



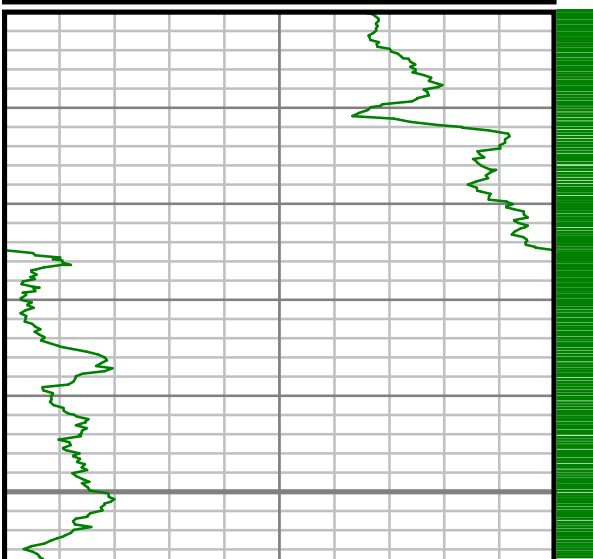
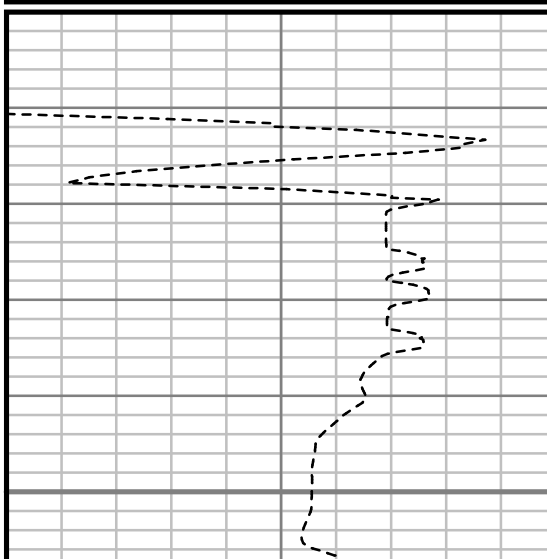
GAMMA RAY

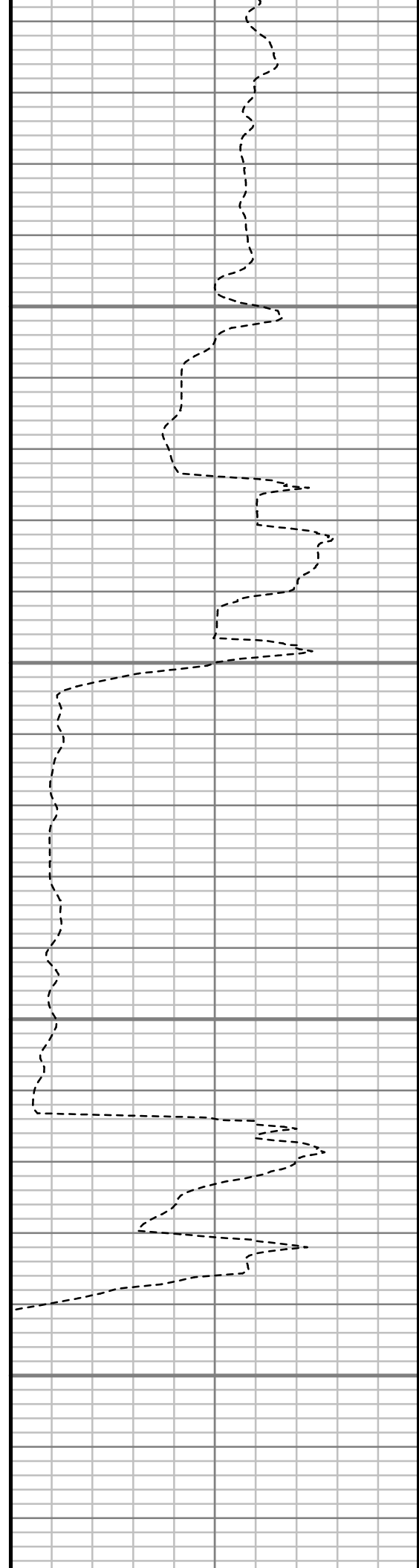
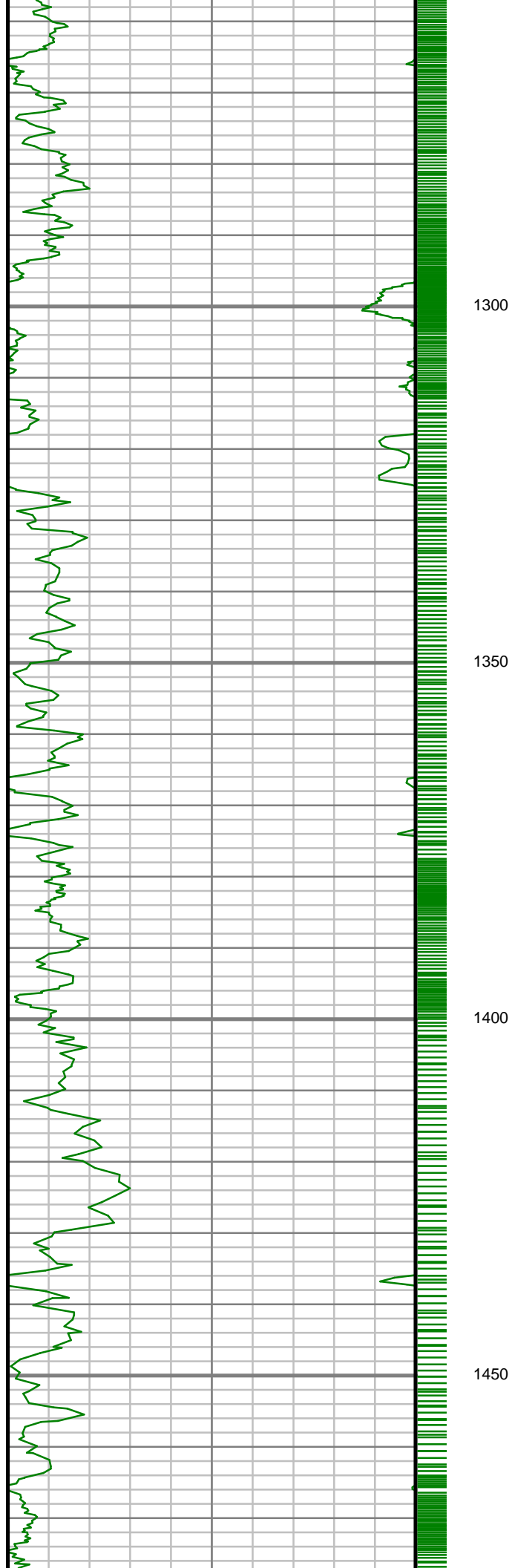
5" = 100' FEET TVD

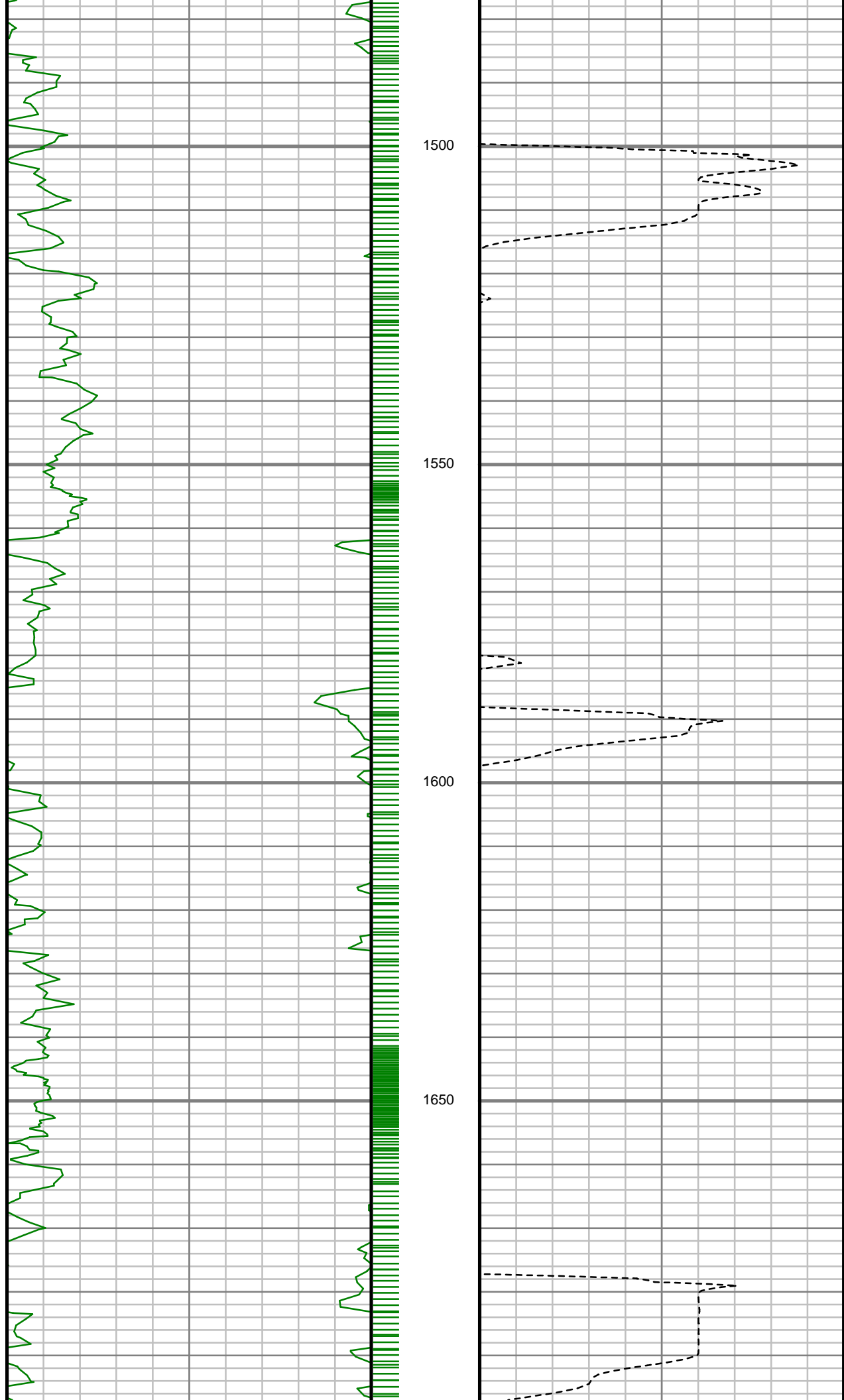
COMPANY : ENCANA OIL AND GAS (U.S.A) INC WELL : RUHL 1D-32H-B264 FIELD : WATTENBERG COUNTY : WELD STATE : COLORADO COUNTRY : U.S.A. UWI : 05-123-40282				COMPANY : ENCANA OIL AND GAS (U.S.A) INC WELL : RUHL 1D-32H-B264 FIELD : WATTENBERG COUNTY : WELD STATE : COLORADO COUNTRY : U.S.A. UWI : 05-123-40282			
DEPTH REF. : RKB REF. HEIGHT : 25.000 ft GROUND LEVEL : 4979.000 ft		RKB to Ground Level G.L. to MEAN SEA LEVEL		DIRECTIONAL ROP			
BOREHOLE RECORD				DEVIATION RECORD			
HOLE SIZE in	FROM ft	TO ft	INCLINATION deg	FROM ft	TO ft		
12.25	0	1221	0 - 11	0	3141		
8.75	1221	7435	11 - 0	3141	6527		
6.125	7435	11619	0 - 91	6527	11619		
CASING RECORD							
CASING SIZE in	FROM ft	TO ft					
16	0	129					
7	0	7405					
DRILLING CO. : H&P RLG: 278 LMD UNIT NO. : MWD-00046-DISTRICT: CASPER, CASPER SPUD DATE: 12/11/2014 LMD START DATE: 01/04/2015 LMD END DATE: 01/11/2015 DEPTH: 1220 ft DEPTH: 11619 ft TOTAL DEPTH: 11619 ft							

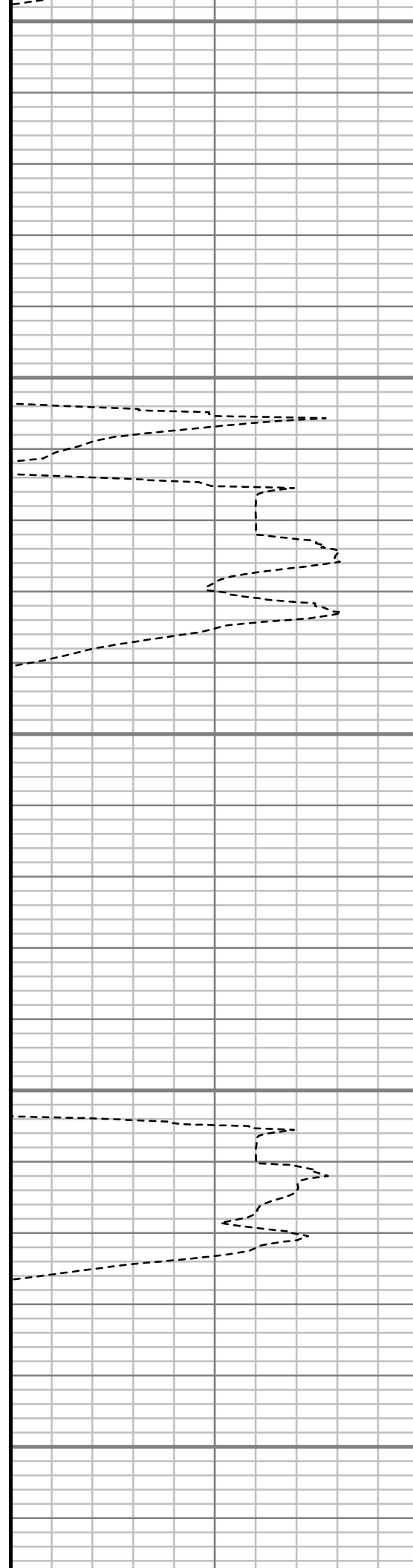
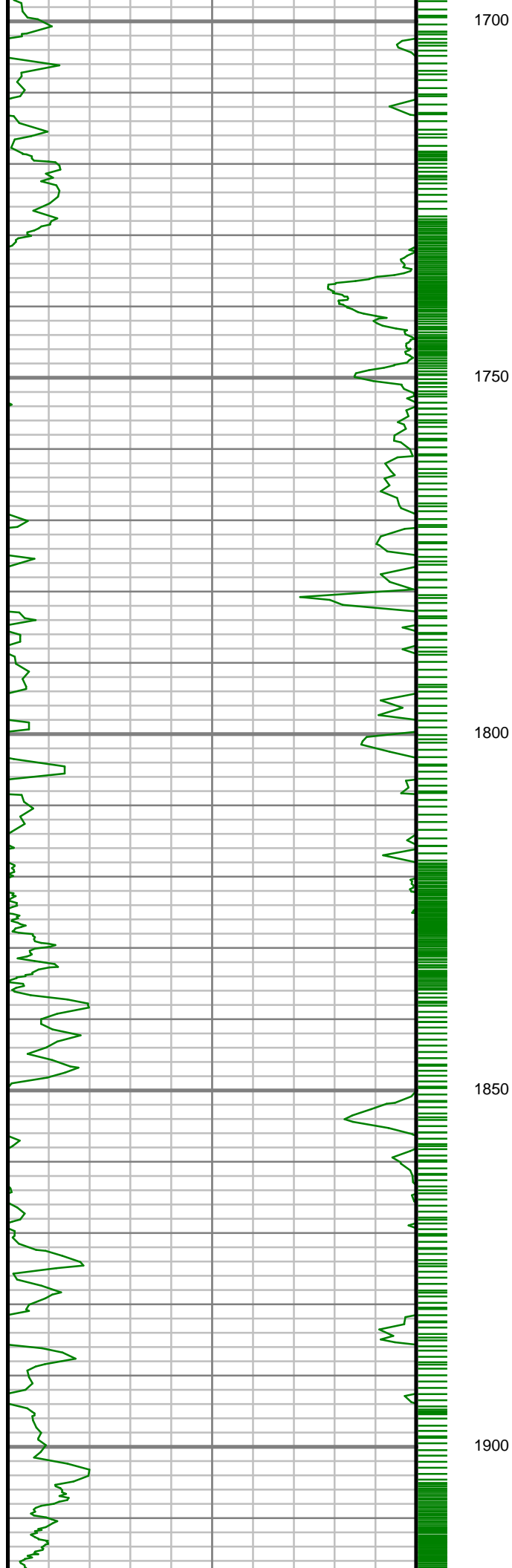
Remarks
ENCANA OIL AND GAS (U.S.A) INC PRODUCTION AFE# 13179003
SCIENTIFIC DRILLING INTERNATIONAL JOB# 232819, 241125
ALL REFERENCES IN THE DEPTH TRACK ARE AT BIT DEPTH.
ALL DATA IS MEMORY DATA UNLESS STATED OTHERWISE.
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO GAMMA RAY CURVE
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO RATE OF PENETRATION CURVE
RUN #1: MWD / DIRECTIONAL RUN
SENSORS S/N: EM5 = 1154 / MWD EYE = 0645
BIT TO SENSOR OFFSET: SURVEY = 60.90 FT.
RUN #2: MWD / GAMMA RAY / PROPAGATION RESISTIVITY LOGGING RUN
SENSORS S/N: PULSER = 128-333 / CONT = 126 / MWD EYE = 522 / PRT = 312 / GAMMA RAY = 1076
BIT TO SENSOR OFFSETS: SURVEY = 55.74 FT. / RESISTIVITY = 45.07 FT. / GAMMA RAY = 36.57 FT.
RUN #3: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 78-070 / CONT = 858 / MWD EYE = 0645 / GAMMA RAY = 1271
BIT TO SENSOR OFFSETS: SURVEY = 61.82 FT. / GAMMA RAY = 53.18 FT.
REMARK #1: GAMMA RAY FROM 7398 FT. - 7405 FT. WAS LOGGED BEHIND CASING.
MNEMONICS LIST:
GR = GAMMA RAY
ROP = RATE OF PENETRATION

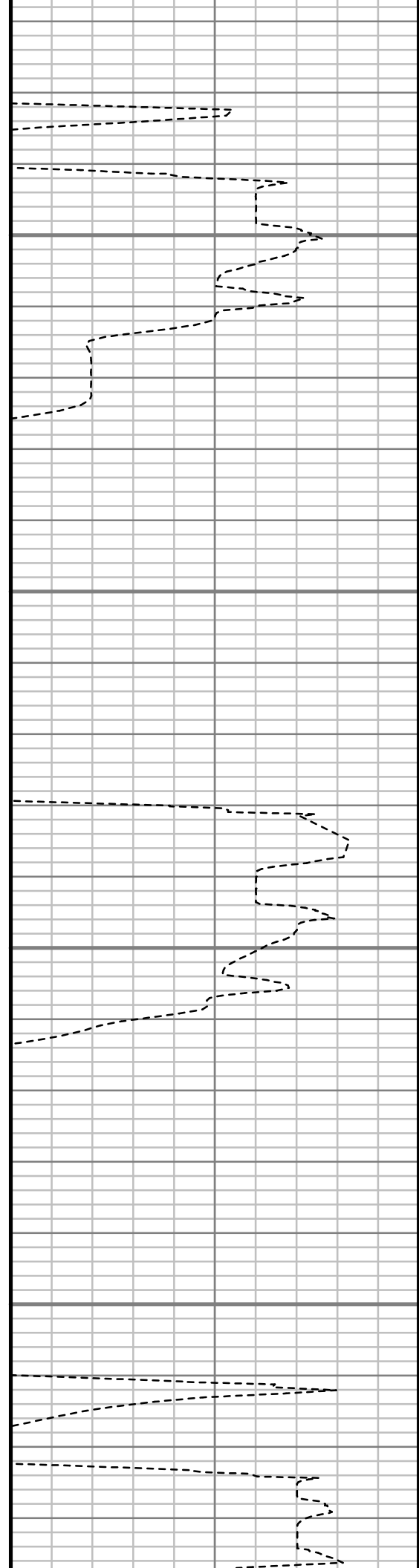
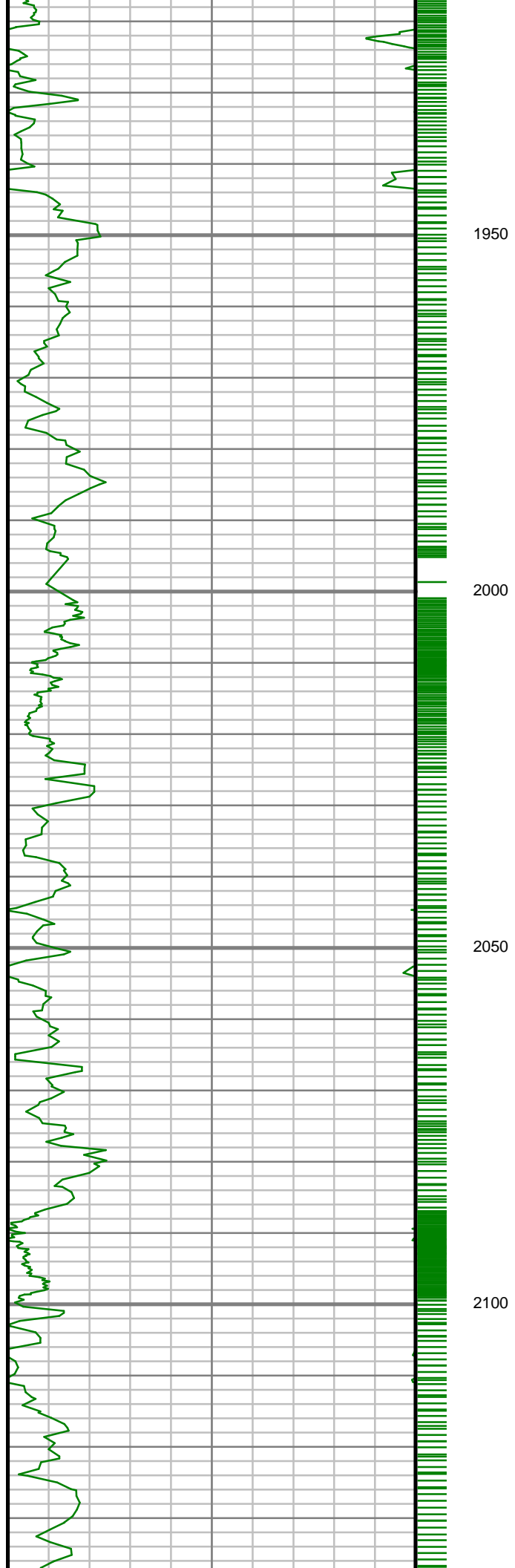
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

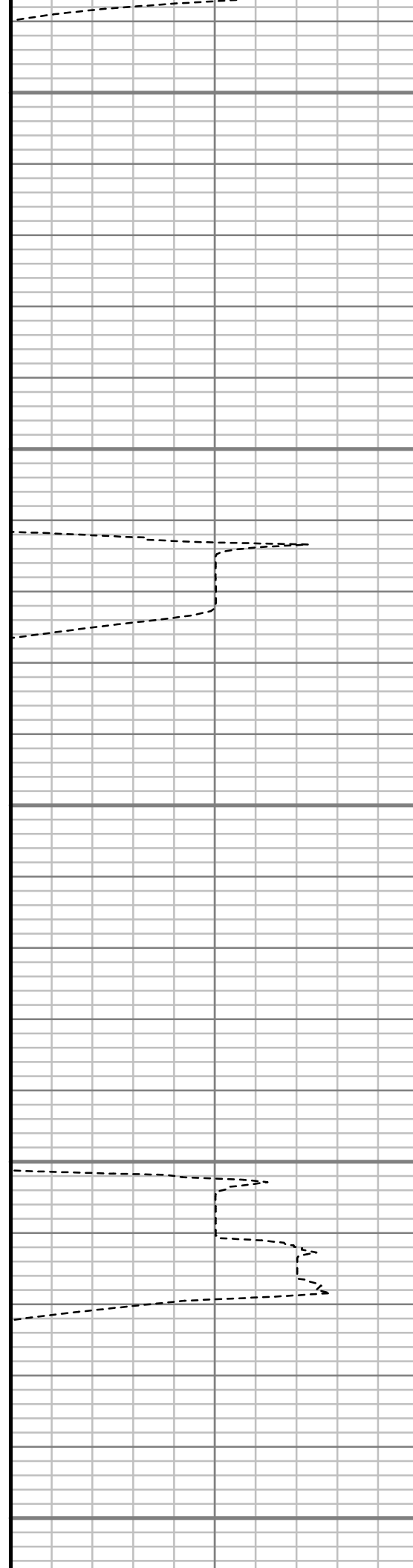
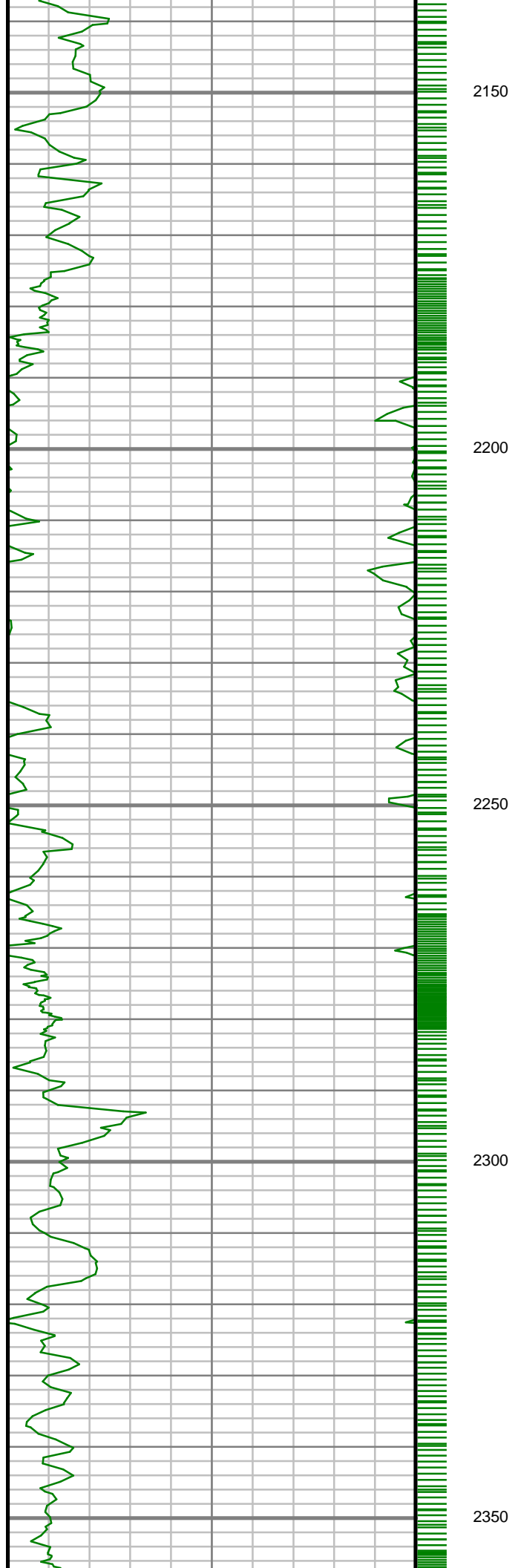
ENCANA OIL AND GAS (U.S.A.) INC RUHL 1D-32H-B264 WATTENBERG FIELD WELD COUNTY, COLORADO 05-123-40282					
Gamma Ray (GR) Unit = aapi 0150		TRUE VERTICAL DEPTH 1:240 (ft)  1250	Rate of Penetration (ROP) Unit = ft/hr 5000		Comments
					

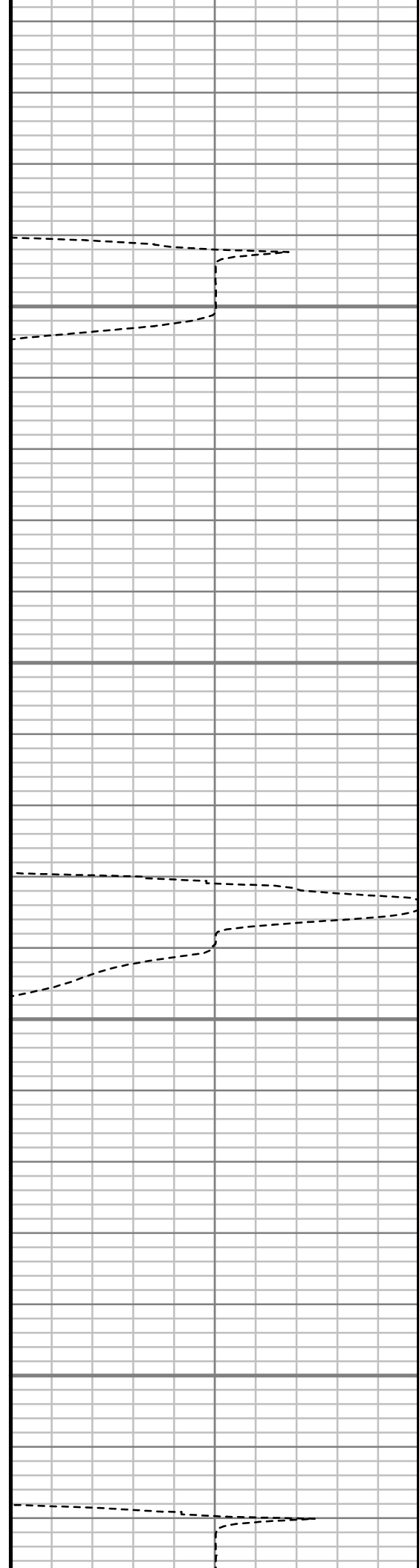
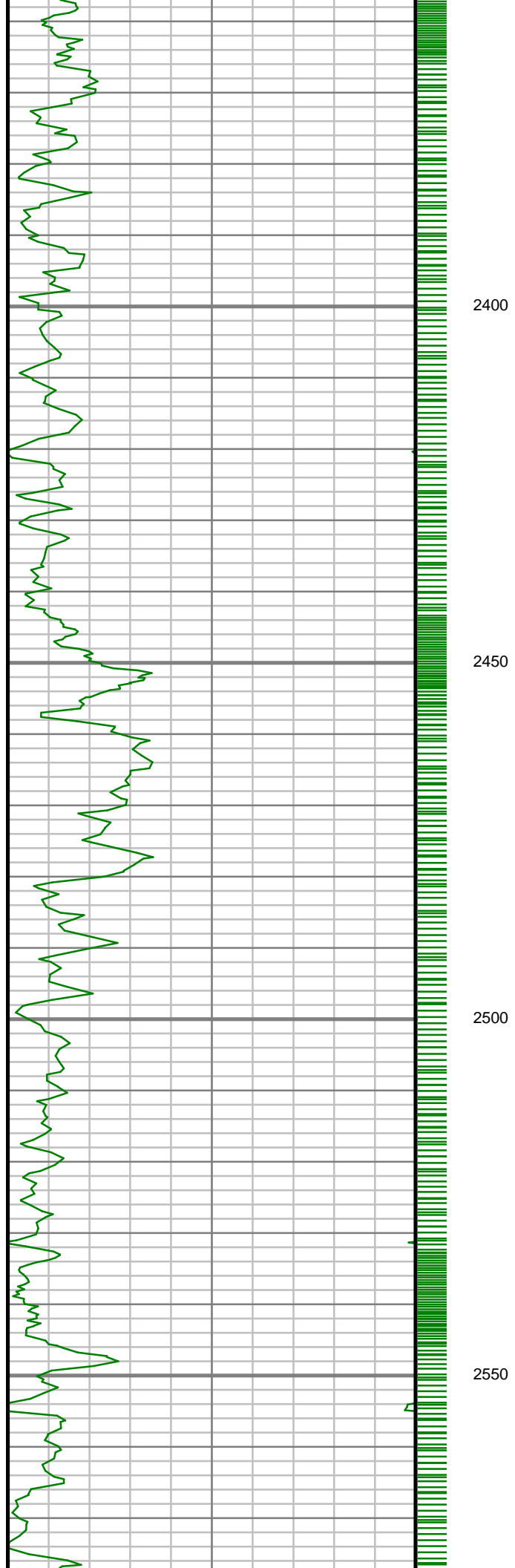




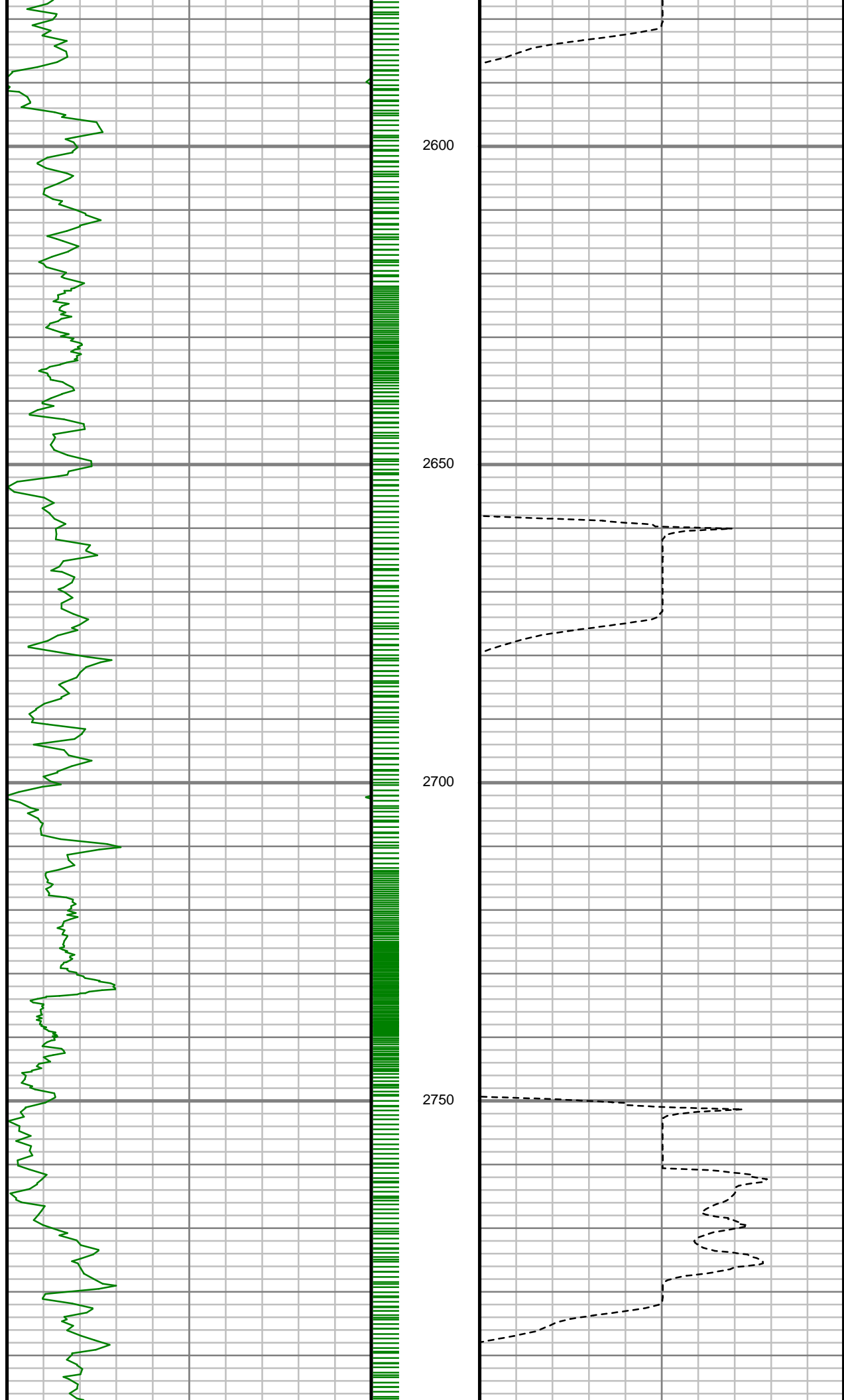


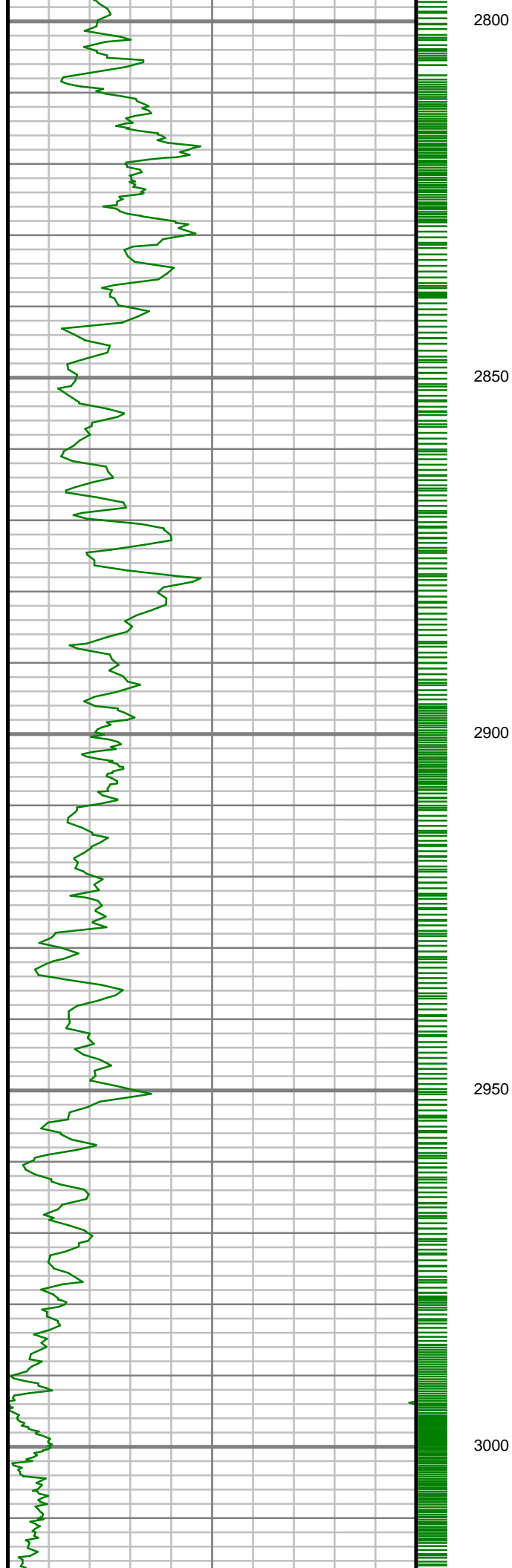












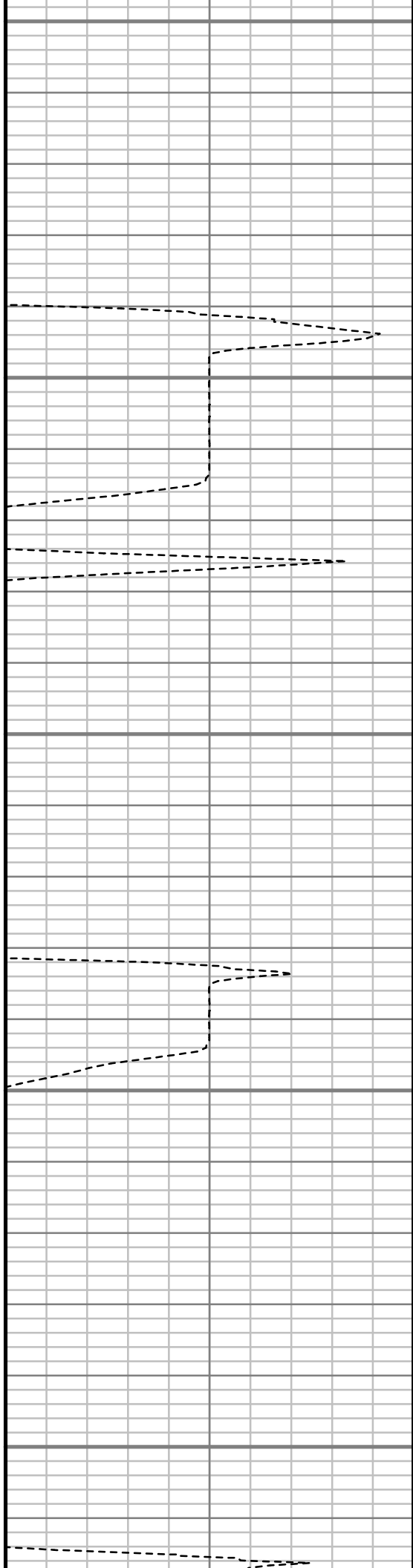
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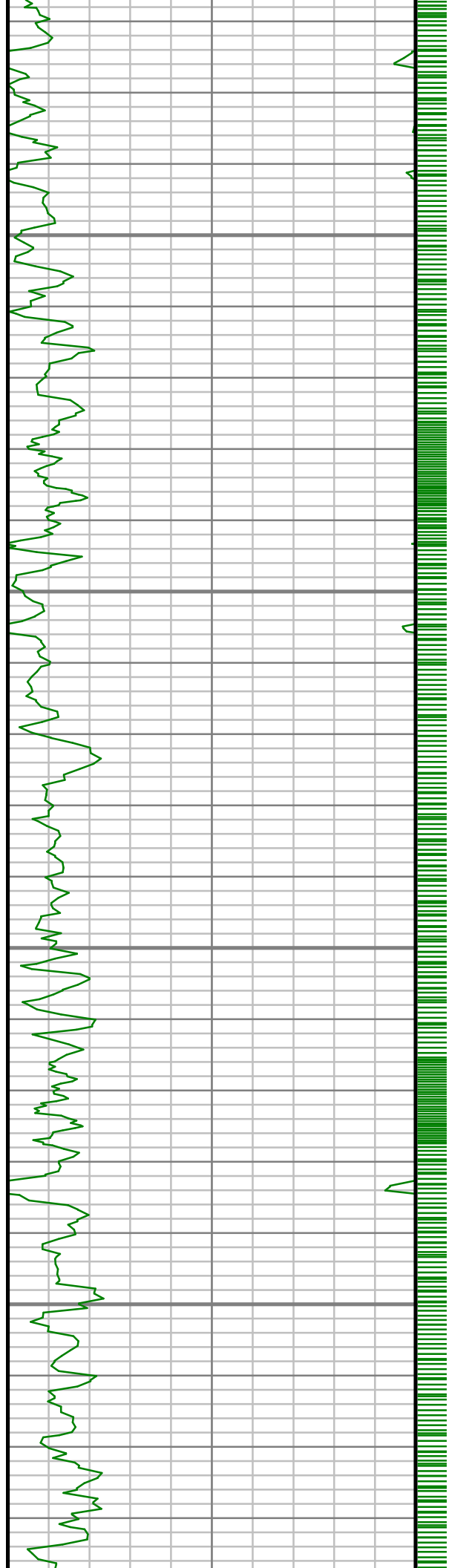
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2900

2950

3000



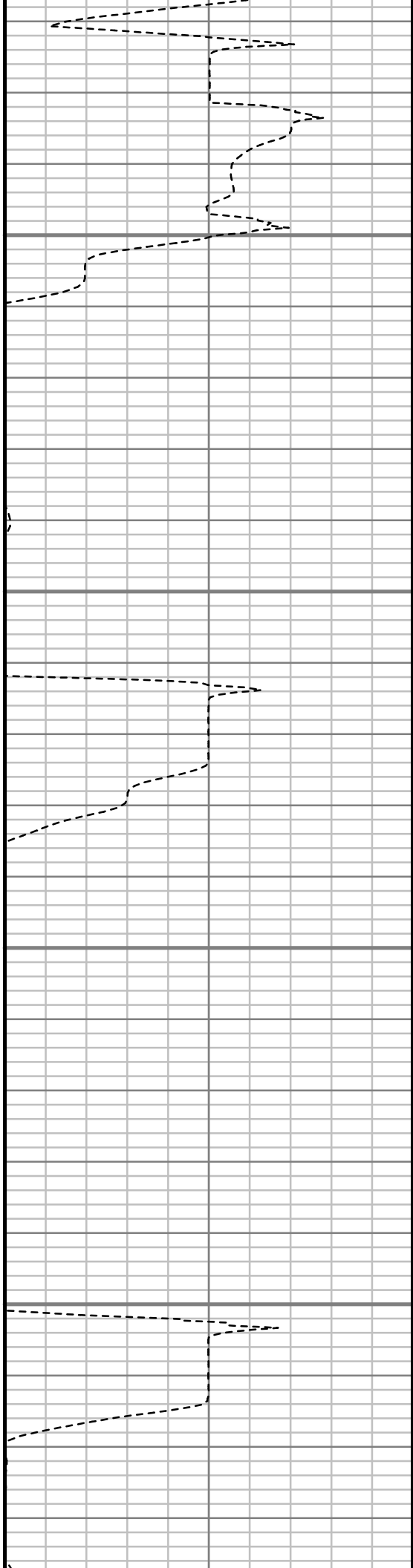


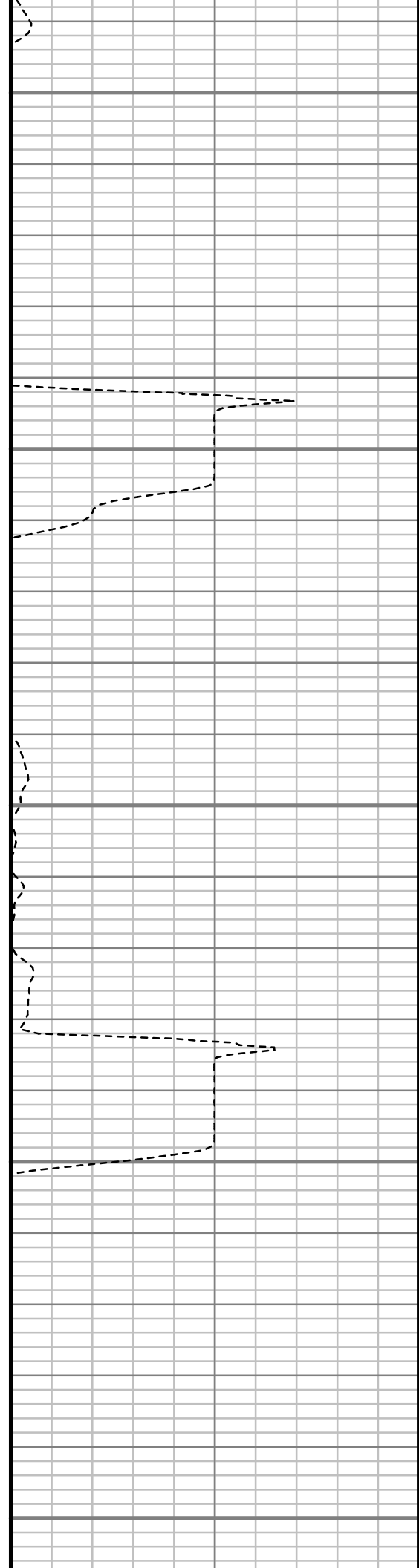
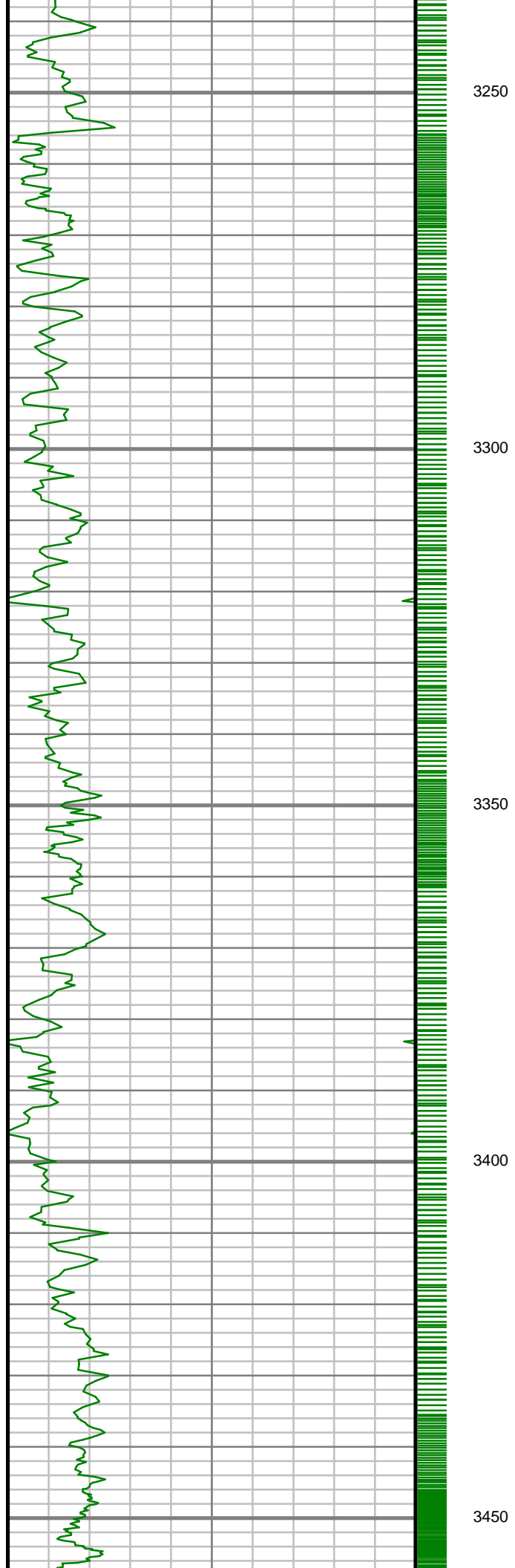
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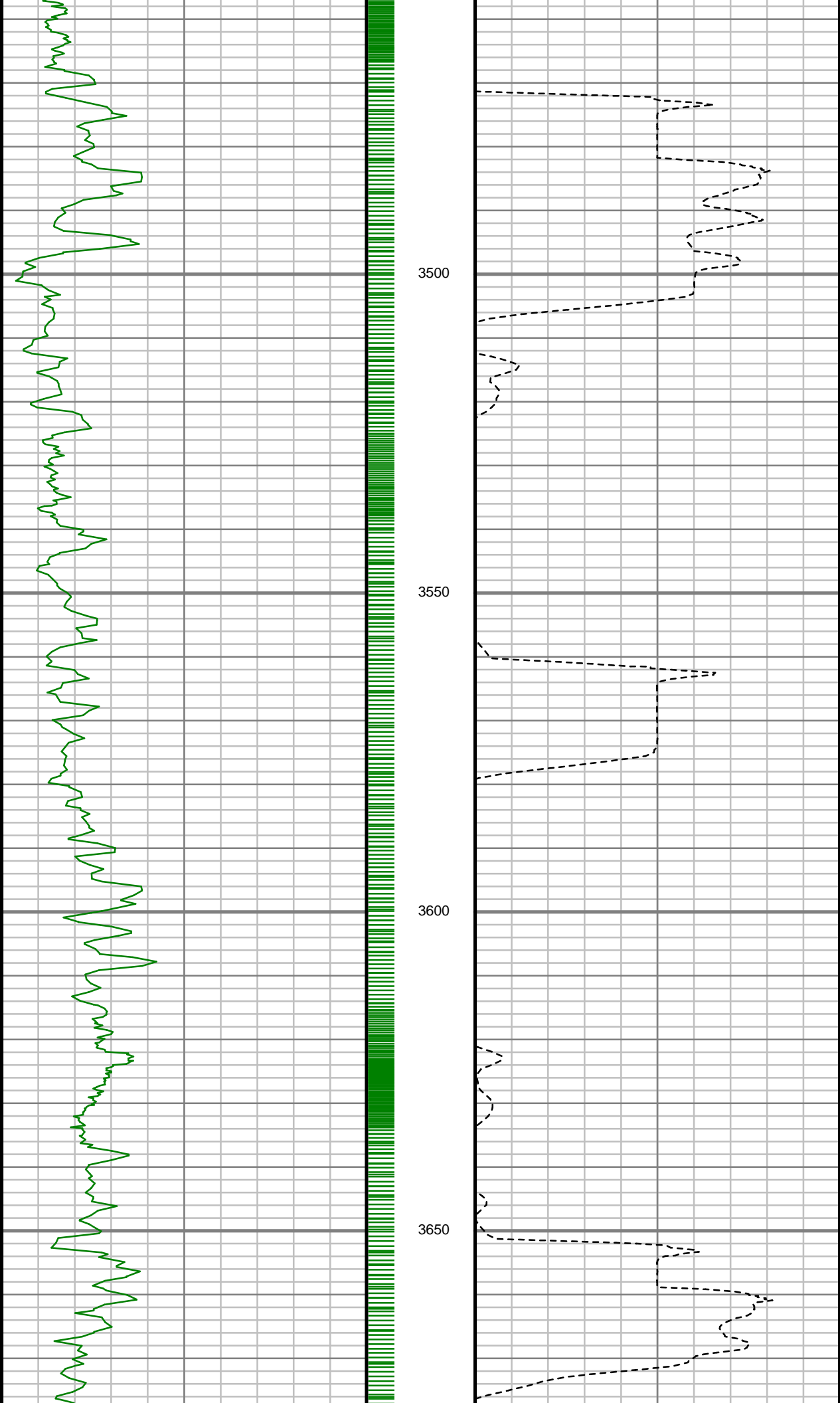
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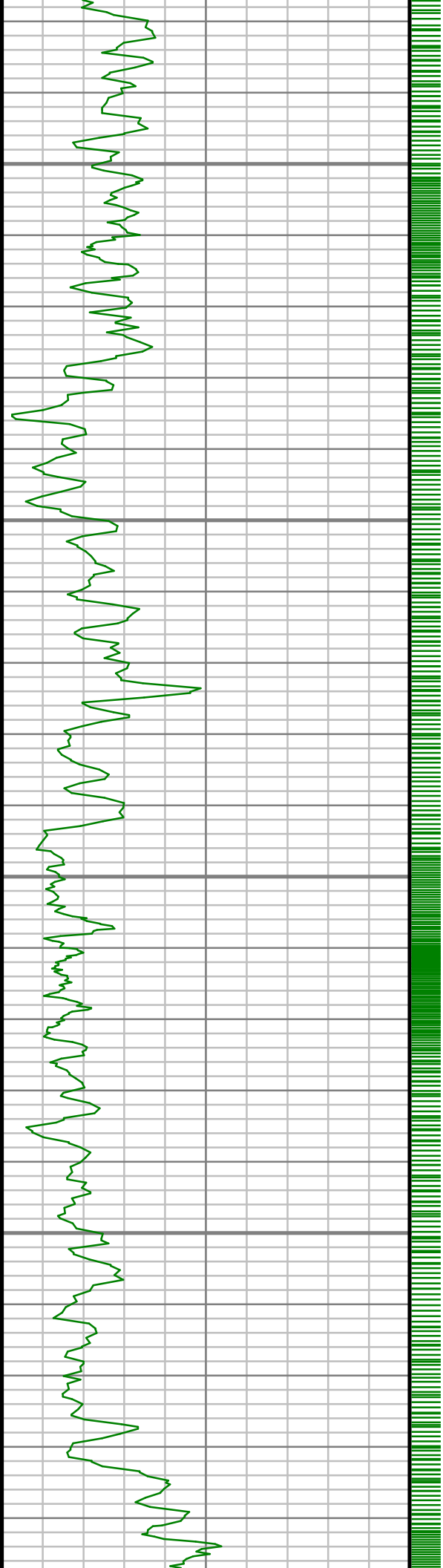
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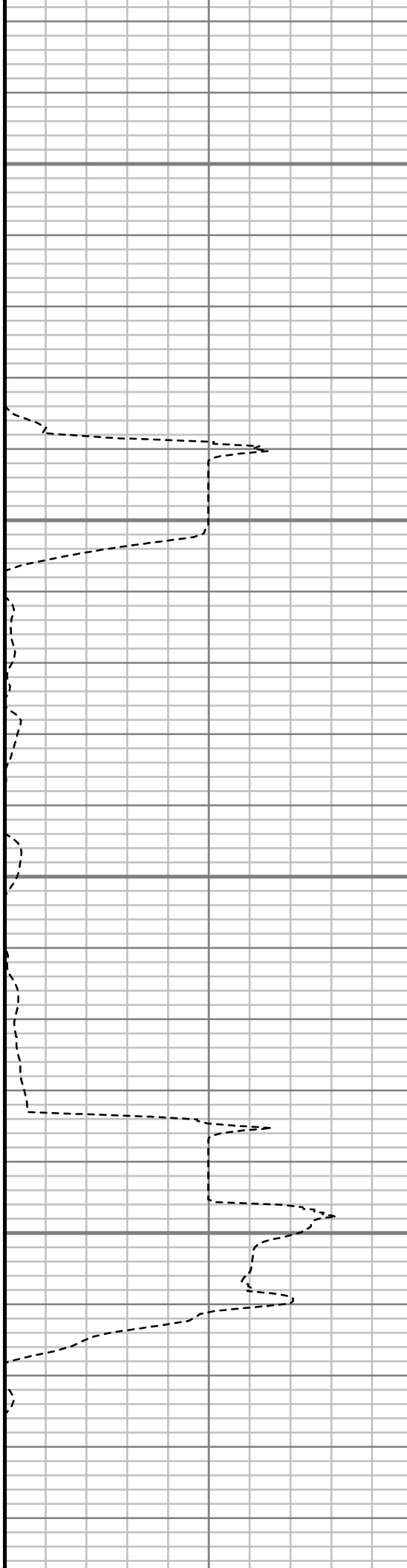


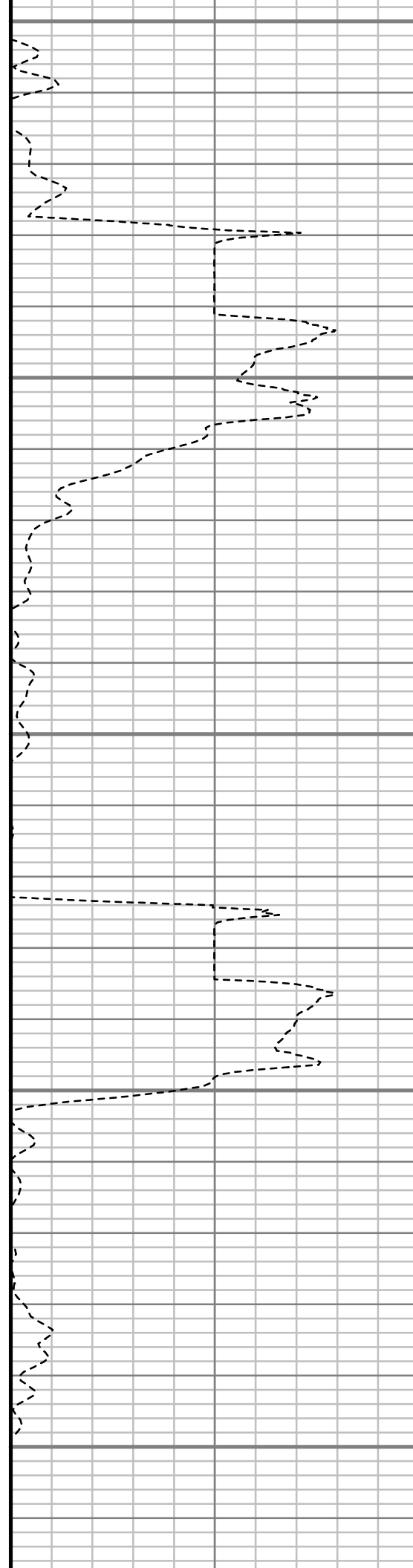
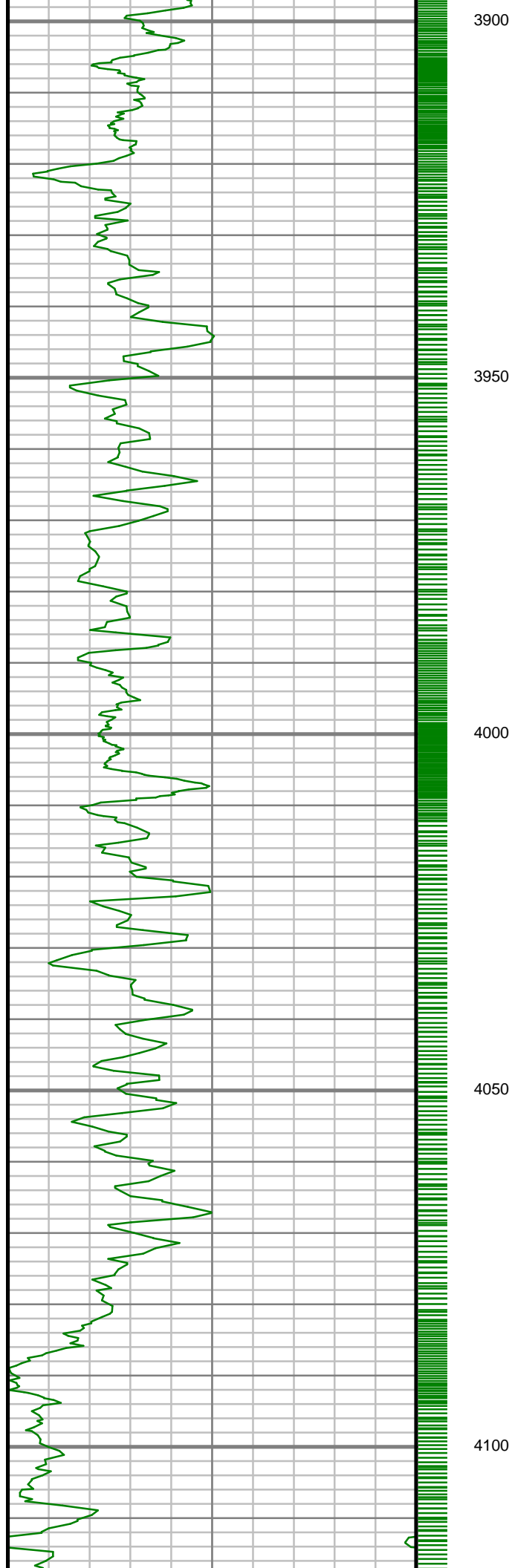
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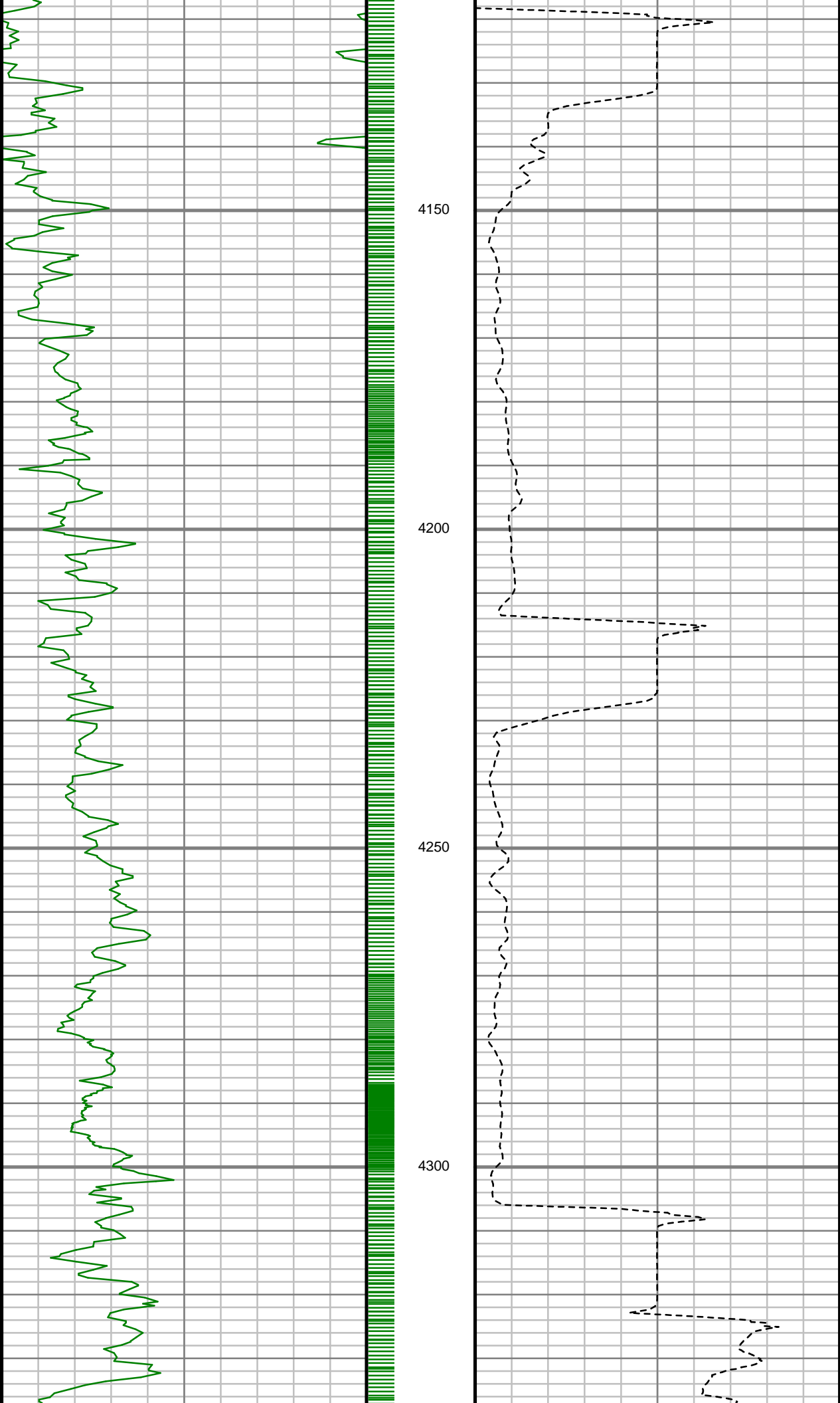
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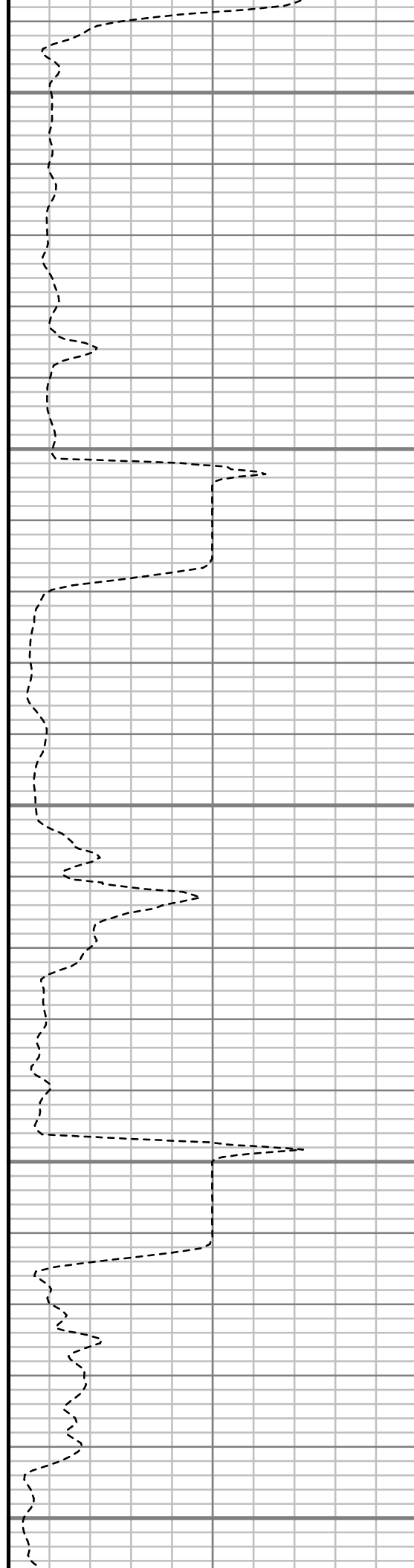
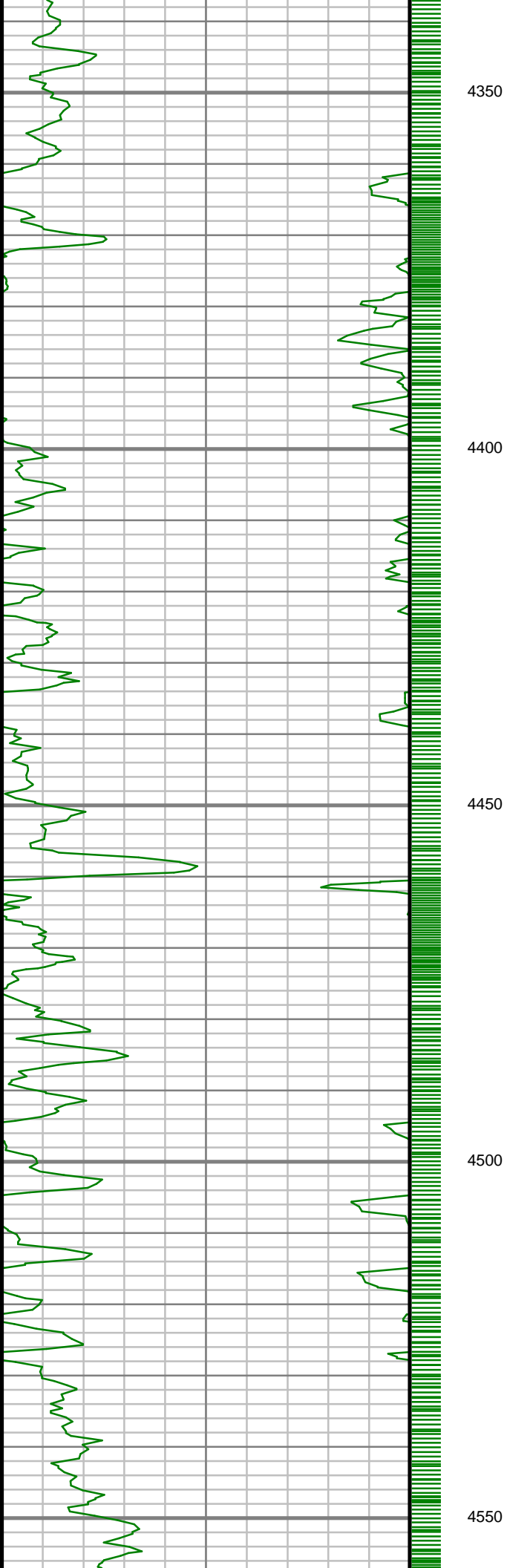
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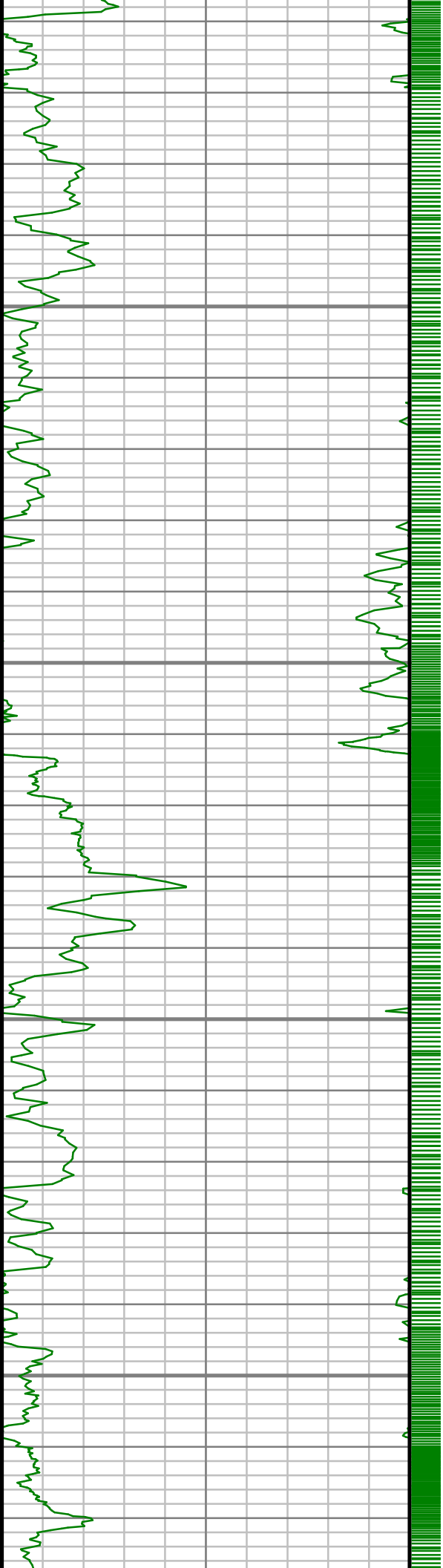










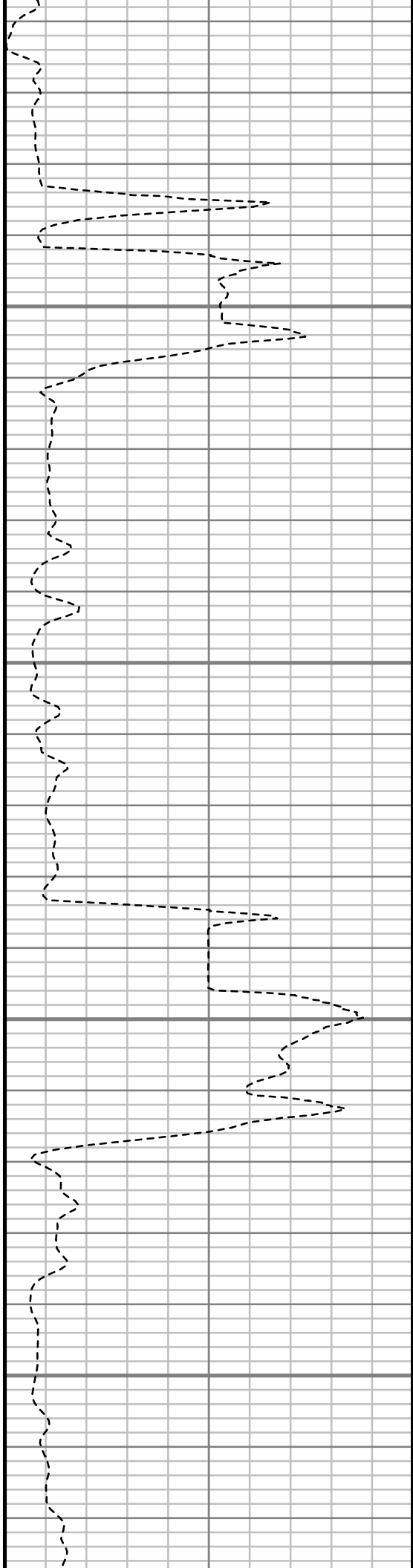


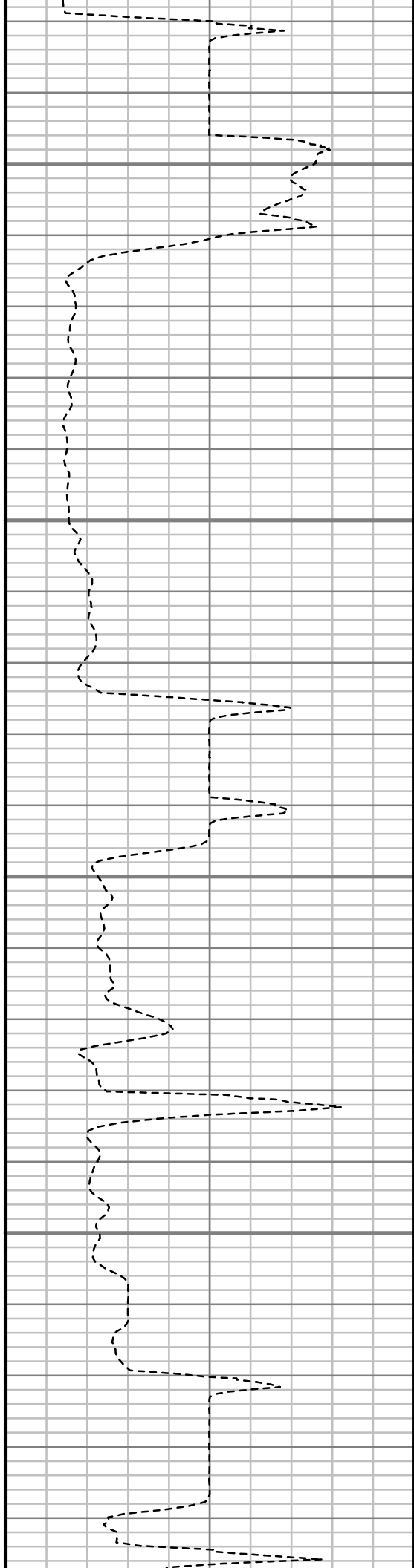
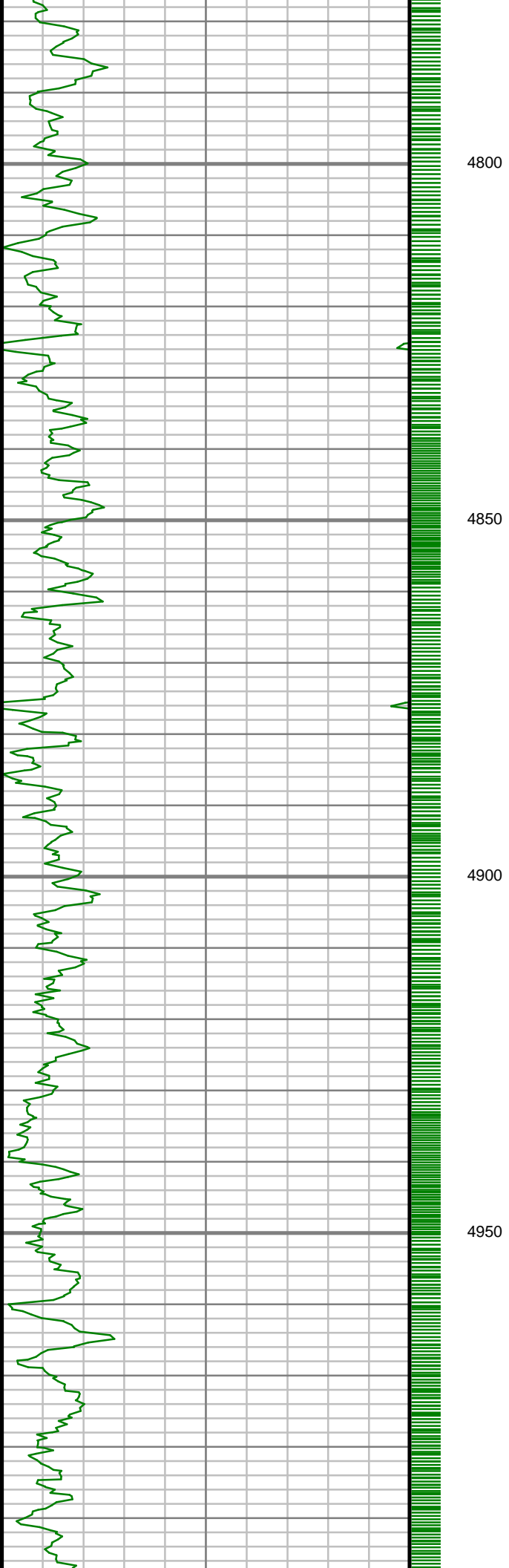
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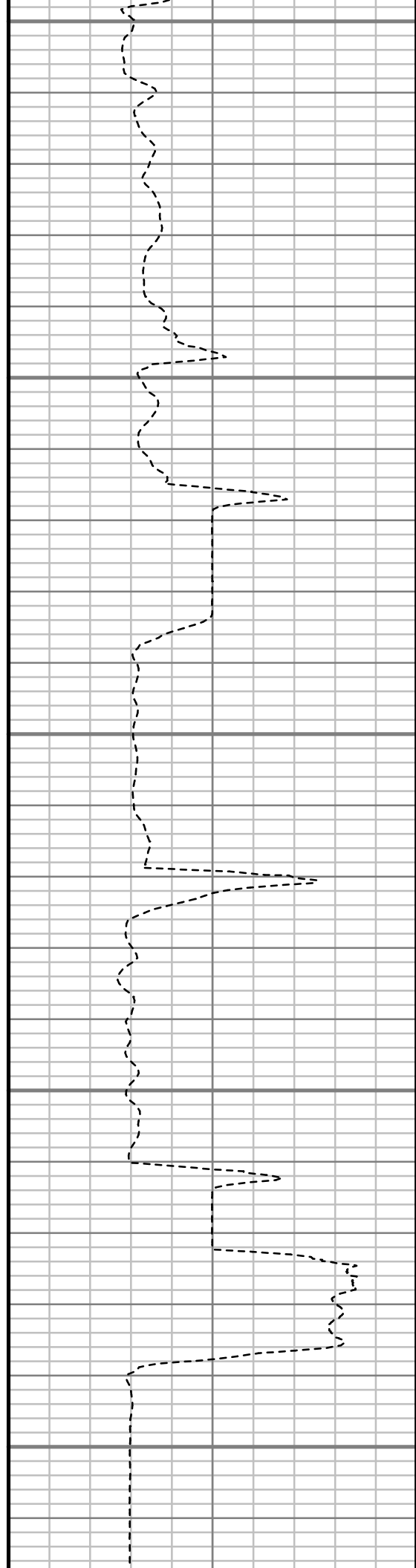
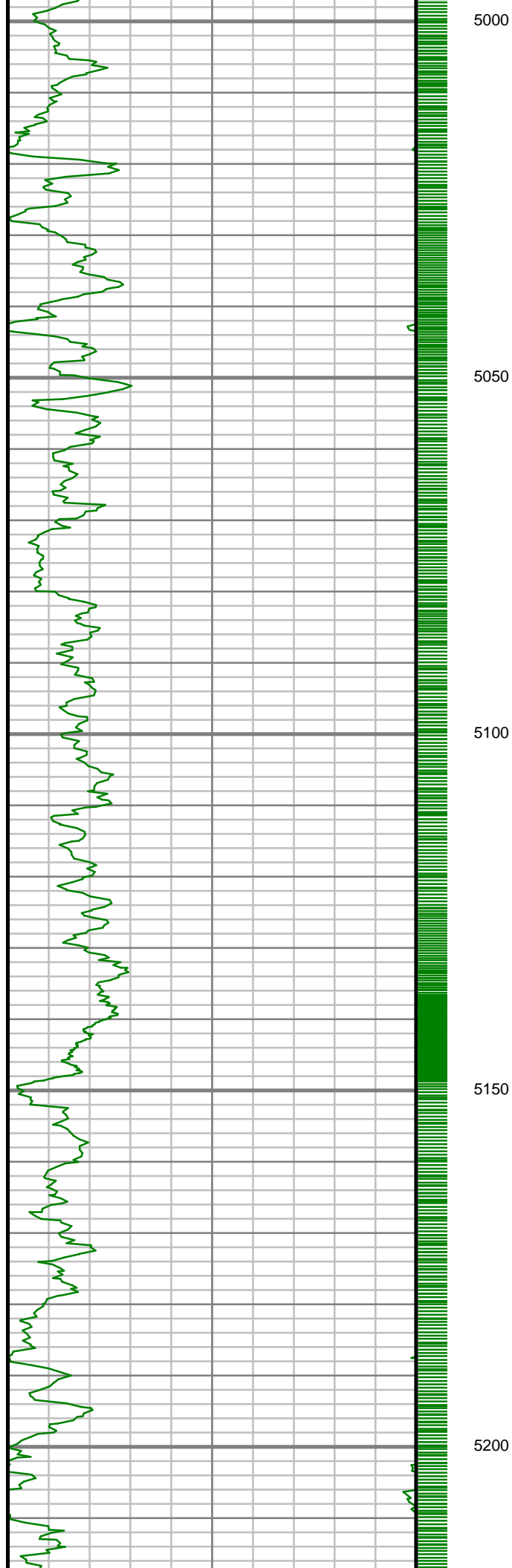
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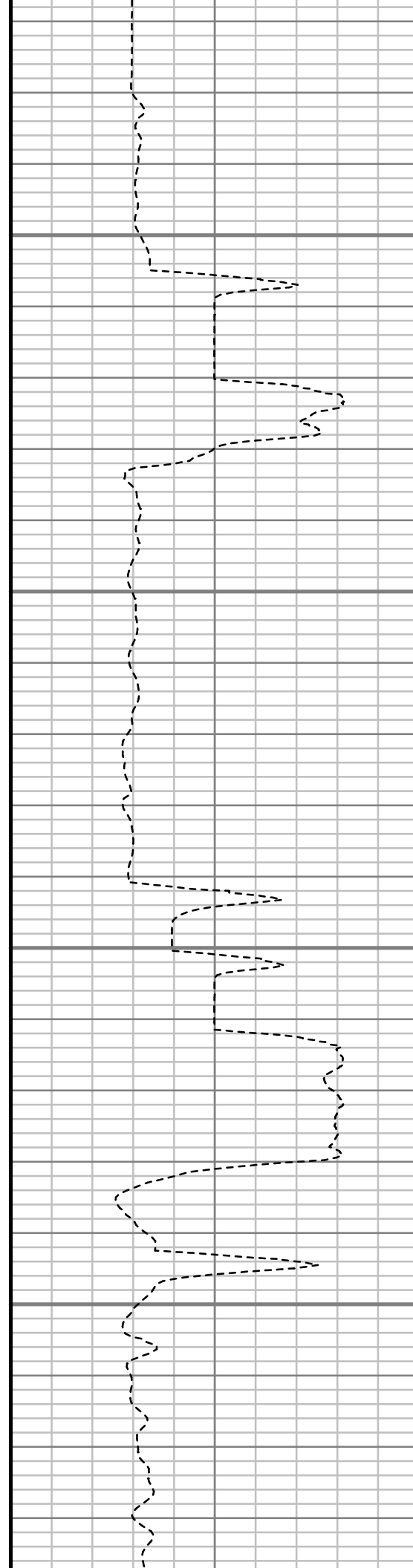
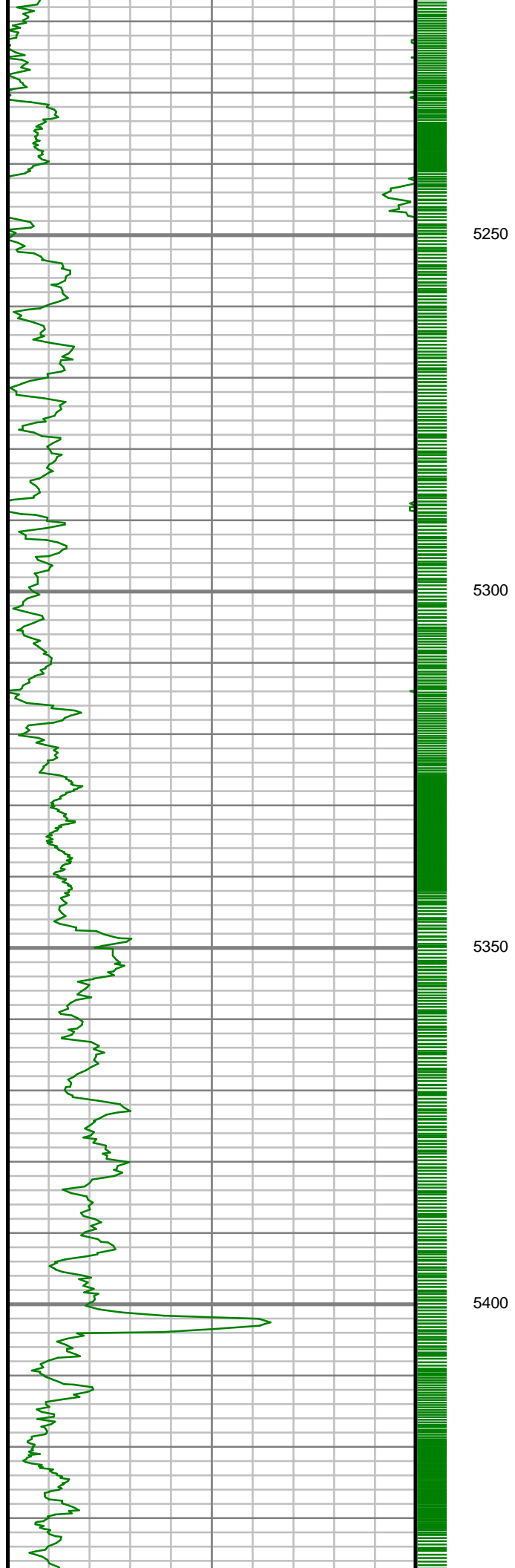
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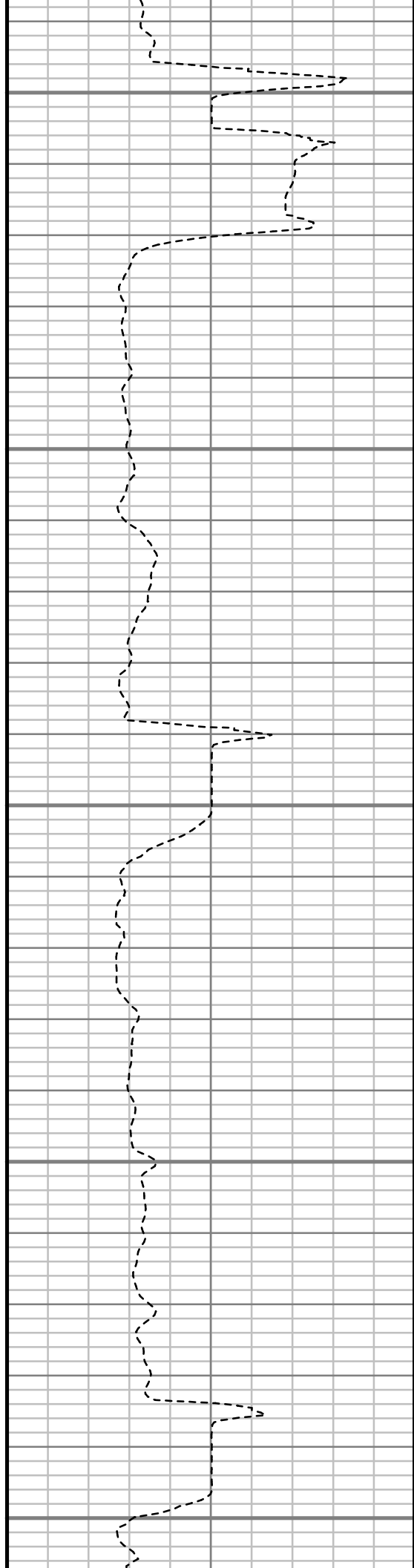
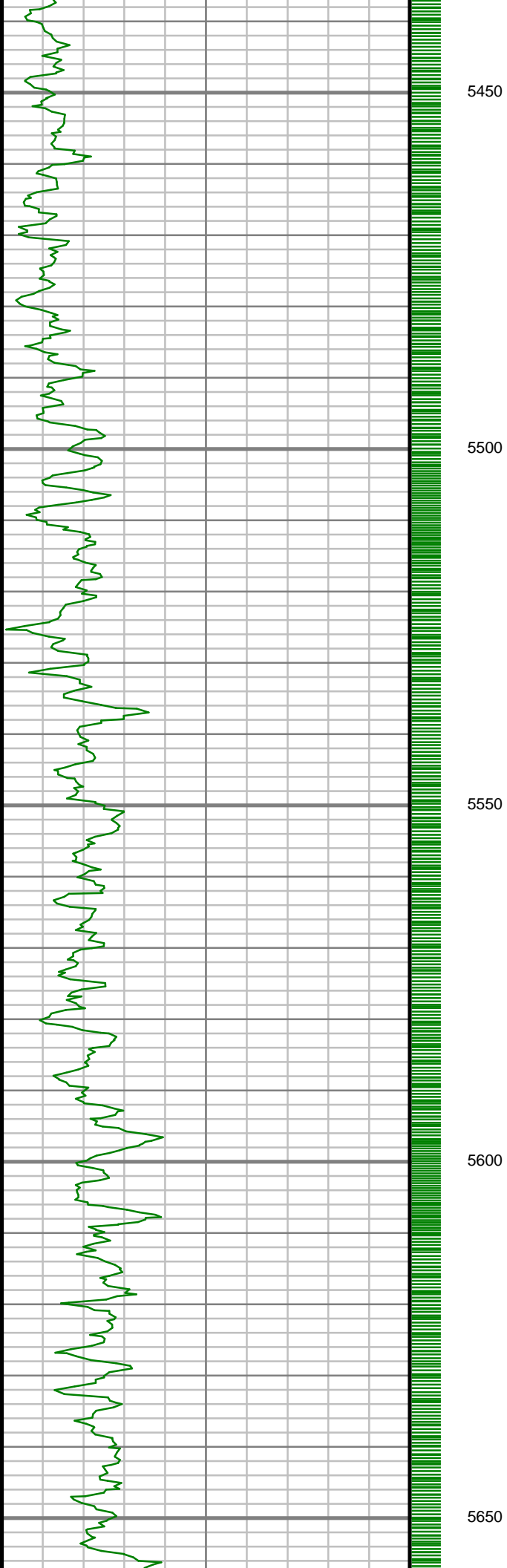
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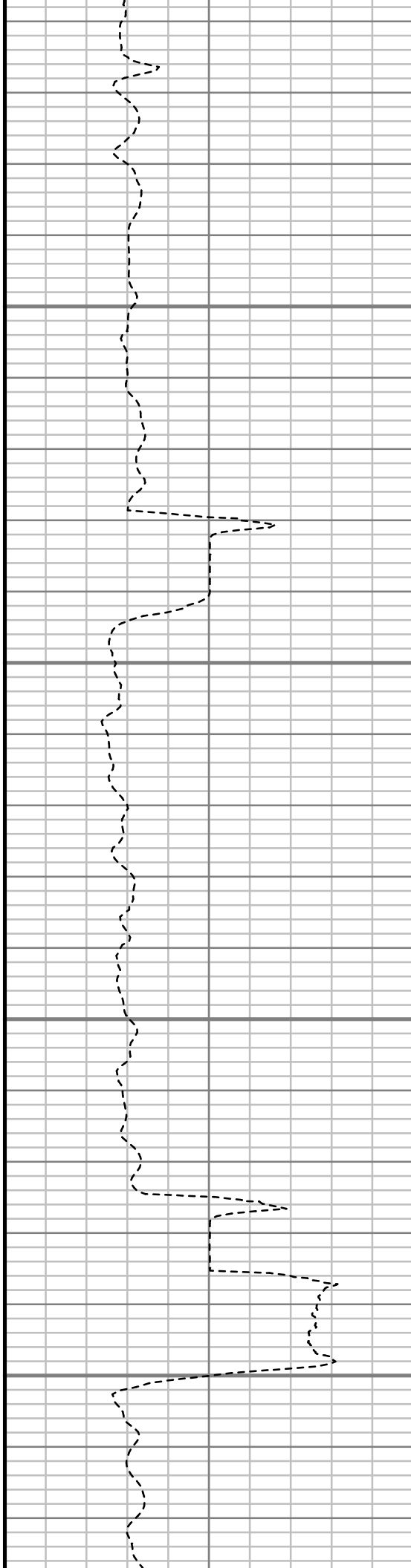
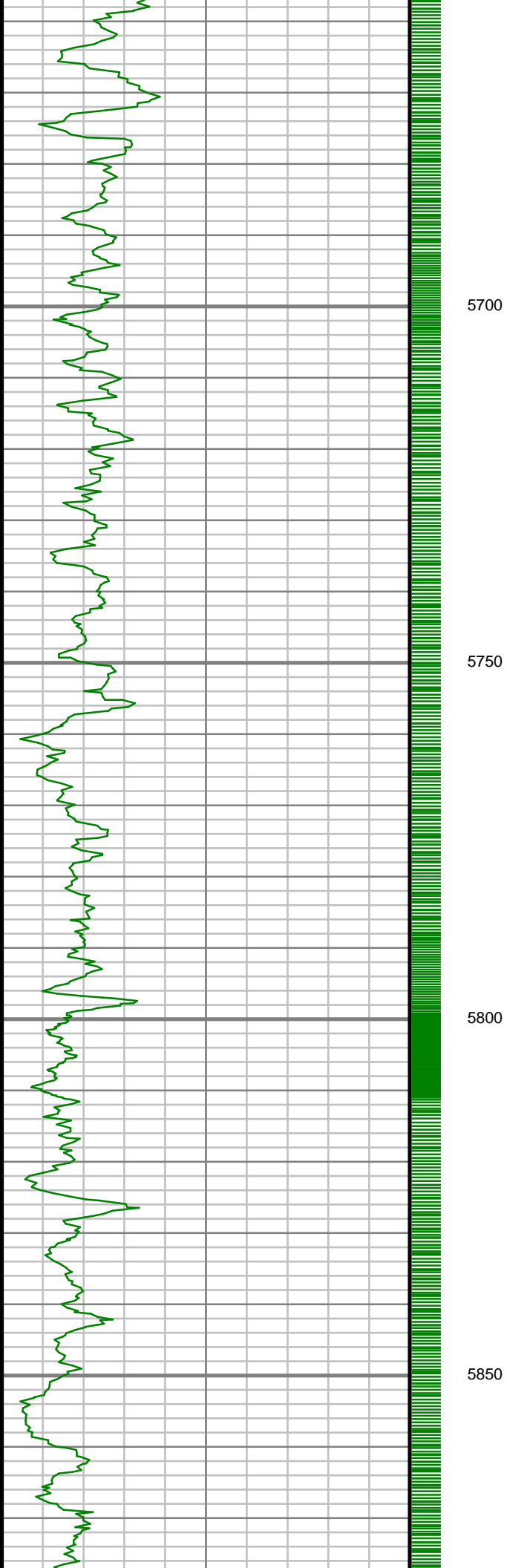


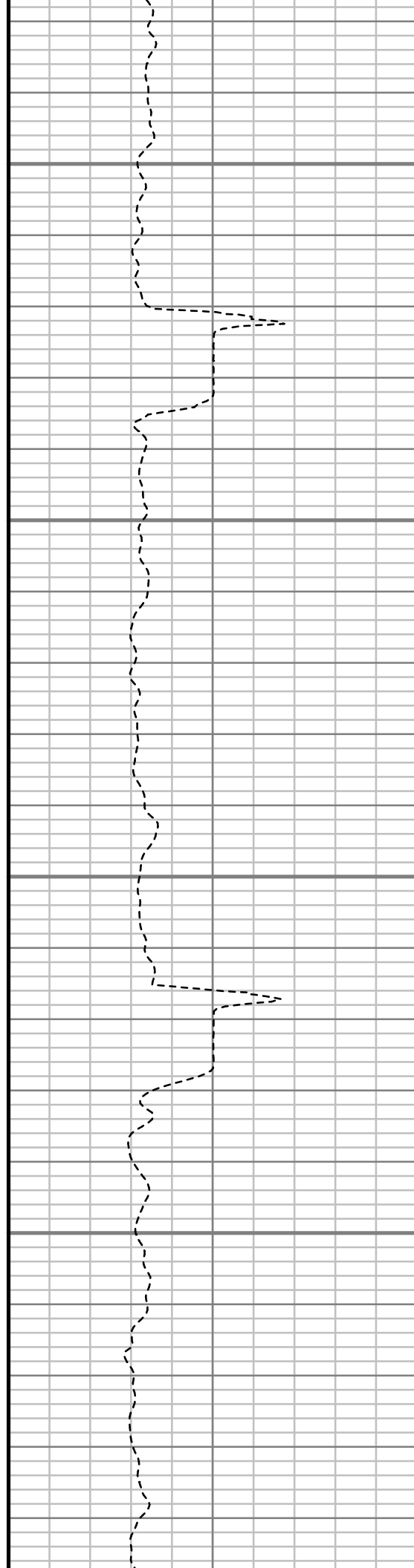
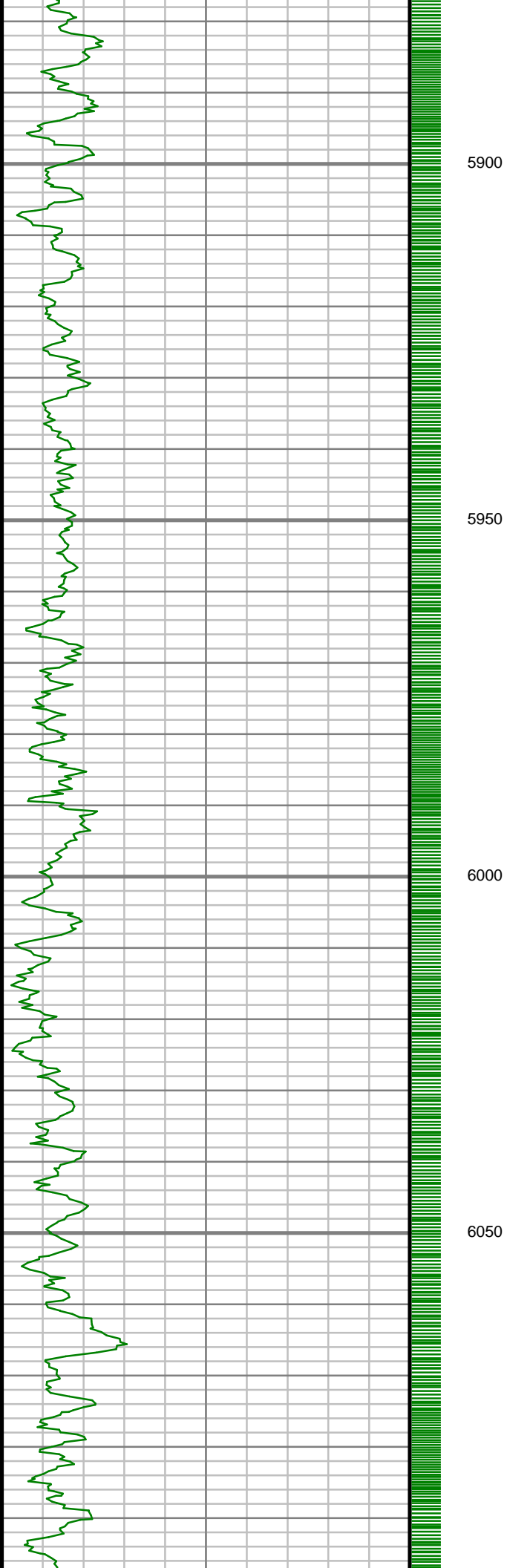




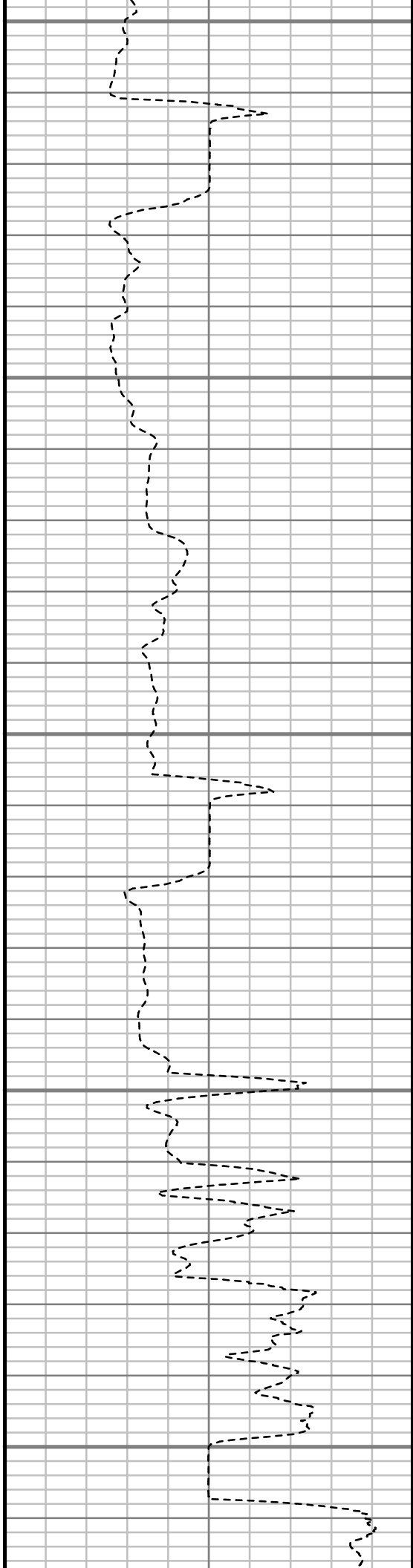
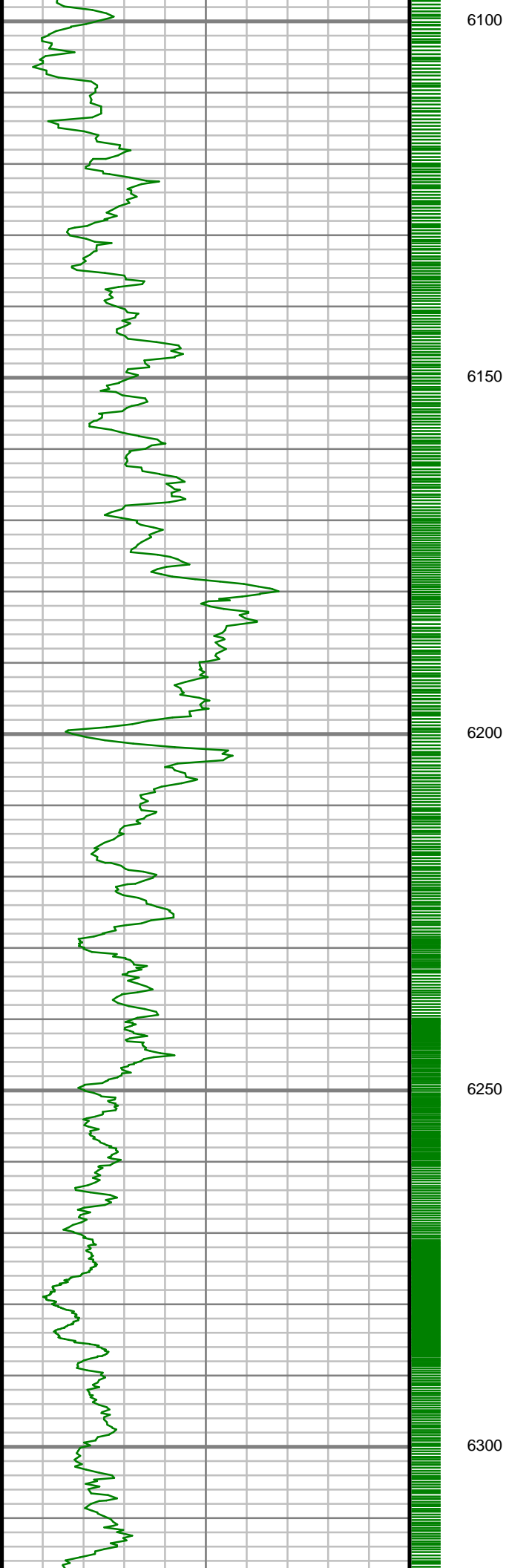


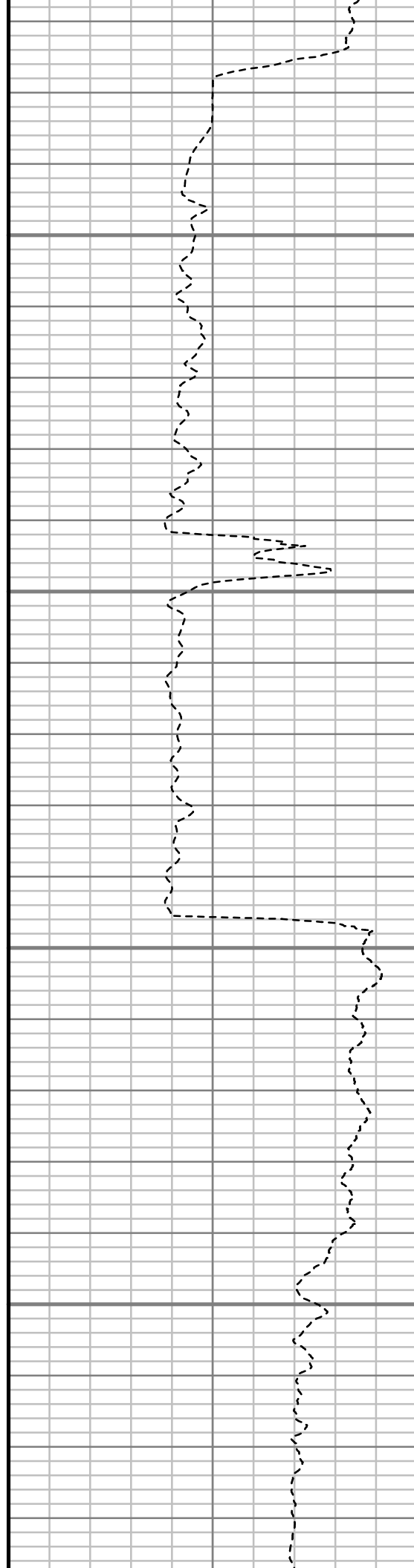
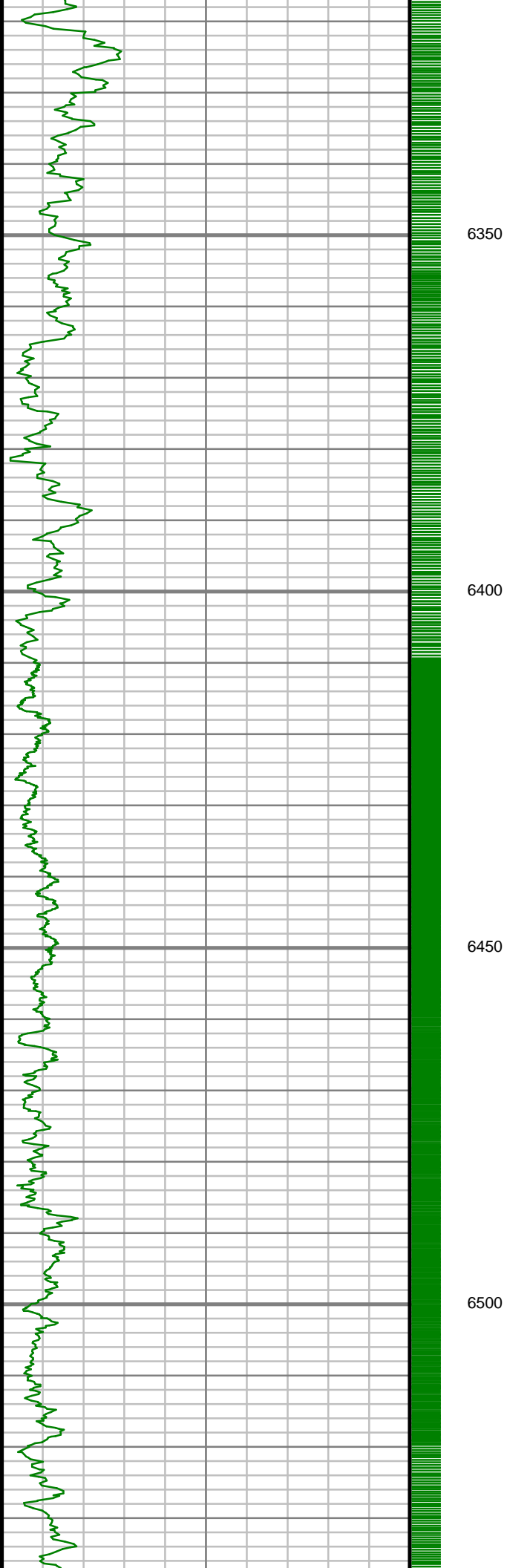


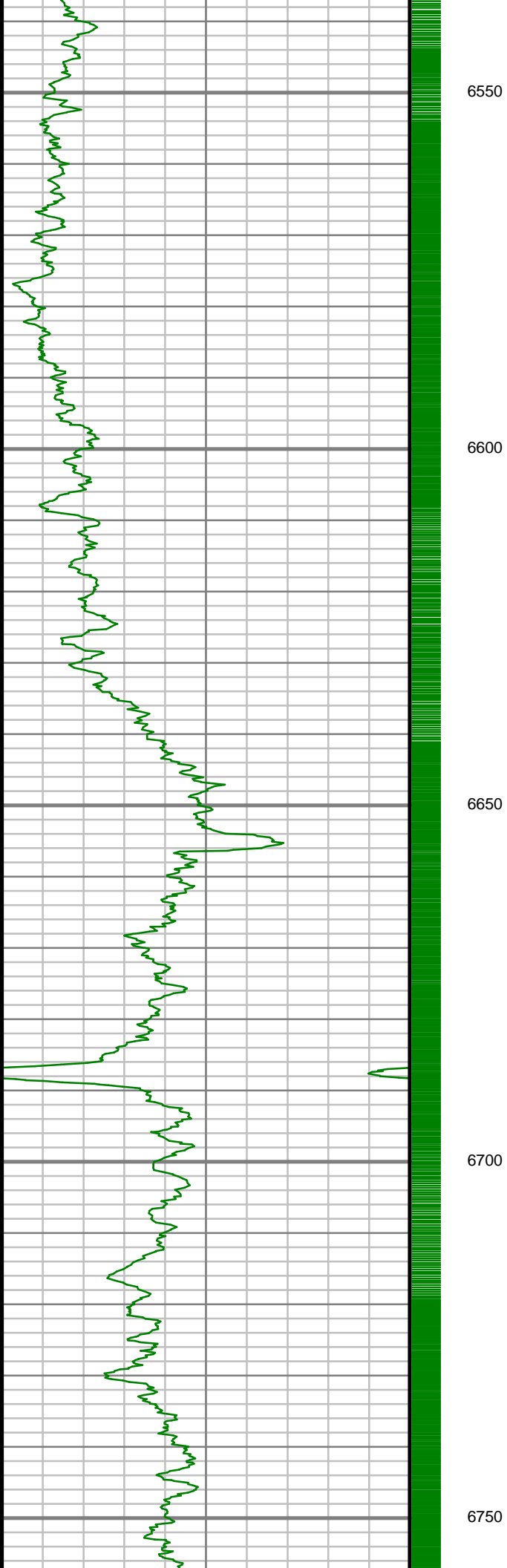


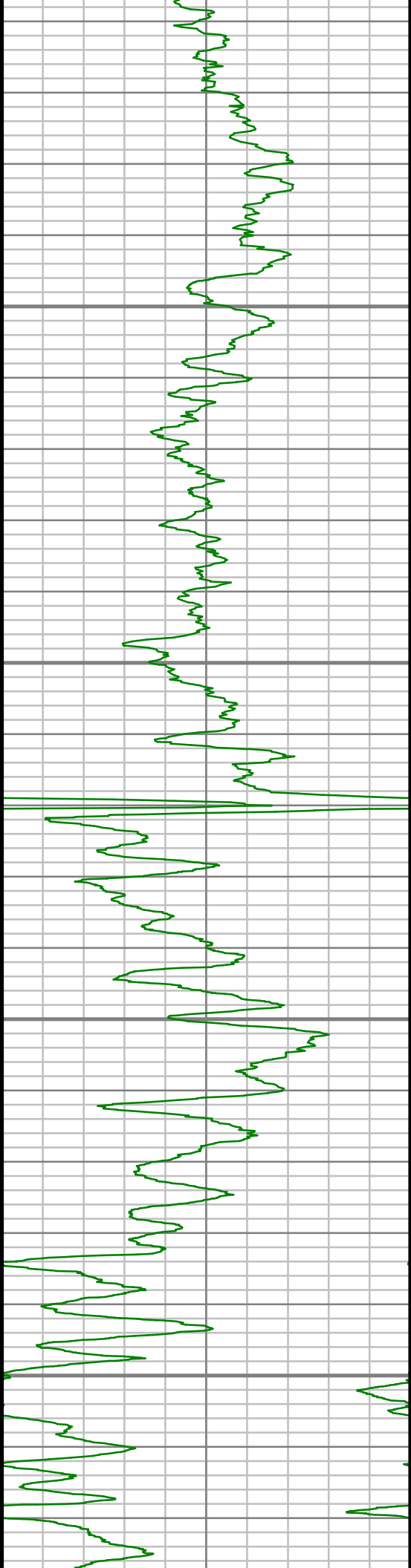










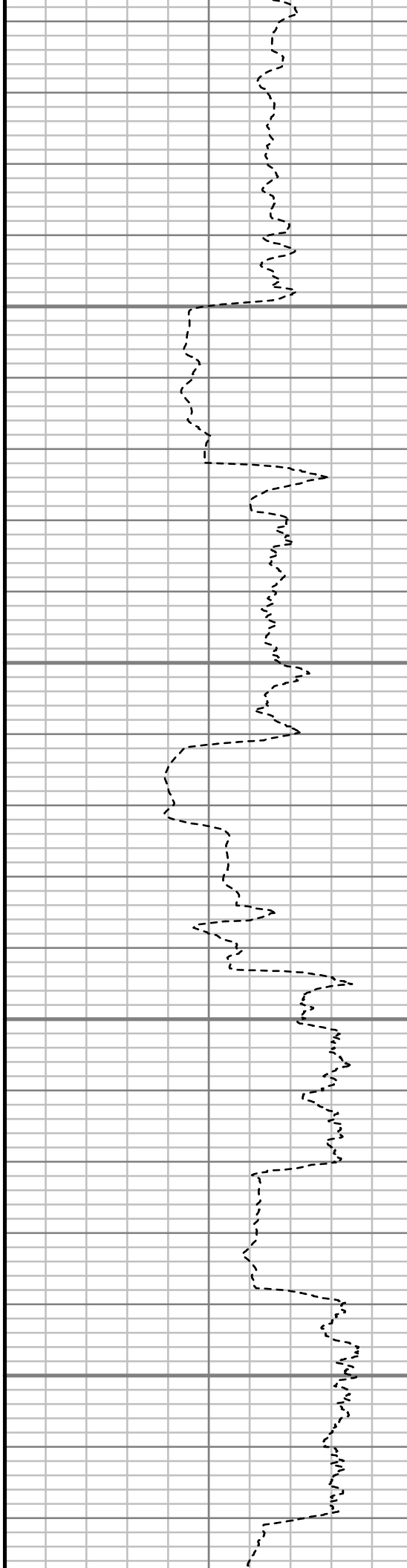


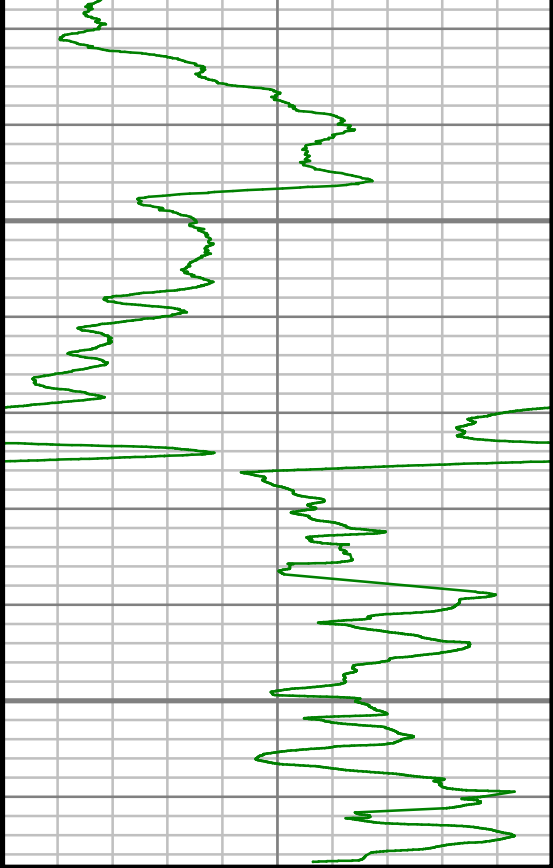
6800

6850

6900

6950





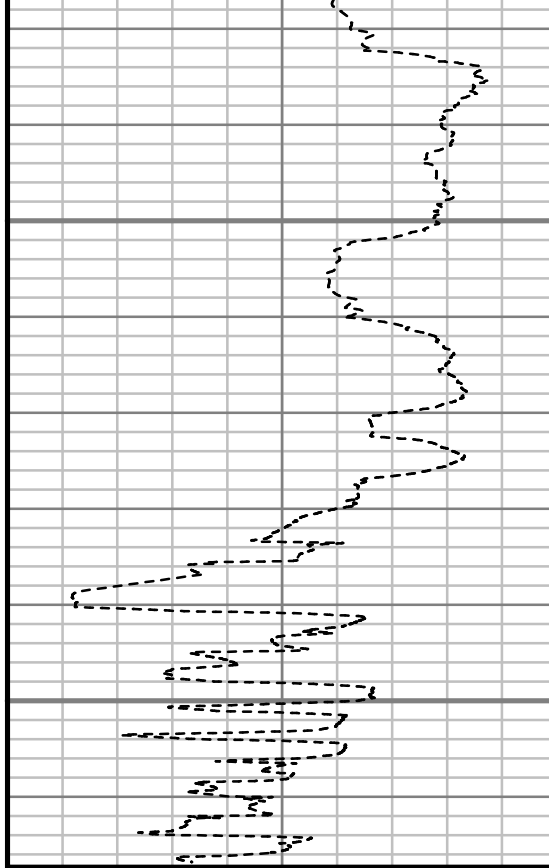
Gamma Ray (GR)

0 Unit = aapi 150

7000

7050

TRUE VERTICAL DEPTH  
1:240 (ft)



Rate of Penetration (ROP)

500 Unit = ft/hr 0

Comments

## MWD Survey Report

Well Location	RUHL
Well Name	RUHL 1D-32H-B264
Survey Date	12/11/2014
Latitude	40°6'5.180"N
Longitude	104°34'25.079"W
Btotal	52503, 52514 nT
Dip	66.71 deg
Magnetic Declination	8.36, 8.37 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), 180.00Azim (deg)
Operator(s)	C. WILSON, D. PADULA, S. WAXLER, T. LE

### Well Notes

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Distance	Closure Direction	Course Length	DLS
ft	deg	deg	ft	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	Invalid
245.00	2.35	62.54	244.93	-2.32	2.32	4.46	5.03	62.54	245.00	0.96
336.00	3.34	57.09	335.82	-4.62	4.62	8.34	9.53	61.03	91.00	1.12
427.00	2.52	49.47	426.70	-7.36	7.36	12.08	14.15	58.67	91.00	0.99
519.00	2.14	46.49	518.62	-9.85	9.85	14.87	17.83	56.47	92.00	0.44
608.00	1.81	42.83	607.57	-12.03	12.03	17.03	20.85	54.76	89.00	0.39
698.00	1.65	62.20	697.53	-13.68	13.68	19.14	23.53	54.45	90.00	0.67
789.00	2.91	63.43	788.46	-15.32	15.32	22.37	27.11	55.59	91.00	1.39
879.00	4.03	50.76	878.29	-18.35	18.35	26.86	32.53	55.67	90.00	1.50
970.00	3.96	57.15	969.07	-22.07	22.07	31.98	38.86	55.39	91.00	0.49
1060.00	4.83	53.04	1058.80	-26.04	26.04	37.62	45.75	55.31	90.00	1.03
1152.00	6.24	53.08	1150.37	-31.37	31.37	44.71	54.62	54.95	92.00	1.52
1267.00	6.23	53.54	1264.69	-38.83	38.83	54.72	67.09	54.64	115.00	0.04
1450.00	10.93	61.07	1445.60	-53.13	53.13	77.90	94.29	55.71	183.00	2.64
1631.00	11.28	58.38	1623.21	-70.70	70.70	107.99	129.07	56.79	181.00	0.34
1812.00	11.00	56.34	1800.81	-89.55	89.55	137.42	164.03	56.91	181.00	0.27
1993.00	9.40	48.68	1978.95	-108.88	108.88	162.90	195.94	56.24	181.00	1.15
2173.00	9.83	58.22	2156.43	-126.69	126.69	187.01	225.88	55.88	180.00	0.92
2357.00	10.31	54.95	2337.60	-144.42	144.42	213.84	258.04	55.97	184.00	0.41

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Distance	Closure Direction	Course Length	DLS
ft	deg	deg	ft	ft	ft	ft	ft	deg	ft	°/100ft
2540.00	9.51	53.12	2517.86	-162.90	162.90	239.34	289.52	55.76	183.00	0.47
2721.00	8.81	51.60	2696.55	-180.48	180.48	262.17	318.29	55.46	181.00	0.41
2902.00	9.21	59.10	2875.33	-196.53	196.53	285.46	346.57	55.45	181.00	0.69
3083.00	10.68	61.69	3053.60	-211.93	211.93	312.66	377.72	55.87	181.00	0.85
3266.00	9.69	61.98	3233.71	-227.21	227.21	341.20	409.93	56.34	183.00	0.54
3448.00	8.07	62.95	3413.53	-240.22	240.22	366.10	437.88	56.73	182.00	0.90
3628.00	7.62	60.25	3591.84	-251.88	251.88	387.71	462.35	56.99	180.00	0.32
3814.00	6.15	55.80	3776.50	-263.61	263.61	406.66	484.63	57.05	186.00	0.84
4003.00	3.06	55.96	3964.86	-272.13	272.13	419.23	499.80	57.01	189.00	1.64
4193.00	1.38	29.93	4154.72	-276.96	276.96	424.57	506.92	56.88	190.00	1.01
4382.00	0.72	44.63	4343.68	-279.79	279.79	426.55	510.13	56.74	189.00	0.37
4571.00	0.59	28.65	4532.67	-281.48	281.48	427.86	512.15	56.66	189.00	0.12
4761.00	1.48	81.69	4722.64	-282.69	282.69	430.76	515.24	56.72	190.00	0.64
4952.00	0.46	94.62	4913.61	-282.99	282.99	433.97	518.08	56.89	191.00	0.55
5141.00	1.45	348.40	5102.59	-285.27	285.27	434.24	519.56	56.70	189.00	0.86
5331.00	1.61	344.58	5292.52	-290.19	290.19	433.04	521.29	56.17	190.00	0.10
5521.00	0.86	171.58	5482.51	-291.37	291.37	432.54	521.52	56.04	190.00	1.30
5710.00	0.59	68.00	5671.50	-290.33	290.33	433.65	521.86	56.20	189.00	0.61

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Distance	Closure Direction	Course Length	DLS
ft	deg	deg	ft	ft	ft	ft	ft	deg	ft	°/100ft
5900.00	1.24	205.45	5861.48	-288.83	288.83	433.66	521.05	56.34	190.00	0.91
6090.00	0.20	98.62	6051.47	-286.92	286.92	433.11	519.53	56.48	190.00	0.69
6279.00	0.81	26.79	6240.46	-288.06	288.06	434.05	520.94	56.43	189.00	0.41
6469.00	0.46	120.18	6430.45	-288.88	288.88	435.30	522.44	56.43	190.00	0.50
6564.00	12.37	167.44	6524.70	-278.72	278.72	437.85	519.04	57.52	95.00	12.70
6659.00	20.78	176.56	6615.68	-251.91	251.91	441.08	507.95	60.27	95.00	9.25
6753.00	28.64	177.47	6701.01	-212.70	212.70	443.08	491.49	64.36	94.00	8.37
6848.00	38.82	179.69	6779.91	-160.03	160.03	444.25	472.19	70.19	95.00	10.79
6943.00	49.36	180.22	6848.06	-94.03	94.03	444.27	454.11	78.05	95.00	11.10
7037.00	53.39	179.22	6906.73	-20.61	20.61	444.65	445.13	87.35	94.00	4.37
7132.00	62.30	179.80	6957.23	59.73	-59.73	445.31	449.30	97.64	95.00	9.40
7227.00	72.31	182.22	6993.84	147.24	-147.24	443.70	467.50	108.36	95.00	10.79
7322.00	80.59	182.40	7016.08	239.44	-239.44	439.99	500.92	118.56	95.00	8.71
7377.00	84.46	180.03	7023.24	293.95	-293.95	438.84	528.19	123.82	55.00	8.22
7514.00	89.13	178.89	7030.90	430.69	-430.69	440.13	615.79	134.38	137.00	3.51
7605.00	88.32	179.30	7032.93	521.65	-521.65	441.56	683.45	139.75	91.00	0.99
7697.00	89.70	179.50	7034.52	613.63	-613.63	442.52	756.55	144.20	92.00	1.51
7791.00	90.10	180.08	7034.68	707.63	-707.63	442.87	834.79	147.96	94.00	0.75

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Distance	Closure Direction	Course Length	DLS
ft	deg	deg	ft	ft	ft	ft	ft	deg	ft	°/100ft
7886.00	89.26	180.31	7035.21	802.63	-802.63	442.55	916.55	151.13	95.00	0.92
7981.00	89.23	180.24	7036.47	897.62	-897.62	442.10	1000.58	153.78	95.00	0.08
8075.00	90.77	179.99	7036.47	991.61	-991.61	441.91	1085.63	155.98	94.00	1.66
8170.00	90.91	180.05	7035.08	1086.60	-1086.60	441.88	1173.02	157.87	95.00	0.16
8265.00	89.80	179.65	7034.49	1181.60	-1181.60	442.13	1261.61	159.49	95.00	1.24
8360.00	89.76	179.58	7034.86	1276.60	-1276.60	442.77	1351.20	160.87	95.00	0.08
8454.00	89.93	179.11	7035.10	1370.59	-1370.59	443.85	1440.67	162.06	94.00	0.54
8549.00	90.20	178.47	7034.99	1465.57	-1465.57	445.86	1531.89	163.08	95.00	0.73
8643.00	90.87	179.42	7034.11	1559.55	-1559.55	447.60	1622.51	163.99	94.00	1.24
8738.00	90.17	179.70	7033.25	1654.54	-1654.54	448.33	1714.21	164.84	95.00	0.80
8832.00	88.05	180.48	7034.71	1748.52	-1748.52	448.19	1805.05	165.62	94.00	2.40
8927.00	87.28	182.19	7038.58	1843.41	-1843.41	445.98	1896.59	166.40	95.00	1.97
9022.00	88.39	182.99	7042.17	1938.25	-1938.25	441.69	1987.94	167.16	95.00	1.44
9116.00	89.46	182.72	7043.93	2032.11	-2032.11	437.01	2078.57	167.86	94.00	1.18
9211.00	87.79	184.39	7046.21	2126.90	-2126.90	431.13	2170.15	168.54	95.00	2.49
9306.00	88.06	183.57	7049.66	2221.60	-2221.60	424.54	2261.80	169.18	95.00	0.90
9401.00	88.32	182.19	7052.66	2316.43	-2316.43	419.77	2354.16	169.73	95.00	1.48
9495.00	88.15	181.62	7055.55	2410.34	-2410.34	416.65	2446.08	170.19	94.00	0.63

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Distance	Closure Direction	Course Length	DLS
ft	deg	deg	ft	ft	ft	ft	ft	deg	ft	°/100ft
9590.00	89.50	180.91	7057.50	2505.29	-2505.29	414.55	2539.36	170.60	95.00	1.60
9685.00	88.96	181.90	7058.78	2600.25	-2600.25	412.23	2632.72	170.99	95.00	1.18
9780.00	90.34	180.73	7059.37	2695.22	-2695.22	410.05	2726.24	171.35	95.00	1.90
9874.00	90.03	180.05	7059.06	2789.22	-2789.22	409.42	2819.11	171.65	94.00	0.79
9969.00	88.93	178.15	7059.93	2884.20	-2884.20	410.91	2913.32	171.89	95.00	2.31
10064.00	89.77	178.92	7061.01	2979.16	-2979.16	413.34	3007.70	172.10	95.00	1.19
10159.00	90.03	179.01	7061.18	3074.14	-3074.14	415.06	3102.04	172.31	95.00	0.30
10254.00	89.46	178.60	7061.59	3169.12	-3169.12	417.04	3196.44	172.50	95.00	0.74
10348.00	88.52	178.65	7063.25	3263.08	-3263.08	419.30	3289.91	172.68	94.00	1.01
10443.00	89.03	179.60	7065.28	3358.04	-3358.04	420.75	3384.30	172.86	95.00	1.13
10538.00	90.54	179.45	7065.65	3453.04	-3453.04	421.54	3478.67	173.04	95.00	1.60
10632.00	88.92	178.18	7066.09	3547.01	-3547.01	423.48	3572.20	173.19	94.00	2.18
10728.00	90.37	178.65	7066.68	3642.97	-3642.97	426.14	3667.81	173.33	96.00	1.58
10822.00	91.14	179.43	7065.44	3736.95	-3736.95	427.71	3761.34	173.47	94.00	1.17
10917.00	91.61	179.15	7063.16	3831.91	-3831.91	428.88	3855.84	173.61	95.00	0.58
11012.00	90.10	179.61	7061.74	3926.89	-3926.89	429.91	3950.35	173.75	95.00	1.66
11107.00	89.40	179.27	7062.15	4021.89	-4021.89	430.84	4044.90	173.89	95.00	0.82
11201.00	90.00	179.51	7062.65	4115.88	-4115.88	431.84	4138.47	174.01	94.00	0.69



MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Distance	Closure Direction	Course Length	DLS
ft	deg	deg	ft	ft	ft	ft	ft	deg	ft	°/100ft
11296.00	89.60	179.89	7062.98	4210.88	-4210.88	432.33	4233.01	174.14	95.00	0.59
11391.00	91.27	181.01	7062.26	4305.87	-4305.87	431.59	4327.44	174.28	95.00	2.12
11485.00	92.12	180.44	7059.48	4399.82	-4399.82	430.40	4420.82	174.41	94.00	1.08
11555.00	91.71	180.17	7057.14	4469.78	-4469.78	430.02	4490.41	174.50	70.00	0.69

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

5" = 100' FEET TVD