



Well: BMA A5A

Field: **Bream A**

Rig: ISDL 453

State:

Victoria

Gamma Ray Service

1:500 True Vertical Depth

Real Time Log

Depth logged:	896.0 m To 2791.6 m	Mag decl:	13.10°	Other services:
Date logged:	11-June-05 To 14-June-05	Mag dip:	-69.03°	Directional Drilling, D&I

<p style="text-align: center;">DISCLAIMER</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 RUN1</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 896.0 m to 2810.0m 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 TD of BMA A5A</p> <p>Data Gaps due to Power Shutdown between 1428.0m to 1431.5m MD</p> <p>Reamed Down for Data between 1116.0m</p>	<p>REMARKS: RUN NUMBER</p>	<p>REMARKS: RUN NUMBER</p>









EQUIPMENT DESCRIPTION

RUN1

RUN

RUN

DOWNHOLE E

6-3/4 in. Pov		23.3
MDC: Z		
MEC: 1		
MDI: 1		
MGR: 52		
DHS: V8		
D&I		19.0
GR		18.4
APW		15.8
6-3/4 in. NM Por		14.9
S/N: 970		
8-3/8 in. NM Roll Reamer		13.5
S/N: GU2		
6-1/4 in. FI		11.5
S/N: 961		
7 in. PowerPac		9.1
A700G1		
S/N: N7		
1.5 deg. Bent		
8-3/8 in. Motor		



— 0.00 0.25

Smith PC
OD: 8-1
S73VPX S/N

Maximum string dia
All lengths in

Bit Run Summary

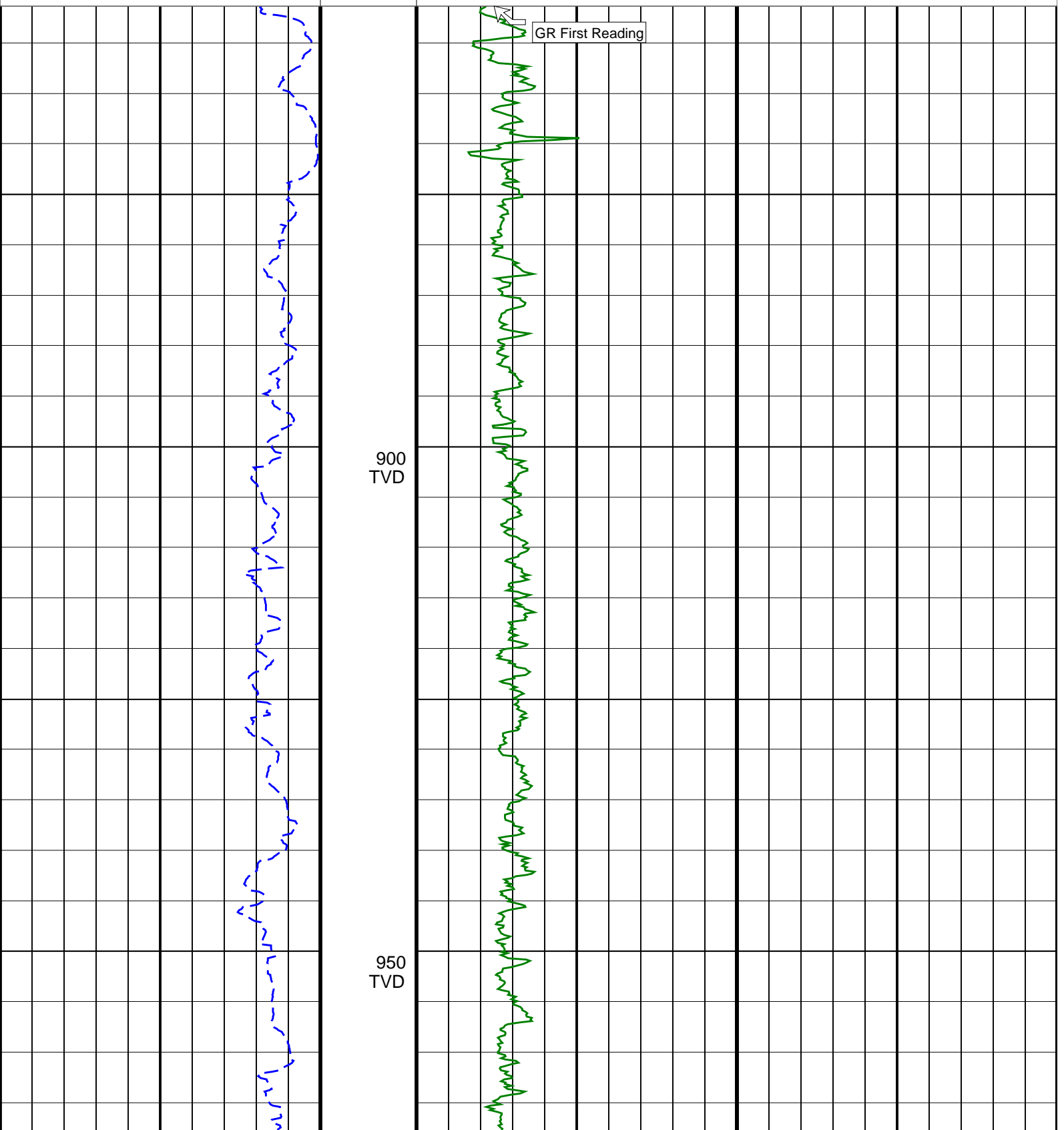
Run number		1									
Bit size	in.	8.5									
Bit start depth	m	896.0									
Bit end depth	m	2810.0									
Top interval logged	m	896.0									
Bottom interval logged	m	2791.6									
Begin log: time		0:02									
Begin log: date		11-Jun-05									
End log: time		16:30									
End log: date		14-Jun-05									
Mud data											
Depth	m	2810.0									
Type		KCl/PHPA/Glycol									
Mud weight	ppg	10.08									
Solids	%	8.5									
Chlorides	mg/L	45,500									
Rm		N/A									
Rmf		N/A									
Rmc		N/A									
Potassium	%	4.5									
Environmental data											
GR											
Mud weight	ppg	10.08									
Bit size	in.	8.5									
Resistivity											
Neutron porosity											
Hole Size											
Mud weight											
Temperature											
Mud salinity											
Formation salinity											
Recording rate 1	SEC	9.47									
Recording rate 2	SEC	N/A									
Filtering GR		3 pt.									
Filtering density		N/A									
Filtering Neutron		N/A									
Company representative		G. Campbell	J. MacKinnon	M. Jackson							
Schlumberger D&M Personnel		R. Borjas	L. Johnston	C. Cocks	T. Auger						

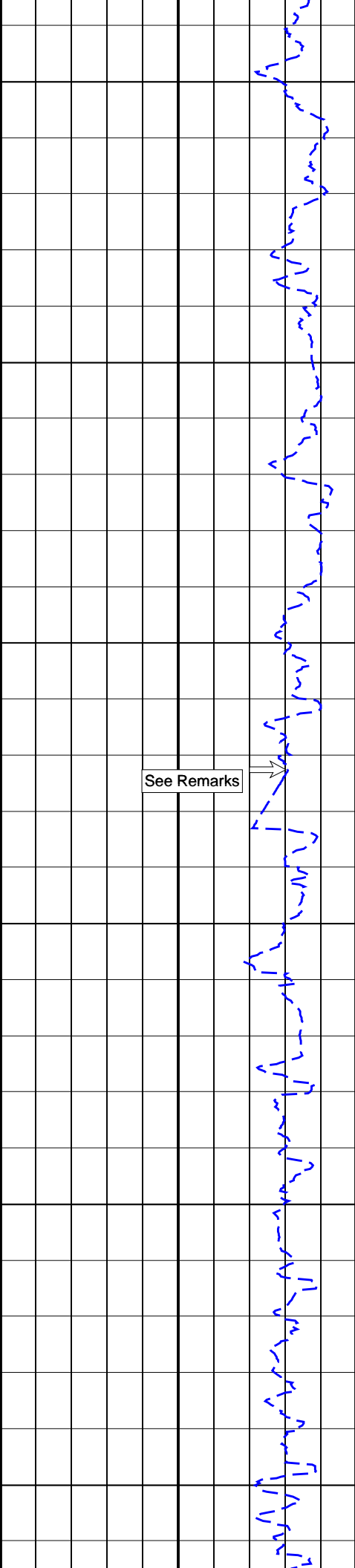
BMA A5A RT 1:500 TVD

IDEAL Version: ID10_2B_08 <TVD> Vertical Scale: 1:500

Graphics File Created: 17-Jun-2005 02:10

ROP*5 (ROP5) (M/HR)	GR(TM) (GRM1) (GAPI)
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0	400

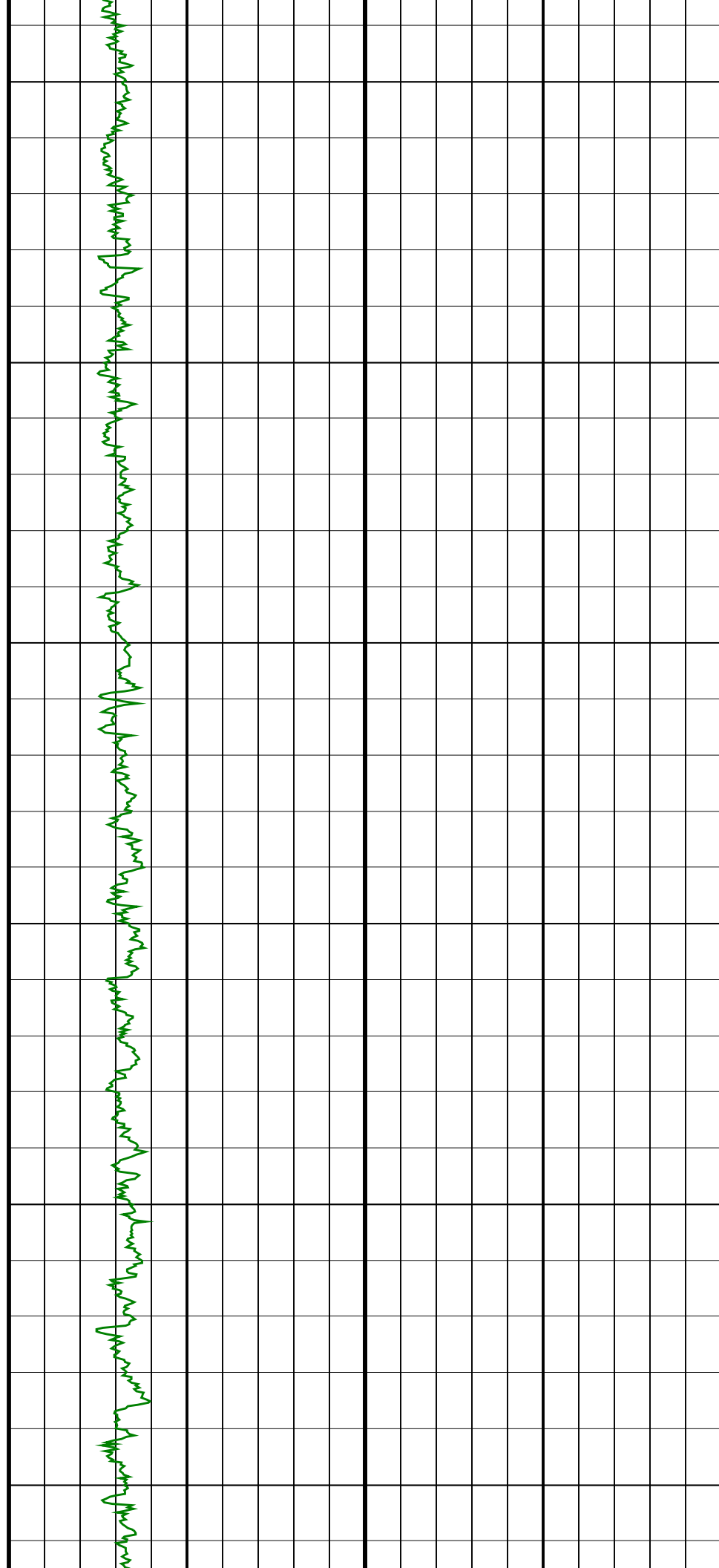


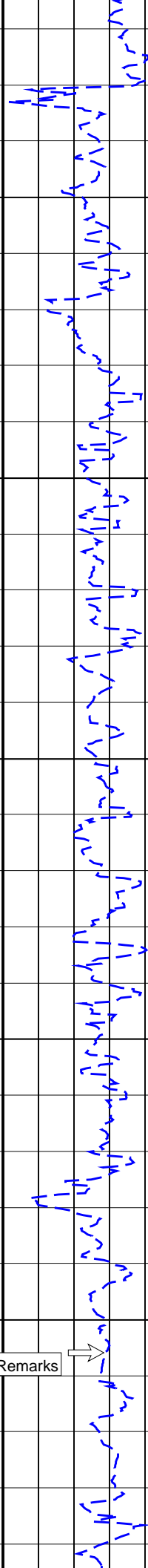


1000
TVD

1050
TVD

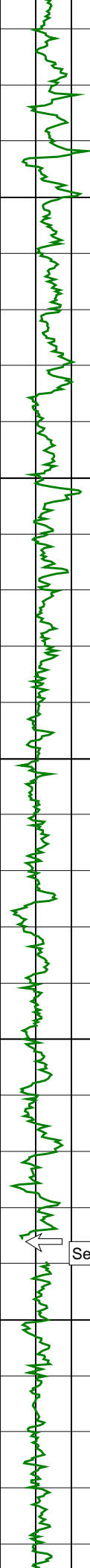
1100
TVD

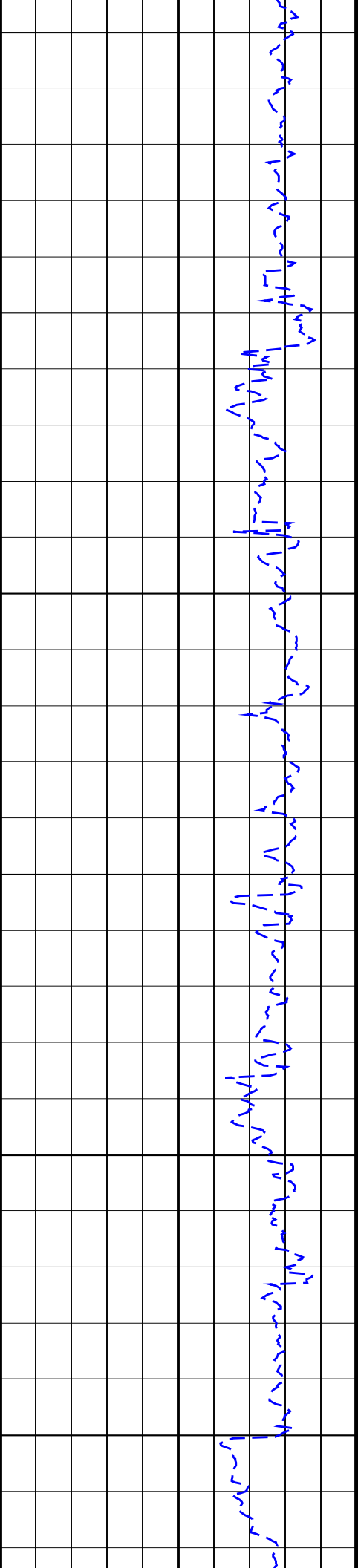




1150
TVD

1200
TVD

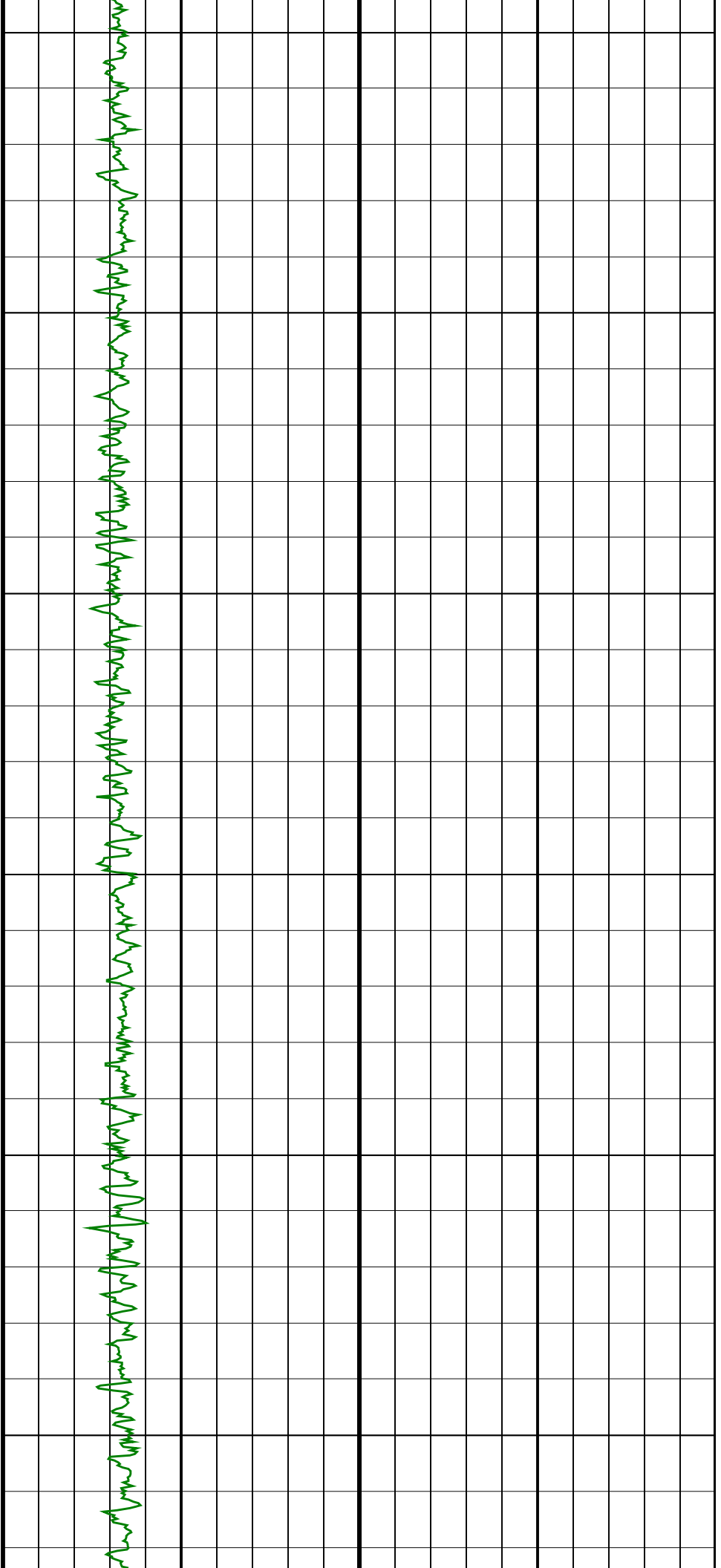


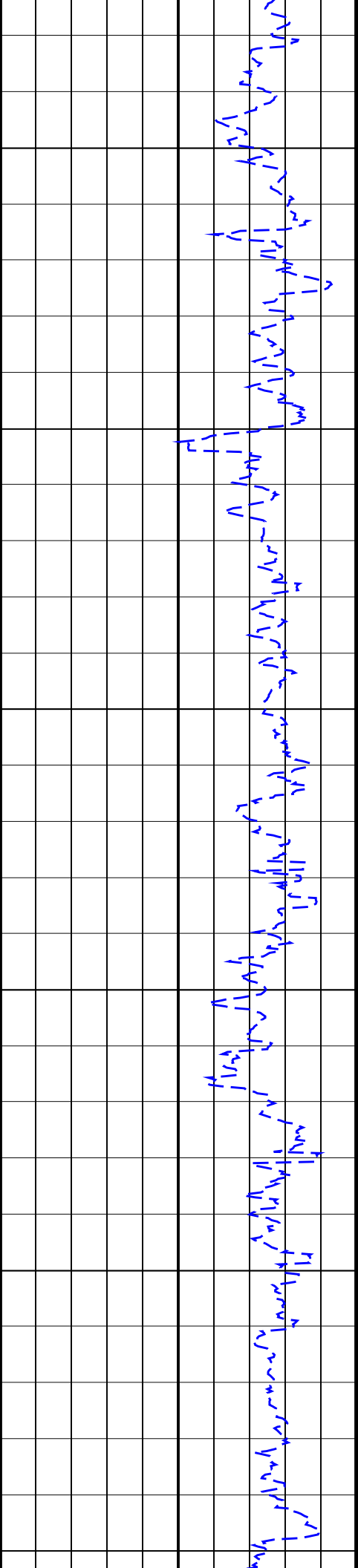


1250
TVD

1300
TVD

1350
TVD

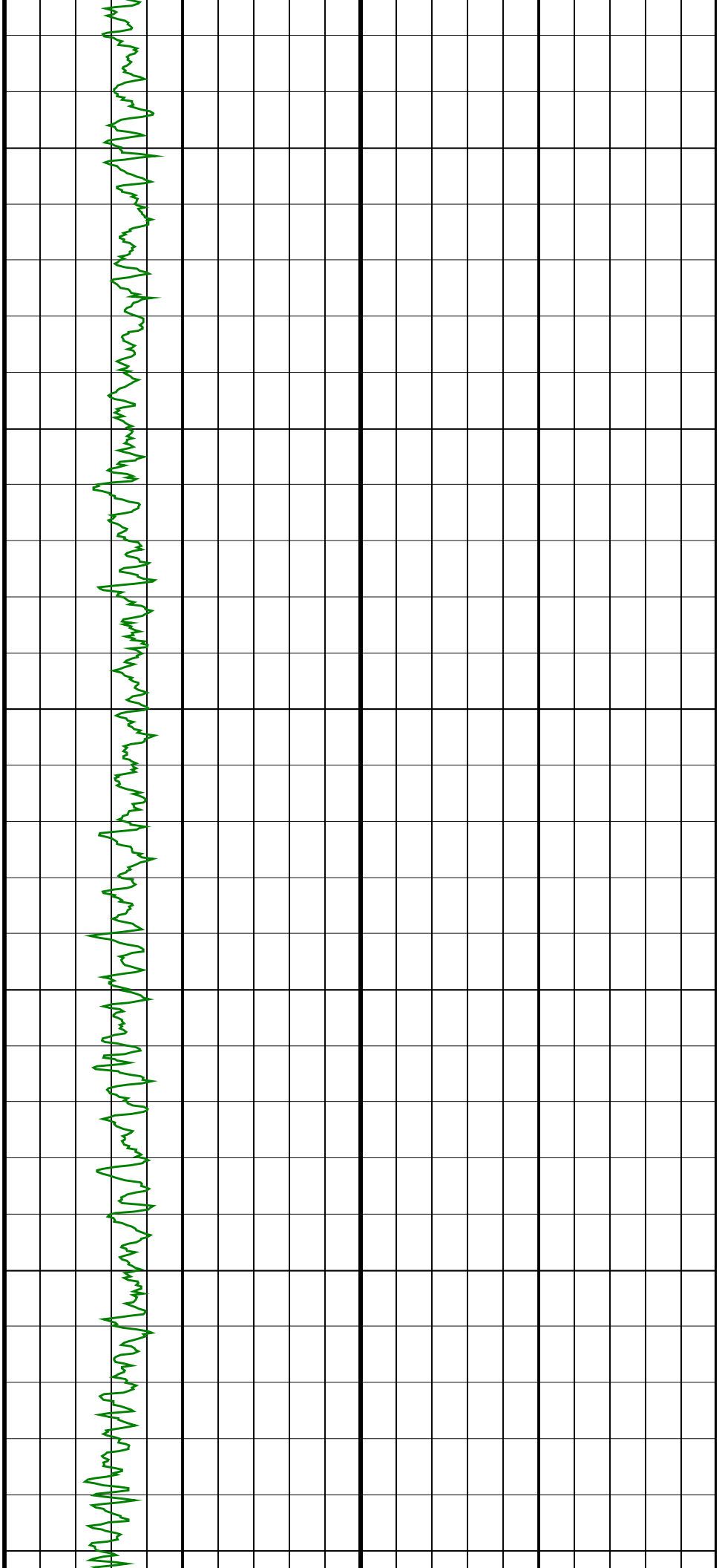


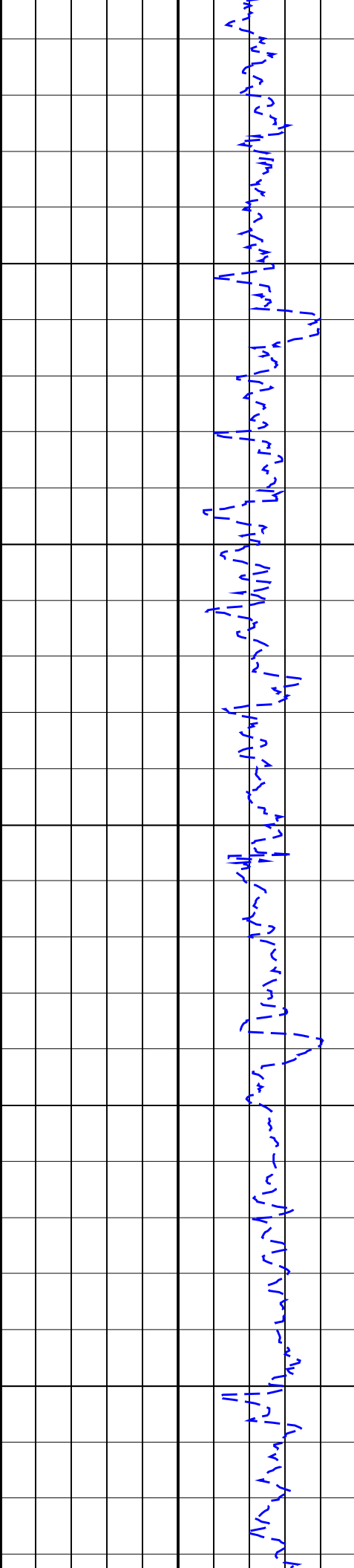


1400
TVD

1450
TVD

1500
TVD

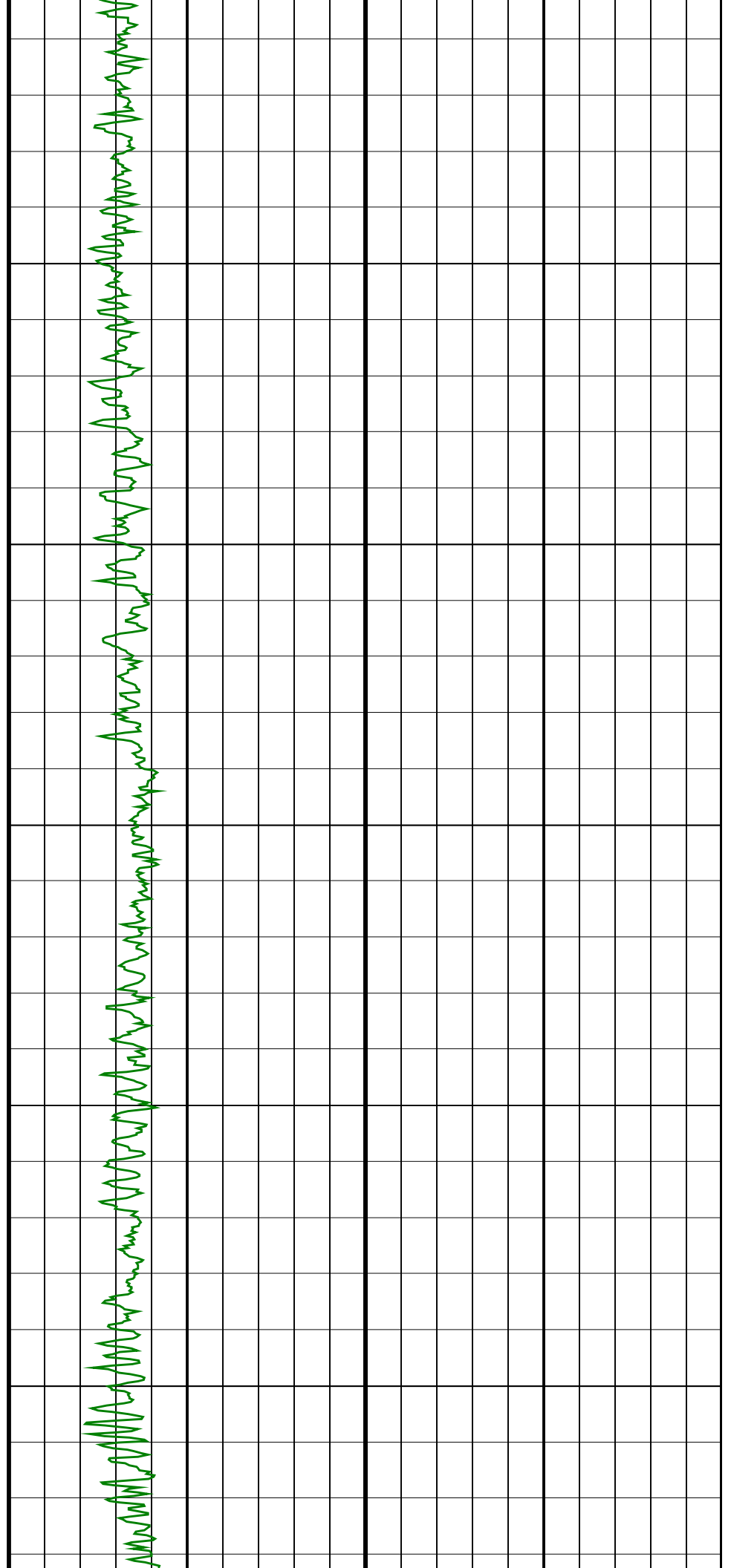


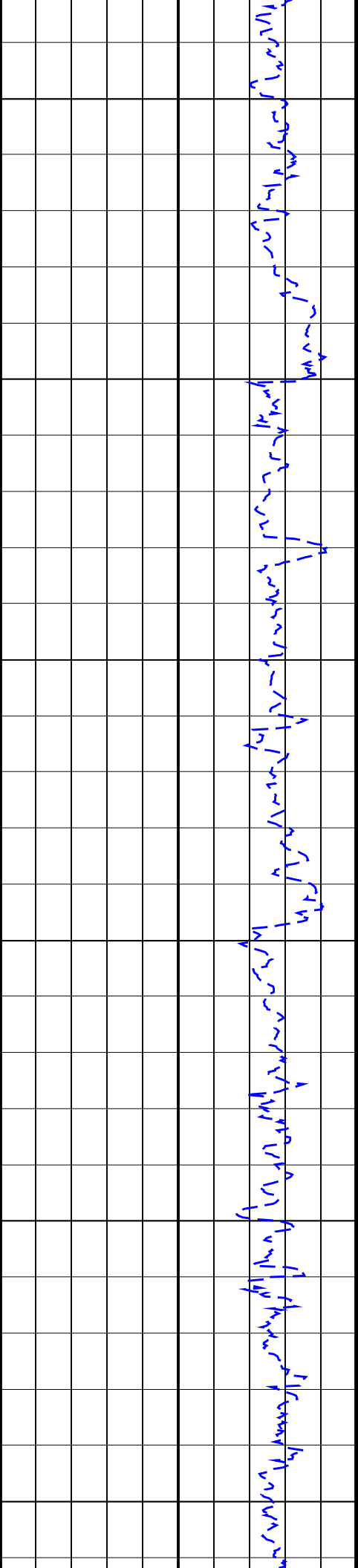


1550
TVD

1600
TVD

1650
TVD

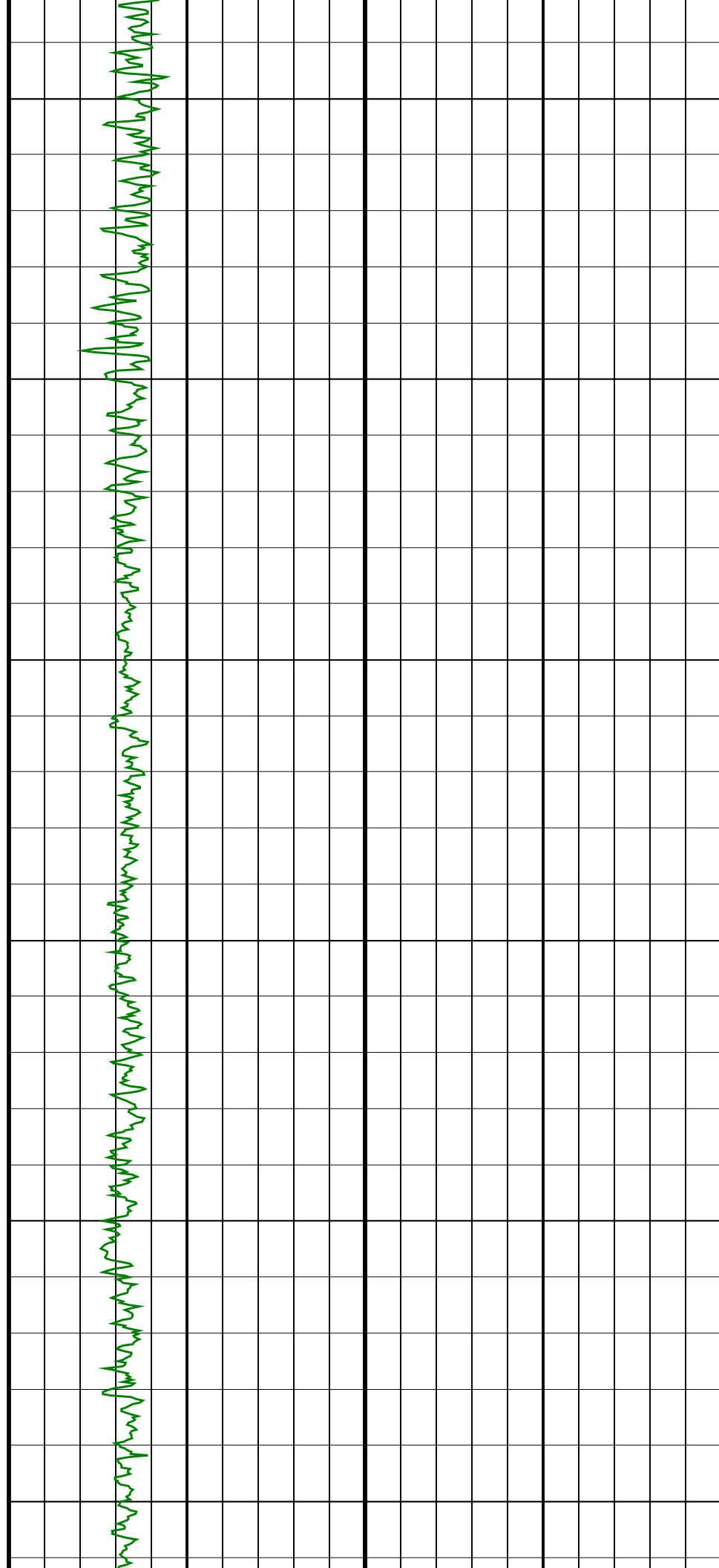


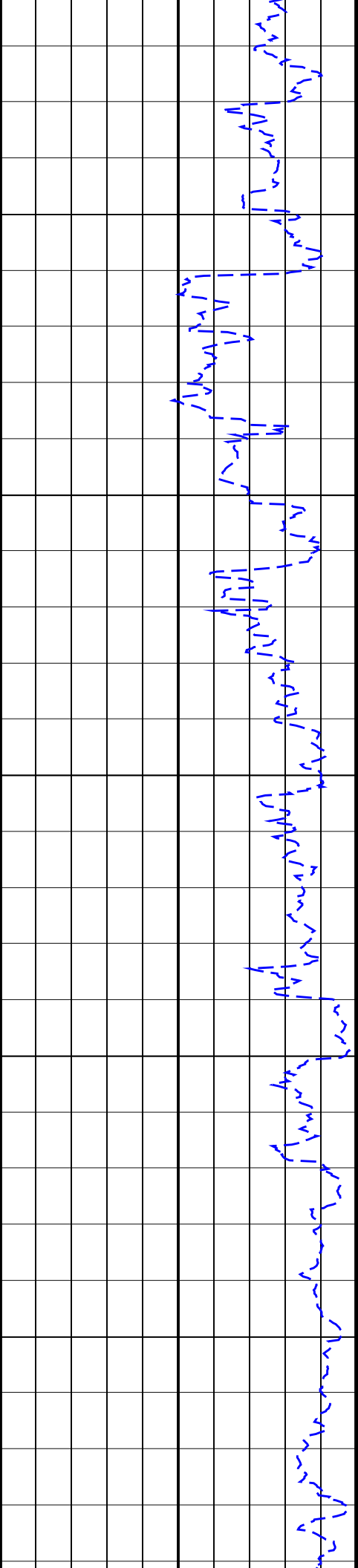


1700
TVD

1750
TVD

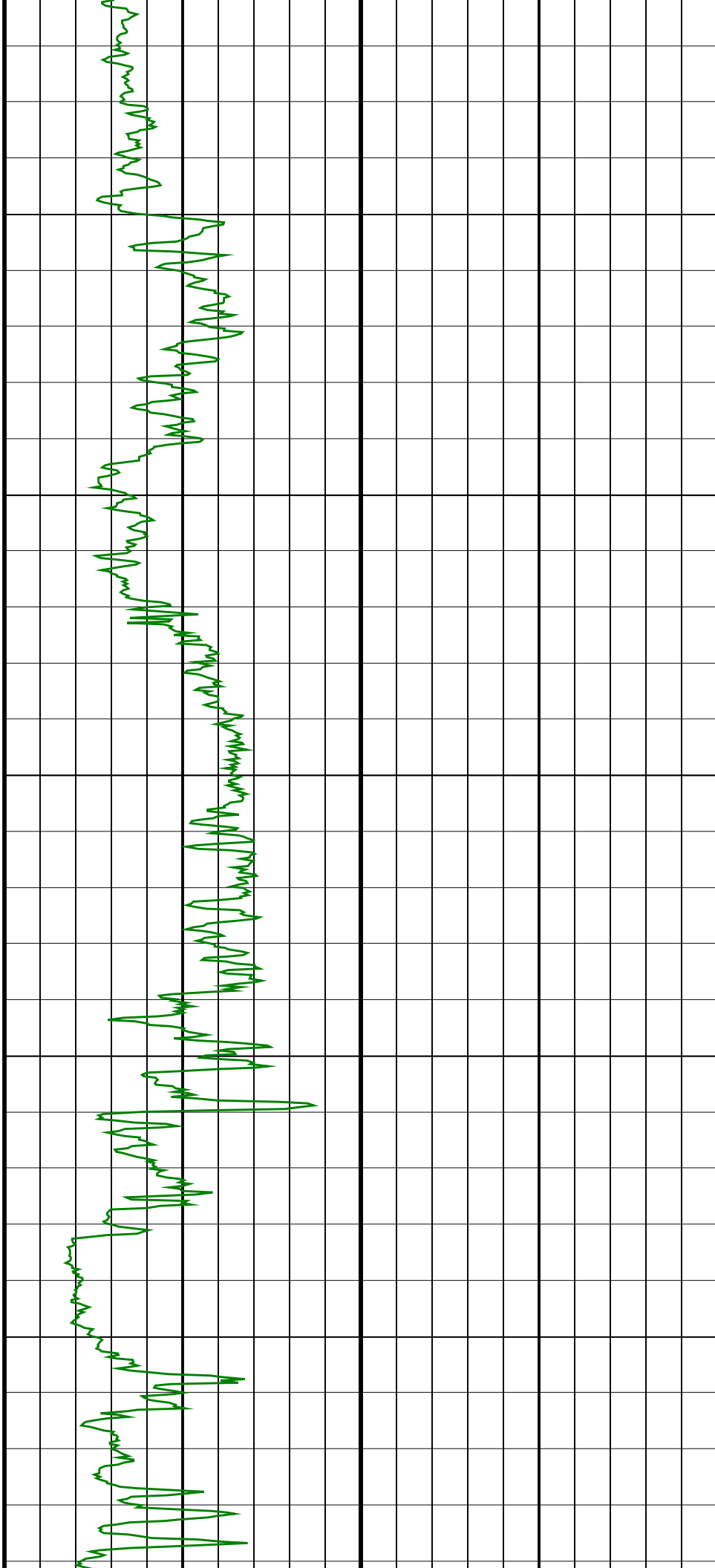
1800
TVD

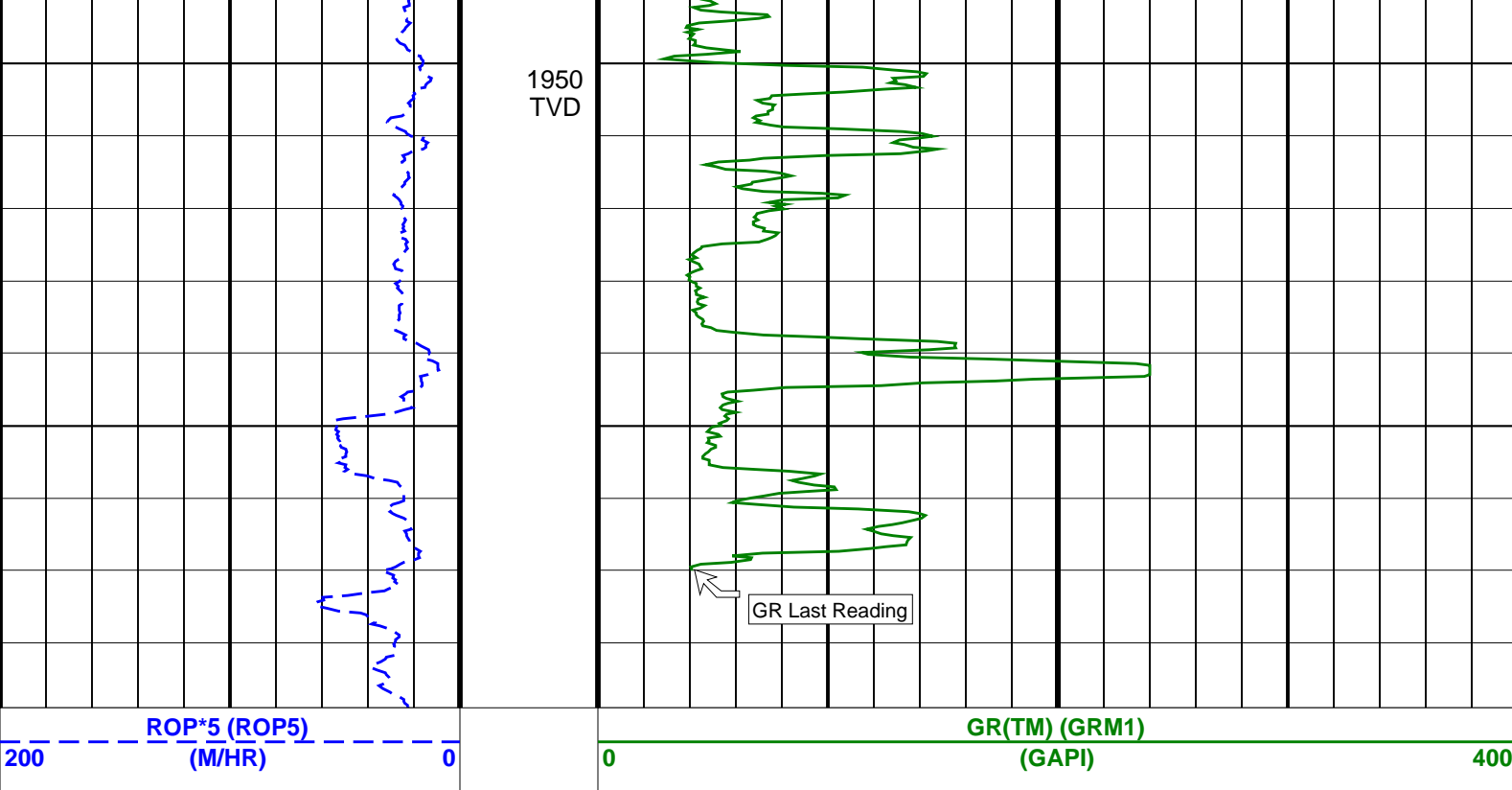




1850
TVD

1900
TVD





SCHLUMBERGER

Survey report 15-Jun-2005 18:28:25 Page 1 of 4

Client.....: ESSO Australia Pty. Ltd.
Field.....: Bream A

Well.....: BMA A5A Spud date.....: 11-June-2005
API number.....: Last survey date.....: 14-Jun-05
Engineer.....: R. Borjas, L. Johnston Total accepted surveys...: 67
MD of first survey.....: 898.00 m
Rig.....: ISDL 453 MD of last survey.....: 2810.00 m
State.....: Victoria

----- Survey calculation methods -----
Method for positions.....: Minimum curvature Magnetic model.....: BGGM version 2004
Method for DLS.....: Mason & Taylor Magnetic date.....: 06-Jun-2005
Magnetic field strength...: 1202.99 HCNT
----- Depth reference -----
Permanent datum.....: Mean Sea Level Magnetic dec (+E/W-).....: 13
Depth reference.....: Drillers Depth Magnetic dip.....: -69.03 degrees
GL above permanent.....: -59.40 m
KB above permanent.....: 9219.15 m
DF above permanent.....: 32.82 m
Reference Dip.....: -69.03 degrees
----- Vertical section origin -----
Latitude (+N/S-).....: -0.78 m Tolerance of G.....: (+/-) 2.0
Departure (+E/W-).....: 8.50 m Tolerance of H.....: (+/-) 6.00 HCNT
Tolerance of Dip.....: (+/-) 0.45 degrees

----- Corrections -----
Magnetic dec (+E/W-).....: 13.10 degrees
Grid convergence (+E/W-).....: -0.48 degrees
Total az corr (+E/W-).....: 13.58 degrees
Azimuth from Vsect Origin to target: 237.07 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=Dmag Magnetic Correction

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SCHLUMBERGER Survey Report 15-Jun-2005 18:28:25 Page 2 of 4

Seq	Measured	Incl	Azimuth	Course	TVD	Vertical	Displ	Displ	Total	At	DLS	Srvy Tool
#	depth	angle	length	depth	section	+N/S-	+E/W-	displ	displ	Azim	(deg/	tool Corr
-	(m)	(deg)	(deg)	(m)	(m)	(m)	(m)	(deg)	100f	type	(deg)	
1	898.00	18.77	284.15	0.00	856.01	185.55	30.51	-232.83	234.82	277.47	0.00	TIP None
2	966.80	28.43	257.97	68.80	919.15	208.50	29.80	-259.72	261.42	276.55	6.22	MWD None
3	995.62	33.51	257.04	28.82	943.85	222.39	26.58	-274.19	275.47	275.54	5.40	MWD None
4	1024.44	36.09	254.25	28.82	967.52	237.99	22.49	-290.11	290.98	274.43	3.21	MWD None
5	1052.94	39.62	250.42	28.50	990.02	254.85	17.17	-306.76	307.24	273.20	4.53	MWD None
6	1081.54	42.92	246.85	28.60	1011.52	273.33	10.28	-324.31	324.48	271.82	4.32	MWD None
7	1109.93	45.33	243.50	28.39	1031.90	292.89	1.97	-342.24	342.25	270.33	3.60	MWD None
8	1138.40	48.75	241.39	28.47	1051.30	313.63	-7.67	-360.70	360.79	268.78	4.02	MWD None
9	1166.60	51.88	234.08	28.20	1069.34	335.34	10.12	-379.11	379.59	267.11	6.24	MWD None

9	1100.60	51.68	234.96	28.20	1089.31	353.31	-19.12	-379.11	379.39	267.11	0.31	MWD	None
10	1195.16	54.08	231.63	28.56	1086.51	358.05	-32.75	-397.38	398.73	265.29	3.70	MWD	None
11	1223.60	55.44	228.23	28.44	1102.92	381.10	-47.71	-415.15	417.88	263.44	3.31	MWD	None
12	1254.14	55.31	227.89	30.54	1120.28	405.92	-64.50	-433.84	438.61	261.54	0.31	MWD	None
13	1282.54	56.21	227.72	28.40	1136.26	429.09	-80.27	-451.24	458.32	259.91	0.98	MWD	None
14	1311.31	55.68	227.71	28.77	1152.37	452.61	-96.31	-468.87	478.66	258.39	0.56	MWD	None
15	1339.95	56.20	228.63	28.64	1168.41	476.05	-112.13	-486.55	499.31	257.02	0.98	MWD	None
16	1368.59	56.02	228.31	28.64	1184.38	499.55	-127.89	-504.35	520.31	255.77	0.34	MWD	None
17	1397.42	55.90	227.95	28.83	1200.51	523.15	-143.84	-522.14	541.59	254.60	0.34	MWD	None
18	1427.92	55.55	227.39	30.50	1217.69	548.02	-160.81	-540.77	564.18	253.44	0.58	MWD	None
19	1455.09	55.36	228.89	27.17	1233.10	570.13	-175.75	-557.44	584.49	252.50	1.40	MWD	None
20	1483.16	55.14	229.20	28.07	1249.10	592.96	-190.86	-574.86	605.71	251.63	0.37	MWD	None
21	1512.02	54.35	229.06	28.86	1265.76	616.30	-206.28	-592.68	627.55	250.81	0.84	MWD	None
22	1540.91	54.88	230.06	28.89	1282.49	639.65	-221.56	-610.60	649.56	250.06	1.03	MWD	None
23	1569.53	55.84	229.71	28.62	1298.76	663.01	-236.73	-628.61	671.71	249.36	1.06	MWD	None
24	1598.06	55.39	229.72	28.53	1314.87	686.36	-251.96	-646.57	693.92	248.71	0.47	MWD	None
25	1626.78	55.95	230.07	28.72	1331.07	709.90	-267.24	-664.71	716.41	248.10	0.67	MWD	None
26	1655.43	55.32	229.93	28.65	1347.24	733.36	-282.44	-682.82	738.93	247.53	0.68	MWD	None
27	1683.72	56.42	229.37	28.29	1363.11	756.59	-297.60	-700.67	761.25	246.99	1.29	MWD	None
28	1712.45	56.26	229.02	28.73	1379.04	780.27	-313.23	-718.77	784.05	246.45	0.35	MWD	None
29	1741.09	55.75	228.66	28.64	1395.05	803.77	-328.85	-736.65	806.72	245.94	0.63	MWD	None
30	1770.00	55.22	228.45	28.91	1411.43	827.33	-344.62	-754.50	829.48	245.45	0.59	MWD	None

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SCHLUMBERGER Survey Report

15-Jun-2005 18:28:25

Page 3 of 4

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)	Displ Total (m)	At 100f (deg)	DLS Azim (deg)	Srvy tool type	Tool Corr
31	1798.98	56.22	228.15	28.98	1427.75	851.00	-360.55	-772.38	852.39	244.98	1.08	MWD	None
32	1827.38	55.67	228.12	28.40	1443.66	874.24	-376.25	-789.90	874.94	244.53	0.59	MWD	None
33	1856.22	55.37	227.89	28.84	1459.98	897.72	-392.16	-807.57	897.75	244.10	0.38	MWD	None
34	1885.10	54.95	227.75	28.88	1476.48	921.11	-408.07	-825.14	920.53	243.69	0.46	MWD	None
35	1913.84	54.76	227.59	28.74	1493.03	944.30	-423.90	-842.51	943.14	243.29	0.24	MWD	None
36	1942.52	54.23	227.73	28.68	1509.68	967.33	-439.63	-859.77	965.65	242.92	0.58	MWD	None
37	1971.34	55.16	228.07	28.82	1526.34	990.55	-455.39	-877.22	988.38	242.56	1.03	MWD	None
38	2000.13	54.87	227.76	28.79	1542.84	1013.84	-471.20	-894.73	1011.22	242.23	0.41	MWD	None
39	2028.59	55.60	228.87	28.46	1559.07	1036.94	-486.75	-912.19	1033.93	241.92	1.25	MWD	None
40	2057.47	55.15	228.63	28.88	1575.48	1060.46	-502.42	-930.05	1057.08	241.62	0.52	MWD	None
41	2085.70	56.15	228.38	28.23	1591.41	1083.51	-517.86	-947.51	1079.79	241.34	1.10	MWD	None
42	2113.96	55.53	228.22	28.26	1607.28	1106.61	-533.42	-964.97	1102.59	241.07	0.68	MWD	None
43	2142.51	56.95	227.90	28.54	1623.14	1130.05	-549.28	-982.62	1125.72	240.80	1.54	MWD	None
44	2171.01	56.53	227.84	28.50	1638.77	1153.58	-565.26	-1000.29	1148.96	240.53	0.45	MWD	None
45	2199.62	56.33	227.52	28.61	1654.59	1177.10	-581.31	-1017.92	1172.21	240.27	0.36	MWD	None
46	2228.56	56.16	227.27	28.94	1670.67	1200.82	-597.60	-1035.63	1195.68	240.01	0.28	MWD	None
47	2256.86	55.96	227.18	28.31	1686.48	1223.95	-613.55	-1052.87	1218.60	239.77	0.23	MWD	None
48	2285.73	55.59	228.30	28.87	1702.71	1247.51	-629.60	-1070.53	1241.95	239.54	1.05	MWD	None
49	2314.37	55.68	228.68	28.63	1718.88	1270.88	-645.27	-1088.23	1265.16	239.33	0.35	MWD	None
50	2342.91	55.67	228.64	28.54	1734.97	1294.20	-660.84	-1105.93	1288.33	239.14	0.04	MWD	None
51	2371.48	55.45	229.48	28.57	1751.13	1317.53	-676.27	-1123.73	1311.53	238.96	0.78	MWD	None
52	2400.20	55.35	229.02	28.72	1767.44	1340.95	-691.71	-1141.64	1334.84	238.79	0.42	MWD	None
53	2429.43	55.21	228.77	29.24	1784.09	1364.73	-707.50	-1159.74	1358.52	238.61	0.26	MWD	None
54	2457.95	54.99	228.91	28.52	1800.40	1387.88	-722.90	-1177.35	1381.57	238.45	0.27	MWD	None
55	2486.70	55.47	230.11	28.75	1816.80	1411.29	-738.23	-1195.31	1404.90	238.30	1.16	MWD	None
56	2515.40	56.27	230.52	28.70	1832.90	1434.88	-753.40	-1213.60	1428.43	238.17	0.92	MWD	None
57	2544.25	57.18	230.64	28.85	1848.73	1458.85	-768.72	-1232.23	1452.35	238.04	0.97	MWD	None
58	2572.83	56.41	230.34	28.58	1864.38	1482.61	-783.93	-1250.68	1476.06	237.92	0.86	MWD	None
59	2601.59	56.46	230.30	28.76	1880.28	1506.40	-799.23	-1269.12	1499.81	237.80	0.06	MWD	None
60	2630.34	56.56	230.09	28.75	1896.15	1530.21	-814.58	-1287.54	1523.58	237.68	0.21	MWD	None

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SCHLUMBERGER Survey Report

15-Jun-2005 18:28:25

Page 4 of 4

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)	Displ Total (m)	At 100f (deg)	DLS Azim (deg)	Srvy tool type	Tool Corr
61	2658.55	56.02	229.02	28.21	1911.80	1553.47	-829.80	-1305.40	1546.82	237.56	1.12	MWD	None
62	2687.16	56.05	228.09	28.62	1927.79	1576.94	-845.51	-1323.19	1570.26	237.42	0.82	MWD	None
63	2716.60	56.25	227.84	29.43	1944.18	1601.08	-861.88	-1341.34	1594.38	237.28	0.30	MWD	None
64	2744.47	56.92	227.78	27.87	1959.53	1624.04	-877.50	-1358.58	1617.33	237.14	0.73	MWD	None
65	2773.23	57.67	227.57	28.76	1975.07	1647.91	-893.80	-1376.47	1641.20	237.00	0.82	MWD	None
66	2790.16	58.07	227.42	16.94	1984.08	1662.06	-903.49	-1387.05	1655.35	236.92	0.76	MWD	None
67	2810.00	58.40	227.30	19.84	1994.52	1678.68	-914.91	-1399.45	1671.98	236.82	0.53	Projection to TD	

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Field:	Bream A
Rig:	ISDL 453
State:	Victoria
	Gamma Ray Service
	1:500 True Vertical Depth
	Real Time Log