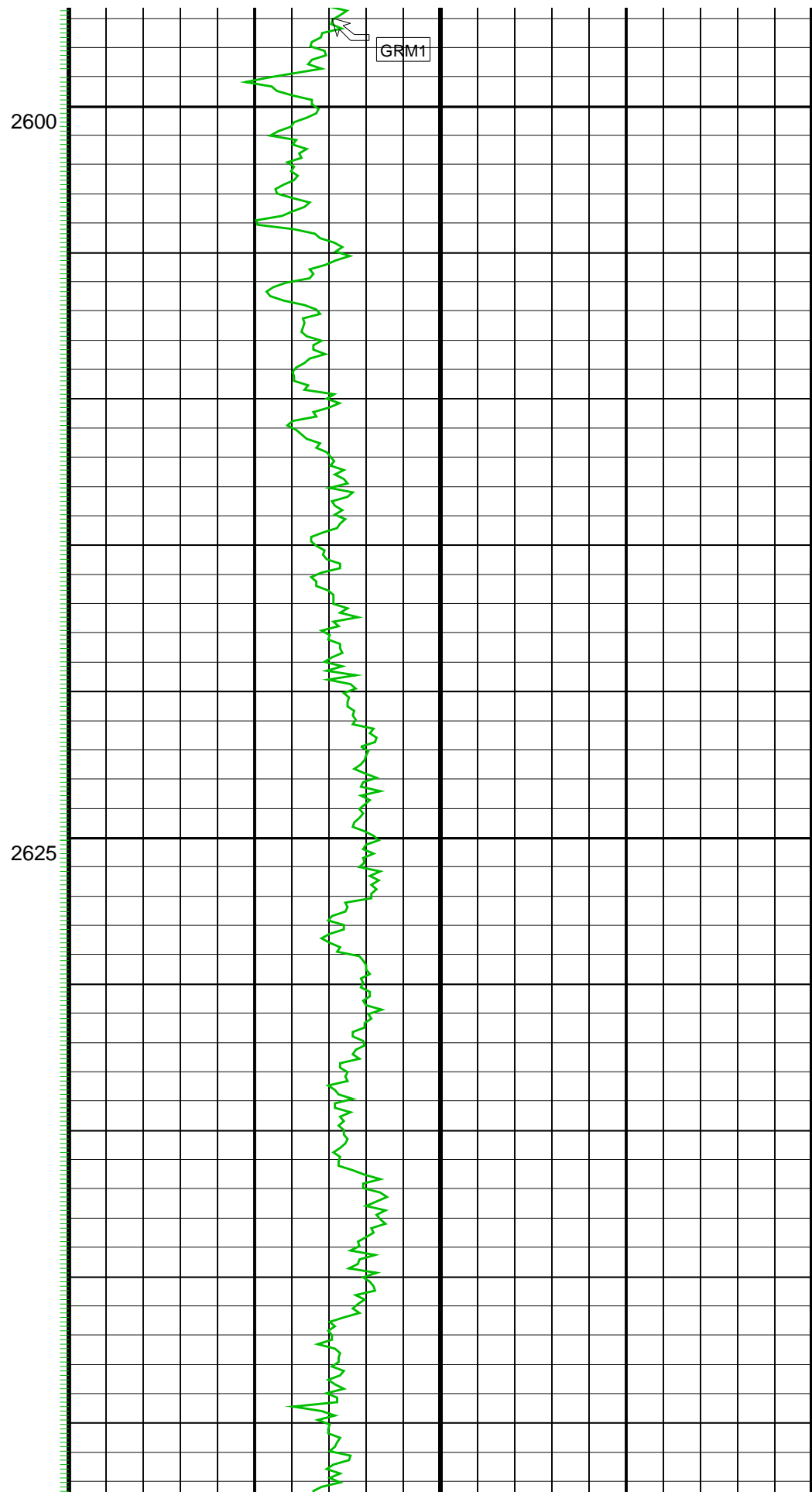
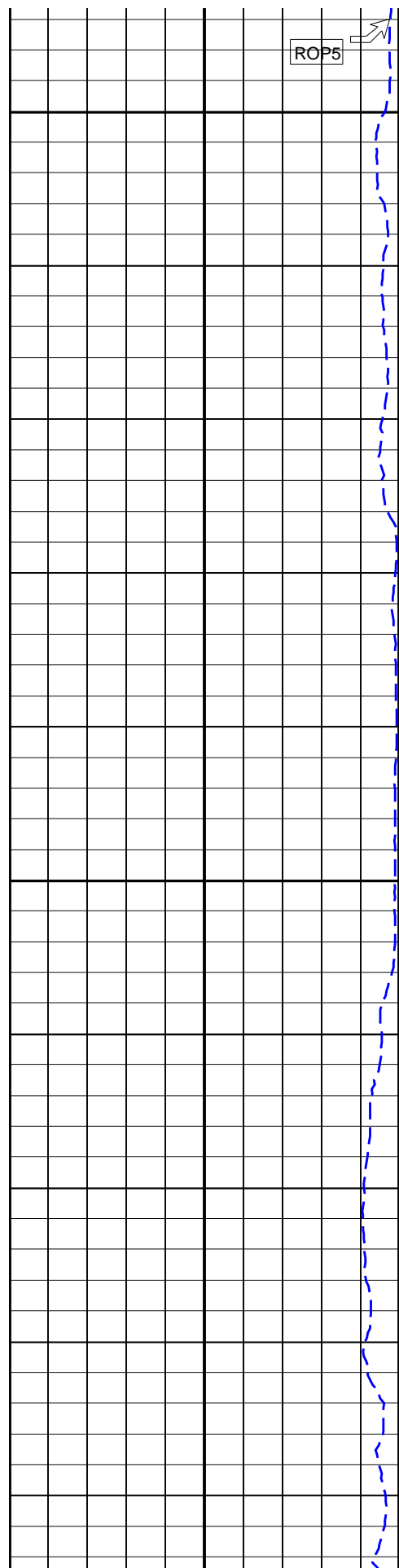




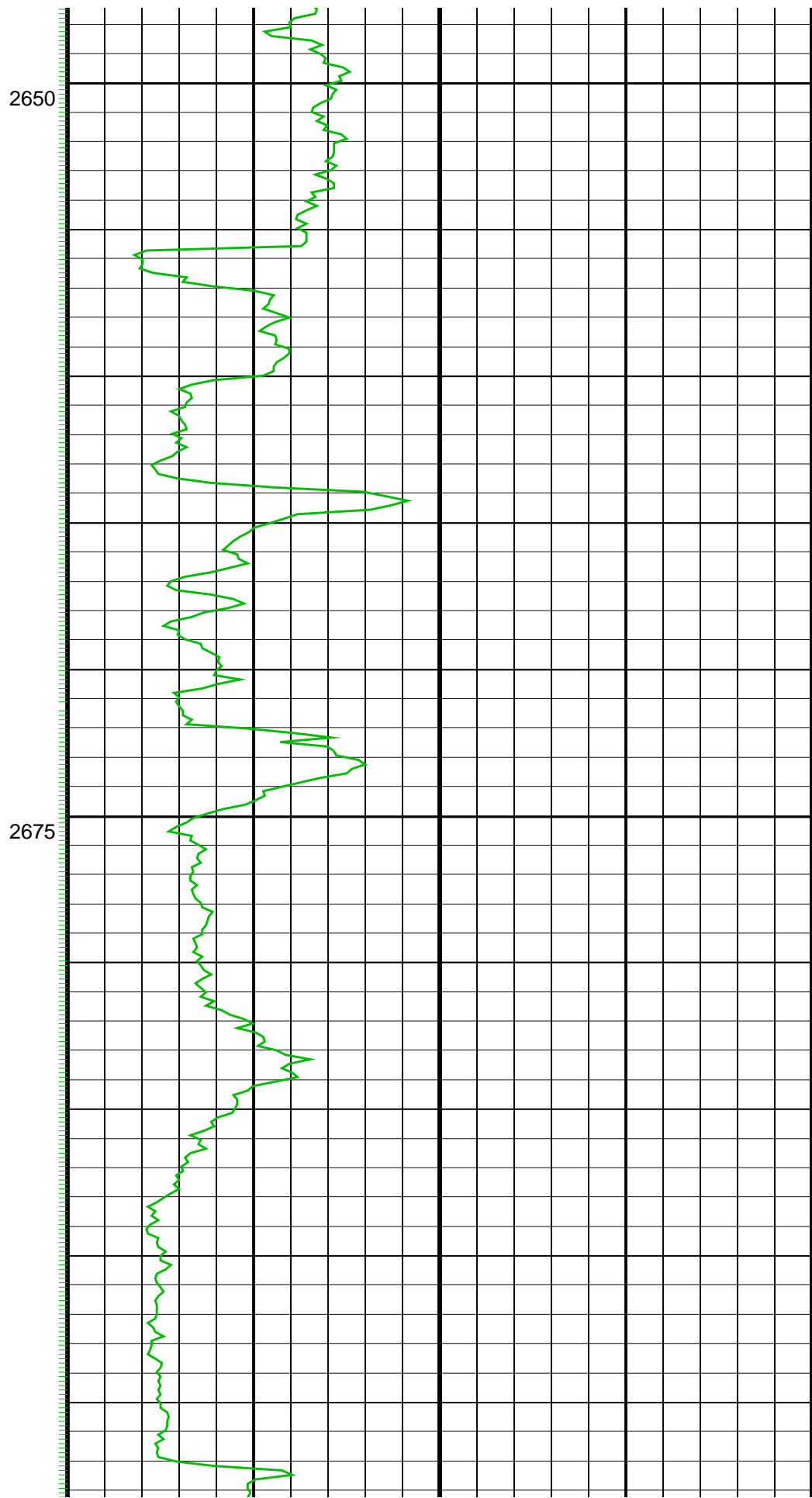
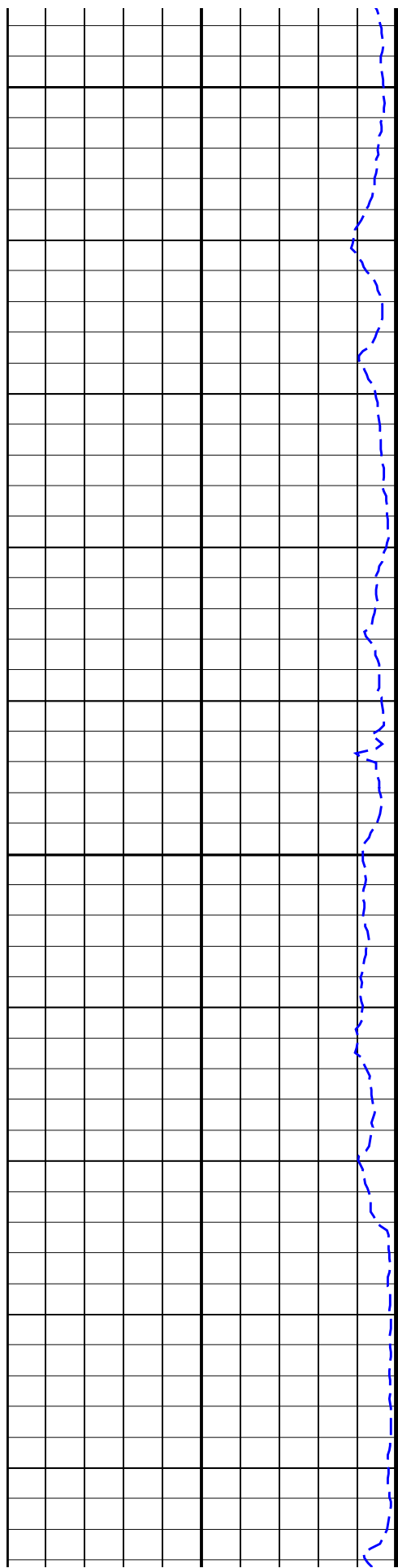
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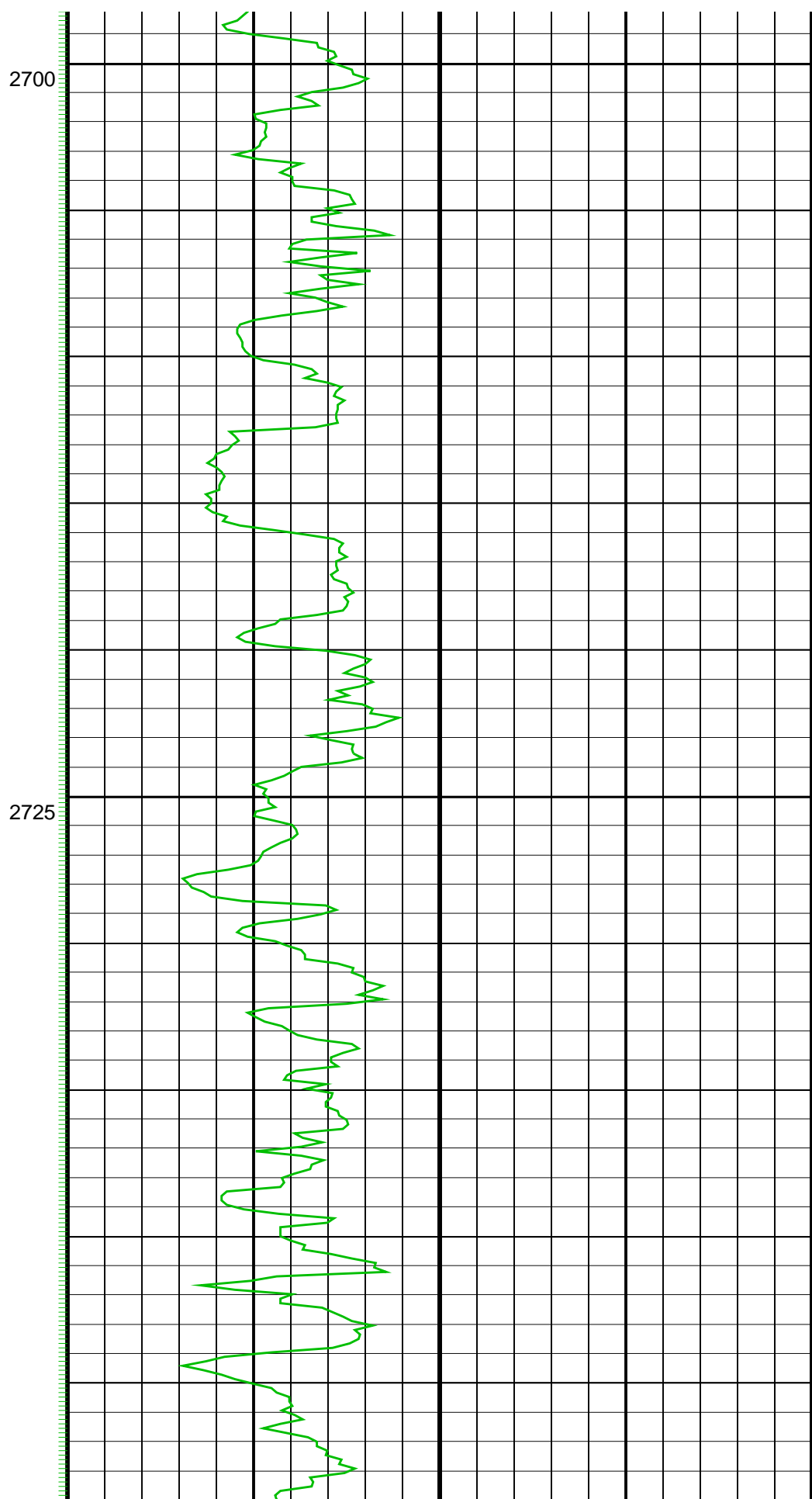
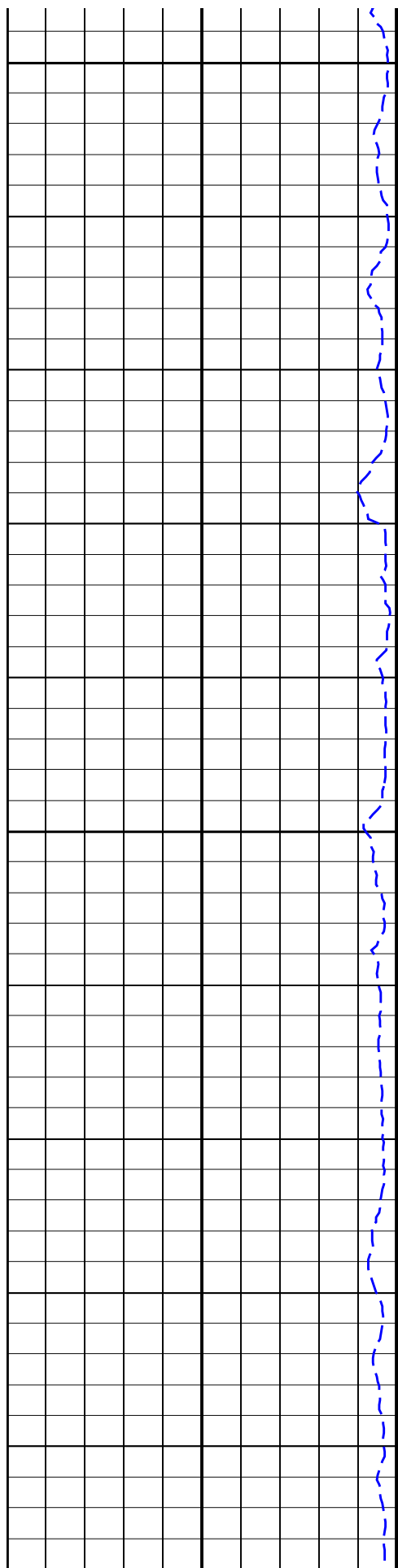
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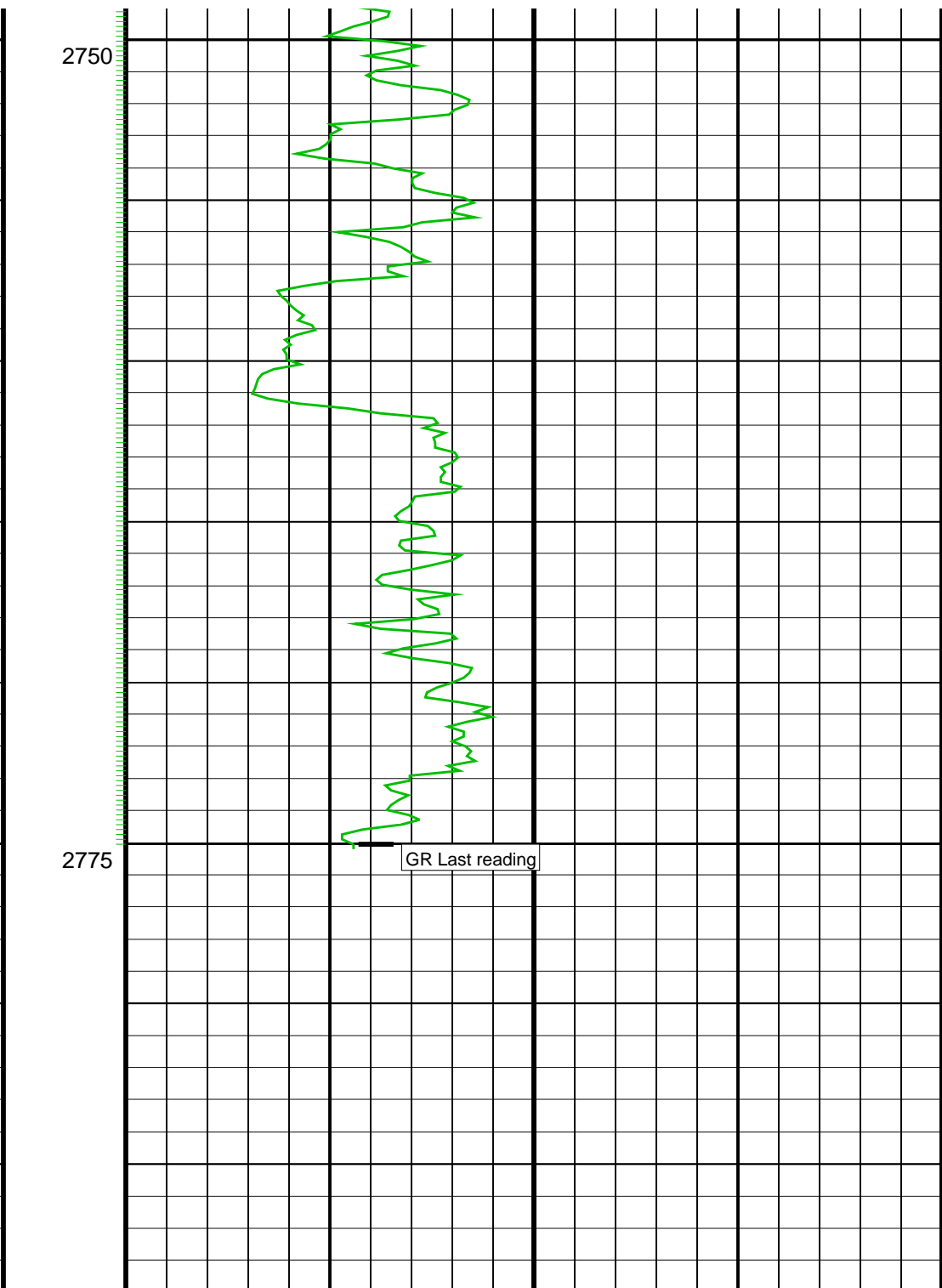
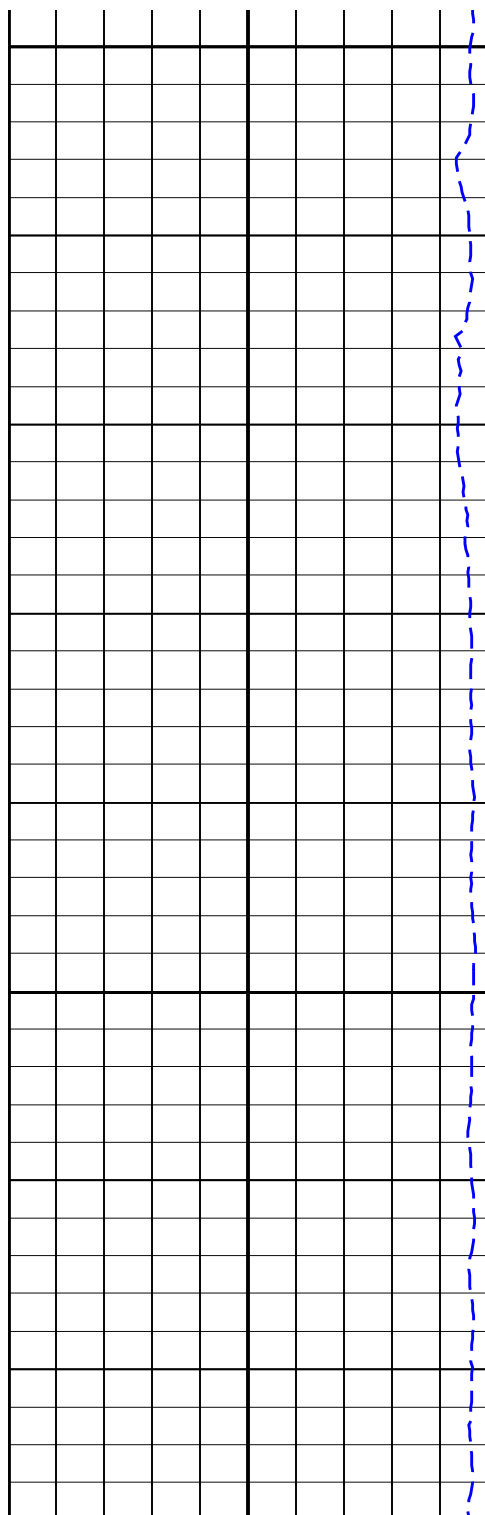












200 — ROP\*5 (ROP5) (M/HR) — 0

0 — GR(TM) (GRM1) (GAPI) — 400

#### PIP SUMMARY

— GR(TM) PIP

SCHLUMBERGER

Survey report 19-Feb-2003 07:30:37 Page 1 of 4

Client.....: ESSO Australia  
Field.....: Flounder

Well.....: FLA A20a Spud date.....: 03-Feb-03  
 API number.....: Last survey date.....: 19-Feb-03  
 Engineer.....: J.Dolan Total accepted surveys...: 78  
 MD of first survey.....: 769.00 m  
 COUNTY.....: ISDL 453 MD of last survey.....: 2789.00 m  
 STATE.....: VICTORIA

----- Survey calculation methods -----  
 Method for positions.....: Minimum curvature Magnetic model.....: BGGM version 2002  
 Method for DLS.....: Mason & Taylor Magnetic date.....: 04-Feb-2003  
 Magnetic field strength...: 1201.07 HCNT  
 ----- Depth reference -----  
 Permanent datum.....: Mean Sea Level Magnetic dec (+E/W-).....: 13.22 degrees  
 Depth reference.....: Driller's Depth Magnetic dip.....: -68.77 degrees  
 GL above permanent.....: -92.98 m  
 KB above permanent.....: 126.36 m  
 DF above permanent.....: 126.36 m  
 ----- MWD survey Reference Criteria -----  
 Reference G.....: 1000.03 mGal  
 Reference H.....: 1201.07 HCNT  
 Reference Dip.....: -68.77 degrees  
 ----- Vertical section origin -----  
 Latitude (+N/S-).....: -552.34 m Tolerance of G.....: (+/-) 2.50 mGal  
 Departure (+E/W-).....: -337.96 m Tolerance of H.....: (+/-) 6.00 HCNT  
 Tolerance of Dip.....: (+/-) 0.45 degrees  
 ----- Platform reference point -----  
 Latitude (+N/S-).....: 5758713.10 m  
 Departure (+E/W-).....: 625838.70 m  
 ----- Corrections -----  
 Magnetic dec (+E/W-).....: 13.22 degrees  
 Grid convergence (+E/W-).....: -0.89 degrees  
 Total az corr (+E/W-).....: 14.11 degrees  
 Azimuth from rotary table to target: 211.38 degrees (Total az corr = magnetic dec - grid conv)  
 Survey Correction Type ...:  
 I=Sag Corrected Inclination  
 M=Schlumberger Magnetic Correction  
 S=Shell Magnetic Correction  
 F=Failed Axis Correction  
 R=Magnetic Resonance Tool Correction  
 D=Dmag Magnetic Correction

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Seq #	Measured depth (m)	Incl angle (deg)	Azimuth angle (deg)	Course length (m)	TVD depth (m)	Vertical section (m)	Displ +N/S- (m)	Displ +E/W- (m)	Displ Total (m)	At Azim (deg)	DLS (deg/10m)	Srvy tool type	Tool Corr
1	769.00	44.97	212.13	0.00	706.90	244.63	-210.89	-128.64	244.64	211.38	0.00	TIP	17.57G
2	775.00	45.42	212.33	6.00	711.13	248.89	-214.49	-130.91	248.90	211.40	2.36	GYR	-19.75G
3	780.00	45.88	212.10	5.00	714.62	252.46	-217.51	-132.81	252.48	211.41	2.93	GYR	-35.38G
4	785.00	46.36	211.63	5.00	718.09	256.07	-220.57	-134.71	256.08	211.41	3.53	GYR	-26.08G
5	790.00	47.14	211.11	5.00	721.52	259.71	-223.68	-136.61	259.72	211.41	5.20	GYR	-25.60G
6	795.00	48.20	210.43	5.00	724.88	263.40	-226.86	-138.50	263.42	211.40	7.04	GYR	-20.97G
7	800.00	48.71	210.17	5.00	728.20	267.14	-230.09	-140.39	267.16	211.39	3.28	GYR	-97.61G
8	805.00	48.70	210.07	5.00	731.50	270.90	-233.34	-142.27	270.91	211.37	0.45	GYR	-108.42G
9	807.00	48.69	210.03	2.00	732.82	272.40	-234.64	-143.03	272.41	211.36	0.48	GYR	-164.72G
10	836.80	41.23	206.93	29.80	753.89	293.41	-253.11	-153.09	293.41	211.17	7.83	GYR	-168.89G
11	877.02	38.12	205.94	40.22	784.85	318.97	-276.10	-164.53	318.79	210.79	2.37	MWD	-112.65G
12	905.52	37.93	205.19	28.50	807.30	336.42	-291.94	-172.10	336.44	210.52	0.53	MWD	95.45G
13	934.75	37.89	205.91	29.23	830.36	354.28	-308.14	-179.85	354.31	210.27	0.46	MWD	180.00G
14	964.06	37.48	205.91	29.31	853.55	372.10	-324.26	-187.68	372.17	210.06	0.42	MWD	-165.07G
15	992.37	34.99	204.75	28.31	876.39	388.73	-339.38	-194.84	388.83	209.86	2.74	MWD	-134.55G
16	1020.56	34.90	204.59	28.19	899.49	404.7	-354.0	-201.58	404.90	209.66	0.14	MWD	153.73G
17	1048.62	34.14	205.26	28.06	922.61	420.54	-368.47	-208.28	420.73	209.48	0.91	MWD	151.27G
18	1077.47	31.79	207.73	28.85	946.82	436.17	-382.52	-215.27	436.40	209.37	2.81	MWD	141.97G
19	1105.53	28.51	213.29	28.06	971.08	450.24	-394.67	-222.39	450.48	209.40	4.60	MWD	147.97G
20	1134.29	25.49	217.78	28.76	996.71	463.26	-405.30	-229.95	463.46	209.57	3.80	MWD	161.82G
21	1163.00	22.73	220.14	28.71	1022.91	474.89	-414.42	-237.31	475.05	209.80	3.05	MWD	171.92G
22	1191.38	20.51	221.04	28.38	1049.29	485.23	-422.37	-244.11	485.34	210.03	2.37	MWD	-180.00G
23	1220.17	17.92	221.01	28.79	1076.48	494.58	-429.51	-250.33	494.66	210.23	2.70	MWD	177.52G
24	1248.30	16.66	221.20	28.13	1103.34	502.83	-435.81	-255.83	502.89	210.41	1.35	MWD	-160.06G
25	1276.95	13.94	217.05	28.65	1130.97	510.32	-441.66	-260.61	510.36	210.54	3.07	MWD	-140.25G
26	1306.13	12.90	213.06	29.18	1159.35	517.07	-447.20	-264.51	517.11	210.60	1.43	MWD	129.19G
27	1335.52	11.50	222.68	29.39	1188.08	523.23	-452.10	-268.29	523.26	210.69	2.51	MWD	158.09G
28	1363.42	9.82	226.70	27.90	1215.50	528.26	-455.78	-271.90	528.28	210.82	1.97	MWD	162.35G
29	1392.66	7.72	231.75	29.24	1244.40	532.52	-458.70	-275.26	532.53	210.97	2.29	MWD	157.22G
30	1421.94	6.11	238.27	29.28	1273.46	535.76	-460.74	-278.13	535.76	211.12	1.83	MWD	177.97G

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Seq #	Measured depth (m)	Incl angle (deg)	Azimuth angle (deg)	Course length (m)	TVD depth (m)	Vertical section (m)	Displ +N/S- (m)	Displ +E/W- (m)	Total displ (deg)	At Azim 10m	DLS (deg/) type	Srvy tool	Tool Corr
31	1451.21	3.41	239.88	29.27	1302.63	537.92	-462.00	-280.21	537.92	211.24	2.77	MWD	-121.59M
32	1479.71	1.29	238.41	28.50	1331.10	538.96	-462.59	-281.21	538.96	211.30	2.23	MWD	-128.69M
33	1508.40	0.64	231.31	28.69	1359.79	539.39	-462.86	-281.61	539.39	211.32	0.69	MWD	-134.86M
34	1536.69	0.61	225.14	28.29	1388.08	539.69	-463.06	-281.84	539.69	211.33	0.08	MWD	-116.80M
35	1565.06	0.63	243.20	28.37	1416.45	539.97	-463.24	-282.09	539.97	211.34	0.21	MWD	-123.98M
36	1593.67	0.63	236.02	28.61	1445.05	540.25	-463.40	-282.36	540.25	211.36	0.08	MWD	-110.37M
37	1621.98	0.66	249.63	28.31	1473.36	540.52	-463.54	-282.64	540.52	211.37	0.17	MWD	-123.41M
38	1650.74	0.83	236.59	28.76	1502.12	540.84	-463.72	-282.97	540.84	211.39	0.25	MWD	-118.49M
39	1679.24	0.70	241.51	28.50	1530.62	541.18	-463.91	-283.30	541.18	211.41	0.15	MWD	-120.95M
40	1707.69	0.59	239.05	28.45	1559.06	541.46	-464.07	-283.58	541.46	211.43	0.12	MWD	-143.85M
41	1736.30	0.51	216.15	28.61	1587.67	541.72	-464.25	-283.78	541.72	211.44	0.24	MWD	-141.09M
42	1765.27	0.47	218.91	28.97	1616.64	541.96	-464.45	-283.93	541.96	211.44	0.05	MWD	-150.01M
43	1794.11	0.34	209.99	28.84	1645.48	542.16	-464.61	-284.05	542.17	211.44	0.15	MWD	-107.41M
44	1822.56	0.20	252.59	28.45	1673.93	542.29	-464.70	-284.14	542.29	211.44	0.25	MWD	-94.06M
45	1850.75	0.06	265.94	28.19	1702.12	542.33	-464.72	-284.20	542.33	211.45	0.15	MWD	-125.94M
46	1879.57	0.06	232.06	28.82	1730.94	542.36	-464.72	-284.22	542.36	211.45	0.03	MWD	-123.49M
47	1908.27	0.34	236.51	28.70	1759.64	542.45	-464.78	-284.31	542.45	211.45	0.29	MWD	-112.76M
48	1937.11	0.41	247.24	28.84	1788.48	542.61	-464.87	-284.47	542.61	211.46	0.10	MWD	-144.17M
49	1965.92	0.37	215.83	28.81	1817.29	542.79	-464.98	-284.62	542.79	211.47	0.22	MWD	-151.75M
50	1994.24	0.51	208.25	28.32	1845.61	543.00	-465.17	-284.74	543.00	211.47	0.16	MWD	-153.61M
51	2023.18	0.50	206.39	28.94	1874.55	543.26	-465.39	-284.85	543.26	211.47	0.02	MWD	-151.41M
52	2052.60	0.49	208.59	28.96	1903.97	543.51	-465.62	-284.97	543.51	211.47	0.02	MWD	-143.35M
53	2081.51	0.60	216.65	28.91	1932.88	543.78	-465.85	-285.12	543.79	211.47	0.14	MWD	-150.49M
54	2119.16	0.59	209.51	37.65	1970.52	544.17	-466.18	-285.33	544.18	211.47	0.06	MWD	-157.25M
55	2167.19	0.56	202.75	48.03	2018.55	544.65	-466.61	-285.55	544.65	211.47	0.05	MWD	-160.27M
56	2195.89	0.66	199.73	28.70	2047.25	544.95	-466.89	-285.66	544.95	211.46	0.11	MWD	177.62M
57	2223.99	0.73	177.62	28.10	2075.35	545.26	-467.22	-285.70	545.26	211.45	0.29	MWD	161.99M
58	2252.93	1.26	161.99	28.94	2104.28	545.62	-467.71	-285.60	545.62	211.41	0.61	MWD	169.50M

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Seq #	Measured depth (m)	Incl angle (deg)	Azimuth angle (deg)	Course length (m)	TVD depth (m)	Vertical section (m)	Displ +N/S- (m)	Displ +E/W- (m)	Total displ (deg)	At Azim 10m	DLS (deg/) type	Srvy tool	Tool Corr
59	2281.95	2.44	169.50	23.02	2133.29	546.28	-468.62	-285.39	546.28	211.34	1.24	MWD	176.28M
60	2310.40	3.31	176.28	28.45	2161.70	547.40	-470.04	-285.22	547.40	211.25	0.98	MWD	-156.99M
61	2338.37	4.76	203.01	27.97	2189.60	549.20	-471.91	-285.62	549.20	211.18	2.51	MWD	-143.56M
62	2366.94	8.31	216.44	28.57	2217.98	552.43	-474.66	-287.31	552.44	211.19	4.03	MWD	6.86G
63	2396.06	10.57	217.92	29.11	2246.70	557.19	-478.47	-290.21	557.19	211.24	2.34	MWD	-2.58G
64	2425.11	12.16	217.58	29.06	2275.19	562.88	-482.99	-293.71	562.88	211.30	1.64	MWD	-39.34G
65	2454.01	12.97	214.68	28.90	2303.40	569.15	-488.07	-297.41	569.15	211.36	1.07	MWD	-159.12G
66	2482.80	12.43	213.72	28.79	2331.48	575.47	-493.31	-300.97	575.47	211.39	0.60	MWD	-25.62G
67	2510.32	13.06	212.39	27.52	2358.32	581.54	-498.39	-304.28	581.54	211.40	0.76	MWD	-76.45G
68	2539.20	13.20	210.04	28.88	2386.45	588.10	-504.00	-307.68	588.10	211.40	0.57	MWD	43.36G
69	2568.25	13.32	210.53	29.05	2414.72	594.76	-509.76	-311.04	594.76	211.39	0.17	MWD	53.58G
70	2596.81	13.53	211.73	28.56	2442.50	601.39	-515.43	-314.47	601.39	211.39	0.37	MWD	-30.75G
71	2625.84	13.73	211.23	29.03	2470.72	608.23	-521.27	-318.04	608.23	211.39	0.24	MWD	131.28G
72	2655.11	13.67	211.52	29.27	2499.15	615.16	-527.19	-321.65	615.16	211.39	0.09	MWD	124.26G
73	2682.30	13.63	211.77	27.19	2525.58	621.58	-532.65	-325.01	621.58	211.39	0.08	MWD	10.75G
74	2711.21	13.73	211.85	28.91	2553.67	628.42	-538.46	-328.62	628.42	211.40	0.11	MWD	154.32G
75	2740.15	12.71	214.10	28.94	2581.84	635.03	-544.01	-332.22	635.03	211.41	1.18	MWD	170.63G
76	2768.93	11.84	214.80	28.78	2609.96	641.14	-549.06	-335.68	641.14	211.44	0.92	MWD	-175.50G
77	2773.49	11.61	214.71	4.56	2614.43	642.07	-549.82	-336.20	642.07	211.44	1.52	MWD	174.12G
78	2789.00	11.25	214.90	15.51	2629.63	645.14	-552.34	-337.96	645.14	211.46	0.70	Projected to TD	

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Well: **FLA A20a**

Field: **Flounder**

Rig: **ISDL 453**

State: **VICTORIA**

**Gamma Ray Service**

**1:200 Measured Depth**

**Real Time Log**