



Gamma Ray

LWD MEMORY LOG

Scale: 1:240

True Vertical Depth

Company: Noble Energy  
Well: Roth A32-790  
Field: Wattenberg  
County: Weld  
Country: United States

Driller's Depth  
State: Colorado

Status: Final Print  
Surface Location: Latitude: 40° 27' 41.796" N Longitude: 104° 35' 04.776" W  
Other Services:

API No: 05-123-51332-00  
Job ID: 111055144  
SEC: 30 TWN: 6N RGE: 64W

Permanent Datum (P.D.): Mean Sea Level  
Log Measured From: Rig Floor  
Elevation: 0.00 ft  
Above P.D.: 4728.00 ft  
Elev. KB: N/A  
Elev. DF: 4728.00 ft  
Elev. GL: 4698.00 ft

Dates		Interval		Magnetic Field Reference	
From: 2021-10-14	Drilled (ft)	Logged (ft)	Azi Reference North:	Grid	Dip Angle: (deg)
To: 2021-10-18	Top: 1961.00	Top: 1961.00	Total Magnetic Field Strength: (nT)		66.75
Spud: 2021-10-02	Bottom: 17153.00	Bottom: 17142.00	Mag to Reference North Correction: (deg)		51889

Borehole Record			Casing Record			
Hole Size (in)	From (ft)	To (ft)	Size (in)	Weight (lb/ft)	From (ft)	To (ft)
13.500	30.00	1961.00	9.625	36.00	30.00	1951.00
8.500	1961.00	17147.00				

Mud Record				Deviation Record		
Type	From (ft)	To (ft)	Hole Size (in)	Interval (ft)	Inc   Az (Start)	Inc   Az (End)
Oil Based Mud	1961.00	17153.00	8.500	15192.00	0.54   209.00	90.00   179.22

Acquisition System		Software Version		Other	
Cadence	RT 6.1			Rig: H&P 517	
Plot Studio	6.1.9289.2			Contractor: Helmerich & Payne Drilling Co	
				District: RMA	Unit: D&E

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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	Bottom	From	To	Start Logging	End Logging	
						(ft)	(ft)	(ft)	(ft)			
1	1	8.500	PDC	3.00	AutoTrak Curve	1961.00	6558.00	1961.00	6571.00	2021-10-14 22:09	2021-10-15 16:14	17.55
2	2	8.500	PDC	3.00	AutoTrak Curve	6558.00	14185.00	6571.00	14198.00	2021-10-16 01:55	2021-10-17 05:33	27.24
3	3	8.500	PDC	3.00	AutoTrak Curve	14185.00	17142.00	14198.00	17153.00	2021-10-17 21:49	2021-10-18 09:11	12.22

Crew

Name	Arrive	Depart	Name	Arrive	Depart	Name	Arrive	Depart
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	Wellsite	Wellsite		Wellsite	Wellsite		Wellsite	Wellsite
Carl Riehn	2021-10-14	2021-10-18	Jeremiah Samson	2021-10-14	2021-10-18	Michael Gurnsey	2021-10-14	2021-10-18
Sherman Pugh	2021-10-14	2021-10-18	Tien Bui	2021-10-14	2021-10-18			

Witness

Name	Run
Jim Turner	1,2,3

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+ (%)
2021-10-14 12:37	1	1961.00	Oil Based Mud	9.3	10	N/A	16.0	79.5/20.5	Active Pit	25500	0.00
2021-10-15 22:01	2	6571.00	Oil Based Mud	9.6	14	N/A	15.8	79.8/20.2	Active Pit	31000	0.00
2021-10-17 13:17	2	13629.00	Oil Based Mud	10.1	16	N/A	18.6	80/20	Active Pit	28500	0.00
2021-10-17 15:38	3	14198.00	Oil Based Mud	10.1	16	N/A	18.6	80/20	Active Pit	28500	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	14868420	Near Bit VSS	5.93	6.77	7.000	4.330
1	AutoTrak Curve Steering Unit	14868420	Near Bit Inclination	5.93	6.77	7.000	4.330
1	AutoTrak Curve MWD	14219765	Gamma (single)	2.73	12.94	7.000	3.250
1	AutoTrak Curve MWD	14219765	Directional (mag)	12.27	22.48	7.000	3.250
2	AutoTrak Curve Steering Unit	14262246	Near Bit Inclination	5.93	6.77	7.000	4.330
2	AutoTrak Curve Steering Unit	14262246	Near Bit VSS	5.93	6.77	7.000	4.330
2	AutoTrak Curve MWD	12603327	Gamma (single)	2.09	12.94	7.000	3.250
2	AutoTrak Curve MWD	12603327	Directional (mag)	12.27	23.12	7.000	3.250
3	AutoTrak Curve Steering Unit	14986107	Near Bit Inclination	5.93	6.77	7.000	4.330
3	AutoTrak Curve Steering Unit	14986107	Near Bit VSS	5.93	6.77	7.000	4.330
3	AutoTrak Curve MWD	14256861	Gamma (single)	2.75	12.94	7.000	3.250
3	AutoTrak Curve MWD	14256861	Directional (mag)	12.27	22.46	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

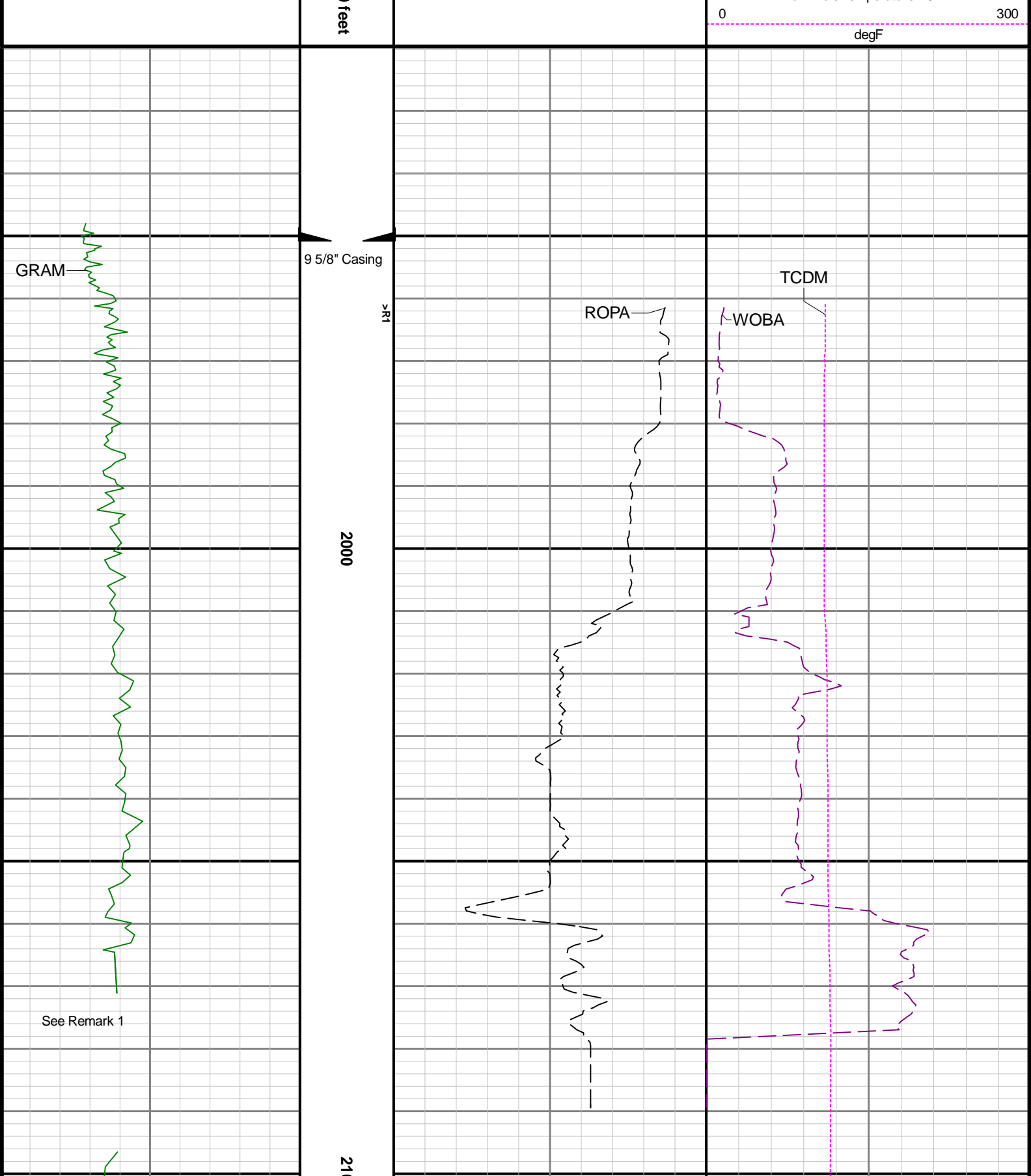
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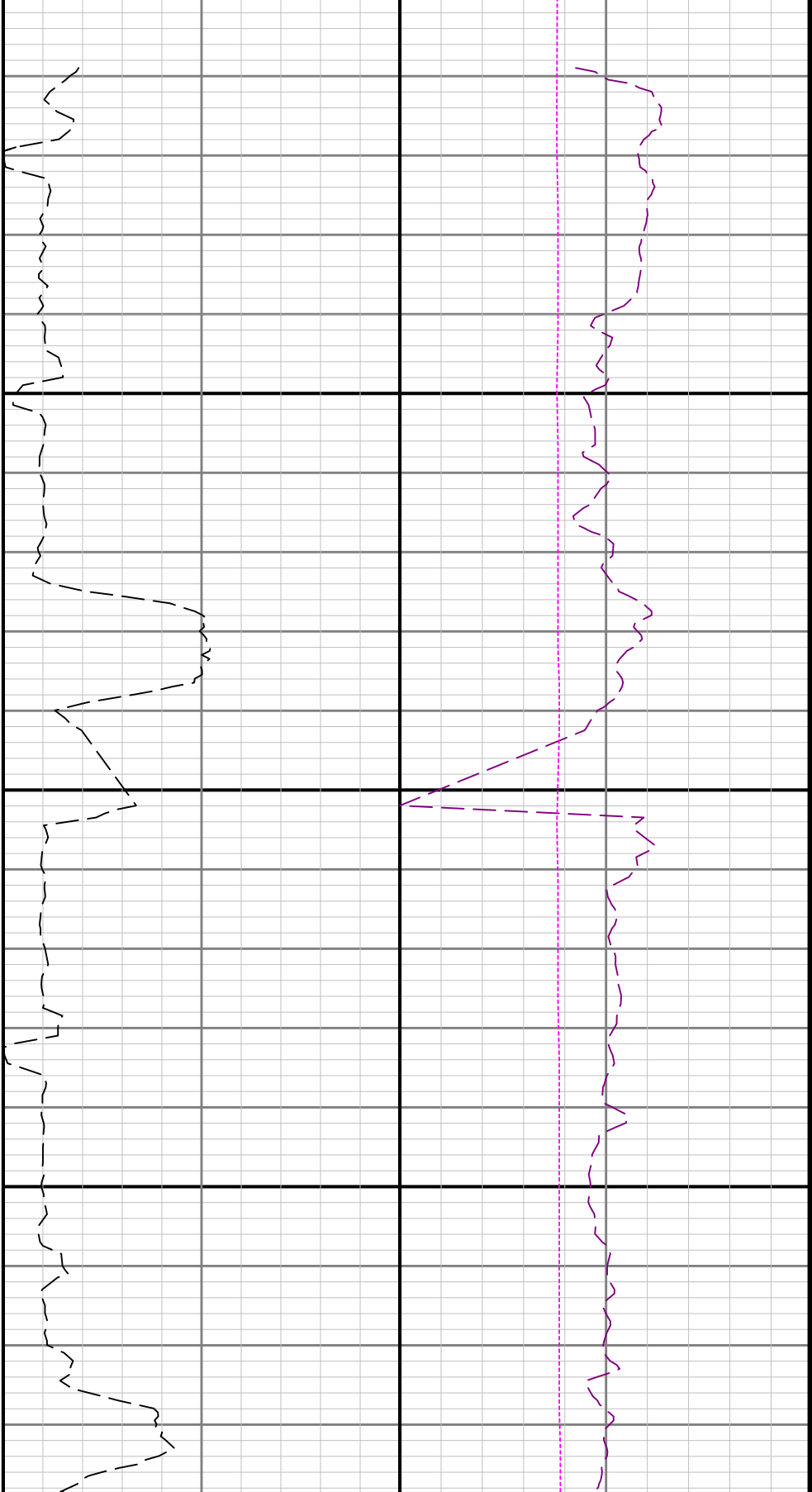
1	Baker Hughes Company runs 1, 2, and 3 utilized 6 ¾ inch NaviGamma services (Gamma Ray and Directional) behind an 8 ½ inch PDC bit and rotary steerable assembly from 1961 to 17153 feet MD (1961 to 6893 feet TVD).
2	Depth measurements were obtained from a depth control system not supplied or operated by Baker Hughes Company. Due to a lack of control by Baker Hughes Company logging engineers, depth calibrations and measurements could not be independently verified and the unverified depths as supplied to Baker Hughes Company are being used to present logging data.
3	The Gamma Ray Apparent (GRAM) data is presented 0 to 300 API, per the customer's request.

Remarks

Number	Depth (ft)	Hole Section (in)	Run No.	Remark
1	2064.00	8.500	1	Various intervals from 2064 to 8328 feet MD (2063 to 6863 feet TVD) were not logged due to issues with depth tracking.
2	6558.00	8.500	2	The interval from 6558 to 6571 feet MD (6336 to 6352 feet TVD) was logged up to 10 hours after being drilled due to a trip out of the hole for MWD tool failure.

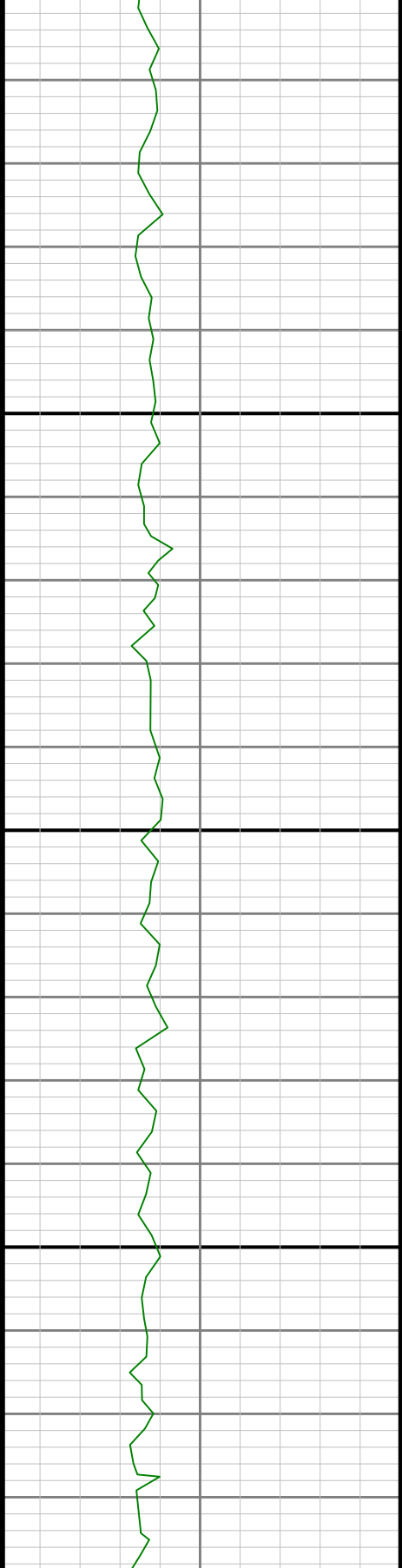
Gamma Ray - Apparent 0.5 ft Average GRAM	TVD 1:240	Depth Averaged ROP 3 ft Average ROPA	Weight On Bit, Average 1 ft Average WOBA
0 _____ 300		1000 _____ 0	0 _____ 50
API		ft/h	klb
			Downhole Temperature TCDM

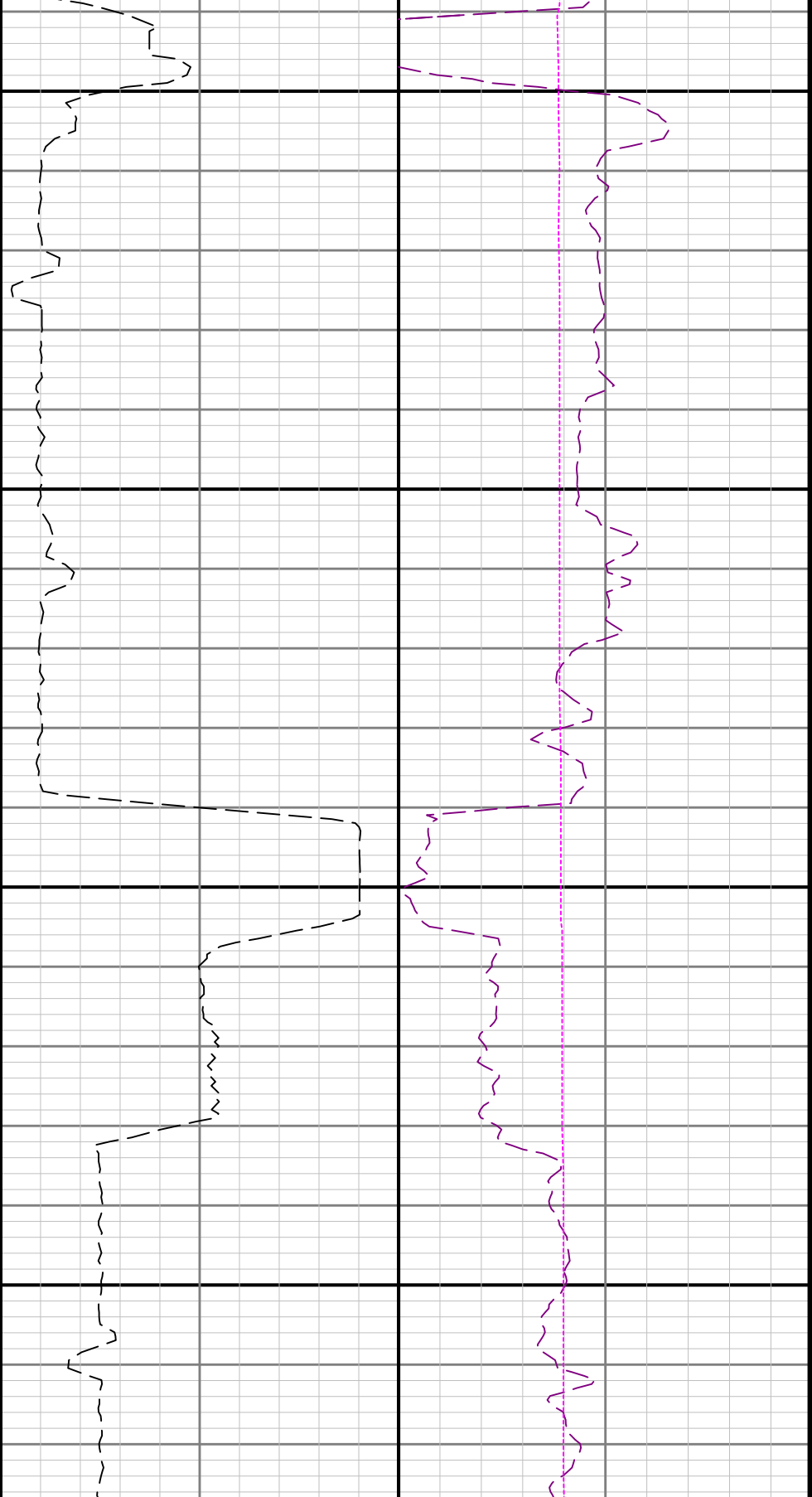




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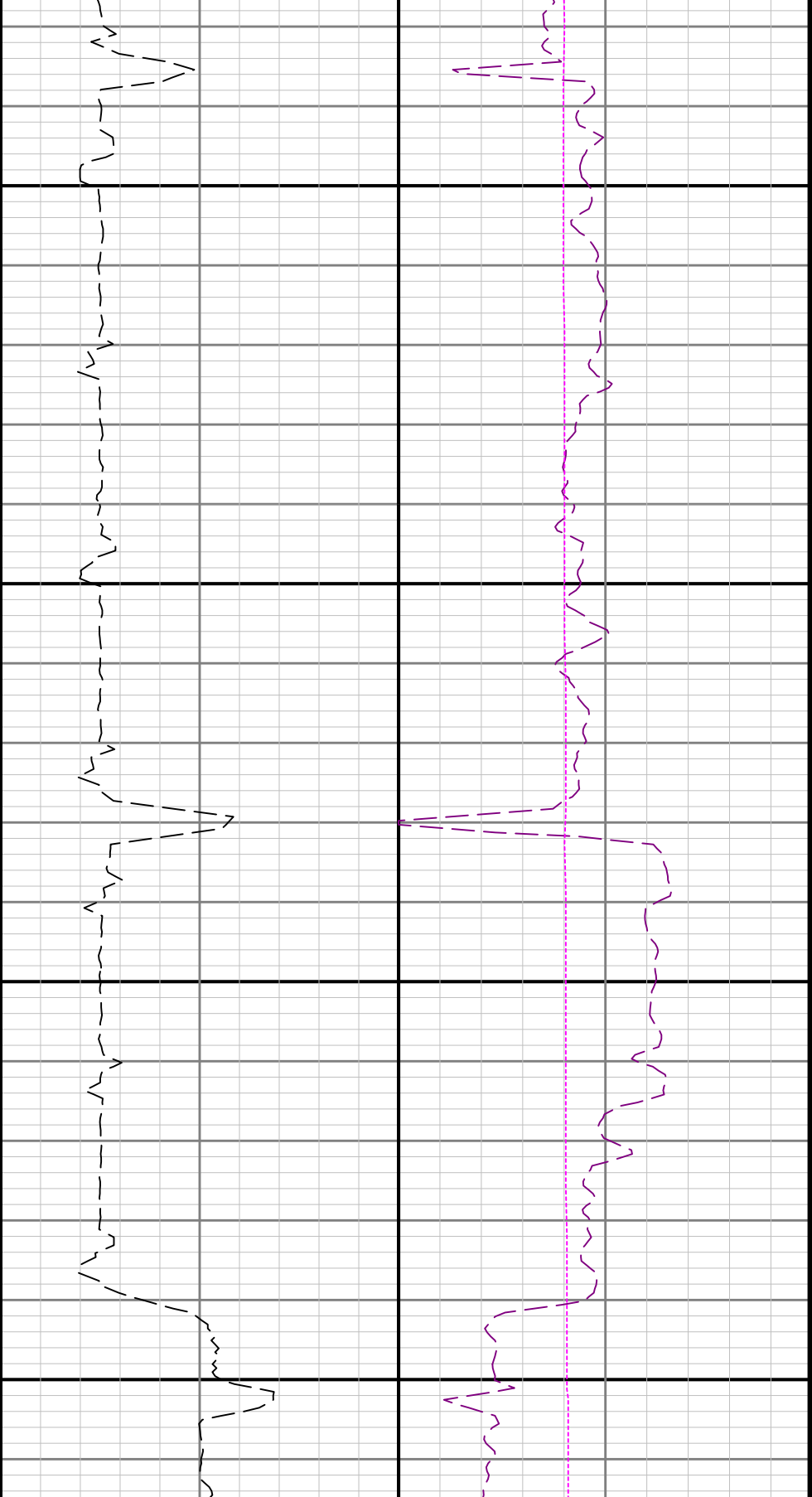
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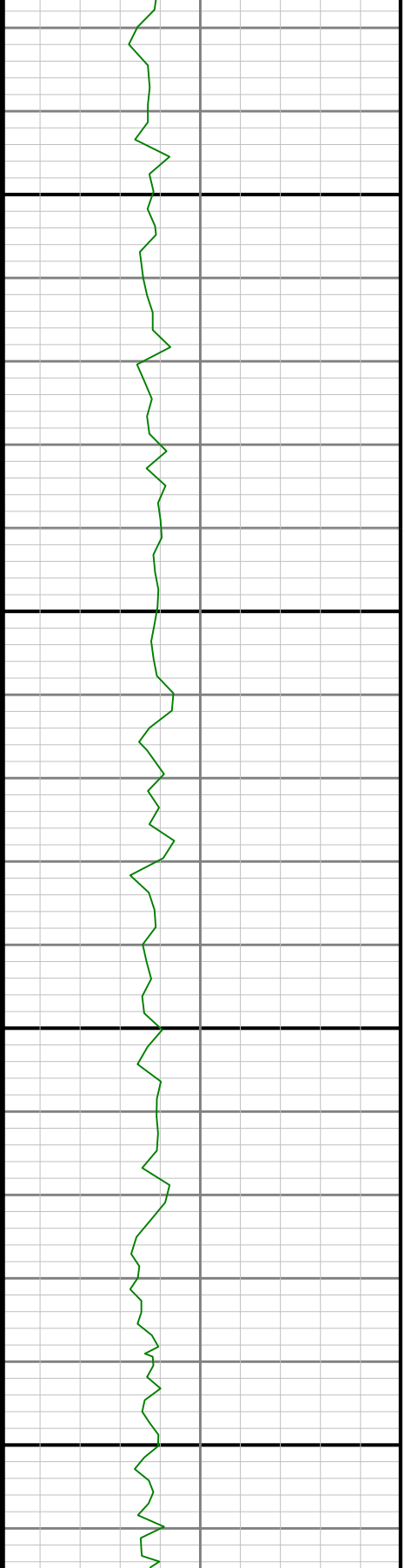
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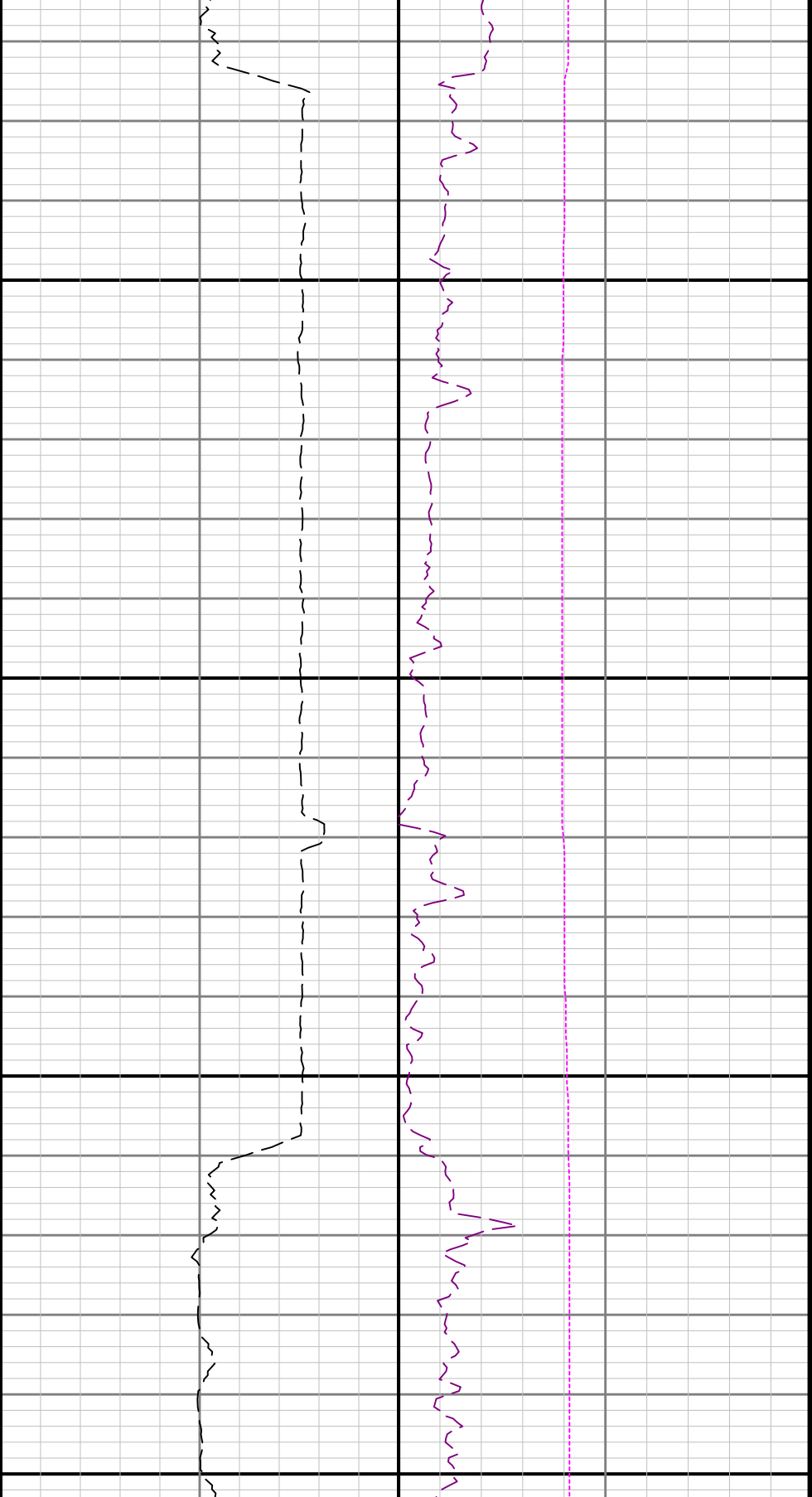
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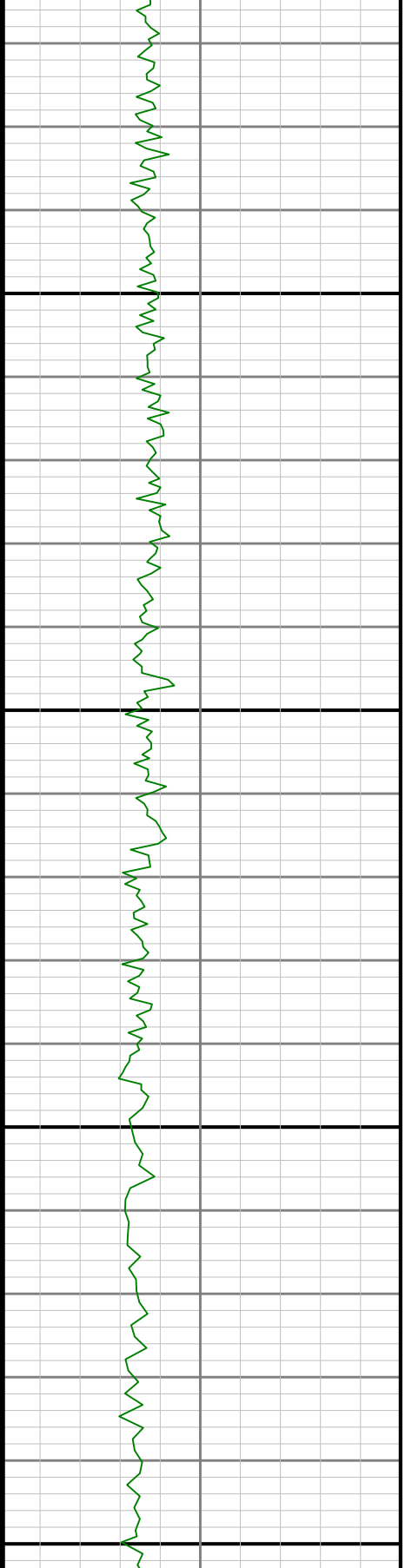
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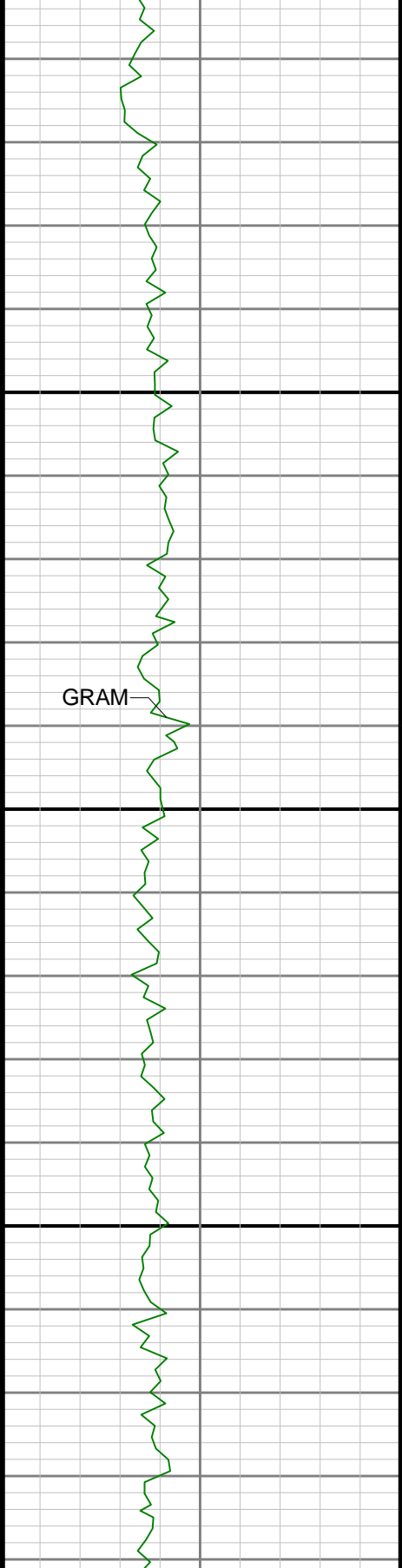




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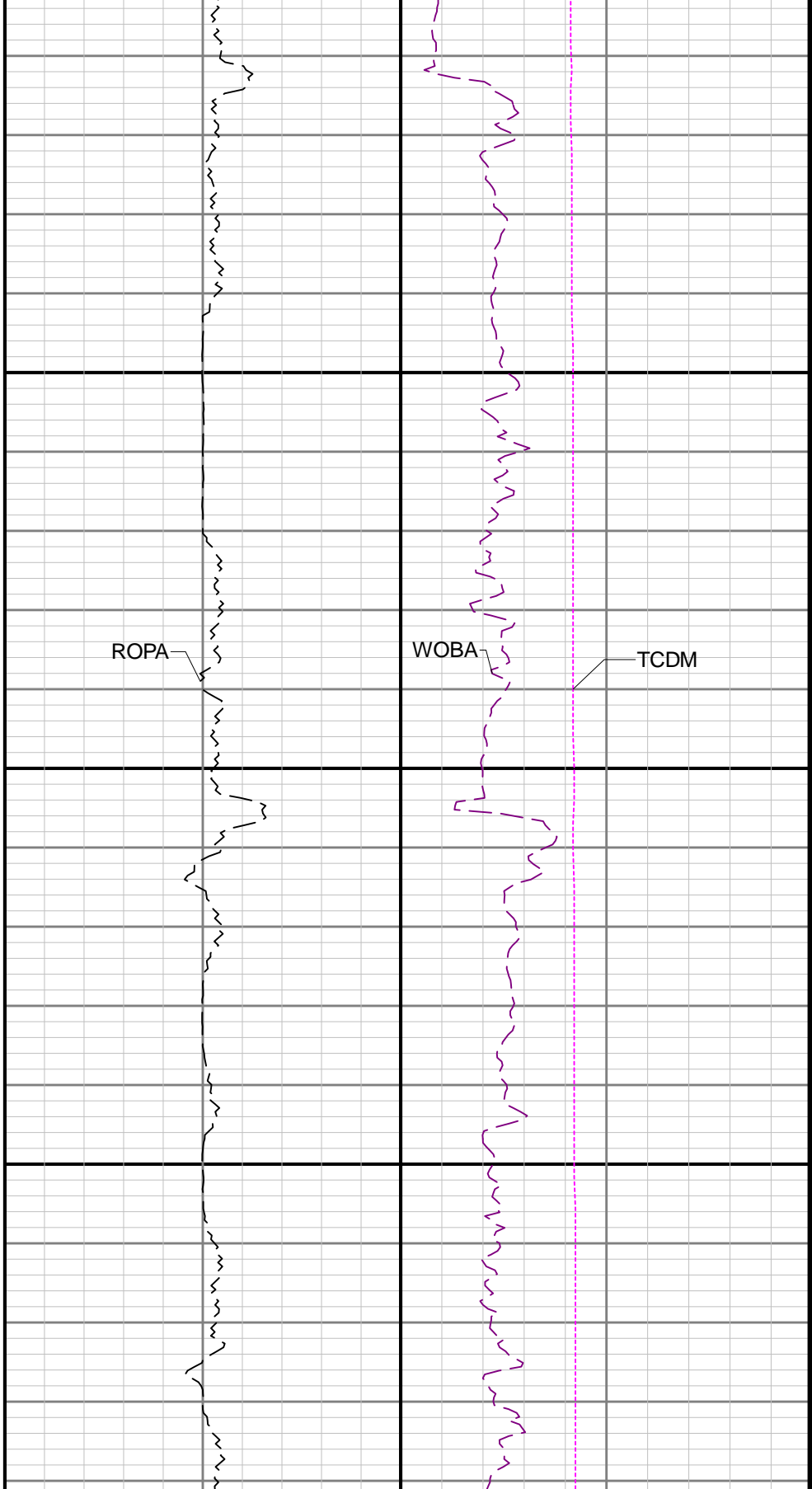
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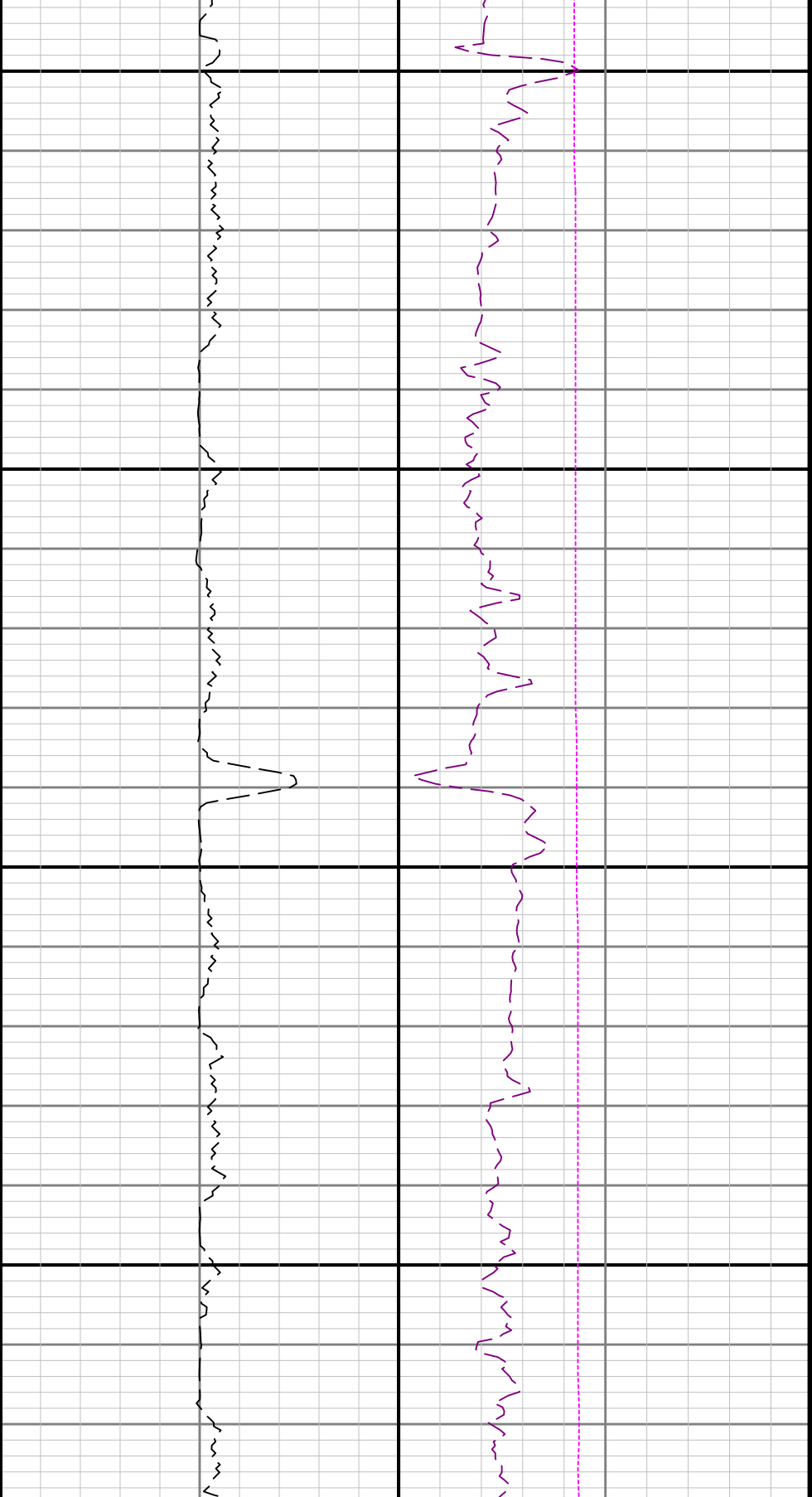


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$3000$

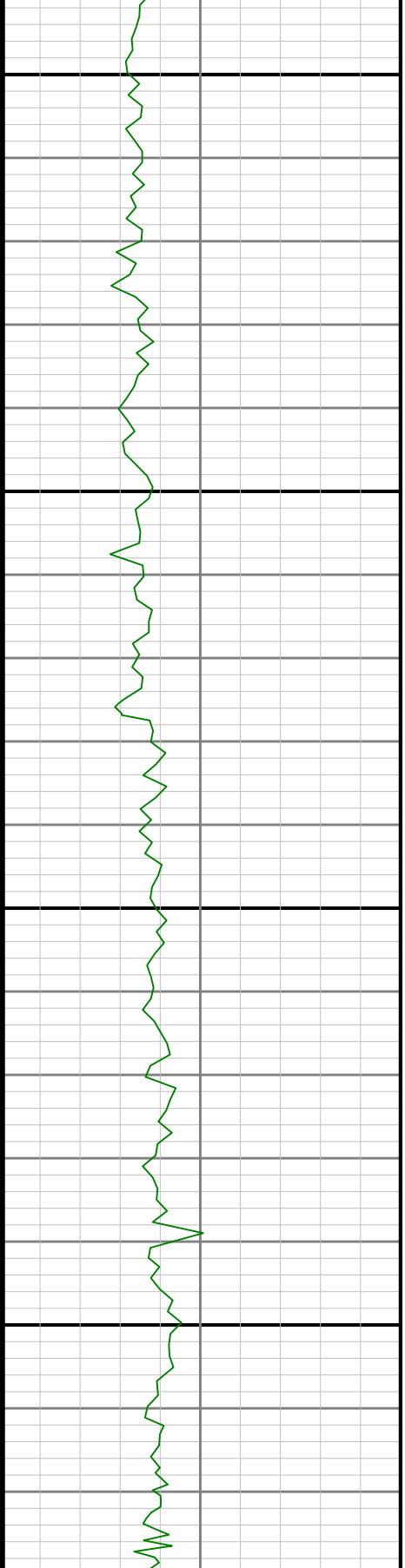


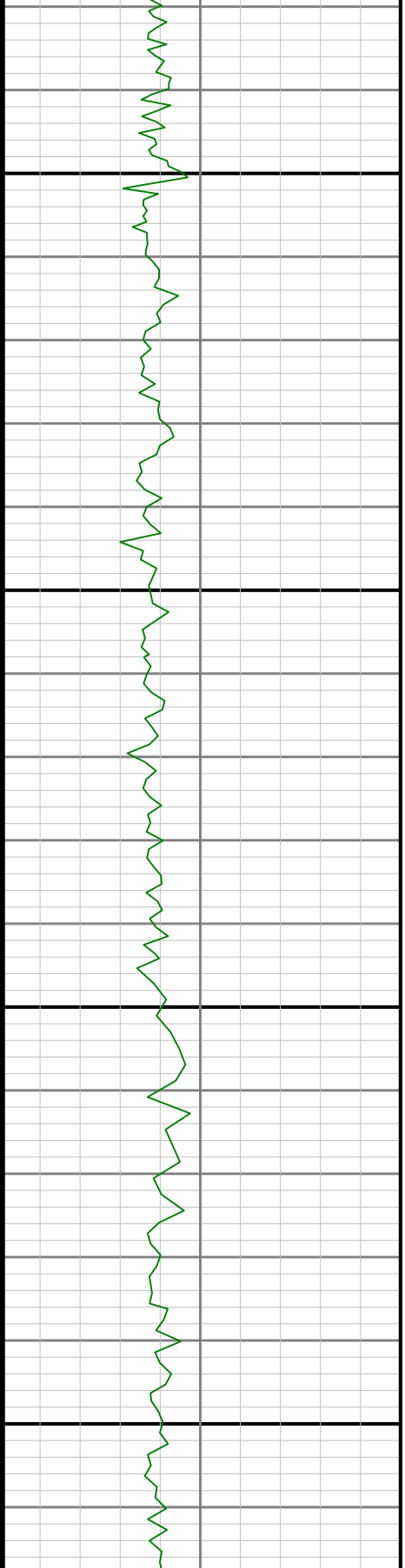
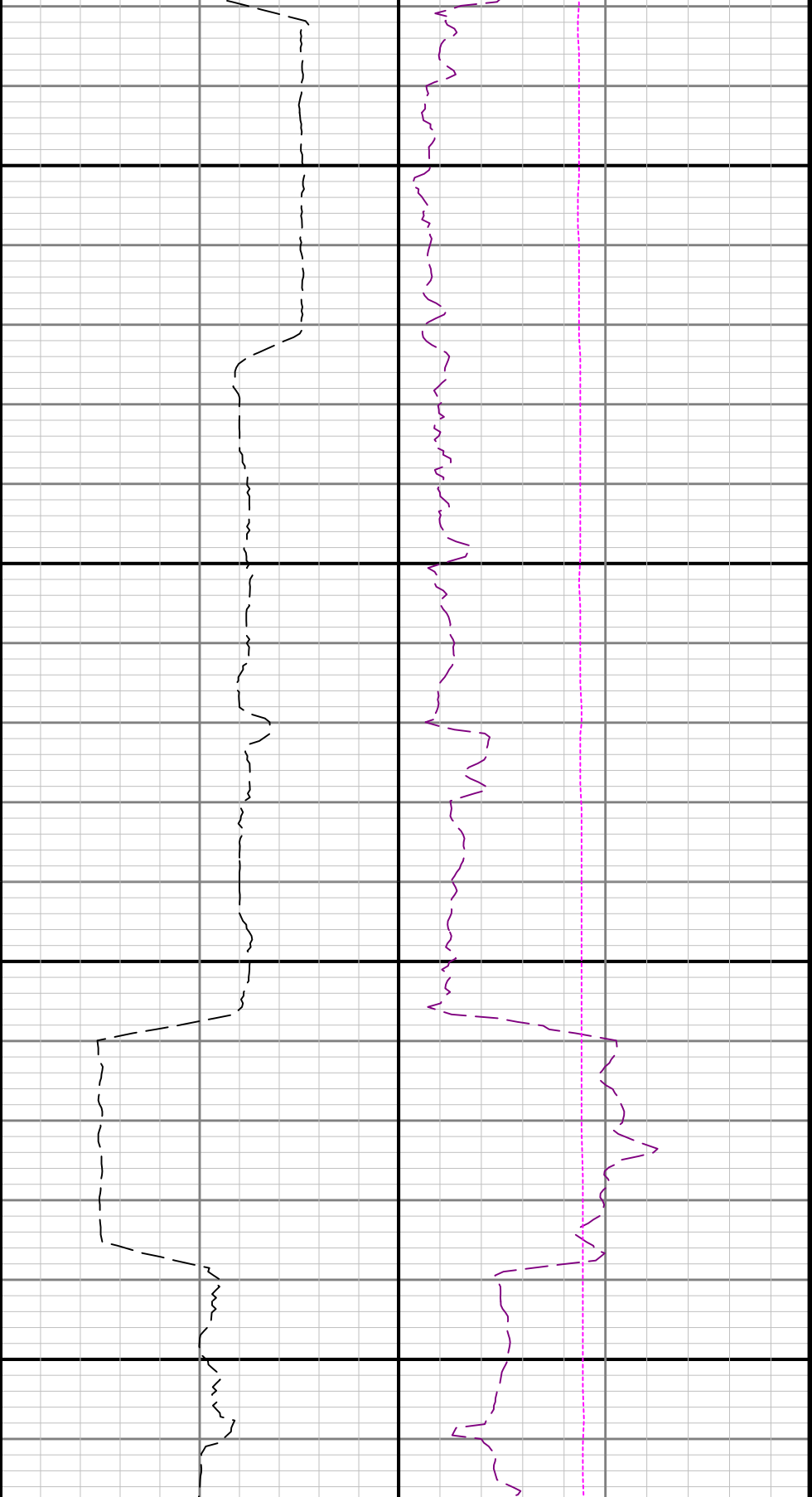


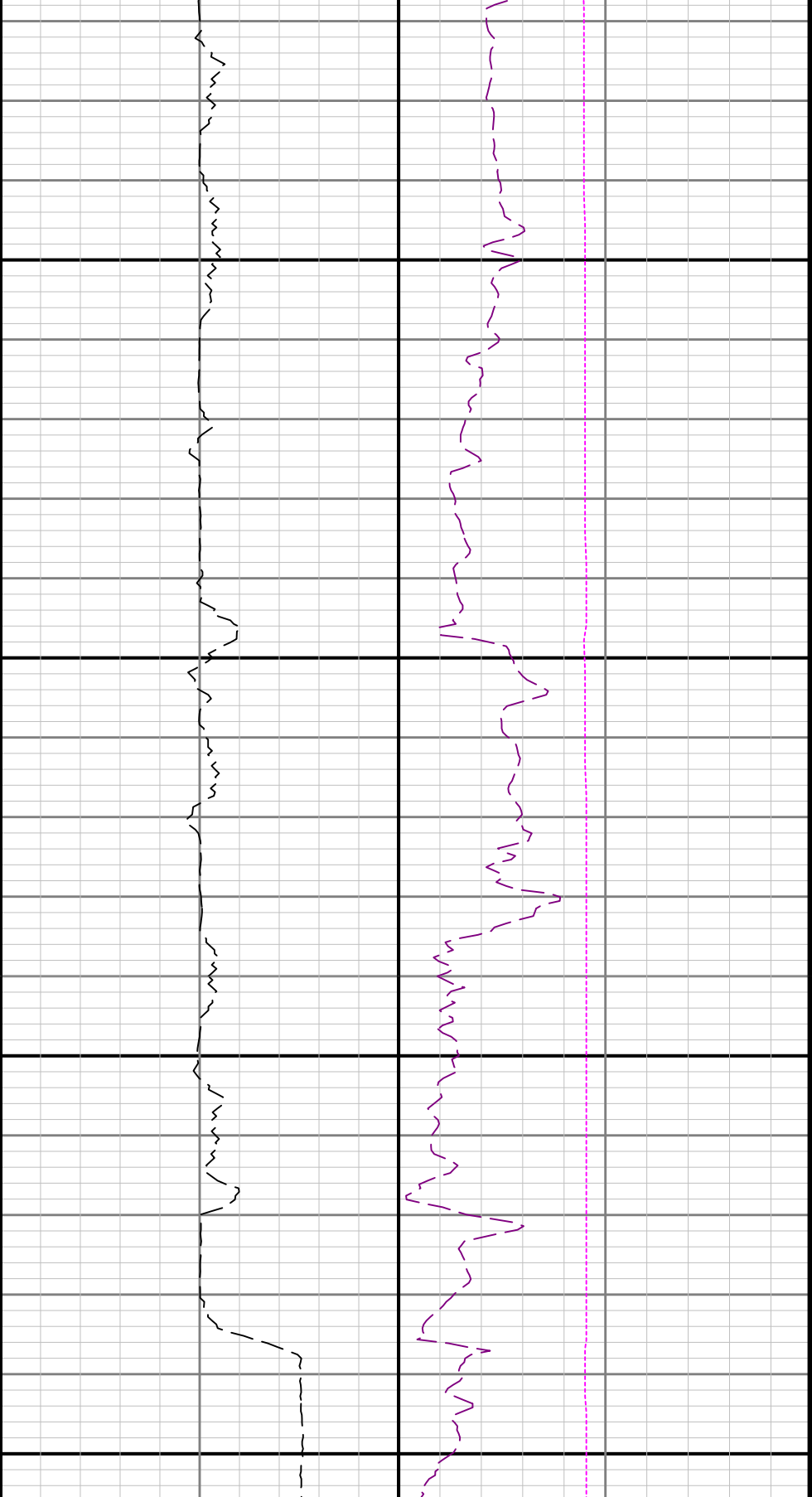


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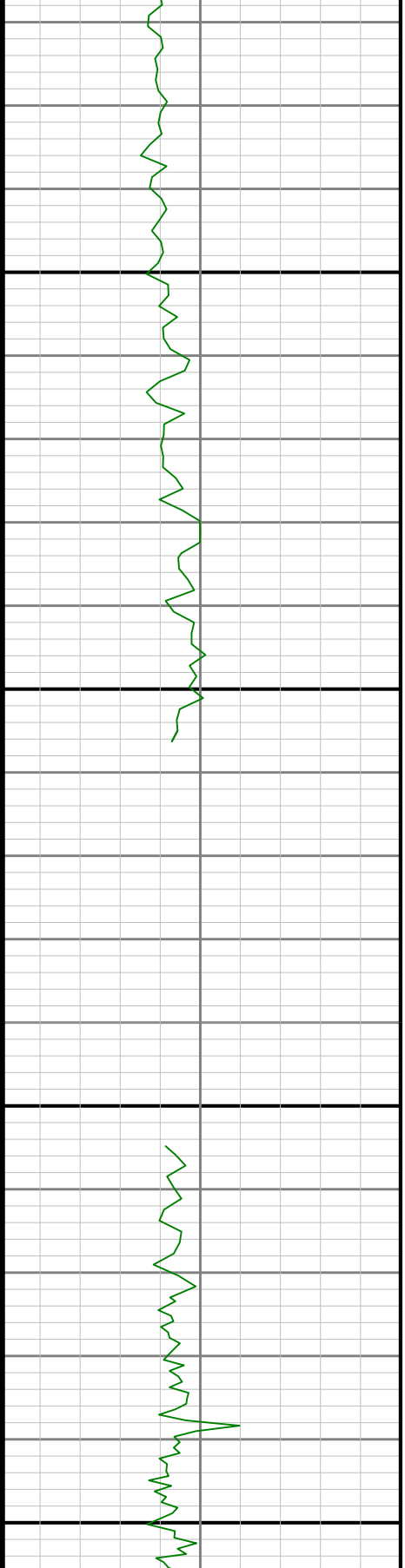


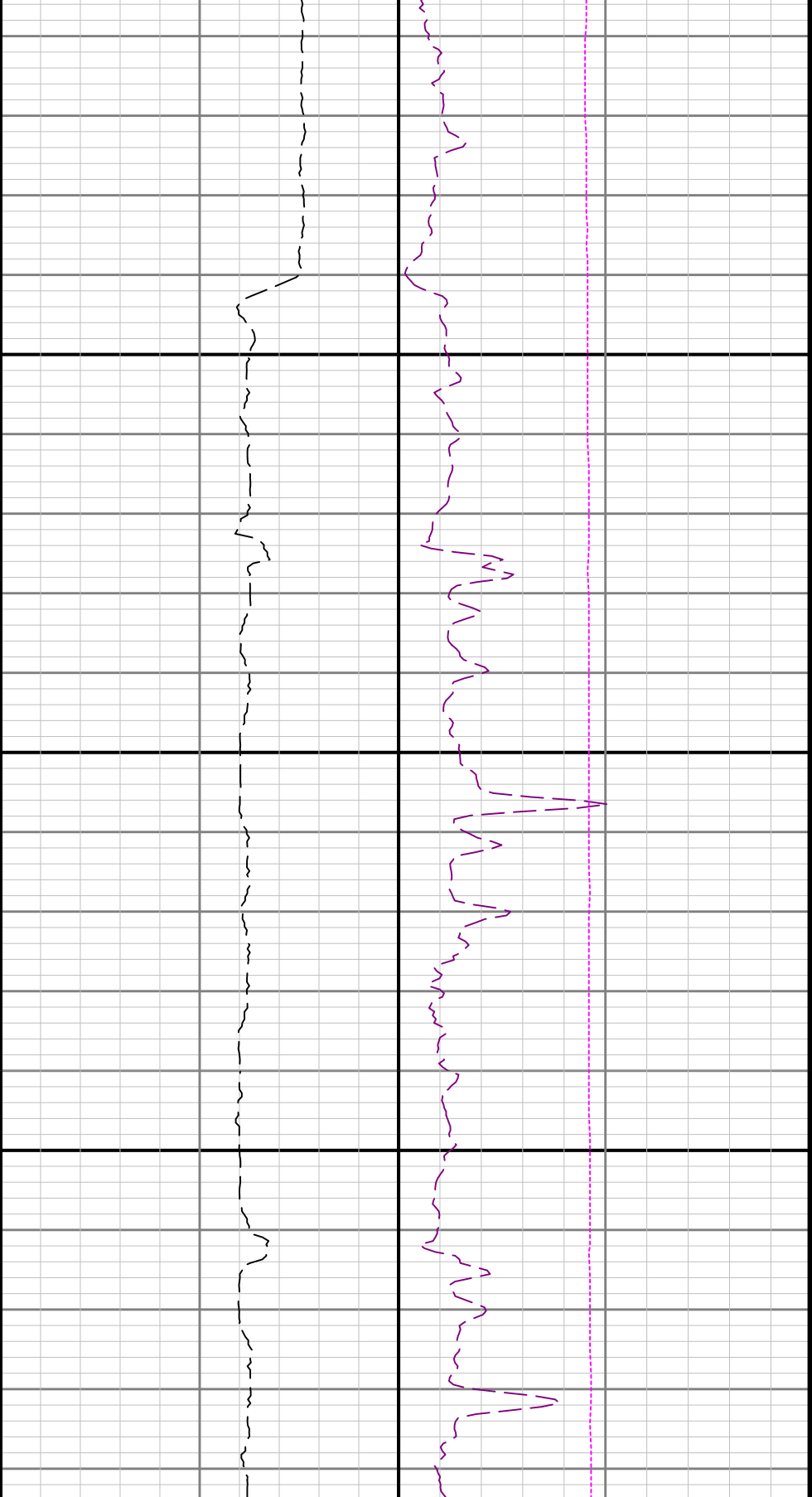




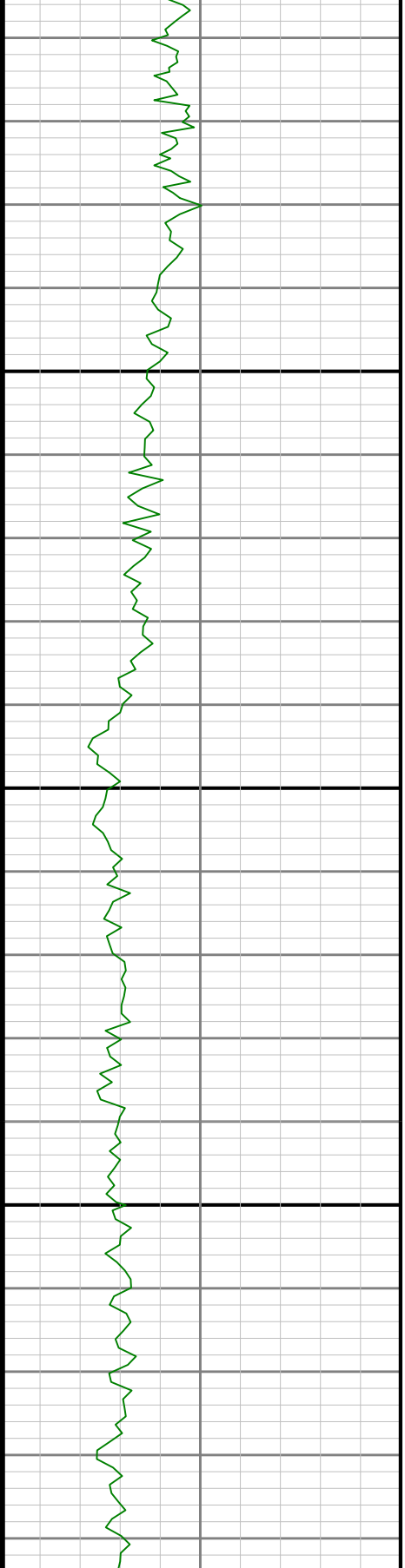
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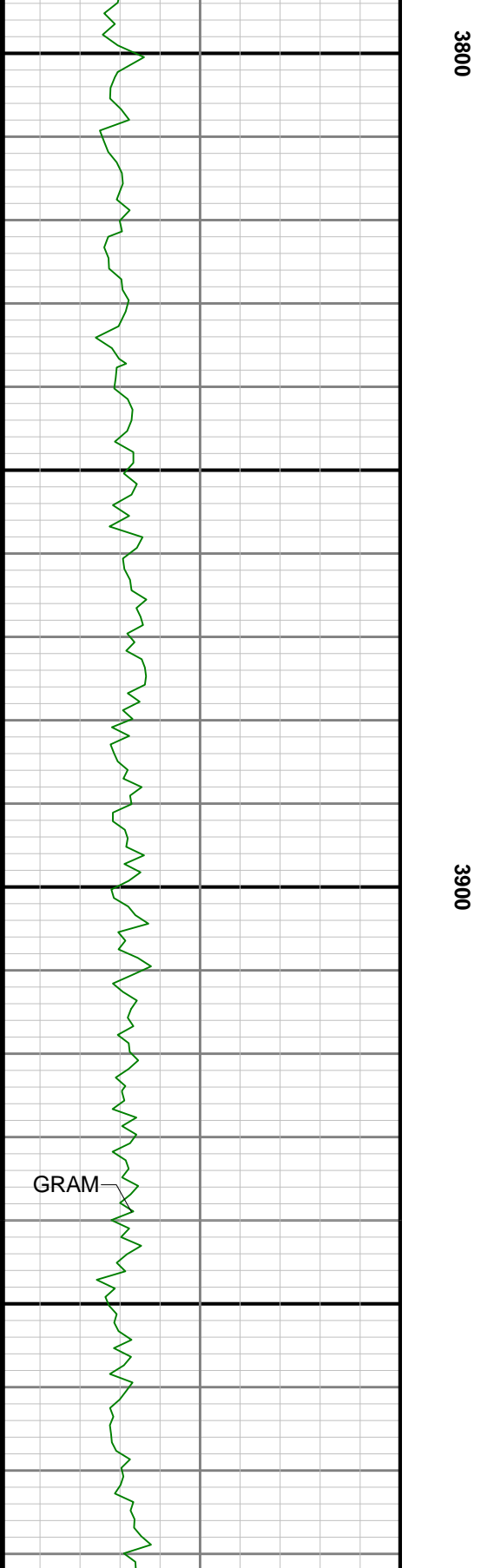
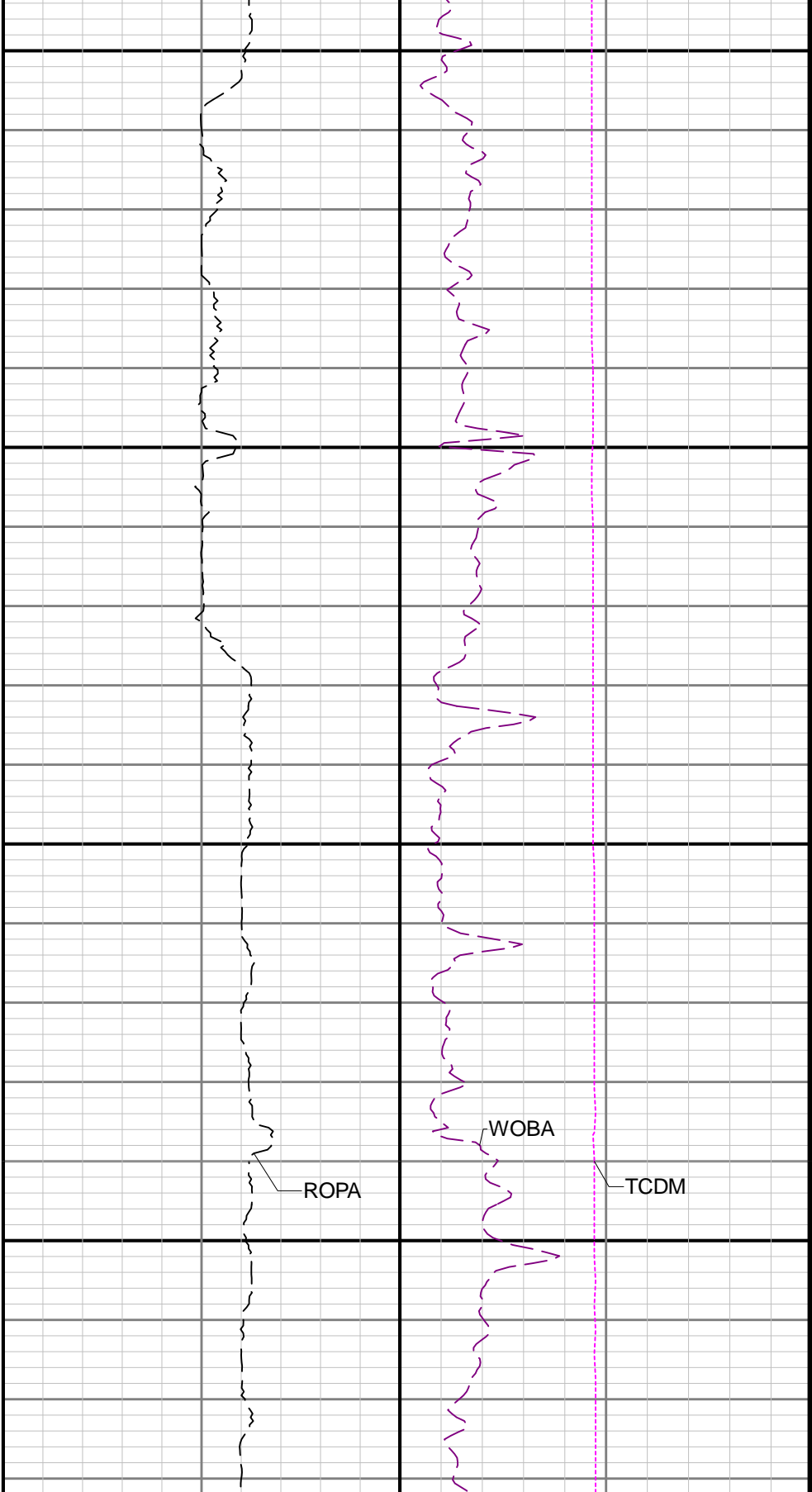
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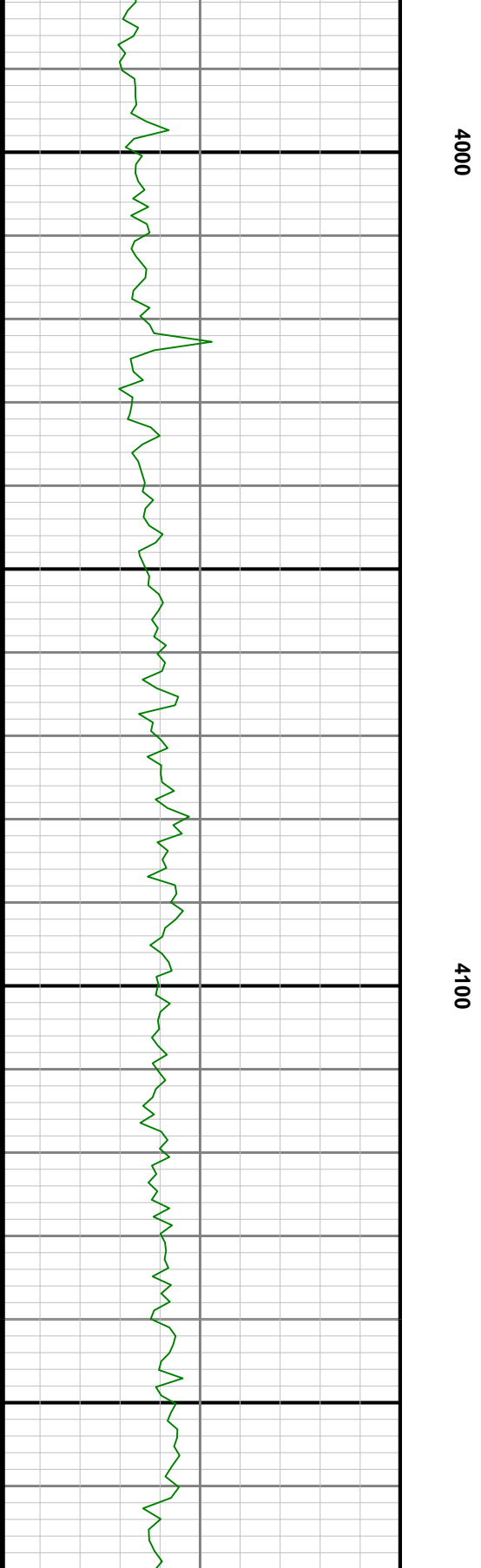
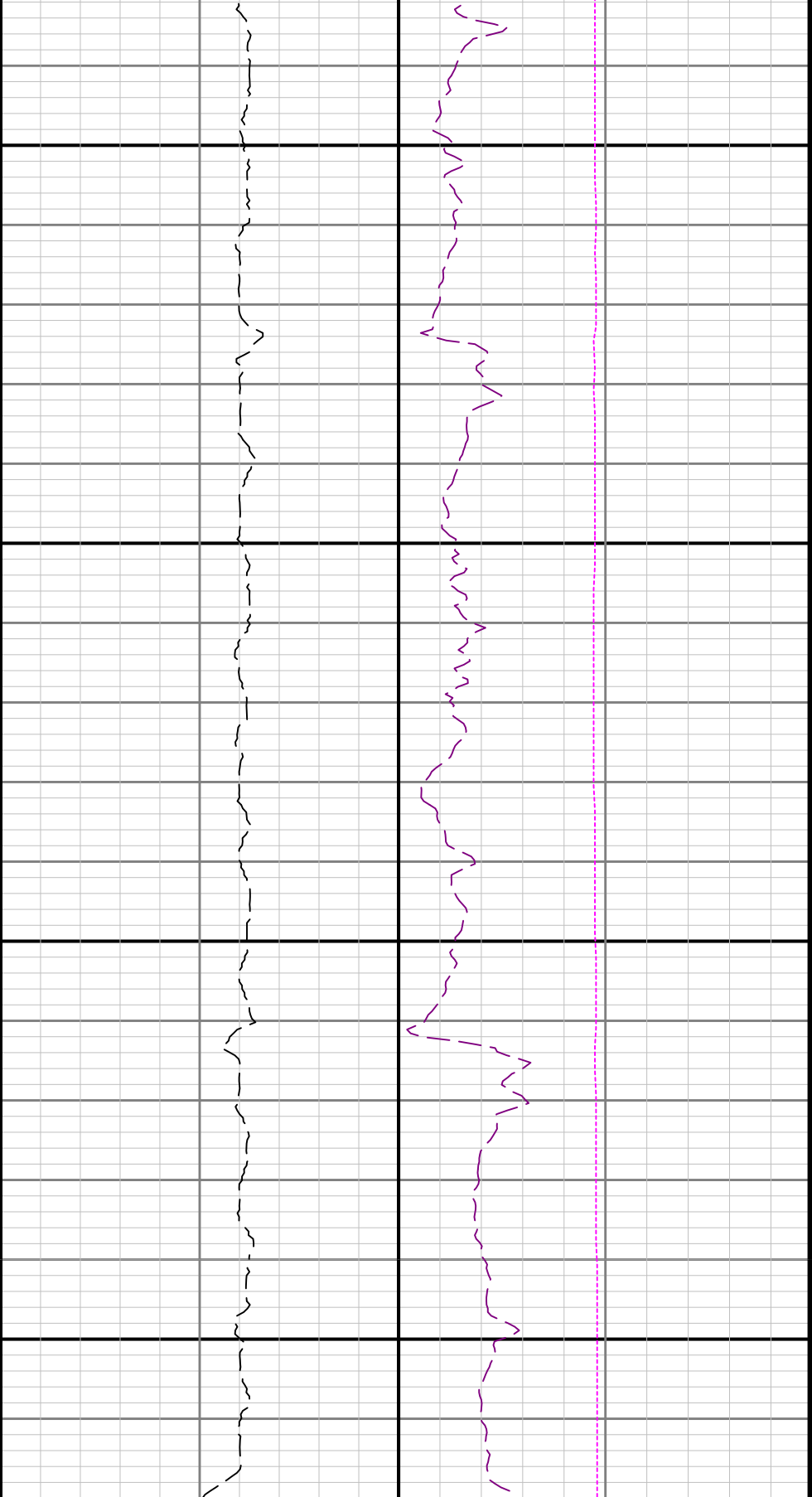


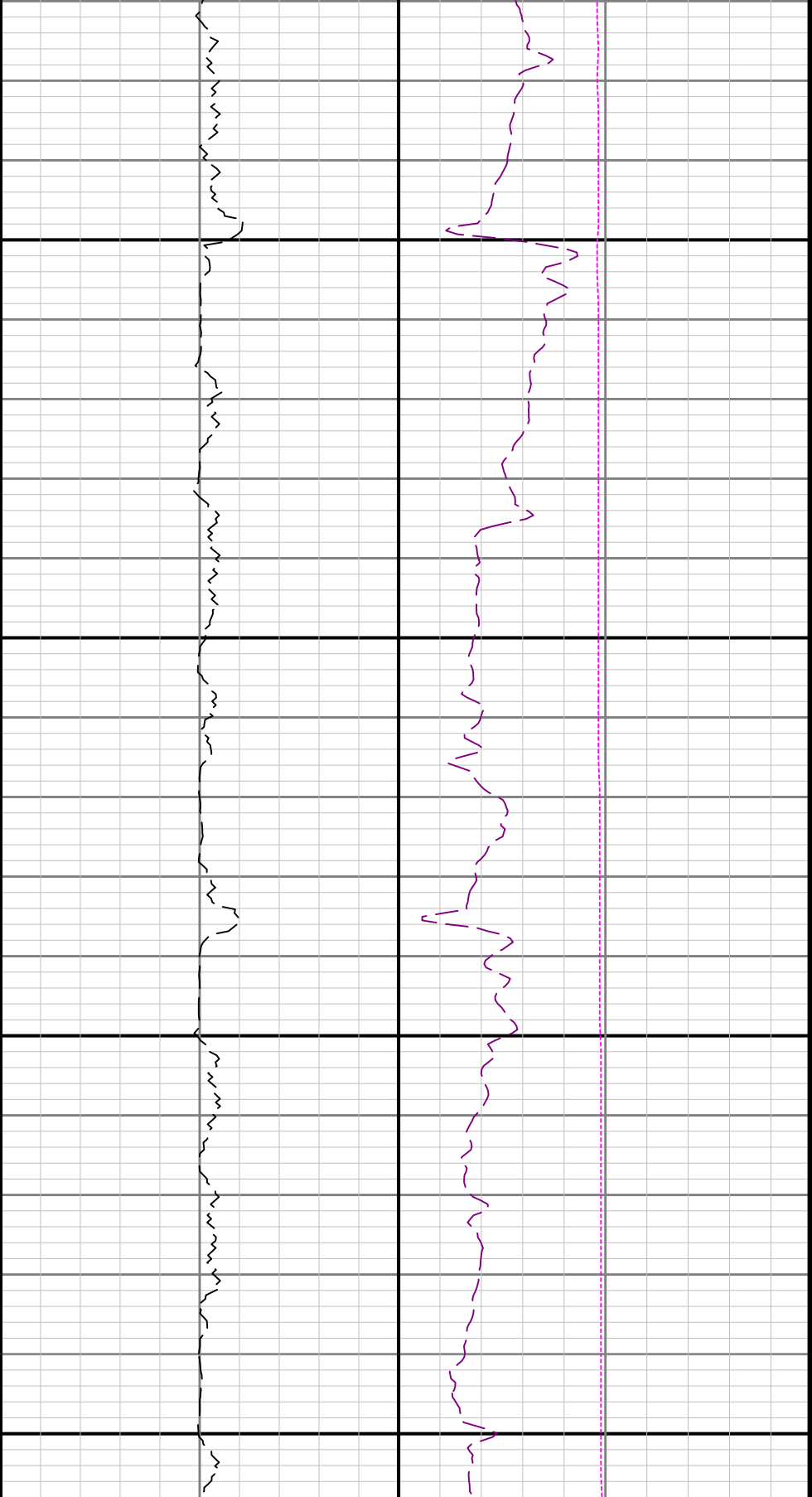


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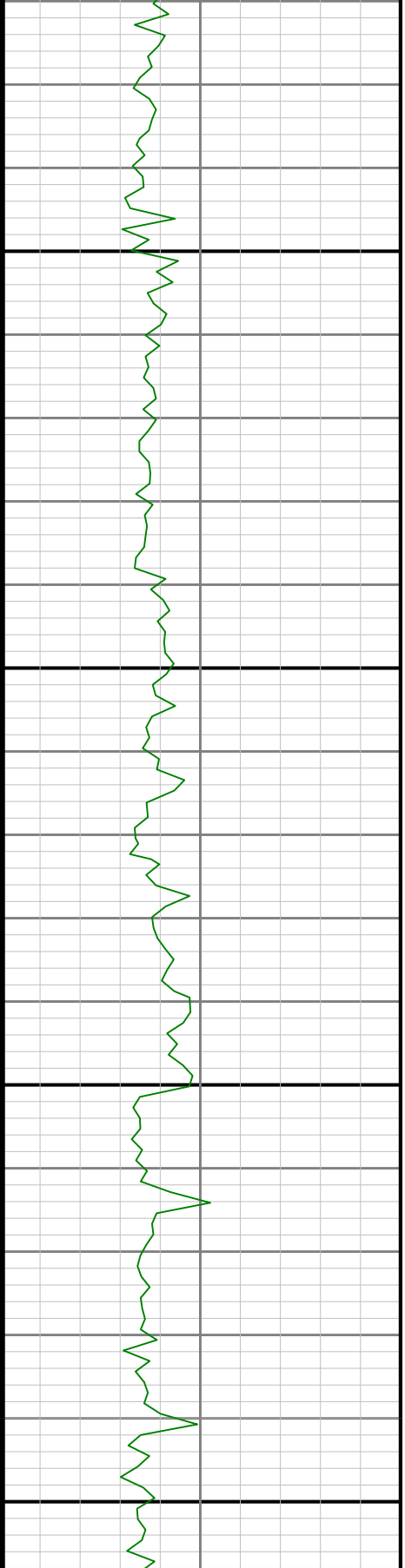


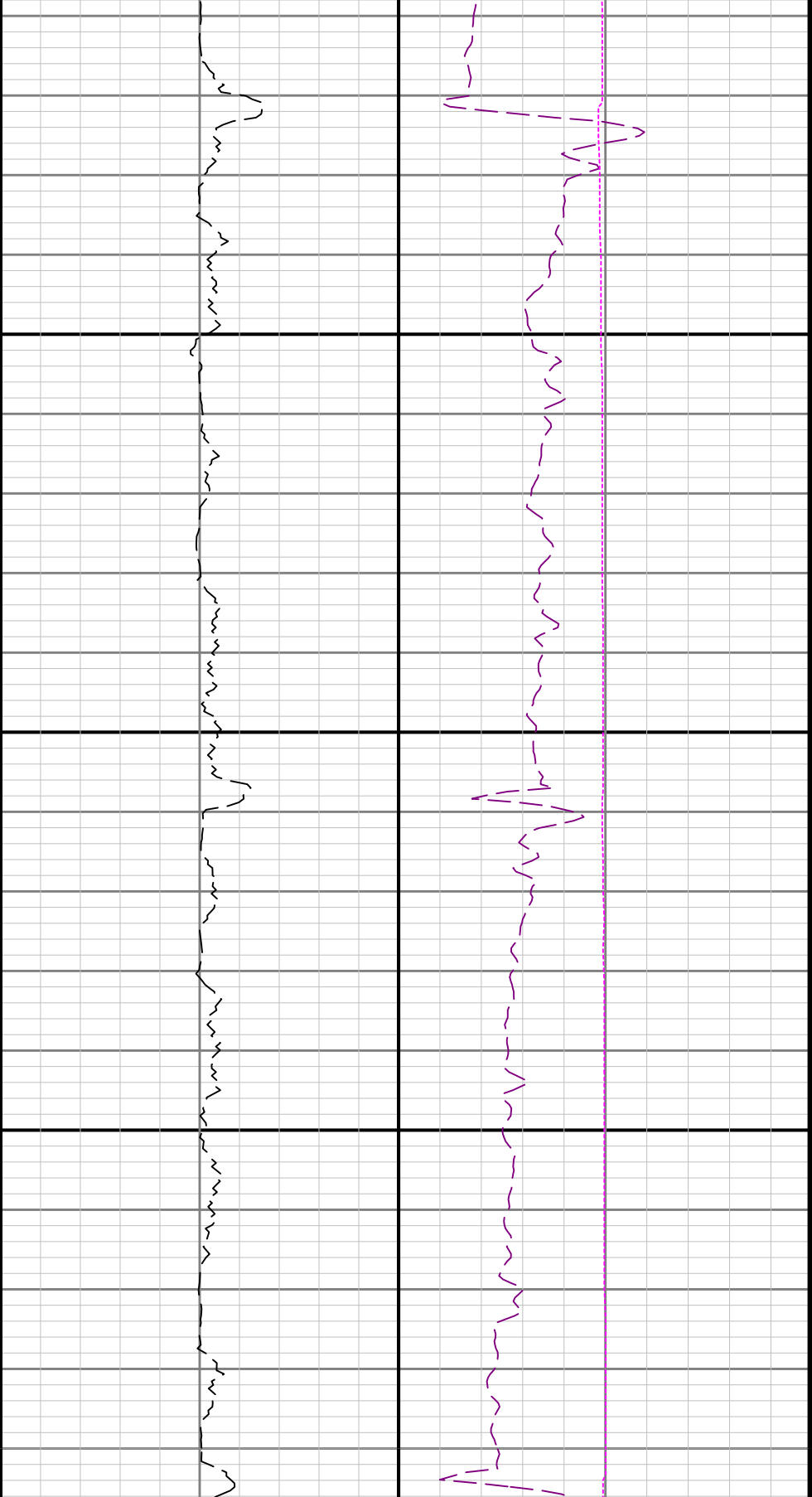




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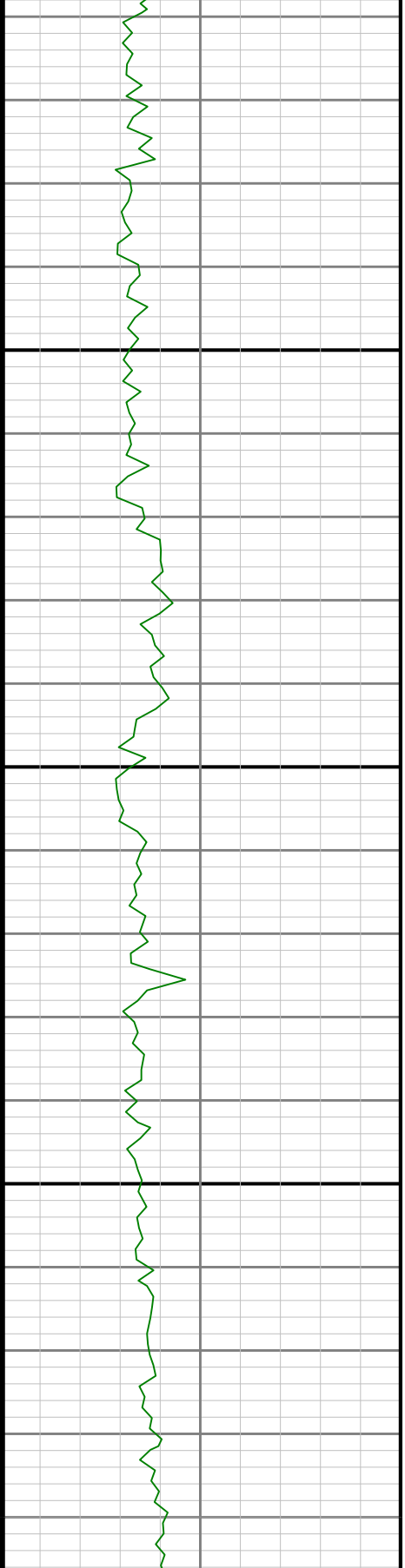
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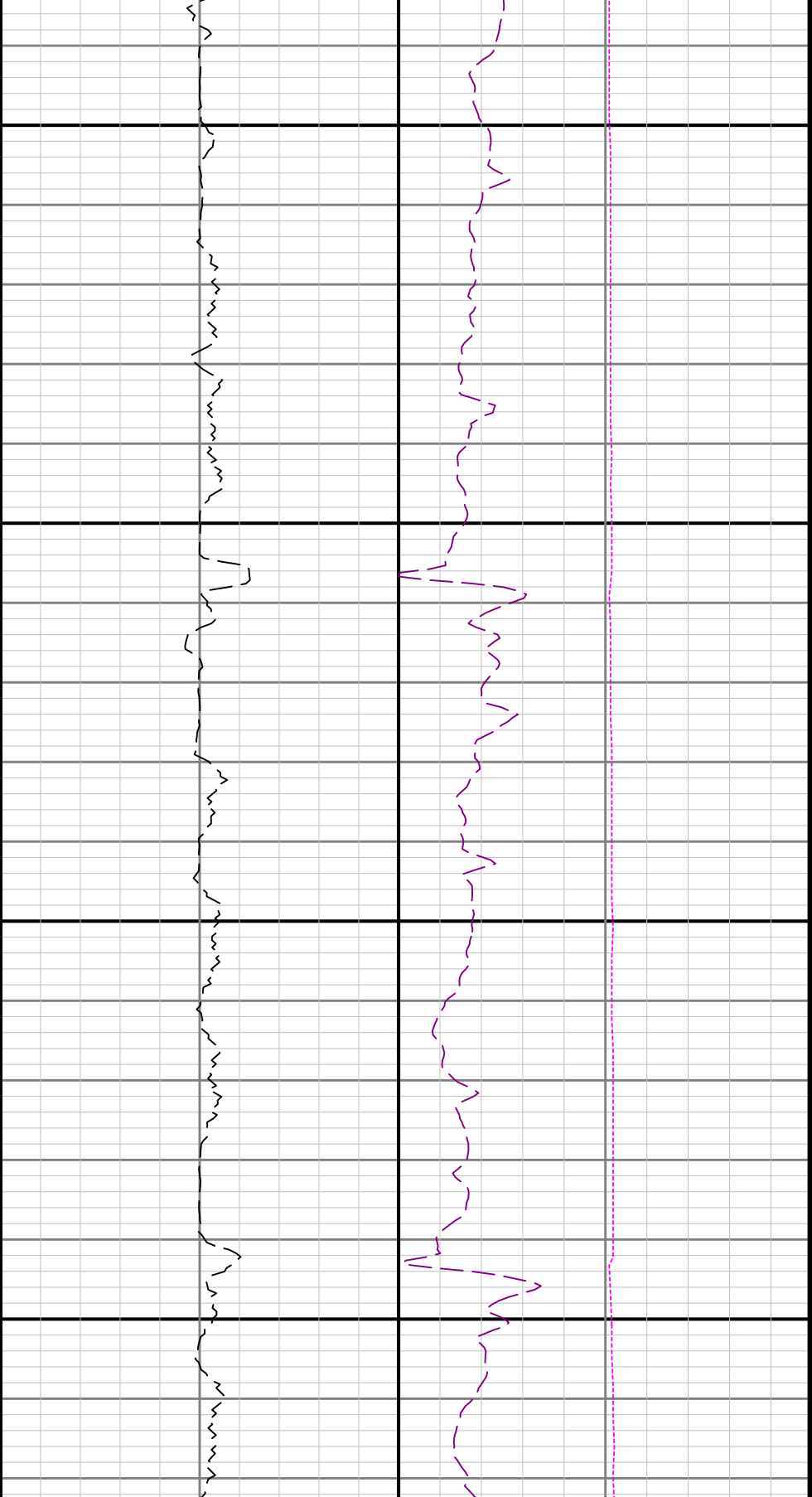
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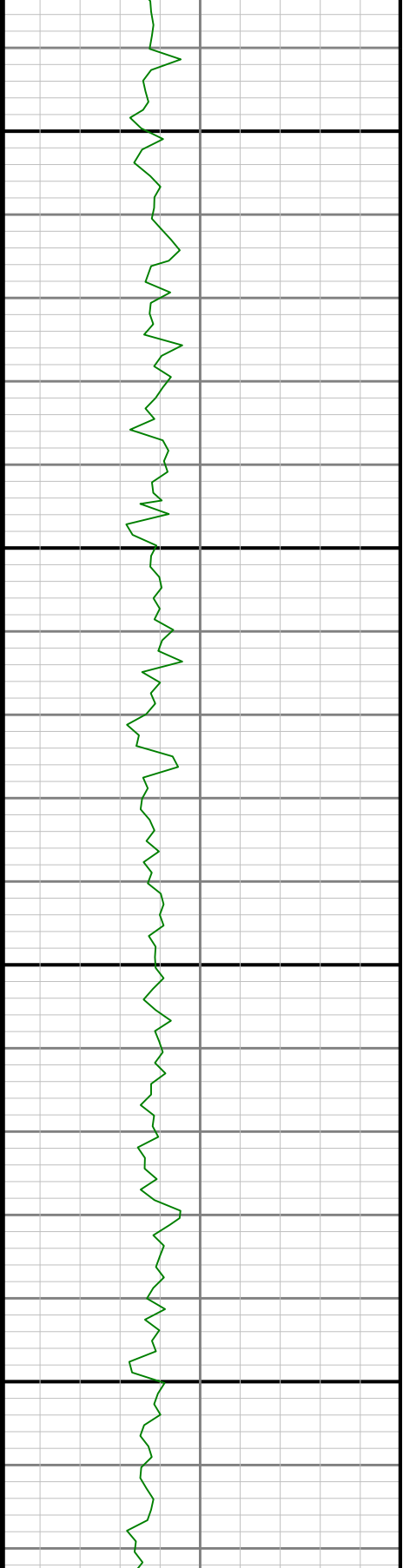


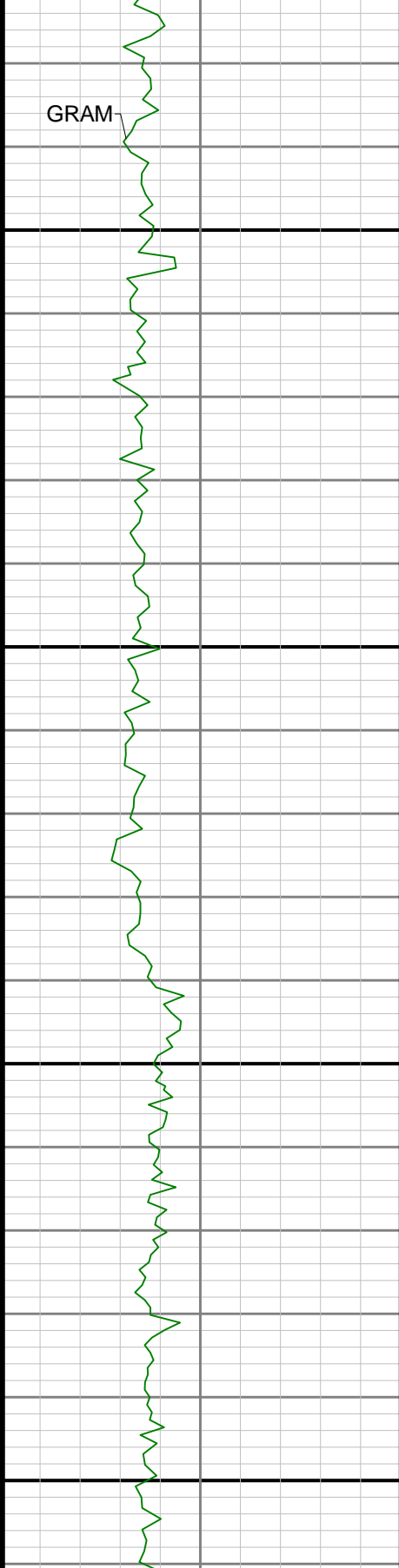




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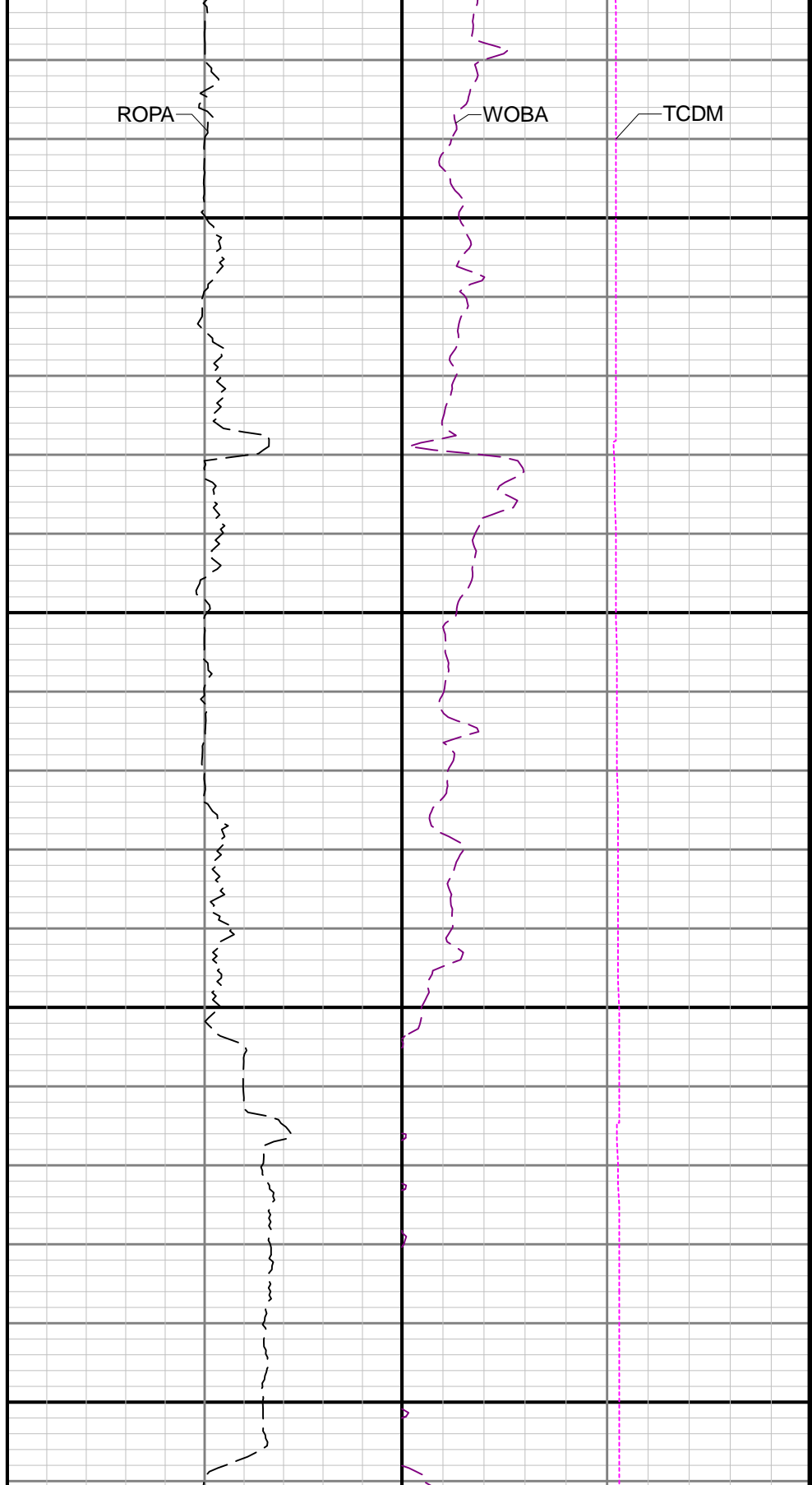
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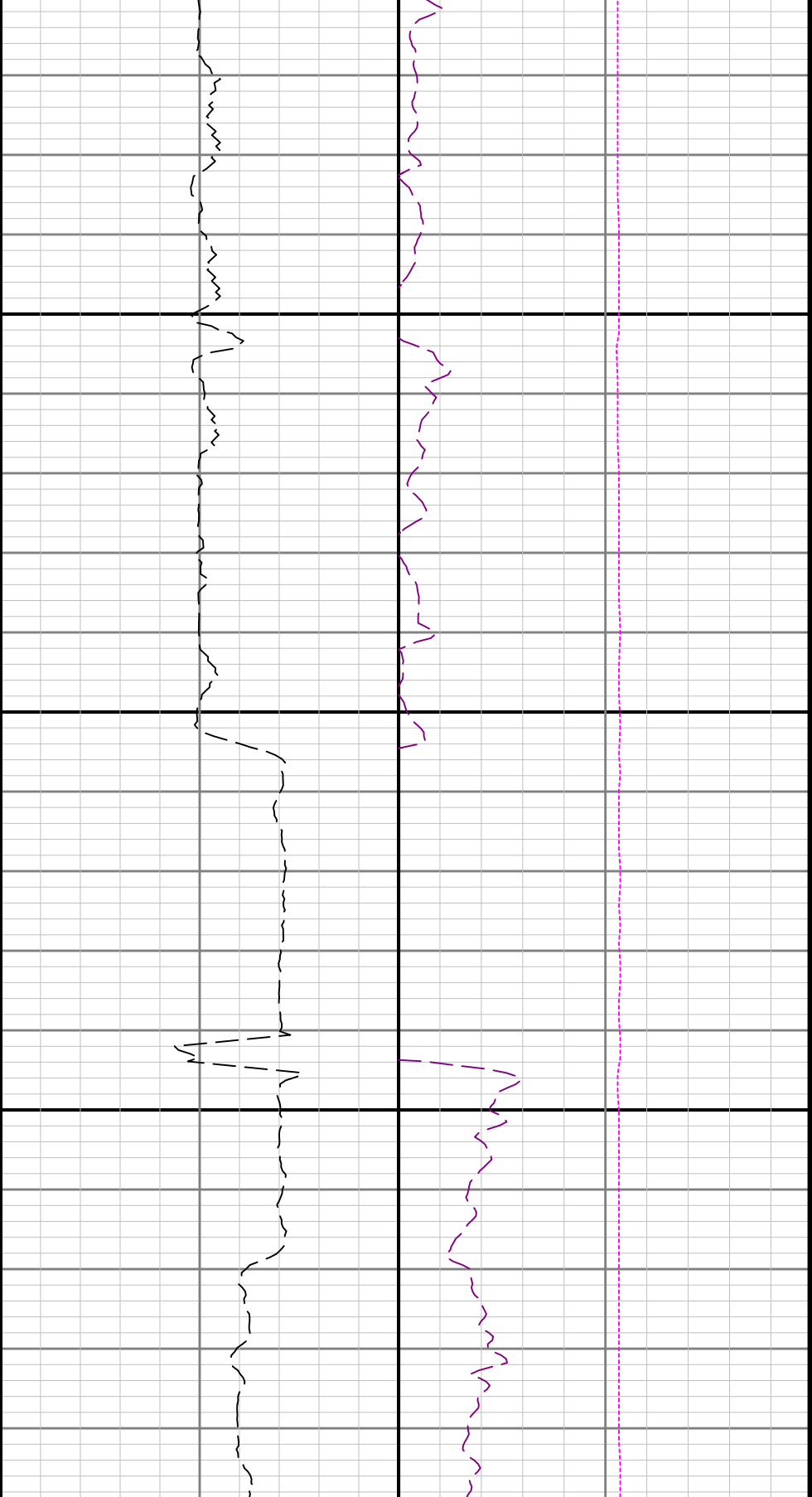




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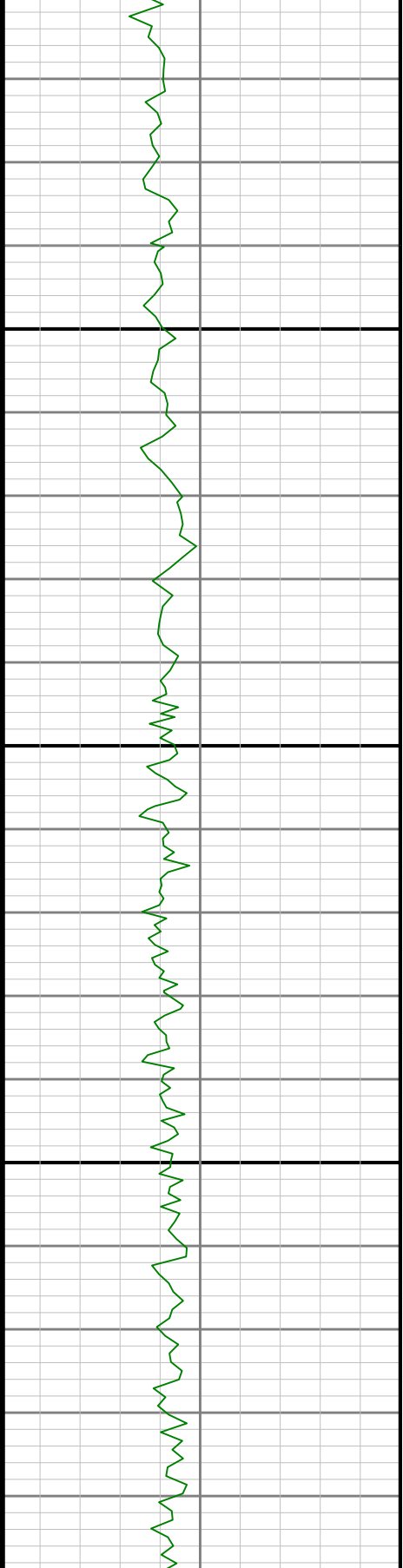
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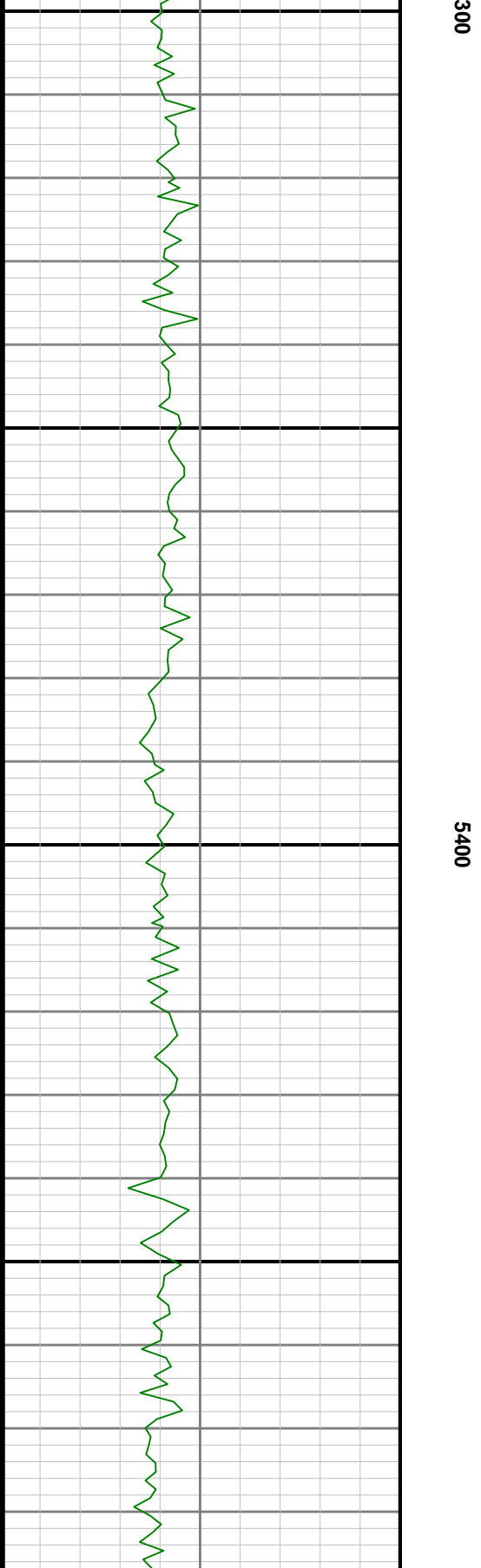
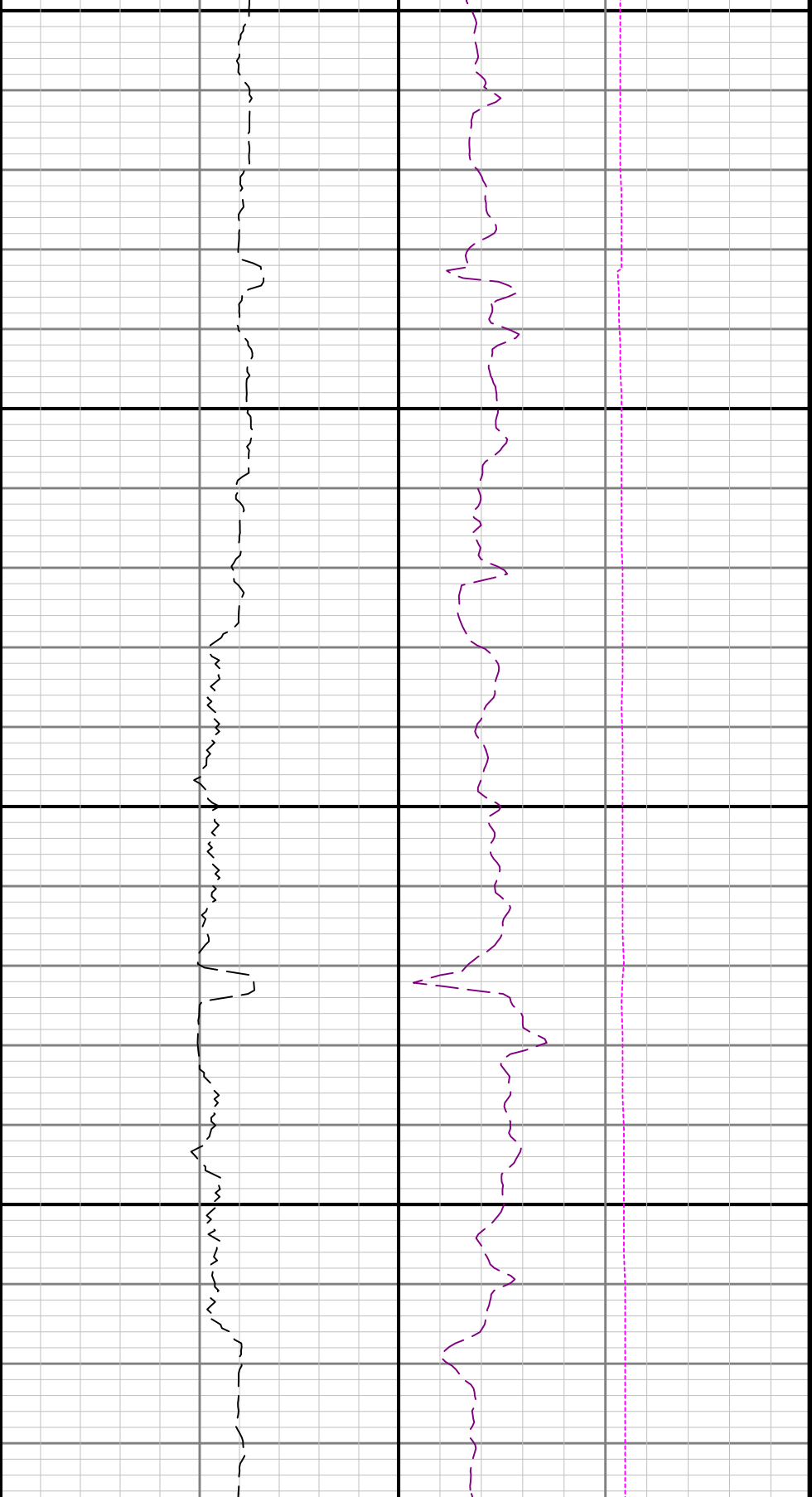


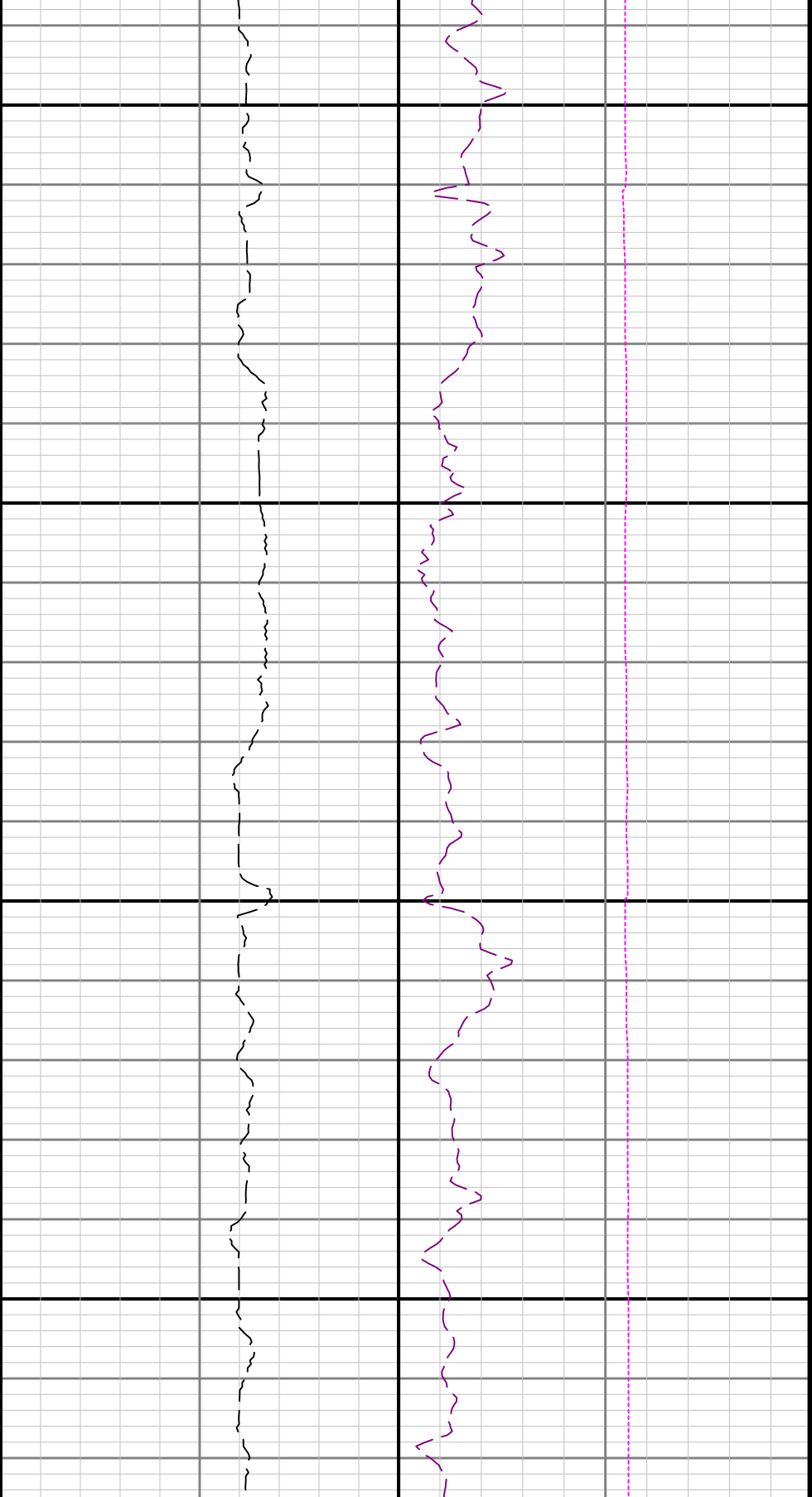


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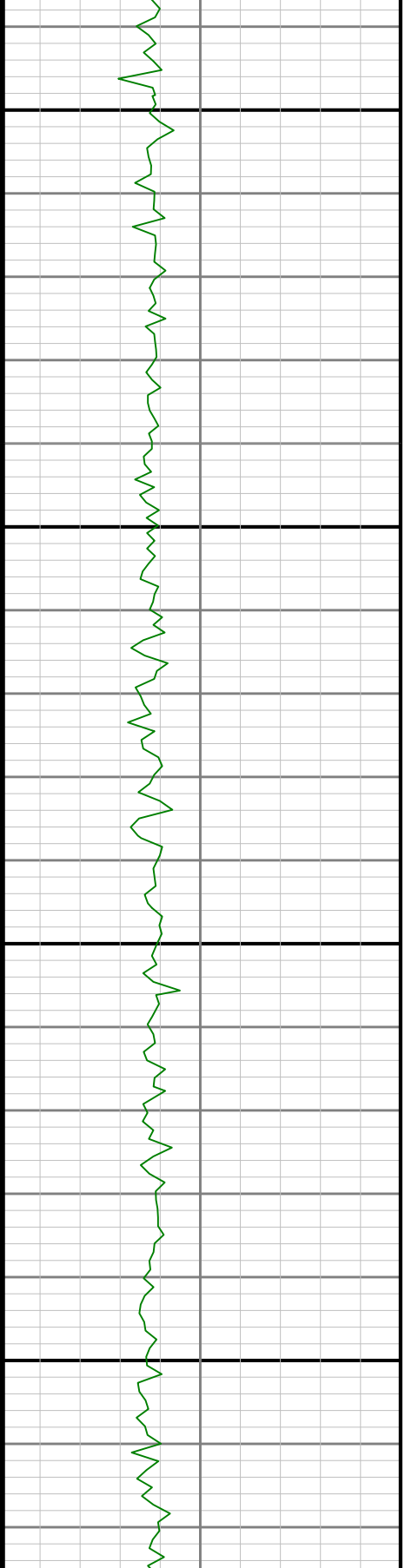


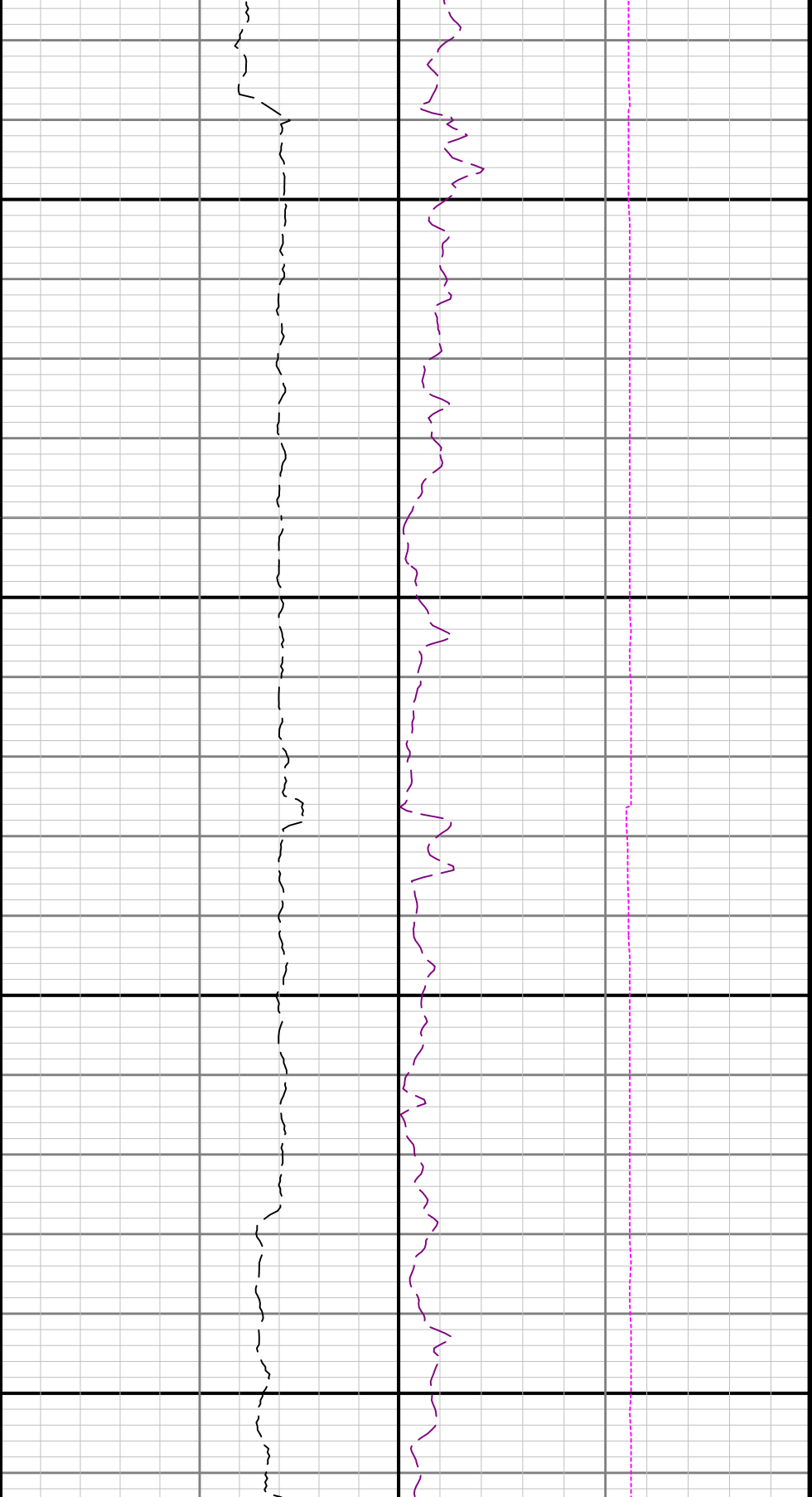




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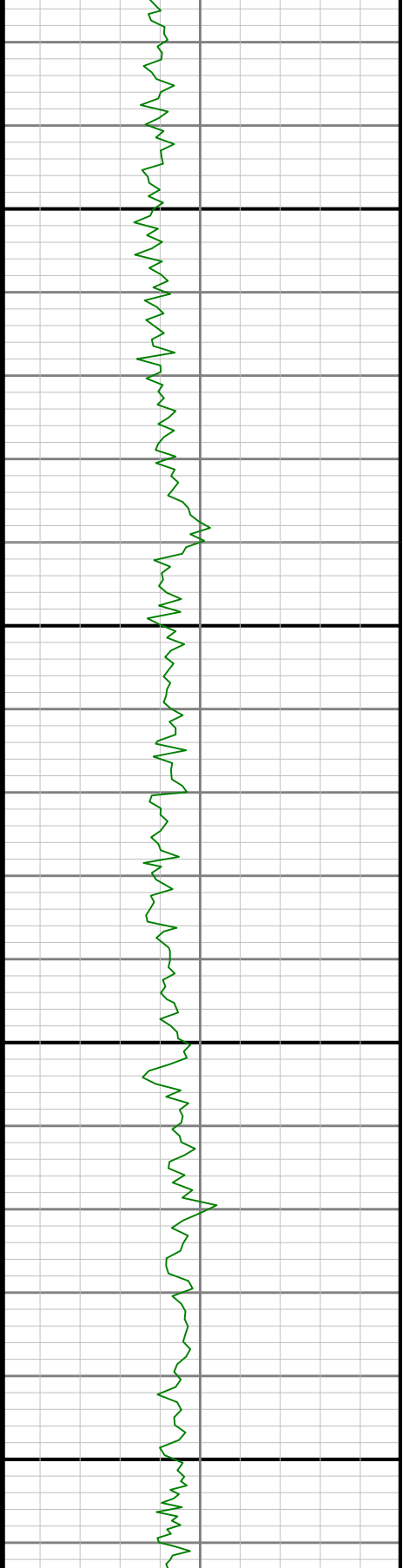
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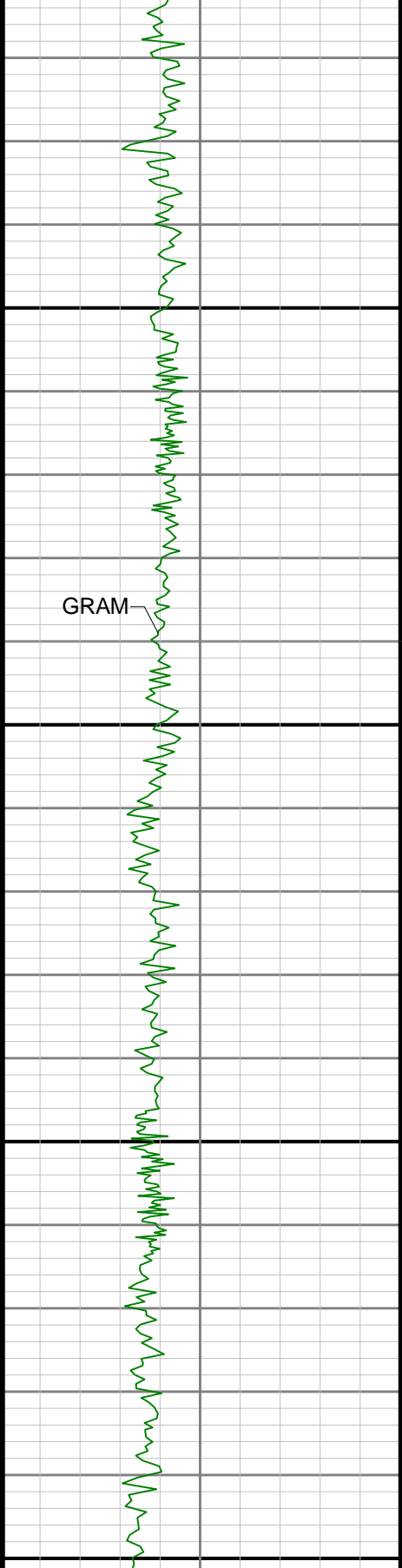




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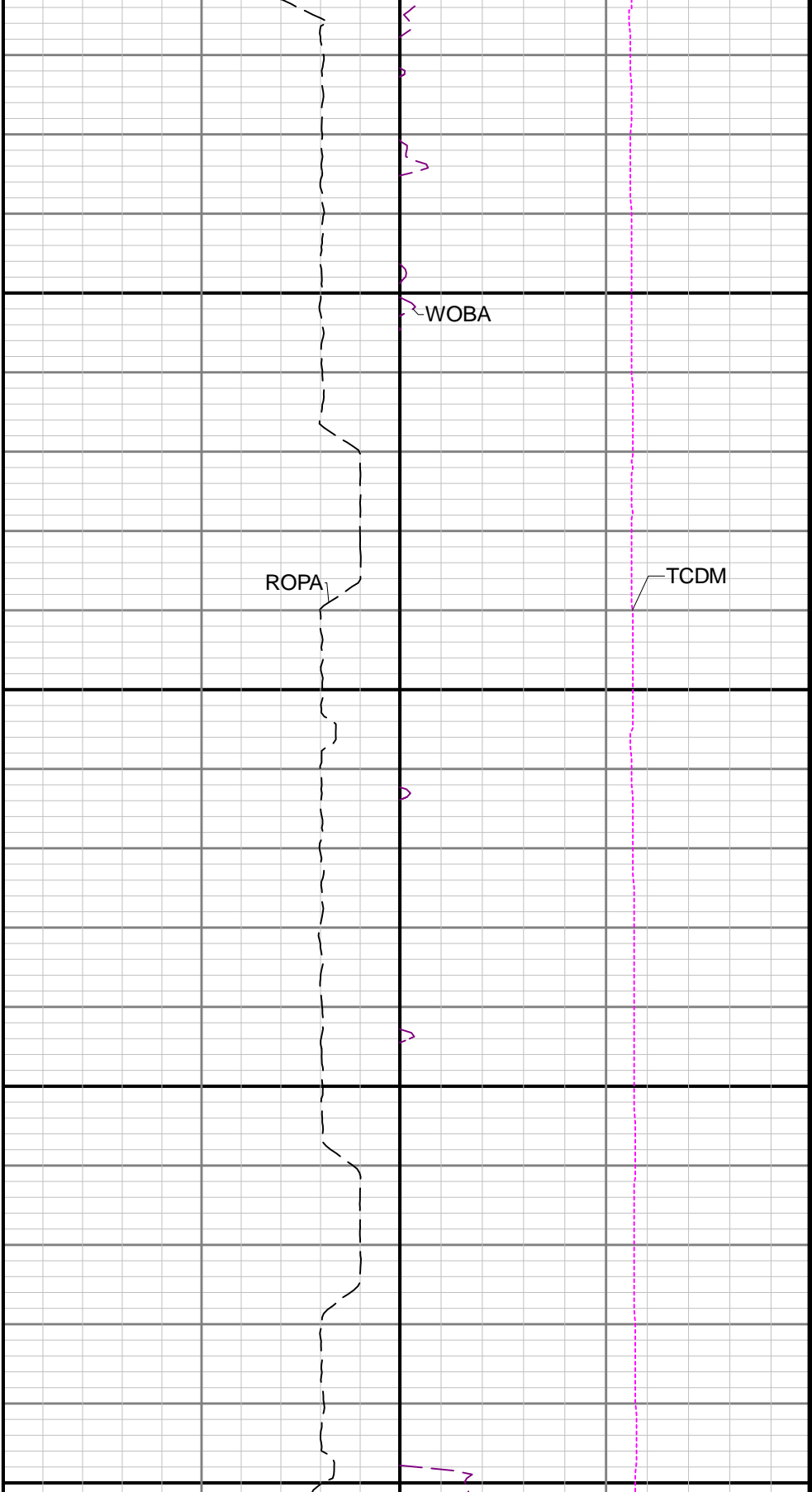
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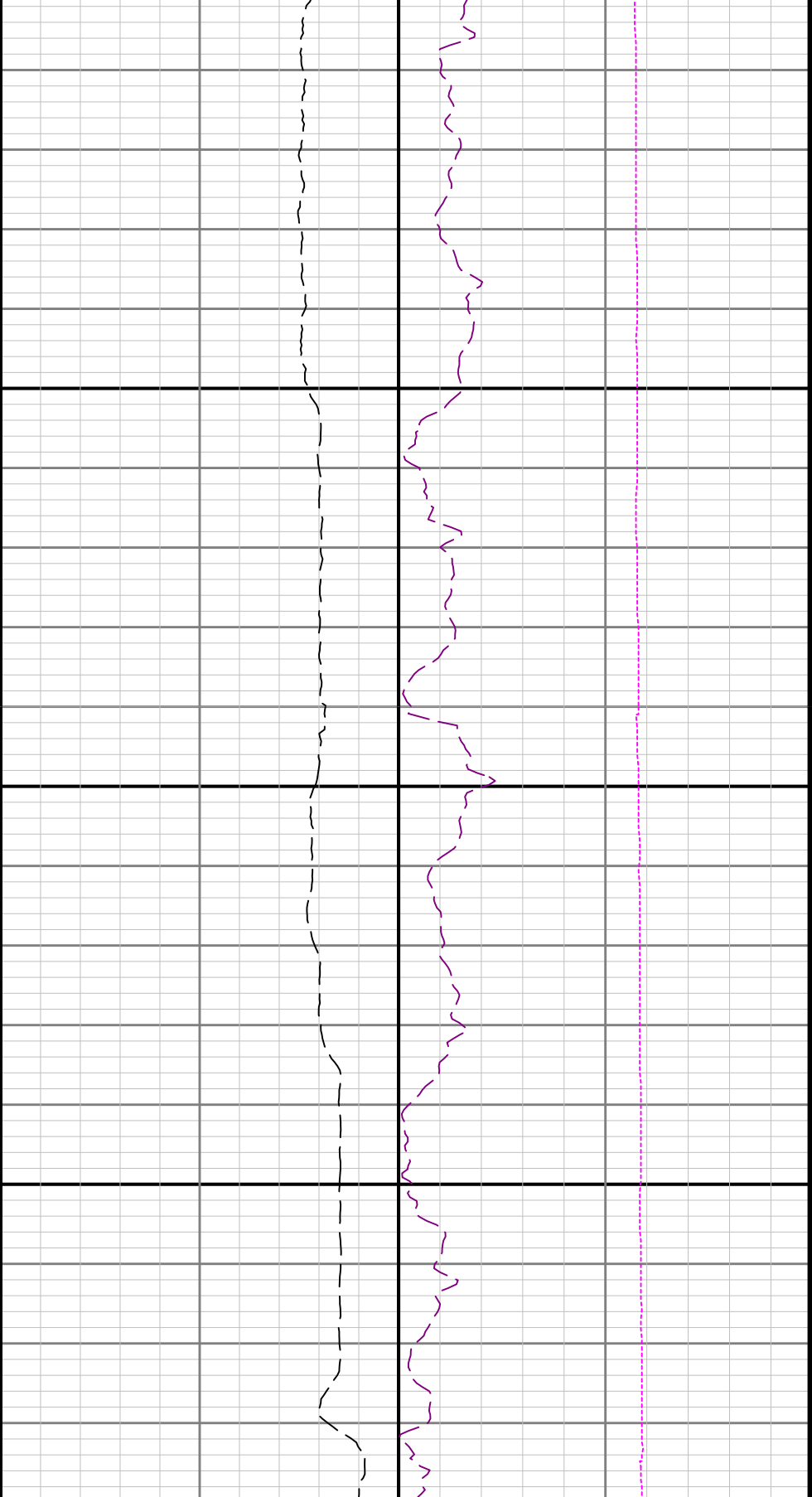


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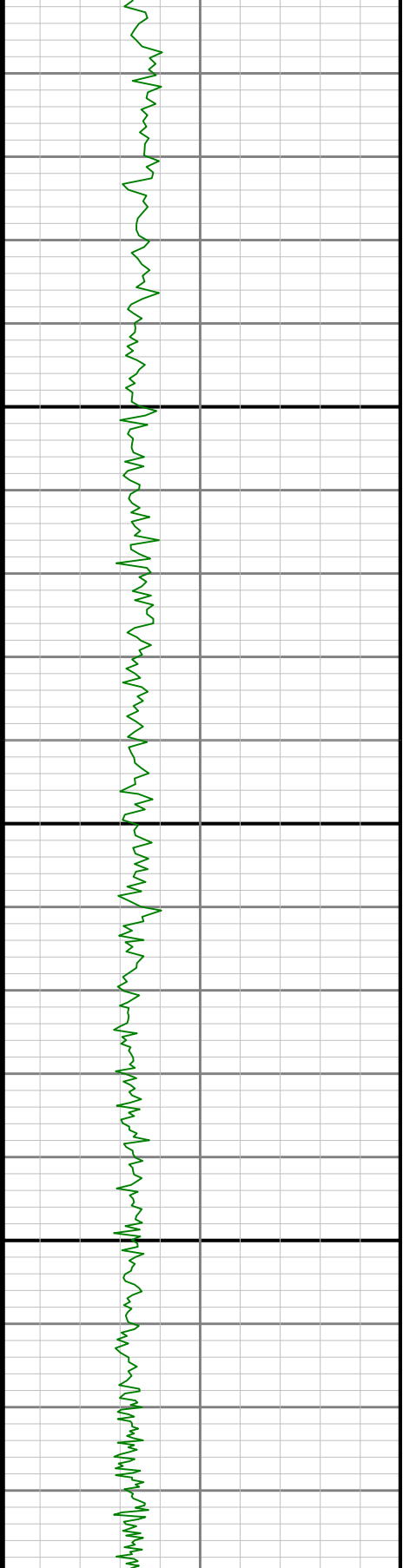


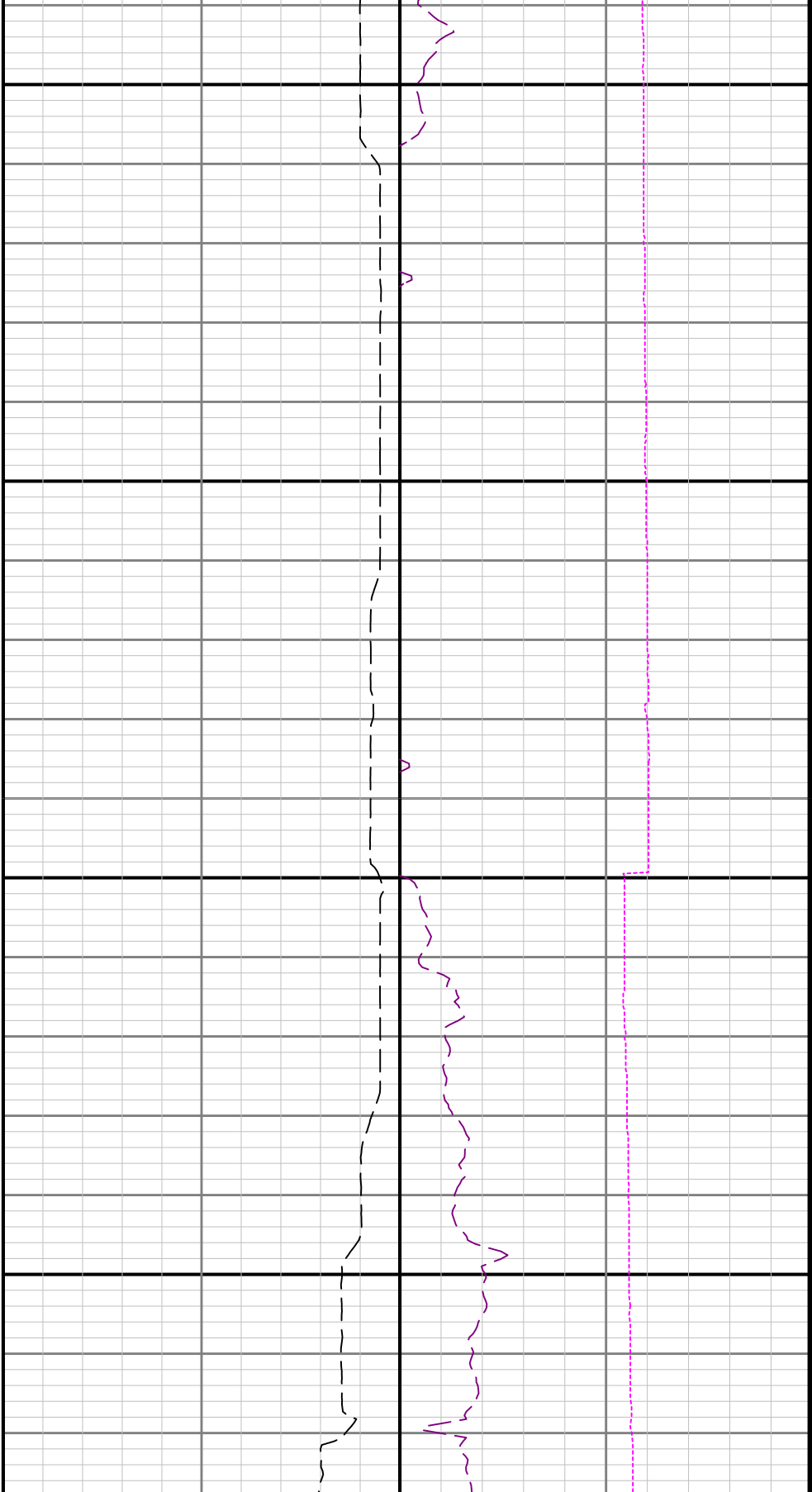




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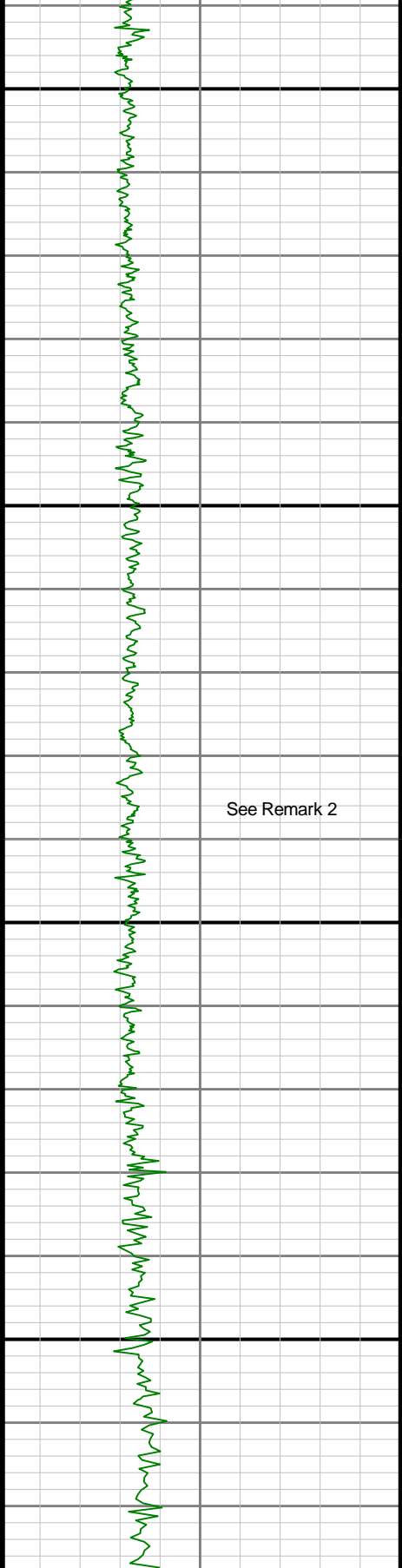


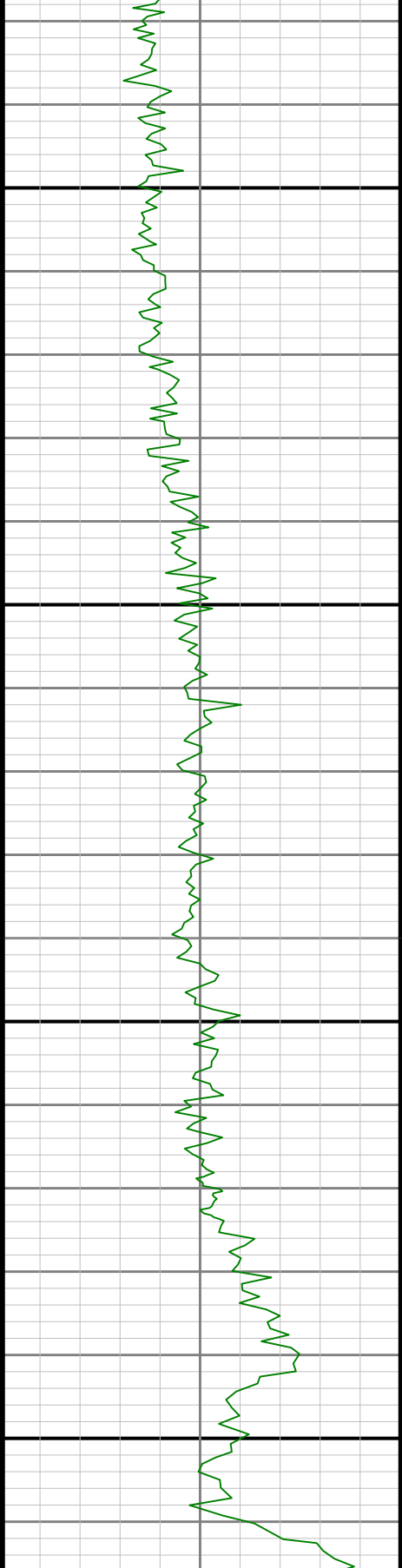
R1 R2

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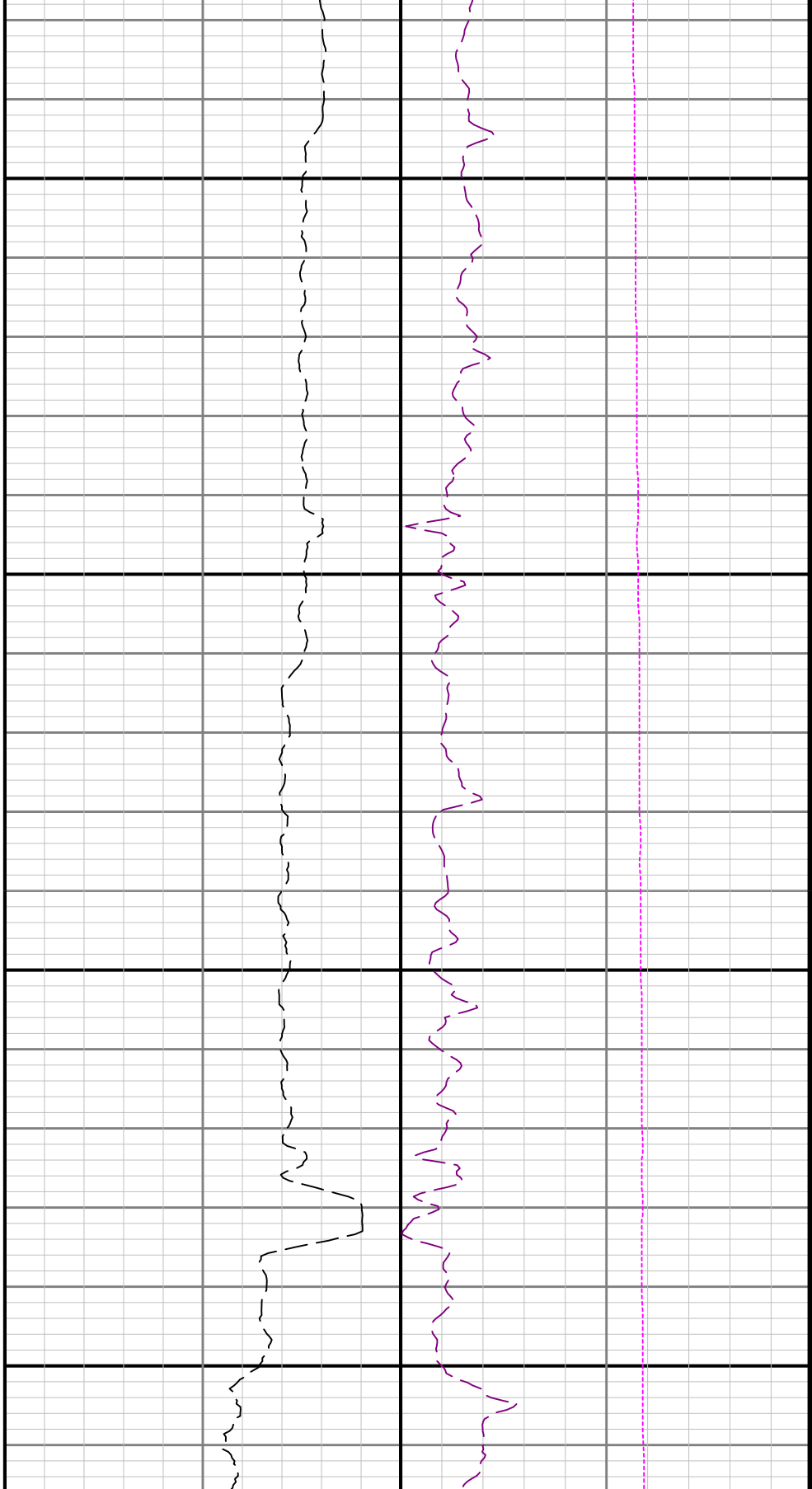
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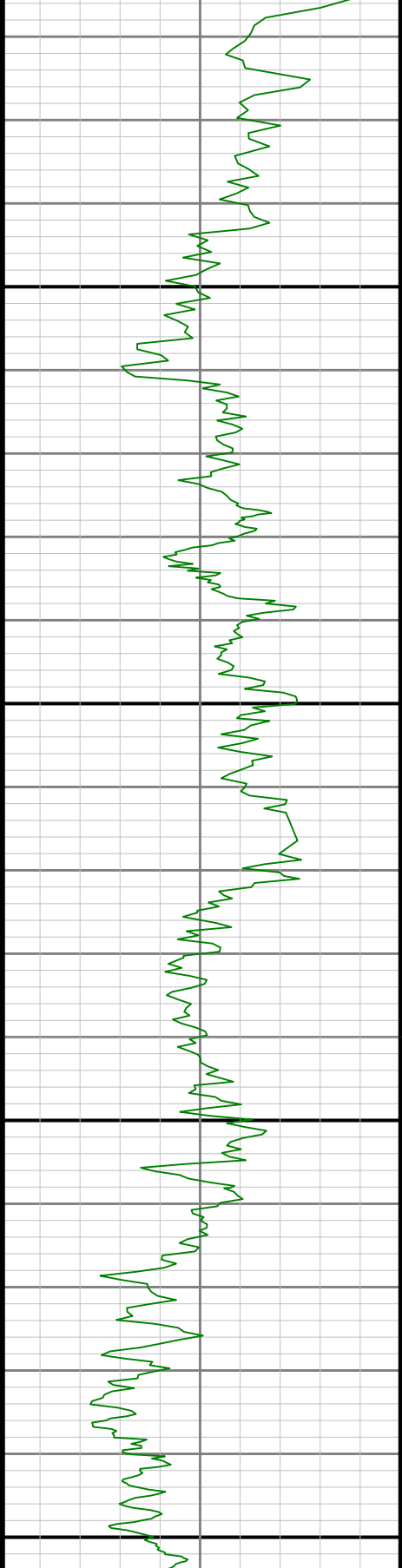




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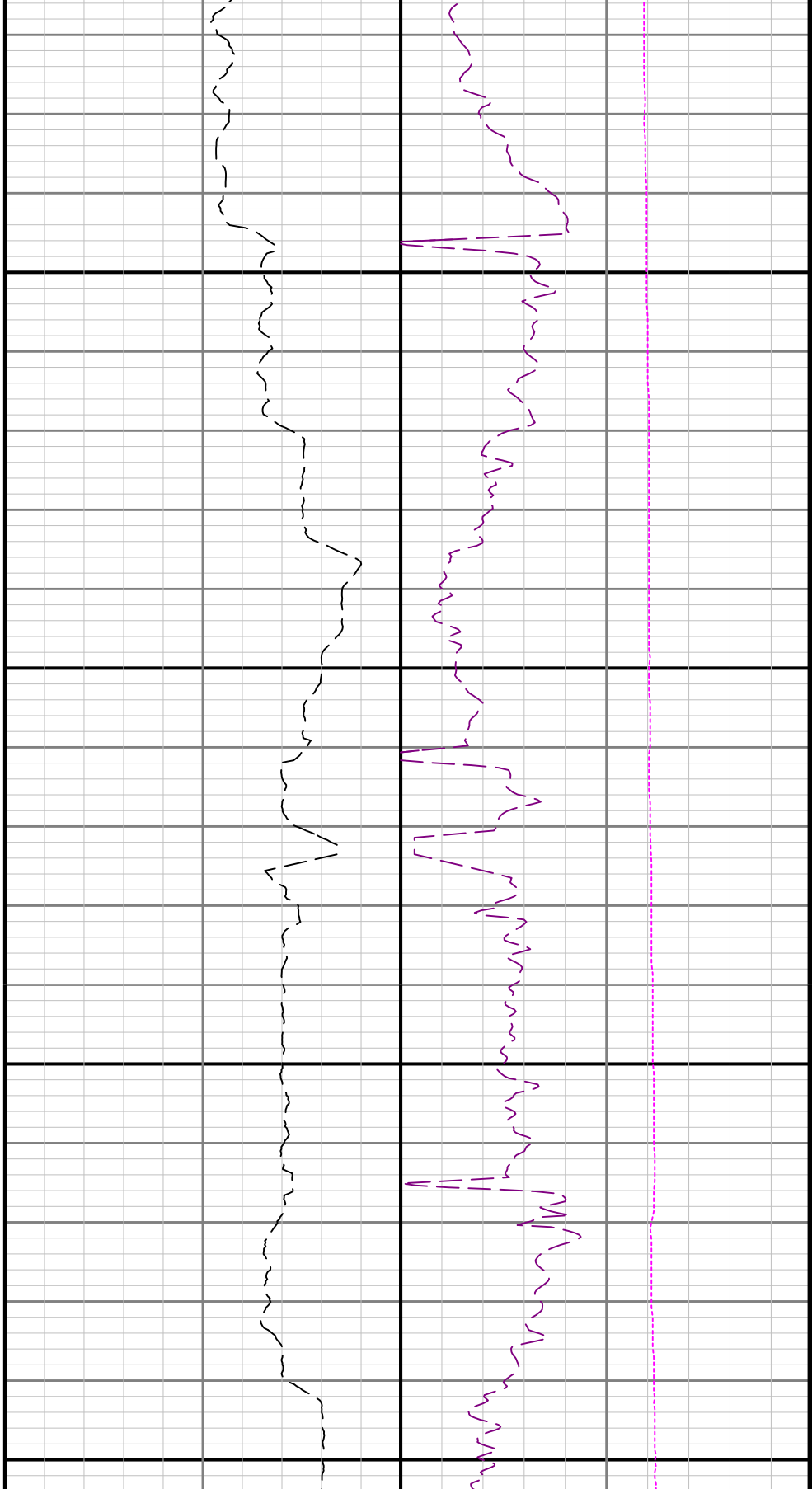
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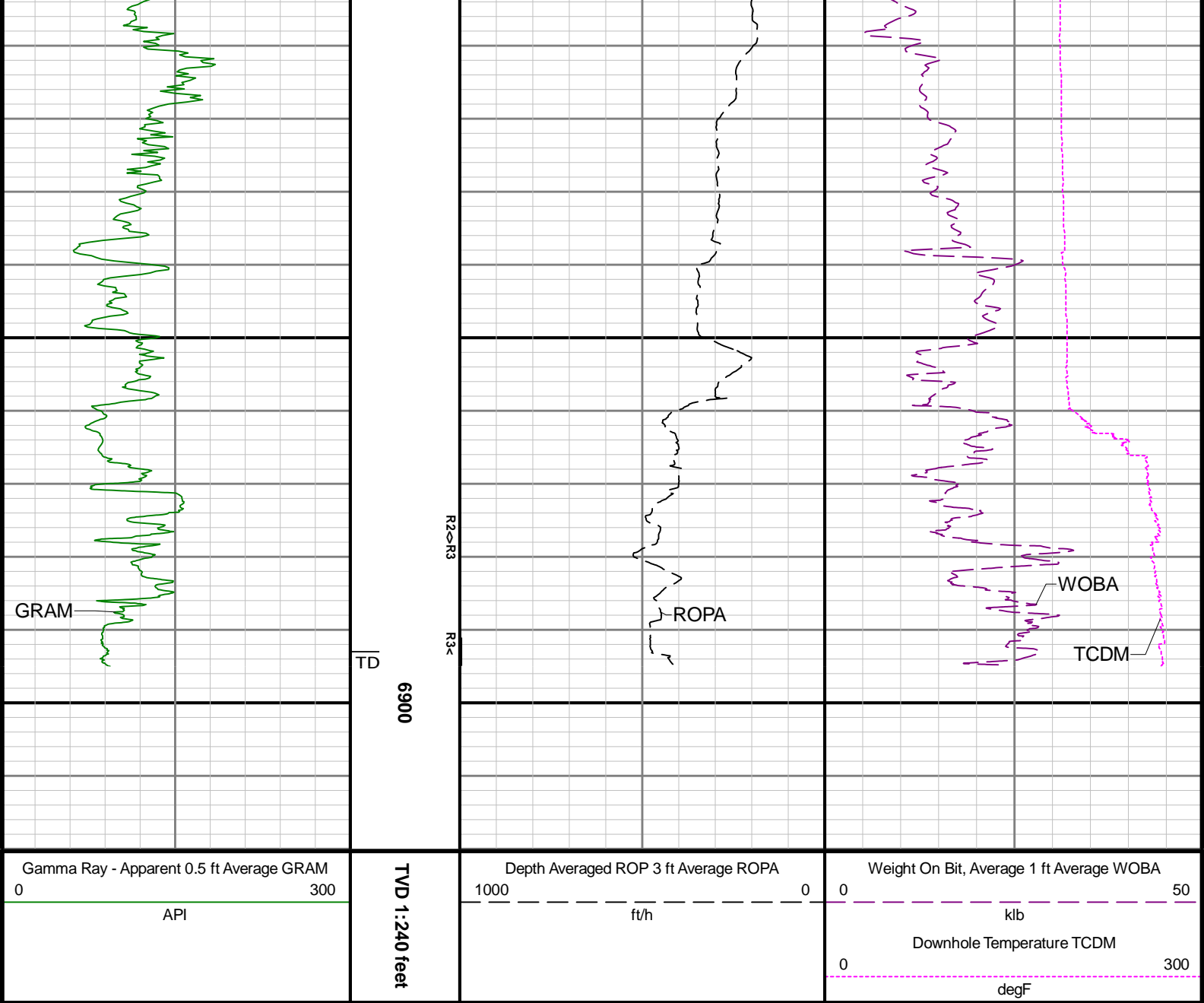




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6700





Directional Survey Summary

Latitude:	40° 27' 41.796" N	Longitude:	104° 35' 04.776" W
North Reference:	Grid	Drill Depth Zero:	Rig Floor
Vertical Datum is:	Mean Sea Level	Vertical Datum to DDZ: (ft)	4728.00
Vertical Section North: (ft)	0.00	Vertical Section East: (ft)	0.00
Vertical Section Azimuth: (deg)	177.35		
Grid Convergence: (deg)	-0.59	Magnetic Declination: (deg)	7.60
Total Correction: (deg)	7.01	TVD Calculation Method:	Minimum Curvature
Magnetic Correction:	Off	Local Magnetic Field: (nT)	51889
Local Magnetic Dip Angle: (deg)	66.75	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	-4728.00	0.00	0.00	0.00	0.00	0.00
	79.00	0.32	184.73	N/A	-0.22	-0.02	79.00	-4649.00	0.22	79.00	0.41	0.41	-221.86

		173.00	0.40	182.67	N/A	-0.81	-0.06	173.00	-4555.00	0.81	94.00	0.09	0.09	-2.19
		264.00	0.28	119.55	N/A	-1.24	0.12	264.00	-4464.00	1.24	91.00	0.41	-0.13	-69.36
		358.00	0.14	100.03	N/A	-1.37	0.44	358.00	-4370.00	1.39	94.00	0.17	-0.15	-20.77
		453.00	0.25	163.46	N/A	-1.59	0.61	453.00	-4275.00	1.61	95.00	0.24	0.12	66.77
		547.00	0.52	127.20	N/A	-2.04	1.01	546.99	-4181.01	2.09	94.00	0.37	0.29	-38.57
		642.00	0.59	141.86	N/A	-2.69	1.65	641.99	-4086.01	2.76	95.00	0.17	0.07	15.43
		737.00	0.49	162.26	N/A	-3.46	2.08	736.98	-3991.02	3.55	95.00	0.23	-0.11	21.47
		831.00	0.36	204.51	N/A	-4.11	2.08	830.98	-3897.02	4.20	94.00	0.35	-0.14	44.95
		926.00	0.15	183.46	N/A	-4.51	1.95	925.98	-3802.02	4.59	95.00	0.24	-0.22	-22.16
		1020.00	0.58	137.41	N/A	-4.98	2.26	1019.98	-3708.02	5.08	94.00	0.52	0.46	-48.99
		1115.00	0.54	167.36	N/A	-5.77	2.69	1114.97	-3613.03	5.89	95.00	0.31	-0.04	31.53
		1209.00	0.27	174.56	N/A	-6.42	2.80	1208.97	-3519.03	6.55	94.00	0.29	-0.29	7.66
		1304.00	0.30	198.42	N/A	-6.88	2.75	1303.97	-3424.03	7.00	95.00	0.13	0.03	25.12
		1398.00	0.11	250.53	N/A	-7.15	2.58	1397.97	-3330.03	7.26	94.00	0.26	-0.20	55.44
		1493.00	0.17	41.08	N/A	-7.07	2.59	1492.97	-3235.03	7.18	95.00	0.29	0.06	158.47
		1587.00	0.11	333.79	N/A	-6.88	2.64	1586.97	-3141.03	7.00	94.00	0.17	-0.06	-71.59
		1682.00	0.28	359.02	N/A	-6.57	2.60	1681.97	-3046.03	6.68	95.00	0.20	0.18	26.56
		1777.00	0.43	3.83	N/A	-5.98	2.62	1776.97	-2951.03	6.10	95.00	0.16	0.16	5.06
		1871.00	0.29	205.11	N/A	-5.85	2.54	1870.97	-2857.03	5.96	94.00	0.75	-0.15	-168.85
		1941.00	0.54	209.00	N/A	-6.29	2.30	1940.97	-2787.03	6.39	70.00	0.36	0.36	5.56
		1989.00	0.14	206.15	109.5	-6.55	2.17	1988.96	-2739.04	6.64	48.00	0.83	-0.83	-5.94
		2084.00	0.07	185.77	114.9	-6.71	2.11	2083.96	-2644.04	6.80	95.00	0.08	-0.07	-21.45
		2179.00	0.14	53.88	114.9	-6.70	2.20	2178.96	-2549.04	6.79	95.00	0.20	0.07	-138.83
		2273.00	0.12	63.68	114.9	-6.59	2.38	2272.96	-2455.04	6.69	94.00	0.03	-0.02	10.43
		2368.00	0.31	116.48	117.6	-6.66	2.70	2367.96	-2360.04	6.77	95.00	0.27	0.20	55.58
		2462.00	2.02	11.95	117.6	-5.15	3.27	2461.94	-2266.06	5.29	94.00	2.25	1.82	-111.20
		2557.00	3.68	10.26	120.3	-0.51	4.16	2556.82	-2171.18	0.70	95.00	1.75	1.75	-1.78
		2651.00	4.97	10.45	117.6	6.46	5.44	2650.55	-2077.45	-6.20	94.00	1.37	1.37	0.20
		2746.00	7.04	9.11	117.6	16.26	7.11	2745.03	-1982.97	-15.91	95.00	2.18	2.18	-1.41
		2840.00	9.06	6.48	123.0	29.30	8.85	2838.10	-1889.90	-28.86	94.00	2.18	2.15	-2.80
		2935.00	10.83	6.77	125.7	45.60	10.75	2931.67	-1796.33	-45.05	95.00	1.86	1.86	0.31
		3030.00	13.02	7.12	125.7	65.08	13.13	3024.61	-1703.39	-64.41	95.00	2.31	2.31	0.37
		3124.00	14.82	6.74	128.4	87.53	15.85	3115.85	-1612.15	-86.70	94.00	1.92	1.91	-0.40
		3218.00	14.67	7.41	128.4	111.27	18.80	3206.75	-1521.25	-110.28	94.00	0.24	-0.16	0.71
		3313.00	18.75	9.02	131.1	138.29	22.74	3297.72	-1430.28	-137.09	95.00	4.32	4.29	1.69
		3407.00	20.76	10.05	133.8	169.62	28.02	3386.18	-1341.82	-168.14	94.00	2.17	2.14	1.10
		3502.00	21.63	9.68	133.8	203.46	33.90	3474.76	-1253.24	-201.67	95.00	0.93	0.92	-0.39
		3596.00	17.56	13.11	133.8	234.36	40.04	3563.30	-1164.70	-232.26	94.00	4.50	-4.33	3.65
		3691.00	21.09	10.00	136.5	265.16	46.26	3652.93	-1075.07	-262.74	95.00	3.87	3.72	-3.27
		3785.00	21.61	9.10	139.2	298.91	51.93	3740.48	-987.52	-296.19	94.00	0.65	0.55	-0.96
		3879.00	23.34	357.54	139.2	334.62	53.87	3827.38	-900.62	-331.78	94.00	5.04	1.84	-12.30
		3974.00	22.39	7.93	141.9	371.36	55.56	3914.95	-813.05	-368.40	95.00	4.36	-1.00	10.94
		4069.00	22.51	357.71	141.9	407.47	57.33	4002.79	-725.21	-404.38	95.00	4.11	0.13	-10.76
		4163.00	22.01	8.78	141.9	442.87	59.30	4089.82	-638.18	-439.65	94.00	4.49	-0.53	11.78
		4258.00	23.80	8.45	144.6	479.43	64.83	4177.32	-550.68	-475.92	95.00	1.89	1.88	-0.35
		4352.00	23.45	19.81	144.6	515.80	73.96	4263.49	-464.51	-511.83	94.00	4.85	-0.37	12.09
		4447.00	24.18	19.88	144.6	551.88	86.99	4350.40	-377.60	-547.27	95.00	0.77	0.77	0.07
		4541.00	23.63	8.23	147.3	588.65	96.24	4436.39	-291.61	-583.58	94.00	5.05	-0.59	-12.39
		4636.00	23.95	2.81	147.3	626.76	99.91	4523.32	-204.68	-621.47	95.00	2.33	0.34	-5.71
		4731.00	22.66	5.31	150.0	664.24	102.55	4610.57	-117.43	-658.79	95.00	1.71	-1.36	2.63
		4825.00	22.32	15.00	152.7	699.53	108.84	4697.46	-30.54	-693.75	94.00	3.96	-0.36	10.31
		4920.00	24.13	14.08	152.7	735.79	118.24	4784.75	56.75	-729.54	95.00	1.94	1.91	-0.97
		5014.00	23.72	9.81	152.7	773.06	126.13	4870.68	142.68	-766.40	94.00	1.89	-0.44	-4.54
		5109.00	24.25	15.52	155.4	810.69	134.61	4957.49	229.49	-803.60	95.00	2.51	0.56	6.01
		5203.00	23.37	8.80	158.1	847.72	142.63	5043.51	315.51	-840.22	94.00	3.03	-0.94	-7.15
		5298.00	20.09	7.68	158.1	882.52	147.69	5131.74	403.74	-874.75	95.00	3.48	-3.45	-1.18
		5392.00	17.91	13.82	158.1	912.56	153.31	5220.63	492.63	-904.50	94.00	3.14	-2.32	6.53
		5487.00	19.77	11.67	160.8	942.49	160.05	5310.53	582.53	-934.08	95.00	2.09	1.96	-2.26
		5582.00	19.60	10.38	160.8	973.89	166.17	5399.98	671.98	-965.17	95.00	0.49	-0.18	-1.36
		5676.00	19.03	13.88	163.5	1004.28	172.68	5488.69	760.69	-995.22	94.00	1.37	-0.61	3.72
		5770.00	19.72	13.90	163.5	1034.55	180.17	5577.37	849.37	-1025.12	94.00	0.73	0.73	0.02
		5865.00	20.25	15.38	168.9	1065.96	188.38	5666.65	938.65	-1056.11	95.00	0.77	0.56	1.56
		5959.00	21.52	14.08	166.2	1098.37	196.89	5754.47	1026.47	-1088.10	94.00	1.44	1.35	-1.38

	6054.00	21.24	9.89	166.2	1132.23	204.08	5842.94	1114.94	-1121.58	95.00	1.63	-0.29	-4.41
	6148.00	16.94	8.61	168.9	1162.56	209.06	5931.75	1203.75	-1151.65	94.00	4.60	-4.57	-1.36
	6243.00	9.33	23.50	171.6	1183.34	214.21	6024.22	1296.22	-1172.17	95.00	8.70	-8.01	15.67
	6336.00	5.58	60.23	171.6	1192.50	221.15	6116.47	1388.47	-1181.00	93.00	6.33	-4.03	39.49
	6432.00	5.96	118.98	174.3	1192.41	229.57	6212.06	1484.06	-1180.52	96.00	5.90	0.40	61.20
	6527.00	10.19	171.51	179.7	1181.69	235.13	6306.21	1578.21	-1169.55	95.00	8.50	4.45	55.29
	6610.00	17.93	177.32	166.2	1161.63	236.82	6386.66	1658.66	-1149.44	83.00	9.47	9.33	7.00
	6705.00	26.71	178.98	171.6	1125.61	237.88	6474.46	1746.46	-1113.41	95.00	9.27	9.24	1.75
	6800.00	34.90	181.46	174.3	1077.01	237.57	6555.99	1827.99	-1064.87	95.00	8.72	8.62	2.61
	6895.00	42.83	181.60	179.7	1017.47	235.97	6629.90	1901.90	-1005.47	95.00	8.35	8.35	0.15
	6989.00	49.30	180.71	179.7	949.83	234.64	6695.09	1967.09	-937.96	94.00	6.92	6.88	-0.99
	7083.00	57.62	181.22	182.5	874.38	233.35	6751.01	2023.01	-862.66	94.00	8.86	8.85	0.54
	7178.00	64.28	180.87	185.2	791.39	231.84	6797.11	2069.11	-779.83	95.00	7.02	7.01	-0.37
	7272.00	73.52	179.82	187.9	703.79	231.34	6830.91	2102.91	-692.34	94.00	9.88	9.83	-1.12
	7367.00	80.79	180.06	190.6	611.23	231.43	6852.02	2124.02	-599.88	95.00	7.66	7.65	0.25
	7461.00	89.85	179.15	193.3	517.65	232.08	6859.68	2131.68	-506.36	94.00	9.69	9.64	-0.97
	7556.00	89.82	178.00	196.0	422.68	234.45	6859.95	2131.95	-411.39	95.00	1.21	-0.03	-1.21
	7651.00	89.60	177.81	201.4	327.74	237.92	6860.44	2132.44	-316.39	95.00	0.31	-0.23	-0.20
	7745.00	89.69	178.03	204.1	233.81	241.33	6861.02	2133.02	-222.40	94.00	0.25	0.10	0.23
	7840.00	89.88	177.65	206.8	138.87	244.91	6861.37	2133.37	-127.40	95.00	0.45	0.20	-0.40
	7934.00	89.75	177.83	206.8	44.95	248.62	6861.68	2133.68	-33.41	94.00	0.24	-0.14	0.19
	8029.00	89.72	178.01	206.8	-49.99	252.07	6862.12	2134.12	61.59	95.00	0.19	-0.03	0.19
	8124.00	89.78	177.82	209.5	-144.92	255.52	6862.53	2134.53	156.58	95.00	0.21	0.06	-0.20
	8219.00	89.75	177.70	212.2	-239.85	259.24	6862.92	2134.92	251.58	95.00	0.13	-0.03	-0.13
	8313.00	90.03	178.02	214.9	-333.78	262.75	6863.10	2135.10	345.58	94.00	0.45	0.30	0.34
	8408.00	90.18	177.70	214.9	-428.72	266.29	6862.93	2134.93	440.57	95.00	0.37	0.16	-0.34
	8503.00	89.88	177.85	217.6	-523.65	269.98	6862.88	2134.88	535.57	95.00	0.35	-0.32	0.16
	8597.00	90.03	177.65	220.3	-617.57	273.67	6862.95	2134.95	629.57	94.00	0.27	0.16	-0.21
	8691.00	89.91	177.84	220.3	-711.50	277.37	6863.00	2135.00	723.56	94.00	0.24	-0.13	0.20
	8786.00	90.15	177.62	223.0	-806.43	281.13	6862.95	2134.95	818.56	95.00	0.34	0.25	-0.23
	8880.00	90.00	177.89	223.0	-900.35	284.82	6862.83	2134.83	912.56	94.00	0.33	-0.16	0.29
	8975.00	89.85	177.94	225.7	-995.29	288.27	6862.95	2134.95	1007.55	95.00	0.17	-0.16	0.05
	9069.00	89.91	178.20	225.7	-1089.24	291.44	6863.15	2135.15	1101.55	94.00	0.28	0.06	0.28
	9164.00	89.72	178.63	228.4	-1184.20	294.07	6863.46	2135.46	1196.53	95.00	0.49	-0.20	0.45
	9353.00	90.06	177.86	228.4	-1373.11	299.85	6863.82	2135.82	1385.50	189.00	0.45	0.18	-0.41
	9447.00	90.06	177.65	231.1	-1467.04	303.54	6863.72	2135.72	1479.50	94.00	0.22	0.00	-0.22
	9541.00	89.97	178.13	233.8	-1560.97	307.00	6863.70	2135.70	1573.50	94.00	0.52	-0.10	0.51
	9636.00	89.94	177.59	233.8	-1655.91	310.54	6863.77	2135.77	1668.49	95.00	0.57	-0.03	-0.57
	9731.00	89.94	177.74	236.5	-1750.83	314.42	6863.87	2135.87	1763.49	95.00	0.16	-0.00	0.16
	9825.00	90.03	177.77	236.5	-1844.76	318.10	6863.89	2135.89	1857.49	94.00	0.10	0.10	0.03
	9919.00	89.88	177.52	239.2	-1938.68	321.96	6863.97	2135.97	1951.49	94.00	0.31	-0.16	-0.27
	10014.00	89.75	177.54	233.8	-2033.59	326.05	6864.28	2136.28	2046.49	95.00	0.14	-0.14	0.02
	10109.00	89.82	179.07	236.5	-2128.54	328.86	6864.63	2136.63	2141.47	95.00	1.61	0.07	1.61
	10203.00	89.66	178.97	236.5	-2222.53	330.47	6865.06	2137.06	2235.43	94.00	0.20	-0.17	-0.11
	10298.00	89.57	178.99	239.2	-2317.51	332.16	6865.70	2137.70	2330.39	95.00	0.10	-0.09	0.02
	10393.00	89.94	178.99	241.9	-2412.49	333.84	6866.10	2138.10	2425.35	95.00	0.39	0.39	0.00
	10487.00	90.06	178.99	241.9	-2506.48	335.49	6866.10	2138.10	2519.31	94.00	0.13	0.13	0.00
	10582.00	90.22	178.93	231.1	-2601.46	337.22	6865.87	2137.87	2614.27	95.00	0.18	0.17	-0.06
	10677.00	90.15	179.38	239.2	-2696.45	338.62	6865.56	2137.56	2709.23	95.00	0.48	-0.07	0.47
	10771.00	90.22	179.42	241.9	-2790.45	339.60	6865.26	2137.26	2803.16	94.00	0.09	0.07	0.04
	10866.00	90.06	179.45	241.9	-2885.44	340.54	6865.03	2137.03	2898.10	95.00	0.17	-0.17	0.03
	10960.00	90.09	179.22	244.6	-2979.44	341.63	6864.91	2136.91	2992.04	94.00	0.25	0.03	-0.24
	11055.00	89.85	179.52	244.6	-3074.43	342.68	6864.96	2136.96	3086.99	95.00	0.40	-0.25	0.32
	11149.00	90.49	179.99	247.3	-3168.43	343.08	6864.68	2136.68	3180.90	94.00	0.84	0.68	0.50
	11244.00	90.15	179.38	250.0	-3263.42	343.60	6864.15	2136.15	3275.82	95.00	0.74	-0.36	-0.64
	11339.00	90.06	179.58	247.3	-3358.42	344.46	6863.97	2135.97	3370.75	95.00	0.23	-0.09	0.21
	11433.00	90.22	179.44	247.3	-3452.42	345.27	6863.74	2135.74	3464.69	94.00	0.23	0.17	-0.15
	11528.00	90.28	179.71	250.0	-3547.41	345.97	6863.33	2135.33	3559.61	95.00	0.29	0.06	0.28
	11622.00	90.31	179.71	250.0	-3641.41	346.45	6862.84	2134.84	3653.53	94.00	0.03	0.03	0.00
	11811.00	90.18	179.17	250.0	-3830.40	348.29	6862.04	2134.04	3842.41	189.00	0.29	-0.07	-0.29
	11906.00	90.25	179.12	250.0	-3925.39	349.71	6861.68	2133.68	3937.36	95.00	0.09	0.07	-0.05
	12000.00	90.12	178.81	250.0	-4019.37	351.41	6861.38	2133.38	4031.32	94.00	0.36	-0.14	-0.33
	12095.00	90.47	179.99	252.7	-4114.35	352.24	6861.06	2133.06	4126.28	95.00	1.00	1.00	0.00

	12096.00	89.17	178.90	252.7	-4114.35	353.31	6861.96	2133.96	4126.28	95.00	1.00	-1.00	0.09
	12189.00	89.11	179.18	250.0	-4208.33	354.88	6863.37	2135.37	4220.23	94.00	0.30	-0.06	0.30
	12284.00	89.26	178.97	252.7	-4303.30	356.42	6864.73	2136.73	4315.18	95.00	0.27	0.16	-0.22
	12378.00	89.05	178.56	252.7	-4397.27	358.44	6866.11	2138.11	4409.14	94.00	0.49	-0.22	-0.44
	12473.00	89.35	179.05	252.7	-4492.24	360.42	6867.44	2139.44	4504.10	95.00	0.60	0.32	0.52
	12567.00	89.14	179.13	255.4	-4586.22	361.92	6868.68	2140.68	4598.05	94.00	0.24	-0.22	0.09
	12662.00	89.66	178.51	252.7	-4681.19	363.87	6869.67	2141.67	4693.01	95.00	0.85	0.55	-0.65
	12756.00	89.17	178.92	255.4	-4775.17	365.98	6870.63	2142.63	4786.98	94.00	0.68	-0.52	0.44
	12851.00	89.51	179.44	255.4	-4870.15	367.34	6871.73	2143.73	4881.92	95.00	0.65	0.36	0.55
	12945.00	89.57	178.68	258.1	-4964.13	368.88	6872.48	2144.48	4975.88	94.00	0.81	0.06	-0.81
	13040.00	89.85	179.03	255.4	-5059.11	370.78	6872.96	2144.96	5070.85	95.00	0.47	0.29	0.37
	13134.00	89.66	178.60	258.1	-5153.09	372.72	6873.36	2145.36	5164.81	94.00	0.50	-0.20	-0.46
	13228.00	89.78	179.26	258.1	-5247.07	374.48	6873.82	2145.82	5258.78	94.00	0.71	0.13	0.70
	13323.00	89.85	178.69	260.8	-5342.06	376.18	6874.13	2146.13	5353.74	95.00	0.60	0.07	-0.60
	13417.00	90.12	178.94	260.8	-5436.04	378.12	6874.15	2146.15	5447.71	94.00	0.39	0.29	0.27
	13512.00	89.69	178.34	260.8	-5531.01	380.38	6874.31	2146.31	5542.68	95.00	0.78	-0.45	-0.63
	13606.00	89.57	178.59	260.8	-5624.97	382.90	6874.92	2146.92	5636.66	94.00	0.30	-0.13	0.27
	13701.00	89.63	178.33	263.5	-5719.94	385.45	6875.58	2147.58	5731.64	95.00	0.28	0.06	-0.27
	13795.00	89.72	178.44	263.5	-5813.90	388.10	6876.12	2148.12	5825.62	94.00	0.15	0.10	0.12
	13890.00	89.60	178.43	263.5	-5908.86	390.69	6876.68	2148.68	5920.61	95.00	0.13	-0.13	-0.01
	13984.00	89.82	179.02	260.8	-6002.84	392.78	6877.15	2149.15	6014.58	94.00	0.67	0.23	0.63
	14079.00	89.42	179.30	263.5	-6097.82	394.18	6877.78	2149.78	6109.53	95.00	0.51	-0.42	0.29
	14184.00	90.86	180.01	247.3	-6202.82	394.81	6877.53	2149.53	6214.44	105.00	1.53	1.37	0.68
	14279.00	89.75	183.31	250.0	-6297.76	392.06	6877.02	2149.02	6309.15	95.00	3.66	-1.17	3.47
	14374.00	90.12	180.39	250.0	-6392.70	388.99	6877.13	2149.13	6403.85	95.00	3.10	0.39	-3.07
	14468.00	90.22	181.70	252.7	-6486.68	387.28	6876.85	2148.85	6497.65	94.00	1.40	0.11	1.39
	14563.00	90.34	181.19	255.4	-6581.65	384.88	6876.39	2148.39	6592.41	95.00	0.55	0.13	-0.54
	14657.00	89.11	178.12	255.4	-6675.64	385.45	6876.84	2148.84	6686.32	94.00	3.52	-1.31	-3.27
	14752.00	89.38	179.28	258.1	-6770.60	387.60	6878.09	2150.09	6781.28	95.00	1.25	0.28	1.22
	14847.00	88.77	177.54	258.1	-6865.55	390.24	6879.62	2151.62	6876.25	95.00	1.94	-0.64	-1.83
	14941.00	89.26	178.27	260.8	-6959.47	393.67	6881.24	2153.24	6970.23	94.00	0.94	0.52	0.78
	15036.00	89.35	178.74	260.8	-7054.43	396.15	6882.39	2154.39	7065.20	95.00	0.50	0.09	0.49
	15131.00	89.41	177.97	260.8	-7149.39	398.88	6883.42	2155.42	7160.18	95.00	0.81	0.06	-0.81
	15225.00	89.72	178.28	263.5	-7243.33	401.95	6884.13	2156.13	7254.17	94.00	0.47	0.33	0.33
	15319.00	89.48	177.76	263.5	-7337.27	405.20	6884.79	2156.79	7348.16	94.00	0.61	-0.26	-0.55
	15414.00	89.85	177.35	263.5	-7432.19	409.25	6885.35	2157.35	7443.16	95.00	0.58	0.39	-0.43
	15509.00	89.60	176.92	263.5	-7527.07	414.00	6885.80	2157.80	7538.16	95.00	0.52	-0.26	-0.45
	15603.00	89.17	177.22	263.5	-7620.94	418.81	6886.81	2158.81	7632.15	94.00	0.56	-0.46	0.32
	15697.00	89.29	179.31	263.5	-7714.88	421.65	6888.07	2160.07	7726.12	94.00	2.23	0.13	2.22
	15792.00	89.23	179.90	266.2	-7809.87	422.31	6889.30	2161.30	7821.04	95.00	0.62	-0.06	0.62
	15887.00	89.72	179.86	266.2	-7904.86	422.51	6890.17	2162.17	7915.95	95.00	0.52	0.52	-0.04
	15981.00	88.74	179.61	266.2	-7998.85	422.94	6891.43	2163.43	8009.85	94.00	1.08	-1.04	-0.27
	16075.00	88.12	180.07	266.2	-8092.82	423.20	6894.01	2166.01	8103.73	94.00	0.82	-0.66	0.49
	16170.00	90.40	179.56	266.2	-8187.80	423.51	6895.24	2167.24	8198.63	95.00	2.46	2.40	-0.54
	16265.00	90.34	179.29	266.2	-8282.80	424.46	6894.62	2166.62	8293.56	95.00	0.29	-0.06	-0.28
	16359.00	90.49	178.66	269.0	-8376.78	426.14	6893.94	2165.94	8387.52	94.00	0.69	0.16	-0.67
	16454.00	90.22	177.68	269.0	-8471.73	429.18	6893.35	2165.35	8482.51	95.00	1.07	-0.28	-1.03
	16643.00	90.49	179.19	269.0	-8660.65	434.34	6892.18	2164.18	8671.47	189.00	0.81	0.14	0.80
	16738.00	89.94	178.72	269.0	-8755.63	436.07	6891.83	2163.83	8766.43	95.00	0.76	-0.58	-0.49
	16832.00	90.37	179.03	269.0	-8849.61	437.92	6891.57	2163.57	8860.39	94.00	0.56	0.46	0.33
	16927.00	89.23	179.00	269.0	-8944.59	439.55	6891.90	2163.90	8955.35	95.00	1.20	-1.20	-0.03
	17021.00	89.48	179.21	269.0	-9038.58	441.02	6892.96	2164.96	9049.30	94.00	0.35	0.27	0.22
	17115.00	90.00	179.22	269.0	-9132.57	442.31	6893.39	2165.39	9143.25	94.00	0.55	0.55	0.01
Projection	17153.00	90.00	179.22	N/A	-9170.56	442.82	6893.39	2165.39	9181.23	38.00	0.00	0.00	0.01