



LWD REALTIME / MEMORY LOG

Gamma Ray

Scale:

1:240

True Vertical Depth

Company: Noble Energy

Well: Gutteresen State D23-721

Field: Wattenberg

County: Weld Country: United States

Depth Reference:

Driller's Depth

State: Colorado

Status:

Final Print

Surface Location:

Latitude:

Longitude:

040° 12' 20.484" N
104° 30' 51.480" W

Other Services:

API No: 05-123-48621-00

Job ID: 109870273

SEC:

23

TWN:

3N

RGE:

64W

Permanent Datum (P.D.): Mean Sea Level

Elevation:

0.00 ft

Log Measured From: Rig Floor

Above P.D.:

4839.00 ft

Elev. KB:

Elev. DF:

Elev. GL:

4839.00 ft

4809.00 ft

Dates

From: 2019-06-28
To: 2019-07-02
Spud: 2019-06-15

Drilled (ft)

Top: 1966.00

Bottom: 17545.00

Logged (ft)

Top: 1966.00

Bottom: 17532.00

Azi Reference North:

Total Magnetic Field Strength: (nT)

Mag to Reference North Correction: (deg)

66.65

52085

7.44

Magnetic Field Reference

Borehole Record

Casing Record

Hole Size (in)

From (ft)

To (ft)

Size (in)

Weight (lb/ft)

From (ft)

To (ft)

13.500

30.00

1966.00

9.625

36.00

30.00

1956.00

8.500

1966.00

17545.00

Mud Record

Deviation Record

Type

From (ft)

To (ft)

Hole Size (in)

Interval (ft)

Inc | Az (Start)

Inc | Az (End)

Oil Based Mud

1966.00

17545.00

8.500

15579.00

0.96 | 315.62

90.09 | 354.09

Acquisition System

Software Version

Other

Cadence

RT 5.2

Plot Studio

5.2.8472.1

Rig:

H&P 517

Contractor:

Helmerich & Payne Drilling Co

Unit:

D&E

District:

RMA

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Log Run Summary

Run No	Bit Run No.	Bit Size (in)	Bit Type	Bit Gauge Length (in)	Assembly Type	Logged Interval		Bit Depth Interval		Date / Time		Circ. Hours (h)
						Top (ft)	Bottom (ft)	From (ft)	To (ft)	Start Logging	End Logging	
1	1	8.500	PDC	3.00	Rotary Steerable	1966.00	17099.00	1966.00	17112.00	2019-06-28 21:15	2019-07-01 23:05	66.93
2	2	8.500	PDC	3.00	Rotary Steerable	17099.00	17532.00	17112.00	17545.00	2019-07-02 17:40	2019-07-02 19:45	5.16

Crew

Name	Arrive	Depart	Name	Arrive	Depart	Name	Arrive	Depart
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	Wellsite	Wellsite		Wellsite	Wellsite		Wellsite	Wellsite
Andrew Hays	2019-06-28	2019-07-01	Adam Schlenz	2019-07-01	2019-07-03			

Mud Properties Record

Date / Time	Run No.	Depth (ft)	Mud Type	Density (ppg)	Viscosity (cP)	pH	Fluid Loss (cm3)	Oil / Water	Source	Total Chlorides (ppm)	K+ (%)
2019-06-28 15:00	1	1966.00	Oil Based Mud	9.3	14	N/A	24.0	72/15.5	Active Pit	21380	0.00
2019-06-29 15:00	1	6650.00	Oil Based Mud	9.2	11	N/A	16.0	69/20.5	Active Pit	24295	0.00
2019-06-30 15:00	1	11050.00	Oil Based Mud	9.5	12	N/A	16.0	69/19	Active Pit	25753	0.00
2019-07-01 12:30	1	14882.00	Oil Based Mud	9.5	14	N/A	16.0	68/20	Active Pit	26239	0.00
2019-07-02 15:00	2	17112.00	Oil Based Mud	9.5	15	N/A	18.0	68.5/19	Active Pit	25753	0.00

Equipment and Service Data

Run No.	Tool	Serial Number	Measurement	Sensor Offset (ft)	Bit Offset (ft)	Max O.D. (in)	Min I.D. (in)
1	AutoTrak Curve Steering Unit	14502006	Near Bit Inclination	5.93	6.73	7.000	4.330
1	AutoTrak Curve Steering Unit	14502006	Near Bit VSS	5.93	6.73	7.000	4.330
1	AutoTrak Curve MWD	14270075	Gamma (single)	2.75	12.90	6.875	3.250
1	AutoTrak Curve MWD	14270075	Directional (mag)	12.27	22.42	6.875	3.250
2	AutoTrak Curve Steering Unit	14881521	Near Bit Inclination	5.93	6.73	7.000	4.330
2	AutoTrak Curve Steering Unit	14881521	Near Bit VSS	5.93	6.73	7.000	4.330
2	AutoTrak Curve MWD	14313857	Gamma (single)	2.75	12.90	7.000	3.250
2	AutoTrak Curve MWD	14313857	Directional (mag)	12.27	22.42	7.000	3.250

Service and Tool Mnemonics

Mnemonic	Name	Description
ATC SU	AutoTrak Curve SU	Auto Trak Curve Steering Unit
ATC MWD	AutoTrak Curve MWD	Auto Trak Curve MWD
ATC LCPM	AutoTrak Curve LCPM	Auto Trak Curve LCPM

Comments

1	Depth measurements were obtained from a depth control system not supplied or operated by Baker Hughes. Due to the lack of control by Baker Hughes, depth calibrations and measurements could not be independently verified.
2	Baker Hughes LWD runs 1 and 2 utilized a 6.75 inch NaviGamma service (Directional and Gamma Ray) behind a 8.5 inch bit and rotary steerable assembly from 1966 to 17545 feet MD (1966 to 6789 feet TVD).
3	The Gamma Ray Apparent (GRAM) data is presented 0 to 300 API, per the customer's request.
4	The interval from 1966 to 17112 feet MD (1966 to 6789 feet TVD) is presented on the log as real-time data (GRAX) due to being unable to dump the memory from the rotary steerable assembly. Since the log is real-time data there is multiple gaps in gamma ray data due to drilling ahead while surveying and downlinking to the rotary steerable assembly.

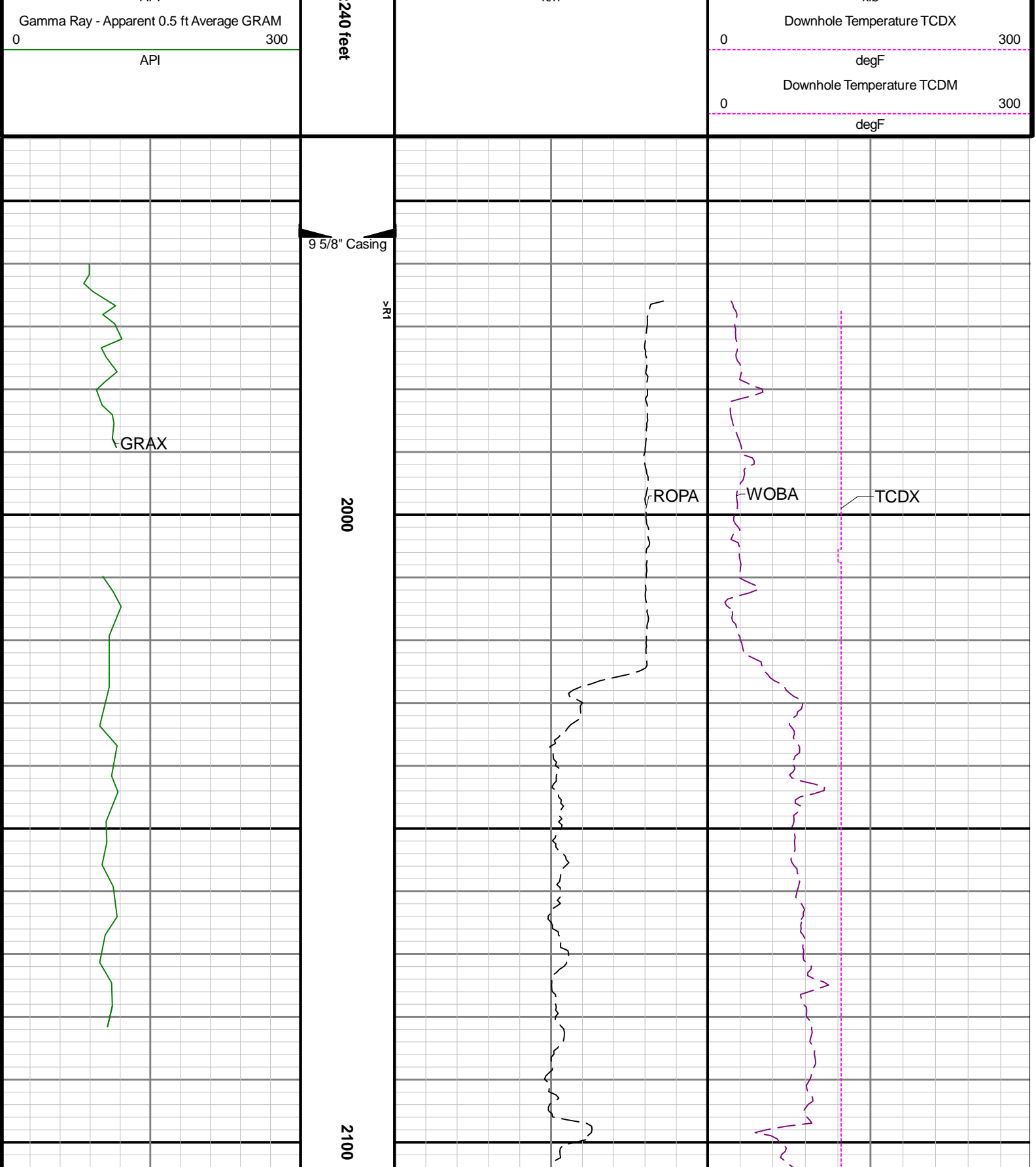
Remarks

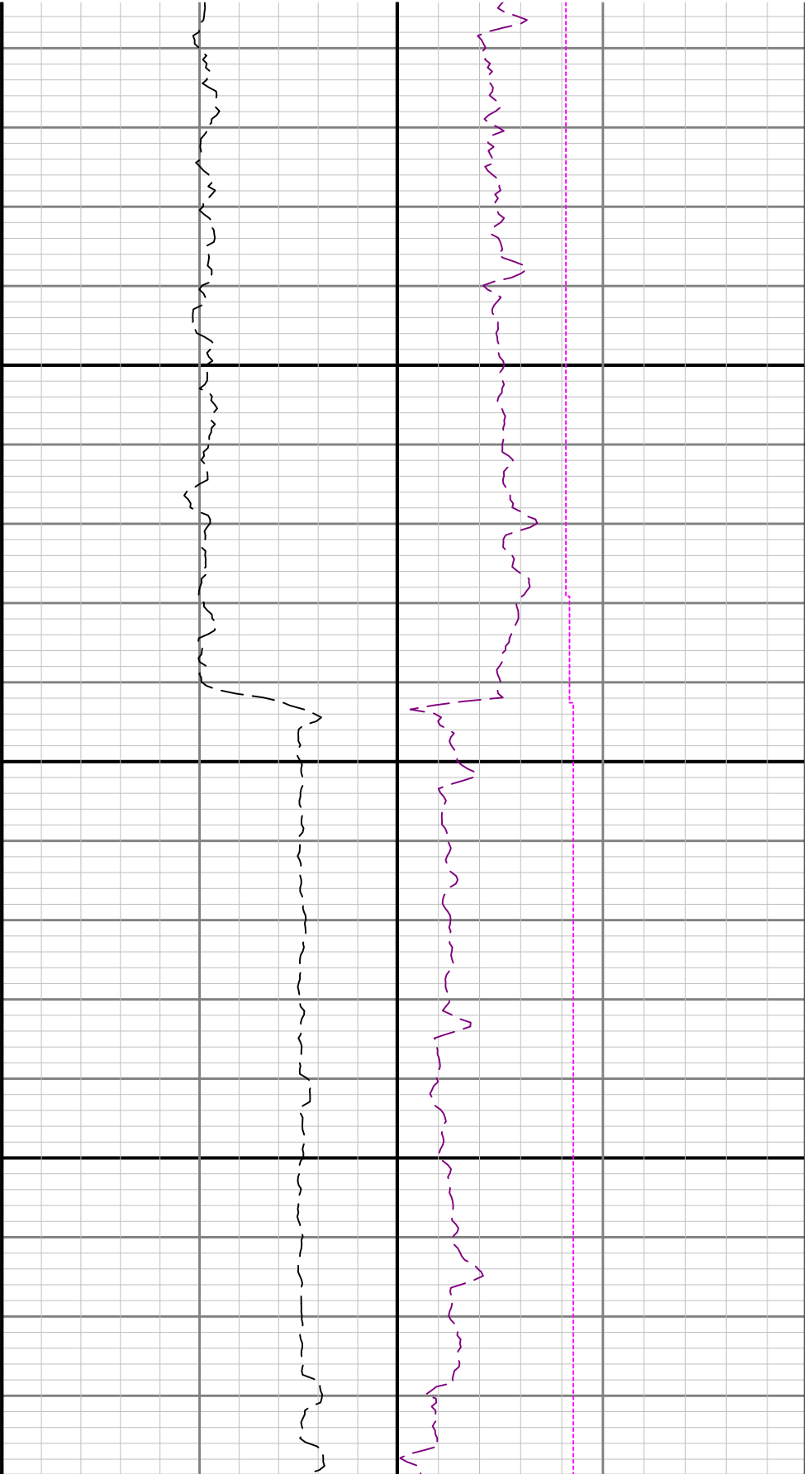
Number	Depth (ft)	Hole Section (in)	Run No.	Remark
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Curve Mnemonics

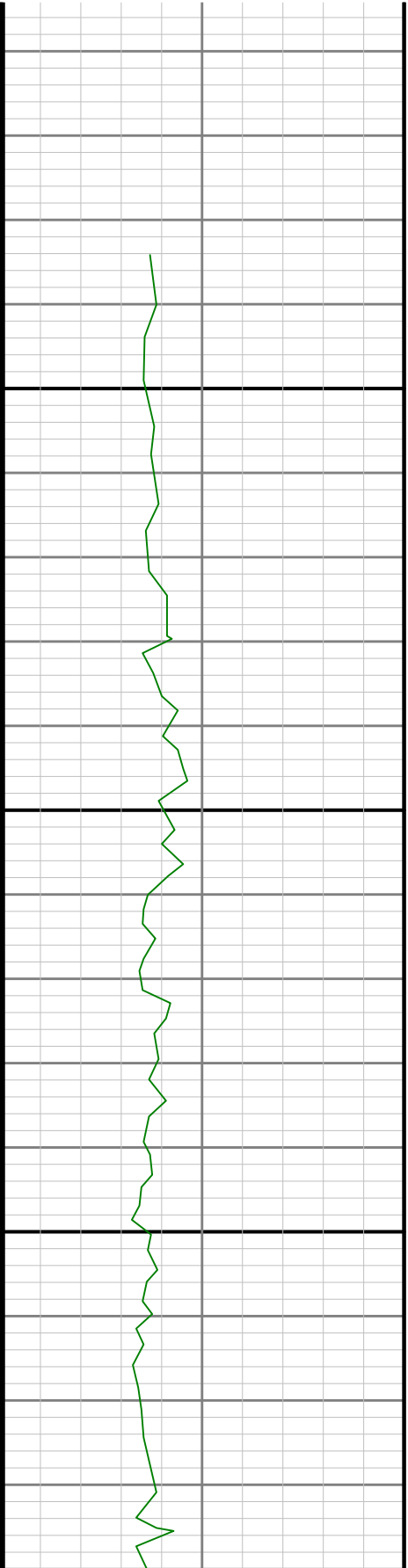
Presented Curves	Description	Units
TCDX	Downhole Temperature	degF
ROPA	Depth Averaged ROP 3 ft Average	ft/h
WOBA	Weight On Bit, Average 1 ft Average	klb
GRAM	Gamma Ray - Apparent - Memory 0.5 ft Average	API
GRAX	Gamma Ray - Apparent - Real-Time 0.5 ft Average	API
TCDM	Directional Real-Time Survey Temperature	degF

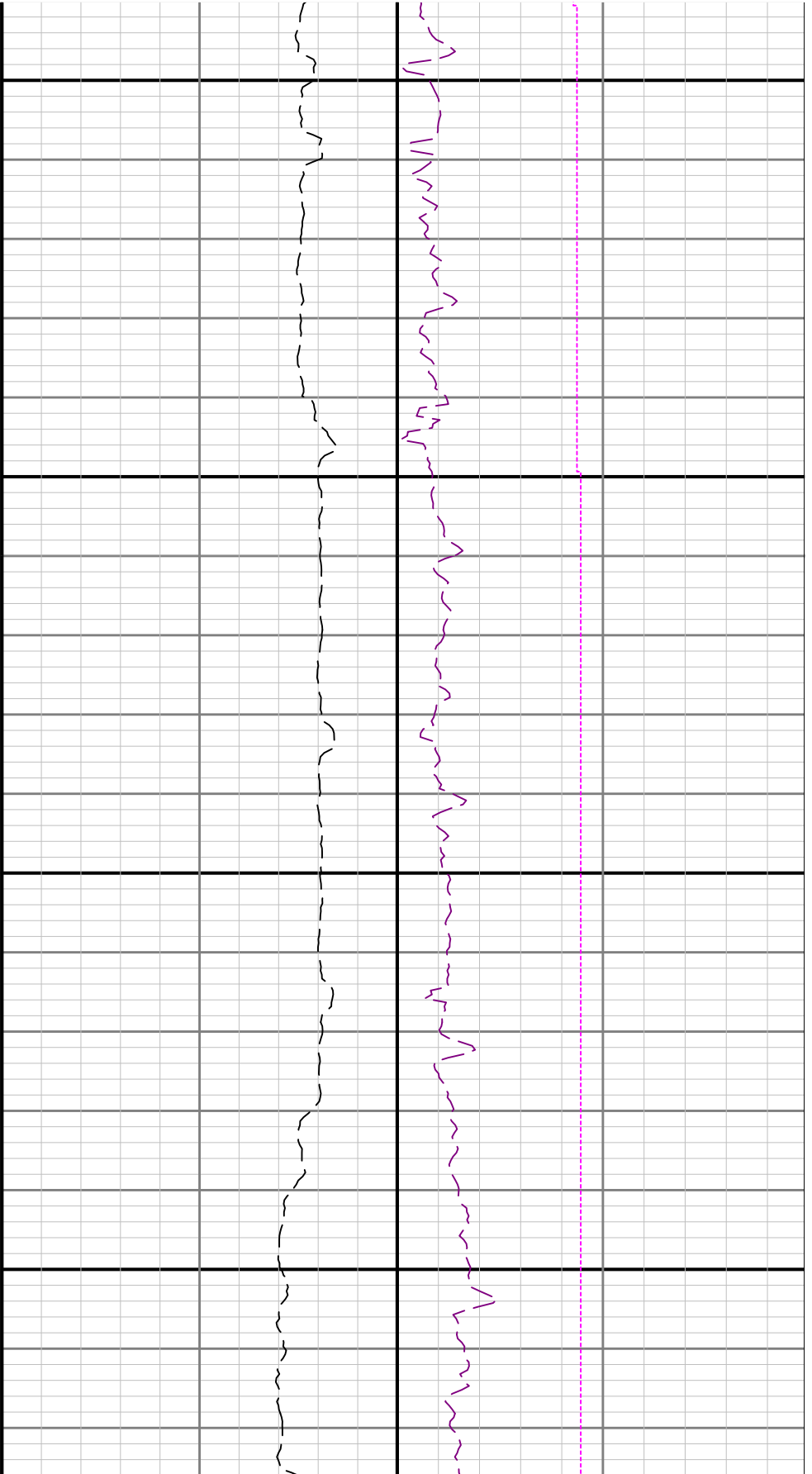
Gamma Ray - Apparent 0.5 ft Average GRAX	TVD 11220	Depth Averaged ROP 3 ft Average ROPA	Weight On Bit, Average 1 ft Average WOBA
0 300		1000 0	0 50
API		ft/h	klb





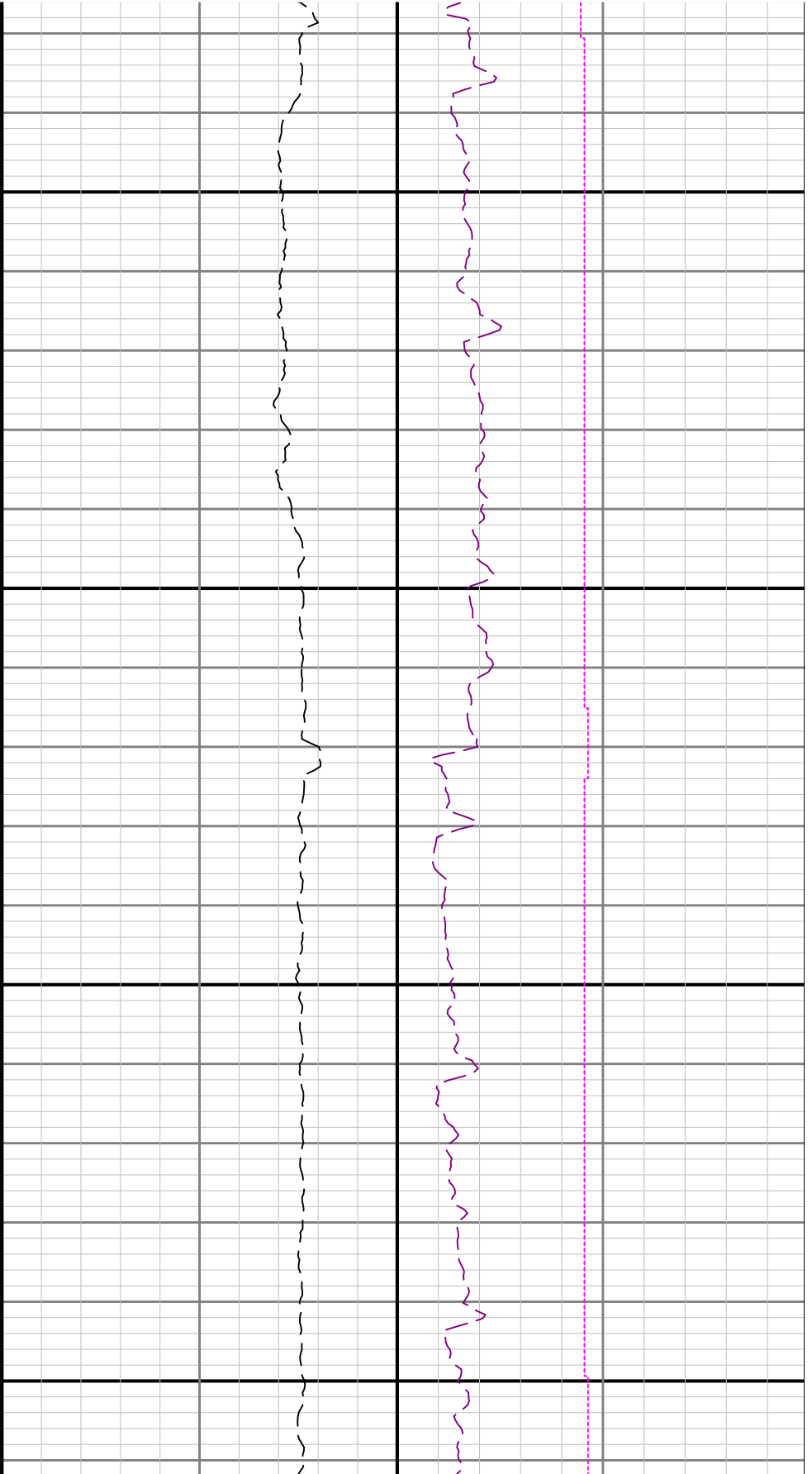
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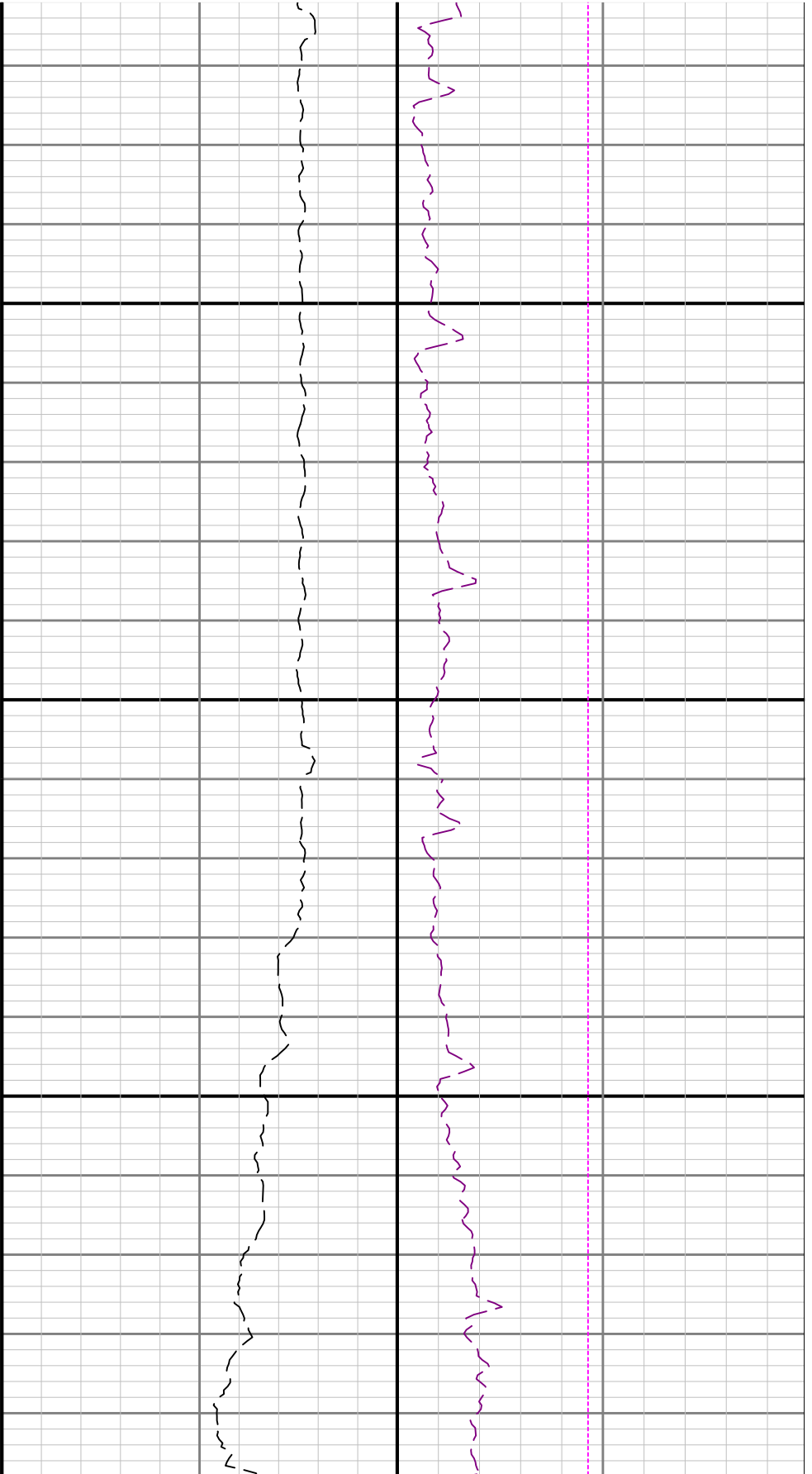
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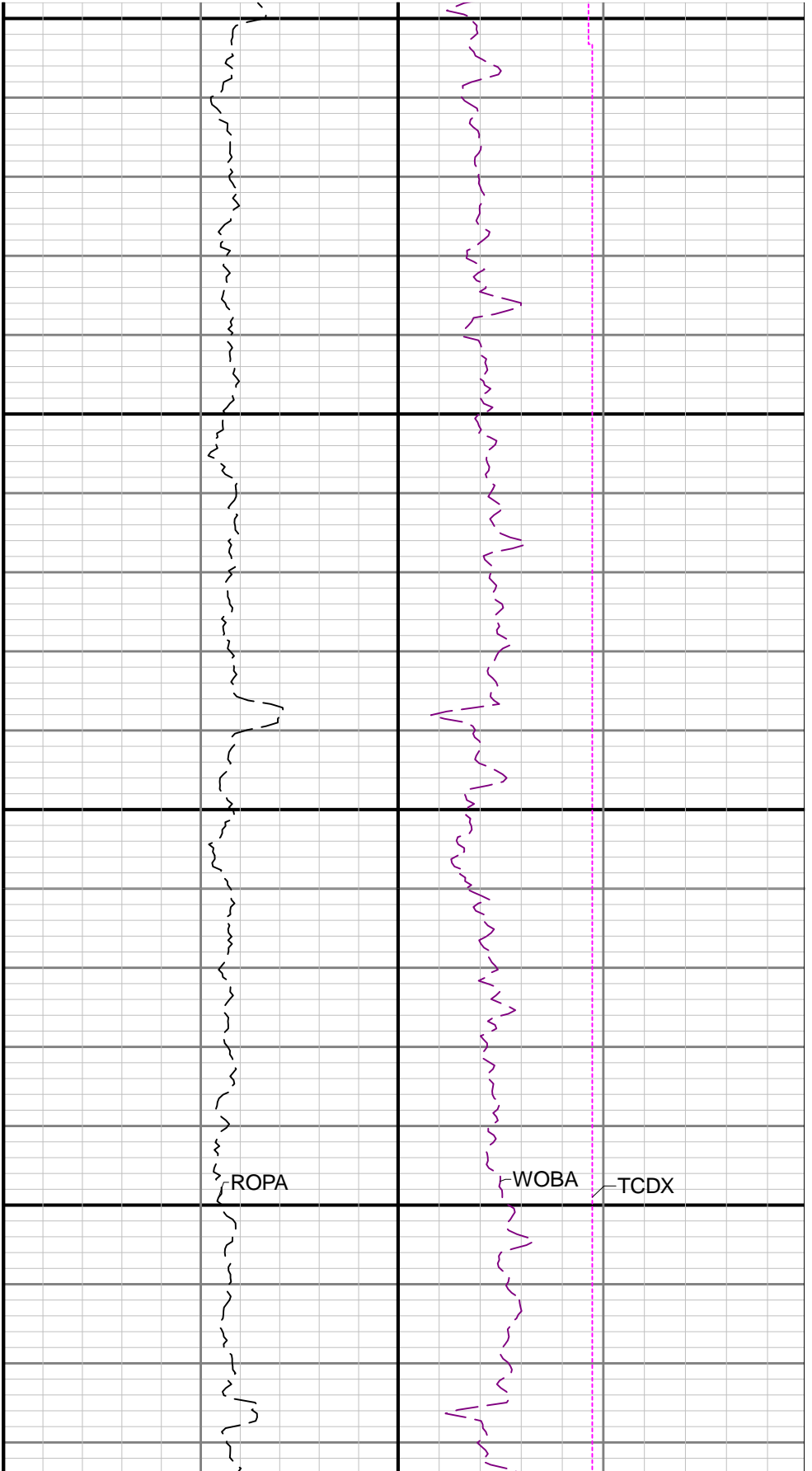
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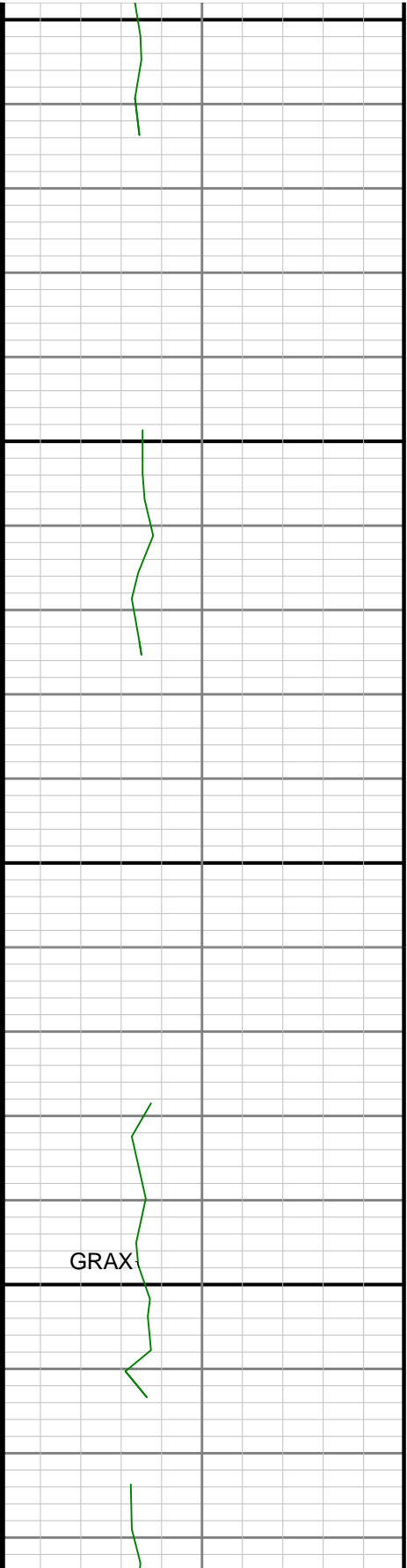
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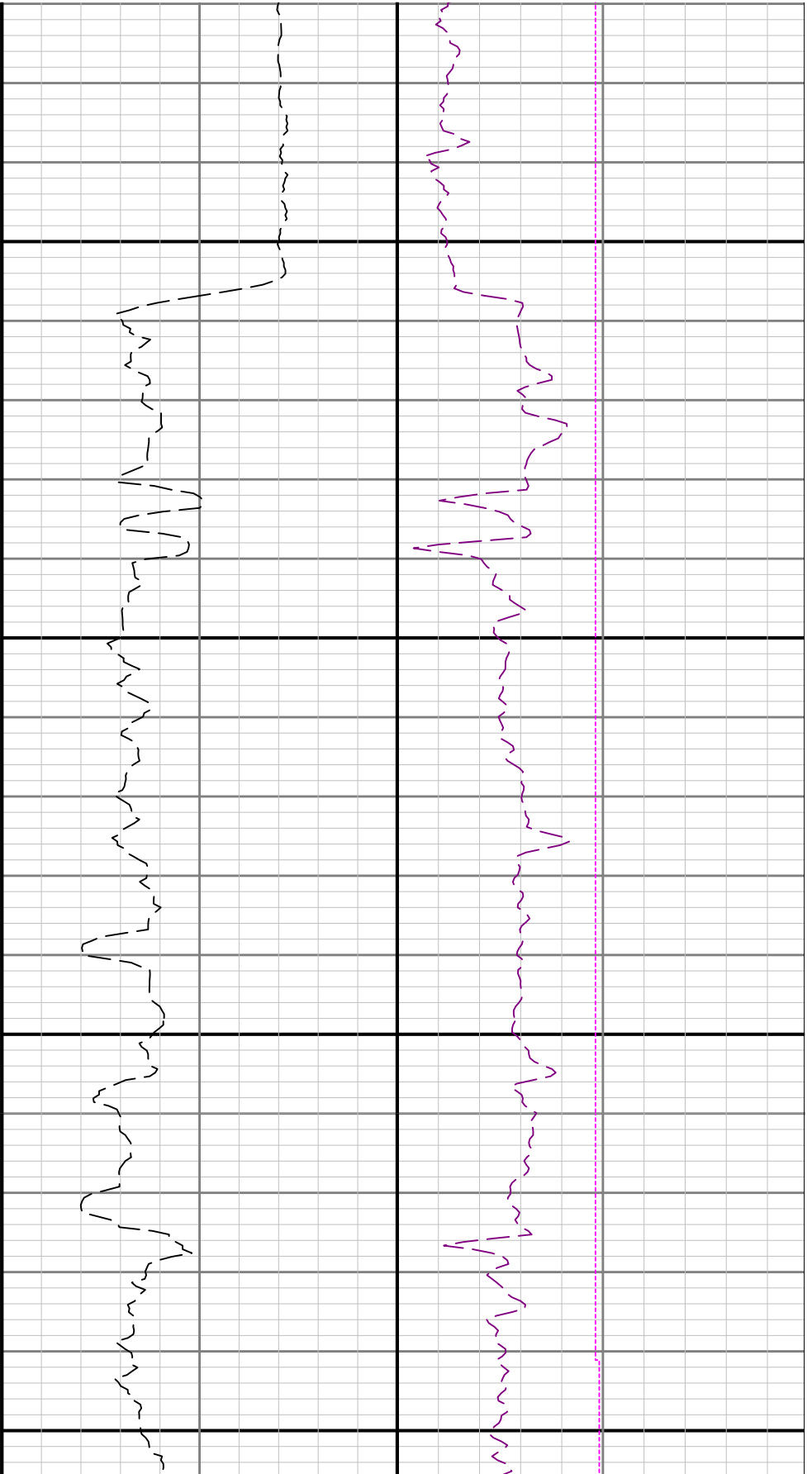


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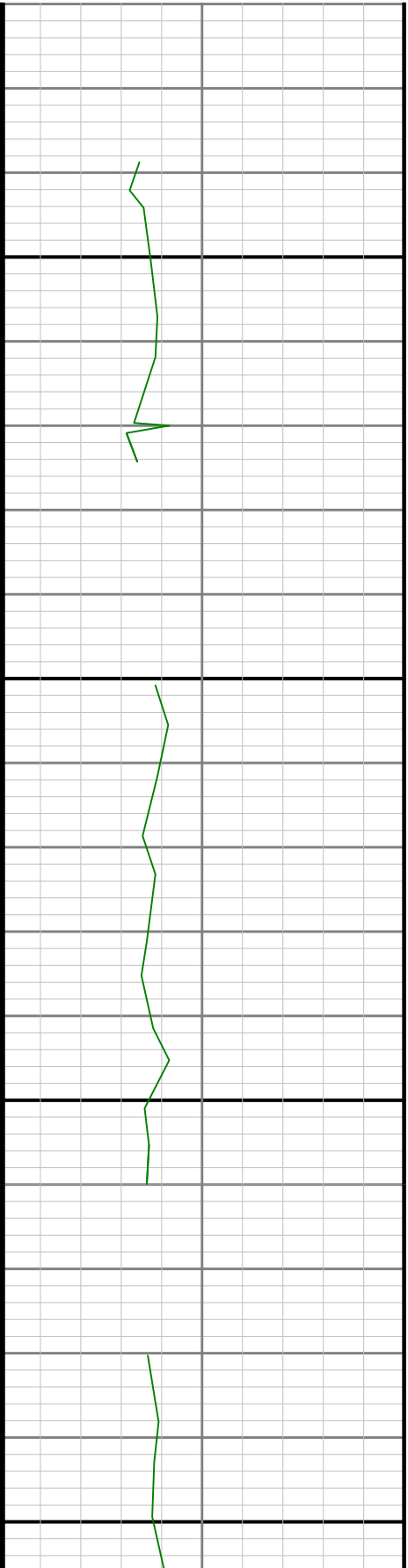


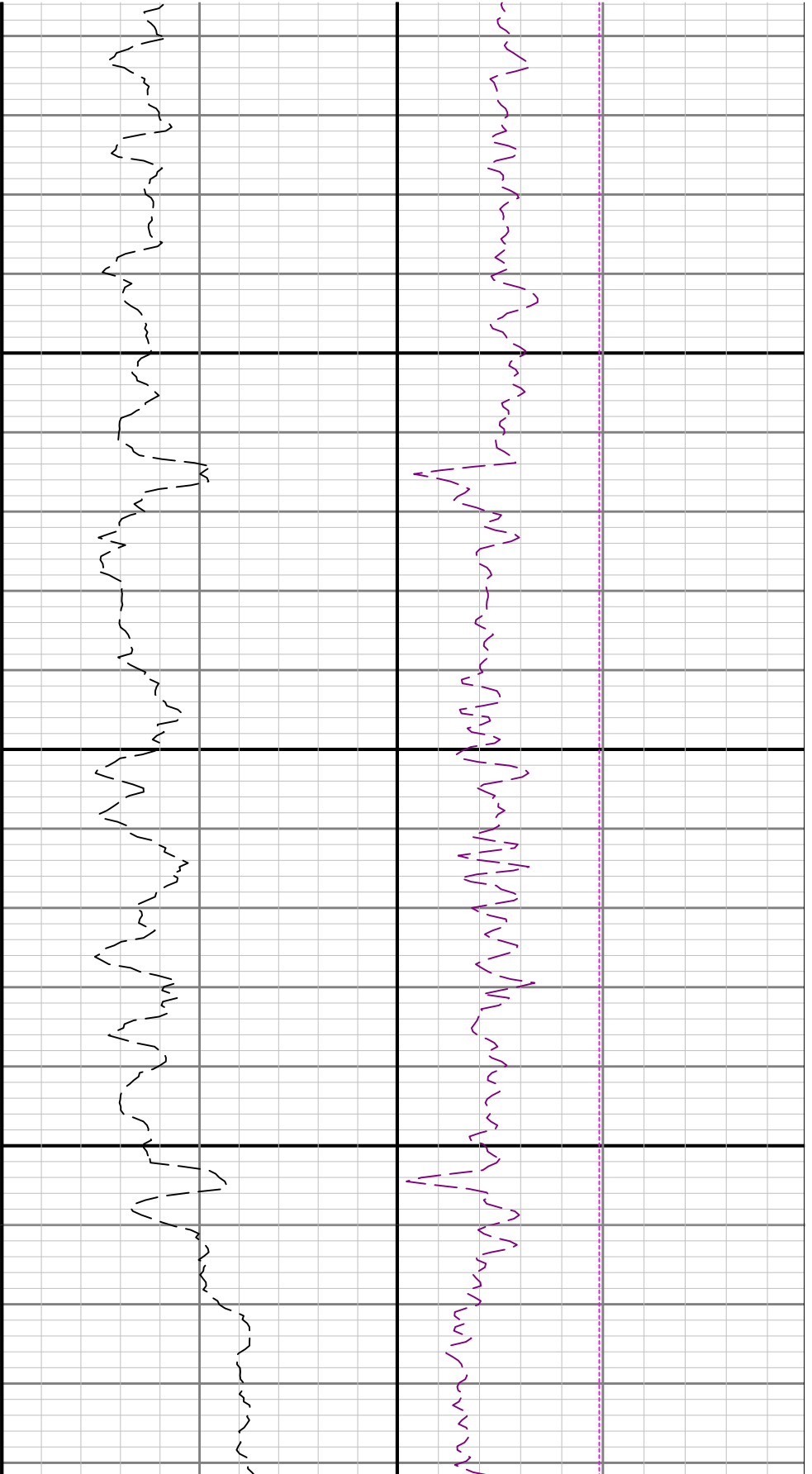
GRAX



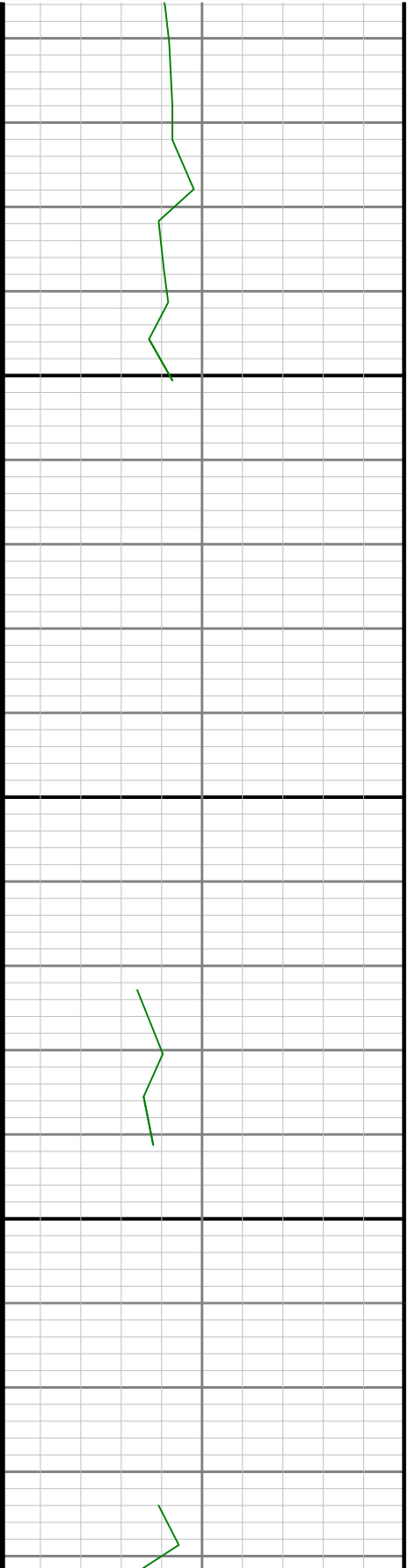
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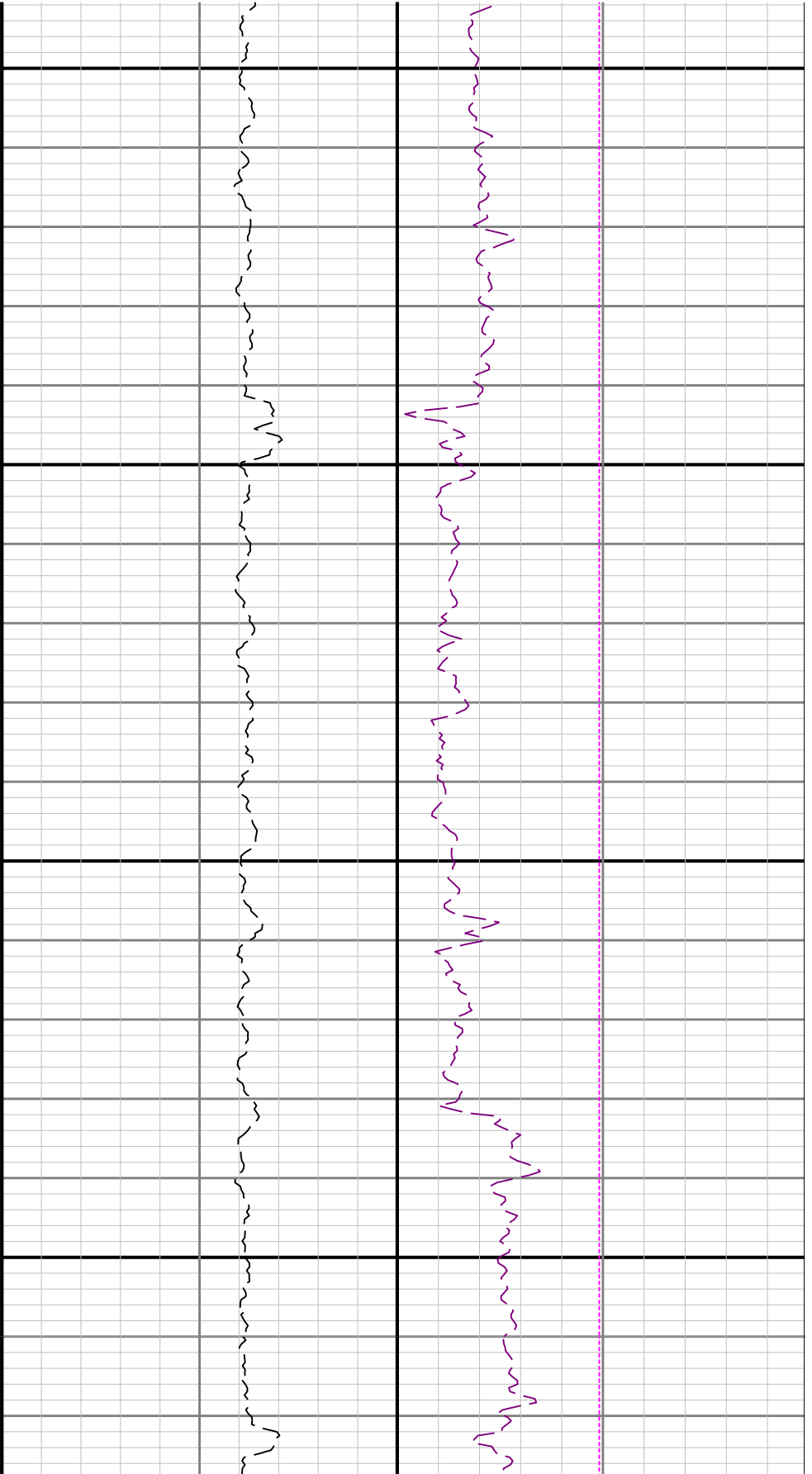
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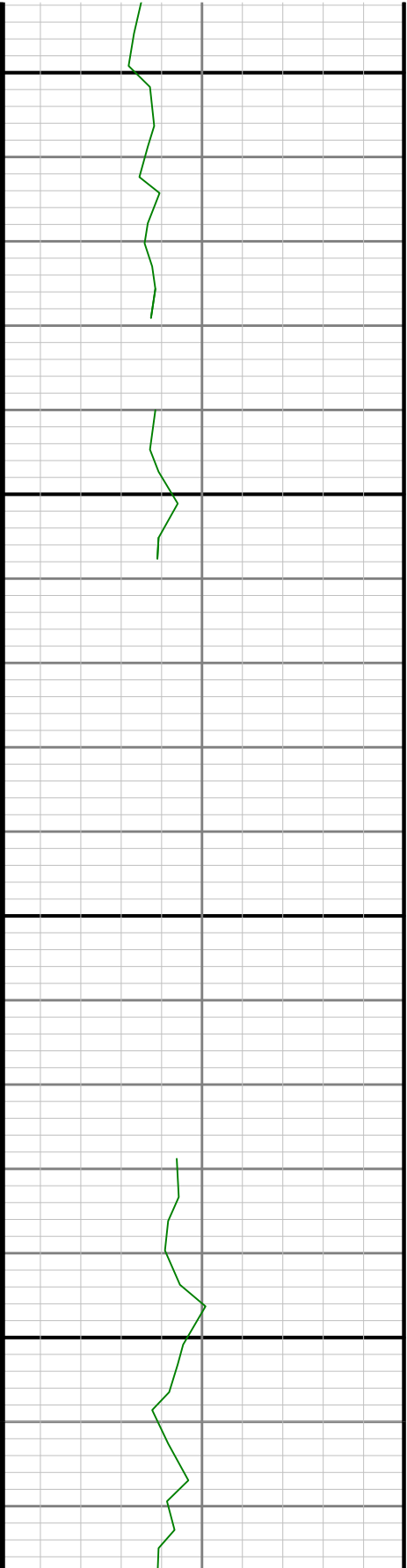
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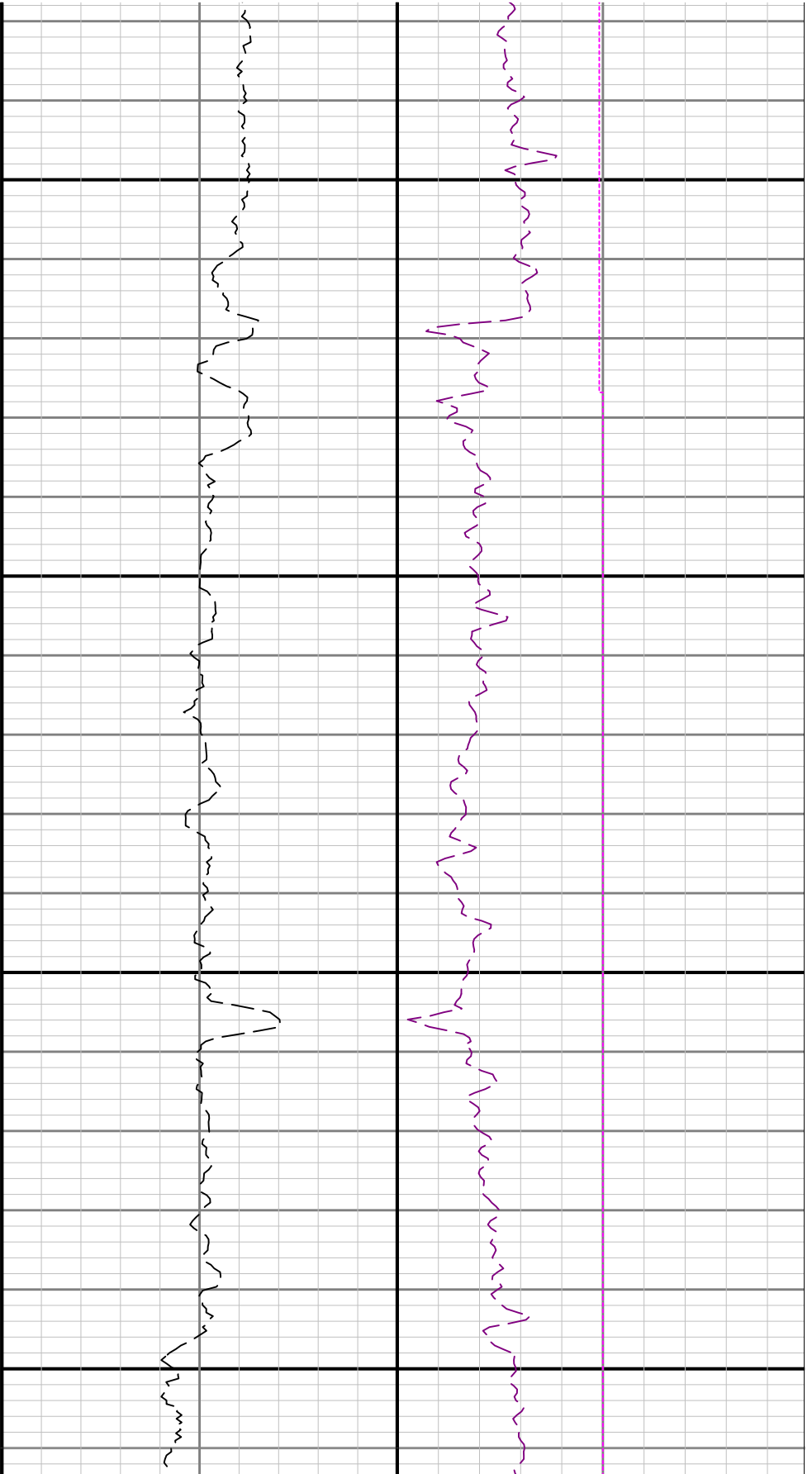




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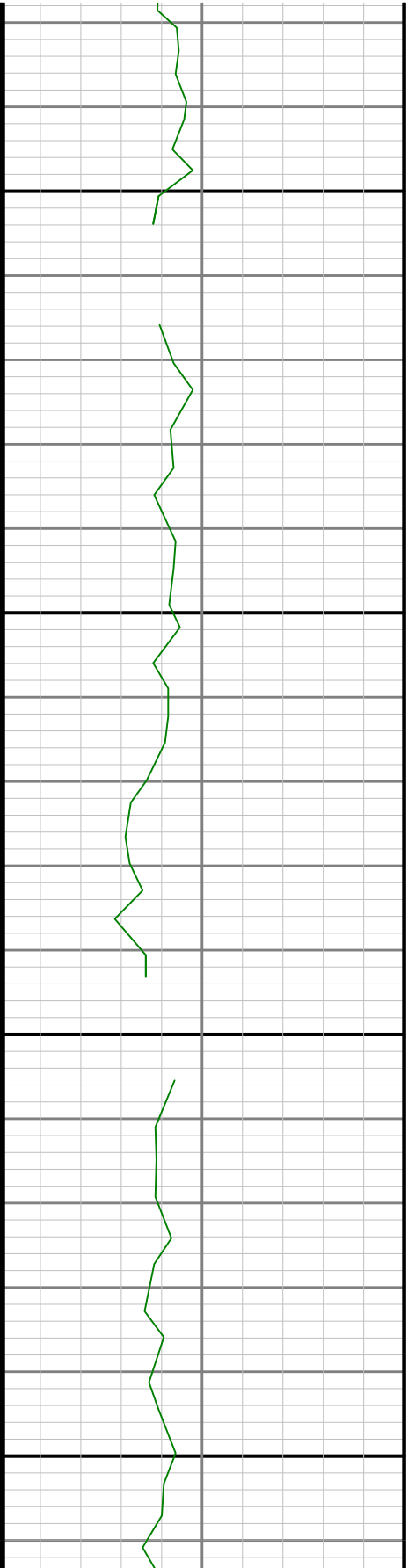
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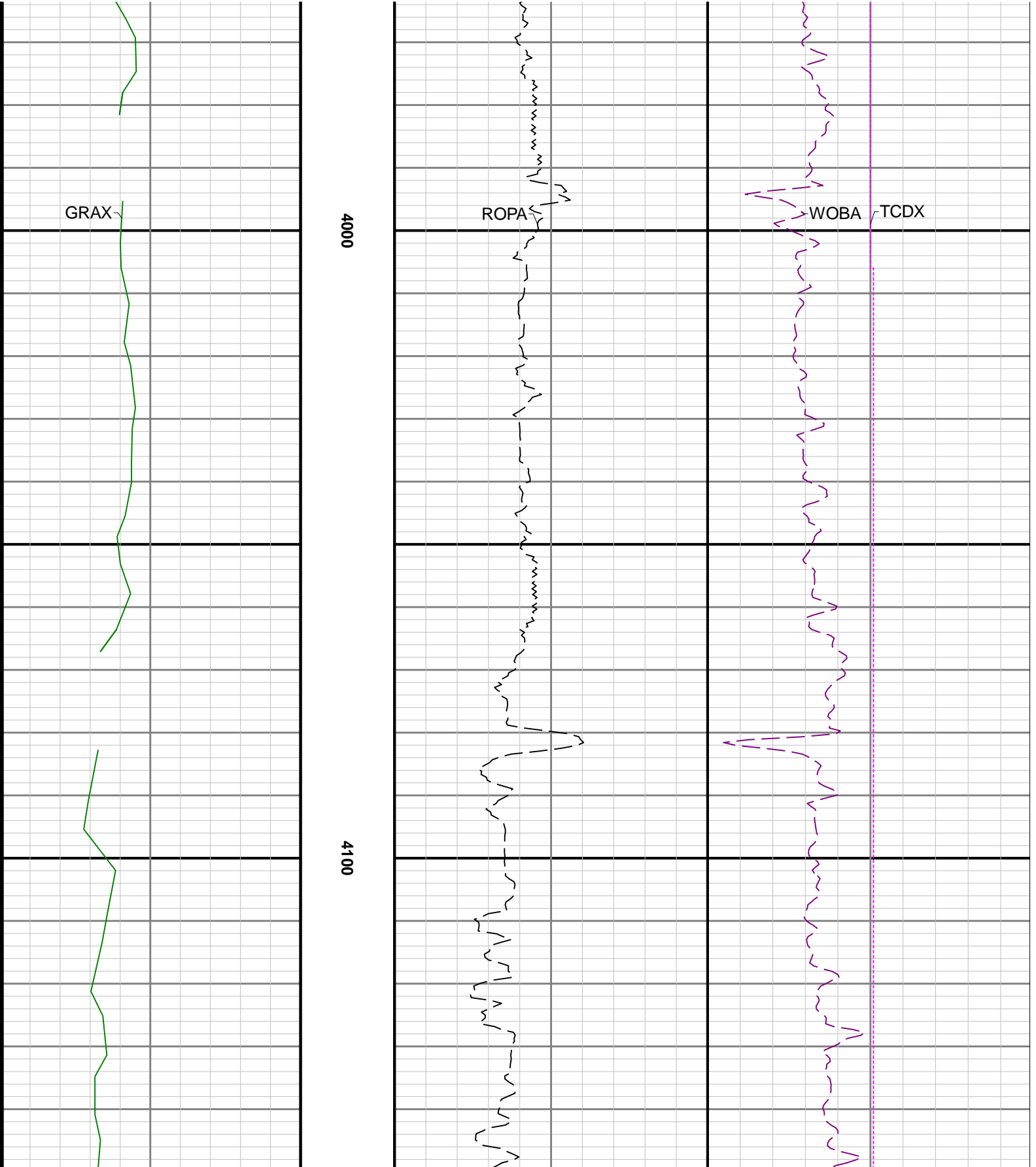


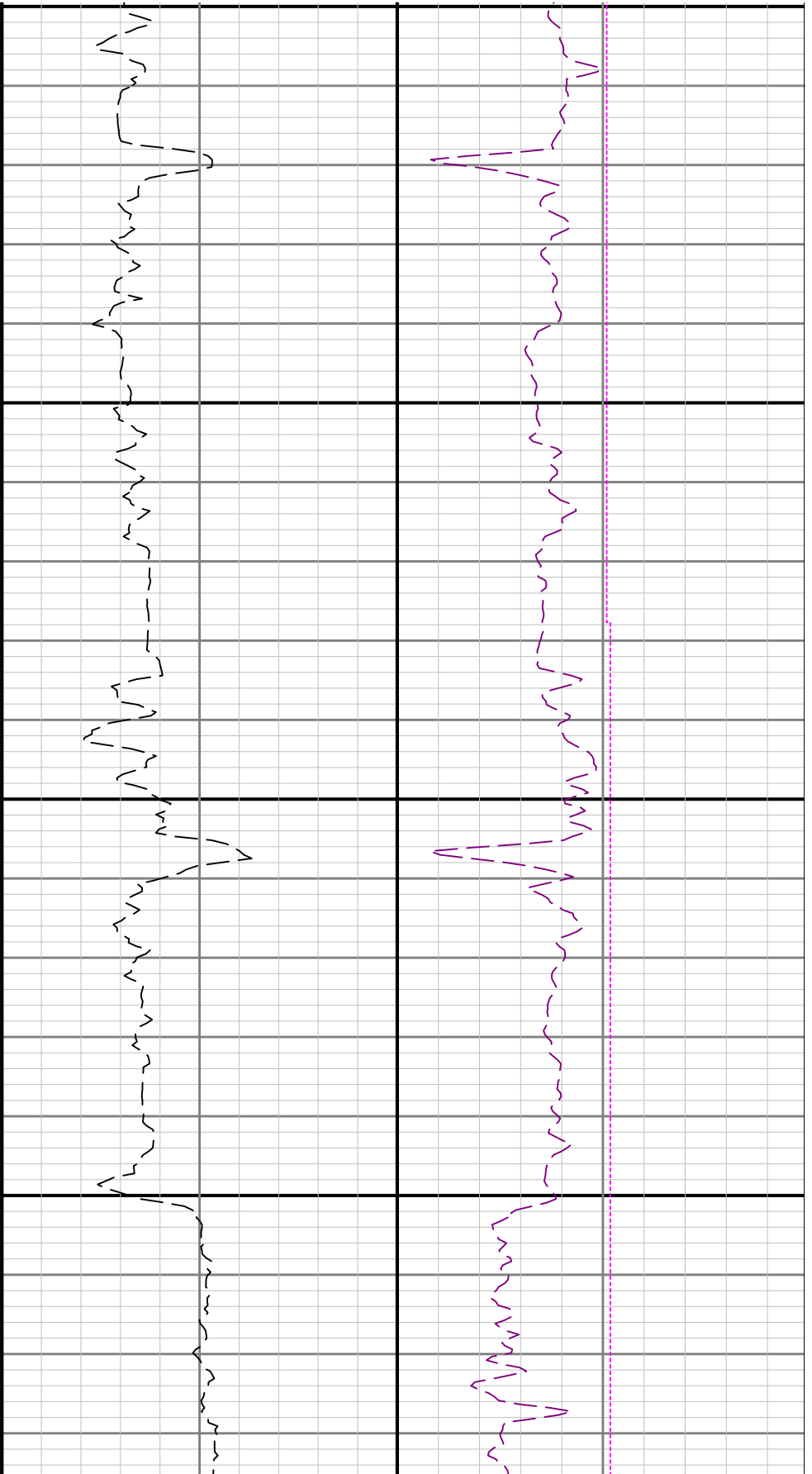


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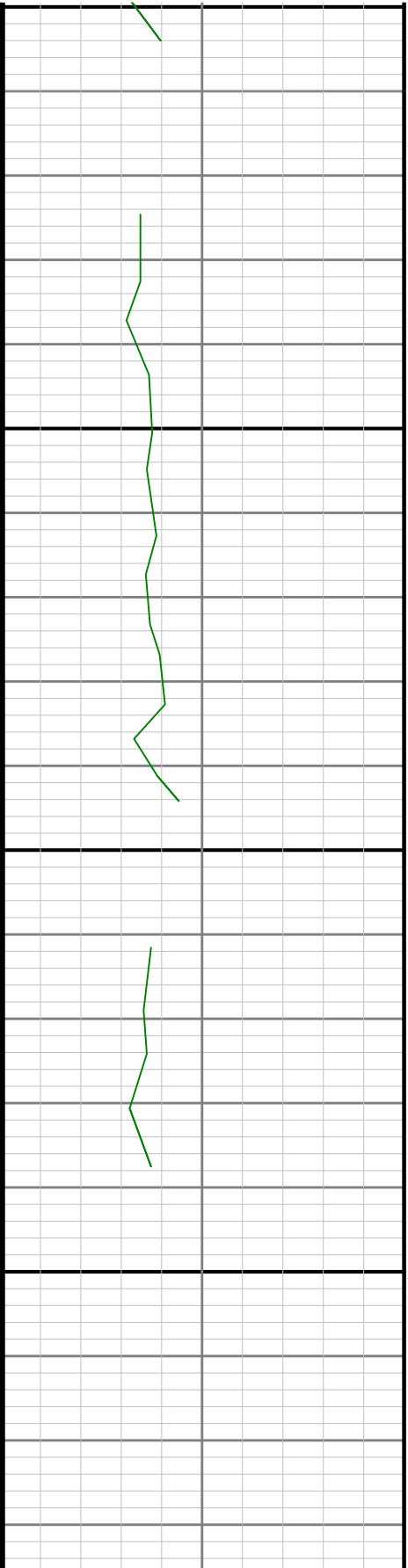


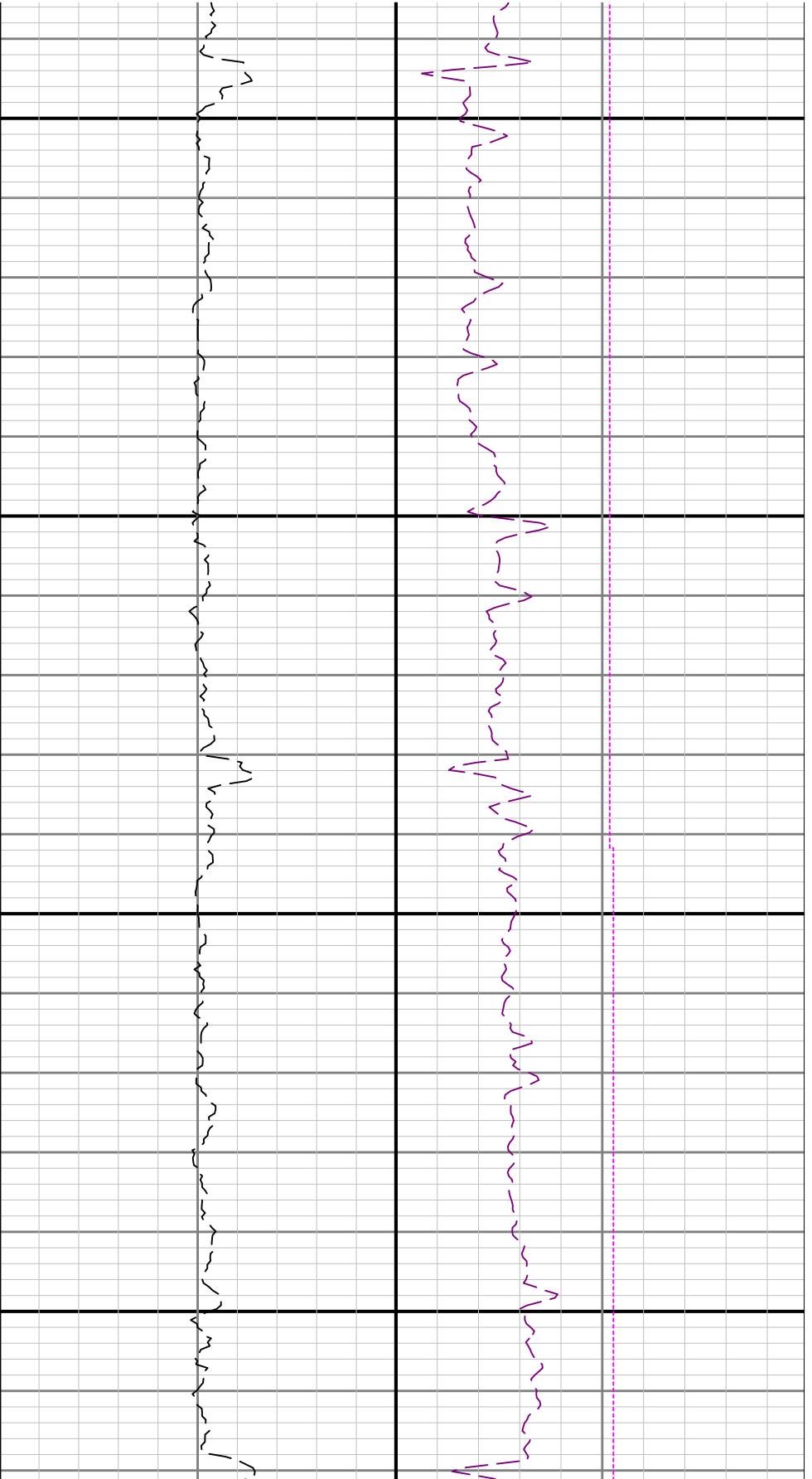




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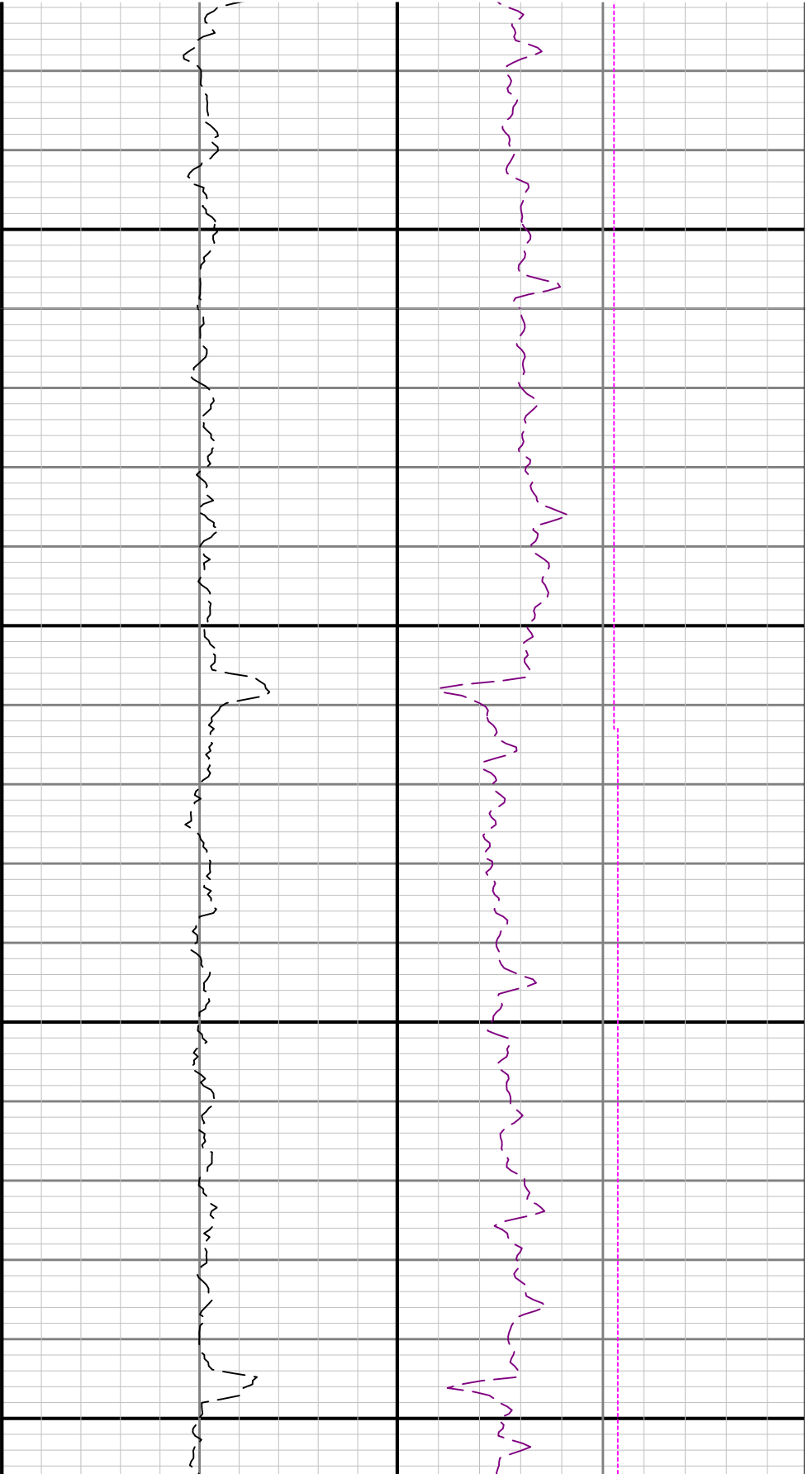
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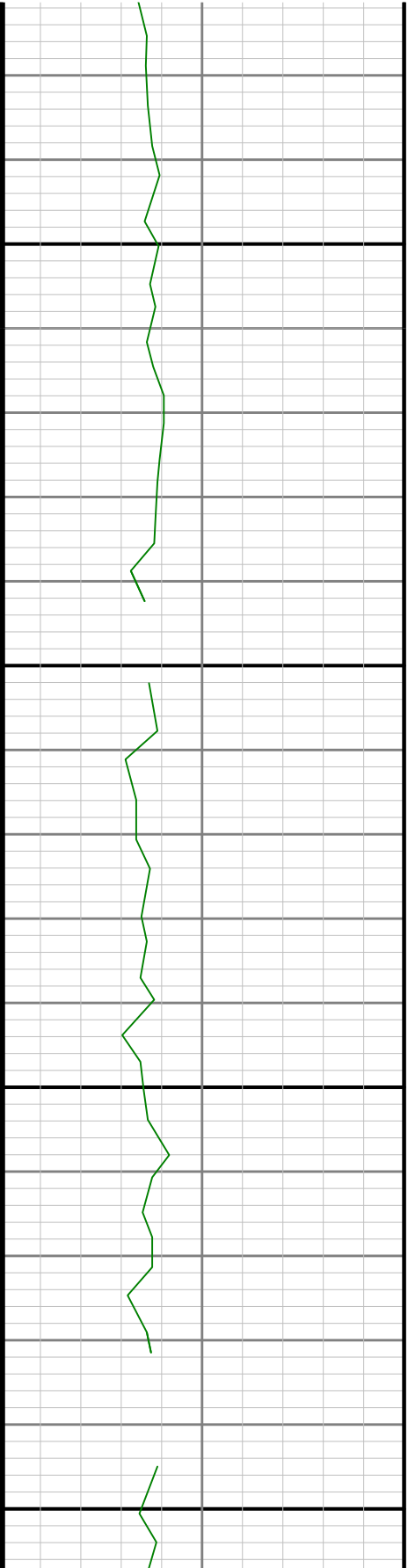
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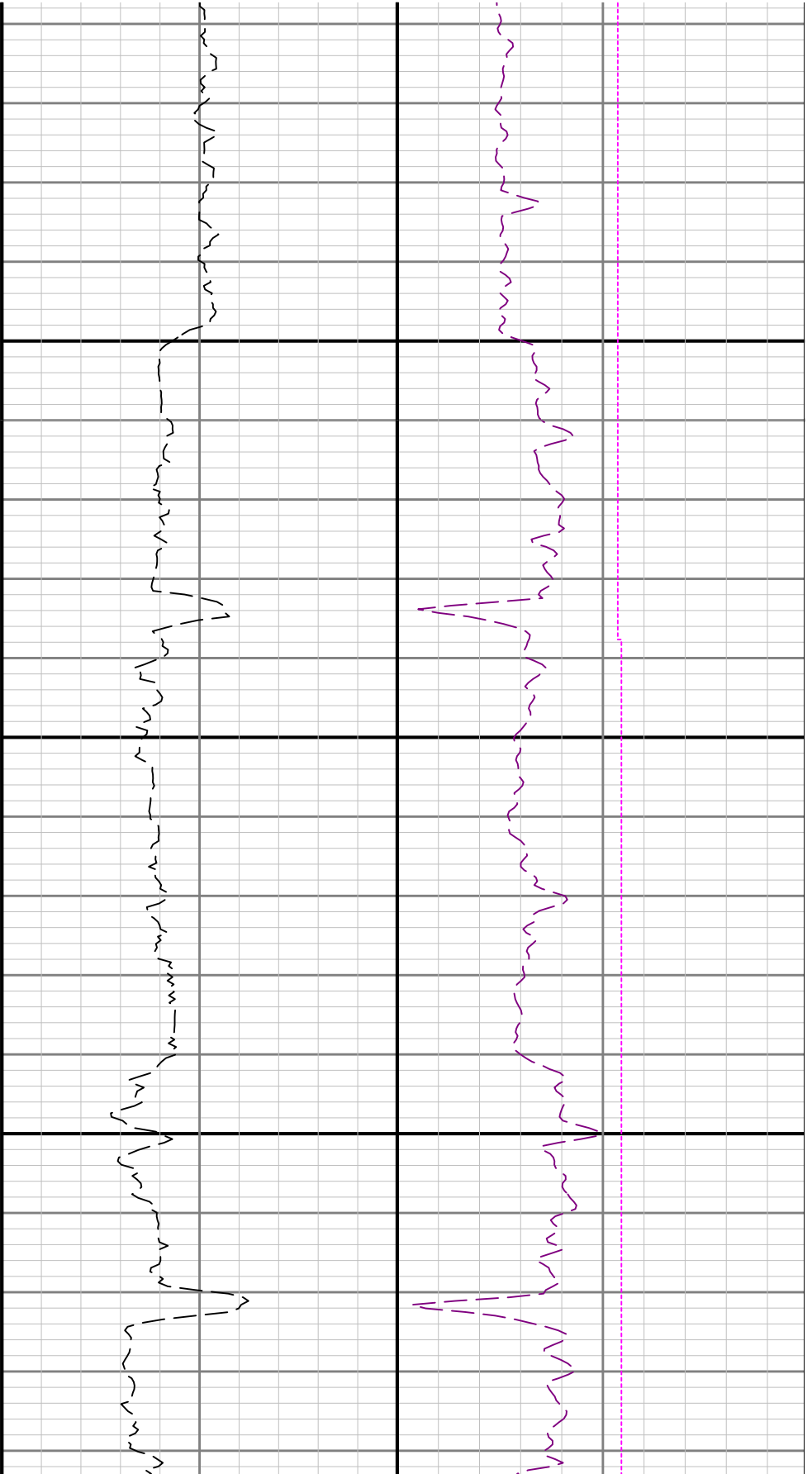
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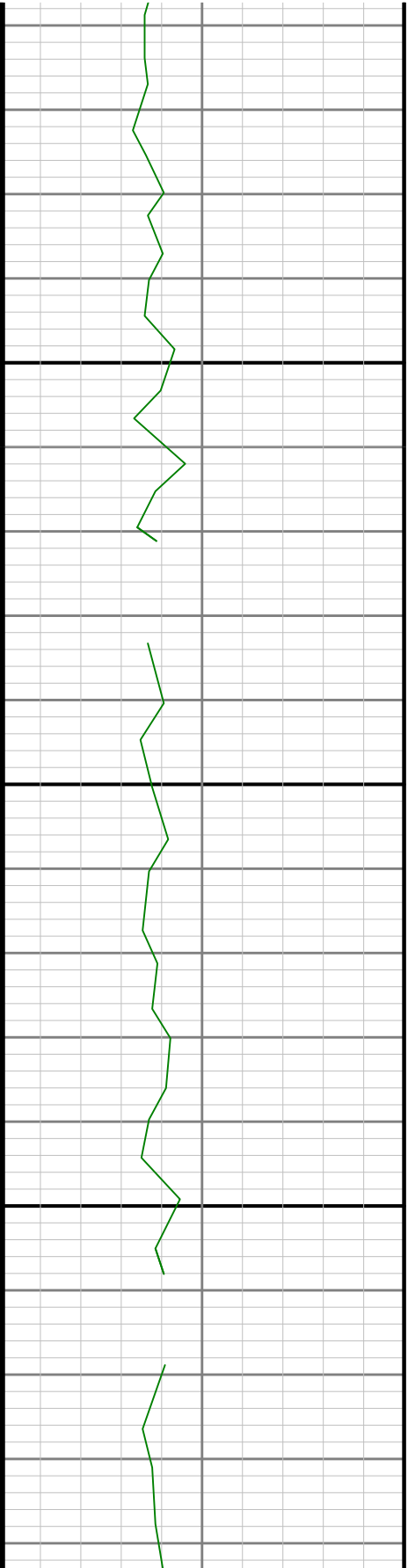
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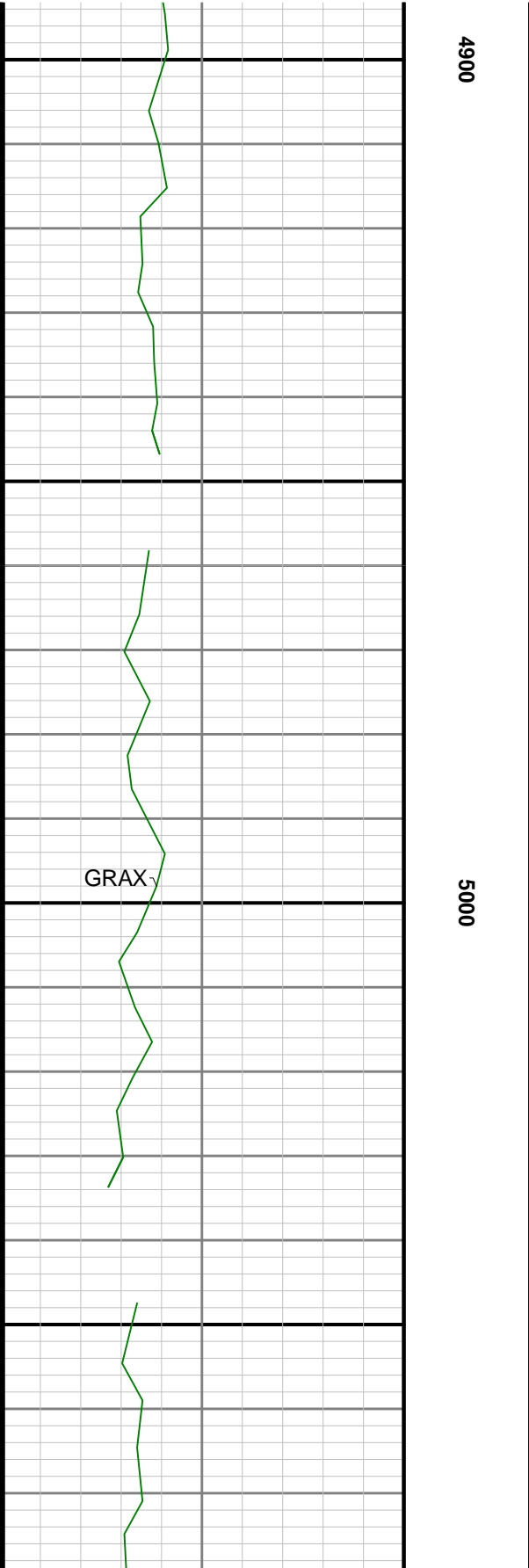
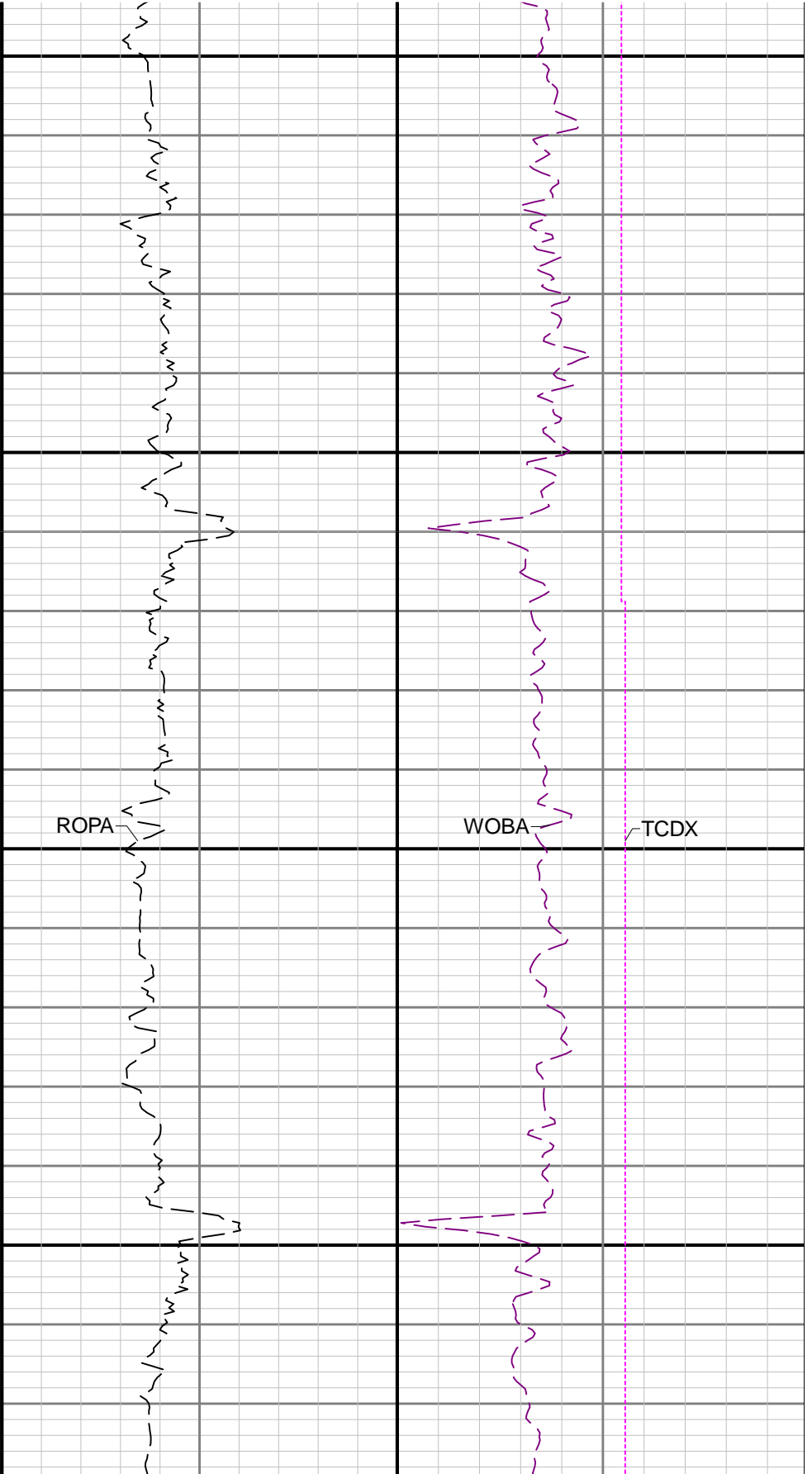
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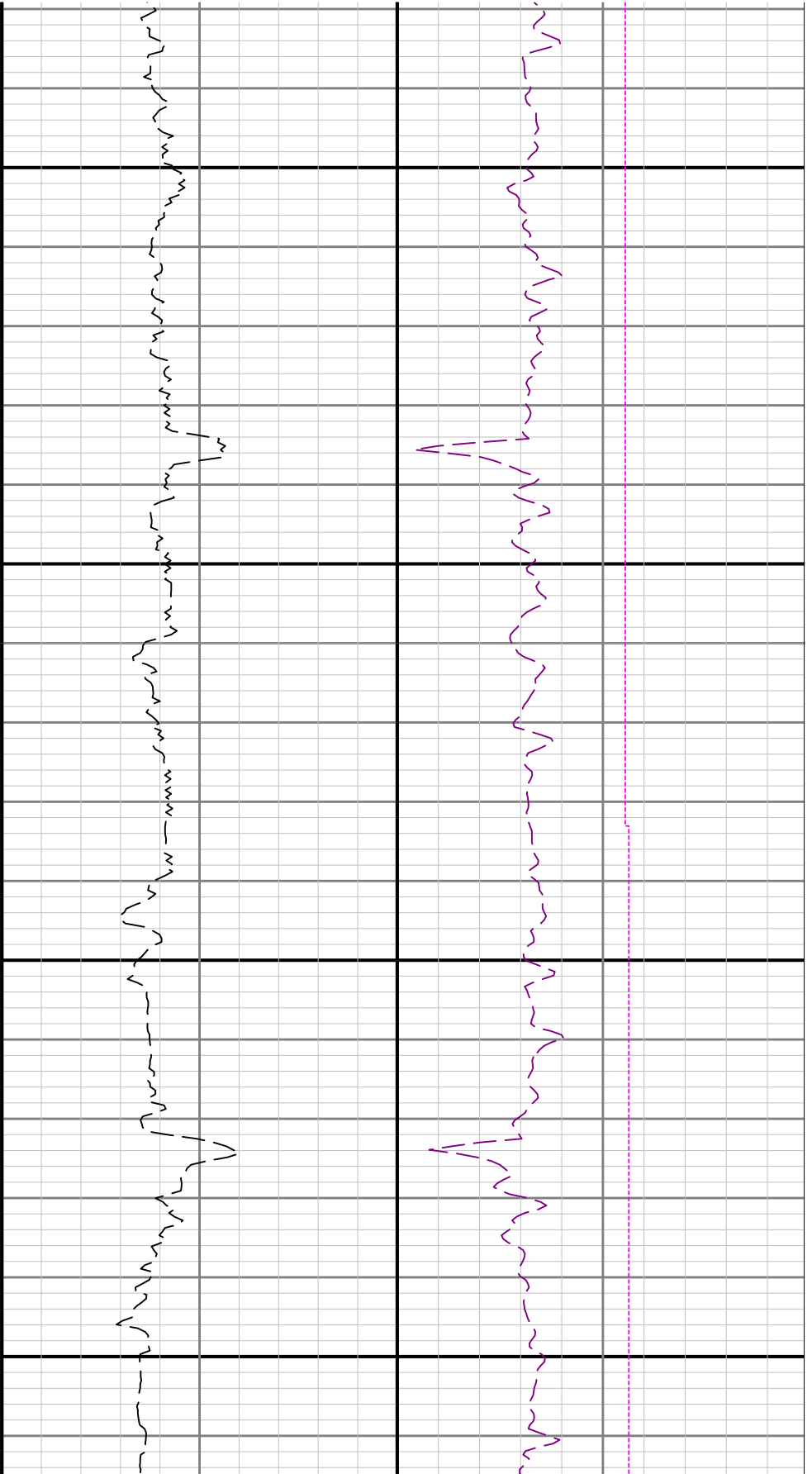




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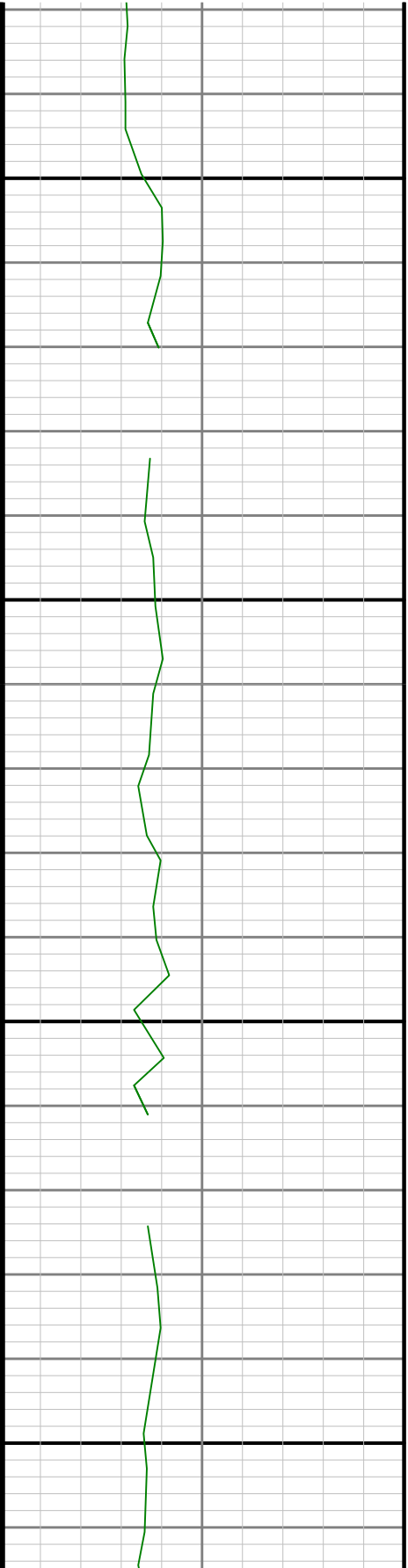


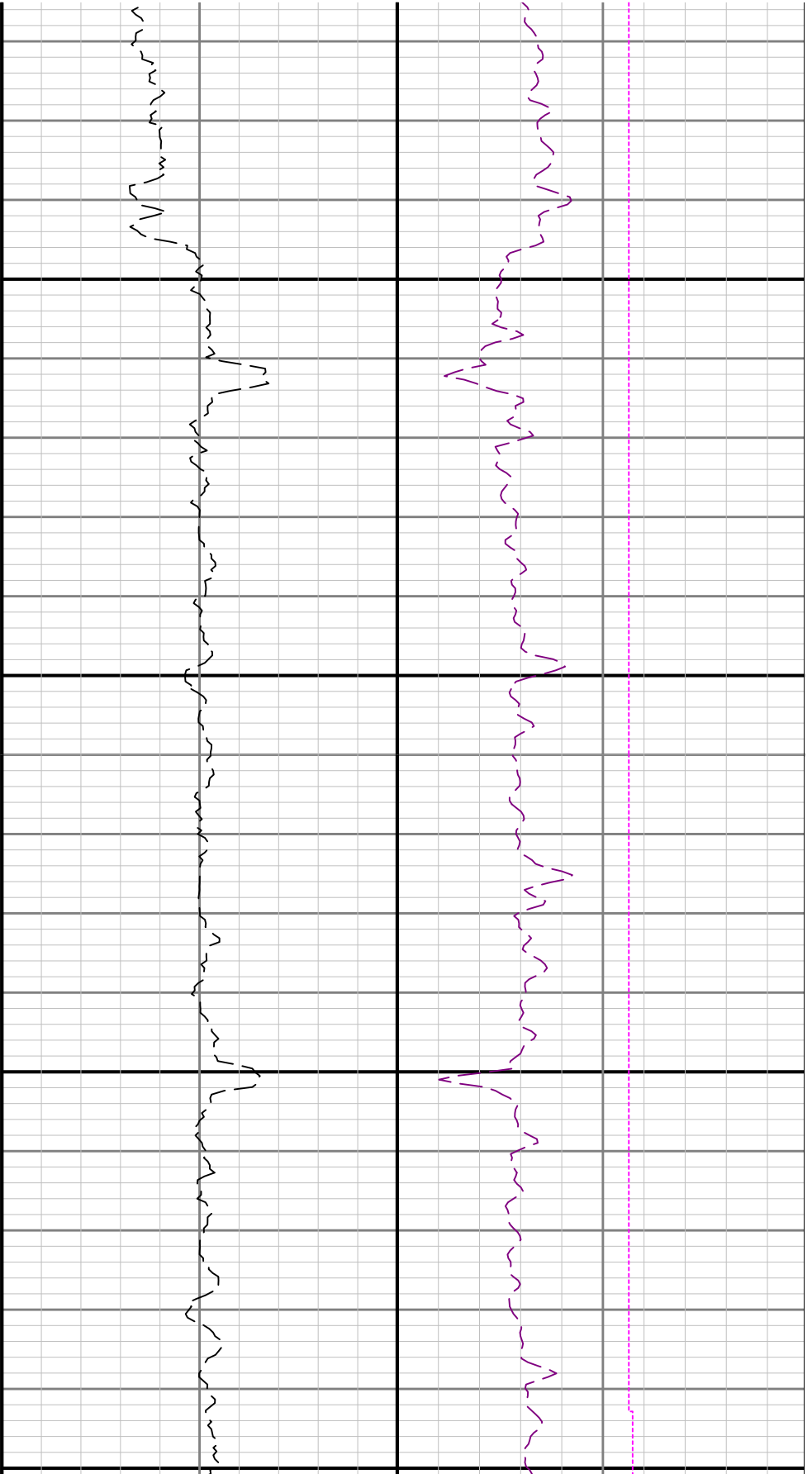




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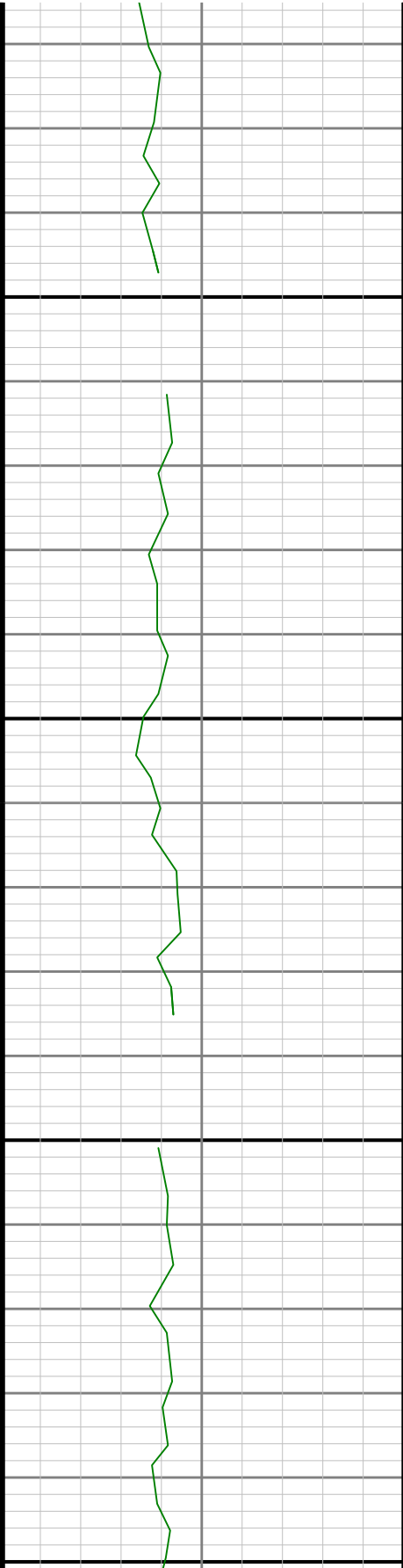
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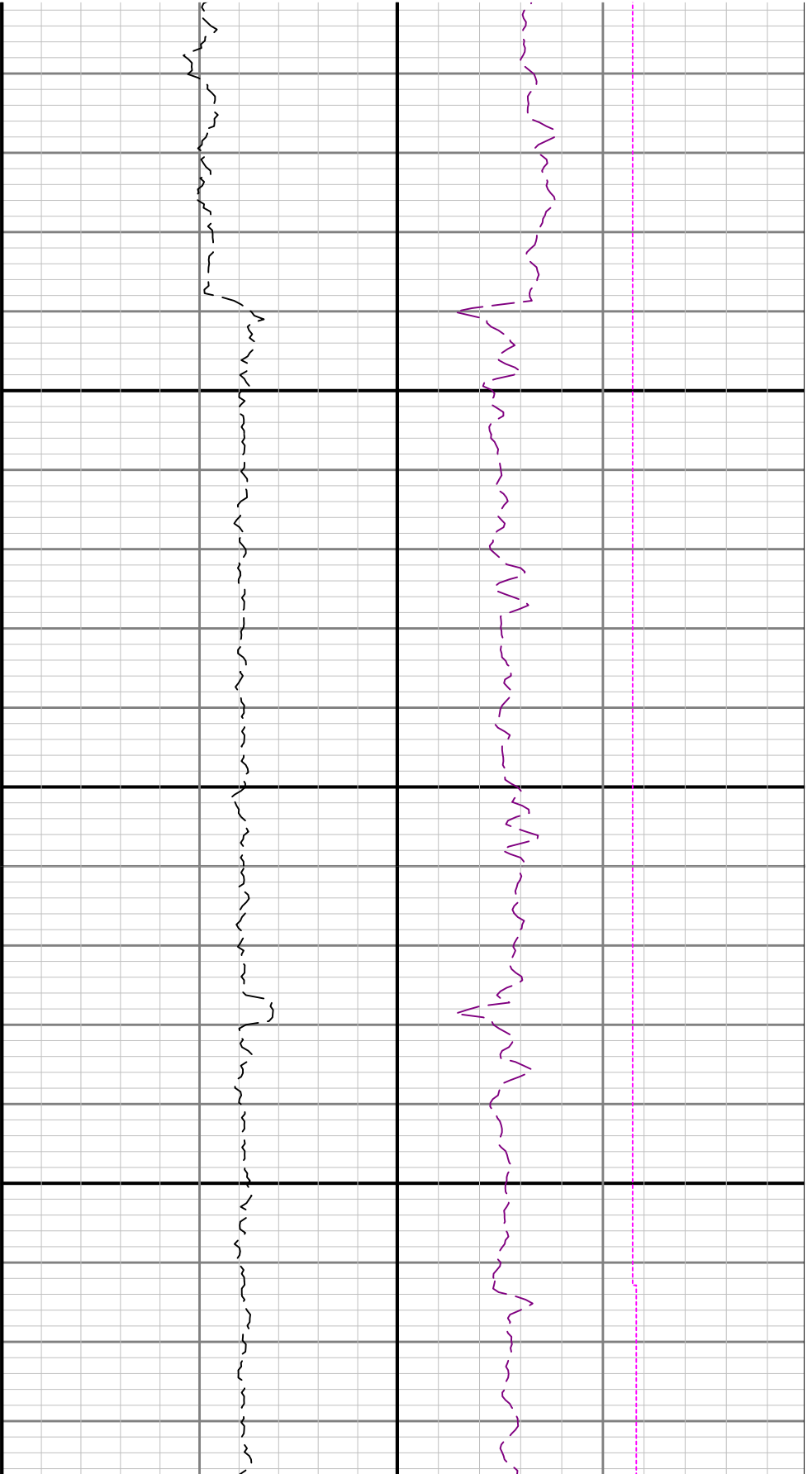




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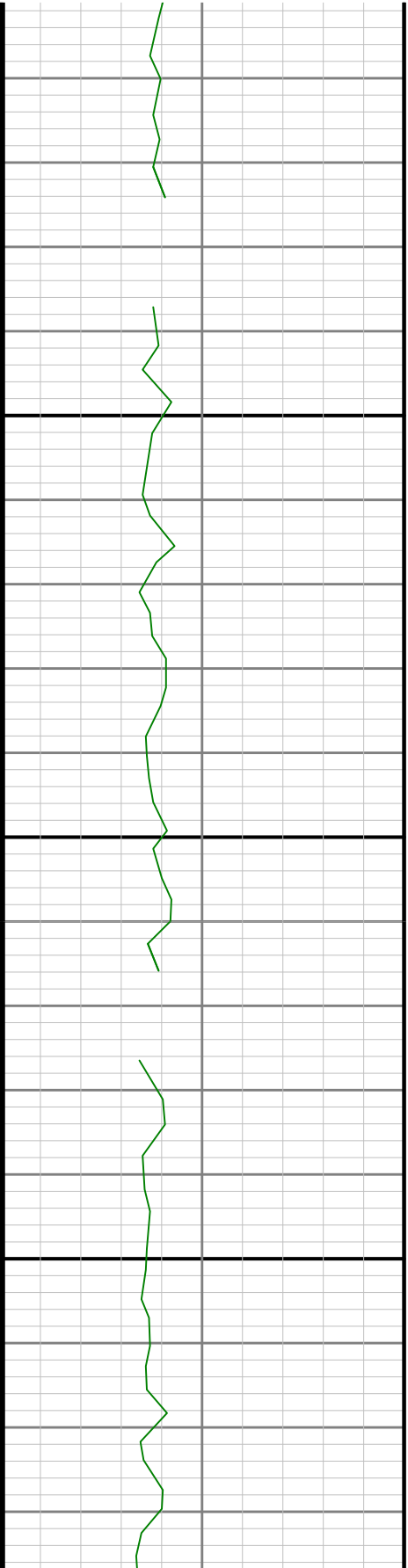
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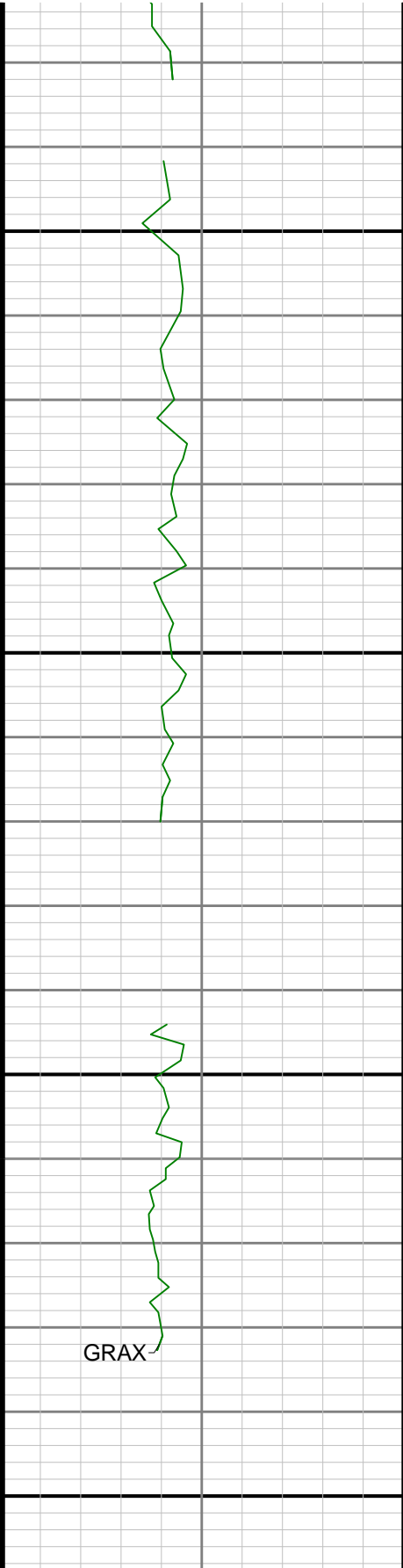




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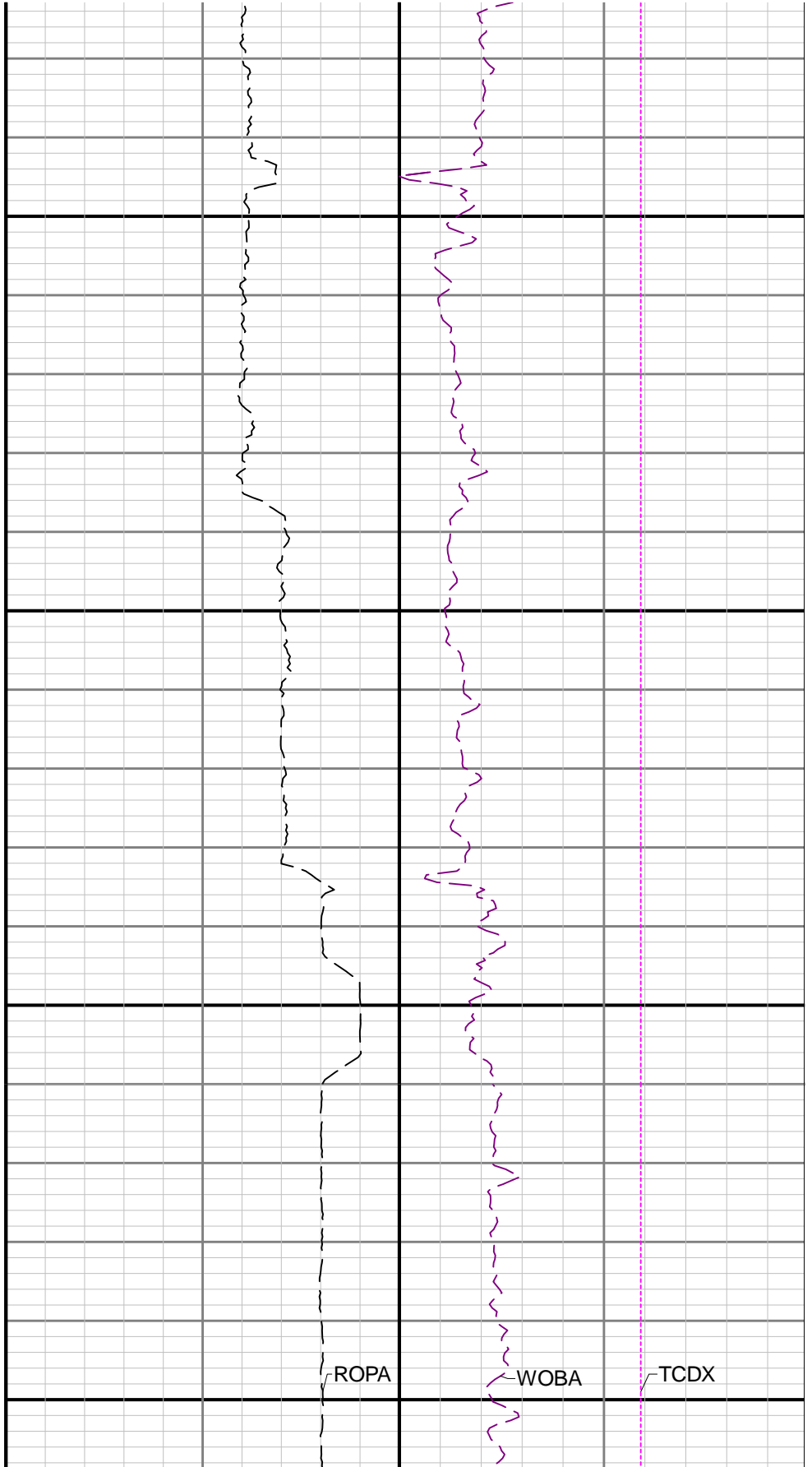
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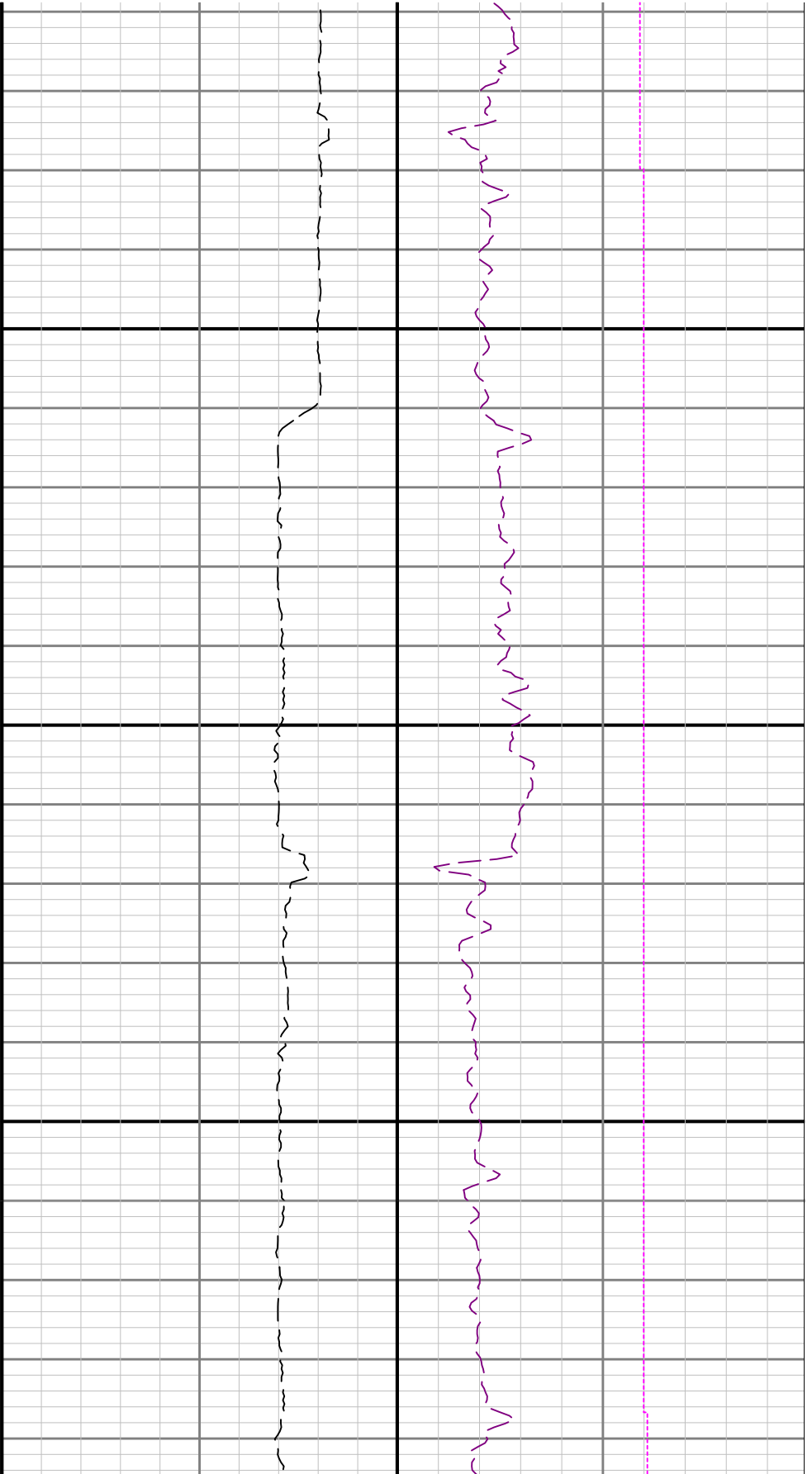




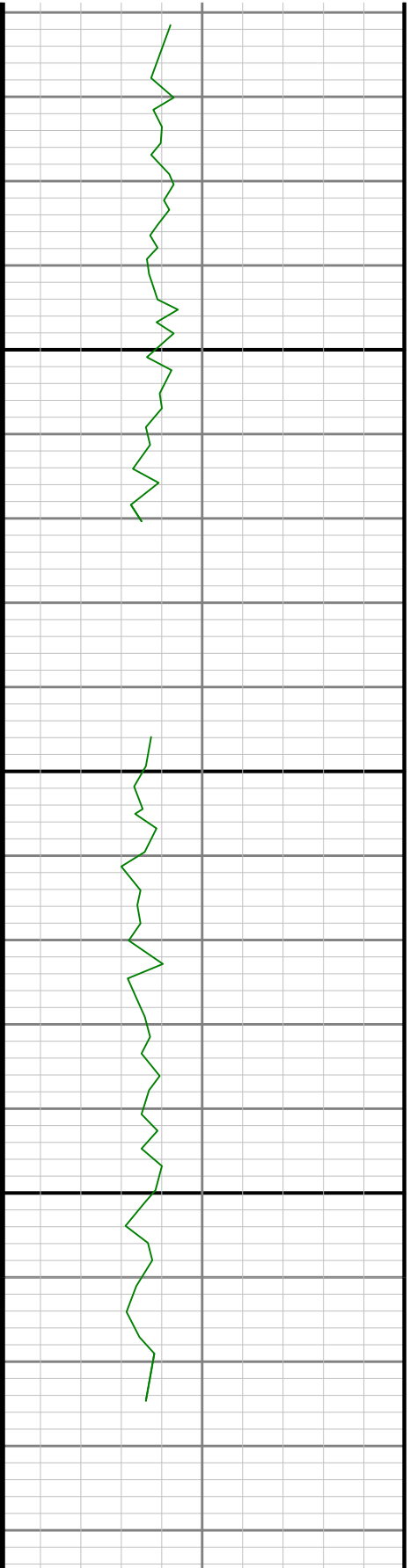
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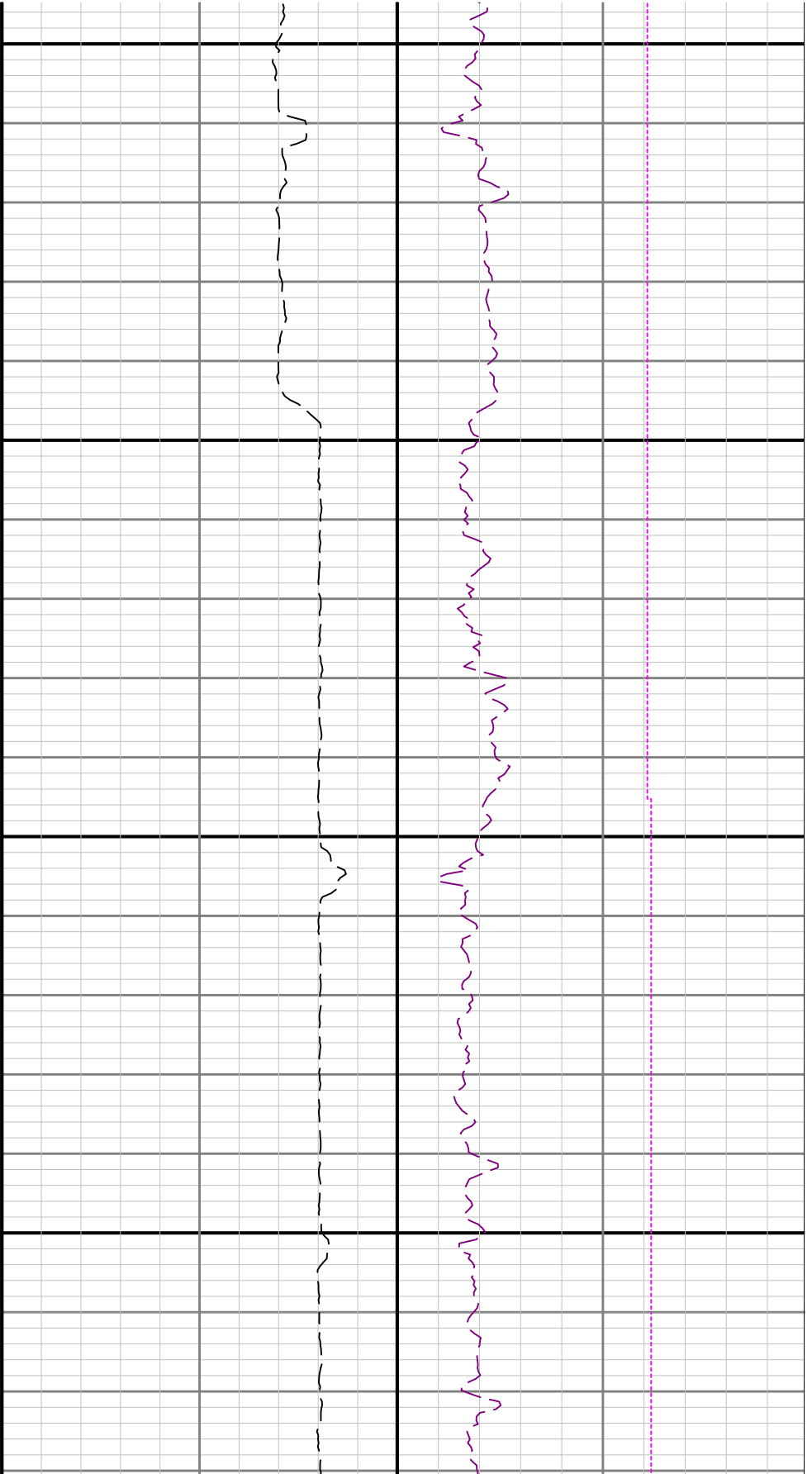
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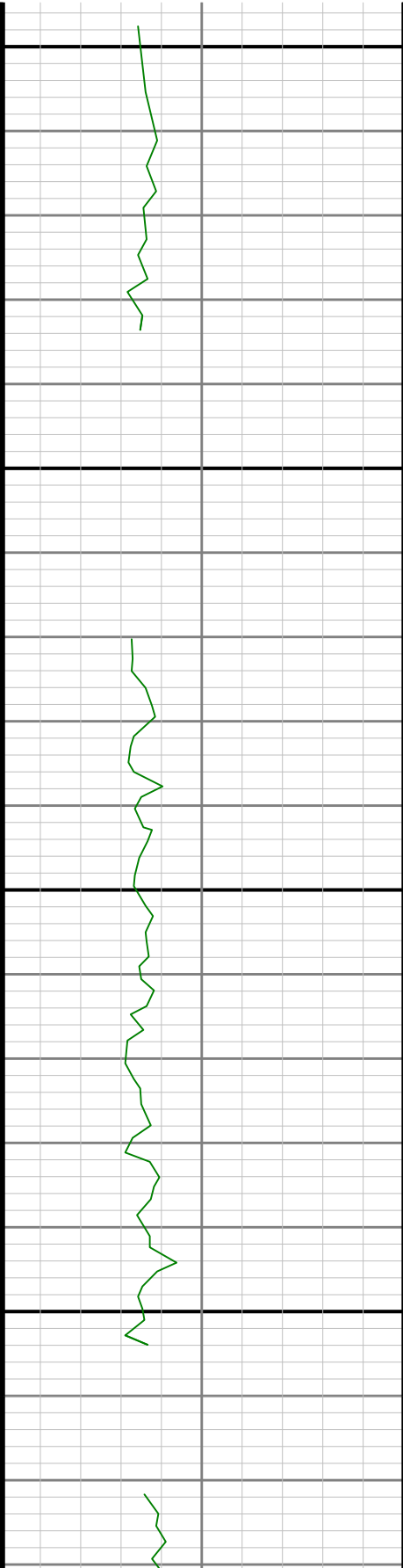
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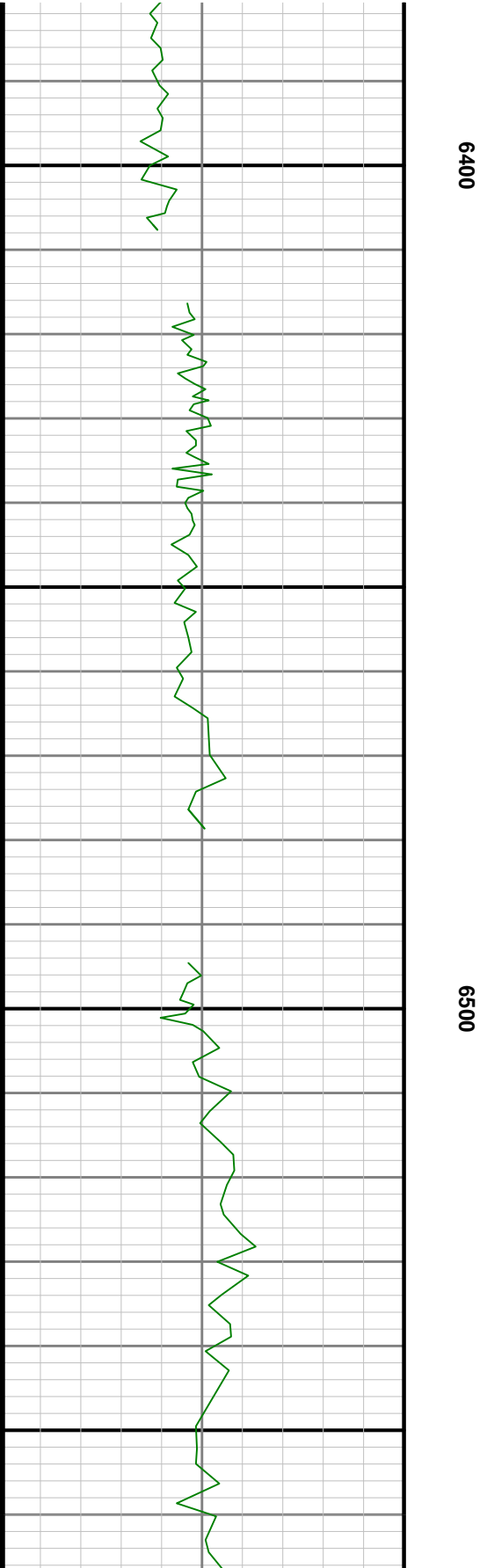
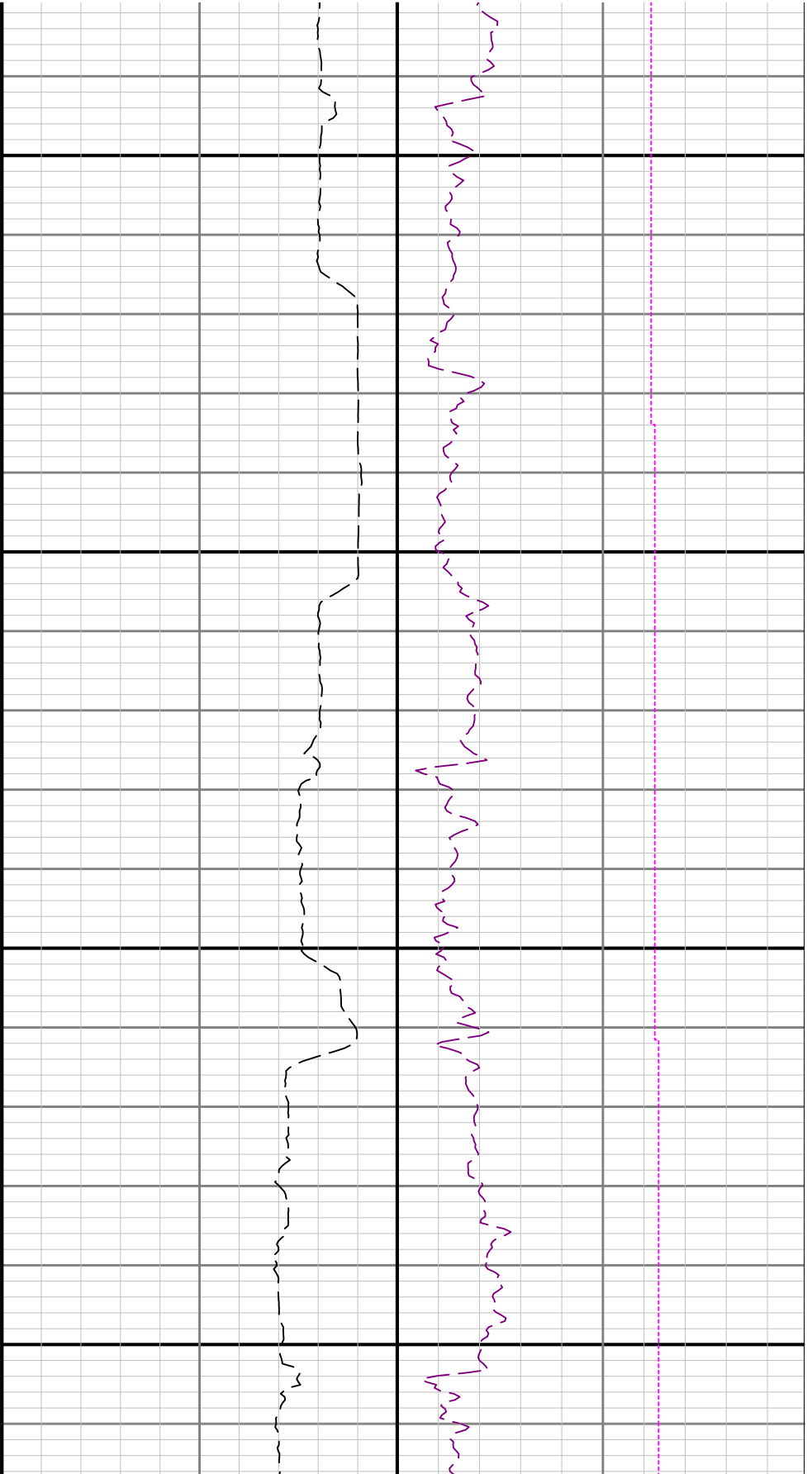


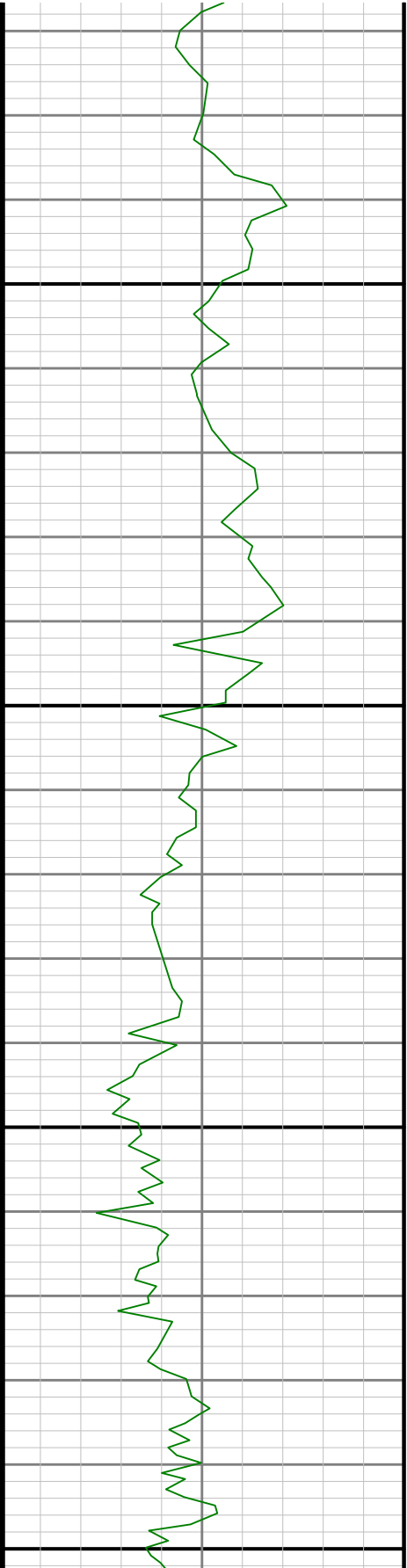


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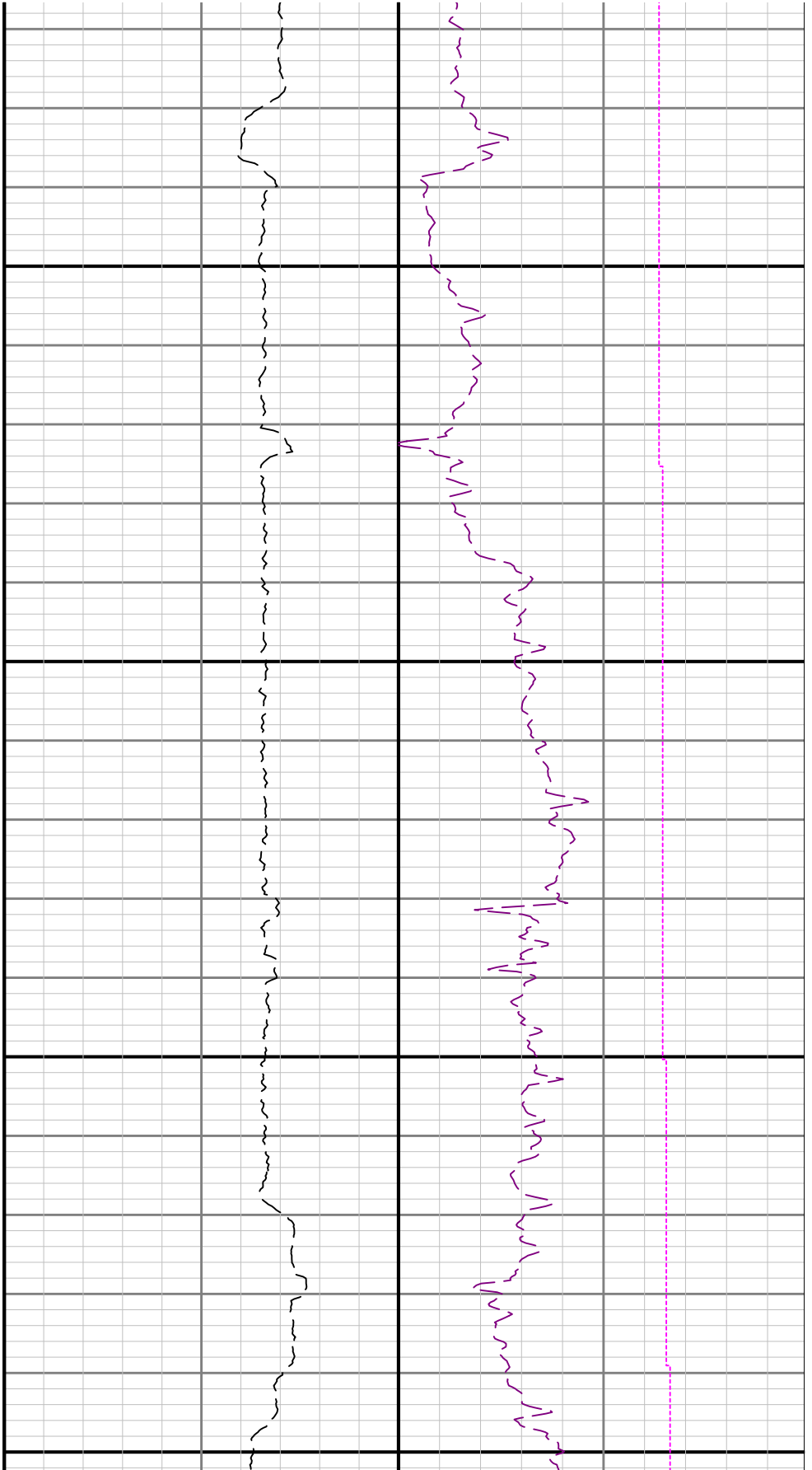


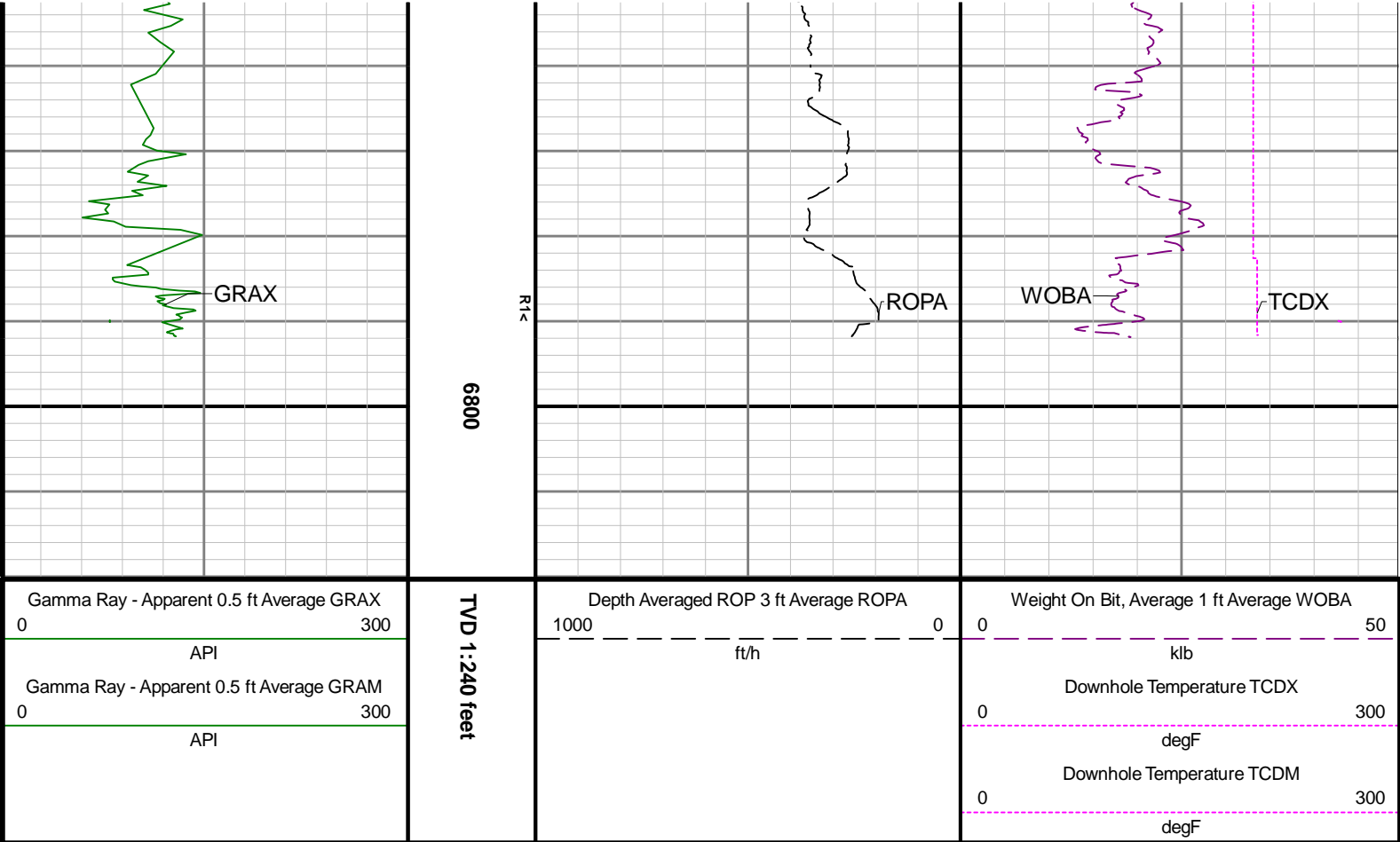




6600

6700





Directional Survey Summary

Latitude:	040° 12' 20.484" N	Longitude:	104° 30' 51.480" W
North Reference:	Grid	Drill Depth Zero:	Rig Floor
Vertical Datum is:	Mean Sea Level	Vertical Datum to DDZ: (ft)	4839.00
Vertical Section North: (ft)	0.00	Vertical Section East: (ft)	0.00
Vertical Section Azimuth: (deg)	4.25		
Grid Convergence: (deg)	-0.64	Magnetic Declination: (deg)	8.08
Total Correction: (deg)	7.44	TVD Calculation Method:	Minimum Curvature
Magnetic Correction:	On	Local Magnetic Field: (nT)	52085
Local Magnetic Dip Angle: (deg)	66.65	Local Gravity Field: (m/s2)	9.800

Tie-In / Projection	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	Temperature (degF)	North (ft)	East (ft)	True Vertical Depth (ft)	TVD Subsea (ft)	Vertical Section (ft)	Course Length (ft)	Dog Leg Severity (deg/100ft)	Build Rate (deg/100ft)	Turn Rate (deg/100ft)
Tie-In	0.00	0.00	0.00	N/A	0.00	0.00	0.00	-4839.00	0.00	0.00	0.00	0.00	0.00
	82.00	0.38	301.24	N/A	0.14	-0.23	82.00	-4757.00	0.12	82.00	0.46	0.46	-71.66
	176.00	0.47	352.89	N/A	0.69	-0.55	176.00	-4663.00	0.64	94.00	0.40	0.10	54.95
	267.00	0.56	14.48	N/A	1.49	-0.48	266.99	-4572.01	1.45	91.00	0.23	0.10	23.73
	330.00	0.62	330.40	N/A	2.08	-0.57	329.99	-4509.01	2.03	63.00	0.71	0.10	-69.97
	425.00	0.68	5.25	N/A	3.09	-0.78	424.98	-4414.02	3.02	95.00	0.41	0.06	36.68
	520.00	0.59	93.99	N/A	3.62	-0.24	519.98	-4319.02	3.59	95.00	0.94	-0.09	93.41
	615.00	0.43	94.36	N/A	3.56	0.61	614.98	-4224.02	3.59	95.00	0.17	-0.17	0.39
	709.00	0.14	274.41	N/A	3.54	0.84	708.98	-4130.02	3.59	94.00	0.61	-0.31	-191.44
	804.00	0.30	238.24	N/A	3.42	0.52	803.98	-4035.02	3.44	95.00	0.22	0.17	-38.07
	899.00	0.44	225.22	N/A	3.03	0.05	898.97	-3940.03	3.02	95.00	0.17	0.15	-13.71
	993.00	0.38	215.84	N/A	2.52	-0.39	992.97	-3846.03	2.48	94.00	0.10	-0.06	-9.98
	1088.00	0.14	203.39	N/A	2.16	-0.62	1087.97	-3751.03	2.11	95.00	0.26	-0.25	-13.11
	1183.00	0.19	294.84	N/A	2.12	-0.81	1182.97	-3656.03	2.05	95.00	0.25	0.05	96.26

		1278.00	0.30	76.83	N/A	2.24	-0.71	1277.97	-3561.03	2.18	95.00	0.49	0.12	149.46
		1372.00	0.25	351.08	N/A	2.50	-0.50	1371.97	-3467.03	2.46	94.00	0.40	-0.05	-91.22
		1467.00	0.43	235.16	N/A	2.50	-0.83	1466.97	-3372.03	2.43	95.00	0.62	0.19	-122.02
		1562.00	0.05	4.61	N/A	2.34	-1.12	1561.97	-3277.03	2.25	95.00	0.49	-0.40	136.26
		1656.00	0.15	336.91	N/A	2.49	-1.16	1655.97	-3183.03	2.40	94.00	0.12	0.11	-29.47
		1751.00	0.53	317.78	N/A	2.93	-1.51	1750.96	-3088.04	2.81	95.00	0.41	0.40	-20.14
		1846.00	0.41	310.27	N/A	3.48	-2.06	1845.96	-2993.04	3.32	95.00	0.14	-0.13	-7.91
		1877.00	0.65	297.83	N/A	3.63	-2.30	1876.96	-2962.04	3.45	31.00	0.85	0.77	-40.13
Tie-In		1946.00	0.78	305.95	N/A	4.09	-3.03	1945.96	-2893.04	3.85	69.00	0.24	0.19	11.77
		1982.00	0.96	315.62	123.0	4.45	-3.44	1981.95	-2857.05	4.18	36.00	0.64	0.50	26.86
		2077.00	0.70	304.03	123.0	5.34	-4.47	2076.94	-2762.06	5.00	95.00	0.32	-0.27	-12.20
		2172.00	0.85	315.57	125.7	6.17	-5.45	2171.93	-2667.07	5.75	95.00	0.23	0.16	12.15
		2266.00	2.80	331.47	131.1	8.69	-7.03	2265.88	-2573.12	8.14	94.00	2.12	2.07	16.91
		2361.00	0.50	222.31	133.8	10.42	-8.42	2360.84	-2478.16	9.77	95.00	3.16	-2.42	-114.91
		2456.00	4.77	166.30	133.8	6.27	-7.76	2455.73	-2383.27	5.68	95.00	4.75	4.49	-58.96
		2550.00	7.36	156.08	139.2	-3.03	-4.40	2549.19	-2289.81	-3.35	94.00	2.97	2.76	-10.87
		2645.00	9.92	148.33	139.2	-15.56	2.37	2643.11	-2195.89	-15.34	95.00	2.95	2.69	-8.16
		2739.00	12.59	140.98	139.2	-30.41	13.07	2735.30	-2103.70	-29.36	94.00	3.22	2.84	-7.82
		2834.00	17.21	138.16	139.2	-48.94	28.97	2827.08	-2011.92	-46.66	95.00	4.92	4.86	-2.97
		2929.00	20.40	140.32	141.9	-72.16	48.93	2917.00	-1922.00	-68.33	95.00	3.44	3.36	2.27
		3024.00	22.17	144.87	141.9	-99.56	69.81	3005.52	-1833.48	-94.12	95.00	2.55	1.86	4.79
		3119.00	22.84	150.20	141.9	-130.23	89.29	3093.30	-1745.70	-123.25	95.00	2.26	0.71	5.61
		3213.00	22.35	156.40	144.6	-162.44	105.52	3180.09	-1658.91	-154.17	94.00	2.59	-0.52	6.60
		3308.00	22.57	161.80	144.6	-196.31	118.45	3267.90	-1571.10	-187.00	95.00	2.18	0.23	5.68
		3402.00	22.11	164.37	144.6	-230.49	128.85	3354.84	-1484.16	-220.31	94.00	1.15	-0.49	2.73
		3497.00	19.67	166.79	147.3	-263.28	137.32	3443.60	-1395.40	-252.38	95.00	2.72	-2.57	2.55
		3592.00	18.99	170.35	147.3	-294.08	143.56	3533.24	-1305.76	-282.63	95.00	1.43	-0.72	3.75
		3686.00	20.67	171.64	147.3	-325.58	148.54	3621.67	-1217.33	-313.67	94.00	1.85	1.79	1.37
		3781.00	22.36	168.47	147.3	-359.87	154.59	3710.05	-1128.95	-347.43	95.00	2.16	1.78	-3.34
		3876.00	22.55	157.45	147.3	-394.42	165.19	3797.88	-1041.12	-381.09	95.00	4.43	0.20	-11.60
		3971.00	22.62	148.29	150.0	-426.79	181.78	3885.62	-953.38	-412.15	95.00	3.70	0.07	-9.64
		4066.00	22.35	149.13	150.0	-457.84	200.66	3973.40	-865.60	-441.71	95.00	0.44	-0.28	0.88
		4160.00	22.43	150.95	152.7	-488.86	218.53	4060.32	-778.68	-471.32	94.00	0.74	0.09	1.94
		4255.00	22.58	149.94	152.7	-520.49	236.47	4148.08	-690.92	-501.53	95.00	0.44	0.16	-1.06
		4350.00	22.64	154.82	155.4	-552.82	253.39	4235.79	-603.21	-532.52	95.00	1.98	0.06	5.14
		4445.00	22.46	146.51	155.4	-584.51	271.18	4323.55	-515.45	-562.81	95.00	3.36	-0.19	-8.75
		4540.00	21.92	152.81	155.4	-615.42	289.30	4411.53	-427.47	-592.29	95.00	2.57	-0.57	6.63
		4634.00	21.81	149.55	158.1	-646.08	306.17	4498.77	-340.23	-621.62	94.00	1.30	-0.12	-3.47
		4729.00	21.74	152.32	158.1	-676.88	323.29	4586.99	-252.01	-651.06	95.00	1.08	-0.07	2.92
		4824.00	21.65	150.27	160.8	-707.68	340.15	4675.26	-163.74	-680.52	95.00	0.80	-0.09	-2.16
		4919.00	22.06	154.52	160.8	-739.00	356.52	4763.44	-75.56	-710.55	95.00	1.72	0.43	4.47
		5013.00	21.69	151.00	163.5	-770.13	372.53	4850.68	11.68	-740.41	94.00	1.45	-0.39	-3.74
		5108.00	22.37	150.07	163.5	-801.15	390.06	4938.74	99.74	-770.04	95.00	0.80	0.72	-0.98
		5202.00	21.80	152.09	166.2	-832.08	407.16	5025.84	186.84	-799.62	94.00	1.01	-0.61	2.15
		5297.00	21.43	147.94	166.2	-862.38	424.63	5114.17	275.17	-828.54	95.00	1.66	-0.39	-4.37
		5392.00	20.63	153.50	168.9	-892.07	441.31	5202.85	363.85	-856.91	95.00	2.26	-0.84	5.85
		5487.00	19.81	151.64	168.9	-921.21	456.43	5291.99	452.99	-884.85	95.00	1.10	-0.86	-1.96
		5581.00	20.16	152.33	168.9	-949.57	471.51	5380.33	541.33	-912.02	94.00	0.45	0.37	0.73
		5676.00	20.41	149.28	171.6	-978.31	487.58	5469.44	630.44	-939.49	95.00	1.14	0.26	-3.21
		5770.00	20.50	149.56	171.6	-1006.59	504.29	5557.52	718.52	-966.45	94.00	0.14	0.10	0.30
		5865.00	20.27	150.15	174.3	-1035.21	520.91	5646.57	807.57	-993.76	95.00	0.32	-0.24	0.62
		5960.00	20.25	154.51	174.3	-1064.32	536.18	5735.69	896.69	-1021.66	95.00	1.59	-0.02	4.59
		6054.00	20.48	149.47	177.0	-1093.18	551.53	5823.83	984.83	-1049.30	94.00	1.88	0.24	-5.36
		6149.00	20.52	153.36	177.0	-1122.37	567.44	5912.81	1073.81	-1077.24	95.00	1.43	0.04	4.09
		6244.00	17.70	135.40	177.0	-1147.57	585.07	6002.65	1163.65	-1101.05	95.00	6.83	-2.97	-18.91
		6339.00	11.73	84.79	179.7	-1157.02	604.92	6094.84	1255.84	-1109.01	95.00	14.31	-6.28	-53.27
		6433.00	11.18	43.76	182.5	-1149.56	620.76	6187.12	1348.12	-1100.39	94.00	8.51	-0.59	-43.65
		6528.00	13.54	14.58	185.2	-1132.12	629.94	6280.00	1441.00	-1082.33	95.00	6.94	2.48	-30.72
		6623.00	18.57	26.47	185.2	-1107.80	639.49	6371.29	1532.29	-1057.36	95.00	6.30	5.29	12.52
		6717.00	28.89	32.06	187.9	-1075.06	658.27	6457.23	1618.23	-1023.32	94.00	11.22	10.98	5.95
		6812.00	38.59	23.33	190.6	-1028.27	682.25	6536.18	1697.18	-974.88	95.00	11.39	10.21	-9.19
		6907.00	46.09	13.60	190.6	-967.65	702.08	6606.43	1767.43	-912.96	95.00	10.47	7.89	-10.24

	7002.00	53.44	12.71	193.3	-897.07	718.55	6667.75	1828.75	-841.35	95.00	7.77	7.74	-0.94
	7096.00	61.61	8.70	196.0	-819.22	733.14	6718.20	1879.20	-762.63	94.00	9.40	8.69	-4.27
	7191.00	71.94	5.28	198.7	-732.69	743.64	6755.62	1916.62	-675.56	95.00	11.36	10.87	-3.60
	7286.00	80.07	3.24	198.7	-640.84	750.46	6778.57	1939.57	-583.47	95.00	8.81	8.56	-2.15
	7381.00	86.83	2.19	201.4	-546.62	754.92	6789.41	1950.41	-489.18	95.00	7.20	7.12	-1.11
	7475.00	90.15	358.74	201.4	-452.69	755.68	6791.88	1952.88	-395.44	94.00	5.09	3.53	-3.67
	7570.00	90.34	354.92	204.1	-357.85	750.43	6791.48	1952.48	-301.25	95.00	4.03	0.20	-4.02
	7665.00	90.25	352.66	206.8	-263.42	740.15	6790.99	1951.99	-207.84	95.00	2.38	-0.09	-2.38
	7759.00	90.40	353.83	209.5	-170.07	729.10	6790.45	1951.45	-115.57	94.00	1.25	0.16	1.24
	7854.00	90.37	359.29	209.5	-75.28	723.40	6789.82	1950.82	-21.46	95.00	5.75	-0.03	5.75
	7949.00	90.52	0.51	212.2	19.71	723.23	6789.08	1950.08	73.26	95.00	1.29	0.16	1.28
	8043.00	90.34	359.51	212.2	113.71	723.25	6788.37	1949.37	167.00	94.00	1.08	-0.19	-1.06
	8138.00	90.31	357.88	214.9	208.68	721.08	6787.83	1948.83	261.55	95.00	1.72	-0.03	-1.72
	8233.00	89.57	354.44	214.9	303.45	714.72	6787.93	1948.93	355.59	95.00	3.70	-0.78	-3.62
	8327.00	89.48	343.51	217.6	395.57	696.77	6788.71	1949.71	446.12	94.00	11.63	-0.10	-11.63
	8422.00	90.06	343.40	214.9	486.64	669.72	6789.10	1950.10	534.93	95.00	0.62	0.61	-0.12
	8517.00	90.03	356.33	214.9	579.96	653.04	6789.02	1950.02	626.76	95.00	13.61	-0.03	13.61
	8612.00	90.12	4.80	214.9	674.87	653.98	6788.90	1949.90	721.48	95.00	8.92	0.09	8.92
	8707.00	90.09	9.43	217.6	769.11	665.74	6788.72	1949.72	816.33	95.00	4.87	-0.03	4.87
	8801.00	90.31	12.92	223.0	861.31	683.95	6788.39	1949.39	909.63	94.00	3.72	0.23	3.71
	8896.00	90.09	11.10	223.0	954.23	703.72	6788.06	1949.06	1003.76	95.00	1.93	-0.23	-1.92
	8991.00	90.31	6.39	223.0	1048.10	718.16	6787.73	1948.73	1098.44	95.00	4.96	0.23	-4.96
	9086.00	90.18	359.52	225.7	1142.91	723.06	6787.32	1948.32	1193.36	95.00	7.23	-0.14	-7.23
	9180.00	90.15	355.52	228.4	1236.81	718.99	6787.05	1948.05	1286.69	94.00	4.26	-0.03	-4.26
	9275.00	90.40	357.87	228.4	1331.64	713.51	6786.60	1947.60	1380.86	95.00	2.49	0.26	2.47
	9370.00	90.06	0.19	231.1	1426.62	711.90	6786.22	1947.22	1475.46	95.00	2.47	-0.36	2.44
	9465.00	89.97	358.35	231.1	1521.61	710.69	6786.19	1947.19	1570.09	95.00	1.94	-0.09	-1.94
	9559.00	90.28	357.83	233.8	1615.56	707.56	6785.99	1946.99	1663.55	94.00	0.64	0.33	-0.55
	9654.00	90.09	1.50	233.8	1710.54	707.01	6785.68	1946.68	1758.23	95.00	3.87	-0.20	3.86
	9749.00	91.11	356.98	233.8	1805.50	705.75	6784.68	1945.68	1852.83	95.00	4.88	1.07	-4.76
	9844.00	90.03	356.03	236.5	1900.31	699.96	6783.74	1944.74	1946.96	95.00	1.51	-1.14	-1.00
	9938.00	90.12	0.30	236.5	1994.24	696.95	6783.62	1944.62	2040.41	94.00	4.54	0.10	4.54
	10033.00	90.52	5.47	239.2	2089.09	701.73	6783.08	1944.08	2135.35	95.00	5.46	0.42	5.44
	10128.00	89.97	6.79	239.2	2183.54	711.87	6782.68	1943.68	2230.29	95.00	1.51	-0.58	1.39
	10222.00	90.09	1.71	233.8	2277.25	718.83	6782.63	1943.63	2324.26	94.00	5.41	0.13	-5.40
	10317.00	90.25	359.46	233.8	2372.24	719.80	6782.35	1943.35	2419.06	95.00	2.37	0.17	-2.37
	10412.00	90.12	358.81	236.5	2467.23	718.37	6782.04	1943.04	2513.68	95.00	0.70	-0.14	-0.68
	10506.00	89.91	358.96	239.2	2561.21	716.54	6782.02	1943.02	2607.27	94.00	0.27	-0.22	0.16
	10601.00	90.03	1.18	236.5	2656.21	716.66	6782.07	1943.07	2702.01	95.00	2.34	0.13	2.34
	10696.00	89.94	4.04	236.5	2751.10	720.98	6782.09	1943.09	2796.96	95.00	3.01	-0.09	3.01
	10790.00	89.94	0.39	239.2	2845.01	724.61	6782.19	1943.19	2890.89	94.00	3.88	0.00	-3.88
	10885.00	89.94	355.83	239.2	2939.94	721.48	6782.29	1943.29	2985.32	95.00	4.80	-0.00	-4.80
	10980.00	89.97	356.68	241.9	3034.73	715.28	6782.36	1943.36	3079.39	95.00	0.90	0.03	0.89
	11075.00	89.94	358.39	241.9	3129.64	711.19	6782.44	1943.44	3173.74	95.00	1.80	-0.03	1.80
	11170.00	90.00	358.55	241.9	3224.61	708.66	6782.49	1943.49	3268.26	95.00	0.18	0.06	0.17
	11264.00	89.97	0.69	244.6	3318.60	708.03	6782.51	1943.51	3361.94	94.00	2.28	-0.03	2.28
	11359.00	90.06	5.34	244.6	3413.44	713.03	6782.49	1943.49	3456.90	95.00	4.90	0.09	4.89
	11454.00	90.09	13.67	244.6	3507.05	728.70	6782.36	1943.36	3551.41	95.00	8.77	0.03	8.77
	11548.00	89.88	10.78	236.5	3598.91	748.60	6782.39	1943.39	3644.49	94.00	3.08	-0.22	-3.07
	11643.00	90.03	0.62	241.9	3693.32	758.03	6782.46	1943.46	3739.34	95.00	10.70	0.16	-10.69
	11738.00	89.88	351.46	239.2	3787.99	751.47	6782.54	1943.54	3833.27	95.00	9.64	-0.16	-9.64
	11832.00	89.85	350.30	239.2	3880.80	736.57	6782.76	1943.76	3924.72	94.00	1.23	-0.03	-1.23
	11927.00	89.97	353.13	241.9	3974.80	722.89	6782.91	1943.91	4017.44	95.00	2.98	0.13	2.98
	12022.00	89.78	356.26	239.2	4069.38	714.10	6783.11	1944.11	4111.11	95.00	3.30	-0.20	3.29
	12116.00	89.94	356.32	244.6	4163.18	708.02	6783.34	1944.34	4204.21	94.00	0.18	0.17	0.06
	12211.00	89.85	357.53	247.3	4258.05	702.93	6783.52	1944.52	4298.43	95.00	1.28	-0.09	1.27
	12305.00	89.97	358.01	250.0	4351.97	699.27	6783.67	1944.67	4391.83	94.00	0.53	0.13	0.51
	12400.00	90.09	0.84	250.0	4446.96	698.31	6783.62	1944.62	4486.48	95.00	2.98	0.13	2.98
	12495.00	89.97	2.49	250.0	4541.92	701.07	6783.57	1944.57	4581.38	95.00	1.74	-0.13	1.74
	12589.00	89.94	4.88	250.0	4635.71	707.12	6783.64	1944.64	4675.37	94.00	2.54	-0.03	2.54
	12684.00	90.09	5.85	241.9	4730.30	716.00	6783.62	1944.62	4770.35	95.00	1.03	0.16	1.02
	12778.00	90.03	3.96	244.6	4823.95	724.03	6783.52	1944.52	4864.34	94.00	2.01	-0.06	-2.01

	12873.00	89.94	3.02	247.3	4918.77	729.82	6783.54	1944.54	4959.33	95.00	0.99	-0.09	-0.99
	12967.00	90.03	1.18	250.0	5012.70	733.26	6783.57	1944.57	5053.26	94.00	1.96	0.10	-1.96
	13062.00	89.97	359.92	250.0	5107.70	734.17	6783.57	1944.57	5148.06	95.00	1.33	-0.06	-1.33
	13157.00	89.78	358.39	250.0	5202.68	732.77	6783.77	1944.77	5242.68	95.00	1.62	-0.20	-1.61
	13251.00	89.69	356.71	252.7	5296.59	728.76	6784.21	1945.21	5336.04	94.00	1.79	-0.10	-1.79
	13346.00	89.75	355.64	252.7	5391.38	722.42	6784.67	1945.67	5430.09	95.00	1.13	0.06	-1.13
	13441.00	89.69	356.40	252.7	5486.15	715.82	6785.14	1946.14	5524.11	95.00	0.80	-0.06	0.80
	13535.00	89.75	357.00	252.7	5579.99	710.41	6785.60	1946.60	5617.30	94.00	0.64	0.06	0.64
	13630.00	89.72	357.51	255.4	5674.88	705.86	6786.04	1947.04	5711.59	95.00	0.54	-0.03	0.54
	13725.00	89.72	357.44	255.4	5769.79	701.68	6786.50	1947.50	5805.92	95.00	0.07	-0.00	-0.07
	13820.00	89.75	357.23	258.1	5864.68	697.26	6786.94	1947.94	5900.23	95.00	0.22	0.03	-0.22
	13915.00	89.78	357.36	258.1	5959.58	692.78	6787.33	1948.33	5994.53	95.00	0.14	0.03	0.14
	14009.00	89.72	357.66	258.1	6053.49	688.69	6787.74	1948.74	6087.88	94.00	0.33	-0.06	0.32
	14104.00	90.03	359.87	260.8	6148.46	686.65	6787.95	1948.95	6182.44	95.00	2.35	0.33	2.33
	14199.00	89.94	1.51	263.5	6243.45	687.79	6787.97	1948.97	6277.25	95.00	1.73	-0.09	1.73
	14294.00	89.94	2.63	260.8	6338.39	691.22	6788.07	1949.07	6372.18	95.00	1.18	0.00	1.18
	14389.00	89.72	4.17	260.8	6433.22	696.86	6788.35	1949.35	6467.17	95.00	1.64	-0.23	1.62
	14483.00	90.00	3.95	263.5	6526.98	703.51	6788.58	1949.58	6561.17	94.00	0.38	0.30	-0.23
	14577.00	89.91	5.87	263.5	6620.63	711.56	6788.66	1949.66	6655.16	94.00	2.04	-0.10	2.04
	14672.00	89.97	6.39	258.1	6715.09	721.70	6788.76	1949.76	6750.10	95.00	0.55	0.06	0.55
	14767.00	89.91	3.16	260.8	6809.74	729.61	6788.86	1949.86	6845.09	95.00	3.40	-0.06	-3.40
	14861.00	90.00	0.31	260.8	6903.69	732.45	6788.93	1949.93	6938.99	94.00	3.03	0.10	-3.03
	14956.00	90.00	0.87	263.5	6998.69	733.43	6788.93	1949.93	7033.79	95.00	0.59	0.00	0.59
	15050.00	89.85	2.09	263.5	7092.65	735.86	6789.05	1950.05	7127.68	94.00	1.31	-0.16	1.30
	15145.00	89.91	0.72	266.2	7187.62	738.19	6789.25	1950.25	7222.56	95.00	1.44	0.06	-1.44
	15240.00	90.52	0.85	266.2	7282.61	739.49	6788.89	1949.89	7317.39	95.00	0.66	0.64	0.14
	15335.00	90.09	2.70	266.2	7377.56	742.43	6788.39	1949.39	7412.29	95.00	2.00	-0.45	1.95
	15429.00	90.06	6.20	266.2	7471.26	749.73	6788.27	1949.27	7506.28	94.00	3.72	-0.03	3.72
	15524.00	90.09	4.36	266.2	7565.85	758.47	6788.14	1949.14	7601.26	95.00	1.94	0.03	-1.94
	15619.00	90.34	1.48	269.0	7660.72	763.31	6787.78	1948.78	7696.22	95.00	3.04	0.26	-3.03
	15713.00	90.12	0.31	266.2	7754.71	764.77	6787.41	1948.41	7790.06	94.00	1.27	-0.23	-1.24
	15808.00	89.94	359.75	269.0	7849.71	764.82	6787.36	1948.36	7884.80	95.00	0.62	-0.19	-0.59
	15902.00	90.03	359.67	269.0	7943.70	764.35	6787.38	1948.38	7978.51	94.00	0.13	0.10	-0.09
	15997.00	89.85	0.31	263.5	8038.70	764.33	6787.48	1948.48	8073.24	95.00	0.70	-0.19	0.67
	16092.00	90.03	0.36	266.2	8133.70	764.89	6787.58	1948.58	8168.02	95.00	0.20	0.19	0.05
	16186.00	89.78	358.51	266.2	8227.69	763.96	6787.74	1948.74	8261.68	94.00	1.99	-0.27	-1.97
	16281.00	90.09	356.88	266.2	8322.61	760.14	6787.84	1948.84	8356.06	95.00	1.75	0.33	-1.72
	16375.00	90.06	356.17	266.2	8416.44	754.44	6787.72	1948.72	8449.21	94.00	0.76	-0.03	-0.76
	16470.00	89.82	355.20	266.2	8511.17	747.29	6787.82	1948.82	8543.15	95.00	1.05	-0.25	-1.02
	16565.00	89.97	356.64	266.2	8605.93	740.54	6788.00	1949.00	8637.14	95.00	1.52	0.16	1.52
	16659.00	89.72	356.17	271.7	8699.74	734.64	6788.25	1949.25	8730.26	94.00	0.57	-0.27	-0.50
	16754.00	89.69	356.26	269.0	8794.53	728.37	6788.74	1949.74	8824.33	95.00	0.10	-0.03	0.09
	16849.00	89.82	359.63	269.0	8889.46	724.96	6789.15	1950.15	8918.74	95.00	3.55	0.14	3.55
	16943.00	89.91	3.19	271.7	8983.41	727.28	6789.37	1950.37	9012.61	94.00	3.79	0.10	3.79
	17038.00	89.75	5.28	271.7	9078.15	734.29	6789.65	1950.65	9107.60	95.00	2.21	-0.17	2.20
	17134.00	89.78	3.68	258.1	9173.85	741.79	6790.04	1951.04	9203.60	96.00	1.67	0.03	-1.67
	17228.00	90.25	0.73	260.8	9267.77	745.41	6790.02	1951.02	9297.53	94.00	3.18	0.50	-3.14
	17323.00	89.94	357.60	260.8	9362.75	744.02	6789.86	1950.86	9392.14	95.00	3.31	-0.33	-3.29
	17418.00	90.22	354.23	263.5	9457.49	737.26	6789.73	1950.73	9486.12	95.00	3.56	0.29	-3.55
	17512.00	90.09	354.22	263.5	9551.01	727.80	6789.47	1950.47	9578.69	94.00	0.14	-0.14	-0.01
	17521.00	90.09	354.09	263.5	9559.97	726.88	6789.46	1950.46	9587.55	9.00	1.44	0.00	-1.44
Projection	17545.00	90.09	354.09	N/A	9583.84	724.41	6789.42	1950.42	9611.17	24.00	0.00	-0.01	-0.00