



Jason Light	2016-11-19	2016-11-26	Matthew Delmore	2016-11-19	2016-11-26	Nick Roosen	2016-11-19	2016-11-22
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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+ (%)
2016-11-20 15:30	2	1922.00	Water Based Mud	8.4	1	8	59.0	0.0/99.5	Suction	1900	0.00
2016-11-21 03:30	2	4500.00	Water Based Mud	8.6	1	9.5	70.0	0.0/98.0	Suction	2000	0.00
2016-11-21 15:30	2	6900.00	Water Based Mud	9.9	12	9.5	6.2	1.5/90.5	Suction	2000	0.00
2016-11-22 03:30	2	7900.00	Water Based Mud	9.8	14	9.9	5.9	1.5/90.9	Suction	2200	0.00
2016-11-22 15:30	2	9500.00	Water Based Mud	9.8	14	10.1	5.7	1.5/90.7	Suction	2000	0.00
2016-11-23 03:30	2	11500.00	Water Based Mud	9.9	14	10.3	5.9	1.5/90.5	Suction	2100	0.00
2016-11-23 15:30	2	13850.00	Water Based Mud	9.9	14	10.6	5.8	1.7/90.4	Suction	2000	0.00
2016-11-24 03:30	2	15260.00	Water Based Mud	9.9	15	10	5.5	2.0/90.1	Suction	1900	0.00
2016-11-24 15:30	2	16530.00	Water Based Mud	9.9	14	10.9	5.6	2.0/90.0	Suction	2000	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	11994998	Near Bit VSS	5.93	6.72	7.550	4.330
2	ATC_SU	11994998	Near Bit Inclination	5.93	6.72	7.550	4.330
2	ATC_MWD	12536636	Gamma (single)	2.75	12.89	6.920	3.250
2	ATC_MWD	12536636	Directional (mag)	12.27	22.41	6.920	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 (GRAX) 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 1555 feet MD (97 to 1555 feet TVD). No logging data was acquired during this run.
4	Baker Hughes LWD Run 2 utilized 6 3/4 inch NaviGamma services (Gamma Ray and Directional) behind an 8 1/2 inch bit and rotary steerable assembly from 1555 to 17539 feet MD (1555 to 7234 feet TVD). As a result of downlinking and surveying while drilling ahead, there are gaps in logging data throughout this interval.

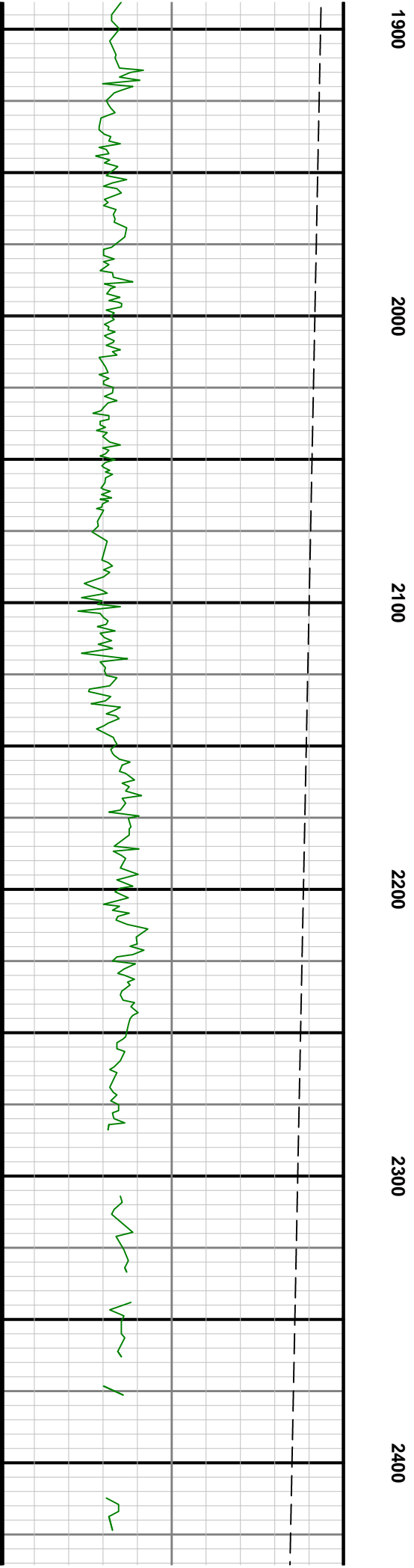
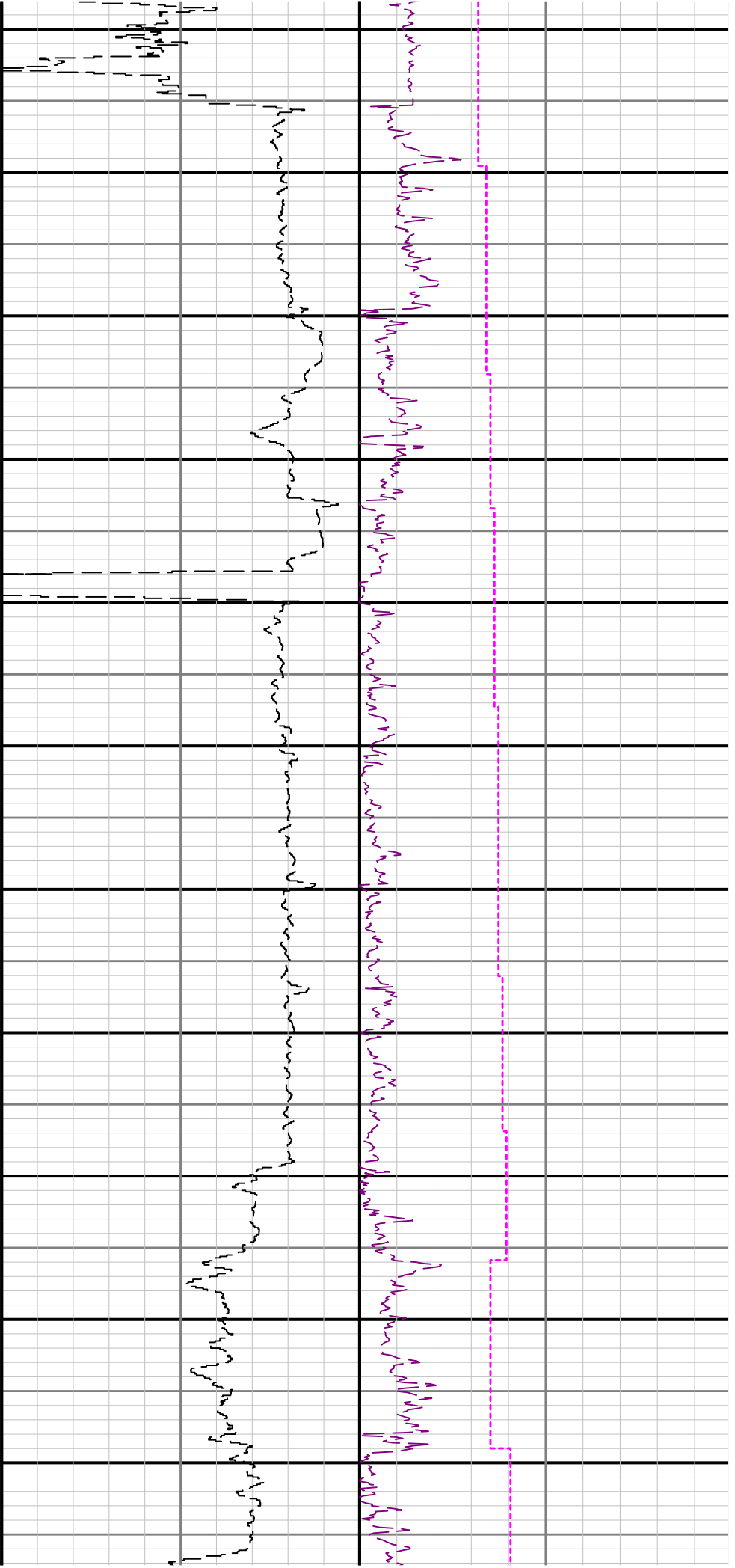
Remarks

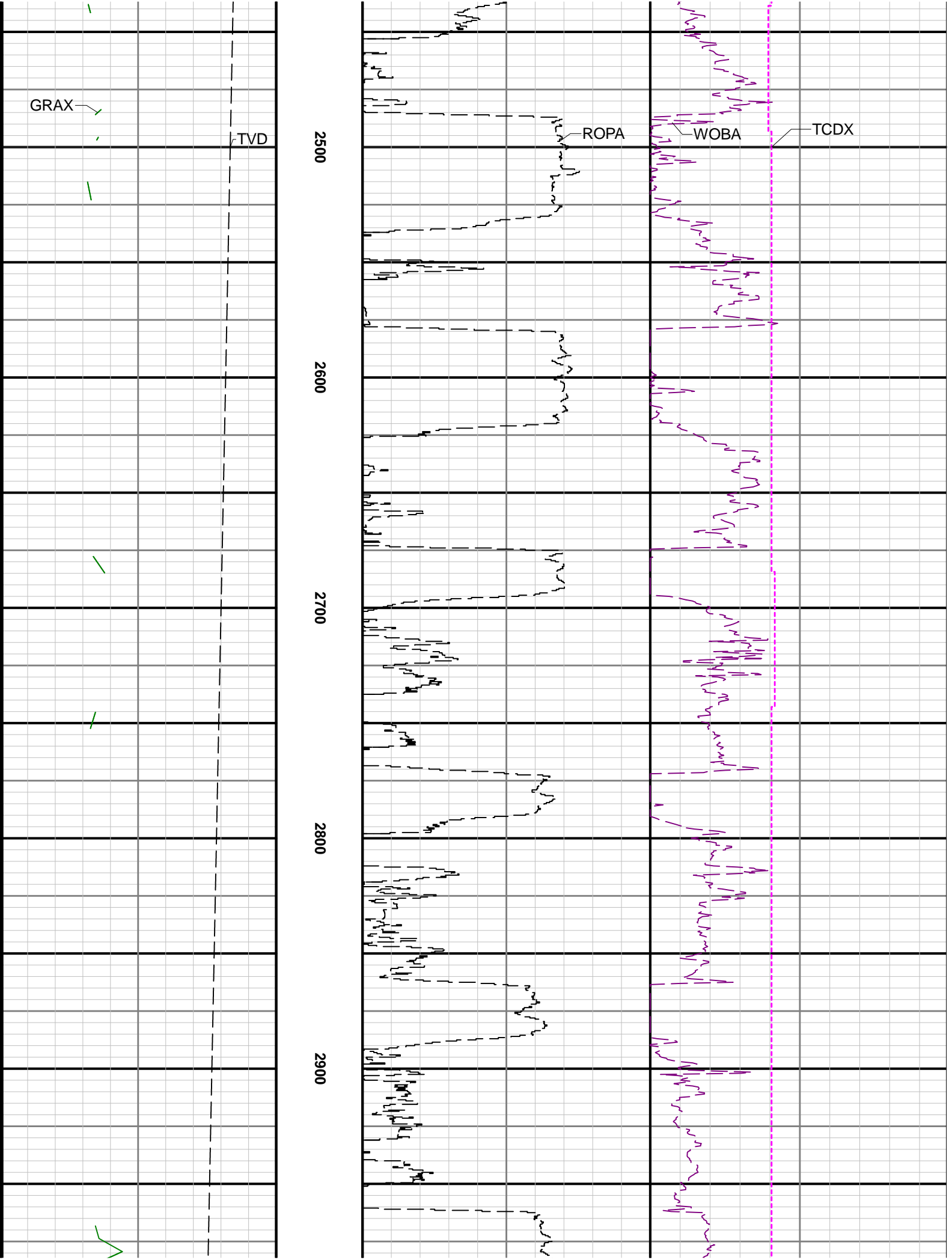
Number	Measured Depth (ft)	Hole Section (in)	Run No.	Remark
1	1545.00	8.500	2	The interval from 1542 to 1556 feet MD (1542 to 1556 feet TVD) was logged up to 26.1 hours after being drilled due to surface casing operations.
2	17540.00	8.500	2	The interval from 17526 to 17539 feet MD (7234 feet TVD) was not logged due to sensor to bit offset at well TD.

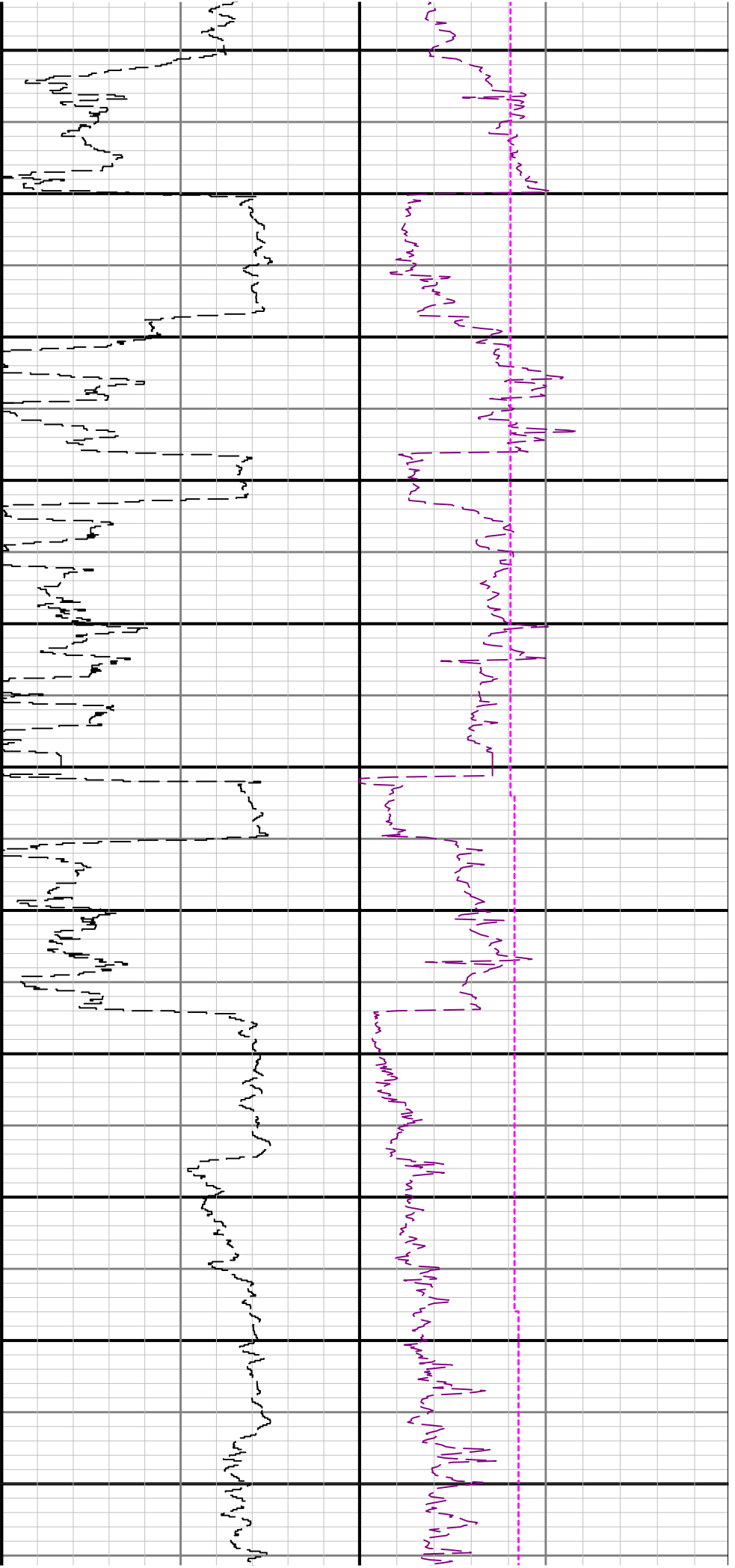
Curve Mnemonics

Presented Curves	Description	Units
TCDX	Downhole Temperature	degF
ROPA	Depth Averaged ROP 3 ft Average	ft/h

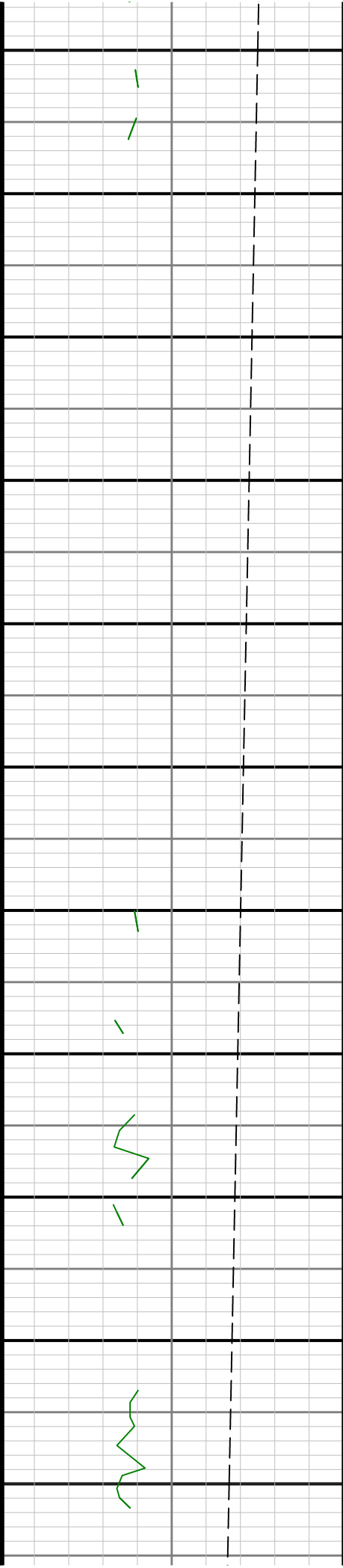
Gamma Ray - Apparent 1 ft Average GRAX		MD 1:600 feet	Depth Averaged ROP 3 ft Average ROPA		Weight On Bit, Average 1 ft Average WOBA	
0	300		1000	0	0	50
API			ft/h		klb	
True Vertical Depth TVD					Downhole Temperature TCDX	
7500	1500				0	250
ft					degF	
		1500	See Remark 1			
GRAX	TVD	1600	ROP	WOBA	TCDX	
		1700				
		1800				

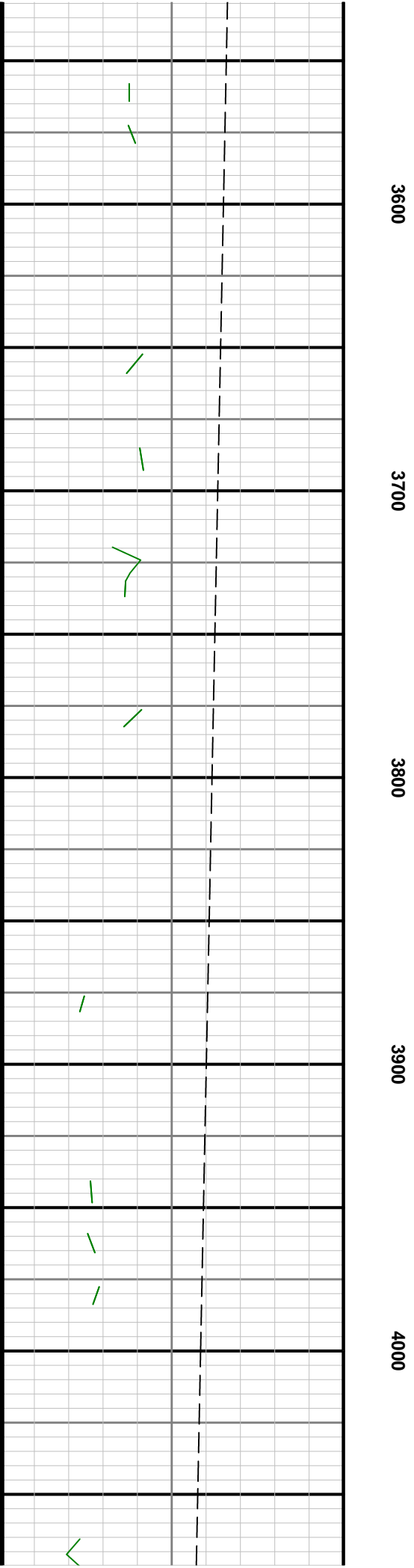
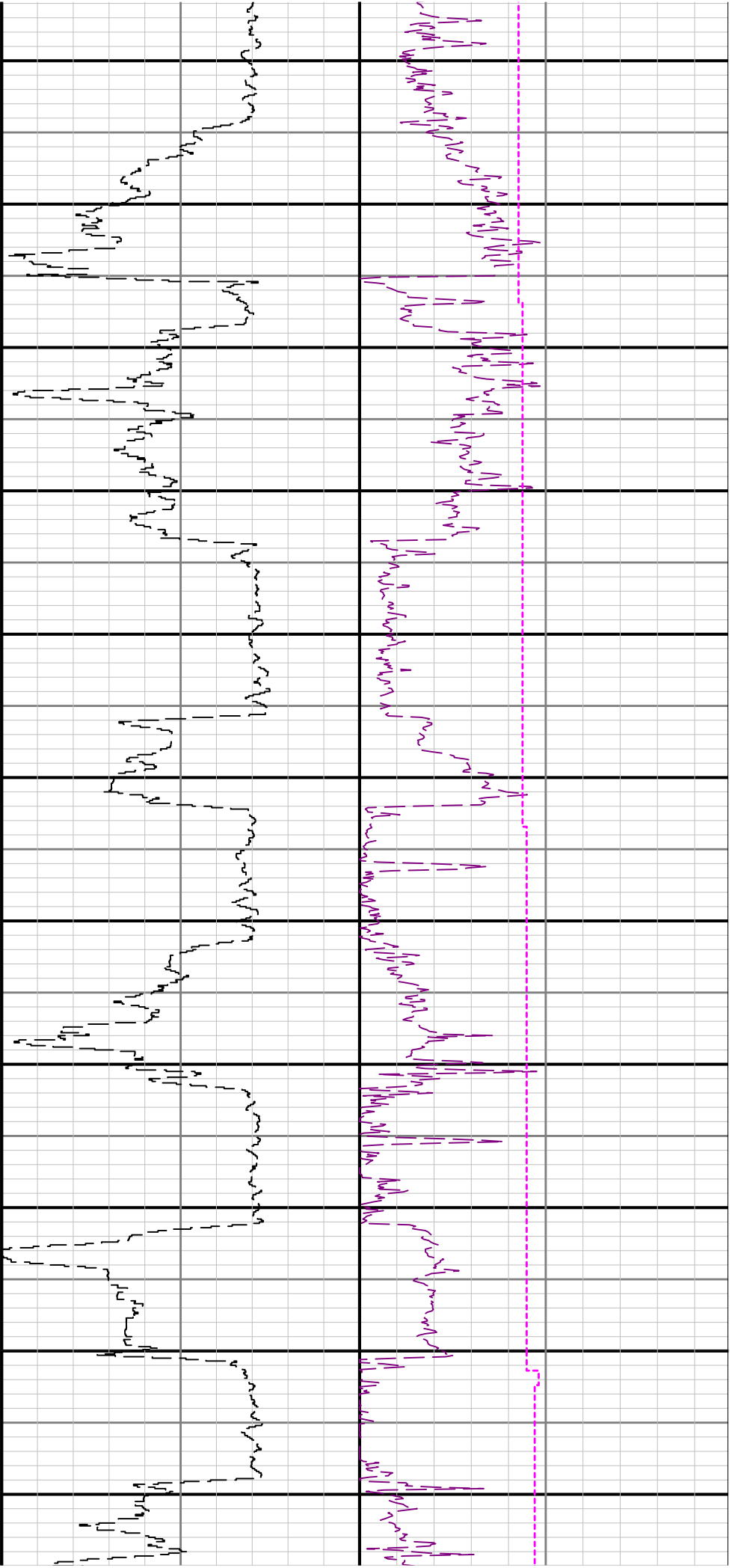






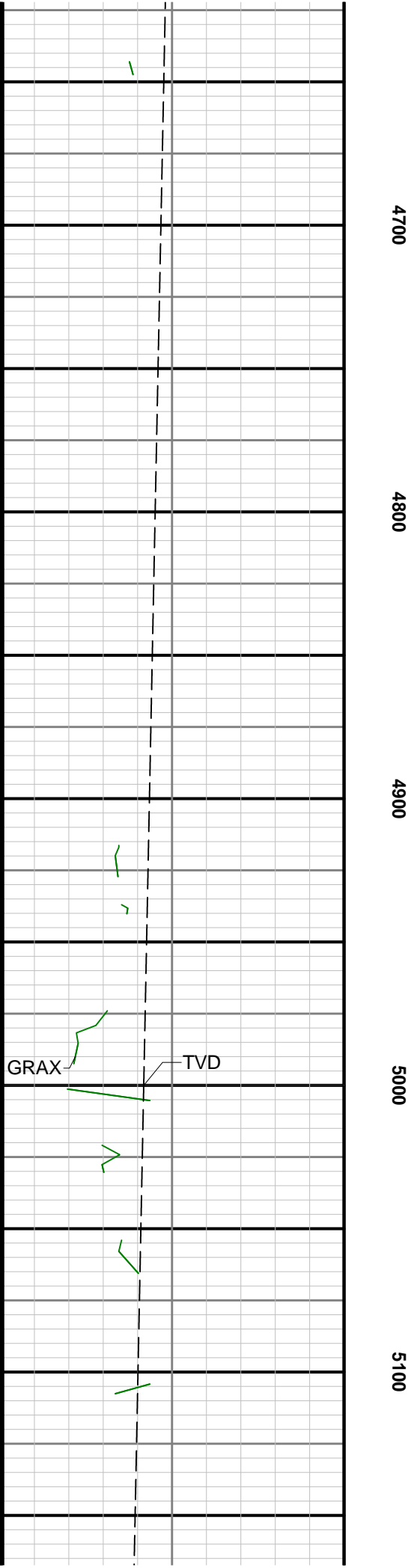
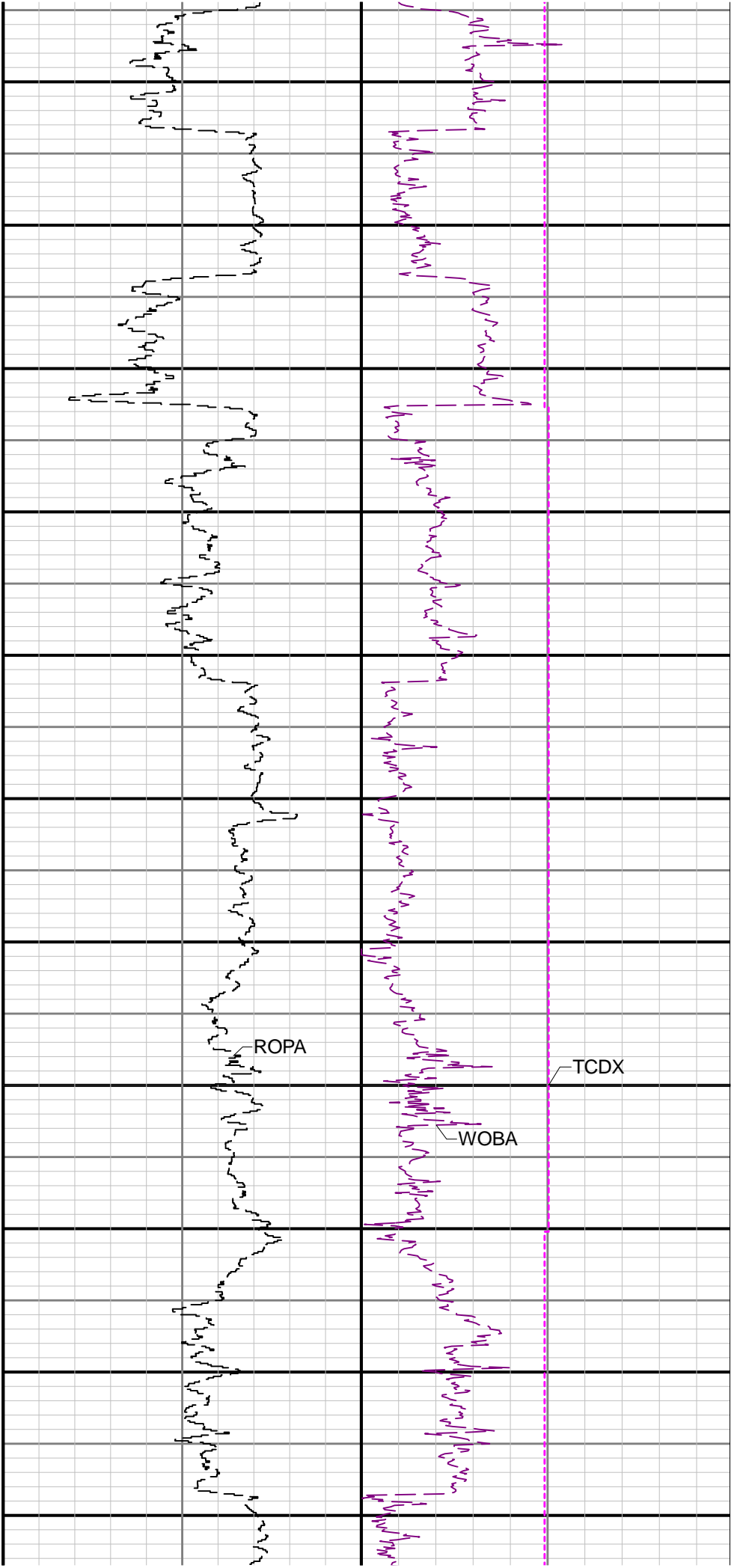
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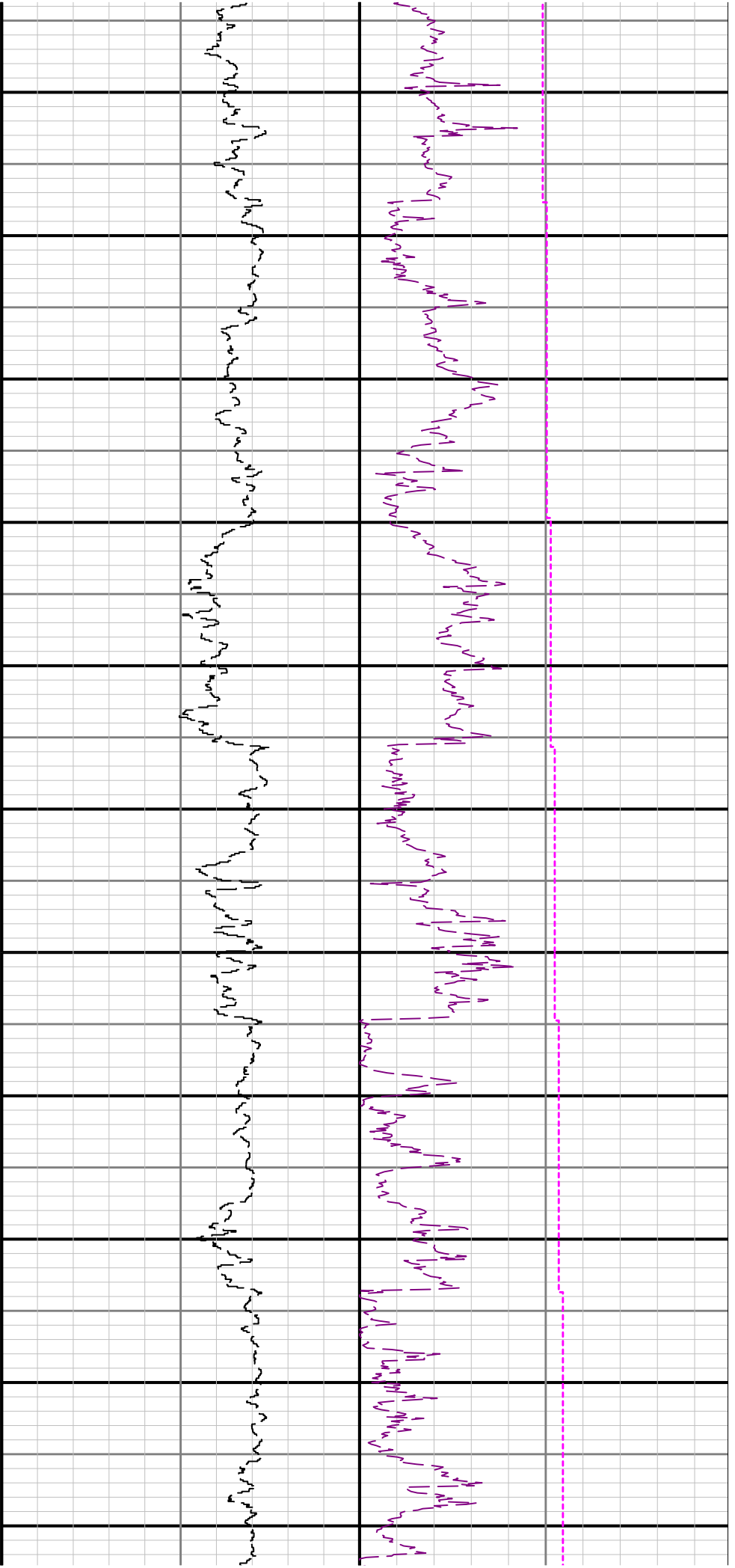












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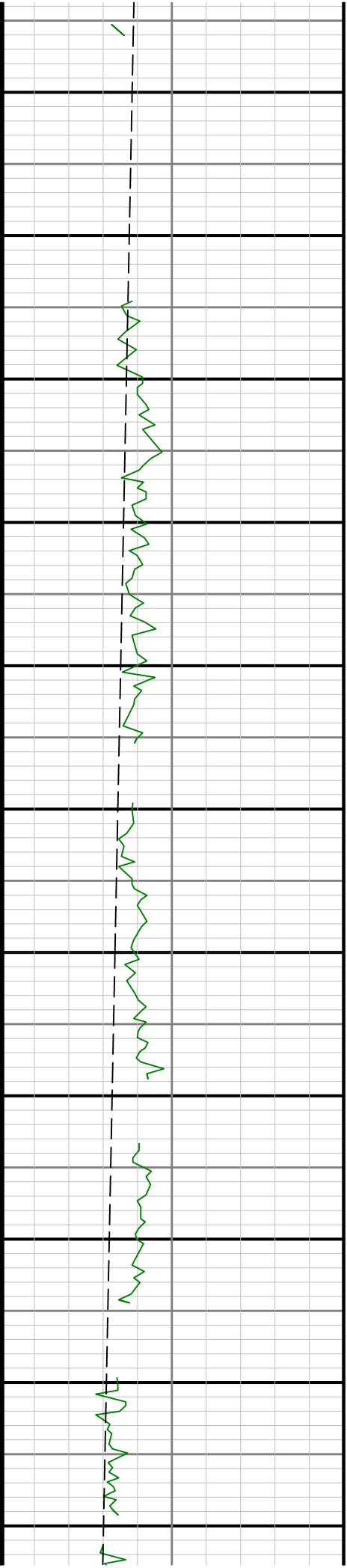
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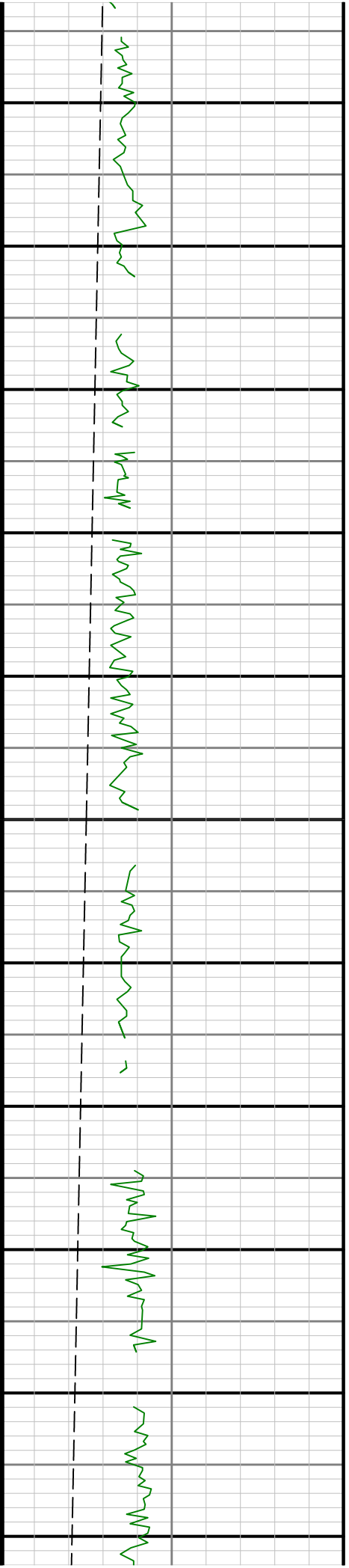
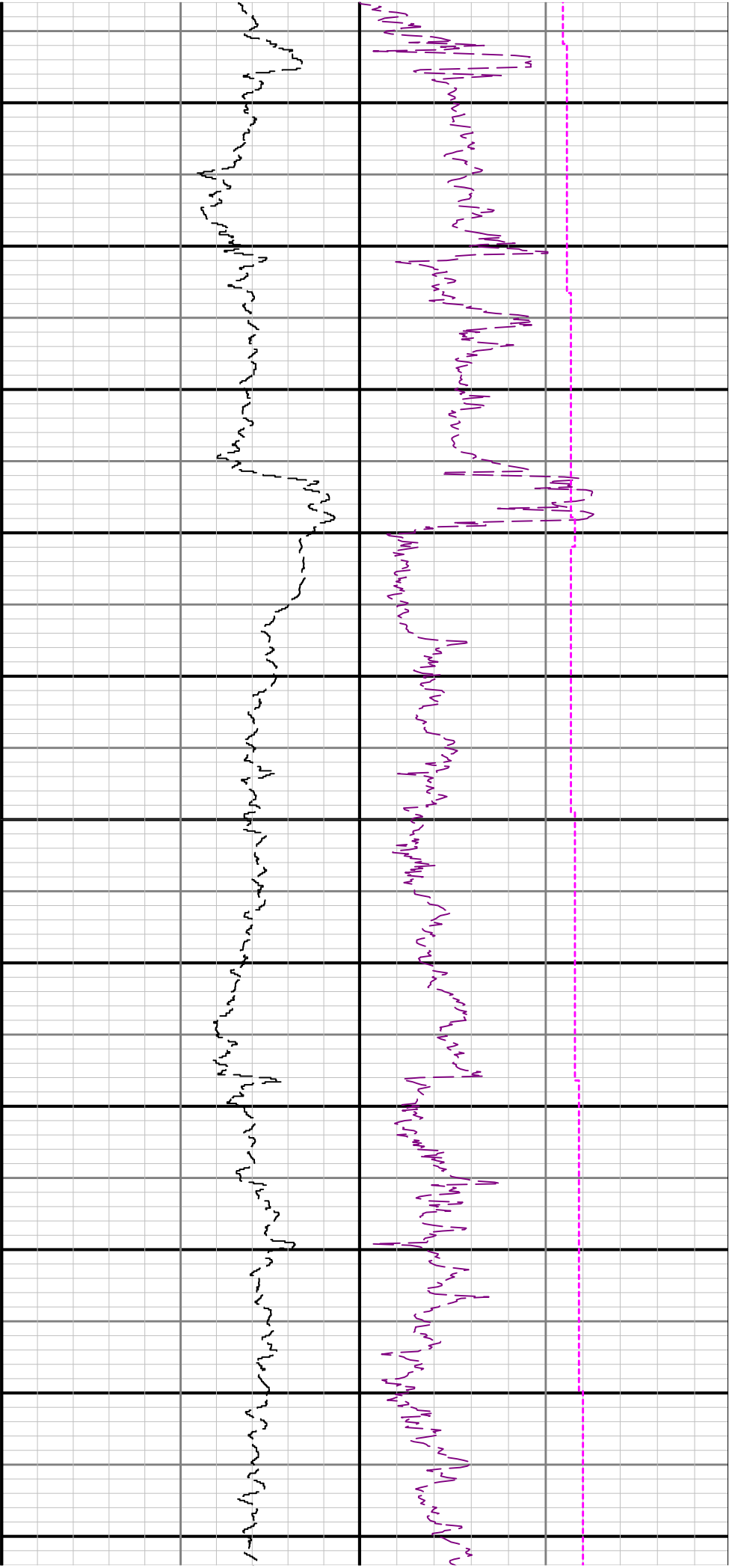
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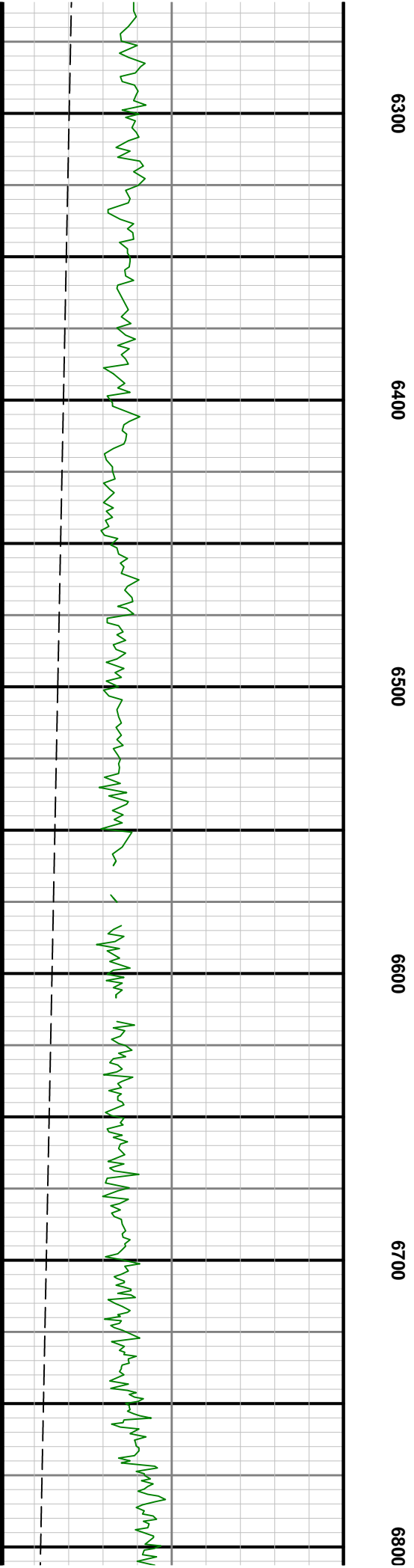
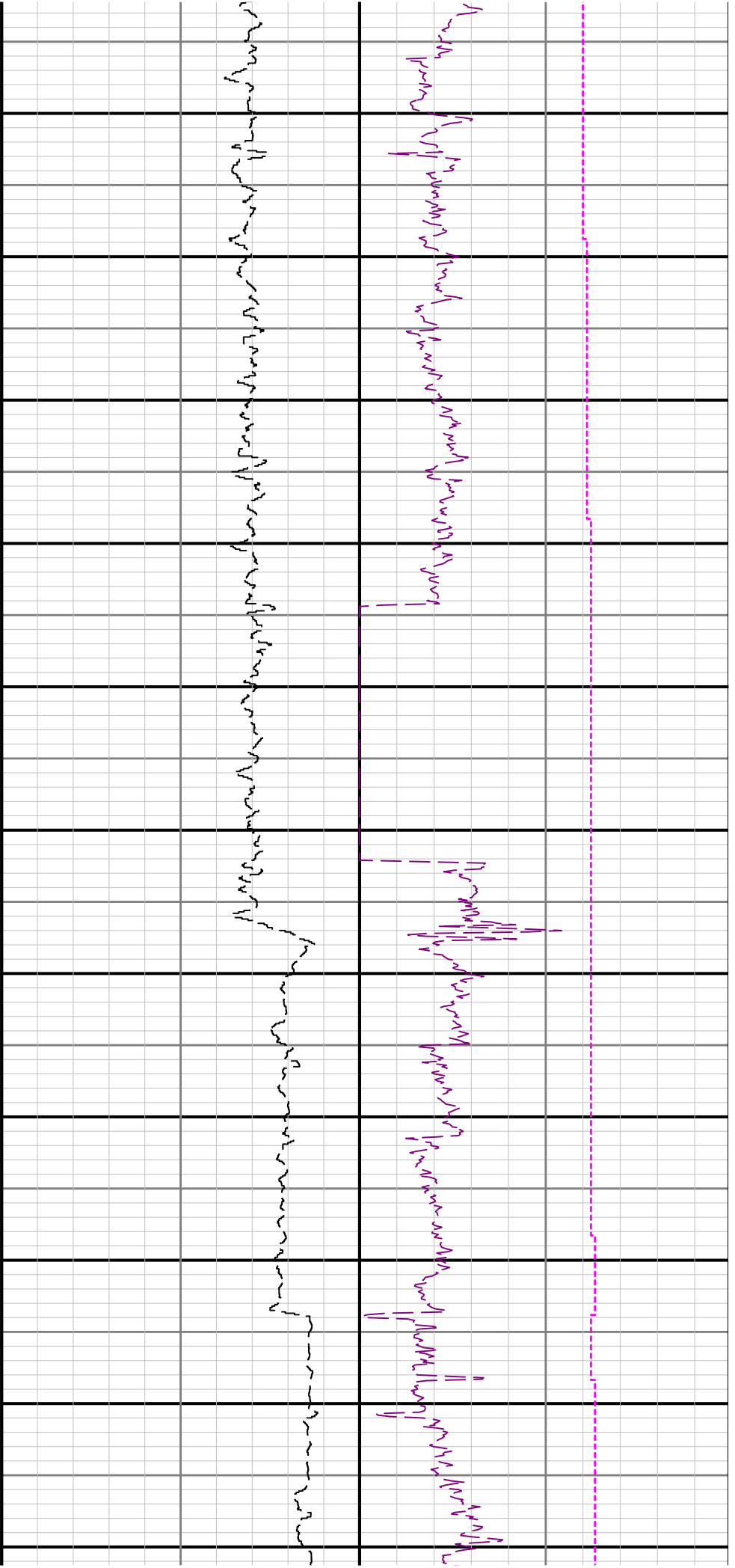
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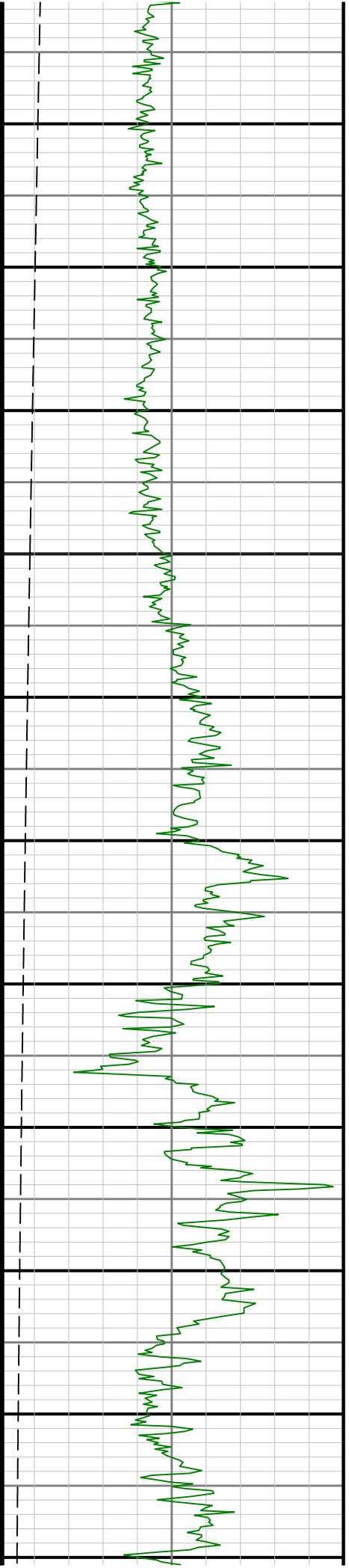
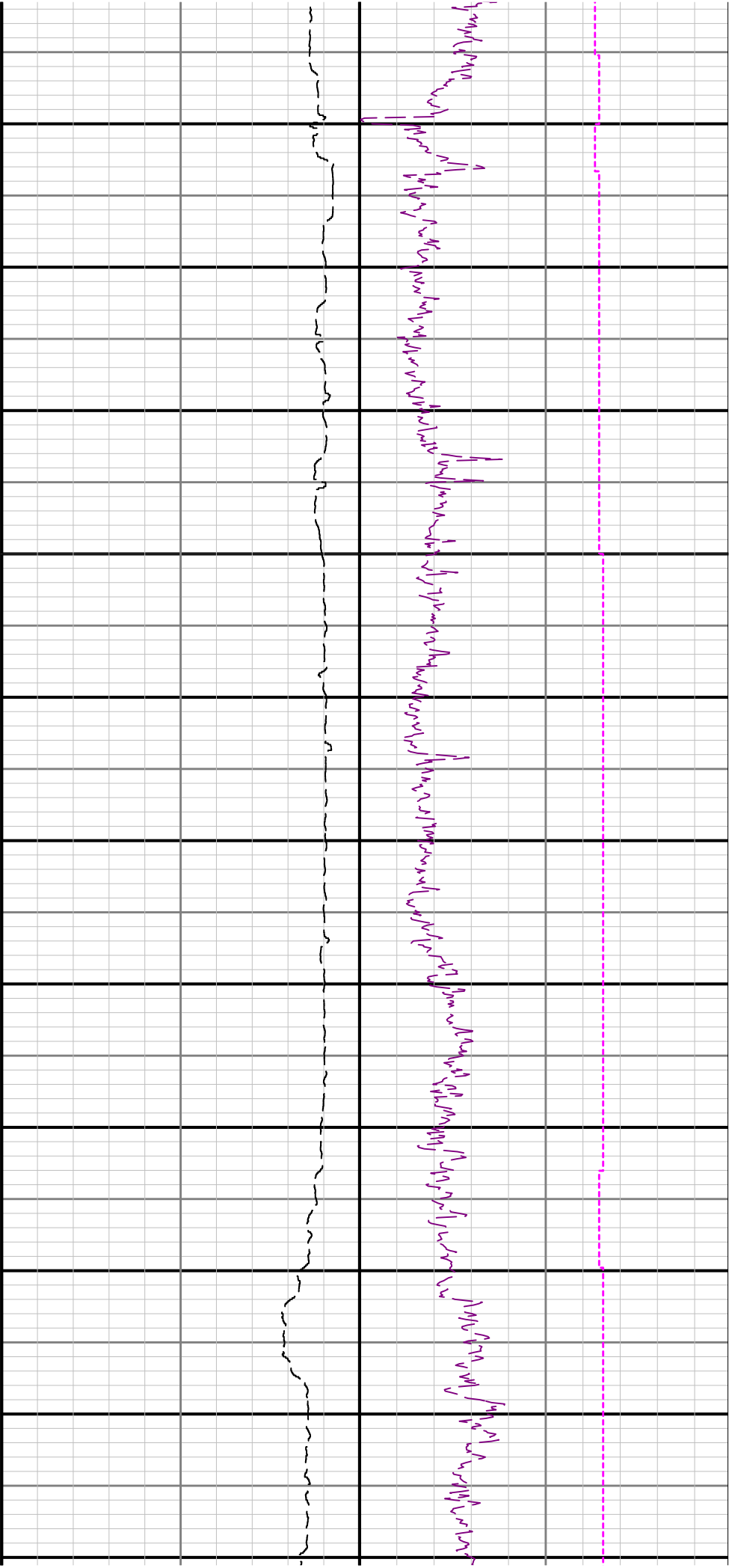
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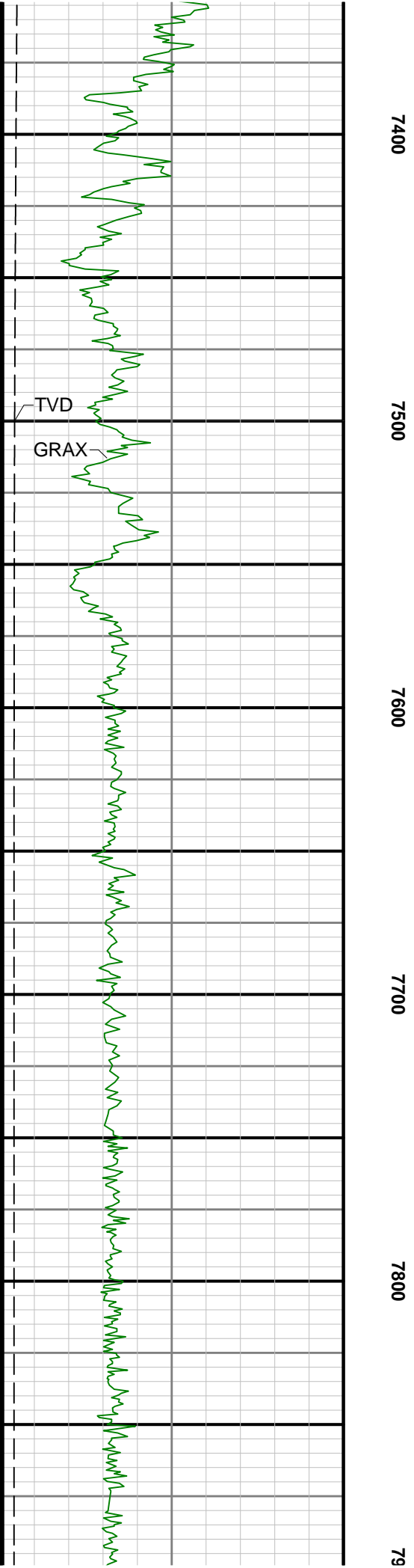
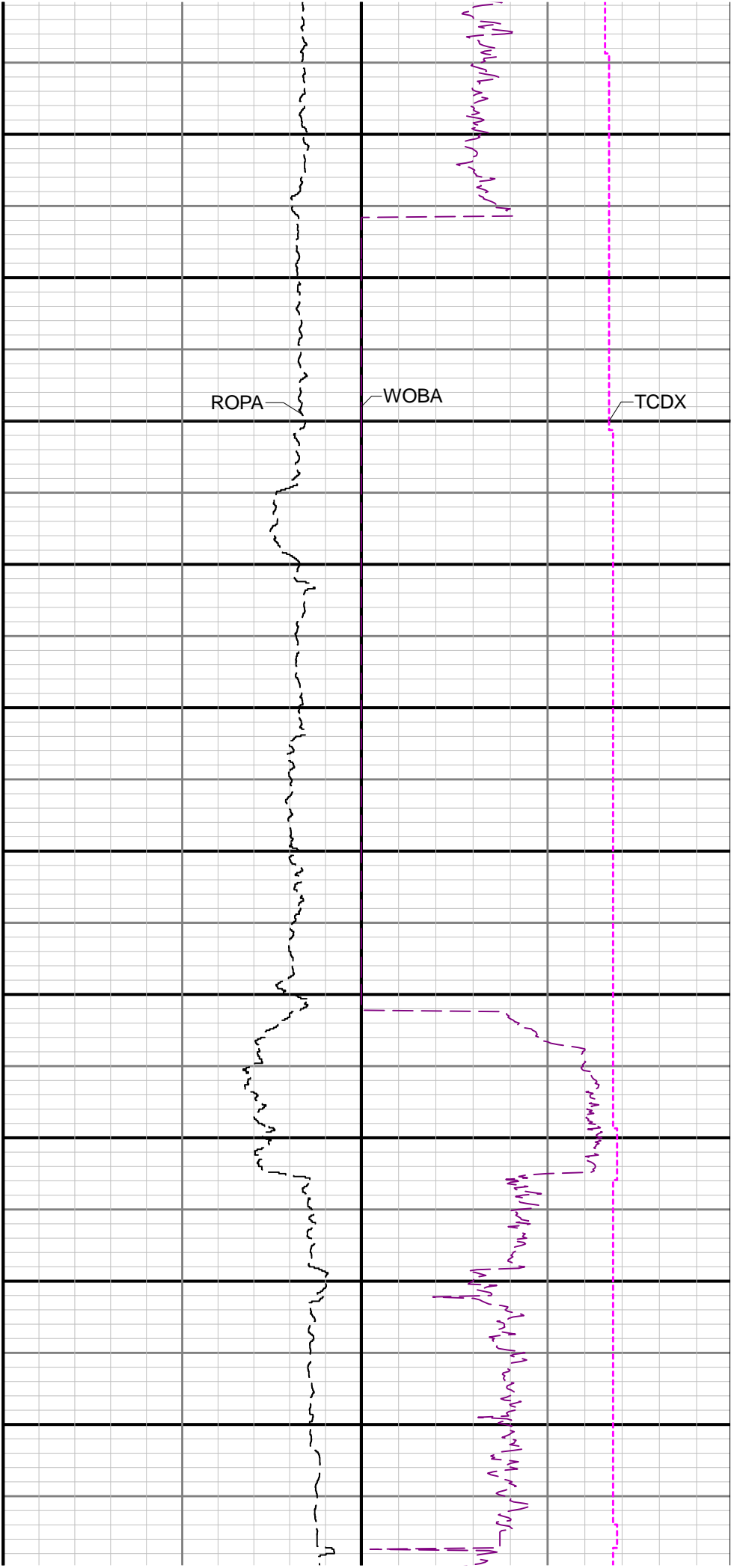
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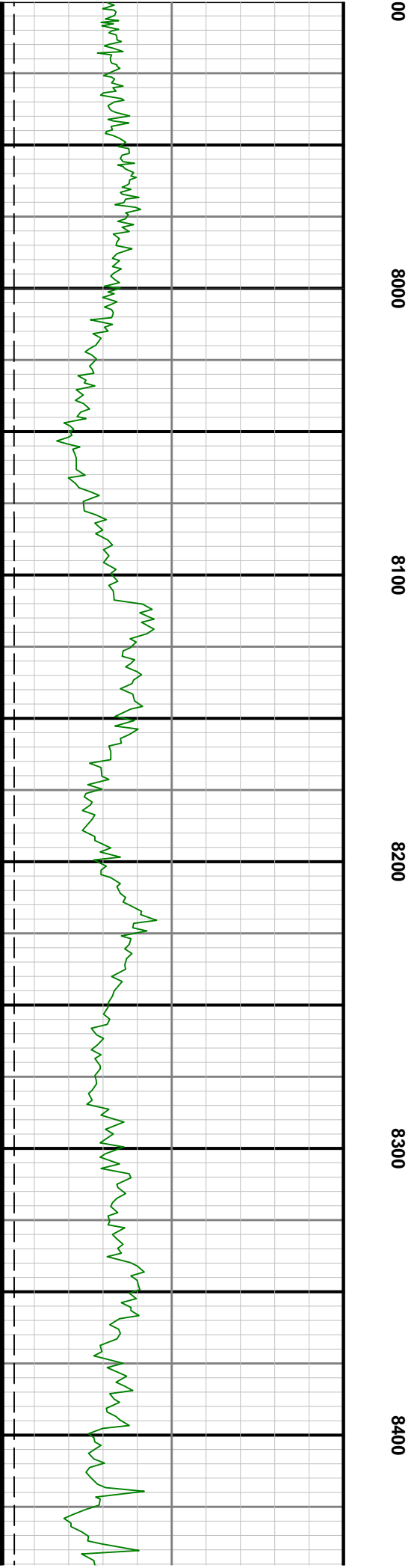
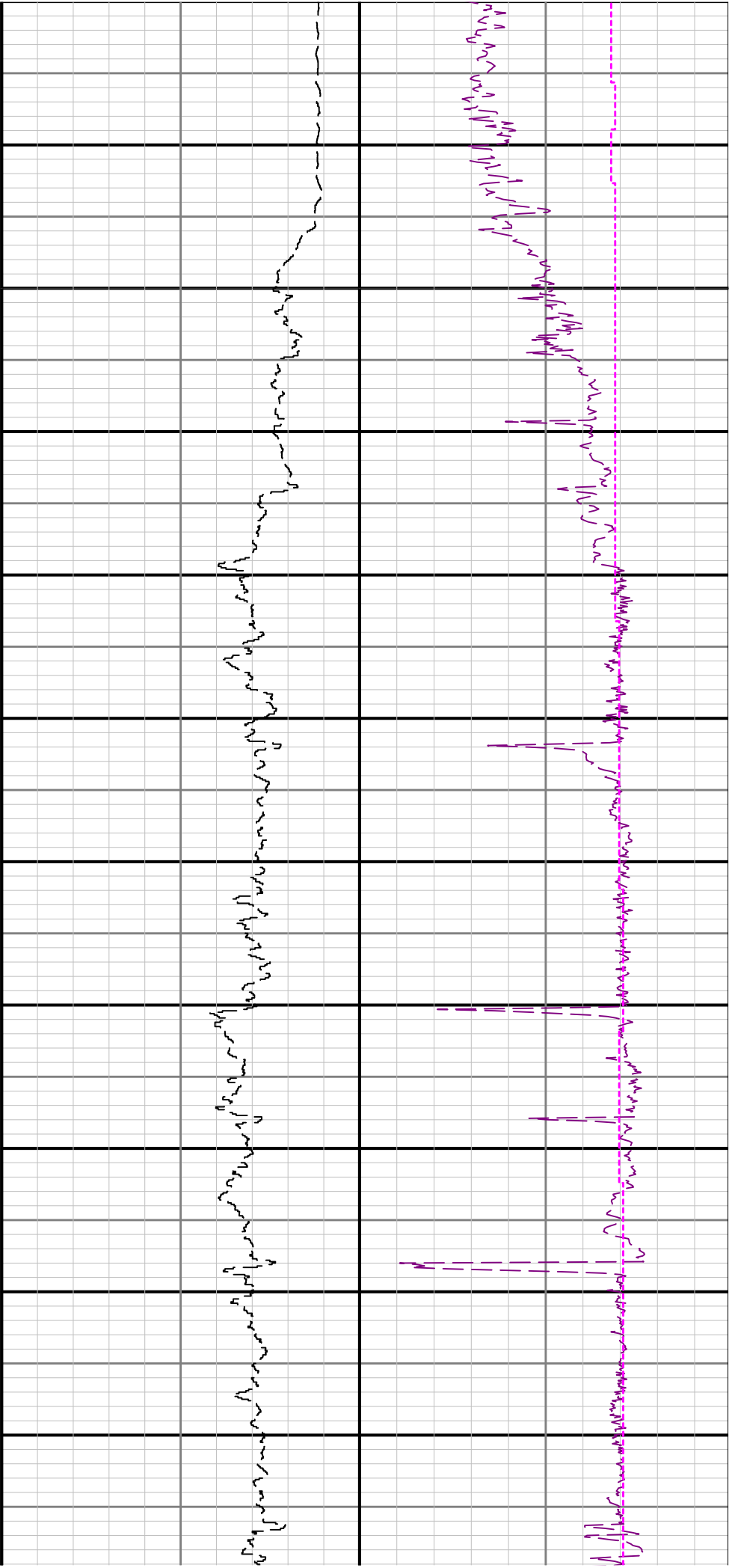


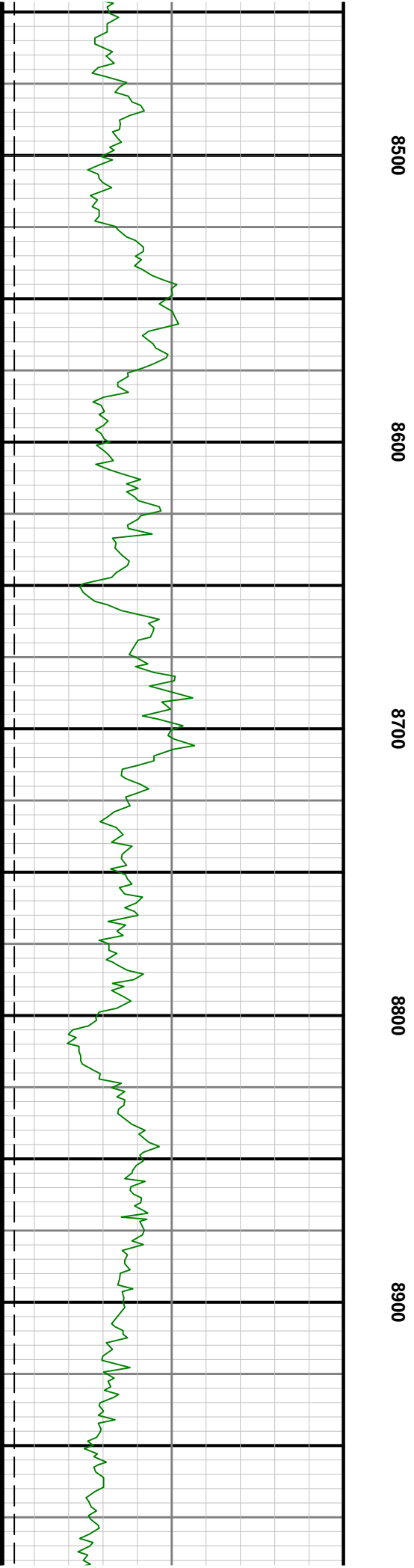
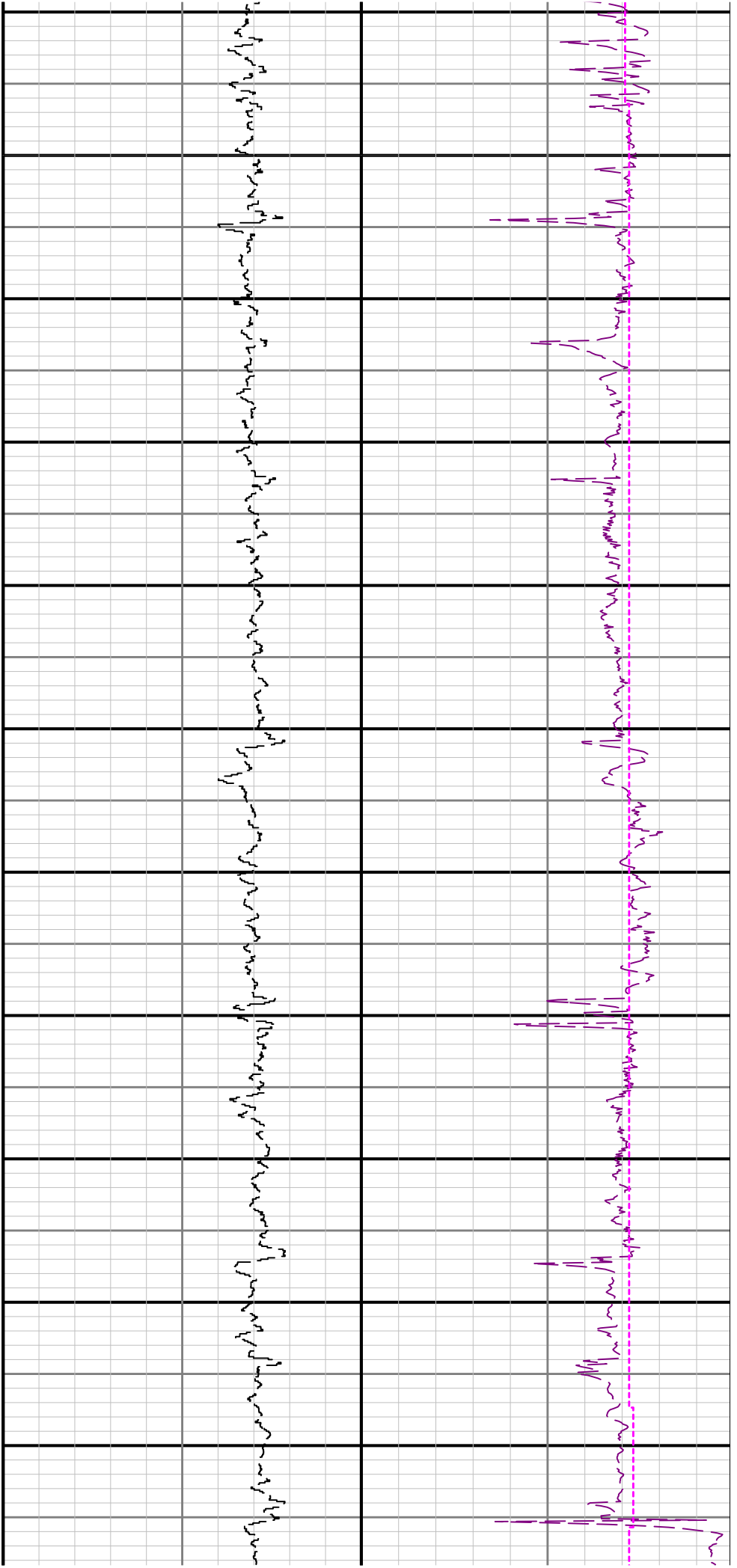




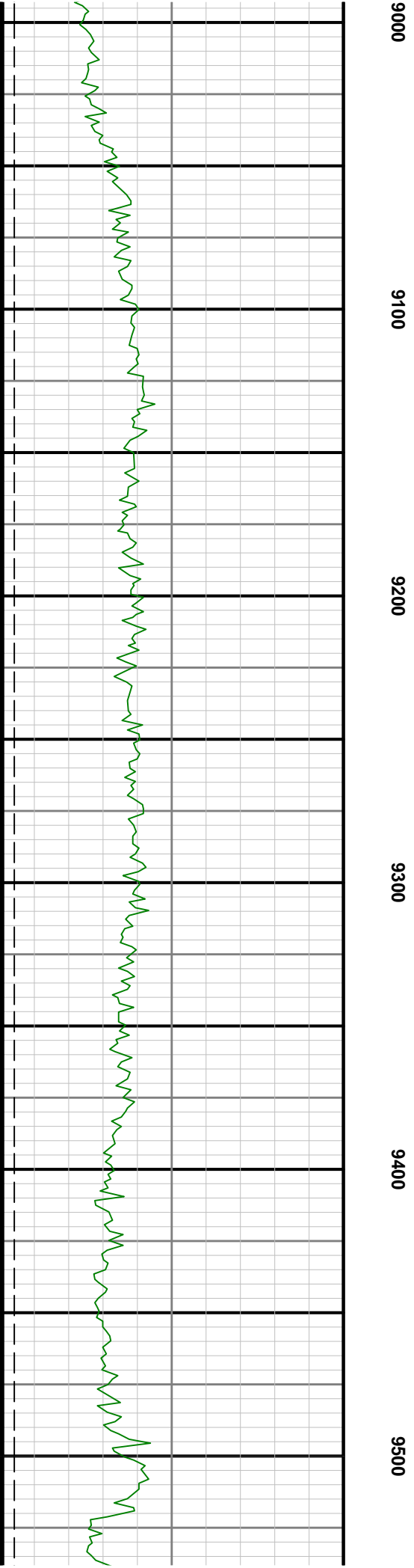
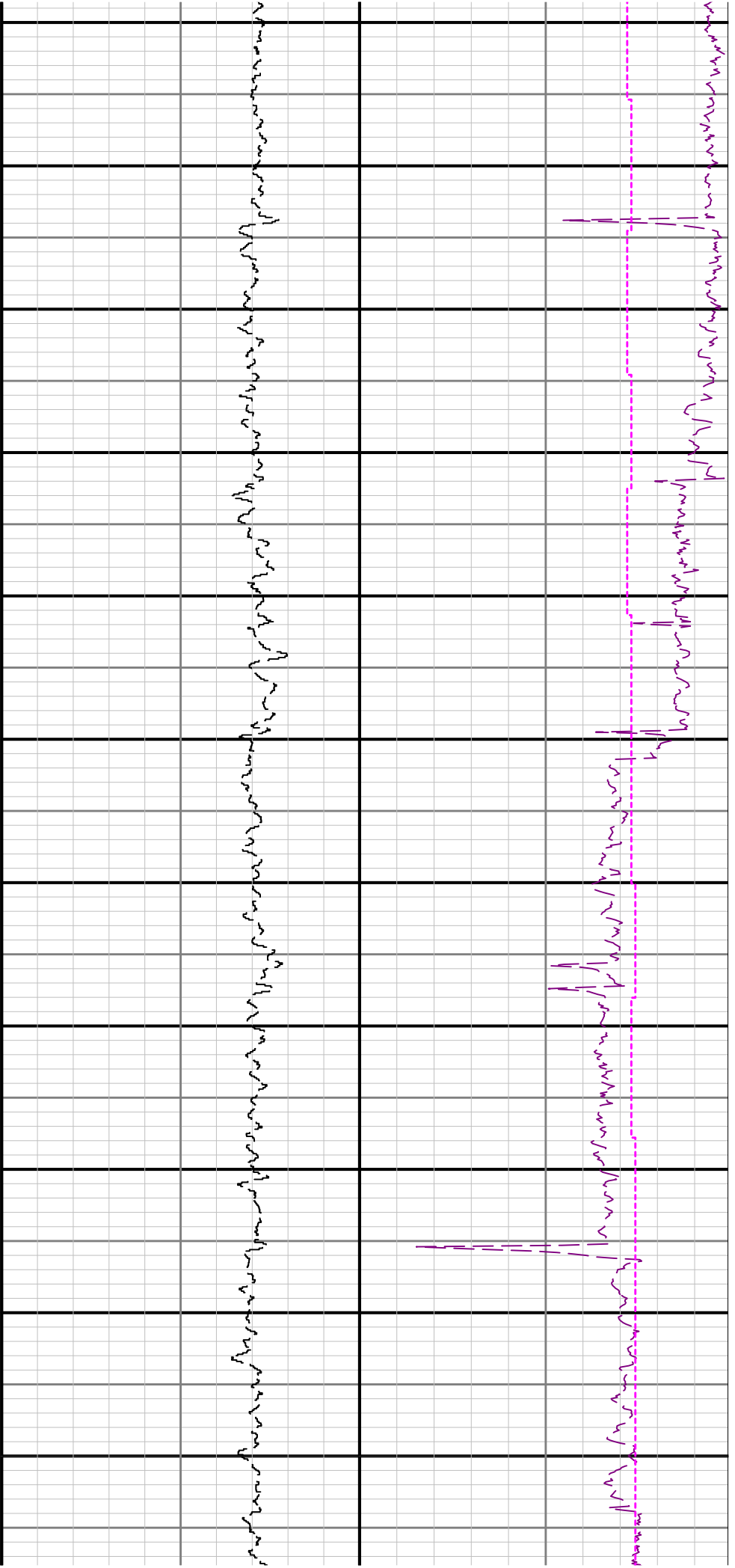


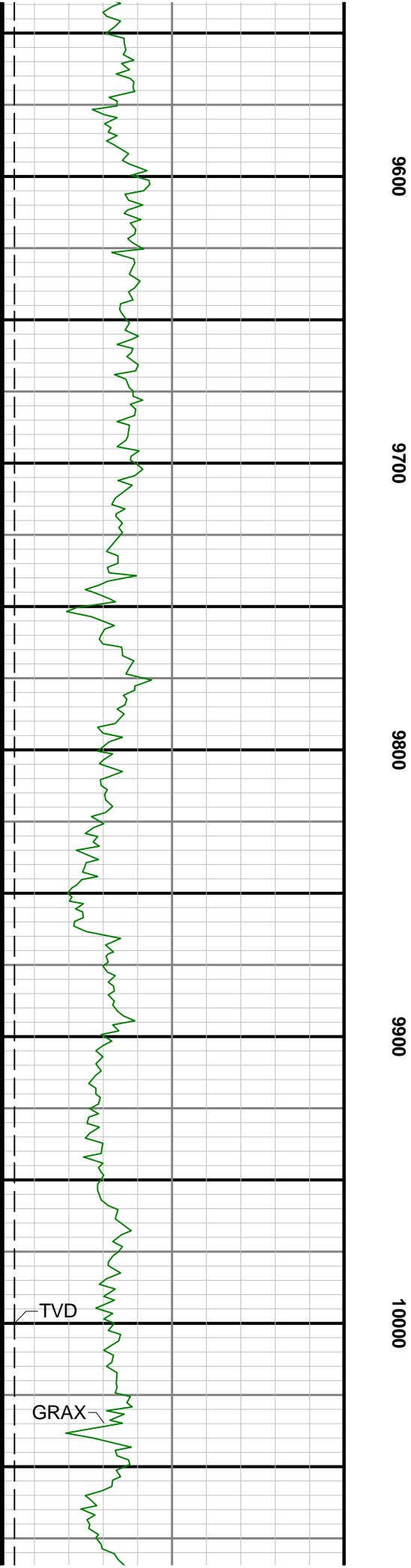
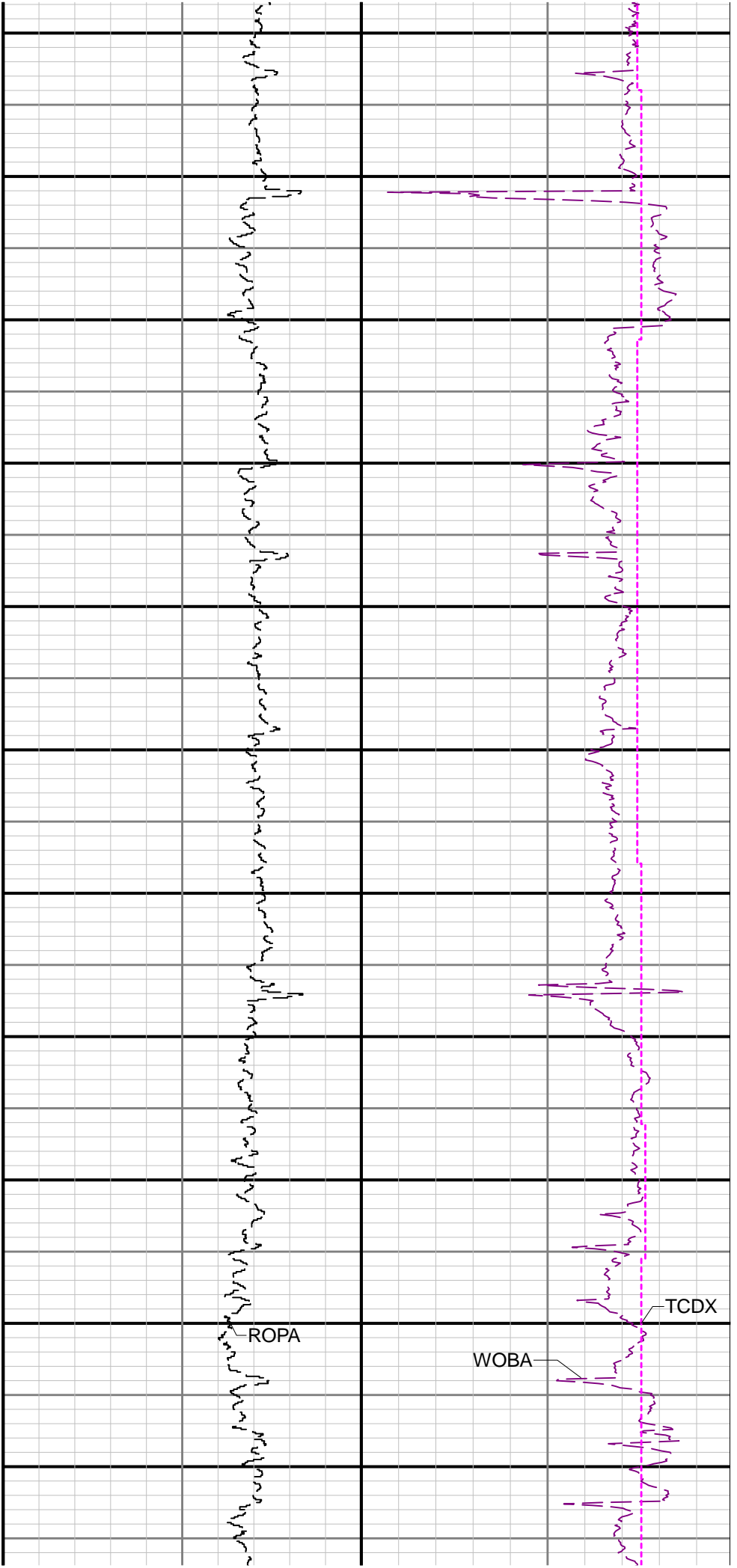


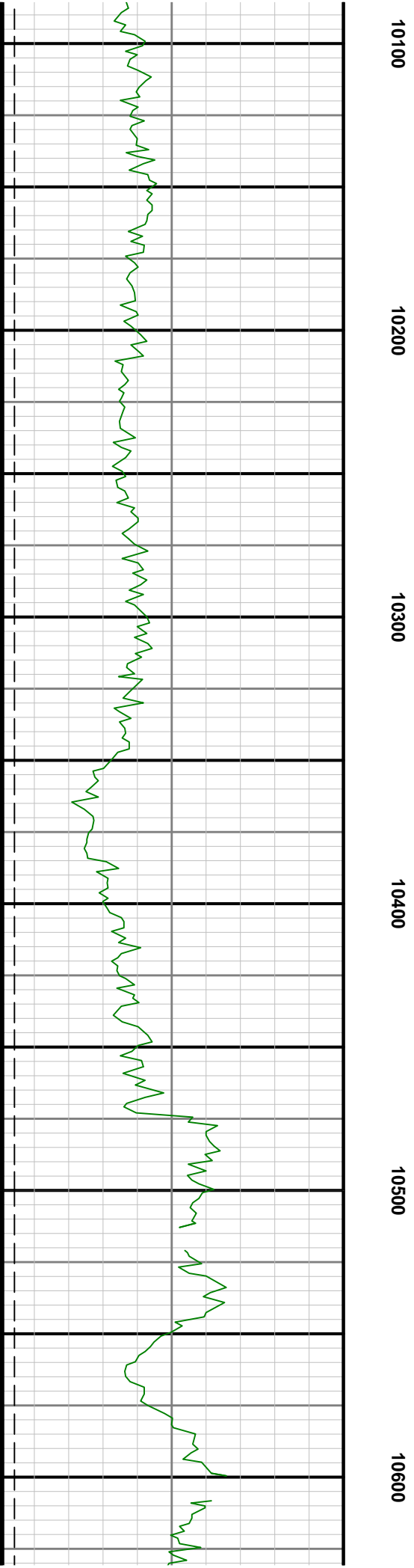
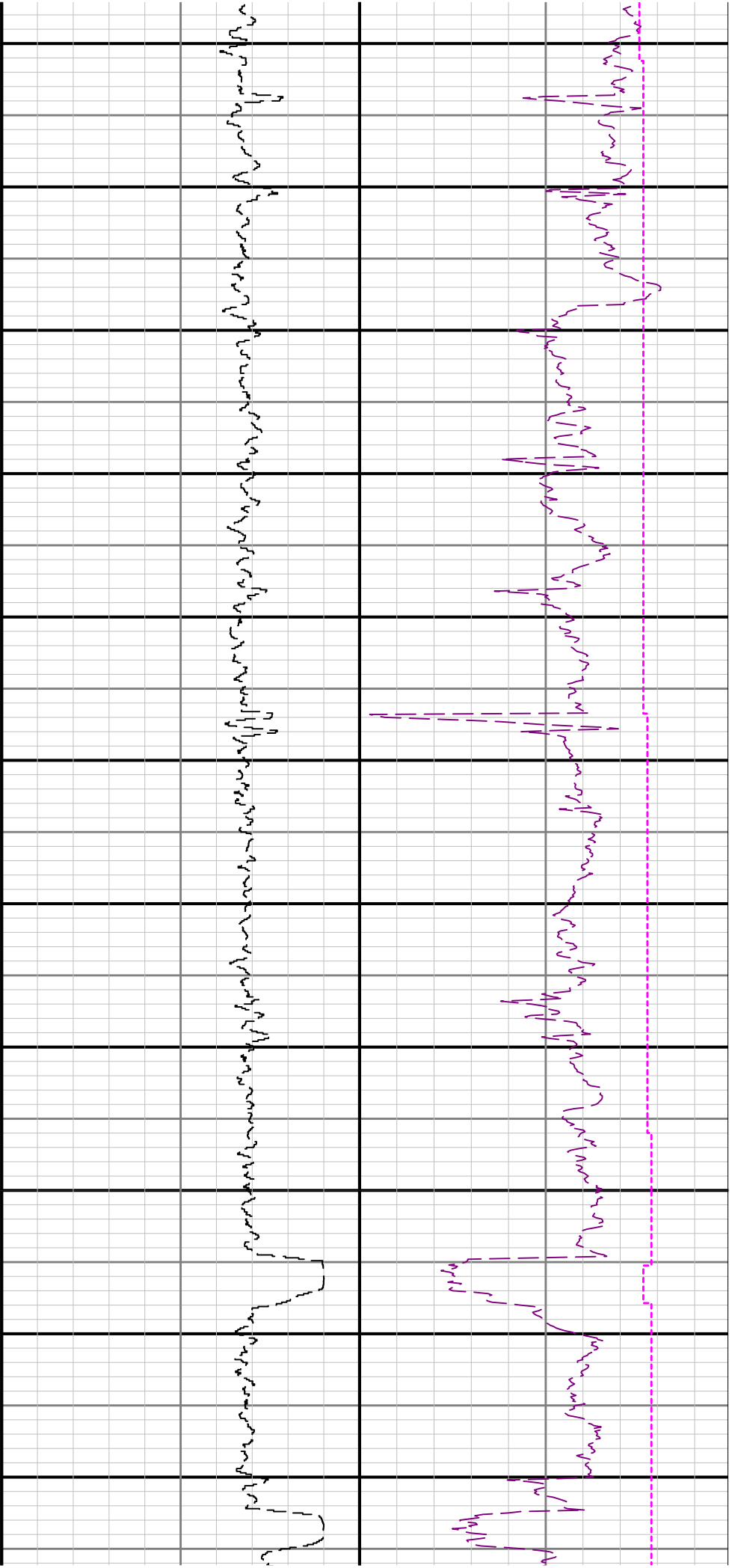


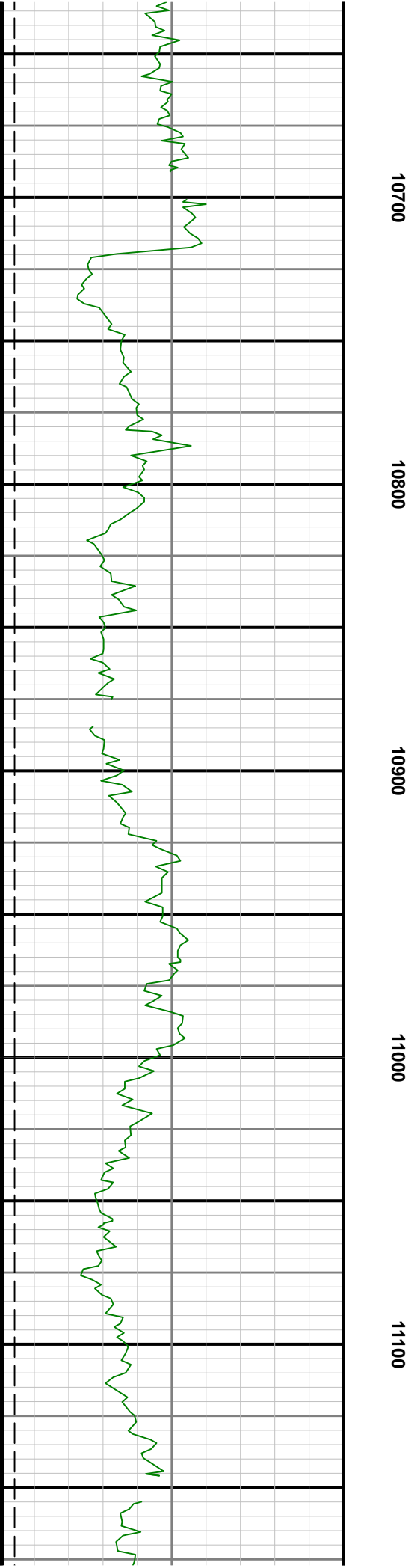
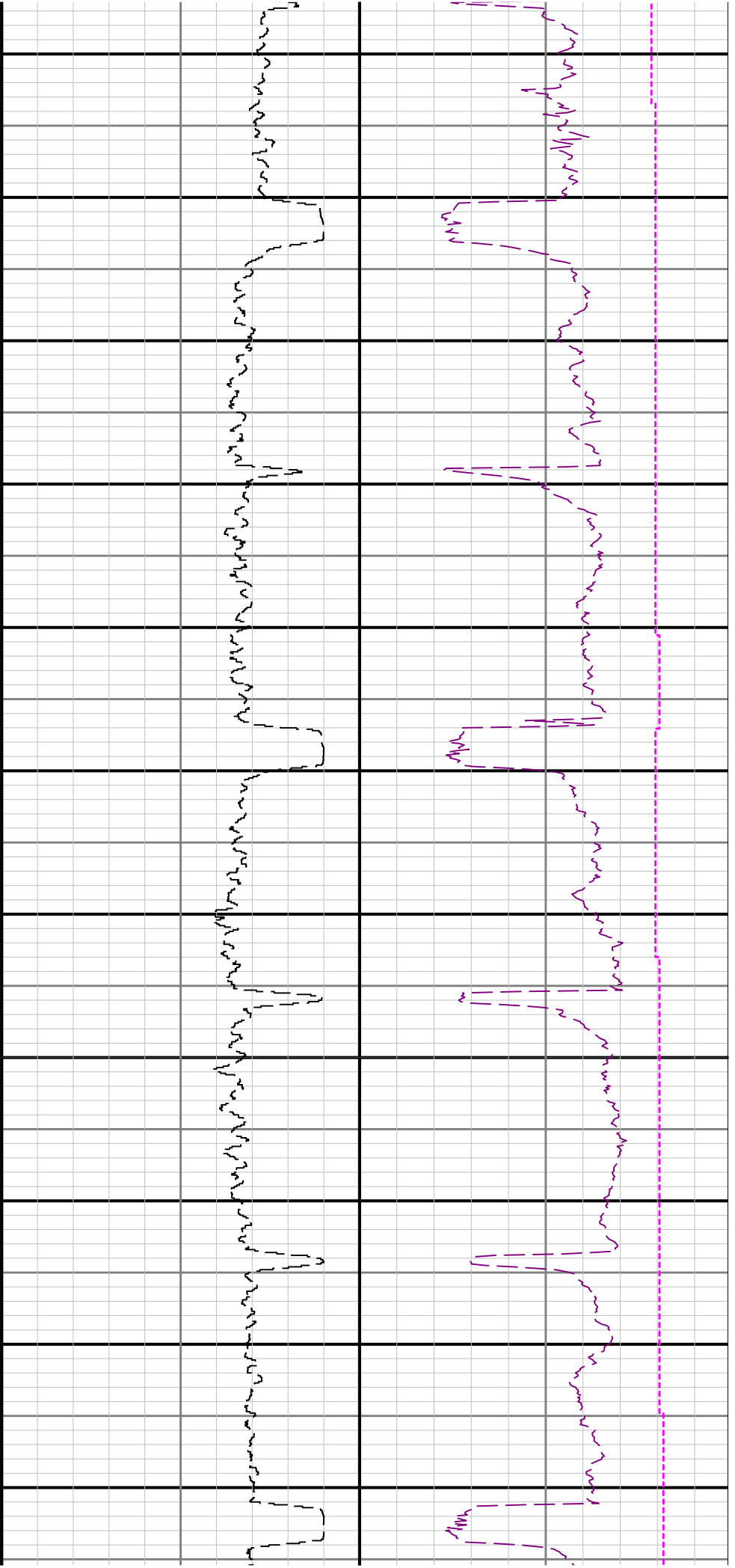


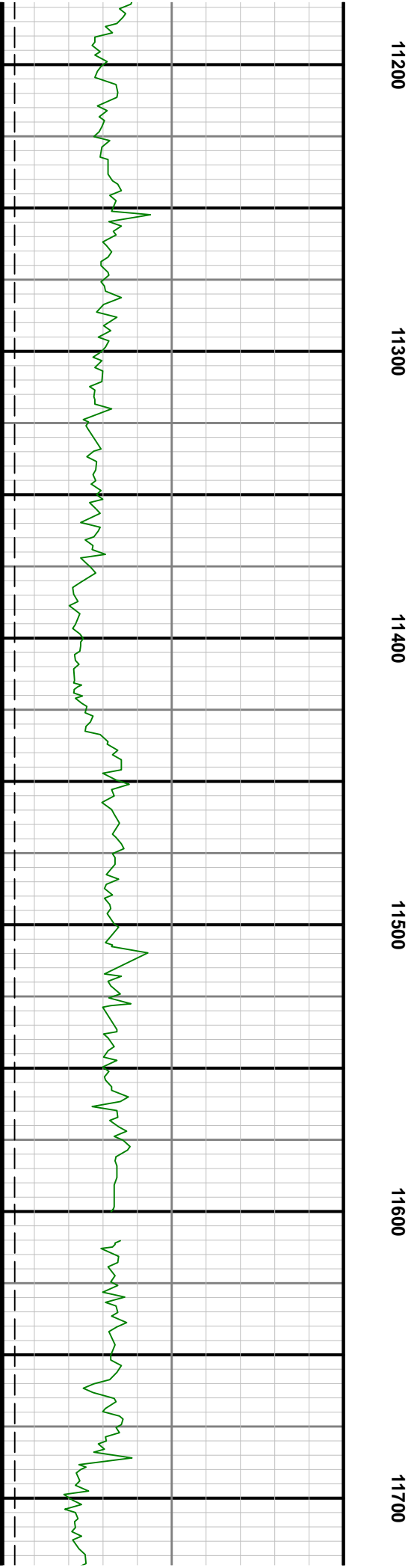
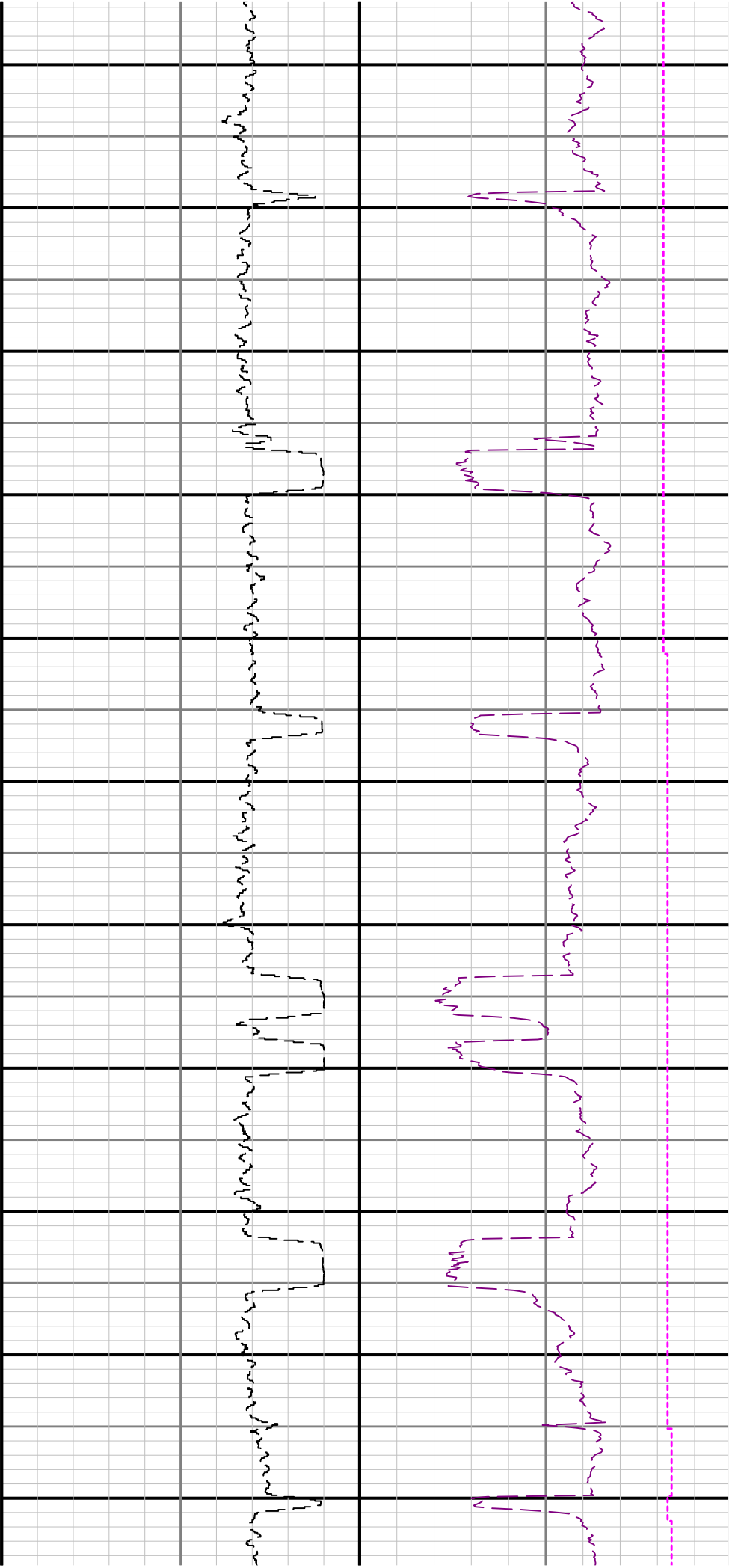


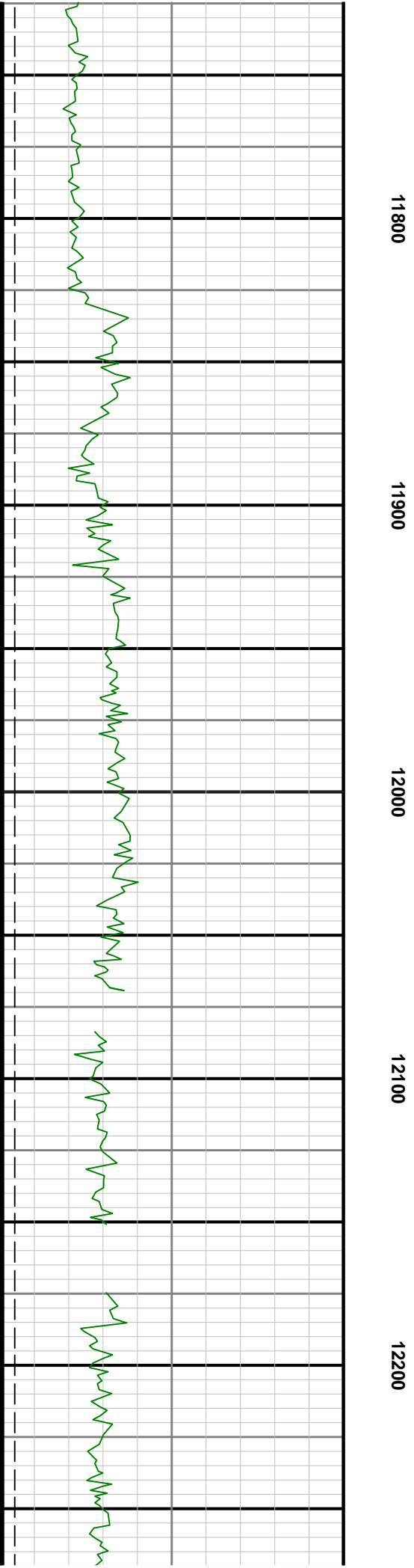
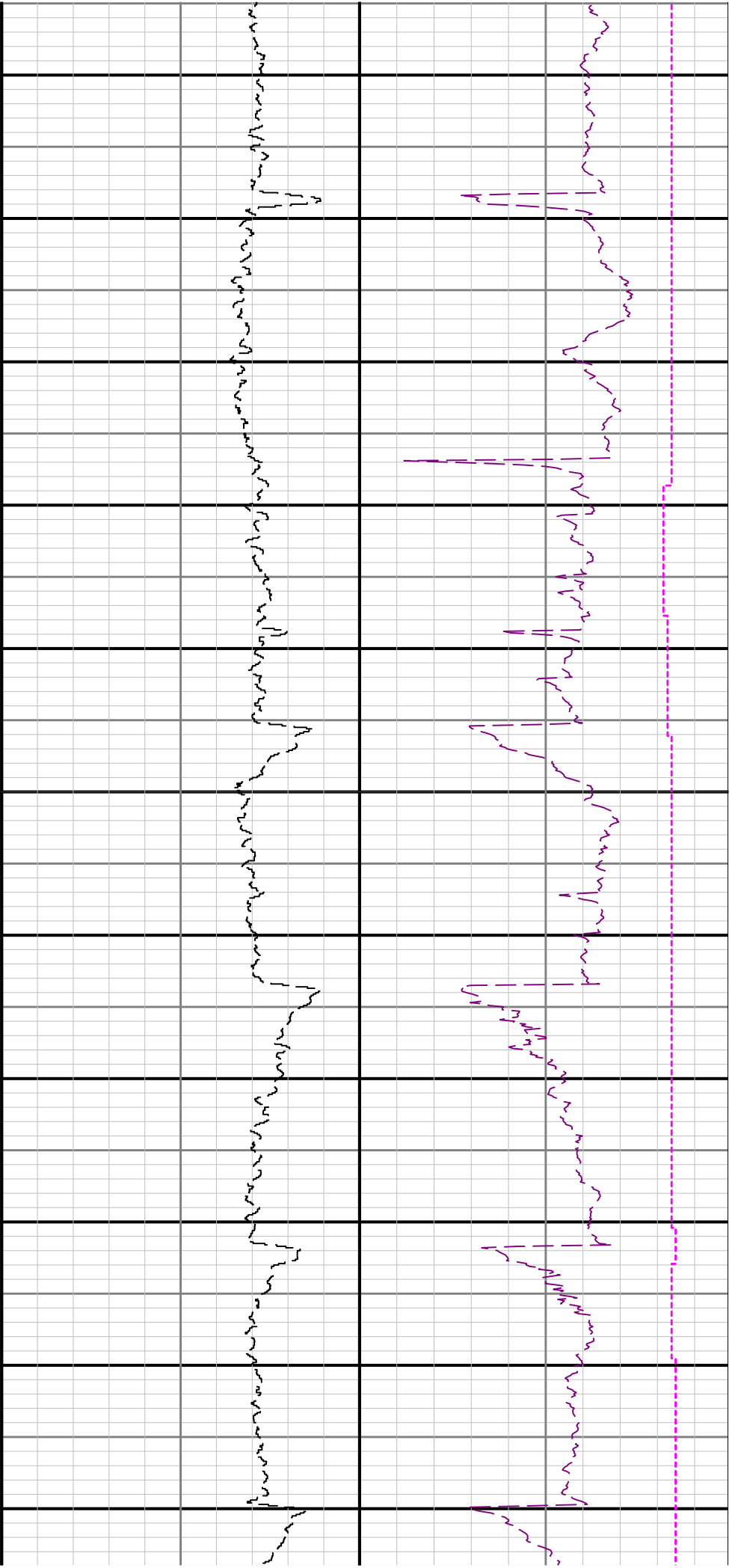


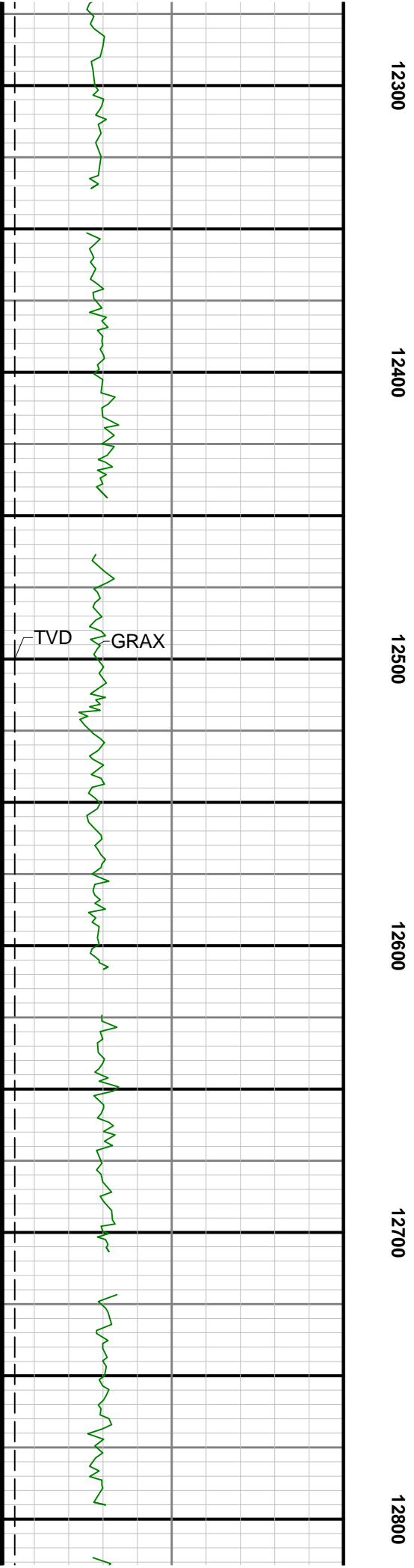
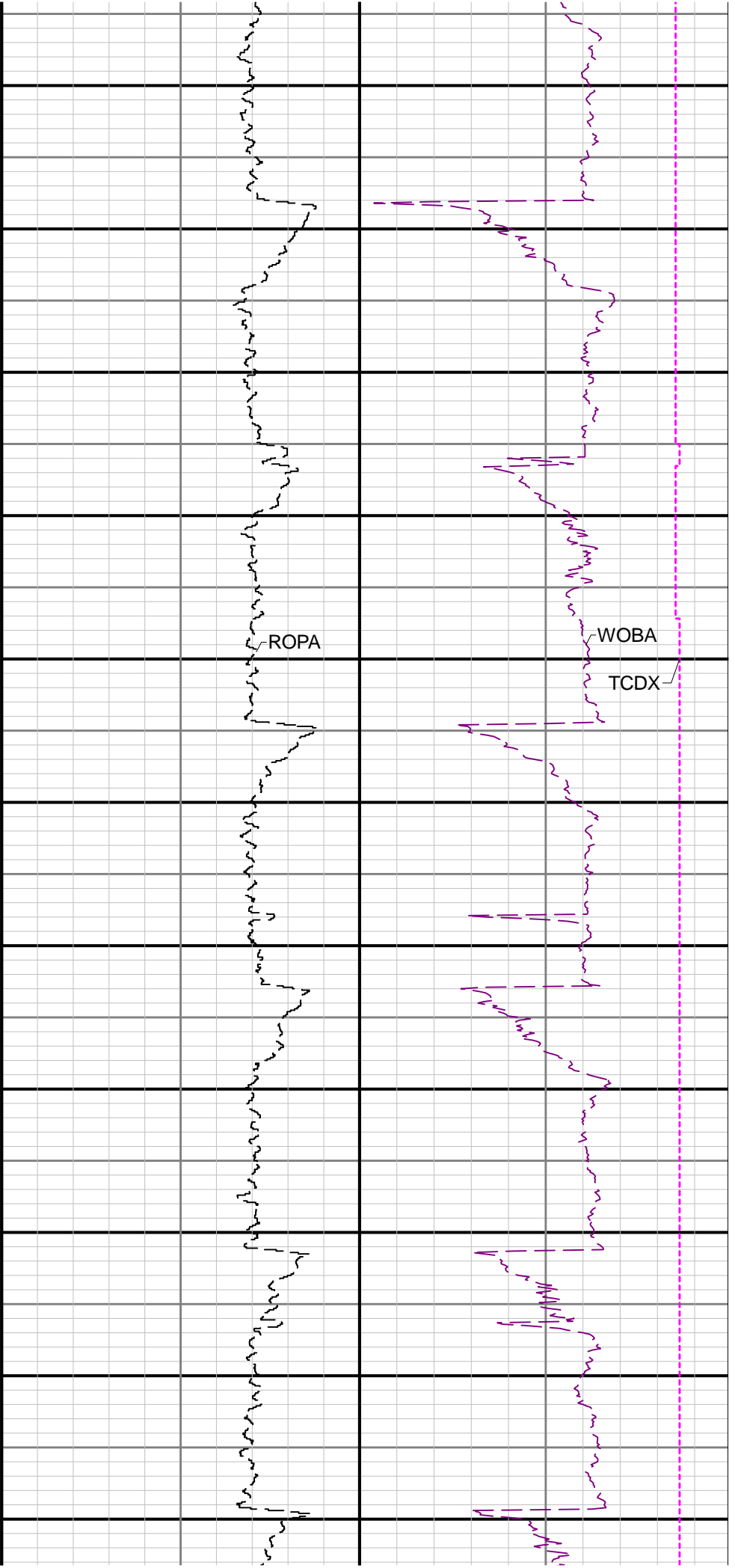


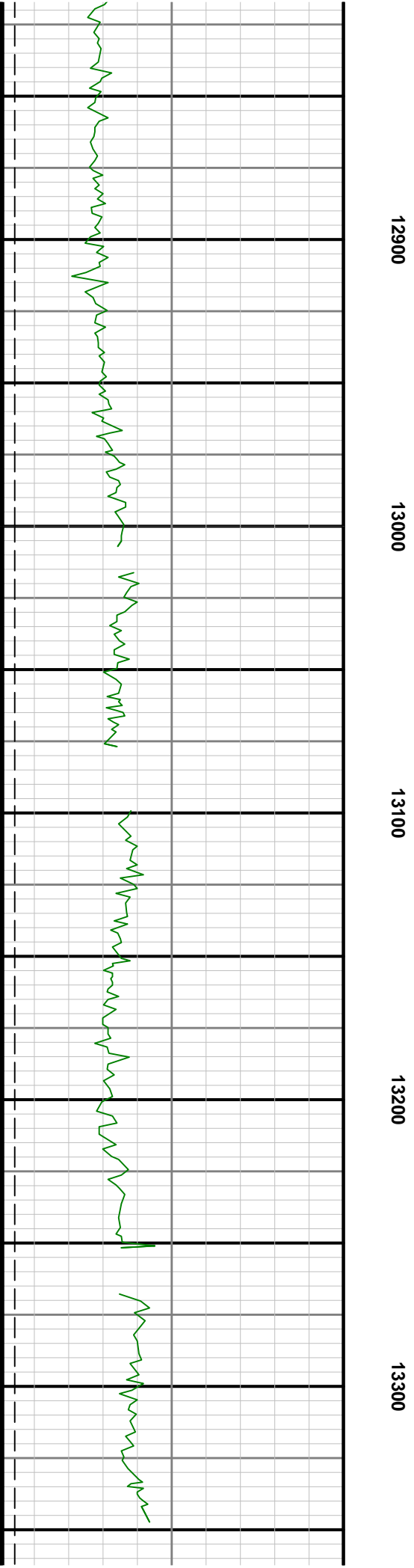
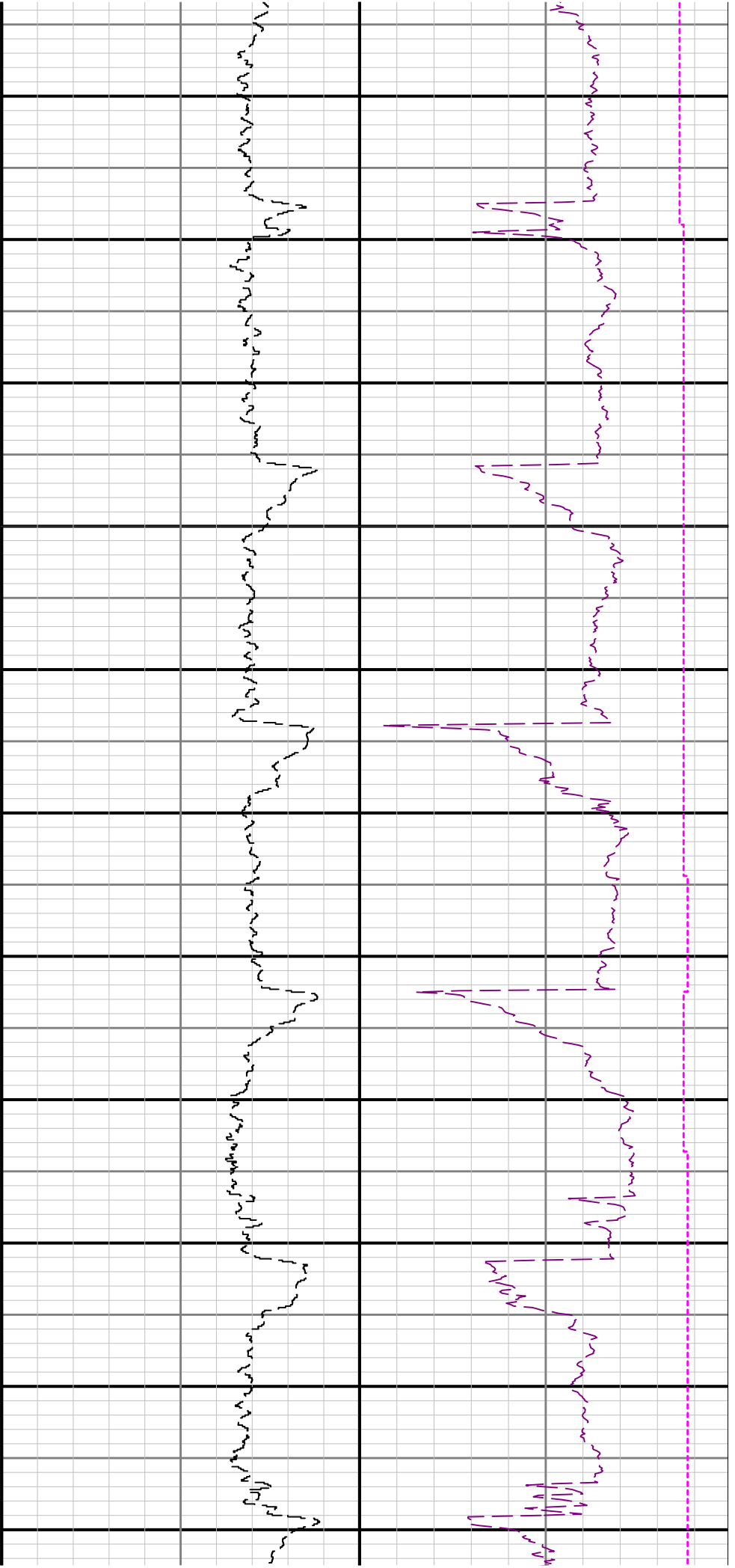




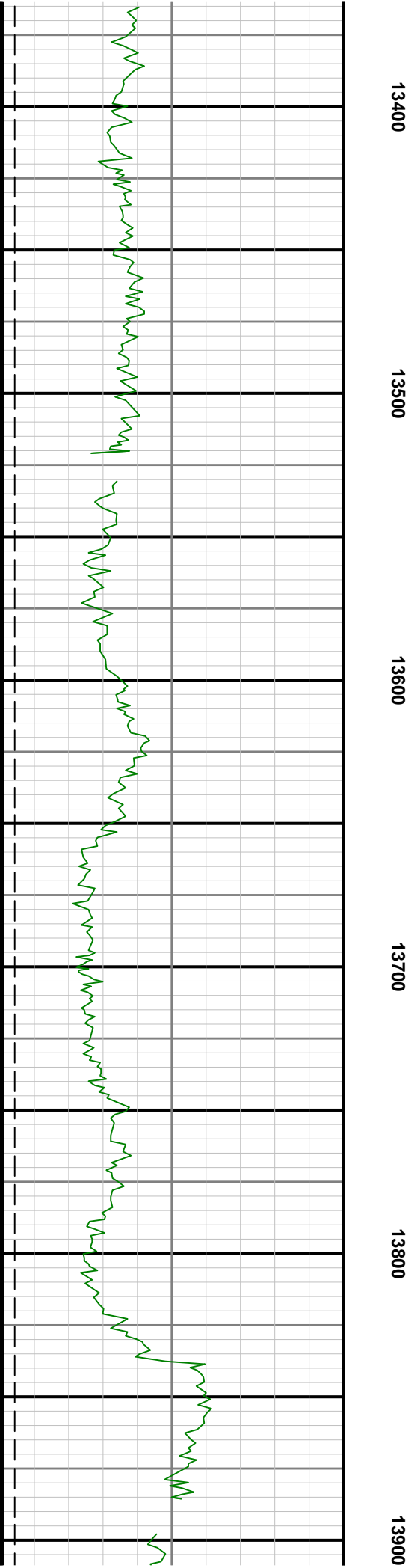
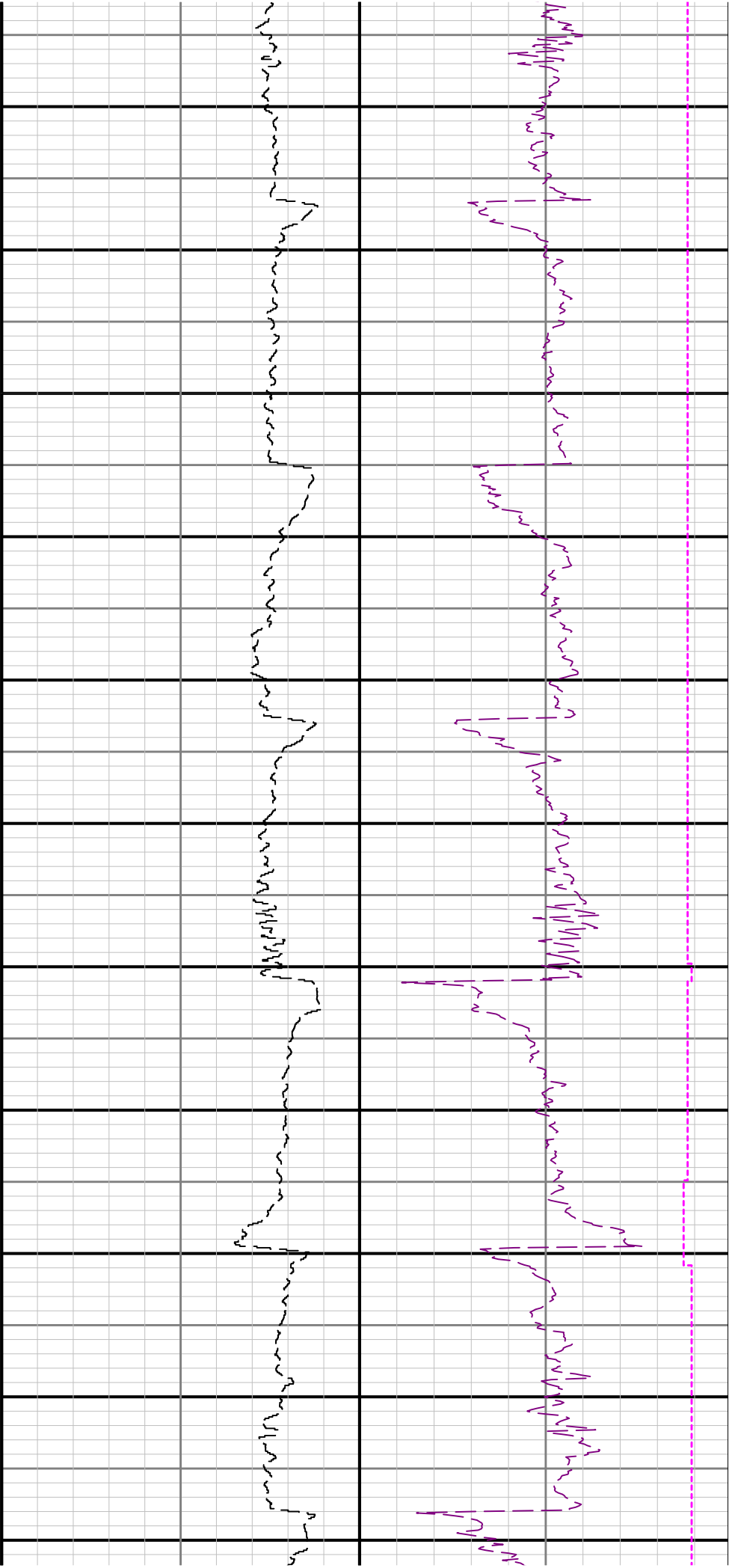


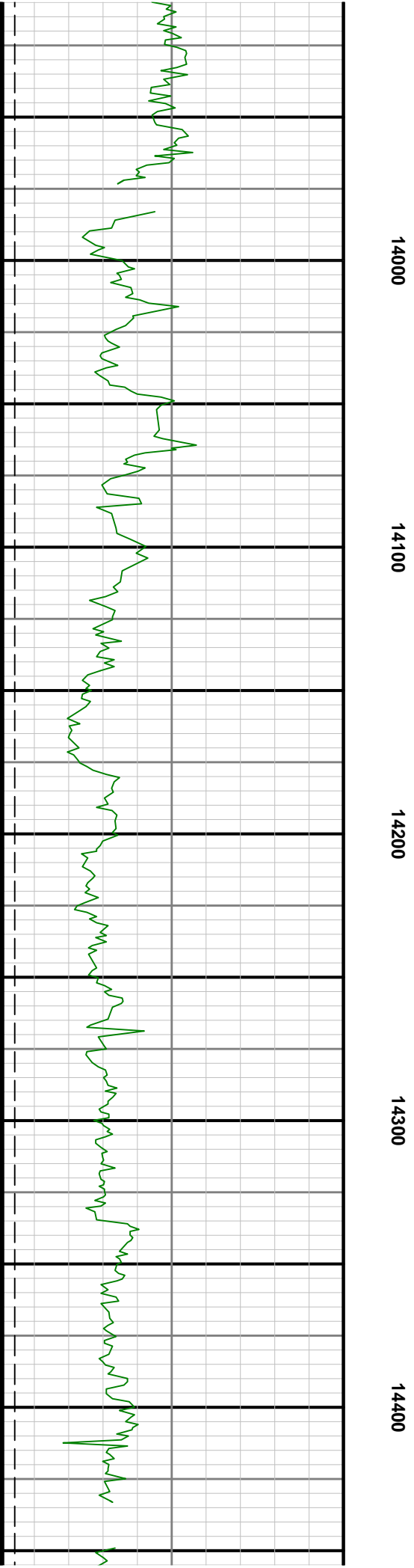
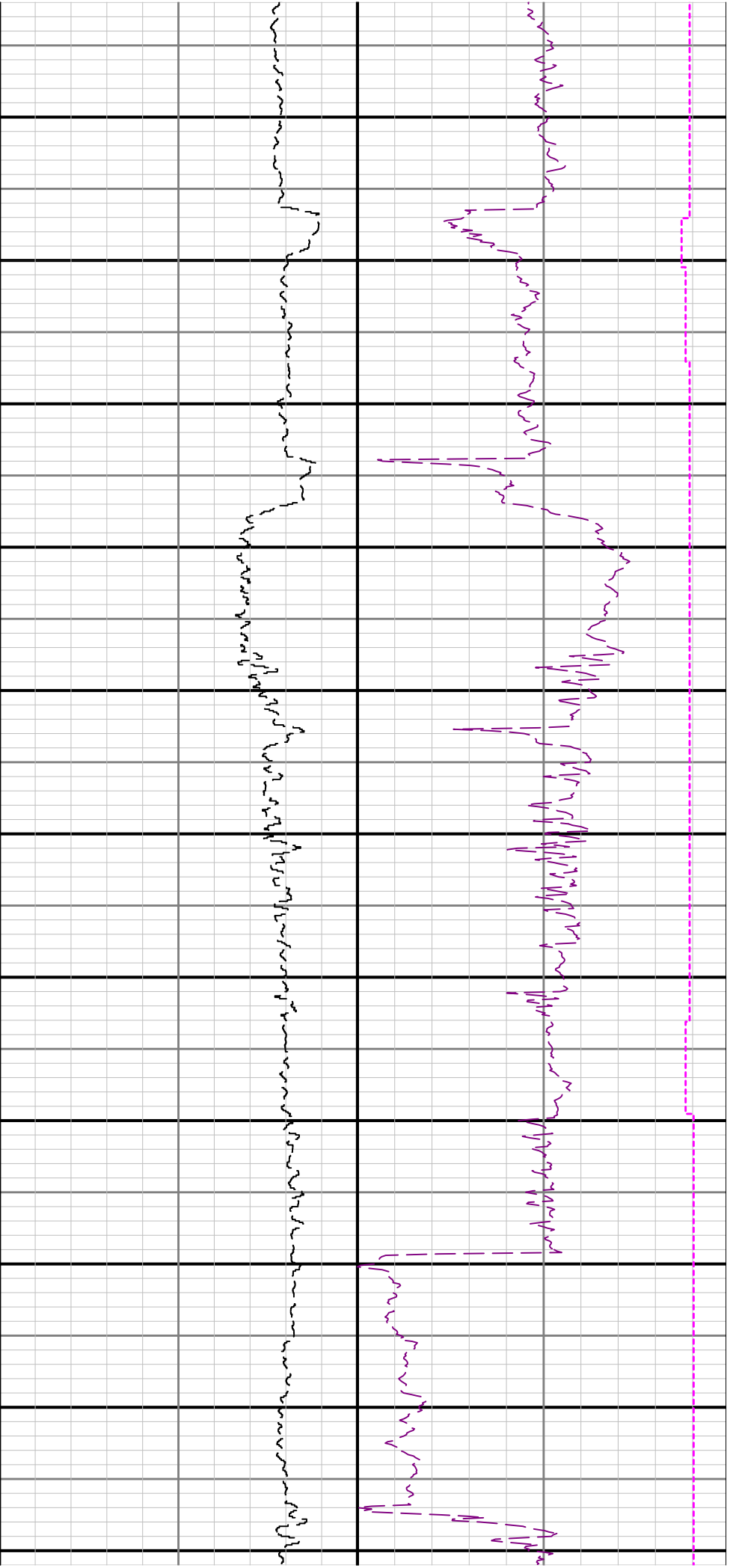


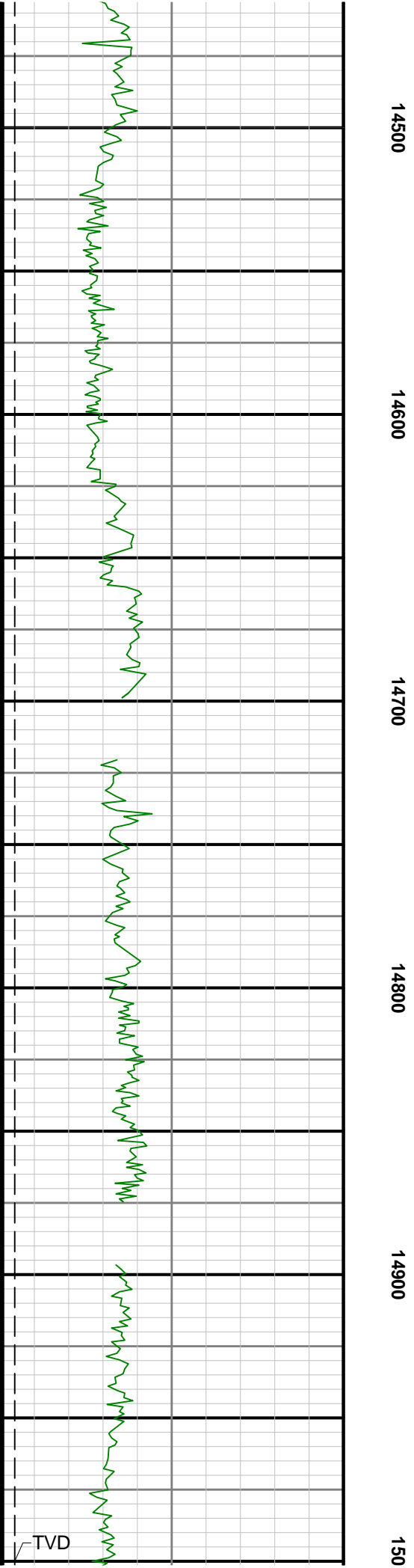
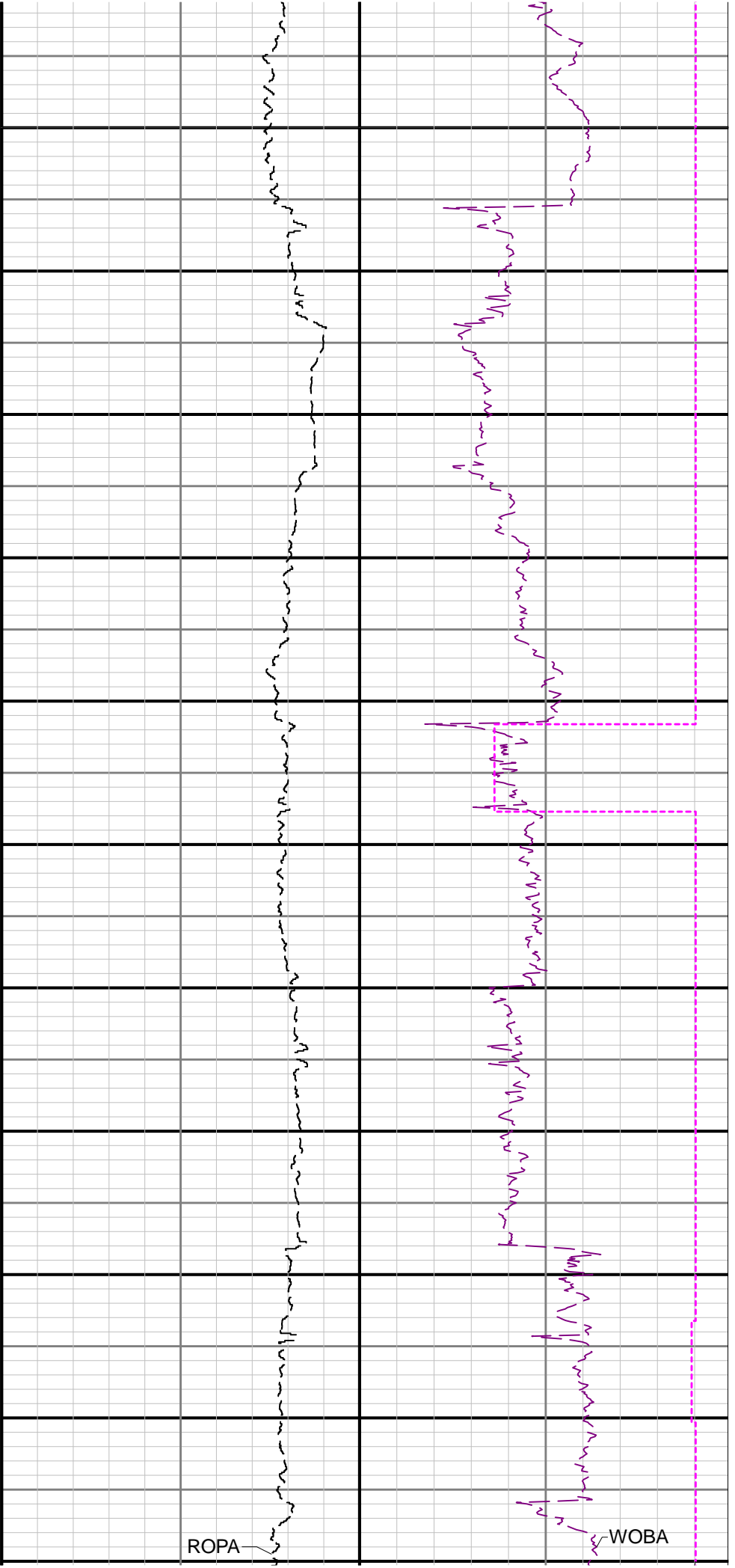




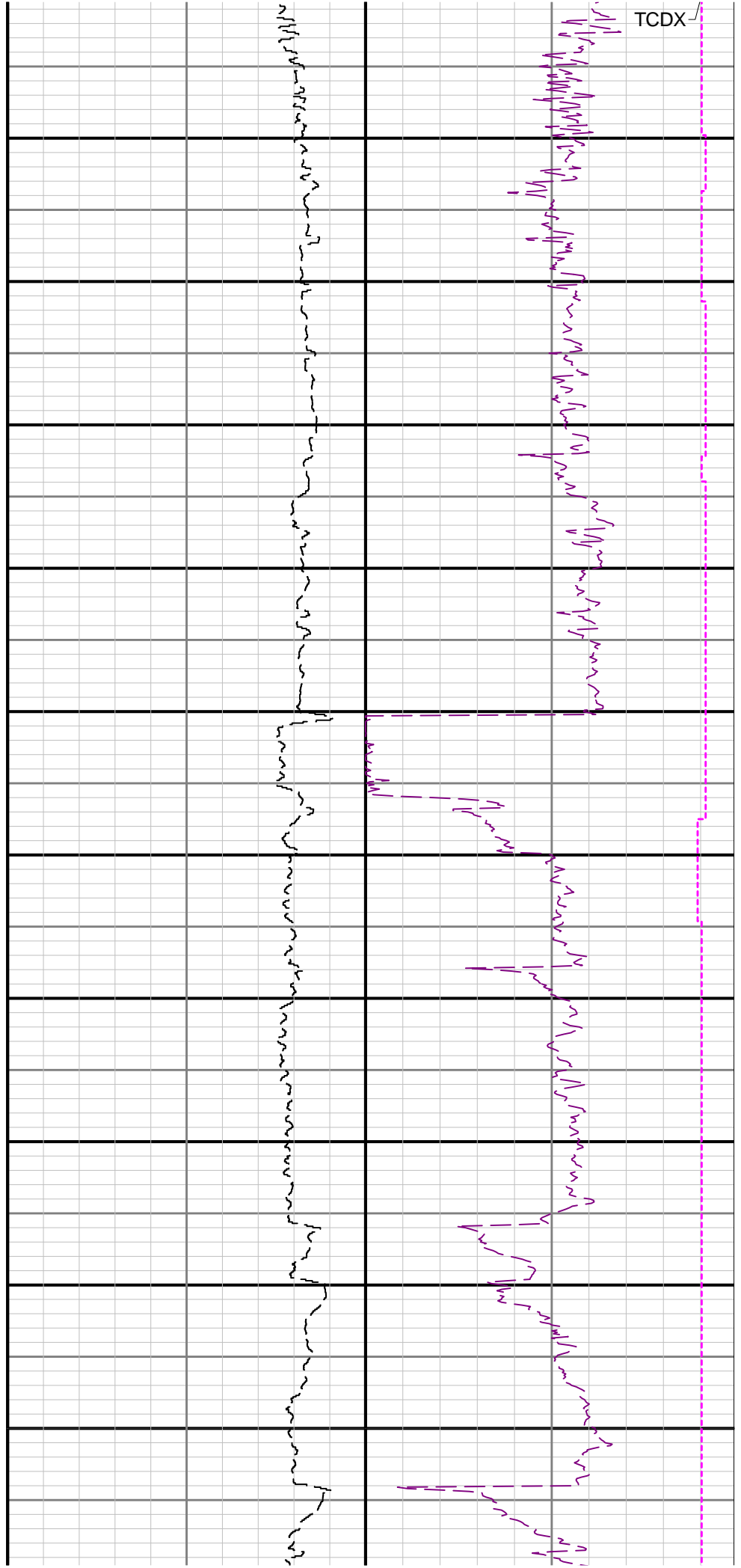








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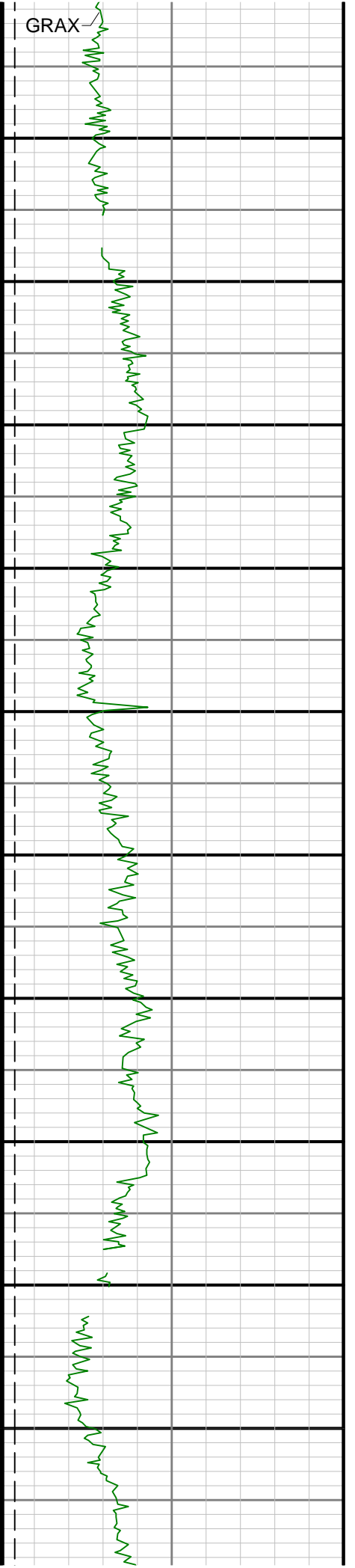
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GRAX

