



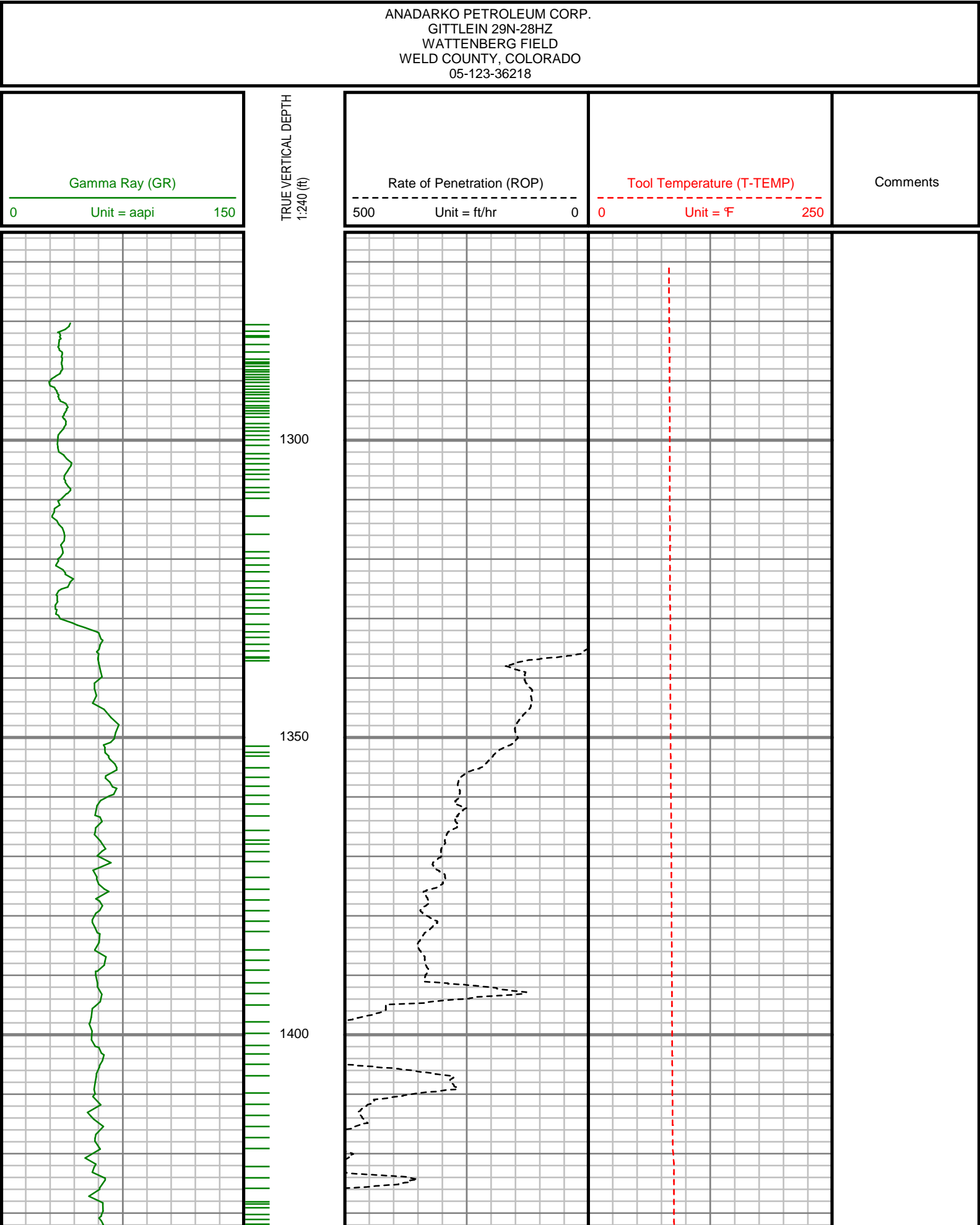
GAMMA RAY

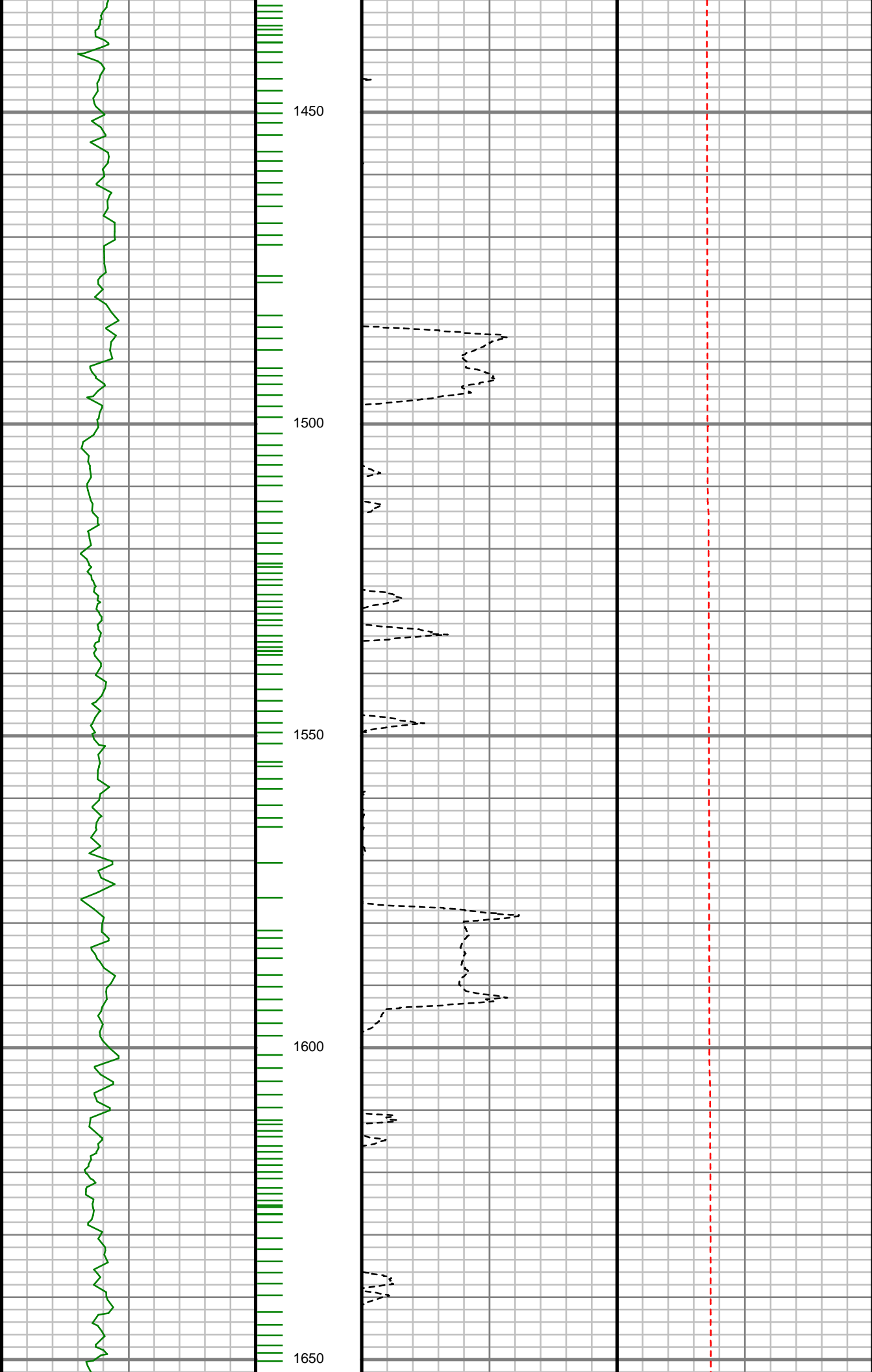
5" = 100' FEET TVD

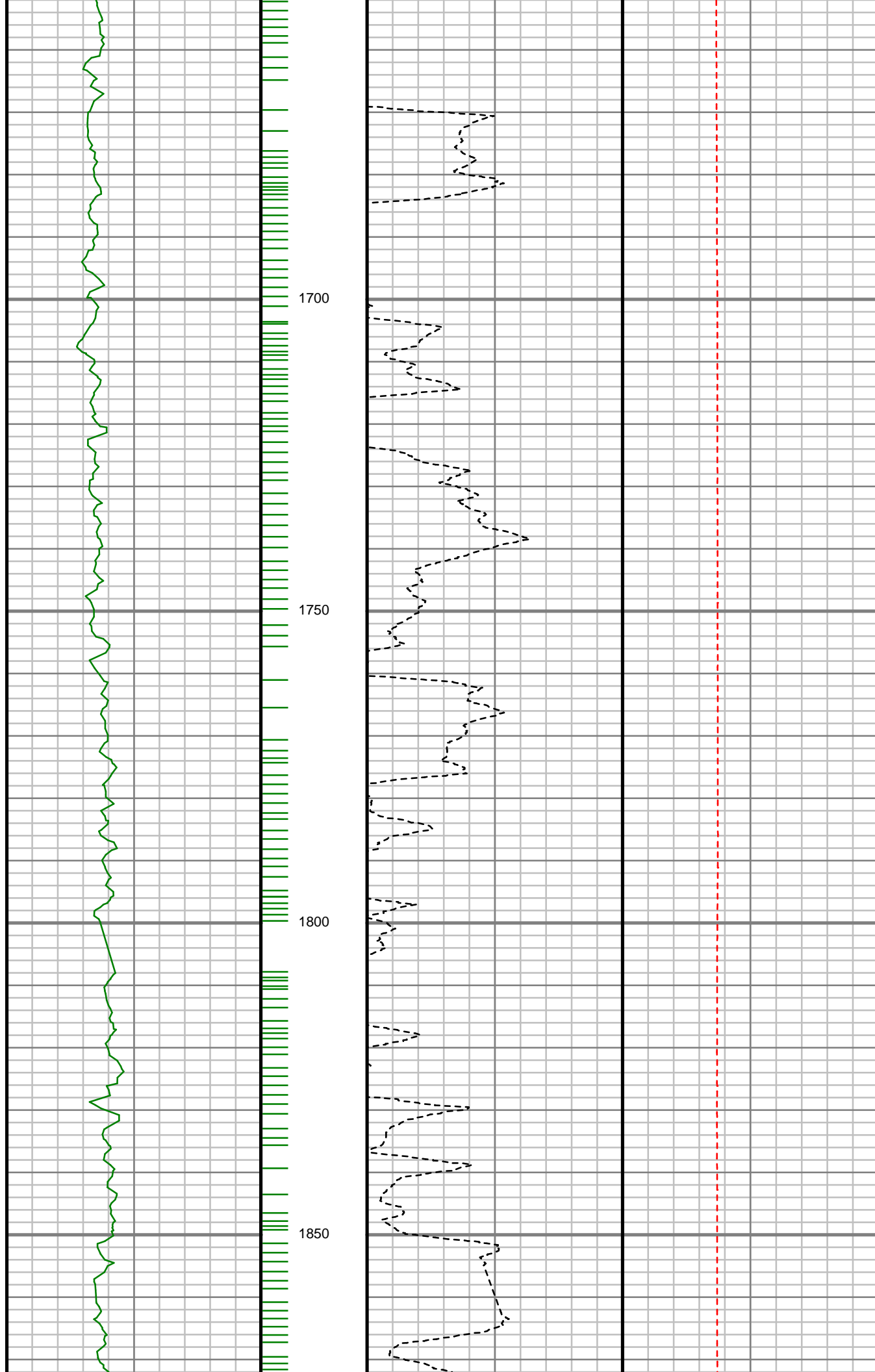
COMPANY : ANADARKO PETROLEUM CORP. WELL : GITTLEIN 29N-28HZ FIELD : WATTENBERG COUNTY : WELD STATE : COLORADO COUNTRY : U.S.A. UWI : 05-123-36218												COMPANY : ANADARKO PETROLEUM CORP. WELL : GITTLEIN 29N-28HZ FIELD : WATTENBERG COUNTY : WELD STATE : COLORADO COUNTRY : U.S.A. UWI : 05-123-36218											
DEPTH REF. : RKB REF. HEIGHT : 25.000 ft GROUND LEVEL : 4911.000 ft						RKB to Ground Level G.L. to MEAN SEA LEVEL						DIRECTIONAL ROP											
BOREHOLE RECORD						DEVIATION RECORD						OTHER SERVICES											
HOLE SIZE	in	FROM	ft	TO	ft	INCLINATION	deg	FROM	ft	TO	ft												
12.25		0		1335		0 - 10		0		6477													
8.75		1335		7513		10 - 90		6477		7513													
6.125		7513		14164		90 - 92		7513		14164													
CASING RECORD																							
CASING SIZE	in	FROM	ft	TO	ft																		
9.625		0		1335																			
7		0		7513																			
DRILLING CO. : H&P RIG : 311 LMD UNIT NO. : C-46 SPUD DATE : 08/31/2013 LMD START DATE : 09/20/2013 LMD END DATE : 09/29/2013												DISTRICT : CASPER DEPTH : 1335 ft DEPTH : 14164 ft TOTAL DEPTH : 14164 ft											

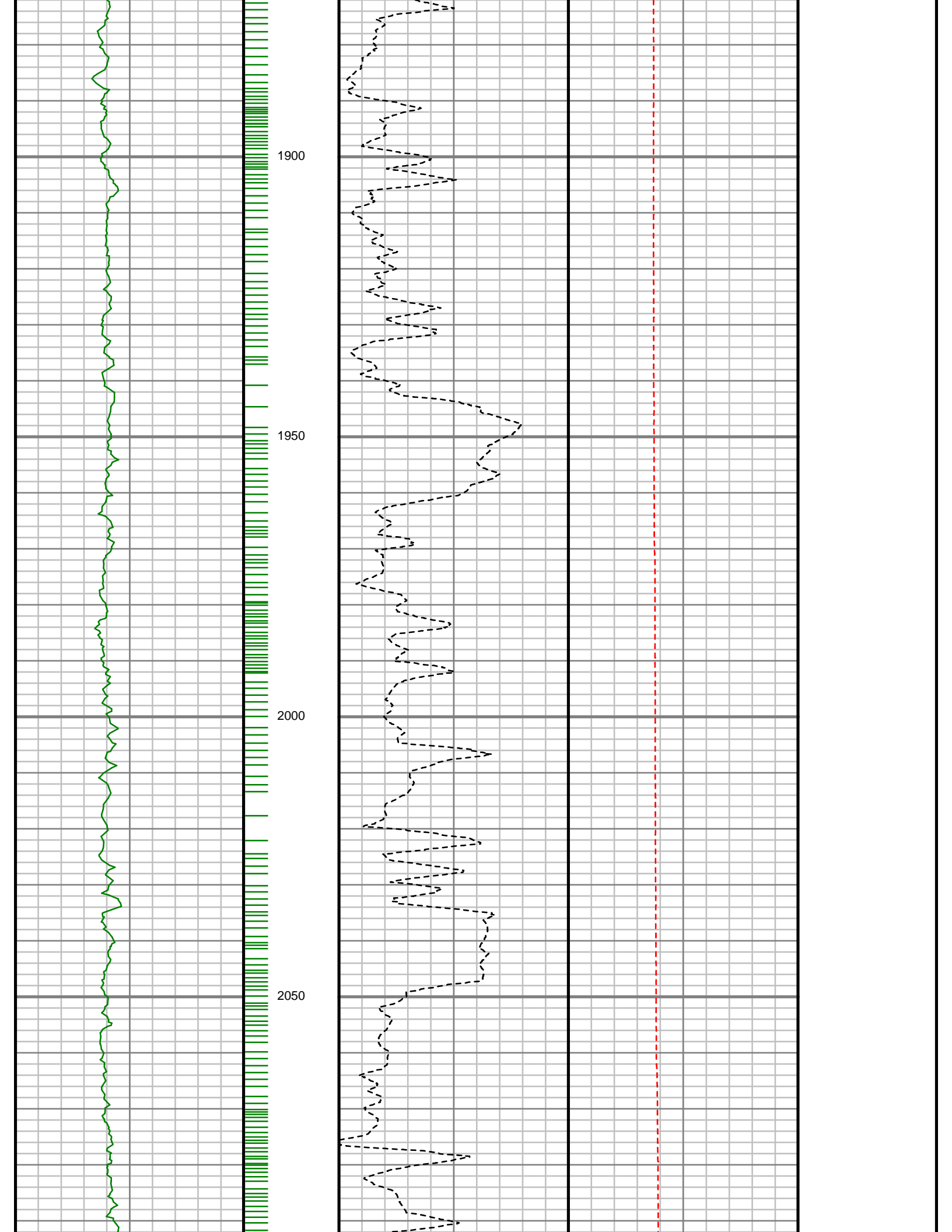
Run Data						
RUN NUMBER	1	2	3			
START DATE	09/20/2013	09/24/2013	09/26/2013			
START TIME	1230	1430	0930			
END DATE	09/24/2013	09/26/2013	09/29/2013			
END TIME	1430	0930	0000			
DEPTH IN (ft)	1335	7513	10417			
DEPTH OUT (ft)	7513	10417	14164			
LOG TOP (ft)	1269	7447	10347			
LOG BOTTOM (ft)	7447	10347	14106			
HOLE SIZE (in)	8.75	6.125	6.125			
MUD DATA @ (ft)	1326	7200	10417			
MUD TYPE	WATER-BASED	WATER-BASED	WATER-BASED			
DENSITY (lb / gal)	9.2	10.1	9.5			
VISCOSITY (s / qt)	33	39	39			
pH	8.2	9	9			
FLUID LOSS (cm3 / 30)	-	-	-			
SALINITY (ppm)	1300	1300	1300			
Rm (ohmm @ deg F)	-	-	-			
Rmf (ohmm @ deg F)	-	-	-			
MAX TEMP (deg F)	178	215	234			
Rm @ MAX TEMP (ohmm)	-	-	-			
LWD ENGINEER #1	M. SHARKER	M. SHARKER	M. SHARKER			
LWD ENGINEER #2	J. DENNING	J. DENNING	J. DENNING			
LWD ENGINEER #3	B. GREER	-	-			
LOG WITNESS #1	J. STUART	J. STUART	R. CANNON			
LOG WITNESS #2	-	-	-			

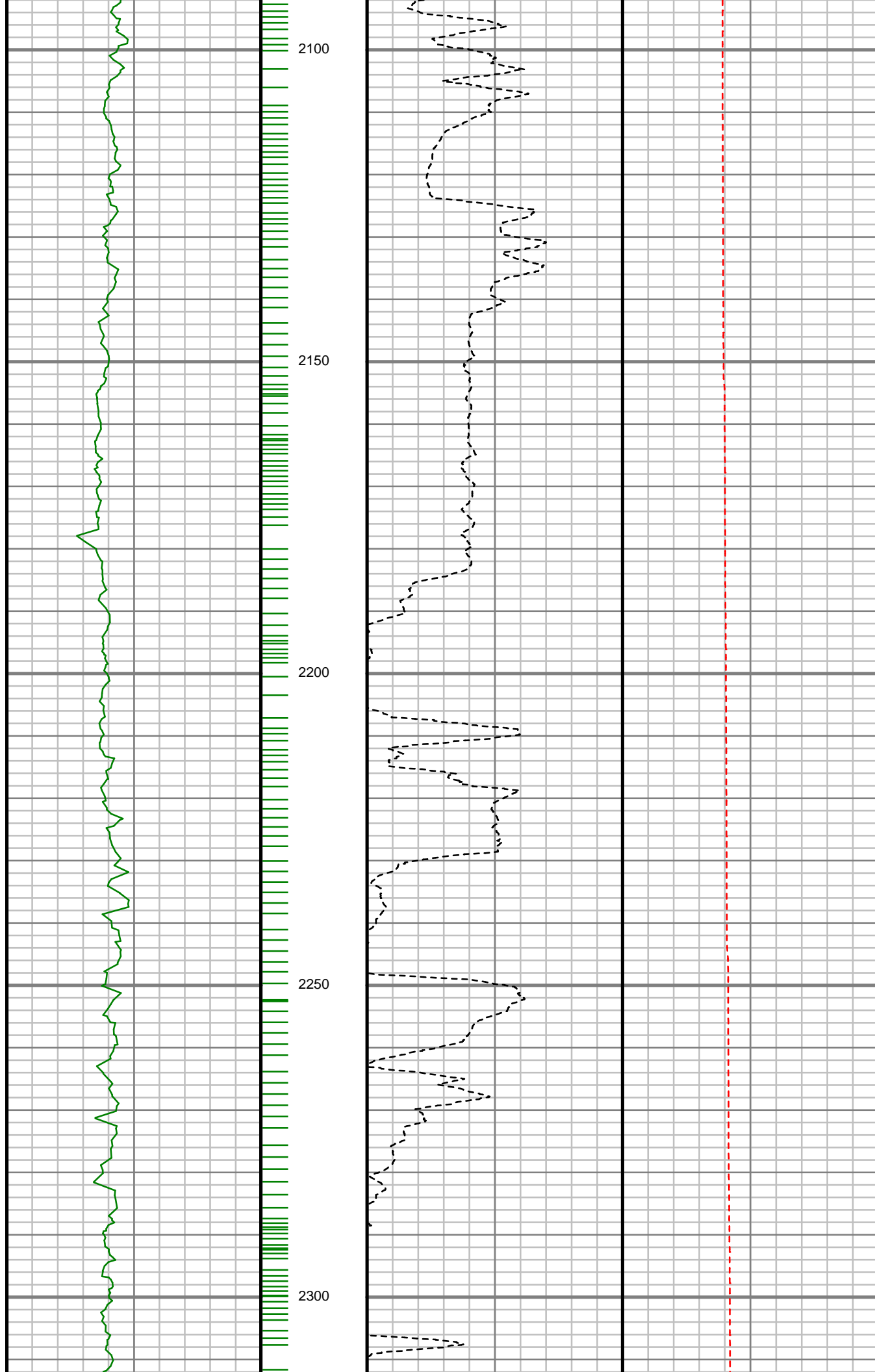
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

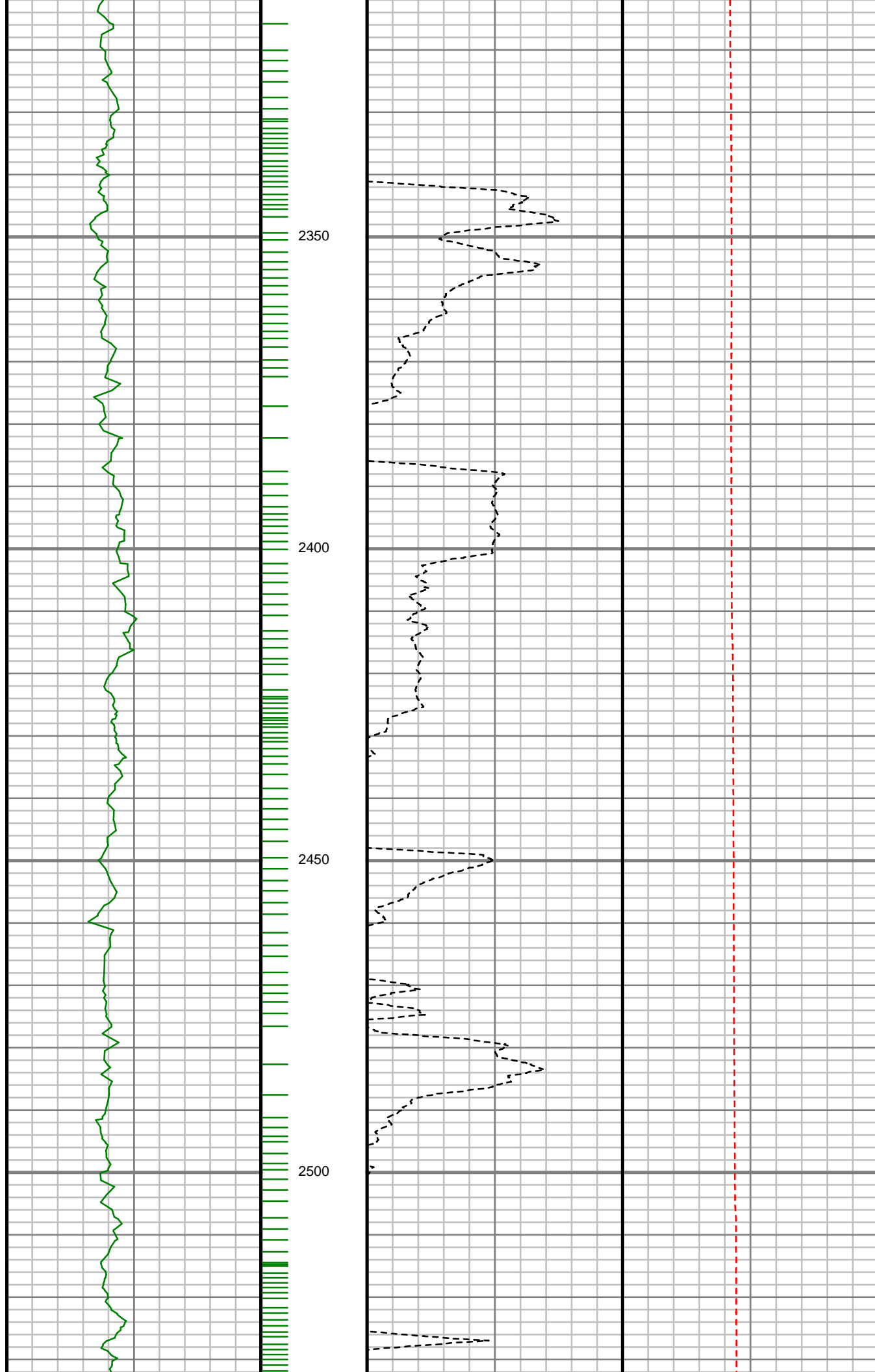


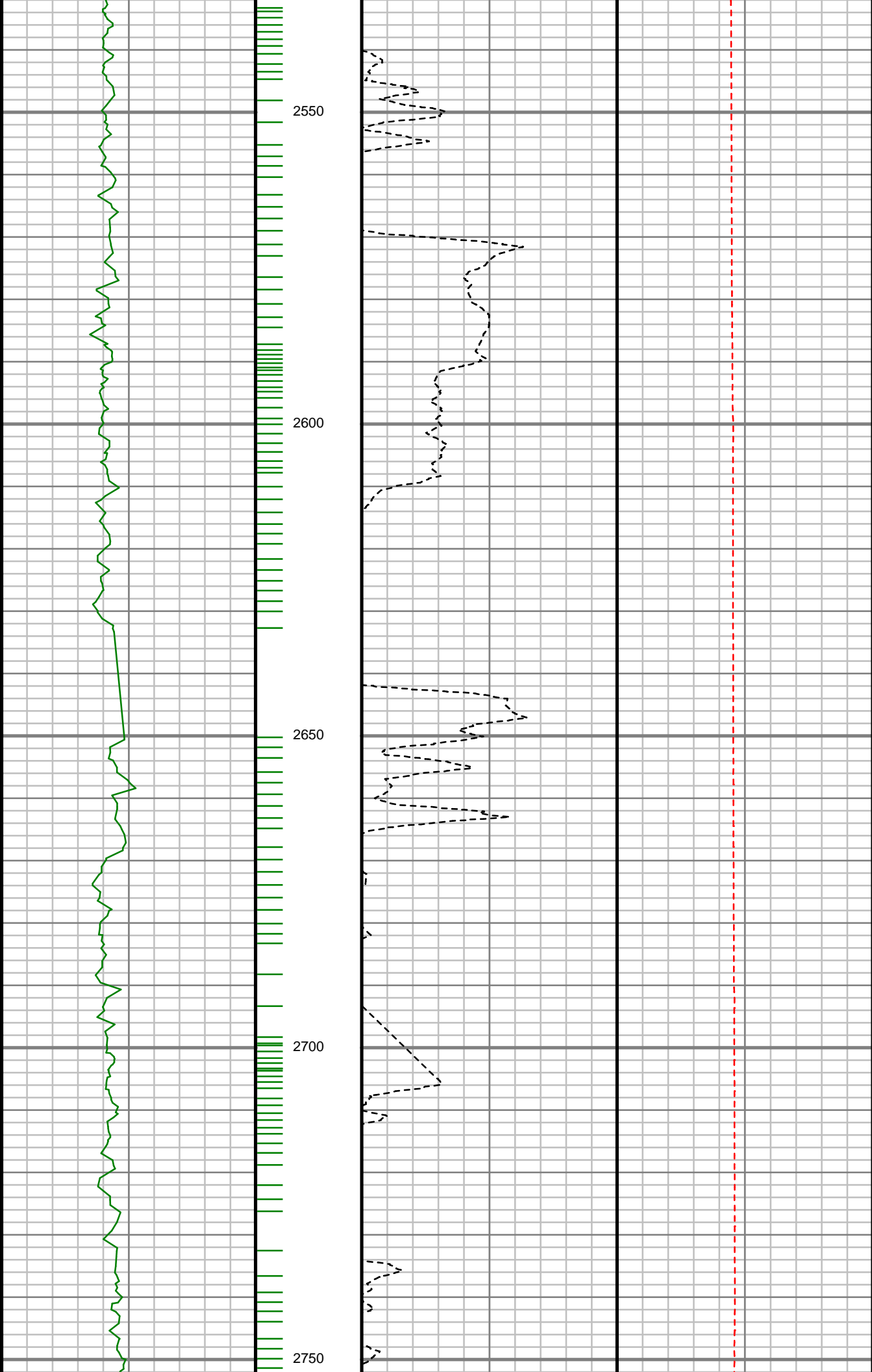


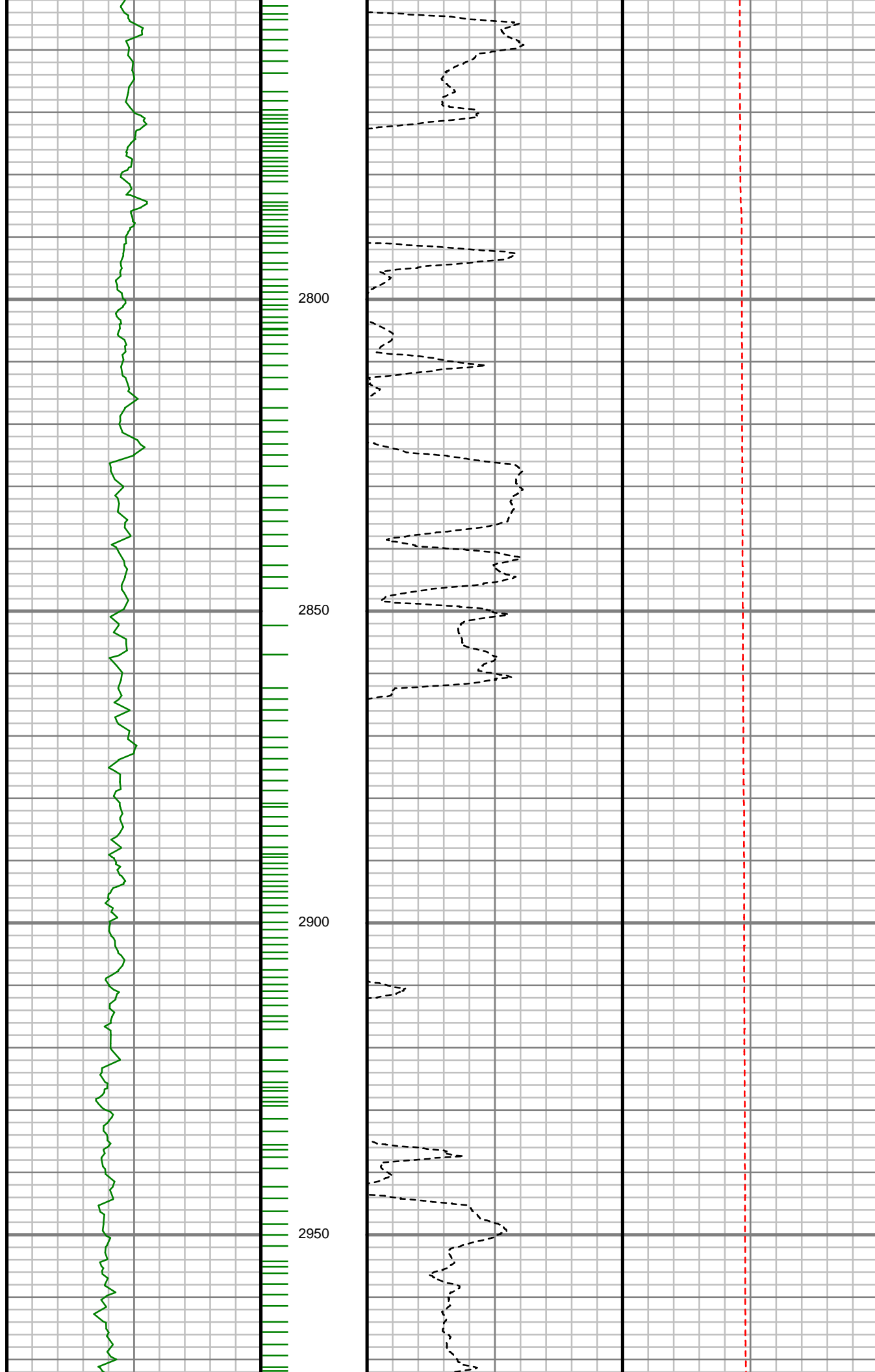


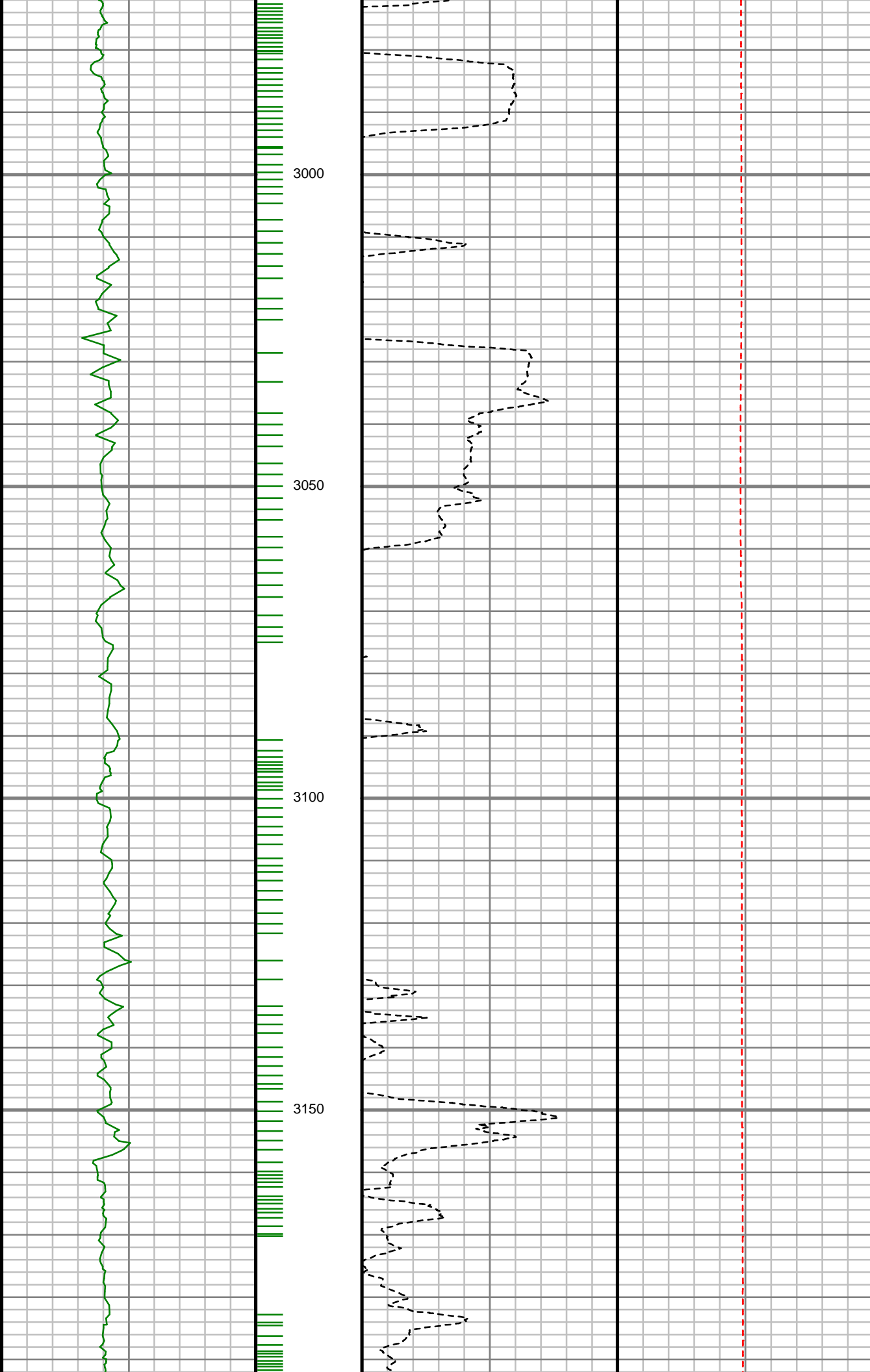


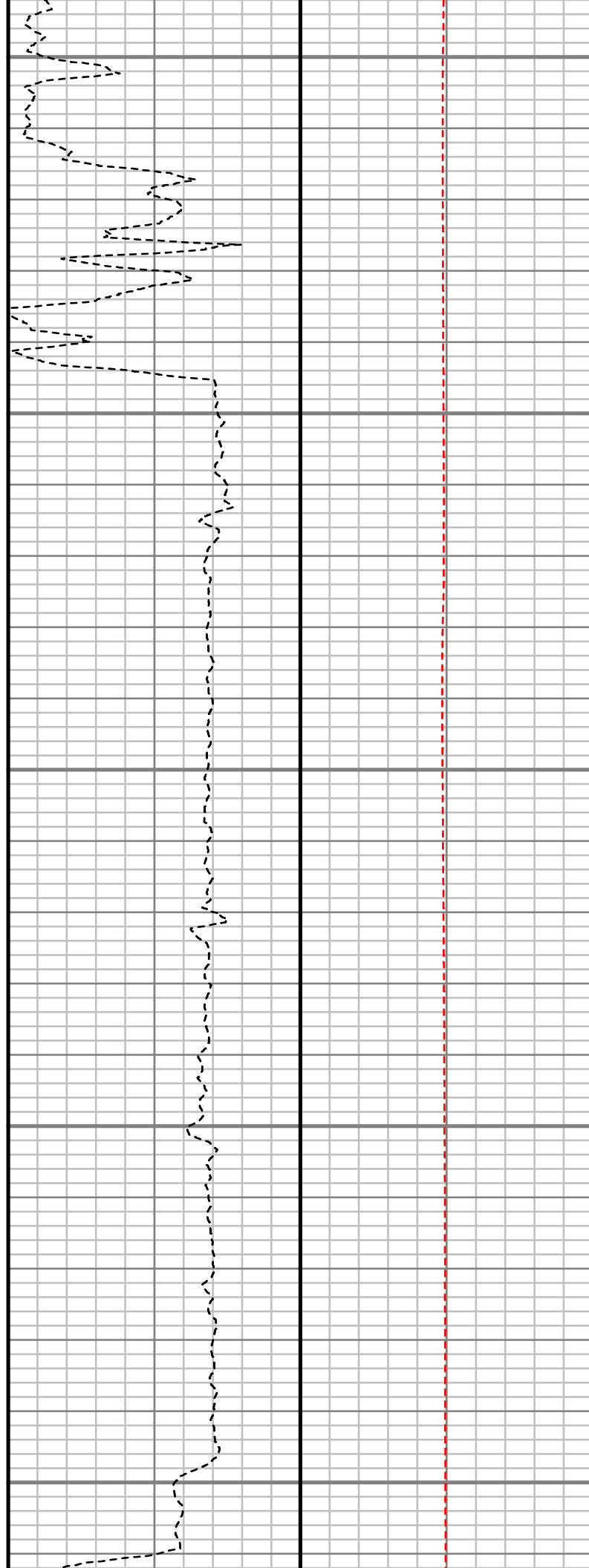
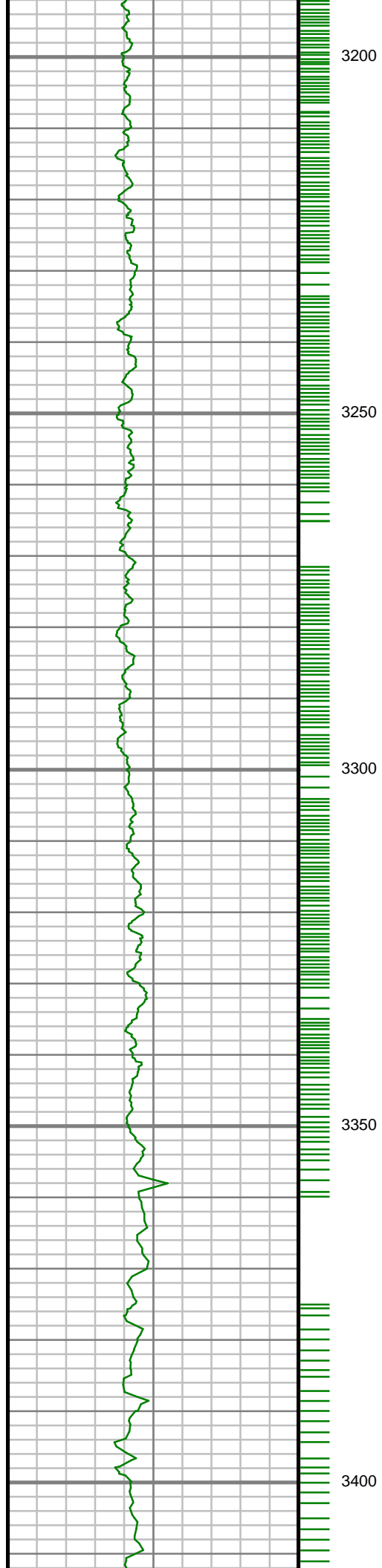


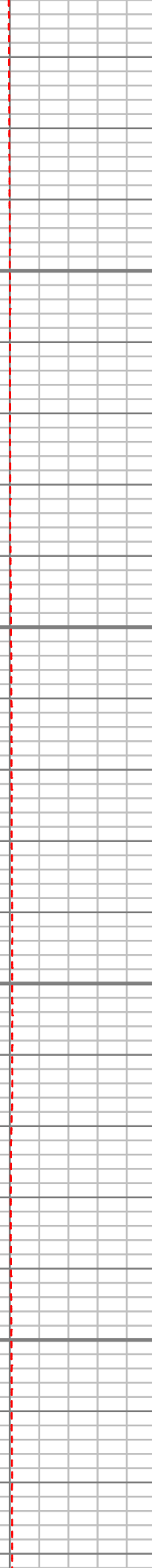
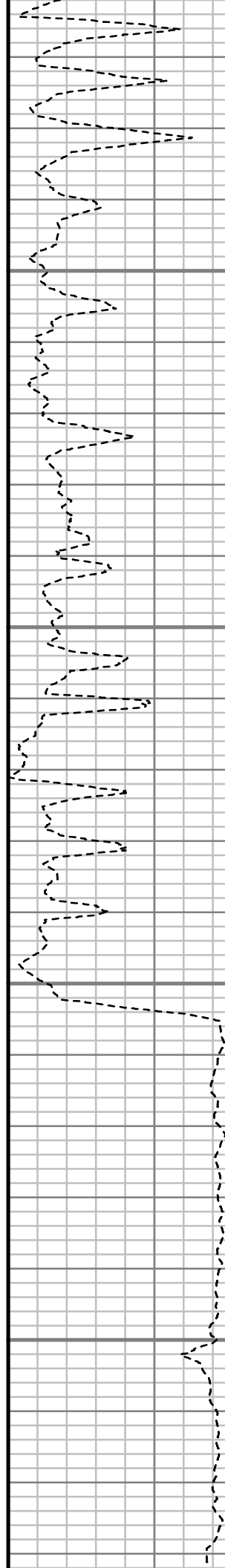
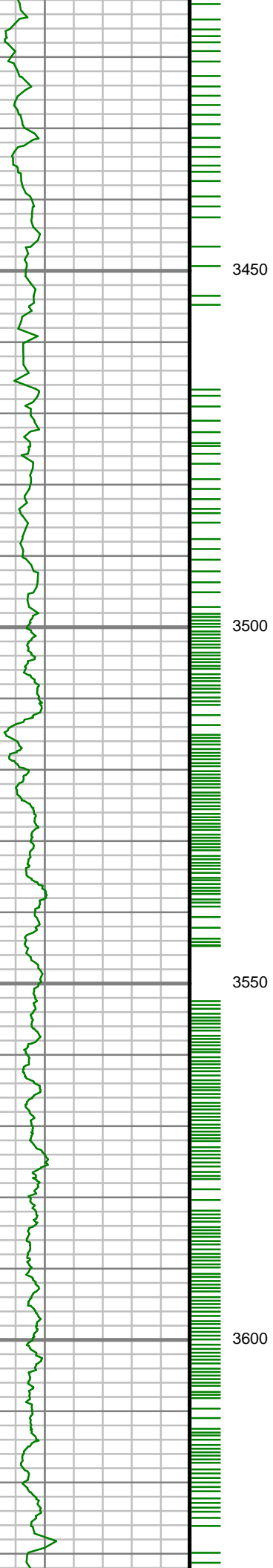


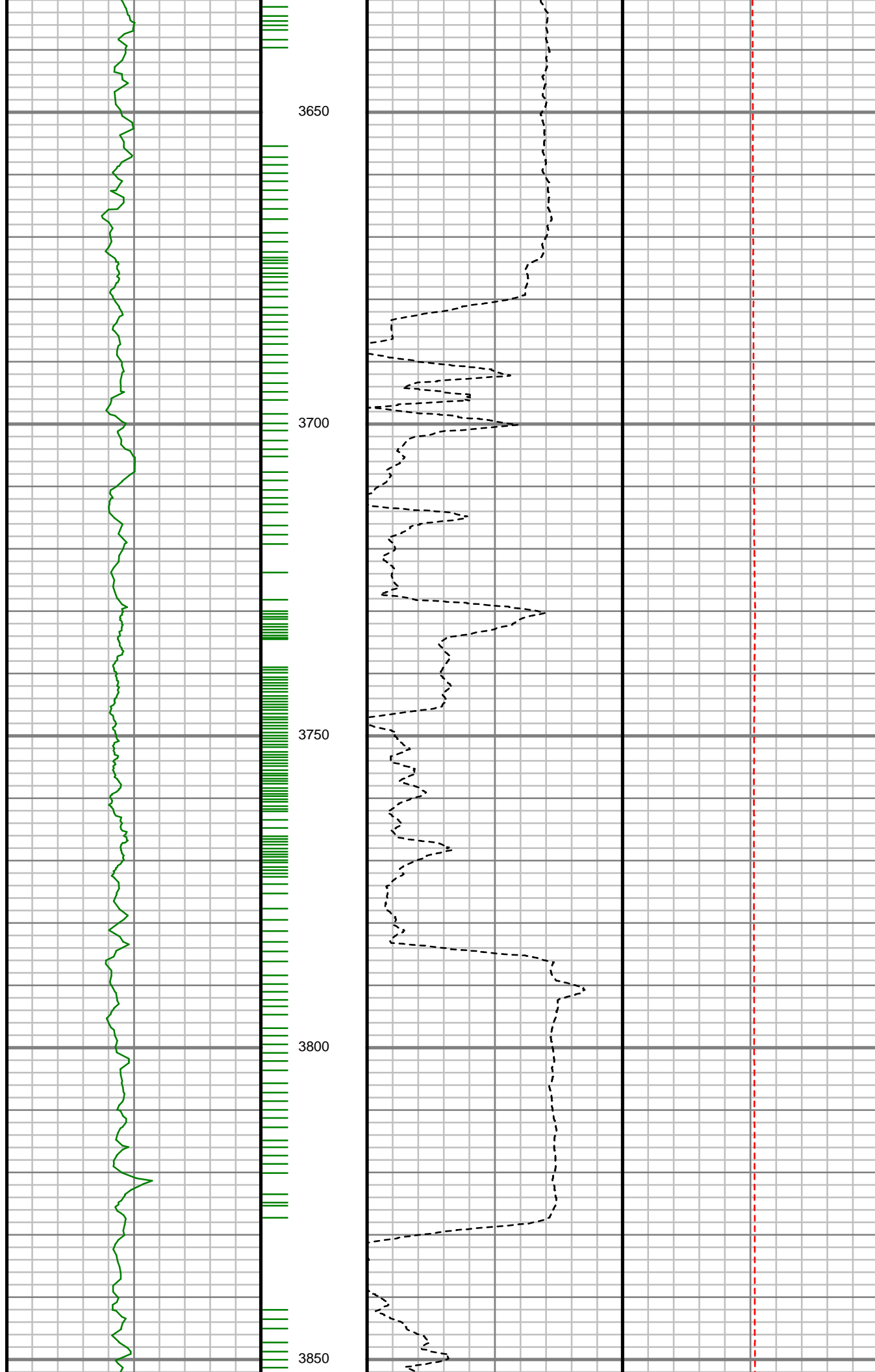


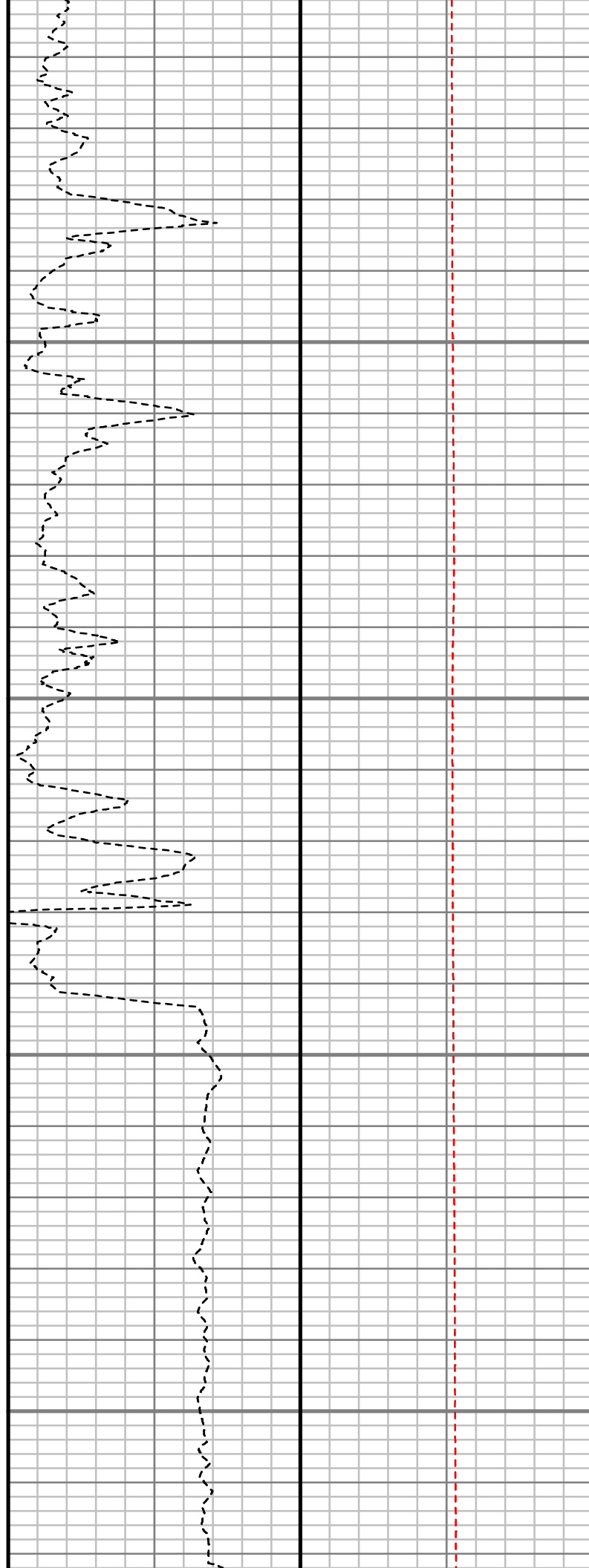
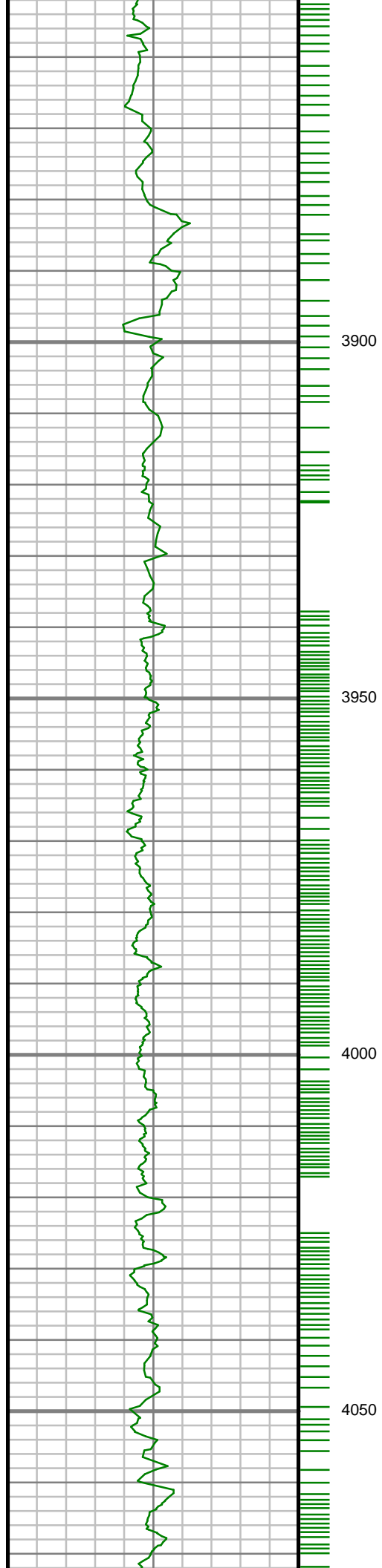


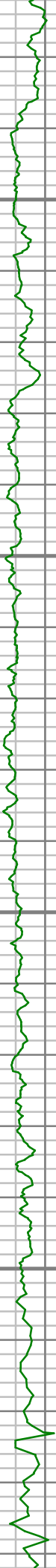










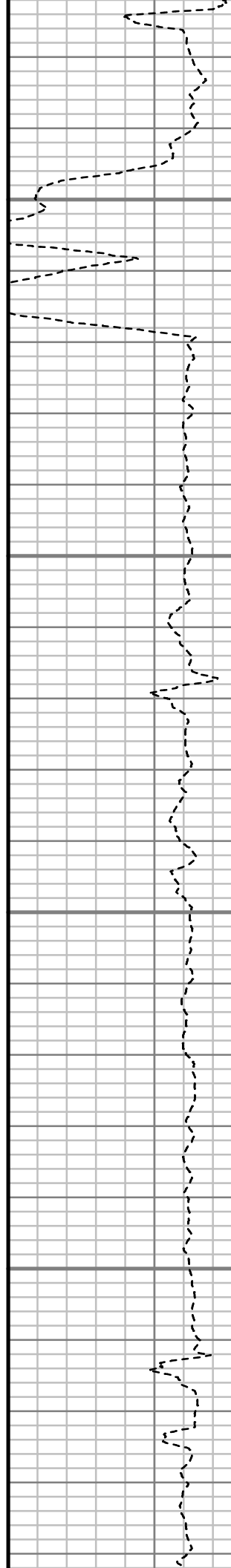


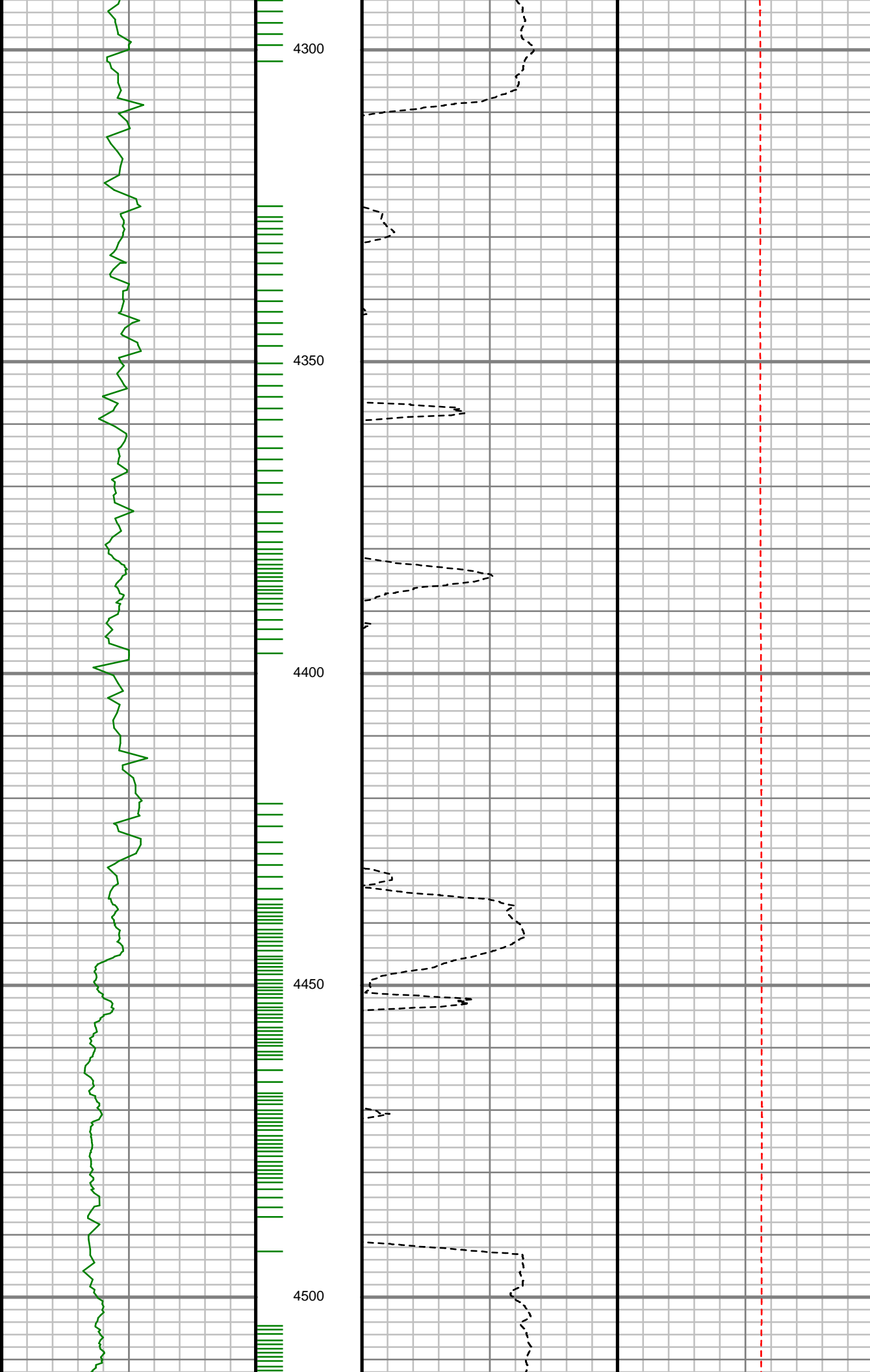
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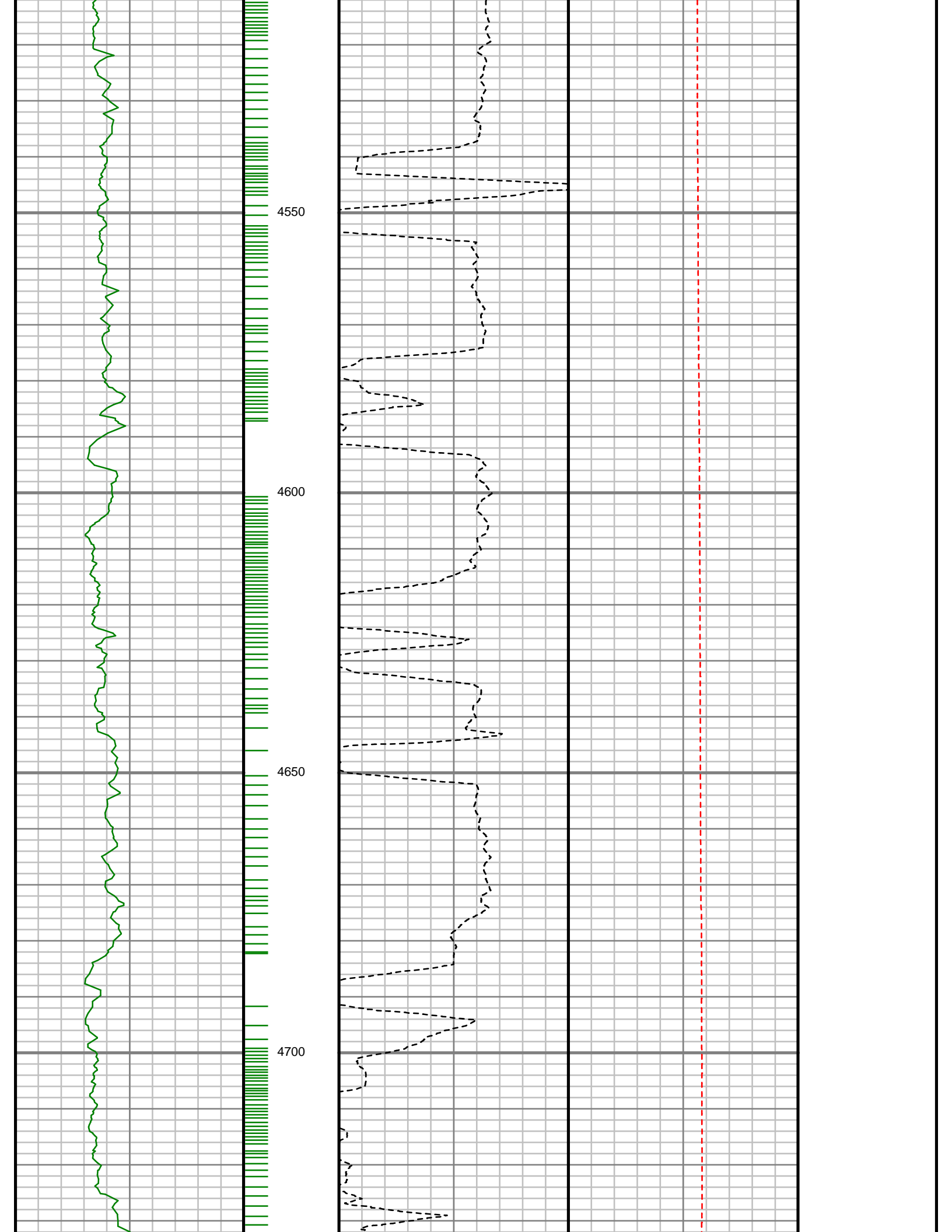
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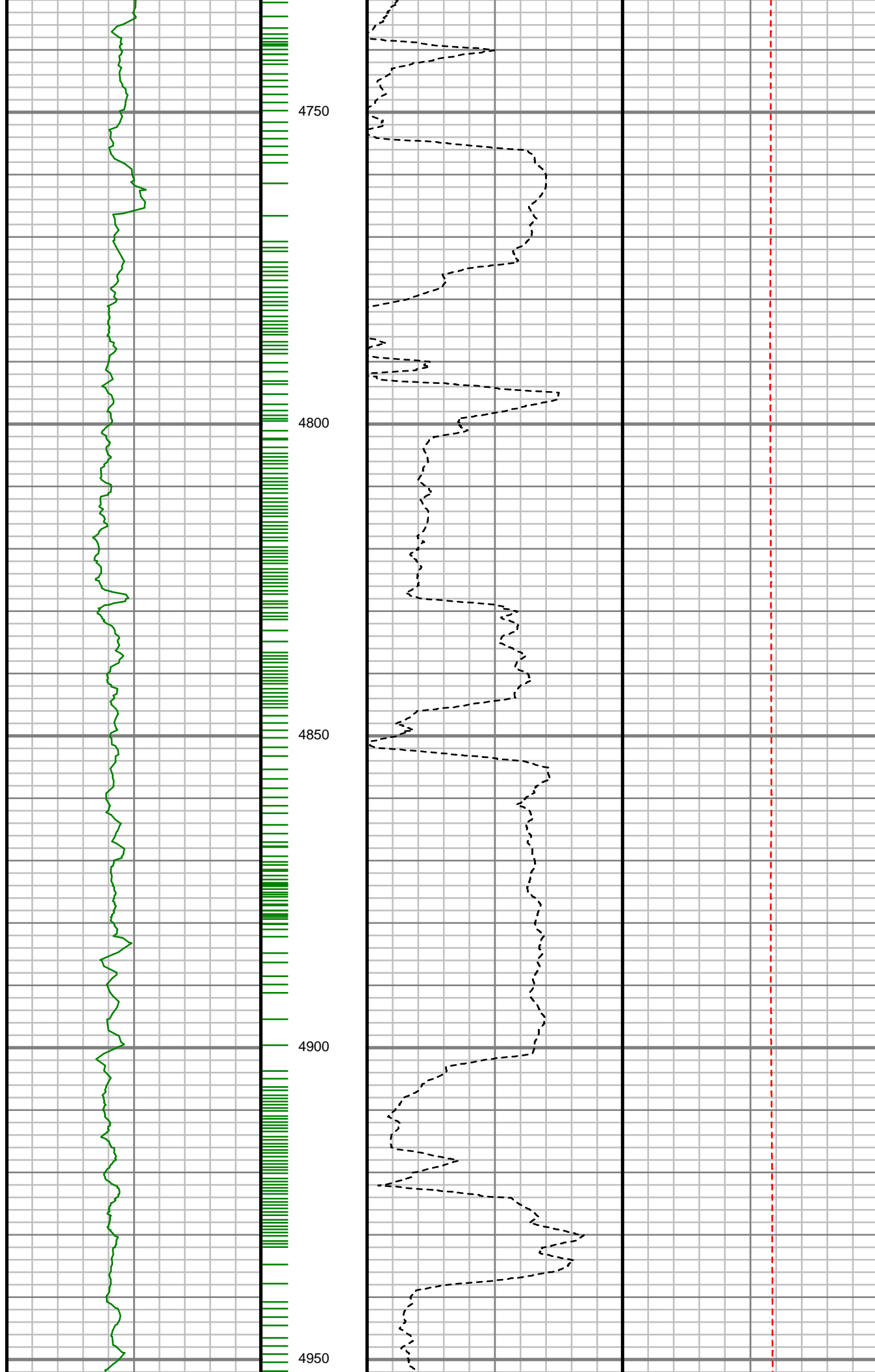
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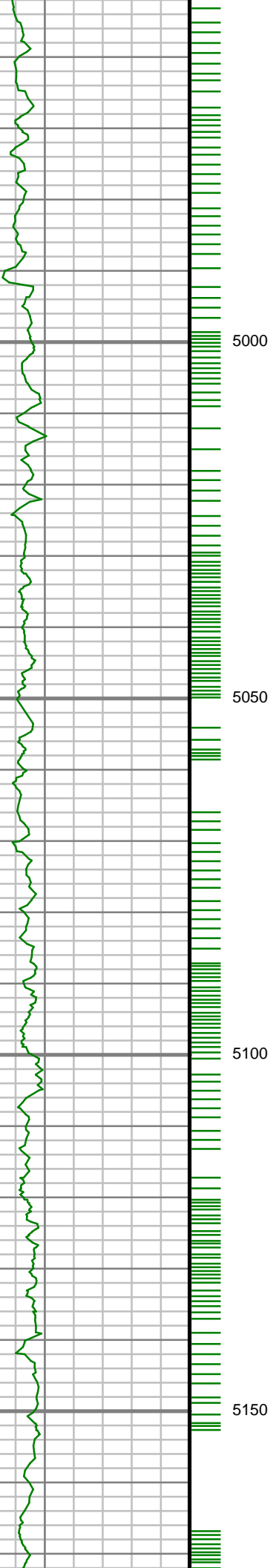
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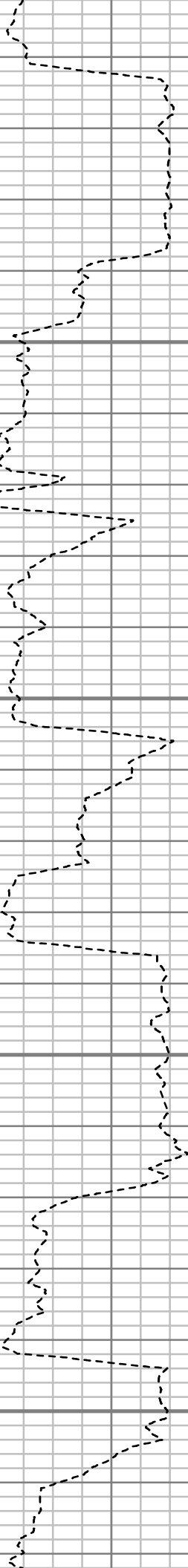


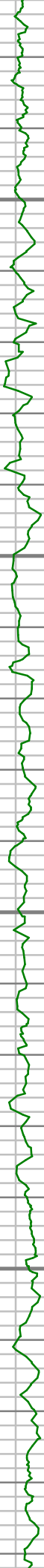
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5050

5100

5150



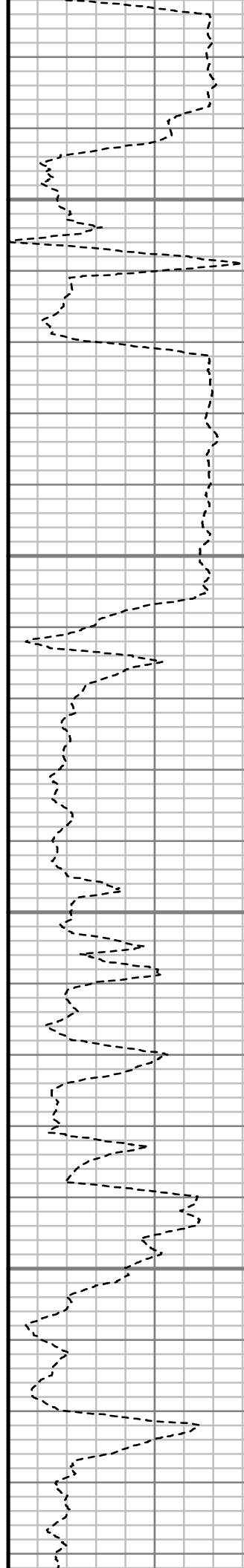


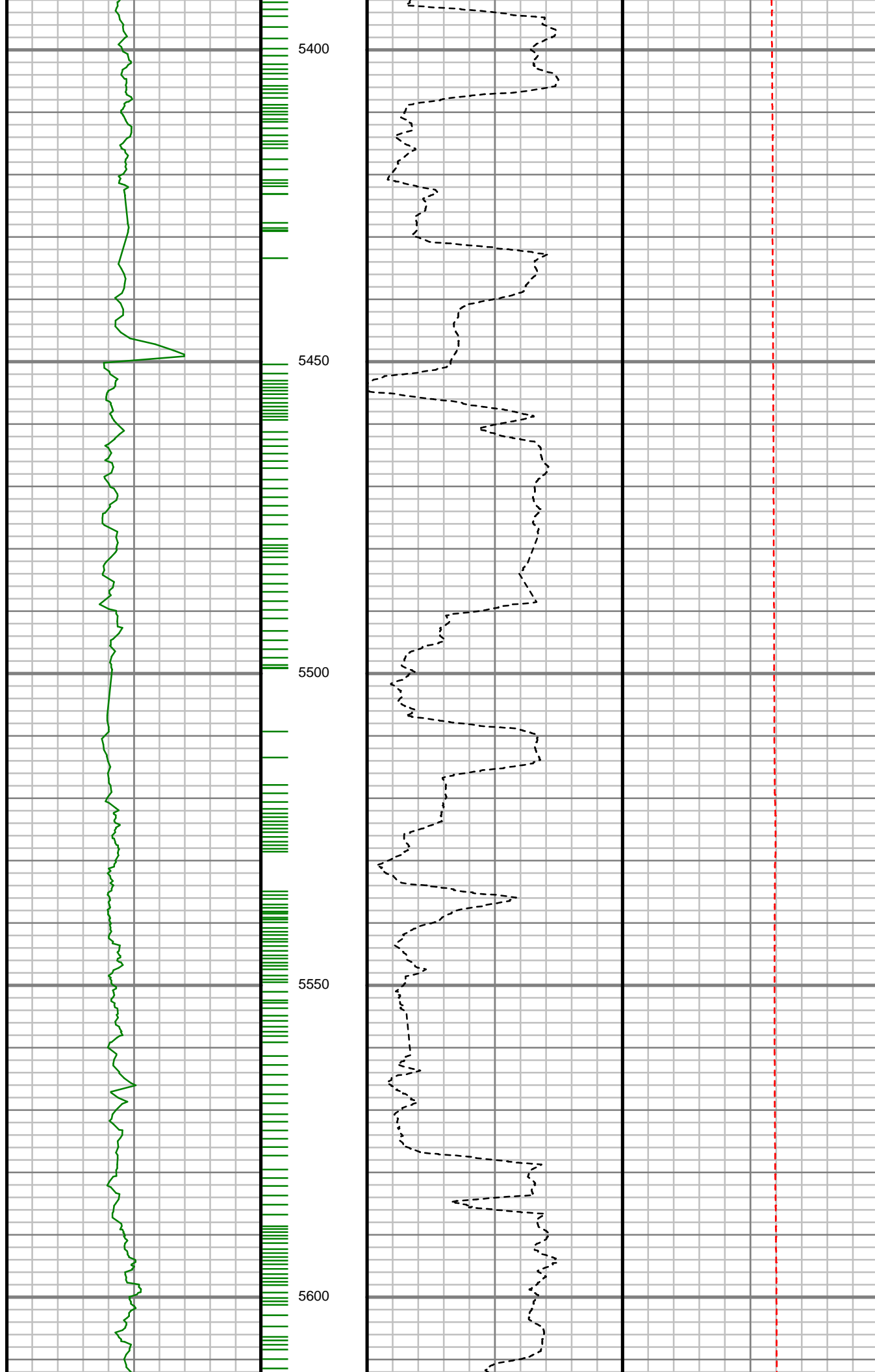
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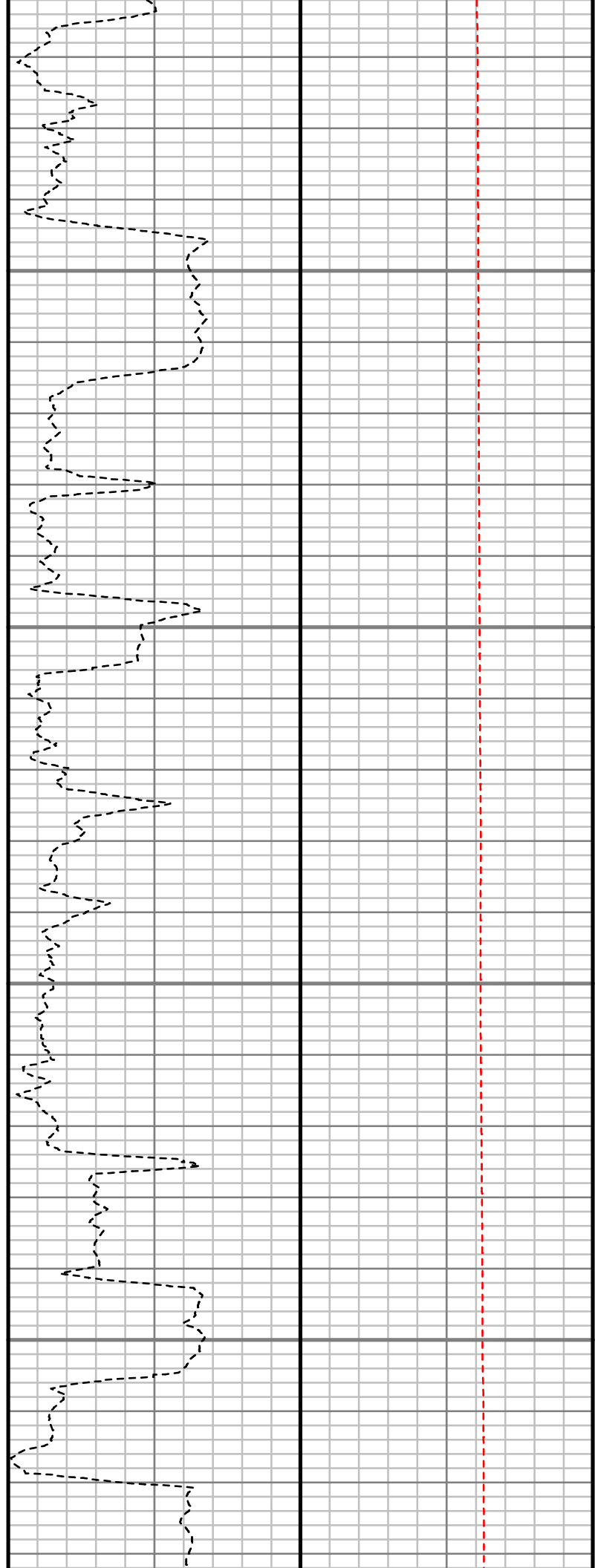
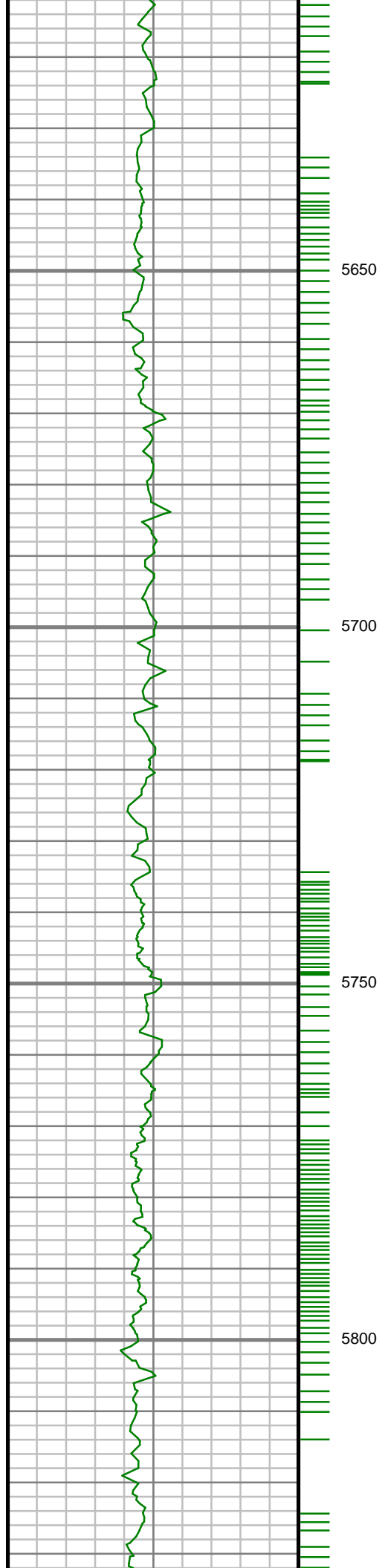
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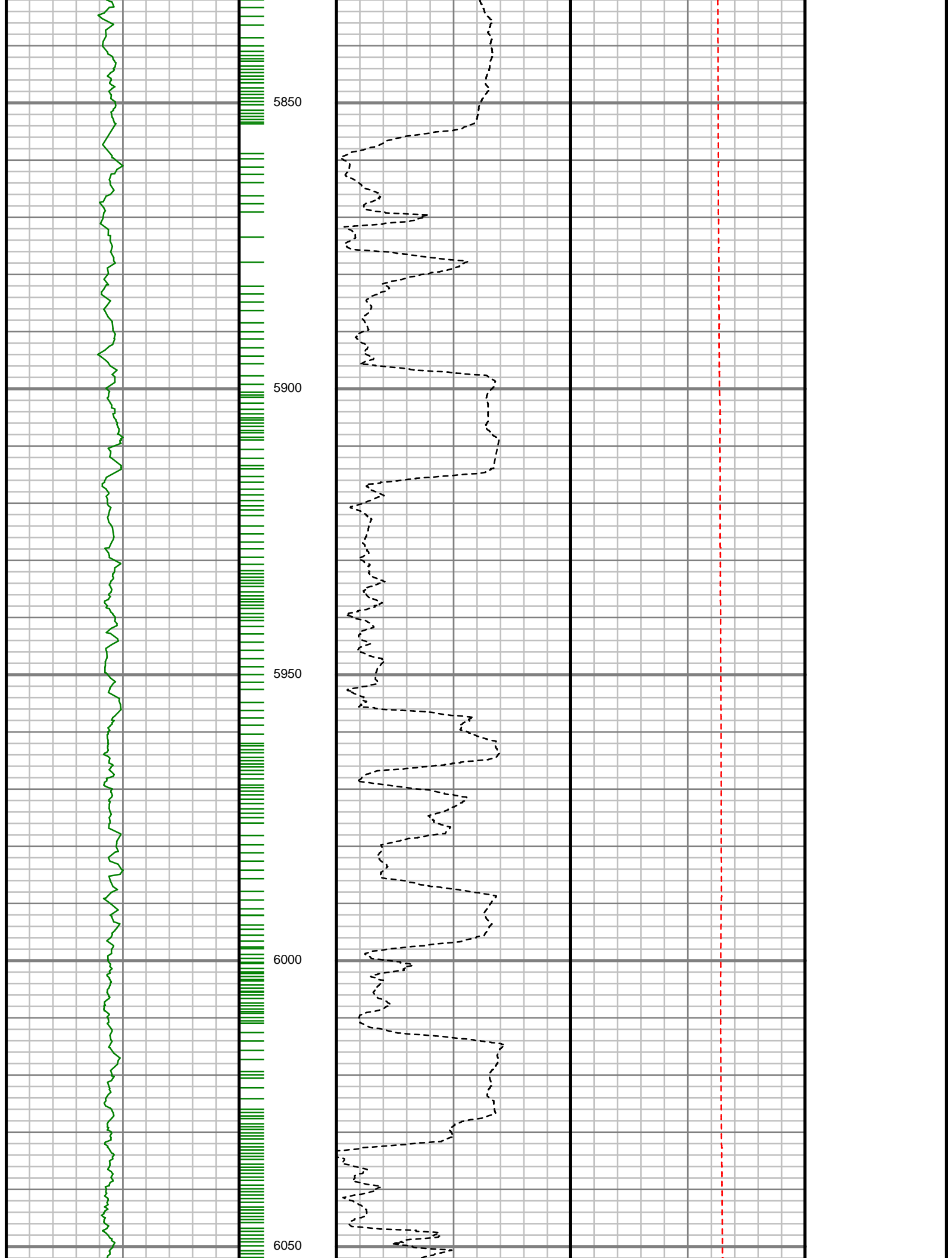
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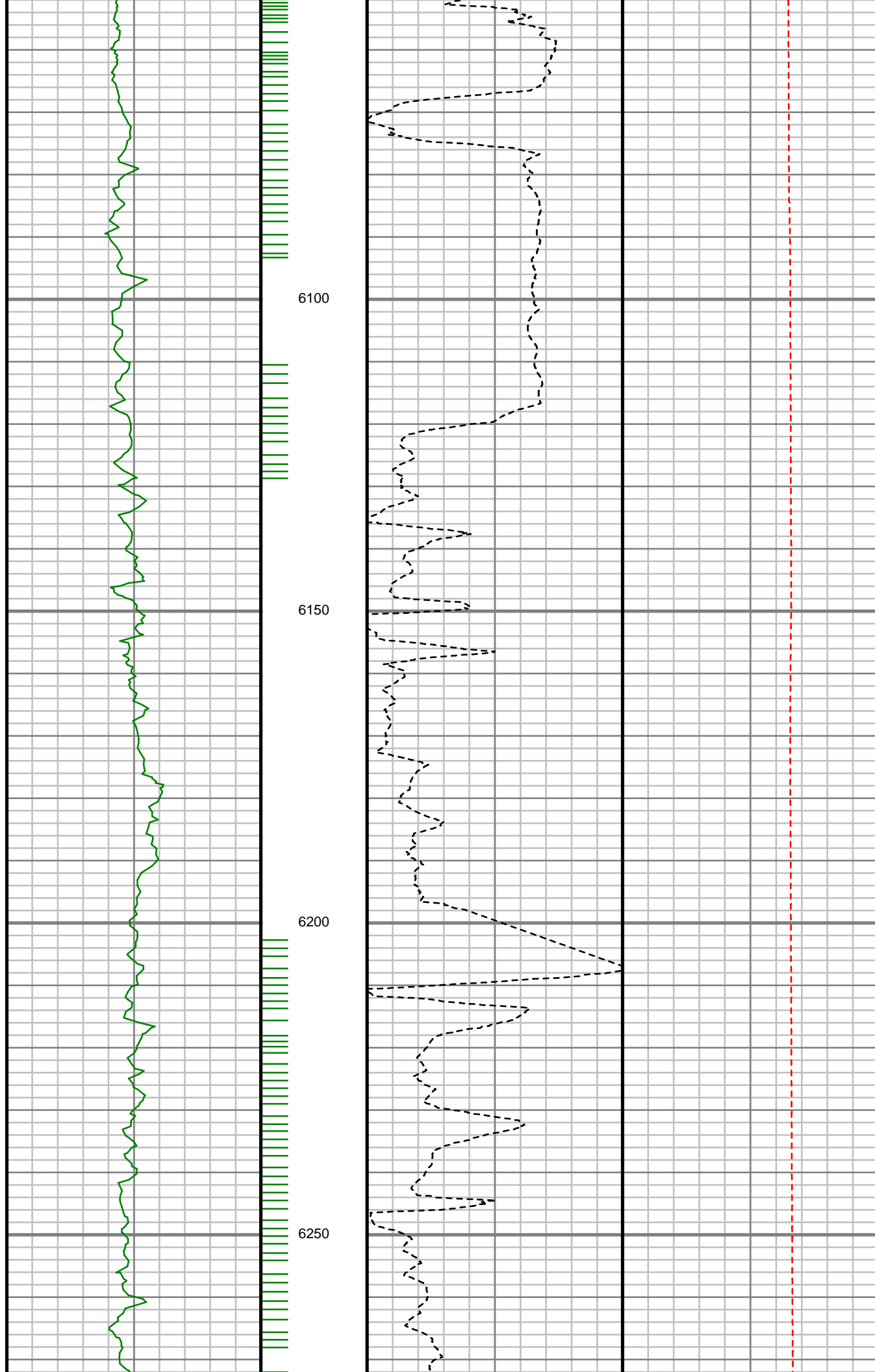
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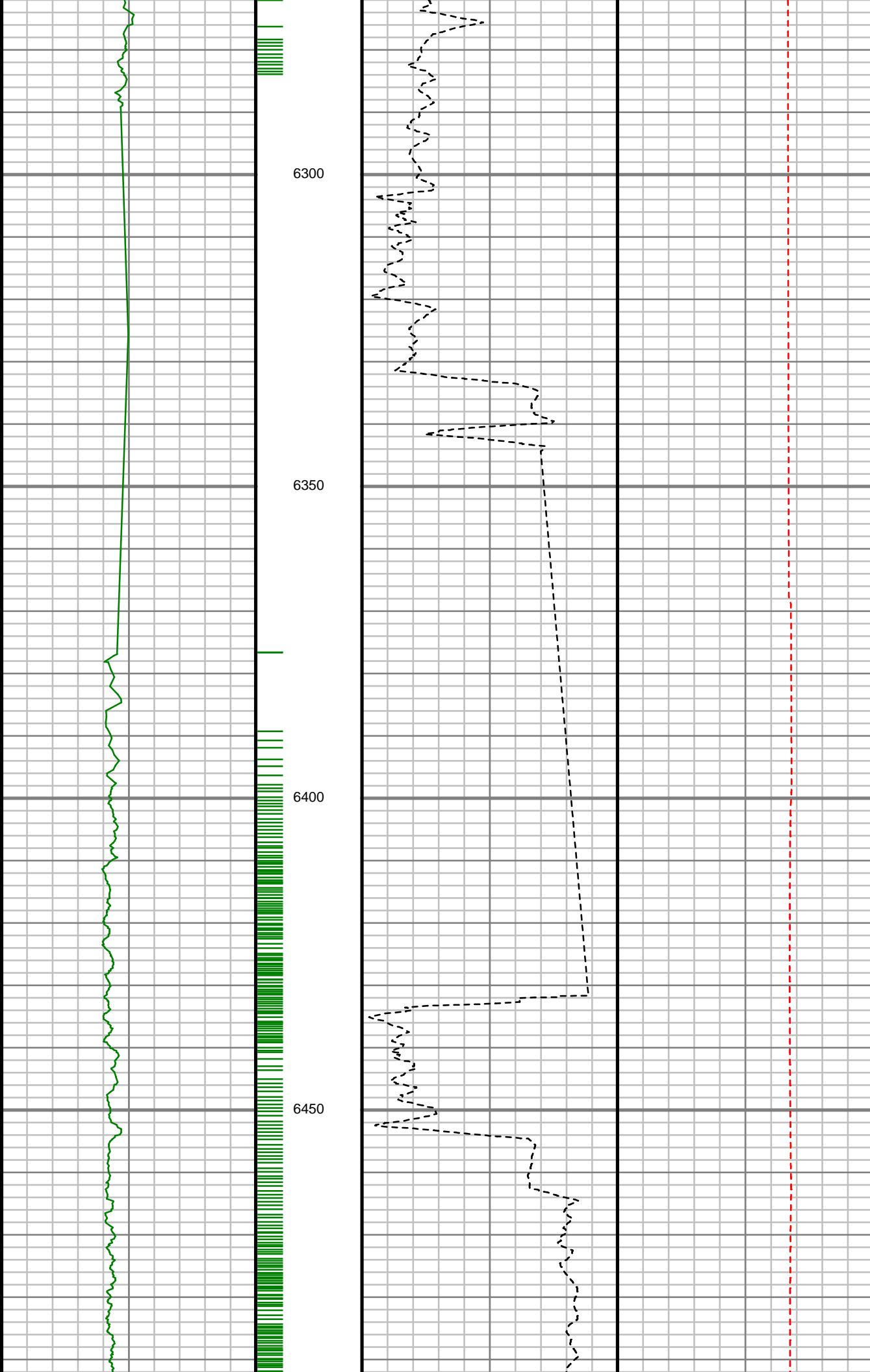


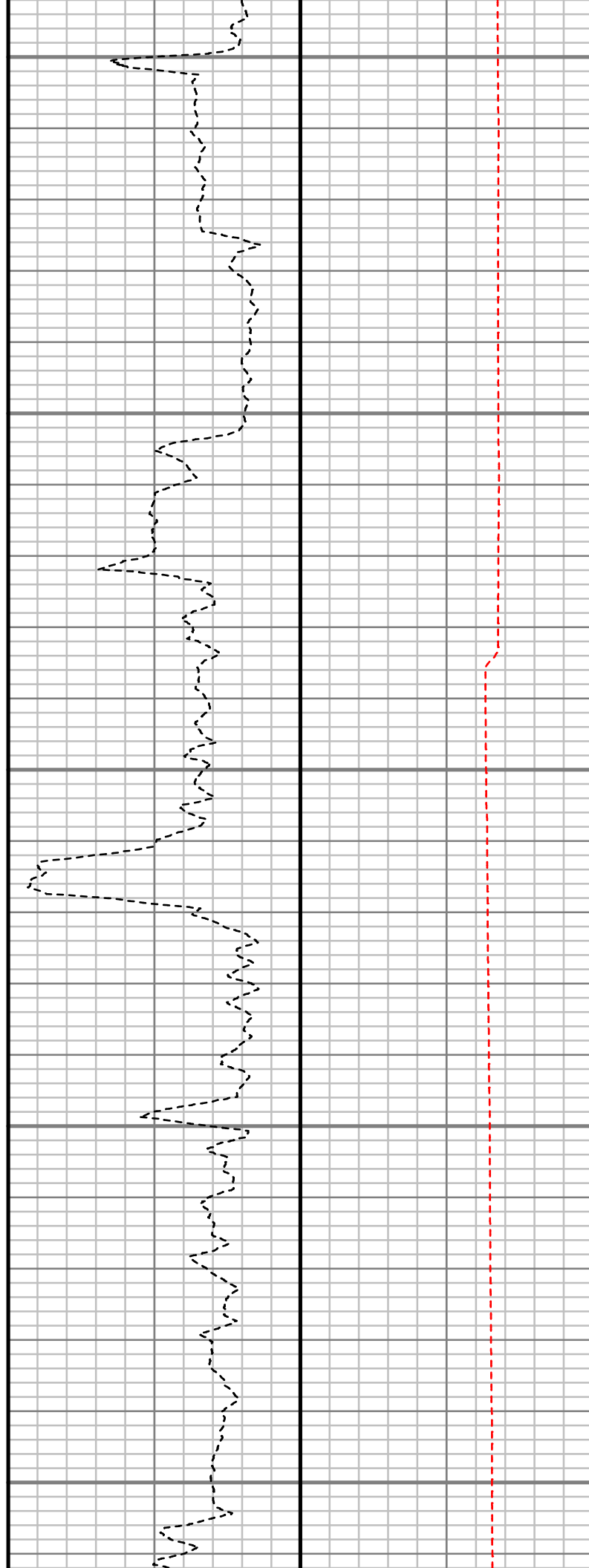
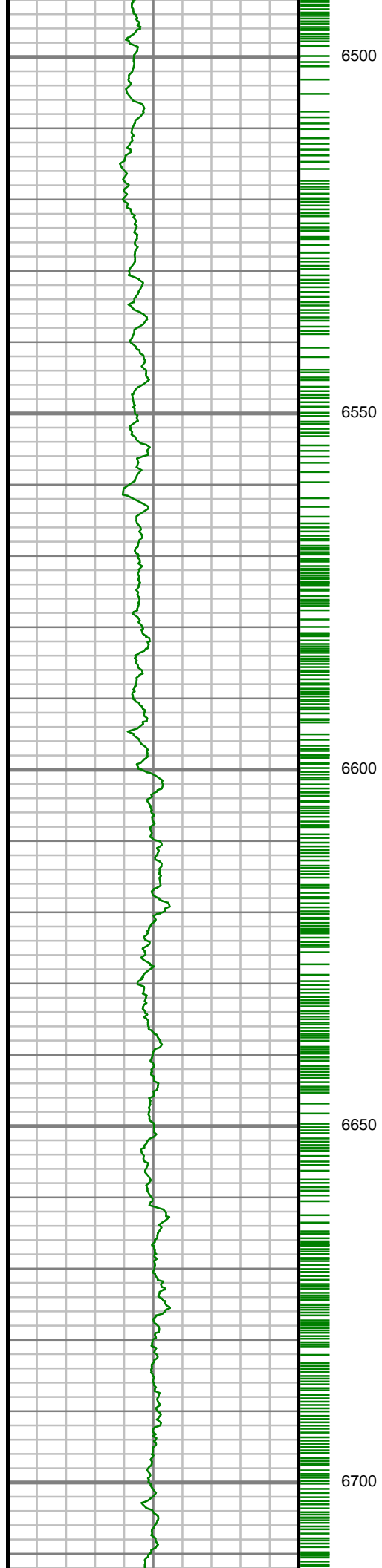


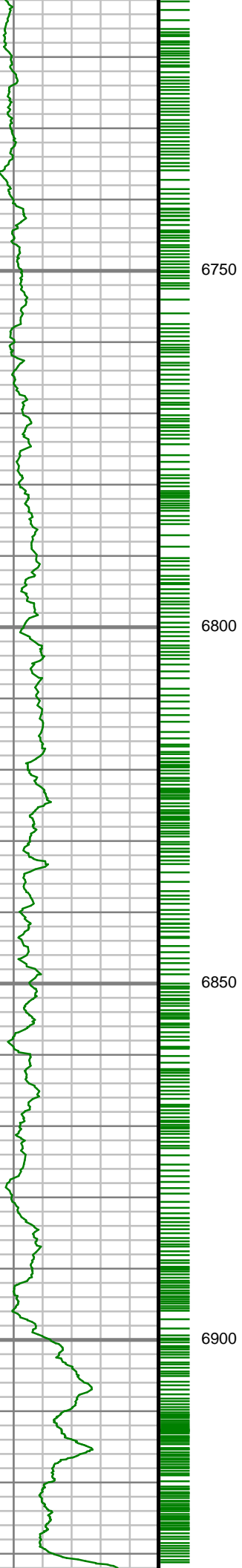










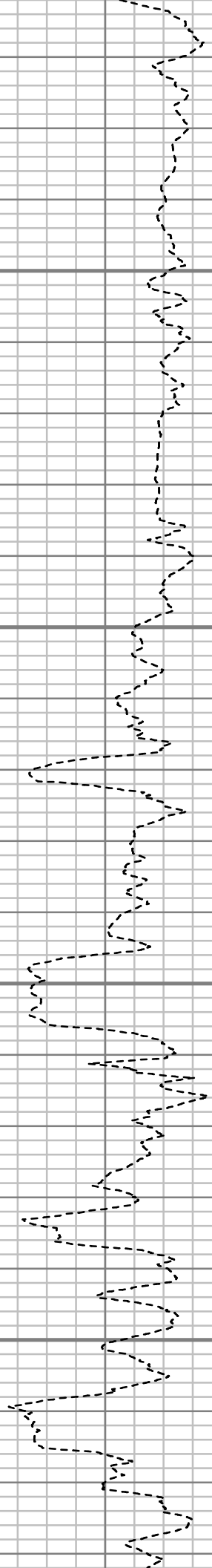


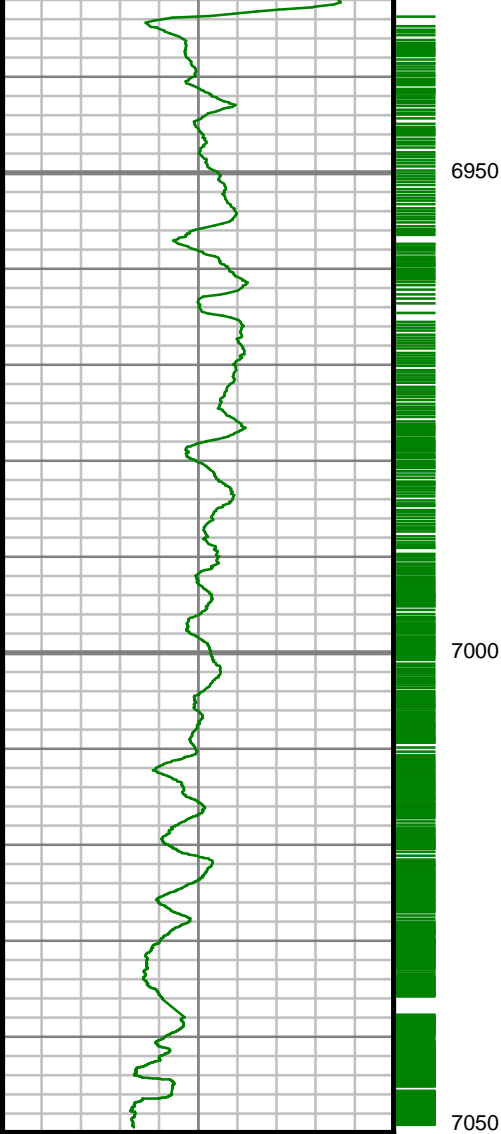
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6950

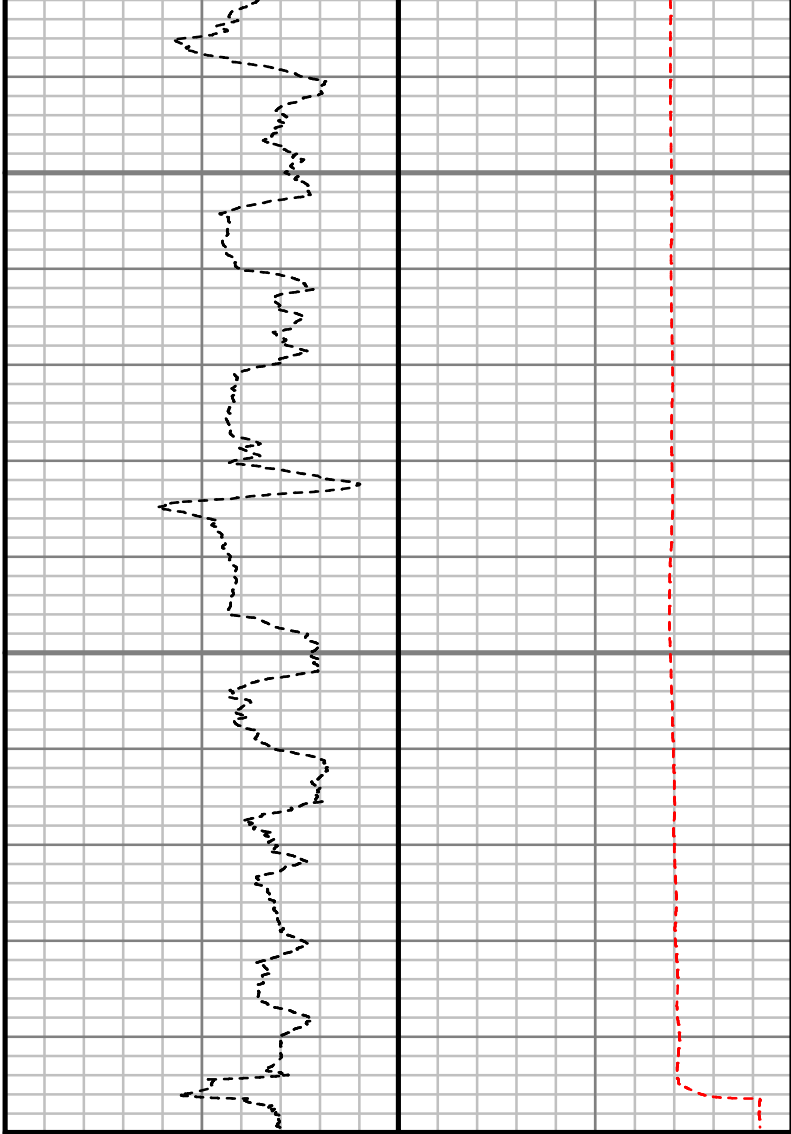
7000

7050

TRUE VERTICAL DEPTH
1,240 (ft)

Gamma Ray (GR)

0 Unit = aapi 150



Rate of Penetration (ROP)

500 Unit = ft/hr 0

Tool Temperature (T-TEMP)

0 Unit = °F 250

Comments

Survey Report

Customer Name:	ANADARKO PETROLEUM CORP.
Site Name:	GITTLEIN 36-33HZ
Well Name:	GITTLEIN 29N-28HZ
Survey:	Gittlein 29N-28HZ
Survey Date:	9/20/2013
Magnetic Declination:	8.30 deg
North Reference:	True North
Calculation Method:	Minimum Curvature
Section (VS) Ref:	0.00N (ft), 0.00E (ft), 0.00Azim (deg)

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft
0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid
100.00	0.29	150.78	100.00	-0.22	-0.22	0.12	0.29
200.00	0.35	169.15	200.00	-0.74	-0.74	0.30	0.12
300.00	0.16	157.72	300.00	-1.17	-1.17	0.42	0.20
400.00	0.29	148.53	400.00	-1.52	-1.52	0.60	0.13
500.00	0.30	193.16	500.00	-1.99	-1.99	0.67	0.22
600.00	0.38	179.76	599.99	-2.57	-2.57	0.61	0.11
700.00	0.19	251.14	699.99	-2.96	-2.96	0.46	0.37
800.00	0.18	142.07	799.99	-3.14	-3.14	0.40	0.30

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft
900.00	0.09	145.71	899.99	-3.32	-3.32	0.54	0.09
1000.00	0.21	290.85	999.99	-3.32	-3.32	0.41	0.29
1100.00	0.15	268.47	1099.99	-3.26	-3.26	0.11	0.09
1140.00	0.66	359.16	1139.99	-3.03	-3.03	0.05	1.70
1414.00	0.07	161.07	1413.98	-1.62	-1.62	0.09	0.27
1506.00	1.51	222.69	1505.97	-2.57	-2.57	-0.71	1.60
1597.00	4.31	228.98	1596.85	-5.70	-5.70	-4.10	3.10
1689.00	4.50	229.32	1688.58	-10.32	-10.32	-9.45	0.20
1780.00	6.70	225.50	1779.14	-16.37	-16.37	-15.94	2.45
1872.00	7.42	215.04	1870.44	-24.99	-24.99	-23.18	1.60
1964.00	9.35	210.58	1961.45	-36.29	-36.29	-30.40	2.22
2056.00	10.57	207.35	2052.07	-50.23	-50.23	-38.08	1.45
2147.00	11.76	208.93	2141.34	-65.76	-65.76	-46.40	1.35
2239.00	10.88	213.53	2231.55	-81.21	-81.21	-55.73	1.37
2331.00	11.03	209.91	2321.88	-96.07	-96.07	-64.91	0.77
2423.00	9.39	224.14	2412.43	-109.09	-109.09	-74.53	3.26
2514.00	9.07	224.40	2502.25	-119.54	-119.54	-84.72	0.35
2606.00	6.53	204.73	2593.41	-129.47	-129.47	-91.98	3.97
2698.00	5.34	202.78	2684.92	-138.17	-138.17	-95.83	1.31
2793.00	3.79	224.27	2779.62	-144.50	-144.50	-99.73	2.40

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft
2887.00	2.78	247.40	2873.47	-147.60	-147.60	-104.00	1.76
2982.00	3.79	328.30	2968.35	-145.81	-145.81	-107.78	4.56
3076.00	1.01	325.32	3062.26	-142.49	-142.49	-109.89	2.97
3171.00	0.76	1.29	3157.25	-141.17	-141.17	-110.35	0.62
3265.00	0.39	255.27	3251.25	-140.63	-140.63	-110.64	1.01
3359.00	0.60	299.67	3345.24	-140.47	-140.47	-111.38	0.45
3548.00	0.21	341.65	3534.24	-139.64	-139.64	-112.35	0.24
3642.00	0.67	85.00	3628.24	-139.43	-139.43	-111.86	0.80
3831.00	0.42	134.22	3817.23	-139.81	-139.81	-110.26	0.27
3926.00	0.53	131.02	3912.23	-140.34	-140.34	-109.68	0.12
4020.00	0.45	166.71	4006.22	-140.98	-140.98	-109.27	0.33
4114.00	0.47	151.22	4100.22	-141.68	-141.68	-109.00	0.13
4208.00	0.24	126.36	4194.22	-142.14	-142.14	-108.65	0.29
4303.00	0.84	107.66	4289.21	-142.47	-142.47	-107.83	0.64
4397.00	1.14	106.27	4383.20	-142.94	-142.94	-106.28	0.32
4491.00	1.18	128.71	4477.18	-143.80	-143.80	-104.63	0.48
4586.00	1.68	121.43	4572.15	-145.14	-145.14	-102.68	0.56
4680.00	1.91	114.07	4666.11	-146.50	-146.50	-100.07	0.35
4775.00	1.91	104.25	4761.05	-147.53	-147.53	-97.09	0.34

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft
4869.00	1.06	201.06	4855.03	-148.73	-148.73	-95.88	2.44
4964.00	1.13	257.75	4950.02	-149.76	-149.76	-97.12	1.10
5058.00	1.38	268.01	5043.99	-149.99	-149.99	-99.15	0.35
5153.00	1.83	256.53	5138.96	-150.38	-150.38	-101.77	0.58
5247.00	1.99	270.12	5232.90	-150.73	-150.73	-104.86	0.51
5342.00	1.59	278.85	5327.86	-150.52	-150.52	-107.81	0.51
5436.00	2.12	308.37	5421.81	-149.24	-149.24	-110.46	1.14
5530.00	2.28	311.46	5515.74	-146.93	-146.93	-113.22	0.21
5625.00	1.25	330.97	5610.70	-144.77	-144.77	-115.14	1.23
5719.00	1.63	337.88	5704.67	-142.63	-142.63	-116.14	0.44
5814.00	0.54	141.91	5799.66	-141.73	-141.73	-116.38	2.27
5908.00	0.81	157.68	5893.65	-142.69	-142.69	-115.85	0.34
6002.00	0.88	162.53	5987.64	-143.99	-143.99	-115.39	0.11
6097.00	1.38	67.46	6082.63	-144.25	-144.25	-114.11	1.79
6191.00	1.11	66.67	6176.60	-143.46	-143.46	-112.22	0.28
6285.00	1.26	48.25	6270.58	-142.41	-142.41	-110.61	0.43
6380.00	1.11	60.13	6365.56	-141.25	-141.25	-109.04	0.30
6474.00	1.50	20.32	6459.54	-139.65	-139.65	-107.82	1.02
6521.00	4.33	0.24	6506.48	-137.29	-137.29	-107.60	6.31
6568.00	8.53	357.85	6553.17	-132.03	-132.03	-107.72	8.96

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft
6615.00	14.70	3.22	6599.19	-122.59	-122.59	-107.52	13.30
6662.00	20.08	359.76	6644.02	-108.55	-108.55	-107.22	11.65
6709.00	25.13	352.96	6687.41	-90.57	-90.57	-108.48	12.09
6756.00	29.09	349.05	6729.24	-69.43	-69.43	-111.87	9.22
6803.00	33.18	352.57	6769.46	-45.45	-45.45	-115.71	9.51
6851.00	39.49	354.44	6808.11	-17.21	-17.21	-118.89	13.36
6898.00	45.16	355.03	6842.85	14.29	14.29	-121.79	12.08
6945.00	48.86	356.77	6874.89	48.58	48.58	-124.23	8.34
6992.00	54.01	357.85	6904.18	85.27	85.27	-125.94	11.09
7039.00	60.03	357.83	6929.76	124.65	124.65	-127.43	12.82
7086.00	64.79	2.07	6951.52	166.28	166.28	-127.43	12.91
7133.00	66.96	4.93	6970.74	209.09	209.09	-124.81	7.21
7180.00	68.38	3.58	6988.59	252.44	252.44	-121.58	4.03
7228.00	72.32	2.72	7004.73	297.57	297.57	-119.10	8.37
7275.00	77.60	2.32	7016.93	342.90	342.90	-117.11	11.28
7322.00	79.36	1.18	7026.31	388.93	388.93	-115.71	4.42
7369.00	80.95	1.01	7034.35	435.22	435.22	-114.82	3.40
7416.00	84.16	1.22	7040.44	481.81	481.81	-113.92	6.85
7447.00	86.88	1.07	7042.85	512.71	512.71	-113.30	8.79

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft
7513.00	89.53	1.69	7044.92	578.65	578.65	-111.71	4.12
7530.00	89.56	1.73	7045.05	595.64	595.64	-111.21	0.29
7621.00	90.00	0.86	7045.40	686.62	686.62	-109.16	1.07
7713.00	90.00	0.47	7045.40	778.61	778.61	-108.10	0.42
7805.00	90.94	0.18	7044.65	870.61	870.61	-107.58	1.07
7896.00	91.88	359.05	7042.40	961.57	961.57	-108.19	1.61
7986.00	91.04	359.10	7040.10	1051.53	1051.53	-109.64	0.94
8077.00	89.33	359.75	7039.81	1142.52	1142.52	-110.55	2.02
8168.00	89.87	359.56	7040.45	1233.52	1233.52	-111.10	0.63
8260.00	90.37	358.01	7040.26	1325.50	1325.50	-113.05	1.77
8352.00	90.91	359.41	7039.23	1417.46	1417.46	-115.12	1.63
8443.00	91.04	0.17	7037.68	1508.45	1508.45	-115.46	0.85
8534.00	91.62	1.10	7035.57	1599.42	1599.42	-114.45	1.21
8626.00	91.38	0.38	7033.17	1691.38	1691.38	-113.26	0.82
8718.00	90.84	1.68	7031.39	1783.34	1783.34	-111.60	1.53
8809.00	89.73	1.52	7030.93	1874.31	1874.31	-109.06	1.23
8901.00	90.20	1.40	7030.99	1966.28	1966.28	-106.72	0.53
8992.00	89.53	1.15	7031.20	2057.25	2057.25	-104.70	0.79
9084.00	88.99	0.46	7032.39	2149.23	2149.23	-103.40	0.95
9176.00	88.75	0.04	7034.20	2241.22	2241.22	-103.00	0.52

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft
9267.00	88.59	359.27	7036.31	2332.19	2332.19	-103.54	0.87
9359.00	89.06	359.26	7038.19	2424.16	2424.16	-104.73	0.51
9451.00	91.61	0.42	7037.65	2516.15	2516.15	-104.99	3.05
9543.00	90.17	0.25	7036.23	2608.14	2608.14	-104.45	1.58
9635.00	91.11	359.97	7035.20	2700.13	2700.13	-104.28	1.07
9726.00	91.21	1.12	7033.36	2791.10	2791.10	-103.41	1.27
9818.00	88.42	0.97	7033.65	2883.08	2883.08	-101.72	3.04
9910.00	88.86	0.83	7035.84	2975.04	2975.04	-100.28	0.50
10005.00	88.92	0.57	7037.68	3070.02	3070.02	-99.12	0.28
10099.00	91.04	0.21	7037.71	3164.01	3164.01	-98.48	2.28
10194.00	91.38	358.43	7035.70	3258.98	3258.98	-99.60	1.91
10288.00	92.08	0.78	7032.86	3352.92	3352.92	-100.24	2.61
10383.00	91.71	2.18	7029.72	3447.84	3447.84	-97.79	1.53
10477.00	90.54	1.49	7027.87	3541.77	3541.77	-94.77	1.45
10571.00	90.94	0.99	7026.66	3635.74	3635.74	-92.74	0.69
10666.00	90.20	0.39	7025.71	3730.73	3730.73	-91.59	1.01
10760.00	89.26	358.95	7026.15	3824.72	3824.72	-92.14	1.83
10854.00	89.46	357.60	7027.19	3918.67	3918.67	-94.97	1.44
10949.00	89.02	357.29	7028.44	4013.57	4013.57	-99.20	0.56

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft
11043.00	89.43	358.31	7029.71	4107.49	4107.49	-102.80	1.16
11138.00	89.19	358.88	7030.86	4202.45	4202.45	-105.13	0.65
11232.00	88.63	359.89	7032.65	4296.43	4296.43	-106.14	1.23
11326.00	88.56	359.62	7034.96	4390.40	4390.40	-106.55	0.30
11420.00	88.59	359.65	7037.30	4484.37	4484.37	-107.15	0.04
11515.00	89.20	0.81	7039.14	4579.35	4579.35	-106.76	1.39
11609.00	89.30	0.29	7040.37	4673.33	4673.33	-105.86	0.56
11703.00	90.30	0.32	7040.70	4767.33	4767.33	-105.36	1.07
11798.00	90.57	0.52	7039.98	4862.33	4862.33	-104.67	0.35
11892.00	90.20	359.66	7039.34	4956.32	4956.32	-104.52	0.99
11987.00	90.10	1.14	7039.09	5051.32	5051.32	-103.85	1.56
12081.00	90.77	0.64	7038.38	5145.30	5145.30	-102.39	0.89
12176.00	89.87	358.76	7037.85	5240.29	5240.29	-102.89	2.20
12270.00	88.82	359.42	7038.93	5334.27	5334.27	-104.38	1.31
12365.00	89.23	357.47	7040.54	5429.22	5429.22	-106.96	2.10
12459.00	89.30	358.90	7041.75	5523.16	5523.16	-109.94	1.53
12554.00	89.87	359.65	7042.45	5618.15	5618.15	-111.14	0.99
12648.00	88.93	1.33	7043.44	5712.14	5712.14	-110.34	2.05
12742.00	89.73	0.78	7044.54	5806.11	5806.11	-108.61	1.04
12837.00	91.00	359.78	7043.93	5901.11	5901.11	-108.15	1.70

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS
ft	deg	deg	ft	ft	ft	ft	7100ft
12931.00	90.94	1.49	7042.33	5995.09	5995.09	-107.11	1.83
13026.00	89.13	2.40	7042.27	6090.03	6090.03	-103.88	2.14
13120.00	90.20	2.55	7042.82	6183.94	6183.94	-99.82	1.15
13214.00	90.61	0.59	7042.16	6277.89	6277.89	-97.25	2.13
13309.00	90.13	1.63	7041.55	6372.87	6372.87	-95.40	1.20
13403.00	88.08	4.21	7043.01	6466.73	6466.73	-90.61	3.50
13497.00	88.46	4.07	7045.85	6560.44	6560.44	-83.83	0.42
13592.00	89.46	4.42	7047.57	6655.16	6655.16	-76.81	1.12
13686.00	89.80	3.15	7048.18	6748.95	6748.95	-70.60	1.39
13780.00	89.76	2.41	7048.54	6842.84	6842.84	-66.04	0.80
13874.00	90.00	1.69	7048.73	6936.78	6936.78	-62.68	0.80
13968.00	89.46	359.55	7049.17	7030.77	7030.77	-61.66	2.35
14063.00	90.50	359.93	7049.20	7125.76	7125.76	-62.09	1.17
14094.00	91.18	359.35	7048.75	7156.76	7156.76	-62.29	2.87

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS 7100ft

5" = 100' FEET TVD