Sperry Drilling Services

1 : 500

MWD

EWR Electromagnetic Wave Resistivity
DGR Dual Gamma Ray

Company : Anzon Australia Ltd
Rig : Ocean Patriot
Well : Basker-2
Field : Basker
Country : Australia
DOE Number :

Country : Australia
Field : Basker
Location : Lat: 38° 17' 58.51" South
Long: 148° 42' 24.72" East
Well : Basker-2
Company : Anzon Australia Ltd
Rig : Ocean Patriot

LOCATION
Latitude : 38° 17' 58.51" South
Longitude : 148° 42' 24.72" East
UTM Easting = 649,251.90 m
UTM Northing = 5,759,566.39 m

Other Services
Directional Drilling

Permanent Datum : Mean Sea Level
Elevation : 0.00 m
Log Measured From : Drill Floor 21.50 m Above Permanent Datum
Drilling Measured From : Drill Floor

TVD LOG

Elev.
KB
DF 21.50 m
GL
WD 155.50 m

Depth Logged : 208.00 m To 3,344.59 m
Date Logged : 15-Aug-05 To 11-Sep-05
Total Depth MD : 3,414.00 m TVD: 3,344.59 m
Spud Date : 12-Aug-05

Unit No. : SDL-197
Job No. : AU-FE-0003704943
Plot Type : Final
Plot Date : 19-Sep-05

Borehole Record (TVD)

Run No.	Size	From	To
2	445.000 mm	208.00 m	1,006.00 m
3	311.000 mm	1,006.00 m	2,496.65 m
4	311.000 mm	2,496.65 m	2,739.28 m
5	311.000 mm	2,739.28 m	2,938.44 m
6	216.000 mm	2,938.44 m	3,251.10 m
7	216.000 mm	3,251.10 m	3,344.59 m

Casing Record (TVD)

Run No.	Size	Weight	From	To
	762.000 mm	573.00 kg/m	SURFACE	208.00 m
	340.000 mm	101.00 kg/m	SURFACE	1,000.10 m
	244.000 mm	70.00 kg/m	SURFACE	2,928.77 m

Borehole Record (TVD)

Size	From	To

WELL INFORMATION

MWD Run Number	100	200	300	400	500
Date run completed	17-Aug-05	25-Aug-05	03-Sep-05	06-Sep-05	10-Sep-05
Rig Bit Number	2	3	4	5	6
Bit Size (mm)	445	311	311	311	216
Tool Nominal OD (mm)	241	203	203	203	203
Log Start Depth (TVD, m)	208.00	1,006.00	2496.65	2739.29	2938.44
Log End Depth (TVD, m)	1,006.00	2496.65	2739.29	2938.44	3251.10
Drill or Wipe	Drilling	Drilling	Drilling	Drilling	Drilling
Drill/Wipe Start Date and Time	15-Aug-05 16:53	20-Aug-05 06:19	31-Aug-05 11:46	04-Sep-05 08:40	08-Sep-05 13:38
Drill/Wipe End Date and Time	16-Aug-05 20:20	23-Aug-05 05:10	02-Sep-05 18:44	05-Sep-05 18:43	09-Sep-05 19:06
Min Inc (deg) @ Depth (TVD, m)	0.00 @ 885.23	0.12 @ 1,007.58	0.87 @ 2556.97	10.88 @ 2727.24	25.94 @ 3213.18
Max Inc (deg) @ Depth (TVD, m)	0.19 @ 224.64	2.13 @ 2,413.34	9.30 @ 2699.42	28.88 @ 2916.36	30.08 @ 2960.18
Bit TFA(in2) / Bit Type	0.92 / Hughes MX-1	1.34 / SDBS FM3653Z3	1.23 / Smith GFS10BVOPS	1.17 / Hughes MXCOPH	0.91 / SDBS FM3743
Flow Rate (gpm)	1000	920	890	889	674
Max AV (mpm) / CV (mpm) @ MWD	34.8 / 253.8	79.8 / 121.8	80.0 / 164.0	81.0 / 194.0	199.0 / 213.0
Fluid Type	Seawater/Hi Vis	KCl/PHPA/Glycol	KCl/PHPA/Glycol	KCl/PHPA/Glycol	KCl/Polymer
Density (sg) / Viscosity (spqt)	1.05 / N/A	1.21 / 55	1.20 / 62	1.20 / 65	1.13 / 58
Filtrate CL (ppm)	N/A	41,000	30,000	38,000	39,000
pH / Fluid Loss (mptm)	N/A / N/A	8.4 / 4	9.3 / 4.4	8.8 / 4.2	8.2 / 5.0
PV (cp) / YP (lhf2)	1 / 1	15 / 31	19 / 37	19 / 45	16 / 36
% Solids / % Sand	N/A / N/A	10 / 0.5	10 / 0.5	10 / 0.5	7 / 0.5
% Oil / Oil:Water Ratio	N/A / N/A	0 / N/A	0 / N/A	0 / N/A	0 / N/A
Rm @ Measured Temp (degC)	N/A @ N/A	0.80 @ 23.0	0.12 @ 22.0	0.12 @ 21.0	0.12 @ 22.0
Rmf @ Measured Temp (degC)	N/A @ N/A	0.60 @ 23.0	0.11 @ 22.0	0.11 @ 21.0	0.09 @ 21.0
Rmc @ Measured Temp (degC)	N/A @ N/A	1.00 @ 23.0	0.22 @ 20.0	0.24 @ 20.0	0.13 @ 22.0
Max Tool Temp (degC) / Source	24.0 / TM	58.0 / EWR-P4	80.0 / EWR-P4	85.0 / EWR-P4	96.0 / HCIM
Rm @ Max Tool Temp (degC)	N/A @ 24.0	0.45 @ 58.0	0.05 @ 80.0	0.05 @ 85.0	0.04 @ 96.0
Lead MWD Engineer	A. Oraekwuotu	A. Oraekwuotu	A. Oraekwuotu	A. Oraekwuotu	A. Rule
Customer Representative	W. Westman	W. Westman	R. King	R. King	R. King

SENSOR INFORMATION

Downhole Processor Information

Tool Type	TM	HCIM	HCIM	HCIM	HCIM
Software Version	4.30	68.18	68.18	68.18	68.18
Sub Serial Number	209351	198840	91820	91820	197931
Insert Serial Number	10505184	160772	93281	93281	161821
Logging String Serial Number	N/A	DM90081129H1RGV8	DM90081130H1RGV8	DM90081130H1RGV8	NZ200H1RGV6
Date and Time Initialized	14-Aug-05 21:55	19-Aug-05 15:49	31-Aug-05 02:48	03-Sep-05 19:32	08-Sep-05 02:48
Date and Time Read	17-Aug-05 08:46	25-Aug-05 14:38	03-Sep-05 03:46	06-Sep-05 07:41	10-Sep-05 05:12

Directional Sensor Information

Tool Type	DM	DM	DM	DM	PM
Distance From Bit (m)	13.88	20.89	24.18	18.39	20.44
Software Version	3.15	3.15	3.15	3.15	
Sub Serial Number	209351	10562337	10562337	10562337	194447
Sonde Serial Number	149865	149865	185534	185534	143272
Sensor ID Number	N/A	N/A	N/A	N/A	563
Survey String Serial Number	N/A	DM90081131K8	DM90081132K8	DM90081132K8	DM90082560M6
Toolface Offset (deg)	0	296.0	115.0	20.7	116.0

Gamma Ray Sensor Information

Tool Type	GM	DGR	DGR	DGR	DGR
Distance From Bit (m)	12.00	13.42	16.84	11.05	13.06
Recorded Sample Period (sec)	8	12	12	12	12
Software Version	1.22	N/A	N/A	N/A	N/A
Sub Serial Number	209351	210655	10505993	10505993	64636
Insert/Sonde Serial Number	83563	172496	172498	172498	87301

Resistivity Sensor Information

Tool Type		EWR-P4	EWR-P4	EWR-P4	EWR-P4
Distance From Bit (m)		15.79	19.20	13.41	15.42
Recorded Sample Period (sec)		14	14	14	14
Software Version		1.38	1.38	1.38	1.38
Sub Serial Number		110998	105241	105241	191904
Receiver Insert Serial Number		151534	62355	62355	77531
Transmitter Insert Serial Number		100354	79563	79563	106181
Receiver Orientation		Down	Down	Down	Down

WELL INFORMATION

MWD Run Number	600				
Date run completed	11-Sep-05				
Rig Bit Number	7				
Bit Size (mm)	216				
Tool Nominal OD (mm)	203				
Log Start Depth (TVD, m)	3251.10				
Log End Depth (TVD, m)	3344.60				
Drill or Wipe	Drilling				
Drill/Wipe Start Date and Time	10-Sep-05 16:37				
Drill/Wipe End Date and Time	11-Sep-05 14:04				
Min Inc (deg) @ Depth (TVD, m)	25.94 @ 3300.37				
Max Inc (deg) @ Depth (TVD, m)	26.06 @ 3249.05				
Bit TFA(in2) / Bit Type	0.45 / Hughes MX20D				
Flow Rate (gpm)	664				
Max AV (mpm) / CV (mpm) @ MWD	186.0 / 197.0				
Fluid Type	KCl/Polymer				
Density (sg) / Viscosity (spqt)	1.12 / 54				
Filtrate CL (ppm)	34,000				
pH / Fluid Loss (mptm)	8.4 / 4.6				
PV (cp) / YP (lhf2)	17 / 34				
% Solids / % Sand	7 / 0.5				
% Oil / Oil:Water Ratio	0 / N/A				
Rm @ Measured Temp (degC)	0.11 @ 21.0				
Rmf @ Measured Temp (degC)	0.09 @ 21.0				
Rmc @ Measured Temp (degC)	0.13 @ 22.0				
Max Tool Temp (degC) / Source	108 / HCIM				

Max Tool Temp (degC) / Source	108 / HCIM				
Rm @ Max Tool Temp (degC)	0.04 @ 108				
Lead MWD Engineer	A. Rule				
Customer Representative	R. King				

SENSOR INFORMATION

Downhole Processor Information

Tool Type	HCIM				
Software Version	68.18				
Sub Serial Number	197931				
Insert Serial Number	161821				
Logging String Serial Number	NZ200H1RGV6				
Date and Time Initialized	10-Sep-05 05:59				
Date and Time Read	12-Sep-05 00:11				

Directional Sensor Information

Tool Type	PM				
Distance From Bit (m)	11.62				
Software Version	N/A				
Sub Serial Number	194447				
Sonde Serial Number	143272				
Sensor ID Number	563				
Survey String Serial Number	90082560M6				
Toolface Offset (deg)	116.00				

Gamma Ray Sensor Information

Tool Type	DGR				
Distance From Bit (m)	4.24				
Recorded Sample Period (sec)	12				
Software Version	N/A				
Sub Serial Number	64636				
Insert/Sonde Serial Number	87301				

Resistivity Sensor Information

Tool Type	EWR-P4				
Distance From Bit (m)	6.60				
Recorded Sample Period (sec)	14				
Software Version	1.38				
Sub Serial Number	191904				
Receiver Insert Serial Number	77531				
Transmitter Insert Serial Number	106181				
Receiver Orientation	Down				

REMARKS

1. All depths are bit depths and referenced to the drillers pipe tally

2. AV/CV is calculated at the MWD collar using the Power Law for water based muds.

3. Curve mnemonics are:
SGRC - Smoothed Gamma Ray Combined, api
SEXP - Smoothed Extra Shallow Phase Resistivity, Ohm-m
SESP - Smoothed Shallow Phase Resistivity, Ohm-m
SEMP - Smoothed Medium Phase Resistivity, Ohm-m
SEDP - Smoothed Deep Phase Resistivity, Ohm-m
SROP - Smoothed Rate of Penetration, m/hr
STEM - Smoothed Gamma or Phase Resistivity Temperature, deg C
SFXE - Smoothed Gamma or Deep Phase Resistivity Formation Exposure Time, hrs

4. Gap in data from 1277.0 to 1280.0 mTVDRT due to depth sensor malfunction.

5. Because of differences in sensor distance, interval 3240.3 to 3251.1 mTVDRT was logged after a round trip.

WARRANTY

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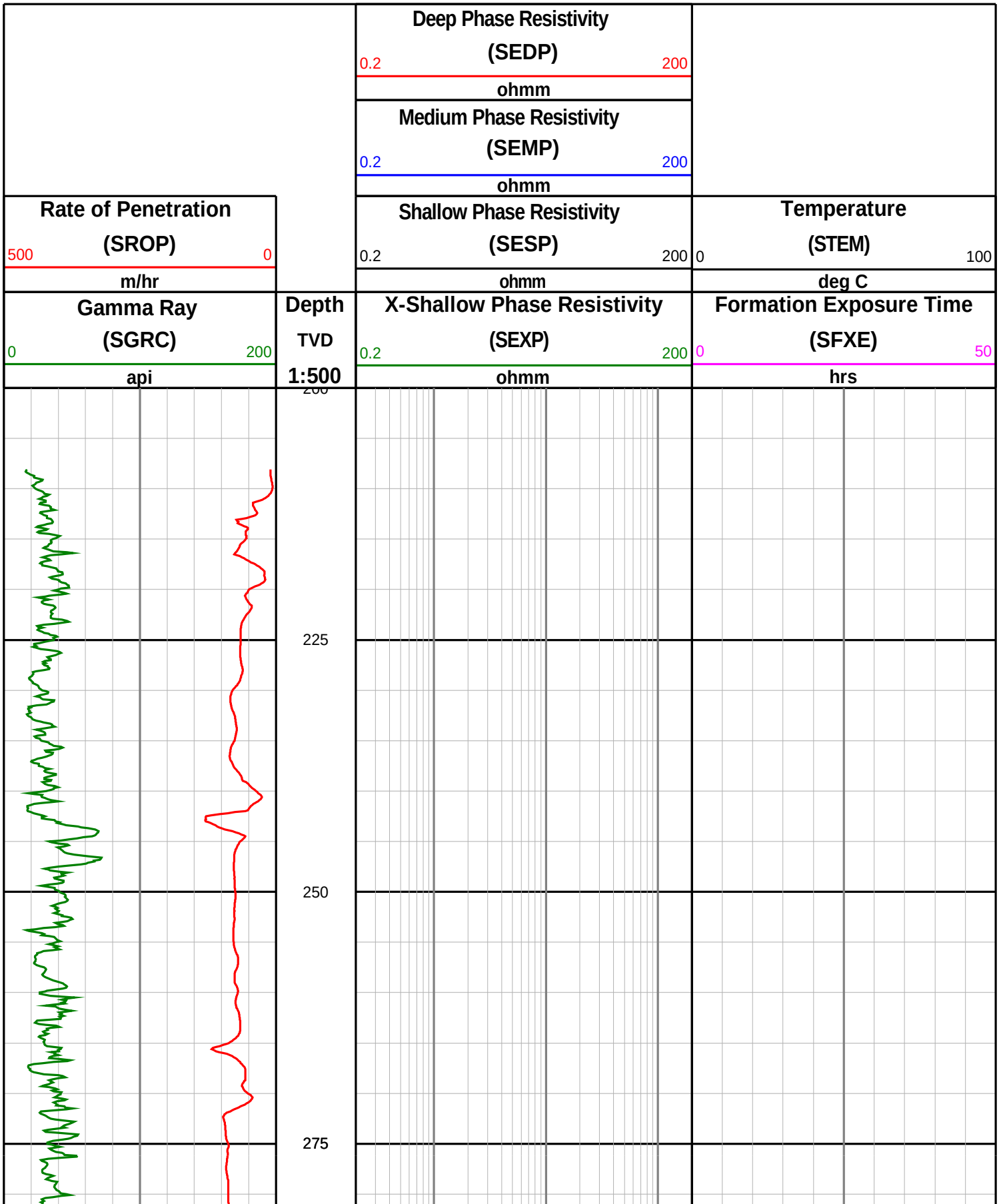

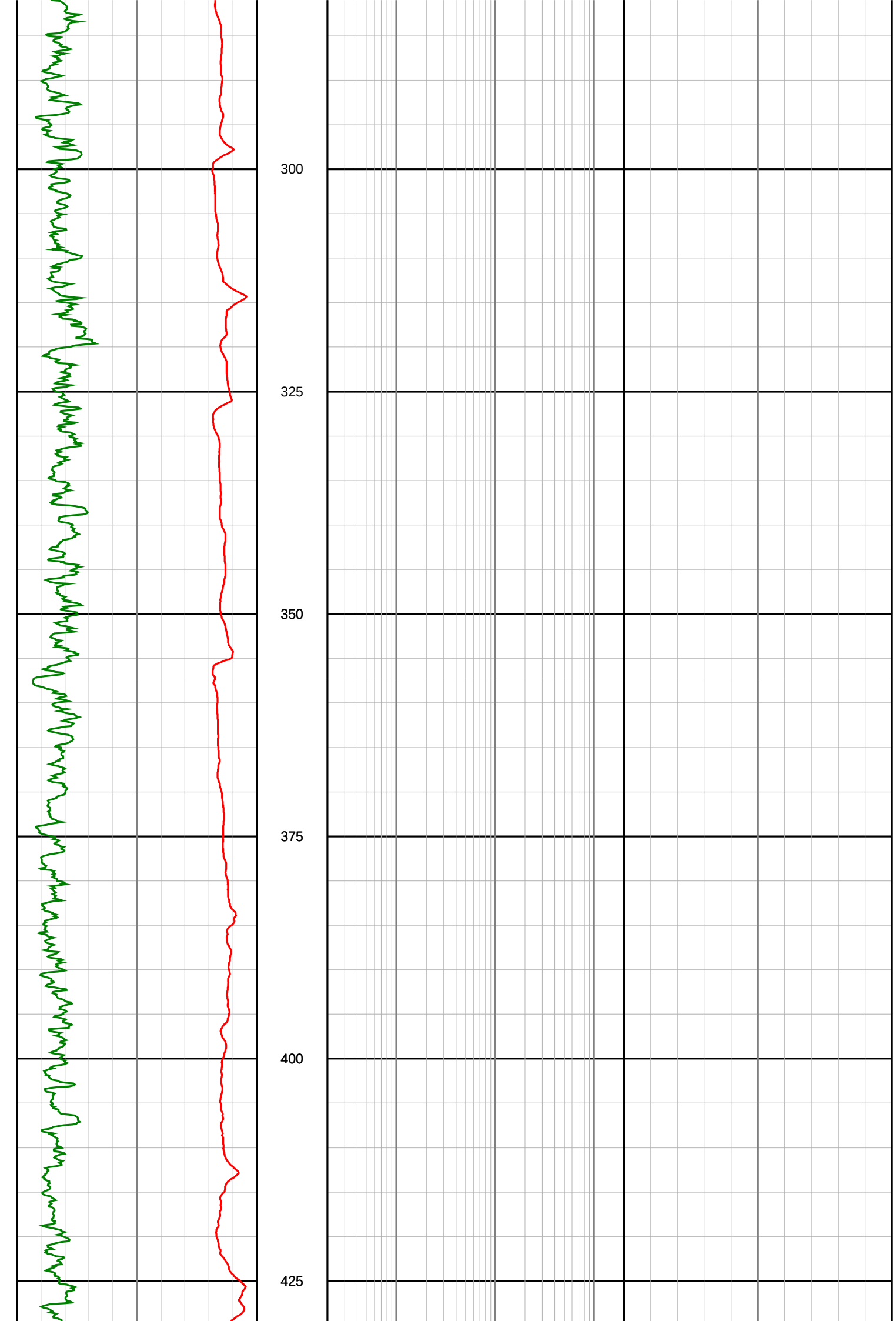
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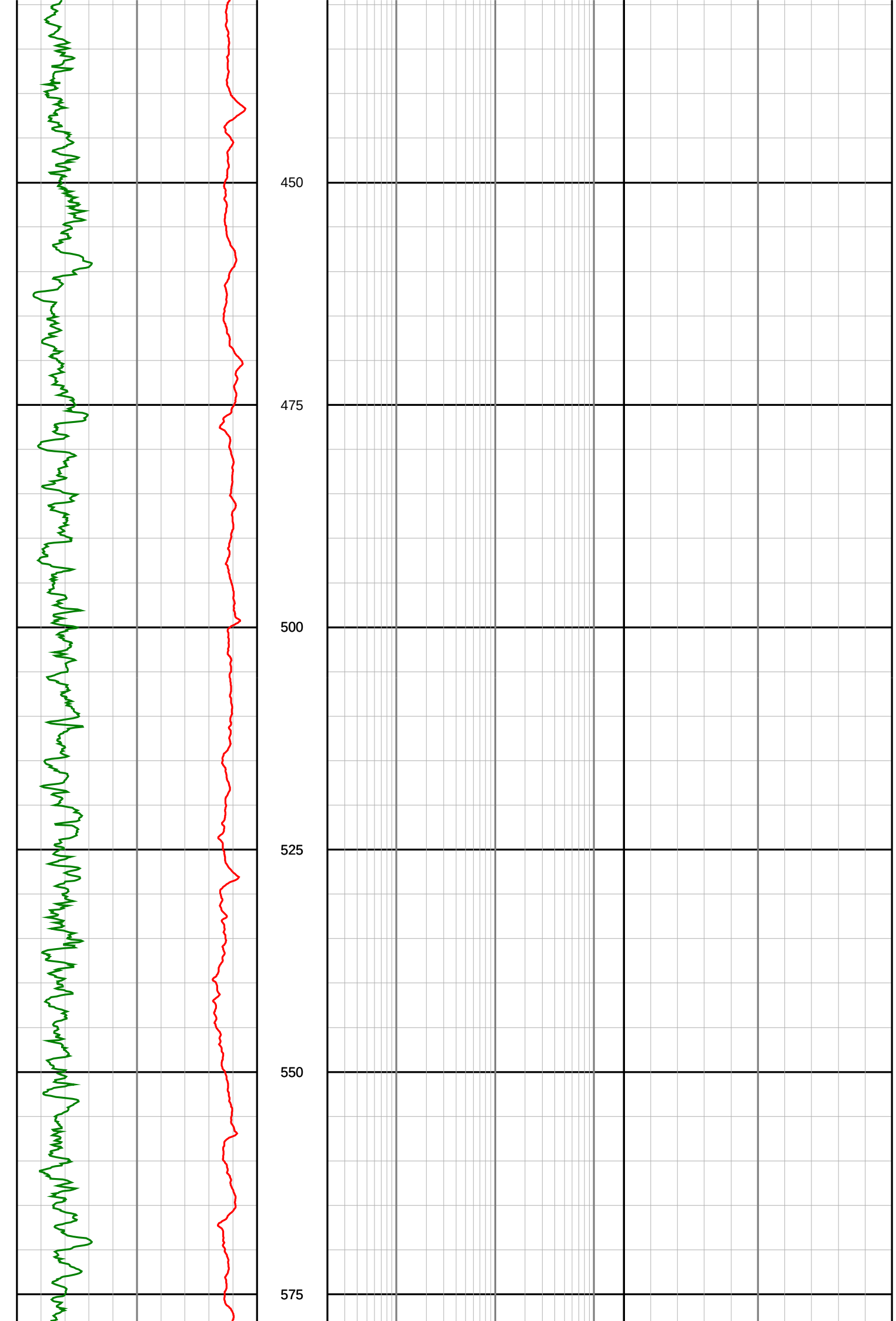
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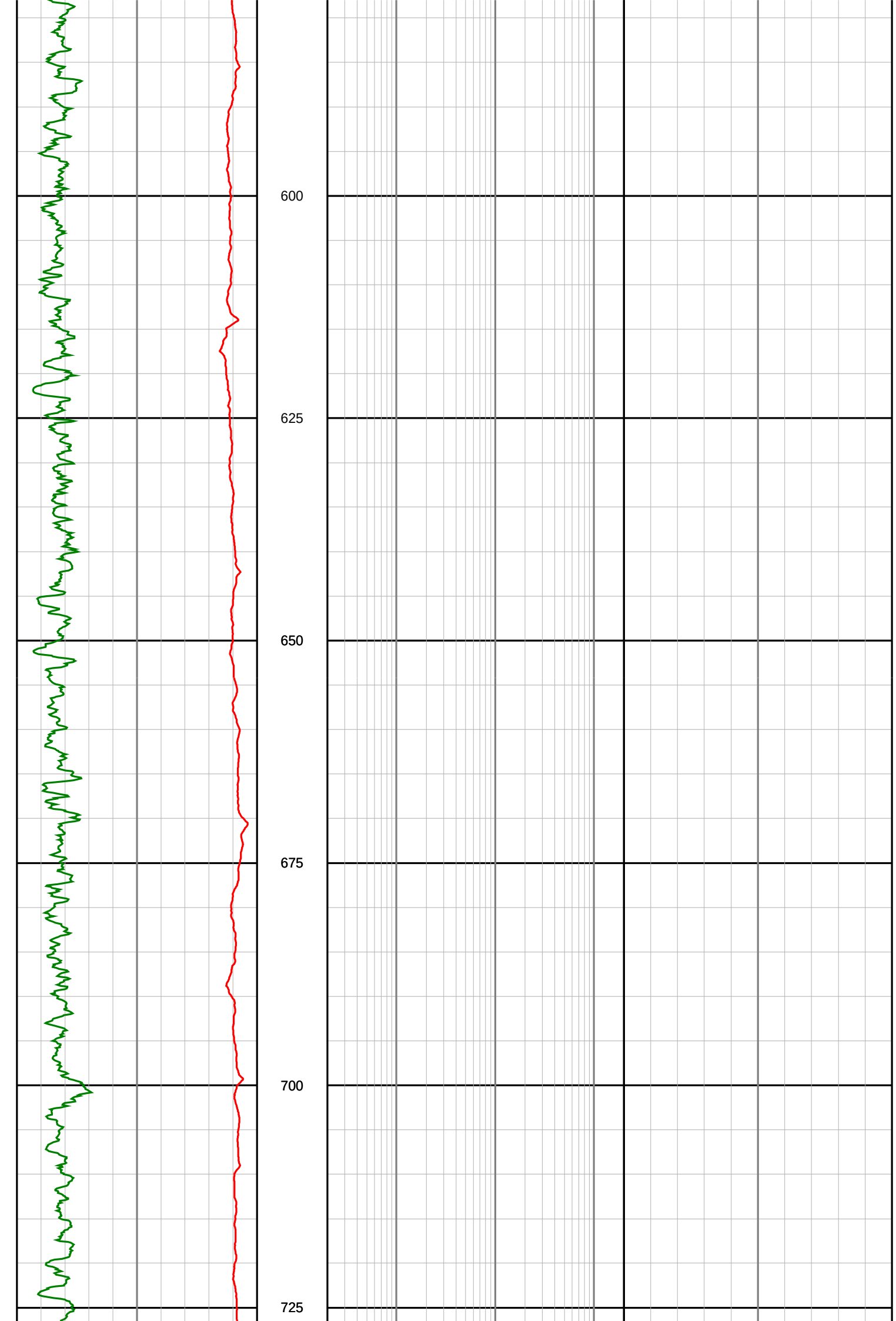
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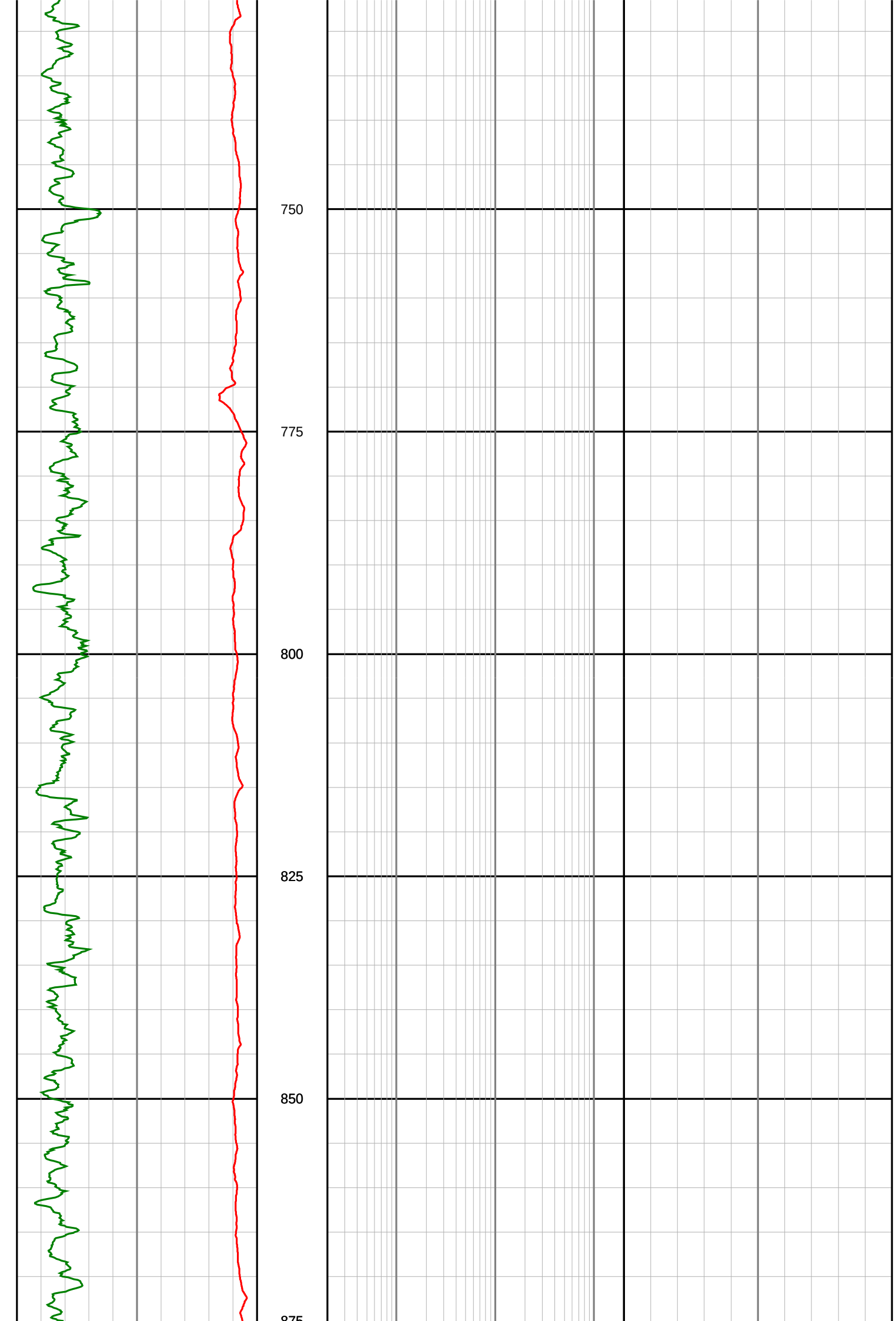
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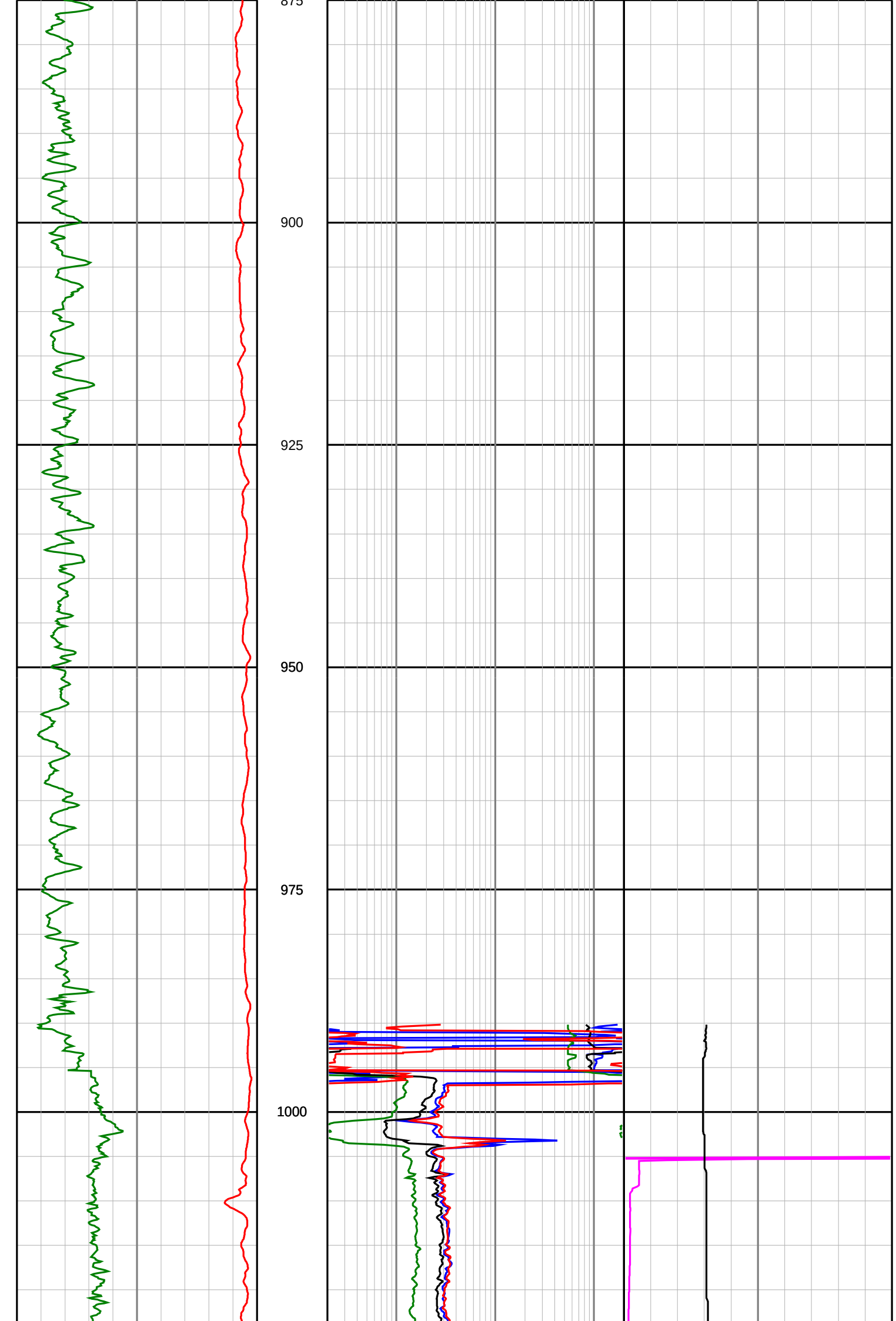
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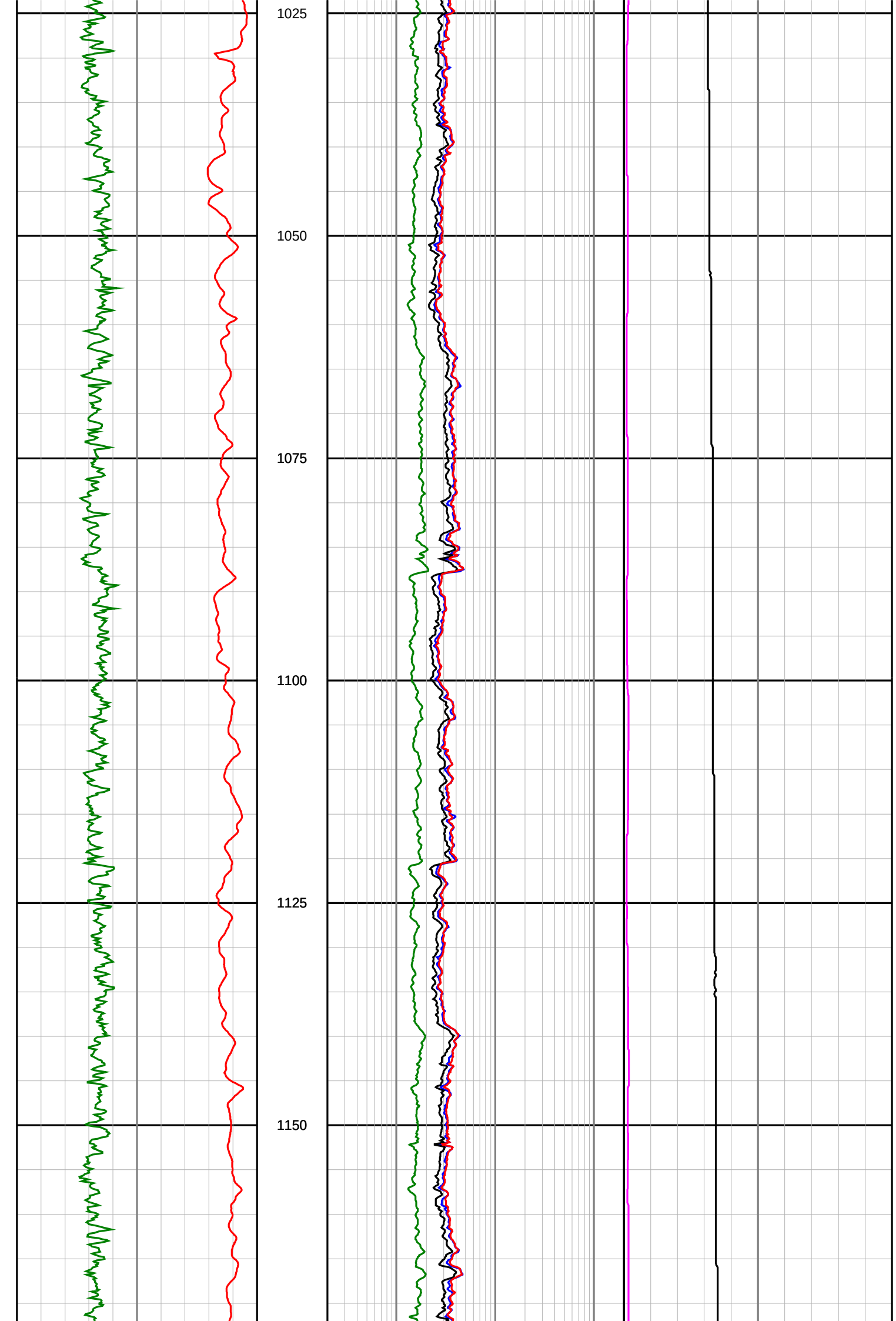
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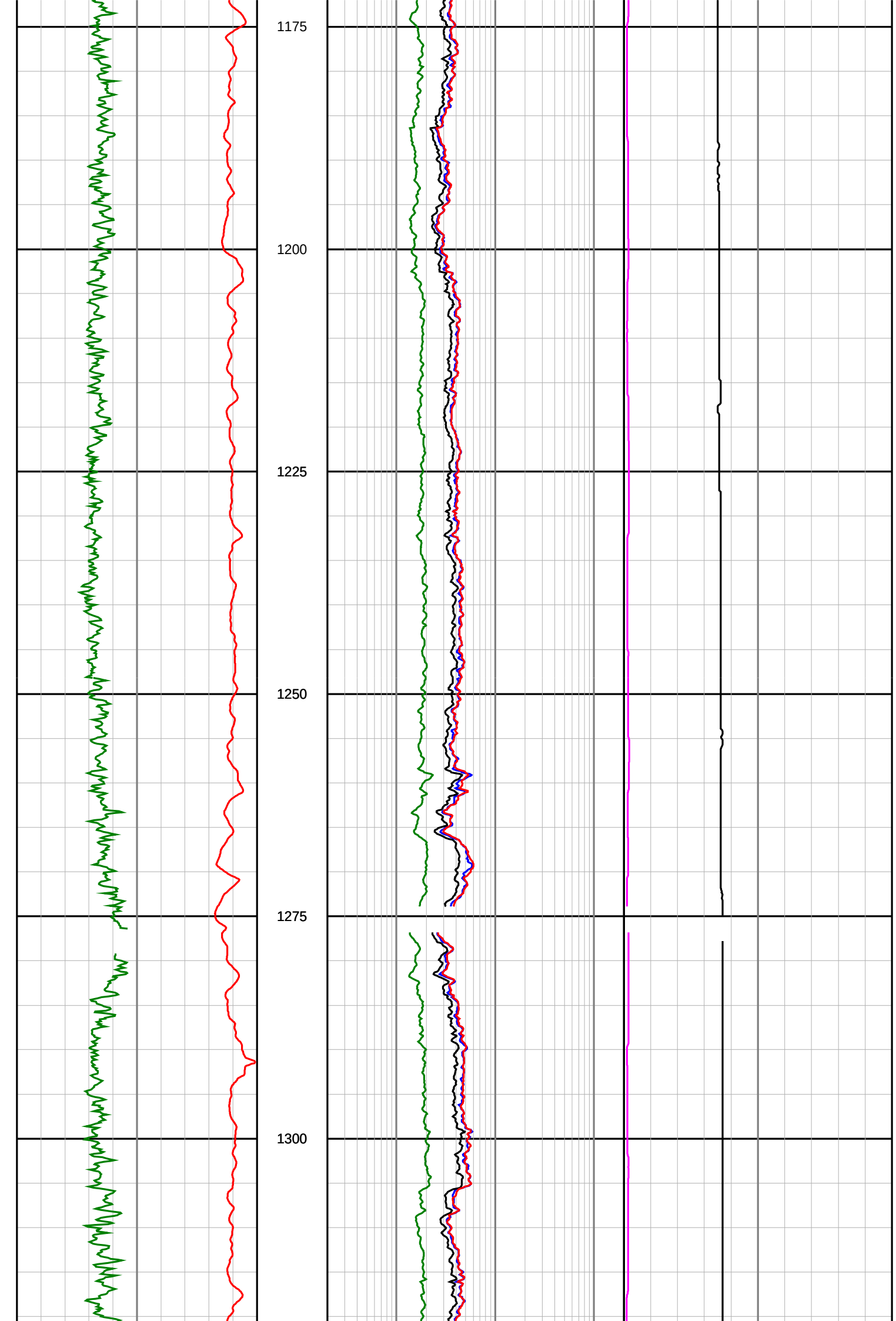
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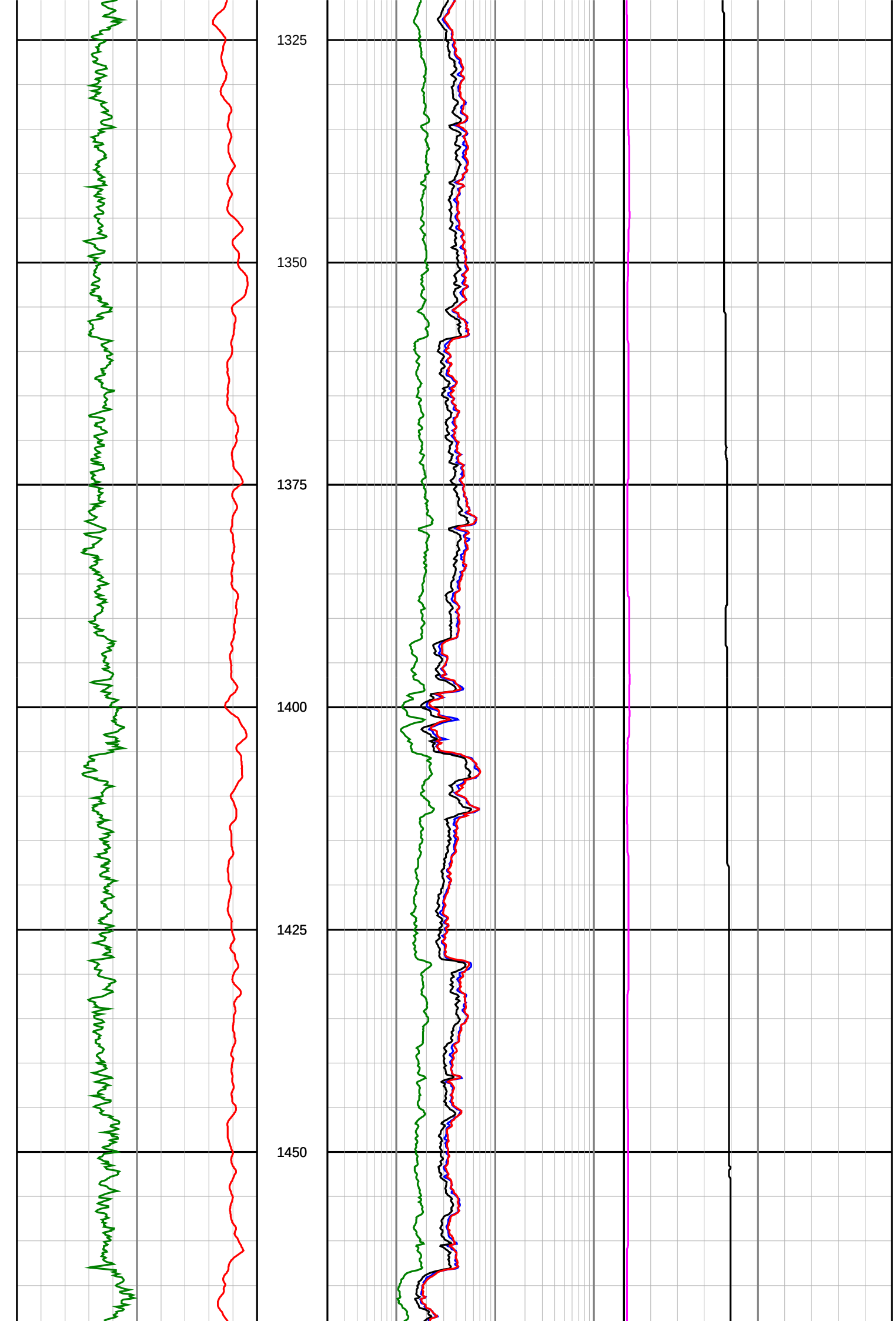
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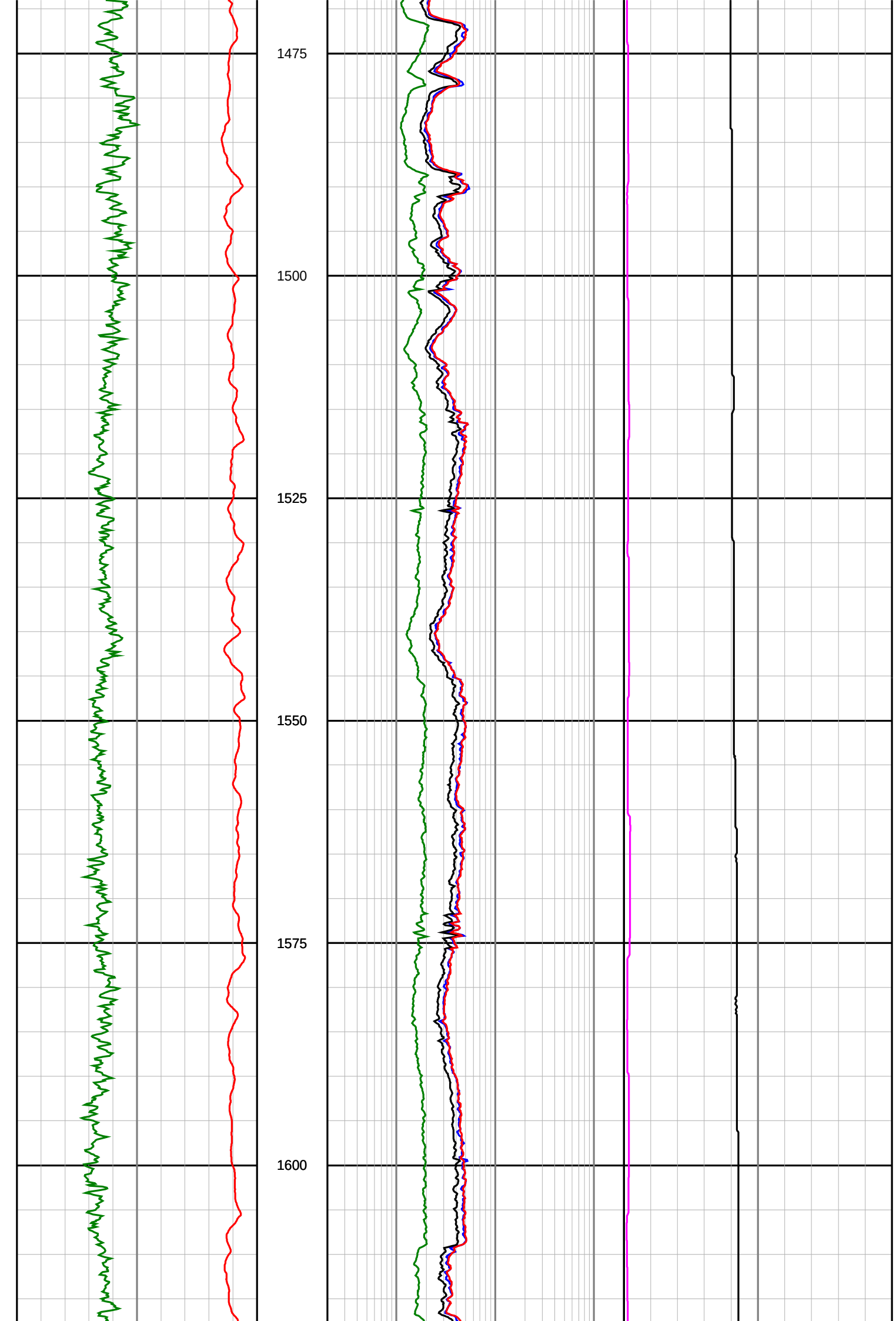
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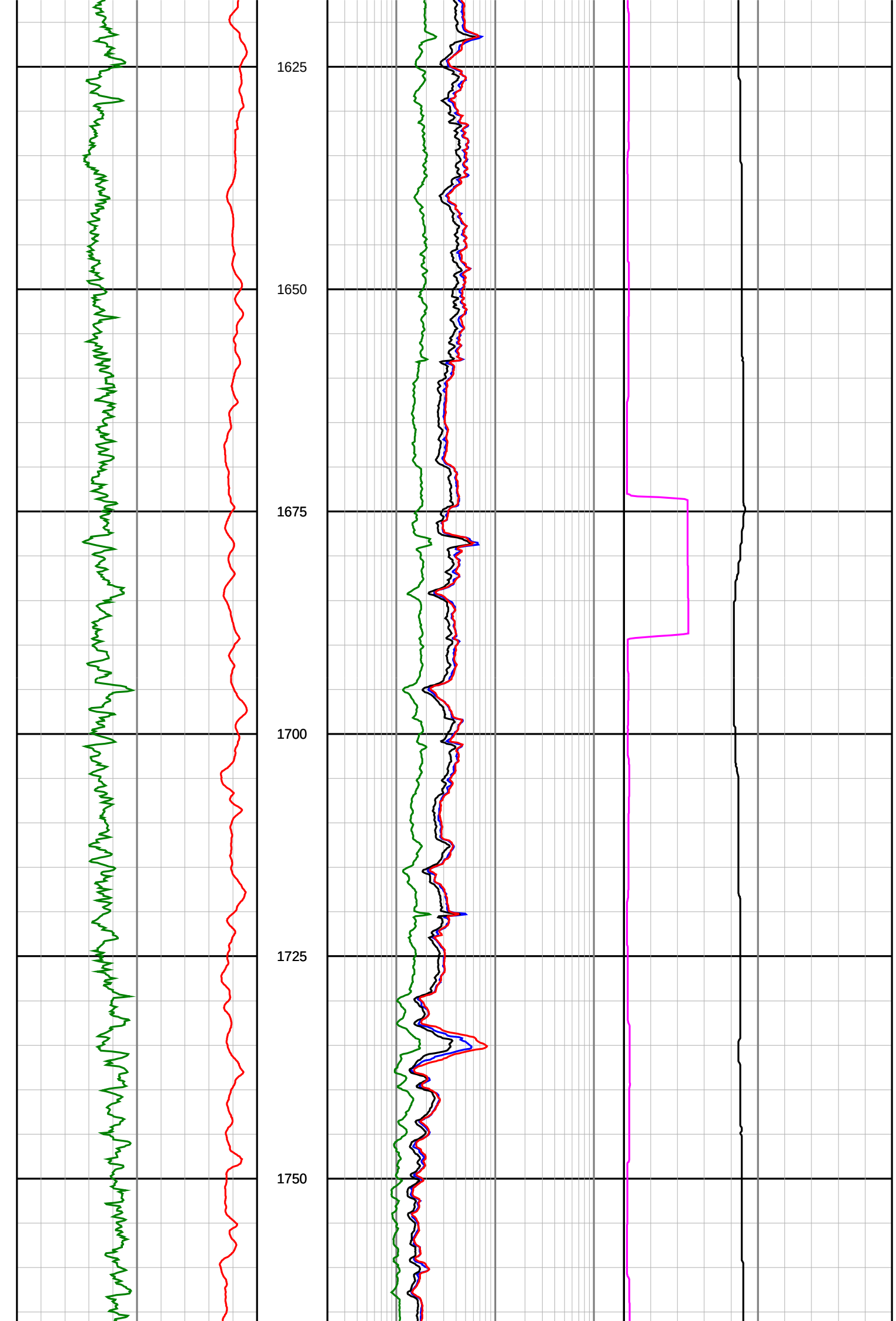
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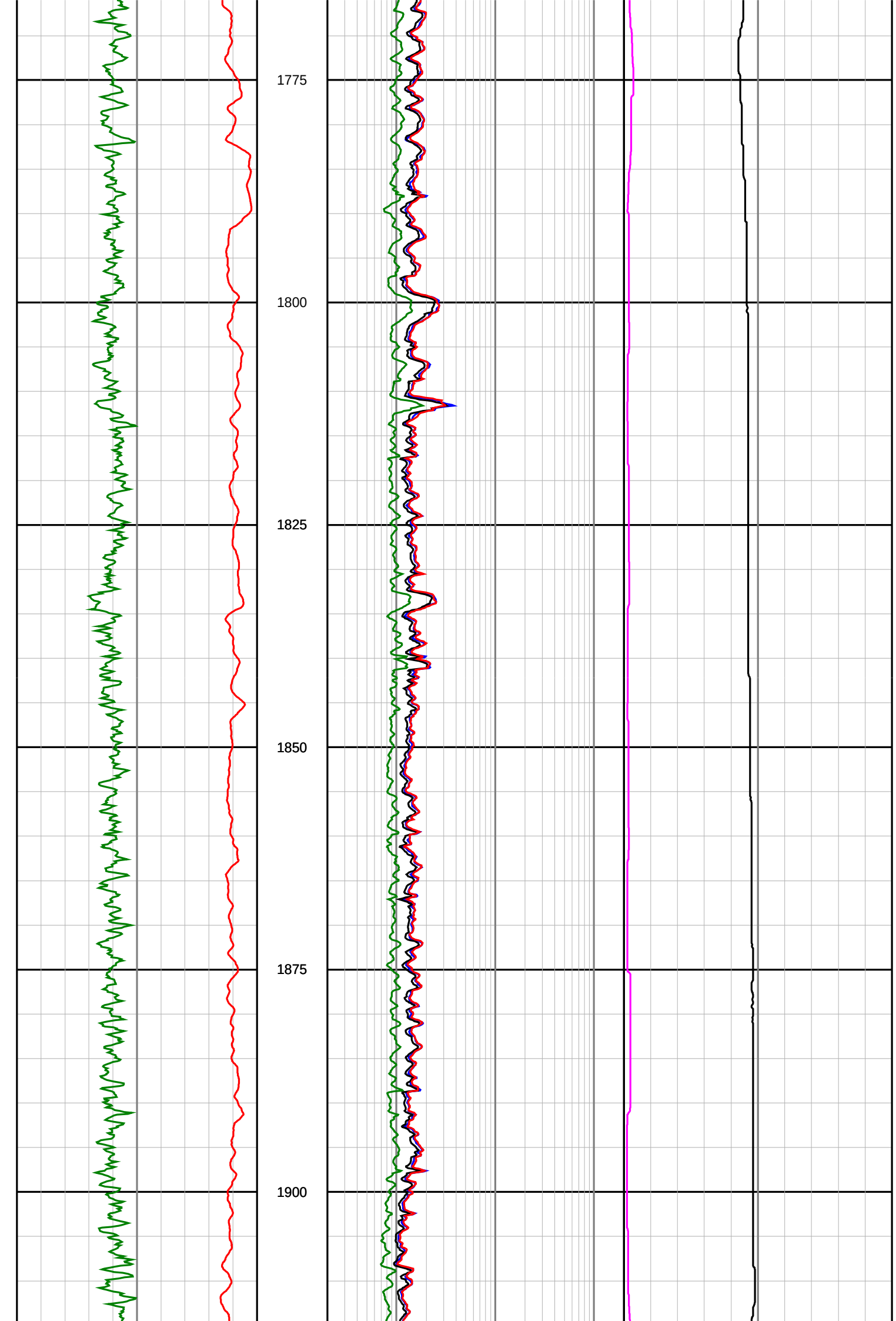
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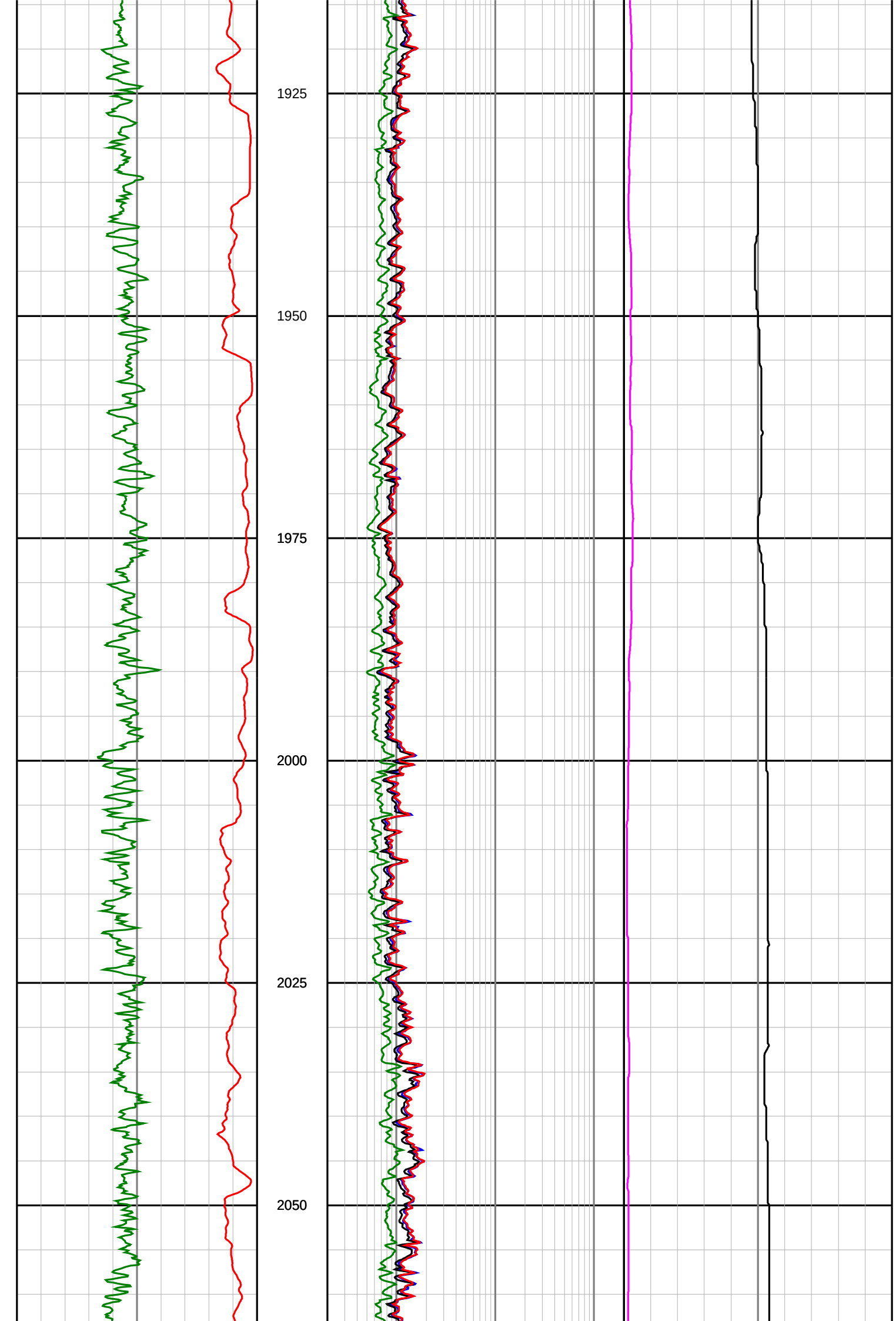
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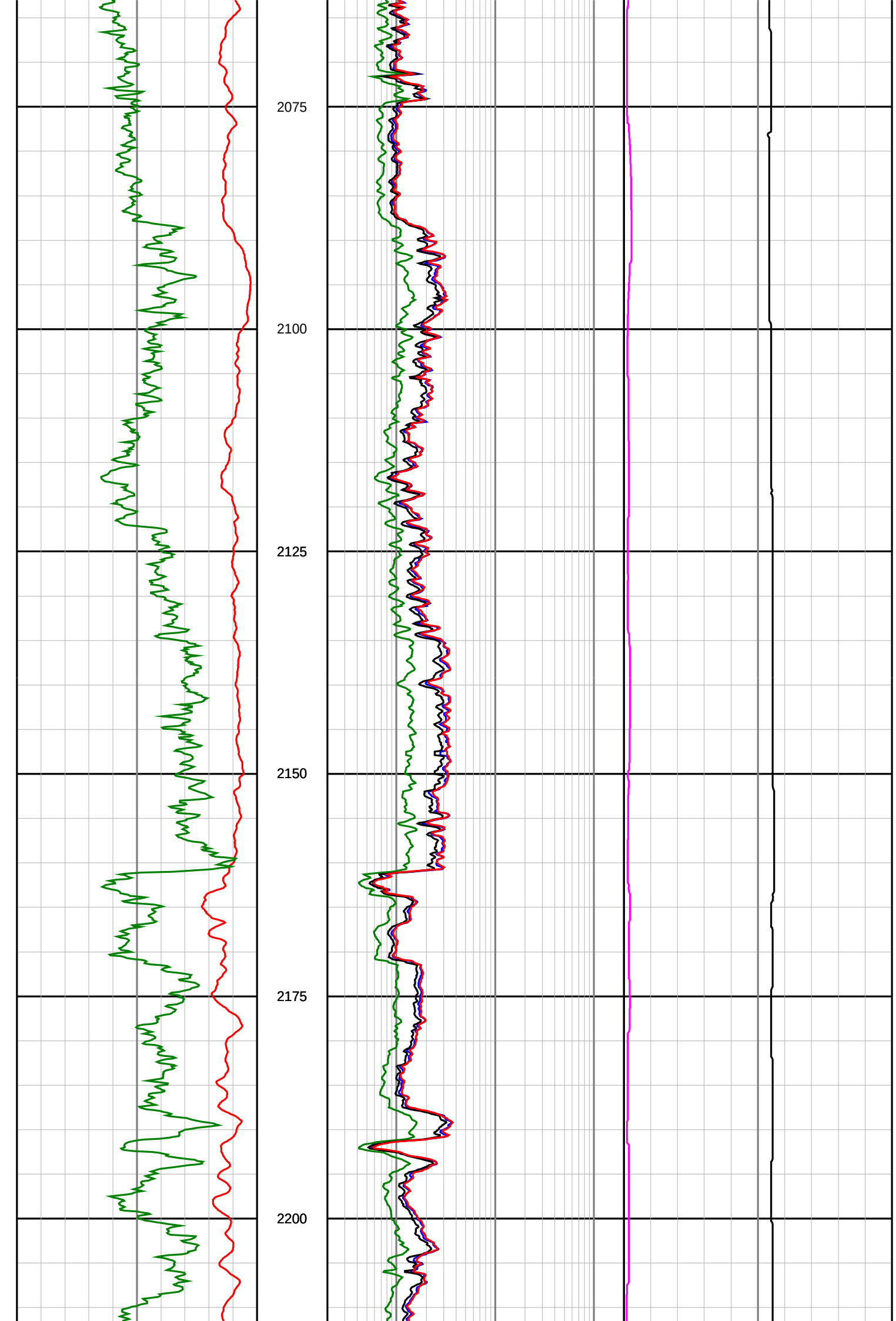
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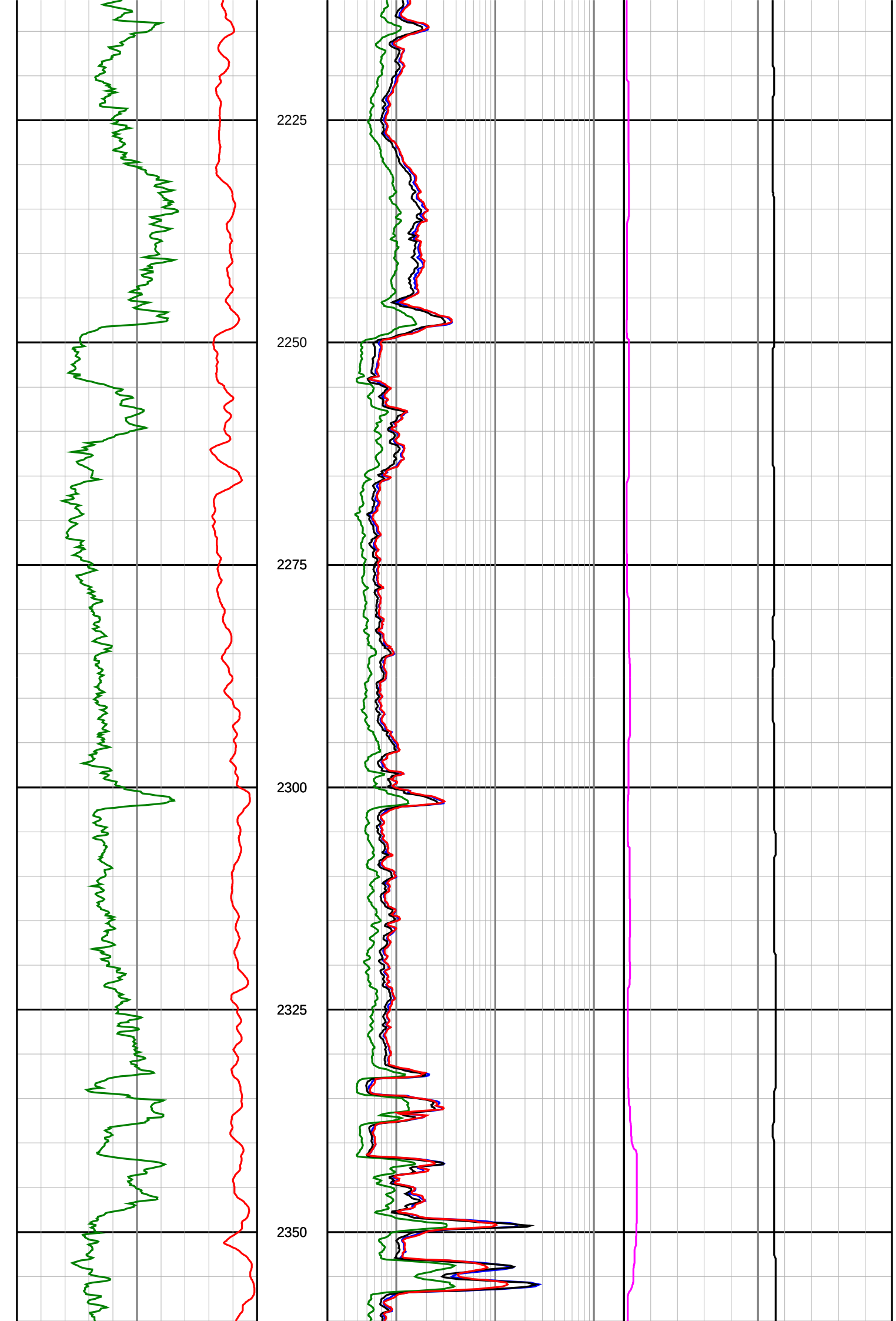
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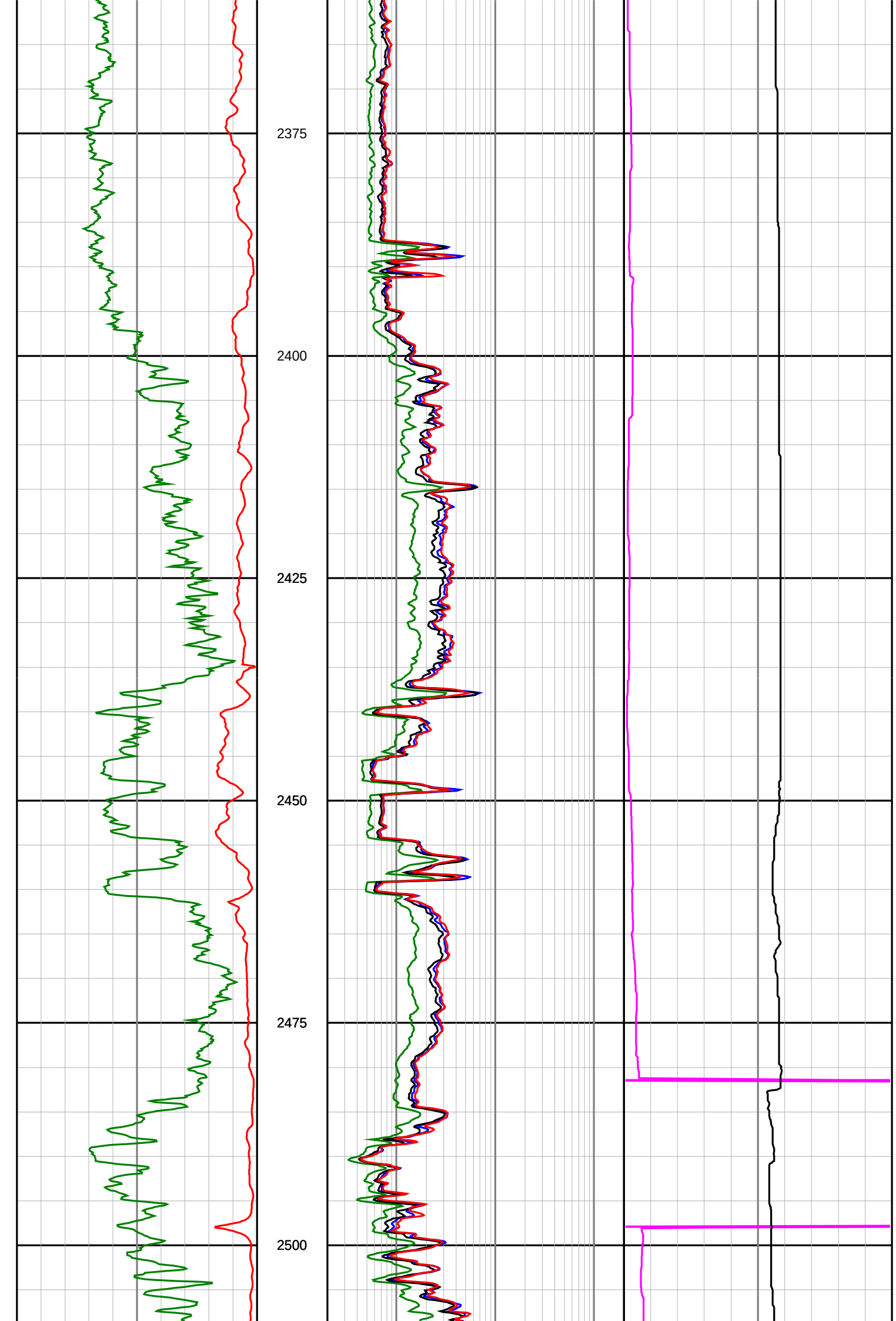
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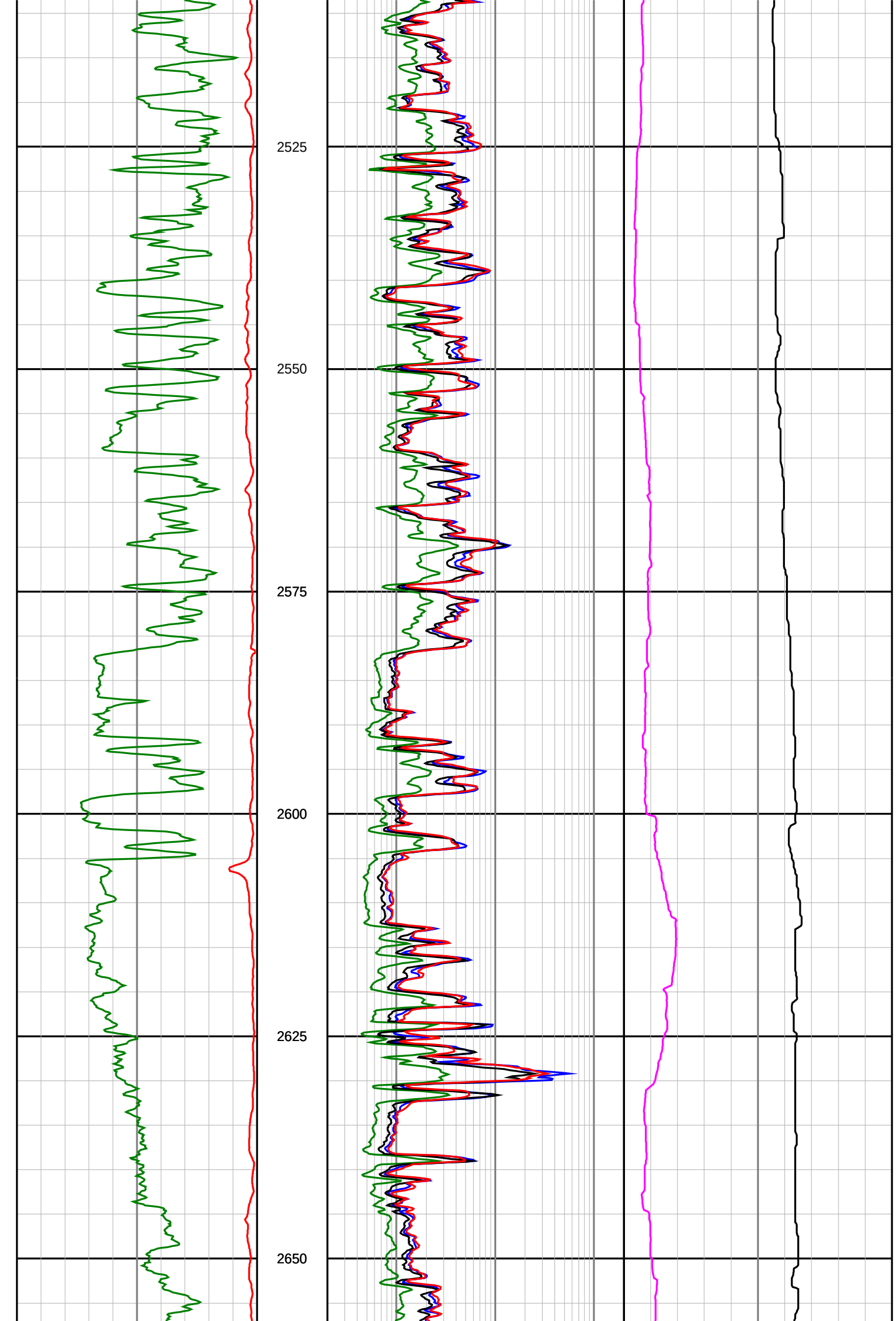
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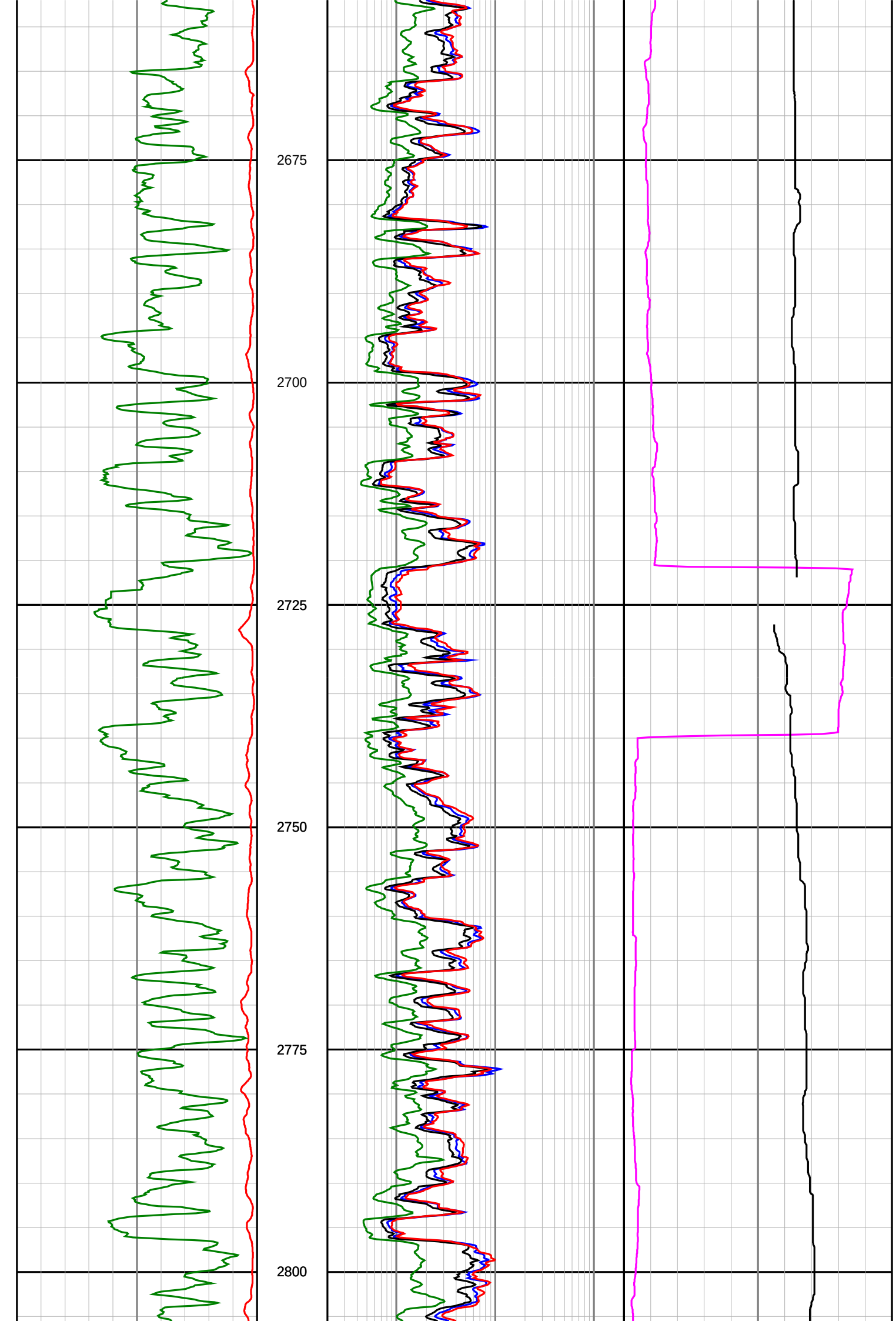
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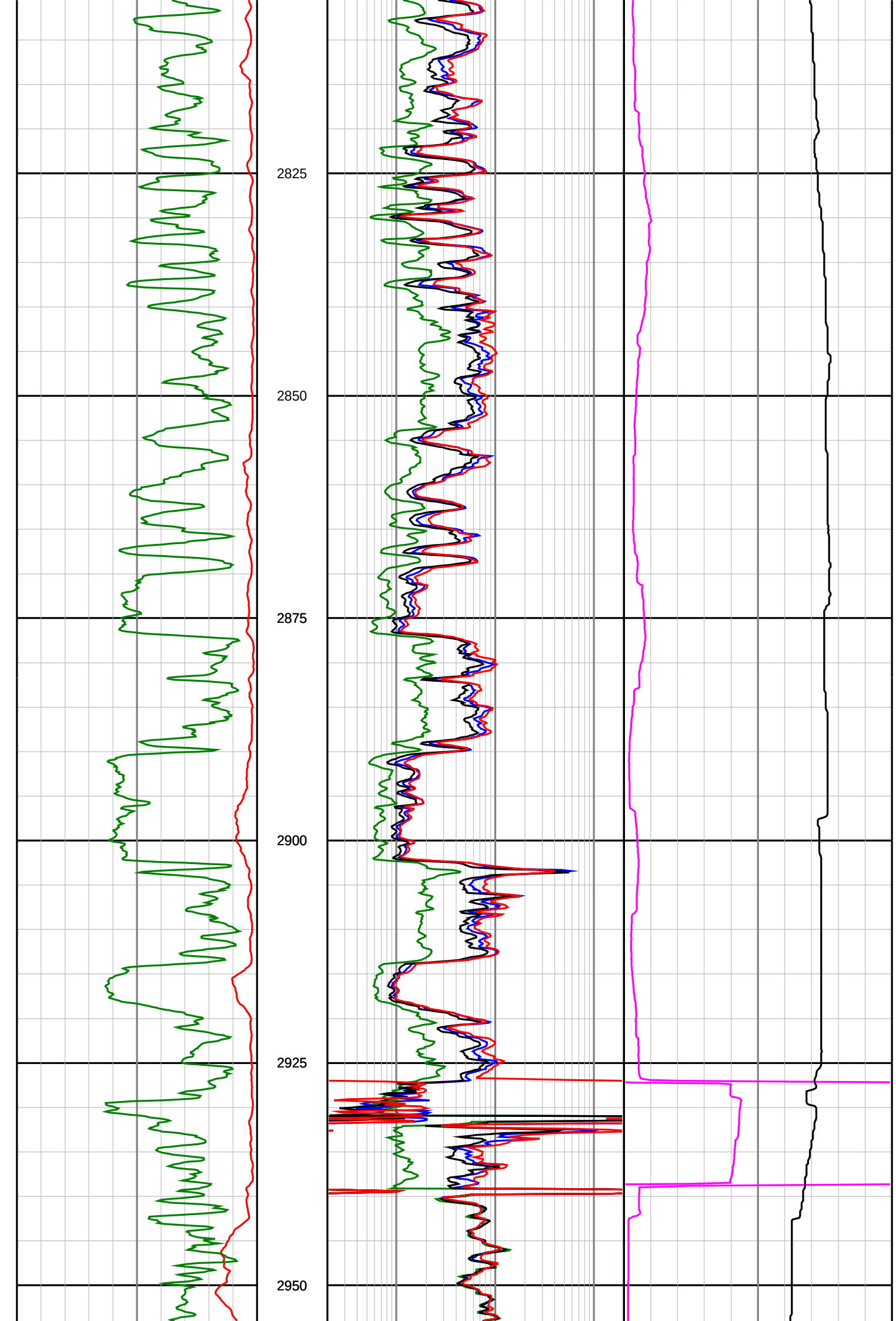
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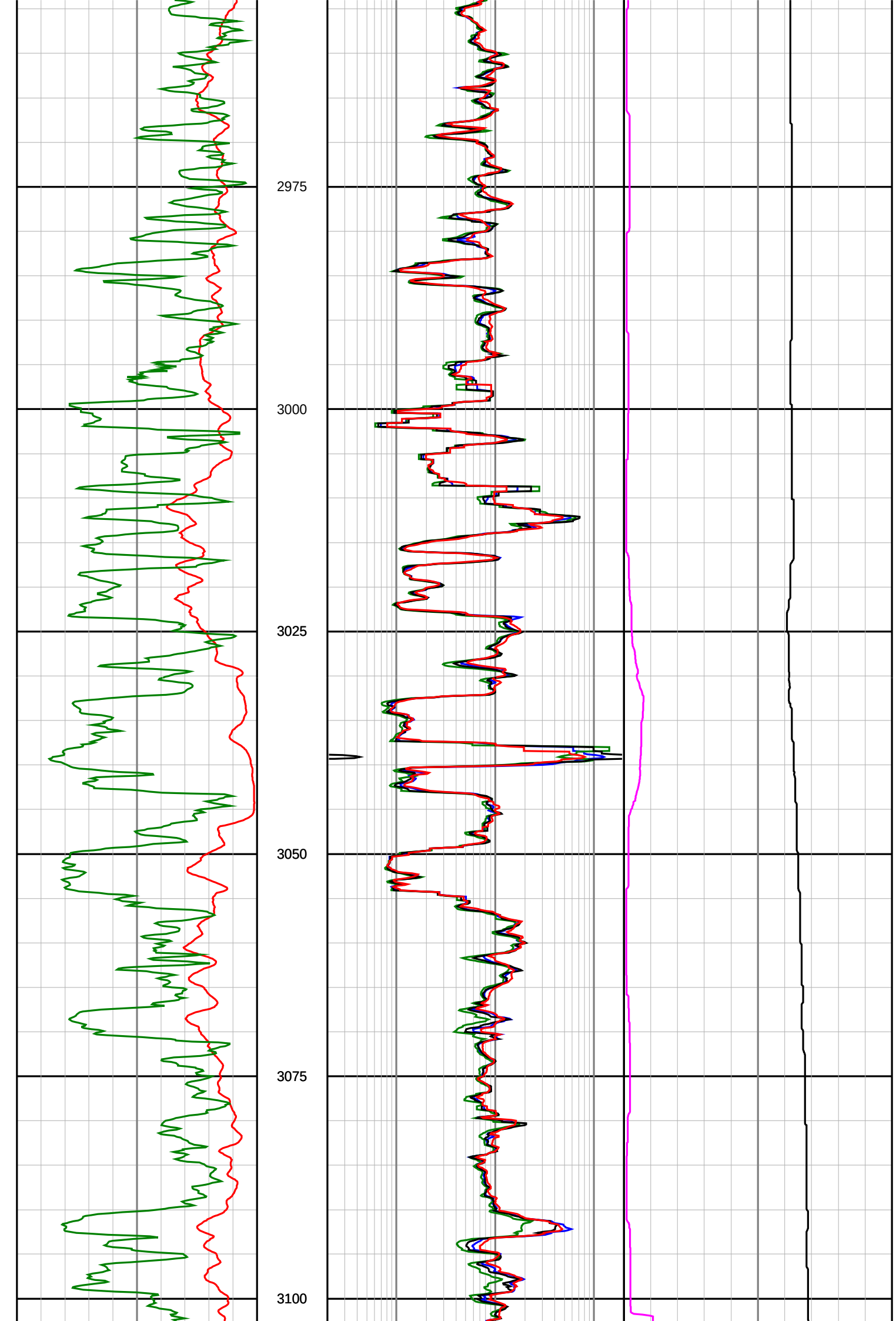
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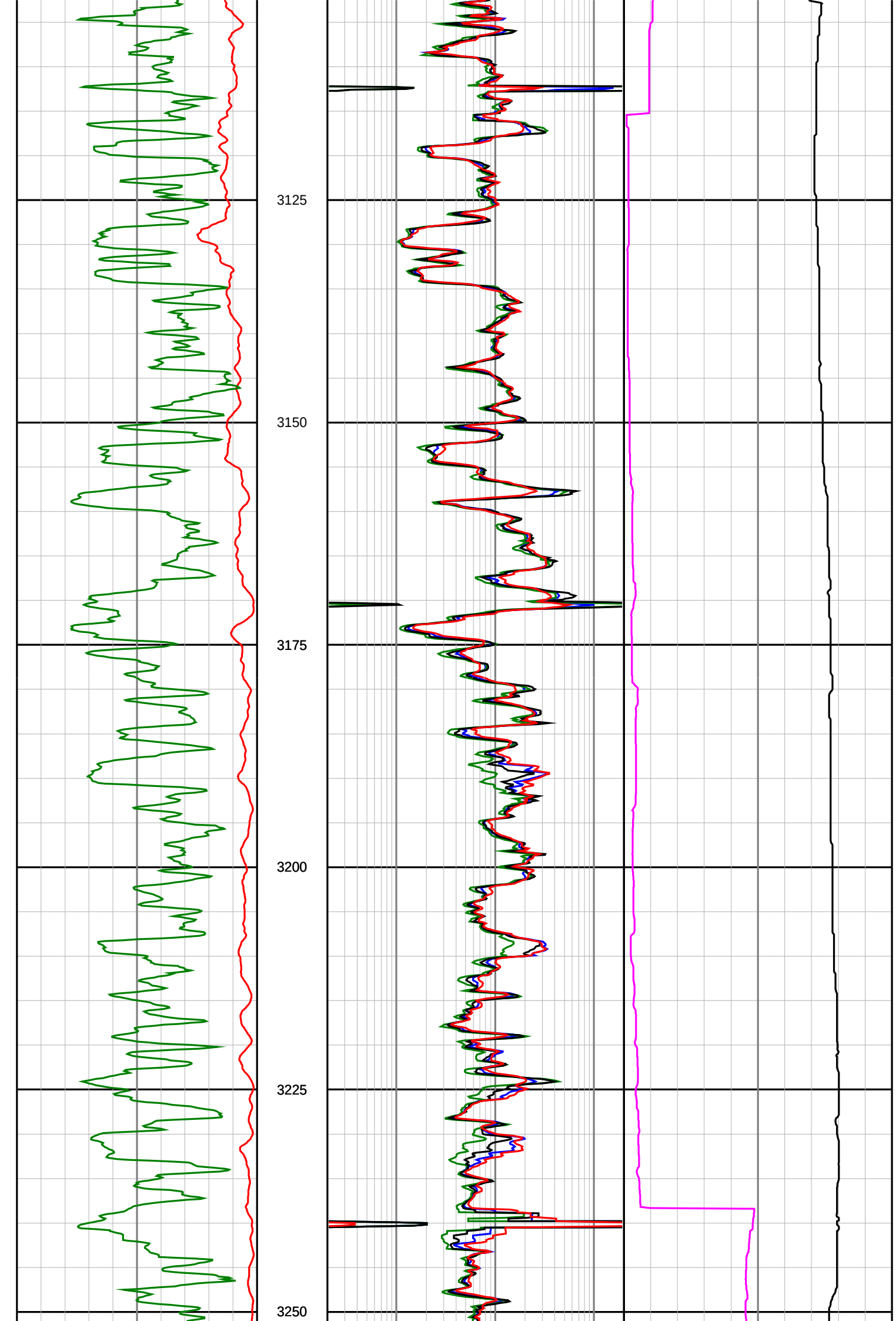
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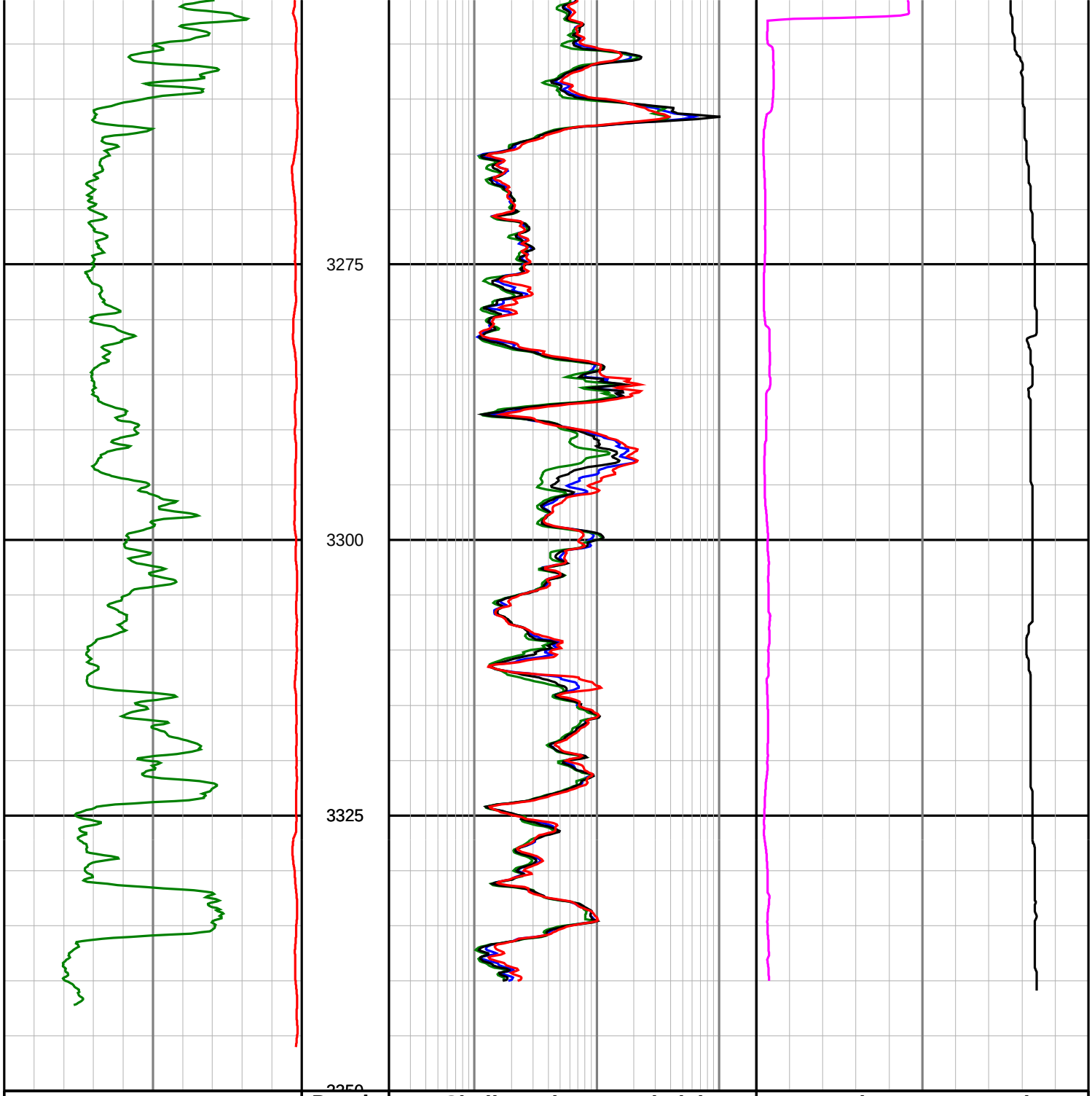


Gamma Ray (SGRC)	Depth	X-Shallow Phase Resistivity (SEXP)	Formation Exposure Time (SFXE)
0 — 200	TVD	0.2 — 200	0 — 50
api	1:500	ohmm	hrs

Rate of Penetration (SROP)		Shallow Phase Resistivity (SESP)	Temperature (STEM)
500 — 0		0.2 — 200	0 — 100
m/hr		ohmm	deg C

		Medium Phase Resistivity (SEMP)	
		0.2 — 200	
		ohmm	

		Deep Phase Resistivity (SEDP)	
		0.2 — 200	
		ohmm	

DIRECTIONAL SURVEY REPORT

Anzon Australia Ltd
Basker-2
Basker
Victoria
Australia
AU-FE-0003704943
RT to MSL = 21.5m. Final survey projected to TD.

Measured Depth (metres)	Inclination (degrees)	Direction (degrees)	Vertical Depth (metres)	Latitude (metres)	Departure (metres)	Vertical Section (metres)	Dogleg (deg/30m)
0.000	0.00	0.00	0.000	1.400 N	1.900 E	-1.705	TIE-IN
176.000	0.00	0.00	176.000	1.400 N	1.900 E	-1.705	0.00
224.640	0.19	161.03	224.640	1.325 N	1.926 E	-1.635	0.12
282.390	0.07	139.65	282.390	1.209 N	1.979 E	-1.530	0.07
311.290	0.09	116.77	311.290	1.185 N	2.011 E	-1.512	0.04
340.130	0.10	73.76	340.130	1.181 N	2.056 E	-1.517	0.07
368.980	0.06	116.98	368.980	1.181 N	2.093 E	-1.523	0.07
397.820	0.09	163.12	397.820	1.153 N	2.113 E	-1.499	0.07
426.640	0.04	150.94	426.640	1.122 N	2.125 E	-1.470	0.05
455.270	0.09	138.56	455.270	1.097 N	2.145 E	-1.448	0.05
512.450	0.09	115.62	512.450	1.044 N	2.215 E	-1.409	0.02
541.040	0.09	127.28	541.039	1.020 N	2.255 E	-1.392	0.02
569.570	0.09	149.55	569.569	0.986 N	2.285 E	-1.363	0.04
598.150	0.10	130.15	598.149	0.950 N	2.315 E	-1.334	0.03
626.680	0.07	122.82	626.679	0.925 N	2.348 E	-1.315	0.03
655.390	0.07	93.47	655.389	0.915 N	2.380 E	-1.310	0.04
684.110	0.09	75.67	684.109	0.920 N	2.419 E	-1.321	0.04
713.010	0.07	46.86	713.009	0.937 N	2.455 E	-1.345	0.05
741.780	0.09	14.62	741.779	0.970 N	2.473 E	-1.380	0.05
770.730	0.11	35.10	770.729	1.015 N	2.495 E	-1.428	0.04
799.470	0.10	46.21	799.469	1.055 N	2.528 E	-1.473	0.03
828.160	0.07	89.32	828.159	1.072 N	2.563 E	-1.496	0.07
856.720	0.07	42.39	856.719	1.085 N	2.592 E	-1.513	0.06
885.230	0.00	253.43	885.229	1.097 N	2.604 E	-1.528	0.07
913.660	0.06	324.63	913.659	1.110 N	2.595 E	-1.539	0.07
970.770	0.04	321.60	970.769	1.152 N	2.564 E	-1.575	0.01
990.300	0.10	275.80	990.299	1.159 N	2.542 E	-1.578	0.11
1007.580	0.12	323.98	1007.579	1.175 N	2.517 E	-1.590	0.16
1036.290	0.17	300.46	1036.289	1.222 N	2.462 E	-1.626	0.08
1065.040	0.17	5.05	1065.039	1.288 N	2.428 E	-1.685	0.19
1093.900	0.22	331.06	1093.899	1.381 N	2.404 E	-1.773	0.13
1122.820	0.14	342.26	1122.819	1.463 N	2.367 E	-1.847	0.09
1151.700	0.31	334.26	1151.698	1.566 N	2.322 E	-1.942	0.18
1180.480	0.25	318.65	1180.478	1.683 N	2.248 E	-2.043	0.10
1209.260	0.31	340.89	1209.258	1.803 N	2.181 E	-2.150	0.13
1237.940	0.31	337.82	1237.937	1.948 N	2.127 E	-2.284	0.02
1294.960	0.41	316.37	1294.956	2.238 N	1.928 E	-2.536	0.09
1323.330	0.41	317.99	1323.325	2.387 N	1.790 E	-2.659	0.01
1351.780	0.50	308.15	1351.774	2.539 N	1.624 E	-2.780	0.12
1380.290	0.45	323.73	1380.284	2.705 N	1.461 E	-2.916	0.15
1408.920	0.56	313.66	1408.912	2.891 N	1.294 E	-3.071	0.15
1466.440	0.57	319.35	1466.430	3.302 N	0.905 E	-3.409	0.03
1495.450	0.53	333.19	1495.438	3.531 N	0.750 E	-3.608	0.14
1524.520	0.62	322.85	1524.507	3.777 N	0.595 E	-3.823	0.14
1553.750	0.62	337.42	1553.735	4.048 N	0.439 E	-4.063	0.16
1582.700	0.61	335.79	1582.683	4.333 N	0.316 E	-4.323	0.02
1611.640	0.79	336.96	1611.621	4.656 N	0.175 E	-4.617	0.18
1640.300	0.88	343.27	1640.279	5.047 N	0.035 E	-4.978	0.14
1727.420	1.05	341.55	1727.386	6.447 N	0.411 W	-6.281	0.06
1753.750	1.25	345.40	1753.711	6.955 N	0.560 W	-6.755	0.24
1782.060	1.31	348.87	1782.014	7.571 N	0.701 W	-7.338	0.10
1810.730	1.32	342.05	1810.676	8.207 N	0.866 W	-7.936	0.16
1839.510	1.16	347.31	1839.449	8.808 N	1.032 W	-8.501	0.20
1868.400	1.33	345.60	1868.332	9.420 N	1.180 W	-9.077	0.18
1897.600	1.53	346.99	1897.523	10.127 N	1.352 W	-9.745	0.21

HALLIBURTON

Basker-2

Measured Depth (metres)	Inclination (degrees)	Direction (degrees)	Vertical Depth (metres)	Latitude (metres)	Departure (metres)	Vertical Section (metres)	Dogleg (deg/30m)
1926.730	1.66	346.26	1926.642	10.915 N	1.540 W	-10.489	0.14
1955.700	1.49	331.53	1955.601	11.653 N	1.818 W	-11.168	0.45
1984.130	1.39	329.83	1984.022	12.274 N	2.167 W	-11.720	0.11
2012.560	1.45	328.82	2012.444	12.879 N	2.526 W	-12.254	0.07
2040.960	1.49	334.37	2040.834	13.517 N	2.870 W	-12.824	0.16
2069.470	1.39	333.91	2069.335	14.161 N	3.182 W	-13.405	0.10
2184.590	1.56	330.85	2184.417	16.785 N	4.561 W	-15.753	0.05
2213.550	1.69	337.47	2213.365	17.524 N	4.917 W	-16.421	0.24
2242.350	1.79	336.87	2242.152	18.331 N	5.256 W	-17.157	0.10
2271.080	1.80	337.68	2270.868	19.161 N	5.604 W	-17.915	0.03
2299.800	1.92	339.68	2299.573	20.029 N	5.942 W	-18.712	0.14
2328.310	1.98	339.76	2328.066	20.938 N	6.278 W	-19.550	0.07
2356.390	1.99	341.40	2356.129	21.855 N	6.601 W	-20.398	0.06
2384.840	2.01	340.79	2384.562	22.795 N	6.923 W	-21.269	0.03
2413.640	2.13	341.03	2413.343	23.778 N	7.264 W	-22.179	0.12
2442.710	2.02	337.08	2442.394	24.762 N	7.639 W	-23.084	0.19
2472.220	2.07	337.28	2471.886	25.733 N	8.048 W	-23.970	0.05
2499.050	2.11	341.02	2498.698	26.646 N	8.395 W	-24.810	0.16
2527.690	1.24	320.72	2527.326	27.384 N	8.763 W	-25.474	1.09
2557.340	0.87	264.89	2556.971	27.612 N	9.190 W	-25.626	1.05
2585.210	1.48	194.31	2584.836	27.244 N	9.490 W	-25.212	1.56
2612.450	3.62	191.42	2612.048	26.059 N	9.747 W	-24.000	2.36
2643.410	6.45	190.09	2642.885	23.388 N	10.246 W	-21.284	2.74
2671.360	7.27	185.29	2670.635	20.083 N	10.684 W	-17.952	1.07
2700.450	9.30	184.65	2699.420	15.909 N	11.044 W	-13.778	2.09
2728.710	10.88	181.90	2727.243	10.967 N	11.317 W	-8.863	1.76
2757.900	13.90	178.27	2755.749	4.706 N	11.303 W	-2.697	3.20
2786.380	15.37	180.97	2783.305	2.488 S	11.264 W	4.384	1.70
2814.750	16.98	182.03	2810.551	10.388 S	11.475 W	12.202	1.73
2844.320	19.56	181.05	2838.629	19.653 S	11.719 W	21.372	2.63
2872.380	24.39	182.40	2864.642	30.144 S	12.047 W	31.764	5.19
2901.450	28.38	180.27	2890.679	43.055 S	12.331 W	44.532	4.23
2930.710	28.88	180.28	2916.361	57.075 S	12.398 W	58.356	0.51
2981.050	30.08	180.84	2960.183	81.847 S	12.642 W	82.802	0.73
3009.870	29.88	179.84	2985.147	96.248 S	12.728 W	97.004	0.56
3038.460	29.08	178.87	3010.035	110.315 S	12.571 W	110.836	0.98
3066.640	28.66	178.39	3034.714	123.916 S	12.247 W	124.179	0.51
3095.280	28.69	178.54	3059.843	137.652 S	11.878 W	137.648	0.08
3123.980	28.01	177.16	3085.100	151.270 S	11.368 W	150.977	0.98
3153.210	27.87	176.17	3110.922	164.943 S	10.571 W	164.311	0.50
3181.820	27.45	174.86	3136.263	178.184 S	9.533 W	177.177	0.77
3210.140	26.65	173.92	3161.484	191.002 S	8.274 W	189.589	0.96
3238.540	26.31	172.34	3186.905	203.574 S	6.760 W	201.715	0.82
3267.810	25.94	171.77	3213.184	216.340 S	4.980 W	213.986	0.46
3307.720	26.06	170.42	3249.054	233.625 S	2.271 W	230.550	0.45
3364.810	25.94	170.20	3300.365	258.296 S	1.941 E	254.132	0.08
3401.220	25.96	170.31	3333.104	273.999 S	4.638 E	269.139	0.04
3414.000	25.96	170.31	3344.595	279.513 S	5.580 E	274.411	0.00

CALCULATION BASED ON MINIMUM CURVATURE METHOD

SURVEY COORDINATES RELATIVE TO WELL SYSTEM REFERENCE POINT
TVD VALUES GIVEN RELATIVE TO DRILLING MEASUREMENT POINT

VERTICAL SECTION RELATIVE TO WELL HEAD
VERTICAL SECTION IS COMPUTED ALONG A DIRECTION OF 189.88 DEGREES (GRID)
A TOTAL CORRECTION OF 14.44 DEG FROM MAGNETIC NORTH TO GRID NORTH HAS BEEN APPLIED

HORIZONTAL DISPLACEMENT IS RELATIVE TO THE WELL HEAD.
HORIZONTAL DISPLACEMENT(CLOSURE) AT 3414.000 METRES
IS 279.569 METRES ALONG 178.86 DEGREES (GRID)

MWD RUN 100 - BHA

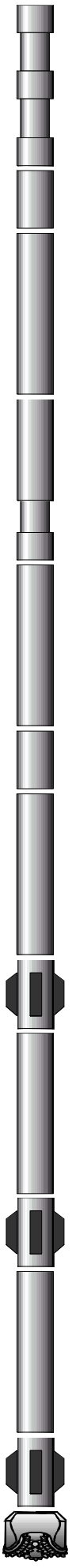
Component Cumulative

MWD RUN 100 - MWD

Sensor

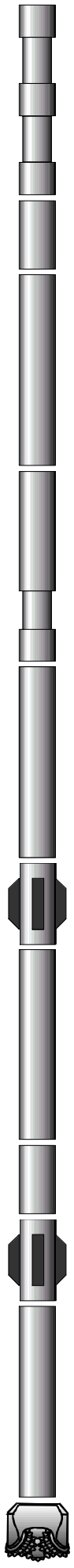
MWD RUN 200 - BHA

	Component Length (m)	Cumulative Length (m)
HWDP	138.430	242.74
Cross Over Sub	1.170	104.31
Drill Collar	18.560	103.14
Drilling Jars	10.110	84.58
Drill Collar	26.680	74.47
Cross Over Sub	1.170	47.79
Drill Collar	27.330	46.62
Integral Blade Stabilizer	1.990	19.29
MWD	9.880	17.30
Integral Blade Stabilizer	2.440	7.42
Pony collar	3.000	4.98
Integral Blade Stabilizer	1.570	1.98
Tricone	.410	0.41



MWD RUN 200 - MWD

	Sensor Measure Point Distance To Bit (m)
Positive Pulser	
TM	
DM	13.880
GM	12.000
Battery Module	
Hang-off Sub	



	Component Length (m)	Cumulative Length (m)
HWDP	138.430	200.17
Cross Over Sub	1.170	61.73
Pony collar	5.020	60.56
Drilling Jars	10.110	55.54
Drill Collar	17.640	45.43
Integral Blade Stabilizer	2.470	27.79
MWD	13.100	25.32
Cross Over Sub	1.030	12.22
Integral Blade Stabilizer	2.350	11.19
9-5/8" SperryDrill Lobe 3/4 - 4M, DI	8.500	8.84
PDC	.340	0.34

MWD RUN 300 - BHA

	Sensor Measure Point Distance To Bit (m)
TM	
PM	
HCIM	
EWR-P4	15.790
DGR	13.420

MWD RUN 300 - MWD

	Component Length (m)	Cumulative Length (m)
HWDP	138.430	196.72
Cross Over Sub	1.170	61.74
Pony collar	5.020	60.57
Drilling Jars	10.110	55.55
Drill Collar	17.640	45.44
Integral Blade Stabilizer	2.470	27.80
MWD	13.100	25.33
Cross Over Sub	1.030	12.23
Integral Blade Stabilizer	2.350	11.20
9-5/8" SperryDrill Lobe 3/4 - 4M, DI	8.500	8.85
Tricone	.350	0.35

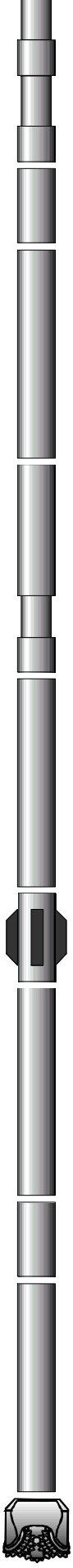
MWD RUN 400 - BHA

	Sensor Measure Point Distance To Bit (m)
Positive Pulser	
TM	
PM	
HCIM	
EWR-P4	19.200
DGR	16.840

MWD RUN 400 - MWD

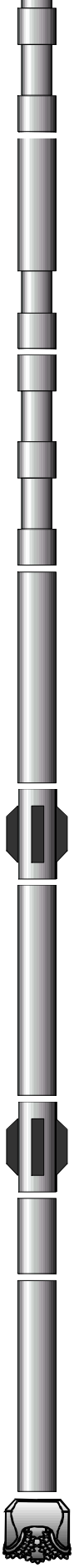
MWD RUN 500 - BHA

	Component Length (m)	Cumulative Length (m)
HWDP	138.160	220.61
Cross Over Sub	1.170	58.56
Pony collar	5.020	57.39
Drilling Jars	9.680	52.37
Drill Collar	17.640	42.69
Integral Blade Stabilizer	2.220	25.05
MWD	12.970	22.83
Cross Over Sub	1.030	9.86
9-5/8" SperryDrill Lobe 3/4 - 4M, DI	8.500	8.83
Tricone	.330	0.33



MWD RUN 500 - MWD

	Sensor Measure Point Distance To Bit (m)
Positive Pulser	
TM	
PM	
HCIM	
EWR-P4	13.410
DGR	11.050

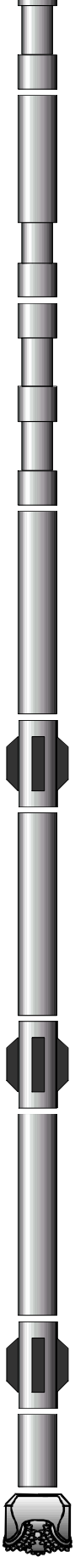


MWD RUN 600 - BHA

	Component Length (m)	Cumulative Length (m)
HWDP	55.300	222.56
Drilling Jars	9.860	165.31
HWDP	109.890	155.45
Drill Collar	18.670	45.56
Integral Blade Stabilizer	1.910	26.89
MWD	12.960	24.98
Adjustable Gauge Stabilizer	3.240	12.02
Float Sub	.840	8.78
6-3/4" SperryDrill Lobe 1/2 - 3M¸DI	7.690	7.94
Tricone	.250	0.25

MWD RUN 600 - MWD

	Sensor Measure Point Distance To Bit (m)
TM	
PM	20.440
HCIM	
EWR-P4	15.420
DGR	13.060



		167.26
Drilling Jars	9.860	
		157.40
HWDP	109.890	
		47.51
Drill Collar	18.660	
		28.85
Integral Blade Stabilizer	1.970	
		26.88
Drill Collar	9.380	
		17.50
Integral Blade Stabilizer	1.340	
		16.16
MWD	12.960	
		3.20
Integral Blade Stabilizer	1.910	
		1.29
Float Sub	.950	
		0.34
Tricone	.340	

Positive Pulser		
TM		
PM		11.620
HCIM		
EWR-P4		6.600
DGR		4.240