



LWD REALTIME LOG

Gamma Ray

BAKER HUGHES a GE company				LWD REALTIME LOG			
<div><div><div><div><div><div>Scale:</div><div>1:240</div><div>Measured Depth</div></div><div><div>Depth Reference:</div><div>Driller's Depth</div></div></div><div><div>Status:</div><div>Final Print</div></div><div><div>API No:</div><div>05-123-48750-0000</div></div><div><div>Job ID:</div><div>109763958</div></div><div><div>Permanent Datum (P.D.):</div><div>Ground Level</div></div><div><div>Log Measured From:</div><div>Rig Floor</div></div></div></div><div><div><div>Company: Crestone Peak Resources Operating LLC</div><div>Well: Echeverria 2F-2H-D267</div><div>Field: Weld County</div><div>County: Weld County</div><div>State: Colorado</div><div>Country: United States</div></div><div><div>Surface Location:</div><div>Latitude: 040° 10' 19.311" N</div><div>Longitude: 104° 51' 53.251" W</div><div>SEC: 2 TWN: 2N RGE: 67W</div><div>Elevation: 4882.00 ft</div><div>Above P.D.: 28.00 ft</div><div>Elev. KB: N/A</div><div>Elev. DF: 4910.00 ft</div><div>Elev. GL: 4882.00 ft</div></div></div></div> <div><div><div>Dates</div><div>From: 2019-04-21</div><div>To: 2019-04-24</div><div>Spud: 2019-01-23</div></div><div><div>Interval</div><div>Drilled (ft)</div><div>Top: 2321.00</div><div>Bottom: 12335.00</div><div>Logged (ft)</div><div>Top: 2269.00</div><div>Bottom: 12283.00</div><div>Azi Reference North: True</div><div>Total Magnetic Field Strength: (nT)</div><div>Mag to Reference North Correction: (deg)</div></div><div><div>Magnetic Field Reference</div><div>66.53</div><div>52.131</div><div>8.33</div></div></div> <div><div><div>Borehole Record</div><div>Hole Size (in)</div><div>From (ft)</div><div>To (ft)</div><div>Size (in)</div><div>Weight (lb/ft)</div><div>From (ft)</div><div>To (ft)</div></div><div><div>13.500</div><div>28.00</div><div>2321.00</div><div>9.625</div><div>36.00</div><div>28.00</div><div>2321.00</div></div><div><div>8.500</div><div>2321.00</div><div>12335.00</div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div> <div><div><div>Mud Record</div><div>Type</div><div>From (ft)</div><div>To (ft)</div><div>Hole Size (in)</div><div>Interval (ft)</div><div>Inc Az (Start)</div><div>Inc Az (End)</div></div><div><div>Synthetic Based Mud</div><div>2321.00</div><div>12335.00</div><div>8.500</div><div>10014.00</div><div>8.49 9.23</div><div>91.19 176.49</div></div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div> <div><div><div>Acquisition System</div><div>Baker Hughes Cadence</div><div>Pilot Studio</div></div><div><div>Software Version</div><div>RT 5.1</div><div>5.1.8355.1</div></div><div><div>Other</div><div>Rig: Ensign 142</div><div>Contractor: Ensign Drilling</div><div>District: RMD</div><div>Unit: D&E</div></div></div>							

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Log Run Summary

Run No	Bit Run No.	Bit Size (in)	Bit Type	Bit Gauge Length (in)	Assembly Type	Logged Interval		Bit Depth Interval		Date / Time		Circ. Hours
						Top	Bottom	From	To	Start Logging	End Logging	
						(ft)	(ft)	(ft)	(ft)			
1	1	8.500	PDC	4.00	Steerable	2269.00	12283.00	2321.00	12335.00	2019-04-22 00:10	2019-04-24 16:33	61.47

Crew

Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite
A. Spring	2019-04-21	2019-04-25	S. Johnson	2019-04-21	2019-04-25			

Mud Properties Record

Date / Time	Run No.	Depth (ft)	Mud Type	Density (ppg)	Viscosity (cP)	pH	Fluid Loss (cm3)	Oil / Water	Source	Total Chlorides (ppm)	K+ (%)
2019-04-22 00:10	1	2321.00	Synthetic Based Mud	9.7	15	N/A	20.8	69.5/18	Active Pit	30888	0.00
2019-04-23 17:00	1	9119.00	Synthetic Based Mud	9.7	14	N/A	20.8	68/19	Active Pit	30888	0.00
2019-04-24 08:00	1	11266.00	Synthetic Based Mud	10.2	15	N/A	22.8	66/18.5	Active Pit	30888	0.00

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	EvoOne	14765383	Gamma (single)	8.76	52.22	6.500	2.500
1	EvoOne	14765383	Directional (mag)	9.95	53.41	6.500	2.500

Service and Tool Mnemonics

Mnemonic	Name	Description
MWD	EvoOne - Dir Gamma	EvoOne

Comments

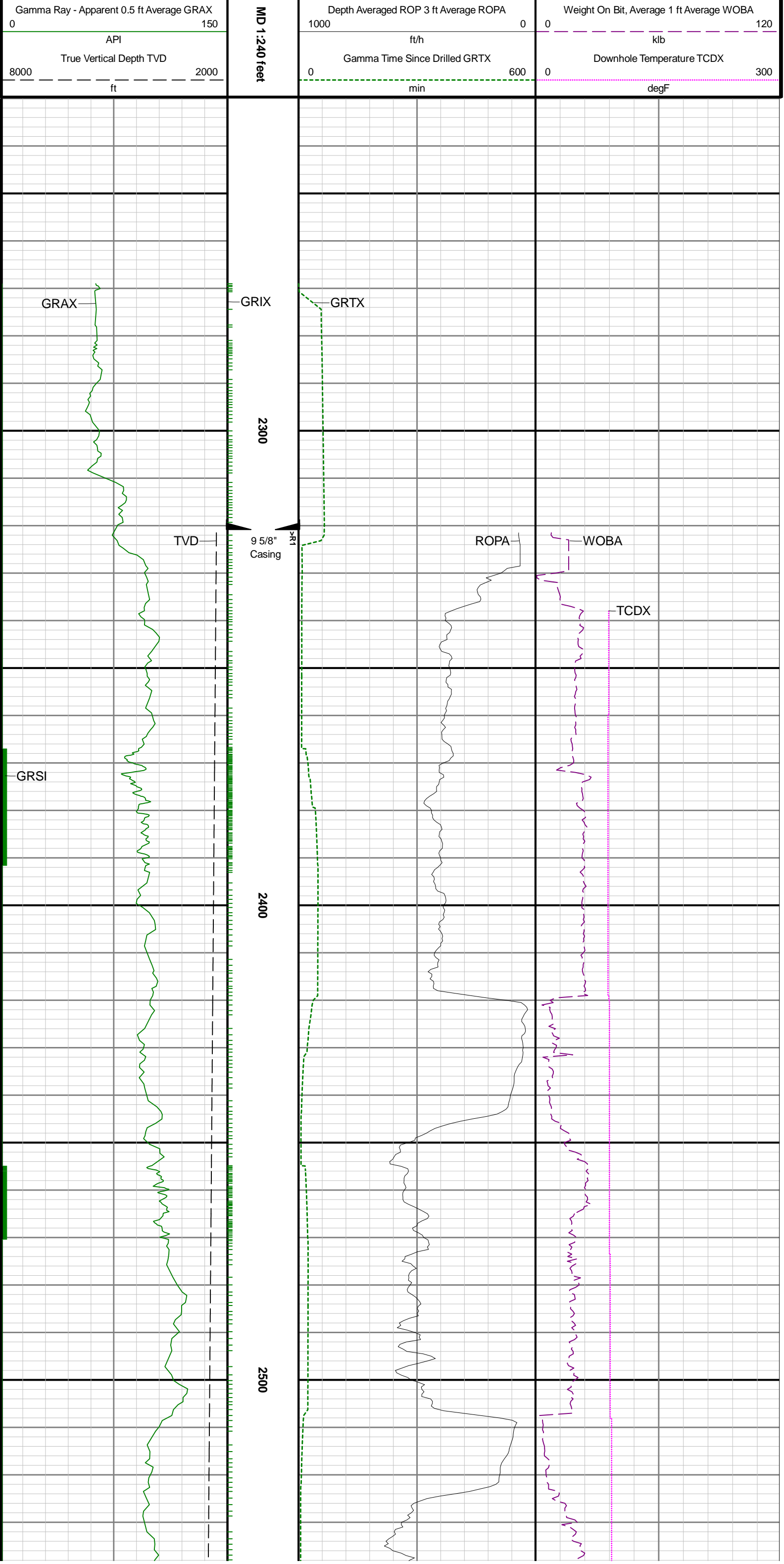
- 1 Depth measurements were obtained from a depth control system not supplied or operated by Baker Hughes. Due to lack of control by Baker Hughes logging engineers, depth calibrations and measurements could not be independently verified.
- 2 Baker Hughes run 1 utilized 6 1/2 inch NaviTrak UT services (Gamma Ray and Directional) behind a 8 1/2 inch bit and steerable assembly from 2321 to 12335 feet MD (2291 to 7419 feet TVD).
- 3 A sliding indicator is shown to the left edge of track 1 as a heavy line. The indicator has been depth-shifted to the Gamma Ray sensor offset to correspond with Gamma Ray data acquired while sliding.

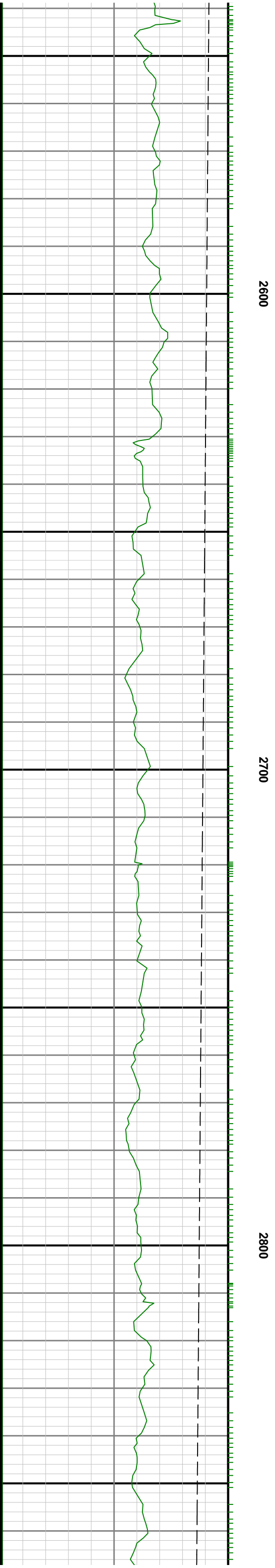
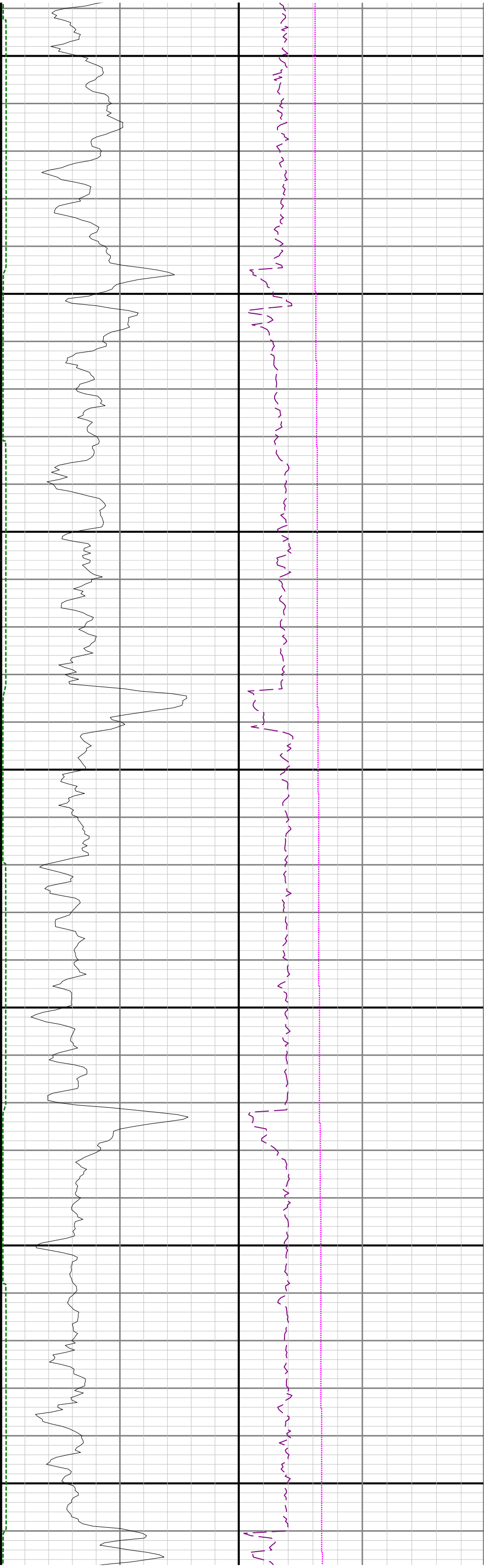
Remarks

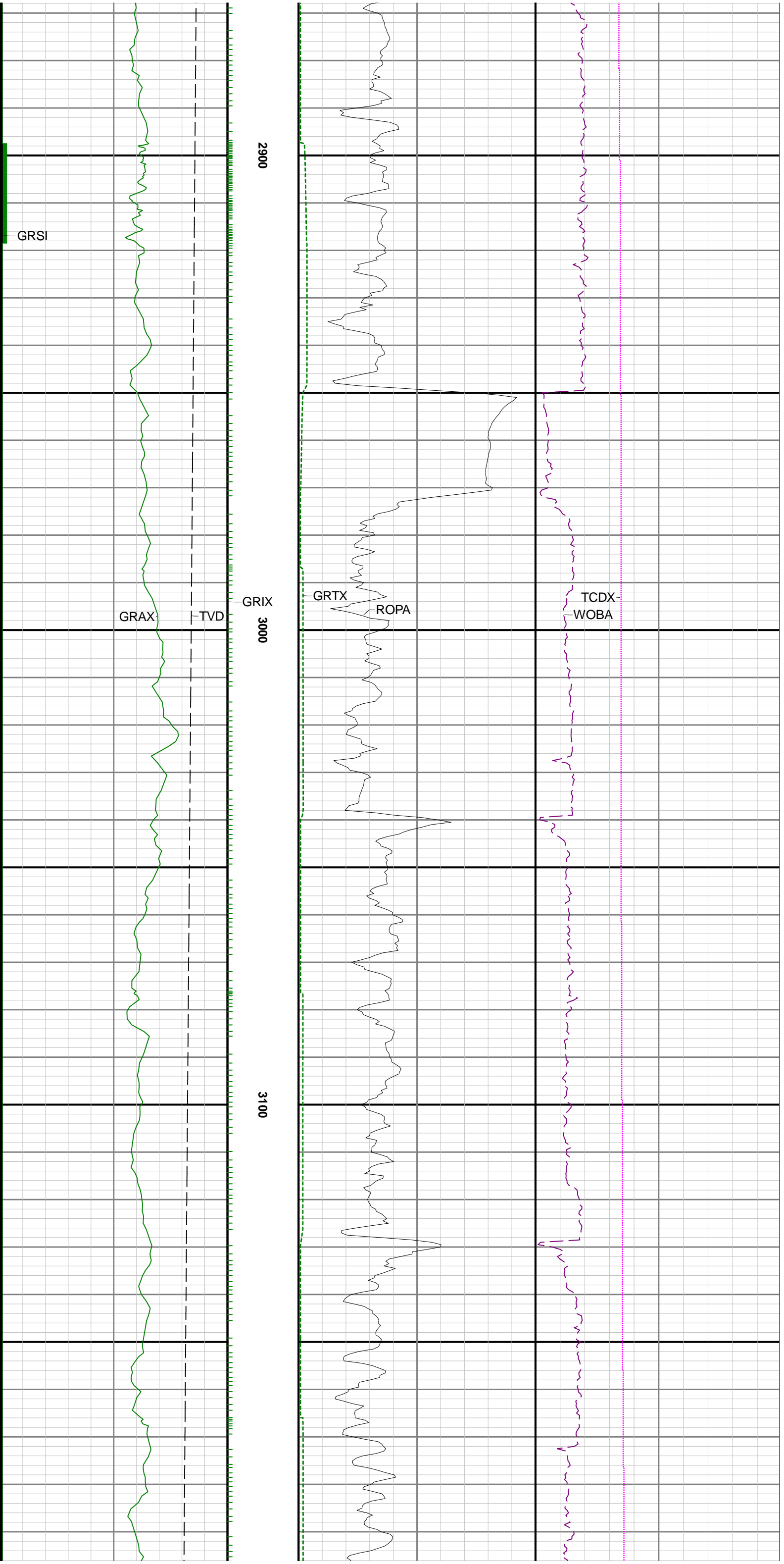
Number	Depth (ft)	Hole Section (in)	Run No.	Remark
1	12283.00	8.500	1	The interval from 12283 to 12335 feet MD (7420 to 7419 feet TVD) was not logged due to sensor to bit offset at TD.

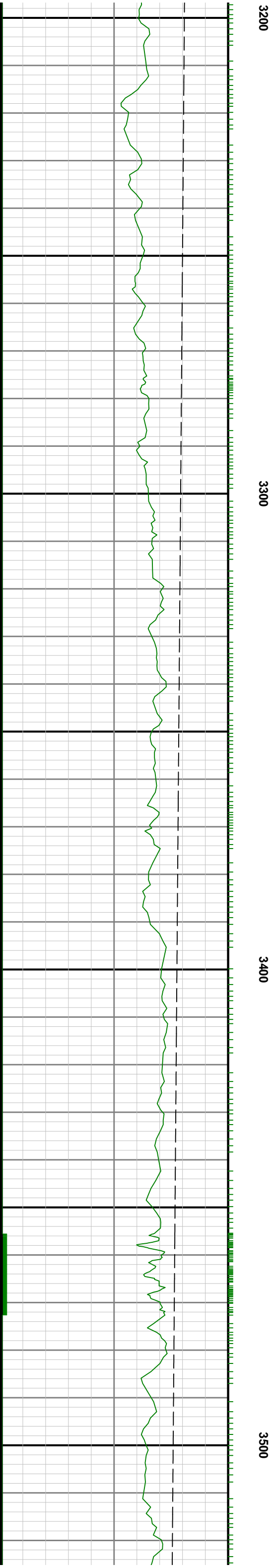
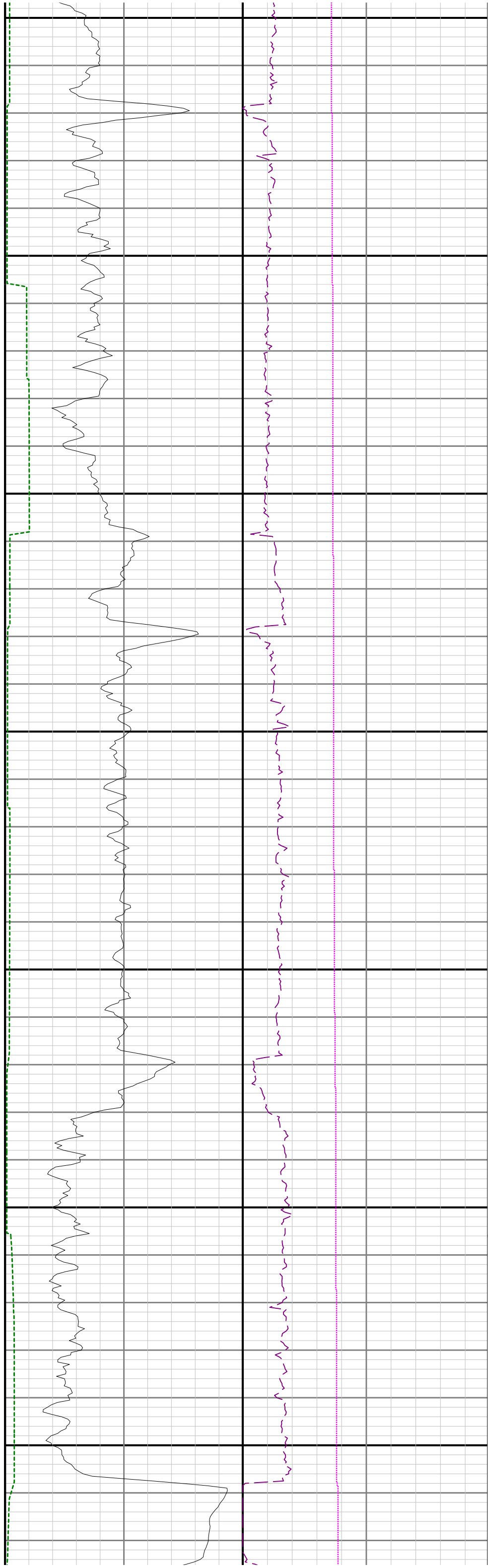
Curve Mnemonics

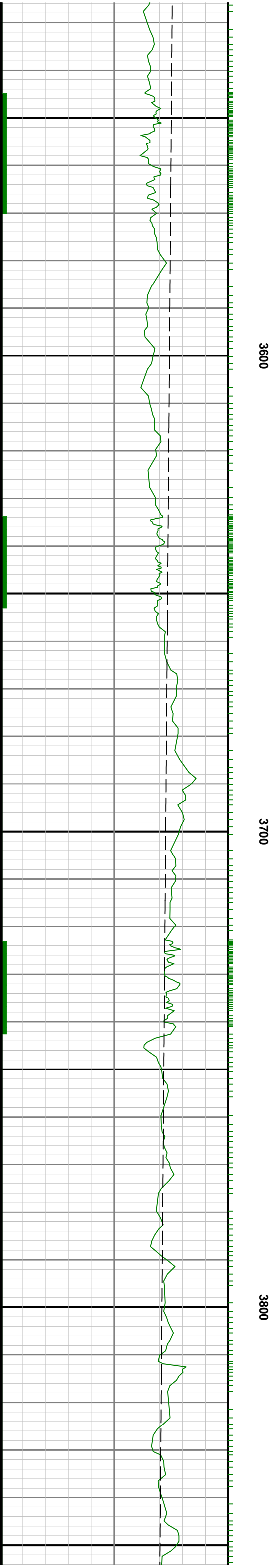
Presented Curves	Description	Units
TCDX	Downhole Temperature	degF
ROPA	Depth Averaged ROP 3 ft Average	ft/h
TVD	True Vertical Depth	ft
WOBA	Weight On Bit, Average 1 ft Average	klb
GRAX	Gamma Ray - Apparent - Real-Time 0.5 ft Average	API
GRIX	Gamma Ray - Data Point Indicator - Real-Time	unitless
GRTX	Gamma Ray - Time Since Drilled - Real-Time	min
GRSI	Sliding Indicator Flag	unitless

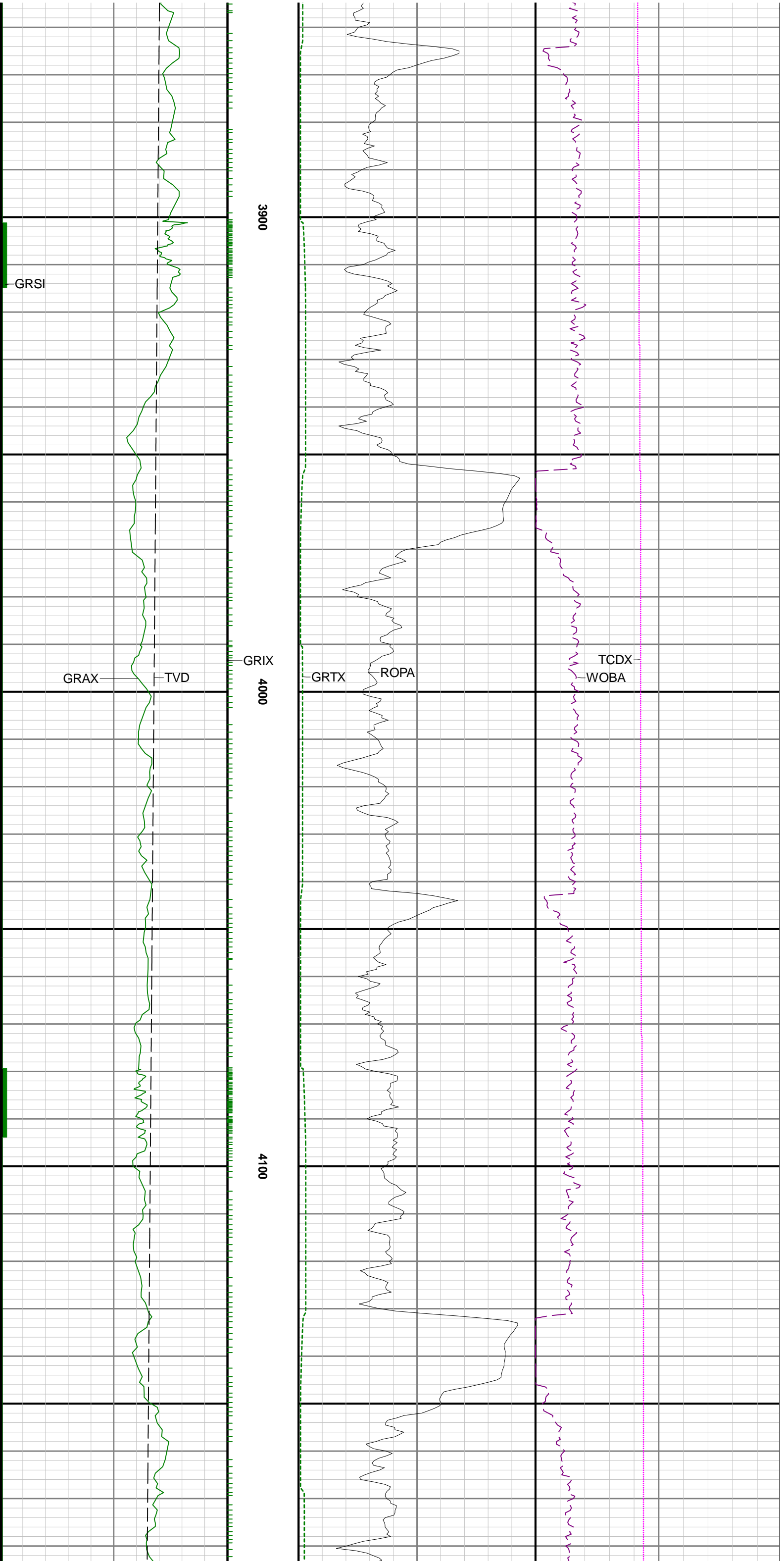


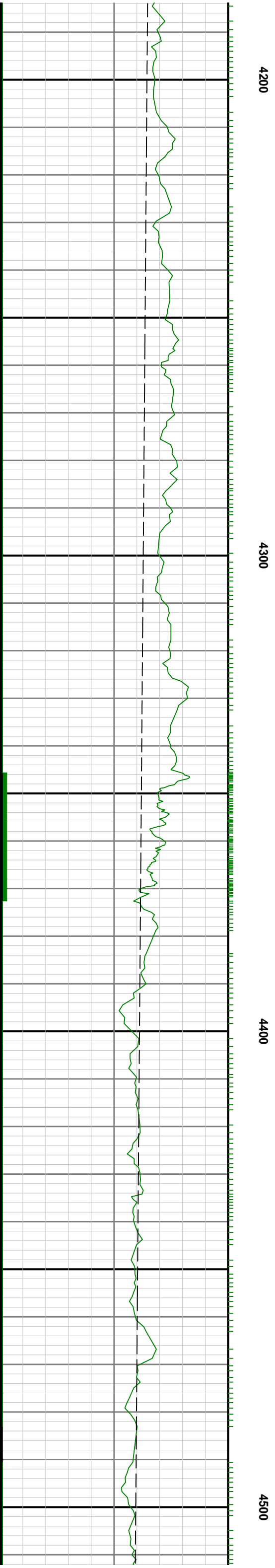
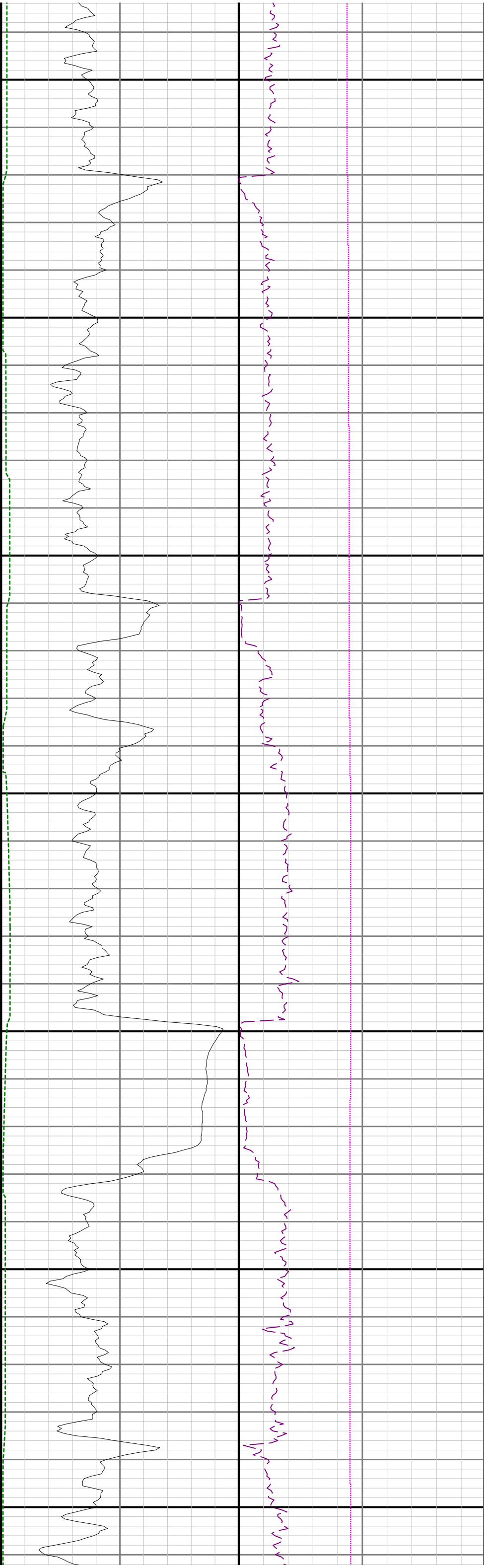


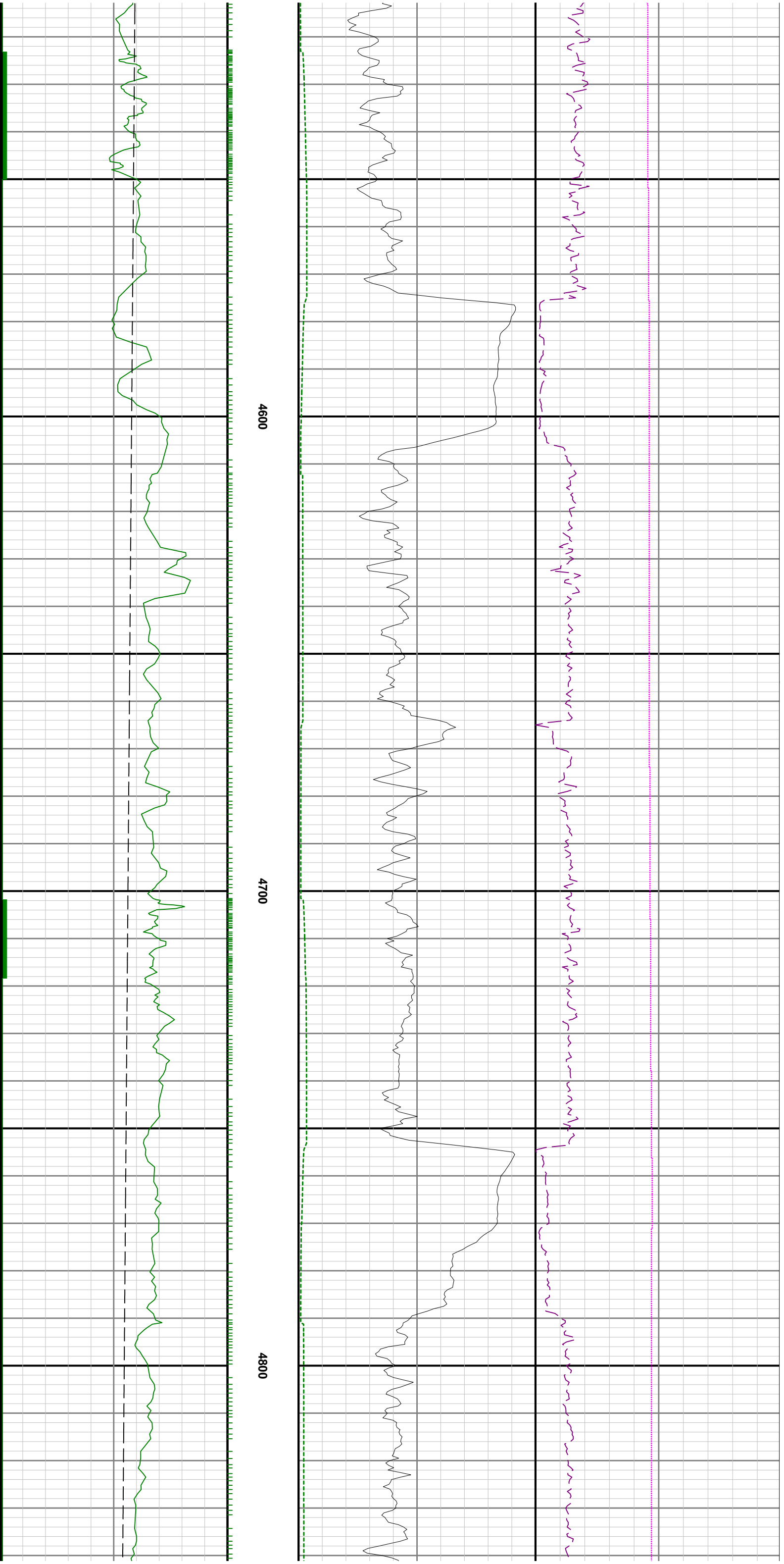


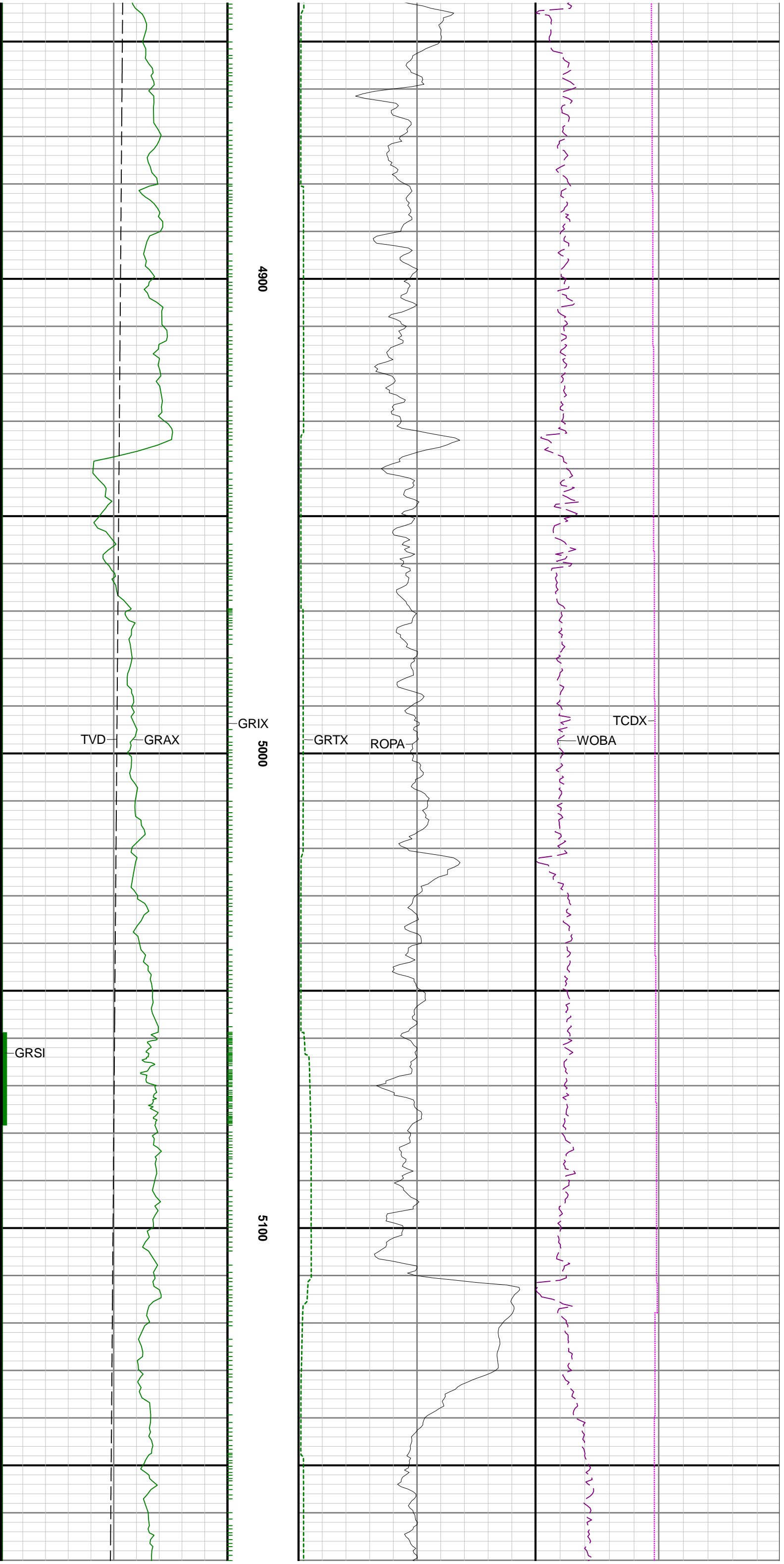


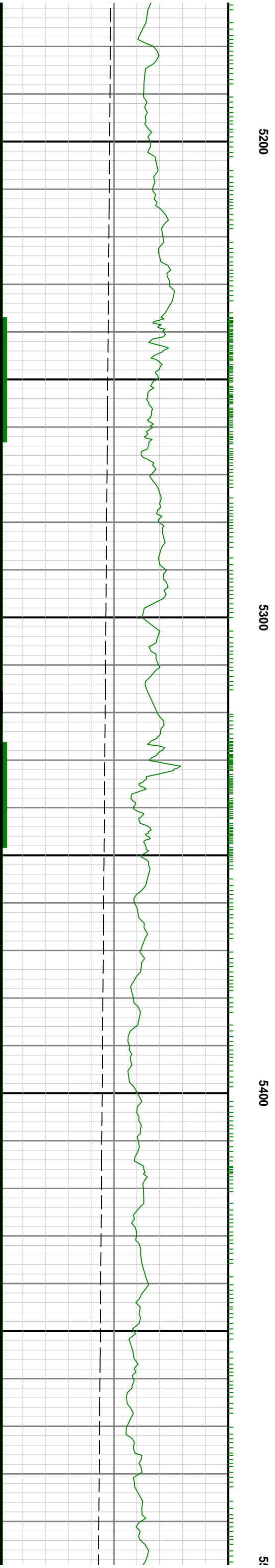
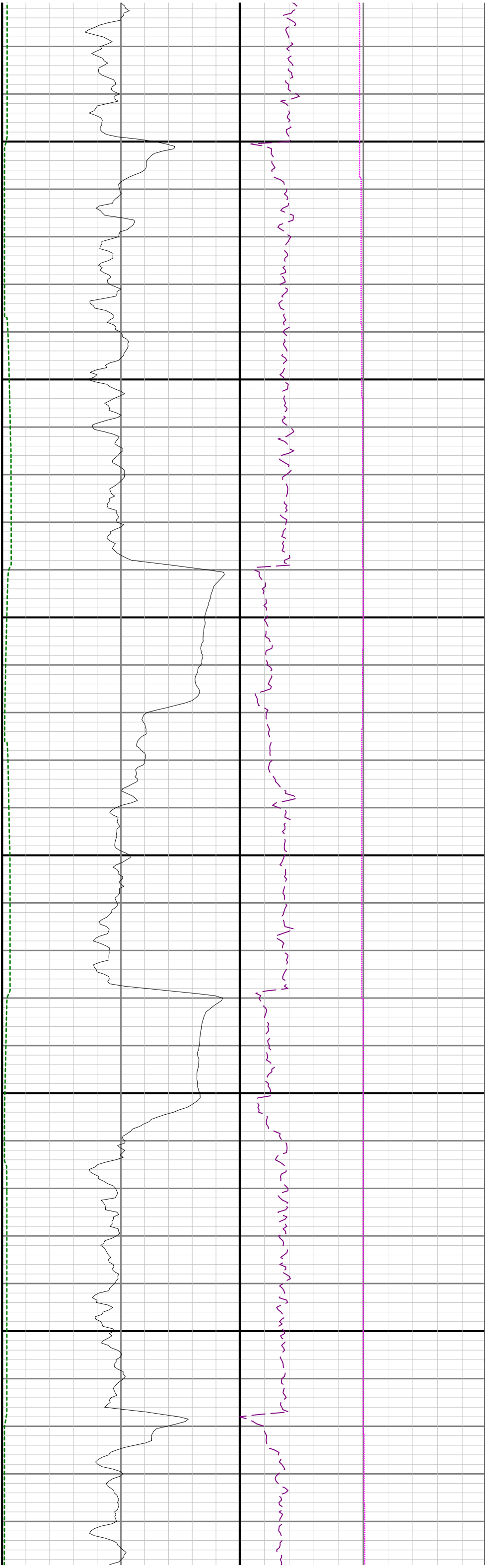


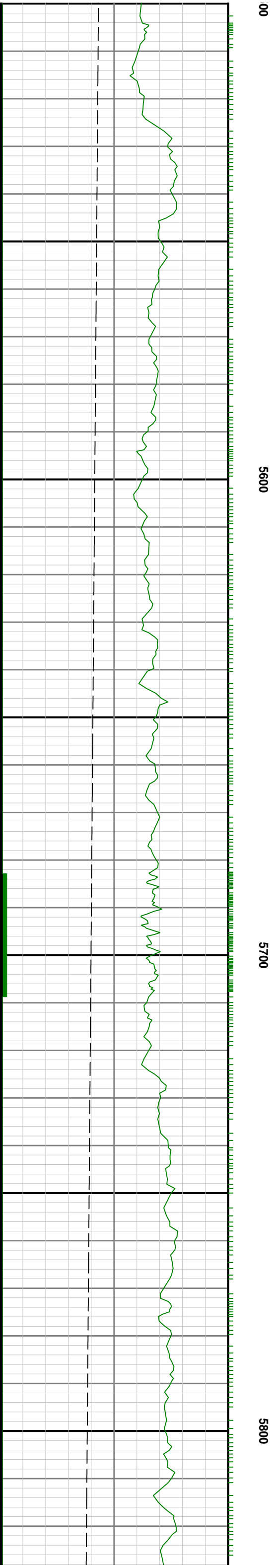


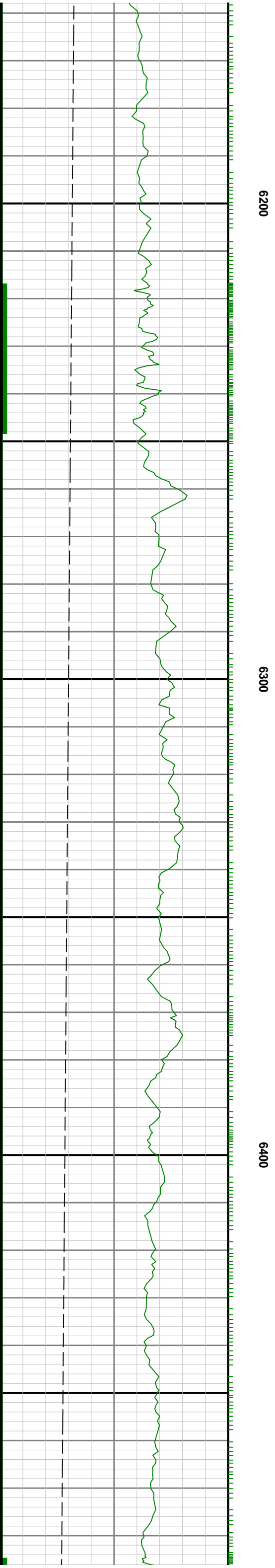


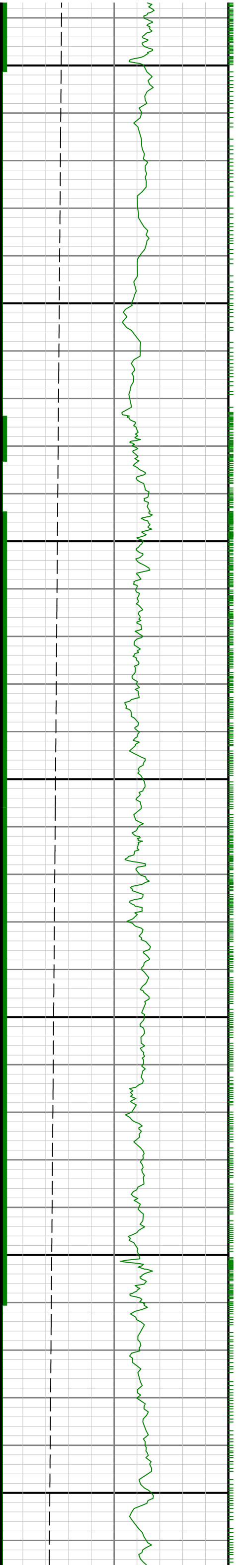










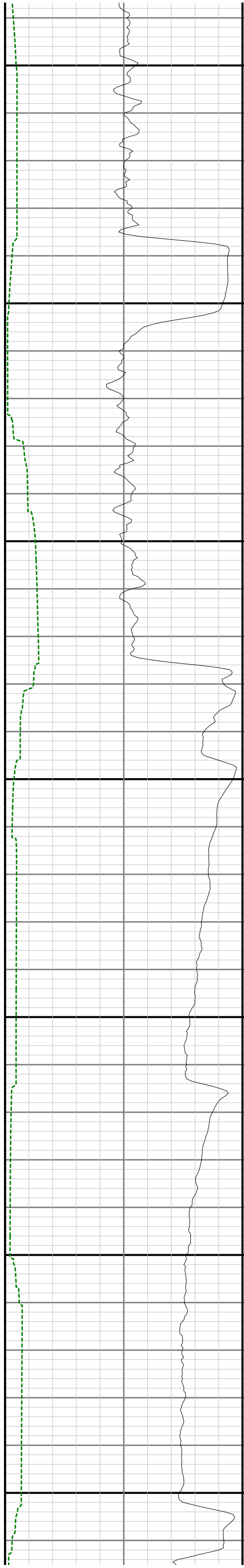


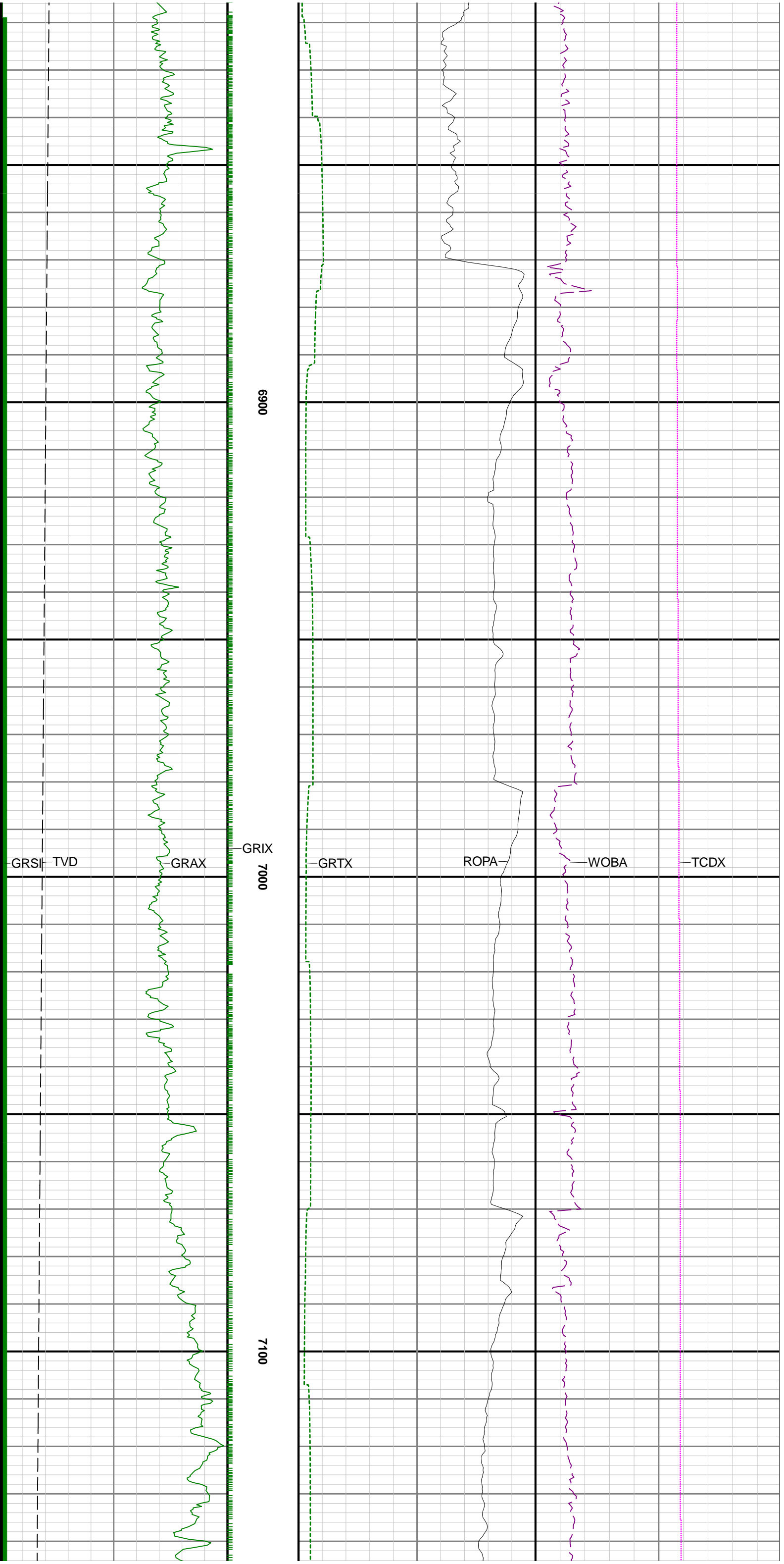
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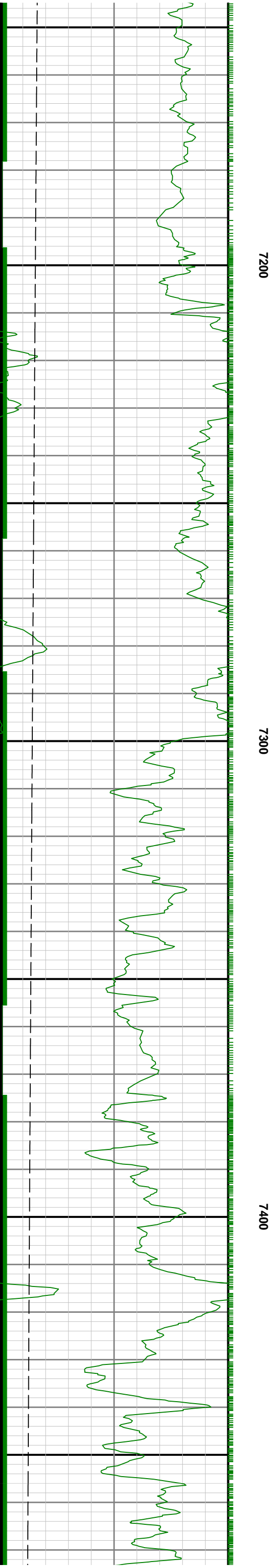
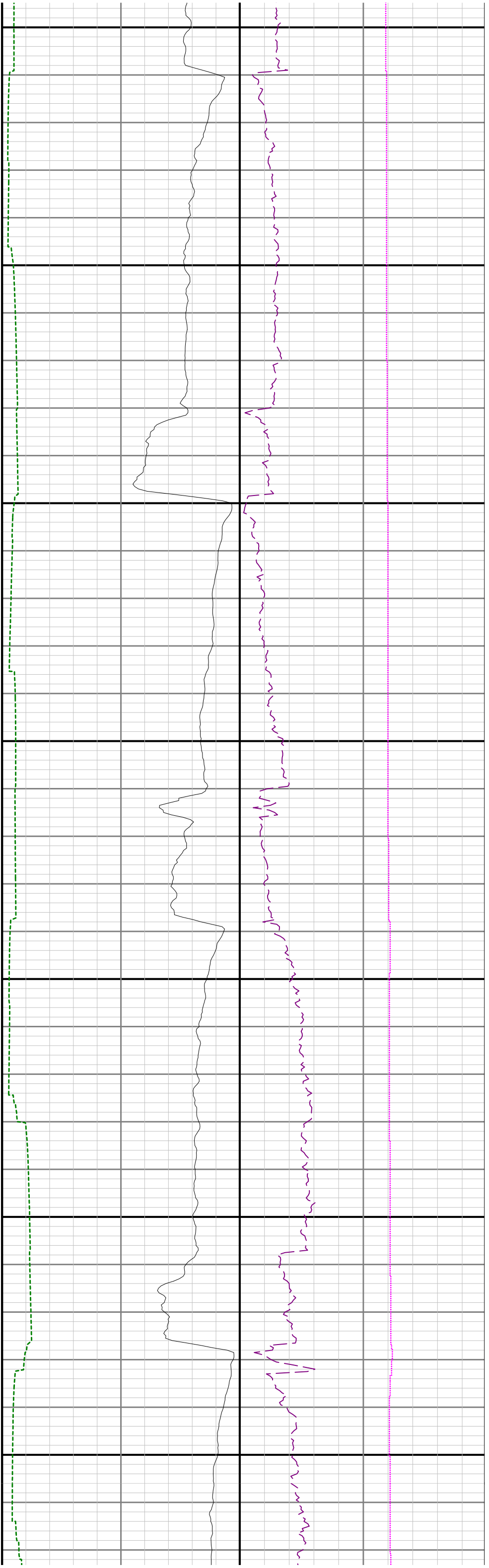
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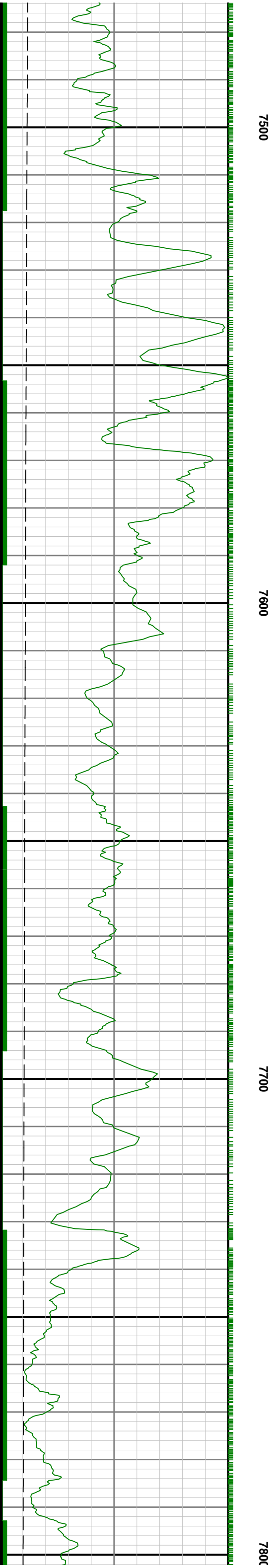
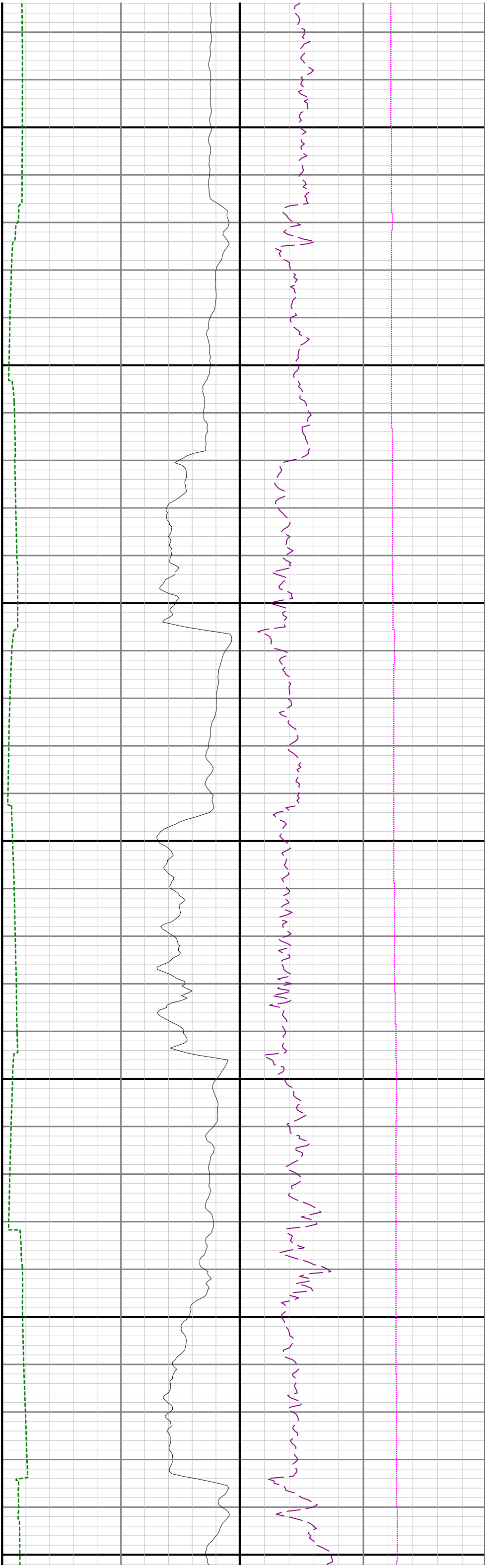
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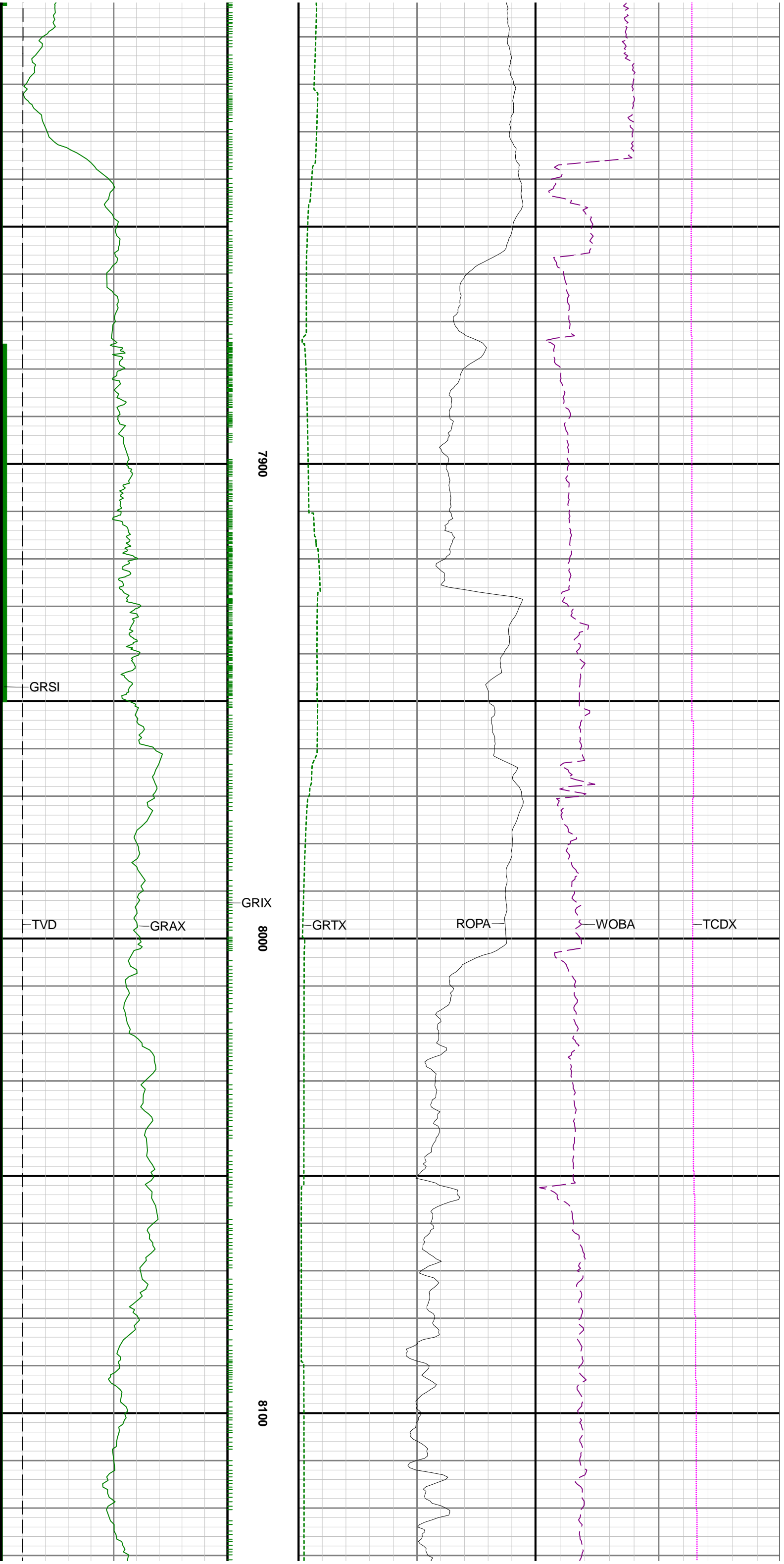
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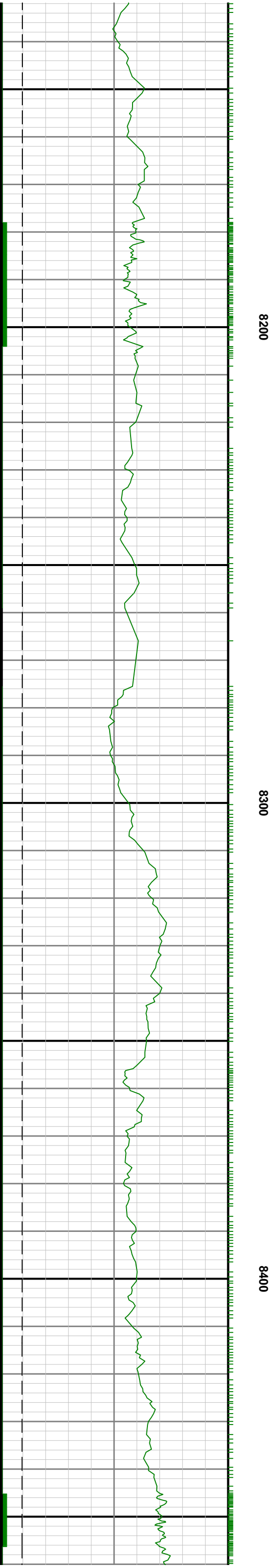
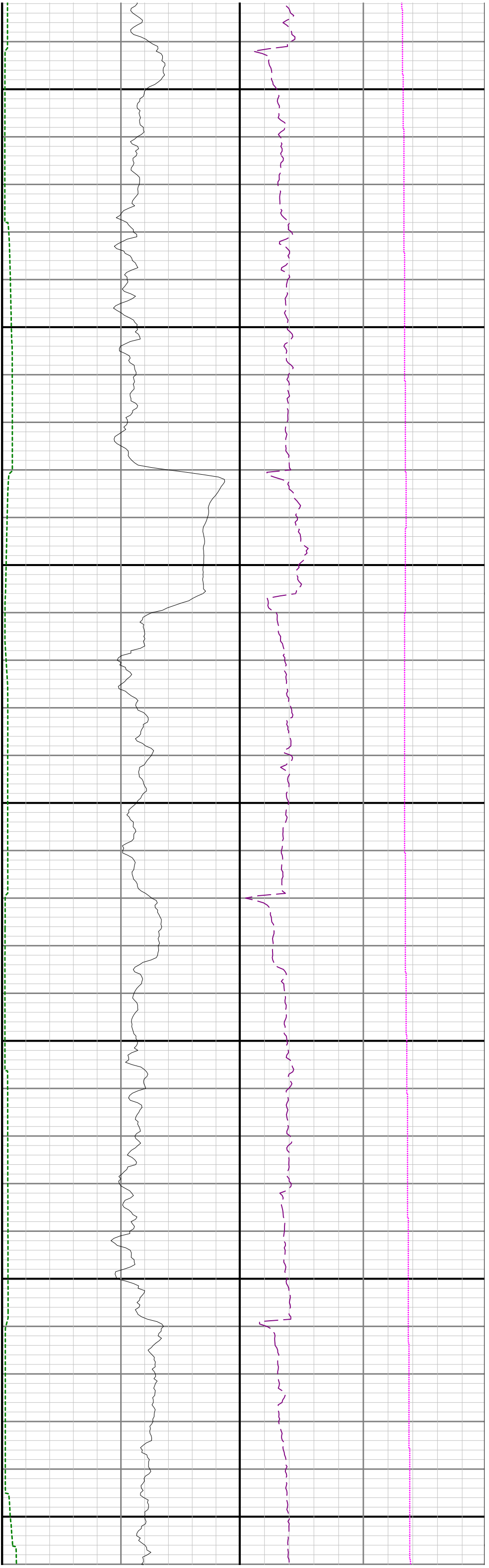


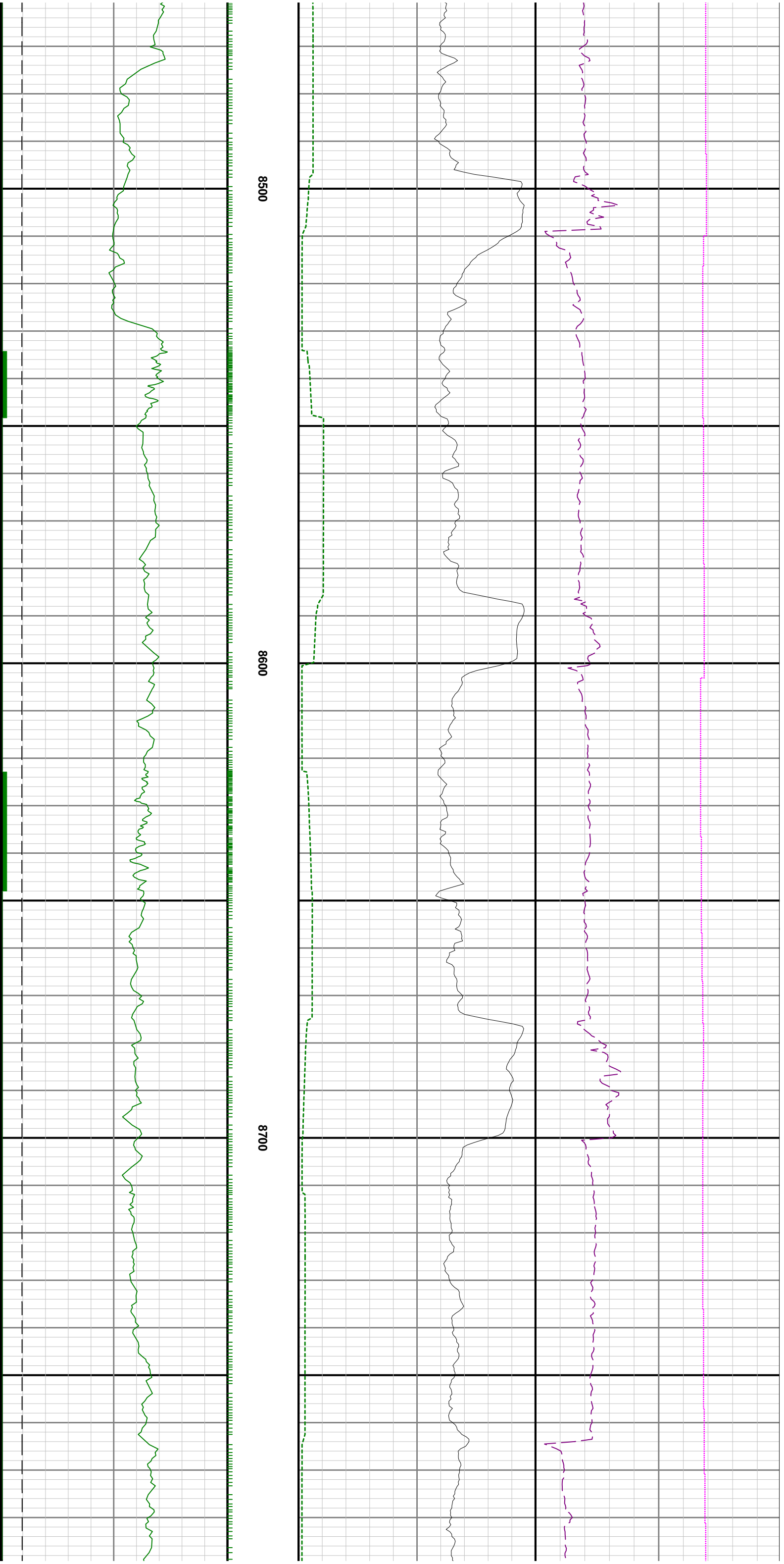


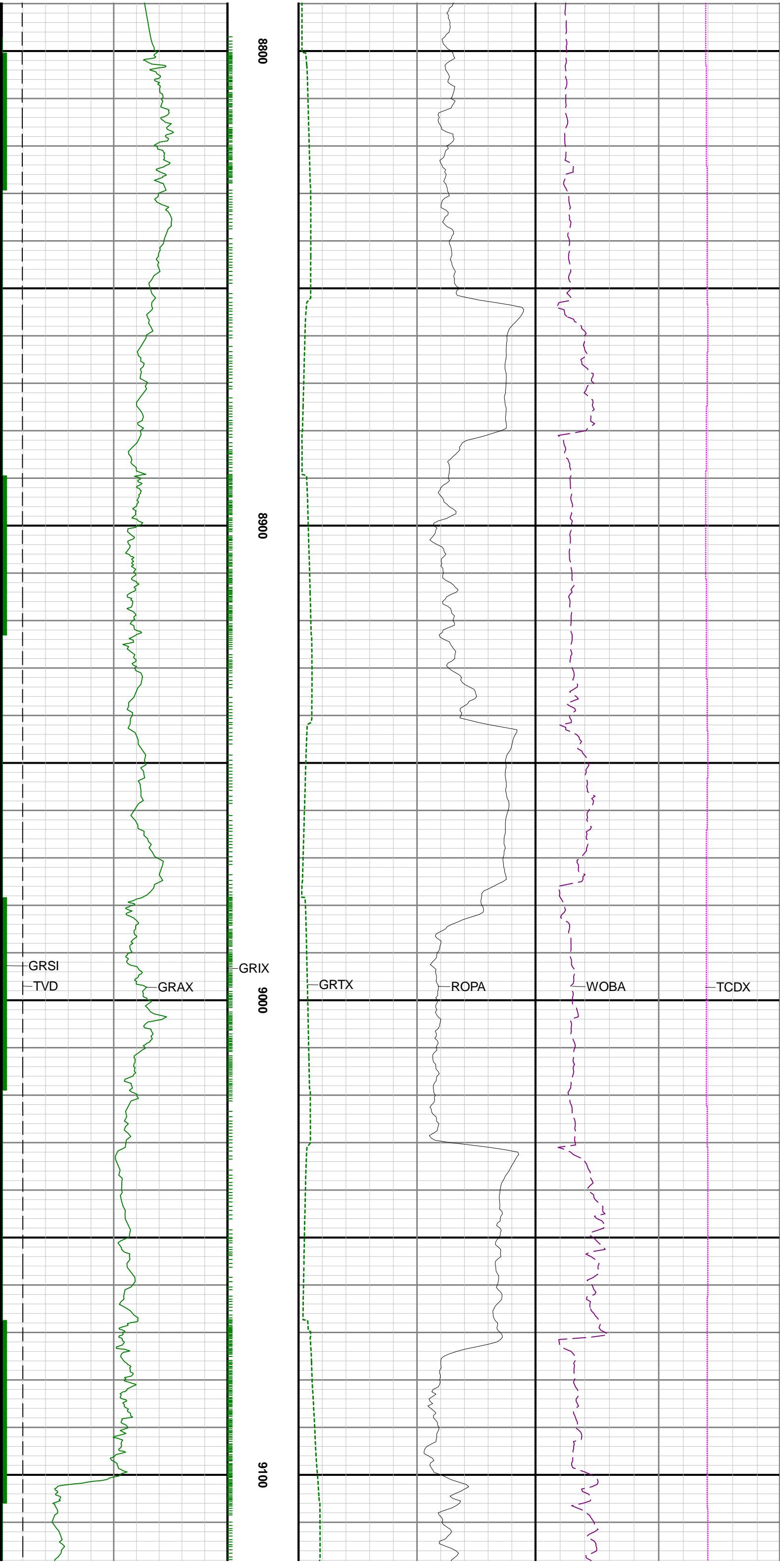


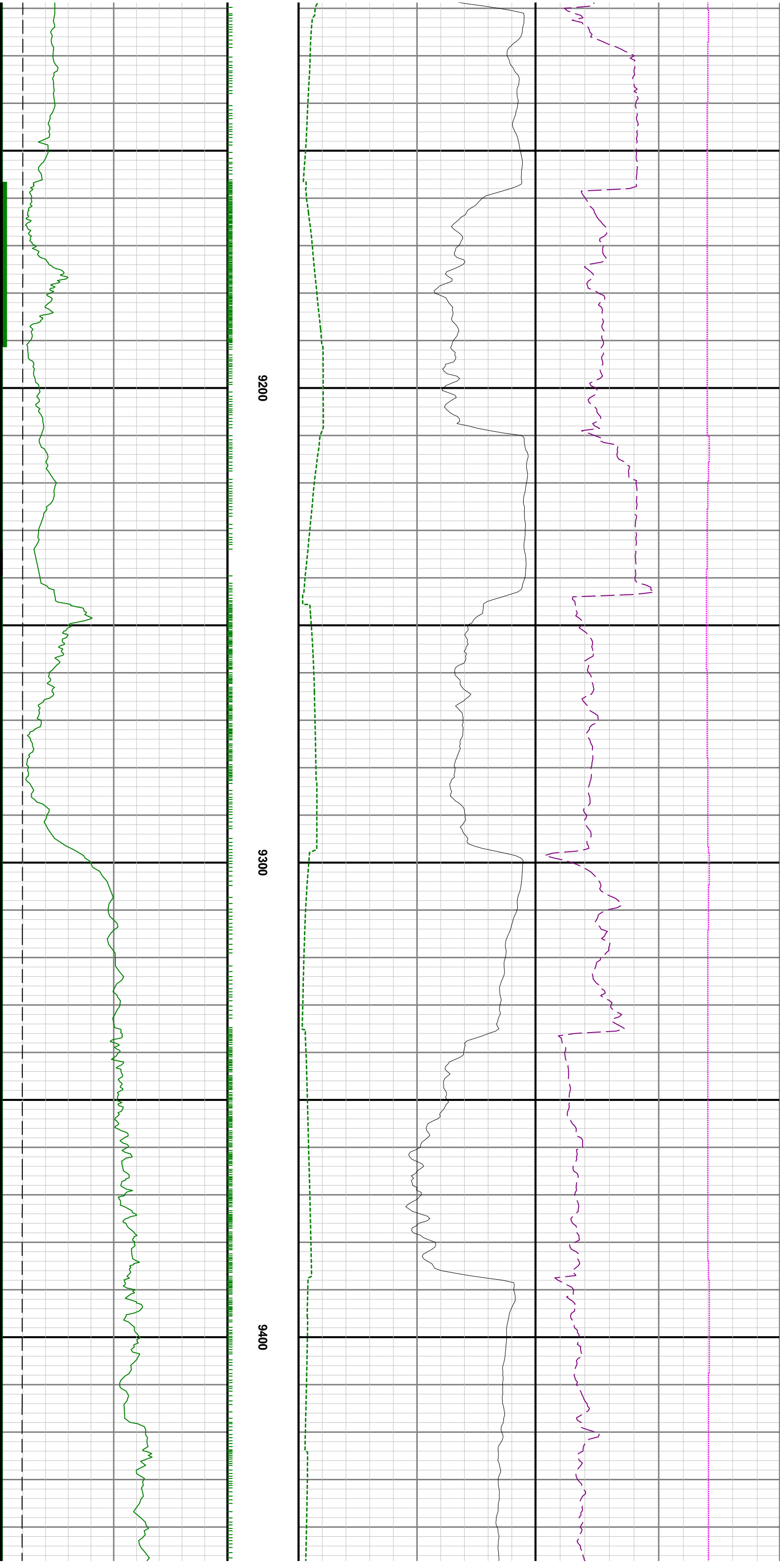


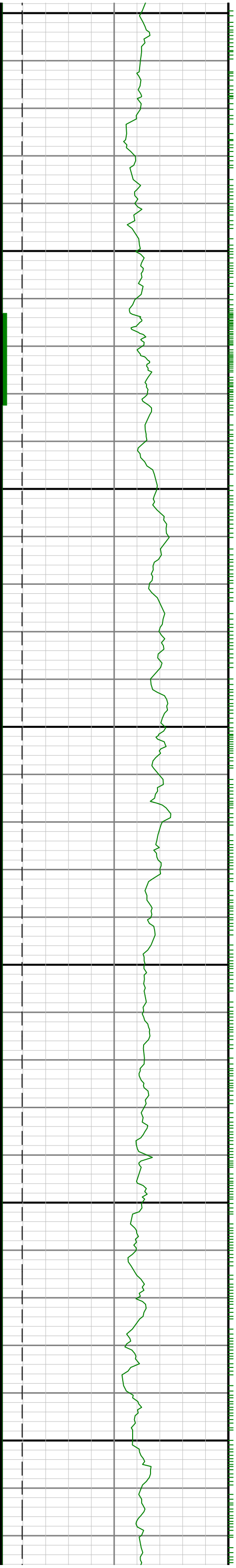












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