



Gamma Ray

LWD MEMORY LOG

Scale:

1:240

True Vertical Depth

Depth Reference:

Driller's Depth

Status:

Final Print

API No: 05-123-50799-00

Job ID: 110697725

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

Log Measured From: Rlg Floor

Company: Noble Energy

Well: Reveille A35-783

Field: Wattenberg

County: Weld Country: United States

State: Colorado

Surface Location:

Latitude: 40° 26' 10.788" N

Longitude: 104° 31' 31.728" W

Other Services:

Directional

SEC: 35 TWN: 6N RGE: 64W

Elevation: 0.00 ft

Above P.D.: 4679.00 ft

Elev. KB: 4679.00 ft
Elev. DF: 4649.00 ft
Elev. GL:

Dates

From: 2021-01-14

To: 2021-01-16

Spucl: 2021-01-14

Drilled (ft)

Top: 1944.00

Bottom: 16954.00

Logged (ft)

Top: 1944.00

Bottom: 16941.00

Azi Reference North:

Grid Dip Angle: (deg)

Total Magnetic Field Strength: (nT)

Mag to Reference North Correction: (deg)

Magnetic Field Reference

Borehole Record

Casing Record

Hole Size (in)

13.500

8.500

From (ft)

30.00

1944.00

To (ft)

1944.00

16954.00

Size (in)

9.625

36.00

From (ft)

30.00

1934.00

Mud Record

Deviation Record

Type

Oil Based Mud

From (ft)

1944.00

To (ft)

16954.00

Hole Size (in)

8.500

Interval (ft)

15010.00

Inc | Az (Start)

1.07 | 200.48

Inc | Az (End)

89.91 | 357.93

Acquisition System

Cadence

Plot Studio

Software Version

RT 5.8

5.8.9018.1

Other

Rig:

Contractor:

District:

H&P 517

Helmerich & Payne Drilling Co

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 (ft)	Bottom (ft)	From (ft)	To (ft)	Start Logging	End Logging	
1	1	8.500	PDC	2.50	Rotary Steerable	1944.00	16941.00	1944.00	16954.00	2021-01-14 17:42	2021-01-16 16:47	44.00

Crew

Name	Arrive	Depart	Name	Arrive	Depart	Name	Arrive	Depart
------	--------	--------	------	--------	--------	------	--------	--------

	Wellsite	Wellsite	Wellsite	Wellsite	Wellsite	Wellsite	Wellsite
Adam Schlenz	2021-01-14	2021-01-17					

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+ (%)
2021-01-15 05:00	1	5987.00	Oil Based Mud	9.2	10	N/A	18.3	71.4/18	Active Pit	25267	0.00
2021-01-15 16:00	1	8298.00	Oil Based Mud	9.5	10	N/A	17.8	70.4/18.2	Active Pit	24781	0.00
2021-01-16 05:00	1	13086.00	Oil Based Mud	9.6	13	N/A	19.4	69.4/17.8	Active Pit	23810	0.00
2021-01-16 16:00	1	16686.00	Oil Based Mud	9.8	14	N/A	20.2	69.2/17	Active Pit	23324	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	12187651	Near Bit VSS	5.93	6.78	7.000	4.330
1	AutoTrak Curve Steering Unit	12187651	Near Bit Inclination	5.93	6.78	7.000	4.330
1	AutoTrak Curve MWD	12316739	Gamma (single)	2.75	12.93	7.000	3.250
1	AutoTrak Curve MWD	12316739	Directional (mag)	12.27	22.45	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

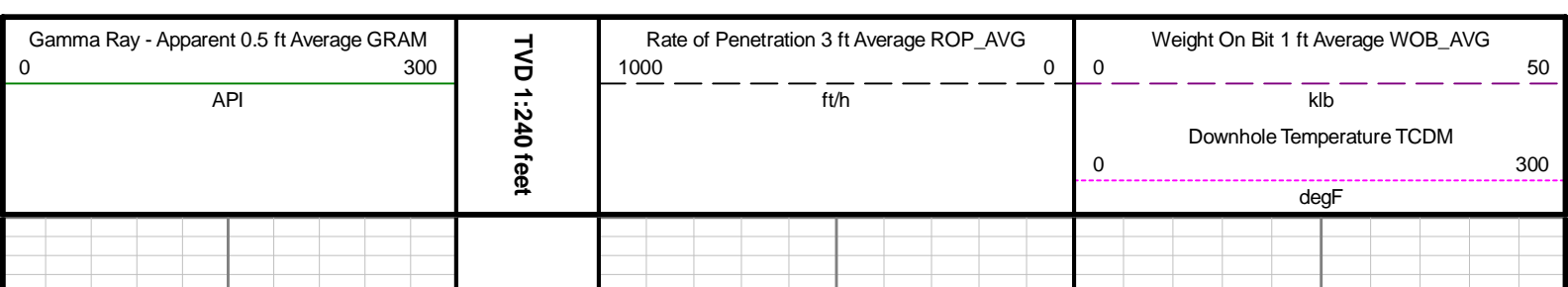
- 1
- Depth measurements were obtained from a depth control system not supplied or operated by Baker Hughes. Due to the lack of control by Baker Hughes, depth calibrations and measurements could not be independently verified.
- 2
- Baker Hughes LWD run 1 utilized a 6.75 inch NaviGamma service (Directional and Gamma Ray) behind a 8.5 inch bit and rotary steerable assembly from 1944 to 16954 feet MD (1944 to 6755 feet TVD).
- 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	2485.00	8.500	1	The interval from 2404 to 2472 feet MD (2403 to 2470 feet TVD) has a gap in gamma ray data, due to the surface computer software locking up.

Curve Mnemonics

Presented Curves	Description	Units
ROP_AVG	Rate of Penetration - Average 3 ft Average	ft/h
WOB_AVG	Weight on Bit - Average 1 ft Average	klb
GRAM	Gamma Ray - Apparent - Memory 0.5 ft Average	API
TCDM	Directional Real-Time Survey Temperature	degF



9 5/8" Casing

>R1

2000

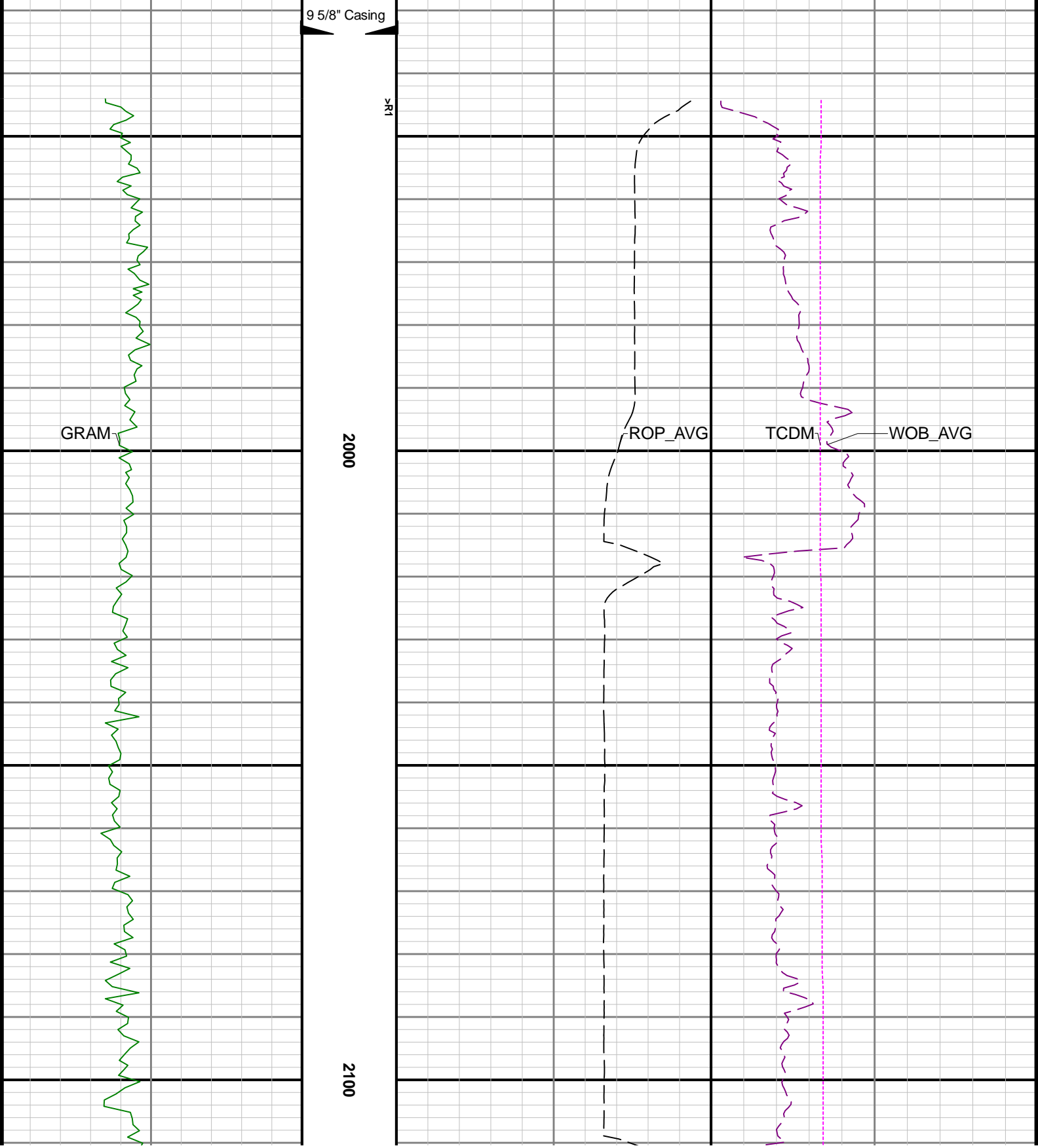
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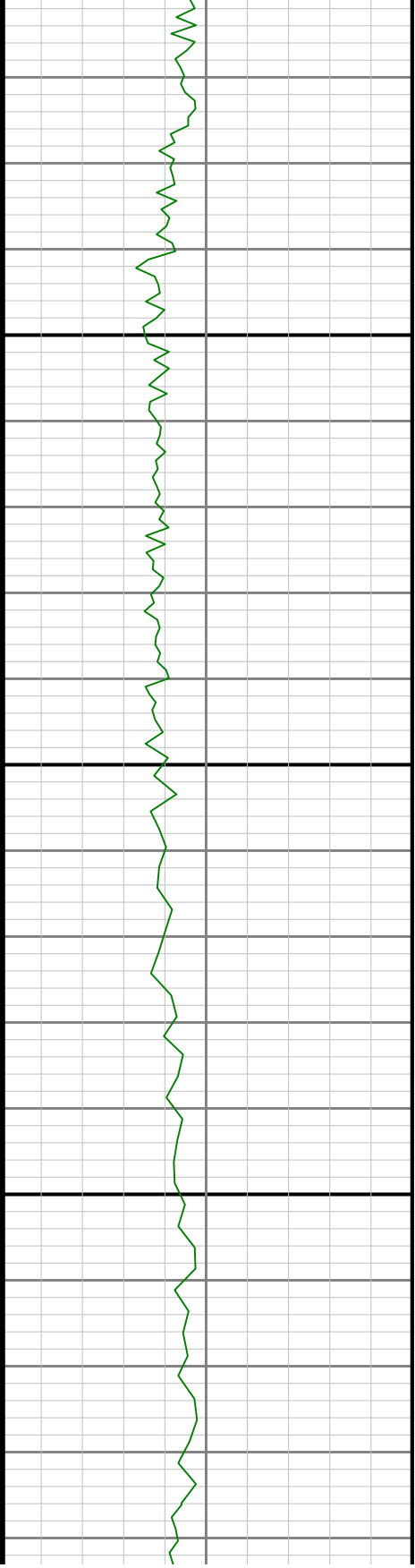
GRAM

ROP_AVG

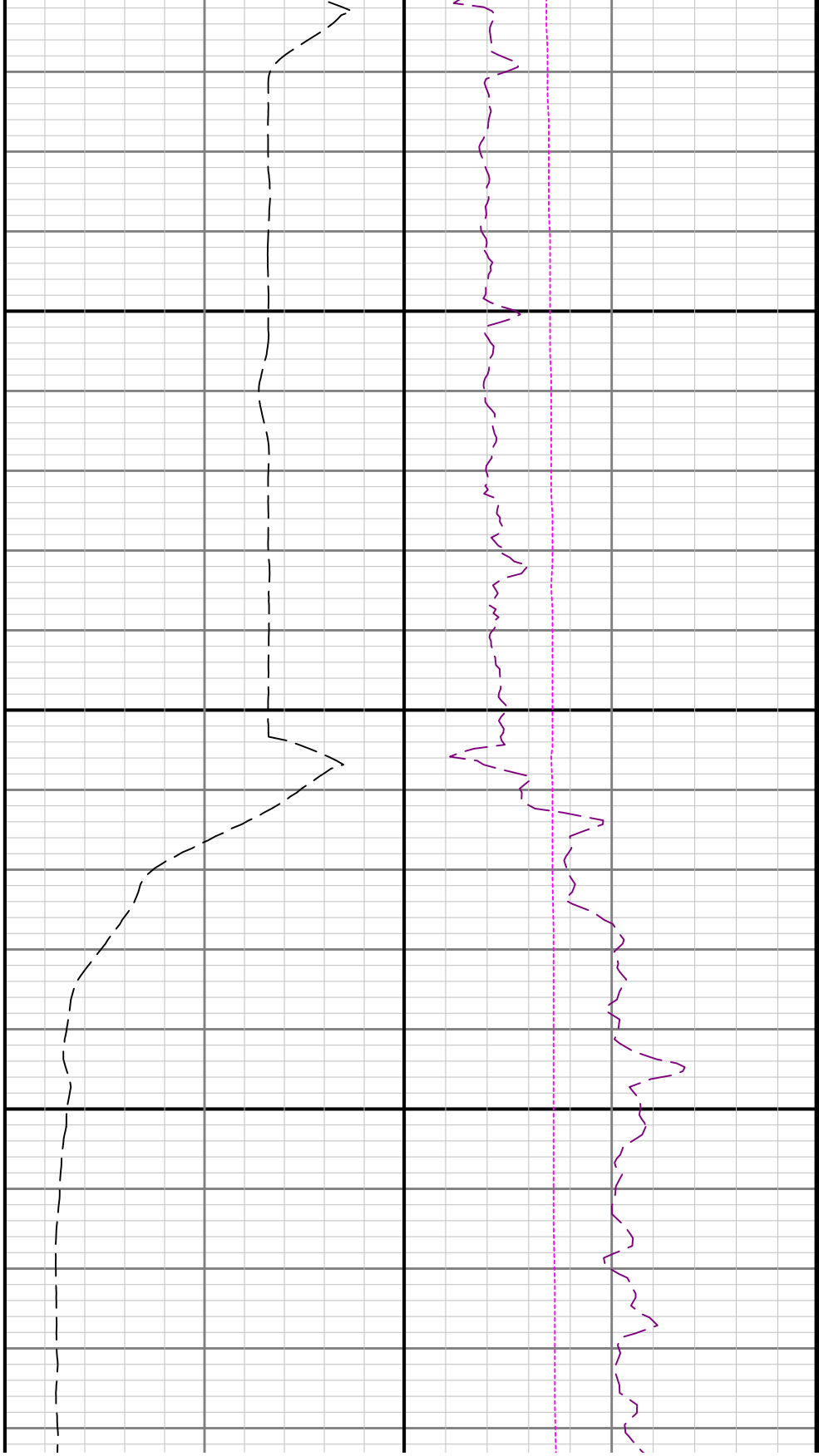
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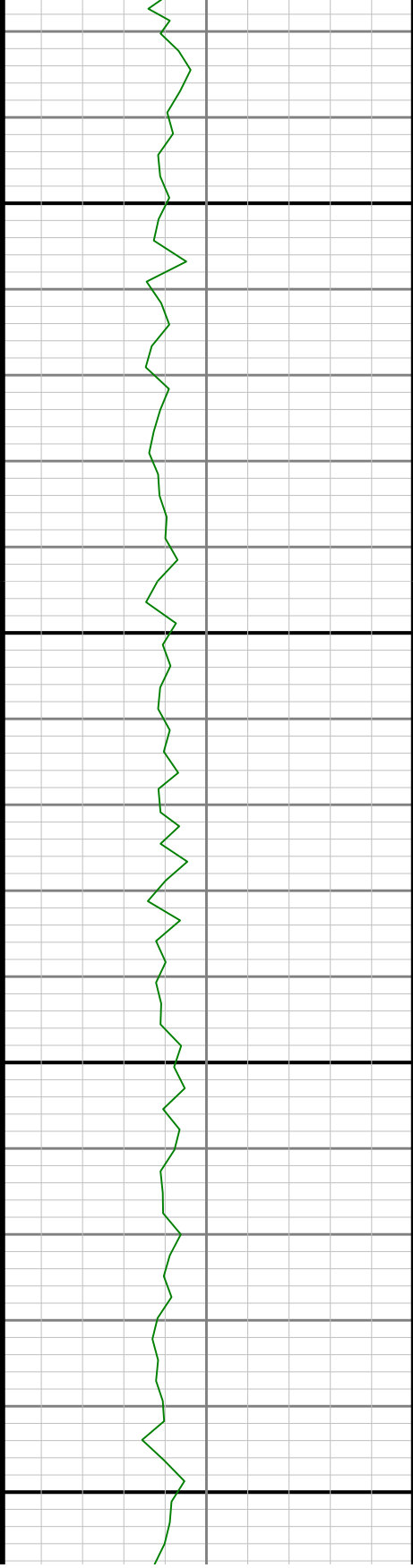
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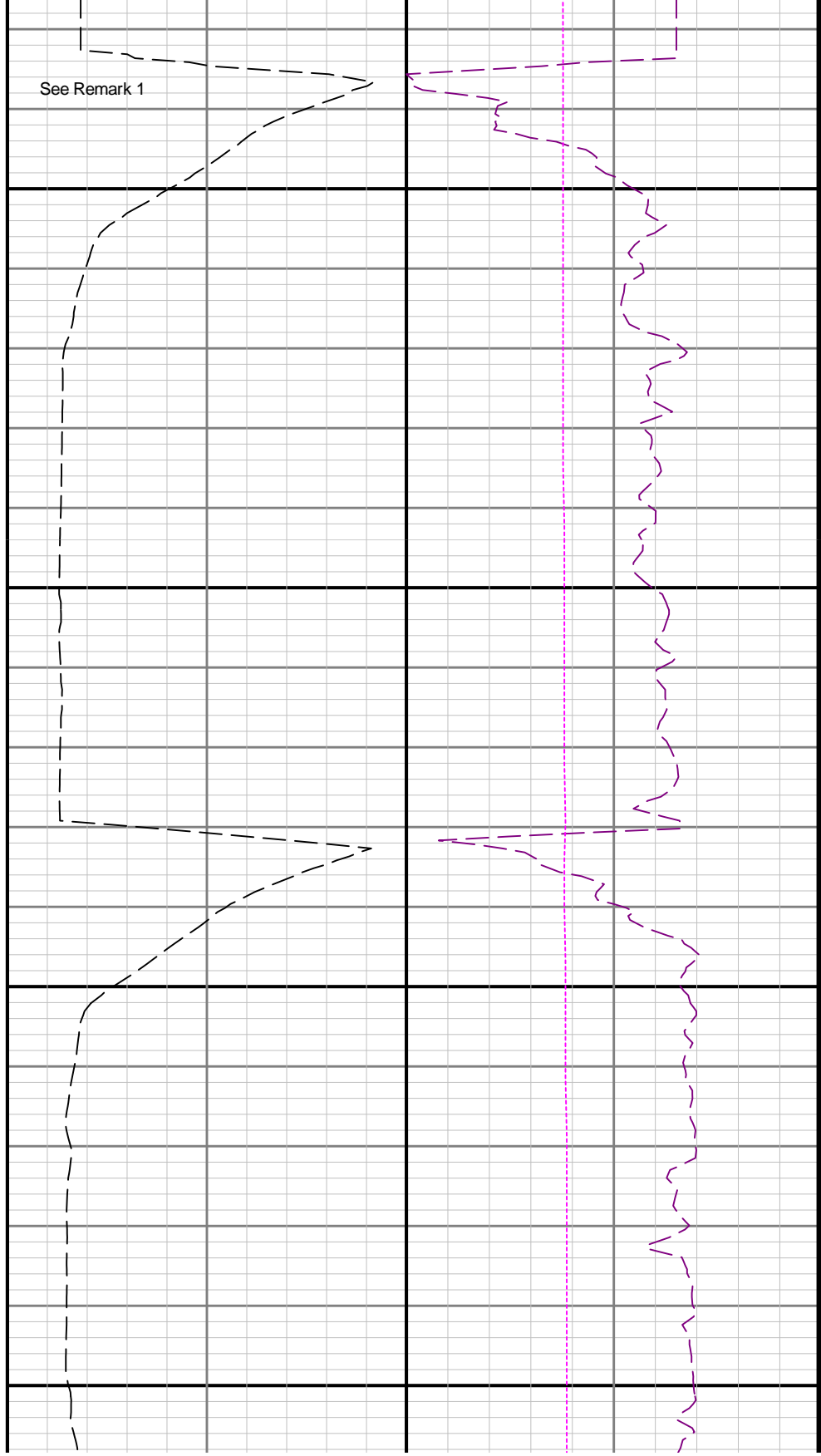
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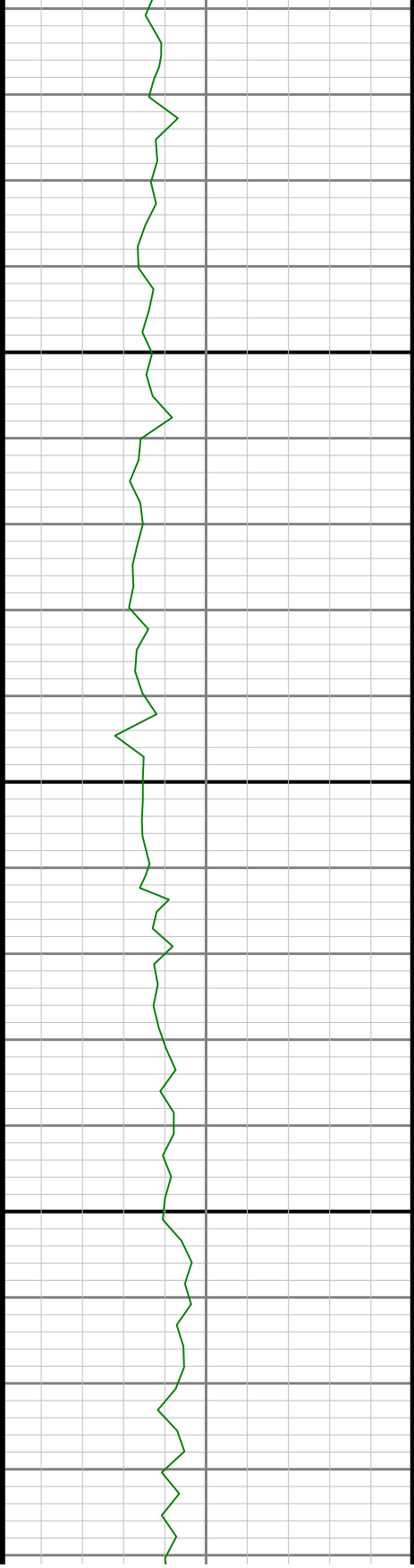




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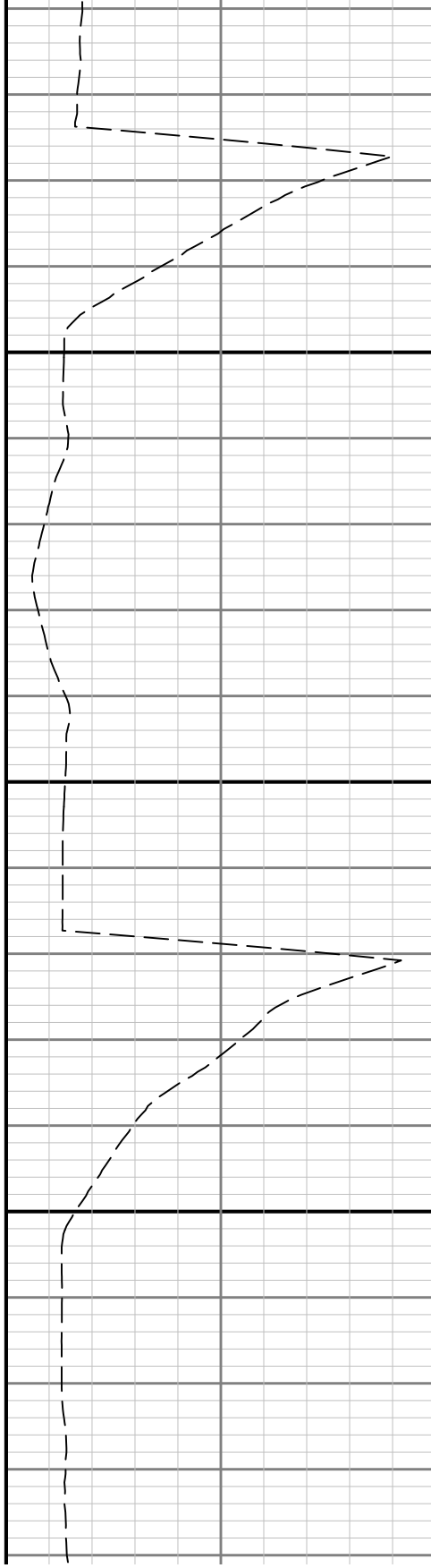
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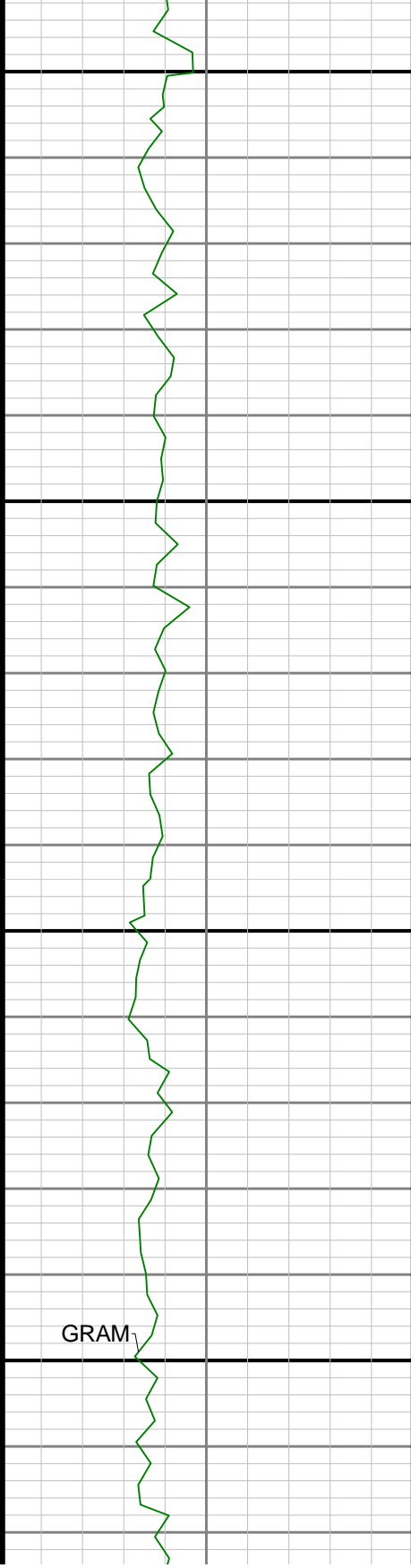




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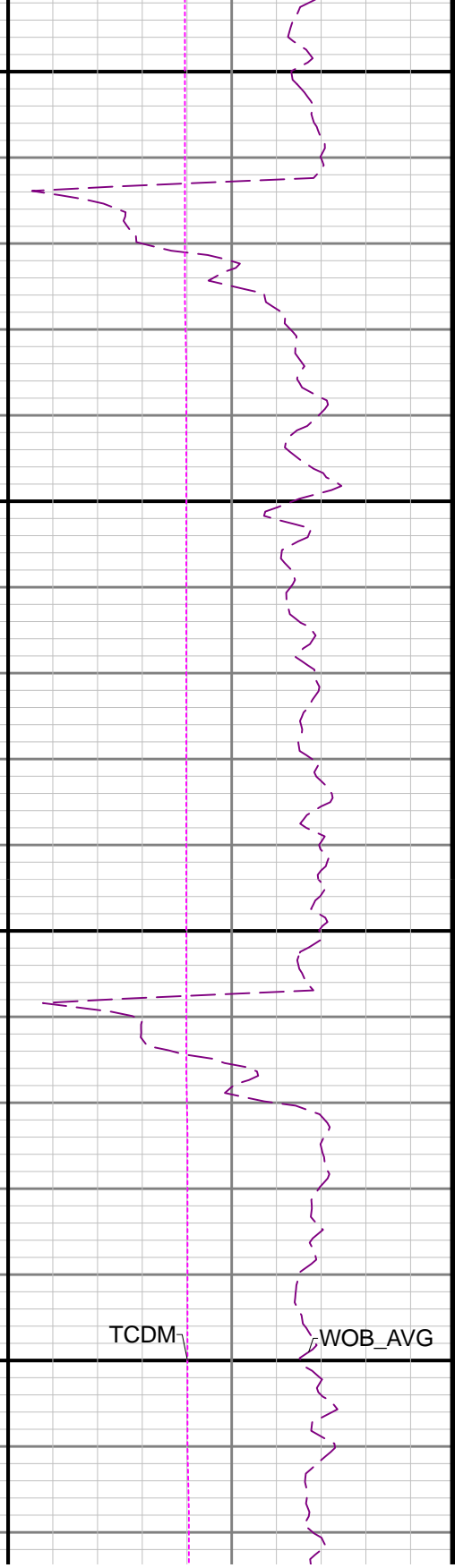


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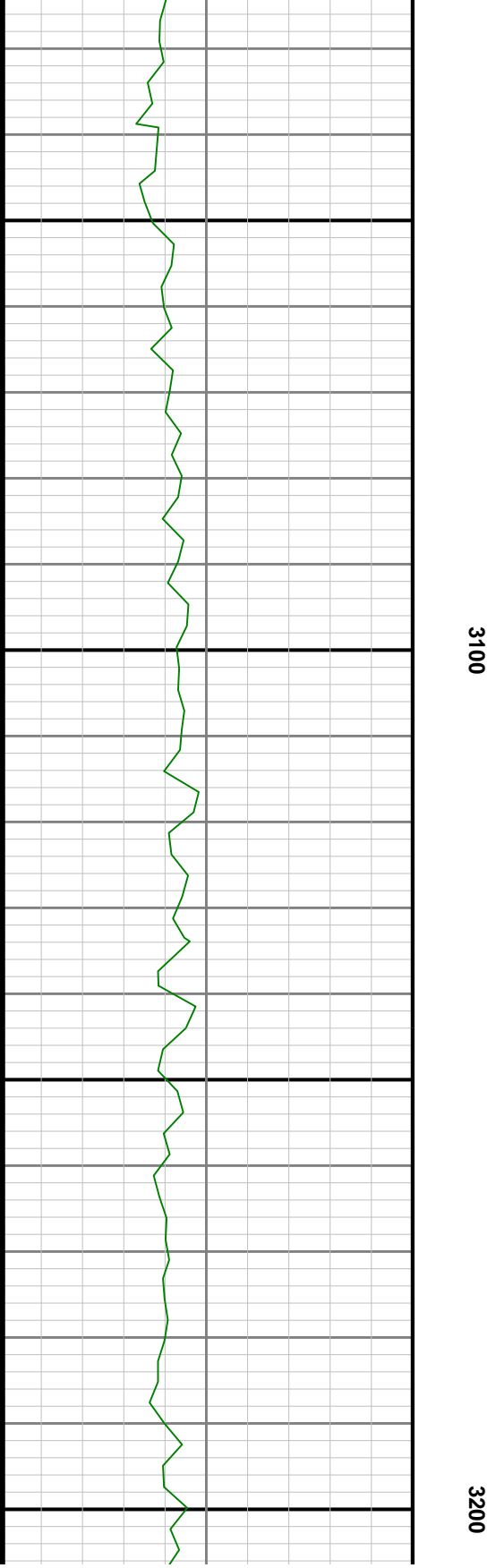
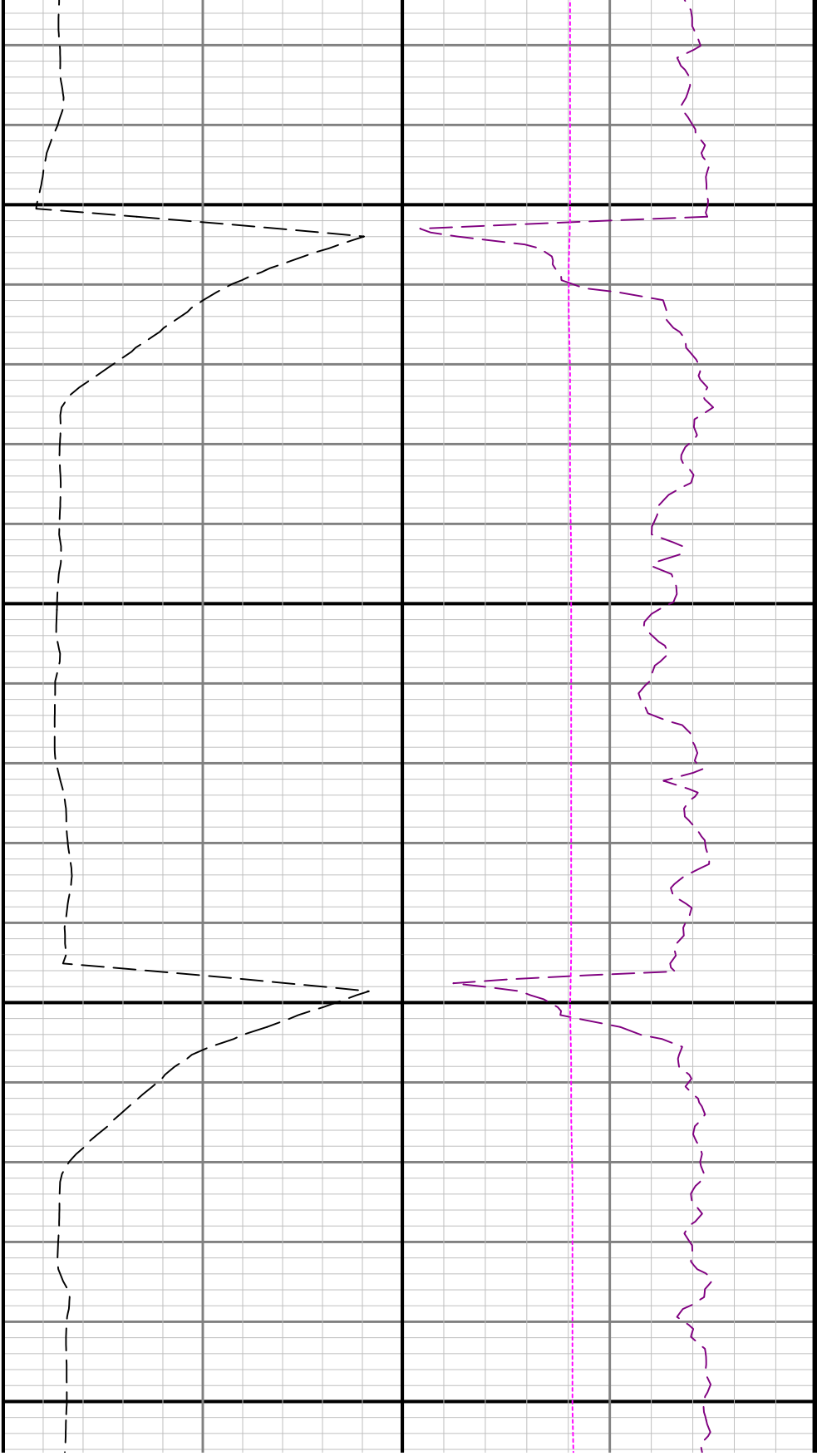


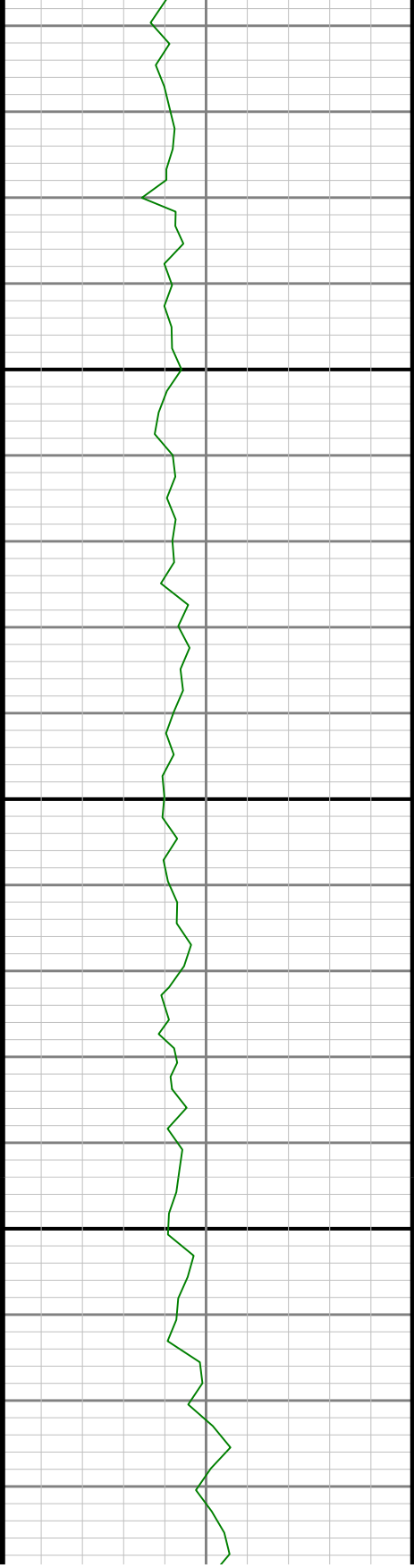
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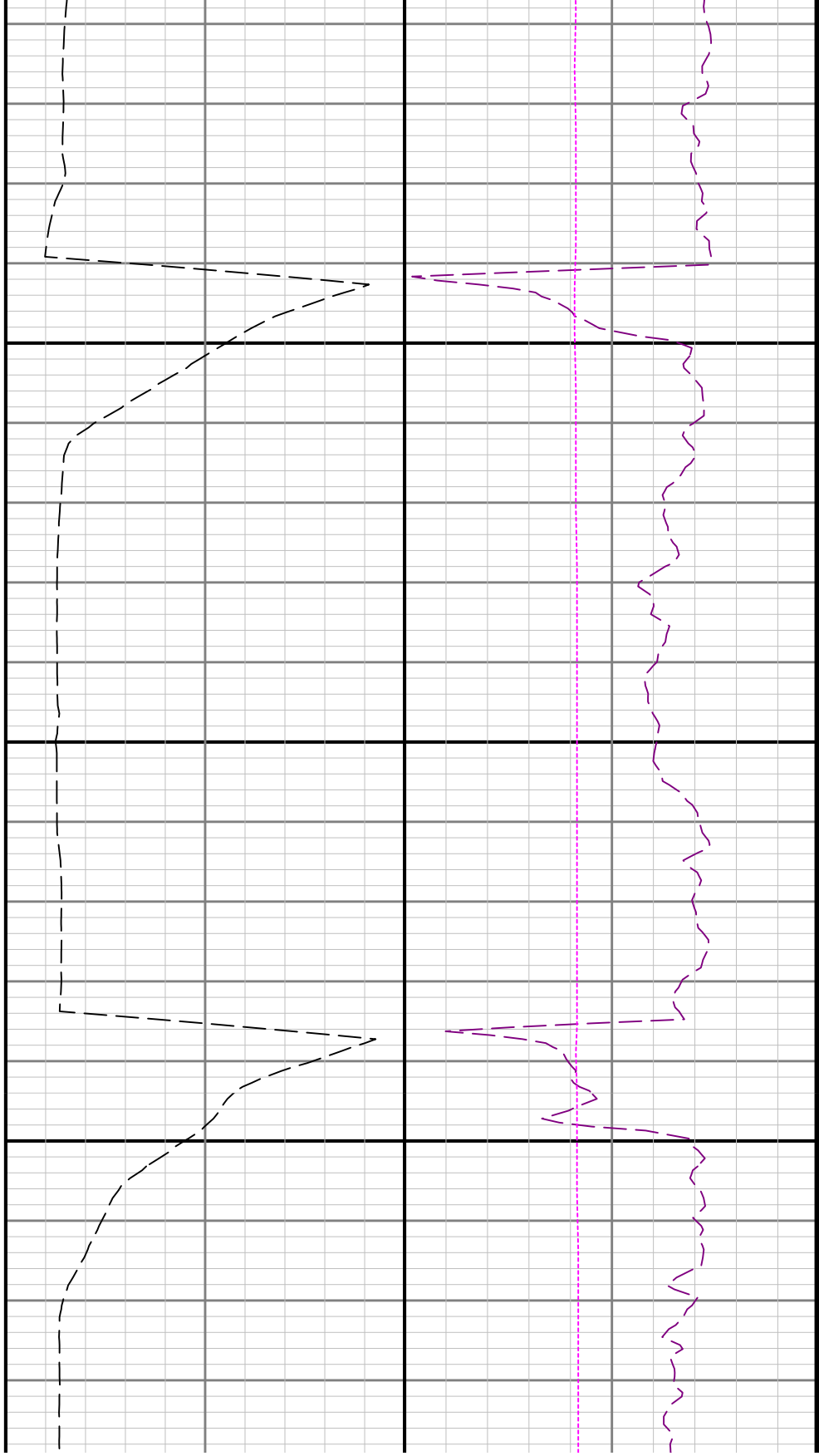
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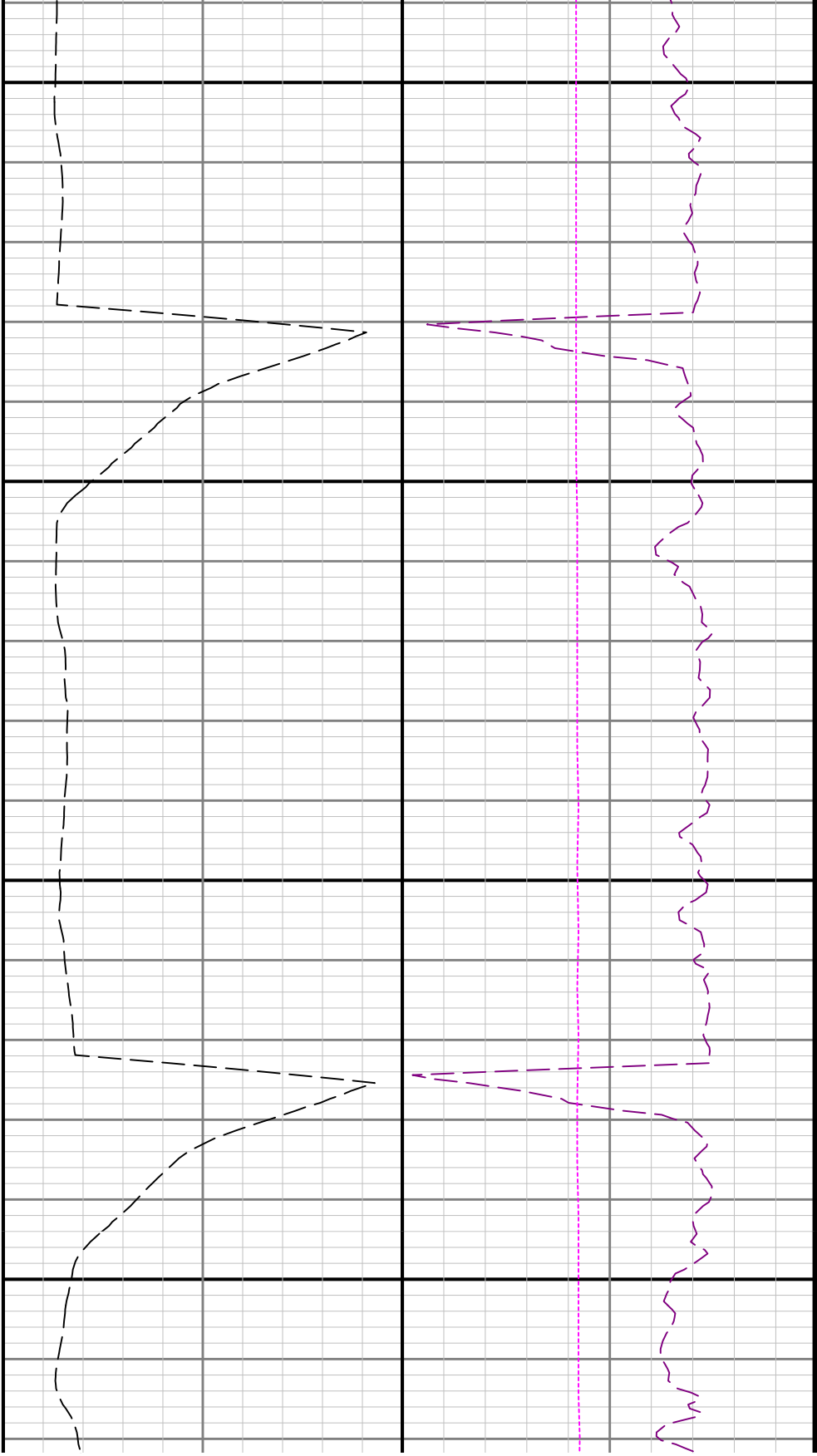
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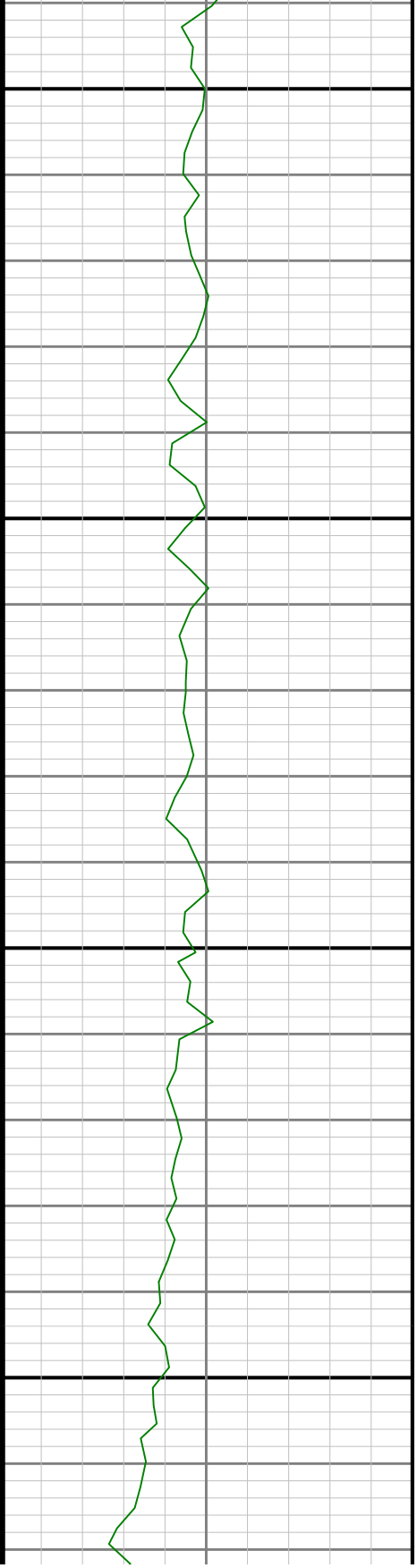
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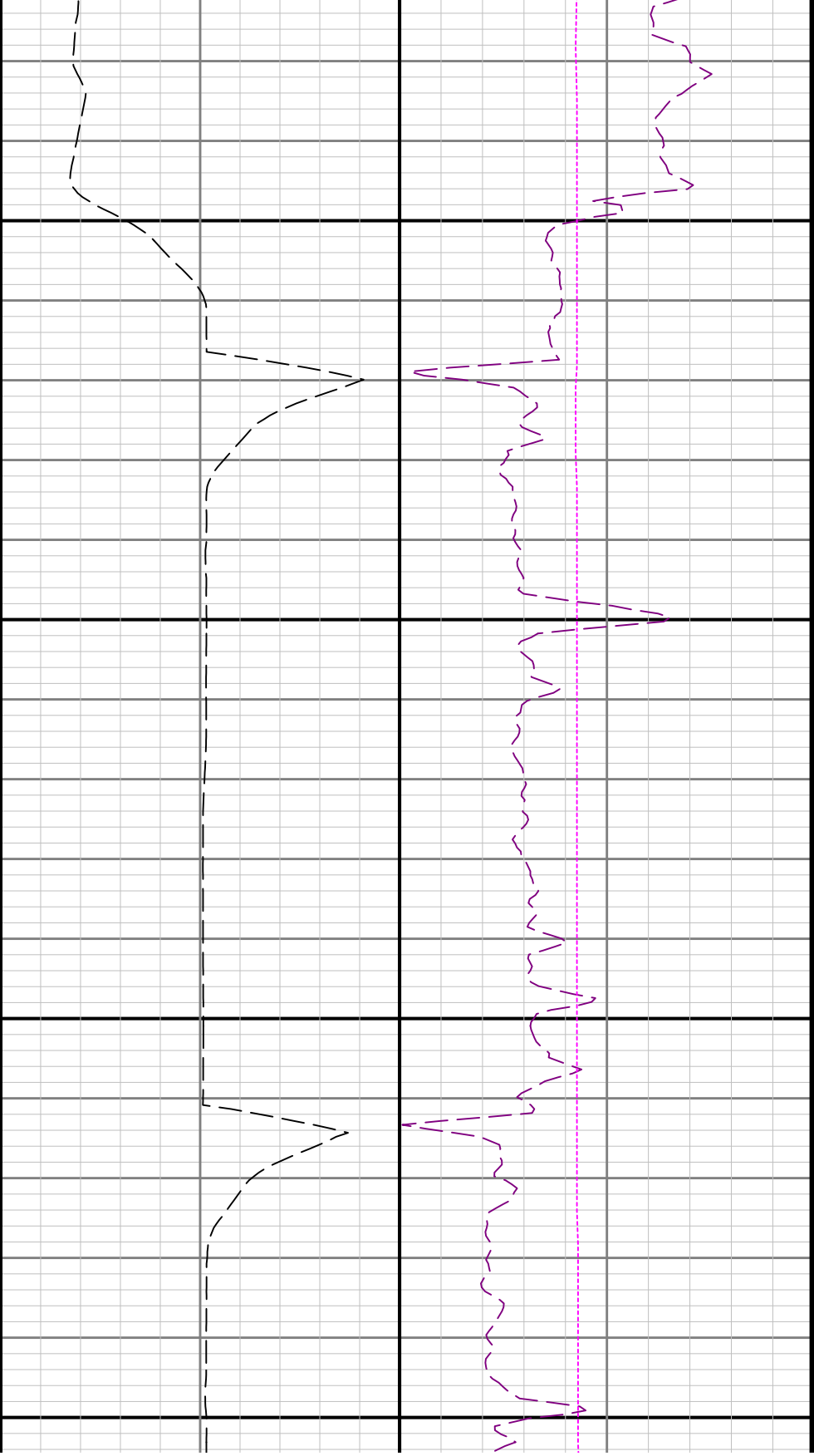




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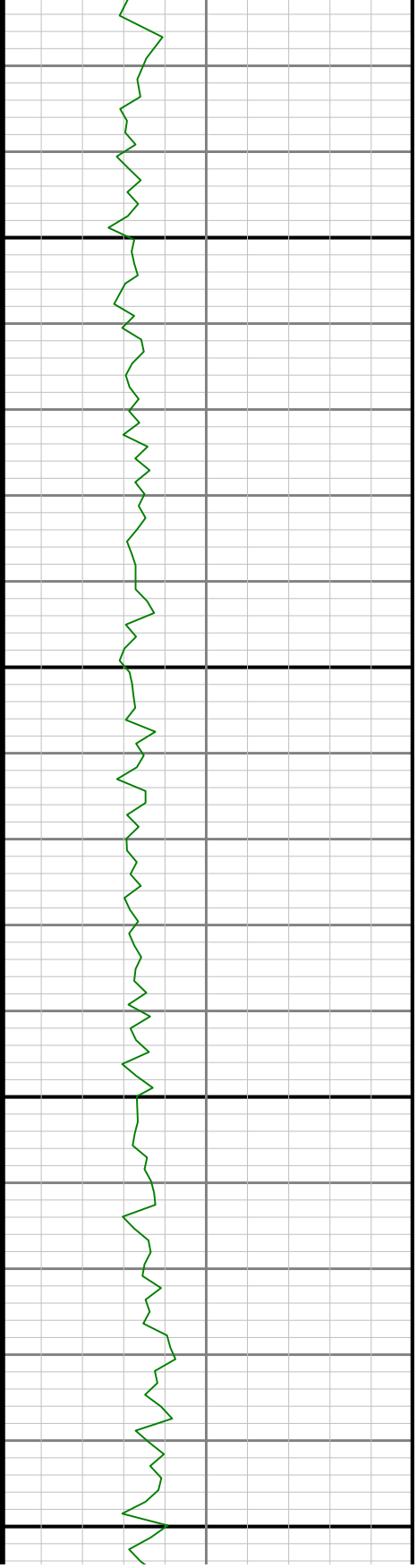
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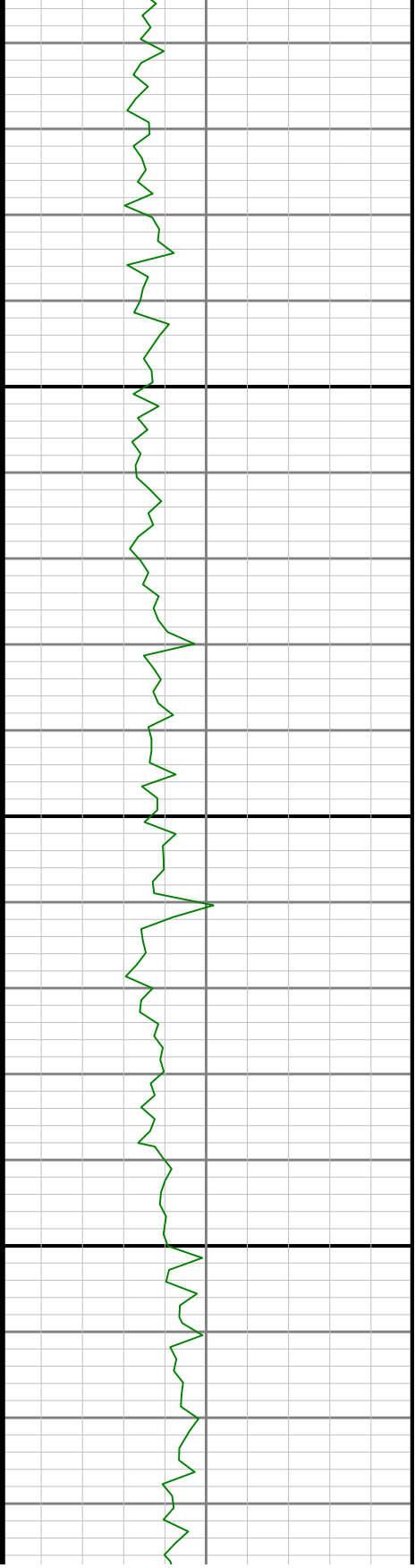
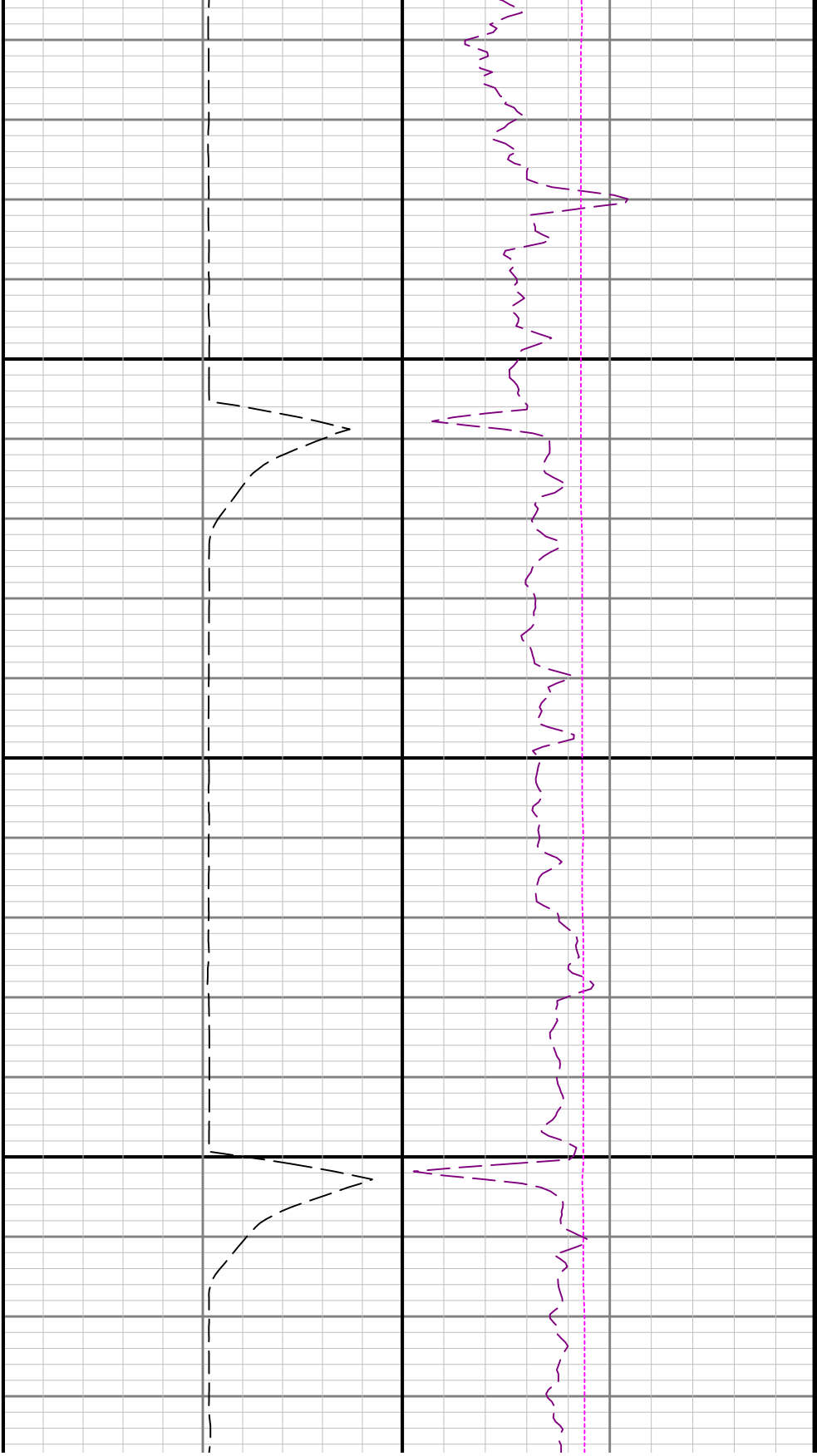


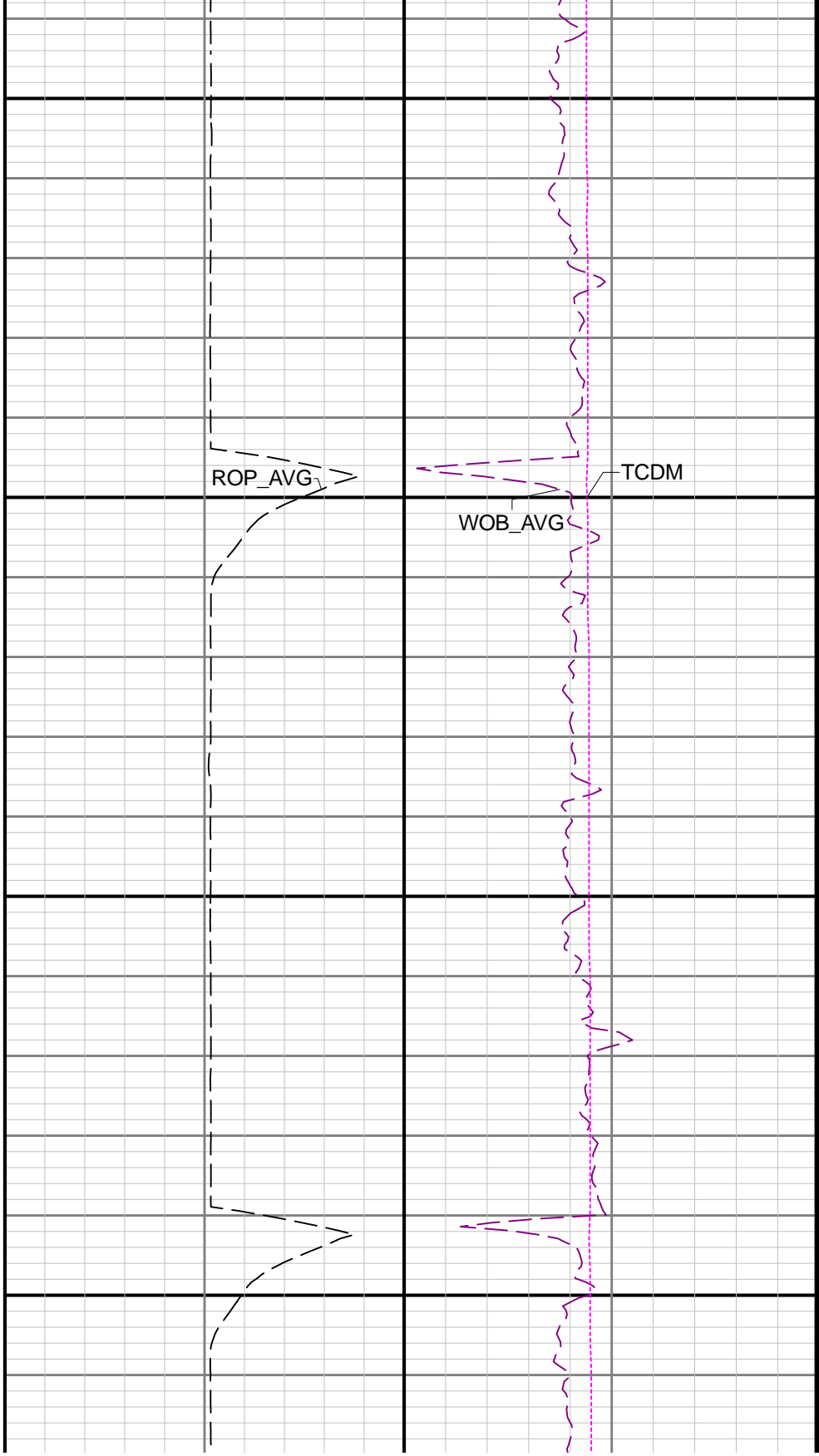
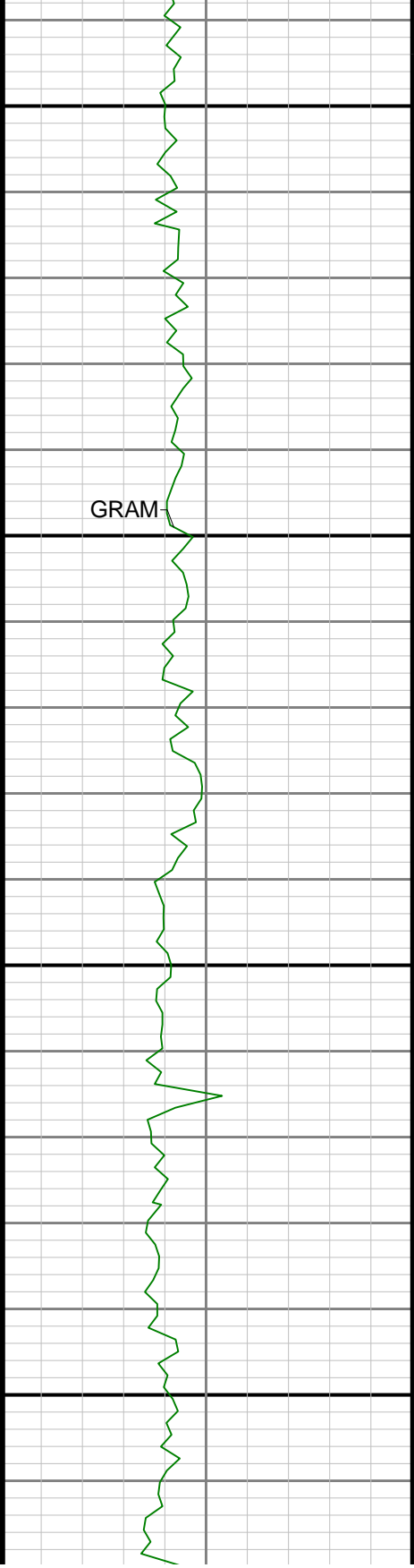


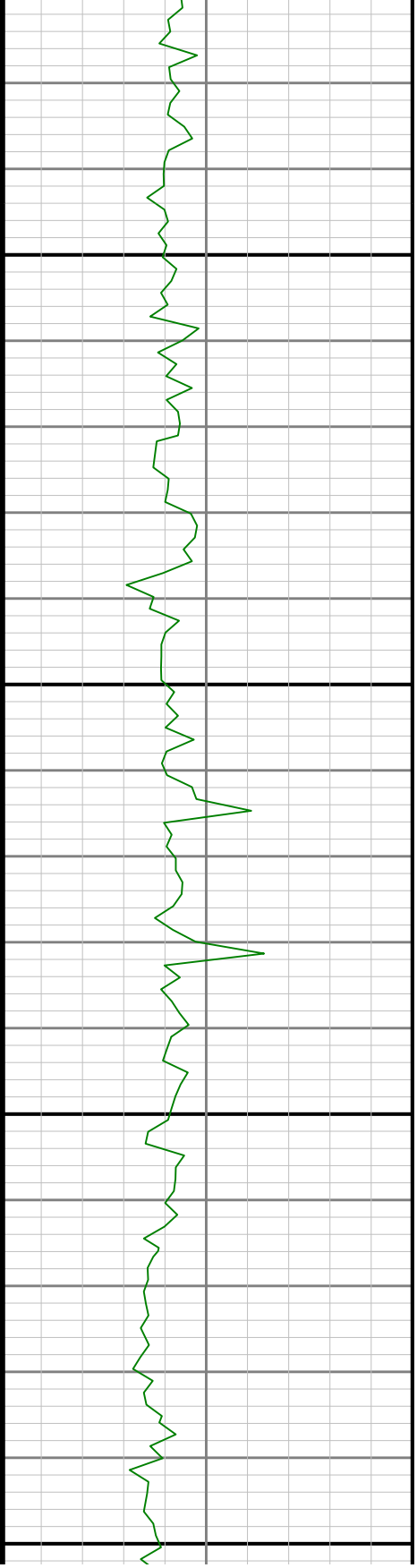
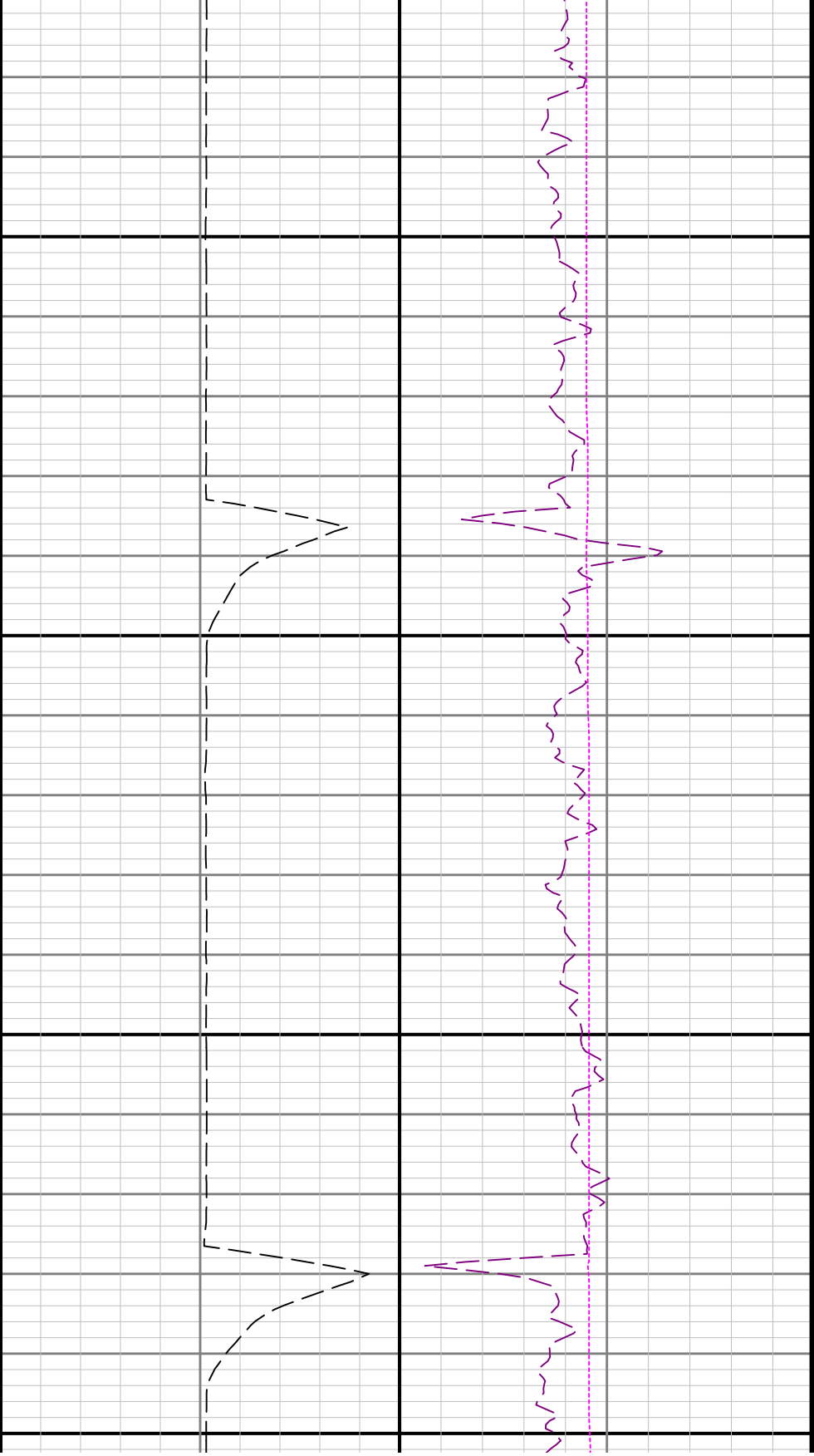
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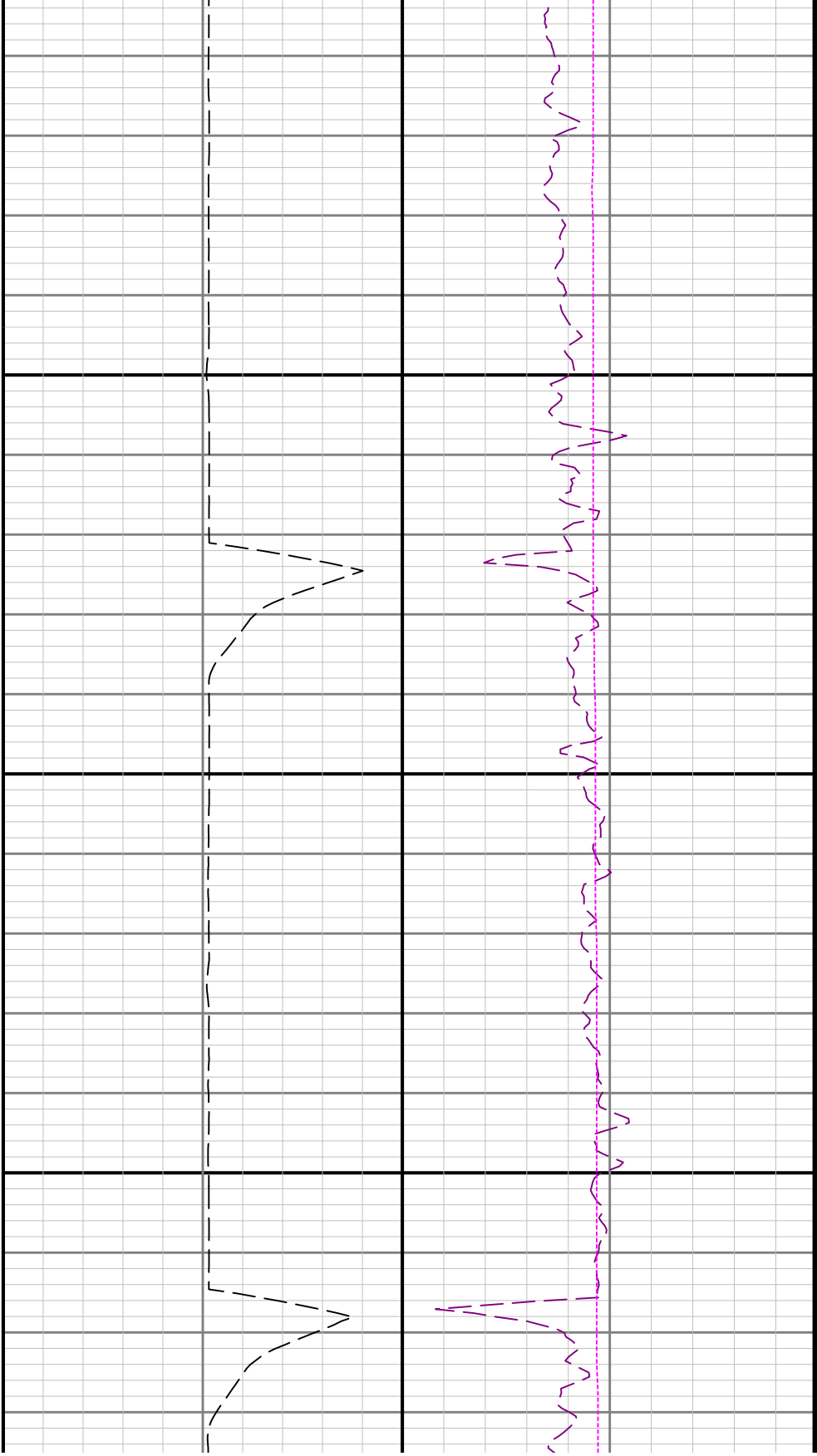
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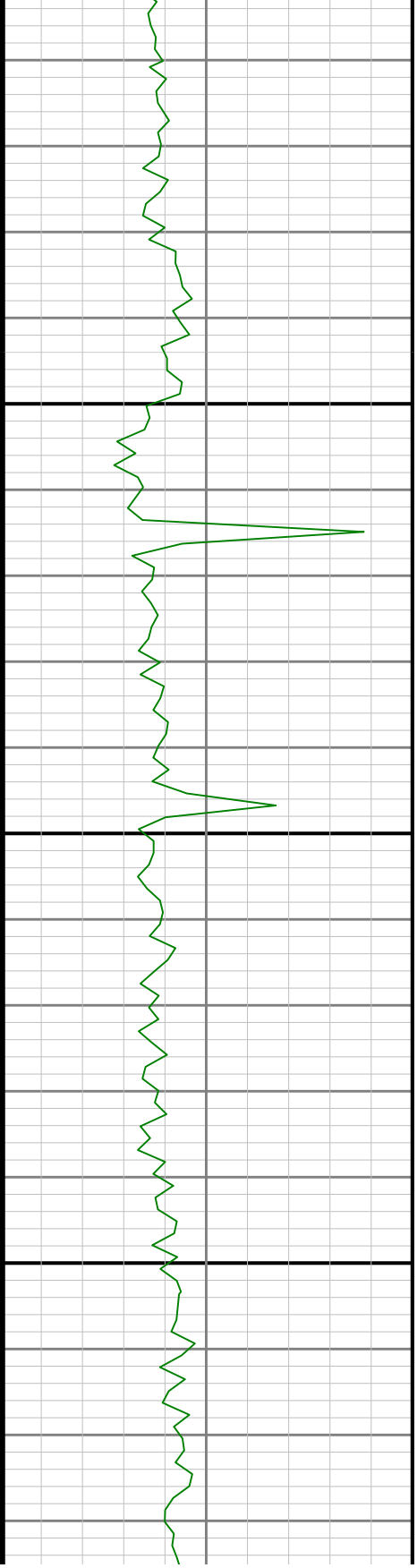


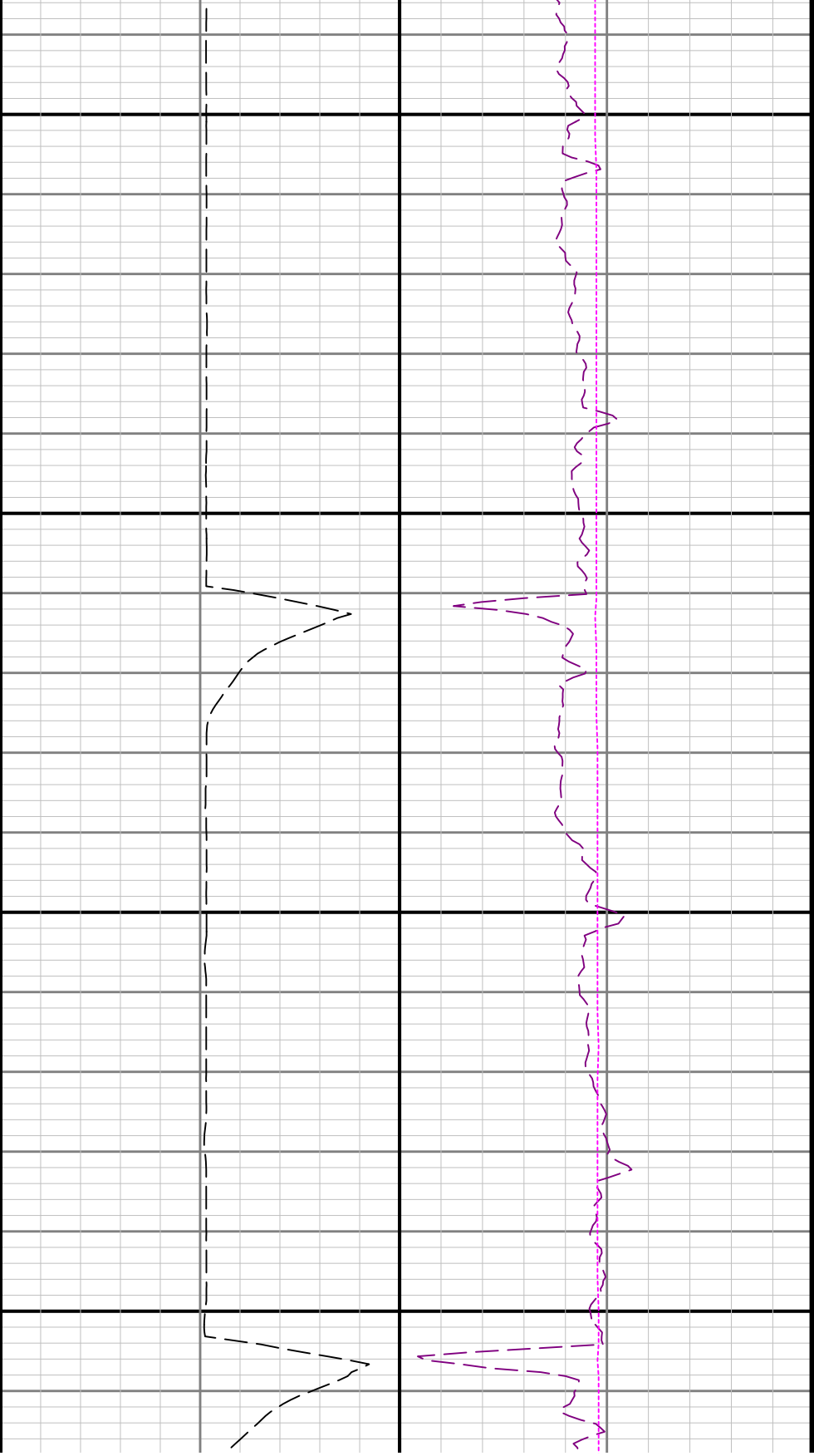






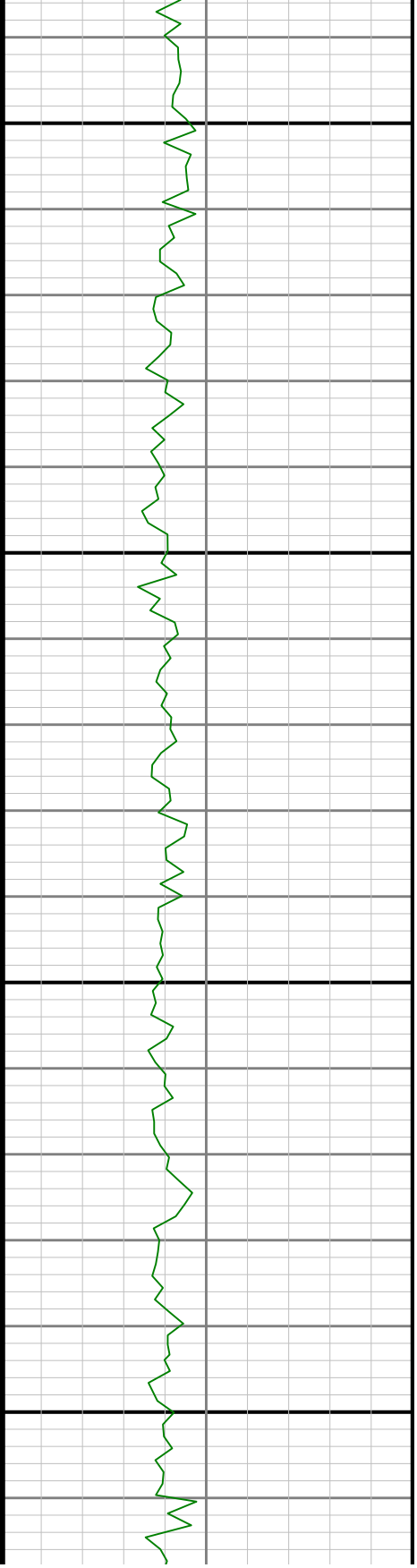
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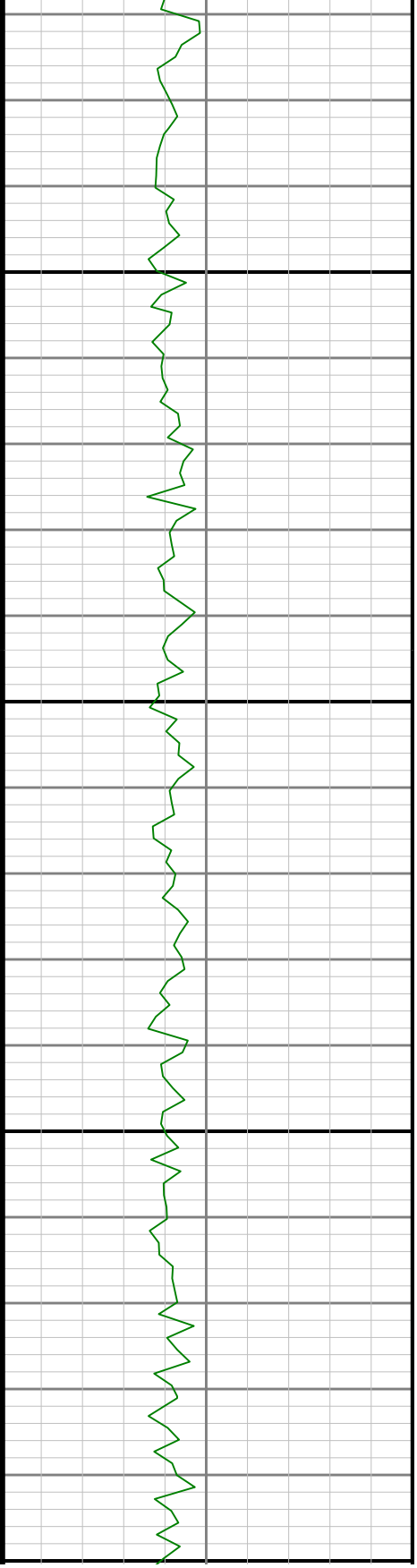
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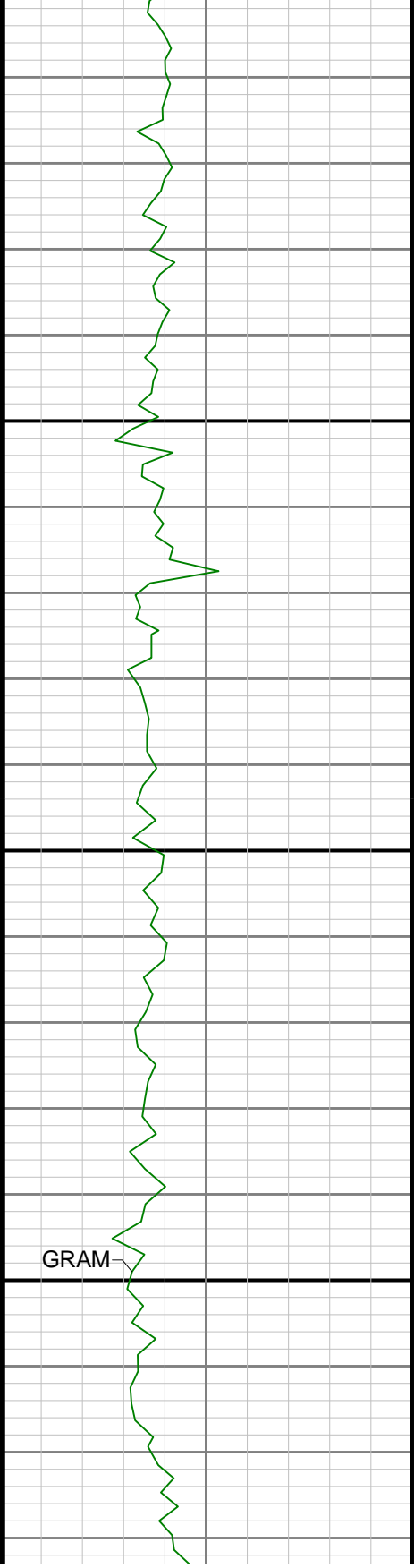




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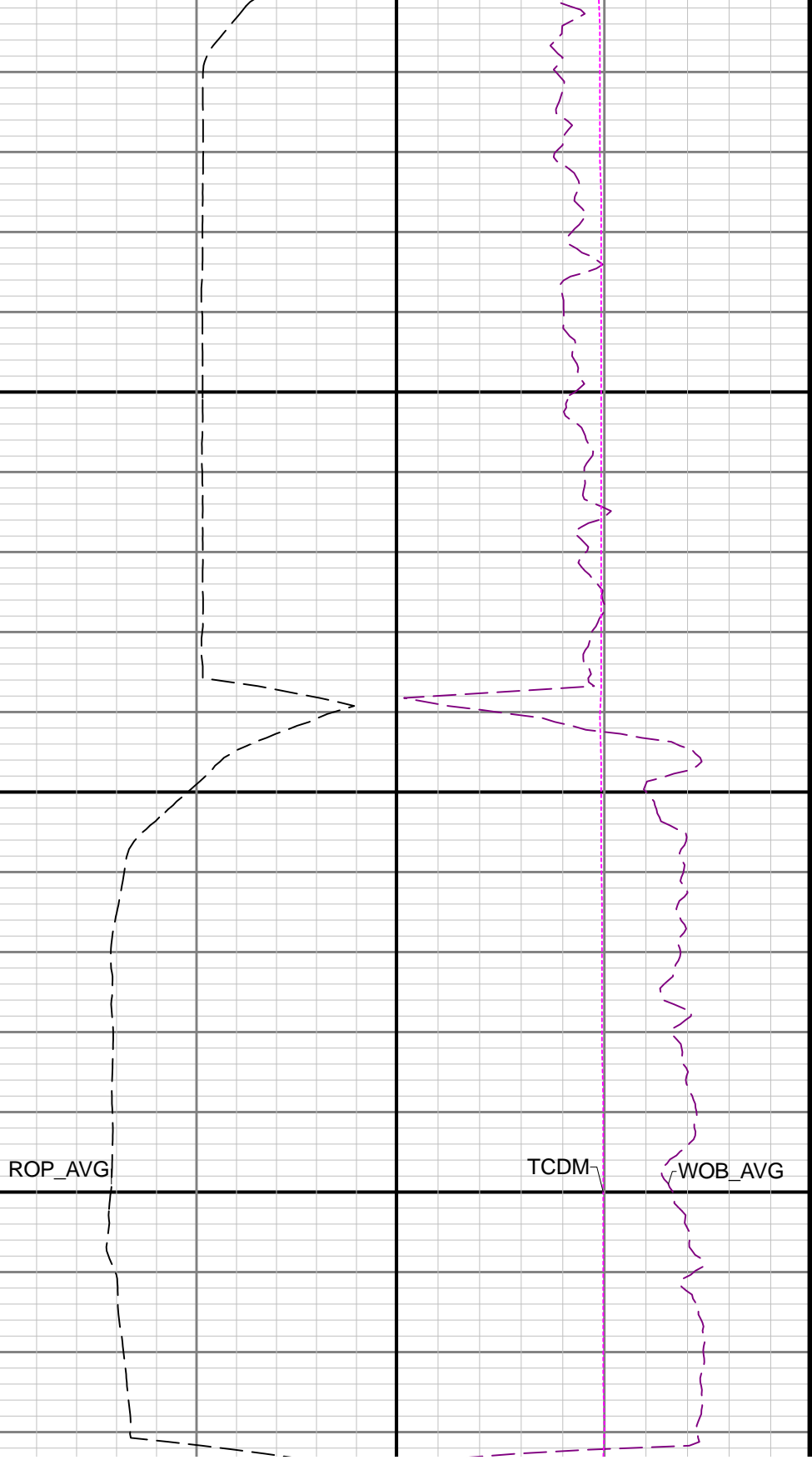
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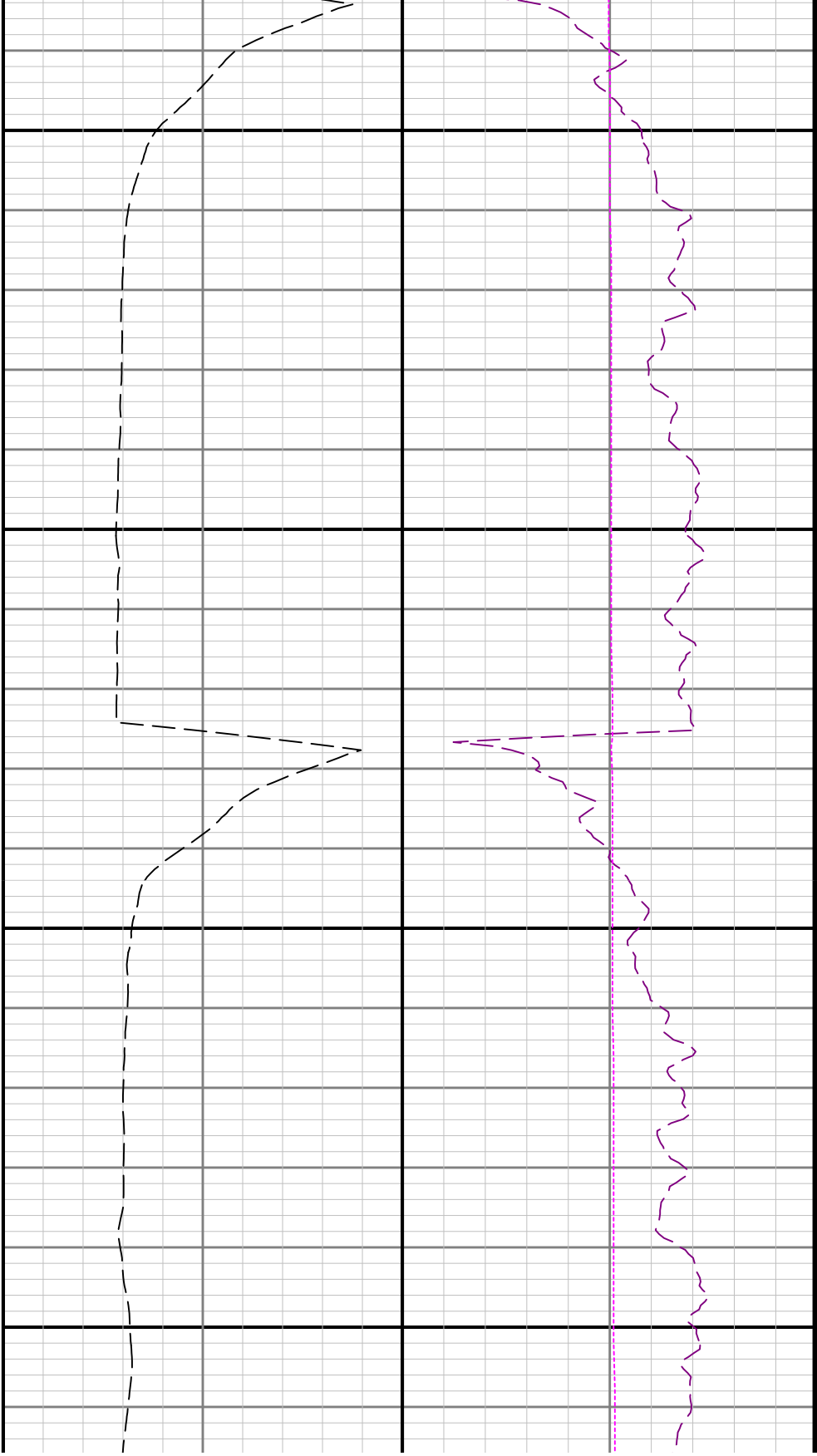
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ROP_AVG

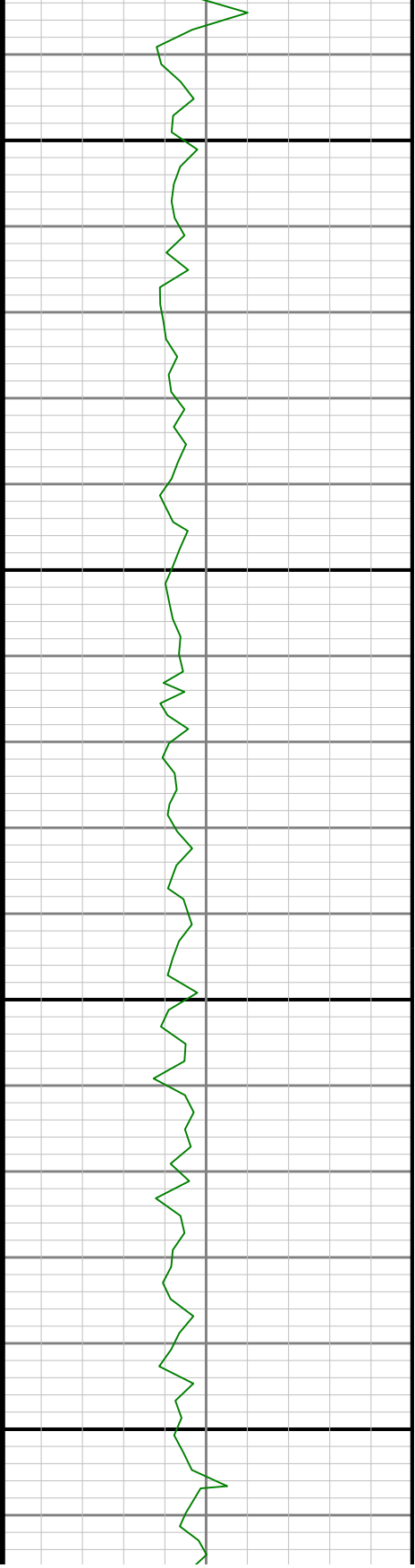
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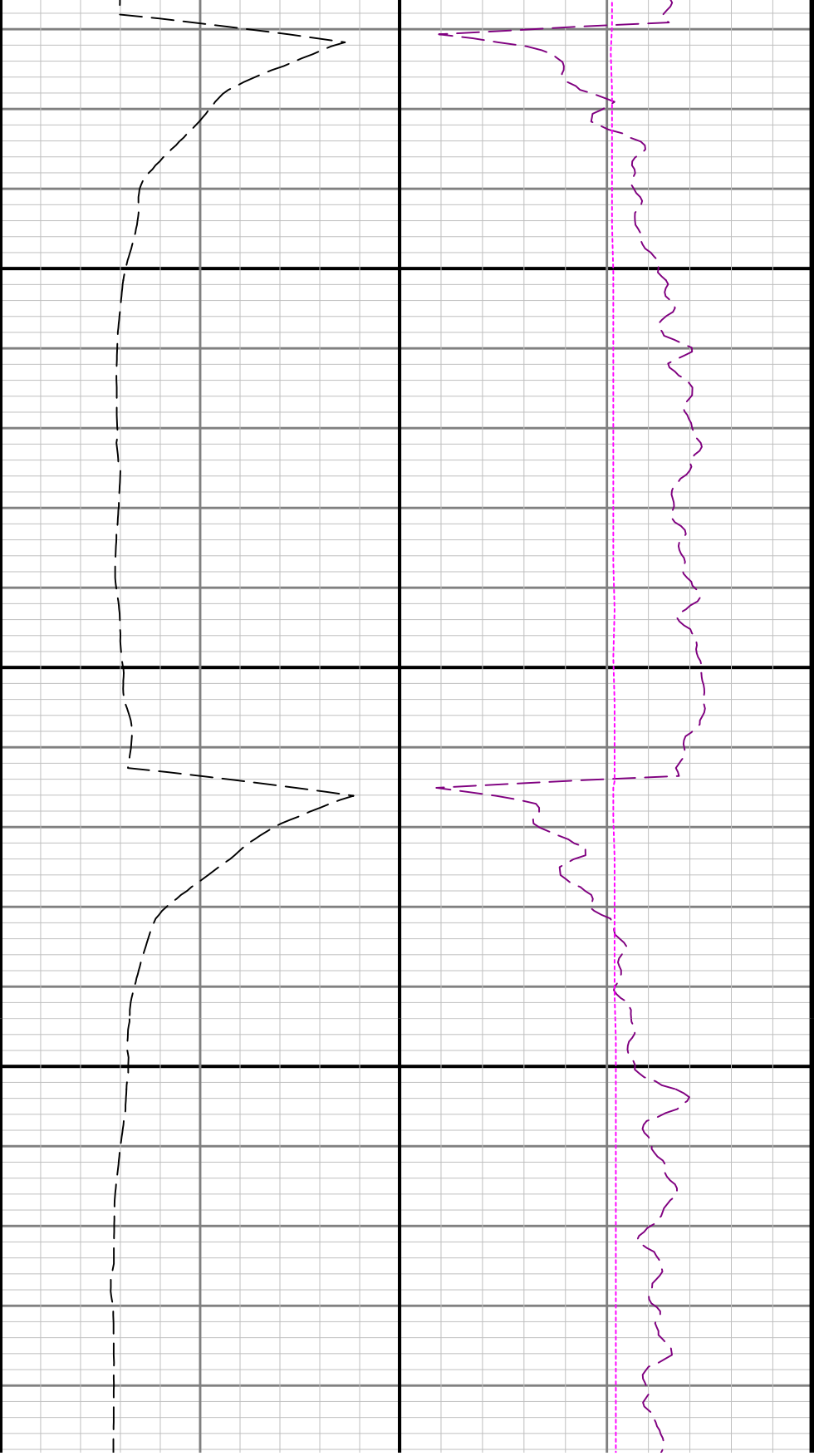
WOB_AVG



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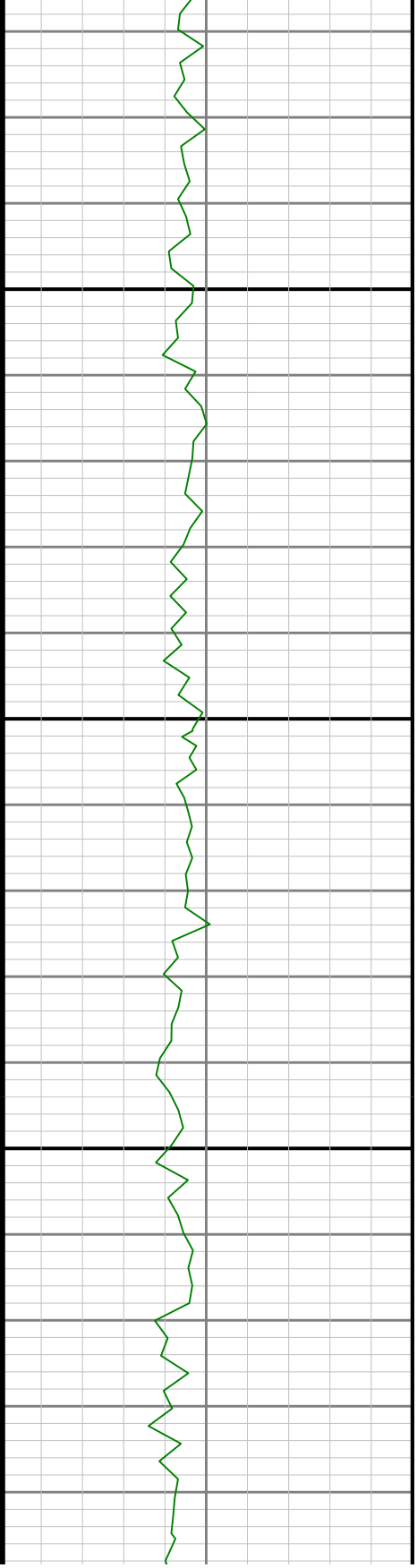
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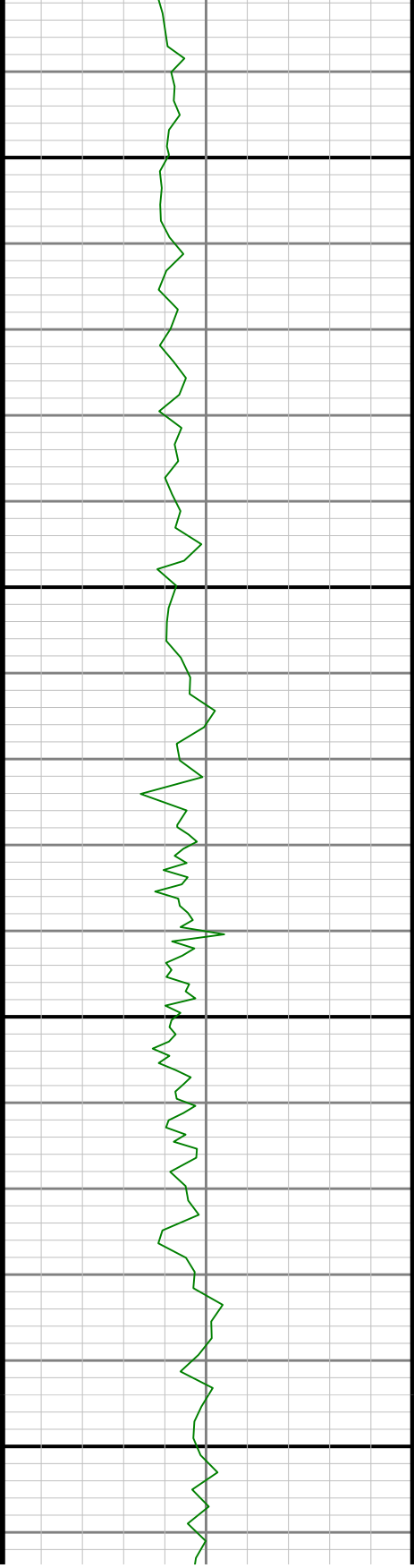
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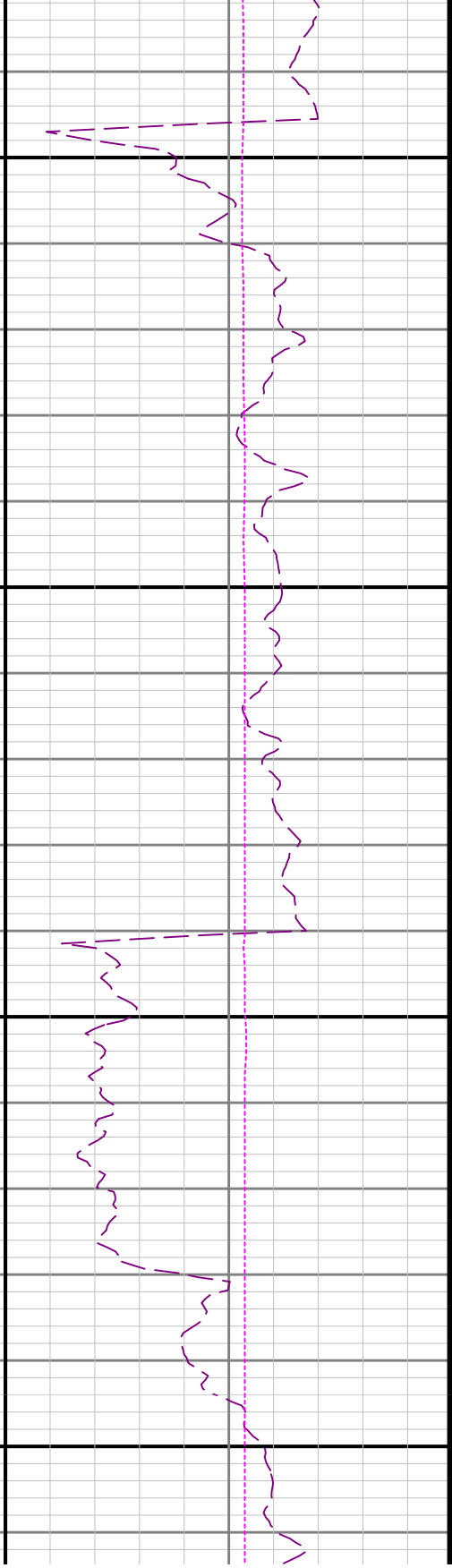
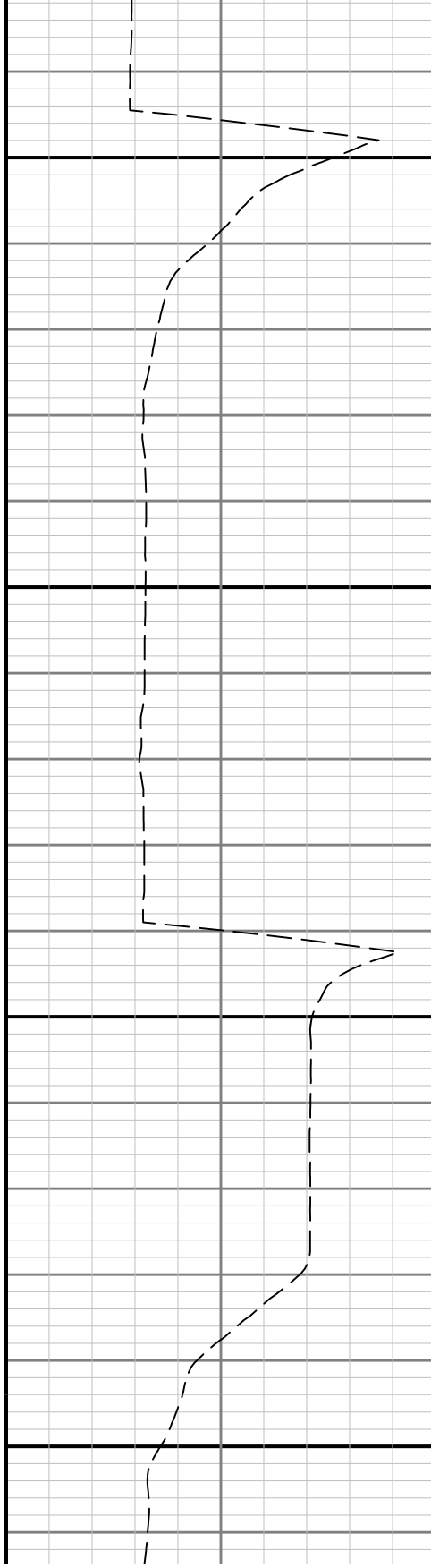
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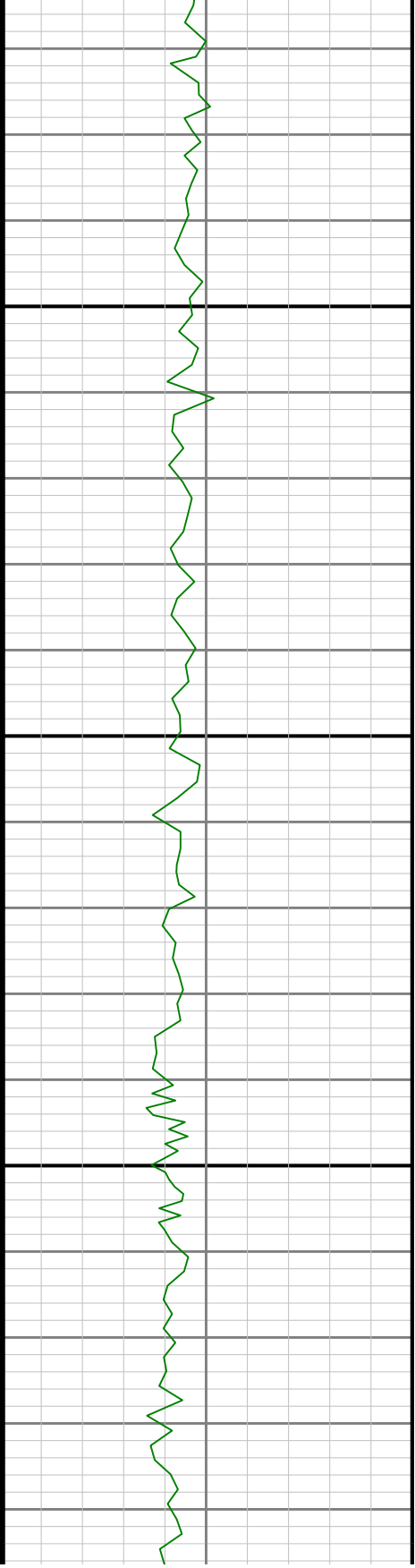
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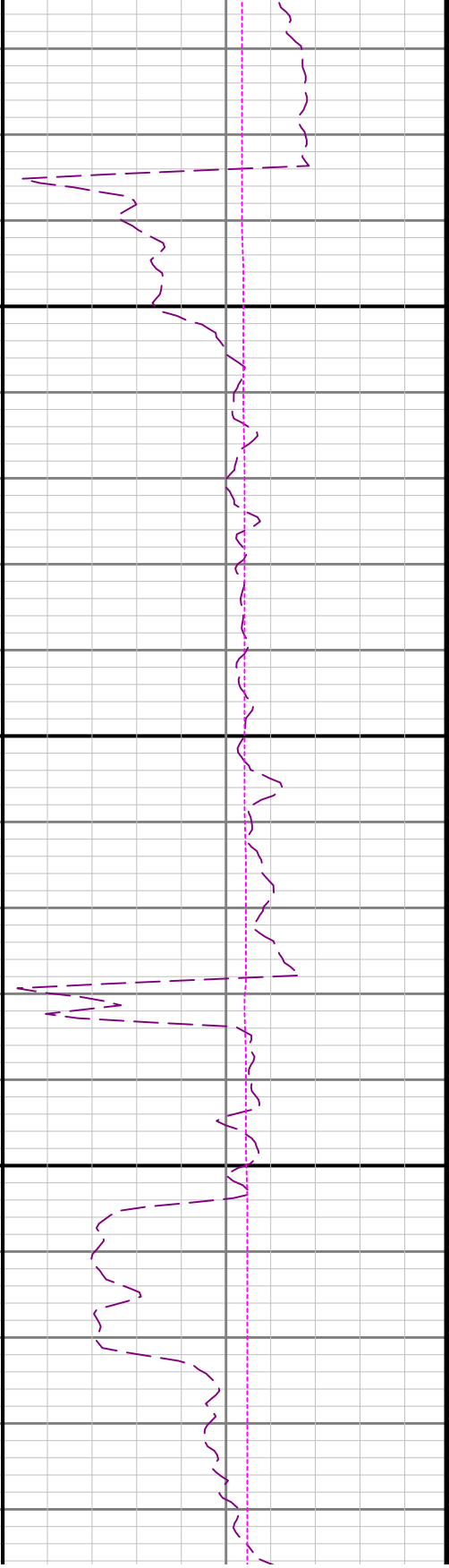
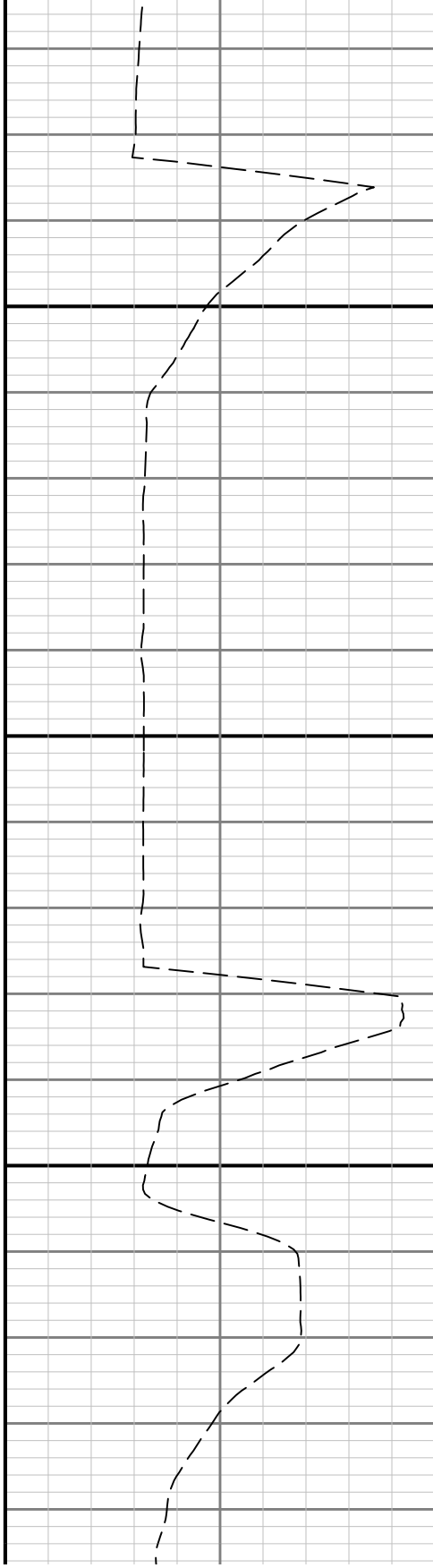
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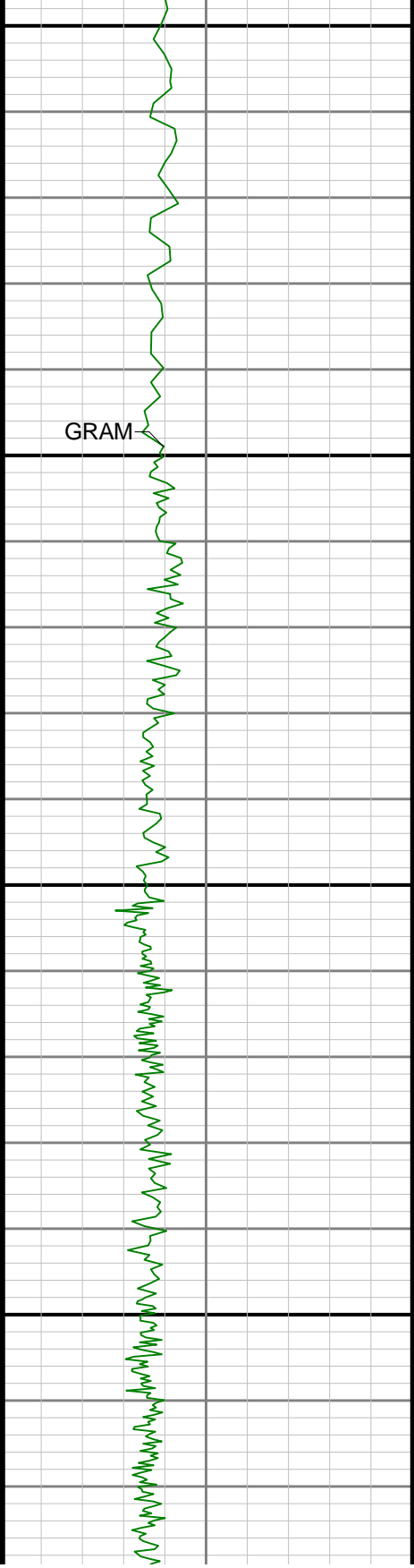




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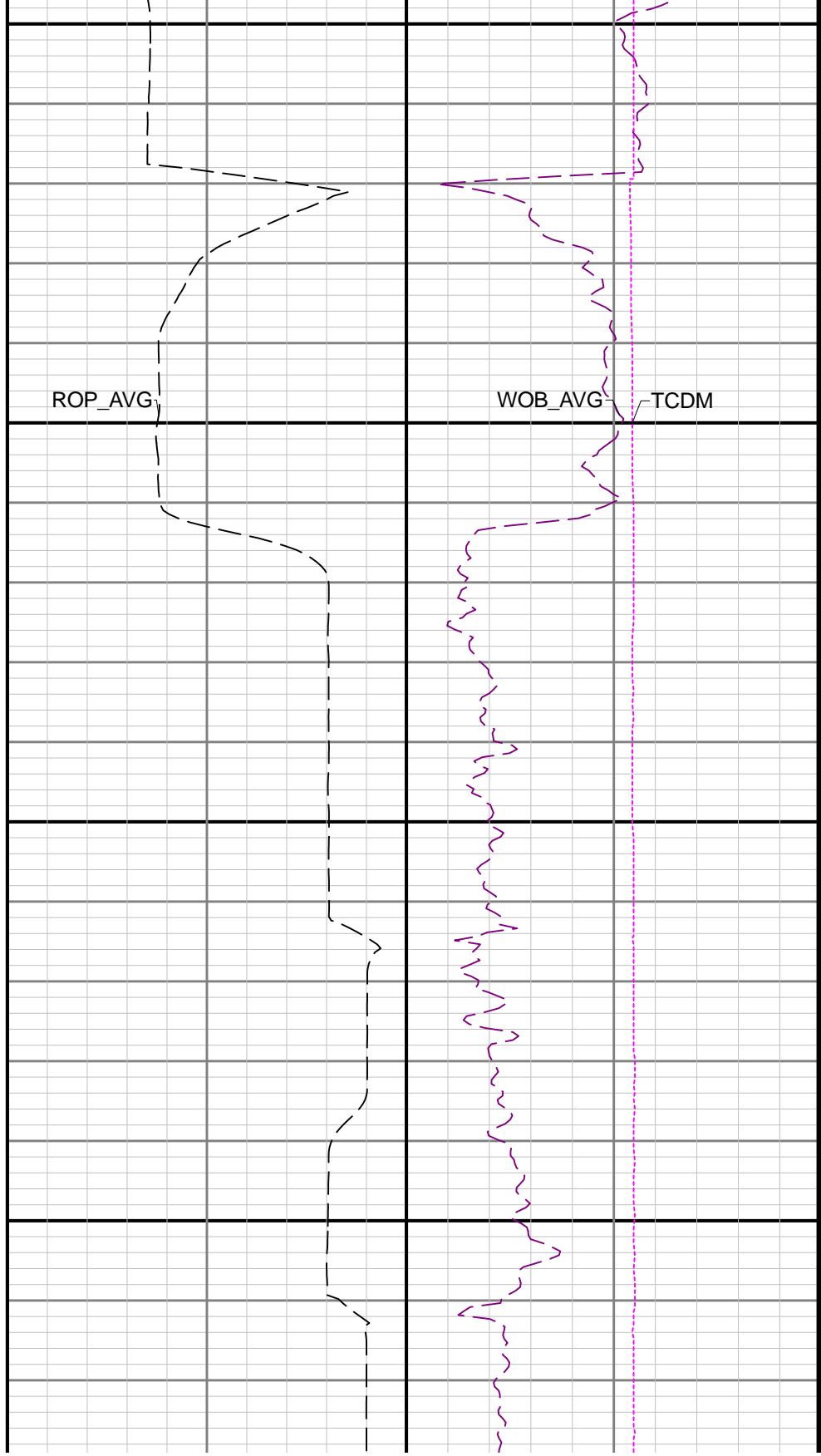
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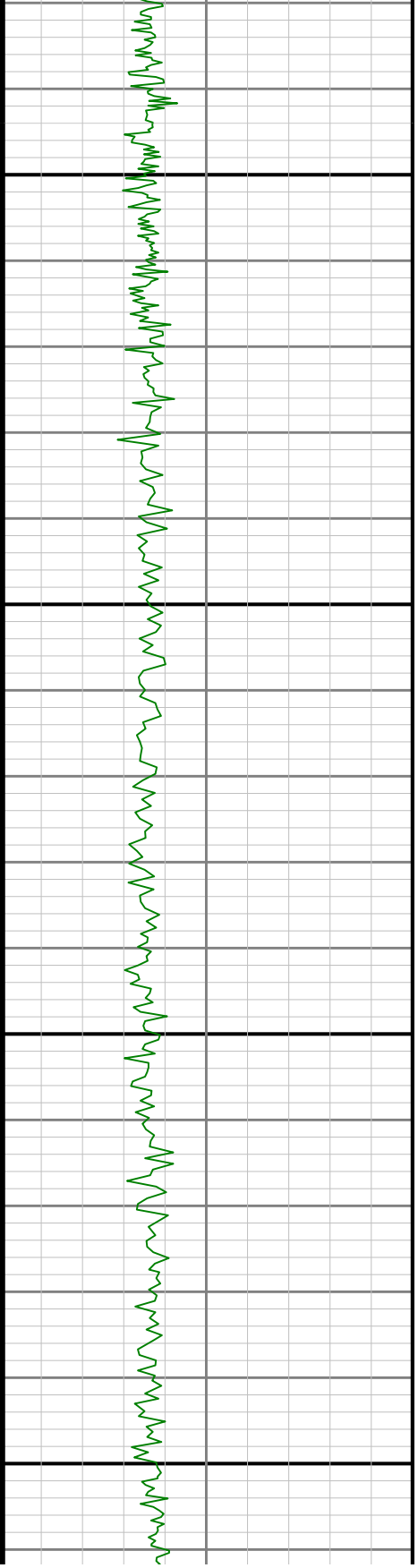
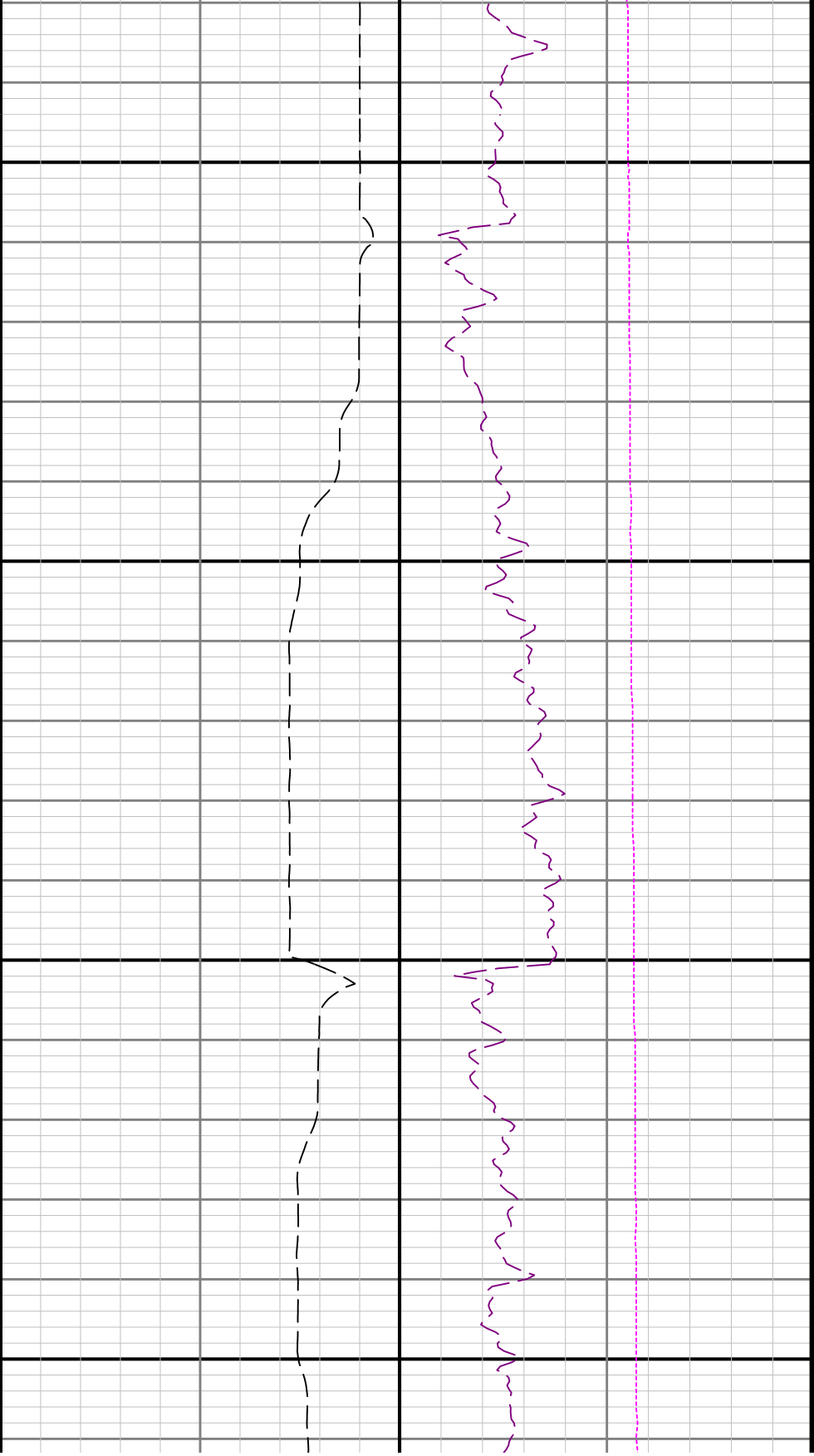


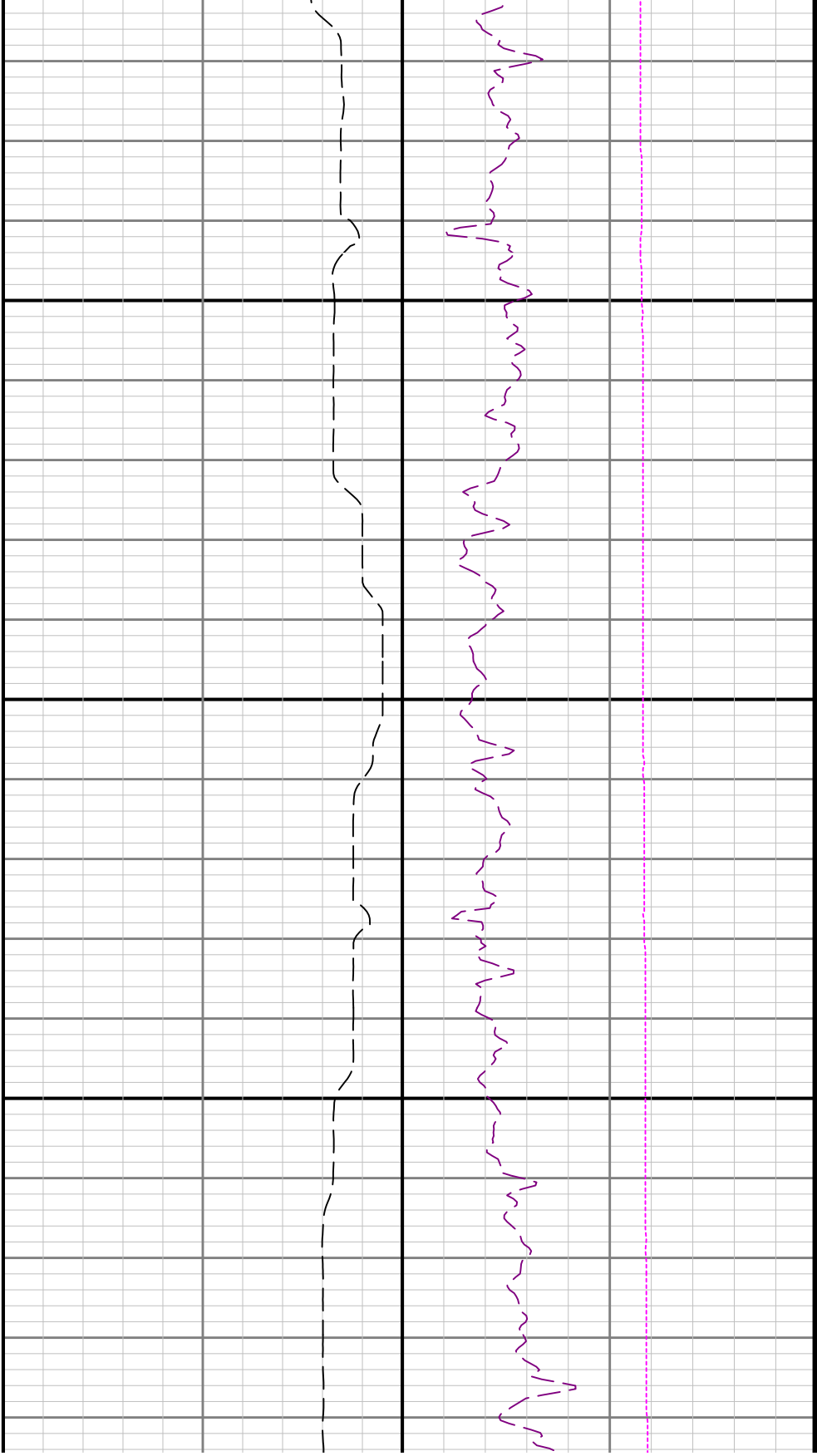


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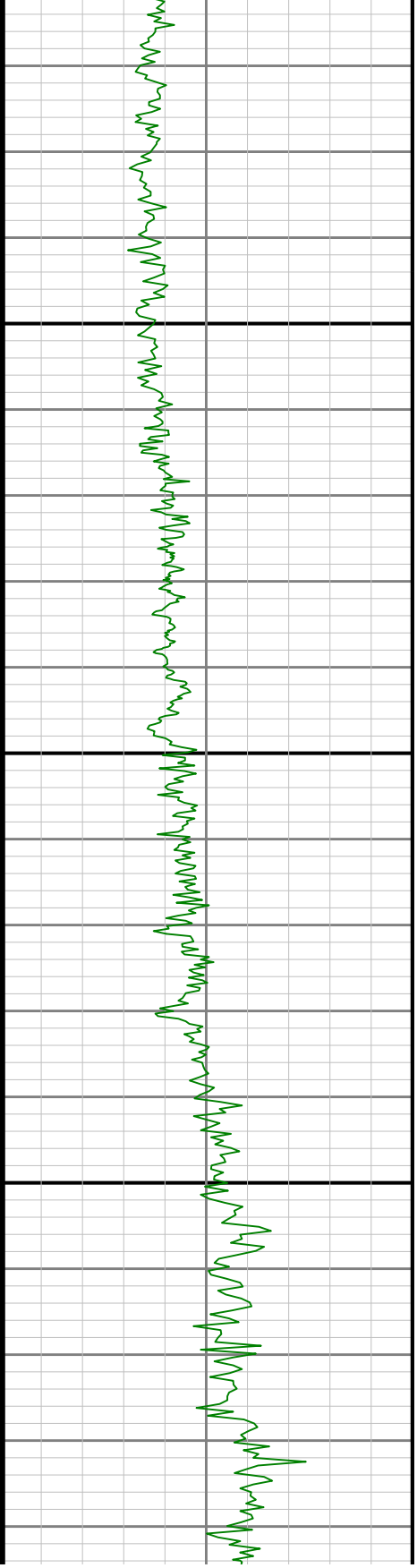
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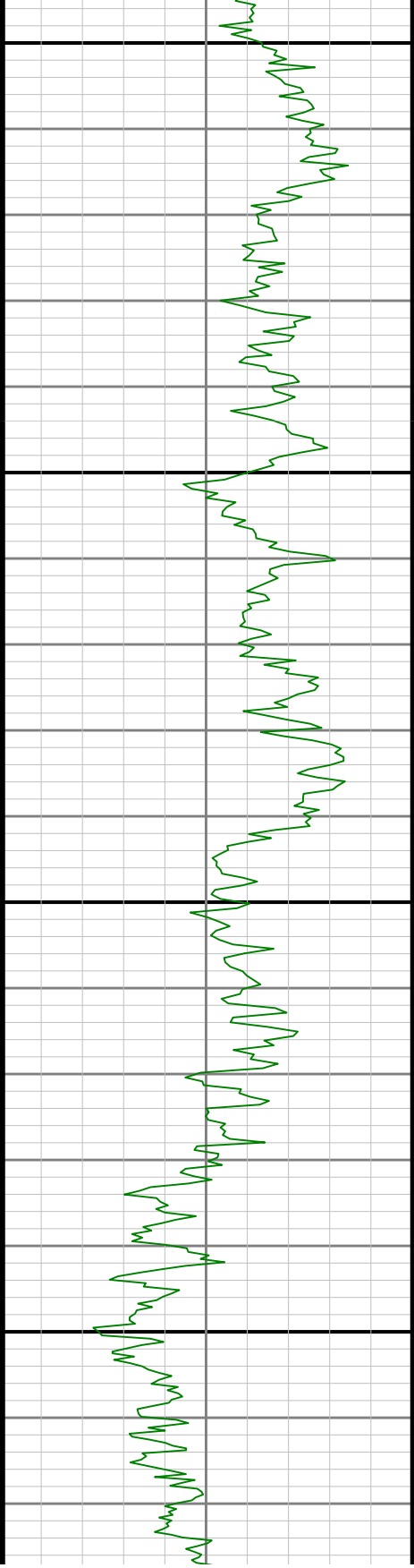






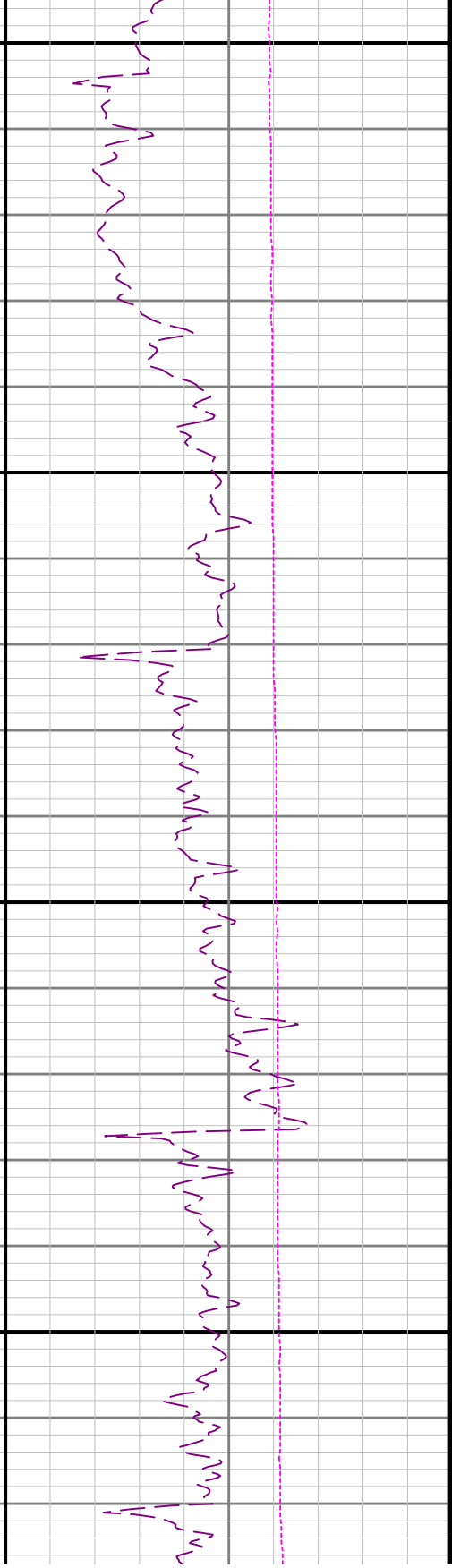
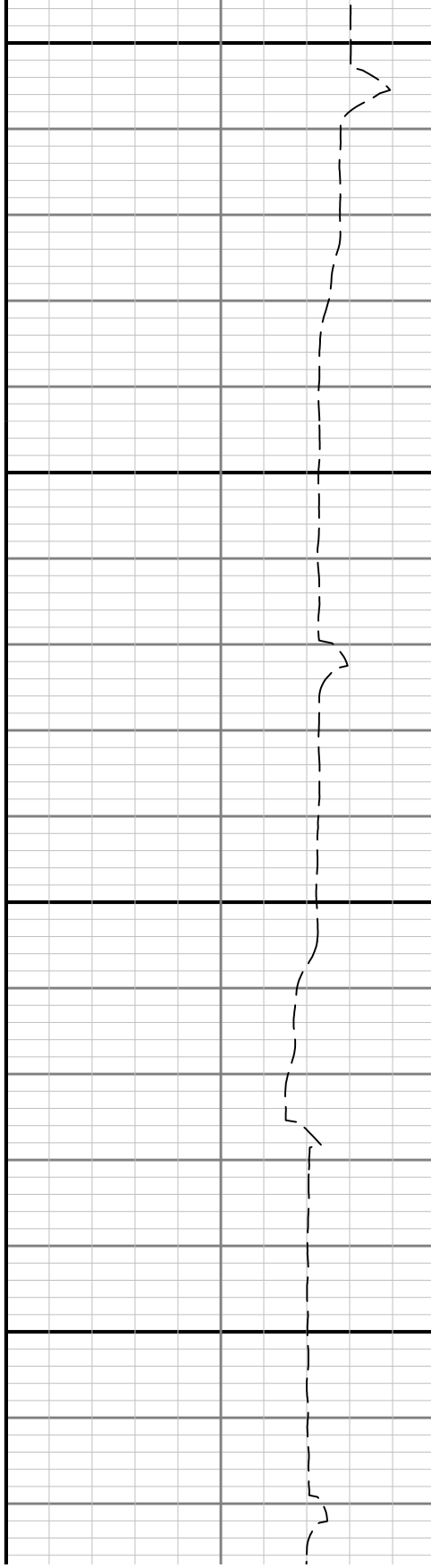
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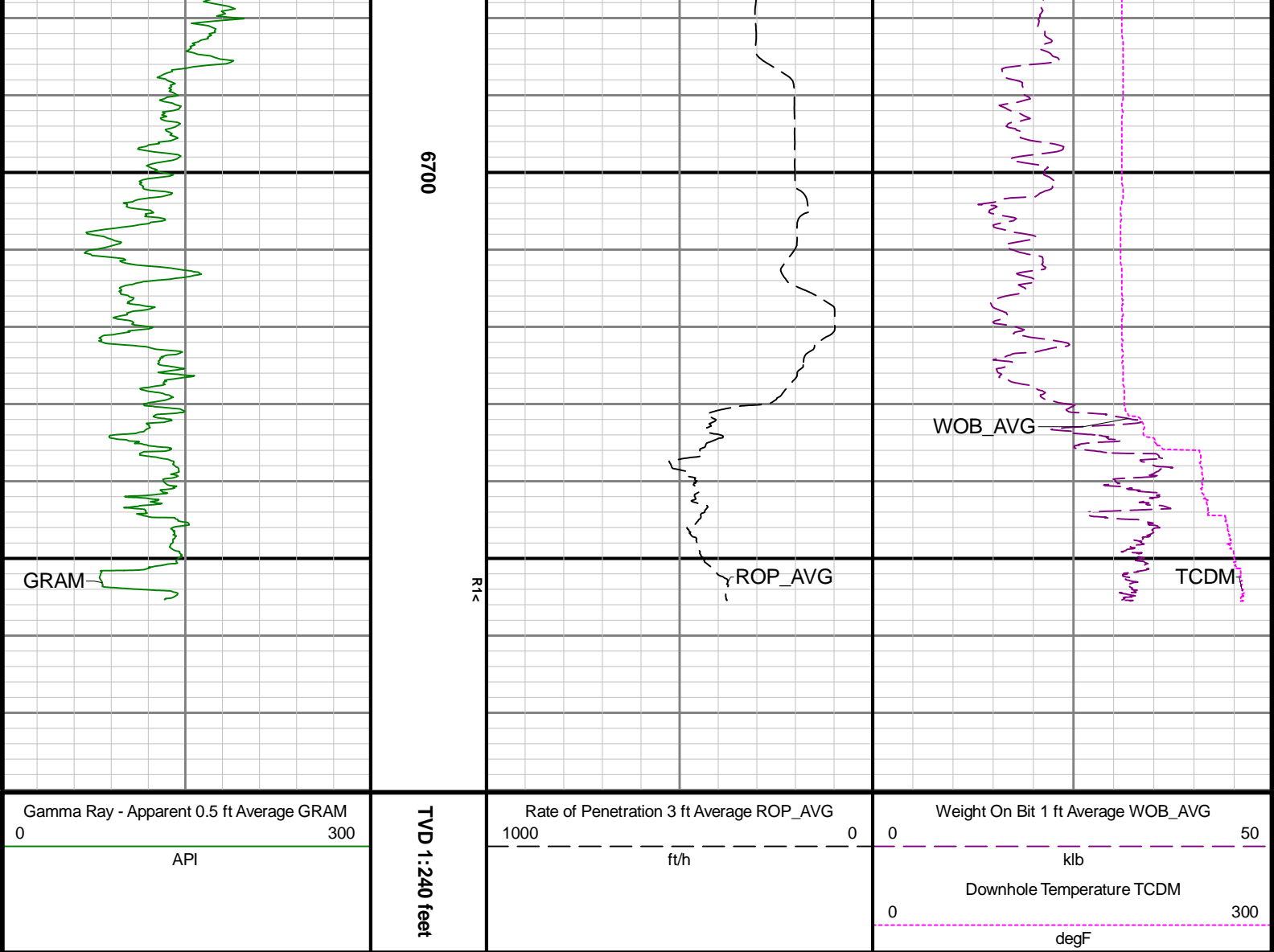




6500

0099





Directional Survey Summary

Latitude:	40° 26' 10.788" N	Longitude:	104° 31' 31.728" W
North Reference:	Grid	Drill Depth Zero:	Rig Floor
Vertical Datum is:	Mean Sea Level	Vertical Datum to DDZ: (ft)	4679.00
Vertical Section North: (ft)	0.00	Vertical Section East: (ft)	0.00
Vertical Section Azimuth: (deg)	359.92		
Grid Convergence: (deg)	-0.63	Magnetic Declination: (deg)	7.74
Total Correction: (deg)	7.11	TVD Calculation Method:	Minimum Curvature
Magnetic Correction:	N/A	Local Magnetic Field: (nT)	51975
Local Magnetic Dip Angle: (deg)	66.83	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	-4679.00	0.00	0.00	0.00	0.00	0.00
	82.00	0.48	267.67	N/A	-0.01	-0.34	82.00	-4597.00	-0.01	82.00	0.59	0.59	-112.60
	175.00	0.24	254.74	N/A	-0.08	-0.92	175.00	-4504.00	-0.08	93.00	0.27	-0.26	-13.90
	266.00	0.05	276.95	N/A	-0.13	-1.14	266.00	-4413.00	-0.12	91.00	0.21	-0.21	24.41
	361.00	0.14	321.76	N/A	-0.03	-1.26	361.00	-4318.00	-0.03	95.00	0.12	0.09	47.17

	455.00	0.34	349.14	N/A	0.33	-1.38	455.00	-4224.00	0.34	94.00	0.24	0.21	29.13
	550.00	0.15	118.69	N/A	0.55	-1.32	550.00	-4129.00	0.55	95.00	0.47	-0.20	136.37
	645.00	0.38	57.78	N/A	0.66	-0.95	644.99	-4034.01	0.66	95.00	0.35	0.24	-64.12
	739.00	0.25	59.08	N/A	0.93	-0.51	738.99	-3940.01	0.93	94.00	0.14	-0.14	1.38
	834.00	0.18	334.65	N/A	1.17	-0.40	833.99	-3845.01	1.17	95.00	0.31	-0.07	-88.87
	928.00	0.22	61.09	N/A	1.39	-0.30	927.99	-3751.01	1.39	94.00	0.29	0.04	91.96
	1023.00	0.15	17.27	N/A	1.60	-0.10	1022.99	-3656.01	1.60	95.00	0.16	-0.07	-46.13
	1118.00	0.11	143.75	N/A	1.64	-0.01	1117.99	-3561.01	1.64	95.00	0.25	-0.04	133.14
	1213.00	0.28	227.99	N/A	1.42	-0.13	1212.99	-3466.01	1.42	95.00	0.31	0.18	88.67
	1307.00	0.27	260.80	N/A	1.23	-0.52	1306.99	-3372.01	1.23	94.00	0.17	-0.01	34.90
	1402.00	0.36	251.75	N/A	1.10	-1.03	1401.99	-3277.01	1.10	95.00	0.11	0.09	-9.53
	1497.00	0.29	266.31	N/A	0.99	-1.55	1496.99	-3182.01	0.99	95.00	0.11	-0.07	15.33
	1592.00	0.49	206.21	N/A	0.61	-1.97	1591.99	-3087.01	0.61	95.00	0.45	0.21	-63.26
	1686.00	0.89	209.87	N/A	-0.38	-2.51	1685.98	-2993.02	-0.38	94.00	0.43	0.43	3.89
	1781.00	1.50	204.16	N/A	-2.16	-3.39	1780.96	-2898.04	-2.15	95.00	0.65	0.64	-6.01
	1876.00	1.33	211.53	N/A	-4.23	-4.47	1875.93	-2803.07	-4.23	95.00	0.26	-0.18	7.76
Tie-In	1926.00	1.07	200.48	N/A	-5.17	-4.94	1925.92	-2753.08	-5.16	50.00	0.69	-0.52	-22.10
	1994.00	0.18	101.51	101.4	-5.78	-5.06	1993.91	-2685.09	-5.77	68.00	1.64	-1.31	-145.54
	2088.00	0.78	169.25	104.1	-6.44	-4.79	2087.91	-2591.09	-6.43	94.00	0.78	0.64	72.06
	2183.00	2.40	164.40	106.8	-8.99	-4.14	2182.87	-2496.13	-8.98	95.00	1.71	1.71	-5.11
	2277.00	5.64	165.73	109.5	-15.36	-2.47	2276.63	-2402.37	-15.36	94.00	3.45	3.45	1.41
	2466.00	5.51	164.34	112.2	-33.10	2.27	2464.73	-2214.27	-33.11	189.00	0.10	-0.07	-0.74
	2561.00	5.59	166.53	114.9	-41.99	4.58	2559.29	-2119.71	-42.00	95.00	0.24	0.08	2.31
	2656.00	5.63	165.63	114.9	-51.01	6.81	2653.83	-2025.17	-51.02	95.00	0.10	0.04	-0.95
	2750.00	5.43	166.15	117.6	-59.79	9.02	2747.39	-1931.61	-59.80	94.00	0.22	-0.21	0.55
	2845.00	5.38	164.15	117.6	-68.44	11.32	2841.97	-1837.03	-68.46	95.00	0.21	-0.05	-2.11
	2940.00	5.85	164.38	120.3	-77.39	13.84	2936.52	-1742.48	-77.41	95.00	0.50	0.49	0.24
	3034.00	5.14	163.89	120.3	-86.05	16.29	3030.08	-1648.92	-86.07	94.00	0.76	-0.76	-0.52
	3129.00	5.37	164.39	123.0	-94.42	18.67	3124.68	-1554.32	-94.44	95.00	0.25	0.24	0.53
	3224.00	5.37	166.53	123.0	-103.02	20.90	3219.27	-1459.73	-103.05	95.00	0.21	-0.01	2.25
	3318.00	5.37	166.46	125.7	-111.58	22.96	3312.86	-1366.14	-111.61	94.00	0.01	0.00	-0.07
	3413.00	5.50	165.97	125.7	-120.31	25.10	3407.43	-1271.57	-120.35	95.00	0.15	0.14	-0.52
	3507.00	5.41	165.08	125.7	-128.97	27.33	3501.00	-1178.00	-129.00	94.00	0.13	-0.10	-0.95
	3602.00	5.82	165.02	128.4	-137.95	29.73	3595.55	-1083.45	-137.99	95.00	0.43	0.43	-0.06
	3697.00	6.69	153.53	128.4	-147.55	33.44	3689.98	-989.02	-147.60	95.00	1.60	0.92	-12.09
	3791.00	5.78	165.54	128.4	-157.04	37.07	3783.43	-895.57	-157.09	94.00	1.69	-0.97	12.78
	3886.00	5.76	168.18	131.1	-166.34	39.24	3877.95	-801.05	-166.39	95.00	0.28	-0.02	2.78
	3980.00	5.63	170.06	133.8	-175.50	41.00	3971.49	-707.51	-175.55	94.00	0.24	-0.14	2.00
	4075.00	5.64	169.01	133.8	-184.67	42.69	4066.03	-612.97	-184.73	95.00	0.11	0.01	-1.11
	4169.00	5.61	170.20	136.5	-193.73	44.36	4159.57	-519.43	-193.79	94.00	0.13	-0.03	1.27
	4264.00	5.60	168.30	136.5	-202.84	46.09	4254.12	-424.88	-202.91	95.00	0.20	-0.01	-2.00
	4359.00	5.70	169.93	139.2	-212.03	47.85	4348.66	-330.34	-212.10	95.00	0.20	0.11	1.72
	4453.00	5.59	169.36	141.9	-221.12	49.51	4442.20	-236.80	-221.19	94.00	0.13	-0.12	-0.61
	4548.00	5.69	168.16	141.9	-230.28	51.33	4536.74	-142.26	-230.35	95.00	0.16	0.11	-1.26
	4642.00	5.71	168.52	144.6	-239.42	53.22	4630.28	-48.72	-239.50	94.00	0.04	0.02	0.38
	4737.00	5.55	170.23	144.6	-248.58	54.94	4724.82	45.82	-248.66	95.00	0.24	-0.17	1.80
	4832.00	5.42	169.64	144.6	-257.52	56.53	4819.38	140.38	-257.60	95.00	0.15	-0.14	-0.62
	4926.00	6.23	168.50	147.3	-266.89	58.34	4912.90	233.90	-266.97	94.00	0.87	0.86	-1.21
	5021.00	6.11	166.87	150.0	-276.86	60.52	5007.35	328.35	-276.95	95.00	0.22	-0.13	-1.72
	5115.00	6.00	169.62	152.7	-286.57	62.54	5100.82	421.82	-286.66	94.00	0.33	-0.12	2.93
	5210.00	6.10	169.80	152.7	-296.42	64.33	5195.29	516.29	-296.51	95.00	0.11	0.11	0.19
	5304.00	6.27	167.80	155.4	-306.35	66.30	5288.75	609.75	-306.44	94.00	0.29	0.18	-2.13
	5398.00	6.39	171.96	155.4	-316.55	68.11	5382.18	703.18	-316.64	94.00	0.50	0.13	4.43
	5493.00	5.77	168.68	158.1	-326.47	69.79	5476.64	797.64	-326.56	95.00	0.75	-0.65	-3.45
	5587.00	6.05	168.73	158.1	-335.96	71.69	5570.14	891.14	-336.06	94.00	0.30	0.30	0.05
	5682.00	6.00	168.23	160.8	-345.73	73.68	5664.62	985.62	-345.83	95.00	0.08	-0.05	-0.53
	5776.00	4.43	168.39	160.8	-354.09	75.41	5758.22	1079.22	-354.20	94.00	1.67	-1.67	0.17
	5871.00	4.52	170.20	163.5	-361.38	76.79	5852.93	1173.93	-361.48	95.00	0.18	0.09	1.91
	5966.00	4.62	167.17	160.8	-368.80	78.27	5947.63	1268.63	-368.91	95.00	0.28	0.11	-3.19
	6060.00	3.55	164.70	163.5	-375.29	79.88	6041.39	1362.39	-375.41	94.00	1.15	-1.14	-2.63
	6155.00	5.12	49.40	166.2	-375.37	83.88	6136.24	1457.24	-375.49	95.00	7.76	1.65	-121.37

	6250.00	12.86	358.01	168.9	-362.01	86.74	6230.12	1551.12	-362.13	95.00	11.00	8.15	-54.09
	6344.00	19.78	357.87	171.6	-335.63	85.79	6320.28	1641.28	-335.75	94.00	7.36	7.36	-0.15
	6439.00	27.39	1.12	177.0	-297.66	85.62	6407.28	1728.28	-297.78	95.00	8.12	8.01	3.42
	6533.00	37.70	0.39	177.0	-247.17	86.24	6486.42	1807.42	-247.29	94.00	10.98	10.97	-0.78
	6628.00	47.09	0.80	179.7	-183.19	86.92	6556.50	1877.50	-183.31	95.00	9.89	9.88	0.43
	6722.00	56.18	0.83	182.5	-109.57	87.97	6614.78	1935.78	-109.69	94.00	9.67	9.67	0.03
	6817.00	64.81	359.71	185.2	-26.97	88.32	6661.52	1982.52	-27.10	95.00	9.14	9.08	-1.18
	6912.00	71.13	359.55	185.2	61.04	87.75	6697.14	2018.14	60.92	95.00	6.65	6.65	-0.17
	7006.00	80.13	357.22	185.2	151.97	85.15	6720.45	2041.45	151.85	94.00	9.87	9.57	-2.48
	7101.00	88.12	1.26	187.9	246.36	83.92	6730.17	2051.17	246.24	95.00	9.41	8.41	4.25
	7196.00	90.15	2.17	193.3	341.30	86.77	6731.60	2052.60	341.18	95.00	2.34	2.14	0.96
	7291.00	90.03	0.16	196.0	436.28	88.70	6731.45	2052.45	436.15	95.00	2.12	-0.13	-2.12
	7480.00	89.29	359.46	201.4	625.27	88.07	6732.57	2053.57	625.15	189.00	0.54	-0.39	-0.37
	7575.00	89.20	358.61	204.1	720.25	86.47	6733.83	2054.83	720.13	95.00	0.90	-0.09	-0.89
	7669.00	90.18	0.22	204.1	814.24	85.51	6734.33	2055.33	814.12	94.00	2.01	1.04	1.71
	7764.00	90.22	359.46	206.8	909.24	85.25	6734.00	2055.00	909.12	95.00	0.80	0.04	-0.80
	7859.00	89.14	359.41	212.2	1004.23	84.31	6734.53	2055.53	1004.11	95.00	1.14	-1.14	-0.05
	7953.00	89.88	359.67	212.2	1098.22	83.56	6735.34	2056.34	1098.10	94.00	0.83	0.79	0.28
	8048.00	90.22	359.66	212.2	1193.22	83.00	6735.25	2056.25	1193.10	95.00	0.36	0.36	-0.01
	8143.00	89.72	359.86	214.9	1288.22	82.60	6735.30	2056.30	1288.10	95.00	0.57	-0.53	0.21
	8237.00	89.78	359.82	214.9	1382.22	82.34	6735.71	2056.71	1382.10	94.00	0.08	0.06	-0.04
	8332.00	89.97	359.75	217.6	1477.22	81.98	6735.92	2056.92	1477.10	95.00	0.21	0.20	-0.07
	8427.00	90.06	0.23	220.3	1572.22	81.97	6735.90	2056.90	1572.10	95.00	0.51	0.09	0.51
	8521.00	90.09	359.90	223.0	1666.22	82.07	6735.77	2056.77	1666.10	94.00	0.35	0.03	-0.35
	8616.00	90.09	359.92	223.0	1761.22	81.92	6735.62	2056.62	1761.10	95.00	0.02	0.00	0.02
	8711.00	90.12	0.17	217.6	1856.22	82.00	6735.45	2056.45	1856.10	95.00	0.27	0.03	0.26
	8806.00	89.85	0.04	223.0	1951.22	82.17	6735.47	2056.47	1951.10	95.00	0.32	-0.28	-0.14
	8900.00	90.06	359.92	225.7	2045.22	82.14	6735.55	2056.55	2045.10	94.00	0.26	0.22	-0.13
	8995.00	89.69	359.42	225.7	2140.21	81.59	6735.76	2056.76	2140.10	95.00	0.65	-0.39	-0.53
	9090.00	90.40	359.47	228.4	2235.21	80.67	6735.68	2056.68	2235.09	95.00	0.75	0.75	0.05
	9184.00	89.97	359.76	231.1	2329.21	80.04	6735.38	2056.38	2329.09	94.00	0.55	-0.46	0.31
	9279.00	89.94	359.51	231.1	2424.20	79.44	6735.45	2056.45	2424.09	95.00	0.27	-0.03	-0.26
	9373.00	89.97	0.37	233.8	2518.20	79.34	6735.53	2056.53	2518.09	94.00	0.92	0.03	0.91
	9468.00	90.00	0.10	233.8	2613.20	79.73	6735.55	2056.55	2613.09	95.00	0.29	0.03	-0.28
	9562.00	90.12	358.52	236.5	2707.19	78.59	6735.45	2056.45	2707.08	94.00	1.69	0.13	-1.68
	9657.00	90.06	359.34	236.5	2802.17	76.82	6735.30	2056.30	2802.06	95.00	0.87	-0.06	0.86
	9752.00	90.40	359.23	239.2	2897.17	75.64	6734.92	2055.92	2897.06	95.00	0.38	0.36	-0.12
	9846.00	90.31	359.03	239.2	2991.15	74.21	6734.34	2055.34	2991.05	94.00	0.23	-0.10	-0.21
	9941.00	90.65	359.62	236.5	3086.14	73.09	6733.54	2054.54	3086.04	95.00	0.72	0.36	0.62
	10035.00	90.00	358.37	241.9	3180.12	71.44	6733.01	2054.01	3180.02	94.00	1.50	-0.69	-1.33
	10130.00	89.48	358.35	241.9	3275.08	68.72	6733.44	2054.44	3274.98	95.00	0.55	-0.55	-0.02
	10224.00	89.23	358.69	244.6	3369.05	66.29	6734.50	2055.50	3368.95	94.00	0.45	-0.27	0.36
	10319.00	89.54	358.58	244.6	3464.01	64.03	6735.52	2056.52	3463.92	95.00	0.35	0.33	-0.12
	10414.00	88.55	357.82	244.6	3558.95	61.05	6737.10	2058.10	3558.86	95.00	1.31	-1.04	-0.80
	10508.00	89.63	0.20	244.6	3652.92	59.42	6738.60	2059.60	3652.83	94.00	2.78	1.15	2.53
	10603.00	89.20	359.50	247.3	3747.91	59.18	6739.57	2060.57	3747.83	95.00	0.86	-0.45	-0.74
	10697.00	89.51	0.61	247.3	3841.90	59.27	6740.62	2061.62	3841.82	94.00	1.23	0.33	1.18
	10792.00	89.66	1.00	244.6	3936.89	60.60	6741.31	2062.31	3936.80	95.00	0.44	0.16	0.41
	10886.00	89.94	0.66	247.3	4030.88	61.96	6741.64	2062.64	4030.79	94.00	0.47	0.30	-0.36
	10981.00	89.51	1.00	250.0	4125.87	63.34	6742.10	2063.10	4125.78	95.00	0.58	-0.45	0.36
	11076.00	90.28	0.45	250.0	4220.86	64.54	6742.27	2063.27	4220.77	95.00	1.00	0.81	-0.58
	11170.00	89.60	0.43	250.0	4314.86	65.26	6742.37	2063.37	4314.76	94.00	0.72	-0.72	-0.02
	11265.00	88.83	358.79	250.0	4409.84	64.62	6743.67	2064.67	4409.75	95.00	1.91	-0.81	-1.73
	11359.00	90.25	359.95	250.0	4503.83	63.58	6744.42	2065.42	4503.74	94.00	1.95	1.51	1.23
	11454.00	90.00	0.12	250.0	4598.83	63.64	6744.22	2065.22	4598.74	95.00	0.32	-0.26	0.18
	11548.00	90.00	0.05	250.0	4692.83	63.78	6744.22	2065.22	4692.74	94.00	0.07	0.00	-0.07
	11643.00	89.88	0.76	252.7	4787.83	64.45	6744.32	2065.32	4787.73	95.00	0.76	-0.13	0.75
	11737.00	90.55	2.77	252.7	4881.78	67.35	6743.96	2064.96	4881.68	94.00	2.25	0.71	2.14
	11832.00	89.94	3.28	252.7	4976.64	72.36	6743.56	2064.56	4976.54	95.00	0.84	-0.64	0.54
	11927.00	89.75	3.10	255.4	5071.49	77.65	6743.81	2064.81	5071.38	95.00	0.28	-0.20	-0.19
	12021.00	90.25	3.42	252.7	5165.34	82.99	6743.81	2064.81	5165.22	94.00	0.63	0.53	0.34

	12116.00	90.12	2.82	255.4	5260.20	88.16	6743.51	2064.51	5260.07	95.00	0.65	-0.14	-0.63
	12210.00	90.15	1.06	255.4	5354.14	91.34	6743.29	2064.29	5354.01	94.00	1.87	0.03	-1.87
	12305.00	90.28	359.21	255.4	5449.14	91.57	6742.93	2063.93	5449.00	95.00	1.95	0.14	-1.95
	12399.00	90.62	358.54	255.4	5543.12	89.72	6742.19	2063.19	5542.98	94.00	0.80	0.36	-0.71
	12494.00	91.08	357.19	255.4	5638.04	86.18	6740.78	2061.78	5637.91	95.00	1.50	0.48	-1.42
	12588.00	90.03	356.59	255.4	5731.89	81.08	6739.87	2060.87	5731.77	94.00	1.29	-1.12	-0.64
	12683.00	89.32	356.53	258.1	5826.72	75.38	6740.41	2061.41	5826.61	95.00	0.75	-0.75	-0.06
	12778.00	89.85	356.11	258.1	5921.52	69.29	6741.10	2062.10	5921.42	95.00	0.71	0.56	-0.44
	12872.00	89.88	356.62	258.1	6015.33	63.33	6741.32	2062.32	6015.24	94.00	0.54	0.03	0.54
	12967.00	89.69	356.79	260.8	6110.17	57.87	6741.68	2062.68	6110.09	95.00	0.27	-0.20	0.18
	13061.00	90.09	356.64	260.8	6204.02	52.48	6741.86	2062.86	6203.94	94.00	0.45	0.43	-0.16
	13156.00	89.82	356.53	260.8	6298.85	46.82	6741.93	2062.93	6298.78	95.00	0.31	-0.28	-0.12
	13250.00	89.72	356.92	260.8	6392.69	41.45	6742.31	2063.31	6392.63	94.00	0.43	-0.11	0.41
	13345.00	89.82	358.81	260.8	6487.62	37.91	6742.69	2063.69	6487.56	95.00	1.99	0.11	1.99
	13440.00	89.78	358.45	260.8	6582.60	35.64	6743.02	2064.02	6582.54	95.00	0.38	-0.04	-0.38
	13534.00	89.91	358.86	260.8	6676.57	33.43	6743.28	2064.28	6676.52	94.00	0.46	0.14	0.44
	13629.00	90.03	358.88	260.8	6771.55	31.56	6743.33	2064.33	6771.50	95.00	0.13	0.13	0.02
	13724.00	89.94	358.58	263.5	6866.53	29.46	6743.35	2064.35	6866.48	95.00	0.33	-0.09	-0.32
	13818.00	89.20	358.68	263.5	6960.50	27.21	6744.06	2065.06	6960.45	94.00	0.79	-0.79	0.11
	13913.00	89.63	0.23	263.5	7055.48	26.30	6745.03	2066.03	7055.44	95.00	1.69	0.45	1.63
	14008.00	89.48	357.15	263.5	7150.44	24.13	6745.76	2066.76	7150.40	95.00	3.25	-0.16	-3.24
	14102.00	89.72	358.84	263.5	7244.38	20.84	6746.42	2067.42	7244.35	94.00	1.82	0.26	1.80
	14197.00	89.60	358.63	266.2	7339.36	18.75	6746.98	2067.98	7339.32	95.00	0.25	-0.13	-0.22
	14292.00	89.66	358.80	266.2	7434.33	16.62	6747.60	2068.60	7434.30	95.00	0.19	0.06	0.18
	14386.00	89.82	359.13	263.5	7528.31	14.92	6748.02	2069.02	7528.29	94.00	0.39	0.17	0.35
	14481.00	89.88	358.54	266.2	7623.29	12.99	6748.27	2069.27	7623.27	95.00	0.62	0.06	-0.62
	14576.00	89.75	358.91	266.2	7718.27	10.87	6748.58	2069.58	7718.25	95.00	0.41	-0.14	0.39
	14670.00	89.97	359.47	269.0	7812.26	9.54	6748.81	2069.81	7812.24	94.00	0.64	0.23	0.60
	14765.00	89.66	359.39	269.0	7907.25	8.60	6749.12	2070.12	7907.23	95.00	0.34	-0.33	-0.08
	14860.00	89.63	359.47	269.0	8002.25	7.65	6749.71	2070.71	8002.23	95.00	0.09	-0.03	0.08
	14954.00	89.60	359.65	269.0	8096.24	6.93	6750.34	2071.34	8096.23	94.00	0.19	-0.03	0.19
	15049.00	89.94	359.29	269.0	8191.24	6.05	6750.72	2071.72	8191.22	95.00	0.52	0.36	-0.38
	15144.00	89.91	359.32	271.7	8286.23	4.90	6750.84	2071.84	8286.22	95.00	0.04	-0.03	0.03
	15239.00	89.75	359.38	271.7	8381.22	3.82	6751.12	2072.12	8381.21	95.00	0.18	-0.17	0.06
	15333.00	90.03	359.59	271.7	8475.22	2.98	6751.30	2072.30	8475.21	94.00	0.37	0.30	0.22
	15427.00	90.15	359.80	271.7	8569.22	2.48	6751.16	2072.16	8569.21	94.00	0.26	0.13	0.22
	15522.00	89.75	359.73	271.7	8664.22	2.09	6751.24	2072.24	8664.21	95.00	0.43	-0.42	-0.07
	15617.00	90.31	359.71	274.4	8759.22	1.62	6751.19	2072.19	8759.21	95.00	0.59	0.59	-0.02
	15711.00	89.57	358.92	274.4	8853.21	0.50	6751.29	2072.29	8853.20	94.00	1.15	-0.79	-0.84
	15806.00	89.45	359.23	274.4	8948.19	-1.03	6752.10	2073.10	8948.18	95.00	0.35	-0.13	0.33
	15901.00	89.60	359.08	274.4	9043.18	-2.43	6752.89	2073.89	9043.17	95.00	0.22	0.16	-0.16
	15995.00	89.69	359.43	274.4	9137.17	-3.66	6753.47	2074.47	9137.16	94.00	0.38	0.10	0.37
	16090.00	89.69	359.82	274.4	9232.16	-4.28	6753.99	2074.99	9232.16	95.00	0.41	-0.00	0.41
	16185.00	89.66	0.29	277.1	9327.16	-4.19	6754.52	2075.52	9327.16	95.00	0.50	-0.03	0.49
	16279.00	89.91	1.18	277.1	9421.15	-2.98	6754.88	2075.88	9421.15	94.00	0.98	0.27	0.95
	16468.00	90.12	358.16	274.4	9610.13	-4.07	6754.83	2075.83	9610.12	189.00	1.60	0.11	-1.60
	16563.00	89.94	358.05	274.4	9705.08	-7.21	6754.78	2075.78	9705.08	95.00	0.22	-0.19	-0.12
	16658.00	90.00	357.77	274.4	9800.01	-10.67	6754.83	2075.83	9800.02	95.00	0.30	0.06	-0.29
	16752.00	89.75	357.63	274.4	9893.94	-14.45	6755.03	2076.03	9893.95	94.00	0.30	-0.27	-0.15
	16847.00	89.88	357.66	274.4	9988.86	-18.35	6755.34	2076.34	9988.87	95.00	0.14	0.14	0.03
	16930.00	89.91	357.93	274.4	10071.79	-21.54	6755.49	2076.49	10071.81	83.00	0.33	0.04	0.33