

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

**Well:** WKF W18A  
**Field:** West Kingfish  
**Rig:** ISDL 453  
**State:** Victoria

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

Location		Total depth:	2710.0 m	K.B.	Top Drive
		Spud date:	23-Apr-06	G.L.	-76.13 m
		Runs:	1 To 1	D.F.	33.43 m
		Permanent datum:	Mean Sea Level	Elev.:	0 m
		Log measured from:	Drill Floor	33.4 m above Perm. datum	
		Depth reference:	Drillers Depth		
API serial no.	57227808.151	Longitude	Latitude		
	596279.965	E148°6'20.025"		WKF W18A RT 1:500 TV	

Rig: ISDL 453  
 Field: West Kingfish  
 Location: Bass Strait  
 Well: WKF W18A  
 Company: ESSO Australia Pty. Ltd.

Depth logged:	651.0 m	To	2690.5 m	Mag decl:	13.287 deg.	Other services:	
Date logged:	24-Apr-06	To	29-Apr-06	Mag dip:	-69.045 deg.	Directional Drilling, D&I	
Bore hole record							
Hole size	from	to	Size	Density	from	to	
8 1/2 in.	651.0 m	2710.0 m	10 3/4 in.	40.5 lb/ft	13.0 m	651.0 m	
Mud record							
Type	from	to	Min	Max	from	to	
KCL/PHPA/Glycol	651.0 m	2710.0 m	27.15 deg.	35.88 deg.	651.0 m	2710.0 m	
Surface equipment							
Unit	OLU-JA-9602	IDEAL Wis	ID11_OC_01				
Depth system	DES-CA-ASQ04-01SPM	LWD	HSPM11_OC_01				
		MWD	V8.0B96				
Software record							

## Bit Run Summary

<b>Run number</b>	1
Bit size	in 8.5
Bit start depth	m 651.0
Bit end depth	m 2710.0
Top interval logged	m 651.0
Bottom interval logged	m 2690.5
Begin log: time	0:30
Begin log: date	23-Apr-06
End log: time	10:19
End log: date	29-Apr-06
<b>Mud data</b>	
Depth	m 2710.0
Type	KCL/PHPA/Gly
Mud weight	ppg 10.05
Solids	% 8.0
Chlorides	mg/l 41,000
Rm	N/A
Rmf	N/A
Rmc	N/A

Potassium	%	4.2																	
<b>Environmental data</b>																			
<b>GR</b>																			
Mud weight	ppg	10.05																	
Bit size	in	8.5																	
<b>Resistivity</b>																			
<b>Neutron porosity</b>																			
Hole Size		N/A																	
Mud weight		10.05																	
Temperature		N/A																	
Mud salinity		N/A																	
Formation salinity		N/A																	
Recording rate 1	SEC	2.97																	
Recording rate 2	SEC	N/A																	
Filtering GR		3 pt.																	
Filtering density		N/A																	
Filtering Neutron		N/A																	
Company representative		G.Campbell	B.Davis	T.Basset															
Schlumberger D&M Personnel		L.Johnston	R.Burns	C.Soper	A.Tovar														

**DISCLAIMER**

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.

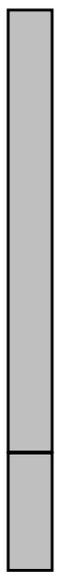
OTHER SERVICES FOR RUN1 Directional Drilling Directional Surveys	OTHER SERVICES FOR RUN	OTHER SERVICES FOR RUN
REMARKS: RUN NUMBER 1 Depth is referenced to Drillers Depth.  All data presented is from Real-Time Transmission.  Enviromental Corrections: - Gamma Ray was Corrected for Mud Weight, Tool and Bit Size. Gamma Ray is not corrected for Potassium.  8-1/2 in. hole was drilled from 651.0 m to 2710.0 m MD.  Gamma Ray Data loss between 1530.0 and 1571.0 m MD and ROP data loss between 1549.0 and 1590.0 m MD due to Hookload Sensor failure.	REMARKS: RUN NUMBER	REMARKS: RUN NUMBER

**EQUIPMENT DESCRIPTION**

RUN1	RUN	RUN
DOWNHOLE EQUIPMENT		

DOWNHOLE EQUIPMENT

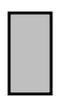
6-3/4 in. PowerPulse\*  
 MDC: V875  
 MEC: BA 064  
 MDI: BC 738  
 MGR: AA 503  
 DHS: V8.0B96



23.48

D&I — 19.12  
 GR — 18.47

6-1/2 in. NM Pony  
 S/N: 97081023



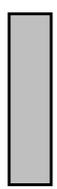
14.98

8-3/8 in. NM Roller Reamer  
 S/N: GU2317R



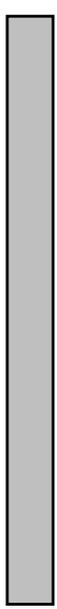
13.74

6-1/2 in. NM Pony  
 S/N: ANA98-007



11.75

7 in. PowerPak\* Motor  
 A700GT 7:8  
 S/N: N7413  
 1.5 deg. Bent Housing  
 8-3/8 in. Motor Sleeve



9.14

Smith PDC Bit  
 OD: 8-1/2 in.  
 S73PX S/N: JT6967 R3



0.22

Maximum string diameter 8.50 in.  
 All lengths in Metres

# WKF W18A RT 1:500 TVD

IDEAL Version: ID11\_0C\_01 <TVD> Vertical Scale: 1:500

Graphics File Created: 01-May-2006 03:20

## PIP SUMMARY

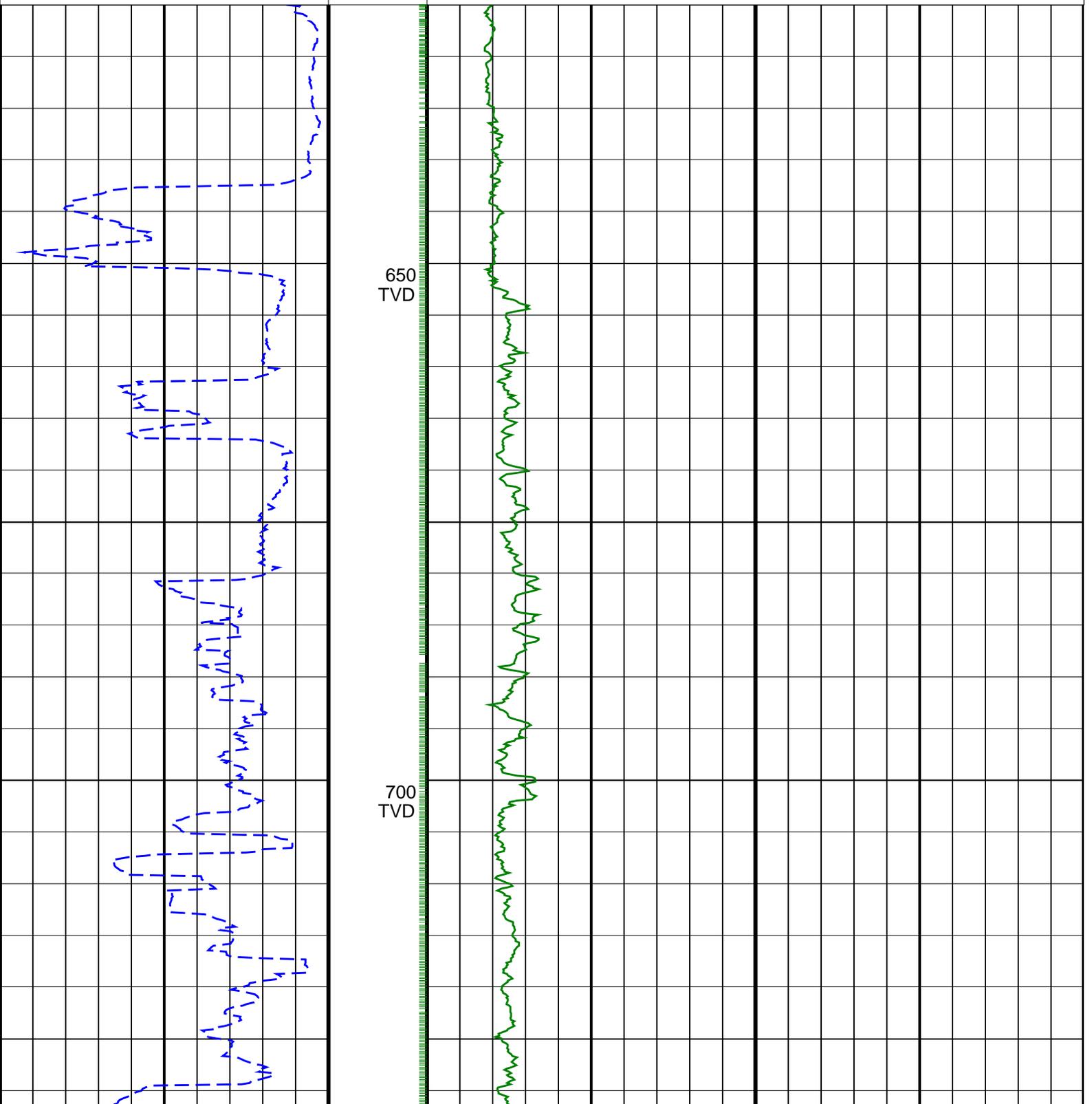
GR(TM) PIP

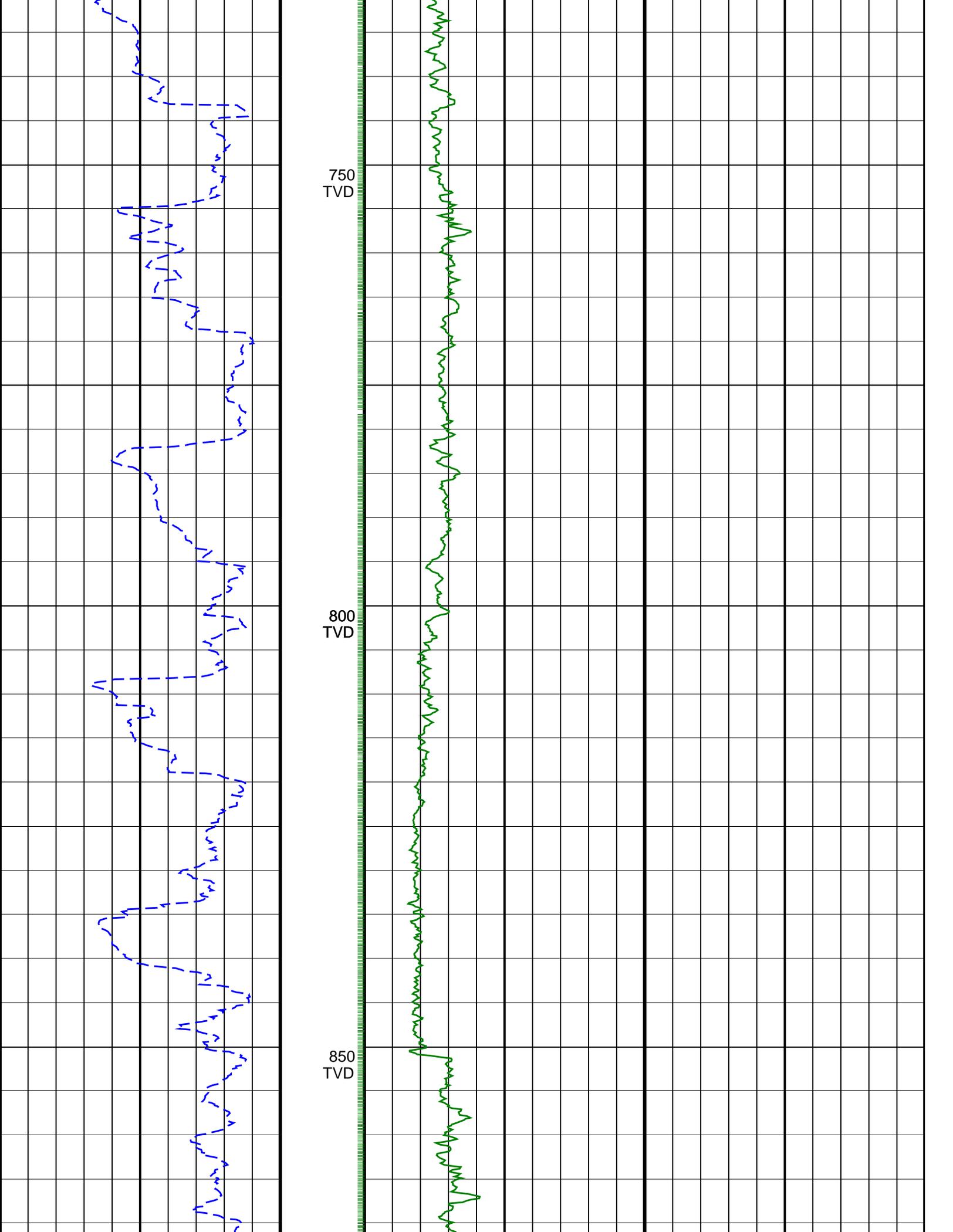
ROP\*5 (ROP5)  
(M/HR)

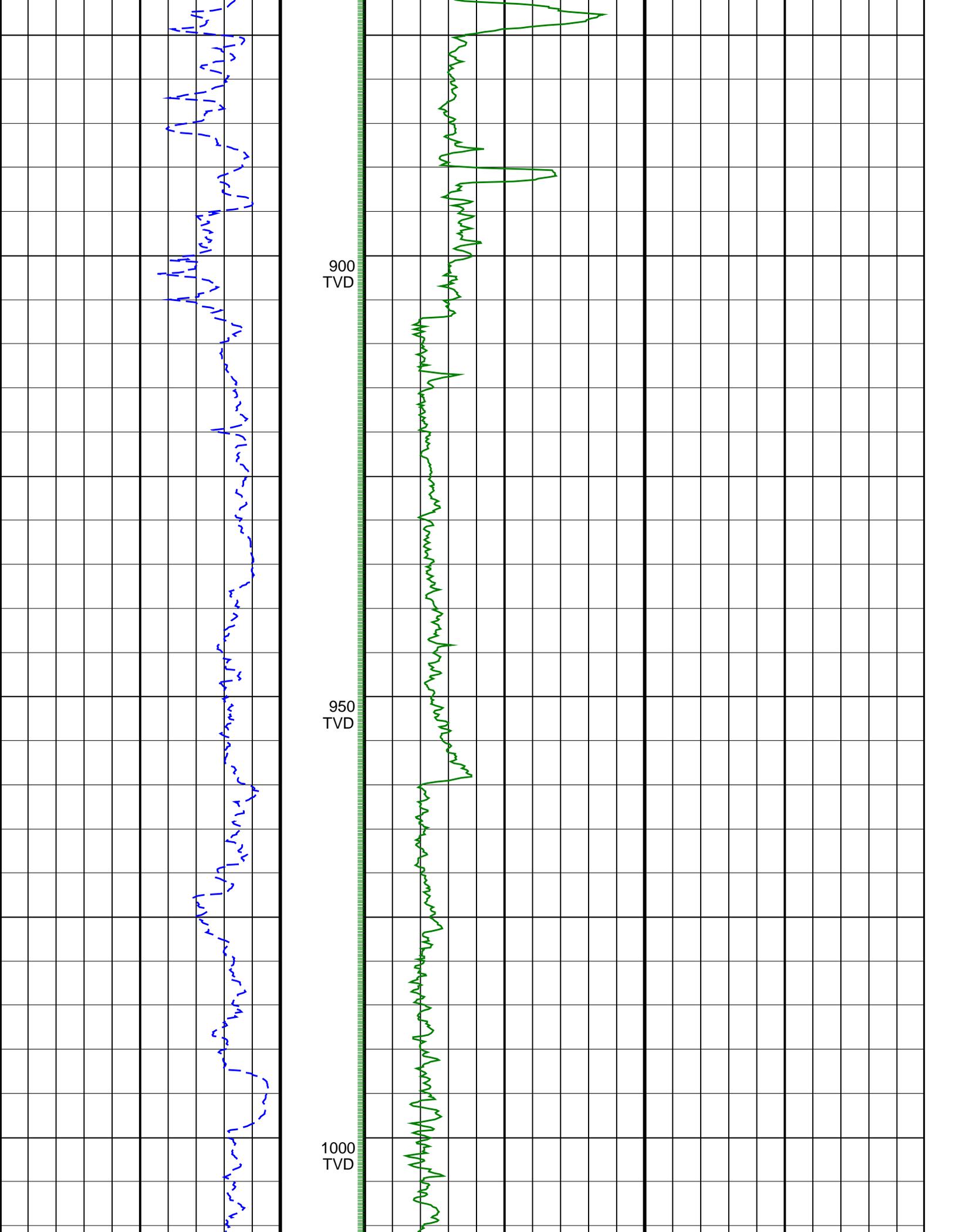
200 0

GR(TM) (GRM1)  
(GAPI)

0 400

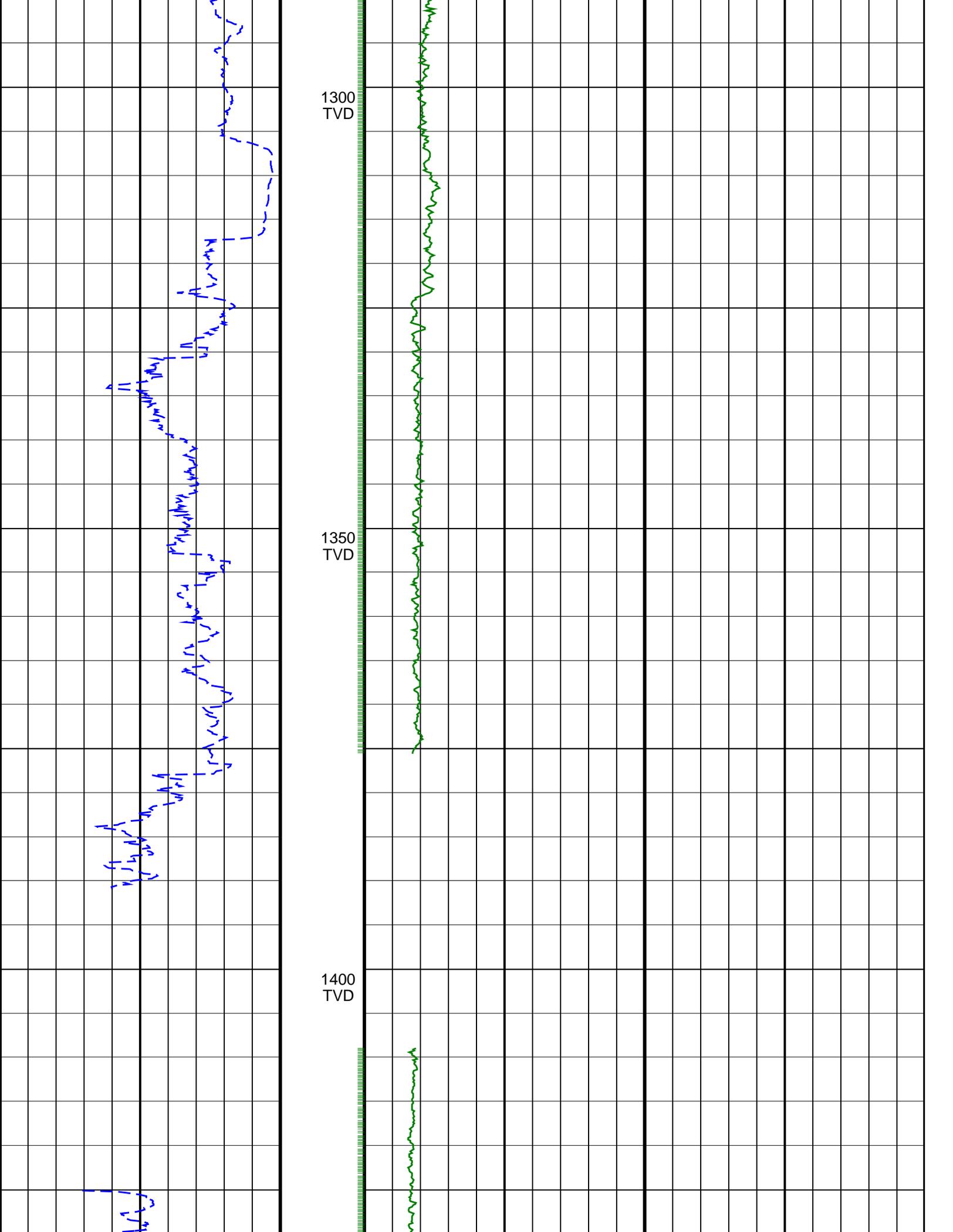


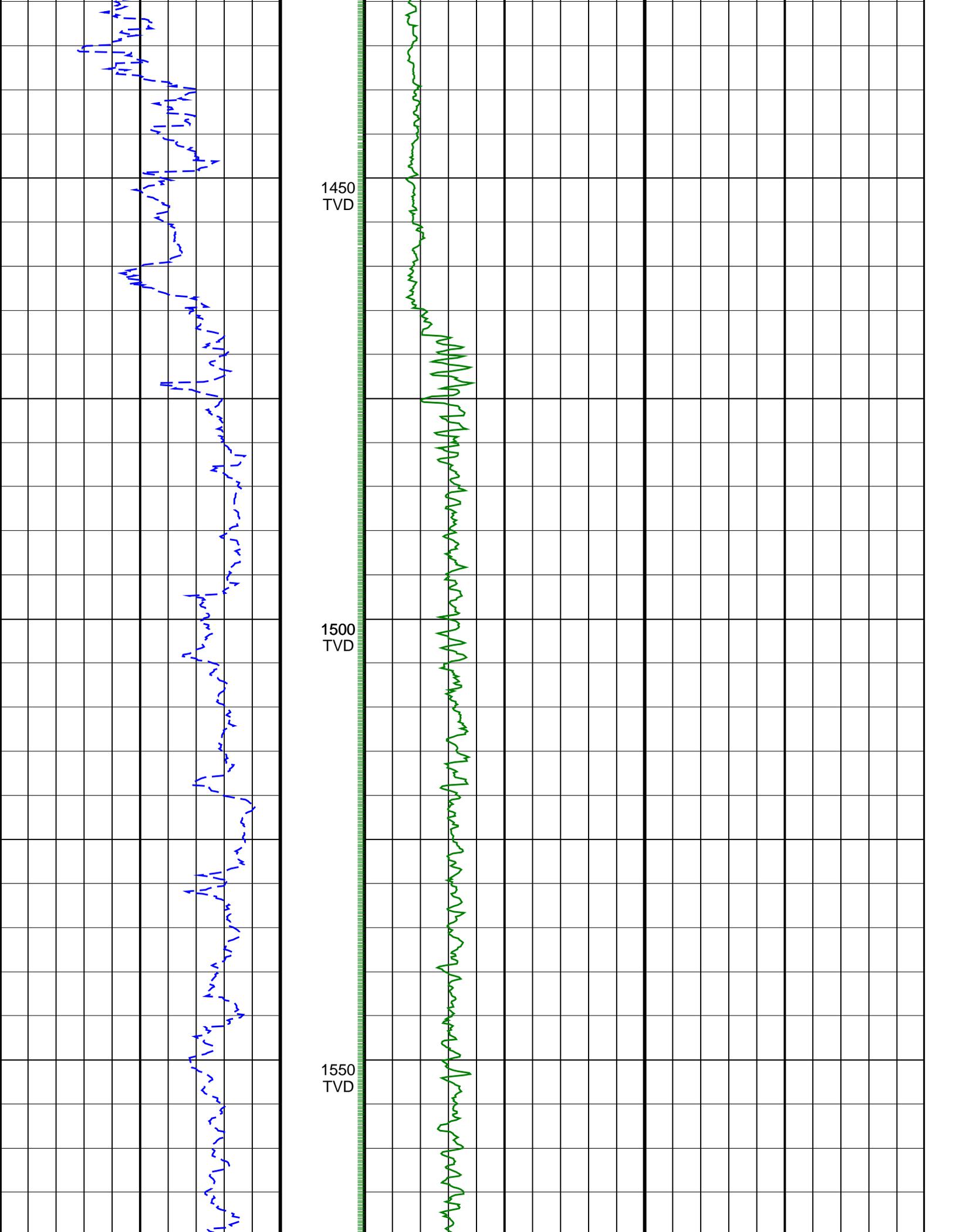


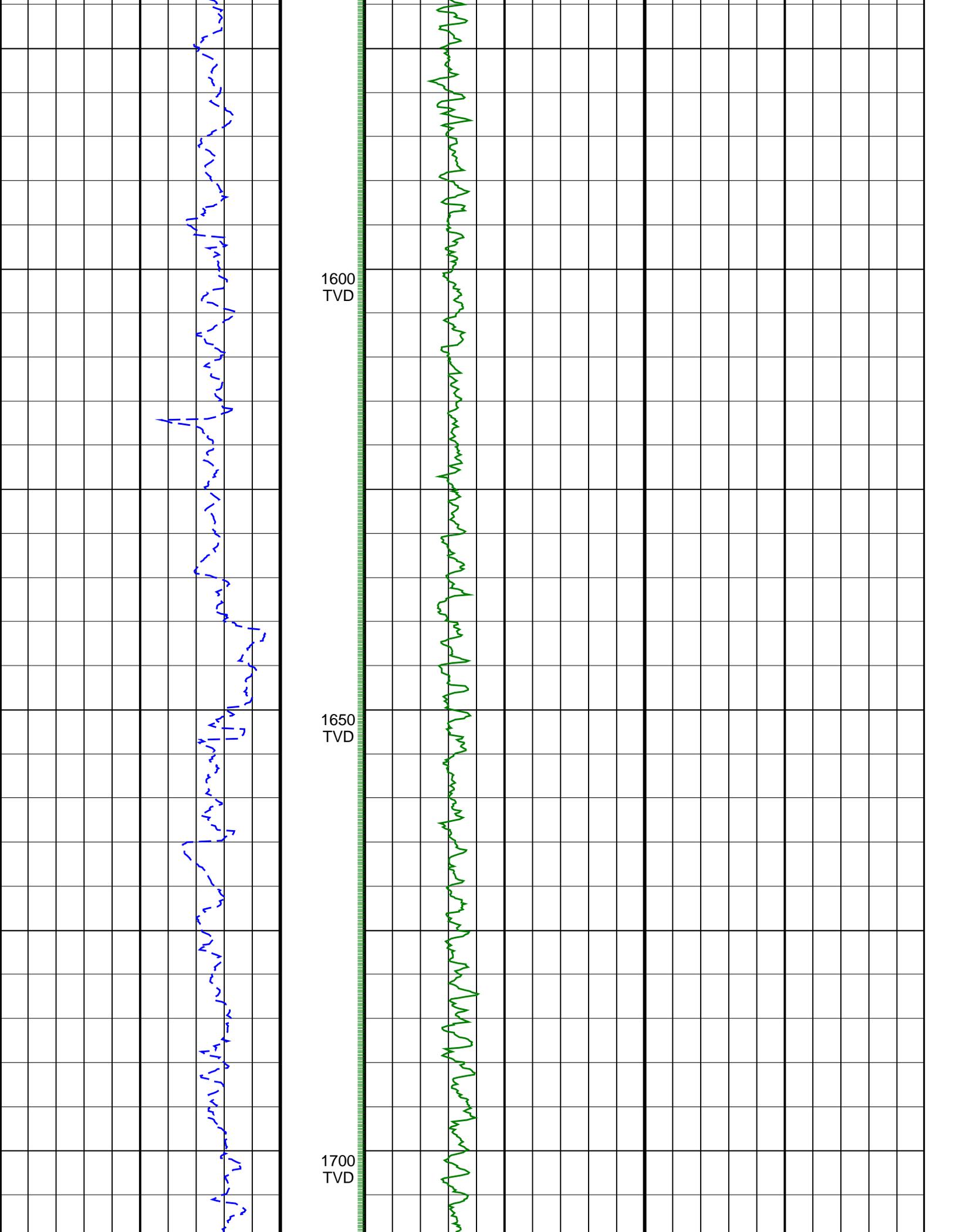


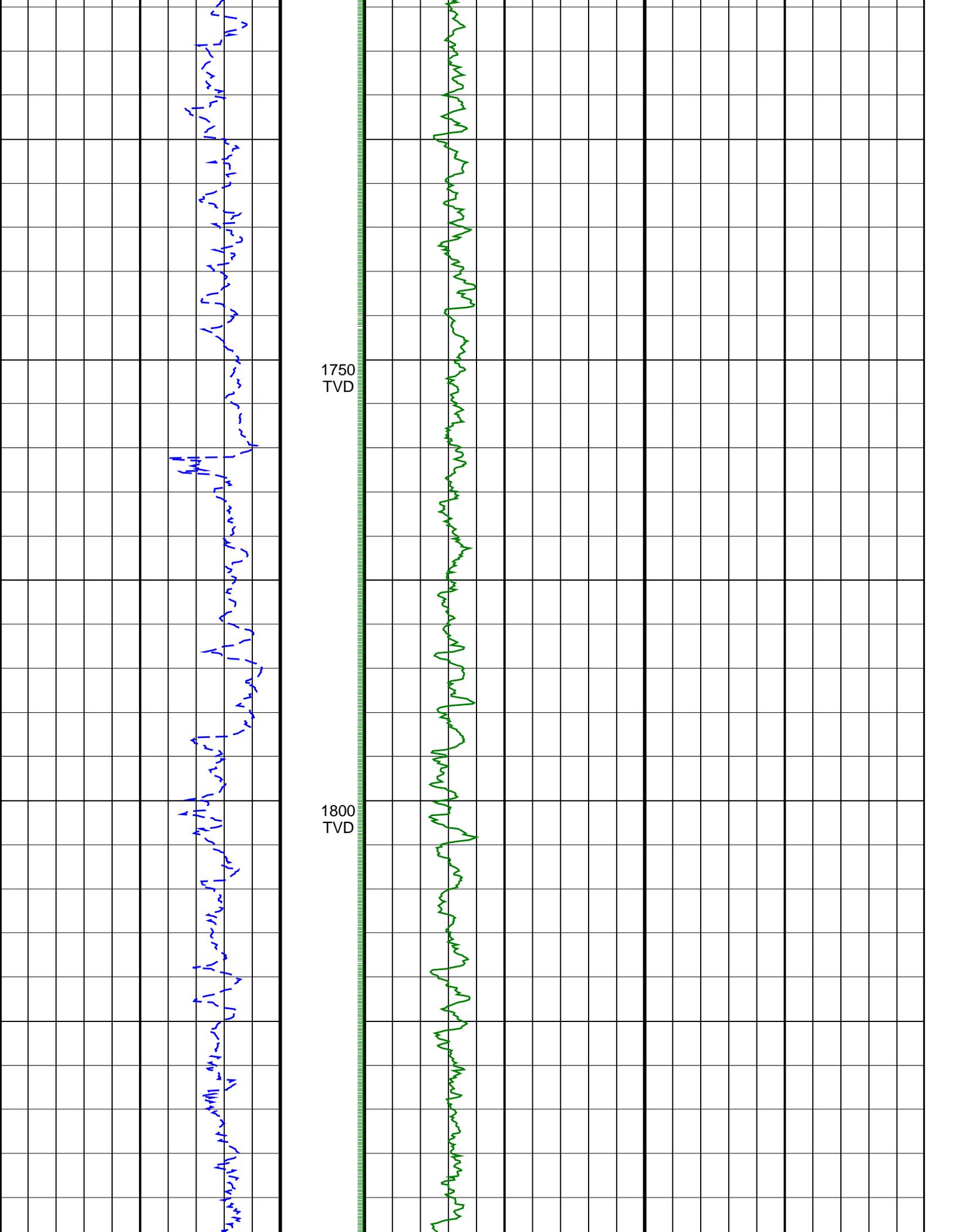


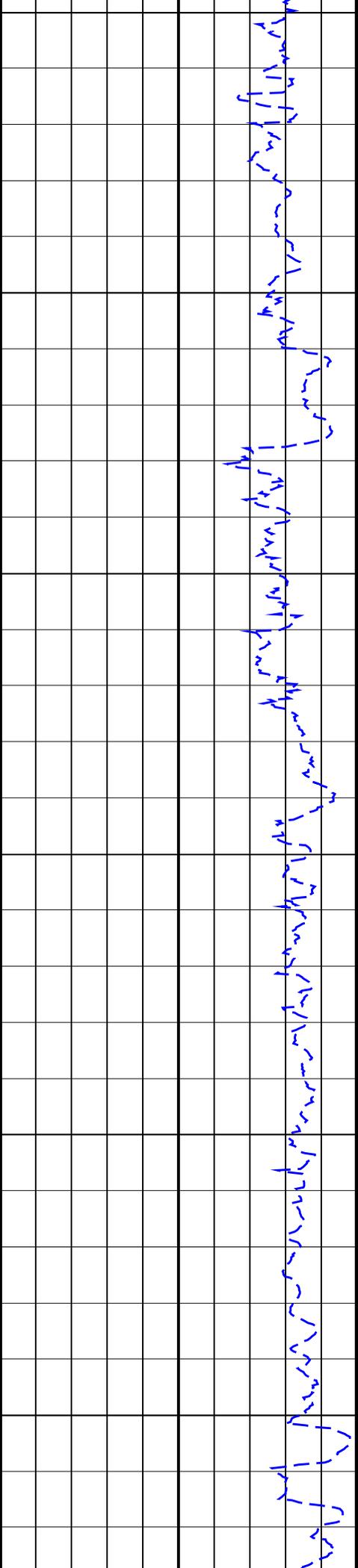








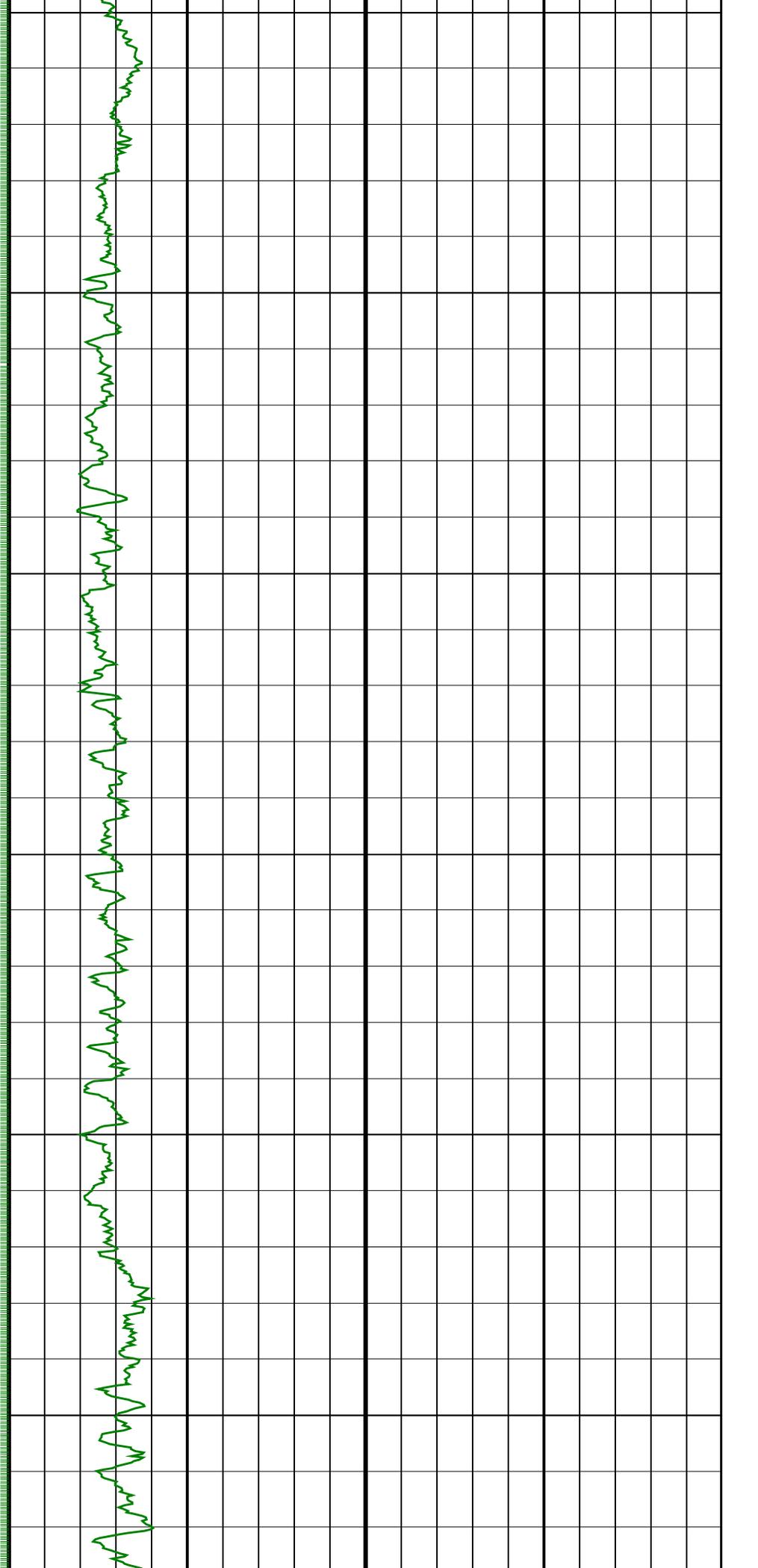


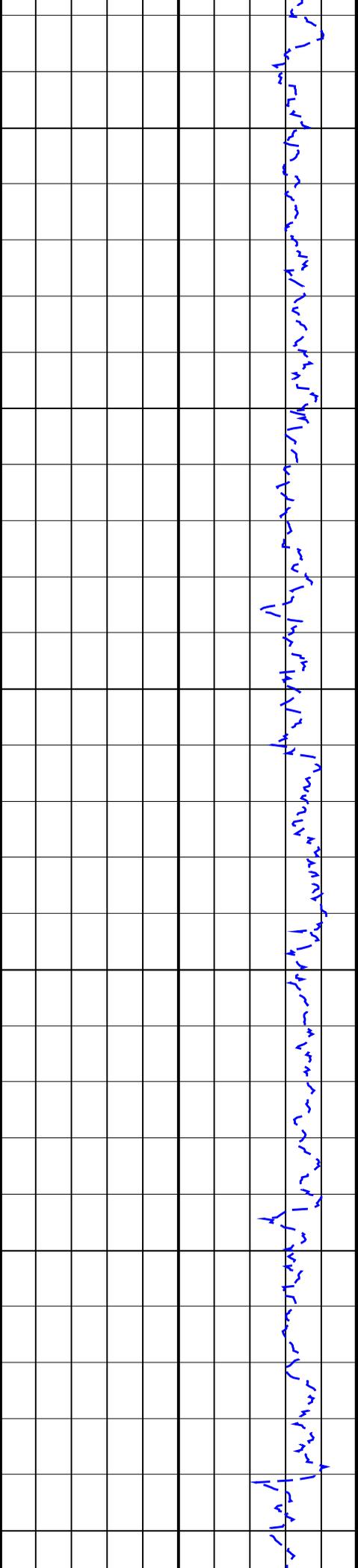


1850  
TVD

1900  
TVD

1950  
TVD

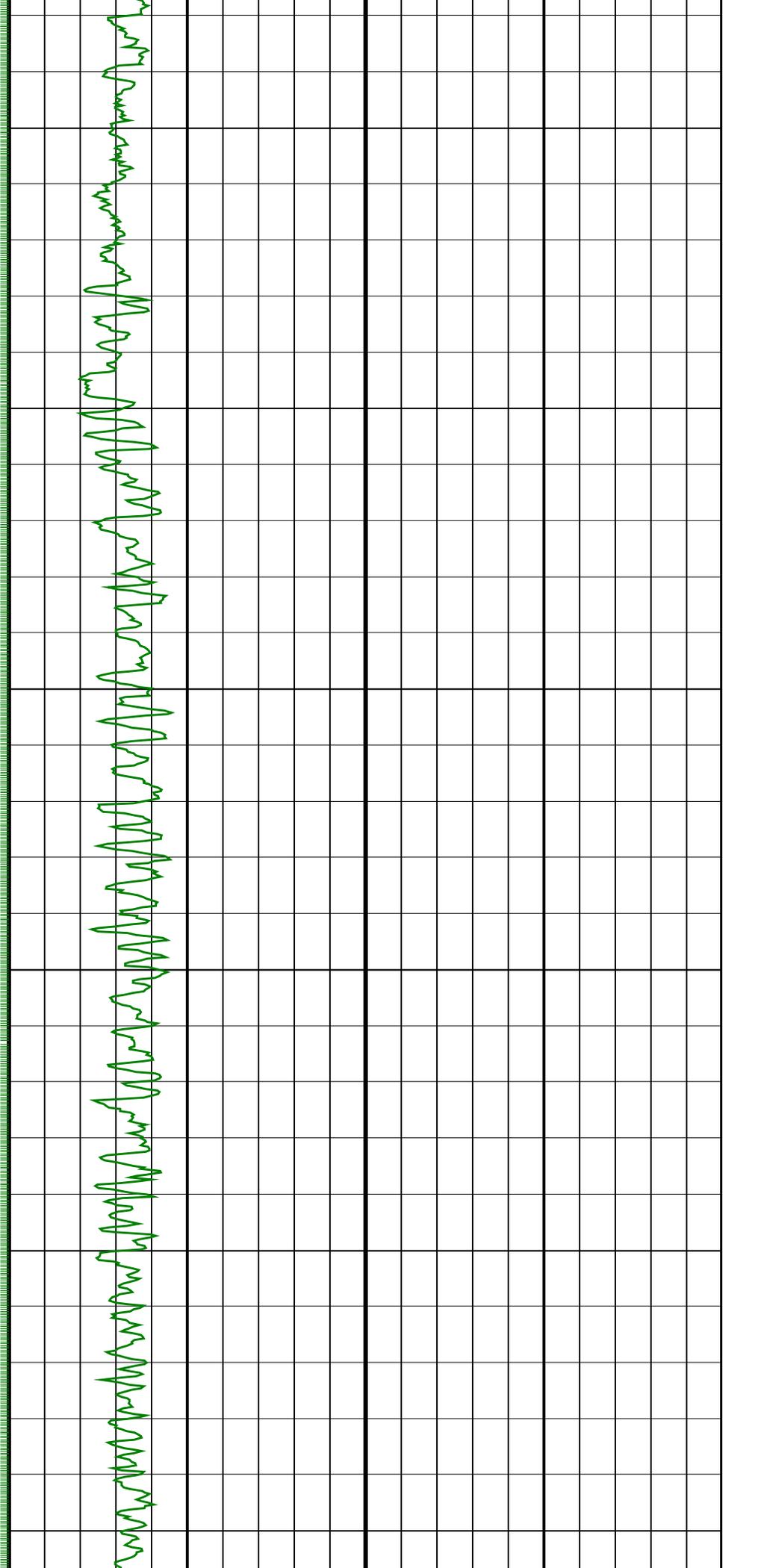


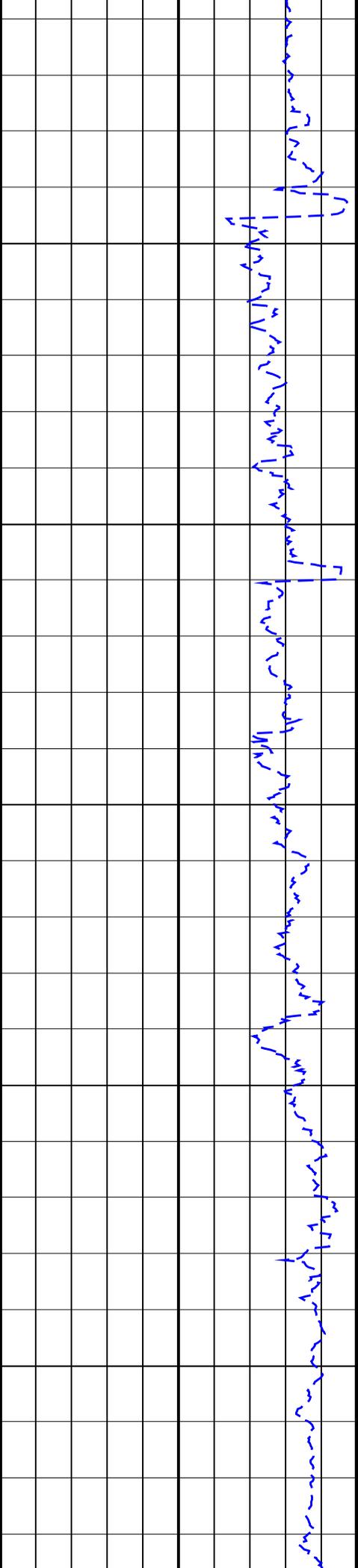


2000  
TVD

2050  
TVD

2100  
TVD

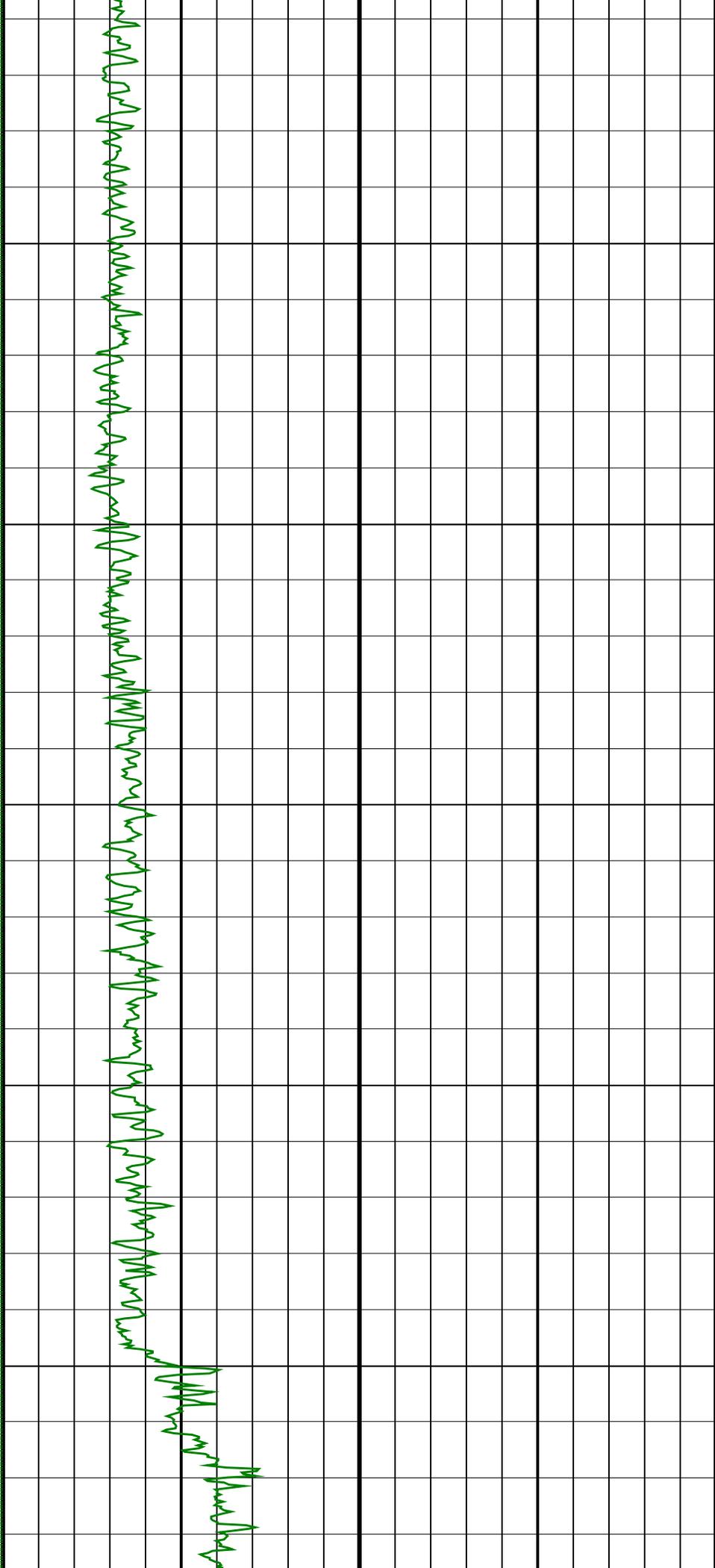


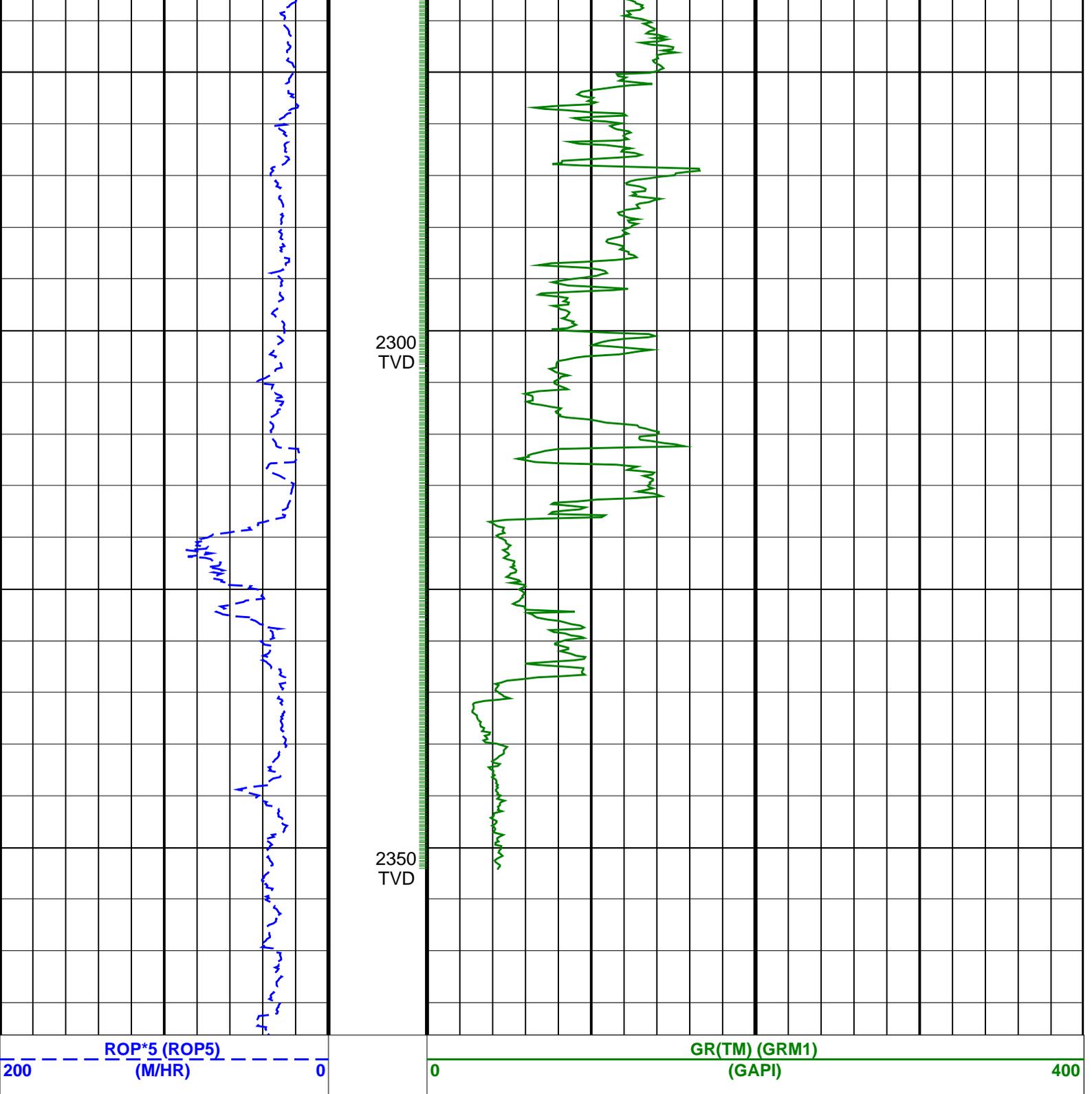


2150  
TVD

2200  
TVD

2250  
TVD





**PIP SUMMARY**

└ GR(TM) PIP

SCHLUMBERGER

Survey report

29-Apr-2006 17:34:18

Page 1 of 4

Client.....: ESSO Australia Pty. Ltd.  
 Field.....: West Kingfish

Well.....: WKF W18A  
 API number.....:  
 Engineer.....: L. Johnston, R. Burns

Rig.....: ISDL 453  
 State.....: Victoria

Spud date.....: 23-Apr-06  
 Last survey date.....: 29-Apr-06  
 Total accepted surveys...: 73  
 MD of first survey.....: 650.00 m  
 MD of last survey.....: 2710.00 m

----- Survey calculation methods-----

Method for positions.....: Minimum curvature  
 Method for DLS.....: Mason & Taylor

----- Geomagnetic data -----

Magnetic model.....: BGGM version 2005  
 Magnetic date.....: 21-Apr-2006

----- Depth reference -----  
 Permanent datum.....: Mean Sea Level  
 Depth reference.....: Drill Floor  
 GL above permanent.....: -77.10 m  
 KB above permanent.....: Top Drive  
 DF above permanent.....: 33.43 m

Magnetic field strength...: 1202.79 HCNT  
 Magnetic dec (+E/W-).....: 13.21 degrees  
 Magnetic dip.....: -69.08 degrees

----- Vertical section origin-----  
 Latitude (+N/S-).....: -2.90 m  
 Departure (+E/W-).....: 16.93 m

----- MWD survey Reference Criteria -----  
 Reference G.....: 1000.06 mGal  
 Reference H.....: 1202.79 HCNT  
 Reference Dip.....: -69.08 degrees  
 Tolerance of G.....: (+/-) 2.50 mGal  
 Tolerance of H.....: (+/-) 6.00 HCNT  
 Tolerance of Dip.....: (+/-) 0.45 degrees

----- Platform reference point-----  
 Latitude (+N/S-).....: 5,727,453 m  
 Departure (+E/W-).....: 597,265 m

----- Corrections -----  
 Magnetic dec (+E/W-).....: 13.21 degrees  
 Grid convergence (+E/W-)..: -0.69 degrees  
 Total az corr (+E/W-).....: 13.90 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

Azimuth from Vsect Origin to target: 111.18 degrees

[(c)2006 IDEAL ID11\_0C\_01]  
 SCHLUMBERGER Survey Report

29-Apr-2006 17:34:18

Page 2 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)	Total displ (m)	At Azim (deg)	DLS (deg/10m)	Srvy tool type	Tool Corr (deg)
1	650.00	27.15	38.90	0.00	624.82	38.49	94.55	95.97	134.72	45.43	0.00	TIP	None
2	677.29	25.84	48.83	27.29	649.26	43.15	103.32	104.36	146.85	45.29	1.69	MWD	None
3	705.79	27.20	58.34	28.50	674.77	49.97	110.83	114.59	159.41	45.96	1.56	MWD	None
4	734.66	27.59	67.73	28.87	700.41	58.81	116.83	126.39	172.12	47.25	1.50	MWD	None
5	763.55	28.48	75.57	28.89	725.92	69.27	121.08	139.26	184.54	48.99	1.31	MWD	None
6	792.17	28.76	81.91	28.62	751.05	80.83	123.75	152.69	196.54	50.98	1.07	MWD	None
7	821.38	29.17	88.53	29.21	776.61	93.53	124.92	166.77	208.37	53.16	1.11	MWD	None
8	850.14	29.30	96.36	28.76	801.72	106.81	124.32	180.77	219.40	55.48	1.33	MWD	None
9	878.90	29.76	104.87	28.76	826.75	120.71	121.71	194.67	229.59	57.99	1.47	MWD	None
10	907.77	30.16	113.67	28.87	851.78	135.09	116.96	208.25	238.84	60.68	1.53	MWD	None
11	936.66	30.99	121.86	28.89	876.66	149.65	110.11	221.22	247.11	63.54	1.47	MWD	None
12	965.20	31.13	122.65	28.54	901.11	164.10	102.26	233.67	255.06	66.37	0.15	MWD	None
13	993.85	31.07	122.35	28.65	925.64	178.62	94.30	246.15	263.60	69.04	0.06	MWD	None
14	1022.99	30.87	121.85	29.14	950.63	193.34	86.34	258.85	272.87	71.55	0.11	MWD	None
15	1051.47	30.81	122.33	28.48	975.08	207.67	78.58	271.22	282.37	73.84	0.09	MWD	None
16	1080.78	31.64	124.00	29.31	1000.15	222.54	70.27	283.94	292.50	76.10	0.41	MWD	None
17	1109.53	30.58	124.33	28.75	1024.76	237.01	61.92	296.23	302.63	78.19	0.37	MWD	None
18	1138.38	29.11	125.26	28.85	1049.78	250.96	53.73	308.02	312.67	80.10	0.53	MWD	None
19	1166.92	29.16	126.00	28.54	1074.71	264.42	45.64	319.31	322.56	81.87	0.13	MWD	None
20	1196.01	30.28	123.05	29.09	1099.98	278.45	37.47	331.19	333.31	83.54	0.63	MWD	None
21	1224.46	32.85	120.89	28.45	1124.22	293.08	29.60	343.83	345.10	85.08	0.99	MWD	None
22	1253.01	35.93	120.35	28.56	1147.78	308.99	21.39	357.71	358.35	86.58	1.08	MWD	None
23	1281.83	36.00	120.26	28.81	1171.10	325.69	12.85	372.32	372.54	88.02	0.03	MWD	None
24	1310.73	35.08	120.09	28.90	1194.62	342.29	4.40	386.84	386.87	89.35	0.32	MWD	None
25	1339.46	34.07	120.22	28.73	1218.27	358.39	-3.79	400.94	400.96	90.54	0.35	MWD	None
26	1368.30	32.82	120.02	28.84	1242.34	374.09	-11.76	414.69	414.85	91.62	0.44	MWD	None
27	1397.13	34.56	121.68	28.83	1266.32	389.85	-19.97	428.41	428.88	92.67	0.68	MWD	None
28	1425.68	34.08	122.48	28.55	1289.90	405.66	-28.51	442.05	442.97	93.69	0.23	MWD	None
29	1454.41	35.88	120.92	28.73	1313.44	421.85	-37.16	456.07	457.58	94.66	0.70	MWD	None
30	1483.17	35.52	120.82	28.76	1336.80	438.40	-45.77	470.47	472.69	95.56	0.13	MWD	None

[(c)2006 IDEAL ID11\_0C\_01]  
 SCHLUMBERGER Survey Report

29-Apr-2006 17:34:18

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)	Total displ (m)	At Azim (deg)	DLS (deg/10m)	Srvy tool type	Tool Corr (deg)
31	1511.94	34.40	121.12	28.77	1360.38	454.64	-54.26	484.61	487.63	96.39	0.39	MWD	None
32	1540.48	33.96	121.23	28.54	1383.99	470.43	-62.56	498.33	502.24	97.16	0.16	MWD	None
33	1568.16	33.89	121.31	27.68	1406.95	485.64	-70.58	511.53	516.38	97.86	0.03	MWD	None
34	1597.84	34.00	121.74	29.68	1431.58	501.94	-79.24	525.66	531.60	98.57	0.09	MWD	None
35	1626.44	34.06	122.94	28.60	1455.28	517.65	-87.80	539.18	546.28	99.25	0.24	MWD	None
36	1655.47	33.35	122.81	29.03	1479.43	533.42	-96.55	552.71	561.08	99.91	0.25	MWD	None
37	1684.29	32.57	122.88	28.82	1503.61	548.78	-105.05	565.88	575.55	100.52	0.27	MWD	None
38	1712.75	34.62	121.14	28.46	1527.32	564.24	-113.39	579.24	590.23	101.08	0.80	MWD	None
39	1741.58	34.03	121.10	28.83	1551.12	580.26	-121.79	593.15	605.53	101.60	0.20	MWD	None
40	1770.37	33.37	121.00	28.79	1575.08	595.99	-130.03	606.84	620.61	102.09	0.23	MWD	None
41	1799.19	32.91	121.02	28.82	1599.21	611.52	-138.15	620.34	635.54	102.55	0.16	MWD	None
42	1828.02	32.25	121.30	28.83	1623.50	626.81	-146.18	633.63	650.27	102.99	0.23	MWD	None
43	1856.41	34.79	121.14	28.39	1647.17	642.24	-154.31	647.03	665.18	103.41	0.90	MWD	None
44	1885.36	34.24	121.38	28.95	1671.02	658.39	-162.82	661.05	680.81	103.84	0.20	MWD	None
45	1914.08	33.79	121.20	28.72	1694.83	674.21	-171.16	674.78	696.15	104.23	0.16	MWD	None
46	1942.95	33.31	121.21	28.87	1718.89	689.92	-179.43	688.43	711.43	104.61	0.17	MWD	None
47	1971.76	32.72	121.72	28.81	1743.05	705.37	-187.62	701.82	726.47	104.97	0.23	MWD	None
48	2000.39	32.20	121.75	28.63	1767.20	720.47	-195.71	714.89	741.19	105.31	0.18	MWD	None
49	2029.14	34.24	120.51	28.75	1791.25	735.99	-203.84	728.37	756.36	105.63	0.75	MWD	None
50	2057.81	33.64	120.70	28.67	1815.04	751.78	-211.99	742.15	771.83	105.94	0.21	MWD	None
51	2086.42	32.72	120.69	28.61	1838.98	767.22	-219.99	755.61	786.99	106.23	0.32	MWD	None
52	2115.23	32.16	120.83	28.81	1863.30	782.46	-227.89	768.89	801.95	106.51	0.20	MWD	None
53	2143.94	34.19	120.20	28.71	1887.33	797.96	-235.86	782.43	817.21	106.78	0.72	MWD	None
54	2172.45	33.69	119.96	28.51	1910.98	813.68	-243.84	796.20	832.70	107.03	0.18	MWD	None

55	2201.40	33.24	119.91	28.95	1935.13	829.46	-251.81	810.04	848.27	107.27	0.16	MWD	None
56	2230.08	32.77	119.88	28.68	1959.18	844.90	-259.59	823.58	863.52	107.50	0.16	MWD	None
57	2258.89	33.48	120.39	28.81	1983.31	860.46	-267.50	837.20	878.89	107.72	0.26	MWD	None
58	2287.54	35.00	121.92	28.65	2006.99	876.33	-275.84	850.99	894.58	107.96	0.61	MWD	None
59	2316.43	34.51	121.50	28.89	2030.73	892.52	-284.50	865.00	910.58	108.21	0.19	MWD	None
60	2345.03	33.90	121.65	28.60	2054.38	908.34	-292.92	878.69	926.23	108.44	0.22	MWD	None

[(c)2006 IDEAL ID11\_OC\_01]  
SCHLUMBERGER Survey Report

29-Apr-2006 17:34:18

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)	Total displ (m)	At Azim (deg)	DLS (deg/10m)	Srvy tool type	Tool Corr (deg)
61	2373.72	33.24	121.13	28.69	2078.29	923.95	-301.18	892.24	941.70	108.65	0.25	MWD	None
62	2402.58	32.75	121.01	28.86	2102.49	939.43	-309.29	905.70	957.05	108.85	0.17	MWD	None
63	2431.16	32.06	120.84	28.58	2126.62	954.53	-317.16	918.84	972.04	109.04	0.24	MWD	None
64	2459.55	31.85	120.84	28.39	2150.71	969.34	-324.87	931.74	986.75	109.22	0.07	MWD	None
65	2488.57	30.77	120.37	29.02	2175.50	984.21	-332.54	944.72	1001.54	109.39	0.38	MWD	None
66	2517.22	29.85	120.29	28.65	2200.24	998.49	-339.85	957.20	1015.74	109.55	0.32	MWD	None
67	2546.10	29.24	120.43	28.88	2225.36	1012.55	-347.04	969.48	1029.73	109.70	0.21	MWD	None
68	2574.89	28.84	120.81	28.79	2250.53	1026.33	-354.16	981.51	1043.45	109.84	0.15	MWD	None
69	2603.37	28.65	120.13	28.48	2275.50	1039.85	-361.11	993.32	1056.92	109.98	0.13	MWD	None
70	2631.41	28.65	119.73	28.04	2300.11	1053.14	-367.81	1004.97	1070.16	110.10	0.07	MWD	None
71	2660.35	28.43	119.53	28.94	2325.53	1066.81	-374.65	1016.99	1083.80	110.22	0.08	MWD	None
72	2689.80	28.64	119.18	29.45	2351.41	1080.74	-381.55	1029.25	1097.69	110.34	0.09	MWD	None

[(c)2006 IDEAL ID11\_OC\_01]

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

**Well: WKF W18A**

**Field: West Kingfish**

**Rig: ISDL 453**

**State: Victoria**

**Gamma Ray Service**

**1:500 True Vertical Depth**

**Real Time Log**

