Realtime Log

Natural Formation Evaluation
Gamma Ray

Scale: **1:240 Measured Depth**

Company: Anadarko
Well: Hunziker 28N-28HZ
Field: Weld County
Region: RMA **Country:** United States

Status: **Final Print**

API Number: 05123408450000

Surface Location:
Latitude: 40° 6' 11.628" N
Longitude: 104° 53' 32.597" W
Section: 28 TWN: 2N Range: 67W

Other Services:
Directional
VSS

Permanent Datum (P.D.):	Mean Sea Level	Elevation:	0.00 ft.
Log Measured From:	Rig Floor	20.00 ft.	Above P.D.
Depth Reference:	Driller's Depth		

Elevations:

KB:	N/A
DF:	5069.00 ft.
GL:	5049.00 ft.

Interval Logged		Dates		Magnetic Field Reference			
Top:	7020.0 ft.	Date From:	14 May 15	Dip Angle:	66.73 °	Azi Reference North:	True
Bottom:	12722.0 ft.	Date To:	20 May 15	Total		Mag to Reference	
		Spud Date:	14 May 15	Field Strength:	52702.1 nT	North Correction:	8.59 °

Borehole Record			Casing Record			
Hole Size	From	To	Size	Weight	From	To
13.500 in.	Surface	1340.0 ft.	9.600 in.	36.00 lb/ft	Surface	1330.0 ft.
8.750 in.	1340.0 ft.	8030.0 ft.	7.000 in.	36.00 lb/ft	Surface	8020.0 ft.
6.125 in.	8030.0 ft.	12722.0 ft.				

Mud Record			Deviation Record			
Type	From	To	Hole Size	Interval	Inc / Az (Start)	Inc / Az (End)
Water Base	Surface	12722.0 ft.	13.500 in.	1340.0 ft.	0.0 ° / 0.0 °	0.4 ° / 73.6 °
			8.750 in.	6690.0 ft.	0.1 ° / 116.6 °	89.8 ° / 359.8 °
			6.125 in.	4692.0 ft.	92.7 ° / 359.3 °	88.1 ° / 359.9 °
					/	/
					/	/
					/	/

Acquisition System	Software Version	Other	
Advantage	2.20U4	Rig: / Contractor:	Precison 460 / Advance Drilling
PATS	6.4.1.34	Job No:	7056318
		District: / Unit:	RMD / D&E

Log Run Summary

LWD Run No.	BHA Run No.	Bit Run No.	Bit Size (in.)	Bit Type	Bit Gauge Length (in.)	Assembly Type	Logged Interval Top (ft.)	Logged Interval Bottom (ft.)	Bit Depth Interval From (ft.)	Bit Depth Interval To (ft.)	Date / Time Start	Date / Time End	Circ. Time (hrs.)
1	1	1	8.750	PDC	2.000	Mud Motor	7028.0	7990.0	1340.0	8030.0	14 May 15 08:20	16 May 15 13:20	33.26
2	2	2	6.125	PDC	4.000	Mud Motor	7990.0	8159.0	8030.0	8207.0	17 May 15 16:35	18 May 15 12:50	11.18
3	3	3	6.125	PDC	4.000	Mud Motor	8159.0	12672.0	8207.0	12722.0	18 May 15 14:55	19 May 15 17:45	26

Crew

Name	Arrive	Depart	Name	Arrive	Depart	Name	Arrive	Depart
	Wellsite	Wellsite		Wellsite	Wellsite		Wellsite	Wellsite
Adewale Adedeji	14 May 15	20 May 15				Bryan Severson	14 May 15	20 May 15

Mud Properties Record

Date / Time	LWD Run No.	Measured Depth (ft.)	Mud Type	Density (sg)	Viscosity (cp)	pH	Fluid Loss (cc)	Oil / Water	Source	Total Chlorides (ppm)	K+ (%)
14 May 15 18:00	1	2433.0	Water-Based	8.5	27	9.5	N/A	N/A	Active Pits	1900	N/A
15 May 15 19:00	1	7443.0	Water-Based	10.0	50	9.5	4.6	2/88	Active Pits	2200	N/A
16 May 15 19:00	1	8030.0	Water-Based	10.1	55	9.0	5.0	3/86	Active Pits	2300	N/A
17 May 15 19:00	2	8030.0	Water-Based	9.6	42	8.7	5.2	2/90	Active Pits	2300	N/A
18 May 15 19:00	2	8207.0	Water-Based	9.6	48	8.5	5.4	3/89	Active Pits	2400	N/A
19 May 15 19:00	3	12253.0	Water-Based	9.6	50	9.5	3.8	4/88	Active Pits	2200	N/A

Mnemonics

Curve	Description	Units
GRAX	Gamma Ray Apparent, 0.5 ft. avg.	API
GRIX	Gamma Ray Density	Points
ROPA	Rate of Penetration, 3.0 ft. avg.	ft/hr
TCDX	Downhole Temperature	deg F
TVD	True Vertical Depth	ft.
WOBA	Surface Weight On Bit, 1.0 ft. avg.	klbf

Equipment and Service Data

LWD Run No.	Tool	Serial Number	Measurement	Bit Offset (ft.)	Max O.D. (in.)	Min I.D. (in.)
1	DIR	10307183	Directional	44.38	6.750	3.250
1	SRIG	ZSGM5015	Gamma	41.01	6.750	3.250
2	DIR	11896567	Directional	53.14	4.750	2.750
2	SRIG	11991886	Gamma	49.72	4.750	2.750
3	DIR	12617359	Directional	53.03	4.750	2.750
3	SRIG	10392040	Gamma	49.60	4.750	2.750

Service and Tool Mnemonics

Mnemonic	Name	Description
DIR	Directional	Wellbore directional survey
SRIG	Inclination and Gamma	Probe based gamma ray and inclination module

Comments

1) Baker Hughes INTEQ run 1utilized a 6.5 inch NaviGamma (Gamma Ray and Directional) tool behind a 8 3/4inch bit and steerable assembly from 1340 to 8030 ft. MD (1339 to 7478 ft. TVD).

2) Baker Hughes INTEQ run 2 & 3 utilized a 4.75 inch NaviGamma (Gamma Ray and Directional) tool behind a 6 1/8 inch bit and steerable assembly from 8030 to 12722 ft. MD (7478 to 7492 ft. TVD).

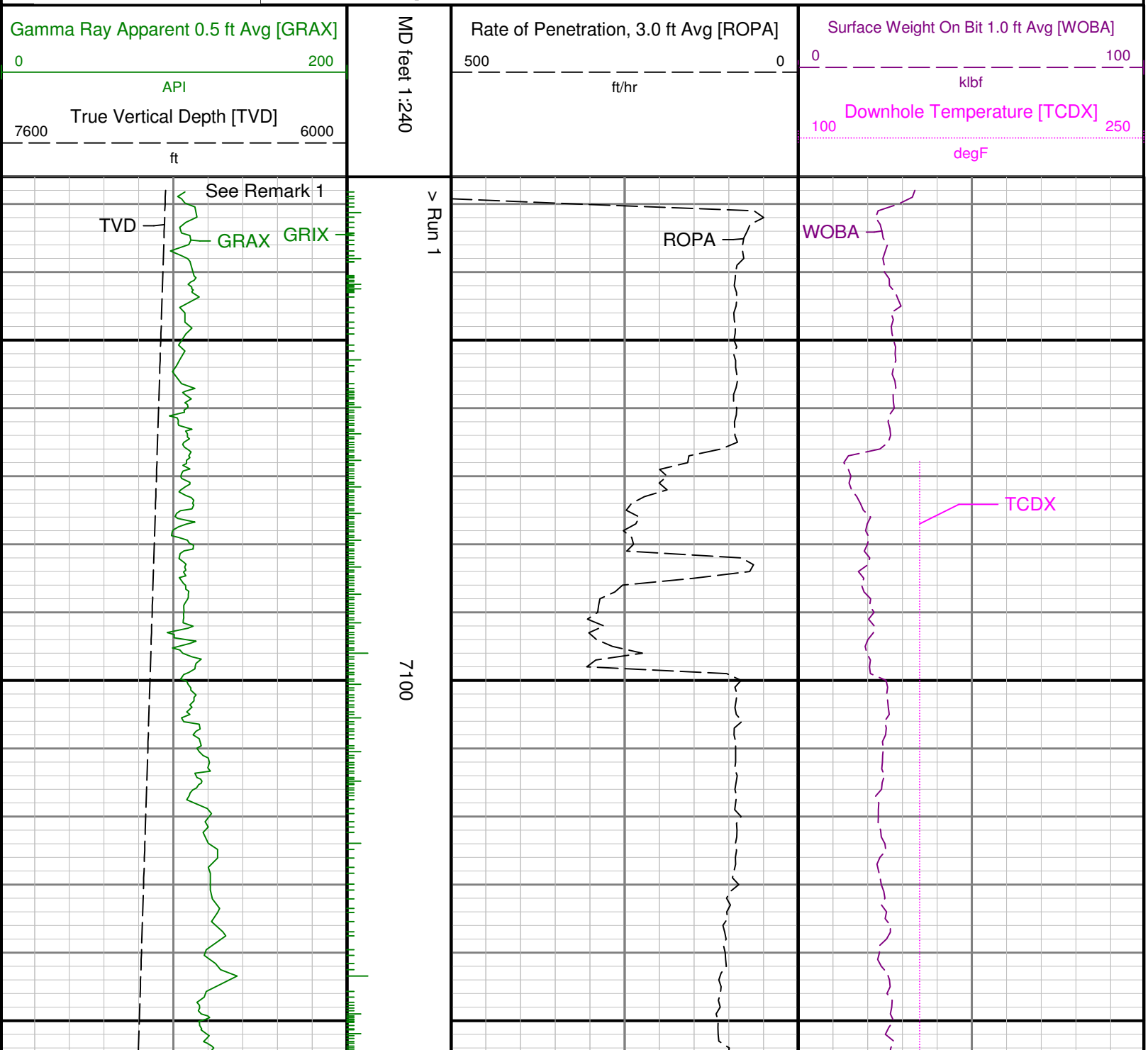
Remarks

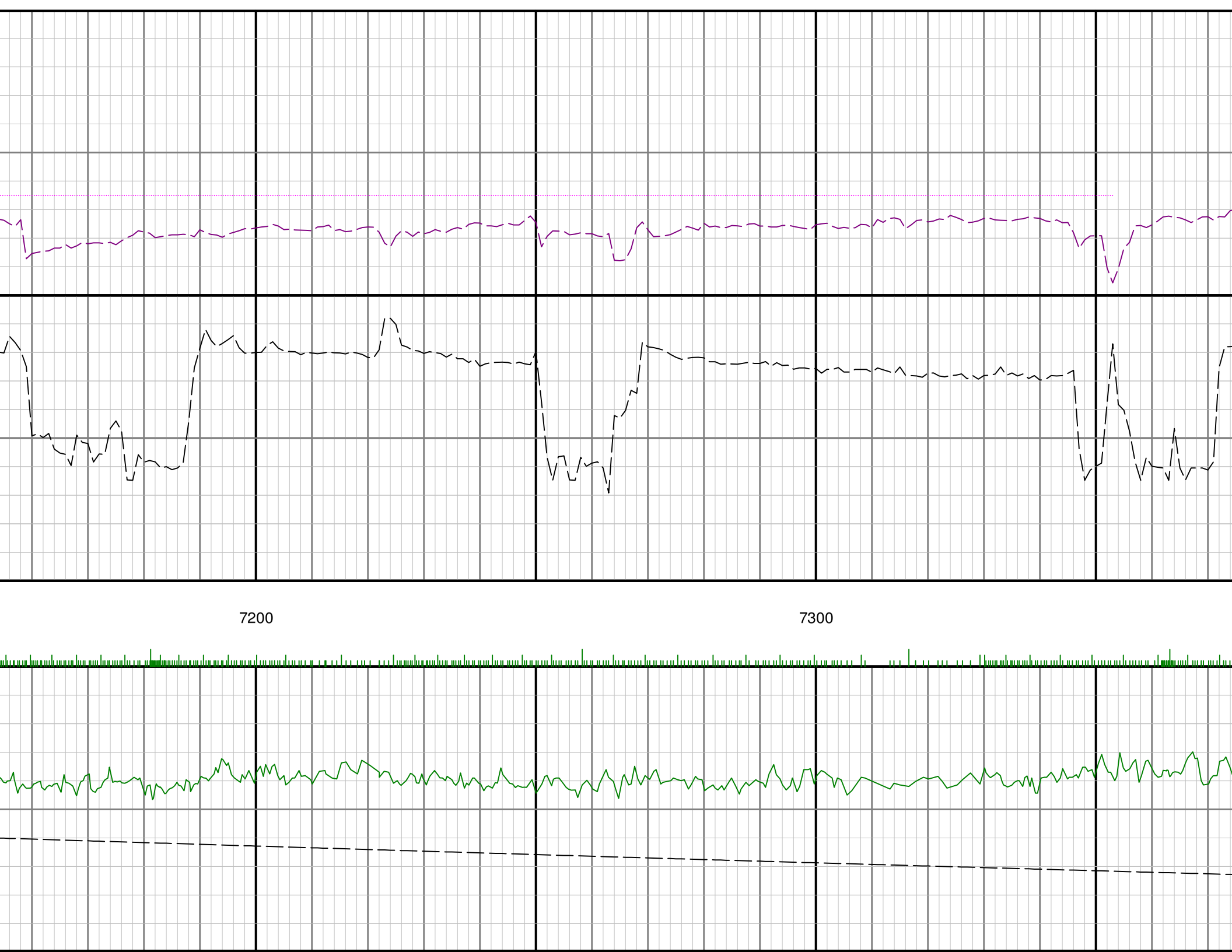
Number	Measured Depth	Hole Section	LWD Run No.	Remark

	Depth (ft.)	Section (in.)	Run No.	
1	7028	8.750	1	The interval from surface to 7028 feet MD (6840 feet TVD) was not logged due to gamma logging services begining at the start of the curve.
2	7990	8.750	2	The interval from 7990 to 8030 feet MD (7481 to 7478 feet TVD) was logged up to 27 hours after drilling due to tripping out of the hole for casing and cement operations.Gamma data is attenuated due to logging behind casing.
3	12672	6.125	2	The interval from 12672 to 12722 feet MD (7490 to 7492 feet TVD) was not logged due to sensor offsets to bit at TD

BAKER HUGHES

Company : Anadarko
Well : Hunziker 28N-28HZ
Interval : 7026.00 - 12724.00 feet
Created : 19/May/2015 10:34:22 PM

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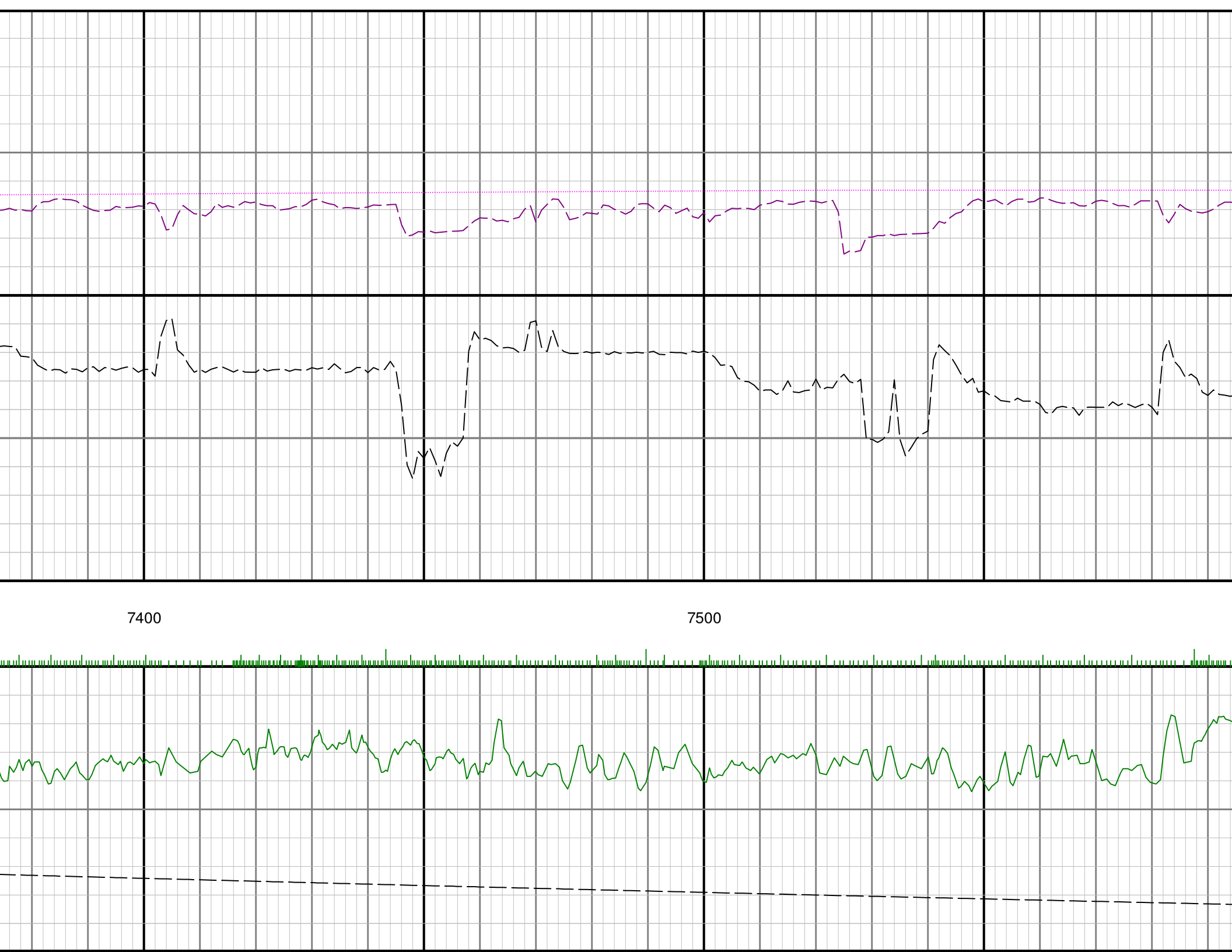
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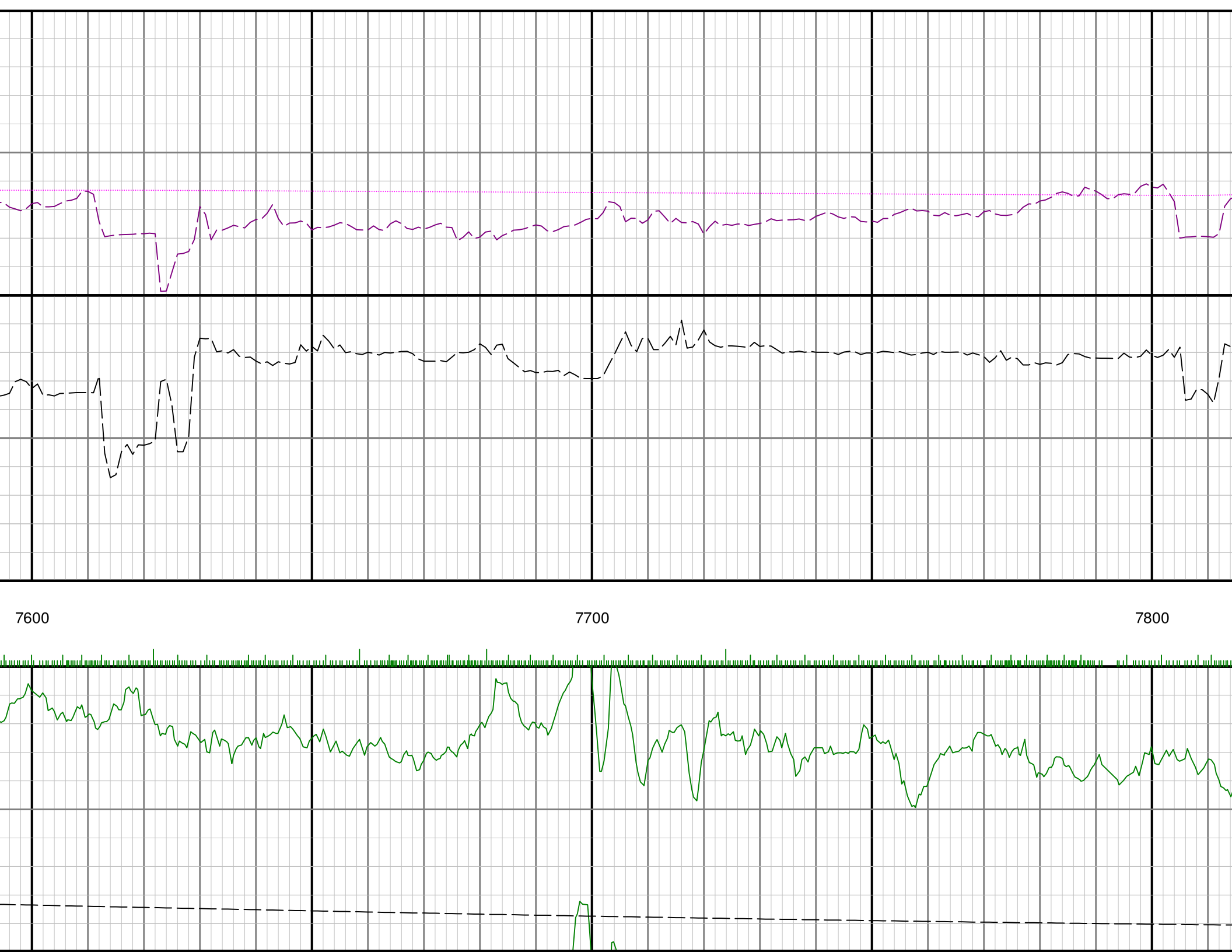
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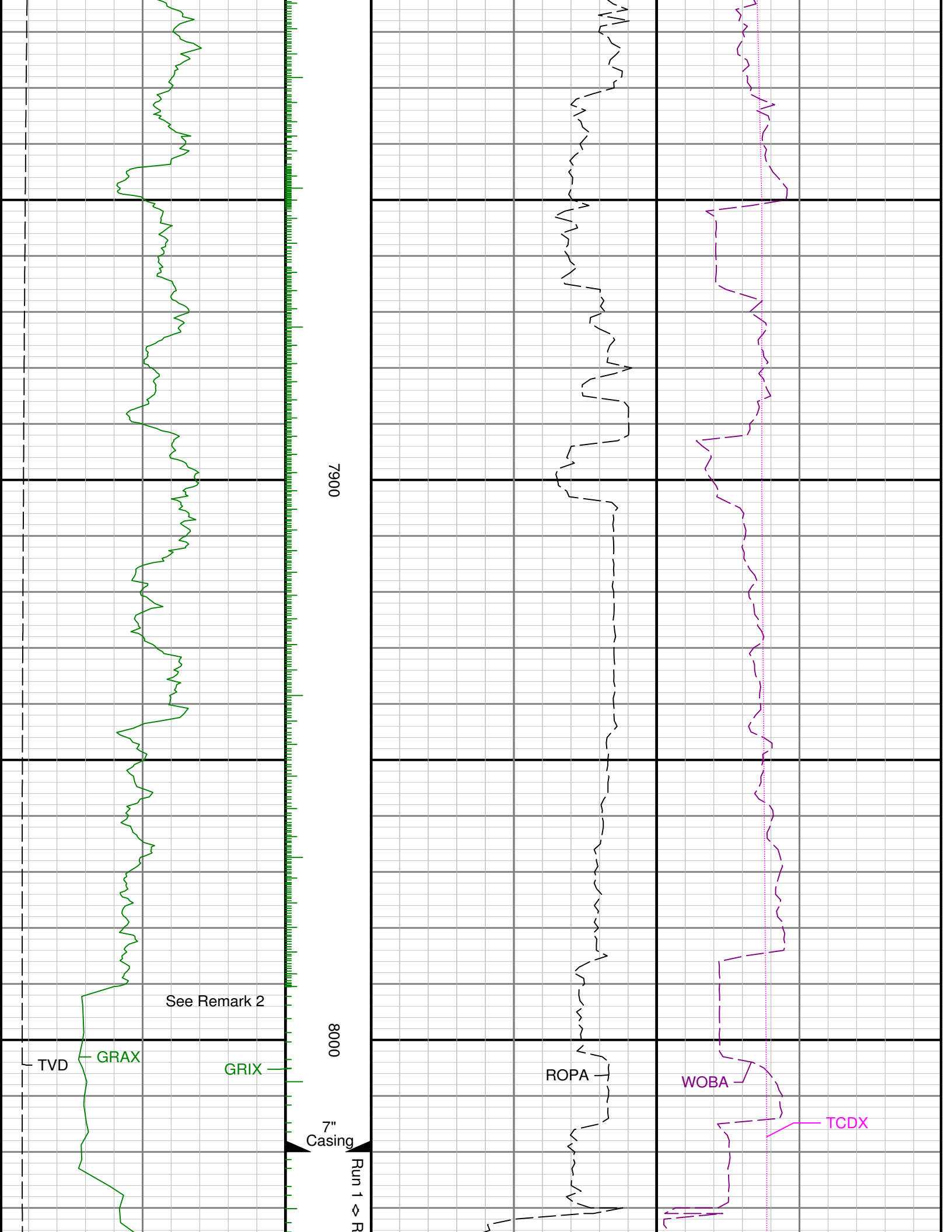
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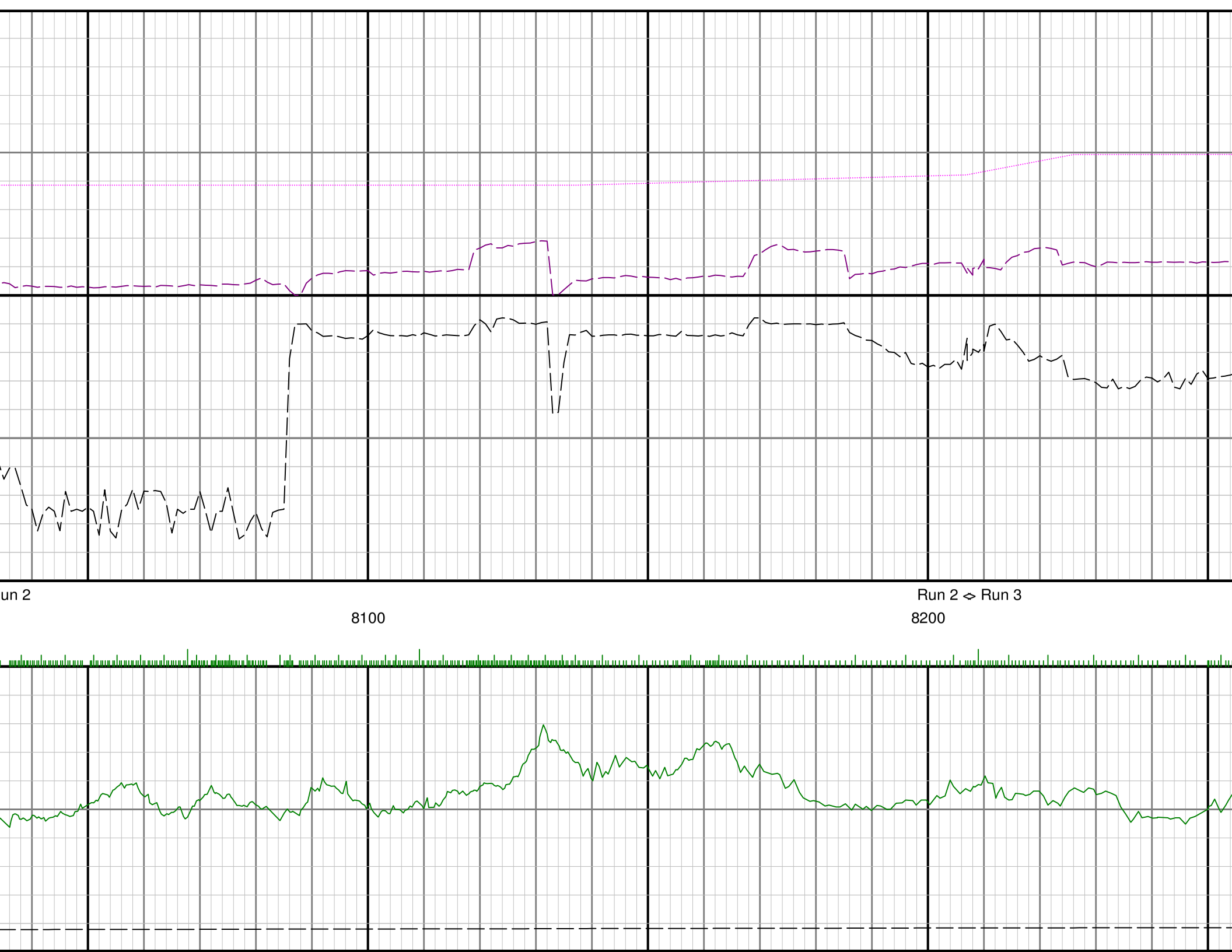
See Remark 2
TVD
GRAX
GRIX
ROPA
WOBA
TCDX
7"
Casing
Run 1 ⇔ R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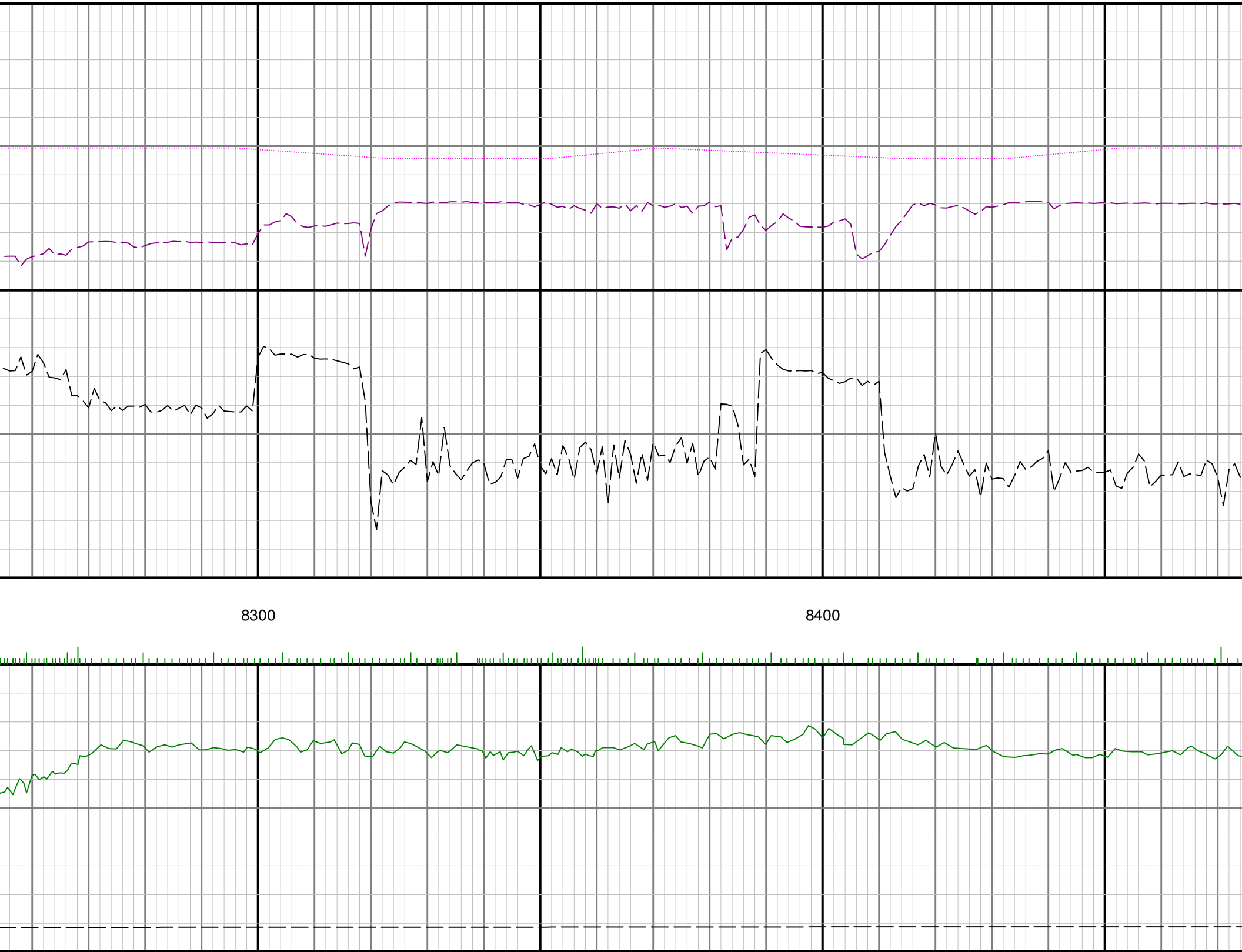
8100
Run 2 <> Run 3
8200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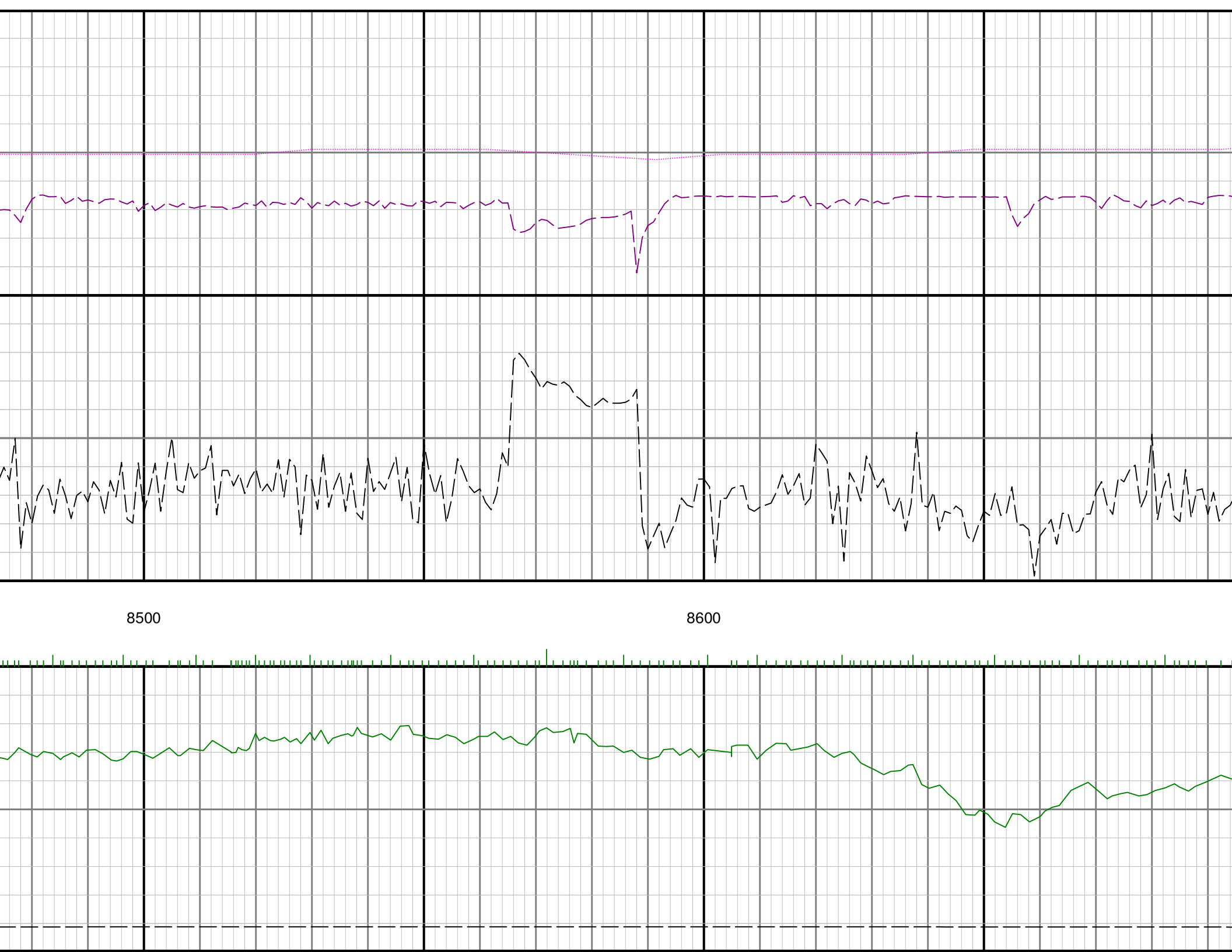
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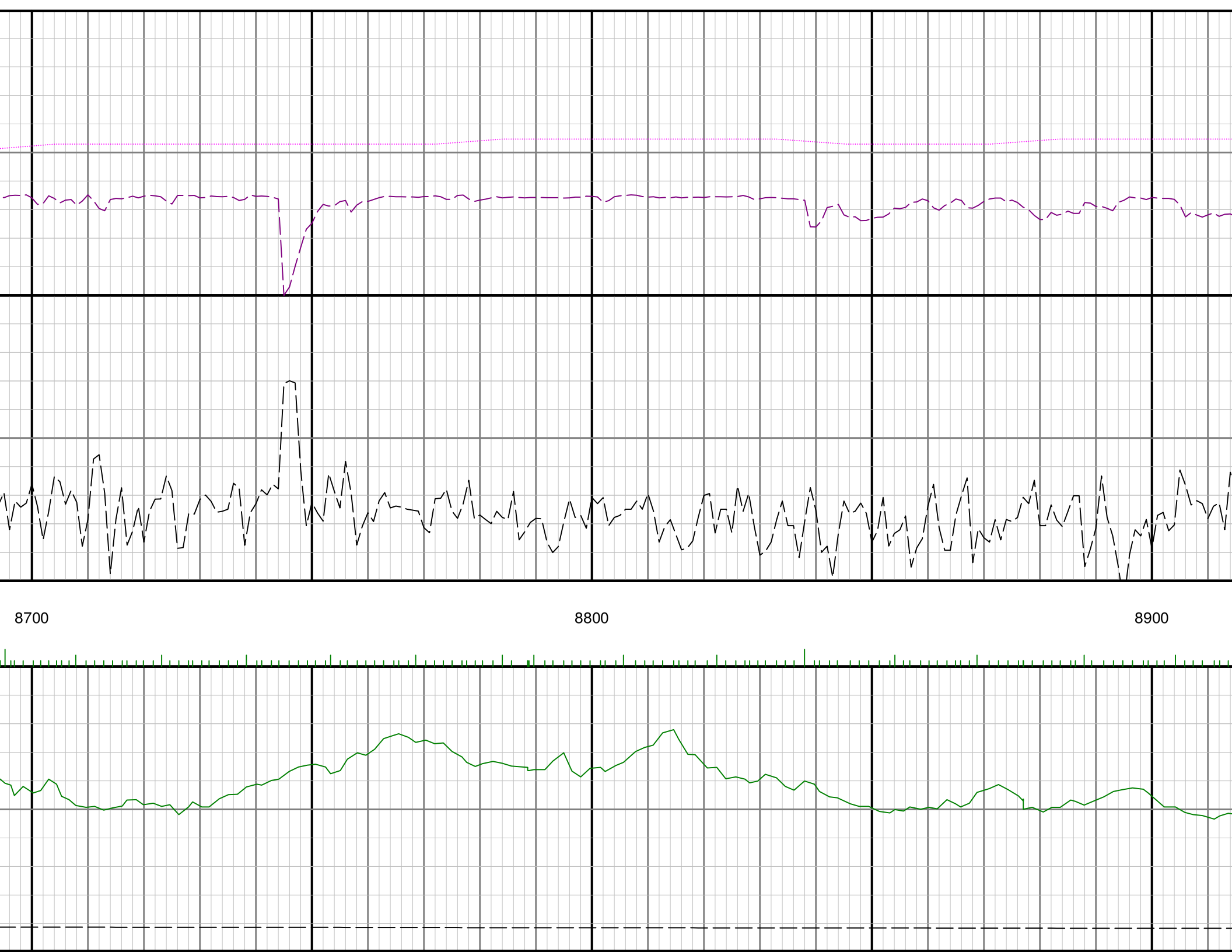
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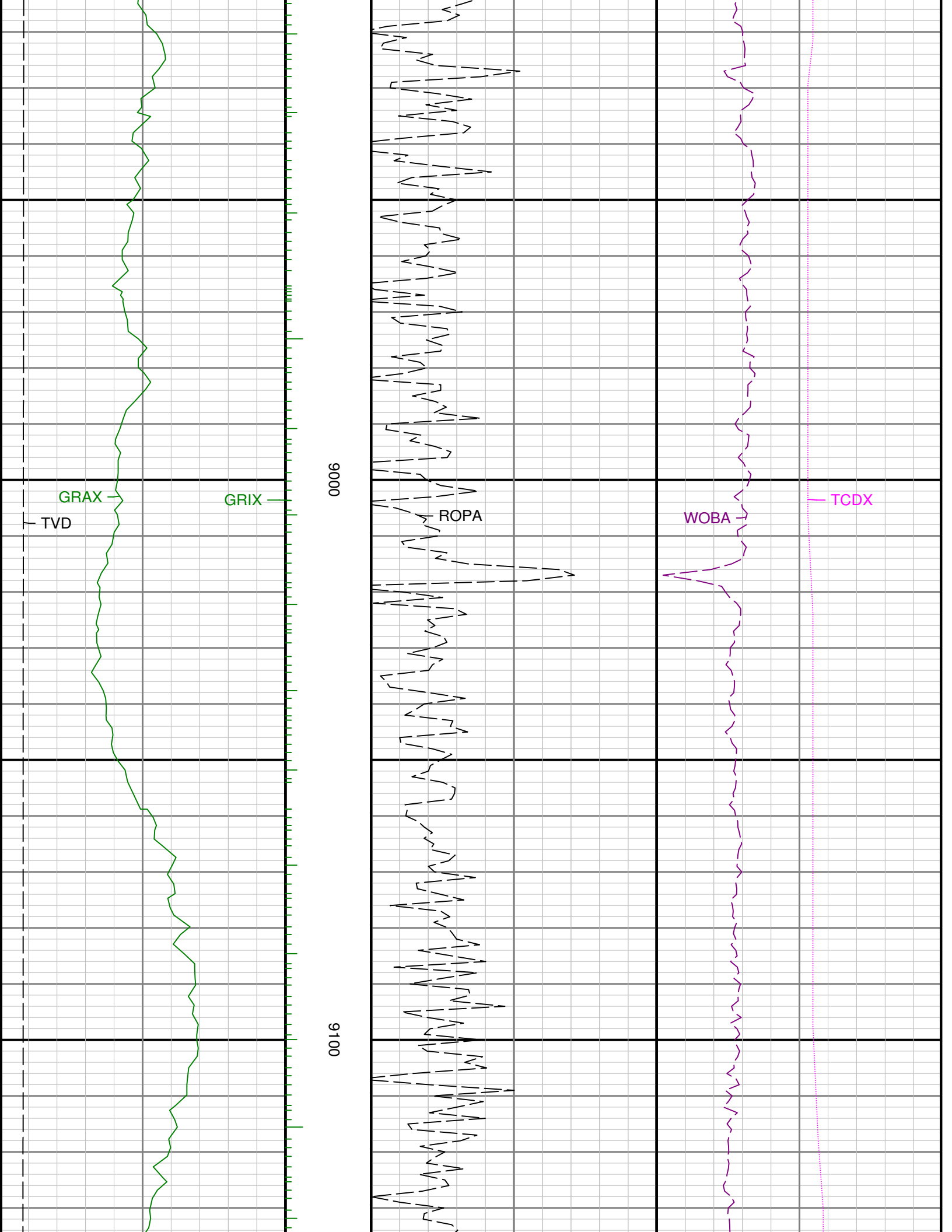
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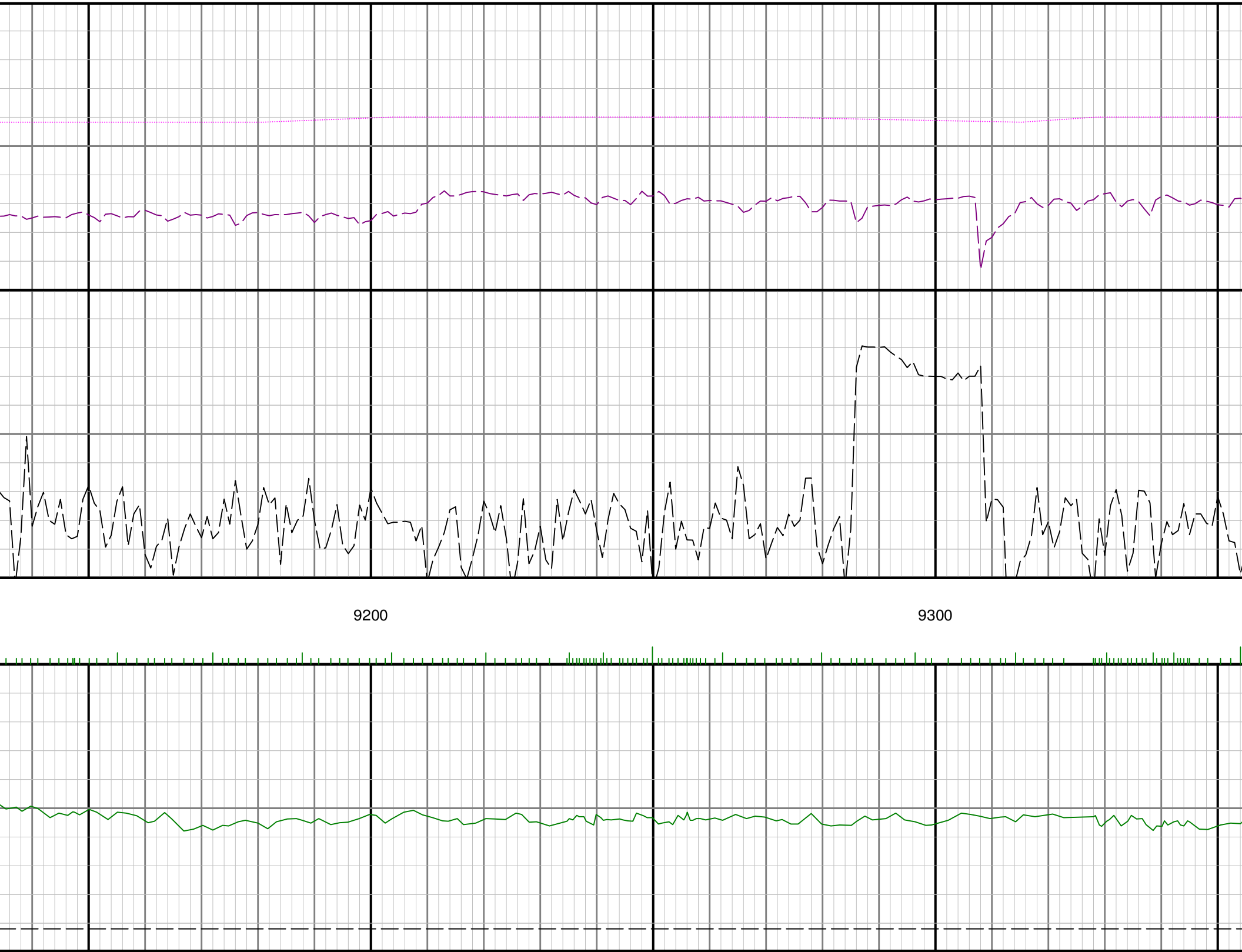
GRIX
TVD
ROPA
WOBA
TCDX
9000
9100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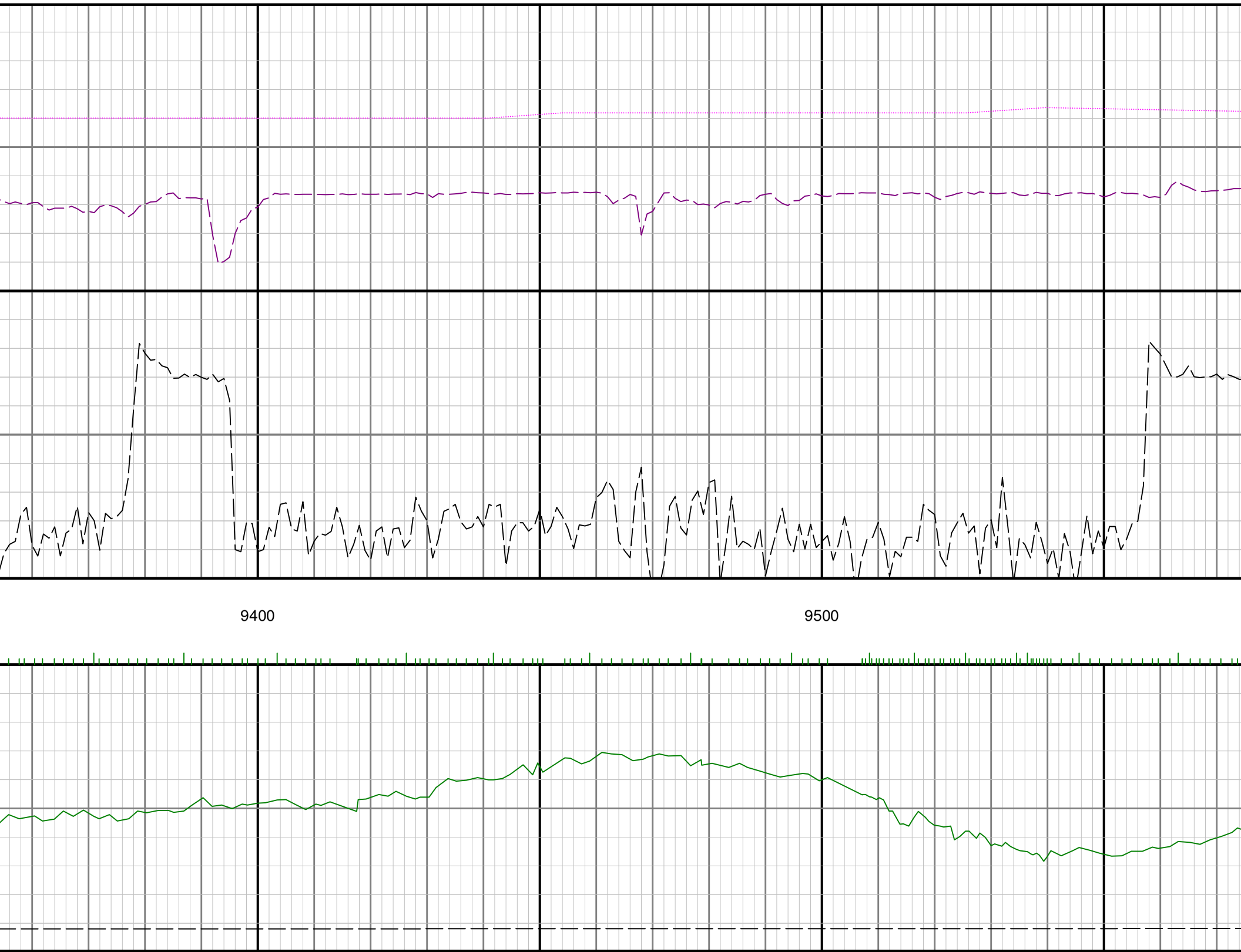
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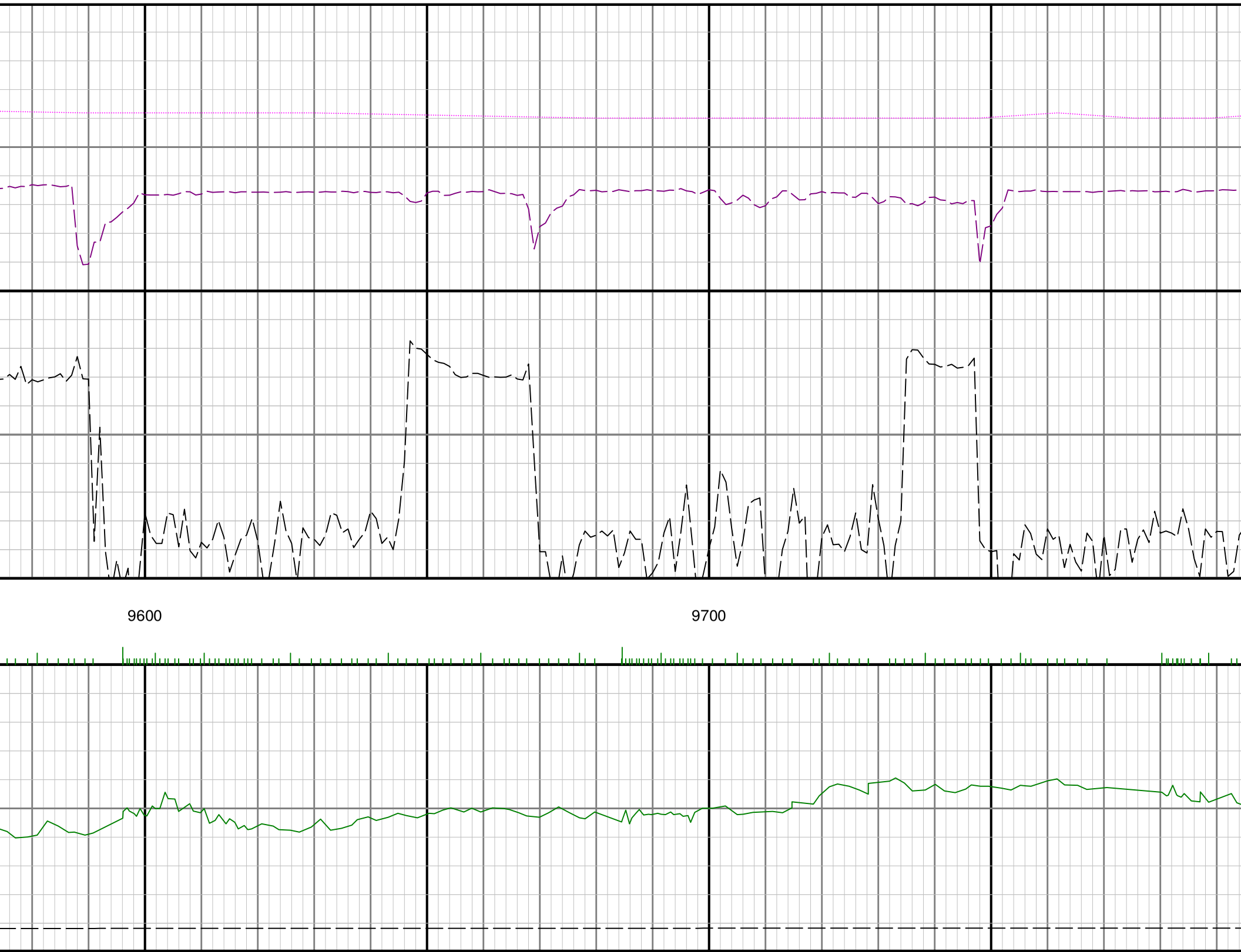
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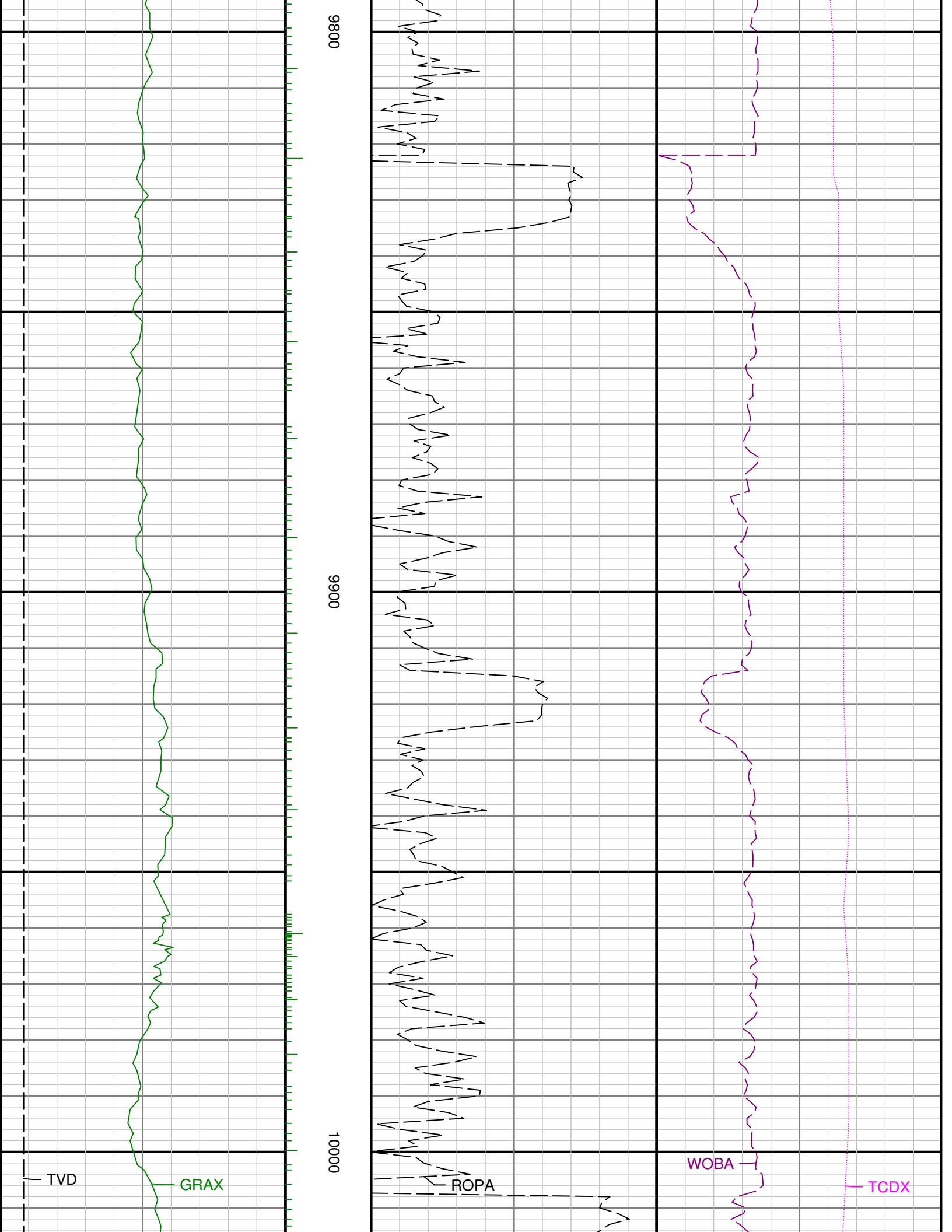
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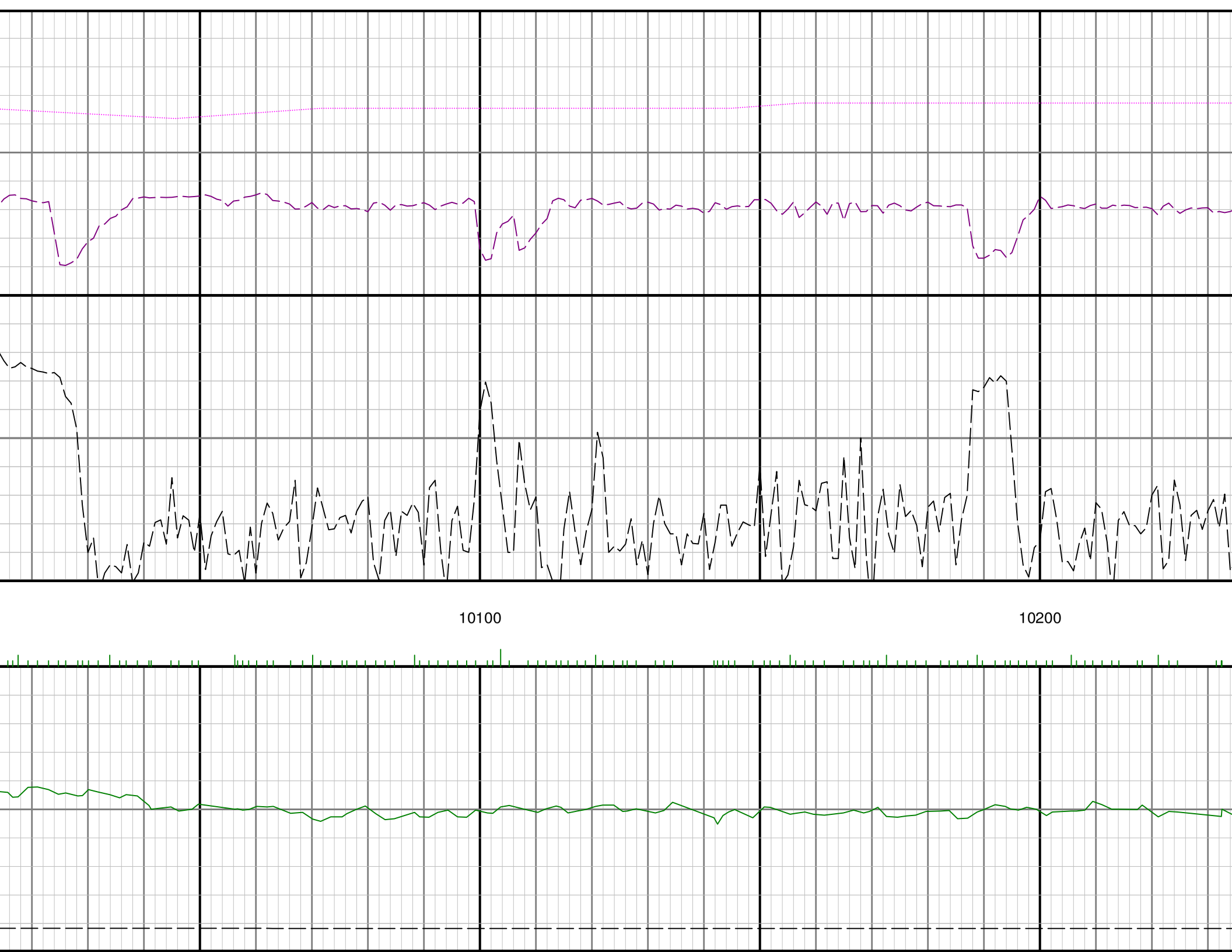
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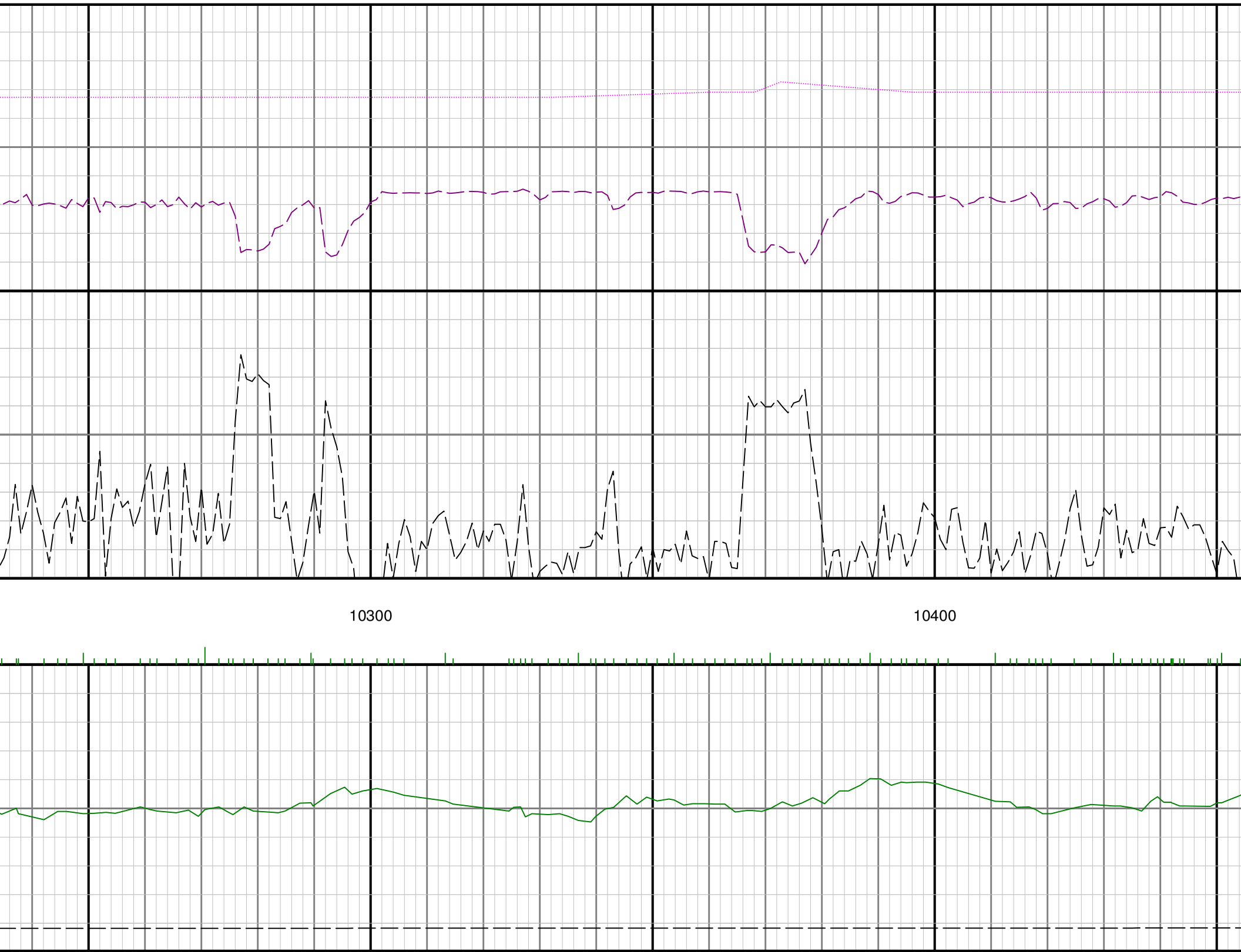
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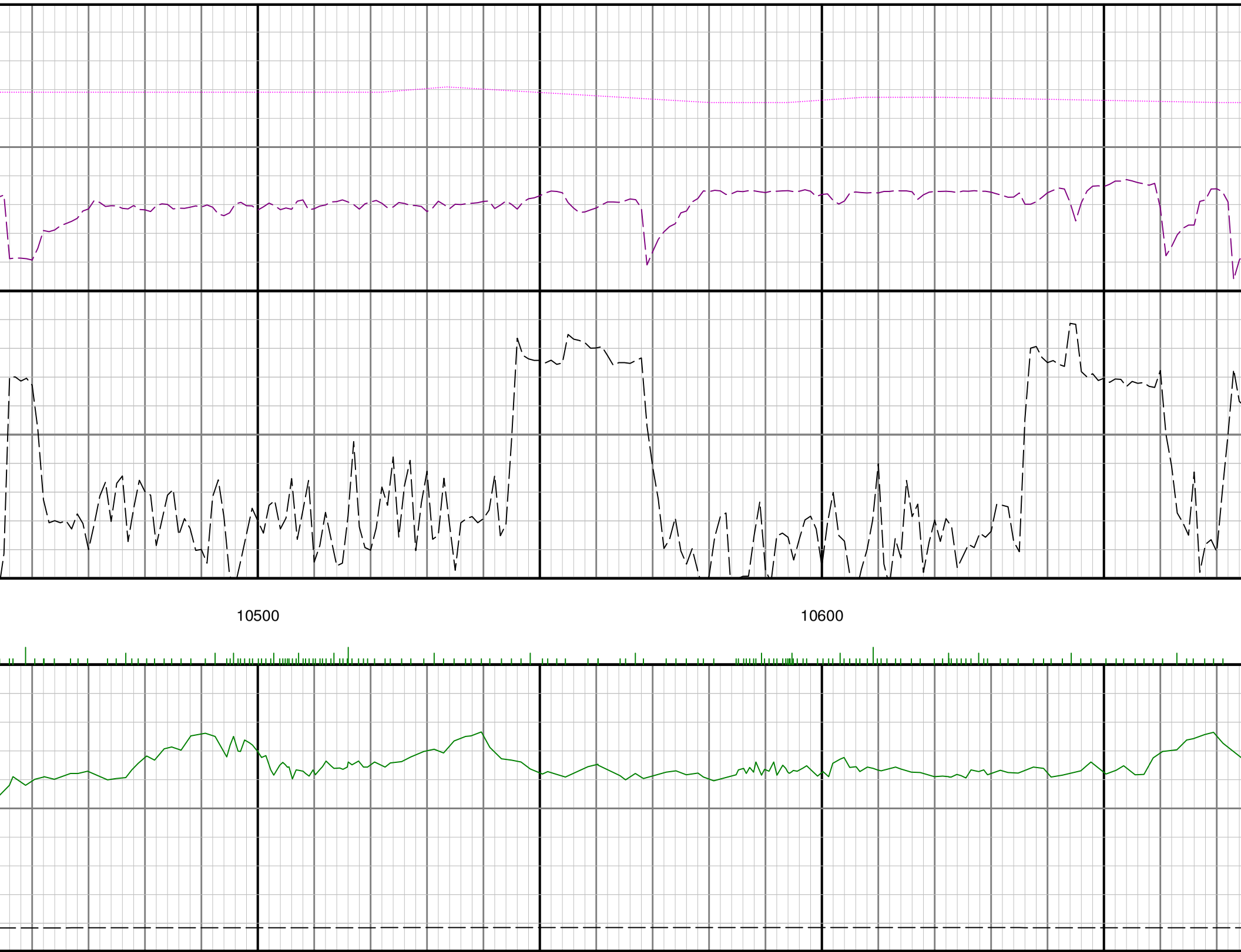
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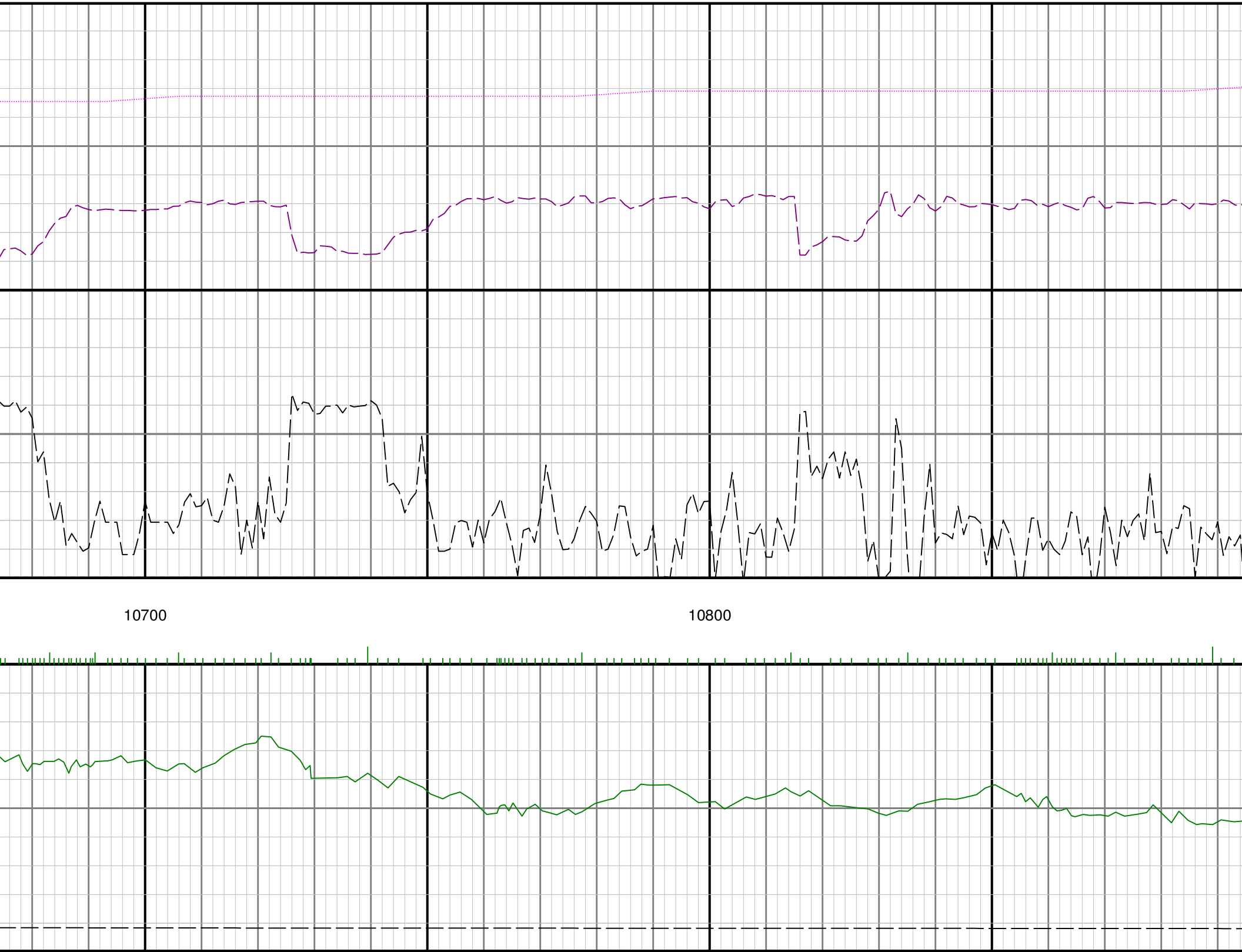
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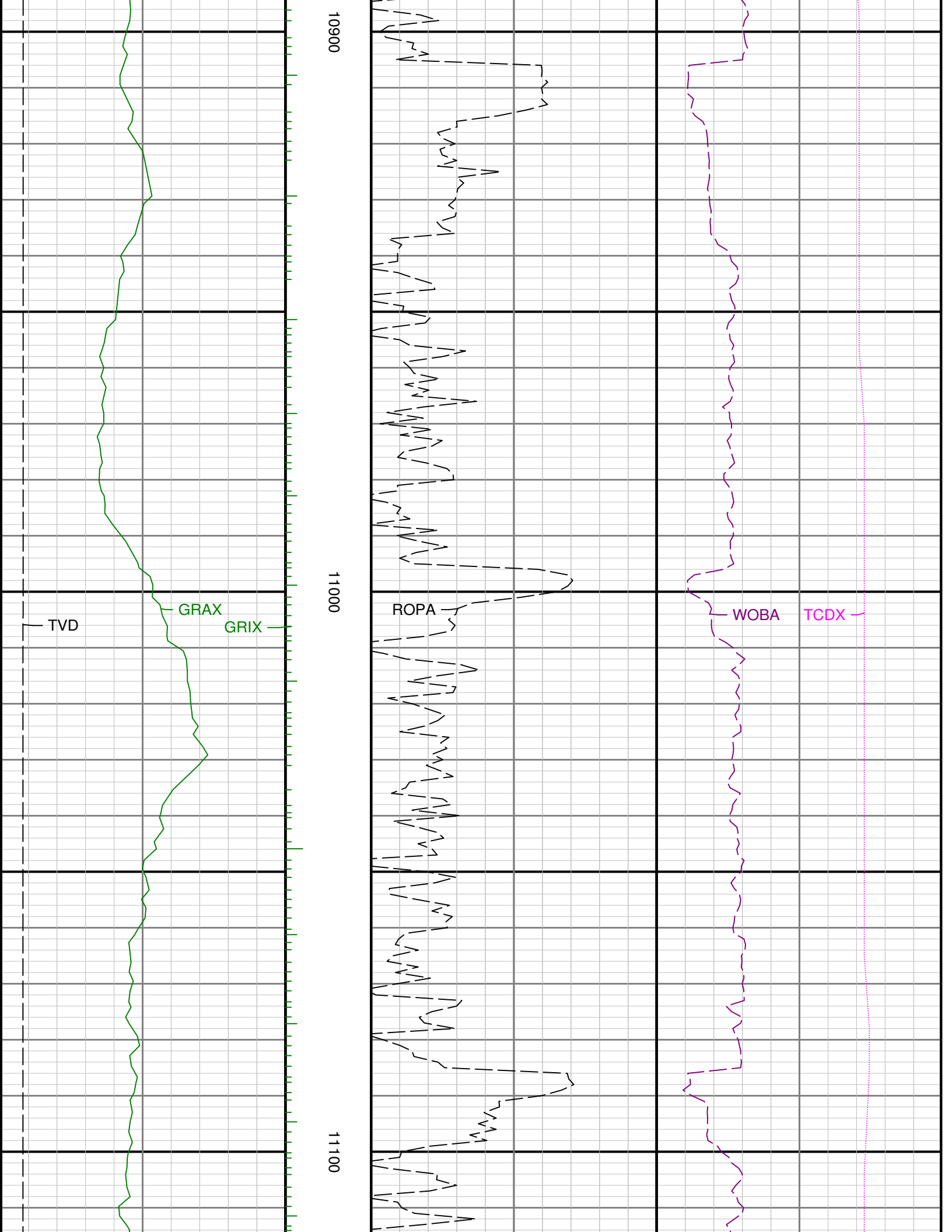
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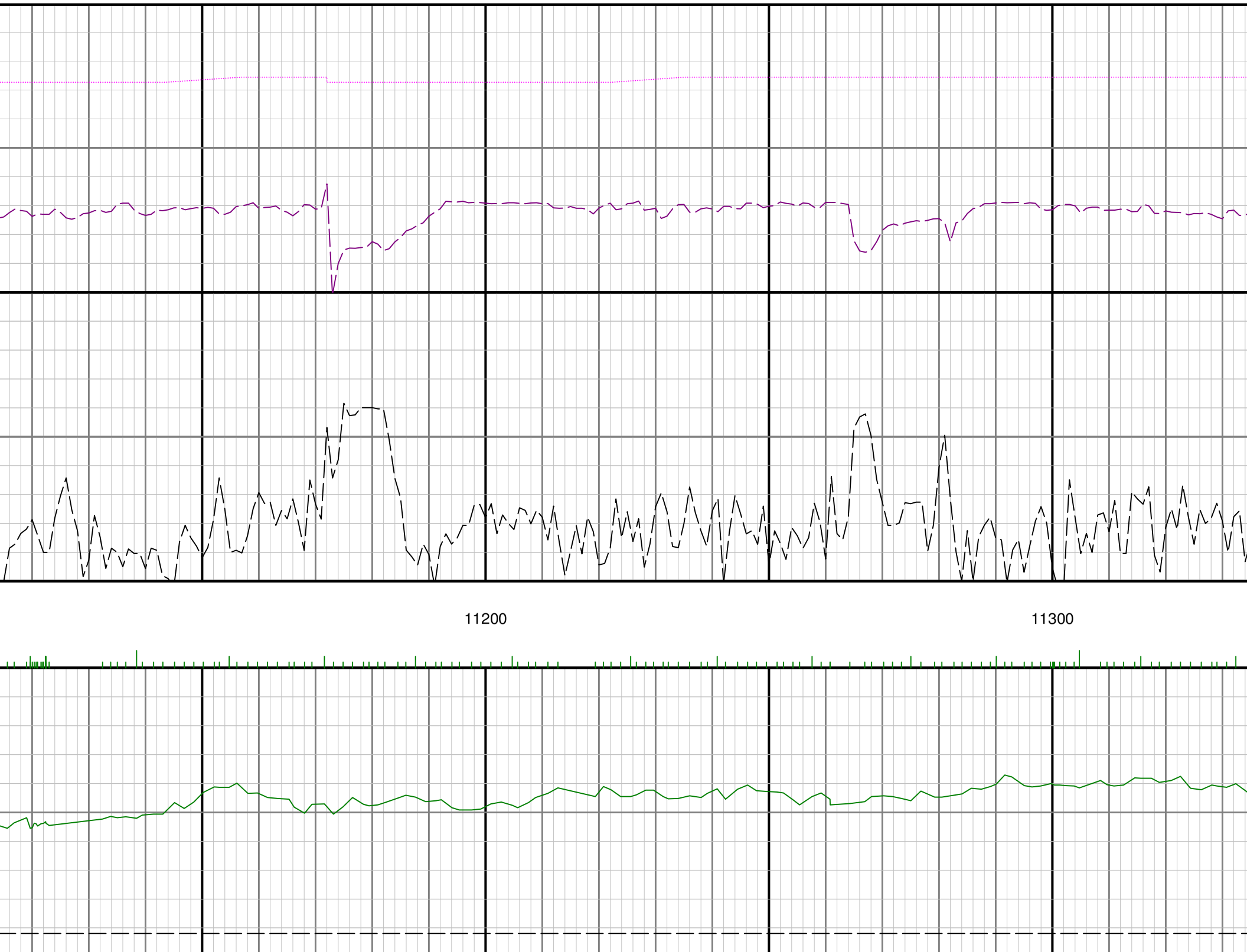
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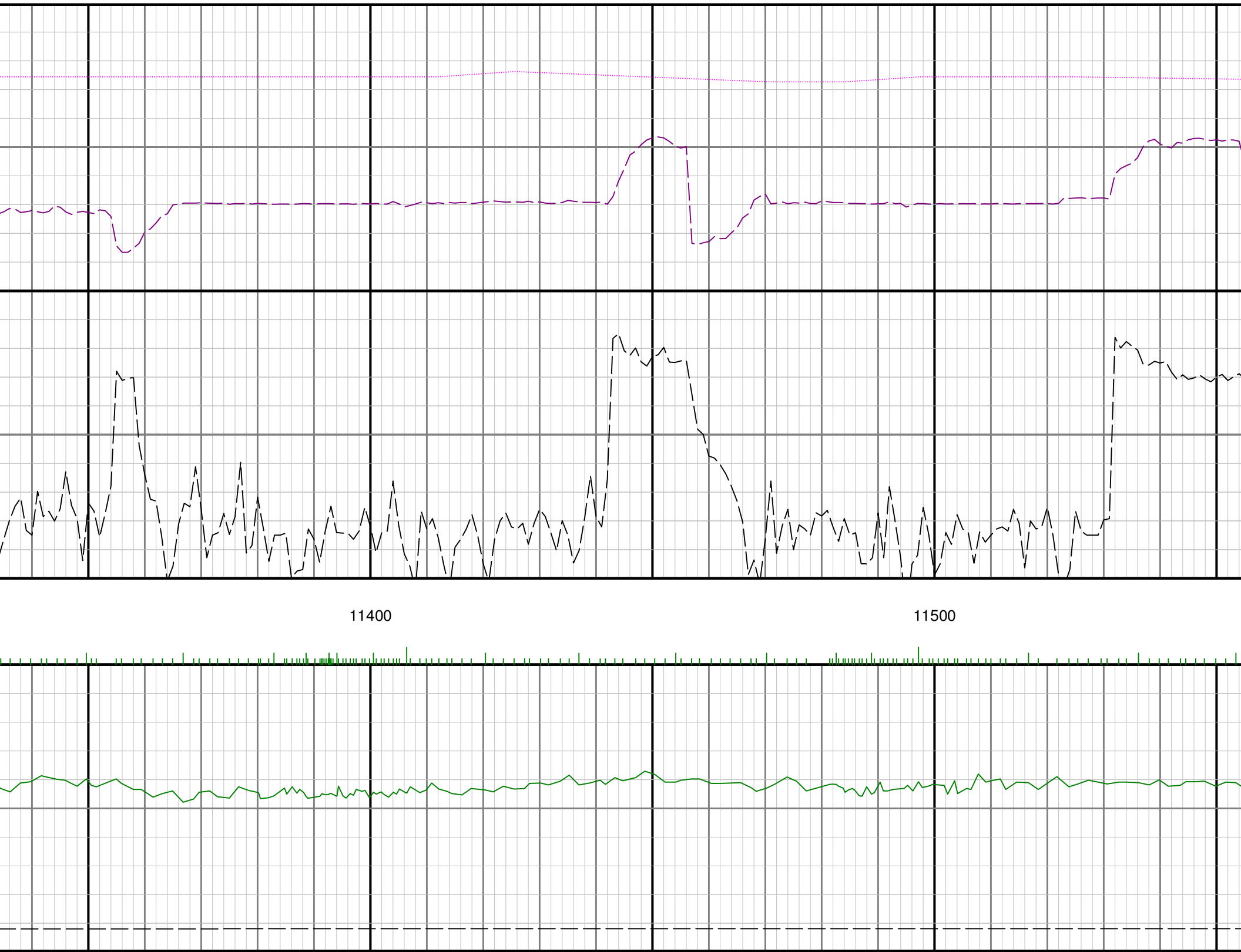
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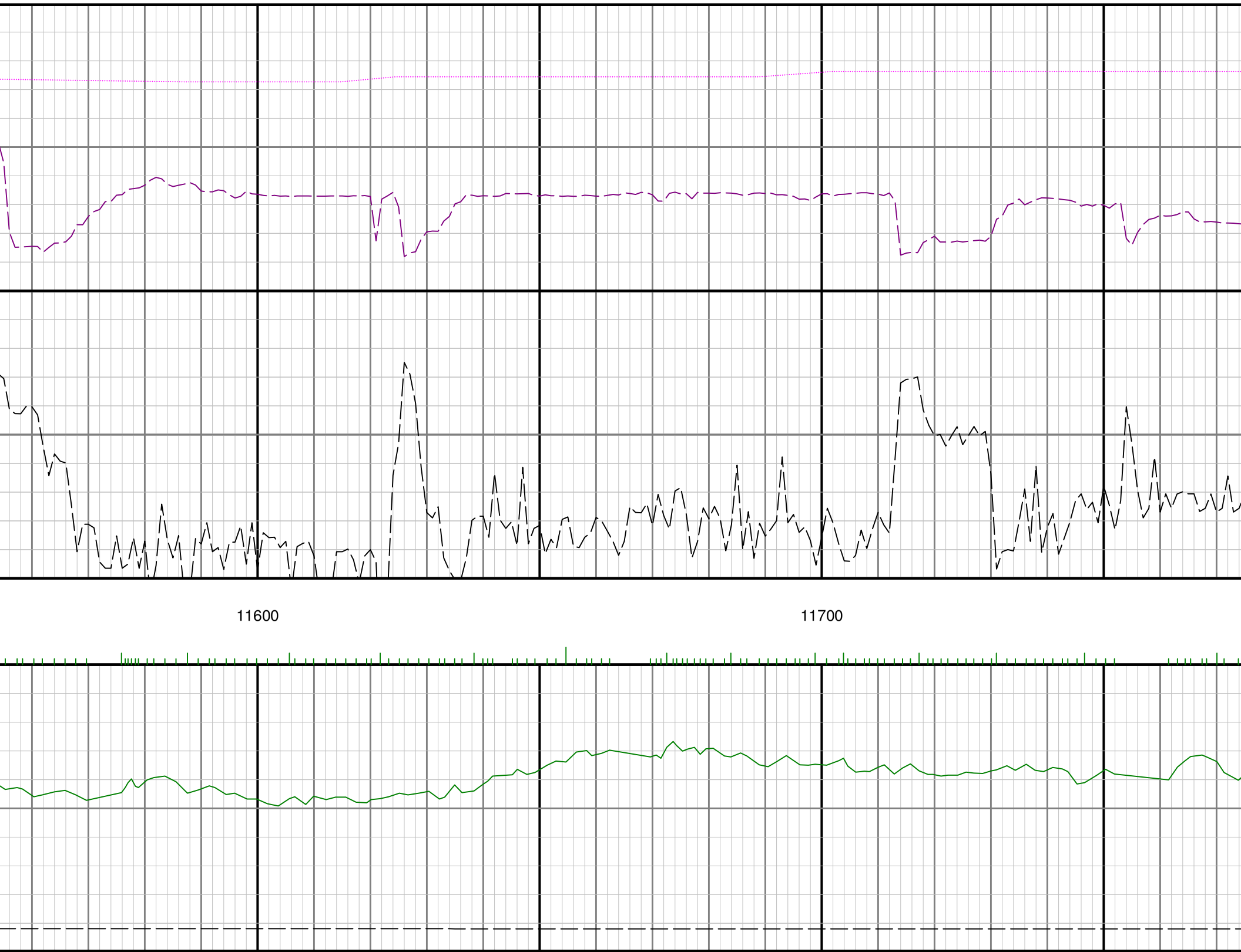
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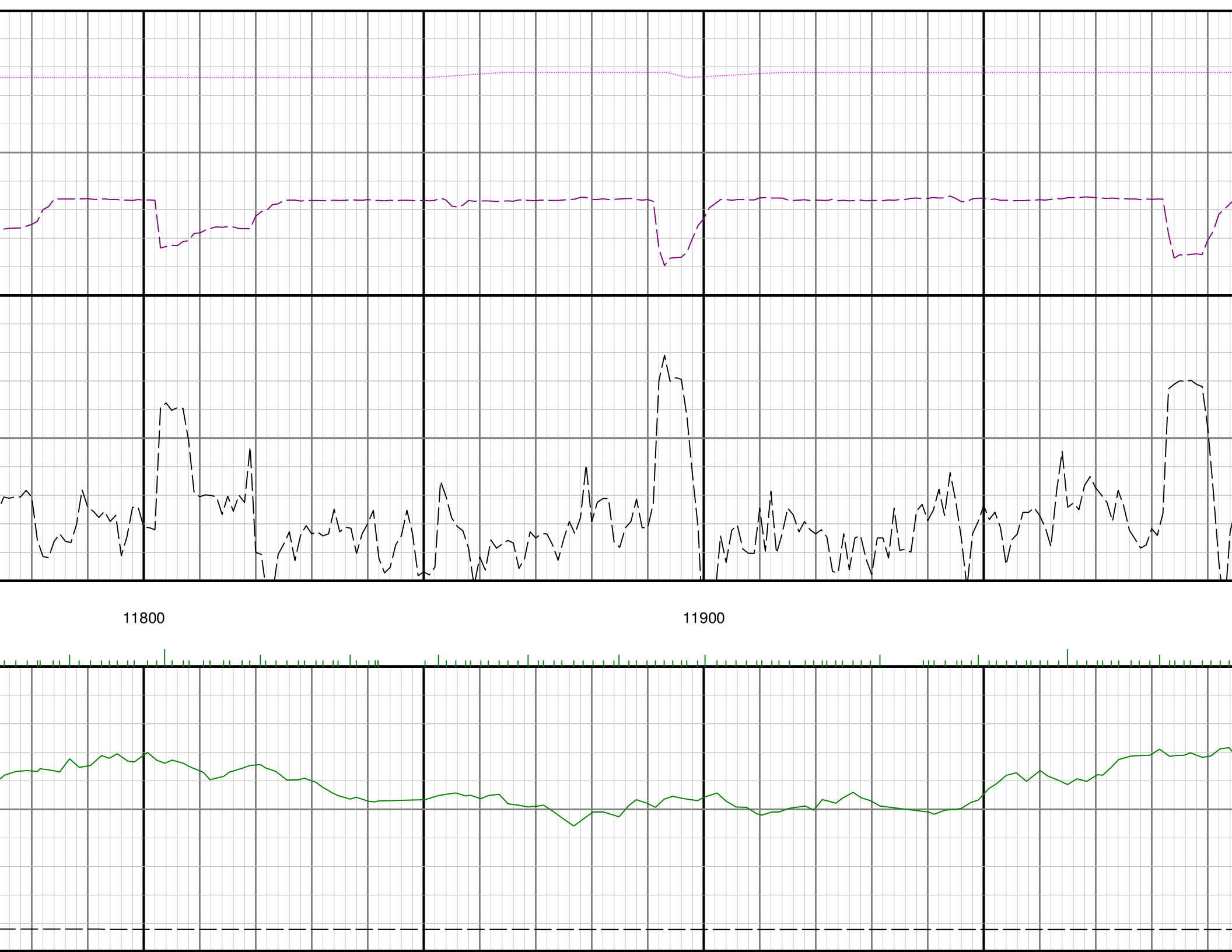
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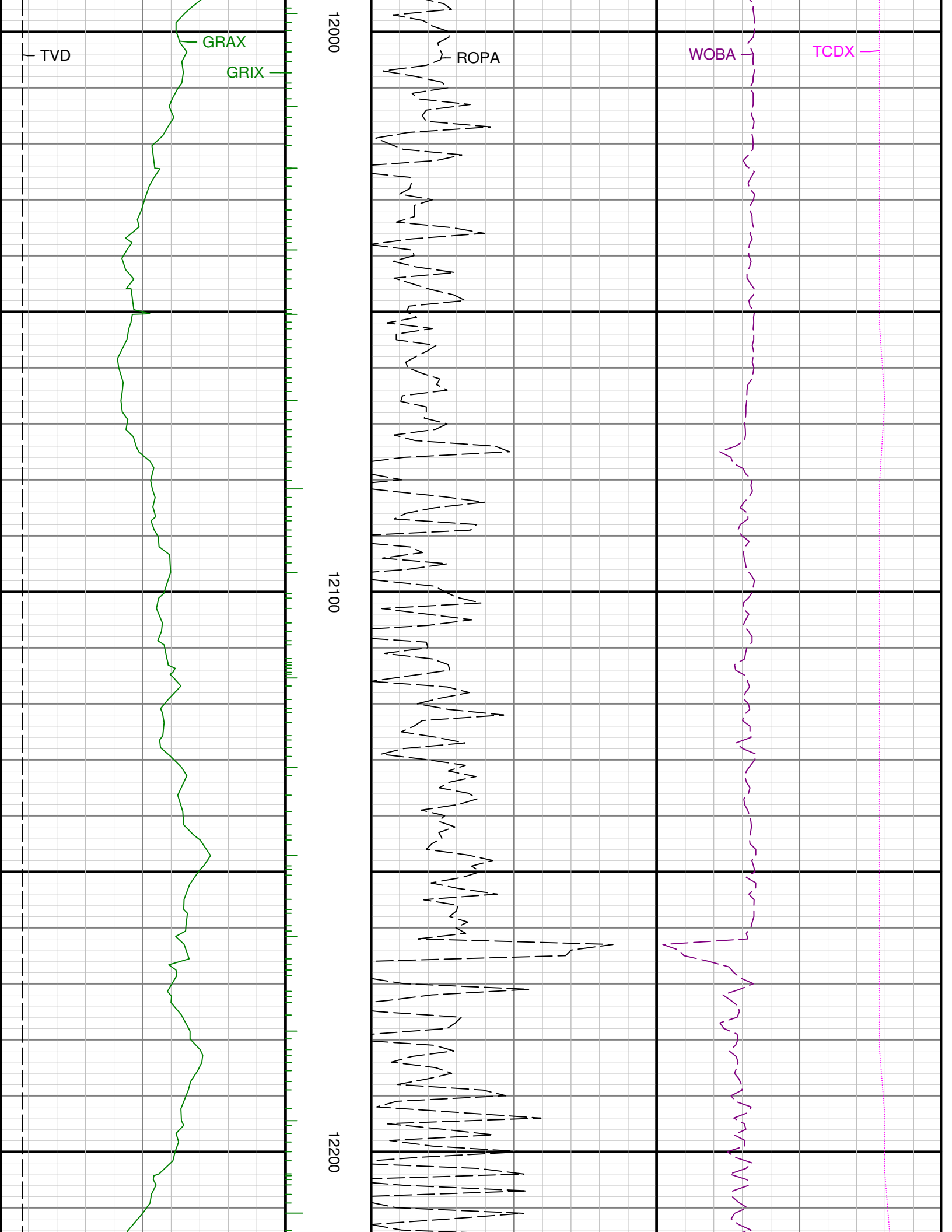
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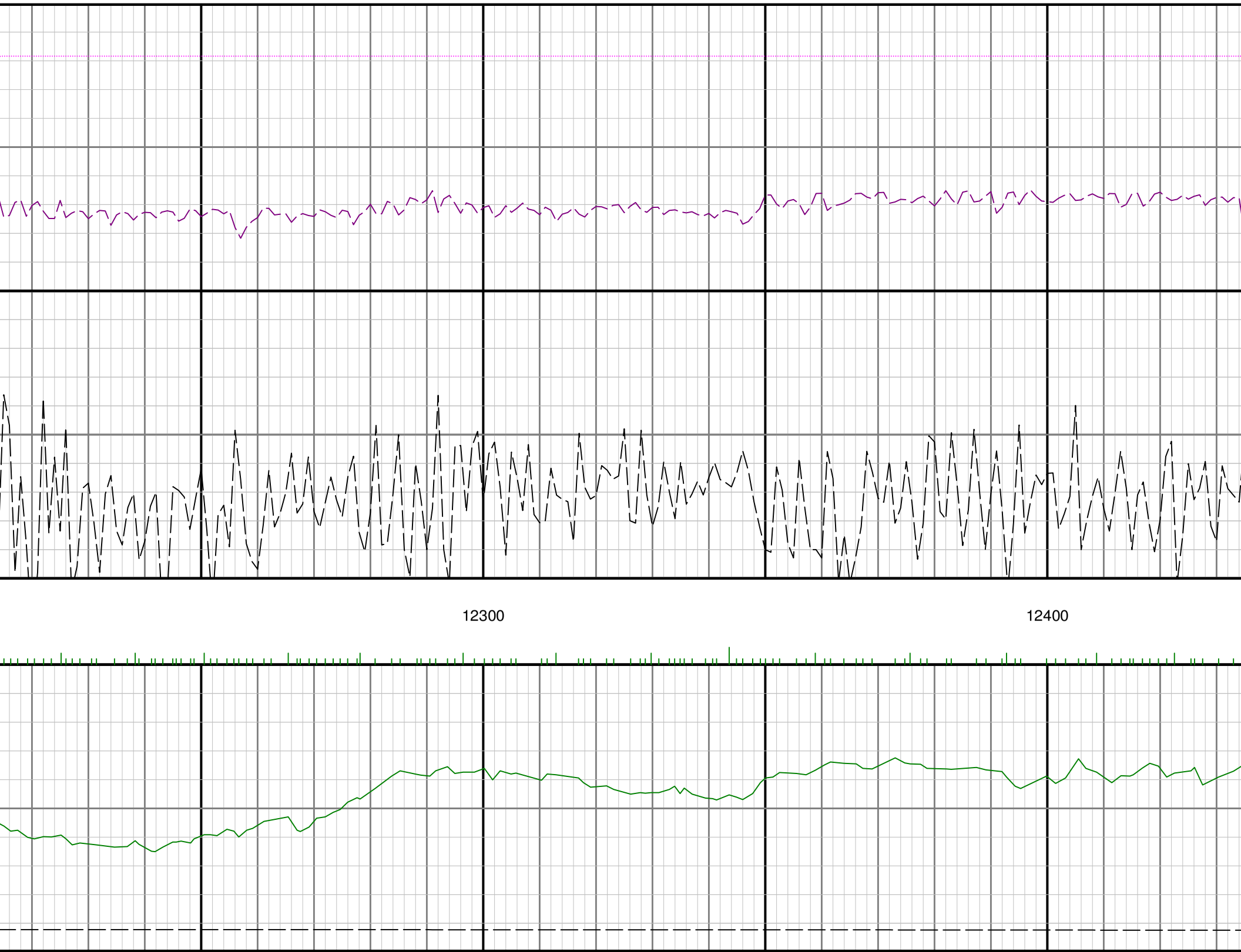
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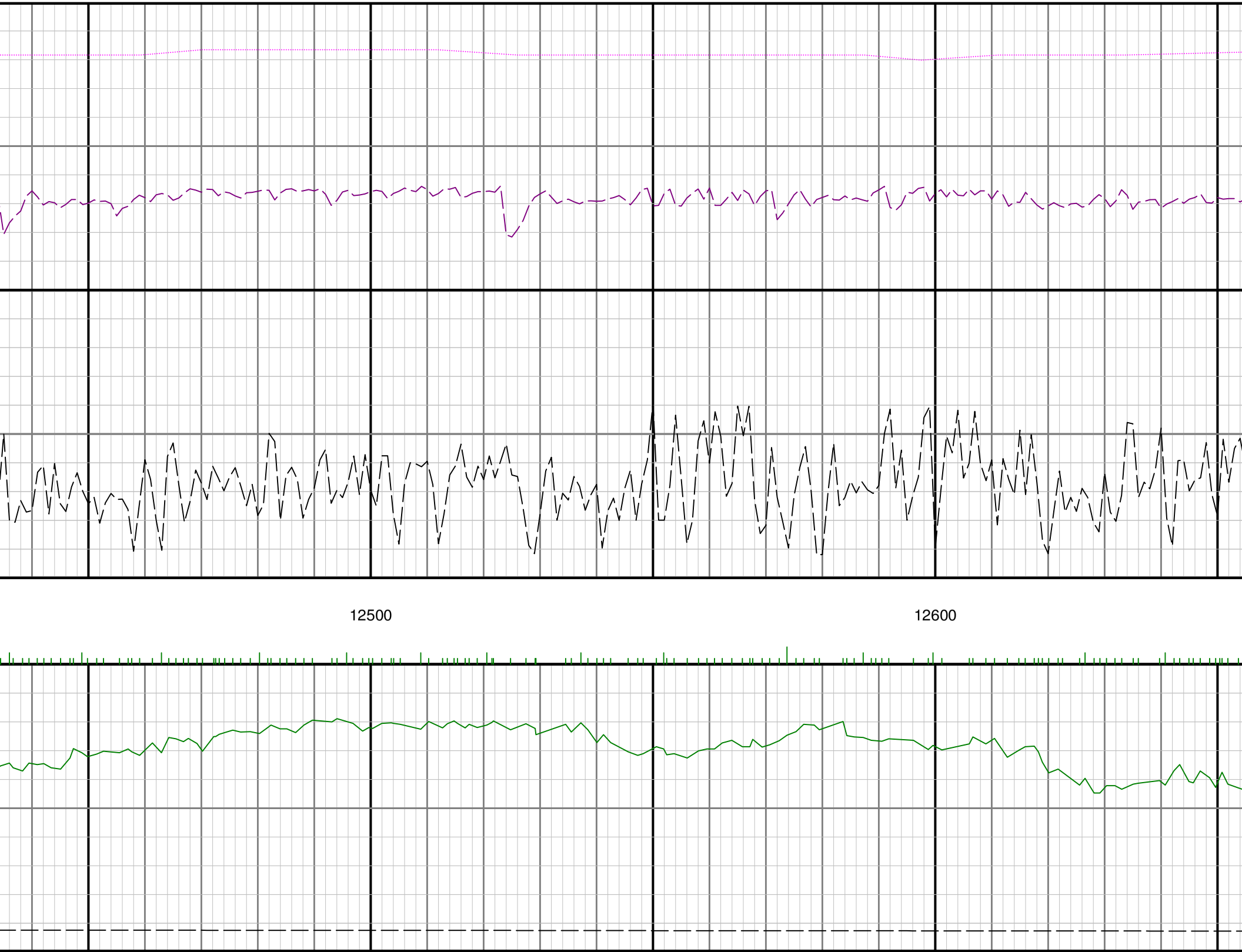
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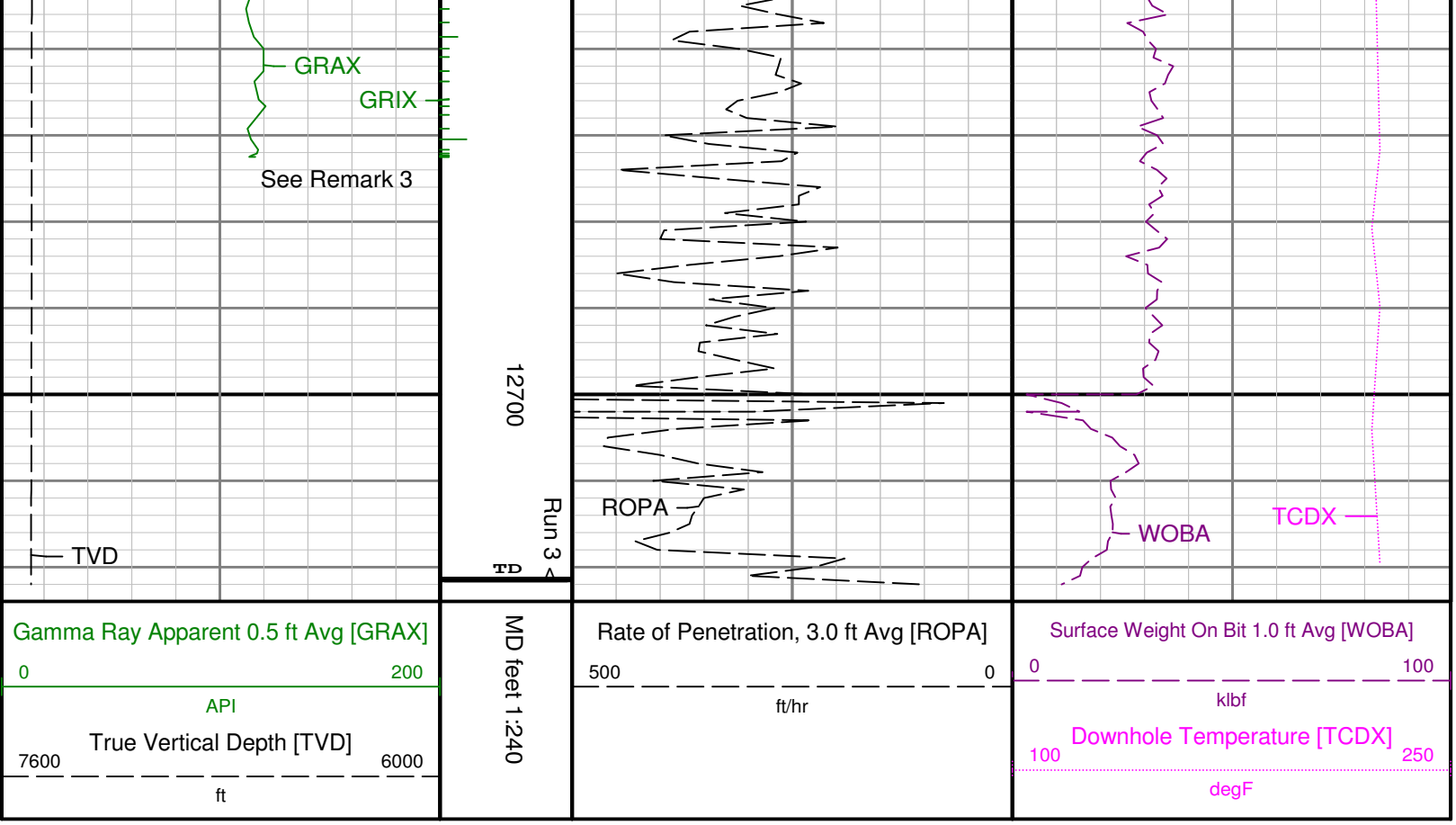
GRAX
GRIX
See Remark 3
TVD
12700
Run 3
ROPA
WOBA
TCDX
Gamma Ray Apparent 0.5 ft Avg [GRAX]
0
200
API
True Vertical Depth [TVD]
7600
6000
ft
MD feet 1:240
Rate of Penetration, 3.0 ft Avg [ROPA]
500
0
ft/hr
Surface Weight On Bit 1.0 ft Avg [WOBA]
0
100
klbf
Downhole Temperature [TCDX]
100
250
degF