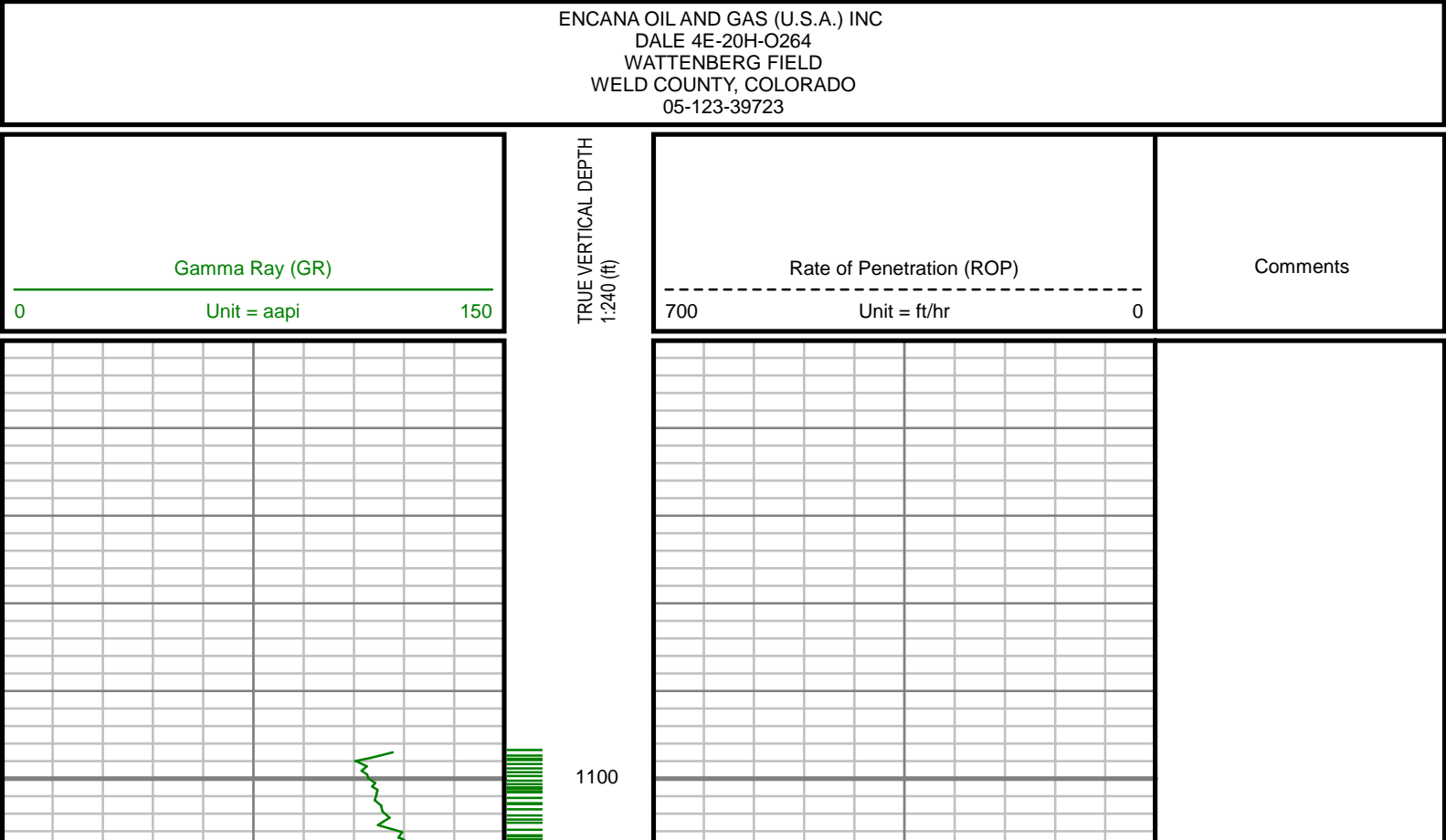


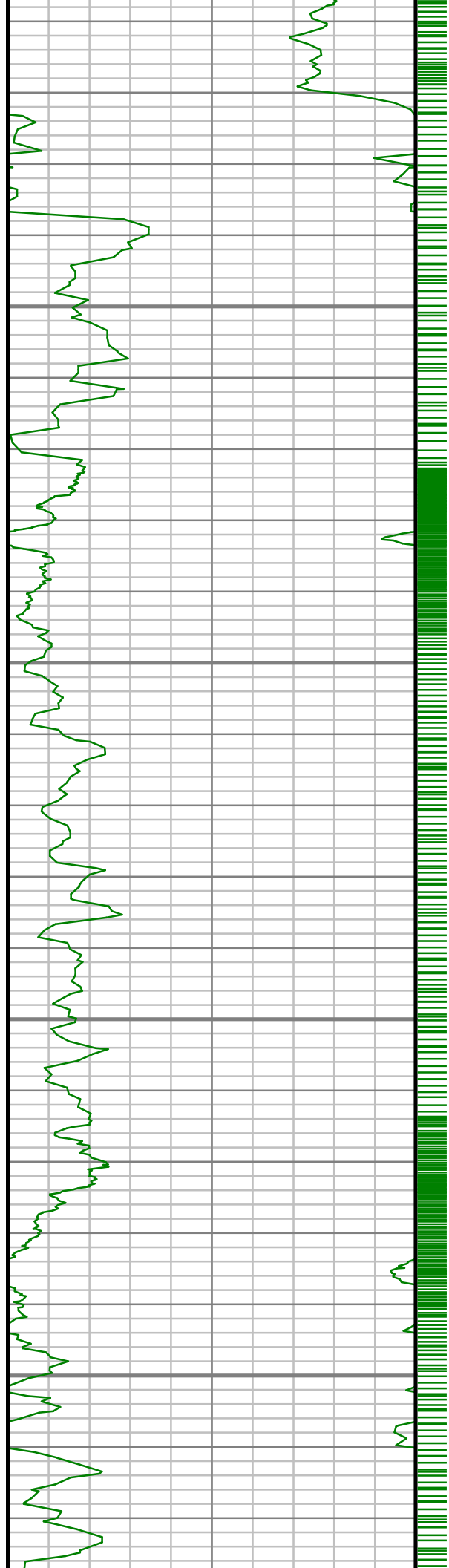
5" = 100' FEET TVD

COMPANY : ENCANA OIL & GAS (U.S.A.) INC WELL : DALE 4E-20H-0264 FIELD : WATTENBERG COUNTY : WELD STATE : COLORADO COUNTRY : U.S.A. UWI : 05-123-39723										COMPANY : ENCANA OIL & GAS (U.S.A.) INC WELL : DALE 4E-20H-0264 FIELD : WATTENBERG COUNTY : WELD STATE : COLORADO COUNTRY : U.S.A. UWI : 05-123-39723									
DEPTH REF. : RKB REF. HEIGHT : 25.000 ft GROUND LEVEL : 4957.000 ft										RKB to Ground Level G.L. to MEAN SEA LEVEL									
BOREHOLE RECORD										DEVIATION RECORD									
HOLE SIZE in		FROM ft		TO ft		INCLINATION deg		FROM ft		TO ft									
12.25		0		1136		0 - 12		0		1886									
8.75		1136		7530		12 - 0		1886		5847									
6.125		7530		11700		0 - 84		5847		7530									
				84 - 92		7530		11700											
CASING RECORD																			
CASING SIZE in		FROM ft		TO ft															
9.625		0		1119															
7		0		7514															
DRILLING CO.: H&P RIG: 278										LWD UNIT NO.: MWD-00046-DISTRICT: CASPER, CASPER SPUD DATE: 08/21/2014 LWD START DATE: 10/15/2014 LWD END DATE: 10/22/2014									
										DEPTH: 5000 ft									
										DEPTH: 11700 ft									
										TOTAL DEPTH: 11700 ft									

Remarks
ENCANA OIL & GAS (U.S.A.) INC PRODUCTION AFE# 14182125
SCIENTIFIC DRILLING INTERNATIONAL JOB# 186379, 210062
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: GYRO / MWD / DIRECTIONAL RUN
SENSORS S/N: EM5 = 890 / MWD EYE = 809 / GYRO = 034
BIT TO SENSOR OFFSETS: SURVEY = 54.92 FT. / GYRO = 44.64 FT.
RUN # 2: MWD / GAMMA RAY / PROPAGATION RESISTIVITY LOGGING RUN
SENSORS S/N: PULSER = 128-028 / CONT = 126 / MWD EYE = 0213 / PRT = 322 / GAMMA RAY = 1271
BIT TO SENSOR OFFSETS: SURVEY = 57.16 FT. / RESISTIVITY = 46.50 FT. / GAMMA RAY = 37.99 FT.
RUN # 3: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 78-281 / CONT = 858 / MWD EYE = 522 / GAMMA RAY = 1076
BIT TO SENSOR OFFSETS: SURVEY = 61.45 FT. / GAMMA RAY = 52.78 FT.
REMARK #1: GAMMA RAY FROM 7492 FT. - 7514 FT. WAS LOGGED BEHIND CASING
MNEMONICS LIST:
GR = GAMMA RAY
ROP = RATE OF PENETRATION

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.



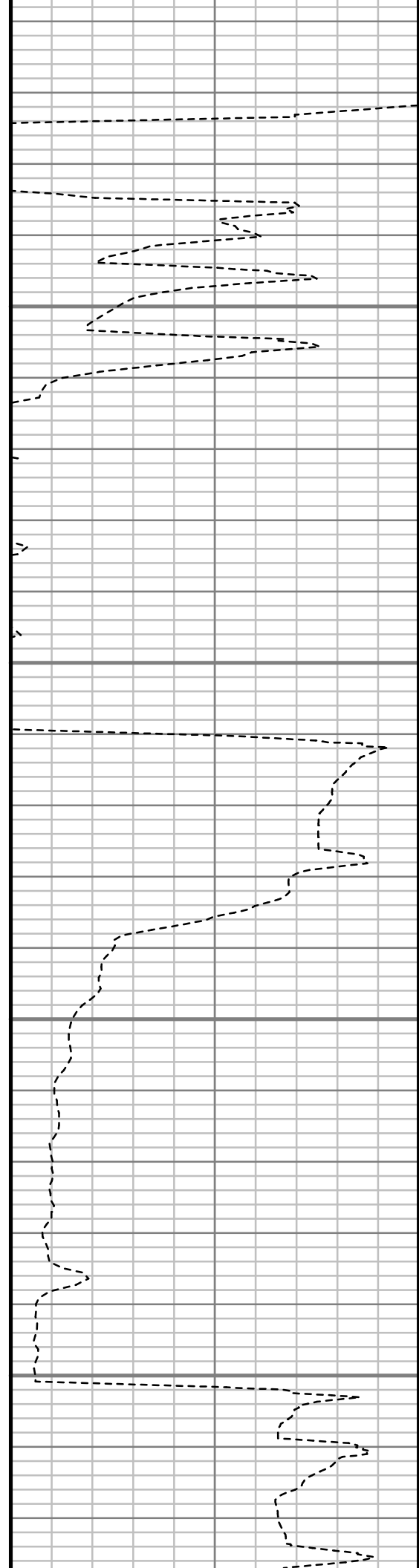


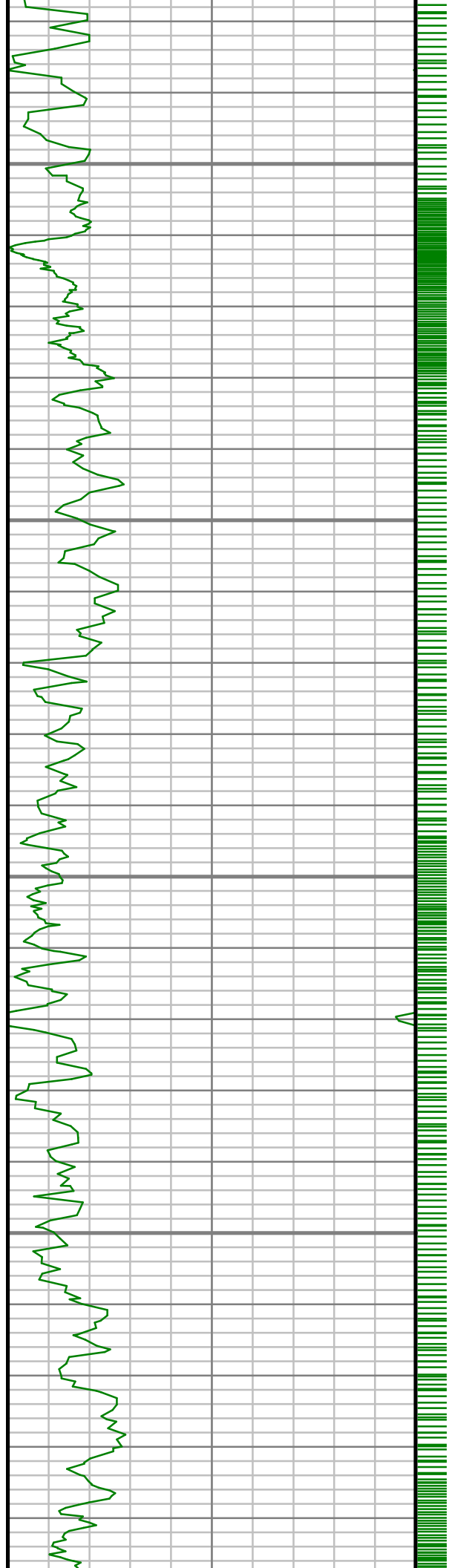
1150

1200

1250

1300



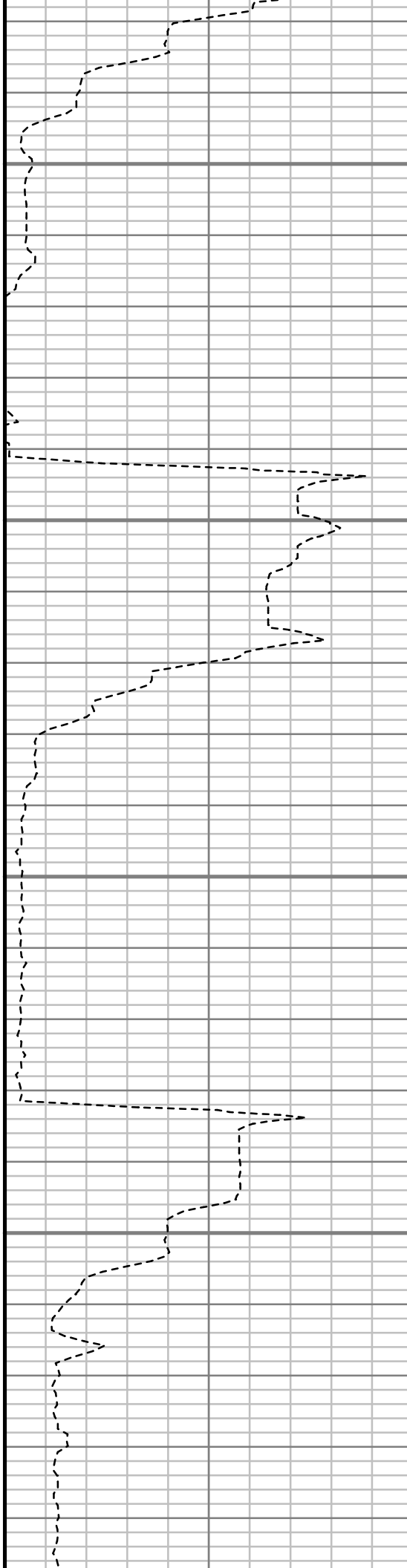


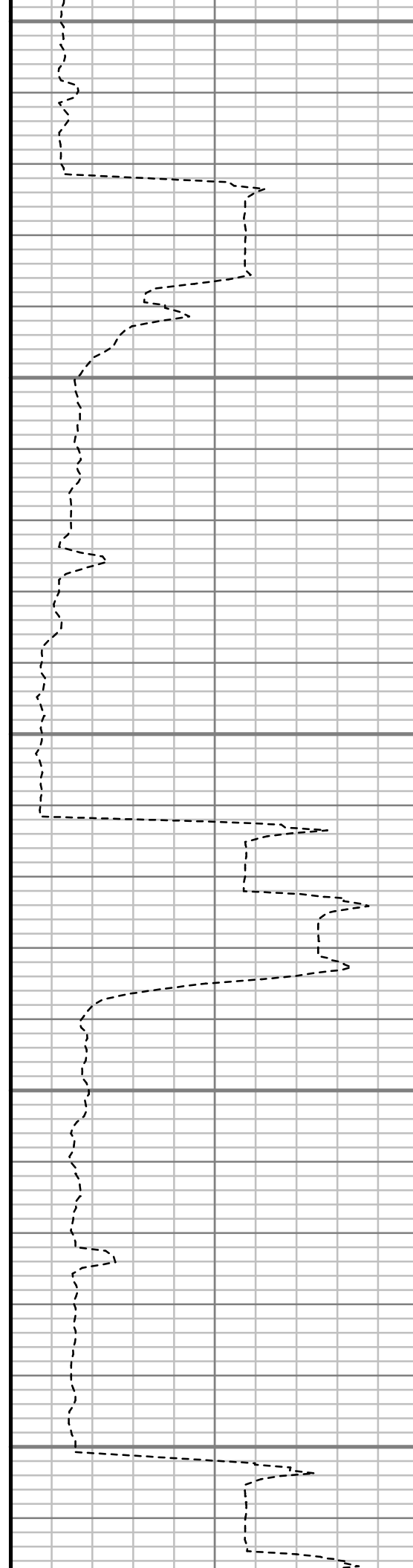
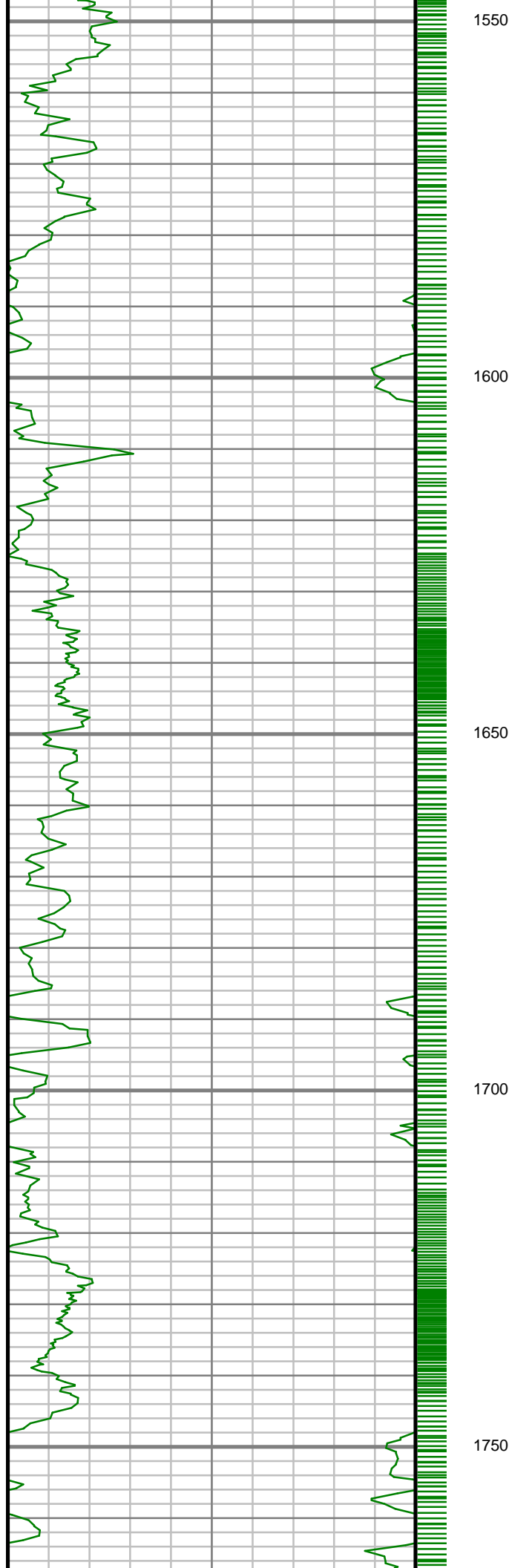
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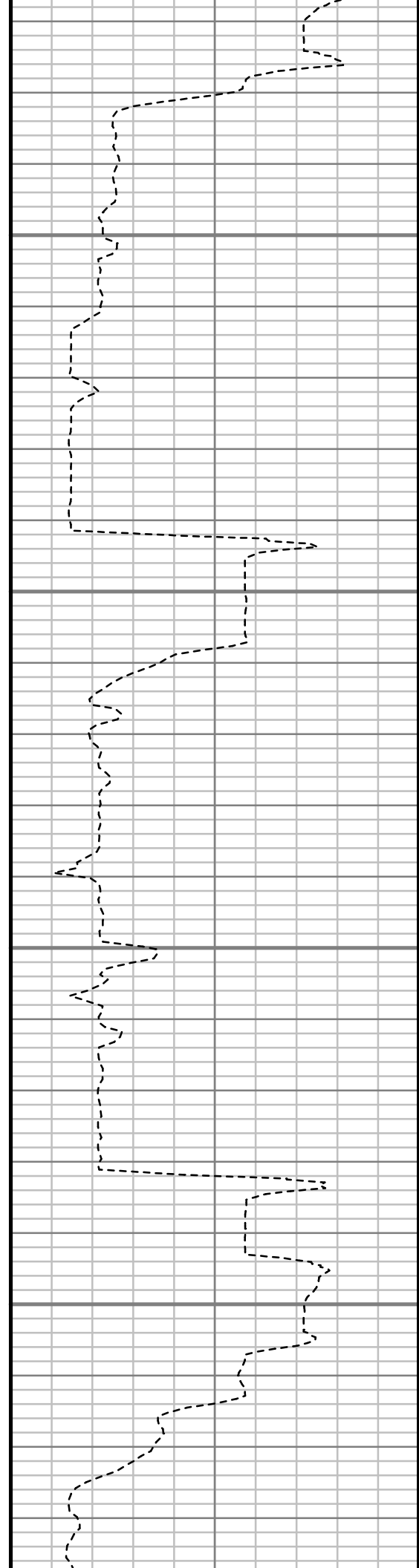
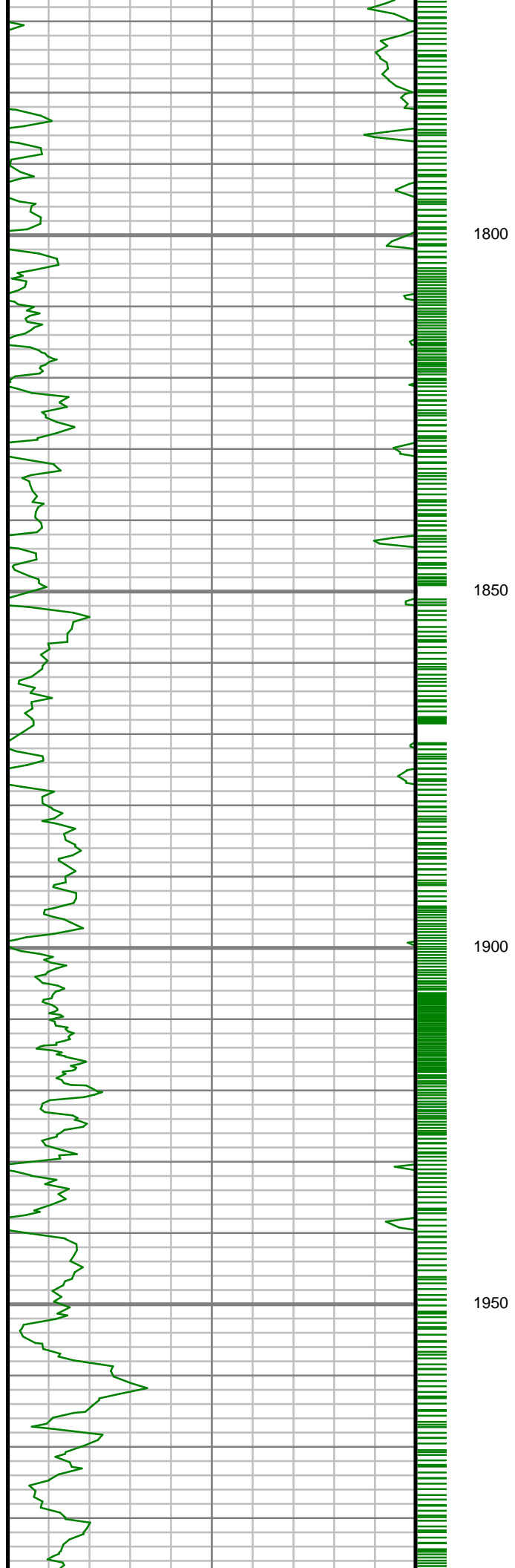
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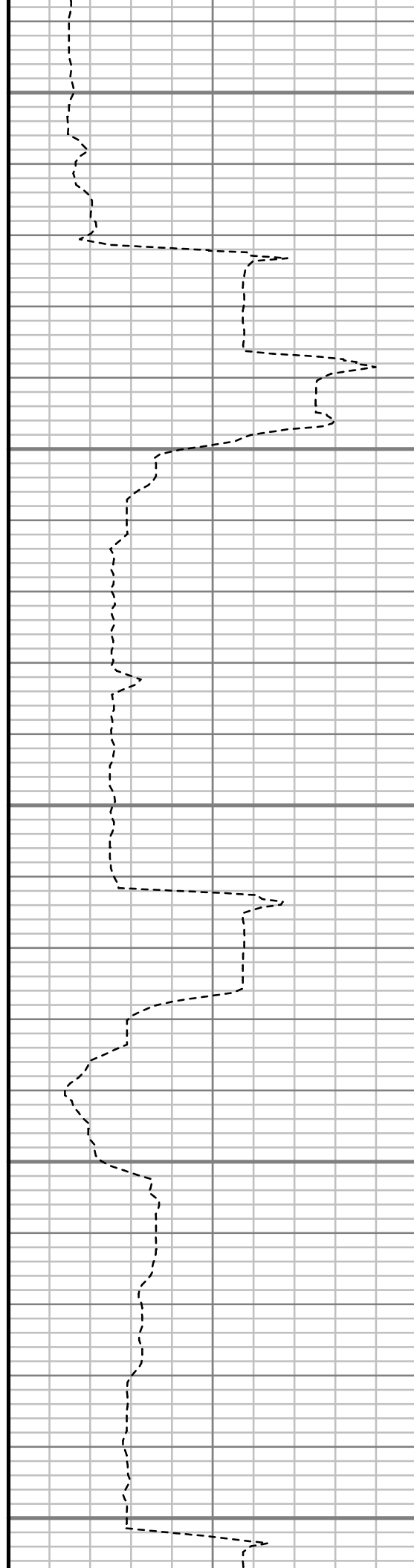
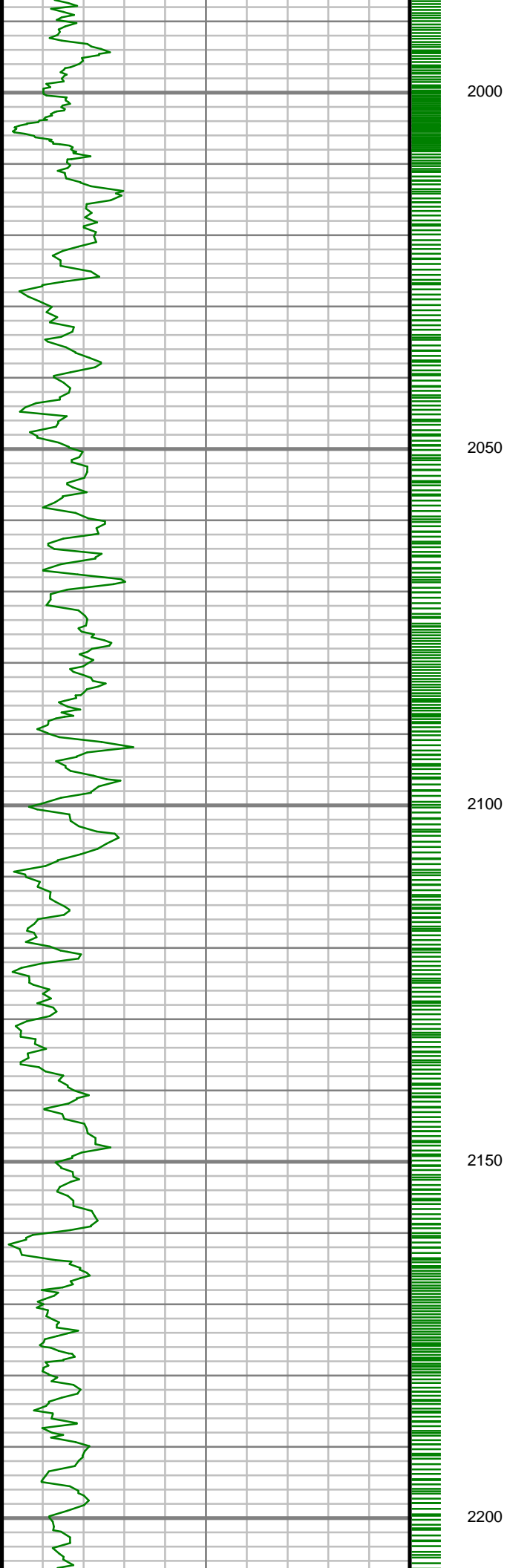
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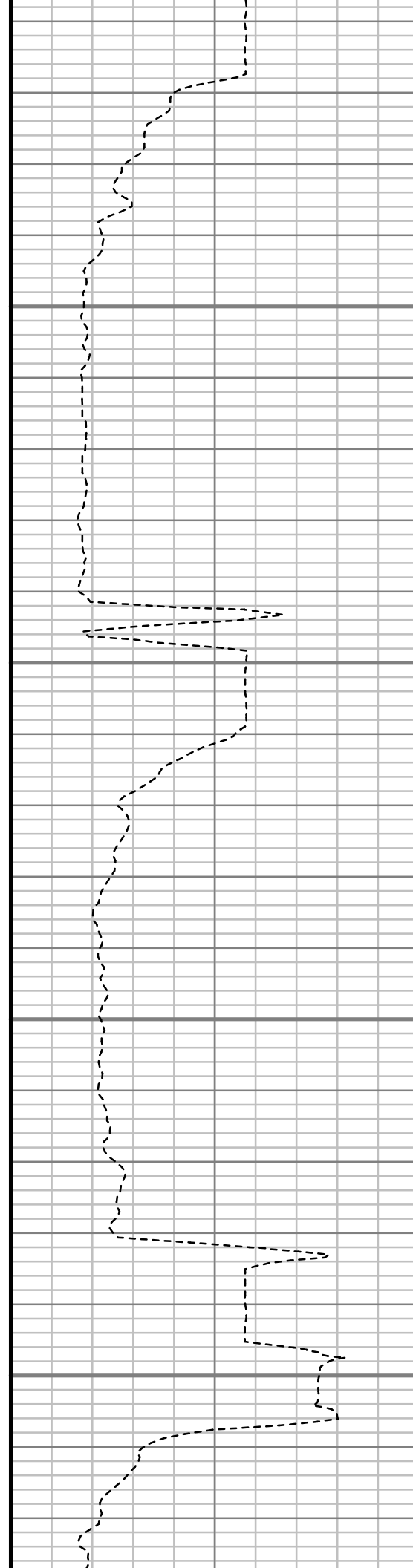
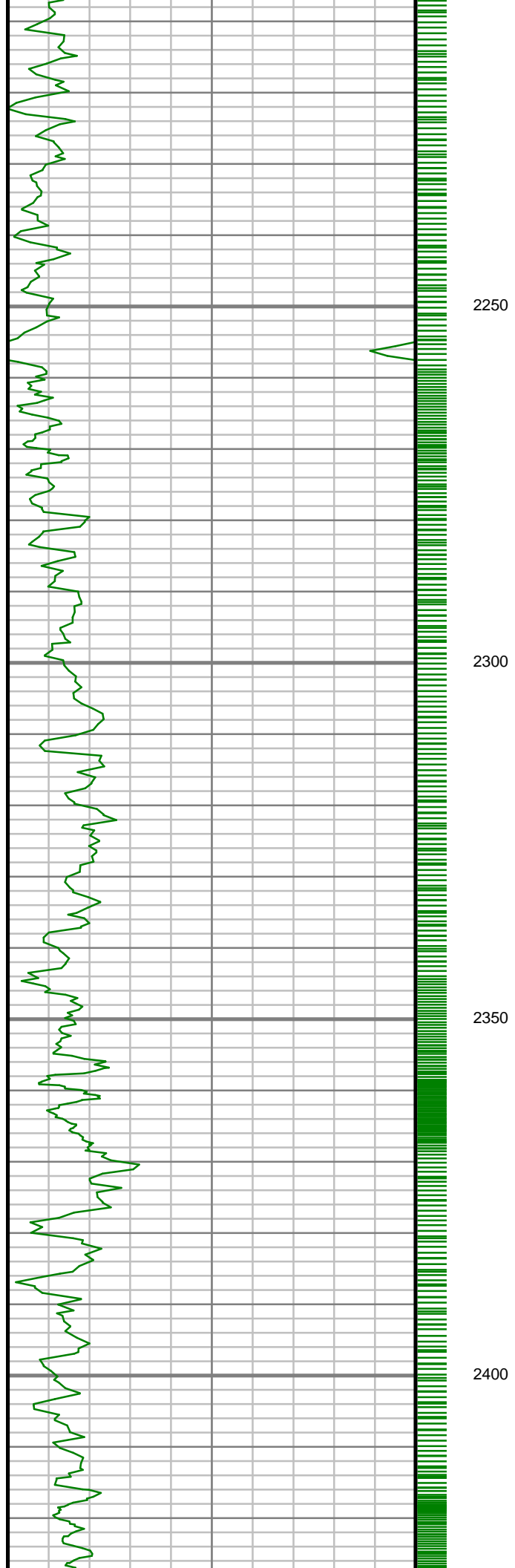
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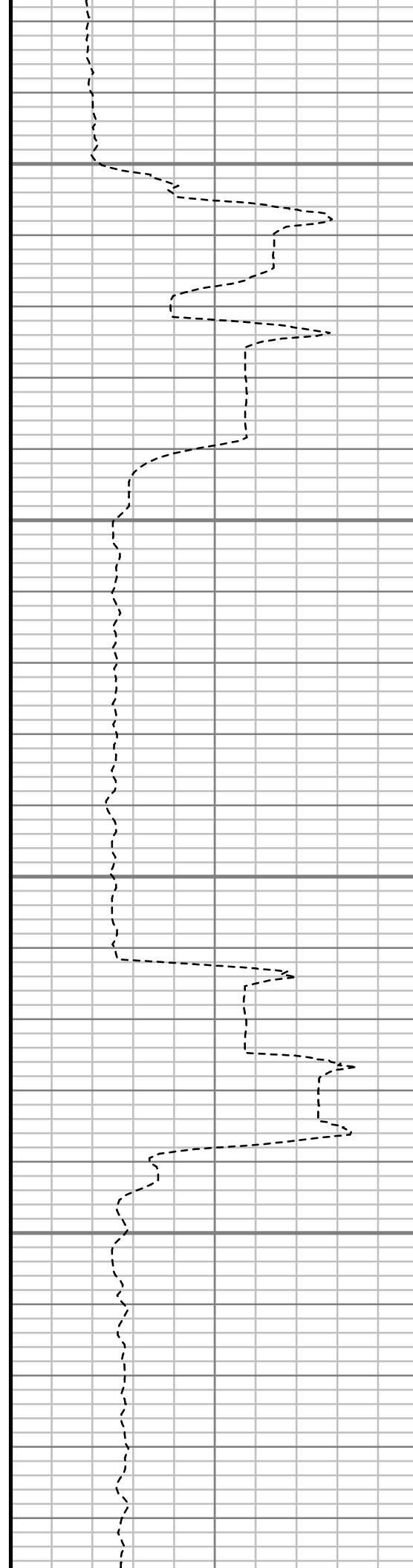
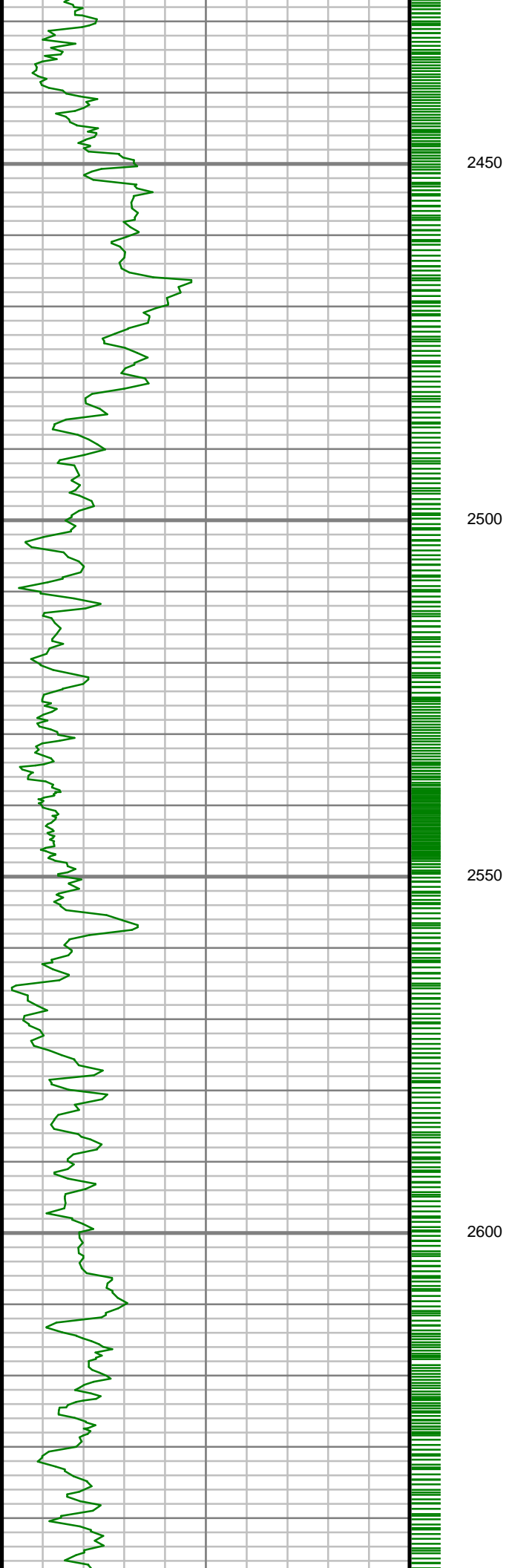


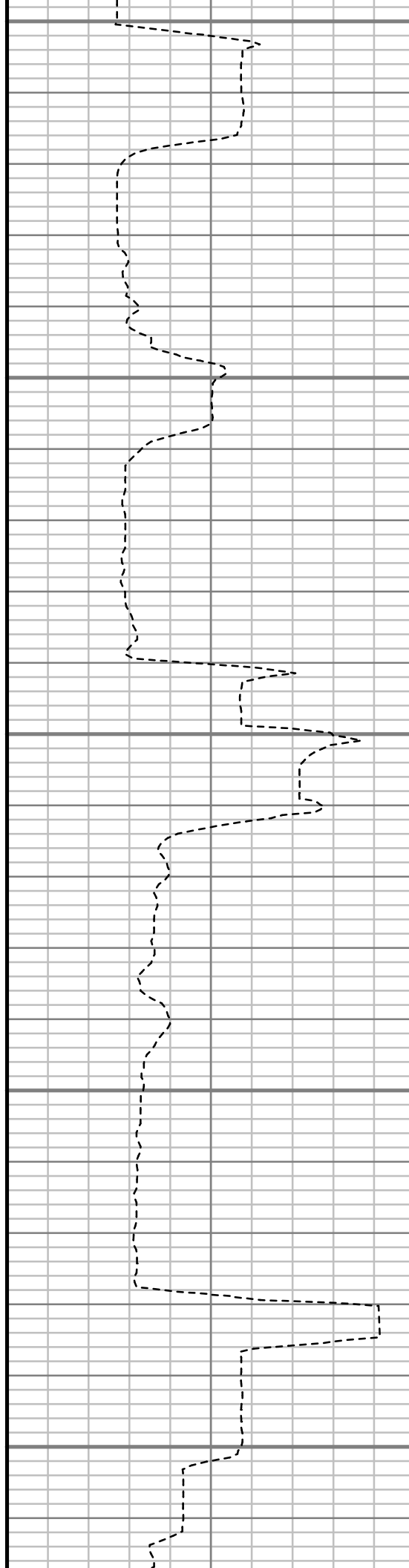
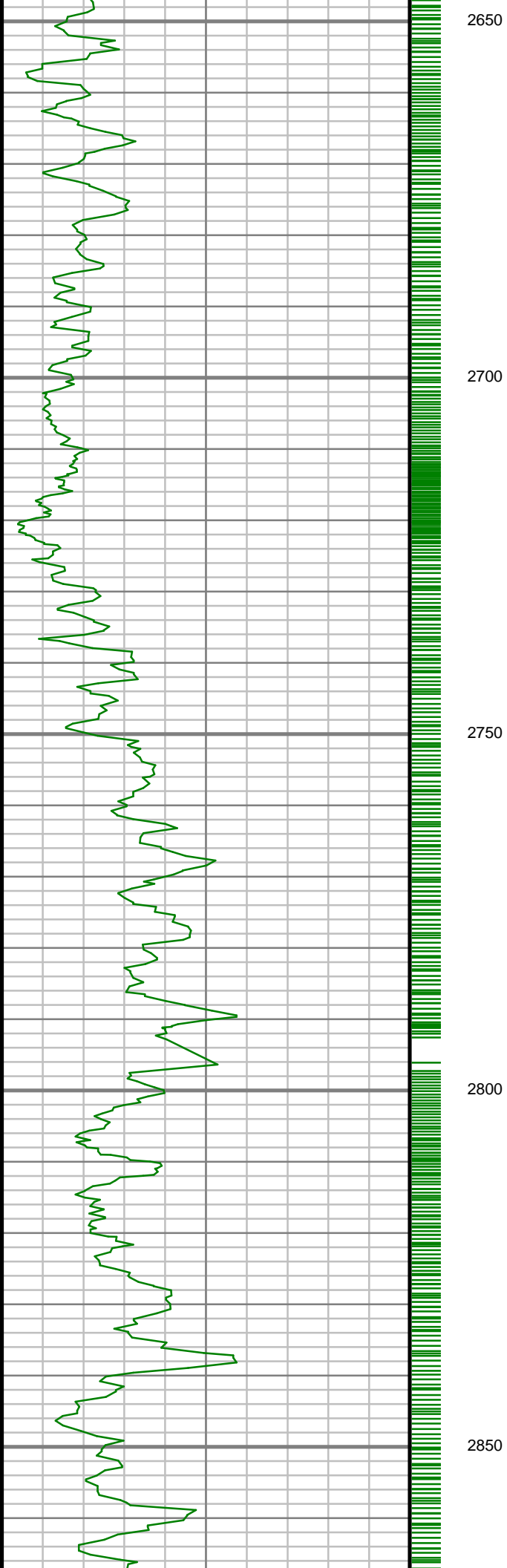


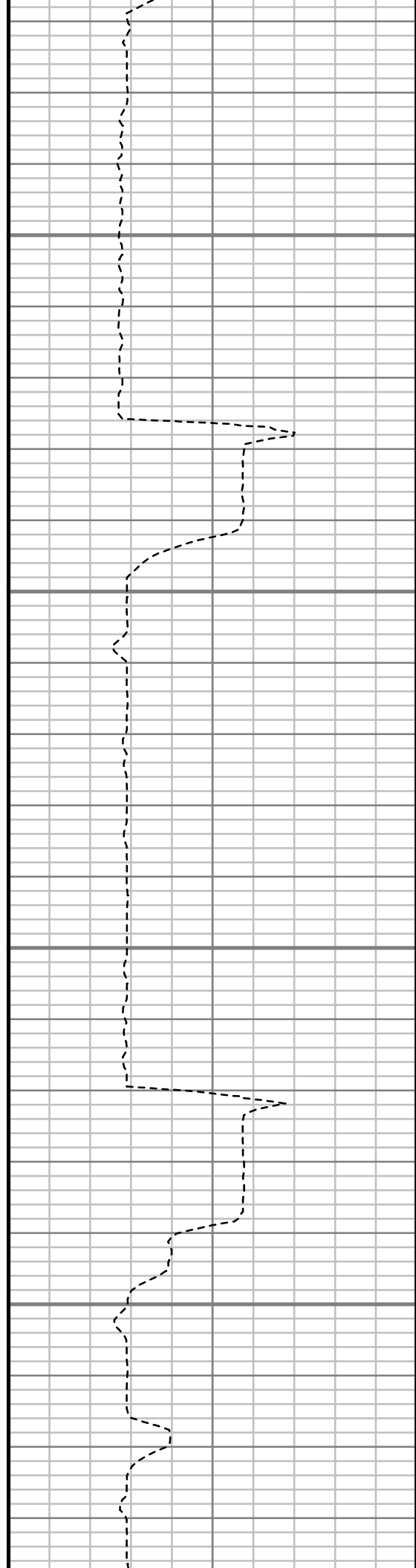
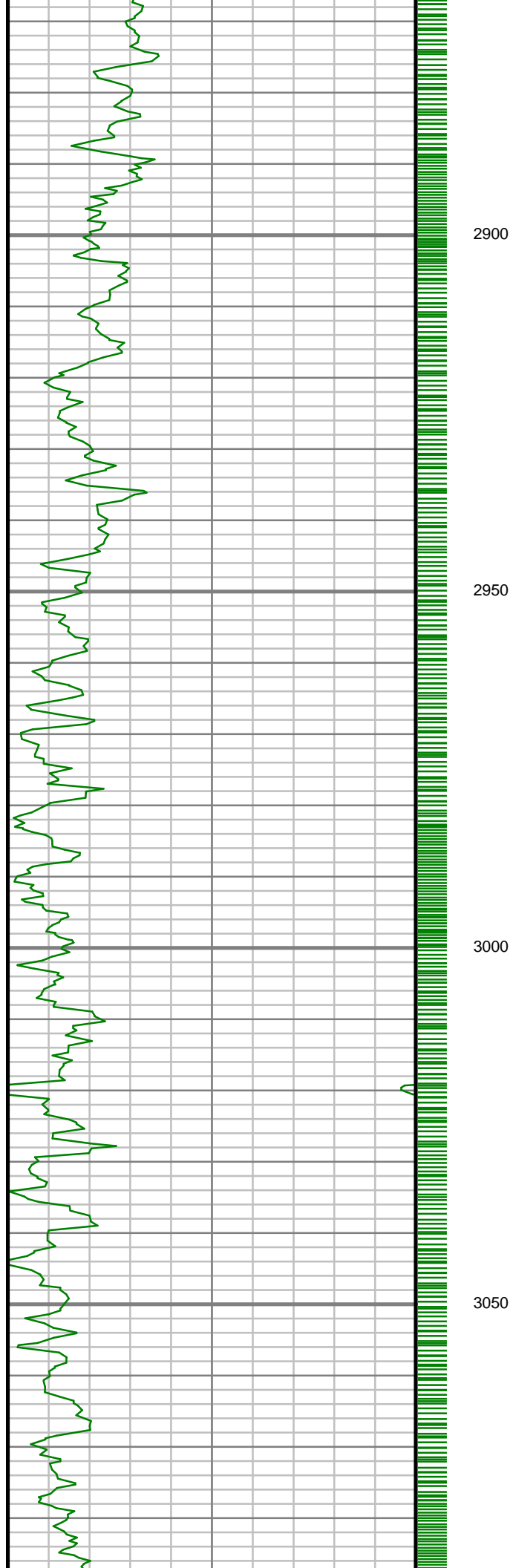


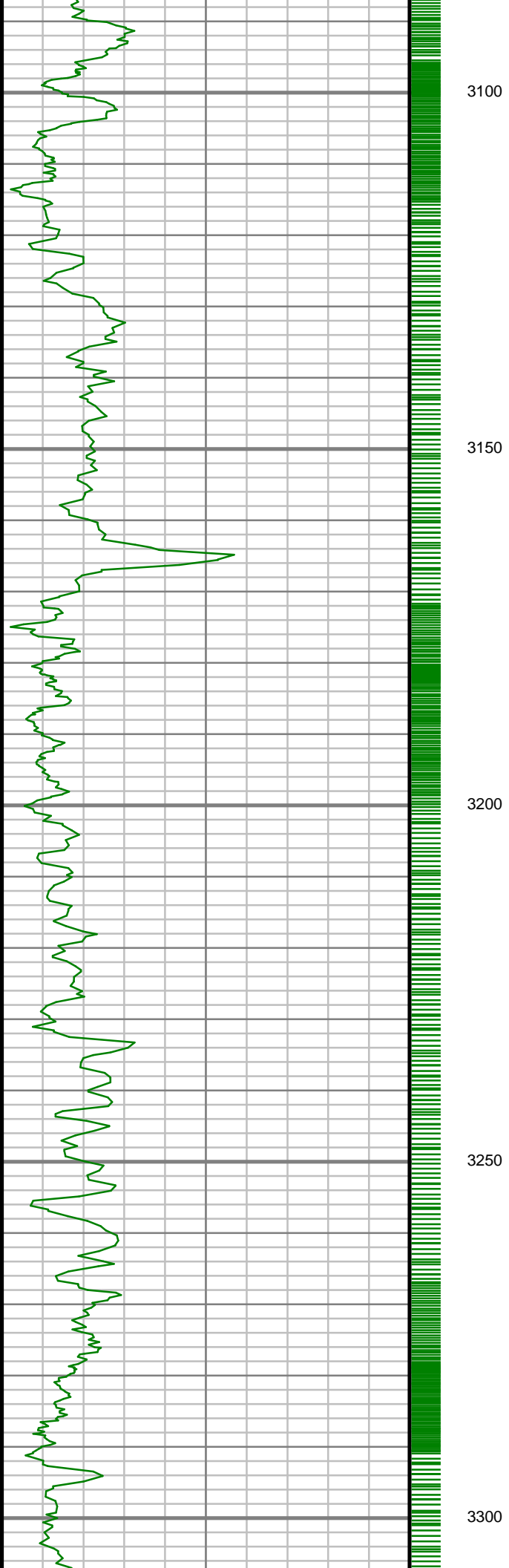


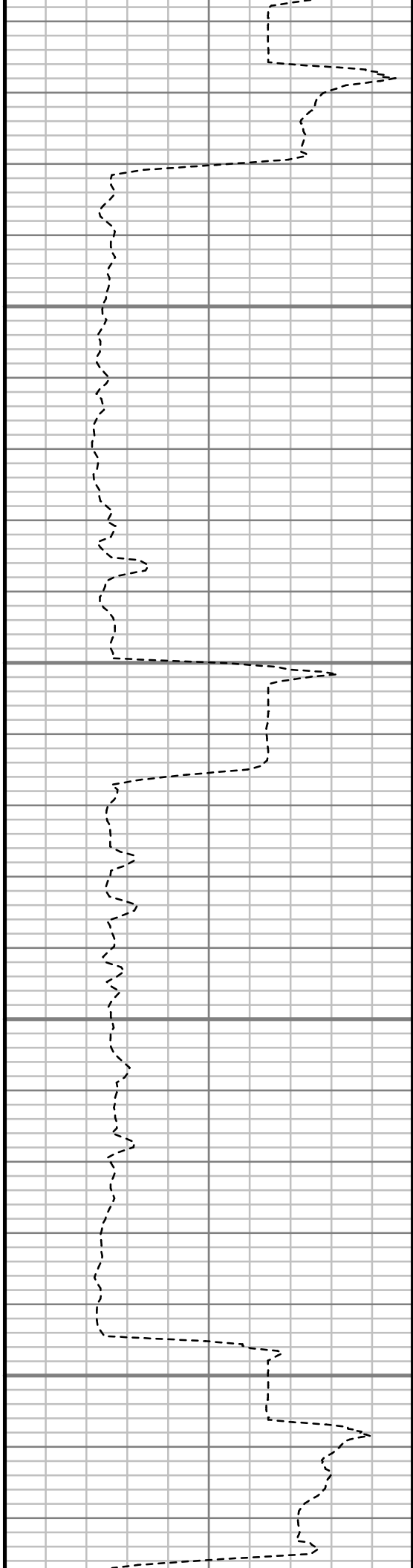
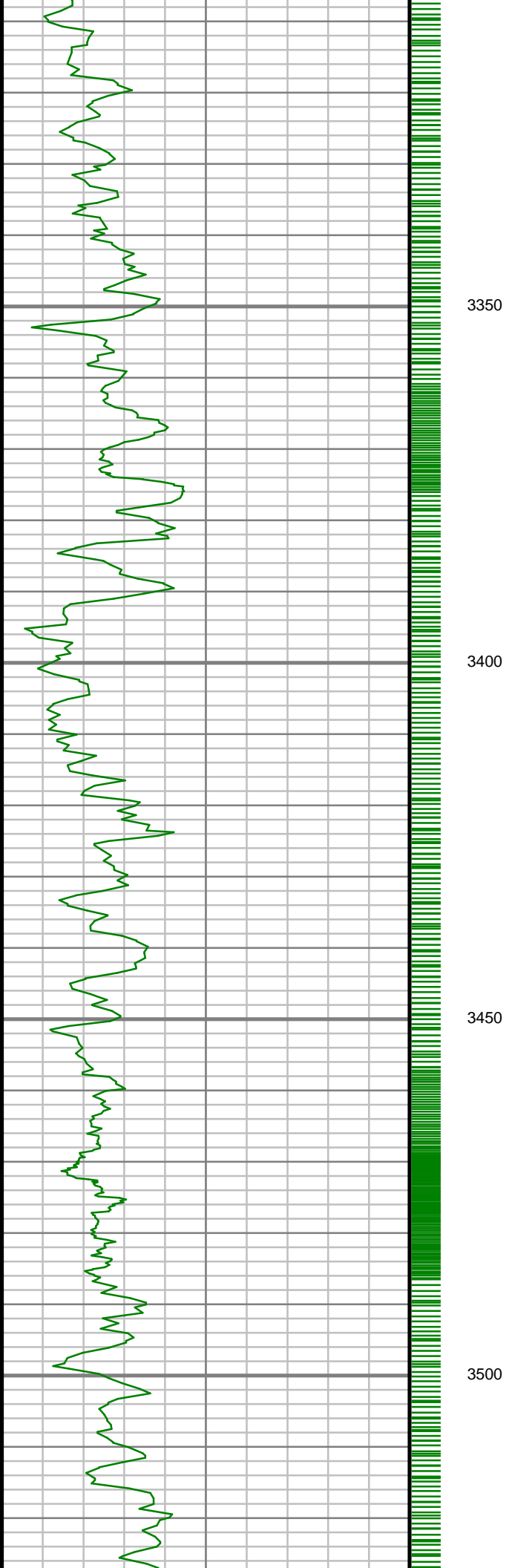


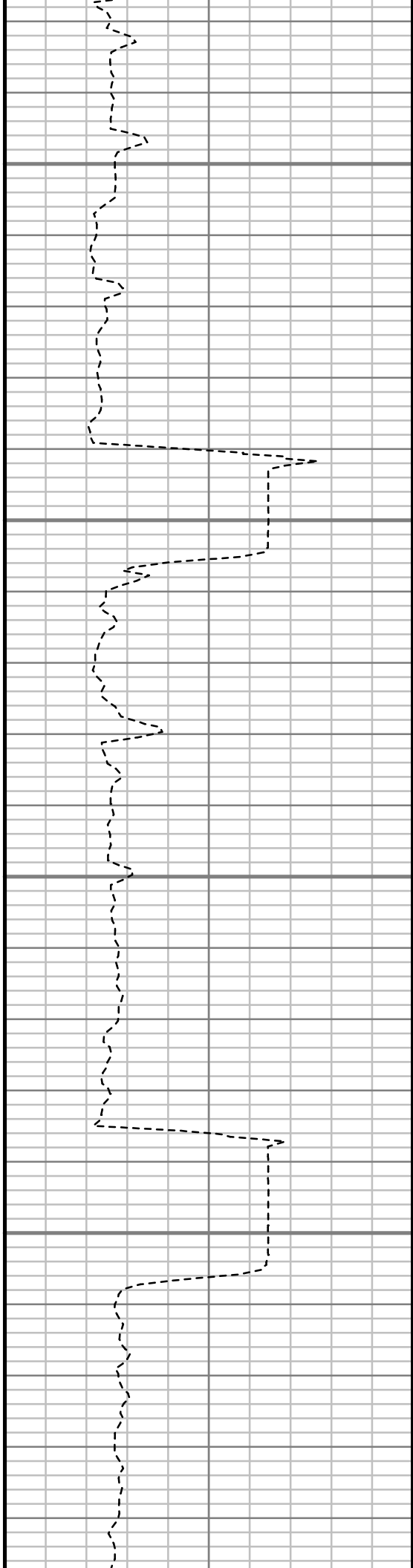
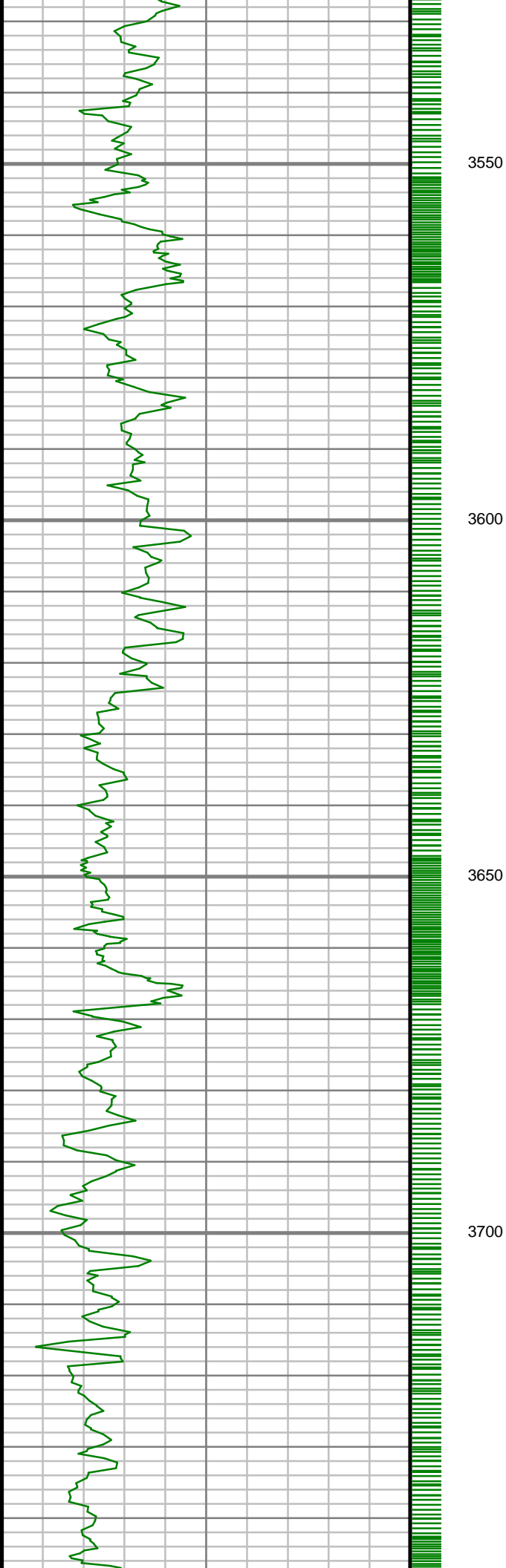


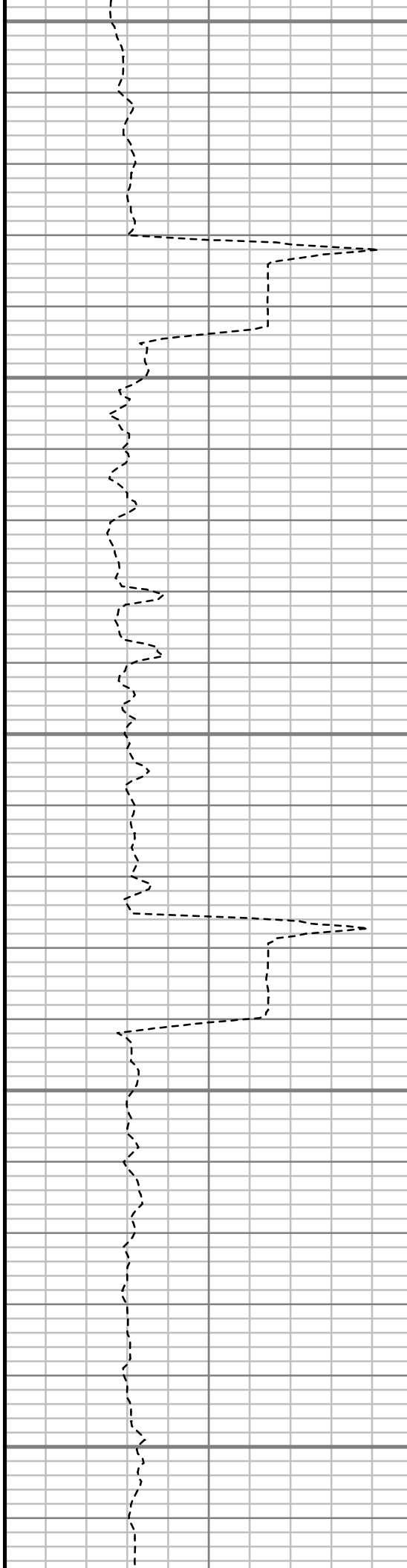
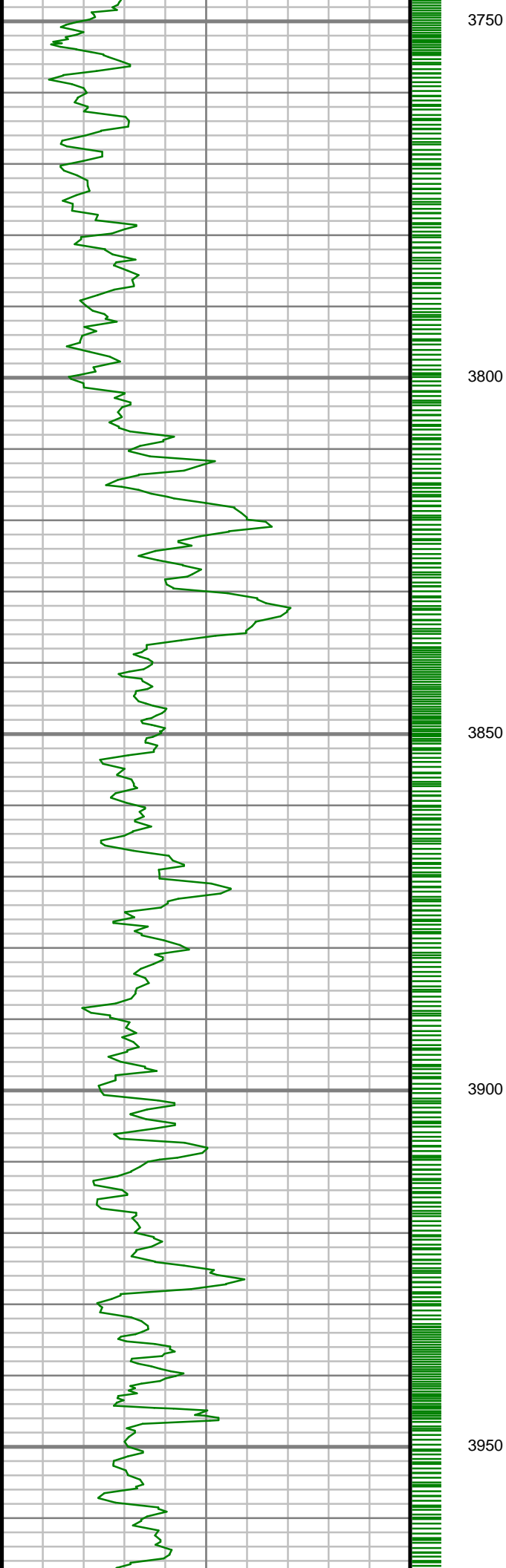


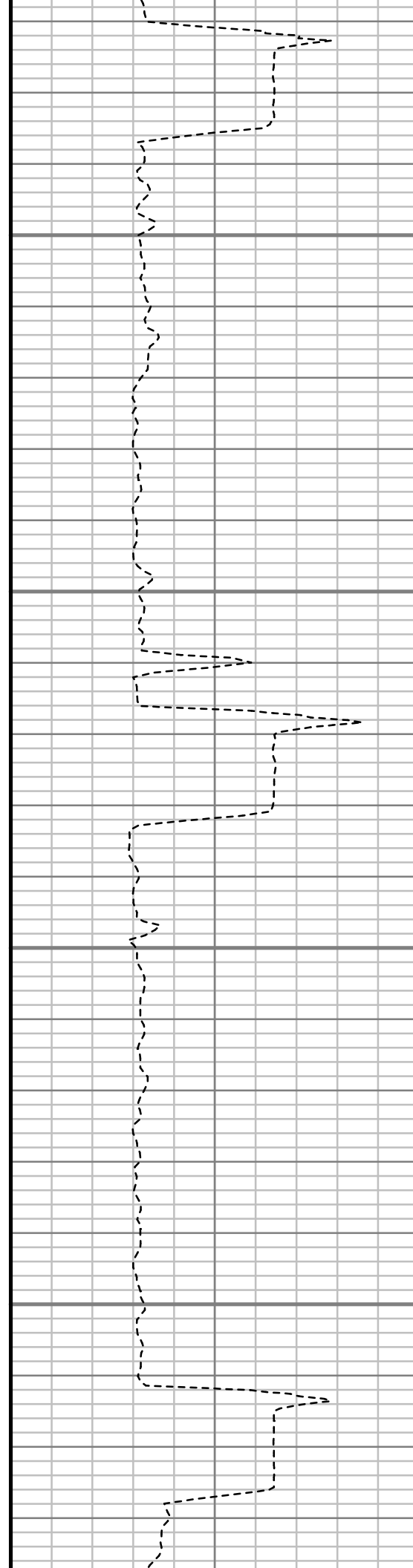
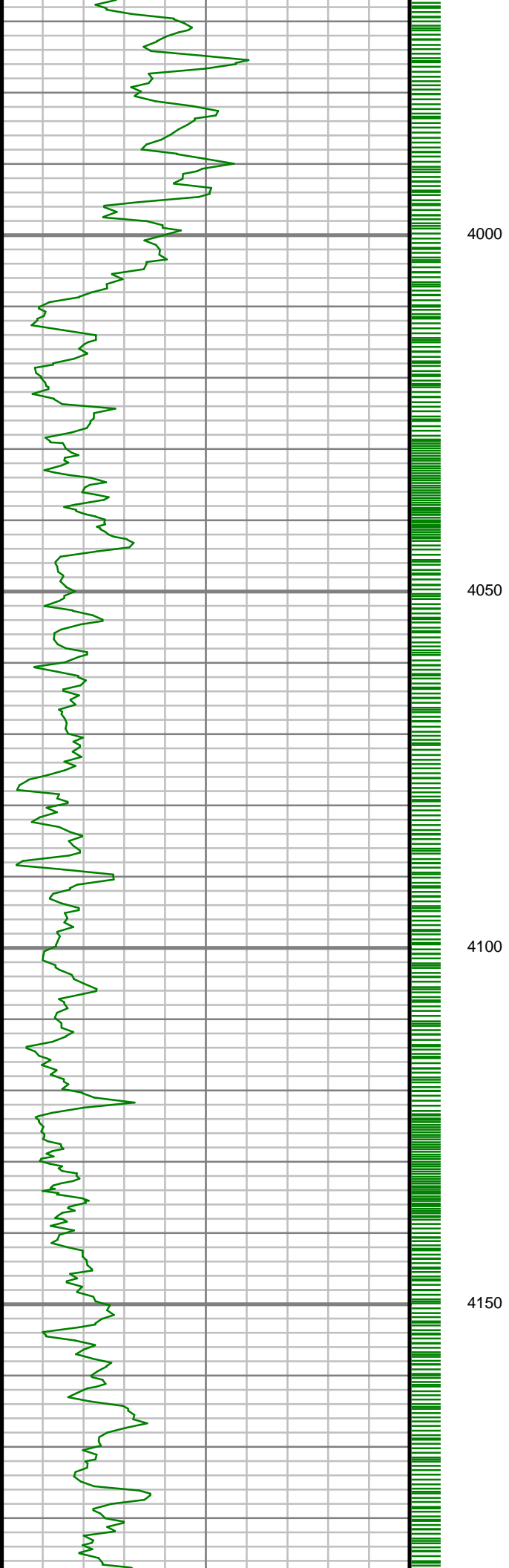


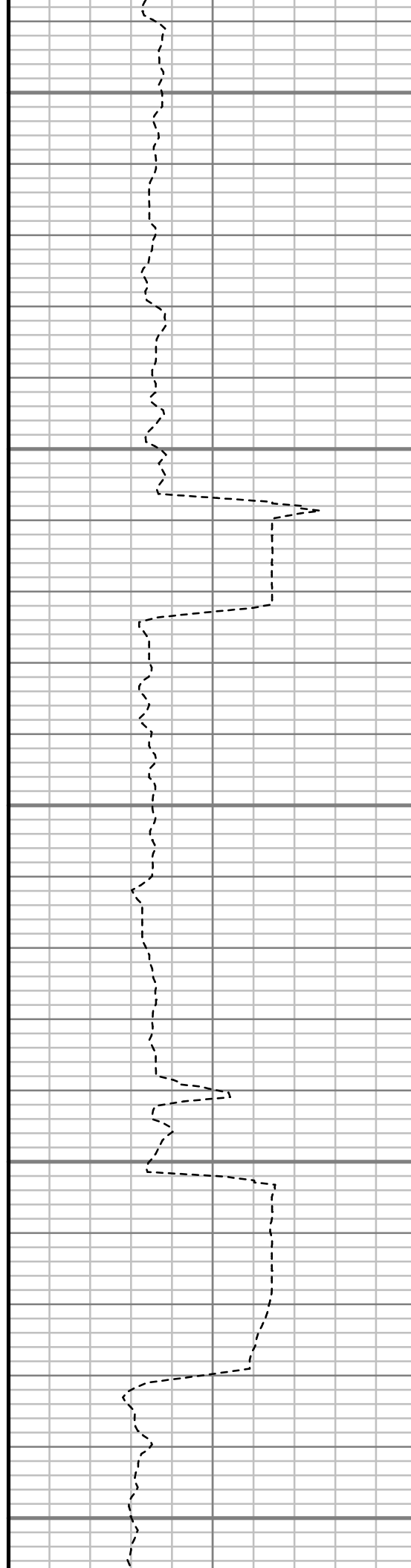
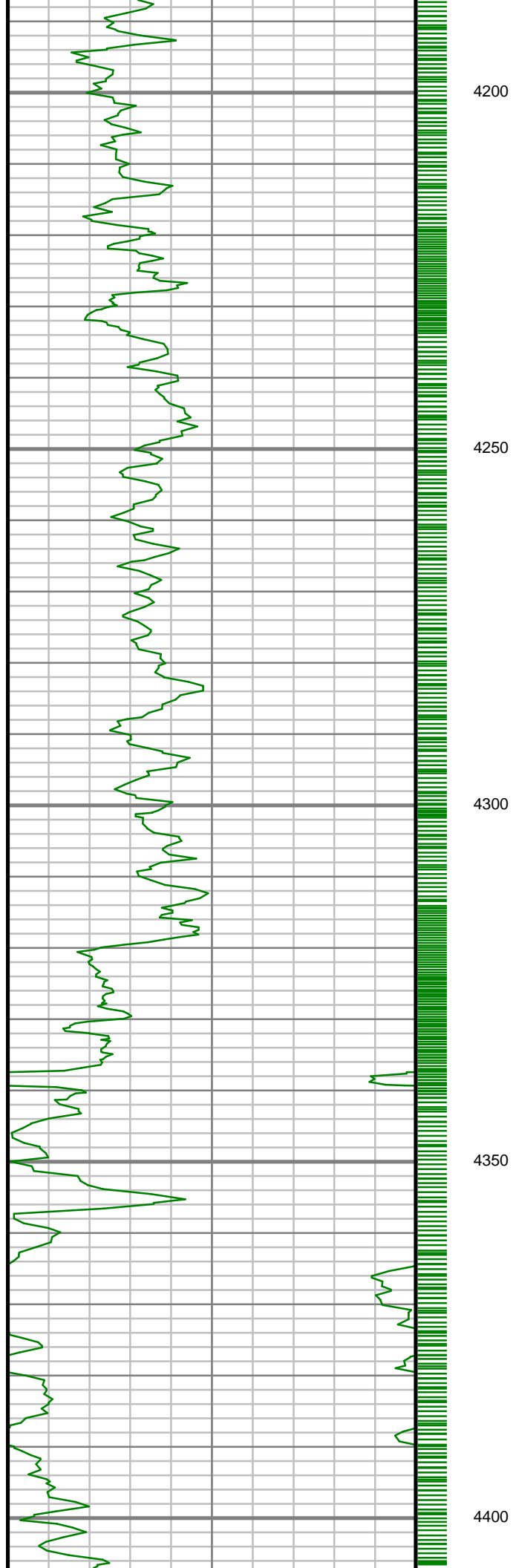


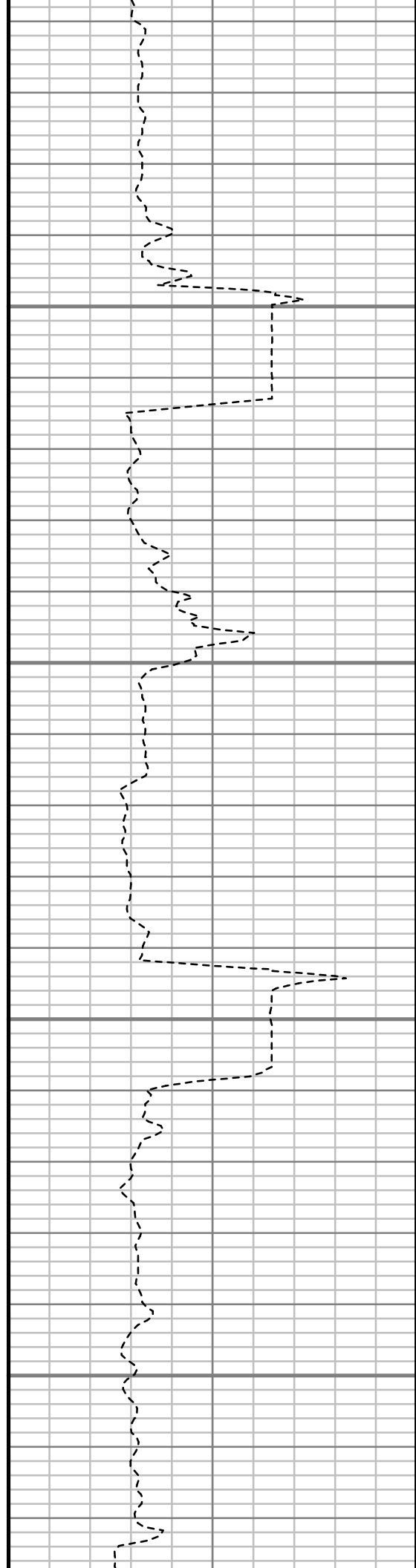
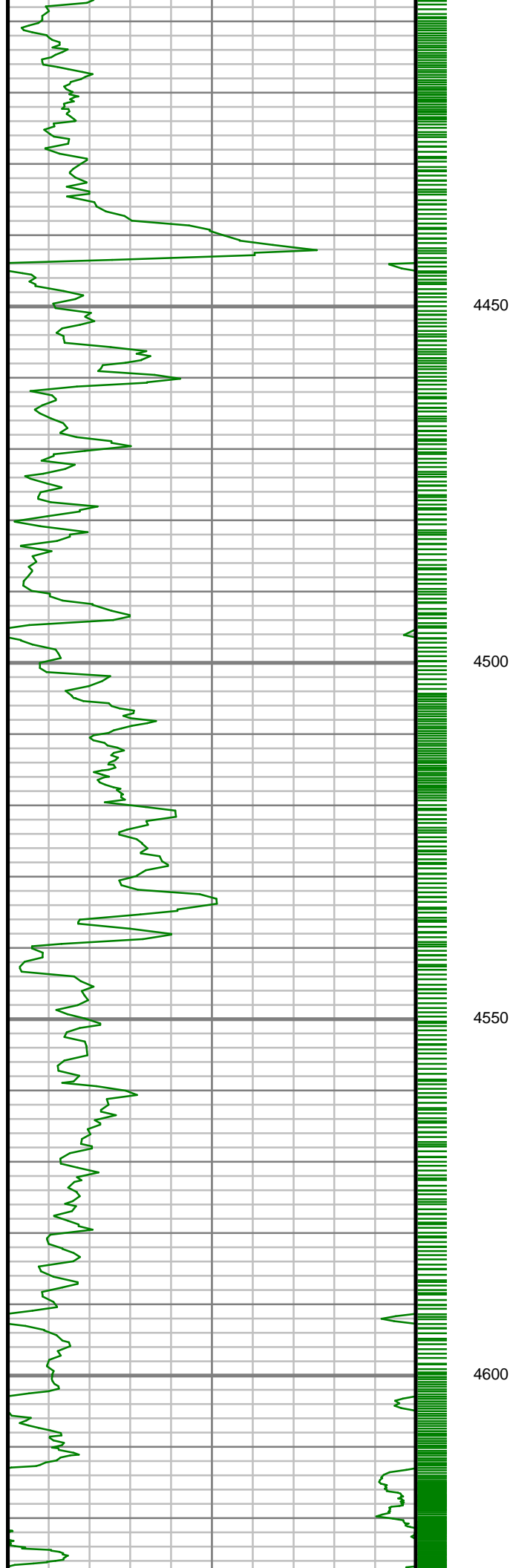


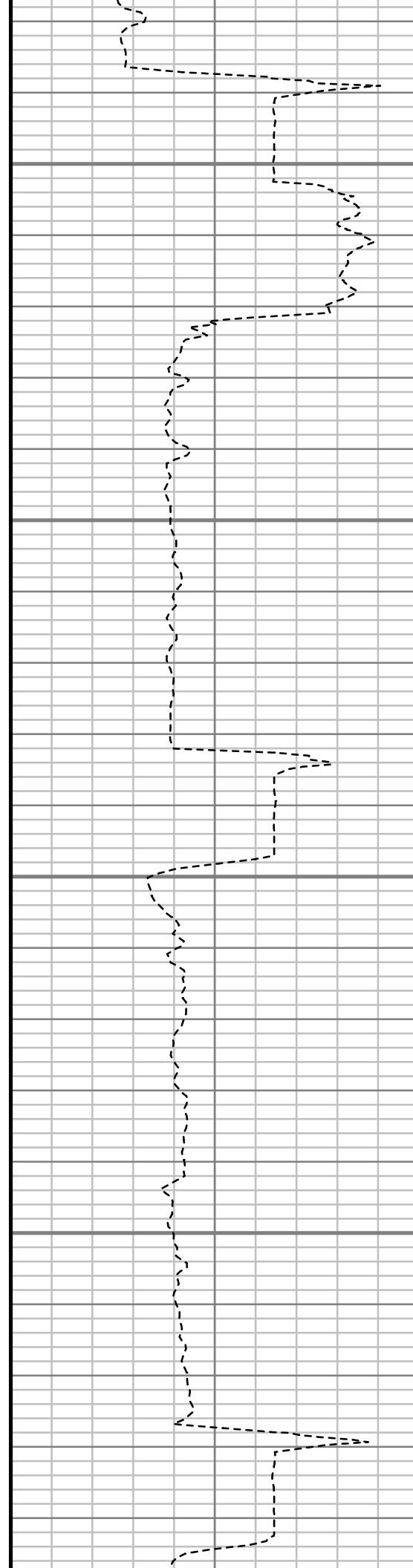
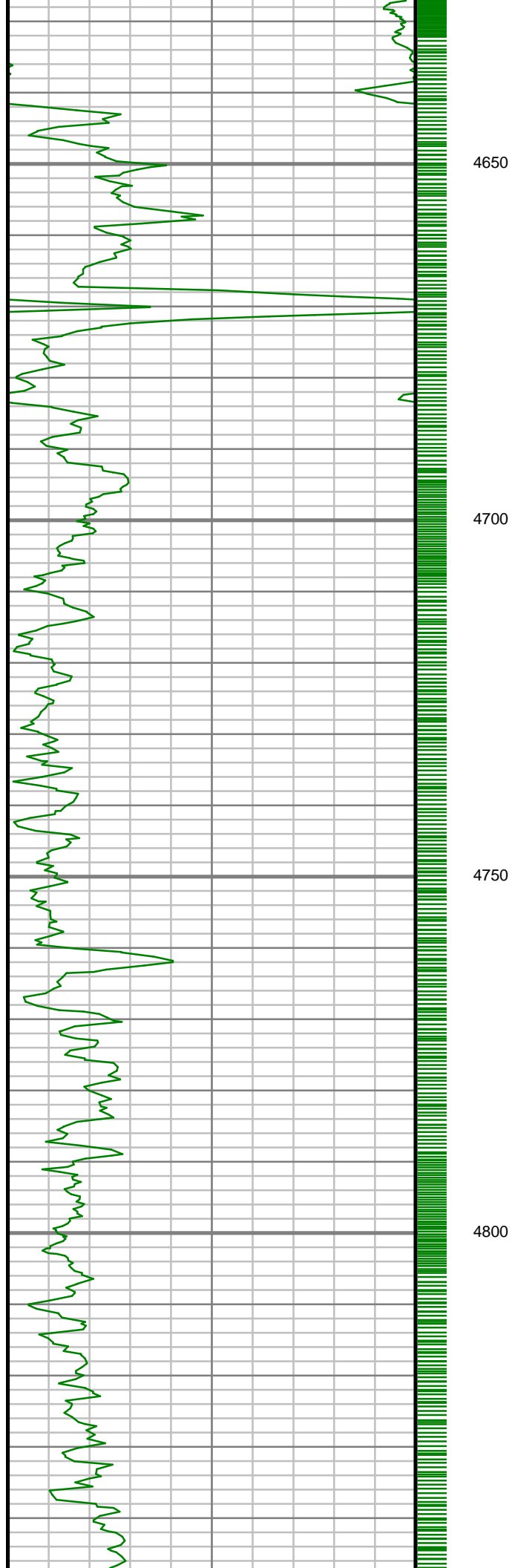


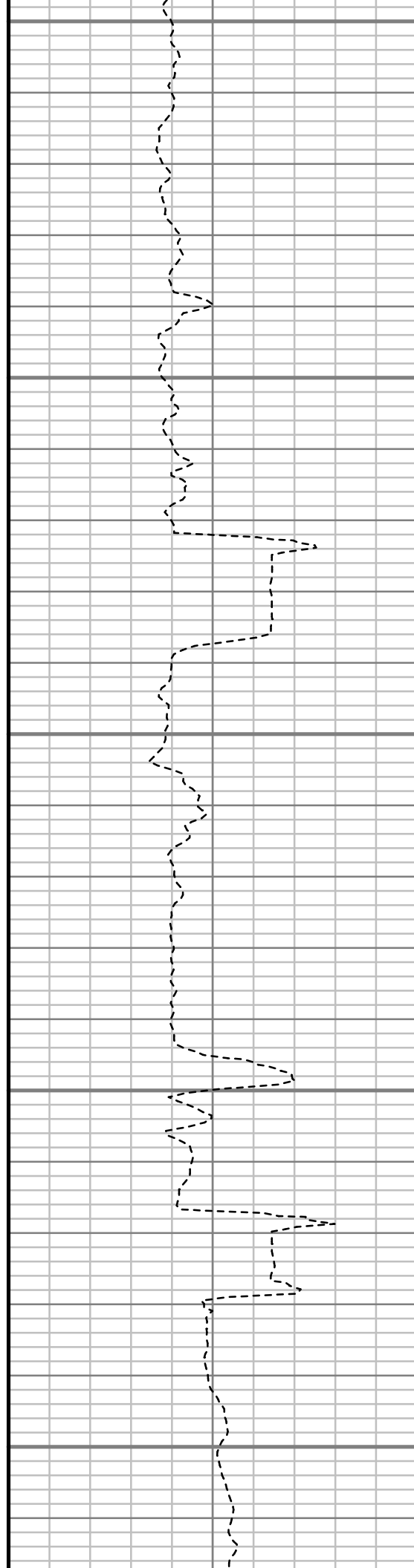
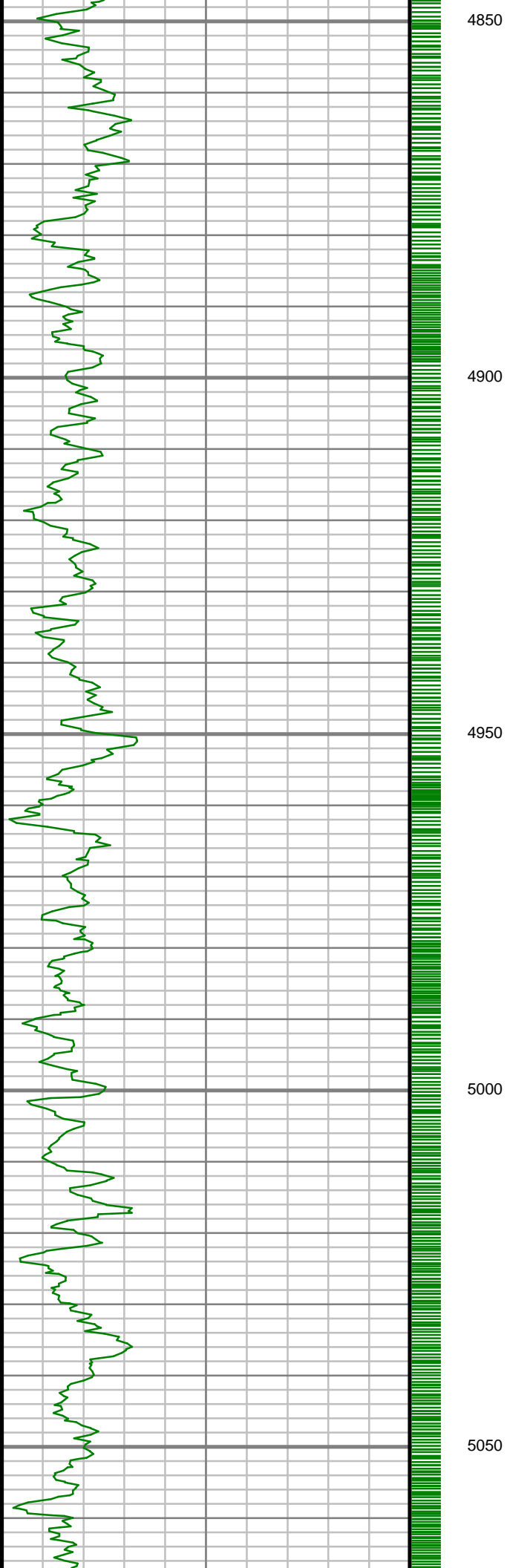


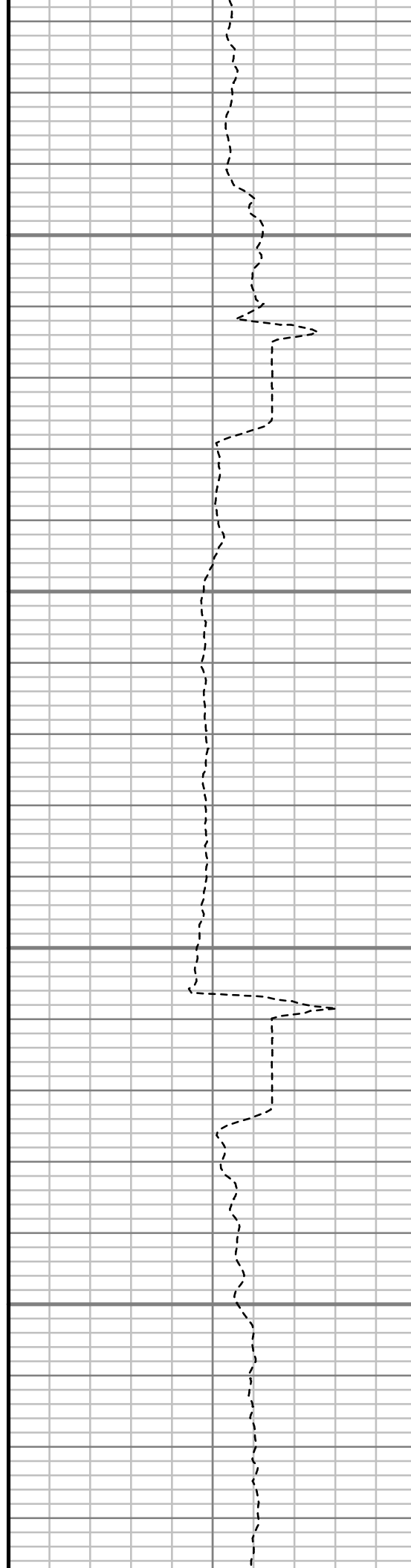
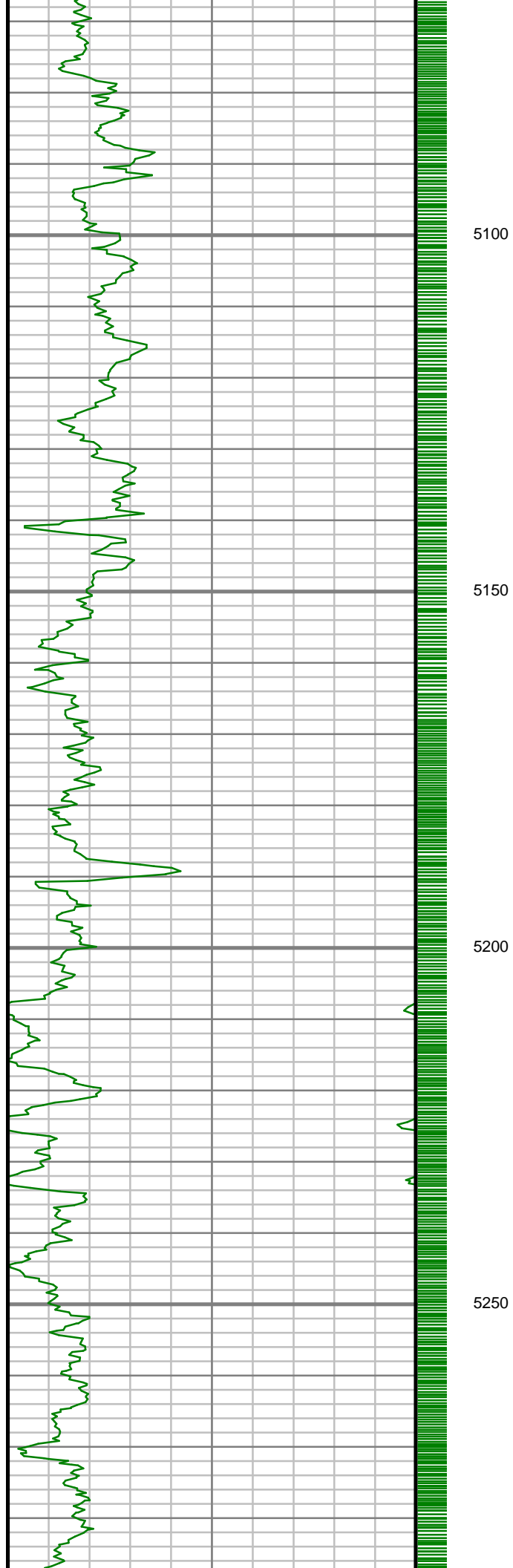


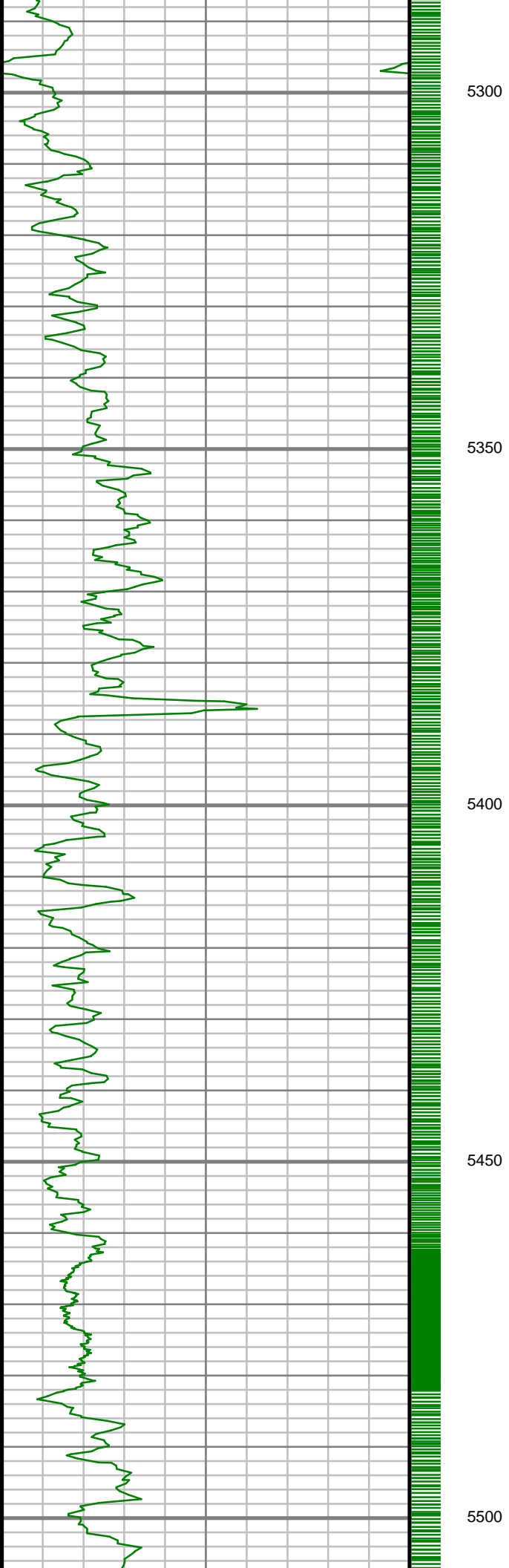












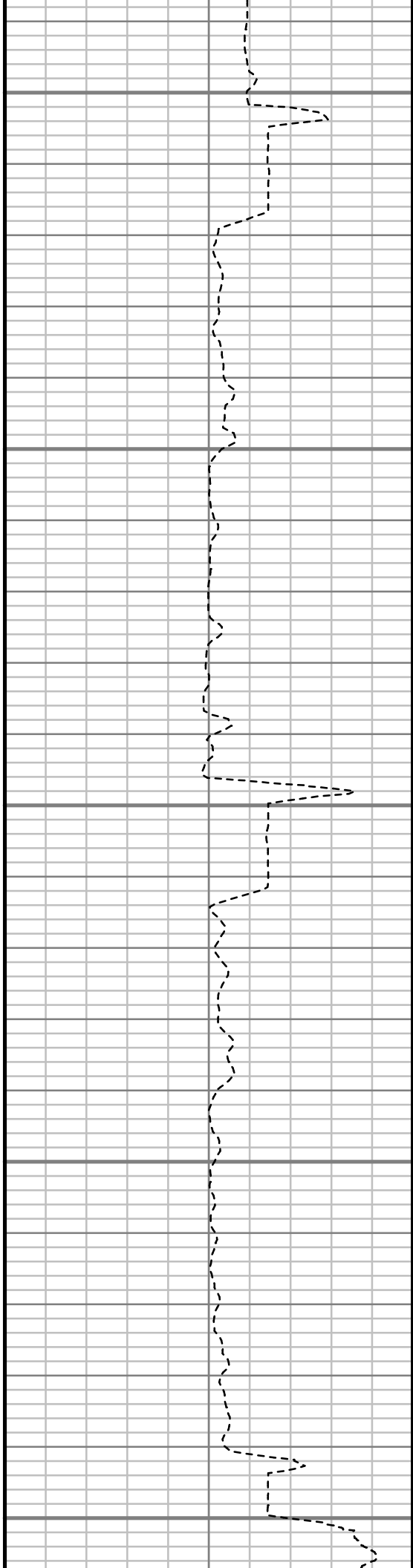
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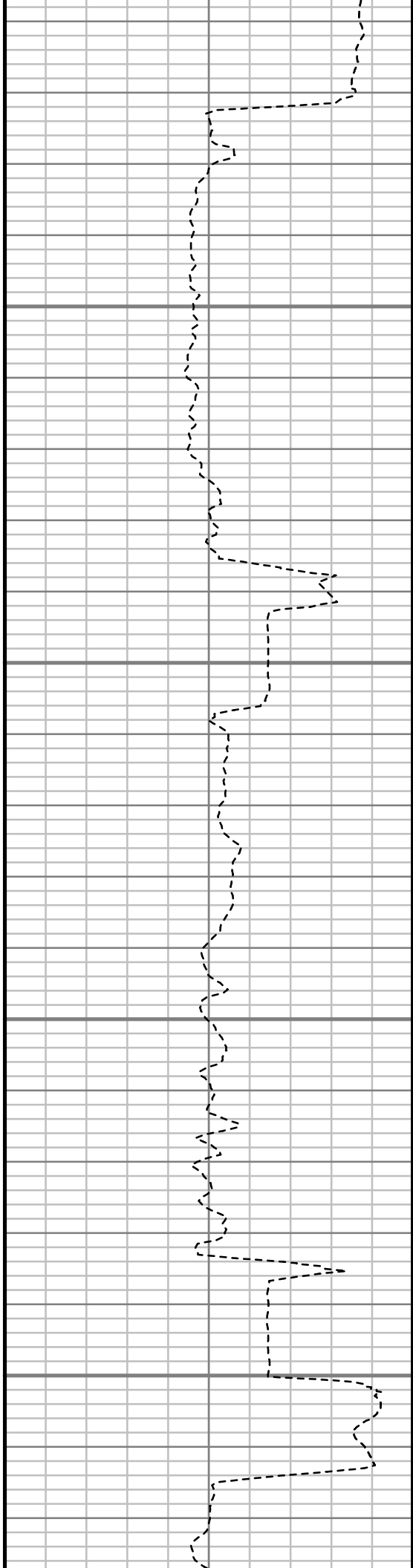
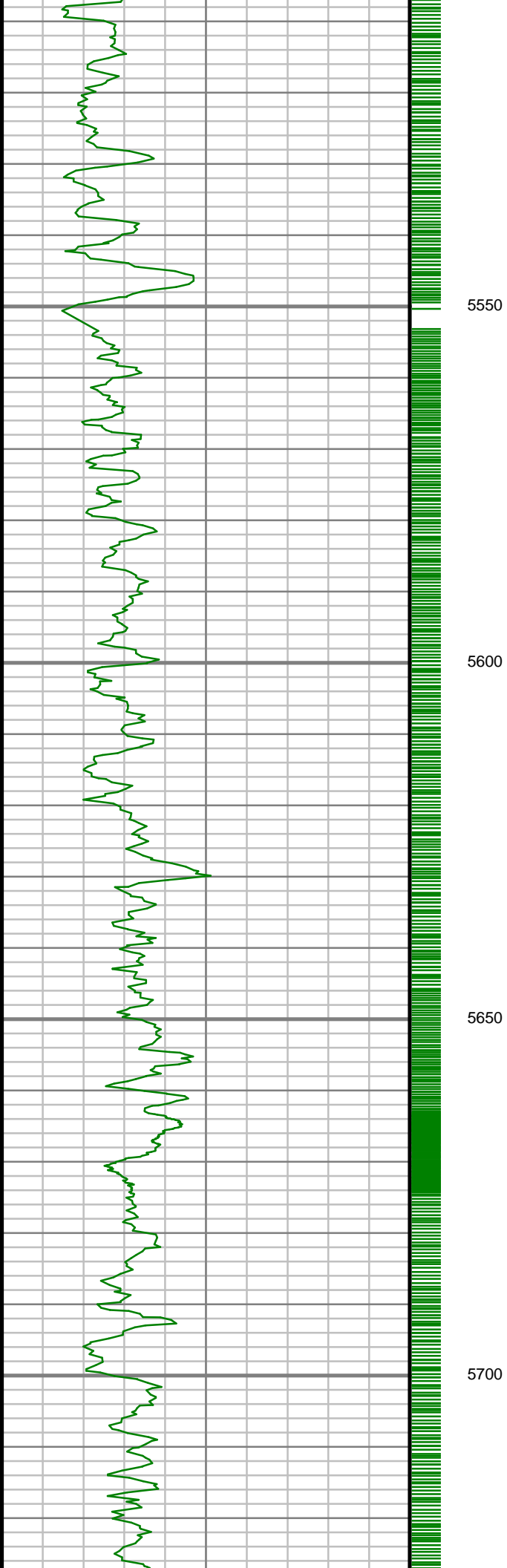
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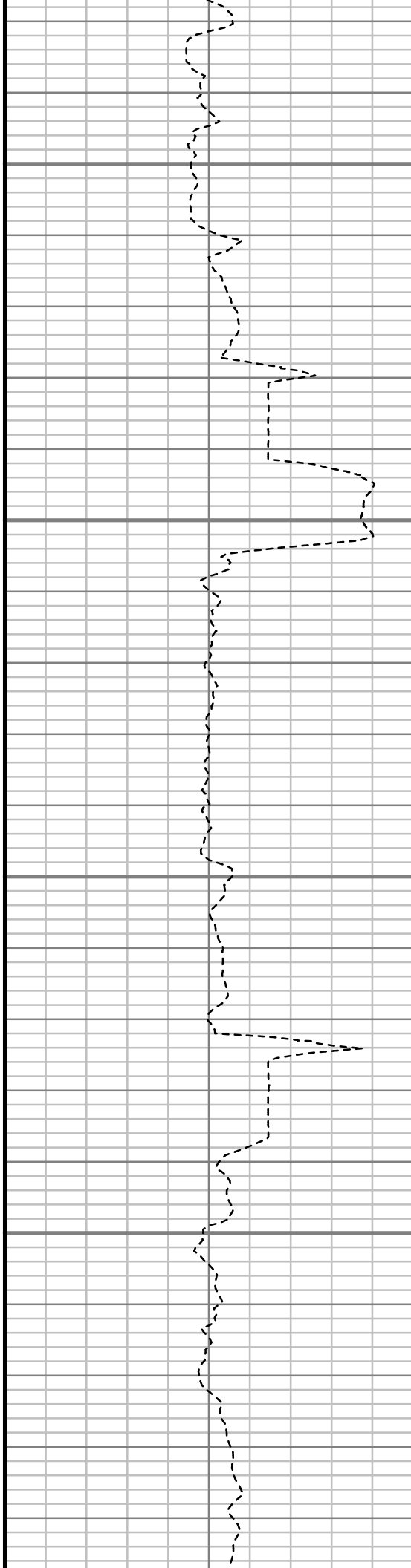
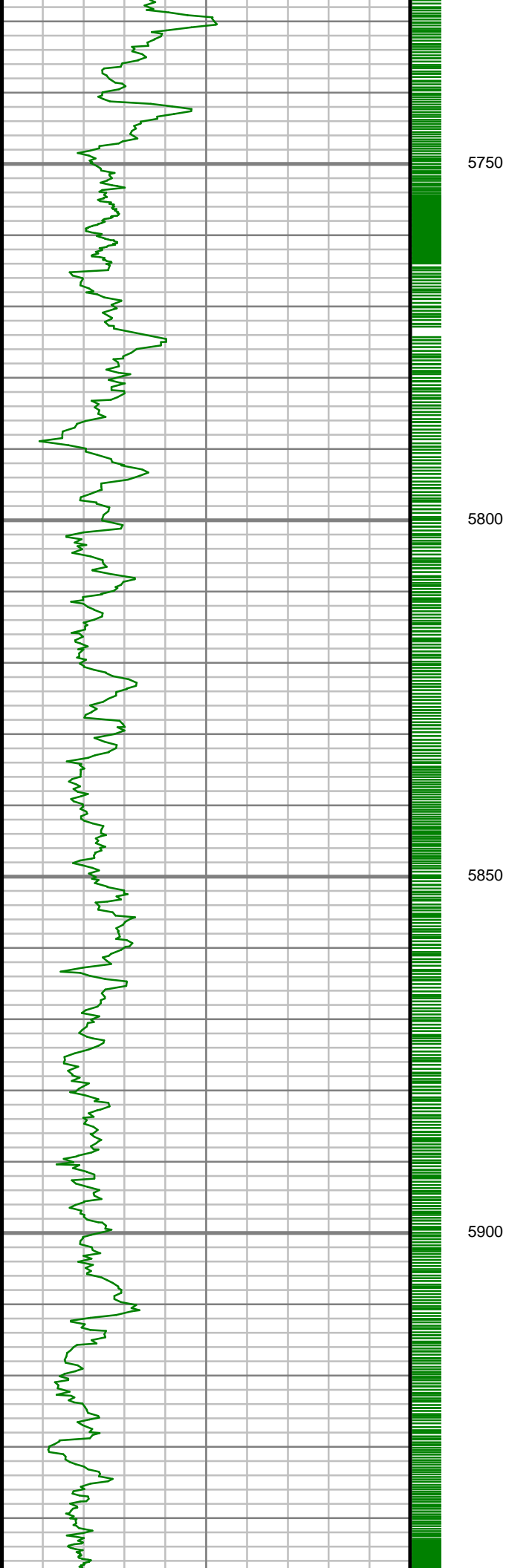
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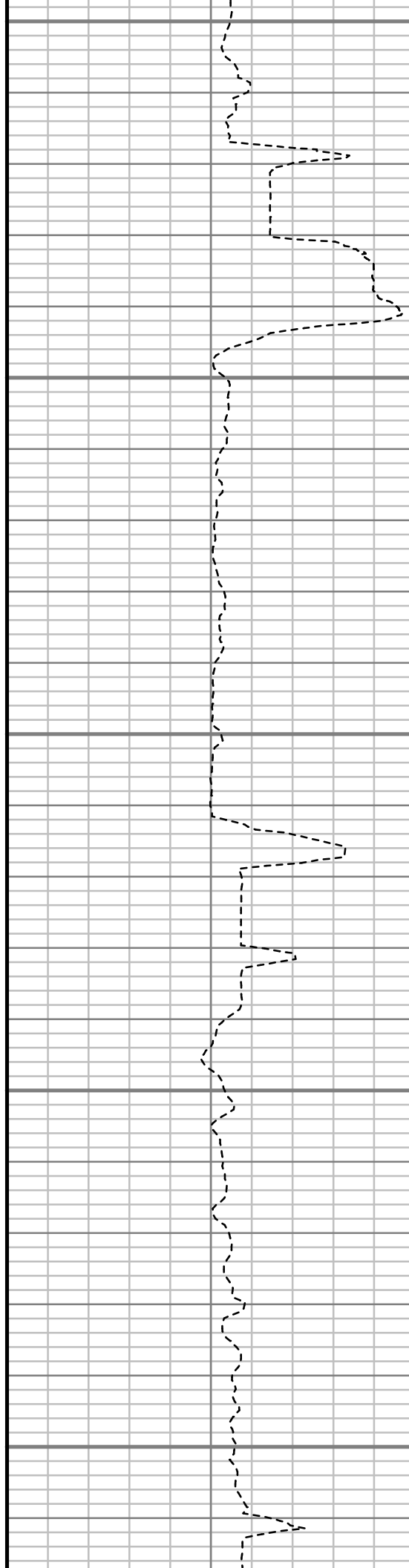
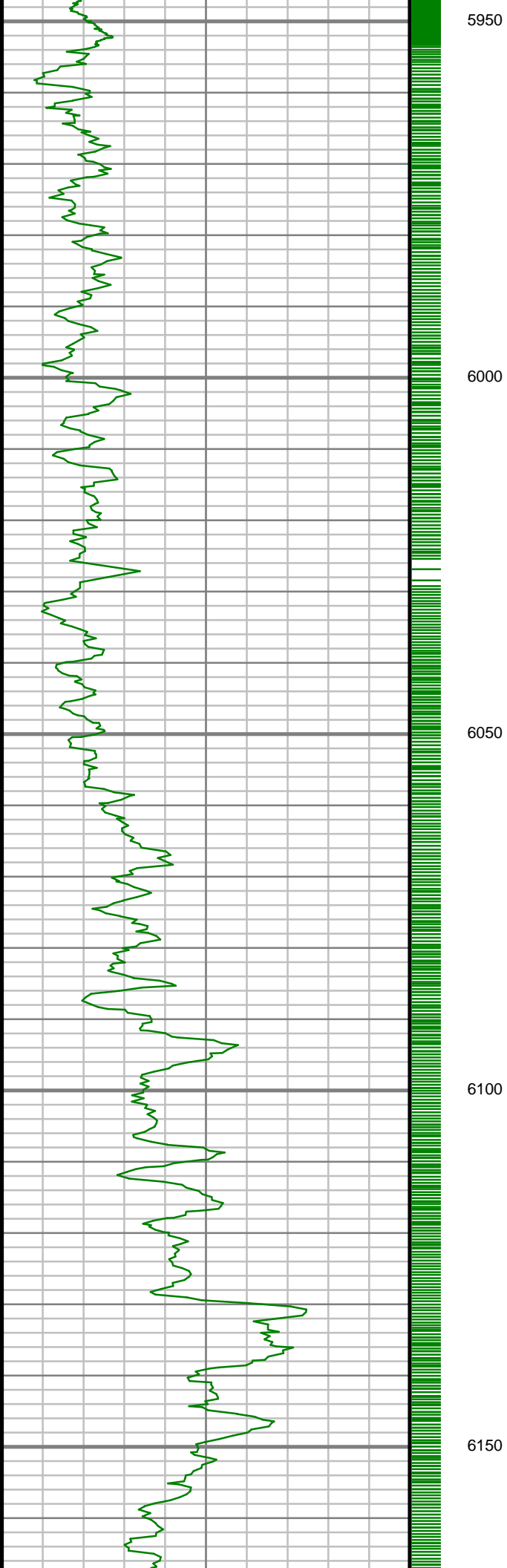
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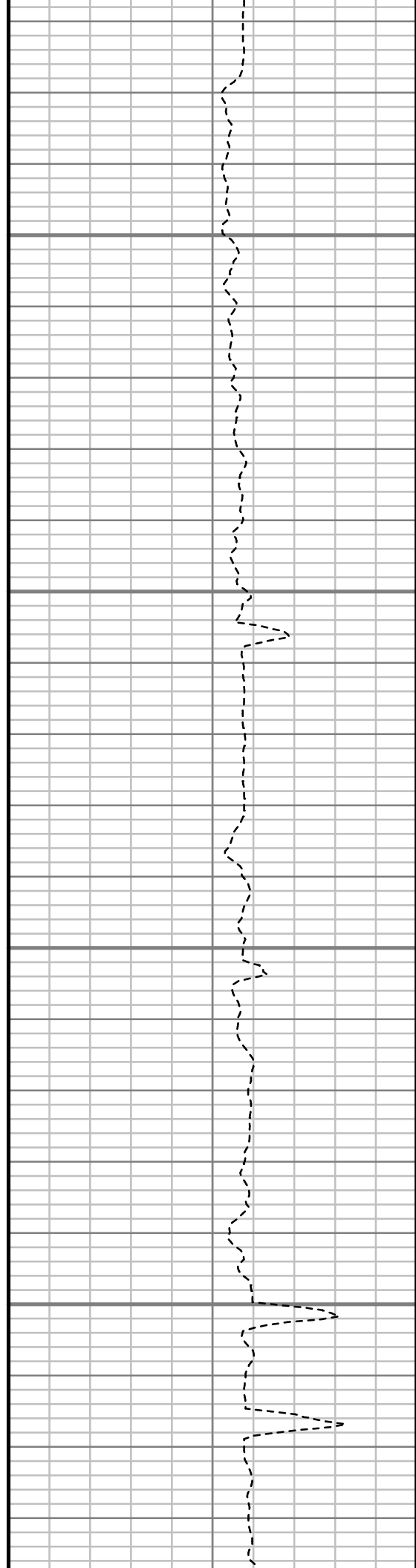
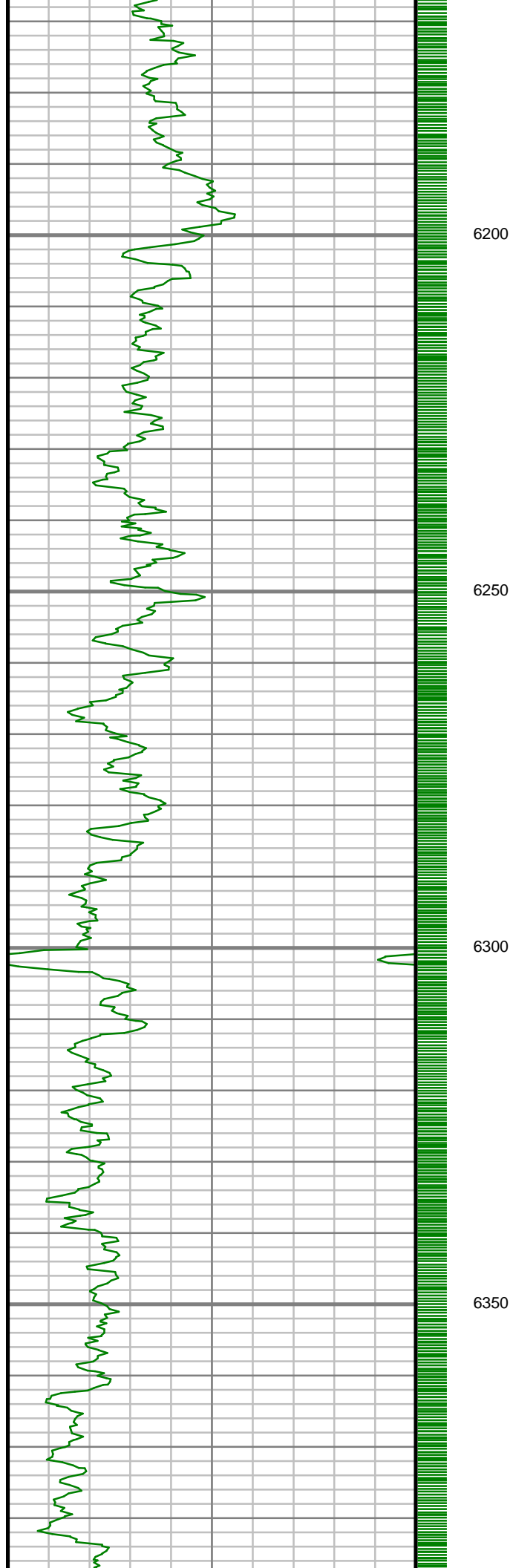
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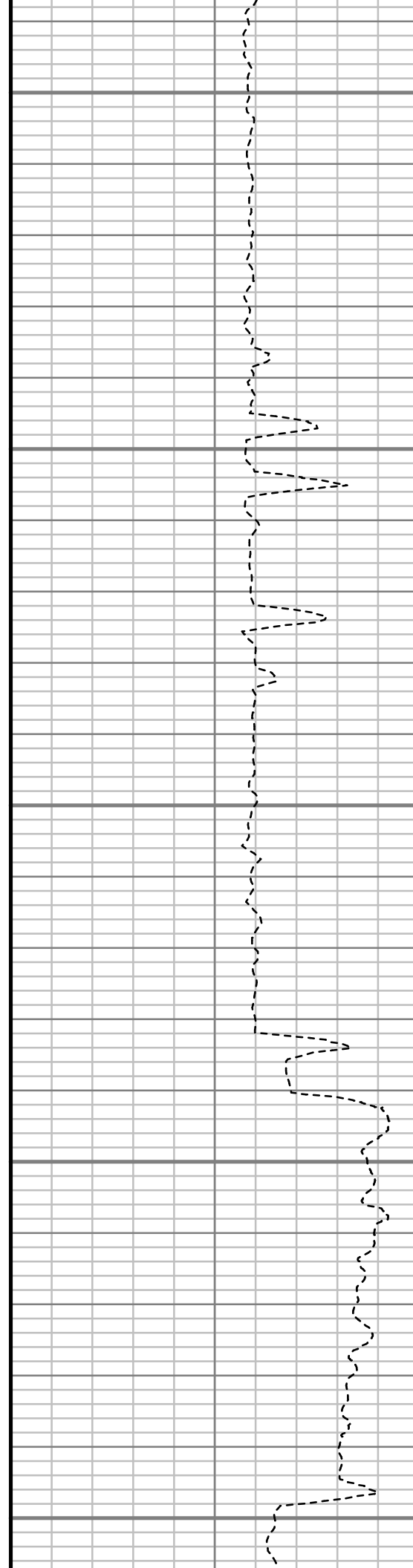
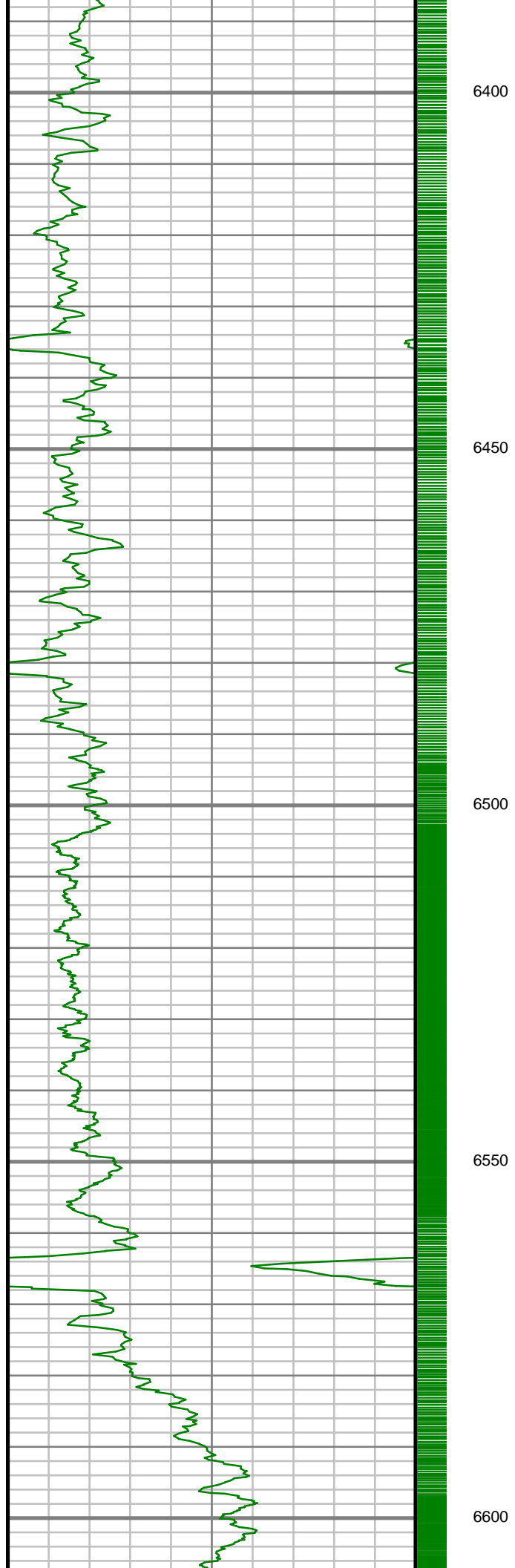


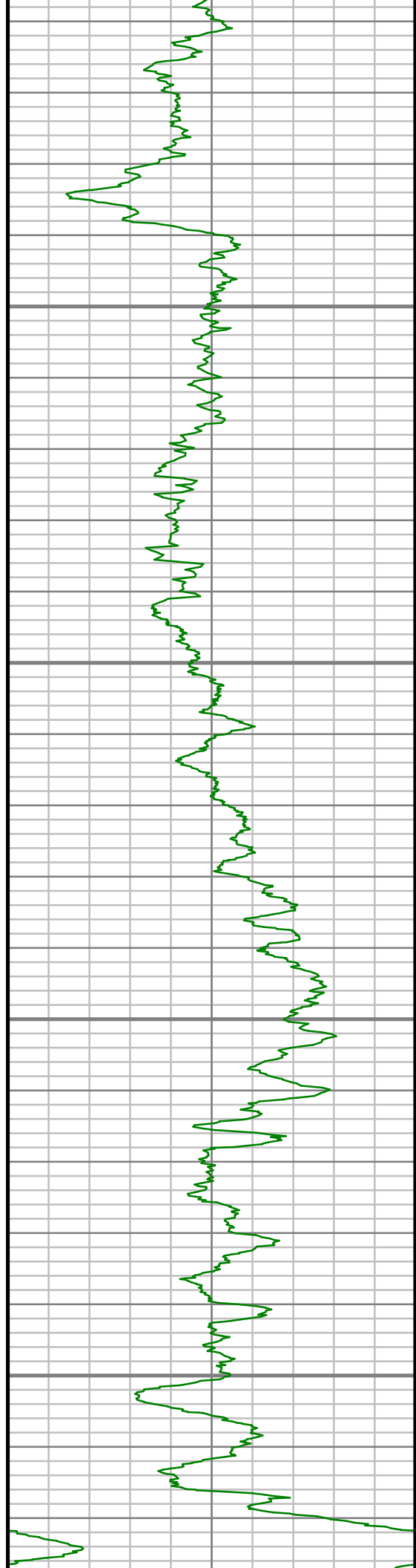










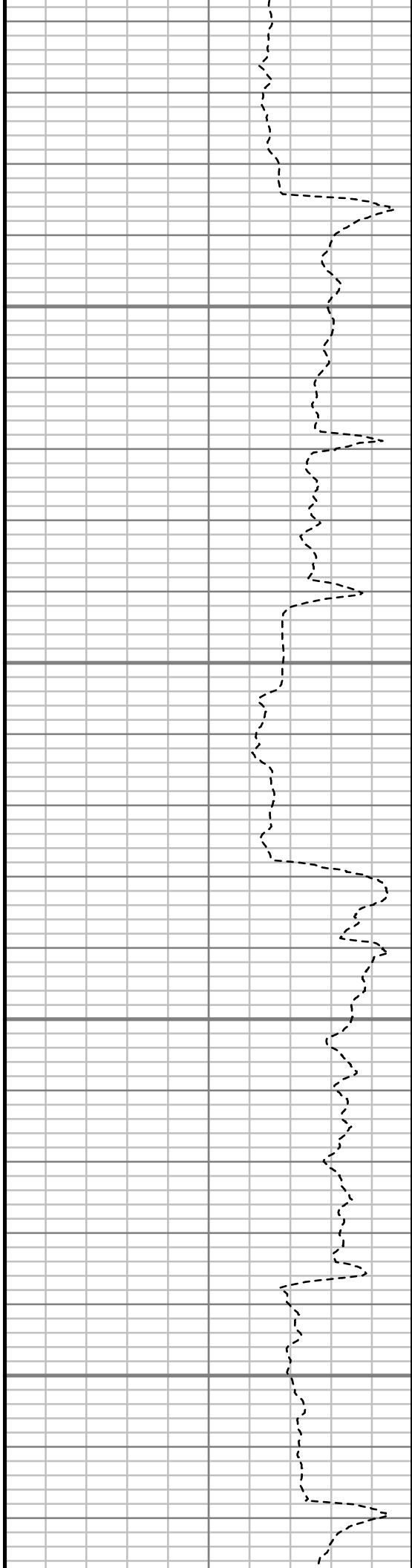


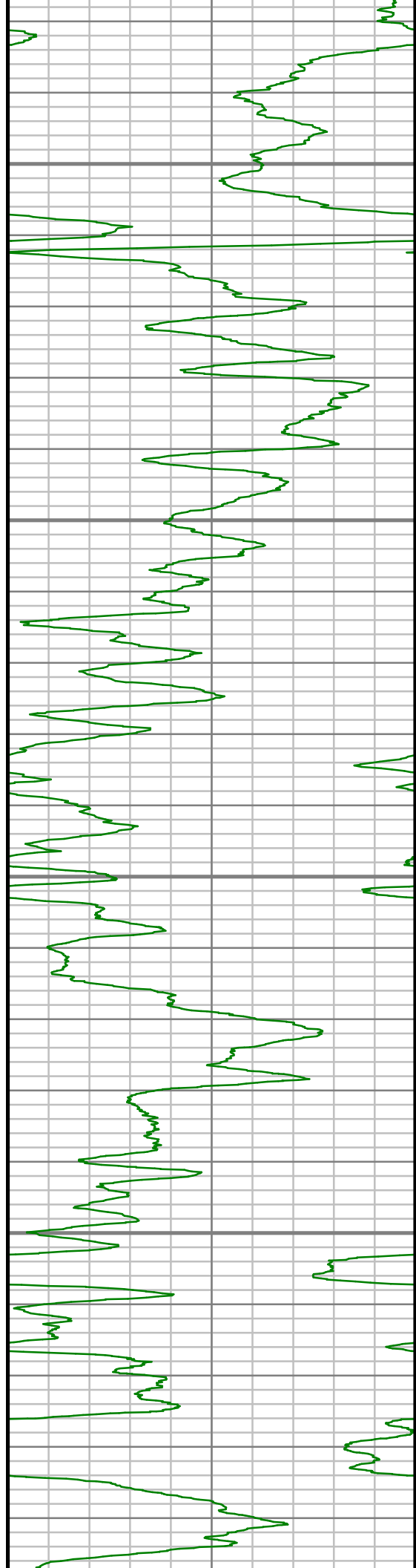
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6700

6750

6800



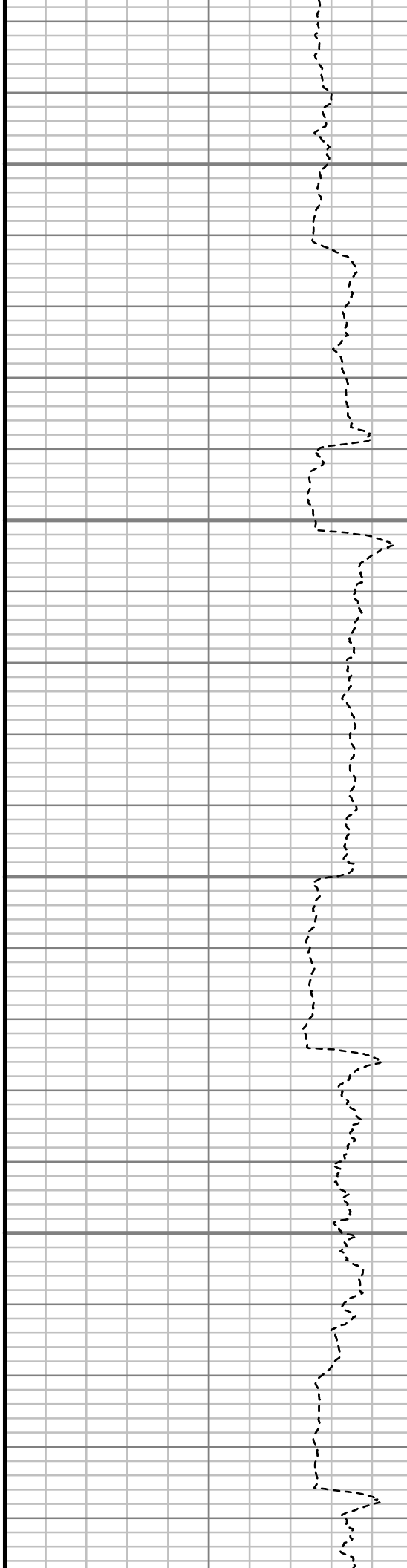


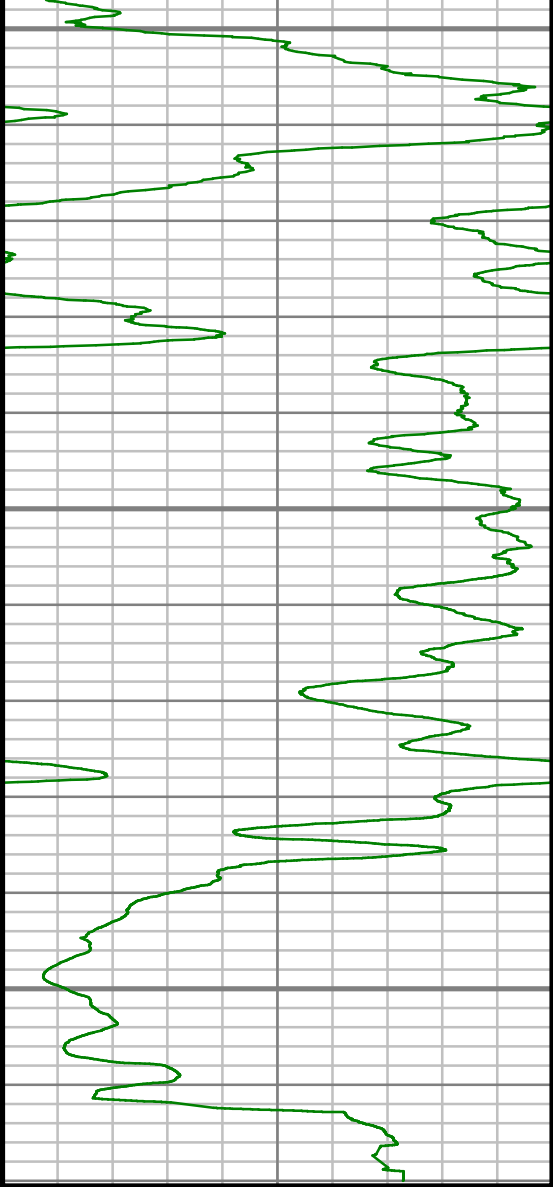
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6900

6950

7000





Gamma Ray (GR)

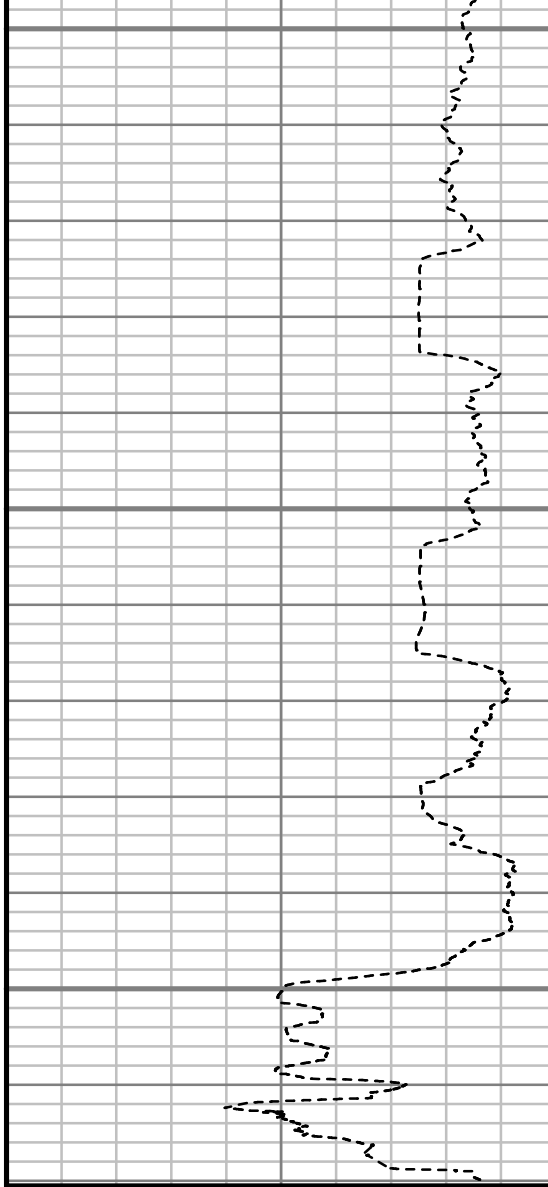
0 Unit = aapi 150

7050

7100

7150

TRUE VERTICAL DEPTH
1:240 (ft)



Rate of Penetration (ROP)

700 Unit = ft/hr 0

Comments

MWD Survey Report

Well Location	DALE PAD
Well Name	DALE 4E-20H-O264
Survey Date	8/21/2014
Latitude	40°7'3.508"N
Longitude	104°34'18.890"W
Btotal	52542 nT
Dip	66.73 deg
Magnetic Declination	8.38 deg
North Reference	True North
Grid Correction	None
Depth Reference	RKB (25.00 ft)
Calculation Method	Minimum Curvature
Section (VS) Ref	0.00N (ft), 0.00E (ft), 2.11Azim (deg)
Operator(s)	C. WILSON, S. WAXLER, T. LE

Well Notes

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Distance	Closure Direction	DLS
ft	deg	deg	ft	ft	ft	ft	ft	deg	"/100ft
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid
140.00	1.06	102.04	139.99	-0.22	-0.27	1.26	1.29	102.04	0.75
232.00	0.70	166.46	231.98	-0.91	-1.00	2.22	2.44	114.12	1.07
323.00	0.70	351.65	322.98	-0.90	-0.99	2.27	2.48	113.45	1.55
415.00	1.06	11.16	414.97	0.49	0.40	2.35	2.39	80.24	0.50
507.00	0.62	170.68	506.97	0.84	0.75	2.60	2.70	73.93	1.79
598.00	1.41	152.49	597.95	-0.61	-0.73	3.19	3.28	102.80	0.93
690.00	3.08	155.13	689.88	-3.79	-3.97	4.76	6.19	129.86	1.82
781.00	4.57	163.48	780.67	-9.41	-9.67	6.82	11.83	144.81	1.75
873.00	5.10	162.07	872.34	-16.73	-17.08	9.12	19.36	151.90	0.59
964.00	4.84	151.08	963.00	-23.82	-24.29	12.22	27.19	153.29	1.08
1055.00	4.75	150.82	1053.69	-30.33	-30.94	15.91	34.79	152.78	0.10
1154.00	4.34	144.85	1152.37	-36.81	-37.58	20.07	42.60	151.90	0.63
1337.00	8.11	159.49	1334.27	-54.24	-55.33	28.58	62.28	152.68	2.22
1521.00	10.55	157.55	1515.83	-81.54	-83.06	39.56	92.00	154.53	1.34
1703.00	11.46	155.12	1694.48	-112.81	-114.86	53.54	126.72	155.01	0.56
1886.00	12.17	148.17	1873.61	-145.01	-147.73	71.36	164.06	154.22	0.87
2069.00	10.45	137.85	2053.07	-172.90	-176.43	92.67	199.28	152.29	1.45
2251.00	9.97	139.02	2232.19	-196.23	-200.57	114.08	230.74	150.37	0.29

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Distance	Closure Direction	DLS
ft	deg	deg	ft	ft	ft	ft	ft	deg	°/100ft
2434.00	9.64	145.18	2412.52	-220.05	-225.11	133.22	261.57	149.38	0.60
2618.00	9.94	142.21	2593.84	-244.54	-250.30	151.74	292.70	148.77	0.32
2802.00	9.73	135.65	2775.14	-267.44	-273.97	172.35	323.68	147.83	0.62
2992.00	8.23	138.70	2962.81	-288.39	-295.68	192.56	352.86	146.93	0.83
3182.00	5.84	136.40	3151.36	-305.03	-312.91	208.21	375.85	146.36	1.27
3373.00	1.22	98.30	3341.96	-312.04	-320.25	216.93	386.80	145.89	2.59
3563.00	0.84	286.16	3531.95	-311.92	-320.15	217.59	387.10	145.80	1.08
3753.00	0.83	307.39	3721.93	-310.79	-318.93	215.17	384.73	145.99	0.16
3944.00	0.42	317.40	3912.92	-309.50	-317.58	213.60	382.73	146.08	0.22
4135.00	0.50	351.43	4103.91	-308.18	-316.24	213.00	381.28	146.04	0.15
4325.00	1.13	349.90	4293.89	-305.54	-313.58	212.55	378.83	145.87	0.33
4515.00	0.89	355.16	4483.86	-302.25	-310.27	212.09	375.84	145.64	0.13
4706.00	0.18	214.68	4674.86	-301.03	-309.04	211.80	374.65	145.58	0.54
4896.00	0.33	267.09	4864.85	-301.33	-309.31	211.07	374.47	145.69	0.14
5086.00	0.45	281.13	5054.85	-301.26	-309.19	209.79	373.65	145.84	0.08
5277.00	0.95	312.67	5245.84	-300.12	-307.98	207.89	371.58	145.98	0.32
5467.00	1.27	335.48	5435.80	-297.21	-305.00	205.86	367.97	145.98	0.28
5657.00	0.83	188.31	5625.79	-296.70	-304.44	204.78	366.91	146.07	1.06

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Distance	Closure Direction	DLS
ft	deg	deg	ft	ft	ft	ft	ft	deg	°/100ft
5847.00	0.68	73.39	5815.78	-297.71	-305.49	205.66	368.27	146.05	0.67
6038.00	1.41	109.04	6006.75	-298.03	-305.93	208.96	370.48	145.67	0.49
6228.00	1.50	95.07	6196.69	-298.84	-306.91	213.64	373.95	145.16	0.19
6418.00	1.88	98.80	6386.60	-299.33	-307.61	219.21	377.72	144.53	0.20
6514.00	1.58	92.43	6482.56	-299.52	-307.90	222.08	379.64	144.20	0.37
6609.00	4.10	0.84	6577.47	-296.13	-304.56	223.45	377.74	143.73	4.67
6704.00	11.67	354.71	6671.50	-283.18	-291.58	222.61	366.84	142.64	8.01
6799.00	18.76	356.20	6763.11	-258.43	-266.74	220.71	346.21	140.39	7.47
6894.00	25.51	0.20	6851.07	-222.75	-230.99	219.76	318.83	136.43	7.28
6989.00	39.47	358.33	6931.00	-171.92	-180.10	218.95	283.51	129.44	14.73
7084.00	48.12	357.09	6999.50	-106.43	-114.47	216.27	244.69	117.89	9.15
7179.00	58.06	359.56	7056.49	-30.73	-38.64	214.16	217.61	100.23	10.66
7274.00	70.18	1.88	7097.89	54.55	46.66	215.32	220.31	77.77	12.95
7368.00	77.15	359.69	7124.31	144.67	136.79	216.52	256.11	57.72	7.74
7463.00	83.27	358.45	7140.45	238.11	230.35	214.99	315.09	43.03	6.57
7633.00	87.58	358.49	7154.01	407.19	399.71	210.47	451.73	27.77	2.53
7728.00	87.95	357.72	7157.71	501.88	494.58	207.33	536.28	22.74	0.89
7823.00	88.42	358.92	7160.71	596.62	589.49	204.55	623.97	19.14	1.35

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Distance	Closure Direction	DLS
ft	deg	deg	ft	ft	ft	ft	ft	deg	°/100ft
7918.00	90.30	359.94	7161.77	691.51	684.48	203.61	714.12	16.57	2.25
8014.00	89.77	359.03	7161.72	787.41	780.47	202.74	806.37	14.56	1.10
8109.00	89.46	358.25	7162.36	882.23	875.44	200.49	898.10	12.90	0.88
8204.00	88.56	358.37	7164.00	977.01	970.38	197.69	990.32	11.51	0.96
8299.00	89.09	359.29	7165.95	1071.83	1065.34	195.75	1083.18	10.41	1.11
8394.00	90.30	1.20	7166.45	1166.77	1160.34	196.15	1176.80	9.59	2.38
8489.00	89.70	0.86	7166.45	1261.75	1255.32	197.86	1270.82	8.96	0.73
8585.00	89.43	1.15	7167.18	1357.73	1351.30	199.54	1365.95	8.40	0.41
8680.00	91.08	2.19	7166.76	1452.72	1446.26	202.30	1460.34	7.96	2.05
8776.00	92.12	1.74	7164.09	1548.68	1542.16	205.59	1555.80	7.59	1.18
8871.00	92.15	1.31	7160.55	1643.61	1637.06	208.11	1650.24	7.24	0.45
8966.00	91.71	1.15	7157.35	1738.55	1731.99	210.16	1744.69	6.92	0.49
9061.00	91.55	0.41	7154.64	1833.48	1826.94	211.45	1839.13	6.60	0.80
9157.00	91.81	0.16	7151.83	1929.39	1922.89	211.93	1934.54	6.29	0.38
9252.00	91.58	0.95	7149.02	2024.32	2017.85	212.86	2029.04	6.02	0.87
9347.00	91.04	2.06	7146.85	2119.28	2112.79	215.36	2123.74	5.82	1.30
9442.00	90.27	2.95	7145.76	2214.27	2207.69	219.51	2218.58	5.68	1.24
9537.00	89.63	3.96	7145.85	2309.25	2302.51	225.24	2313.51	5.59	1.25

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Distance	Closure Direction	DLS
ft	deg	deg	ft	ft	ft	ft	ft	deg	°/100ft
9632.00	86.64	4.29	7148.94	2404.13	2397.21	232.07	2408.41	5.53	3.16
9727.00	86.47	3.60	7154.64	2498.91	2491.81	238.59	2503.21	5.47	0.75
9823.00	86.50	1.69	7160.53	2594.72	2587.52	243.02	2598.91	5.37	1.98
9918.00	87.92	0.24	7165.15	2689.58	2682.39	244.61	2693.52	5.21	2.13
10013.00	89.56	359.14	7167.24	2784.47	2777.36	244.09	2788.07	5.02	2.08
10108.00	88.79	358.75	7168.61	2879.31	2872.34	242.34	2882.54	4.82	0.91
10203.00	89.63	357.25	7169.92	2974.05	2967.27	239.03	2976.88	4.61	1.81
10298.00	91.91	356.95	7168.64	3068.68	3062.13	234.22	3071.07	4.37	2.42
10393.00	92.52	357.92	7164.96	3163.29	3156.96	229.97	3165.33	4.17	1.21
10488.00	90.44	358.10	7162.51	3258.01	3251.87	226.67	3259.76	3.99	2.20
10583.00	89.87	358.05	7162.26	3352.77	3346.81	223.48	3354.27	3.82	0.60
10679.00	89.56	357.68	7162.74	3448.51	3442.74	219.90	3449.76	3.65	0.49
10774.00	89.36	357.24	7163.63	3543.19	3537.65	215.69	3544.22	3.49	0.51
10869.00	88.59	355.86	7165.33	3637.72	3632.46	209.98	3638.52	3.31	1.67
10964.00	90.37	356.48	7166.19	3732.21	3727.24	203.63	3732.79	3.13	1.99
11059.00	90.71	355.20	7165.30	3826.63	3821.98	196.74	3827.04	2.95	1.40
11154.00	90.40	354.34	7164.38	3920.85	3916.58	188.08	3921.09	2.75	0.95
11250.00	90.30	355.62	7163.79	4016.10	4012.21	179.69	4016.23	2.56	1.34

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Distance	Closure Direction	DLS
ft	deg	deg	ft	ft	ft	ft	ft	deg	°/100ft
11345.00	89.46	354.16	7163.99	4110.35	4106.83	171.23	4110.39	2.39	1.78
11440.00	90.00	353.72	7164.43	4204.38	4201.29	161.19	4204.38	2.20	0.73
11535.00	89.33	353.15	7164.99	4298.29	4295.67	150.33	4298.30	2.00	0.93
11630.00	89.66	352.09	7165.83	4391.98	4389.88	138.13	4392.05	1.80	1.17

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Distance	Closure Direction	DLS
ft	deg	deg	ft	ft	ft	ft	ft	deg	°/100ft

5" = 100' FEET TVD