



Depth logged:	1380.0 m To 3031.9 m	Mag decl:	13.13 deg.	Other services:
Date logged:	15-Jul-04 To 21-Jul-04	Mag dip:	-68.73 deg.	Directional Drilling, D&I

<p style="text-align: center;"><b>DISCLAIMER</b></p> <p>THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.</p>		
<p>OTHER SERVICES FOR RUN 1</p> <p>Directional Drilling</p> <p>Directional Surveys</p>	<p>OTHER SERVICES FOR RUN</p>	<p>OTHER SERVICES FOR RUN</p>
<p>REMARKS: RUN NUMBER 1</p> <p>8-1/2 in. hole was drilled from 1380.0m to 3051.0m MD</p> <p>Depth is referenced to Driller's Depth</p> <p>Gamma Ray corrected for Tool Size, Bit Size and Mud Weight</p> <p>Mud type is KCl/PHPA/Glycol</p> <p>POOH due to reaching TD of MLA-A23A</p>	<p>REMARKS: RUN NUMBER</p>	<p>REMARKS: RUN NUMBER</p>

EQUIPMENT DESCRIPTION		
RUN1	RUN	RUN
<p>DOWNHOLE E</p> <p>6-3/4 in. Pow MDC: V8 MEC: 21 MDI: 109 MGR: 50 DHS: 7.1</p> <p>D&amp;I GR</p> <p>6-3/8 in. N S/N: 961</p> <p>6-5/8 in. NM Rc S/N: GU</p> <p>6-1/2 in. N S/N: ASS</p> <p>6-1/2 in. Fl S/N: CMF</p> <p>7 in. PowerPa A700G1 S/N: 07 1.5 deg. Bent 8-3/8 in. Mot</p>	<p>24.5</p> <p>— 20.2 — 19.5</p> <p>16.2</p> <p>13.7</p> <p>11.6</p> <p>10.1</p> <p>9.4</p>	

6-5/8 in. Rotating l

S/N: OSS2

REED Hycalog

OD: 8-1

RSX163 S/N

0.5%

0.2%

Maximum string dia

All lengths in

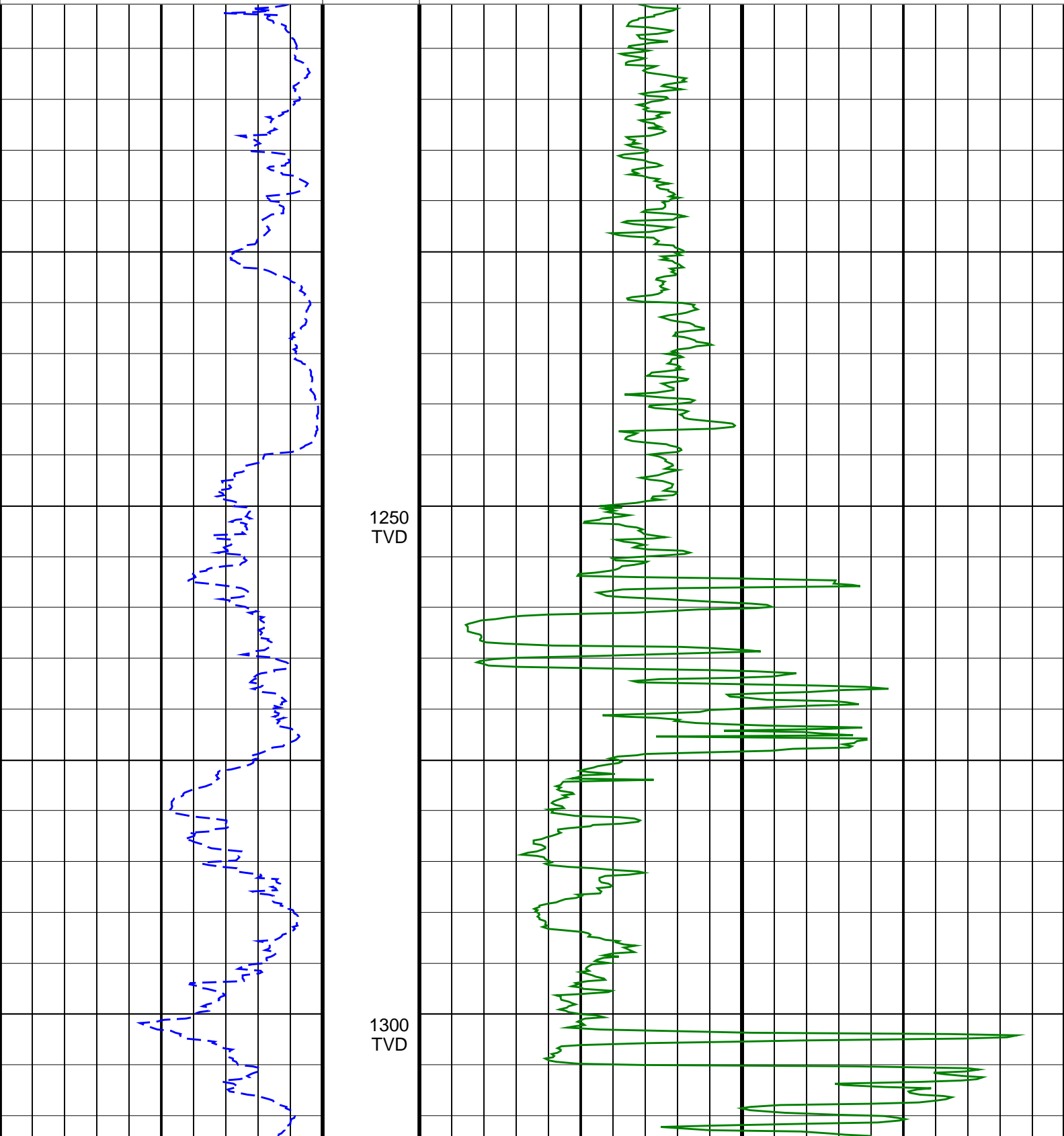
# Bit Run Summary

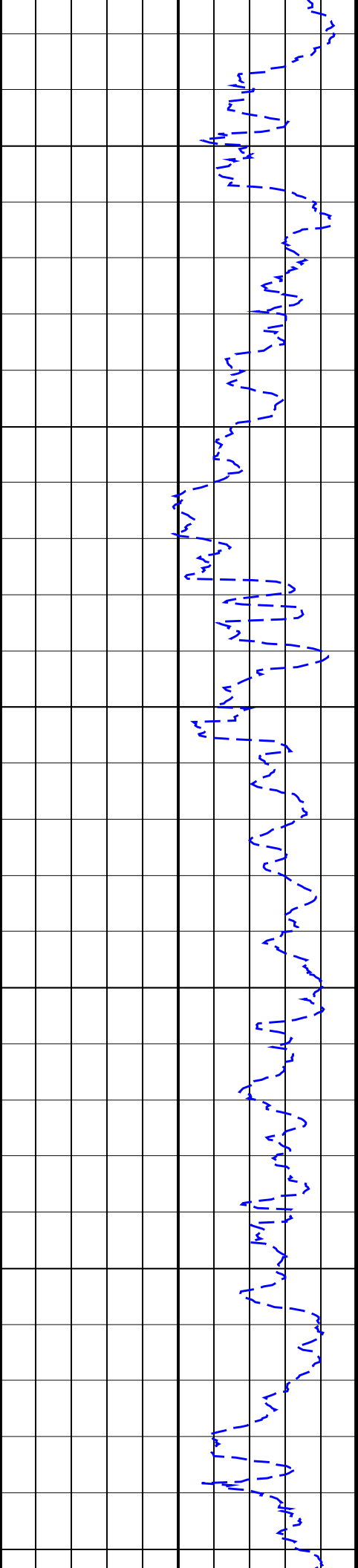
Run number		1									
Bit size	in.	8.5									
Bit start depth	m	1380.0									
Bit end depth	m	3051.0									
Top interval logged	m	1380.0									
Bottom interval logged	m	3031.9									
Begin log: time		06:00									
Begin log: date		15-Jul-04									
End log: time		14:30									
End log: date		21-Jul-04									
Mud data											
Depth	m	3042.0									
Type		KCL/PHPA/Glycol									
Mud weight	ppg	9.5									
Solids	%	5.5									
Chlorides	mg/L	38,000									
Rm											
Rmf											
Rmc											
Potassium	%	4.1									
Environmental data											
GR											
Mud weight	ppg	9.5									
Bit size	in.	8.5									
Resistivity											
Neutron porosity											
Hole Size											
Mud weight											
Temperature											
Mud salinity											
Formation salinity											
Update rate 1	SEC	3.9									
Update rate 2	SEC										
Filtering GR		3 pt.									
Filtering density											
Filtering Neutron											
Company representative		B. Steel	R. Bain								
Anadrill personnel		J. Dolan	R.Borjas	C. Soper	D. Hay	L. Johnston					

# MLA-A23A RT 500TVD

IDEAL Version: ID8\_1C\_02 <TVD> Vertical Scale: 1:500 Graphics File Created: 29-Jul-2004 09:29

ROP*5 (ROP5) (M/HR)	GR(TM) (GRM1) (GAPI)
200	200
0	0

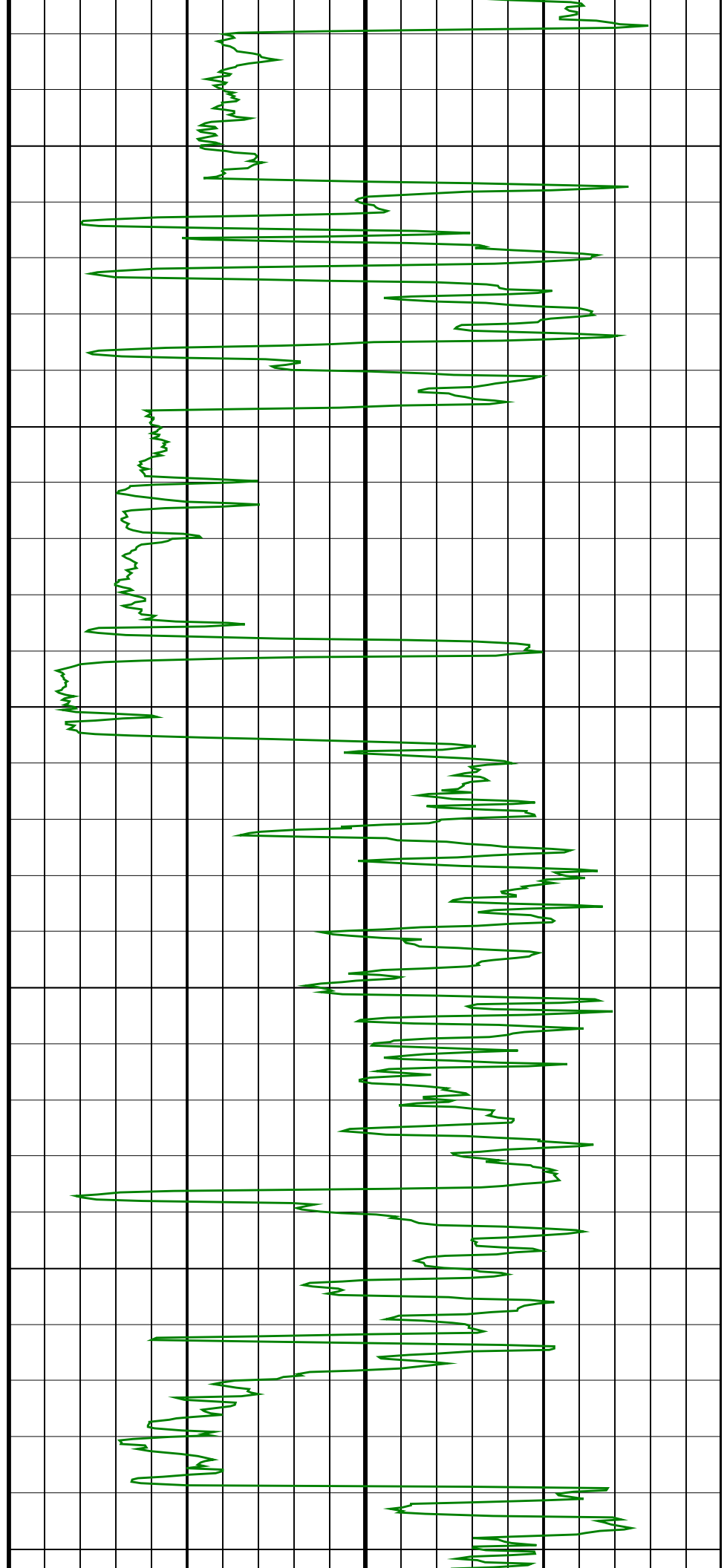


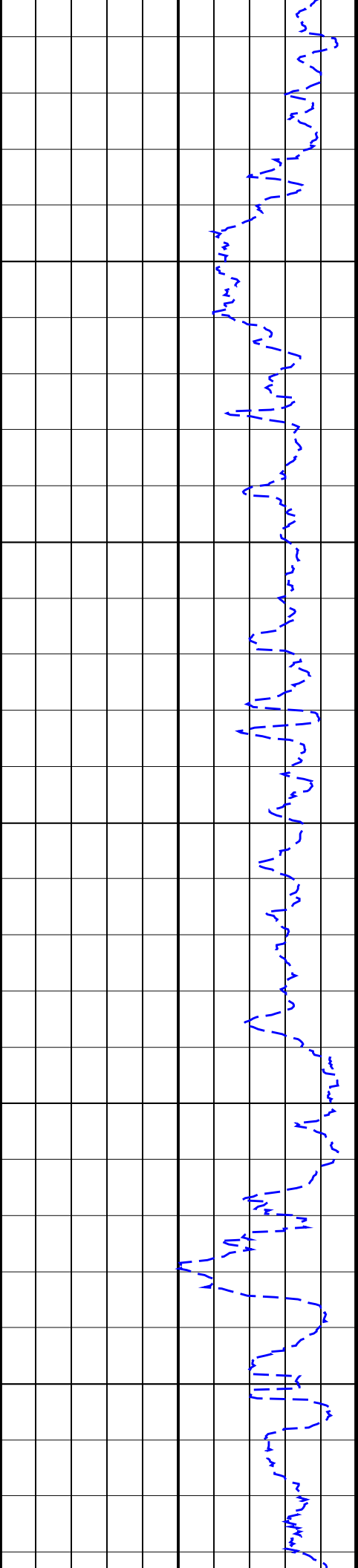


1350  
TVD

1400  
TVD

1450

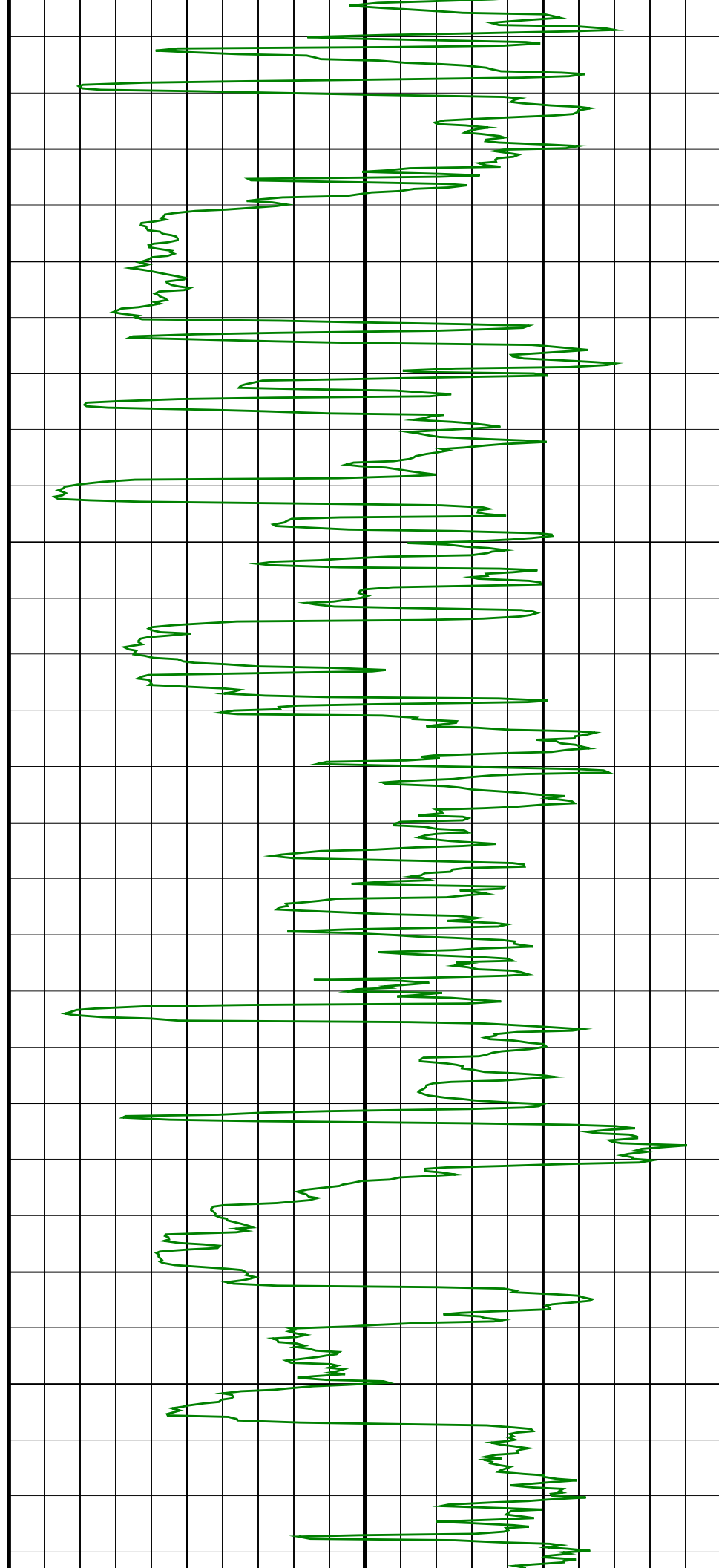




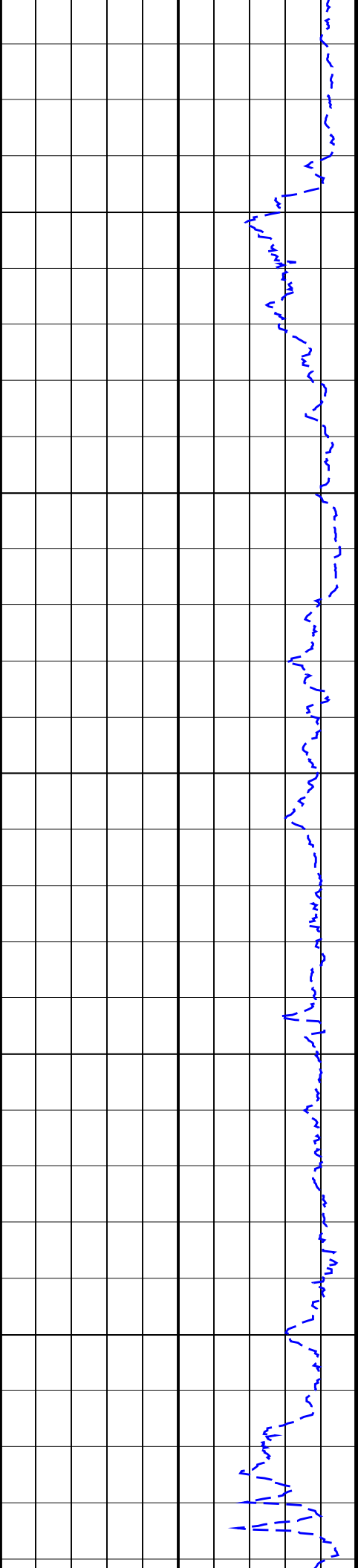
TVD

1500  
TVD

1550  
TVD



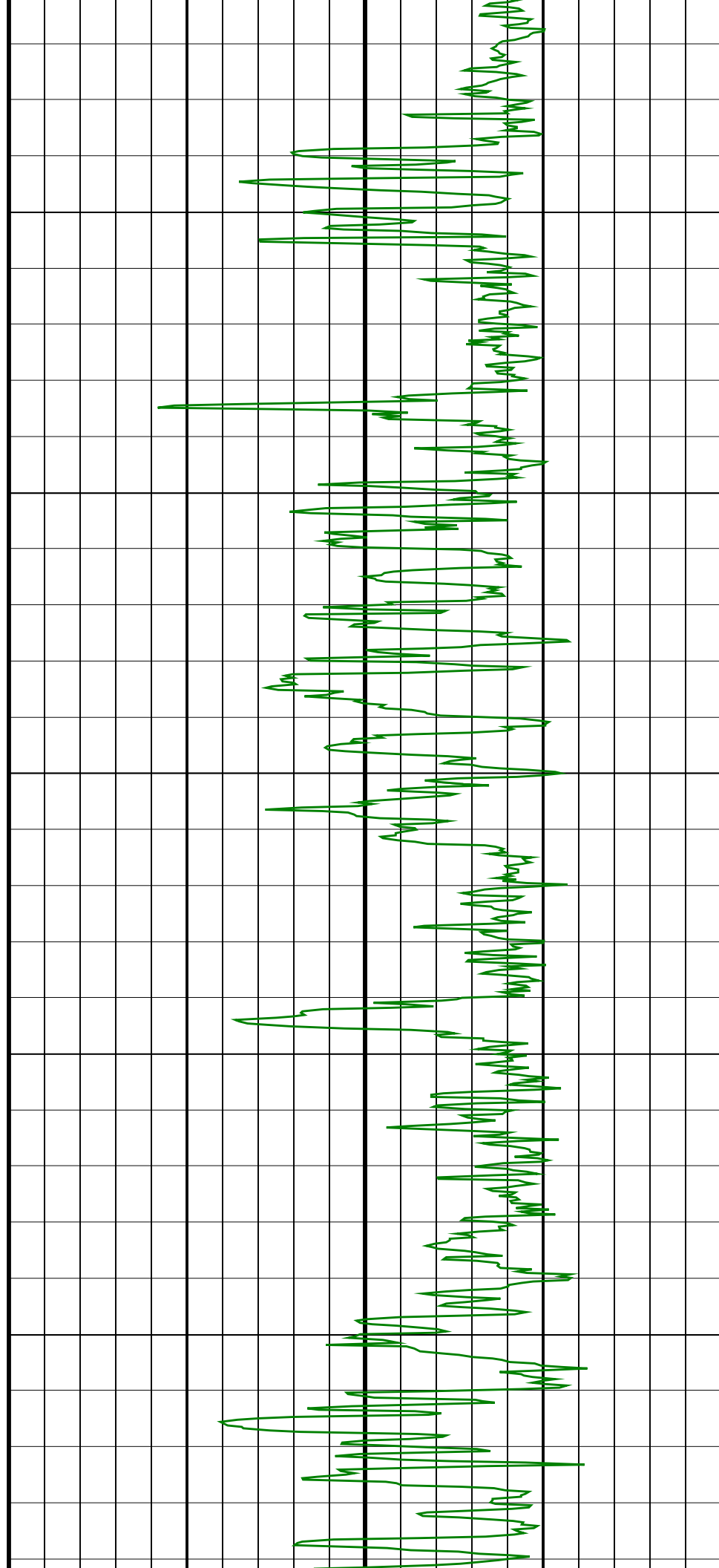




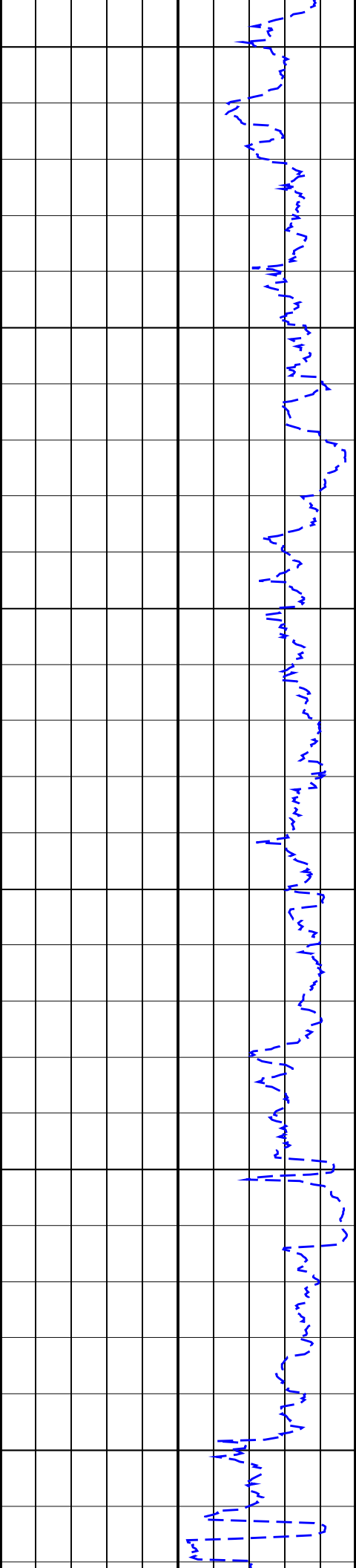
1750  
TVD

1800  
TVD

1850  
TVD



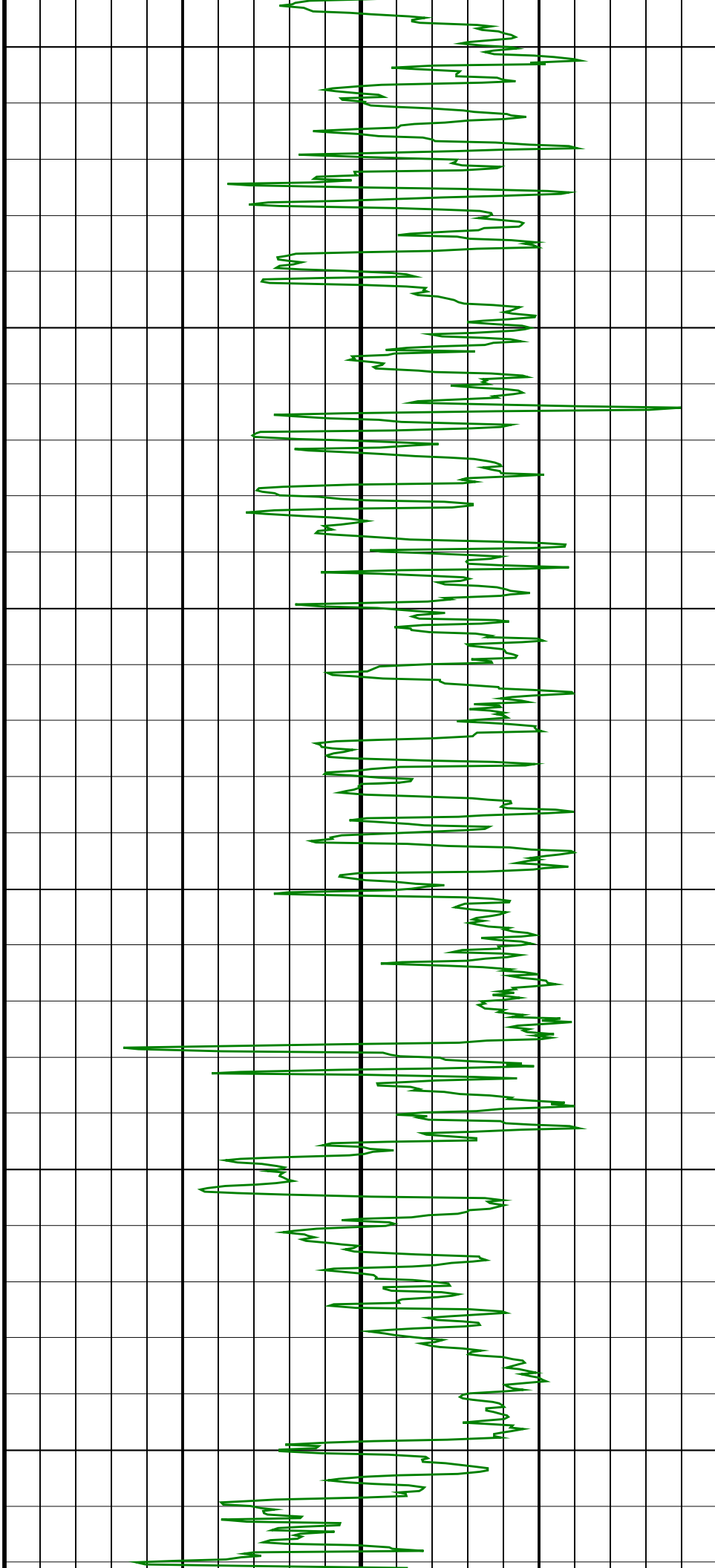


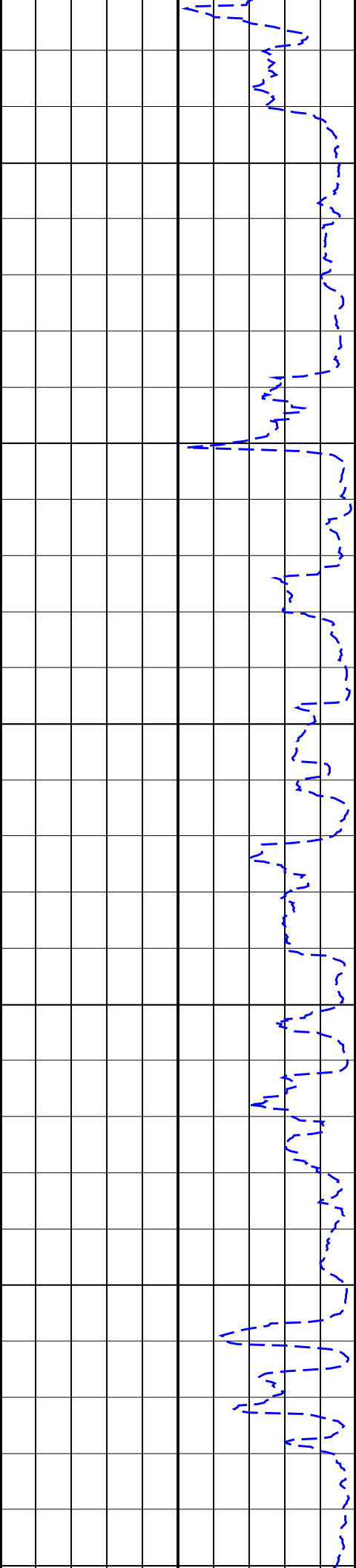


1900  
TVD

1950  
TVD

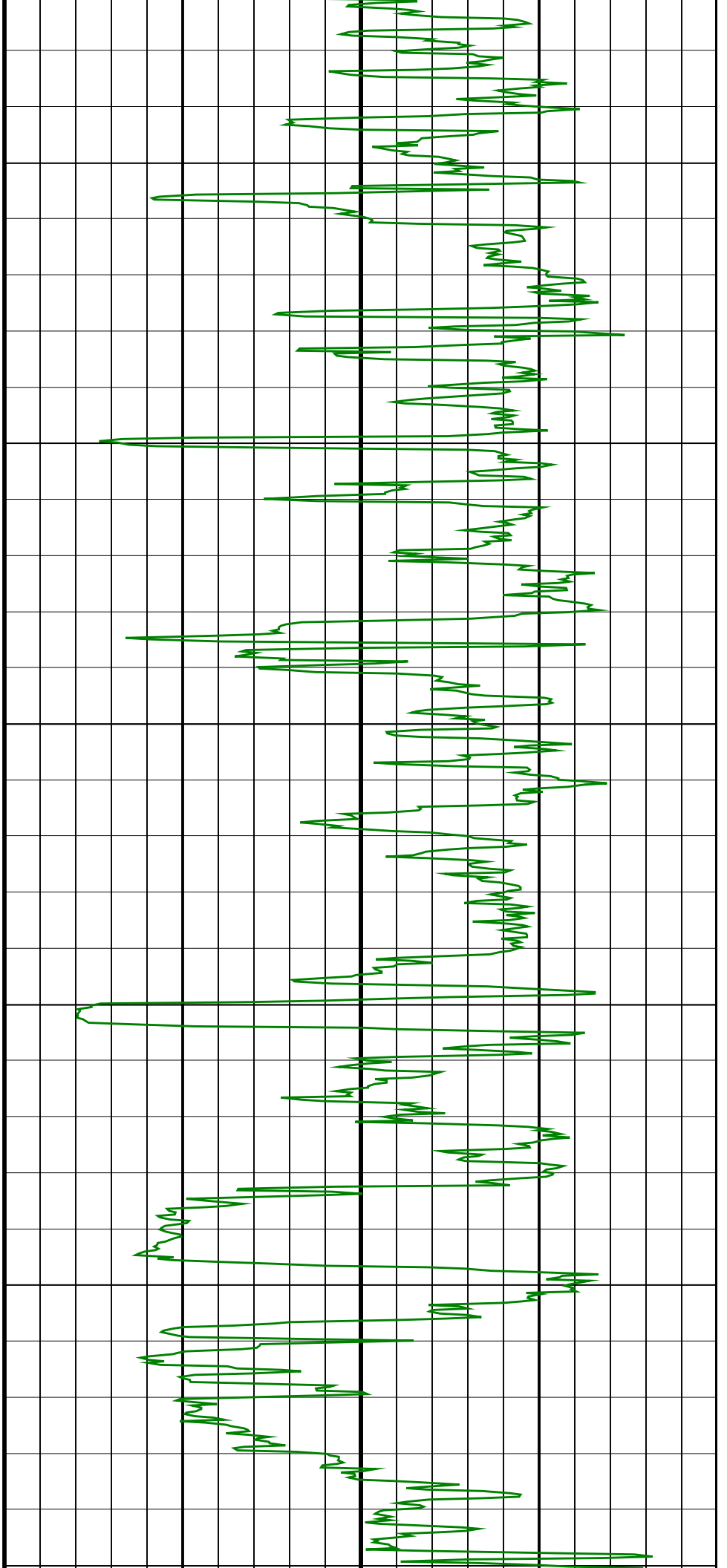
2000  
TVD

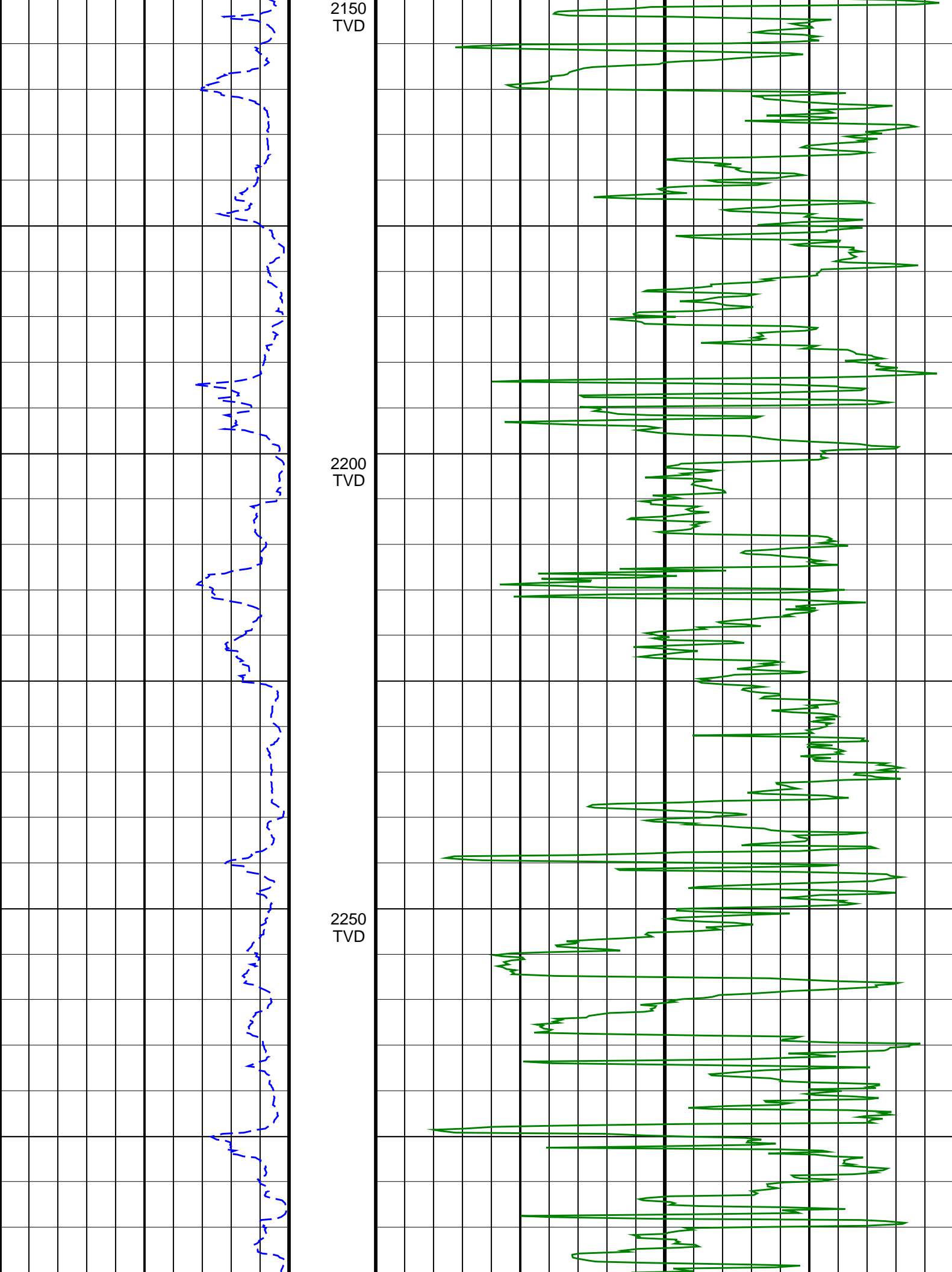


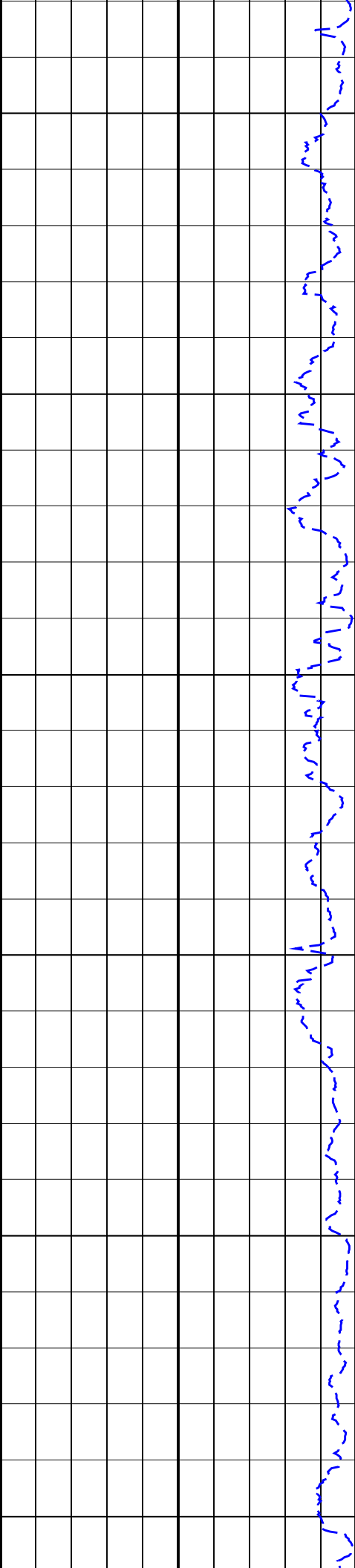


2050  
TVD

2100  
TVD



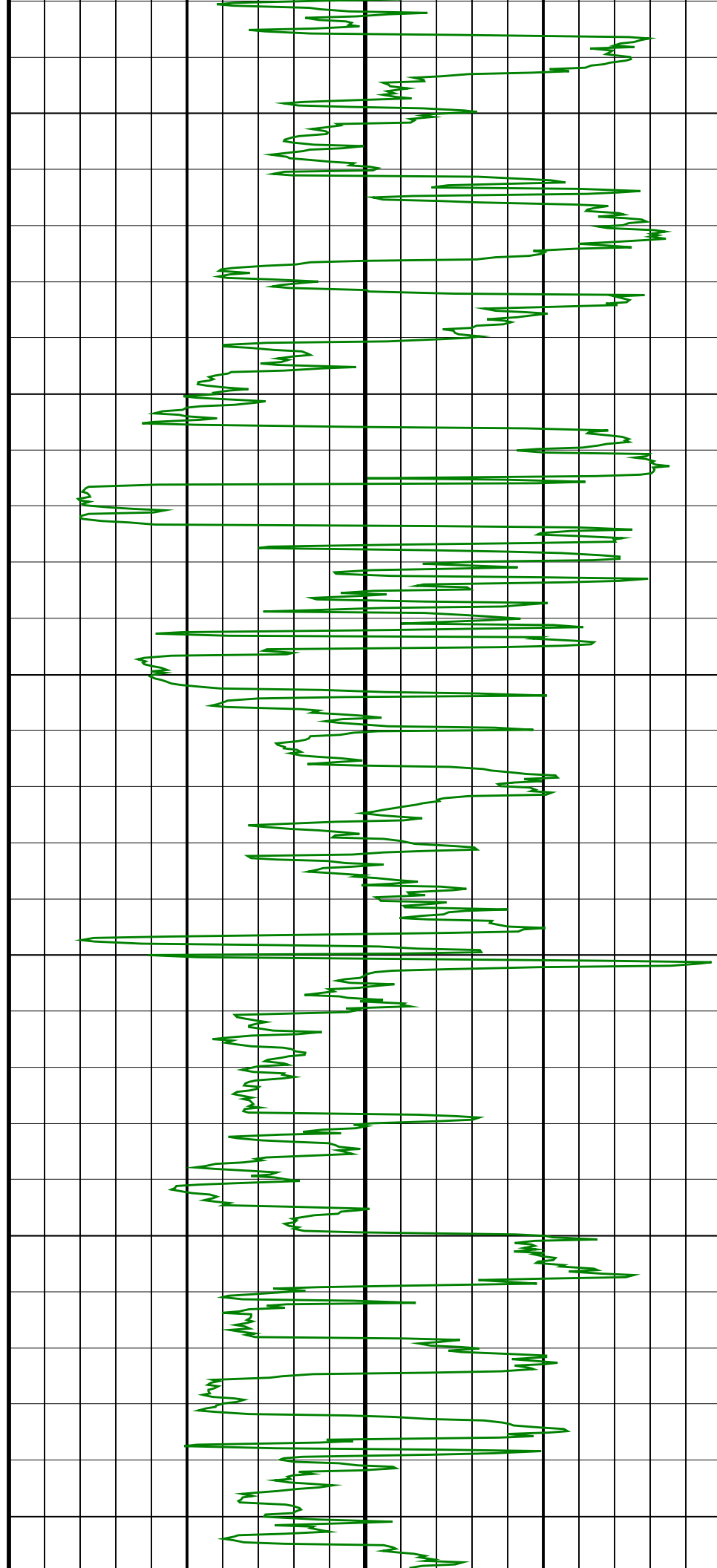


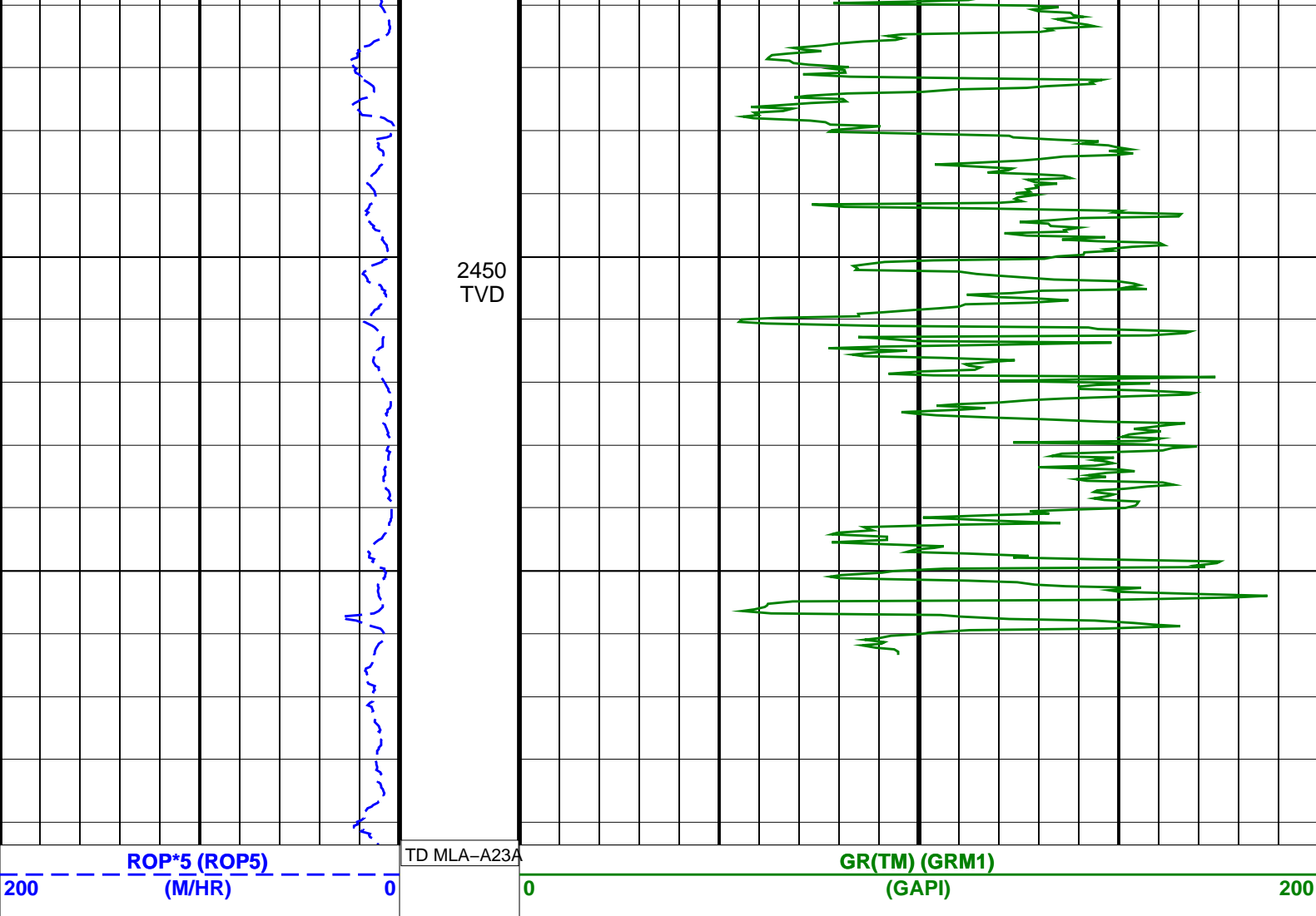


2300  
TVD

2350  
TVD

2400  
TVD





# SCHLUMBERGER

Survey report 21-Jul-2004 15:47:41 Page 1 of 3

Client.....: ESSO Australia Pty Ltd  
Field.....: Marlin GDA 94

Well.....: MLA-A23a Spud date.....: 11-July-04  
API number.....: Last survey date.....: 21-Jul-04  
Engineer.....: J.Dolan, R.Borjas, L.Johnston Total accepted surveys...: 60  
MD of first survey.....: 1354.00 m  
Contractor.....: ISDL 453 MD of last survey.....: 3051.00 m  
STATE.....: Victoria

----- Survey calculation methods -----  
Method for positions.....: Minimum curvature Magnetic model.....: BGGM version 2003  
Method for DLS.....: Mason & Taylor Magnetic date.....: 11-Jul-2004  
Magnetic field strength...: 1199.66 HCNT  
----- Depth reference -----  
Permanent datum.....: Mean Sea Level Magnetic dec (+E/W-).....: 13.13 degrees  
Depth reference.....: Driller's Depth Magnetic dip.....: -68.73 degrees  
GL above permanent.....: -59.00 m  
KB above permanent.....: 27.91 m  
DF above permanent.....: 27.91 m  
----- MWD survey Reference Criteria -----  
Reference G.....: 1000.03 mGal  
Reference H.....: 1199.66 HCNT  
Reference Dip.....: -68.73 degrees  
----- Vertical section origin -----  
Latitude (+N/S-).....: 0.00 m Tolerance of G.....: (+/-) 2.50 mGal  
Departure (+E/W-).....: 0.00 m Tolerance of H.....: (+/-) 6.00 HCNT  
Tolerance of Dip.....: (+/-) 0.45 degrees

----- Corrections -----  
Magnetic dec (+E/W-).....: 13.13 degrees  
Grid convergence (+E/W-)..: -0.76 degrees  
Total az corr (+E/W-).....: 13.89 degrees  
Azimuth from rotary table to target: 197.61 degrees (Total az corr = magnetic dec - grid conv)

Survey Correction Type ...:  
I=Sag Corrected Inclination  
M=Schlumberger Magnetic Correction  
S=Shell Magnetic Correction  
F=Failed Axis Correction  
R=Magnetic Resonance Tool Correction  
D=Dip Magnetic Correction

Seq #	Measured depth (m)	Incl angle (deg)	Azimuth angle (deg)	Course length (m)	TVD depth (m)	Vertical section (m)	Displ +N/S- (m)	Displ +E/W- (m)	Total displ (m)	At Azim (deg)	DLS (deg/100f)	Srvy tool	Tool Corr
1	1354.00	24.41	208.68	0.00	1311.29	222.48	-208.20	-79.44	222.84	200.88	0.00	TIP	None
2	1412.62	31.19	197.32	58.62	1363.15	249.59	-233.36	-89.79	250.04	201.05	4.46	MWD	None
3	1435.36	32.38	191.97	22.74	1382.48	261.54	-244.95	-92.81	261.94	200.75	4.10	MWD	None
4	1469.69	34.54	188.94	34.33	1411.12	280.32	-263.56	-96.23	280.57	200.06	2.42	MWD	None
5	1498.10	36.38	190.02	28.41	1434.26	296.63	-279.81	-98.95	296.79	199.47	2.09	MWD	None
6	1526.48	36.23	193.91	28.38	1457.14	313.35	-296.24	-102.43	313.45	199.07	2.48	MWD	None
7	1554.83	36.28	198.02	28.35	1480.00	330.10	-312.35	-107.04	330.18	198.92	2.61	MWD	None
8	1583.38	36.43	198.33	28.55	1503.00	347.02	-328.43	-112.31	347.11	198.88	0.25	MWD	None
9	1612.18	36.36	198.70	28.80	1526.18	364.11	-344.64	-117.74	364.19	198.86	0.24	MWD	None
10	1641.00	35.79	196.73	28.82	1549.47	381.07	-360.80	-122.91	381.16	198.81	1.37	MWD	None
11	1669.93	35.39	196.62	28.93	1573.00	397.91	-376.93	-127.74	397.98	198.72	0.43	MWD	None
12	1698.85	35.72	196.59	28.92	1596.53	414.72	-393.04	-132.54	414.79	198.64	0.35	MWD	None
13	1727.94	35.67	196.77	29.09	1620.15	431.69	-409.30	-137.41	431.75	198.56	0.12	MWD	None
14	1756.54	35.98	196.69	28.60	1643.34	448.43	-425.33	-142.23	448.48	198.49	0.33	MWD	None
15	1785.30	35.60	195.45	28.76	1666.67	465.24	-441.49	-146.89	465.29	198.40	0.87	MWD	None
16	1814.24	34.92	195.65	28.94	1690.30	481.94	-457.59	-151.37	481.98	198.30	0.73	MWD	None
17	1843.05	34.84	195.98	28.81	1713.94	498.41	-473.44	-155.86	498.44	198.22	0.22	MWD	None
18	1871.63	35.07	196.19	28.58	1737.36	514.78	-489.17	-160.40	514.80	198.15	0.28	MWD	None
19	1900.02	34.38	196.89	28.39	1760.69	530.94	-504.68	-165.00	530.96	198.10	0.86	MWD	None
20	1928.81	35.24	196.20	28.79	1784.33	547.38	-520.43	-169.68	547.39	198.06	1.00	MWD	None
21	1957.63	34.51	196.38	28.82	1807.97	563.85	-536.25	-174.30	563.86	198.01	0.78	MWD	None
22	1986.33	35.36	194.30	28.70	1831.50	580.27	-552.10	-178.64	580.28	197.93	1.55	MWD	None
23	2014.67	37.19	193.47	28.34	1854.35	597.00	-568.37	-182.66	597.01	197.82	2.04	MWD	None
24	2043.39	38.82	193.79	28.72	1876.98	614.64	-585.56	-186.83	614.64	197.70	1.74	MWD	None
25	2071.57	38.36	194.51	28.18	1899.01	632.19	-602.60	-191.13	632.19	197.60	0.70	MWD	None
26	2100.21	37.30	194.78	28.64	1921.63	649.73	-619.60	-195.57	649.73	197.52	1.14	MWD	None
27	2128.93	38.54	196.06	28.72	1944.28	667.36	-636.61	-200.26	667.37	197.46	1.56	MWD	None
28	2157.62	38.41	196.37	28.69	1966.74	685.21	-653.75	-205.25	685.21	197.43	0.25	MWD	None
29	2186.68	37.18	196.59	29.06	1989.71	703.01	-670.83	-210.30	703.02	197.41	1.30	MWD	None
30	2215.32	35.98	196.99	28.64	2012.70	720.08	-687.17	-215.23	720.09	197.39	1.30	MWD	None

Seq #	Measured depth (m)	Incl angle (deg)	Azimuth angle (deg)	Course length (m)	TVD depth (m)	Vertical section (m)	Displ +N/S- (m)	Displ +E/W- (m)	Total displ (m)	At Azim (deg)	DLS (deg/100f)	Srvy tool	Tool Corr
31	2243.97	35.90	196.43	28.65	2035.90	736.89	-703.27	-220.06	736.90	197.38	0.36	MWD	None
32	2272.58	35.07	196.27	28.61	2059.20	753.50	-719.21	-224.74	753.51	197.35	0.89	MWD	None
33	2301.12	35.16	196.01	28.54	2082.54	769.91	-734.98	-229.30	769.92	197.33	0.19	MWD	None
34	2329.93	35.22	195.85	28.81	2106.09	786.50	-750.94	-233.86	786.52	197.30	0.12	MWD	None
35	2358.20	34.43	195.49	28.27	2129.29	802.64	-766.49	-238.22	802.65	197.27	0.88	MWD	None
36	2386.44	34.46	194.07	28.24	2152.58	818.59	-781.93	-242.30	818.61	197.22	0.87	MWD	None
37	2416.23	32.78	193.88	29.79	2177.39	835.05	-797.94	-246.28	835.08	197.15	1.72	MWD	None
38	2444.90	31.57	192.94	28.67	2201.66	850.28	-812.79	-249.82	850.31	197.09	1.39	MWD	None
39	2473.21	32.10	193.08	28.31	2225.71	865.16	-827.34	-253.18	865.21	197.02	0.58	MWD	None
40	2501.92	33.94	195.27	28.71	2249.78	880.78	-842.50	-257.02	880.83	196.97	2.33	MWD	None
41	2530.34	33.35	195.78	28.42	2273.44	896.51	-857.67	-261.24	896.57	196.94	0.70	MWD	None
42	2559.17	34.43	194.57	28.83	2297.37	912.57	-873.19	-265.44	912.64	196.91	1.35	MWD	None
43	2587.94	36.59	193.41	28.77	2320.79	929.25	-889.40	-269.48	929.33	196.86	2.40	MWD	None
44	2616.48	37.45	193.70	28.54	2343.58	946.39	-906.11	-273.50	946.48	196.80	0.94	MWD	None
45	2644.94	36.30	193.73	28.46	2366.34	963.43	-922.70	-277.55	963.54	196.74	1.23	MWD	None
46	2674.27	35.62	193.93	29.33	2390.08	980.61	-939.42	-281.67	980.74	196.69	0.72	MWD	None
47	2702.63	34.95	193.40	28.36	2413.23	996.95	-955.34	-285.54	997.10	196.64	0.79	MWD	None
48	2731.20	33.06	193.28	28.57	2436.92	1012.89	-970.88	-289.23	1013.05	196.59	2.02	MWD	None
49	2759.64	31.42	192.91	28.44	2460.97	1028.01	-985.66	-292.67	1028.19	196.54	1.77	MWD	None
50	2788.87	28.98	192.53	29.23	2486.23	1042.66	-1000.00	-295.91	1042.86	196.48	2.55	MWD	None
51	2817.54	26.43	192.98	28.67	2511.61	1055.94	-1013.00	-298.85	1056.16	196.44	2.72	MWD	None
52	2845.85	23.56	192.40	28.31	2537.27	1067.86	-1024.67	-301.48	1068.10	196.39	3.10	MWD	None
53	2874.69	21.48	191.96	28.84	2563.91	1078.85	-1035.46	-303.81	1079.11	196.35	2.21	MWD	None
54	2903.24	19.54	190.65	28.55	2590.65	1088.80	-1045.27	-305.77	1089.08	196.31	2.13	MWD	None
55	2932.26	18.69	191.29	29.02	2618.07	1098.24	-1054.60	-307.58	1098.54	196.26	0.92	MWD	None
56	2960.99	17.56	192.44	28.73	2645.37	1107.13	-1063.35	-309.42	1107.45	196.22	1.26	MWD	None
57	2990.06	16.45	192.44	29.07	2673.17	1115.59	-1071.65	-311.25	1115.93	196.20	1.16	MWD	None
58	3018.84	15.08	193.63	28.78	2700.87	1123.39	-1079.27	-313.01	1123.74	196.17	1.49	MWD	None
59	3030.18	14.67	193.43	11.34	2711.83	1126.29	-1082.10	-313.69	1126.65	196.17	1.11	MWD	None
60	3051.00	13.94	193.05	20.82	2732.00	1131.42	-1087.11	-314.87	1131.79	196.15	1.08	Projection to TD	

Company: **ESSO Australia Pty. Ltd.**

**Schlumberger**

Well: **MLA-A23A**

Field: **Marlin GDA 94**

Rig: **ISDL 453**

State: **Victoria**

**Gamma Ray Service  
1:500 True Vertical Depth  
Real Time Log**