

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/Jun/2015 18:00	3	11710.0	POLY-PLUS	9.9	49	9.0	5.0	4/88	Suction	700	N/A

Mnemonics

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

Equipment and Service Data

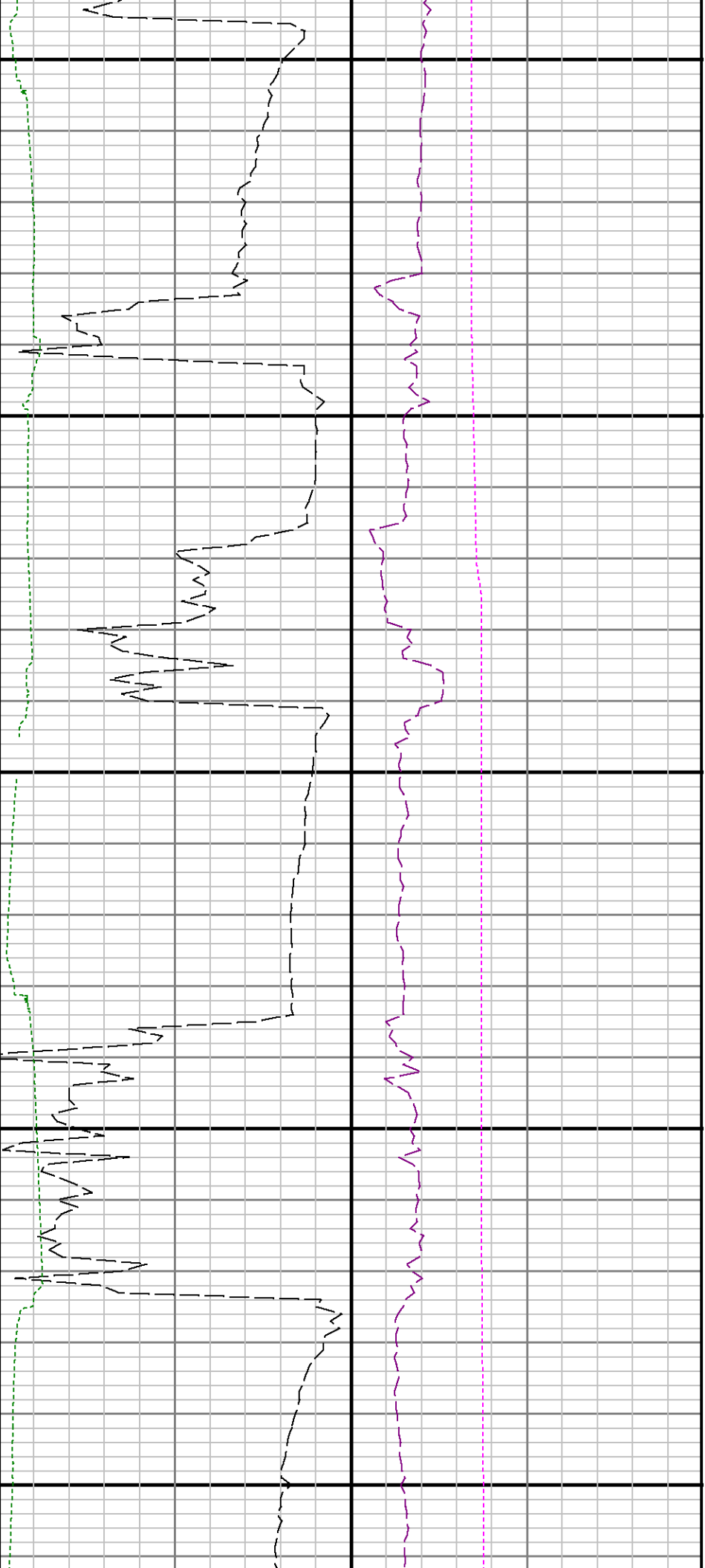
LWD Run No.	Tool	Serial Number	Measurement	Bit Offset (ft.)	Max O.D. (in.)	Min I.D. (in.)
1	DIR	11954358	Directional	46.74	6.750	3.250
1	SRIG	12023992	Gamma	43.37	6.750	3.250
2	DIR	11801247	Directional	52.16	4.750	2.750
2	SRIG	11858322	Gamma	48.74	4.750	2.750
3	DIR	12456788	Directional	51.28	4.750	2.750
3	SRIG	11734844	Gamma	47.86	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

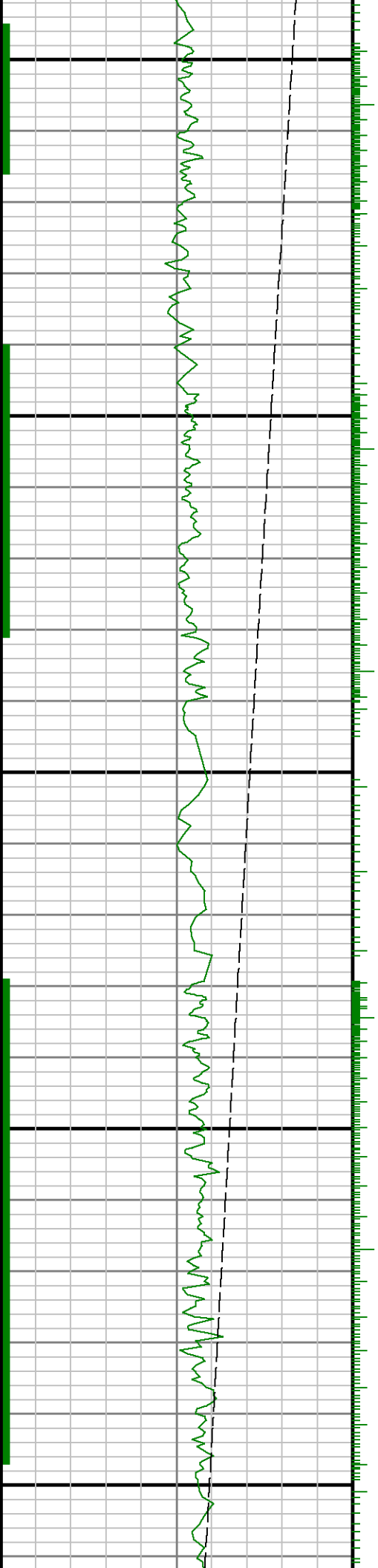
<p>1.) Baker Hughes Run 1 utilized 6 3/4 inch NaviGamma services (Gamma Ray and Directional) behind an 8 3/4 inch bit and steerable assembly from 1216 to 7562 feet MD (1207.40 to 7008.12 feet TVD).</p> <p>2.) Baker Hughes Run 2 utilized 4 3/4 inch NaviGamma services (Gamma Ray and Directional) behind a 6 1/8 inch bit and steerable assembly from 7562 to 11640 feet MD (7008.12 to 6950.28 feet TVD).</p> <p>3.) Baker Hughes Run 3 utilized 4 3/4 inch NaviGamma services (Gamma Ray and Directional) behind a 6 1/8 inch bit and steerable assembly from 11640 to 12600 feet MD (6950.28 to 6940.34 feet TVD).</p> <p>4.) Depth measurements were obtained from a depth control system not supplied or operated by Baker Hughes. Due to lack of control by Baker Hughes logging engineers, depth calibrations and measurements could not be independently verified.</p> <p>5.) 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 to correspond with Gamma Ray data acquired while sliding.</p>
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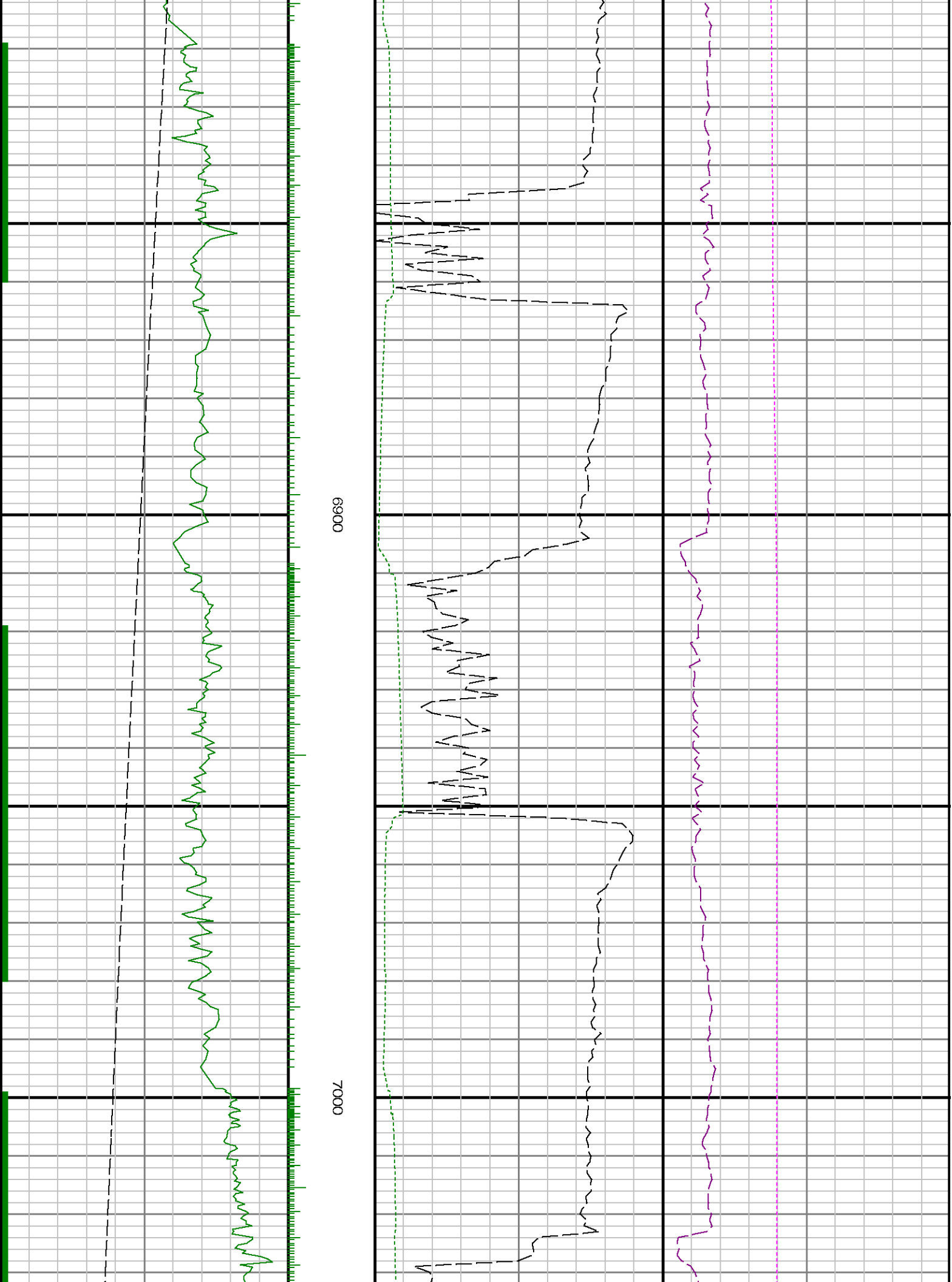


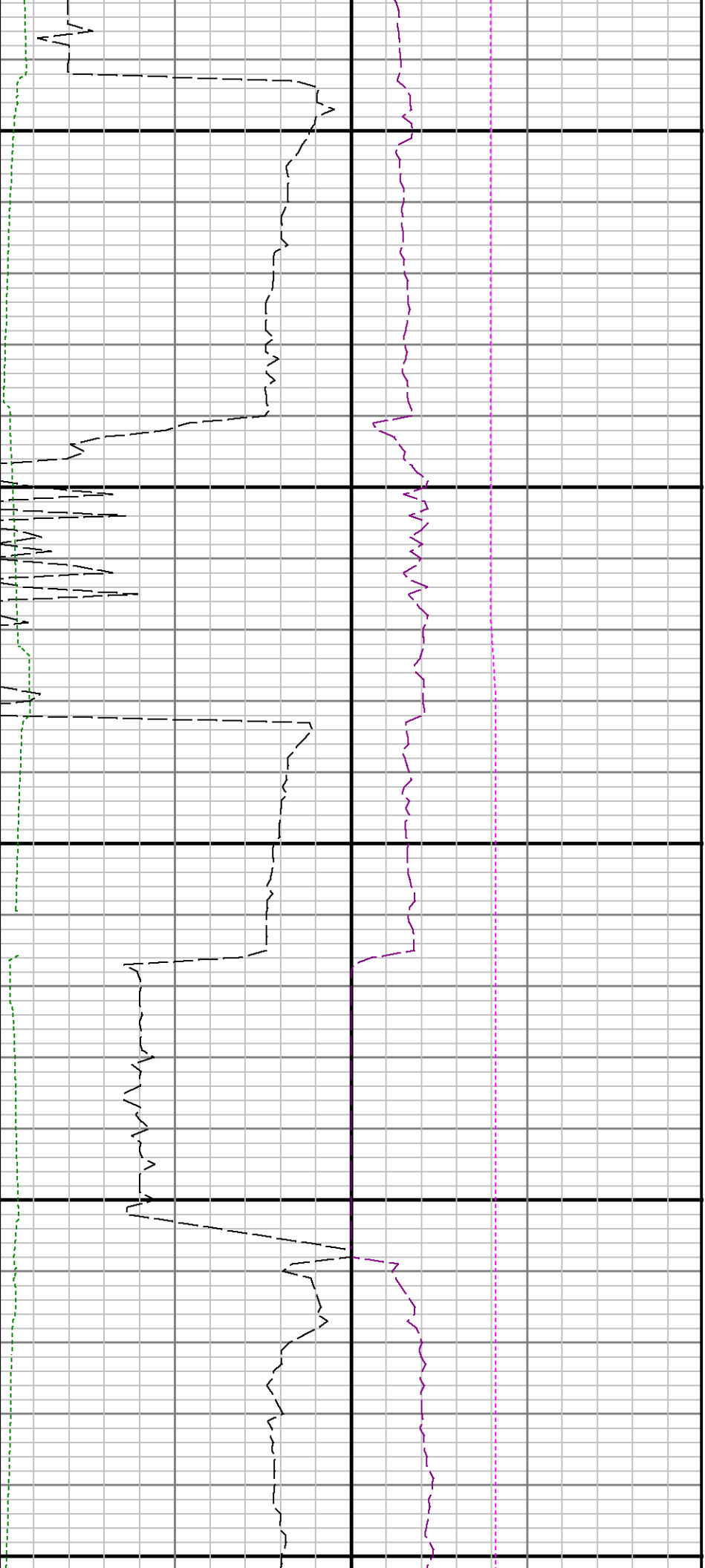
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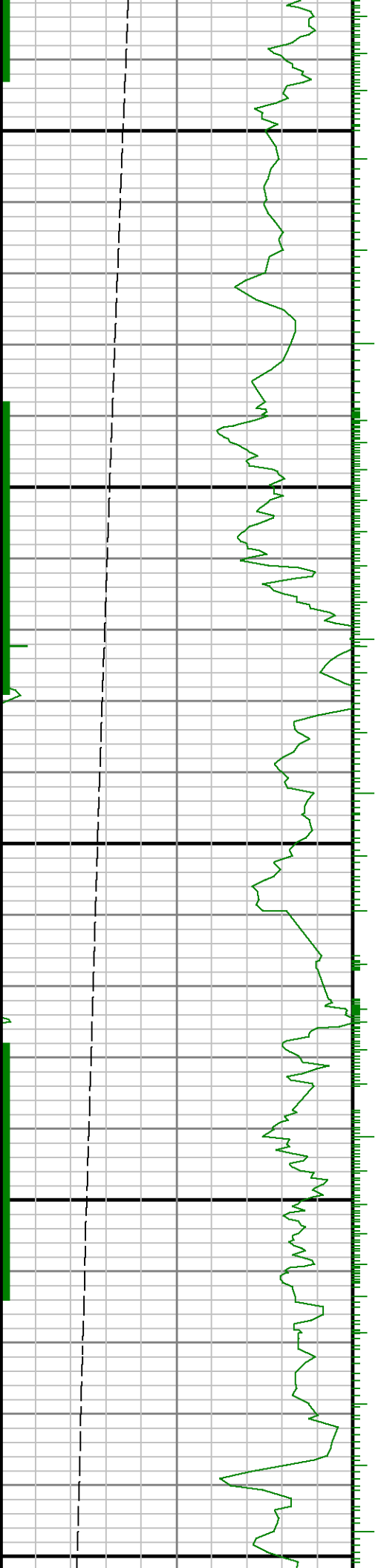


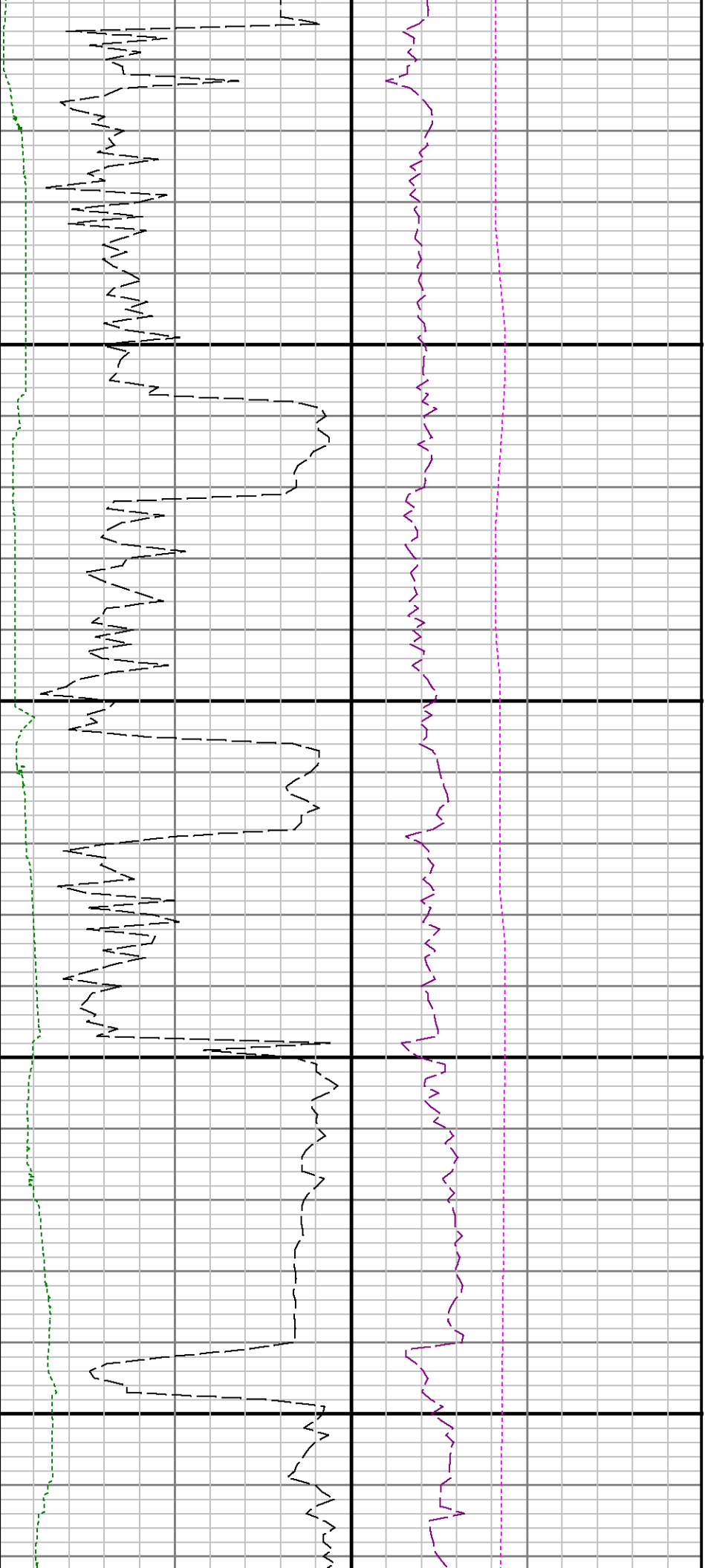




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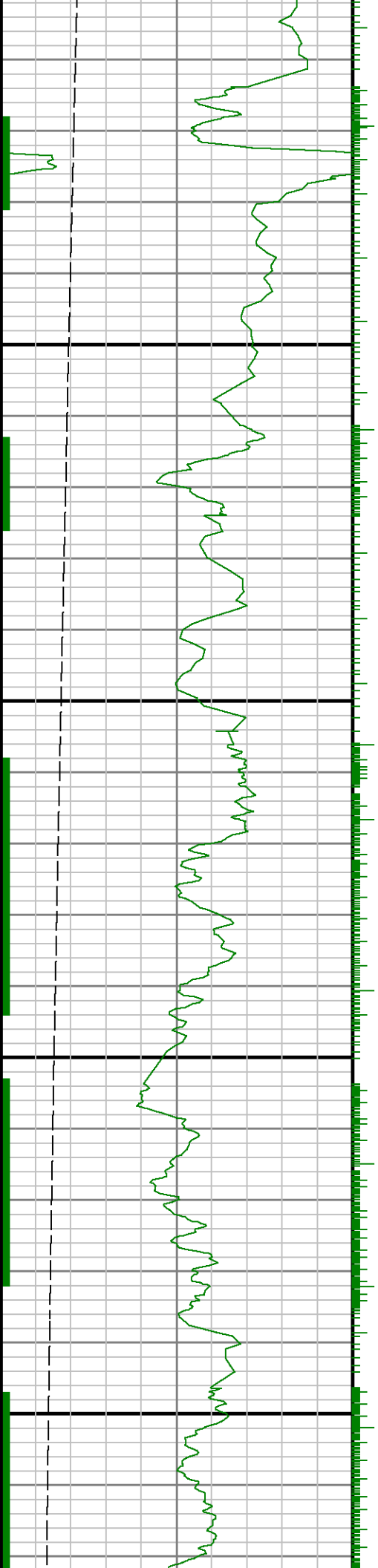
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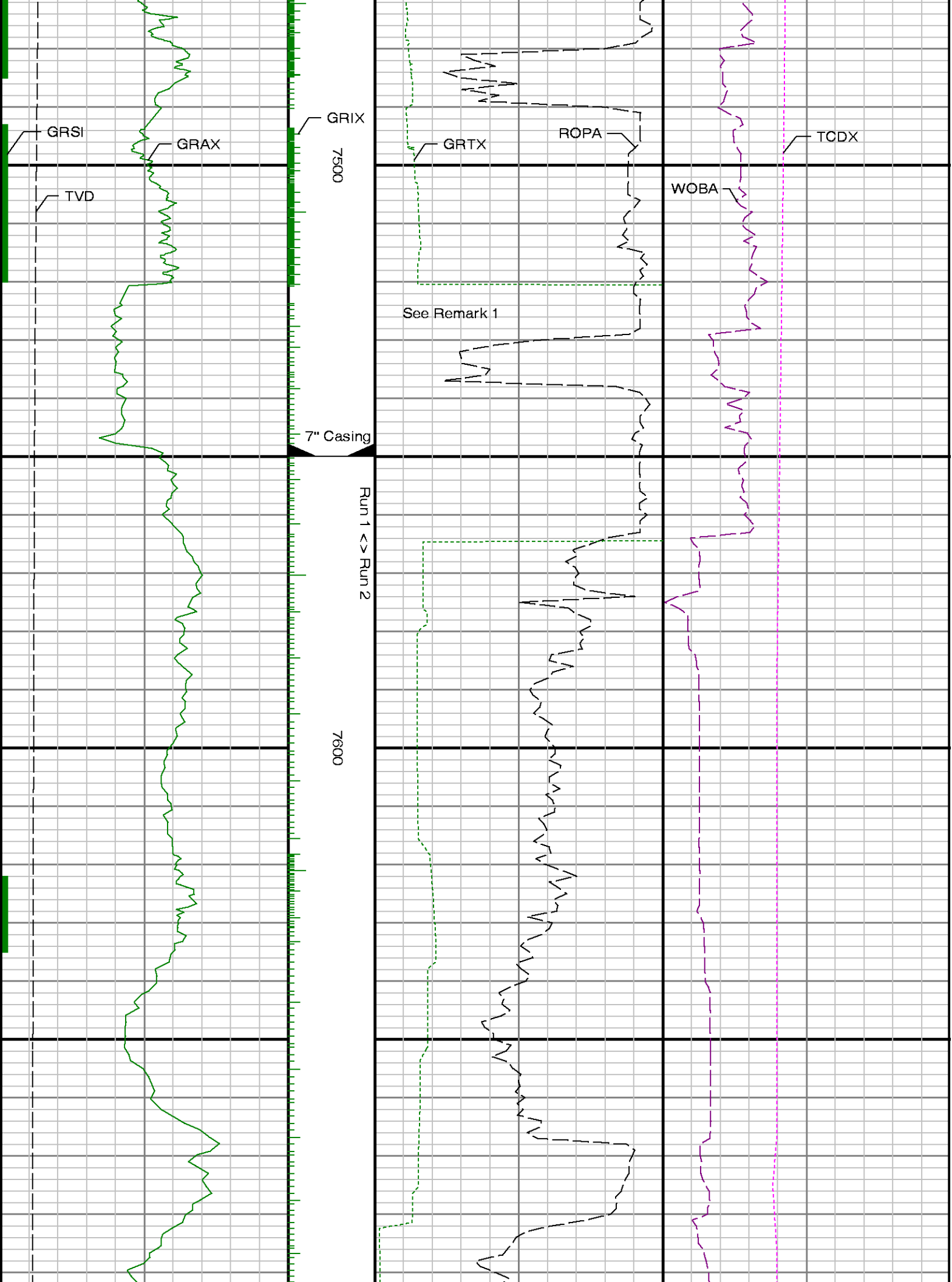


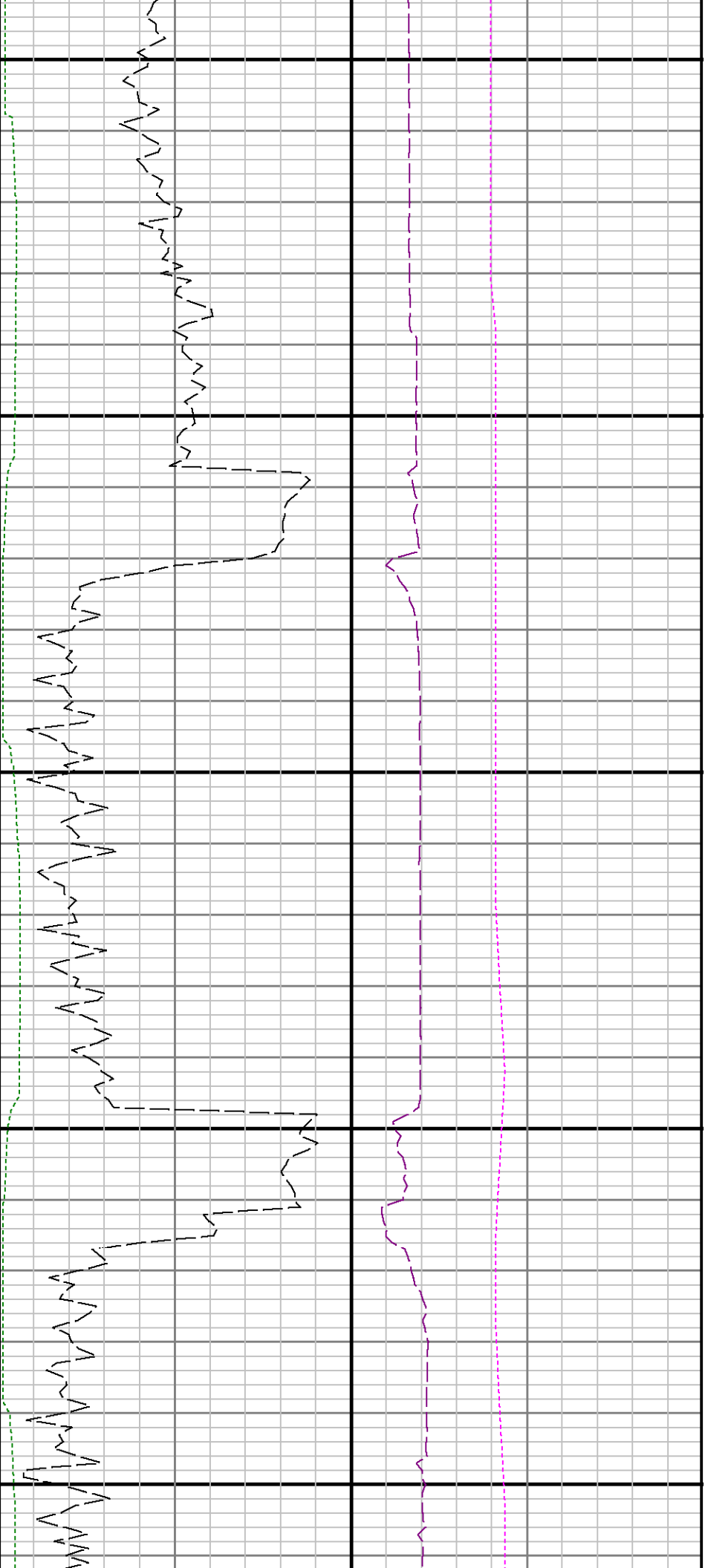


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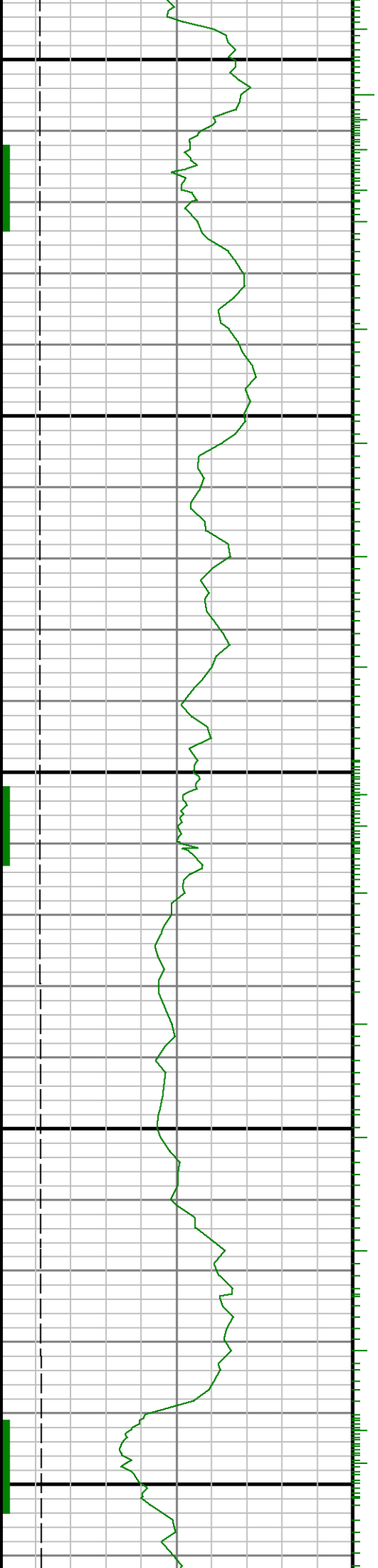


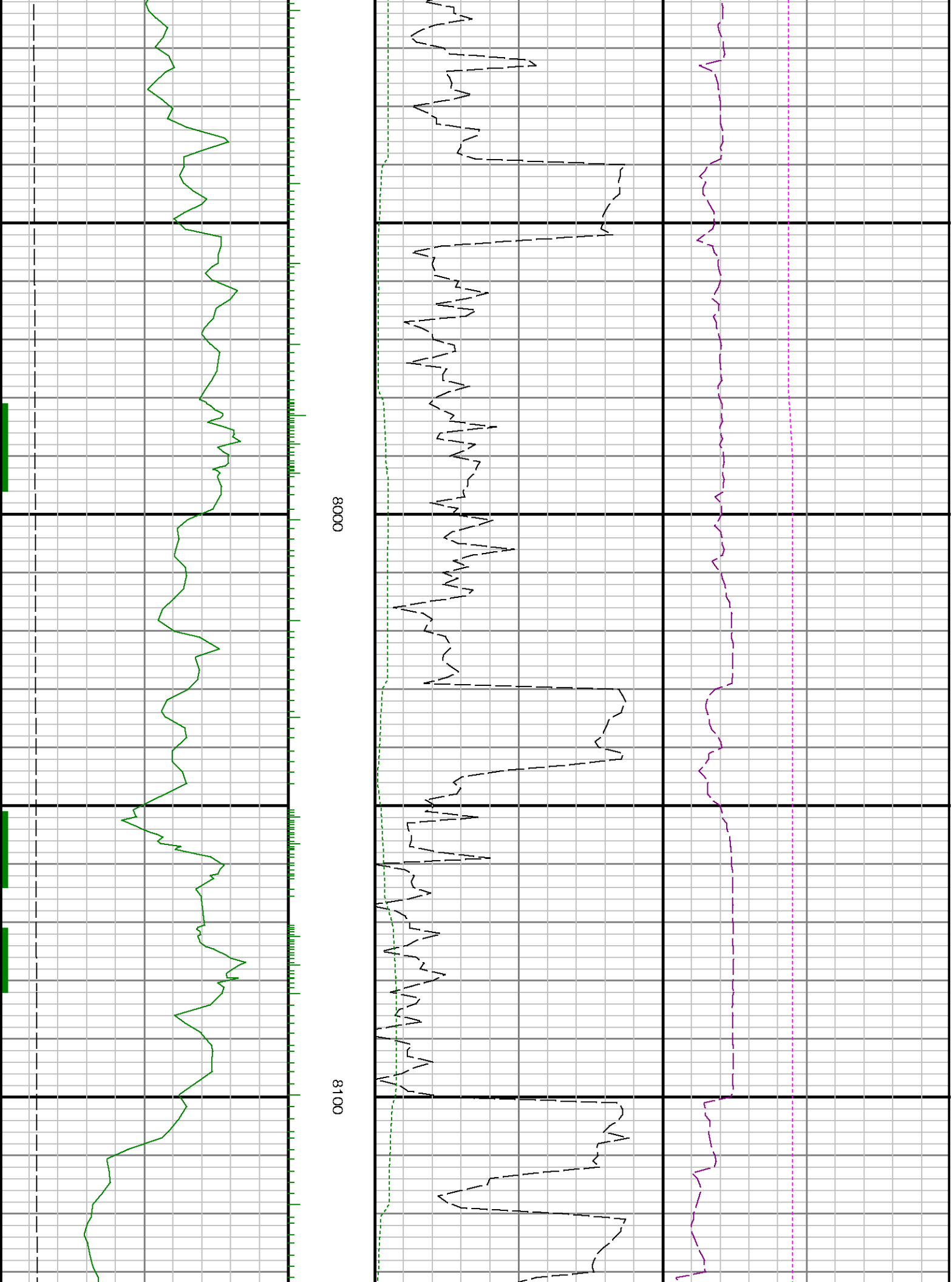


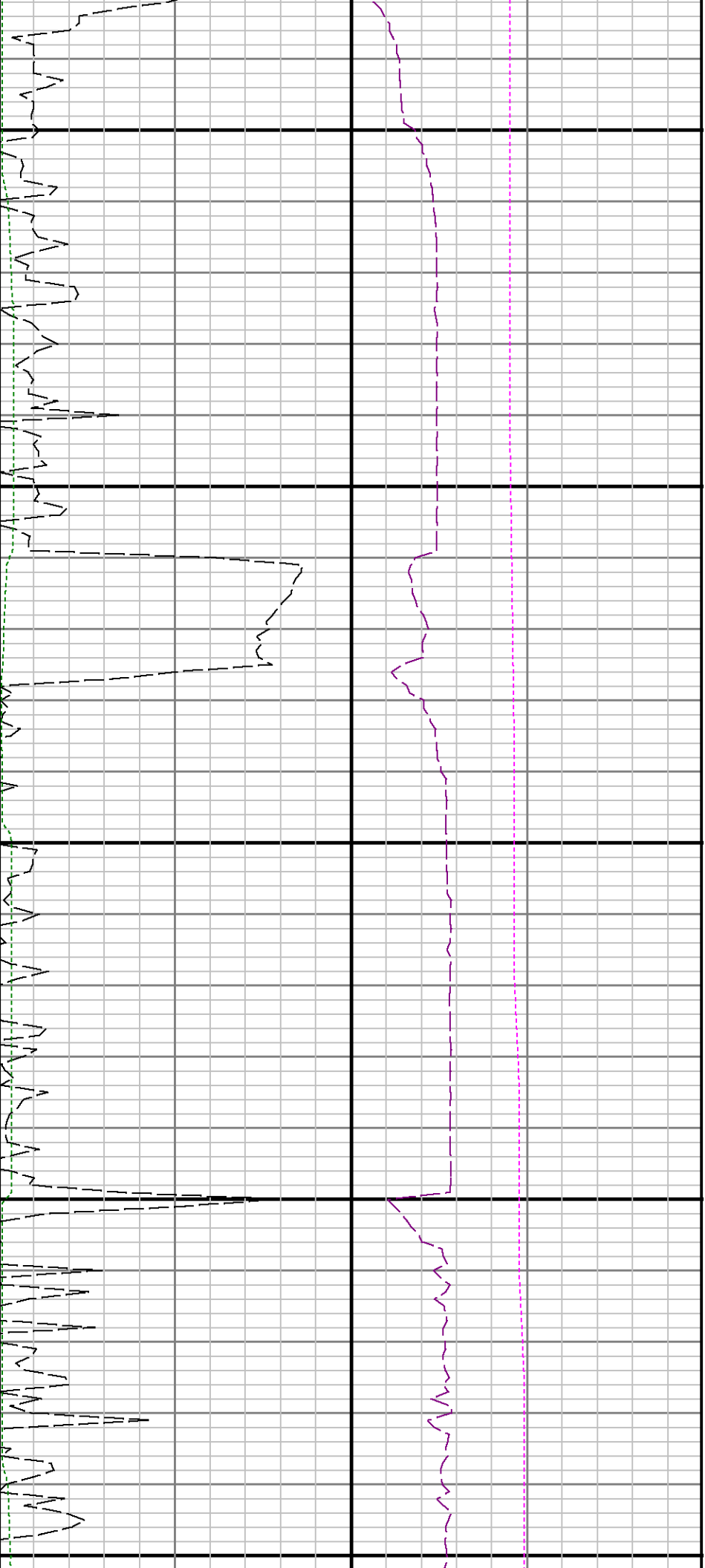
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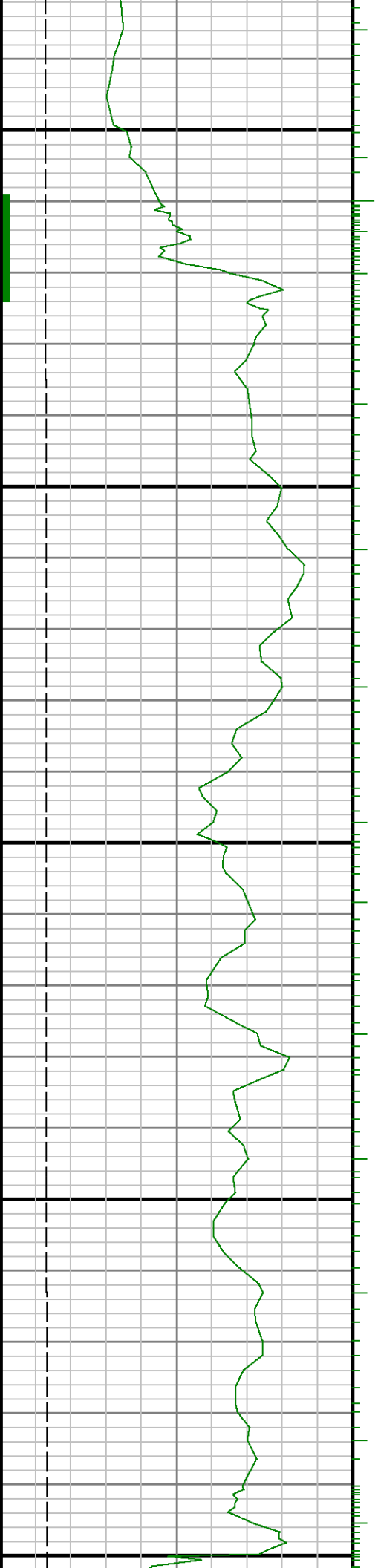


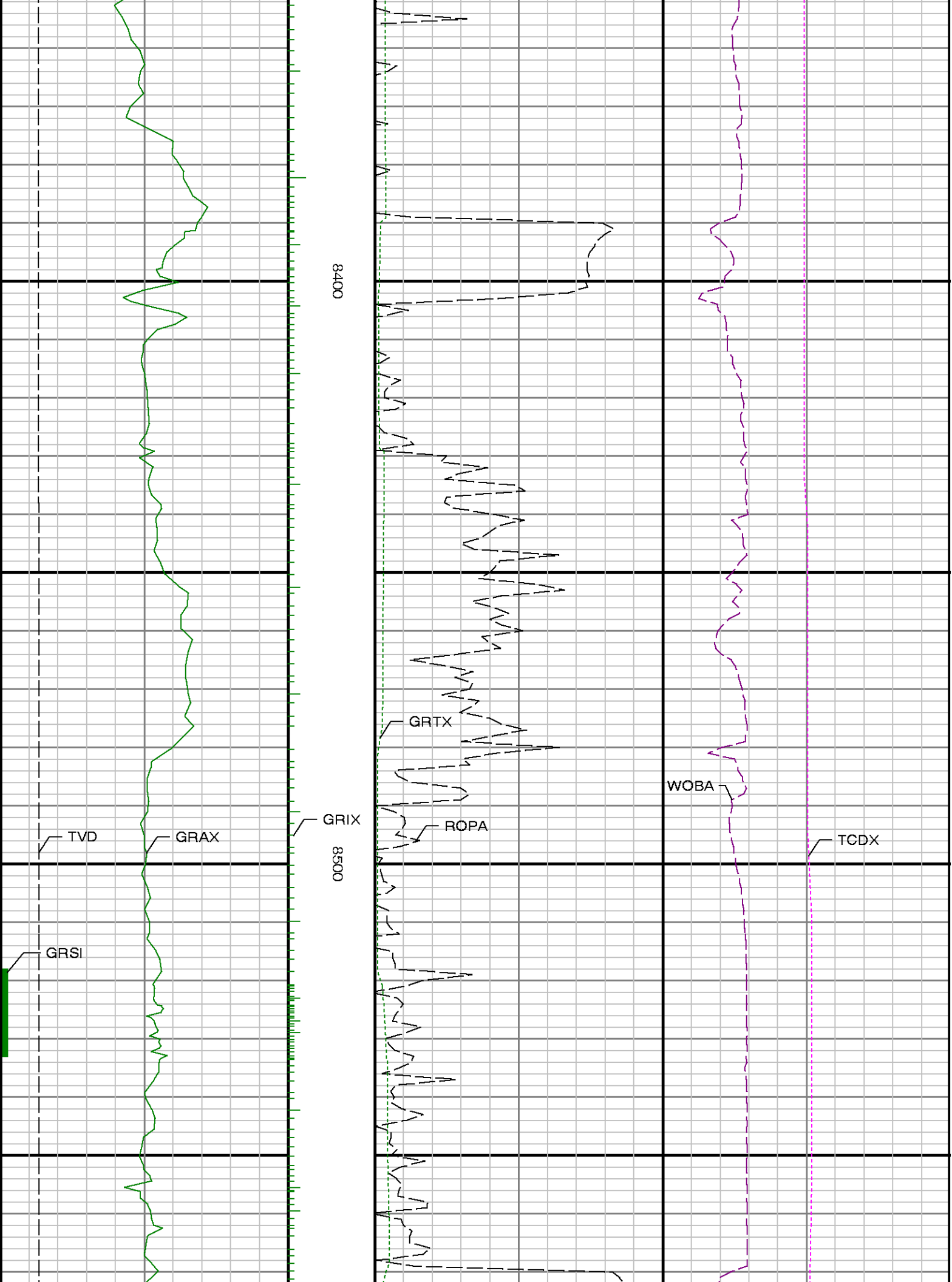


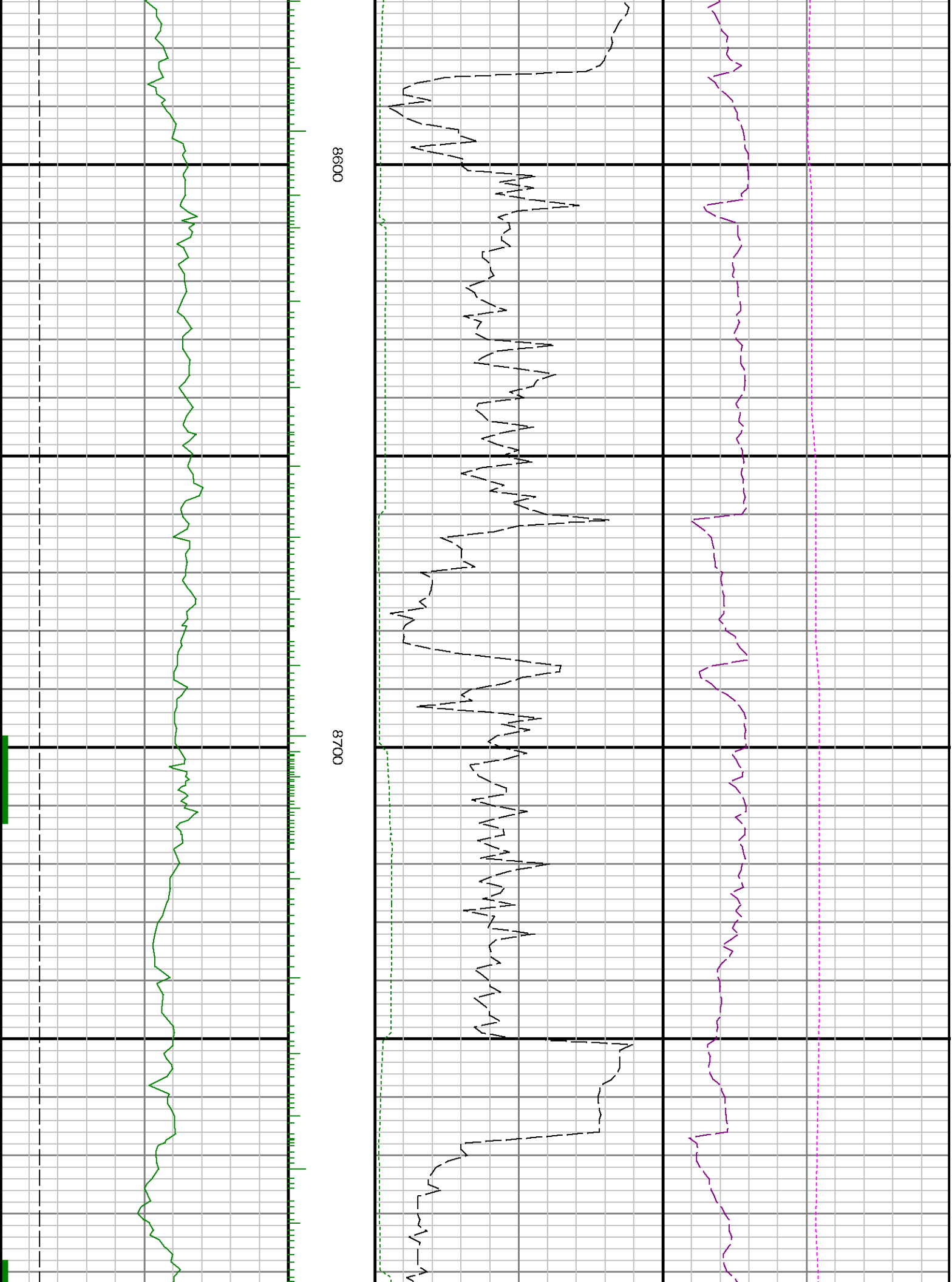


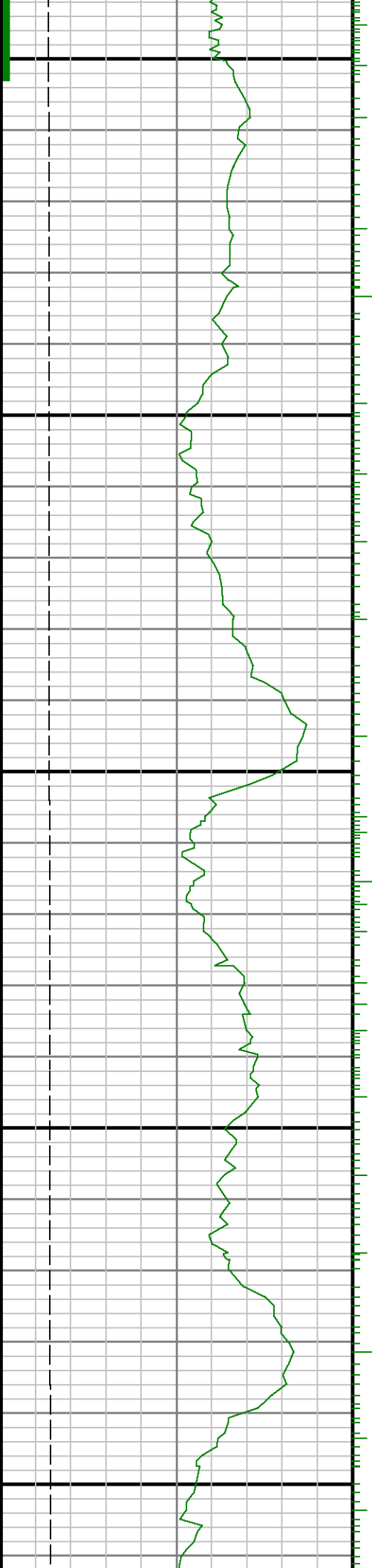
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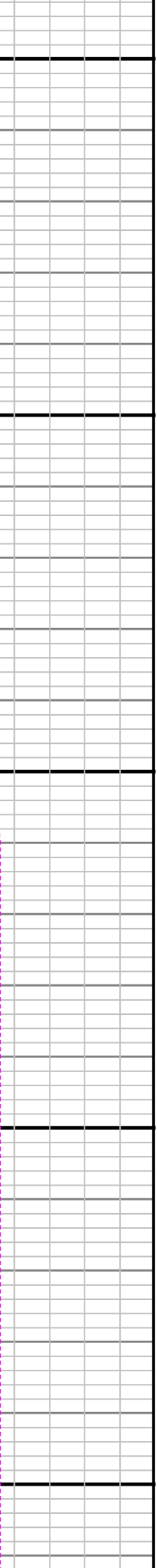
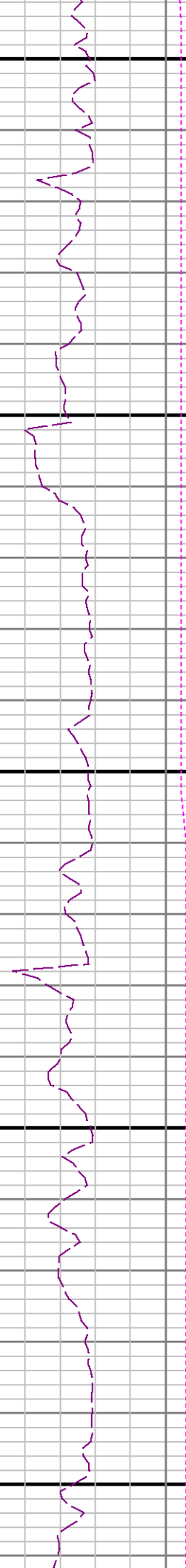
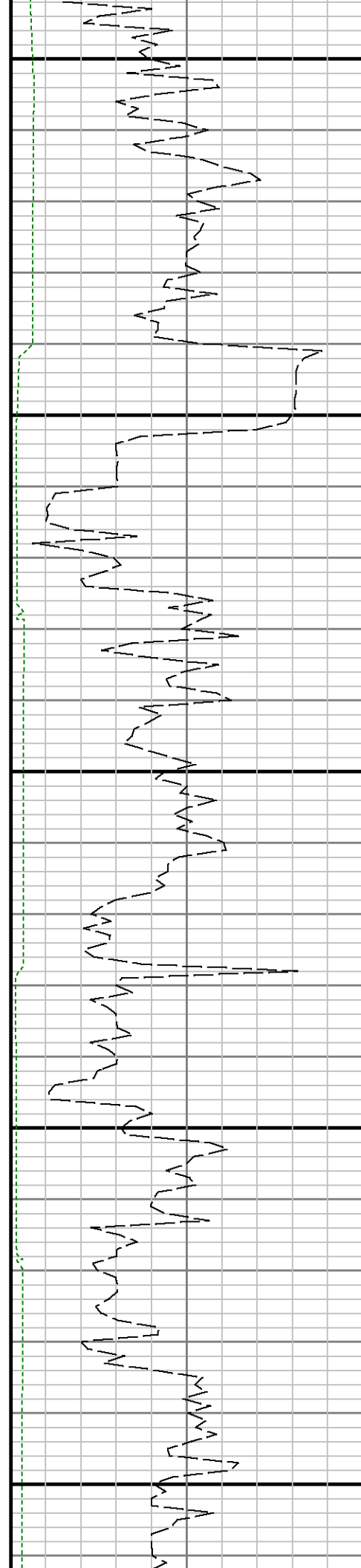


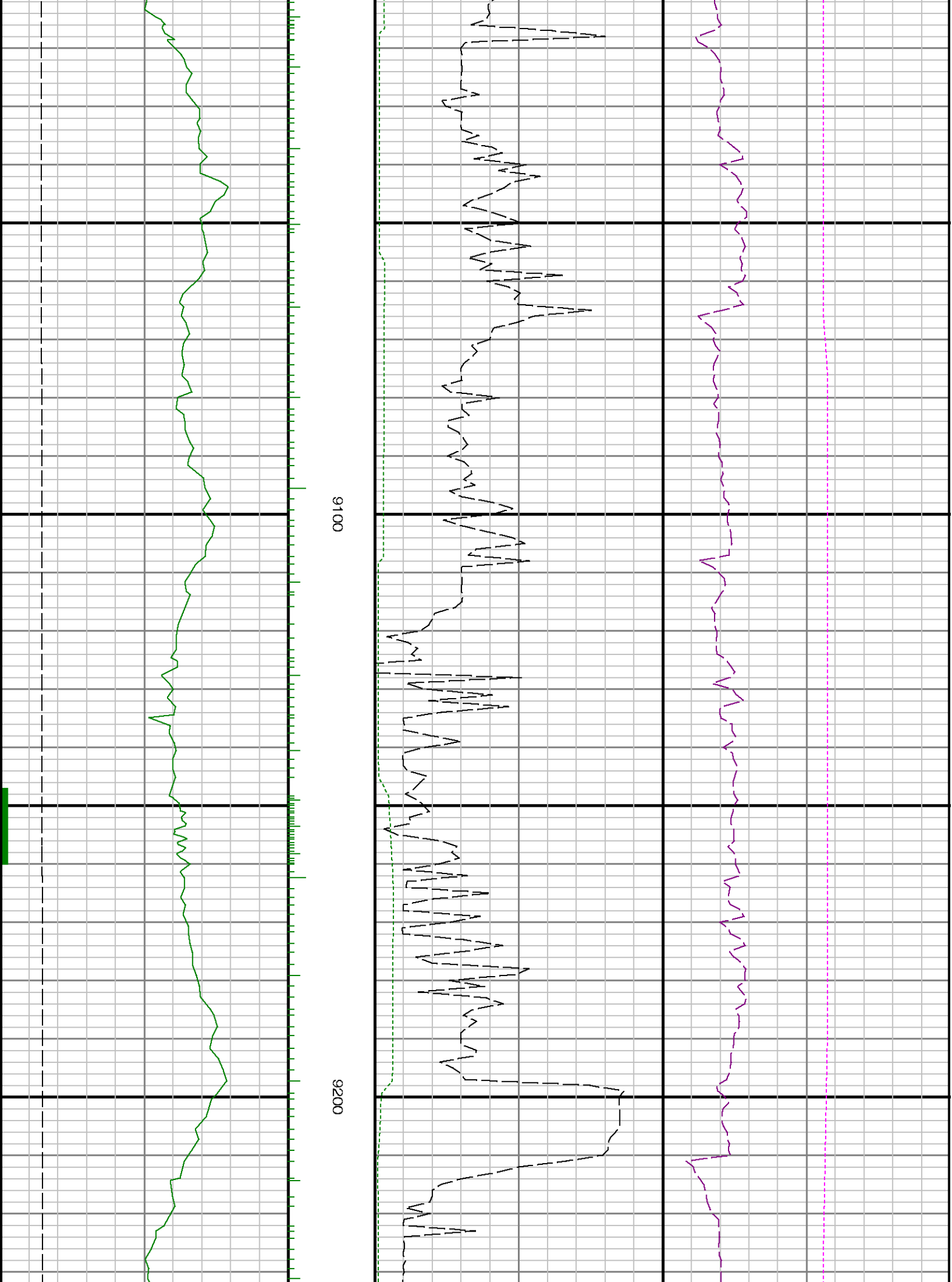


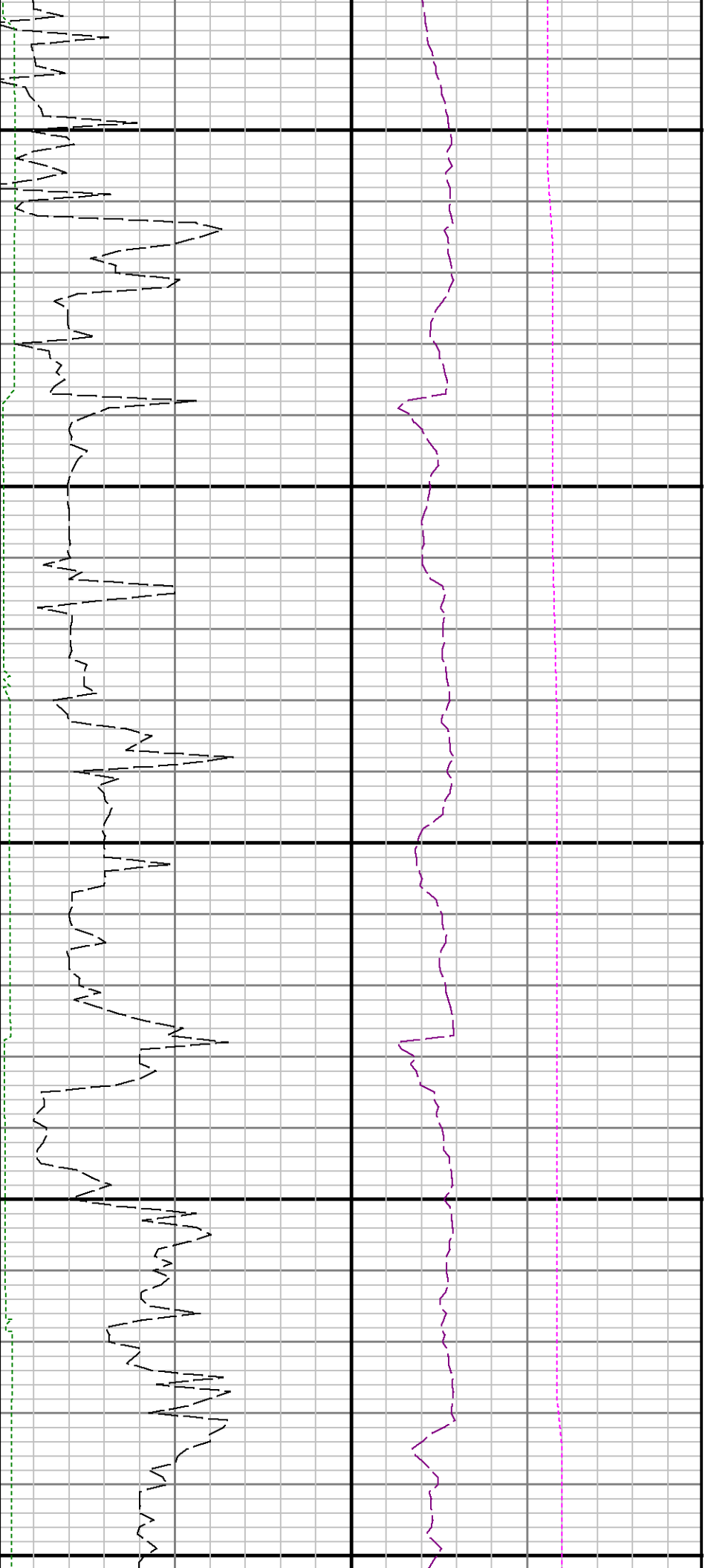
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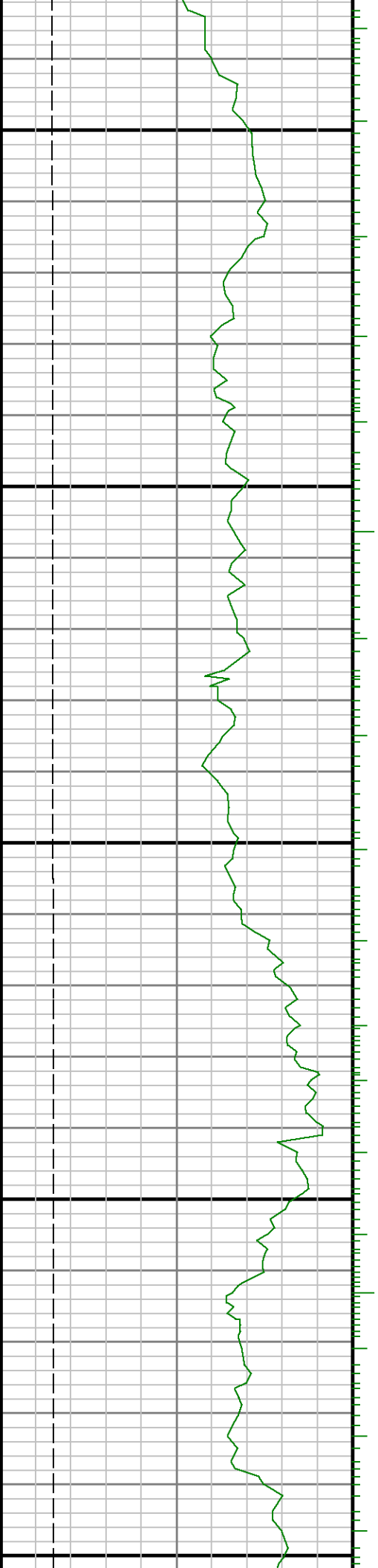


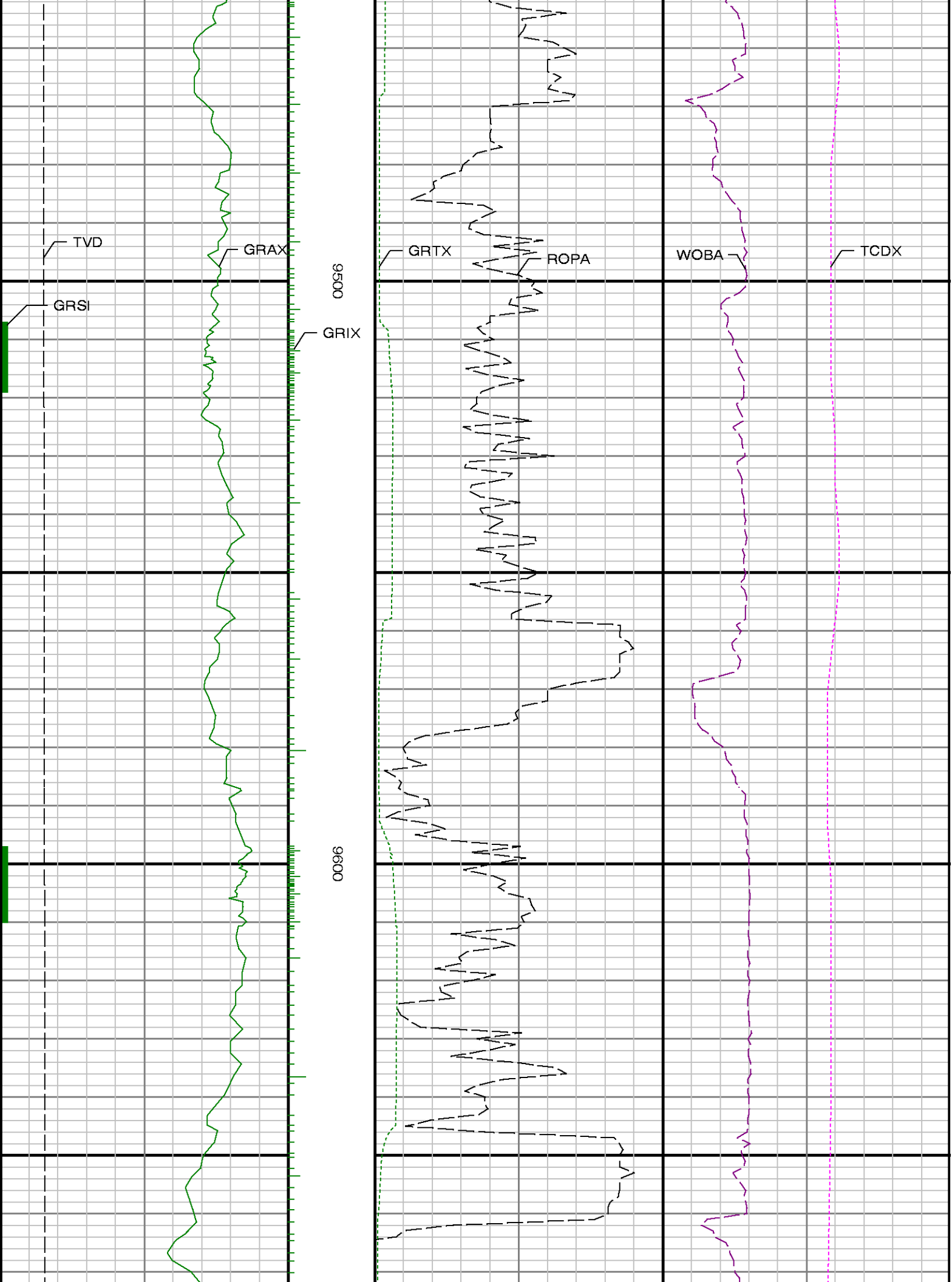


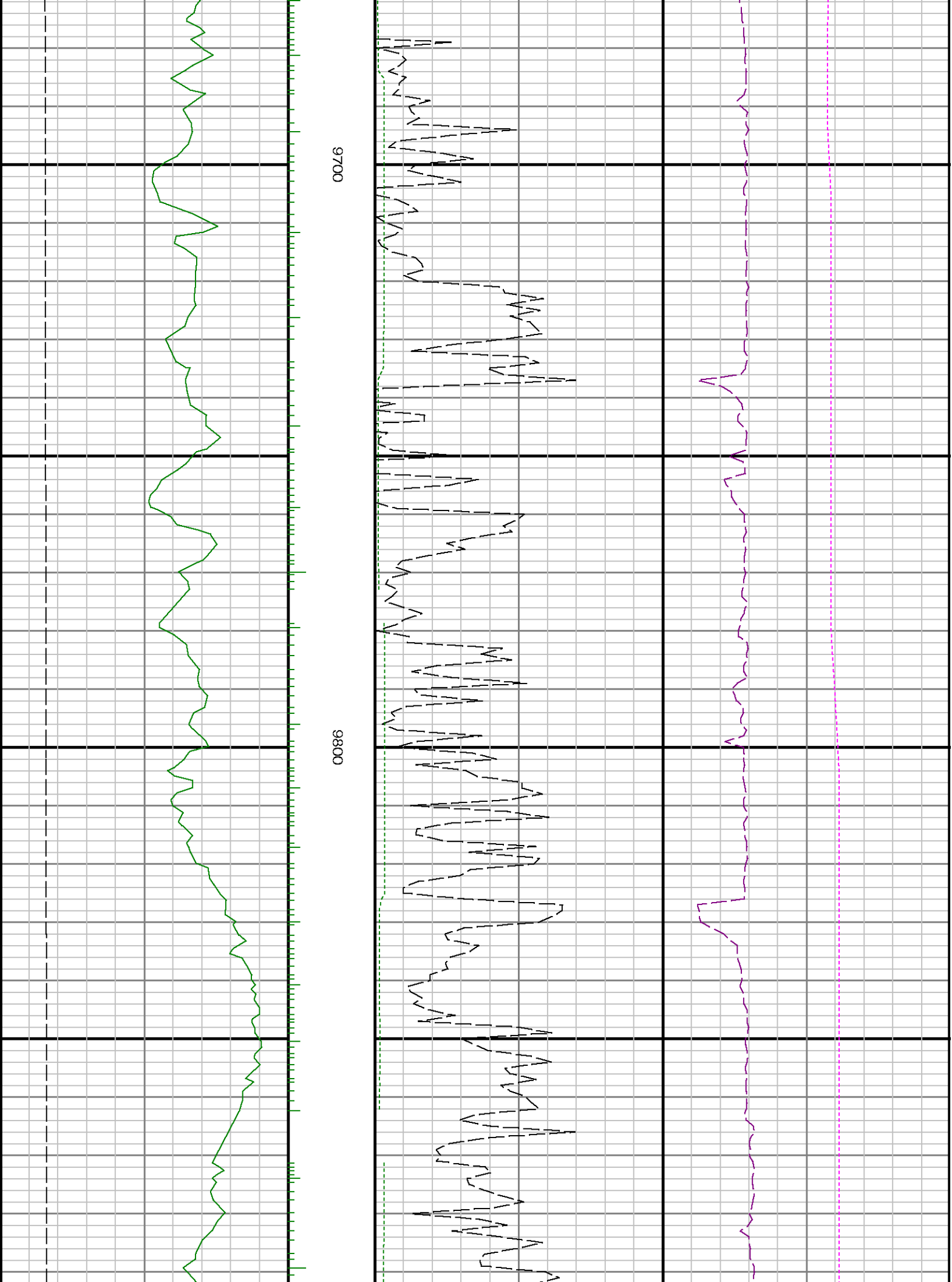


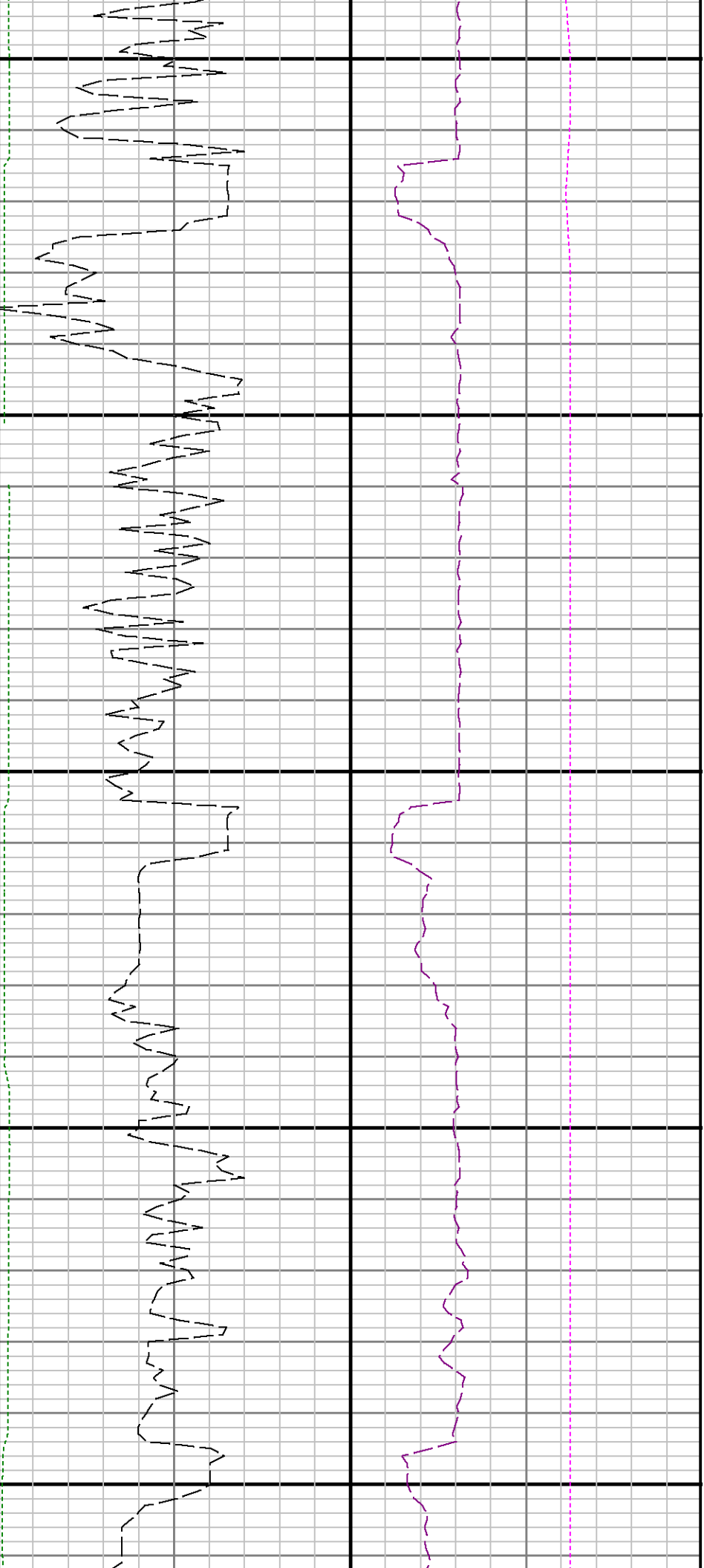
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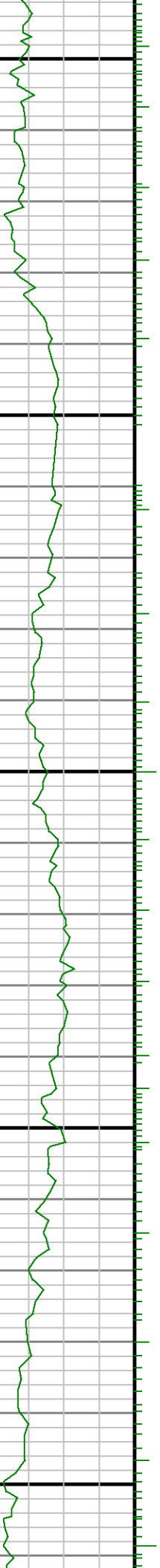


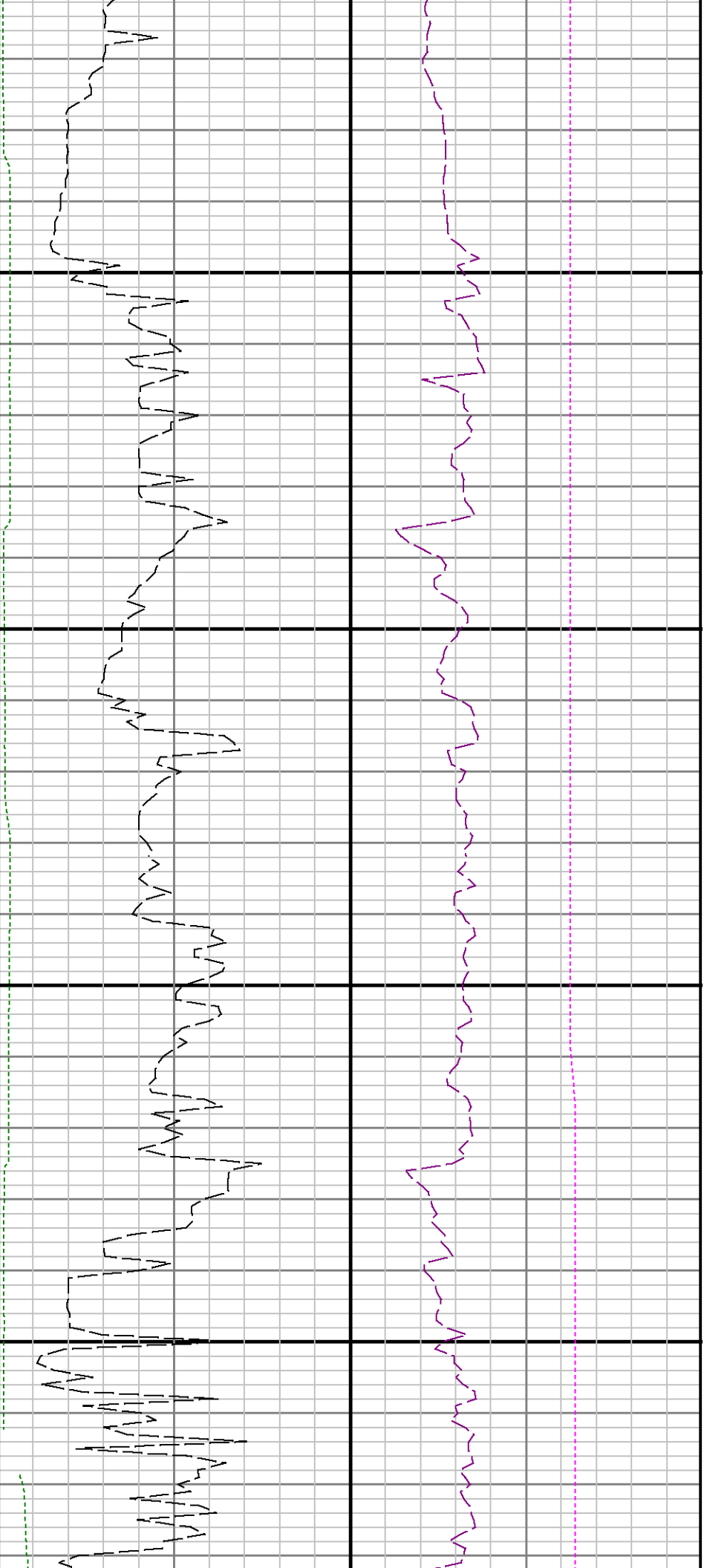


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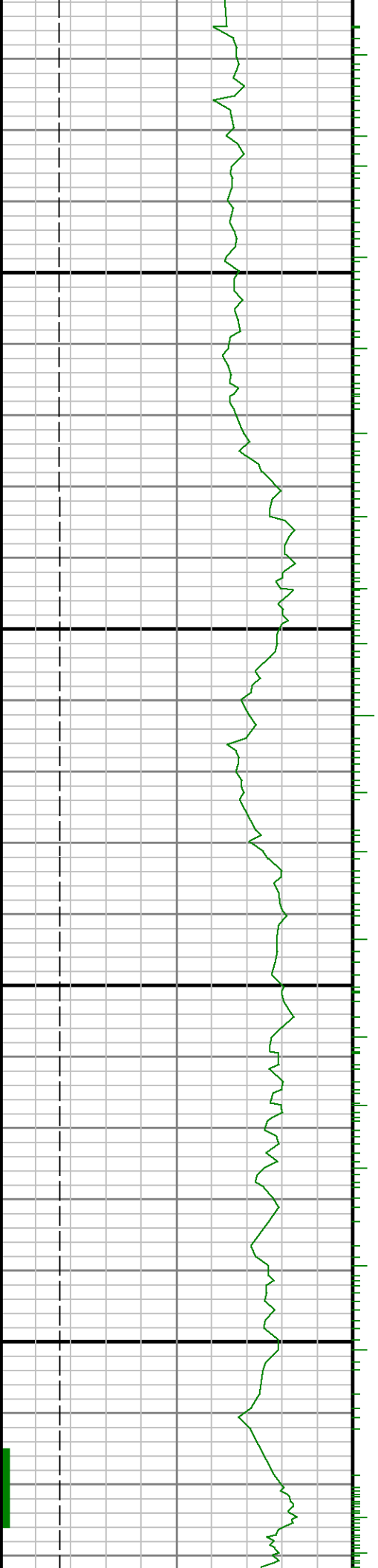
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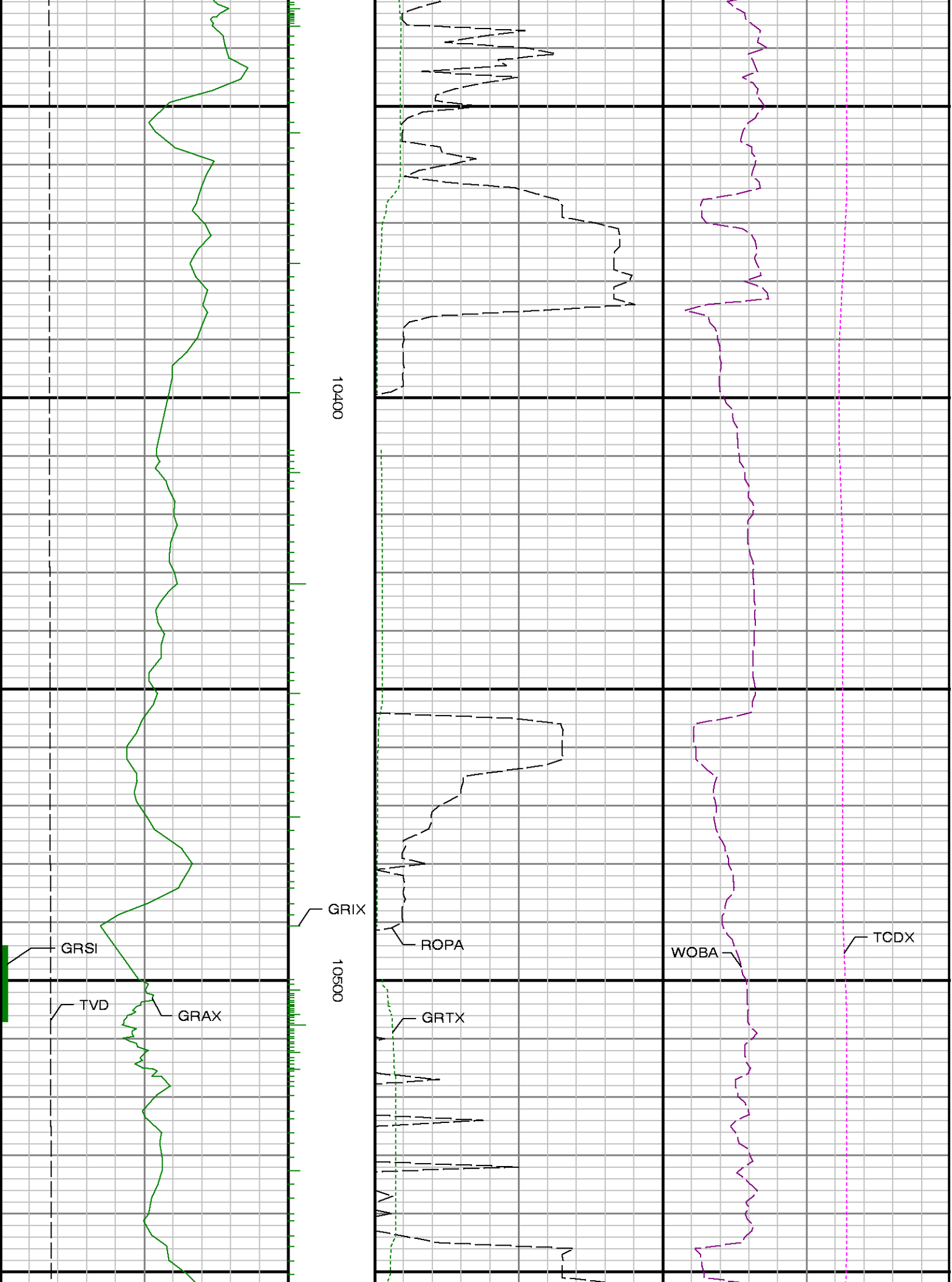


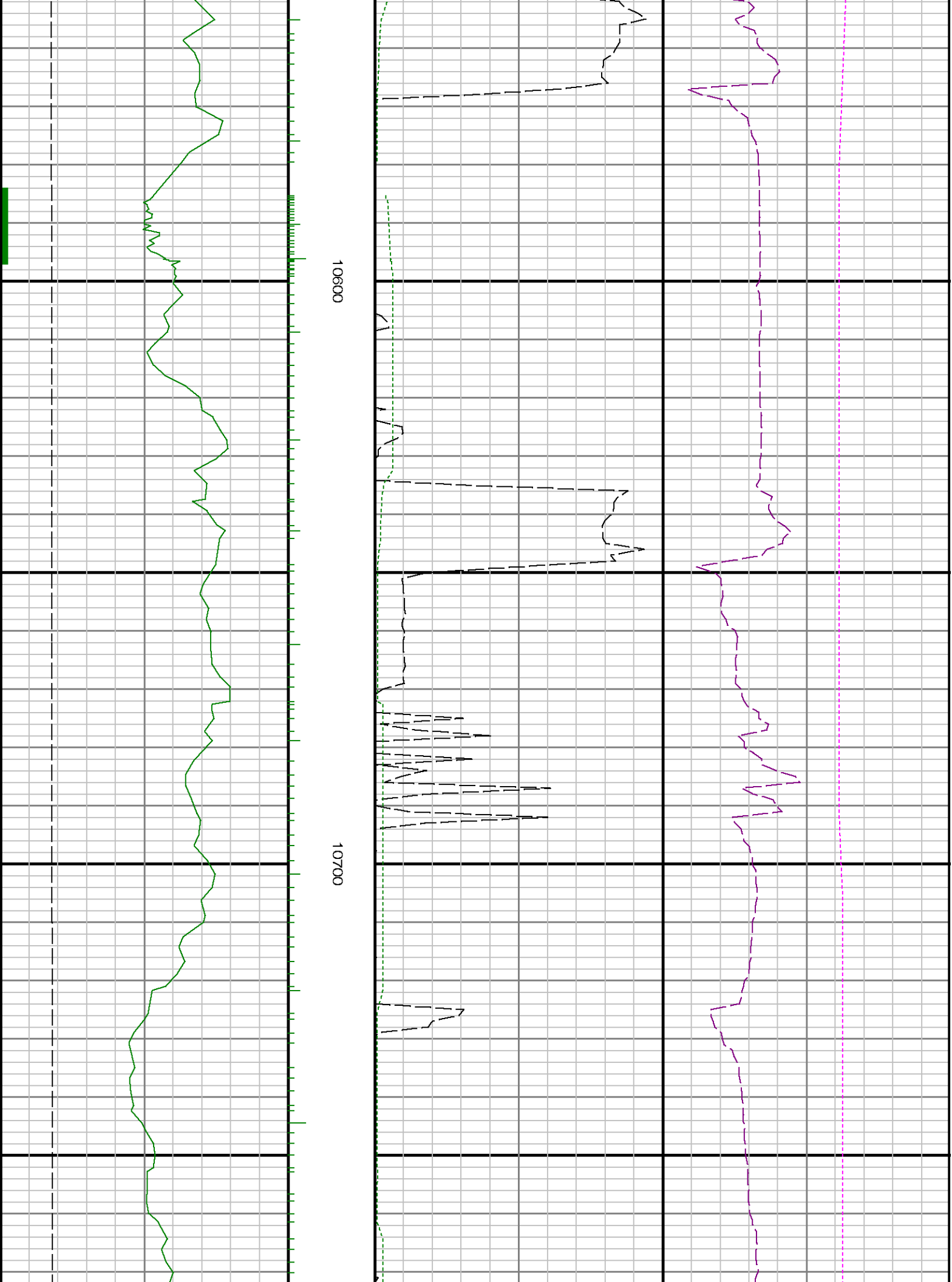


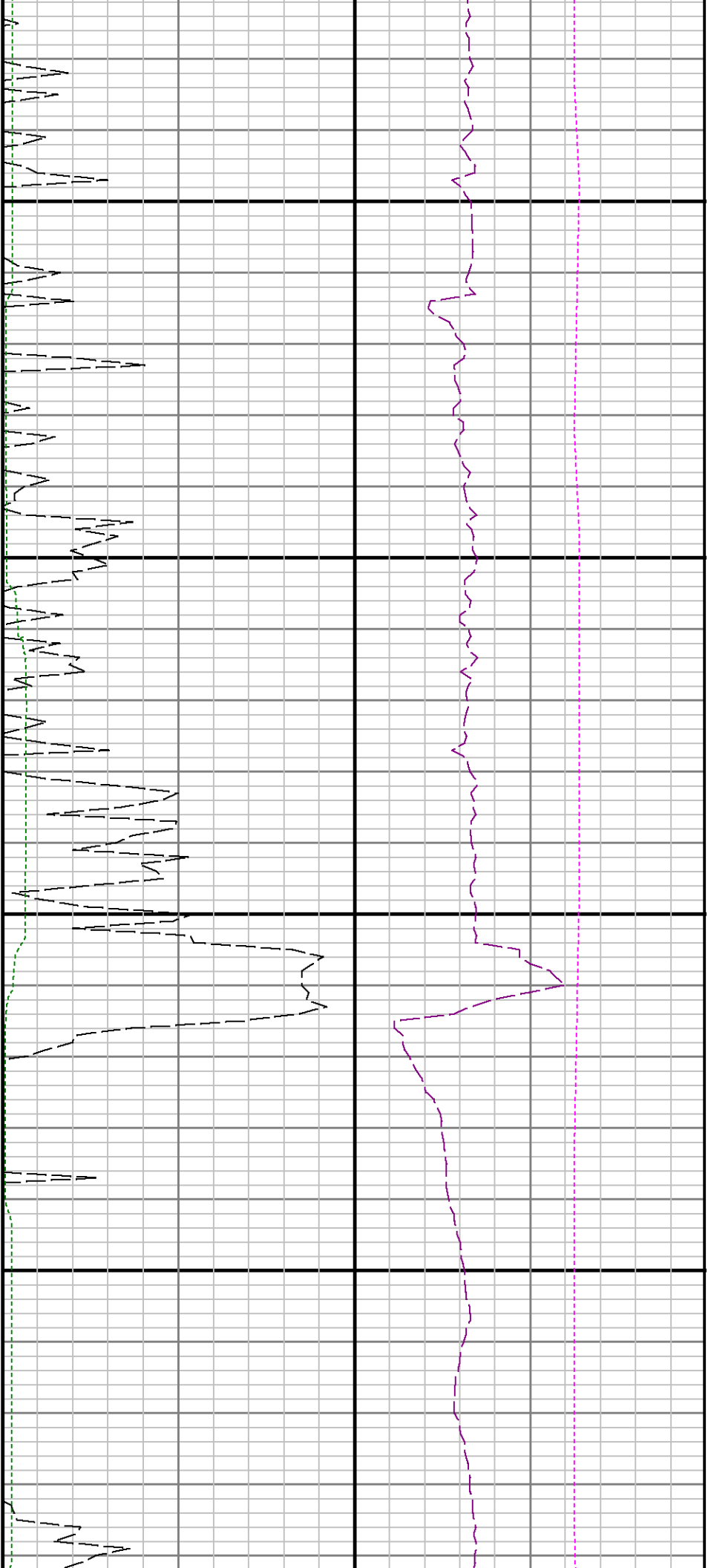
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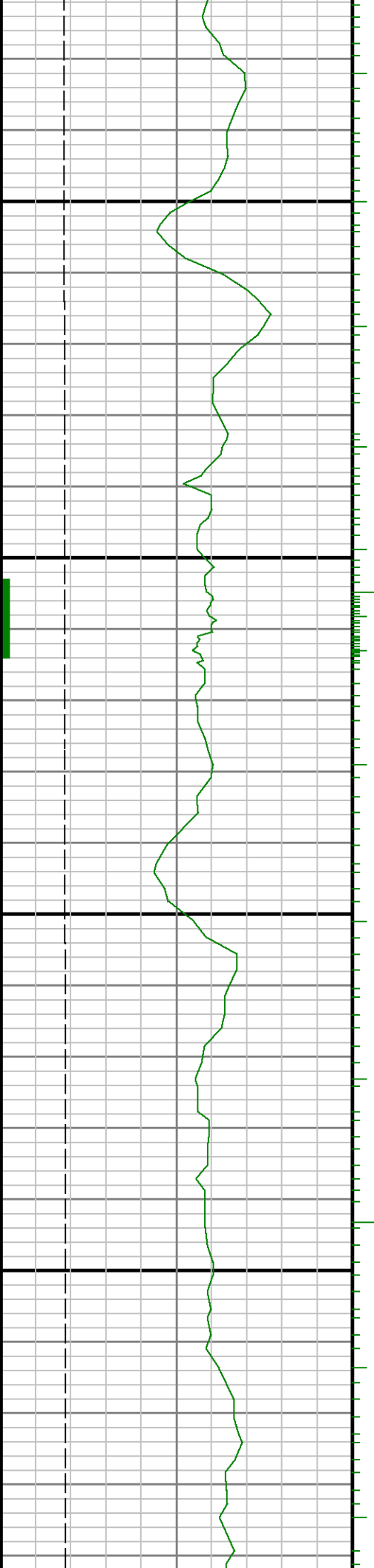


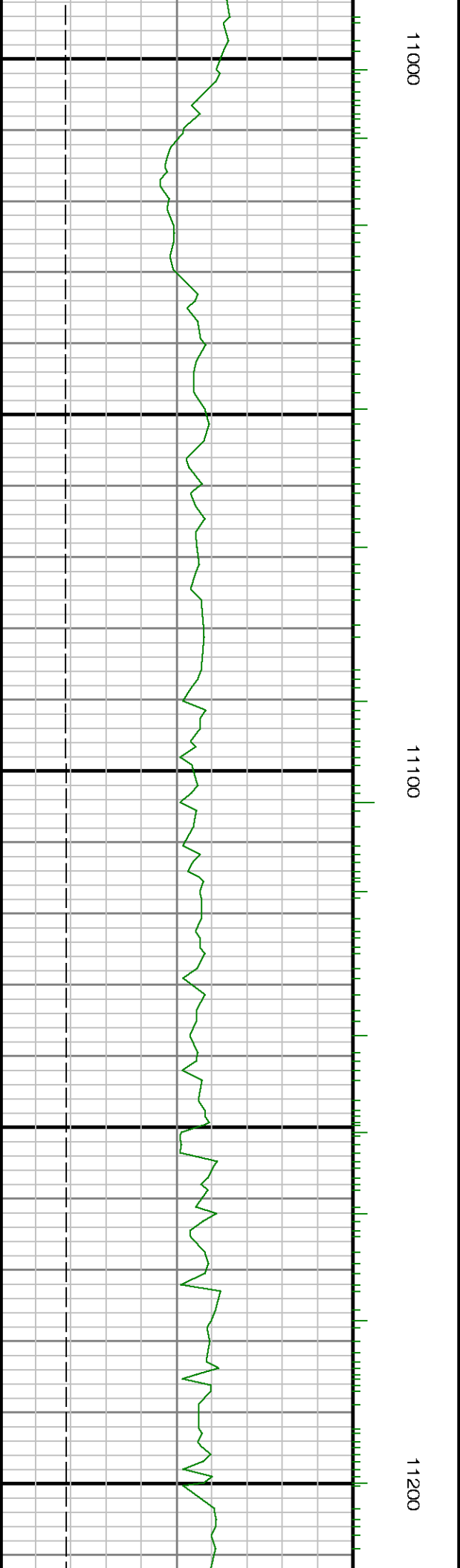
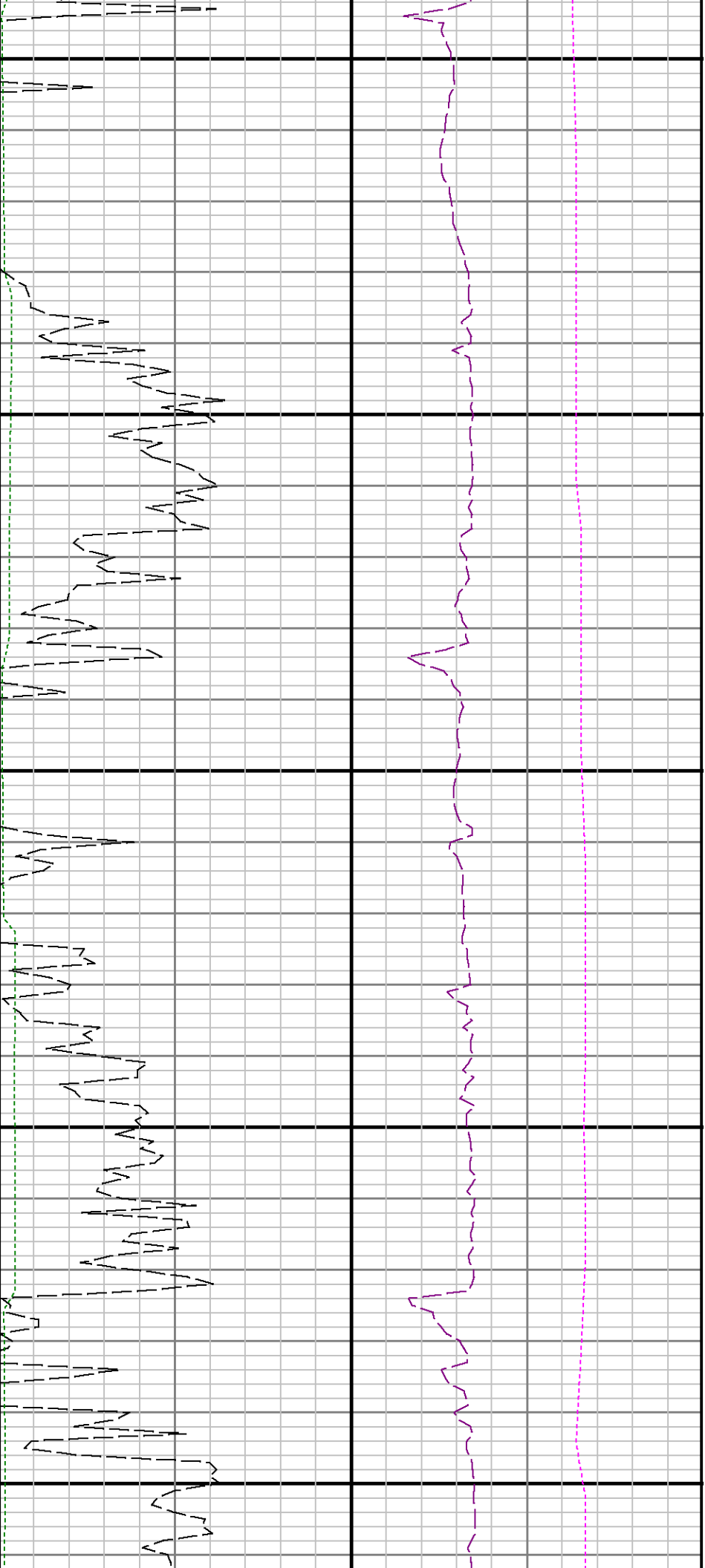


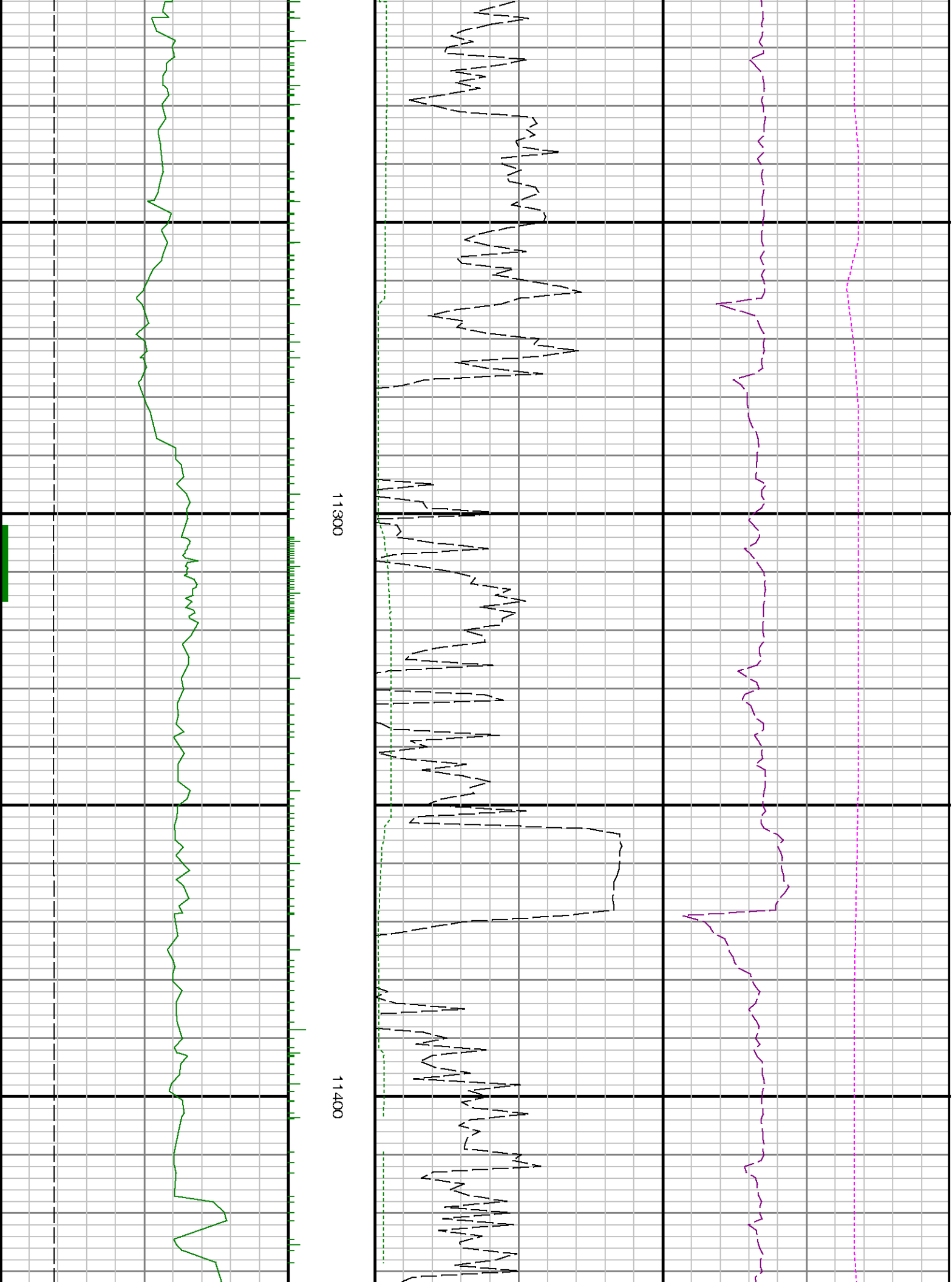


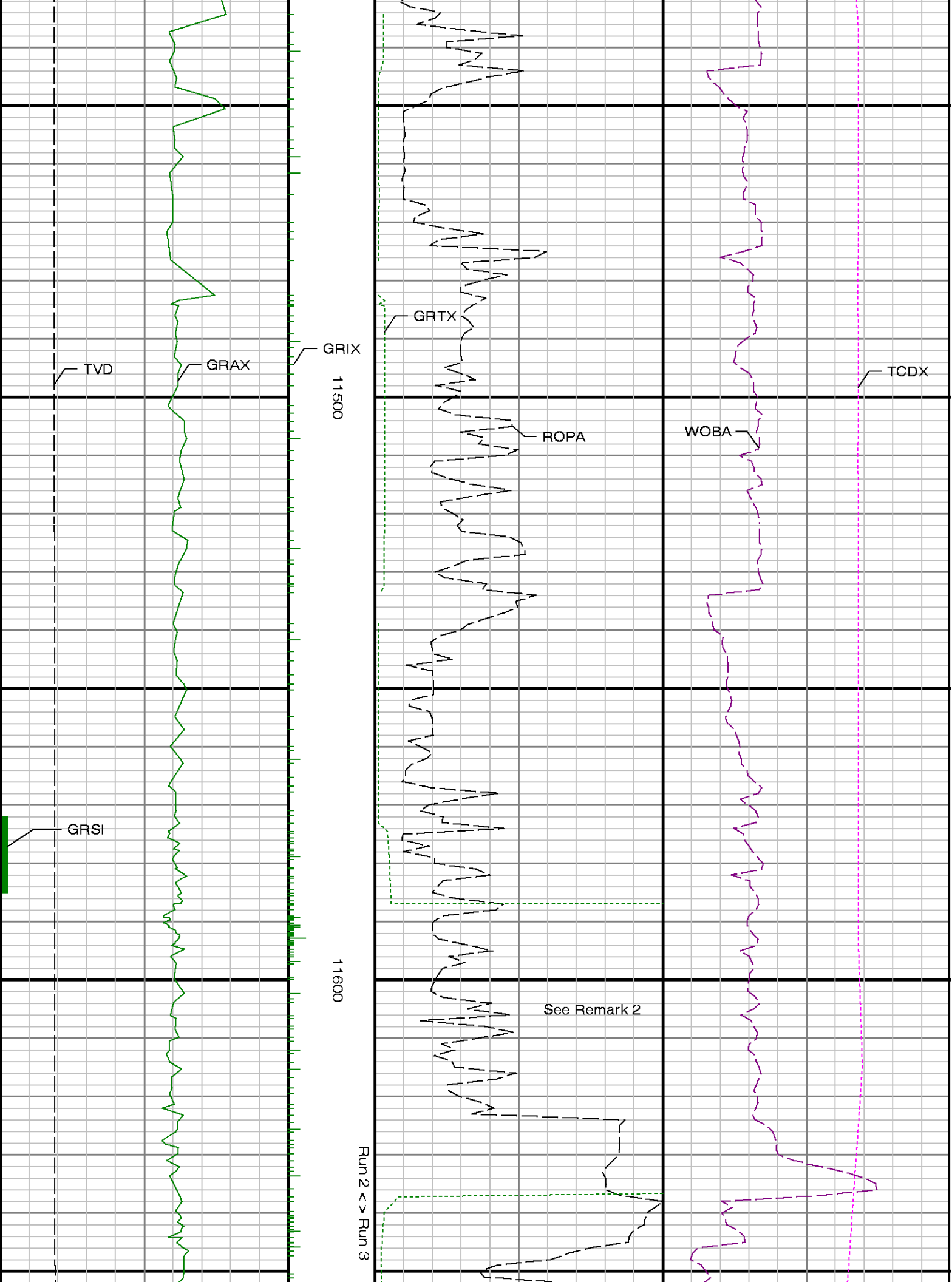
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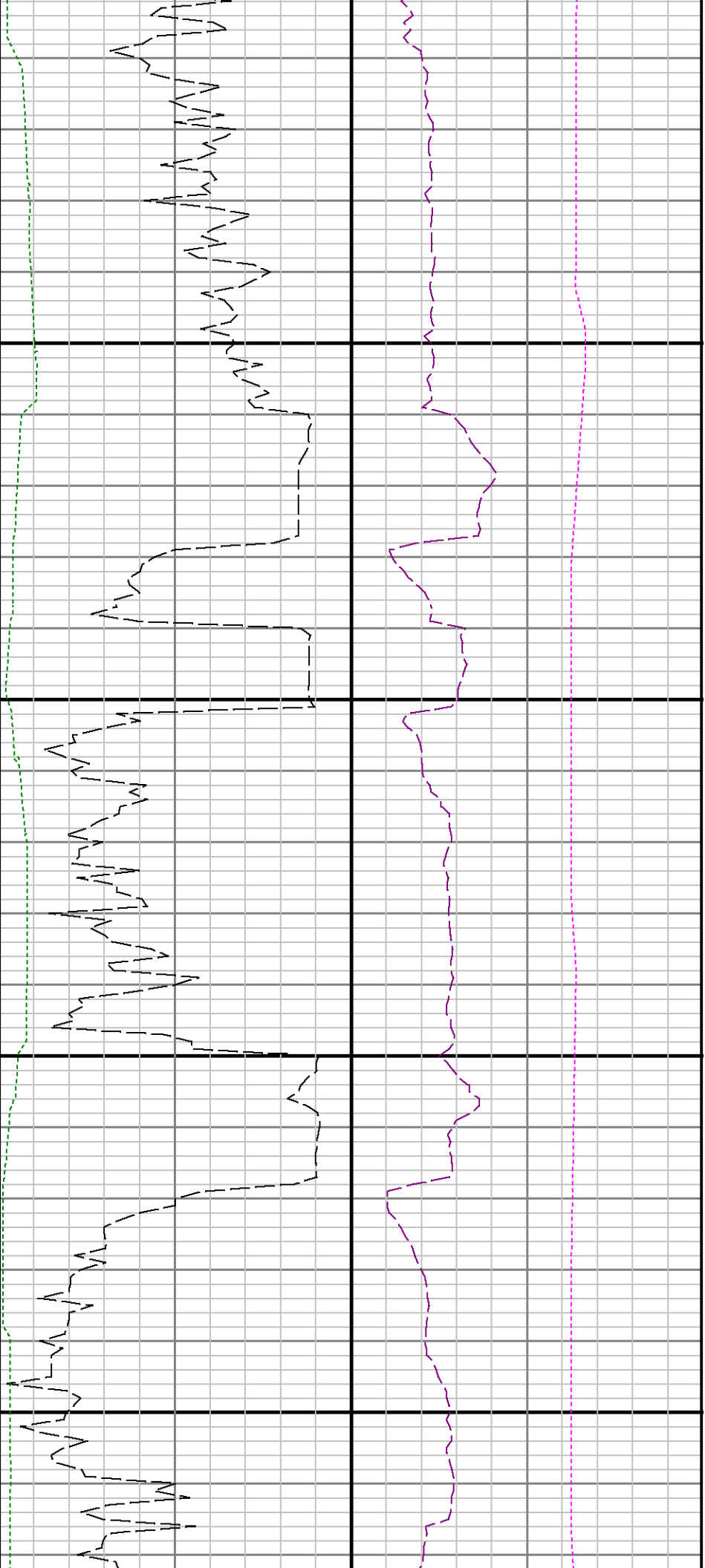
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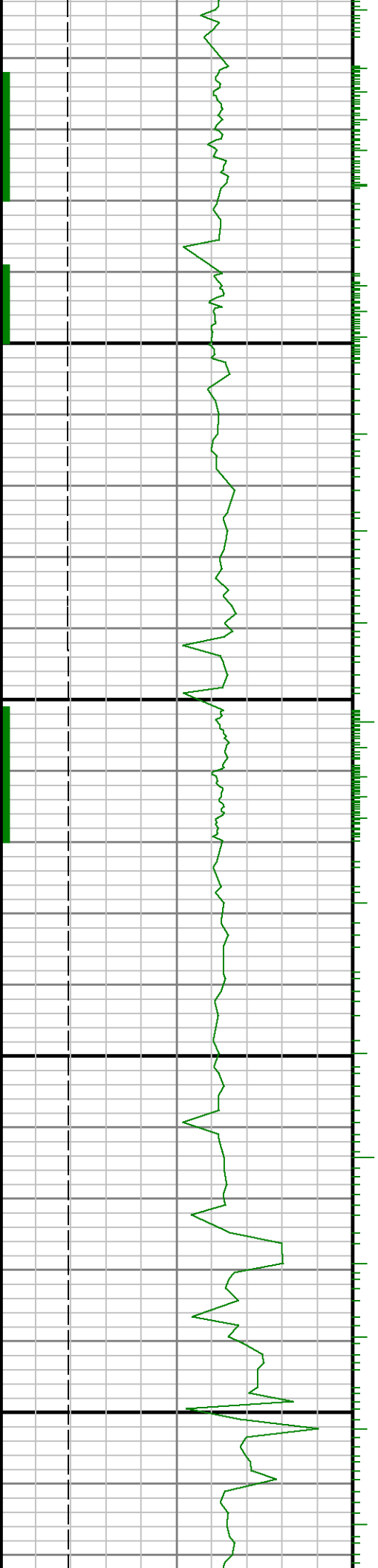


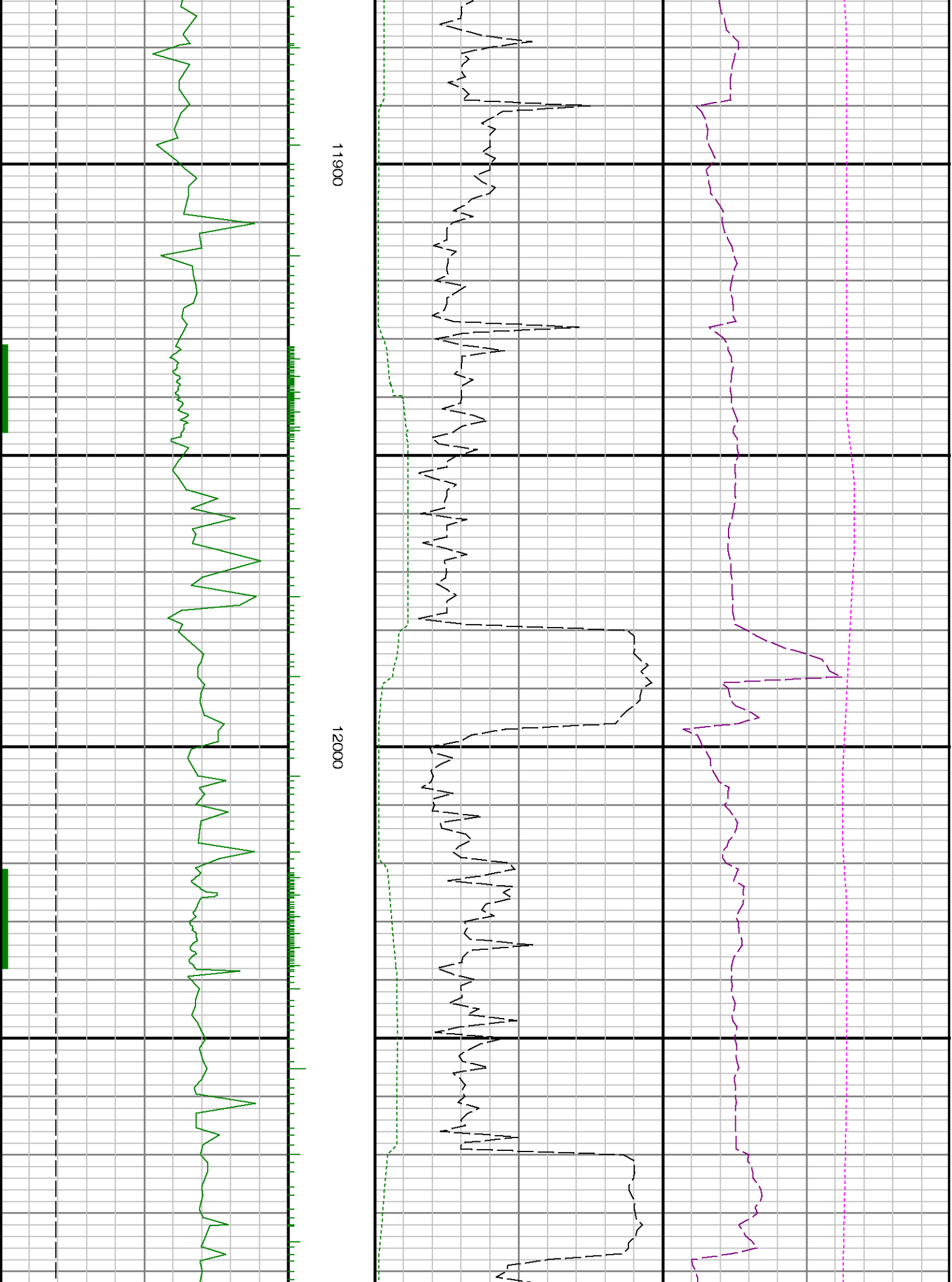


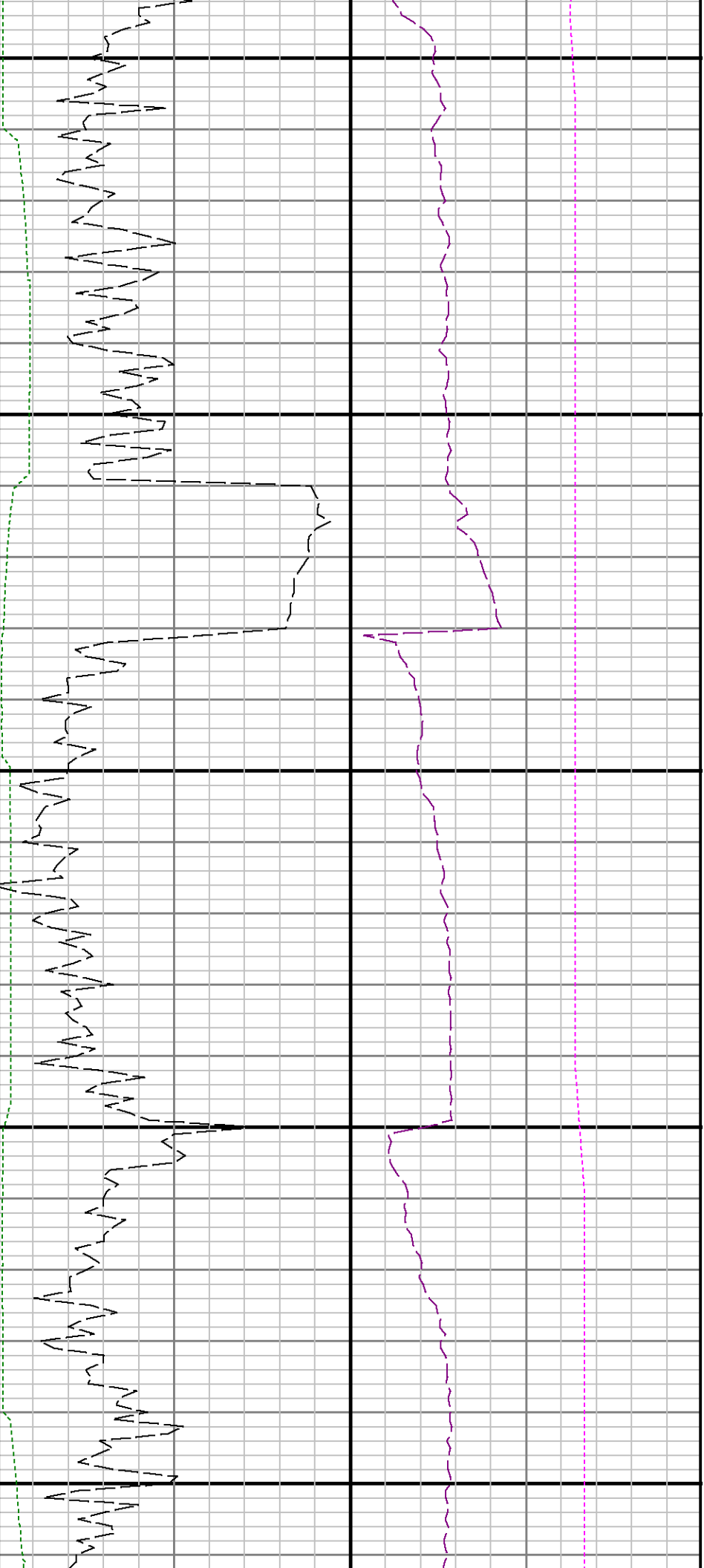


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