

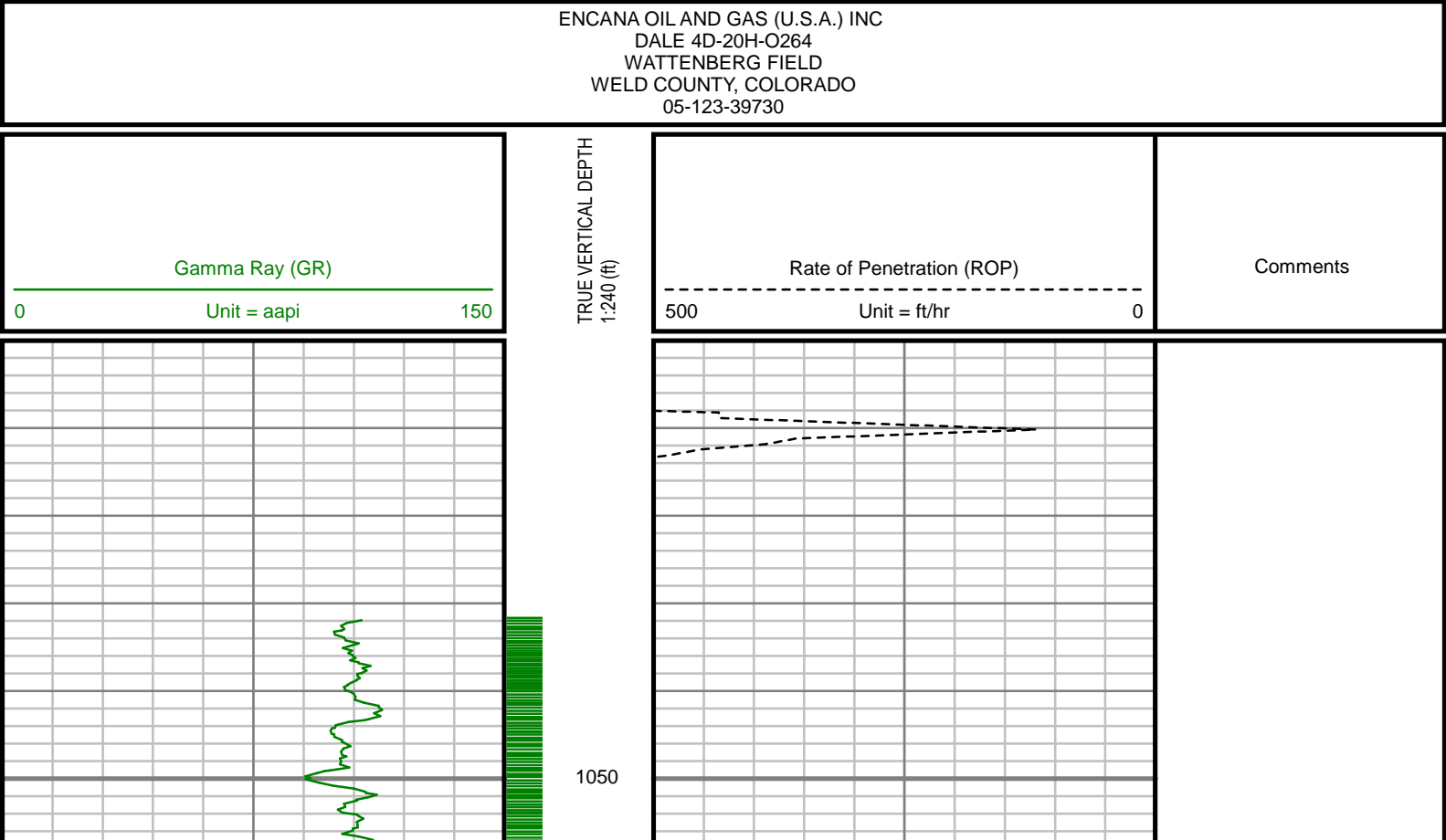
5" = 100' FEET TVD

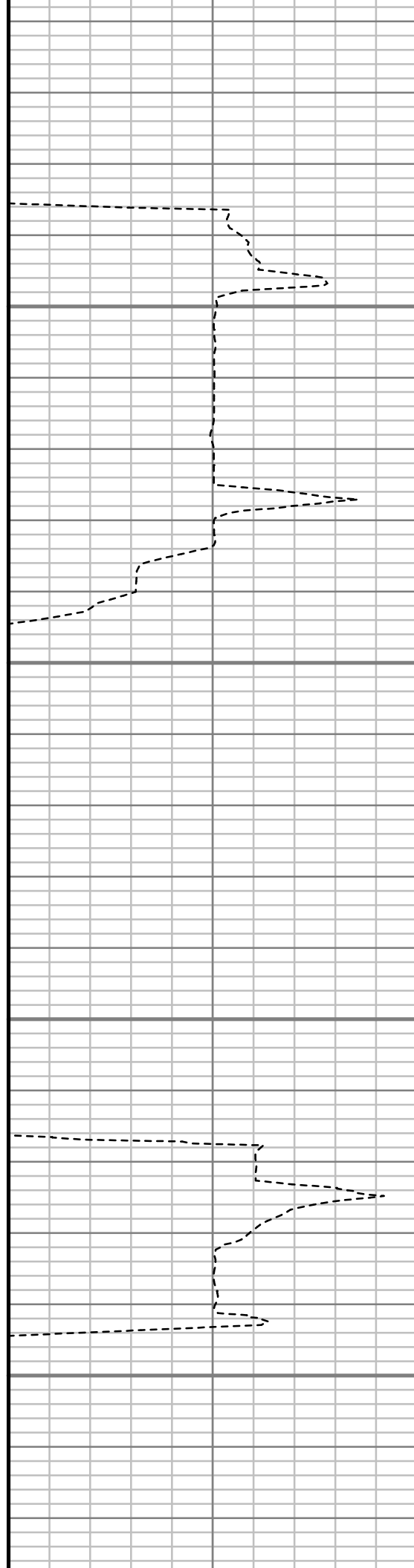
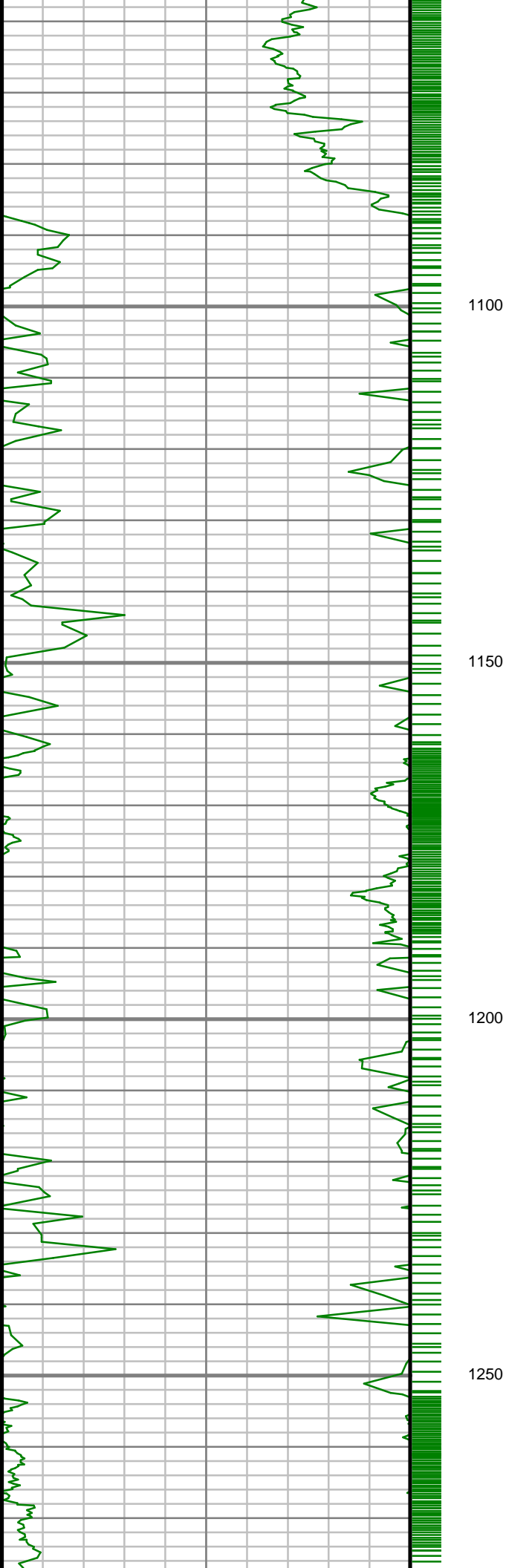
COMPANY : ENCANA OIL & GAS (U.S.A.) INC WELL : DALE 4D-20H-0264 FIELD : WATTENBERG COUNTY : WELD STATE : COLORADO COUNTRY : U.S.A. UWI : 05-123-39730										COMPANY : ENCANA OIL & GAS (U.S.A.) INC WELL : DALE 4D-20H-0264 FIELD : WATTENBERG COUNTY : WELD STATE : COLORADO COUNTRY : U.S.A. UWI : 05-123-39730									
WELL LOCATION LAT:40°7'3.511"N LONG:104°34'18.984"W N:1287061.78 ft E:3259552.62 ft SEC:20 TWP:2N RANGE:64W										OTHER SERVICES DIRECTIONAL ROP									
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	1087	0 - 4			0	1087												
8.75	1087	7352	4 - 11			1087	2619												
6.125	7352	11626	11 - 0			2619	6484												
			0 - 83			6484	7352												
			83 - 92			7352	11626												
CASING RECORD																			
CASING SIZE in	FROM ft	TO ft																	
16	0	118																	
9.625	0	1072																	
7	0	7337																	
DRILLING CO. : H&P RIG : 278 LWD UNIT NO. : MWD-00046-DISTRICT : CASPER, CASPER SPUD DATE : 08/22/2014 LWD START DATE : 10/24/2014 LWD END DATE : 11/01/2014										DEPTH : 5000 ft DEPTH : 11626 ft TOTAL DEPTH : 11626 ft									

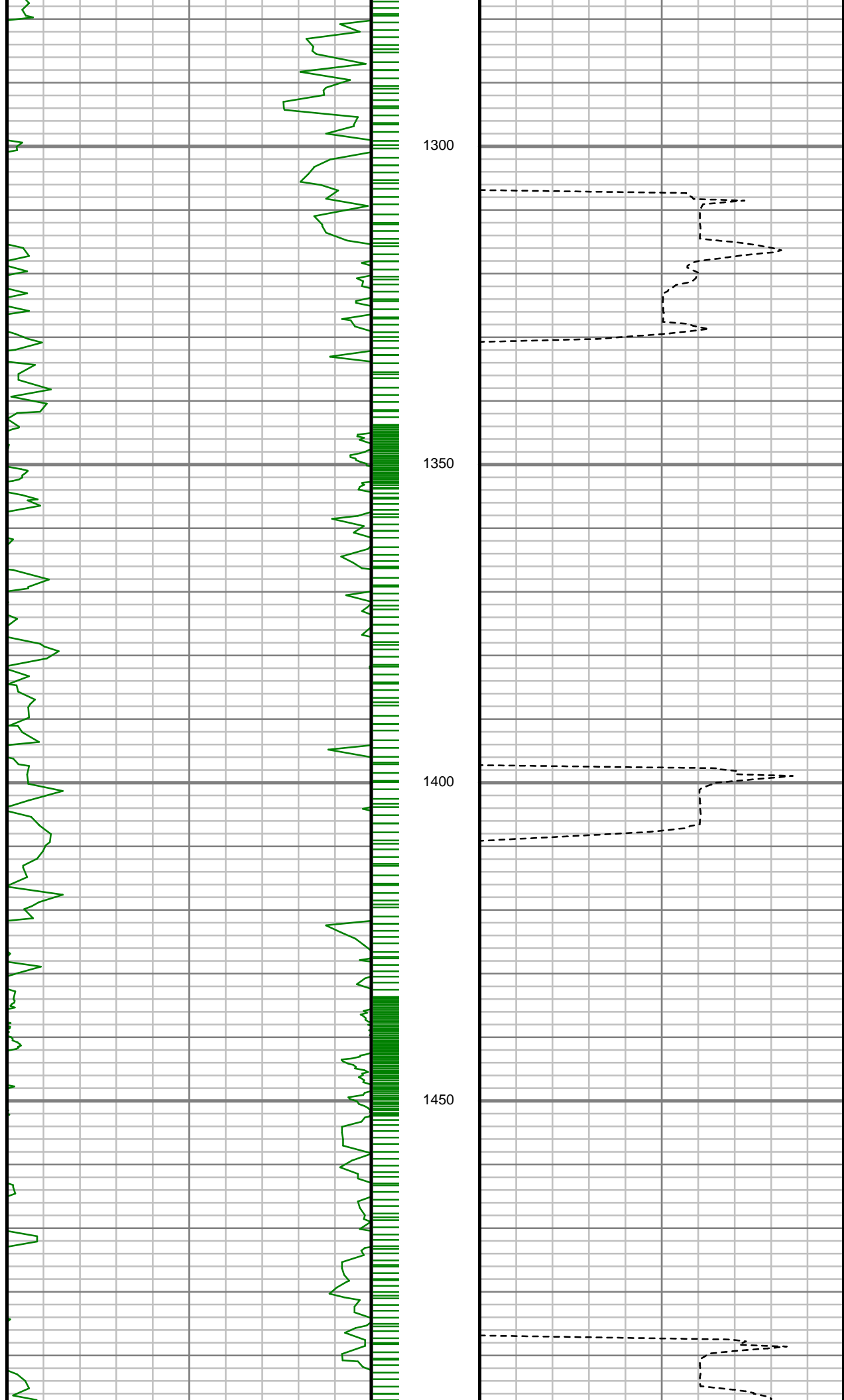
Run Data						
RUN NUMBER	1	2	3			
START DATE	08/22/2014	10/24/2014	10/28/2014			
START TIME	1420	0900	2230			
END DATE	08/22/2014	10/26/2014	11/01/2014			
END TIME	2130	0140	0645			
DEPTH IN (ft)	140	1087	7352			
DEPTH OUT (ft)	1087	7352	11626			
LOG TOP (ft)	-	5000	7299			
LOG BOTTOM (ft)	-	7299	11626			
HOLE SIZE (in)	12.25	8.75	6.125			
MUD DATA @ (ft)	1087	7352	11626			
MUD TYPE	WATER-BASED	WATER-BASED	WATER-BASED			
DENSITY (lb / gal)	8.5	10.7	11.1			
VISCOSITY (s / qt)	26	12	38			
pH	-	7.9	8.9			
FLUID LOSS (cm3 / 30)	-	-	-			
SALINITY (ppm)	-	-	-			
Rm (ohmm @ deg F)	-	-	-			
Rmf (ohmm @ deg F)	-	-	-			
MAX TEMP (deg F)	97	169	222			
Rm @ MAX TEMP (ohmm)	-	-	-			
LWD ENGINEER #1	S. WAXLER	S. WAXLER	S. WAXLER			
LWD ENGINEER #2	C. WILSON	T. LE	T. LE			
LWD ENGINEER #3	T. LE	-	C. WILSON			
LOG WTINNESS #1	-	M. ALMUBARAK	M. ALMUBARAK			
LOG WTINNESS #2	-	C. PESICKA	C. PESICKA			

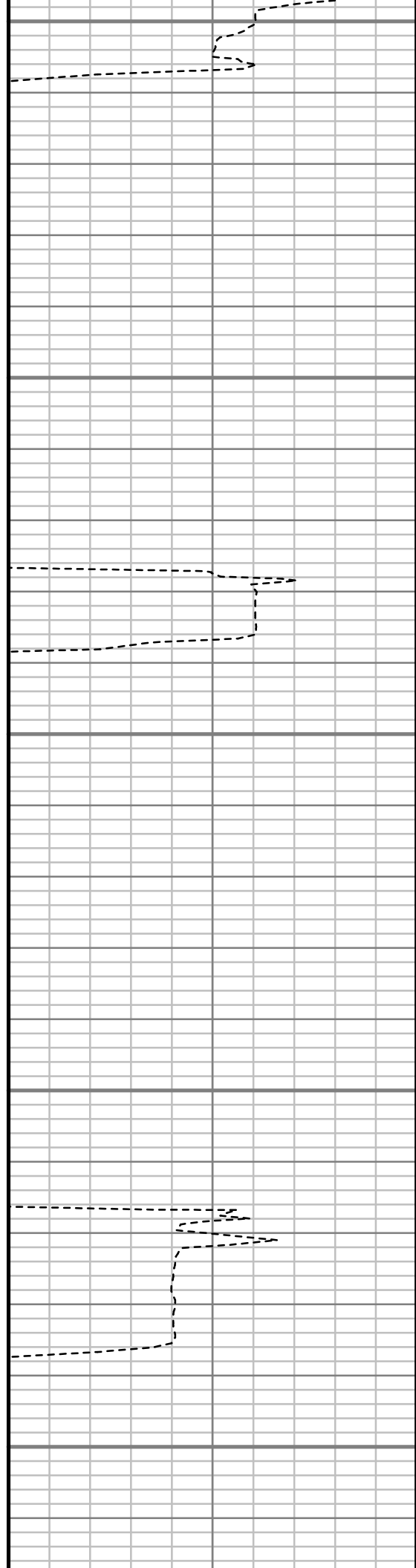
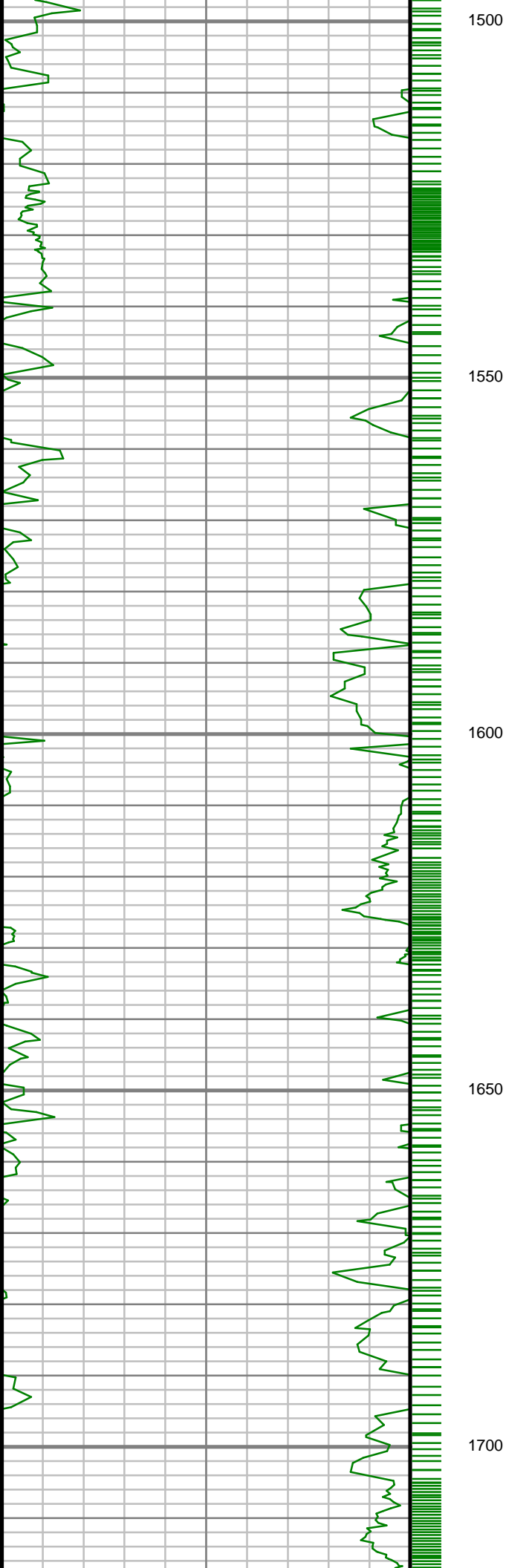
Remarks
ENCANA OIL & GAS (U.S.A.) INC PRODUCTION AFE# 14182129
SCIENTIFIC DRILLING INTERNATIONAL JOB# 186387, 213454
ALL REFERENCES IN THE DEPTH TRACK ARE AT BIT DEPTH.
ALL DATA IS MEMORY DATA UNLESS STATED OTHERWISE.
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO GAMMA RAY CURVE
FLAT AVERAGE FILTER OF 1.00 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 LOGGING RUN
SENSORS S/N: PULSER = 128-333 / CONT = 126 / MWD EYE = 0213 / GAMMA RAY = 1271
BIT TO SENSOR OFFSETS: SURVEY = 63.03 FT. / GAMMA RAY = 54.37 FT.
RUN #3: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 78-197 / CONT = 858 / MWD EYE = 522 / GAMMA RAY = 1076
BIT TO SENSOR OFFSETS: SURVEY = 61.54 FT. / GAMMA RAY = 52.88 FT.
REMARK #1: GAMMA RAY FROM 7299 FT. - 7337 FT. WAS LOGGED BEHIND CASING.
MNEMONICS LIST:
GR = GAMMA RAY
ROP = RATE OF PENETRATION

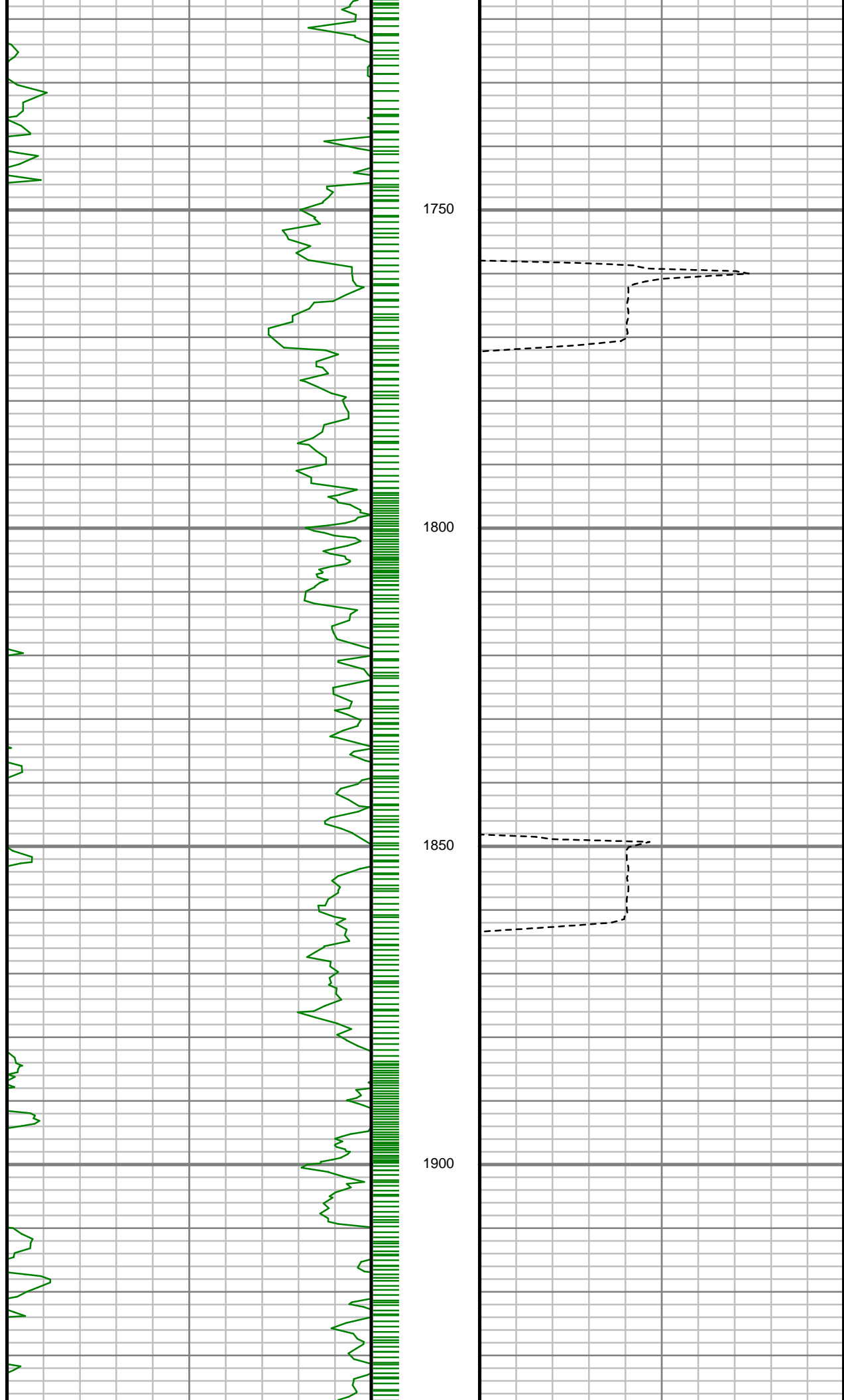
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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.

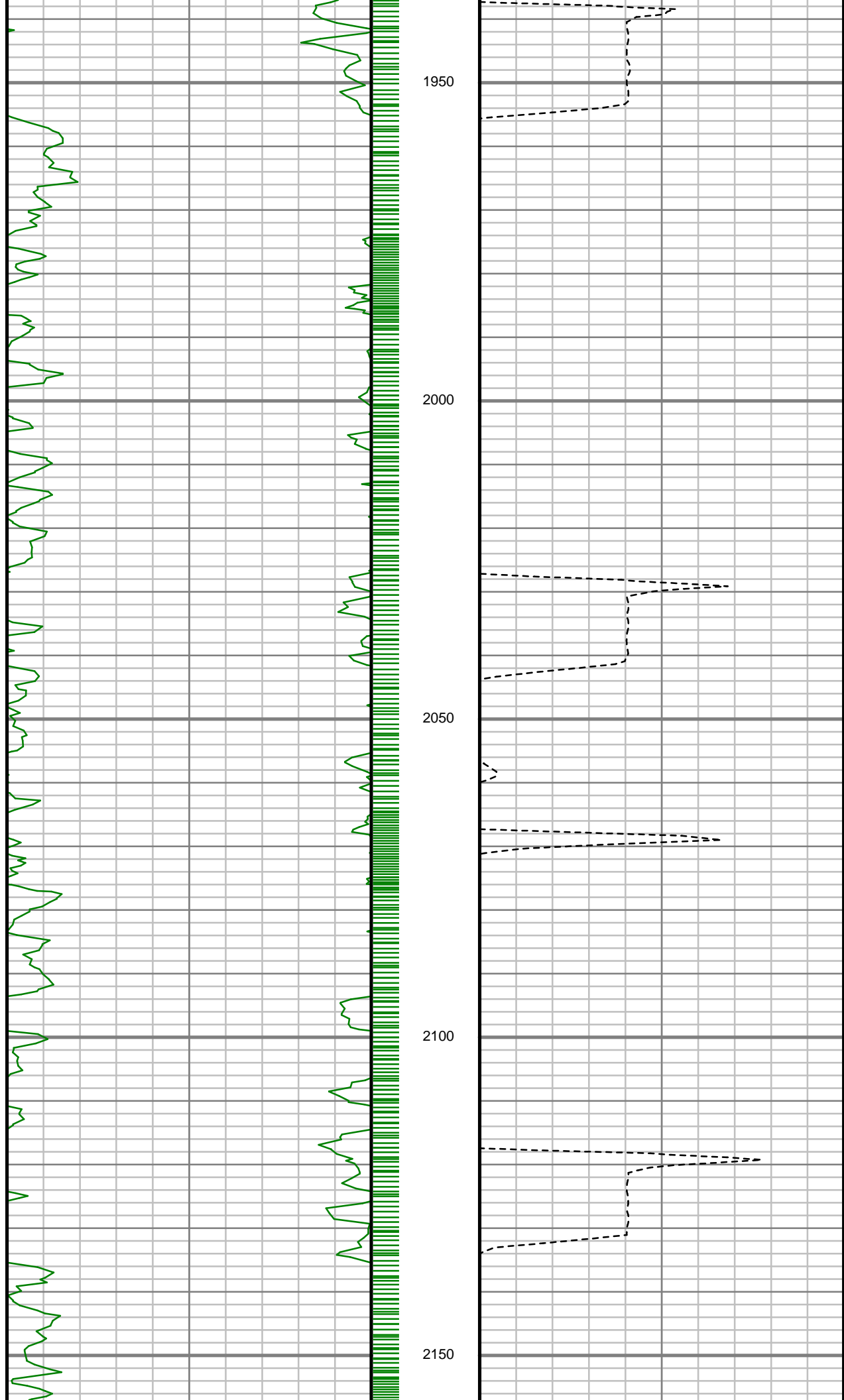


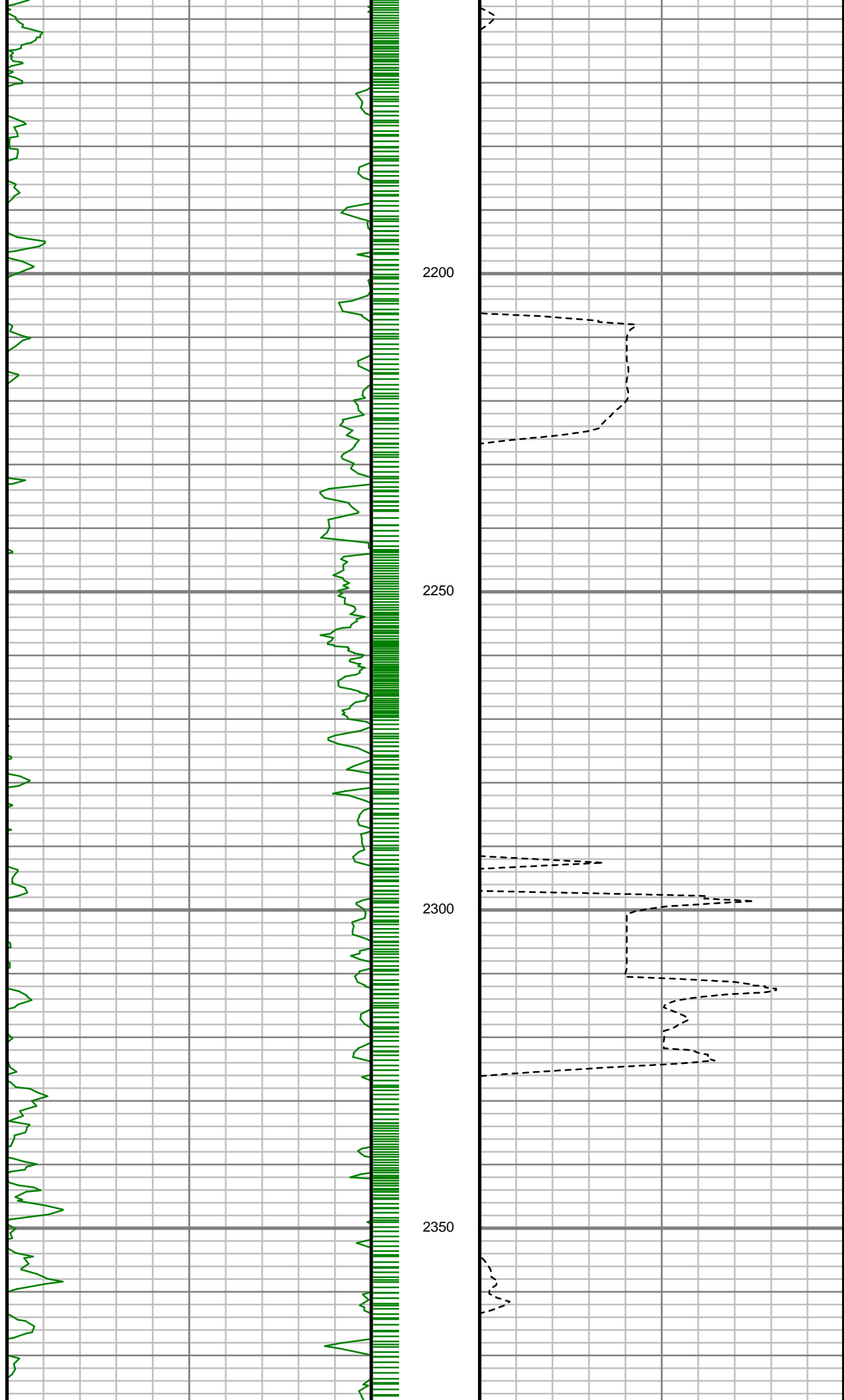




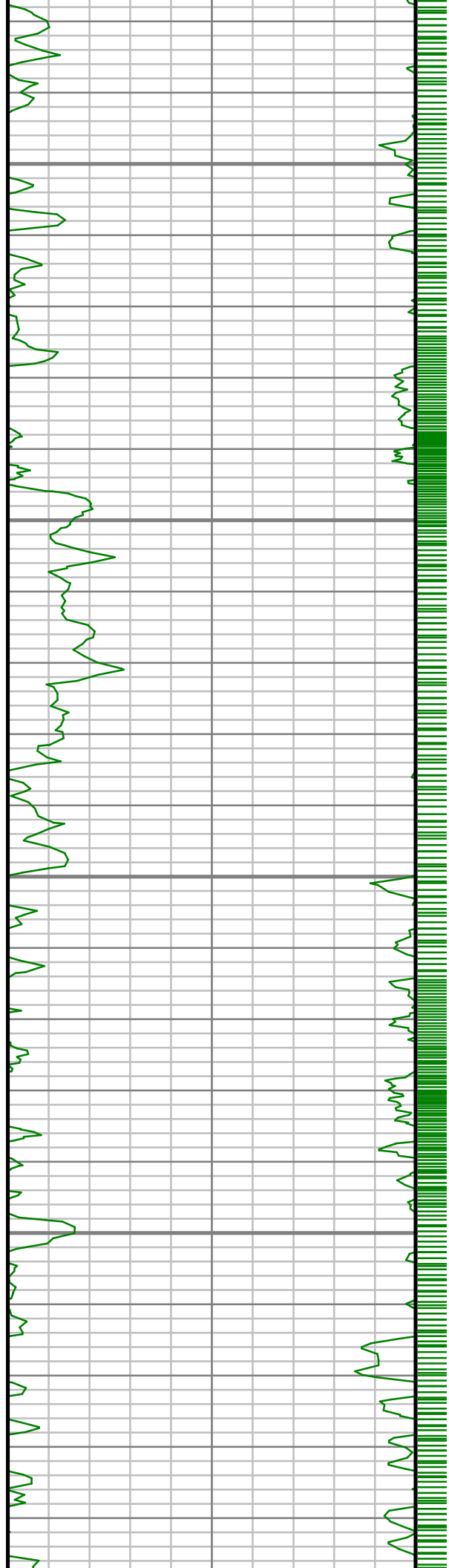










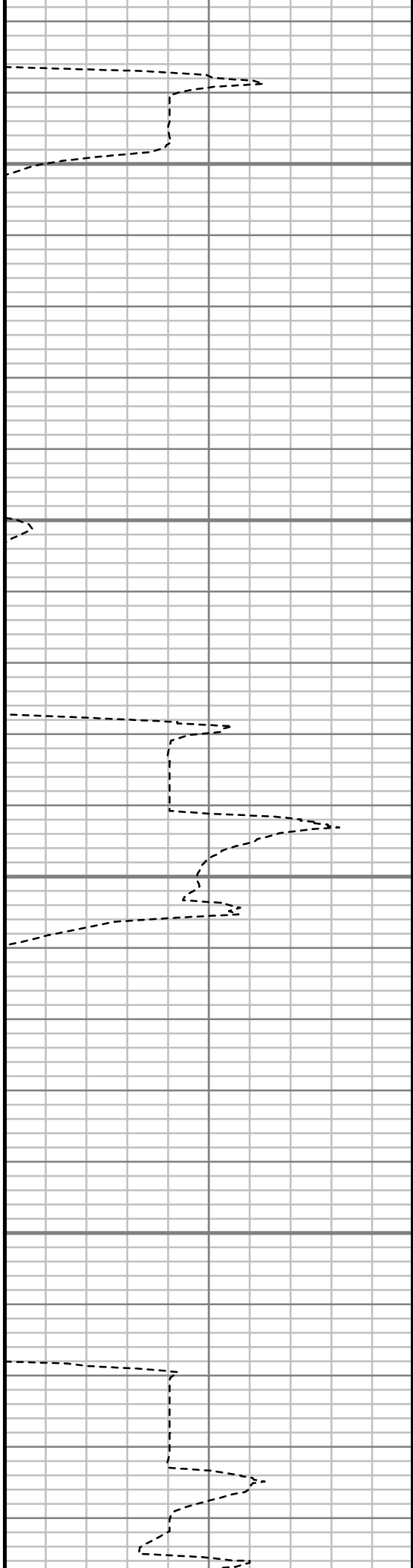


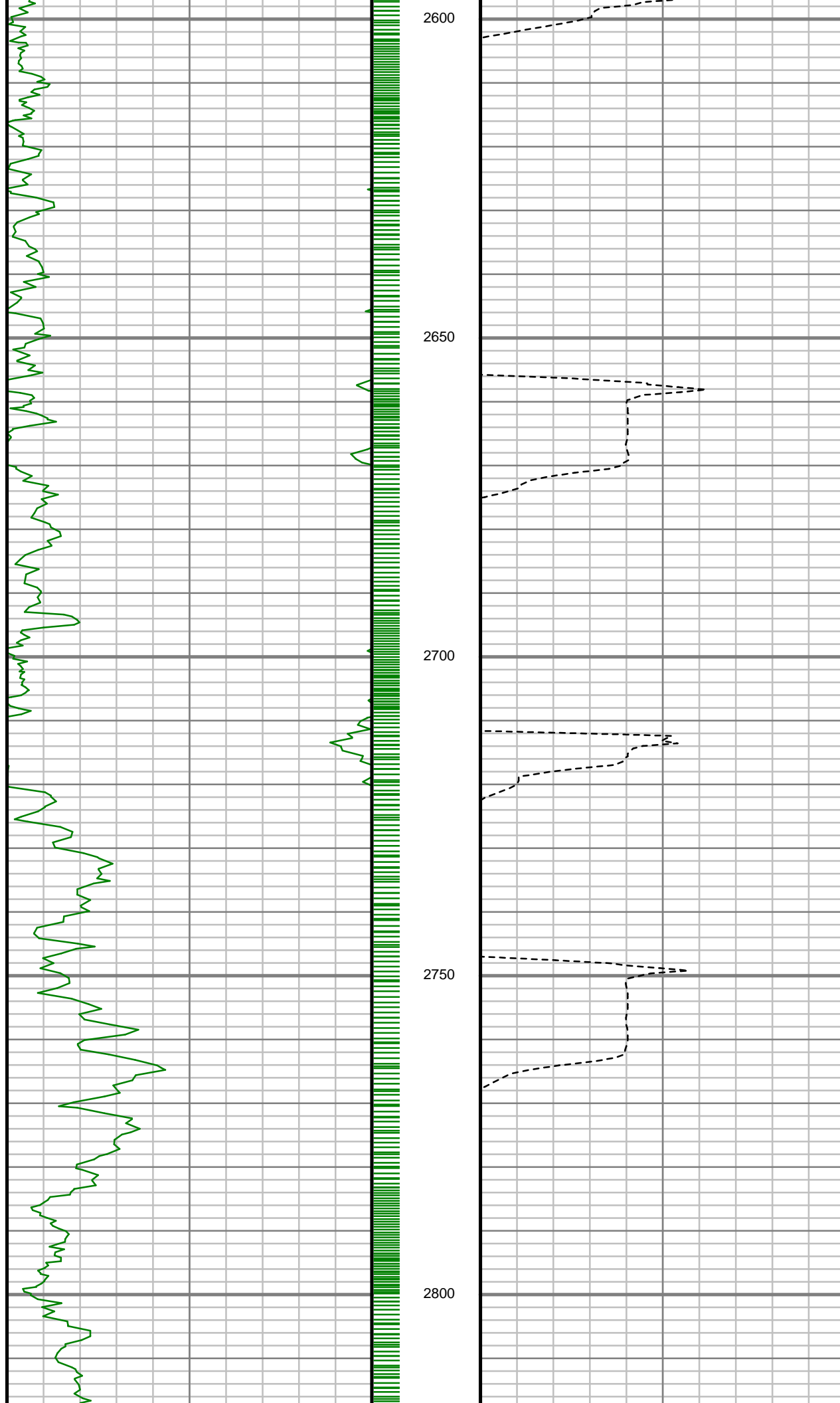
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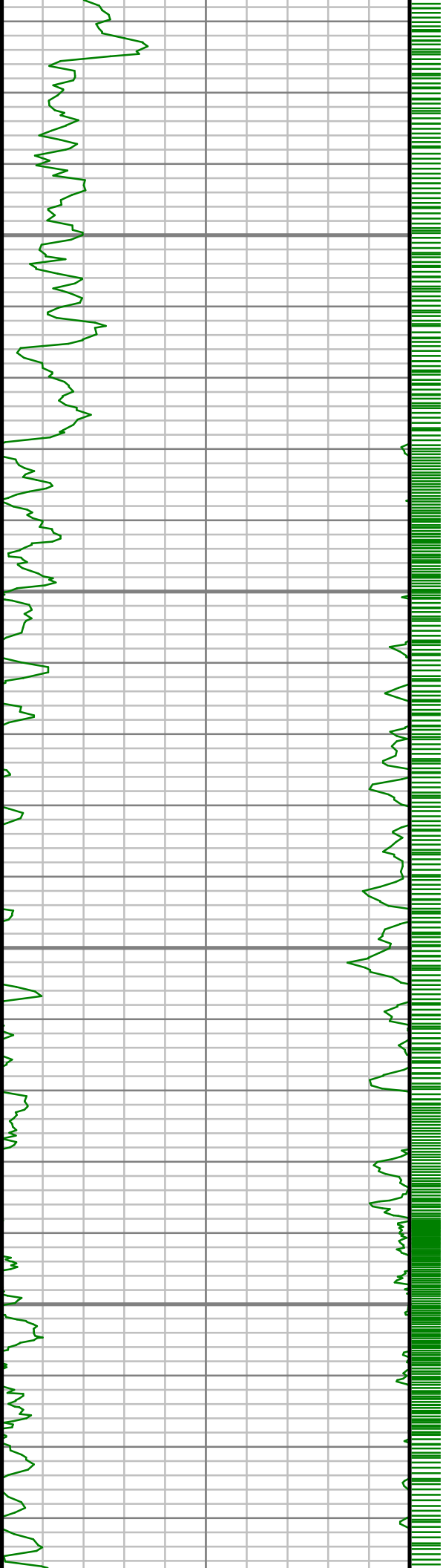
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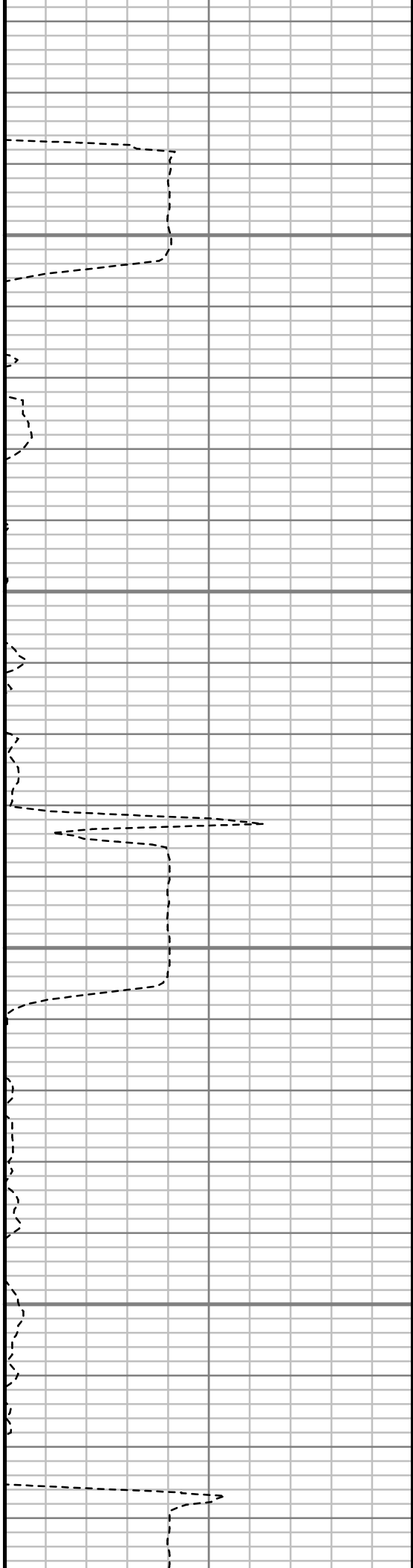


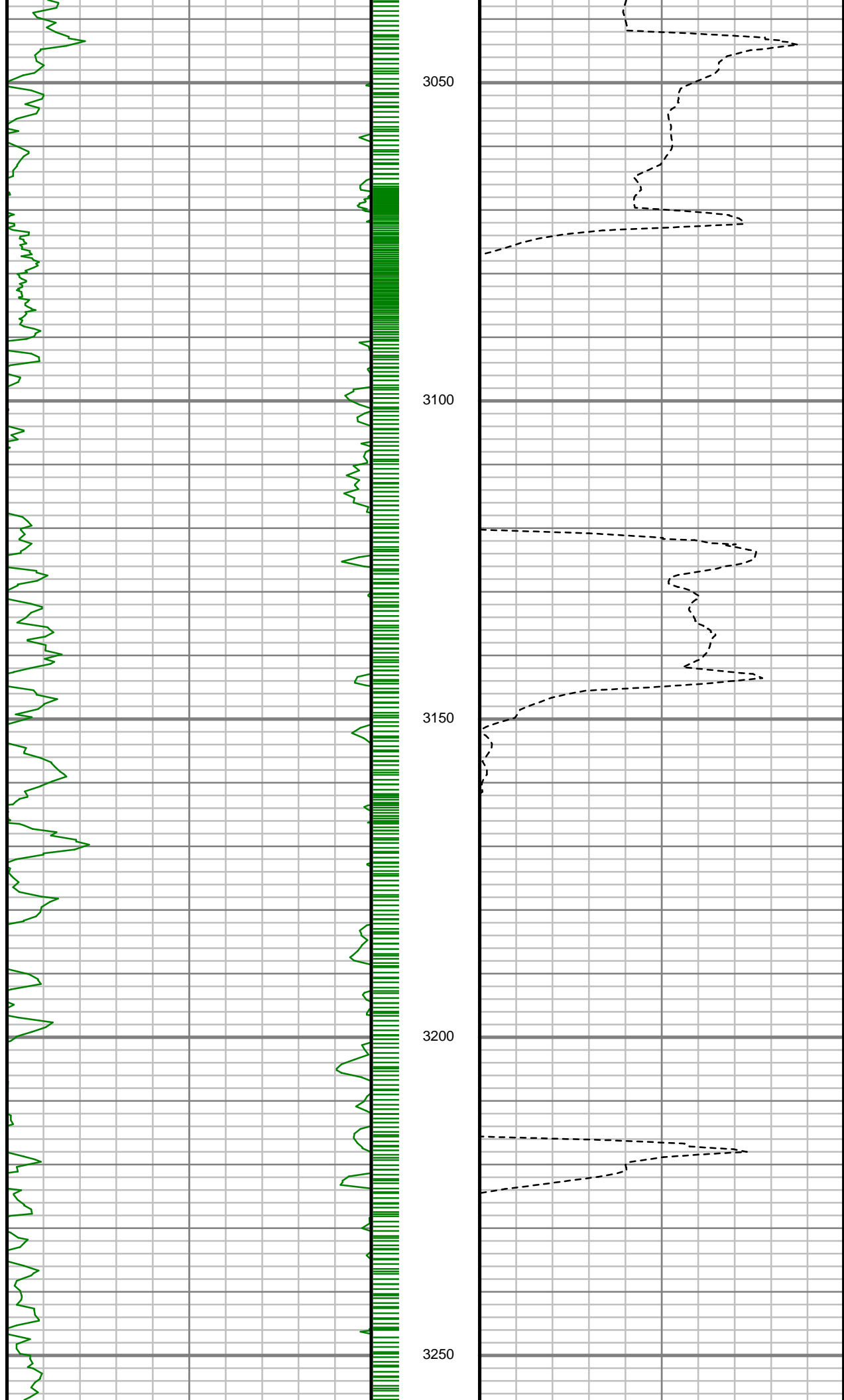
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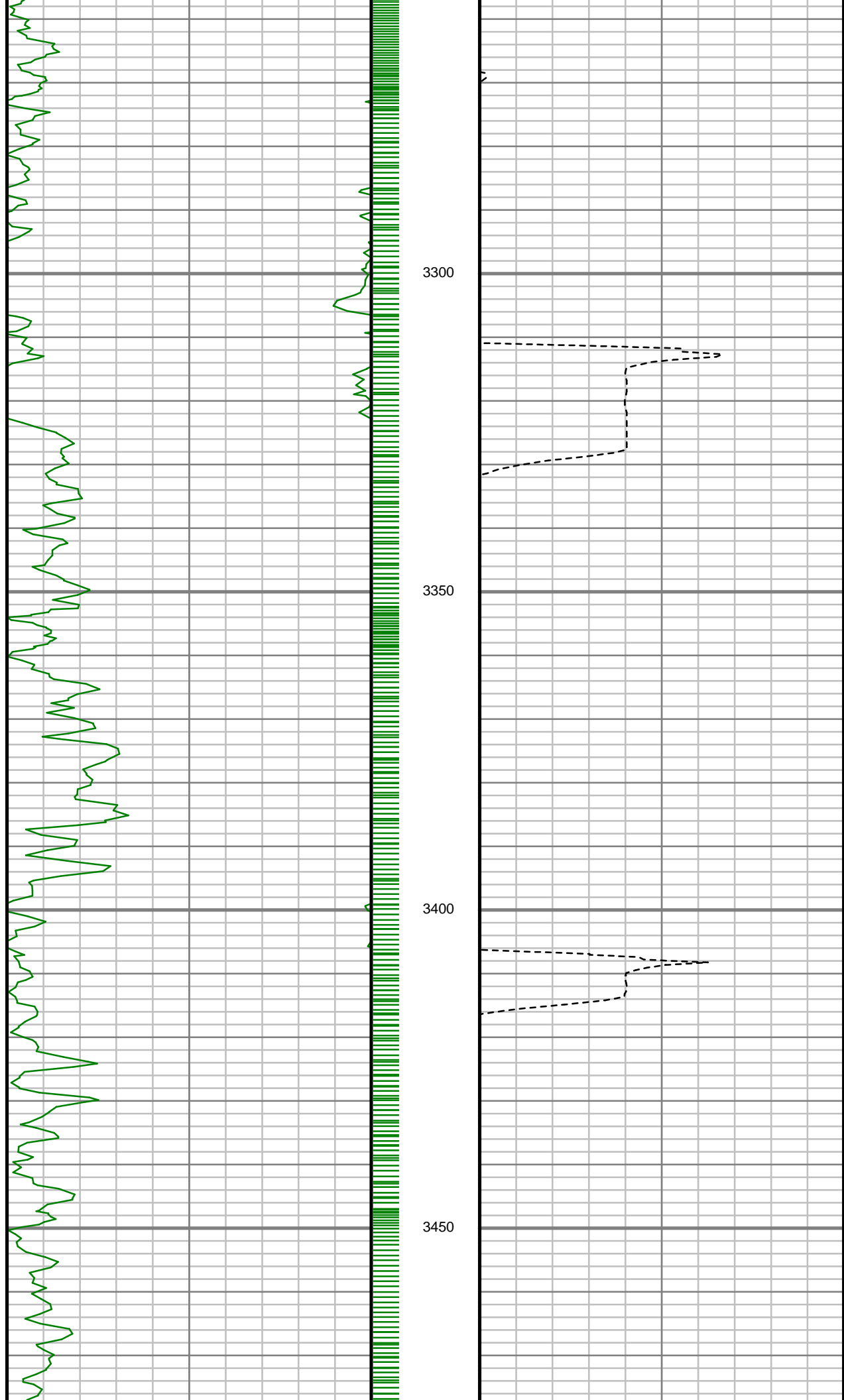
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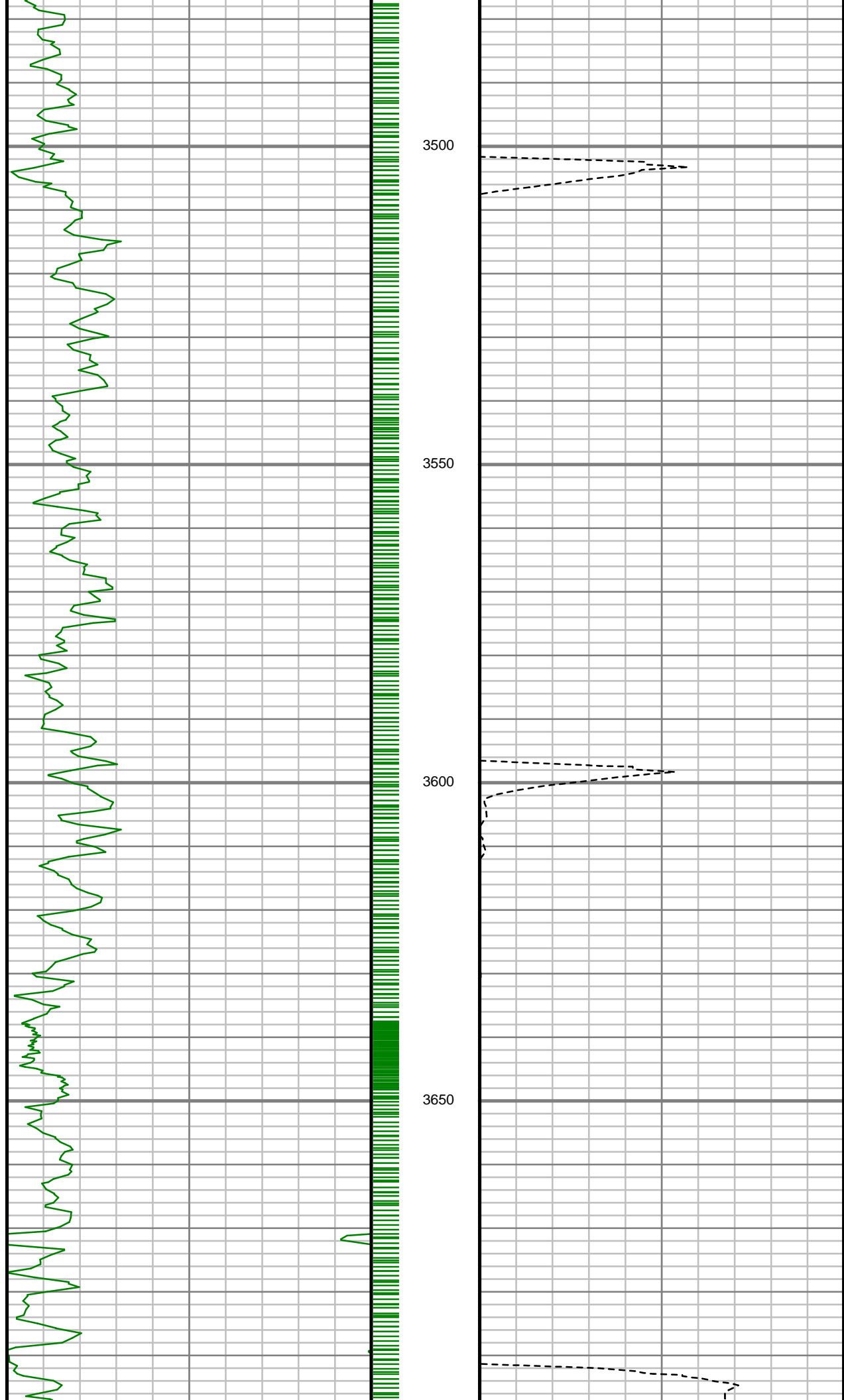
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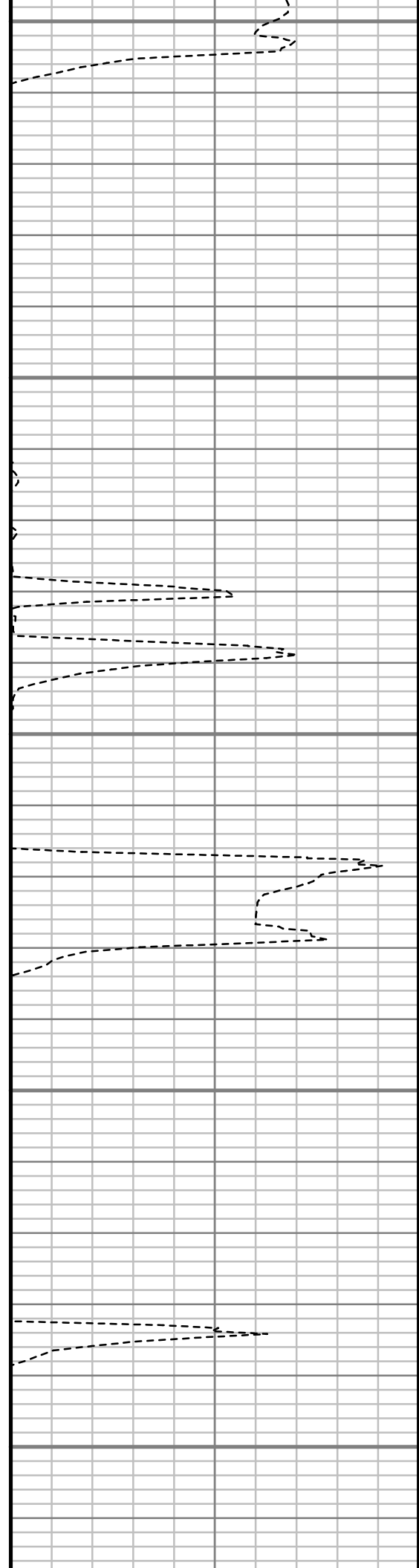
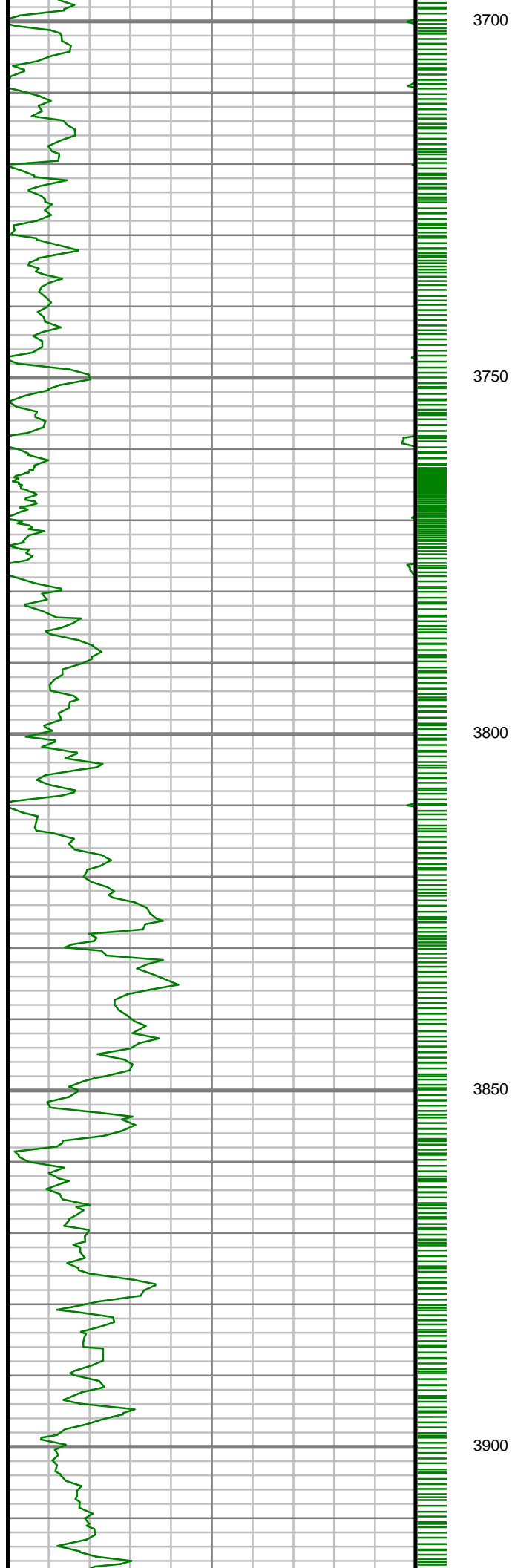
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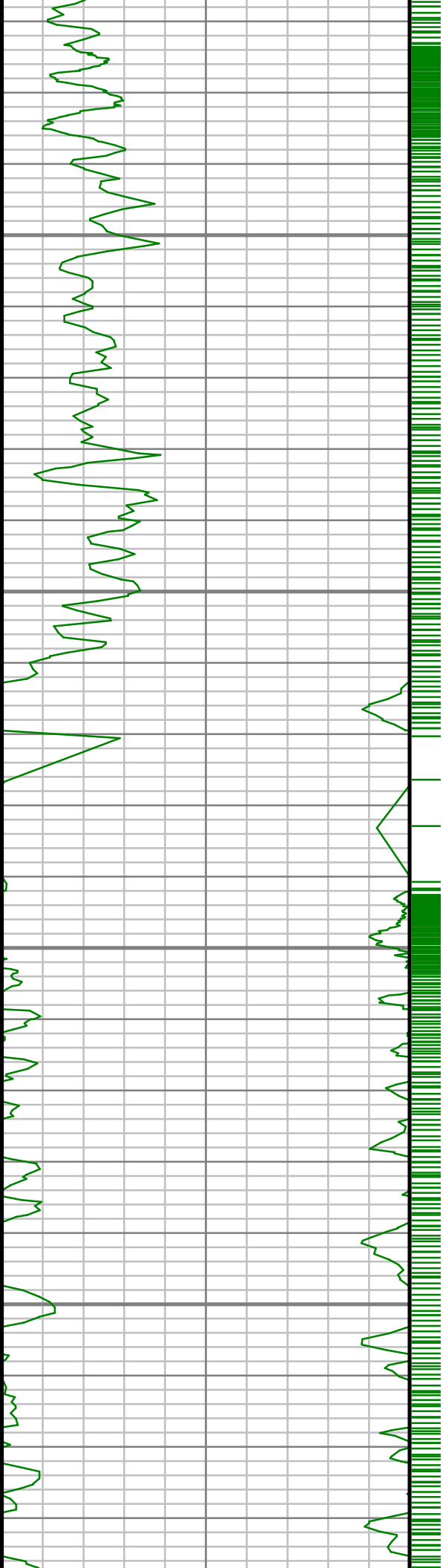










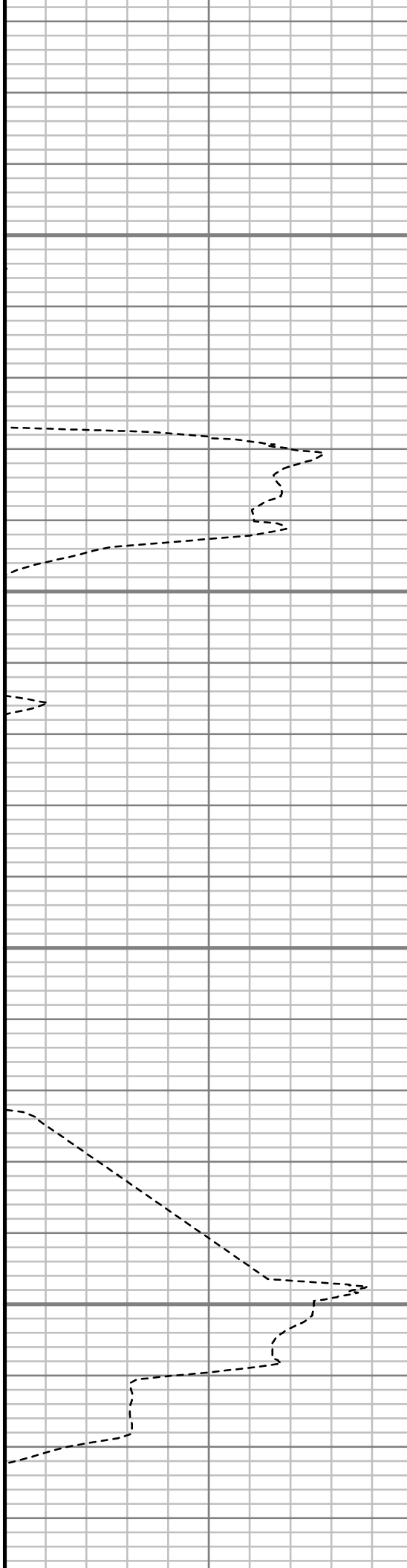


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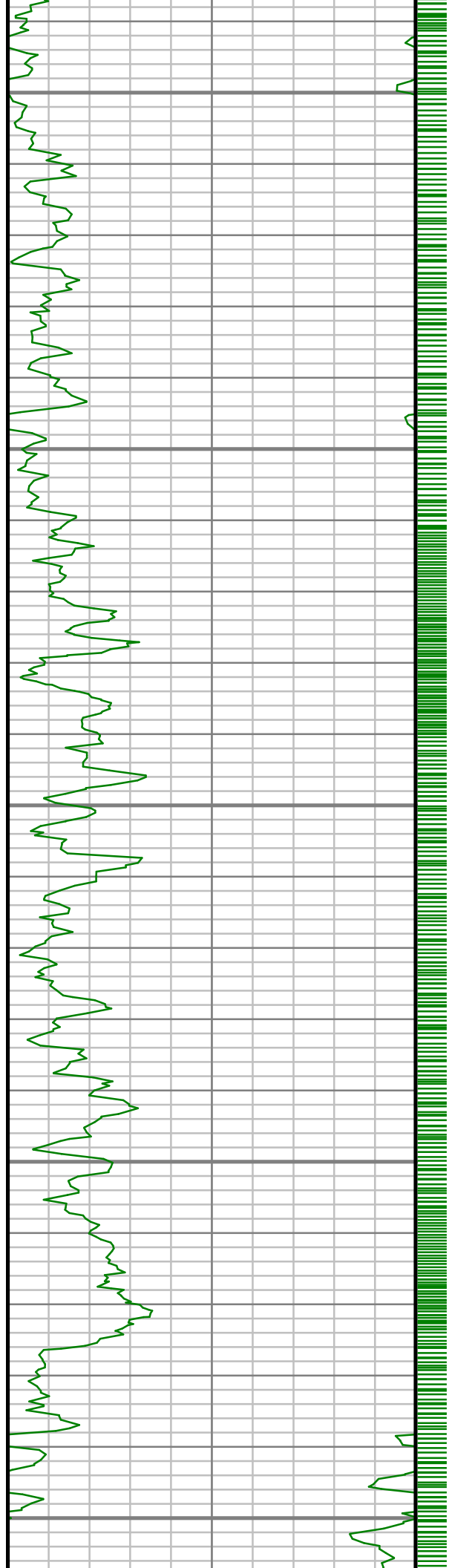
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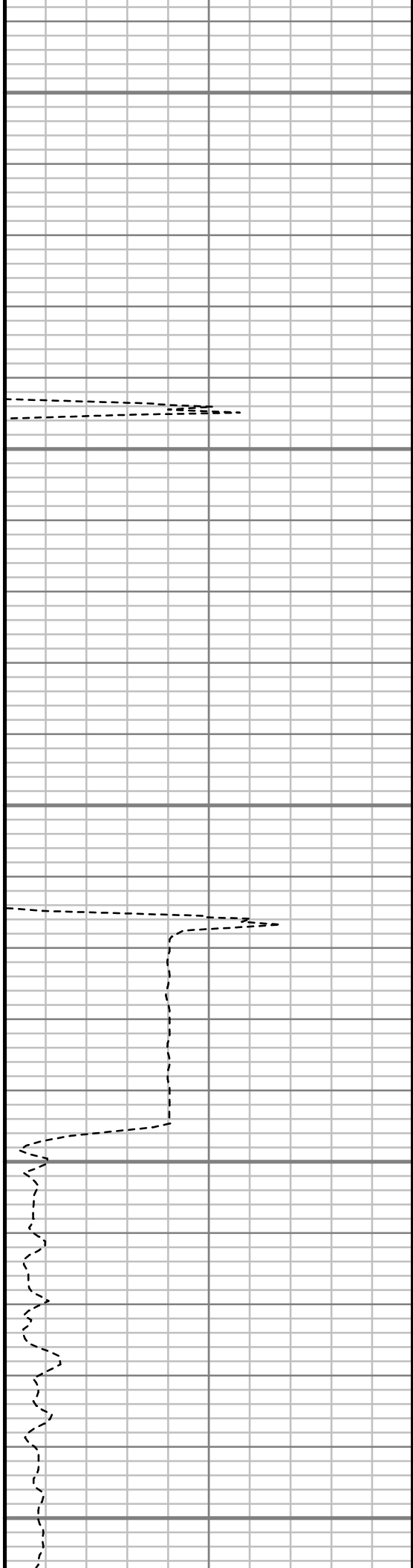
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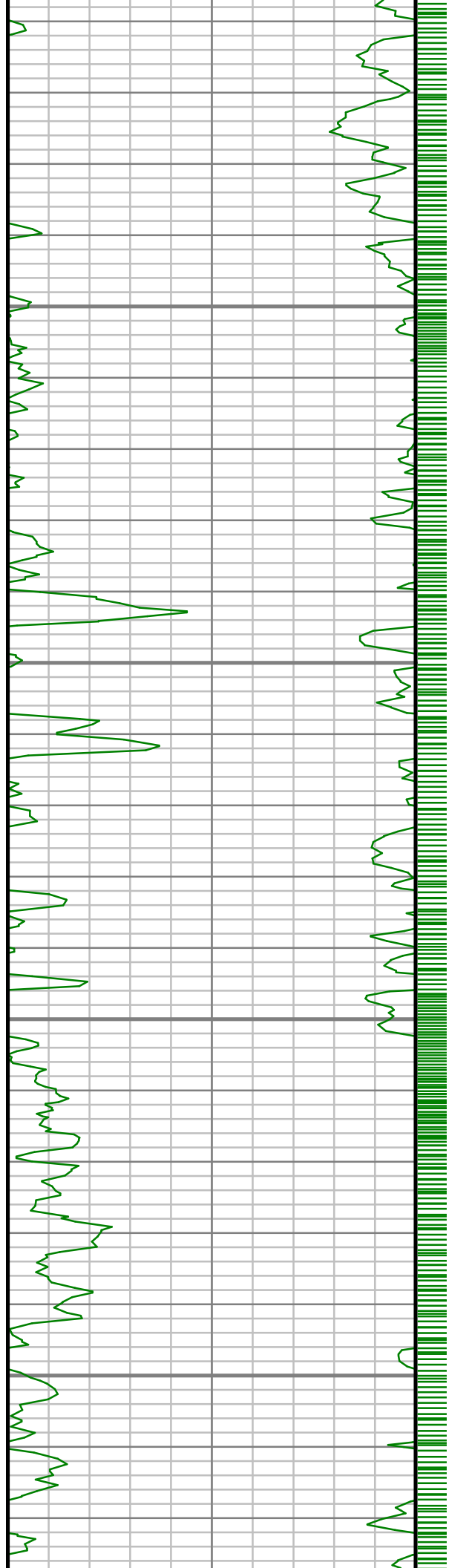
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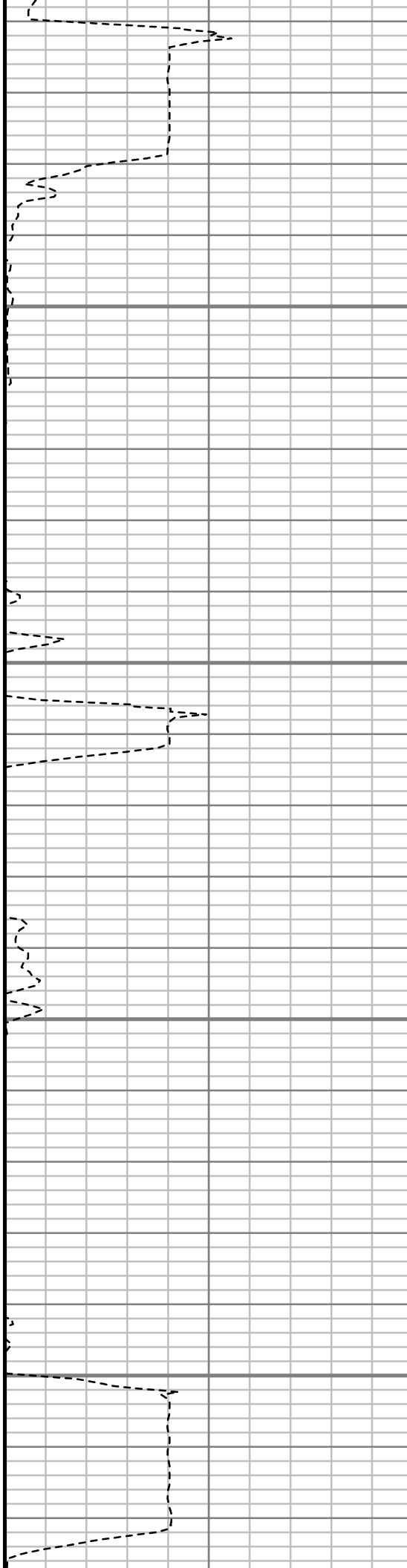


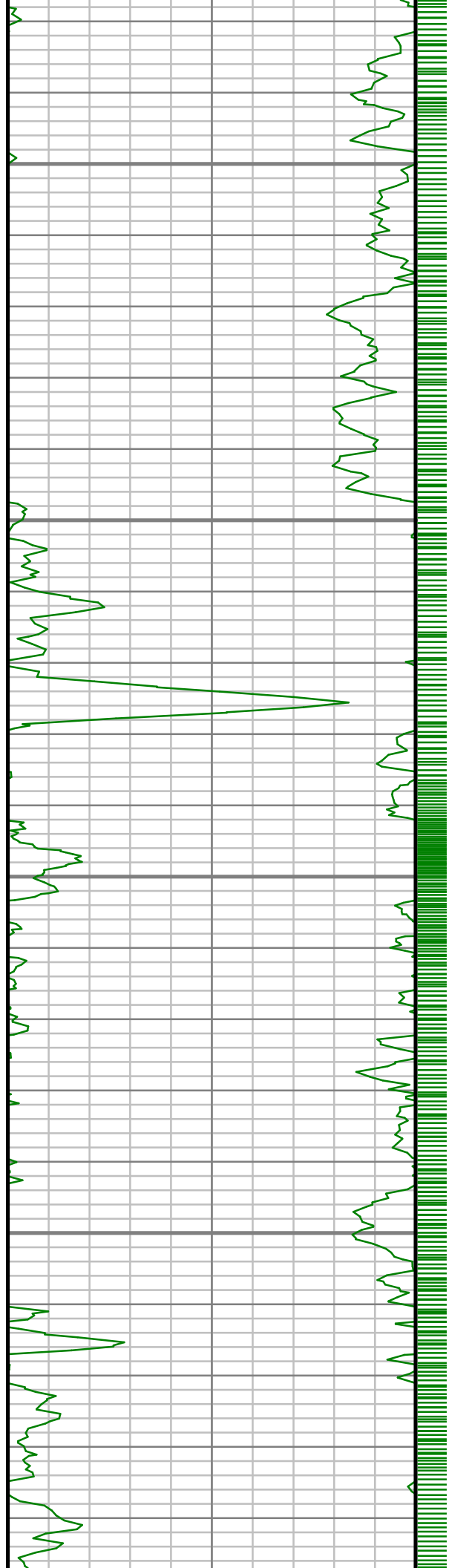
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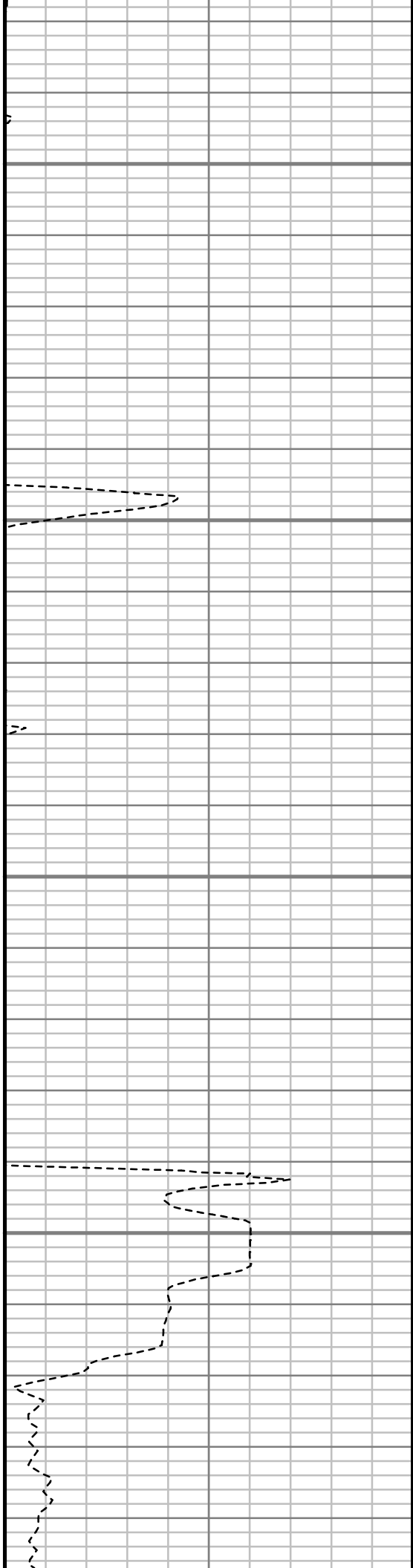


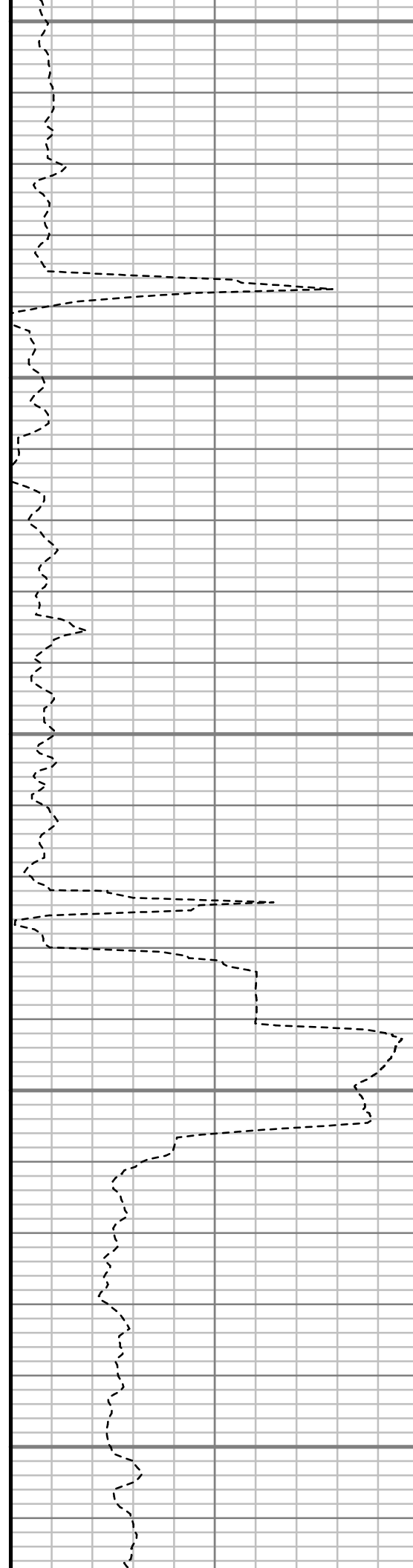
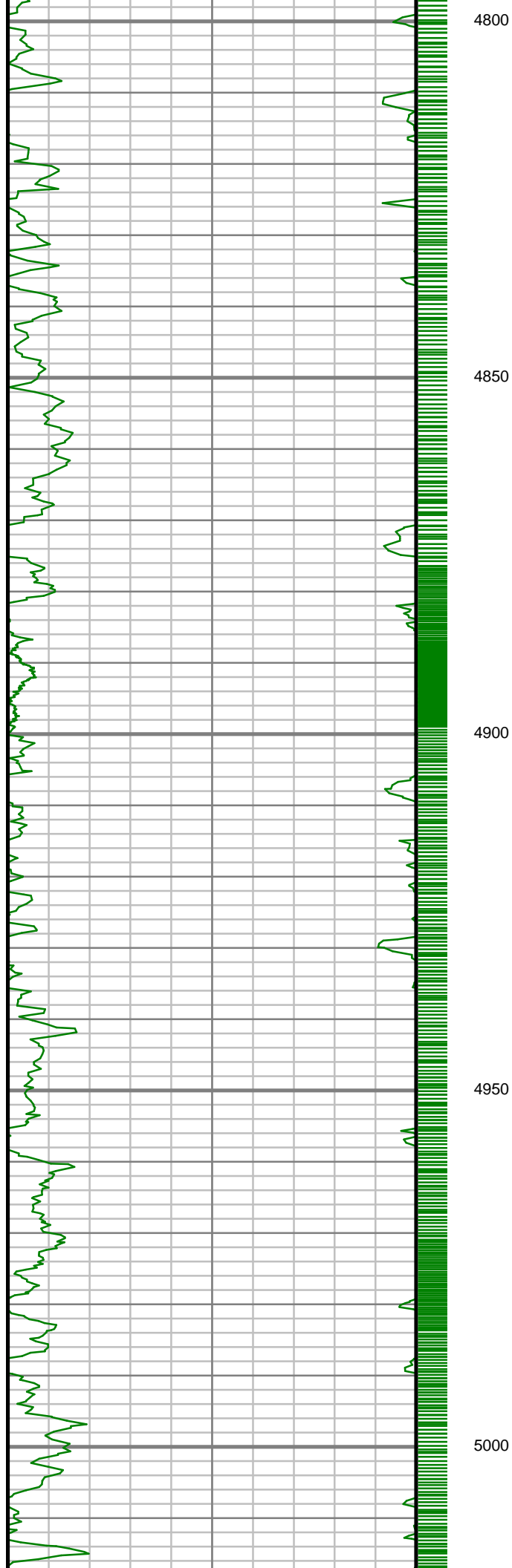
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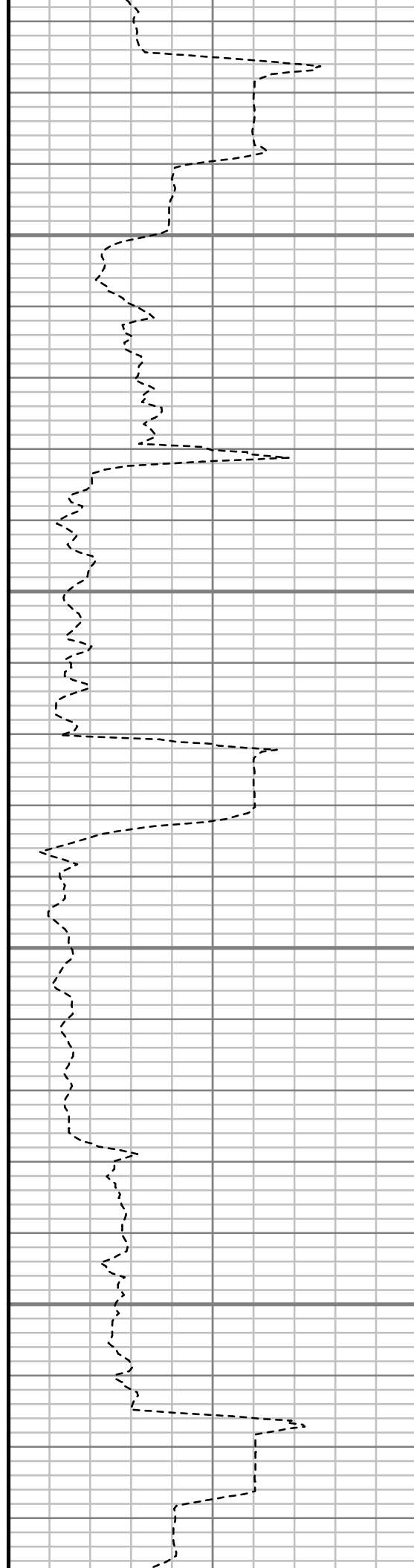
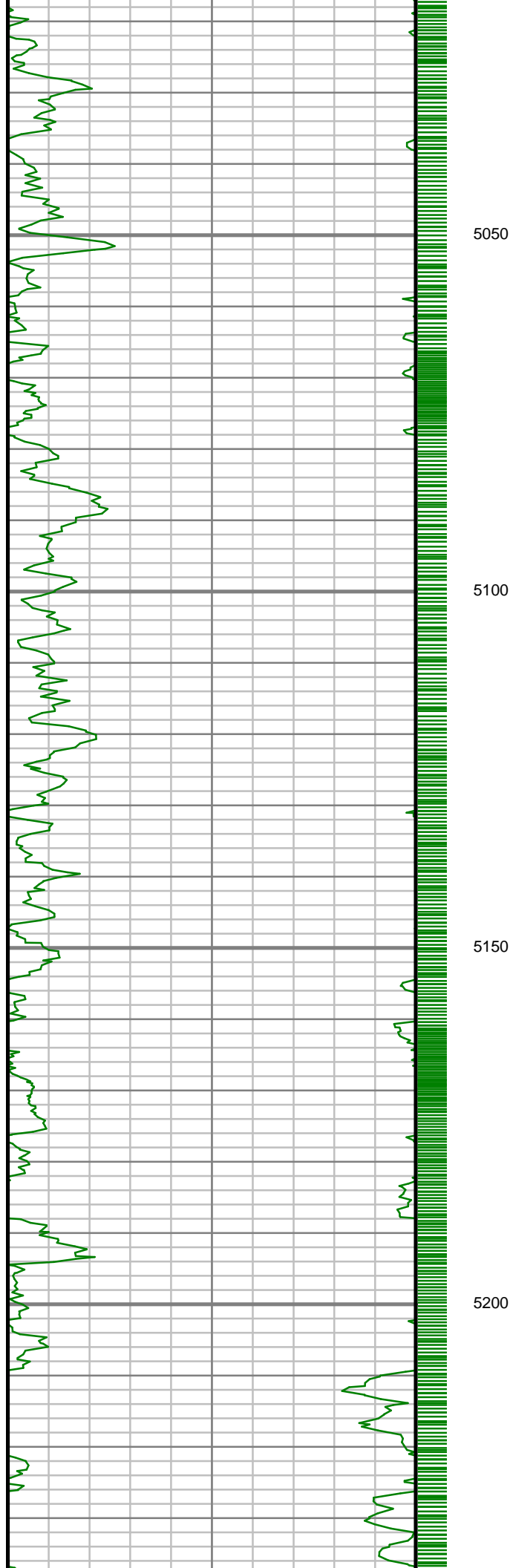
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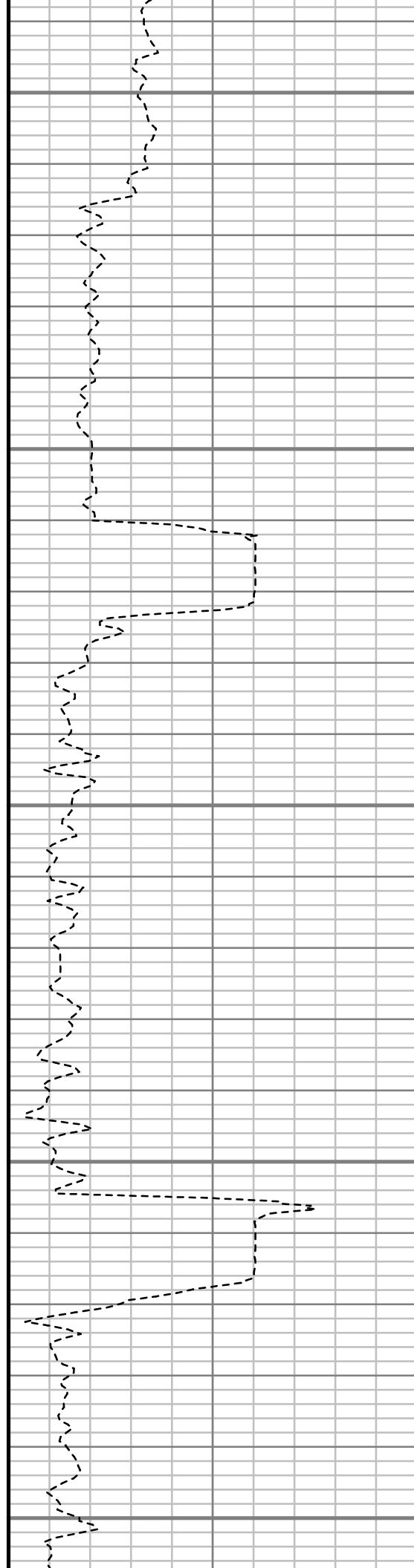
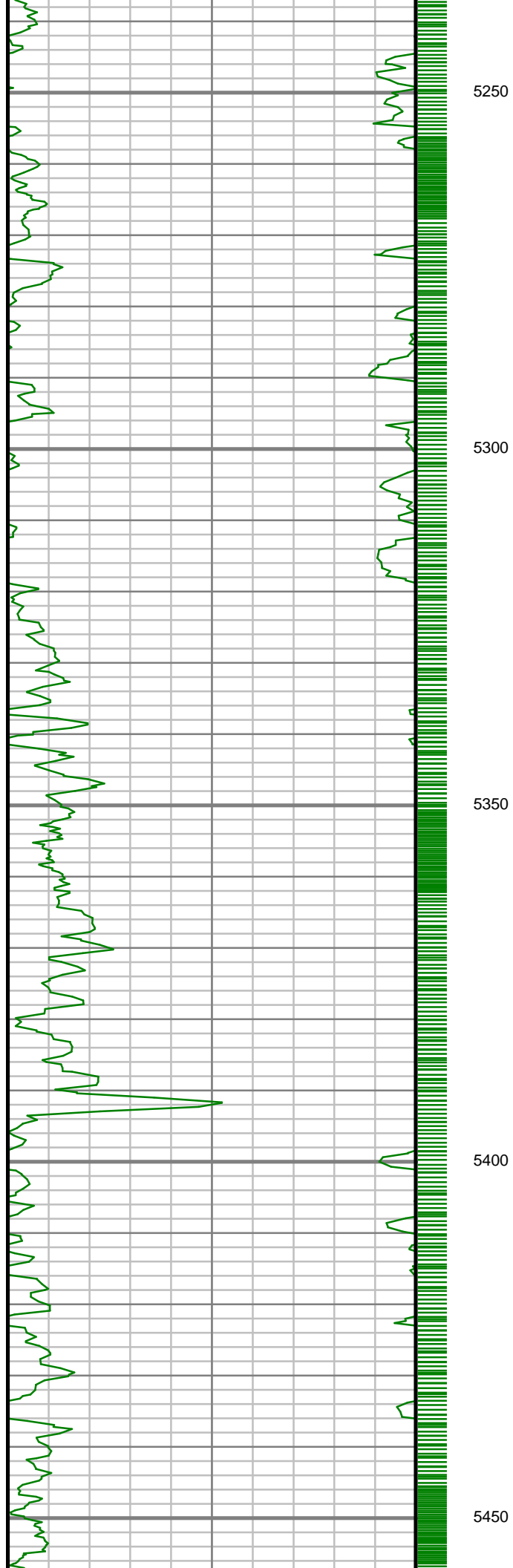
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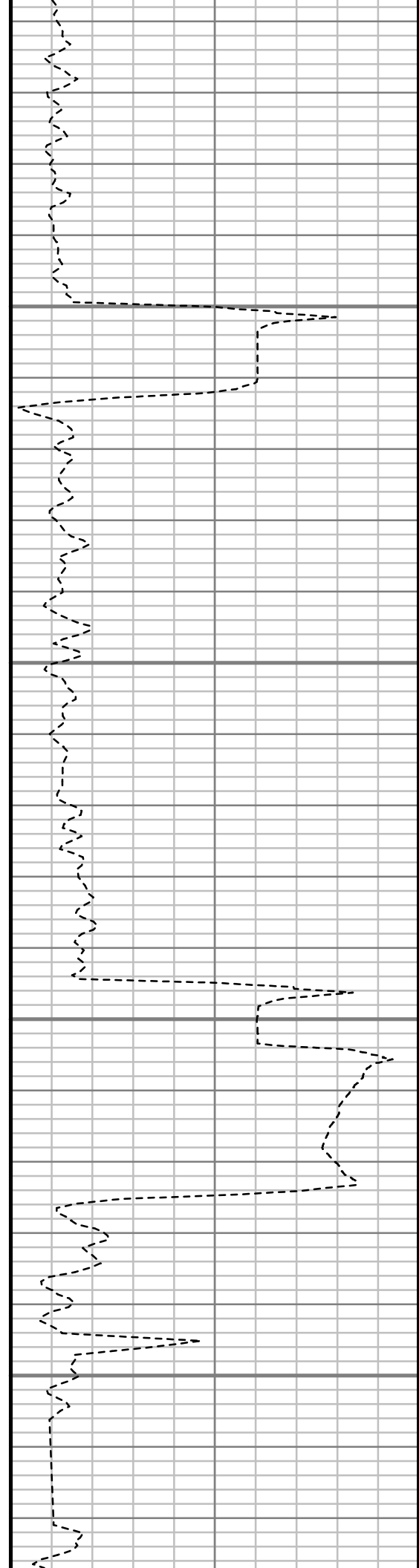
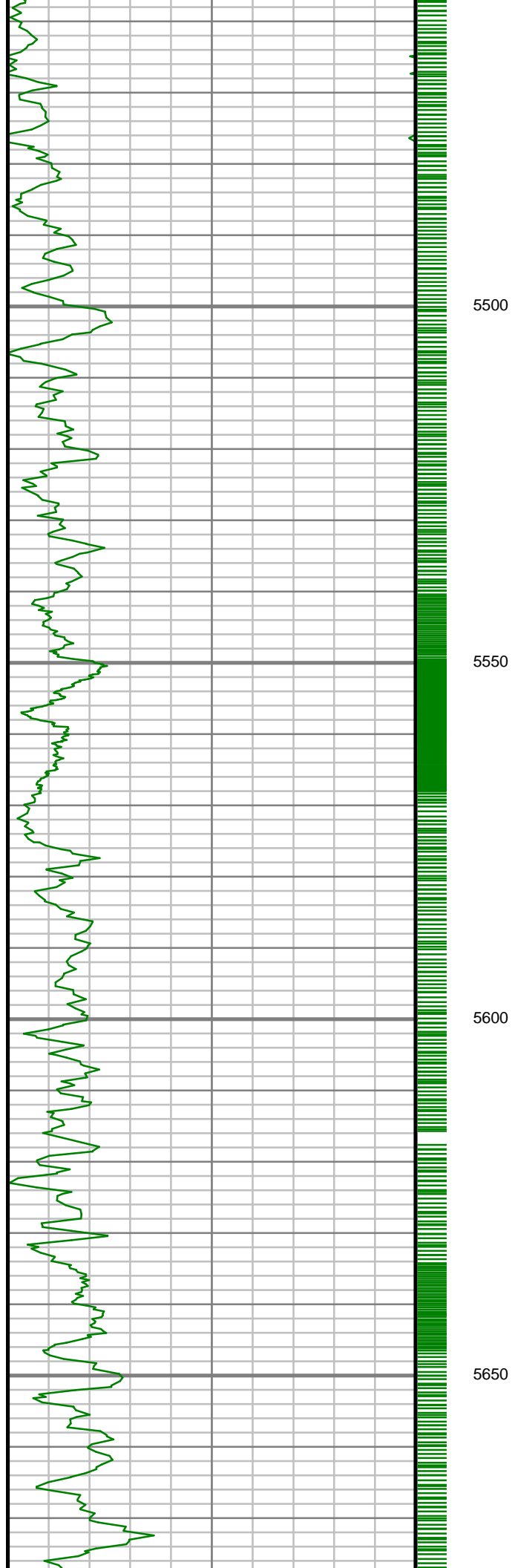
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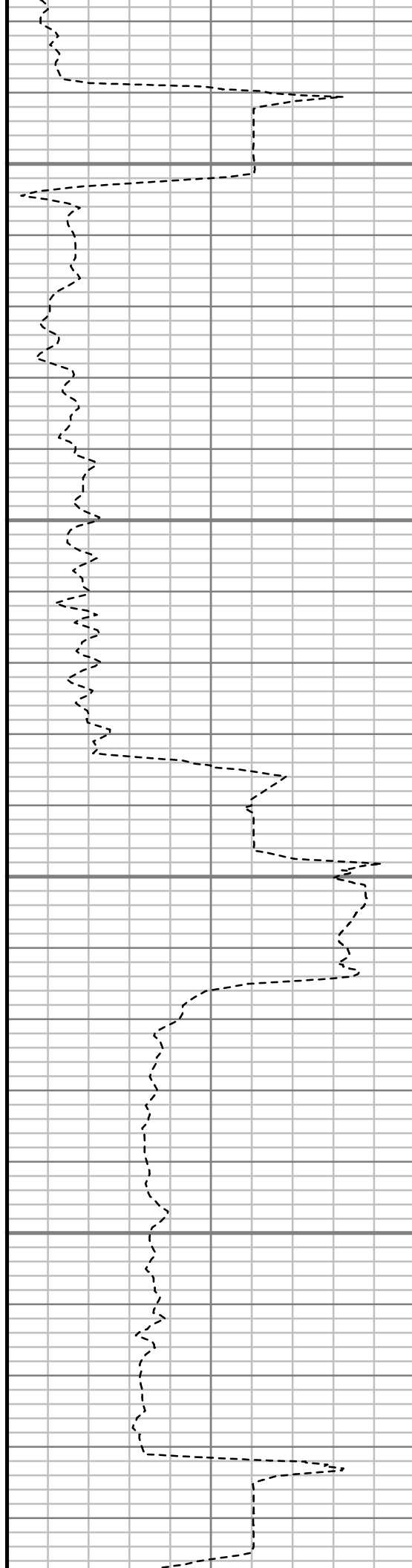
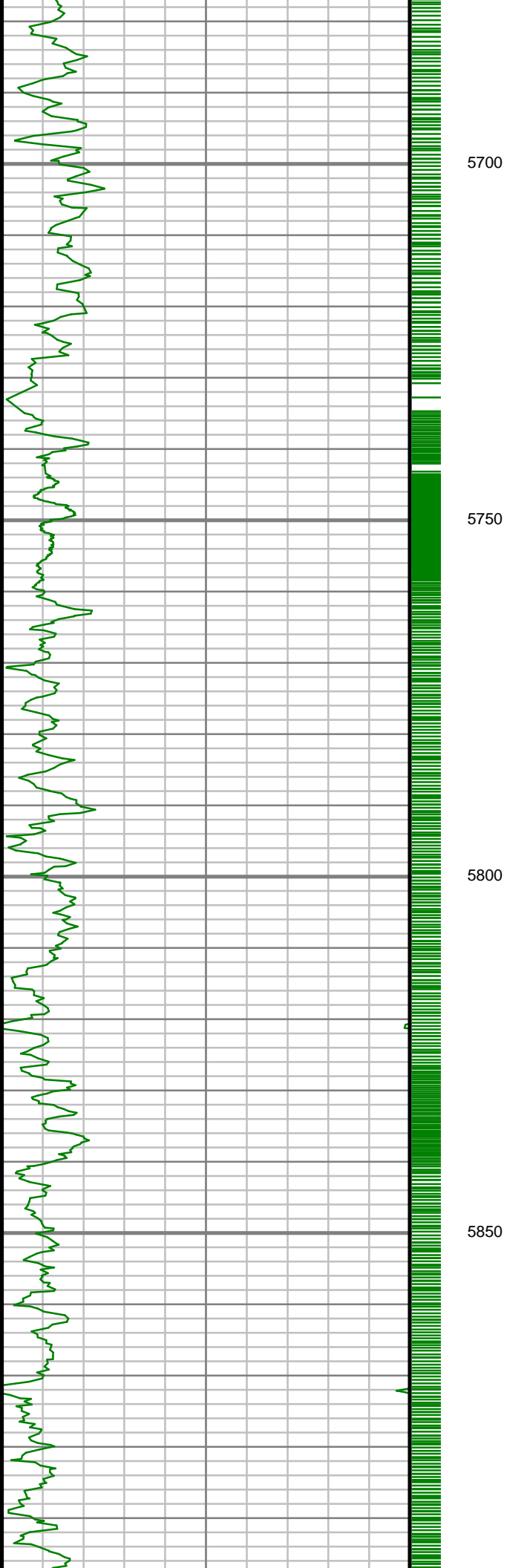




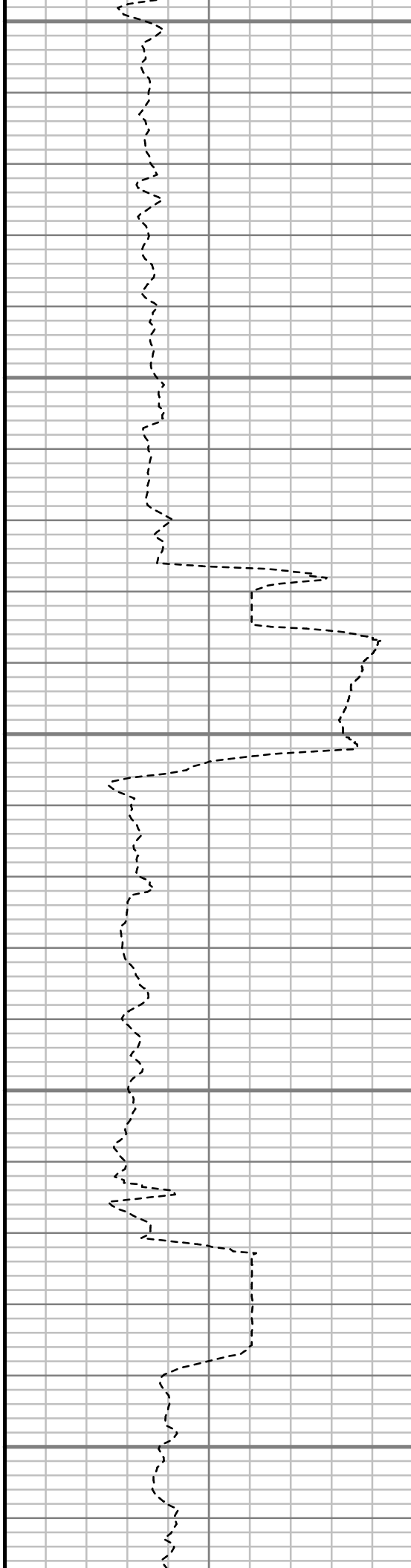
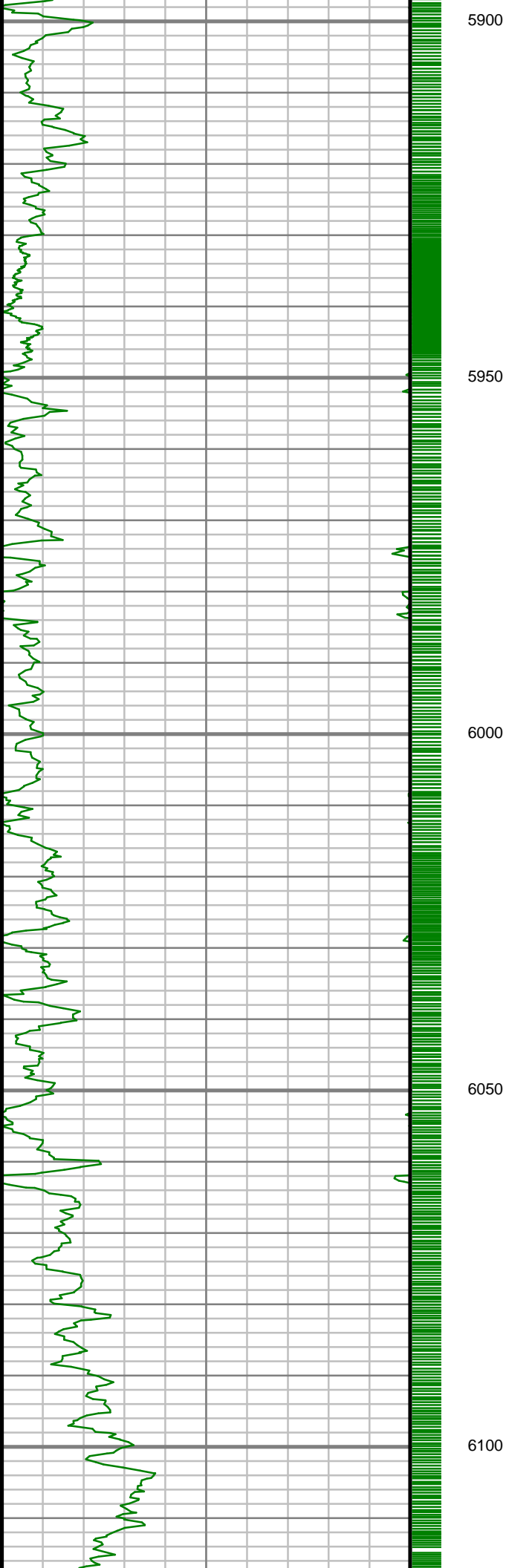


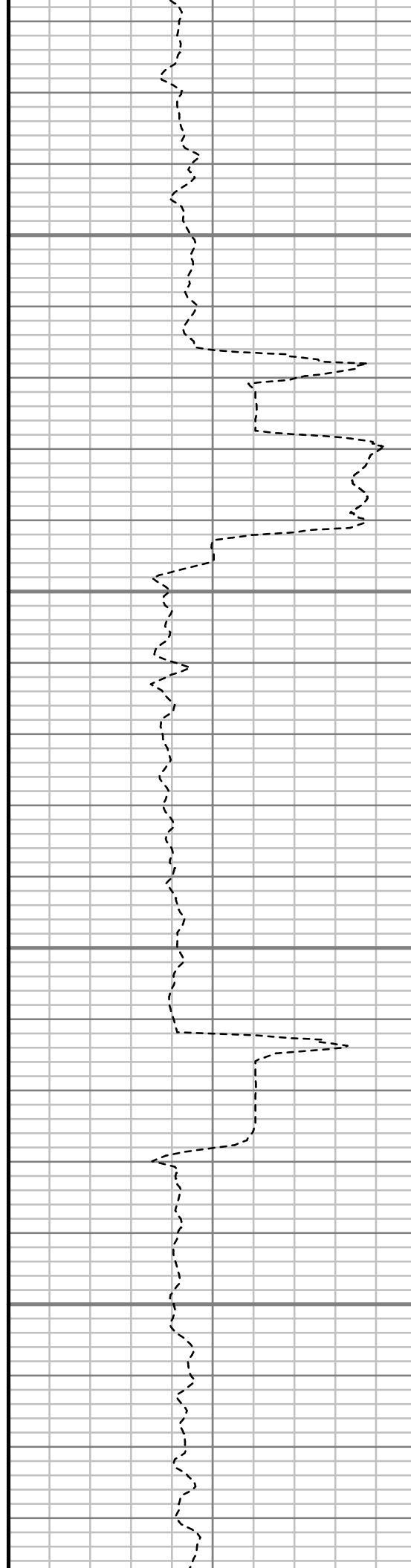
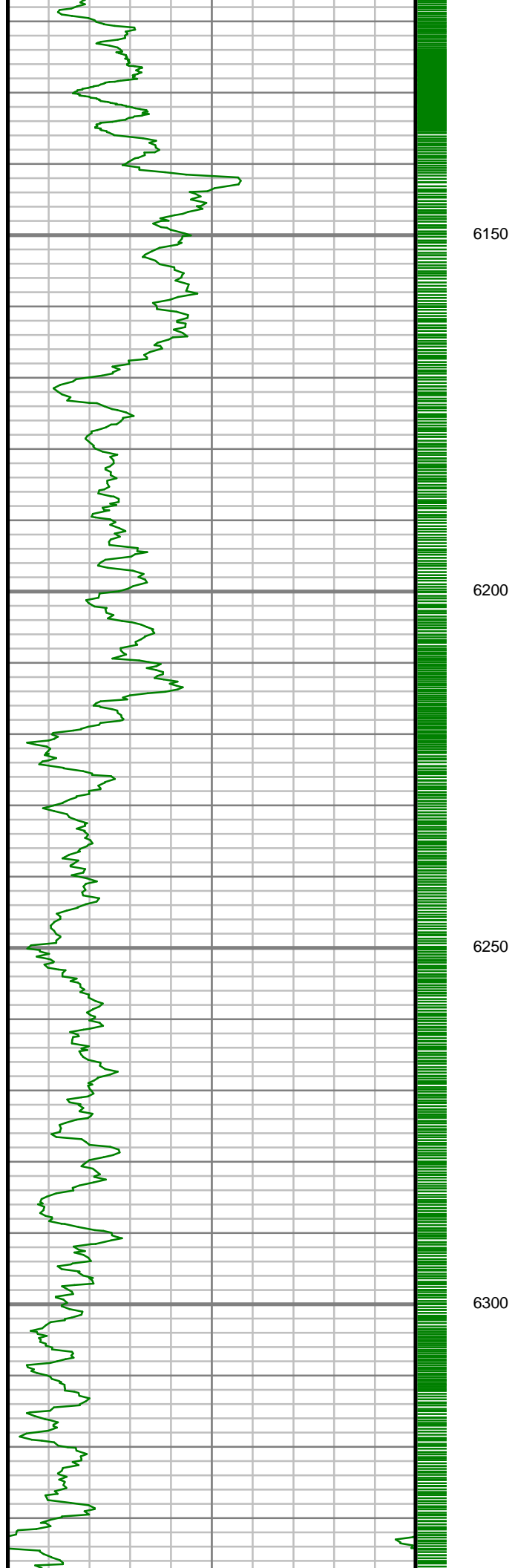


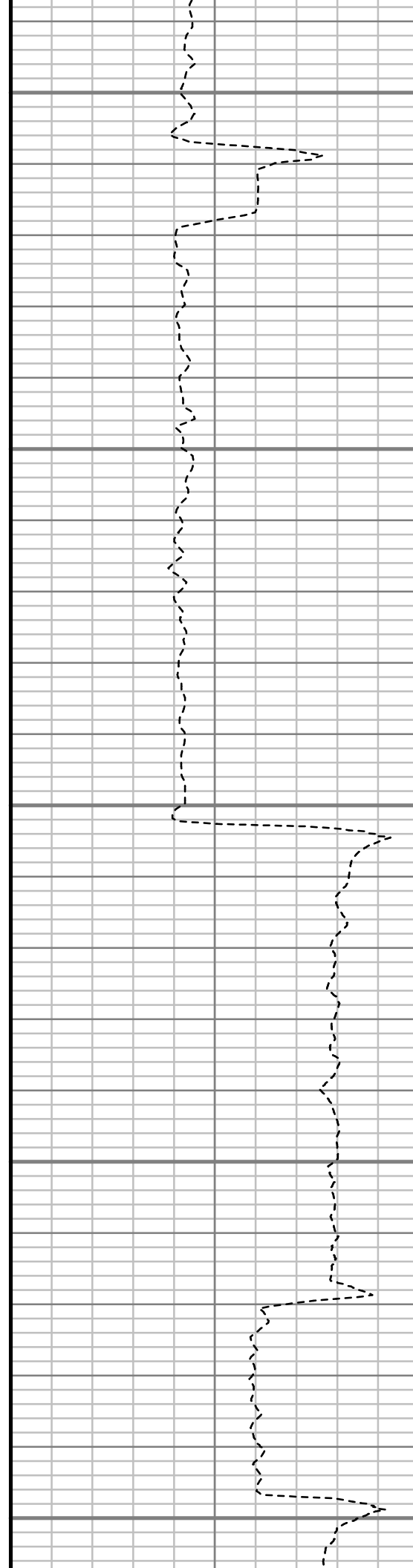
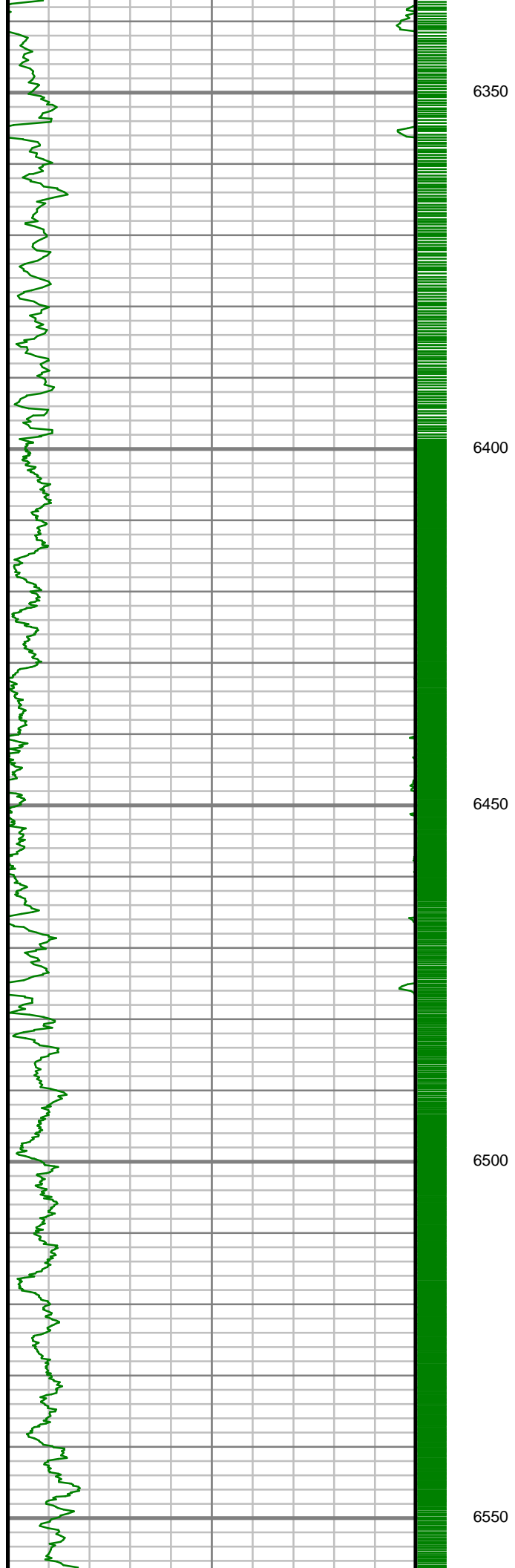


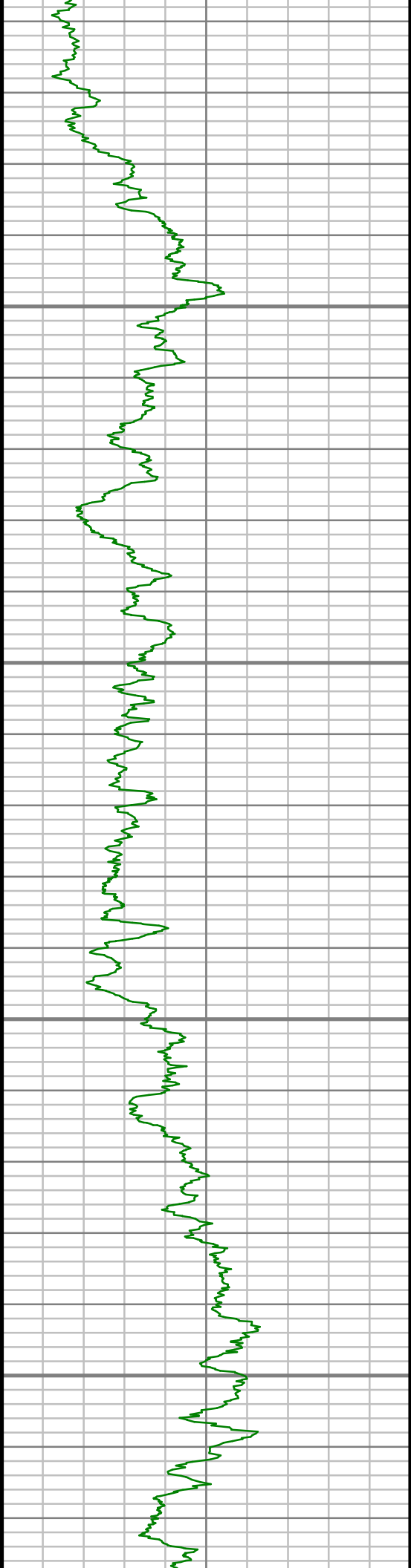










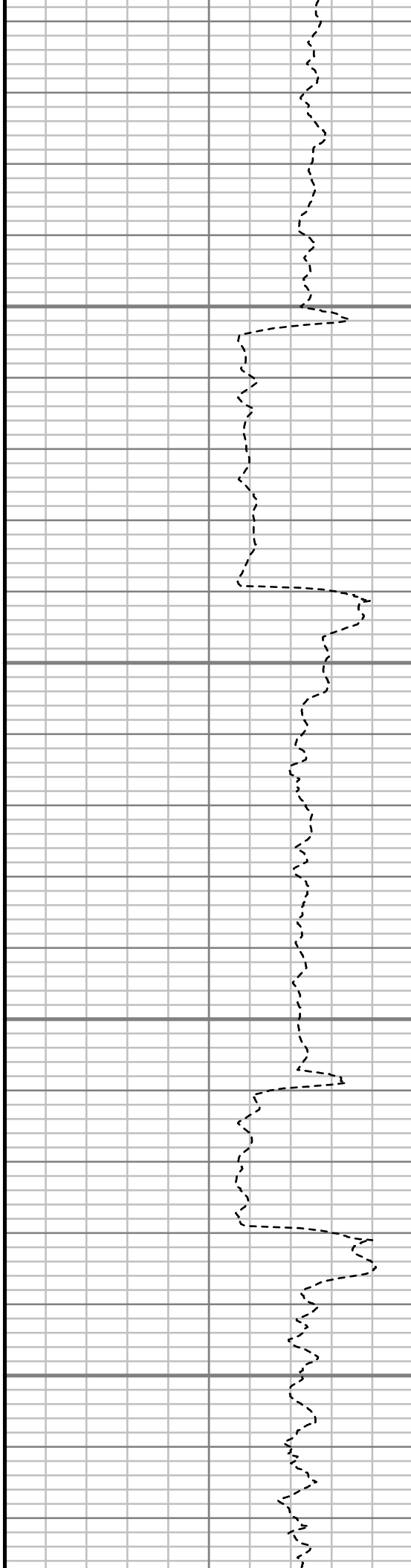


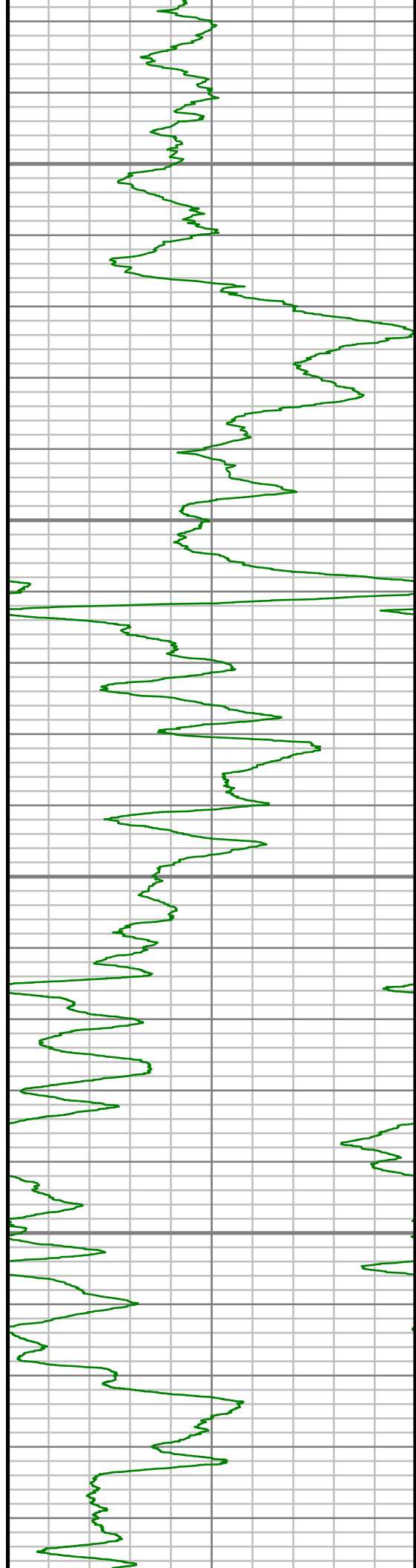
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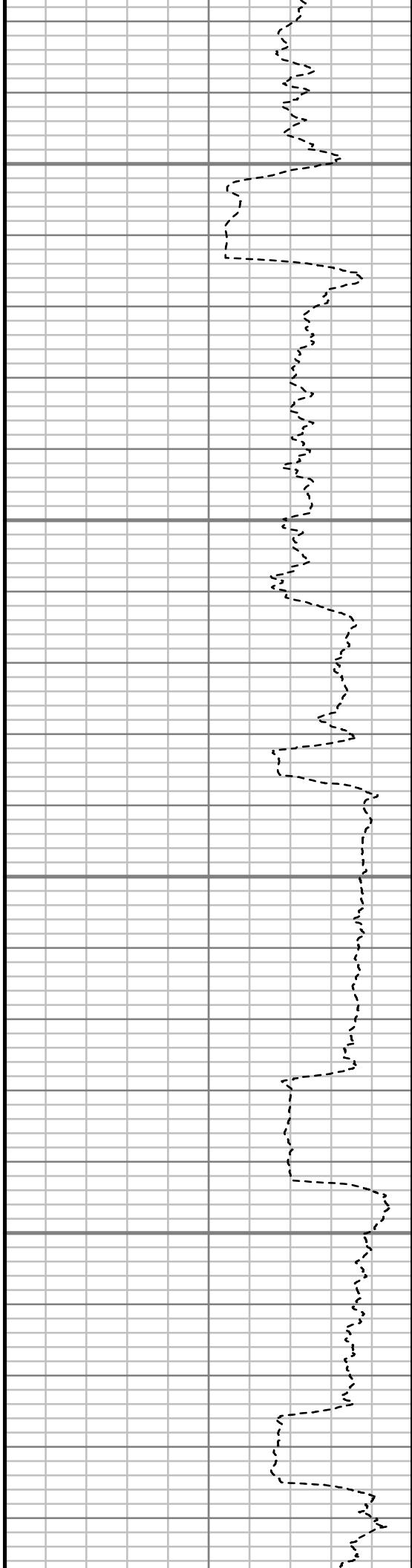


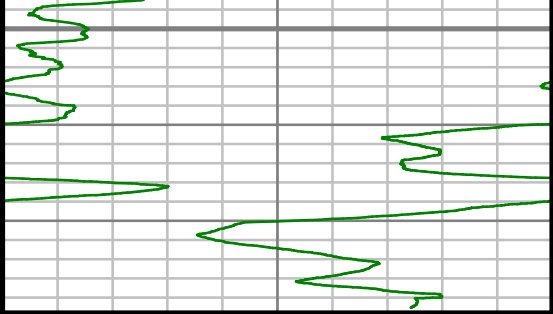
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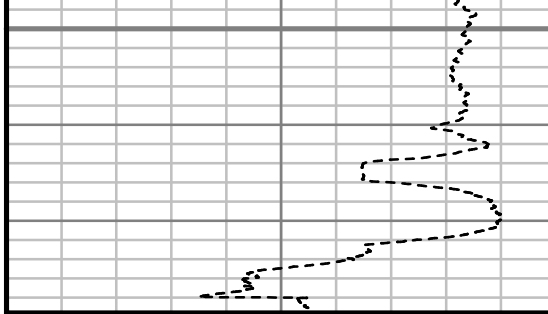


Gamma Ray (GR)

0 Unit = aapi 150

7000

TRUE VERTICAL DEPTH  
1:240 (ft)



Rate of Penetration (ROP)

500 Unit = ft/hr 0

Comments



## MWD Survey Report

Well Location	DALE PAD
Well Name	DALE 4D-20H-O264
Survey Date	8/22/2014
Latitude	40°7'3.511"N
Longitude	104°34'18.984"W
Btotal	52539 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), 359.33Azim (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	0.18	242.67	140.00	-0.10	-0.10	-0.19	0.21	242.67	0.13
232.00	0.44	271.14	232.00	-0.15	-0.16	-0.67	0.69	256.84	0.32
323.00	0.26	322.73	323.00	0.03	0.02	-1.15	1.15	270.86	0.38
415.00	0.97	191.07	414.99	-0.56	-0.58	-1.42	1.54	247.95	1.26
507.00	1.58	164.62	506.97	-2.55	-2.56	-1.24	2.85	205.72	0.91
598.00	2.73	169.01	597.90	-5.90	-5.90	-0.49	5.92	184.74	1.27
690.00	2.55	169.54	689.81	-10.07	-10.06	0.30	10.07	178.29	0.19
781.00	4.05	176.57	780.65	-15.27	-15.26	0.86	15.29	176.78	1.70
873.00	4.31	175.87	872.41	-21.97	-21.95	1.30	21.99	176.60	0.29
964.00	3.96	184.39	963.17	-28.51	-28.50	1.31	28.53	177.37	0.78
1040.00	3.52	183.69	1039.01	-33.45	-33.44	0.96	33.45	178.36	0.58
1155.00	3.03	189.70	1153.82	-39.96	-39.96	0.22	39.96	179.69	0.52
1338.00	8.70	184.90	1335.79	-58.51	-58.54	-1.78	58.56	181.74	3.11
1522.00	10.69	186.01	1517.15	-89.32	-89.38	-4.76	89.51	183.05	1.08
1704.00	10.69	183.51	1696.00	-122.91	-123.01	-7.56	123.24	183.52	0.26
1887.00	11.28	183.33	1875.65	-157.68	-157.81	-9.64	158.10	183.49	0.32
2070.00	10.69	182.13	2055.29	-192.49	-192.63	-11.30	192.97	183.36	0.34
2252.00	9.86	175.09	2234.38	-224.89	-225.03	-10.60	225.28	182.70	0.83

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Distance	Closure Direction	DLS
ft	deg	deg	ft	ft	ft	ft	ft	deg	°/100ft
2436.00	9.33	176.41	2415.80	-255.50	-255.62	-8.32	255.75	181.86	0.31
2619.00	11.16	183.07	2595.88	-288.00	-288.12	-8.34	288.24	181.66	1.19
2802.00	8.52	186.75	2776.18	-319.12	-319.27	-10.88	319.45	181.95	1.48
2992.00	7.83	185.69	2964.25	-345.93	-346.11	-13.82	346.39	182.29	0.37
3182.00	0.44	58.07	3153.68	-358.43	-358.63	-14.49	358.92	182.31	4.26
3373.00	0.70	65.49	3344.67	-357.58	-357.76	-12.80	357.98	182.05	0.14
3563.00	0.88	63.20	3534.65	-356.47	-356.61	-10.44	356.76	181.68	0.10
3753.00	1.40	2.73	3724.62	-353.51	-353.64	-9.02	353.75	181.46	0.65
3944.00	2.05	334.56	3915.53	-348.09	-348.24	-10.37	348.39	181.71	0.55
4135.00	0.69	300.69	4106.47	-344.40	-344.57	-12.83	344.81	182.13	0.80
4325.00	1.10	238.70	4296.46	-344.73	-344.93	-15.36	345.27	182.55	0.52
4516.00	1.17	258.58	4487.42	-346.02	-346.27	-18.83	346.78	183.11	0.21
4706.00	0.67	284.19	4677.39	-346.10	-346.38	-21.80	347.06	183.60	0.33
4896.00	1.74	298.94	4867.35	-344.39	-344.71	-25.40	345.64	184.21	0.58
5086.00	1.33	100.05	5057.33	-343.37	-343.70	-25.76	344.66	184.29	1.59
5277.00	1.65	28.68	5248.28	-341.39	-341.68	-22.26	342.40	183.73	0.92
5467.00	1.77	50.65	5438.19	-337.18	-337.42	-18.69	337.94	183.17	0.35
5657.00	0.55	20.35	5628.15	-334.49	-334.71	-16.10	335.09	182.75	0.70

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	2.02	119.27	5818.11	-335.31	-335.49	-12.86	335.73	182.20	1.15
6038.00	2.72	135.19	6008.95	-340.25	-340.35	-6.73	340.42	181.13	0.50
6228.00	1.19	159.55	6198.83	-345.33	-345.39	-2.86	345.40	180.48	0.90
6419.00	1.44	84.23	6389.80	-346.98	-347.00	0.22	347.00	179.96	0.85
6514.00	3.91	353.12	6484.71	-343.65	-343.66	1.02	343.66	179.83	4.41
6609.00	13.00	347.38	6578.58	-329.95	-329.99	-1.71	330.00	180.30	9.60
6704.00	17.73	346.96	6670.16	-305.36	-305.46	-7.31	305.55	181.37	4.98
6799.00	25.15	349.19	6758.53	-271.31	-271.50	-14.37	271.88	183.03	7.86
6894.00	37.30	351.20	6839.62	-222.76	-223.04	-22.59	224.18	185.78	12.84
6990.00	52.20	352.97	6907.61	-155.90	-156.28	-31.74	159.47	191.48	15.57
7085.00	61.57	356.45	6959.47	-76.69	-77.15	-38.93	86.41	206.78	10.33
7179.00	72.51	358.21	6996.09	9.68	9.18	-42.91	43.88	282.07	11.76
7274.00	82.82	357.10	7016.36	102.32	101.78	-46.72	111.99	335.34	10.92
7452.00	89.43	357.44	7028.37	279.70	279.07	-55.18	284.48	348.82	3.72
7543.00	89.76	358.86	7029.01	370.67	370.02	-58.11	374.56	351.07	1.61
7634.00	91.28	0.23	7028.19	461.67	461.01	-58.84	464.75	352.73	2.24
7729.00	91.85	0.76	7025.59	556.61	555.97	-58.02	558.99	354.04	0.82
7824.00	91.65	0.60	7022.70	651.54	650.92	-56.89	653.40	355.00	0.27



MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Distance	Closure Direction	DLS
ft	deg	deg	ft	ft	ft	ft	ft	deg	°/100ft
7919.00	90.87	0.73	7020.61	746.49	745.89	-55.78	747.97	355.72	0.83
8015.00	90.00	0.94	7019.88	842.45	841.87	-54.38	843.63	356.30	0.94
8110.00	90.10	0.11	7019.79	937.43	936.87	-53.51	938.40	356.73	0.89
8205.00	90.94	359.51	7018.93	1032.42	1031.86	-53.83	1033.27	357.01	1.09
8300.00	90.94	359.74	7017.37	1127.41	1126.85	-54.46	1128.16	357.23	0.24
8395.00	90.37	1.06	7016.28	1222.38	1221.84	-53.79	1223.02	357.48	1.52
8490.00	89.60	1.48	7016.31	1317.33	1316.81	-51.68	1317.83	357.75	0.92
8585.00	89.06	1.51	7017.42	1412.25	1411.77	-49.21	1412.63	358.00	0.57
8681.00	89.87	1.93	7018.32	1508.16	1507.73	-46.33	1508.44	358.24	0.95
8776.00	90.57	0.30	7017.96	1603.11	1602.70	-44.48	1603.32	358.41	1.87
8872.00	91.55	359.42	7016.19	1699.09	1698.68	-44.72	1699.27	358.49	1.37
8967.00	91.34	359.94	7013.79	1794.06	1793.65	-45.25	1794.22	358.55	0.59
9062.00	89.70	358.72	7012.93	1889.05	1888.64	-46.37	1889.21	358.59	2.16
9157.00	89.23	357.31	7013.82	1984.02	1983.57	-49.65	1984.19	358.57	1.56
9253.00	88.96	357.26	7015.34	2079.95	2079.45	-54.20	2080.16	358.51	0.29
9348.00	88.89	357.19	7017.12	2174.86	2174.32	-58.81	2175.12	358.45	0.10
9443.00	89.23	357.17	7018.68	2269.78	2269.20	-63.48	2270.08	358.40	0.35
9538.00	88.76	357.02	7020.35	2364.70	2364.06	-68.29	2365.05	358.35	0.52

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Distance	Closure Direction	DLS
ft	deg	deg	ft	ft	ft	ft	ft	deg	°/100ft
9633.00	88.89	357.10	7022.29	2459.60	2458.92	-73.16	2460.00	358.30	0.17
9728.00	88.82	356.67	7024.19	2554.50	2553.76	-78.33	2554.96	358.24	0.47
9824.00	89.23	357.77	7025.82	2650.42	2649.63	-82.98	2650.93	358.21	1.23
9919.00	88.89	357.22	7027.38	2745.35	2744.52	-87.13	2745.91	358.18	0.68
10014.00	89.60	358.73	7028.63	2840.32	2839.45	-90.49	2840.89	358.17	1.75
10109.00	89.97	357.95	7028.99	2935.30	2934.41	-93.24	2935.89	358.18	0.90
10204.00	90.84	358.16	7028.32	3030.27	3029.35	-96.47	3030.89	358.18	0.94
10299.00	91.08	357.52	7026.74	3125.23	3124.27	-100.05	3125.87	358.17	0.72
10394.00	91.07	359.32	7024.95	3220.19	3219.21	-102.68	3220.85	358.17	1.90
10489.00	91.04	359.10	7023.20	3315.18	3314.19	-103.99	3315.82	358.20	0.24
10584.00	91.41	358.58	7021.17	3410.15	3409.15	-105.91	3410.79	358.22	0.67
10679.00	90.30	358.91	7019.75	3505.14	3504.11	-107.99	3505.78	358.23	1.21
10775.00	91.14	359.27	7018.54	3601.13	3600.09	-109.52	3601.76	358.26	0.95
10870.00	90.10	0.94	7017.51	3696.11	3695.08	-109.34	3696.70	358.31	2.07
10965.00	90.27	0.78	7017.20	3791.07	3790.07	-107.92	3791.61	358.37	0.25
11060.00	90.10	2.51	7016.90	3885.99	3885.03	-105.20	3886.45	358.45	1.83
11155.00	89.36	4.00	7017.34	3980.76	3979.87	-99.81	3981.12	358.56	1.75
11251.00	89.90	4.08	7017.96	4076.44	4075.63	-93.04	4076.69	358.69	0.57

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Distance	Closure Direction	DLS
ft	deg	deg	ft	ft	ft	ft	ft	deg	°/100ft
11346.00	90.10	3.79	7017.96	4171.13	4170.40	-86.52	4171.30	358.81	0.37
11441.00	91.18	3.99	7016.90	4265.82	4265.18	-80.07	4265.93	358.92	1.15
11536.00	90.94	2.47	7015.15	4360.58	4360.01	-74.72	4360.65	359.02	1.62
11563.00	91.14	2.29	7014.66	4387.54	4386.98	-73.60	4387.60	359.04	1.01

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