



Natural Formation Evaluation
Gamma Ray

Realtime Log

Scale:

Company: Anadarko

1:240

Well: Dugite 34N-35HZ

MEASURED DEPTH

Field: Weld County (Kerr McGee)

County: Weld State: Colorado

Status:

Final Print

Surface Location:

Latitude: 40° 7' 9.134" N

Longitude: 104° 51' 56.063" W

Other Services:

API Number:

05123393280000

Section: 23

TWN: 2N

Range 67W

Directional
VSS

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

Elevation: 4994.00 ft.

Elevations: N/A

Log Measured From:

Rig Floor

Elevation: 4994.00 ft.

Above P.D.

KB:

DF:

GL:

Depth Reference:

Drillers Depth

KB:

DF:

GL:

4994.00 ft.

4968.00 ft.

Interval Logged

Dates

Magnetic Field Reference

Top:

6800 ft. Date From: 11/Jul/14

Dip Angle: 66.74 °

Azi Reference North: True

Bottom:

17789 ft. Date To: 19/Jul/14

Total

Mag to Reference

8.62 °

Spud Date: 22/Jun/14

Field Strength: 52824.5 nT North Correction:

Borehole Record

Casing Record

Hole Size

From

To

Size

Weight

From

To

13.500 in.

Surface

1367 ft.

9.600 in.

36.00 lb/ft

Surface

1357 ft.

8.750 in.

1367 ft.

7805 ft.

7.000 in.

26.00 lb/ft

Surface

7803 ft.

6.125 in.

7805 ft.

17789 ft.

Mud Record

Deviation Record

Type

From

To

Hole Size

Interval

Inc / Az (Start)

Inc / Az (End)

Water Based Mud

Surface

17789 ft.

13.500 in.

Surface

0.0 ° / 280.5 °

0.4 ° / 271.5 °

Acquisition System

Software Version

Other

Advantage

2.20U4

Rig: / Contractor:

H&P 307

/ Helmerich & Payne Drilling Co

PATS

6.4.1.34

Job No:

6433250

District / Unit:

RMD

/ D & E

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Log Run Summary

LWD	BHA	Bit	Bit	Bit	Bit	Assembly	Logged Interval		Bit Depth Interval		Date / Time				Circ.
Run	Run	Run	Size	Type	Gauge	Type	Top	Bottom	From	To	Start		End		Time
No.	No.	No.	(in.)		(in.)		(ft.)	(ft.)	(ft.)	(ft.)					(hrs.)
1	1	1	8.750	PDC		Steerable	6800	7761	1350	7805	11/Jul/2014	00:22	12/Jul/2014	17:56	35.47
2	2	2	6.125	PDC		Steerable	7762	15750	7805	15801	14/Jul/2014	19:10	17/Jun/2014	14:55	63.1
3	3	3	6.125	PDC		Steerable	15750	17741	15801	17788	18/Jul/2014	22:36	19/Jul/2014	20:32	38.1

Crew

Name			Arrive			Depart		
Name			Arrive			Depart		
Name			Arrive			Depart		
Andrew King			10/July/14			20/July/14		
Hans Cary			10/July/14			20/July/14		
John Nguyen			10/July/14			15/July/14		
Bill Herbers			10/July/14			20/July/14		
Rick Hereford			15/July/14			20/July/14		

Mnemonics

Curve	Description	Units
GRAX	Gamma Ray Apparent, 0.5 ft. Avg.	API
GRTX	Gamma Ray Time Since Drilled	Min.
GRIX	Gamma Ray Density, Points	unitless
GRSI	Gamma Ray Slide Indicator	unitless
ROPA	Rate of Penetration, 3.0 ft. Avg.	Ft./Hr.
TCDX	Downhole Temperature	Deg. F.
TVD	True Vertical Depth	Ft.
WOBA	Surface Weight on Bit, 1.0 ft. Avg.	K. lbs.

Equipment and Service Data

LWD Run No.	Tool	Serial Number	Measurement	Bit Offset (ft.)	Max O.D. (in.)	Min I.D. (in.)
1	DIR	473	Directional	46.84	6.750	3.250
1	SRIG	12816078	Gamma	43.47	6.750	3.250
2	DIR	12456778	Directional	53.82	4.750	2.750
2	SRIG	12131406	Gamma	50.45	4.750	2.750
3	DIR	11866045	Directional	53.91	4.750	2.750
3	SRIG	12600747	Gamma	50.54	4.750	2.750

Service and Tool Mnemonics

Mnemonic	Name	Description
DIR	Directional	Wellbore directional survey
SRIG	Inclination and Gamma	Probe based gamma ray and inclination module

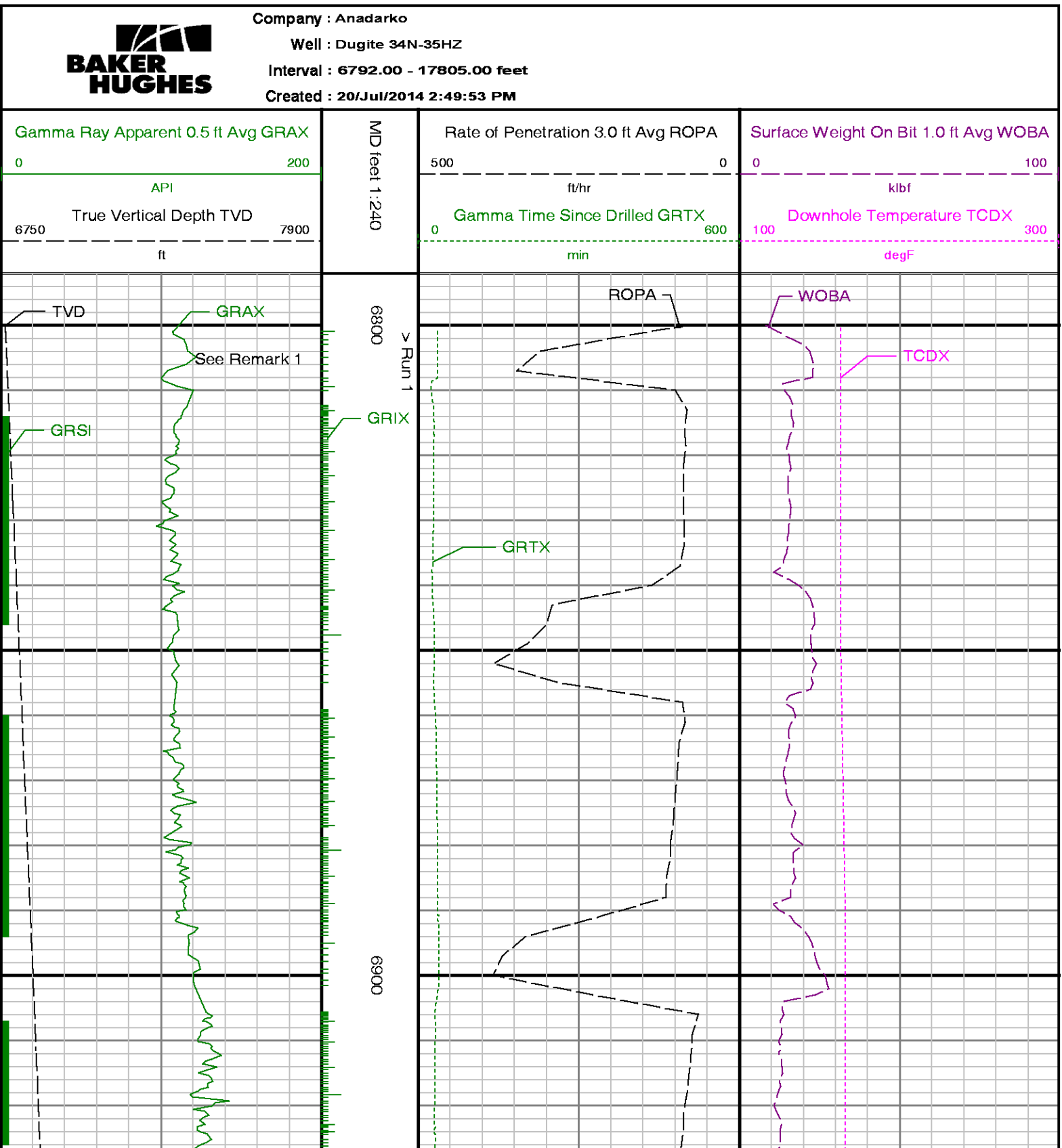
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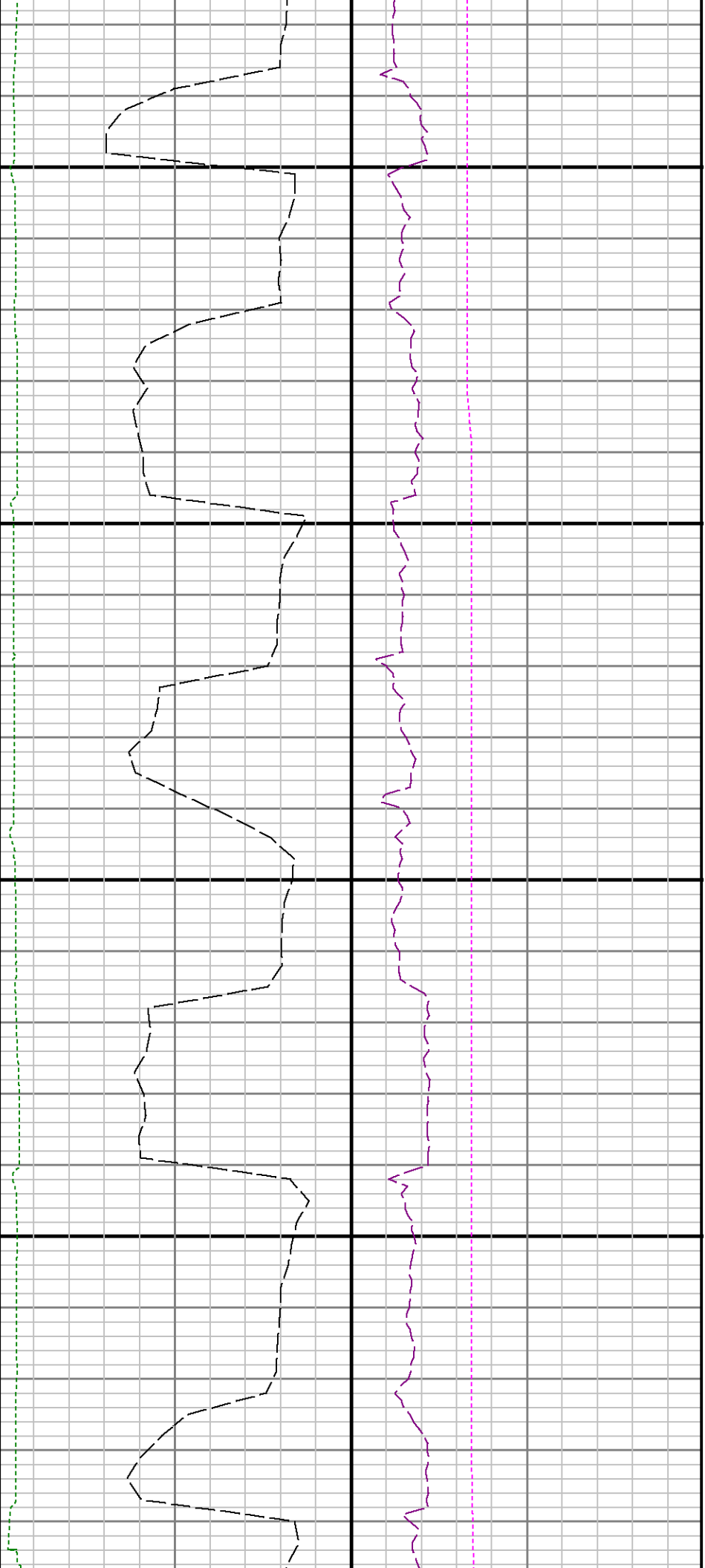
(1) Baker Hughes INTEQ run 1 utilized 6 3/4 inch NaviGamma services (Gamma Ray and Directional) behind an 8 3/4 inch bit and steerable assembly from 1367 to 7805 ft MD (1367 to 7394 ft TVD).
(2) Baker Hughes INTEQ runs 2 and 3 utilized 4 3/4 inch NaviGamma services (Gamma Ray and Directional) behind a 6 1/8 inch bit and steerable assembly from 7805 to 17788 ft MD (7394 to 7389 ft TVD).
(3) Depth measurements obtained from a depth control system not supplied or operated by Baker Hughes. Due to the lack of control by Baker Hughes logging engineers, depth calibrations and measurements could not be independently verified.
(4) A sliding indicator is shown to the left side of track 1 as a heavy line and corresponds to the Gamma Ray sensor offset from the bit.

Remarks

Number	Measured Depth (ft.)	Hole Section (in.)	LWD Run No.	Remark
1	6820	8.750	1	Began logging Gamma from the top of the build section at 6800 ft MD (6764 ft TVD).
2	7770	6.125	2	The interval from 7761 to 7805 ft MD (7391 to 7394 ft TVD) shows attenuated Gamma values due to the Gamma sensor location inside casing at the beginning of Run 2.

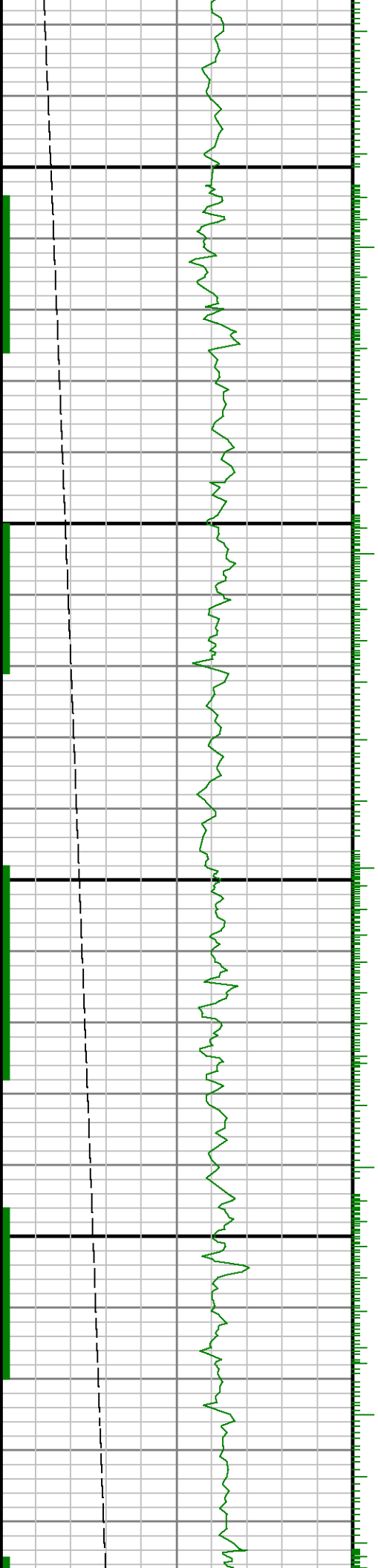
3	7795	6.125	2	The interval from 7761 to 7805 ft MD (7391 to 7394 ft TVD) was logged up to 50 hours after being drilled due to casing and cement operations prior to the beginning of Run 2.
4	15780	6.125	3	The interval from 15750 to 15801 ft MD (7387 to 7388 ft TVD) was logged up to 32 hours after being drilled due a motor failure and subsequent trip out of hole to pick up a new motor and MWD.
5	17760	6.125	3	The interval from 17741 to 17789 ft MD (7388 to 7389 ft TVD) contains no logging data due to sensor offset from the bit at the end of Run 3.





7000

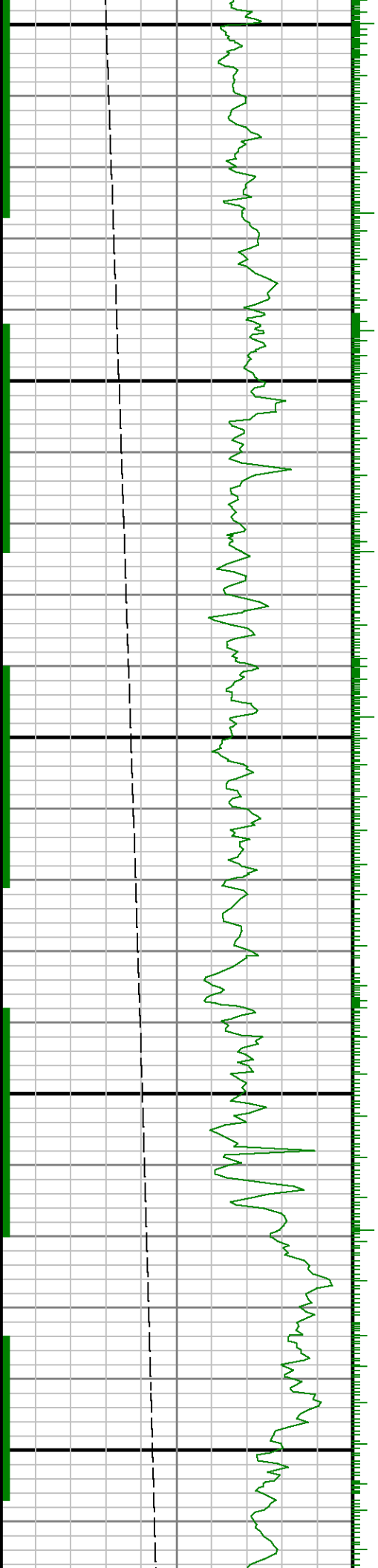
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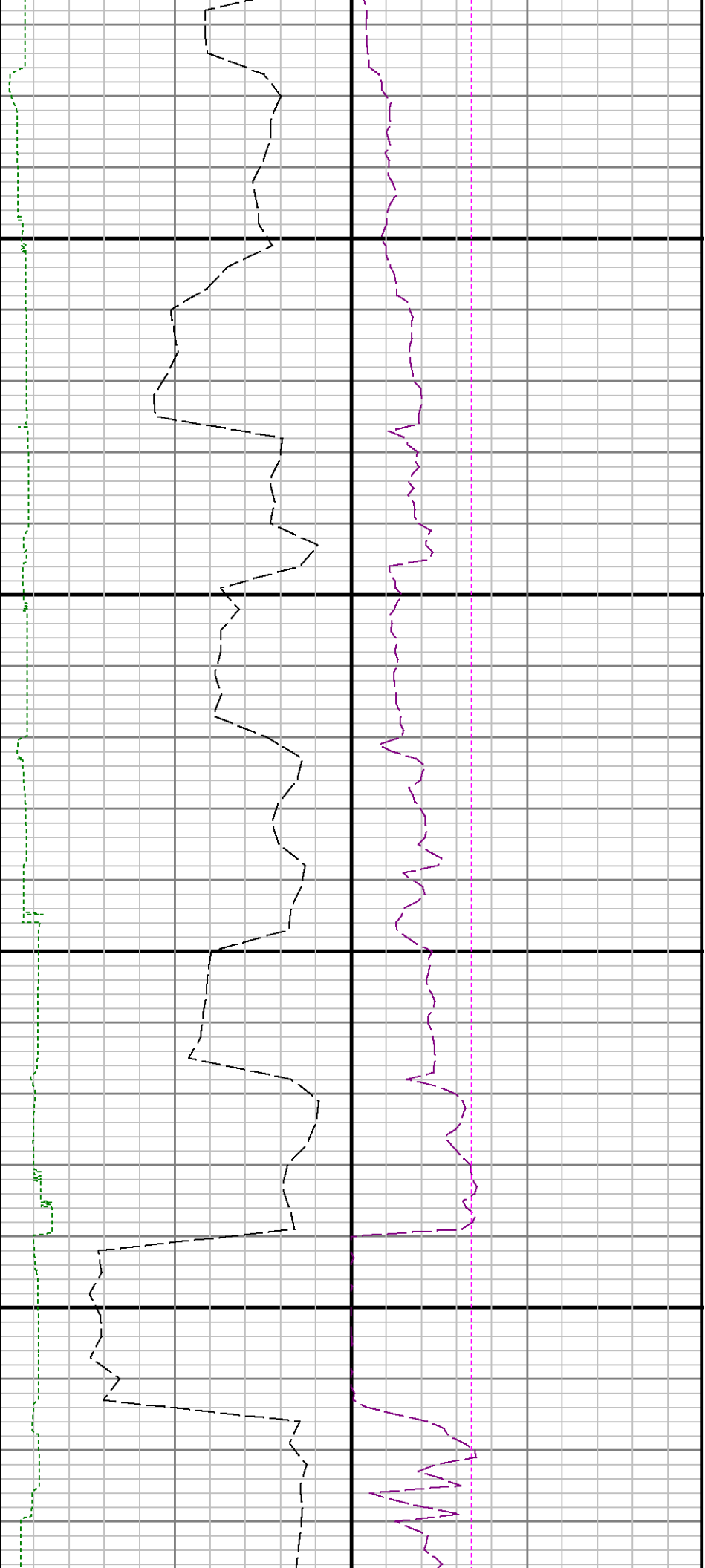




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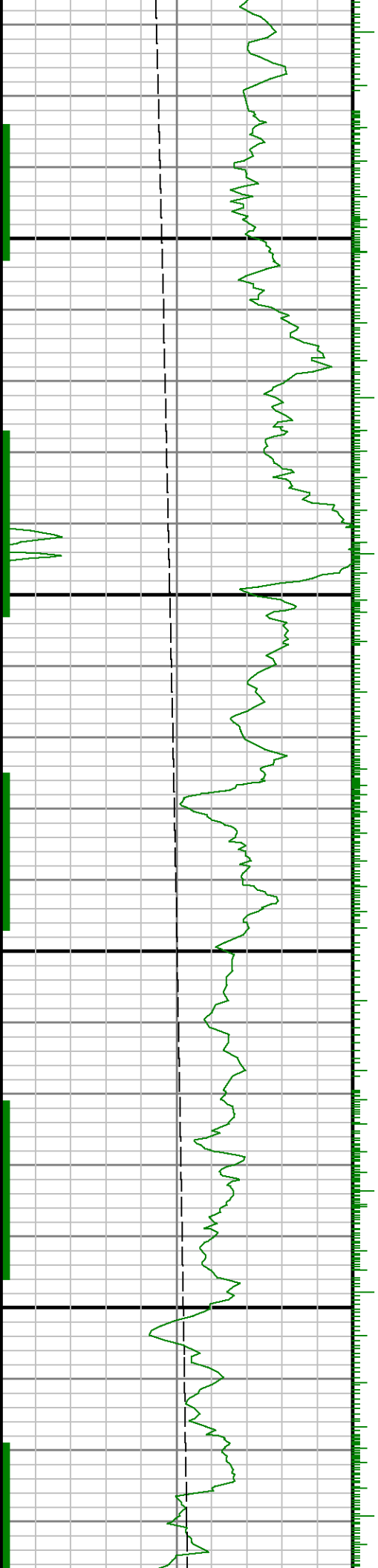
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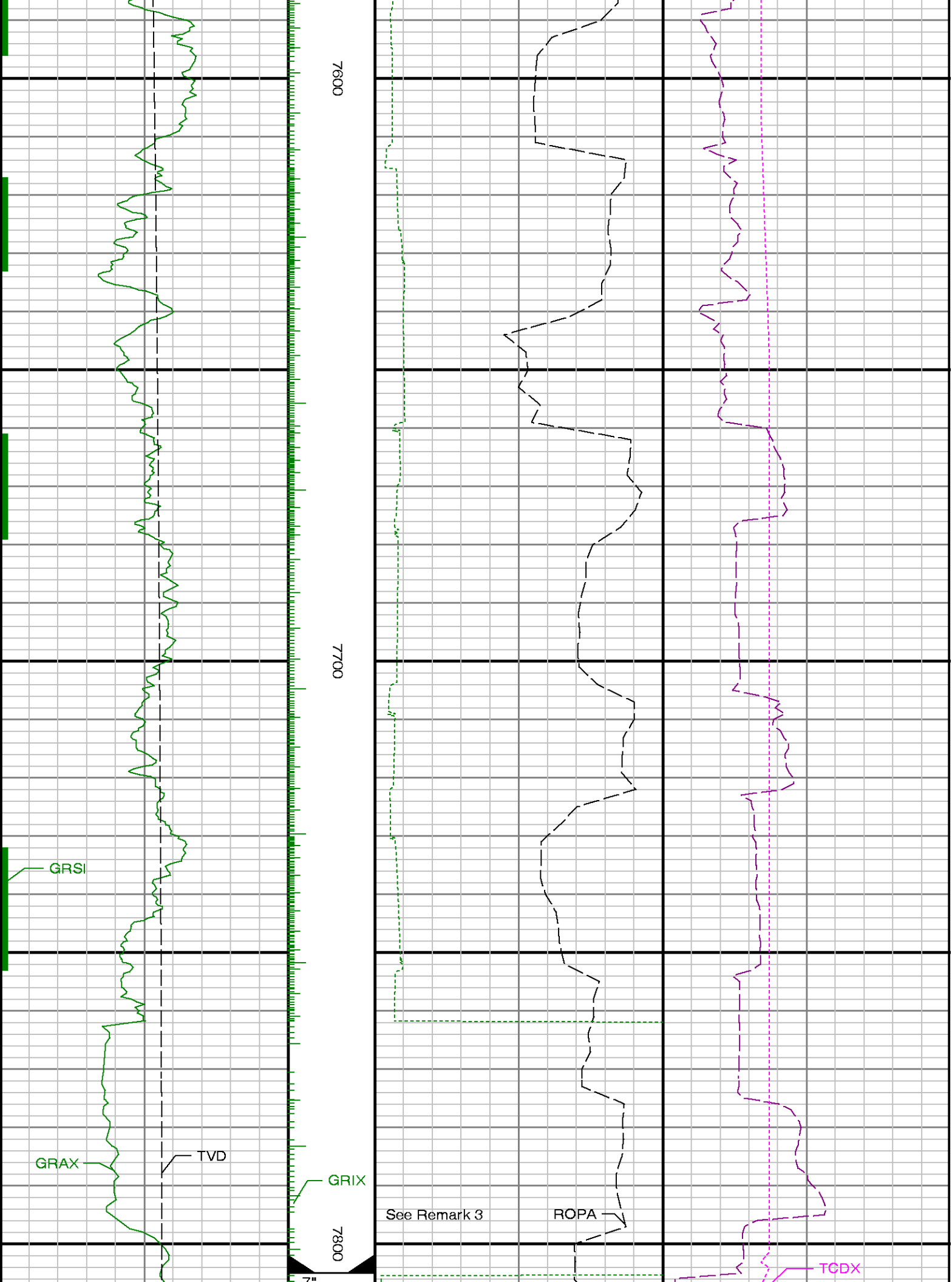


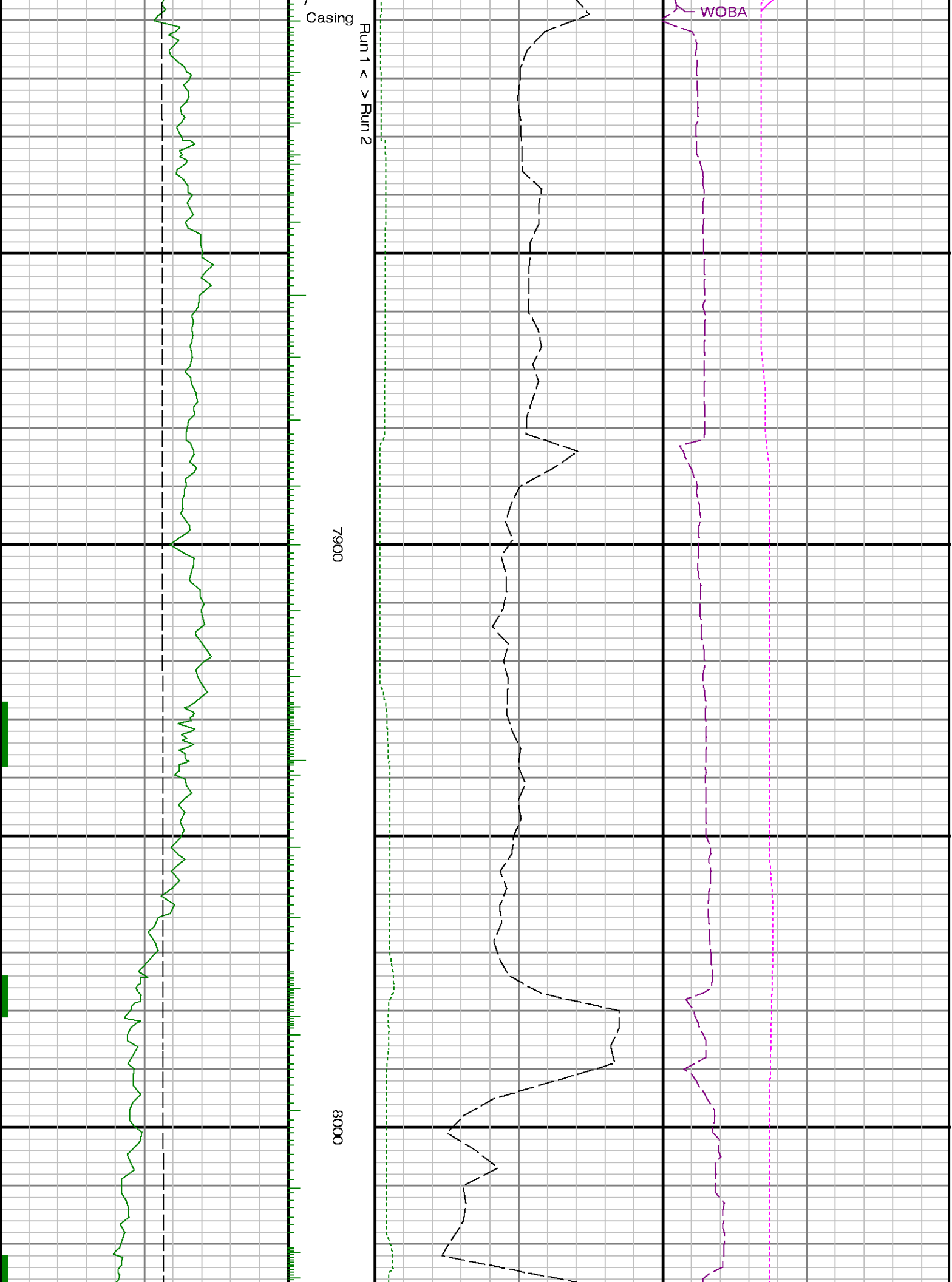


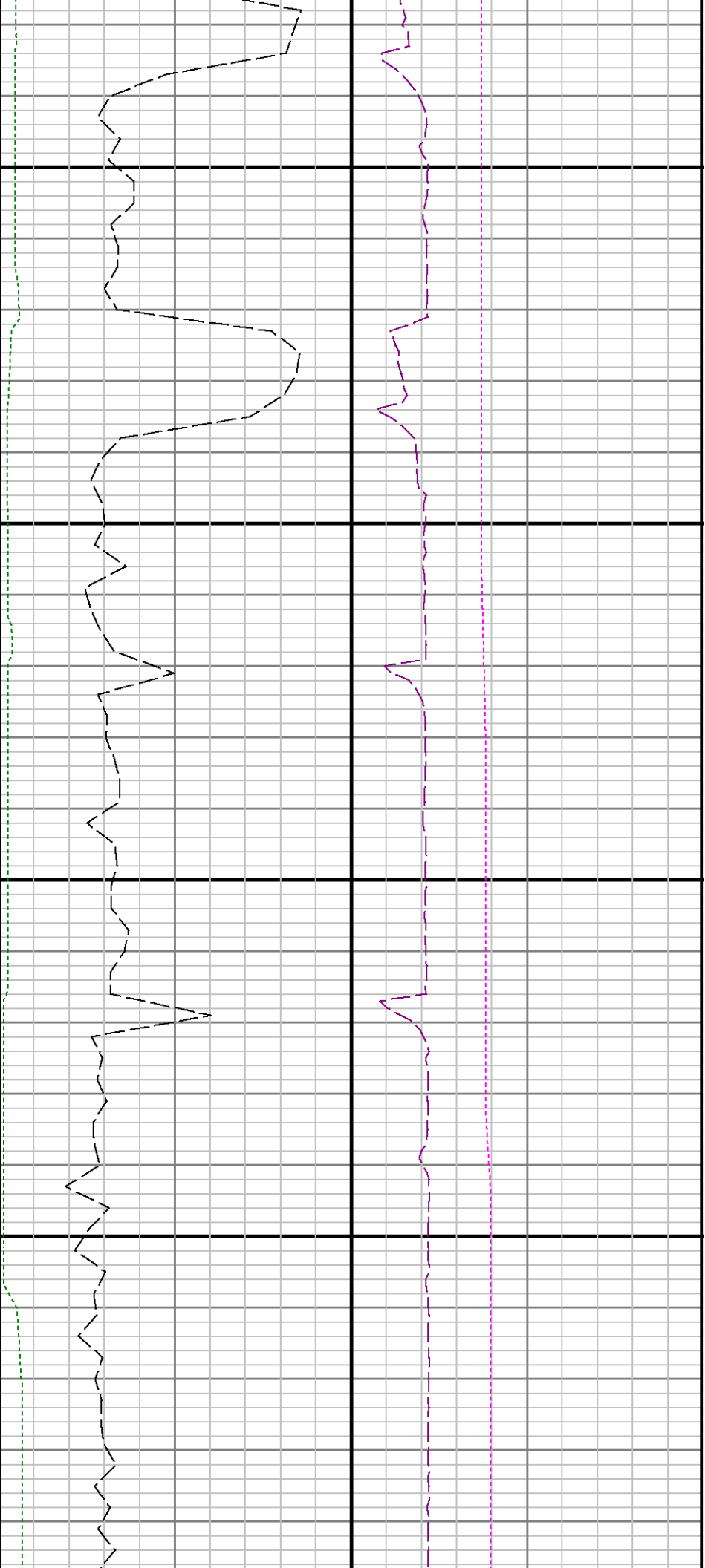
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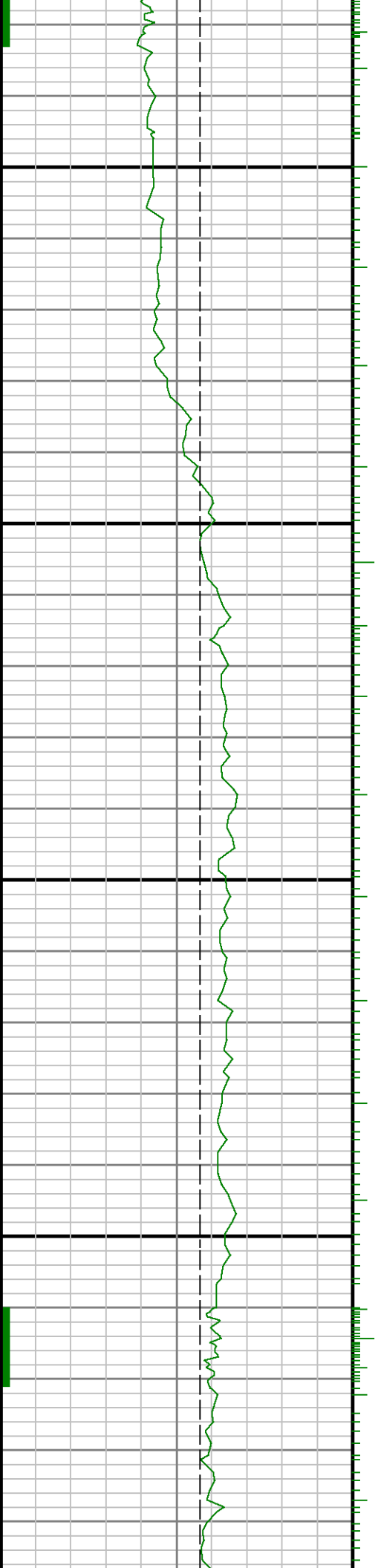


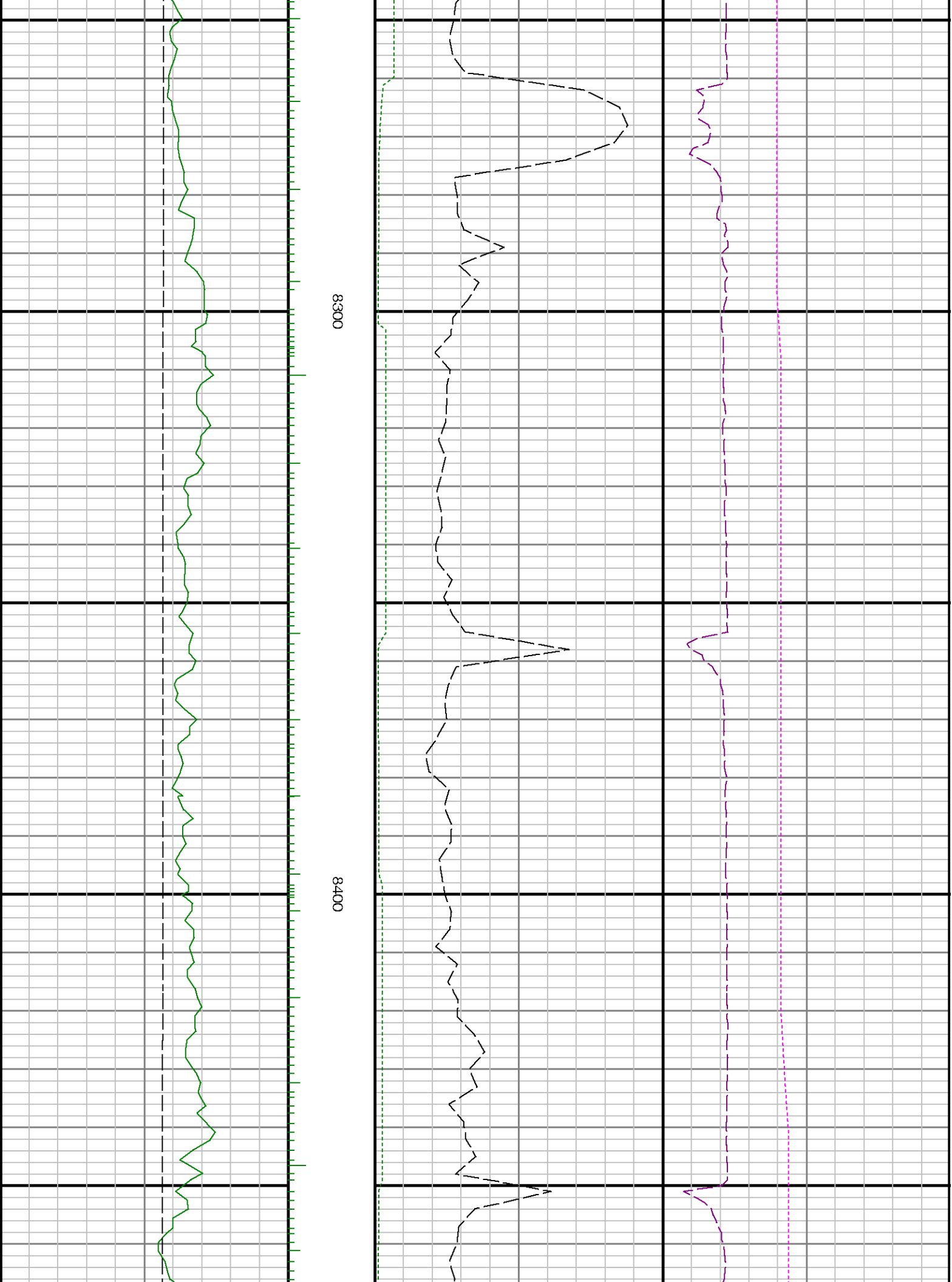


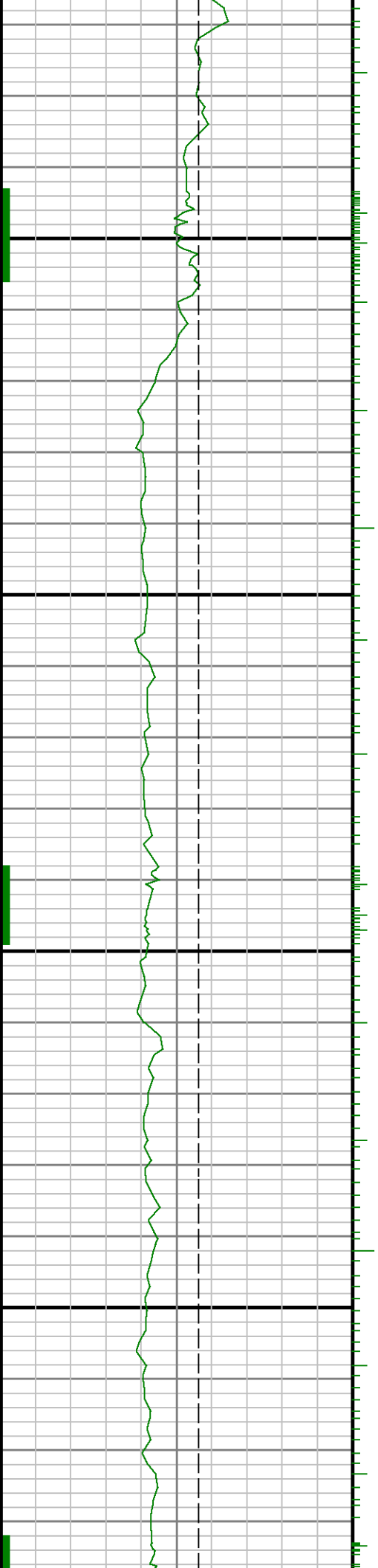


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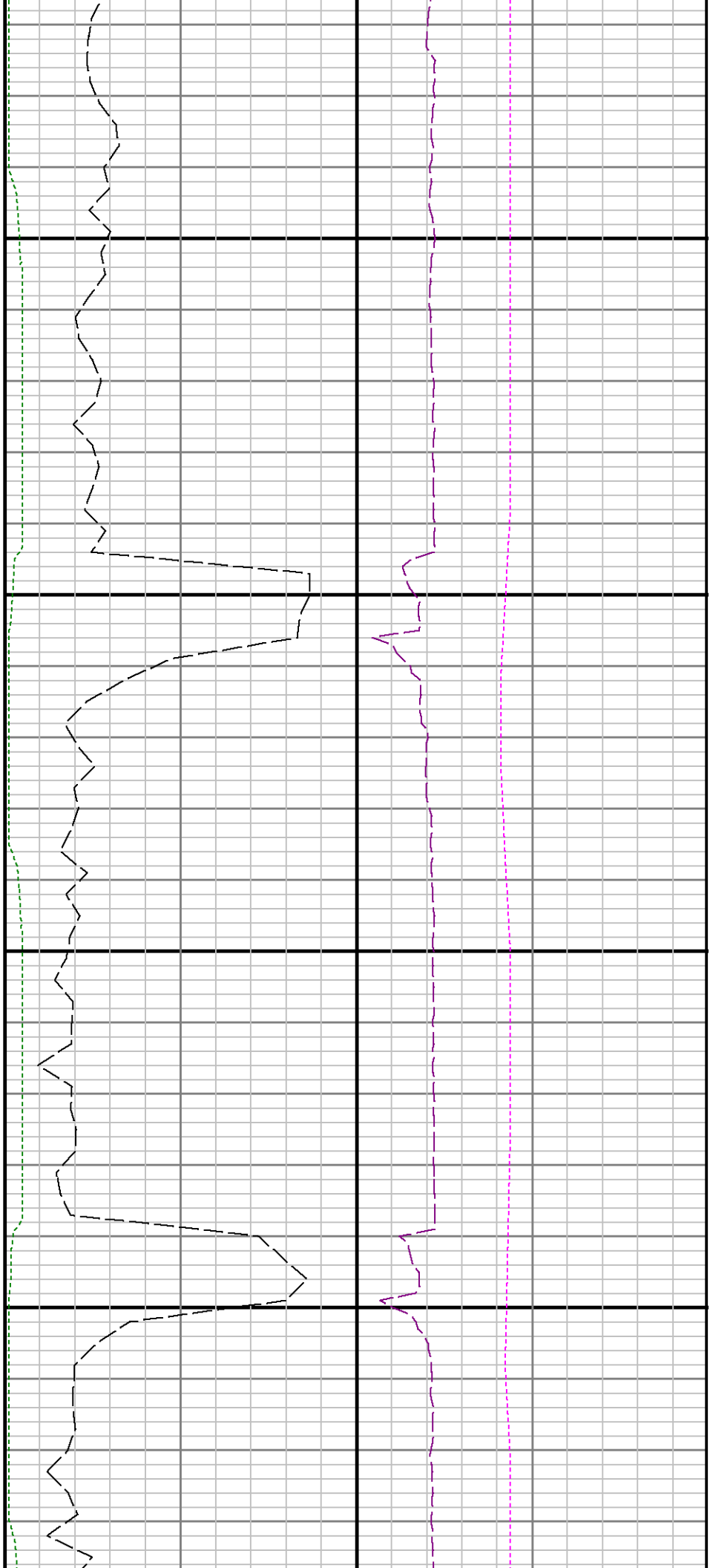


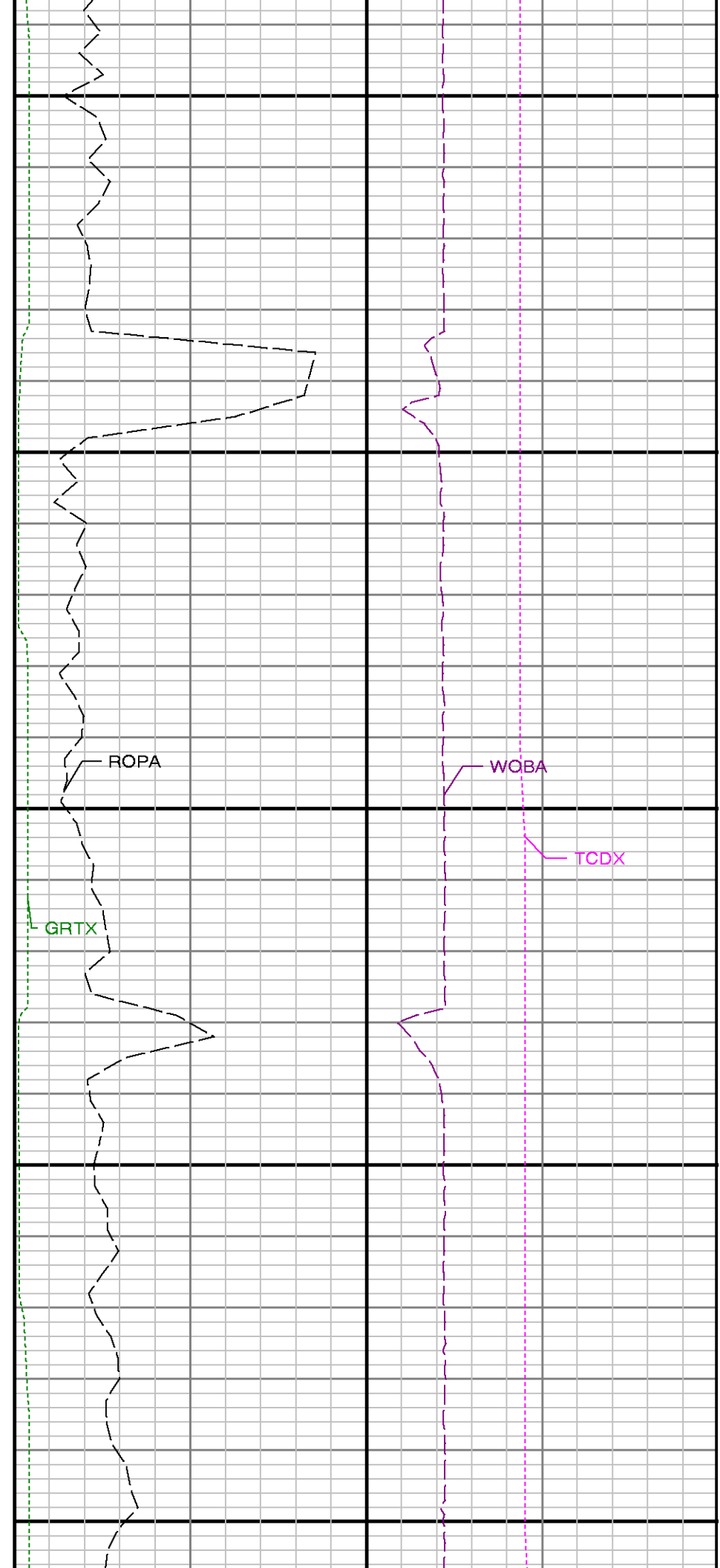
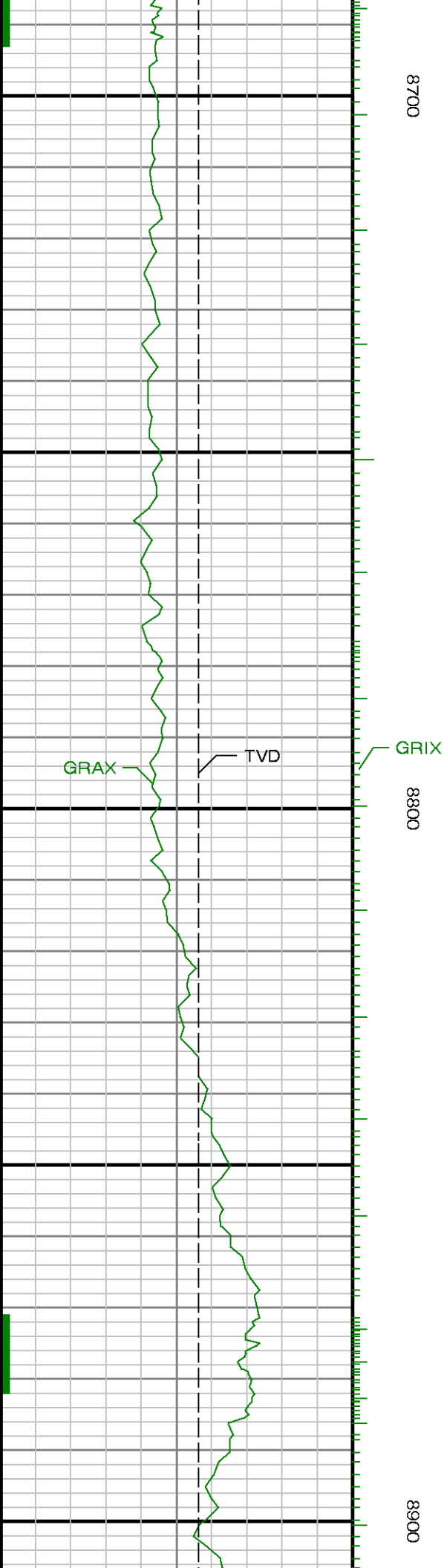


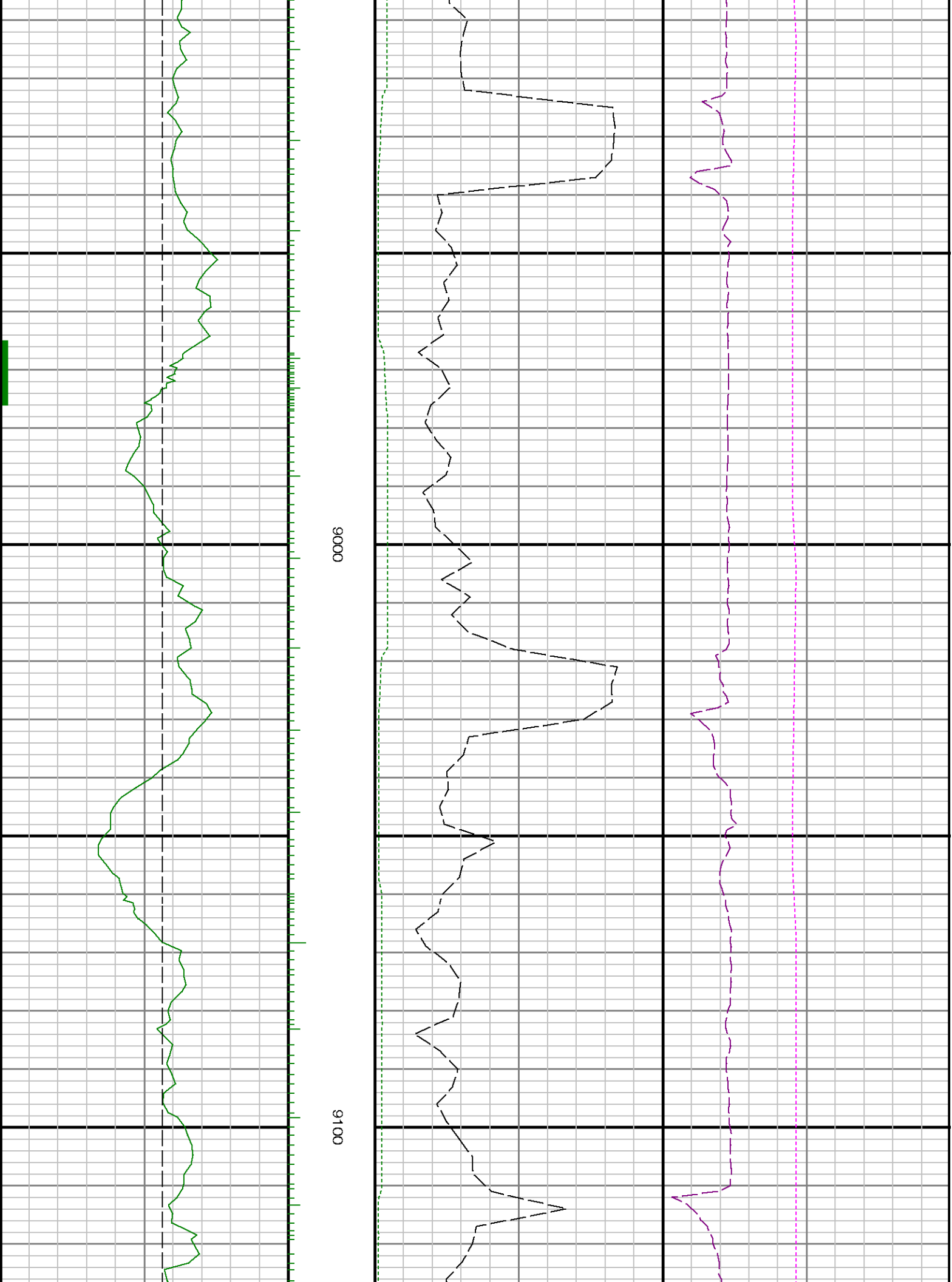


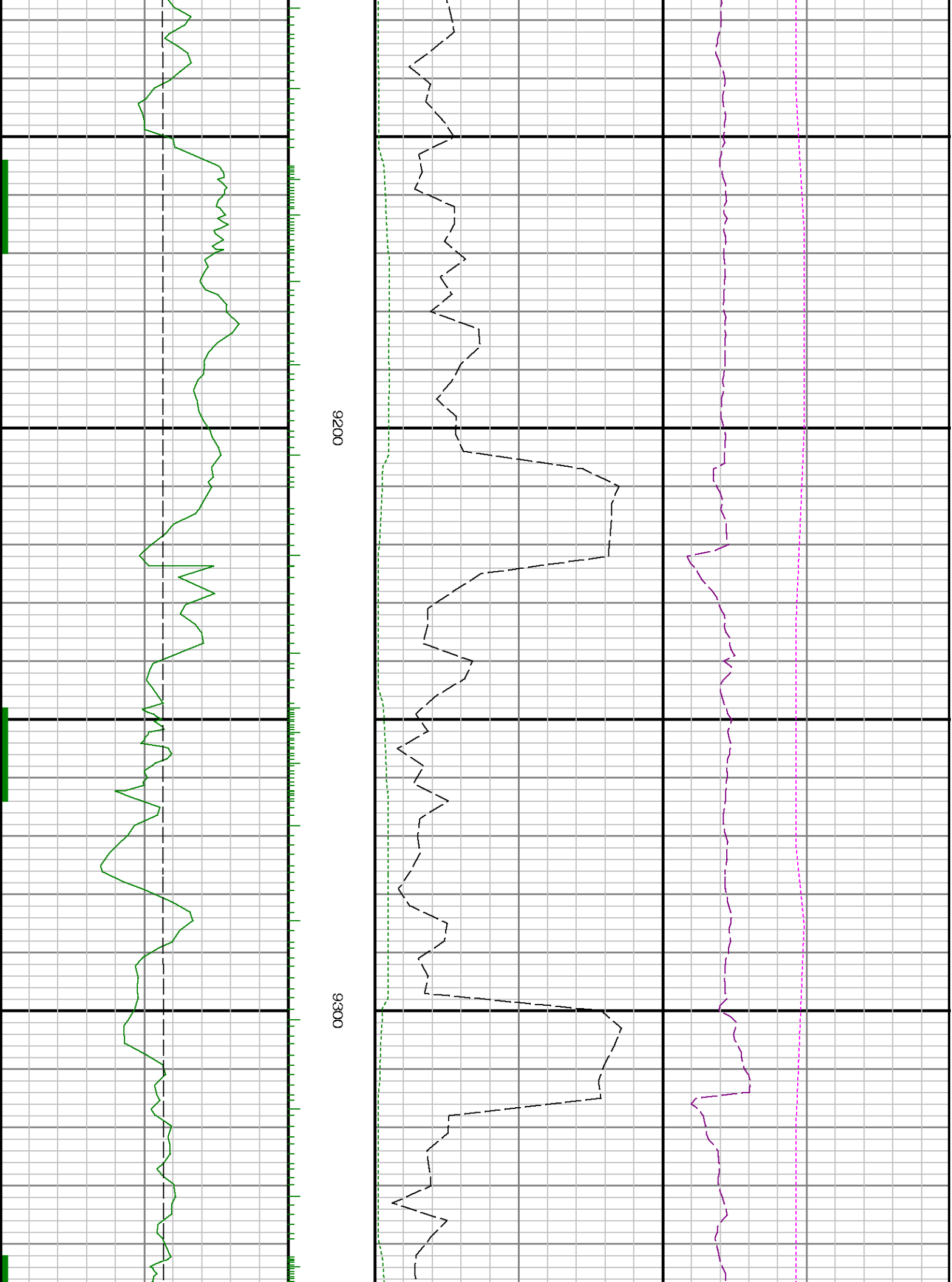
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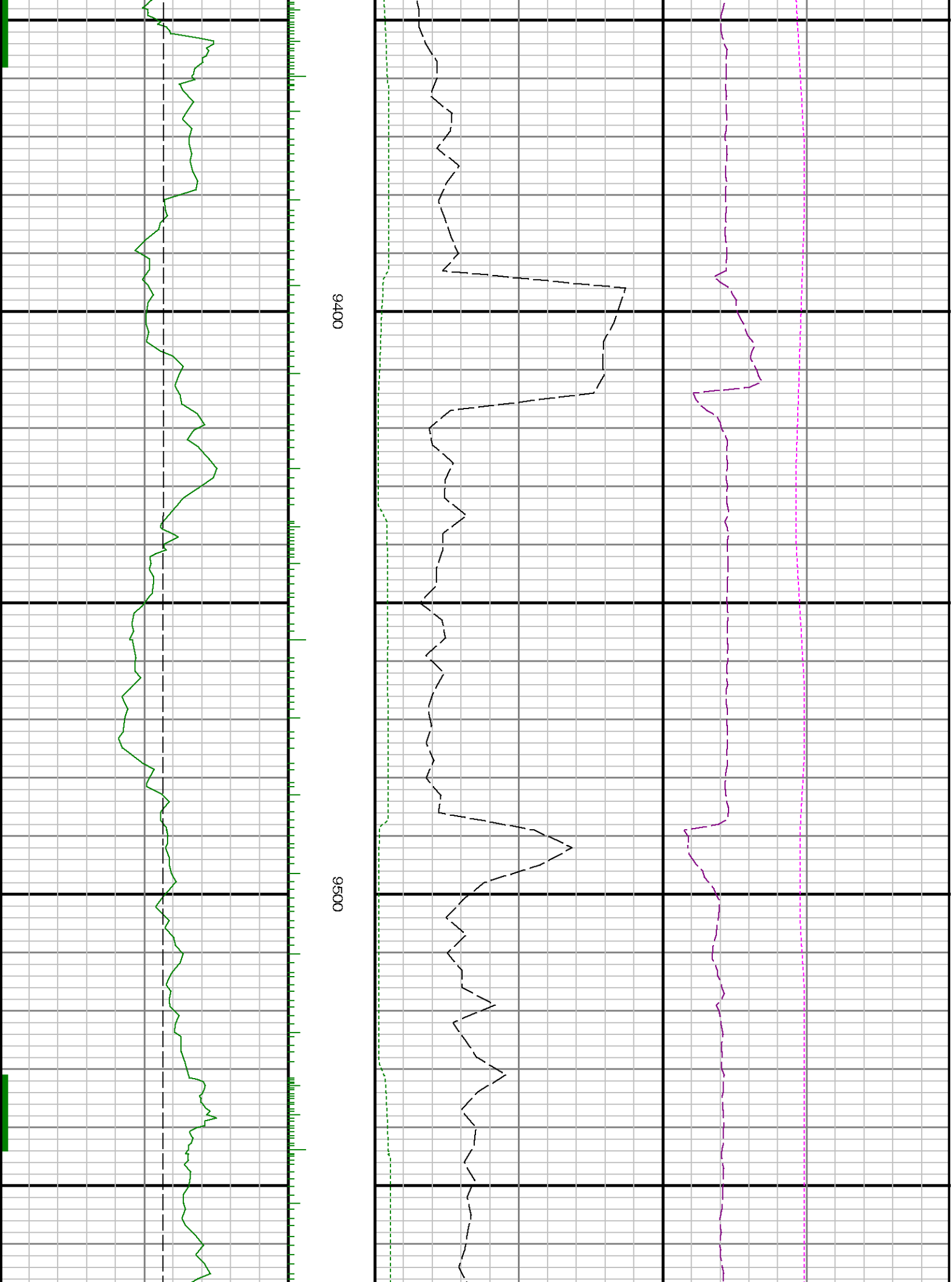
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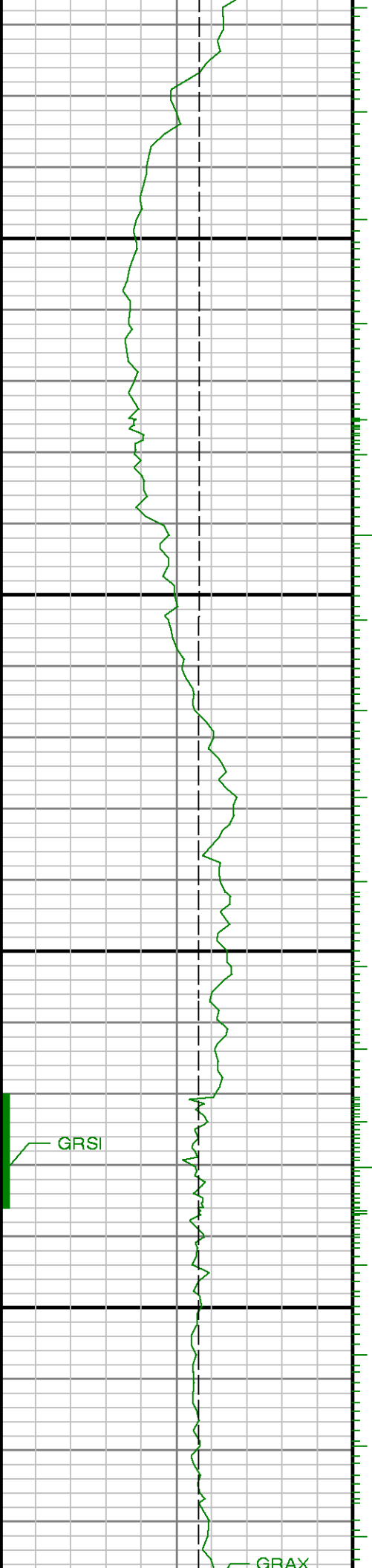






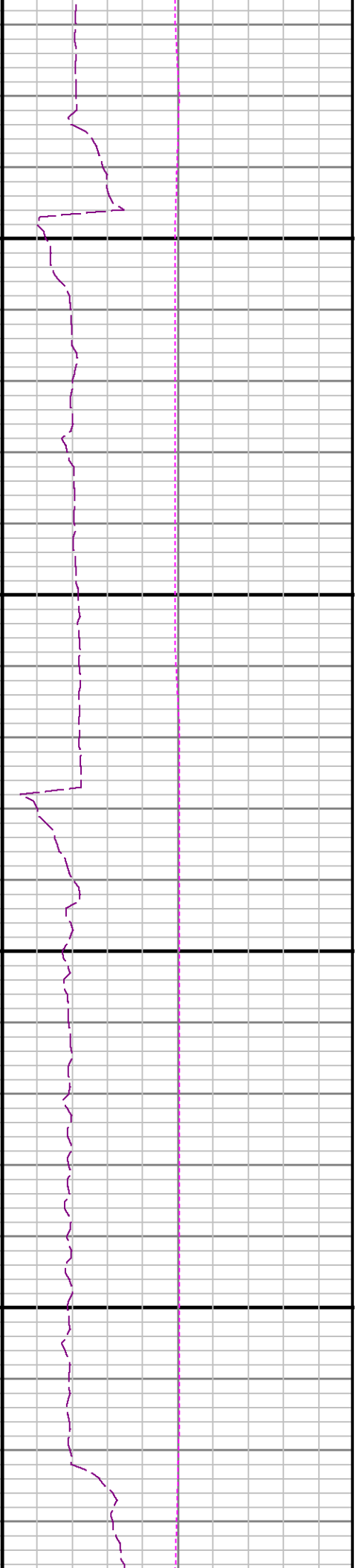
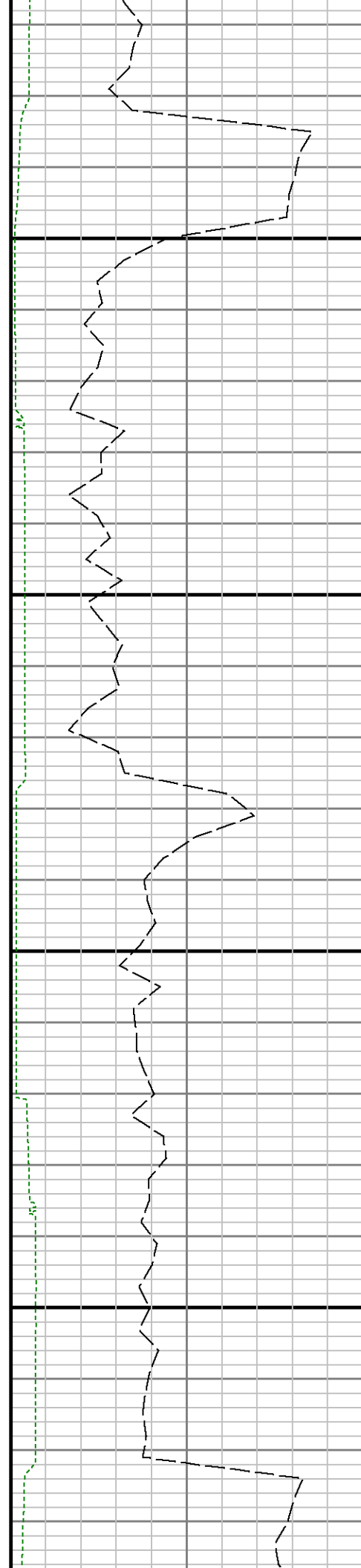


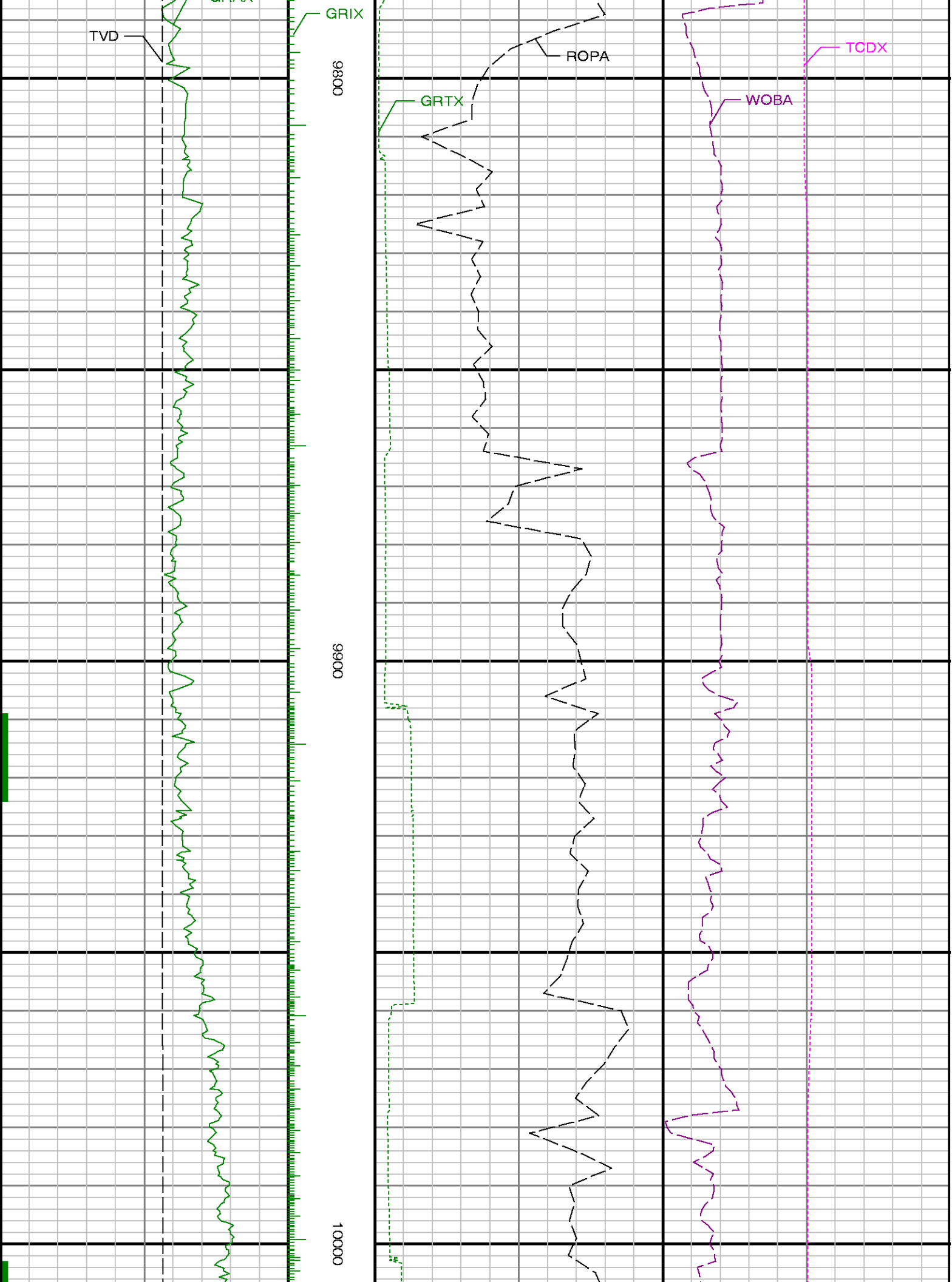




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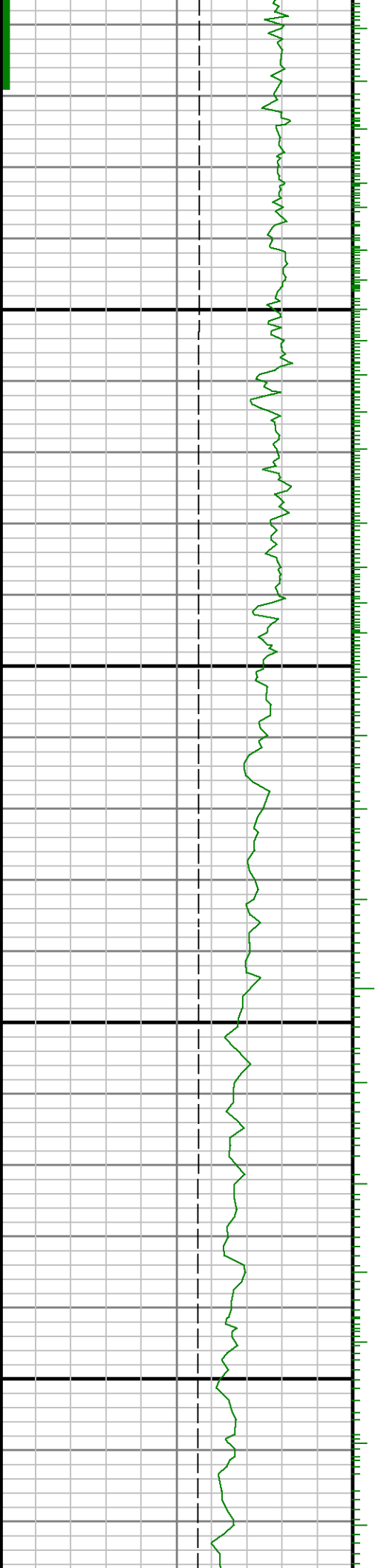


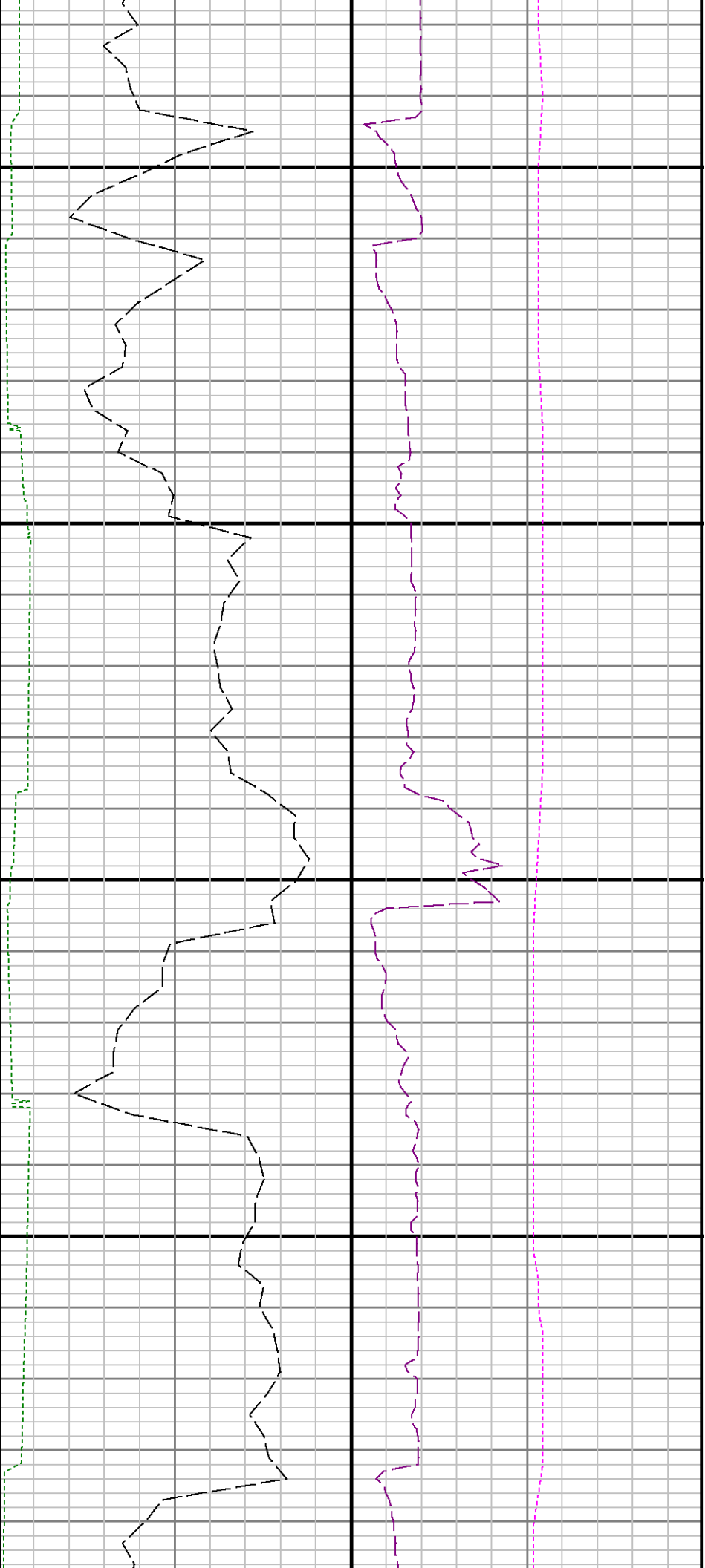




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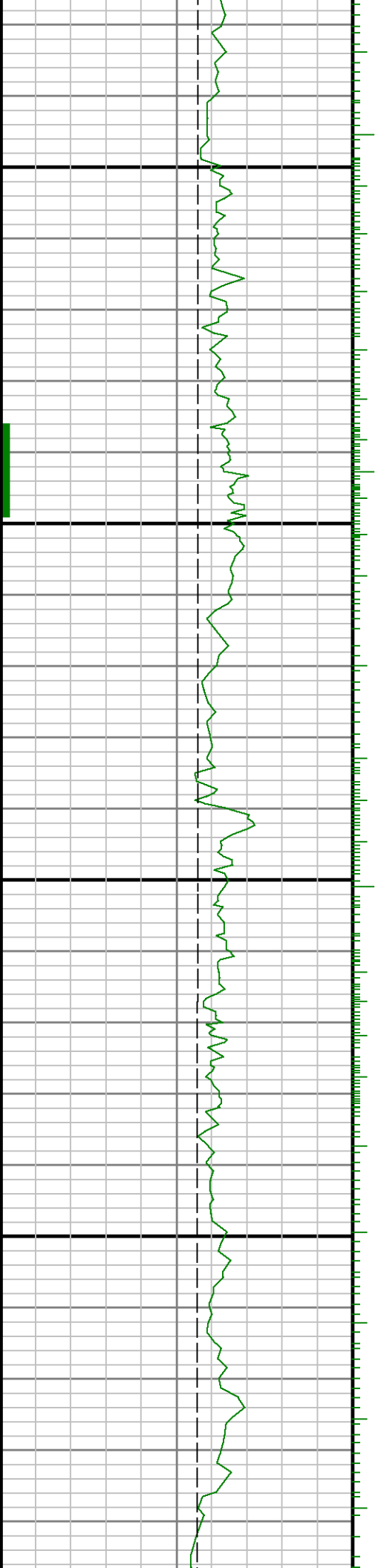
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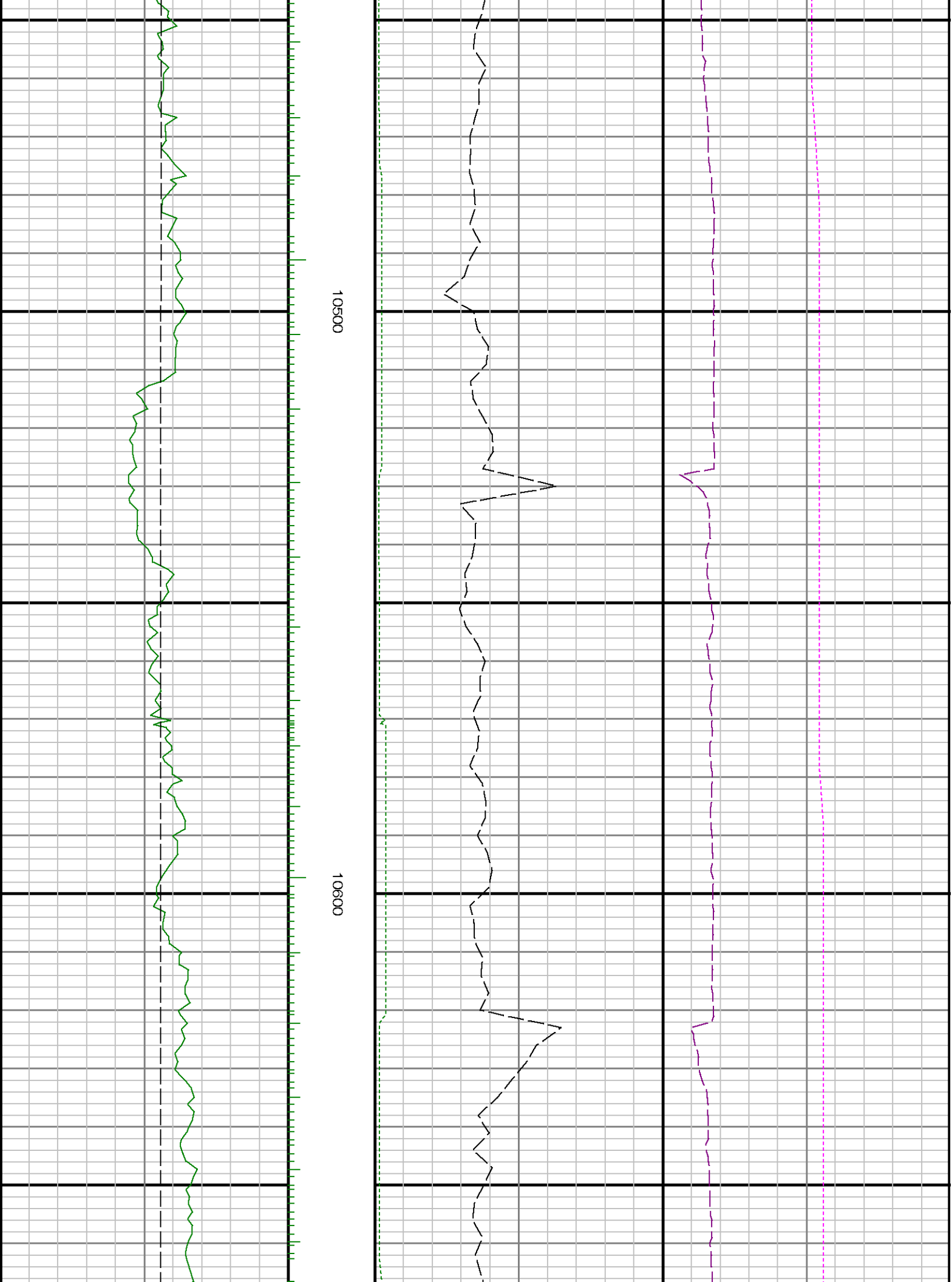


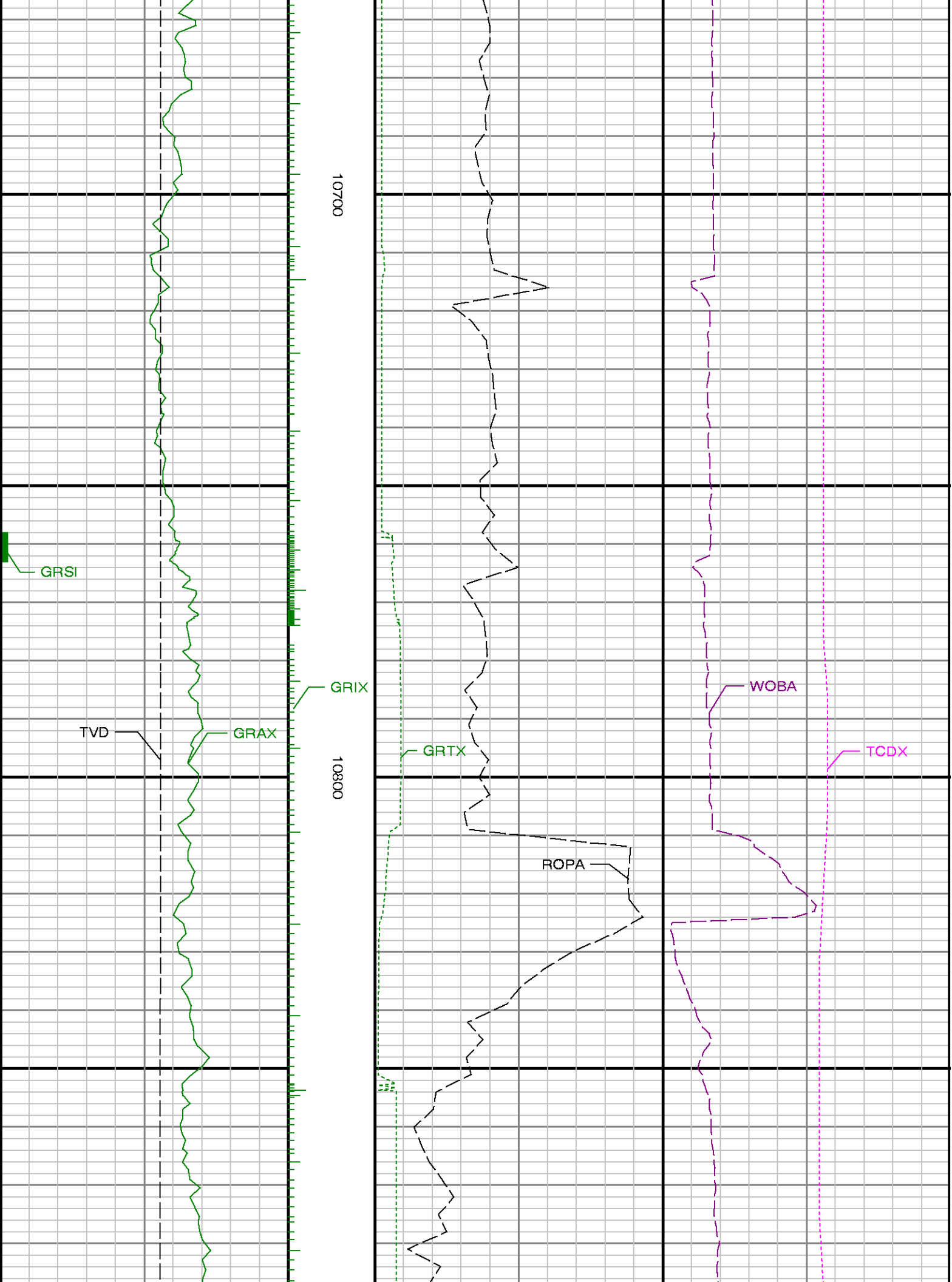


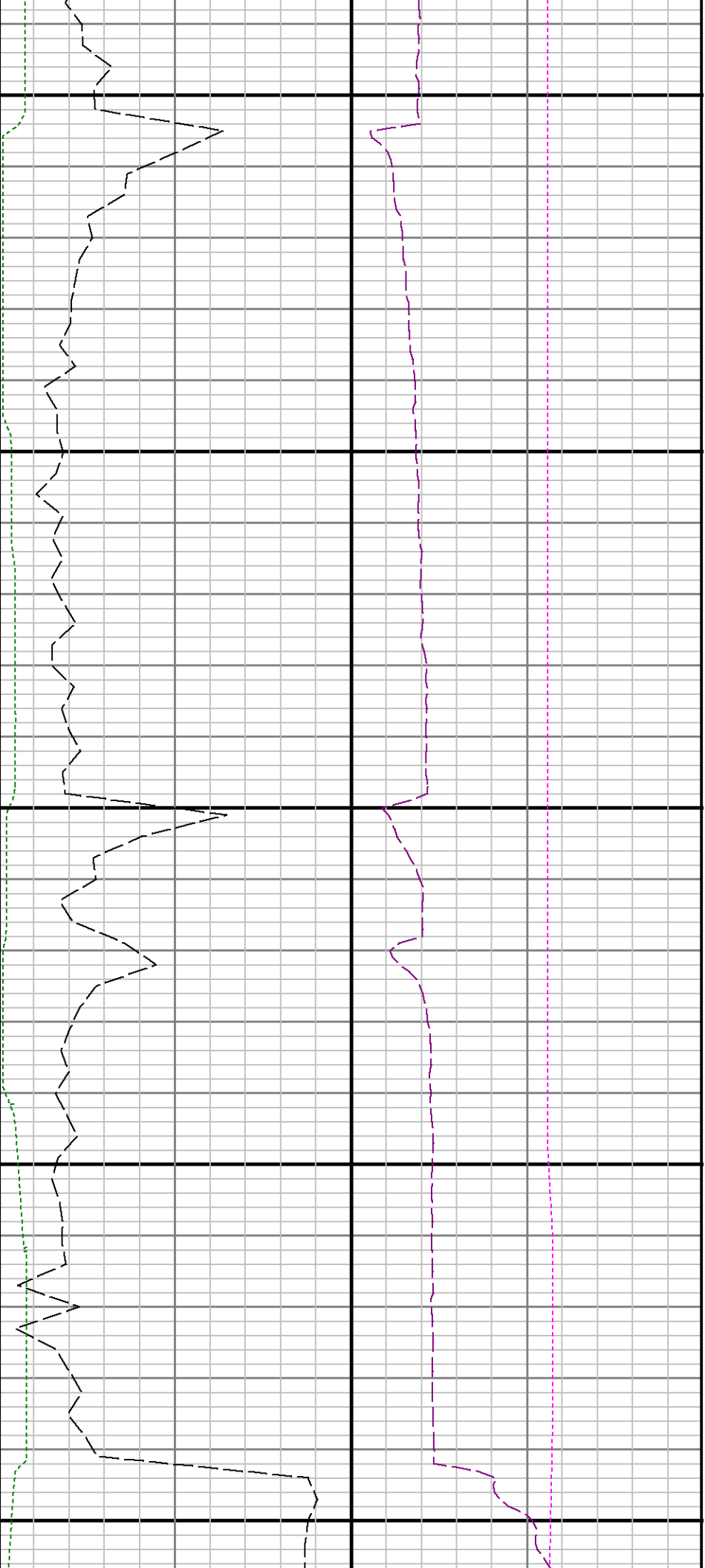
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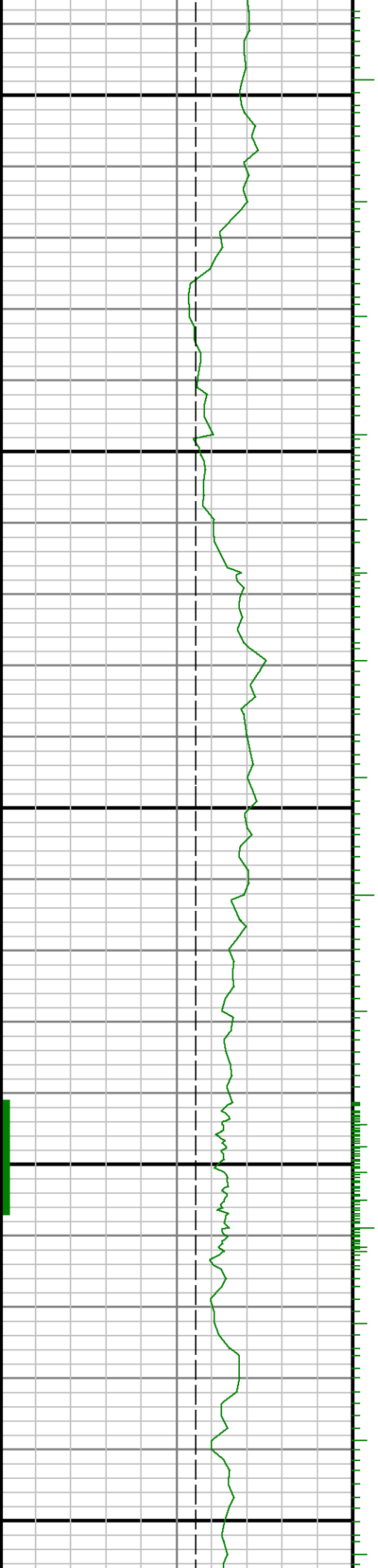


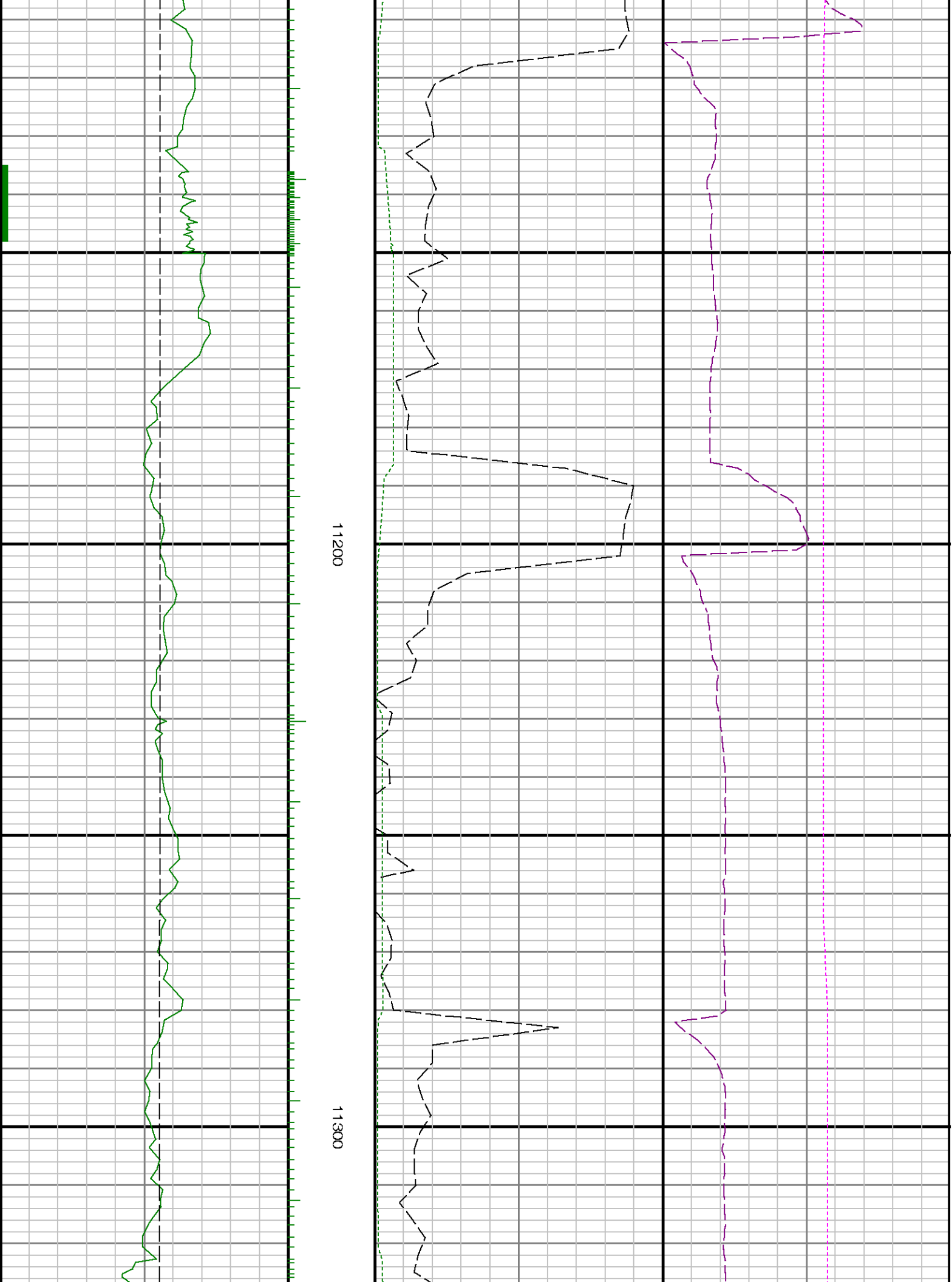


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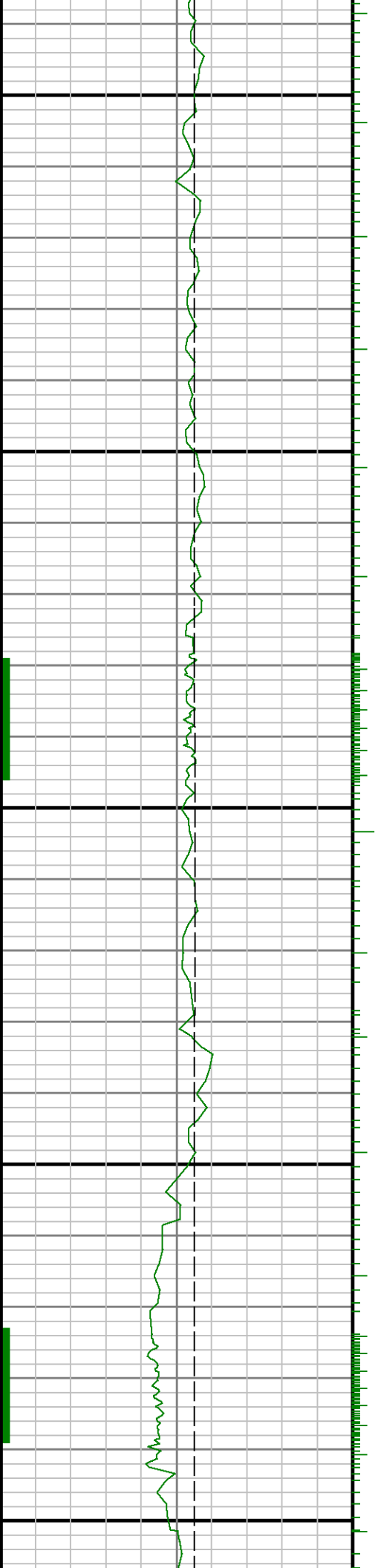


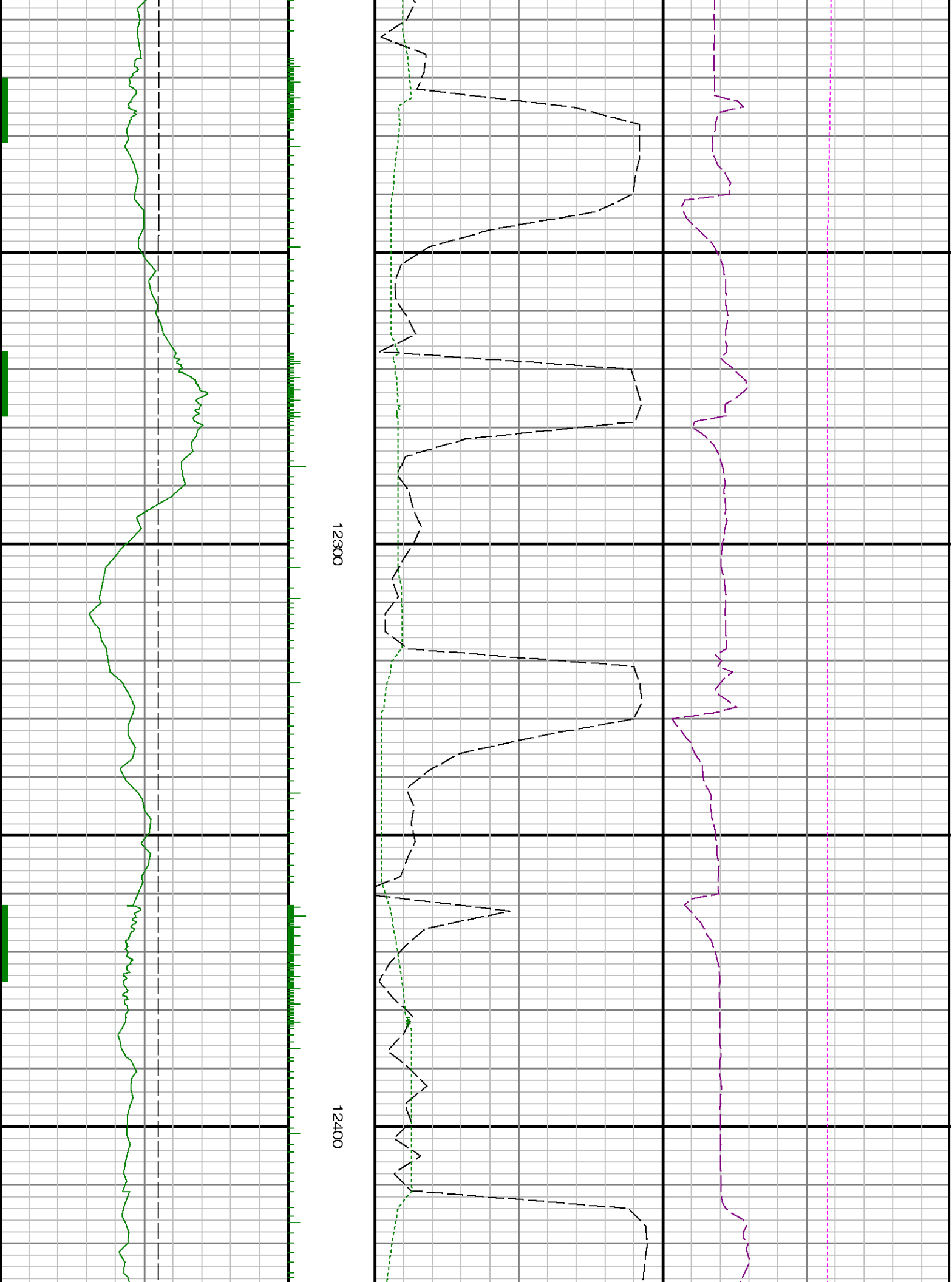


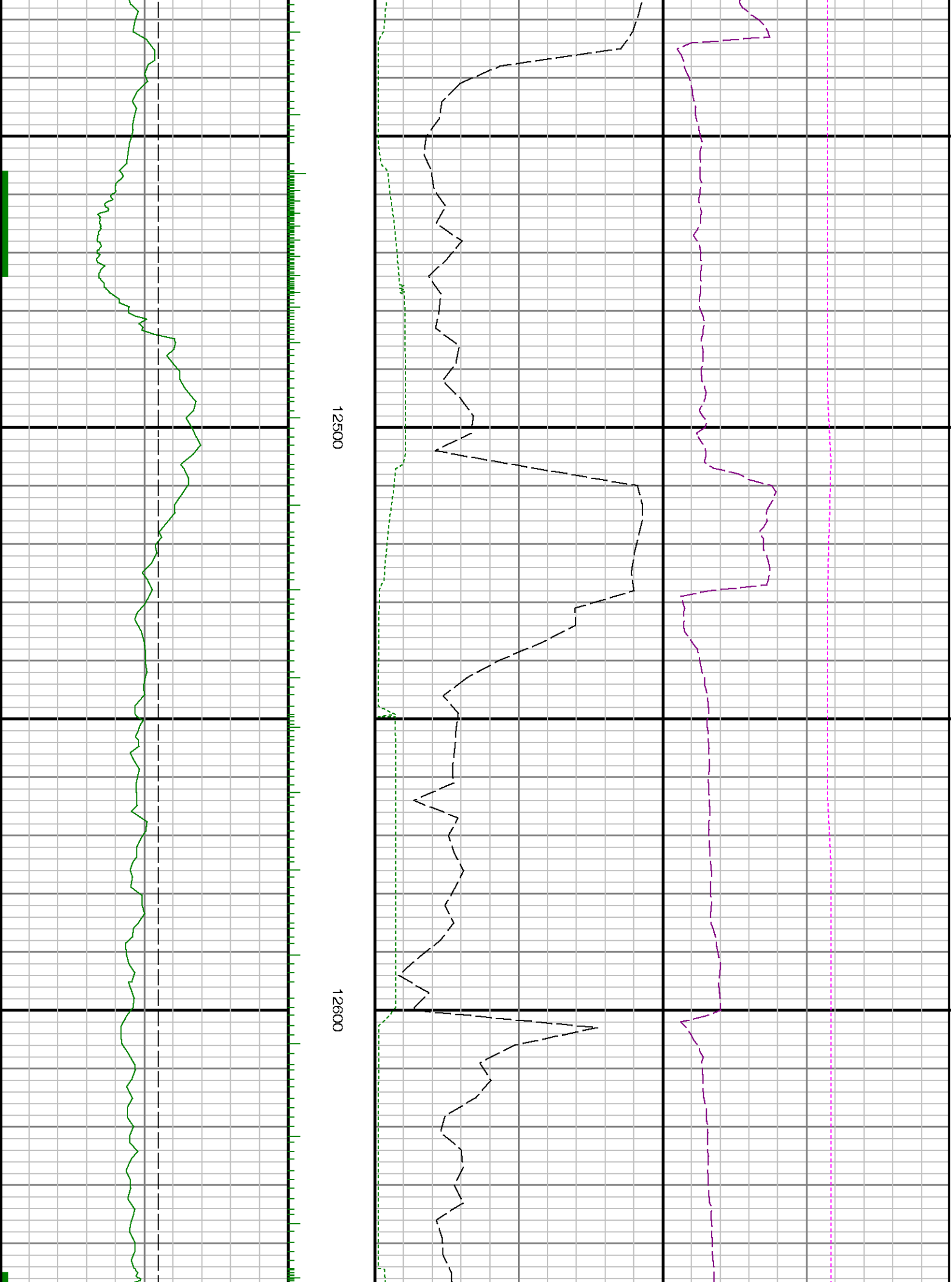
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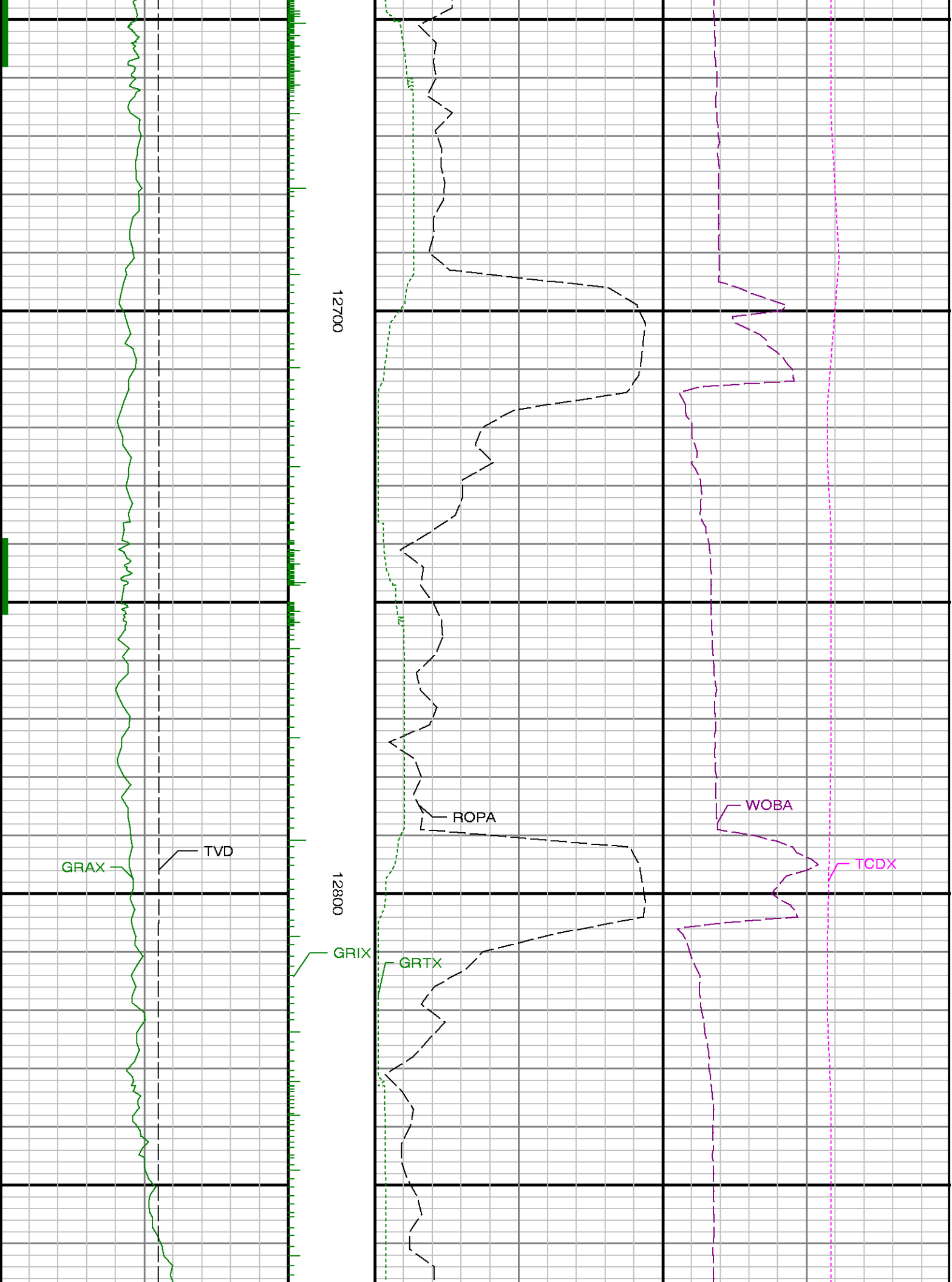
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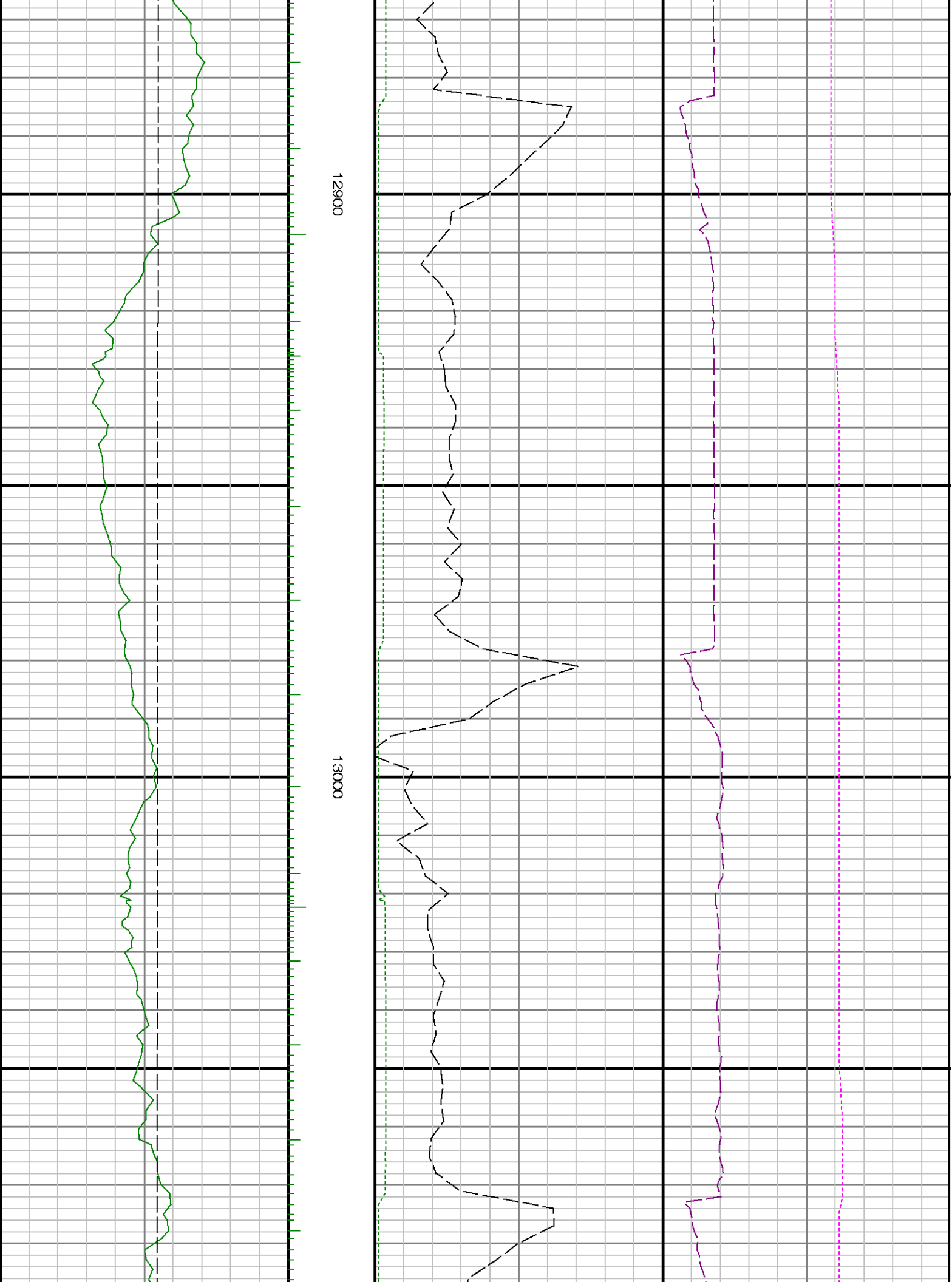
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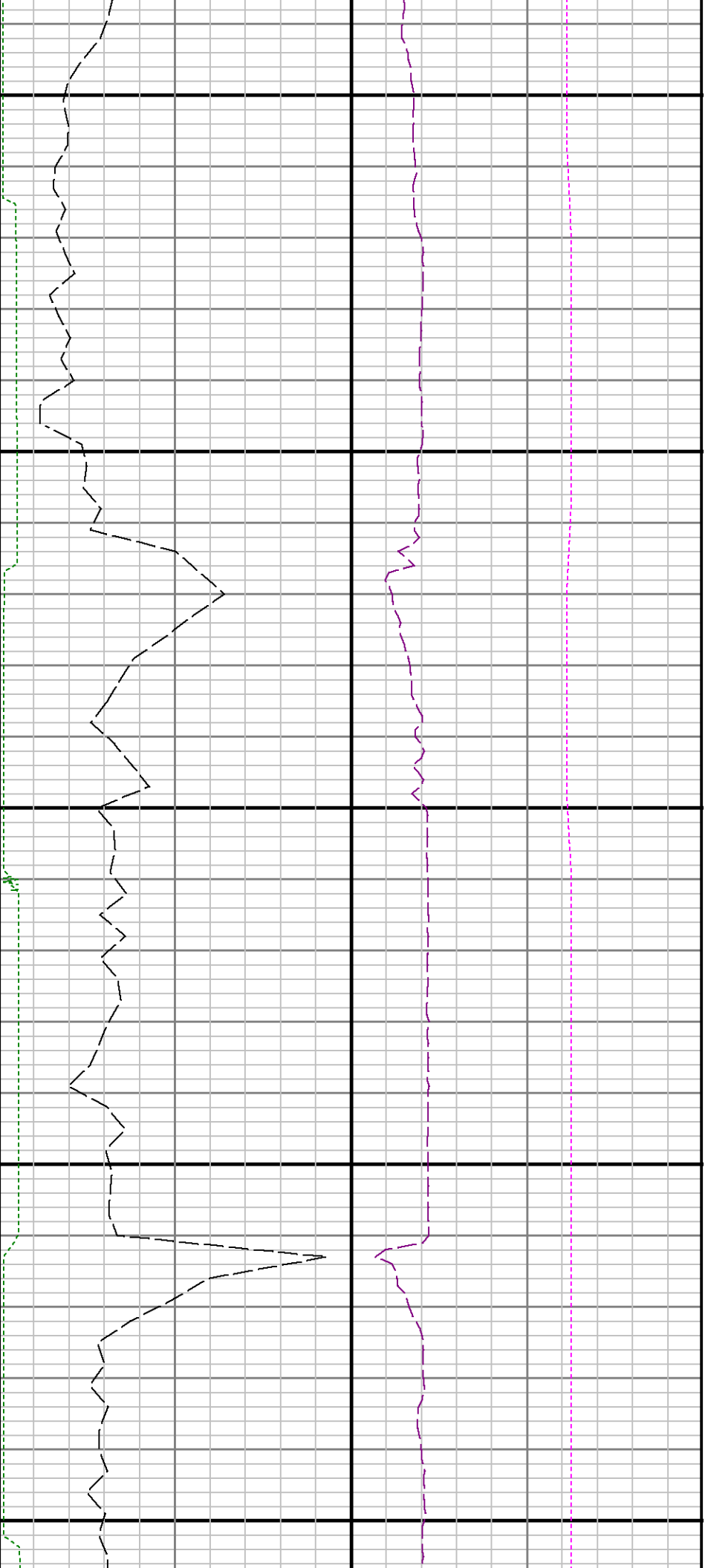








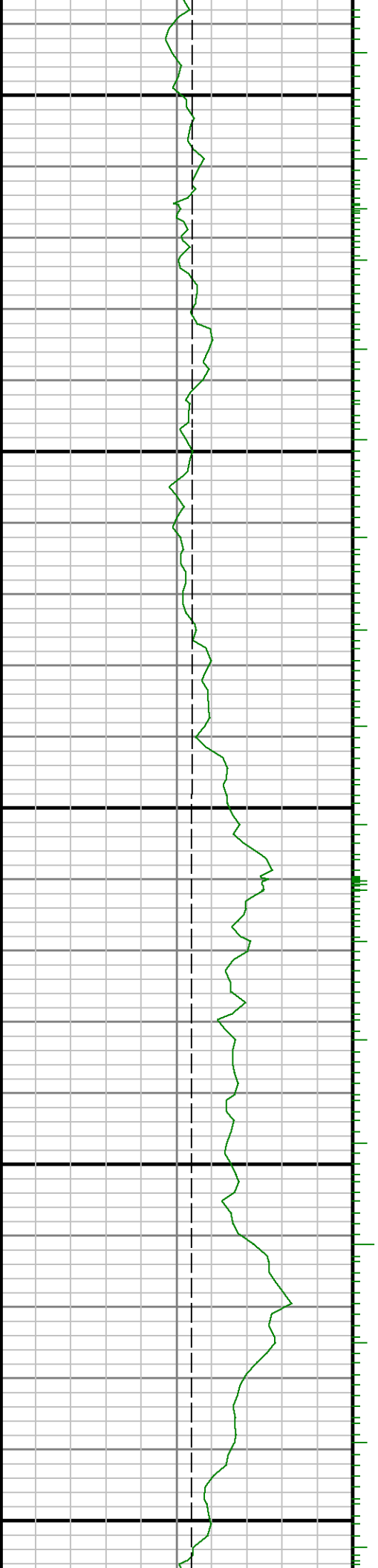




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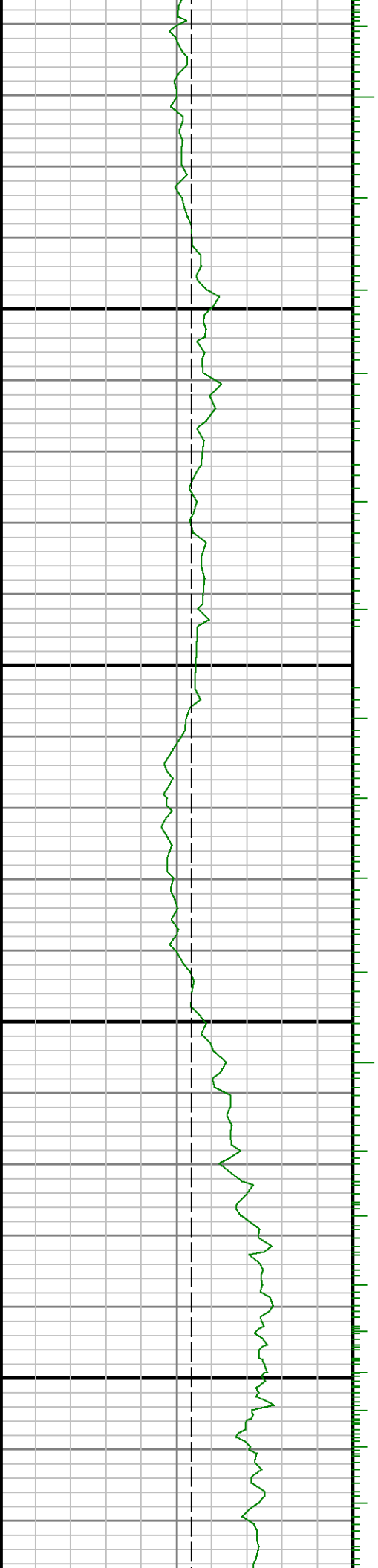
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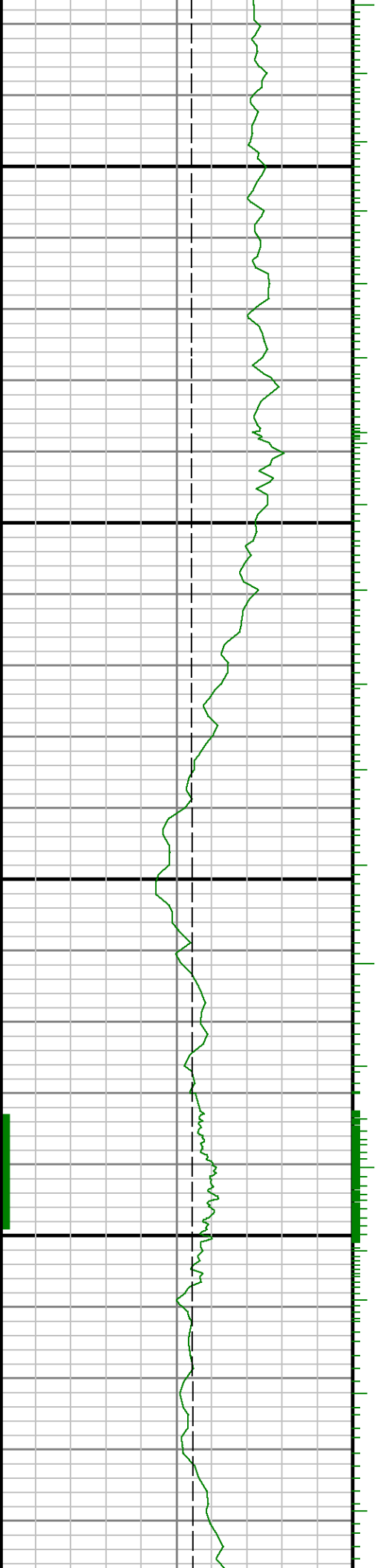
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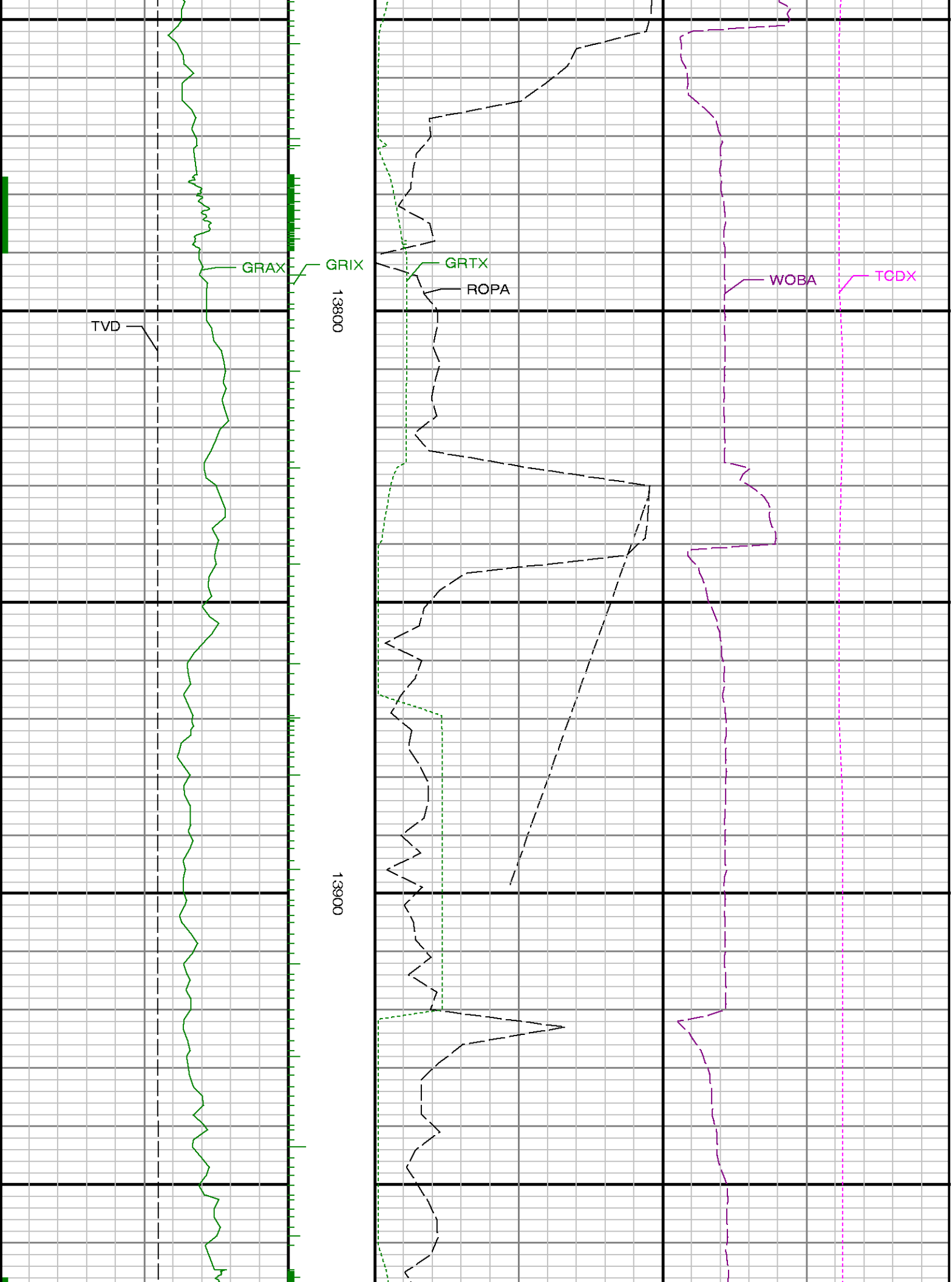


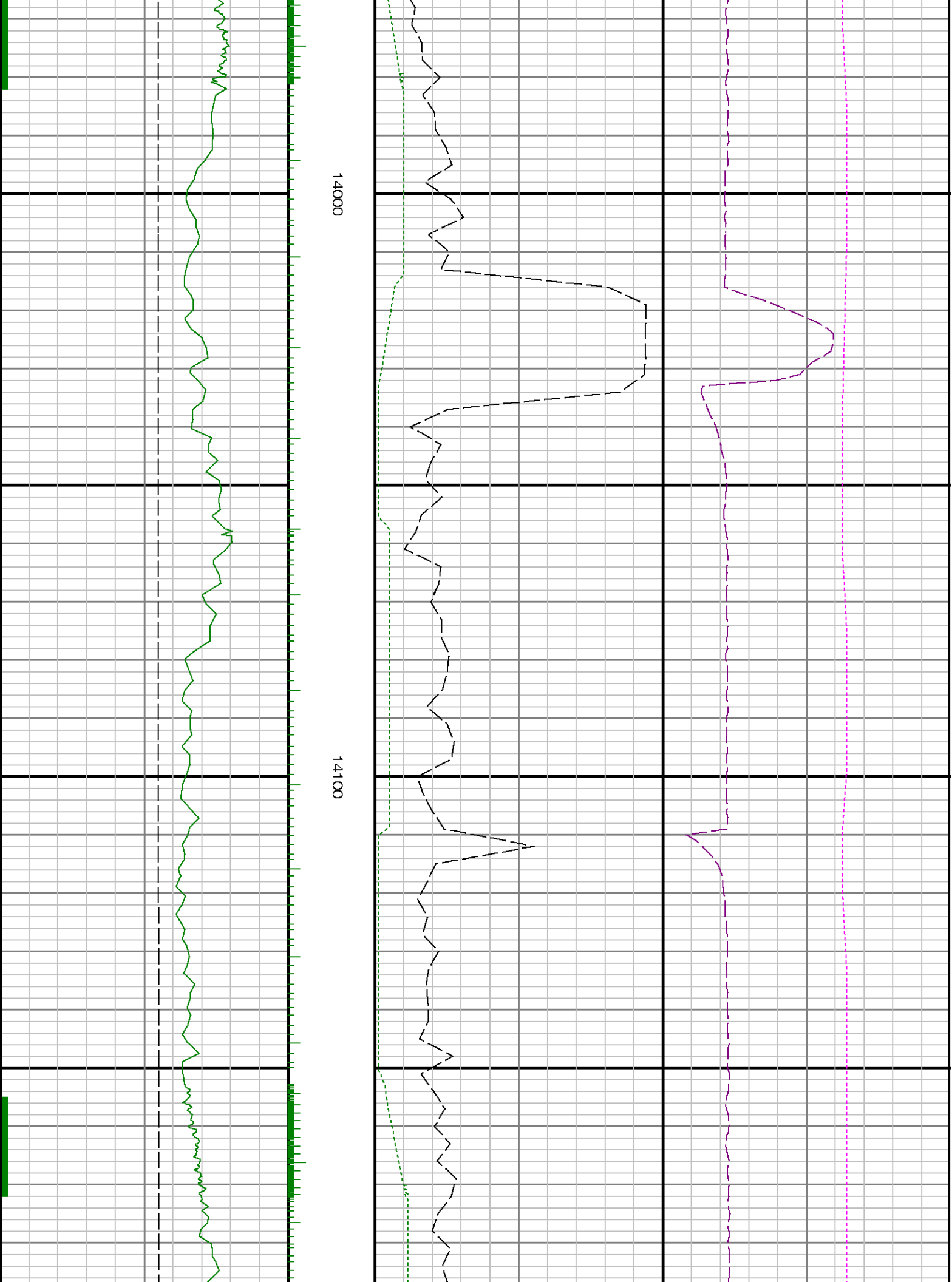


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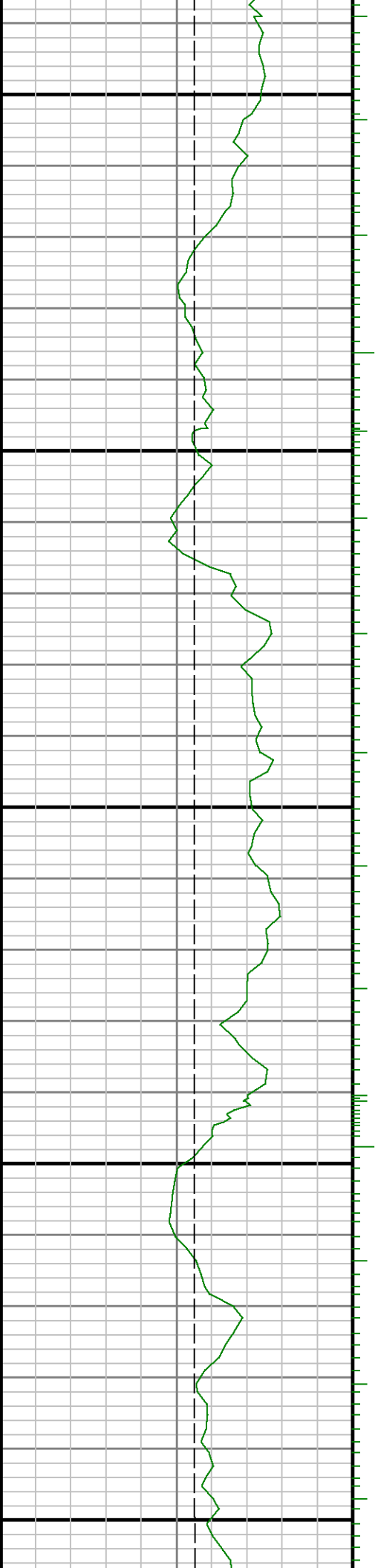


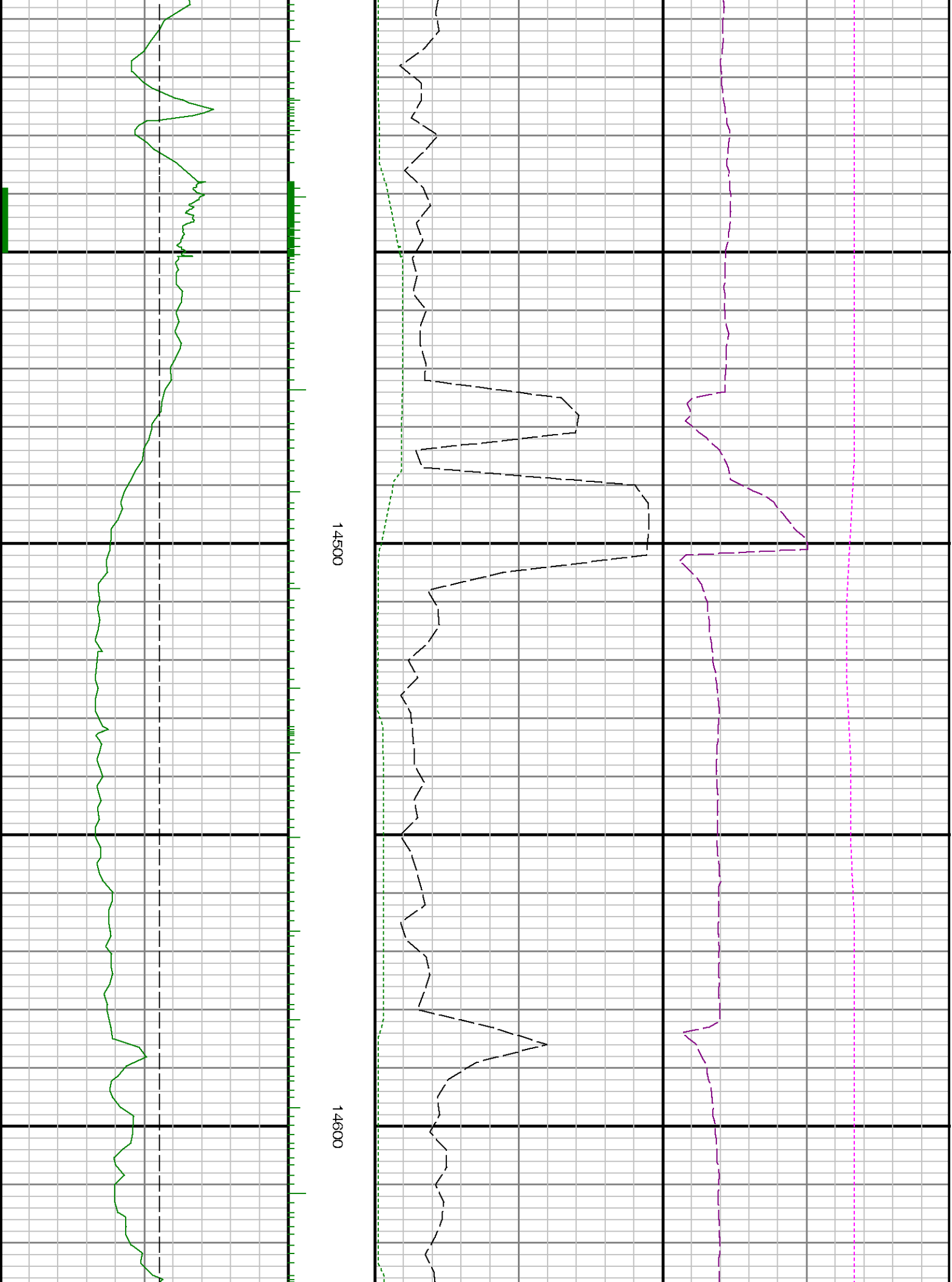


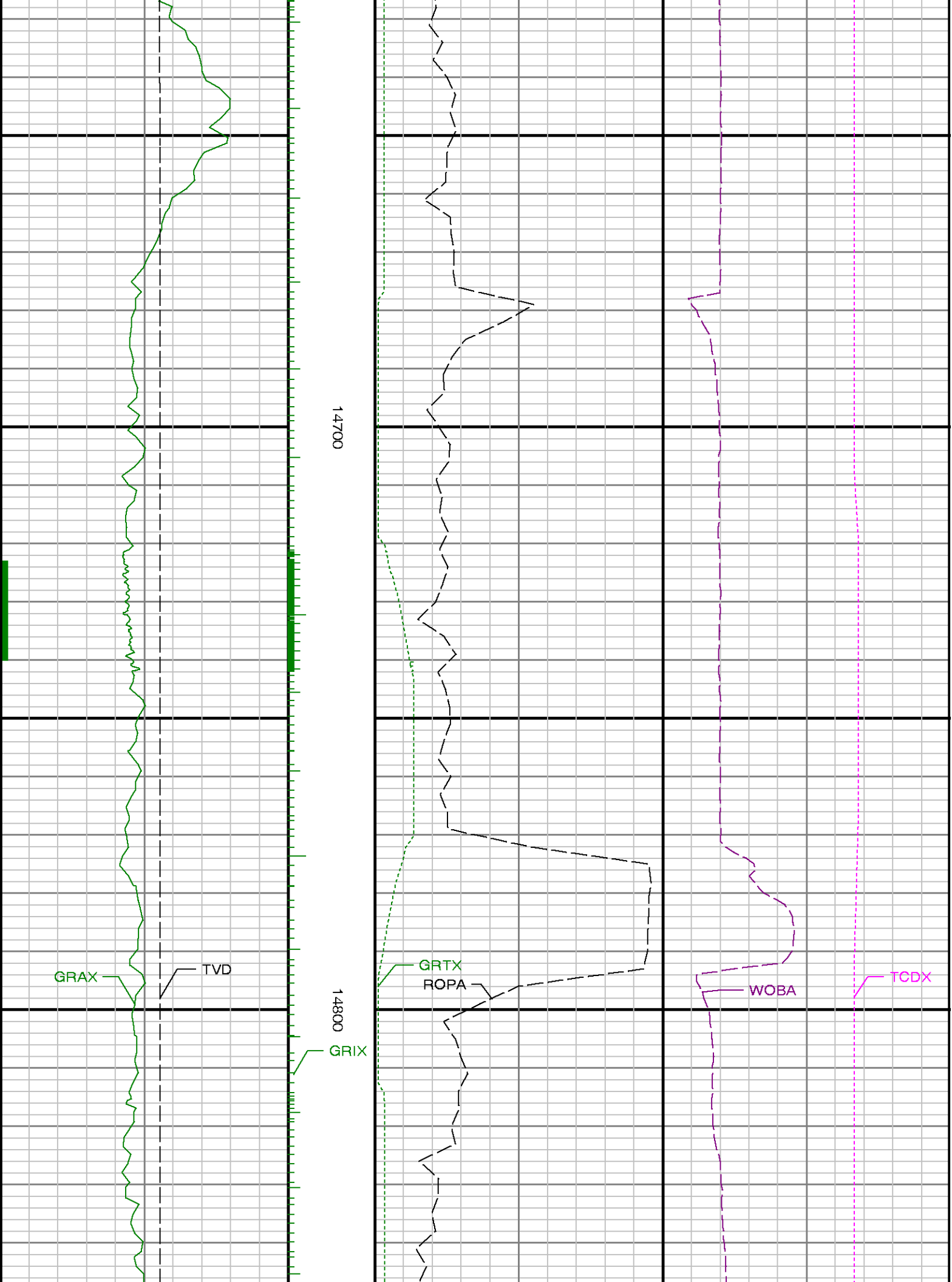
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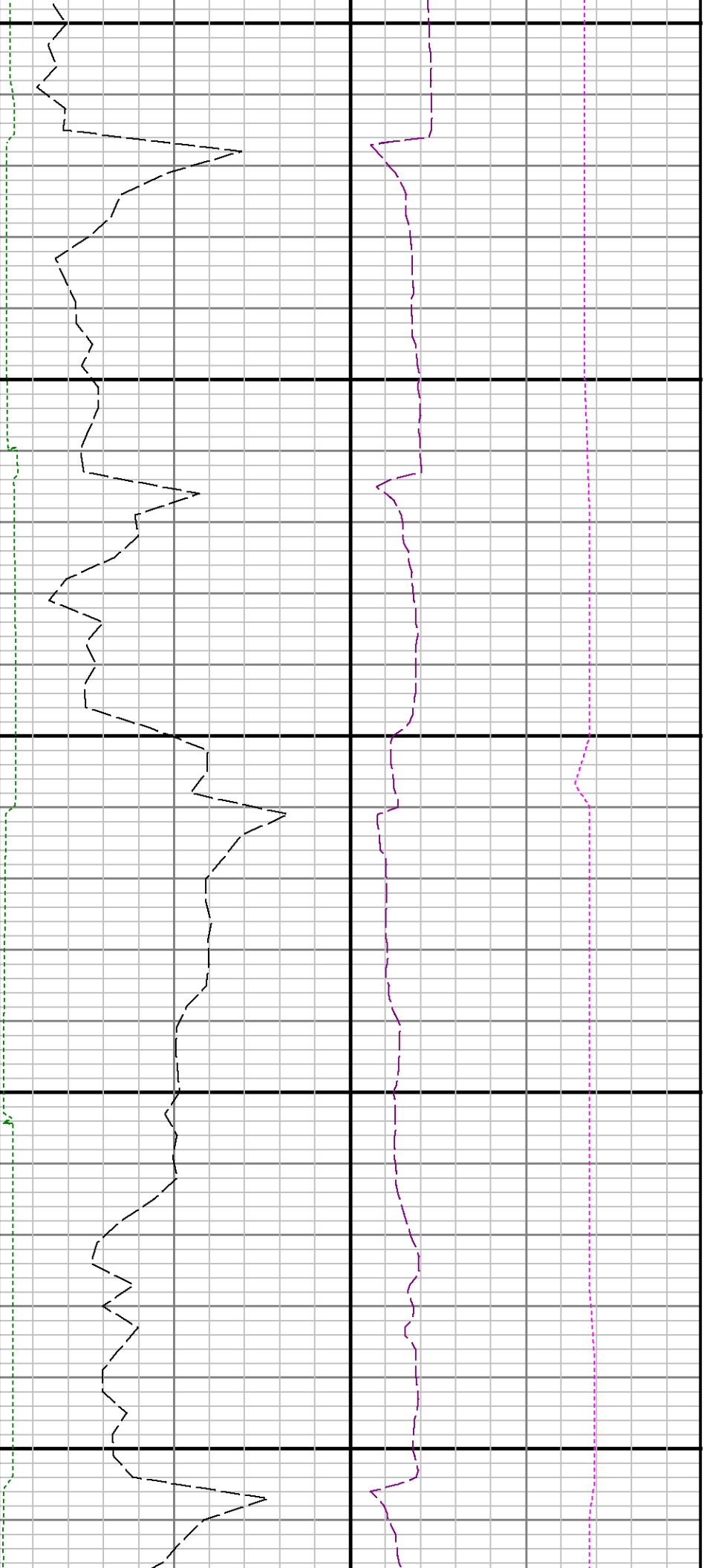
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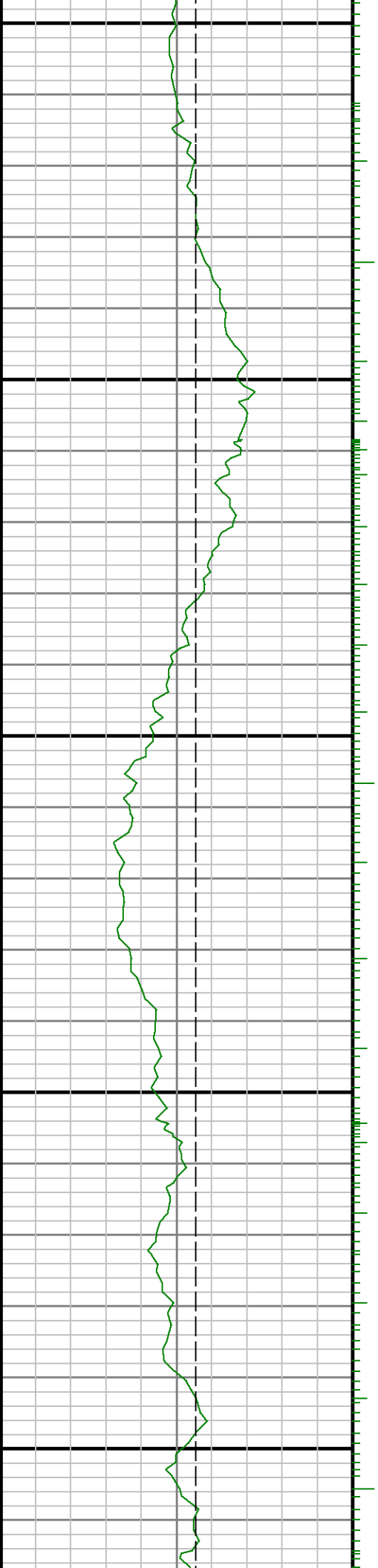


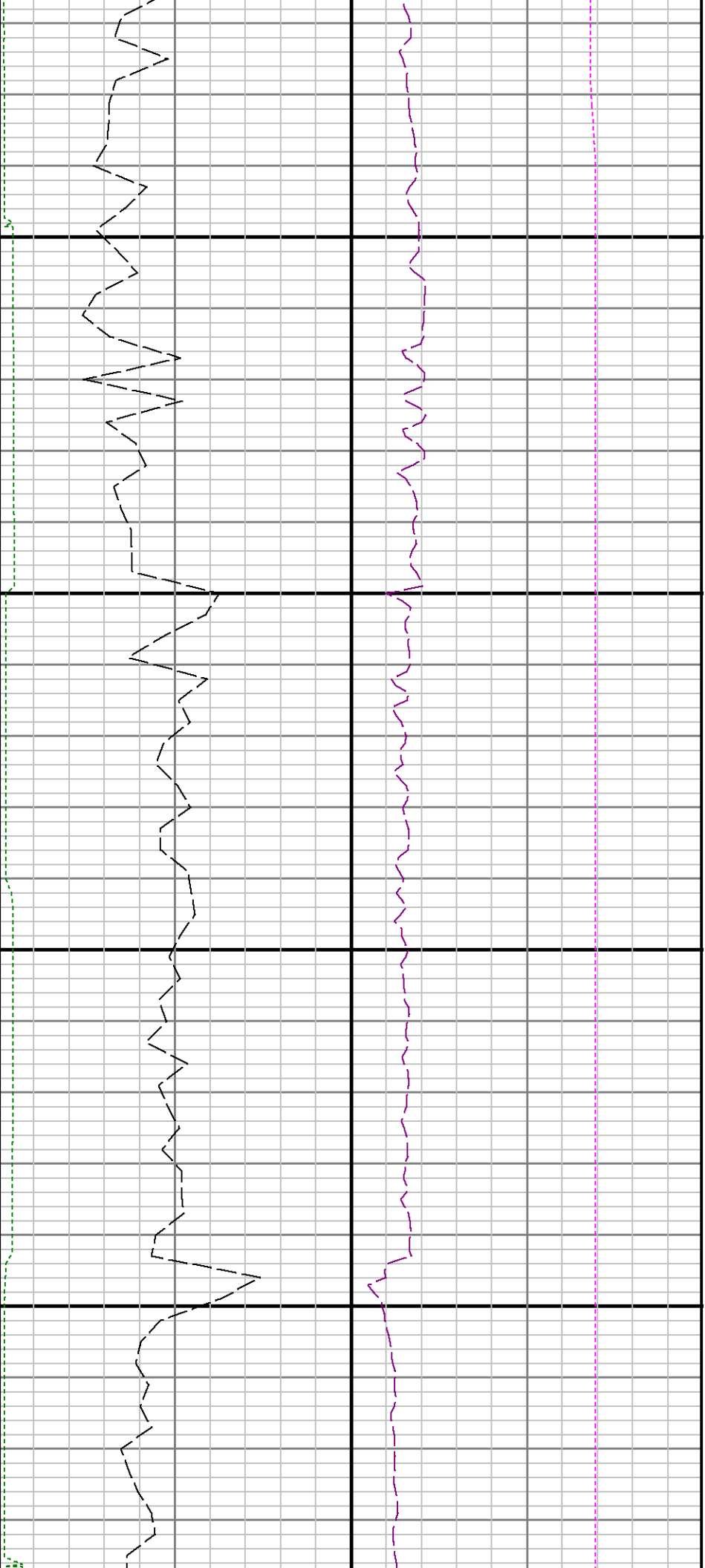




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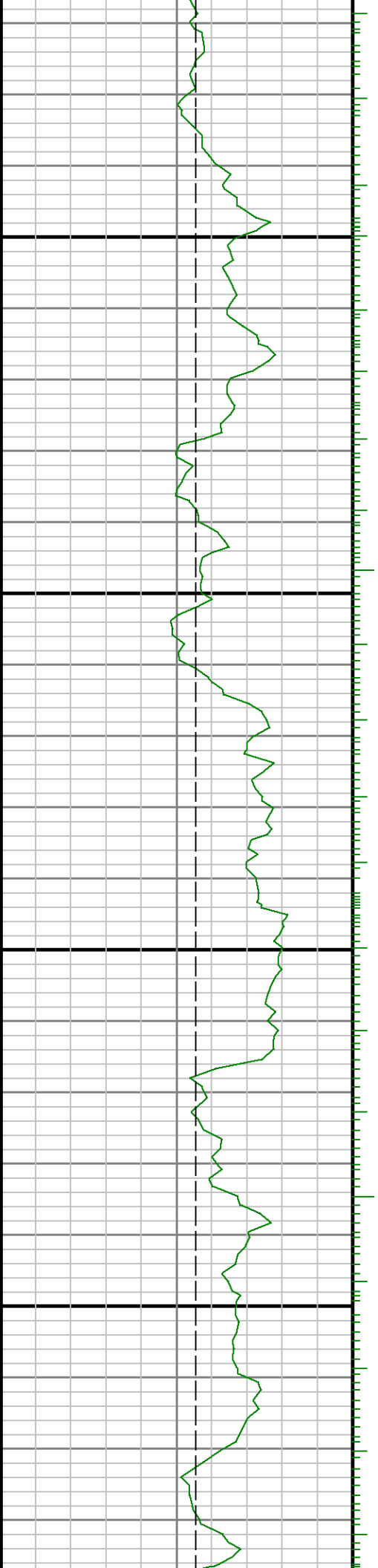
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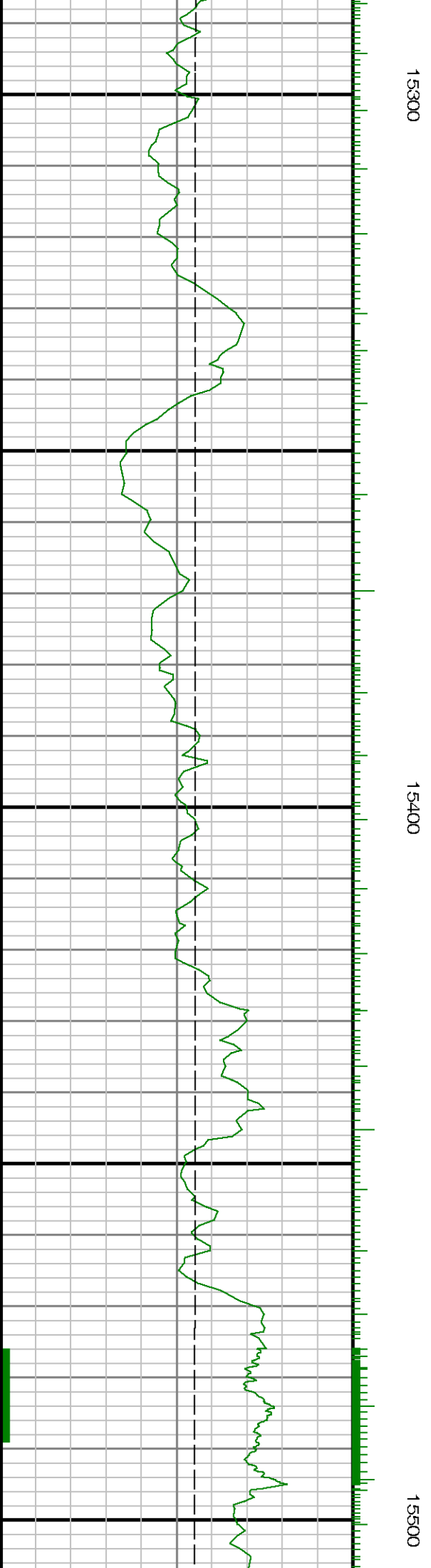


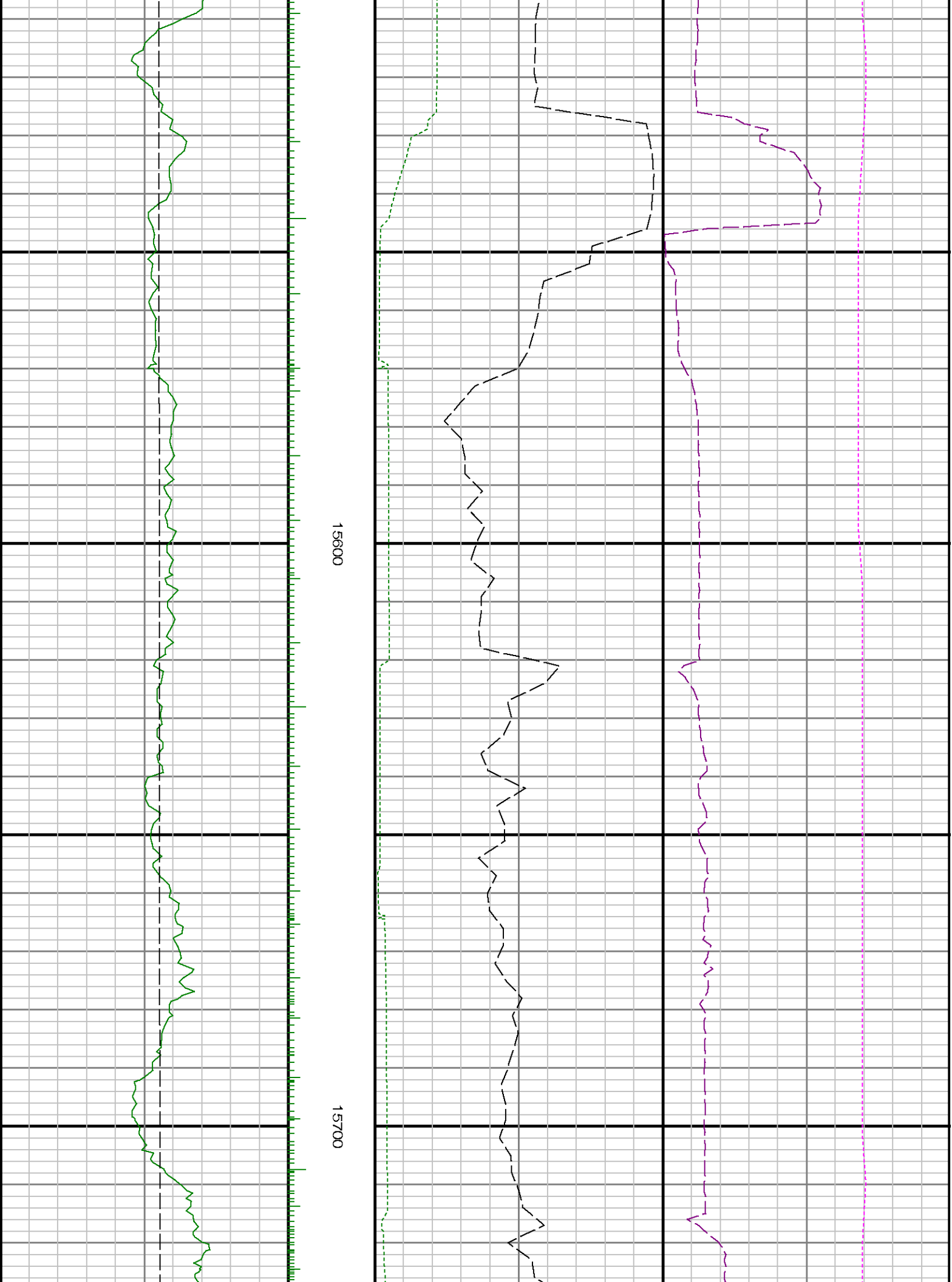


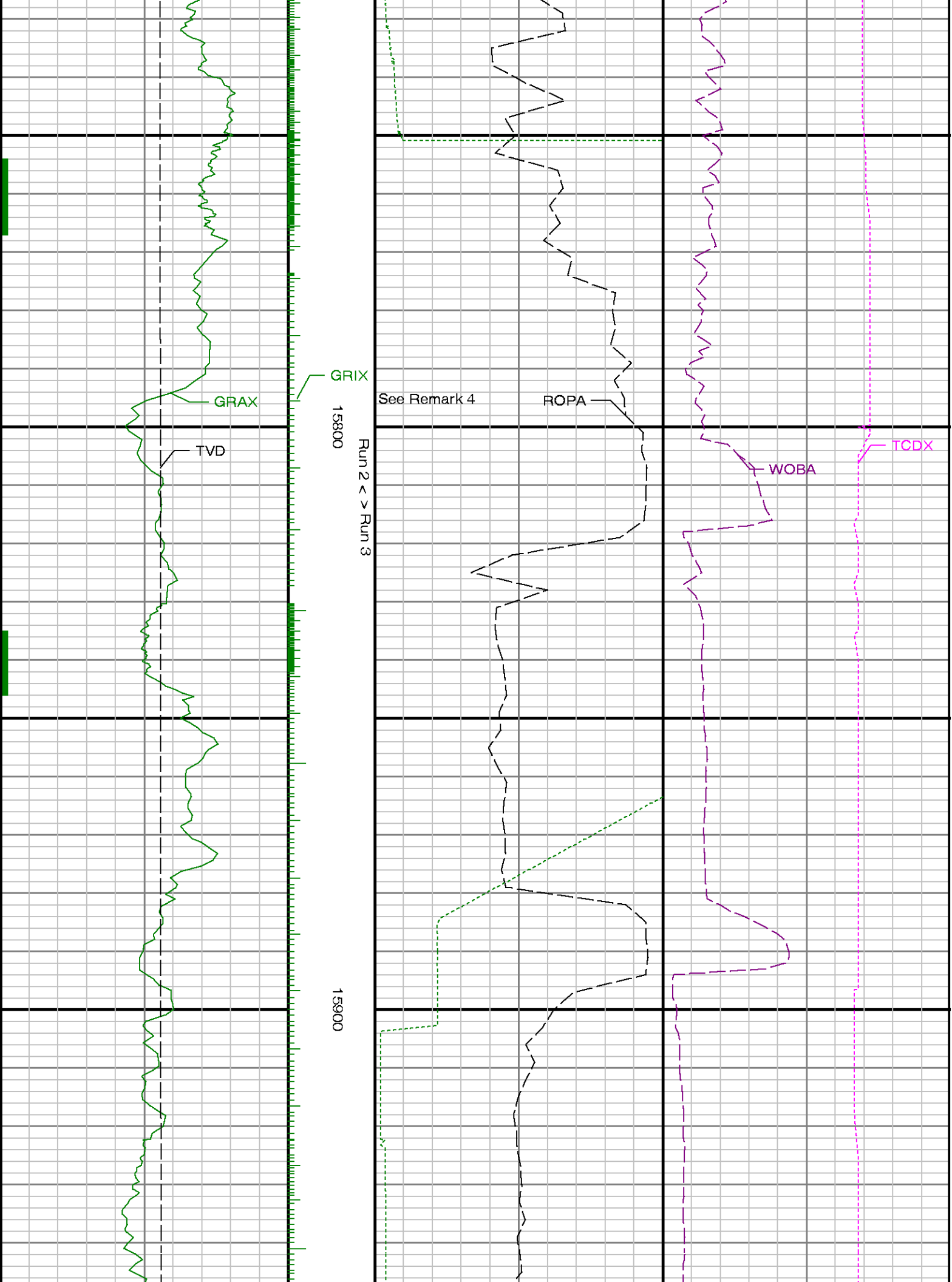
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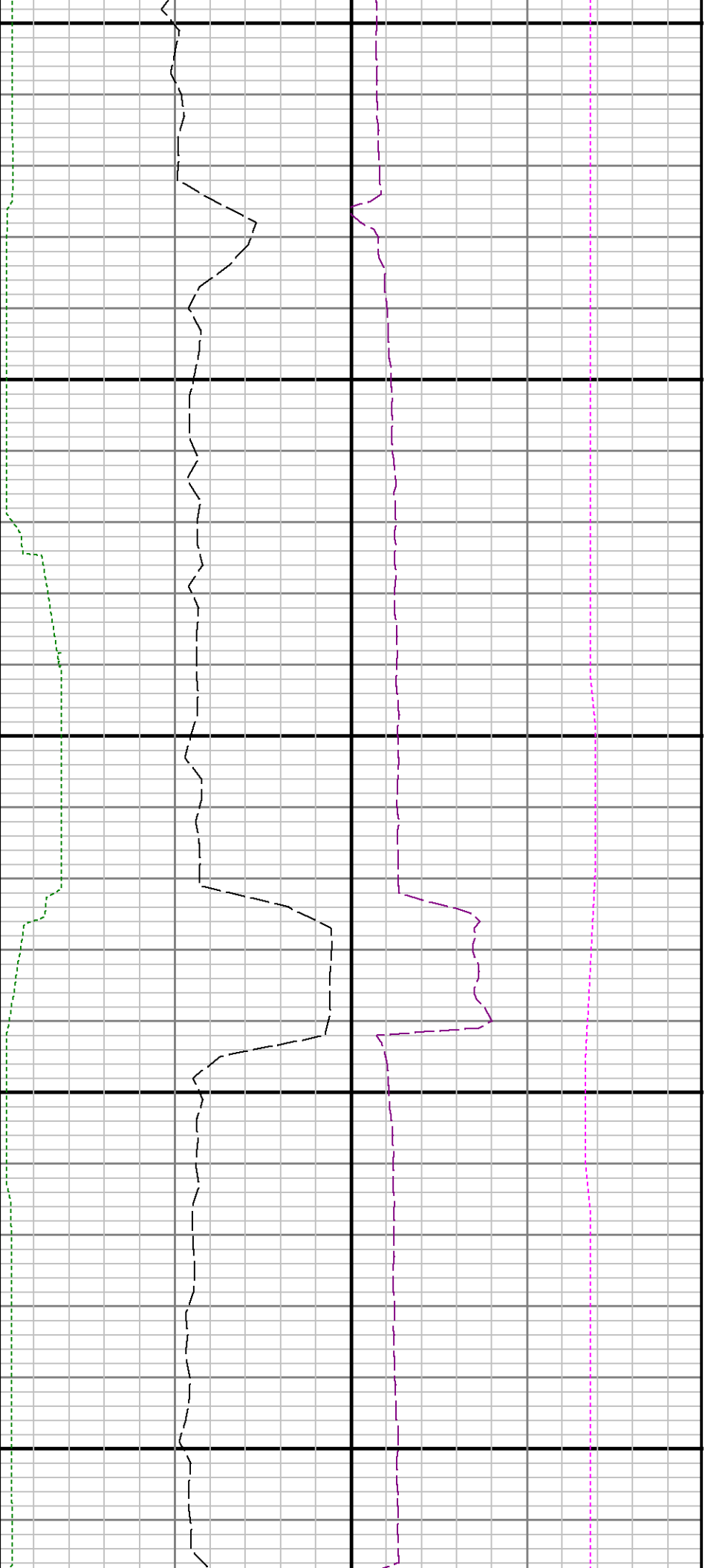
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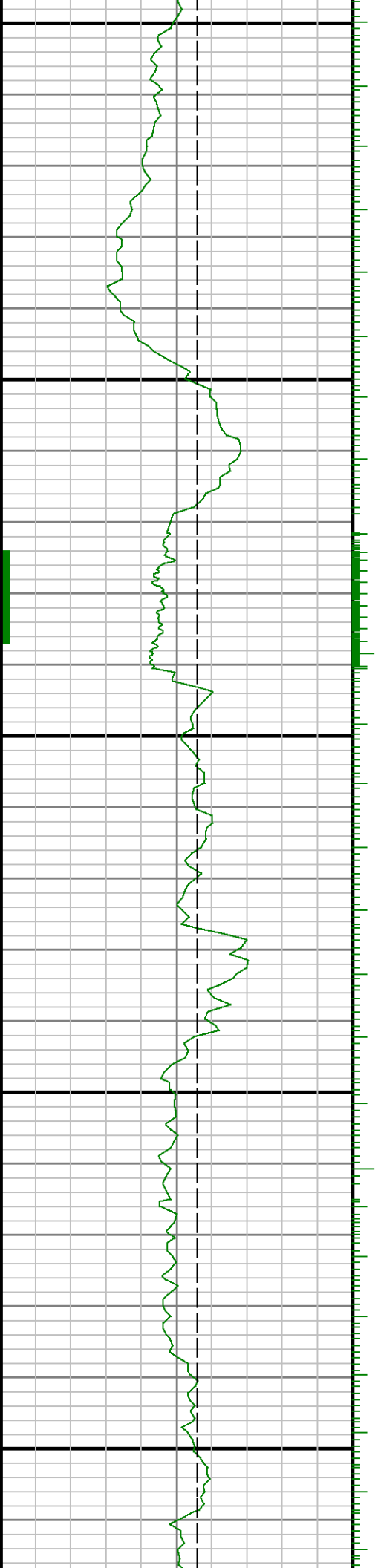






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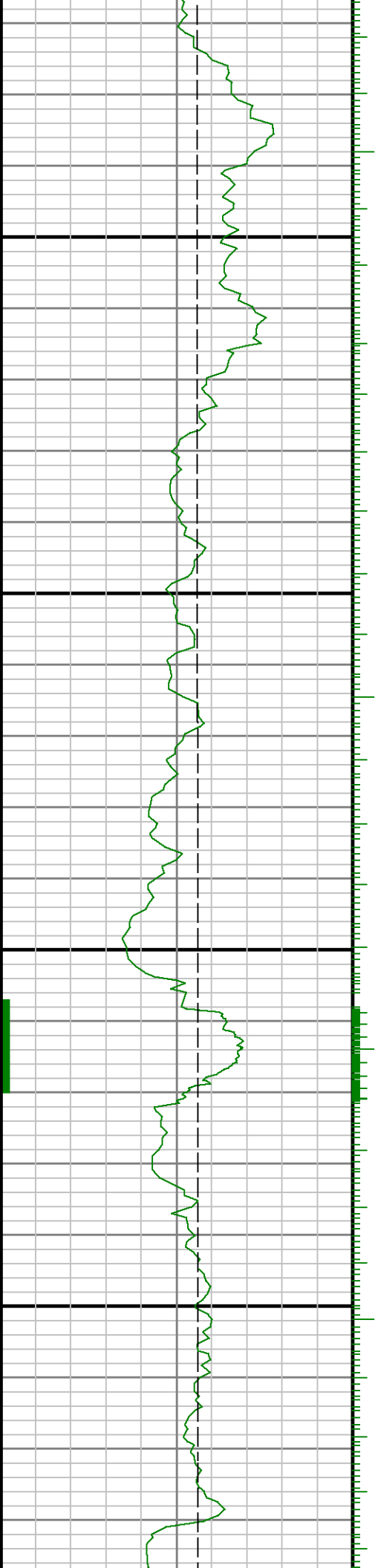
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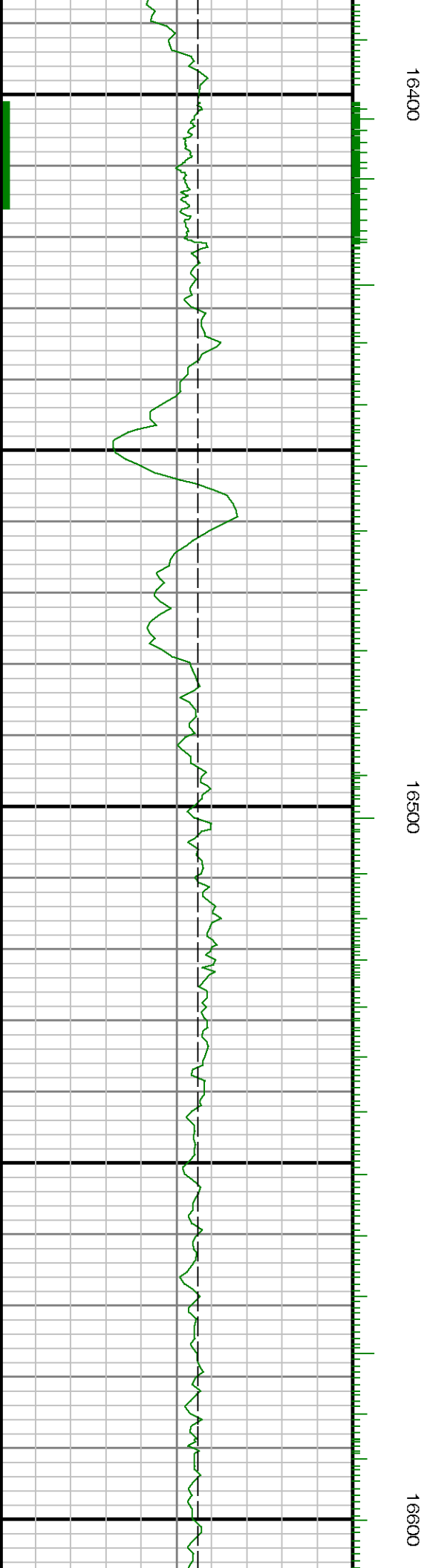


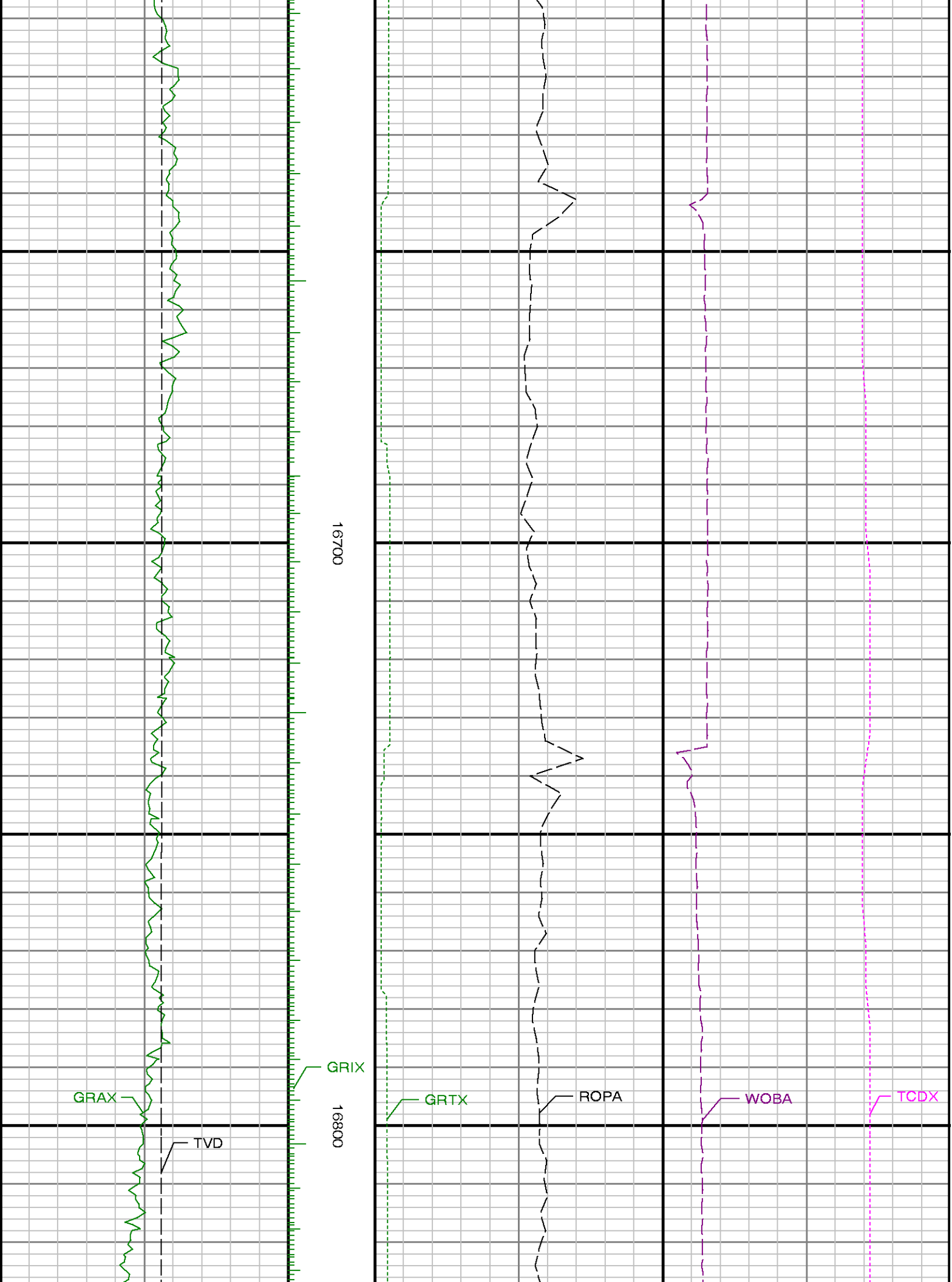


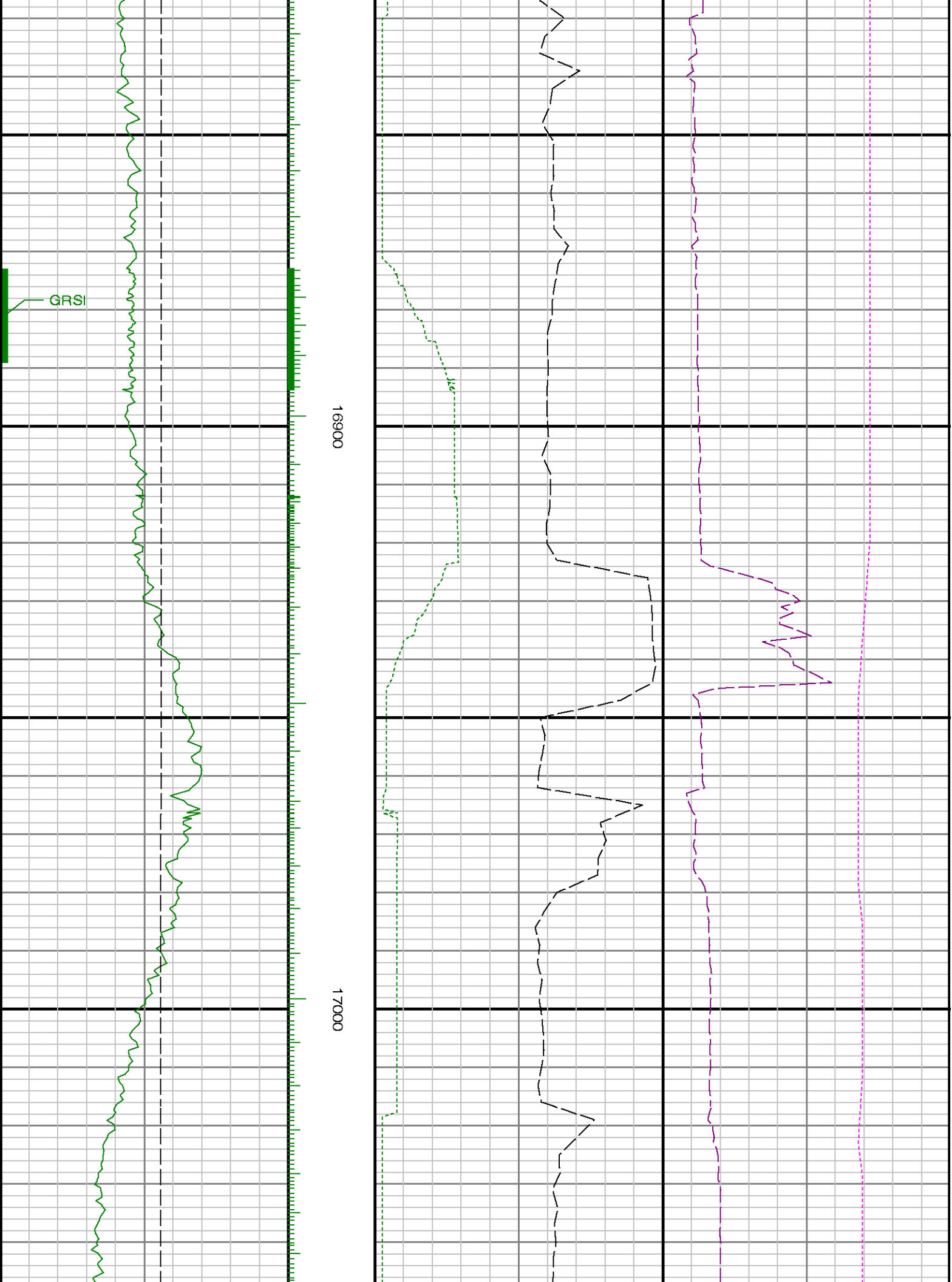
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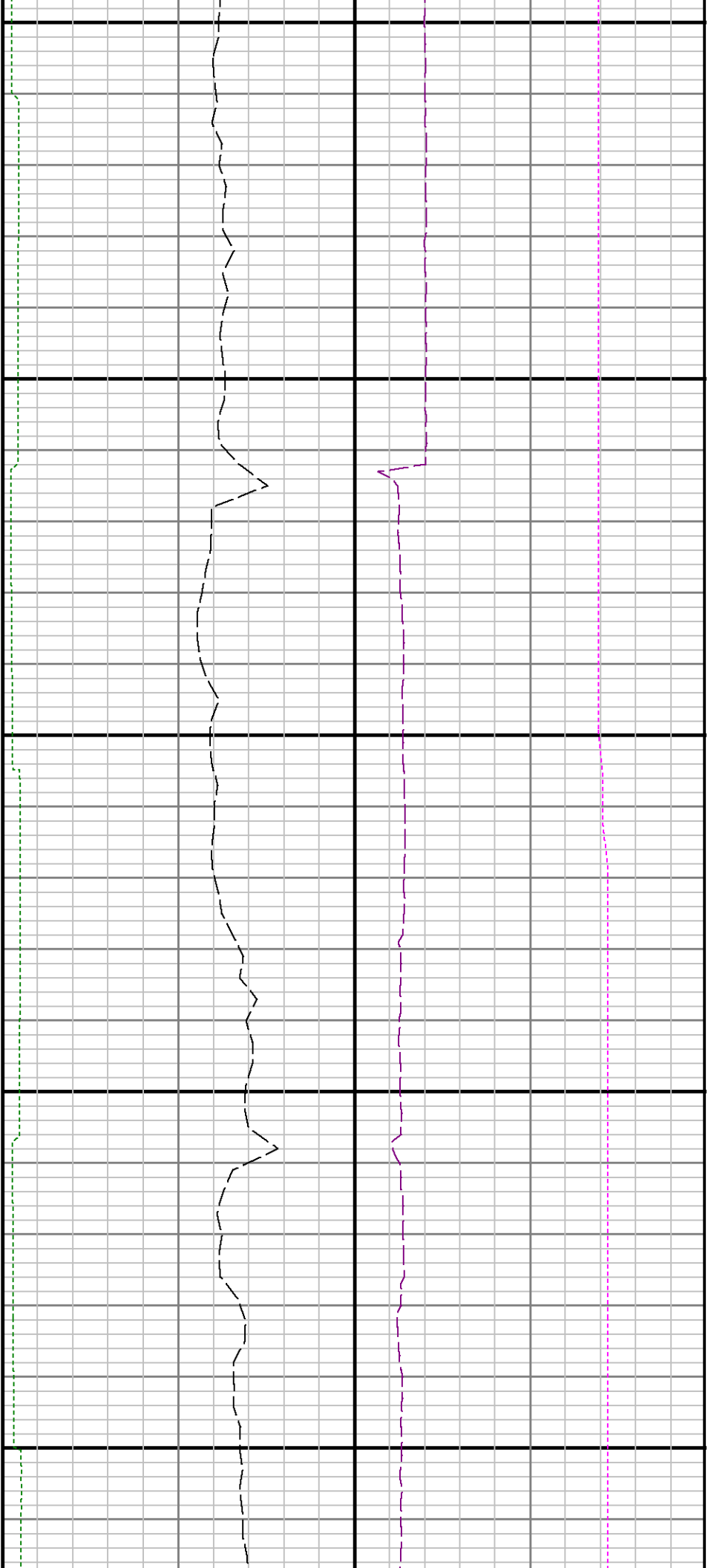
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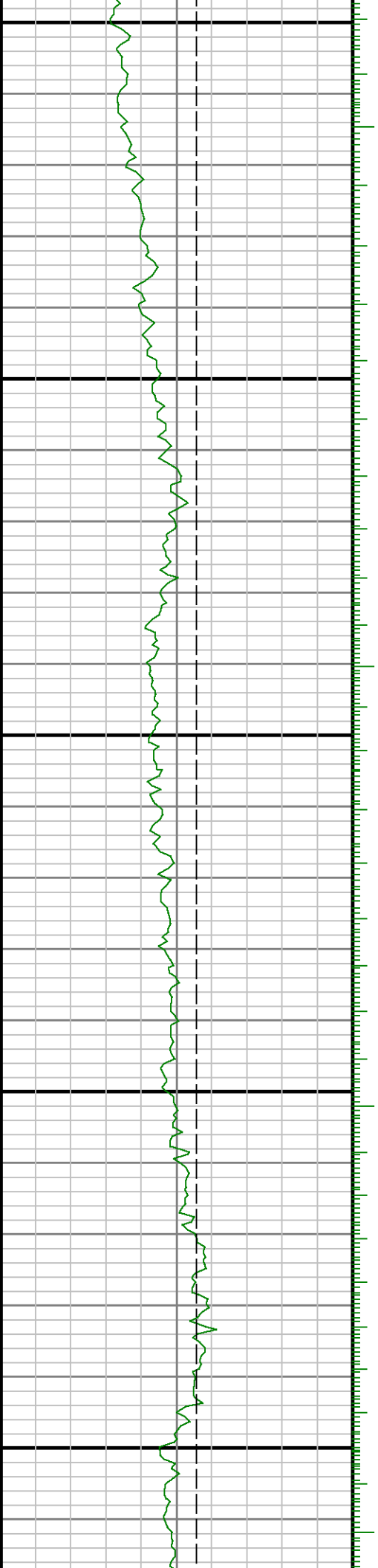


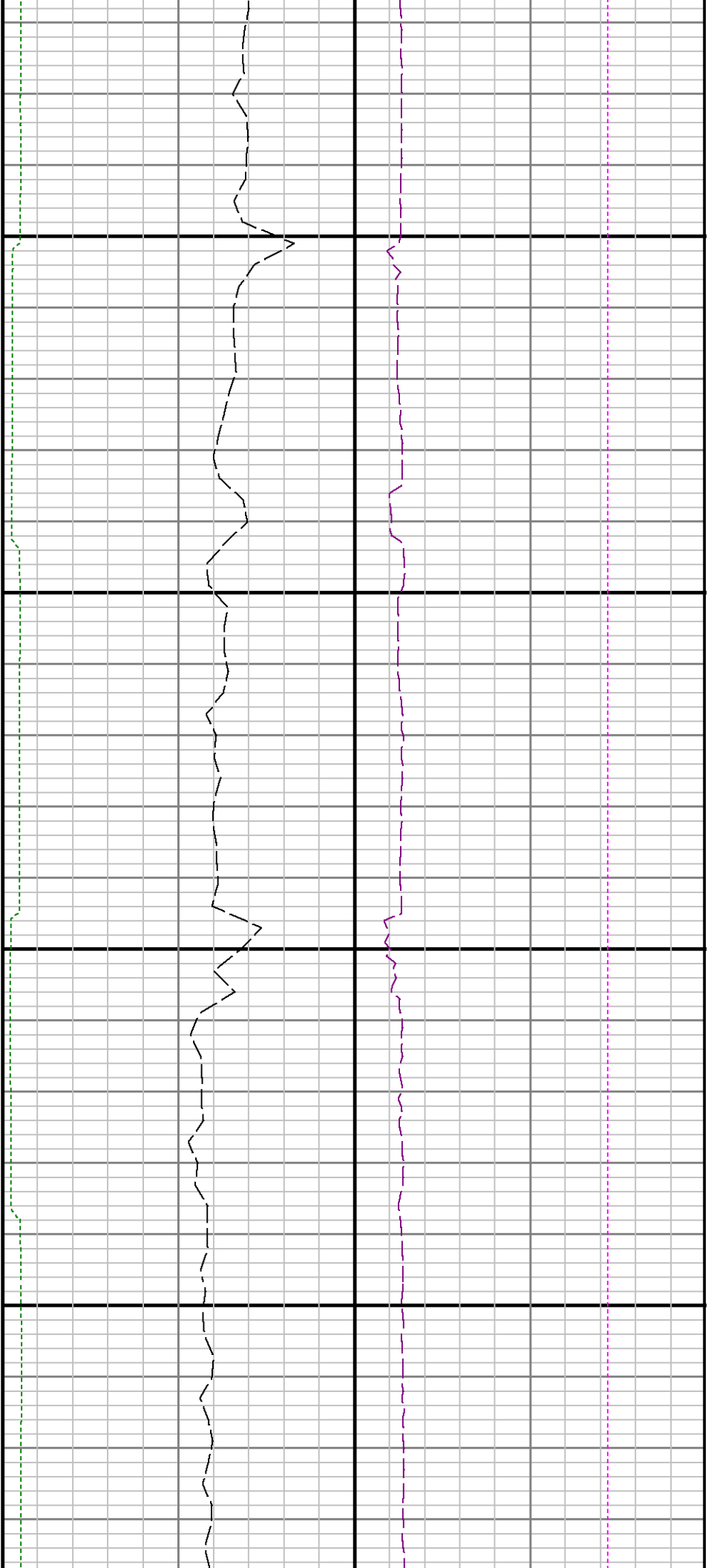




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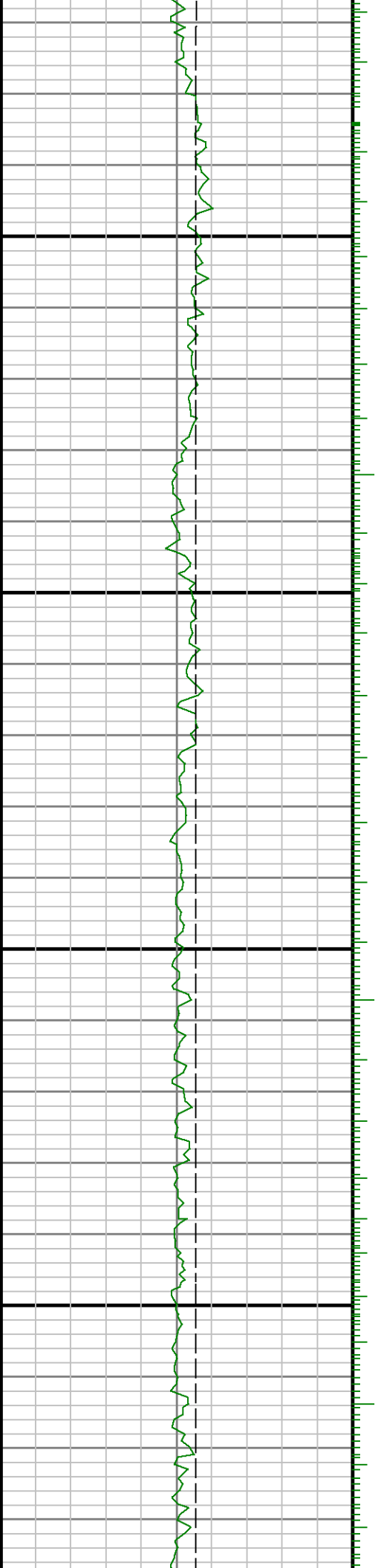
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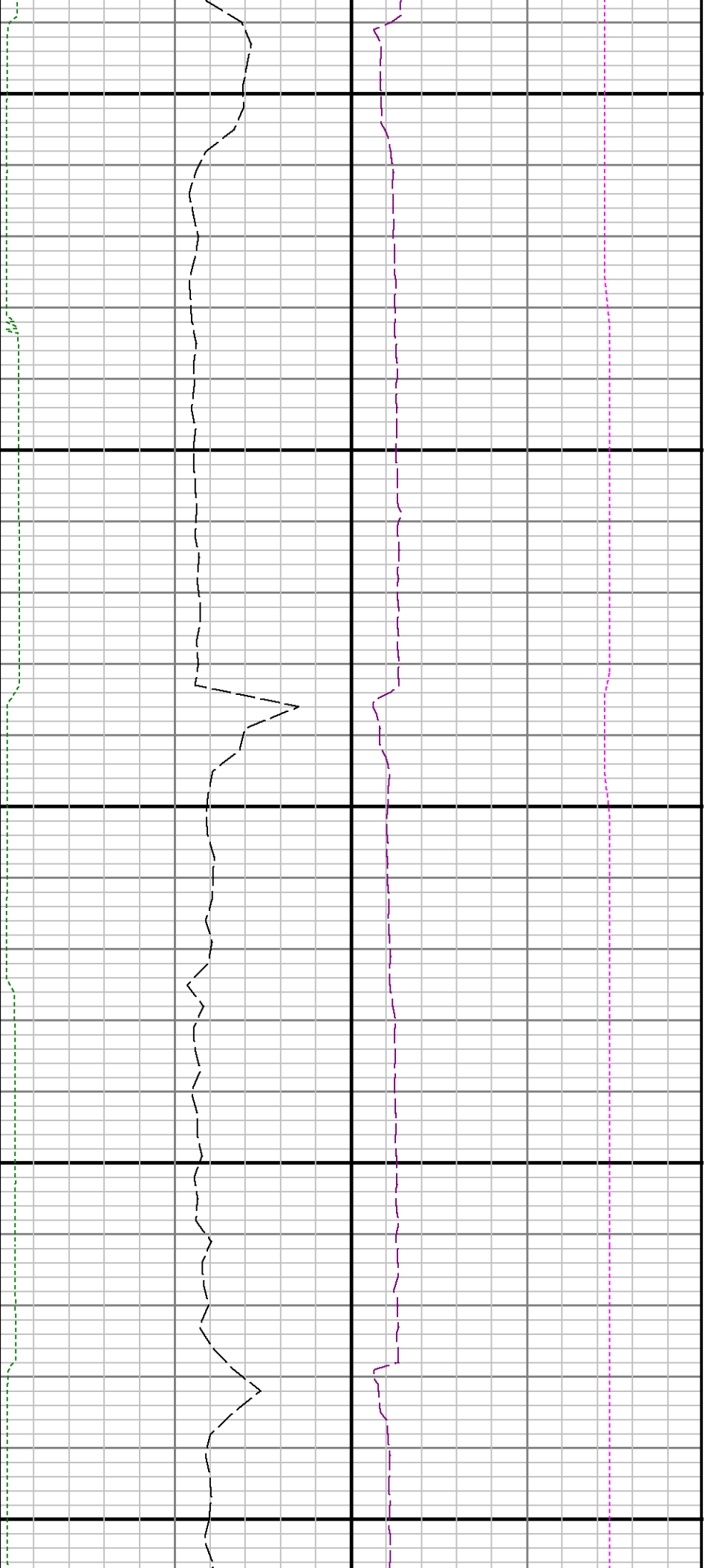




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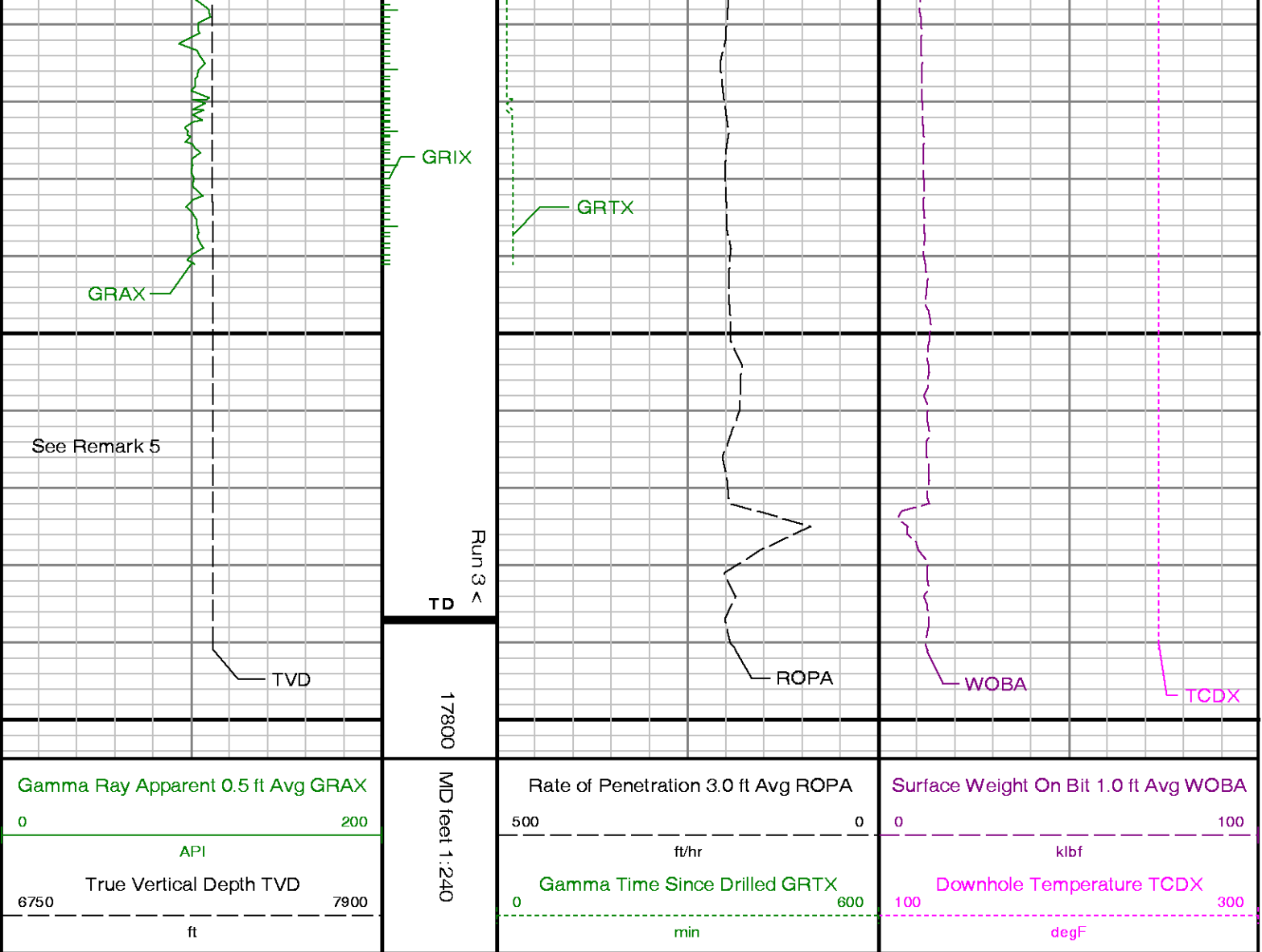




17500

17600

17700



ADVANTAGE Final Survey Listing												
Operator : Anadarko				Field : Weld County (KERR MCGEE)				API No : 05123393280000				
Well : Dugite 34N-35HZ				Rig : H&P 307				Job : 6433250				
Wellbore : Dugite 34N-35HZ Orig Hole												
Well Origin												
Latitude		40.1192 deg				Longitude		-104.8656 deg				
North Reference		True				Drill Depth Zero		Rig Floor				
Vertical Datum is		Mean Sea Level				Vertical Datum to DDZ		4994.00 ft				
Vertical Section North		0.00 ft				Vertical Section East		0.00 ft				
Vertical Section Azimuth		180.1400 deg				Vertical Section Depth		0.00ft				
Grid Convergence		0.0000 deg				Magnetic Declination		8.6200 deg				
Total Correction		8.6200 deg				TVD Calculation Method		Minimal Curvature				
D-Row Calculation		Magcorr1				Local Magnetic Field		52825 nT				
Local Magnetic Dip Angle		66.7400 deg				Local Gravity Field		9.798 m/s^2				
Tie	MD ft	Incl deg	Azim deg	North ft	East ft	TVD ft	VS ft	Incr VS ft	Crs Len ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft

25.00	0.0000	280.4600	0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	-318.16
125.00	0.3400	280.4600	0.05	-0.29	125.00	-0.05	0.30	100.00	0.34	0.34	0.00	0.00
225.00	0.5200	1.6000	0.56	-0.57	225.00	-0.56	0.88	100.00	0.58	0.18	81.14	81.14
325.00	0.3700	44.3600	1.25	-0.33	324.99	-1.24	1.60	100.00	0.35	-0.15	42.76	42.76

	425.00	0.1700	165.2300	1.33	-0.07	424.99	-1.33	1.88	100.00	0.48	-0.20	120.87
	525.00	0.3500	241.3500	1.04	-0.30	524.99	-1.04	2.25	100.00	0.35	0.18	76.12
	625.00	0.4800	283.5800	1.00	-0.97	624.99	-0.99	2.93	100.00	0.32	0.13	42.23
	725.00	0.4100	329.7200	1.40	-1.56	724.99	-1.40	3.64	100.00	0.35	-0.07	46.14
	825.00	0.1800	37.7300	1.84	-1.65	824.99	-1.83	4.08	100.00	0.38	-0.23	68.01
	925.00	0.1900	98.2500	1.94	-1.39	924.99	-1.93	4.36	100.00	0.19	0.01	60.52
U	1025.00	0.2200	168.8000	1.72	-1.18	1024.99	-1.72	4.65	100.00	0.24	0.03	70.55
	1125.00	0.3300	223.6500	1.33	-1.35	1124.98	-1.32	5.08	100.00	0.27	0.11	54.85
	1217.00	0.3600	271.5000	1.14	-1.82	1216.98	-1.14	-1.14	92.00	0.31	0.03	52.01
	1409.00	0.1500	328.3600	1.37	-2.55	1408.98	-1.37	-0.37	192.00	0.16	-0.11	29.61
	1506.00	1.5900	274.7900	1.59	-3.96	1505.97	-1.58	1.06	97.00	1.55	1.48	-55.23
	1601.00	2.9300	260.9100	1.32	-7.67	1600.89	-1.30	4.78	95.00	1.51	1.41	-14.61
	1664.00	4.7200	265.1800	0.85	-11.84	1663.75	-0.82	8.98	63.00	2.88	2.84	6.78
	1758.00	6.9800	274.5500	0.98	-21.39	1757.26	-0.92	18.53	94.00	2.60	2.40	9.97
	1852.00	8.7300	277.5500	2.37	-34.16	1850.37	-2.28	31.37	94.00	1.91	1.86	3.19
	1947.00	10.2800	275.7400	4.16	-49.74	1944.06	-4.04	47.05	95.00	1.66	1.63	-1.91
	2041.00	11.2100	275.0500	5.80	-67.19	2036.42	-5.64	64.58	94.00	1.00	0.99	-0.73
	2136.00	11.1300	274.9500	7.41	-85.52	2129.62	-7.20	82.98	95.00	0.09	-0.08	-0.11
	2230.00	10.7200	273.2400	8.69	-103.29	2221.91	-8.43	100.80	94.00	0.56	-0.44	-1.82
	2325.00	10.2600	271.5600	9.42	-120.57	2315.32	-9.12	118.09	95.00	0.58	-0.48	-1.77
	2418.00	10.2500	271.9100	9.92	-137.12	2406.84	-9.58	134.65	93.00	0.07	-0.01	0.38
	2607.00	8.3800	270.9900	10.72	-167.70	2593.34	-10.31	165.24	189.00	0.99	-0.99	-0.49
	2701.00	9.4400	266.0600	10.30	-182.24	2686.20	-9.86	179.78	94.00	1.39	1.13	-5.24
	2796.00	10.1300	270.2100	9.80	-198.36	2779.82	-9.31	195.92	95.00	1.04	0.73	4.37
	2890.00	9.8800	270.0700	9.84	-214.70	2872.39	-9.31	212.25	94.00	0.27	-0.27	-0.15
	2985.00	10.6400	274.5400	10.54	-231.59	2965.87	-9.98	229.16	95.00	1.16	0.80	4.71
	3173.00	9.7400	270.9800	12.19	-264.79	3150.91	-11.54	262.40	188.00	0.58	-0.48	-1.89
	3268.00	11.0800	274.9900	13.12	-281.92	3244.34	-12.43	279.55	95.00	1.60	1.41	4.22
	3457.00	9.5600	274.4600	15.92	-315.66	3430.28	-15.15	313.41	189.00	0.81	-0.80	-0.28
	3551.00	8.6500	271.3900	16.70	-330.51	3523.10	-15.89	328.28	94.00	1.10	-0.97	-3.27
	3645.00	8.4600	274.3400	17.39	-344.47	3616.05	-16.55	342.26	94.00	0.51	-0.20	3.14
	3739.00	10.1900	269.0300	17.78	-359.68	3708.81	-16.90	357.47	94.00	2.05	1.84	-5.65
	3928.00	7.4700	265.5000	16.53	-388.65	3895.55	-15.58	386.47	189.00	1.47	-1.44	-1.87
	4023.00	6.2800	260.5200	15.19	-399.93	3989.87	-14.21	397.83	95.00	1.40	-1.25	-5.24
	4117.00	7.1400	260.8200	13.41	-410.77	4083.22	-12.41	408.81	94.00	0.92	0.91	0.32
	4211.00	6.2000	261.0200	11.69	-421.55	4176.59	-10.66	419.73	94.00	1.00	-1.00	0.21
	4305.00	5.1300	269.5800	10.86	-430.77	4270.13	-9.81	428.99	94.00	1.45	-1.14	9.11
	4400.00	3.7800	261.7400	10.38	-438.12	4364.84	-9.31	436.35	95.00	1.56	-1.42	-8.25
	4494.00	3.2200	248.3200	8.96	-443.64	4458.66	-7.88	442.05	94.00	1.05	-0.60	-14.28
	4589.00	1.3100	276.3100	8.10	-447.20	4553.59	-7.00	445.71	95.00	2.27	-2.01	29.46
	4683.00	1.5000	276.8000	8.36	-449.48	4647.56	-7.26	448.02	94.00	0.20	0.20	0.52
	4778.00	0.3900	274.6100	8.53	-451.04	4742.55	-7.43	449.58	95.00	1.17	-1.17	-2.31
	4872.00	0.3600	246.5000	8.44	-451.63	4836.54	-7.34	450.18	94.00	0.20	-0.03	-29.90
	5250.00	0.9100	237.5000	6.35	-455.25	5214.52	-5.24	454.36	378.00	0.15	0.15	-2.38
	5439.00	1.0200	239.0900	4.68	-457.96	5403.49	-3.56	457.54	189.00	0.06	0.06	0.84
	5533.00	0.5800	345.5300	4.71	-458.80	5497.49	-3.59	458.38	94.00	1.39	-0.47	113.23
Tie	MD	Incl	Azim	North	East	TVD	VS	Incr VS	Crs Len	DLS	Build	Turn
	ft	deg	deg	ft	ft	ft	ft	ft	ft	deg/100ft	deg/100ft	deg/100ft
	5911.00	0.7600	340.9900	8.94	-460.09	5875.46	-7.81	462.79	378.00	0.05	0.05	-1.20
	6289.00	0.7200	332.1600	13.41	-462.02	6253.43	-12.28	467.66	378.00	0.03	-0.01	-2.34
	6383.00	0.2700	154.6000	13.73	-462.20	6347.43	-12.60	468.03	94.00	1.05	-0.48	-188.89
	6760.00	0.1800	201.3600	12.38	-462.03	6724.42	-11.25	469.40	377.00	0.05	-0.02	12.40
	6807.00	3.0700	179.8800	11.05	-462.06	6771.40	-9.92	470.72	47.00	6.18	6.15	-45.70
	6854.00	6.9400	174.9100	6.96	-461.80	6818.21	-5.83	474.82	47.00	8.28	8.23	-10.57
	6901.00	12.1600	170.5900	-0.76	-460.74	6864.55	1.88	482.61	47.00	11.20	11.11	-9.19
	6948.00	17.6000	172.4400	-12.69	-459.00	6909.95	13.82	494.67	47.00	11.62	11.57	3.94
	6995.00	21.1000	173.2800	-28.14	-457.07	6954.29	29.26	510.24	47.00	7.47	7.45	1.79
	7042.00	23.8200	173.7800	-45.99	-455.05	6997.72	47.10	528.20	47.00	5.80	5.79	1.06
	7089.00	27.1200	176.2000	-66.12	-453.31	7040.15	67.22	548.40	47.00	7.36	7.02	5.15
	7137.00	31.5700	178.4900	-89.60	-452.26	7081.98	90.71	571.92	48.00	9.56	9.27	4.77
	7184.00	34.1200	180.0000	-115.09	-451.93	7121.46	116.19	597.40	47.00	5.70	5.43	3.21
	7231.00	37.7600	179.2400	-142.67	-451.74	7159.51	143.77	624.98	47.00	7.80	7.74	-1.62
	7278.00	42.2200	177.7300	-172.85	-450.92	7195.51	173.96	655.18	47.00	9.71	9.49	-3.21

	7326.00	47.5900	178.1300	-206.70	-449.71	7229.50	207.80	689.05	48.00	11.20	11.19	0.83
	7373.00	53.4700	178.5700	-242.96	-448.67	7259.36	244.05	725.32	47.00	12.53	12.51	0.94
	7420.00	57.5600	179.3700	-281.68	-447.98	7285.97	282.78	764.05	47.00	8.81	8.70	1.70
	7467.00	60.8800	179.2300	-322.05	-447.48	7310.02	323.15	804.42	47.00	7.07	7.06	-0.30
	7515.00	64.9900	179.1700	-364.78	-446.89	7331.85	365.87	847.16	48.00	8.56	8.56	-0.13
	7562.00	68.7500	179.1200	-407.99	-446.24	7350.31	409.08	890.37	47.00	8.00	8.00	-0.11
	7609.00	73.2200	179.5100	-452.41	-445.71	7365.62	453.50	934.80	47.00	9.54	9.51	0.83
	7656.00	78.3900	180.6300	-497.96	-445.77	7377.14	499.05	980.34	47.00	11.24	11.00	2.38
	7704.00	82.3000	181.1700	-545.27	-446.52	7385.19	546.36	1027.66	48.00	8.22	8.15	1.12
	7756.00	85.1200	181.9900	-596.93	-447.94	7390.89	598.02	1079.34	52.00	5.65	5.42	1.58
	7828.00	89.0700	182.6100	-668.76	-450.83	7394.54	669.86	1151.23	72.00	5.55	5.49	0.86
	7922.00	88.1500	182.5400	-762.64	-455.05	7396.82	763.75	1245.20	94.00	0.98	-0.98	-0.07
	8017.00	88.7300	182.1600	-857.52	-458.95	7399.40	858.64	1340.16	95.00	0.73	0.61	-0.40
	8111.00	90.3600	182.3700	-951.44	-462.66	7400.15	952.57	1434.16	94.00	1.75	1.73	0.22
	8205.00	89.9000	182.0400	-1045.37	-466.28	7399.93	1046.51	1528.16	94.00	0.60	-0.49	-0.35
	8300.00	91.0700	182.5100	-1140.29	-470.05	7399.13	1141.44	1623.15	95.00	1.33	1.23	0.49
	8488.00	91.0400	182.4100	-1328.09	-478.12	7395.67	1329.25	1811.12	188.00	0.06	-0.02	-0.05
	8583.00	89.9600	180.9800	-1423.04	-480.93	7394.84	1424.21	1906.11	95.00	1.89	-1.14	-1.51
	8677.00	90.3000	180.2700	-1517.03	-481.95	7394.63	1518.21	2000.11	94.00	0.84	0.36	-0.76
	8771.00	89.6600	178.8800	-1611.03	-481.25	7394.66	1612.20	2094.11	94.00	1.63	-0.68	-1.48
	8866.00	89.4700	179.0600	-1706.01	-479.55	7395.38	1707.18	2189.11	95.00	0.28	-0.20	0.19
	8960.00	89.7800	178.4400	-1799.98	-477.50	7396.00	1801.15	2283.10	94.00	0.74	0.33	-0.66
	9054.00	90.0000	178.1500	-1893.94	-474.70	7396.18	1895.10	2377.10	94.00	0.39	0.23	-0.31
	9149.00	88.9200	178.2200	-1988.89	-471.69	7397.07	1990.04	2472.10	95.00	1.14	-1.14	0.07
	9243.00	89.2600	177.9200	-2082.82	-468.52	7398.56	2083.96	2566.09	94.00	0.48	0.36	-0.32
	9337.00	89.5600	177.9400	-2176.76	-465.13	7399.53	2177.89	2660.08	94.00	0.32	0.32	0.02
	9432.00	90.8600	178.8700	-2271.72	-462.49	7399.18	2272.84	2755.08	95.00	1.68	1.37	0.98
	9526.00	90.1500	178.6400	-2365.69	-460.44	7398.36	2366.81	2849.07	94.00	0.79	-0.76	-0.24
	9621.00	91.0700	179.2100	-2460.67	-458.66	7397.34	2461.78	2944.07	95.00	1.14	0.97	0.60
	9715.00	90.2400	178.5600	-2554.64	-456.83	7396.27	2555.75	3038.06	94.00	1.12	-0.88	-0.69
	9809.00	90.0000	179.7900	-2648.63	-455.48	7396.07	2649.74	3132.06	94.00	1.33	-0.26	1.31
	9904.00	89.5900	179.5300	-2743.63	-454.91	7396.41	2744.73	3227.06	95.00	0.51	-0.43	-0.27
	9998.00	89.6900	180.3500	-2837.62	-454.82	7397.00	2838.73	3321.05	94.00	0.88	0.11	0.87
	10092.00	91.3800	180.8000	-2931.61	-455.76	7396.13	2932.72	3415.05	94.00	1.86	1.80	0.48
	10187.00	90.8600	179.3500	-3026.59	-455.88	7394.27	3027.70	3510.02	95.00	1.62	-0.55	-1.53
Tie	MD ft	Incl deg	Azim deg	North ft	East ft	TVD ft	VS ft	Incr VS ft	Crs Len ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft
	10281.00	90.3300	179.2600	-3120.58	-454.74	7393.29	3121.68	3604.02	94.00	0.57	-0.56	-0.10
	10376.00	91.2000	181.0800	-3215.57	-455.03	7392.02	3216.67	3699.01	95.00	2.12	0.92	1.92
	10564.00	90.5800	180.6900	-3403.52	-457.93	7389.10	3404.63	3886.98	188.00	0.39	-0.33	-0.21
	10753.00	89.9300	180.1800	-3592.51	-459.36	7388.26	3593.62	4075.98	189.00	0.44	-0.34	-0.27
	10848.00	91.1000	180.6500	-3687.50	-460.05	7387.41	3688.61	4170.97	95.00	1.33	1.23	0.49
	11036.00	89.4700	180.3300	-3875.49	-461.66	7386.47	3876.60	4358.96	188.00	0.88	-0.87	-0.17
	11130.00	90.0000	179.4400	-3969.48	-461.47	7386.91	3970.60	4452.96	94.00	1.10	0.56	-0.95
	11225.00	91.1300	179.5200	-4064.47	-460.61	7385.97	4065.59	4547.96	95.00	1.19	1.19	0.08
	11319.00	90.5800	179.1800	-4158.46	-459.54	7384.57	4159.57	4641.94	94.00	0.69	-0.59	-0.36
	11413.00	89.6900	178.8100	-4252.44	-457.89	7384.35	4253.55	4735.94	94.00	1.03	-0.95	-0.39
	11507.00	90.7000	178.4600	-4346.41	-455.65	7384.03	4347.51	4829.94	94.00	1.14	1.07	-0.37
	11602.00	90.2700	178.5300	-4441.38	-453.16	7383.22	4442.47	4924.94	95.00	0.46	-0.45	0.07
	11696.00	90.1800	179.1400	-4535.35	-451.25	7382.85	4536.44	5018.94	94.00	0.66	-0.10	0.65
	11791.00	89.9300	178.5700	-4630.34	-449.35	7382.76	4631.42	5113.94	95.00	0.66	-0.26	-0.60
	11885.00	90.4300	178.5000	-4724.30	-446.95	7382.47	4725.38	5207.93	94.00	0.54	0.53	-0.07
	12074.00	89.3500	176.7600	-4913.13	-439.13	7382.83	4914.19	5396.92	189.00	1.08	-0.57	-0.92
	12168.00	91.1000	176.5700	-5006.97	-433.66	7382.46	5008.01	5490.92	94.00	1.87	1.86	-0.20
	12262.00	91.5700	178.6400	-5100.86	-429.74	7380.27	5101.89	5584.89	94.00	2.26	0.50	2.20
	12357.00	90.4900	179.8900	-5195.83	-428.52	7378.56	5196.86	5679.87	95.00	1.74	-1.14	1.32
	12451.00	88.8200	180.2400	-5289.82	-428.62	7379.13	5290.86	5773.87	94.00	1.82	-1.78	0.37
	12545.00	89.9600	181.8500	-5383.80	-430.34	7380.13	5384.83	5867.86	94.00	2.10	1.21	1.71
	12640.00	89.6600	181.6300	-5478.75	-433.22	7380.45	5479.80	5962.85	95.00	0.39	-0.32	-0.23
	12734.00	89.6900	182.2400	-5572.70	-436.40	7380.98	5573.75	6056.85	94.00	0.65	0.03	0.65
	12828.00	91.2000	182.8400	-5666.60	-440.56	7380.25	5667.66	6150.85	94.00	1.73	1.61	0.64
	13016.00	91.0400	182.0500	-5854.39	-448.58	7376.57	5855.47	6338.81	188.00	0.43	-0.09	-0.42
	13111.00	90.9200	182.0600	-5949.32	-451.99	7374.95	5950.40	6433.80	95.00	0.13	-0.13	0.01

13300.00	90.4000	181.8400	-6138.19	-458.42	7372.77	6139.29	6622.78	189.00	0.30	-0.28	-0.12	
13489.00	90.0900	181.5900	-6327.11	-464.07	7371.96	6328.22	6811.78	189.00	0.21	-0.16	-0.13	
13678.00	88.1800	181.9300	-6515.99	-469.88	7374.82	6517.12	7000.75	189.00	1.03	-1.01	0.18	
13772.00	89.0400	180.6000	-6609.93	-471.95	7377.10	6611.07	7094.72	94.00	1.68	0.91	-1.41	
13867.00	90.0600	180.4800	-6704.92	-472.85	7377.84	6706.06	7189.71	95.00	1.08	1.07	-0.13	
13961.00	88.8600	180.6100	-6798.91	-473.74	7378.73	6800.05	7283.71	94.00	1.28	-1.28	0.14	
14056.00	89.8400	179.4800	-6893.91	-473.82	7379.81	6895.04	7378.70	95.00	1.57	1.03	-1.19	
14150.00	88.2400	180.2500	-6987.89	-473.59	7381.38	6989.02	7472.68	94.00	1.89	-1.70	0.82	
14244.00	90.0600	180.4700	-7081.87	-474.19	7382.78	7083.01	7566.67	94.00	1.95	1.94	0.23	
14339.00	90.0000	180.1400	-7176.87	-474.69	7382.73	7178.01	7661.67	95.00	0.35	-0.06	-0.35	
14434.00	89.2900	179.7500	-7271.87	-474.60	7383.32	7273.01	7756.67	95.00	0.85	-0.75	-0.41	
14528.00	89.5600	180.2300	-7365.86	-474.58	7384.26	7367.00	7850.66	94.00	0.59	0.29	0.51	
14623.00	89.4400	180.0400	-7460.86	-474.81	7385.09	7462.00	7945.66	95.00	0.24	-0.13	-0.20	
14718.00	88.8200	179.7800	-7555.85	-474.66	7386.53	7556.98	8040.65	95.00	0.71	-0.65	-0.27	
14811.00	90.4600	180.9800	-7648.84	-475.27	7387.11	7649.98	8133.64	93.00	2.19	1.76	1.29	
14906.00	90.5500	180.5700	-7743.83	-476.56	7386.28	7744.97	8228.63	95.00	0.44	0.09	-0.43	
15000.00	89.9300	180.3000	-7837.82	-477.27	7385.88	7838.96	8322.63	94.00	0.72	-0.66	-0.29	
15094.00	89.9300	180.4000	-7931.82	-477.85	7386.00	7932.96	8416.63	94.00	0.11	0.00	0.11	
15189.00	90.2100	180.3800	-8026.82	-478.49	7385.88	8027.96	8511.63	95.00	0.30	0.29	-0.02	
15377.00	90.6700	180.2800	-8214.81	-479.58	7384.44	8215.96	8699.63	188.00	0.25	0.24	-0.05	
15471.00	91.0700	180.0000	-8308.80	-479.81	7383.01	8309.94	8793.62	94.00	0.52	0.43	-0.30	
15566.00	89.1600	180.4200	-8403.79	-480.15	7382.82	8404.94	8888.61	95.00	2.06	-2.01	0.44	
15660.00	88.5500	180.4200	-8497.77	-480.84	7384.70	8498.92	8982.59	94.00	0.65	-0.65	0.00	
15829.00	88.8900	180.4600	-8666.72	-482.14	7388.47	8667.87	9151.55	169.00	0.20	0.20	0.02	
Tie	MD ft	Incl deg	Azim deg	North ft	East ft	TVD ft	VS ft	Incr VS ft	Crs Len ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft
	15923.00	89.3200	180.4200	-8760.71	-482.86	7389.94	8761.86	9245.54	94.00	0.46	0.46	-0.04
	16018.00	89.3200	181.0700	-8855.69	-484.10	7391.07	8856.85	9340.53	95.00	0.68	0.00	0.68
	16112.00	90.1500	180.6900	-8949.68	-485.54	7391.50	8950.84	9434.53	94.00	0.97	0.88	-0.40
	16207.00	89.6600	180.8100	-9044.67	-486.79	7391.66	9045.83	9529.53	95.00	0.53	-0.52	0.13
	16301.00	89.1300	181.1100	-9138.65	-488.36	7392.65	9139.82	9623.52	94.00	0.65	-0.56	0.32
	16395.00	89.2600	180.4500	-9232.63	-489.64	7393.98	9233.80	9717.51	94.00	0.72	0.14	-0.70
	16490.00	90.3000	180.1800	-9327.63	-490.16	7394.34	9328.80	9812.51	95.00	1.13	1.09	-0.28
	16584.00	90.4300	180.3100	-9421.63	-490.56	7393.74	9422.80	9906.51	94.00	0.20	0.14	0.14
	16679.00	90.5500	180.5300	-9516.62	-491.26	7392.93	9517.79	10001.50	95.00	0.26	0.13	0.23
	16773.00	90.5800	180.7900	-9610.61	-492.34	7392.00	9611.78	10095.50	94.00	0.28	0.03	0.28
	16867.00	90.5500	181.1300	-9704.59	-493.92	7391.07	9705.77	10189.50	94.00	0.36	-0.03	0.36
	16961.00	90.8000	179.9200	-9798.58	-494.78	7389.97	9799.76	10283.49	94.00	1.31	0.27	-1.29
	17056.00	90.3700	180.1600	-9893.58	-494.85	7389.00	9894.75	10378.48	95.00	0.52	-0.45	0.25
	17150.00	90.3300	180.2900	-9987.57	-495.21	7388.42	9988.75	10472.48	94.00	0.14	-0.04	0.14
	17339.00	90.5500	180.6000	-10176.56	-496.68	7386.97	10177.74	10661.47	189.00	0.20	0.12	0.16
	17527.00	89.8100	180.0100	-10364.56	-497.68	7386.38	10365.74	10849.47	188.00	0.50	-0.39	-0.31
	17622.00	89.8400	179.9400	-10459.55	-497.64	7386.67	10460.74	10944.47	95.00	0.08	0.03	-0.07
	17733.00	89.2200	178.9800	-10570.54	-496.60	7387.58	10571.73	11055.47	111.00	1.03	-0.56	-0.86
Projection to TD:												
	17788.00	89.2200	178.9800	-10625.53	-495.62	7388.33	10626.71	11110.46	55.00	0.00	0.00	0.00