

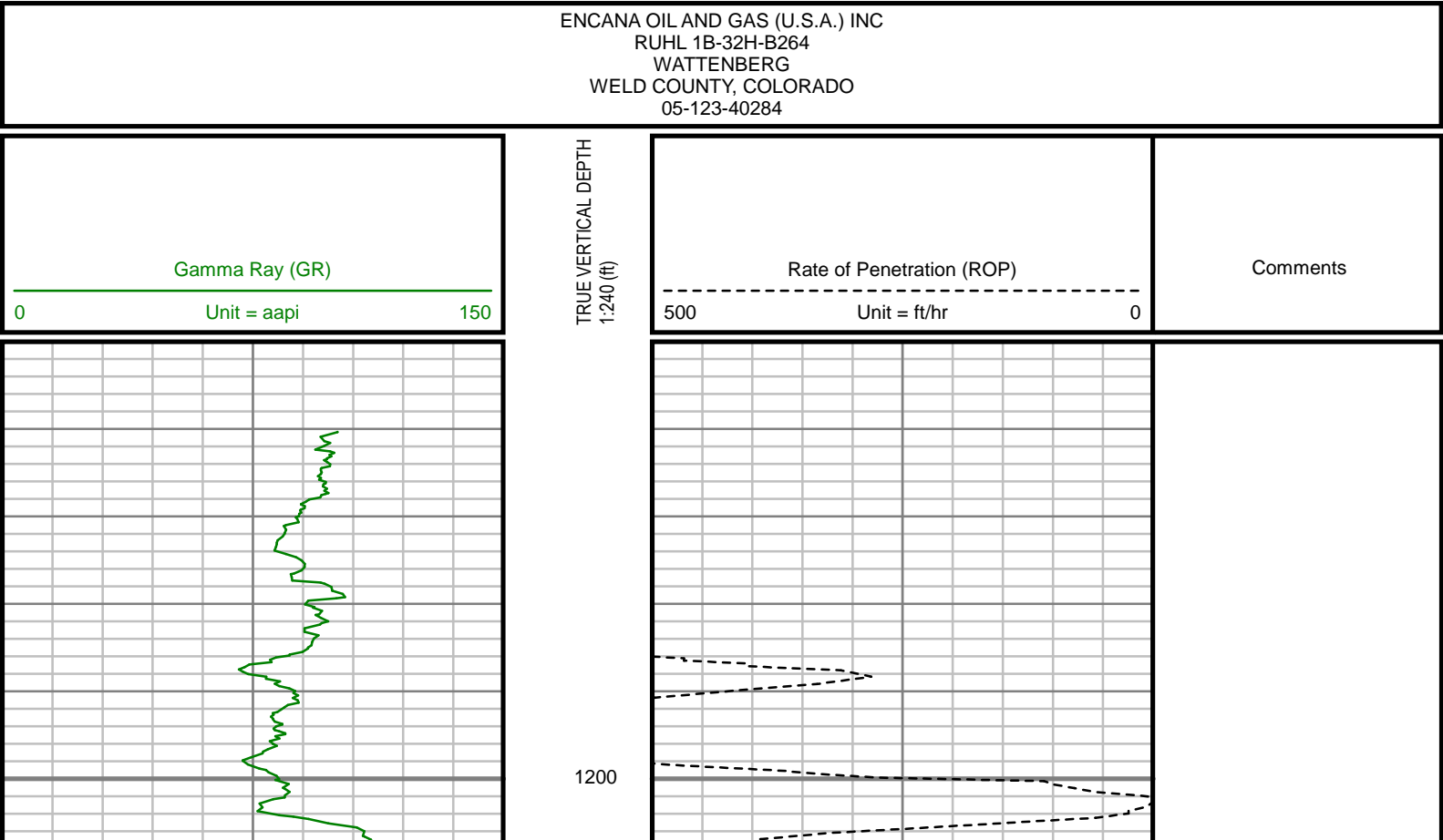
5" = 100' FEET TVD

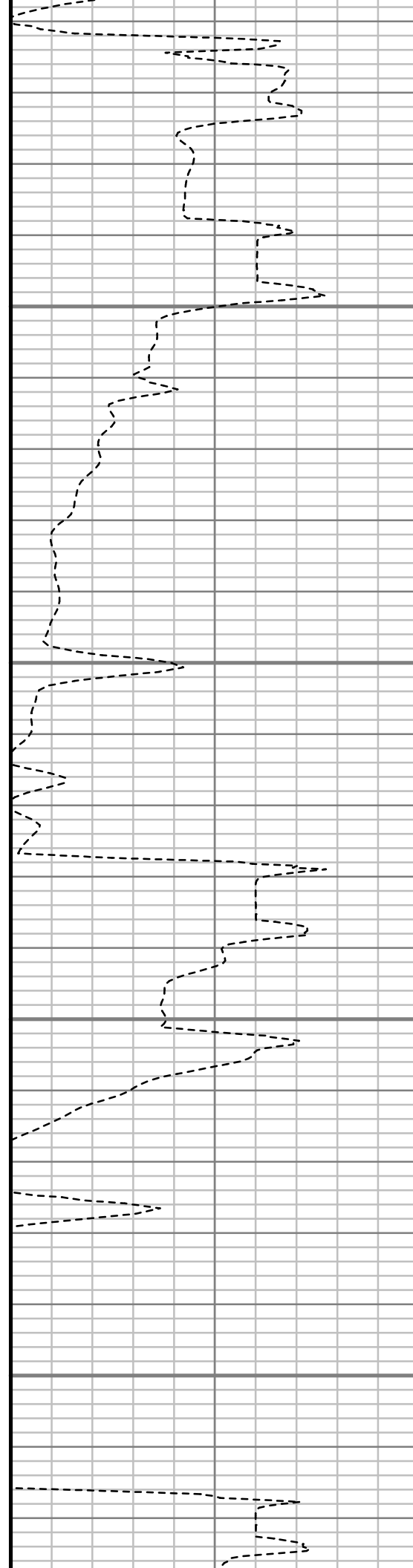
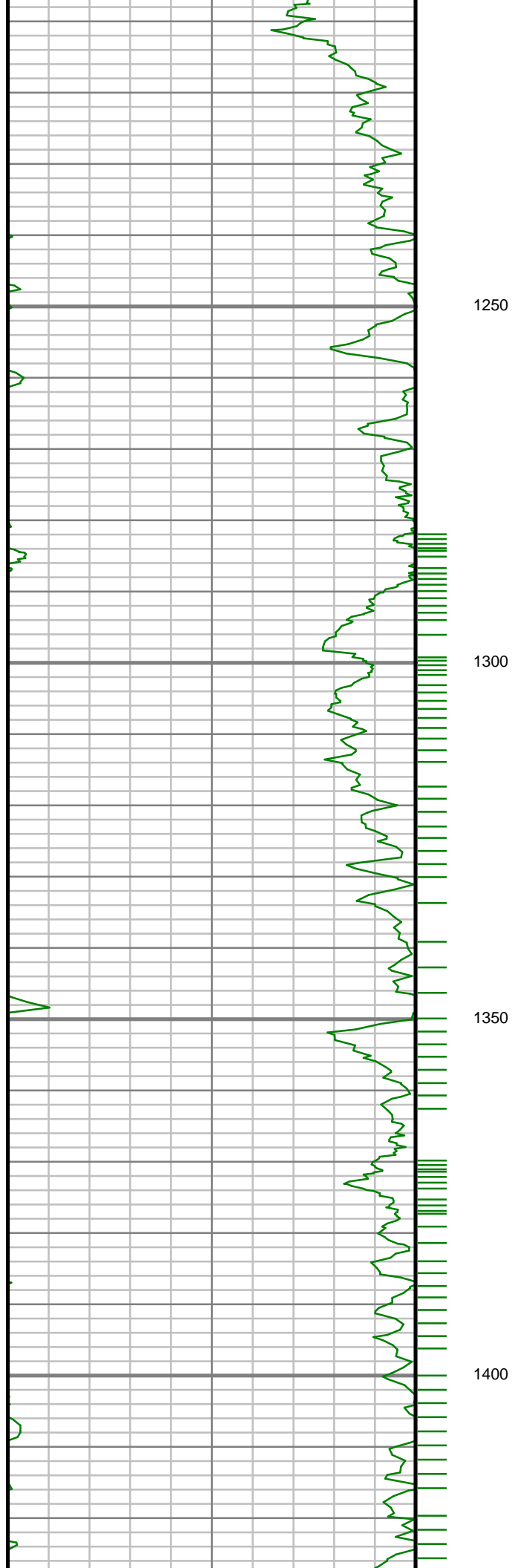
COMPANY : ENCANA OIL AND GAS (U.S.A.) INC WELL : RUHL 1B-32H-B264 FIELD : WATTENBERG COUNTY : WELD STATE : COLORADO COUNTRY : U.S.A. UWI : 05-123-40284										COMPANY : ENCANA OIL AND GAS (U.S.A.) INC WELL : RUHL 1B-32H-B264 FIELD : WATTENBERG COUNTY : WELD STATE : COLORADO COUNTRY : U.S.A. UWI : 05-123-40284									
DEPTH REF. : RKB REF. HEIGHT : 25.000 ft GROUND LEVEL : 4979.000 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		1223		0 - 12		0		1459									
8.75		1223		7408		12 - 0		1459		6241									
6.125		7408		11443		0 - 79		6241		7284									
						79 - 93		7284		11443									
CASING RECORD																			
CASING SIZE in		FROM ft		TO ft															
16		0		149															
9.625		0		1217															
7		0		7394															
										DRILLING CO. : H&P RIG : 278 LWD UNIT NO. : MWD-00046-DISTRICT : CASPER, CASPER SPUD DATE : 12/09/2014 LWD START DATE : 01/22/2015 LWD END DATE : 01/27/2015 DEPTH : 1223 ft DEPTH : 11443 ft TOTAL DEPTH : 11443 ft									

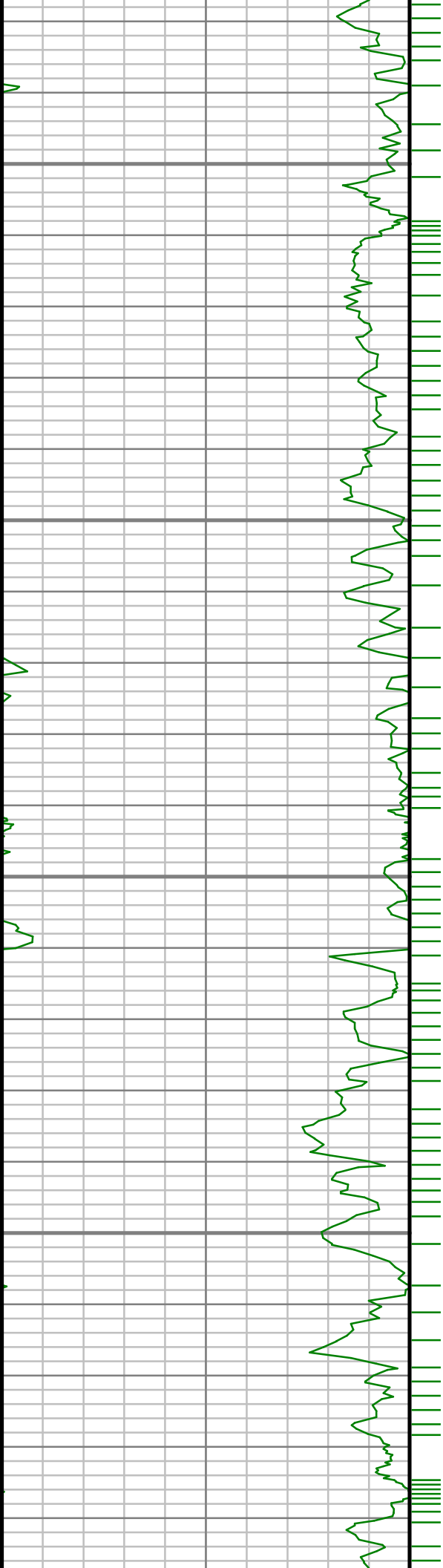
Run Data						
RUN NUMBER	1	2	3			
START DATE	12/09/2014	01/22/2015	01/24/2015			
START TIME	0000	0000	1220			
END DATE	12/10/2014	01/24/2015	01/27/2015			
END TIME	1800	1220	2300			
DEPTH IN (ft)	149	1223	7408			
DEPTH OUT (ft)	1223	7408	11443			
LOG TOP (ft)	-	5000	7355			
LOG BOTTOM (ft)	-	7355	11390			
HOLE SIZE (in)	12.25	8.75	6.125			
MUD DATA @ (ft)	1027	7360	10603			
MUD TYPE	WATER-BASED	WATER-BASED	WATER-BASED			
DENSITY (lb / gal)	9.6	10.75	11.25			
VISCOSITY (s / qt)	40	38	38			
pH	7.7	7.65	8.4			
FLUID LOSS (cm3 / 30)	-	-	-			
SALINITY (ppm)	-	-	-			
Rm (ohmm @ deg F)	-	-	-			
Rmf (ohmm @ deg F)	-	-	-			
MAX TEMP (deg F)	99	169	230			
Rm @ MAX TEMP (ohmm)	-	-	-			
LWD ENGINEER #1	S. WAXLER	S. WAXLER	S. WAXLER			
LWD ENGINEER #2	J. GREGORY	J. GREGORY	J. GREGORY			
LWD ENGINEER #3	D. PADULA	D. PADULA	D. PADULA			
LOG WITNESS #1	-	-	-			
LOG WITNESS #2	-	-	-			

Remarks
ENCANA OIL AND GAS (U.S.A.) INC PRODUCTION AFE# 13179006
SCIENTIFIC DRILLING INTERNATIONAL JOB# 232793, 248161
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 LOGGING RUN
SENSORS S/N: PULSER = 128-405 / CONT = 858 / MWD EYE = 0645 / GAMMA RAY = 1271
BIT TO SENSOR OFFSETS: SURVEY = 62.08 FT. / GAMMA RAY = 53.43 FT.
RUN #3 : MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 78-070 / CONT = 882 / MWD EYE = 0797 / GAMMA RAY = 1194
BIT TO SENSOR OFFSETS: SURVEY = 61.06 FT. / GAMMA RAY = 52.41 FT.
REMARK #1 : GAMMA RAY FROM 7355 FT. - 7407 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.





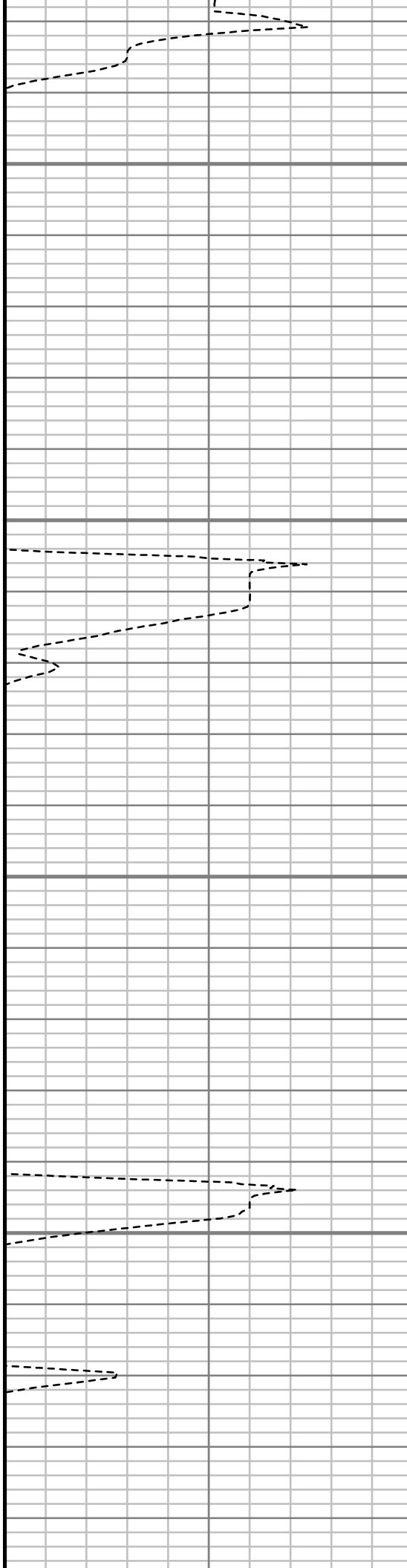


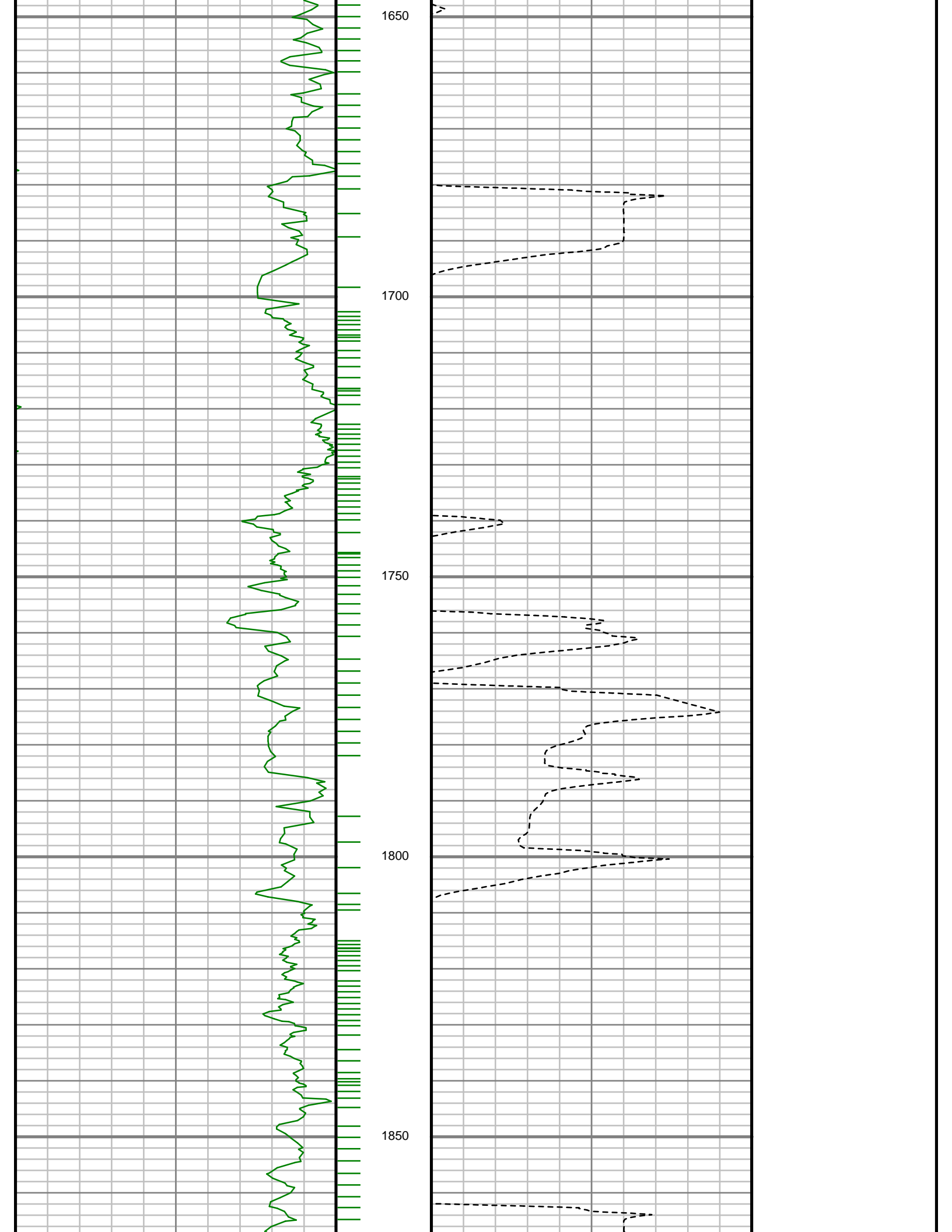
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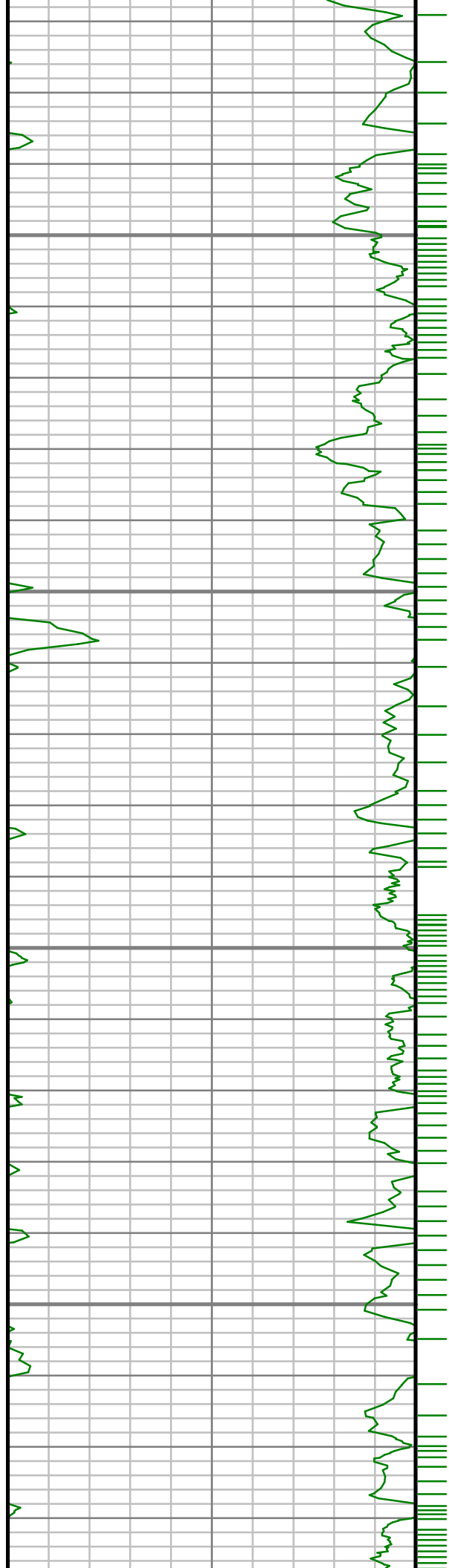
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1600





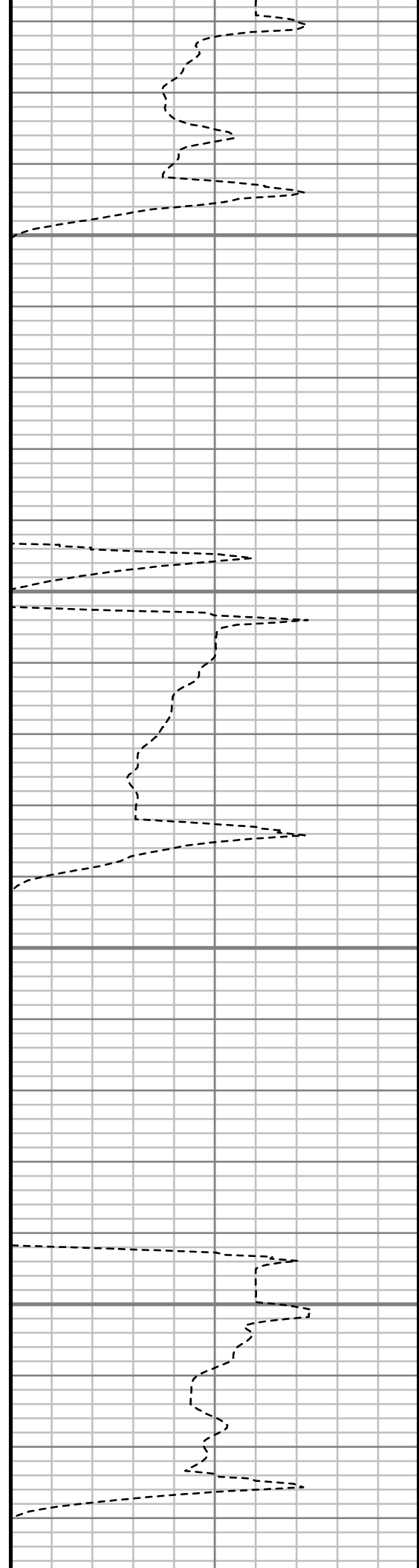


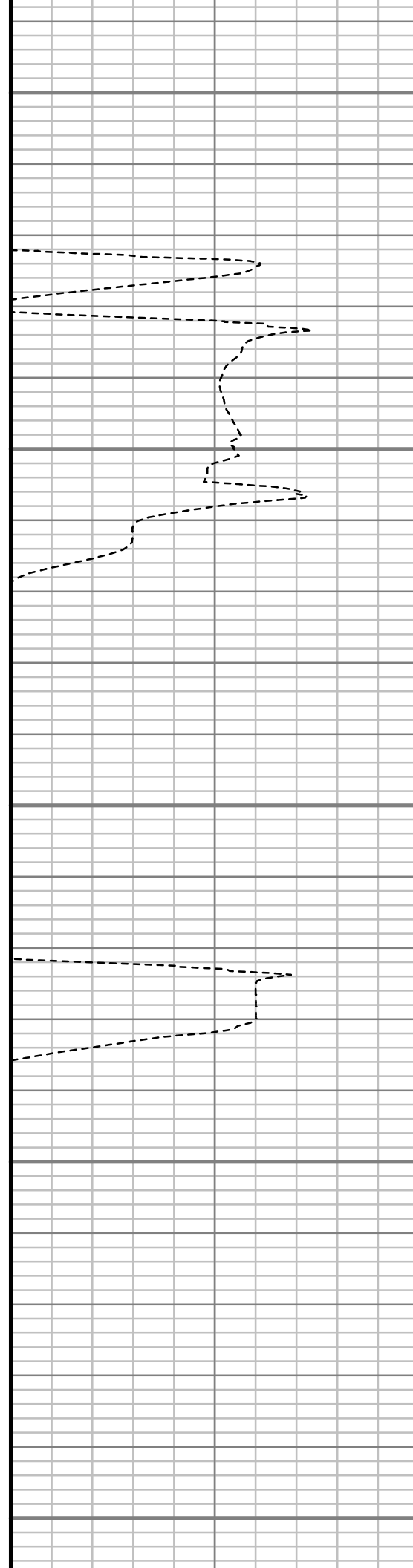
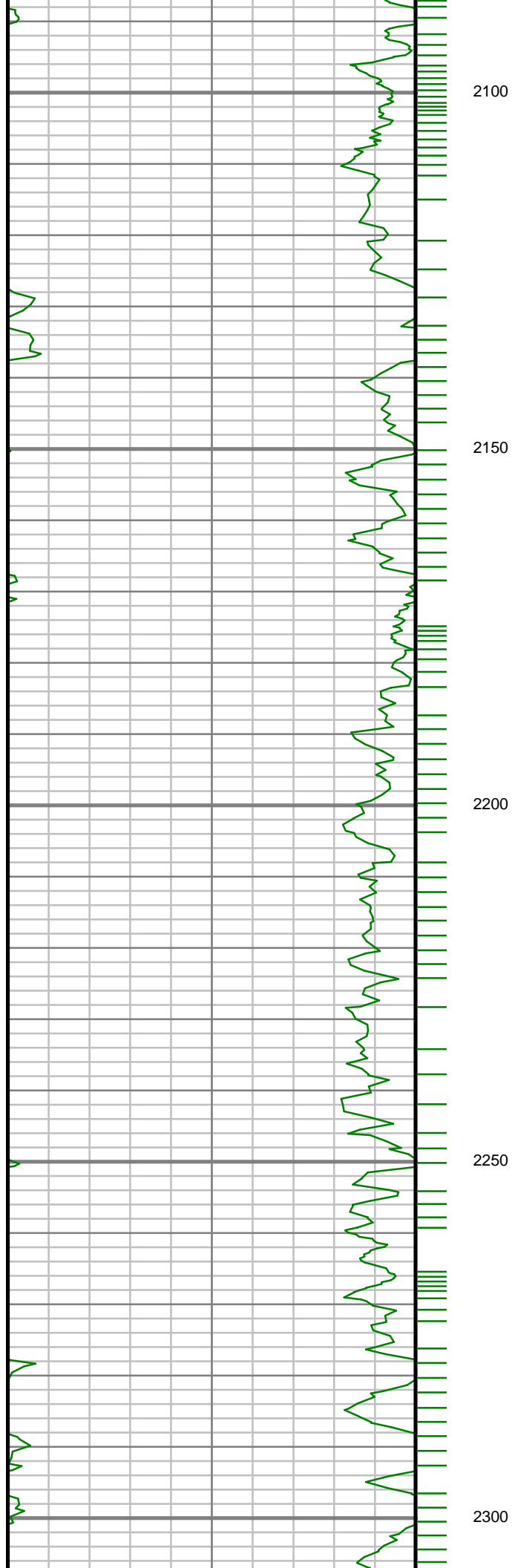
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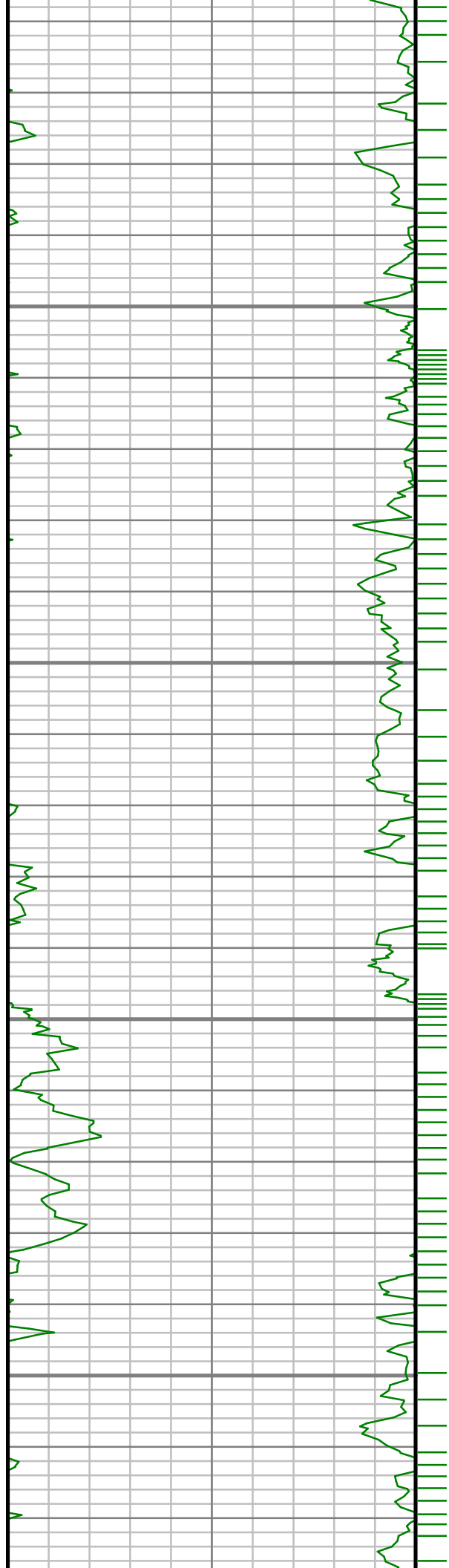
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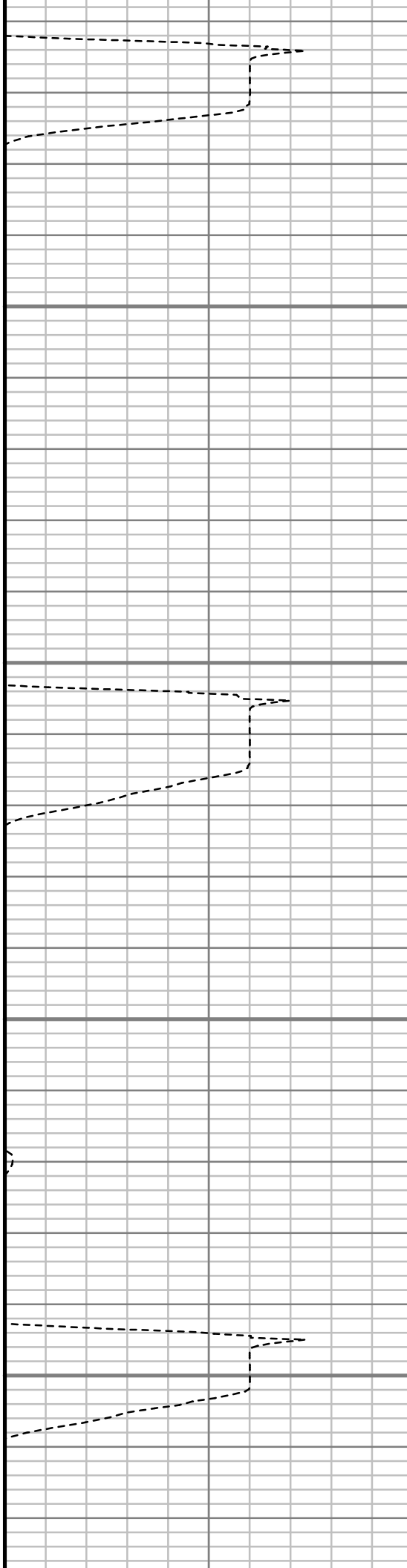


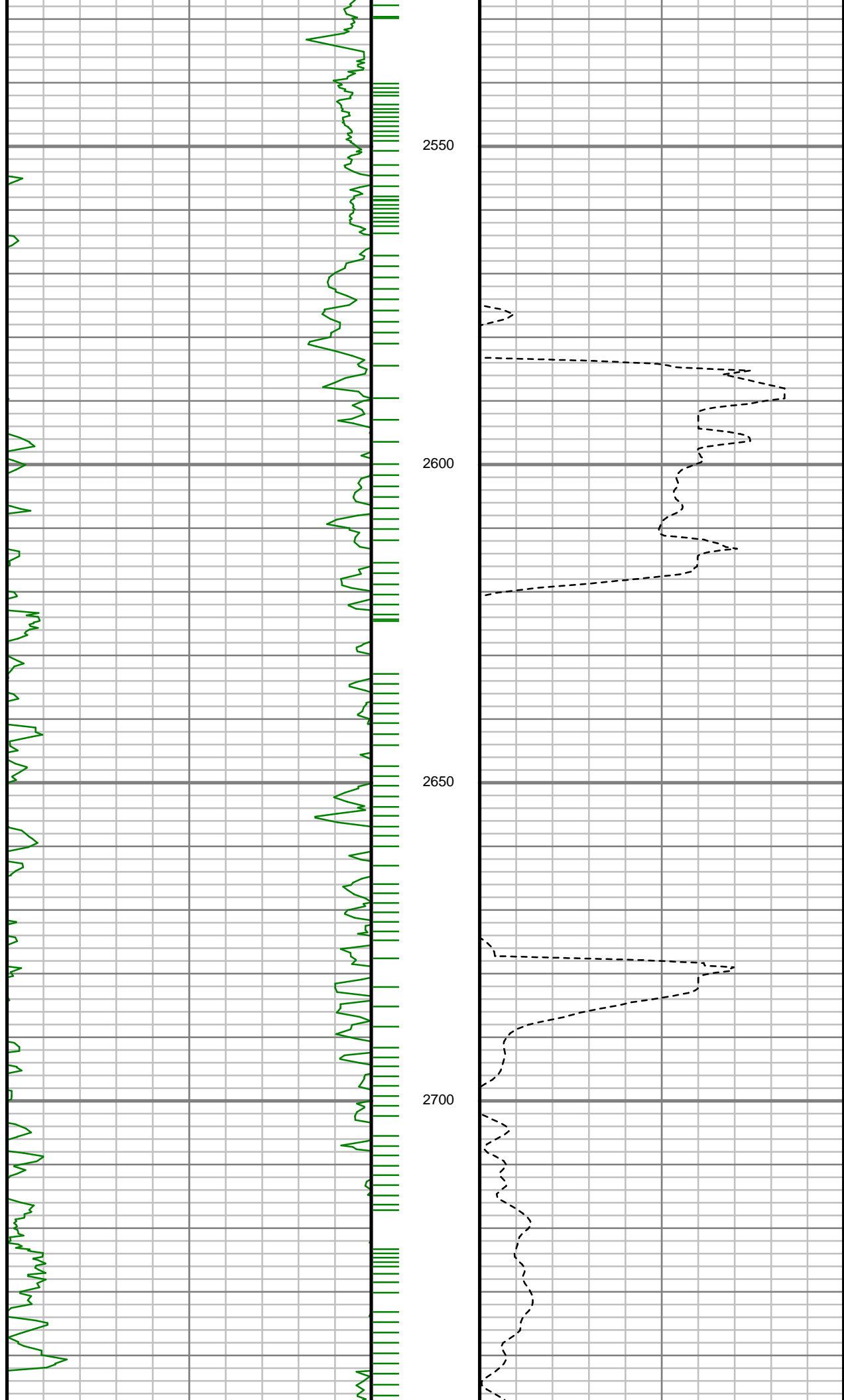
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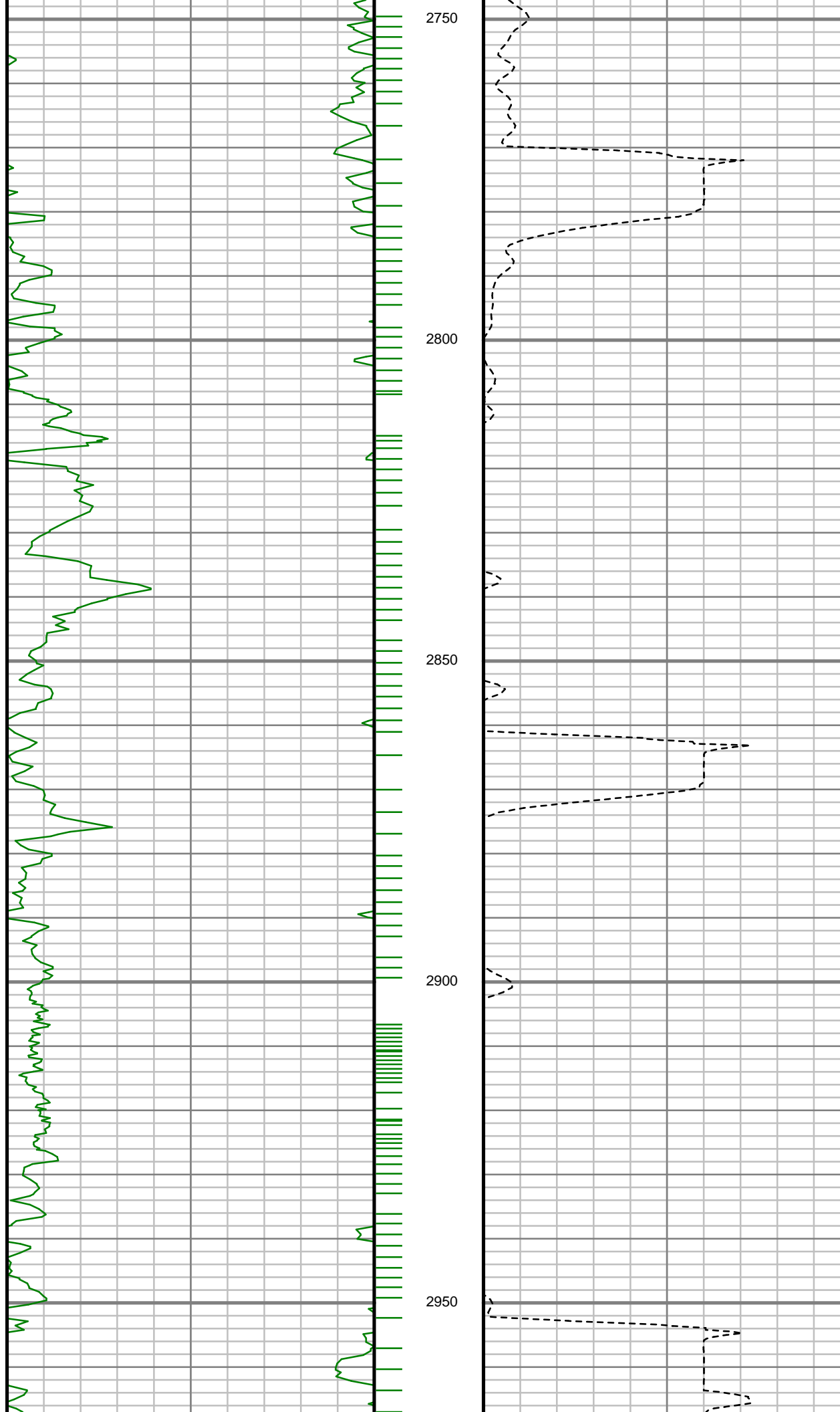
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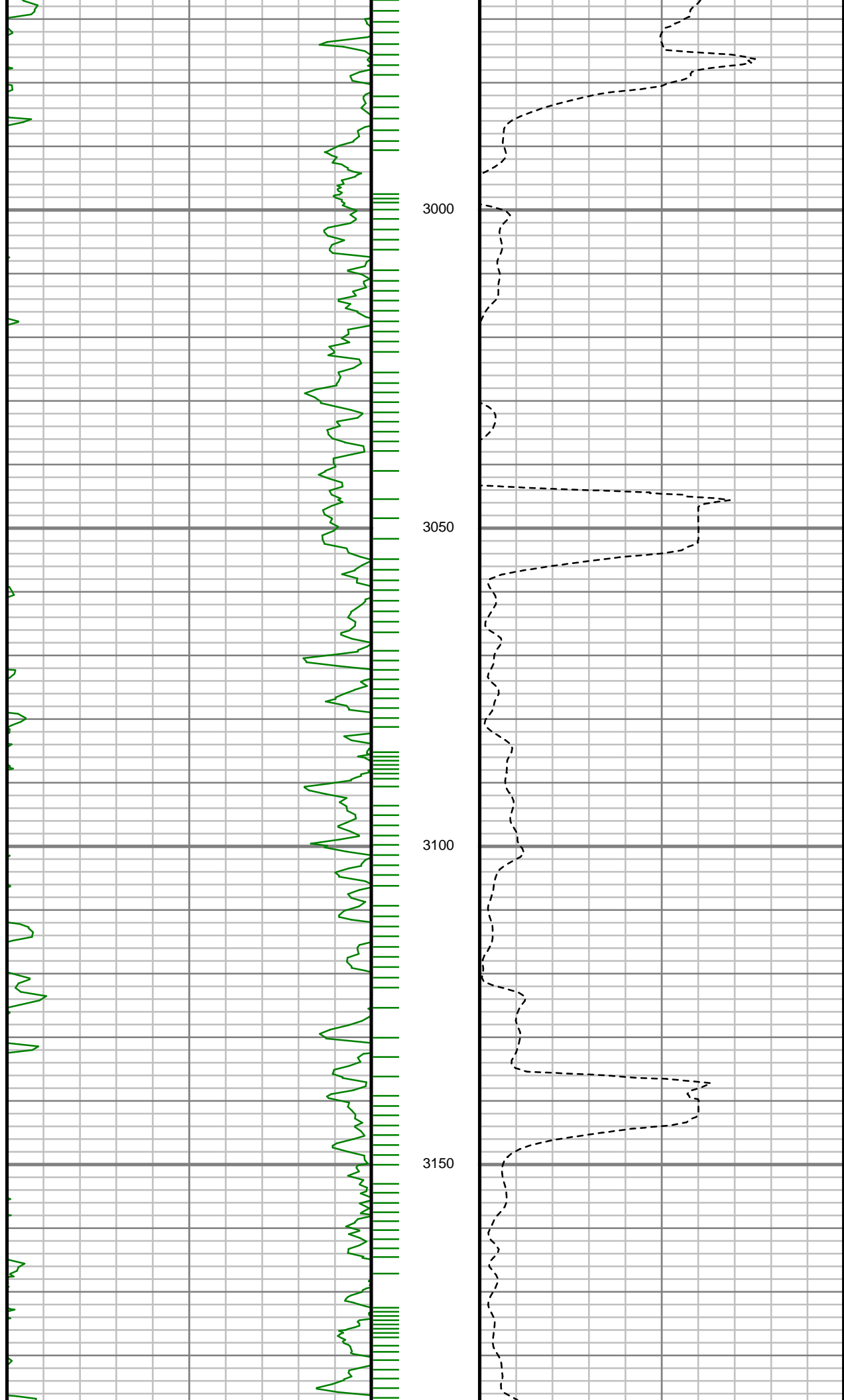
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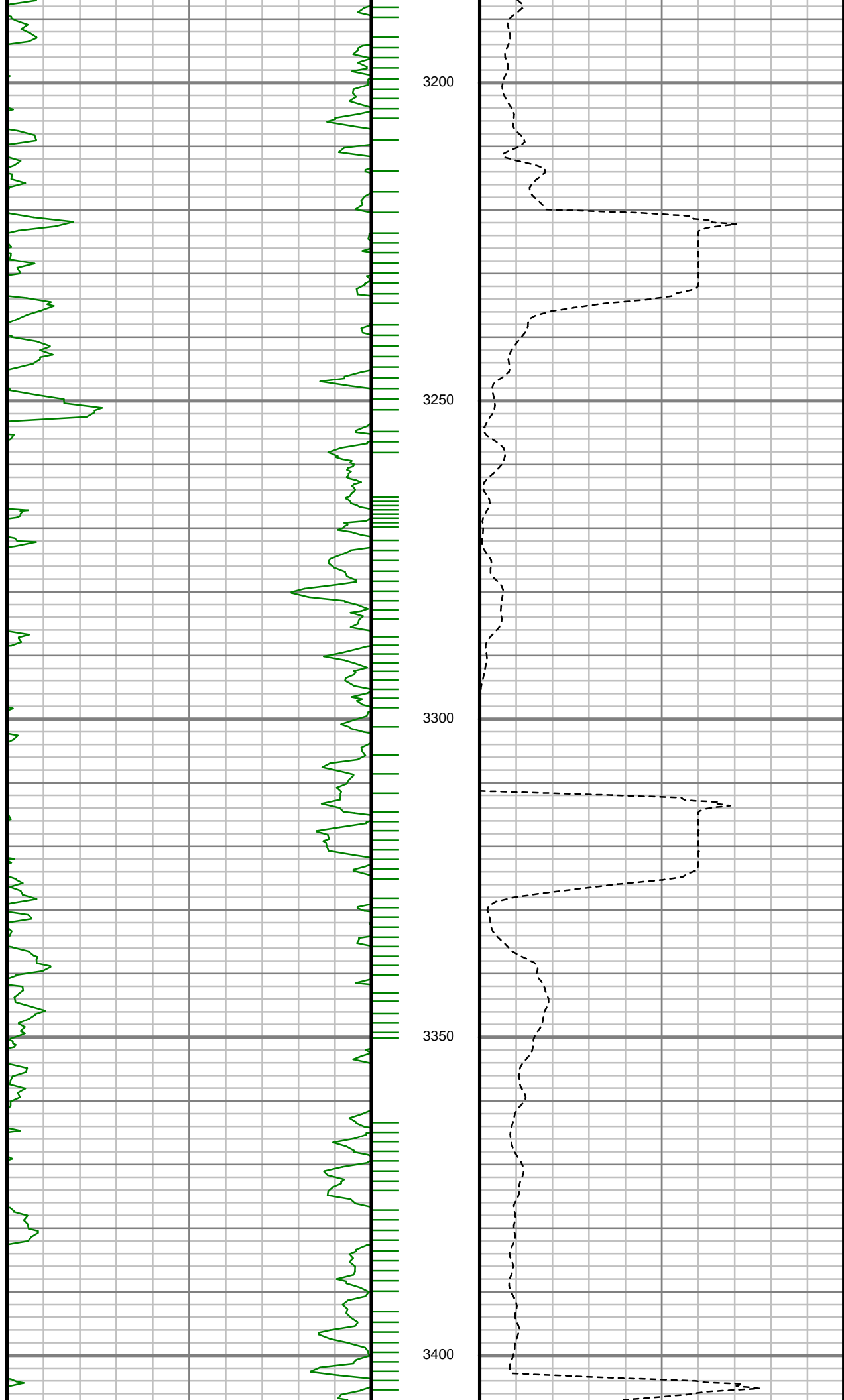
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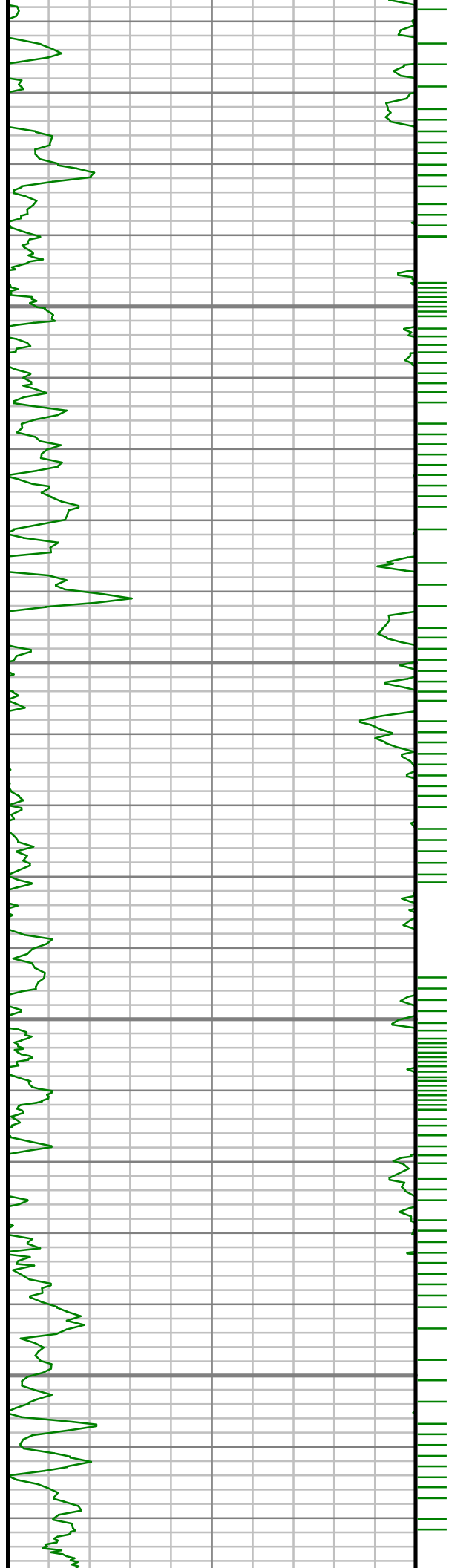










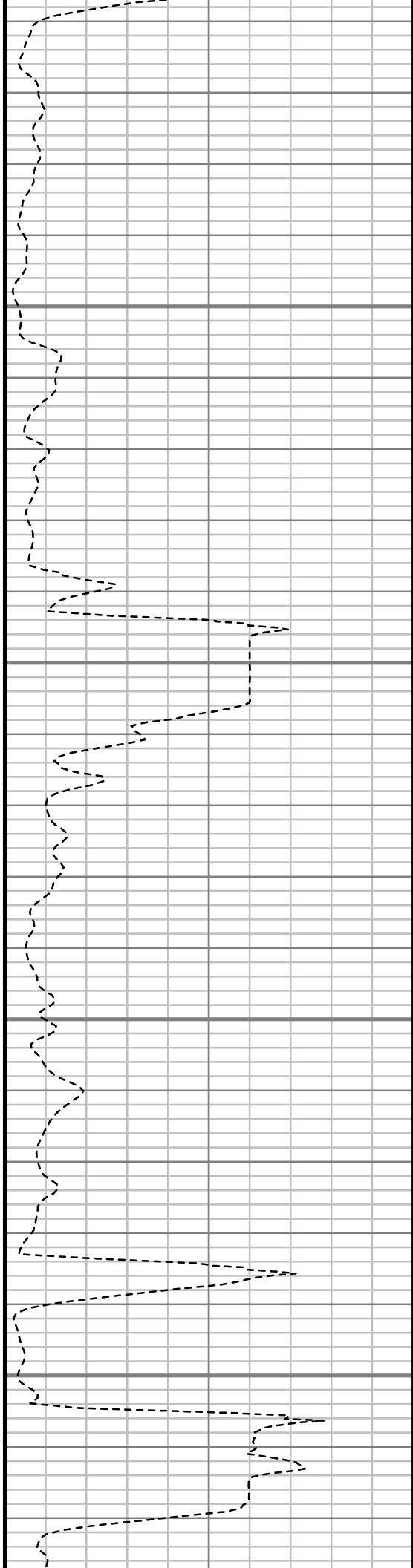


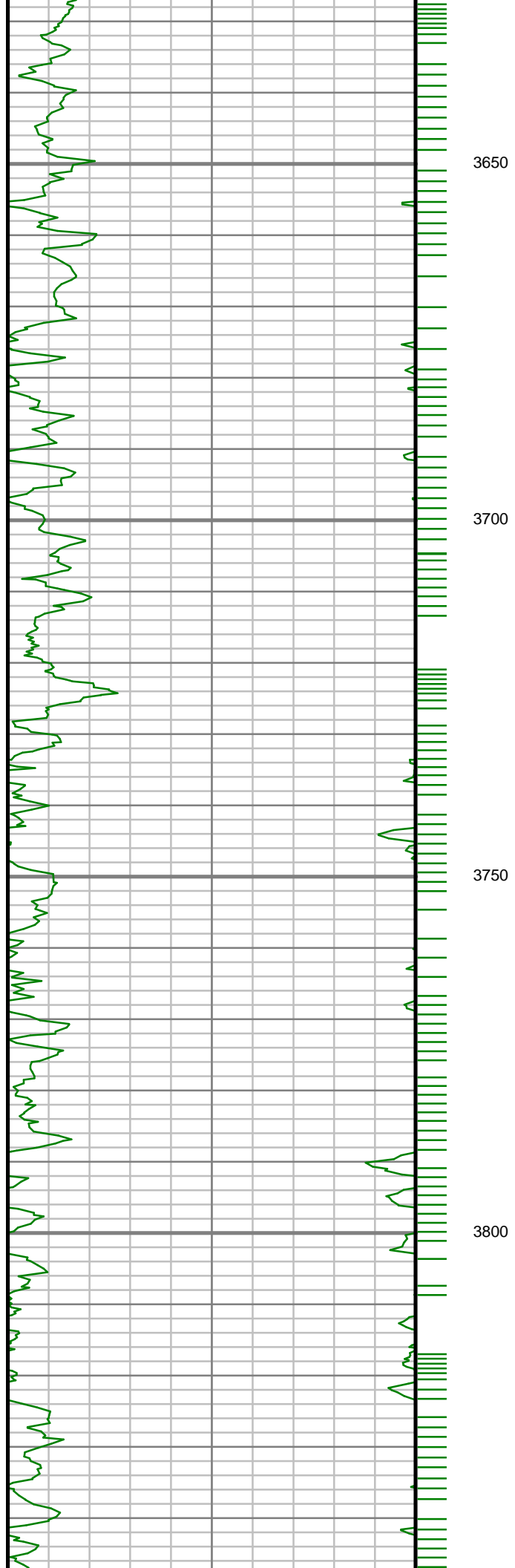
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3500

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3600



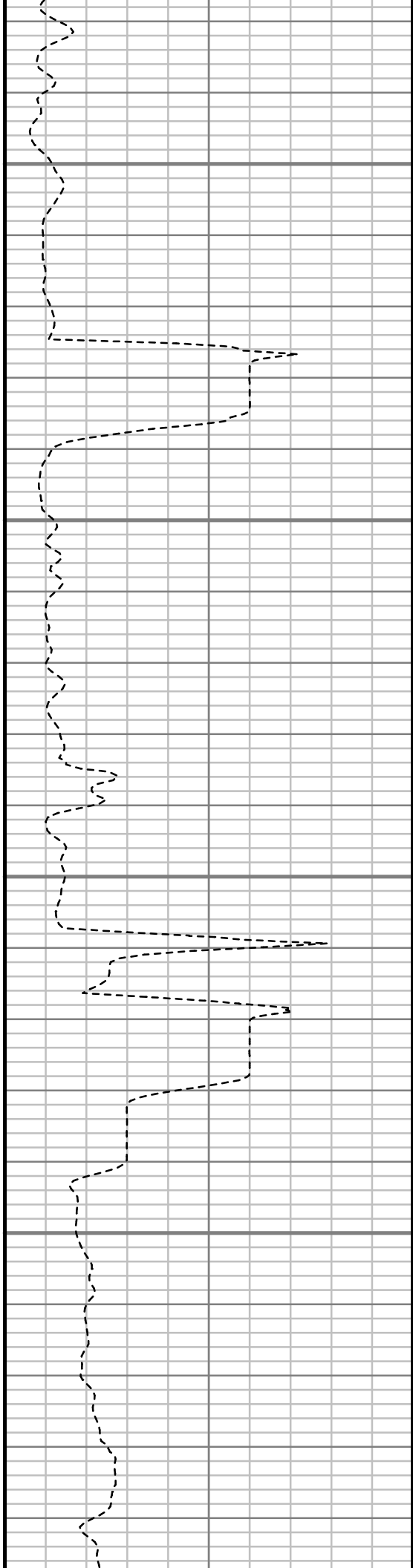


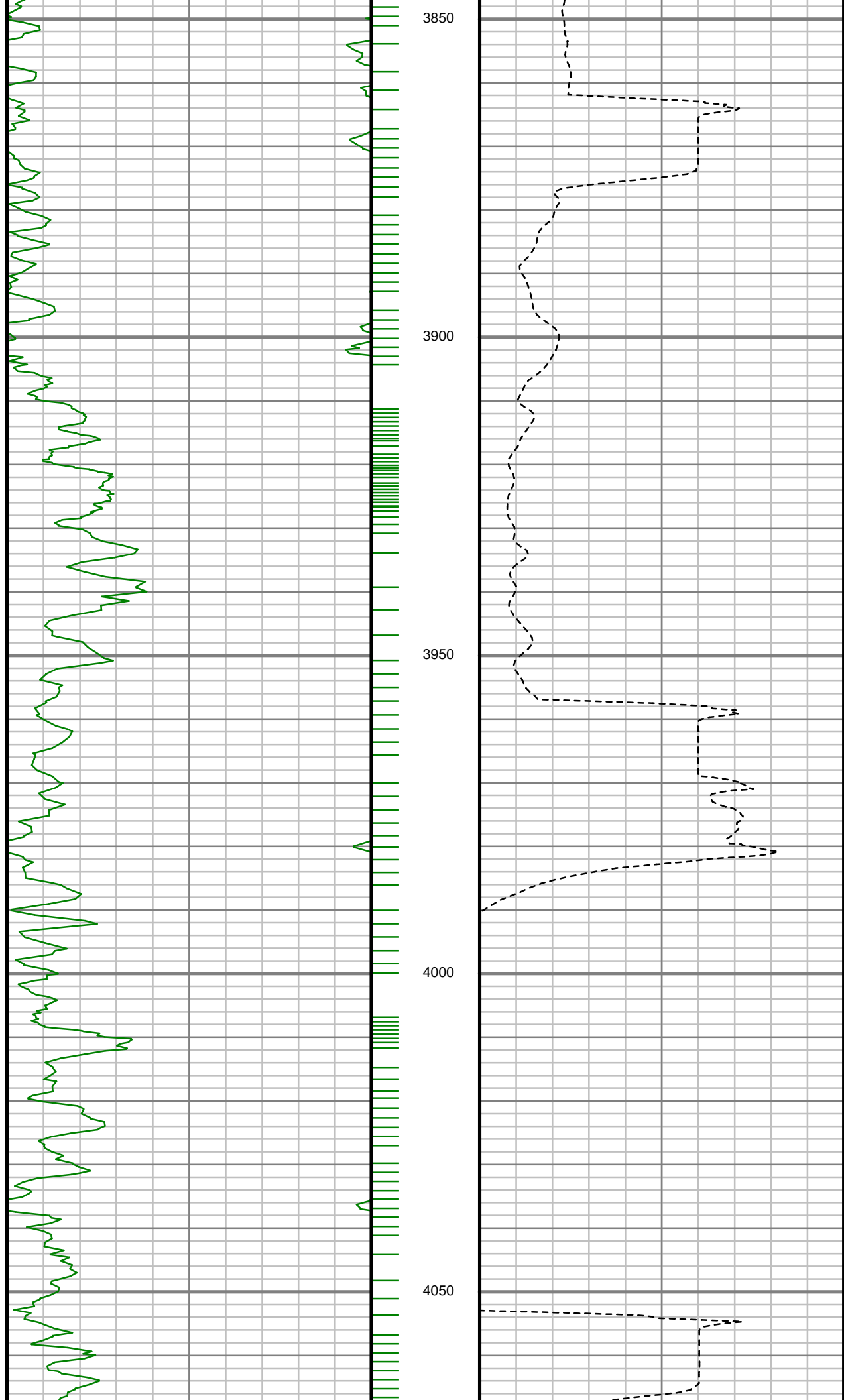
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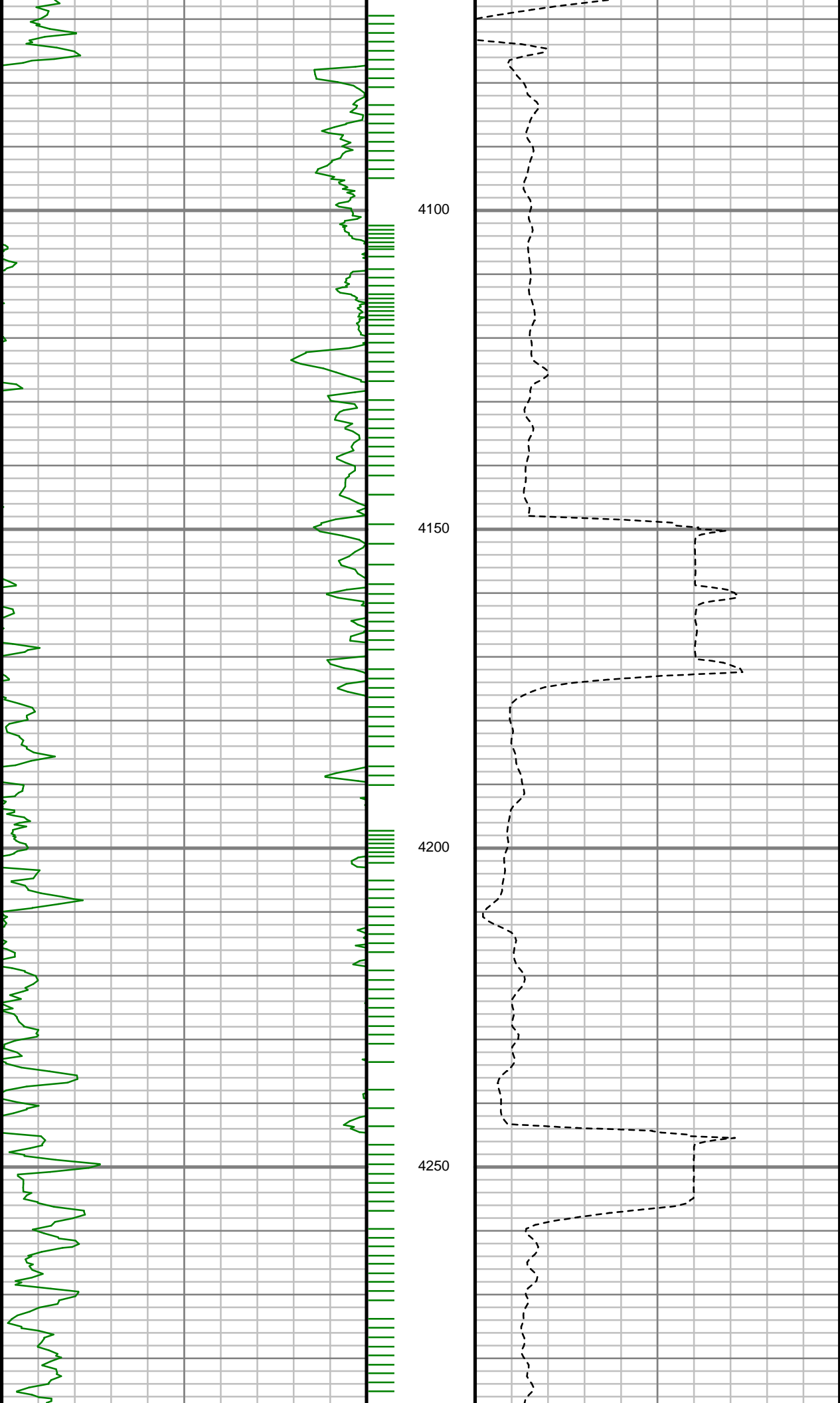
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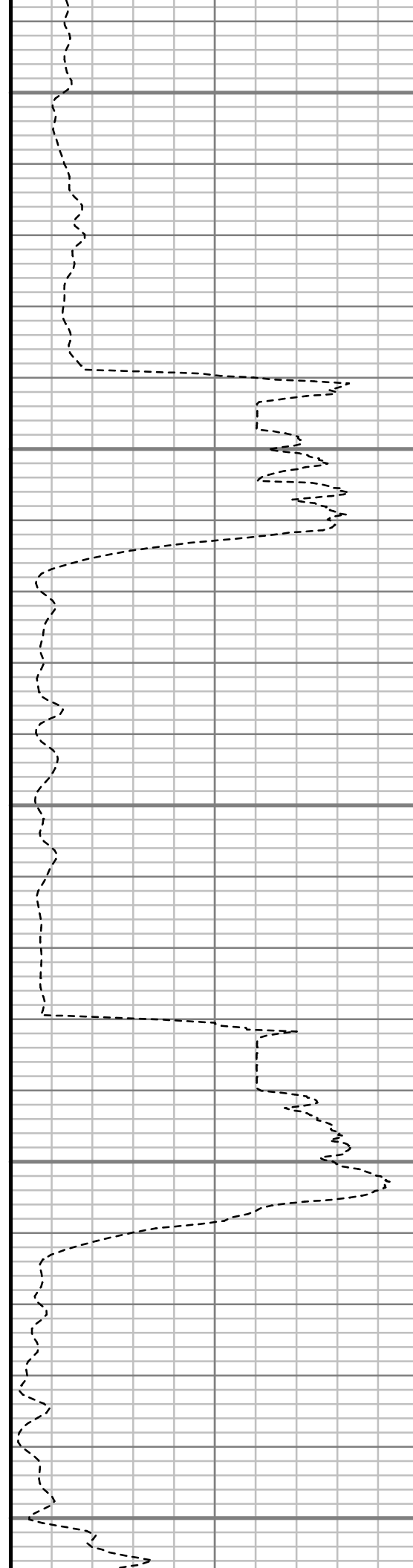
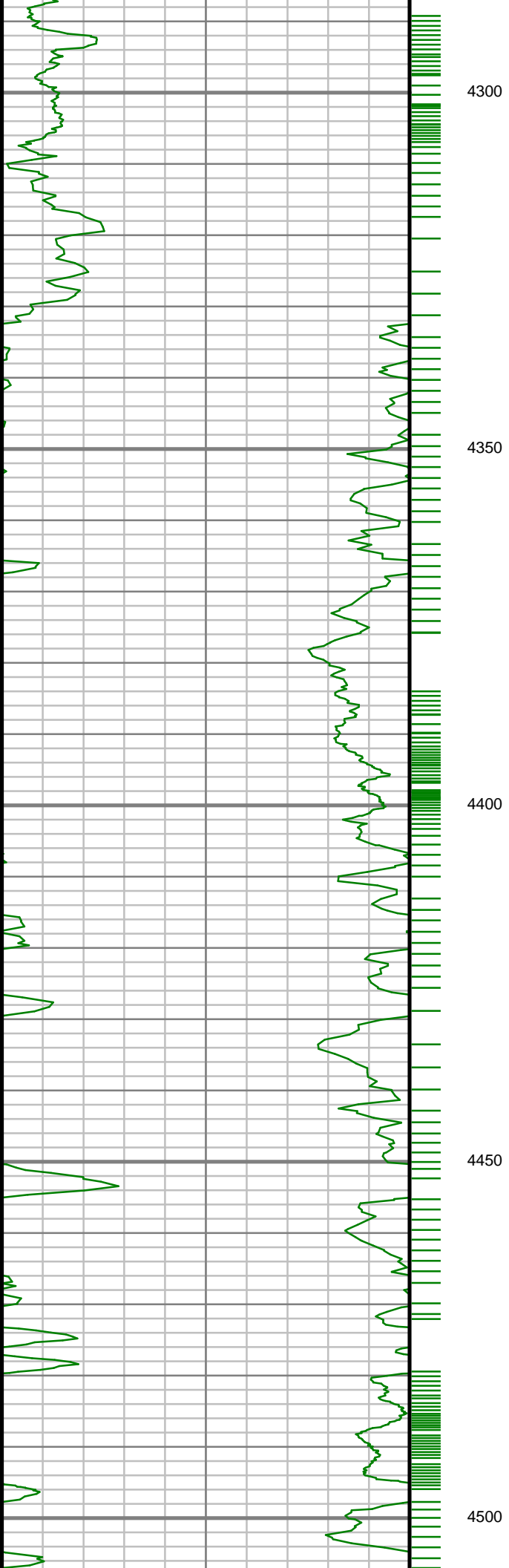
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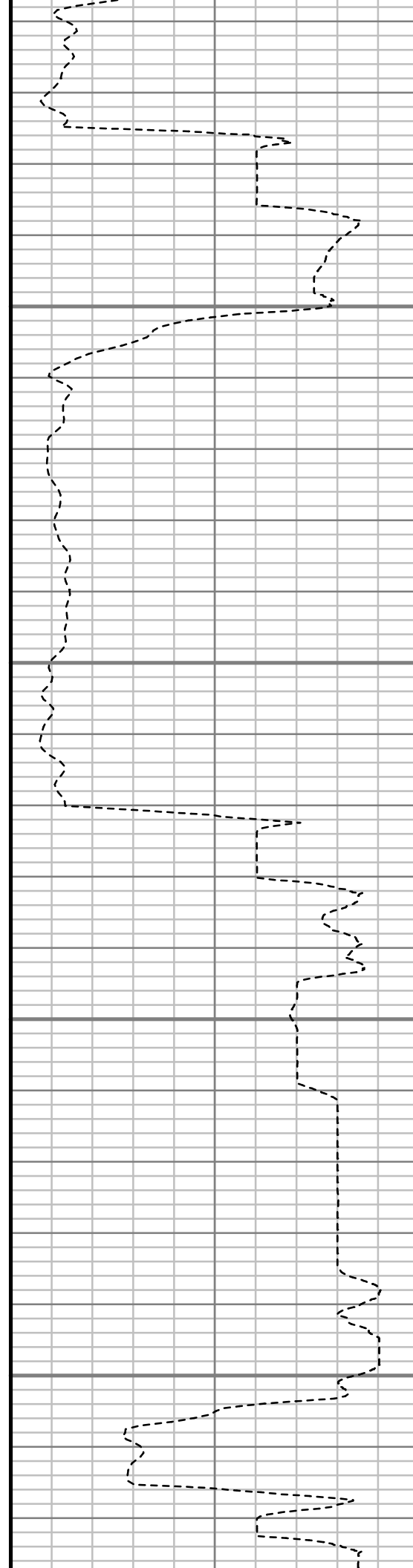
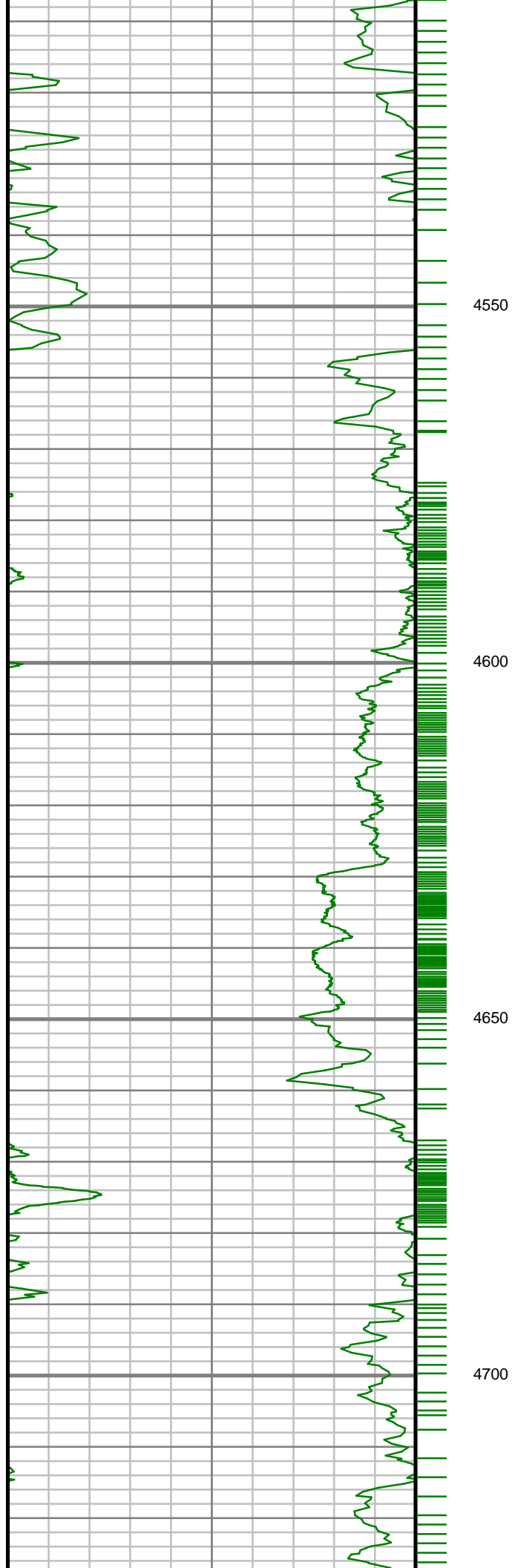
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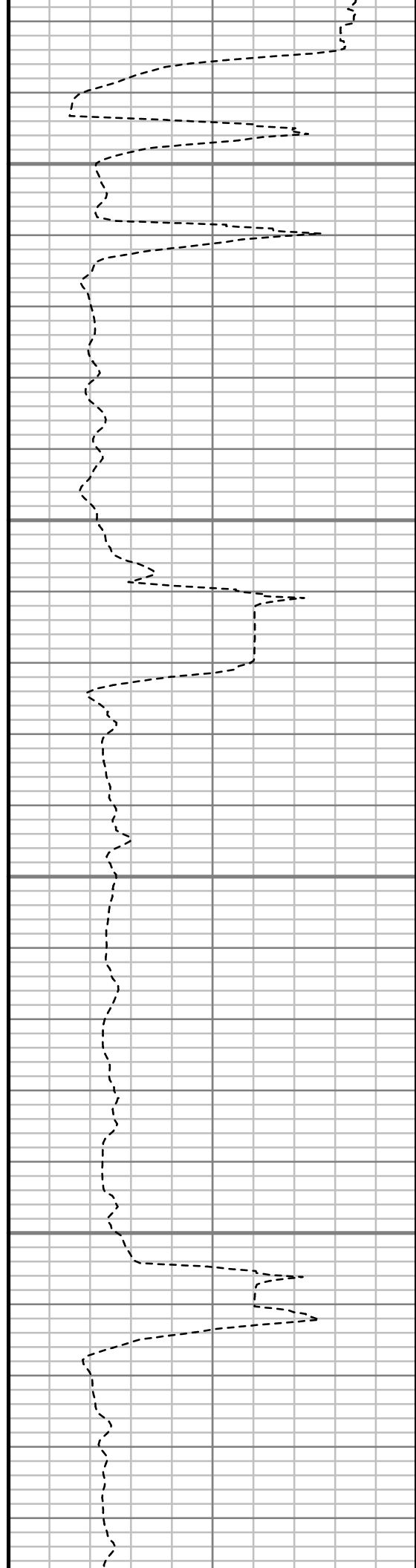
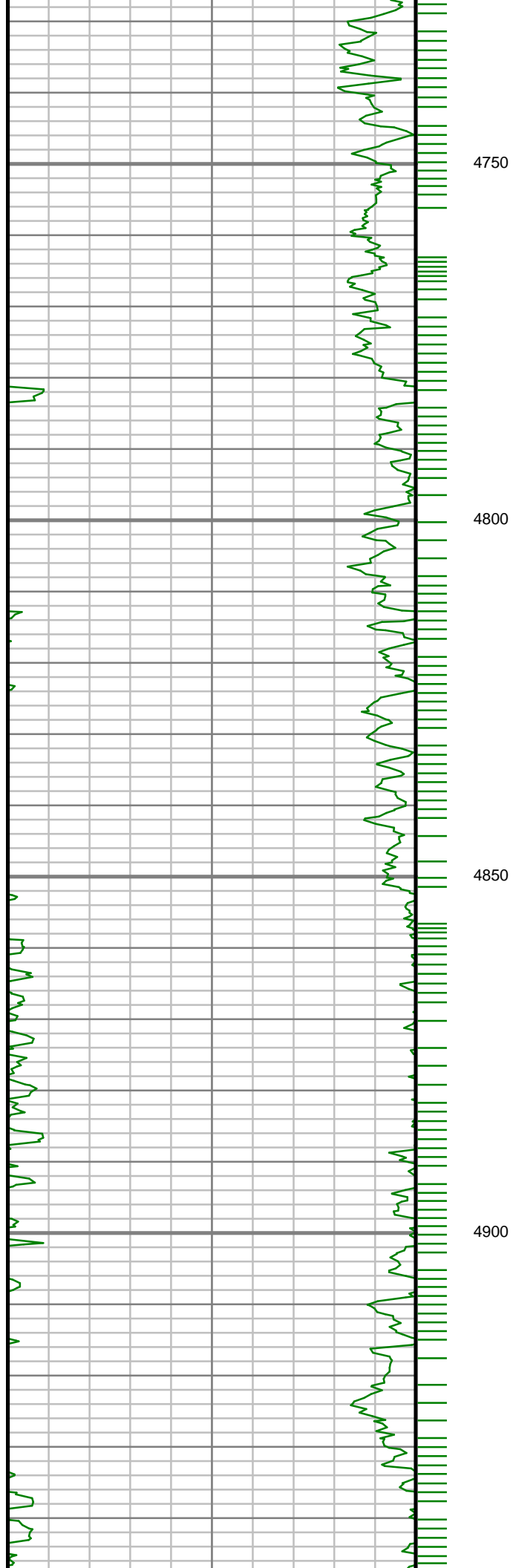


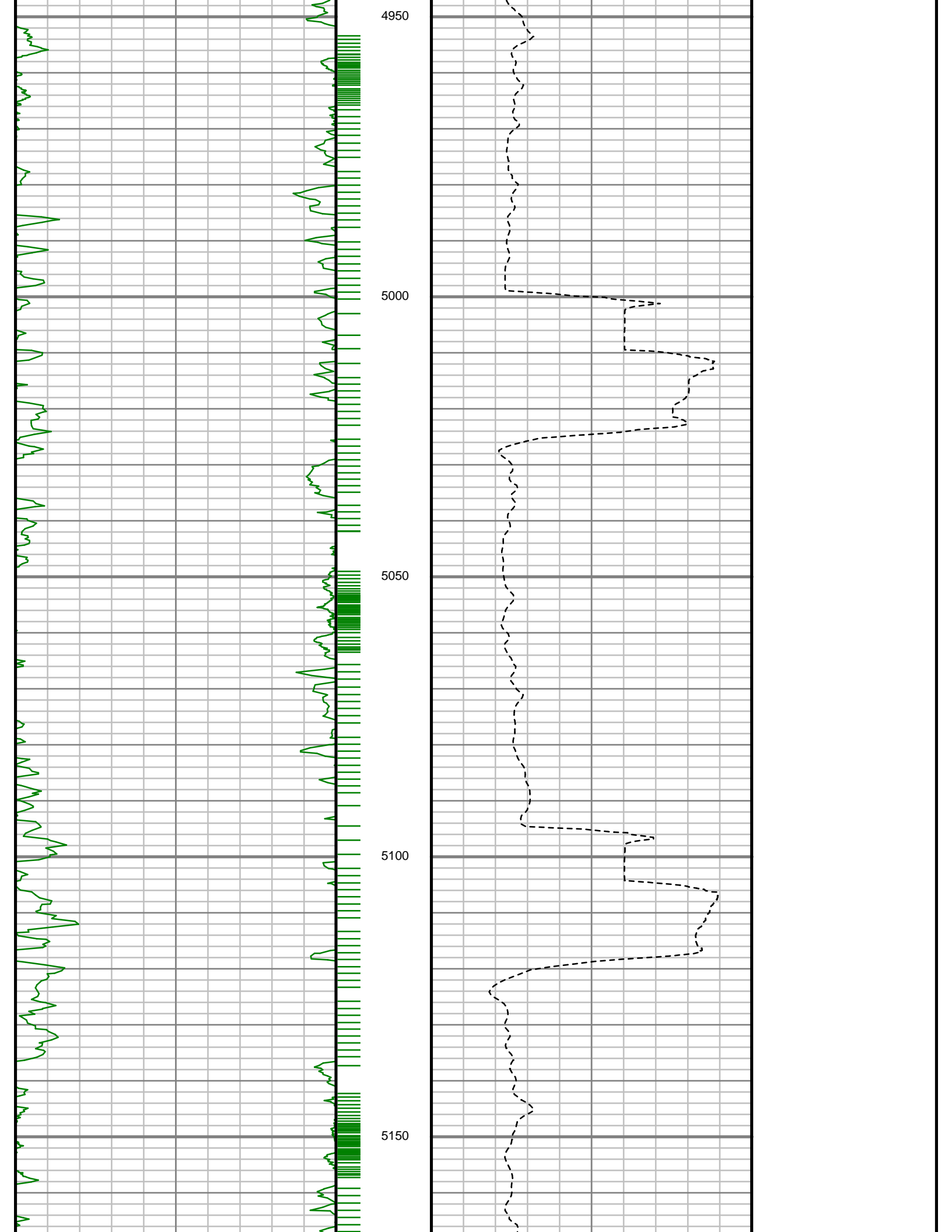


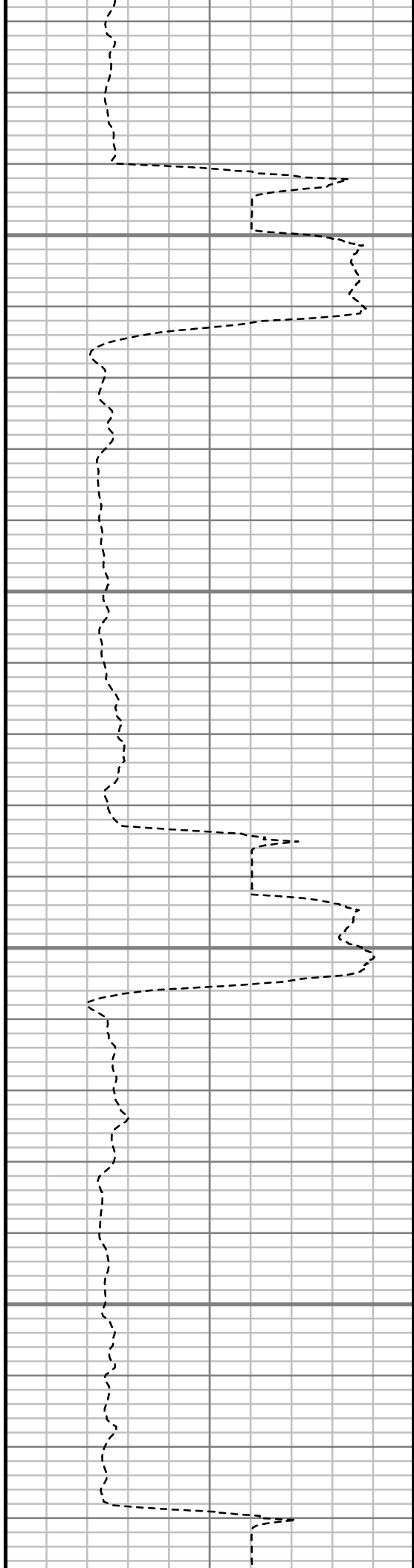
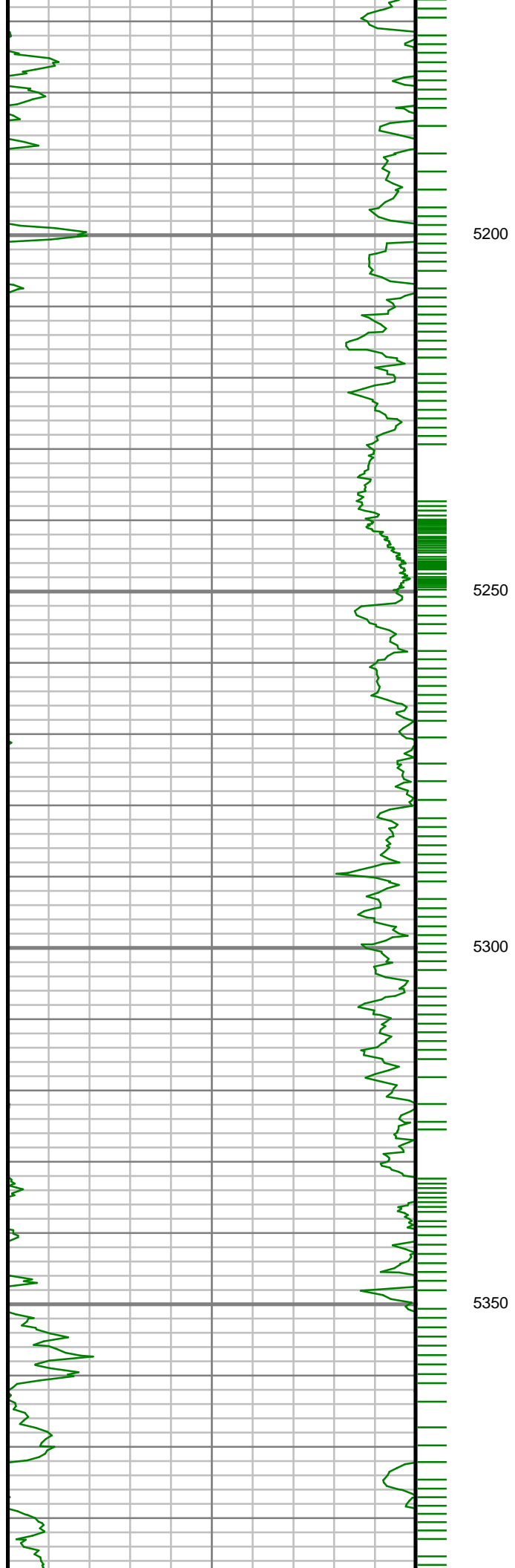


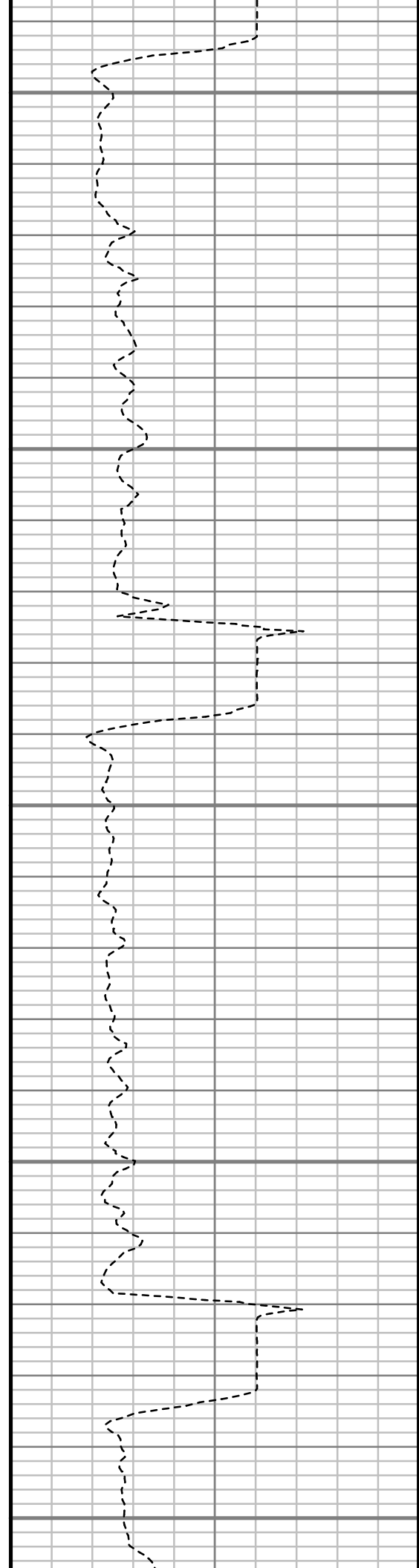
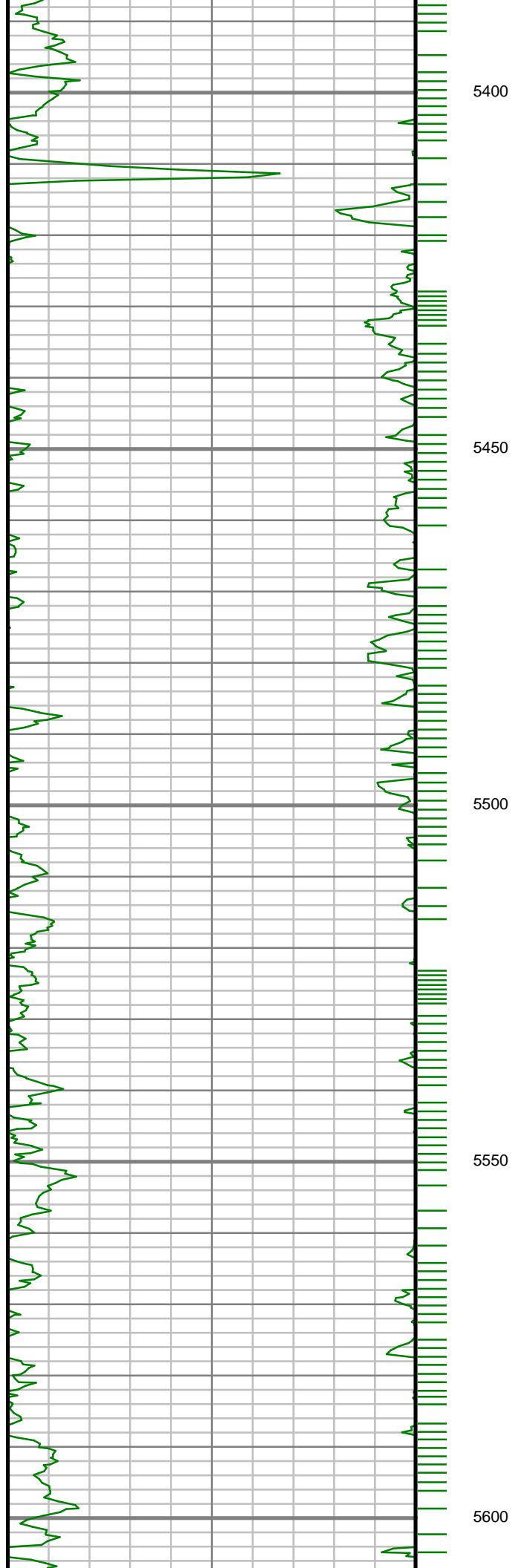


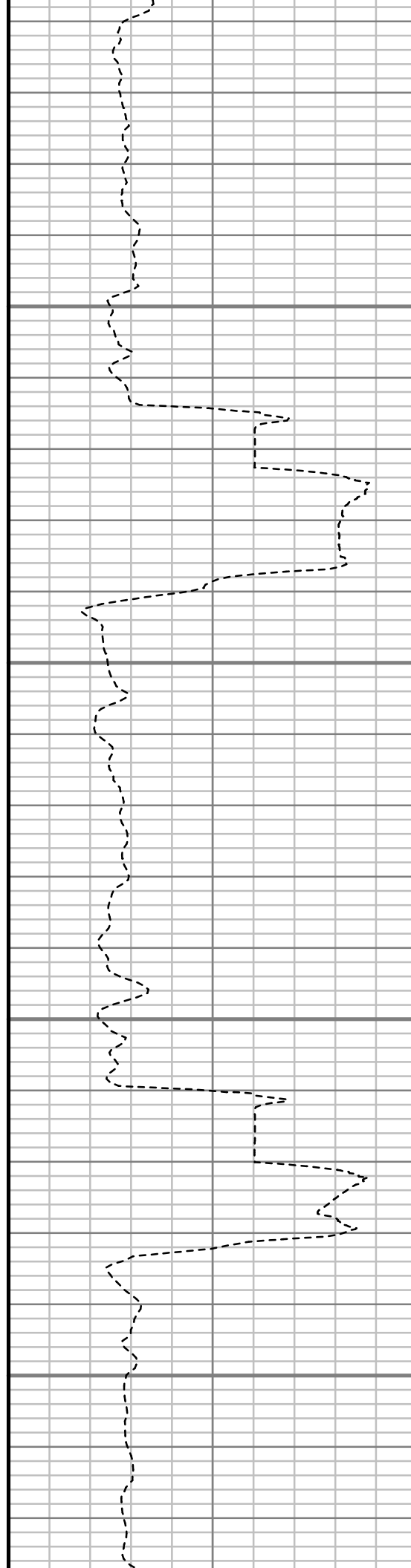
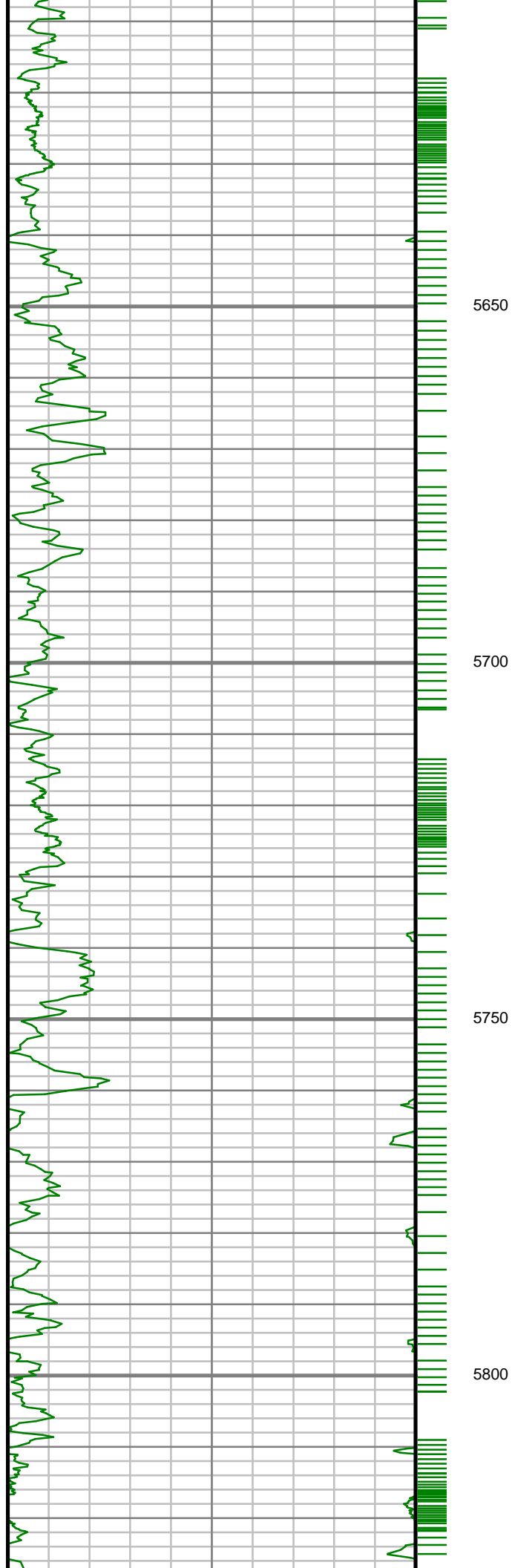


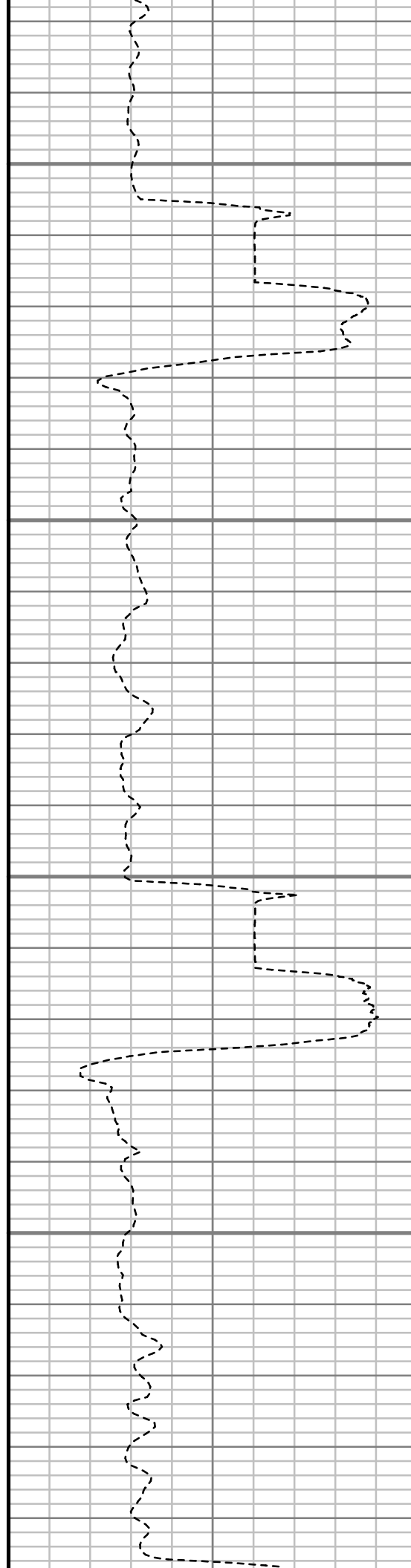
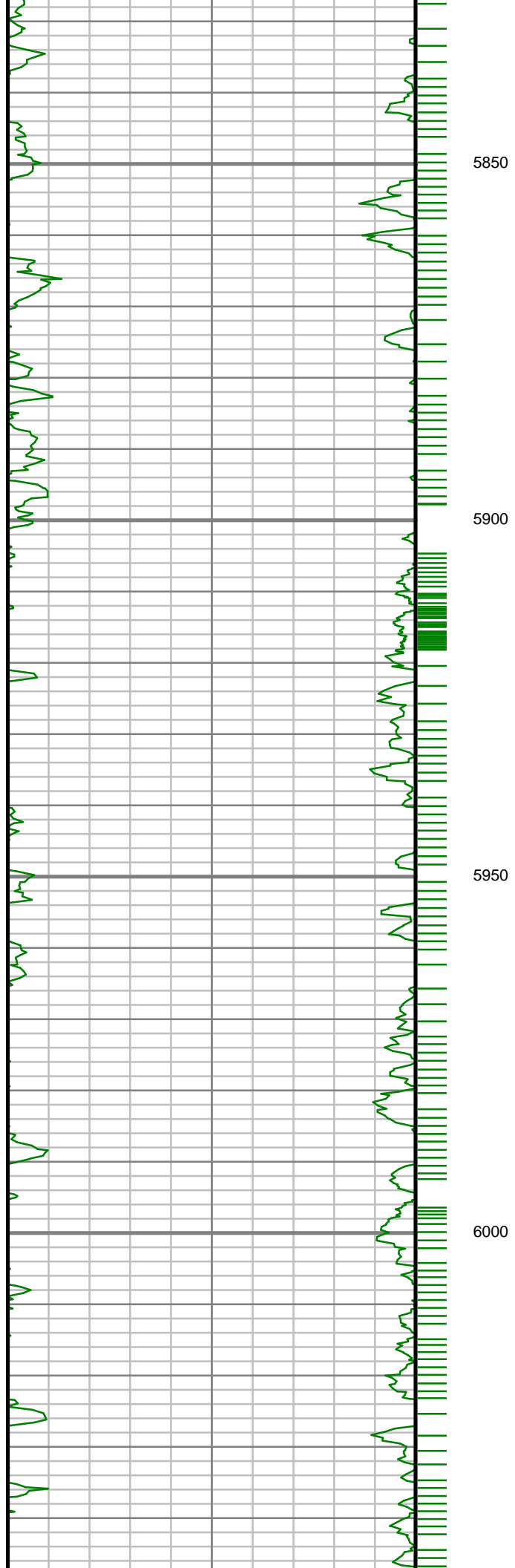


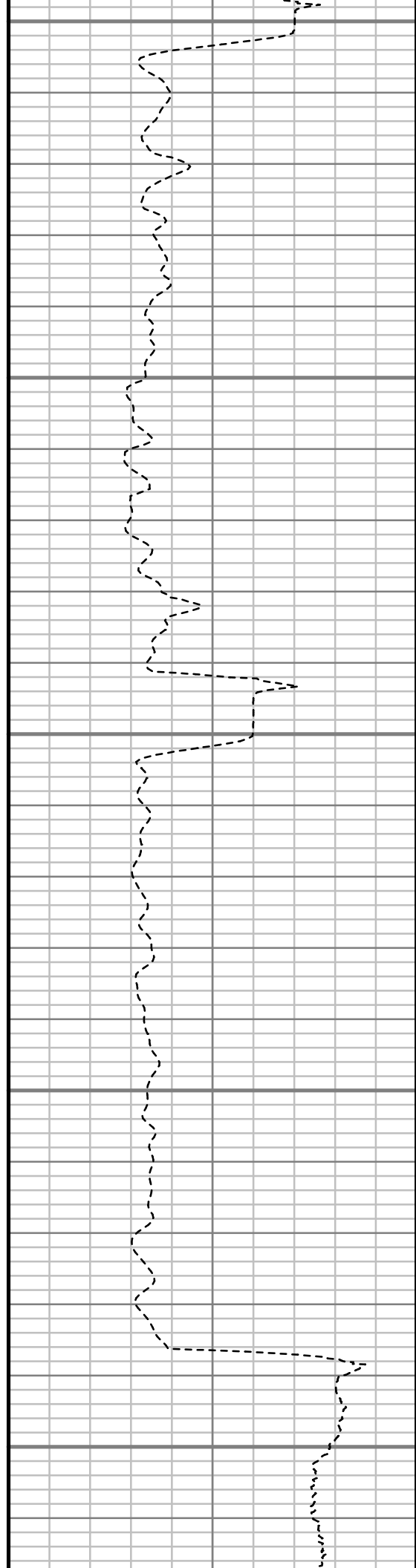
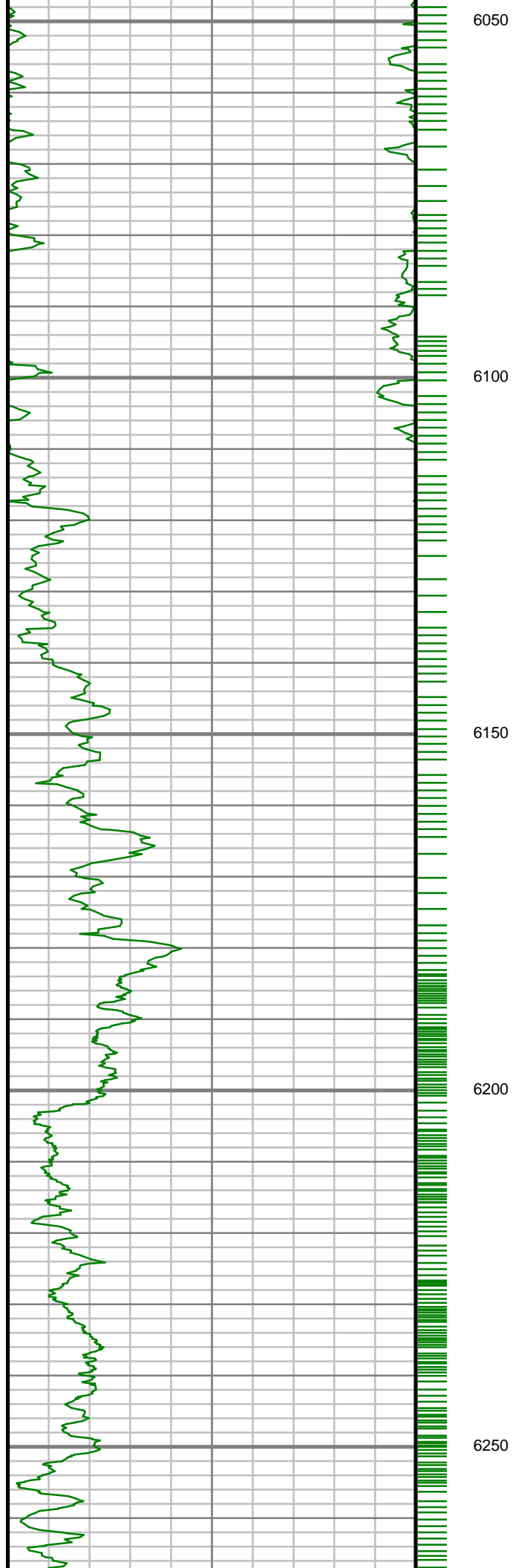


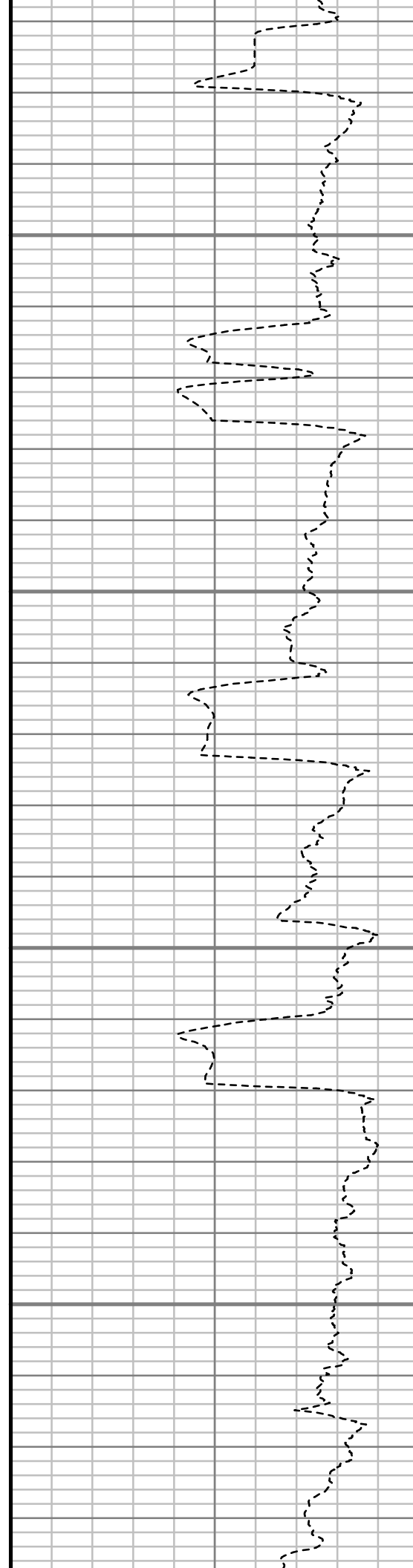
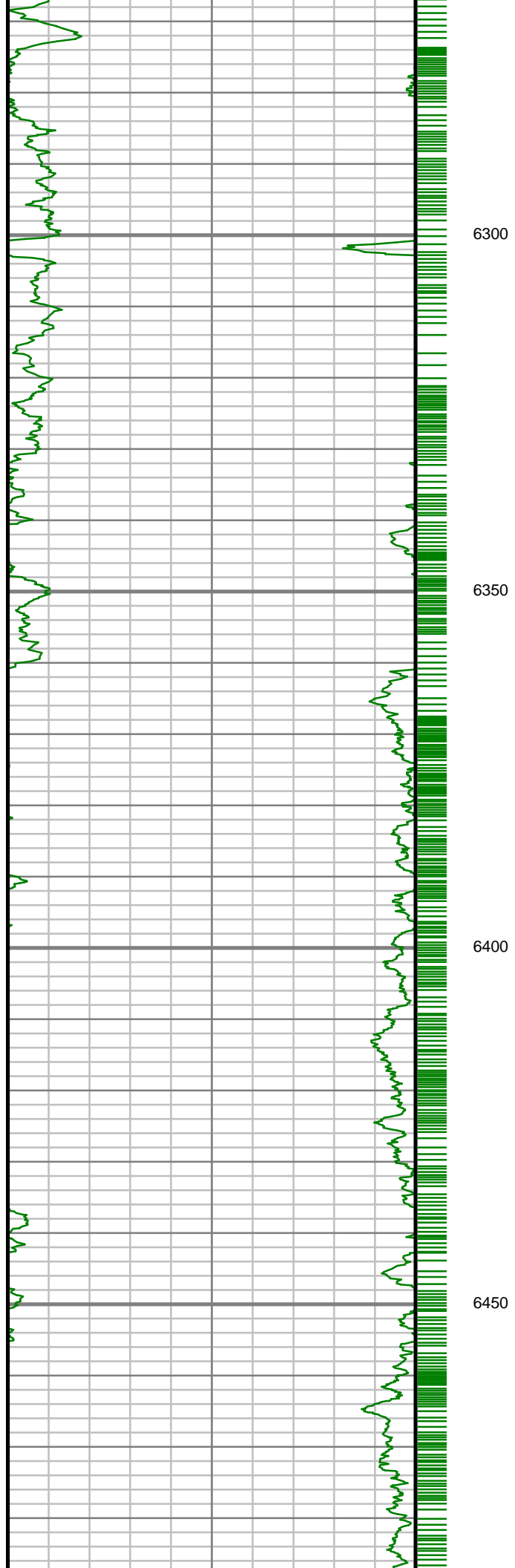


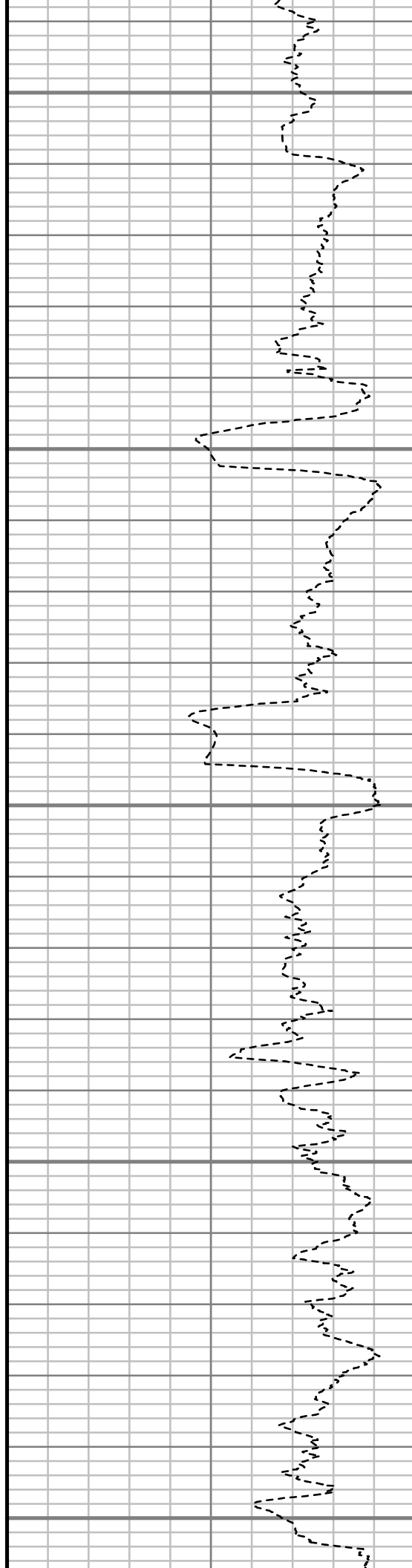
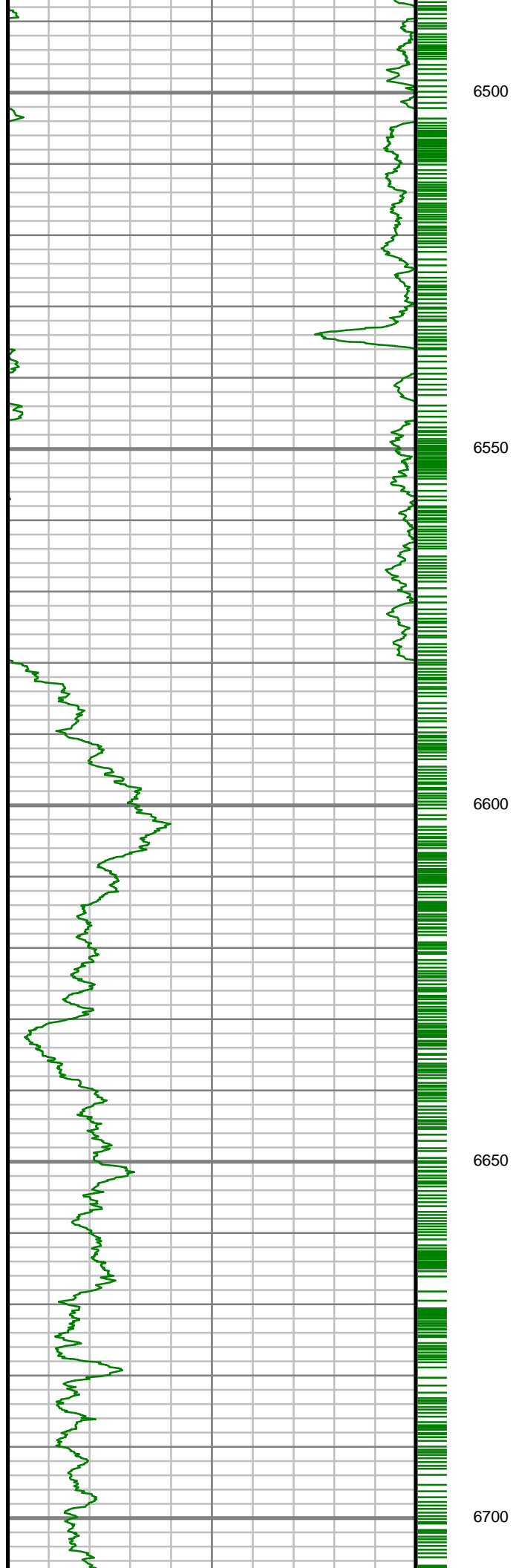


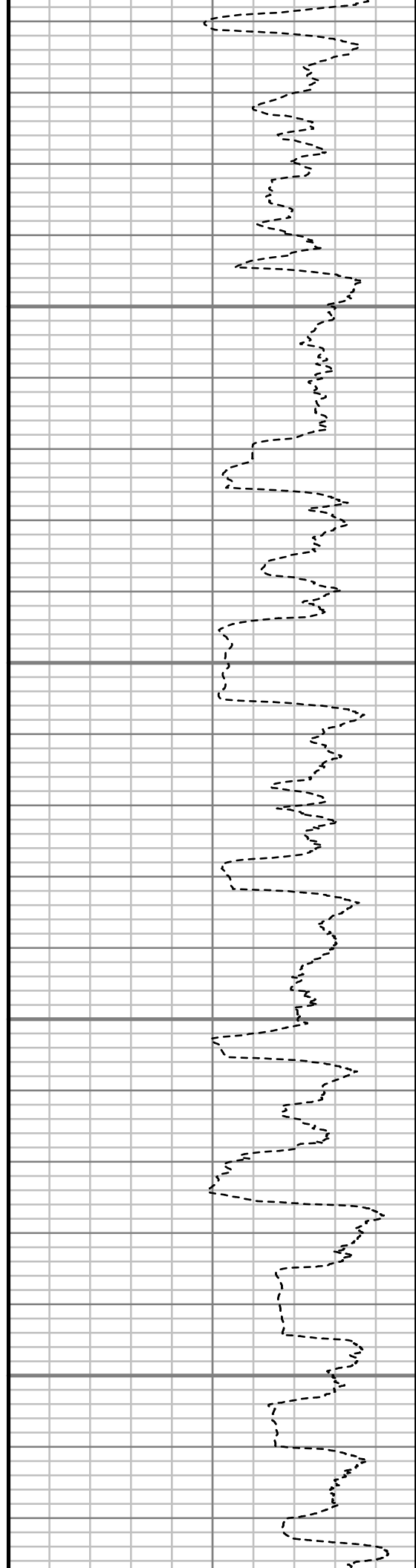
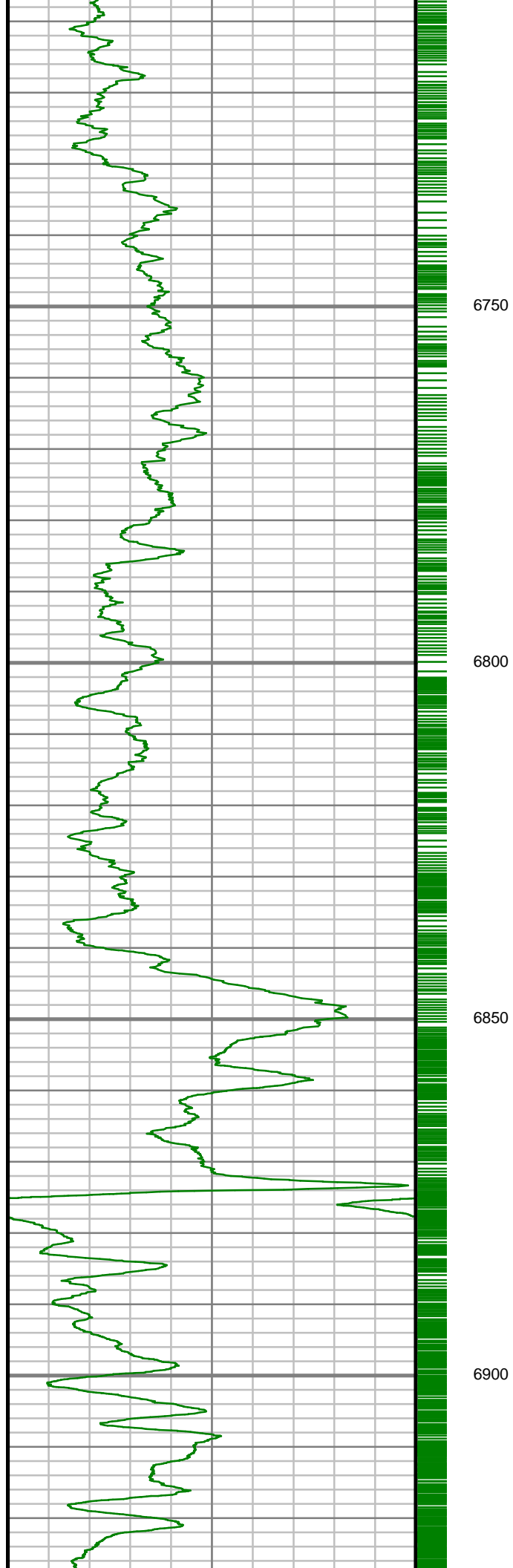


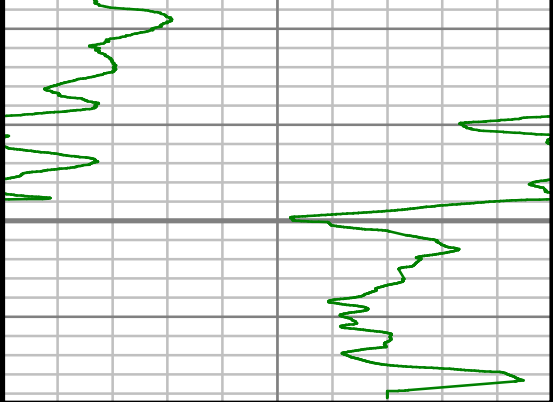










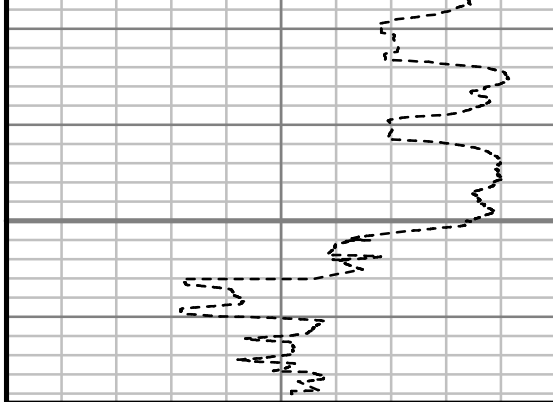


Gamma Ray (GR)		
0	Unit = aapi	150



6950

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 1B-32H-B264
Survey Date	12/8/2014
Latitude	40°6'5.180"N
Longitude	104°34'25.338"W
Btotal	52497, 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, J. GREGORY, 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
244.00	0.90	17.92	243.99	-1.83	1.83	0.59	1.92	17.92	0.37
334.00	1.82	358.99	333.96	-3.93	3.93	0.78	4.01	11.27	1.12
424.00	3.81	355.83	423.85	-8.35	8.35	0.54	8.37	3.71	2.22
515.00	5.53	359.72	514.55	-15.75	15.75	0.30	15.75	1.09	1.92
605.00	6.45	357.59	604.05	-25.13	25.13	0.07	25.14	0.15	1.06
694.00	7.64	2.06	692.38	-36.05	36.05	0.07	36.05	0.11	1.47
784.00	10.61	2.93	781.23	-50.31	50.31	0.71	50.31	0.81	3.30
874.00	10.82	2.47	869.66	-67.02	67.02	1.50	67.04	1.28	0.25
965.00	11.31	0.83	958.97	-84.48	84.48	1.99	84.50	1.35	0.64
1057.00	11.24	2.52	1049.20	-102.45	102.45	2.52	102.48	1.41	0.37
1151.00	10.31	359.76	1141.54	-120.01	120.01	2.89	120.04	1.38	1.13
1277.00	9.97	4.18	1265.57	-142.16	142.16	3.63	142.20	1.46	0.67
1459.00	12.45	359.17	1444.09	-177.49	177.49	4.50	177.55	1.45	1.46
1641.00	12.40	357.83	1621.83	-216.64	216.64	3.47	216.67	0.92	0.16
1822.00	9.86	354.59	1799.41	-251.50	251.50	1.27	251.50	0.29	1.45
2003.00	4.65	357.20	1978.90	-274.28	274.28	-0.55	274.28	359.89	2.88
2183.00	1.22	153.65	2158.73	-279.86	279.86	-0.06	279.86	359.99	3.22
2366.00	1.47	131.45	2341.69	-276.57	276.57	2.57	276.58	0.53	0.32

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Distance	Closure Direction	DLS
ft	deg	deg	ft	ft	ft	ft	ft	deg	°/100ft
2549.00	1.73	130.28	2524.61	-273.22	273.22	6.45	273.30	1.35	0.14
2731.00	0.27	61.72	2706.58	-271.64	271.64	8.92	271.79	1.88	0.91
2912.00	0.33	98.40	2887.58	-271.77	271.77	9.82	271.95	2.07	0.11
3092.00	0.90	257.52	3067.58	-271.39	271.39	8.95	271.53	1.89	0.68
3275.00	0.84	259.57	3250.55	-270.83	270.83	6.22	270.90	1.32	0.04
3457.00	0.83	281.68	3432.54	-270.86	270.86	3.61	270.88	0.76	0.18
3637.00	0.34	260.16	3612.53	-271.03	271.03	1.82	271.04	0.38	0.30
3823.00	0.65	73.07	3798.52	-271.24	271.24	2.28	271.25	0.48	0.53
4013.00	0.77	36.73	3988.51	-272.58	272.58	4.07	272.61	0.86	0.24
4203.00	0.54	253.46	4178.50	-273.35	273.35	3.98	273.38	0.83	0.66
4391.00	1.71	313.03	4366.47	-275.02	275.02	1.07	275.02	0.22	0.80
4581.00	1.16	286.12	4556.41	-277.49	277.49	-2.86	277.50	359.41	0.45
4771.00	0.76	215.50	4746.39	-277.00	277.00	-5.43	277.05	358.88	0.61
4961.00	0.93	325.87	4936.38	-277.25	277.25	-7.04	277.34	358.55	0.73
5151.00	1.47	207.51	5126.35	-276.36	276.36	-9.03	276.51	358.13	1.10
5341.00	0.65	77.93	5316.33	-274.42	274.42	-9.12	274.57	358.10	1.03
5530.00	0.54	113.27	5505.33	-274.29	274.29	-7.25	274.38	358.49	0.20
5720.00	1.04	165.35	5695.31	-272.26	272.26	-5.99	272.32	358.74	0.44

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Distance	Closure Direction	DLS
ft	deg	deg	ft	ft	ft	ft	ft	deg	°/100ft
5910.00	0.50	142.45	5885.29	-269.93	269.93	-5.05	269.97	358.93	0.32
6100.00	0.13	153.66	6075.29	-269.07	269.07	-4.45	269.11	359.05	0.19
6194.00	0.17	297.52	6169.29	-269.03	269.03	-4.52	269.07	359.04	0.31
6241.00	0.19	171.58	6216.29	-268.99	268.99	-4.57	269.03	359.03	0.68
6289.00	3.71	177.81	6264.25	-267.36	267.36	-4.50	267.40	359.04	7.34
6336.00	7.39	181.64	6311.02	-262.81	262.81	-4.53	262.85	359.01	7.87
6384.00	10.84	182.57	6358.41	-255.22	255.22	-4.82	255.26	358.92	7.18
6431.00	13.70	179.19	6404.33	-245.23	245.23	-4.94	245.28	358.85	6.28
6479.00	17.38	176.62	6450.57	-232.39	232.39	-4.43	232.43	358.91	7.78
6526.00	21.56	178.20	6494.87	-216.74	216.74	-3.75	216.78	359.01	8.98
6574.00	24.77	182.00	6539.00	-197.87	197.87	-3.82	197.91	358.89	7.36
6621.00	27.61	182.64	6581.17	-177.15	177.15	-4.67	177.21	358.49	6.09
6668.00	31.47	182.39	6622.05	-154.00	154.00	-5.68	154.11	357.89	8.21
6716.00	35.08	180.05	6662.18	-127.68	127.68	-6.22	127.83	357.21	7.98
6763.00	40.26	179.24	6699.37	-98.97	98.97	-6.03	99.15	356.52	11.07
6810.00	45.41	180.07	6733.82	-67.03	67.03	-5.84	67.28	355.02	11.02
6858.00	49.94	179.93	6766.14	-31.55	31.55	-5.84	32.09	349.51	9.44
6905.00	51.90	180.85	6795.77	4.93	-4.93	-6.10	7.84	231.04	4.44

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Distance	Closure Direction	DLS
ft	deg	deg	ft	ft	ft	ft	ft	deg	°/100ft
6953.00	56.39	180.48	6823.87	43.82	-43.82	-6.54	44.31	188.49	9.38
7000.00	61.43	179.93	6848.14	84.06	-84.06	-6.68	84.32	184.55	10.77
7048.00	64.91	177.93	6869.80	126.87	-126.87	-5.87	127.01	182.65	8.15
7095.00	67.44	177.13	6888.78	169.82	-169.82	-4.02	169.87	181.35	5.59
7143.00	70.86	176.19	6905.87	214.60	-214.60	-1.40	214.60	180.37	7.36
7190.00	75.36	176.82	6919.52	259.47	-259.47	1.34	259.48	179.70	9.66
7237.00	77.40	178.45	6930.58	305.11	-305.11	3.22	305.13	179.39	5.48
7284.00	79.91	177.81	6939.83	351.16	-351.16	4.73	351.19	179.23	5.51
7332.00	84.02	178.05	6946.53	398.65	-398.65	6.45	398.70	179.07	8.57
7425.00	90.40	178.25	6951.06	491.44	-491.44	9.44	491.53	178.90	6.86
7515.00	89.09	177.28	6951.45	581.37	-581.37	12.96	581.51	178.72	1.81
7606.00	88.66	177.42	6953.24	672.26	-672.26	17.17	672.47	178.54	0.50
7697.00	89.53	178.23	6954.67	763.18	-763.18	20.62	763.46	178.45	1.31
7792.00	90.03	179.83	6955.04	858.16	-858.16	22.23	858.45	178.52	1.77
7887.00	90.03	179.24	6954.98	953.16	-953.16	23.00	953.43	178.62	0.62
7982.00	90.60	180.22	6954.45	1048.15	-1048.15	23.45	1048.41	178.72	1.20
8077.00	90.74	180.05	6953.34	1143.14	-1143.14	23.22	1143.38	178.84	0.23
8171.00	90.40	179.97	6952.40	1237.14	-1237.14	23.20	1237.36	178.93	0.37

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Distance	Closure Direction	DLS
ft	deg	deg	ft	ft	ft	ft	ft	deg	°/100ft
8266.00	90.03	179.85	6952.04	1332.14	-1332.14	23.34	1332.34	179.00	0.41
8360.00	89.46	180.10	6952.45	1426.14	-1426.14	23.38	1426.33	179.06	0.66
8455.00	89.40	180.25	6953.40	1521.13	-1521.13	23.09	1521.31	179.13	0.18
8550.00	89.26	180.31	6954.51	1616.12	-1616.12	22.63	1616.28	179.20	0.15
8644.00	88.89	180.63	6956.03	1710.11	-1710.11	21.86	1710.25	179.27	0.52
8739.00	87.95	180.78	6958.64	1805.06	-1805.06	20.69	1805.18	179.34	1.00
8835.00	88.69	180.76	6961.45	1901.01	-1901.01	19.40	1901.11	179.42	0.77
8930.00	88.52	180.77	6963.76	1995.98	-1995.98	18.14	1996.06	179.48	0.18
9025.00	88.96	180.38	6965.85	2090.95	-2090.95	17.18	2091.02	179.53	0.62
9119.00	90.00	181.03	6966.70	2184.94	-2184.94	16.02	2185.00	179.58	1.31
9214.00	90.57	179.80	6966.23	2279.93	-2279.93	15.33	2279.98	179.61	1.43
9309.00	89.16	180.66	6966.45	2374.93	-2374.93	14.95	2374.97	179.64	1.74
9404.00	89.46	180.11	6967.59	2469.92	-2469.92	14.31	2469.96	179.67	0.66
9499.00	89.63	179.60	6968.34	2564.91	-2564.91	14.55	2564.95	179.67	0.56
9594.00	91.04	179.44	6967.78	2659.91	-2659.91	15.35	2659.95	179.67	1.49
9689.00	91.38	180.57	6965.78	2754.88	-2754.88	15.34	2754.93	179.68	1.24
9783.00	90.54	180.53	6964.21	2848.86	-2848.86	14.44	2848.90	179.71	0.89
9878.00	90.94	179.38	6962.99	2943.85	-2943.85	14.51	2943.89	179.72	1.29

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	Closure Distance	Closure Direction	DLS
ft	deg	deg	ft	ft	ft	ft	ft	deg	"/100ft
9973.00	91.28	179.75	6961.16	3038.83	-3038.83	15.24	3038.87	179.71	0.53
10069.00	91.61	177.41	6958.74	3134.77	-3134.77	17.62	3134.82	179.68	2.45
10163.00	91.01	176.96	6956.60	3228.63	-3228.63	22.23	3228.71	179.61	0.80
10258.00	89.97	175.51	6955.79	3323.42	-3323.42	28.46	3323.54	179.51	1.88
10353.00	92.18	178.21	6954.01	3418.24	-3418.24	33.66	3418.41	179.44	3.67
10447.00	91.21	183.31	6951.23	3512.16	-3512.16	32.41	3512.31	179.47	5.52
10542.00	90.10	182.62	6950.14	3607.03	-3607.03	27.49	3607.13	179.56	1.37
10637.00	90.00	185.02	6950.06	3701.81	-3701.81	21.16	3701.87	179.67	2.53
10732.00	89.23	185.48	6950.70	3796.41	-3796.41	12.46	3796.43	179.81	0.94
10827.00	88.26	184.56	6952.79	3891.02	-3891.02	4.16	3891.02	179.94	1.41
10921.00	88.56	184.04	6955.40	3984.72	-3984.72	-2.88	3984.72	180.04	0.64
11016.00	88.96	182.61	6957.45	4079.53	-4079.53	-8.39	4079.54	180.12	1.57
11111.00	90.17	181.91	6958.18	4174.45	-4174.45	-12.13	4174.47	180.17	1.47
11206.00	90.77	181.85	6957.40	4269.40	-4269.40	-15.24	4269.43	180.20	0.64
11301.00	91.41	181.70	6955.59	4364.33	-4364.33	-18.19	4364.37	180.24	0.69
11380.00	91.21	182.19	6953.79	4443.27	-4443.27	-20.87	4443.32	180.27	0.67

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