Realtime Log

BAKER HUGHES

Natural Formation Evaluation
Gamma Ray

Scale:

1:240
MEASURED DEPTH

Company: Kerr-McGee Oil & Gas Onshore L

Well: Hansen State 1N-36HZ

Field: Weld County (Kerr-McGee)

Region: Continental US **State** : Colorado

Status:
Final Print

API Number:
051233919400

Surface Location:
Latitude: 40° 11' 15.846" N
Longitude: 104° 58' 37.790" W
Section: 35 TWN: 3N Range 68E

Other Services:
Directional
VSS

Permanent Datum (P.D.):	Mean Sea Level	Elevation:	4952.00 ft.
Log Measured From:	Kelly Bushing	4952.00 ft.	Above P.D.
Depth Reference:	Driller's Depth		

Elevations:
KB: N/A ft.
DF: 4952.00 ft.
GL: 4927.00 ft.

Interval Logged		Dates		Magnetic Field Reference			
Top:	6538 ft.	Date From:	31/Oct/14	Dip Angle:	66.83 °	Azi Reference North:	True
Bottom:	16711 ft.	Date To:	08/Oct/15	Total		Mag to Reference	
		Spud Date:	31/Oct/14	Field Strength:	52644.0 nT	North Correction:	8.66 °

Borehole Record

Hole Size	From	To
8.750 in.	1133 ft.	7500 ft.
6.125 in.	7500 ft.	16769 ft.

Casing Record

Size	Weight	From	To
9.625 in.	36.00 lb/ft	Surface	1123 ft.
7.000 in.	26.00 lb/ft	Surface	7490 ft.

Mud Record

Type	From	To
Water Based	1133 ft.	14769 ft.

Deviation Record

Hole Size	Interval	Inc / Az (Start)	Inc / Az (End)
8.750 in.	6367 ft.	0.5 / 238.1 °	80.5 ° / 84.0 °
6.125 in.	9269 ft.	91.1 ° / 89.3 °	92.0 ° / 84.6 °
		/	/
		/	/
		/	/
		/	/

Acquisition System	Software Version		Other	
Advantage	2.20U4	Rig: / Contractor:	Xtreme 24	/ Xtreme Drilling
PATS	6.4.1.34	Job No:	6689561	
		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	3.000	Steerable	6538	7441	1133	7500	31/Oct/2014 15:30	02/Nov/2014 08:30	27.1
2	2	2	6.125	PDC	3.000	Steerable	7441	6711	7500	16769	03/Nov/2014 08:30	08/Nov/2014 12:00	85.9

Crew

Name	Arrive	Depart	Name	Arrive	Depart	Name	Arrive	Depart
	Wellsite	Wellsite		Wellsite	Wellsite		Wellsite	Wellsite
Andrew Overbey	31/Oct/14	08/Nov/14	Abdullah AlDossary	31/Oct/14	08/Nov/14	Adam Harris	01/Nov/14	08/Nov/14
Klye Ritter	31/Oct/14	01/Nov/14	Dustin Zink	31/Oct/14	08/Nov/14			

Mnemonics

Curve	Description	Units
GRAX	Gamma Ray Apparent, 0.5 ft. Avg.	API
GRTX	Gamma Ray Time Since Drilled	Min.
GRIX	Gamma Ray Density, Points	unitless
GRSI	Gamma Ray Slide Indicator	unitless
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.	K. lbs.

Equipment and Service Data

LWD Run No.	Tool	Serial Number	Measurement	Bit Offset (m.)	Max O.D. (in.)	Min I.D. (in.)
1	DIR	12323378	Directional	60.39	6.750	2.938
1	SRIG	11734848	Gamma	57.01	6.750	2.938
2	DIR	13026213	Directional	59.85	4.750	2.250
2	SRIG	12673191	Gamma	56.47	4.750	2.250

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 1 utilized 6 3/4 inch NaviGamma services (Gamma Ray and Directional) behind an 8 3/4 inch bit and steerable assembly from 1133 to 7500 ft MD (1133 to 7144 ft TVD).

(2) Baker Hughes INTEQ run 2 utilized 4 3/4 inch NaviGamma services (Gamma Ray and Directional) behind a 6 3/4 inch bit and steerable assembly from 7500 to 16769 ft MD (7144 to 7194 ft TVD).

(3) Depth measurements obtained from a depth control system not supplied or operated by Baker Hughes. Due to the lack of control by Baker Hughes logging engineers, depth calibrations and measurements could not be independently verified.

(4) A sliding indicator is shown to the left side of track 1 as a heavy line and corresponds to the Gamma Ray sensor offset from the bit.

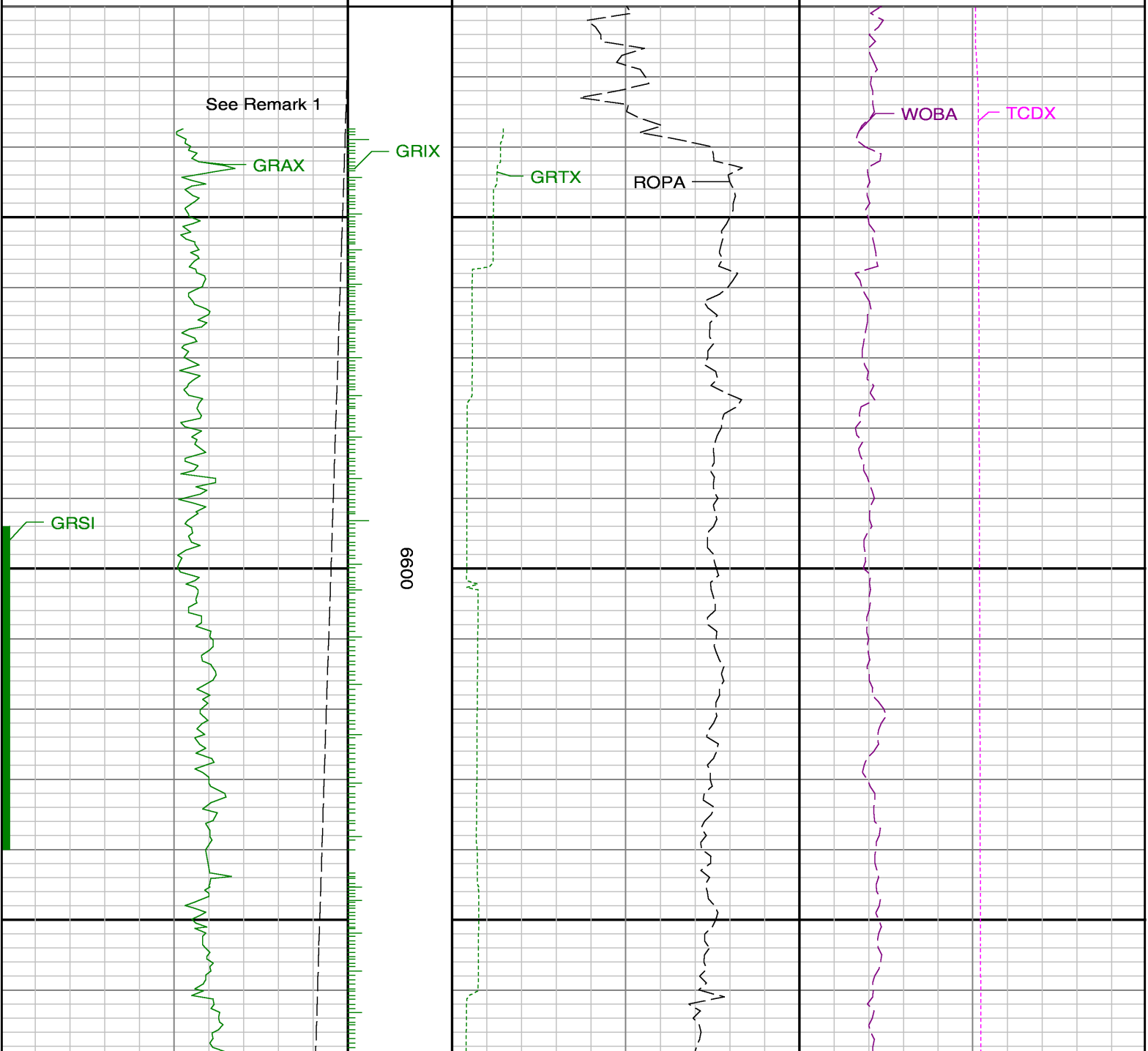
Remarks

Number	Measured Depth (ft.)	Hole Section (in.)	LWD Run No.	Remark
1	6538	8.750	1	Began logging Gamma from the top of the build section at 6600 ft MD (6568 ft TVD).
2	7421	8.750	1	The interval from 7421 to 7500 ft MD (7134 to 7144 ft TVD) was logged up to 18 hours after tripping out of hole to pick up a slick lateral assembly for run 2.
3	14440	6.125	2	The interval from 14440 to 14490 ft MD (7190 to 7189 ft TVD) has no gamma logged due to bad decode cause by dwnhole drilling

				dynamics.
4	16711	6.125	2	The interval from 16711 to 16769 ft MD (7197 to 7194 ft TVD) has no gamma logged due to sensor offset from bit at TD.

BAKER HUGHES

Company : Kerr-McGee Oil & Gas Onshore L
Well : Hansen State 1N-36HZ
Interval : 6520.00 - 16775.00 feet
Created : 08/Nov/2014 6:50:59 AM



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6800

6900
7000
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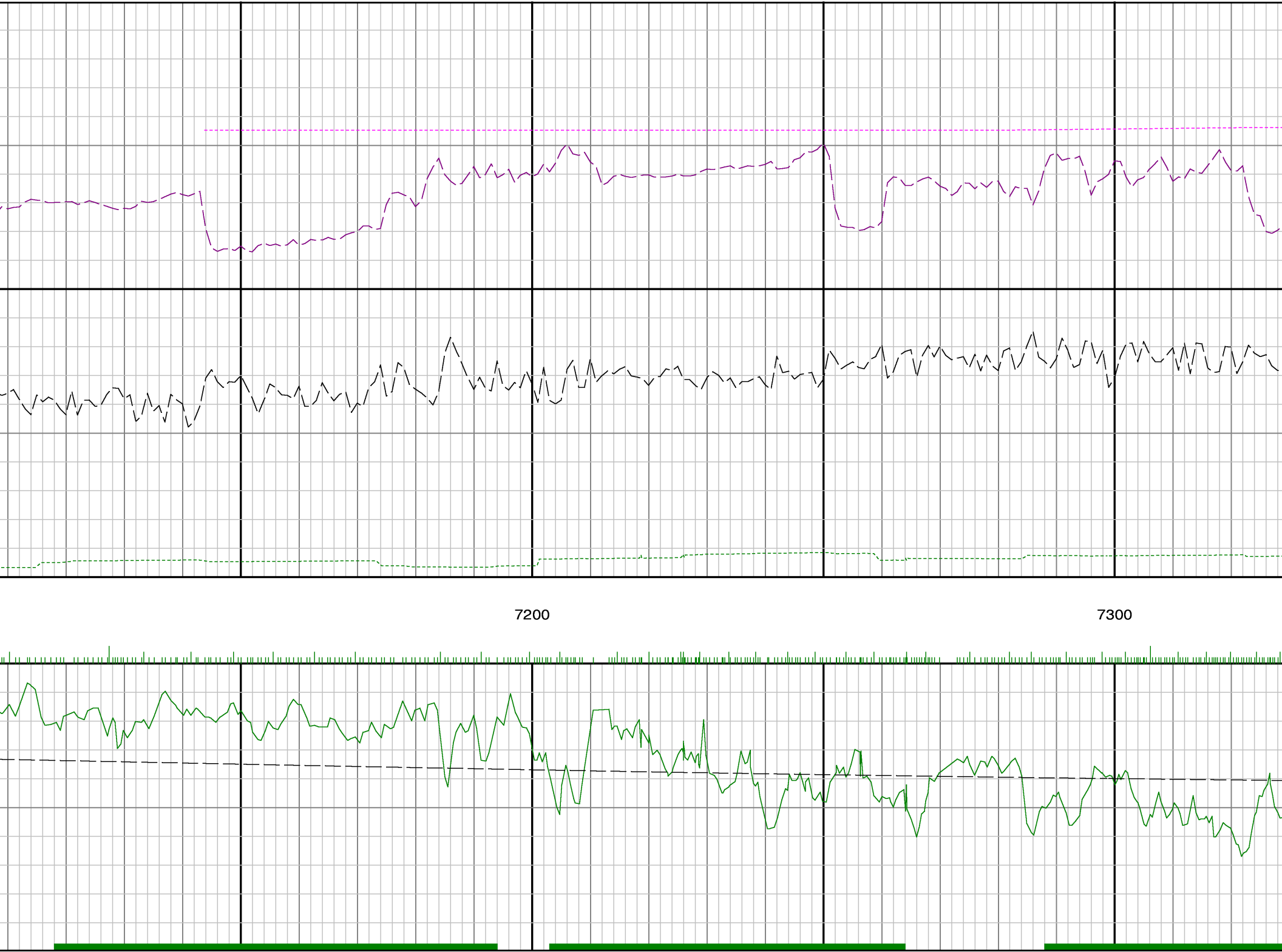
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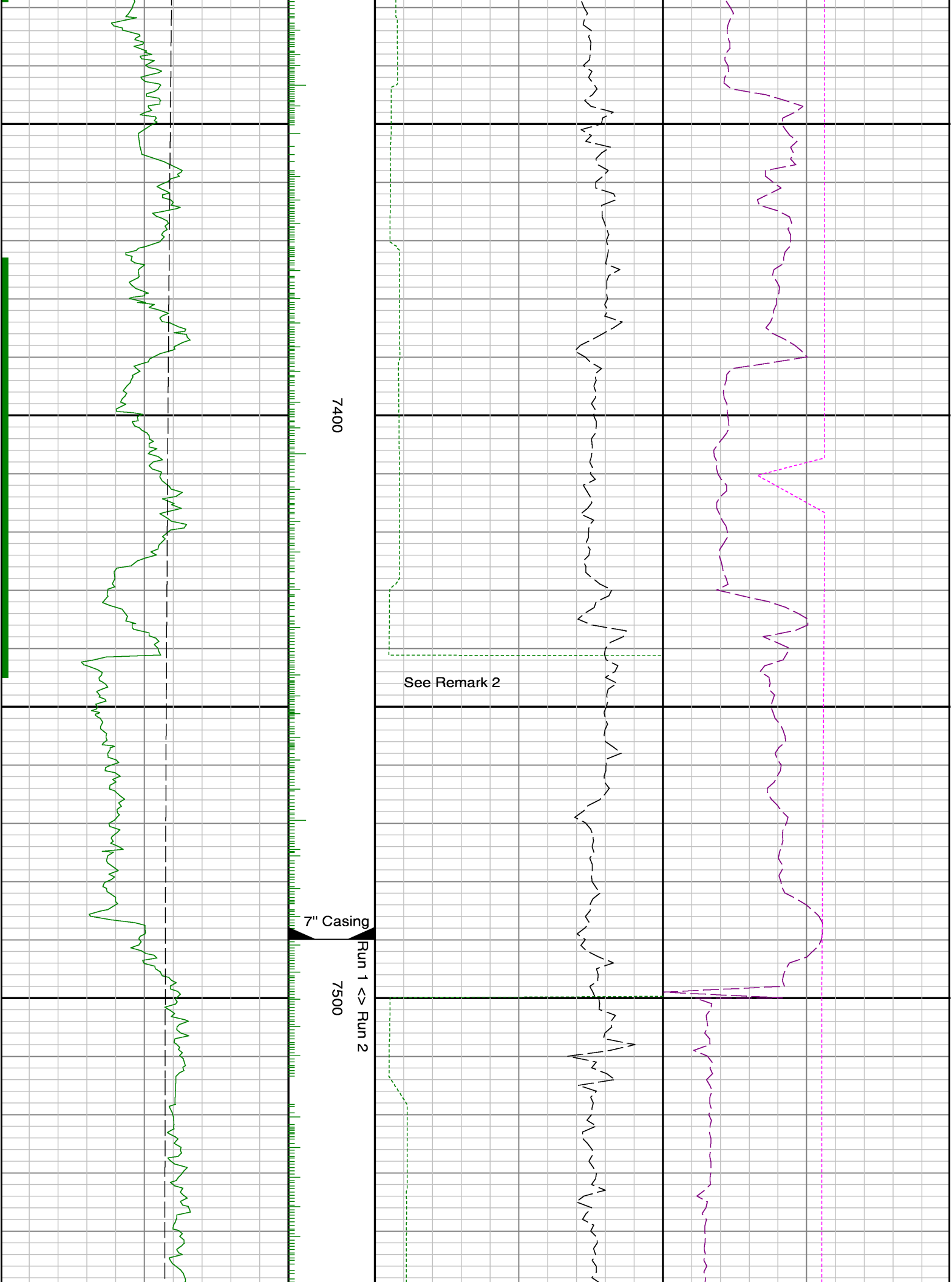
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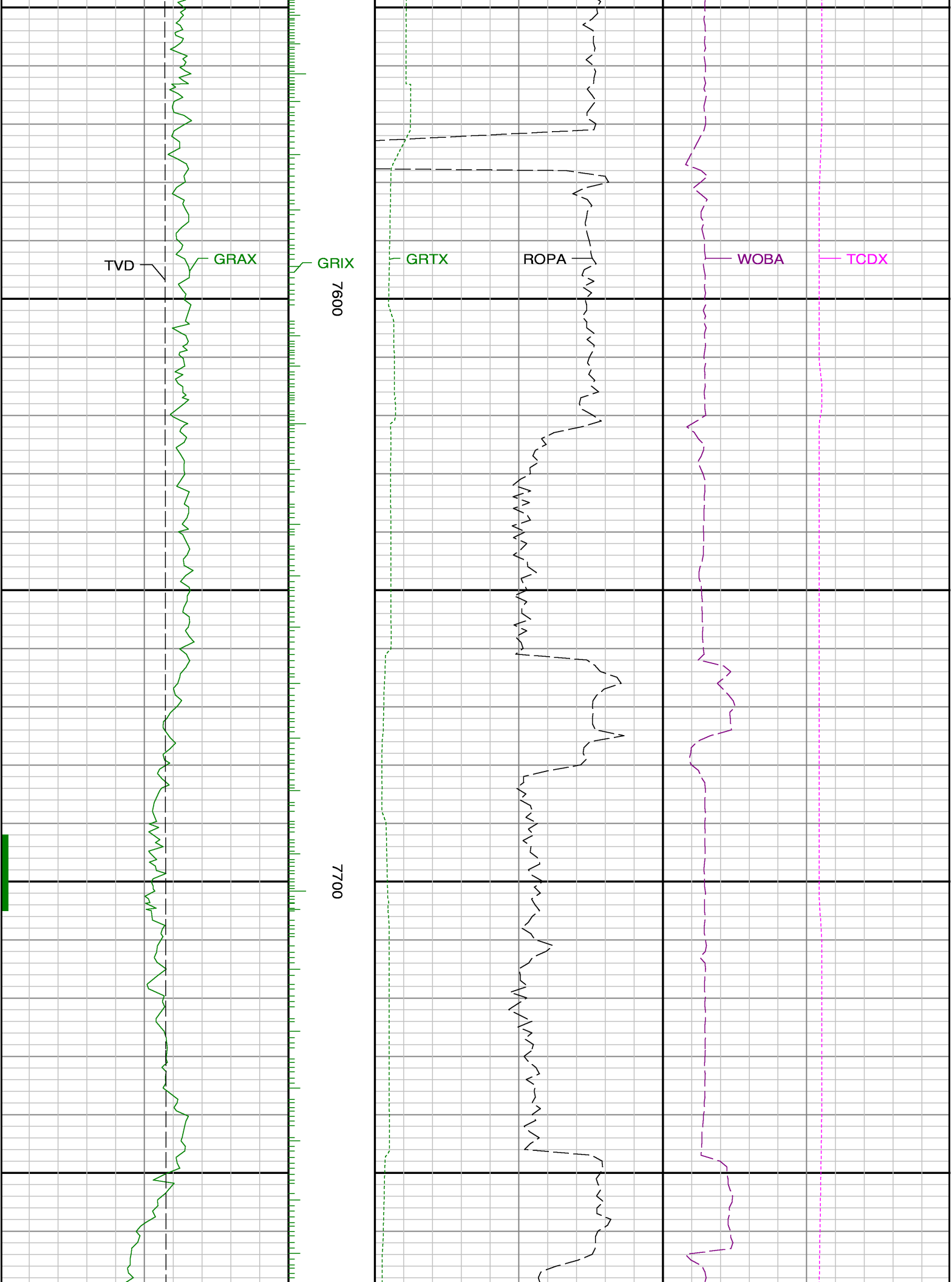
See Remark 2
7" Casing
Run 1 <> Run 2
7500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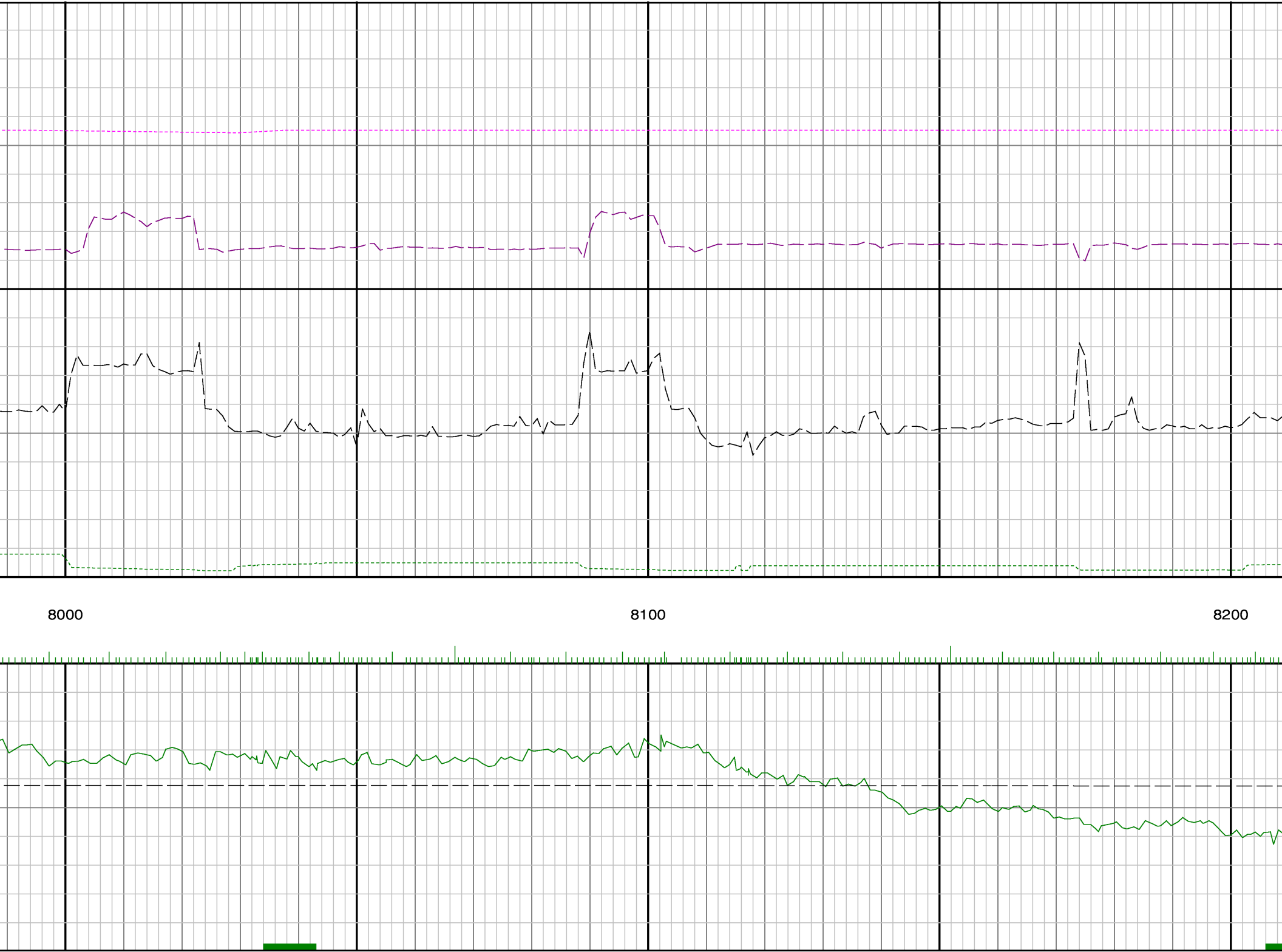
7700

7800
7900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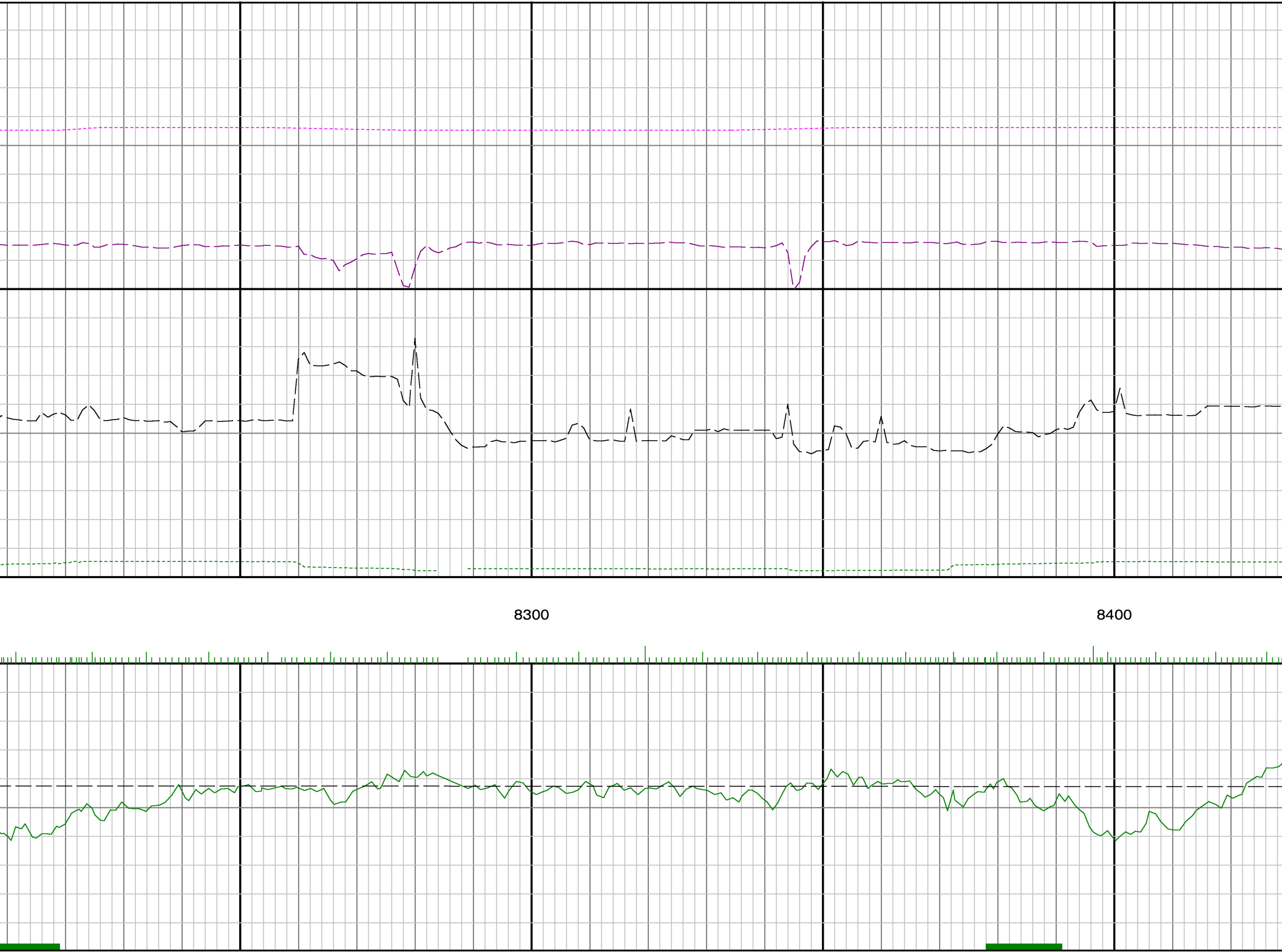
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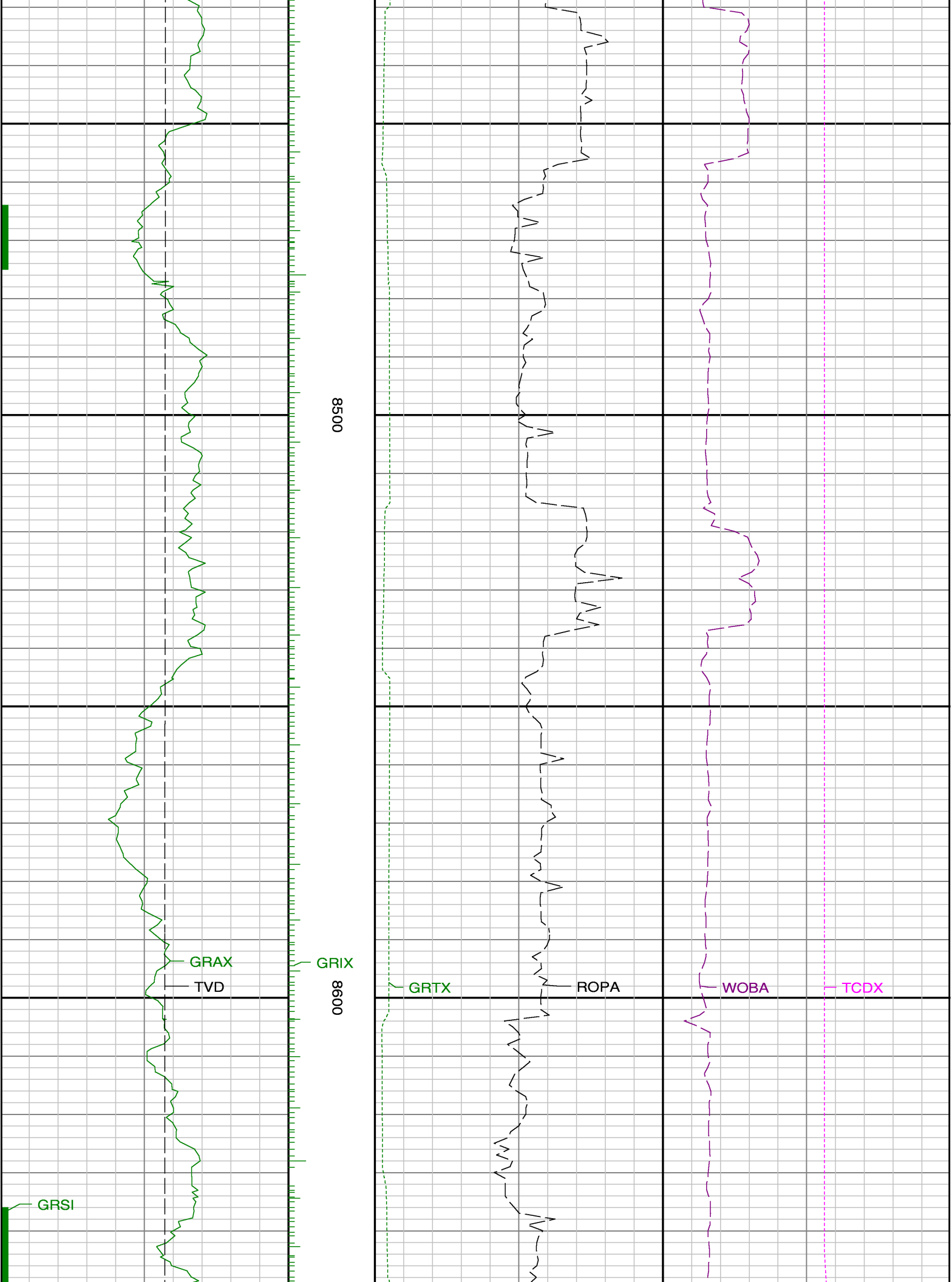
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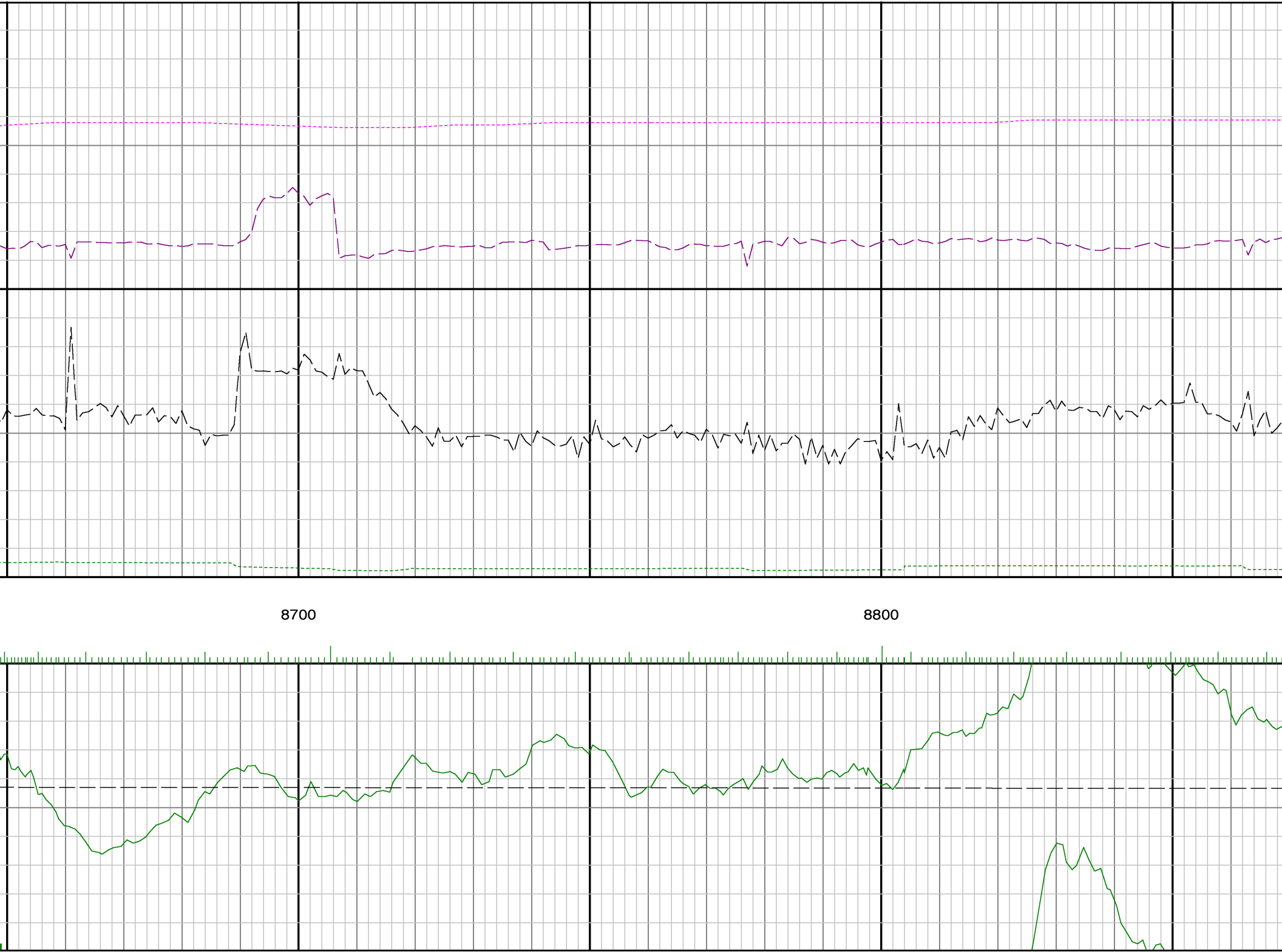
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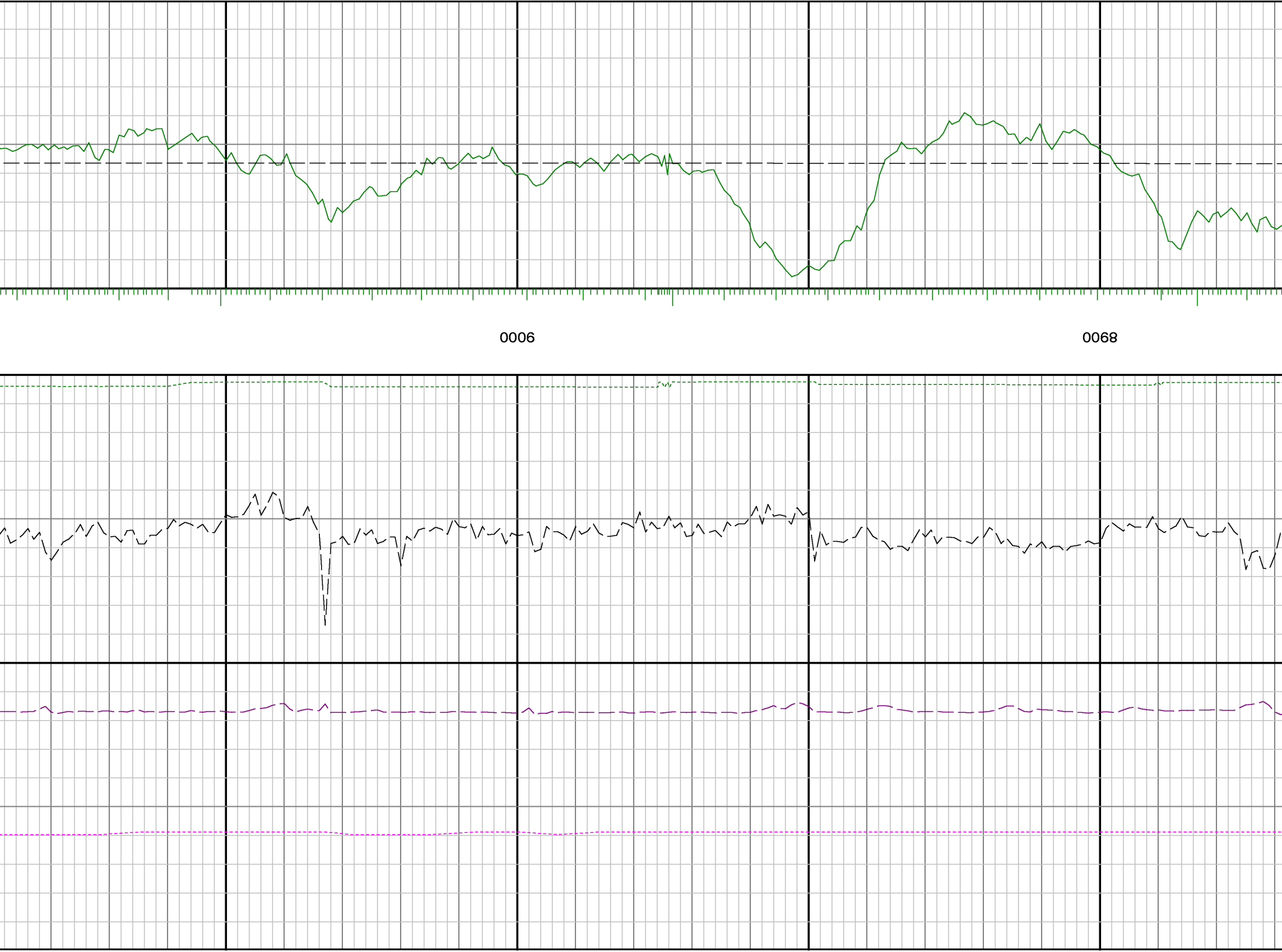
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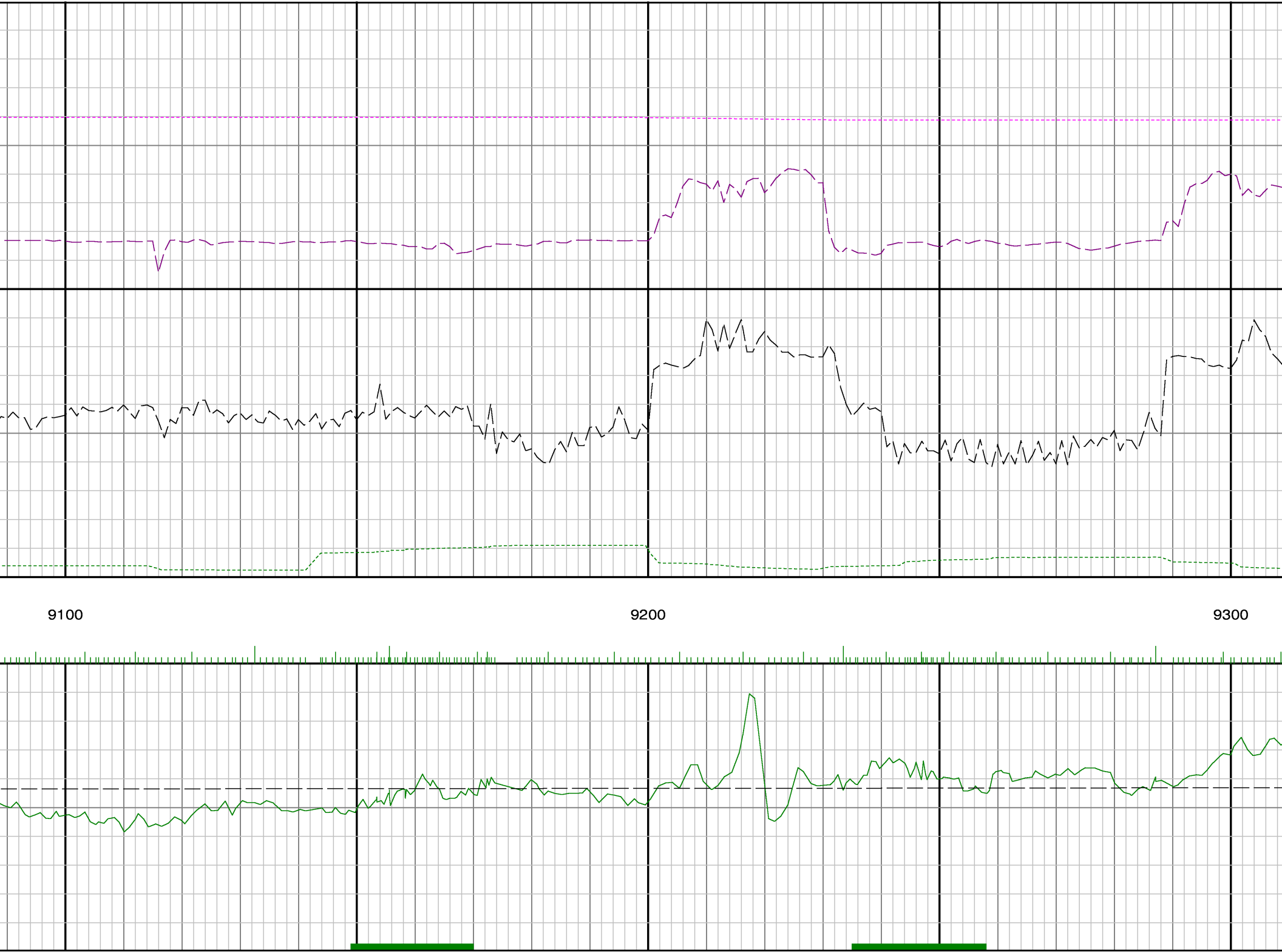
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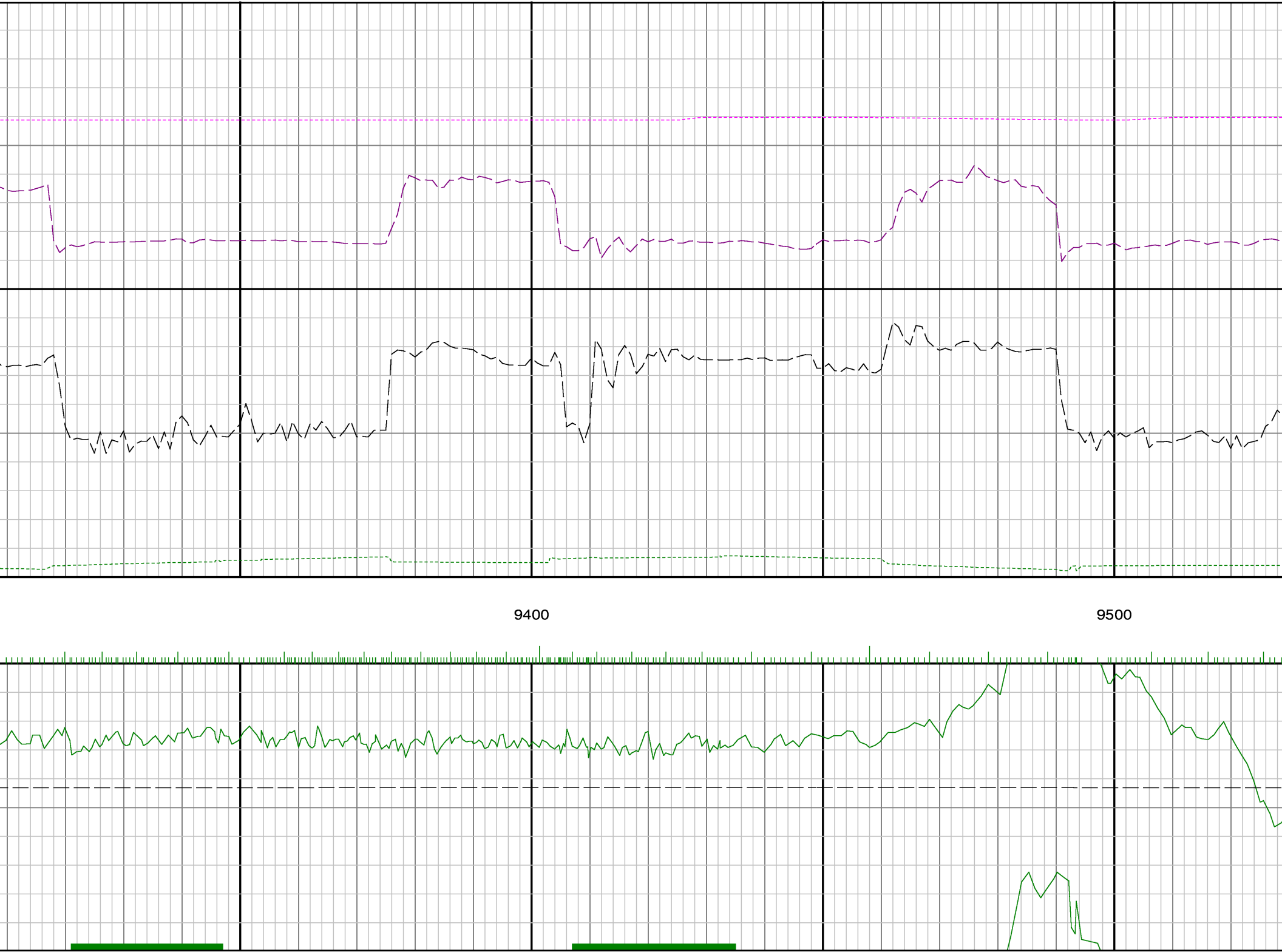
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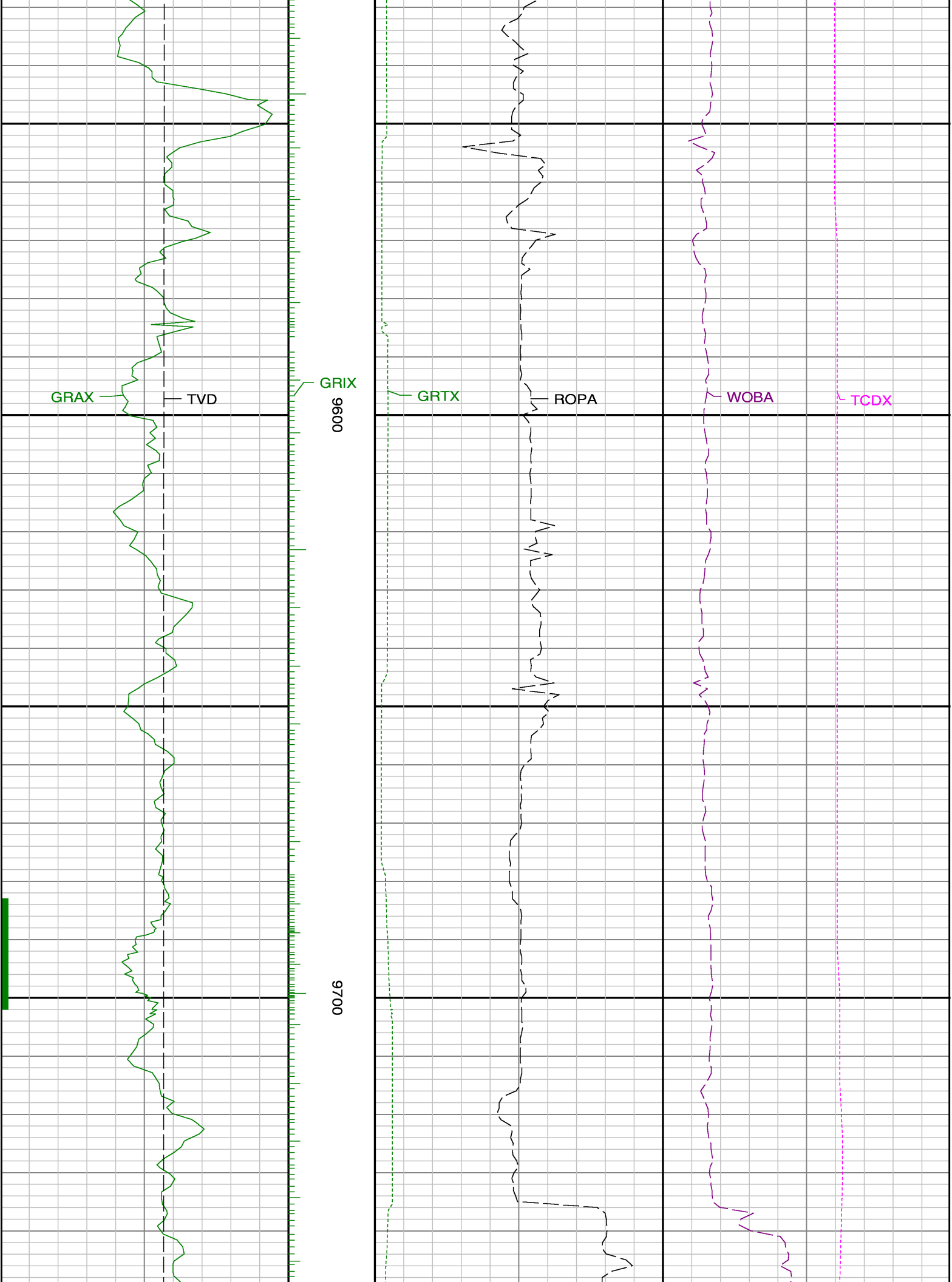
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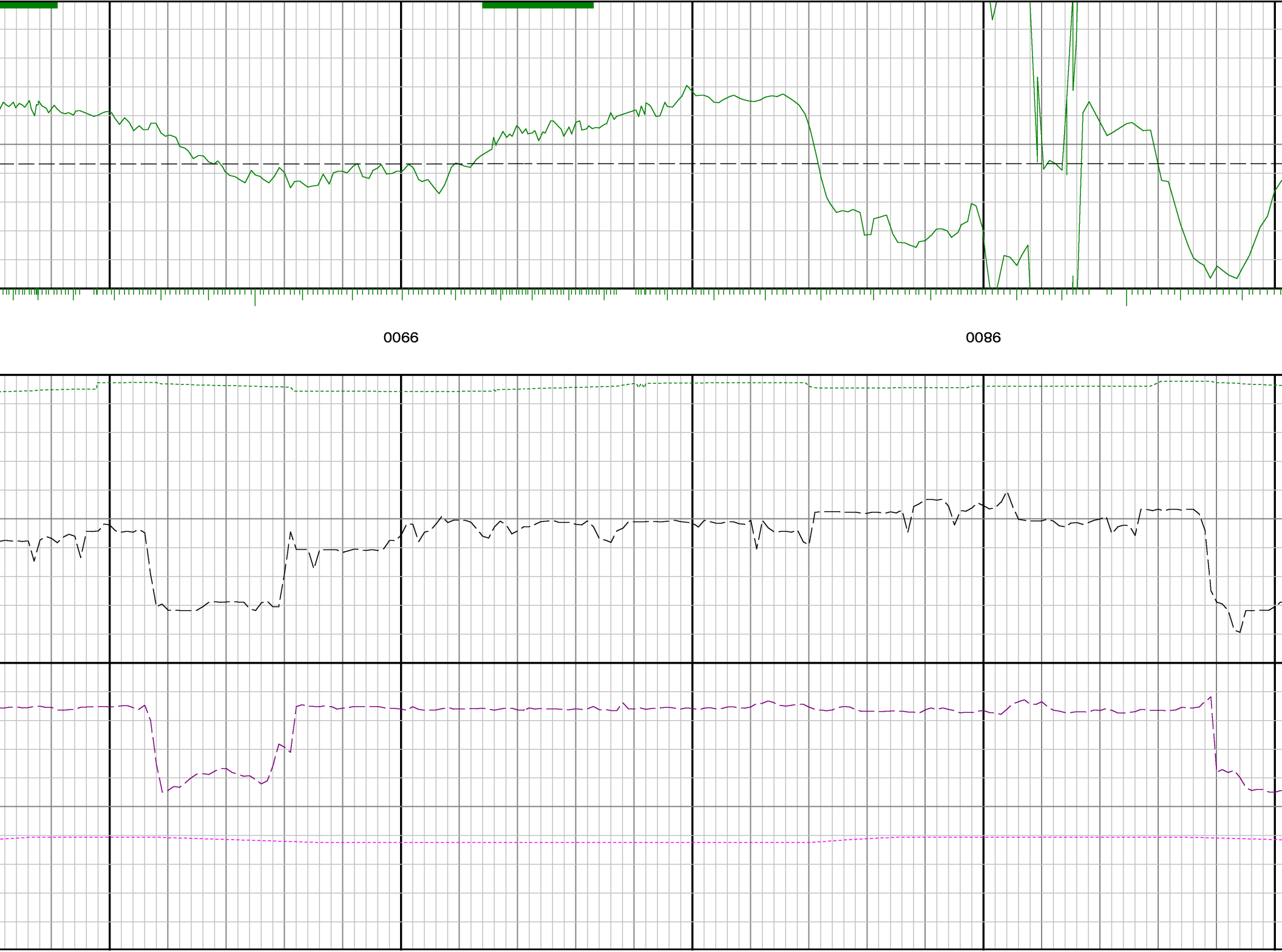
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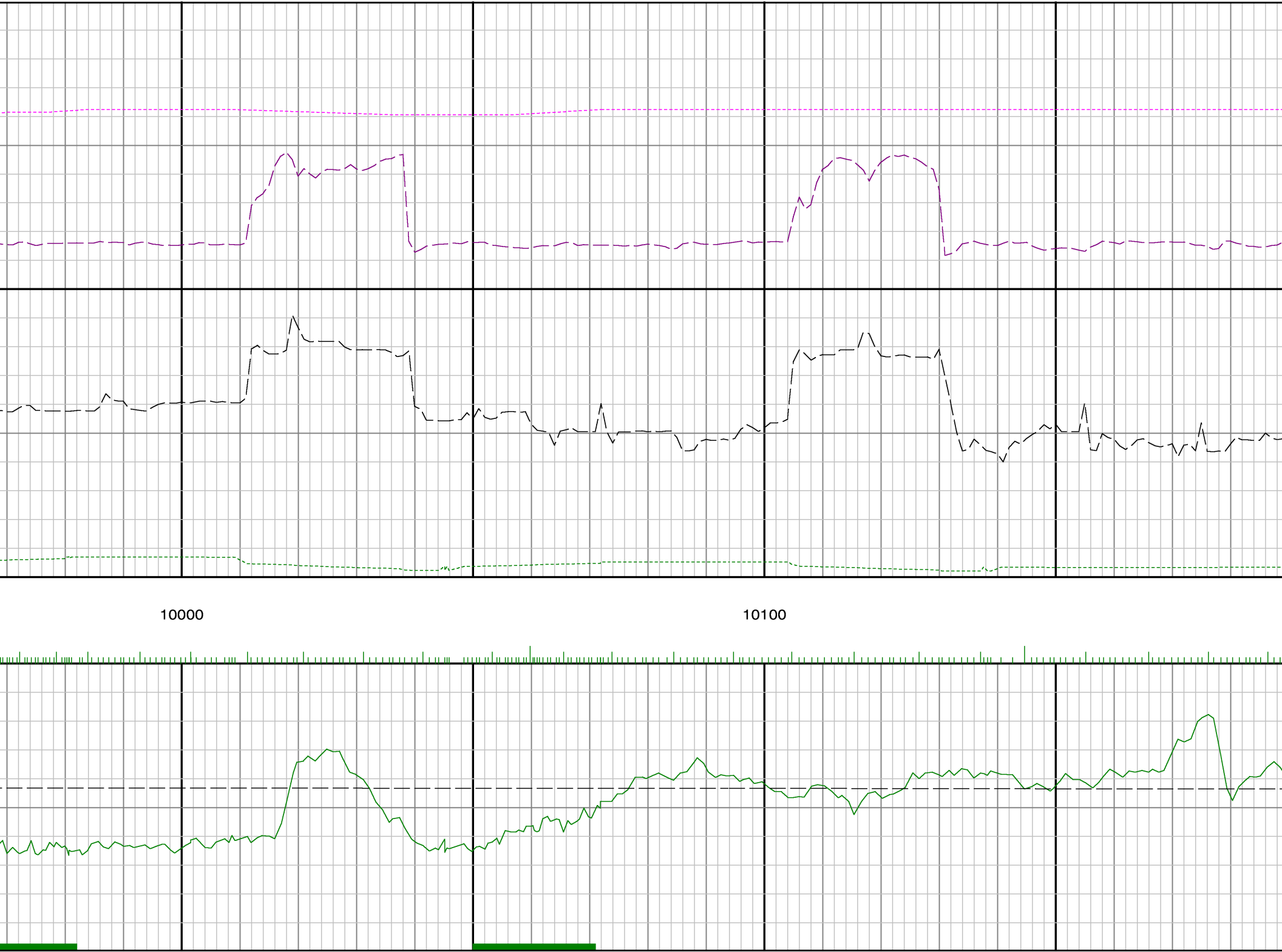
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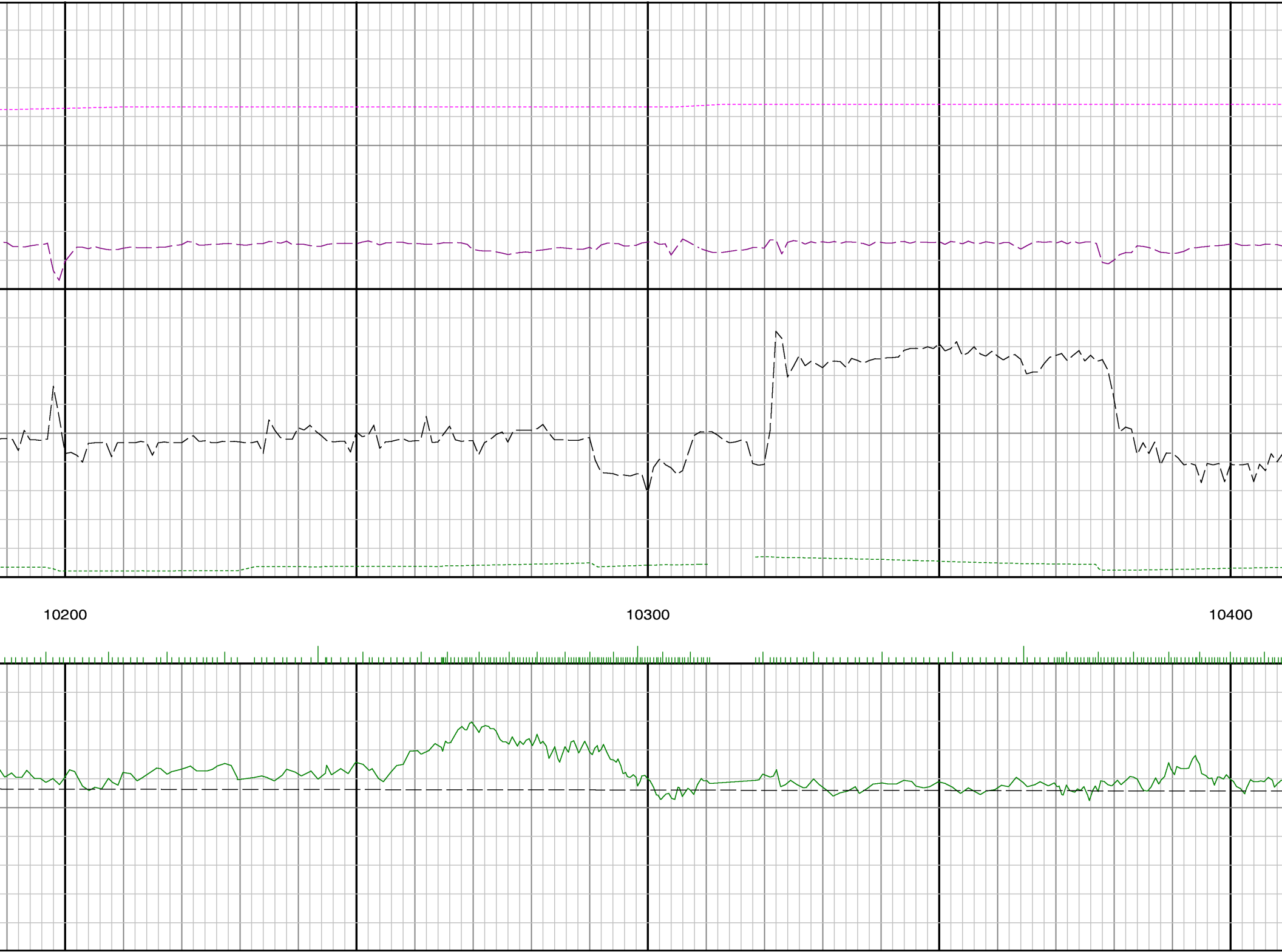
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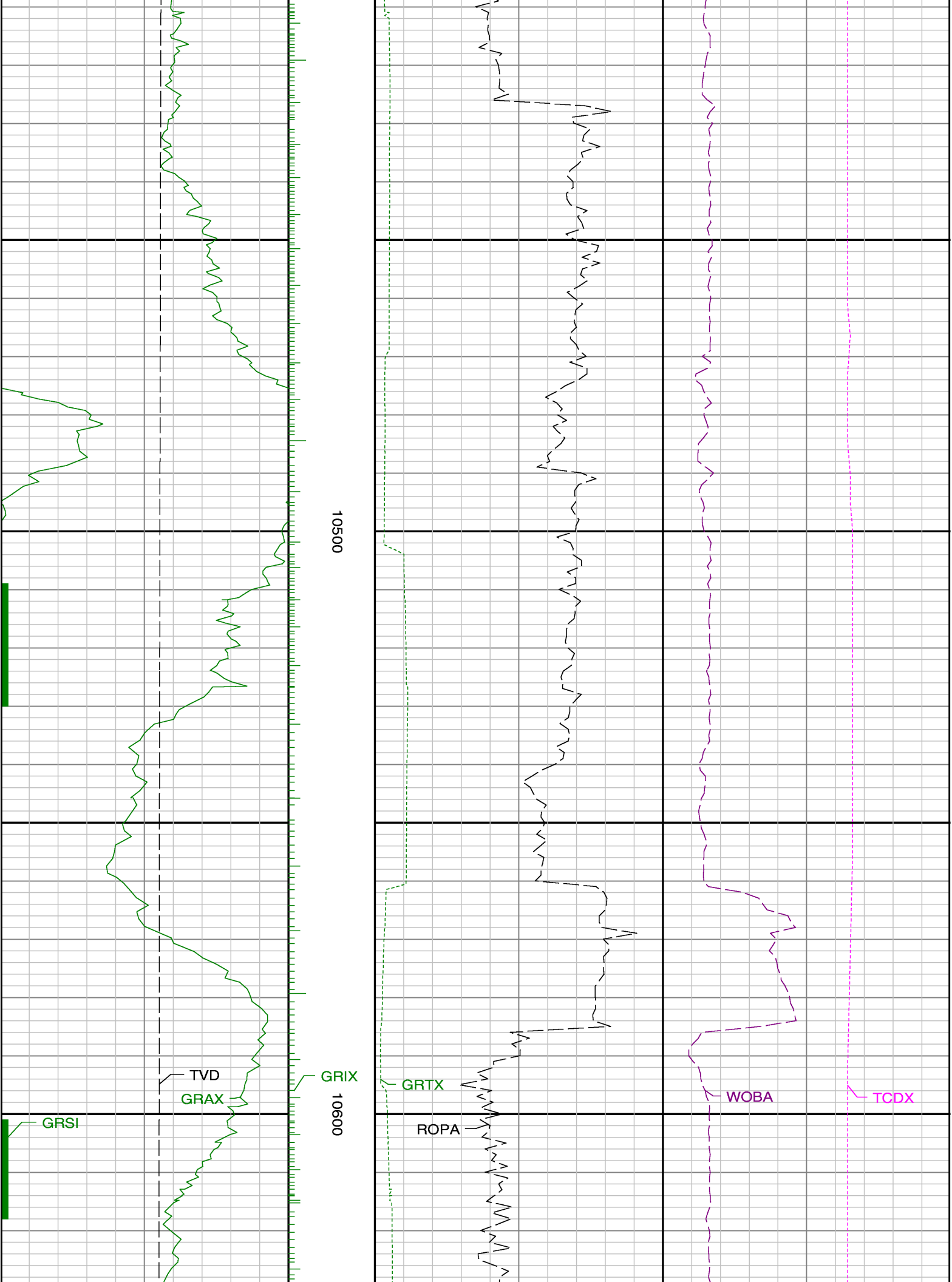
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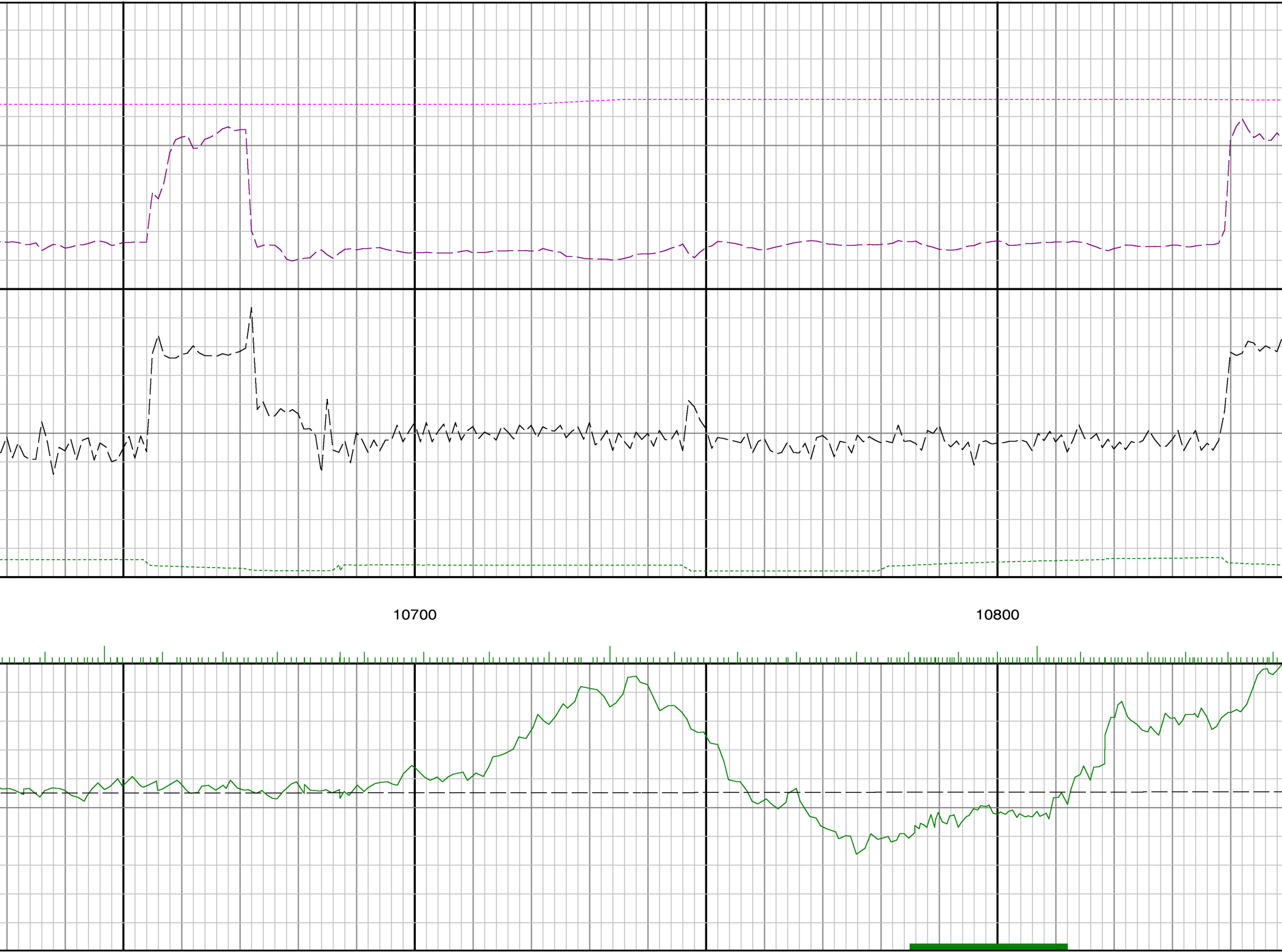
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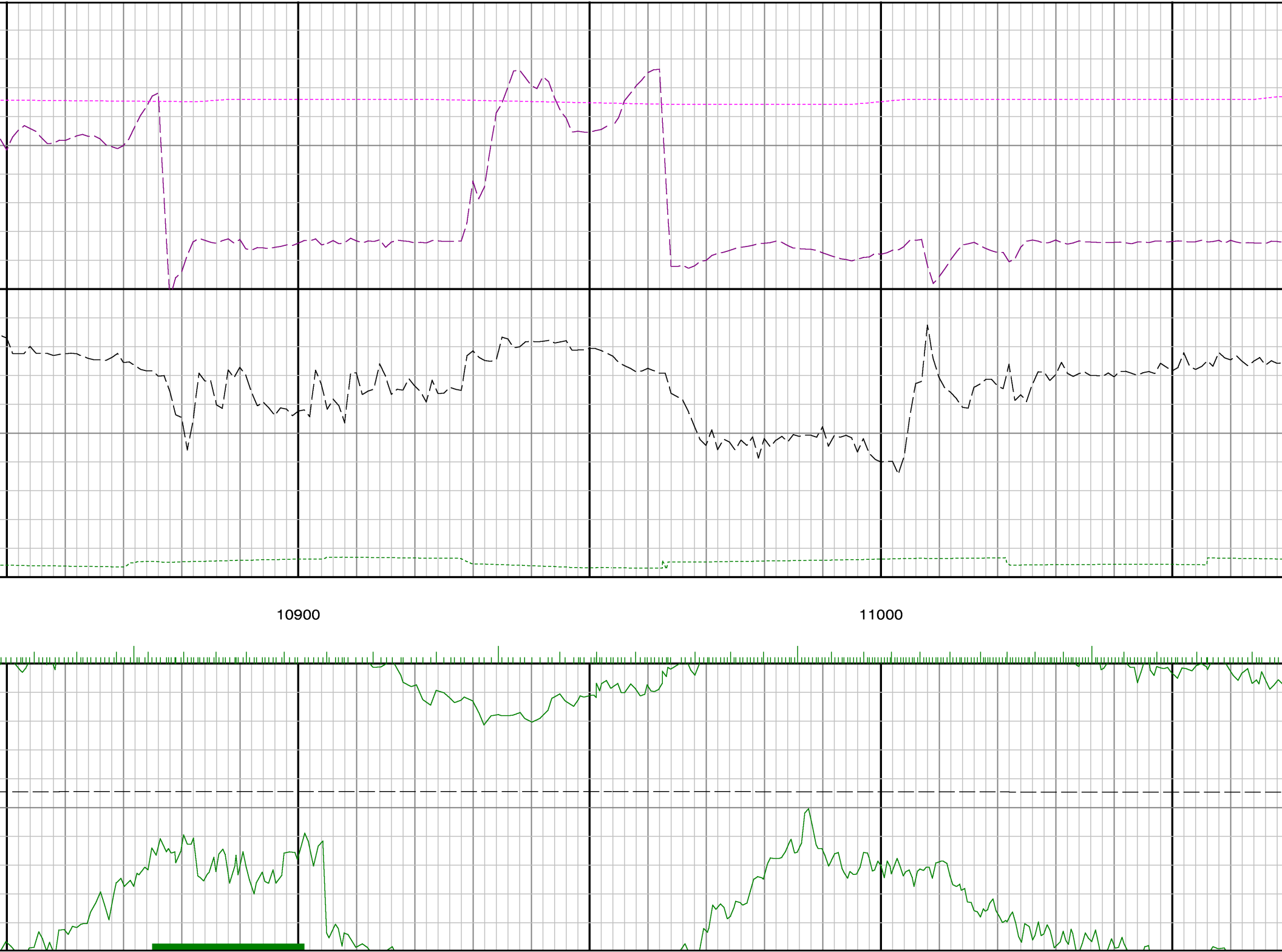
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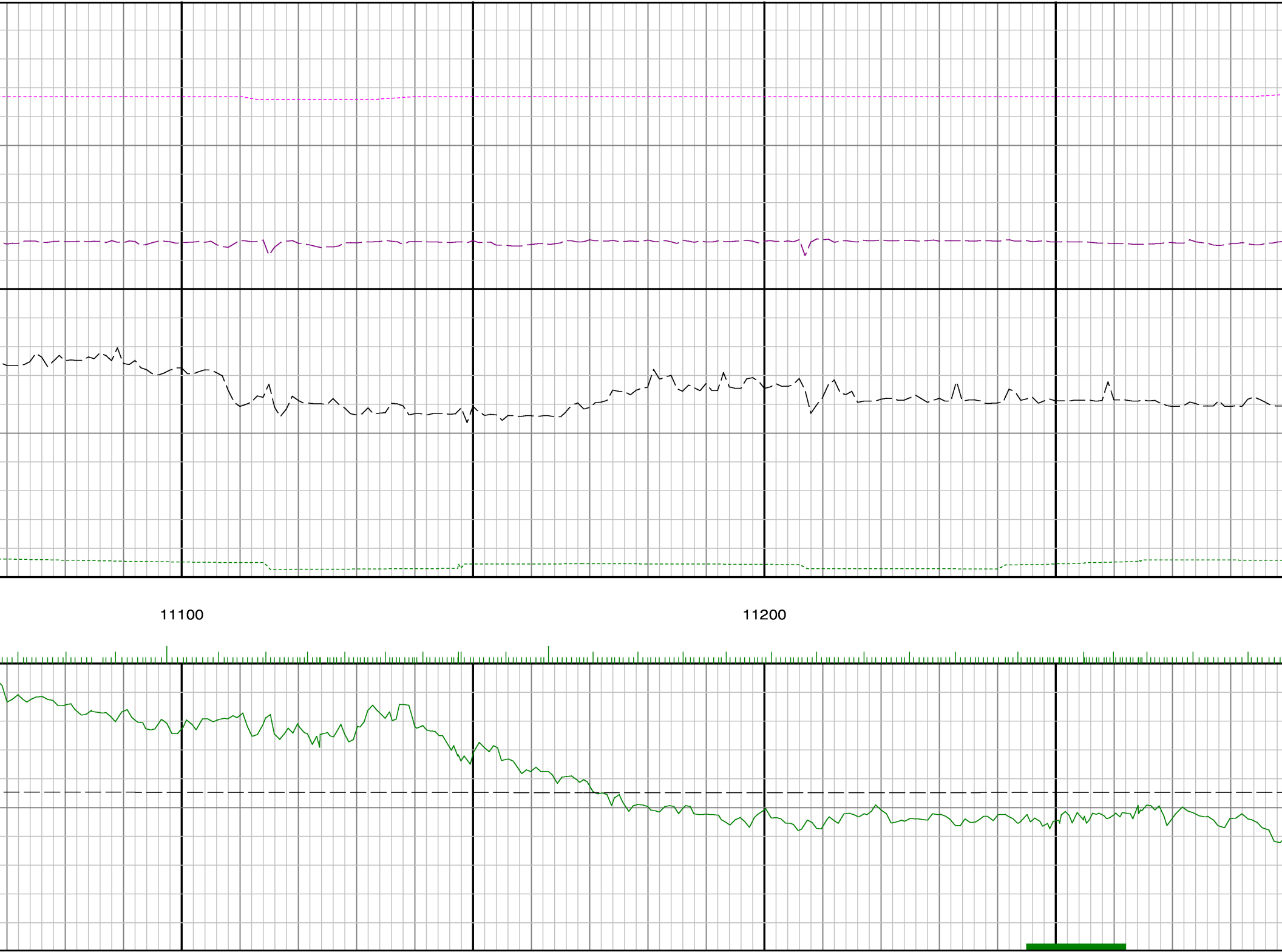
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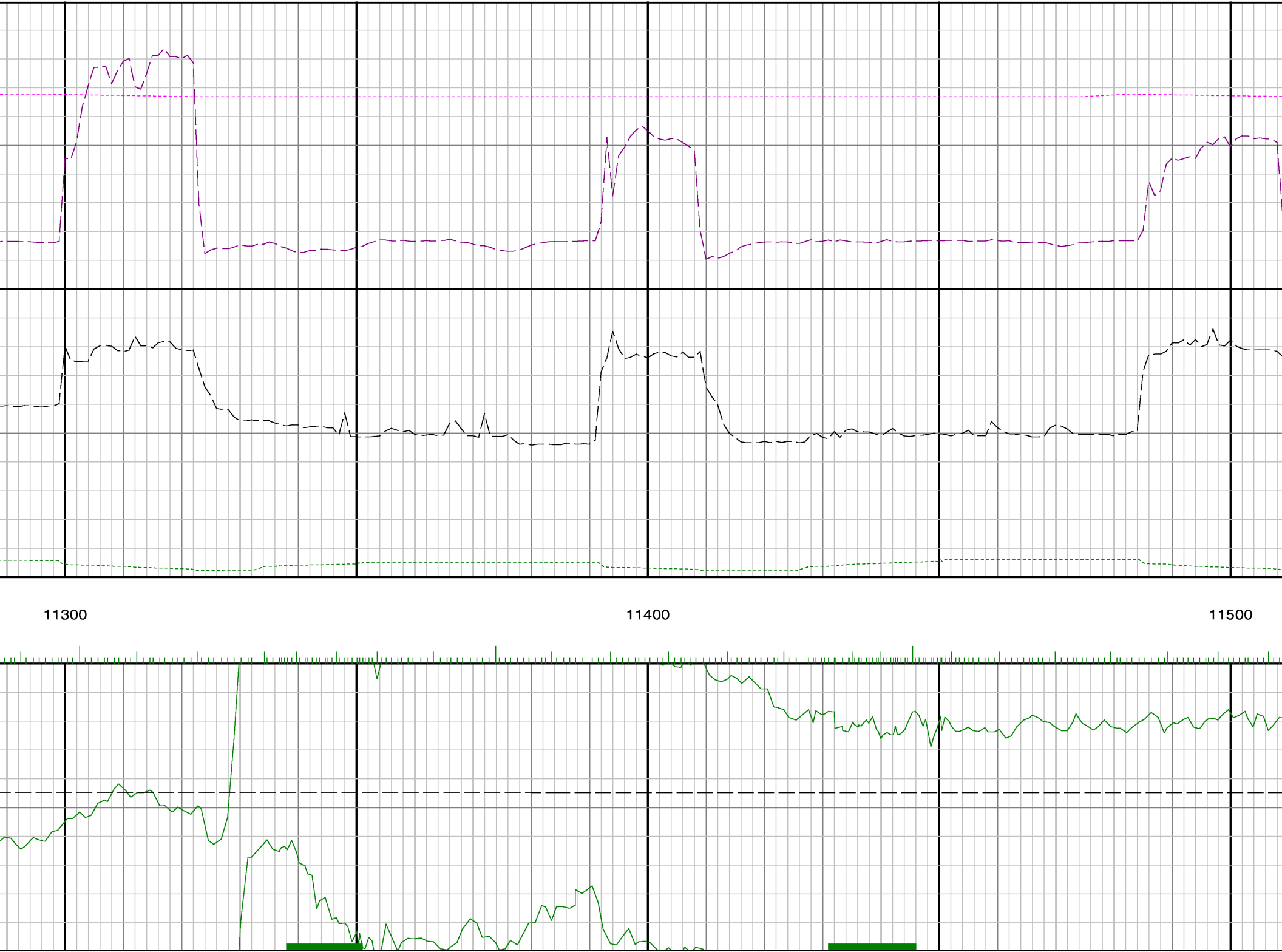
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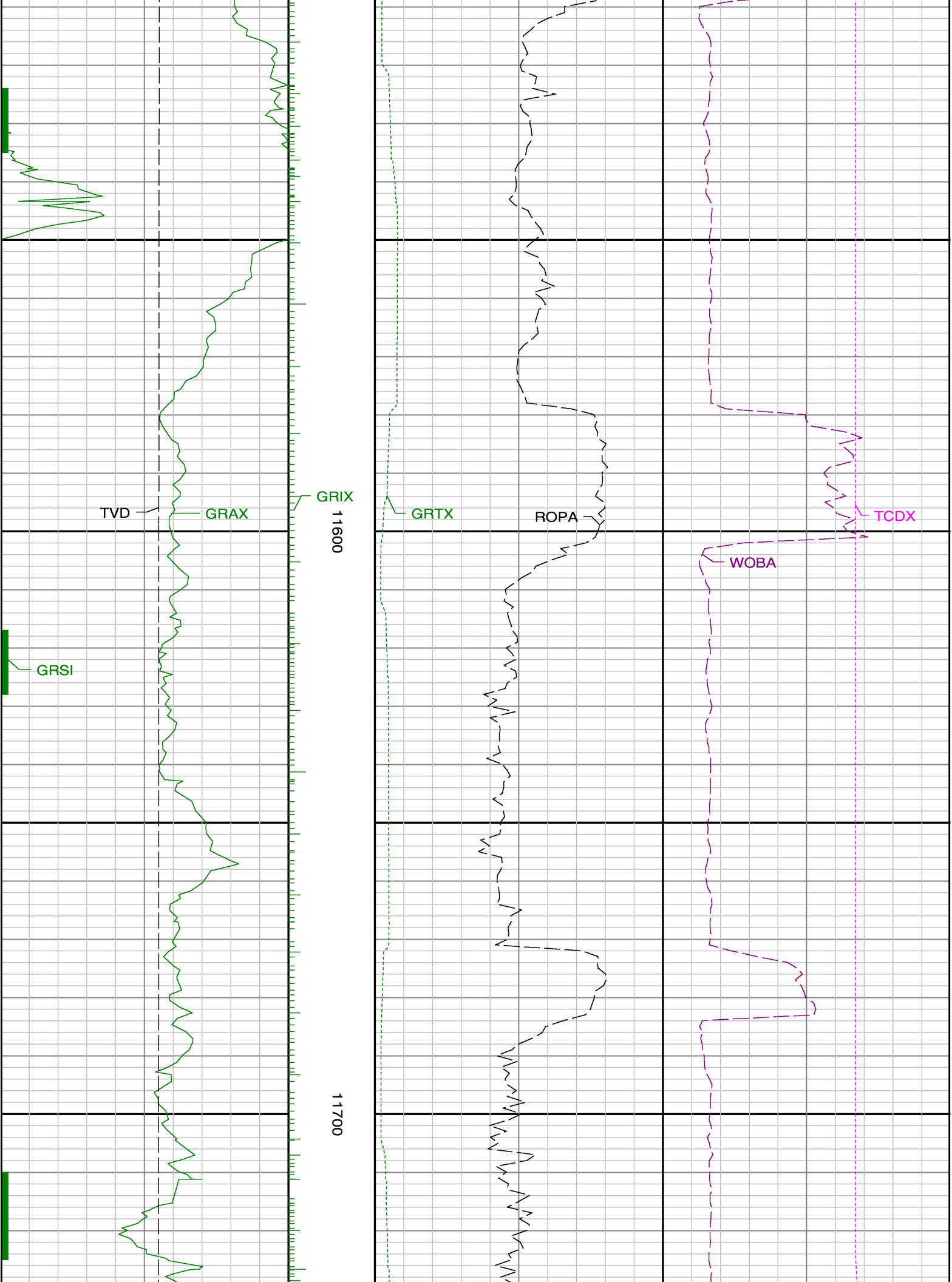
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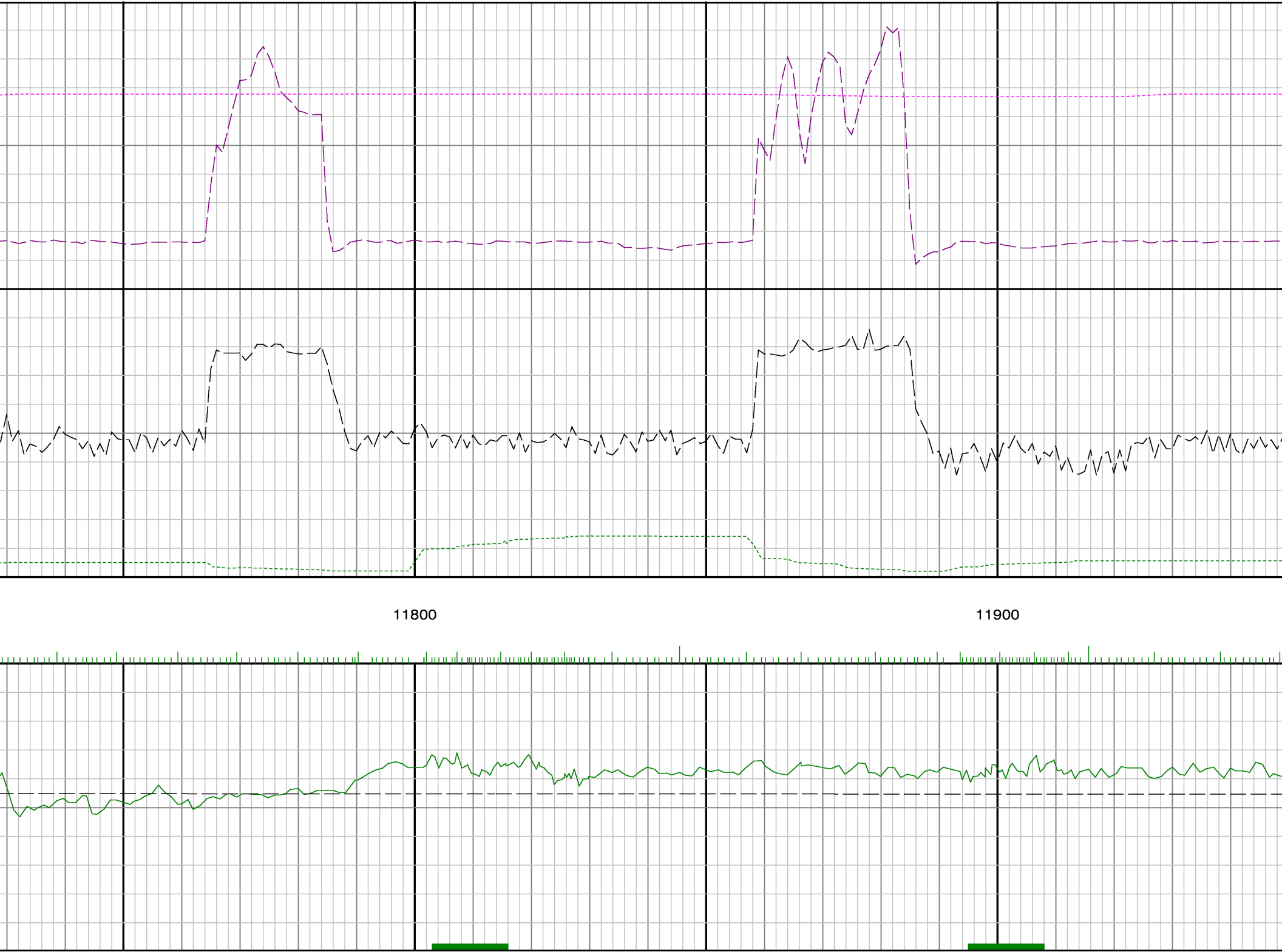
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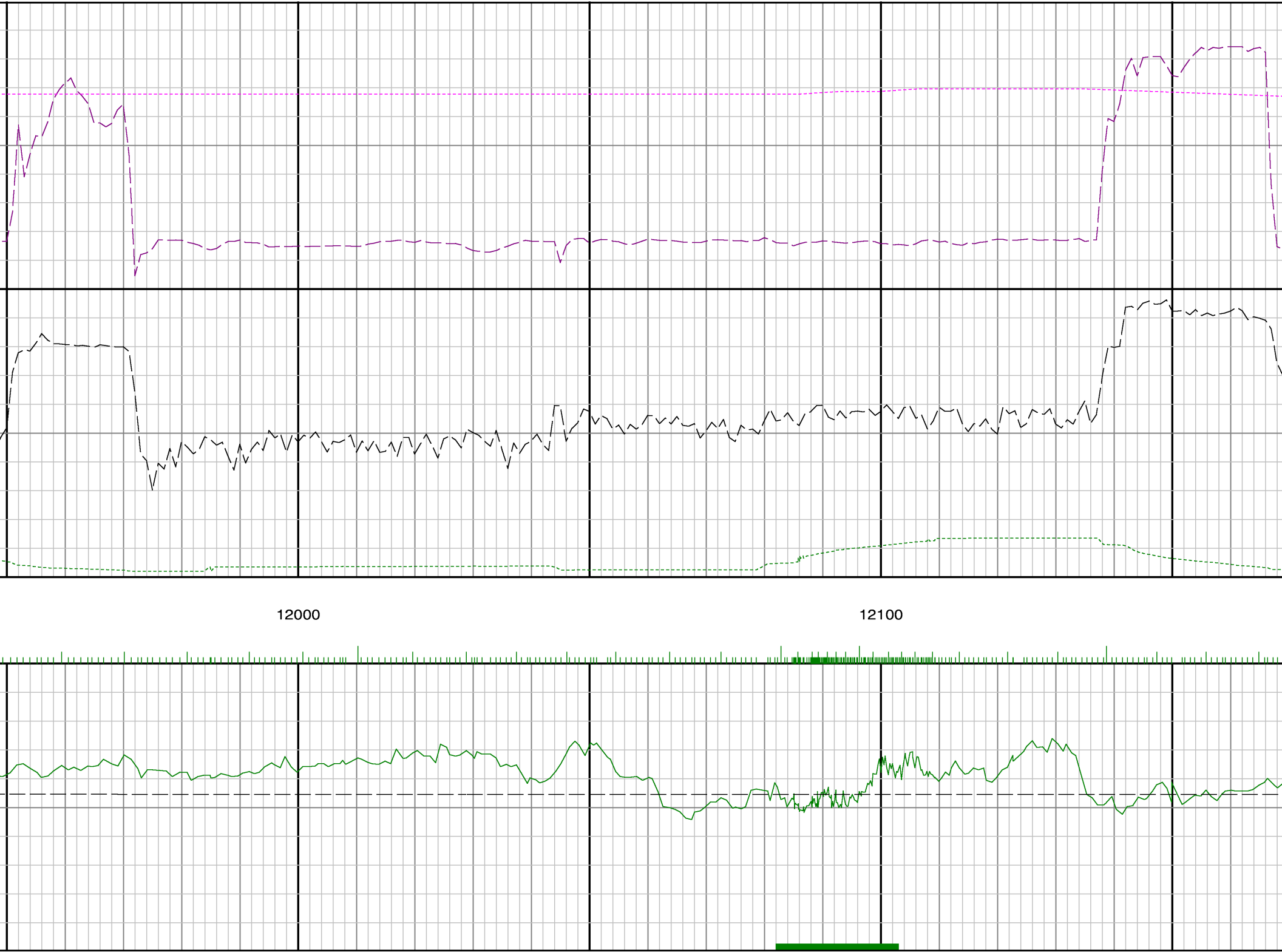
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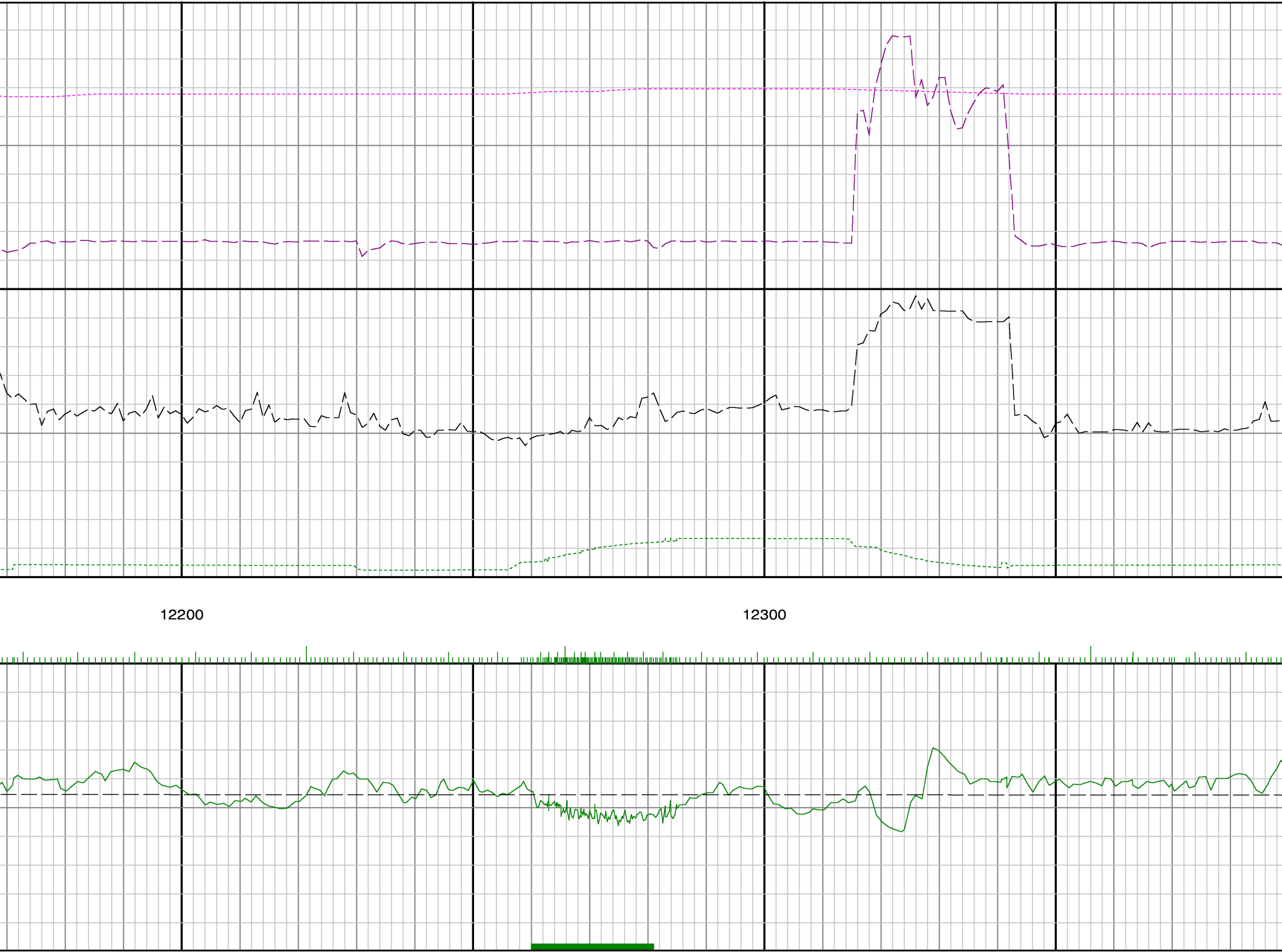
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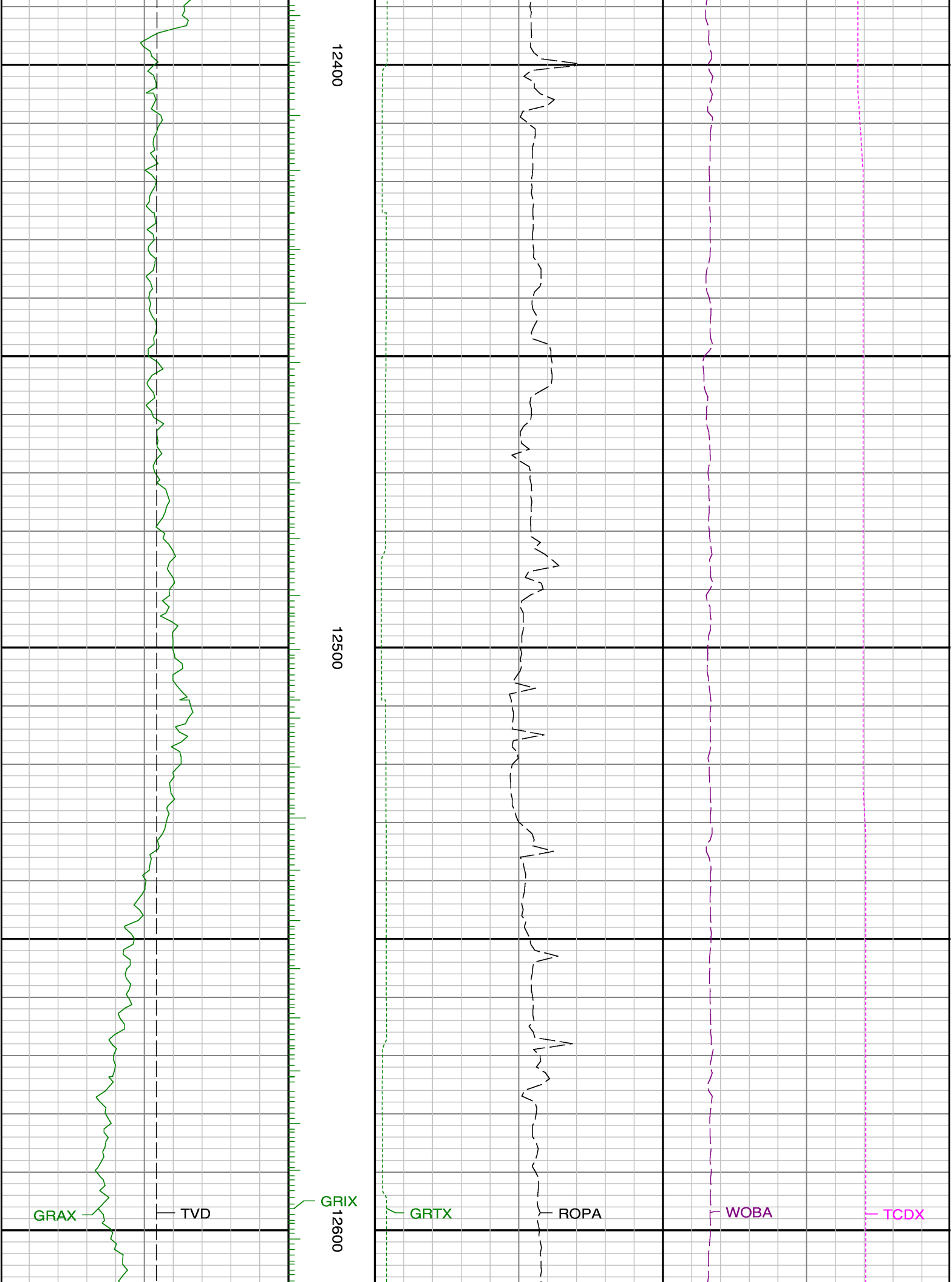
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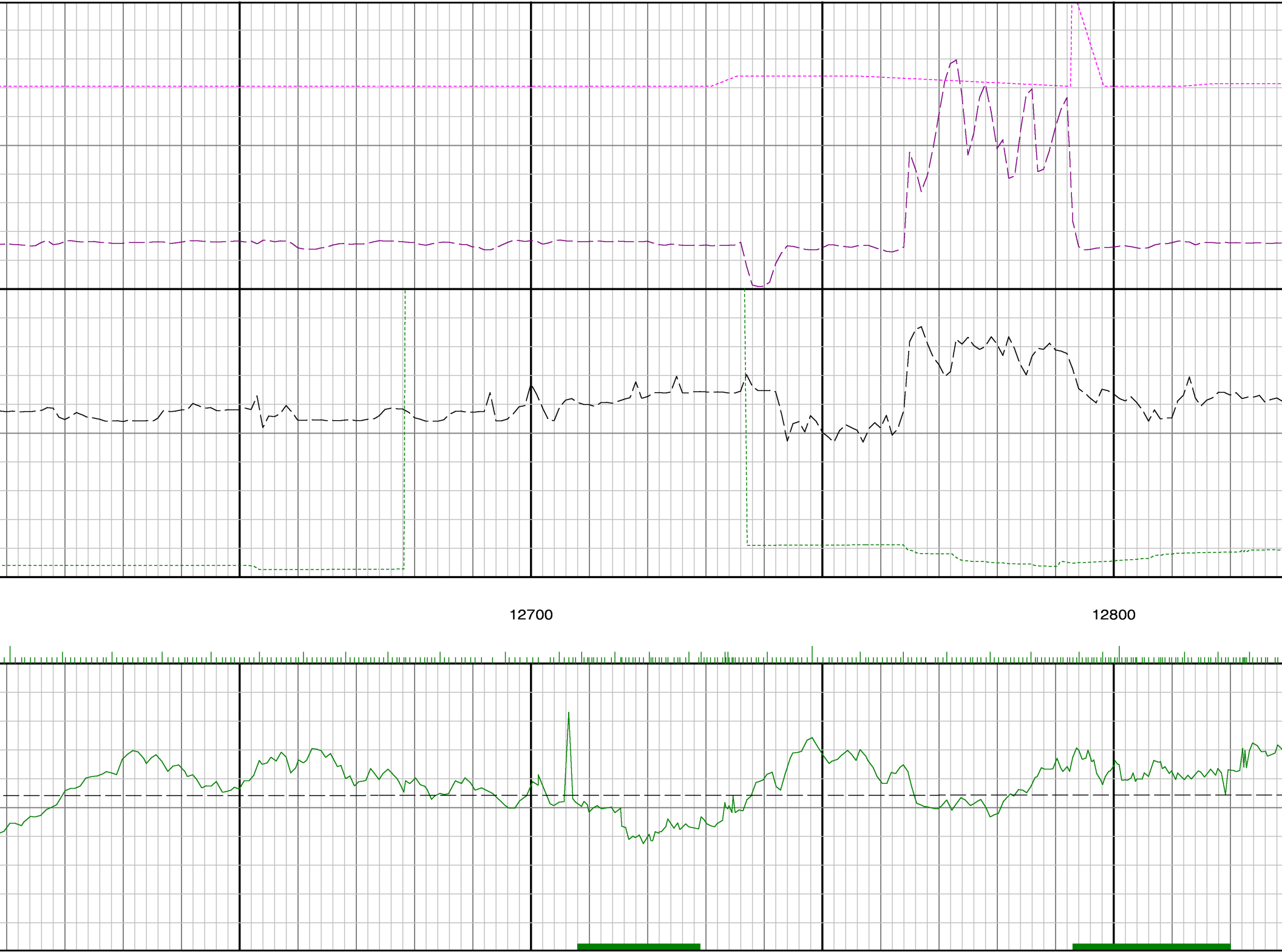
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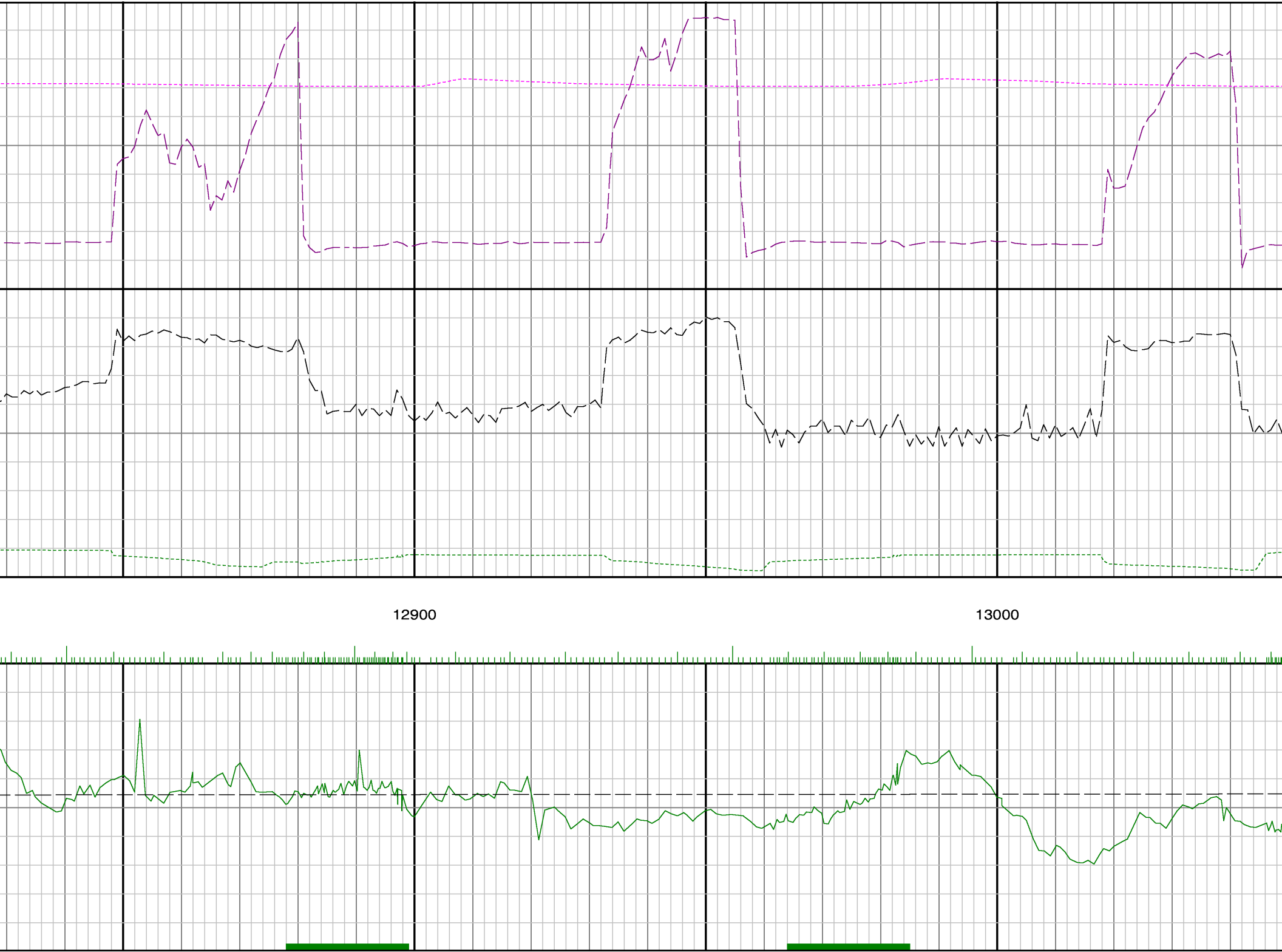
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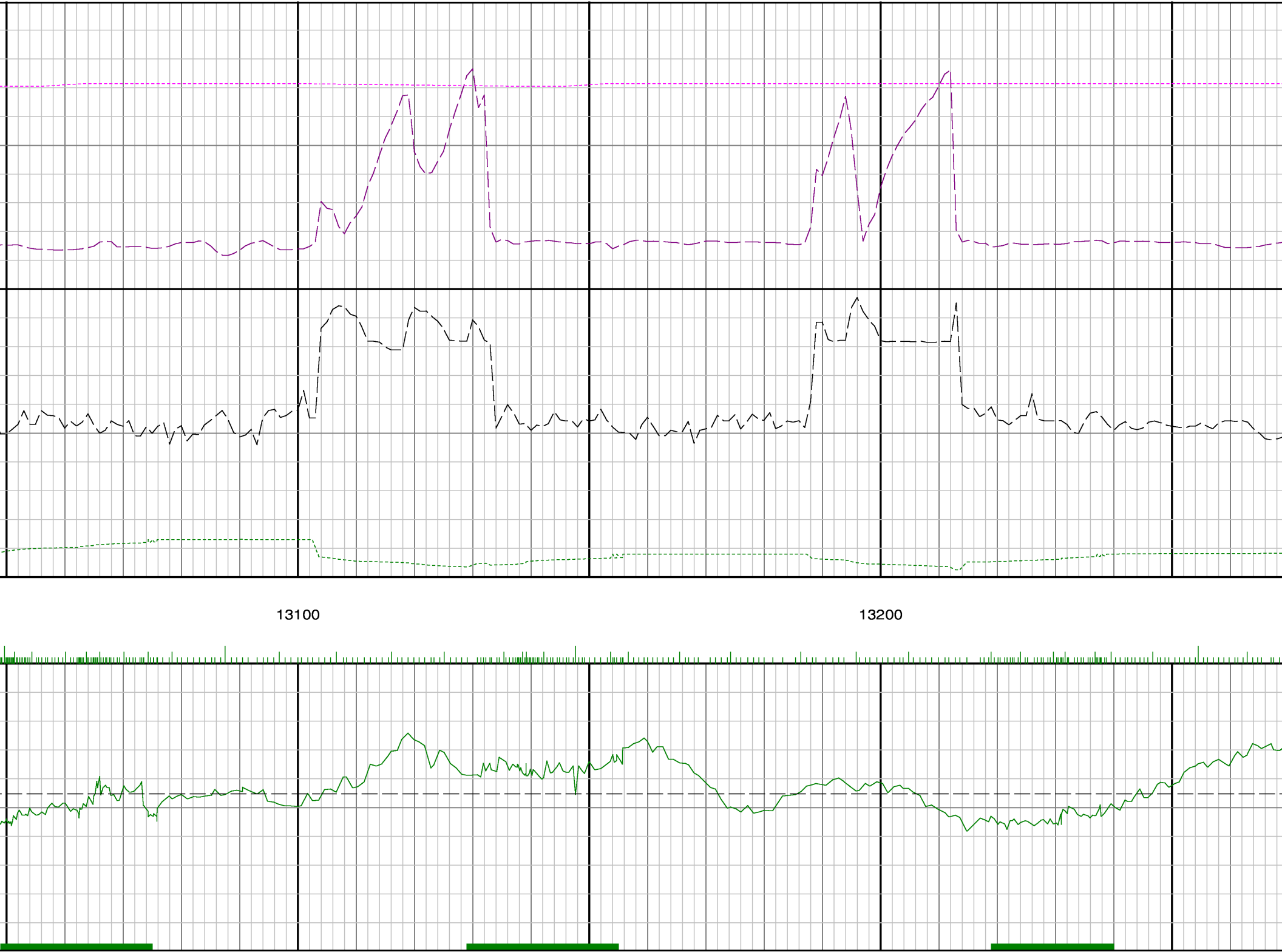
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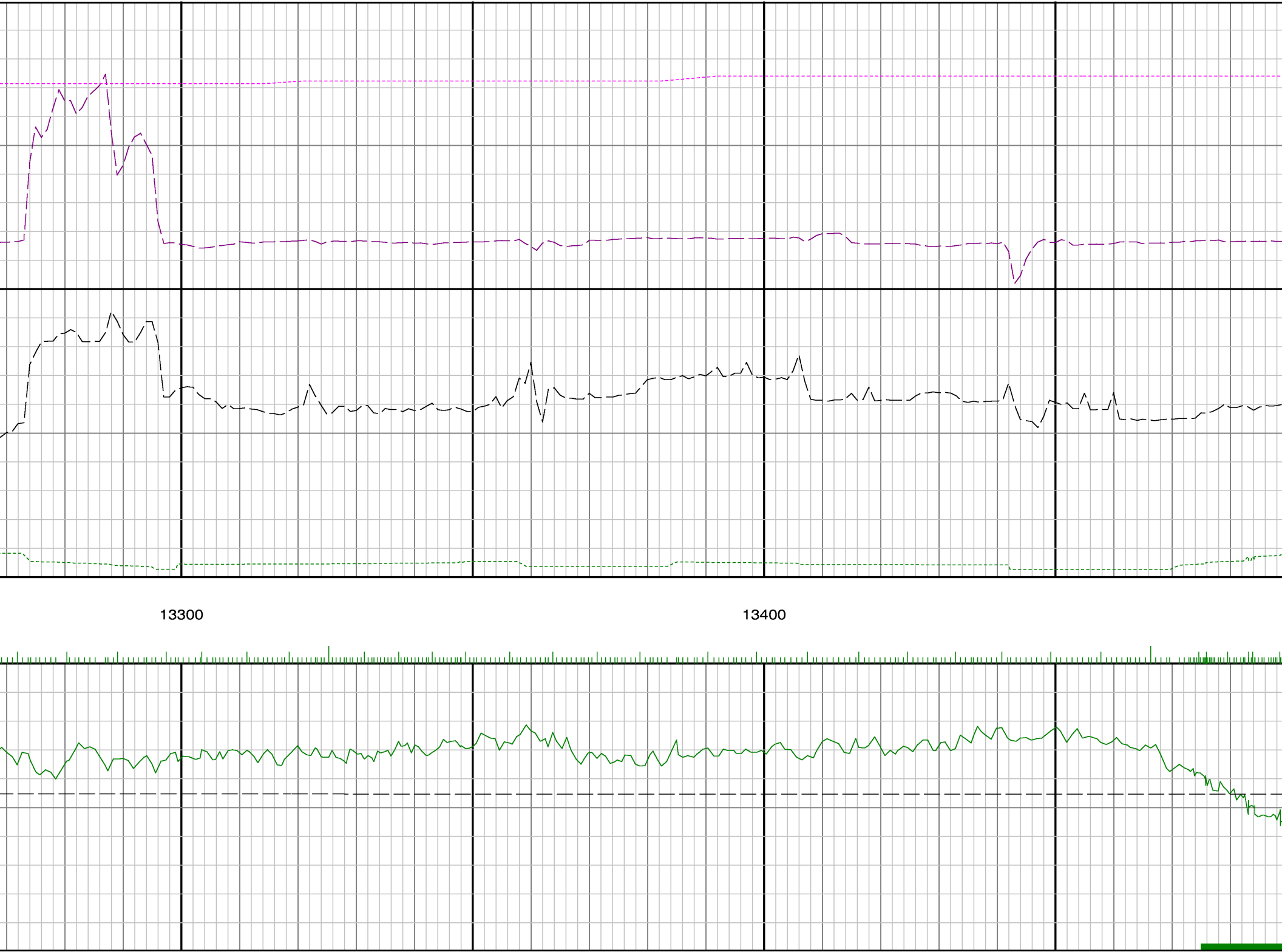
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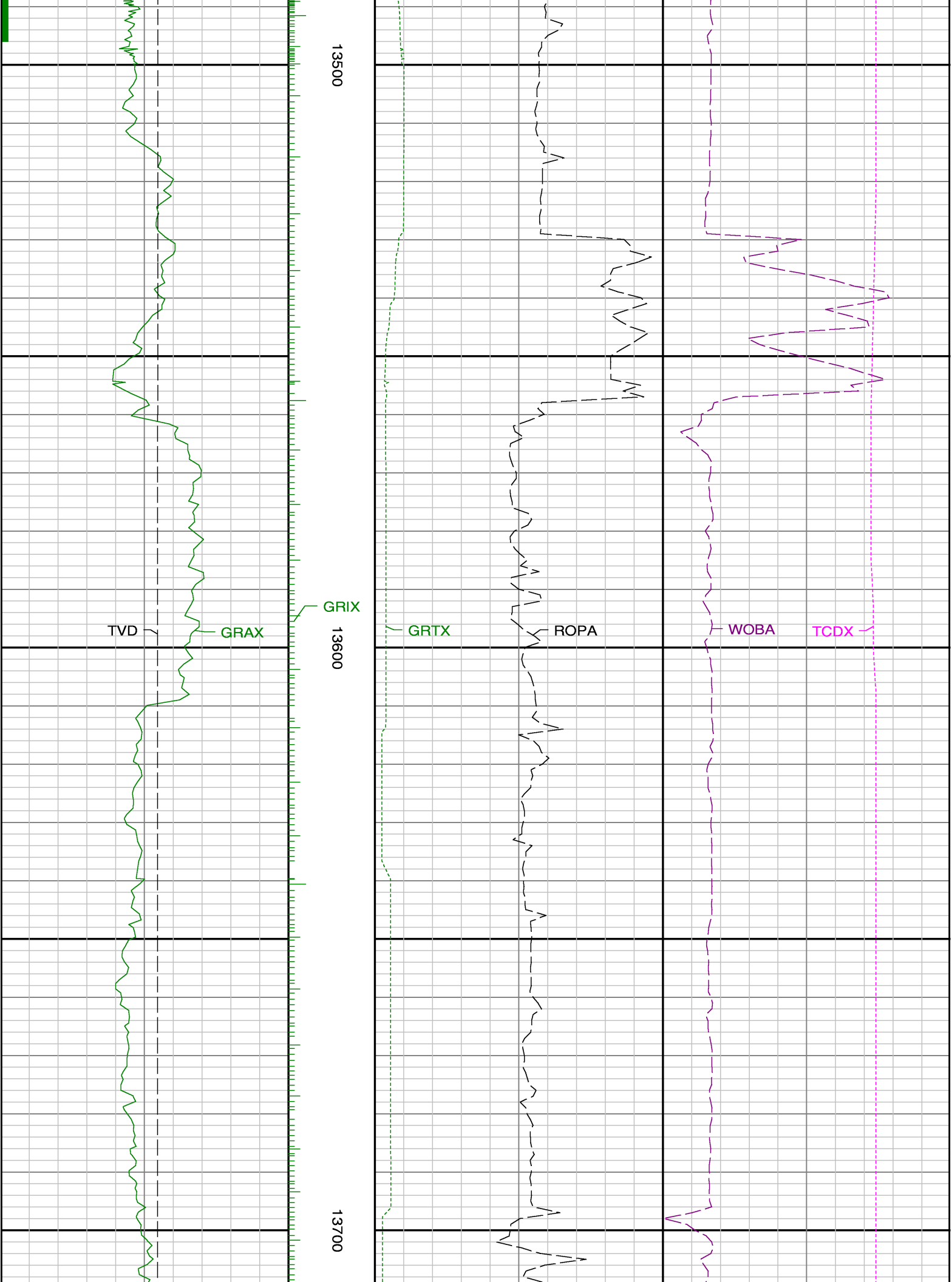
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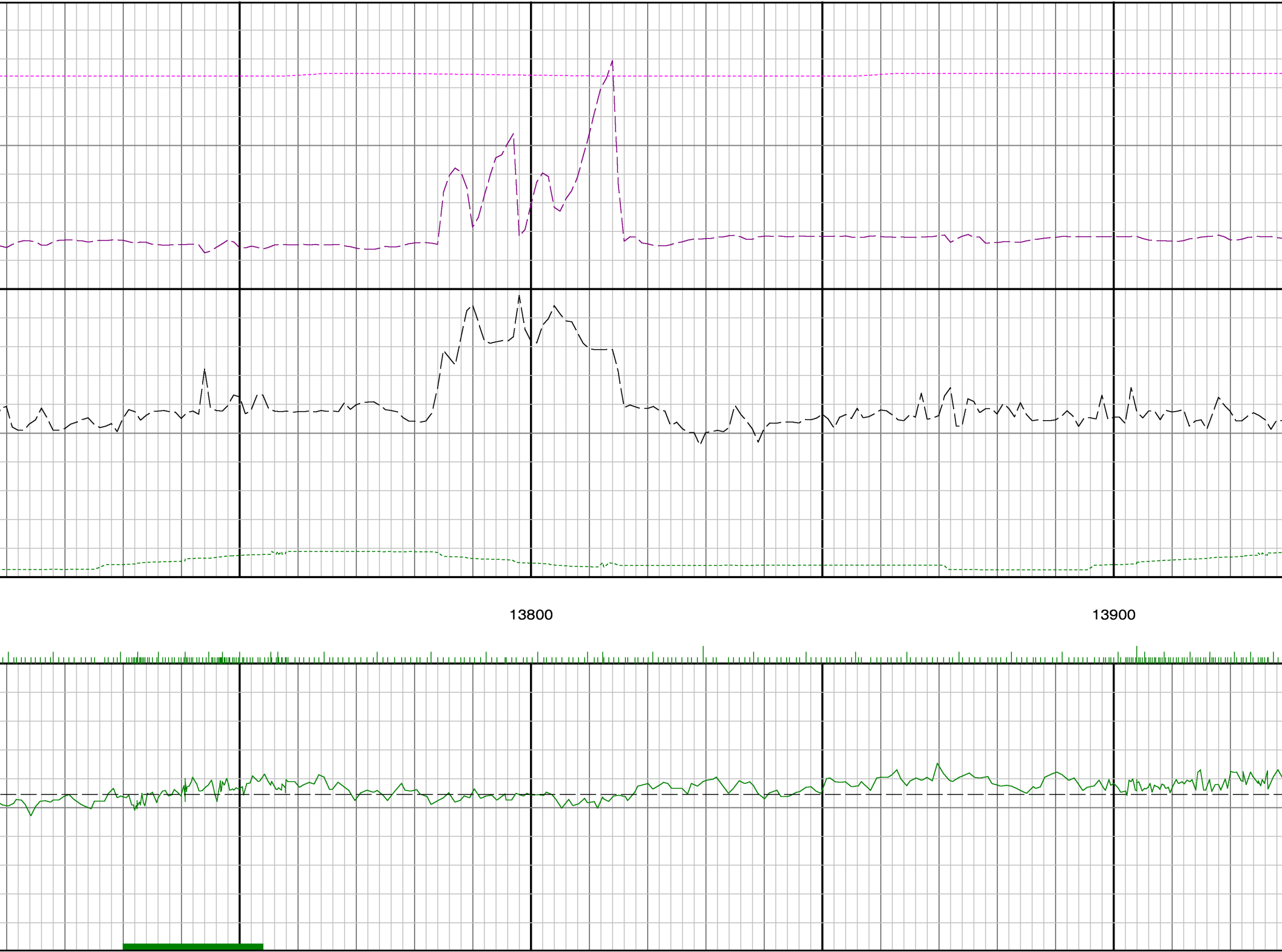
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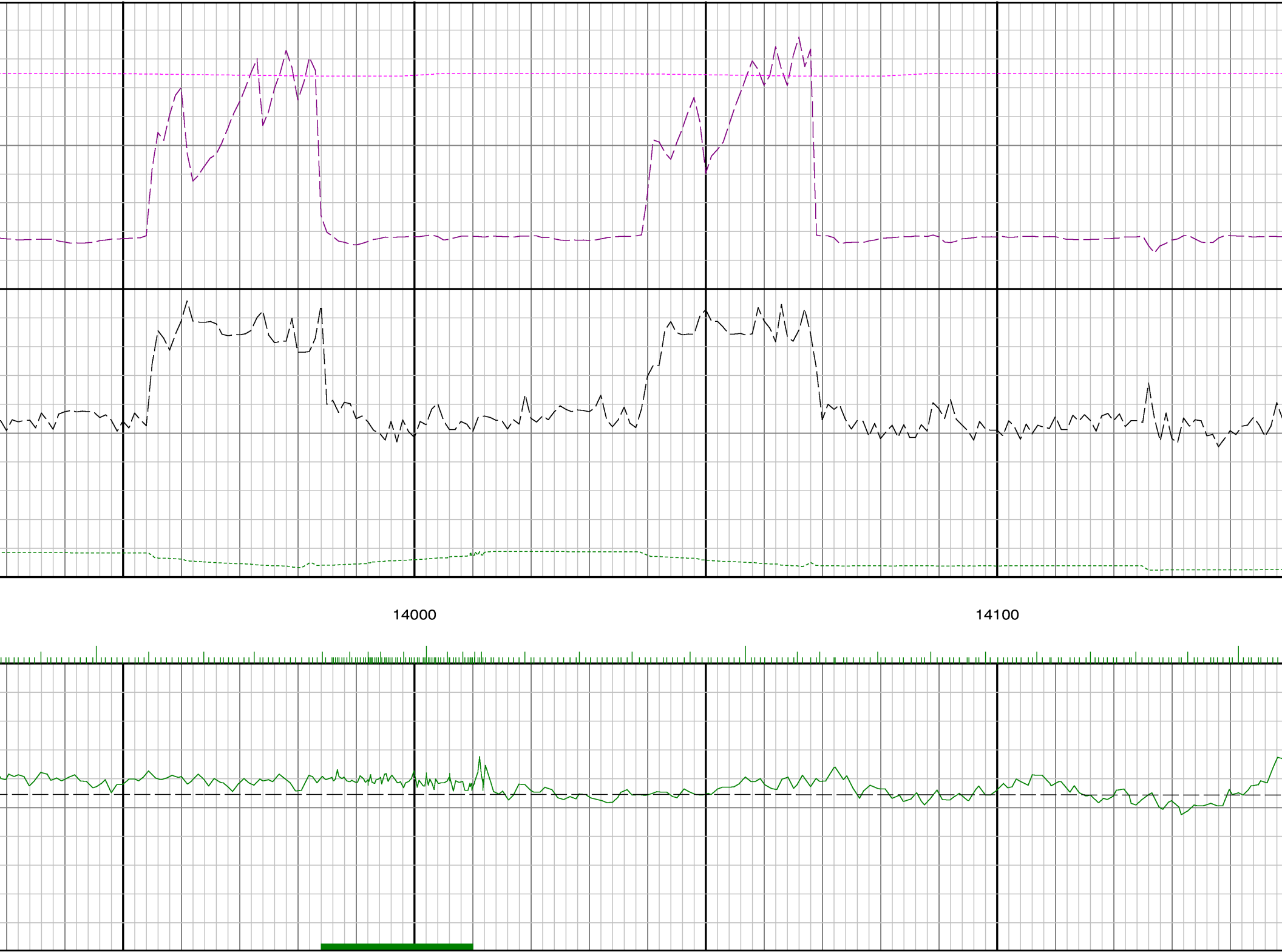
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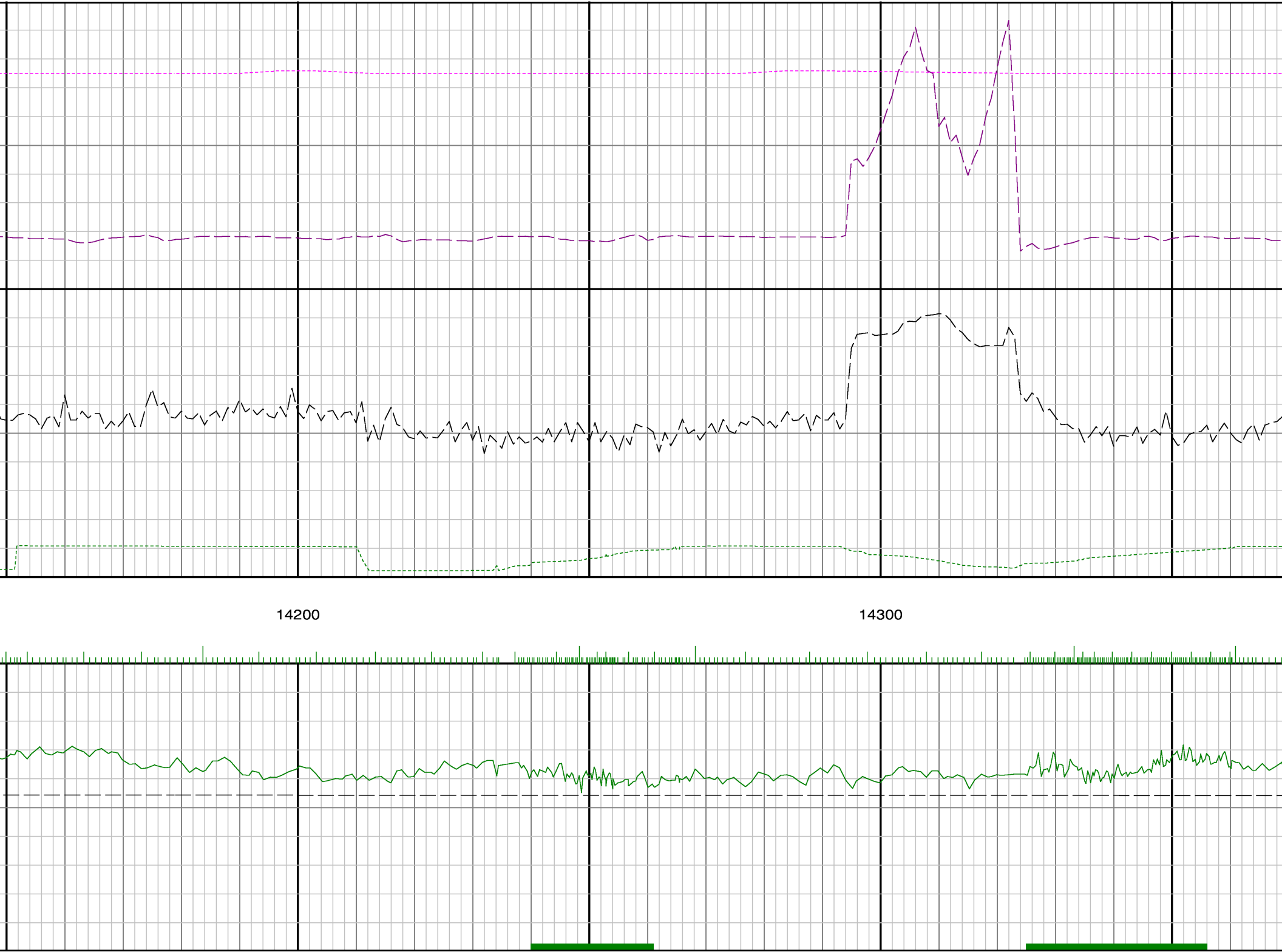
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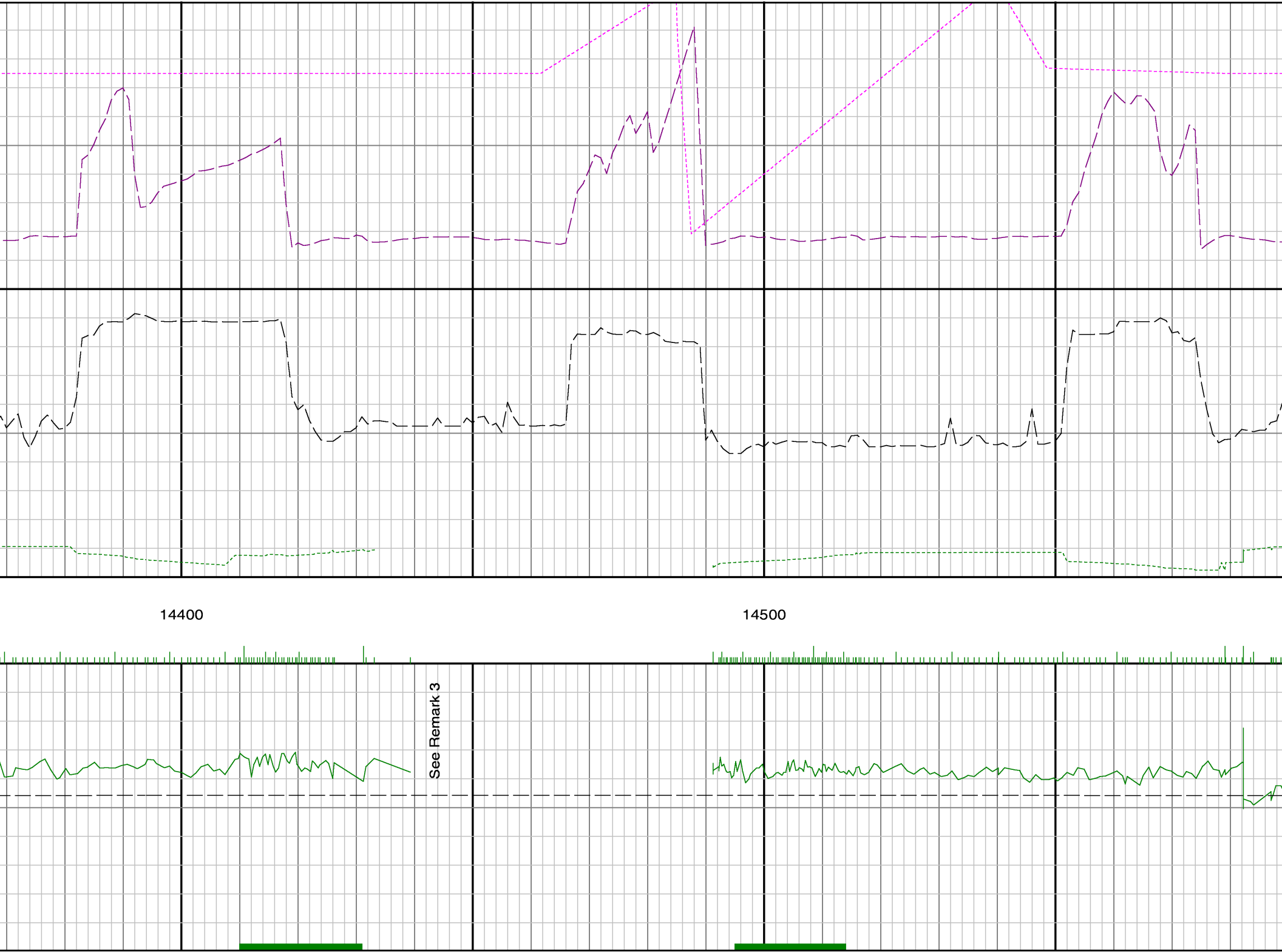
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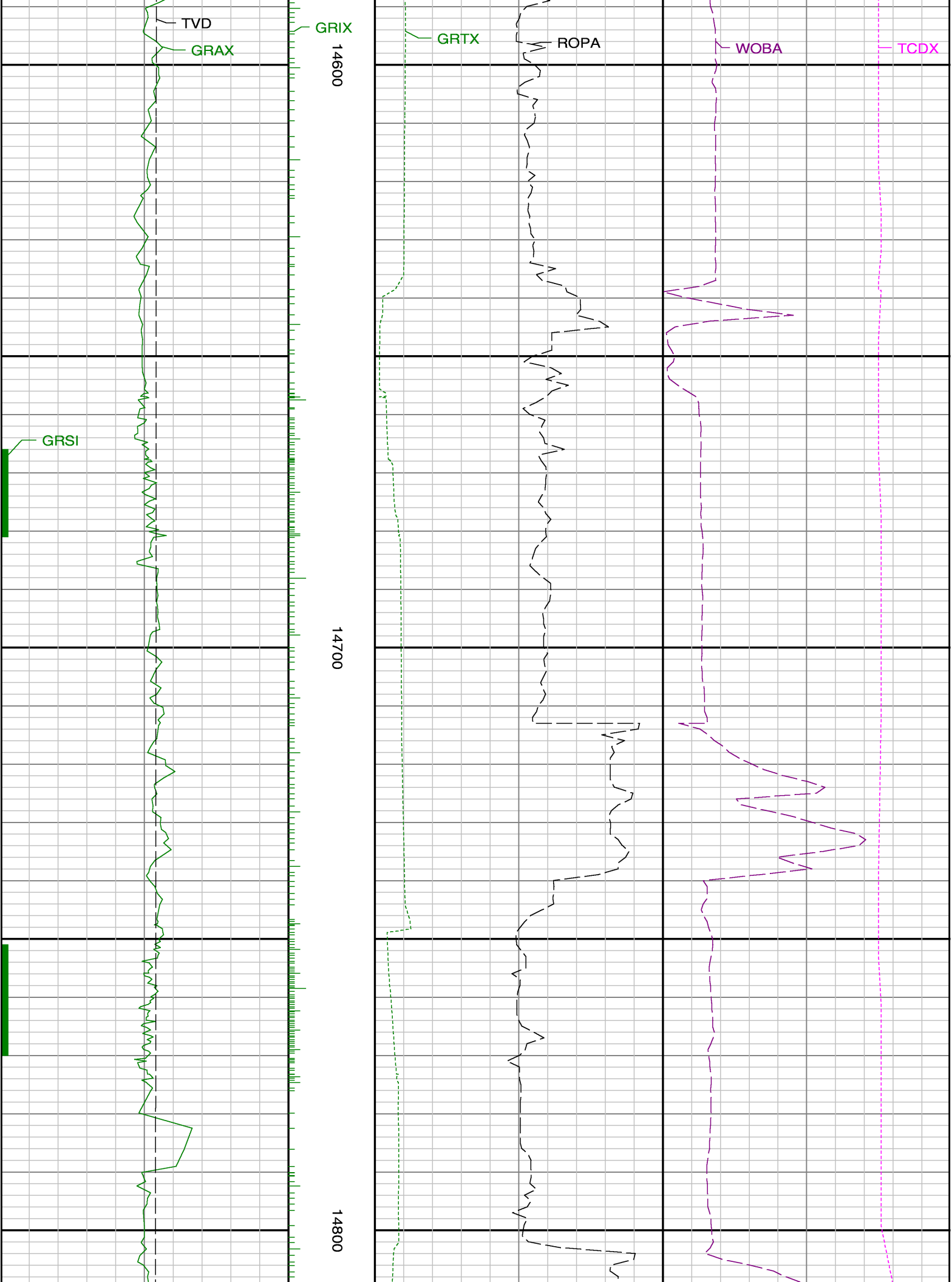
See Remark 3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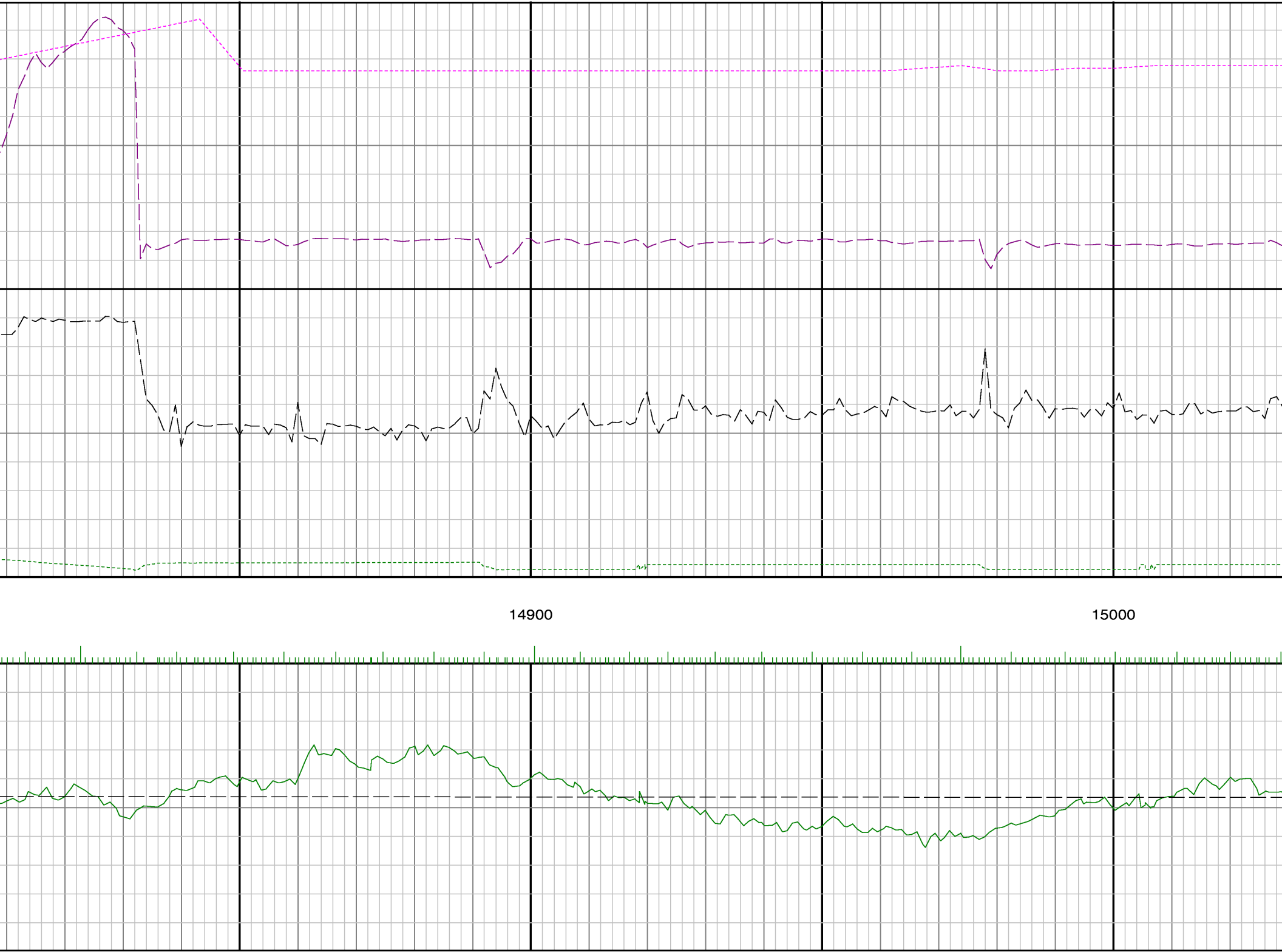
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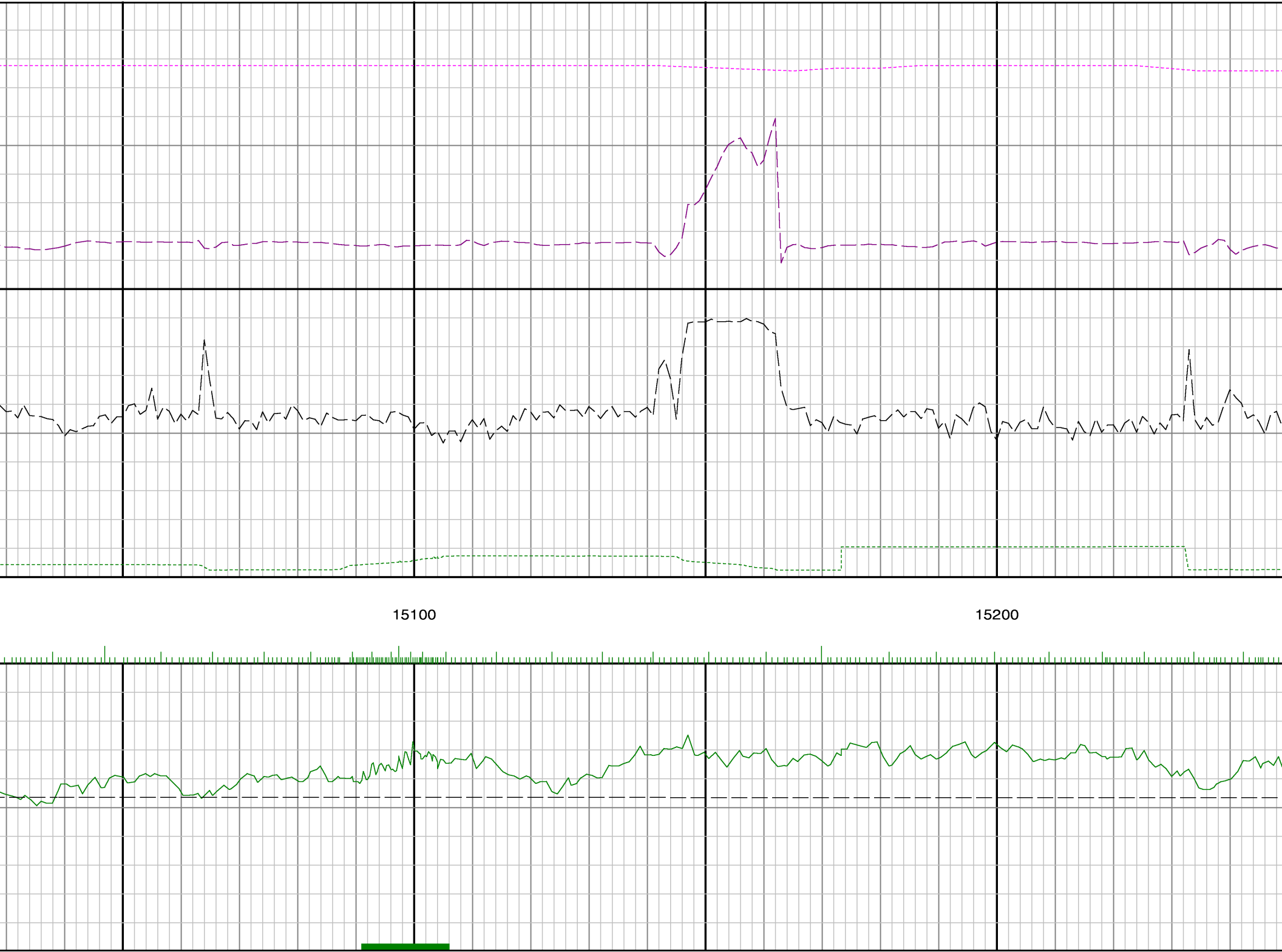
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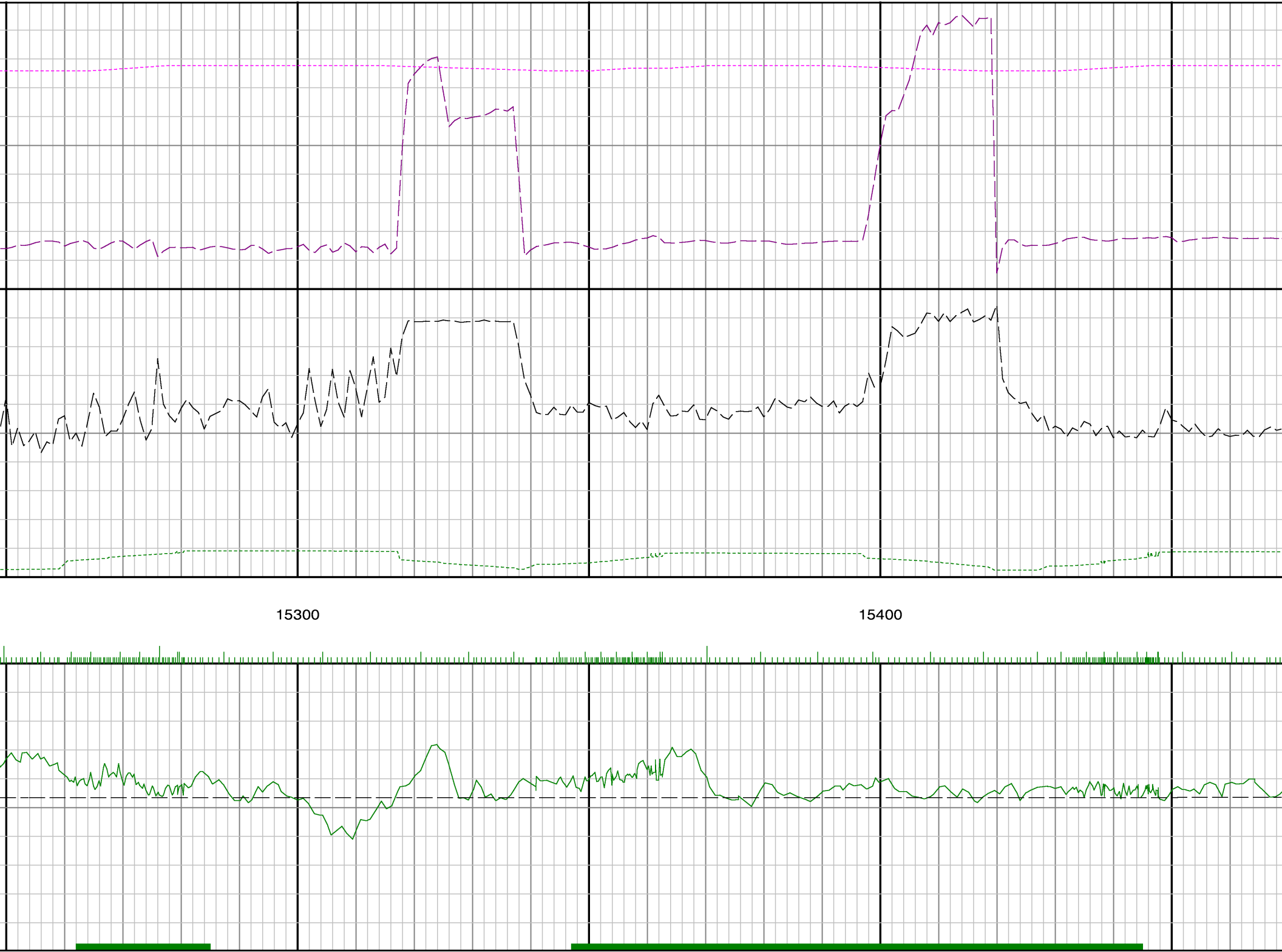
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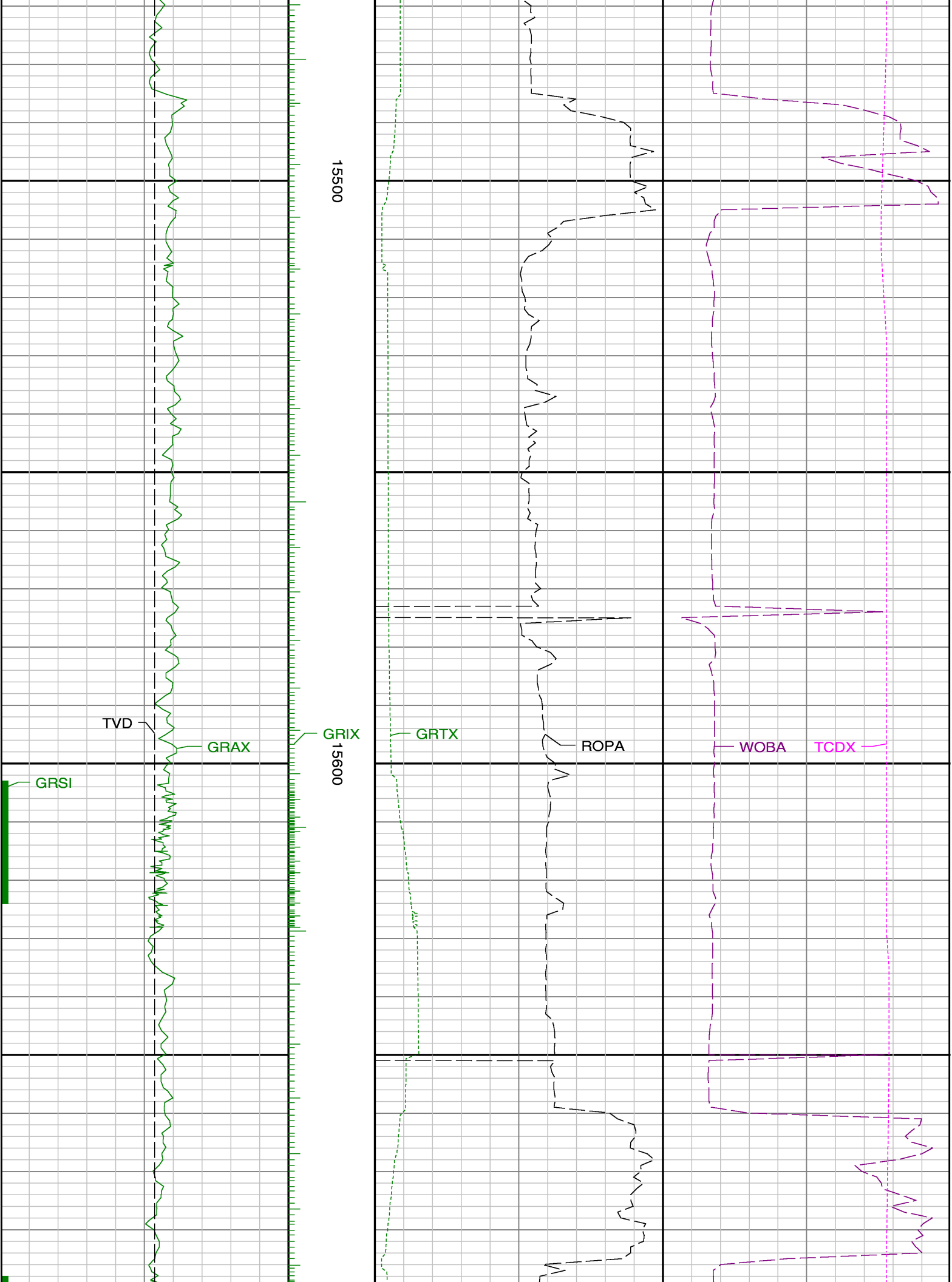
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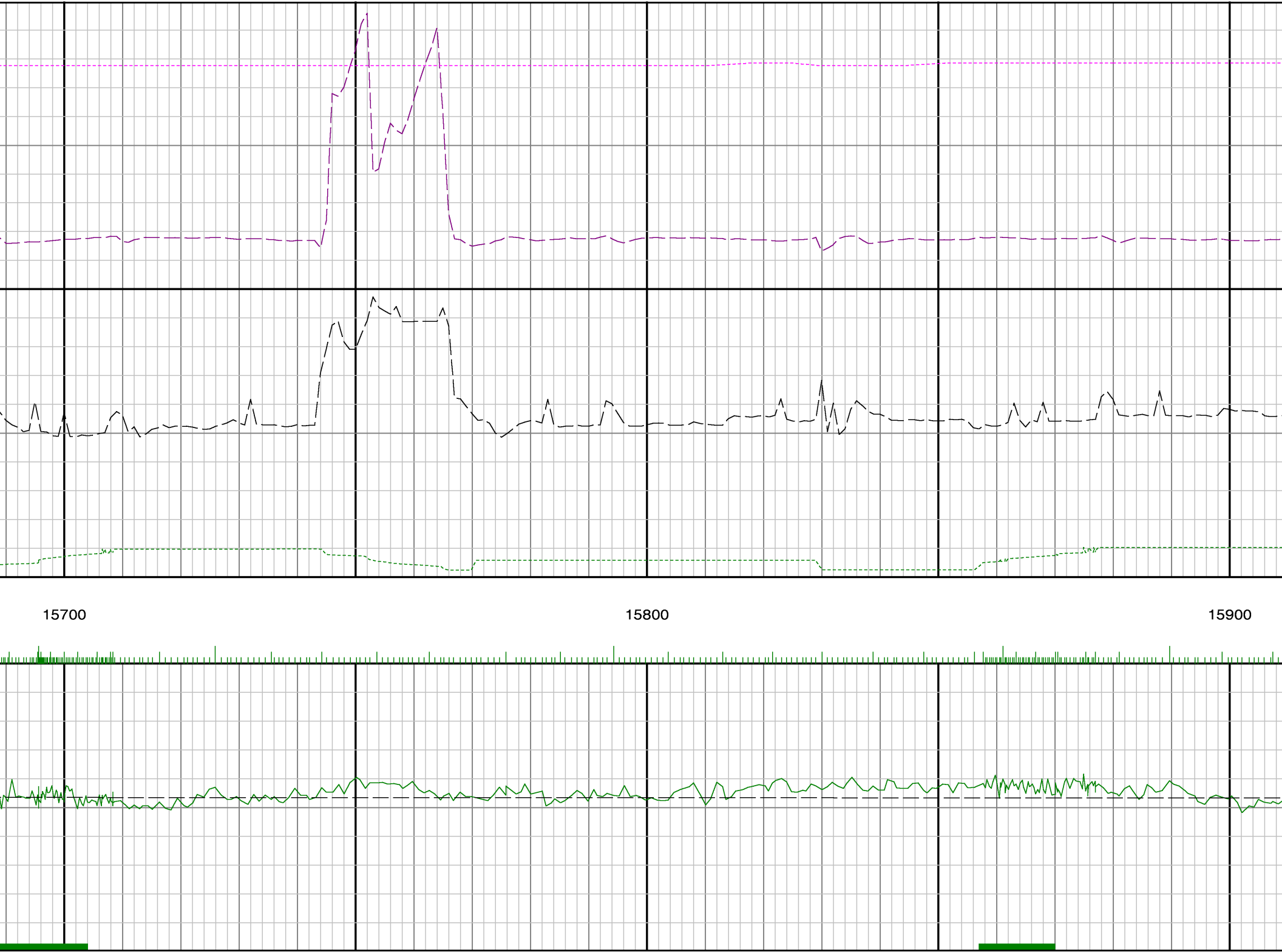
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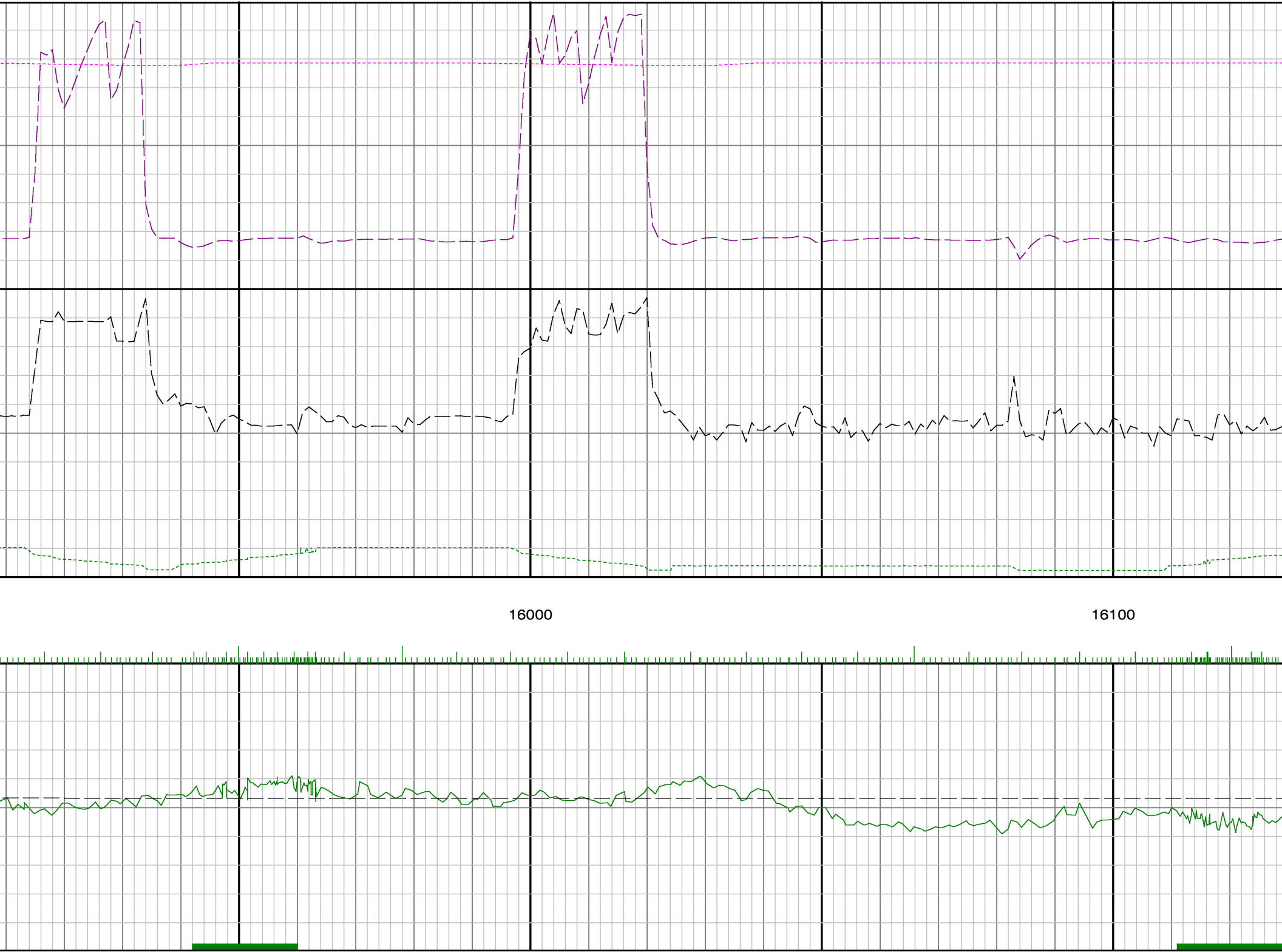
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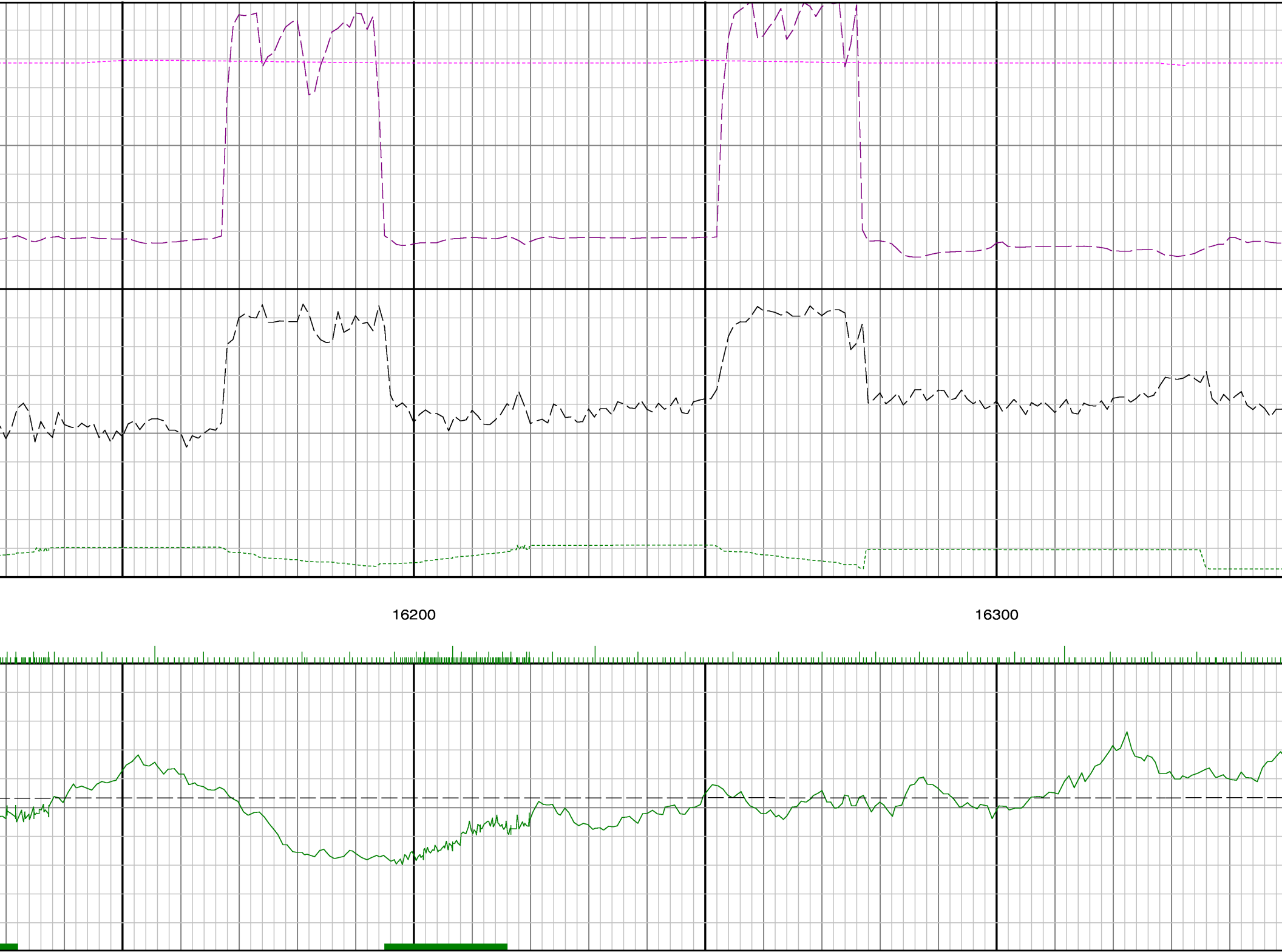
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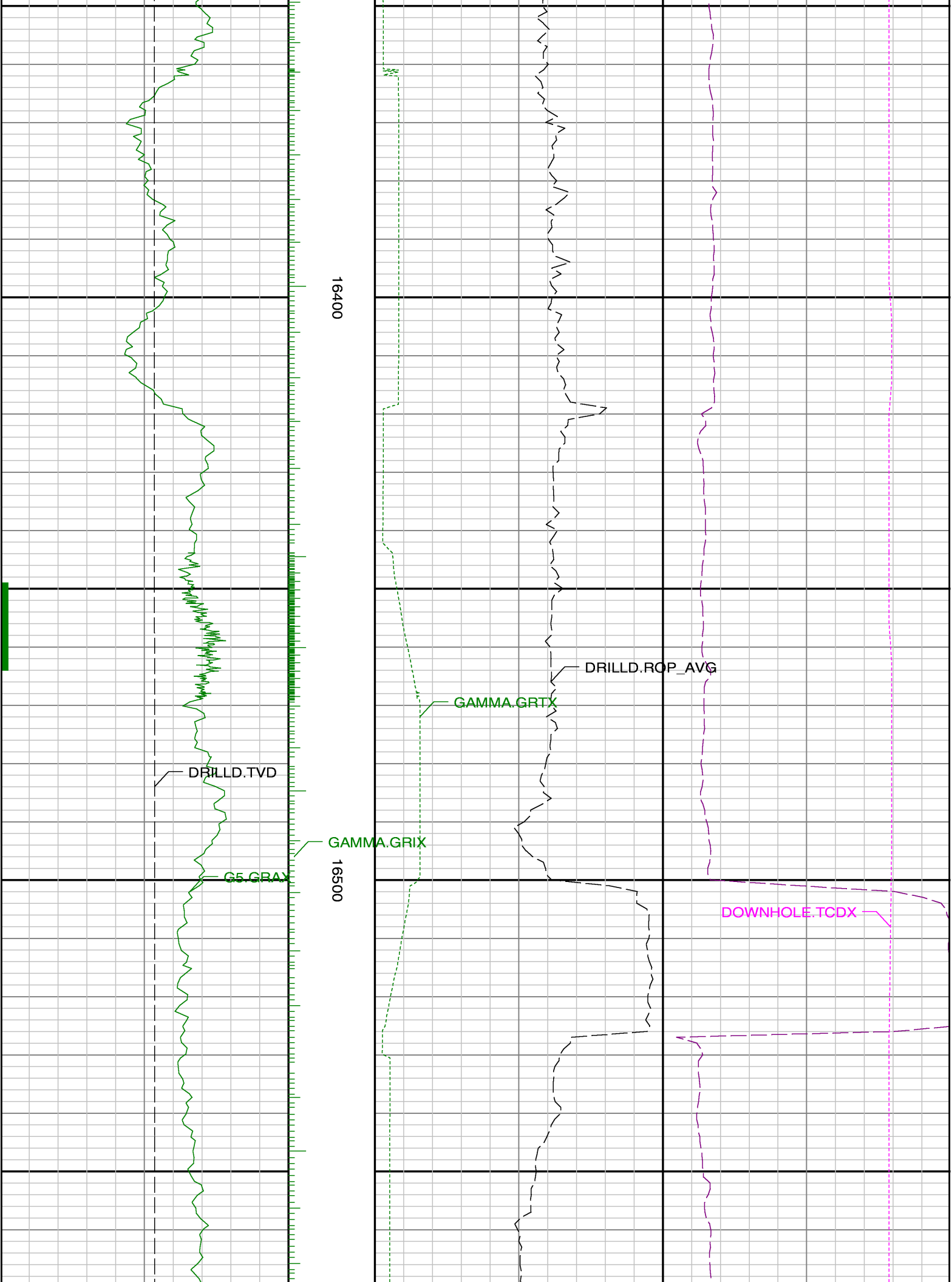
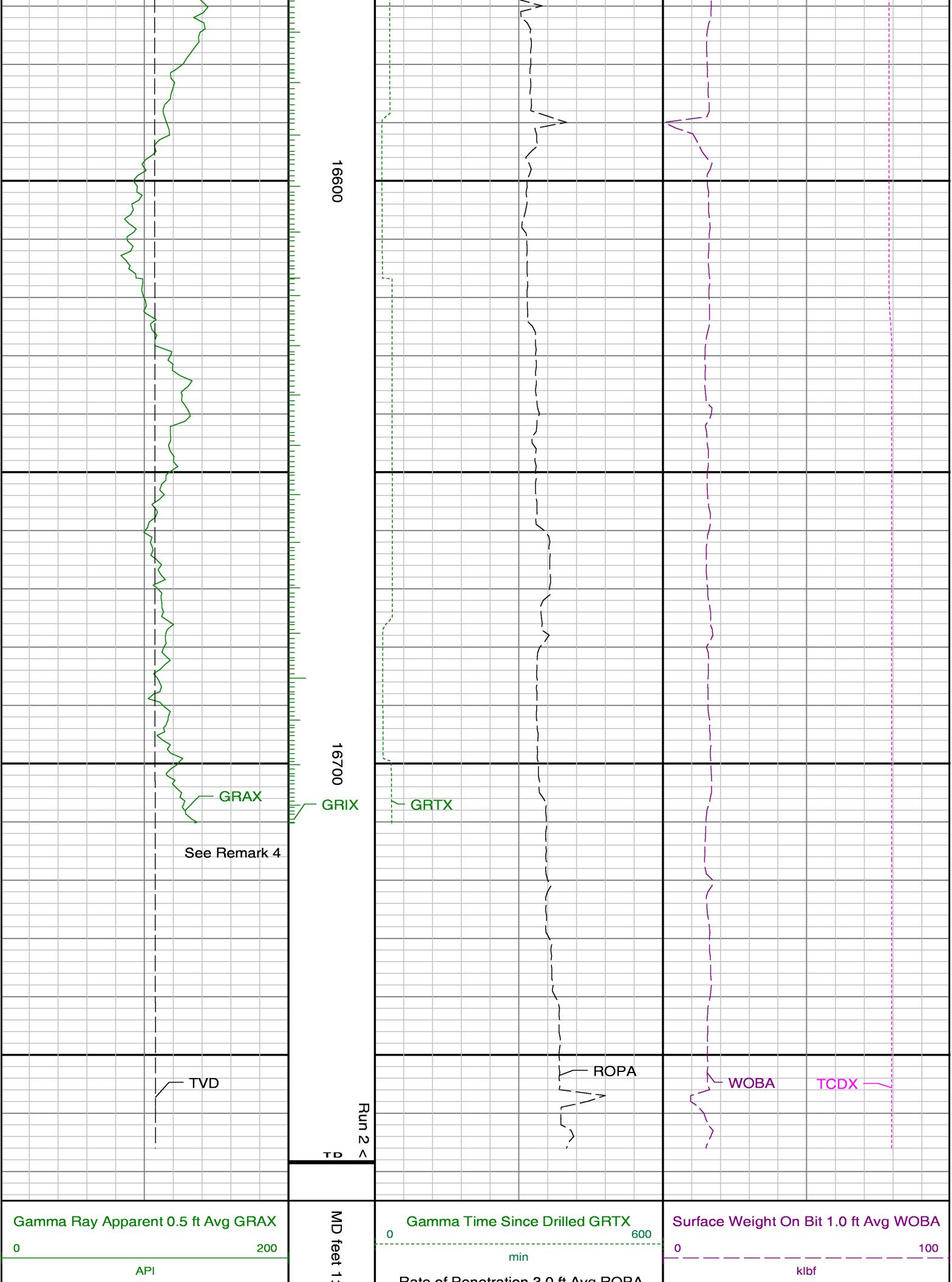
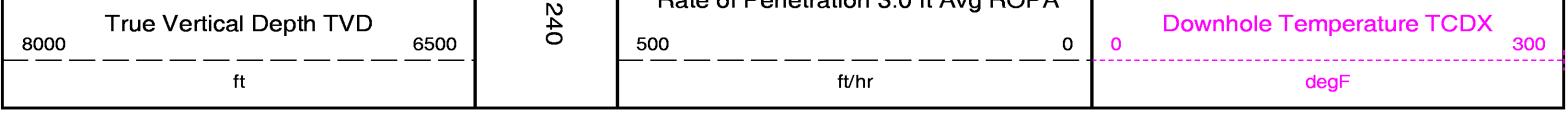
16300


16400
16500
DRILLD.TVD
GAMMA.GRIX
G5.GRAX
DRILLD.ROP_AVG
GAMMA.GRTX
DOWNHOLE.TCDX


16600
16700
GRAX
GRIX
GRTX
See Remark 4
TVD
ROPA
WOBA
TCDX
Run 2 <
Gamma Ray Apparent 0.5 ft Avg GRAX
0
200
API
MD feet 1:
Gamma Time Since Drilled GRTX
0
600
min
Surface Weight On Bit 1.0 ft Avg WOBA
0
100
klbf


True Vertical Depth TVD
8000
6500
ft
240
Rate of Penetration 3.0 ft Avg ROP A
500
0
ft/hr
Downhole Temperature TCDX
0
300
degF