

Equipment and Service Data

Run No.	Tool	Serial Number	Measurement	Sensor Offset (ft)	Bit Offset (ft)	Max O.D. (in)	Min I.D. (in)
1	NaviTrak	12366182	Directional (mag)	16.56	52.43	8.000	0.000
1	NaviTrak	12366182	VSS	16.56	52.43	8.000	0.000
2	AutoTrak Curve Steering Unit	14367829	Near Bit VSS	5.93	6.73	7.000	4.330
2	AutoTrak Curve Steering Unit	14367829	Near Bit Inclination	5.93	6.73	7.000	4.330
2	AutoTrak Curve MWD	12049472	Gamma (single)	2.06	12.90	7.000	3.250
2	AutoTrak Curve MWD	12049472	Directional (mag)	12.27	23.11	7.000	3.250

Service and Tool Mnemonics

Mnemonic	Name	Description
NTK	NaviTrak	Probe Based Directional Module, NaviTrak Platform
ATC SU	AutoTrak Curve SU	Auto Trak Curve Steering Unit
ATC MWD	AutoTrak Curve MWD	Auto Trak Curve MWD
ATC LCPM	AutoTrak Curve LCPM	Auto Trak Curve LCPM

Comments

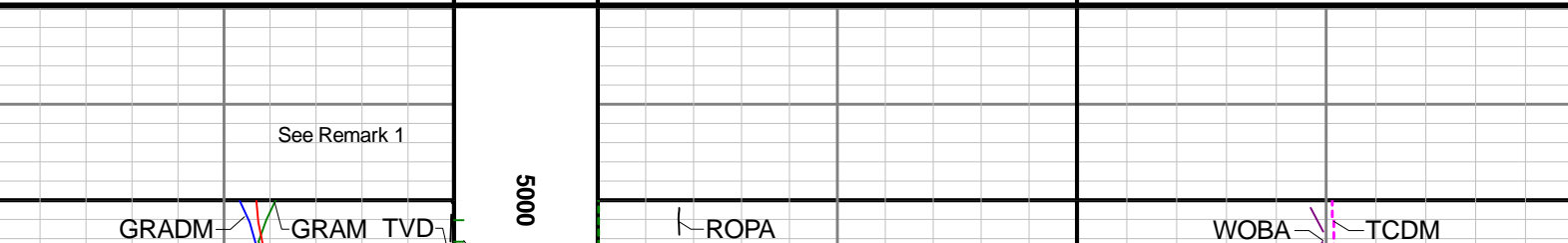
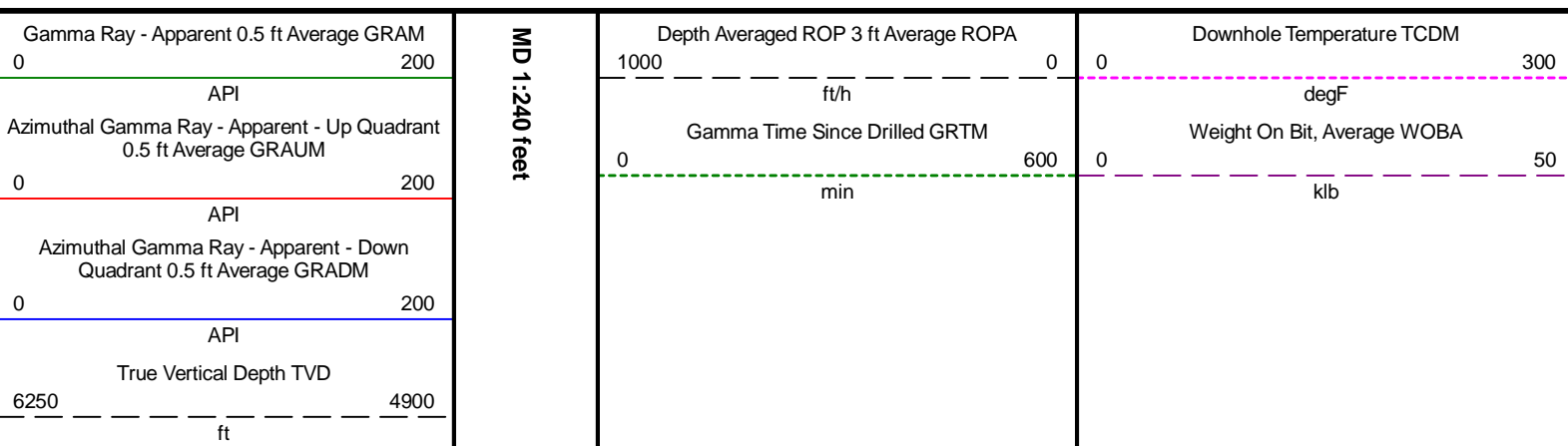
- 1
- Depth measurements were obtained from a depth control system not supplied or operated by Baker Hughes. Due to lack of control by Baker Hughes, depth calibrations and measurements could not be independently verified.
- 2
- Baker Hughes LWD Run 1 used the 8 inch NaviTrak service (Directional) behind a 13 1/2 inch bit and steerable assembly to drill from 17 to 1618 feet MD (17 to 1598 feet TVD). No logging data was acquired throughout this run.
- 3
- Baker Hughes LWD Run 2 used the 6 3/4 inch NaviGamma service (Azimuthal Gamma Ray and Directional) behind an 8 1/2 inch bit and rotary steerable assembly to drill from 1618 to 11376 feet MD (1598 to 6175 feet TVD).
- 4
- The Gamma Ray Apparent (GRAM) data is presented from 0 to 200 API, per customer's request.

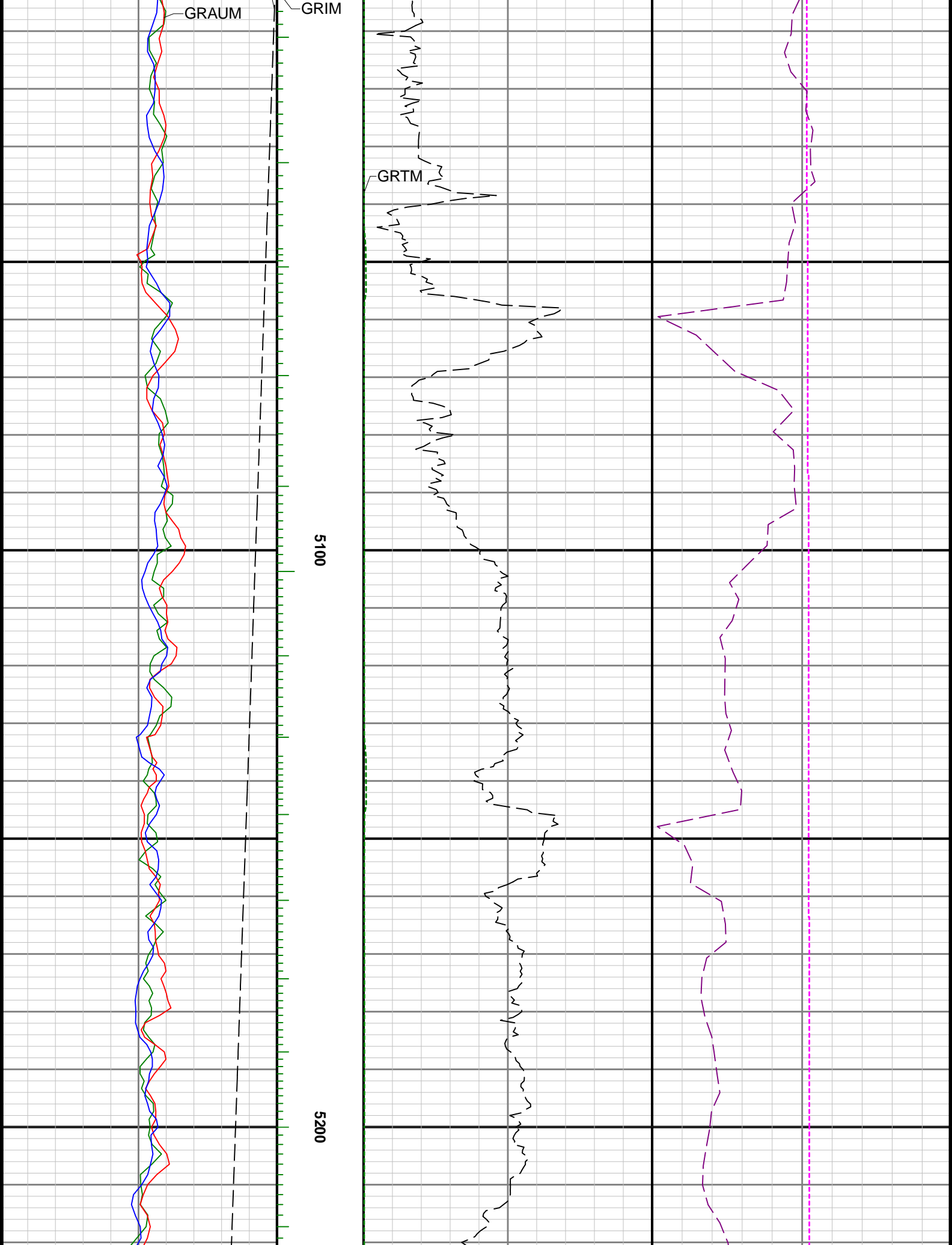
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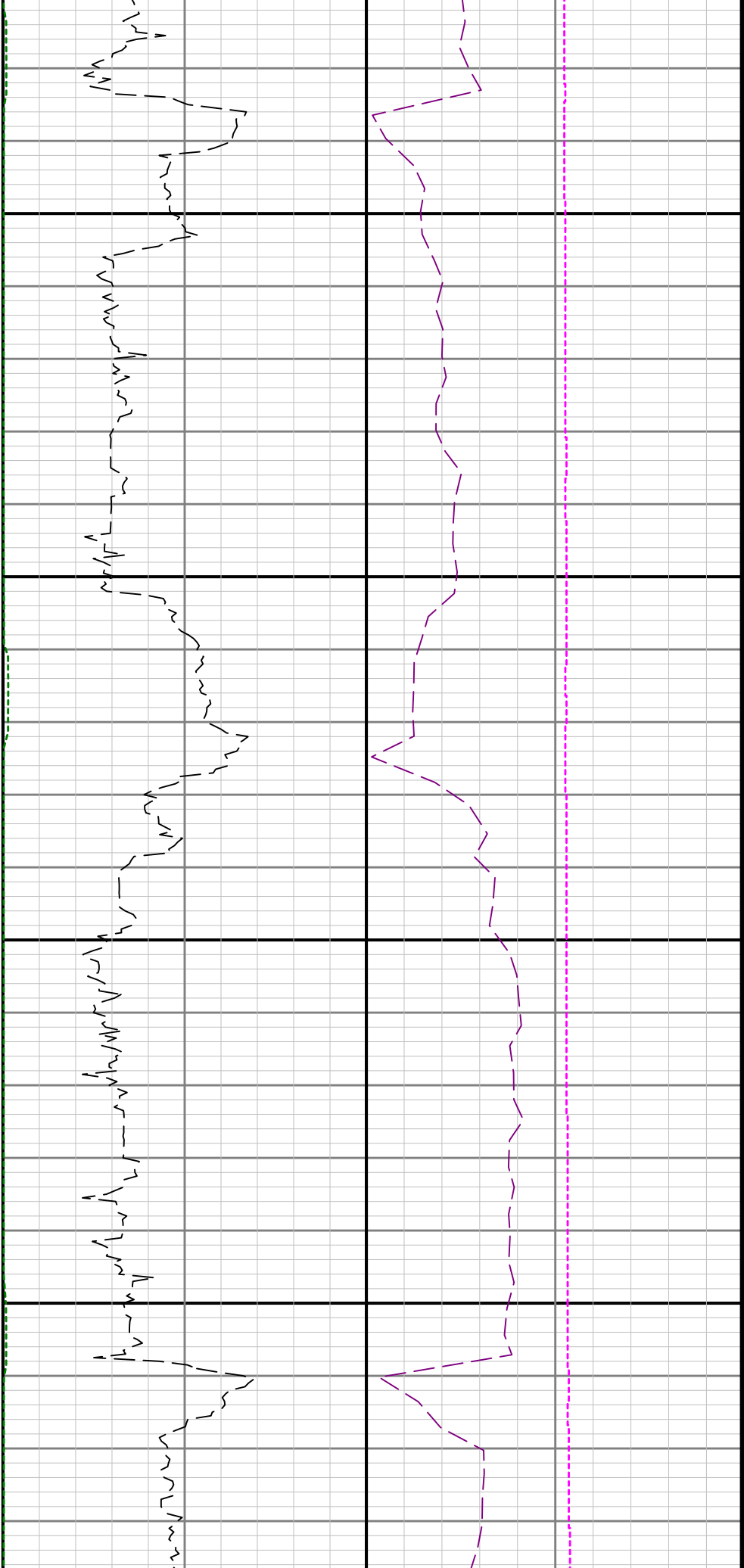
Number	Depth (ft)	Hole Section (in)	Run No.	Remark
1	5050.00	8.500	2	The Gamma Ray Apparent (GRAM) log starts at 5000 feet, per customer's request.
2	11370.00	8.500	2	The interval from 11363 to 11376 feet MD (6175 feet TVD) was not logged due to sensor to bit offset at well TD.

Curve Mnemonics

Presented Curves	Description	Units
WOBA	Weight On Bit	klb
ROPA	Depth Averaged ROP 3 ft Average	ft/h
TVD	True Vertical Depth	ft
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
GRADM	Gamma Ray - Apparent - Down Quadrant - Memory 0.5 ft Average	API
GRAUM	Gamma Ray - Apparent - Up Quadrant - Memory 0.5 ft Average	API
TCDM	Directional Real-Time Survey Temperature	degF

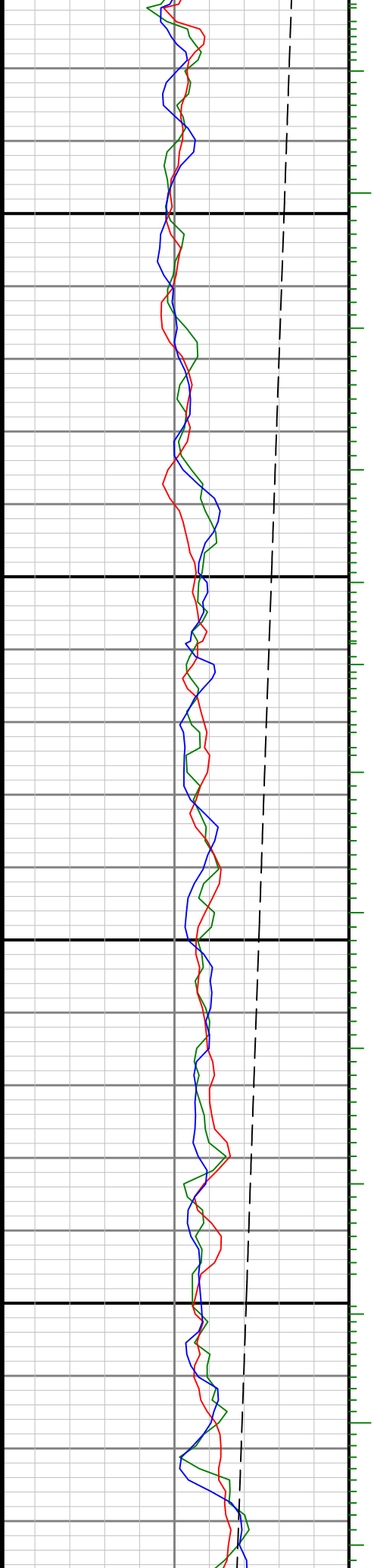


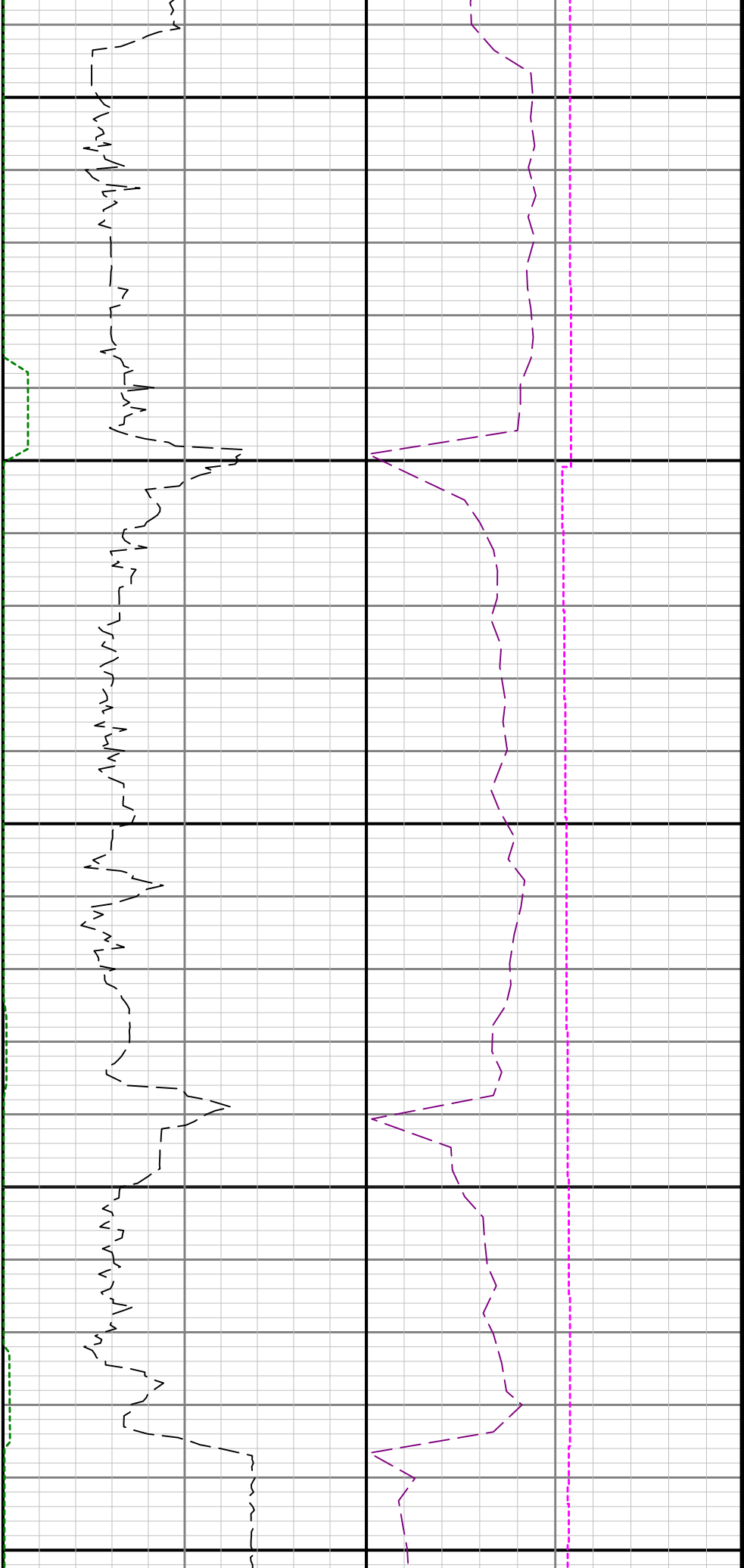




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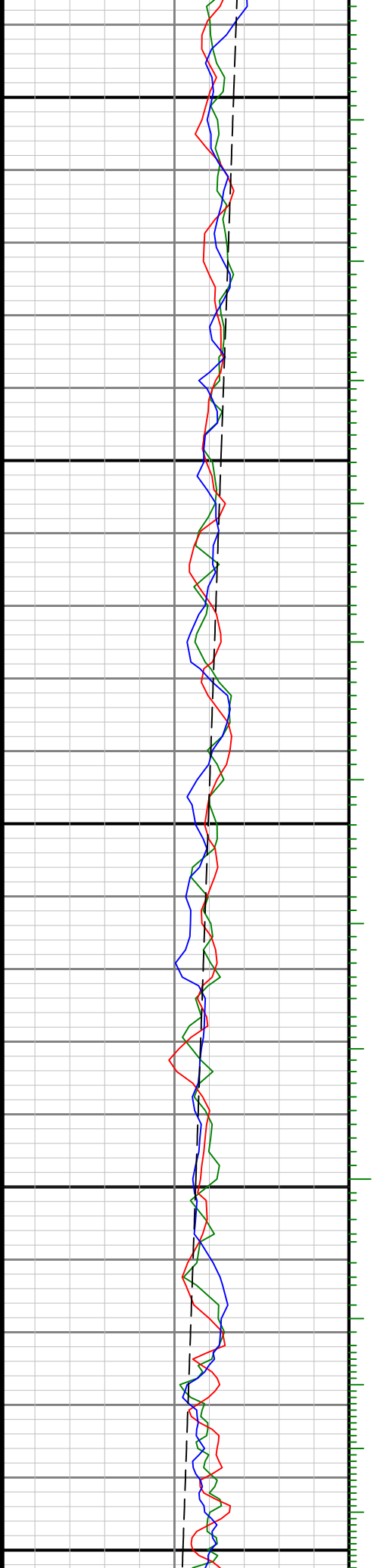
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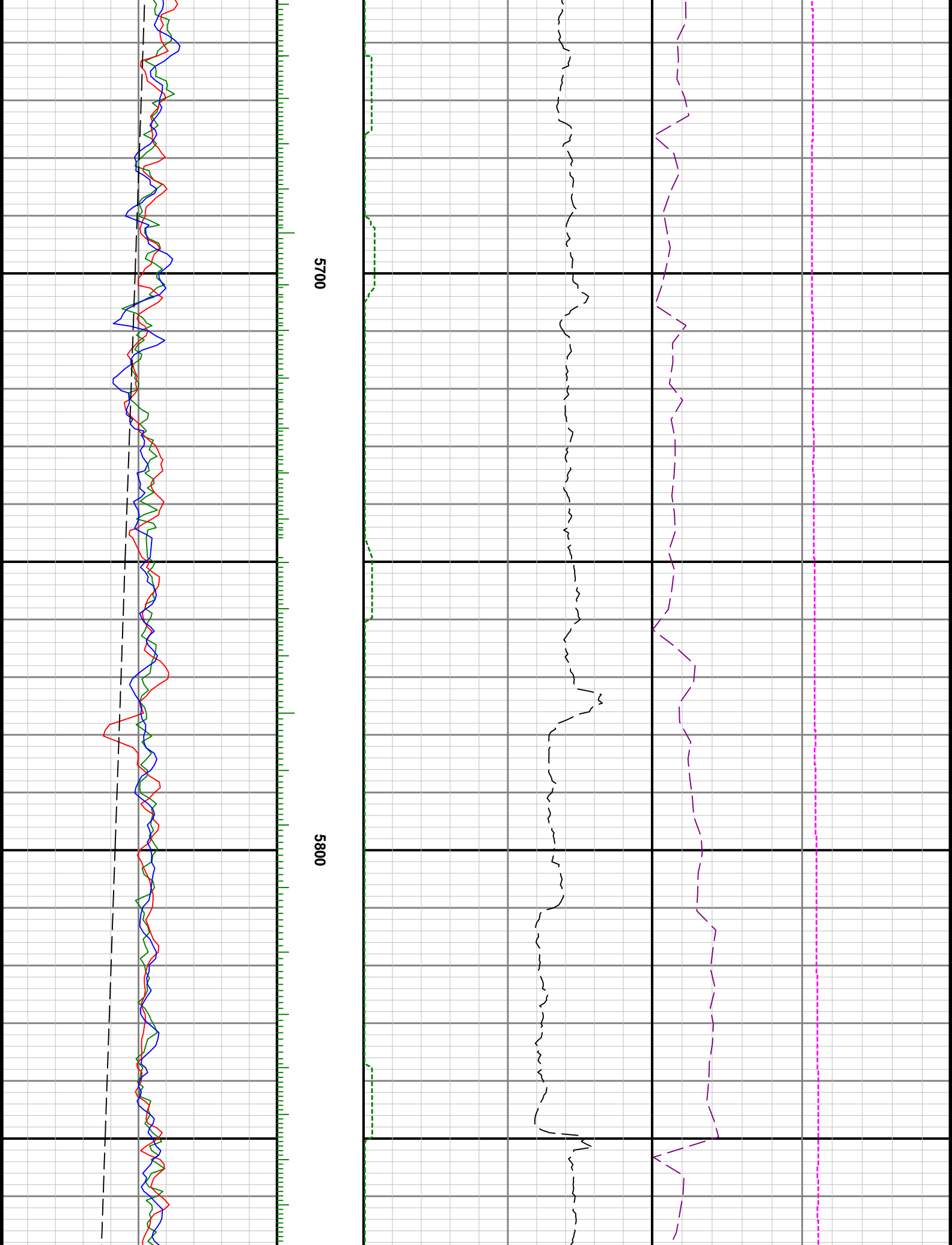


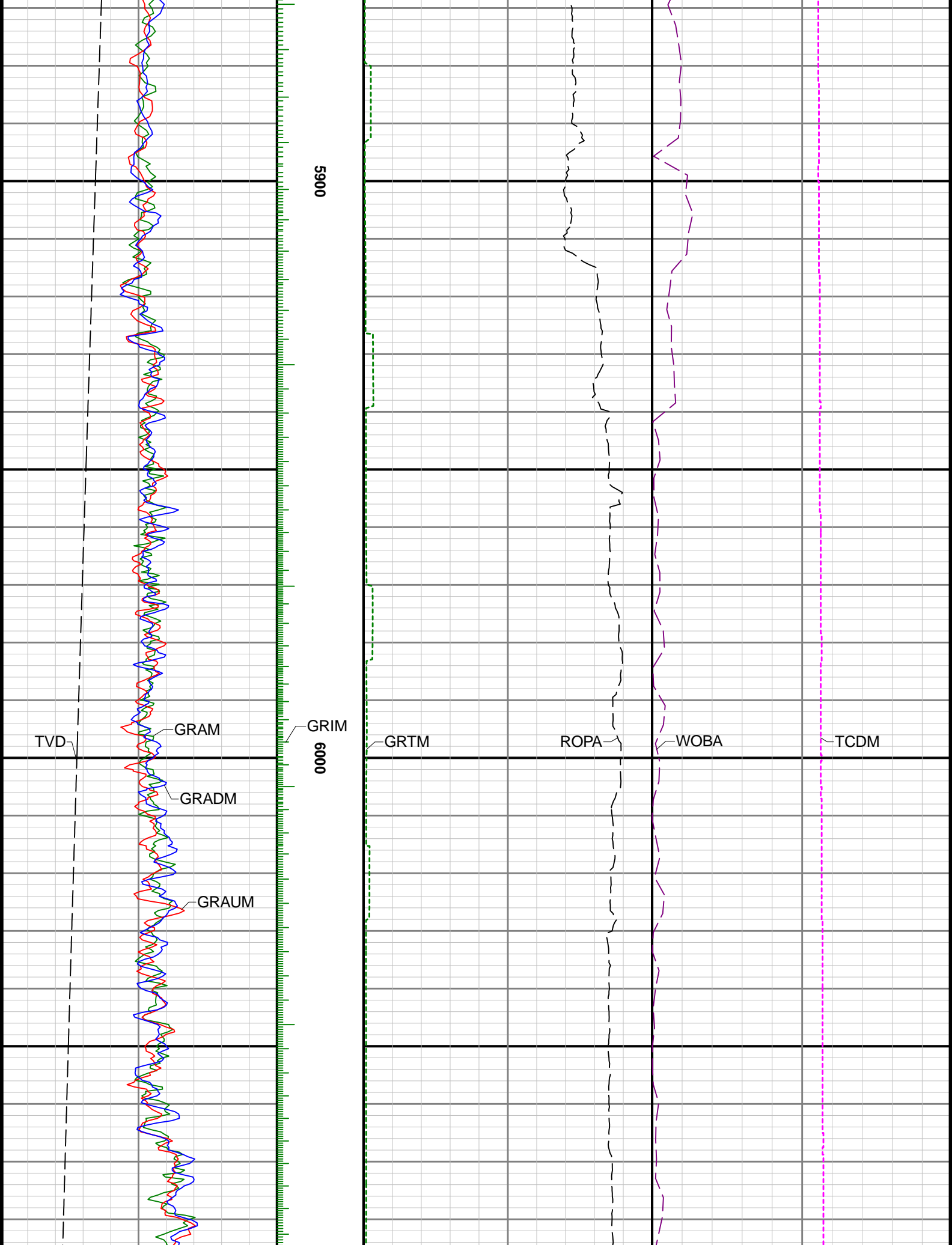


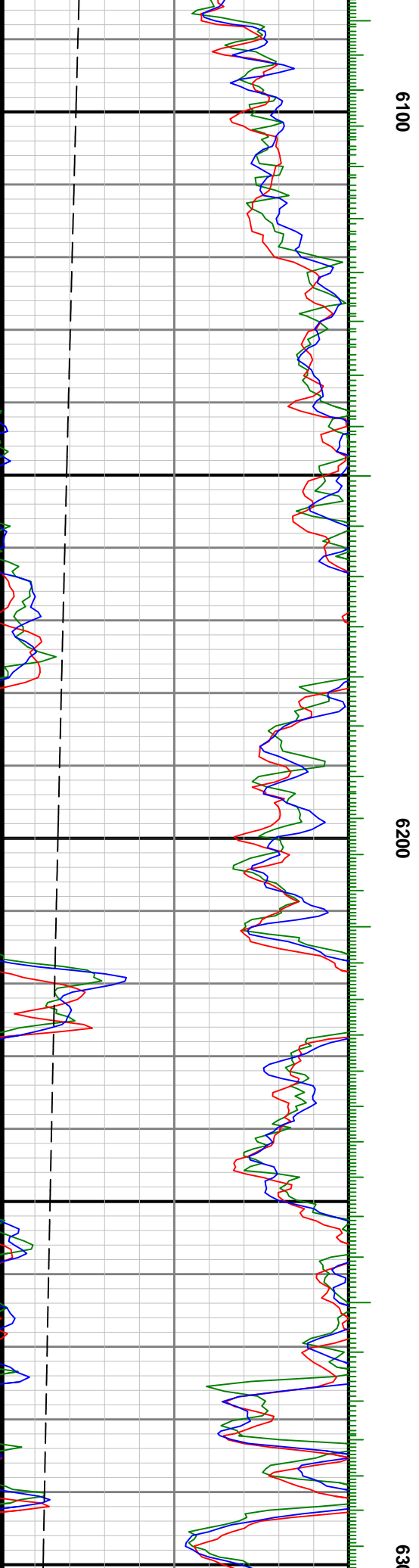
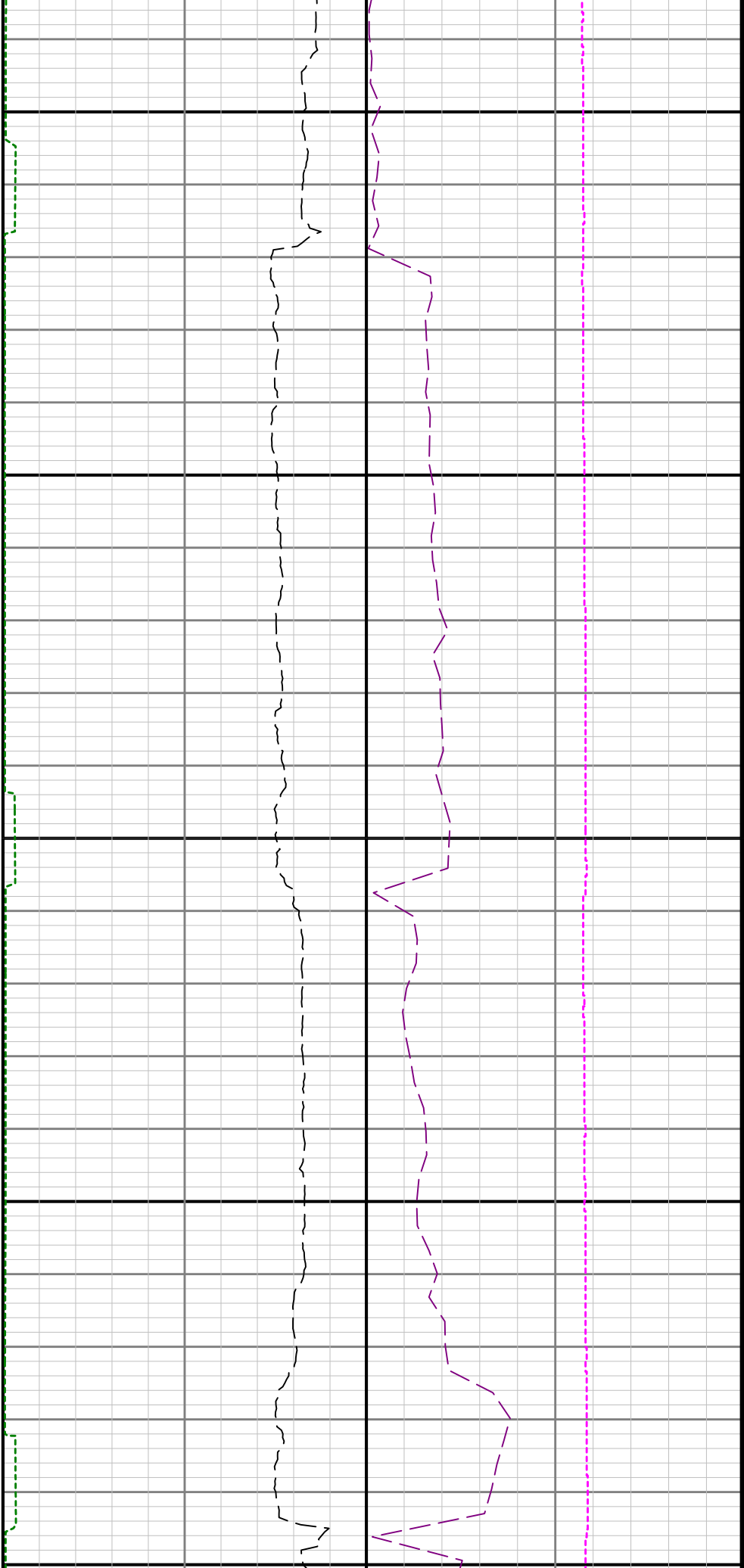
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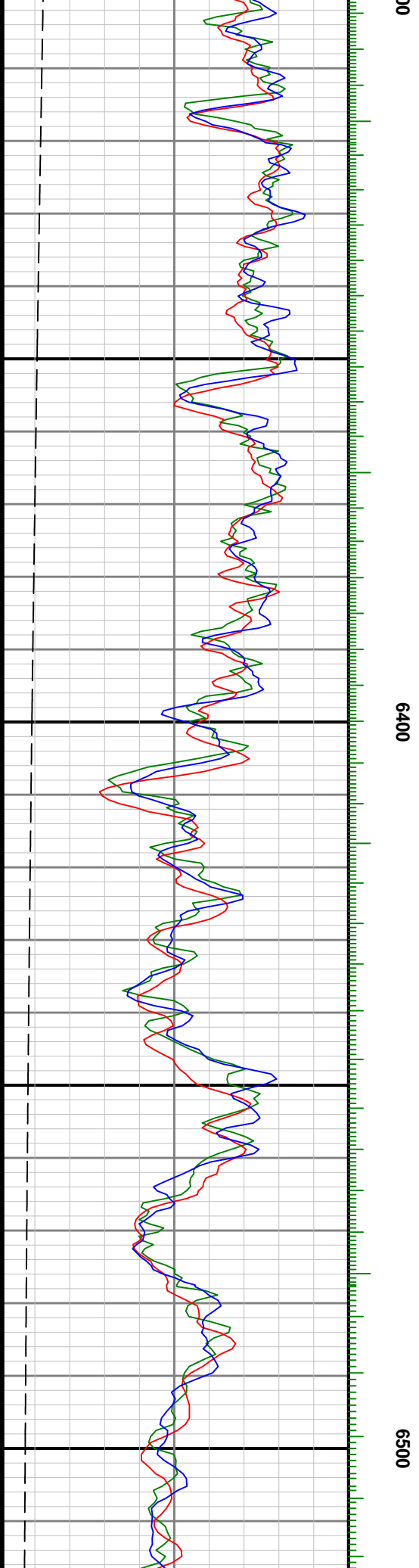
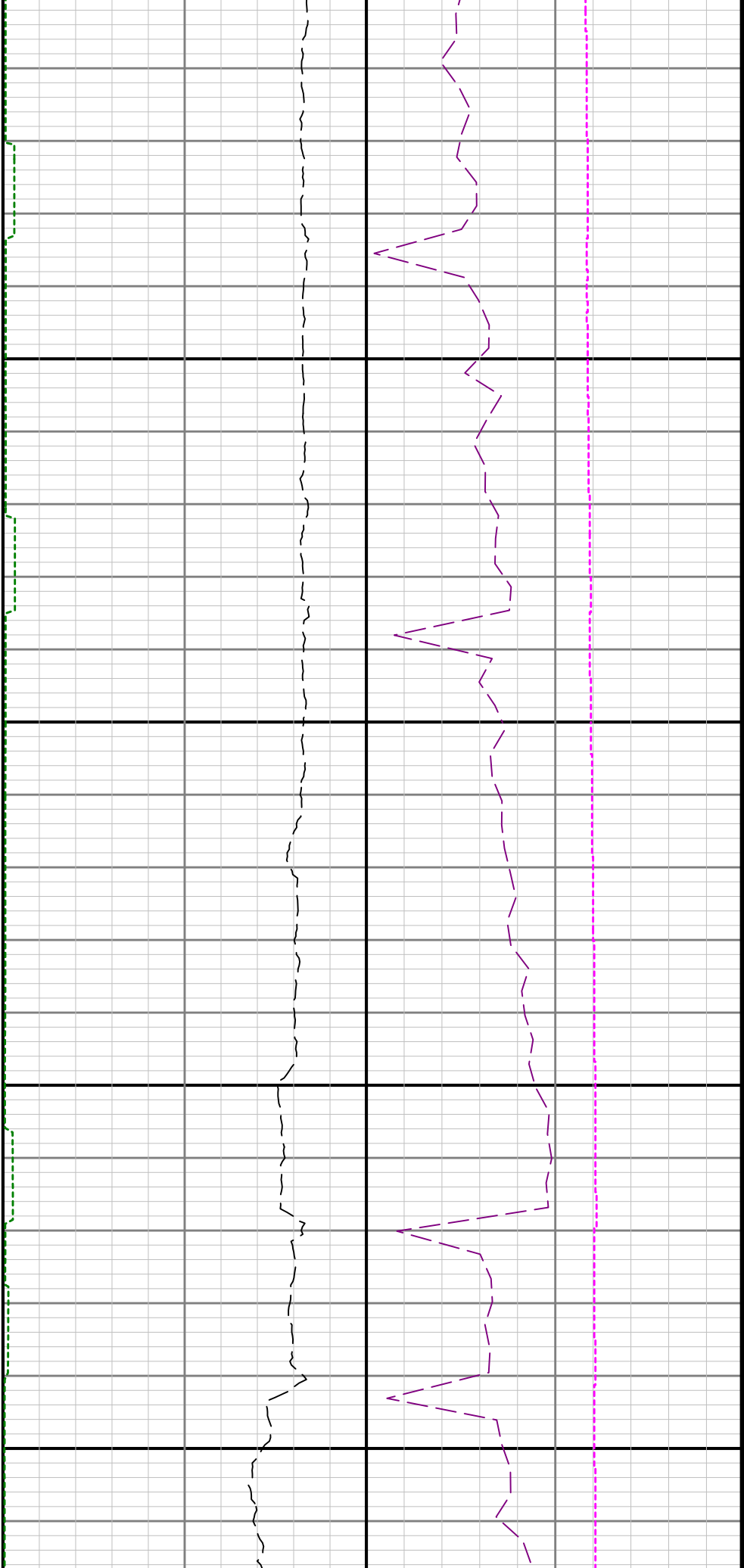
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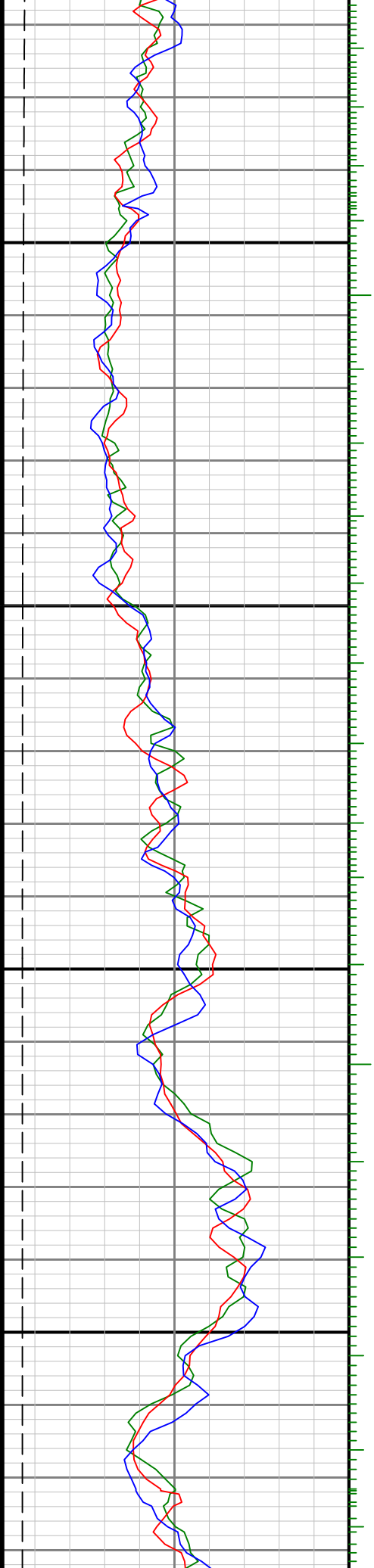








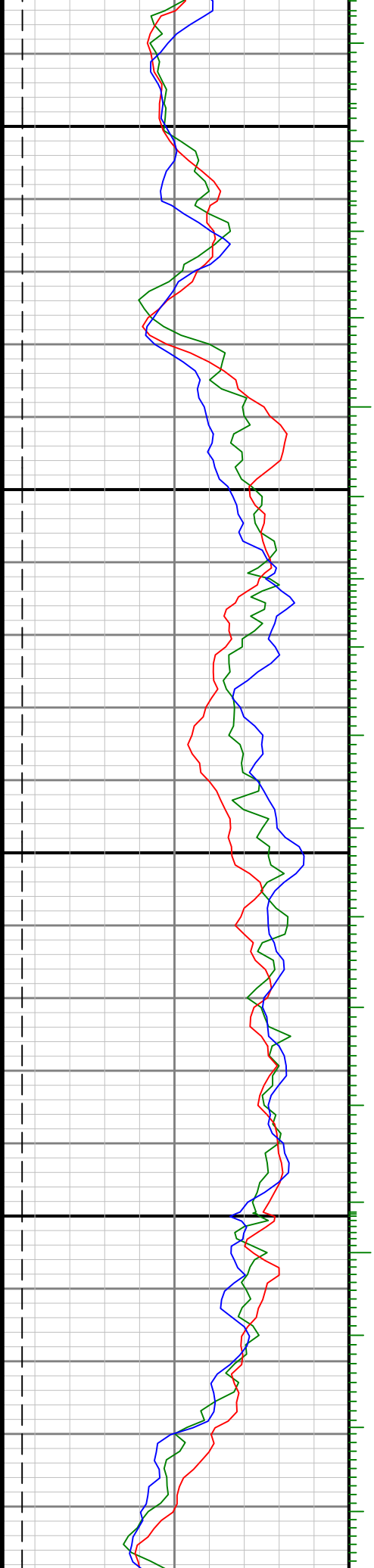




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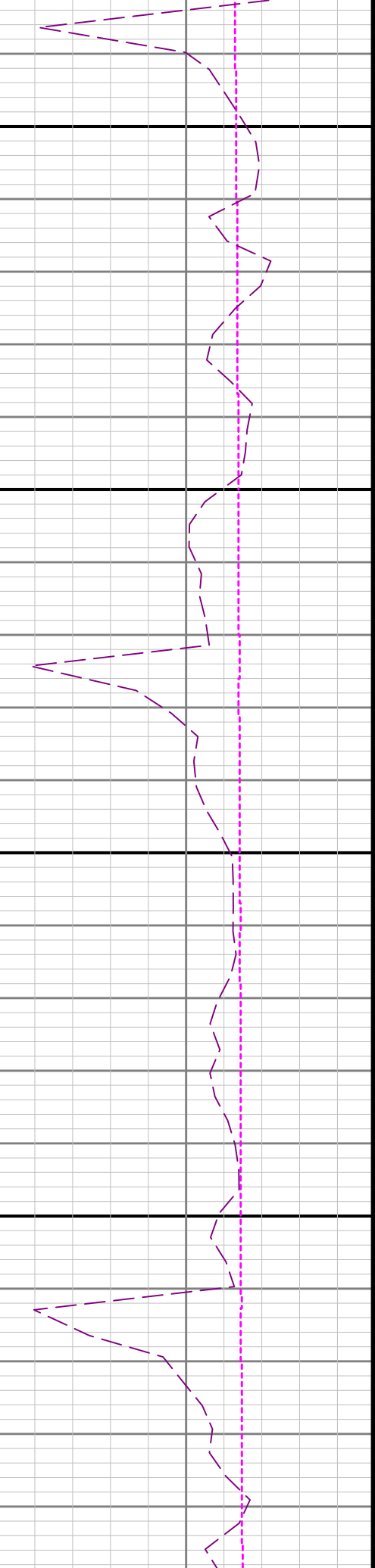
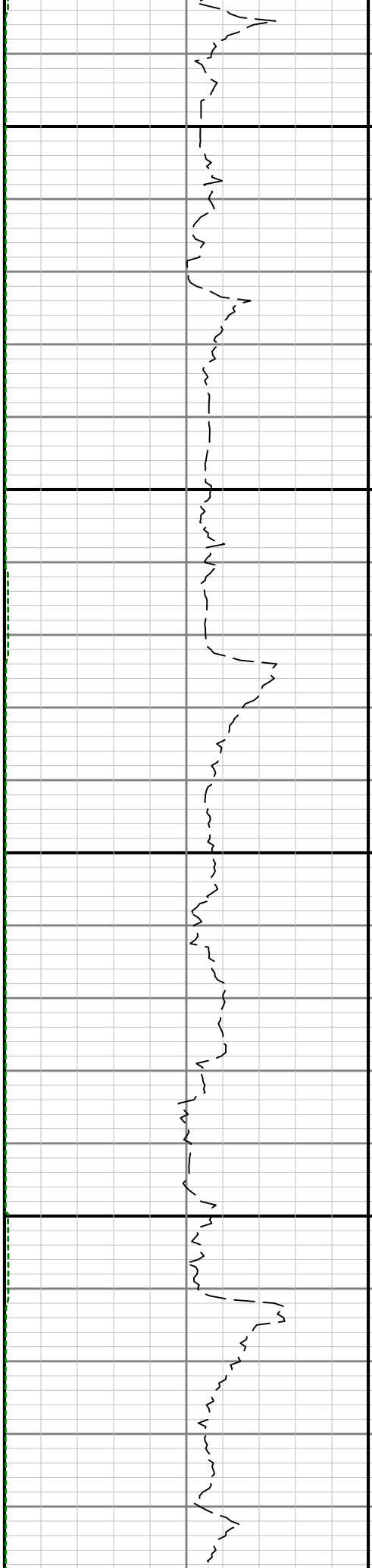
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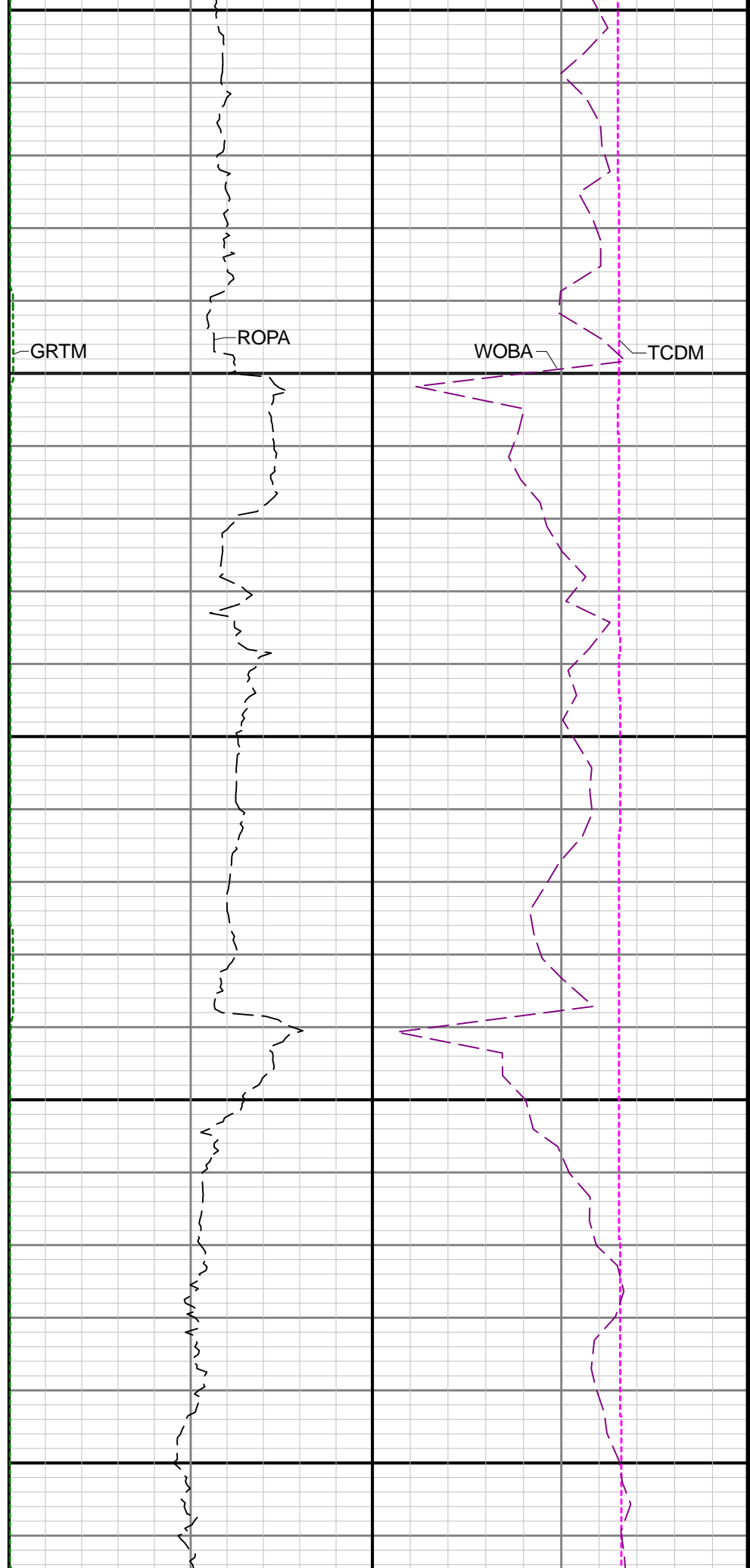
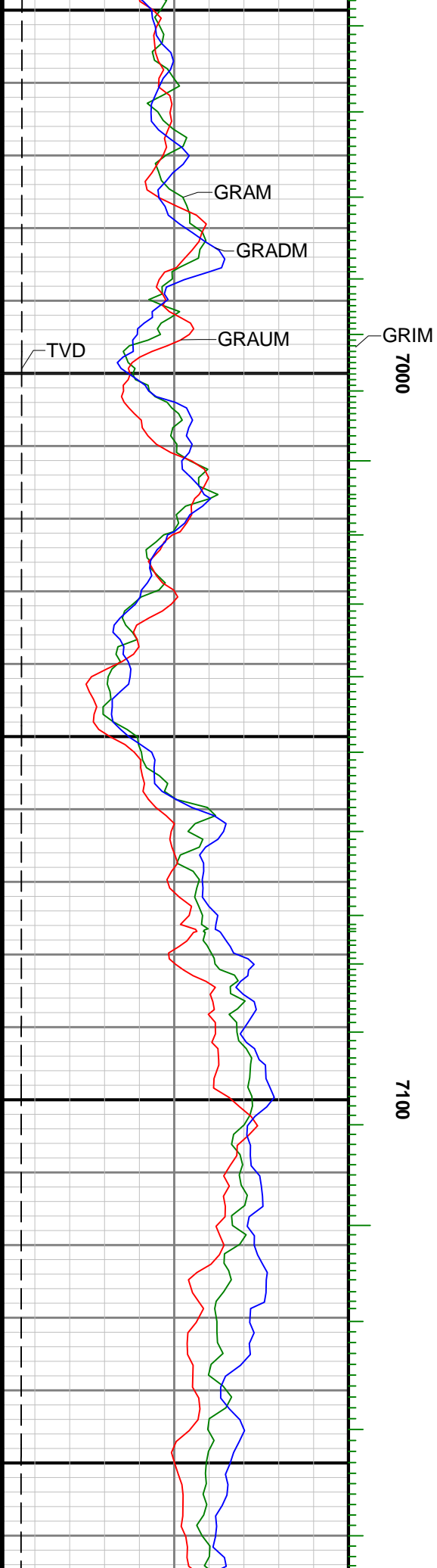


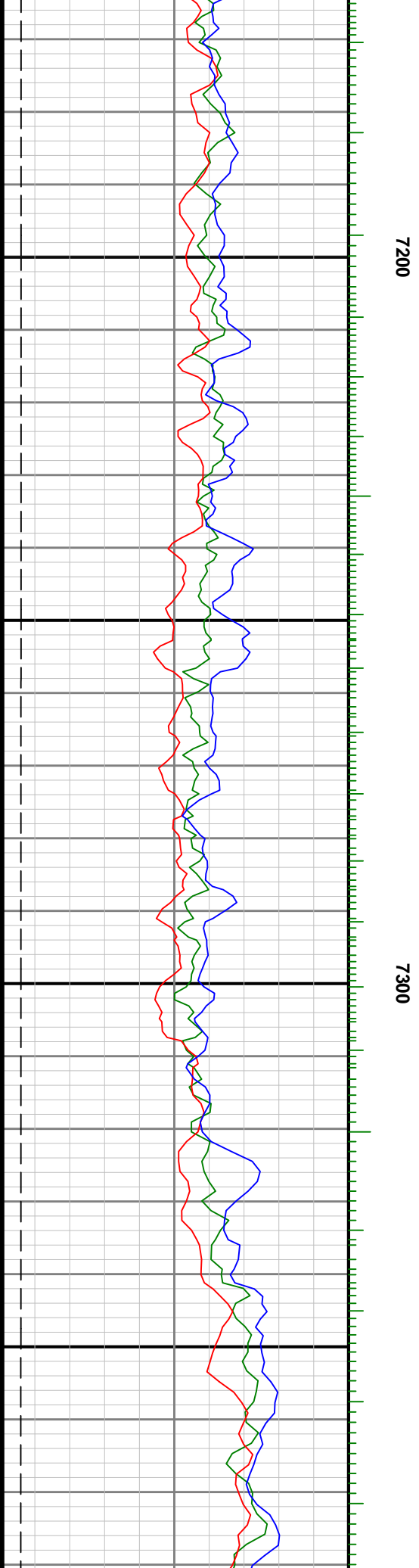
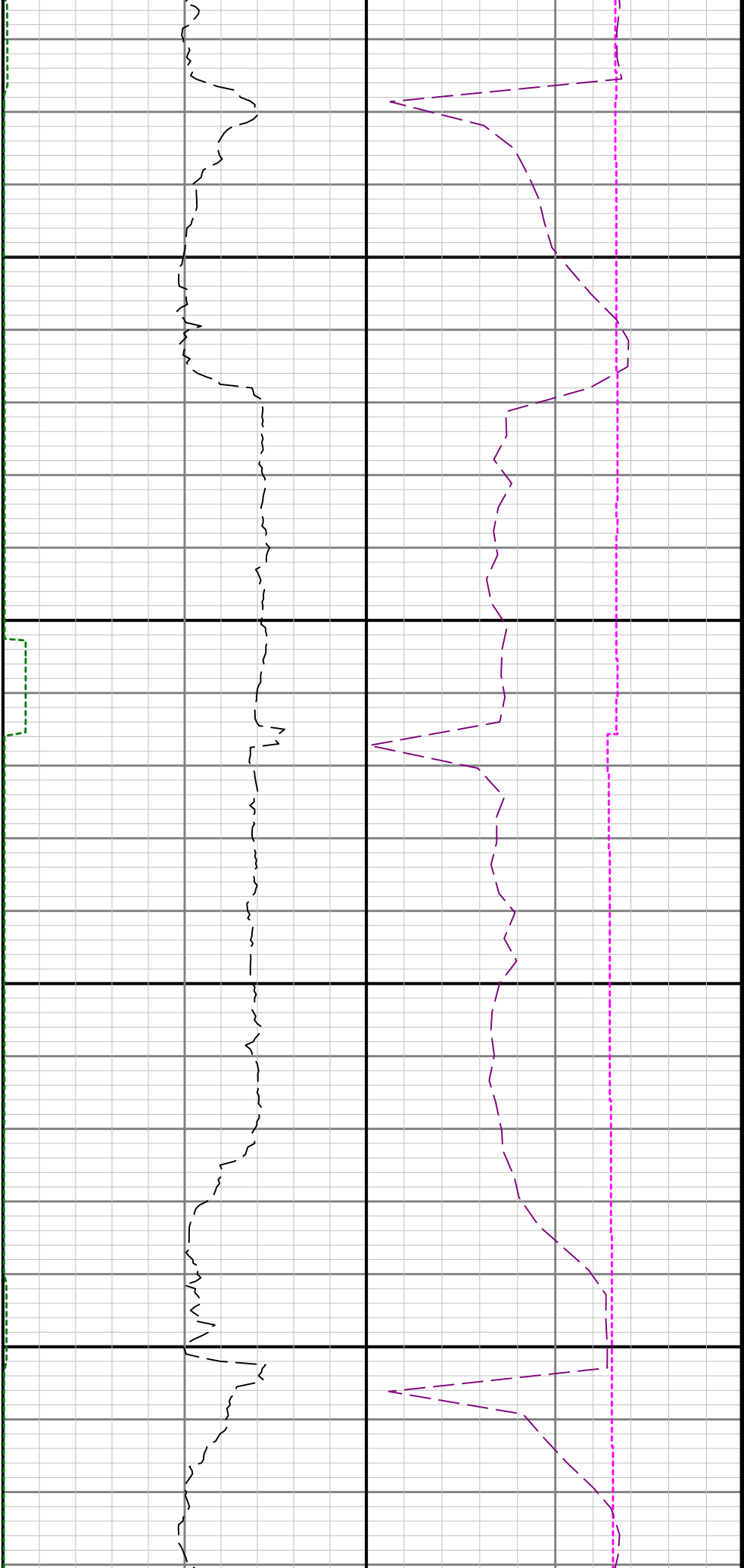


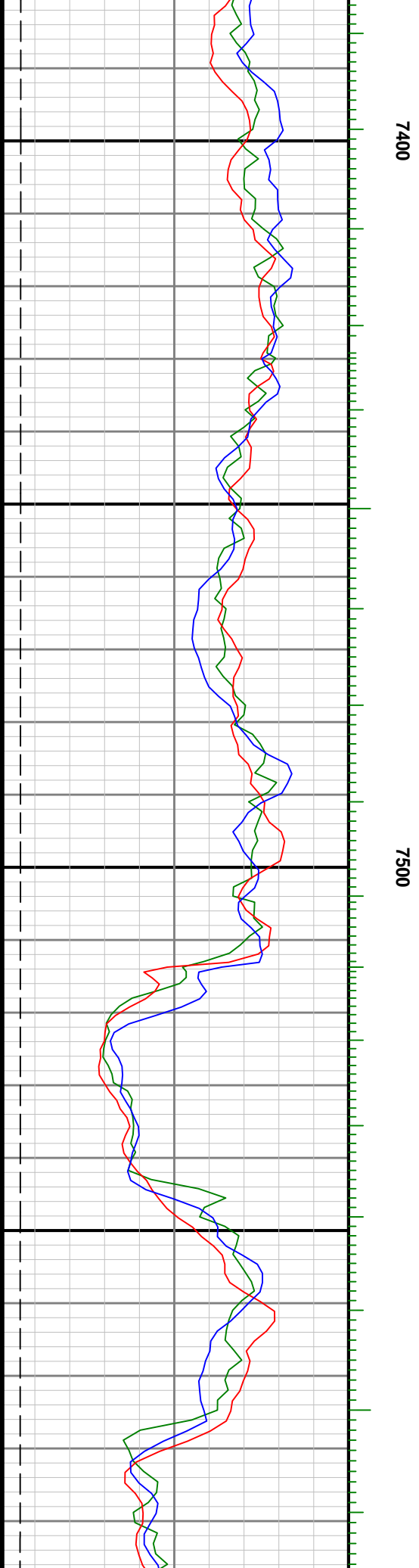
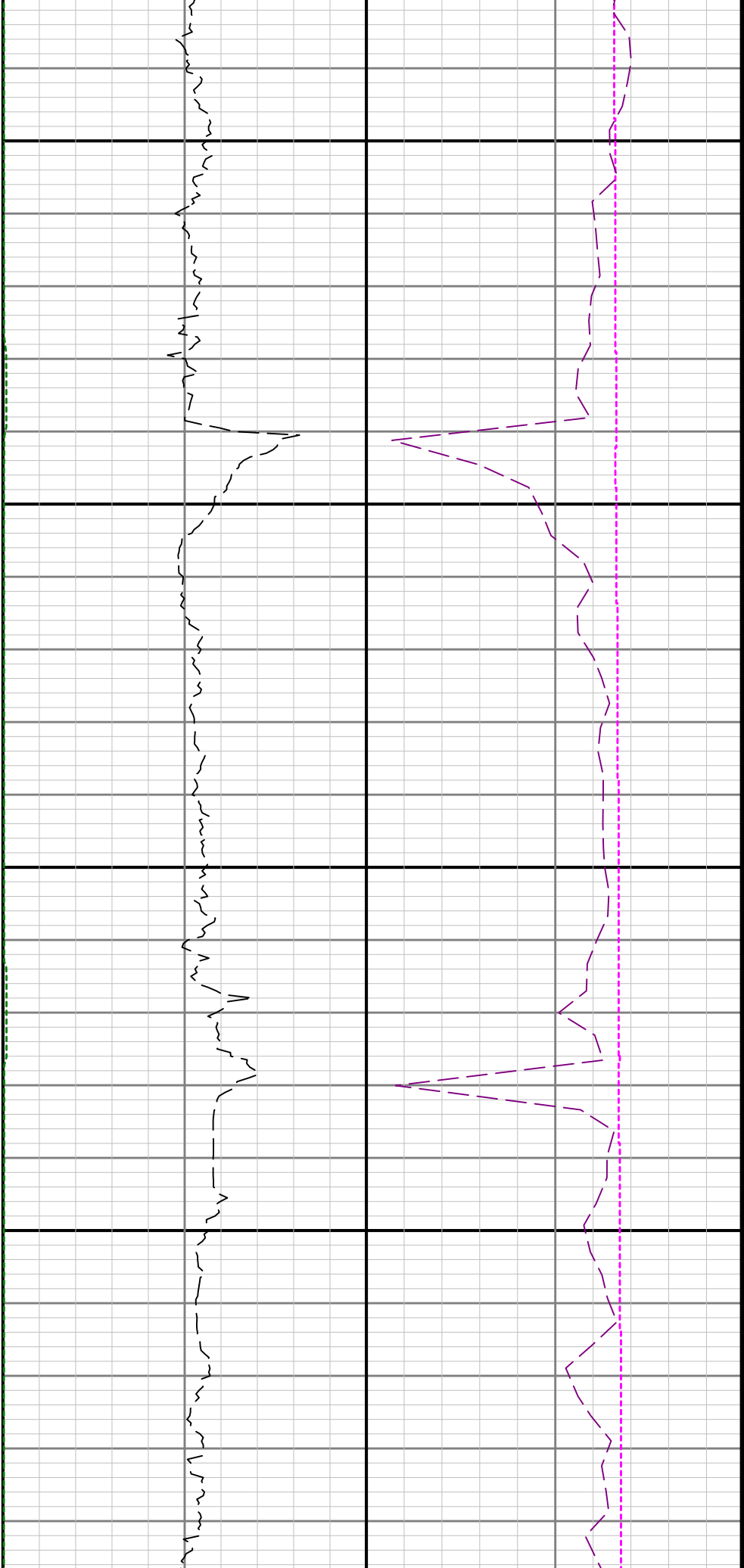
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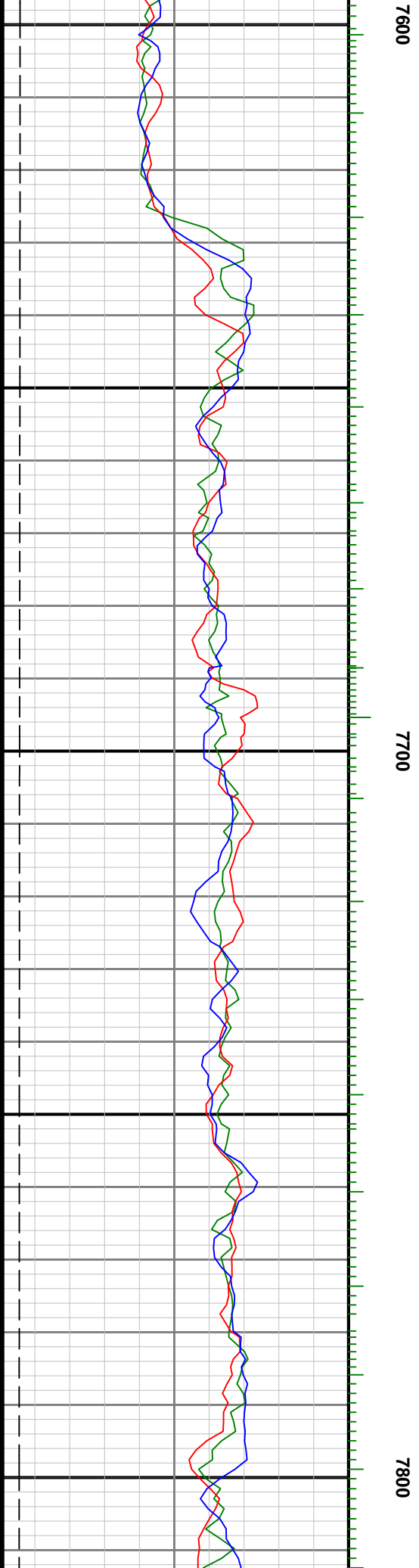
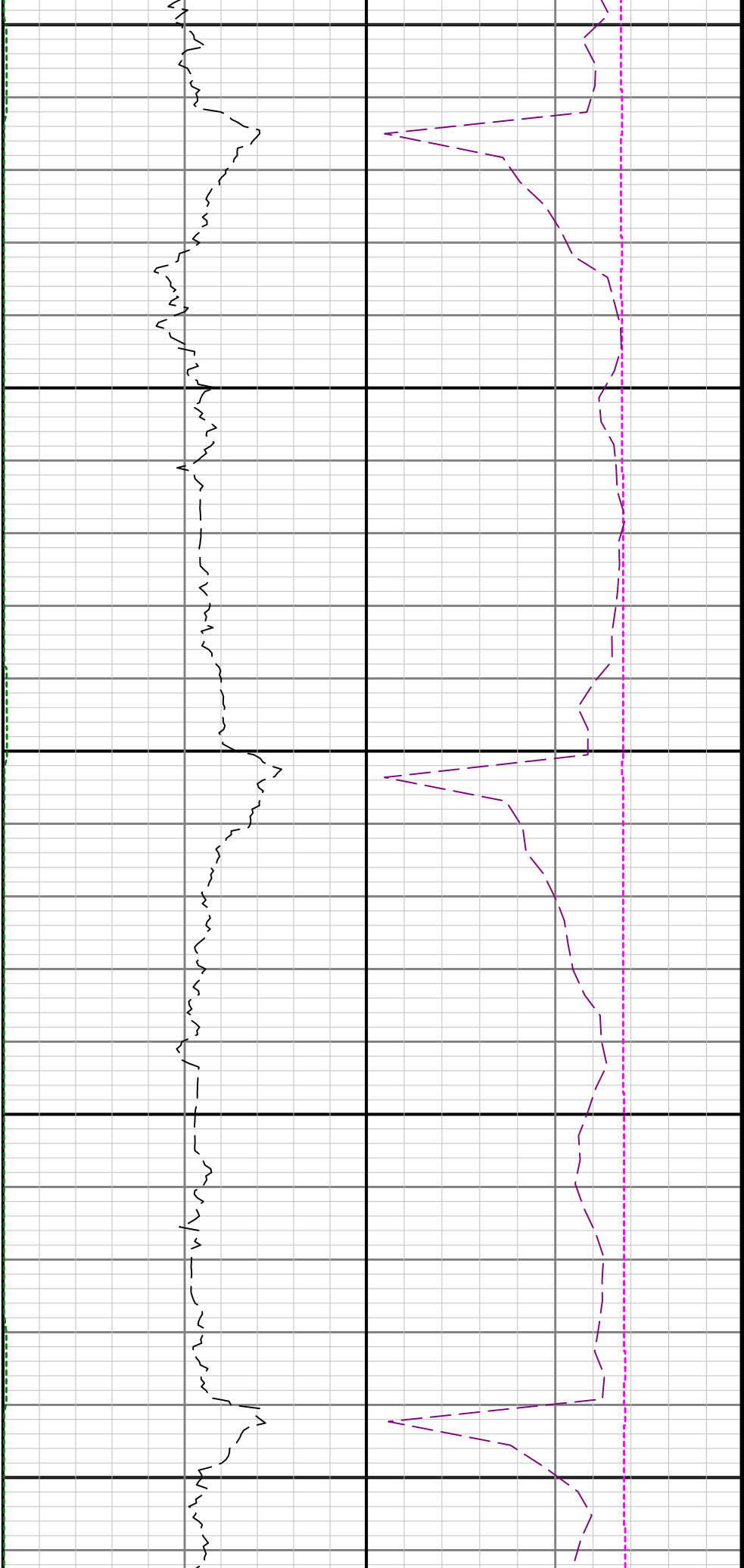
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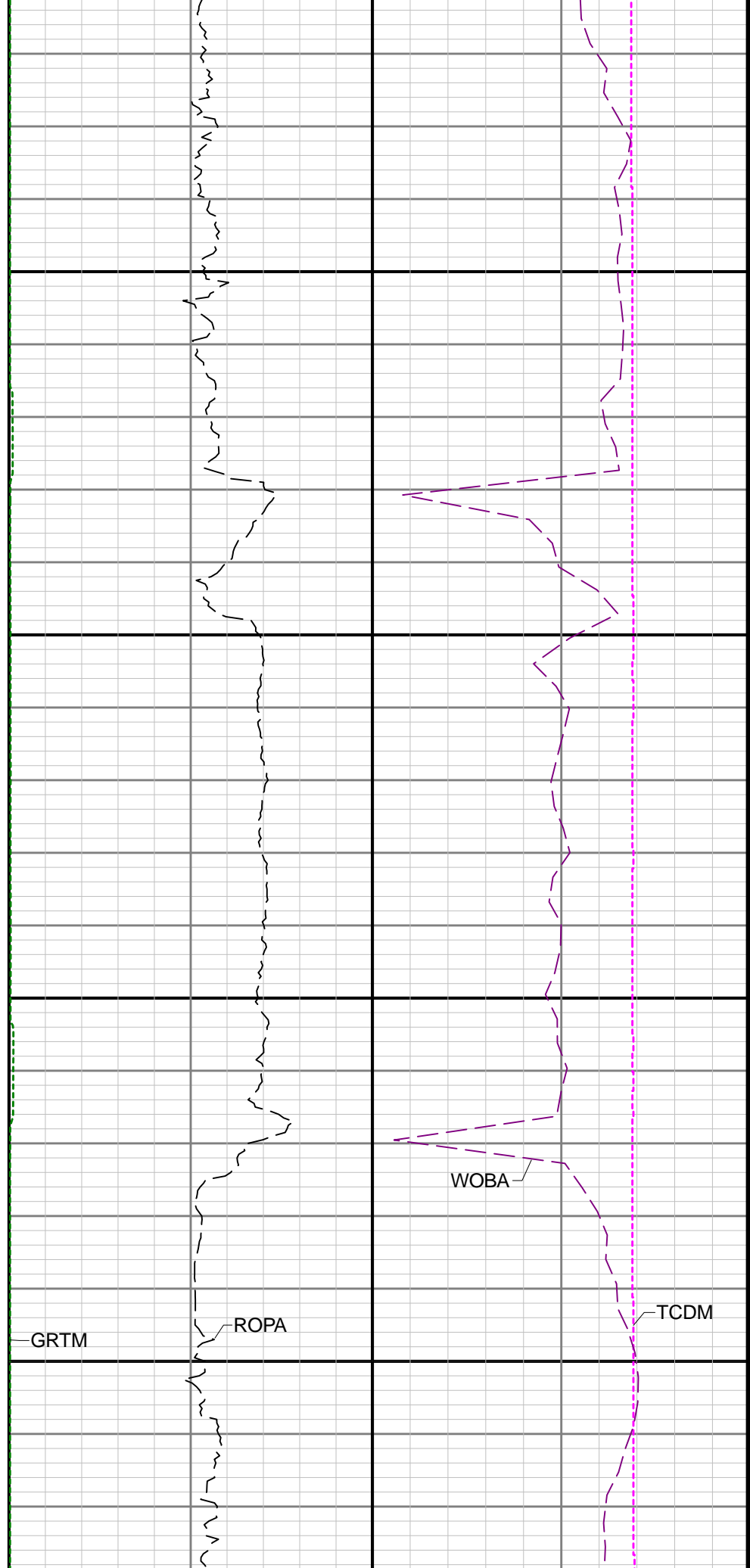
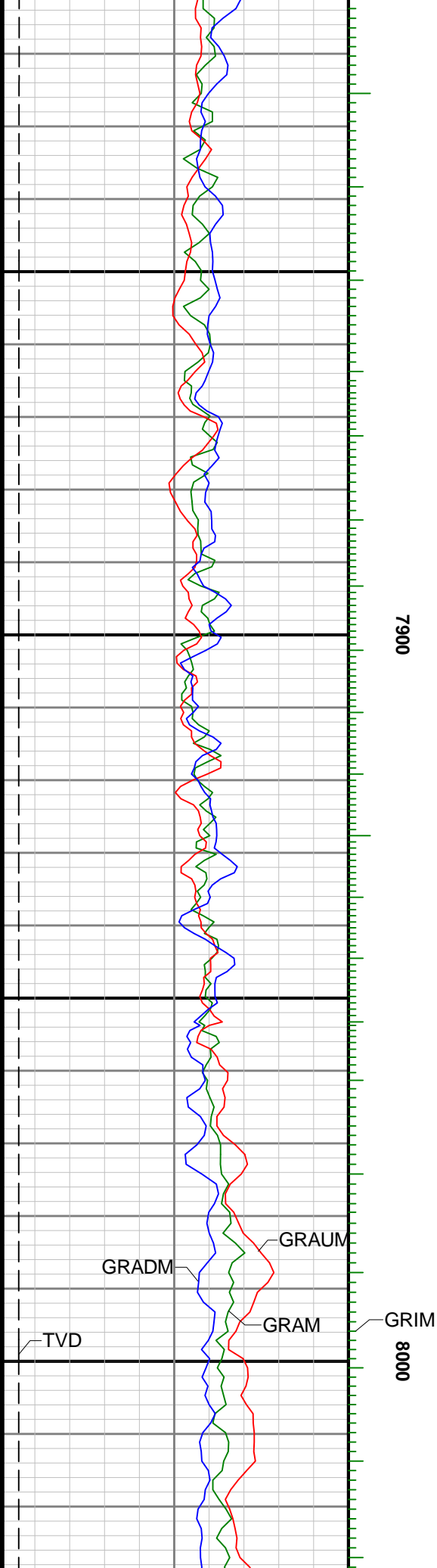


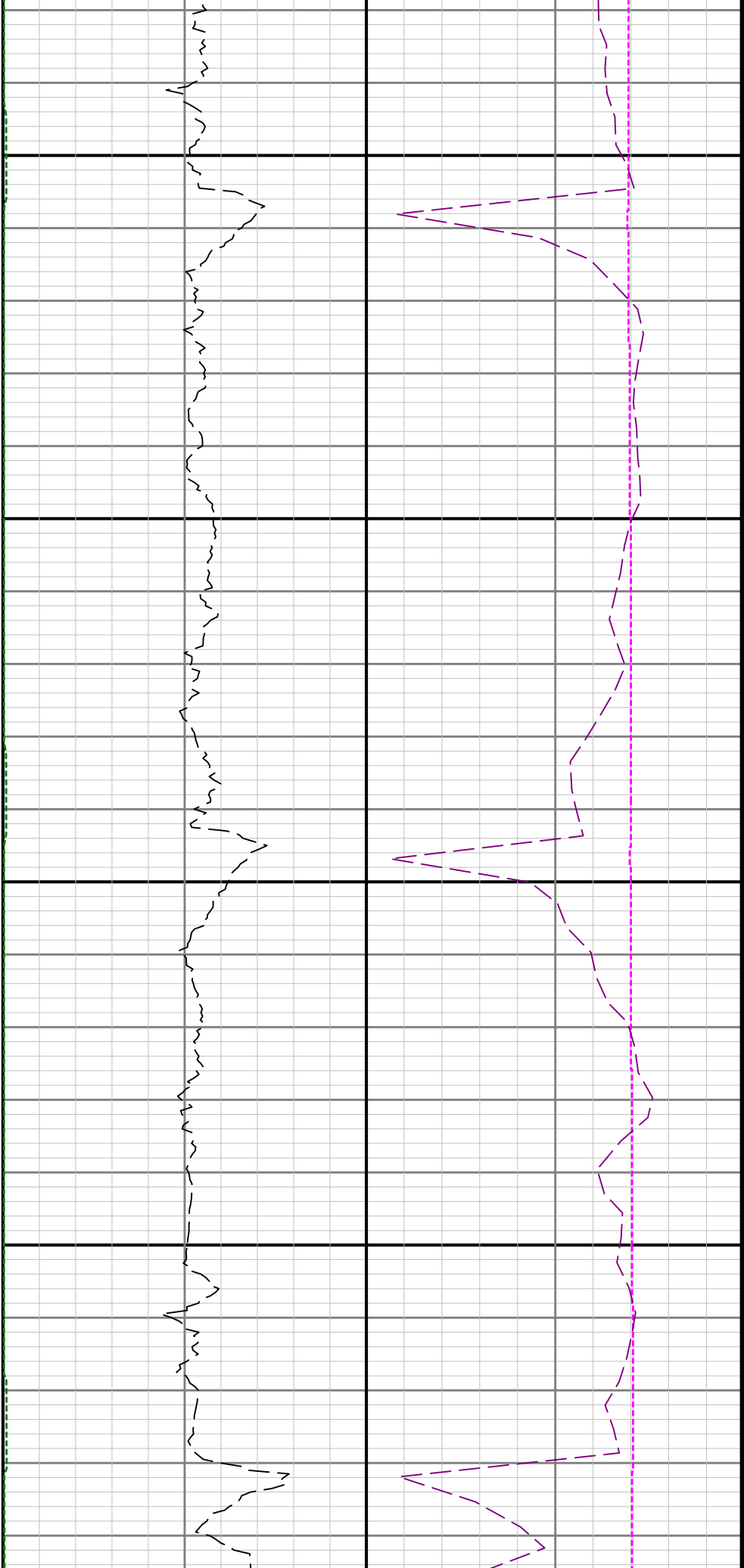






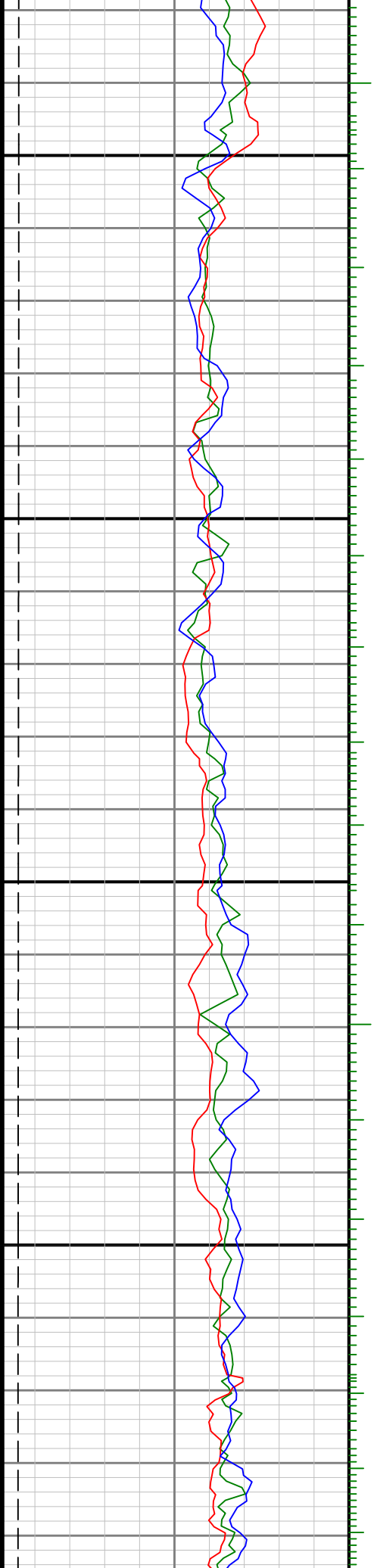


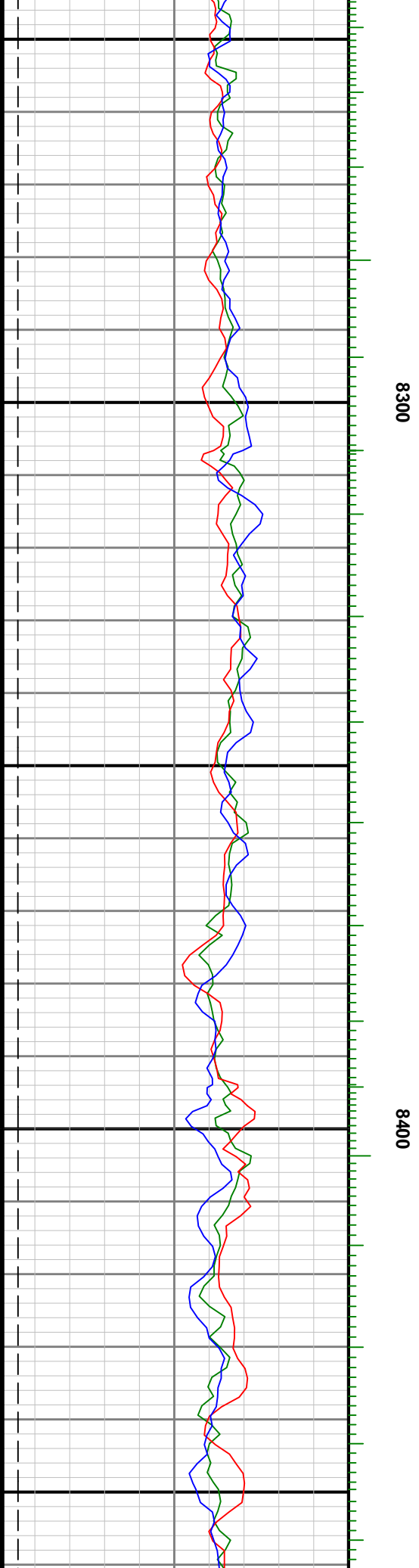
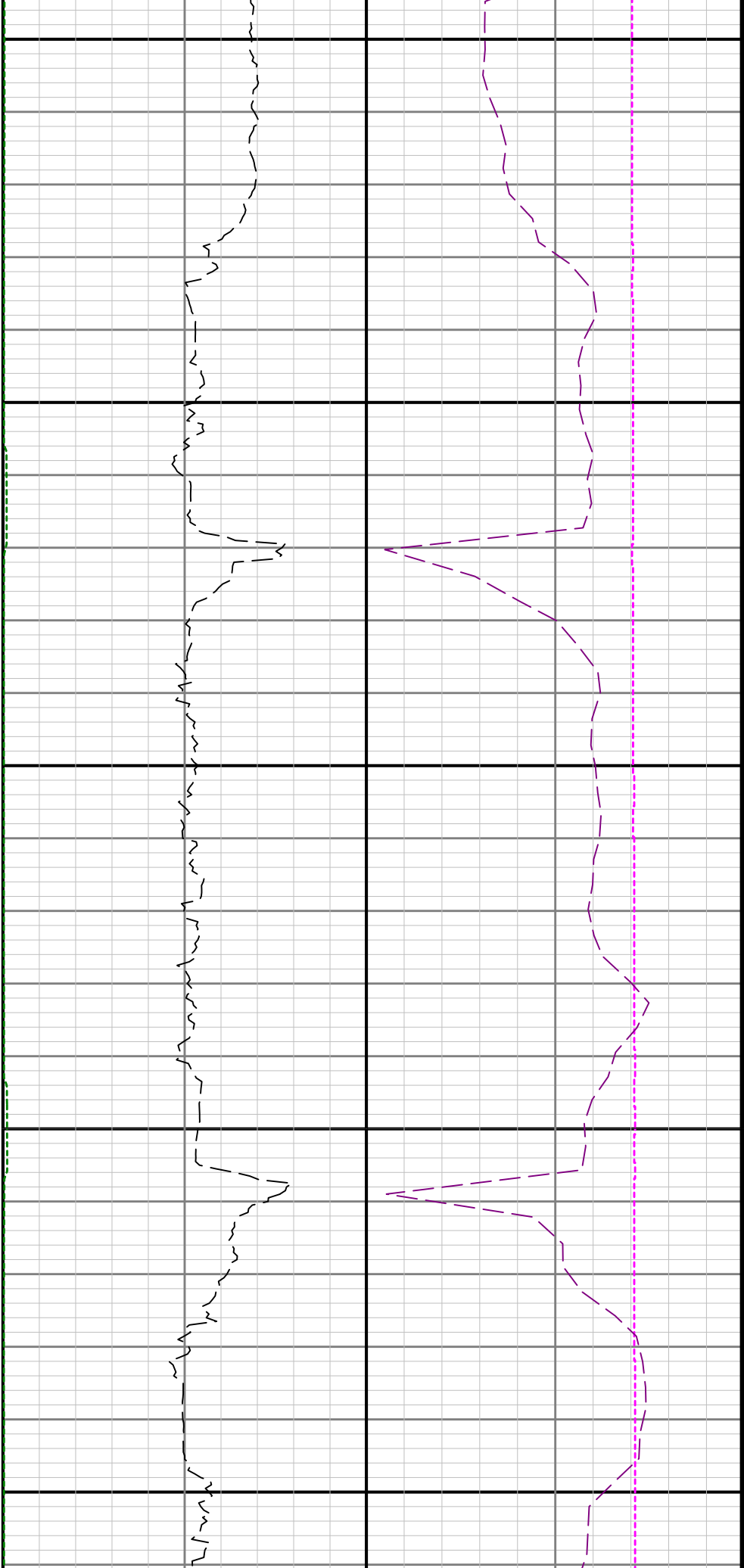


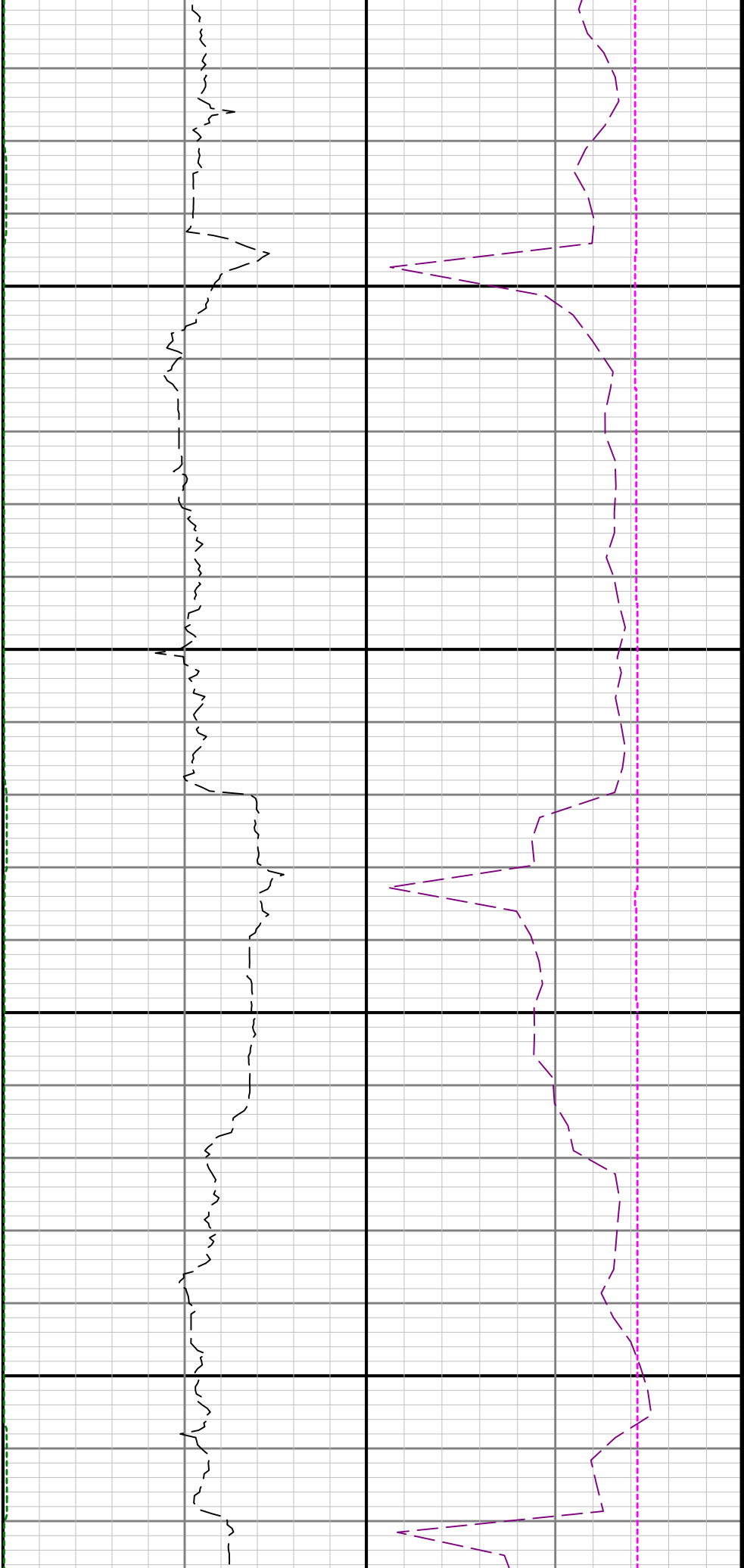


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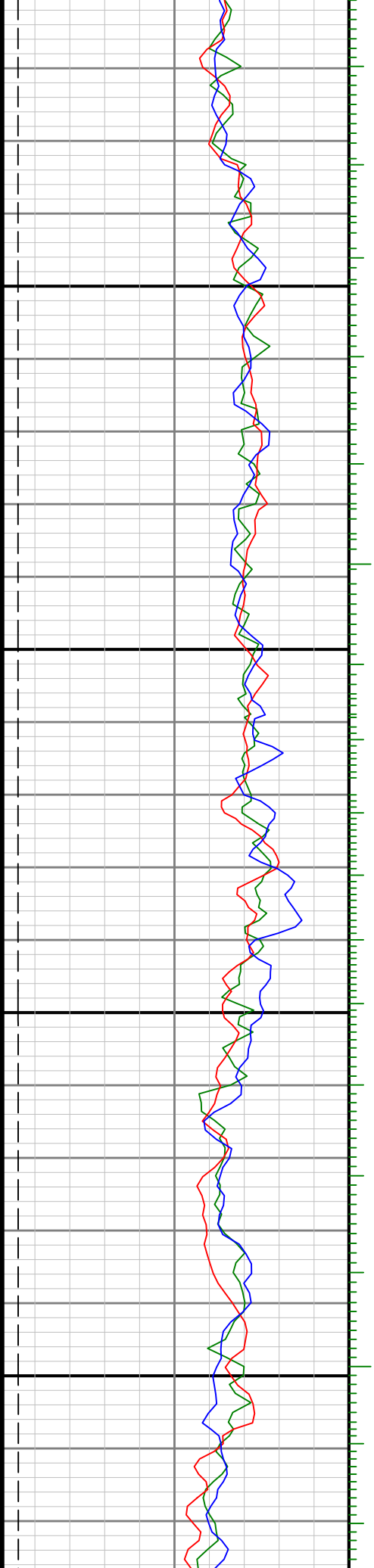


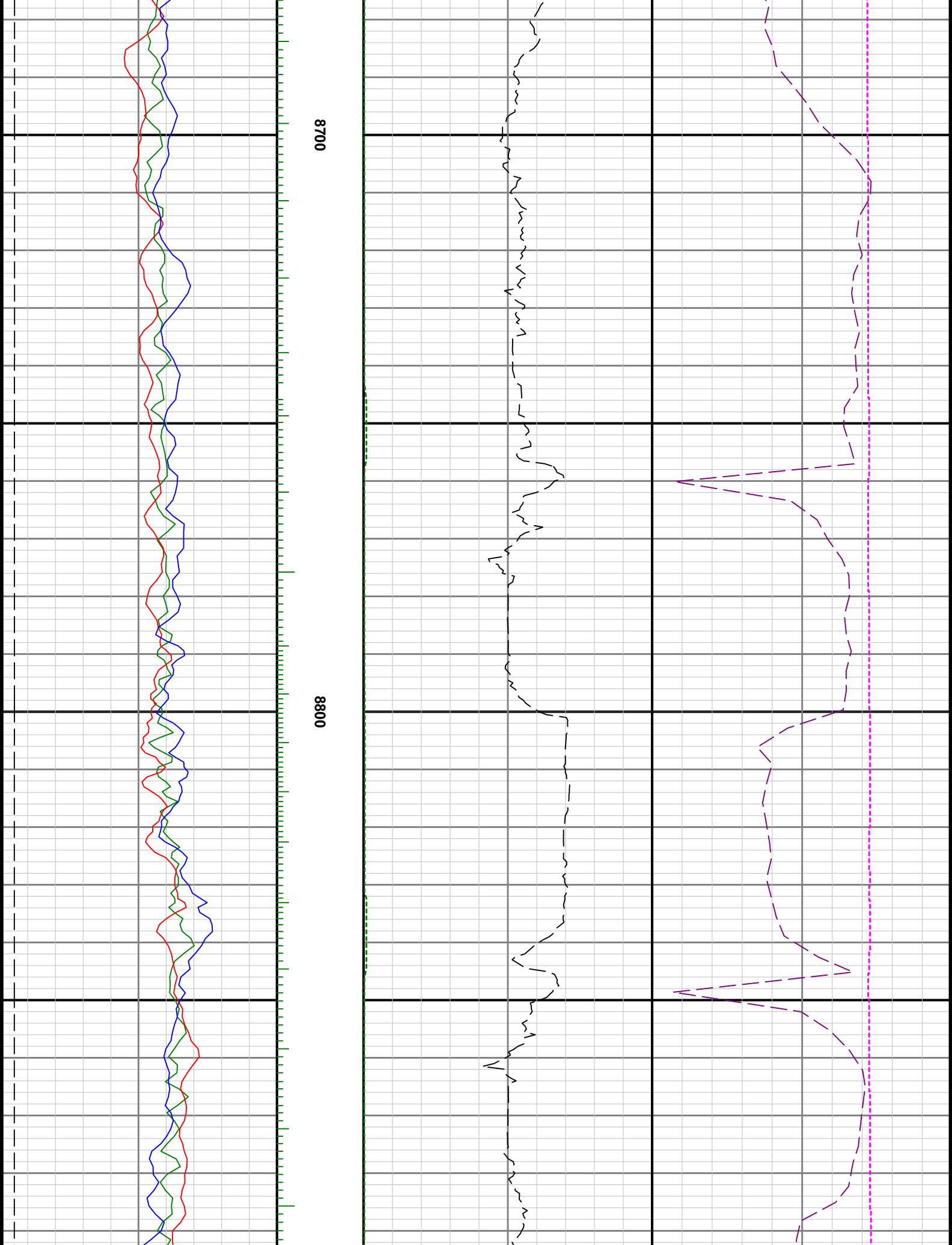


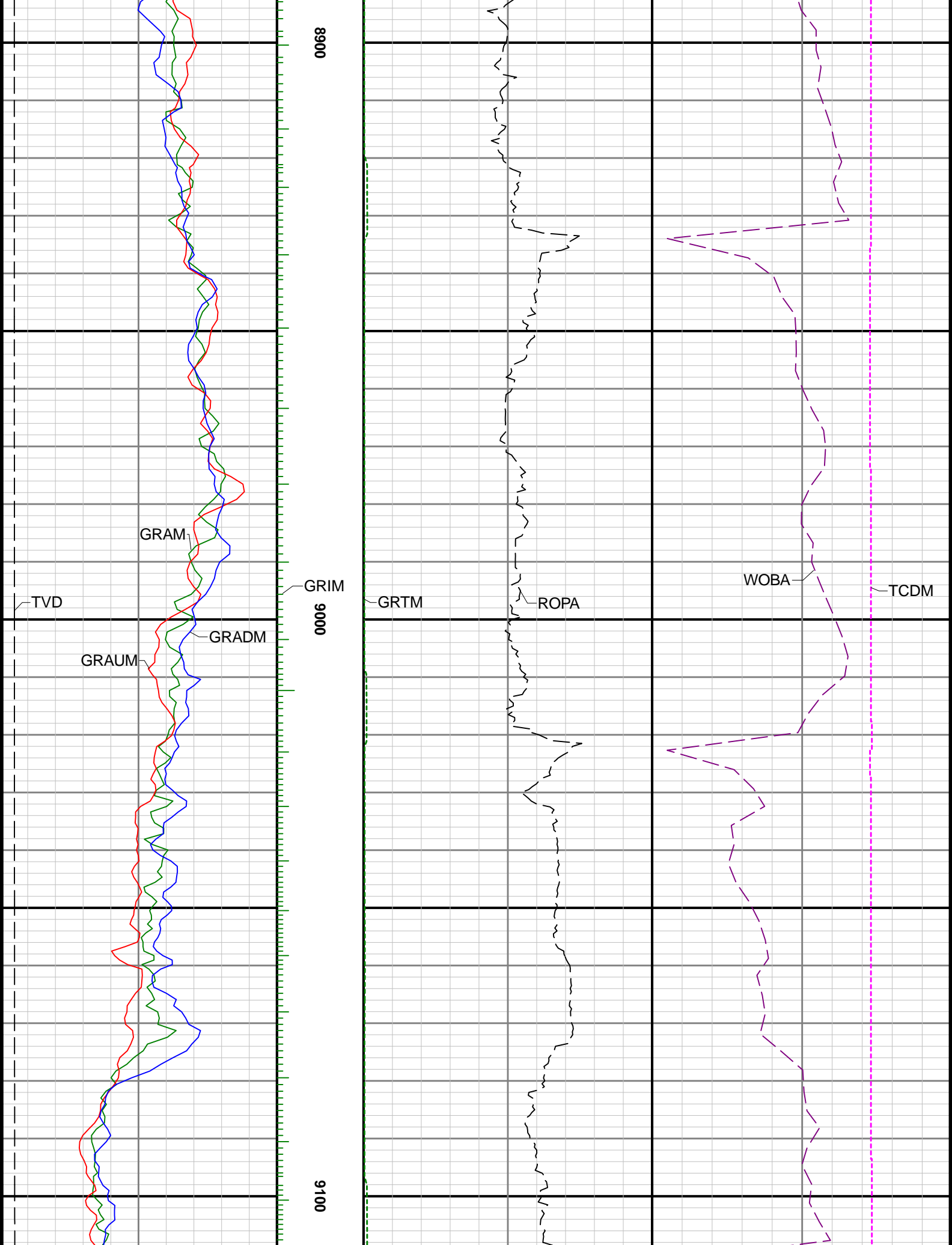


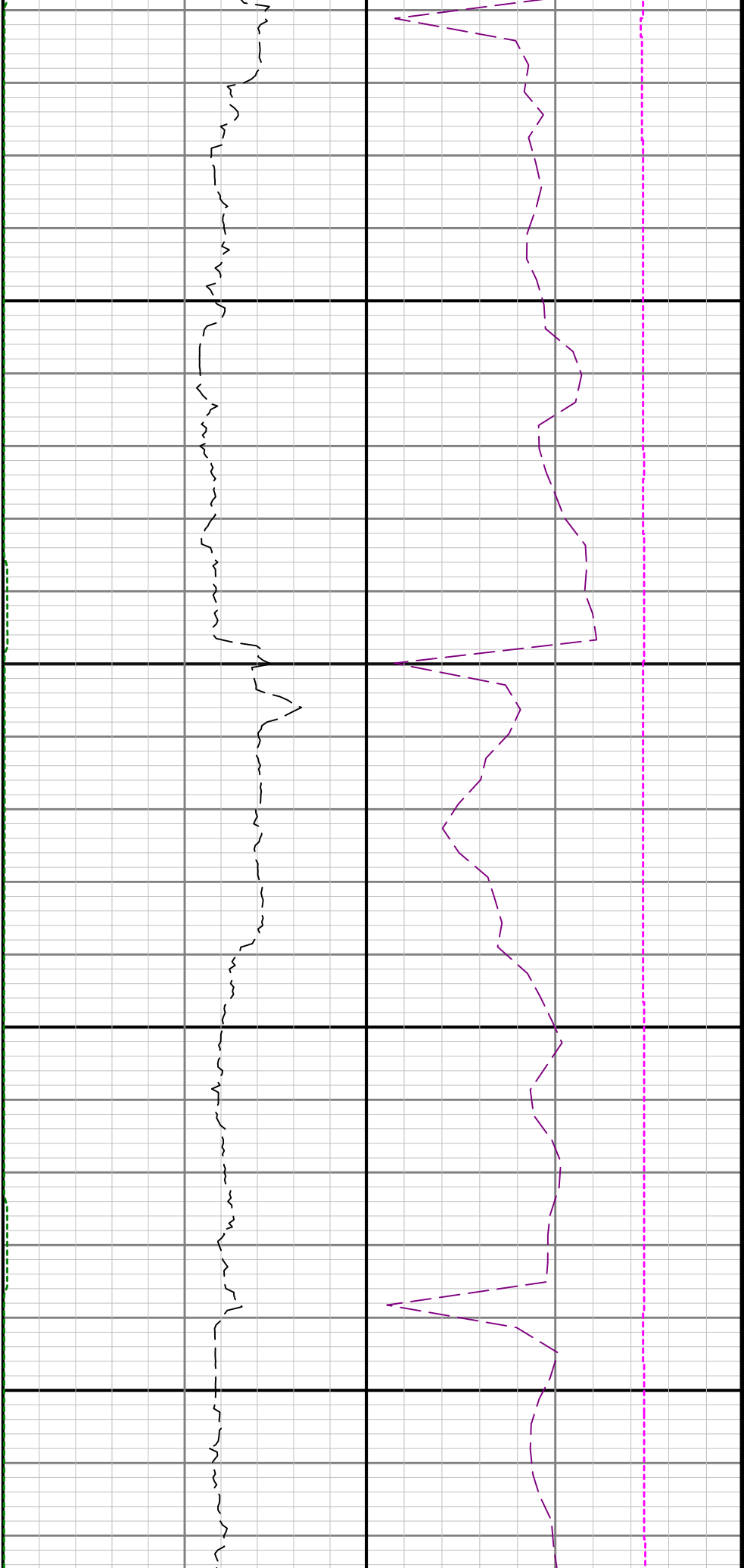
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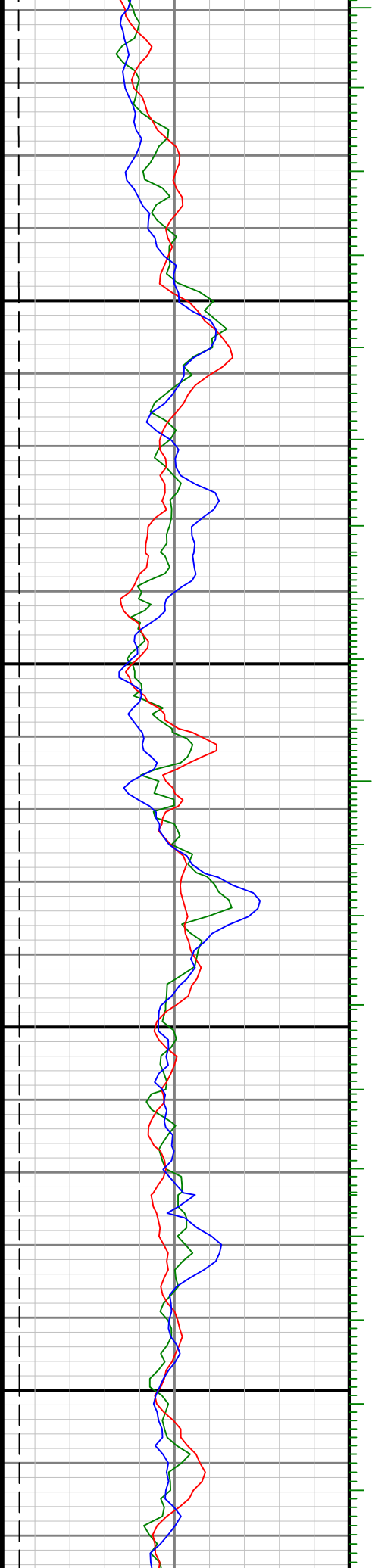


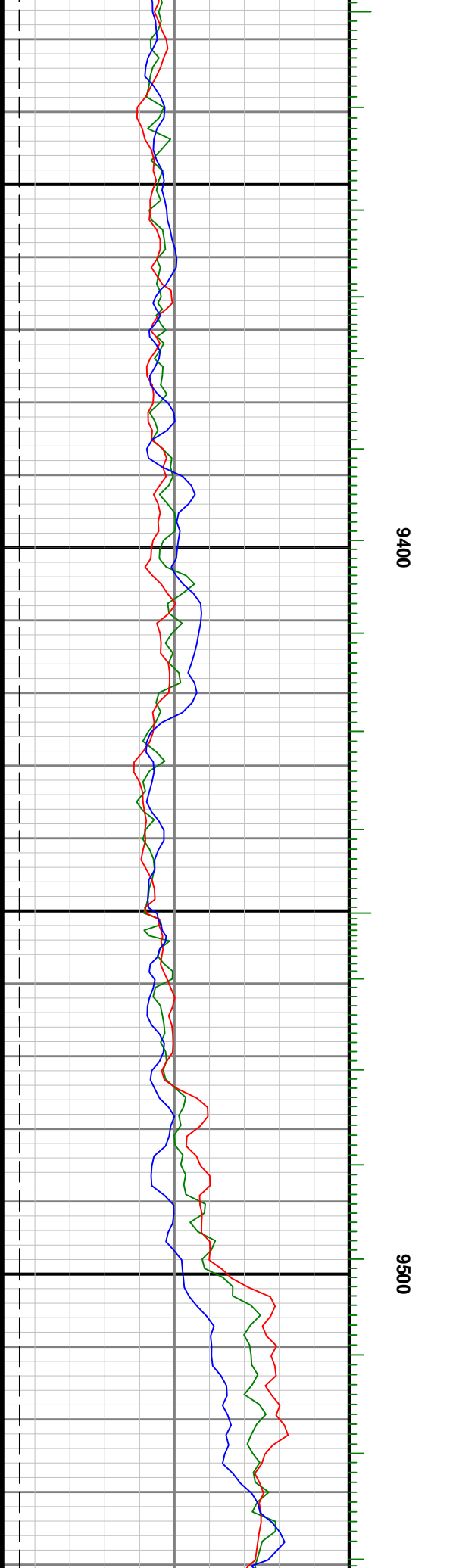
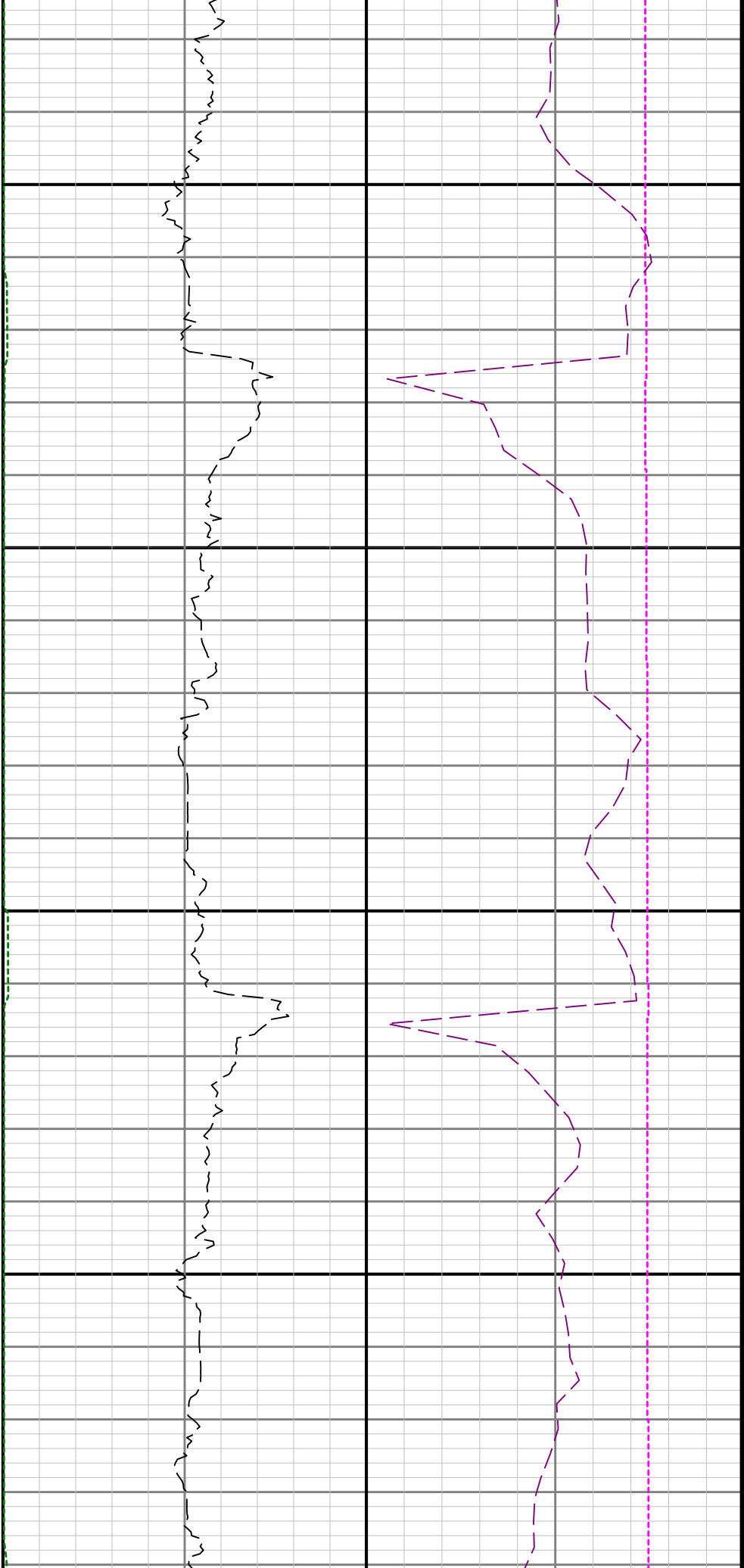


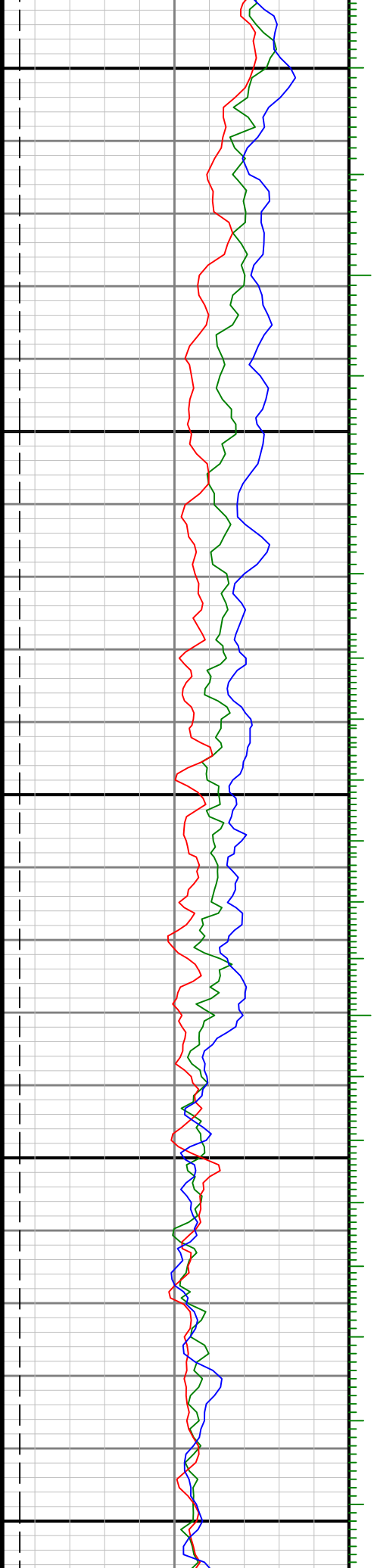


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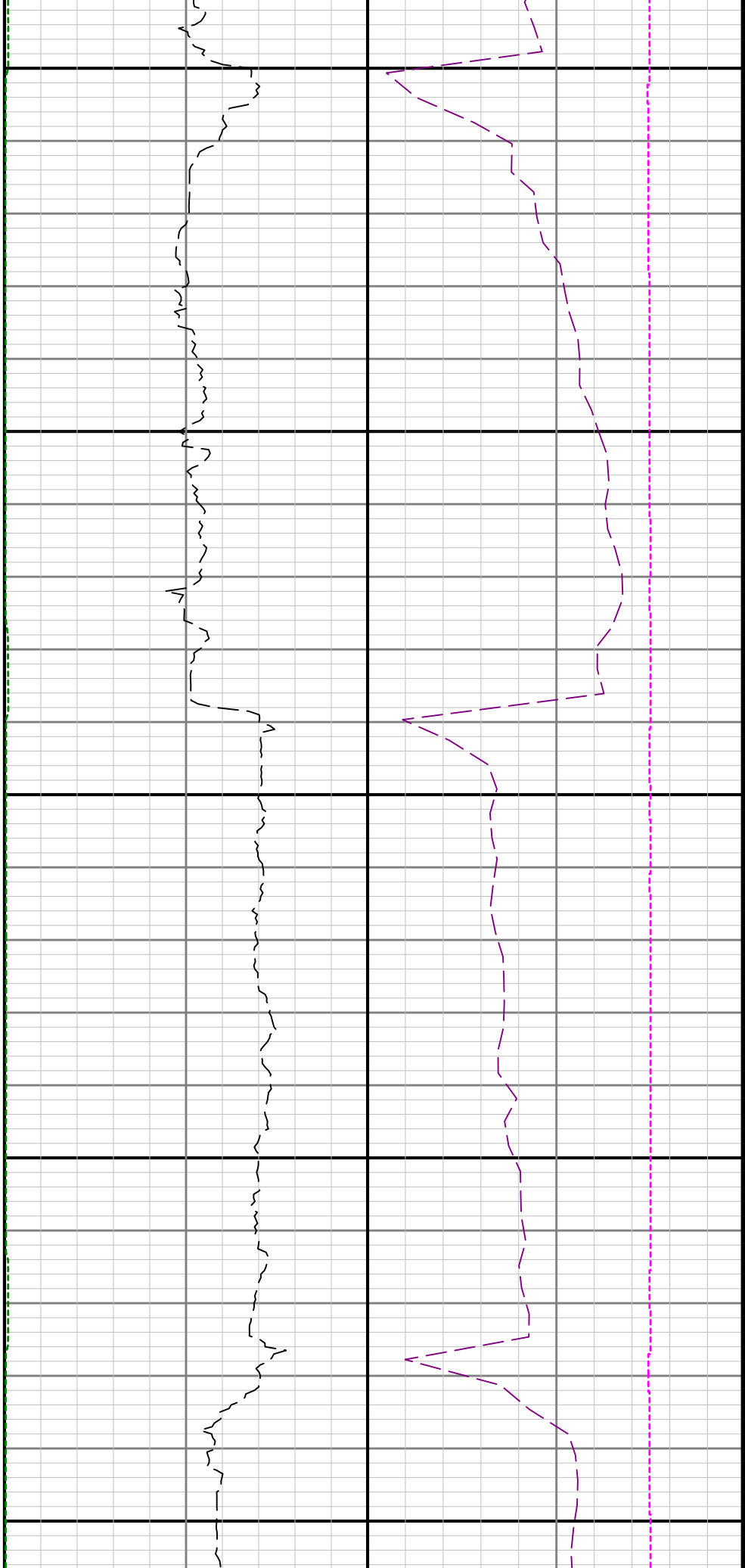


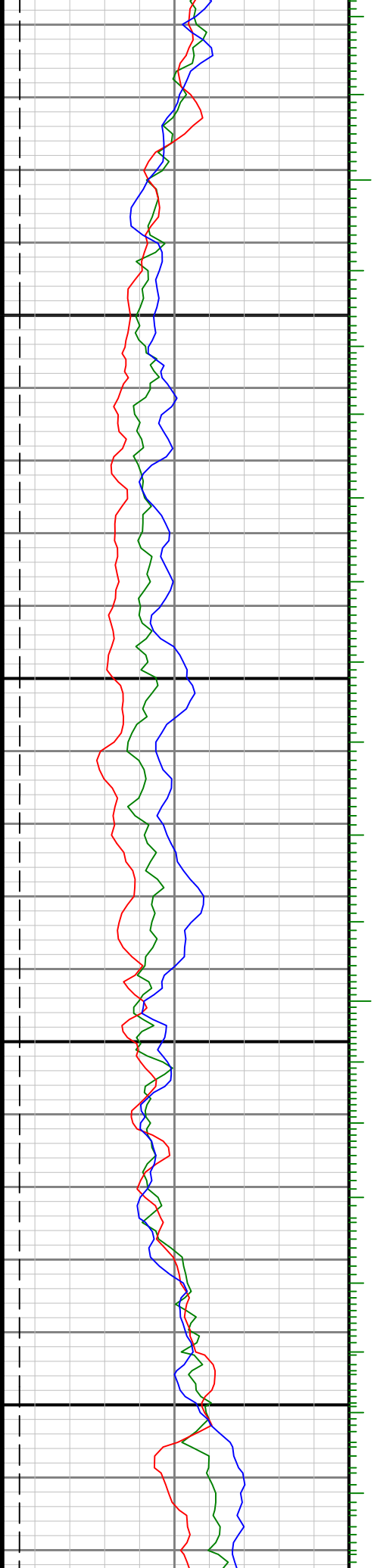




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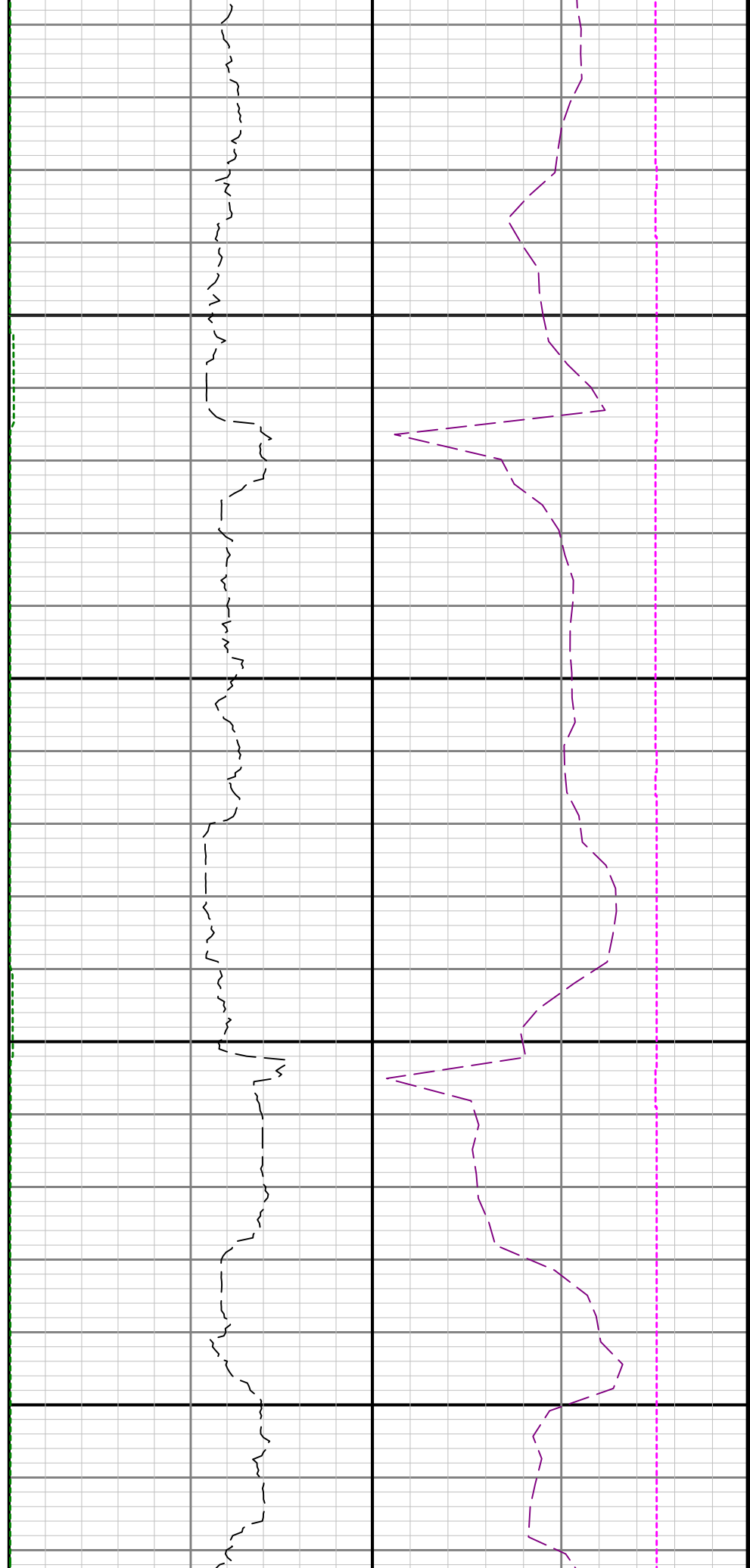
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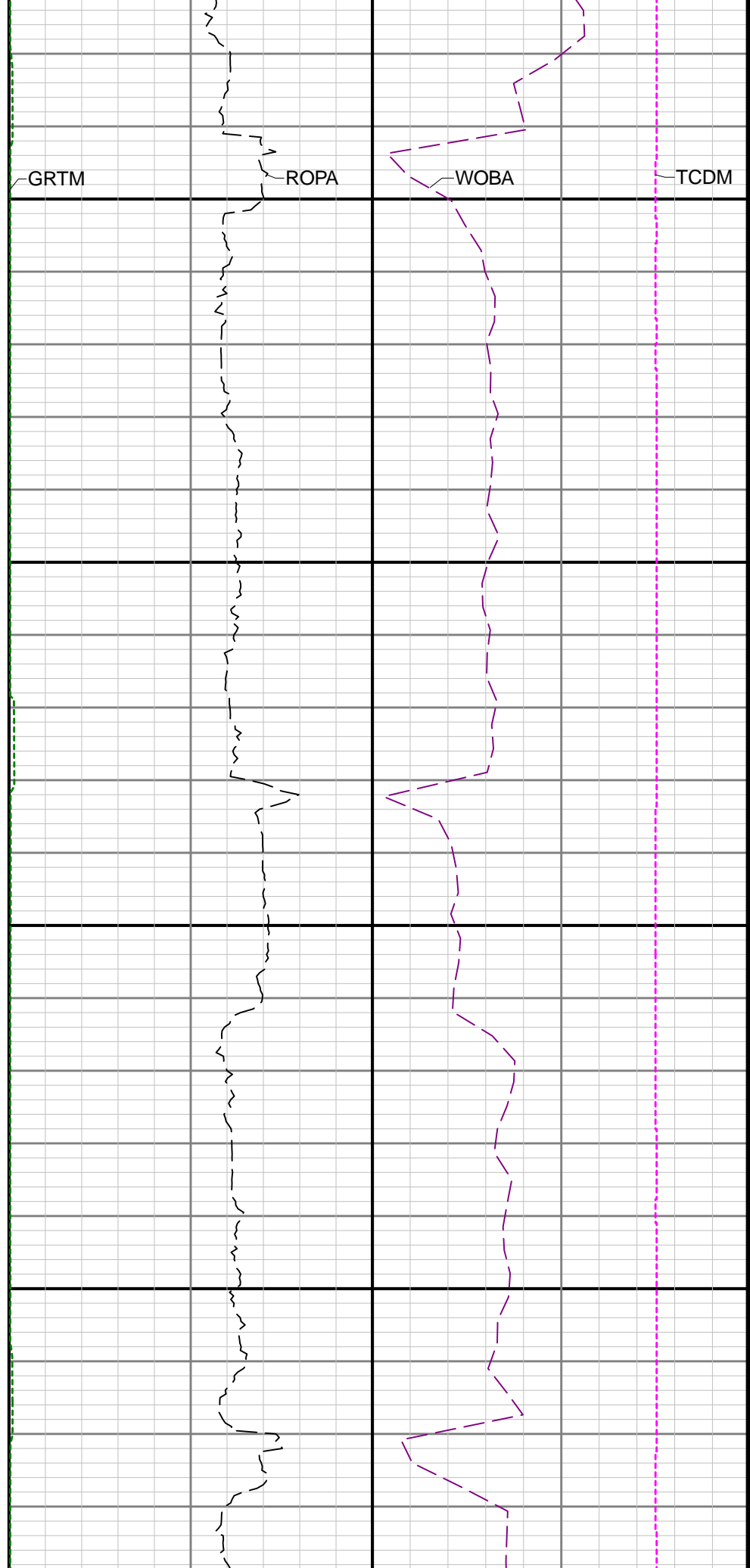
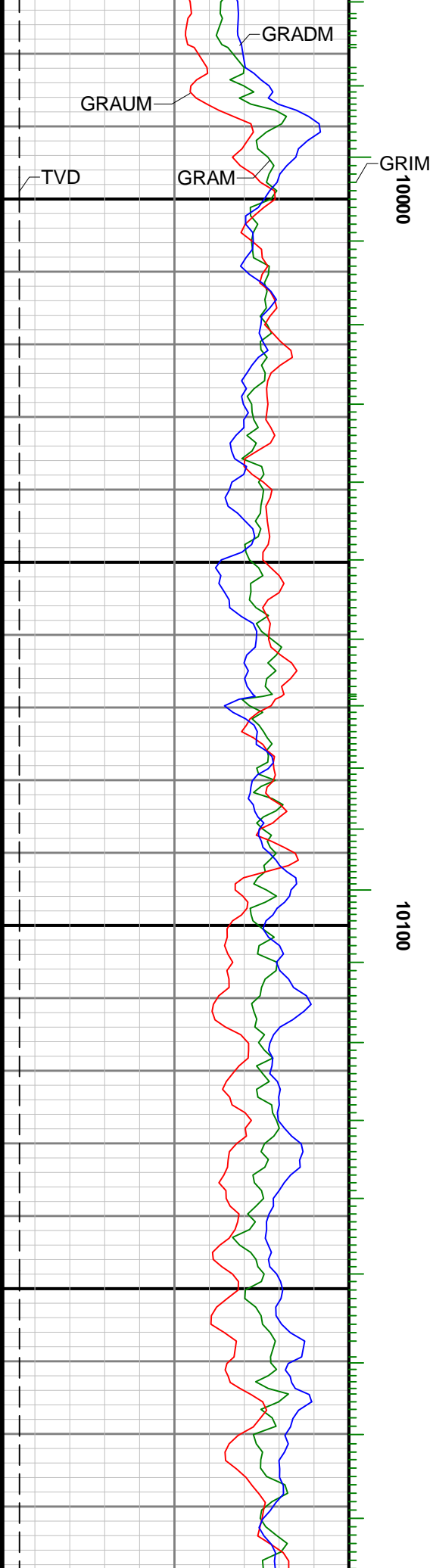


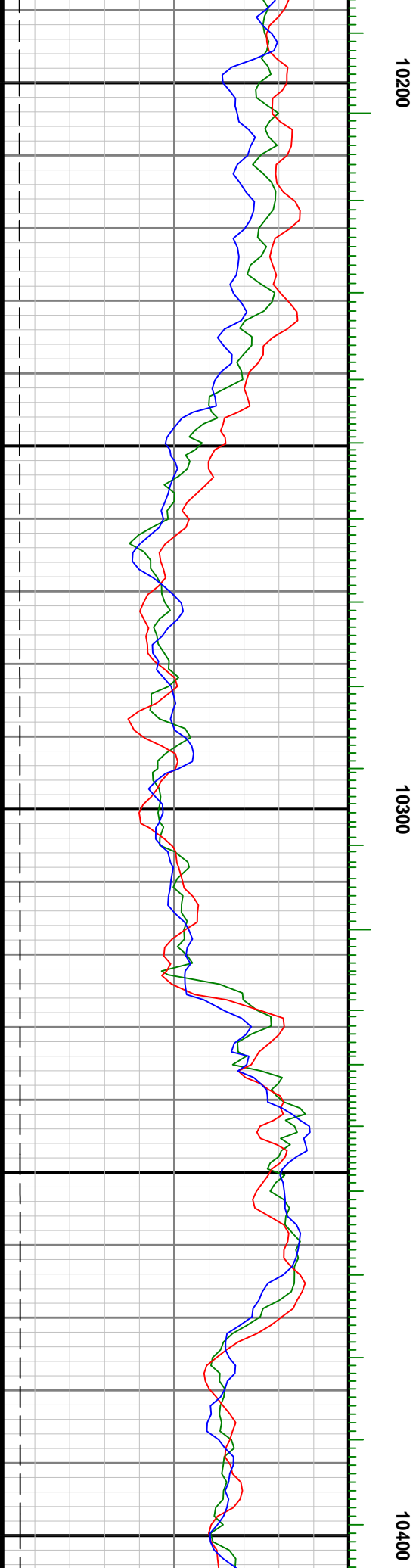
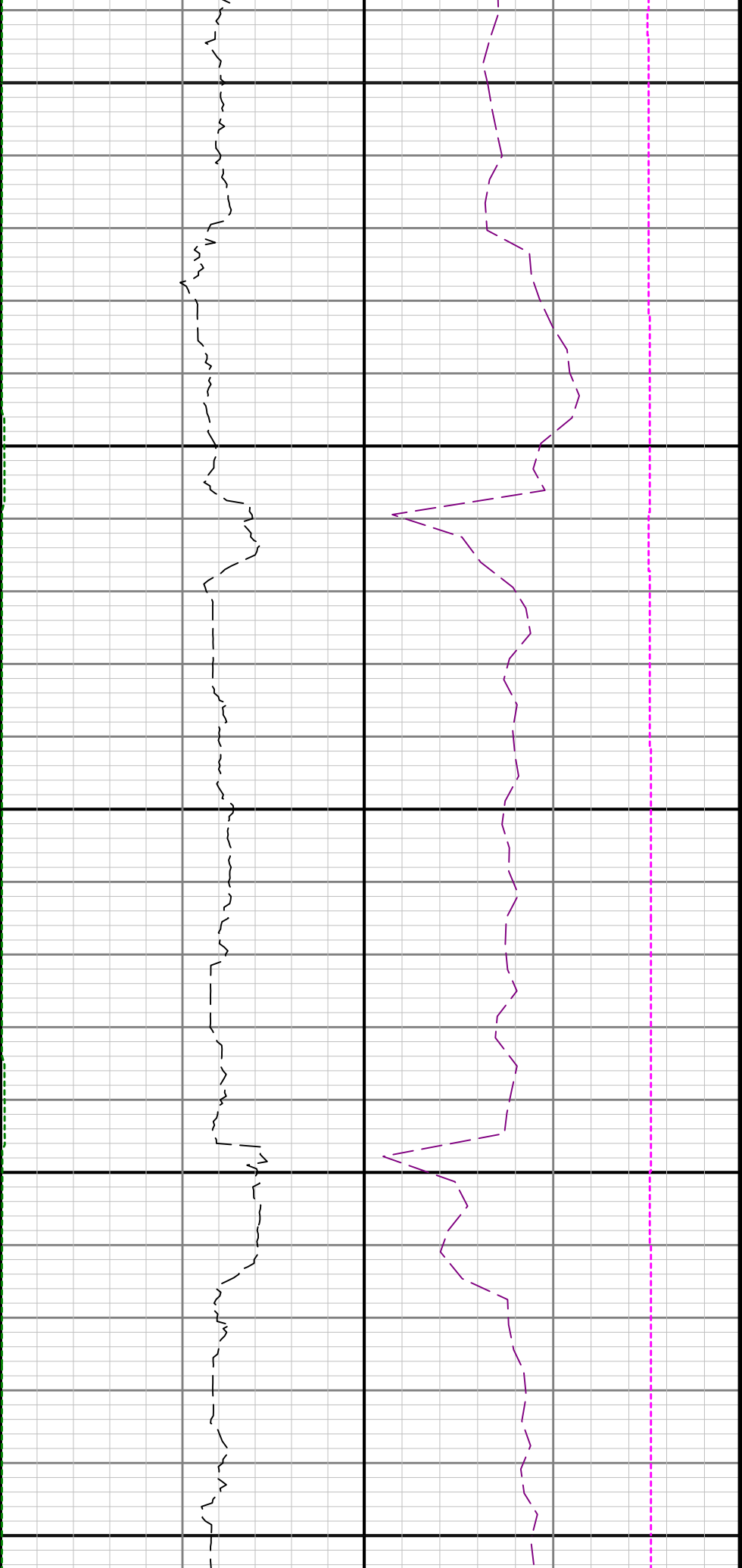


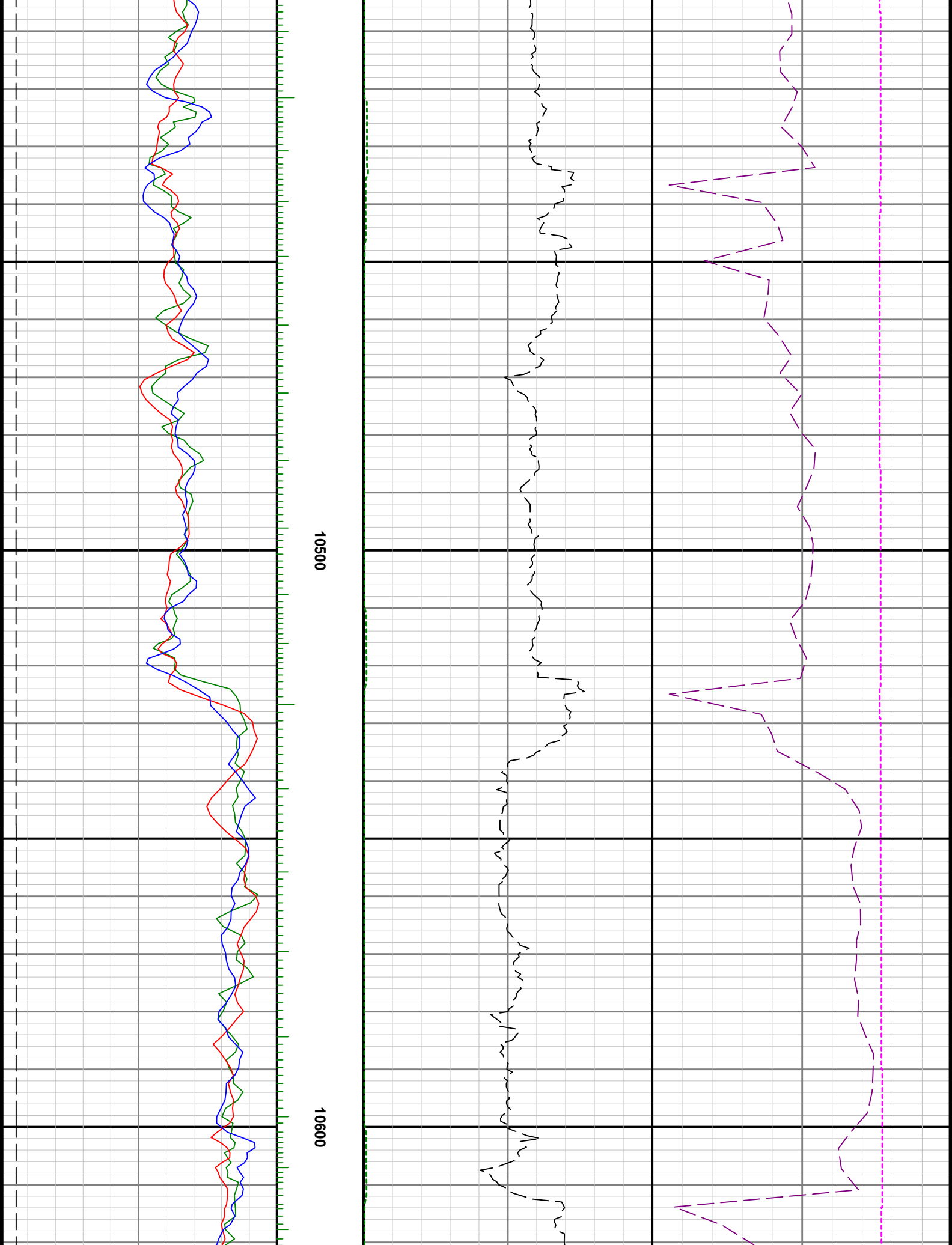
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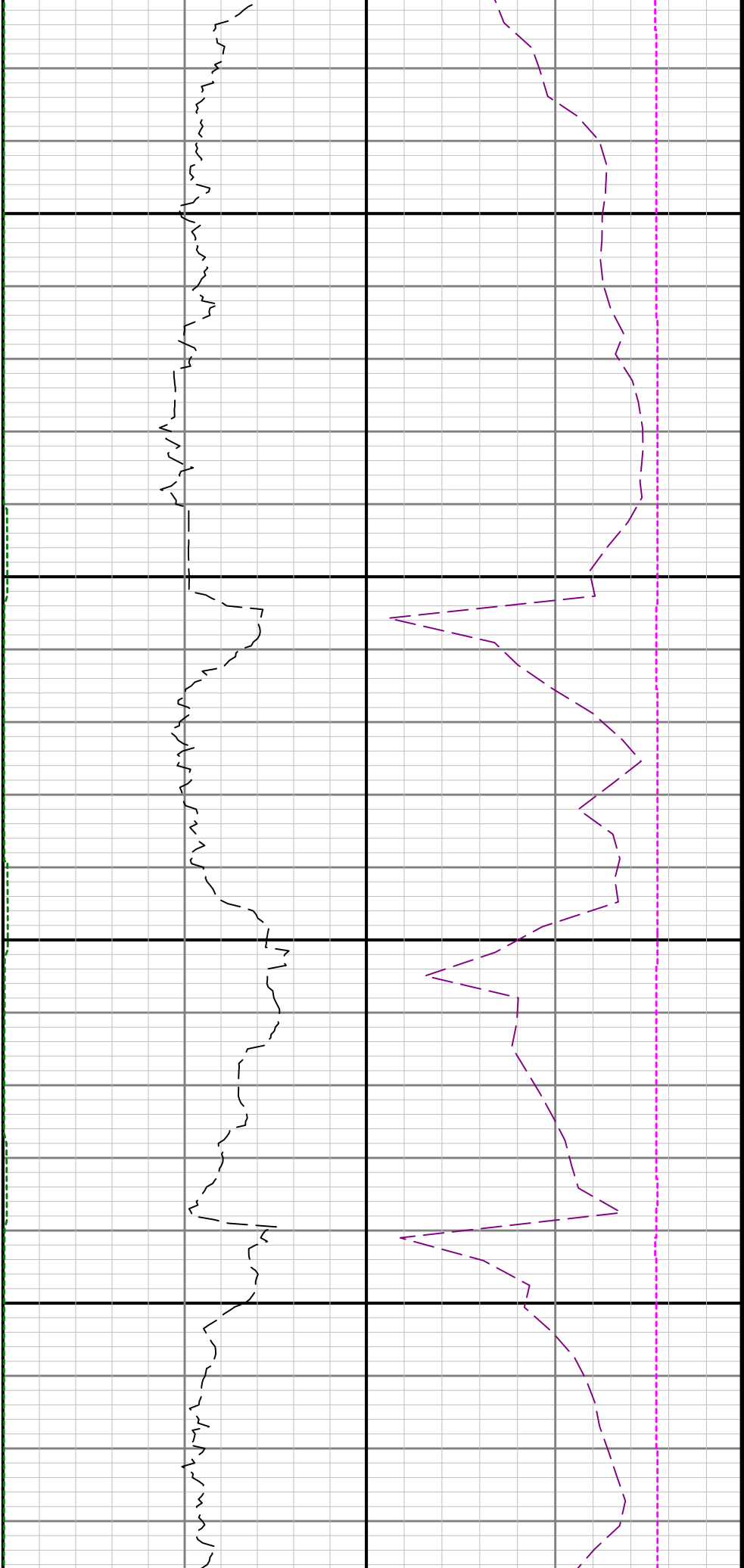
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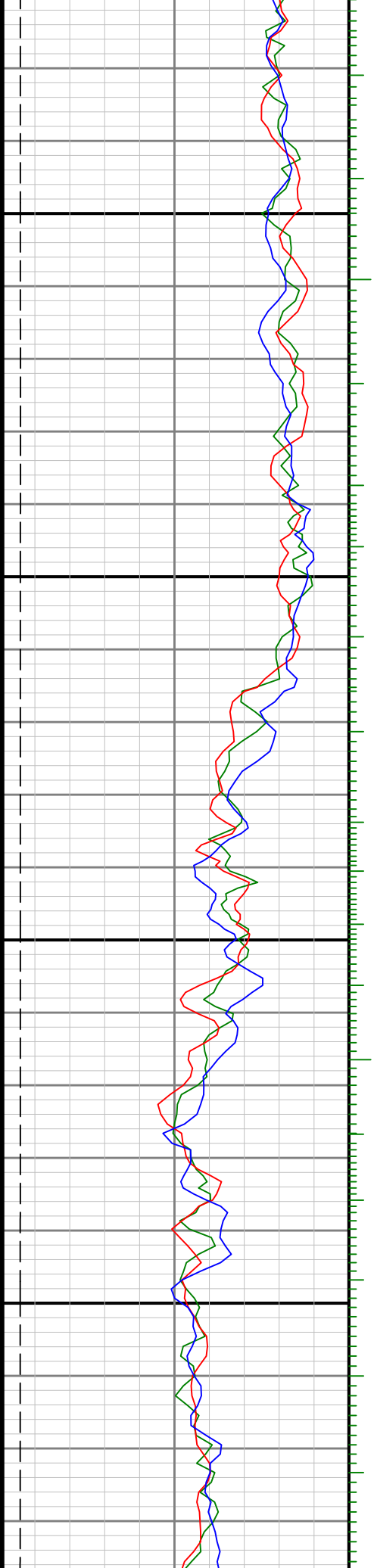


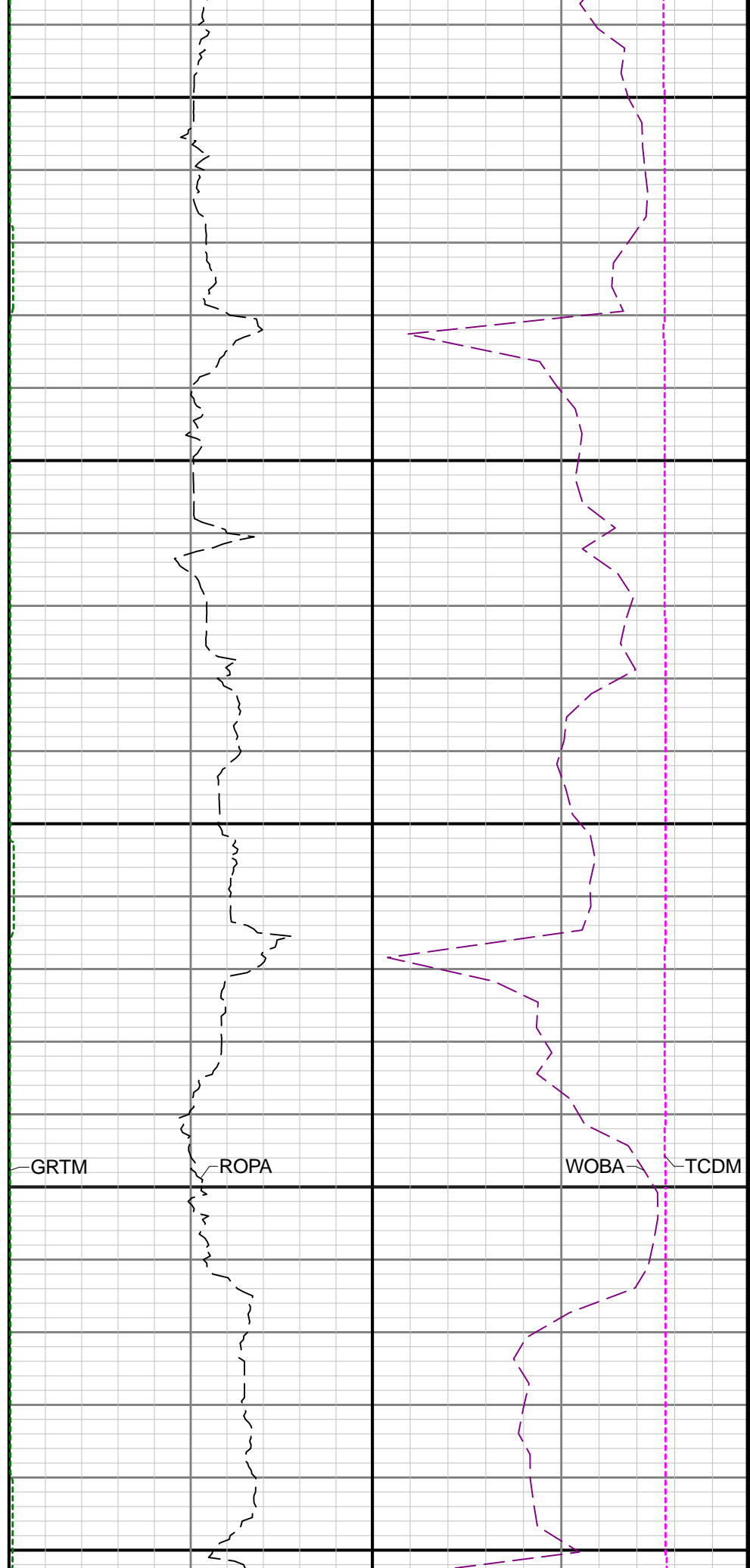
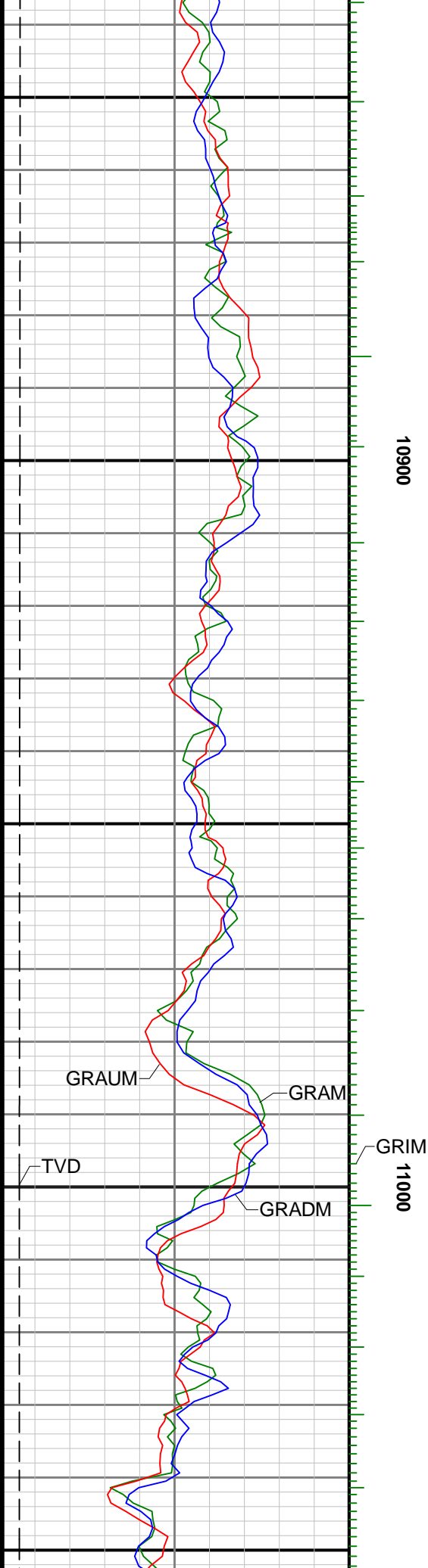




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