



Reel Time Log

Natural Formation Evaluation
Gamma Ray

Scale:

Company: Anadarko

1:240

Well: Deepe 35C-27HZ

Measured Depth

Field: Wattenburg

State: Colorado Country: United States

Status:

FINAL PRINT

Surface Location:

Latitude: 40° 7' 45.134" N

Longitude: 104° 52' 58.739" W

Other Services:

Directional
VSS

API Number:
0512338563

Section22

TWN: 2N

Range 67W

Permanent Datum (P.D.): Ground Level Elevation: 5007.00 ft.

Elevations: 0.00 ft.

Log Measured From: Rig Floor 25.00 ft.

Above P.D.

KB: 0.00 ft.
DF: 5032.00 ft.
GL: 5007.00 ft.

Depth Reference: Driller's Depth

Interval Logged

Dates

Magnetic Field Reference

Top: 7087.0 ft. Date From: 06 May 14 Dip Angle: 66.75° Azi Reference North: True

Bottom: 17318.0 ft. Date To: 15 May 14 Total Mag to Reference

Spud Date: 30 Apr 14 Field Strength: 52830.8 nT North Correction: 8.66°

Borehole Record

Casing Record

Hole Size	From	To	Size	Weight	From	To
13.500 in.	Surface	8020.1 ft.	9.625 in.	36.00 lb/ft	Surface	1041.0 ft.
8.750 in.	1063.0 ft.	8020.1 ft.	7.000 in.	26.00 lb/ft	Surface	8010.0 ft.
6.750 in.	8020.1 ft.	17318.0 ft.				

Mud Record

Deviation Record

Type	From	To	Hole Size	Interval	Inc / Az (Start)	Inc / Az (End)
Water Based	1063.0 ft.	8023.2 ft.	8.750 in.	6960.0 ft.	0.8° / 264.2°	86.8° / 179.2°
Water Based	8023.0 ft.	17318.0 ft.	6.750 in.	9295.0 ft.	91.0° / 179.2°	88.8° / 180.1°
					/	/
					/	/
					/	/
					/	/

Acquisition System

Software Version

Other

Advantage	2.20U4	Rig: / Contractor:	Precision 595	/ Anadarko E&P Company LP
PATS	6.4.1.34	Job No:	6343909	/ D&E
		District: / Unit:	RMD	

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Log Run Summary

LWD Run No.	BHA Run No.	Bit Run No.	Bit Size (in.)	Bit Type	Bit Gauge Length (in.)	Assembly Type	Logged Interval		Bit Depth Interval		Date / Time		Circ. Time (hrs.)
							Top (ft.)	Bottom (ft.)	From (ft.)	To (ft.)	Start	End	
1	1	1	8.750	PDC	0.600	Steer Bent Sub	7087.0	7317.0	1066.0	7362.0	06 May 2014 14:32	06 May 2014 17:56	3.34
2	2	2	8.750	PDC	0.600	Steer Bent Sub	7317.0	7986.0	7362.0	8020.0	07 May 2014 02:30	08 May 2014 07:50	29.2
3	3	3	6.750	PDC	0.300	Steer Bent Sub	7986.0	17266.0	8020.0	17318.0	09 May 2014 20:00	15 May 2014 10:50	134.8

Crew

Name		Arrive	Depart	Name		Arrive	Depart	Name		Arrive	Depart
		Wellsite	Wellsite			Wellsite	Wellsite			Wellsite	Wellsite

Robert Klos	04 29 14	05 05 14				Ely Danner	04 29 14	05 16 14
Dale Miranda	04 30 14	05 16 14				John Raia	04 29 14	05 03 14
Phil Bourgeois	05 05 14	05 08 14				Evan Danner	04 29 14	05 16 14
Robert Klos	05 09 14	05 16 14				Jason Cross	05 03 14	05 05 14
						Jason Cross	05 09 14	05 16 14
						Mark Snyder	05 05 14	05 09 14

Mud Properties Record												
Date / Time		LWD Run No.	Measured Depth (ft.)	Mud Type	Density (sg)	Viscosity (cp)	pH	Fluid Loss (cc)	Oil / Water	Source	Total Chlorides (ppm)	K+ (%)
05 May 2014	04:31	1	5019.0	Water Based	8.5	28	8.8	0.0	0 / 100	Active Mud Pit	1800	0.0
06 May 2014	01:00	1	7354.0	Water Based	10.2	44	9.0	8.0	1 / 90	Active Mud Pit	2000	0.0
07 May 2014	01:02	2	7526.0	Water Based	10.2	44	9.3	7.6	1 / 90	Active Mud Pit	1500	0.0
08 May 2014	05:11	2	8020.0	Water Based	10.6	54	9.2	4.8	2/88	Active Mud Pit	1100	0.0
09 May 2014	05:24	2	8020.0	Water Based	9.3	46	9.7	5.0	1/94	Active Mud Pit	1300	0.0
10 May 2014	01:40	3	8927.0	Water Based	9.3	51	9.1	4.6	1/94	Active Mud Pit	1500	0.0
11 May 2014	24:00	3	11424.0	Water Based	9.4	62	9.3	3.8	2/92	Active Mud Pit	1650	0.0
12 May 2014	05:00	3	13521.0	Water Based	9.5	61	9.3	5.0	1/93	Active Mud Pit	1800	0.0
13 May 2014	02:05	3	15507.0	Water Based	9.1	48	9.3	4.8	2/94	Active Mud Pit	2200	0.0
14 May 2014	03:25	3	16662.0	Water Based	9.1	45	9.1	4.7	4/91	Active Mud Pit	2200	0.0

Mnemonics		
Curve	Description	Units
GRAX	Gamma Ray Apparent, 0.5 ft. Avg	API
GRIX	Gamma Ray Data Density	Points
GRSI	Gamma Ray Sliding Indication	Unitless
GRTX	Gamma Ra Time Since Drilled	Mins
ROPA	Rate of Penetration, 3.0 ft. Avg	ft/hr
TCDX	Downhole Temperature	degF
TVD	True Vertical Depth	ft
WOBA	Surface Weight on Bit, 1.0 ft. Avg	klbs

Equipment and Service Data							
LWD Run No.	Tool	Serial Number	Measurement	Bit Offset (m.)	Max O.D. (in.)	Min I.D. (in.)	
1	DIR	11958754	Directional	47.22	6.875	3.660	
1	SRIG	11892057	Gamma	43.84	6.875	3.660	
2	DIR	11958754	Directional	40.53	6.875	3.660	
2	SRIG	11892057	Gamma	37.15	6.875	3.660	
3	DIR	12047098	Directional	49.19	4.750	2.005	

3	SRIG	12521741	Gamma	45.81	4.750	2.005
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Service and Tool Mnemonics

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

Comments

1. Depth measurements were obtained from a depth control system not supplied or operated by Baker Hughes INTEQ. Due to lack of control by Baker Hughes INTEQ logging engineers, depth calibrations and measurements could not be independently verified and the unverified depths as supplied to INTEQ are being used to represent logging data.
2. A sliding indicator is shown on the left side of track 1 as a heavy line. This indicator has been shifted to the gamma ray sensor offset to correspond with gamma ray data acquired while sliding.
- 3.) Gamma Ray Apparent at several intervals in Run 4 were not looged due to fast drilling and decoding issues when the flow rate was increased from survey stokes to drilling strokes.
4. Baker Hughes runs 1 and 2 utilized a 6.75 inch Navigamma (Gamma Ray and Directionl) tool behind a 8.75 inch bit and steerable assembly from 1052 feet to 8023 feet MD (1051.99 feet to 7636.29 feet TVD.)
5. Baker Hughes run 3 utilized a 4.75 inch Navigamma (Gamma Ray and Directionl) tool behind a 6.75 inch bit and steerable assembly from 8023 feet to 17318 feet MD (7636.29 feet to 7648.70feet TVD.)

Remarks

Number	Measured Depth (ft.)	Hole Section (in.)	LWD Run No.	Remark
1		8.750		Gaps in GRAX, GRIX and GRTX due to surface gear issues.
2	7353	8.750	2	Gamma Ray Apparent from 7317 feet to 7363feet MD (7270.6 feet to 7319.94 feet TVD) was logged 14.28 hours after being drilled due to tripping out of hole to pick up a new motor with a higher AKO to complete the Curve Section.
3	8007	6.750	3	Gamma Ray Apparent from 7986 feet to 8023feet MD (7636.25 feet to 7636.29 feet TVD) was logged 55.67 hours after being drilled due to tripping out of hole to pick up the Lateral Section Assembly and Casing Operations.
4	17300	6.750	3	GRAX, GRIX and GRTX values were not logged from 17266 ft. to 17318 ft. MD (7647.20 ft. to 7648.70 ft. TVD) due to sensor offset from bit.



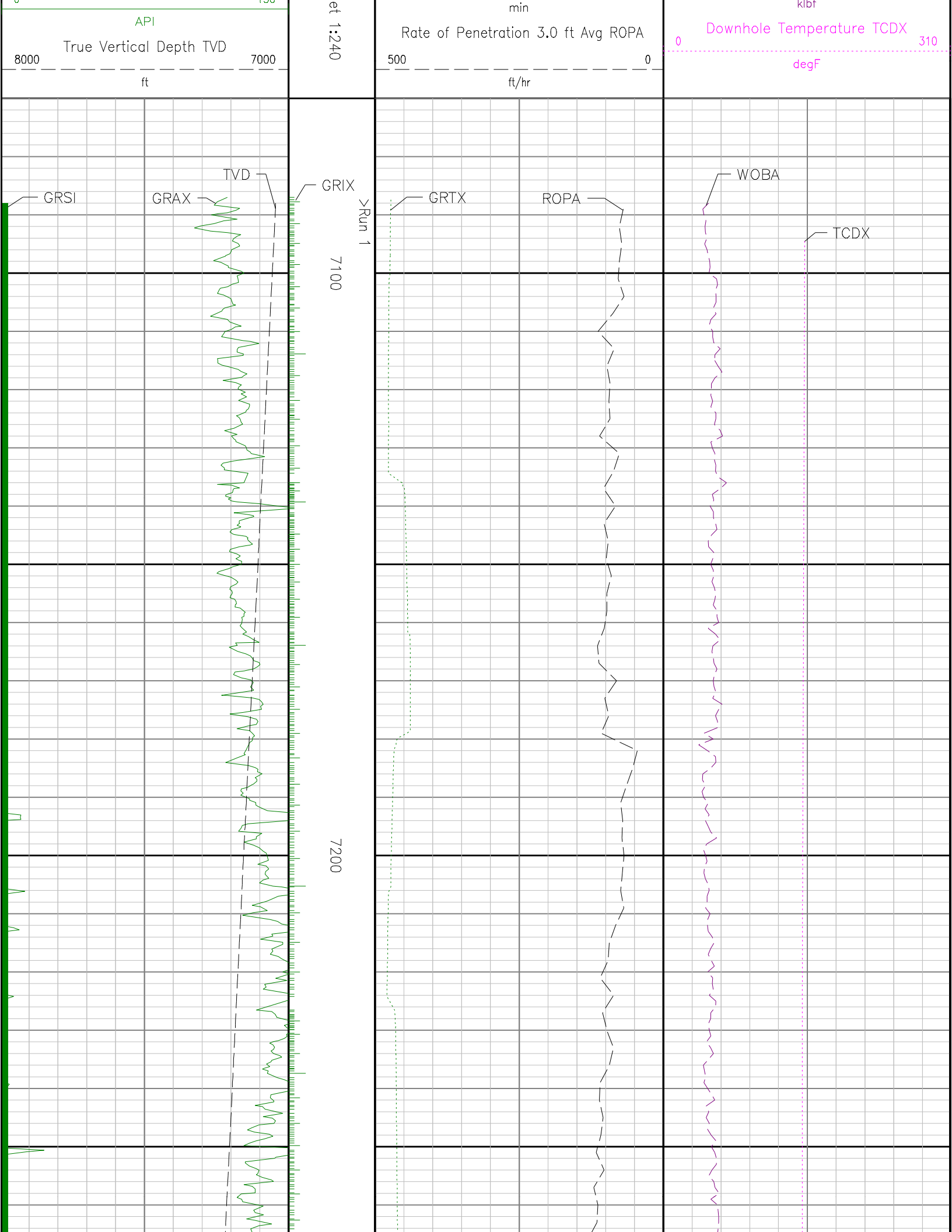
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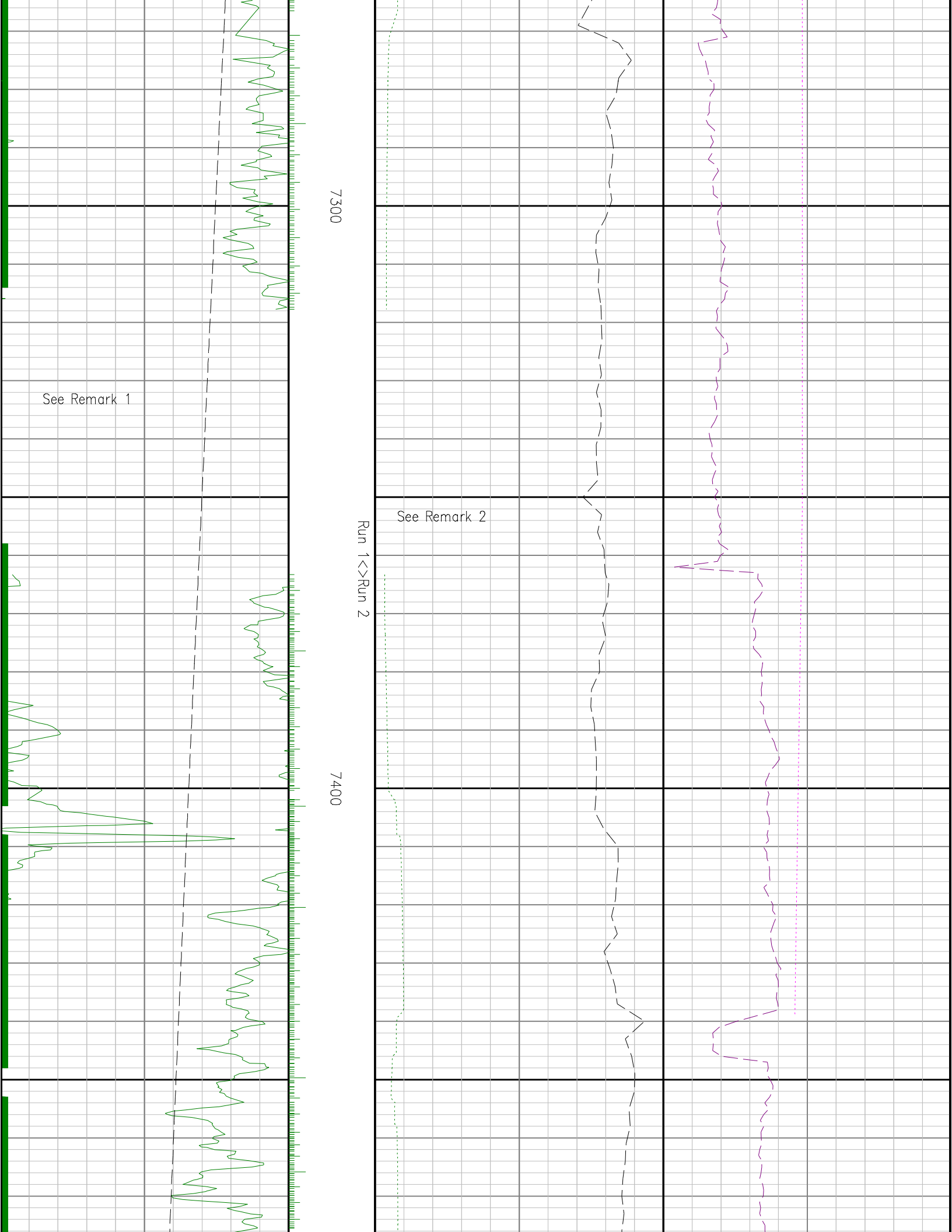
Well : Deepe 35C-27HZ

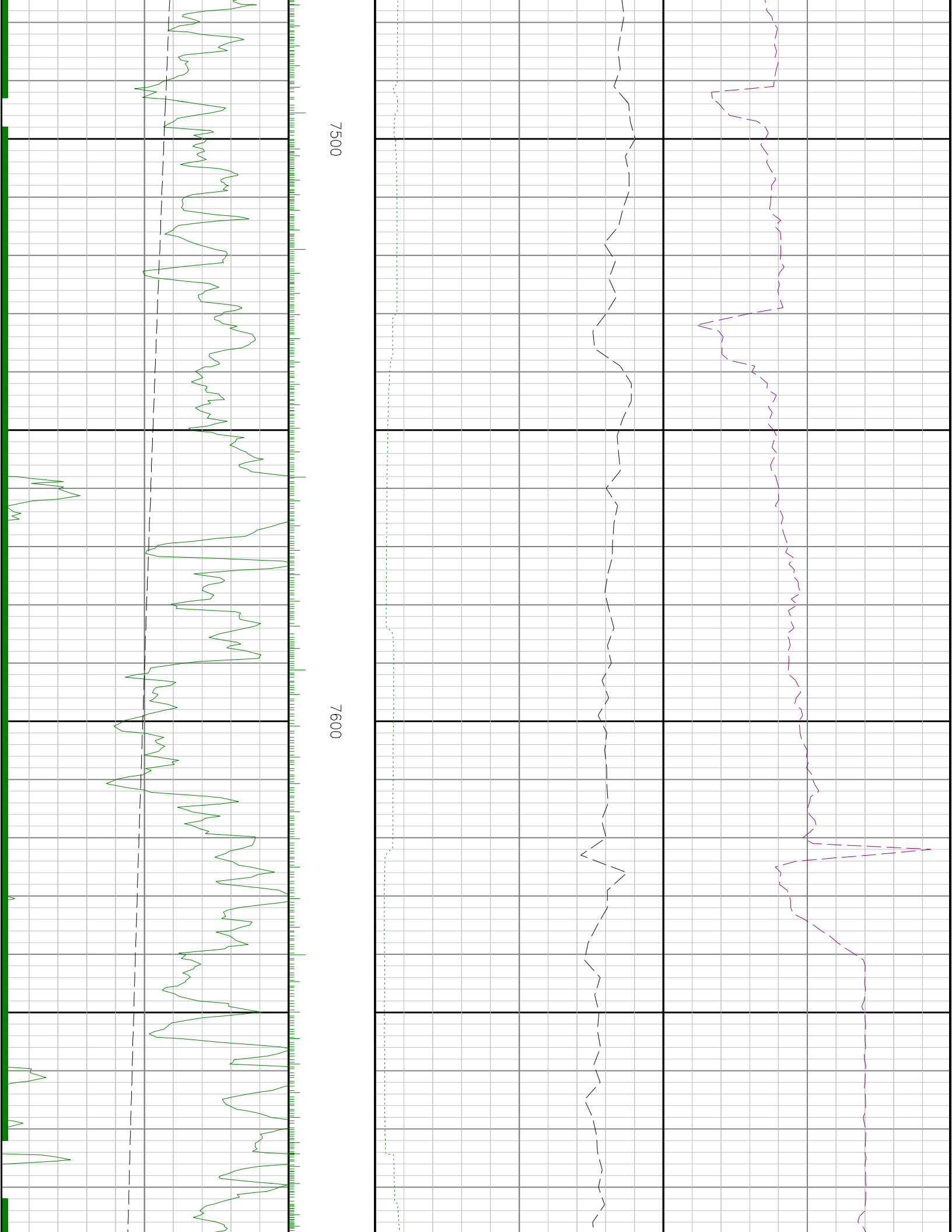
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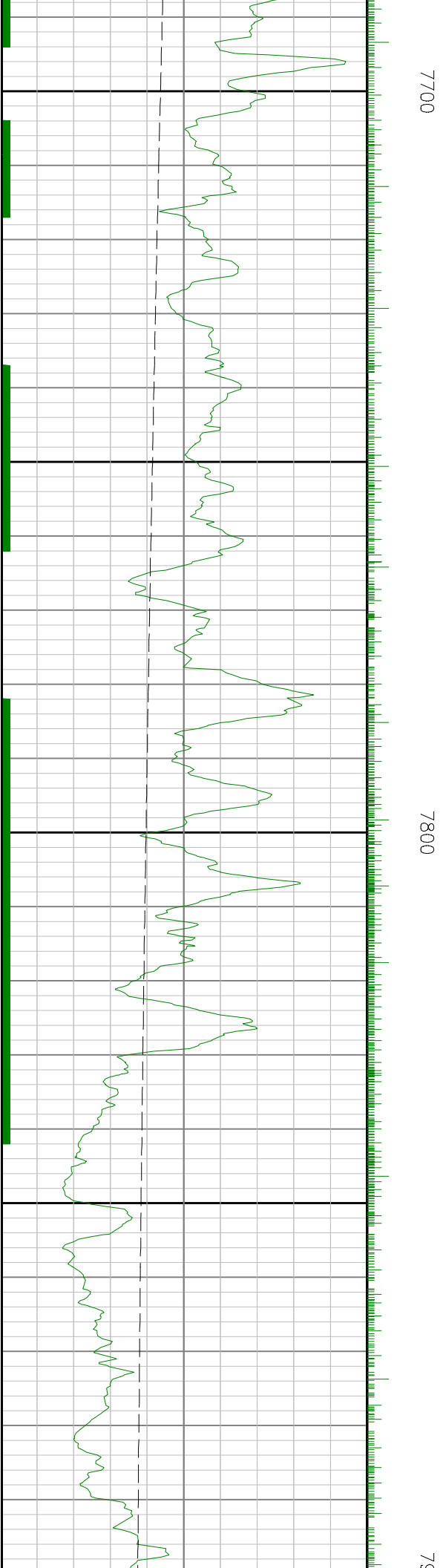
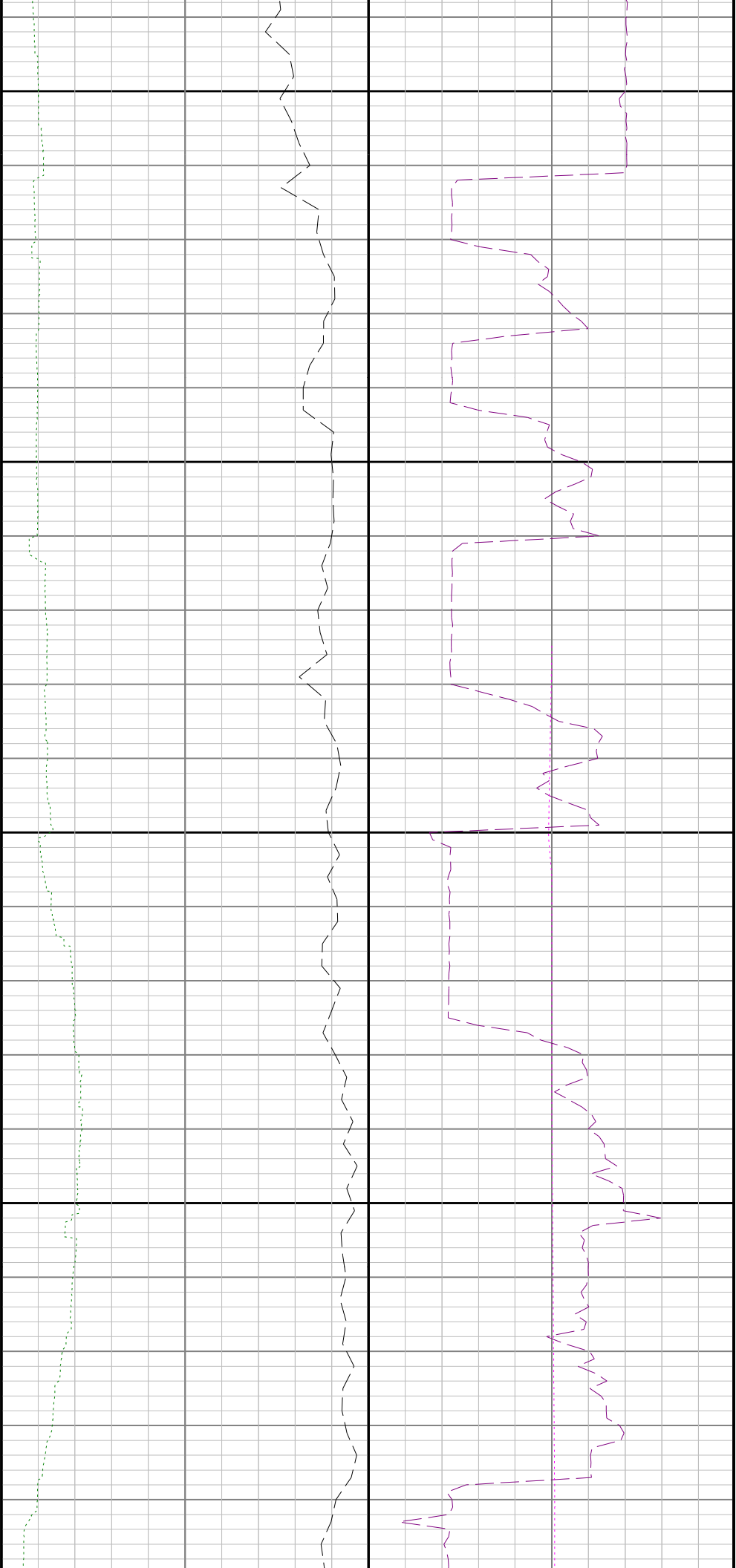
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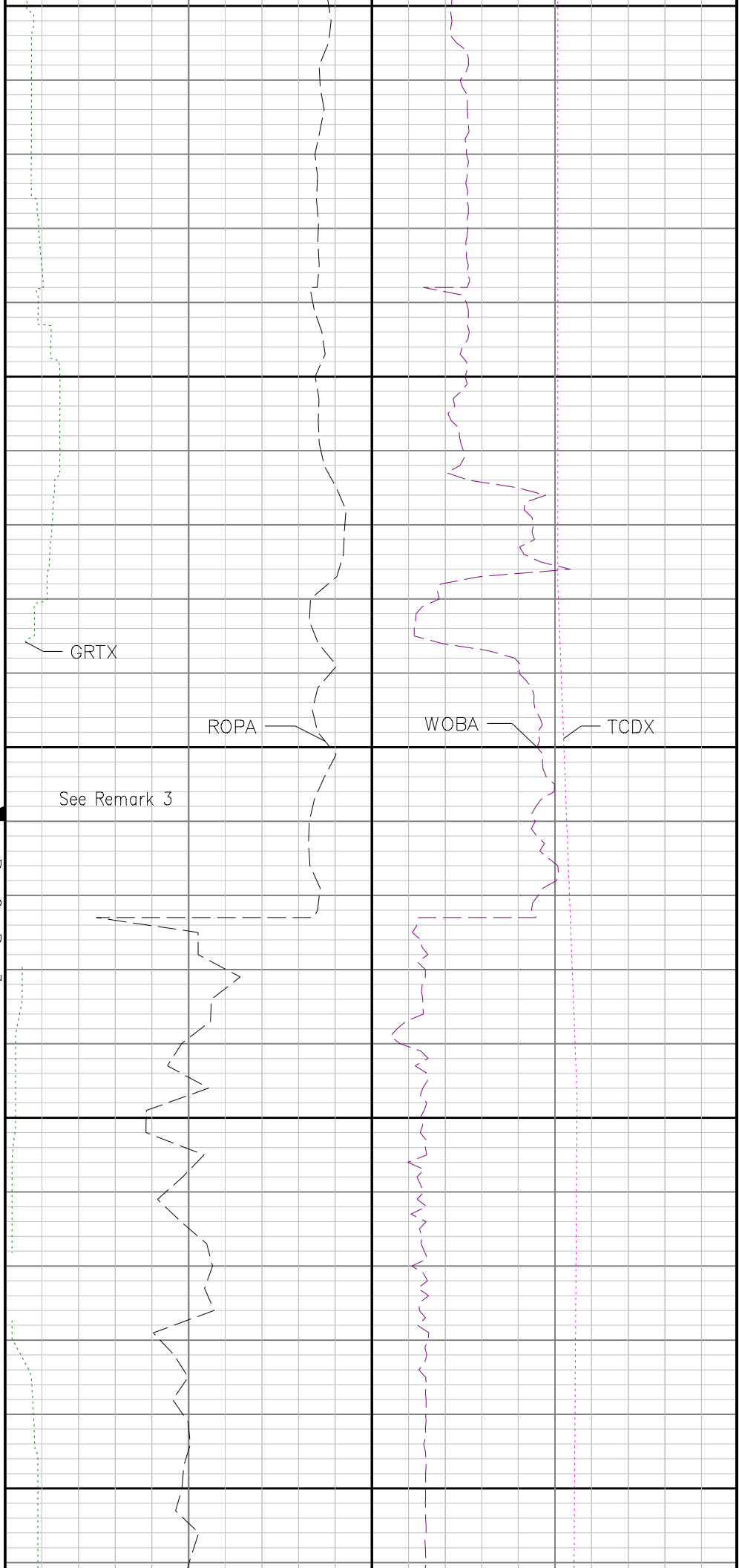
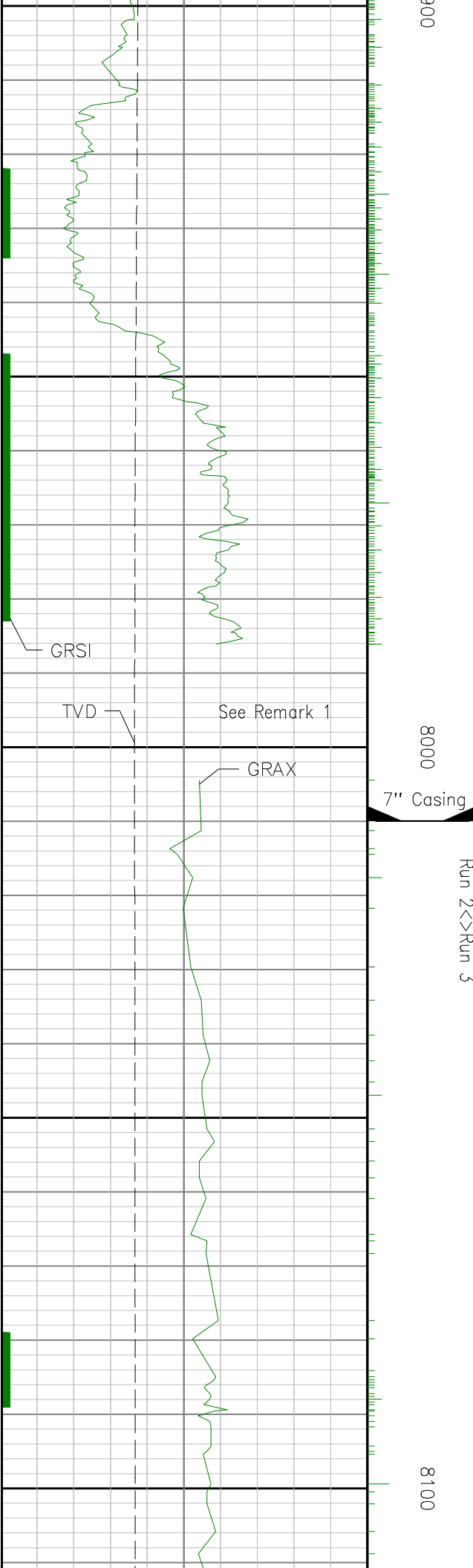
Gamma Ray Apparent0.5 ft Avg GRAX	MD feet	Gamma Time Since Drilled GRTX	Surface Weight On Bit 1.0 ft Avg WOBA
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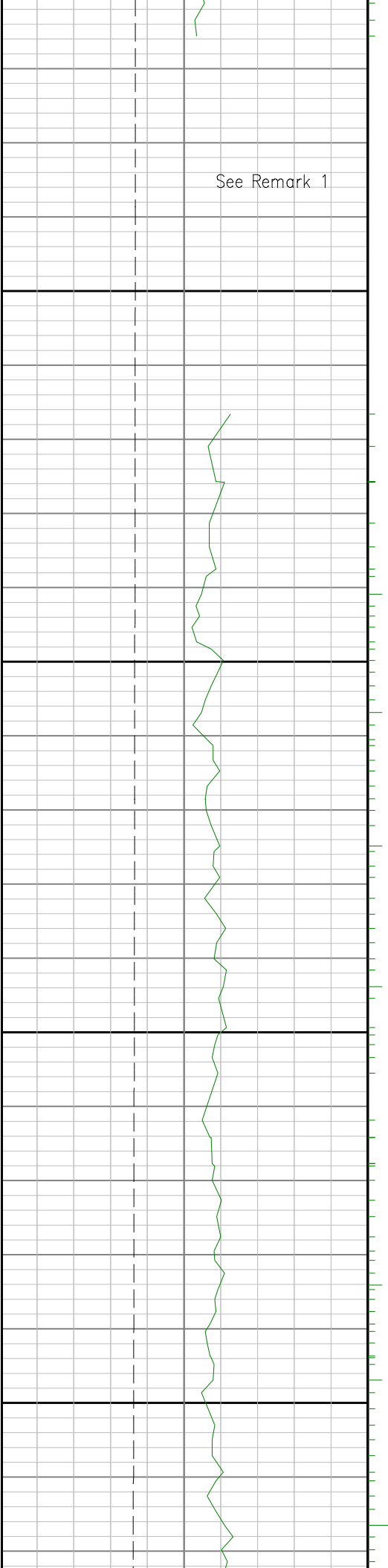






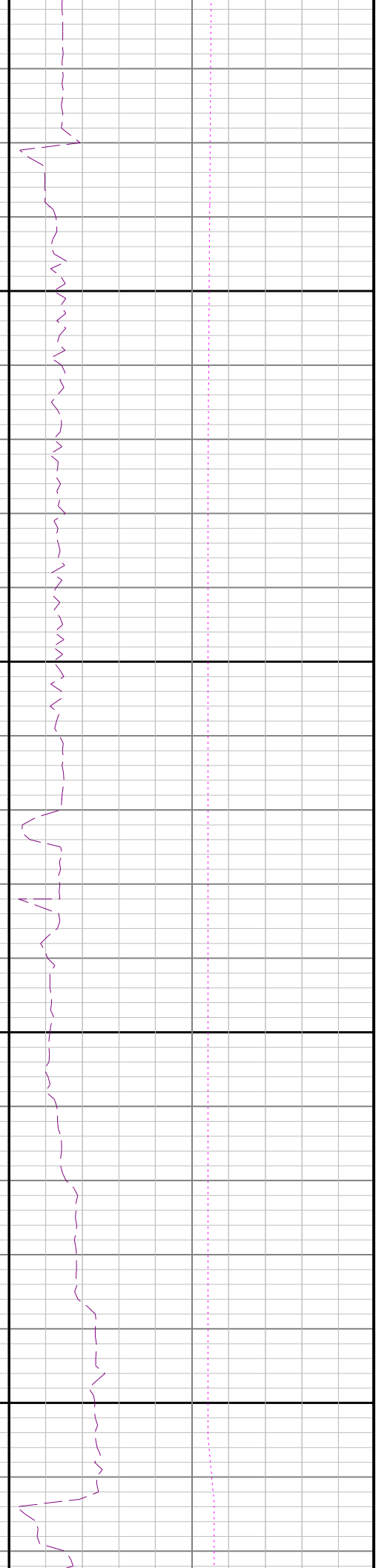
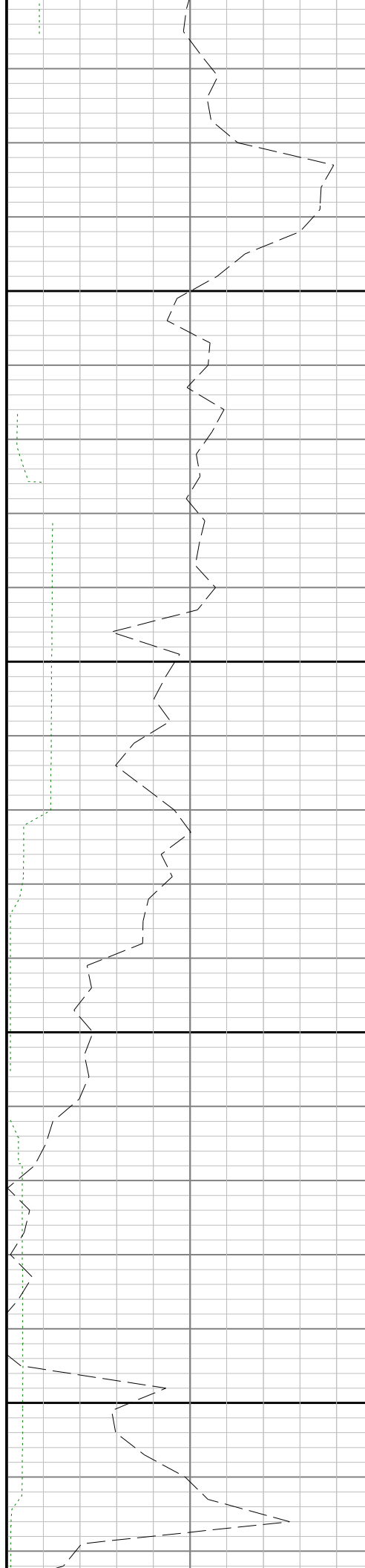


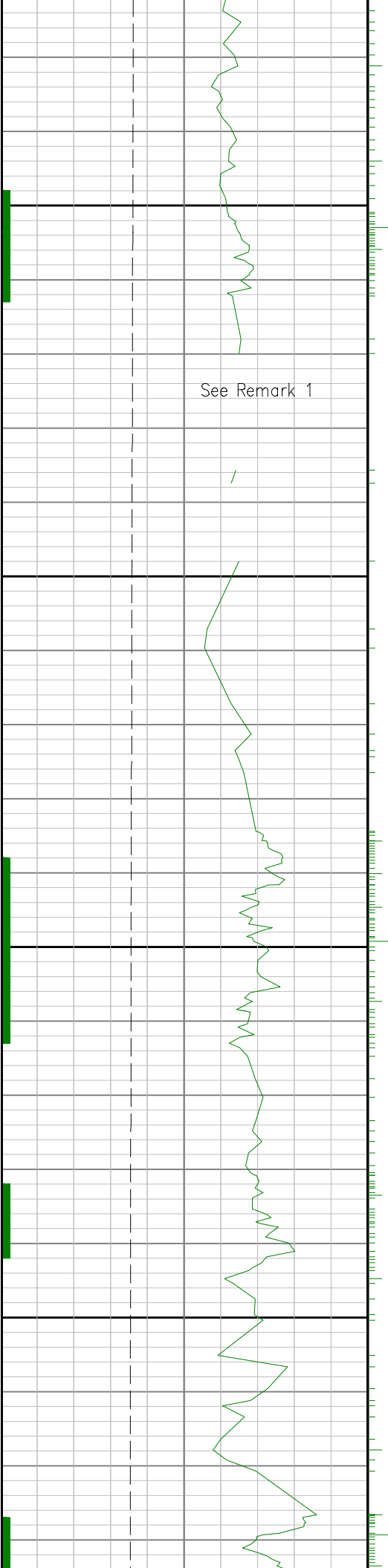




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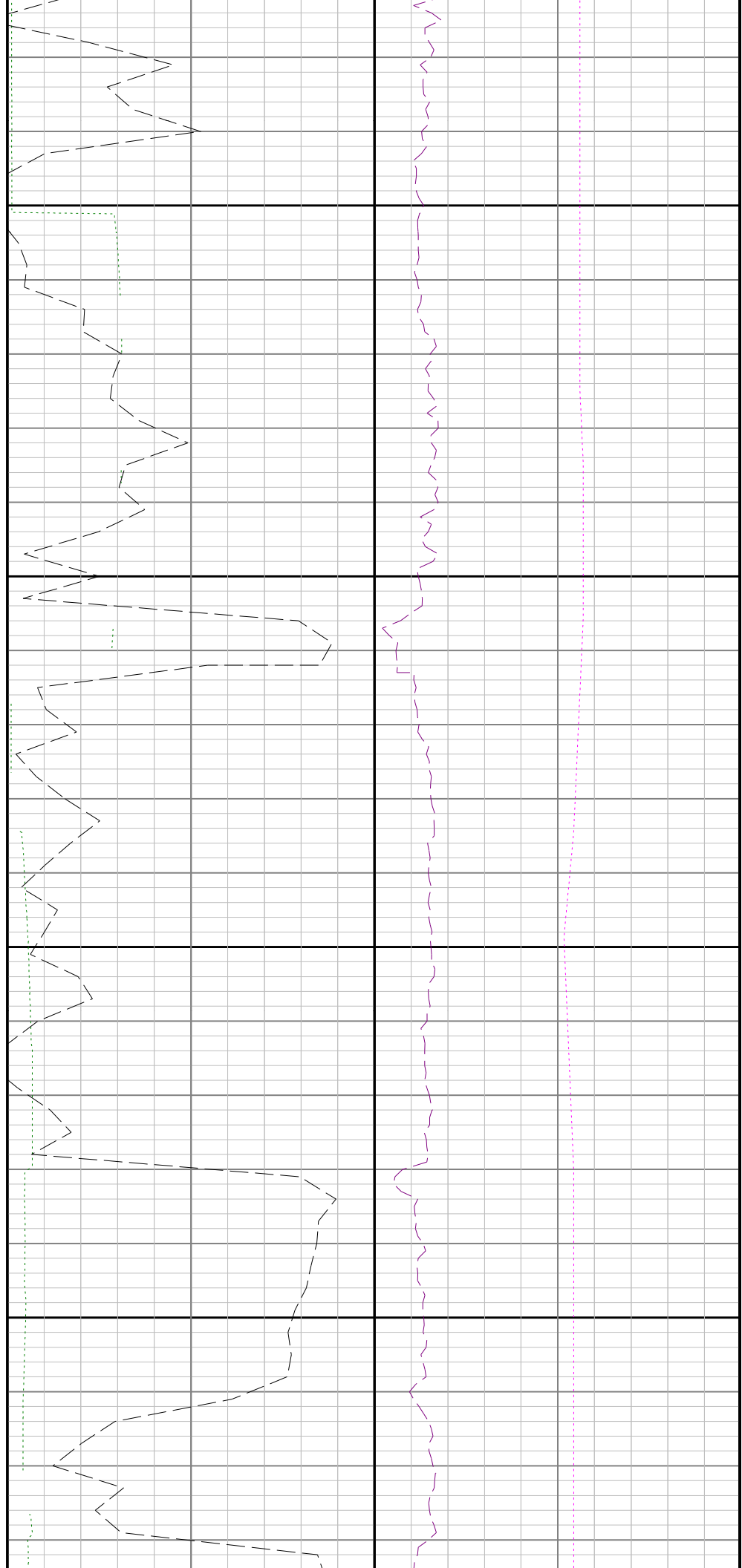
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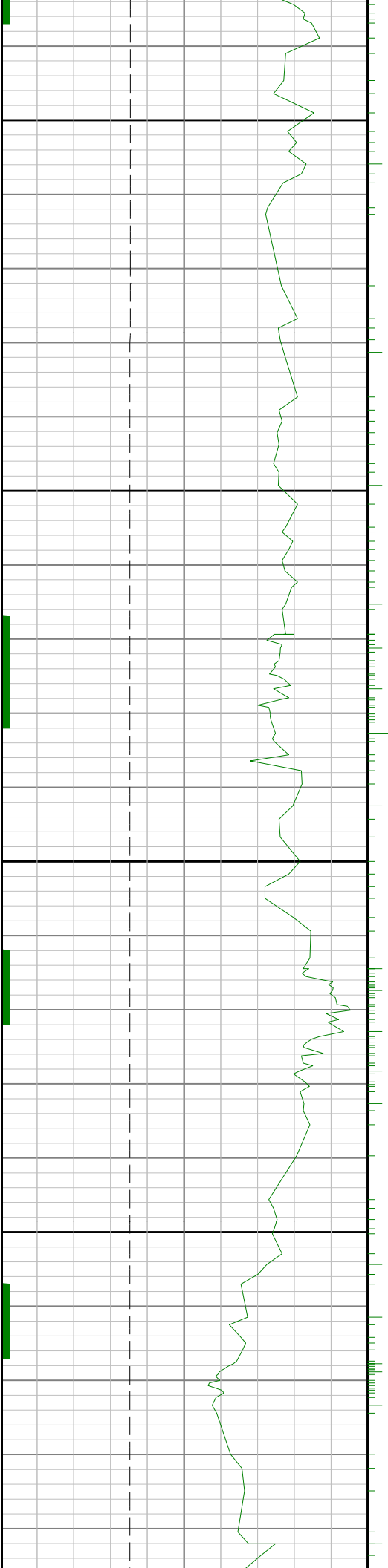




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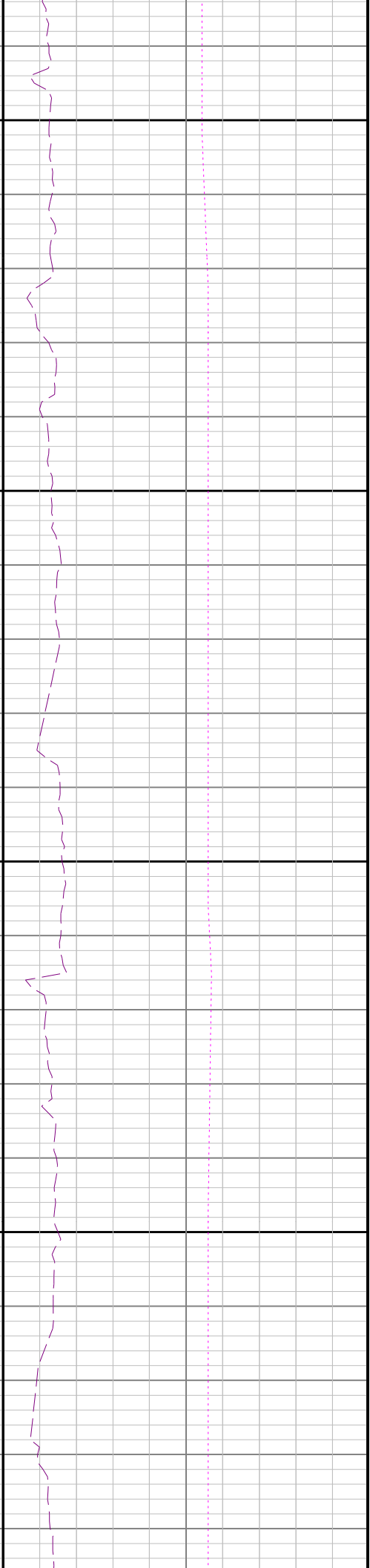
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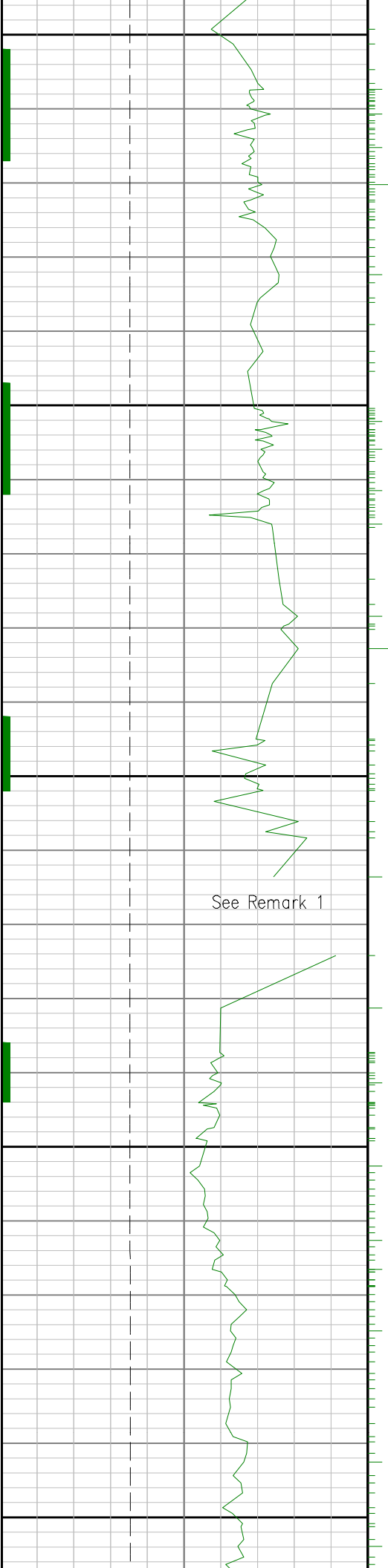




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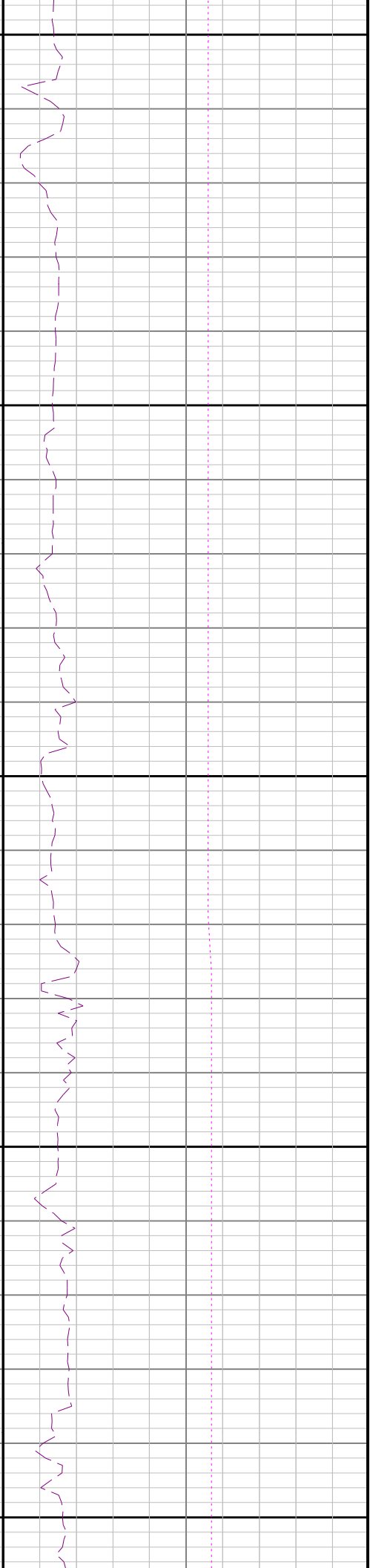
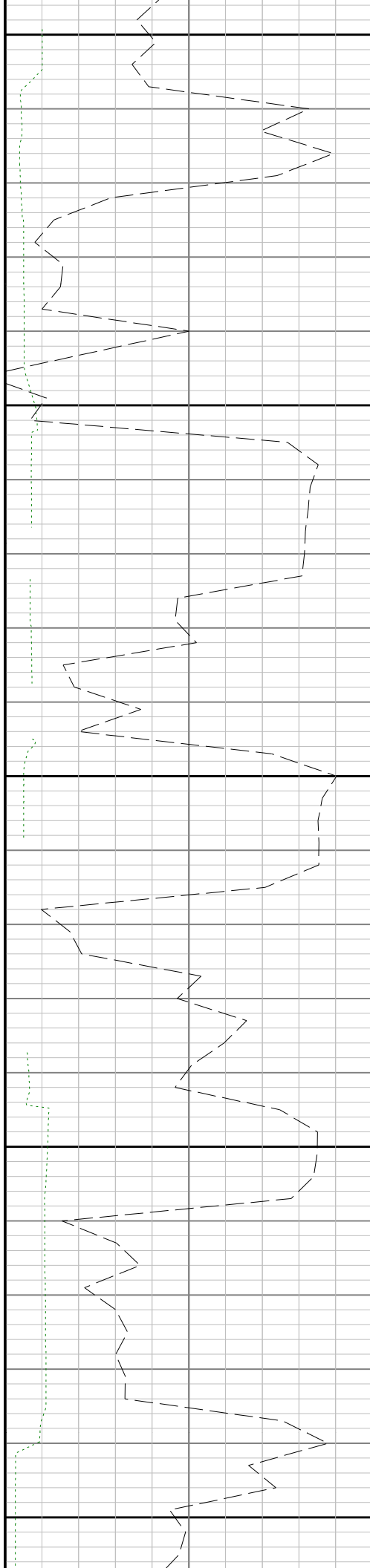


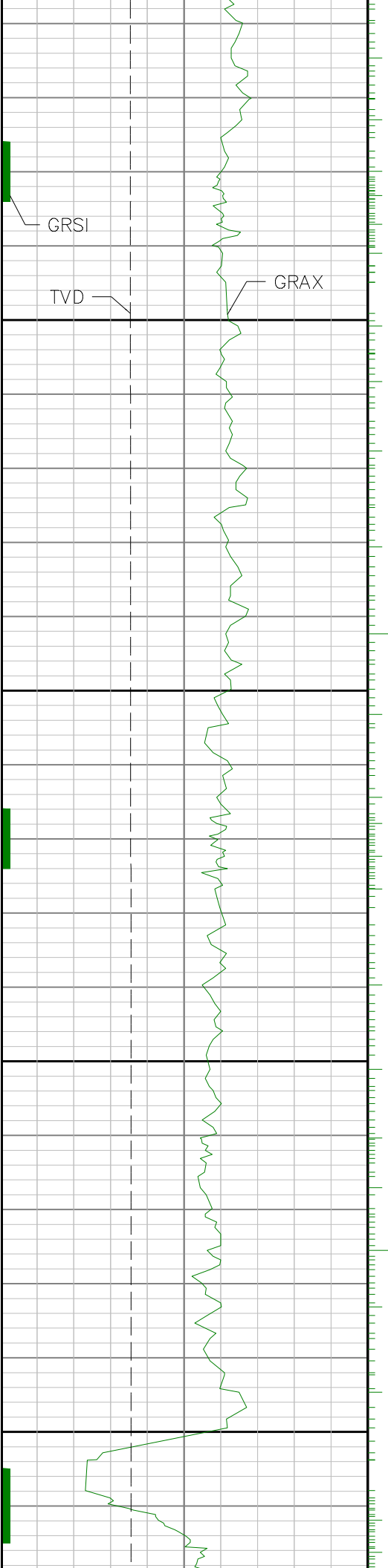


See Remark 1

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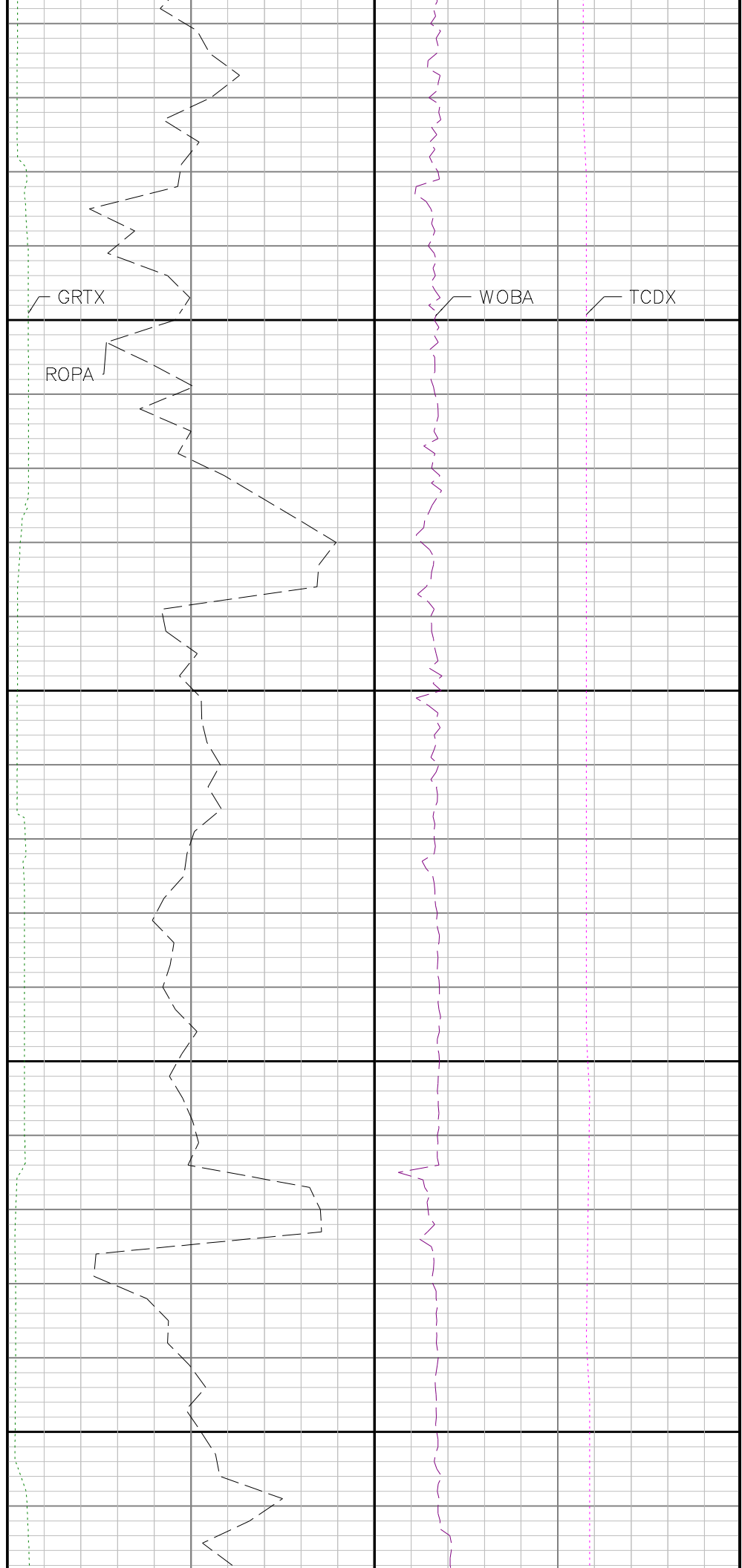
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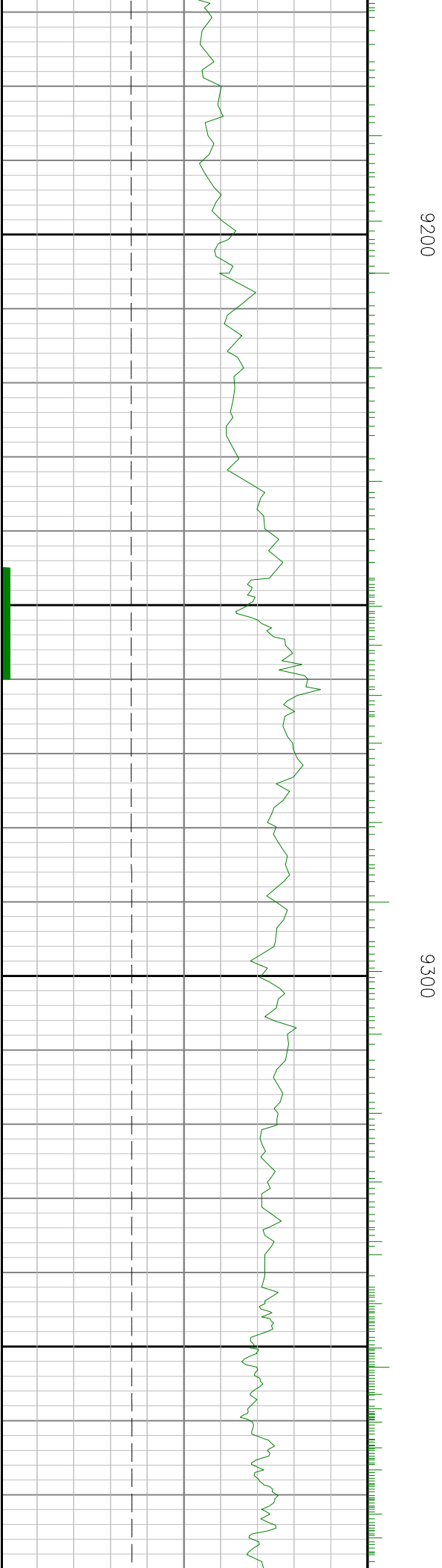
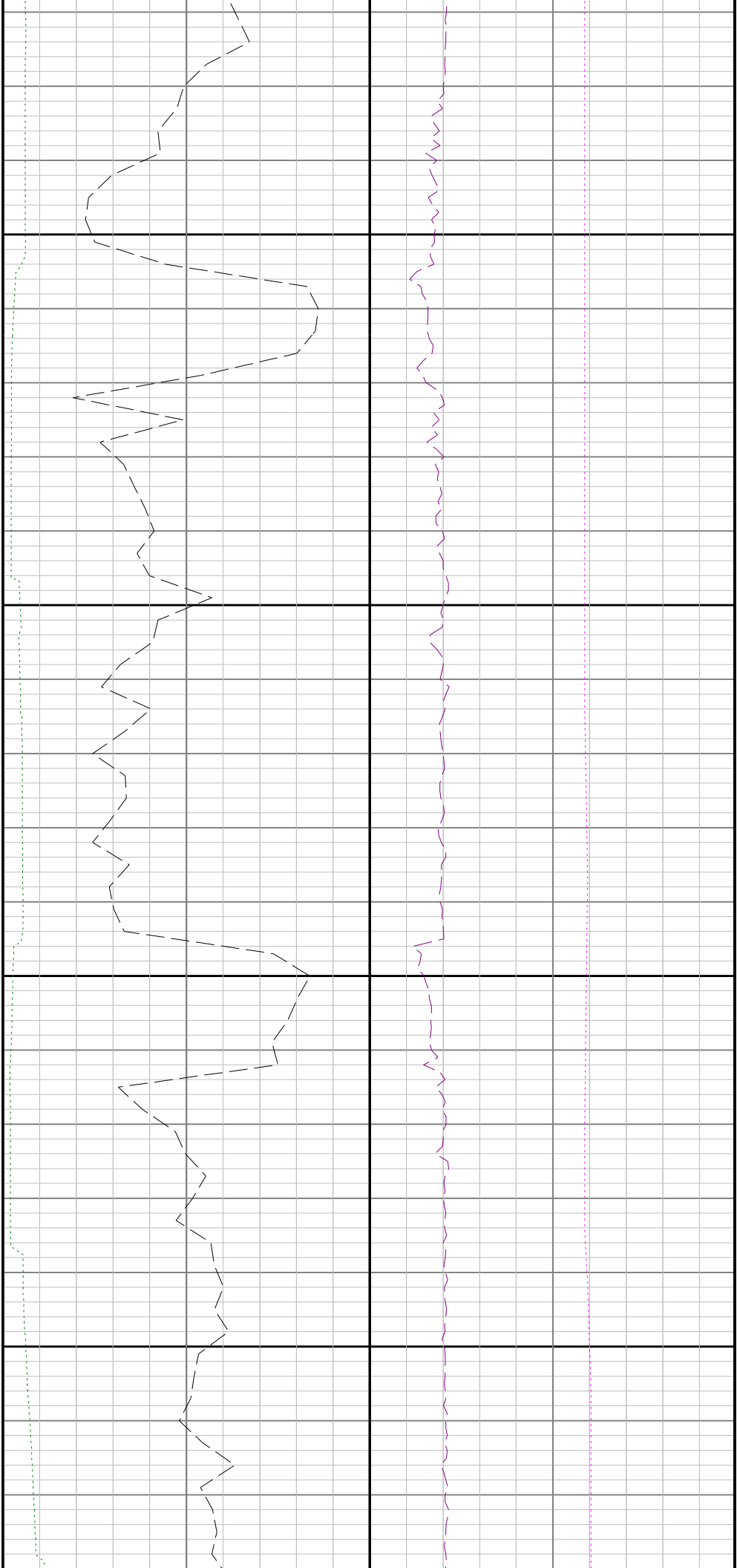


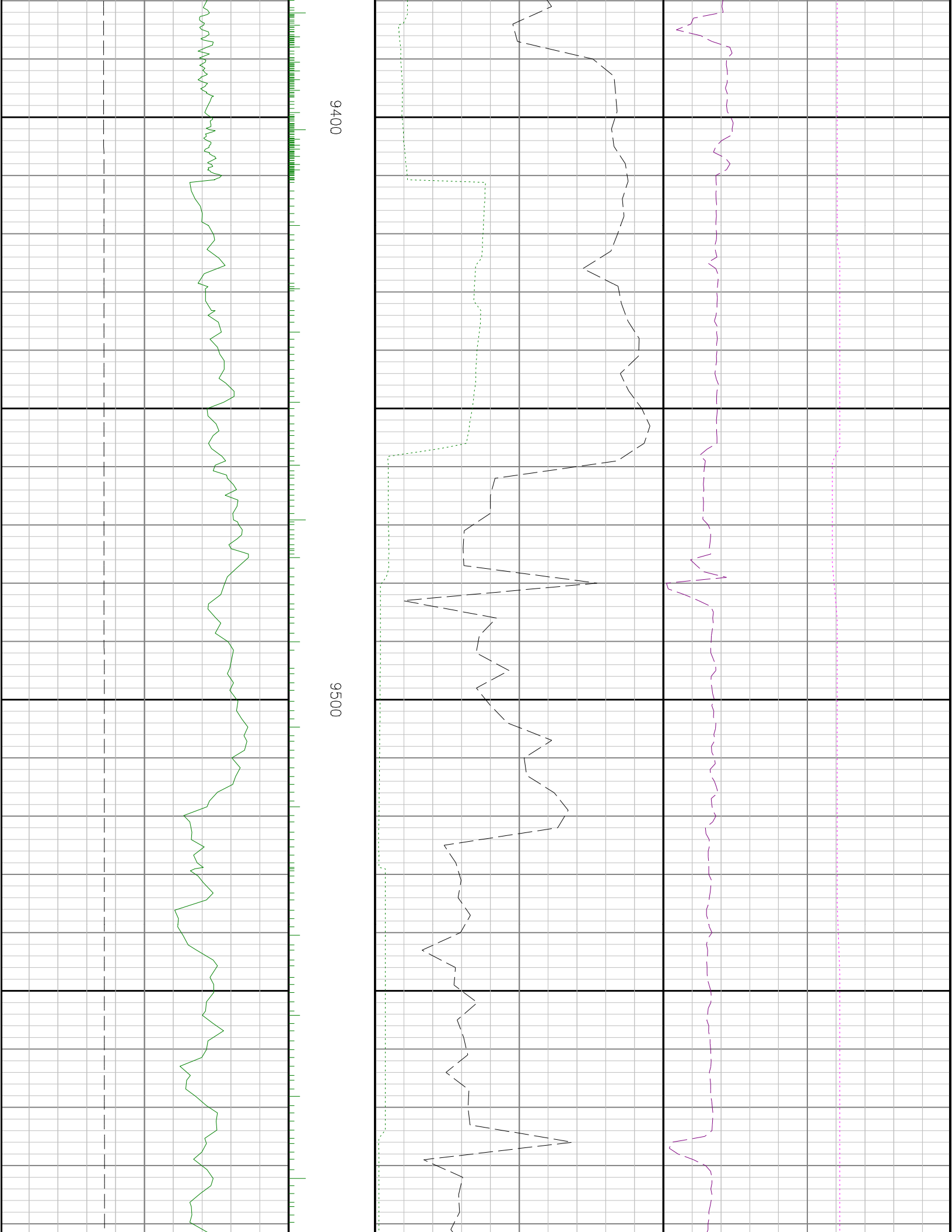


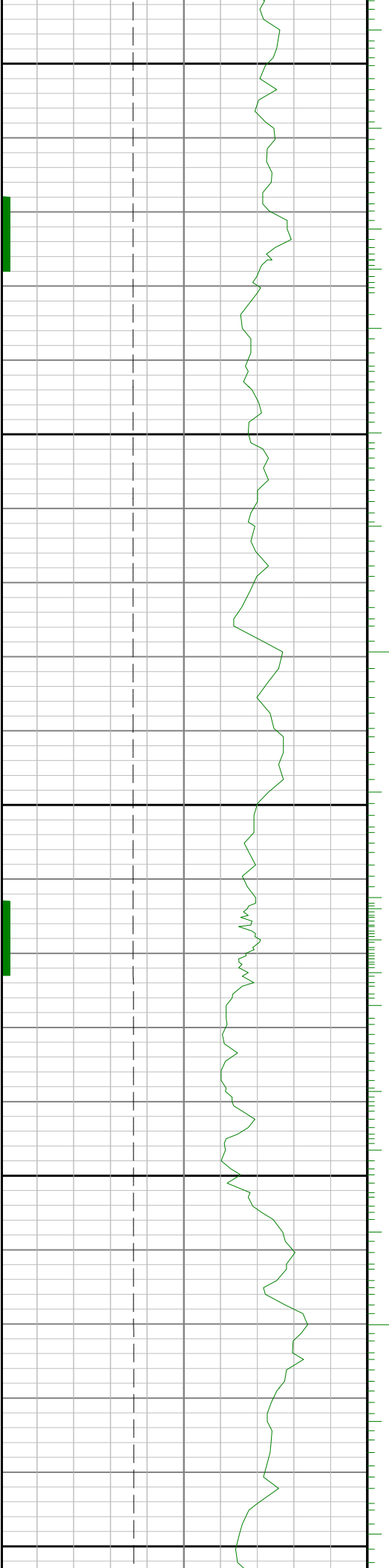
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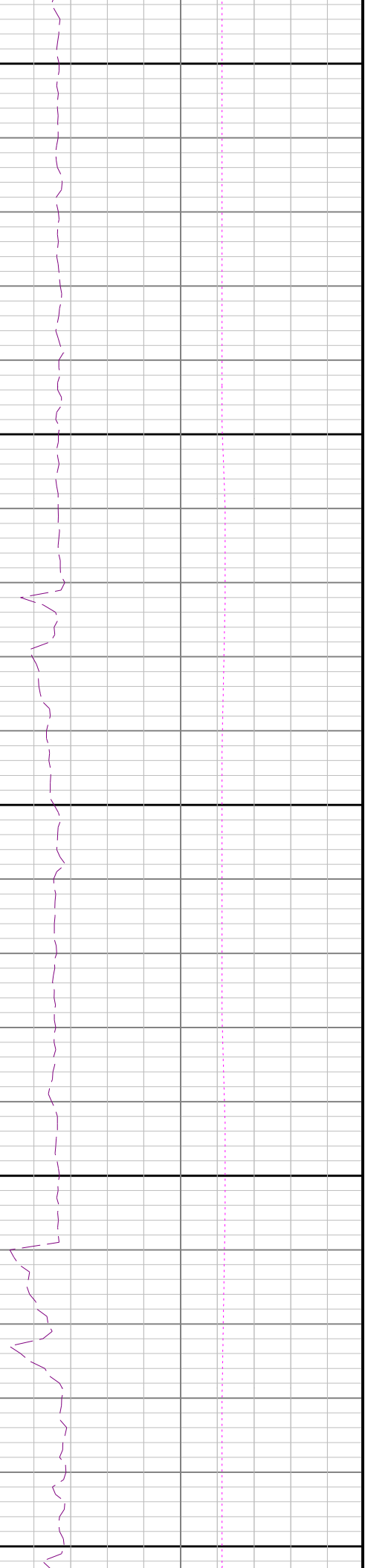
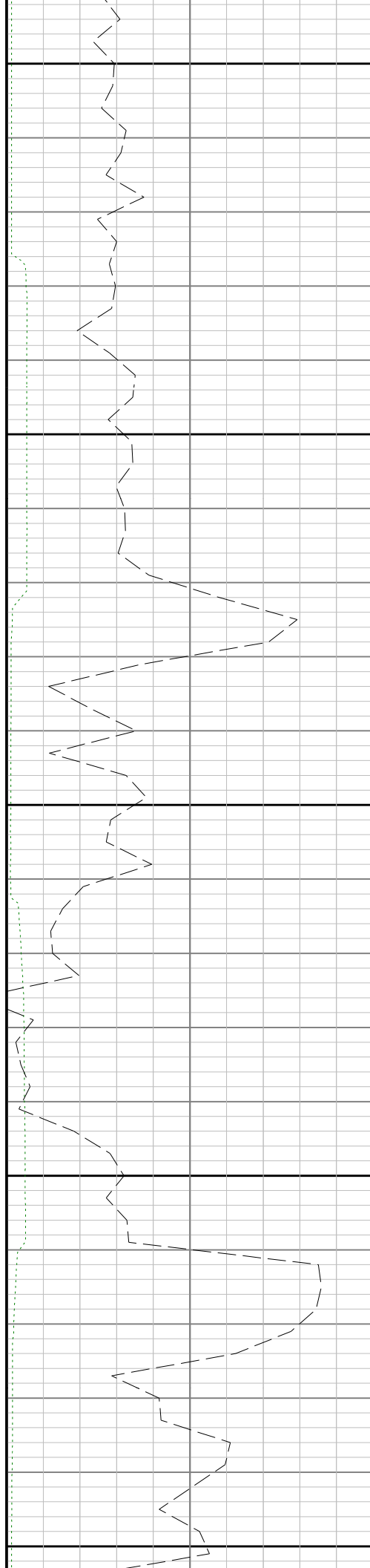


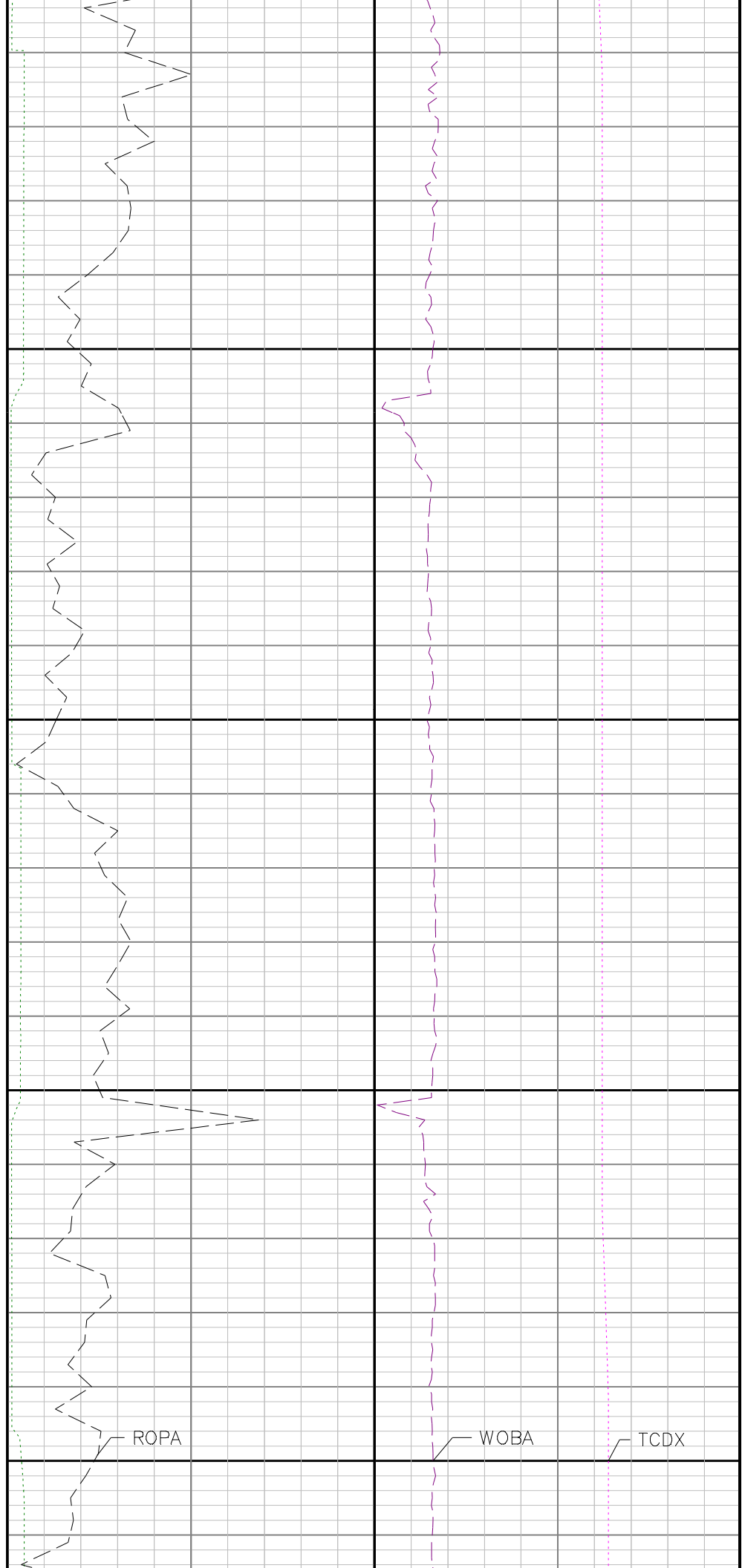
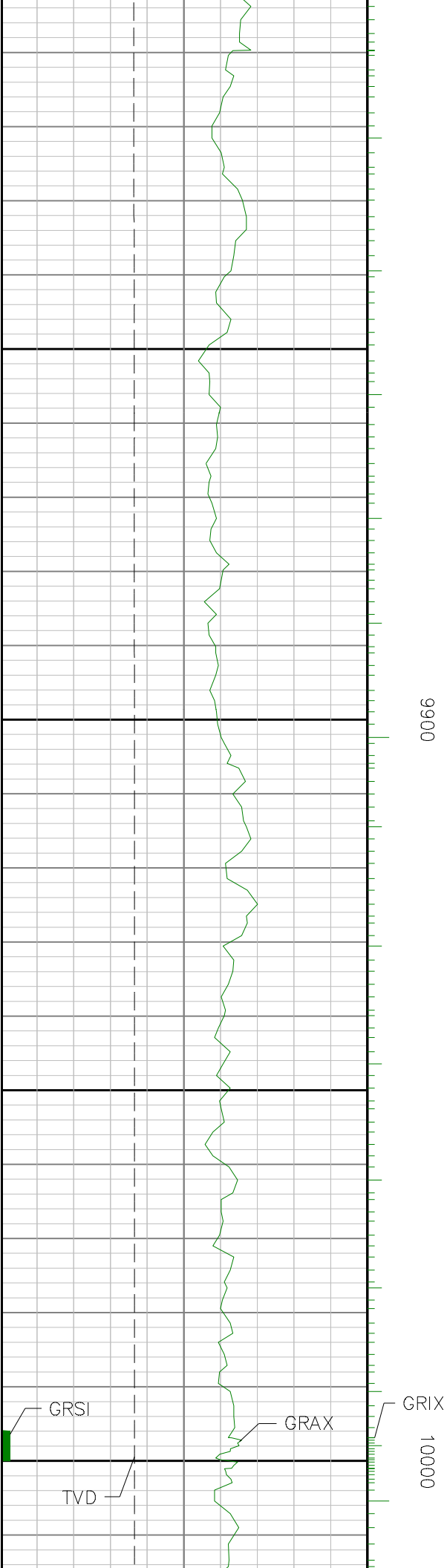


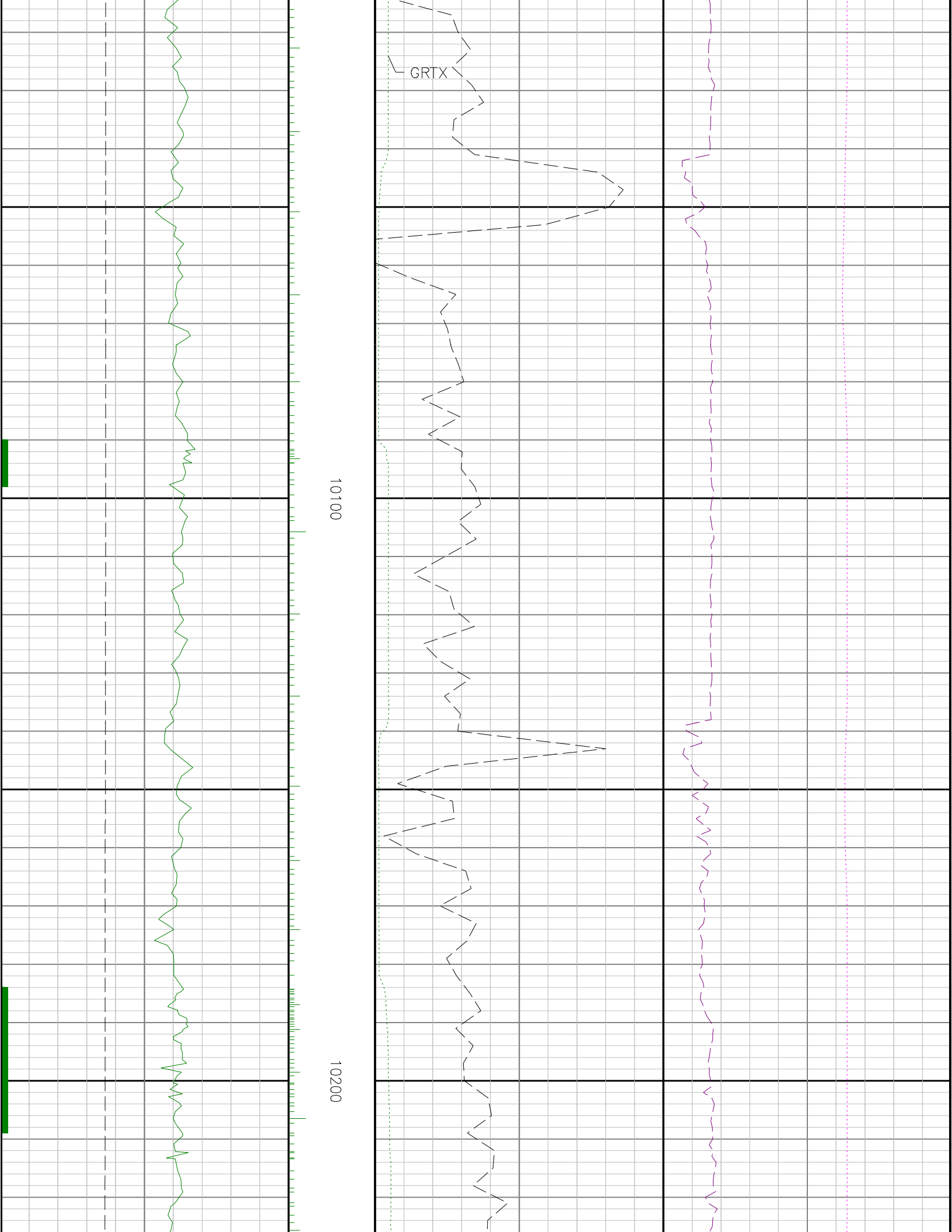
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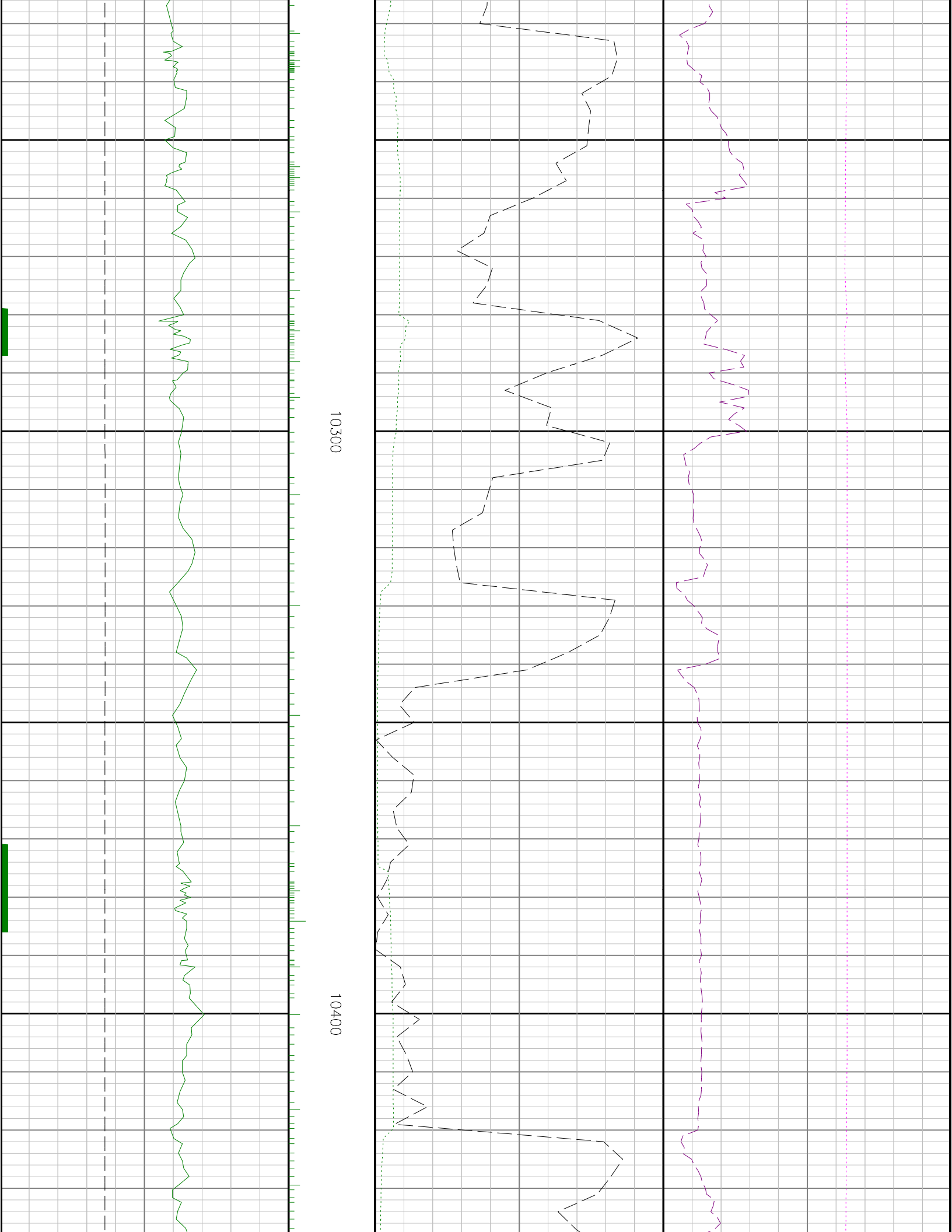
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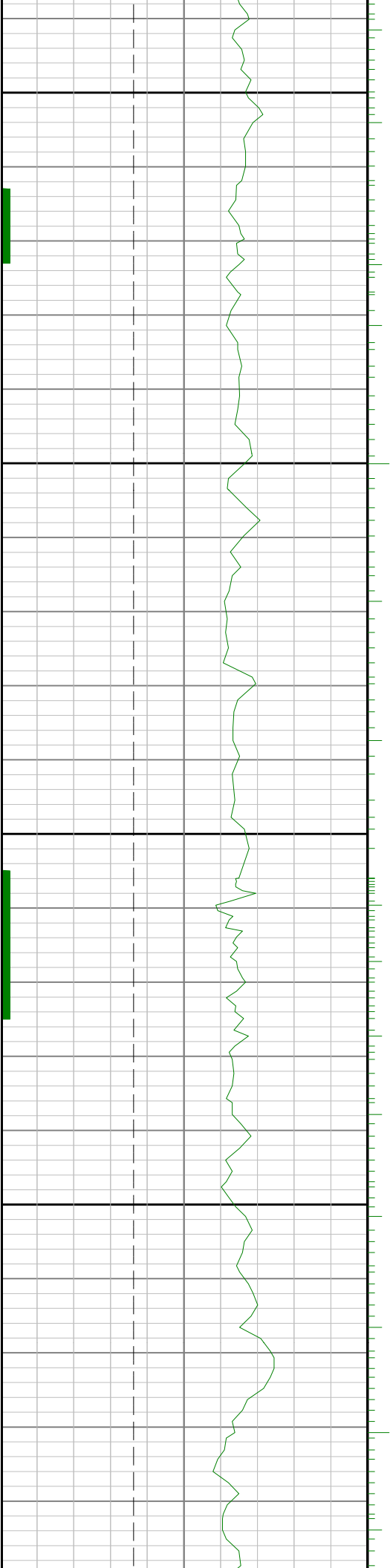
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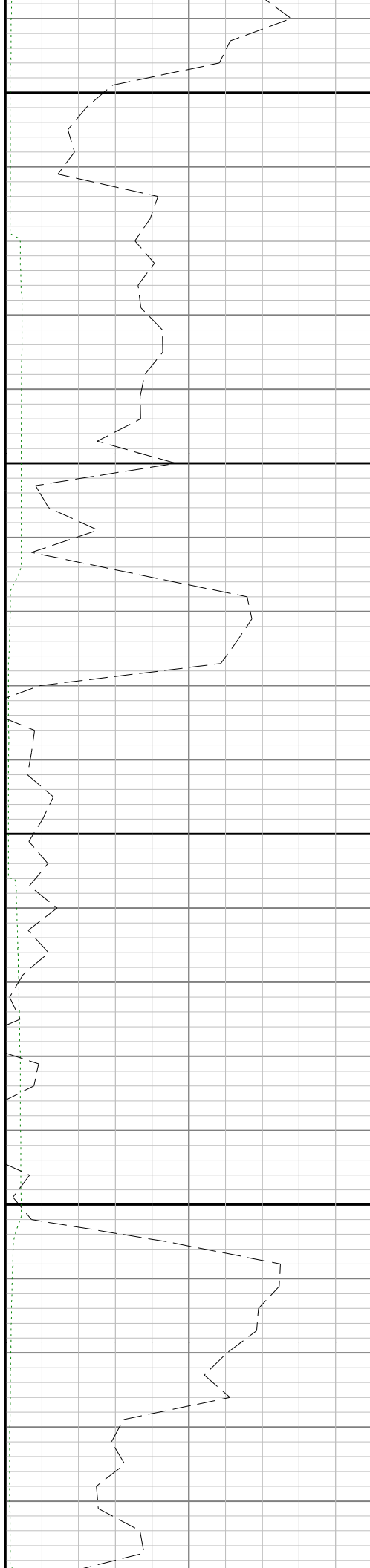


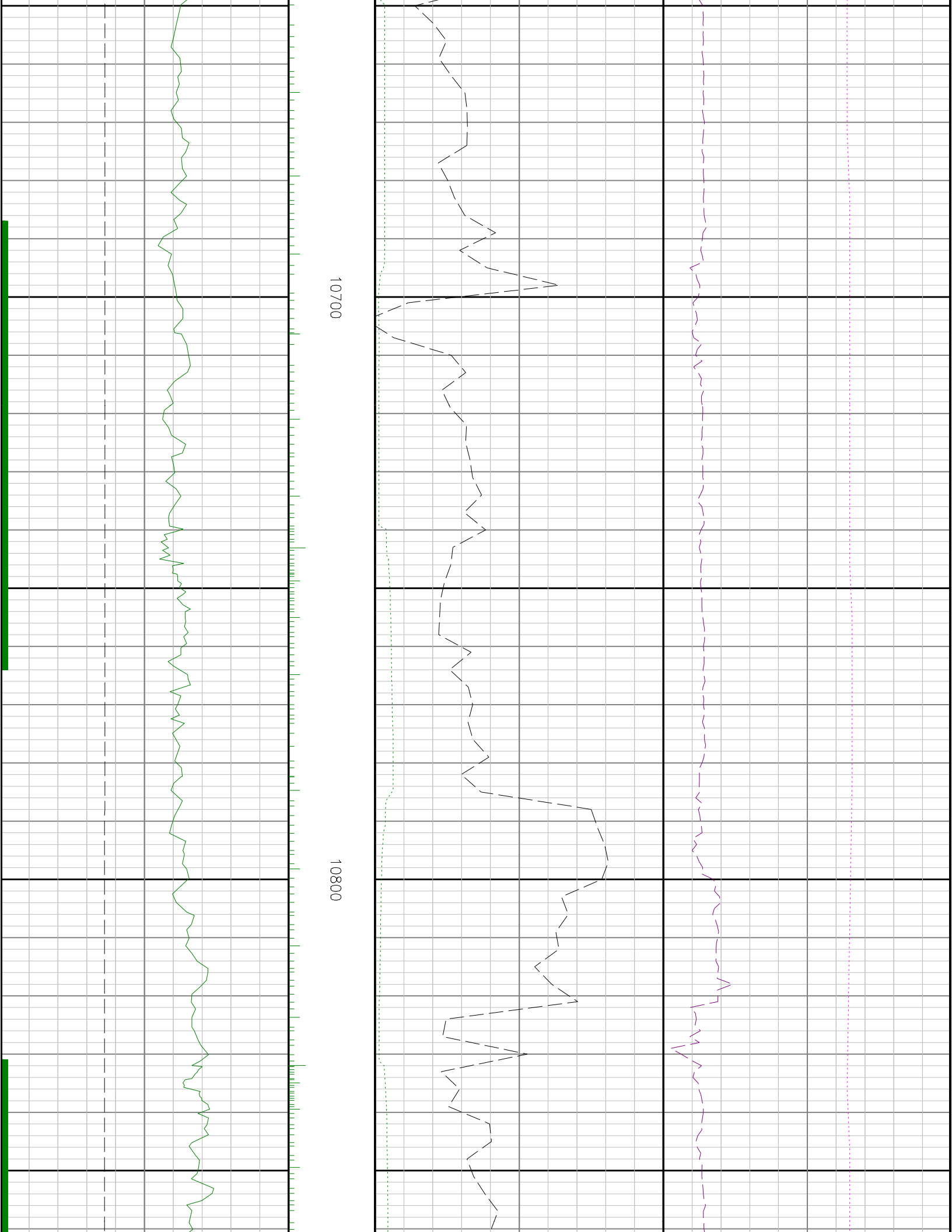


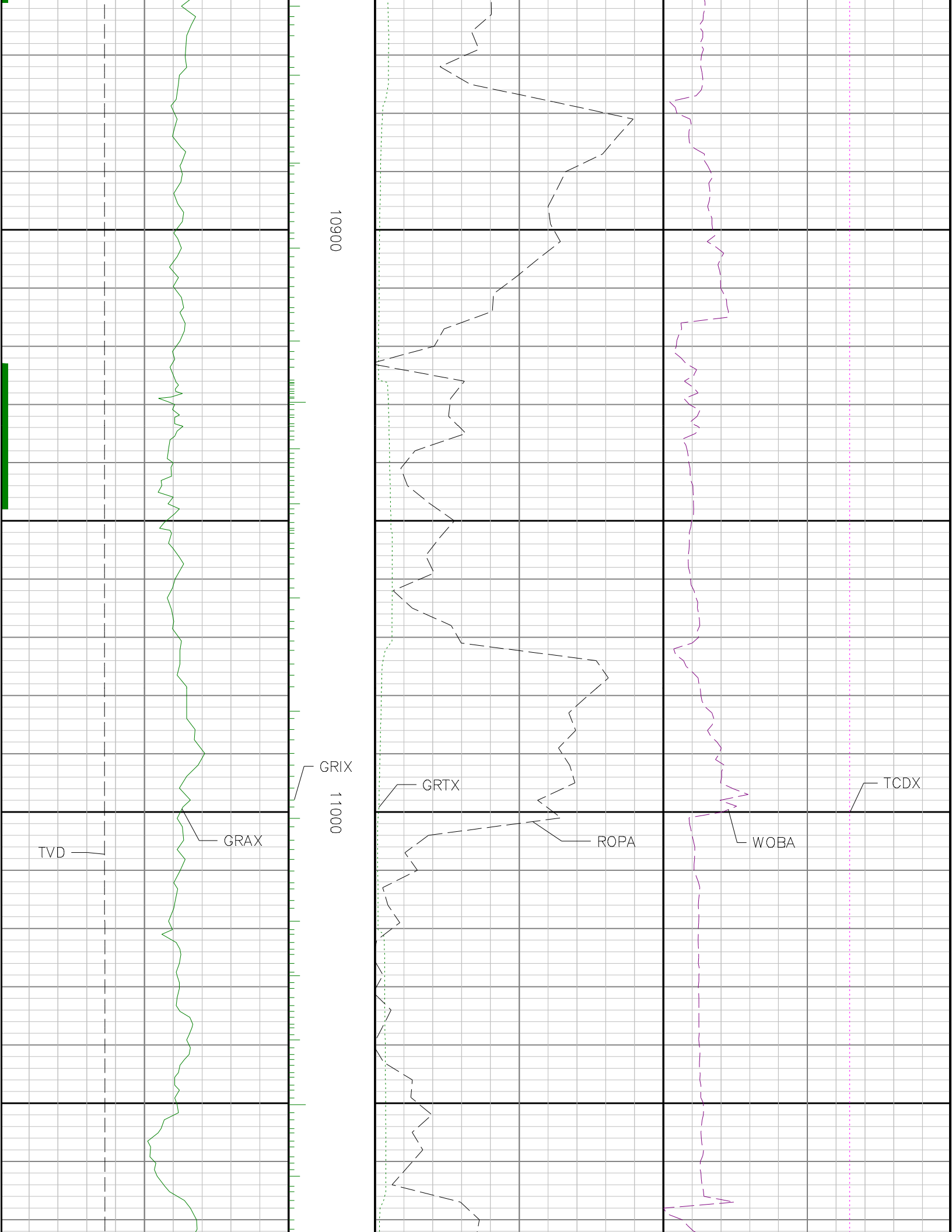


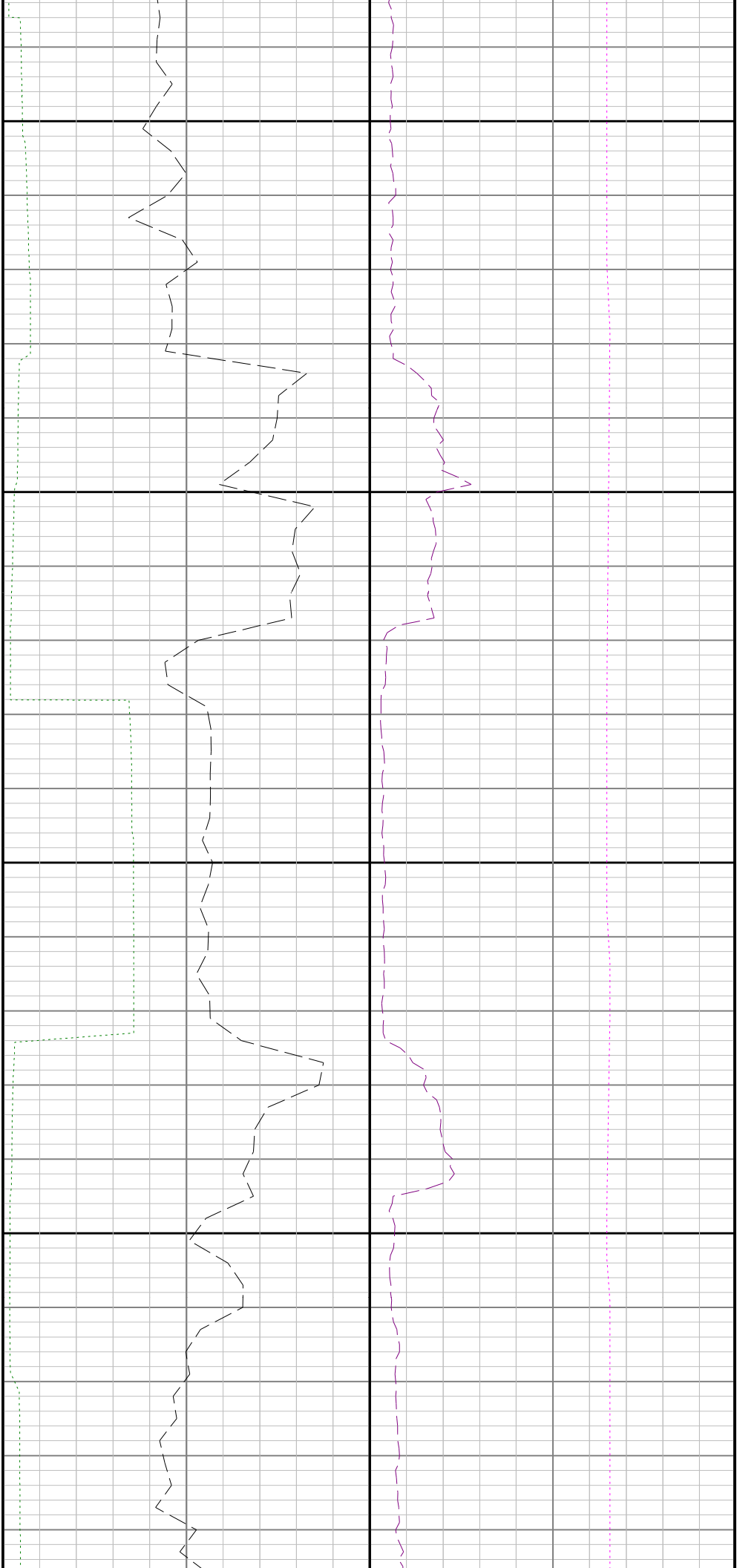
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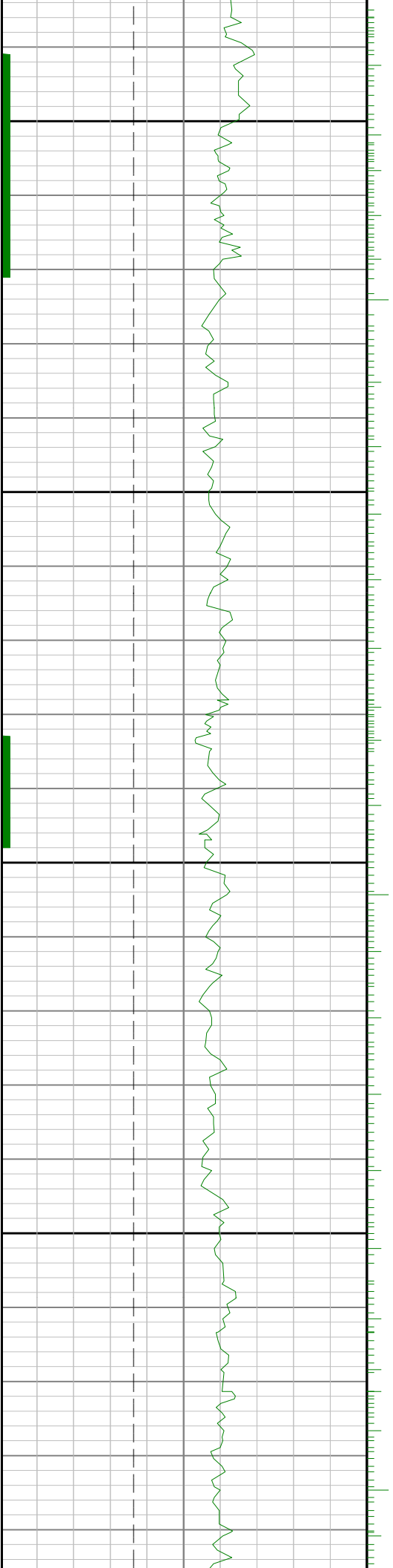


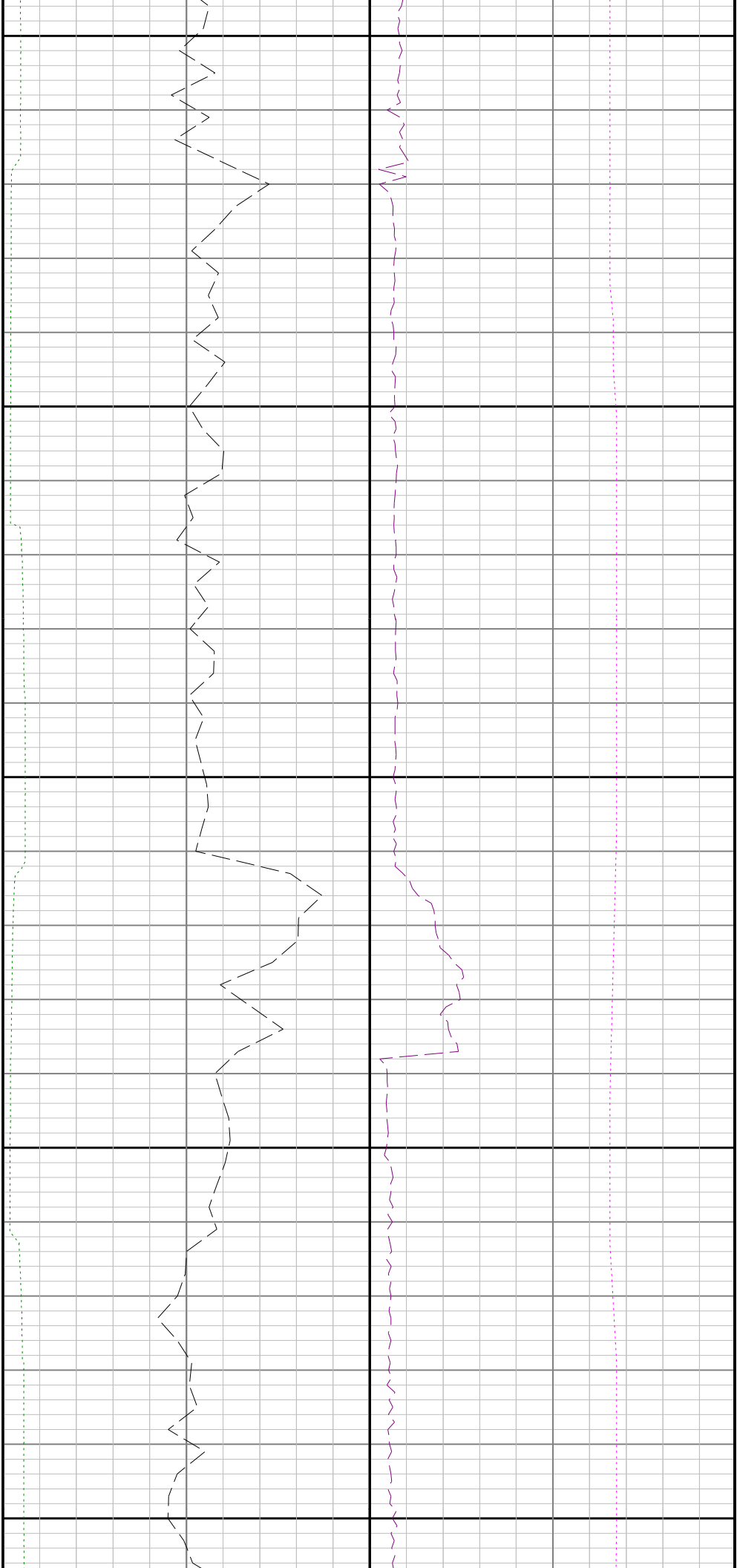




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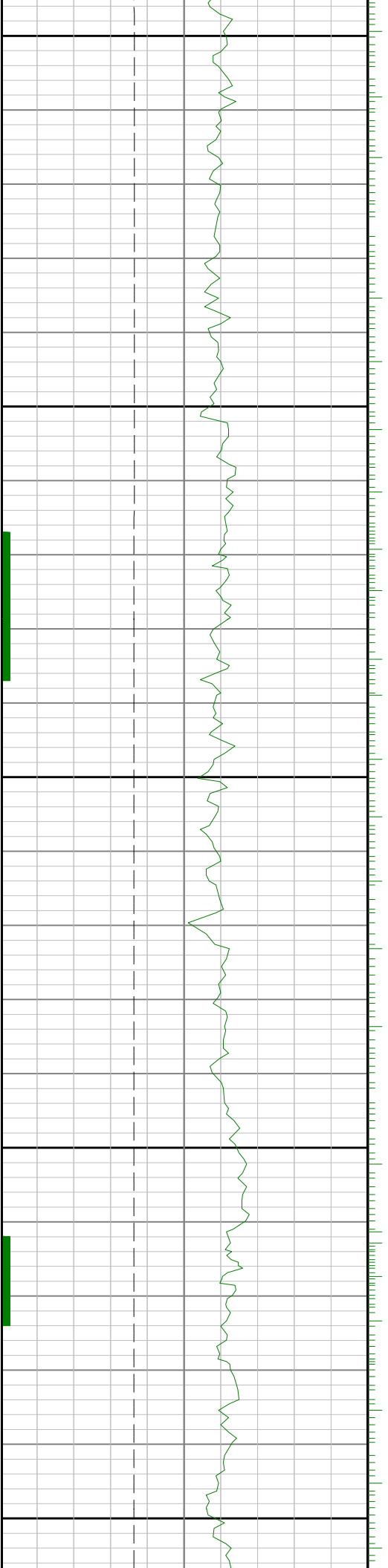


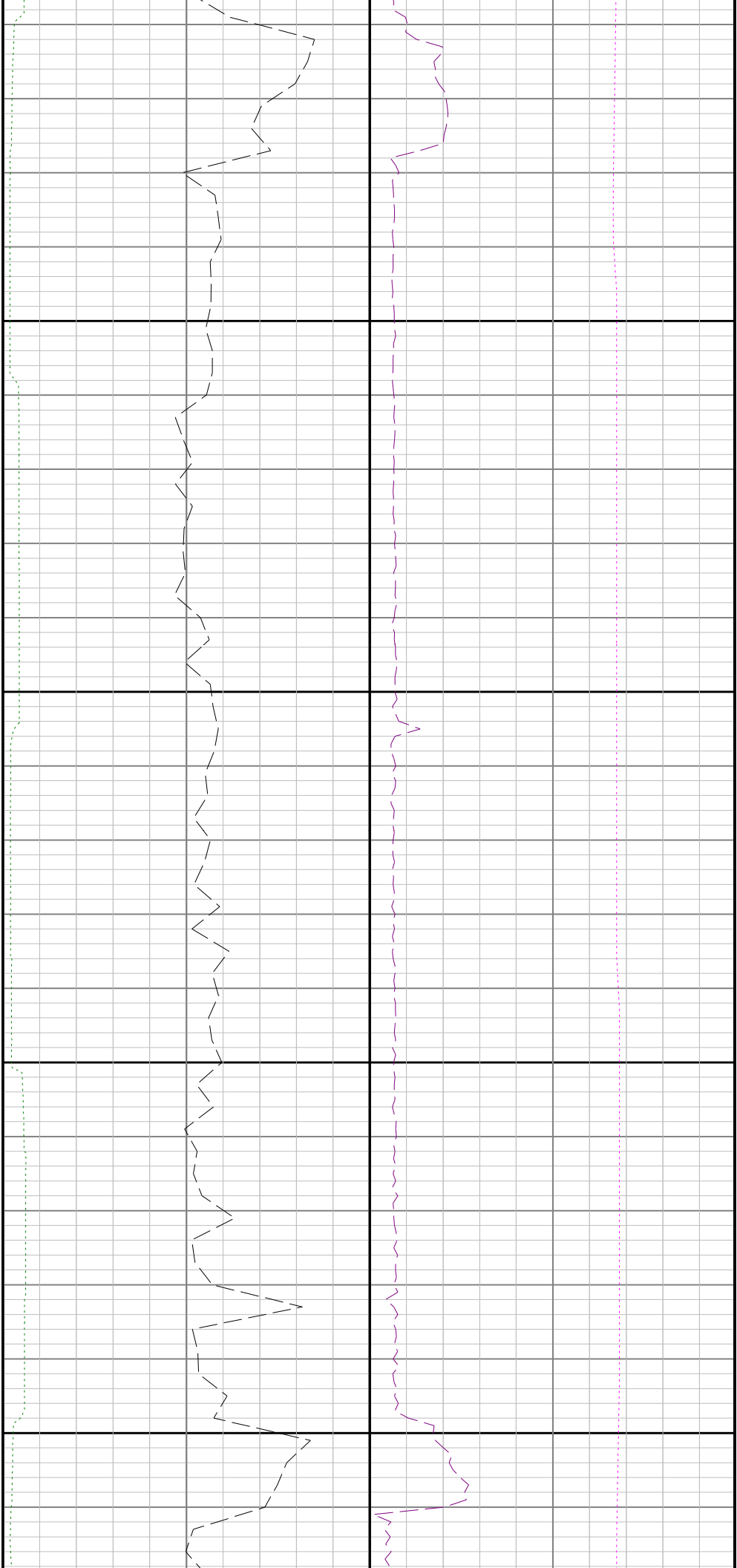


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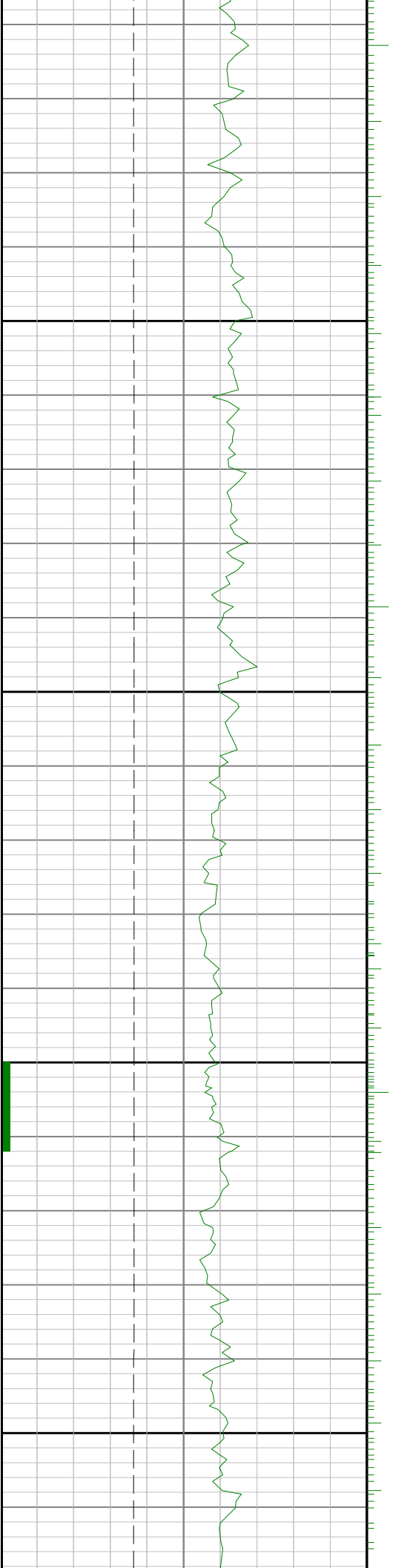
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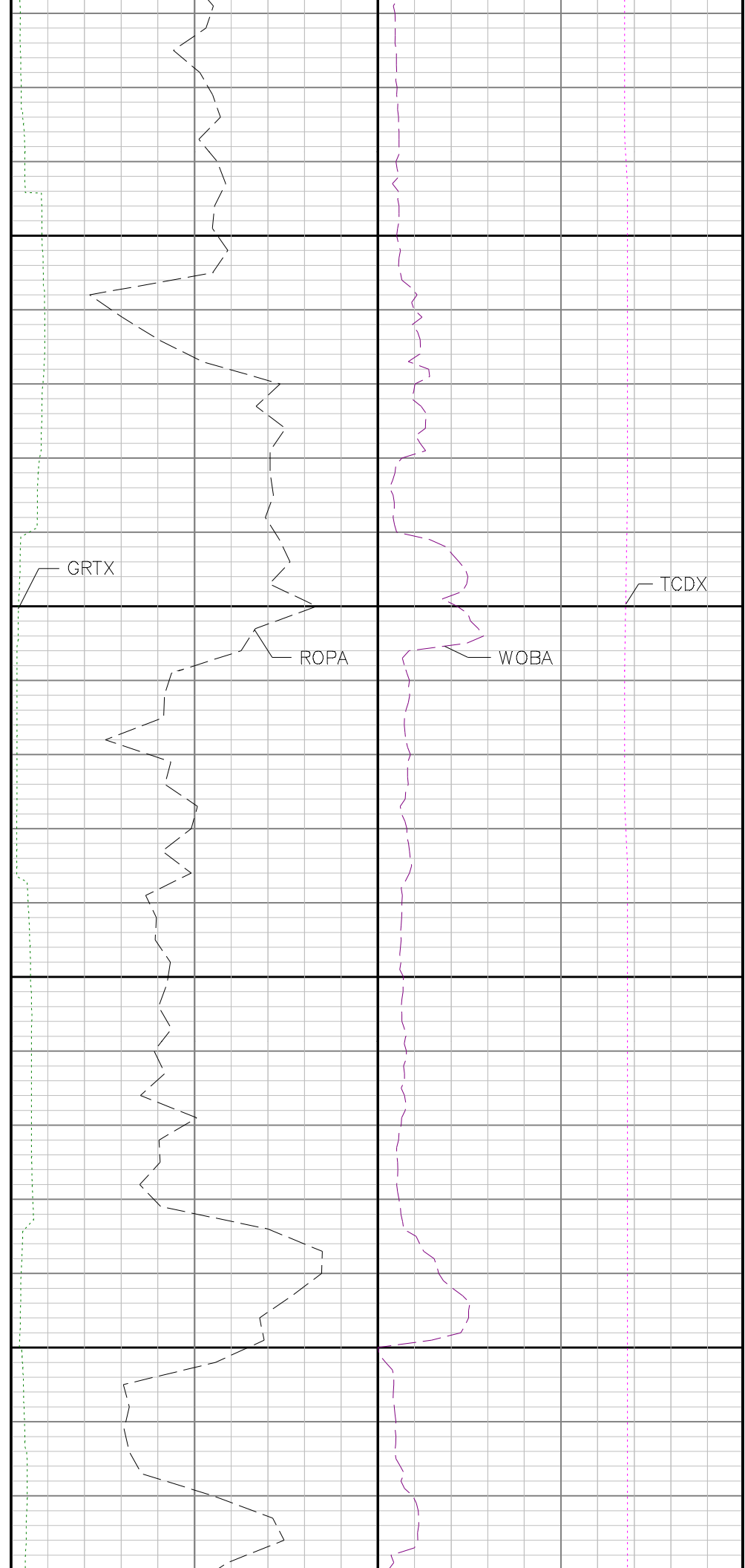
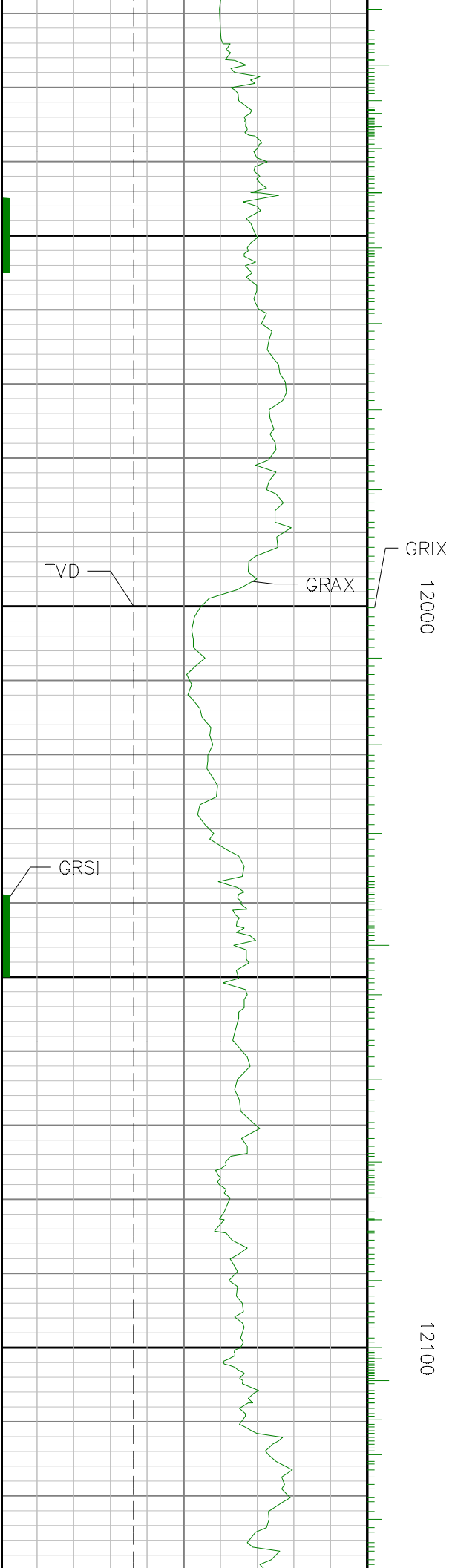


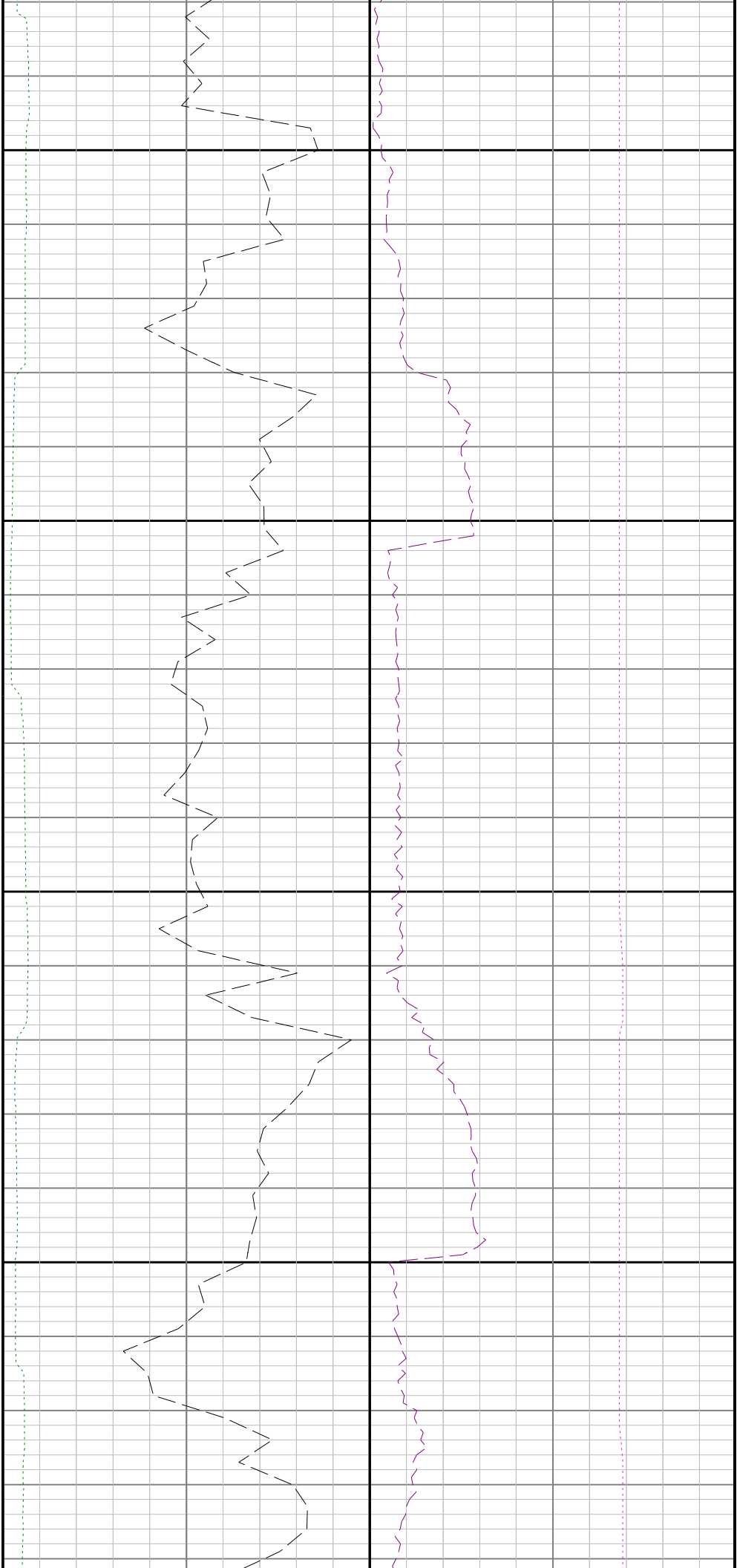


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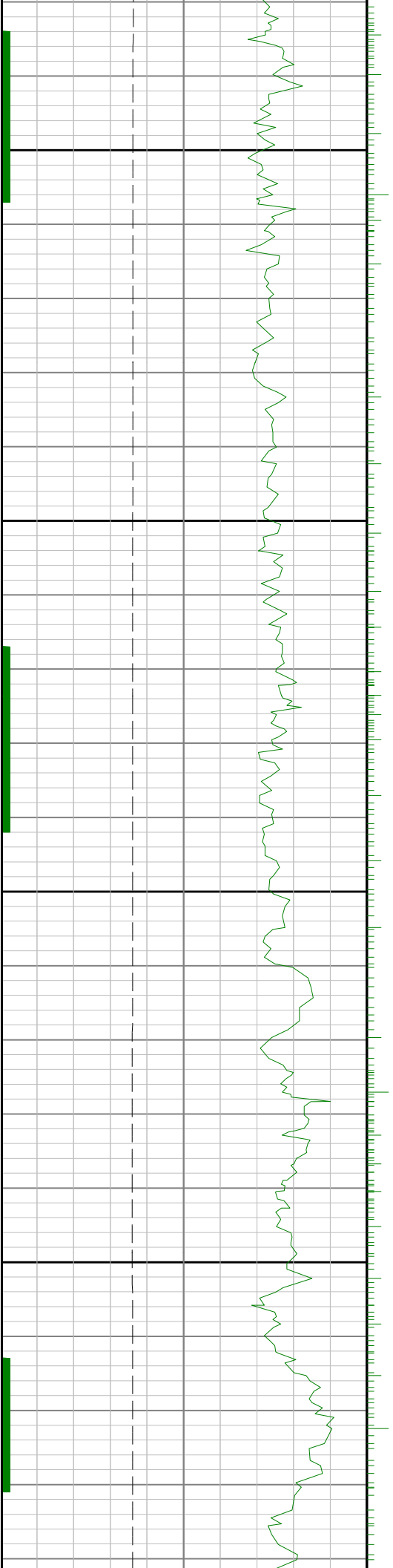


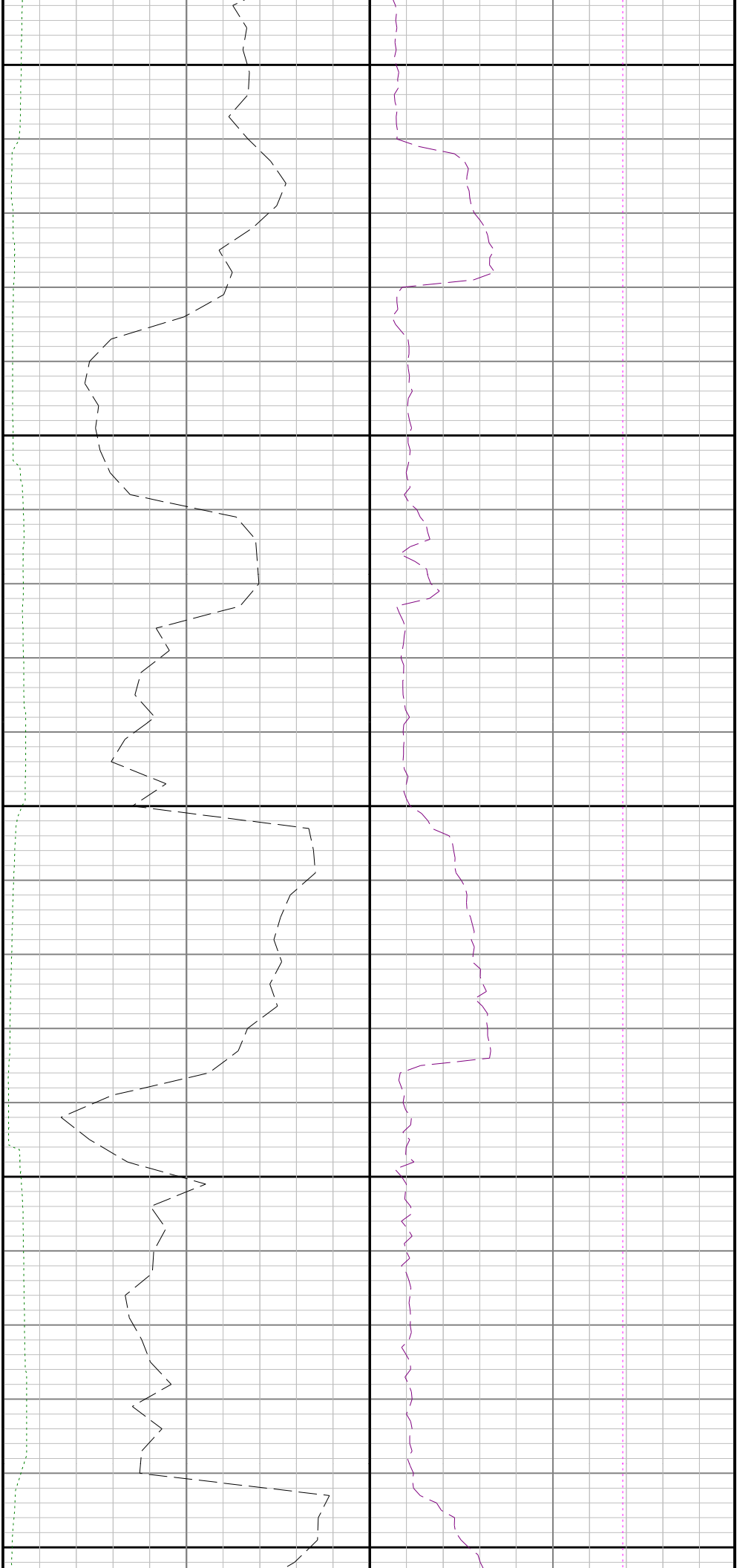




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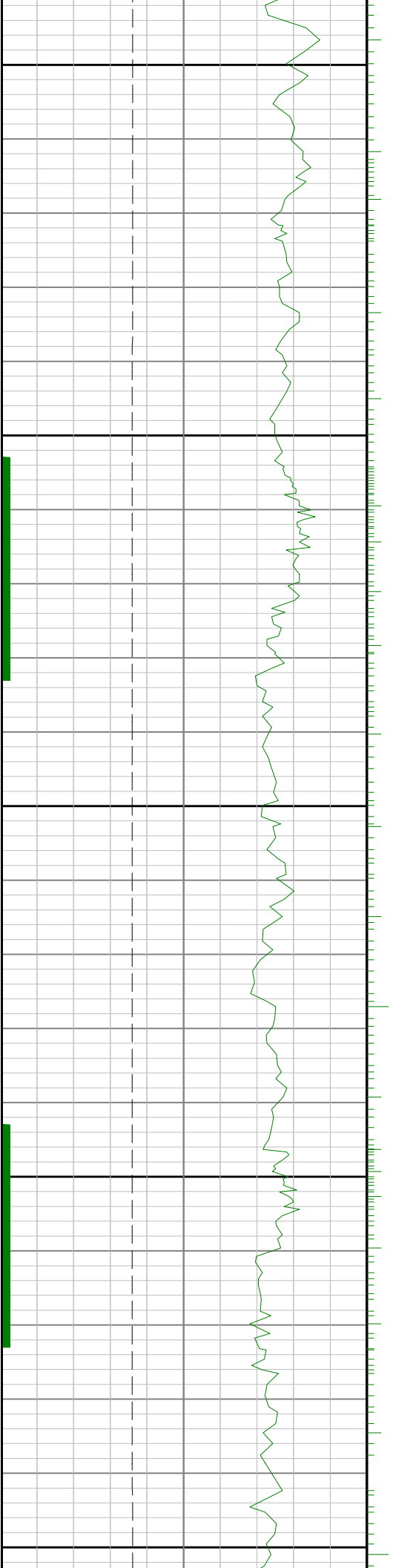
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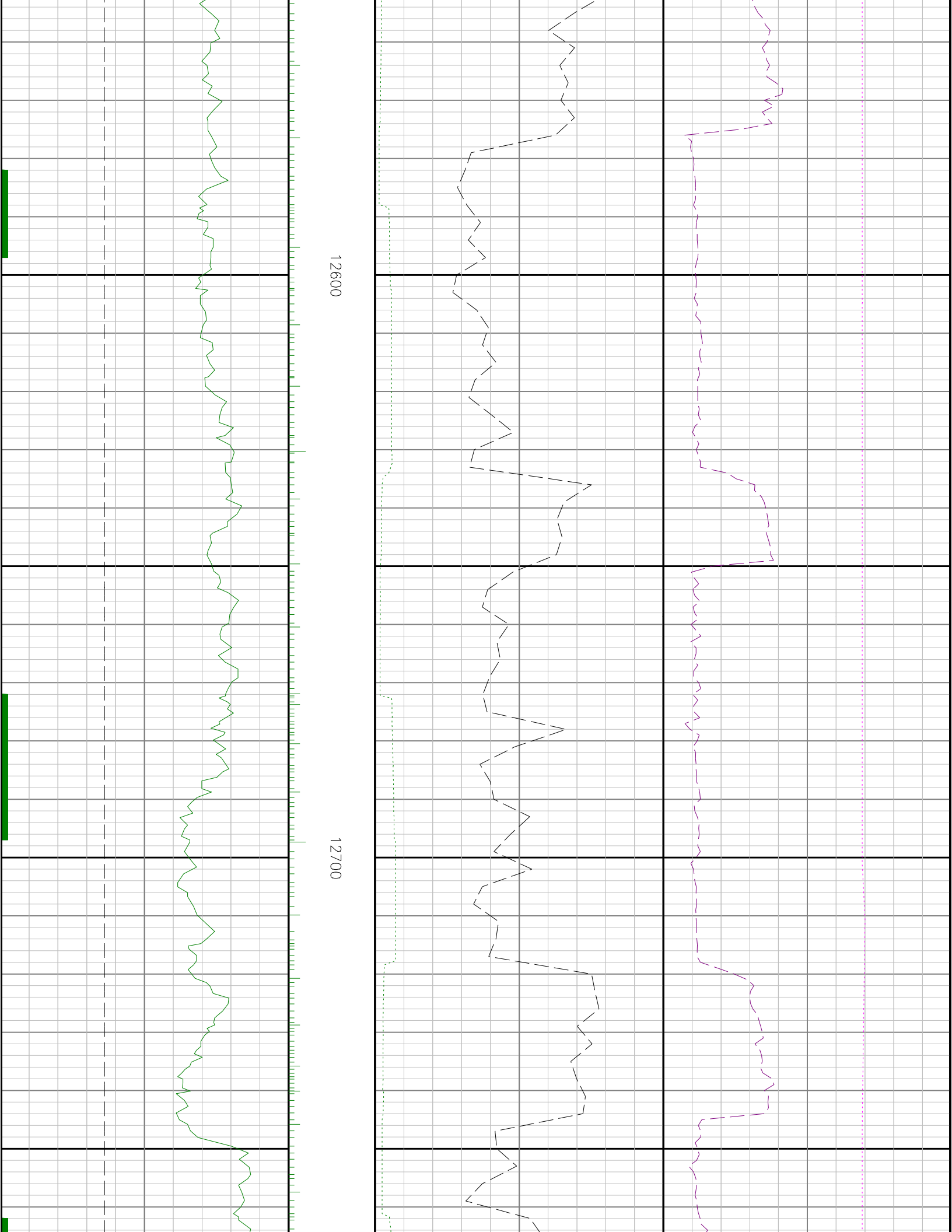


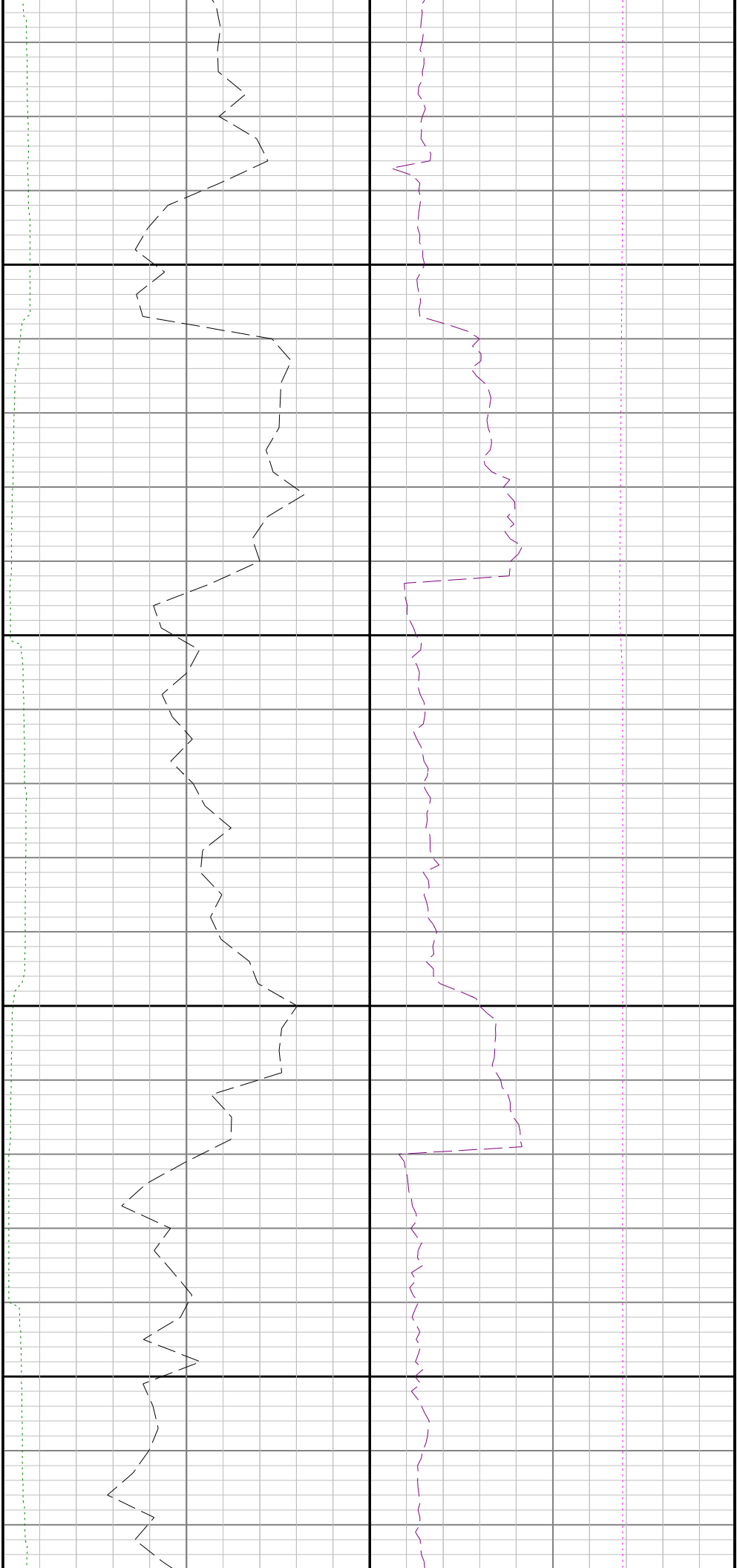


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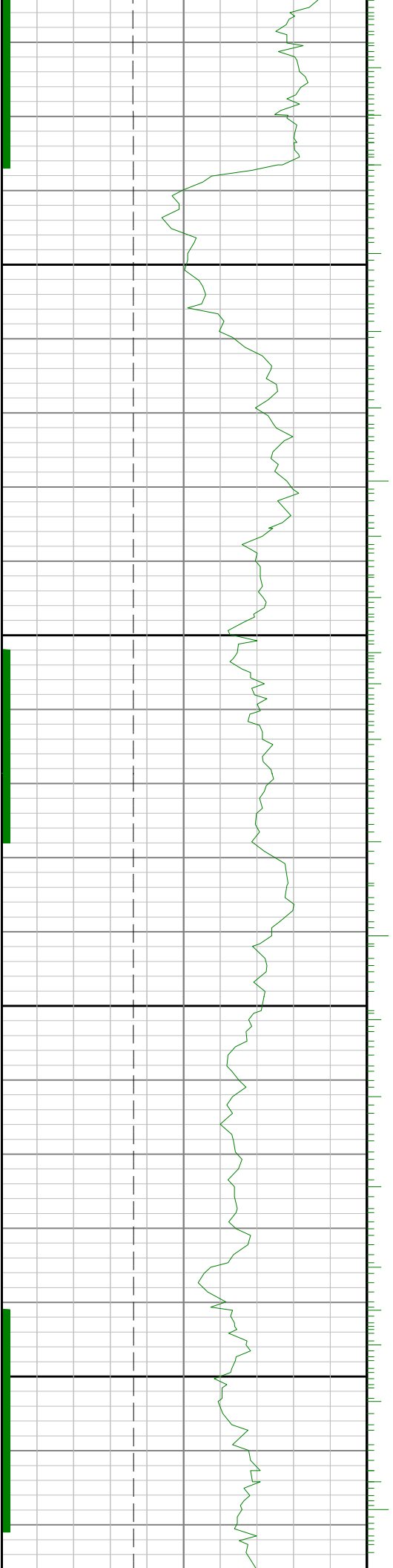


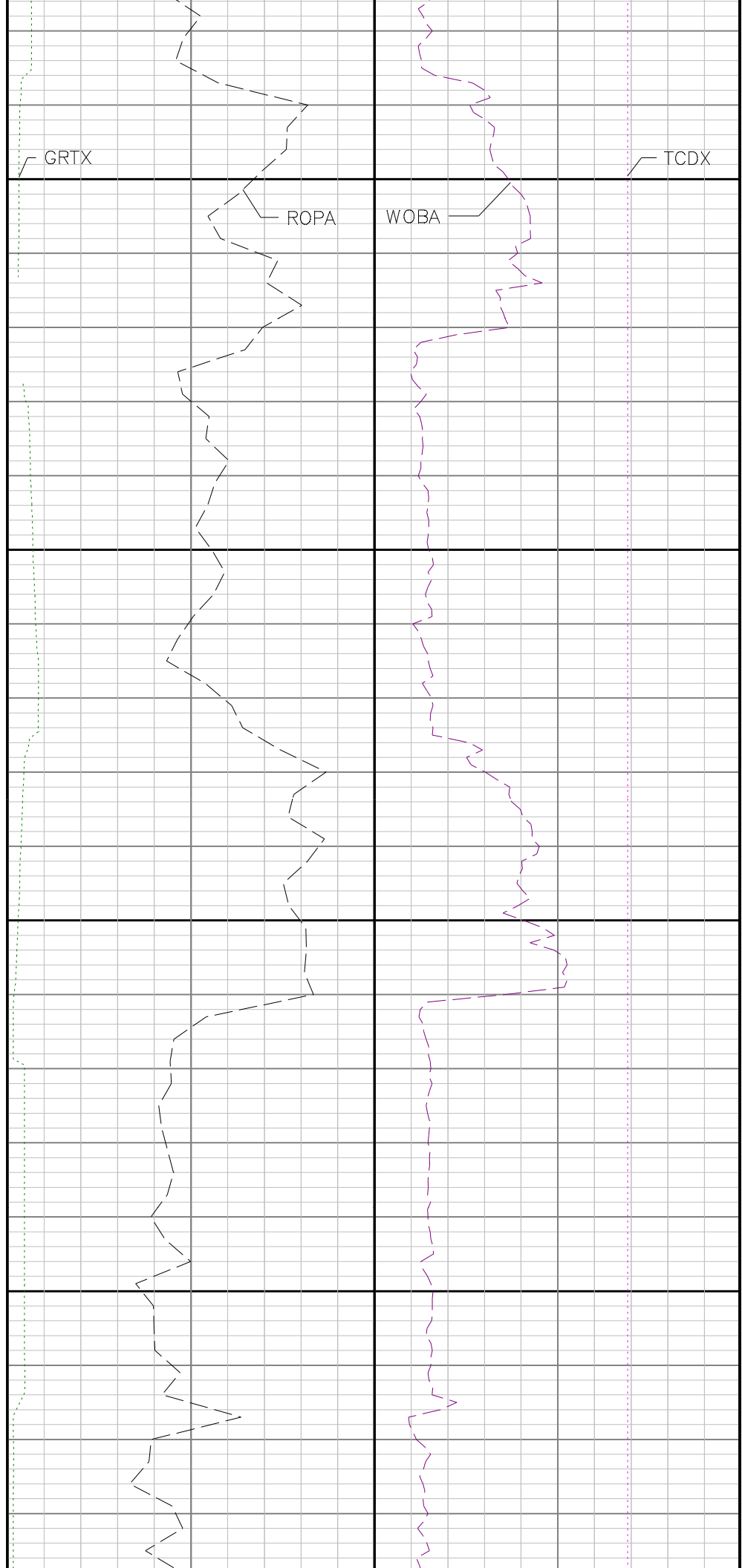
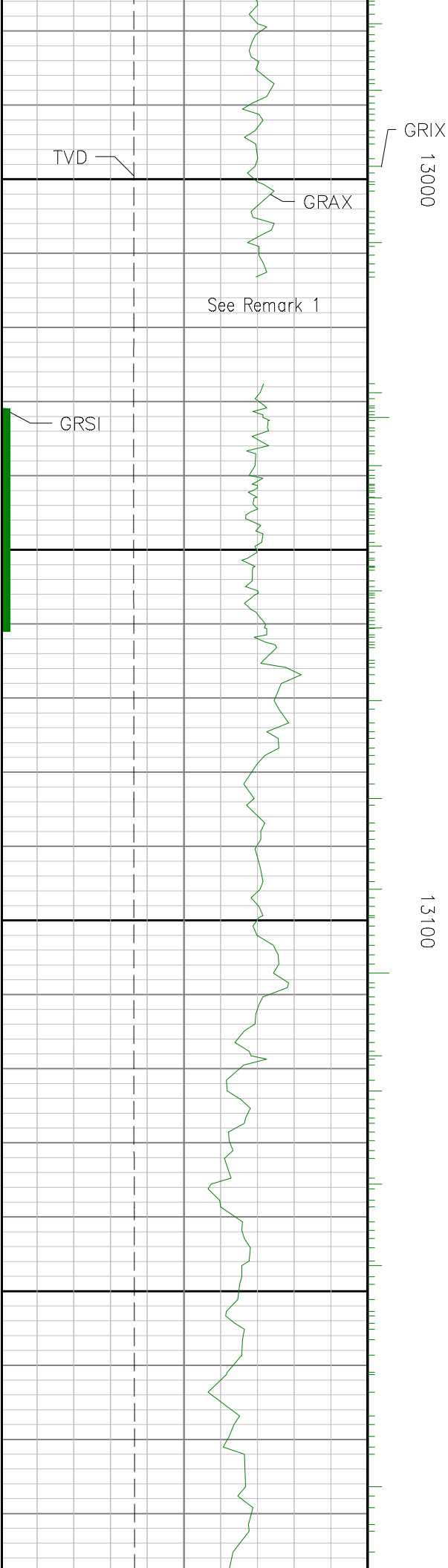


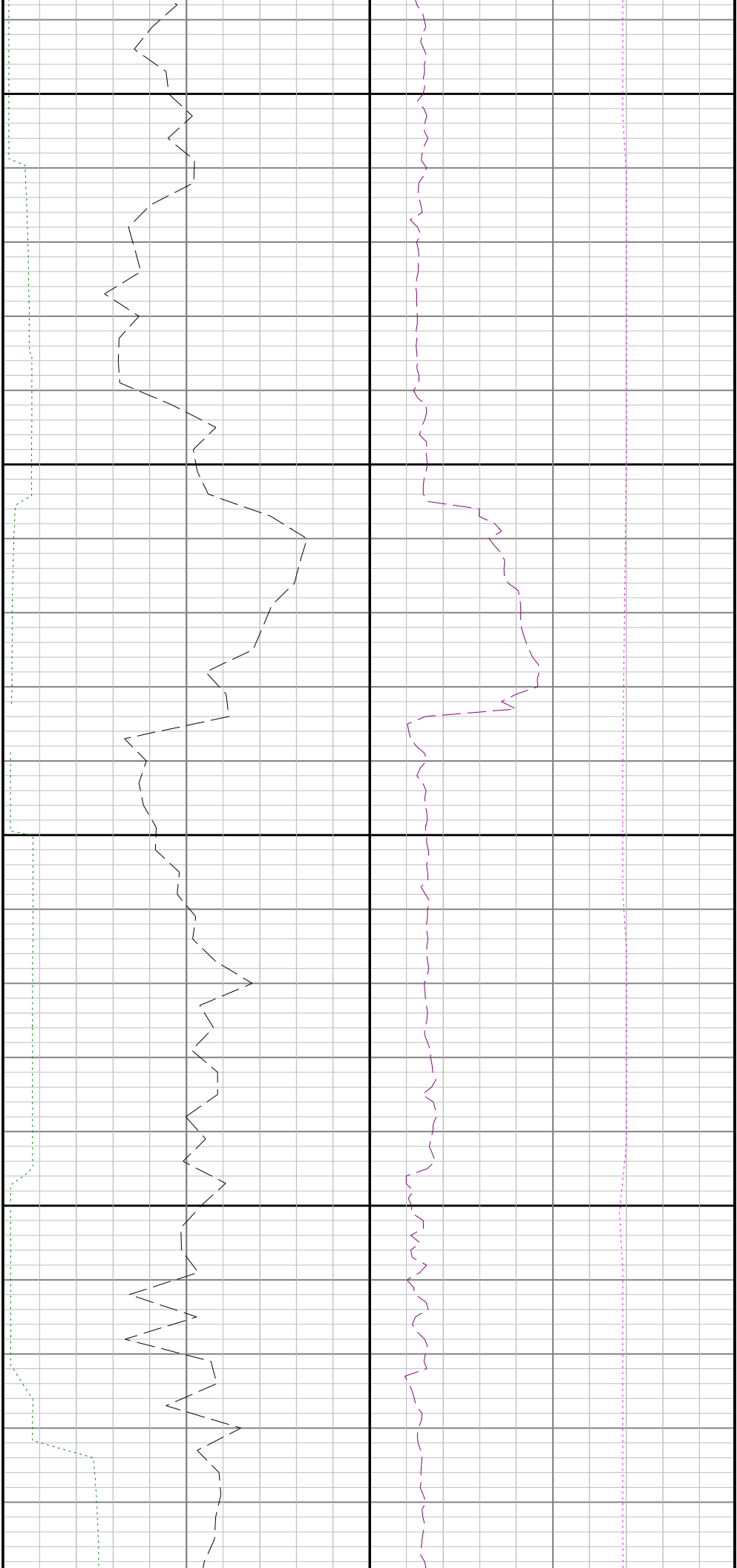


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12900



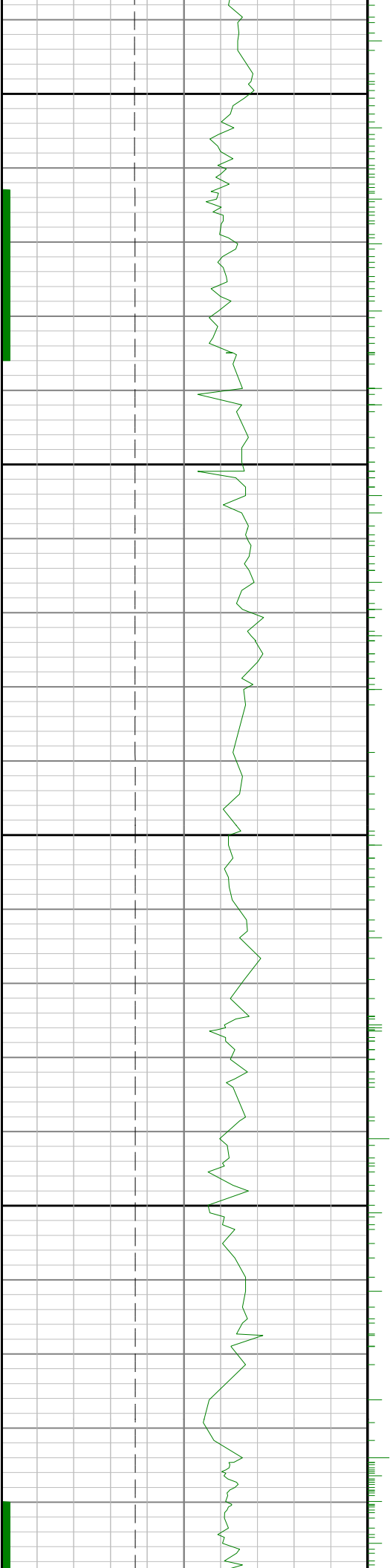


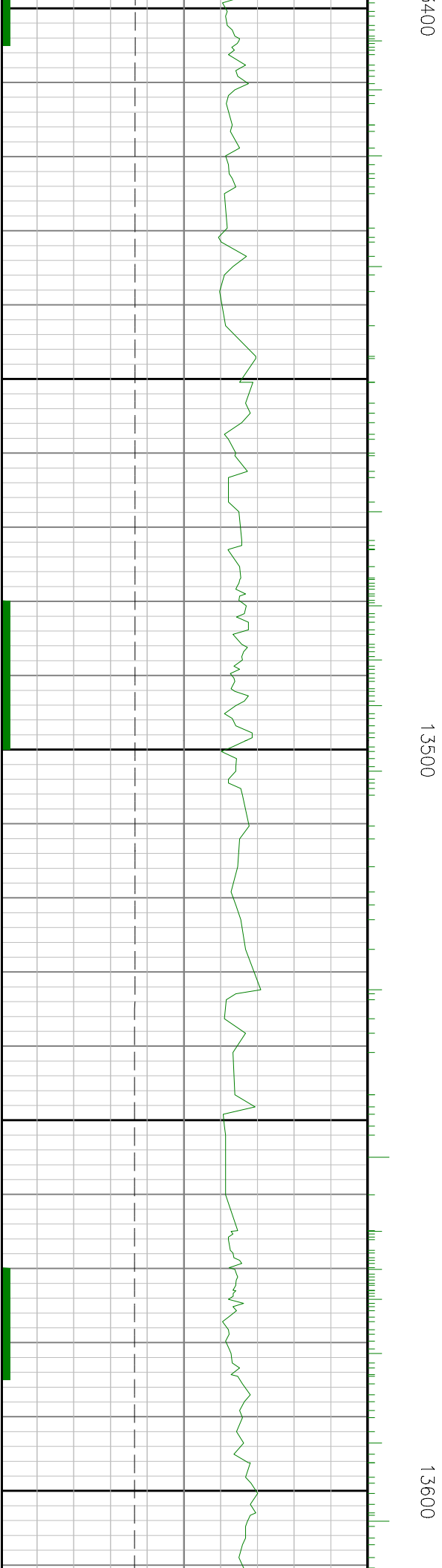
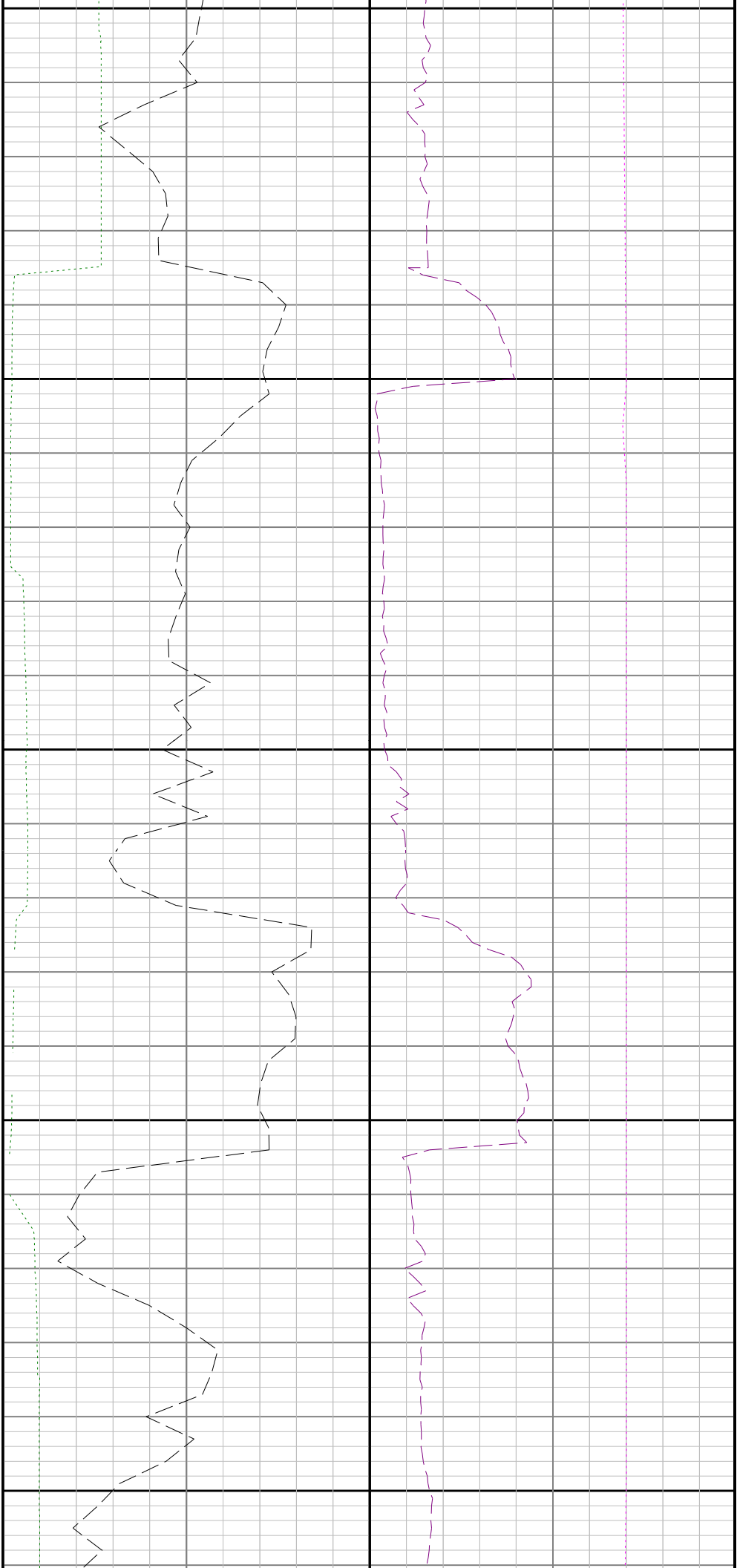


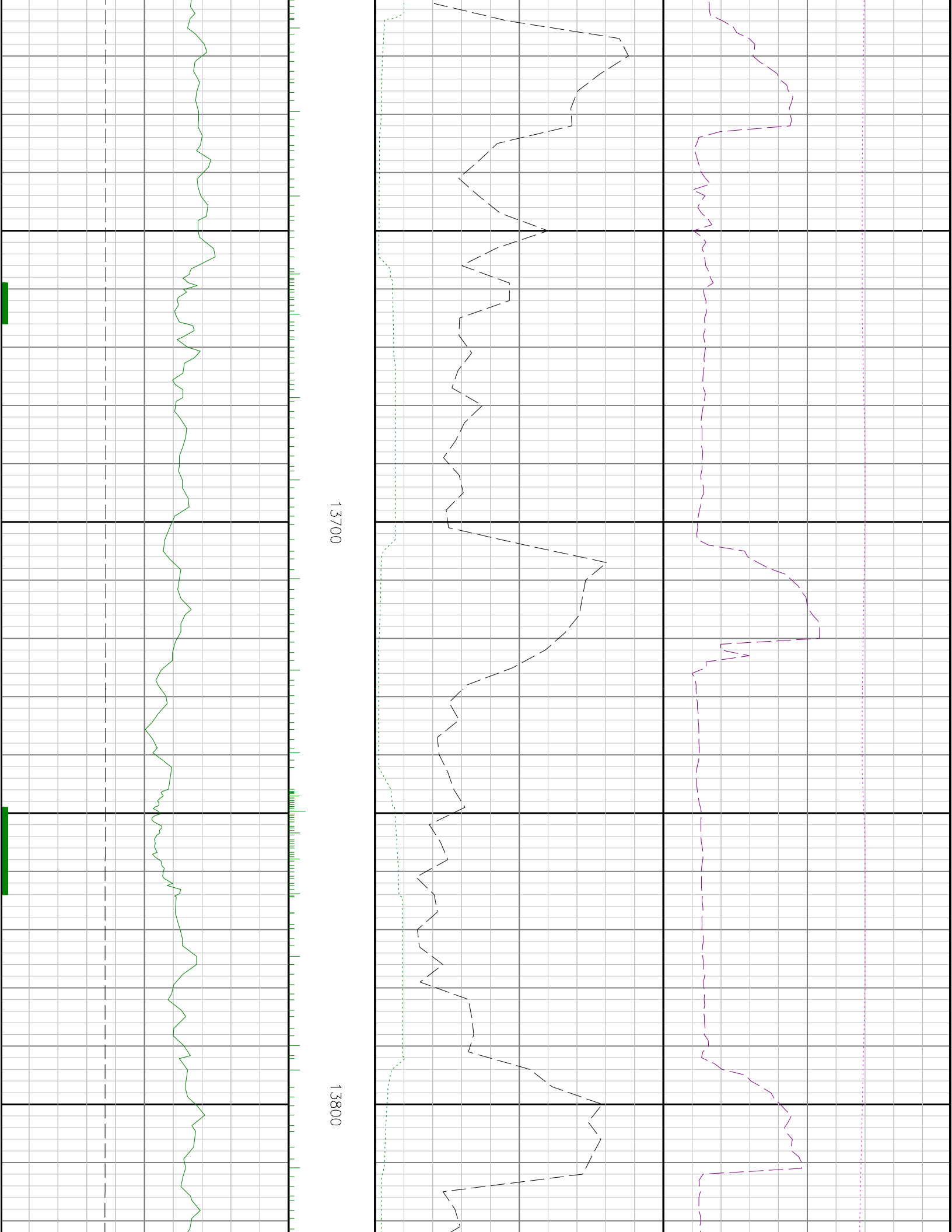
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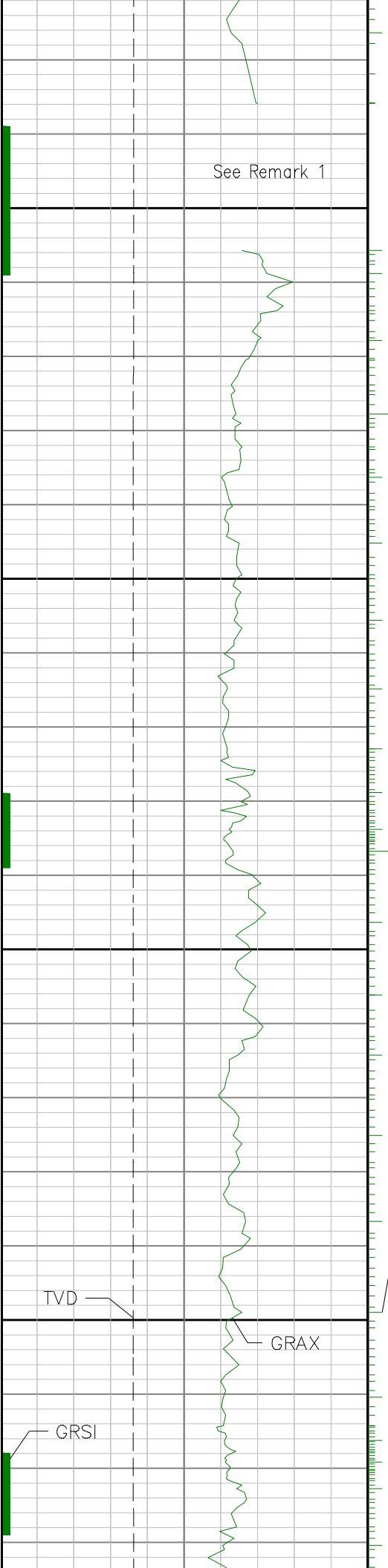
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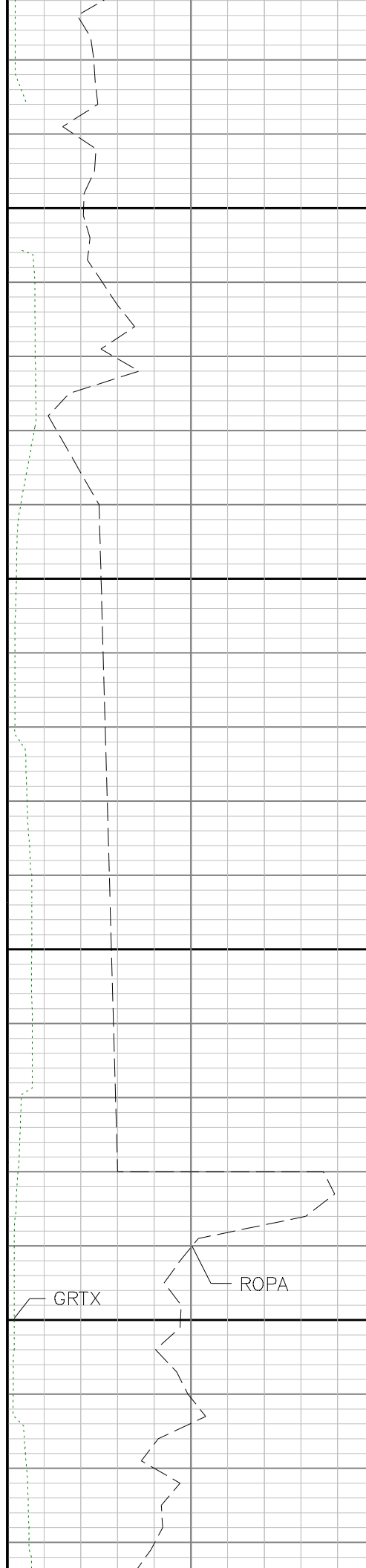




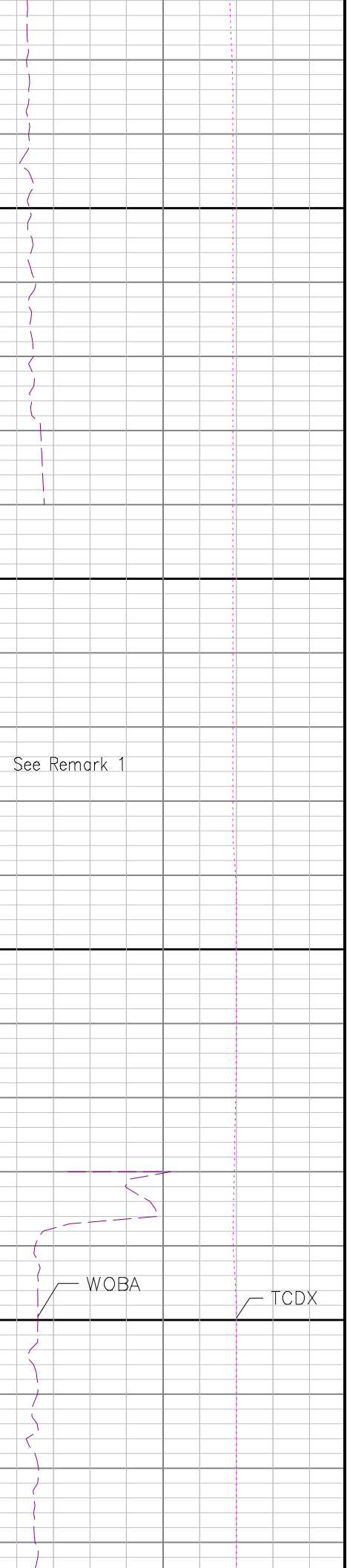


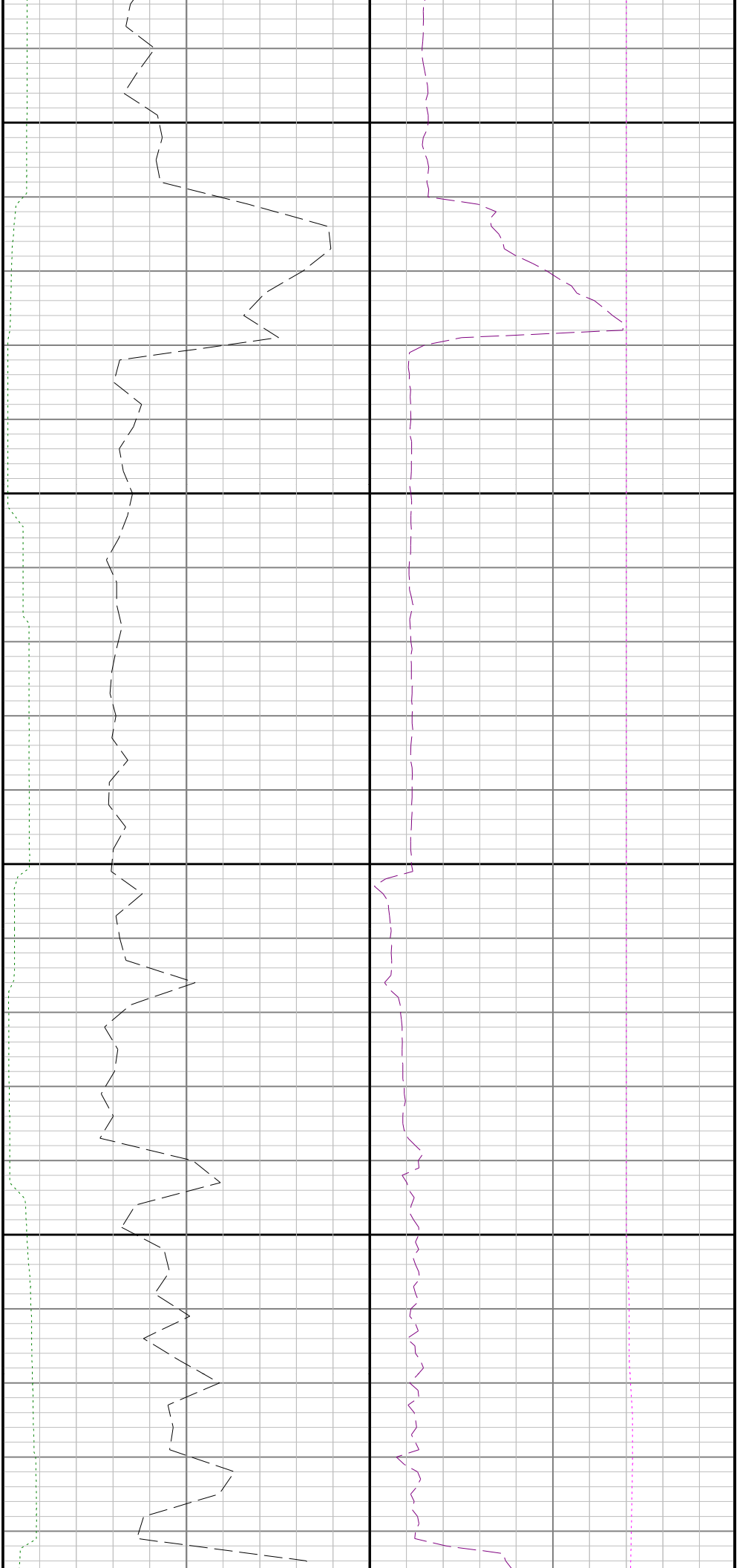
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GRIX
14000



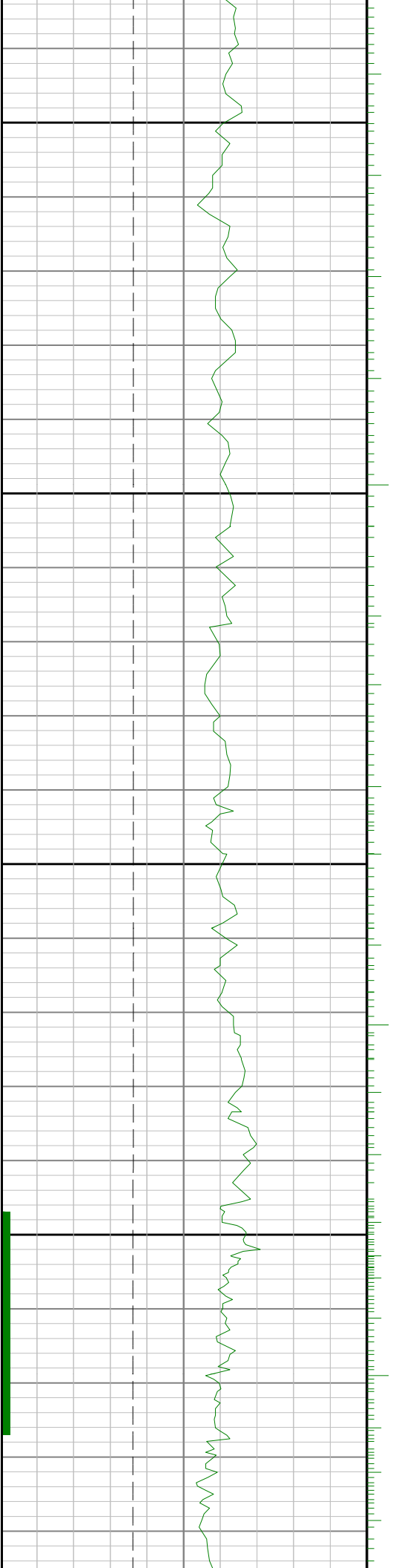
See Remark 1

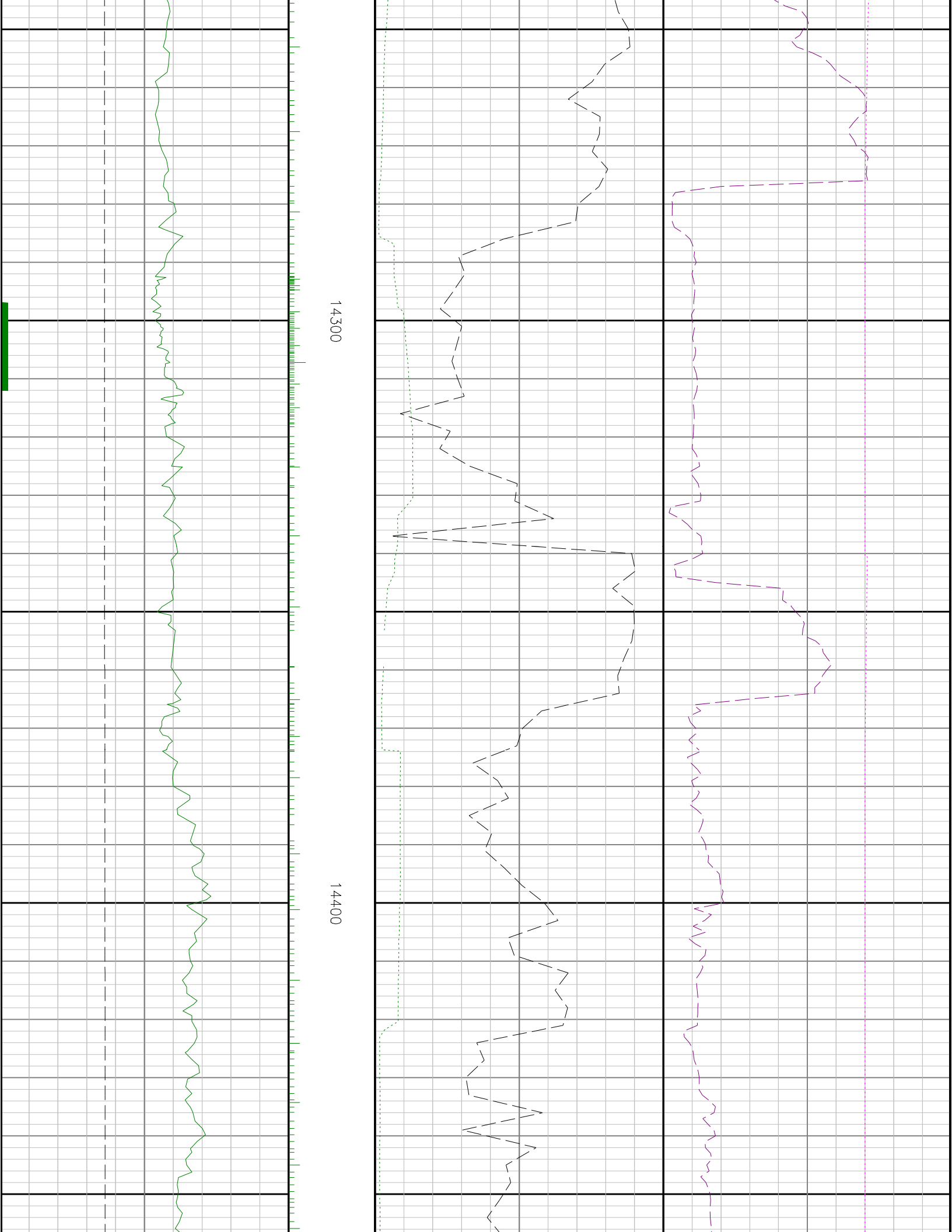


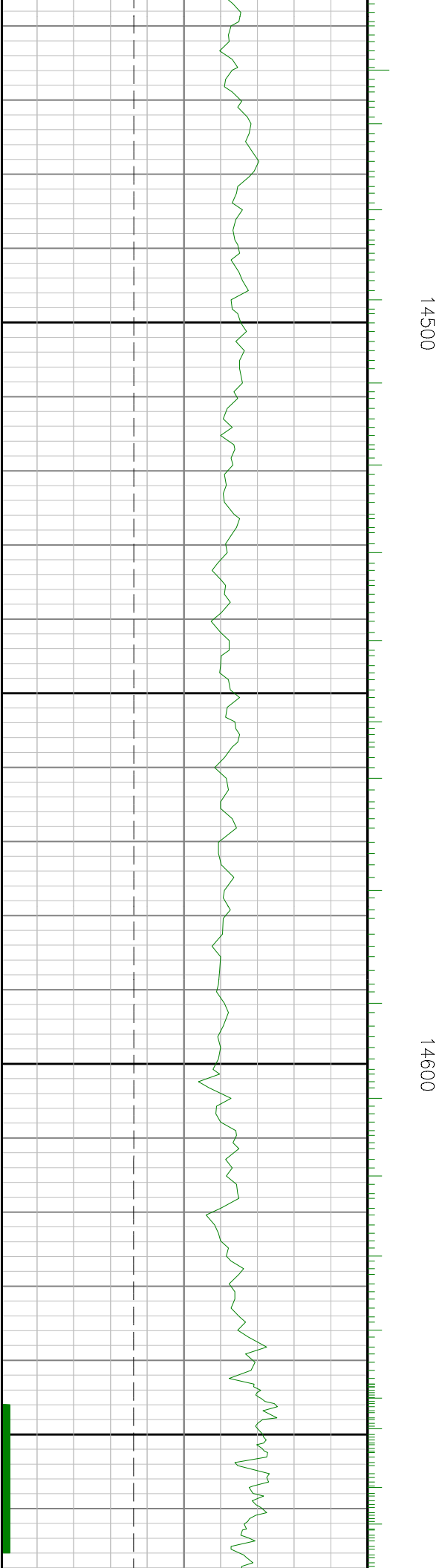
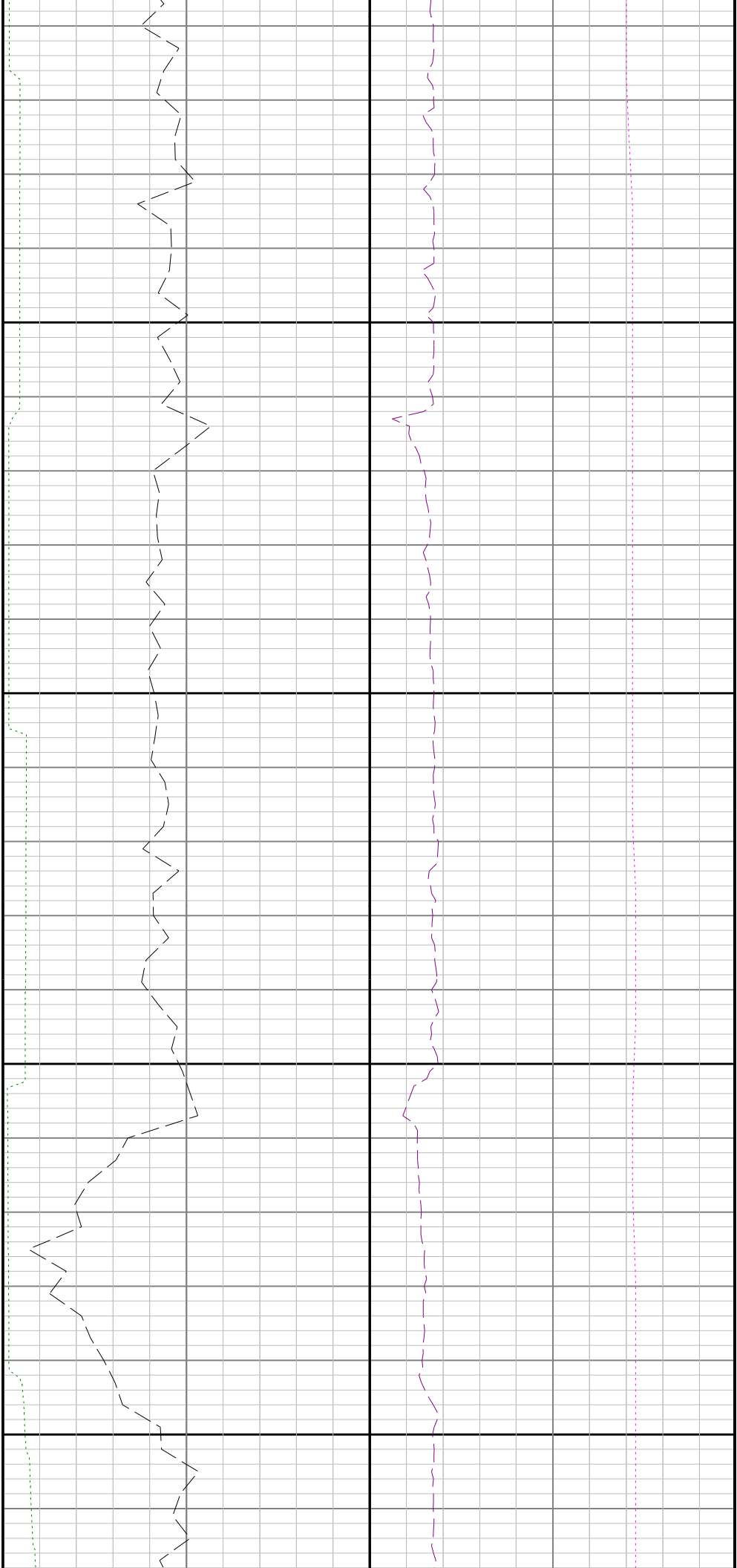


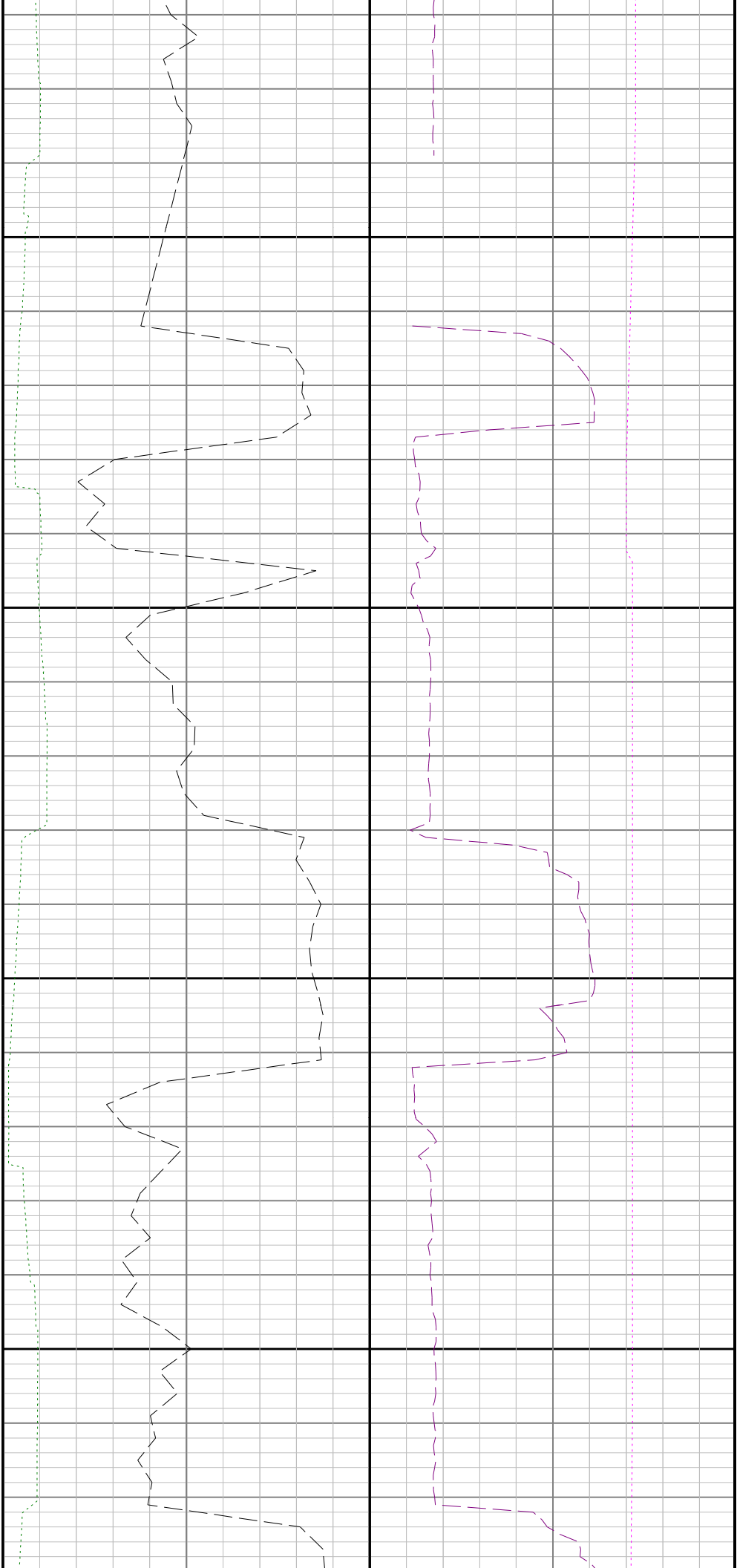
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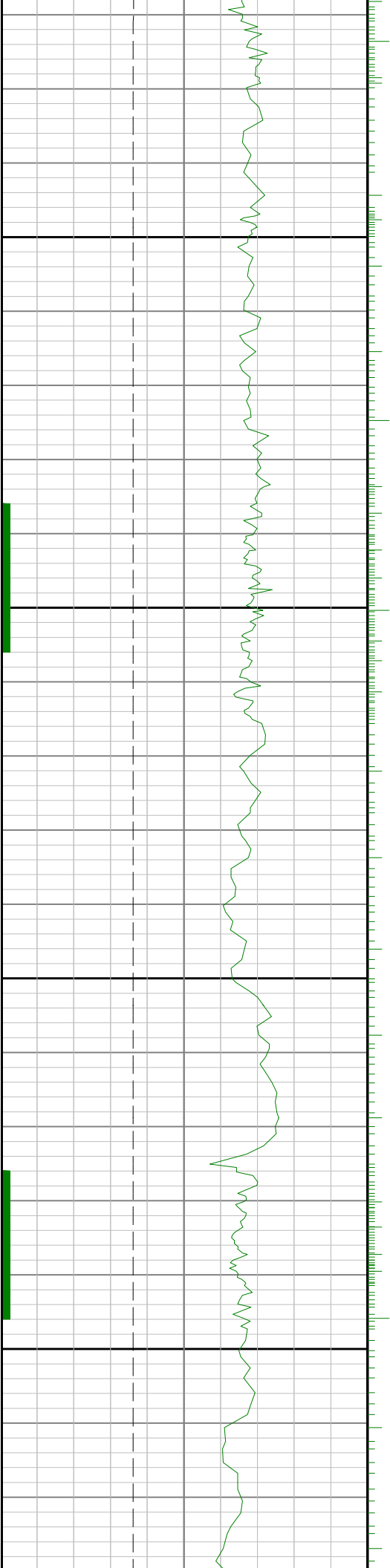


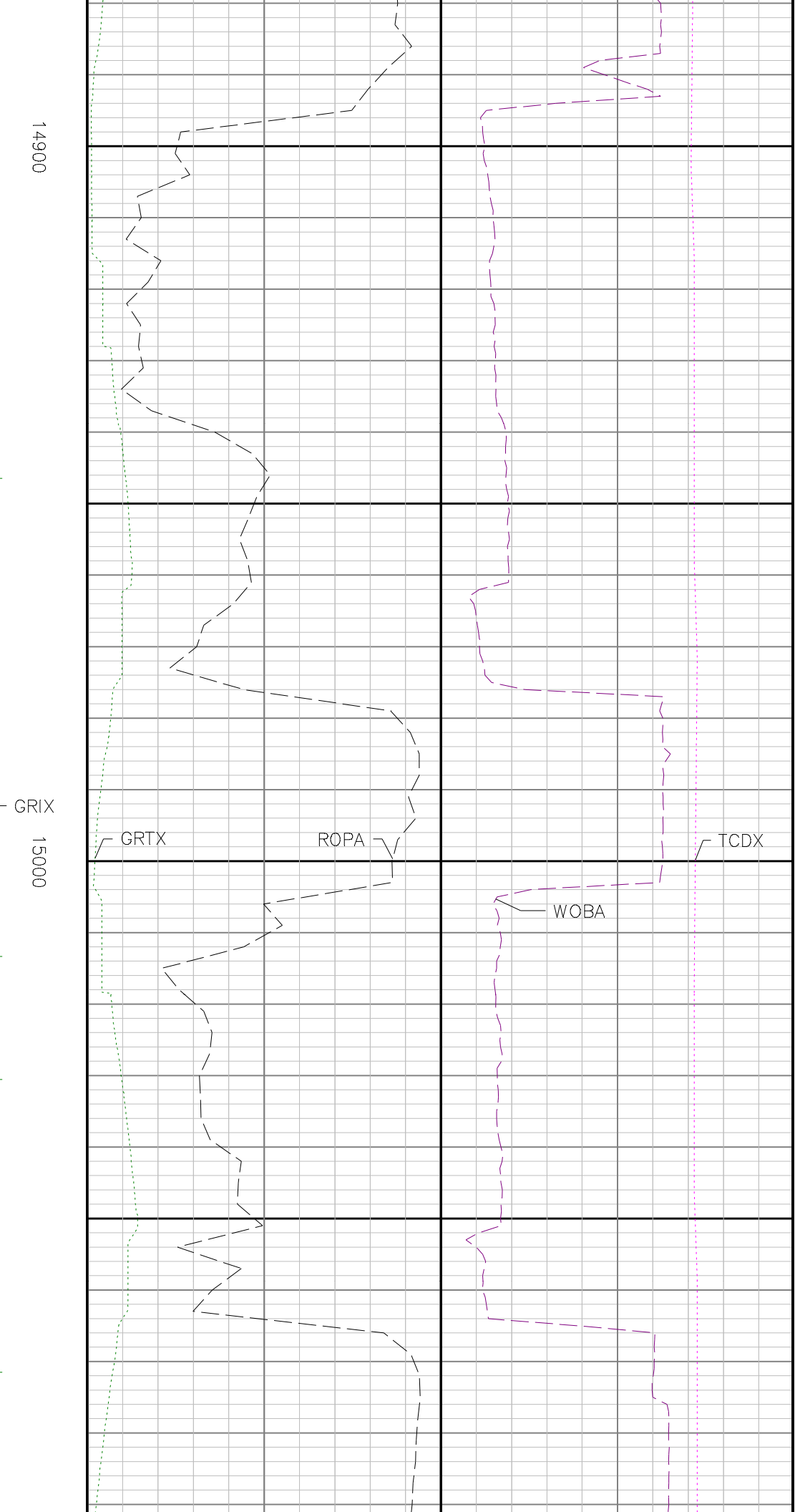
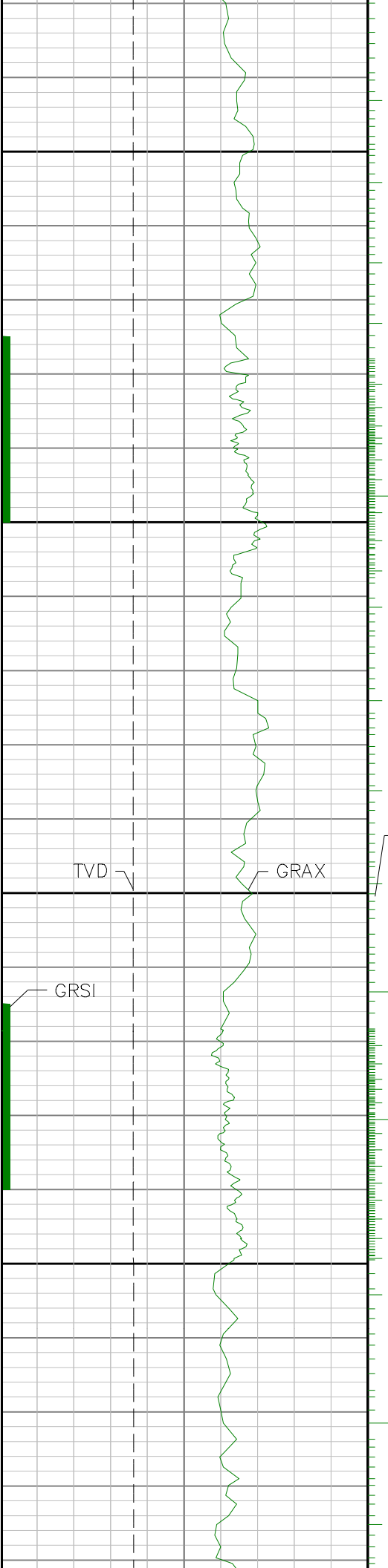


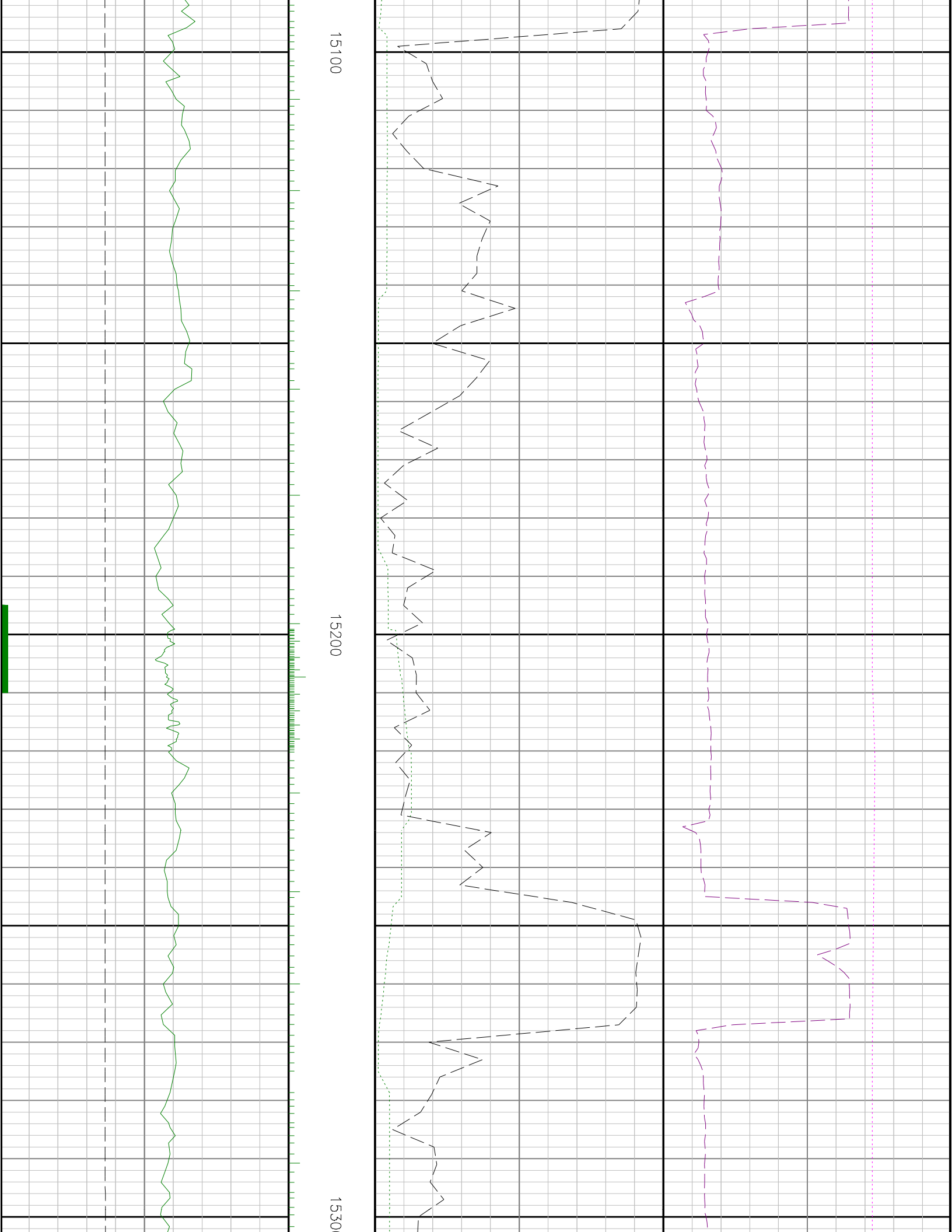


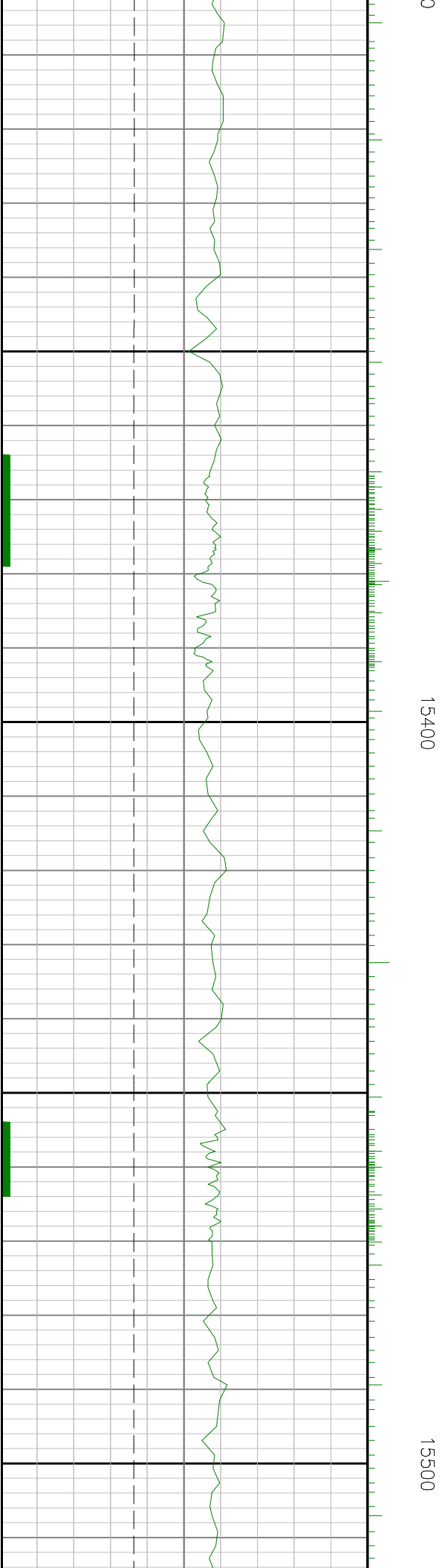
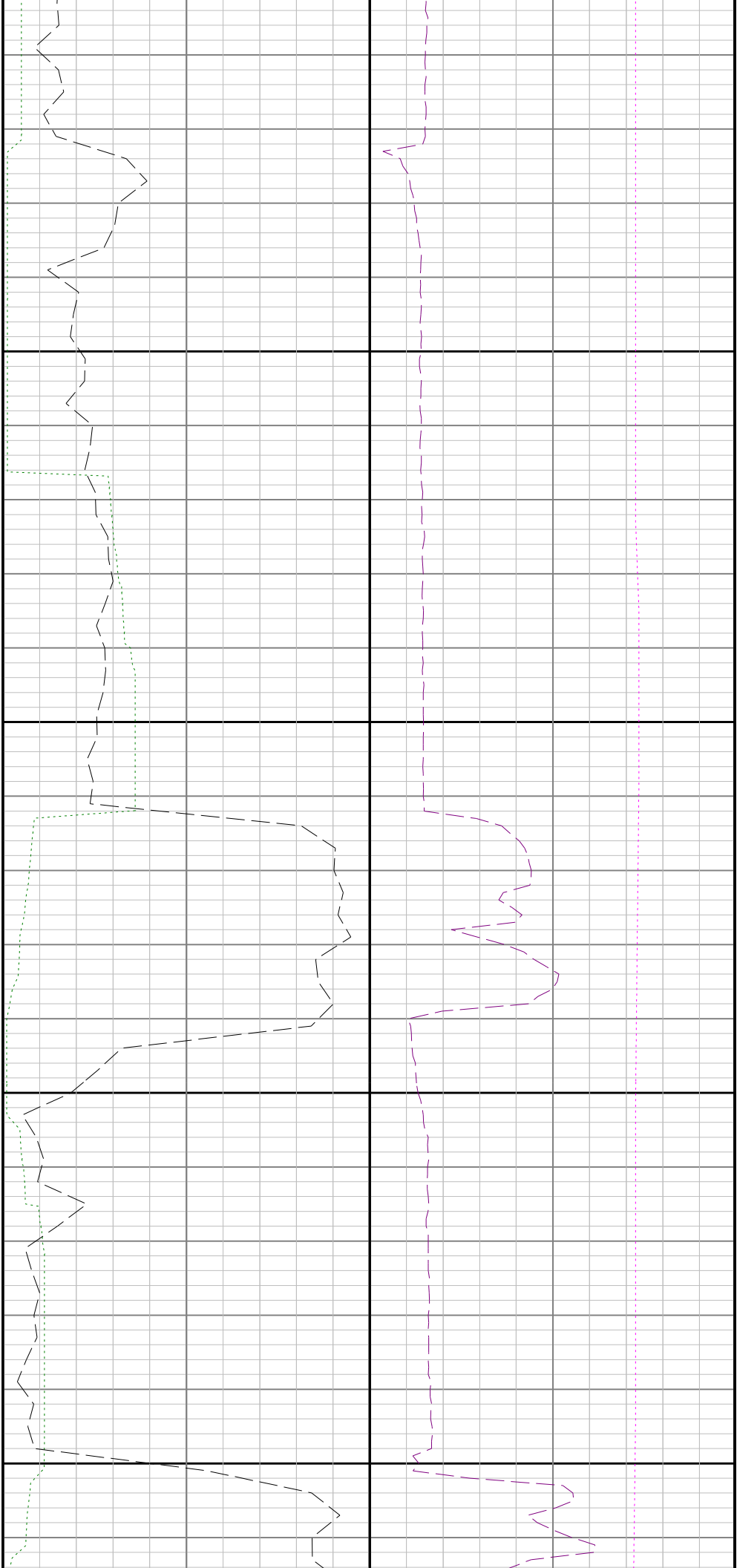
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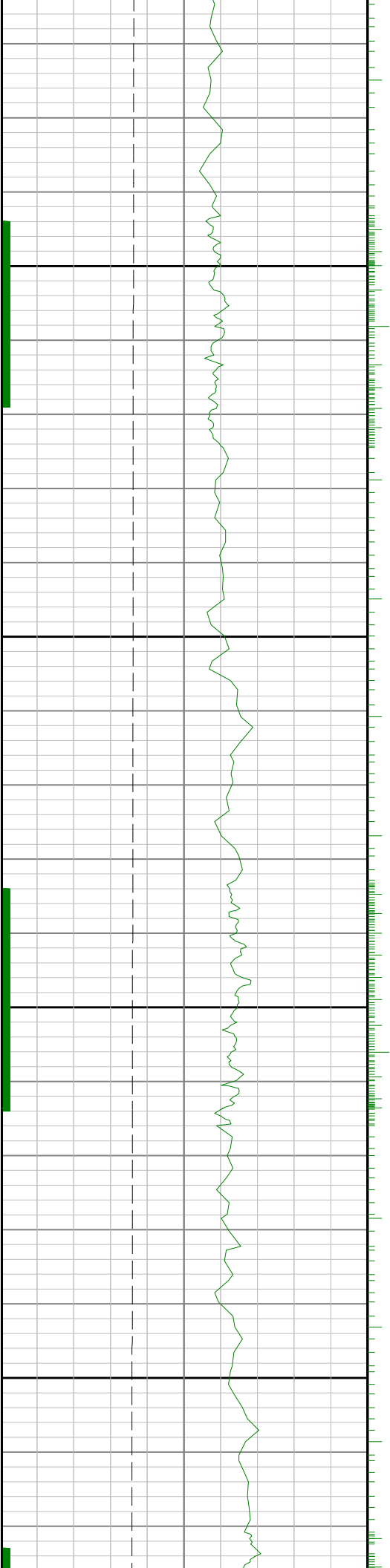
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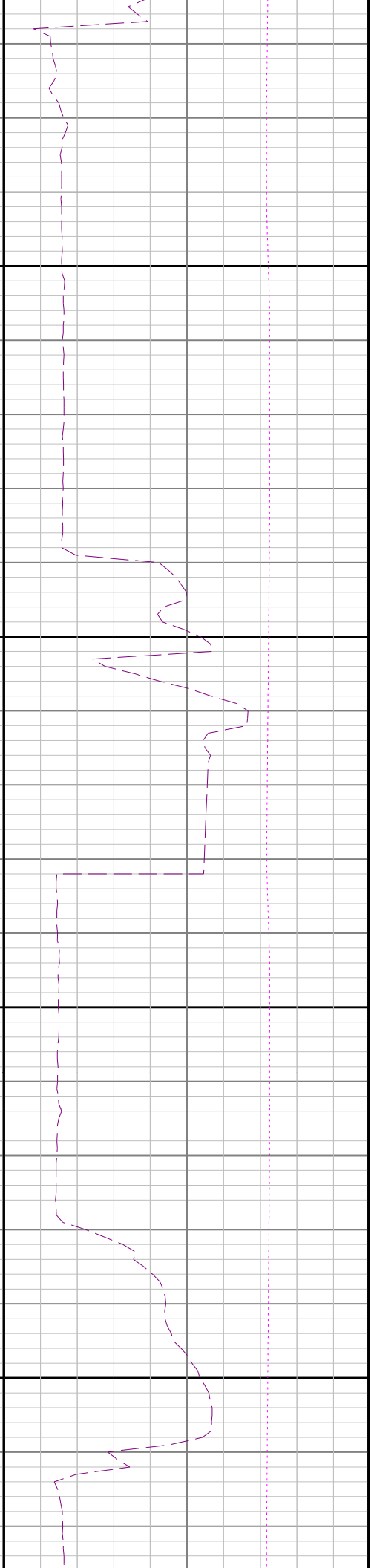
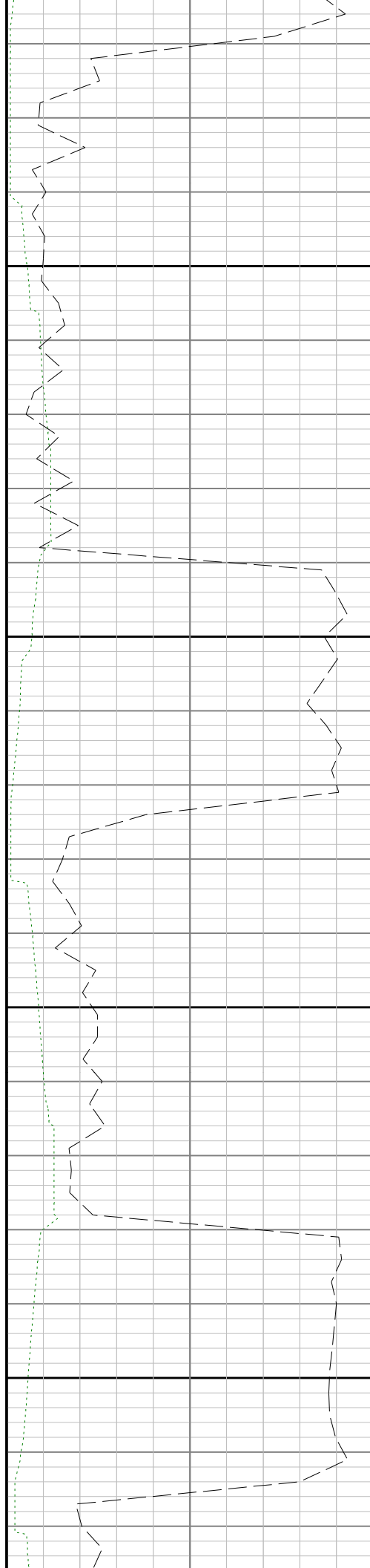


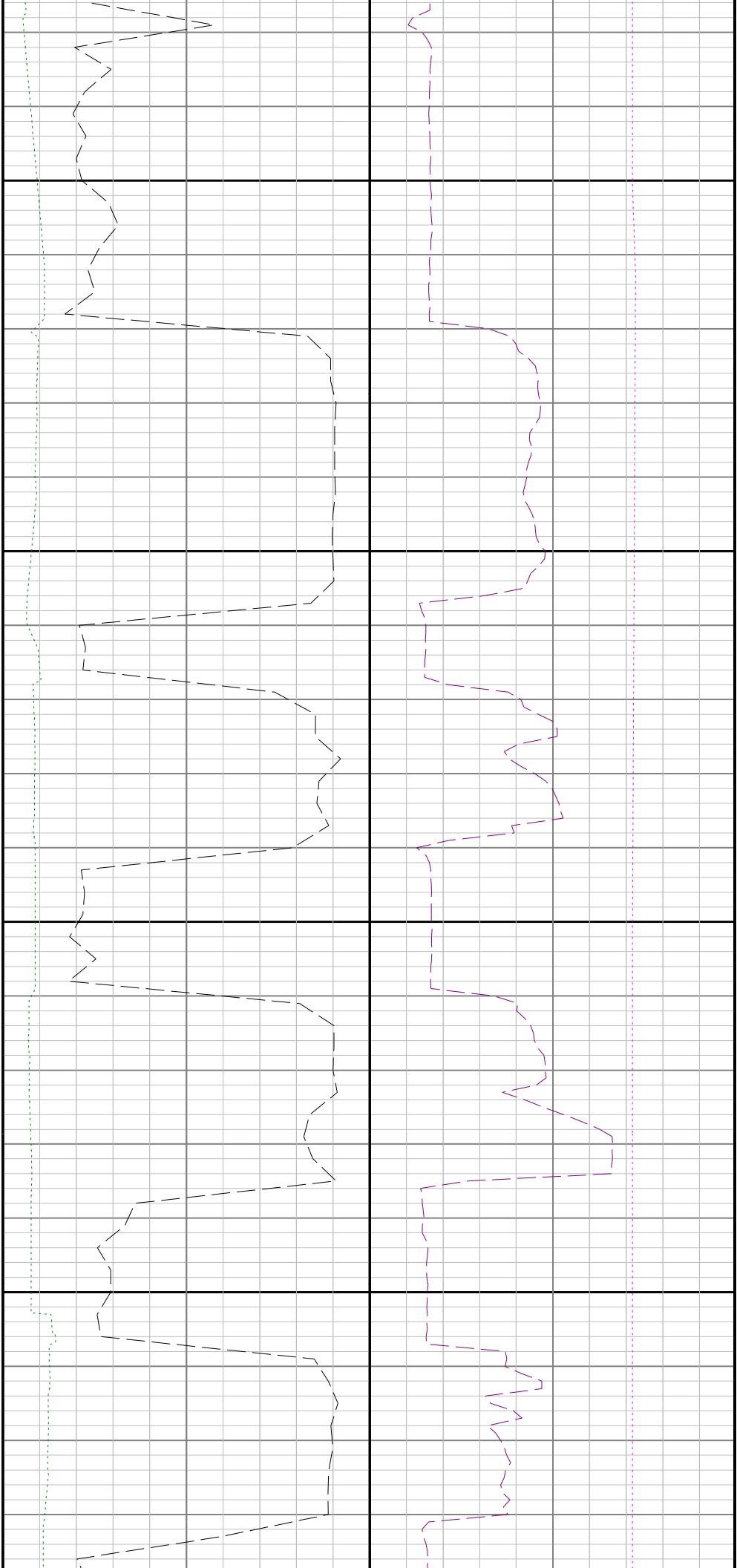




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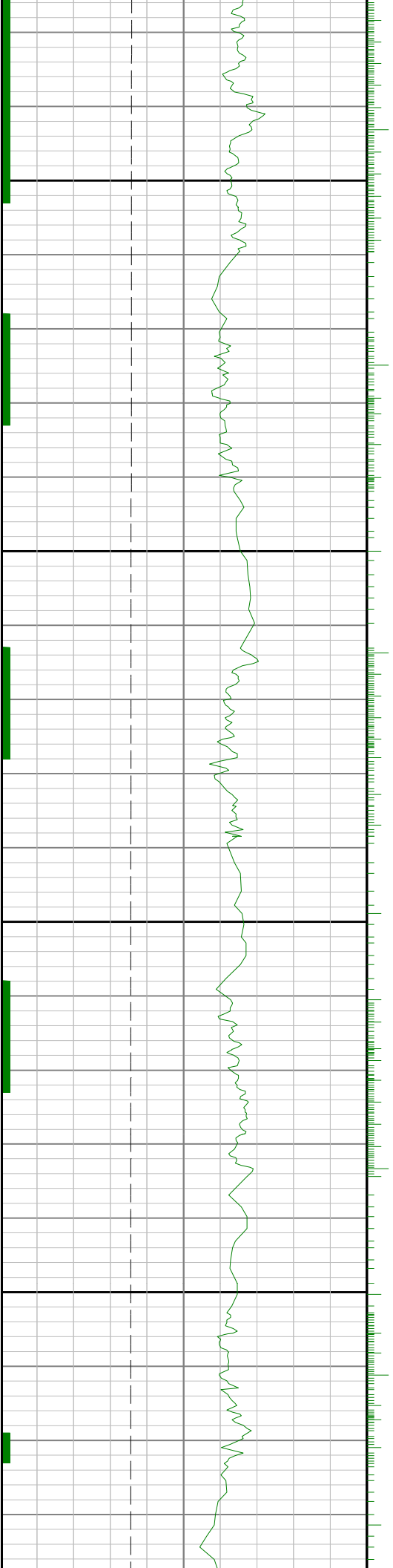
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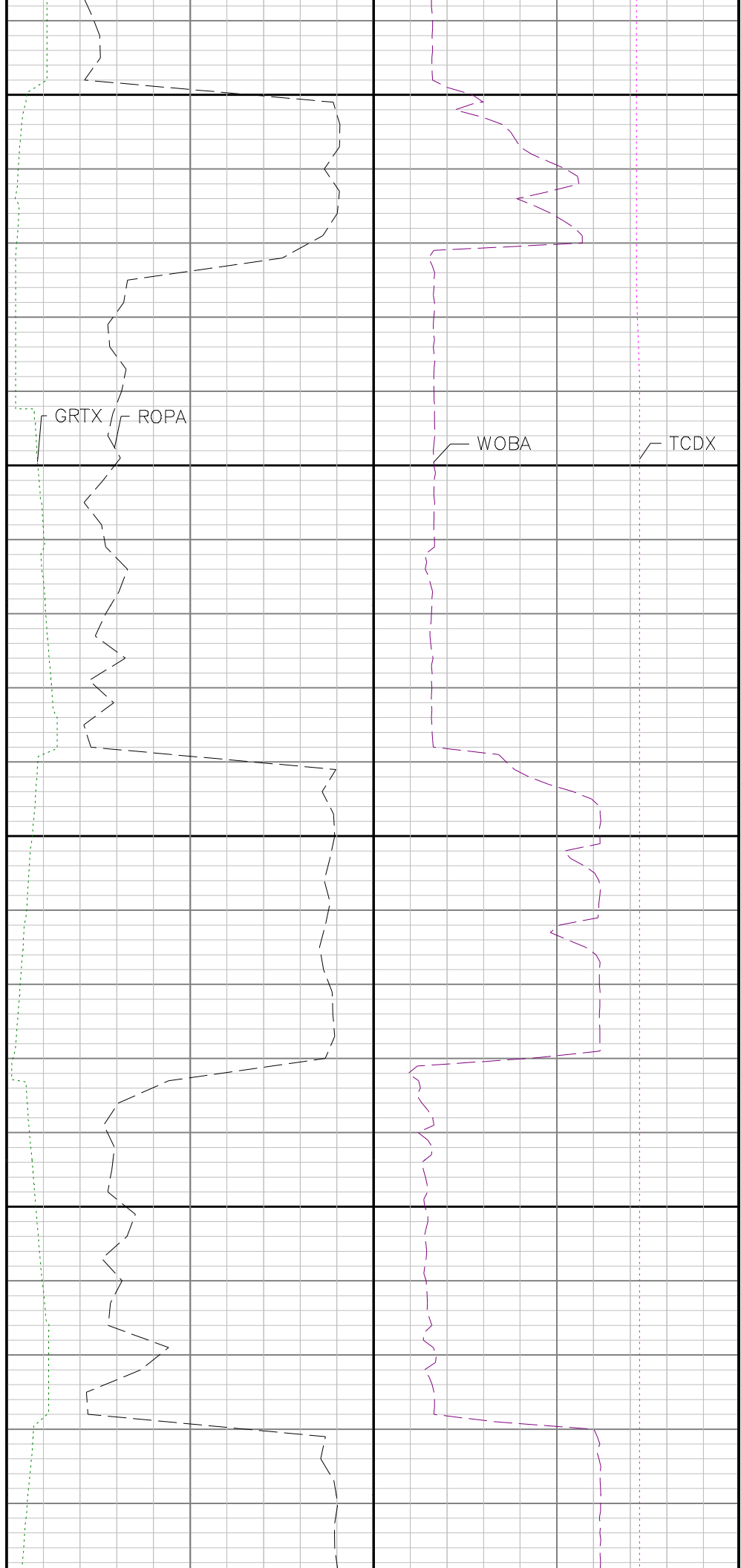
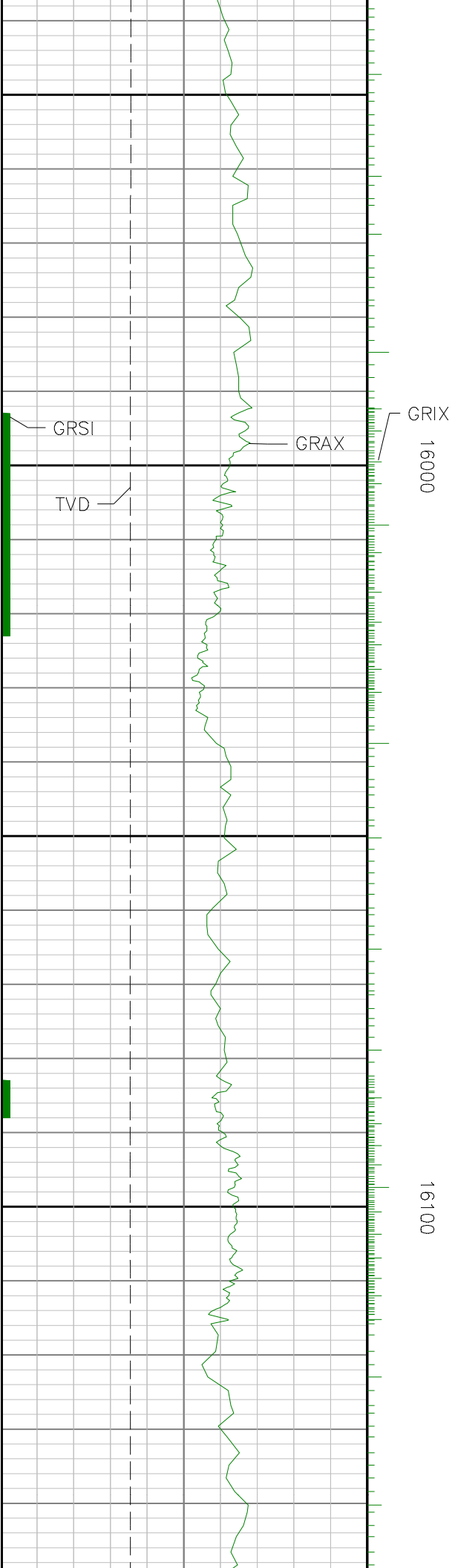


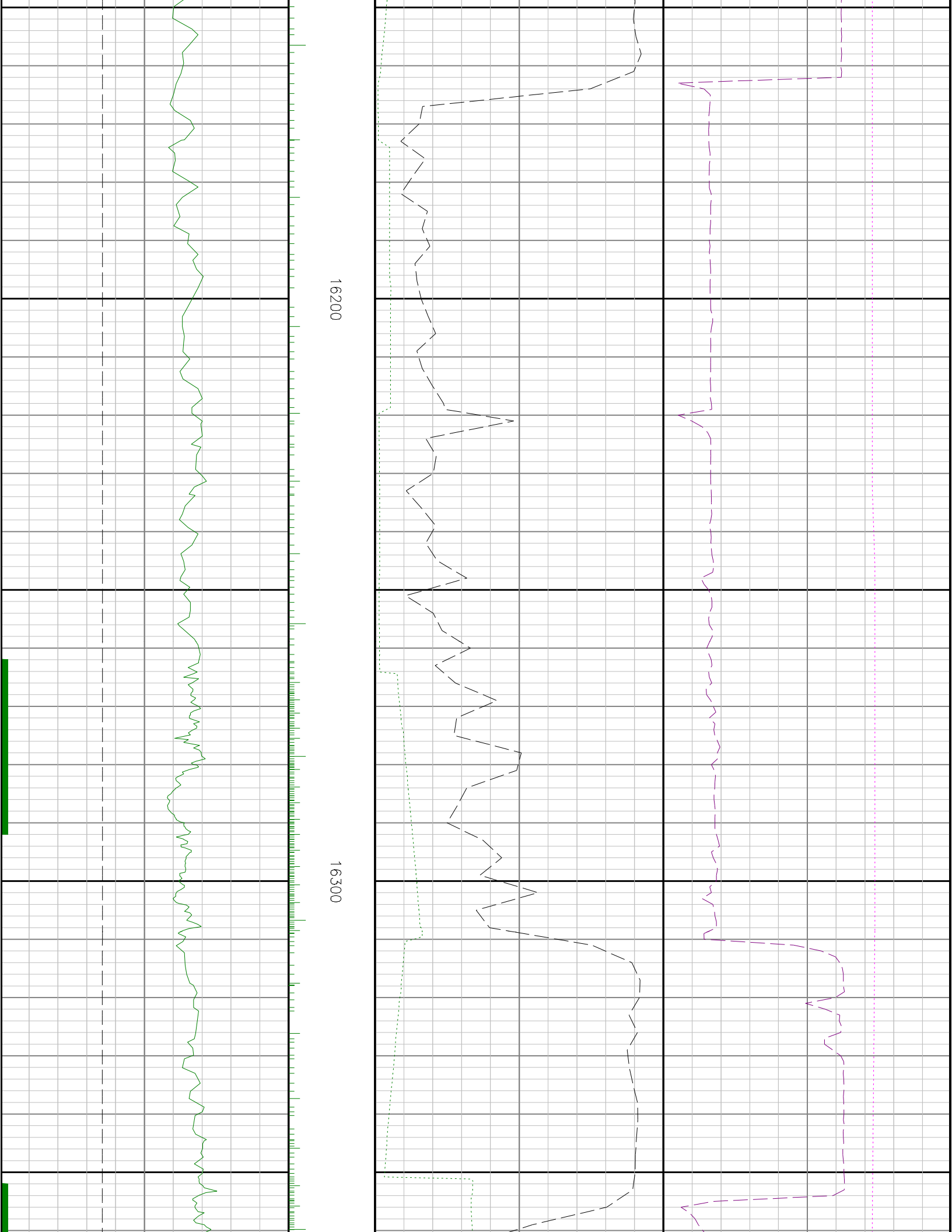


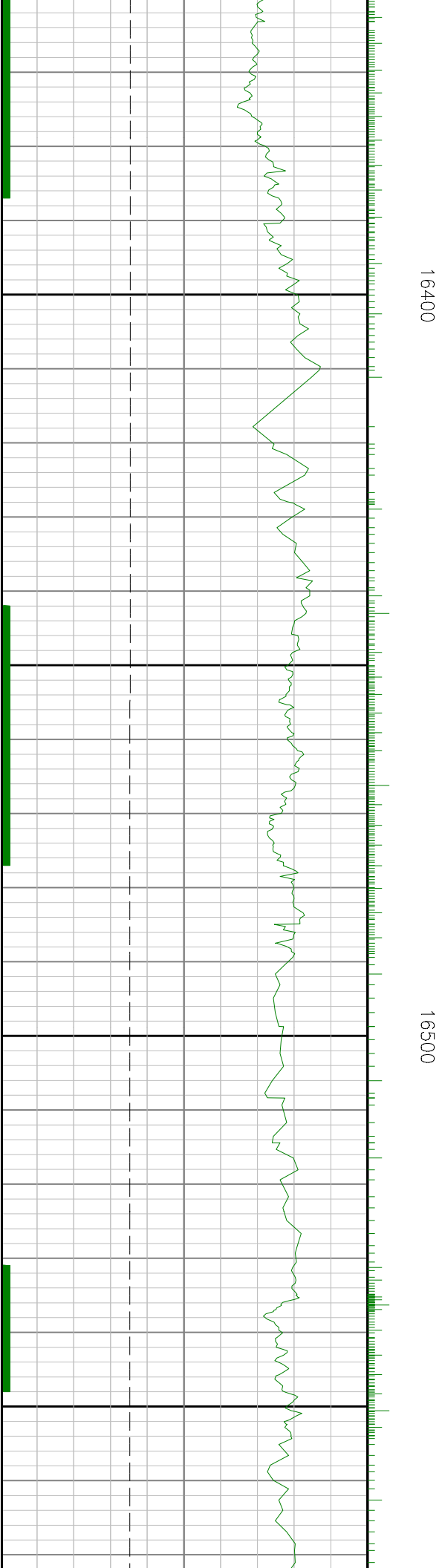
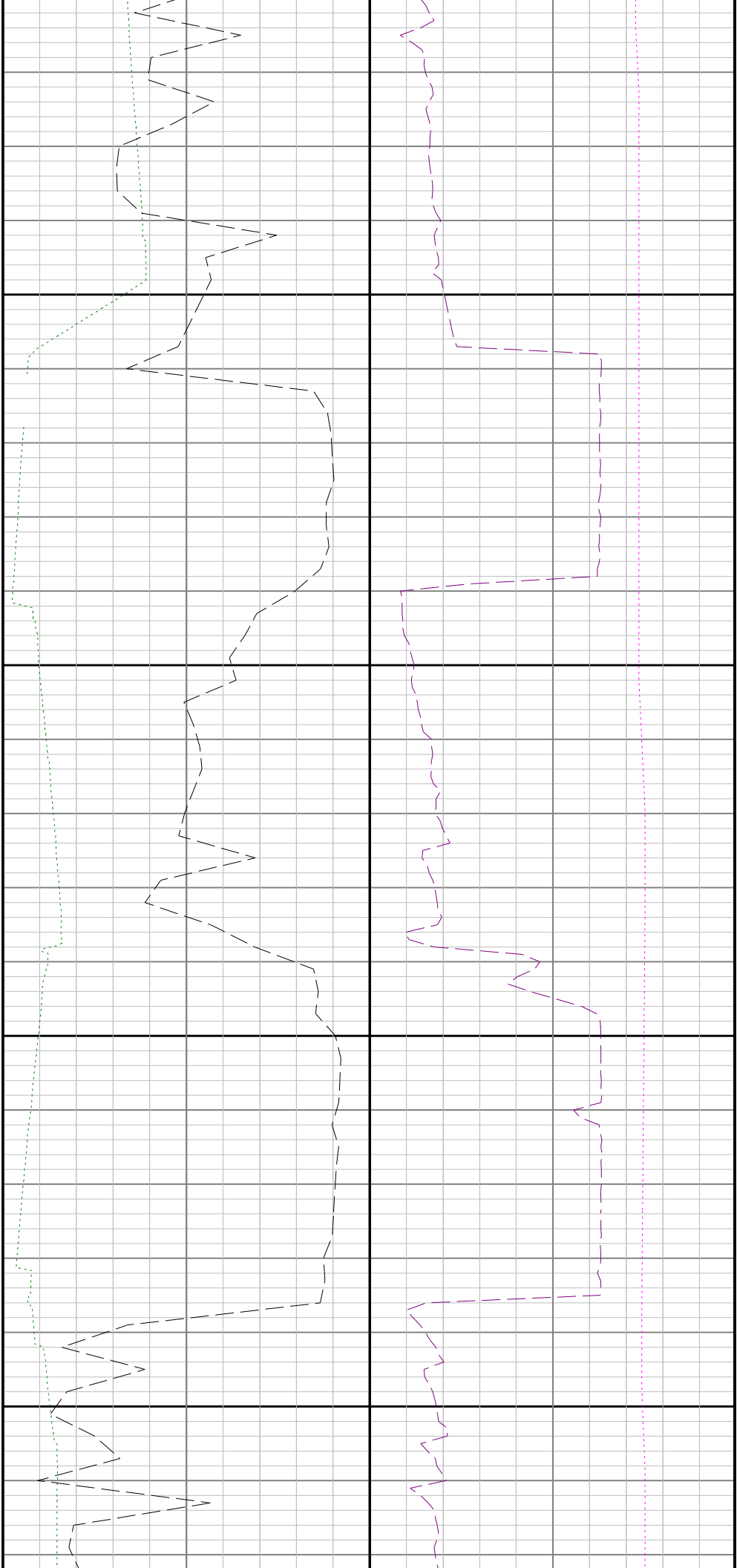
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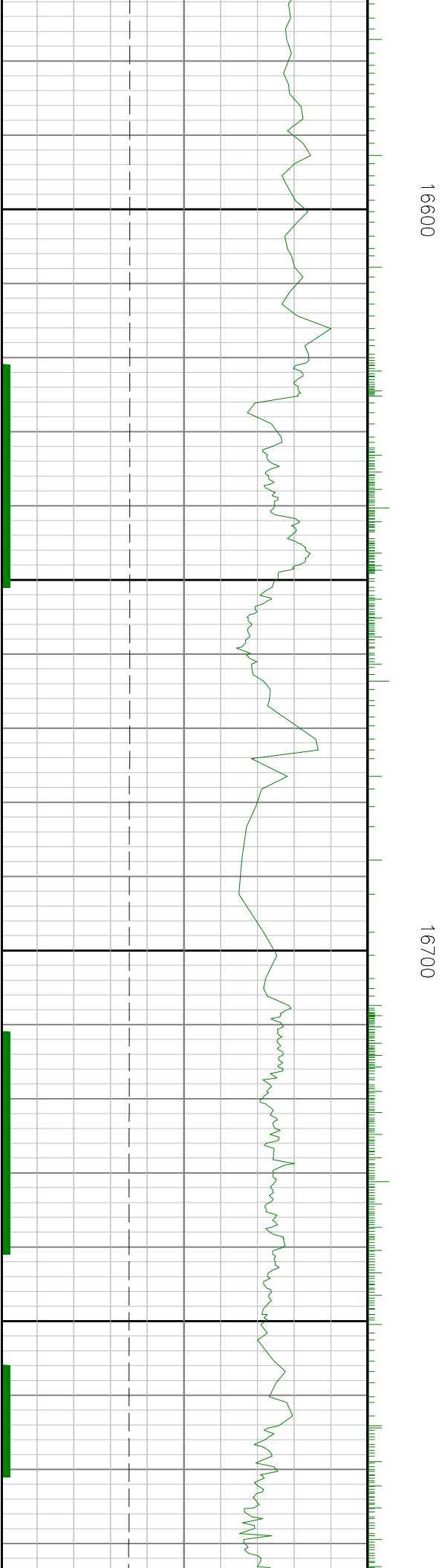
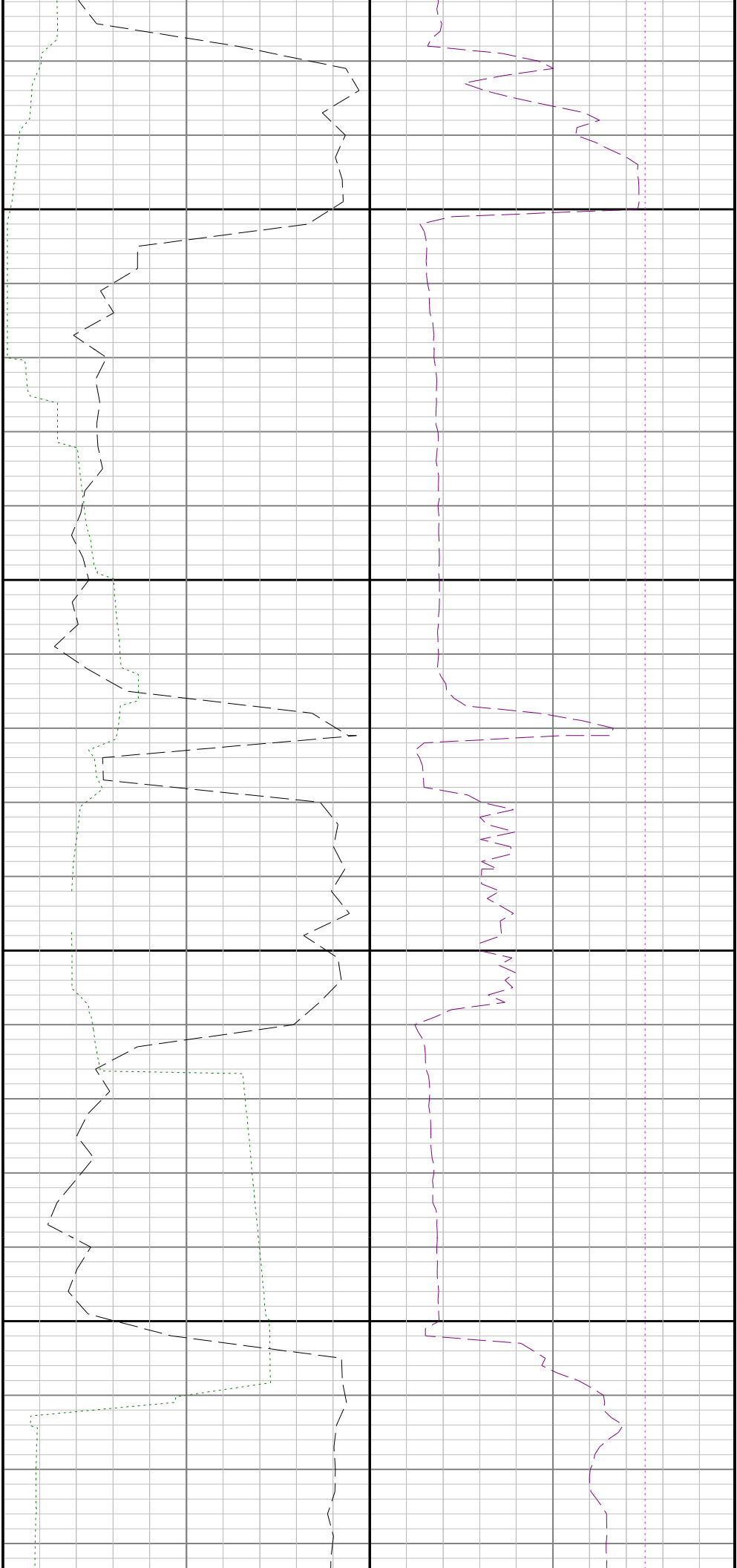
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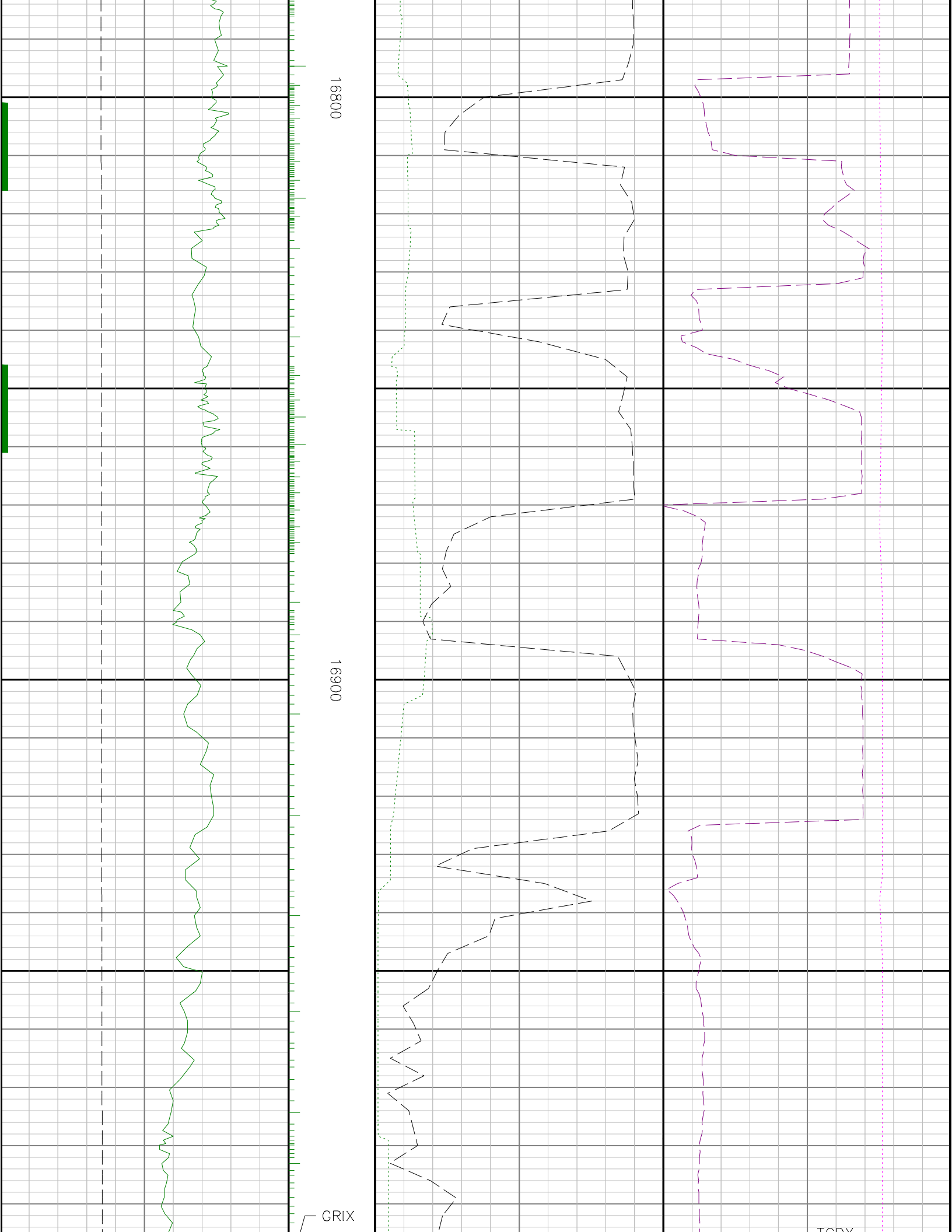


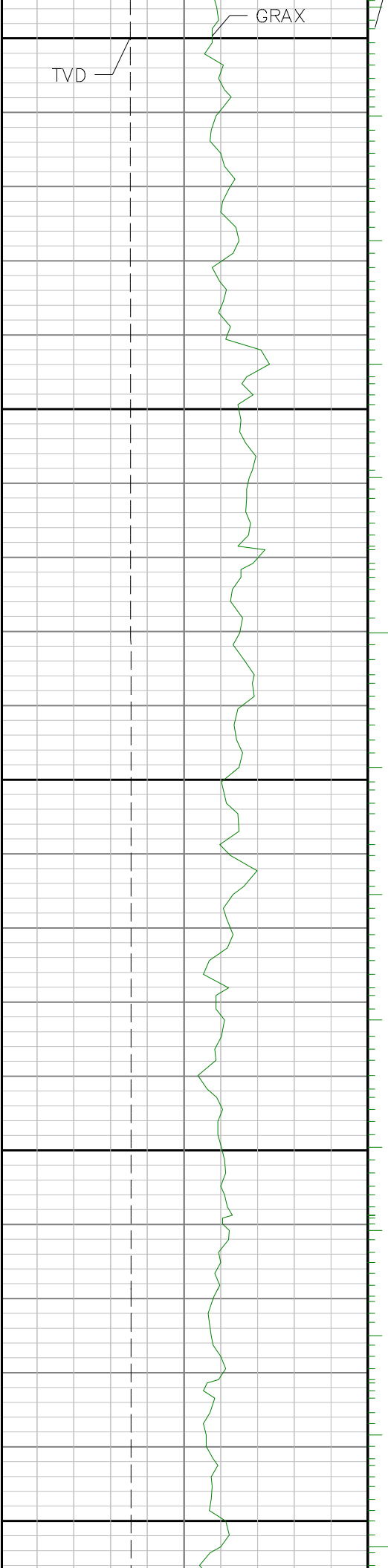












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