

Name	Arrive	Depart	Name	Arrive	Depart	Name	Arrive	Depart
	Wellsite	Wellsite		Wellsite	Wellsite		Wellsite	Wellsite
Matthew Delmore	2016-11-05	2016-11-15	Matt Leopold	2016-11-06	2016-11-08	Austin Small	2016-11-08	2016-11-15
Jason Light	2016-11-10	2016-11-15						

Mud Properties Record

Date / Time	Run No.	Measured Depth (ft)	Mud Type	Density (ppg)	Viscosity (cP)	pH	Fluid Loss (cm3)	Oil / Water	Source	Total Chlorides (ppm)	K+ (%)
2016-11-06 15:30	2	2632.00	Water Based Mud	8.6	1	10.2	110.0	N/A	Suction	400	0.00
2016-11-07 03:30	2	5893.00	Water Based Mud	8.6	1	8.5	60.0	N/A	Suction	700	0.00
2016-11-07 16:00	2	7053.00	Water Based Mud	9.8	13	10.1	4.2	N/A	Suction	1300	0.00
2016-11-08 03:30	2	7591.00	Water Based Mud	9.8	10	9.4	3.8	N/A	Suction	1300	0.00
2016-11-08 15:30	3	8021.00	Water Based Mud	9.8	13	9.4	3.8	1.0/91.5	Suction	1200	0.00
2016-11-09 04:00	3	10232.00	Water Based Mud	9.9	13	9.7	4.0	1.5/90.5	Suction	1400	0.00
2016-11-09 15:30	3	11737.00	Water Based Mud	9.9	12	10.7	4.2	2.0/90.0	Suction	1500	0.00
2016-11-10 03:30	3	13410.00	Water Based Mud	9.9	11	10.5	4.5	2.0/90.0	Suction	1500	0.00
2016-11-10 15:30	3	13955.00	Water Based Mud	10.0	10	10.6	4.2	2.0/89.7	Suction	1500	0.00
2016-11-13 03:30	3	14564.00	Water Based Mud	10.0	11	9.5	10.0	2.0/89.8	Suction	1500	0.00
2016-11-13 15:30	3	16497.00	Water Based Mud	10.0	11	9.5	10.0	2.0/89.7	Suction	1600	0.00
2016-11-15 03:30	4	17629.00	Water Based Mud	10.2	13	8.8	N/A	2.07/89.7	Suction	1800	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	NaviTrak	DHP505	Directional (mag)	13.82	50.07	8.000	0.000
1	NaviTrak	DHP505	VSS	13.82	50.07	8.000	0.000
2	ATC_SU	12088420	Near Bit Inclination	5.93	6.72	7.000	4.330
2	ATC_SU	12088420	Near Bit VSS	5.93	6.72	7.000	4.330
2	ATC_MWD	12661246	Gamma (single)	2.29	12.34	7.000	3.250
2	ATC_MWD	12661246	Directional (mag)	12.36	22.41	7.000	3.250
3	ATC_SU	12828355	Near Bit Inclination	5.93	6.72	7.000	4.330
3	ATC_SU	12828355	Near Bit VSS	5.93	6.72	7.000	4.330
3	ATC_MWD	12656414	Gamma (single)	2.19	12.34	7.000	3.250
3	ATC_MWD	12656414	Directional (mag)	12.26	22.41	7.000	3.250
4	ATC_SU	12232312	Near Bit Inclination	5.93	6.72	7.000	4.330
4	ATC_SU	12232312	Near Bit VSS	5.93	6.72	7.000	4.330
4	ATC_MWD	12441474	Gamma (single)	2.75	12.89	7.000	3.250
4	ATC_MWD	12441474	Directional (mag)	12.27	22.41	7.000	3.250

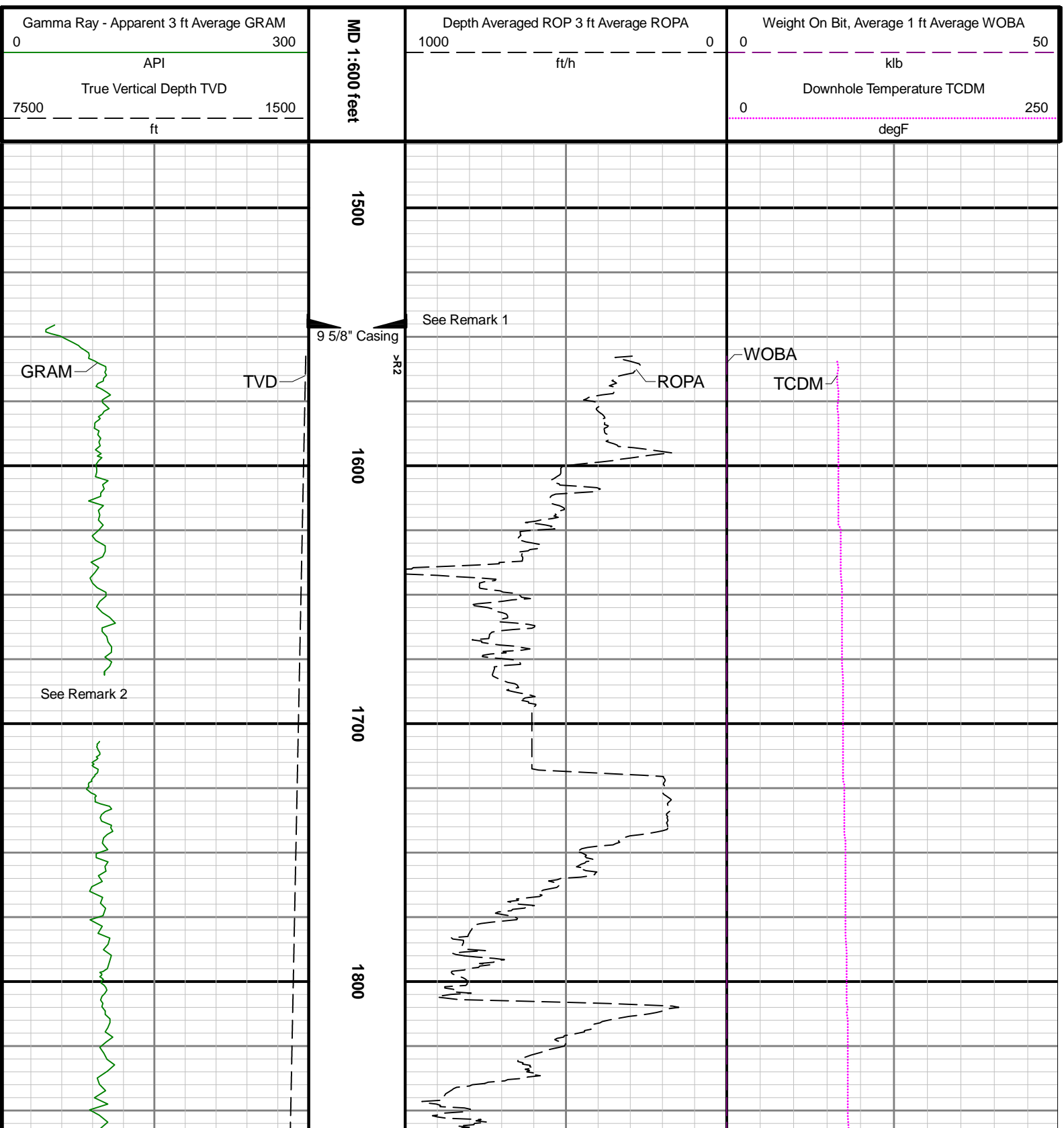
Service and Tool Mnemonics

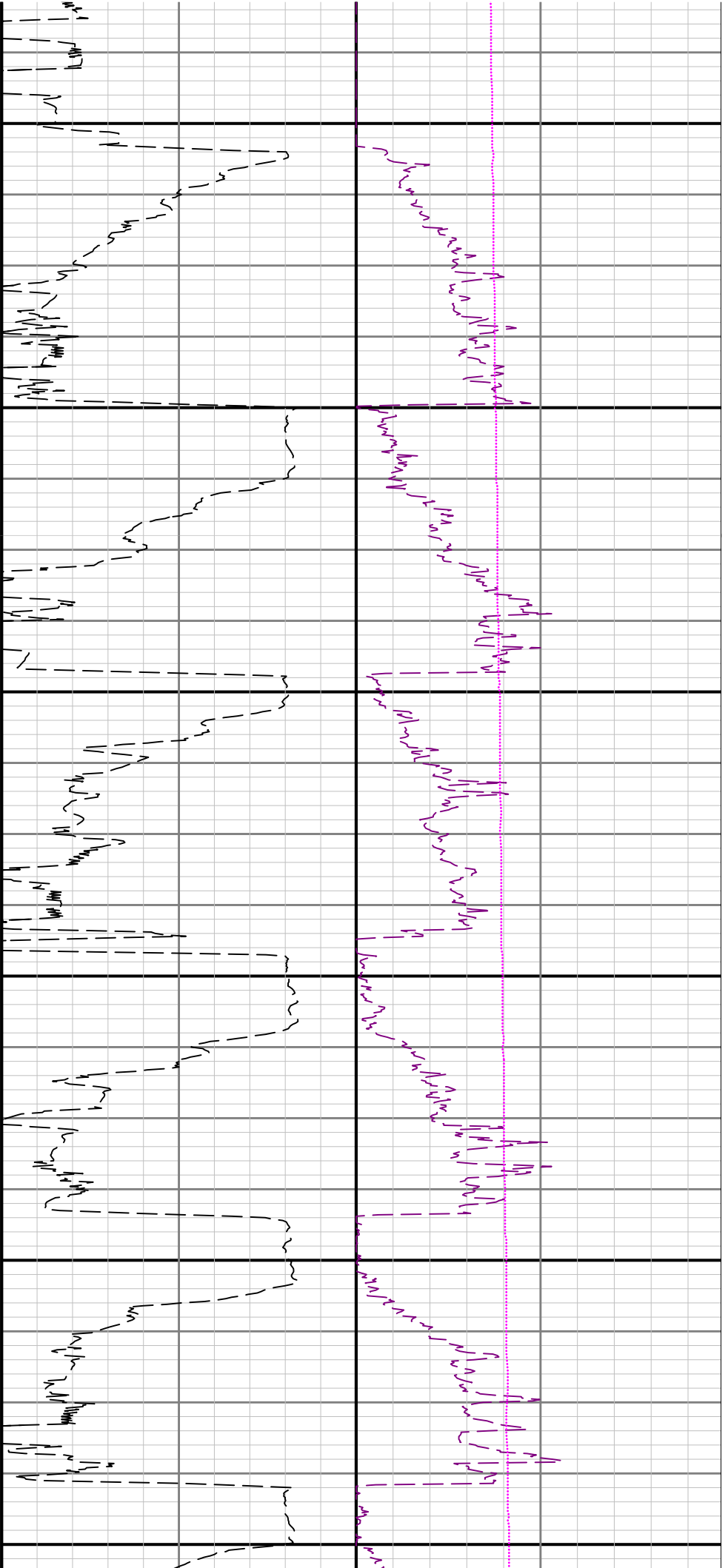
Mnemonic	Name	Description
ATC_SU	ATC_SU	Auto Trak Curve Steering Unit
ATC_MWD	ATC_MWD	Auto Trak Curve MWD
ATC_LCPM	ATC_LCPM	Auto Trak Curve LCPM

Comments

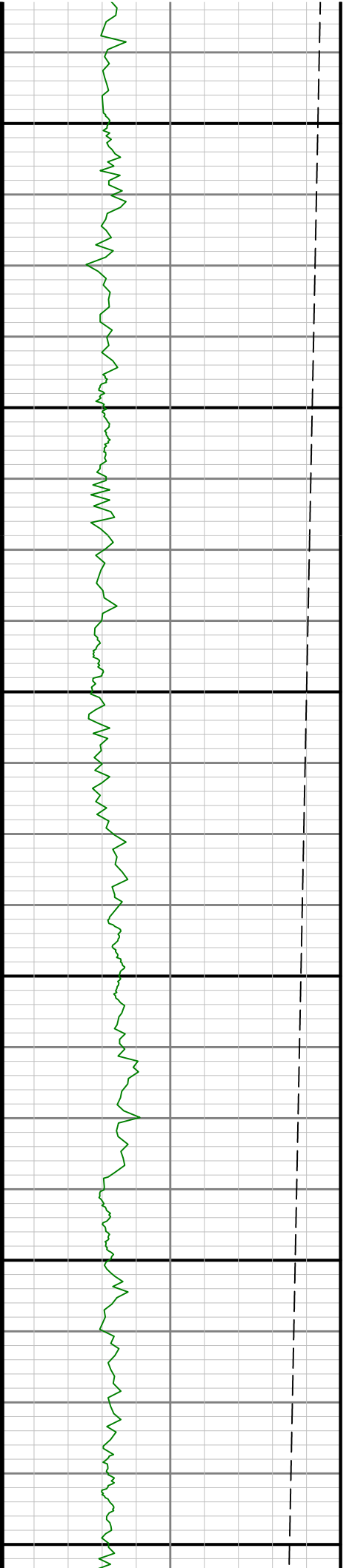
- 1 Depth measurements obtained from a depth control system not supplied or operated by Baker Hughes. Due to lack of control by Baker Hughes logging engineers, depth calibrations and measurements could not be independently verified.
- 2 Gamma Ray Apparent (GRAM) is presented 0 to 300 API per customer request.
- 3 Baker Hughes LWD Run 1 utilized 8 1/4 inch NaviTrak service (Directional only) behind a 13 1/2 inch bit and steerable assembly from 97 to 1557 feet MD (97 to 1557 feet TVD). No logging data was acquired during this run.
- 4 Baker Hughes LWD Runs 2, 3, and 4 utilized 6 3/4 inch Gamma Services (Gamma Ray and Directional) behind an 8 1/2 inch bit and rotary steerable assembly from 1557 to 17629 feet MD (1557 to 7305 feet TVD).

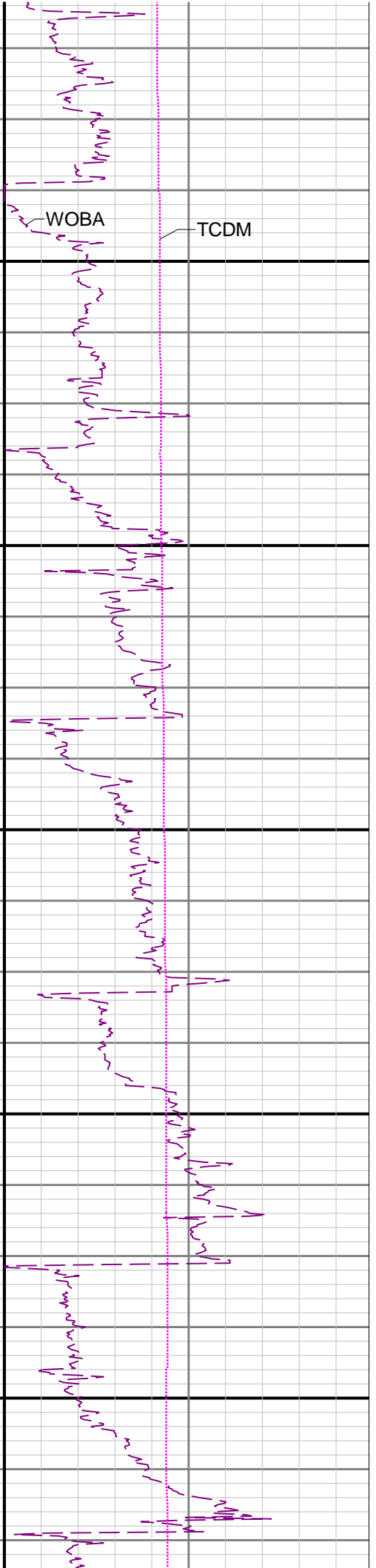
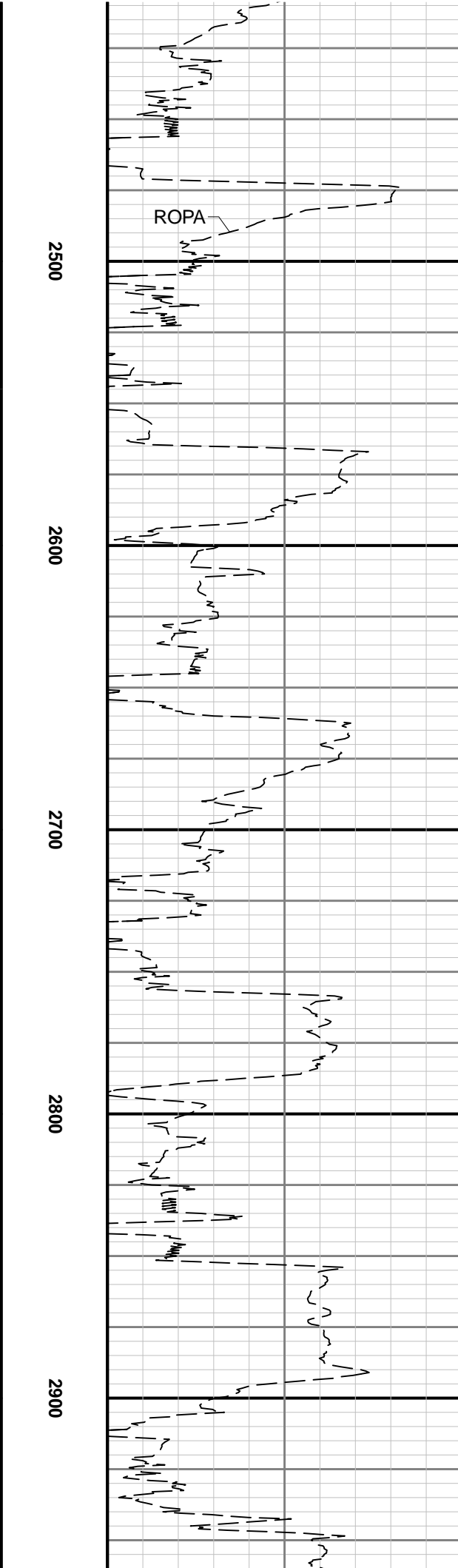
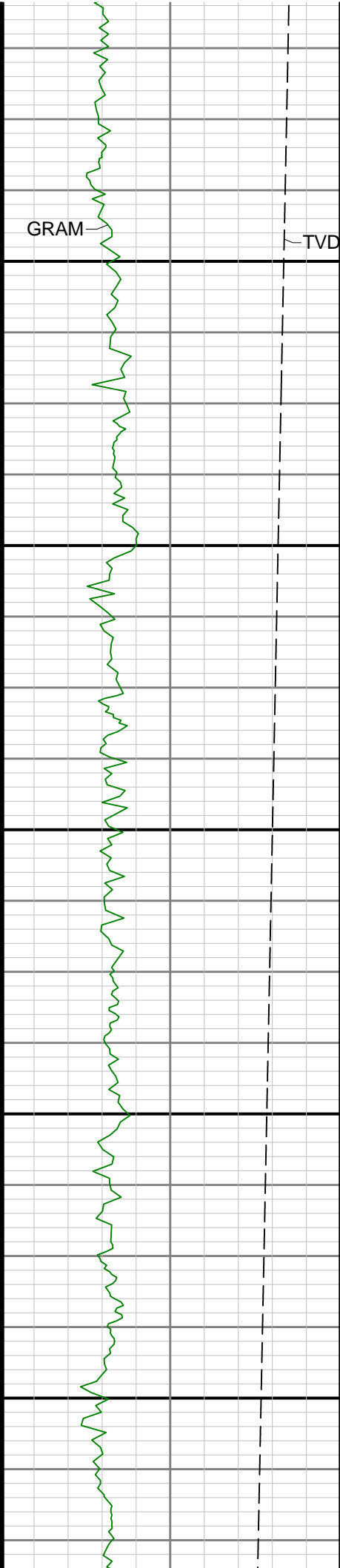
Remarks				
Number	Measured Depth (ft)	Hole Section (in)	Run No.	Remark
1	1551.00	8.500	2	The interval from 1545 to 1557 feet MD (1545 to 1557 feet TVD) was logged up to 26.1 hours after being drilled due to surface casing operations.
2	1690.00	8.500	2	The interval from 1680 to 1707 feet MD (1680 to 1707 feet TVD) does not contain gamma data due to a third party depth tracking issue.
3	7590.00	8.500	3	The interval from 7582 to 7596 feet MD (7324 to 7326 feet TVD) was logged up to 15.7 hours after being drilled as a result of a trip to change out BHA.
4	13950.00	8.500	4	The interval from 13944 to 13956 feet MD (7319 ft TVD) was logged up to 64 hours after being drilled due to fishing operations.
5	17630.00	8.500	4	The interval from 17617 to 17629 feet MD (7305 feet TVD) was not logged due to sensor to bit offset at well TD.





1900 2000 2100 2200 2300 2400





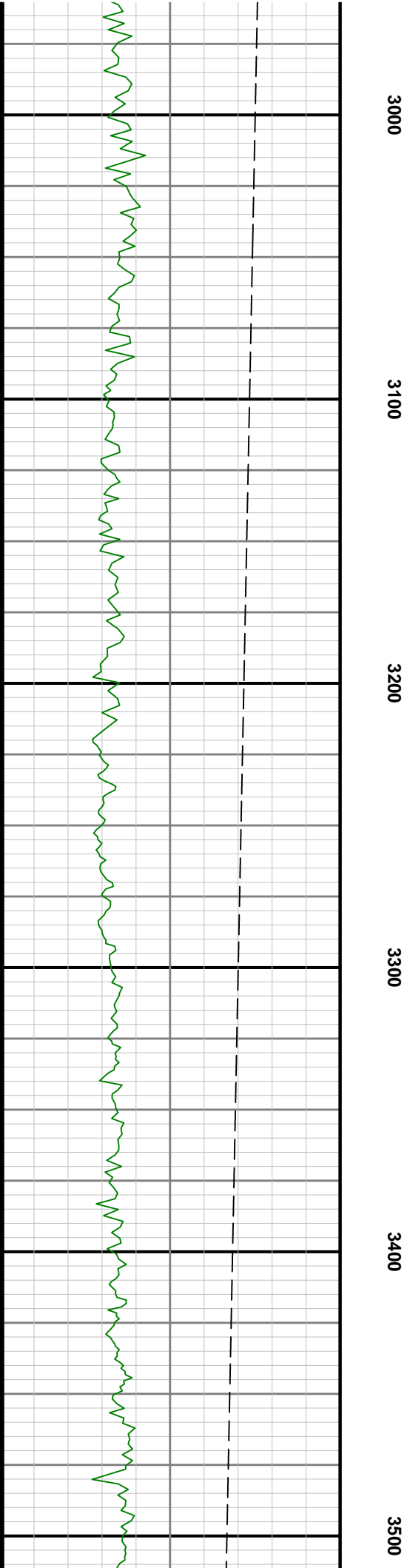
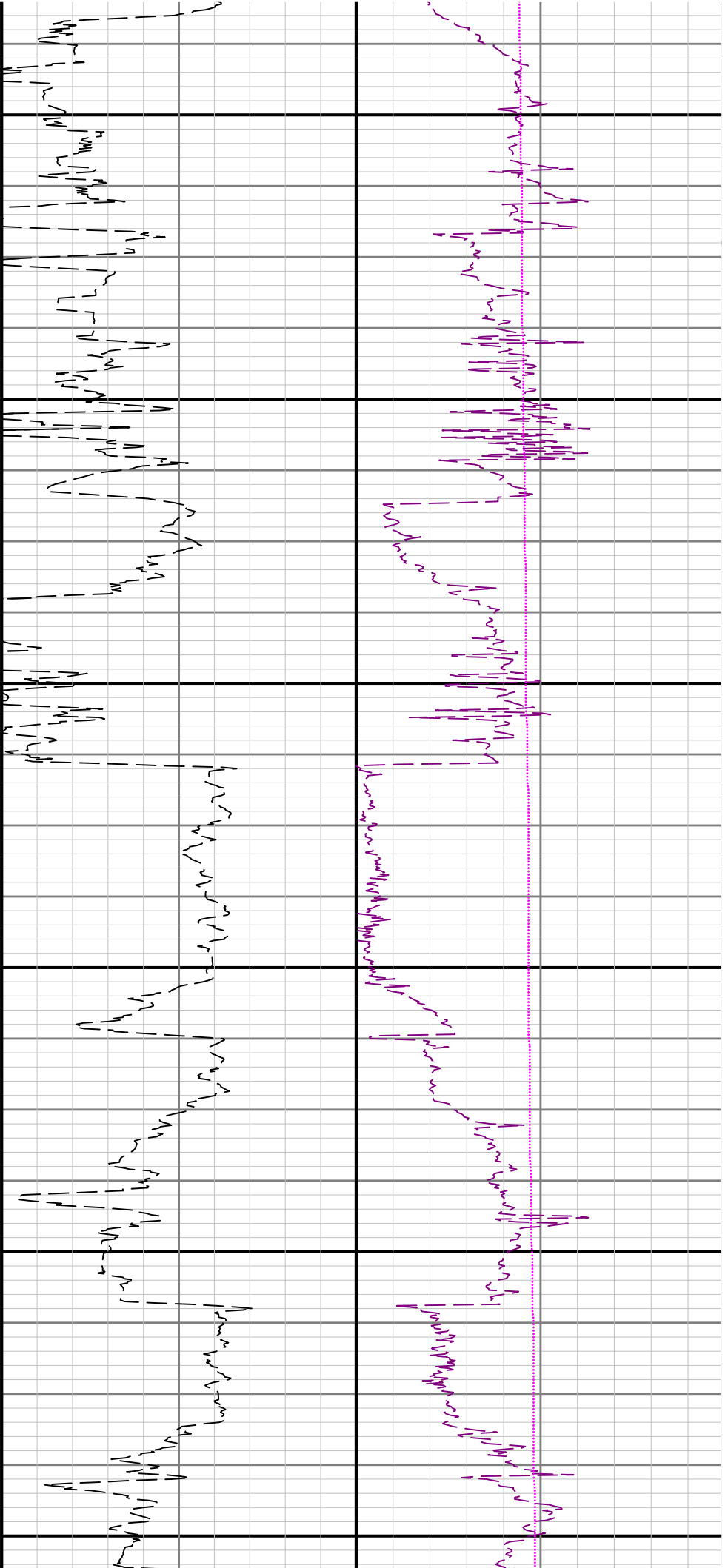
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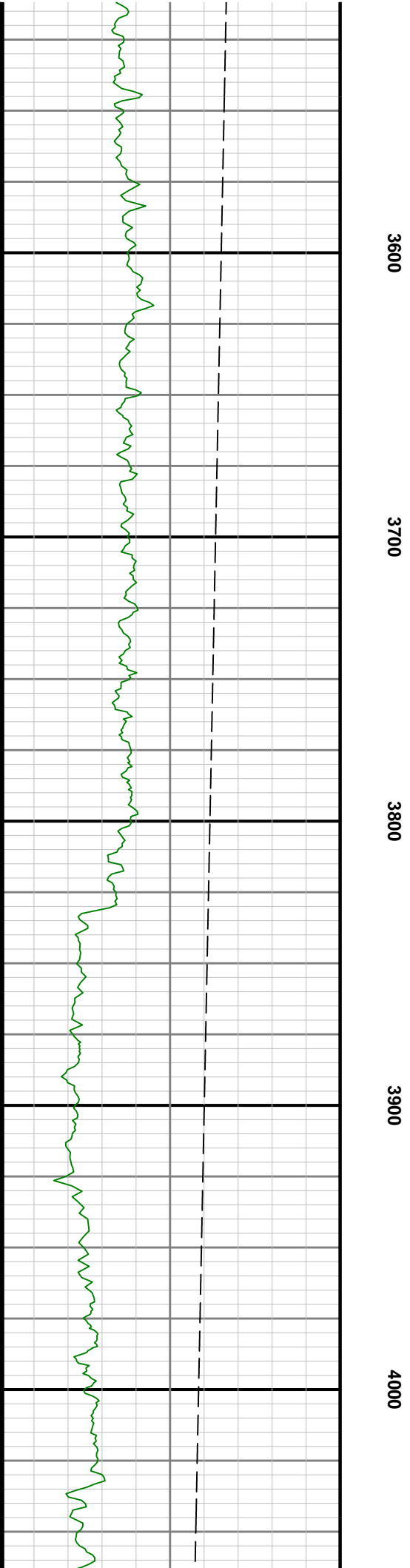
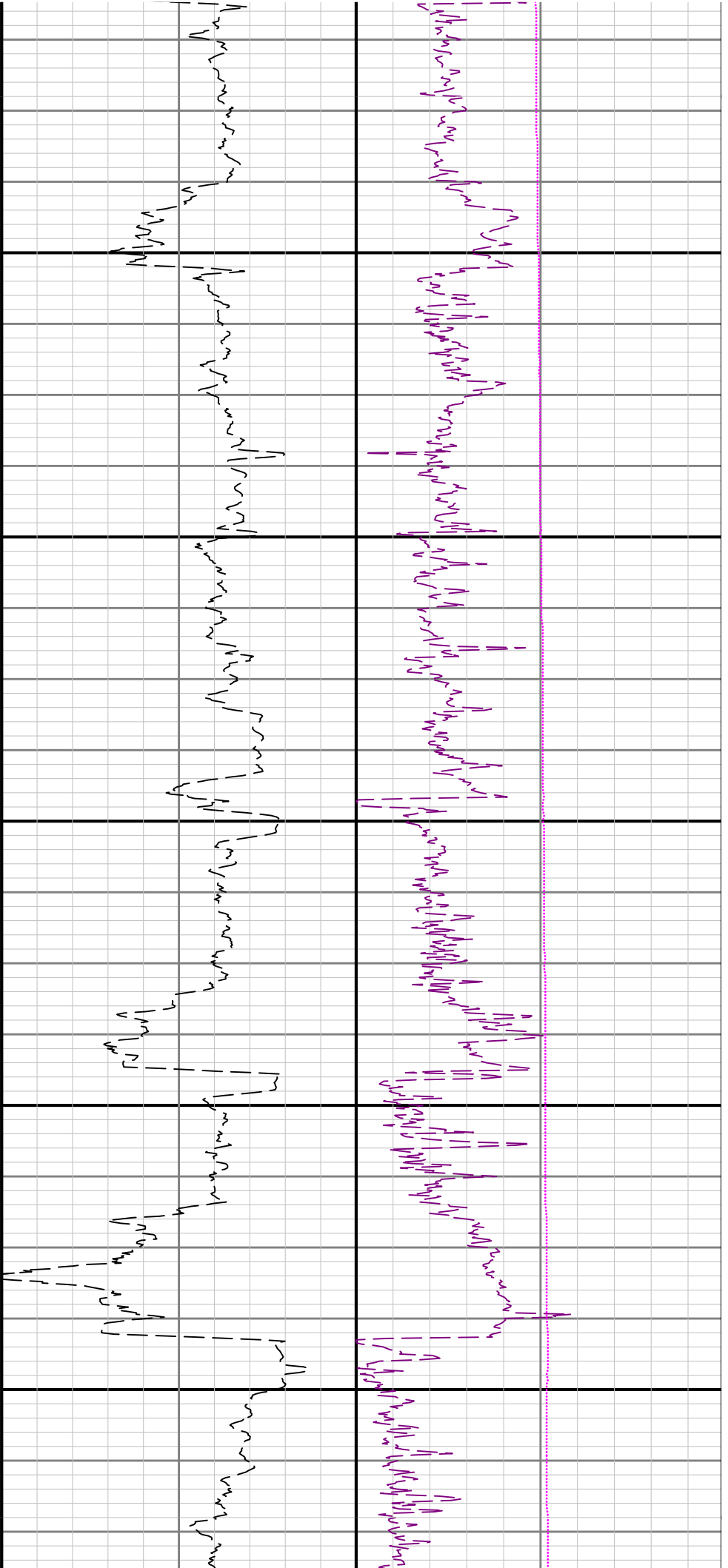
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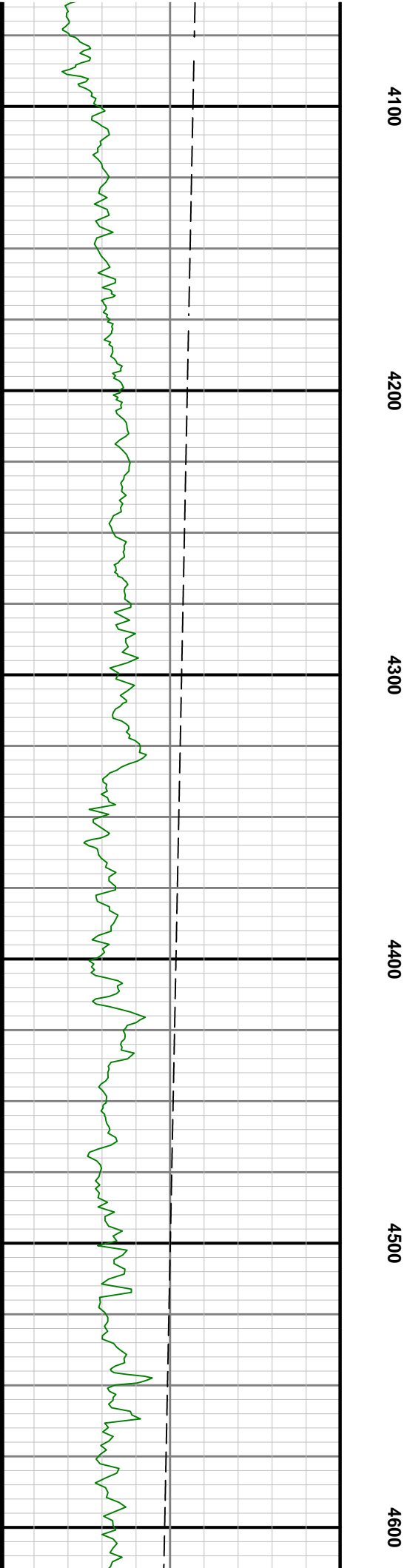
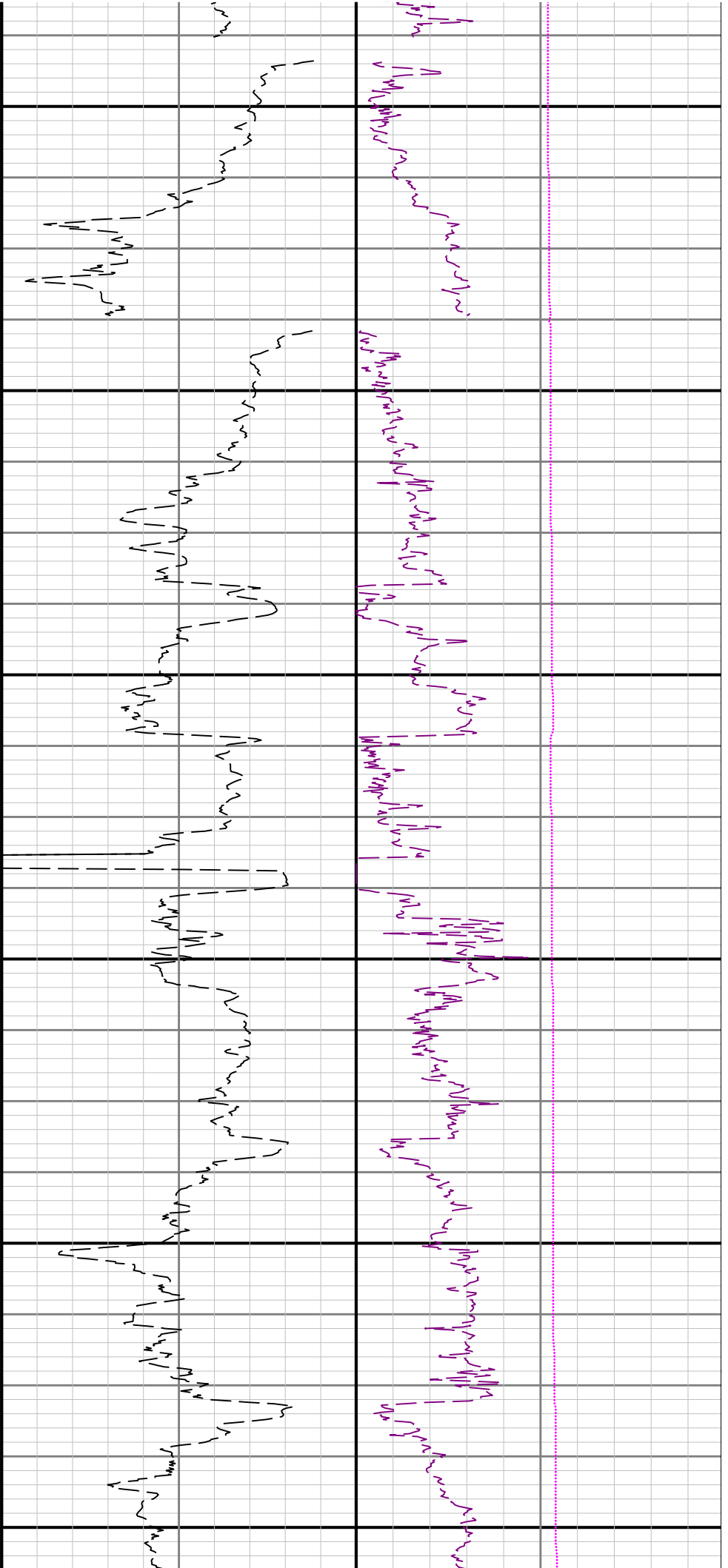
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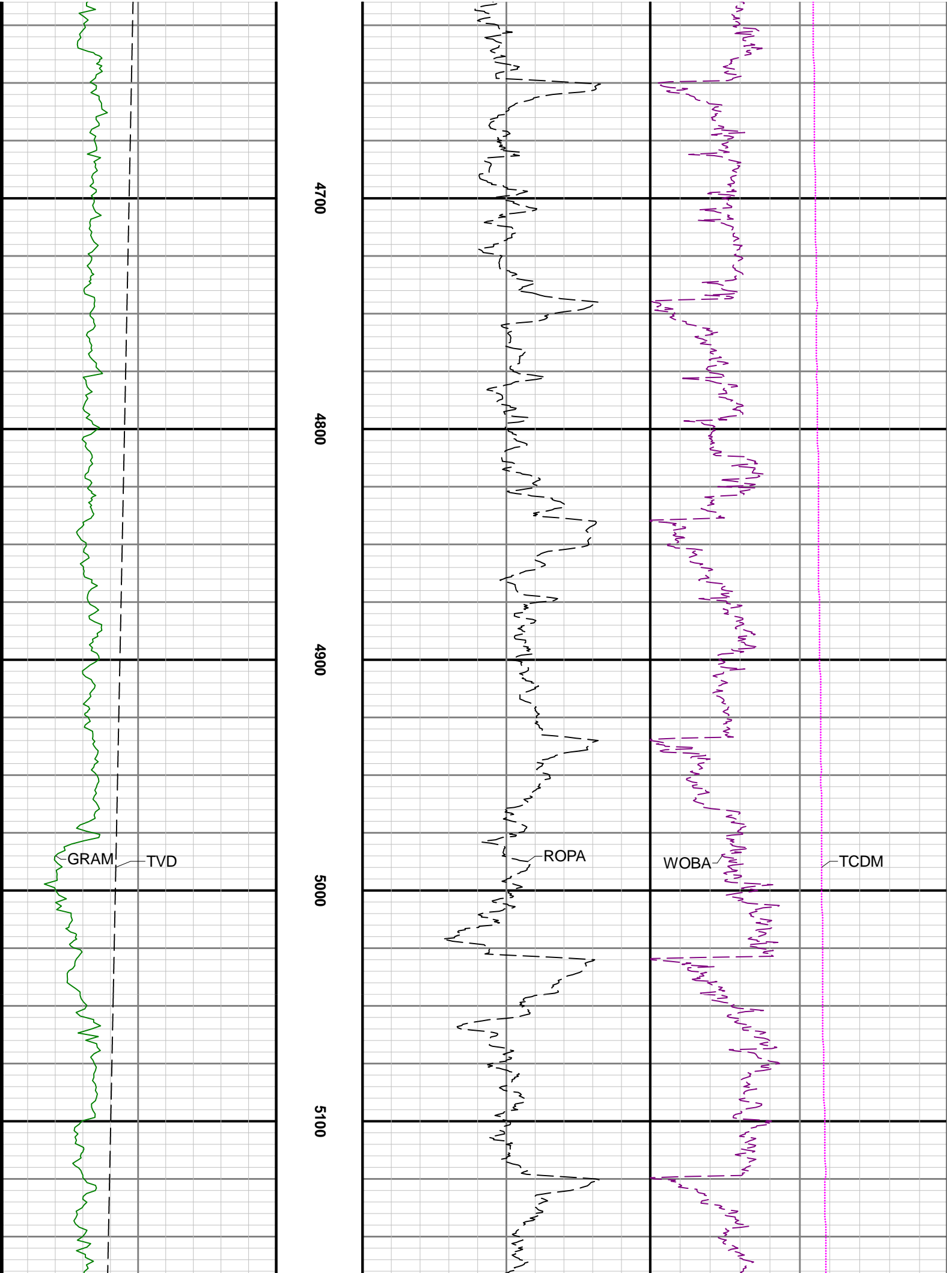
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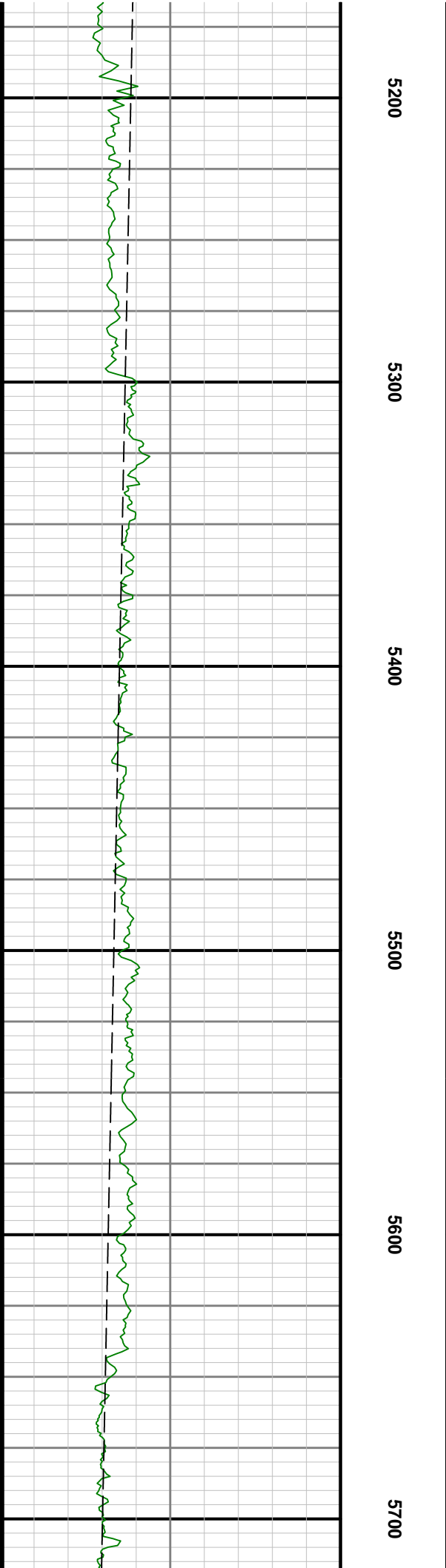
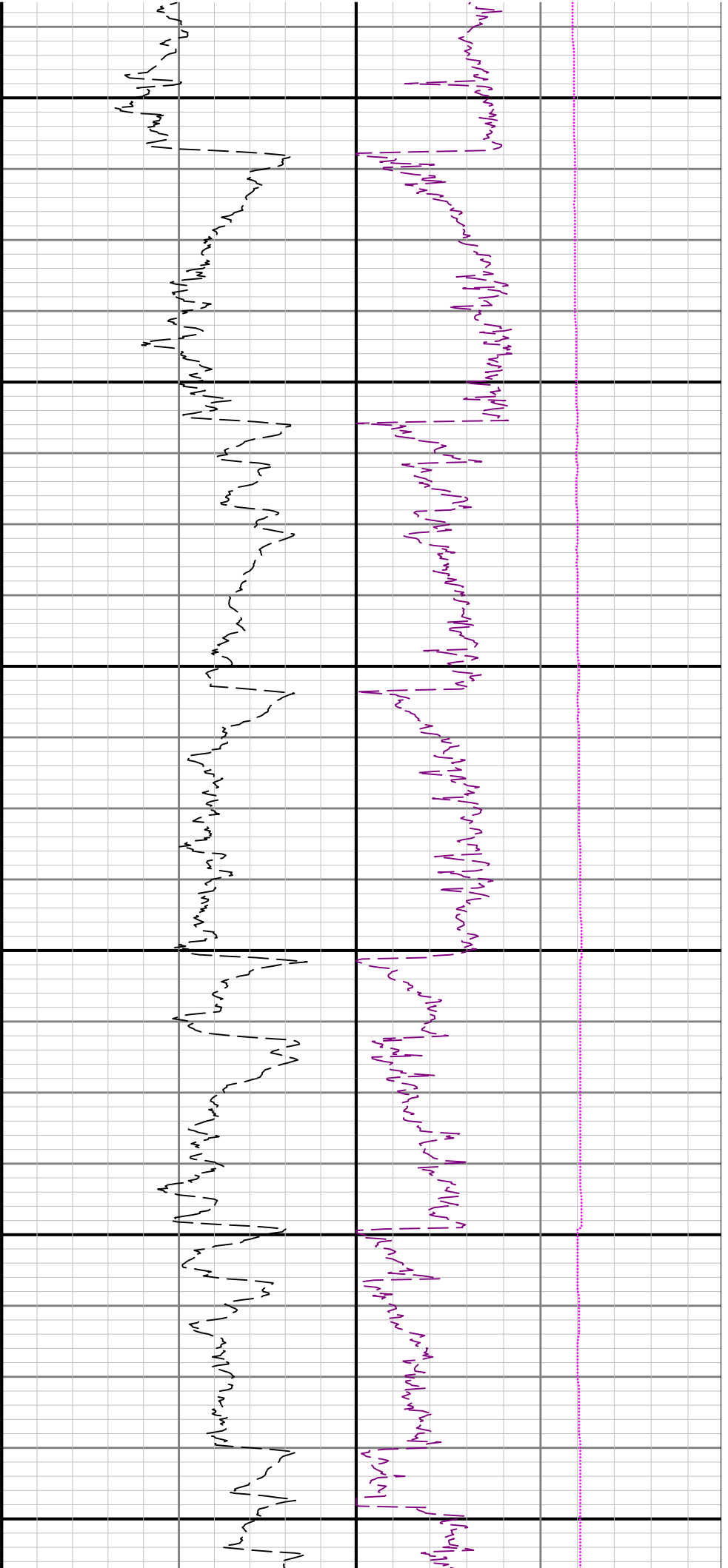
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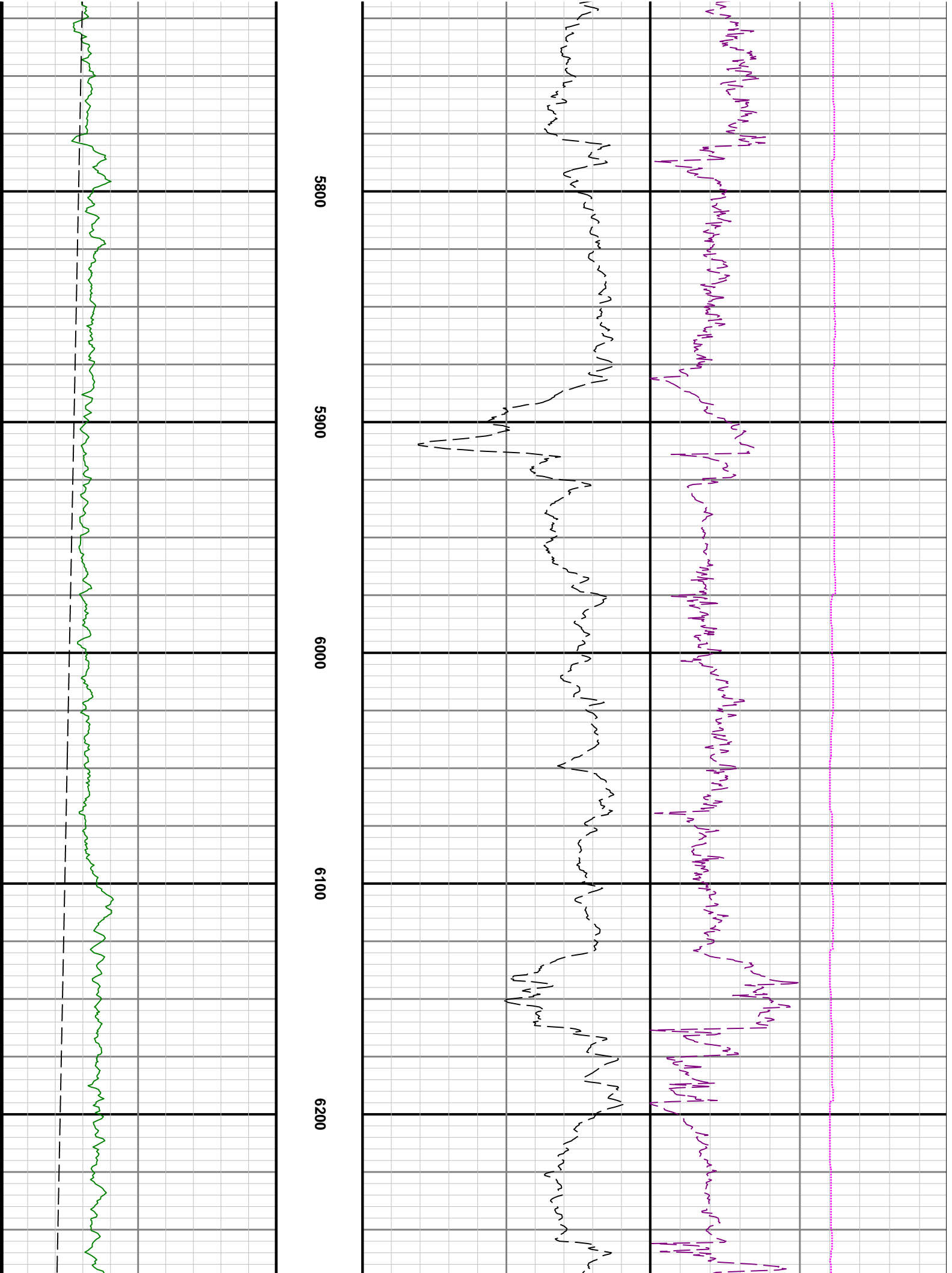


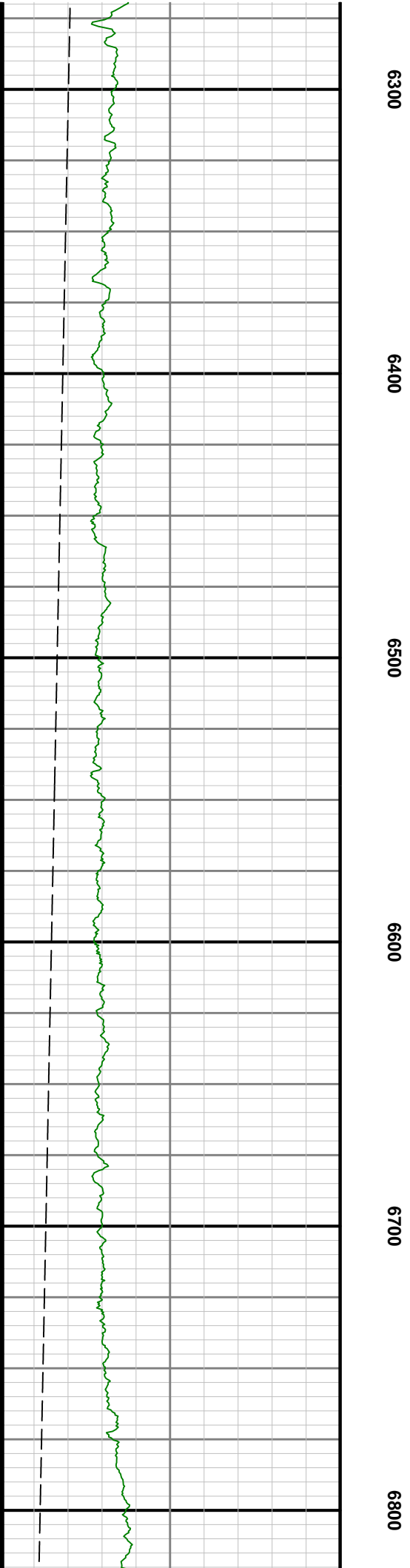
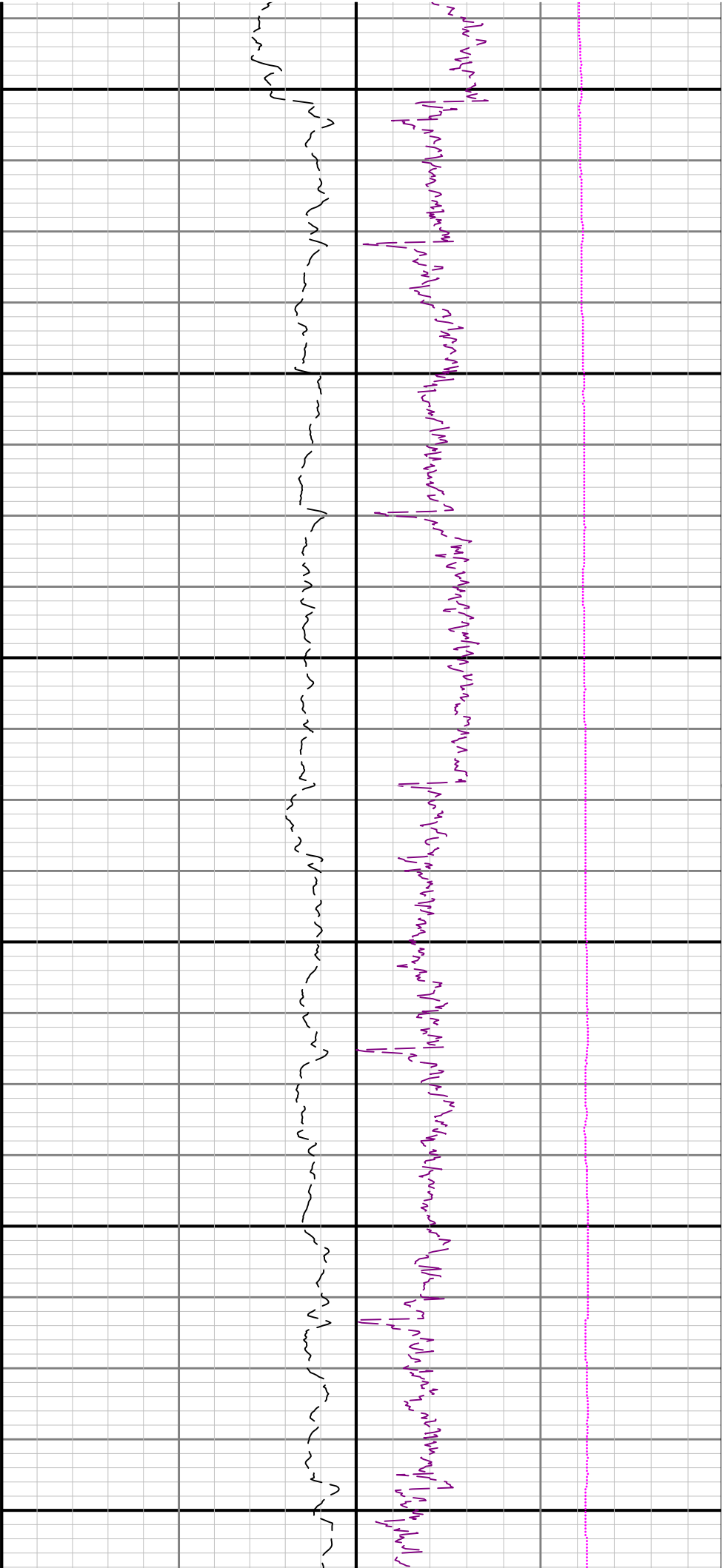


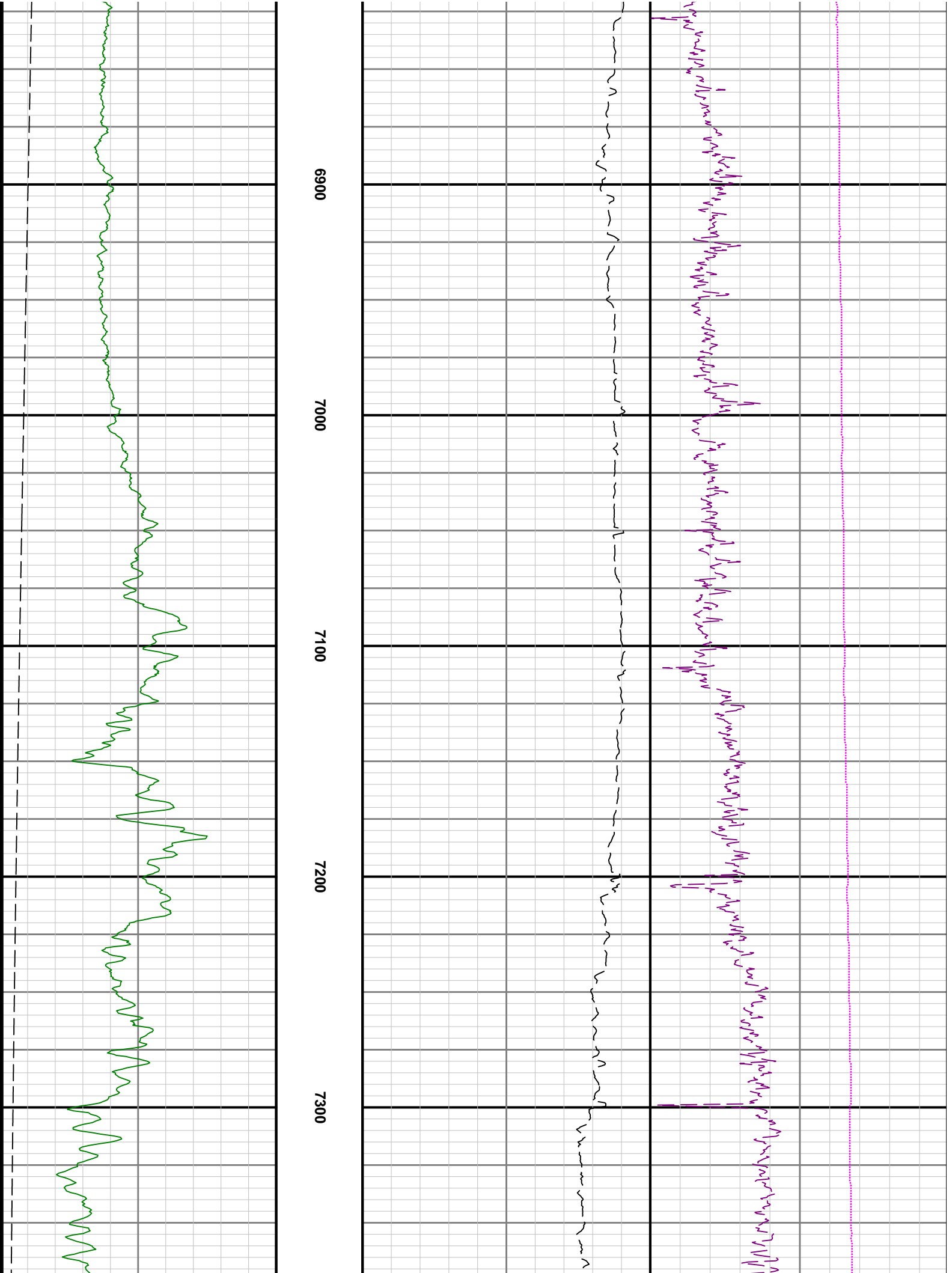


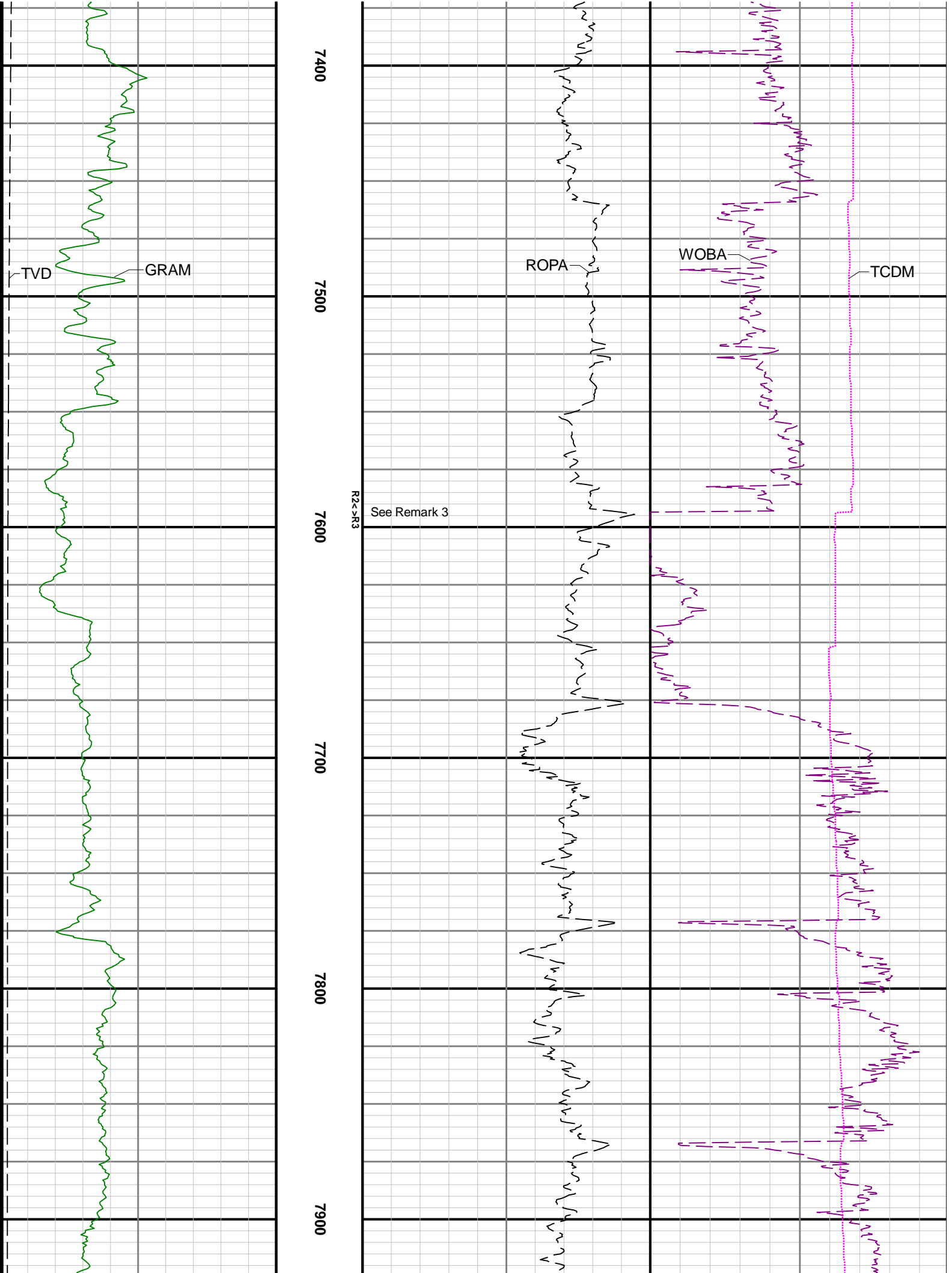












7400

7500

7600

7700

7800

7900

TVD

GRAM

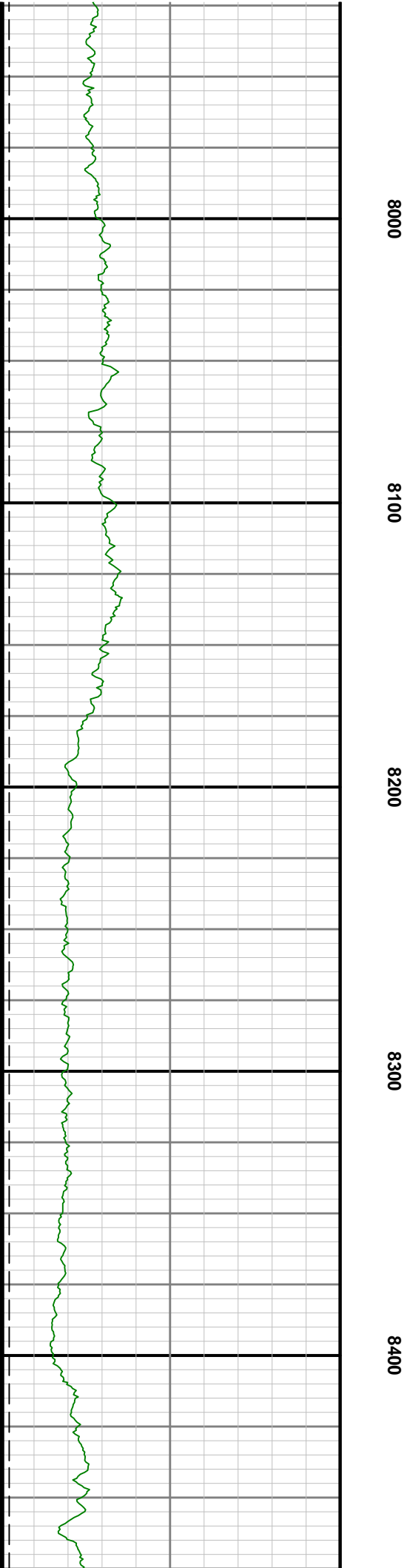
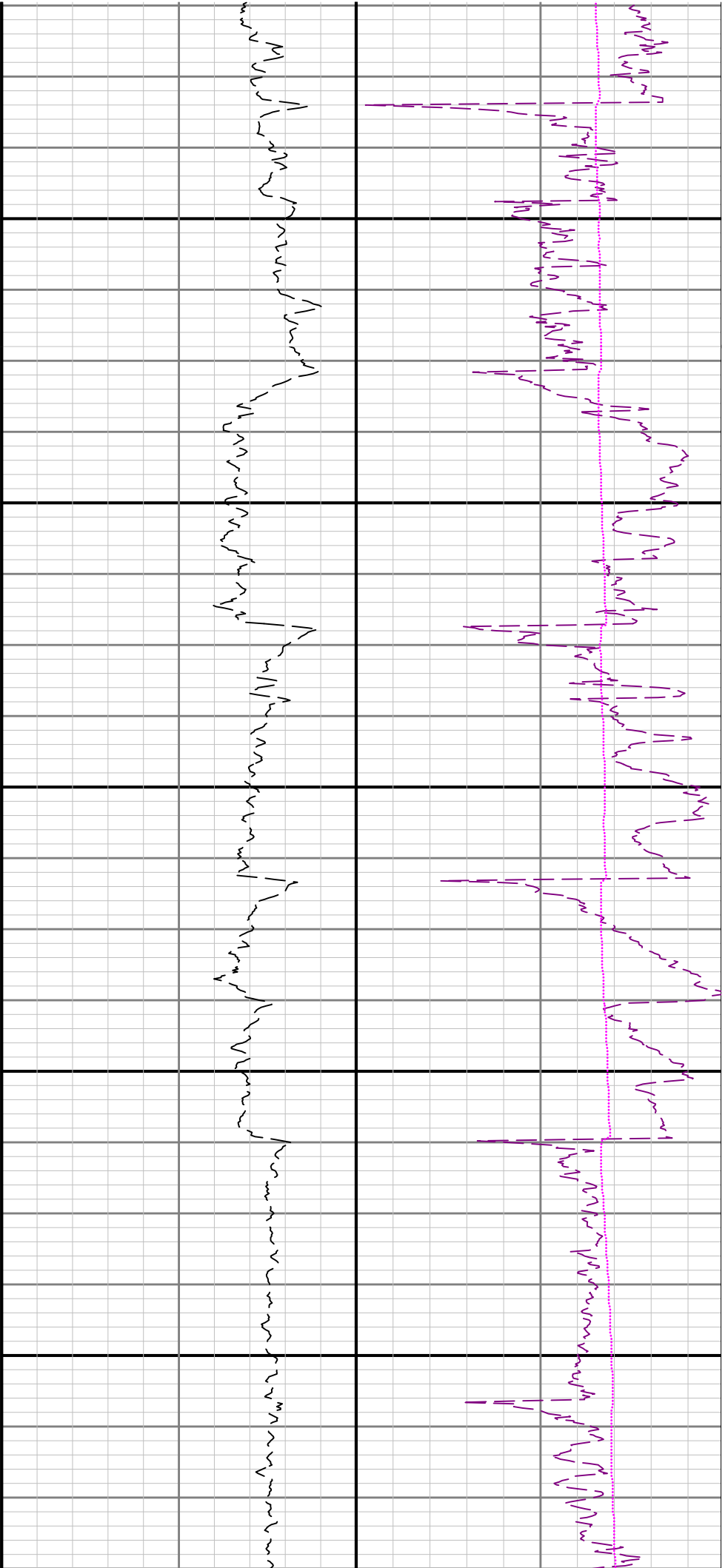
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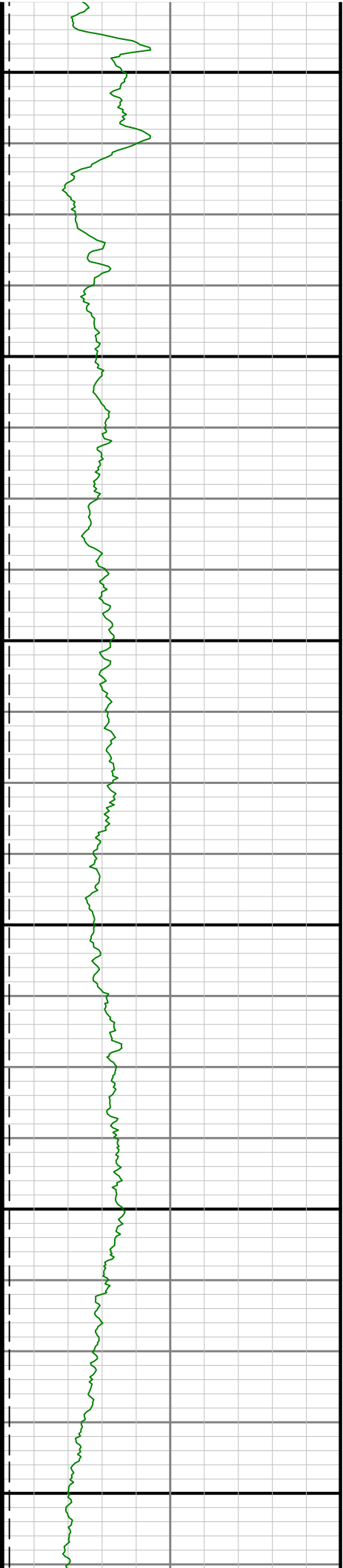
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TCDM

R2<R3

See Remark 3





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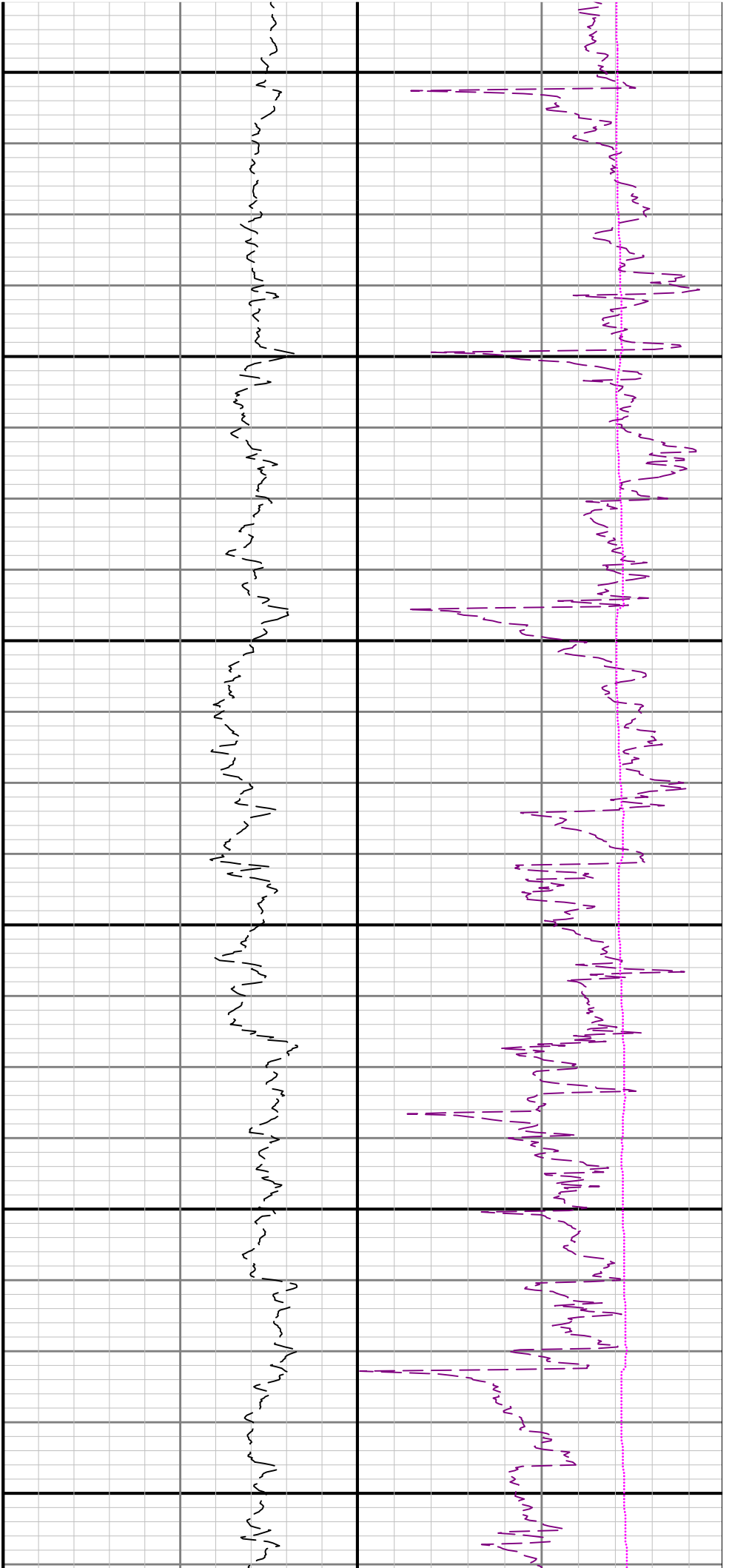
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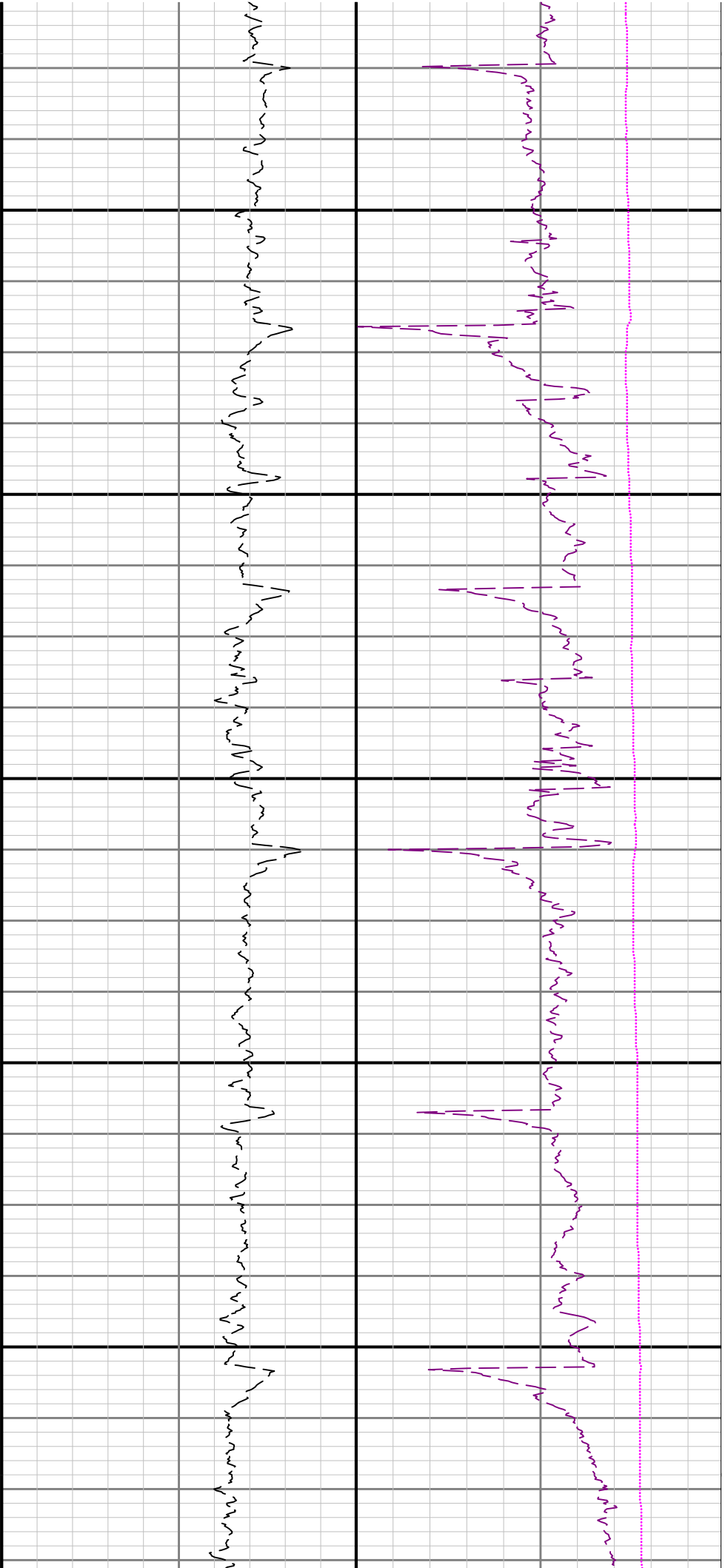
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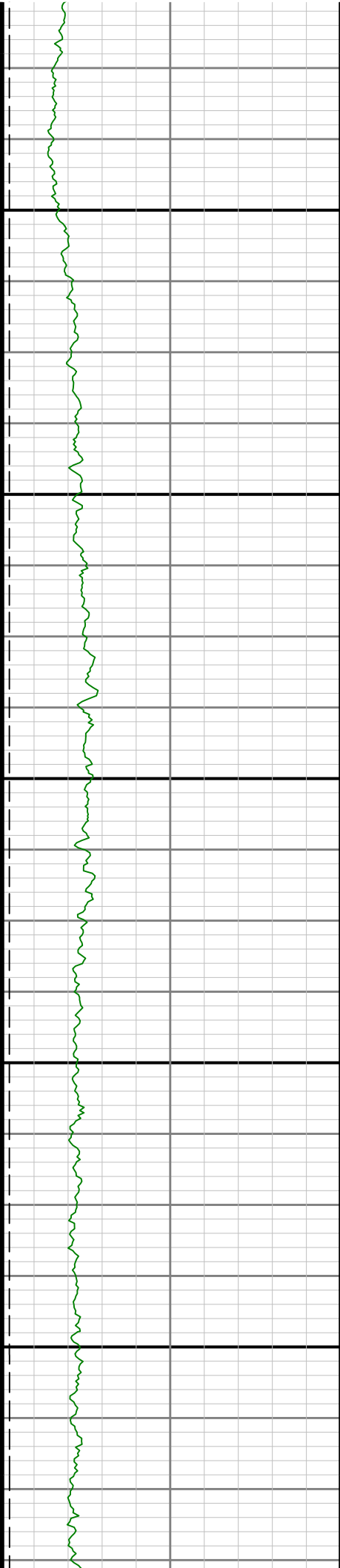
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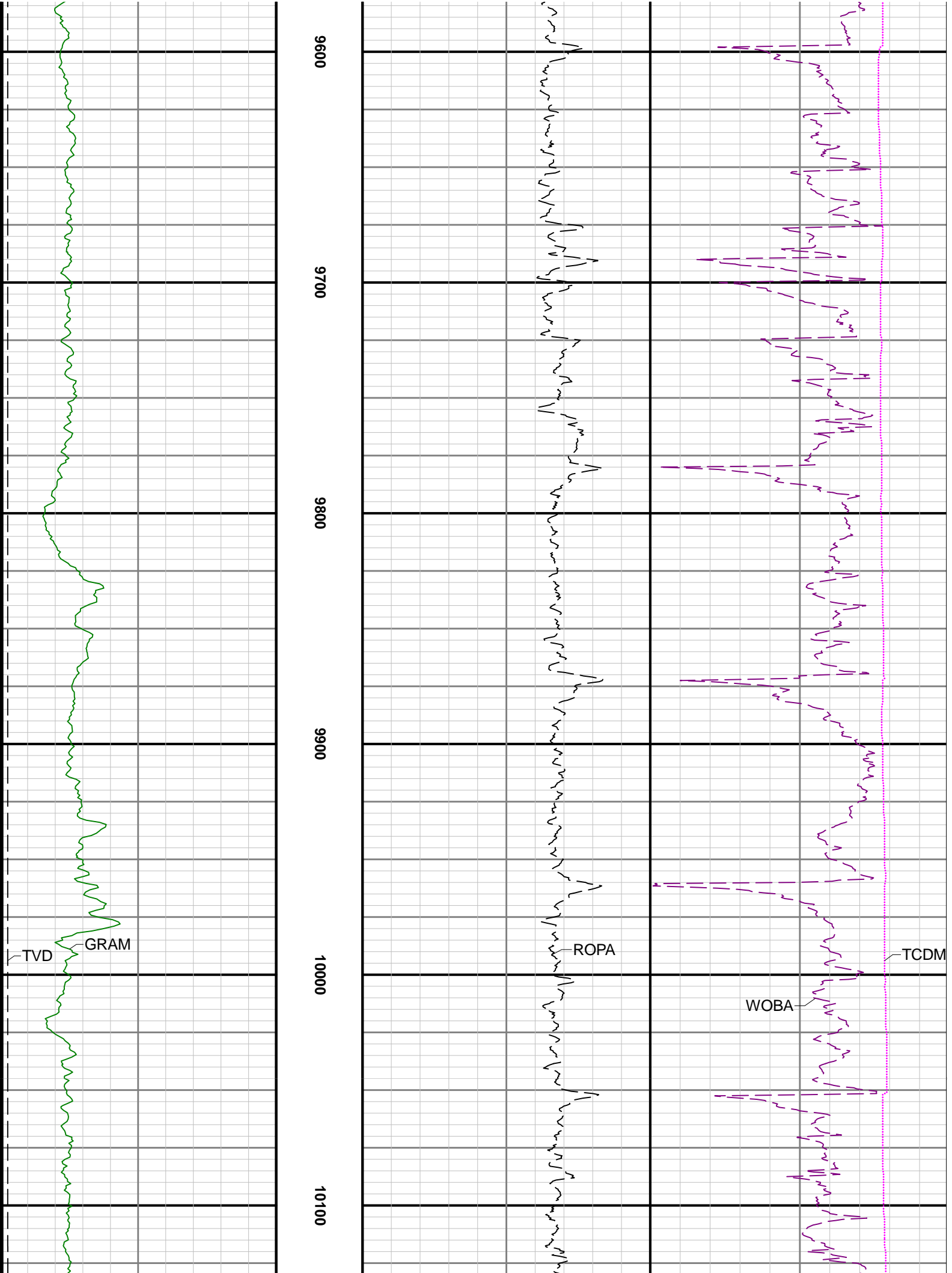
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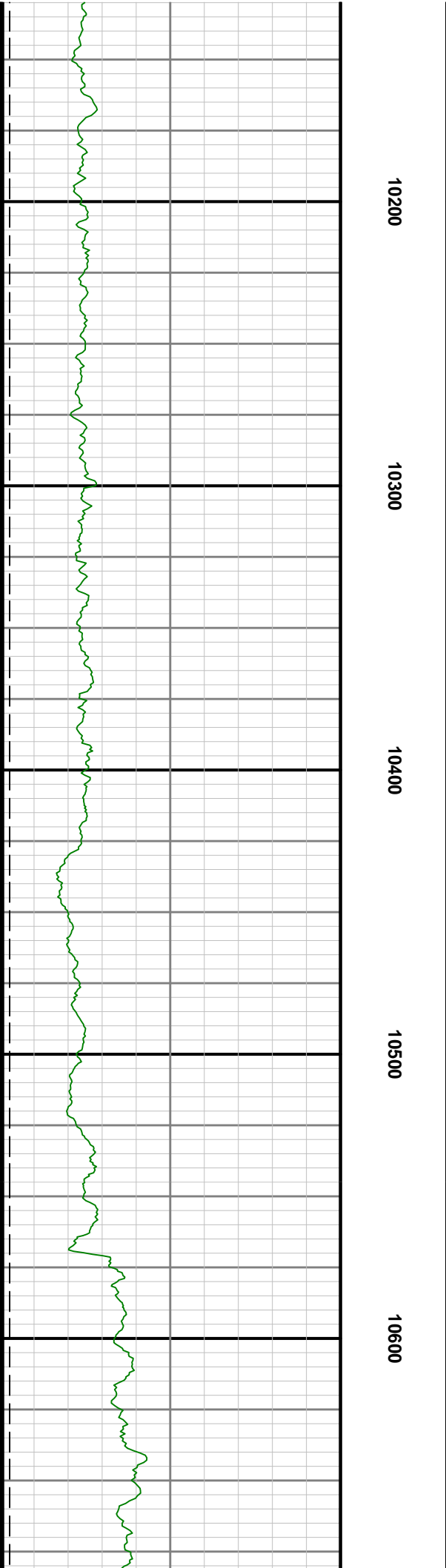
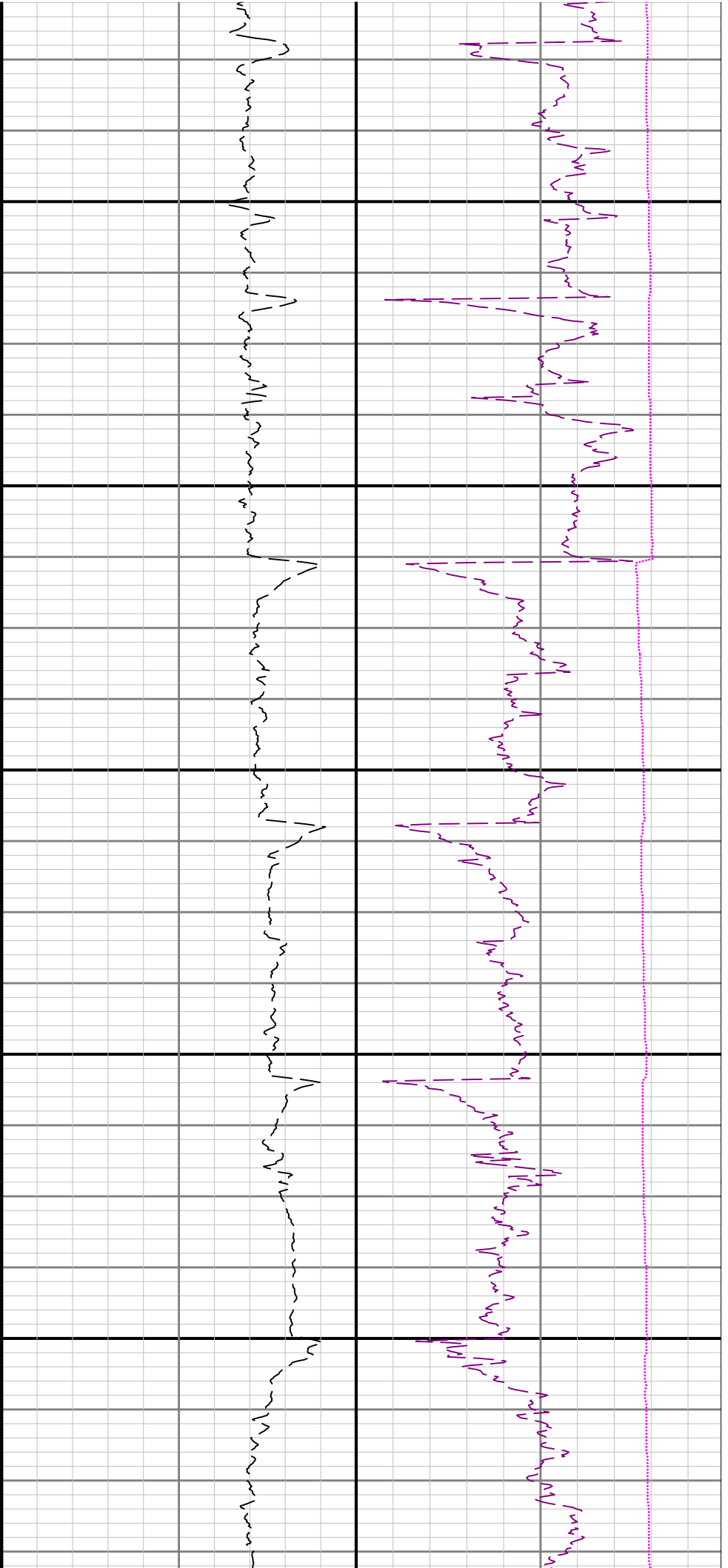
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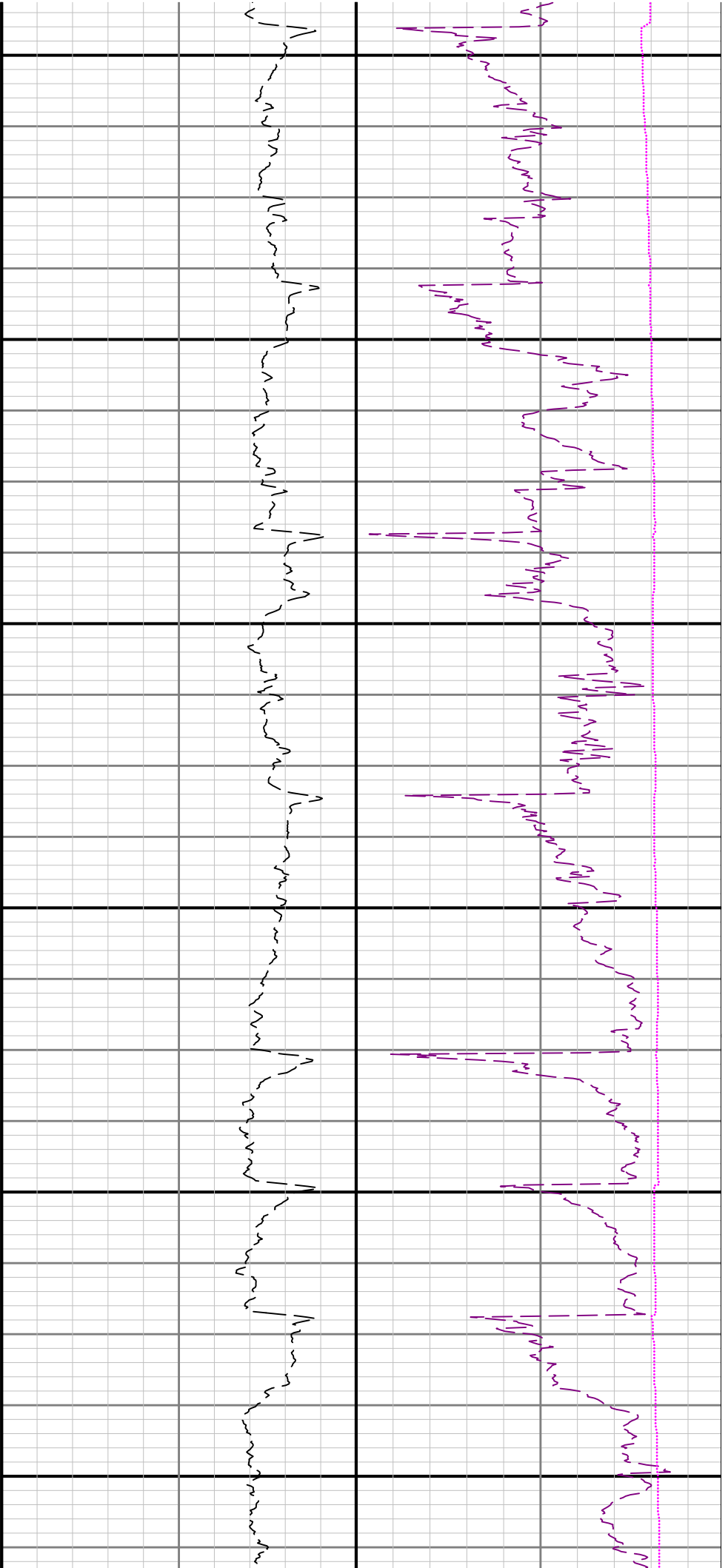
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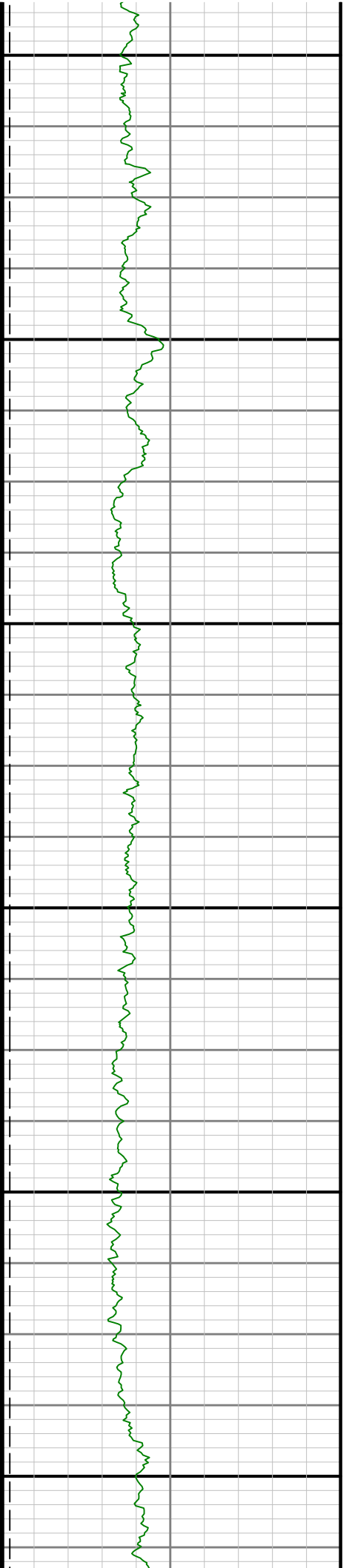
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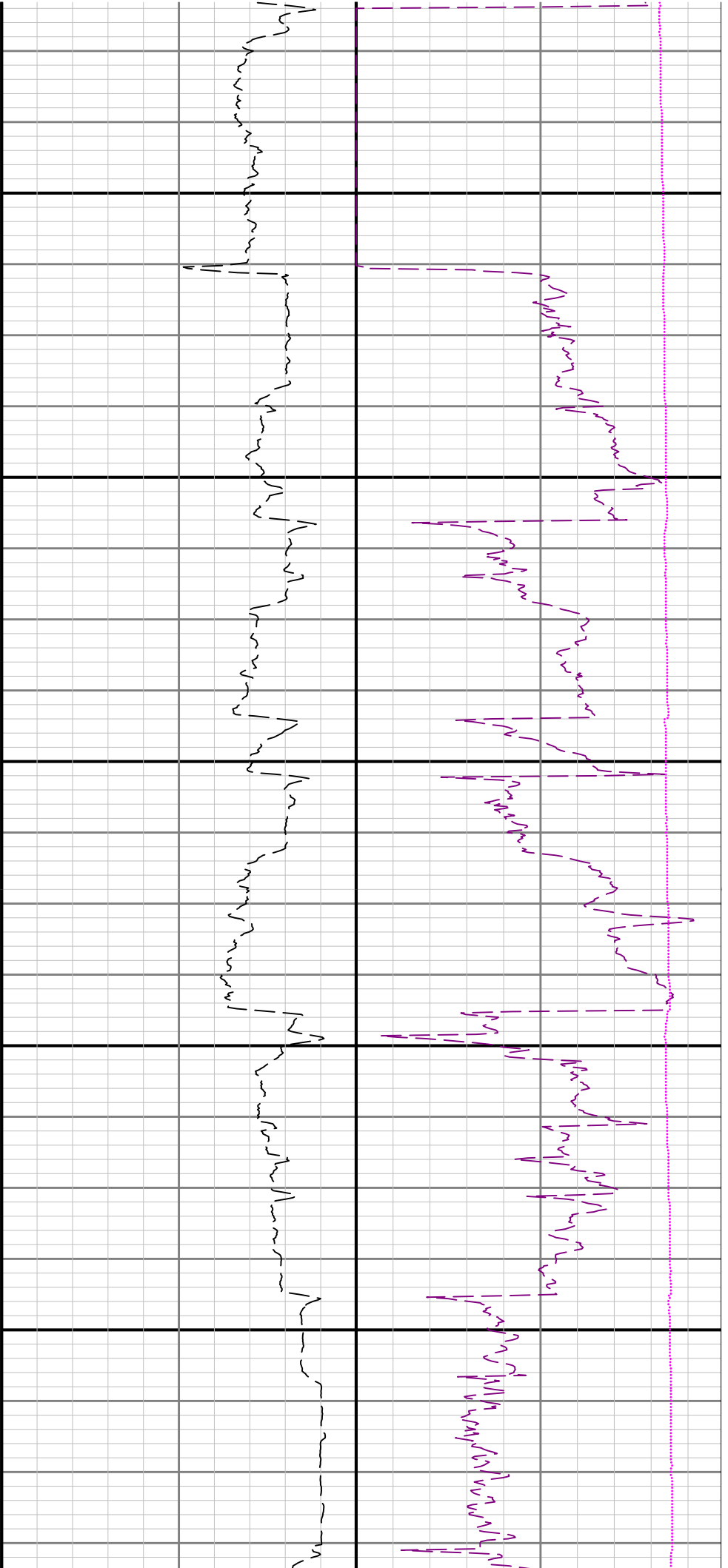
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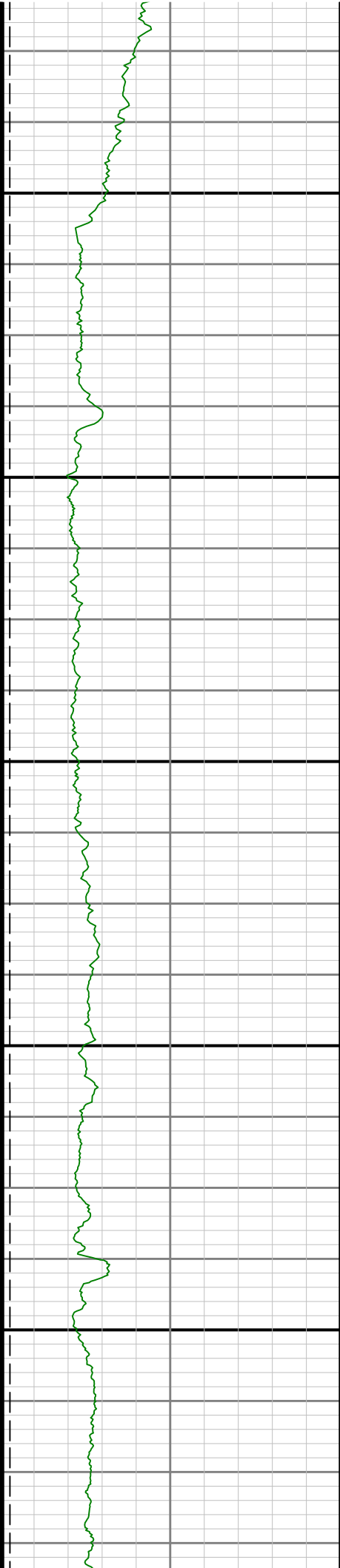
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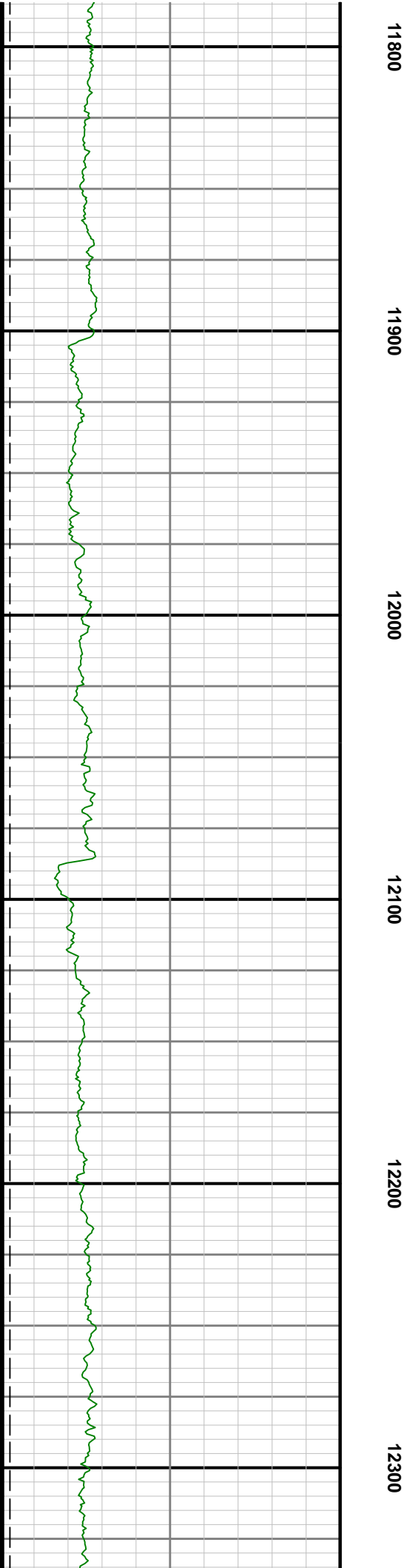
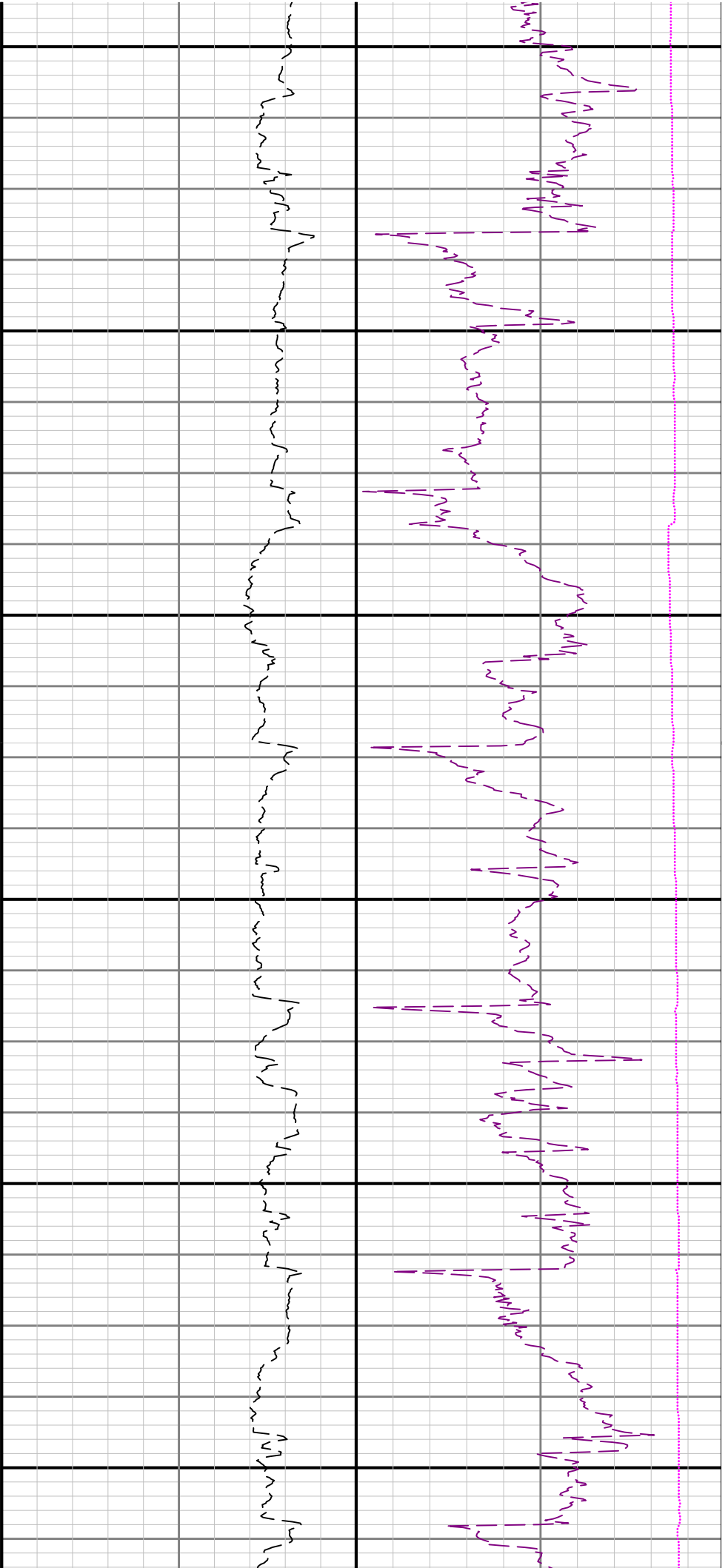
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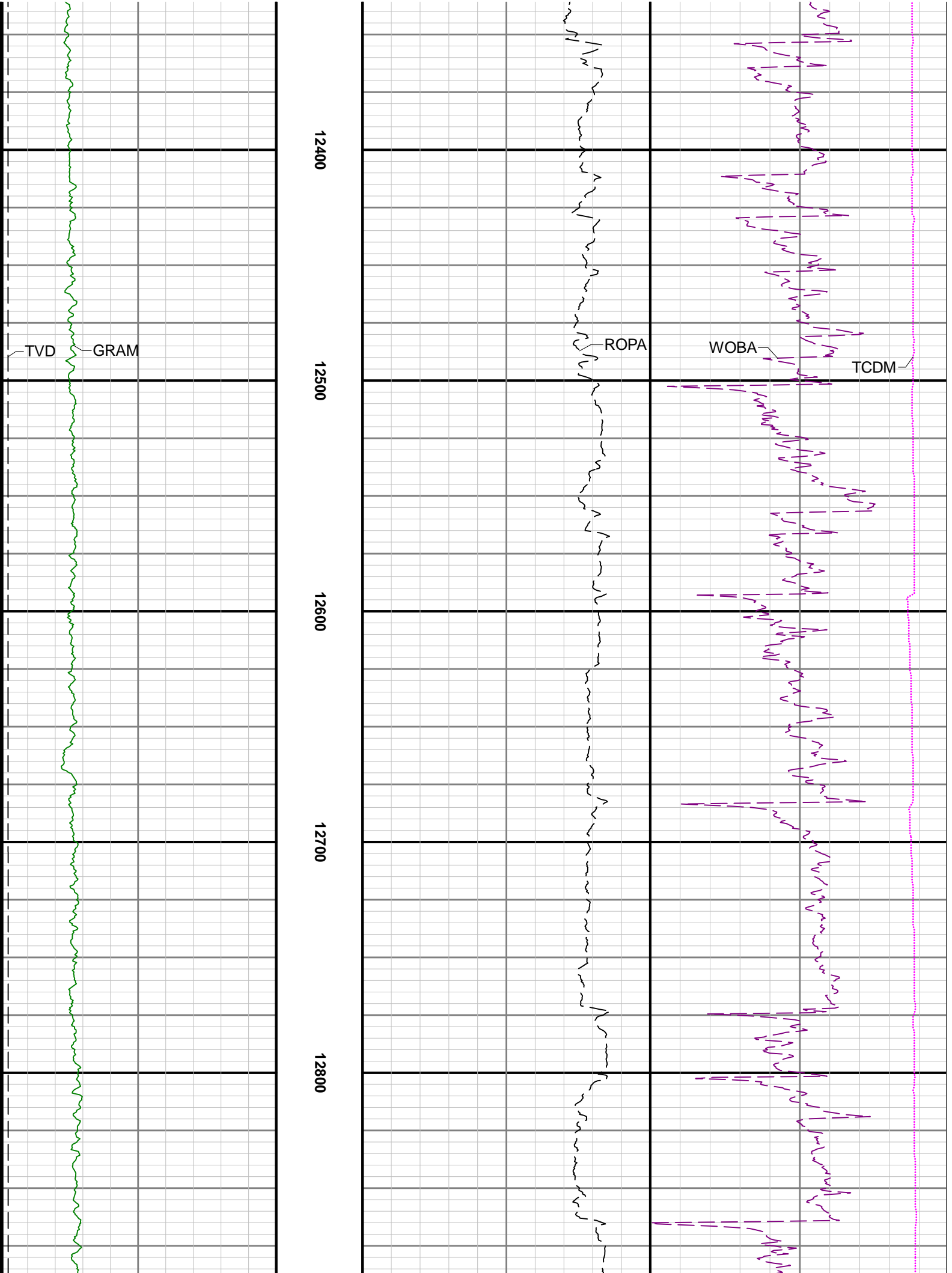
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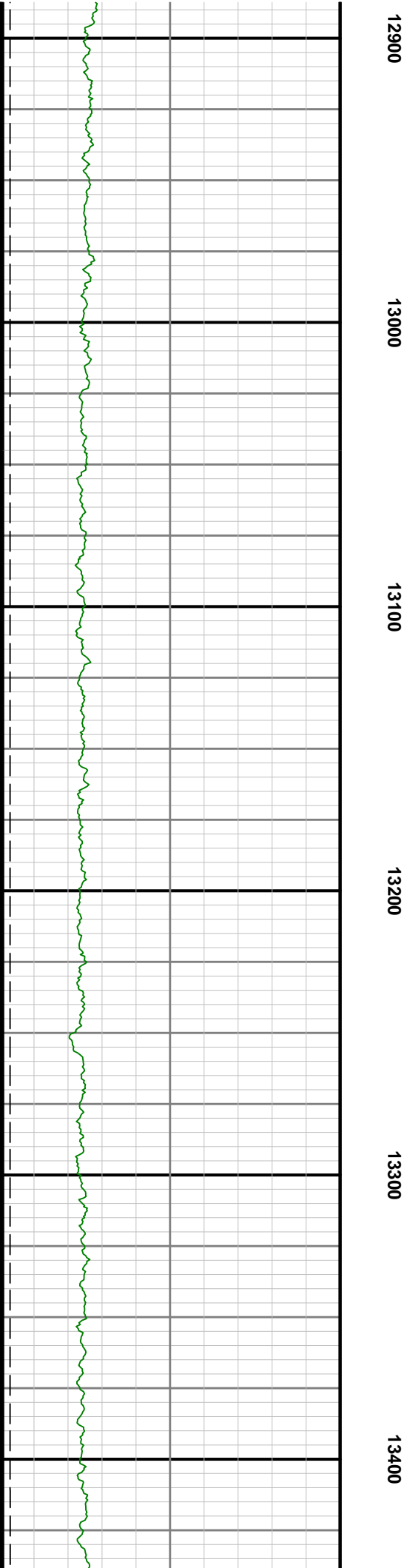
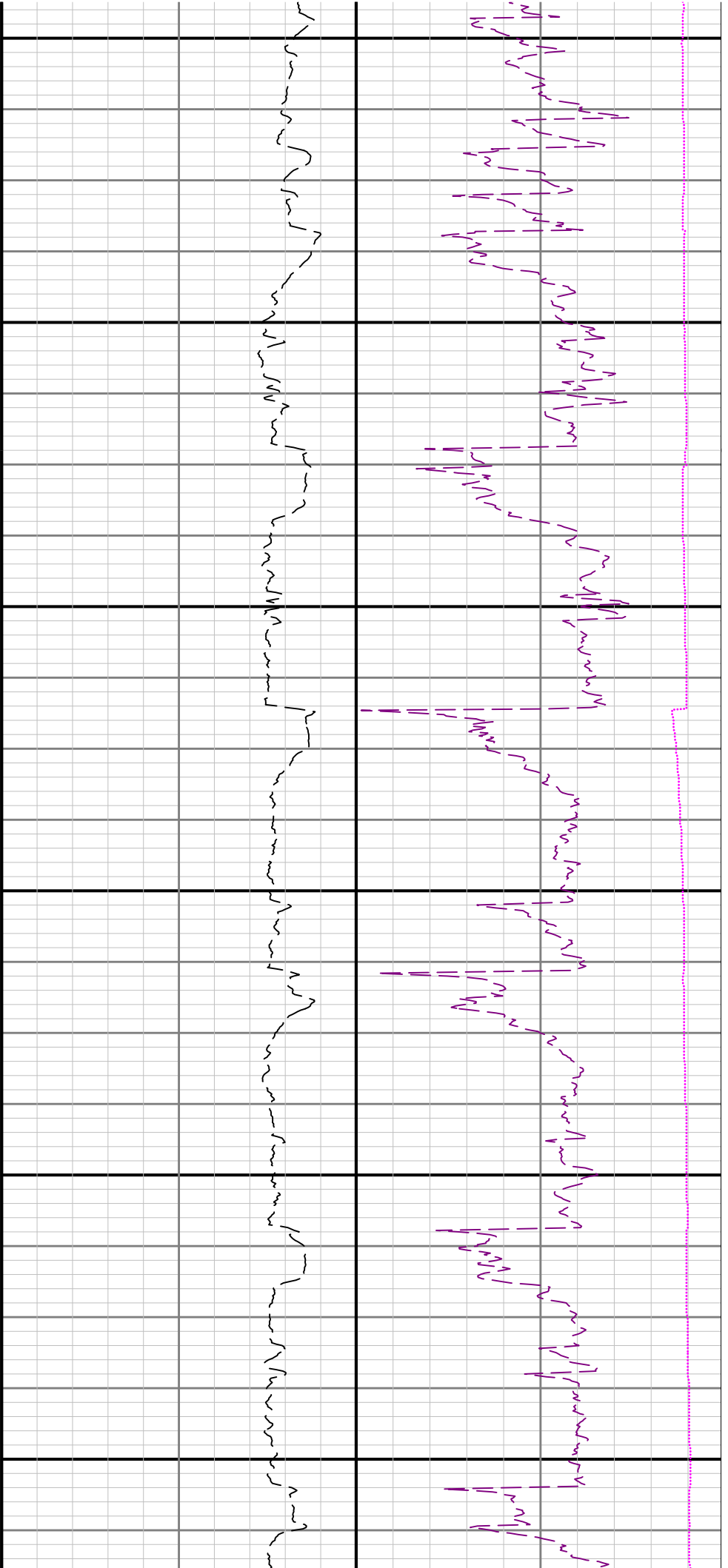
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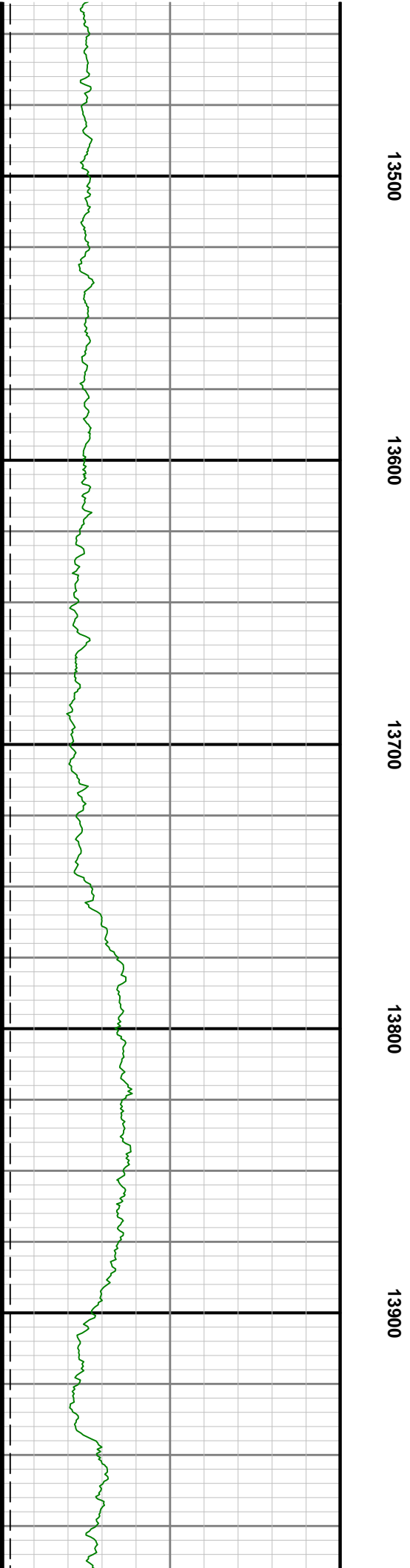
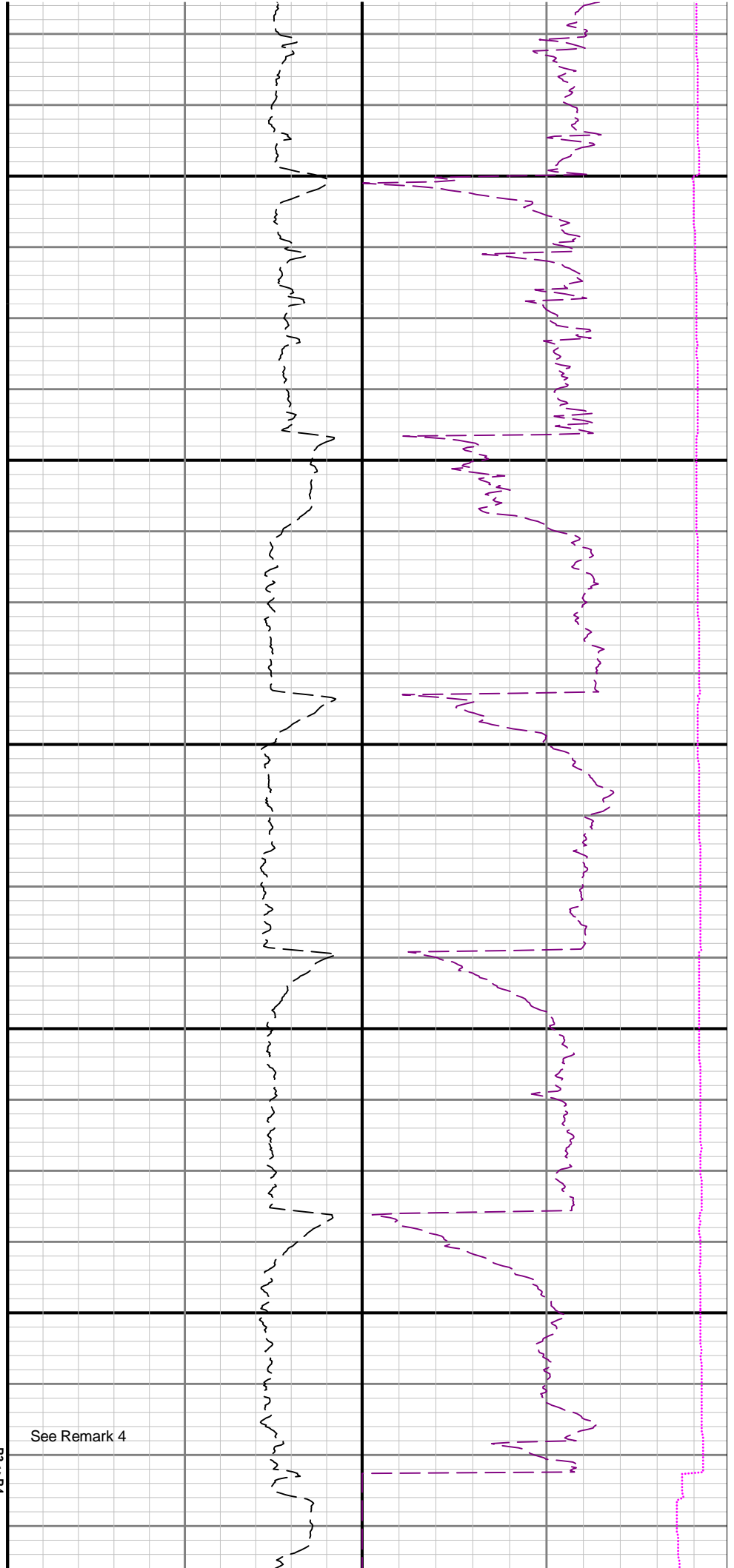
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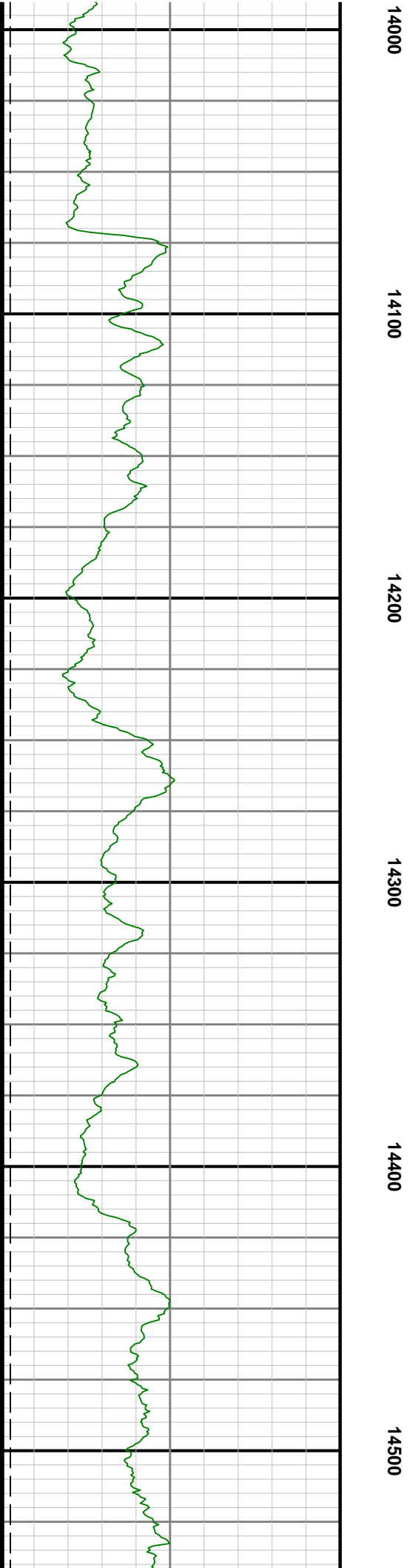
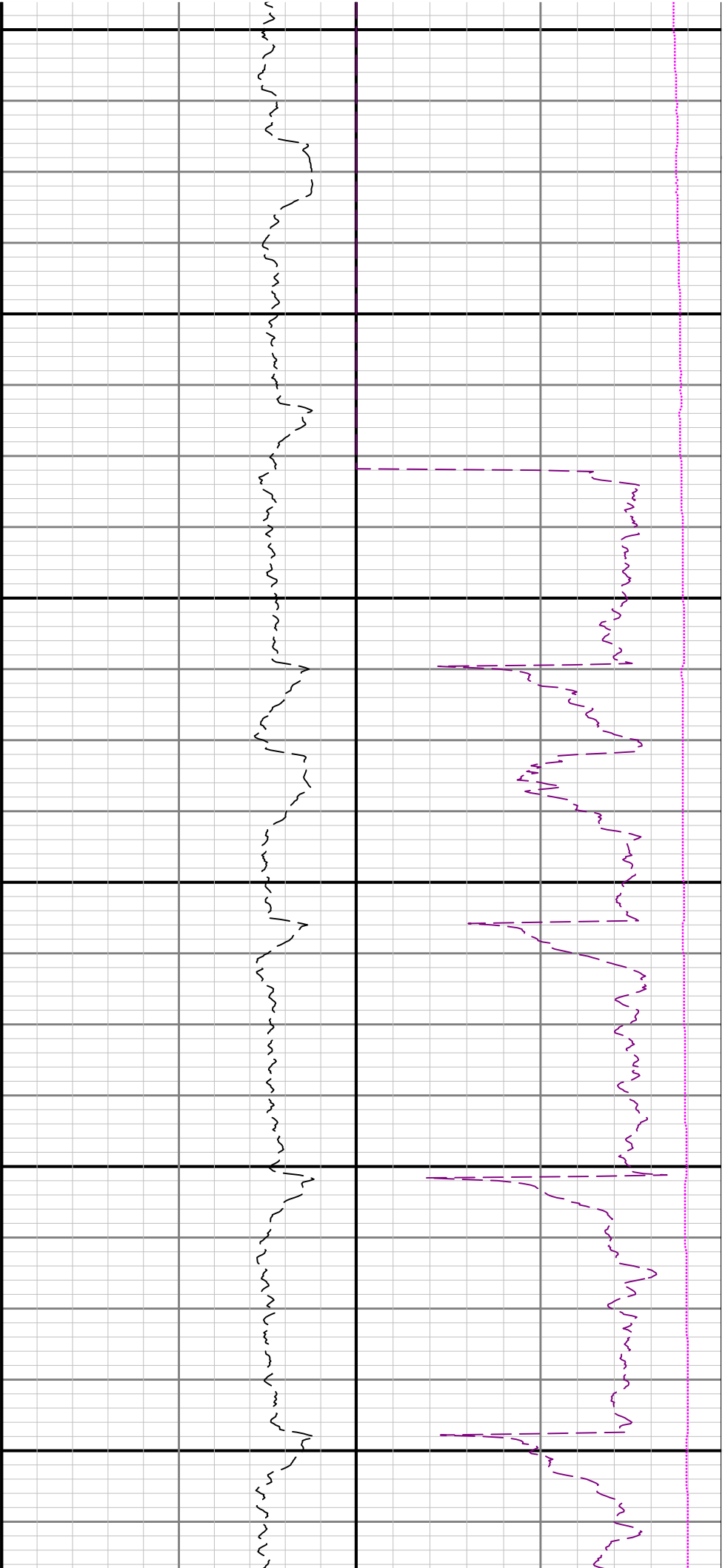


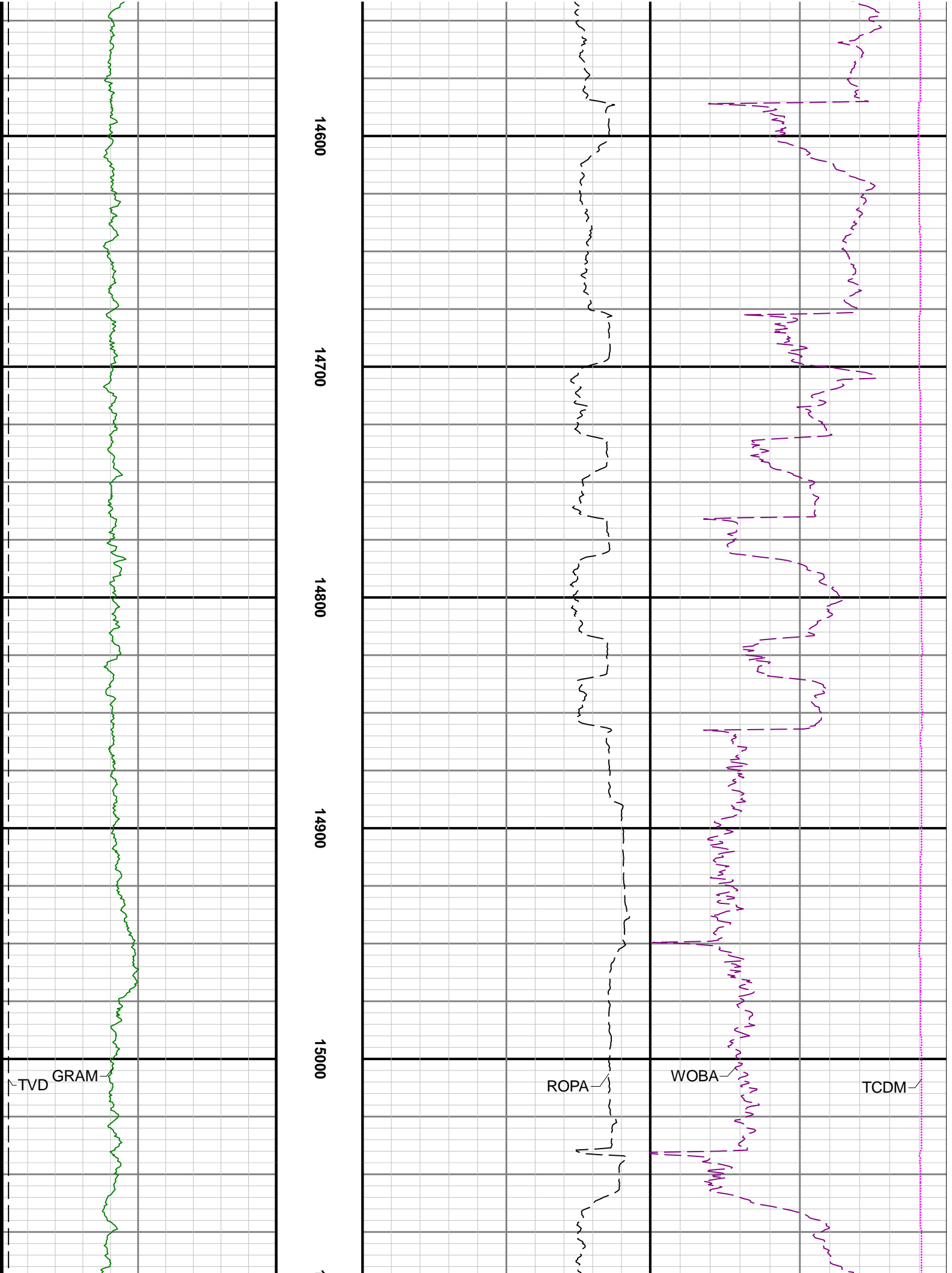


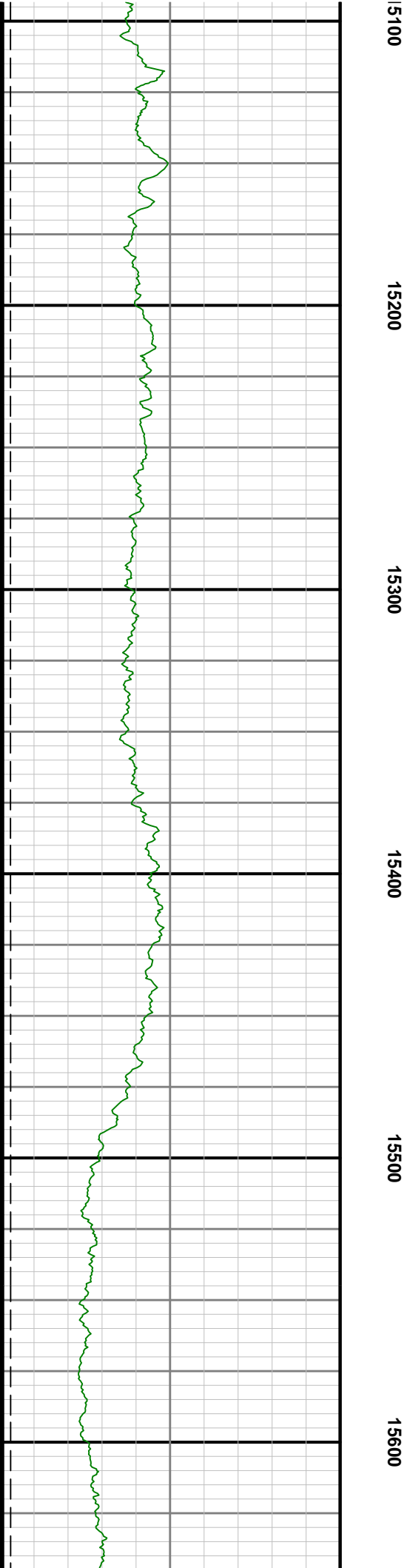
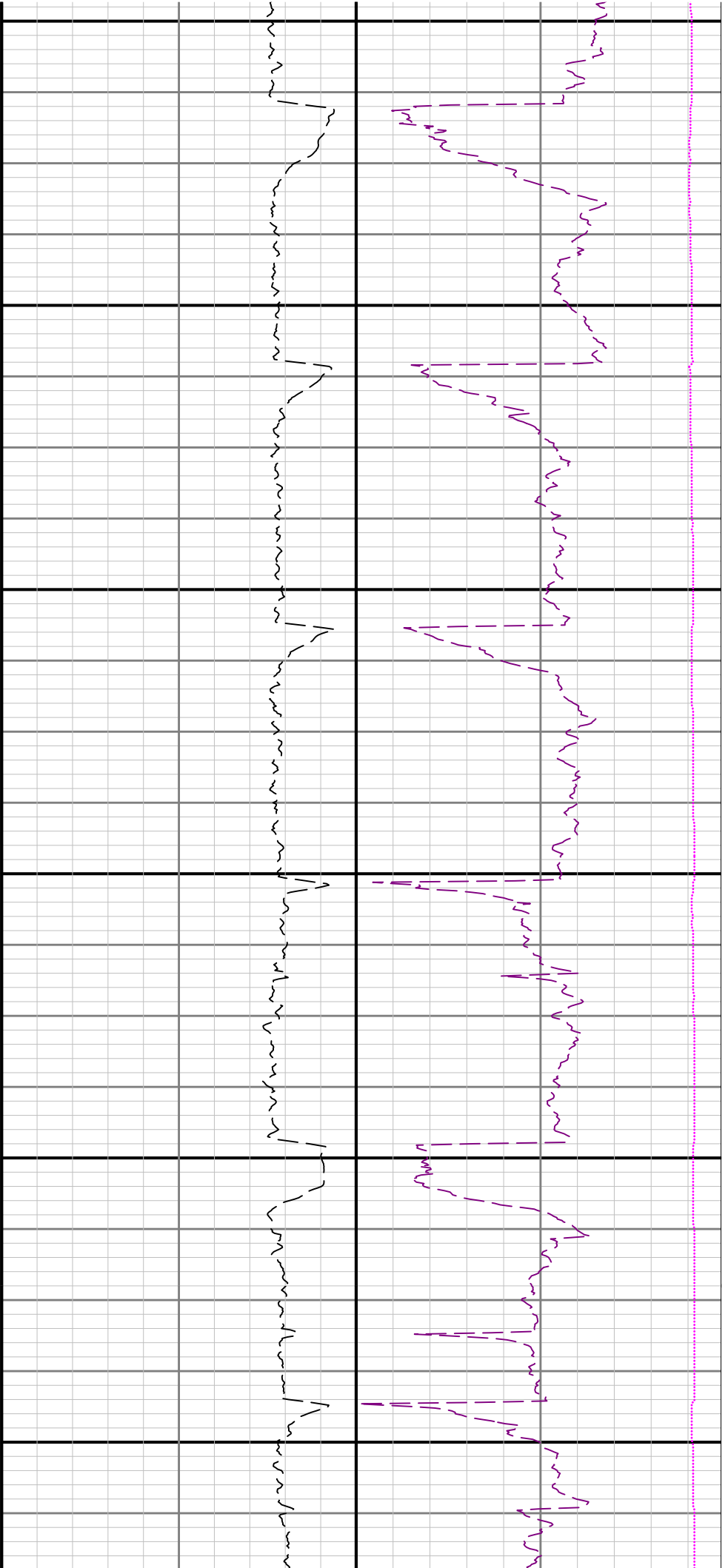


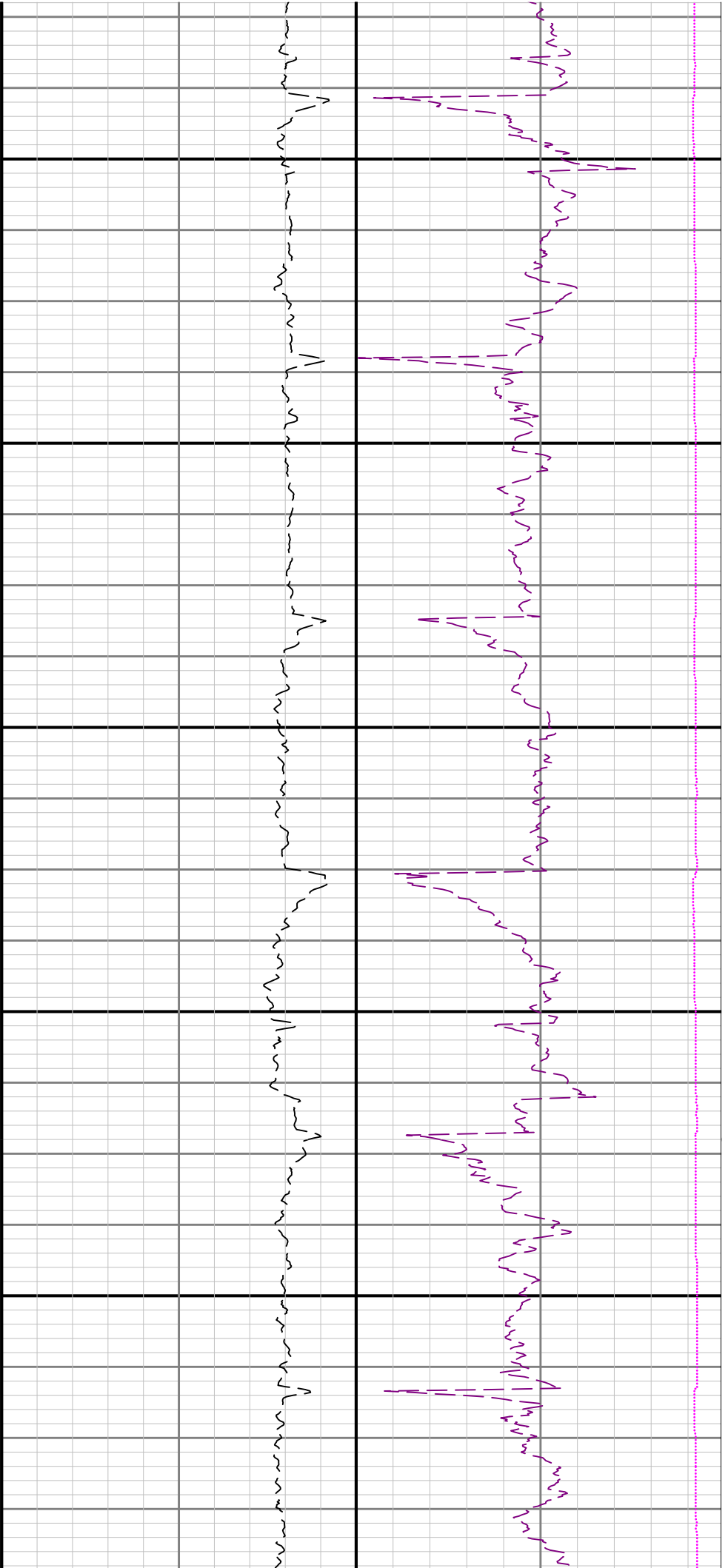












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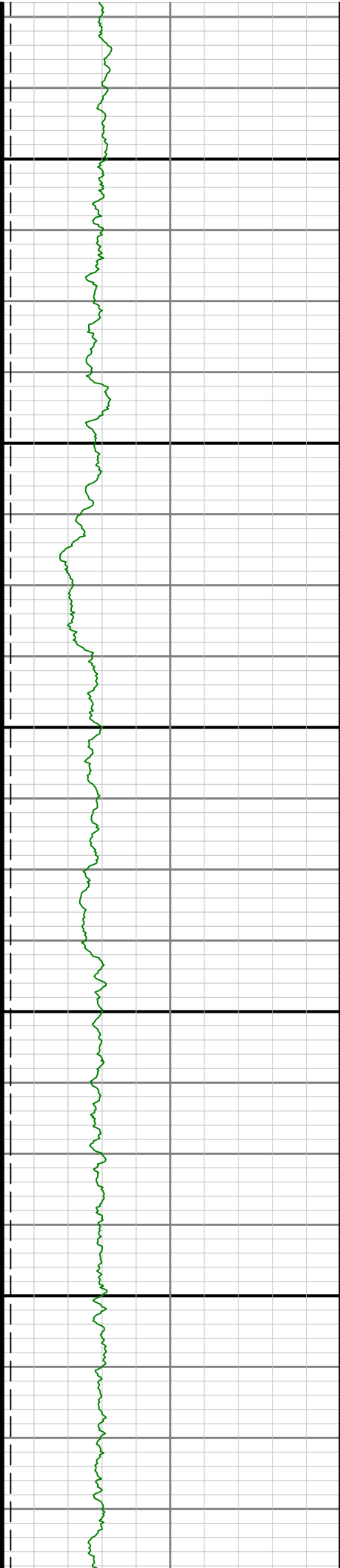
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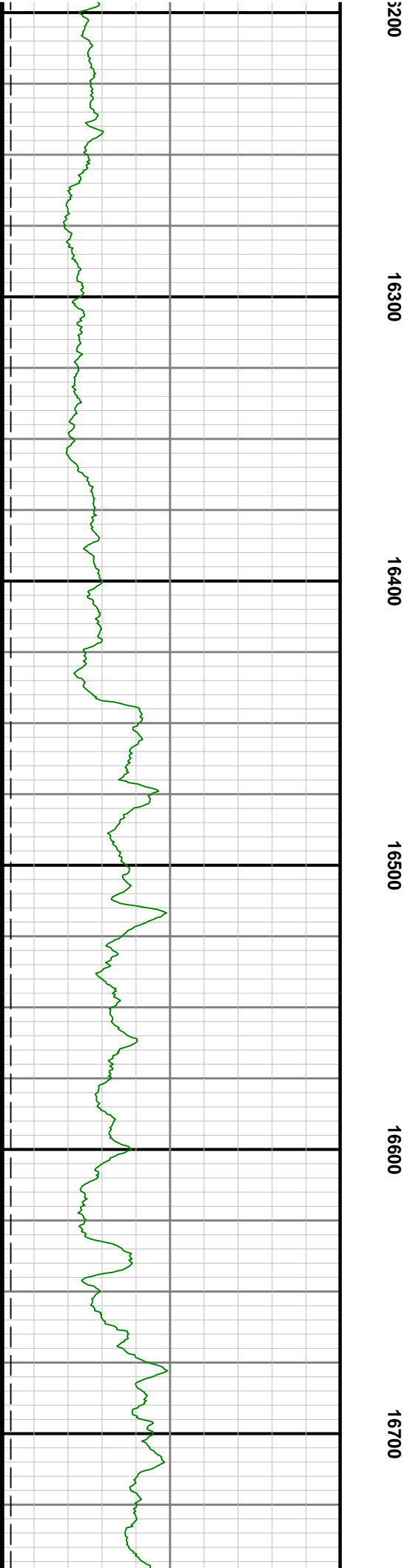
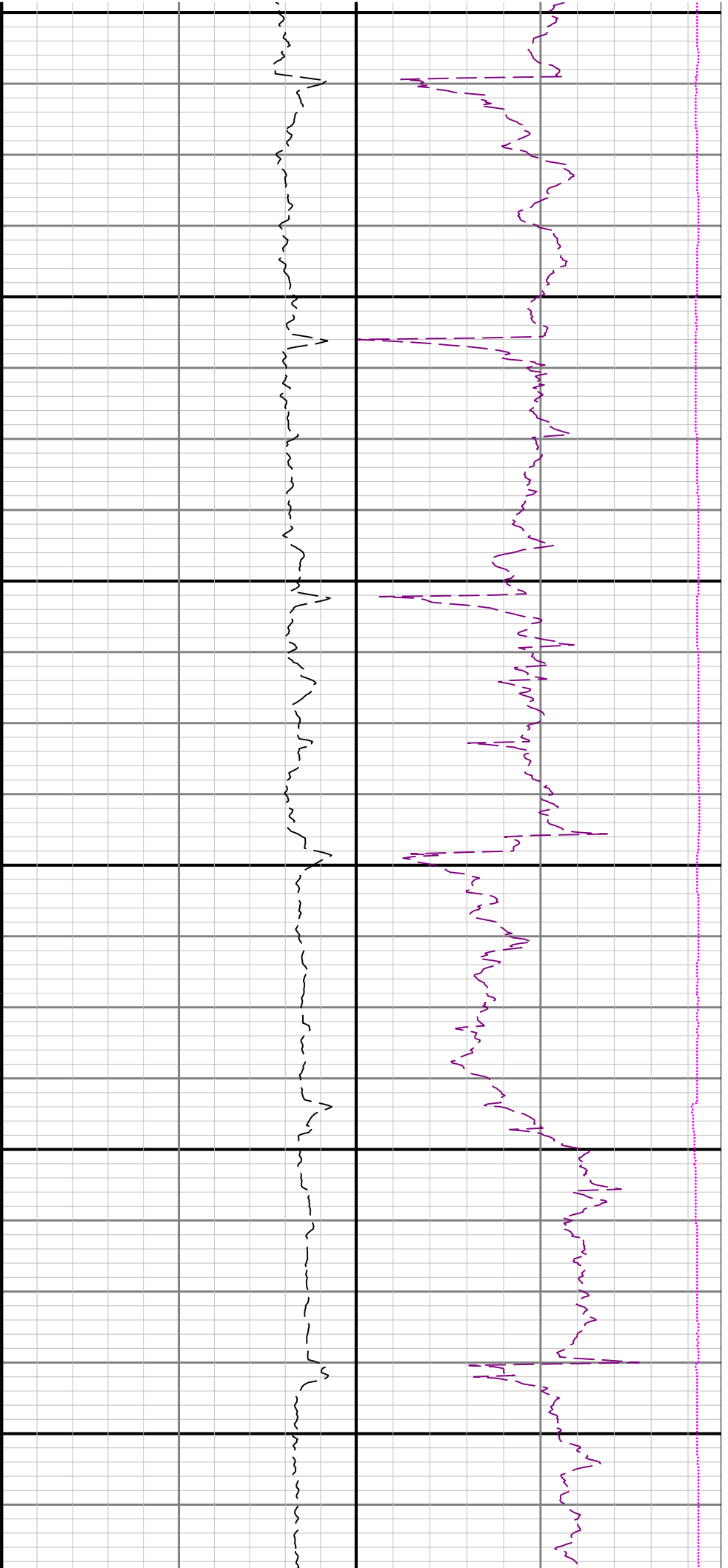
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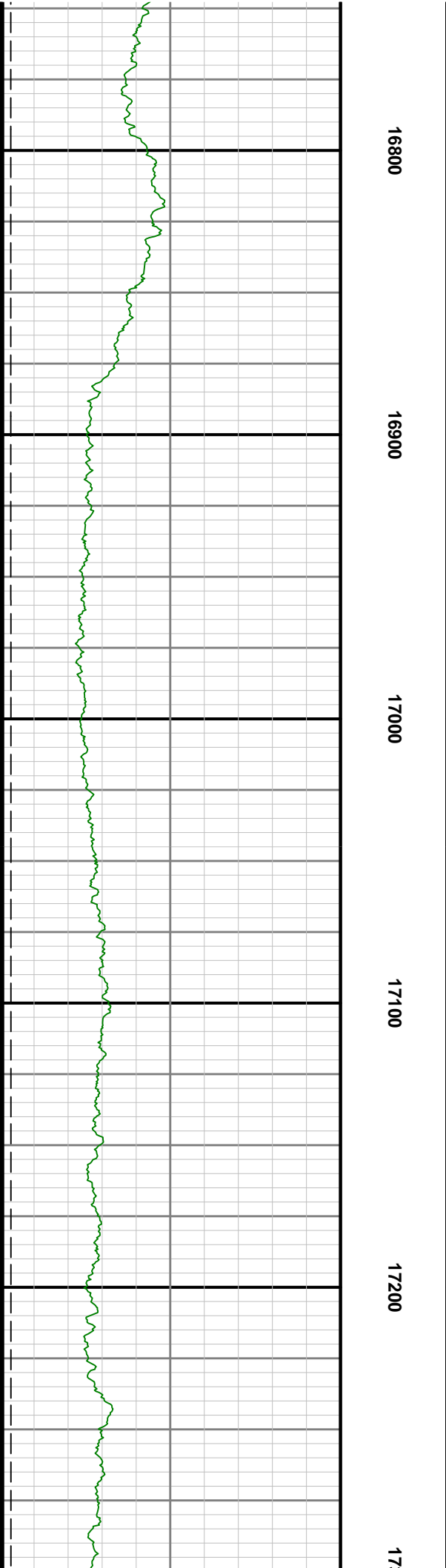
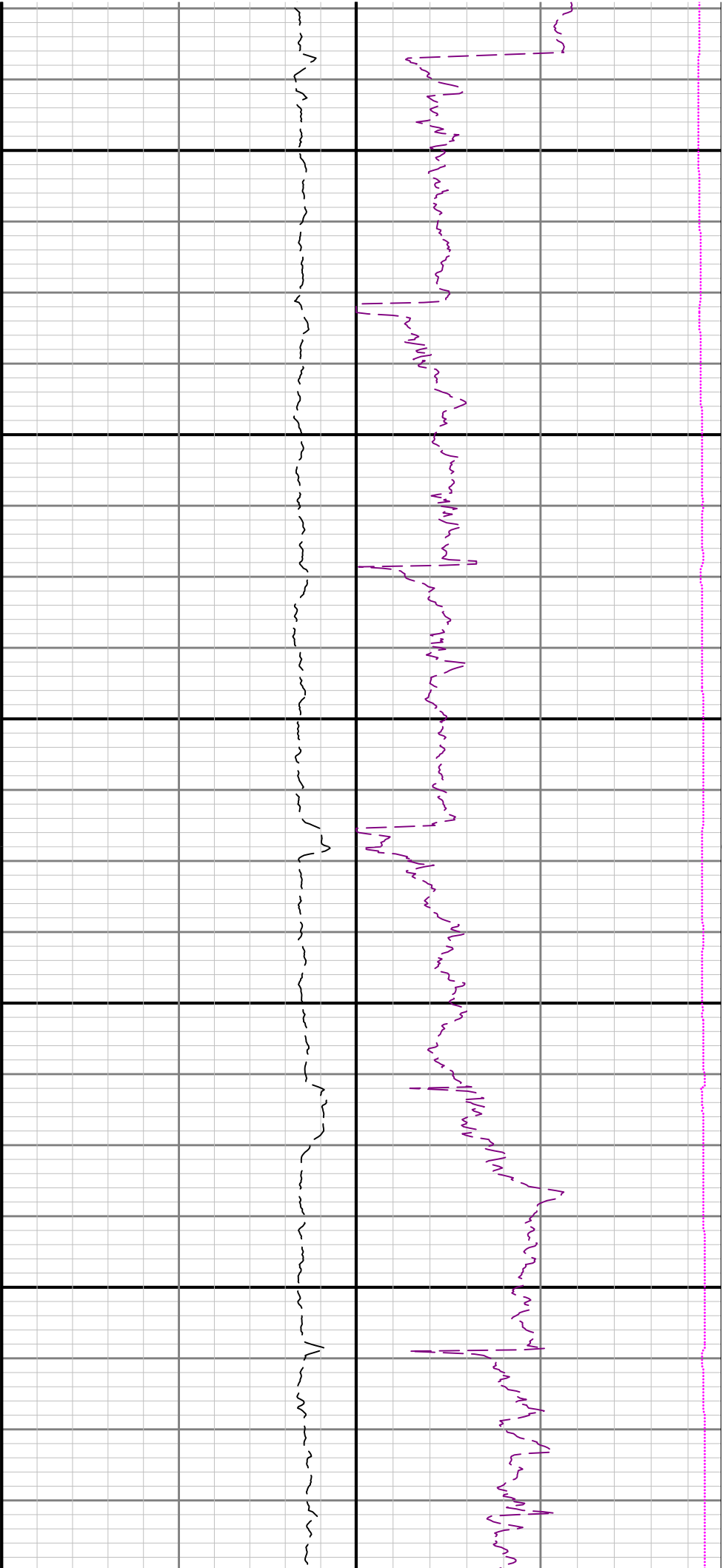
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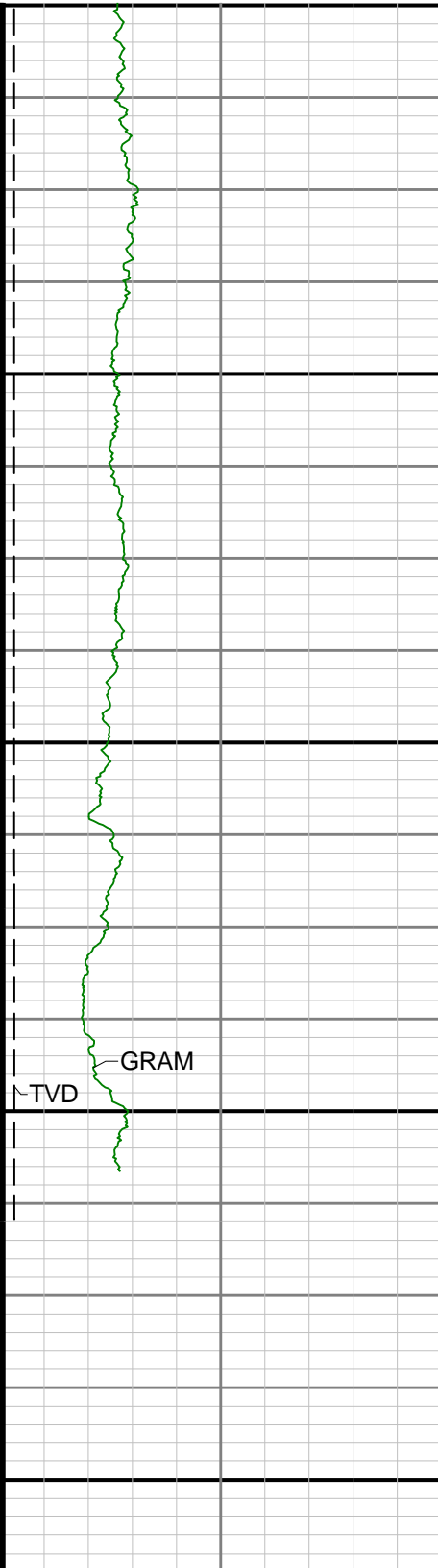
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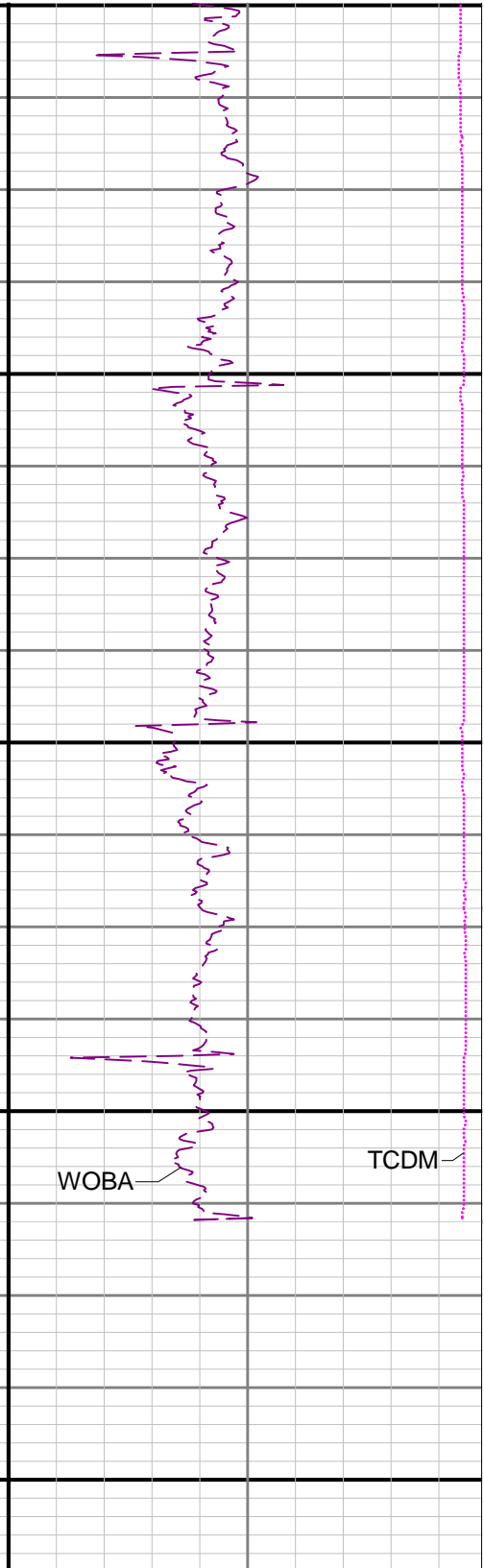
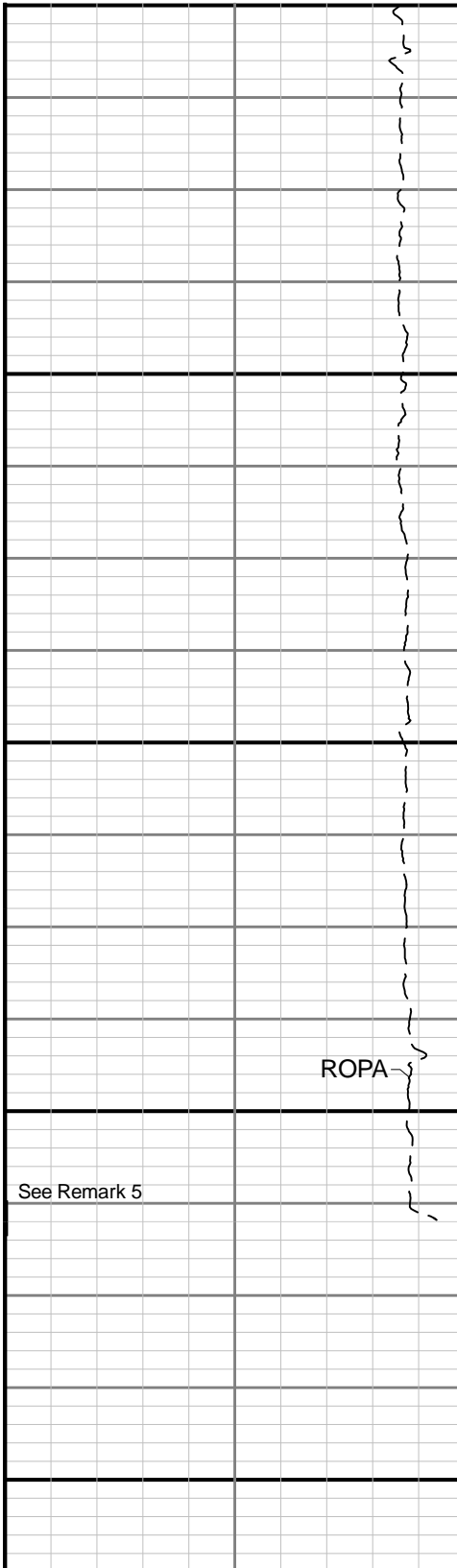






TD

MID 1:600 feet



Gamma Ray - Apparent 3 ft Average GRAM
 0 300
 API
 True Vertical Depth TVD
 7500 1500
 ft

Depth Averaged ROP 3 ft Average ROPA
 1000 0
 ft/h

Weight On Bit, Average 1 ft Average WOBA
 0 50
 klb
 Downhole Temperature TCDM
 0 250
 degF