

Schlumberger

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

Well: **BMA A6A**

Field: **Bream A**

Rig: **ISDL 453**

State: **Victoria**

Gamma Ray Service

1.500 True Vertical Depth

Real Time Log

Rig:	ISDL 453				
Field:	Bream A				
Location:	Bass Strait				
Well:	BMA A6A				
Company:	ESSO Australia Pty. Ltd.				
Location	Total depth:	3256.0 m	K.B.	Top Drive	
	Spud date:	1 February 2006	G.L.	-59.4 m	
Runs:	1	To 1	D.F.	32.82 m	
Permanent datum:	Mean Sea Level	Elev.:	0 m		
Log measured from:	Drill Floor		32.82 m above Perm. datum		
Depth reference:	Driller's Depth				

Service Order no.	Y = 5738461.49 m	Longitude	Latitude
06ASQ0001	X = 567347.12 m	E147° 46' 20.421"	S38° 29' 58.784"

Casing record

Hole size	from	to	Size	Density	from	to
8-1/2 in.	851.0 m	3256.0 m	10-3/4 in.	40.5 lbm/m	11.9 m	851.0 m

Bore hole record

Mud record	from	to	Borehole deviation record
KCI/PHPA/Glycol	851.0 m	3256.0 m	Min Max from to

Bit size	in.	8.5
Bit start depth	m	851.0
Bit end depth	m	3256.0
Top interval logged	m	851.0
Bottom interval logged	m	3239.4
Begin log: time		05:00
Begin log: date		02-Feb-06
End log: time		09:41
End log: date		12-Feb-06

Mud data		
Depth	m	3256.0
Type		KCI/PHPA/Gly.
Mud weight	ppg	10.05
Solids	%	8.0
Chlorides	mg/l	47,500
Rm		N/A
Rmf		N/A
Rmc		N/A

Surface equipment

Software record

Unit	OLU-FB-924	IDEAL WIS	ID11_0C_01		
Depth system	DES-CA-ASQ04-01 SPM		HSPM11_0C_01		

Bit Run Summary

Run number	1						
Bit size	in.	8.5					
Bit start depth	m	851.0					
Bit end depth	m	3256.0					
Top interval logged	m	851.0					
Bottom interval logged	m	3239.4					
Begin log: time		05:00					
Begin log: date		02-Feb-06					
End log: time		09:41					
End log: date		12-Feb-06					
Mud data							
Depth	m	3256.0					
Type		KCI/PHPA/Gly.					
Mud weight	ppg	10.05					
Solids	%	8.0					
Chlorides	mg/l	47,500					
Rm		N/A					
Rmf		N/A					
Rmc		N/A					

Potassium	%	8.6						
Environmental data								
GR								
Mud weight	ppg	10.05						
Bit size	in.	8.5						
Resistivity								
Neutron porosity								
Hole Size		N/A						
Mud weight		N/A						
Temperature		N/A						
Mud salinity		N/A						
Formation salinity		N/A						
Recording rate 1	SEC	3.83						
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. Bassett	B. Steel				
Schlumberger D&M Personnel	L. Johnston	B. Pattarakorr	C. Soper	L. Musket	C. Skiba			

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OTHER SERVICES FOR RUN1	OTHER SERVICES FOR RUN	OTHER SERVICES FOR RUN
Directional Drilling Directional Surveys D&I		
REMARKS: RUN NUMBER 1 Depth is referenced to driller's depth Gamma Ray corrected for Tool Size, Bit Size and Mud weight Gamma Ray not corrected for Potassium Mud type is KCl/PHPA/Glycol. 8-1/2 in. hole was drilled from 851.0m to 3256.0 m POOH due to TD of BMA A6A	REMARKS: RUN NUMBER	REMARKS: RUN NUMBER

EQUIPMENT DESCRIPTION

RUN1	RUN	RUN
------	-----	-----

DOWNHOLE EQUIPMENT

6-3/4 in. PowerPulse MDC: Z408 MEC: 64 MDI: 738 MGR: 503 DHS: V8.0B96	
D&I	
GR	
6-5/8 in. NM Pony w/Float S/N: ANA98-007	
6-5/8 in. NM Roller Reamer S/N: GU2298	
6-3/4 in. NM Pony S/N: ASS15700	
7 in. PowerPak* Motor A700GT 7:8 S/N: N7311 1.5 deg. Bent Housing 8-3/8 in. Motor Sleeve	
Smith PDC Bit OD: 8-1/2 in. S73PX S/N: JT0016R1	

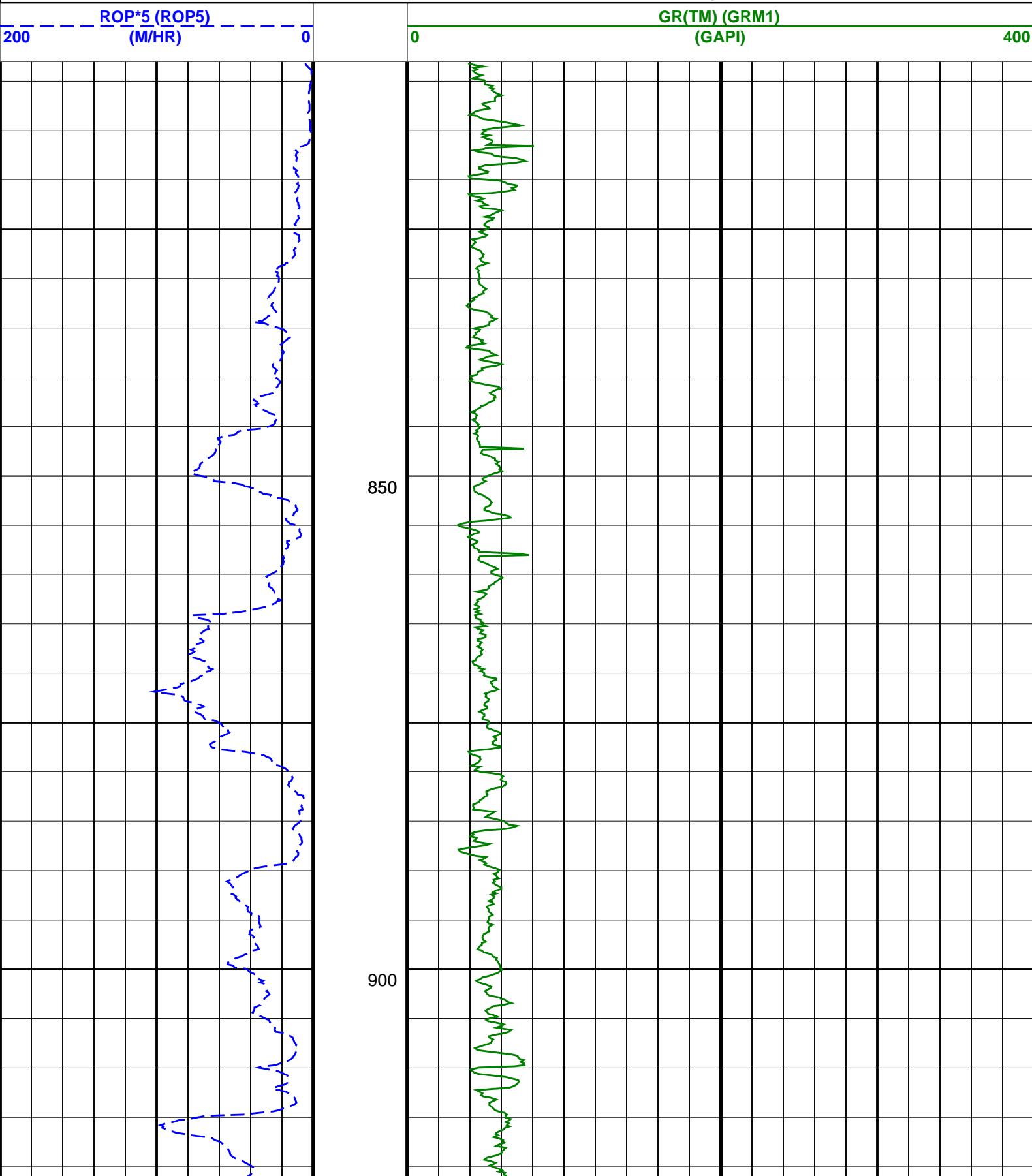
Maximum string diameter 8.50 in.

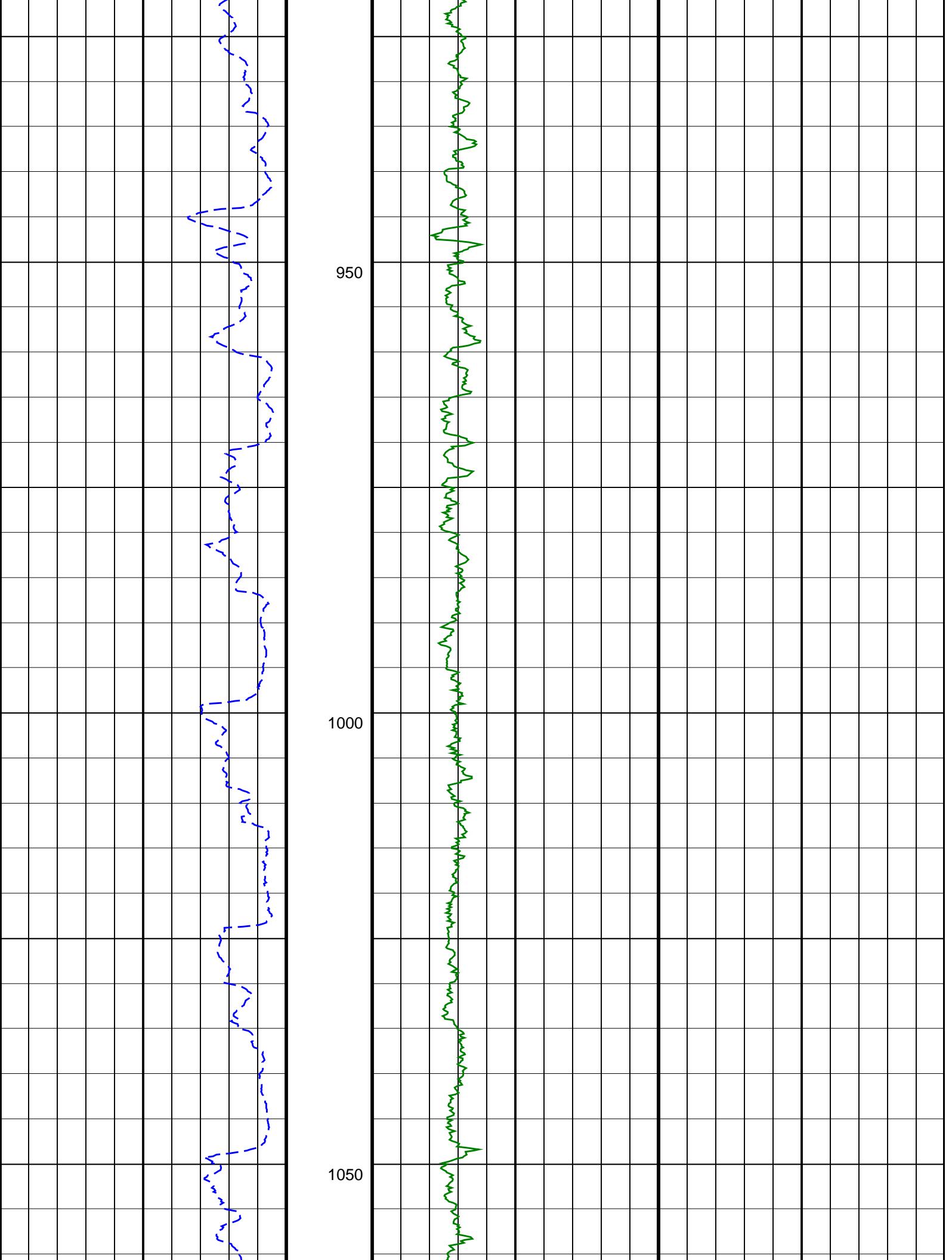
All lengths in Meters

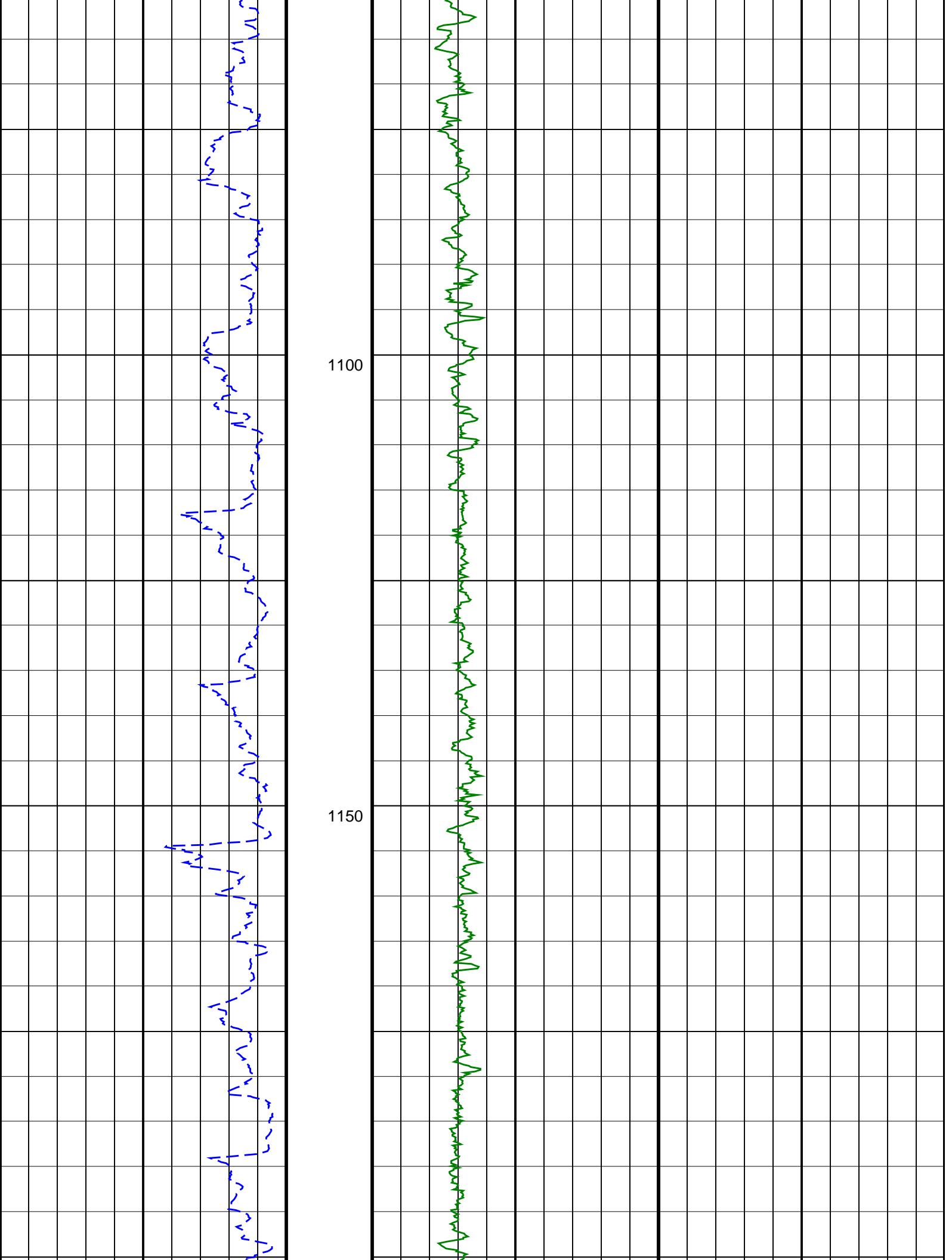
BMA A6A RT 1:500 TVD

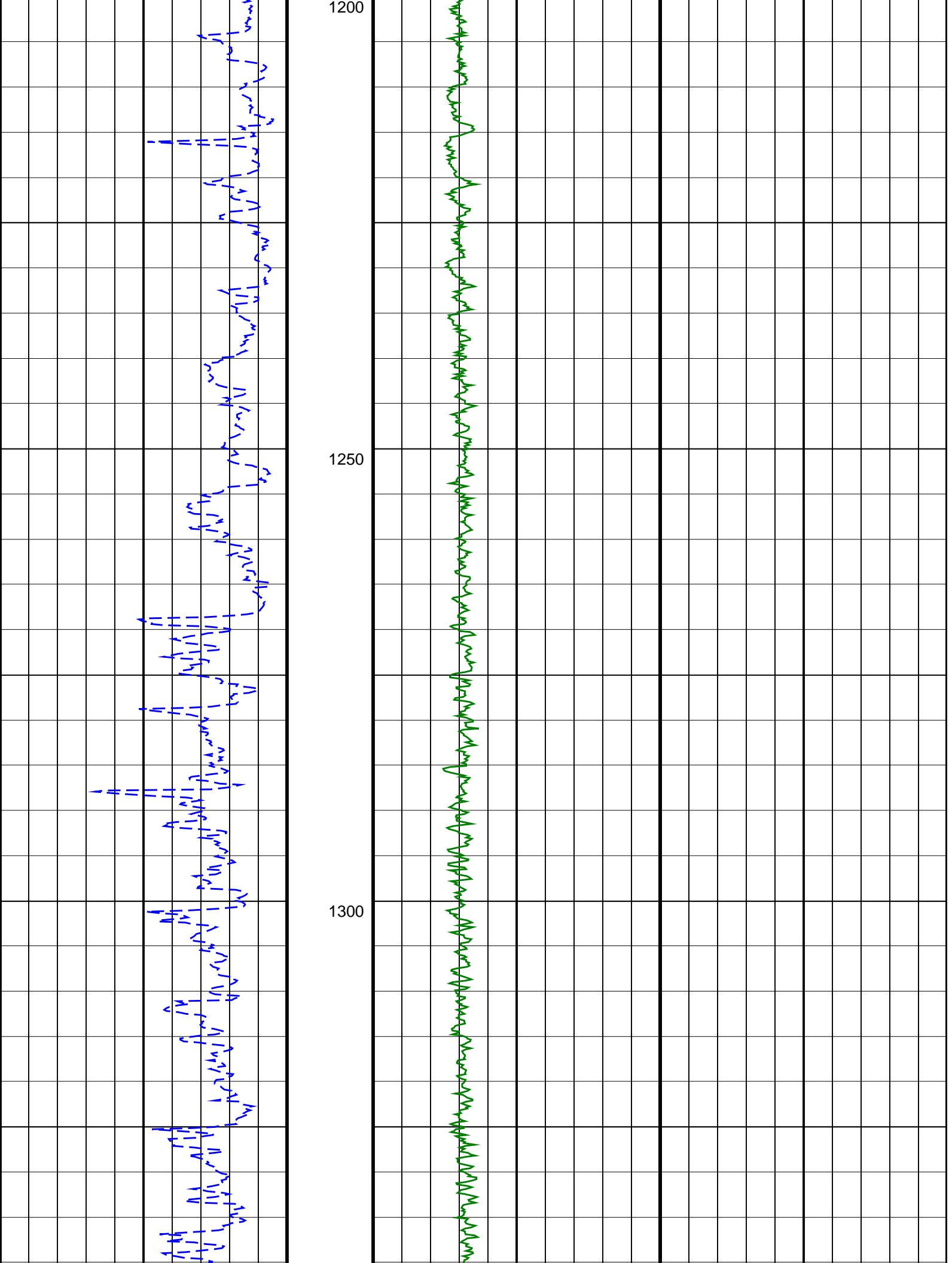
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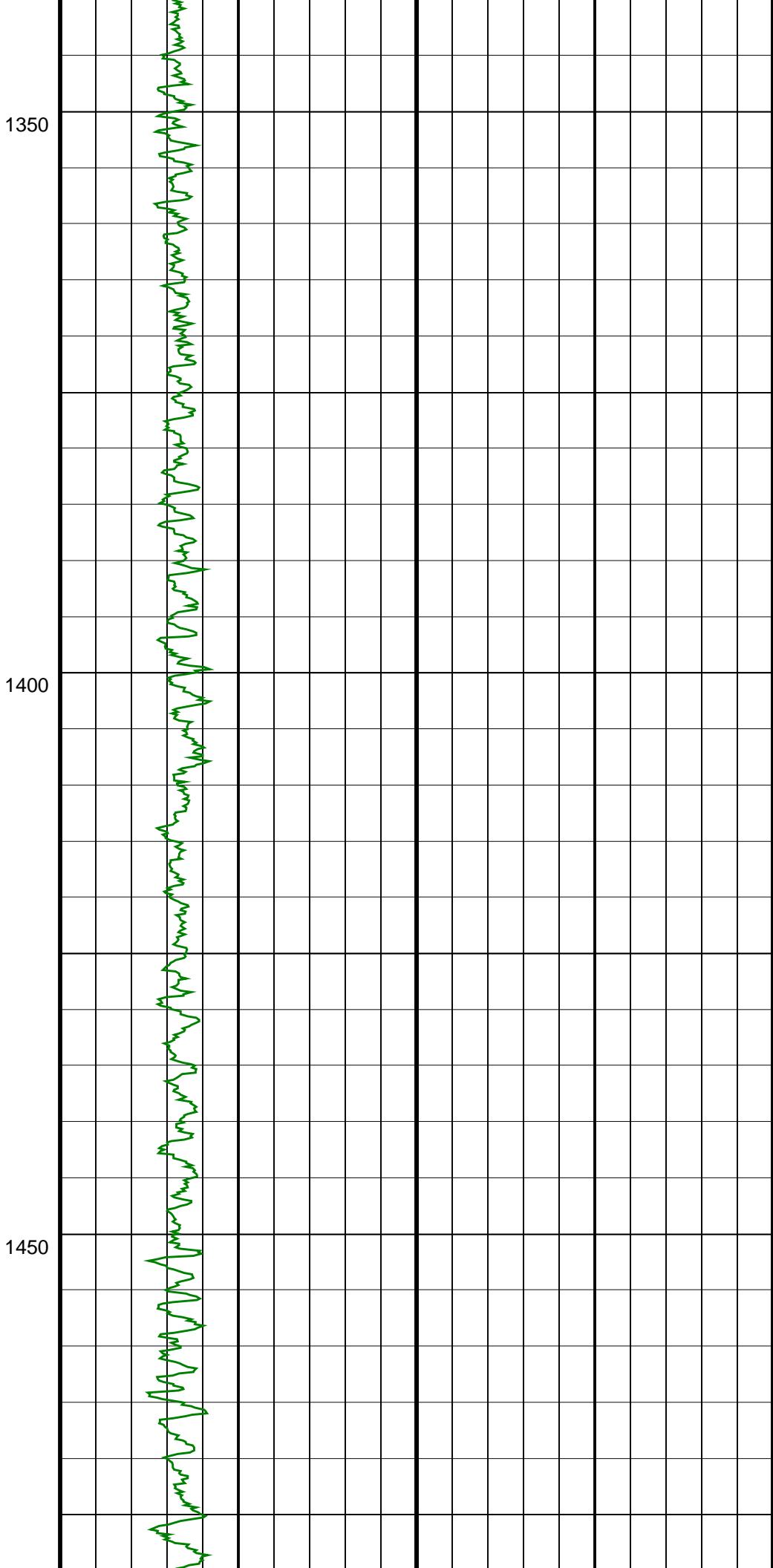
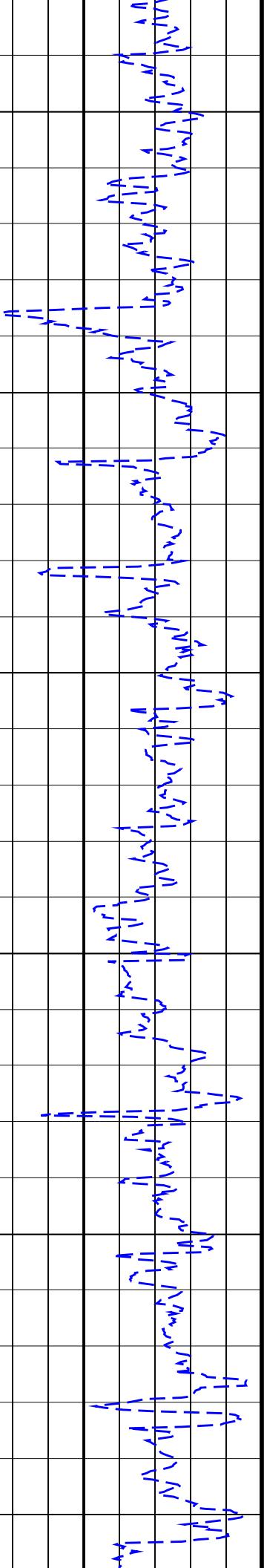
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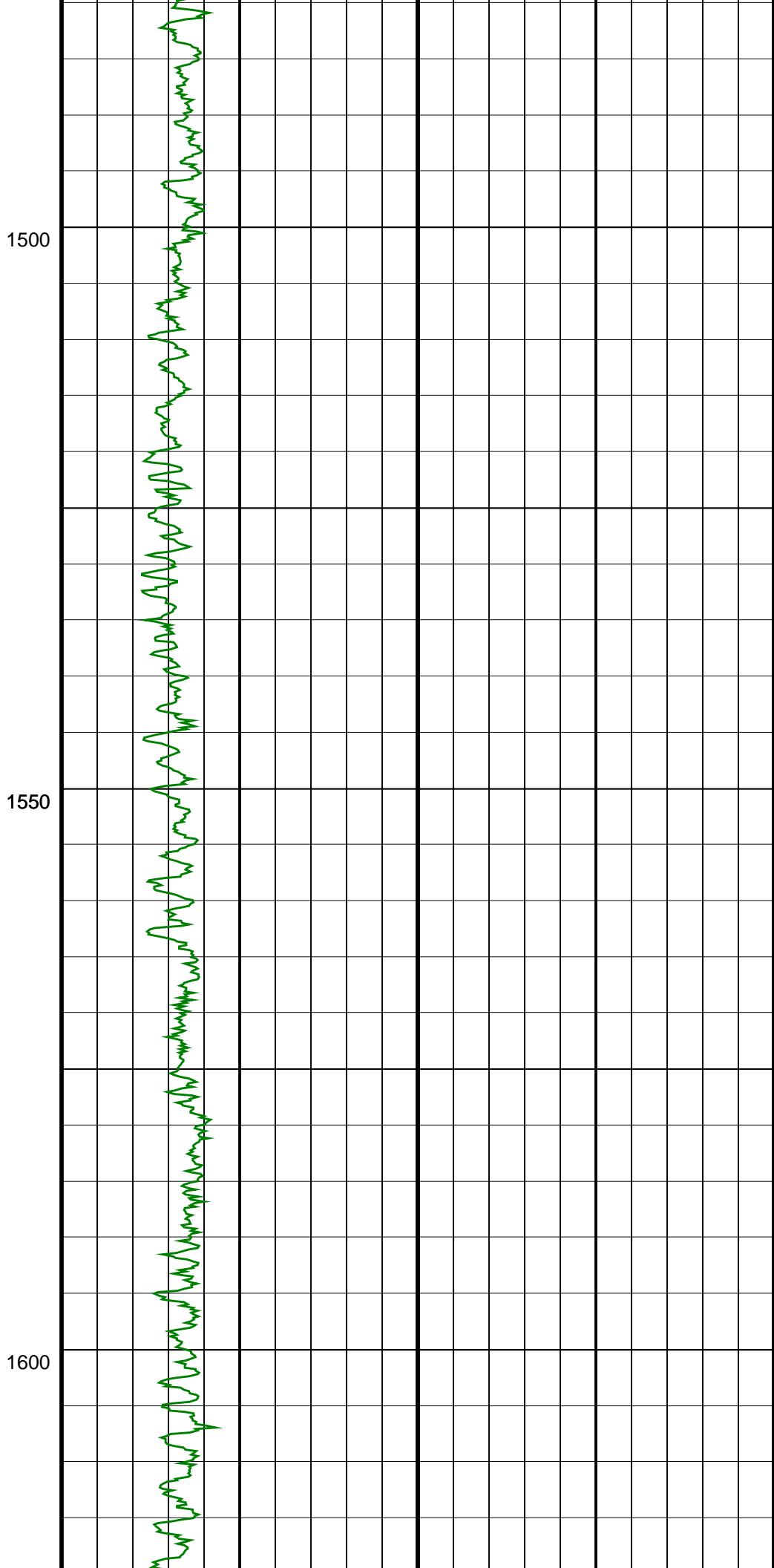
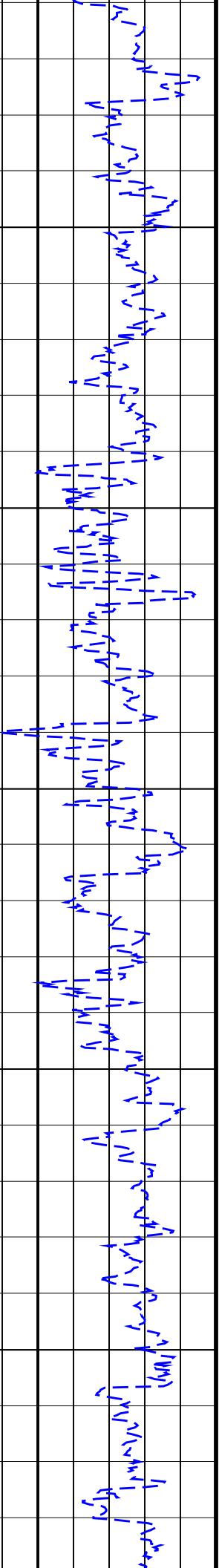


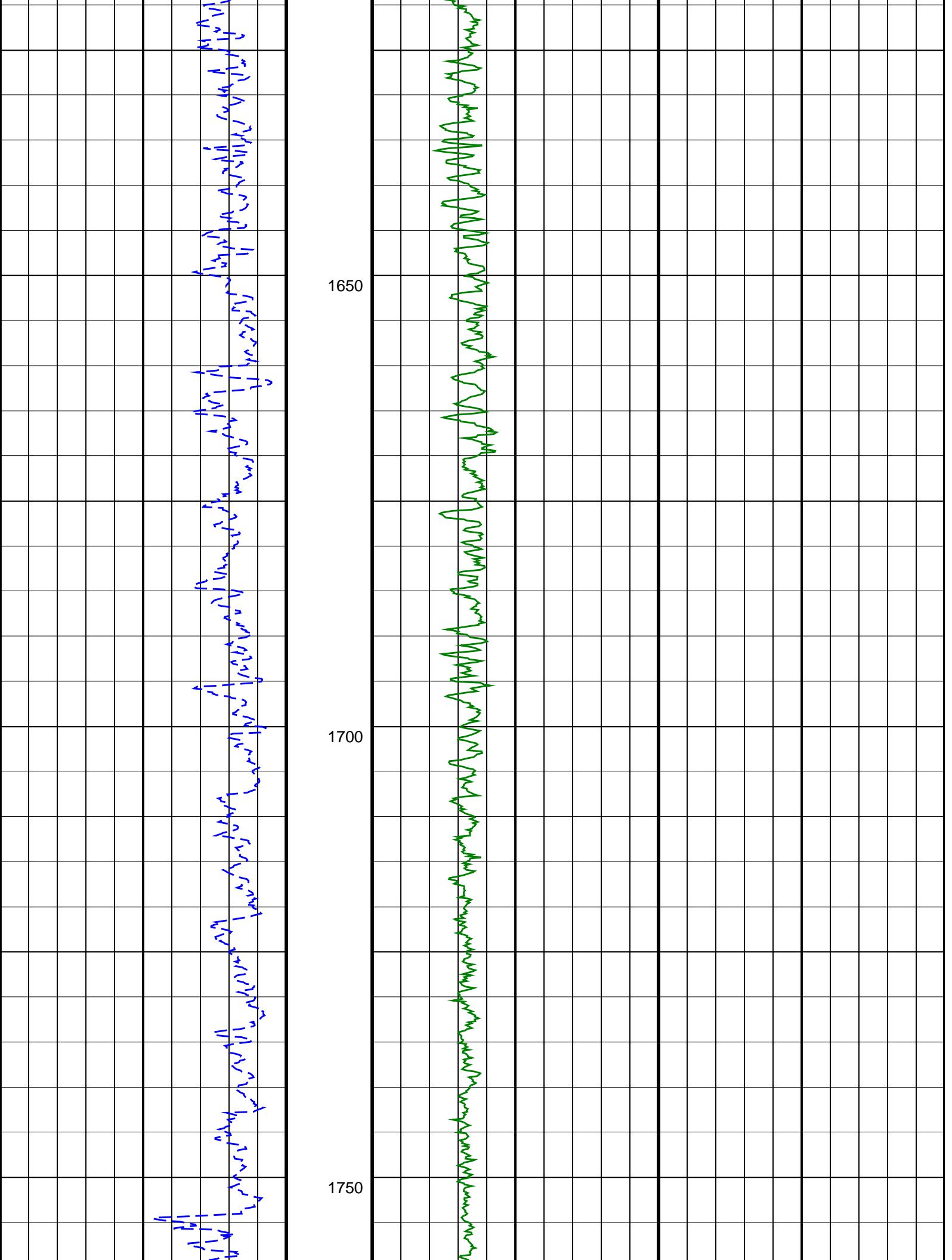


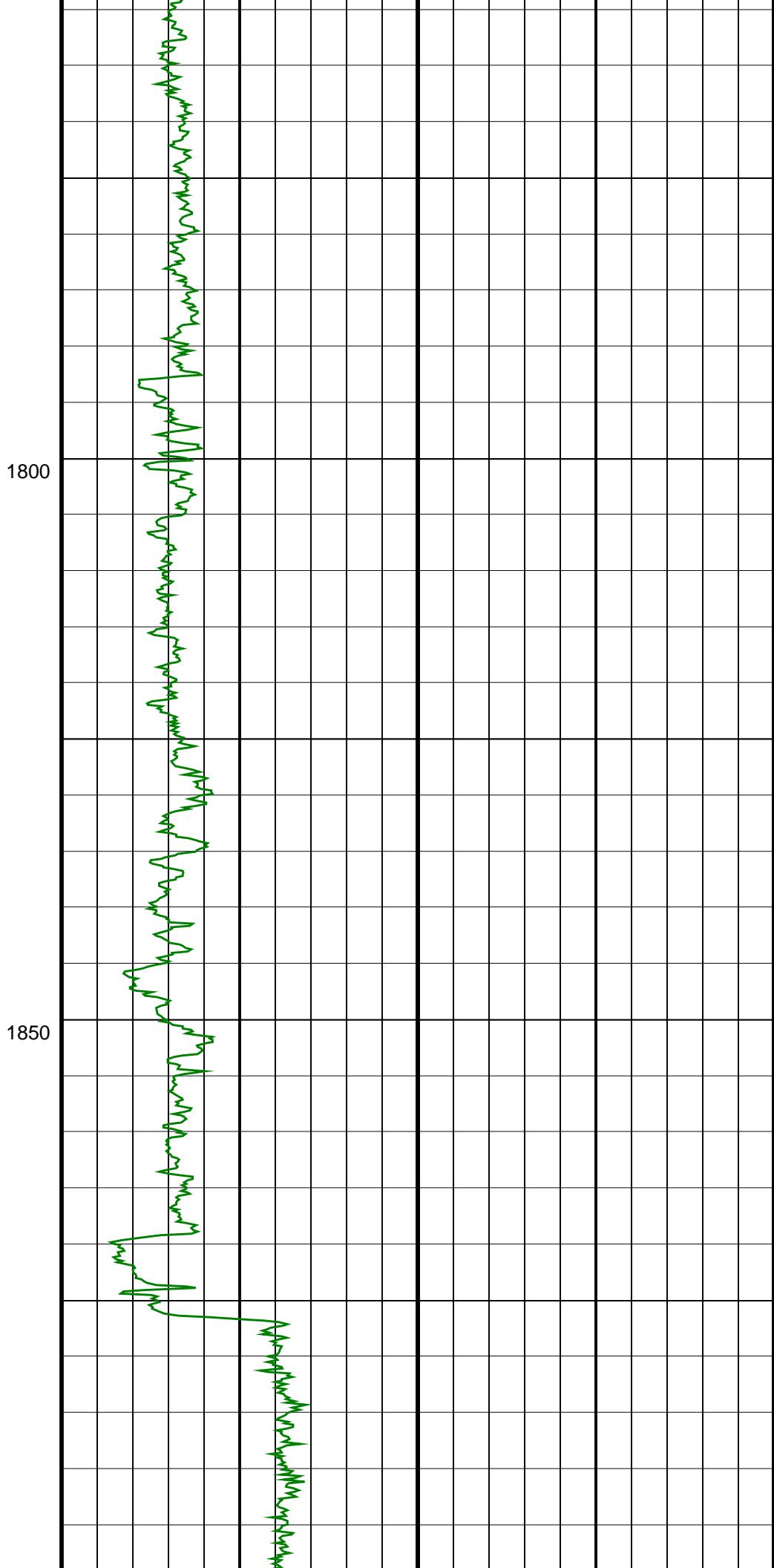
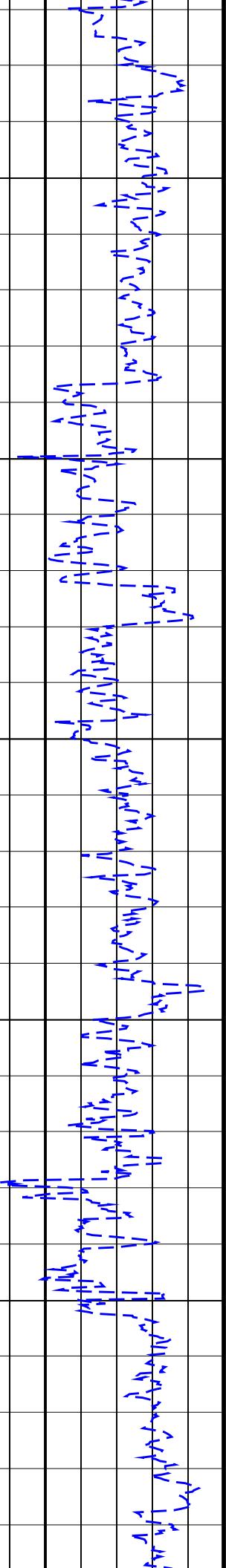


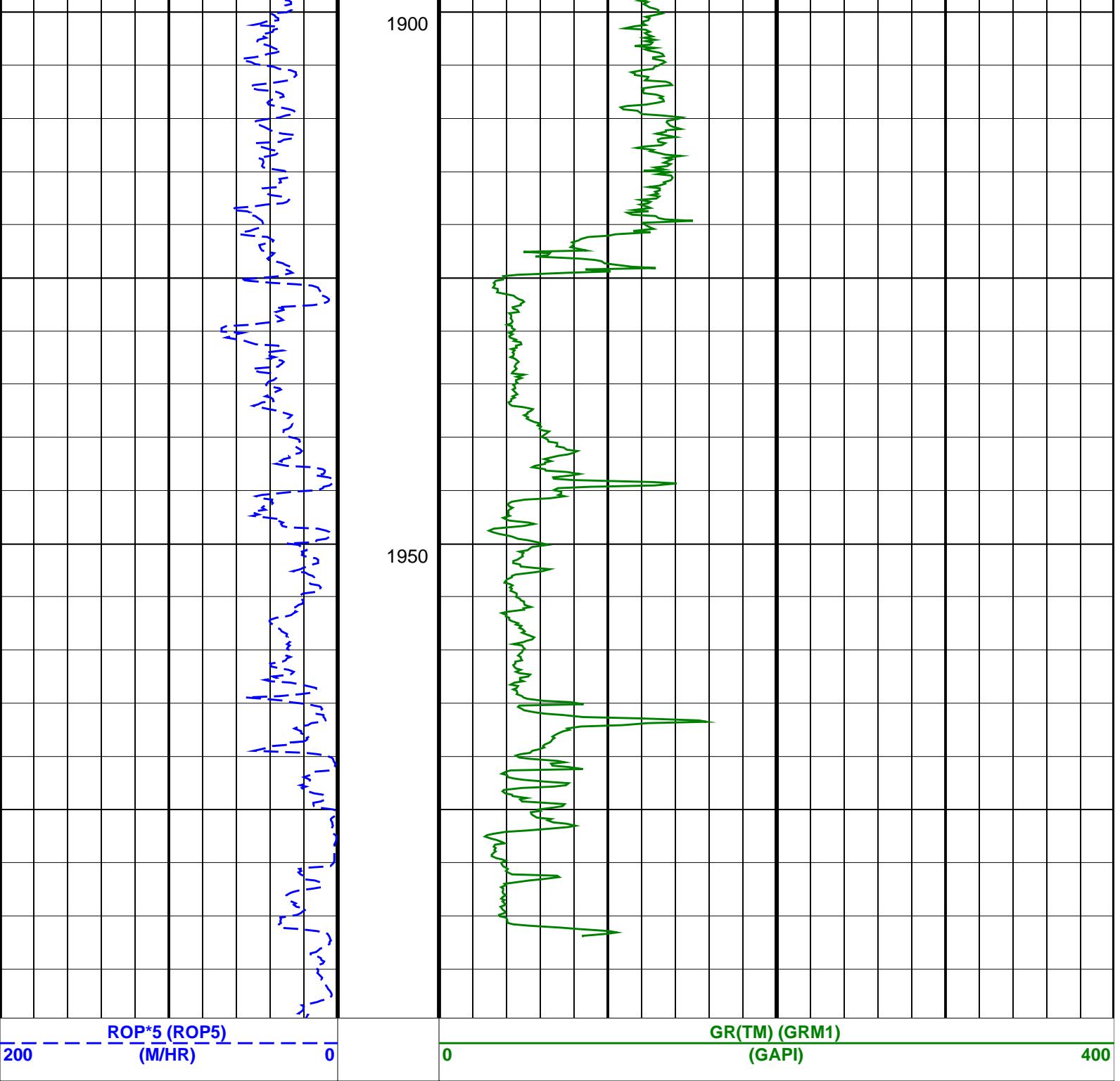












SCHLUMBERGER

Survey report

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

Well..... BMA A6A
API number.....
Engineer..... L. Johnston/ B. Pattarakorn
Rig:..... ISDL 453
State:..... Victoria

----- 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..... -59.40 m
KB above permanent..... Top Drive
DF above permanent..... 32.82 m

----- Vertical section origin -----

Spud date..... 1-Feb-06
Last survey date..... 12-Feb-06
Total accepted surveys.... 86
MD of first survey..... 852.58 m
MD of last survey..... 3256.00 m

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

Magnetic model..... BGGM version 2005
Magnetic date..... 31-Jan-2006
Magnetic field strength... 1202.69 HCNT
Magnetic dec (+E/W-)... 13.07 degrees
Magnetic dip..... -69.04 degrees

----- MWD survey Reference Criteria -----

Reference G..... 1000.05 mGal
Reference H..... 1202.69 HCNT
Reference Dip..... -69.04 degrees
Tolerance of G..... (+/-) 2.50 mGal

Latitude (+N/S-) -0.97 m
 Departure (+E/W-) 10.62 m

Tolerance of H (+/-) 6.00 HCNT
 Tolerance of Dip (+/-) 0.45 degrees

Azimuth from Vsect Origin to target: 131.68 degrees

----- Corrections -----
 Magnetic dec (+E/W-) 13.07 degrees
 Grid convergence (+E/W-) -0.48 degrees
 Total az corr (+E/W-) 13.55 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	Displ +N/S- (m)	Displ +E/W- (m)	Total displ (m)	At Azim (deg)	DLS tool type (deg)	Srvy Corr	Tool type (deg)
1	855.00	22.13	38.44	0.00	807.97	-28.29	199.01	150.79	249.69	37.15	0.00	TIP	None
2	881.48	18.78	55.18	26.48	832.80	-27.58	205.36	157.40	258.74	37.47	7.72	MWD	None
3	910.21	18.78	69.84	28.73	860.01	-24.31	209.59	165.54	267.08	38.30	4.99	MWD	None
4	938.83	20.33	77.43	28.62	886.99	-19.23	212.26	174.72	274.92	39.46	3.17	MWD	None
5	967.54	20.08	85.18	28.71	913.93	-12.93	213.76	184.50	282.37	40.80	2.85	MWD	None
6	996.45	20.83	93.13	28.91	941.03	-5.49	213.90	194.58	289.16	42.29	3.03	MWD	None
7	1025.13	23.00	97.88	28.68	967.64	3.16	212.85	205.22	295.67	43.95	2.98	MWD	None
8	1053.95	26.13	102.74	28.82	993.85	13.39	210.68	217.00	302.45	45.85	3.94	MWD	None
9	1082.41	28.28	109.02	28.46	1019.16	25.10	207.10	229.49	309.12	47.94	3.84	MWD	None
10	1111.11	30.81	115.02	28.70	1044.13	38.42	201.78	242.58	315.53	50.25	4.13	MWD	None
11	1139.28	34.11	120.35	28.17	1067.90	53.09	194.73	255.94	321.60	52.73	4.72	MWD	None
12	1168.44	38.85	125.48	29.16	1091.35	70.21	185.28	270.45	327.83	55.59	5.89	MWD	None
13	1197.36	43.23	127.94	28.92	1113.16	89.12	173.92	285.66	334.44	58.67	4.92	MWD	None
14	1226.15	47.11	129.25	28.79	1133.45	109.50	161.18	301.61	341.98	61.88	4.22	MWD	None
15	1254.76	50.44	130.82	28.61	1152.30	131.01	147.34	318.08	350.54	65.15	3.76	MWD	None
16	1283.33	53.02	132.06	28.57	1170.00	153.44	132.49	334.89	360.14	68.41	2.94	MWD	None
17	1311.72	55.20	133.75	28.39	1186.64	176.43	116.83	351.73	370.62	71.63	2.76	MWD	None
18	1340.66	57.84	135.42	28.94	1202.61	200.53	99.89	368.91	382.20	74.85	3.14	MWD	None
19	1368.90	60.92	137.54	28.24	1216.99	224.74	82.26	385.64	394.32	77.96	3.86	MWD	None
20	1397.94	64.27	139.51	29.04	1230.35	250.34	62.95	402.71	407.59	81.12	3.97	MWD	None
21	1426.45	64.06	140.07	28.51	1242.78	275.74	43.35	419.27	421.51	84.10	0.58	MWD	None
22	1455.43	64.16	140.75	28.98	1255.43	301.51	23.26	435.89	436.51	86.95	0.65	MWD	None
23	1484.13	65.48	142.60	28.70	1267.64	327.08	2.88	451.99	452.00	89.63	2.26	MWD	None
24	1511.98	67.02	143.27	27.85	1278.86	352.08	-17.46	467.35	467.68	92.14	1.81	MWD	None
25	1541.35	66.02	143.55	29.37	1290.56	378.46	-39.09	483.41	484.99	94.62	1.07	MWD	None
26	1570.07	66.51	143.32	28.72	1302.12	404.20	-60.20	499.07	502.69	96.88	0.57	MWD	None
27	1598.78	65.51	143.66	28.71	1313.79	429.87	-81.29	514.68	521.06	98.97	1.11	MWD	None
28	1627.50	66.46	143.22	28.72	1325.48	455.56	-102.36	530.30	540.09	100.92	1.09	MWD	None
29	1656.24	68.20	142.15	28.74	1336.56	481.59	-123.45	546.38	560.15	102.73	2.12	MWD	None
30	1685.21	67.65	141.97	28.97	1347.45	507.99	-144.62	562.89	581.17	104.41	0.60	MWD	None

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Seq #	Measured depth (m)	Incl angle (deg)	Azimuth angle (deg)	Course length (m)	TVD depth (m)	Vertical section	Displ +N/S- (m)	Displ +E/W- (m)	Total displ (m)	At Azim (deg)	DLS tool type (deg)	Srvy Corr	Tool type (deg)
31	1713.71	66.62	142.15	28.50	1358.52	533.82	-165.33	579.03	602.17	105.94	1.12	MWD	None
32	1742.37	65.58	141.77	28.66	1370.13	559.61	-185.97	595.18	623.55	107.35	1.17	MWD	None
33	1771.02	66.71	141.83	28.65	1381.72	585.40	-206.56	611.38	645.33	108.67	1.20	MWD	None
34	1799.85	66.10	141.87	28.83	1393.26	611.40	-227.33	627.70	667.60	109.91	0.65	MWD	None
35	1828.44	66.44	140.68	28.59	1404.76	637.21	-247.75	644.08	690.08	111.04	1.22	MWD	None
36	1857.37	65.55	140.51	28.93	1416.53	663.32	-268.17	660.85	713.19	112.09	0.95	MWD	None
37	1885.96	64.70	140.40	28.59	1428.56	688.95	-288.17	677.37	736.12	113.05	0.91	MWD	None
38	1914.62	64.16	140.81	28.66	1440.93	714.49	-308.15	693.77	759.13	113.95	0.70	MWD	None
39	1943.46	63.94	141.25	28.84	1453.55	740.08	-328.31	710.08	782.31	114.81	0.48	MWD	None
40	1972.06	64.86	141.60	28.60	1465.91	765.50	-348.48	726.16	805.45	115.64	1.04	MWD	None
41	2000.68	65.73	142.18	28.62	1477.87	791.09	-368.93	742.21	828.85	116.43	1.08	MWD	None
42	2029.25	66.36	142.54	28.57	1489.47	816.74	-389.61	758.16	852.40	117.20	0.76	MWD	None
43	2058.02	67.04	142.41	28.77	1500.85	842.70	-410.57	774.25	876.37	117.94	0.73	MWD	None
44	2086.64	66.46	142.89	28.62	1512.15	868.52	-431.47	790.20	900.33	118.64	0.78	MWD	None
45	2115.53	65.55	142.90	28.89	1523.89	894.41	-452.52	806.13	924.45	119.31	0.96	MWD	None
46	2144.17	66.81	142.63	28.64	1535.46	920.12	-473.38	821.98	948.54	119.94	1.37	MWD	None
47	2172.93	66.02	142.94	28.76	1546.97	945.98	-494.37	837.92	972.89	120.54	0.89	MWD	None
48	2201.71	67.06	142.31	28.78	1558.43	971.90	-515.35	853.95	997.40	121.11	1.26	MWD	None
49	2230.49	66.02	142.54	28.78	1569.88	997.84	-536.27	870.05	1022.04	121.65	1.12	MWD	None
50	2259.36	67.28	142.77	28.87	1581.33	1023.86	-557.34	886.12	1046.83	122.17	1.35	MWD	None
51	2287.95	66.49	142.90	28.59	1592.55	1049.66	-578.30	902.01	1071.47	122.66	0.85	MWD	None
52	2317.02	67.71	142.78	29.07	1603.86	1075.93	-599.64	918.18	1096.64	123.15	1.28	MWD	None
53	2345.67	66.69	142.94	28.65	1614.96	1101.84	-620.69	934.13	1121.54	123.60	1.10	MWD	None
54	2374.43	65.89	142.90	28.76	1626.53	1127.67	-641.70	950.01	1146.42	124.04	0.85	MWD	None
55	2403.15	65.42	143.10	28.72	1638.37	1153.32	-662.60	965.75	1171.20	124.45	0.53	MWD	None
56	2432.09	64.65	142.95	28.94	1650.58	1179.05	-683.56	981.53	1196.10	124.85	0.82	MWD	None
57	2461.14	65.00	142.89	29.05	1662.94	1204.83	-704.53	997.39	1221.12	125.24	0.37	MWD	None
58	2489.80	66.75	142.15	28.66	1674.65	1230.52	-725.29	1013.30	1246.12	125.59	1.99	MWD	None
59	2518.74	65.94	142.01	28.94	1686.26	1256.59	-746.20	1029.59	1271.56	125.93	0.86	MWD	None
60	2547.55	65.46	142.02	28.81	1698.12	1282.42	-766.89	1045.75	1296.81	126.25	0.51	MWD	None

Seq #	Measured depth - (m)	Measured 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 type	Tool Corr (deg)
61	2576.63	64.89	141.84	29.08	1710.33	1308.40	-787.67	1062.03	1322.24	126.56	0.62	MWD	None
62	2605.56	65.50	141.77	28.93	1722.47	1334.25	-808.31	1078.26	1347.60	126.86	0.65	MWD	None
63	2634.29	66.82	141.67	28.73	1734.08	1360.12	-828.94	1094.54	1373.01	127.14	1.40	MWD	None
64	2660.88	66.24	141.89	26.59	1744.67	1384.14	-848.10	1109.63	1396.62	127.39	0.70	MWD	None
65	2689.20	65.60	141.78	28.32	1756.22	1409.59	-868.43	1125.61	1421.68	127.65	0.70	MWD	None
66	2718.44	67.23	142.44	29.24	1767.92	1435.94	-889.57	1142.07	1447.64	127.92	1.81	MWD	None
67	2746.94	66.54	142.64	28.50	1779.11	1461.68	-910.38	1158.01	1473.02	128.17	0.76	MWD	None
68	2775.66	65.76	142.26	28.72	1790.72	1487.49	-931.21	1174.02	1498.49	128.42	0.91	MWD	None
69	2804.34	64.95	142.33	28.68	1802.68	1513.11	-951.83	1189.96	1523.81	128.66	0.86	MWD	None
70	2832.94	66.35	142.38	28.60	1814.47	1538.71	-972.46	1205.87	1549.13	128.88	1.49	MWD	None
71	2861.63	65.67	142.19	28.69	1826.14	1564.48	-993.20	1221.91	1574.64	129.11	0.75	MWD	None
72	2890.41	65.13	142.02	28.78	1838.12	1590.21	-1013.85	1237.98	1600.15	129.32	0.59	MWD	None
73	2918.90	66.35	141.65	28.49	1849.82	1615.78	-1034.27	1254.03	1625.52	129.51	1.35	MWD	None
74	2947.54	66.26	141.88	28.64	1861.33	1641.60	-1054.87	1270.26	1651.15	129.71	0.24	MWD	None
75	2975.95	66.04	141.64	28.41	1872.82	1667.18	-1075.28	1286.34	1676.57	129.89	0.33	MWD	None
76	3004.70	65.63	141.74	28.75	1884.59	1693.01	-1095.86	1302.61	1702.26	130.07	0.45	MWD	None
77	3033.57	65.06	141.16	28.87	1896.63	1718.87	-1116.38	1318.96	1727.99	130.24	0.82	MWD	None
78	3062.00	64.59	141.98	28.43	1908.73	1744.22	-1136.53	1334.95	1753.22	130.41	0.94	MWD	None
79	3090.72	64.37	141.76	28.72	1921.10	1769.73	-1156.92	1350.95	1778.63	130.58	0.31	MWD	None
80	3119.45	64.04	141.80	28.73	1933.60	1795.19	-1177.24	1366.96	1804.01	130.74	0.35	MWD	None
81	3148.18	64.00	141.66	28.73	1946.19	1820.62	-1197.52	1382.95	1829.37	130.89	0.14	MWD	None
82	3176.79	63.78	141.55	28.61	1958.78	1845.93	-1217.65	1398.91	1854.62	131.04	0.26	MWD	None
83	3205.75	63.12	141.38	28.96	1971.72	1871.46	-1237.92	1415.05	1880.11	131.18	0.71	MWD	None
84	3234.70	62.78	140.68	28.95	1984.89	1896.90	-1257.96	1431.26	1905.51	131.31	0.75	MWD	None
85	3256.00	62.55	140.21	21.30	1994.67	1915.60	-1272.55	1443.31	1924.20	131.40	0.68	Proj.	to TD

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Company: **ESSO Australia Pty. Ltd.****Schlumberger**Well: **BMA A6A**Field: **Bream A**Rig: **ISDL 453**State: **Victoria**

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

