



















Run number		1	2	3	4						
Bit size	in.	8.5	8.5	8.5	8.5						
Bit start depth	m	675.0	2511.0	2890.0	2946.0						
Bit end depth	m	2511.0	2890.0	2946.0	2946.0						
Top interval logged	m	675.0	2511.0	2871.9	2871.9						
Bottom interval logged	m	2511.0	2871.9	2871.9	2929.0						
Begin log: time		21:31	16:41	N/A	06:00						
Begin log: date		12-May-06	19-May-06	N/A	25-May-06						
End log: time		09:04	17:26	N/A	08:00						
End log: date		18-May-06	21-May-06	N/A	25-May-06						
Mud data											
Depth	m	2511.0	2890.0	2946.0	2946.0						
Type		KCl/PHPA/Gly	KCl/PHPA/Gly	KCl/PHPA/Gly	KCl/PHPA/Gly						
Mud weight	ppg	9.50	9.70	9.80	9.80						
Solids	%	5.0	6.2	6.6	6.6						
Chlorides	mg/l	37000	39000	40000	40000						
Rm		N/A	N/A	N/A	N/A						
Rmf		N/A	N/A	N/A	N/A						
Rmc		N/A	N/A	N/A	N/A						

EQUIPMENT DESCRIPTION		
RUN1	RUN2	RUN3
DOWNHOLE EQUIPMENT	DOWNHOLE EQUIPMENT	DOWNHOLE EQUIPMENT

DOWNHOLE EQUIPMENT			DOWNHOLE EQUIPMENT			DOWNHOLE EQUIPMENT		
6-3/4 in. PowerPulse* MDC: V875 MEC: 064 MDI: 738 MGR: AA 503 DHS: V80C02 OD 6.89		23.42	6-3/4 in. PowerPulse* MDC: V875 MEC: 064 MDI: 738 MGR: AA 503 DHS: V80C02 OD 6.89		23.46	6-3/4 in. PowerPulse* MDC: V875 MEC: 064 MDI: 738 MGR: AA 503 DHS: V80C02 OD 6.89		23.52
	D&I — 19.07			D&I — 19.11			D&I — 19.17	
	GR — 18.42			GR — 18.46			GR — 18.52	
6-5/8 in. NM Pony S/N: 97081023		14.93	6-5/8 in. NM Pony S/N: 97081023		14.97	6-5/8 in. NM Pony S/N: 97081023		15.03
6-5/8 in. NM Roller Reamer S/N: GU2317R		13.69	6-5/8 in. NM Roller Reamer S/N: GU2317R		13.73	6-5/8 in. NM Roller Reamer S/N: GU2317R		13.79
6-5/8 in. NM Pony wFloat S/N: ANA98-007		11.70	6-5/8 in. NM Pony wFloat S/N: ANA98-007		11.74	6-5/8 in. NM Pony wFloat S/N: ANA98-007		11.80
7 in. PowerPak* Motor A700GT 7:8 S/N: N7310 1.5 deg. Bent Housing		9.09	7 in. PowerPak* Motor A700GT 7:8 S/N: N7310 1.5 deg. Bent Housing		9.13	7 in. PowerPak* Motor A700GT 7:8 S/N: N7311 0 deg. Bent Housing		9.19
	0.00			0.00			0.00	
Smith PDC Bit OD: 8-1/2 in. S73PX S/N: JT6967		0.22	Smith TCI Bit OD: 8-1/2 in. GF11YODV S/N: MR5166		0.26	Smith PDC Bit OD: 8-1/2 in, S73PX S/N: JT6968A		0.22
Maximum string diameter 8.50 in.			Maximum string diameter 8.50 in.			Maximum string diameter 8.50 in.		
All lengths in Meters			All lengths in Meters			All lengths in Meters		

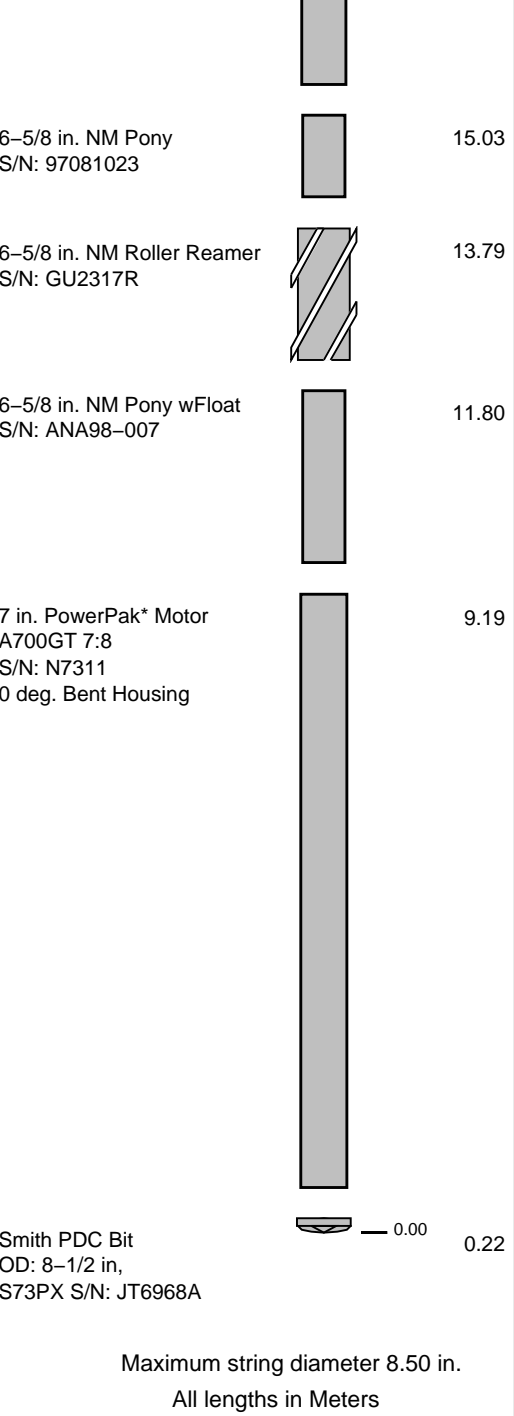
DISCLAIMER

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 RUN4 Directional Drilling Directional surveys D&I	OTHER SERVICES FOR RUN	OTHER SERVICES FOR RUN
REMARKS: RUN NUMBER 4 Depth is referenced to Driller's Depth. All data presented is from Real-Time Transmission. Environmental Correction:-- Gamma Ray was corrected for Mud weight, Tool size and Bit size. Gamma Ray is not corrected for Potassium. 8.5 in. hole was reamed up from 2946.0 m to 2890.0m MD. Gamma Ray data is spliced from 2890.0m to last reading at 2929.0m	REMARKS: RUN NUMBER	REMARKS: RUN NUMBER

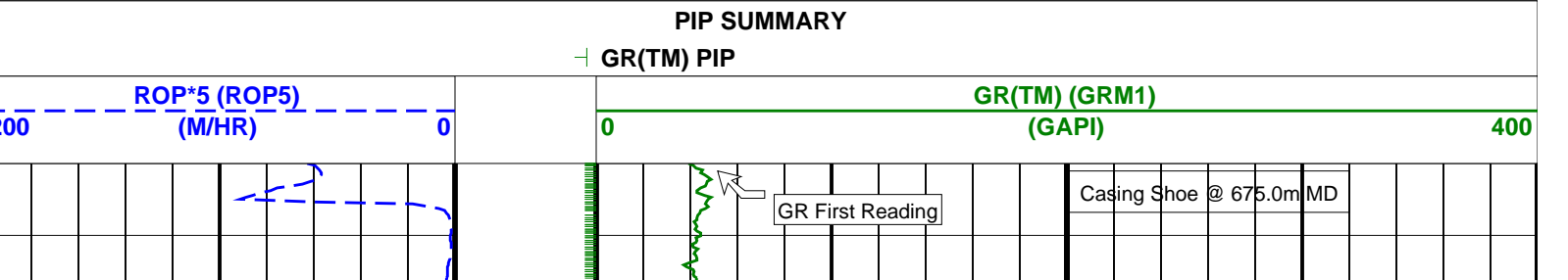
EQUIPMENT DESCRIPTION

RUN4	RUN	RUN
<div>DOWNHOLE EQUIPMENT</div> <div>6-3/4 in. PowerPulse*23.54</div> <div>MDC: FA28</div> <div>MEC: 1542</div> <div>MDI: 1559</div> <div>MGR: 295</div> <div>DHS: V80B96</div> <div>OD 6.89</div> <div>D&I19.17</div> <div>GR18.52</div>		

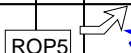


WKF W20A RT 1:500 MD

IDEAL Version: ID11_OC_01 <MD> Vertical Scale: 1:500 Graphics File Created: 26-May-2006 02:06



ROP5



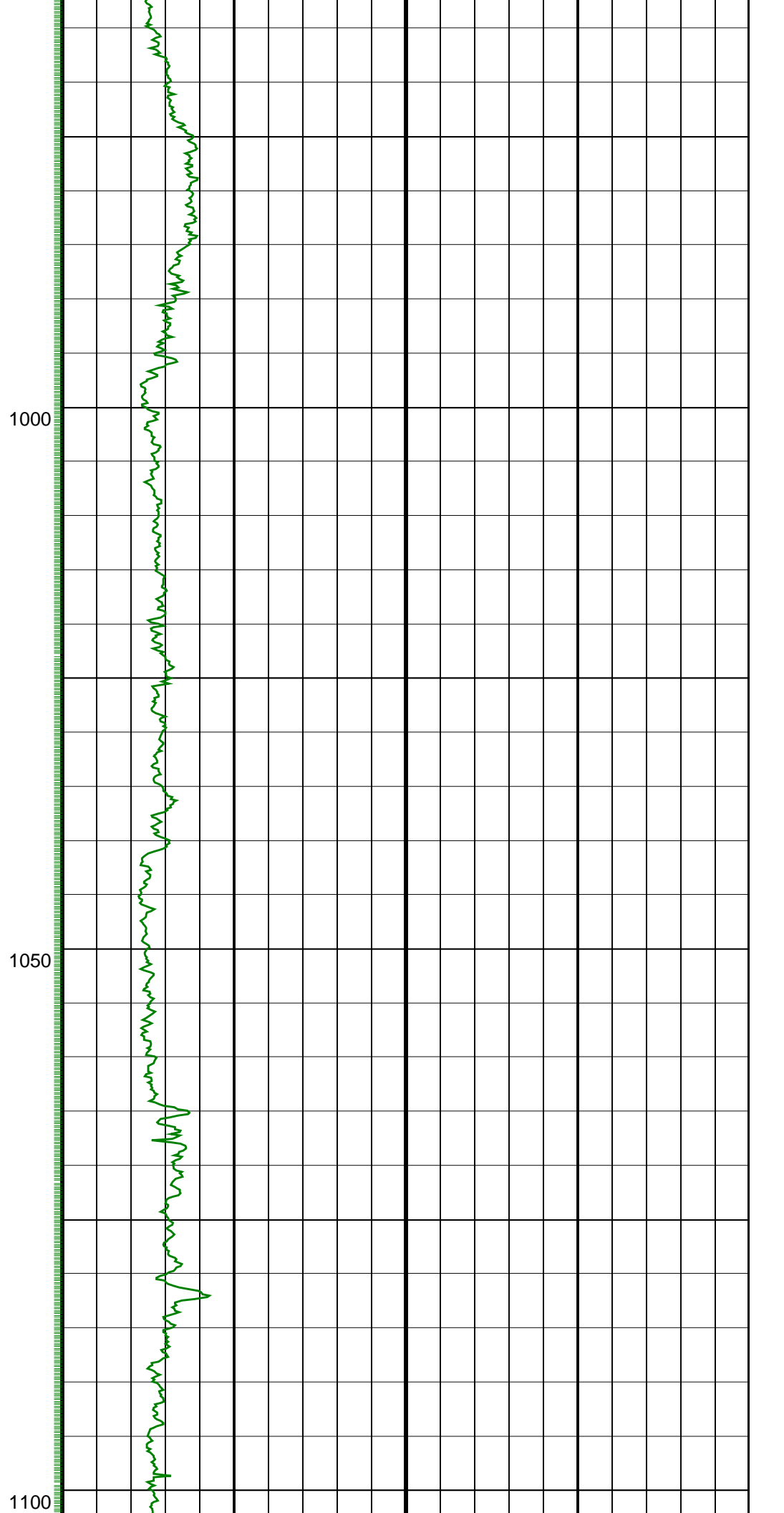
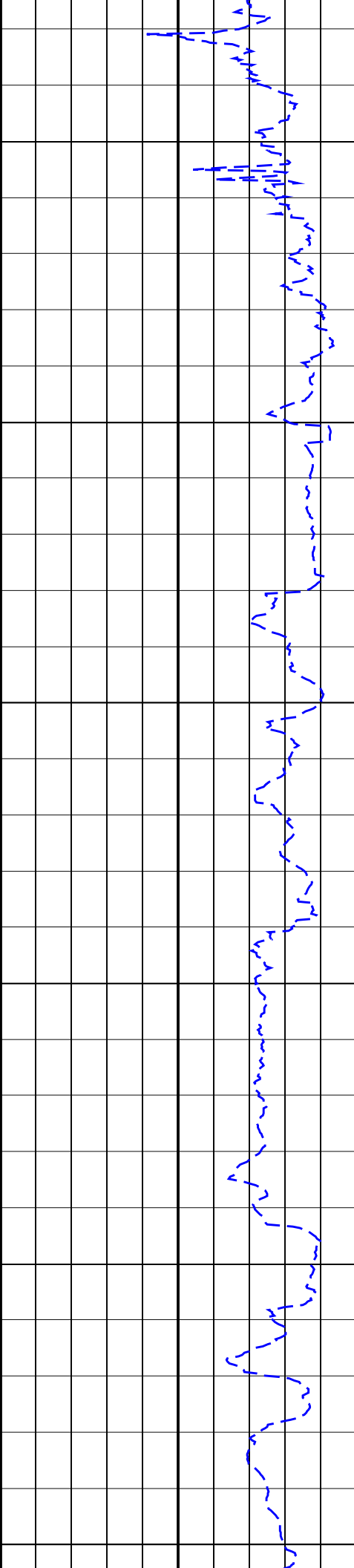
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GRM1

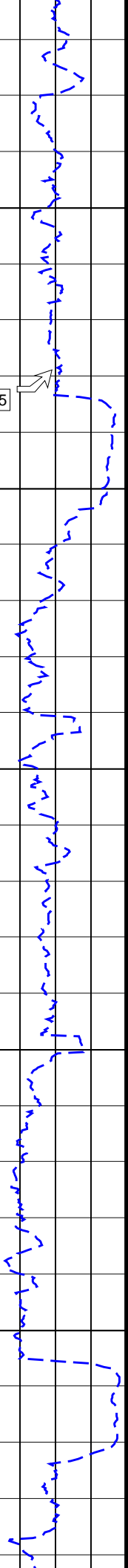


750

800



ROP5

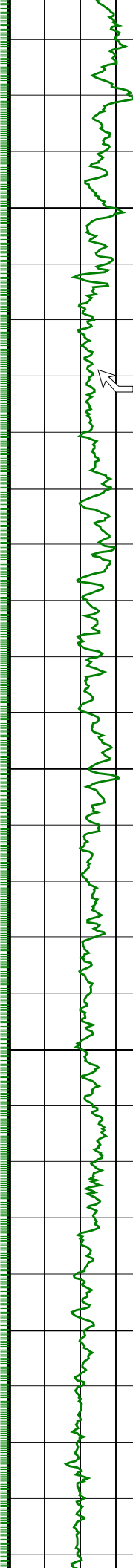


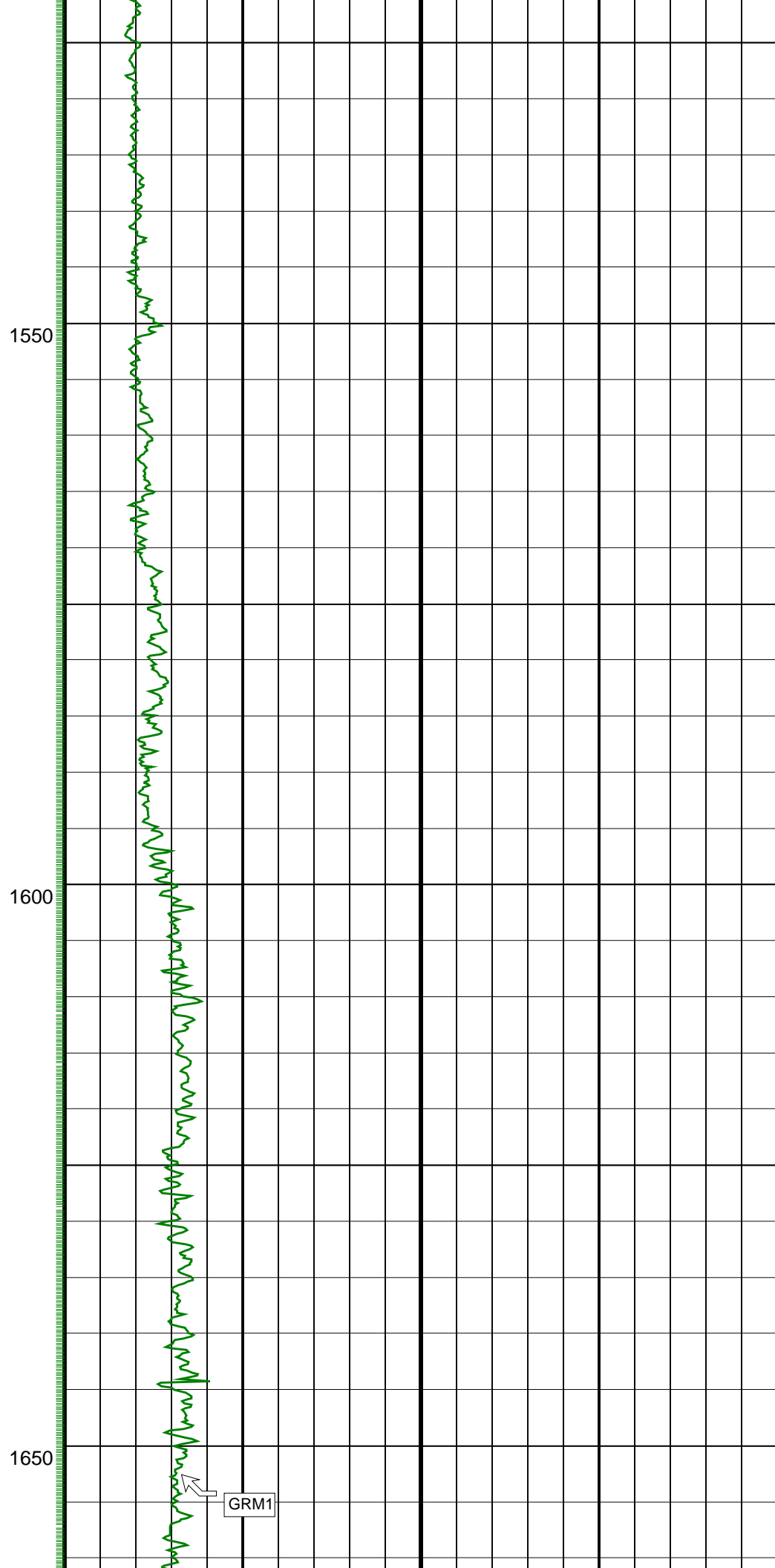
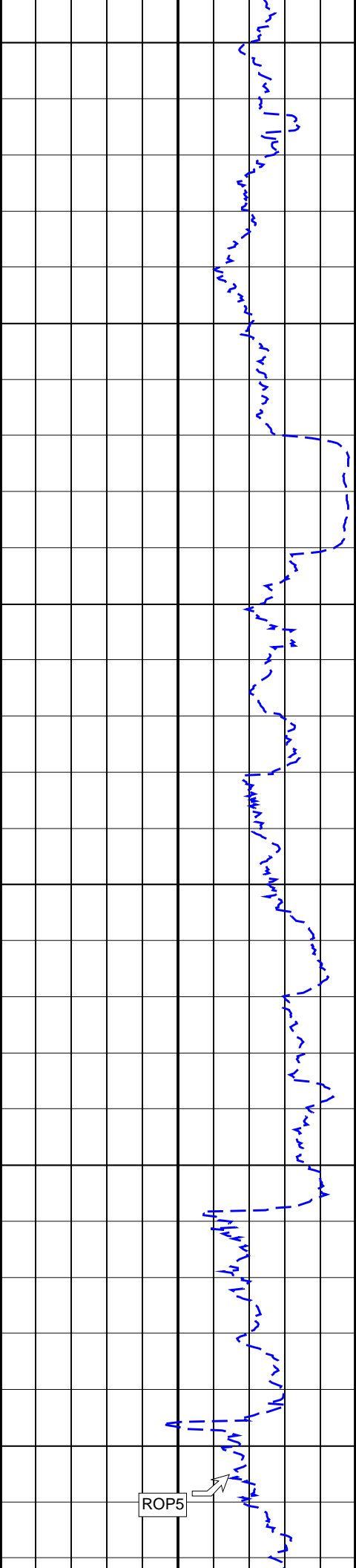
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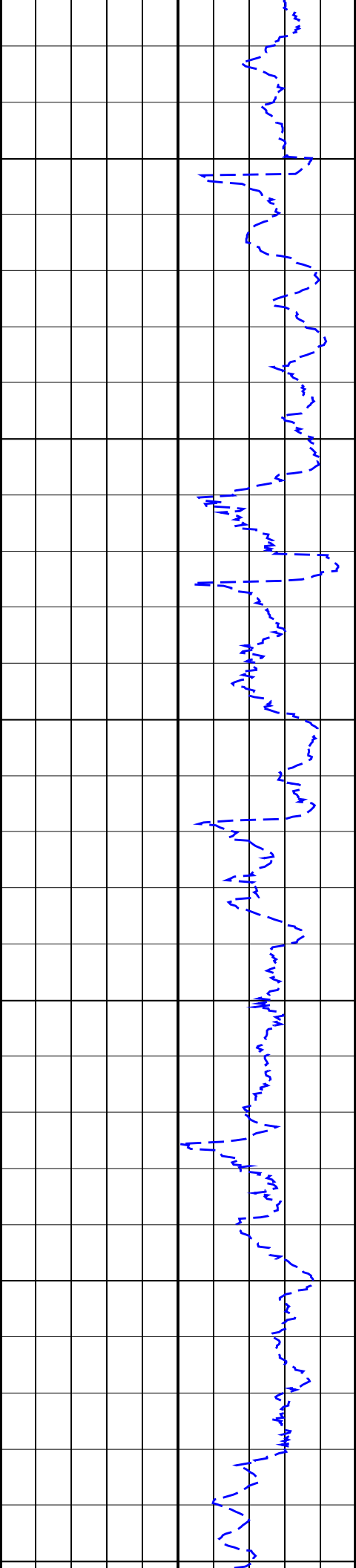
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GRM1



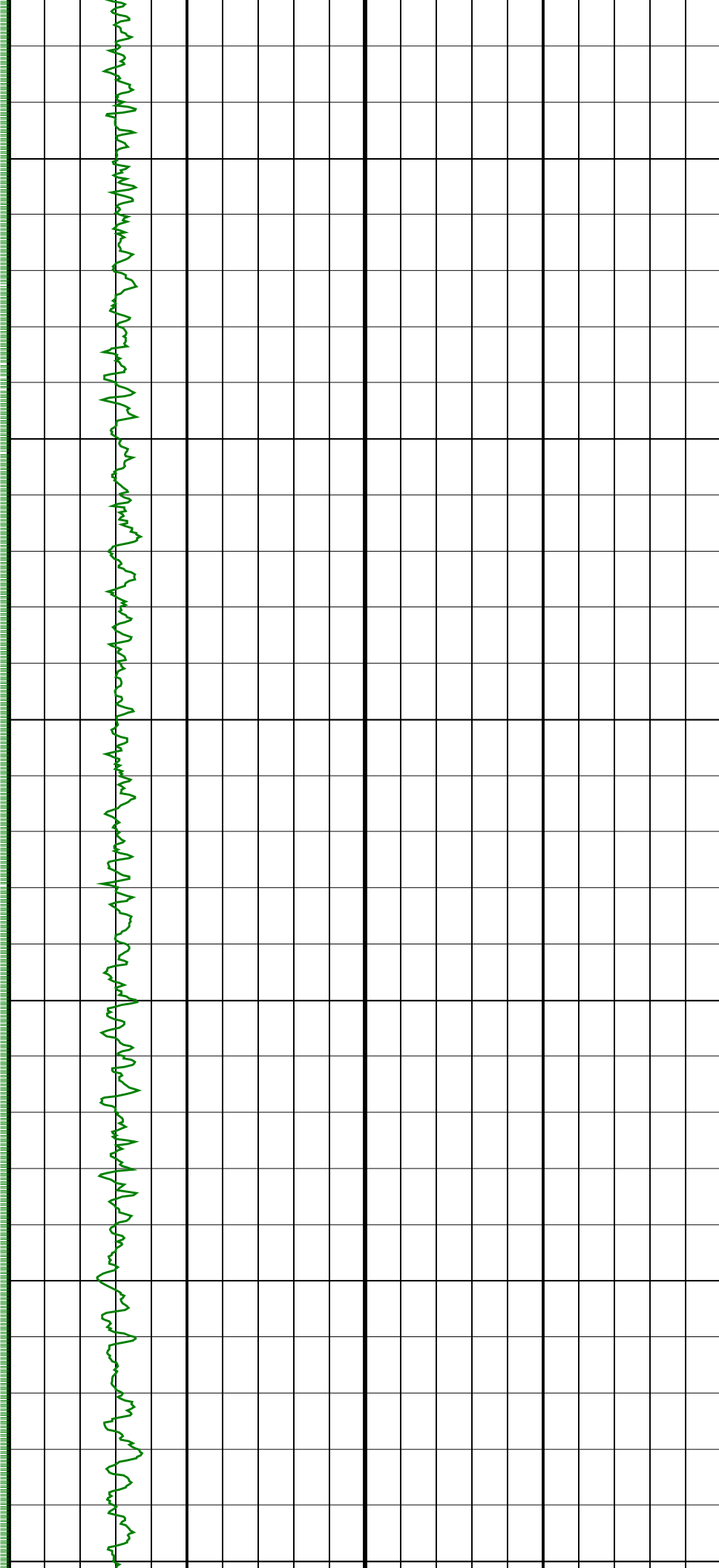


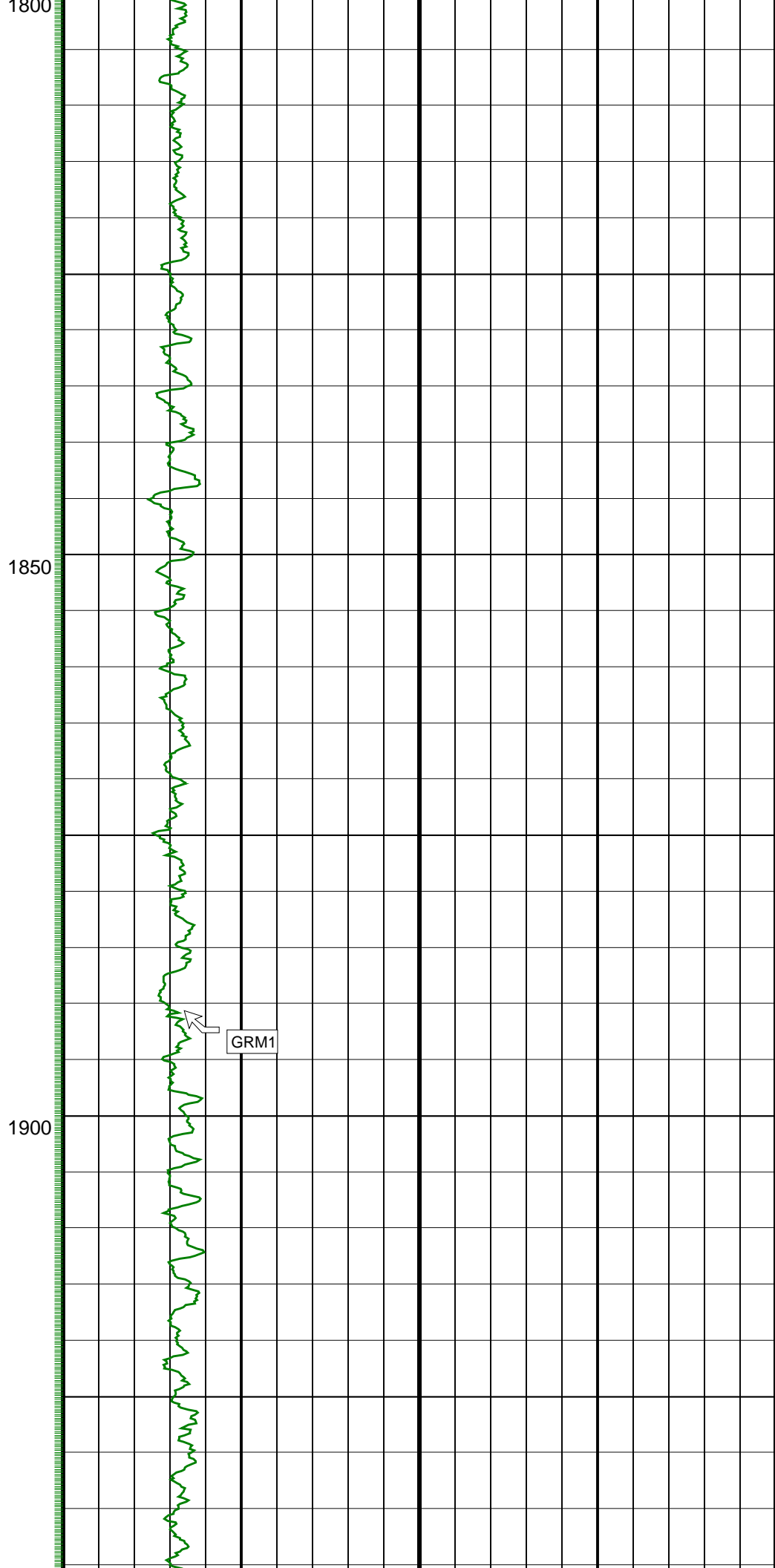
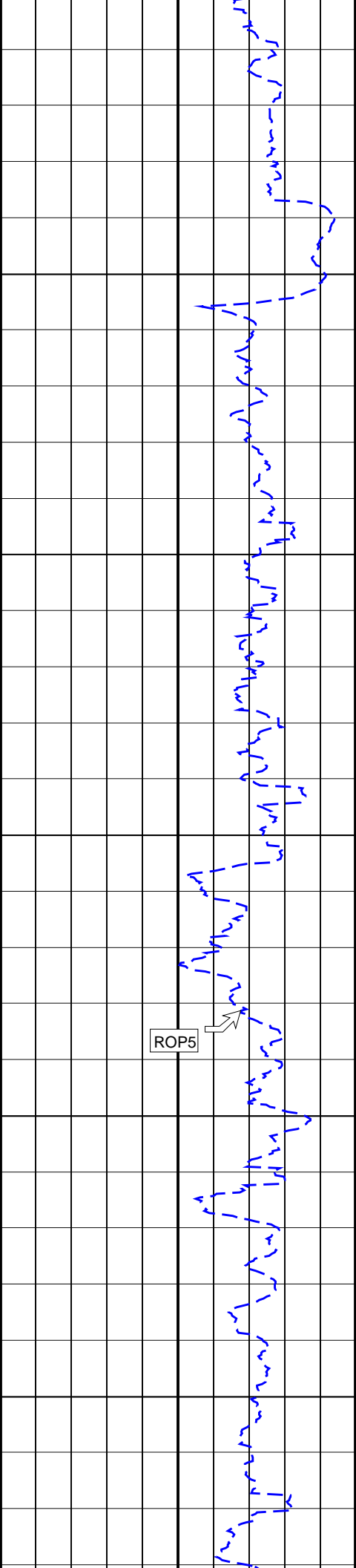


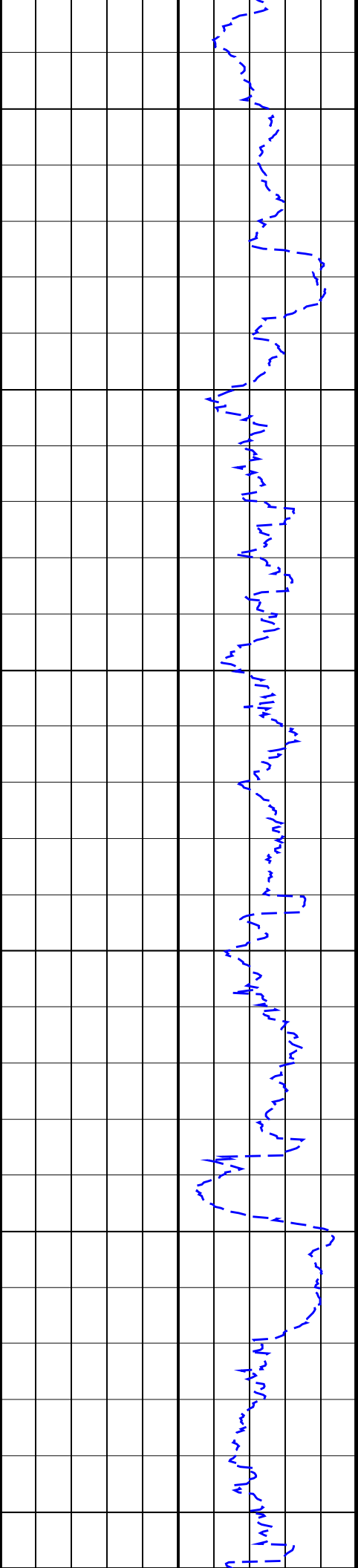
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1750

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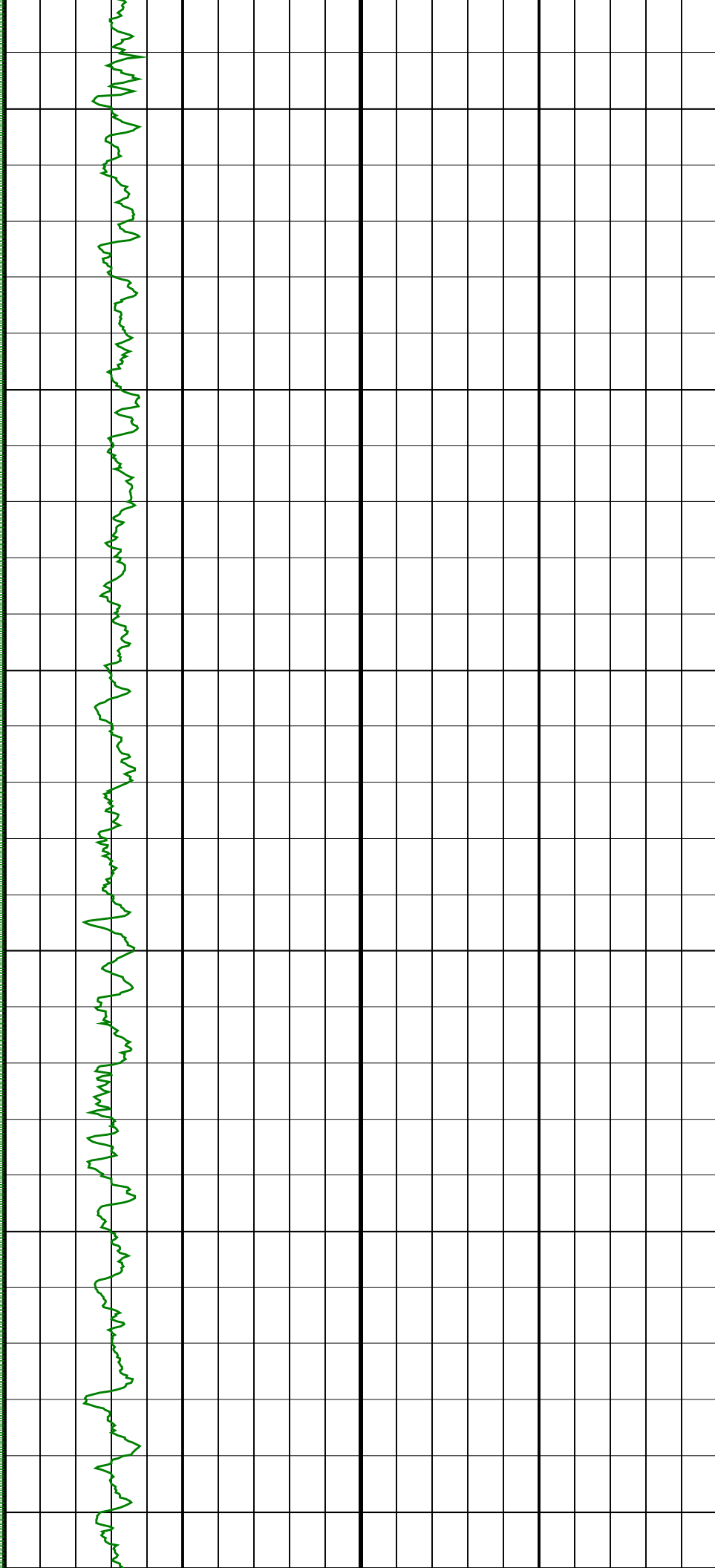


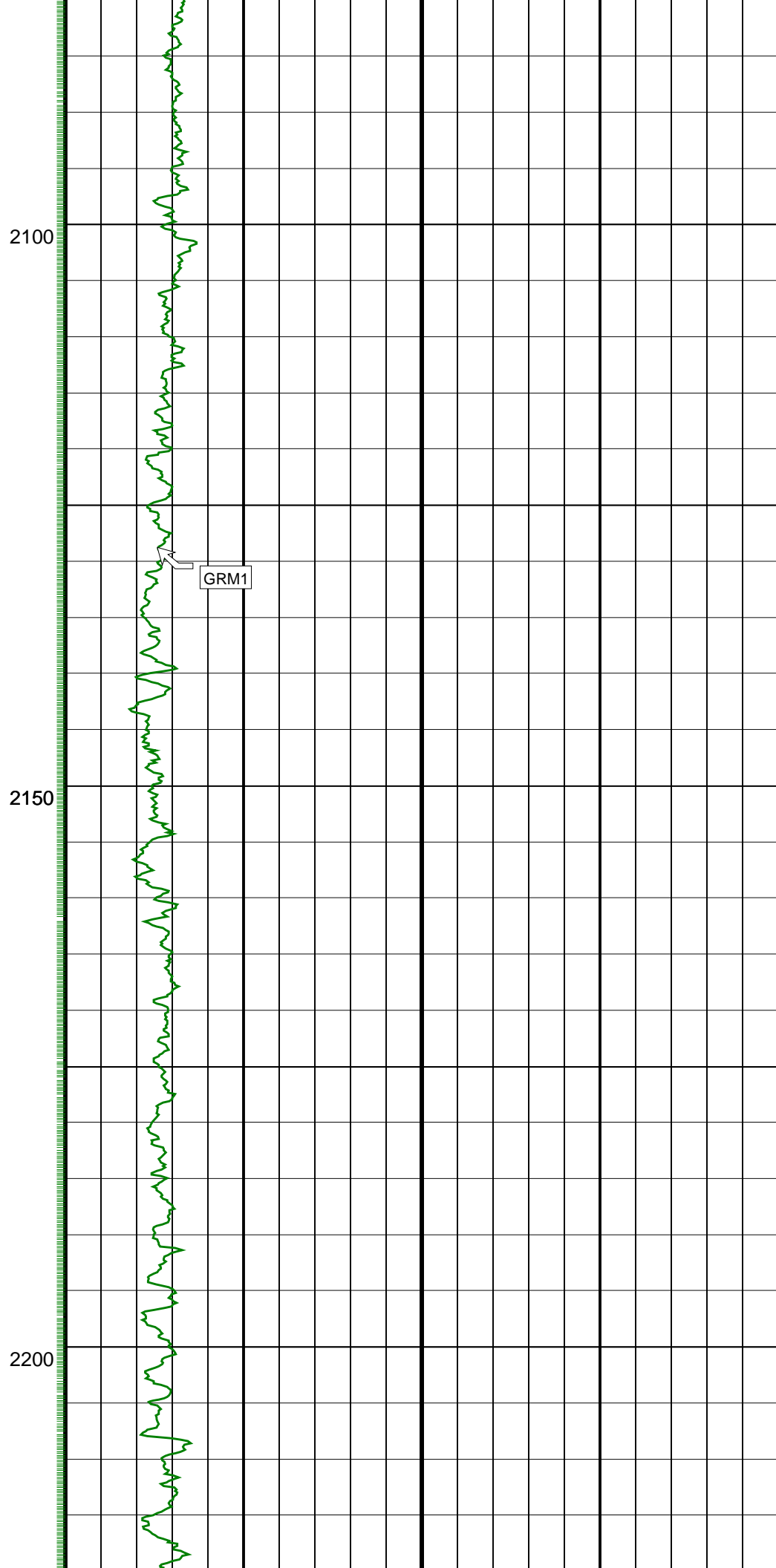
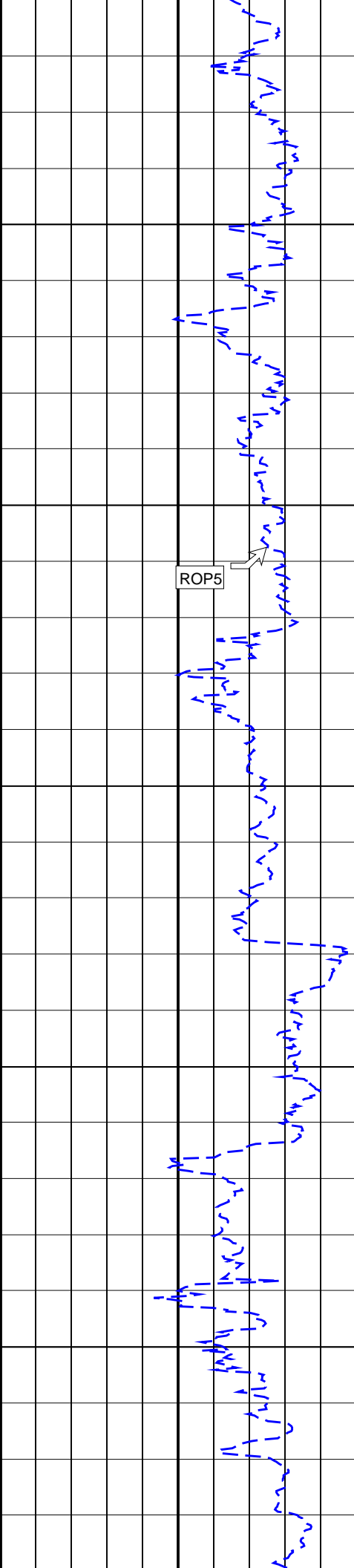


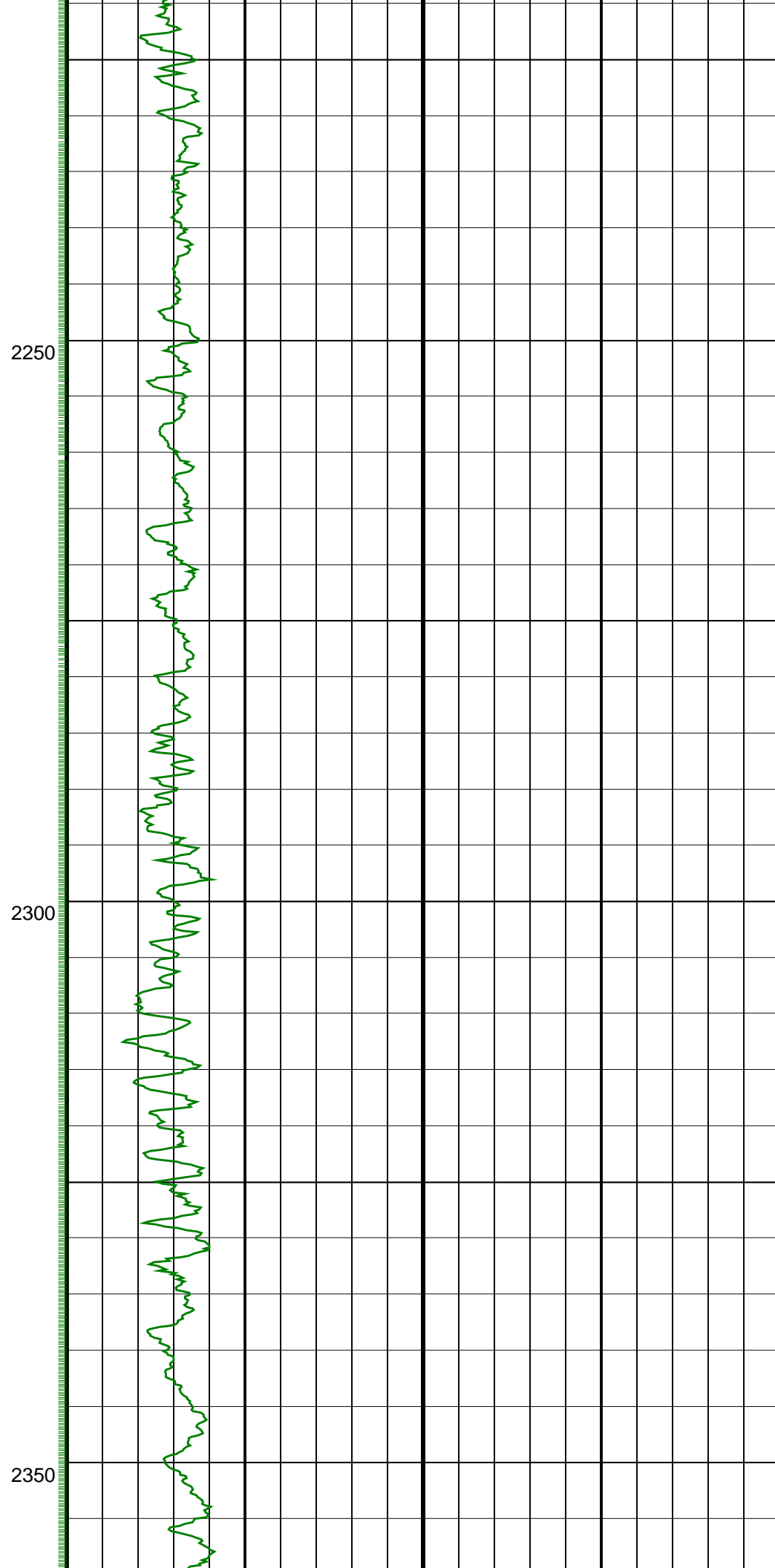
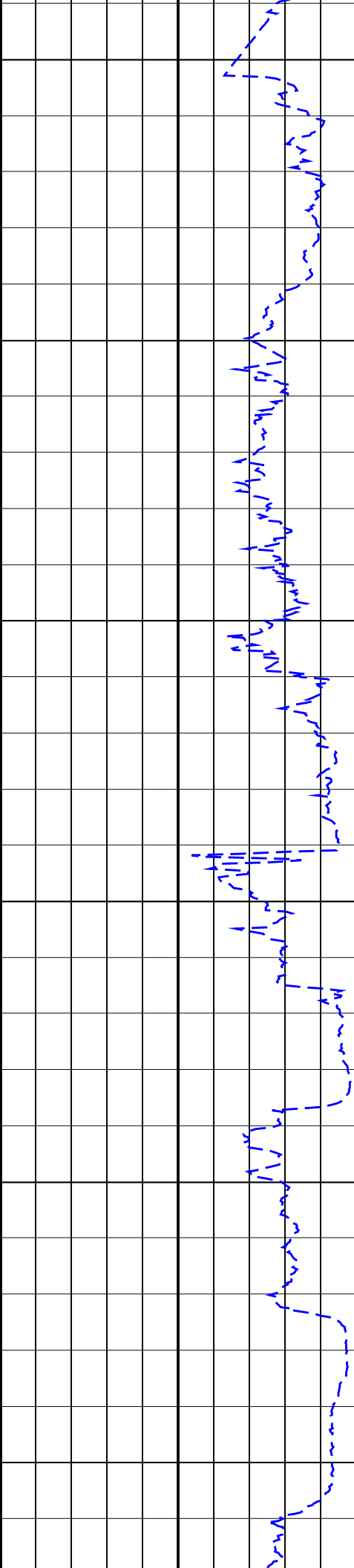
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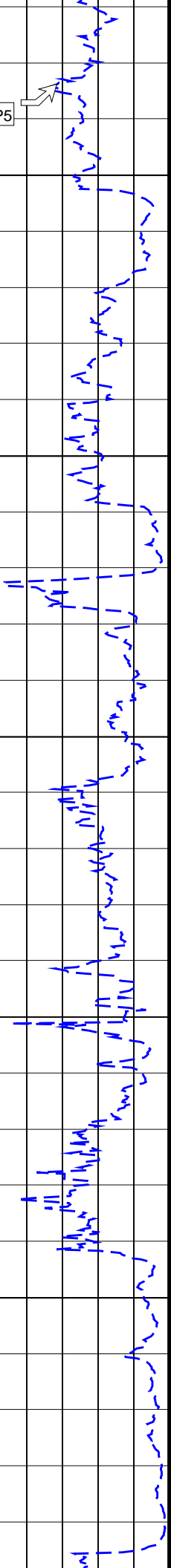
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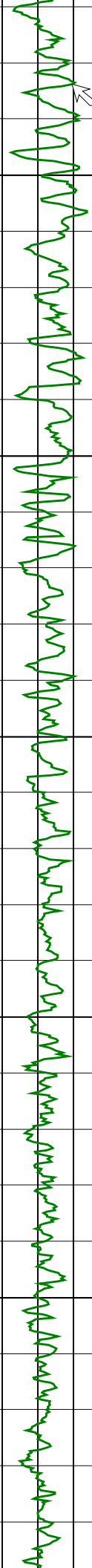
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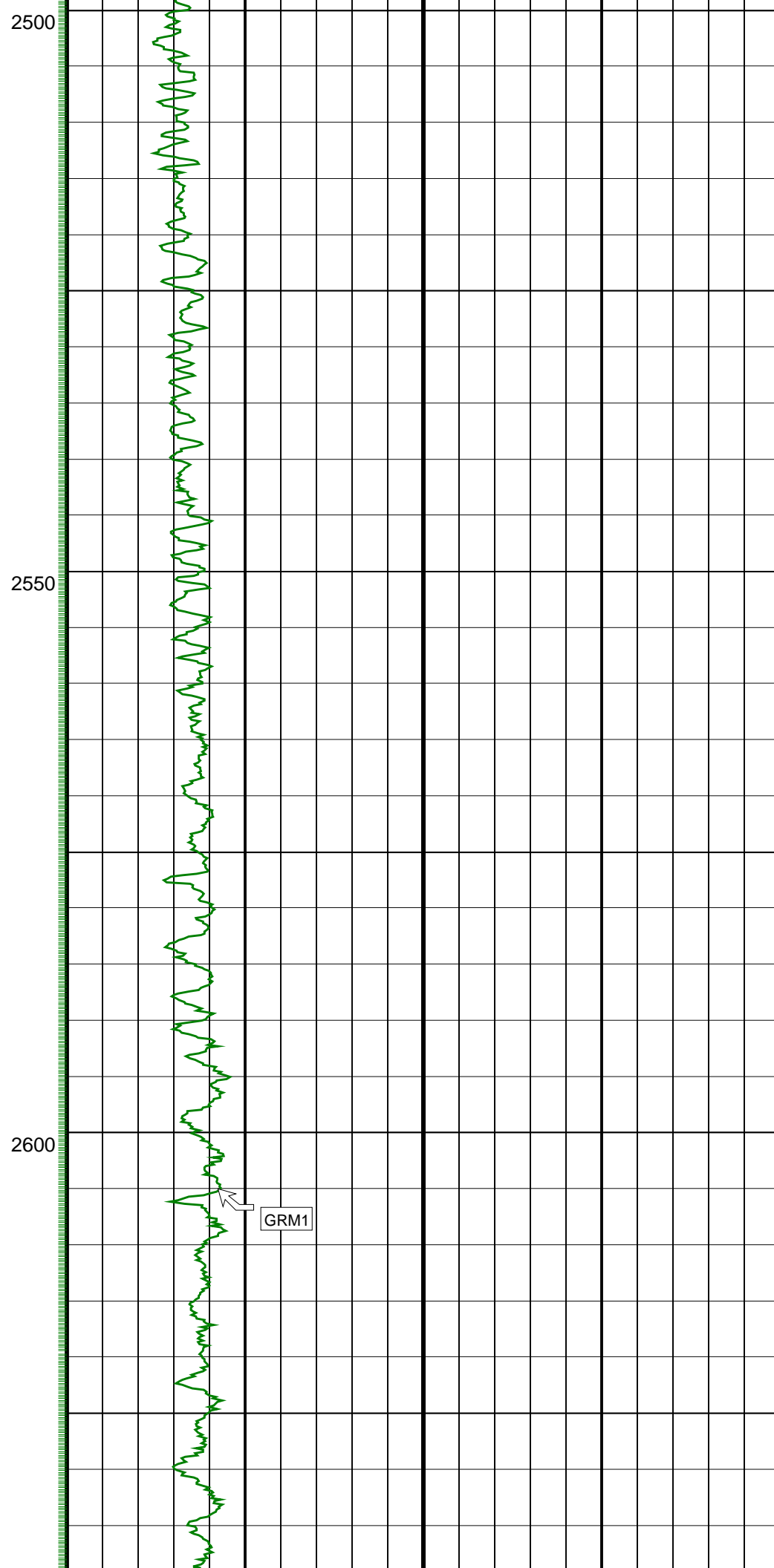
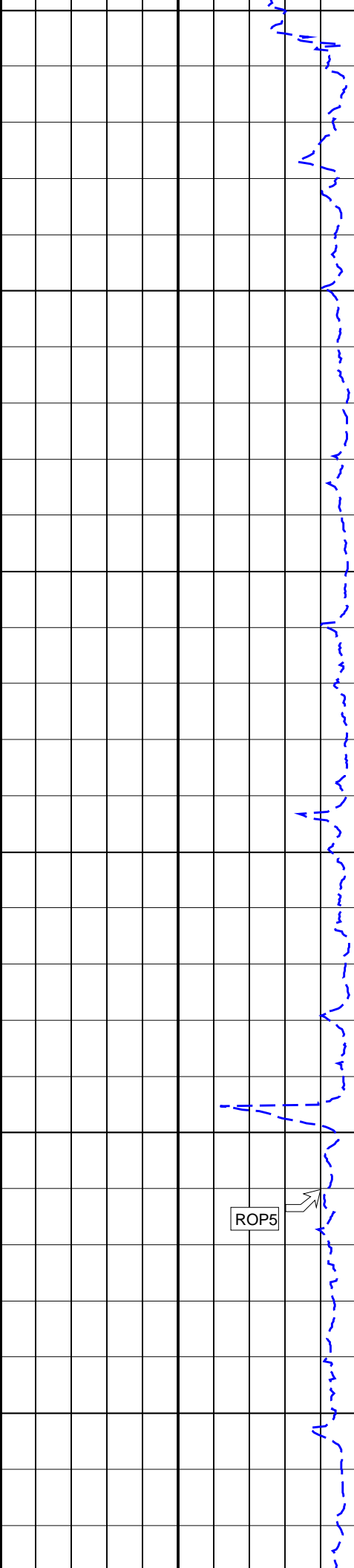


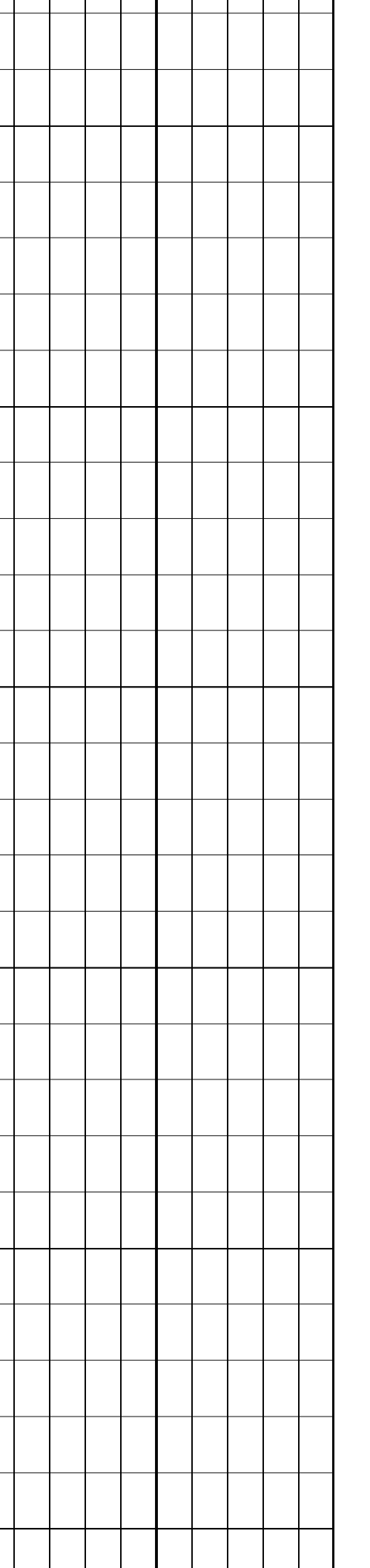
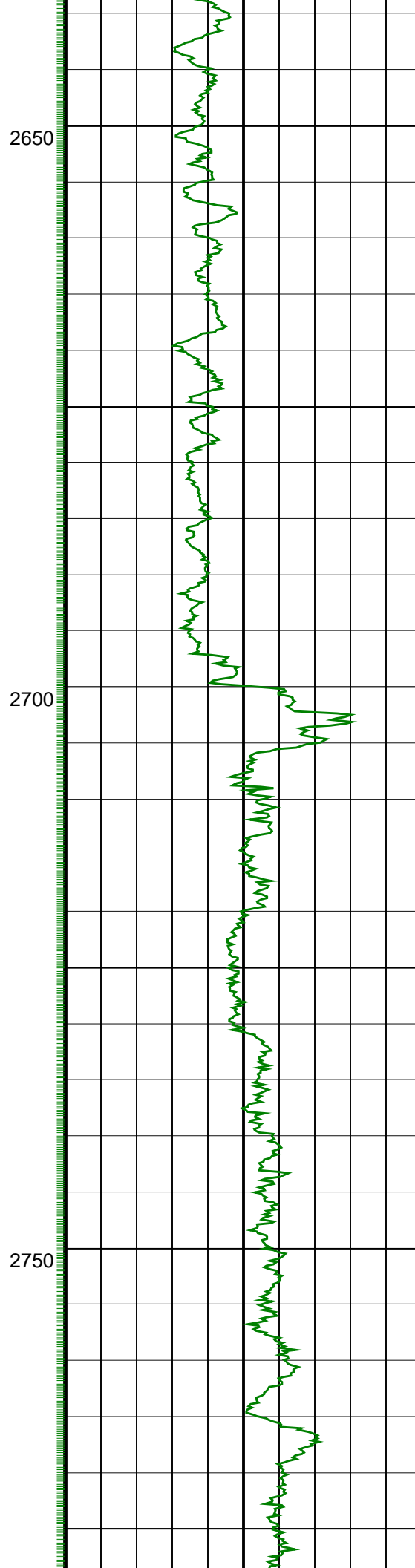
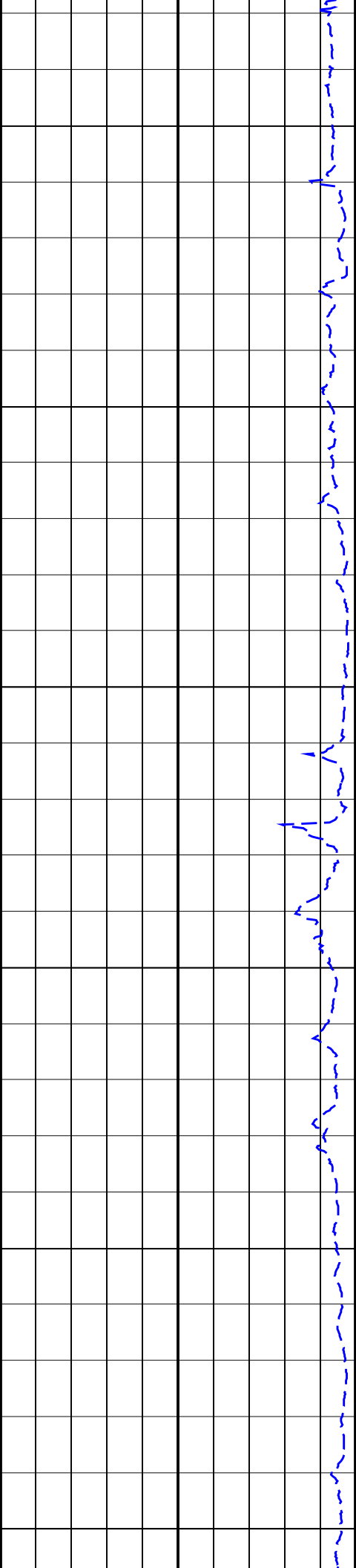
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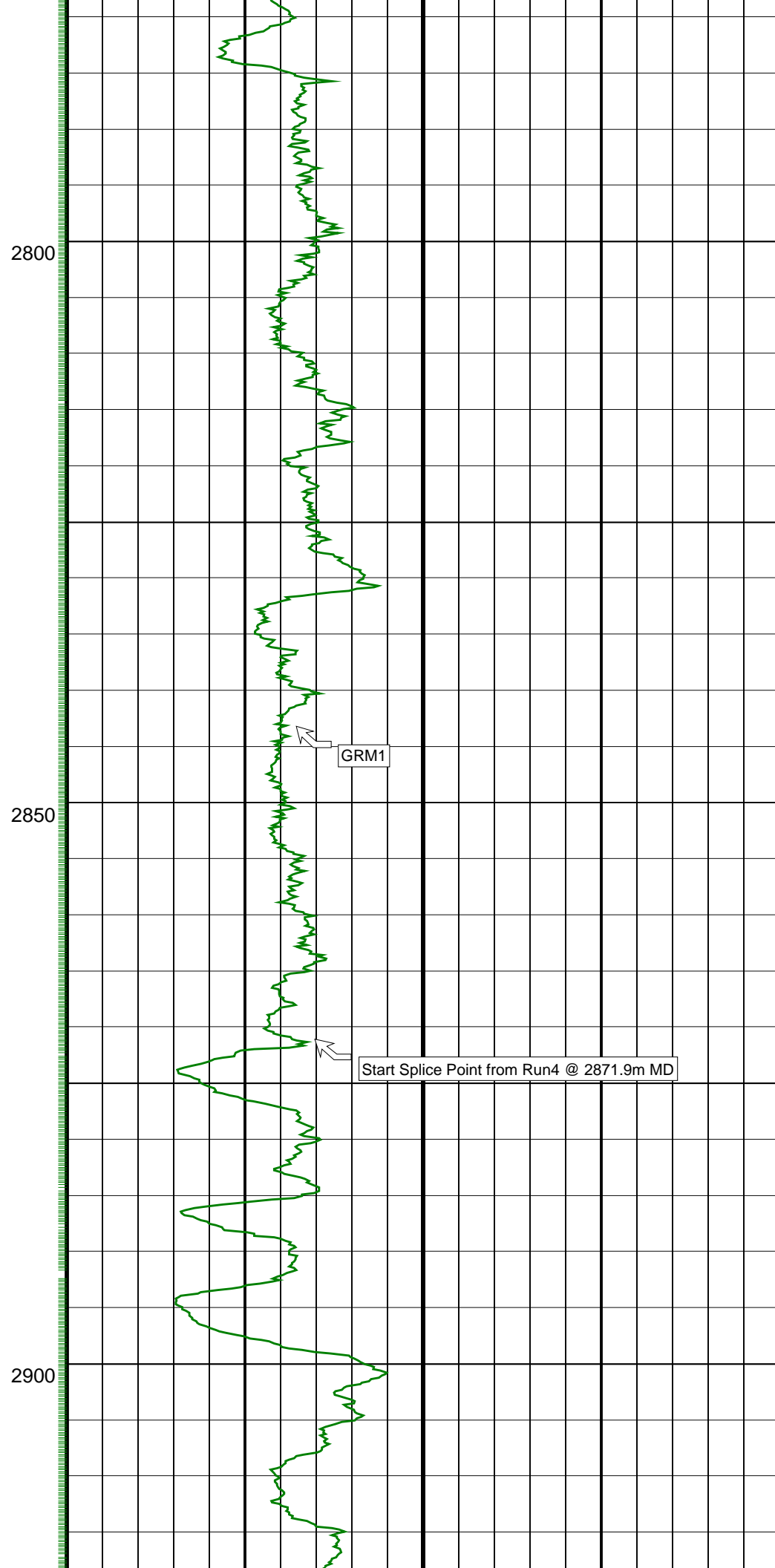
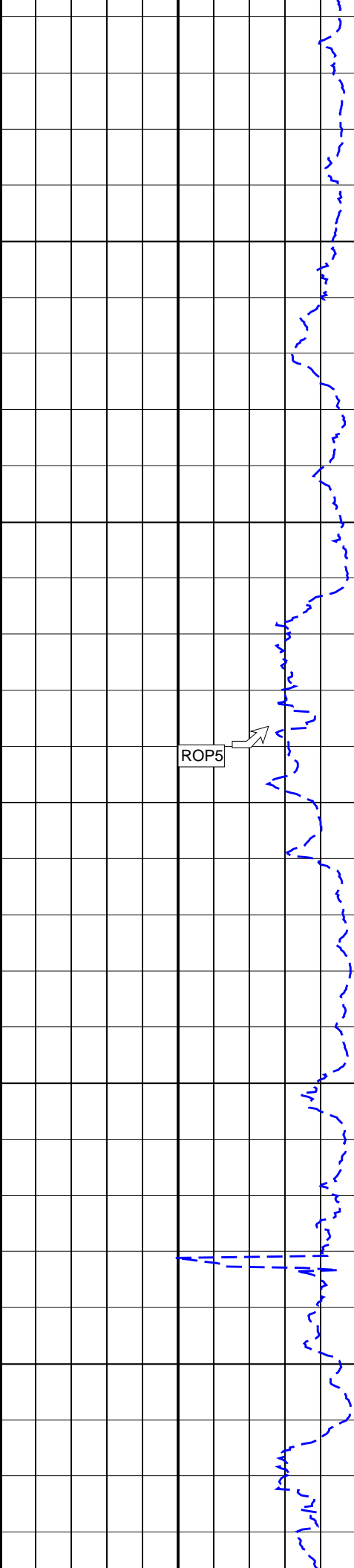
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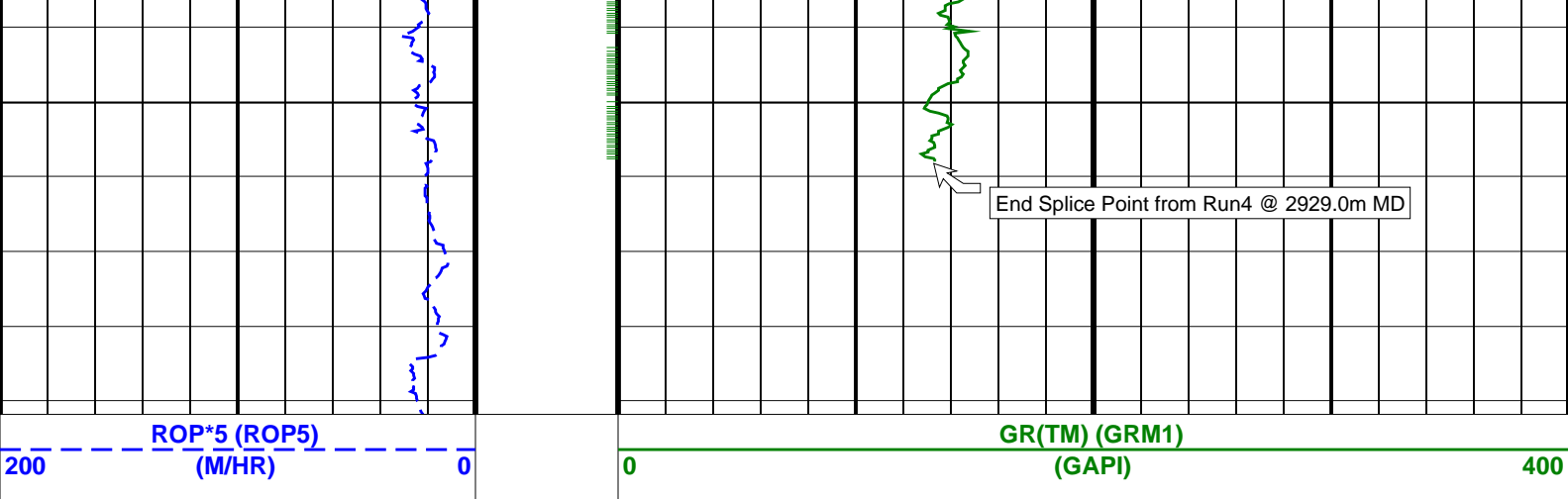
GRM1











PIP SUMMARY

GR(TM) PIP

SCHLUMBERGER

Survey report

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

Well..... WKF W20A
Service Order number..... 06ASQ0005
Engineer..... B. Pattarakorn/ C. Skiba

Rig..... ISDL 453
STATE..... Victoria

Spud date..... 12 May 06
Last survey date..... 25-May-06
Total accepted surveys... 81
MD of first survey..... 674.53 m
MD of last survey..... 2946.00 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..... -76.13 m
KB above permanent..... 0.00 m
DF above permanent..... 33.43 m

----- Vertical section origin-----
Latitude (+N/S-)..... -4.35 m
Departure (+E/W-)..... 1.93 m

----- Platform reference point-----
Latitude (+N/S-)..... 5727806.50 m
Departure (+E/W-)..... 596265.00 m

Azimuth from Vsect Origin to target: 245.69 degrees

----- Geomagnetic data -----
Magnetic model..... BGGM version 2005
Magnetic date..... 11-May-2006
Magnetic field strength... 1202.51 HCNT
Magnetic dec (+E/W-)..... 13.25 degrees
Magnetic dip..... -69.06 degrees

----- MWD survey Reference Criteria -----
Reference G..... 1000.06 mGal
Reference H..... 1202.51 HCNT
Reference Dip..... -69.06 degrees
Tolerance of G..... (+/-) 2.50 mGal
Tolerance of H..... (+/-) 6.00 HCNT
Tolerance of Dip..... (+/-) 0.45 degrees

----- Corrections -----
Magnetic dec (+E/W-)..... 13.25 degrees
Grid convergence (+E/W-).. -0.69 degrees
Total az corr (+E/W-)..... 13.94 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	674.53	46.50	253.23	0.00	622.76	189.41	-54.07	-183.45	191.25	253.58	0.00	TIP	None
2	706.79	50.72	241.60	32.26	644.13	213.52	-63.41	-205.69	215.24	252.87	3.00	MWD	None
3	735.63	50.08	239.53	28.84	662.51	235.65	-74.32	-225.04	237.00	251.72	0.60	MWD	None
4	763.06	46.38	238.21	27.43	680.78	255.96	-84.89	-242.55	256.98	250.71	1.40	MWD	None
5	792.99	42.30	236.90	29.93	702.18	276.67	-96.10	-260.21	277.39	249.73	1.40	MWD	None
6	823.14	38.13	237.55	30.15	725.20	295.91	-106.64	-276.57	296.42	248.91	1.39	MWD	None
7	850.62	34.44	237.39	27.48	747.35	312.01	-115.39	-290.28	312.37	248.32	1.34	MWD	None
8	878.86	33.78	237.13	28.24	770.73	327.67	-123.95	-303.60	327.93	247.79	0.24	MWD	None
9	907.36	33.51	236.86	28.50	794.46	343.28	-132.55	-316.84	343.45	247.30	0.11	MWD	None
10	936.95	32.59	238.86	29.59	819.26	359.27	-141.14	-330.50	359.38	246.88	0.48	MWD	None
11	964.80	32.38	238.93	27.85	842.75	374.12	-148.87	-343.31	374.19	246.56	0.08	MWD	None
12	993.42	31.99	238.25	28.62	866.97	389.25	-156.81	-356.32	389.30	246.25	0.19	MWD	None
13	1022.94	31.42	238.40	29.52	892.09	404.63	-164.96	-369.52	404.67	245.94	0.19	MWD	None
14	1051.55	30.85	238.27	28.61	916.58	419.30	-172.72	-382.11	419.34	245.68	0.20	MWD	None
15	1080.53	31.49	240.83	28.98	941.37	434.21	-180.32	-395.04	434.25	245.47	0.51	MWD	None
16	1109.94	31.23	240.18	29.41	966.49	449.46	-187.86	-408.36	449.50	245.30	0.15	MWD	None
17	1137.96	31.08	240.62	28.02	990.47	463.89	-195.02	-420.97	463.94	245.14	0.10	MWD	None
18	1166.87	29.62	246.25	28.91	1015.42	478.47	-201.56	-434.01	478.53	245.09	1.11	MWD	None
19	1195.61	27.77	247.96	28.74	1040.63	492.27	-206.93	-446.72	492.32	245.15	0.70	MWD	None

20	1224.36	28.76	248.27	28.75	1065.95	505.87	-212.00	-459.35	505.92	245.23	0.35	MWD	None
21	1252.66	30.06	245.24	28.30	1090.60	519.76	-217.49	-472.12	519.80	245.27	0.70	MWD	None
22	1281.95	29.22	244.60	29.29	1116.06	534.24	-223.63	-485.24	534.29	245.26	0.31	MWD	None
23	1309.53	27.80	244.86	27.58	1140.29	547.40	-229.25	-497.14	547.45	245.24	0.52	MWD	None
24	1338.89	29.19	244.81	29.36	1166.10	561.41	-235.21	-509.82	561.46	245.23	0.47	MWD	None
25	1368.17	30.13	244.69	29.28	1191.54	575.90	-241.39	-522.92	575.95	245.22	0.32	MWD	None
26	1396.84	28.90	244.52	28.67	1216.49	590.02	-247.45	-535.68	590.07	245.21	0.43	MWD	None
27	1425.16	30.13	245.91	28.32	1241.13	603.97	-253.29	-548.35	604.02	245.21	0.50	MWD	None
28	1453.53	28.98	245.99	28.37	1265.81	617.96	-258.99	-561.13	618.01	245.22	0.41	MWD	None
29	1482.63	27.29	246.23	29.10	1291.47	631.68	-264.55	-573.67	631.73	245.24	0.58	MWD	None
30	1511.25	28.23	245.43	28.62	1316.80	645.01	-270.01	-585.83	645.06	245.25	0.35	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	1539.77	27.46	245.23	28.52	1342.02	658.33	-275.57	-597.94	658.38	245.26	0.27	MWD	None
32	1568.45	28.58	244.22	28.68	1367.33	671.80	-281.33	-610.12	671.86	245.25	0.42	MWD	None
33	1597.09	27.80	243.57	28.64	1392.58	685.33	-287.28	-622.27	685.38	245.22	0.29	MWD	None
34	1625.48	30.45	244.68	28.39	1417.38	699.14	-293.30	-634.70	699.20	245.20	0.95	MWD	None
35	1654.41	30.47	244.59	28.93	1442.31	713.80	-299.58	-647.95	713.86	245.19	0.02	MWD	None
36	1682.43	30.24	244.31	28.02	1466.49	727.96	-305.69	-660.73	728.02	245.17	0.10	MWD	None
37	1711.73	29.39	244.52	29.30	1491.91	742.52	-311.98	-673.87	742.59	245.16	0.29	MWD	None
38	1740.32	28.62	245.05	28.59	1516.92	756.38	-317.89	-686.41	756.45	245.15	0.28	MWD	None
39	1769.67	28.24	245.59	29.35	1542.73	770.36	-323.72	-699.11	770.42	245.15	0.16	MWD	None
40	1798.67	27.48	245.37	29.00	1568.37	783.91	-329.35	-711.44	783.97	245.16	0.26	MWD	None
41	1827.64	29.57	244.90	28.97	1593.82	797.74	-335.17	-723.99	797.81	245.16	0.73	MWD	None
42	1855.91	29.01	245.48	28.27	1618.47	811.57	-340.97	-736.54	811.64	245.16	0.22	MWD	None
43	1884.87	28.52	245.00	28.96	1643.86	825.51	-346.81	-749.20	825.57	245.16	0.19	MWD	None
44	1913.53	27.59	244.89	28.66	1669.15	838.98	-352.52	-761.41	839.05	245.16	0.32	MWD	None
45	1942.40	26.83	244.54	28.87	1694.83	852.18	-358.15	-773.34	852.25	245.15	0.27	MWD	None
46	1971.75	27.82	244.37	29.35	1720.90	865.65	-363.96	-785.50	865.72	245.14	0.34	MWD	None
47	2000.10	27.44	244.07	28.35	1746.02	878.79	-369.68	-797.34	878.87	245.13	0.14	MWD	None
48	2028.99	26.94	244.59	28.89	1771.72	891.99	-375.40	-809.23	892.07	245.11	0.19	MWD	None
49	2057.82	29.28	244.92	28.83	1797.14	905.57	-381.19	-821.52	905.65	245.11	0.81	MWD	None
50	2086.13	28.98	244.47	28.31	1821.87	919.35	-387.08	-833.98	919.43	245.10	0.13	MWD	None
51	2114.27	28.28	244.27	28.14	1846.57	932.83	-392.92	-846.14	932.91	245.09	0.25	MWD	None
52	2143.80	27.40	244.34	29.53	1872.68	946.62	-398.89	-858.56	946.70	245.08	0.30	MWD	None
53	2171.65	28.15	244.42	27.85	1897.32	959.59	-404.51	-870.26	959.68	245.07	0.27	MWD	None
54	2201.22	28.95	246.24	29.57	1923.30	973.72	-410.40	-883.11	973.81	245.07	0.40	MWD	None
55	2230.09	28.34	245.38	28.87	1948.64	987.56	-416.07	-895.73	987.65	245.08	0.26	MWD	None
56	2258.89	27.57	245.72	28.80	1974.08	1001.06	-421.66	-908.02	1001.15	245.09	0.27	MWD	None
57	2287.33	30.20	247.14	28.44	1998.98	1014.80	-427.15	-920.61	1014.88	245.11	0.96	MWD	None
58	2316.69	31.70	246.61	29.36	2024.15	1029.89	-433.08	-934.50	1029.97	245.14	0.52	MWD	None
59	2345.46	34.08	245.32	28.77	2048.31	1045.51	-439.45	-948.76	1045.59	245.15	0.86	MWD	None
60	2373.81	35.28	245.70	28.35	2071.62	1061.64	-446.13	-963.44	1061.72	245.15	0.43	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	2402.35	37.26	246.37	28.54	2094.63	1078.53	-452.99	-978.87	1078.60	245.17	0.71	MWD	None
62	2431.27	40.90	245.77	28.92	2117.08	1096.75	-460.38	-995.53	1096.83	245.18	1.27	MWD	None
63	2459.03	42.82	245.76	27.76	2137.75	1115.28	-467.99	-1012.42	1115.35	245.19	0.69	MWD	None
64	2488.00	45.39	245.34	28.97	2158.55	1135.44	-476.33	-1030.77	1135.51	245.20	0.89	MWD	None
65	2517.61	49.71	246.31	29.61	2178.53	1157.28	-485.27	-1050.70	1157.35	245.21	1.48	MWD	None
66	2546.73	55.95	247.91	29.12	2196.12	1180.47	-494.28	-1072.07	1180.53	245.25	2.19	MWD	None
67	2575.77	60.70	246.52	29.04	2211.37	1205.16	-503.86	-1094.85	1205.22	245.29	1.69	MWD	None
68	2604.45	64.45	246.50	28.68	2224.57	1230.61	-514.00	-1118.19	1230.67	245.31	1.31	MWD	None
69	2633.12	67.90	248.28	28.67	2236.15	1256.82	-524.08	-1142.40	1256.88	245.36	1.33	MWD	None
70	2661.54	70.43	248.39	28.42	2246.26	1283.35	-533.88	-1167.08	1283.40	245.42	0.89	MWD	None
71	2690.06	72.05	247.45	28.52	2255.43	1310.34	-544.03	-1192.11	1310.38	245.47	0.65	MWD	None
72	2719.33	74.27	244.91	29.27	2263.91	1338.35	-555.35	-1217.73	1338.39	245.48	1.12	MWD	None
73	2747.50	74.93	244.96	28.17	2271.39	1365.50	-566.85	-1242.33	1365.54	245.47	0.23	MWD	None
74	2776.37	75.40	244.92	28.87	2278.79	1393.41	-578.68	-1267.61	1393.45	245.46	0.16	MWD	None
75	2805.15	75.49	245.23	28.78	2286.02	1421.26	-590.42	-1292.87	1421.31	245.46	0.11	MWD	None
76	2833.96	75.62	245.27	28.81	2293.20	1449.16	-602.10	-1318.21	1449.21	245.45	0.05	MWD	None
77	2862.67	75.70	245.06	28.71	2300.32	1476.97	-613.78	-1343.45	1477.02	245.45	0.08	MWD	None
78	2889.43	76.06	246.10	26.76	2306.84	1502.93	-624.51	-1367.08	1502.97	245.45	0.40	MWD	None
79	2919.19	77.19	245.82	29.76	2313.73	1531.88	-636.30	-1393.52	1531.92	245.46	0.39	MWD	None
80	2926.49	77.73	245.56	7.30	2315.31	1539.00	-639.23	-1400.02	1539.05	245.46	0.82	MWD	None
81	2946.00	78.20	245.25	19.51	2319.38	1558.08	-647.18	-1417.37	1558.13	245.46	0.29	Proj. to TD	

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Well:	WKF W20A	Commander 901
Field:	West Kingfish	
Rig:	ISDL 453	
State:	Victoria	
Gamma Ray Service 1:500 Measured Depth Real Time Log		