



Natural Formation Evaluation  
Gamma Ray

Realtime Log

Scale: Company: Anadarko

1:240 Well: Cream State 2N-21HZ

MEASURED DEPTH Field: Weld County (Kerr McGee)

Region: Continental US Country: United States

Status: Surface Location: Other Services:

Final Print Latitude: 40° 12' 9.101" N

API Number: 051234095800 Longitude: 104° 39' 51.638" W

Section: 28 TWN: 3N Range: 65W

Directional  
VSS

Permanent Datum (P.D.): Mean Sea Level Elevation: 4844.00 ft.

Log Measured From: Rig Floor 20.00 ft. Above P.D.

Depth Reference: Drillers Depth

Elevations: KB: N/A  
DF: 4844.00 ft.  
GL: 4824.00 ft.

Interval Logged Dates Magnetic Field Reference

Top: 6400.0 ft. Date From: 14/May/15 Dip Angle: 66.88° Azi Reference North: True

Bottom: 12541.0 ft. Date To: 20/May/15 Total Mag to Reference

Spud Date: 14/May/15 Field Strength: 52519.0 nT North Correction: 8.46°

Borehole Record

Casing Record

Hole Size	From	To	Size	Weight	From	To
8.750 in.	1245.0 ft.	7508.0 ft.	9.600 in.	36.00 lb/ft	Surface	1206.0 ft.
6.125 in.	7508.0 ft.	12541.0 ft.	7.000 in.	26.00 lb/ft	Surface	7498.0 ft.


Mud Record

Deviation Record

Type	From	To	Hole Size	Interval	Inc / Az (Start)	Inc / Az (End)
Water Based	Surface	12541.0 ft.	8.750 in.	7508.0 ft.	10.0° / 257.3°	85.8° / 358.5°
			6.125 in.	5033.0 ft.	89.6° / 358.2°	91.0° / 4.7°
					/	/
					/	/
					/	/
					/	/

Acquisition System Software Version

Other

Advantage	2.20U4	Rig / Contractor:	Precision 462	/ Precision Drilling
PATS	6.4.1.34	Job No:	7224125	/ 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	Bottom	From	To	Start		End		
							(ft.)	(ft.)	(ft.)	(ft.)					
1	1	1	8.750	PDC	3.500	Mud Motor	6400.0	7463.0	1245.0	7508.0	15/May/15	05:17	16/May/15	18:05	31.2
2	2	2	6.125	PDC	6.500	Mud Motor	7463.0	12486.0	7508.0	12541.0	18/May/15	12:16	19/May/15	21:00	30.1

Crew

Name	Arrive	Depart	Name	Arrive	Depart	Name	Arrive	Depart
	Wellsite	Wellsite		Wellsite	Wellsite		Wellsite	Wellsite
Andy King	15/May/2015	20/May/2015	Mike Gurnsey	15/May/2015	20/May/2015			
Donald Delay	15/May/2015	20/May/2015	Ed Beaty	15/May/2015	20/May/2015			

Mud Properties Record

Date / Time		LWD Run No.	Measured Depth (ft.)	Mud Type	Density (lb/gal)	Viscosity (s/qt)	pH	Fluid Loss (cc)	Oil / Water	Source	Total Chlorides (mg/L)	K+ (%)
15/May/15	08:00	1	3900.0	PolyPlus	8.5	28	9.0	N/A	1/99	Suction	600	0.0
18/May/15	08:00	2	8404.0	PolyPlus	9.7	48	9.5	4.8	2/91	Suction	400	0.0

Mnemonics

Curve	Description	Units
GRAX	Gamma Ray Apparent, 0.5 ft. Avg.	API
GRTX	Gamma Ray Time Since Drilled	min.
GRIX	Gamma Ray Data Density	points
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.	Klbs.

Equipment and Service Data

LWD Run No.	Tool	Serial Number	Measurement	Bit Offset (ft.)	Max O.D. (in.)	Min I.D. (in.)
1	DIR	12440863	Directional	47.34	6.750	3.250
1	SRIG	12041109	Gamma	43.97	6.750	3.250
2	DIR	12168813	Directional	52.51	4.750	2.750
2	SRIG	12131378	Gamma	49.09	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

Comments

<p>1.) Baker Hughes Run 1 utilized 6 3/4 inch NaviGamma services (Gamma Ray and Directional) behind an 8 3/4 inch bit and steerable assembly from 1245 to 7508 feet MD (1238.97 to 7045.70 feet TVD).</p> <p>2.) Baker Hughes Run 2 utilized 4 3/4 inch NaviGamma services (Gamma Ray and Directional) behind a 6 1/8 inch bit and steerable assembly from 7508 to 12541 feet MD (7045.70 to 6941.66 feet TVD).</p> <p>3.) 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 logging engineers, depth calibrations and measurements could not be independently verified.</p> <p>4.) A sliding indicator is shown on the left edge of track 1 as a heavy line. This indicator has been depth-shifted to the Gamma Ray sensor offset to correspond with Gamma Ray data acquired while sliding.</p>
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Remarks

Number	Measured	Hole	LWD	Remark
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	Depth (ft.)	Section (in.)	Run No.	
1	7485	8.750	1	The interval from 7463 to 7508 feet MD (7043.58 to 7045.70 feet TVD) was logged up to 30 hours after being drilled due to casing operations.
2	12520	6.125	2	The interval from 12490 to 12541 feet MD (6942.70 to 6941.66 feet TVD) has no logging data due to bit to sensor offset.

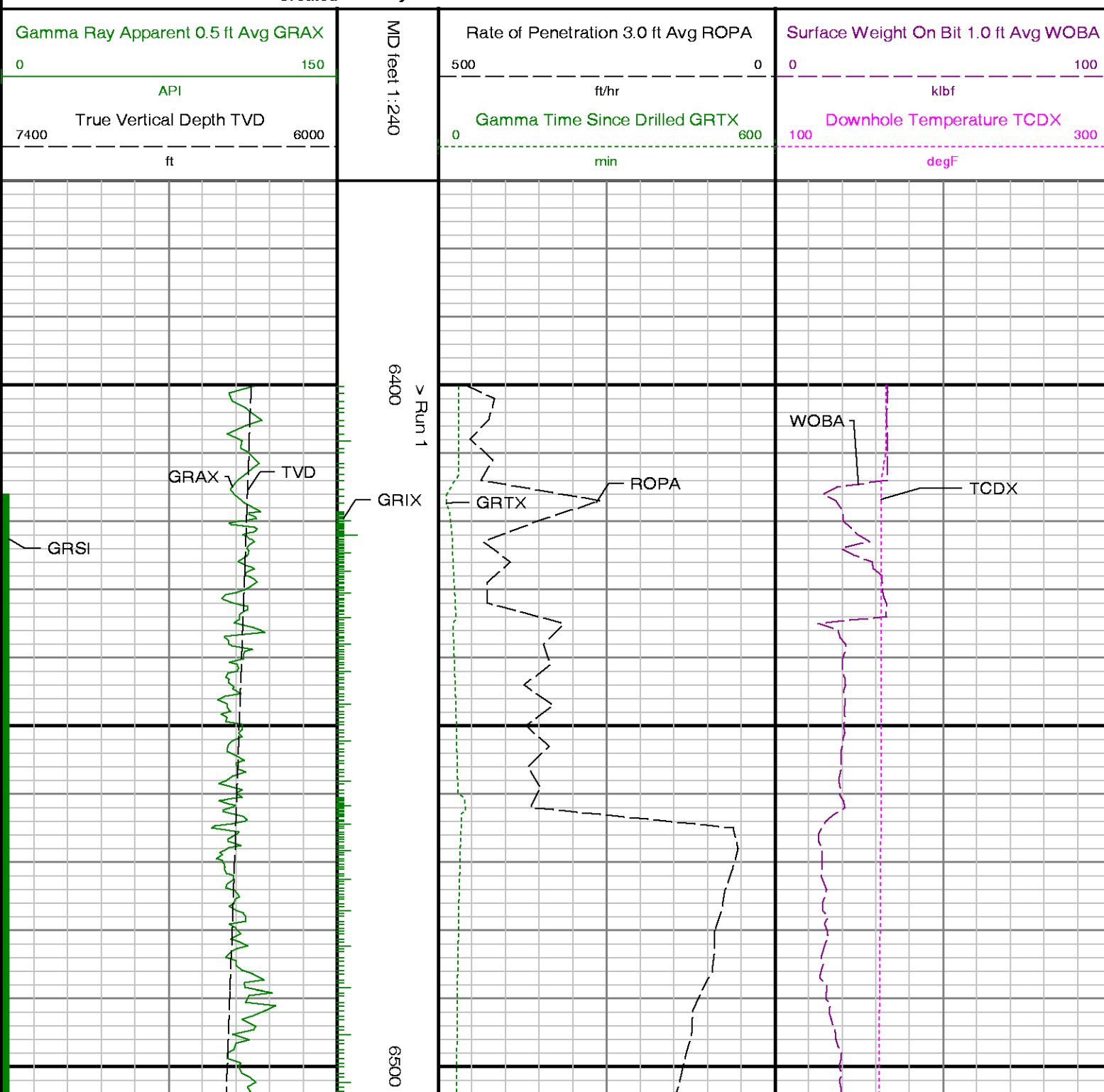


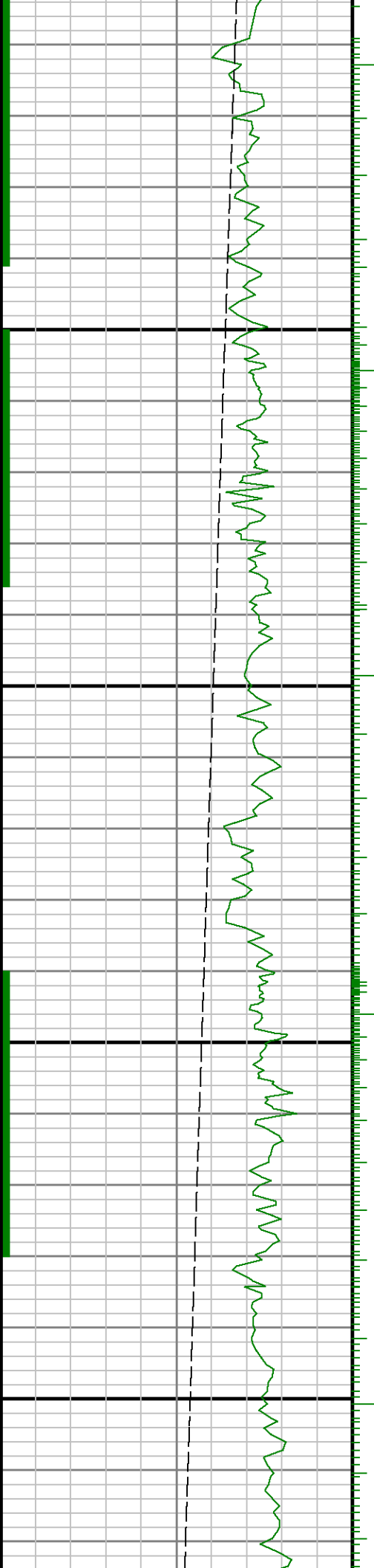
Company : Anadarko

Well : Cream State 2N-21HZ

Interval : 6370.00 - 12575.00 feet

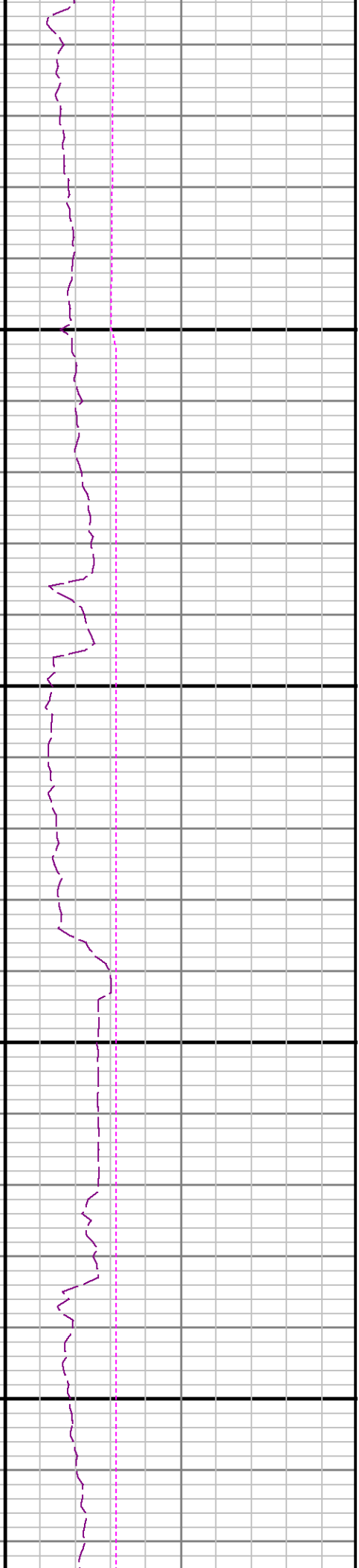
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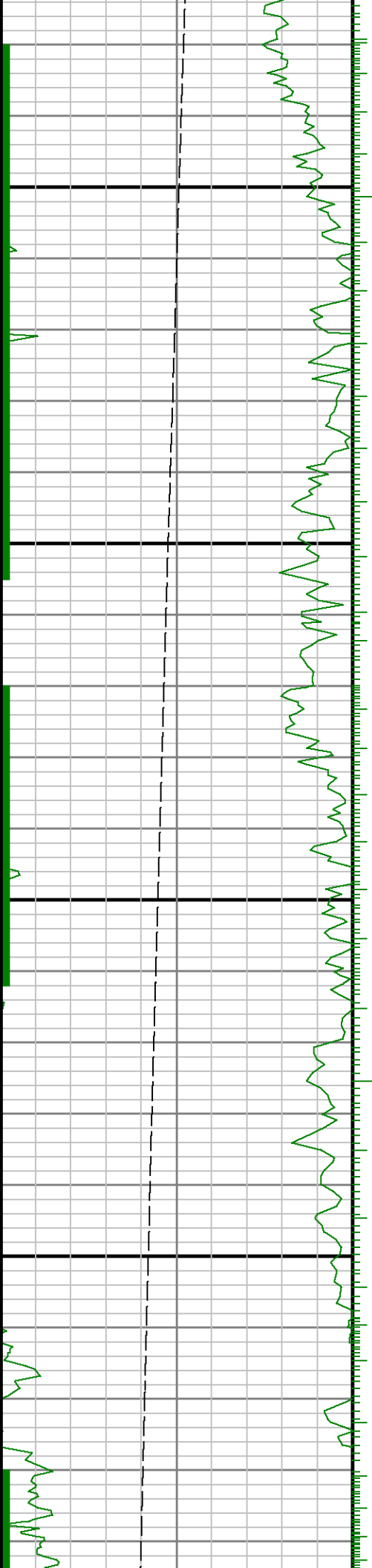




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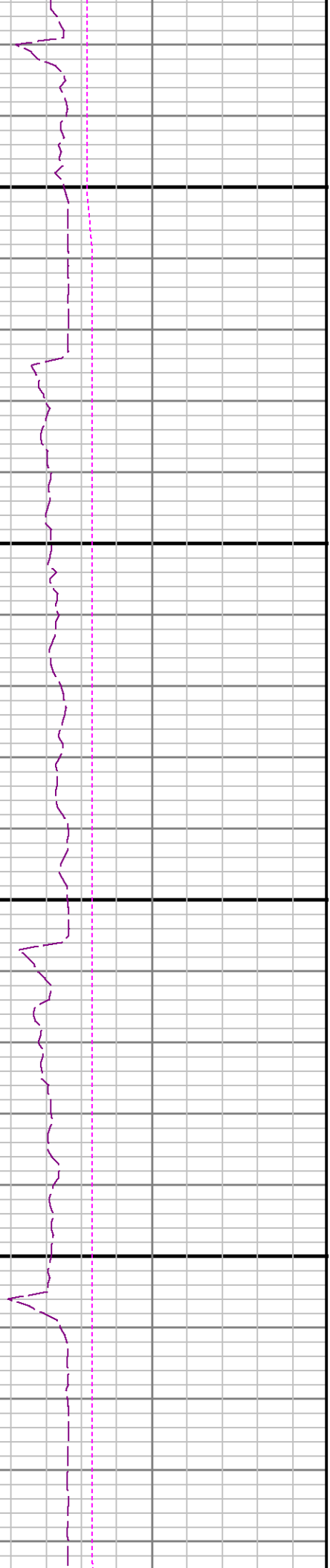
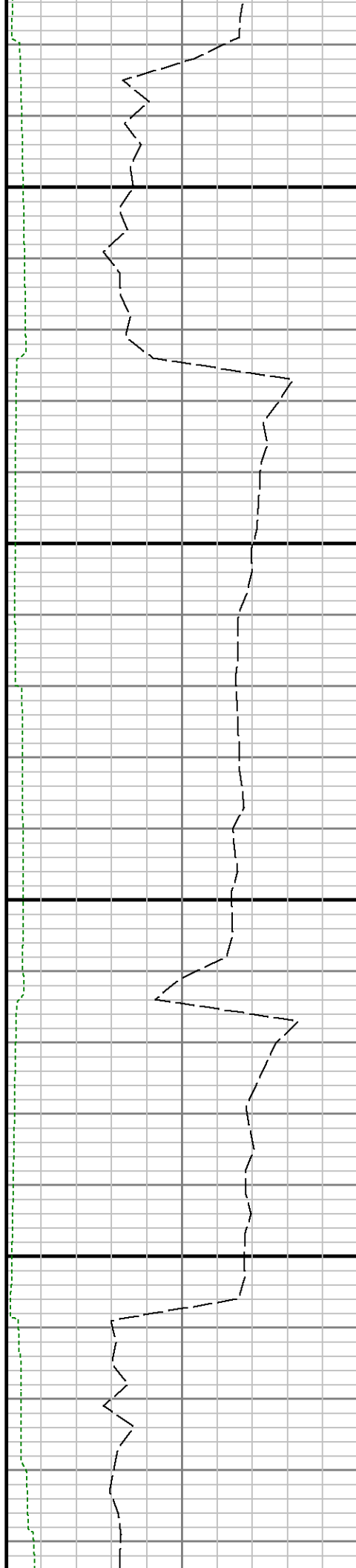
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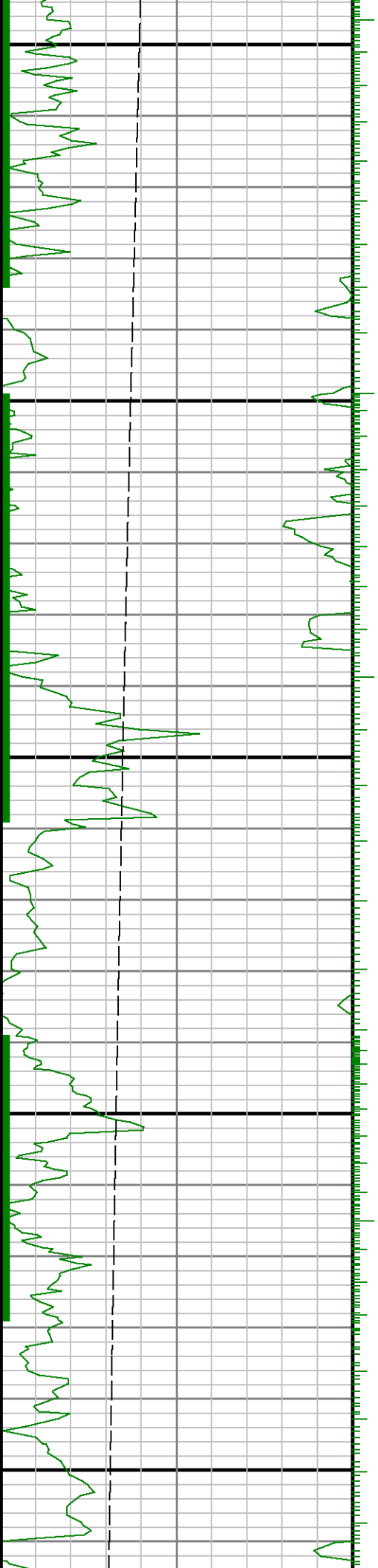
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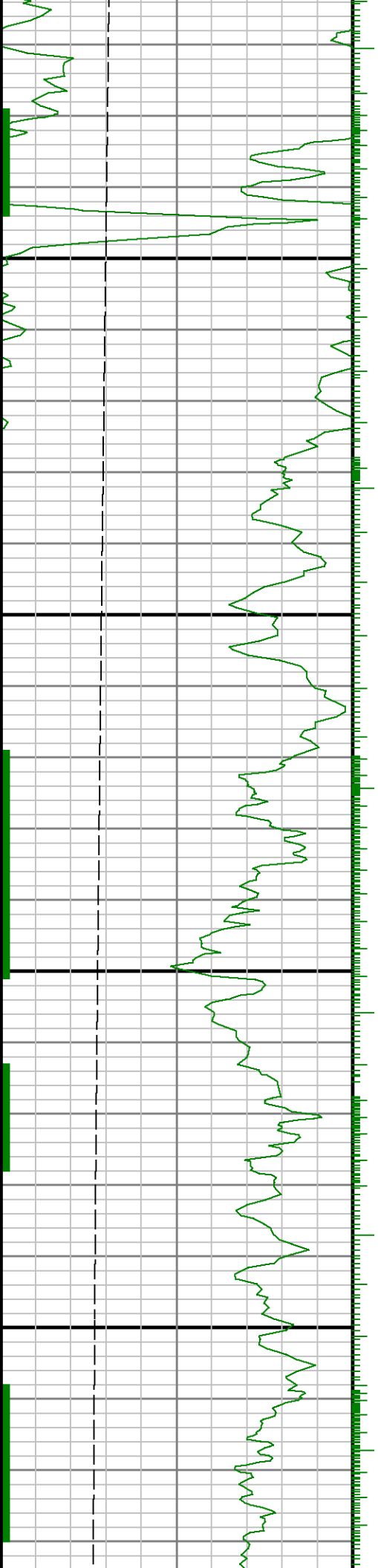
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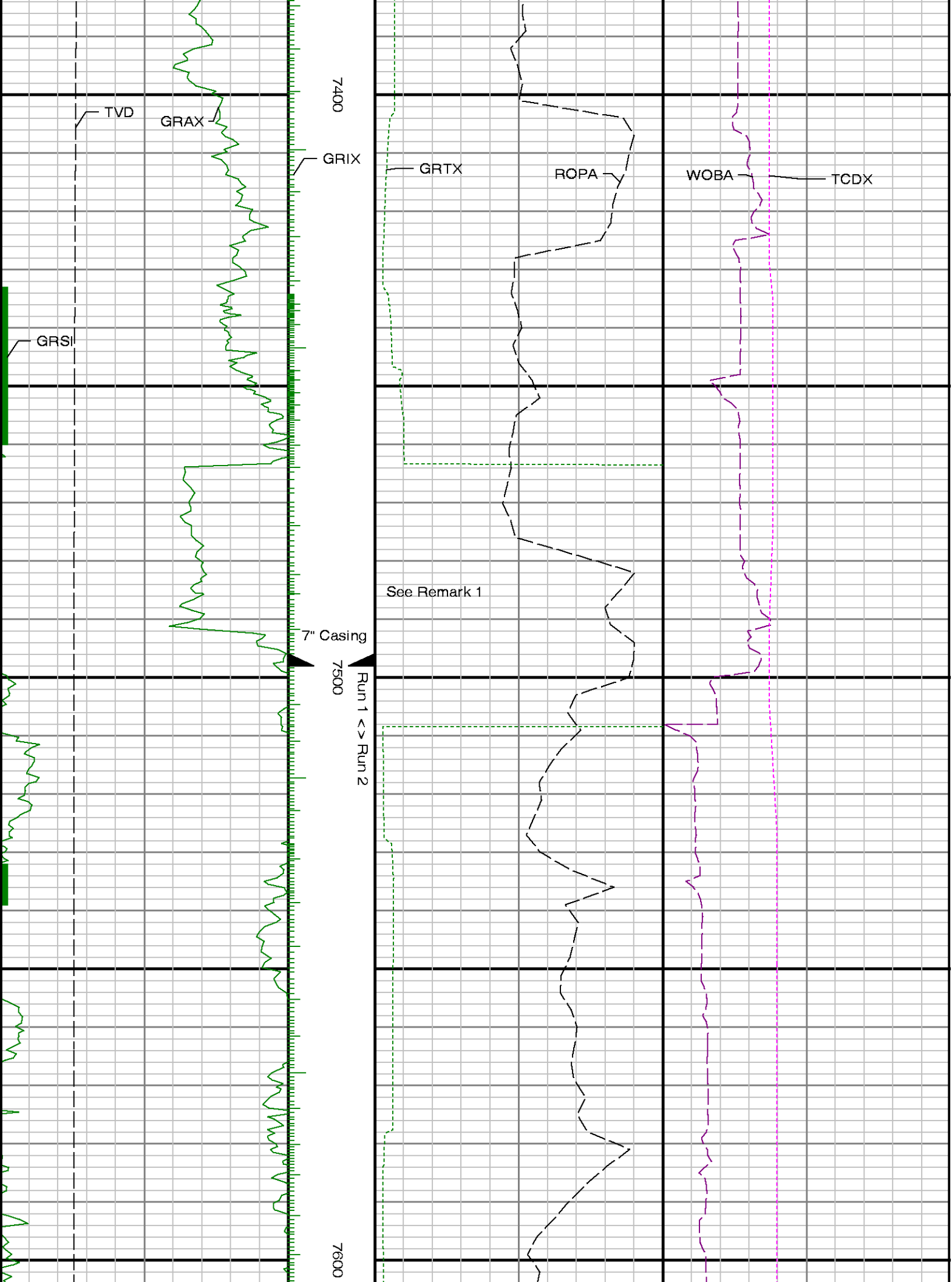




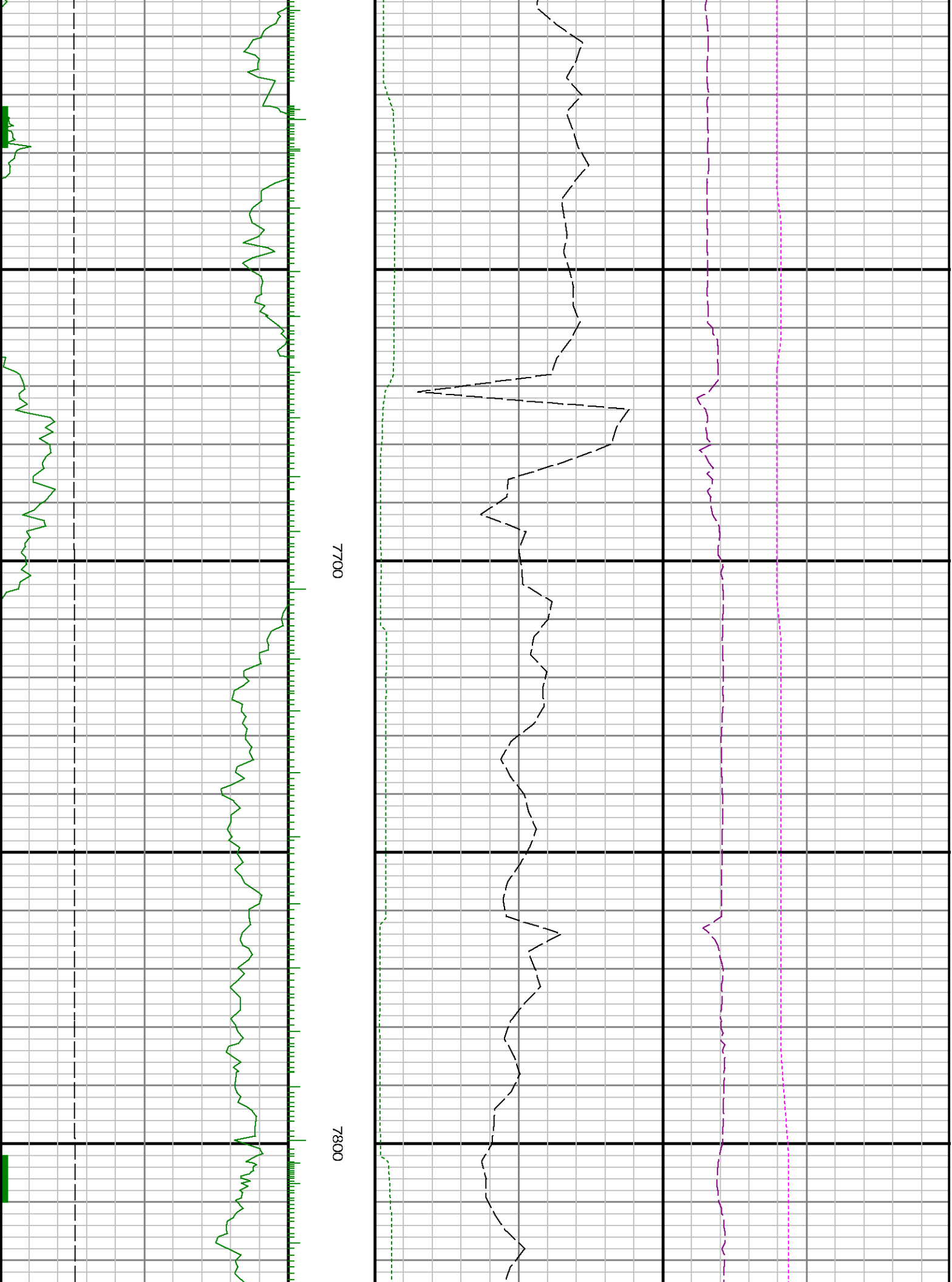
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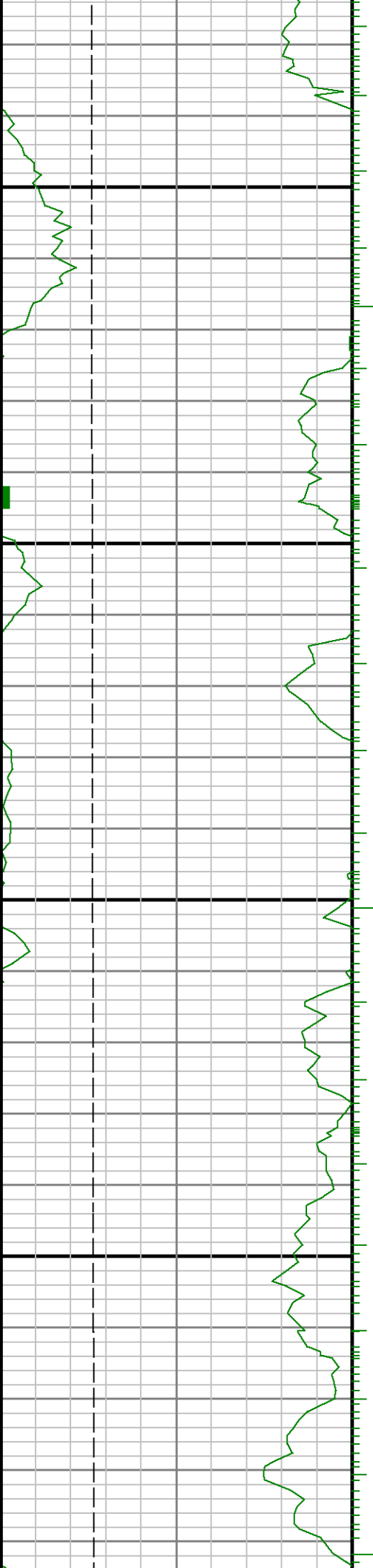
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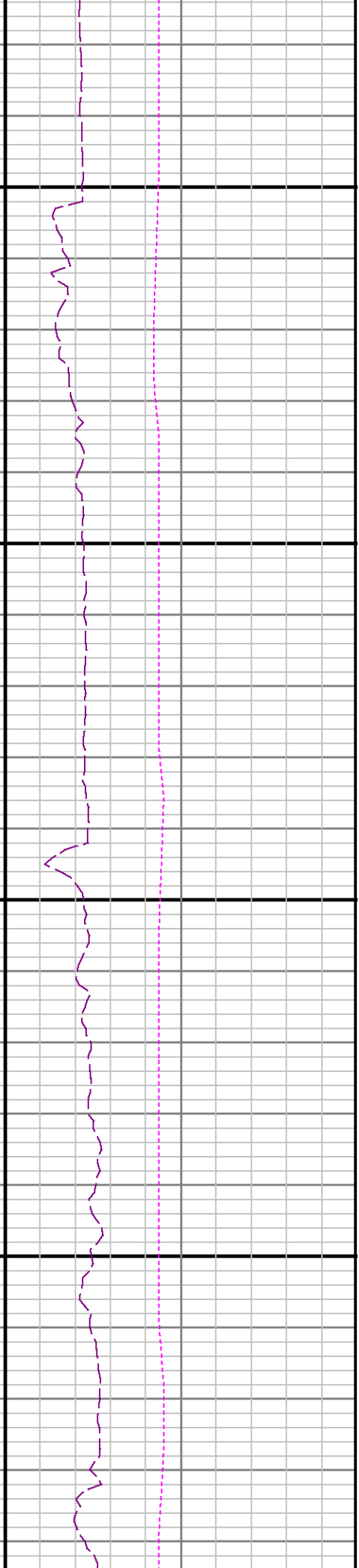
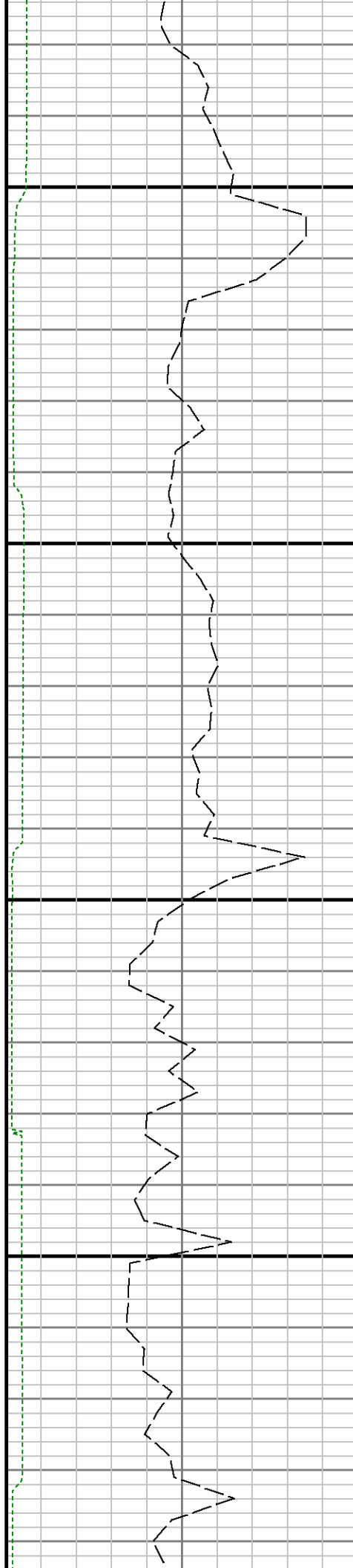


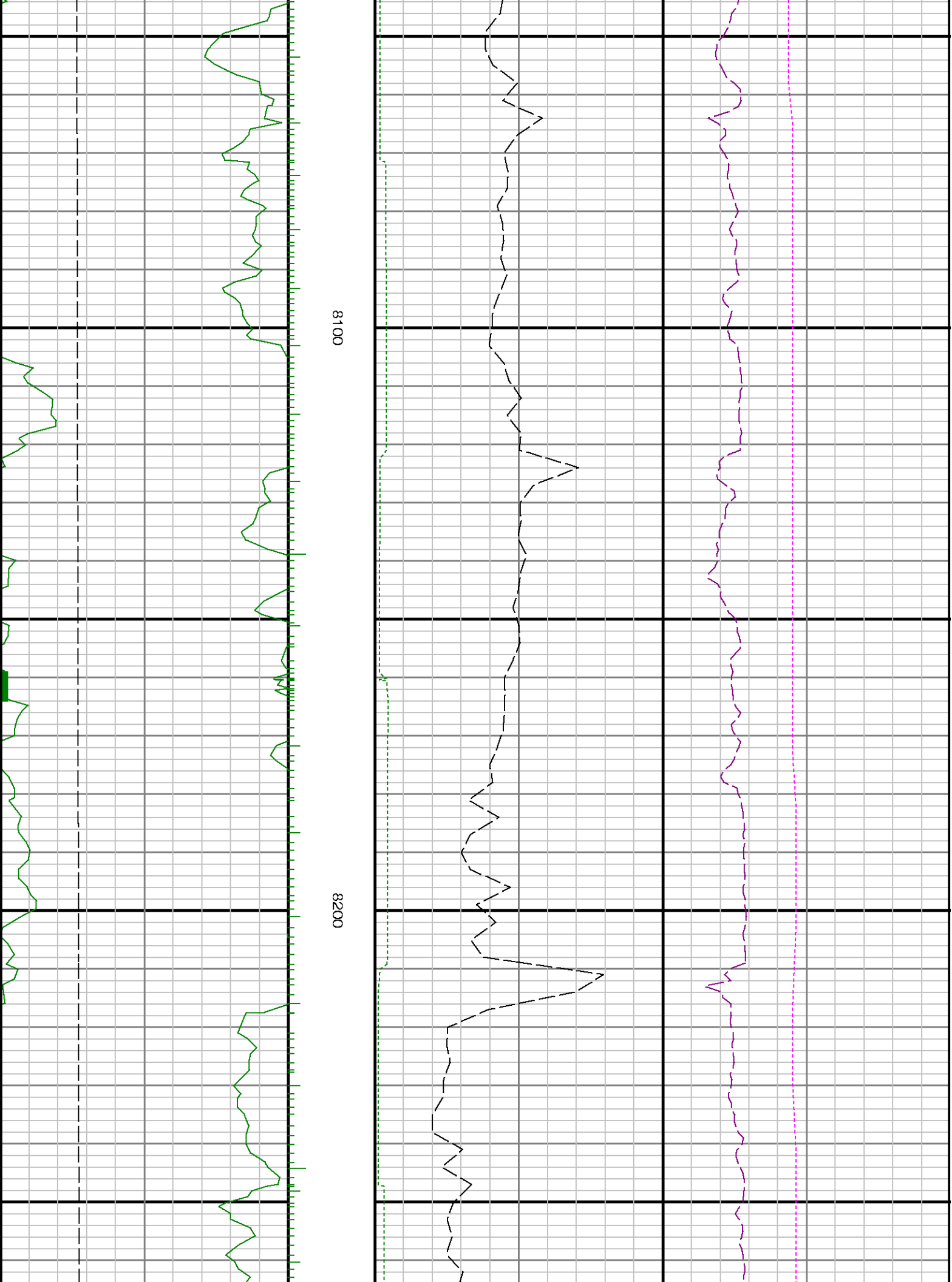


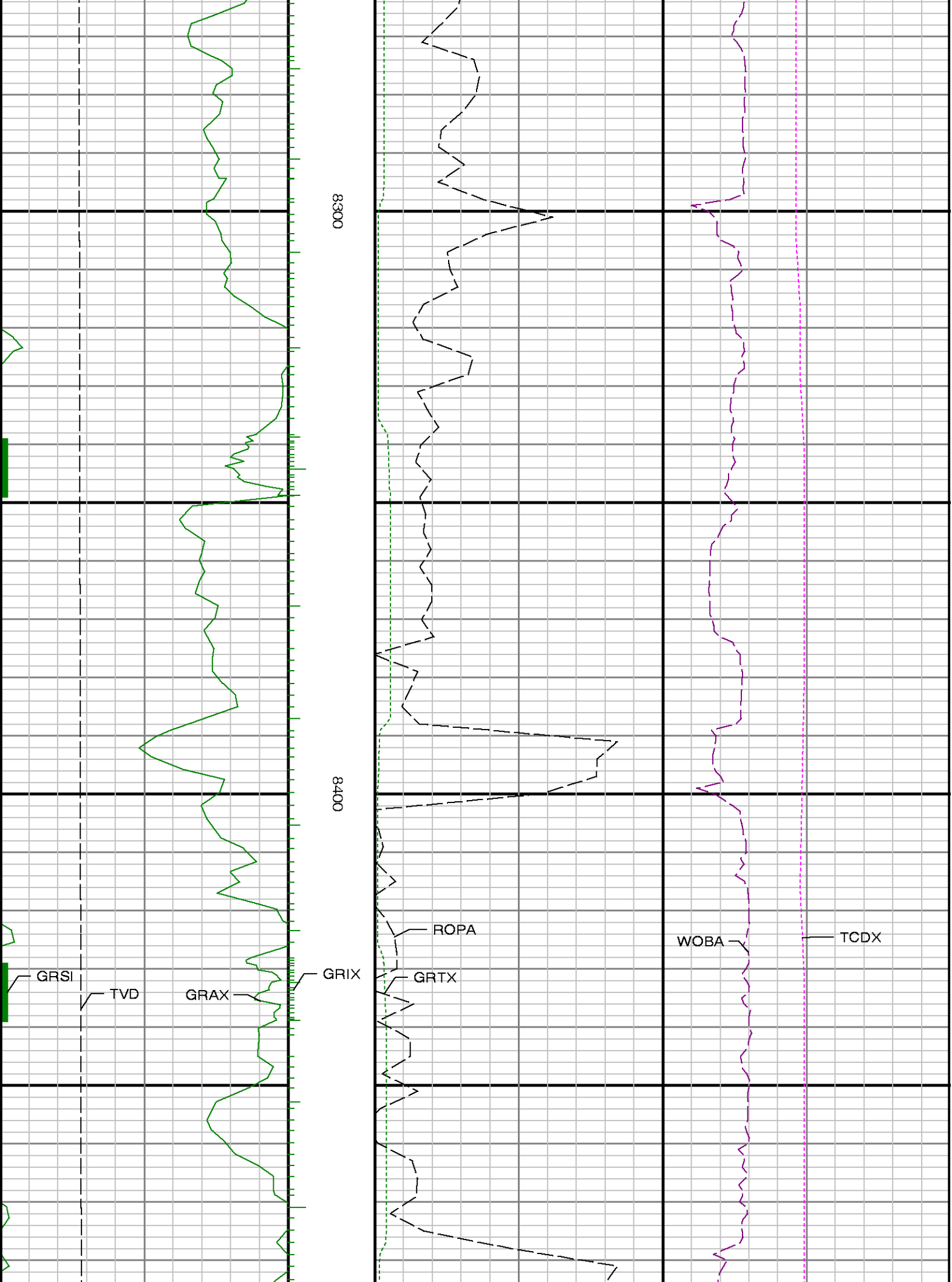


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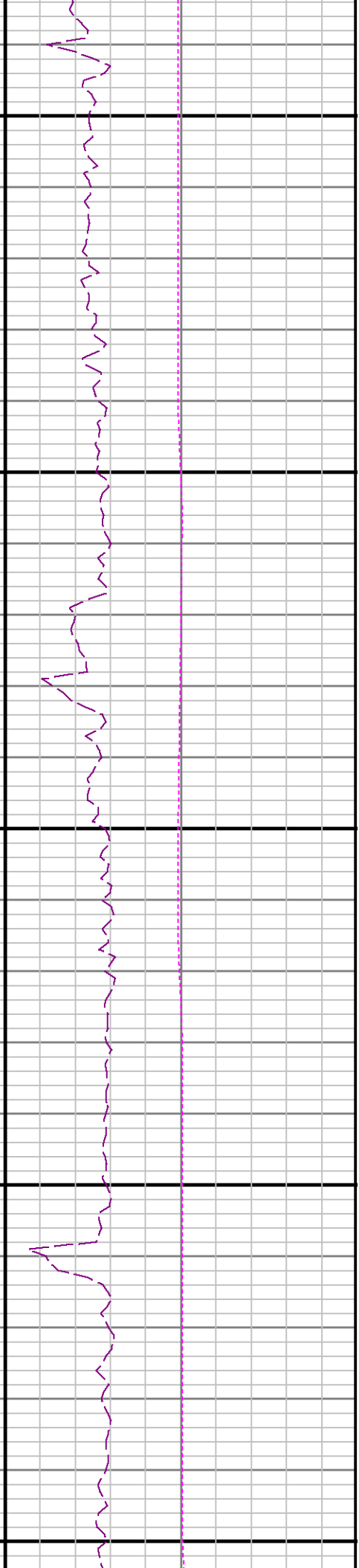
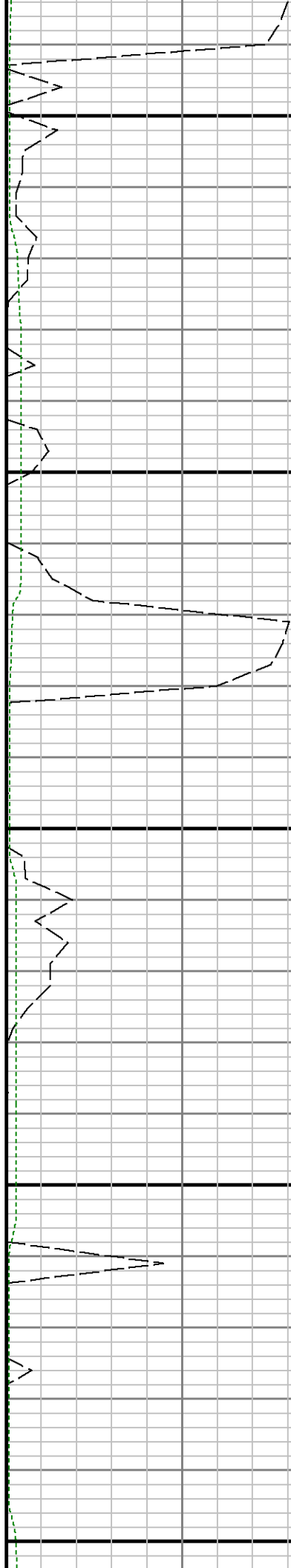




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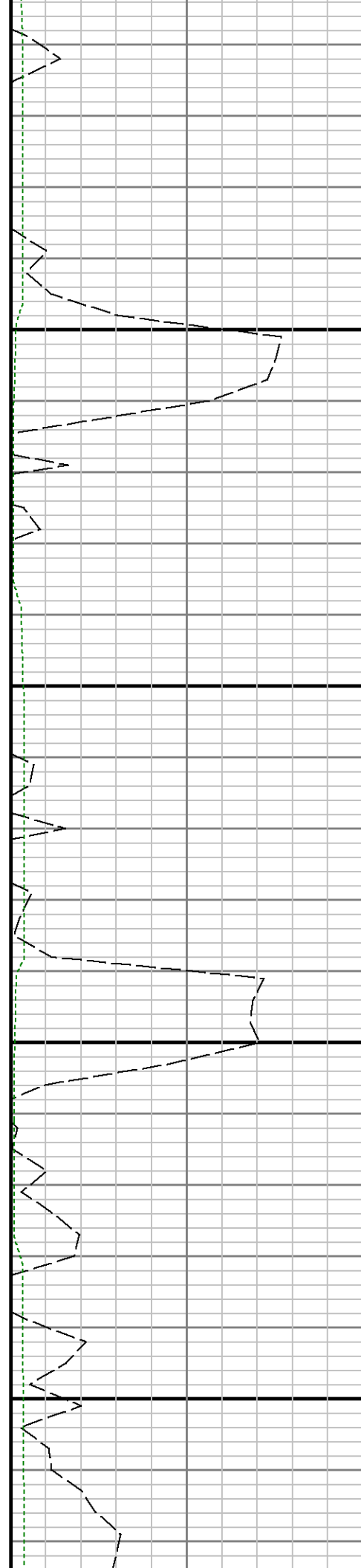
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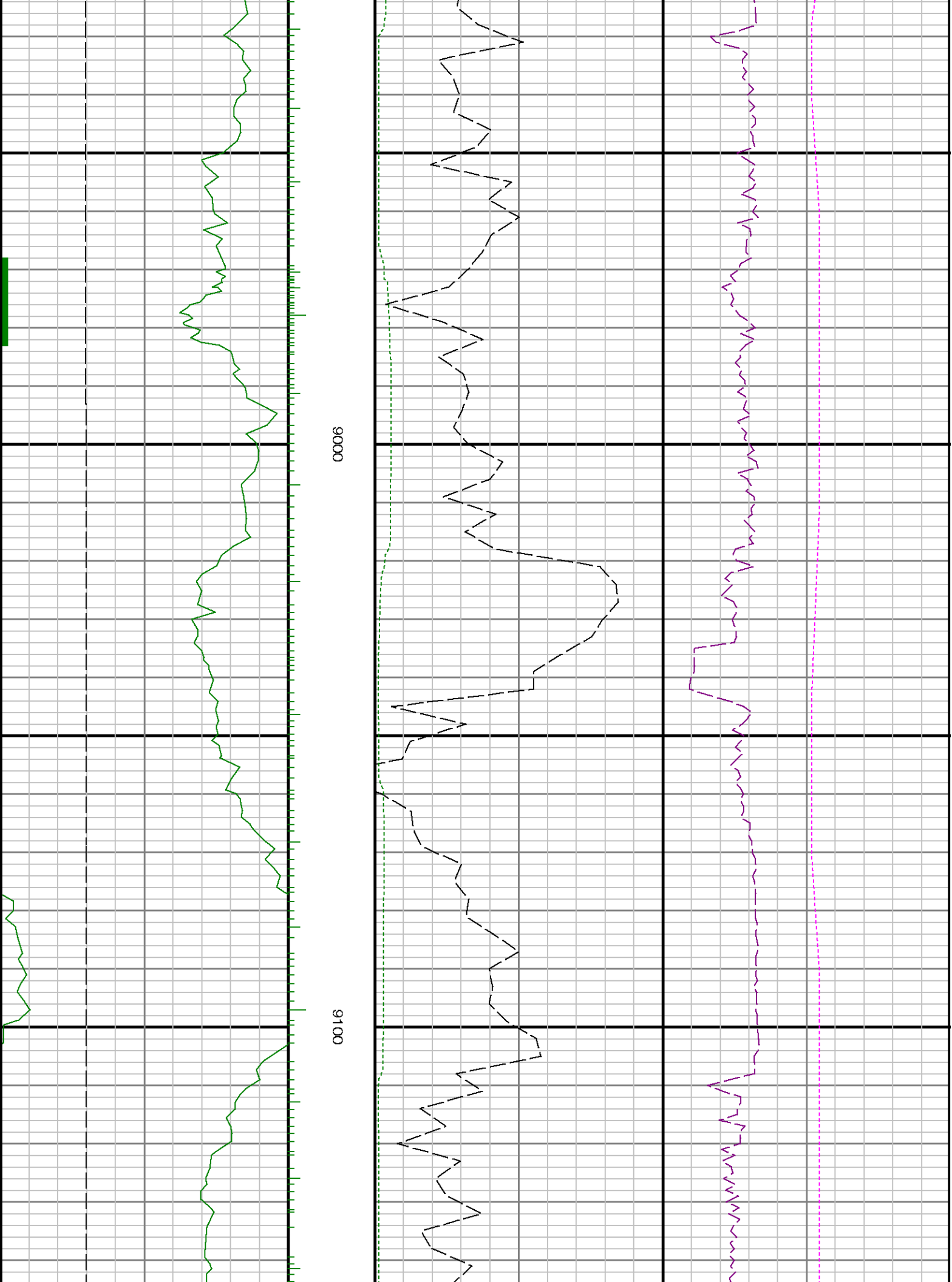


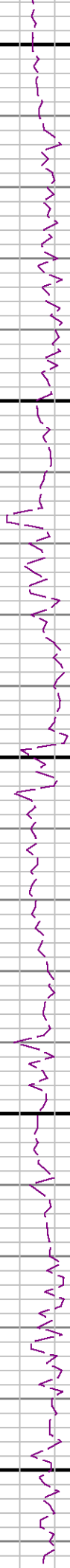


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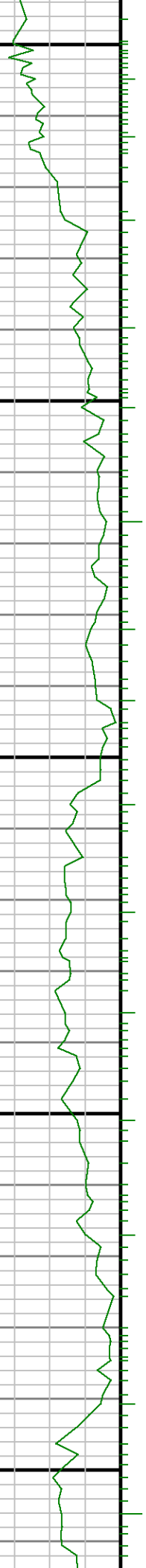




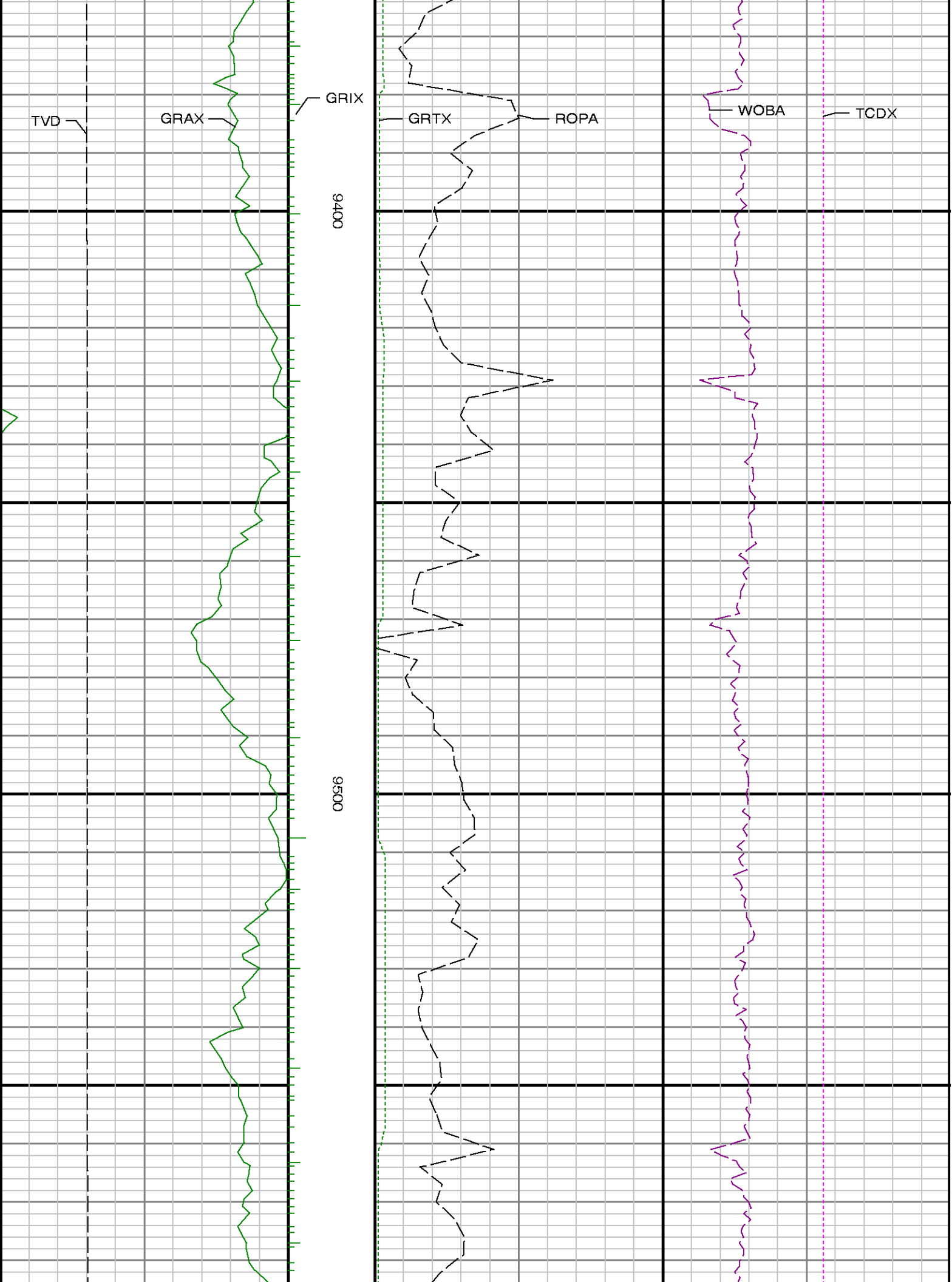


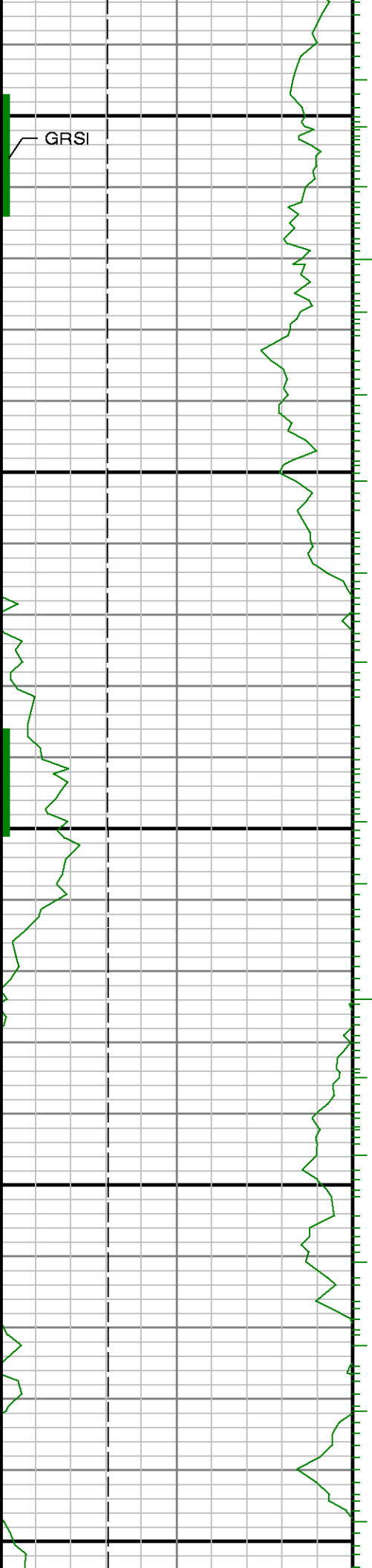
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