

Eric Smith	31/May/14	05/Jun/14	David Belek	31/May/14	06/Jun/14	Andrew Overbey		05/Jun/14	07/Jun/14			
Osagie Otoikhine	06/Jun/14	07/Jun/14										

Mud Properties Record												
Date / Time		LWD Run No.	Measured Depth (ft.)	Mud Type	Density (ppg)	Viscosity (sec/qt)	pH	Fluid Loss (cc)	Oil / Water	Source	Total Chlorides (ppm)	K+ (%)
31/May/14	18:00	1	2128	LSND	8.5	31	8.6	N/A	1 / 97.5	Flow Line	1200	N/A
01/Jun/14	18:00	2	5675	LSND	9.3	42	9.3	N/A	1.5 / 94	Active Mud Pits	1600	N/A
03/Jun/14	18:00	3	7895	LSND	9.3	41	9.1	N/A	2 / 93	Active Mud Pits	1800	N/A
04/Jun/14	18:00	4	9439	LSND	9.3	47	9.7	N/A	2 / 91.5	Active Mud Pits	1800	N/A
05/Jun/14	18:00	5	11467	LSND	9.1	44	9.7	N/A	3 / 92	Active Mud Pits	1400	N/A
06/Jun/14	18:00	5	13401	LSND	9.4	44	9.7	N/A	4 / 89.5	Active Mud Pits	1600	N/A

Mnemonics		
Curve	Description	Units
GRAX	Gamma Ray Apparent, 0.5 ft. Avg.	API
GRIX	Gamma Ray Data Density	point
GRSI	Gamma Ray Sliding Indicator	unitless
GRTX	Gamma Ray Time Since Drilled	min
ROPA	Rate of Penetration, 3.0 ft. Avg.	ft/hr
TCDX	Downhole Temperature	degF
TVD	True Vertical Depth	ft
WOBA	Surface Weight on Bit, 1.0 ft. Avg.	klbs

Equipment and Service Data						
LWD Run No.	Tool	Serial Number	Measurement	Bit Offset (ft.)	Max O.D. (in.)	Min I.D. (in.)
1	DIR	11710701	Directional	64.11	6.750	0.000
1	SRIG	12023988	Gamma	60.74	6.750	0.000
2	DIR	10427972	Directional	63.02	6.750	0.000
2	SRIG	12600747	Gamma	59.65	6.750	0.000
3	DIR	12546343	Directional	61.41	6.750	0.000
3	SRIG	12461716	Gamma	57.03	4.750	0.000
4	DIR	12546343	Directional	62.48	6.750	0.000
4	SRIG	12461716	Gamma	58.10	4.750	0.000
5	DIR	12546344	Directional	61.01	4.750	0.000
5	SRIG	11703937	Gamma	57.63	4.750	0.000

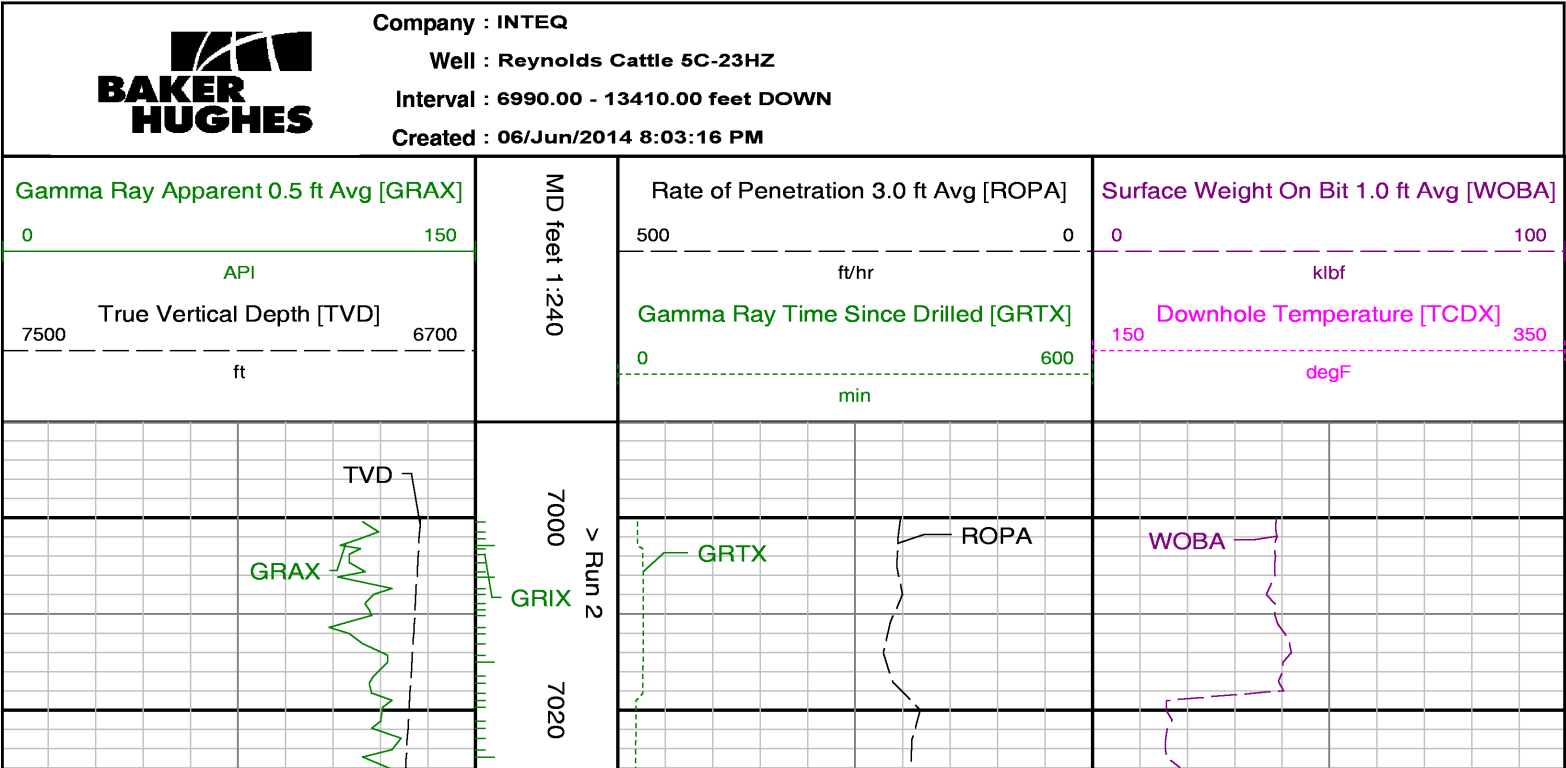
Service and Tool Mnemonics		
Mnemonic	Name	Description
DIR	Directional	Wellbore directional survey
SRIG	Inclination and Gamma	Probe based gamma ray and inclination module

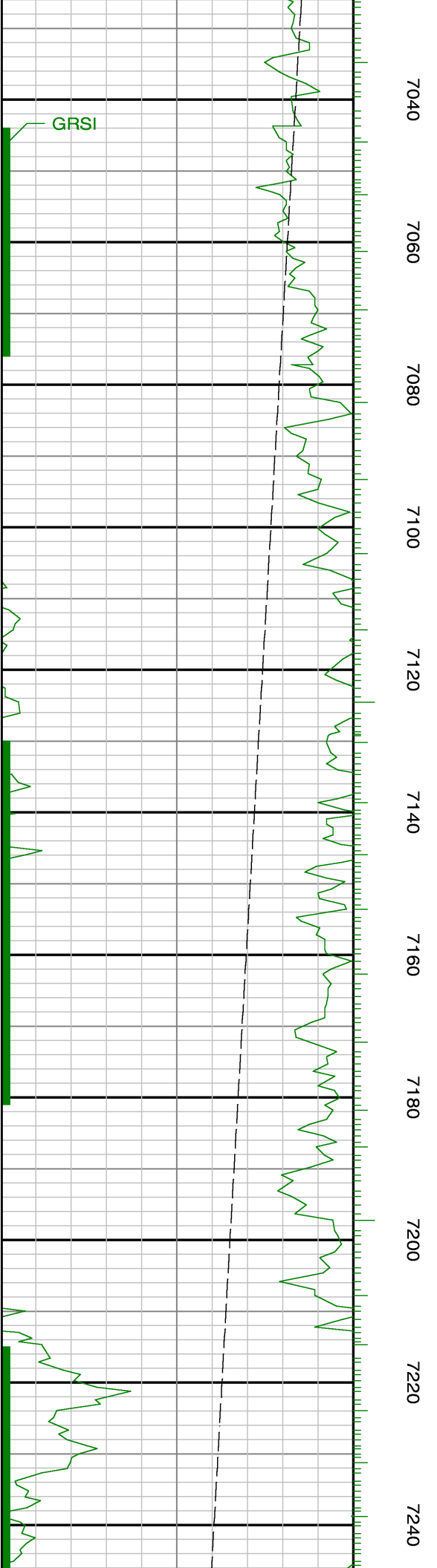
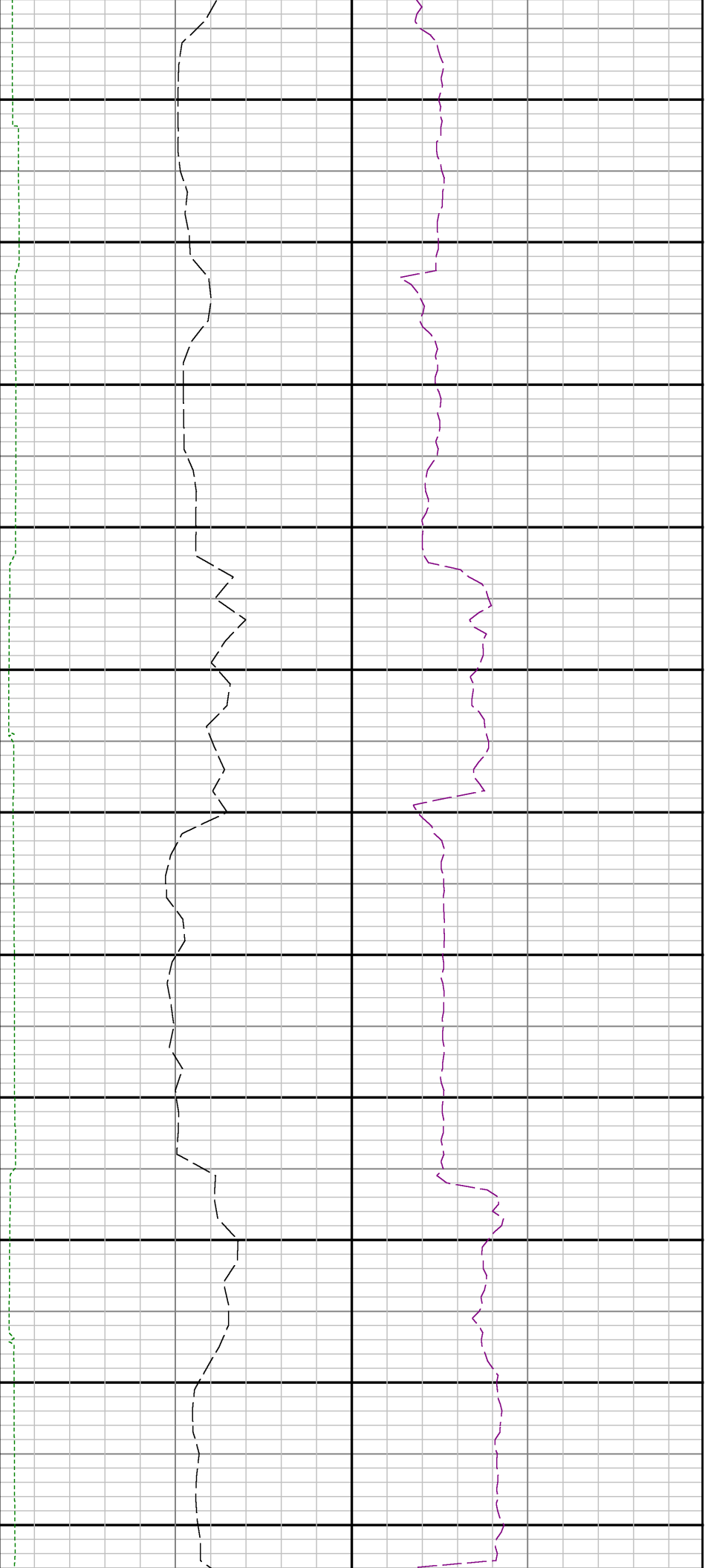
Comments

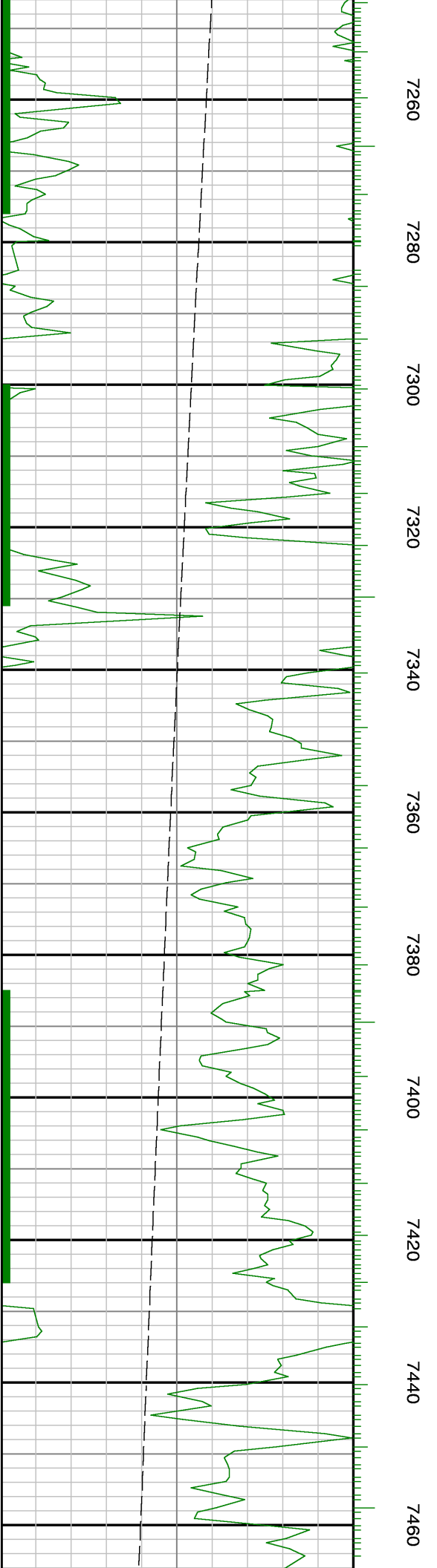
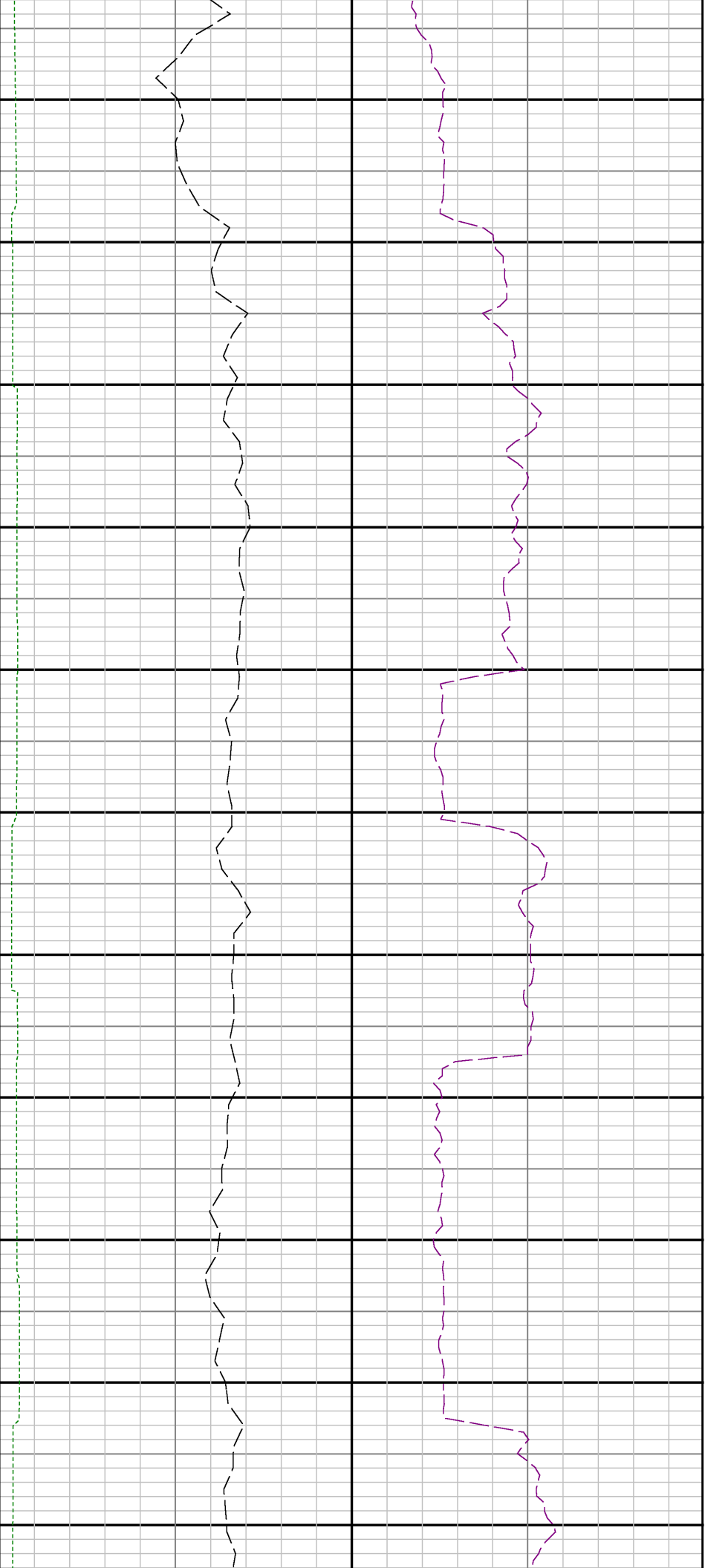
- 1.) Depth measurements obtained from a depth control system not supplied or operated by Baker Hughes. Due to the lack of control by Baker Hughes logging engineers, depth calibrations and measurements could not be independently verified.
- 2.) Baker Hughes runs 1 and 2 utilized 6 3/4 inch NaviTrak services (Directional only) behind an 8 3/4 inch bit and steerable assembly from 1397 to 7000 feet MD (1397 to 6792 feet TVD).
- 3.) Baker Hughes run 2 utilized 6 3/4 inch NaviGamma services (Gamma Ray and Directional) behind an 8 3/4 inch bit and steerable assembly from 7000 to 7895 feet MD (6792 to 7343 feet TVD).
- 4.) Baker Hughes runs 3, 4, and 5 utilized 4 3/4 inch NaviGamma services (Gamma Ray and Directional) behind a 6 1/8 inch bit and steerable assembly from 7895 to 13401 feet MD (7343 to 7325 feet TVD).
- 5.) The interval from 1397 to 7000 feet MD (1397 to 6792 feet TVD) was not logged due to directional only services being provided through the straight-hole and nudge section for Baker Hughes runs 1 and 2.
- 6.) The interval from 13340 to 13401 feet MD (7324 to 7325 feet TVD) was not logged due to sensor offset from bit at well TD.
- 7.) A sliding indicator is shown on the left edge of track 1 as a heavy line. This indicator has been depth-shifted to the gamma sensor offset to correspond with gamma data acquired while sliding.

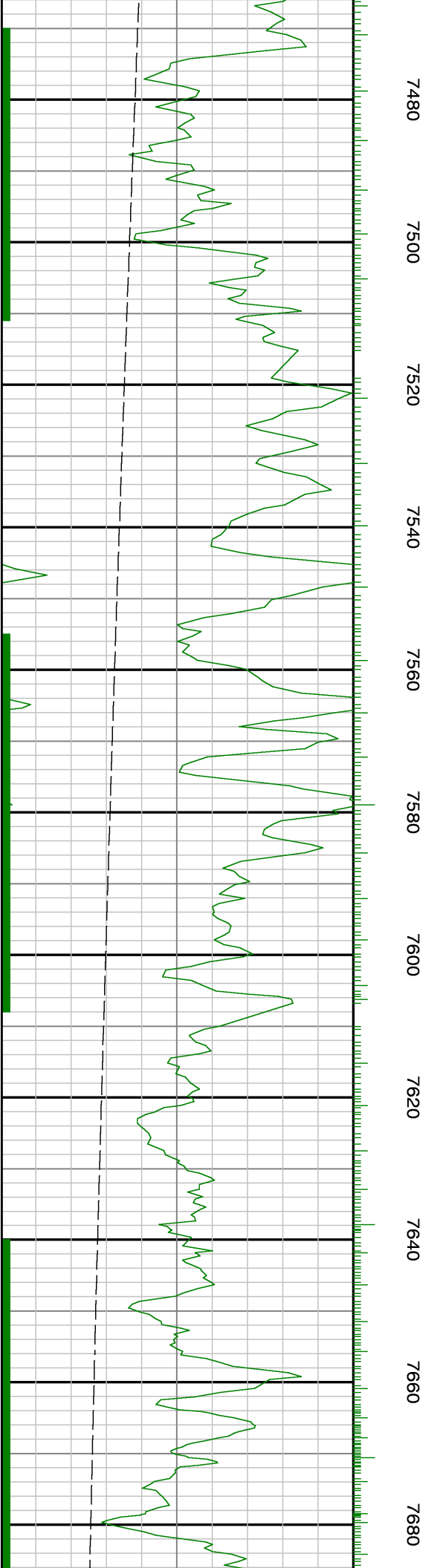
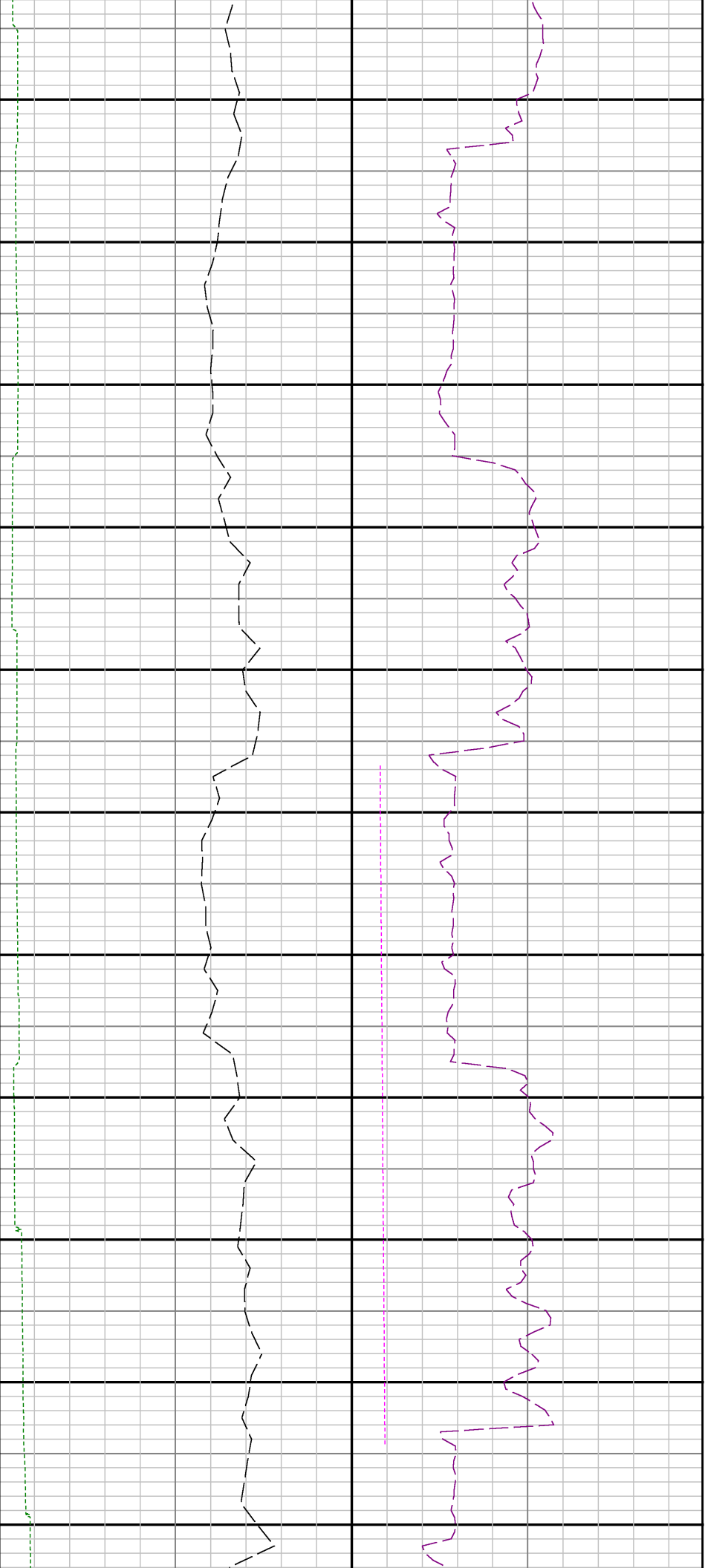
Remarks

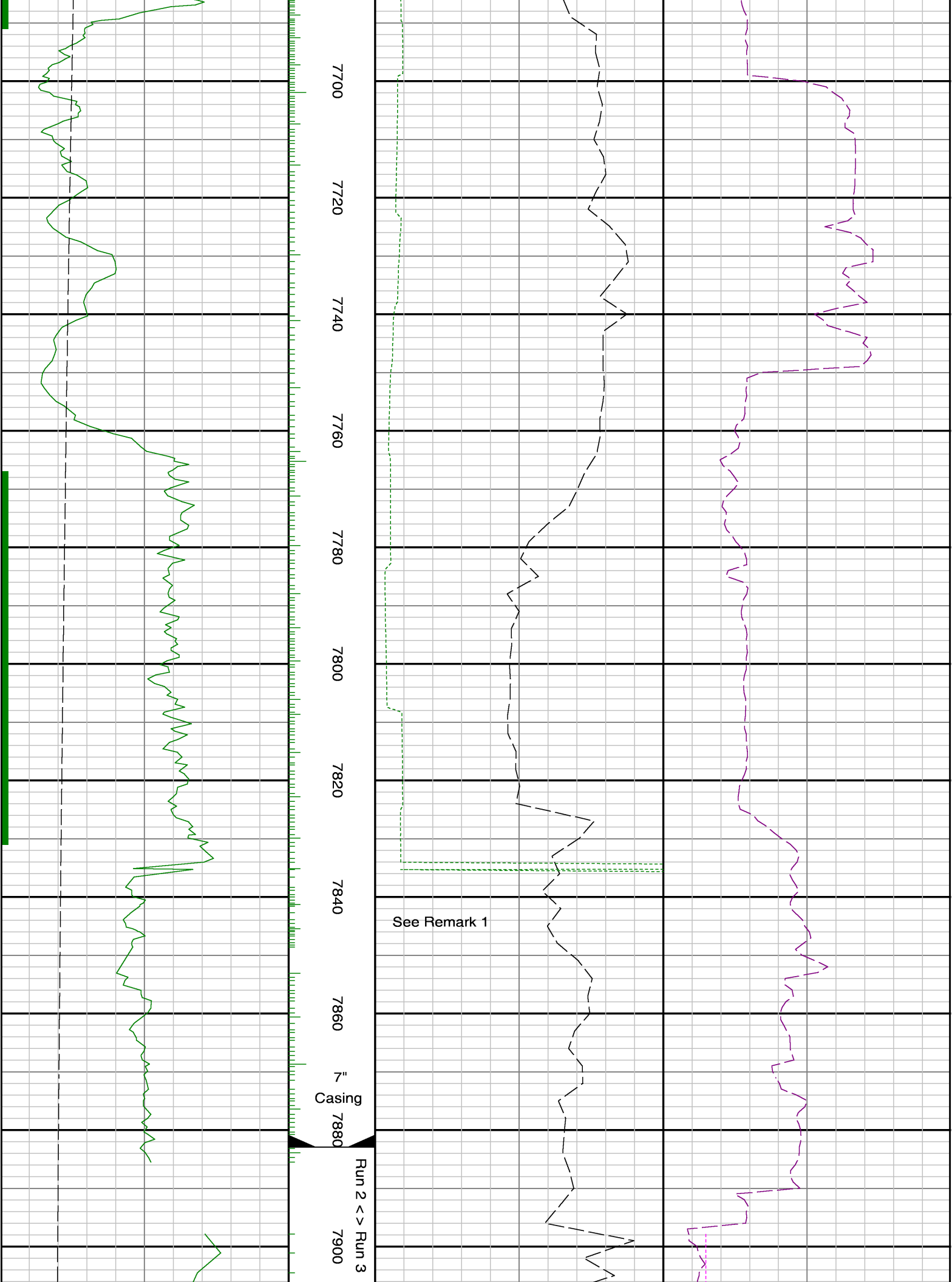
Number	Measured Depth (ft.)	Hole Section (in.)	LWD Run No.	Remark
1	7835	8.750	3	The interval from 7834 to 8038 feet MD (7334 to 7351 feet TVD) was logged up to 24 hours after being drilled due to a trip out of hole for intermediate casing ops.
2	8790	6.120	4	The interval from 8790 to 8866 feet MD (7336 to 7336 feet TVD) was not logged to to MWD decode issues caused by interference from the drillstring agitator.
3	11400	6.125	5	The interval from 11400 to 11467 feet MD (7334 to 7333 feet TVD) was logged up to 18 hours after being drilled due to a trip out of hole for MWD failure.

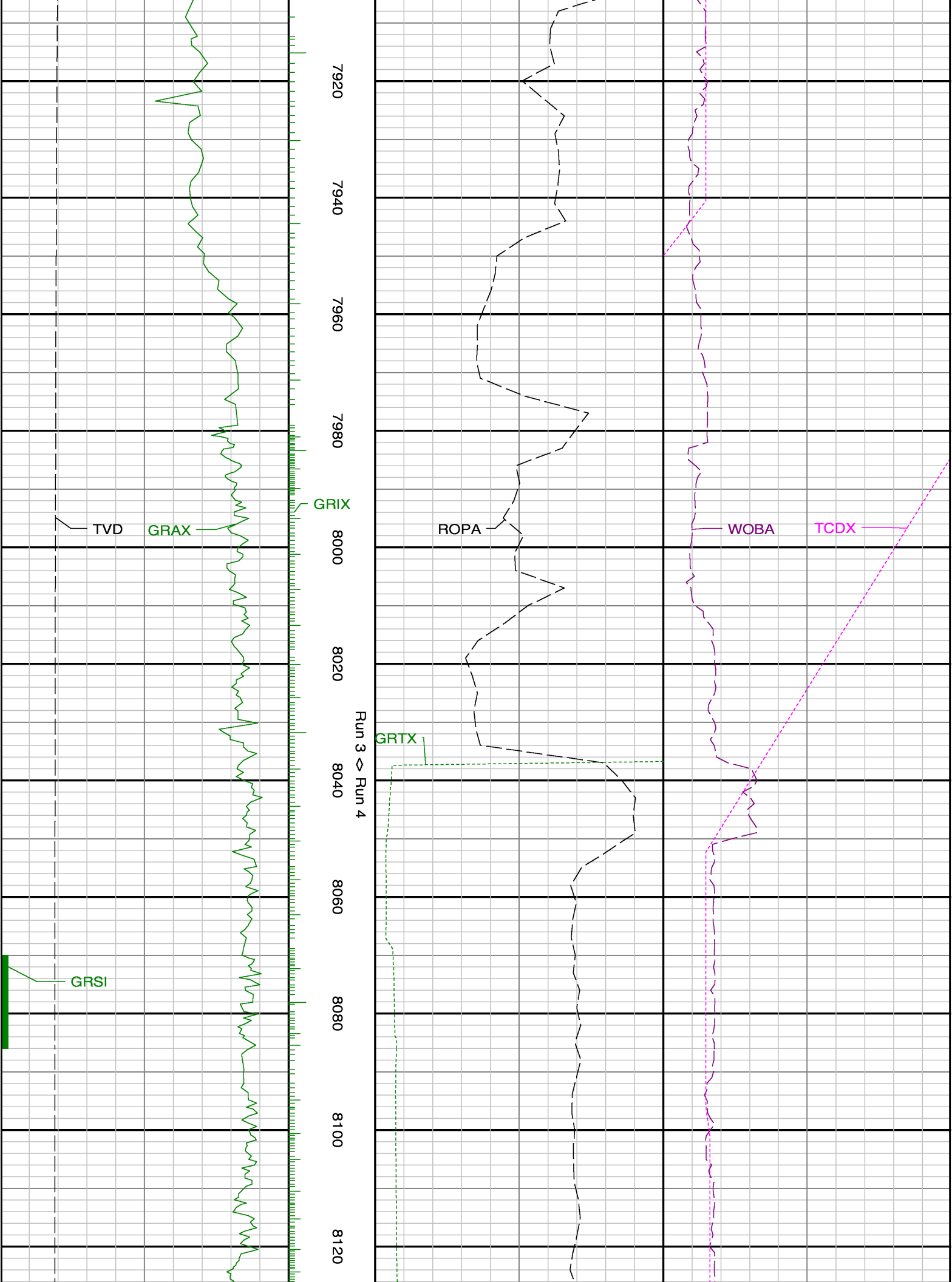


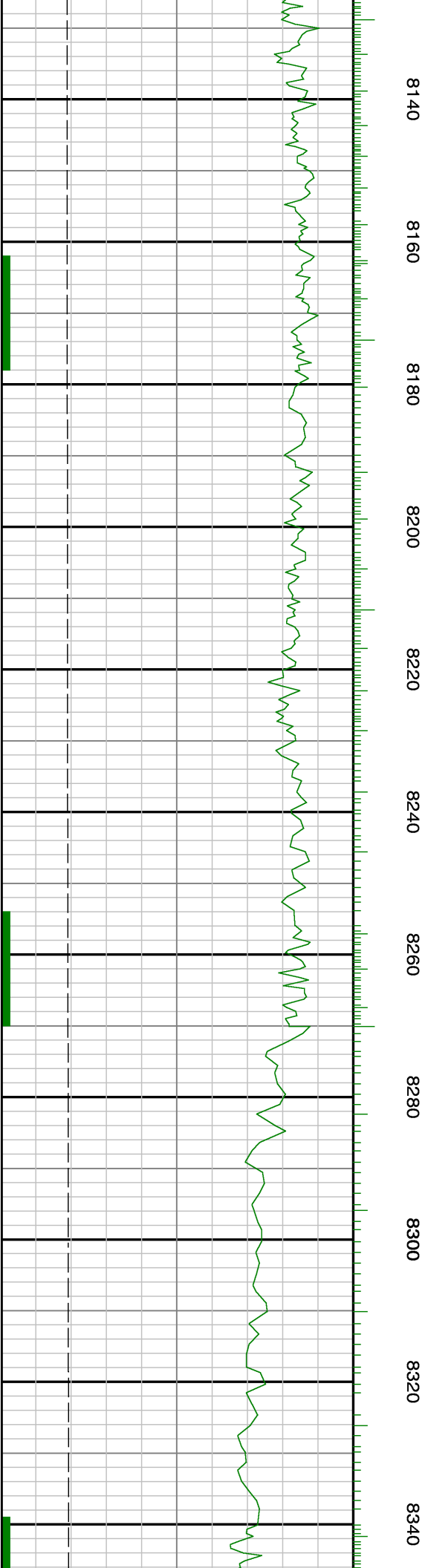


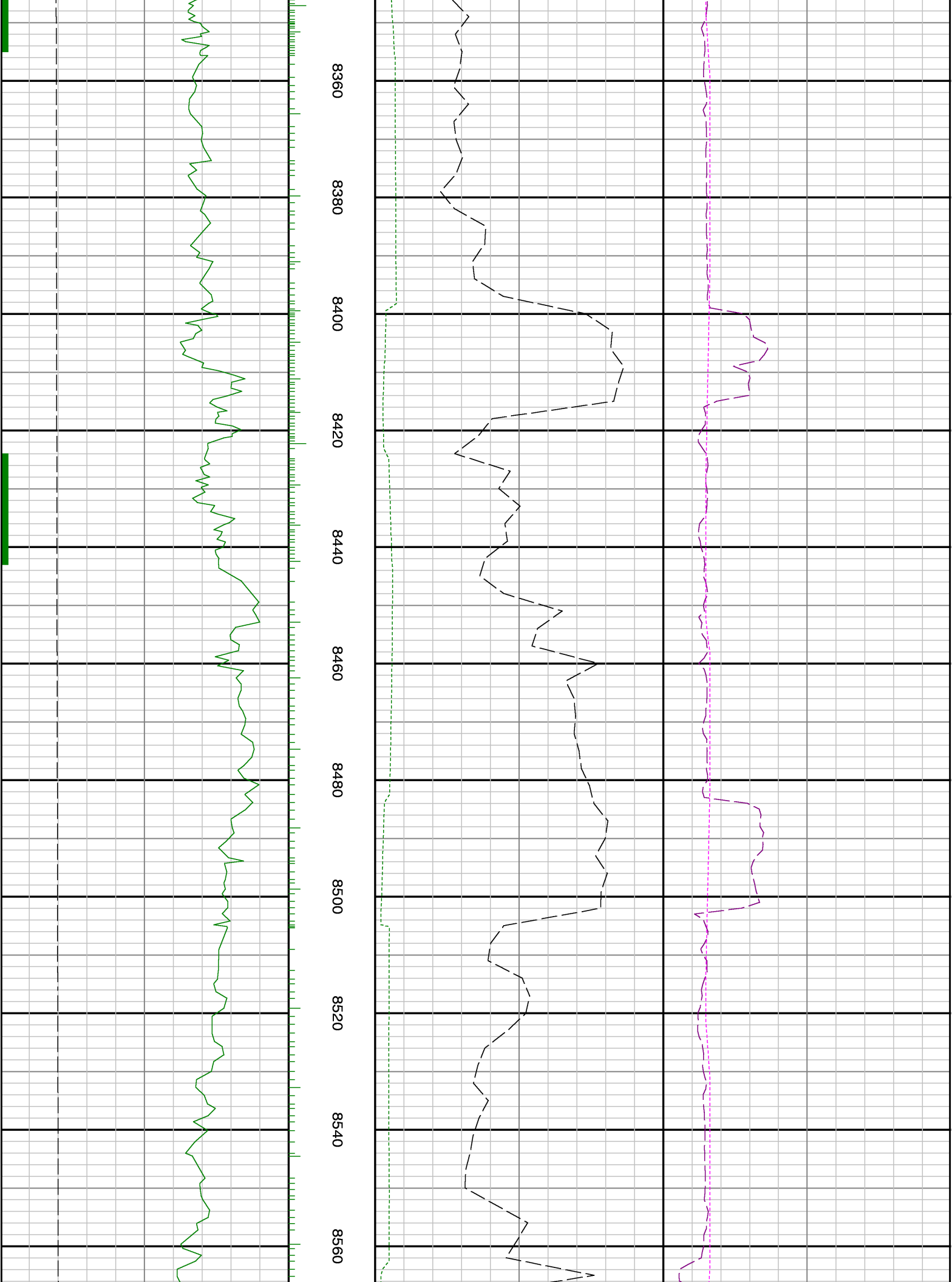


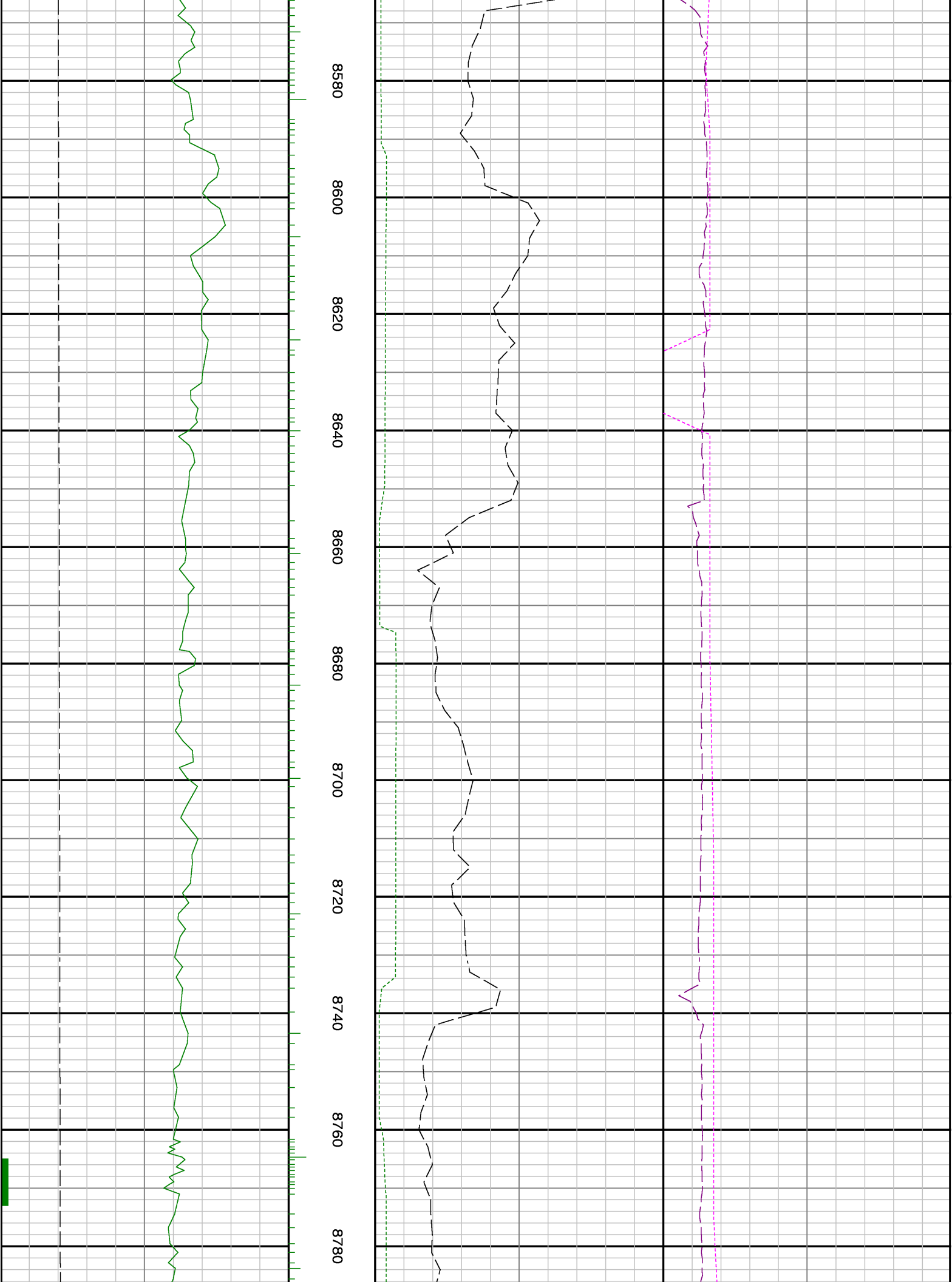












See Remark 2

8800

8820

8840

8860

8880

8900

8920

8940

8960

8980

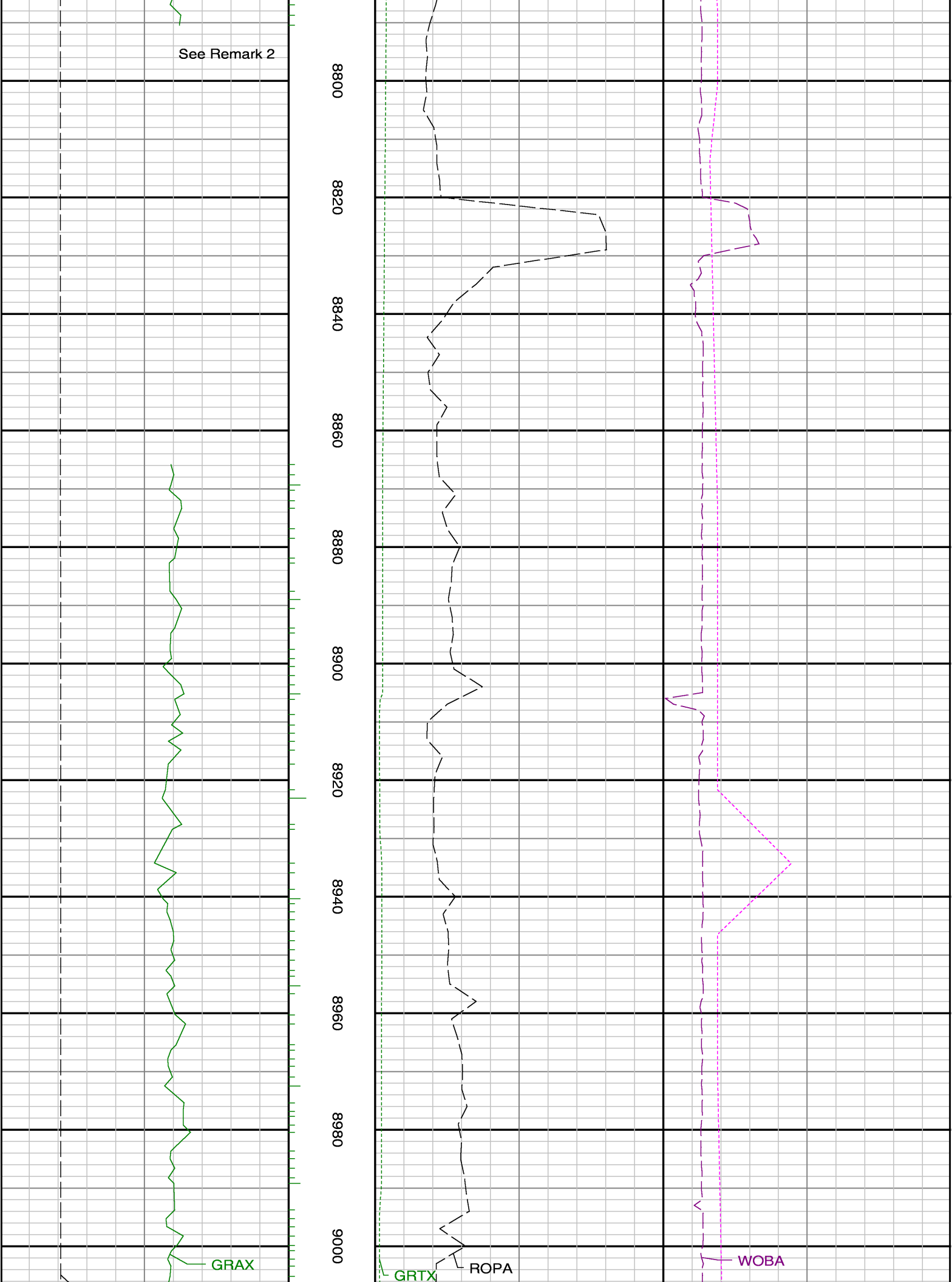
9000

GRAX

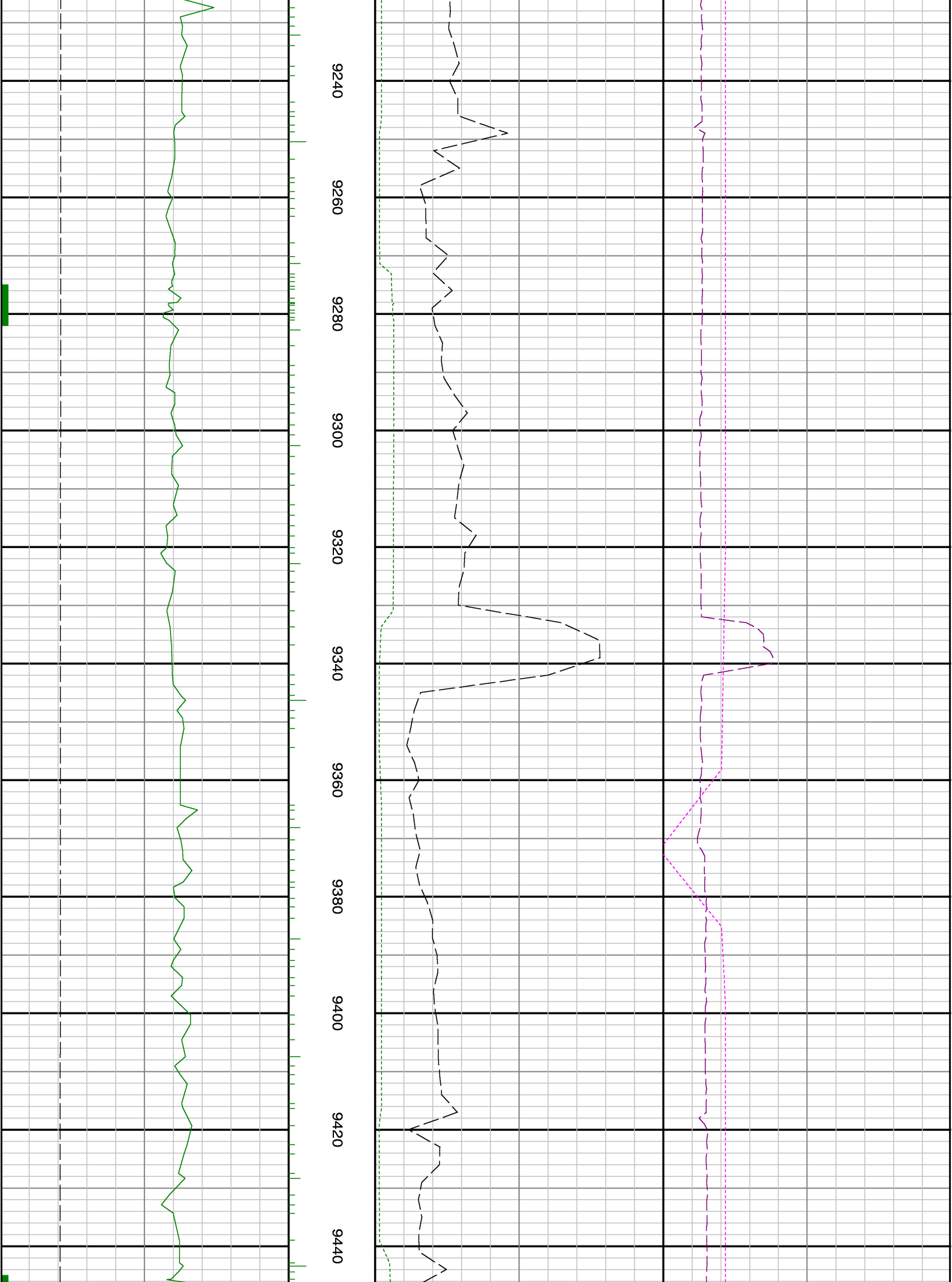
GRTX

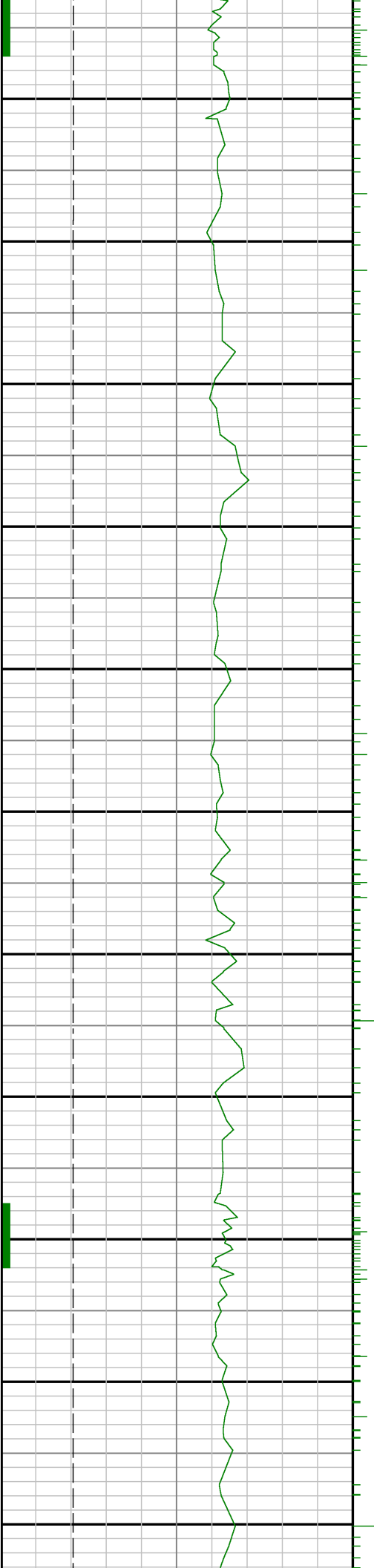
ROPA

WOBA

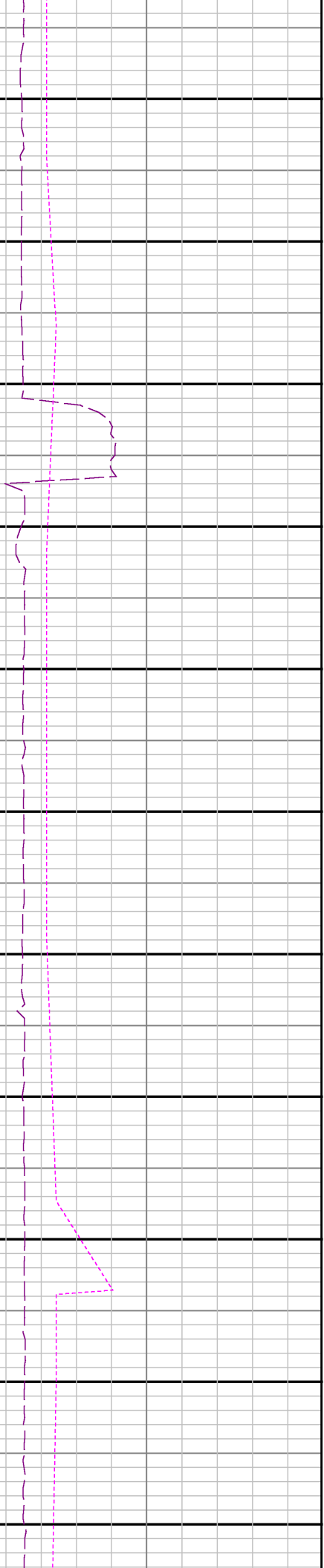
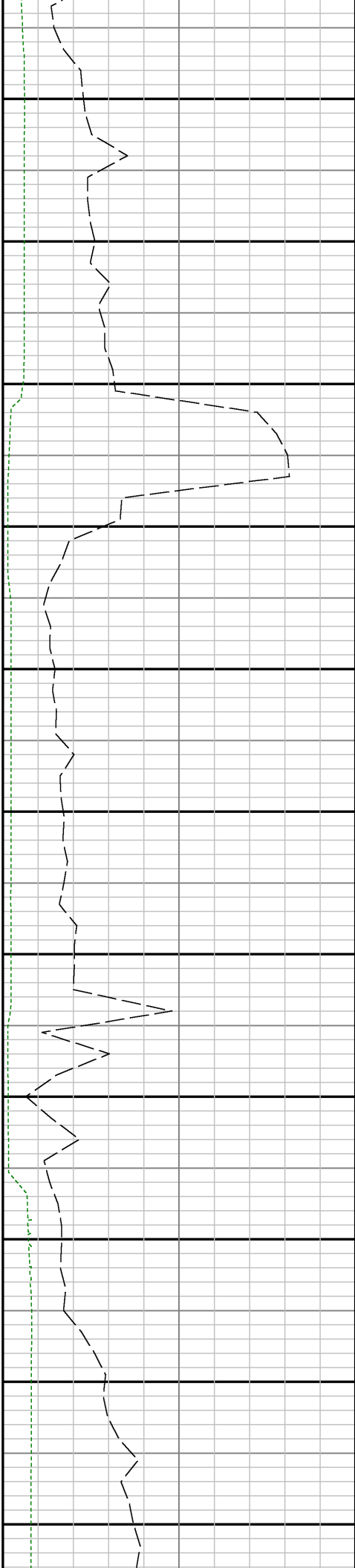


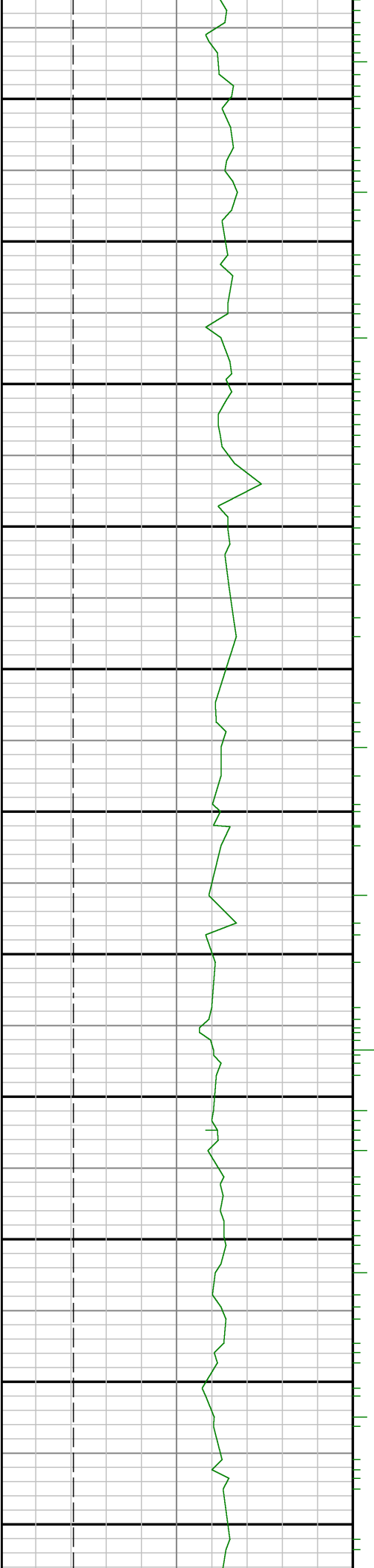




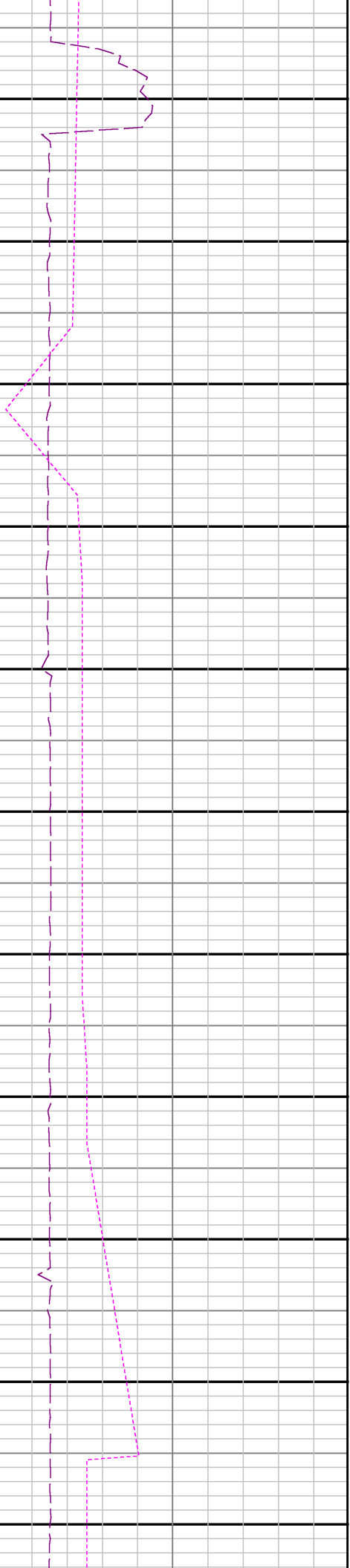
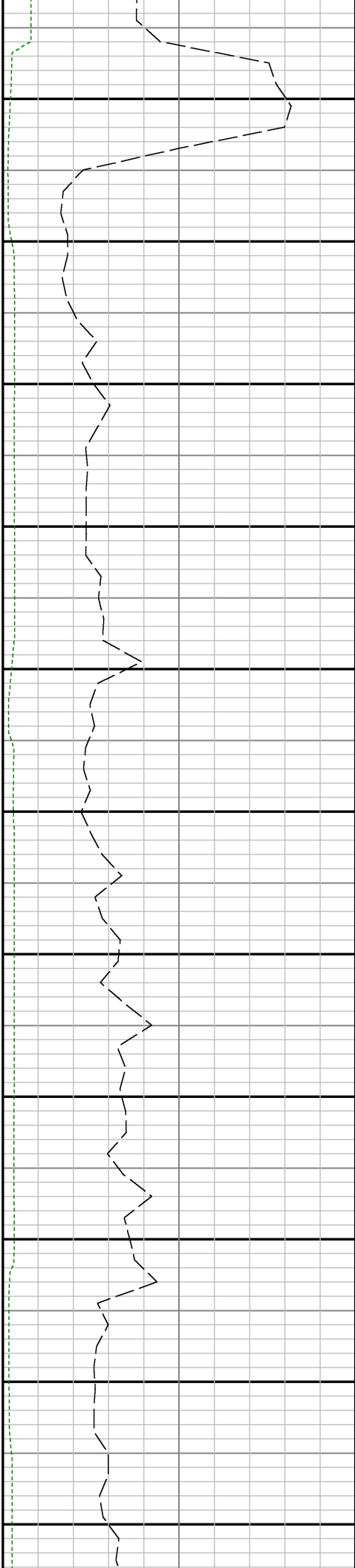


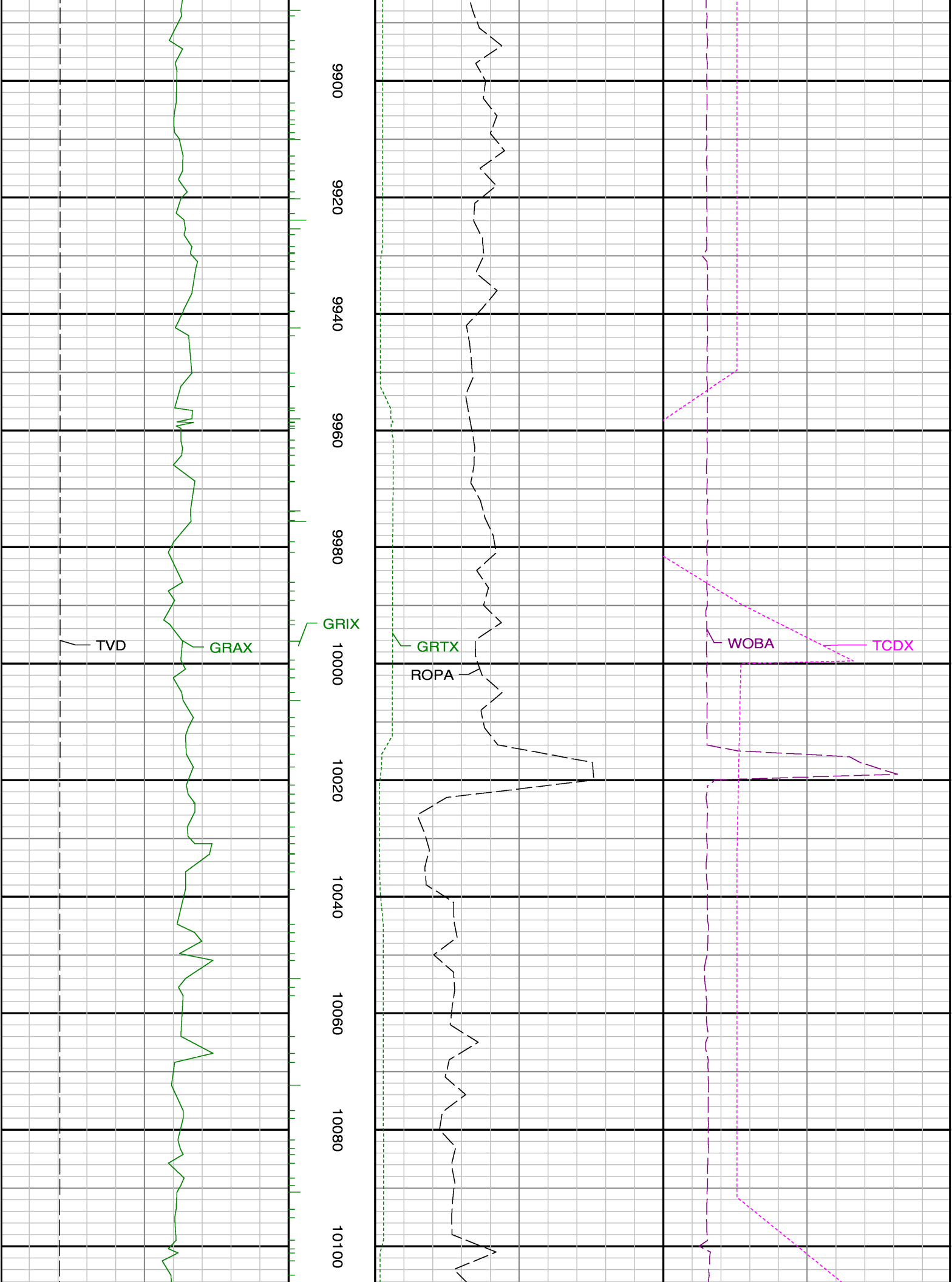
9460 9480 9500 9520 9540 9560 9580 9600 9620 9640 9660

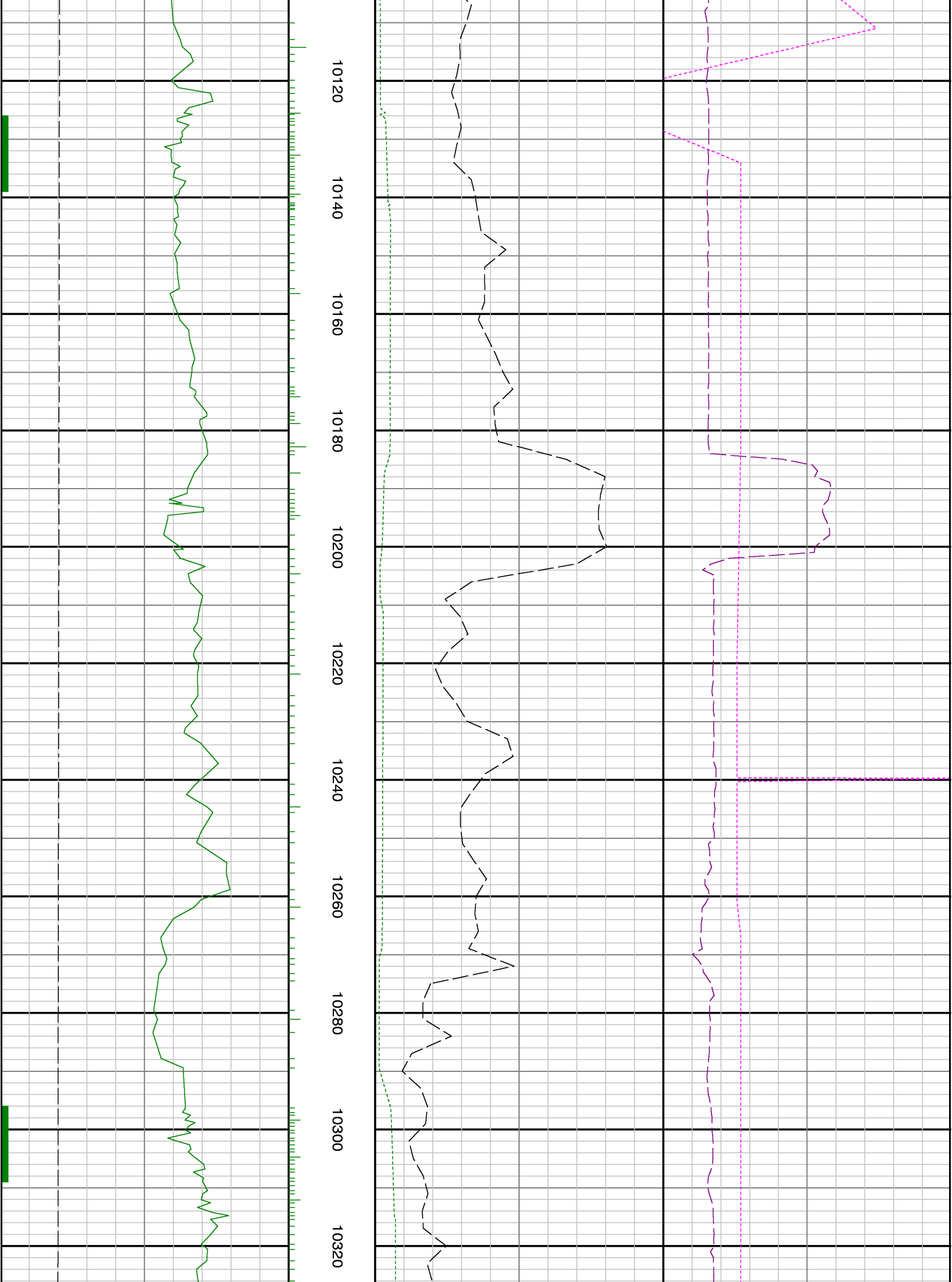


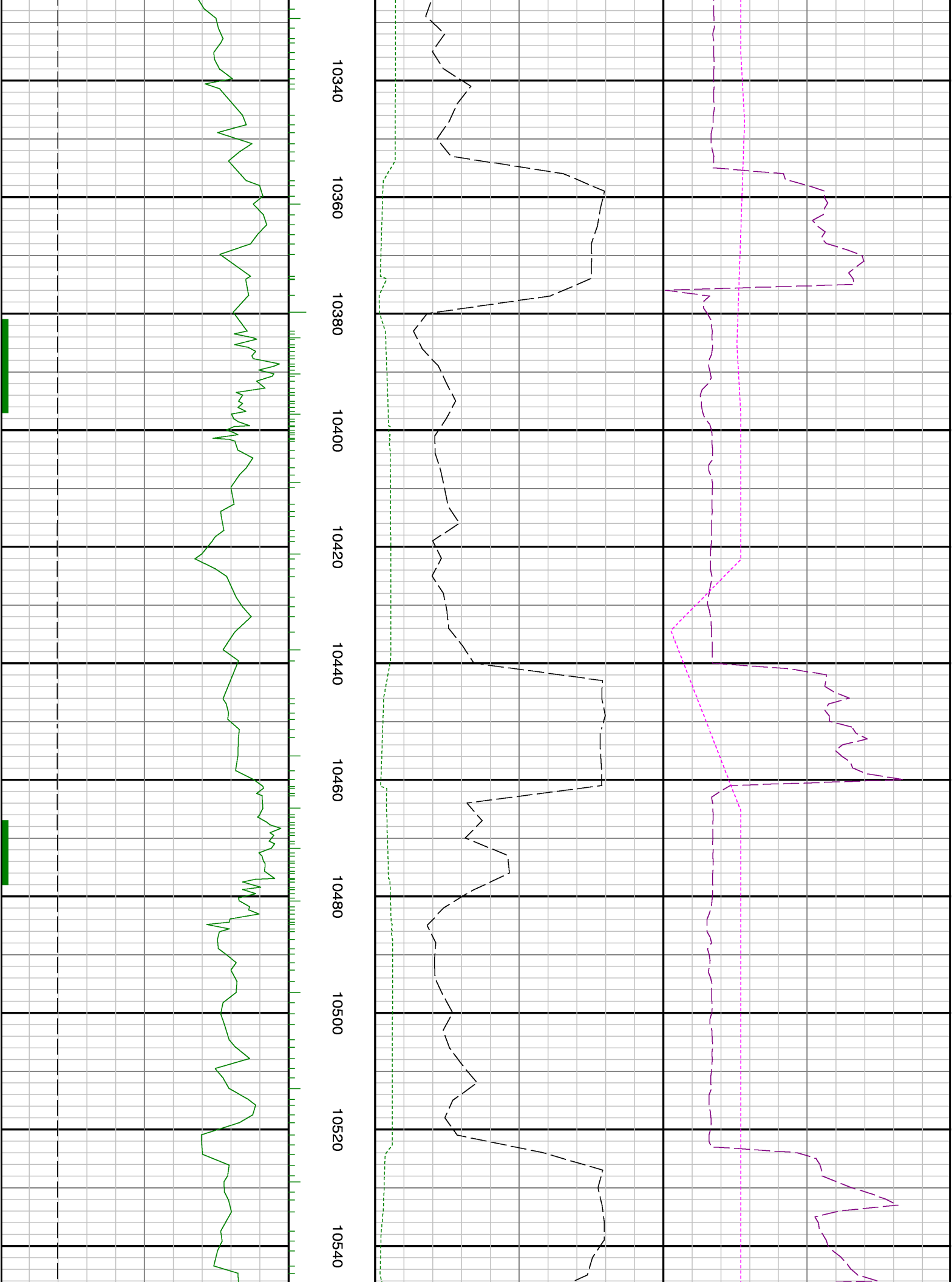


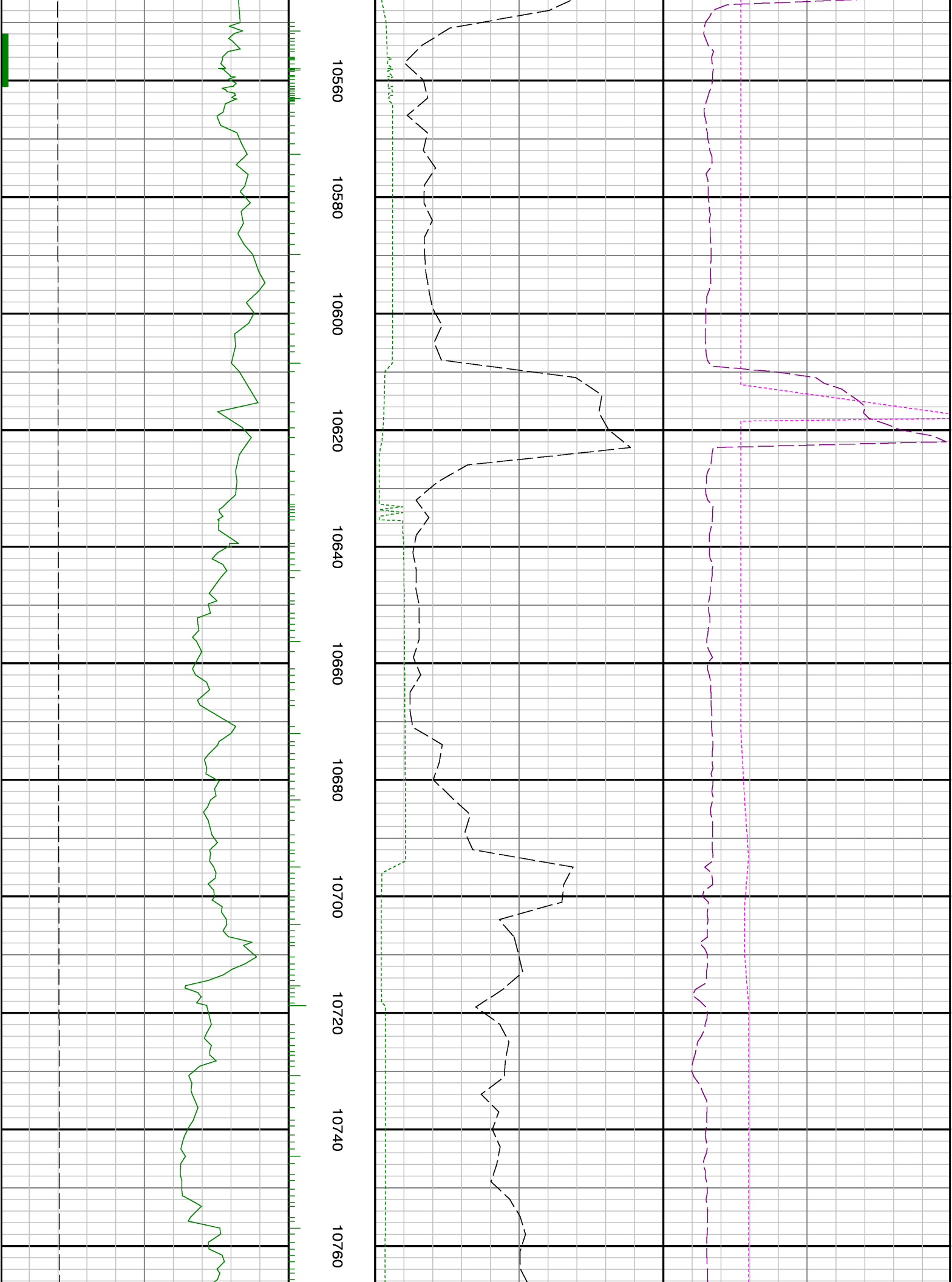
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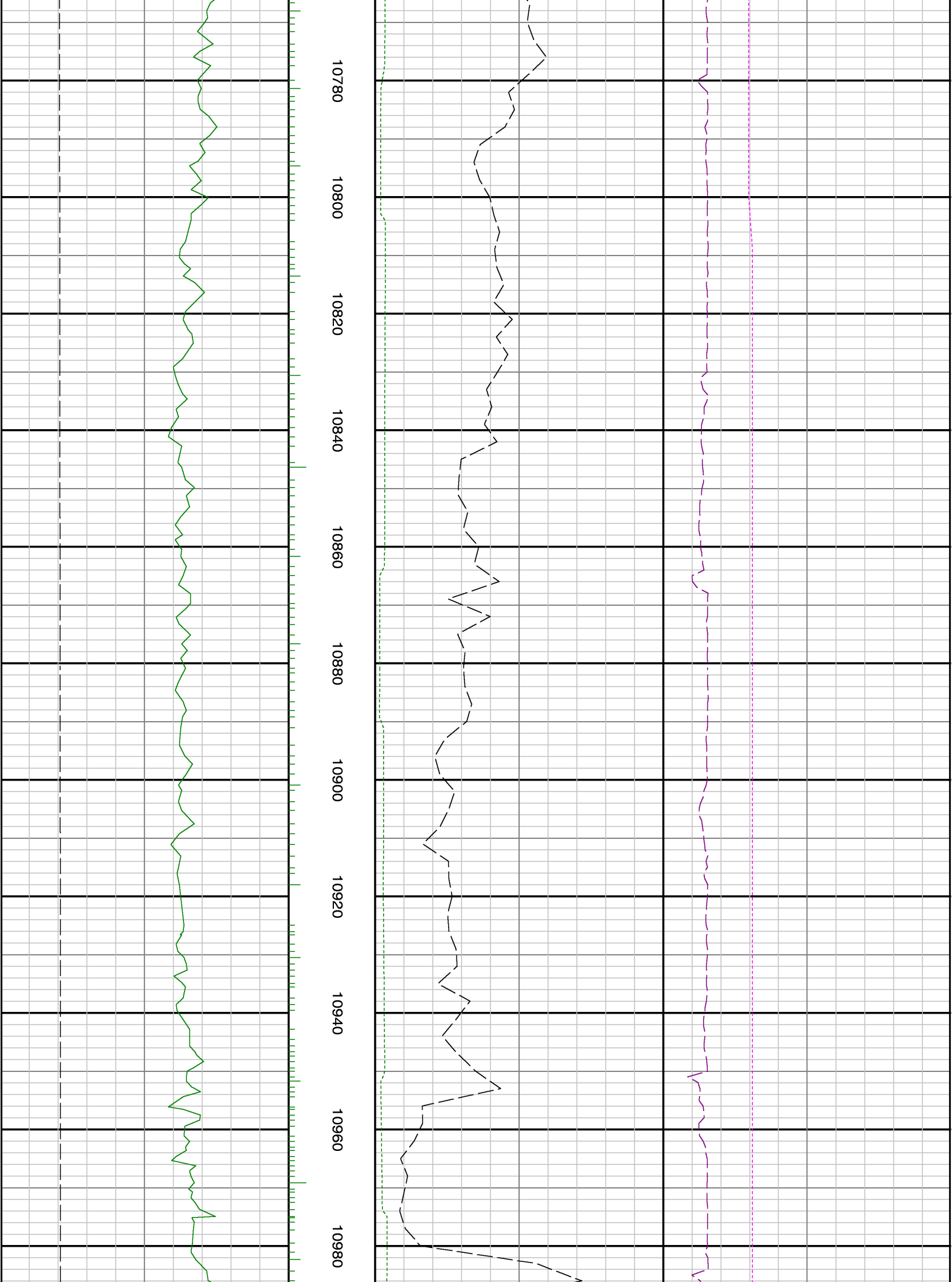


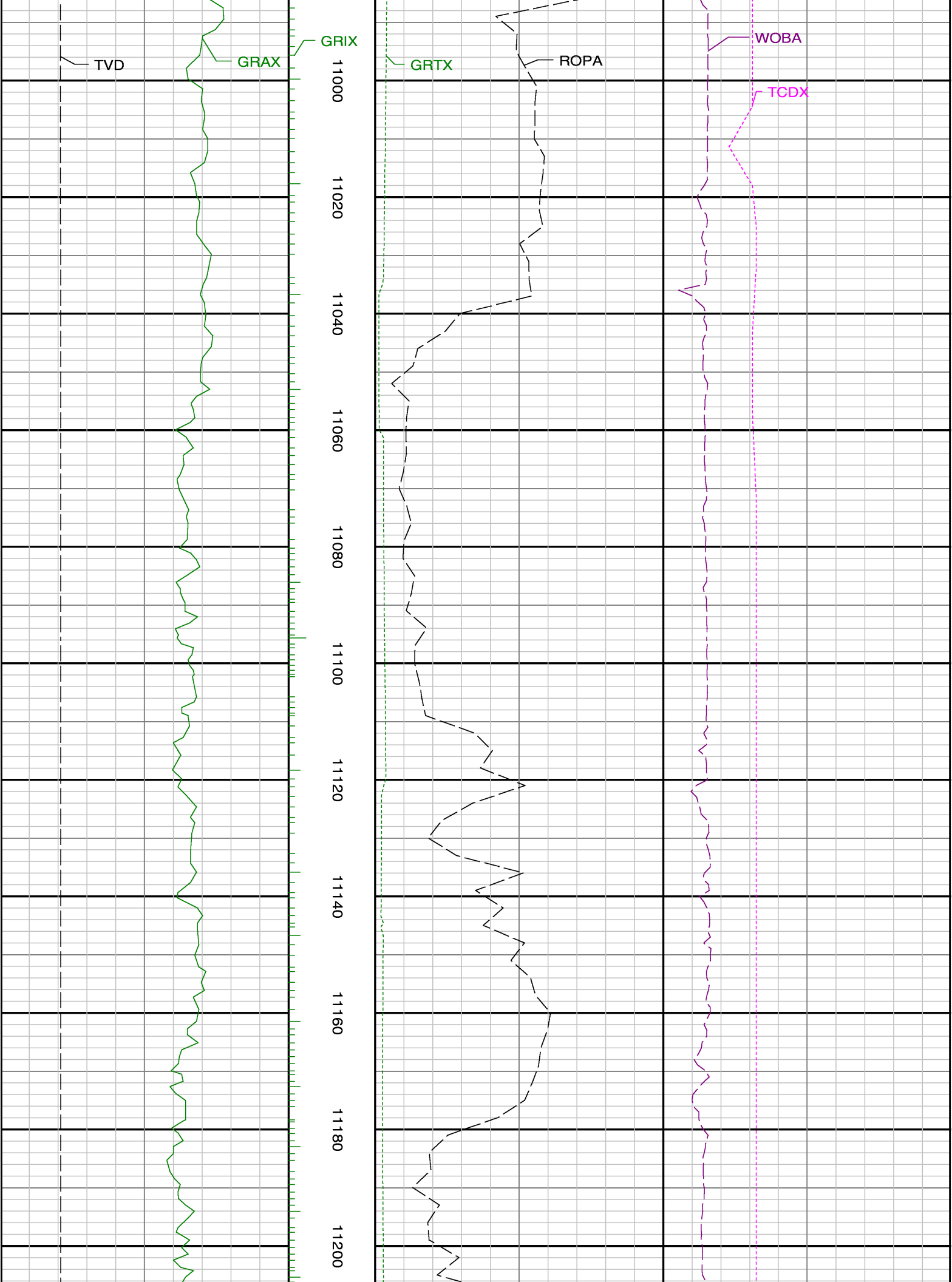


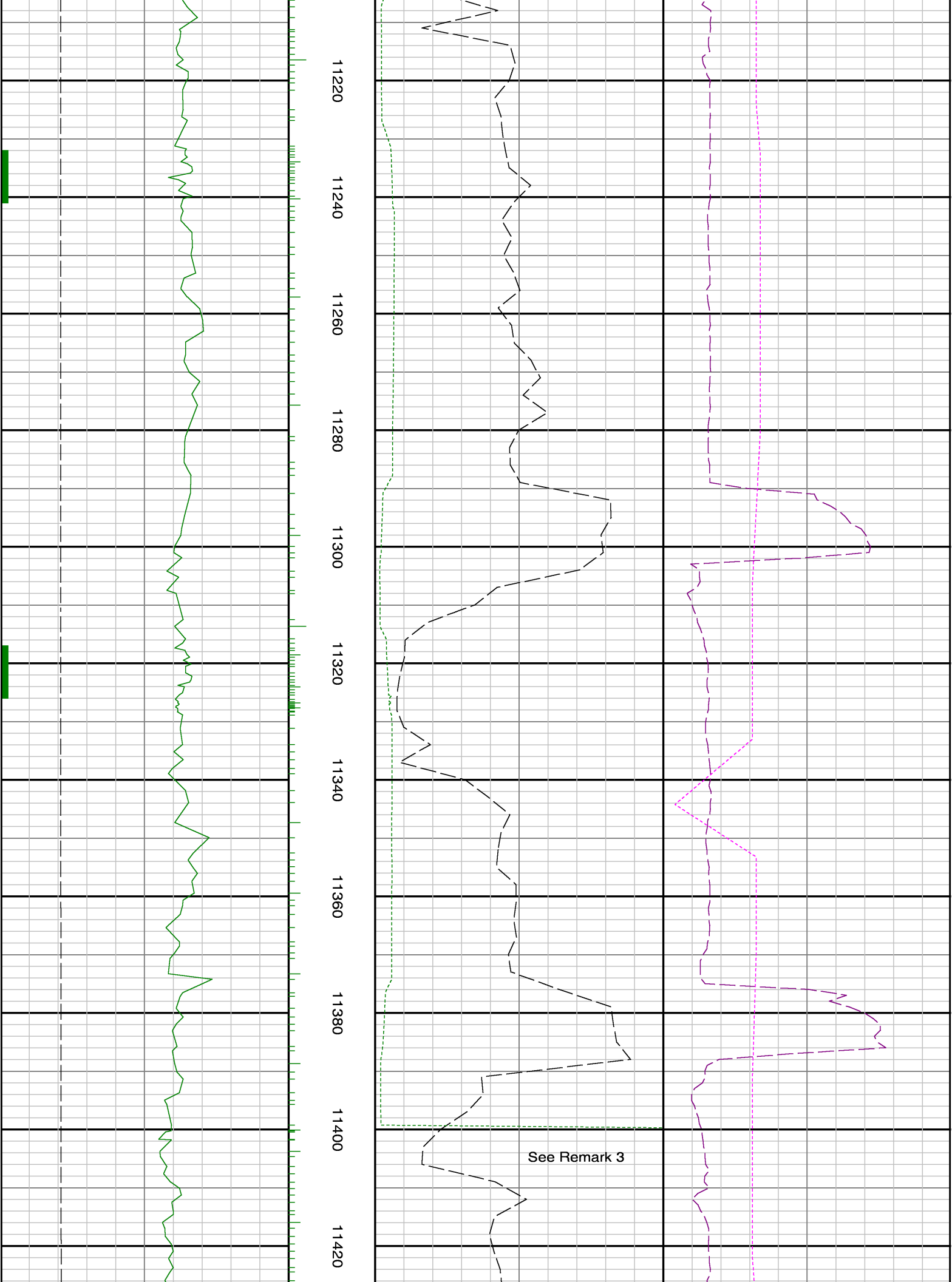


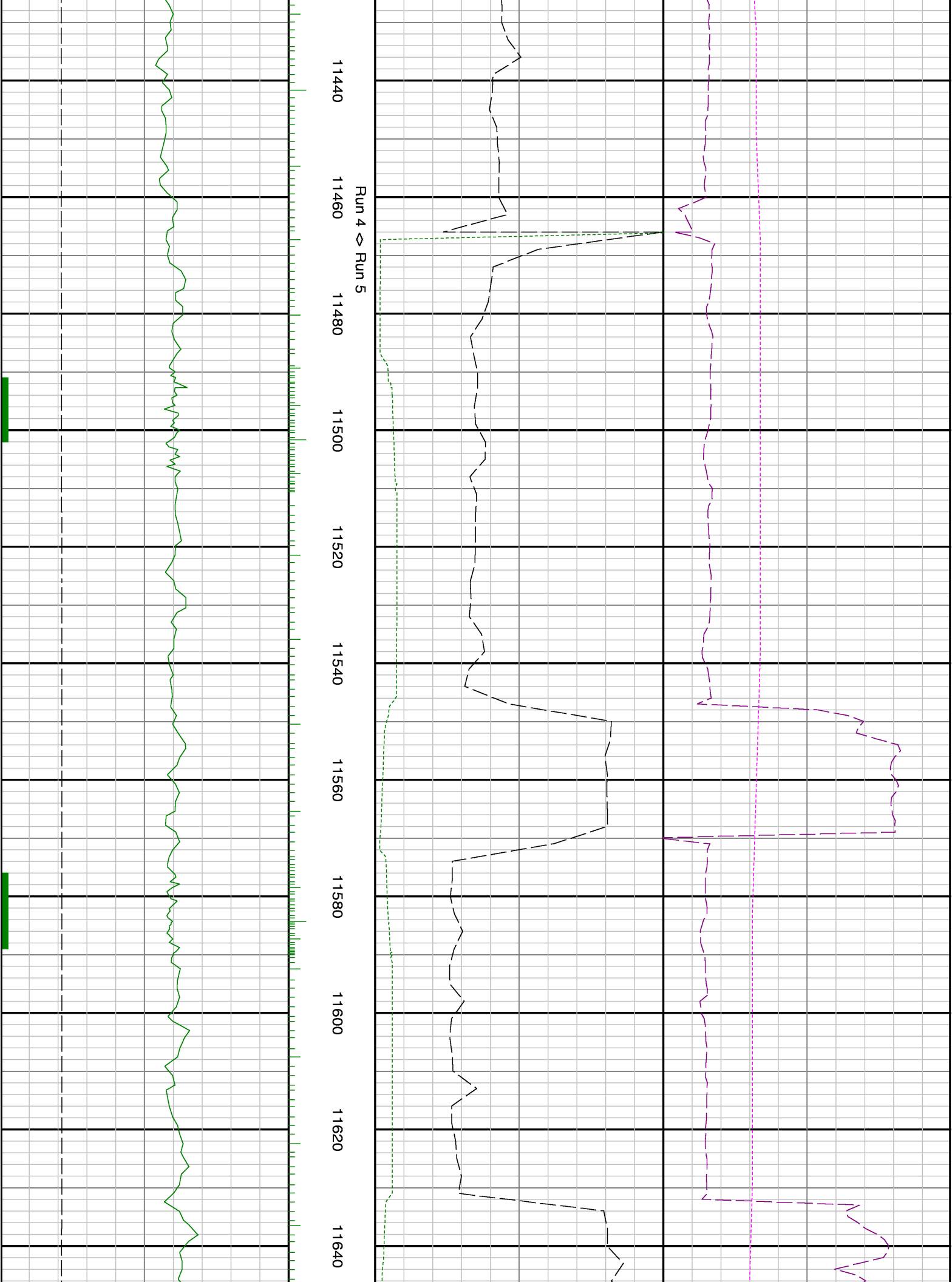


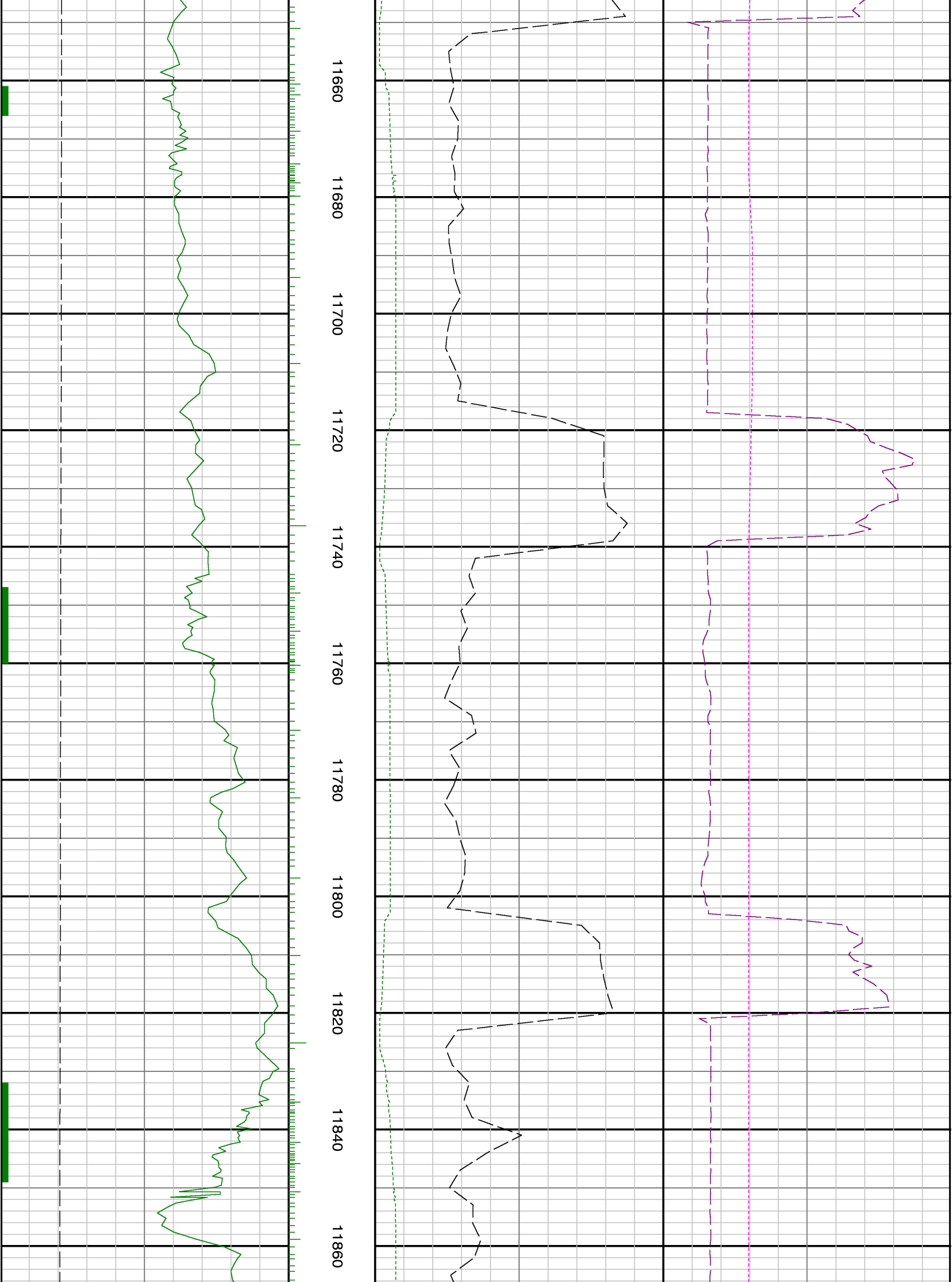


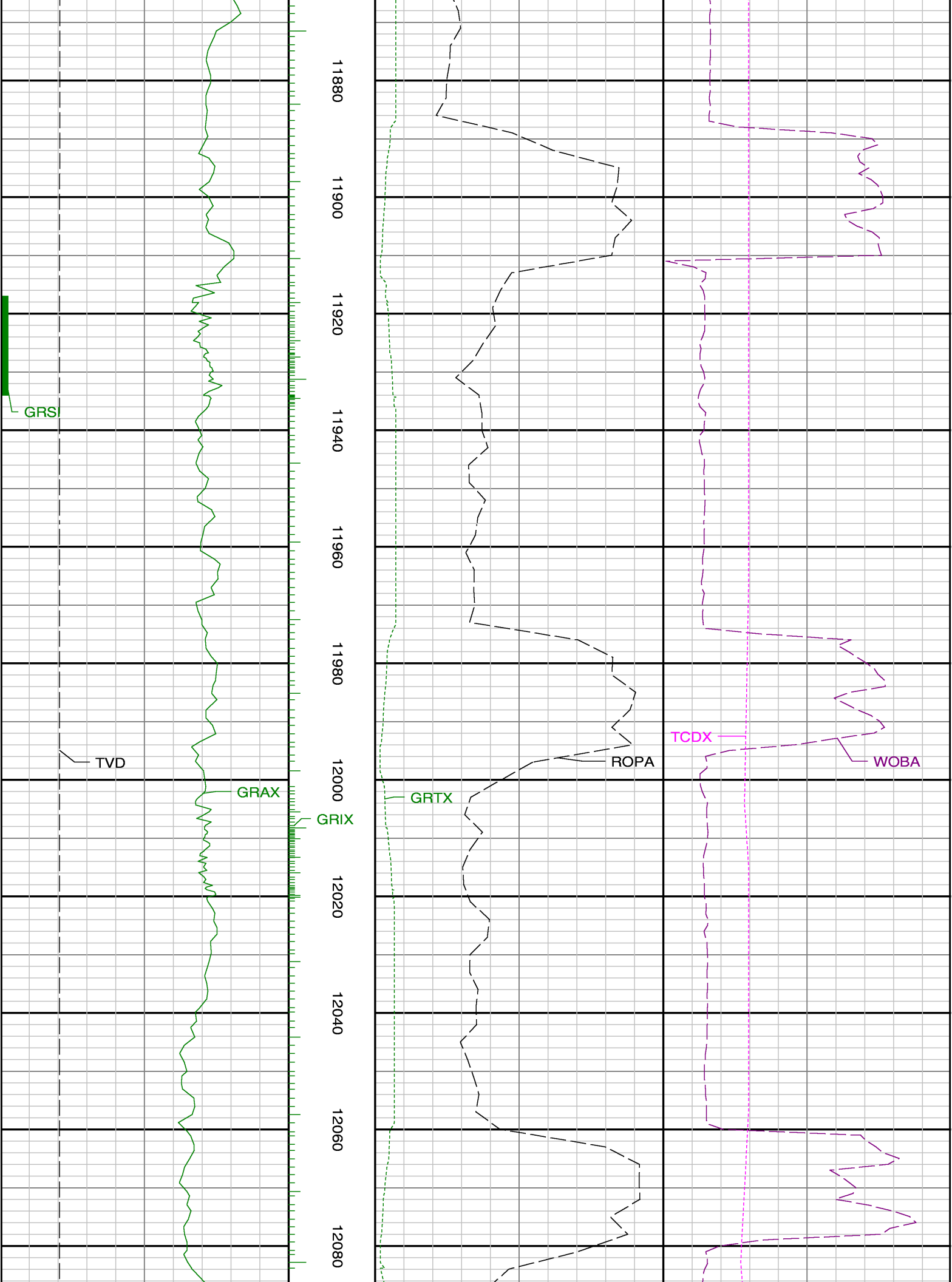


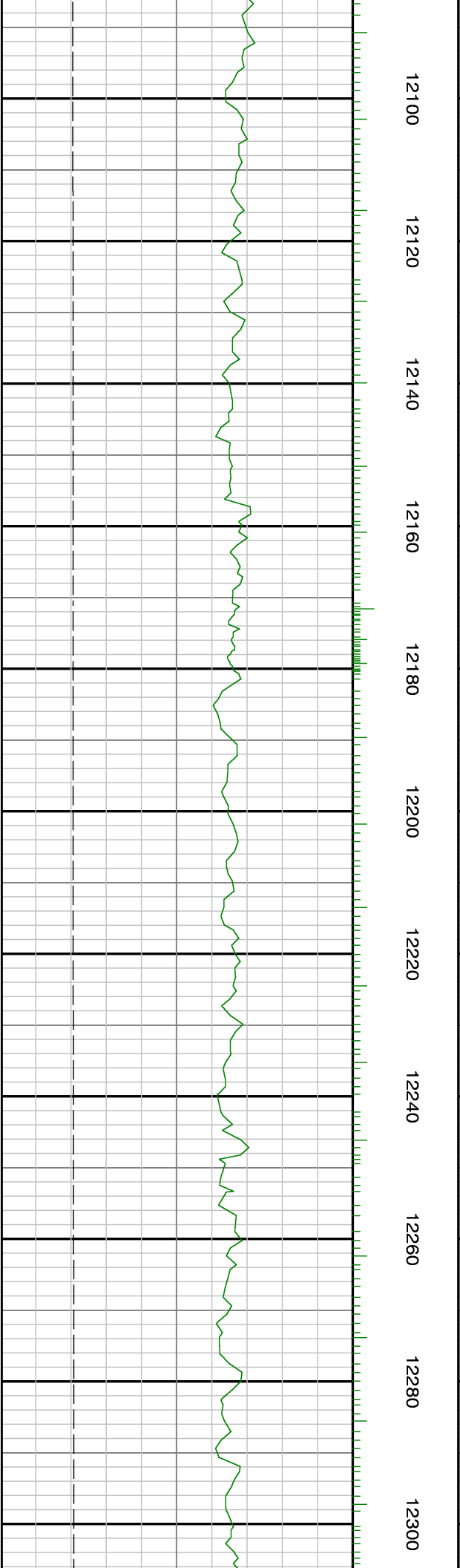


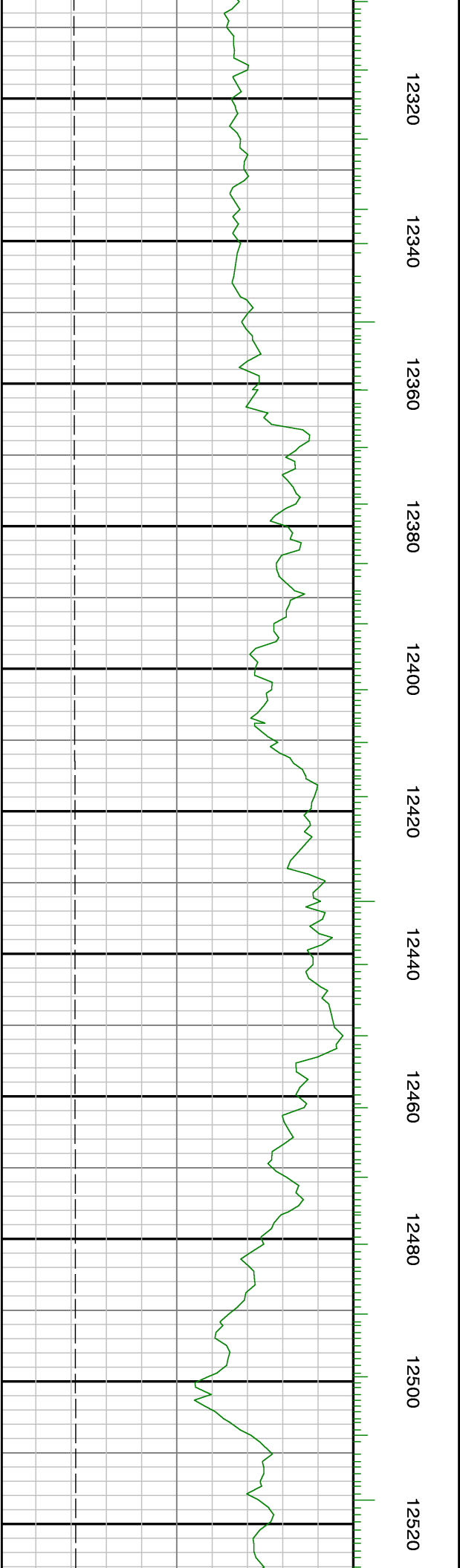


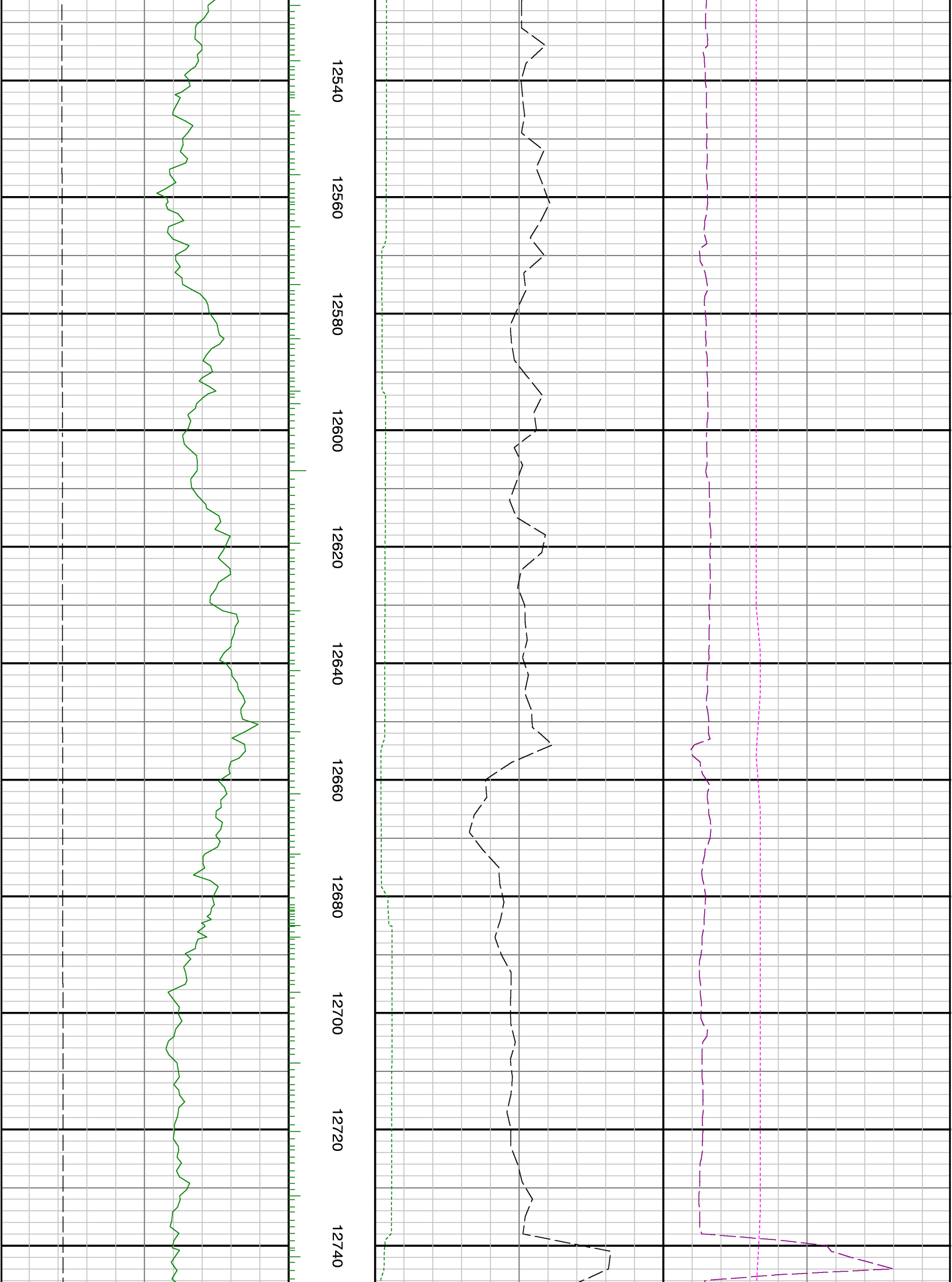


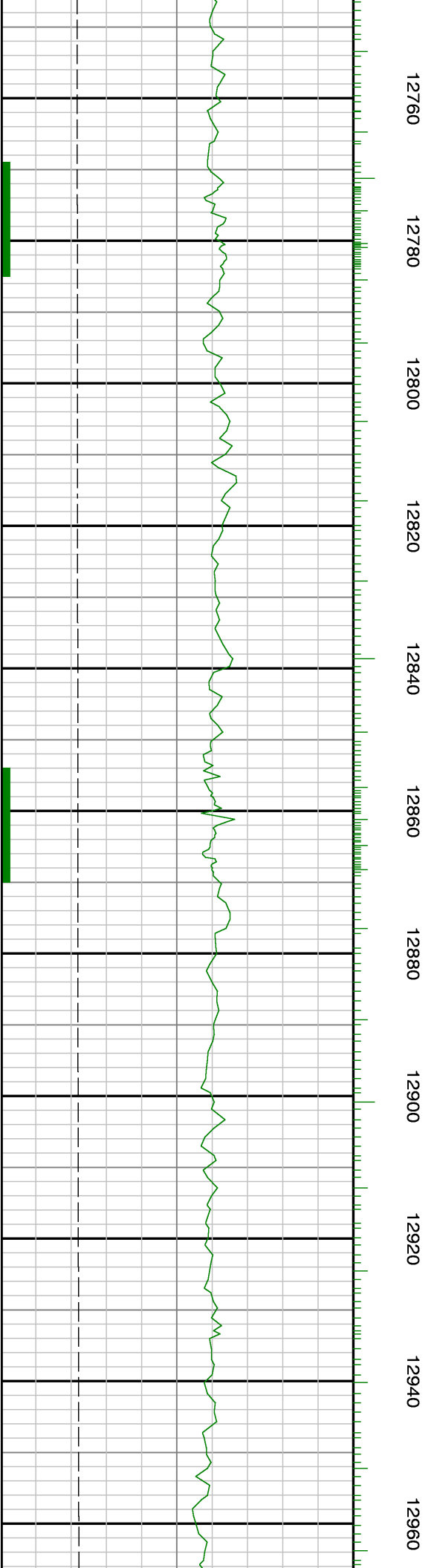
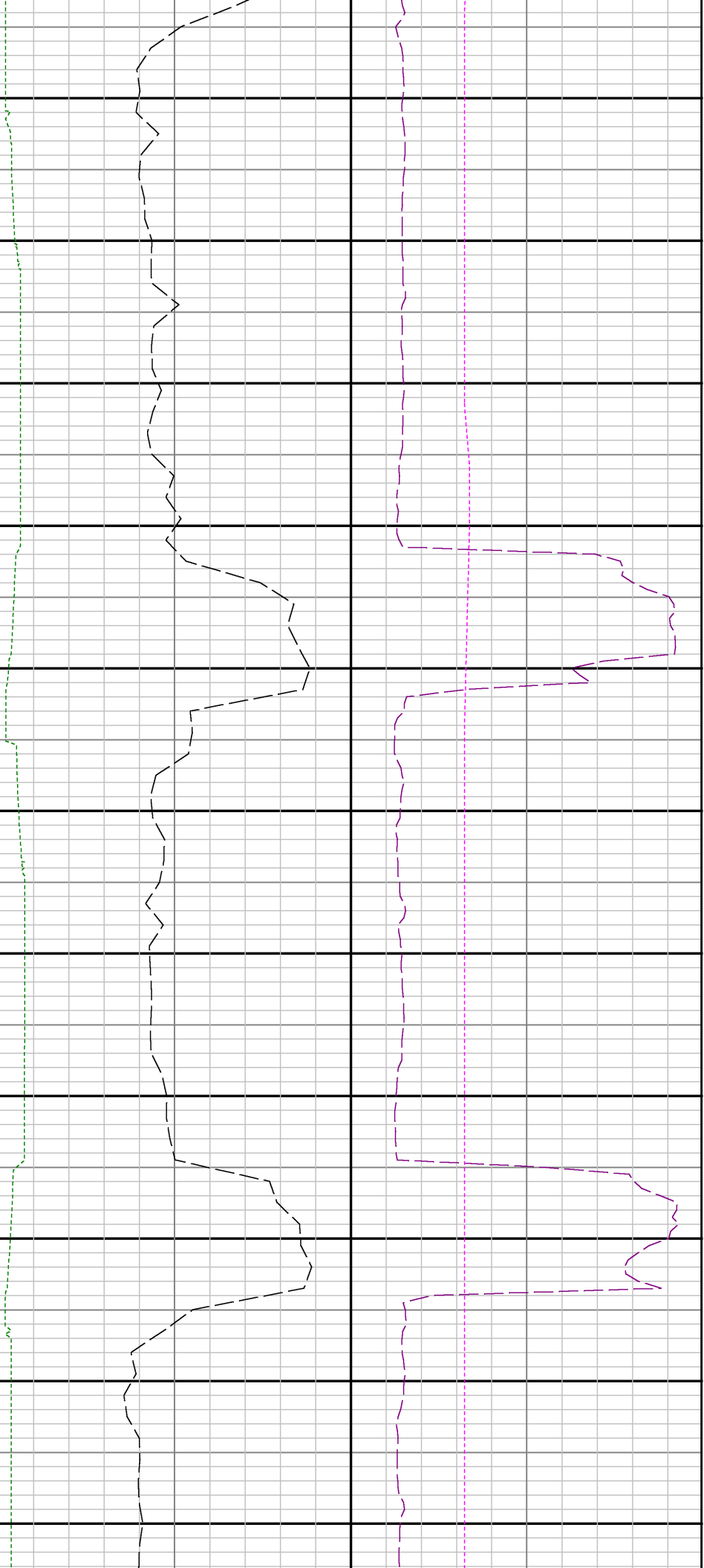


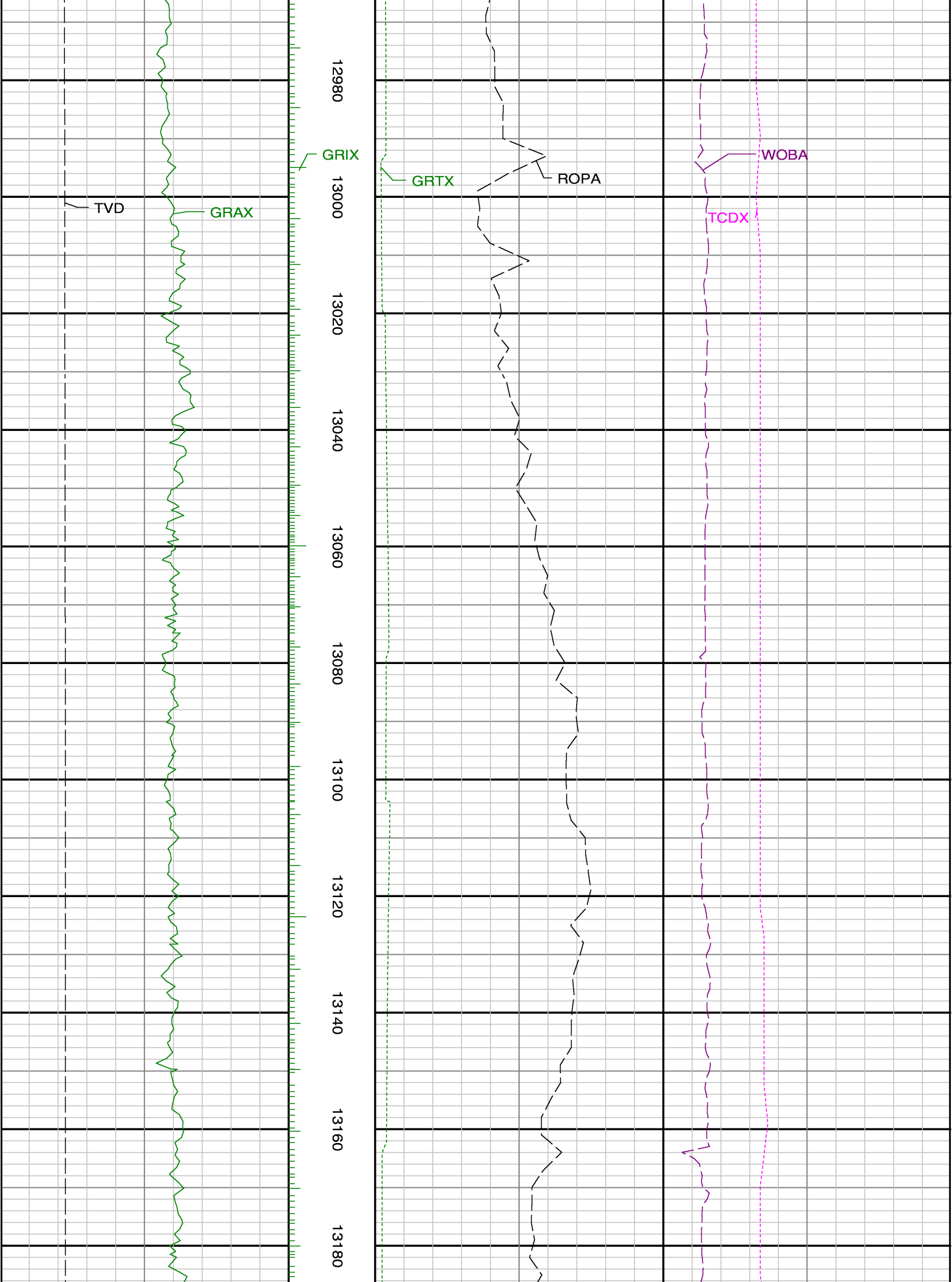


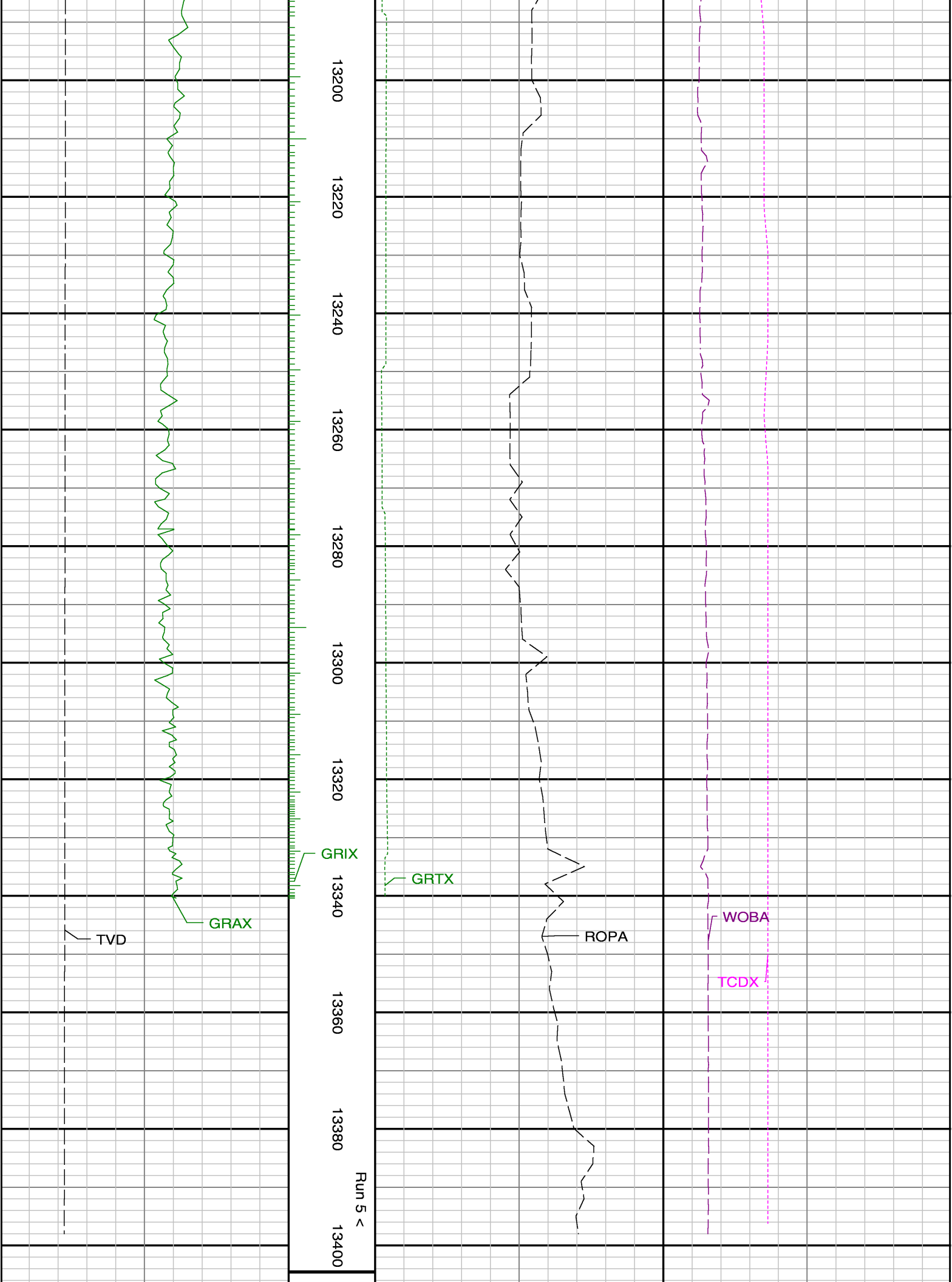












	TB		
Gamma Ray Apparent 0.5 ft Avg [GRAX]	MD feet 1 :240	Rate of Penetration 3.0 ft Avg [ROPA]	Surface Weight On Bit 1.0 ft Avg [WOBA]
0 150		500 0	0 100
API		ft/hr	klbf
True Vertical Depth [TVD]		Gamma Ray Time Since Drilled [GRTX]	Downhole Temperature [TCDX]
7500 6700		0 600	150 350
ft		min	degF