









Run number		1								
Bit size	in.	8.5								
Bit start depth	m	549.0								
Bit end depth	m	2715.0								
Top interval logged	m	549.0								
Bottom interval logged	m	2696.2								
Begin log: time		09:00								
Begin log: date		27-Apr-07								
End log: time		08:45								
End log: date		04-May-07								
Mud data										
Depth	m	2715.0								
Type		KCl/PHPA/Glycol								
Mud weight	ppg	9.7								
Solids	%	5.9								
Chlorides	mg/L	48,000								
Rm	Ohm-m@°C	N/A								
Rmf	Ohm-m@°C	N/A								
Rmc	Ohm-m@c	N/A								

Potassium	%	4.4									
Environmental data											
GR											
Mud weight	ppg	9.7									
Bit size	in.	8.5									
Resistivity											
Neutron porosity											
Hole Size	in	8.5									
Mud weight	ppg	9.7									
Temperature	°C	78									
Mud salinity	ppk	N/A									
Formation salinity		N/A									
Recording rate 1	SEC	N/A									
Recording rate 2	SEC	N/A									
Filtering GR		3pt									
Filtering density		N/A									
Filtering Neutron		N/A									
Company representative		G. Doty	C. Stead	B. Davis	M. Turner						
Schlumberger D&M Personnel		B.Pattarakorn	R. Borjas	C.Hibberson	C. Cocks	M. Blacker					

OTHER SERVICES FOR RUN1 Directional Drilling Directional Surveys Annulus Pressure & Temperature	OTHER SERVICES FOR RUN	OTHER SERVICES FOR RUN
REMARKS: RUN NUMBER 1 Depth is referenced to Driller's Depth . All Data presented is from Real Time Transmission. Gamma Ray is corrected for mud weight, tool size and bit size. Gamma Ray is not corrected for potassium.	REMARKS: RUN NUMBER	REMARKS: RUN NUMBER
POOH to change BHA.		

DOWNHOLE EQUIPMENT

6-3/4 in. PowerPulse		24.34
MDC: VC64		
MEC: BA-212		
MDI: 1096		
MGR: 295		
DHS: 8.0C03		
D&I		19.49
GR		18.84
APWD		16.25
6-5/8 in. NM Pony		14.86
S/N: ANA98-007		
6-5/8 in. NM Stabilizer		12.39
S/N: GU2299		
7 in. PowerPak* Motor		10.28
A700GT 7:8		
S/N: N7311		
1.15 deg. Bent Housing		
8-3/8 in. Motor Sleeve		
Smith PDC Bit		0.00
OD: 8-1/2 in.		0.22
S73PX S/N: JT0016A3		

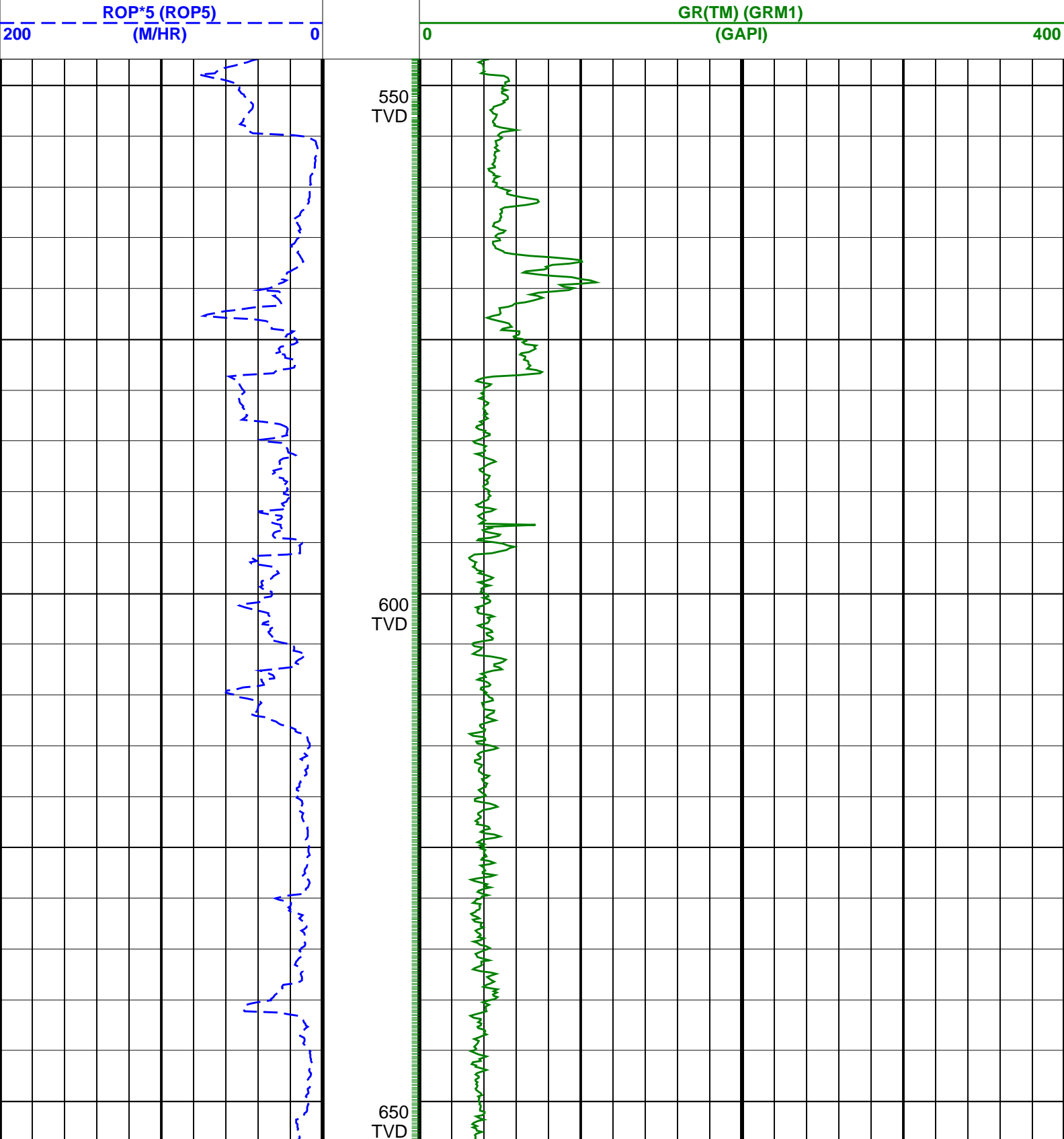
Maximum string dia
All lengths in

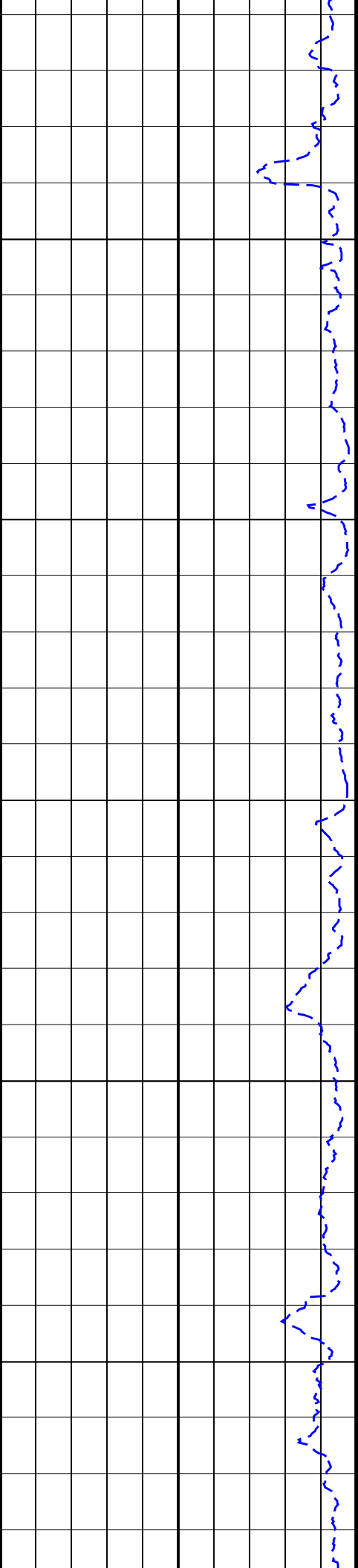
HLA A5B RT 1:500 TVD

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PIP SUMMARY

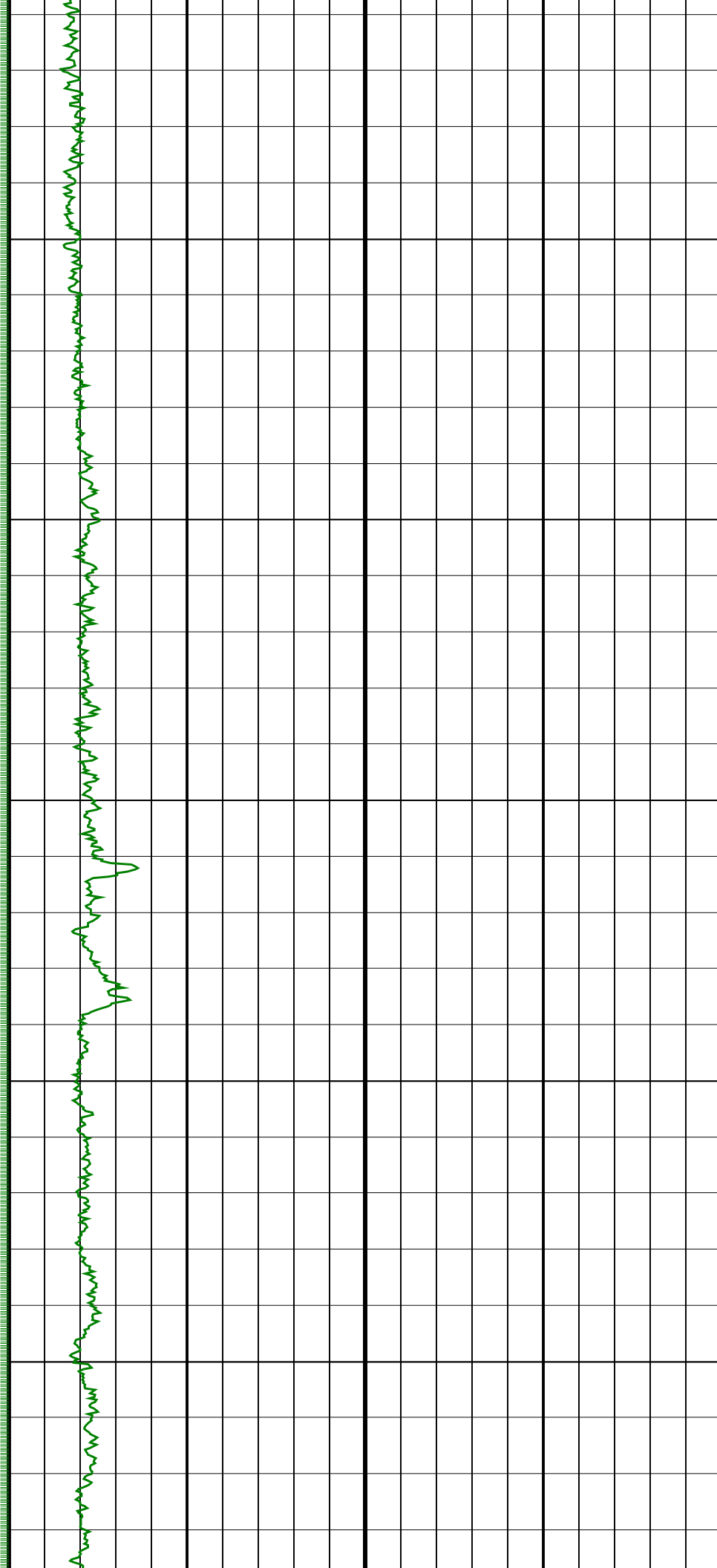
GR(TM) PIP

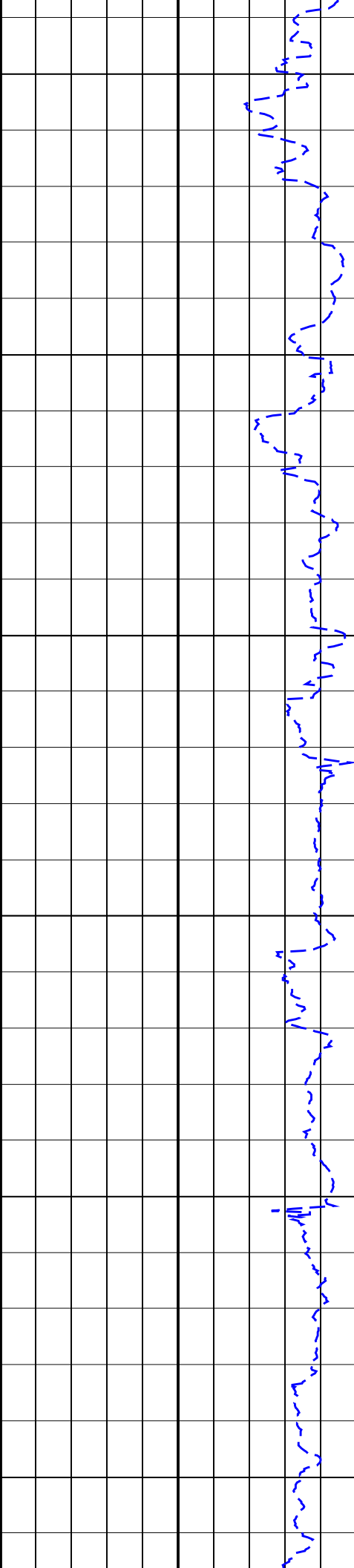




700
TVD

750
TVD

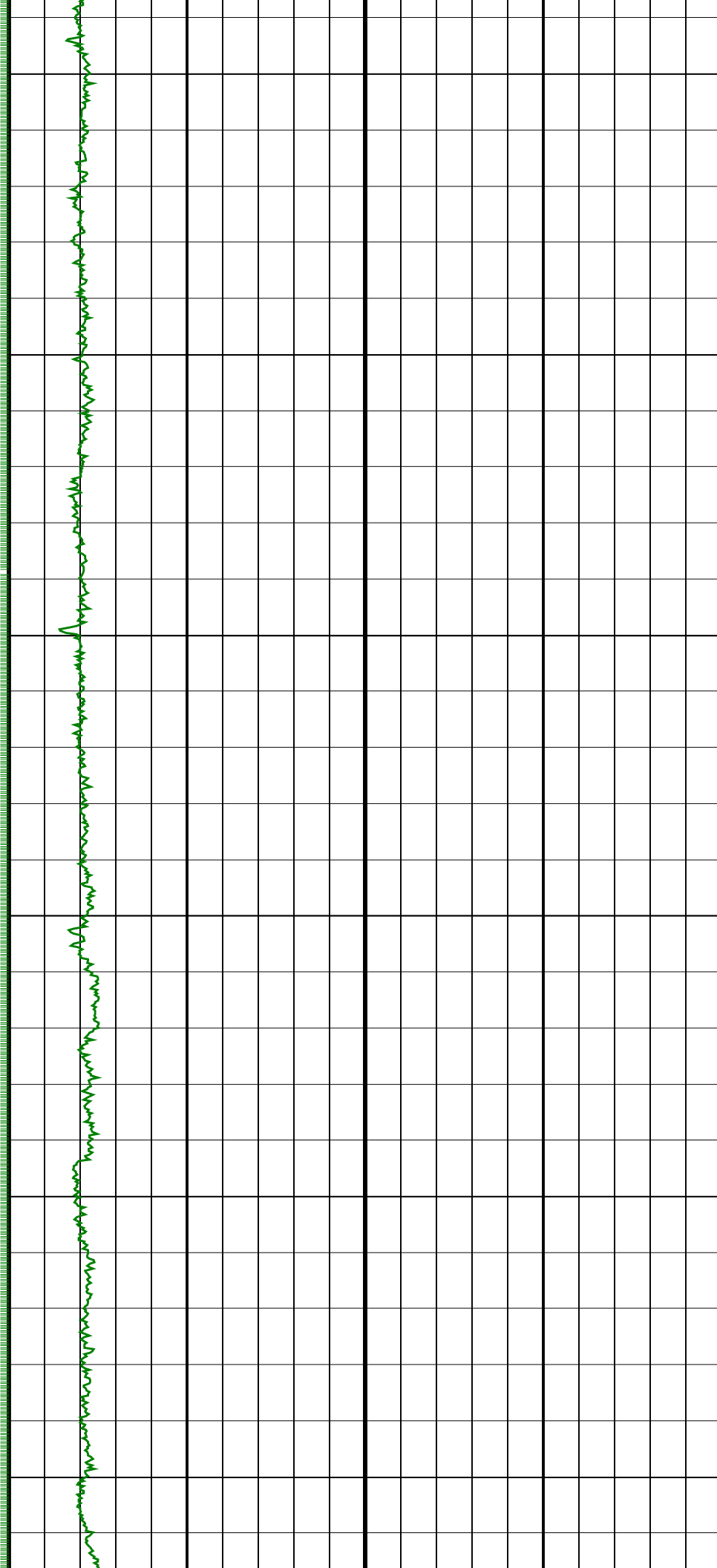


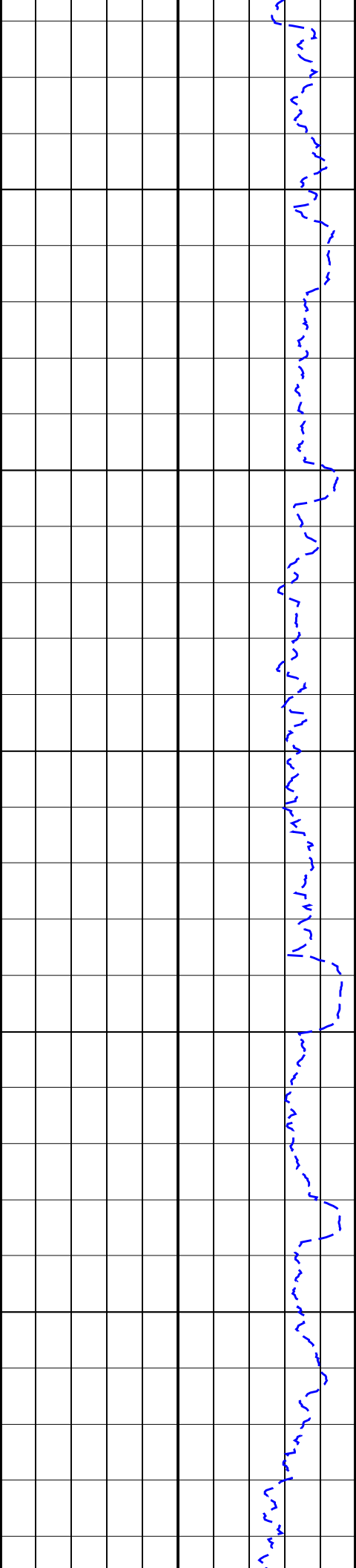


800
TVD

850
TVD

900
TVD

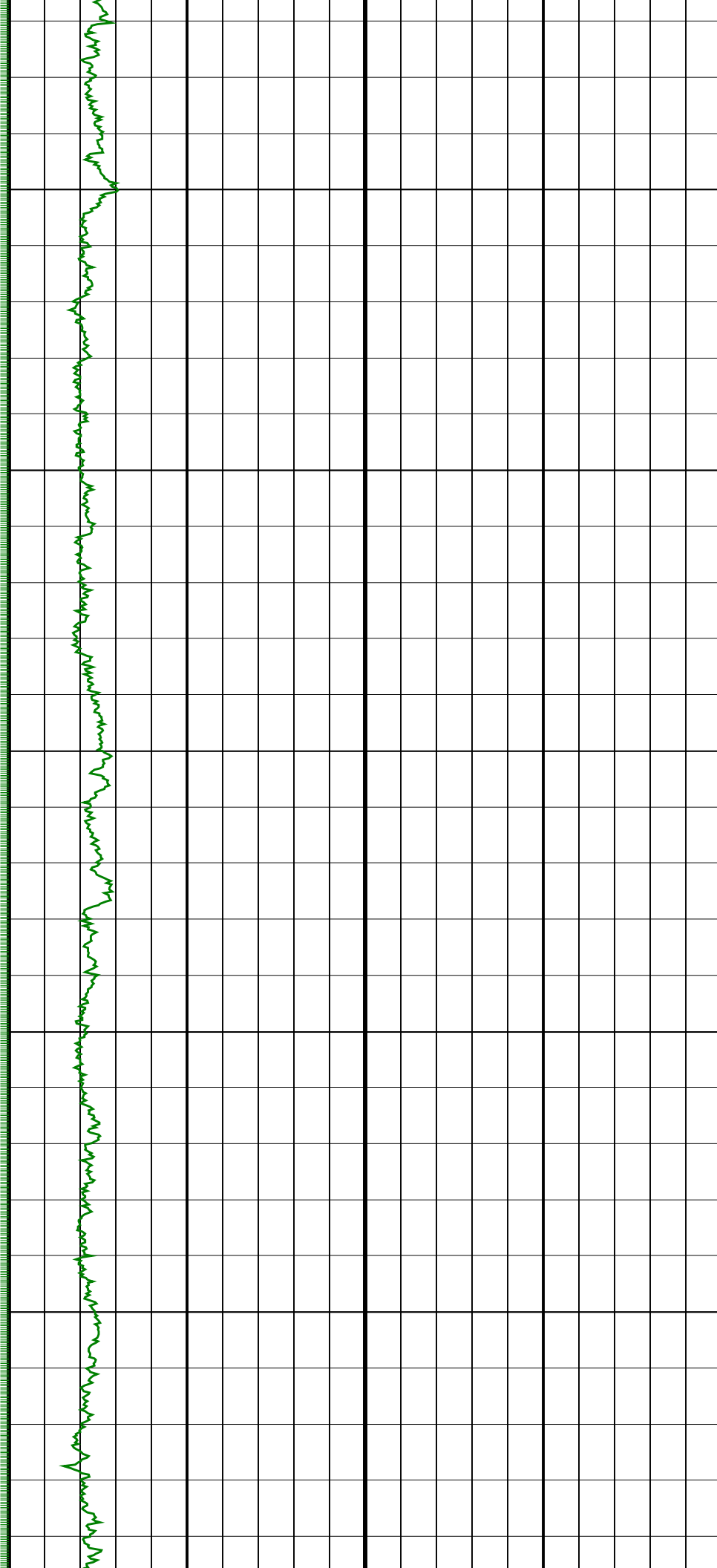


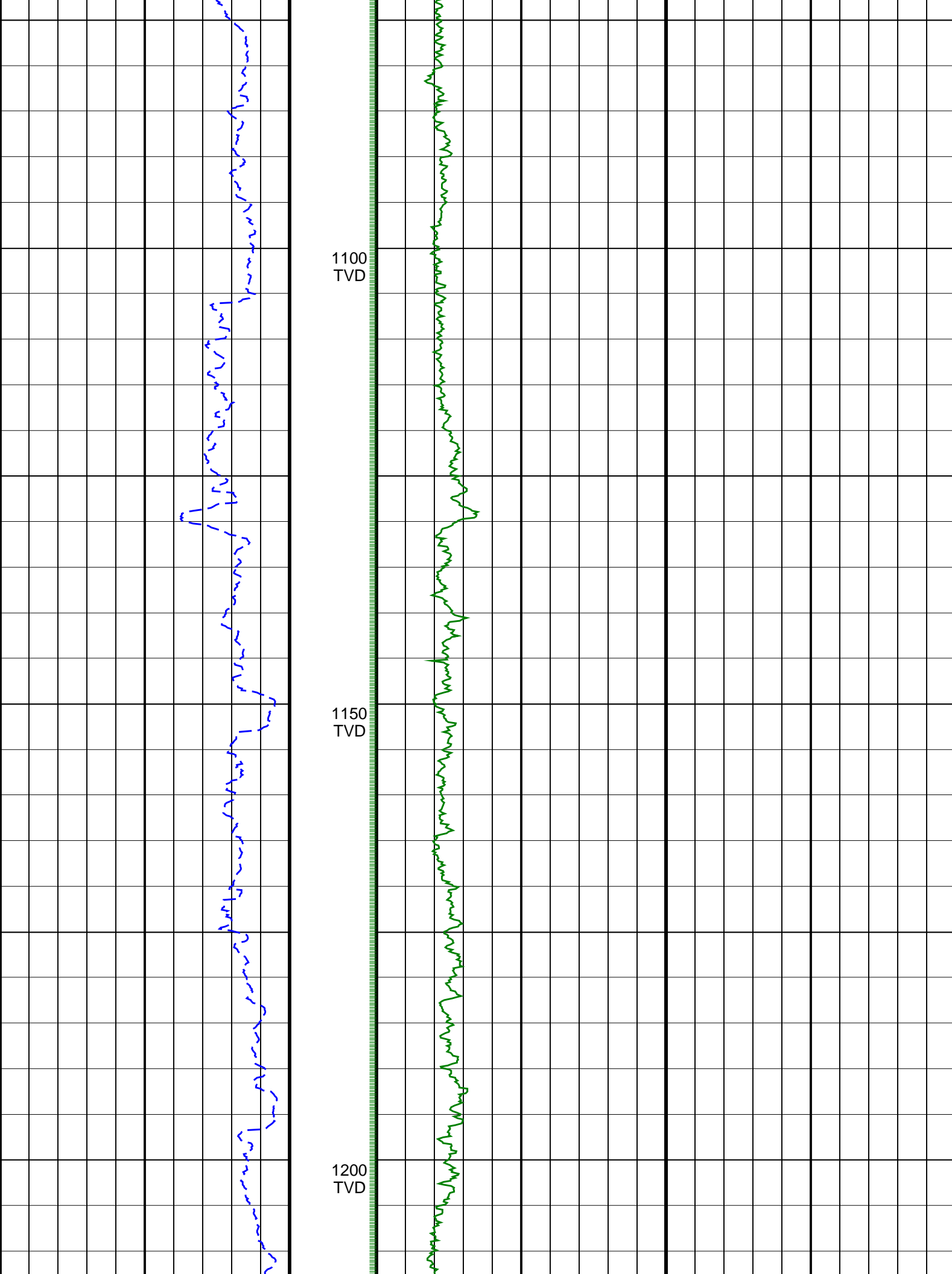


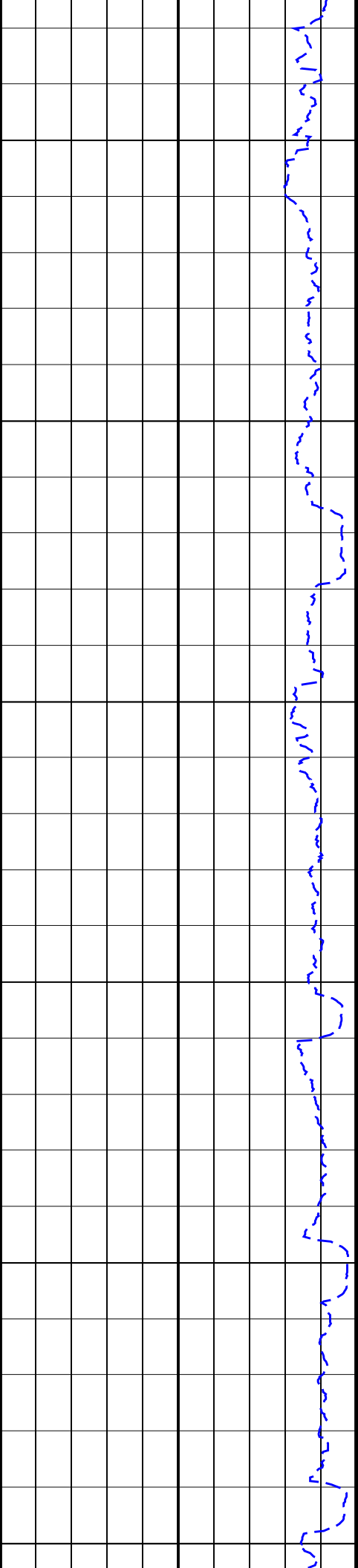
950
TVD

1000
TVD

1050
TVD



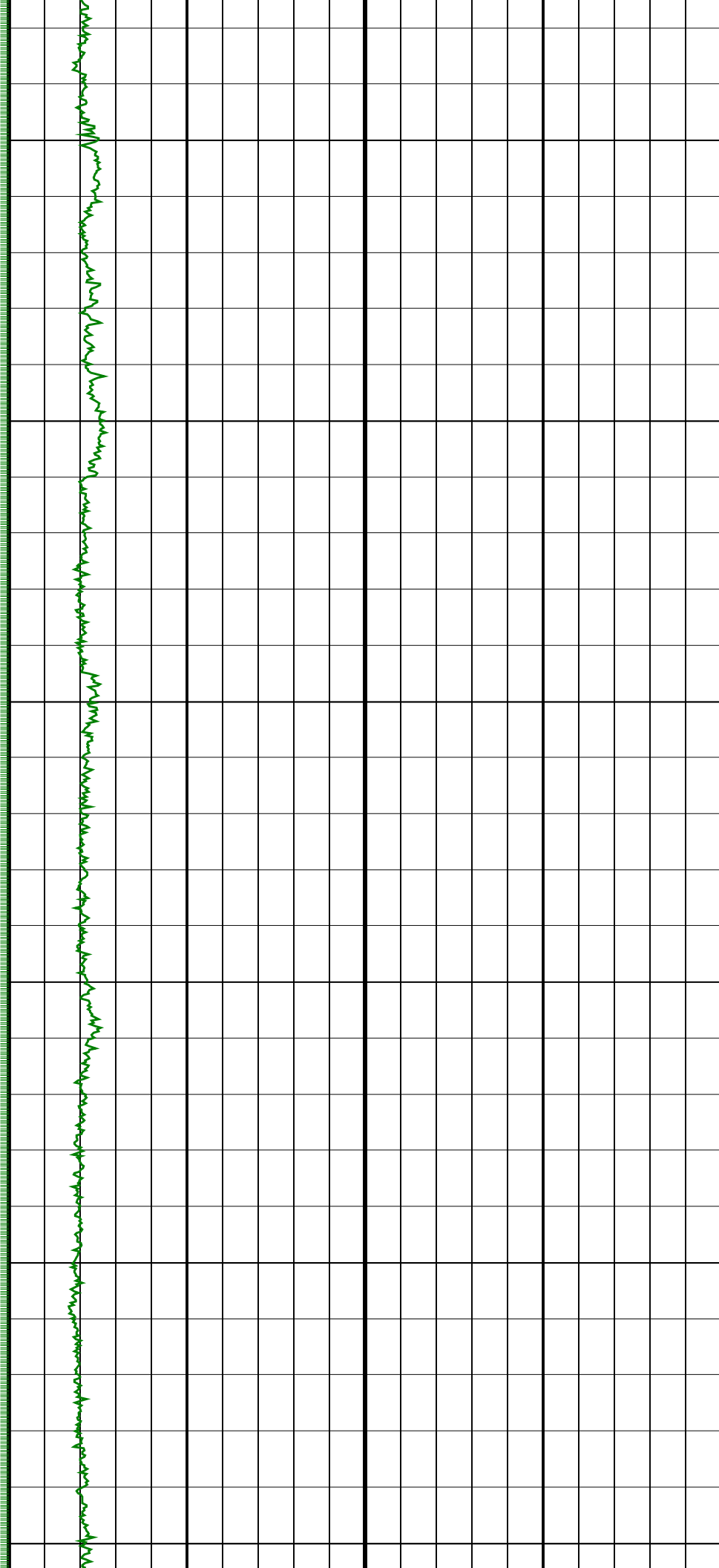


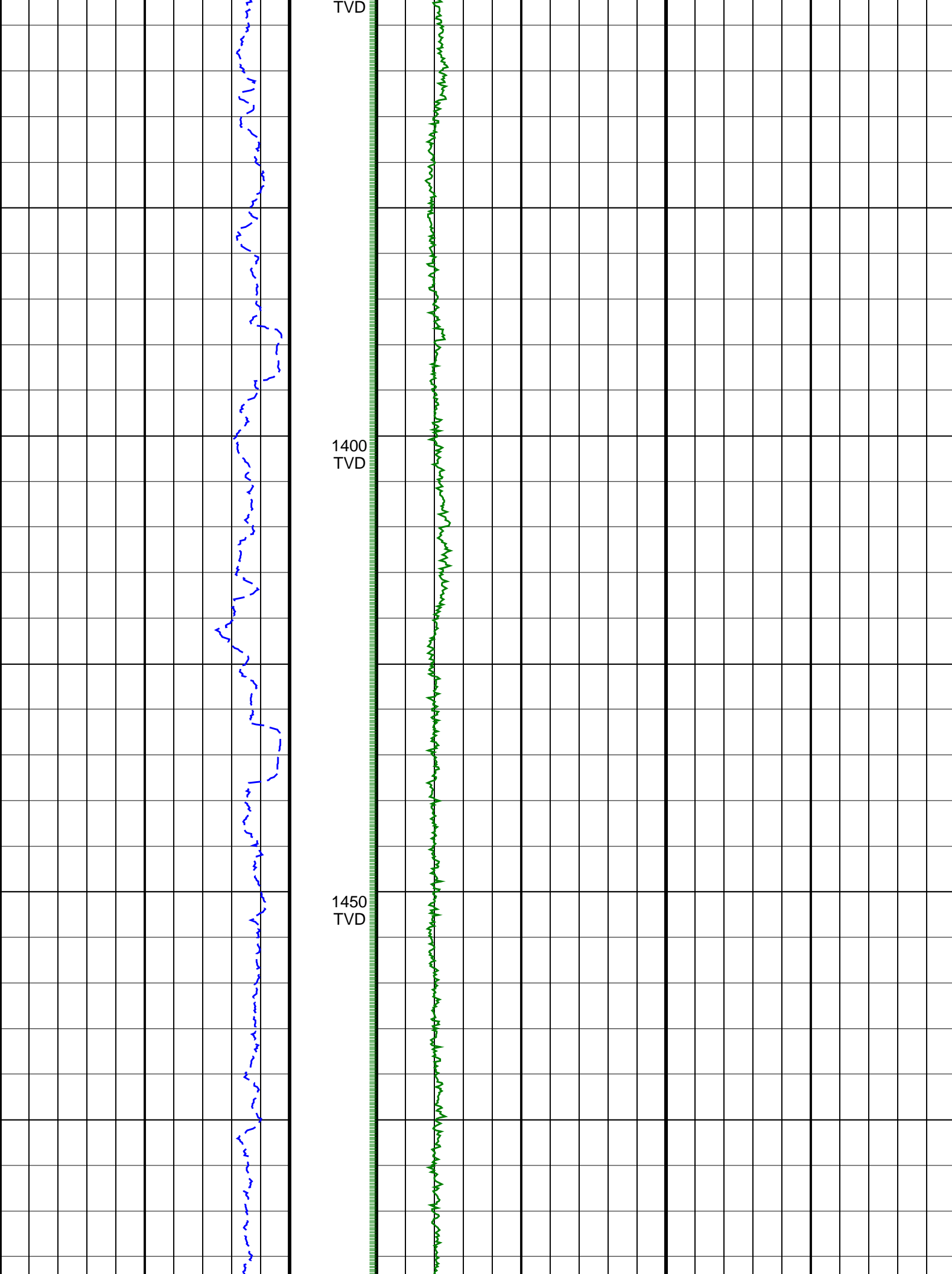


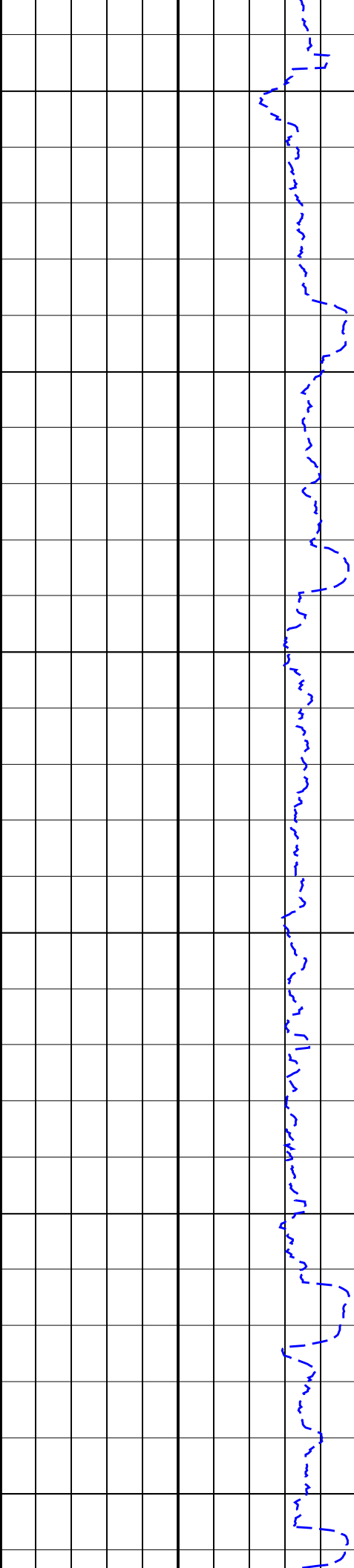
1250
TVD

1300
TVD

1350



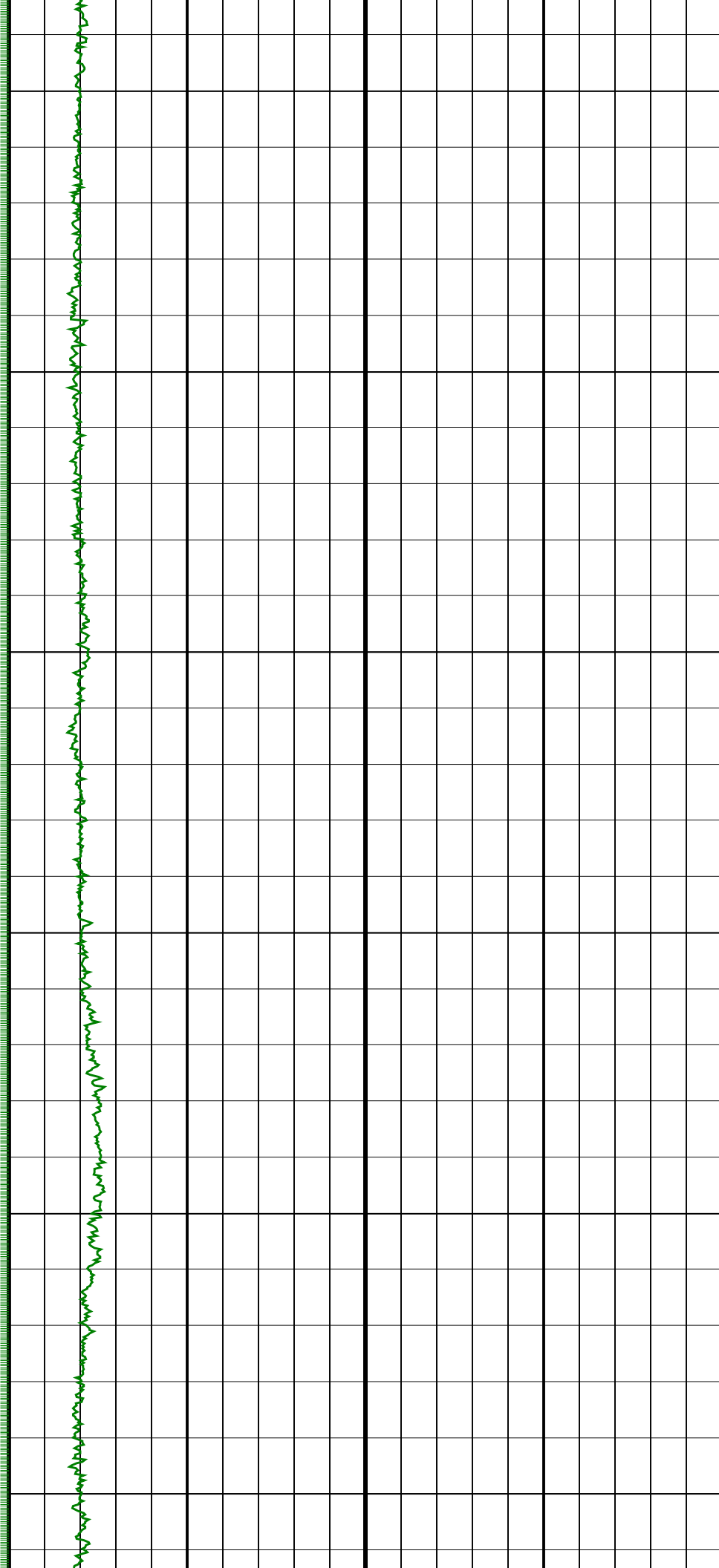


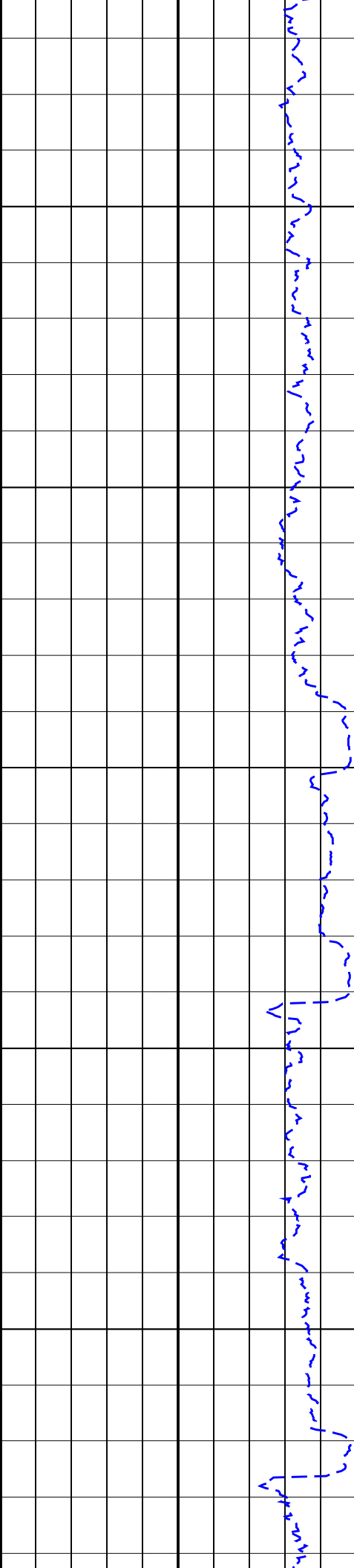


1500
TVD

1550
TVD

1600
TVD

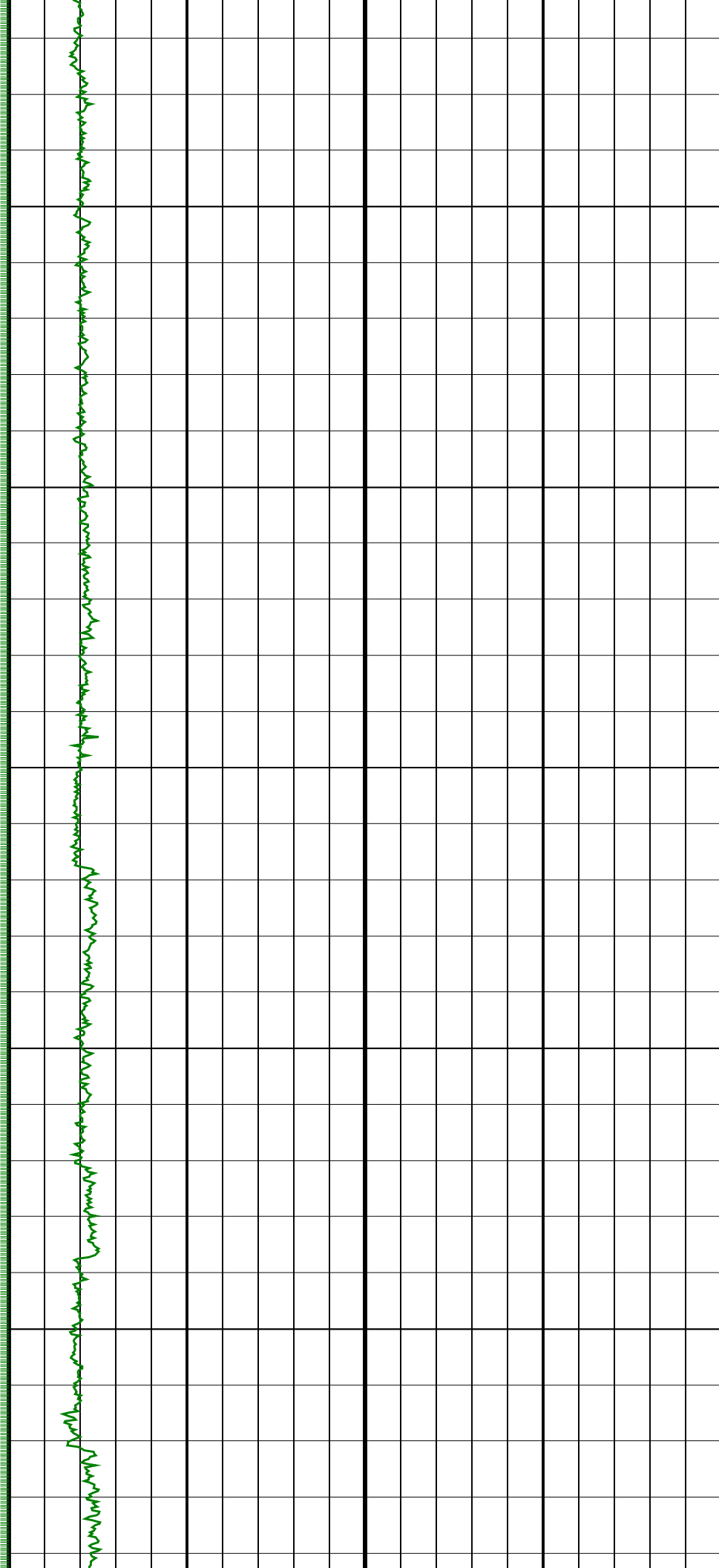


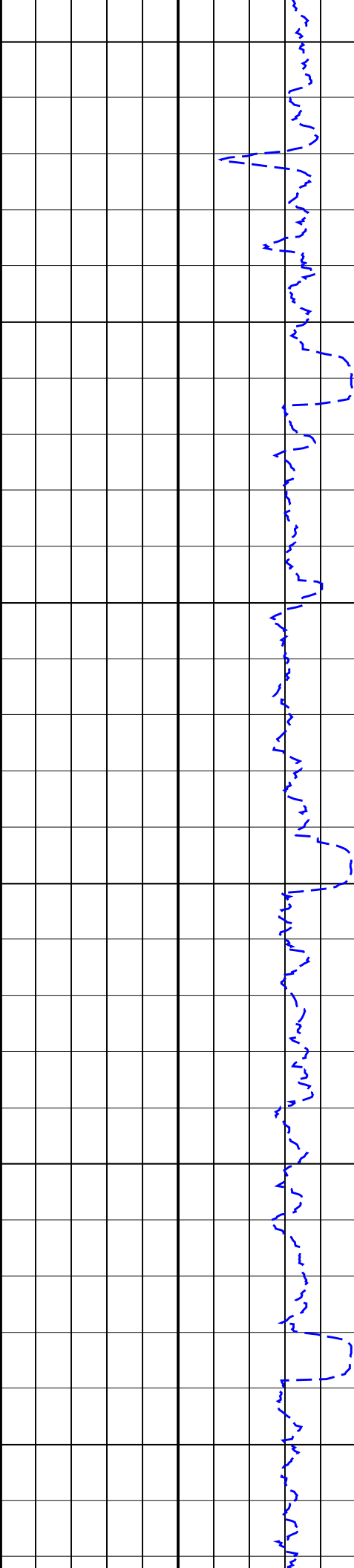


1650
TVD

1700
TVD

1750
TVD

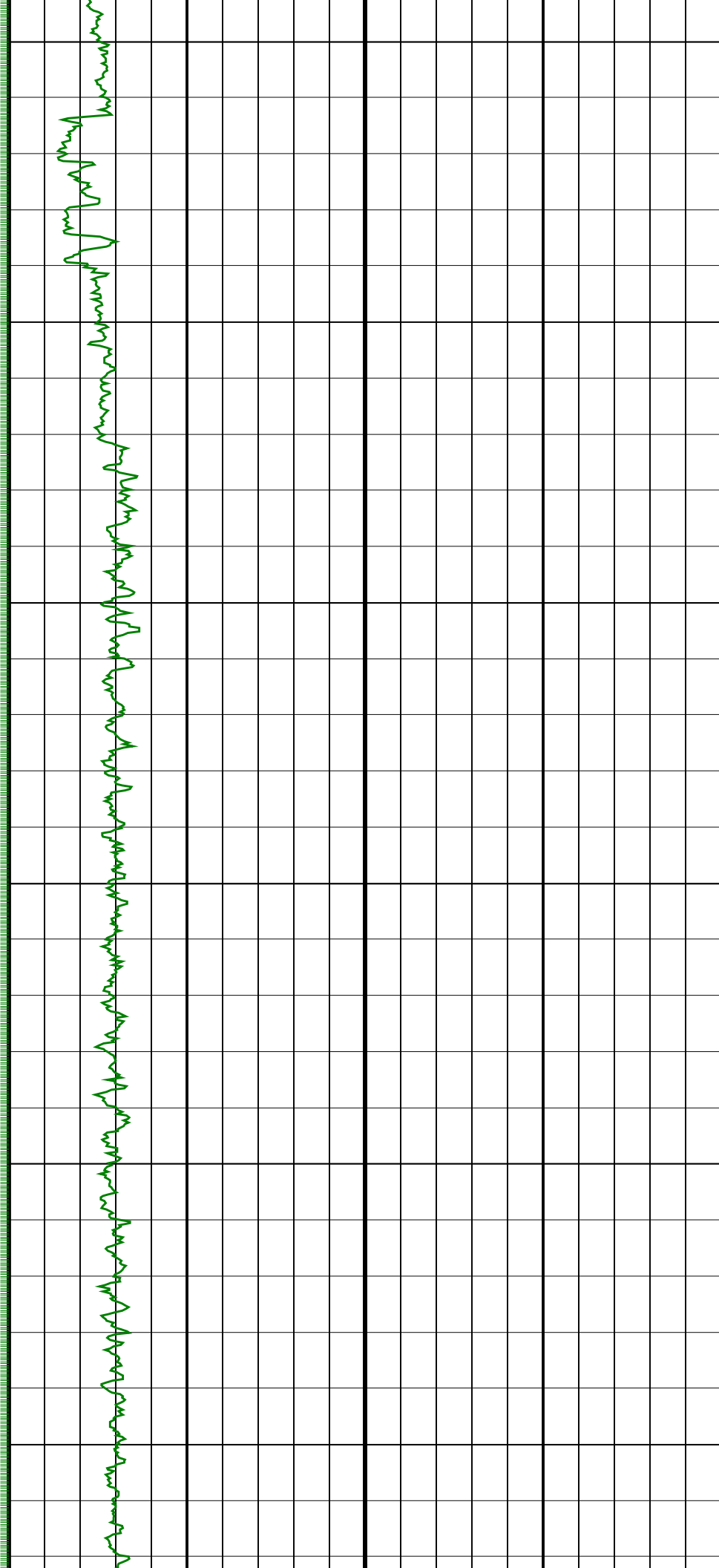


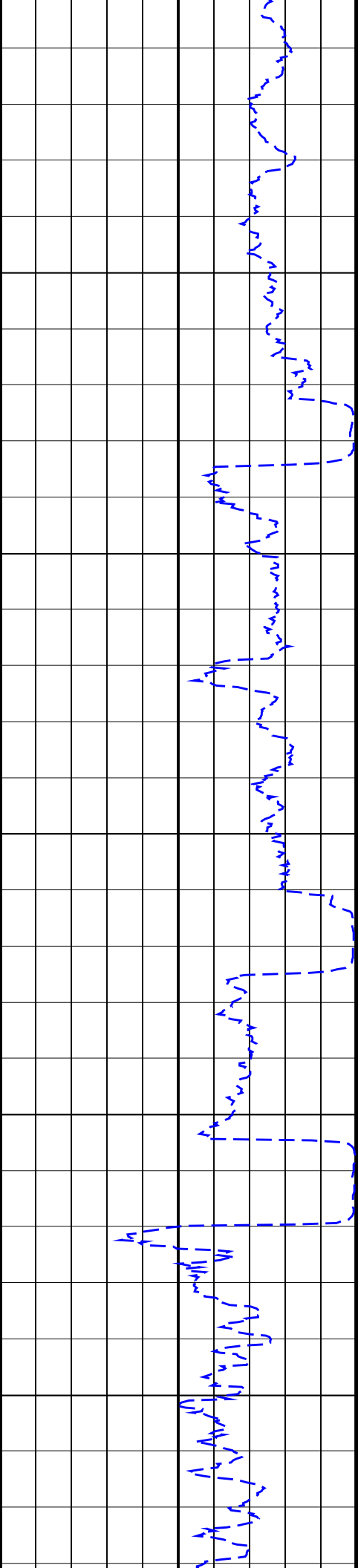


1800
TVD

1850
TVD

1900
TVD

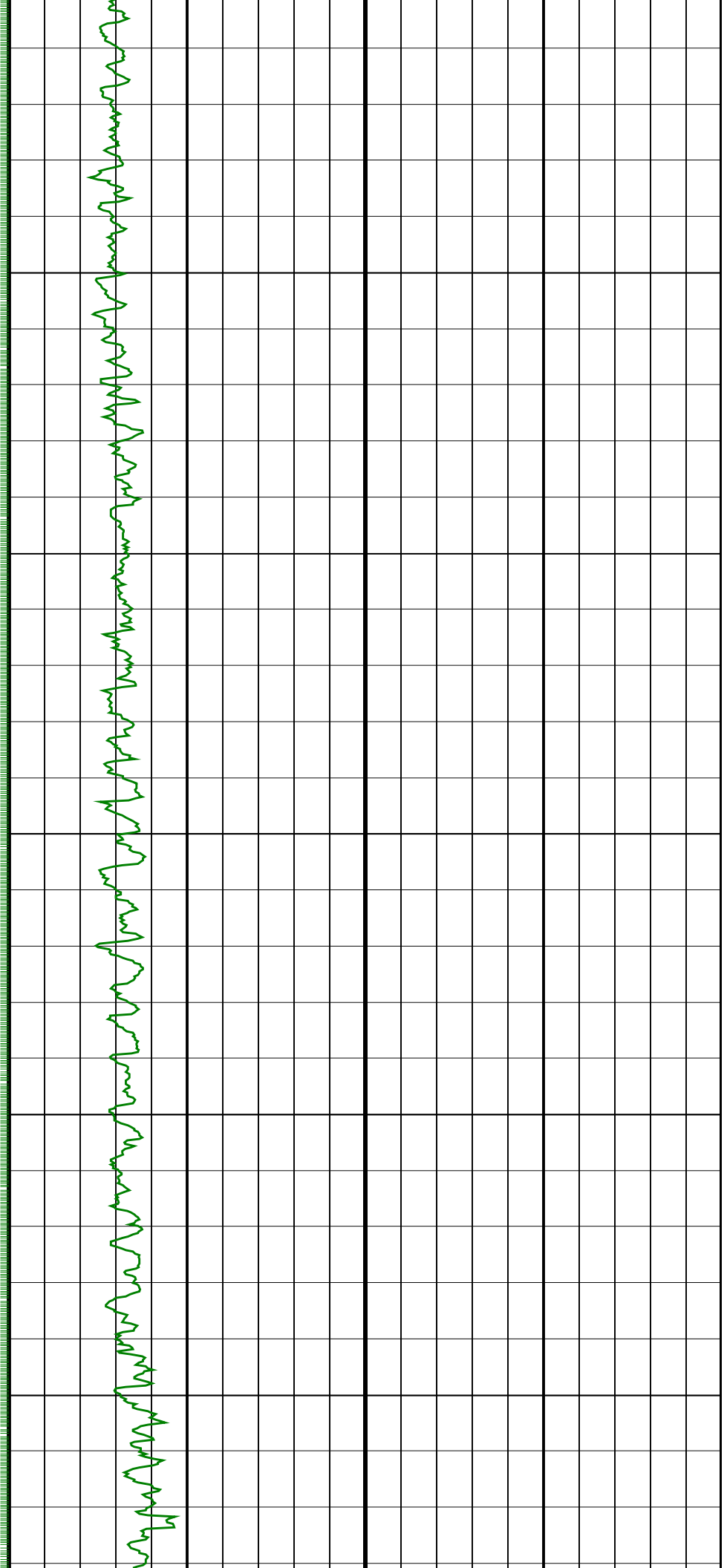


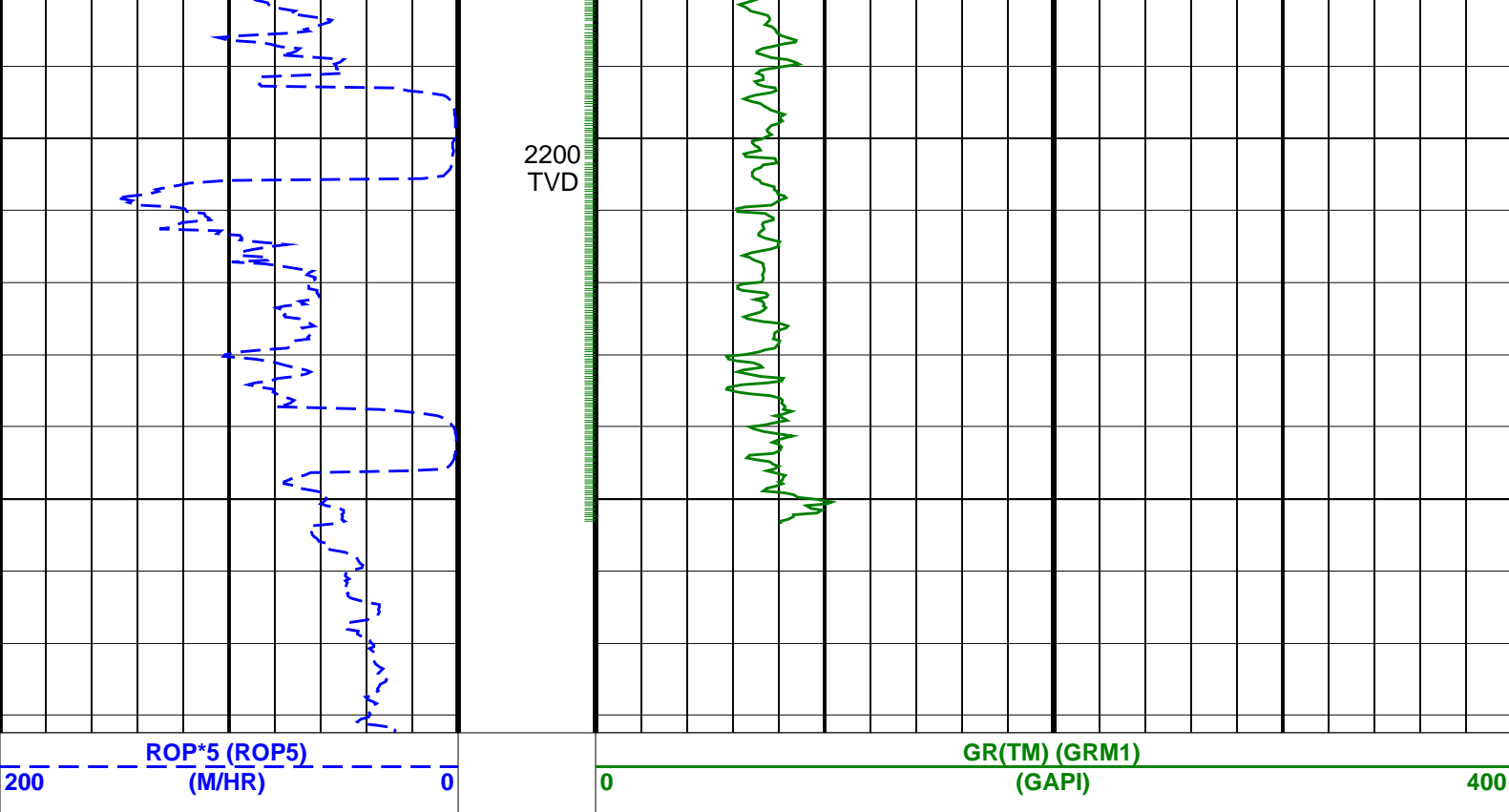


2050
TVD

2100
TVD

2150
TVD





PIP SUMMARY

GR(TM) PIP

SCHLUMBERGER

Survey report

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Client..... ESSO Australia Pty. Ltd.
Field..... Halibut

Well..... HLA A5B
API number..... N/A
Engineer..... R. Borjas/B. Pattarakorn

RIG..... ISDL 453
STATE..... Victoria

Spud date..... 25-April-2007
Last survey date..... 08-May-07
Total accepted surveys... 83
MD of first survey..... 548.00 m
MD of last survey..... 3004.00 m

----- Survey calculation methods-----
Method for positions..... Minimum curvature
Method for DLS..... Mason & Taylor

----- Depth reference -----
Permanent datum..... Mean Sea level
Depth reference..... Driller's Depth
GL above permanent..... -73.46 m
KB above permanent..... 29.45 m
DF above permanent..... 29.45 m

----- Vertical section origin-----
Latitude (+N/S-)..... -4.33 m
Departure (+E/W-)..... 5.59 m

Azimuth from Vsect Origin to target: 351.32 degrees

----- Geomagnetic data -----
Magnetic model..... BGGM version 2006
Magnetic date..... 23-Apr-2007
Magnetic field strength.. 1199.17 HCNT
Magnetic dec (+E/W-)..... 13.23 degrees
Magnetic dip..... -68.86 degrees

----- MWD survey Reference Criteria -----
Reference G..... 1000.04 mGal
Reference H..... 1199.17 HCNT
Reference Dip..... -68.86 degrees
Tolerance of G..... (+/-) 2.50 mGal
Tolerance of H..... (+/-) 6.00 HCNT
Tolerance of Dip..... (+/-) 0.45 degrees

----- Corrections -----
Magnetic dec (+E/W-)..... 13.23 degrees
Grid convergence (+E/W-).. -0.82 degrees
Total az corr (+E/W-)..... 14.05 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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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/10m)	Srvy tool type	Tool Corr (deg)
1	548.00	8.75	195.17	0.00	547.38	-13.00	-17.79	3.56	18.14	168.68	0.00	TIP	None
2	651.70	7.93	306.64	103.70	650.48	-15.14	-21.15	-4.28	21.58	191.44	1.33	MWD	None
3	680.35	8.05	339.26	28.65	678.86	-11.77	-18.09	-6.58	19.25	199.98	1.56	MWD	None
4	709.93	11.77	358.35	29.58	708.01	-6.75	-13.14	-7.40	15.08	209.39	1.66	MWD	None

5	738.63	17.15	359.20	28.70	735.79	0.36	-5.97	-7.54	9.62	231.62	1.88	MWD	None
6	768.09	20.23	353.89	29.46	763.69	9.75	3.44	-8.15	8.84	292.87	1.19	MWD	None
7	797.35	21.80	347.64	29.26	791.01	20.23	13.77	-9.85	16.93	324.44	0.93	MWD	None
8	826.60	25.20	345.64	29.25	817.83	31.85	25.12	-12.56	28.08	333.44	1.19	MWD	None
9	855.72	29.34	347.65	29.12	843.71	45.14	38.10	-15.62	41.18	337.71	1.46	MWD	None
10	885.13	33.49	350.64	29.41	868.80	60.45	53.15	-18.48	56.27	340.82	1.51	MWD	None
11	914.28	37.33	351.99	29.15	892.56	77.34	69.84	-21.02	72.94	343.25	1.34	MWD	None
12	943.48	40.84	352.19	29.20	915.22	95.75	88.08	-23.56	91.17	345.03	1.20	MWD	None
13	972.57	40.38	351.68	29.09	937.30	114.68	106.82	-26.21	109.99	346.21	0.20	MWD	None
14	1001.73	41.31	351.44	29.16	959.36	133.75	125.69	-29.01	128.99	347.00	0.32	MWD	None
15	1031.06	41.73	351.38	29.33	981.32	153.19	144.91	-31.91	148.38	347.58	0.14	MWD	None
16	1059.93	41.08	351.40	28.87	1002.97	172.29	163.79	-34.77	167.44	348.01	0.23	MWD	None
17	1089.24	41.93	351.64	29.31	1024.92	191.71	183.00	-37.64	186.83	348.38	0.30	MWD	None
18	1118.59	42.38	351.44	29.35	1046.68	211.41	202.48	-40.54	206.50	348.68	0.16	MWD	None
19	1147.69	42.10	351.25	29.10	1068.23	230.97	221.82	-43.48	226.04	348.91	0.11	MWD	None
20	1177.02	41.90	351.99	29.33	1090.02	250.59	241.24	-46.34	245.65	349.13	0.18	MWD	None
21	1206.23	41.78	351.05	29.21	1111.78	270.08	260.51	-49.21	265.12	349.30	0.22	MWD	None
22	1235.35	41.41	350.63	29.12	1133.56	289.41	279.60	-52.29	284.44	349.41	0.16	MWD	None
23	1264.67	41.90	351.67	29.32	1155.47	308.89	298.85	-55.29	303.92	349.52	0.29	MWD	None
24	1293.84	41.73	351.34	29.17	1177.21	328.34	318.08	-58.16	323.36	349.64	0.10	MWD	None
25	1323.03	42.11	352.14	29.19	1198.93	347.84	337.38	-60.96	342.85	349.76	0.22	MWD	None
26	1352.02	41.79	352.53	28.99	1220.49	367.22	356.59	-63.55	362.21	349.90	0.14	MWD	None
27	1381.54	41.15	353.05	29.52	1242.61	386.76	375.98	-66.00	381.73	350.04	0.25	MWD	None
28	1410.60	42.02	353.24	29.06	1264.35	406.04	395.13	-68.30	400.99	350.19	0.30	MWD	None
29	1439.58	41.62	353.34	28.98	1285.94	425.35	414.33	-70.56	420.29	350.34	0.14	MWD	None
30	1468.99	41.78	353.37	29.41	1307.90	444.90	433.76	-72.82	439.83	350.47	0.05	MWD	None

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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/10m)	Srvy tool type	Tool Corr (deg)
31	1498.23	42.02	352.84	29.24	1329.66	464.42	453.14	-75.17	459.34	350.58	0.15	MWD	None
32	1527.49	42.06	351.80	29.26	1351.40	484.01	472.56	-77.79	478.92	350.65	0.24	MWD	None
33	1556.47	41.64	351.89	28.98	1372.98	503.35	491.70	-80.53	498.25	350.70	0.15	MWD	None
34	1586.04	41.90	351.25	29.57	1395.04	523.04	511.19	-83.42	517.95	350.73	0.17	MWD	None
35	1614.92	41.43	351.18	28.88	1416.61	542.24	530.16	-86.35	537.15	350.75	0.16	MWD	None
36	1644.13	42.18	351.82	29.21	1438.39	561.71	549.42	-89.23	556.61	350.78	0.30	MWD	None
37	1673.24	42.04	351.55	29.11	1459.98	581.23	568.73	-92.05	576.13	350.81	0.08	MWD	None
38	1702.36	41.72	352.02	29.12	1481.66	600.67	587.97	-94.83	595.57	350.84	0.15	MWD	None
39	1731.55	41.17	352.37	29.19	1503.54	619.99	607.11	-97.45	614.88	350.88	0.20	MWD	None
40	1760.90	41.62	351.78	29.35	1525.56	639.40	626.33	-100.13	634.29	350.92	0.20	MWD	None
41	1789.87	41.78	352.23	28.97	1547.19	658.67	645.42	-102.81	653.56	350.95	0.12	MWD	None
42	1819.29	41.61	352.45	29.42	1569.16	678.23	664.81	-105.42	673.12	350.99	0.08	MWD	None
43	1848.21	41.08	352.86	28.92	1590.87	697.33	683.76	-107.86	692.22	351.04	0.21	MWD	None
44	1877.70	41.39	351.79	29.49	1613.05	716.77	703.02	-110.46	711.65	351.07	0.26	MWD	None
45	1906.85	41.76	351.61	29.15	1634.85	736.11	722.17	-113.25	730.99	351.09	0.13	MWD	None
46	1935.97	41.58	351.78	29.12	1656.60	755.47	741.32	-116.04	750.35	351.10	0.07	MWD	None
47	1965.34	40.91	352.22	29.37	1678.69	774.83	760.50	-118.74	769.71	351.13	0.25	MWD	None
48	1994.29	41.54	352.19	28.95	1700.46	793.91	779.40	-121.33	788.79	351.15	0.22	MWD	None
49	2023.49	42.02	351.60	29.20	1722.24	813.36	798.66	-124.07	808.24	351.17	0.21	MWD	None
50	2052.61	41.57	351.98	29.12	1743.95	832.77	817.87	-126.84	827.65	351.18	0.18	MWD	None
51	2081.95	41.81	352.14	29.34	1765.86	852.28	837.20	-129.54	847.16	351.20	0.09	MWD	None
52	2111.16	41.38	352.09	29.21	1787.70	871.67	856.40	-132.20	866.55	351.22	0.15	MWD	None
53	2140.02	41.84	352.03	28.86	1809.28	890.83	875.38	-134.85	885.71	351.24	0.16	MWD	None
54	2169.57	41.34	351.75	29.55	1831.38	910.45	894.80	-137.61	905.32	351.26	0.18	MWD	None
55	2198.71	41.48	351.23	29.14	1853.23	929.72	913.87	-140.47	924.60	351.26	0.13	MWD	None
56	2227.83	41.17	351.03	29.12	1875.10	948.95	932.86	-143.43	943.83	351.26	0.12	MWD	None
57	2257.05	41.35	350.94	29.22	1897.07	968.22	951.90	-146.45	963.10	351.25	0.06	MWD	None
58	2286.21	41.33	351.01	29.16	1918.96	987.48	970.92	-149.47	982.36	351.25	0.02	MWD	None
59	2315.40	41.55	352.01	29.19	1940.84	1006.80	990.03	-152.32	1001.67	351.25	0.24	MWD	None
60	2344.68	41.66	352.76	29.28	1962.74	1026.24	1009.30	-154.90	1021.11	351.27	0.17	MWD	None

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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/10m)	Srvy tool type	Tool Corr (deg)
61	2373.83	41.90	353.18	29.15	1984.48	1045.65	1028.57	-157.28	1040.53	351.31	0.13	MWD	None
62	2403.04	42.18	353.28	29.21	2006.17	1065.20	1047.99	-159.58	1060.08	351.34	0.10	MWD	None
63	2432.37	41.77	353.27	29.33	2027.97	1084.80	1067.48	-161.88	1079.68	351.38	0.14	MWD	None
64	2461.47	41.96	352.77	29.10	2049.65	1104.22	1086.75	-164.24	1099.09	351.41	0.13	MWD	None
65	2490.75	41.60	352.63	29.28	2071.48	1123.72	1106.10	-166.72	1118.60	351.43	0.13	MWD	None
66	2519.73	41.70	352.30	28.98	2093.13	1142.97	1125.20	-169.24	1137.85	351.45	0.08	MWD	None
67	2549.00	40.97	352.26	29.27	2115.11	1162.30	1144.35	-171.84	1157.18	351.46	0.25	MWD	None
68	2578.41	41.17	352.18	29.41	2137.28	1181.62	1163.50	-174.46	1176.50	351.47	0.07	MWD	None
69	2606.81	41.60	351.94	28.40	2158.59	1200.40	1182.09	-177.05	1195.28	351.48	0.16	MWD	None
70	2635.81	40.53	351.69	29.00	2180.46	1219.45	1200.95	-179.76	1214.33	351.49	0.37	MWD	None
71	2662.49	40.46	352.00	26.68	2200.75	1236.77	1218.10	-182.22	1231.65	351.49	0.08	MWD	None
72	2692.17	39.95	352.08	29.68	2223.41	1255.93	1237.07	-184.87	1250.81	351.50	0.17	MWD	None
73	2723.76	39.43	352.12	31.59	2247.72	1276.10	1257.06	-187.64	1270.98	351.51	0.16	MWD	None
74	2752.53	39.45	352.15	28.77	2269.94	1294.38	1275.16	-190.15	1289.26	351.52	0.01	MWD	None
75	2781.34	39.49	352.41	28.81	2292.18	1312.69	1293.31	-192.61	1307.57	351.53	0.06	MWD	None
76	2811.42	39.19	352.09	30.08	2315.45	1331.75	1312.20	-195.18	1326.64	351.54	0.12	MWD	None
77	2840.55	39.35	352.30	29.13	2338.00	1350.19	1330.47	-197.68	1345.08	351.55	0.07	MWD	None

78	2868.98	40.12	352.26	28.43	2359.86	1368.36	1348.48	-200.12	1363.25	351.56	0.27	MWD	None
79	2898.20	39.96	351.99	29.22	2382.23	1387.16	1367.10	-202.70	1382.04	351.57	0.08	MWD	None
80	2926.43	39.87	352.13	28.23	2403.88	1405.27	1385.04	-205.20	1400.16	351.57	0.05	MWD	None
81	2956.44	39.81	351.79	30.01	2426.93	1424.49	1404.08	-207.89	1419.38	351.58	0.08	MWD	None
82	2984.55	40.07	351.65	28.11	2448.48	1442.54	1421.93	-210.49	1437.43	351.58	0.10	MWD	None
83	3004.00	40.20	351.60	19.45	2463.35	1455.07	1434.34	-212.31	1449.97	351.58	0.07	Proj. to TD	

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Company:

ESSO Australia Pty. Ltd.

Well:

HLA A5B

Field:

Halibut

Rig:

ISDL 453

State:

Victoria

Gamma Ray Service

1:500 True Vertical Depth

Real Time Log

Schlumberger