


<div>BAKER HUGHES a GE company</div> <div></div>				LWD MEMORY LOG									
Scale: 1:240 Measured Depth		Company: GREAT WESTERN OPERATING CO LLC Well: SCHAEFFER LD 13-032HC Field: Adams County County: ADAMS State: Colorado Country: United States											
Depth Reference: Driller's Depth		Surface Location: Latitude: 039° 56' 39.404" N Longitude: 104° 50' 05.237" W Other Services: Directional											
Status: Final Print		SEC: 24 TWN: 1S RGE: 67W											
API No: 05001102540000		Elevation: 5021.40 ft Above P.D. 20.00 ft Elev. KB: 5041.40 ft Elev. DF: 5021.40 ft											
Job ID: 109627749		Permanent Datum (P.D.): Ground Level Log Measured From: Rig Floor											
Dates		Interval Drilled		Magnetic Field Reference									
Date From: 2019-01-28		Top: (ft) 1784.00		Azi Reference North: True		Dip Angle: (deg) 66.43							
Date To: 2019-02-01		Bottom: (ft) 18218.00		Total Magnetic Field Strength: (nT)		52002							
Spud Date: 2018-12-09				Mag to Reference North Correction: (deg)		8.24							
Borehole Record				Casing Record									
Hole Size (in)		From (ft)		To (ft)		Size (in)		Weight (lb/ft)		From (ft)		To (ft)	
13.500		20.00		1784.00		9.625		36.00		20.00		1784.00	
8.500		1784.00		18218.00									


Comments				
1	Depth measurements were obtained from a depth control system not supplied or operated by Baker Hughes, a GE Company (BHGE). Due to the lack of control by Baker Hughes, depth calibrations and measurements could not be independently verified.			
2	BHGE 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 1784 to 18218 feet MD (1784 to 7750 feet TVD).			

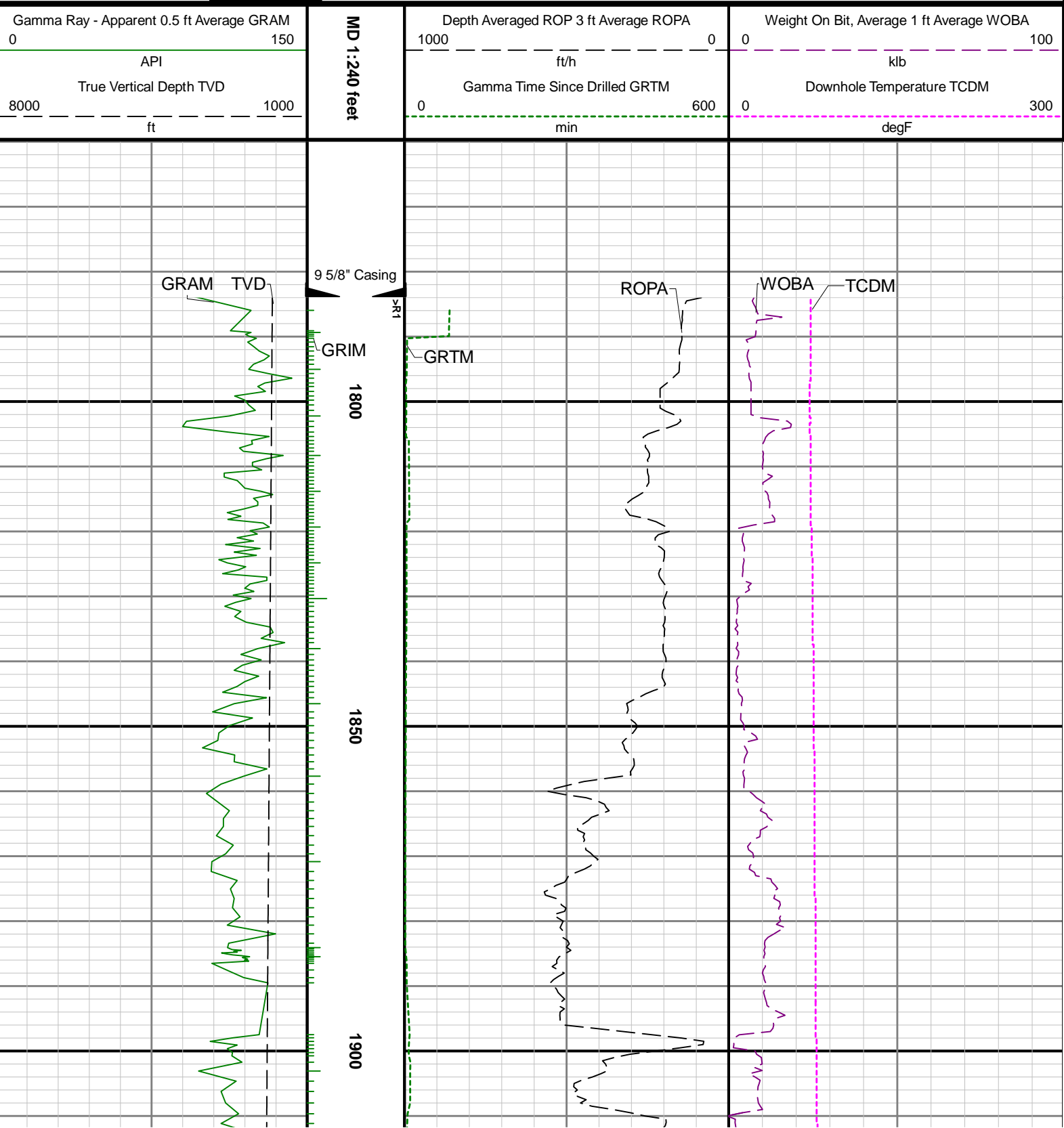
Remarks

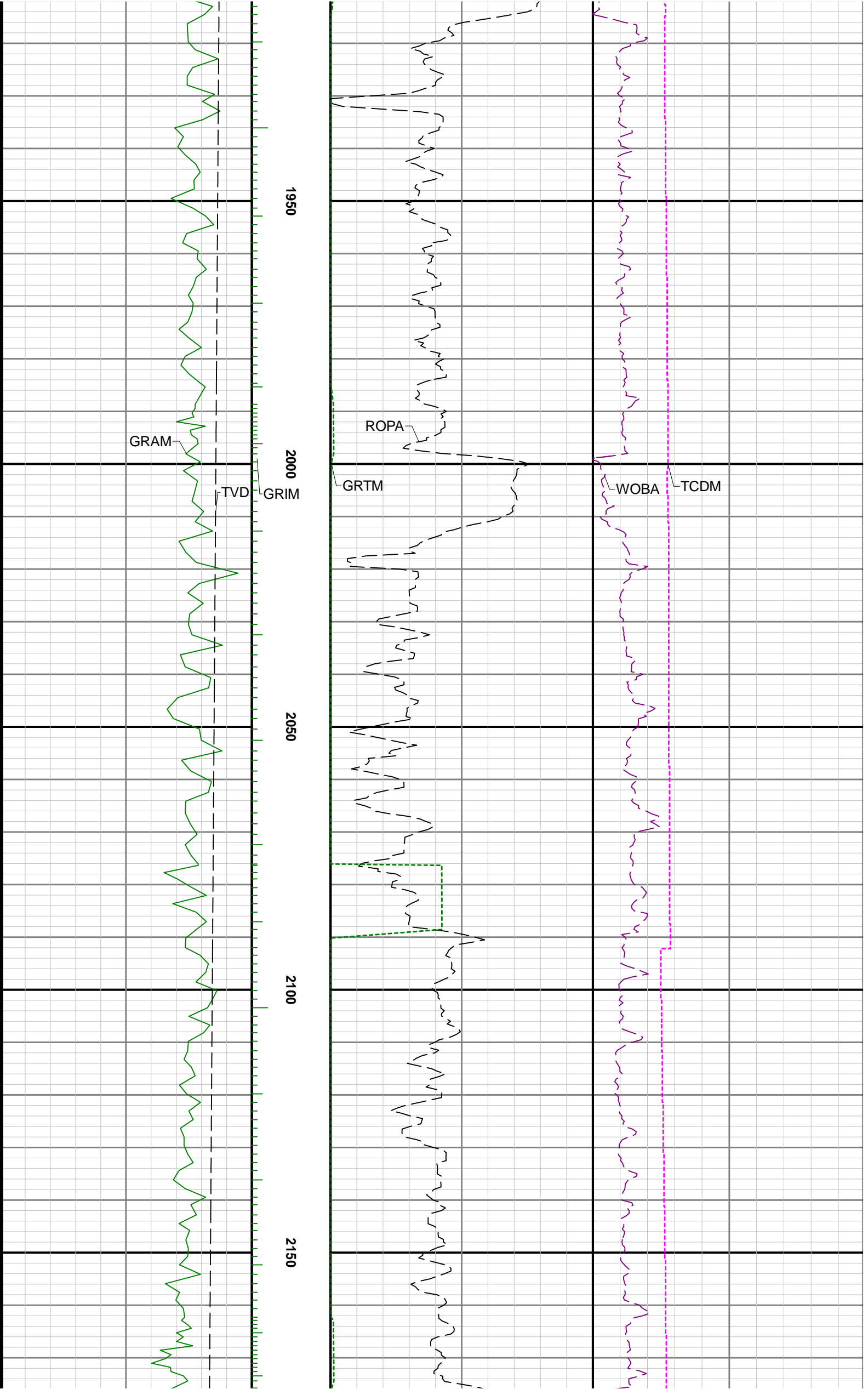
Number	Measured Depth (ft)	Hole Section (in)	Run No.	Remark
1	18204.00	8.500	1	The interval from 18204 to 18218 feet MD (7750 feet TVD) was not logged after being drilled due to sensor to bit offset at well TD.

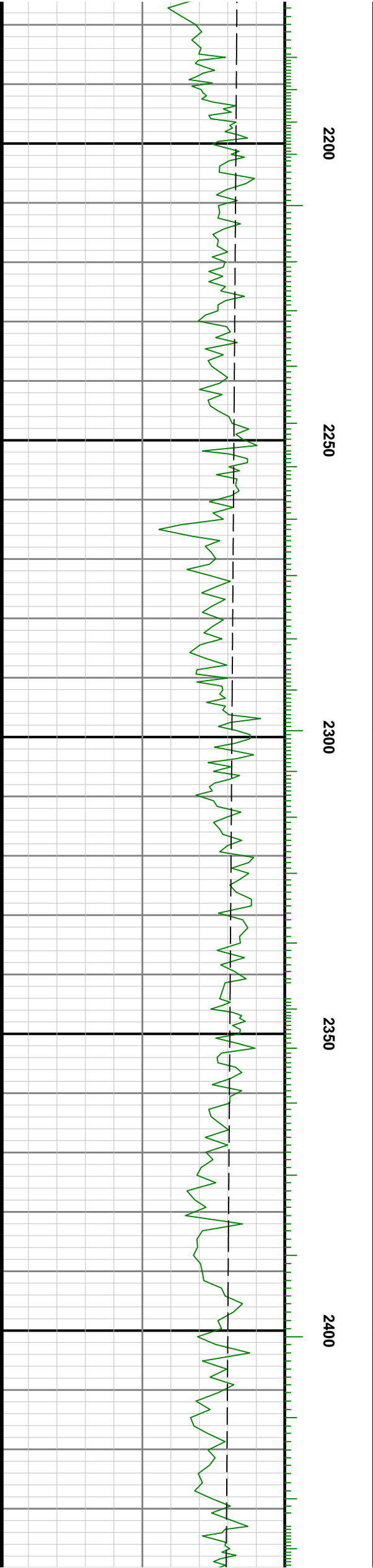
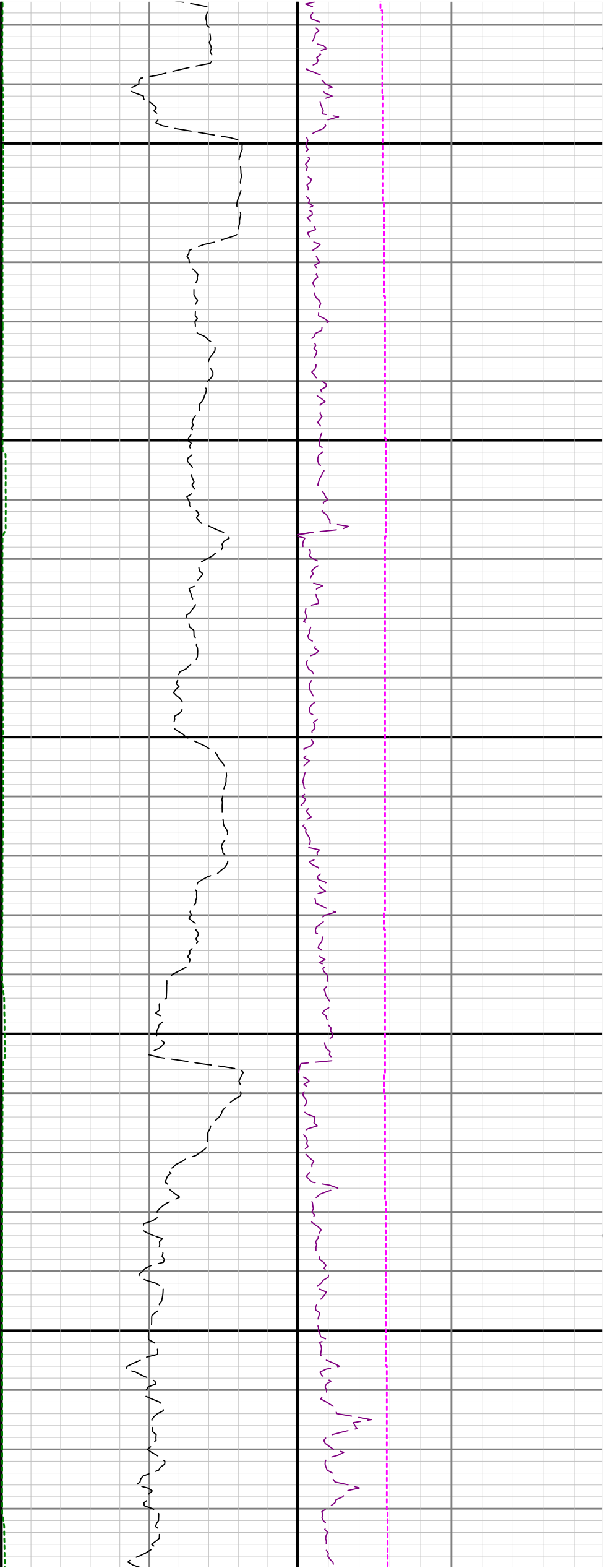
Curve Mnemonics

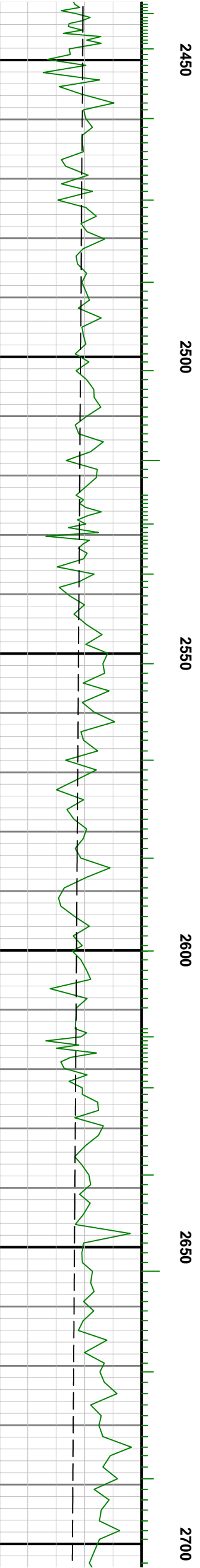
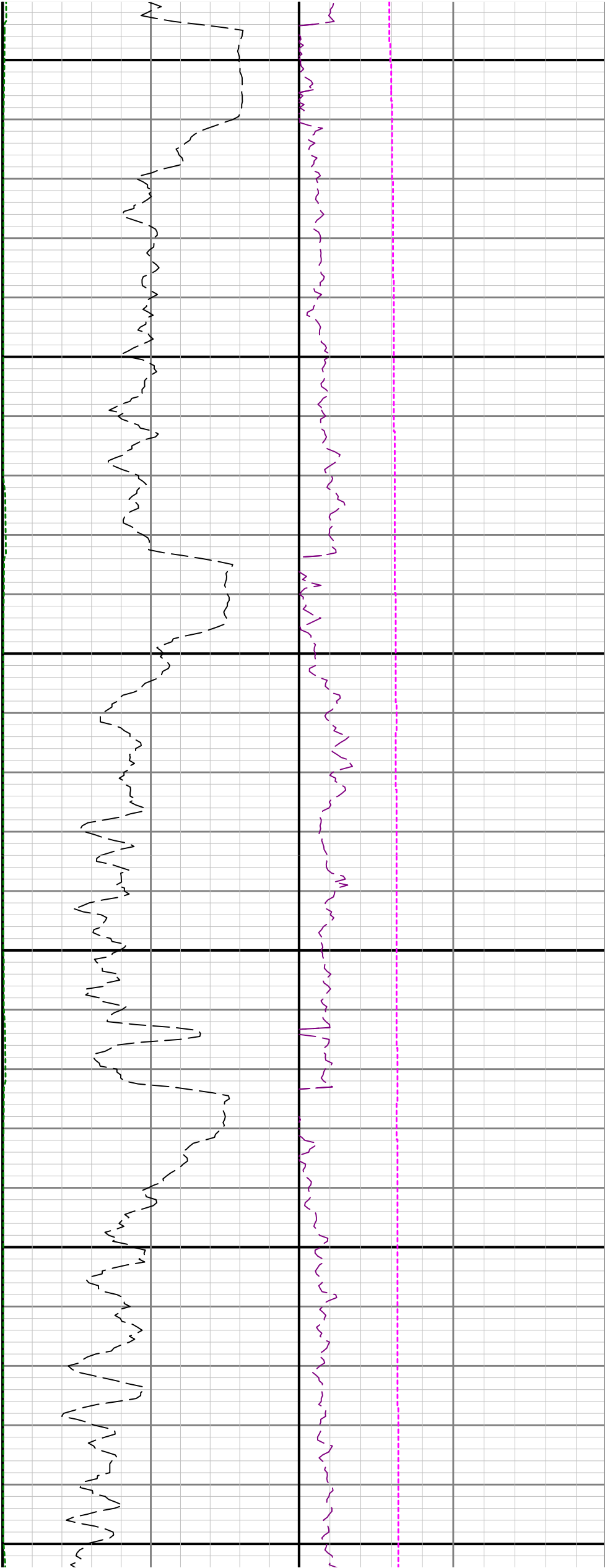
Presented Curves	Description	Units
ROPA	Depth Averaged ROP 3 ft Average	ft/h
TVD	True Vertical Depth	ft
WOBA	Weight On Bit, Average 1 ft Average	klb
GRAM	Gamma Ray - Apparent - Memory 0.5 ft Average	API
GRIM	Gamma Ray - Data Point Indicator - Memory	unitless
GRTM	Gamma Ray - Time Since Drilled - Memory	min
TCDM	Directional Real-Time Survey Temperature	degF

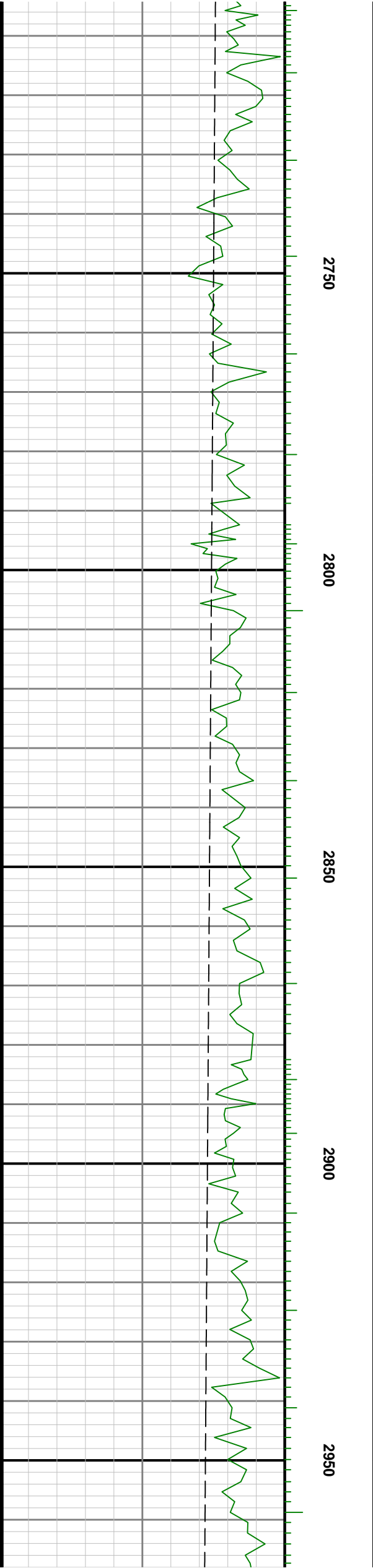
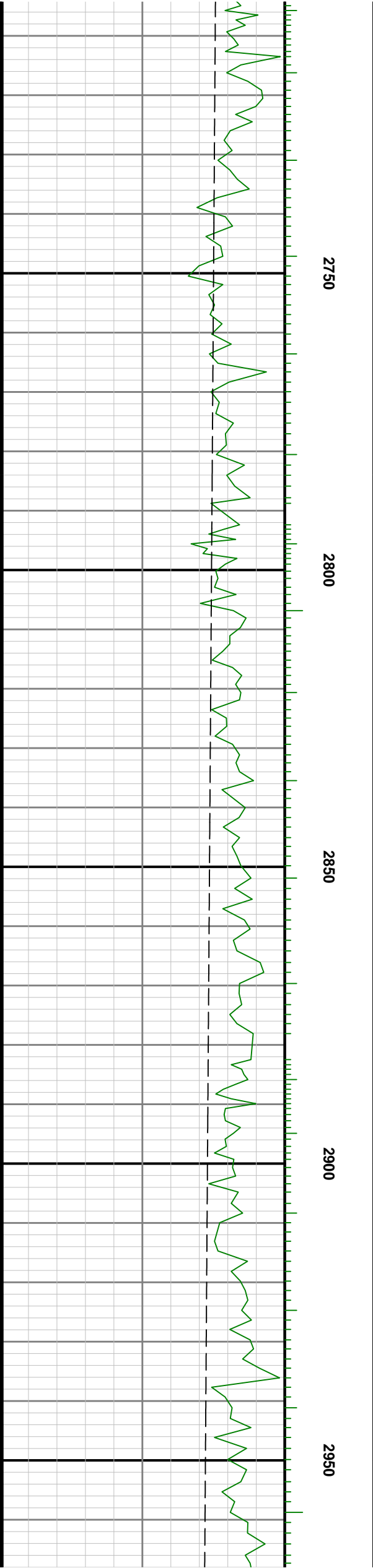
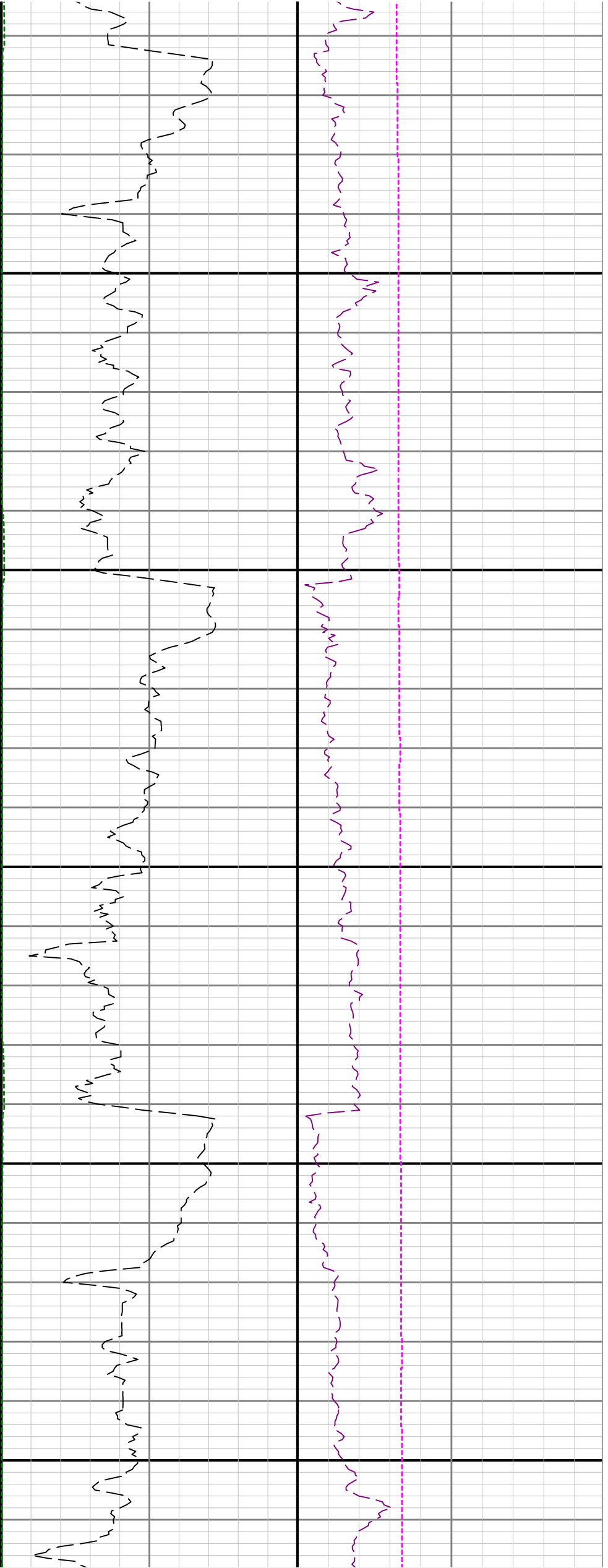
<div><div>BAKER HUGHES</div><div>a GE company</div></div> <div></div>	Company	GREAT WESTERN OPERATING CO LLC			
	Well	SCHAEFER LD 13-032HC			
	Interval	Date From:	2019-01-28 03:14	Top:	1784.00 ft
	Created	Date To:	2019-02-01 18:03	Bottom:	18218.00 ft
		Created 2019-02-02 06:12:25			

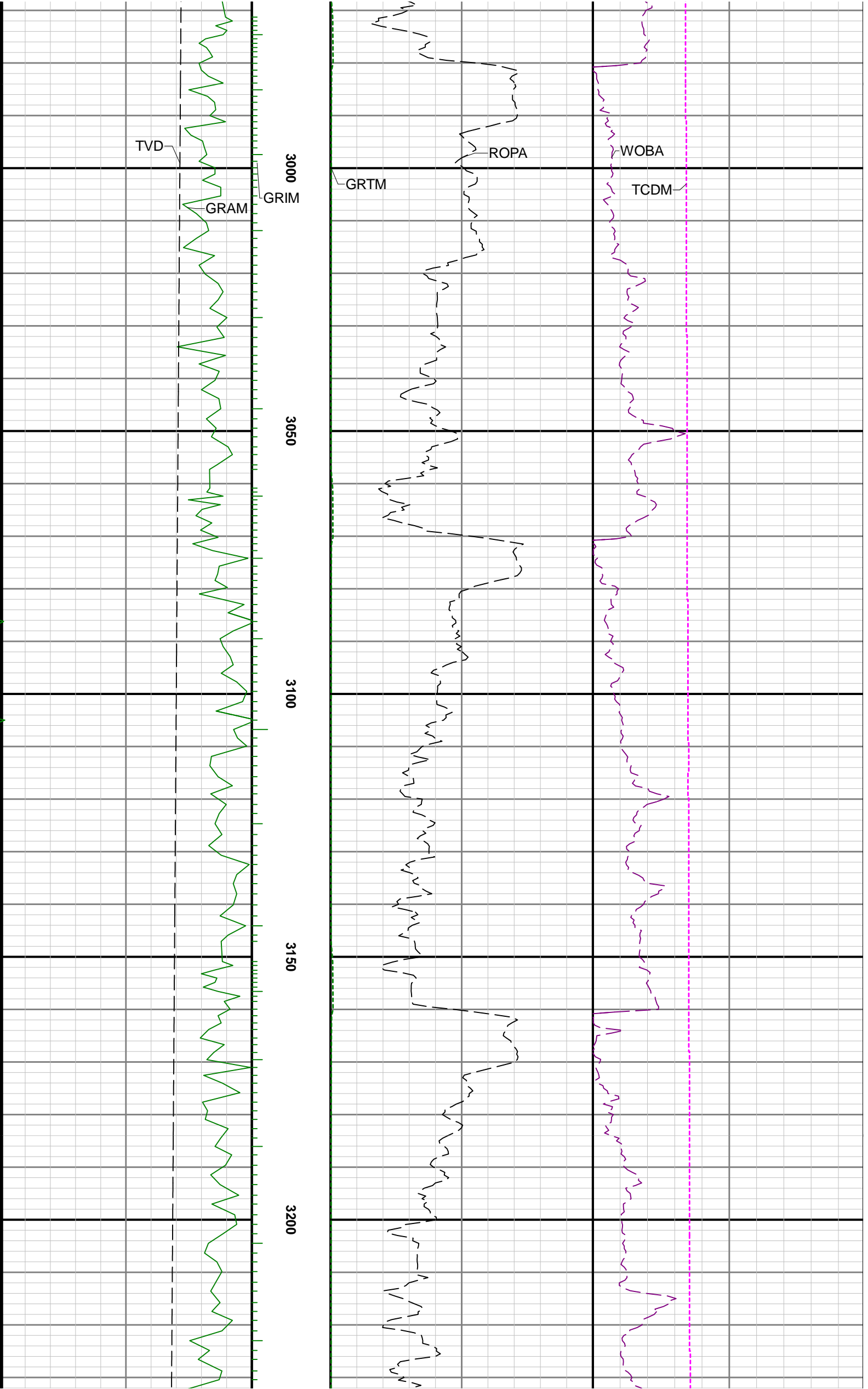


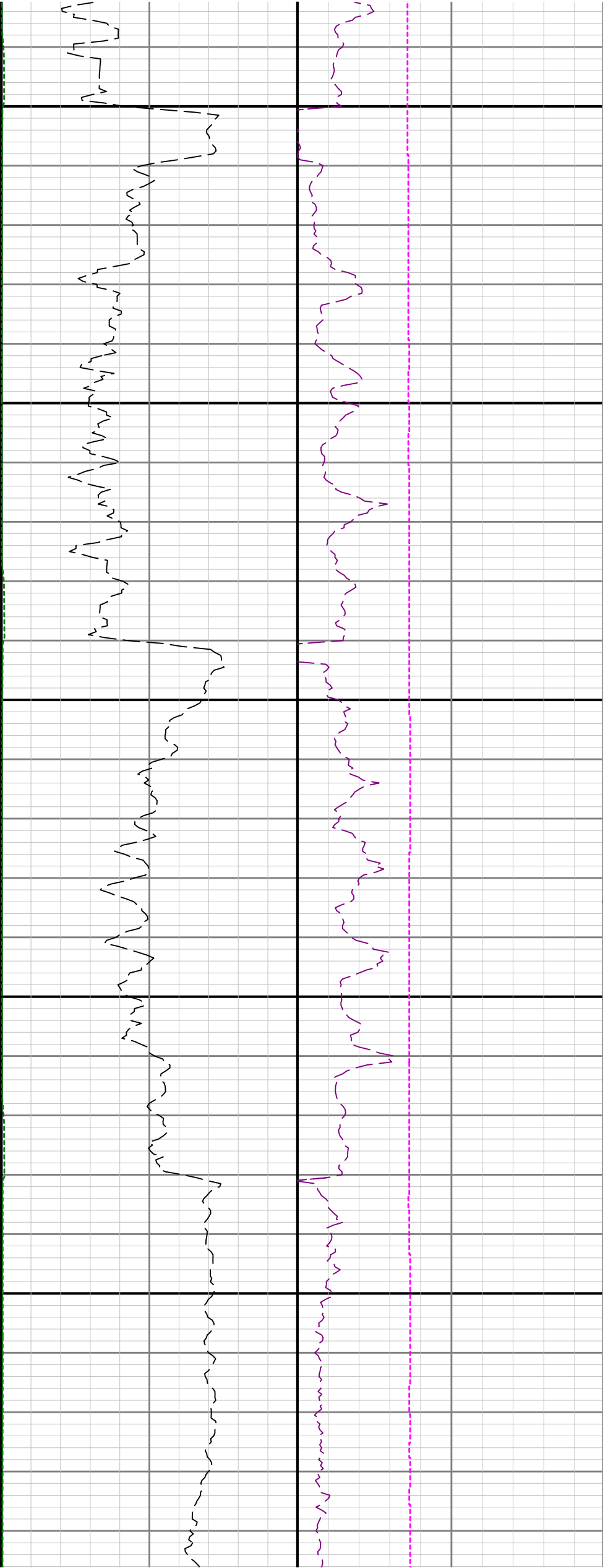












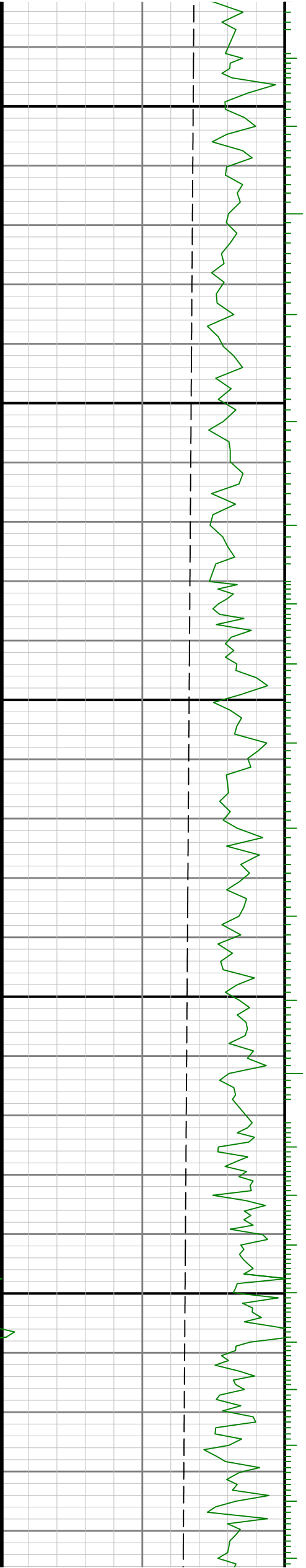
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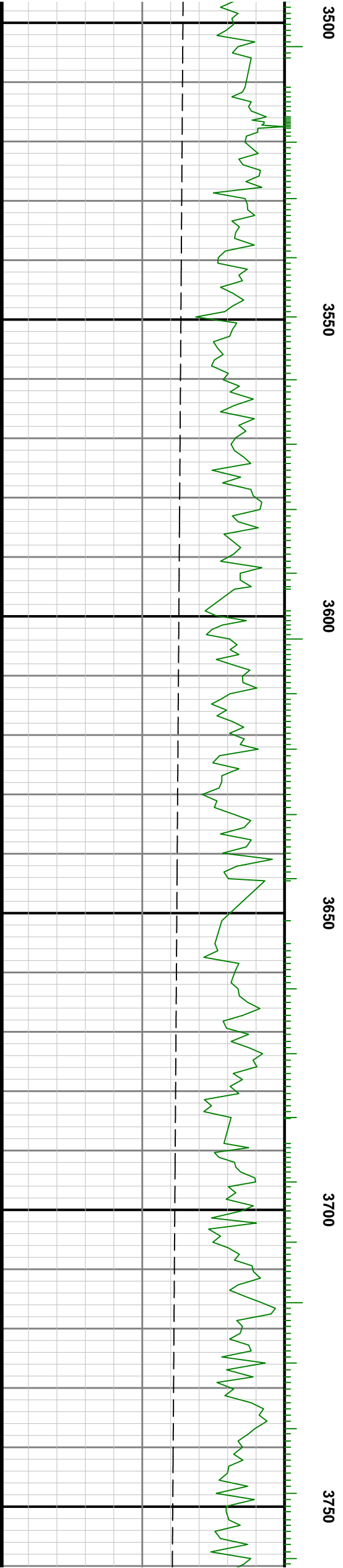
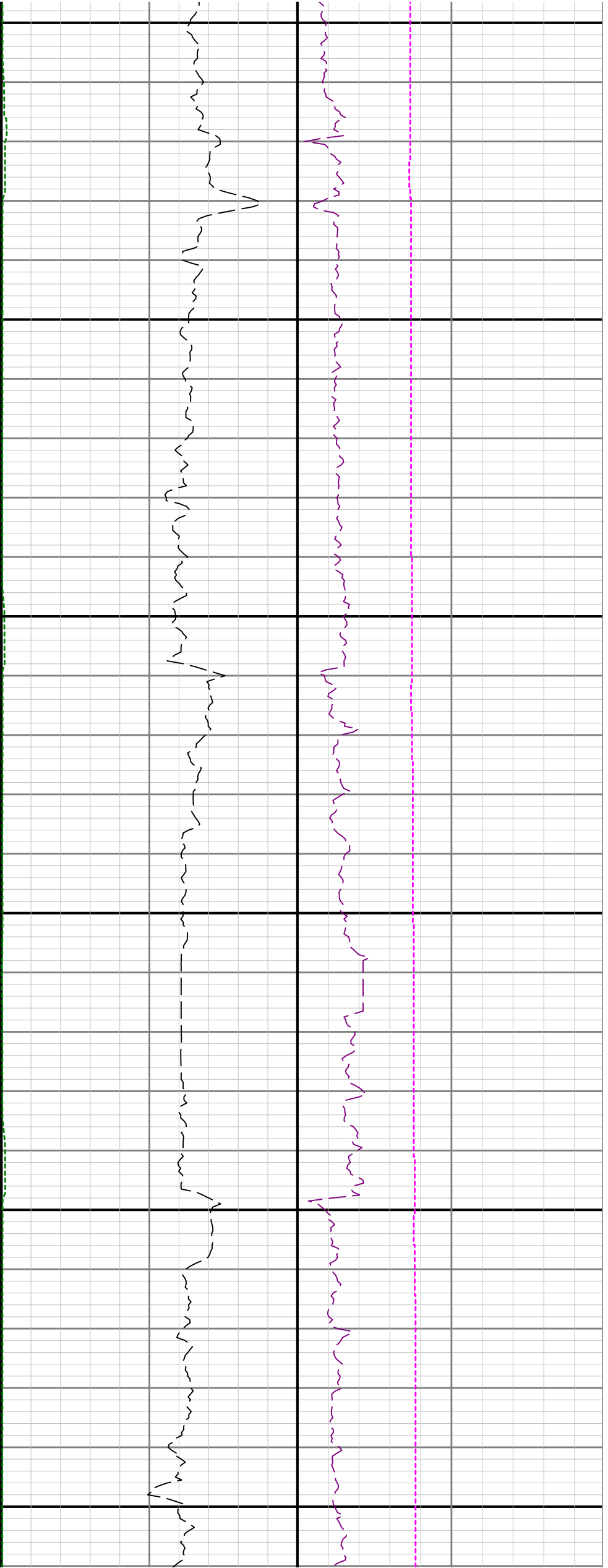
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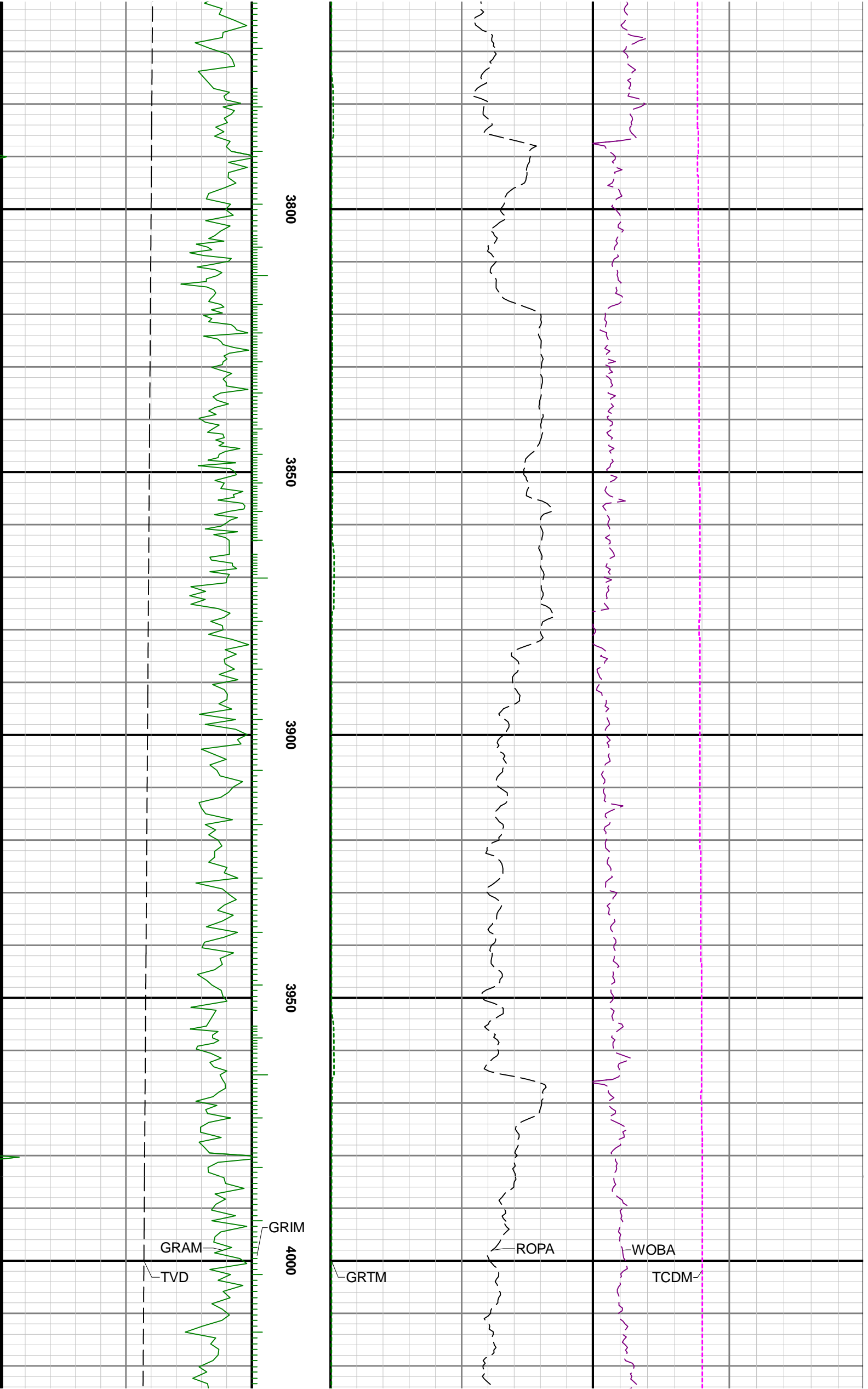
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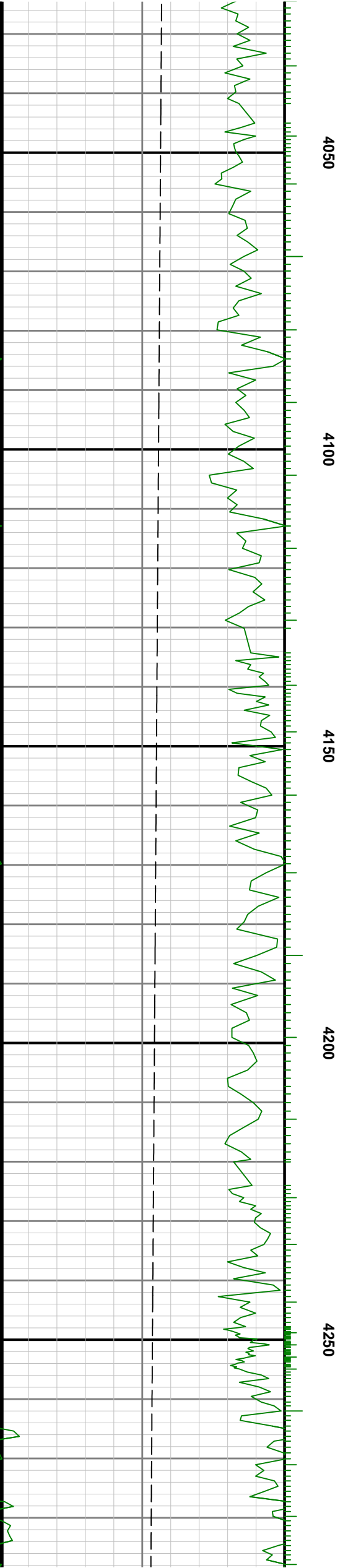
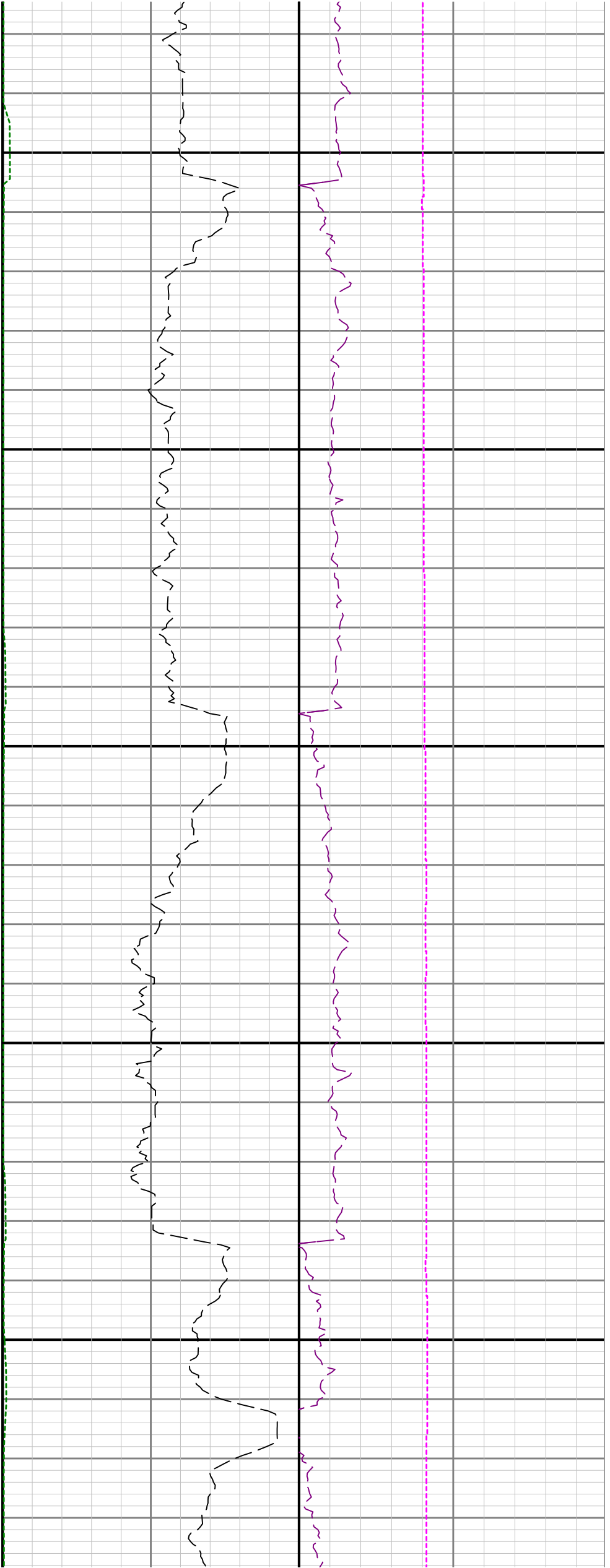
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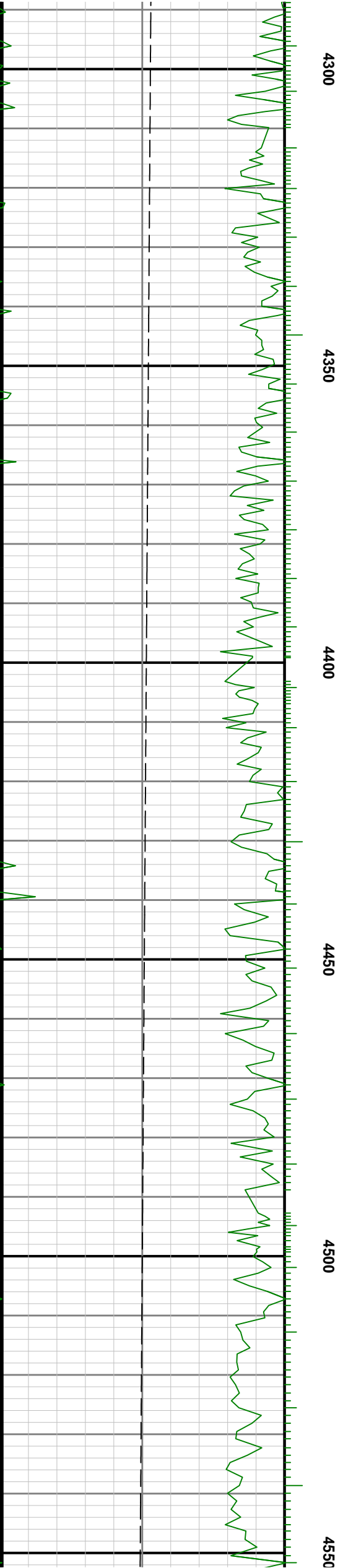
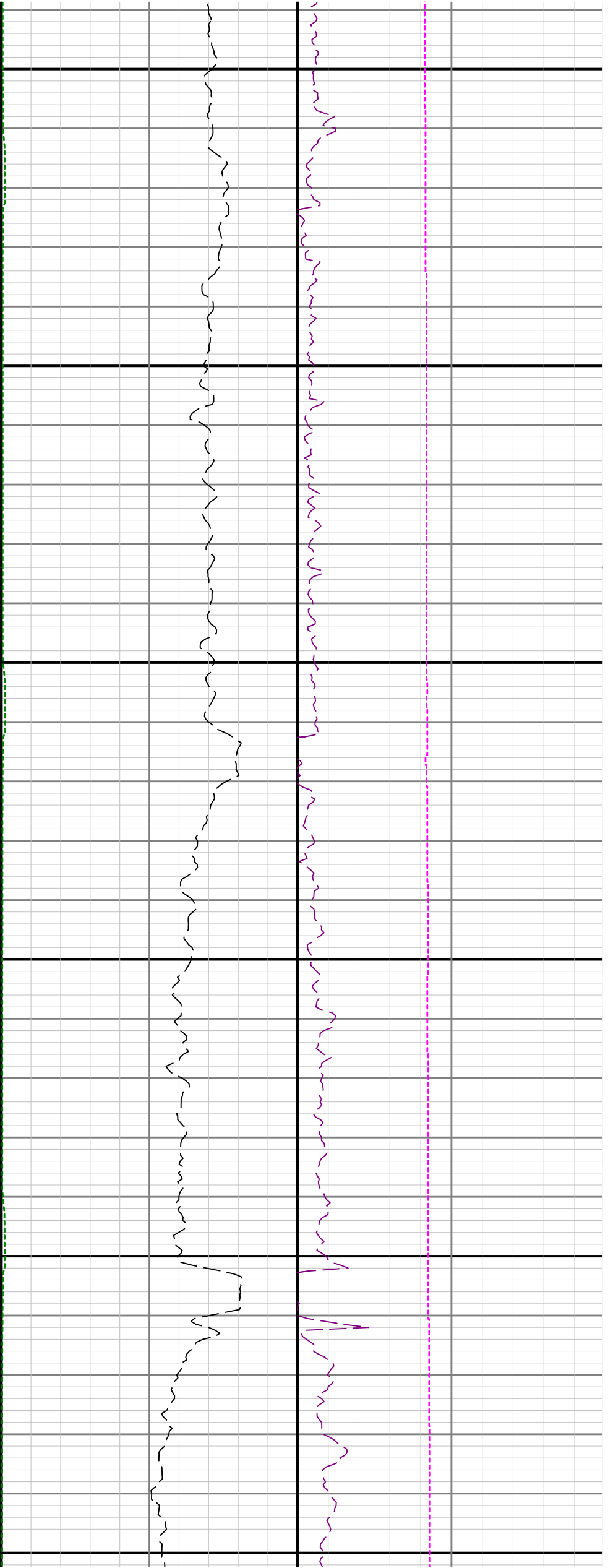
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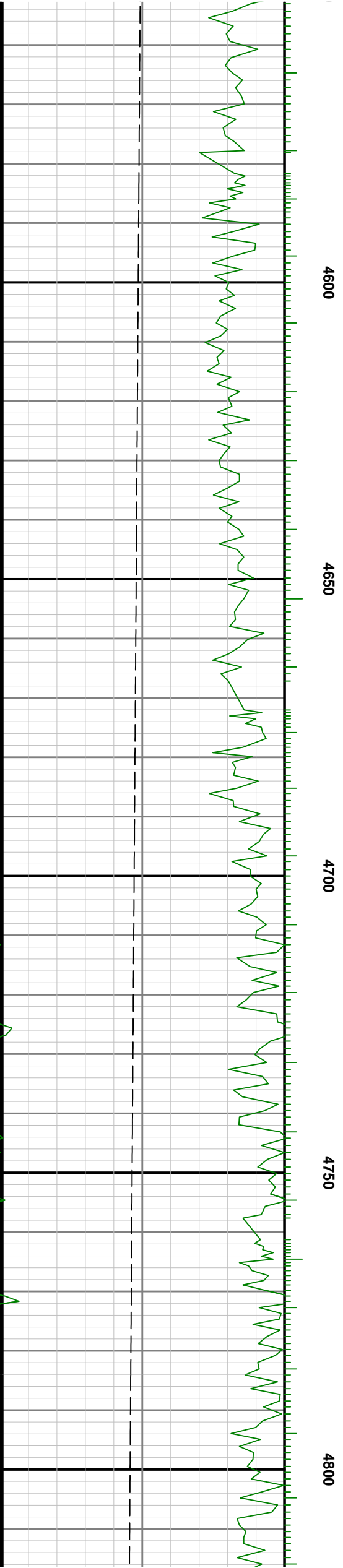
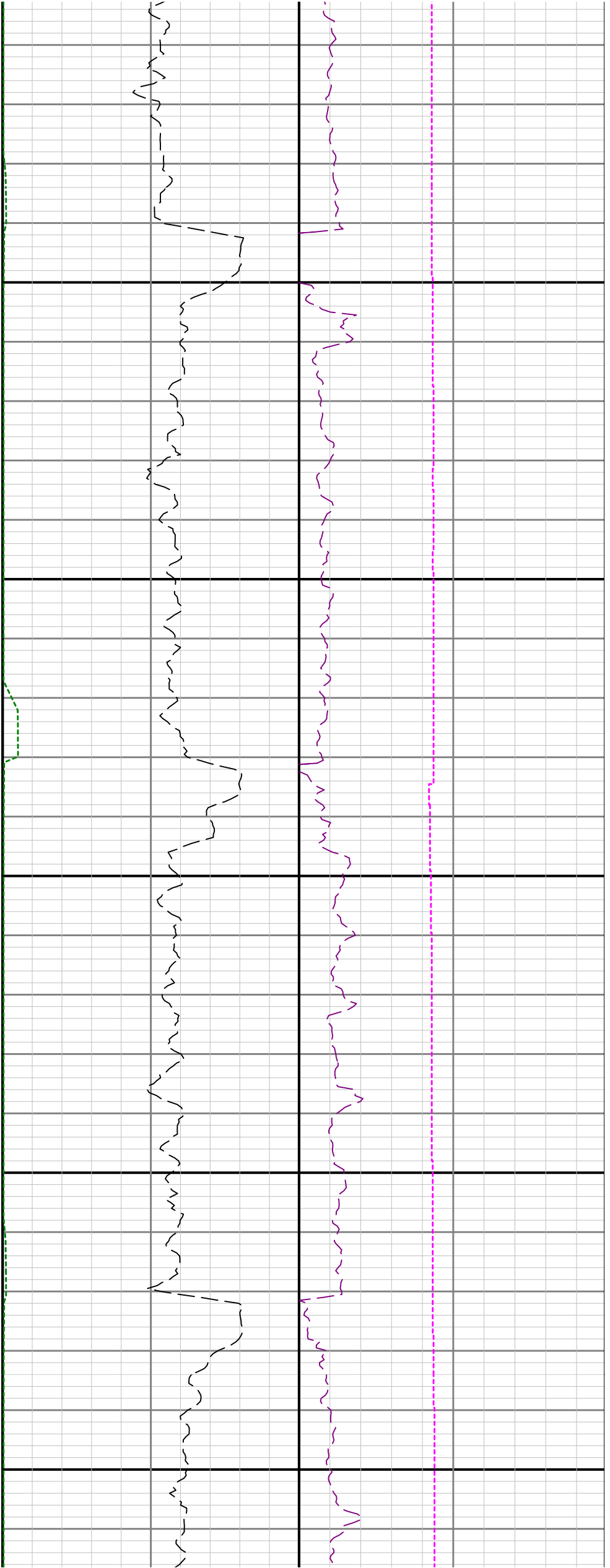


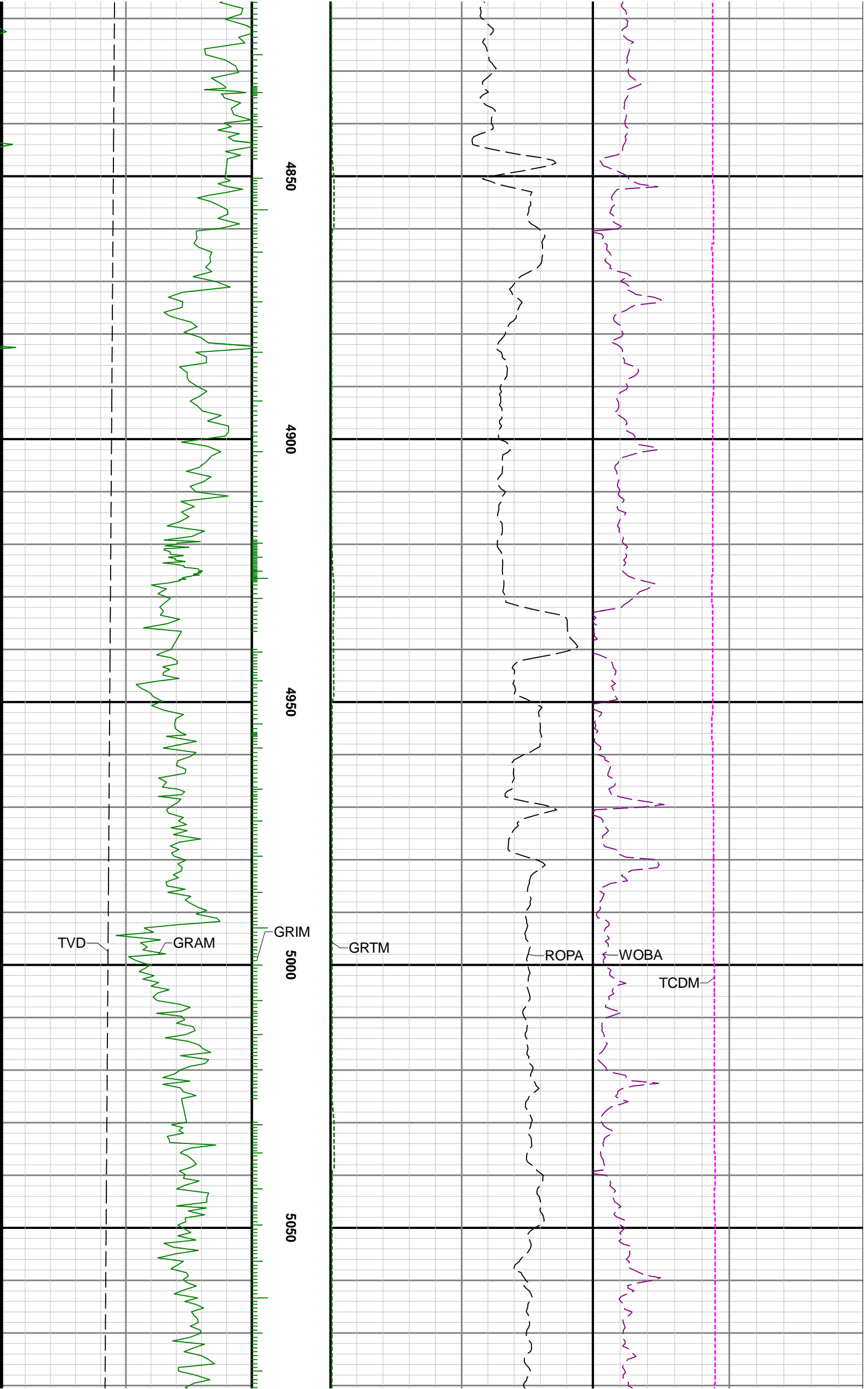


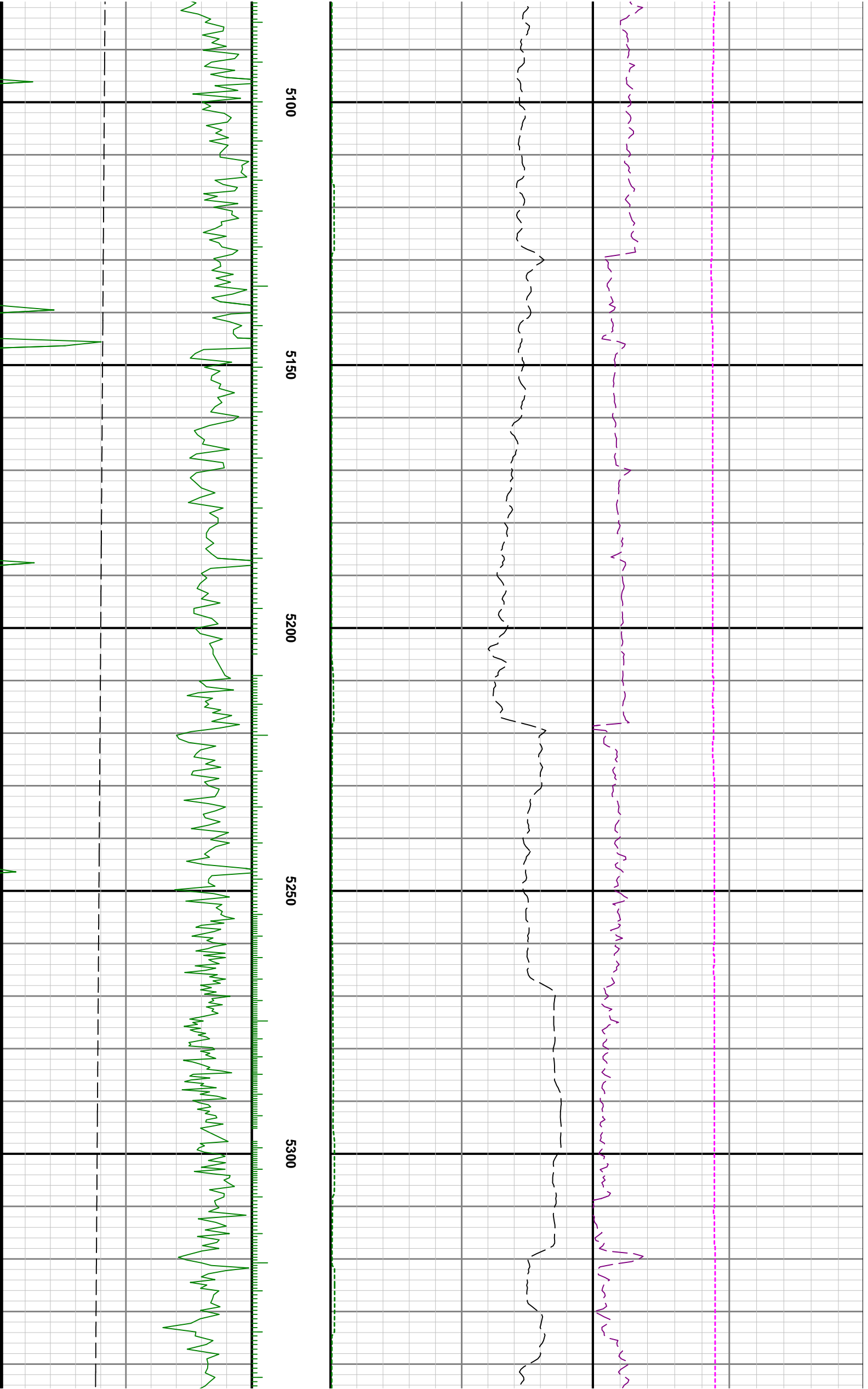


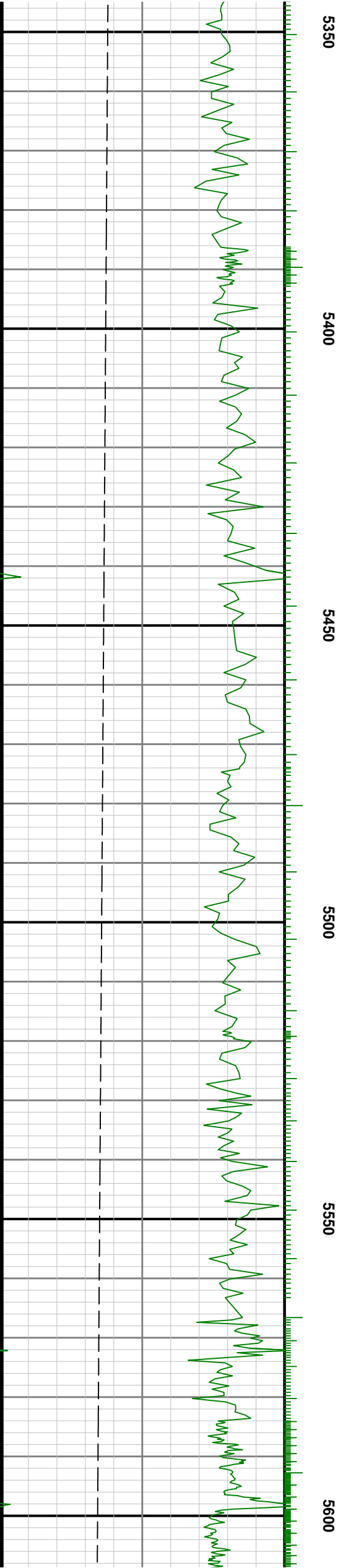
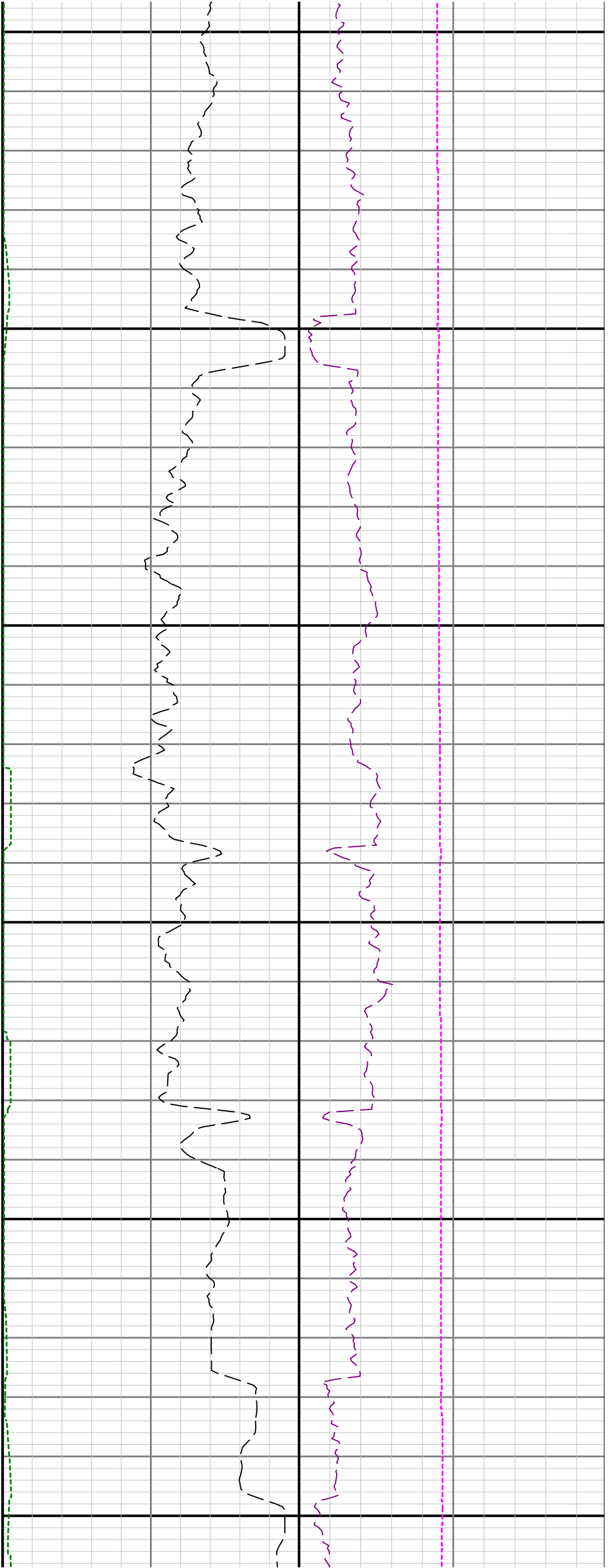


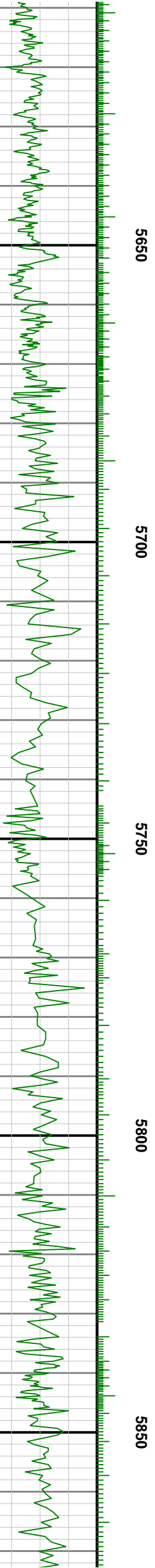
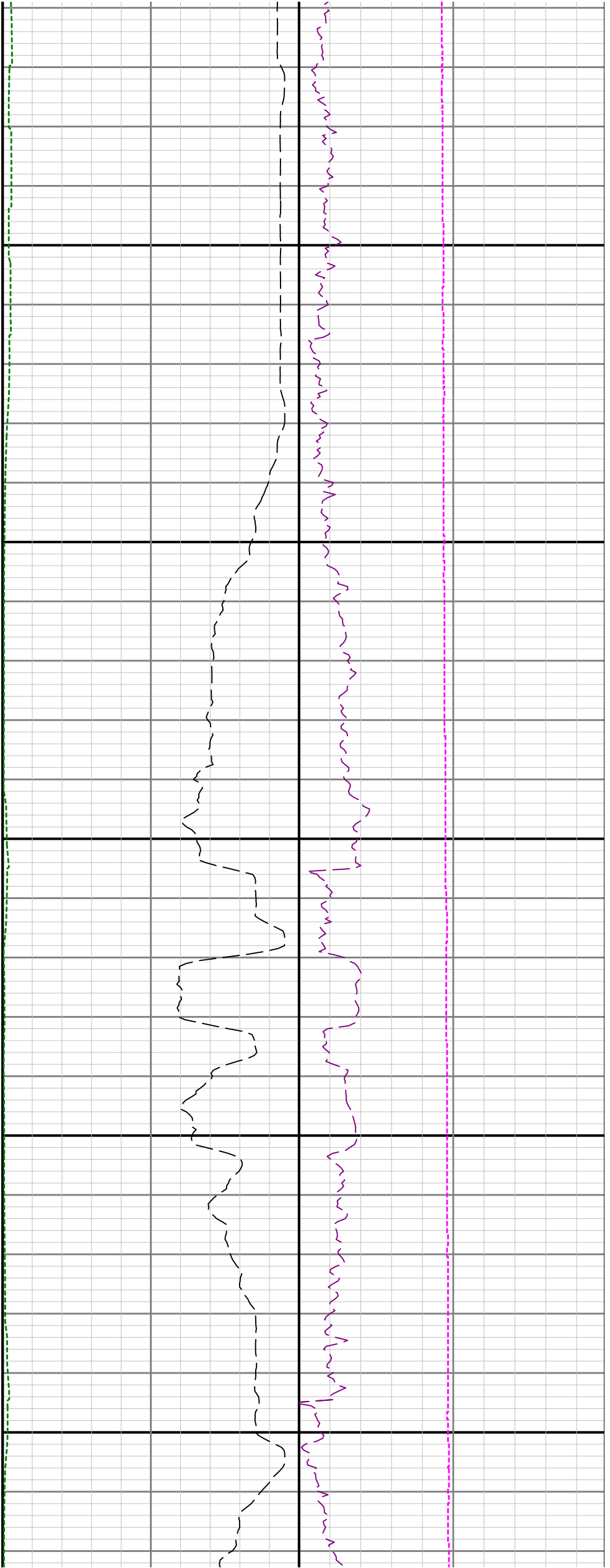


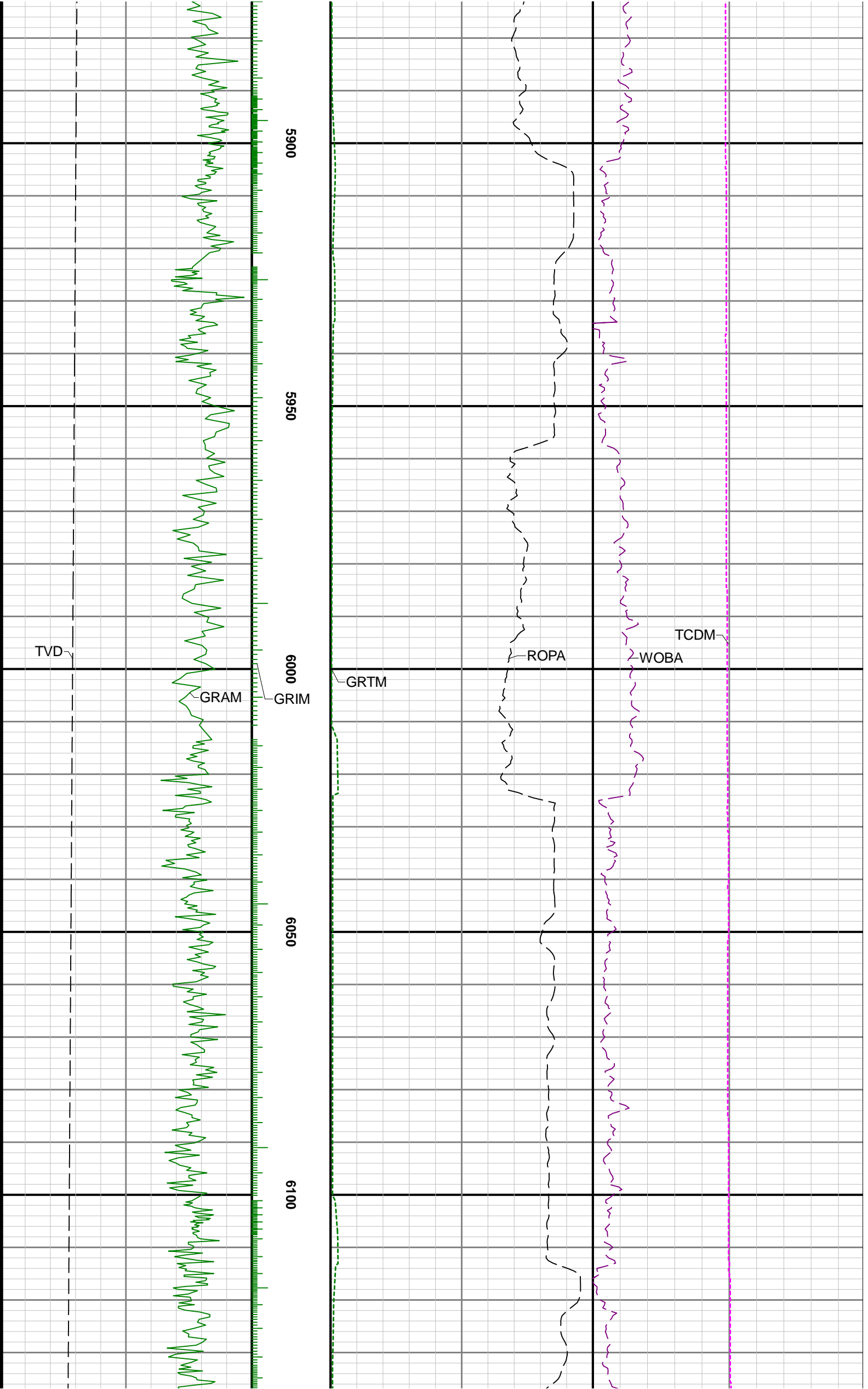


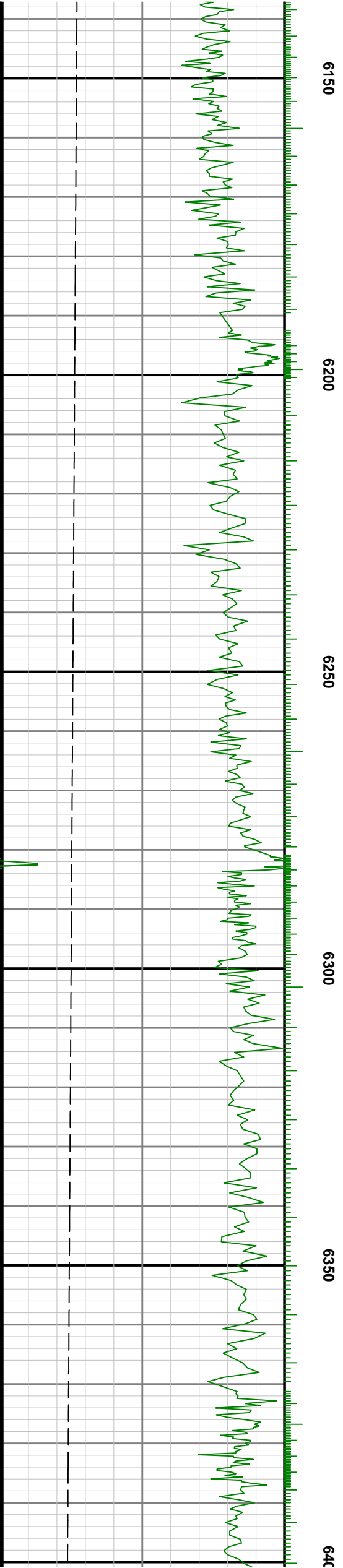


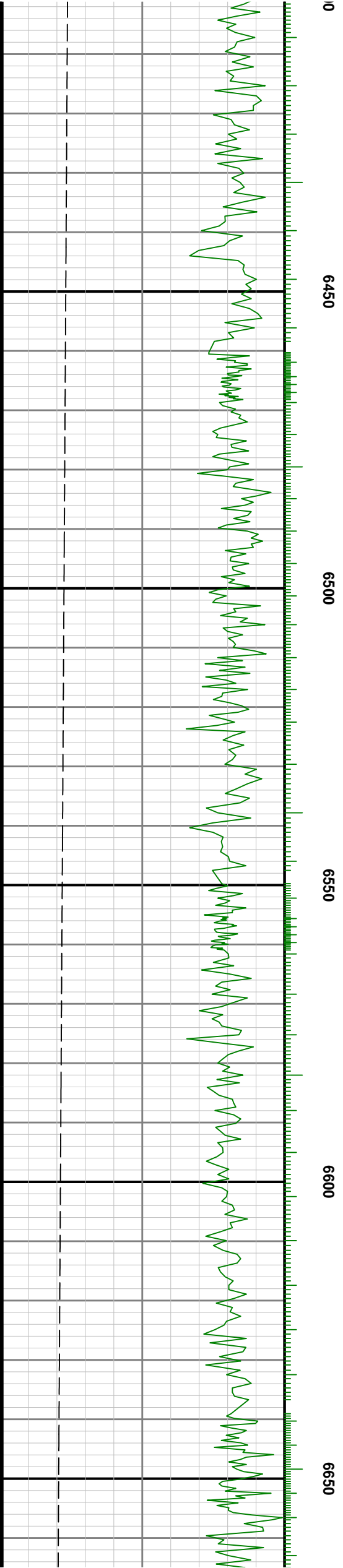
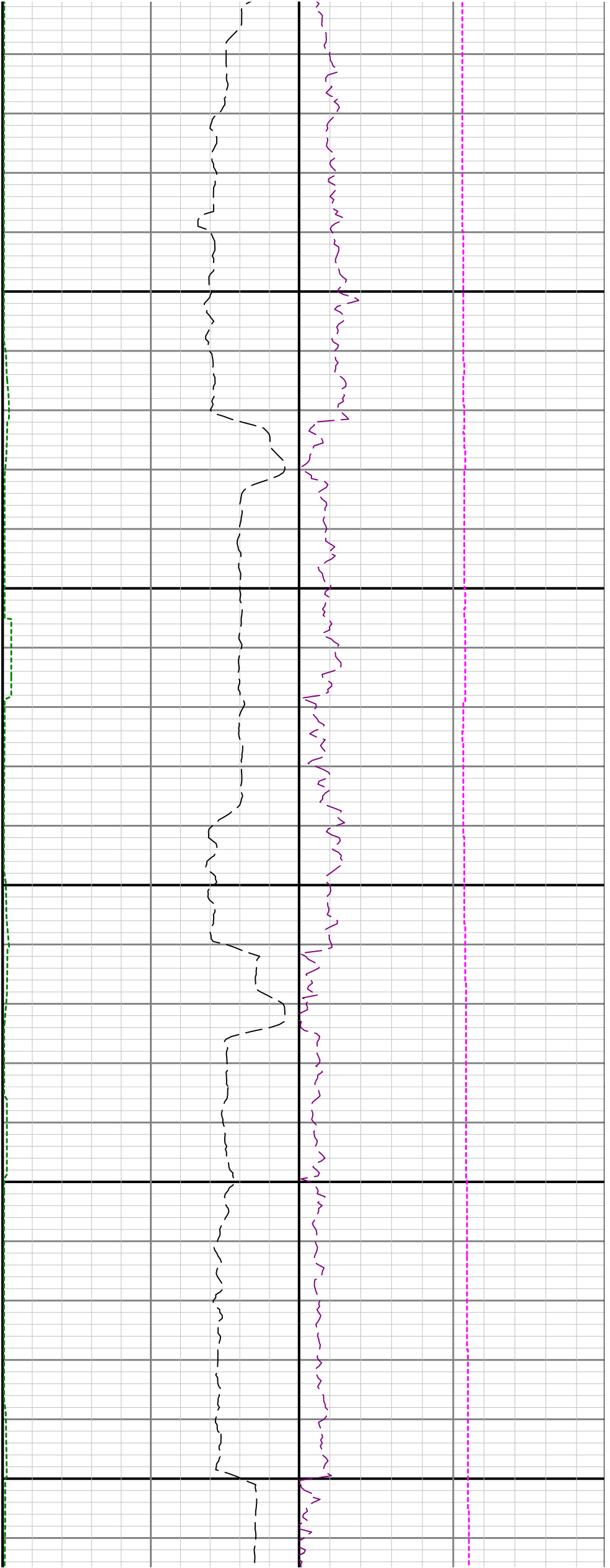


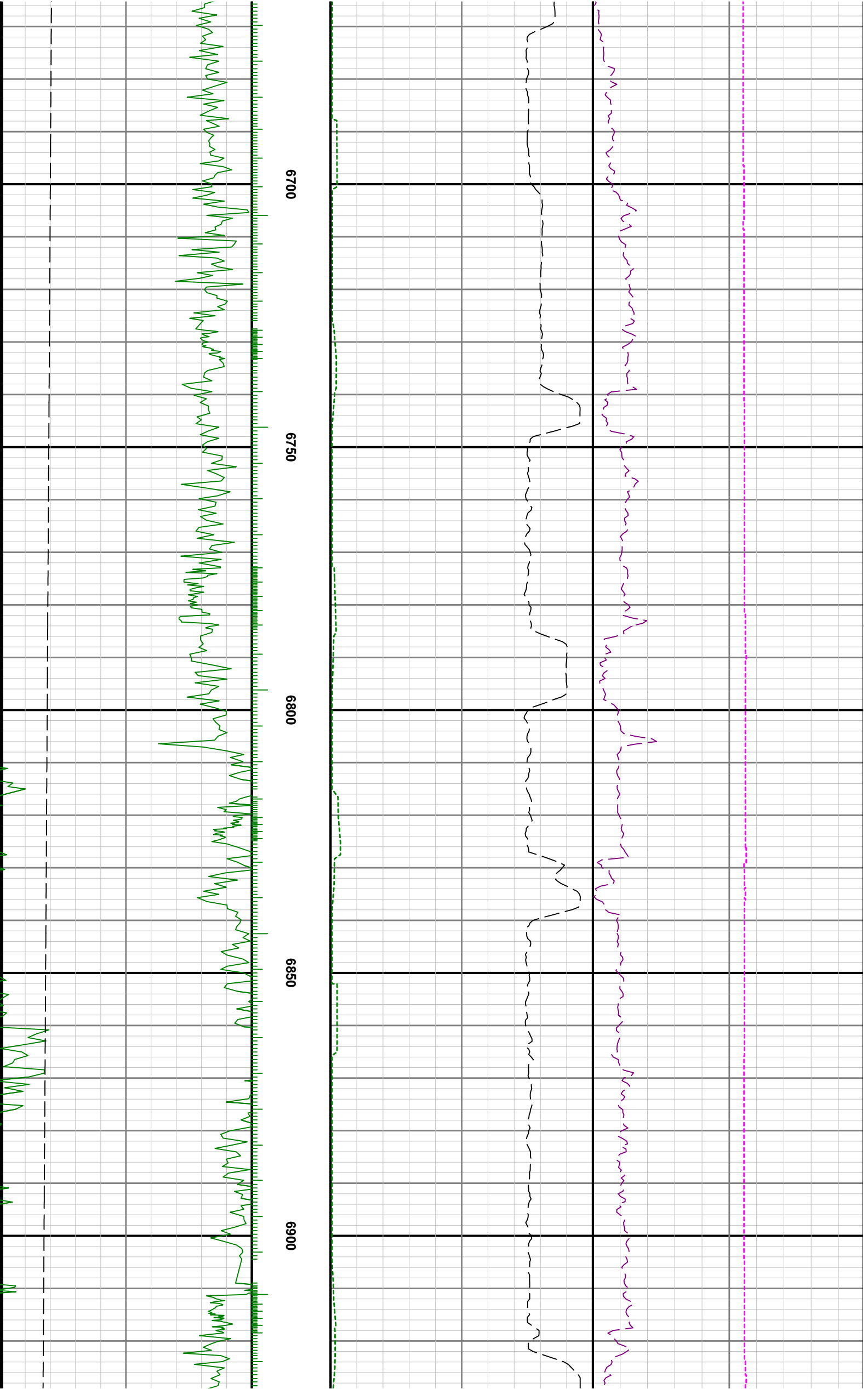


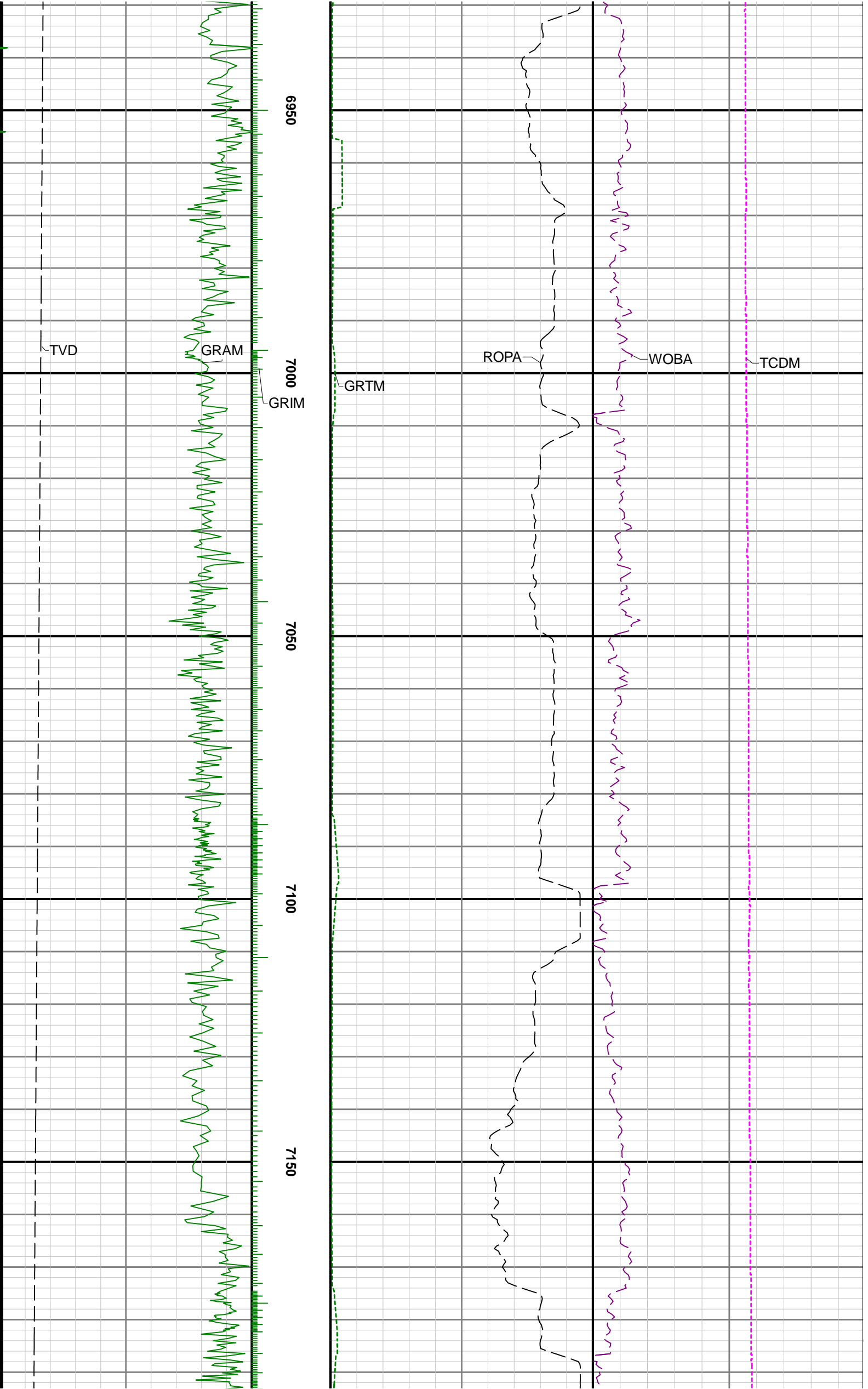


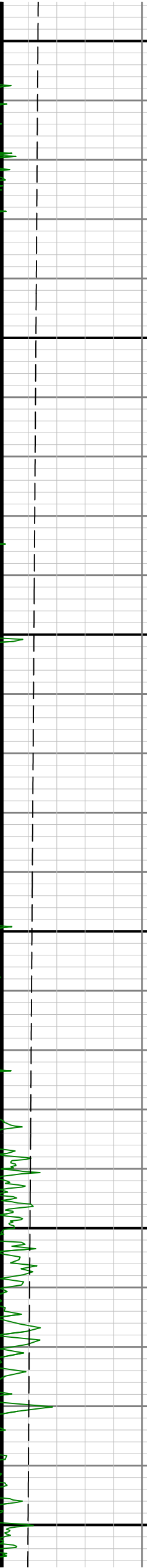
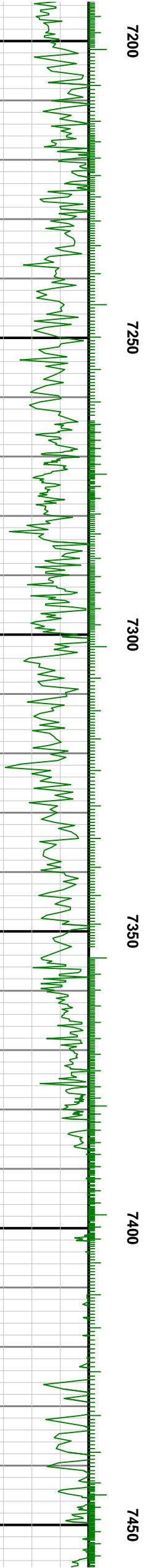
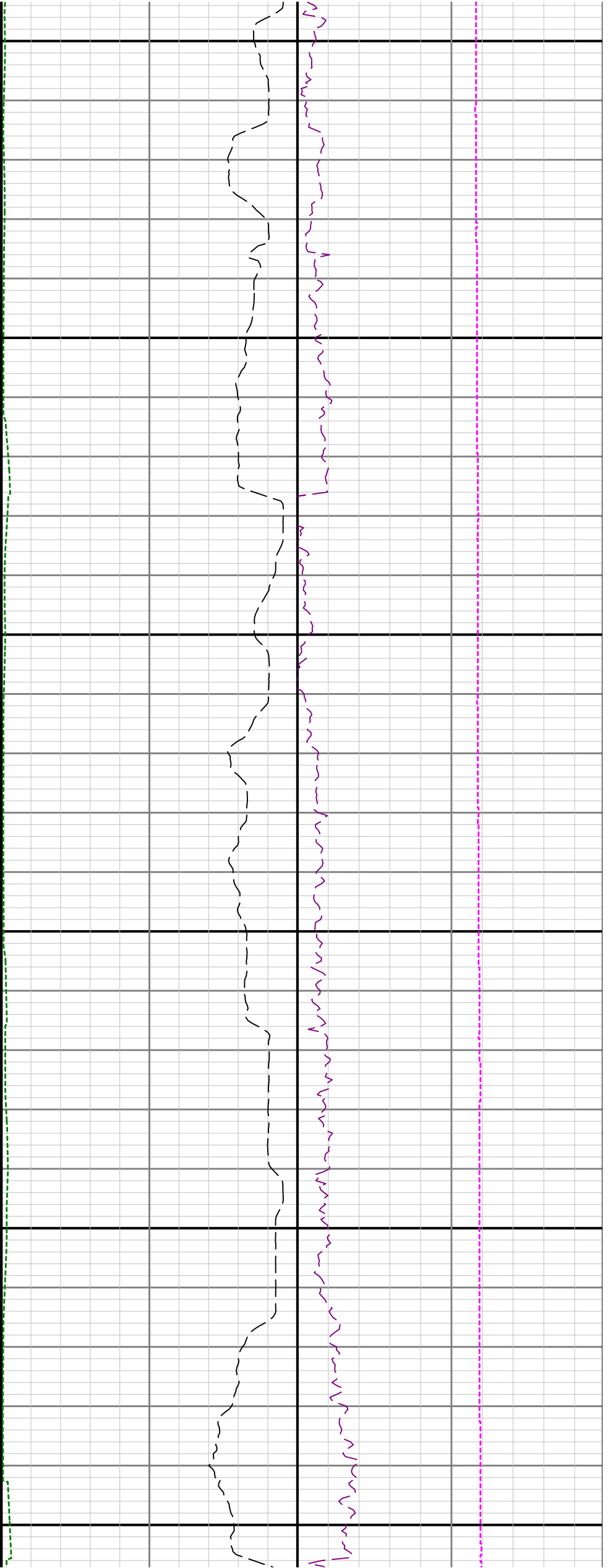


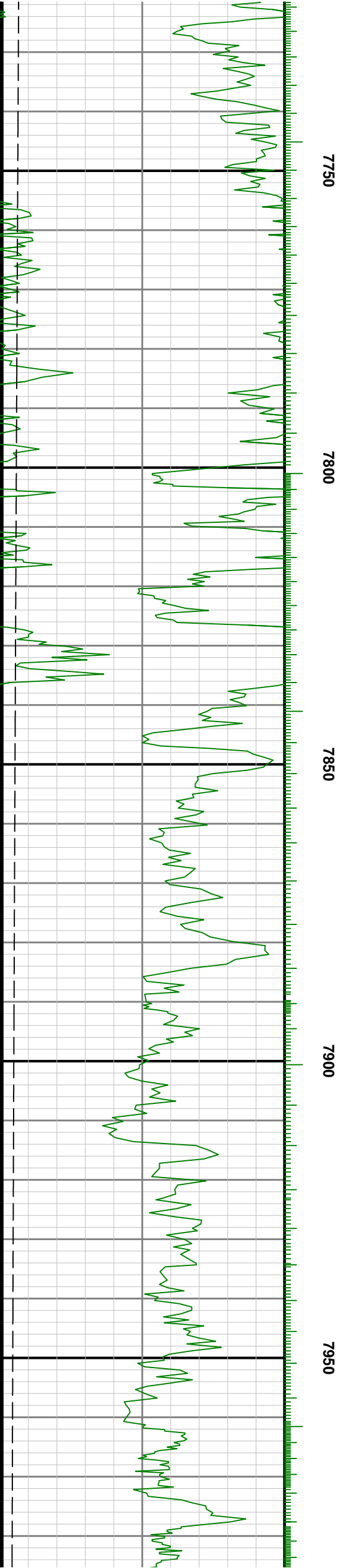
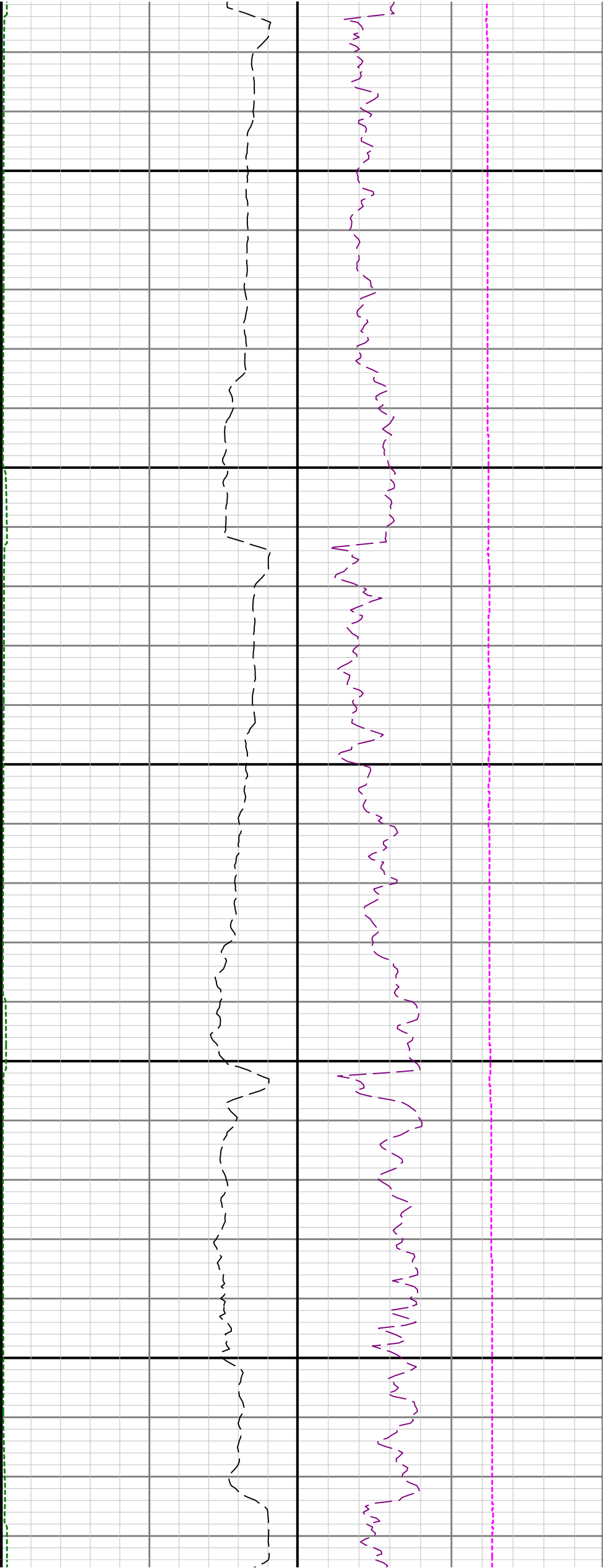


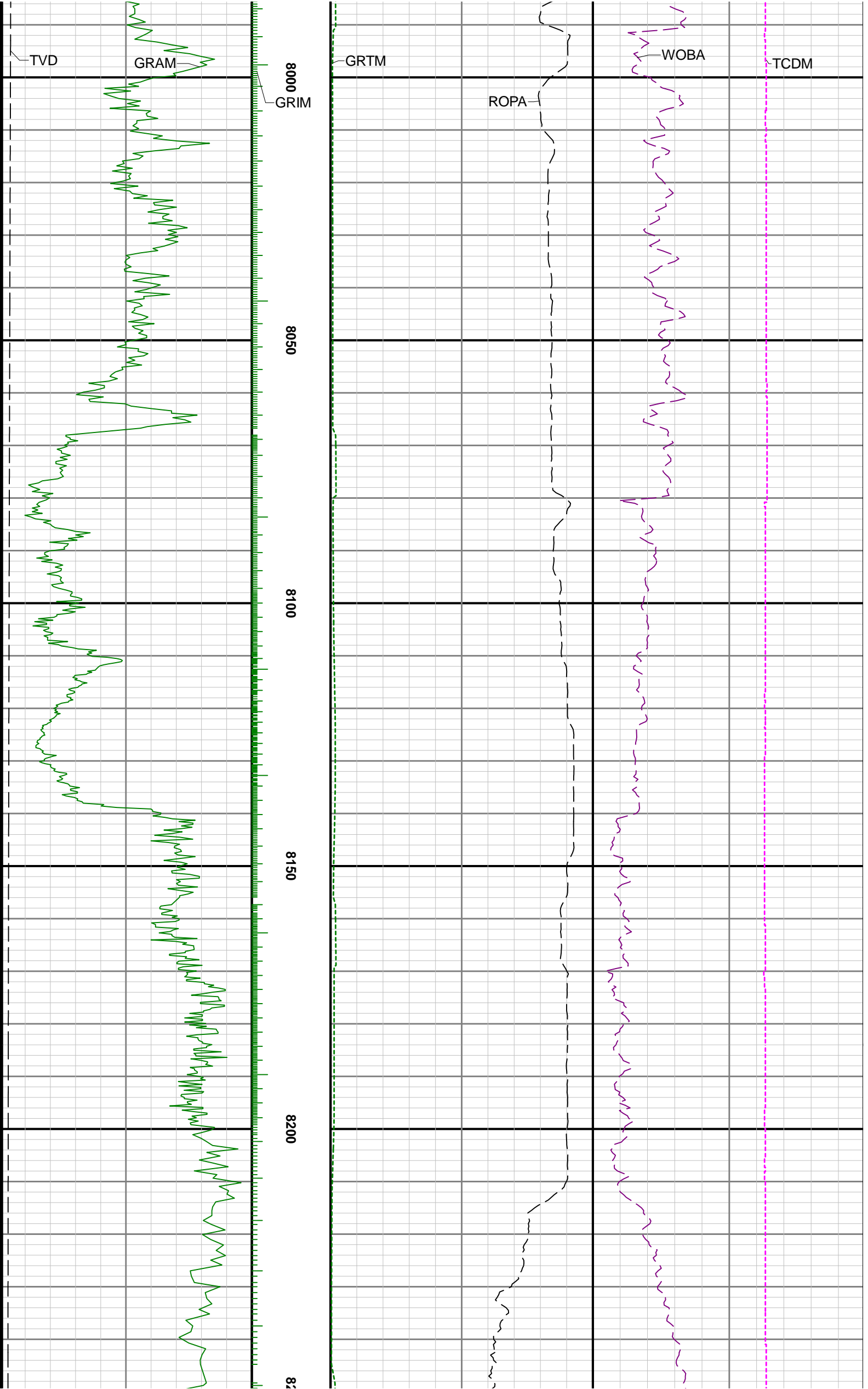


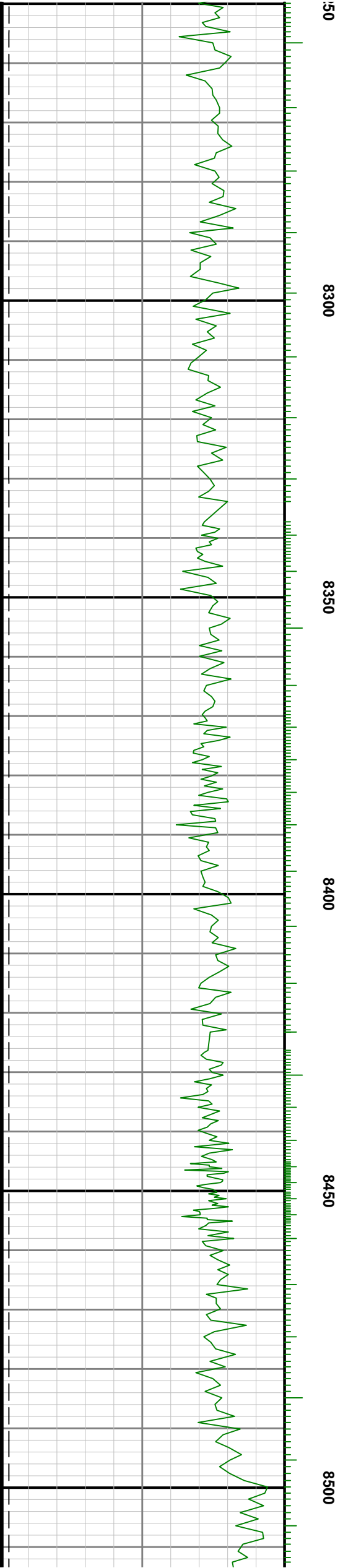
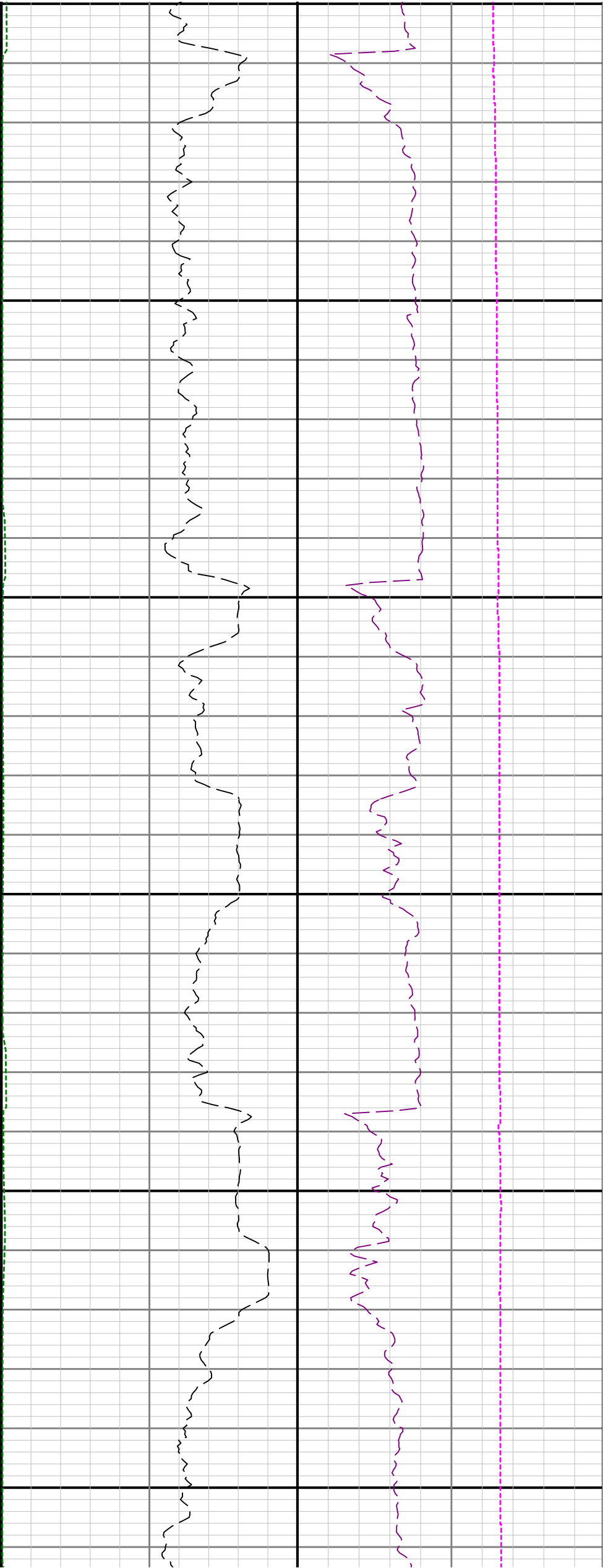


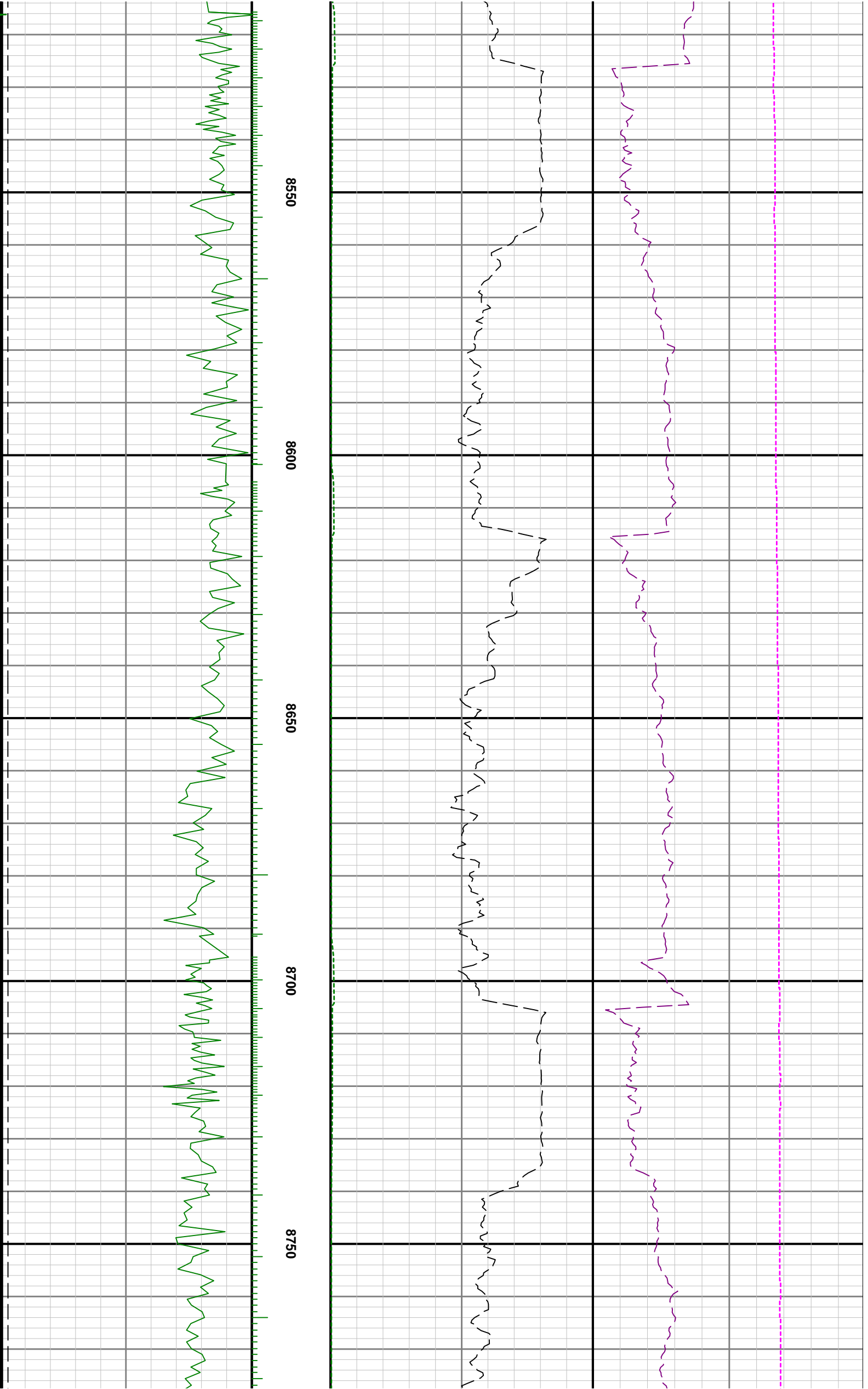


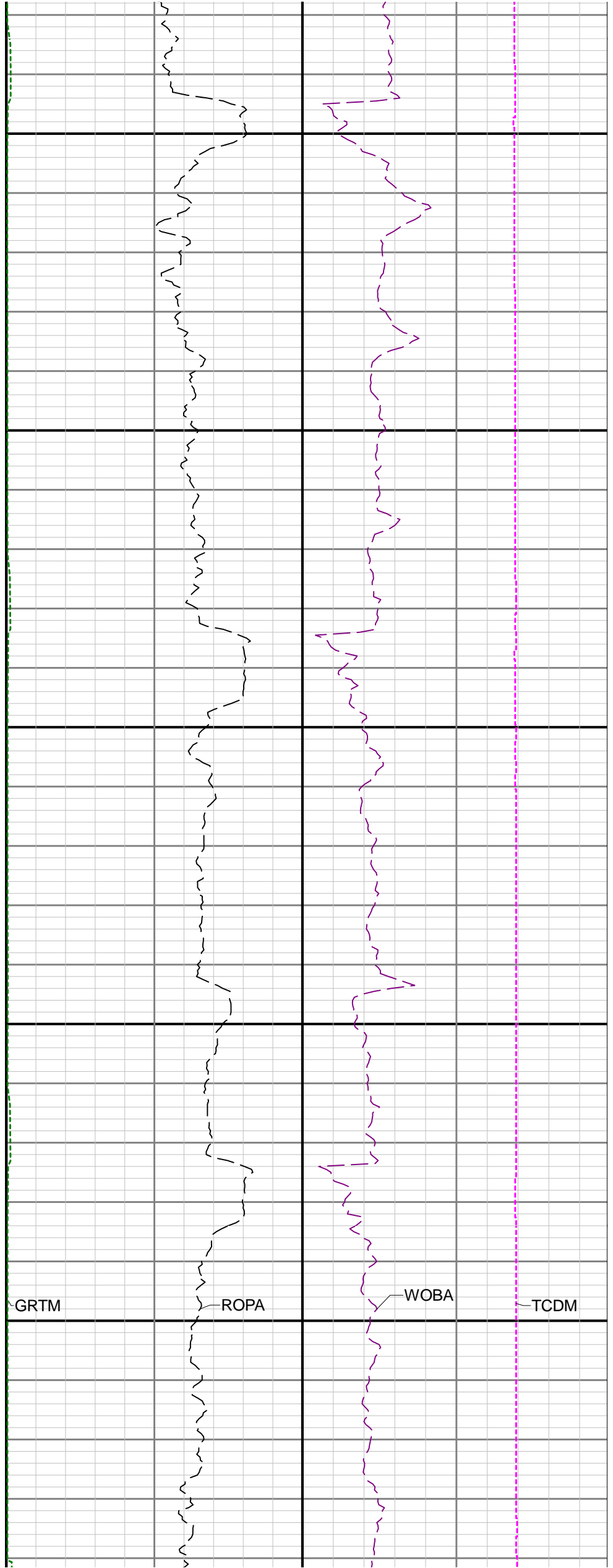
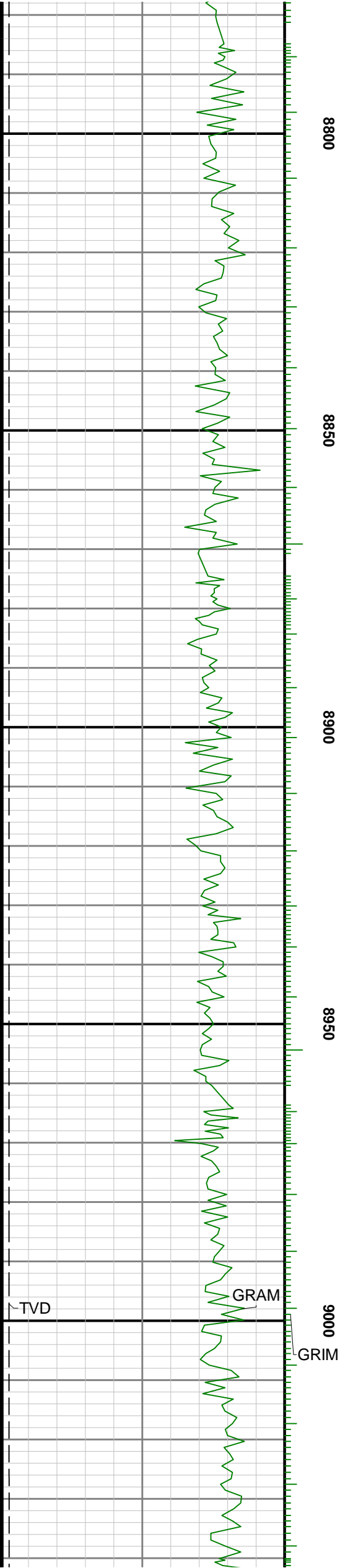


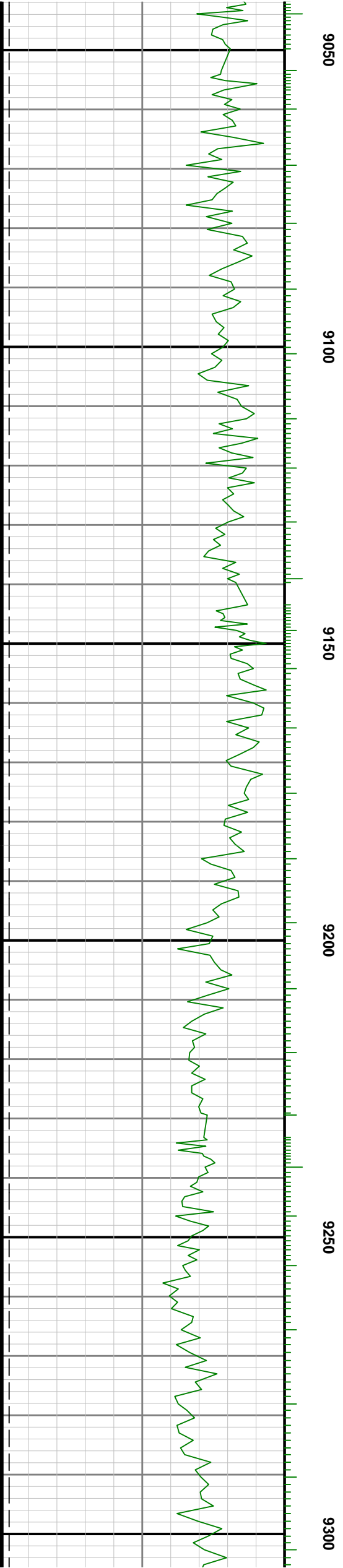
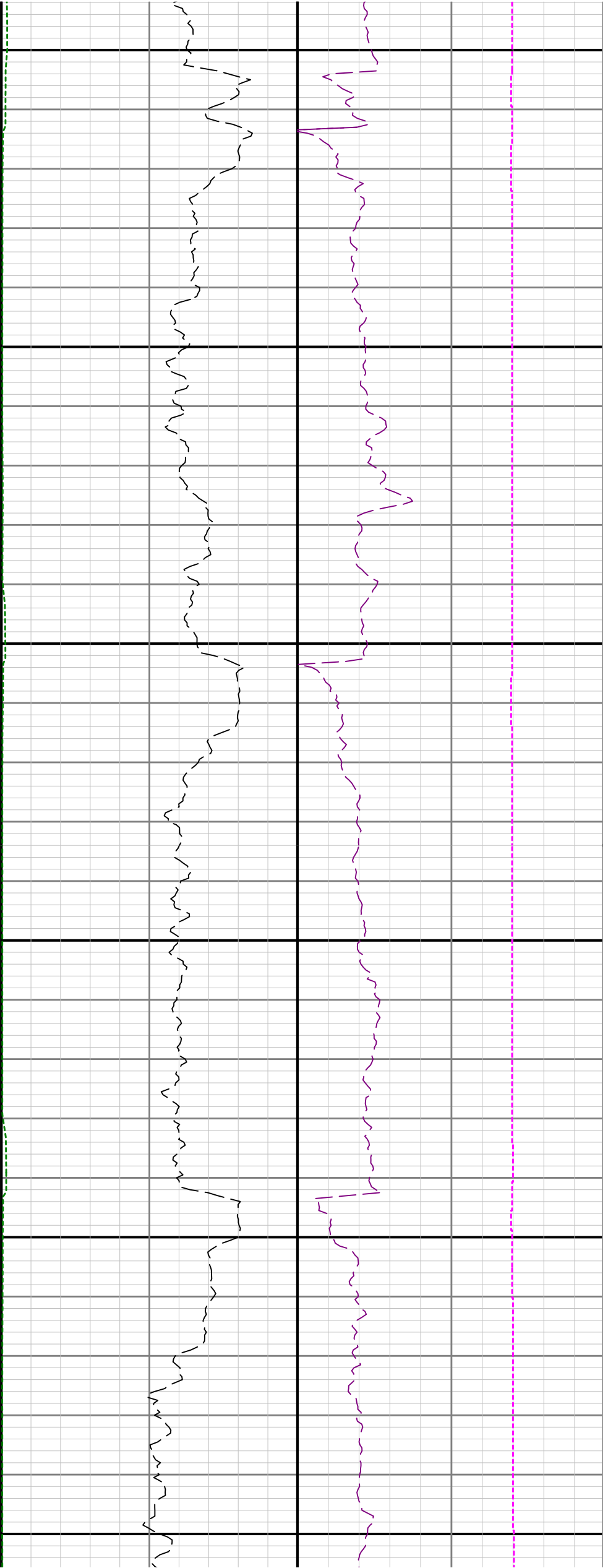


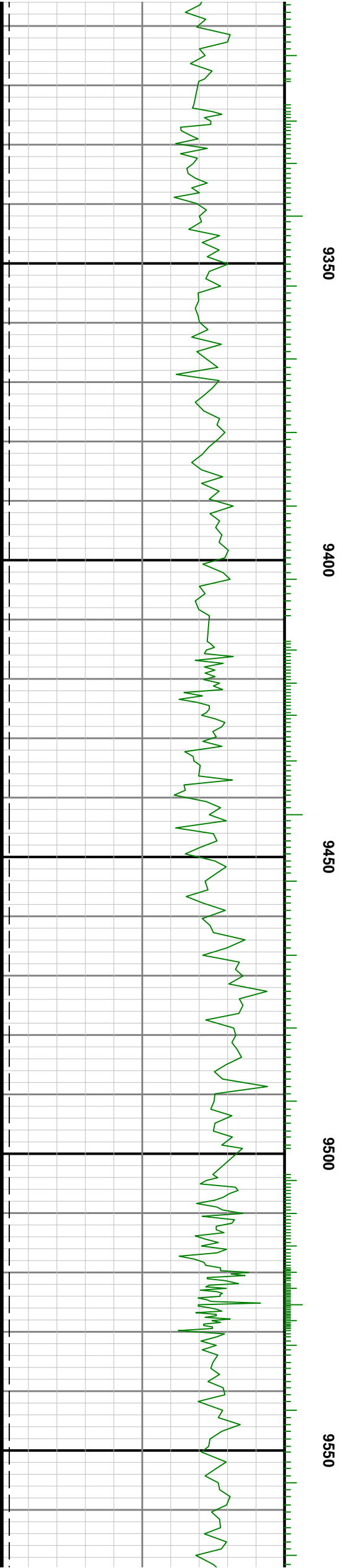
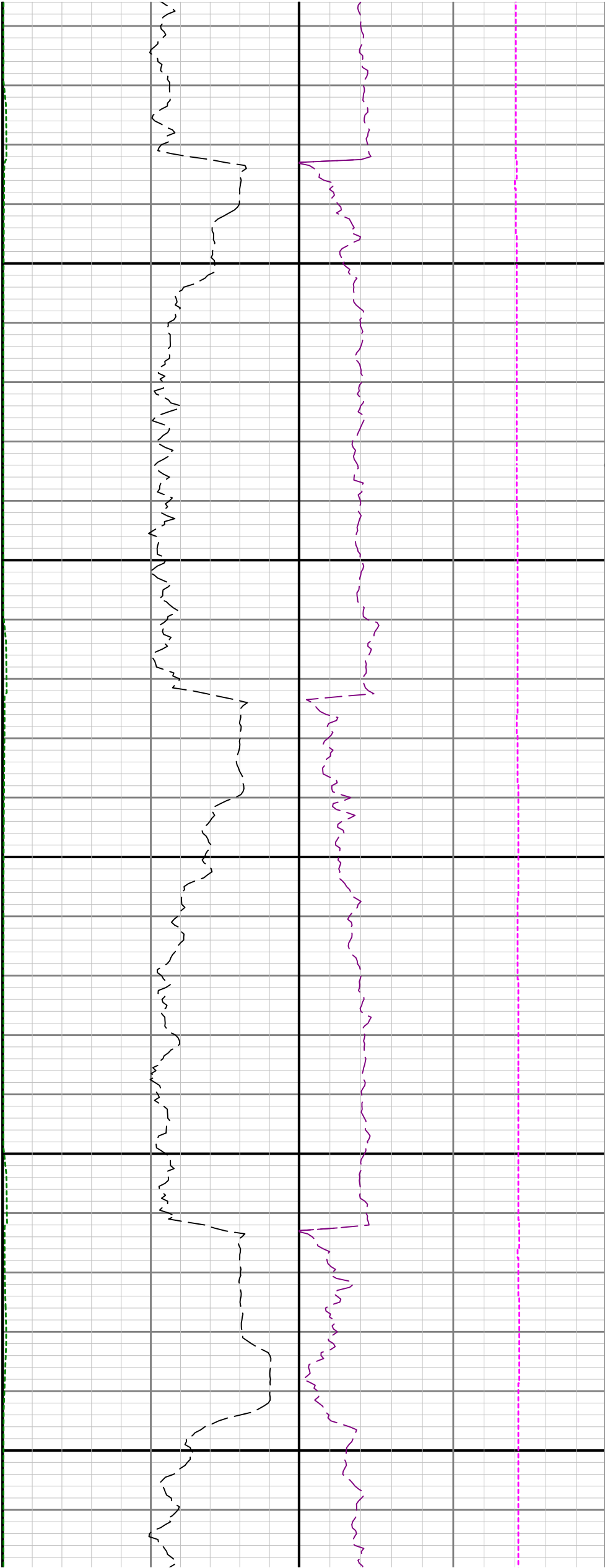


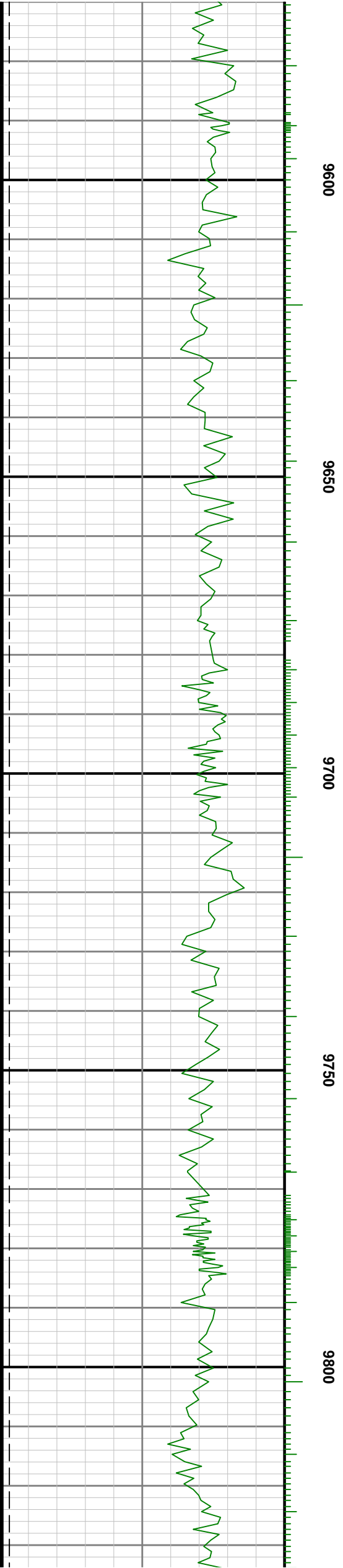
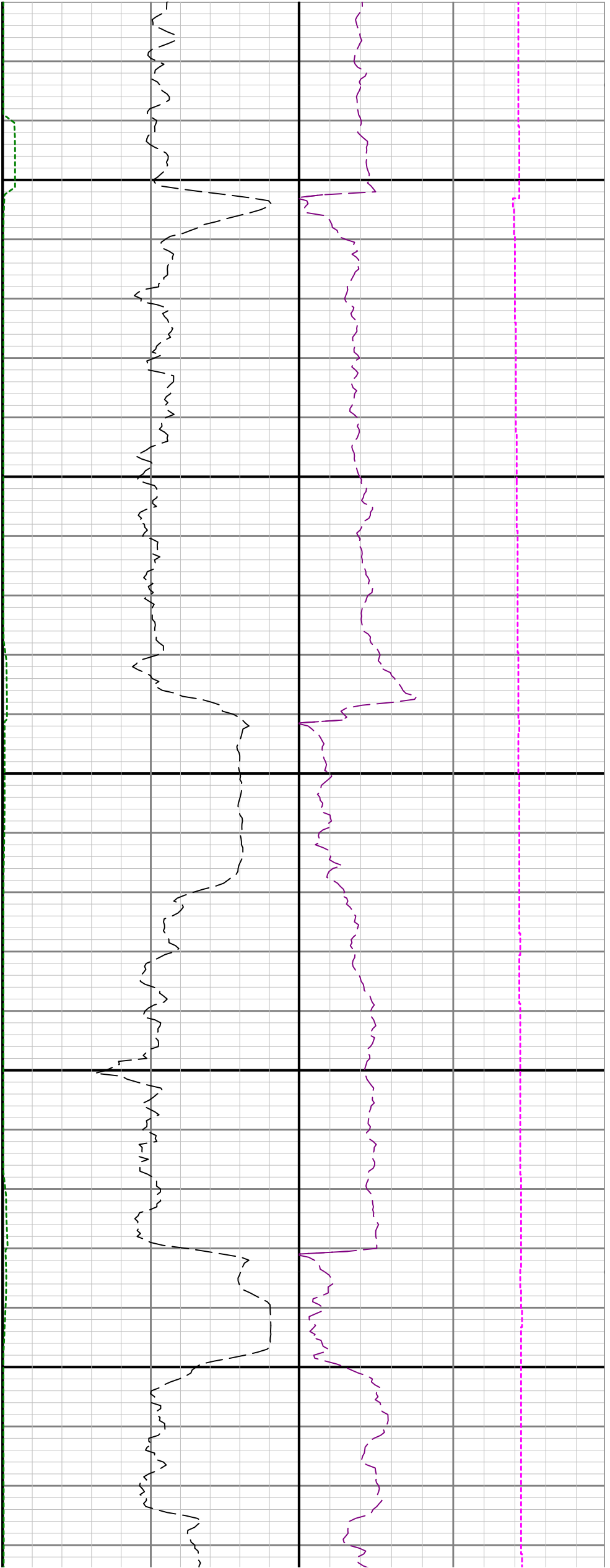


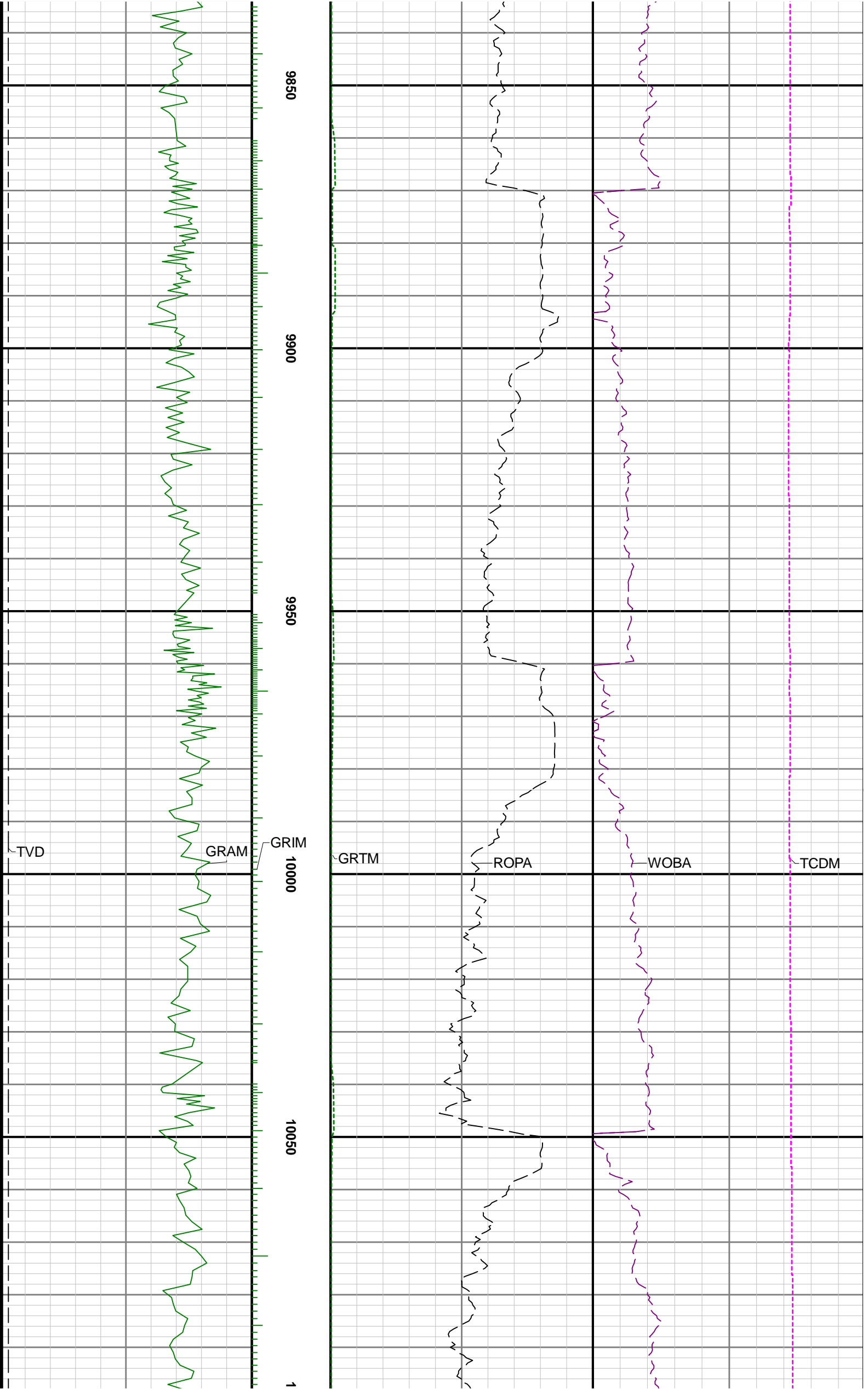


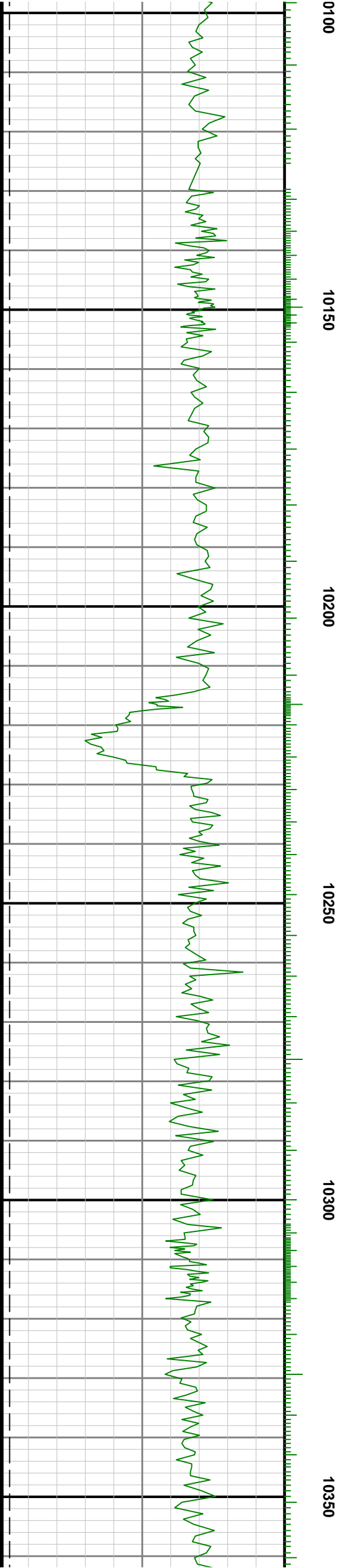
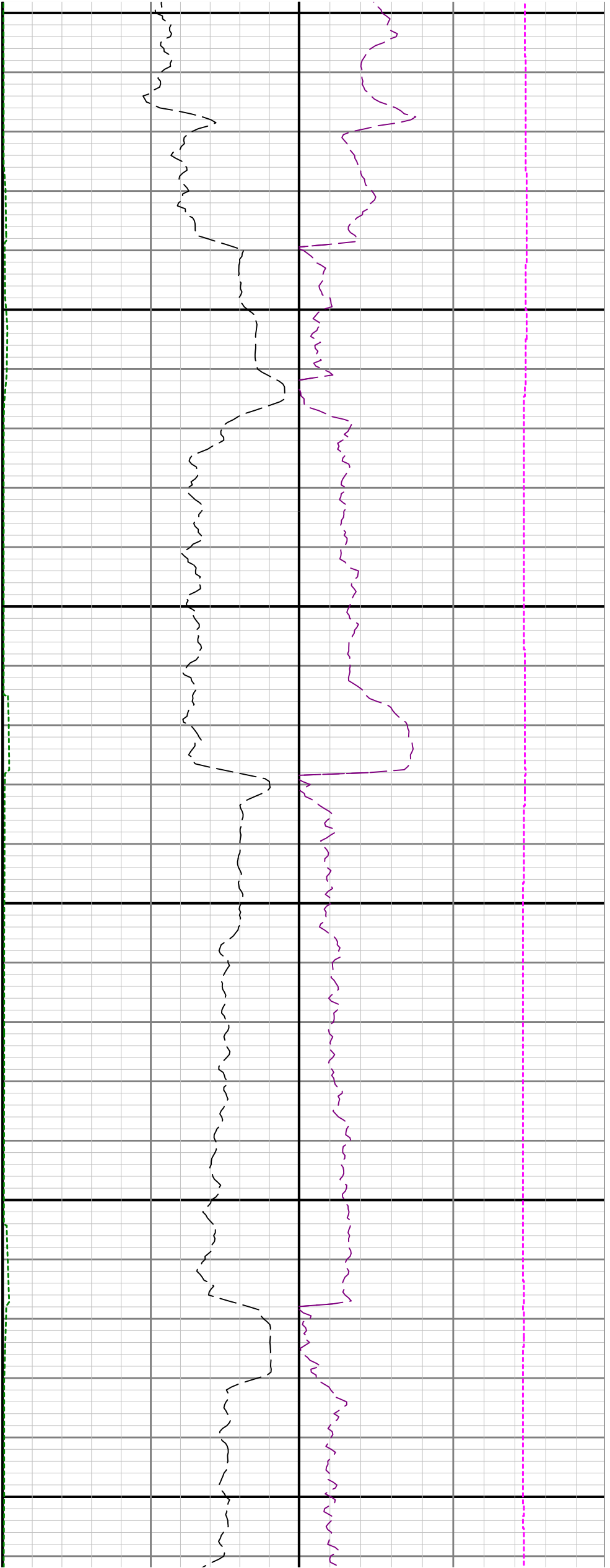


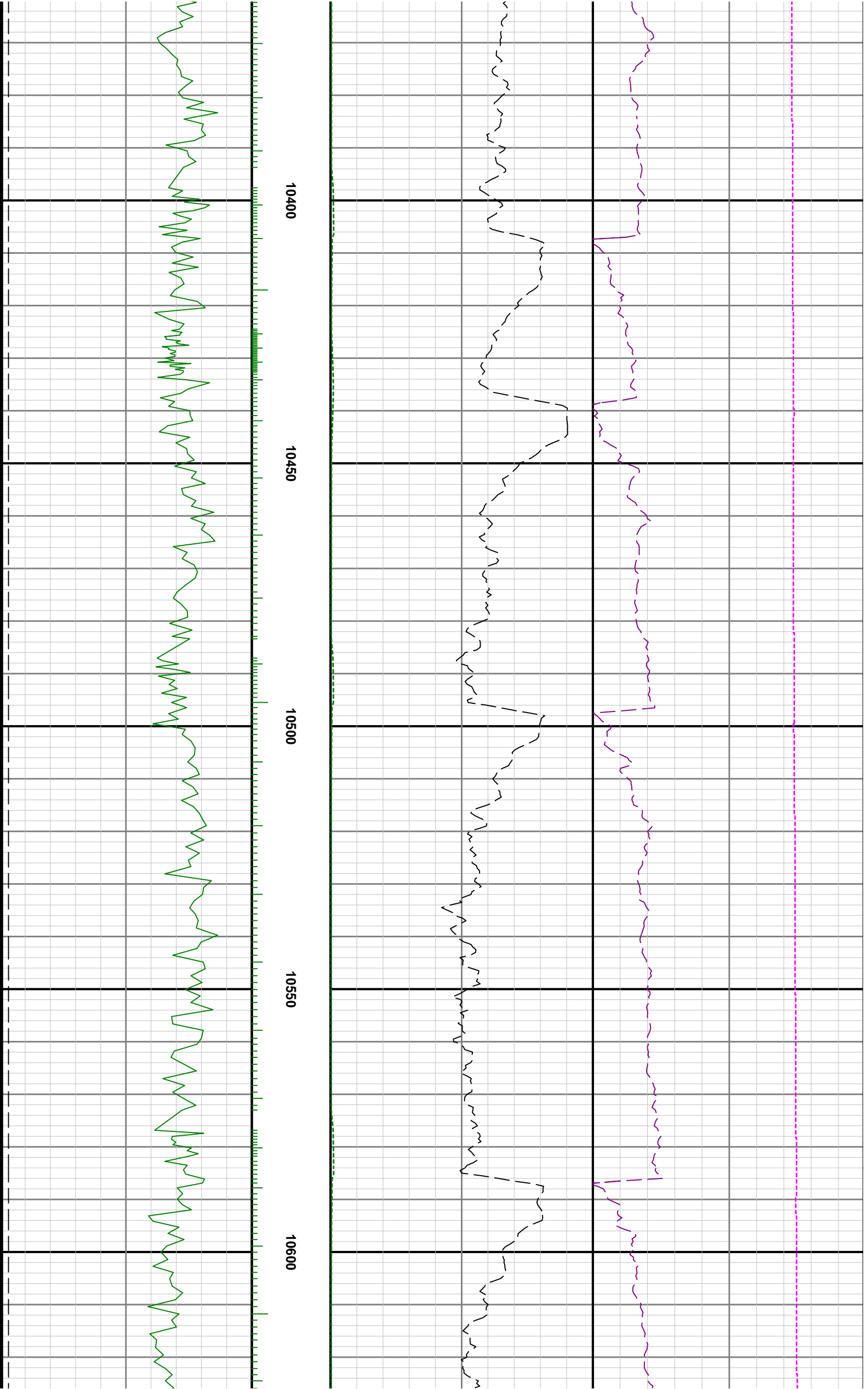


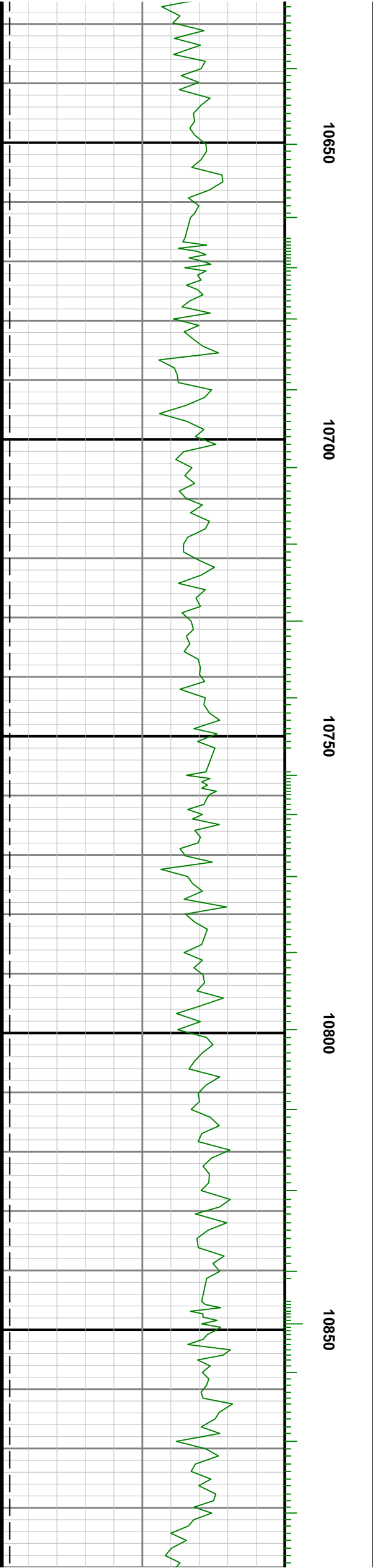
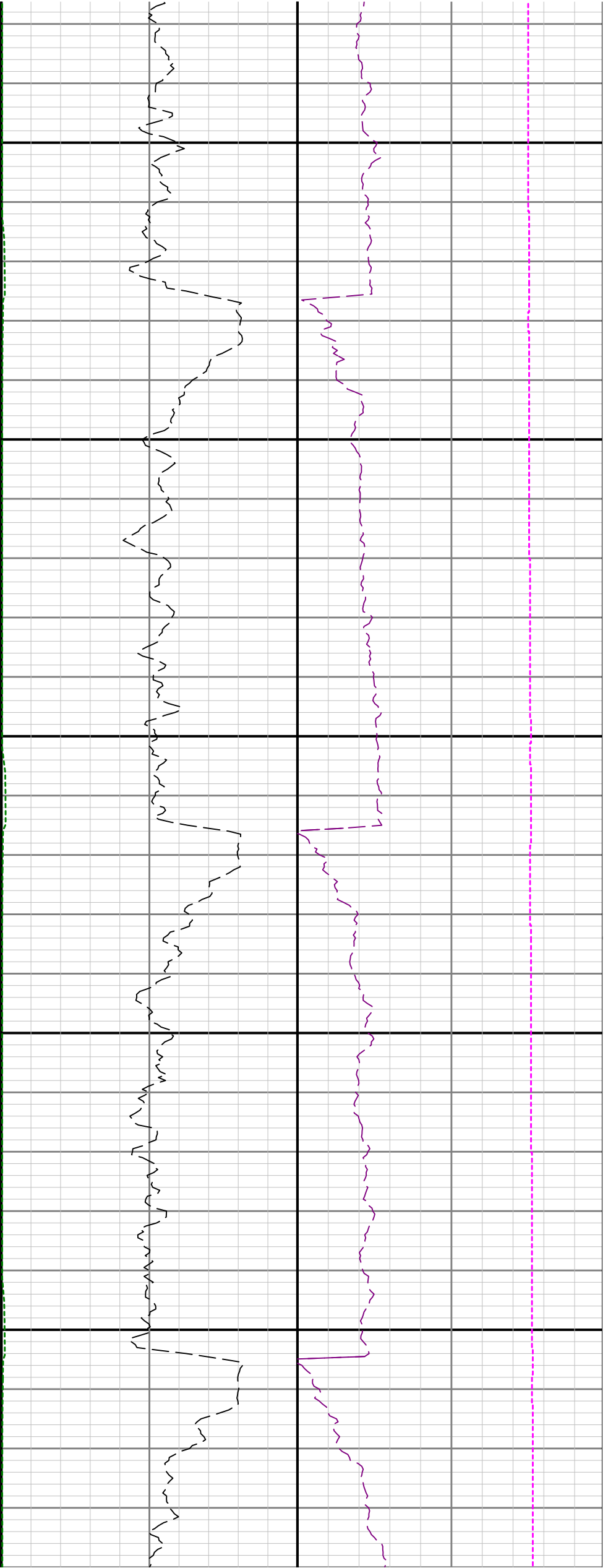


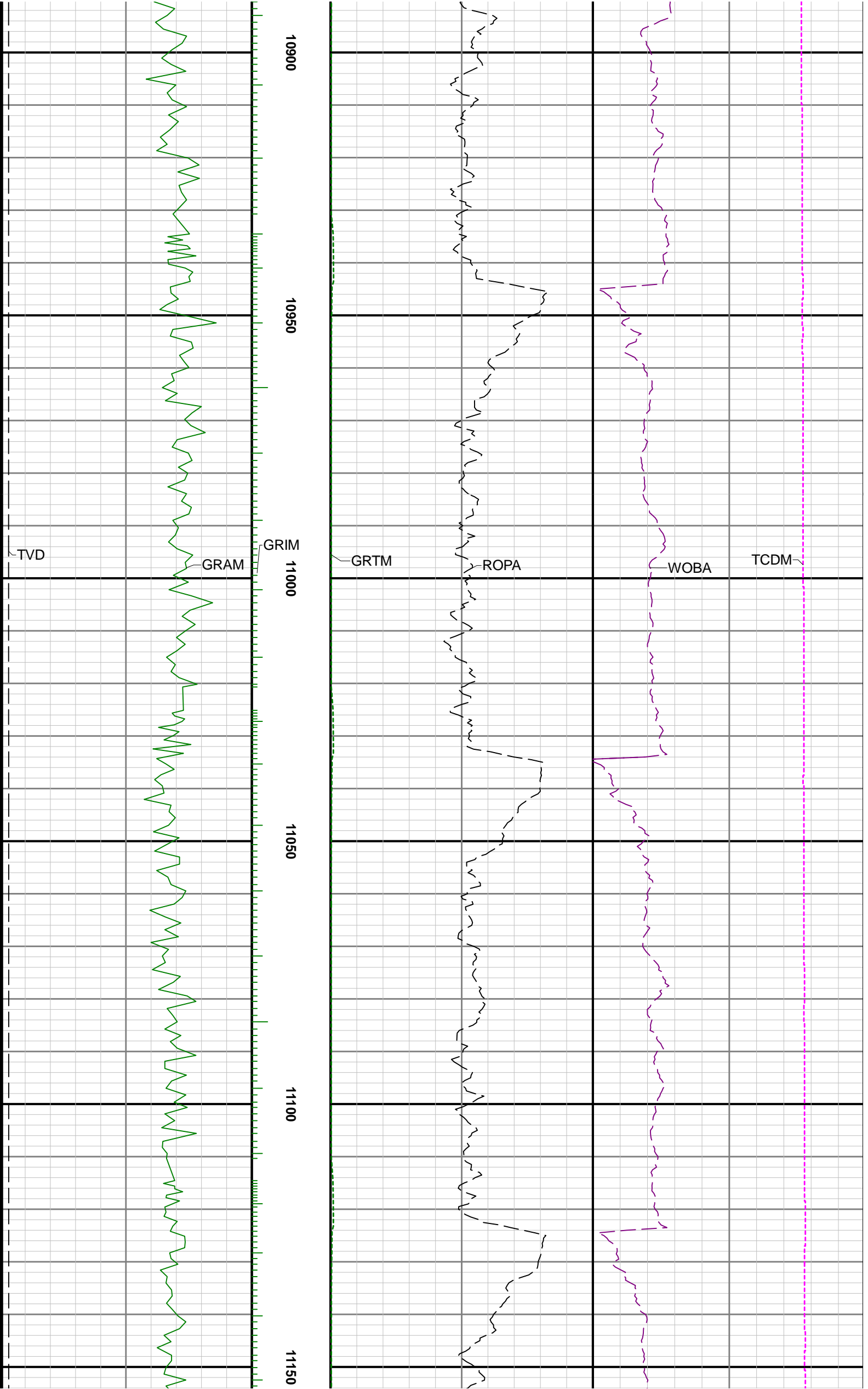


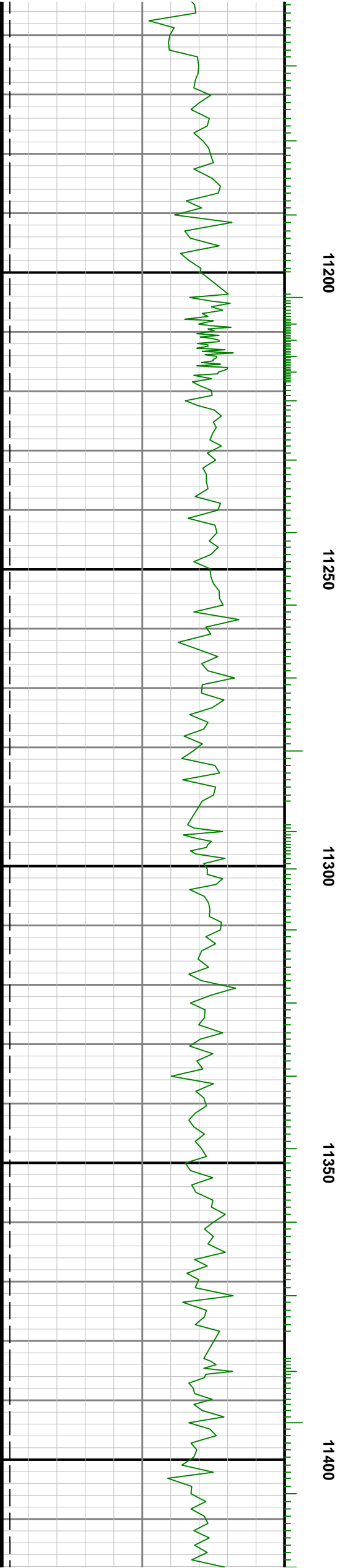
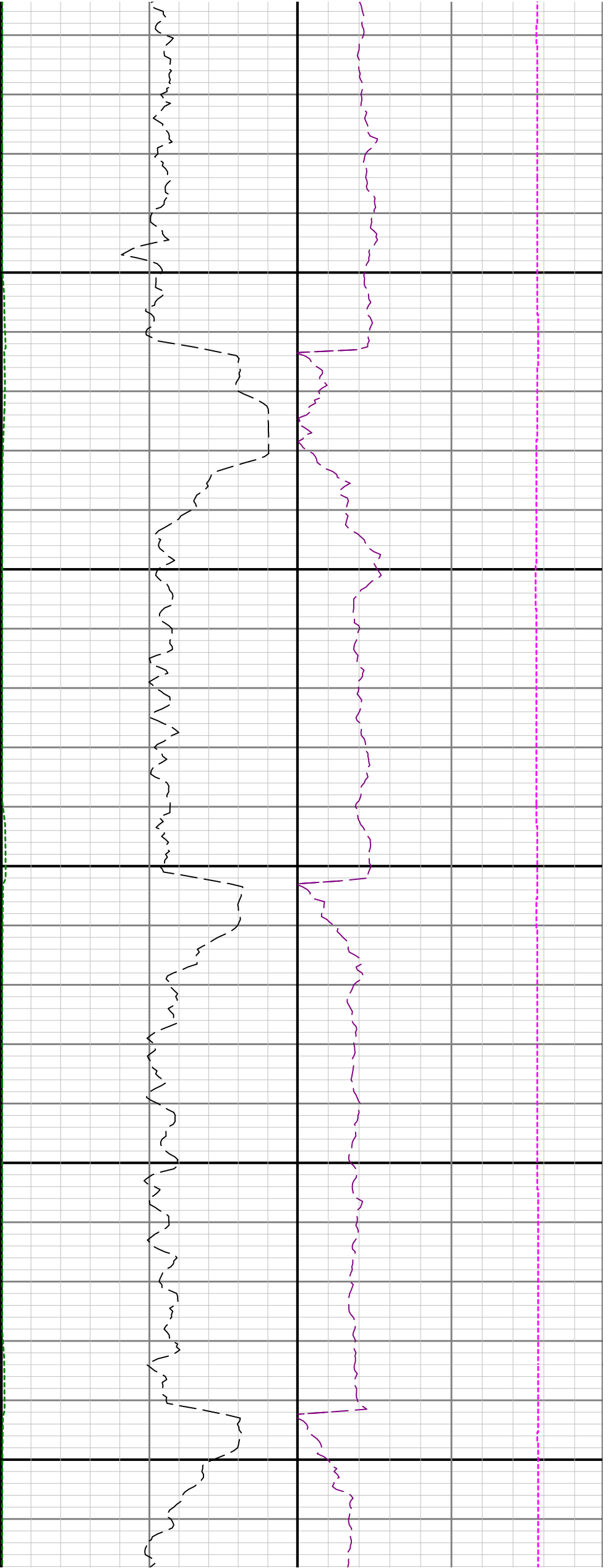


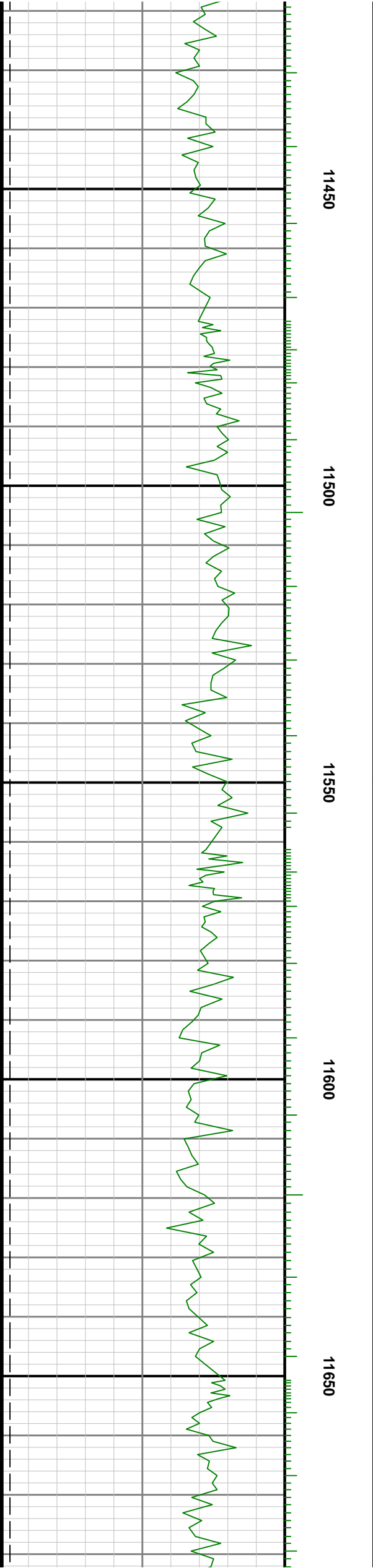
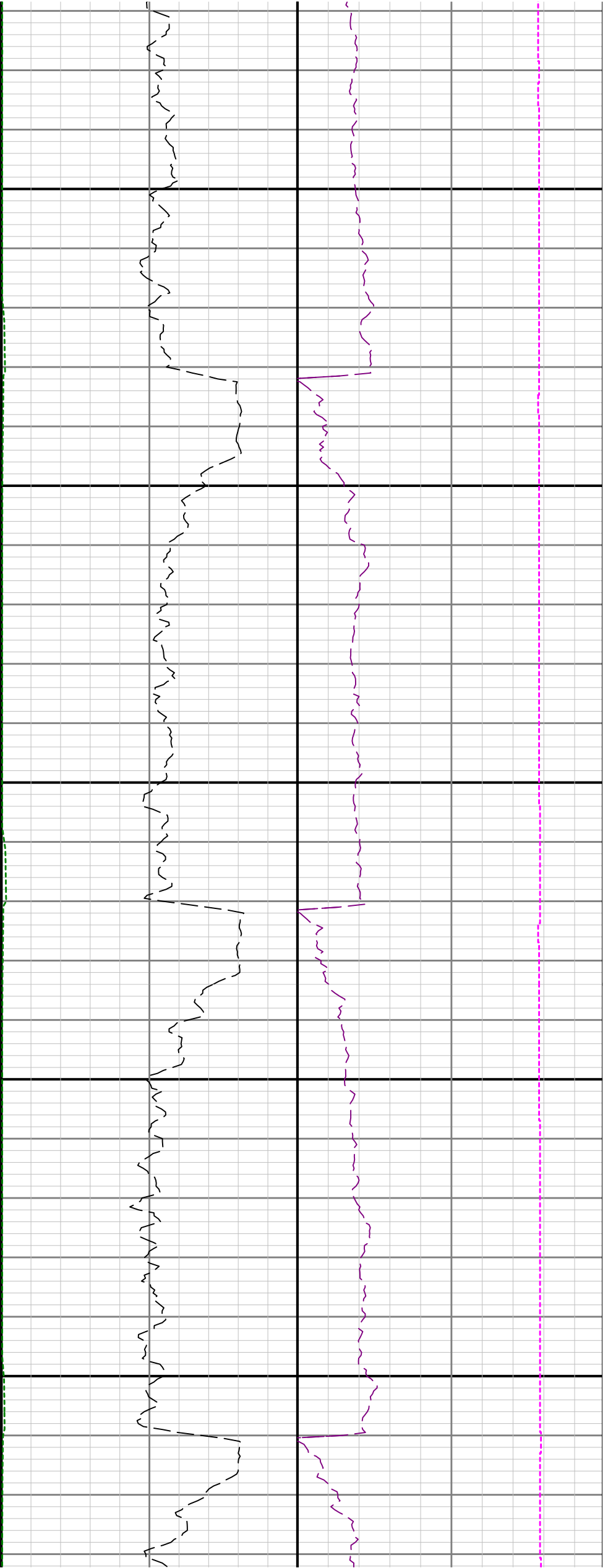


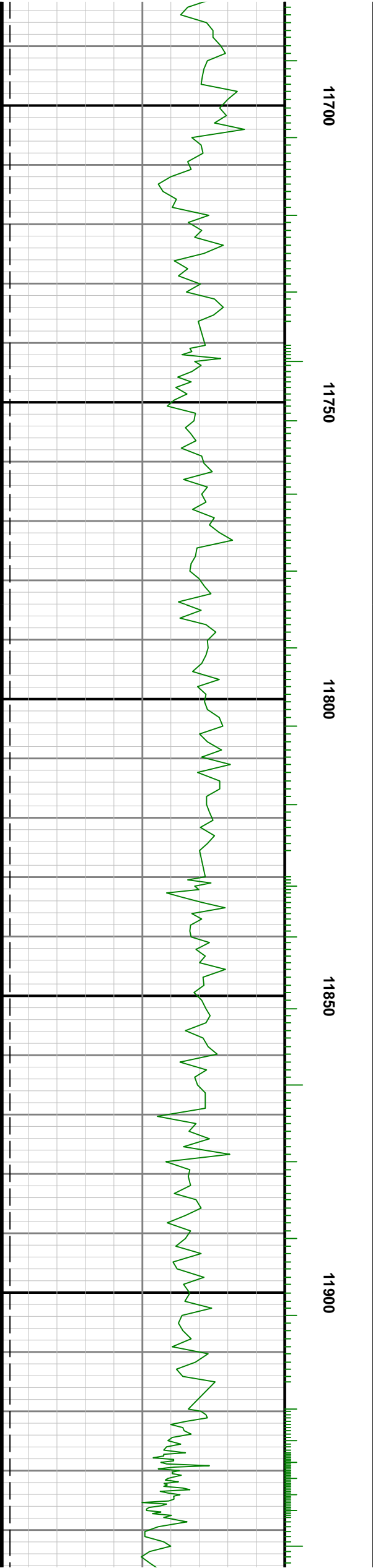


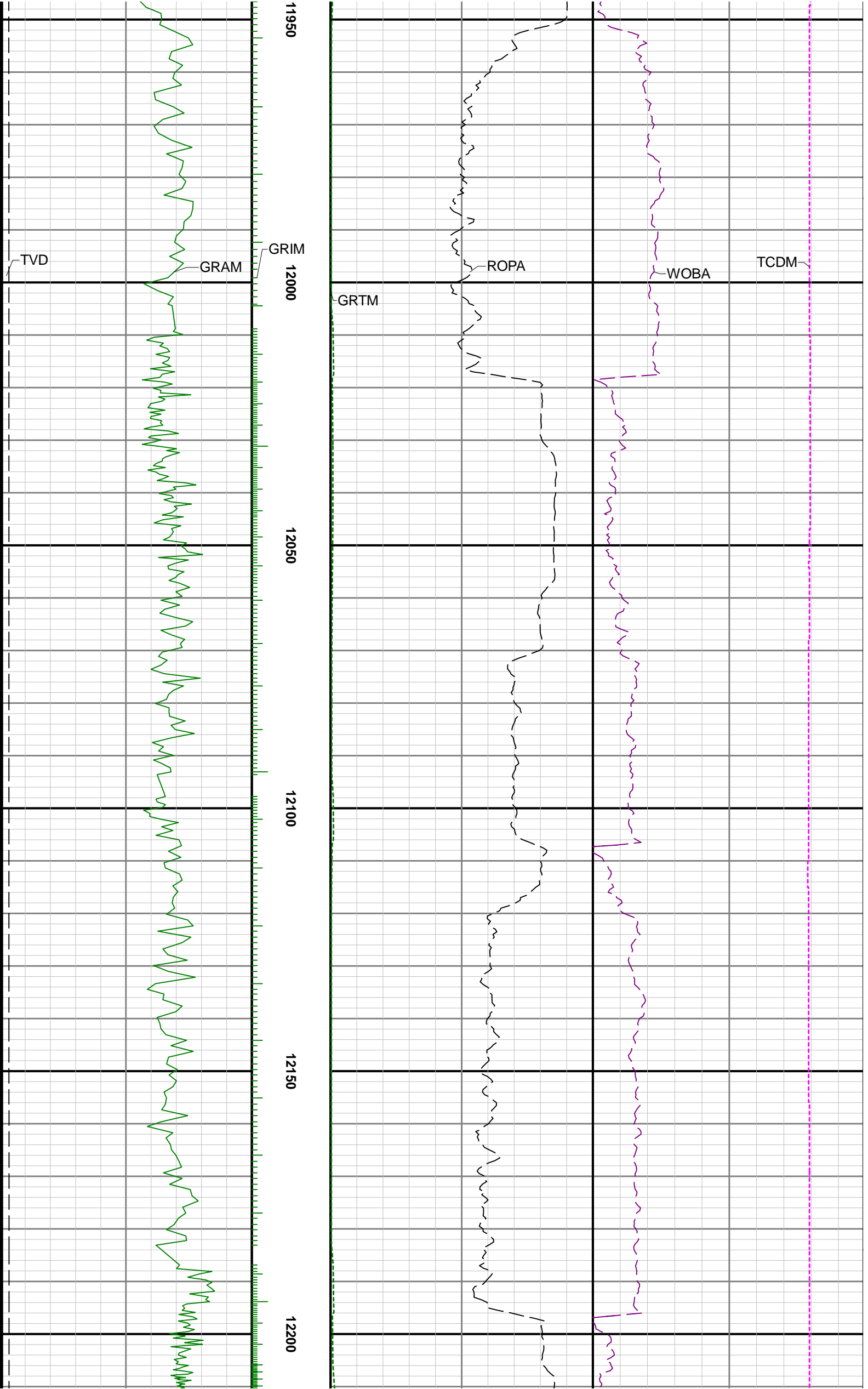


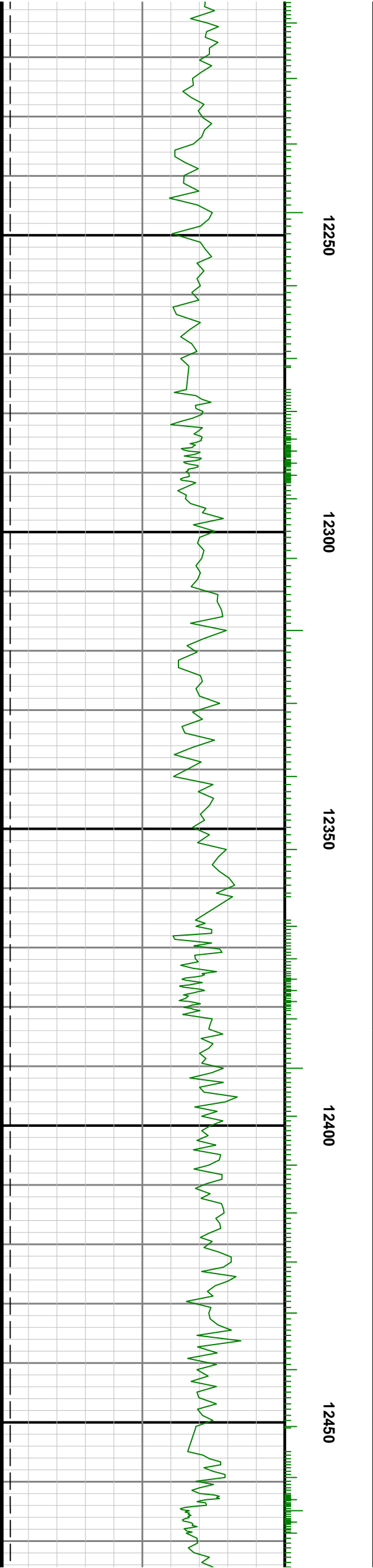
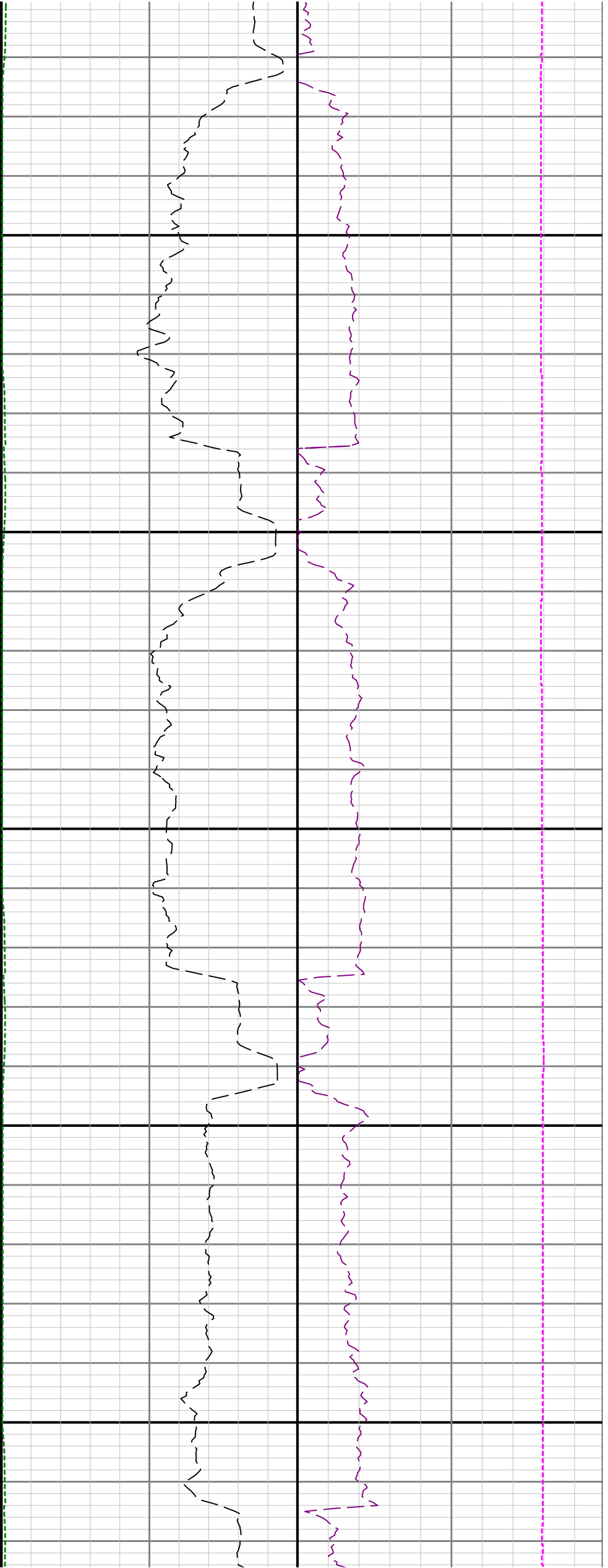


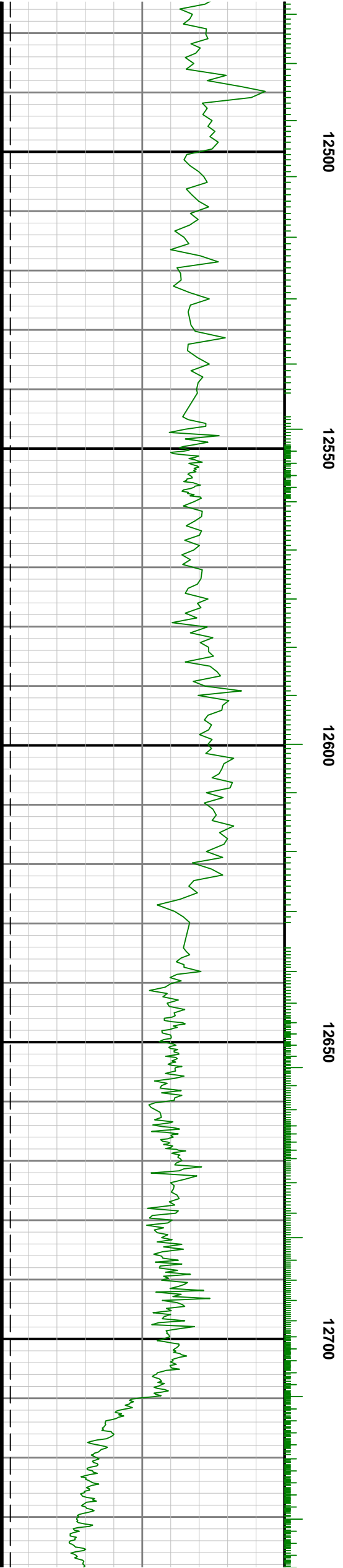
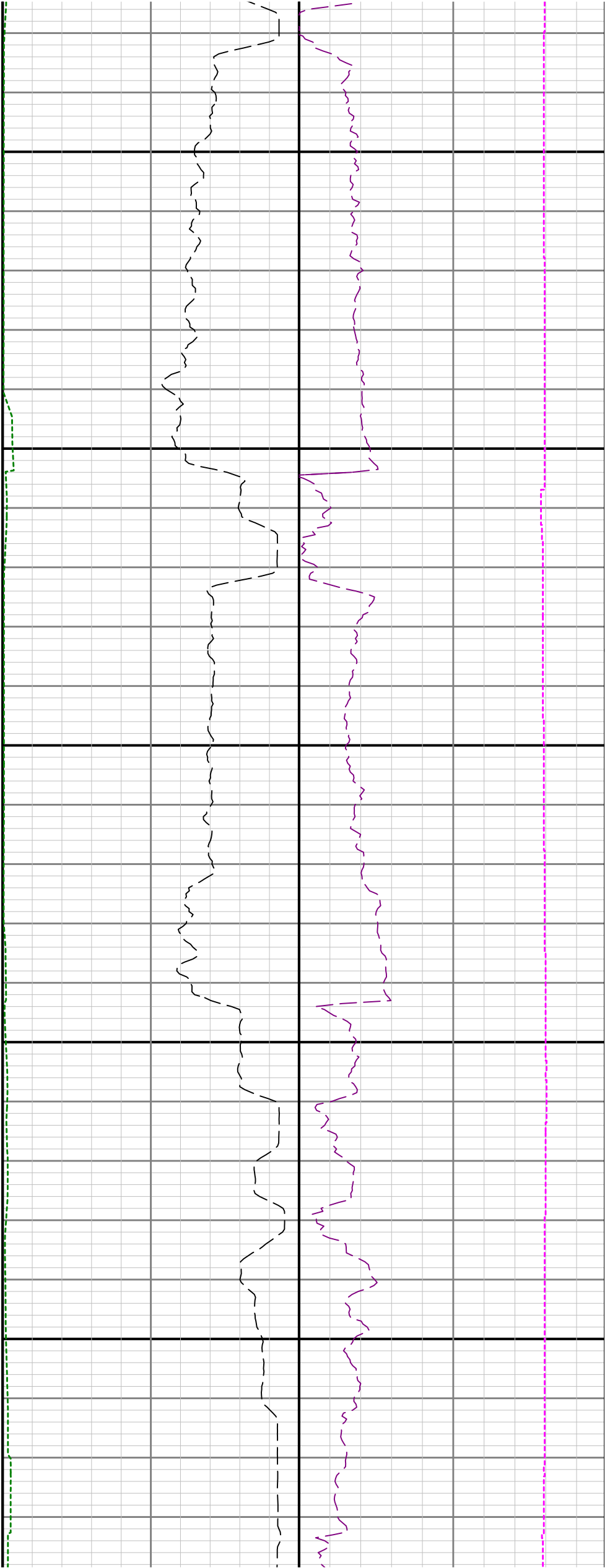


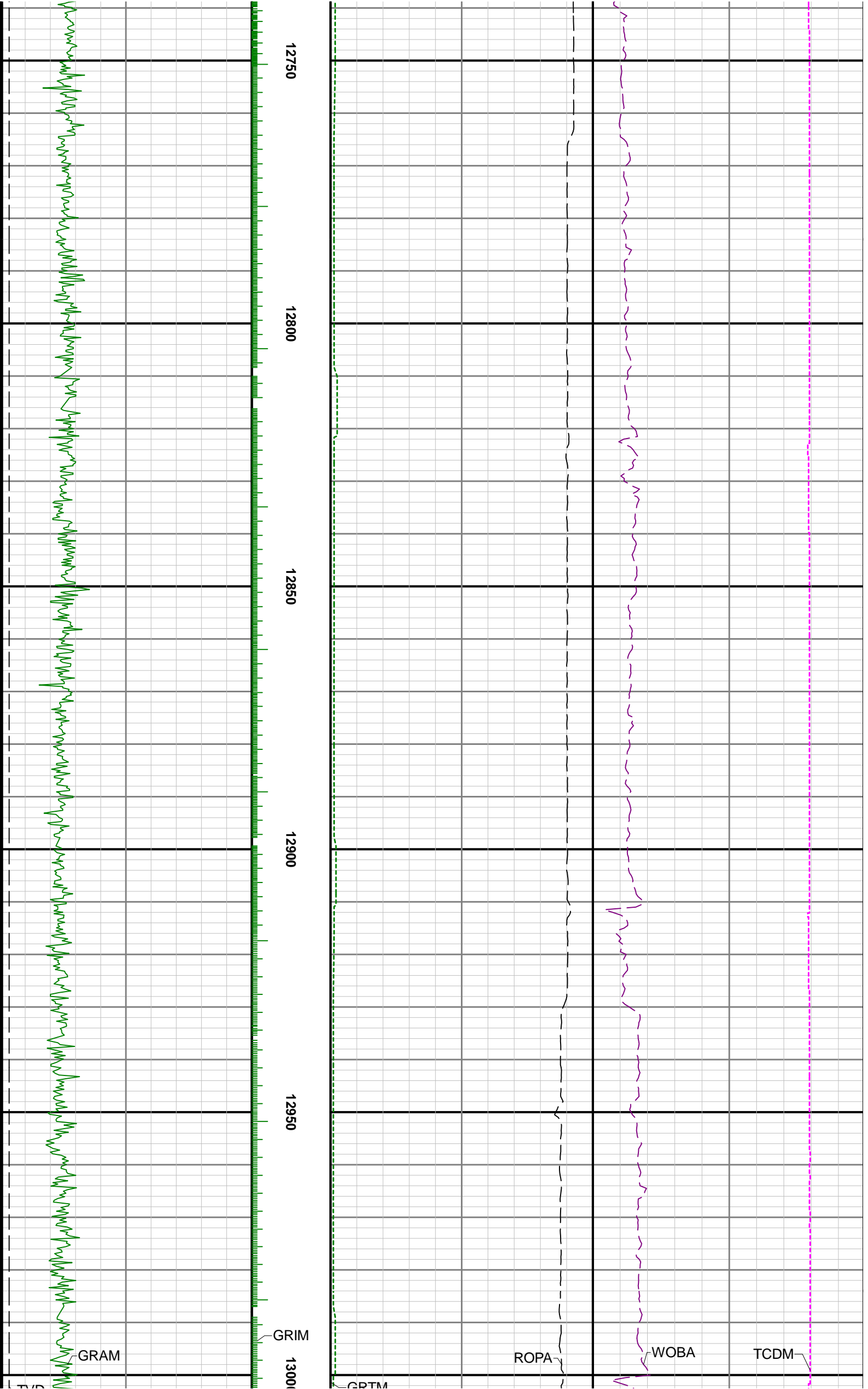


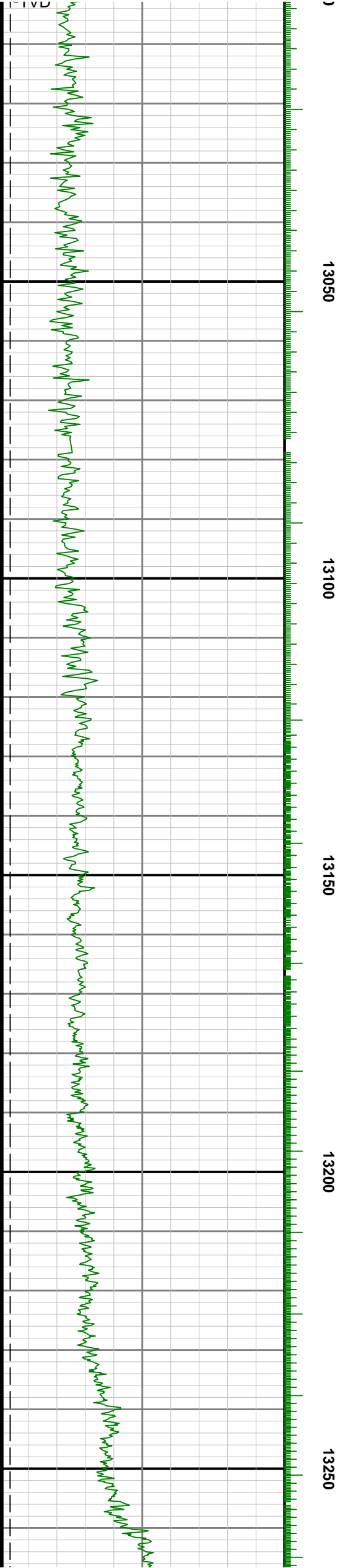
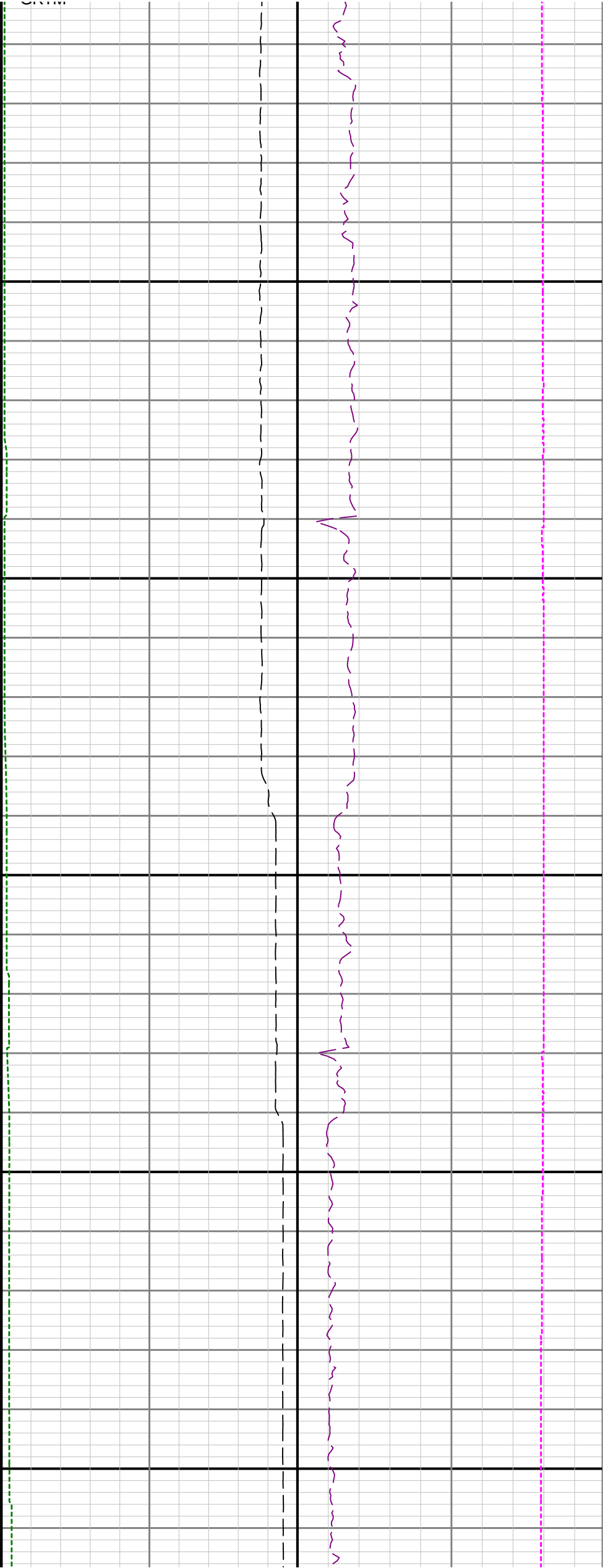


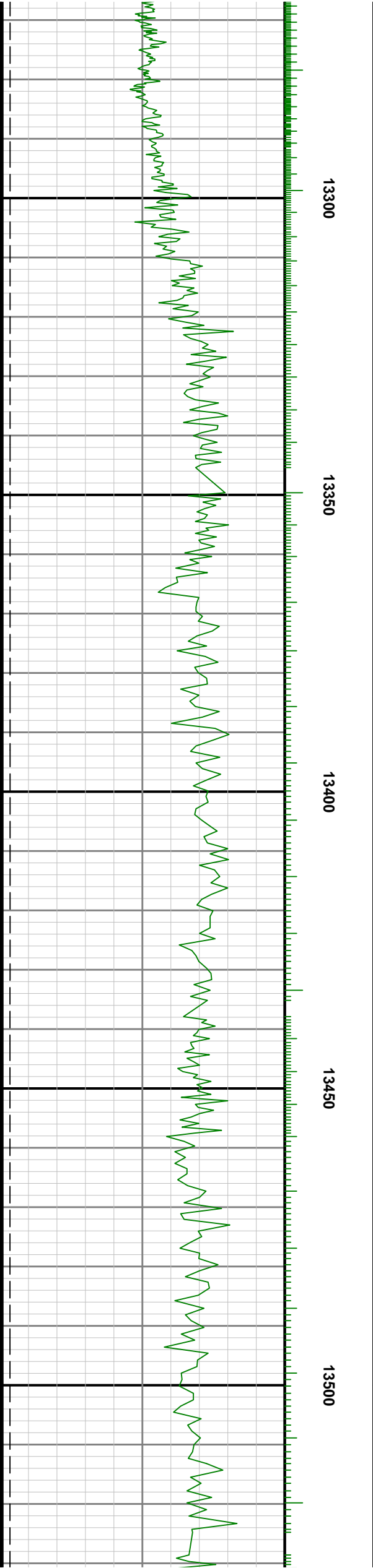
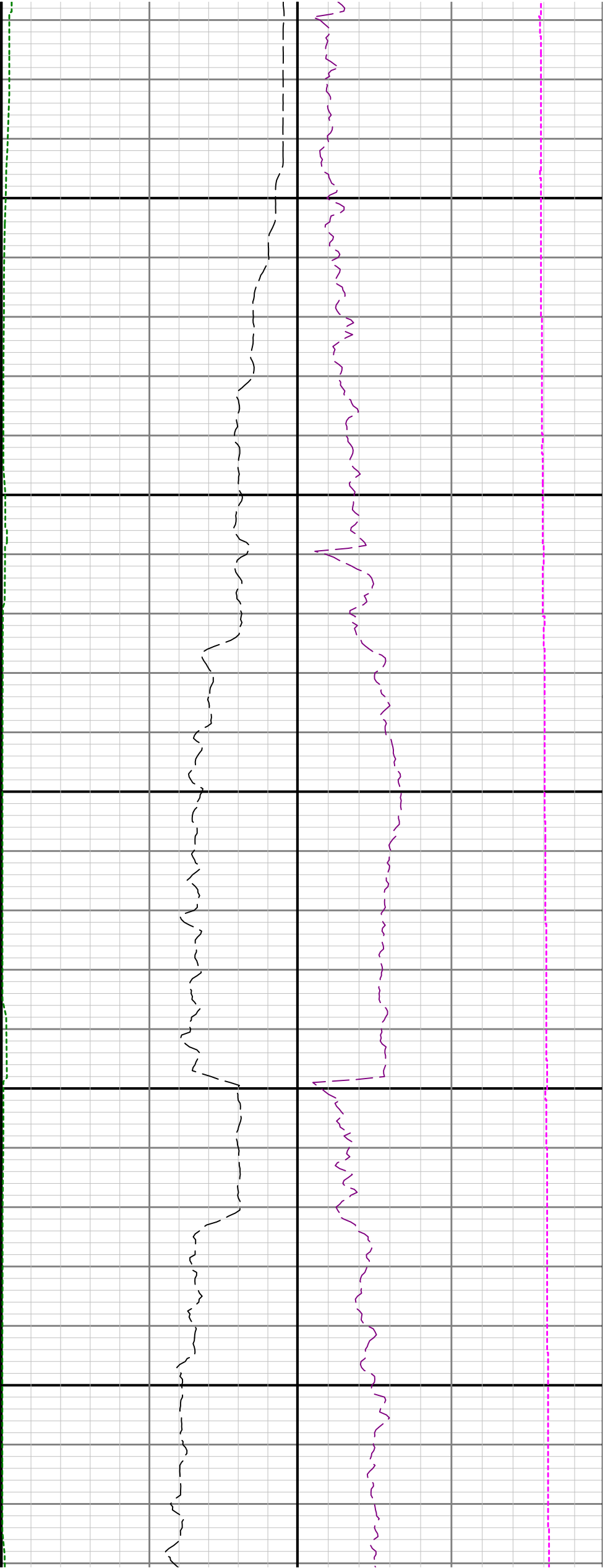


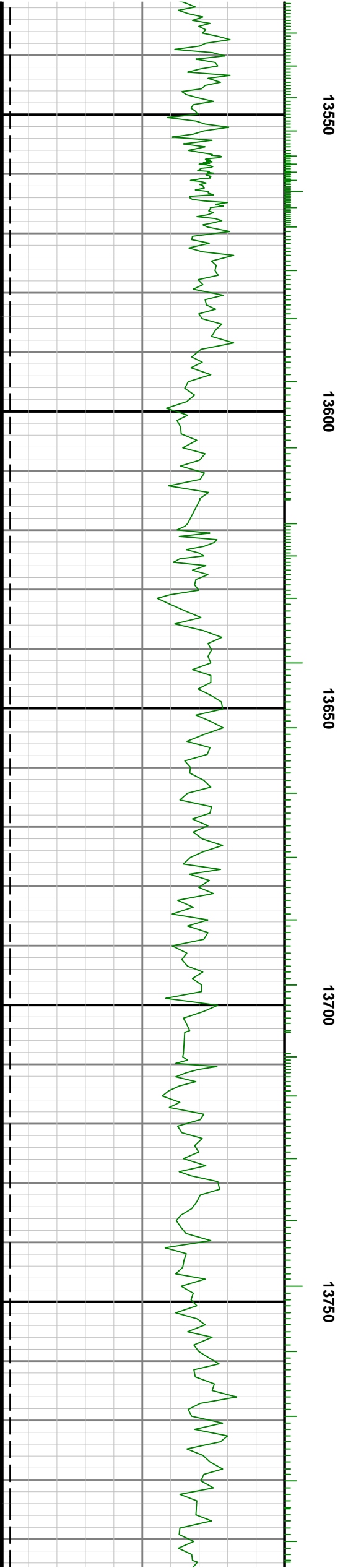
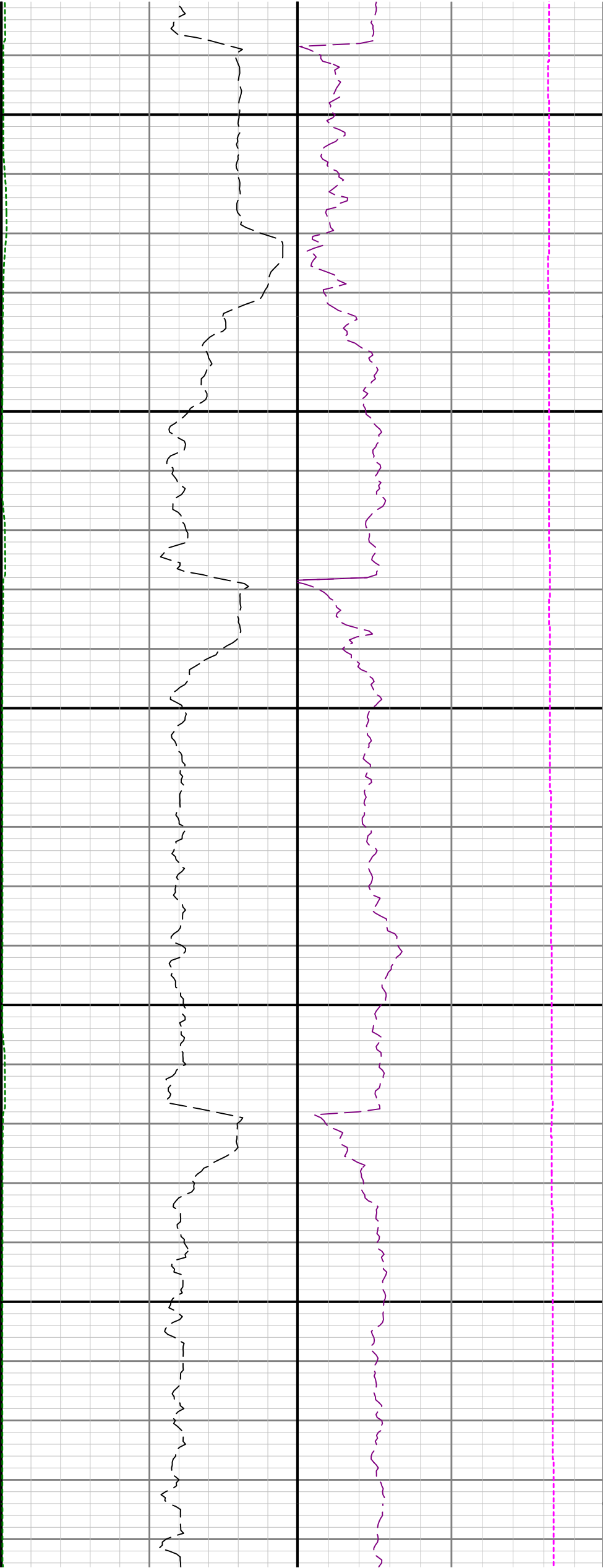


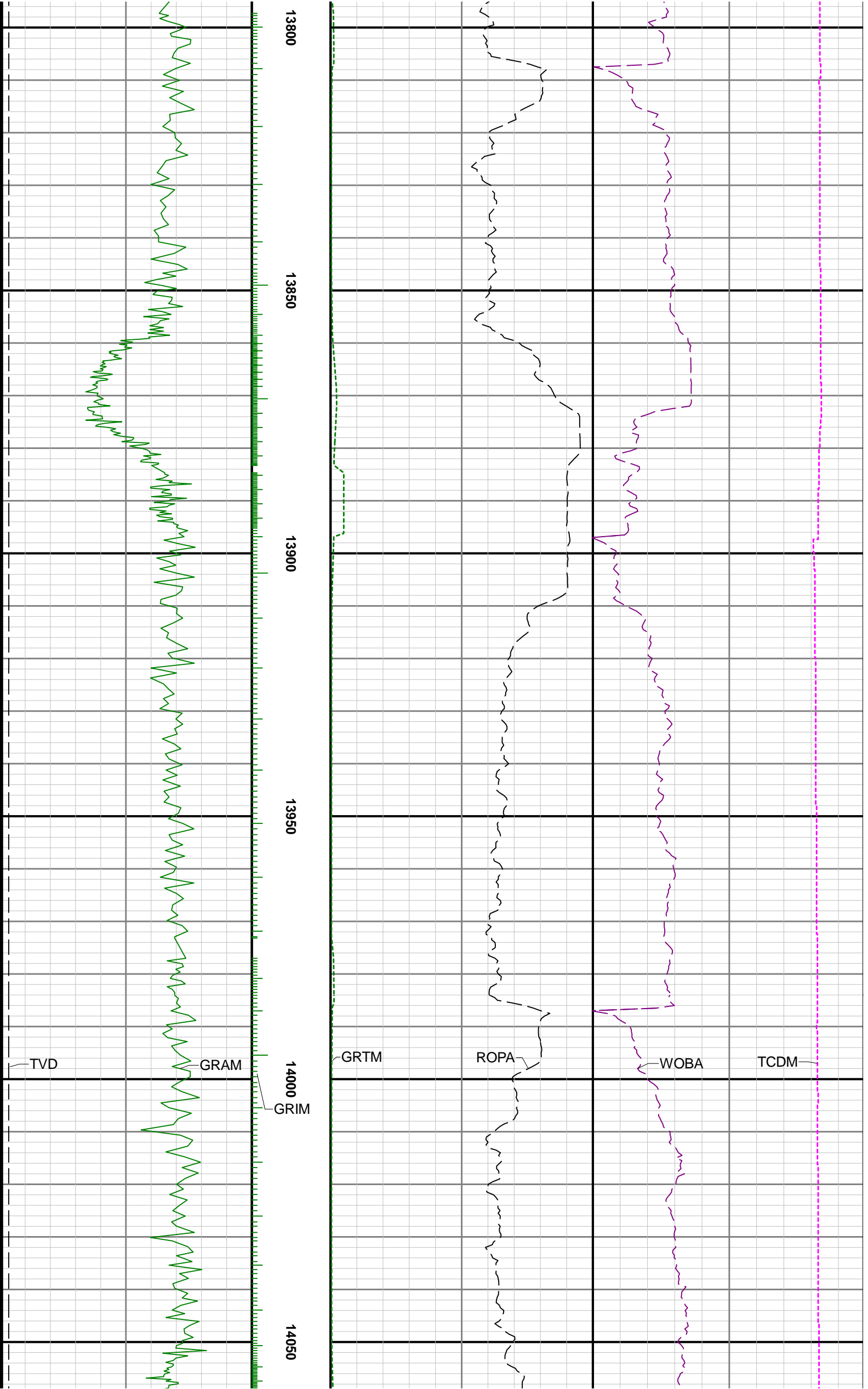


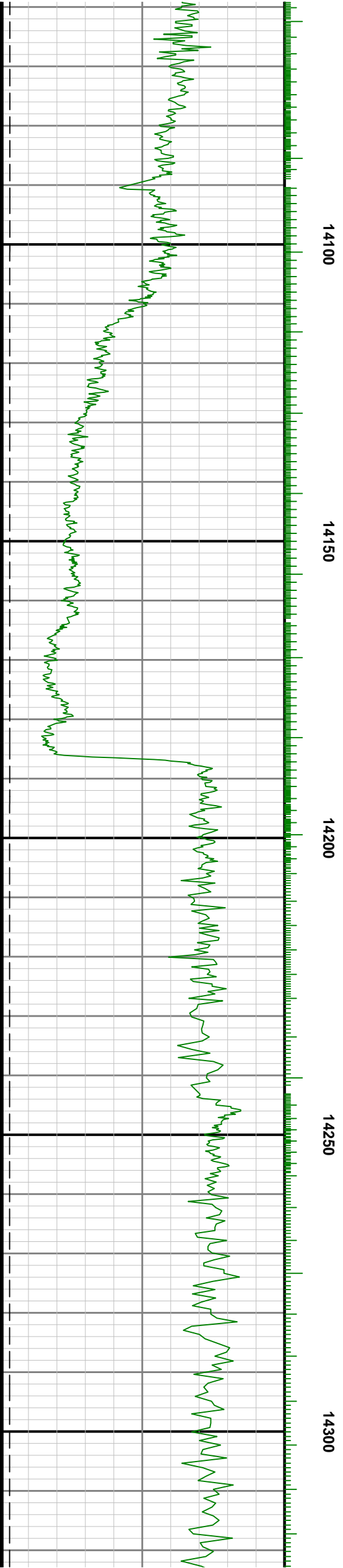
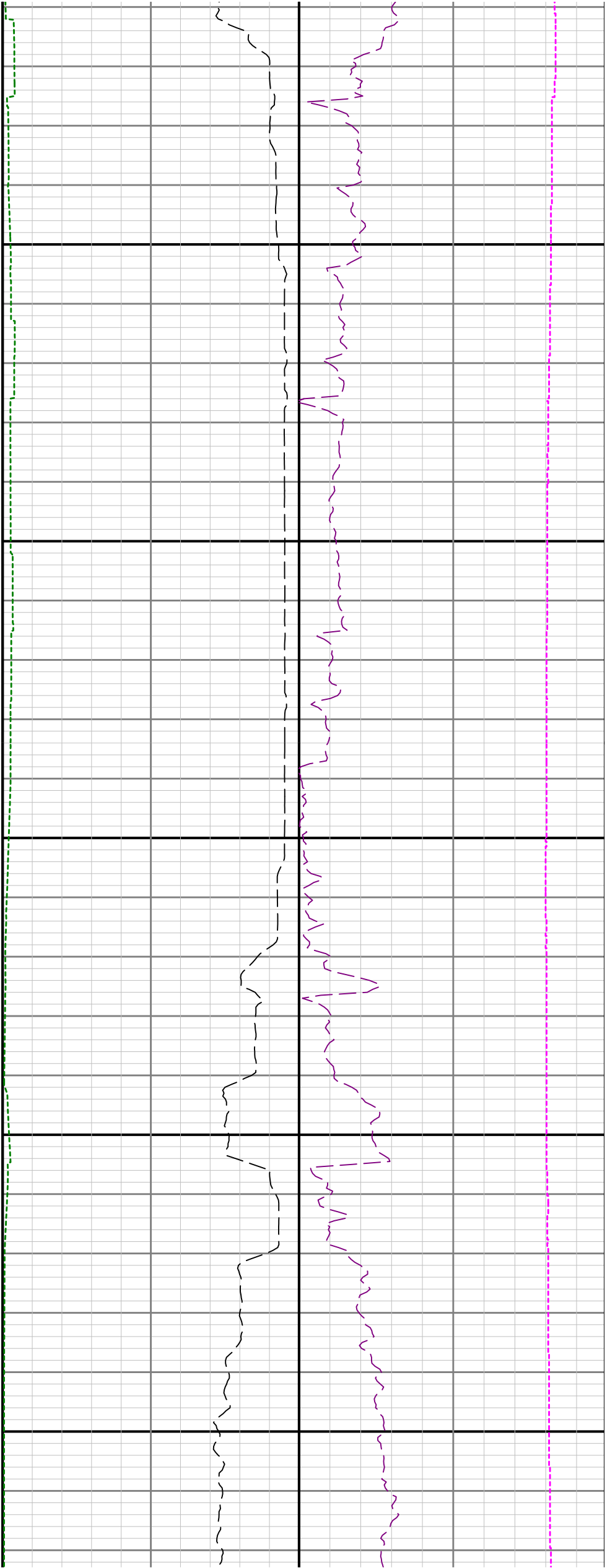


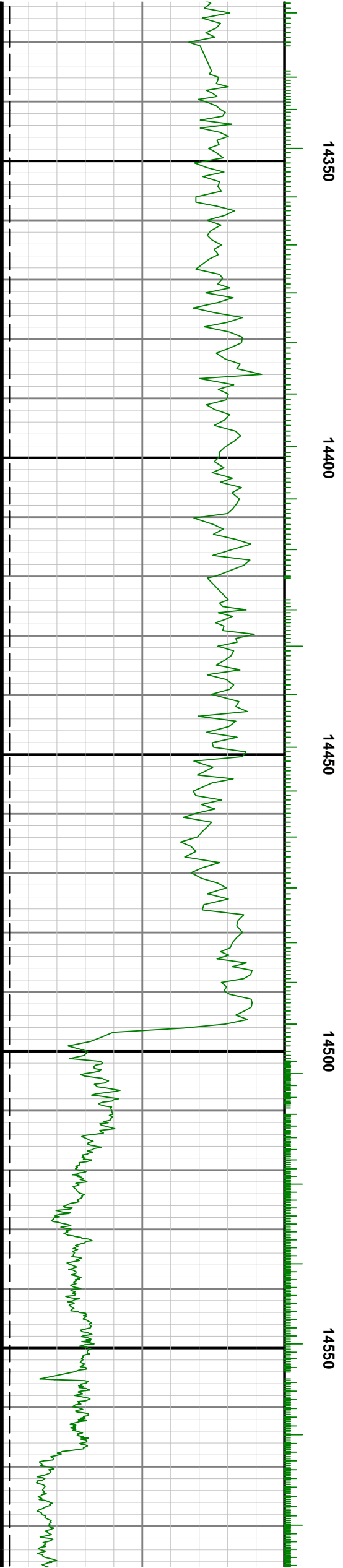
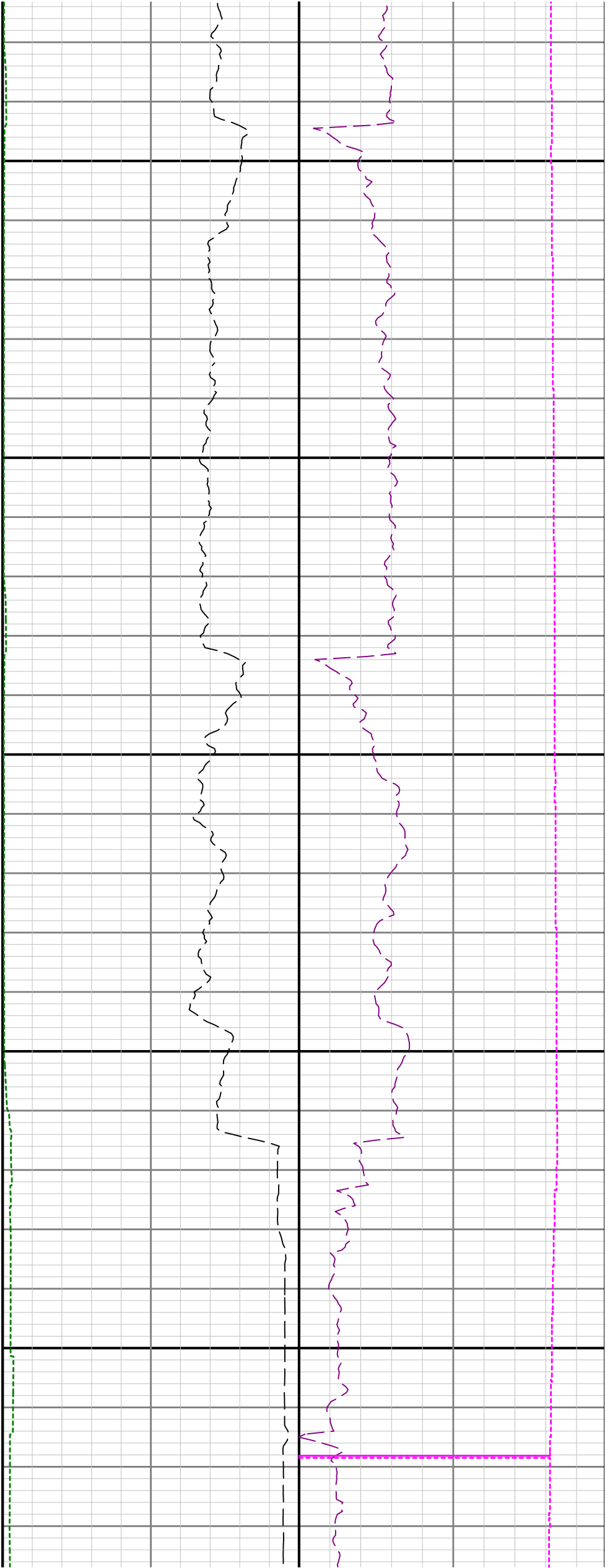


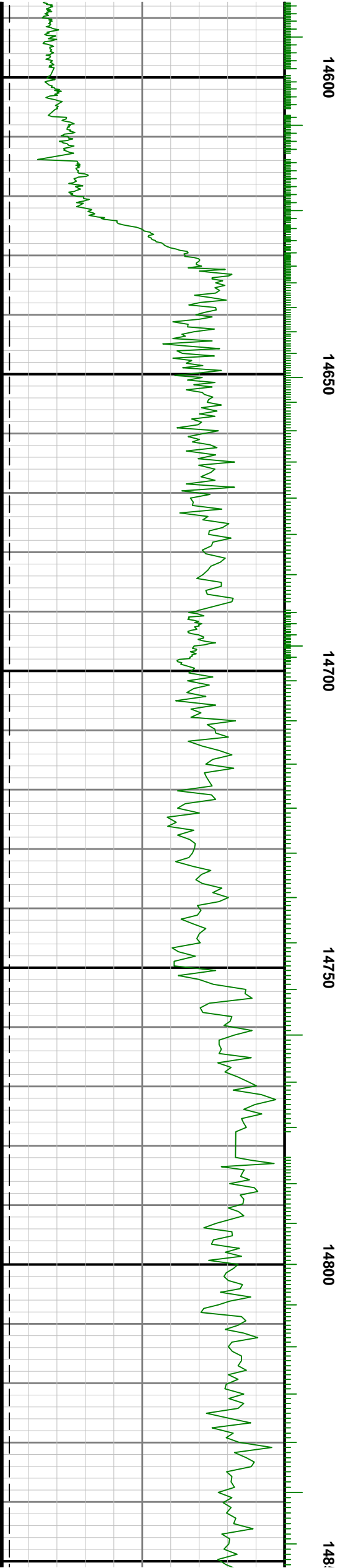
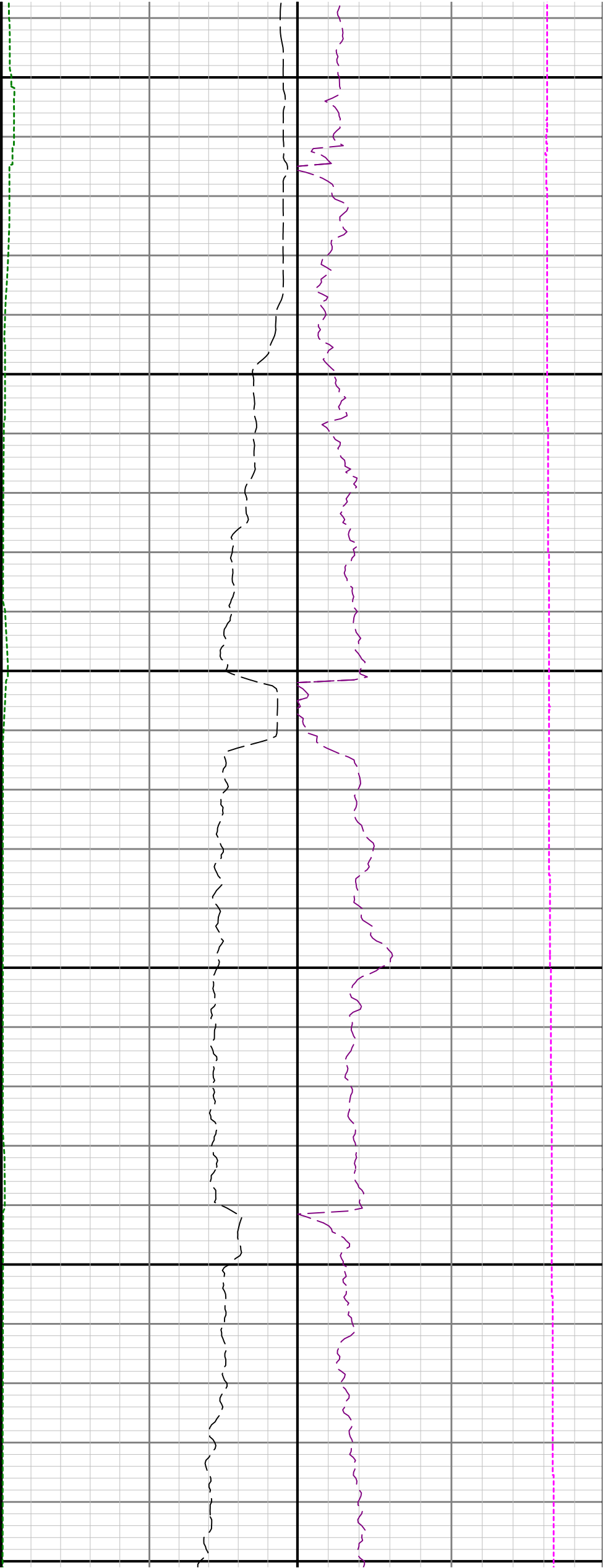


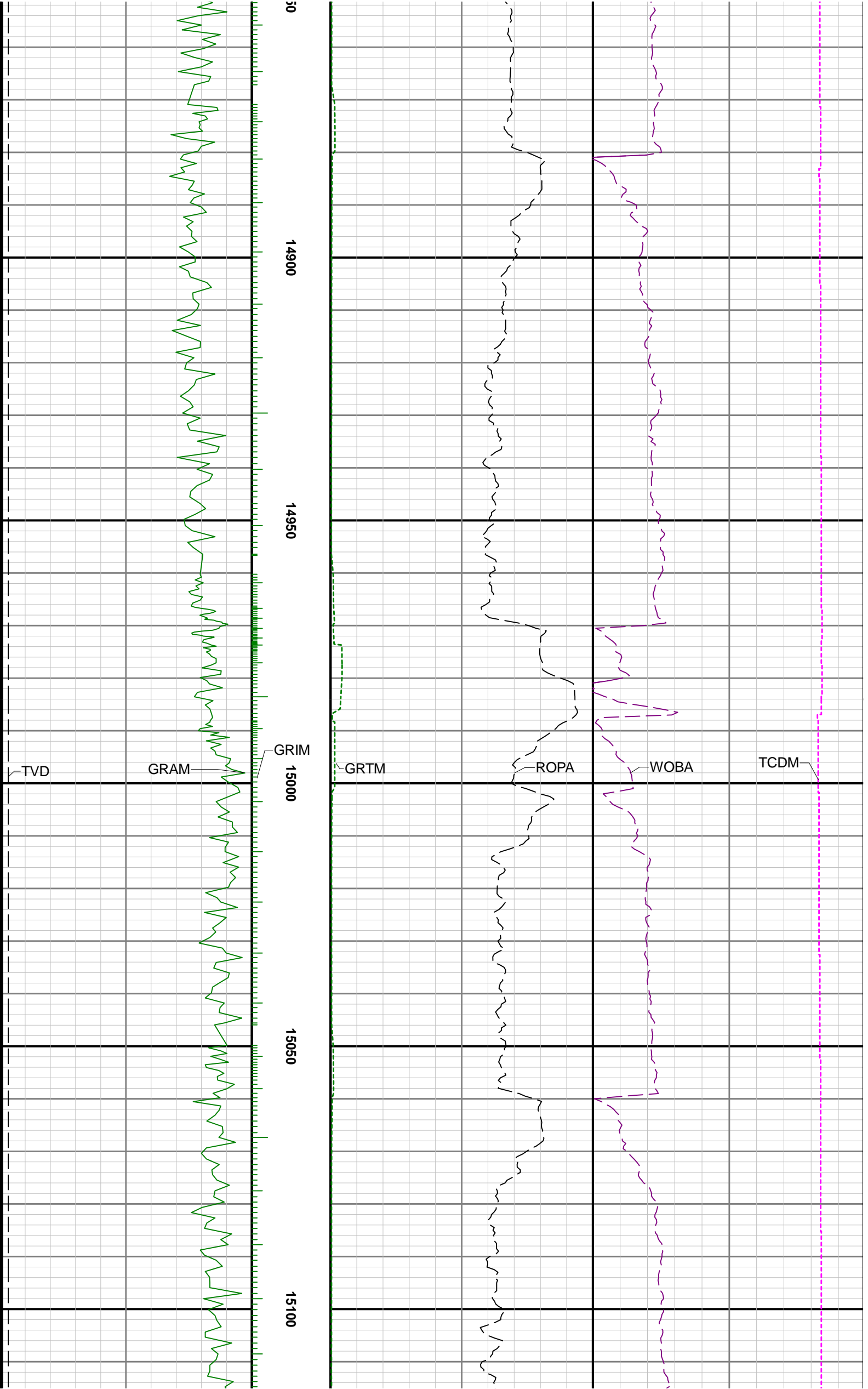


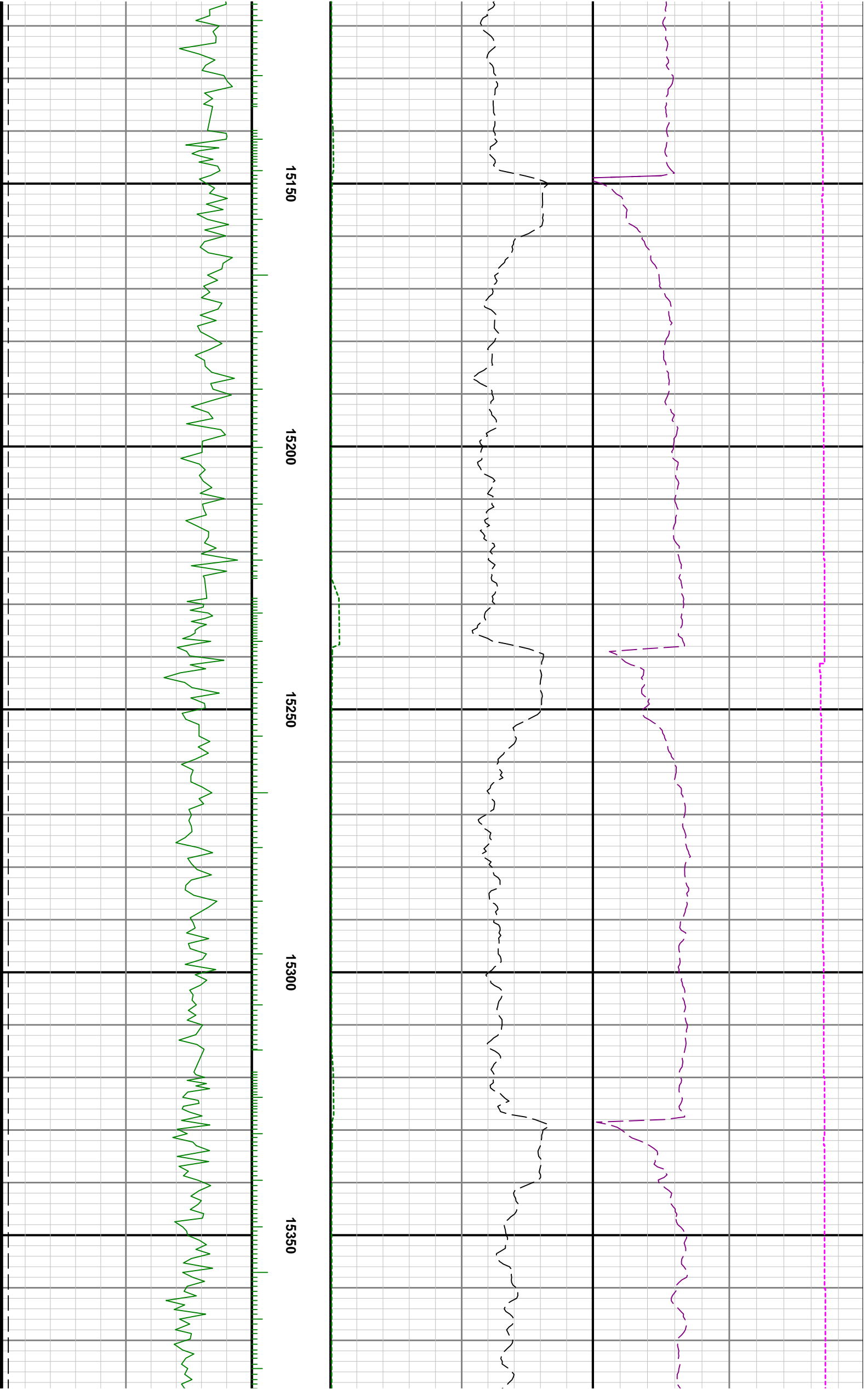


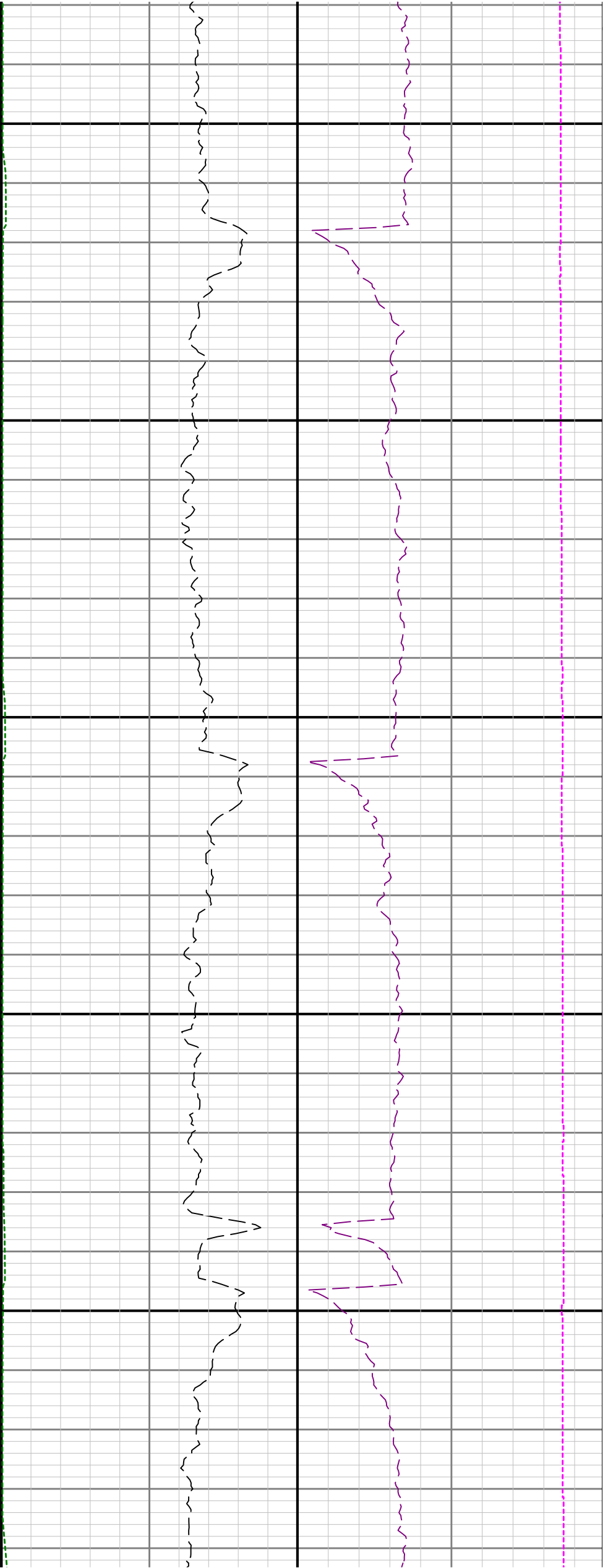




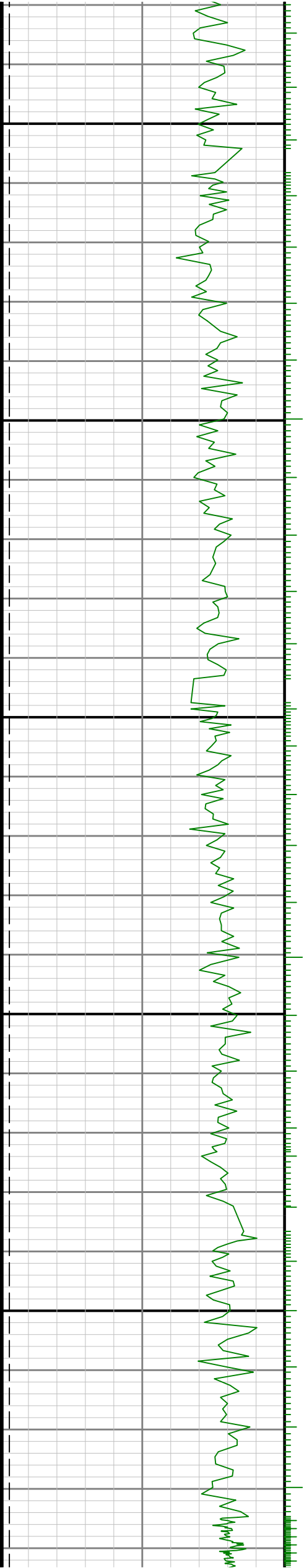


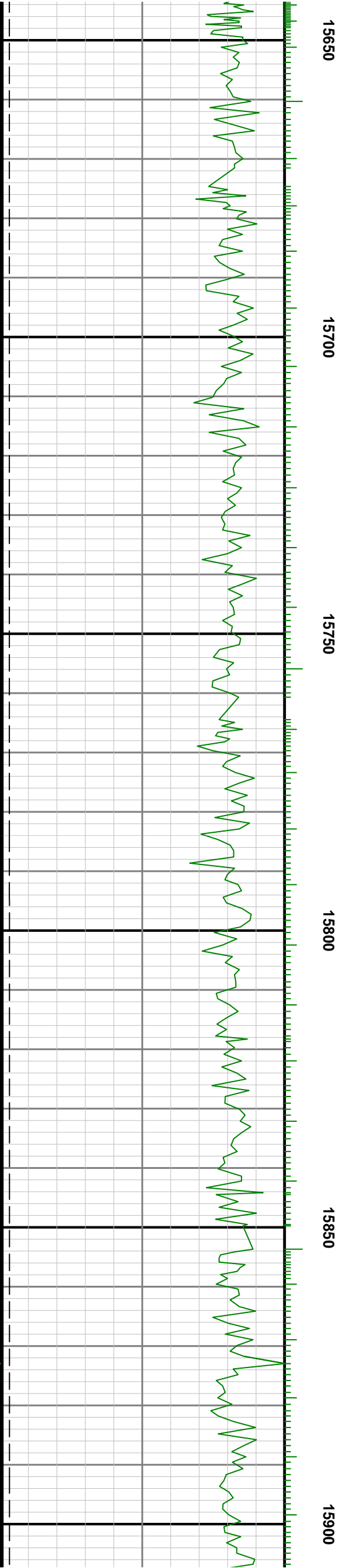
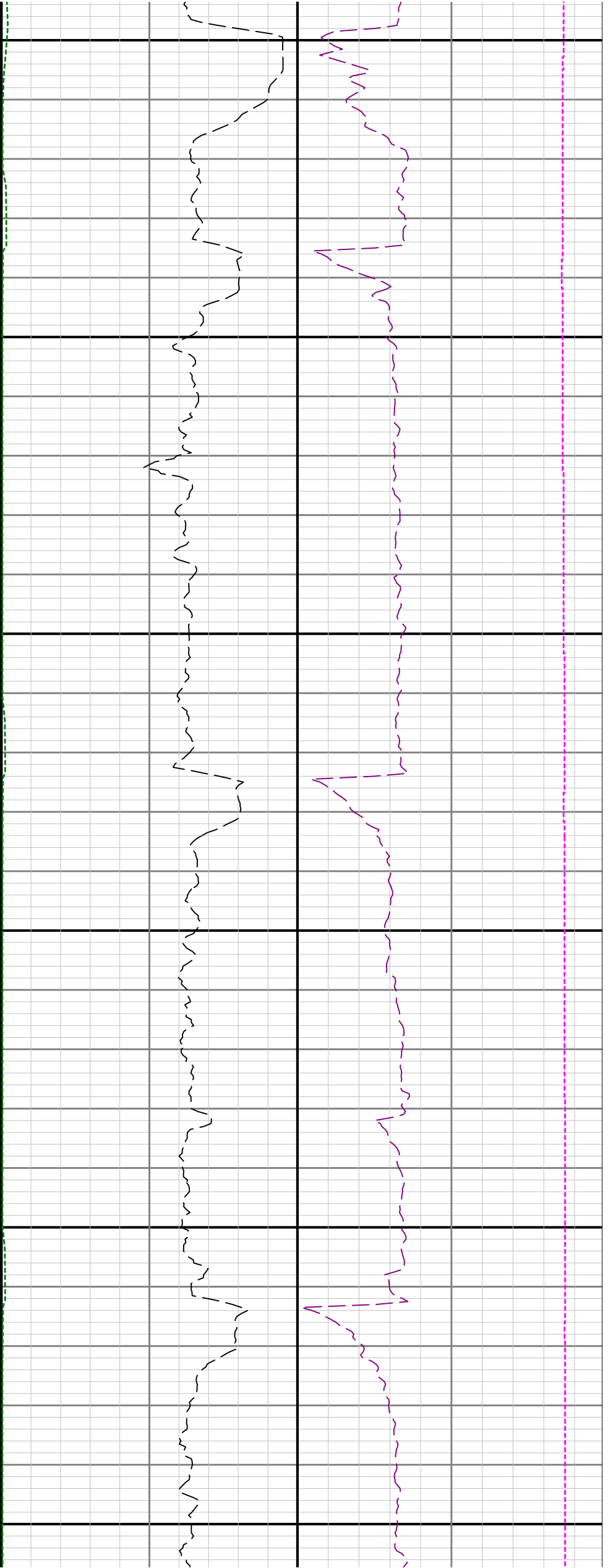


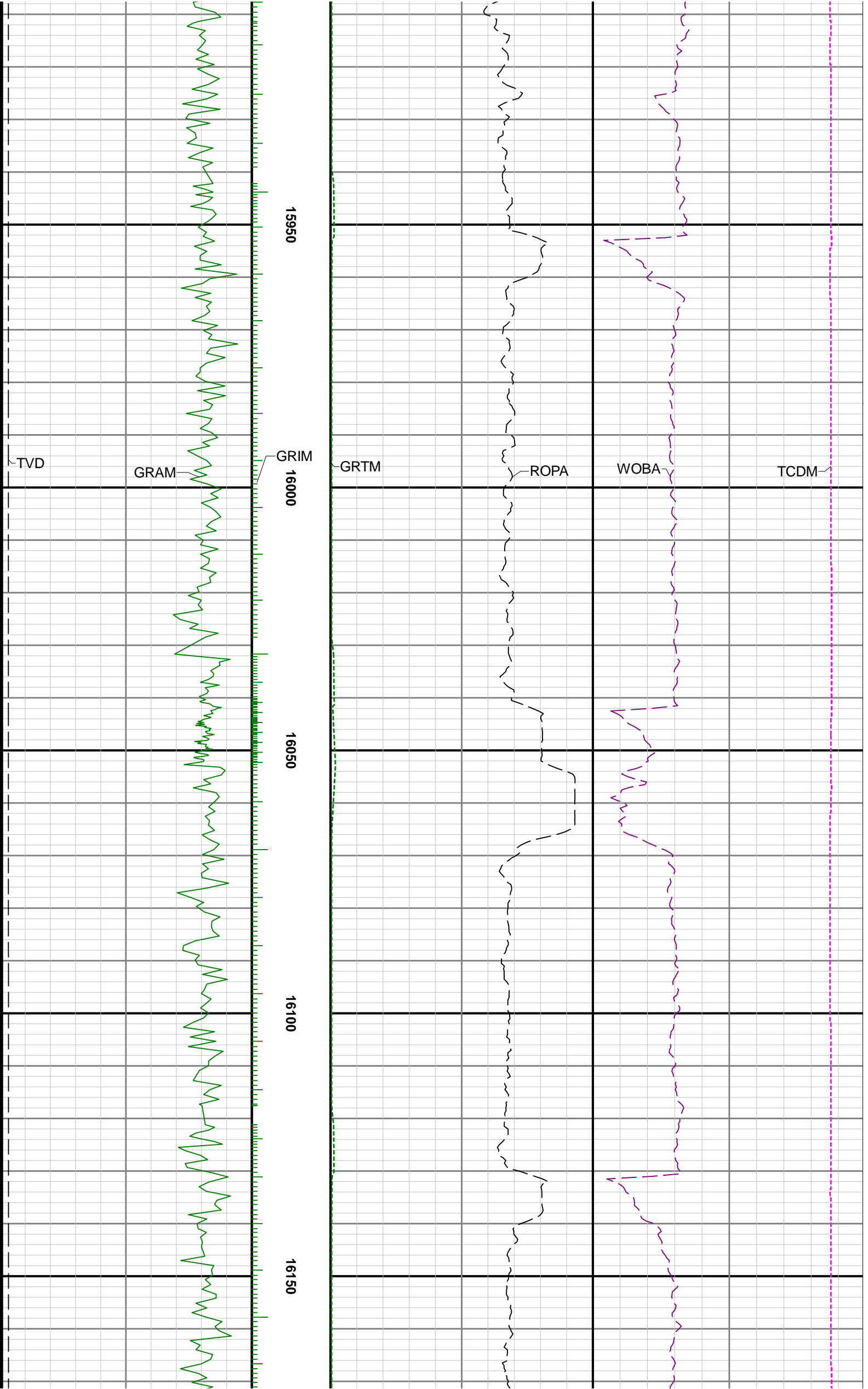


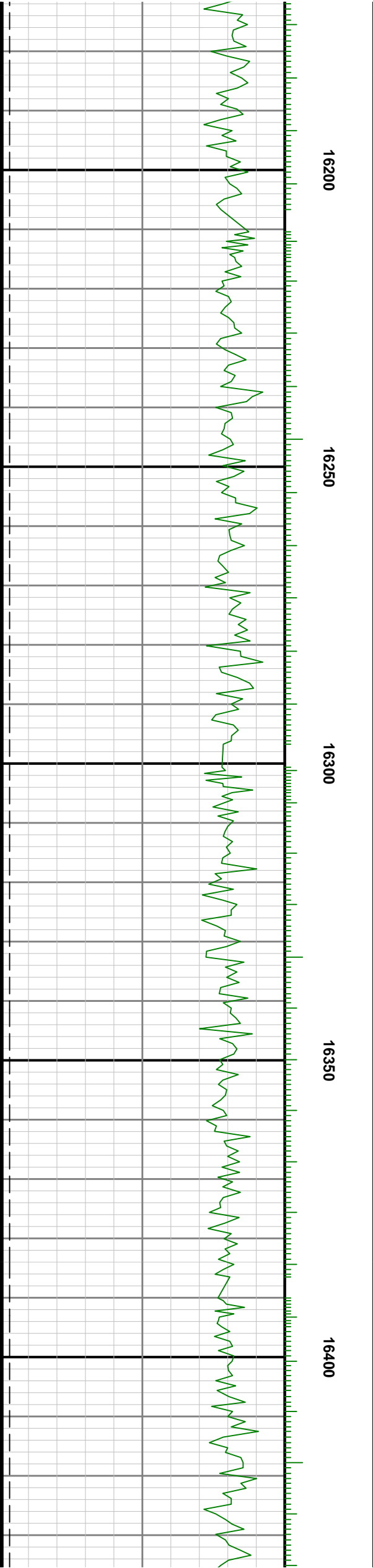
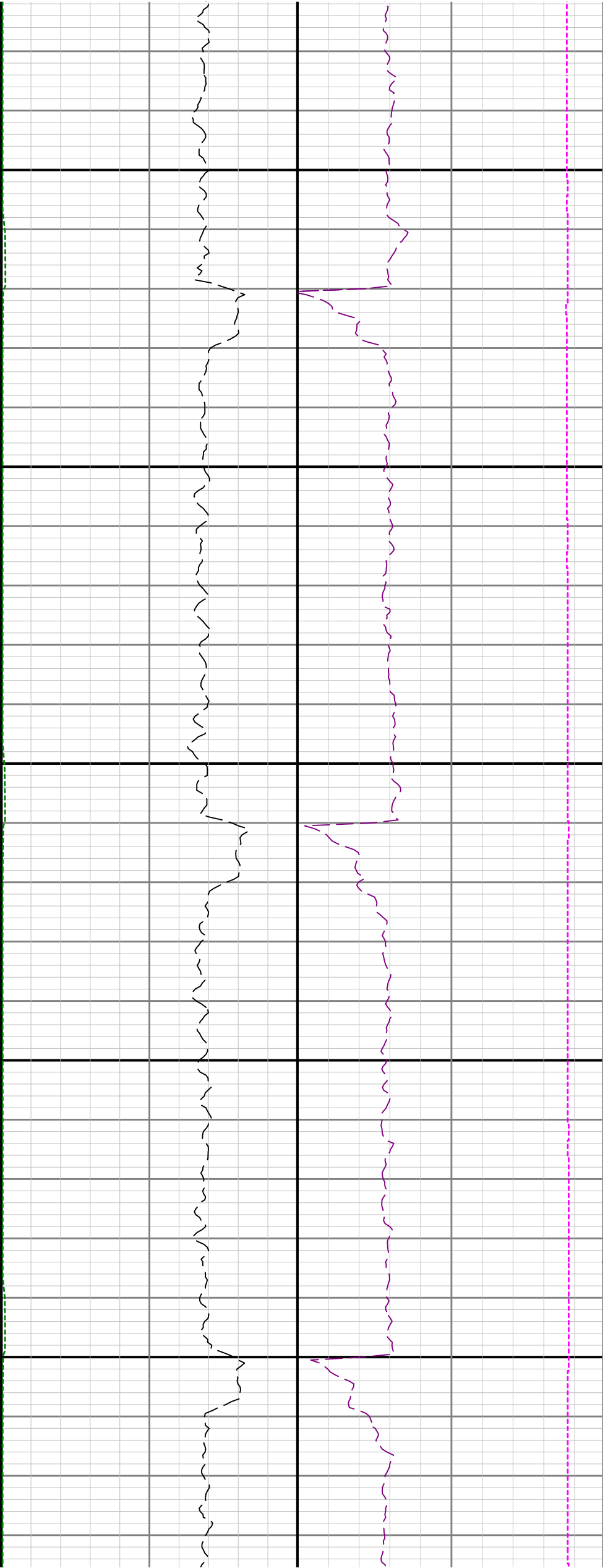


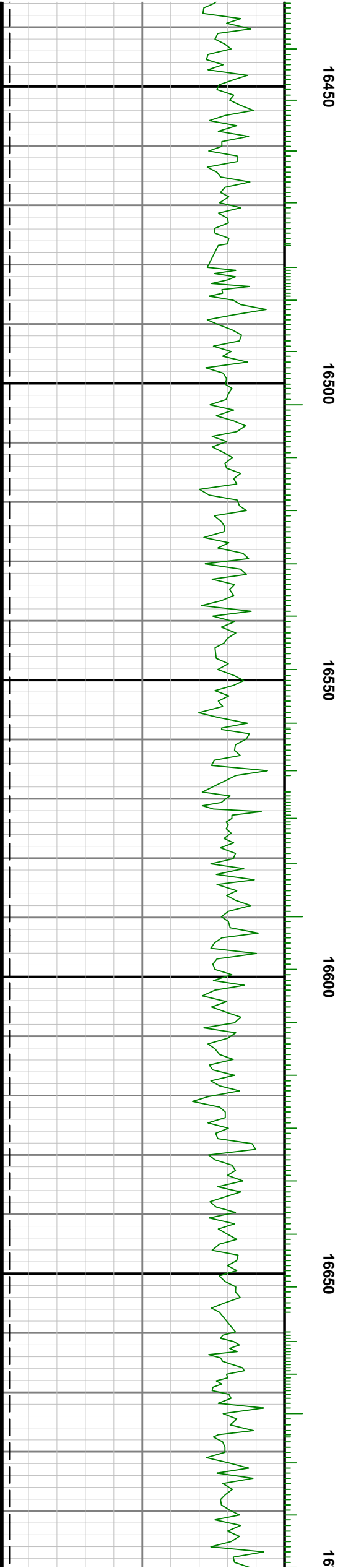
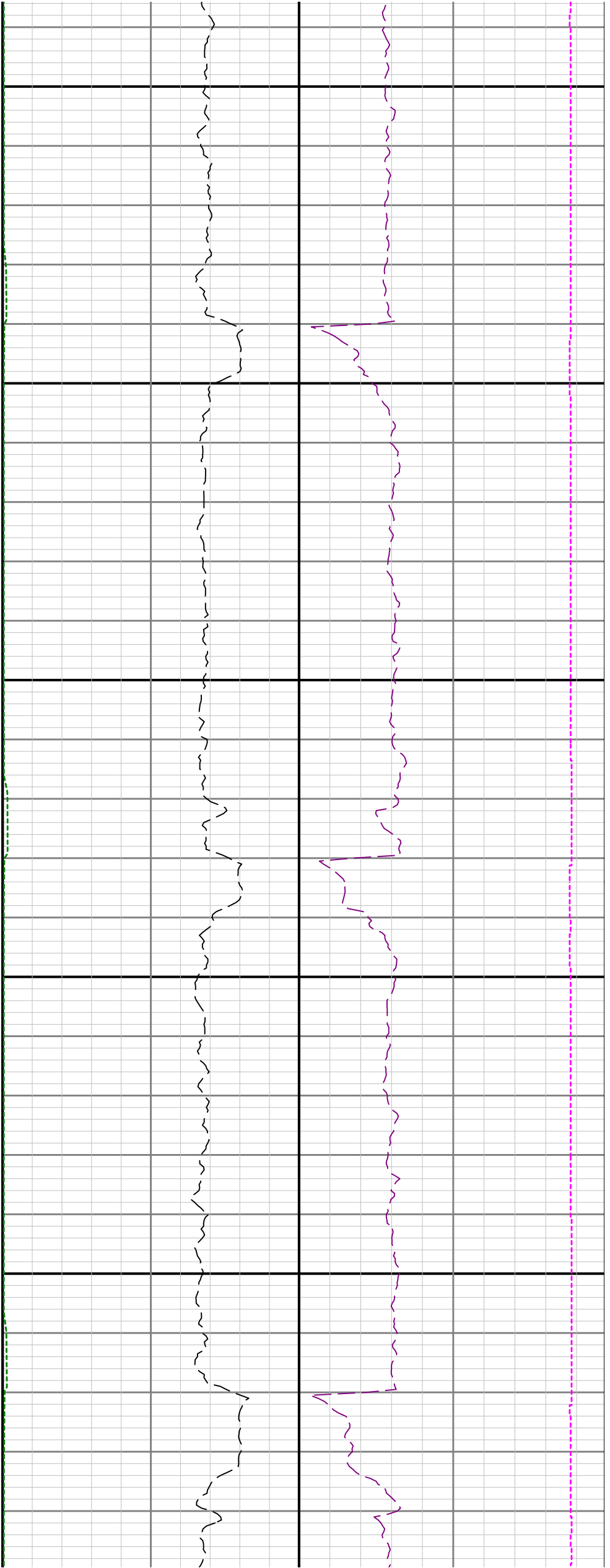
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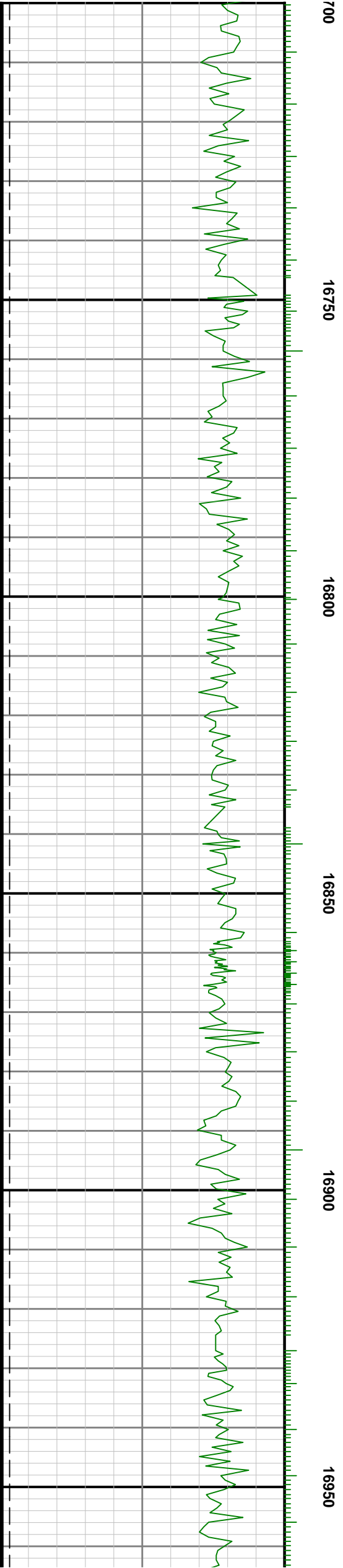
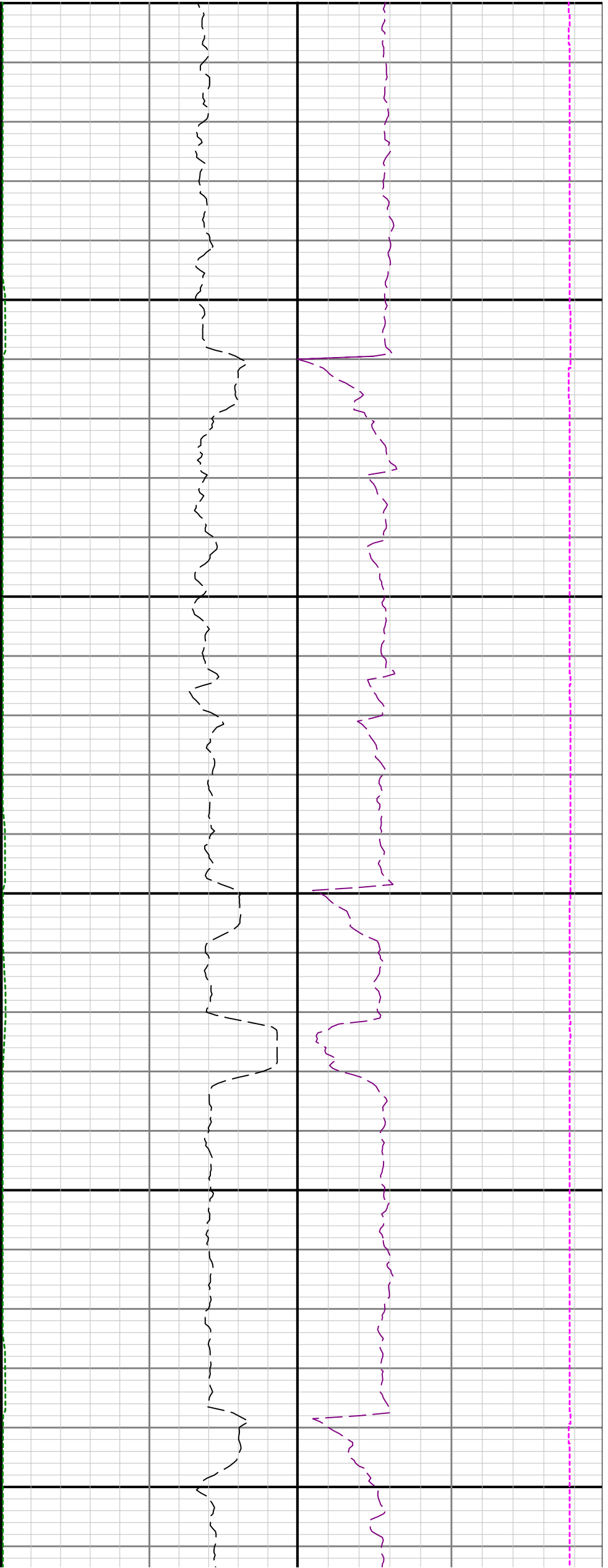


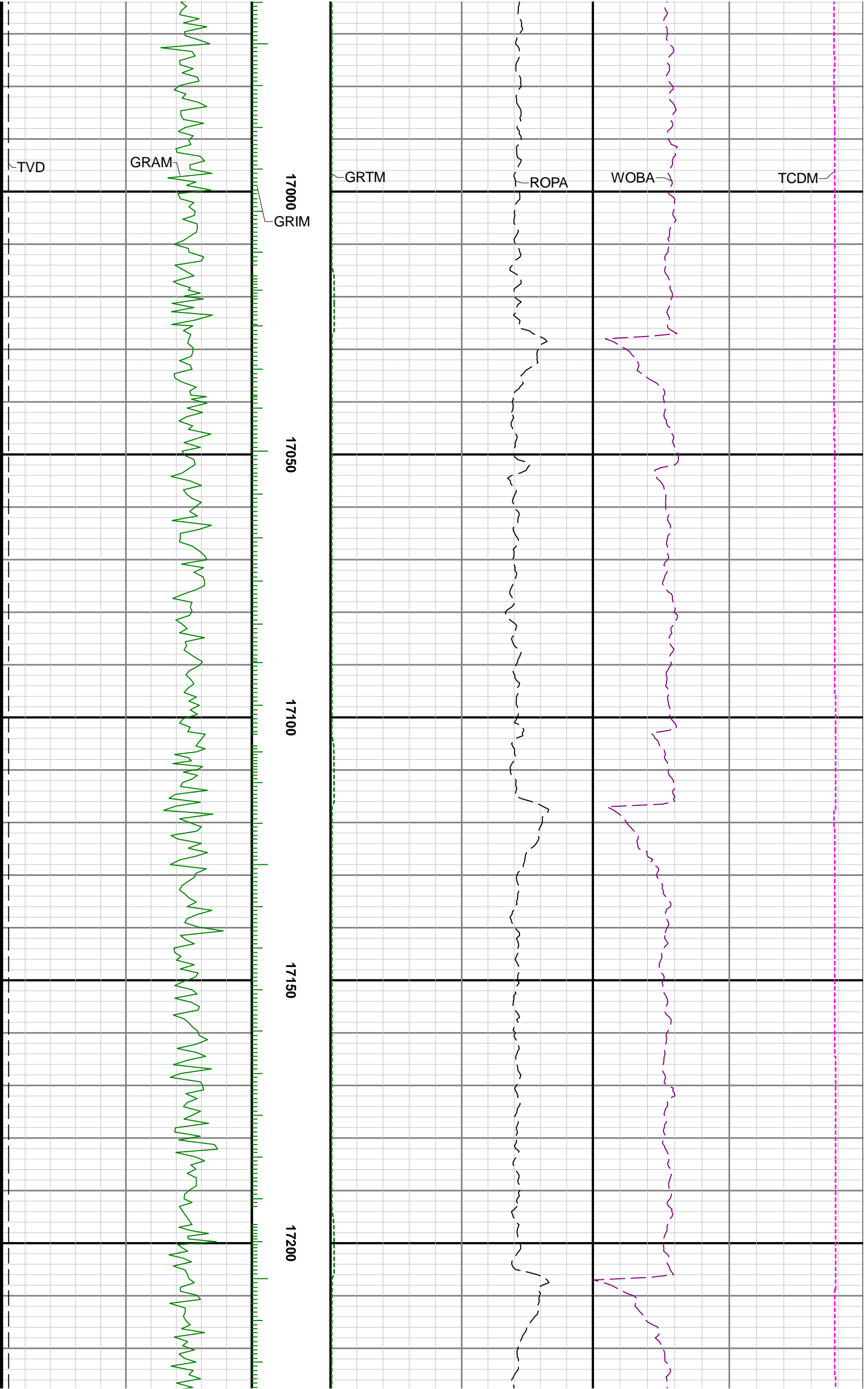


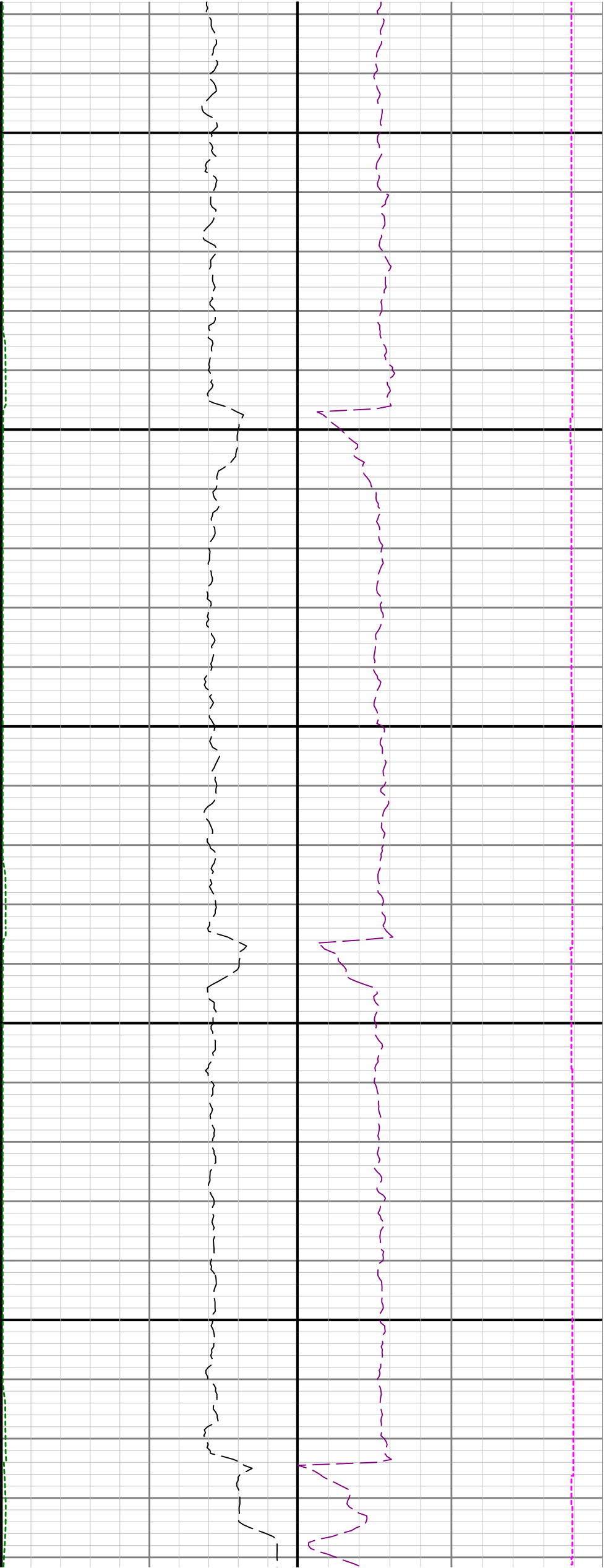












17250

17300

17350

17400

17450

