

LWD REALTIME LOG



Natural Formation Evaluation
Gamma Ray

Scale:

1:240 MD

Company: Anadarko

Well: English Farms 38N-8HZ

Depth Reference:

Field: Weld County

Driller's Depth

County: Weld State: Colorado

Status:

Final Print

Surface Location:

Latitude:

Longitude:

Other Services:

FEI ° Å 66.1 16.1 HÅÅ

API No: 05123414920000

Job ID: 7346534

SEC: 8

TWN: 1N

RGE: 65W

Permanent Datum (P.D.): Mean Sea Level

Elevation:

0.00 ft

KB:

DF:

4948.00 ft

Log Measured From: Rig Floor

Above P.D.

4948.00 ft

GL:

4932.00 ft

Dates

Interval Logged

Magnetic Field Reference

Date From: 2015-07-25 Top: (ft) 6750.00

Azi Reference North: True

Dip Angle: (deg) 66.57

Date To: 2015-07-28 Bottom: (ft) 13346.00

Total Magnetic Field Strength: (nT)

52657

Spud Date: 2015-07-23

Mag to Reference North Correction: (deg)

8.08 E

Borehole Record

Casing Record

Hole Size (in) From (ft) To (ft)

Size (in)

Weight (lb/ft)

From (ft)

To (ft)

7.875 1869.00 13385.00

9.630

36.00

0.00

1859.00

Mud Record

Deviation Record

Type

From (ft)

To (ft)

Hole Size (in)

Interval (ft)

Inc | Az (Start)

Inc | Az (End)

Synthetic Based Mud

1869.00

13385.00

7.875

11519.38

23.67 | 3.38

90.80 | 179.21

Acquisition System

Software Version

Other

Baker Hughes Cadence

1.0.6955.1

Rig:

XTreme 24

Prior Studio

1.0.7056.2

Contractor:

XTreme

District:

RMA

Unit:

N/A

"These interpretations and analyses ("Interpretations") are opinions provided by Baker Hughes Oilfield Operations, Inc ("Baker Hughes"), based upon industry practice, empirical relationships, assumptions and measurements, (many of which may be provided by the customer). The Interpretations are not infallible and may be subject to different opinions. Vjwu. "Dcmgt"Jwijgu"fqgu"pqv"ycttcpv"vjgkt"ceewtce{. "eqttgevpguu. "qt"eqorngvgpguu. "qt"vjcv"vjg"ewuvqogtøu"cpflqt"cp{ "vjktf"rctv{øu"tgnkcpeg"qp"uwej"Kpvgtrtgv cvkqpu"yknn"cee qornkuj"cp{ "rctvkewnct"tguwnvu0"Vjg"ewuvqogt"cuuwogu"hwnn" responsibility for the use of the Interpretations and for decisions based thereon and the customer agrees to release, defend and indemnify Baker Hughes, its parent, subsidiaries and affiliated or related entities, and subcontractors, together with its and their officers, directors, employees, agents and invitees against, any and all claims, losses, damages, or expenses sustained by the customer or any third party arising out of reliance upon or use of the Interpretations, without regard to the cause(s) thereof, including without limitation any form of negligence on the

part of Baker Hughes. Unless other contract terms have been agreed to by the parties, each party's liabilities and obligations shall not be limited by the fact that Baker Hughes is a limited liability company or other entity under applicable law. This agreement shall be governed by the laws of the State of Texas. The parties agree to arbitrate any and all disputes arising out of or in connection with this agreement under the rules of the American Arbitration Association. The arbitration shall be held in Houston, Texas. The arbitrator's decision shall be final and binding on the parties. This agreement shall be entered into as of the date first written above.

Log Run Summary

Run No	Bit Run No.	Bit Size (in)	Bit Type	Bit Gauge Length (in)	Assembly Type	Logged Interval		Bit Depth Interval		Date / Time		Circ. Hours (h)
						Top	Bottom	From	To	Start Logging	End Logging	
						(ft)	(ft)	(ft)	(ft)			
1	1	7.875	PDC	3.00	Motor	6750.00	13346.00	1869.00	13385.00	2015-07-26 00:55	2015-07-28 15:49	58.78

Crew

Name		Arrive Wellsite	Depart Wellsite	Name		Arrive Wellsite	Depart Wellsite	Name		Arrive Wellsite	Depart Wellsite
Jason Cross		2015-07-25	2015-07-28	John Raia		2015-07-25	2015-07-28	Osagie Otoikhine		2015-07-25	2015-07-28
Patrick Rudd		2015-07-25	2015-07-28	Scott Sims		2015-07-25	2015-07-28	Andrew Overbey		2015-07-28	2015-07-28

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+ (%)
2015-07-27 18:00		1	10254.28	Synthetic Based Mud	9.4	24	N/A	N/A	72.7/27.3	Flow Line	56000	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	NaviGamma	11253275	Gamma (single)	10.89	41.82	6.625	3.333
1	NaviGamma	11253275	Directional (mag)	14.89	45.82	6.625	3.333
1	NaviGamma	11253275	VSS	14.89	45.82	6.625	3.333

Comments

- 1 Baker Hughes run 1 utilized a 6.5 inch NaviGamma (Directional and Gamma Ray) tool ran behind an 7.875 inch bit with a steerable assembly from 1869 feel to 13385 feet MD (1819 feet to 7113 feet TVD)
- 2 A sliding indicator is shown on the left side of track 1 as a heavy line. The indicator has been shifted to the Gamma Ray sensor offset to correspond with Gamma Ray data acquired while sliding.


Remarks

Number	Measured Depth (ft)	Hole Section (in)	Run No.	Remark
				The interval from surface to 6750 feet MD (surface to 6416 feet TVD) was not logged due to directional only services provided in the well.

1	6755.00	7.875	1	The interval from surface to 6750 feet MD (surface to 6416 feet TVD) was not logged due to directional only services provided in the vertical.
2	13339.00	7.875	1	The interval from 13339 feet to 13385 feet MD (7114 feet to 7113 feet TVD) has no GRAX, GRIX or GRTX due to the Gamma Ray sensor offset to bit.

Curve Mnemonics

Presented Curves	Description	Units
ROPA	Depth Averaged ROP 3 ft Average	ft/h
GRAX	Gamma Ray - Apparent 0.5 ft Average	API
GRIX	Gamma Ray - Data Point Indicator	unitless
GRTX	Gamma Time Since Drilled	min
GRSI	Sliding Indicator Flag	unitless
TCDX	Downhole Temperature	degF
TVD	True Vertical Depth	ft
WOBA	Weight On Bit, Average 1 ft Average	klb



Company

Well

Interval

Created

Anadarko

English Farms 38N-8HZ

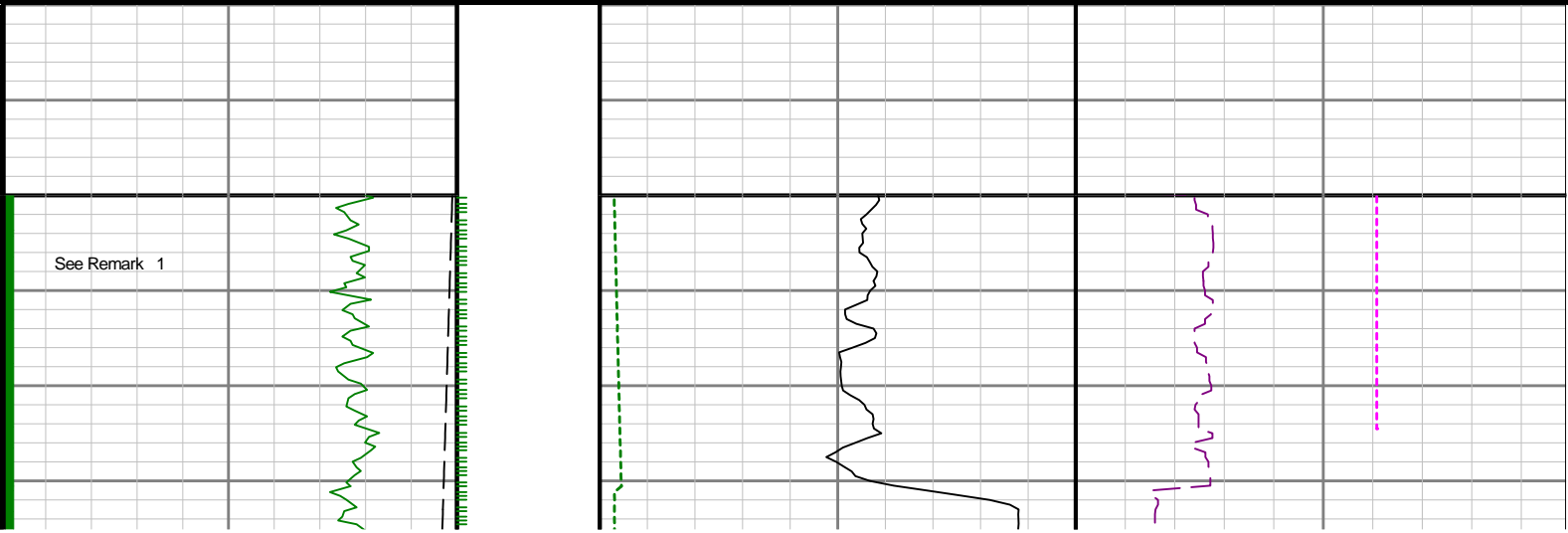
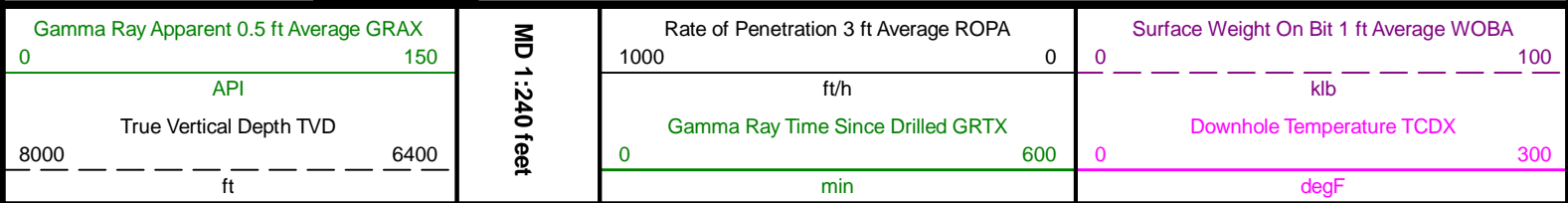
Date From: 2015-07-25 18:55

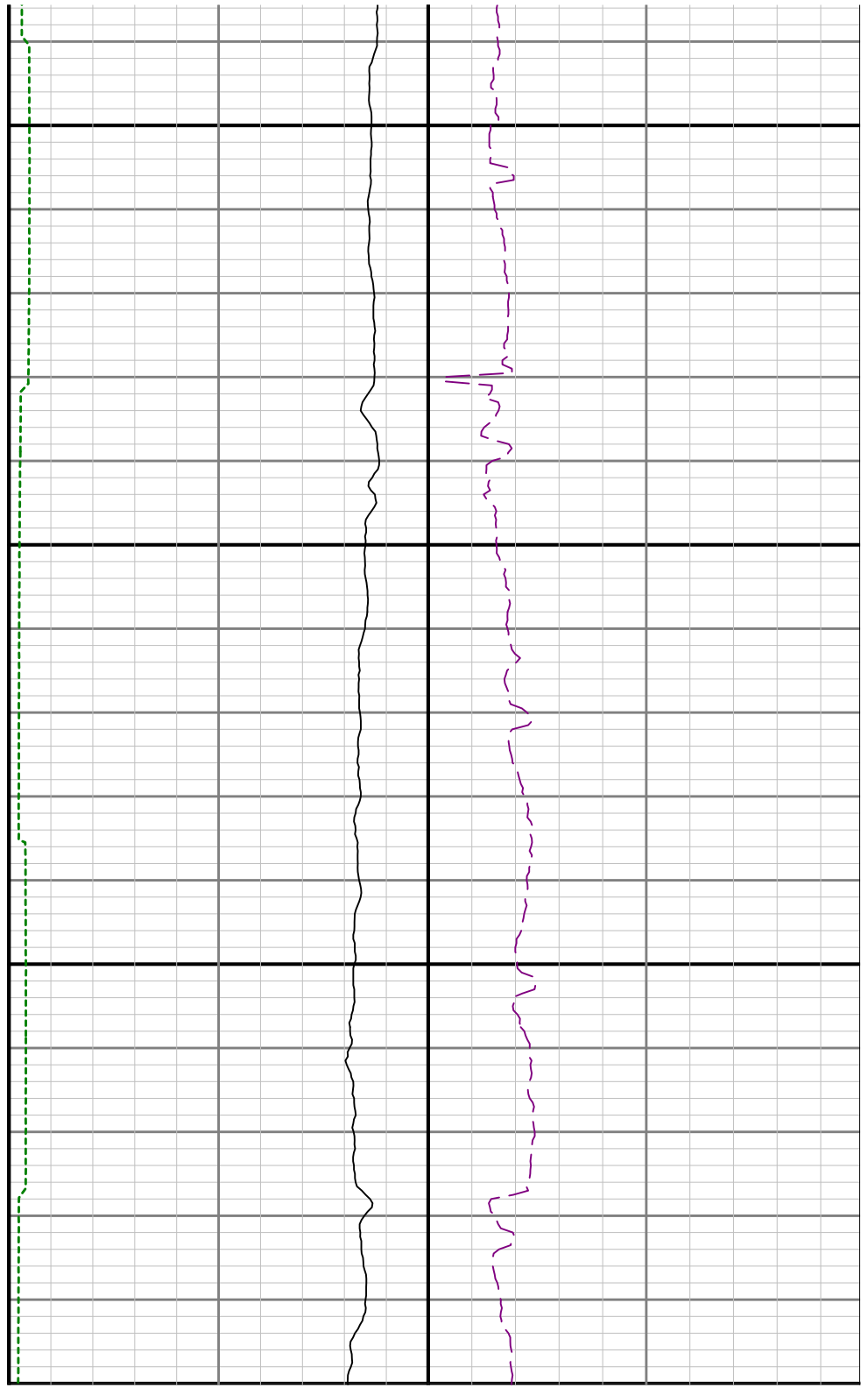
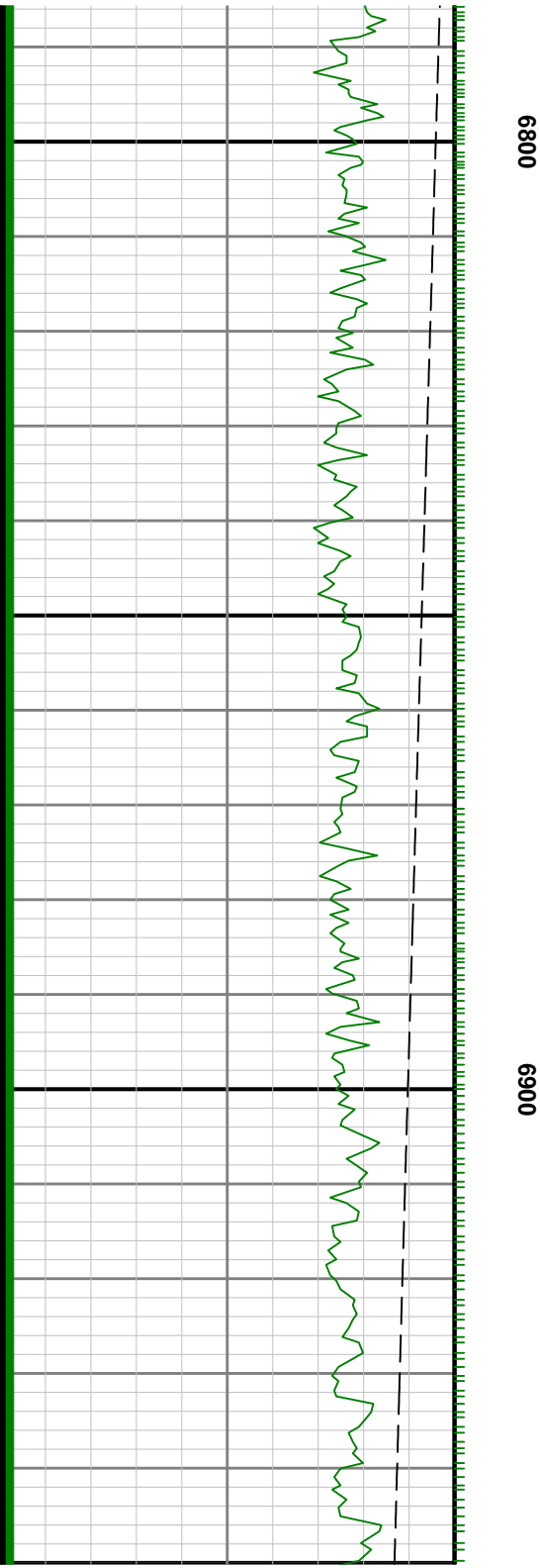
Date To: 2015-07-28 09:48

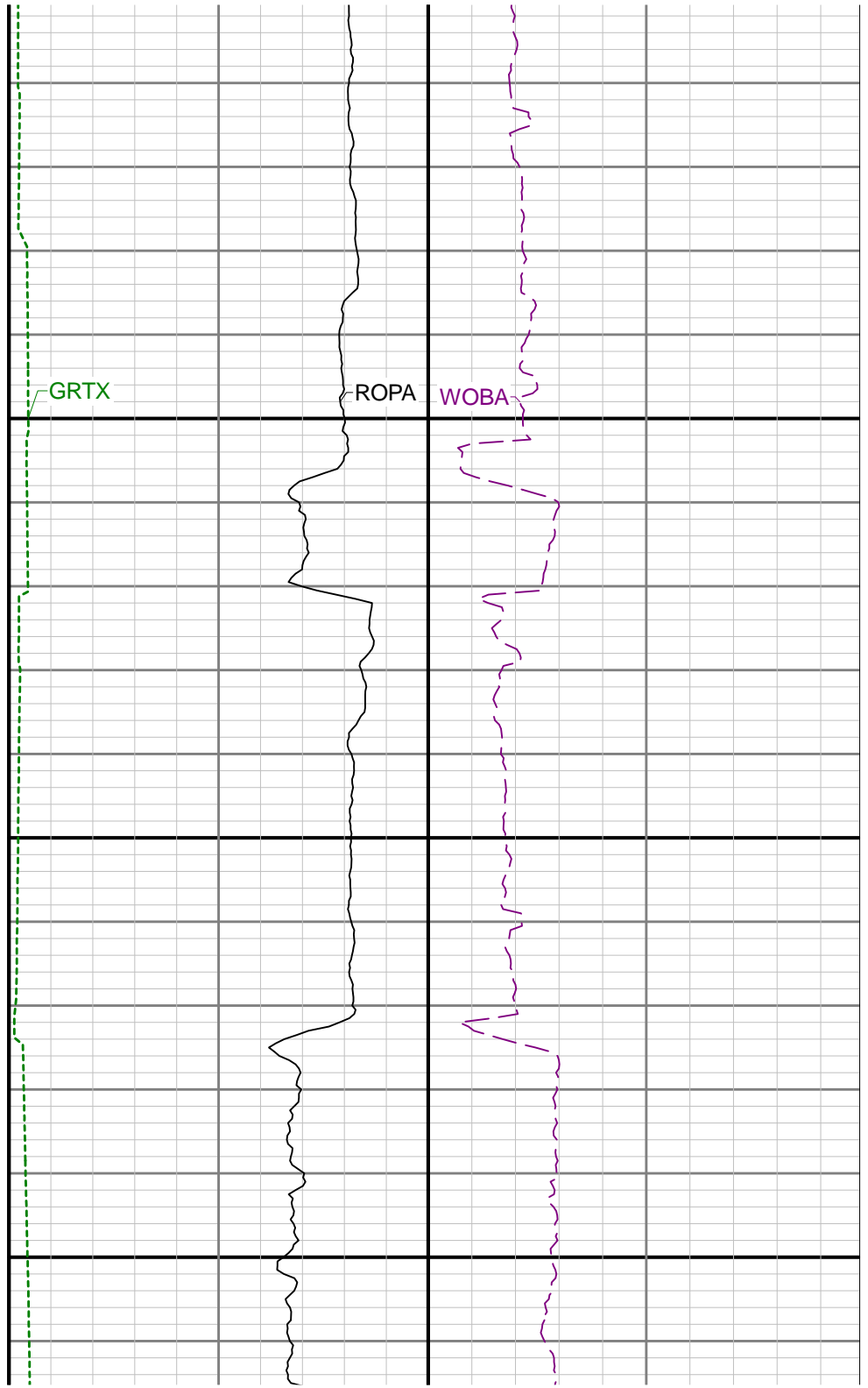
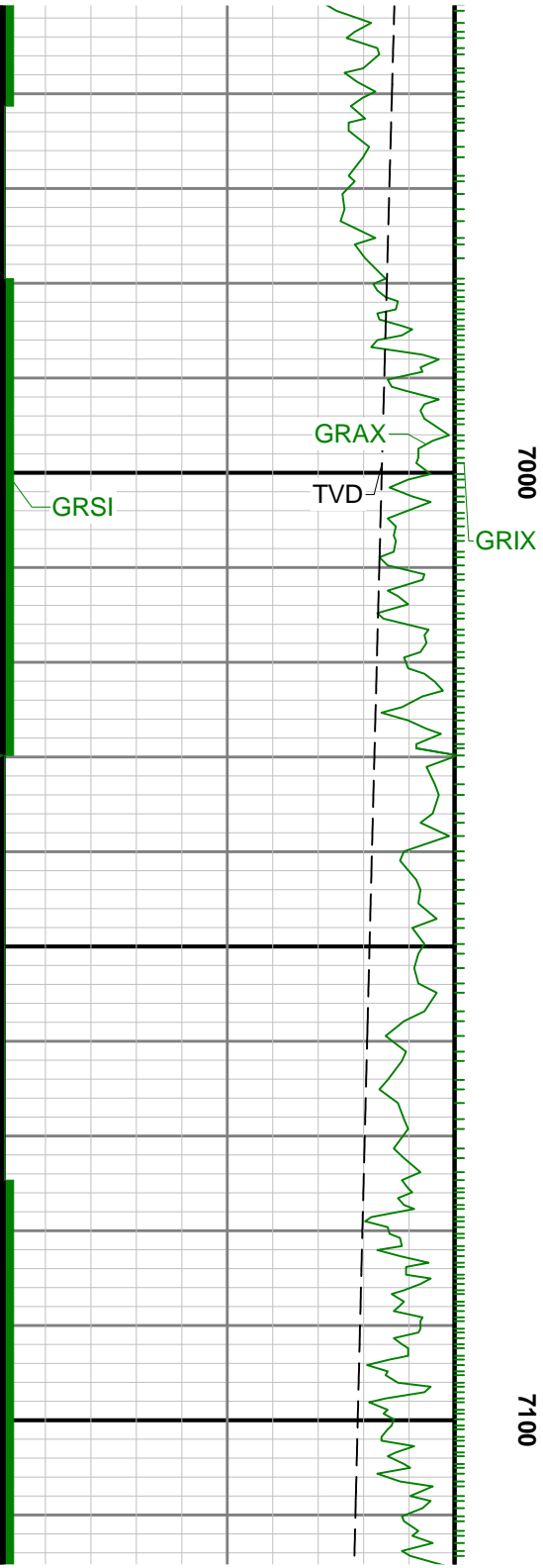
2015-07-28 20:08

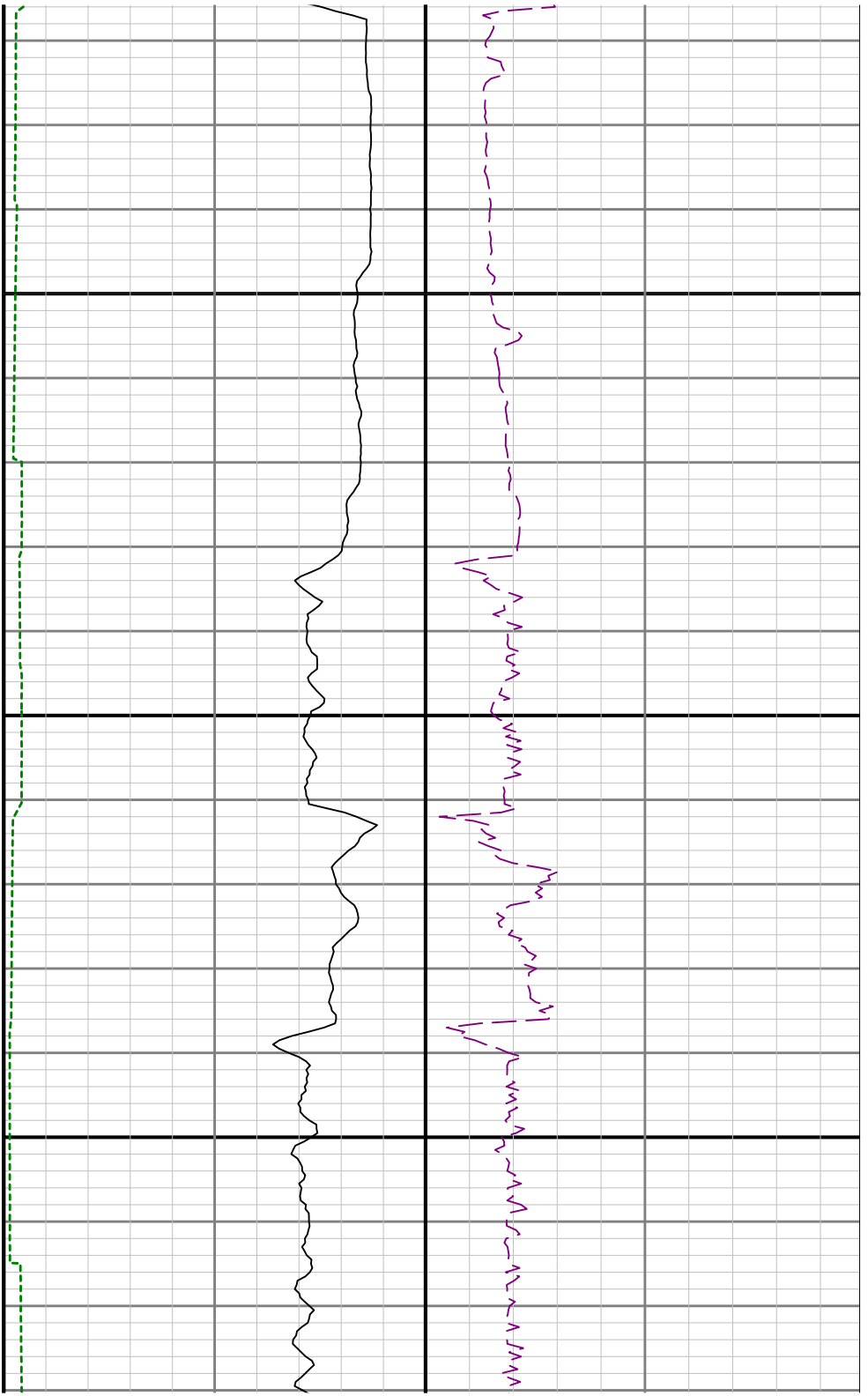
Top: 6750.00

Bottom: 13346.00

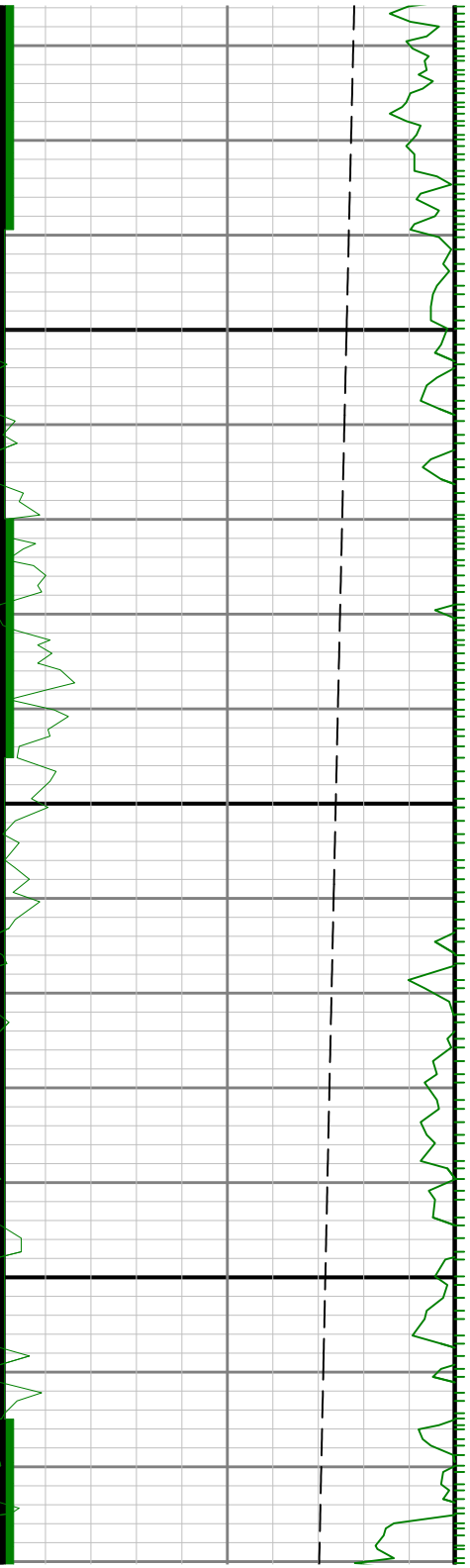


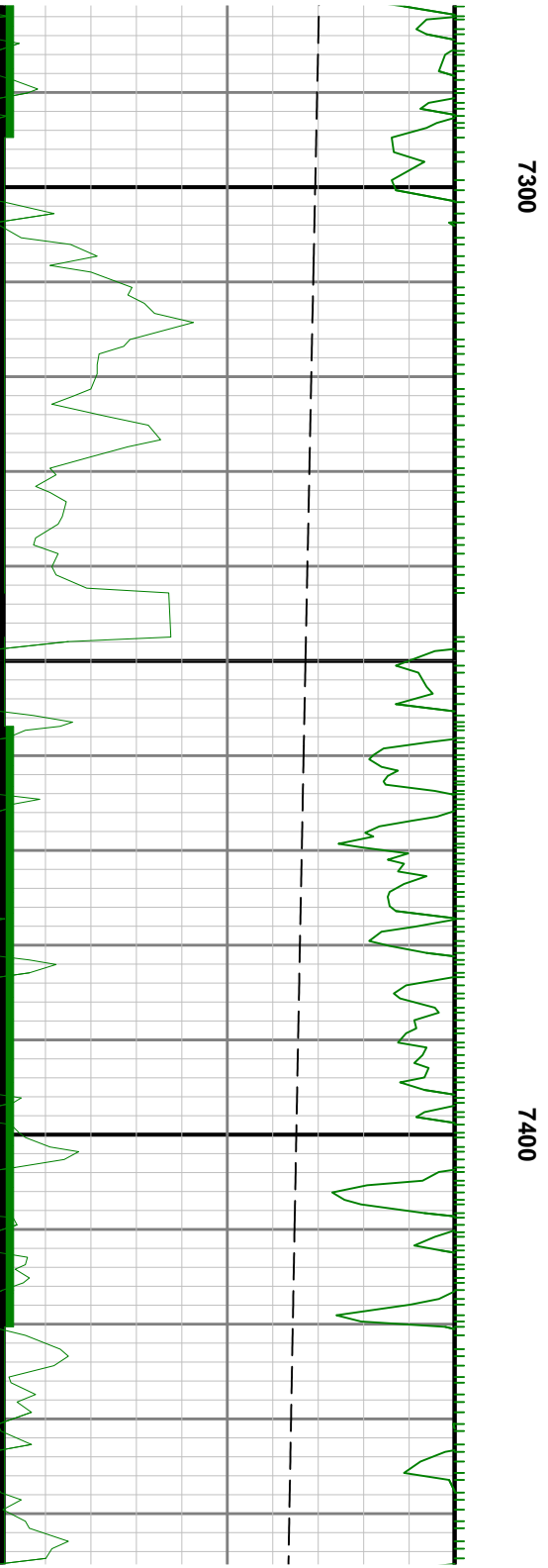
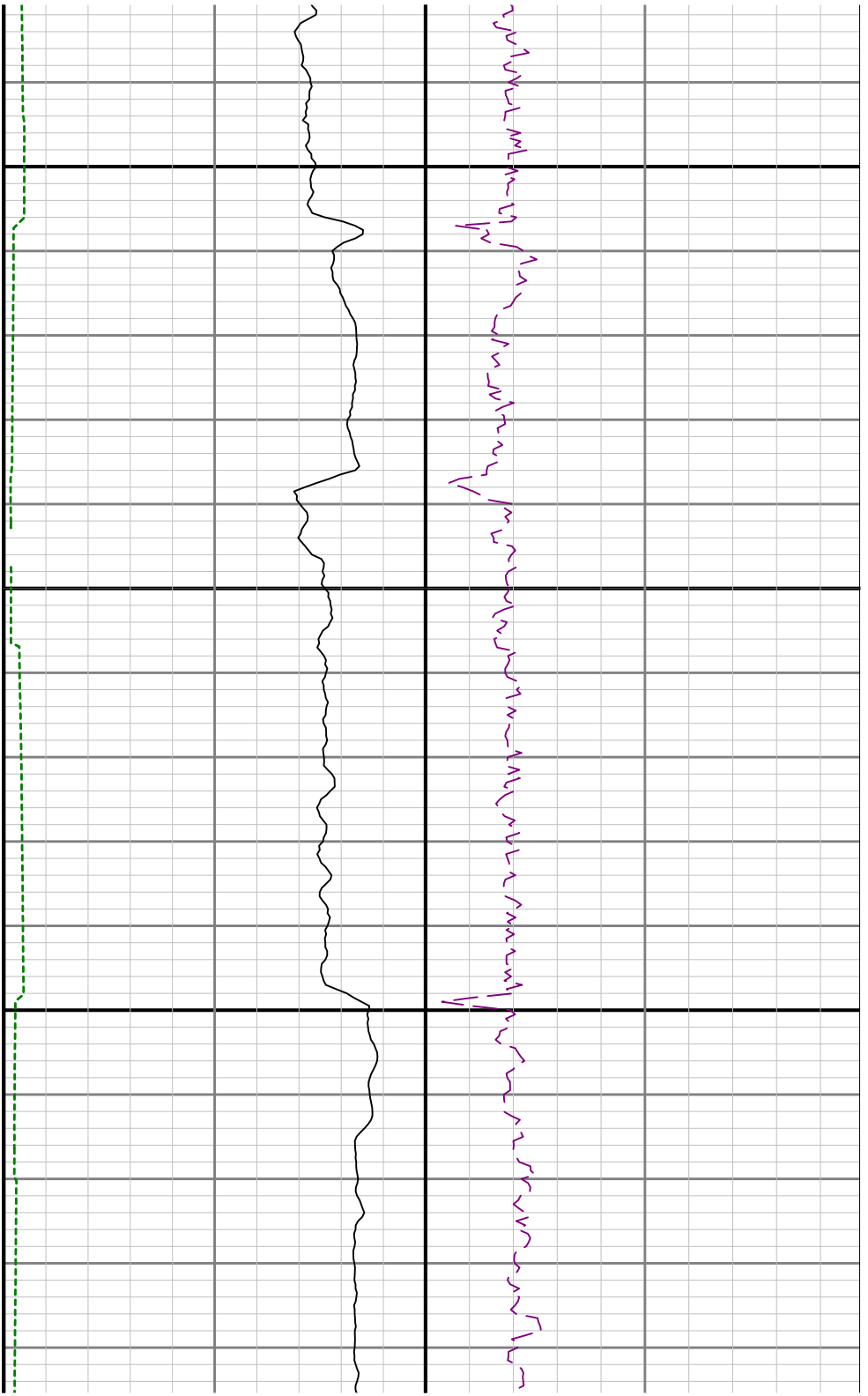


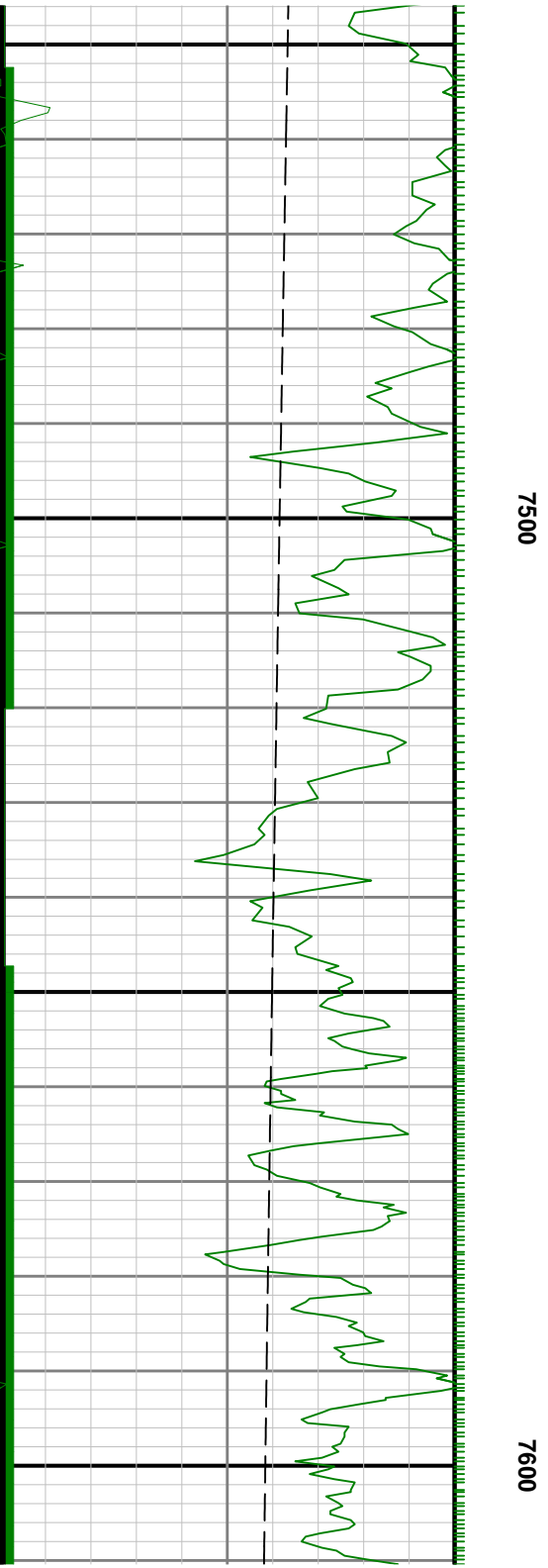
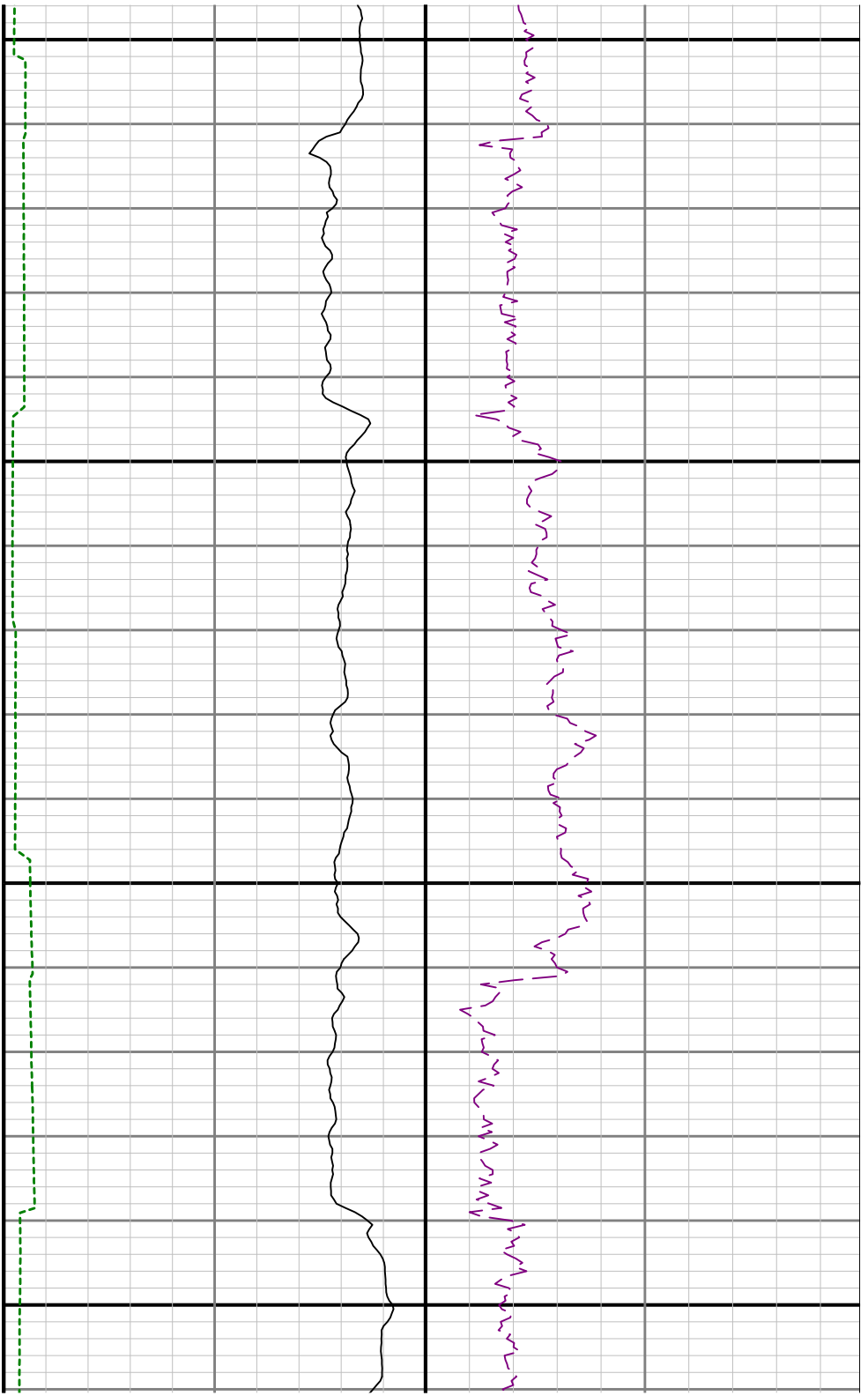


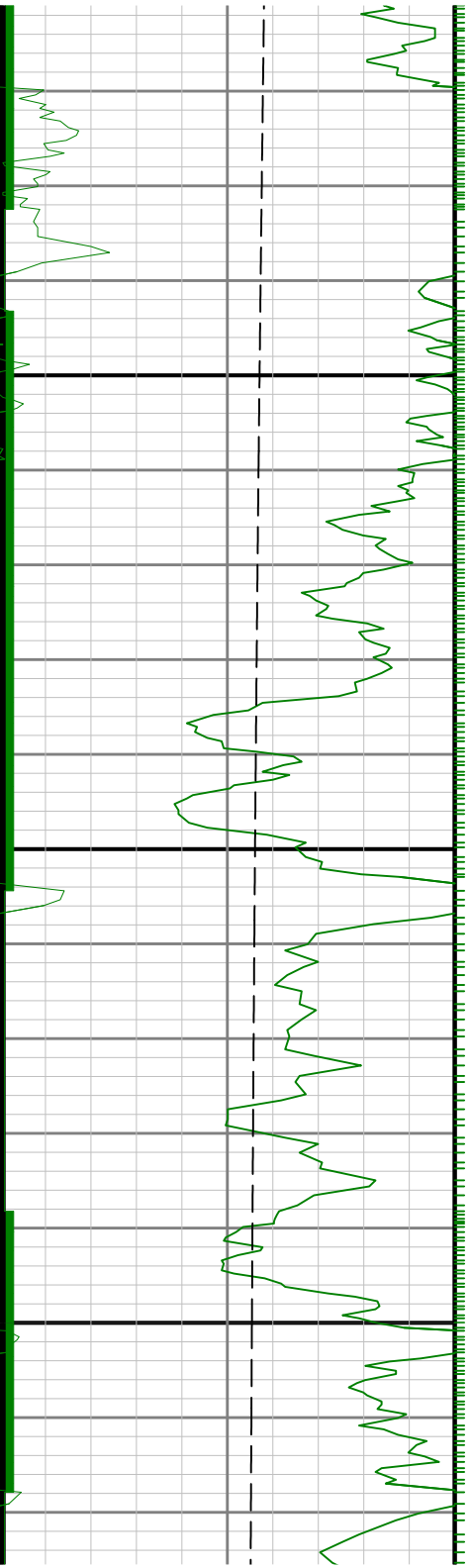


7200

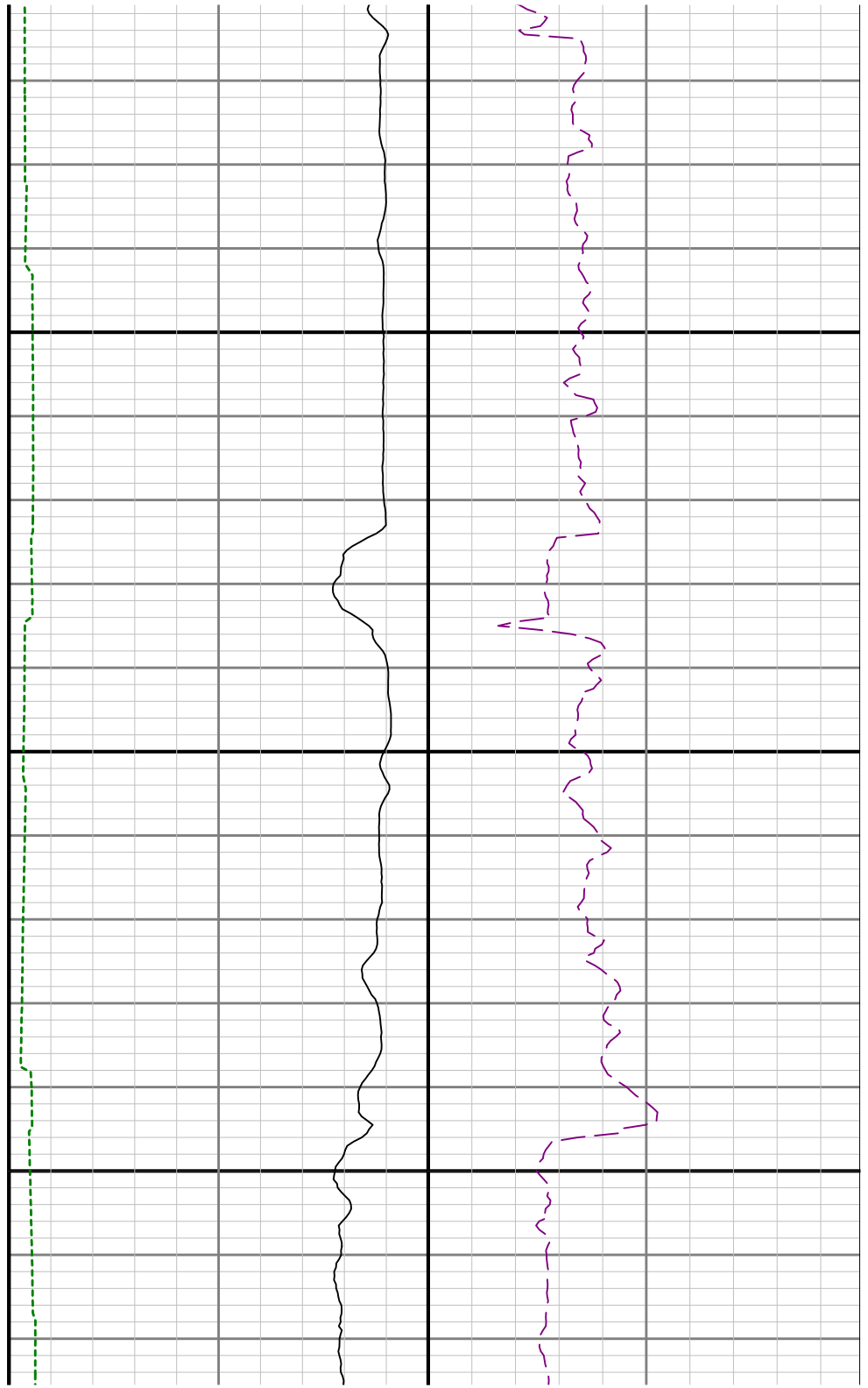


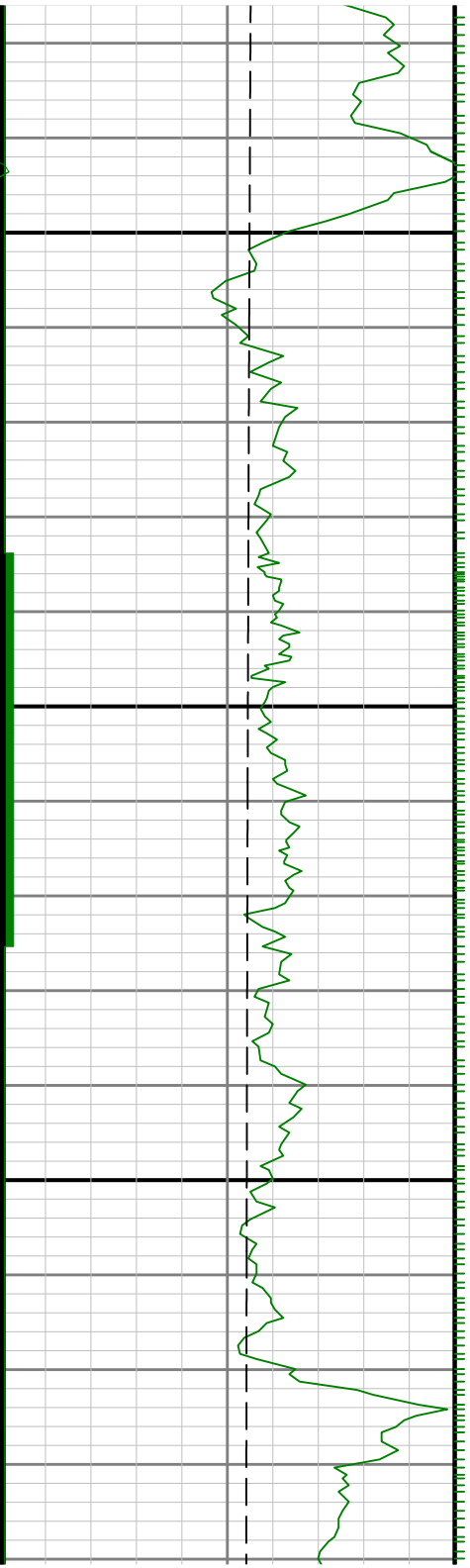






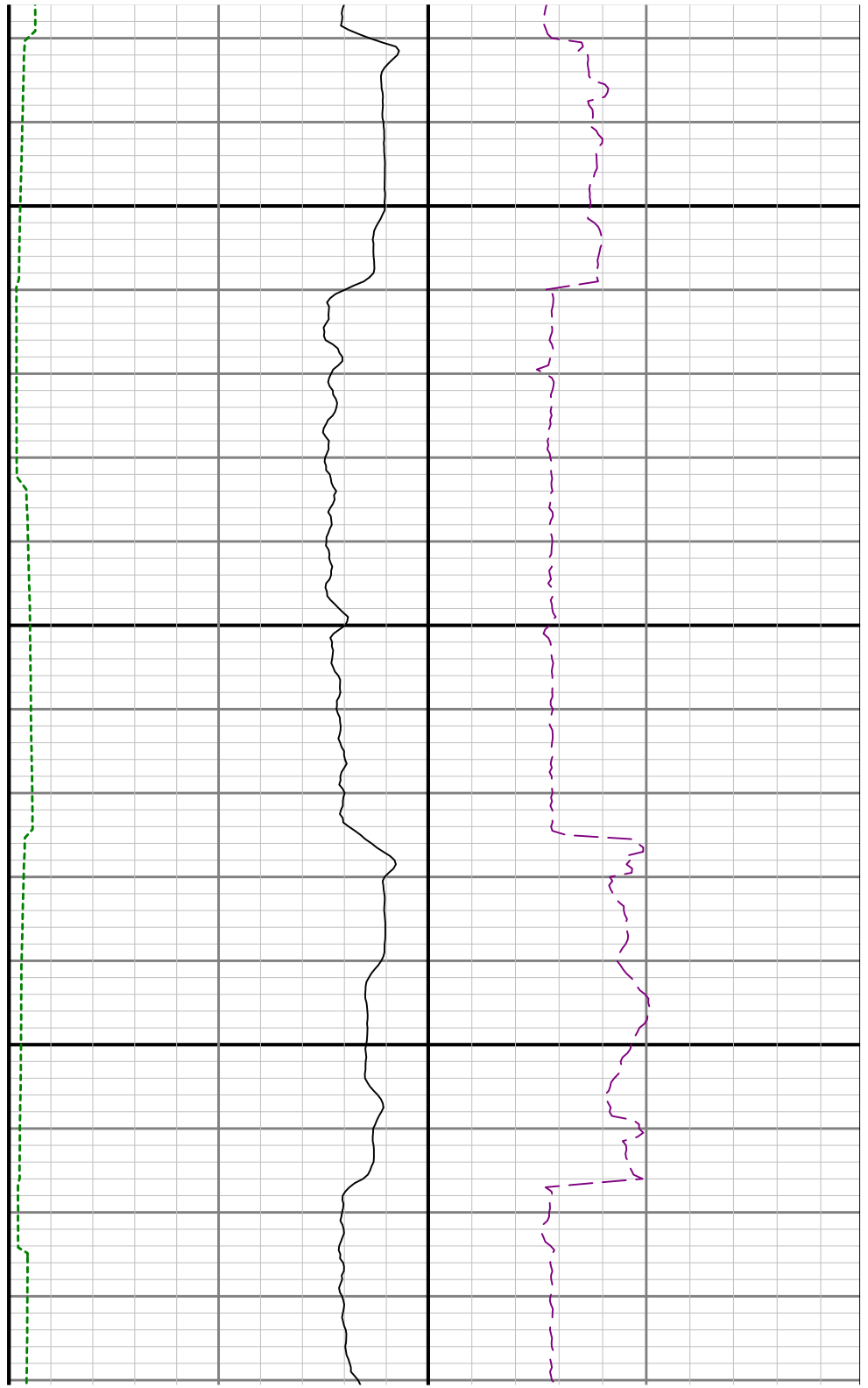
7700

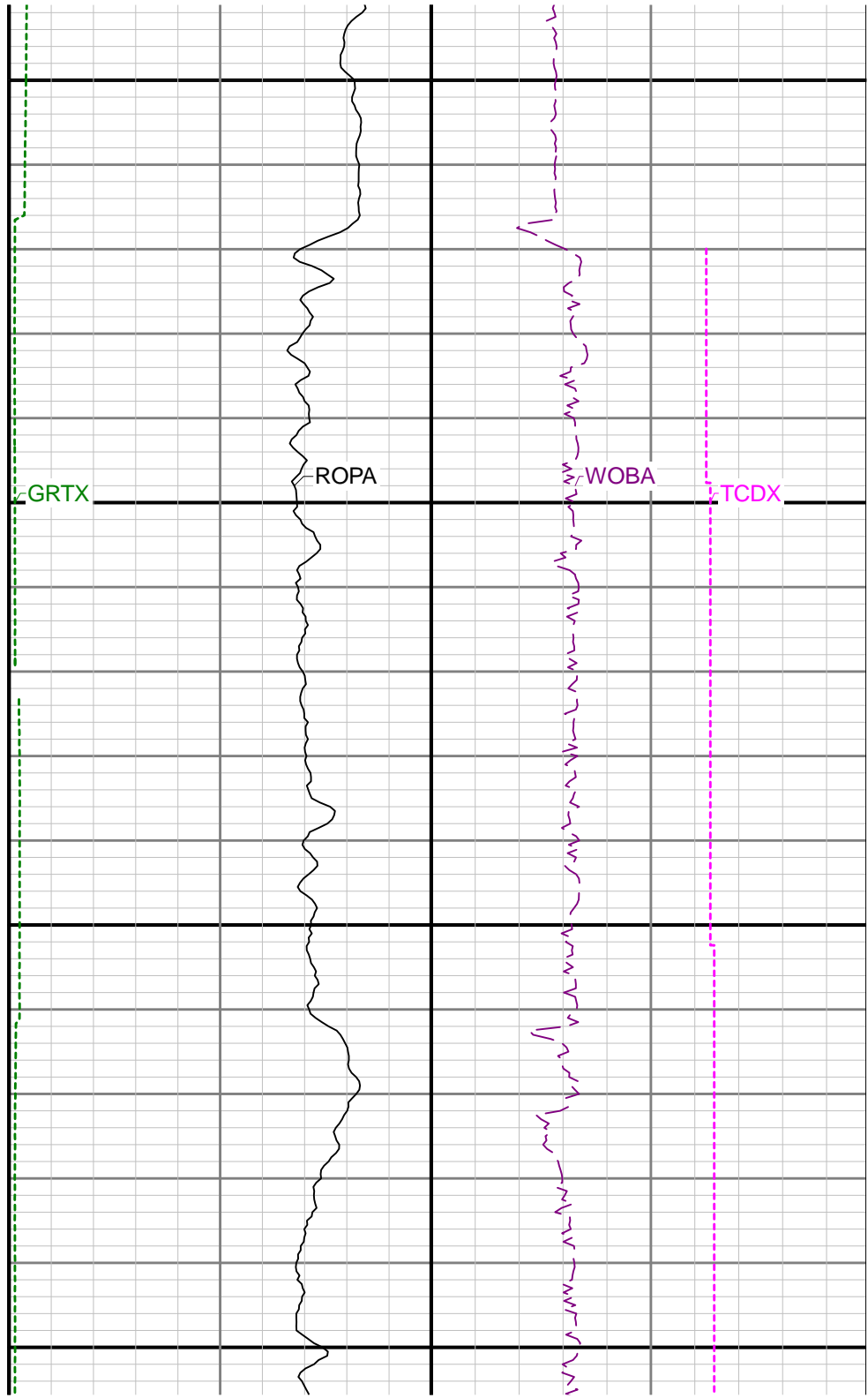
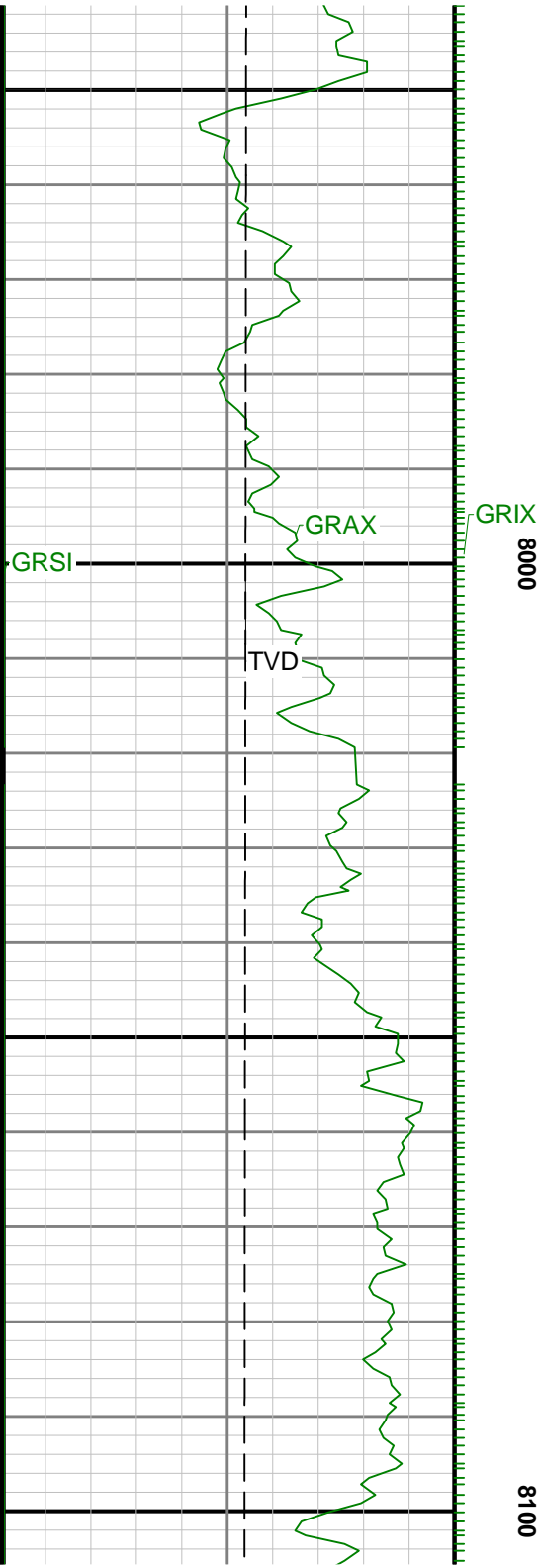


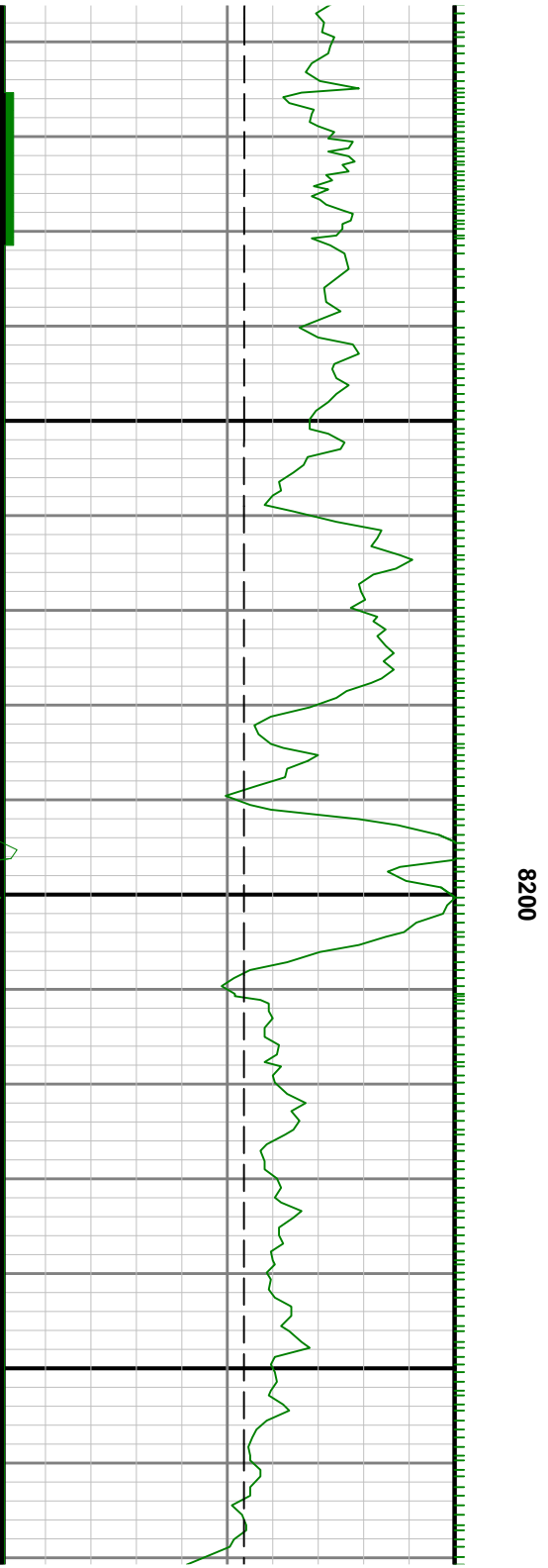
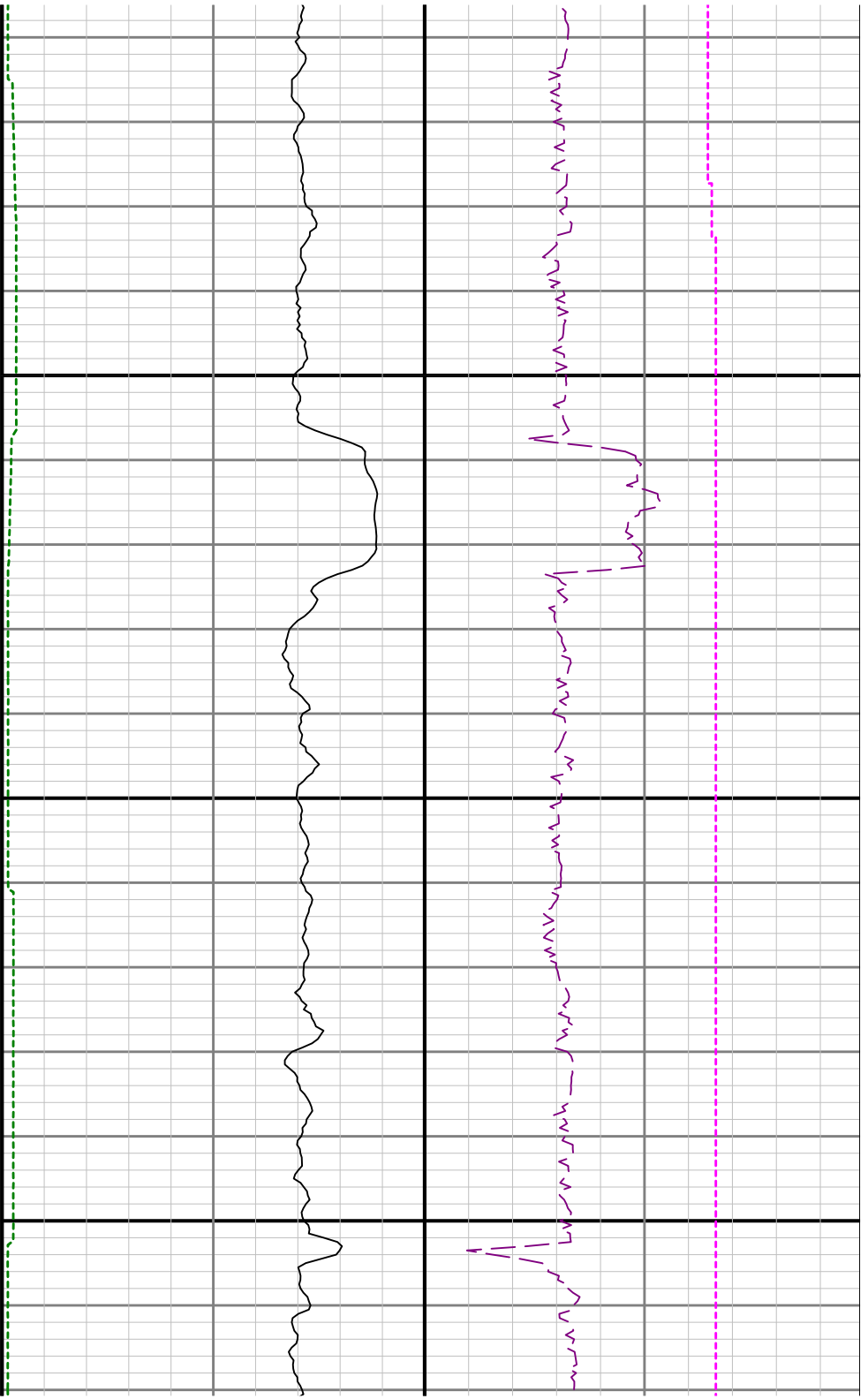


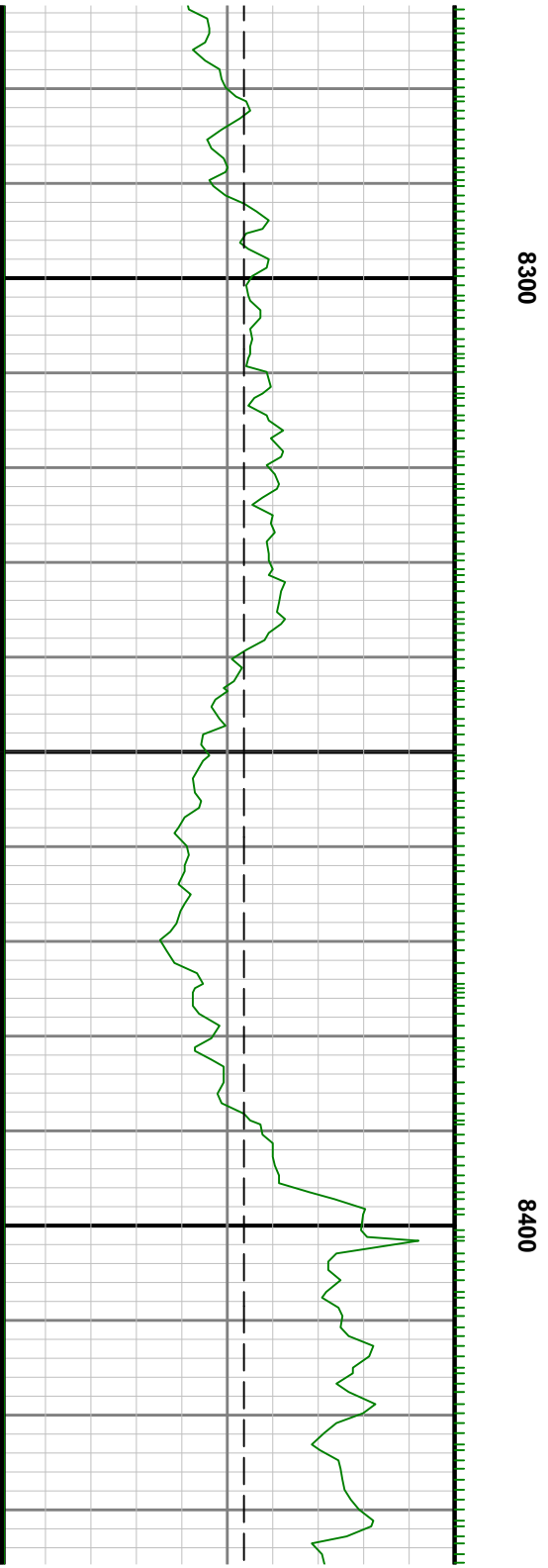
7800

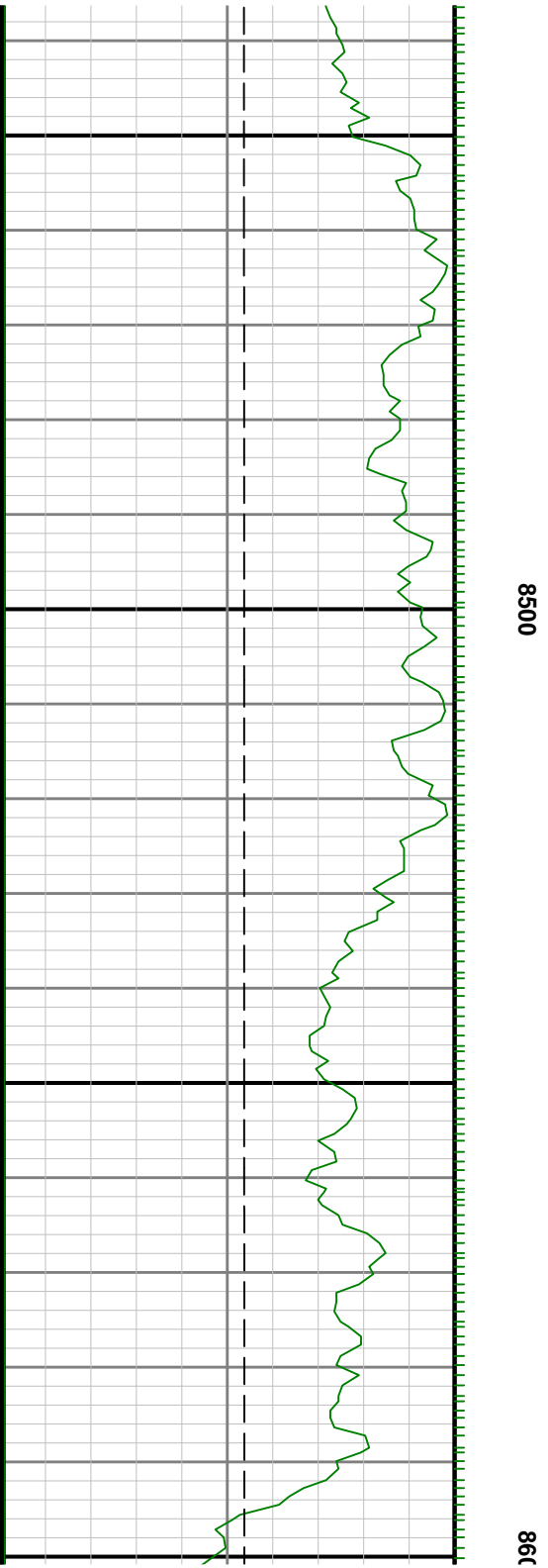
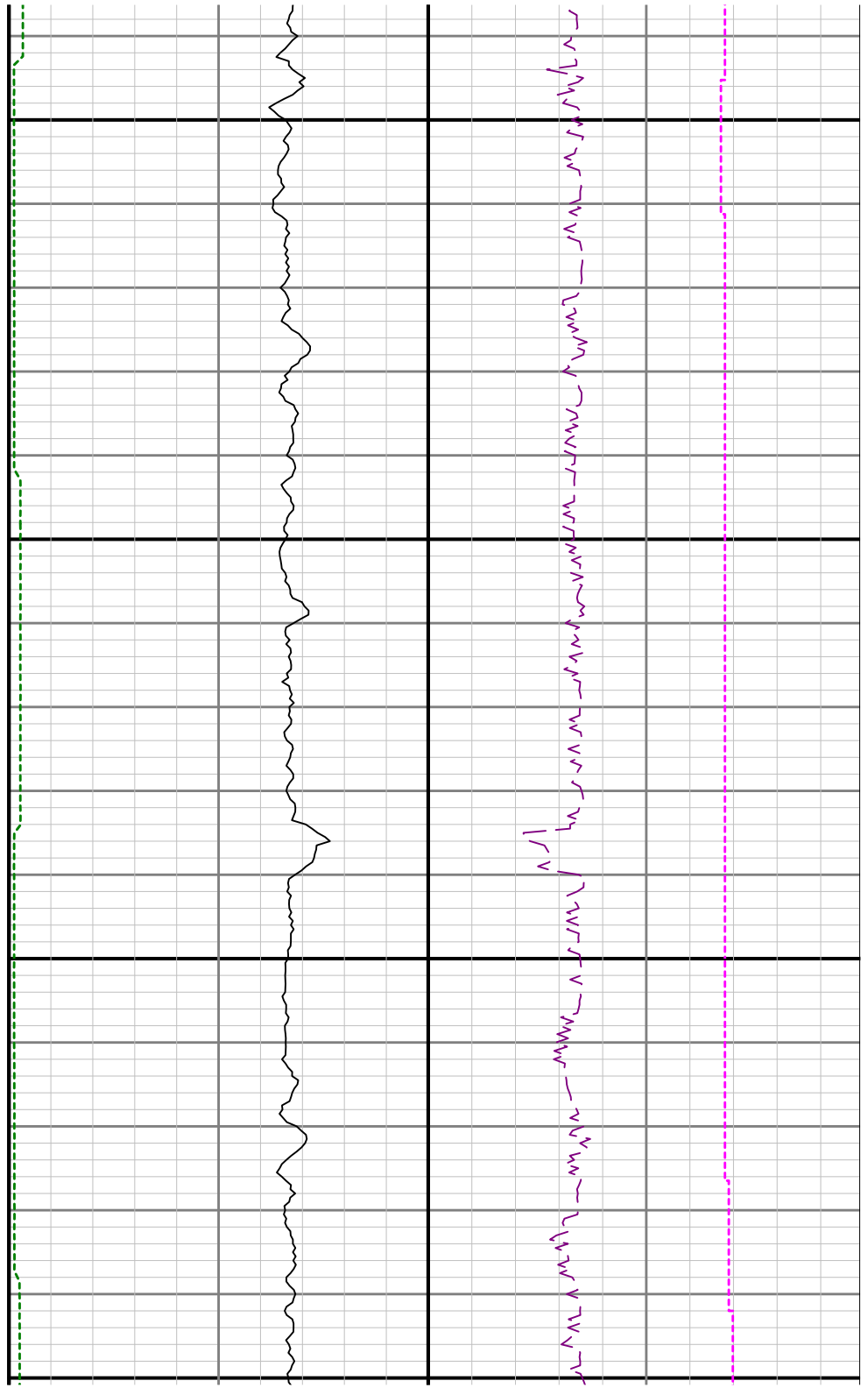
7900

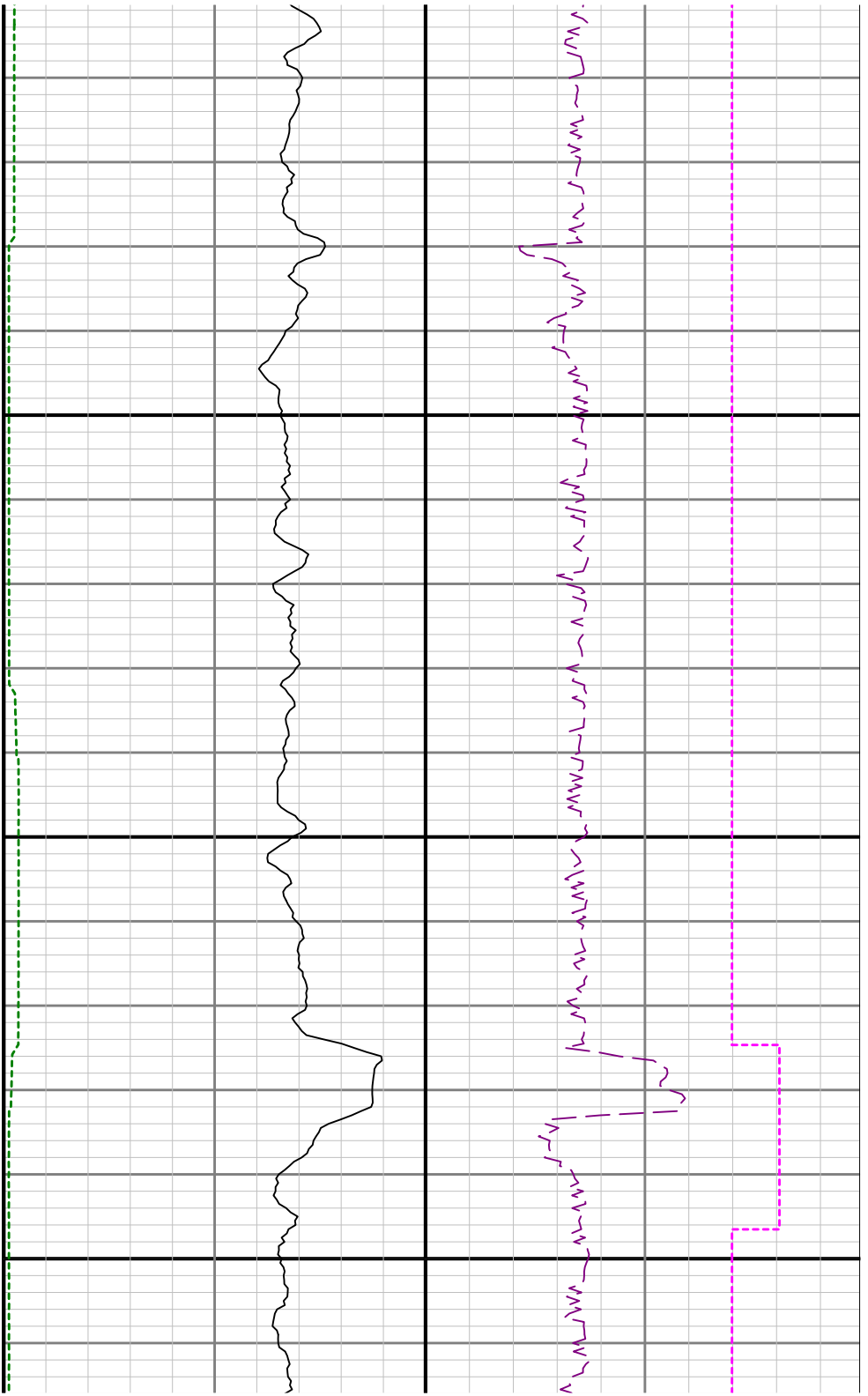






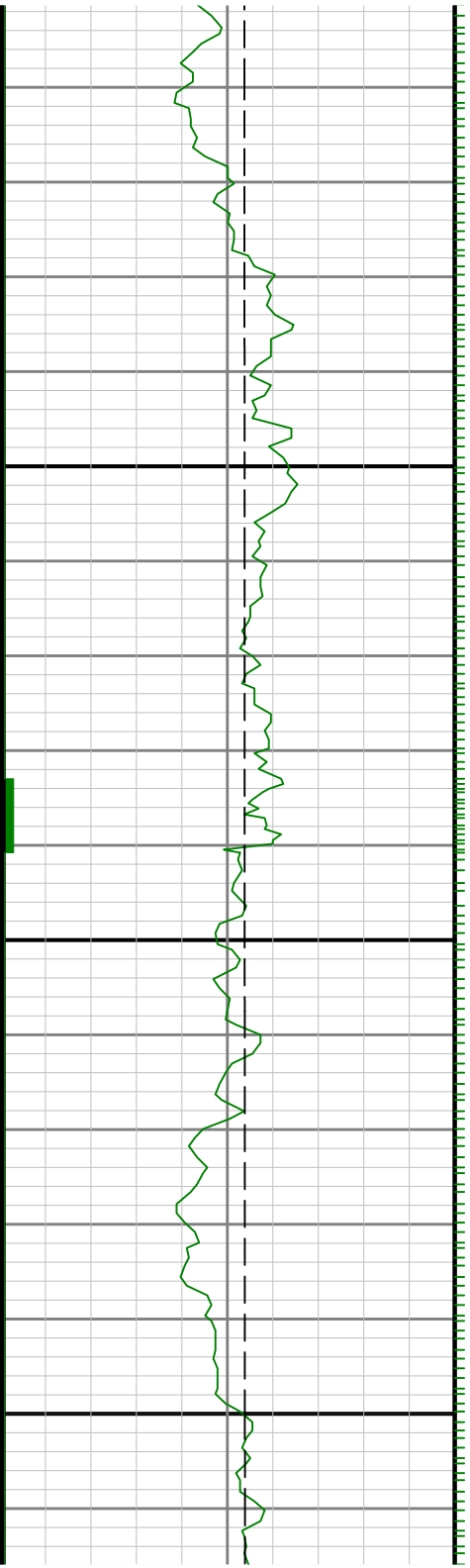


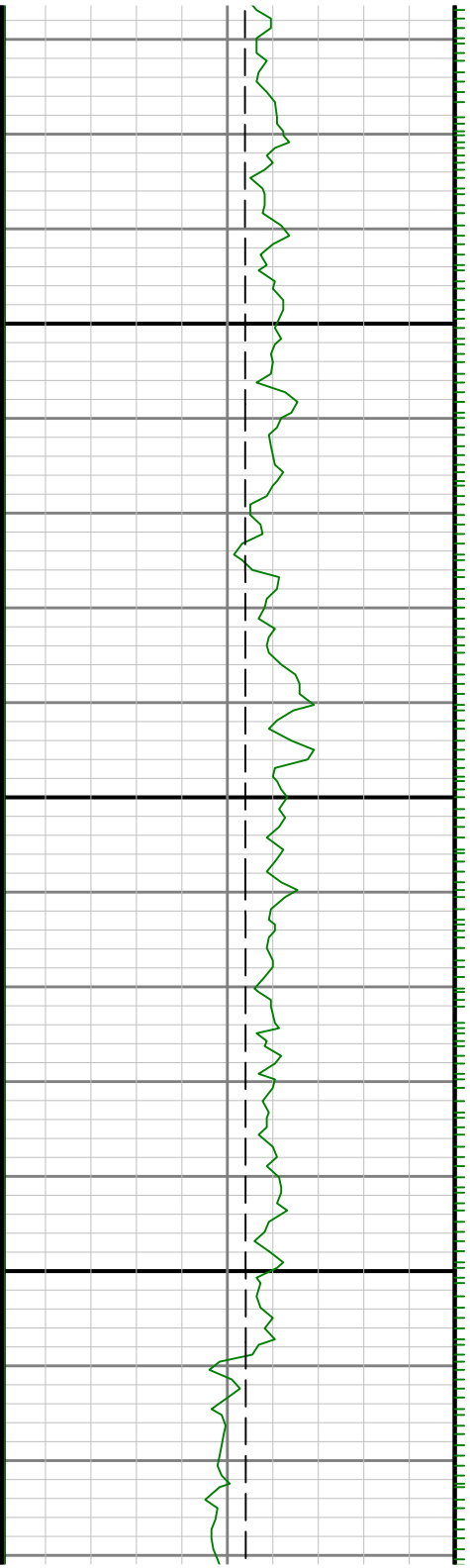




0

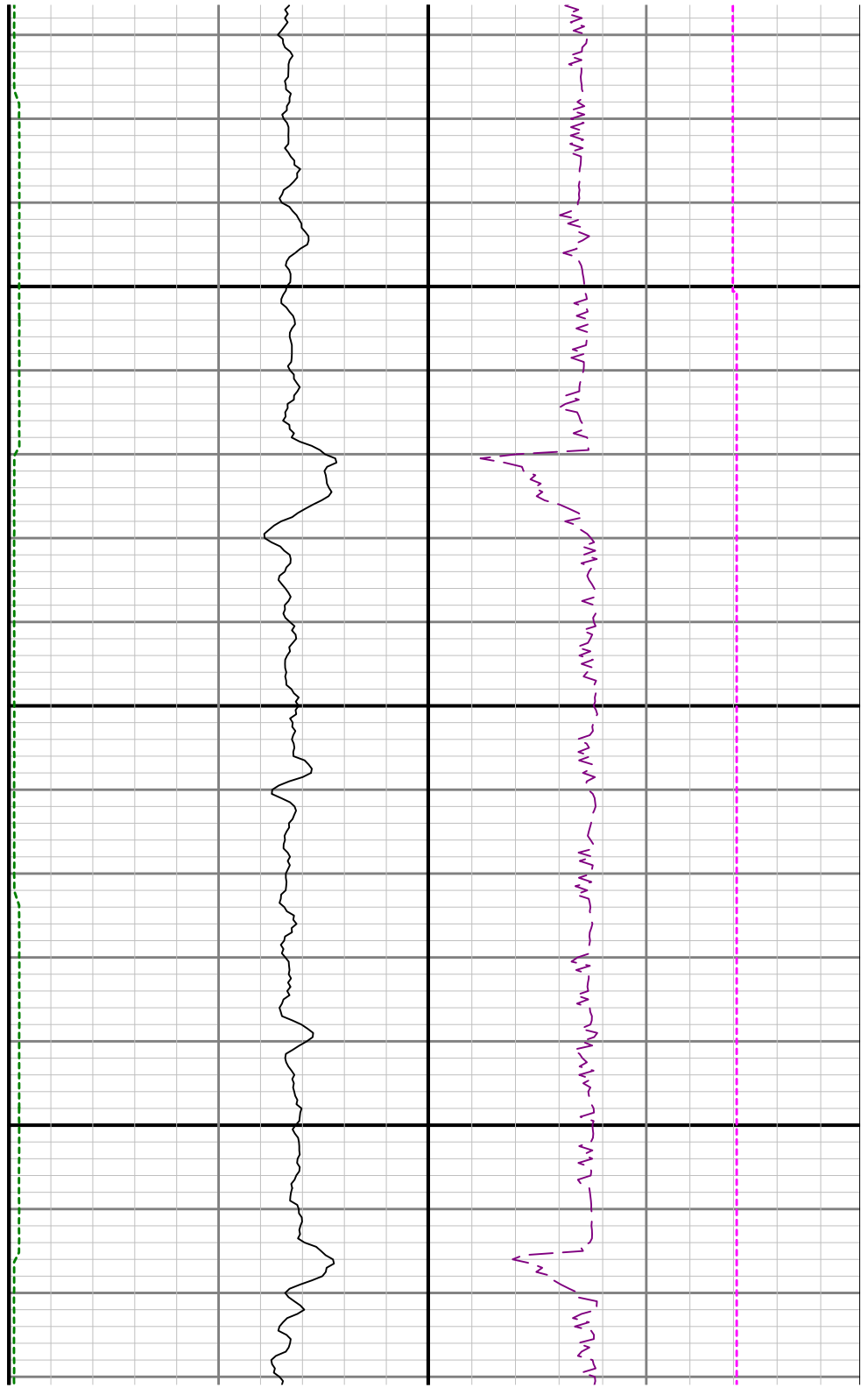
8700

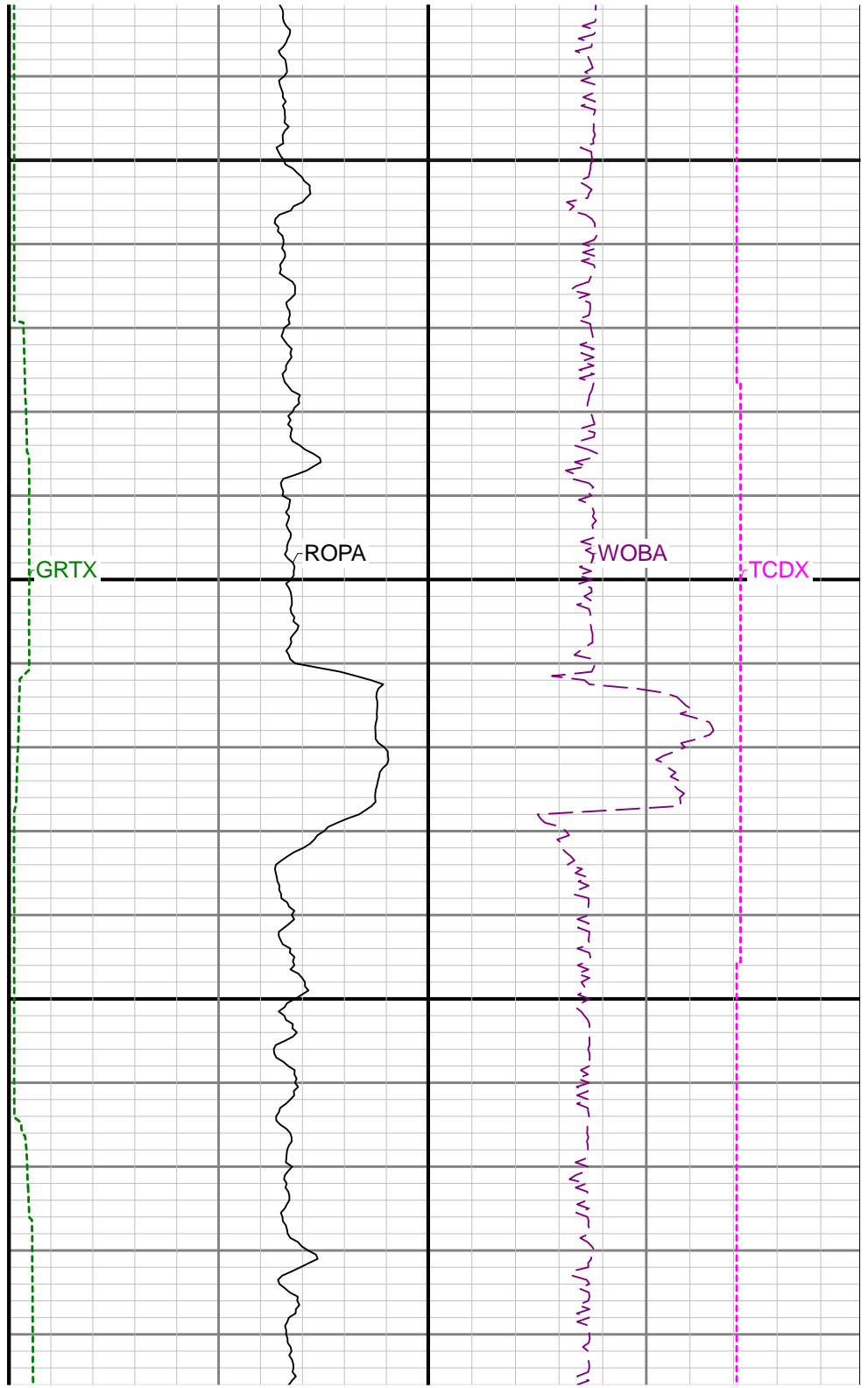
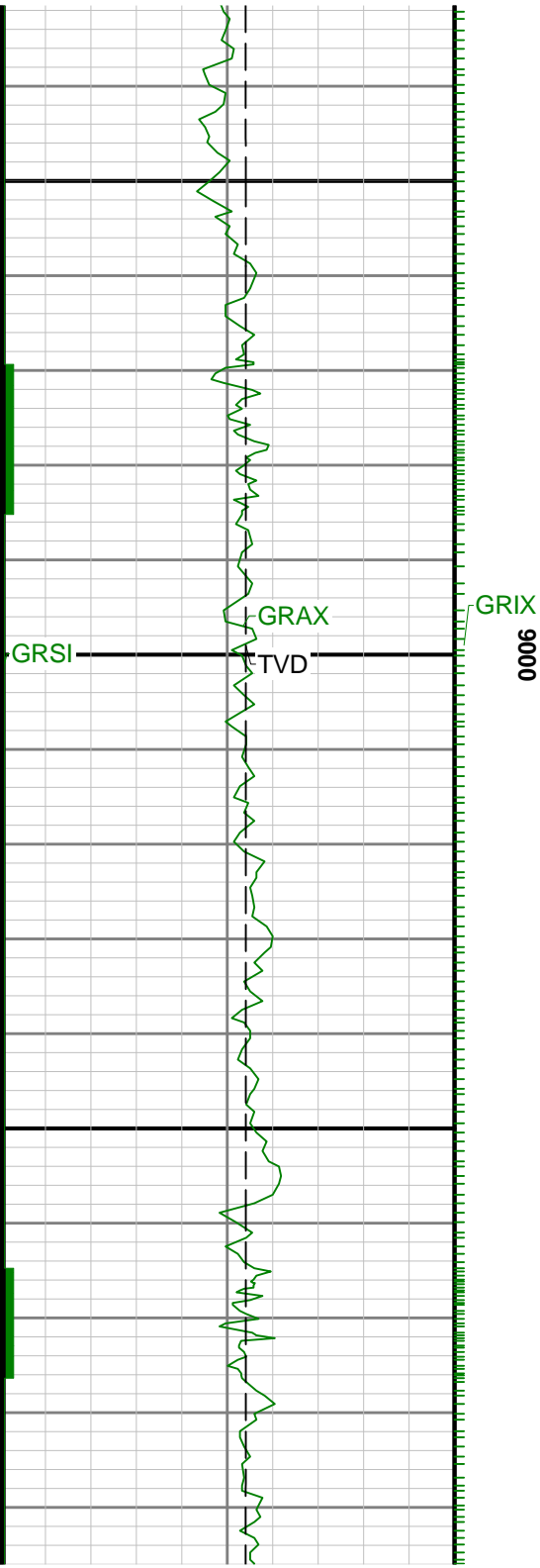


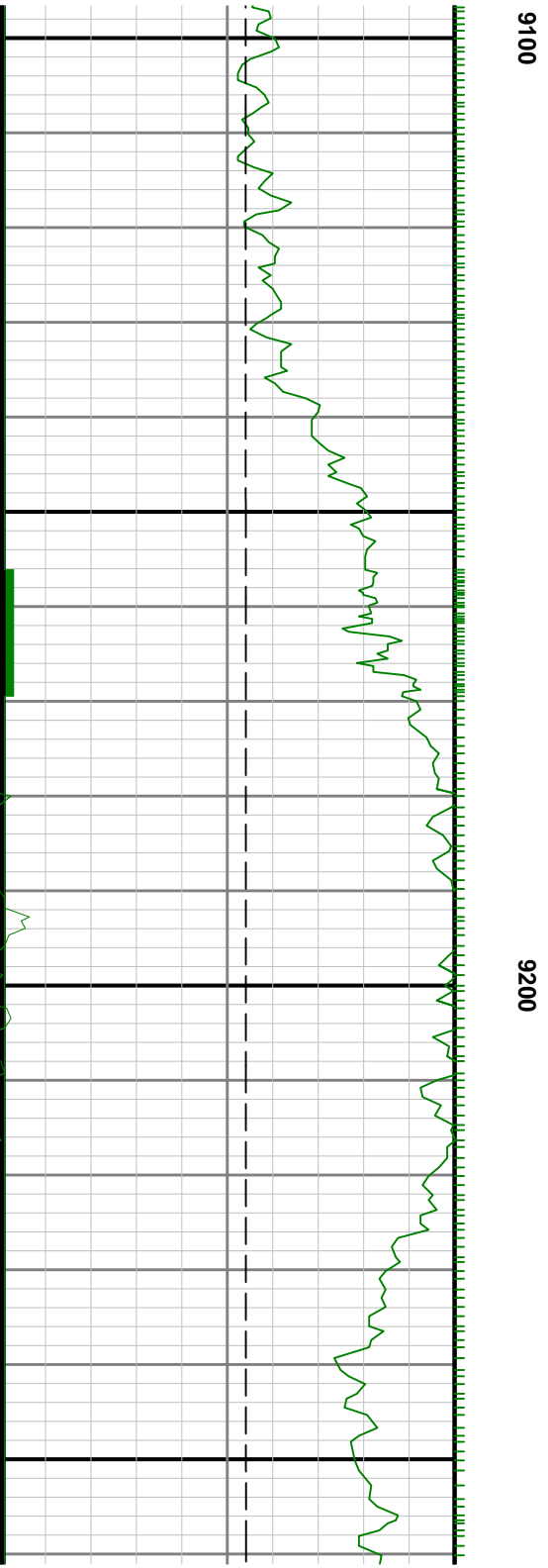


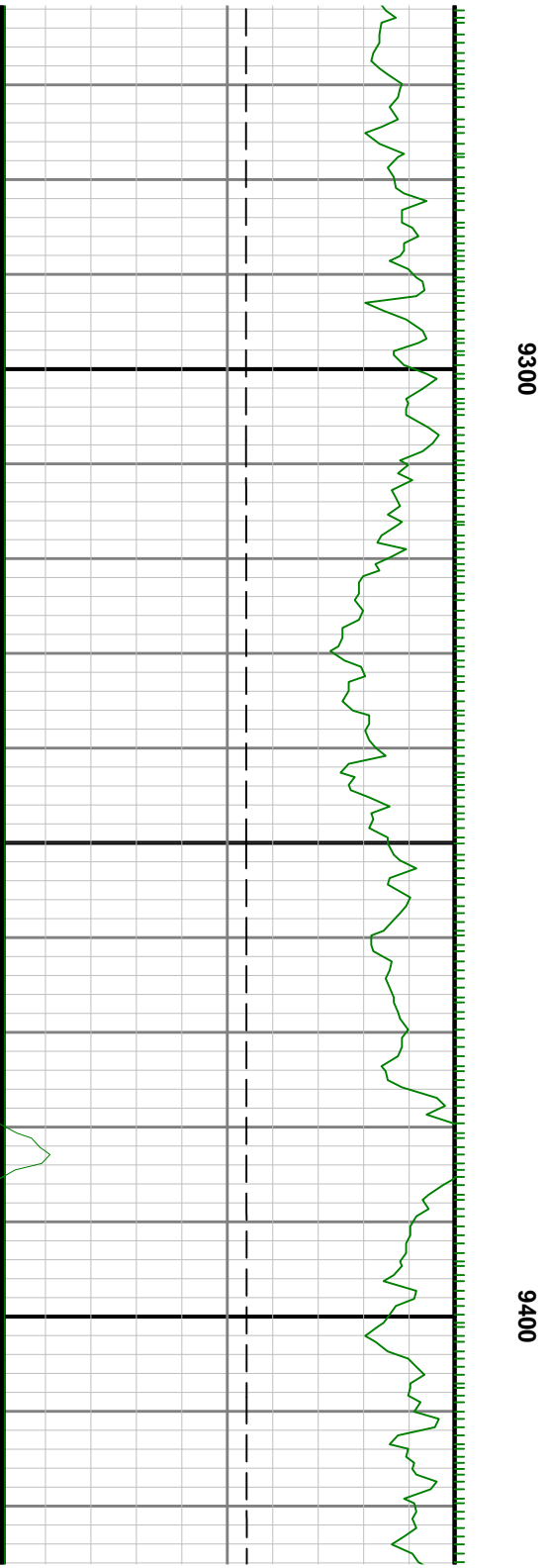
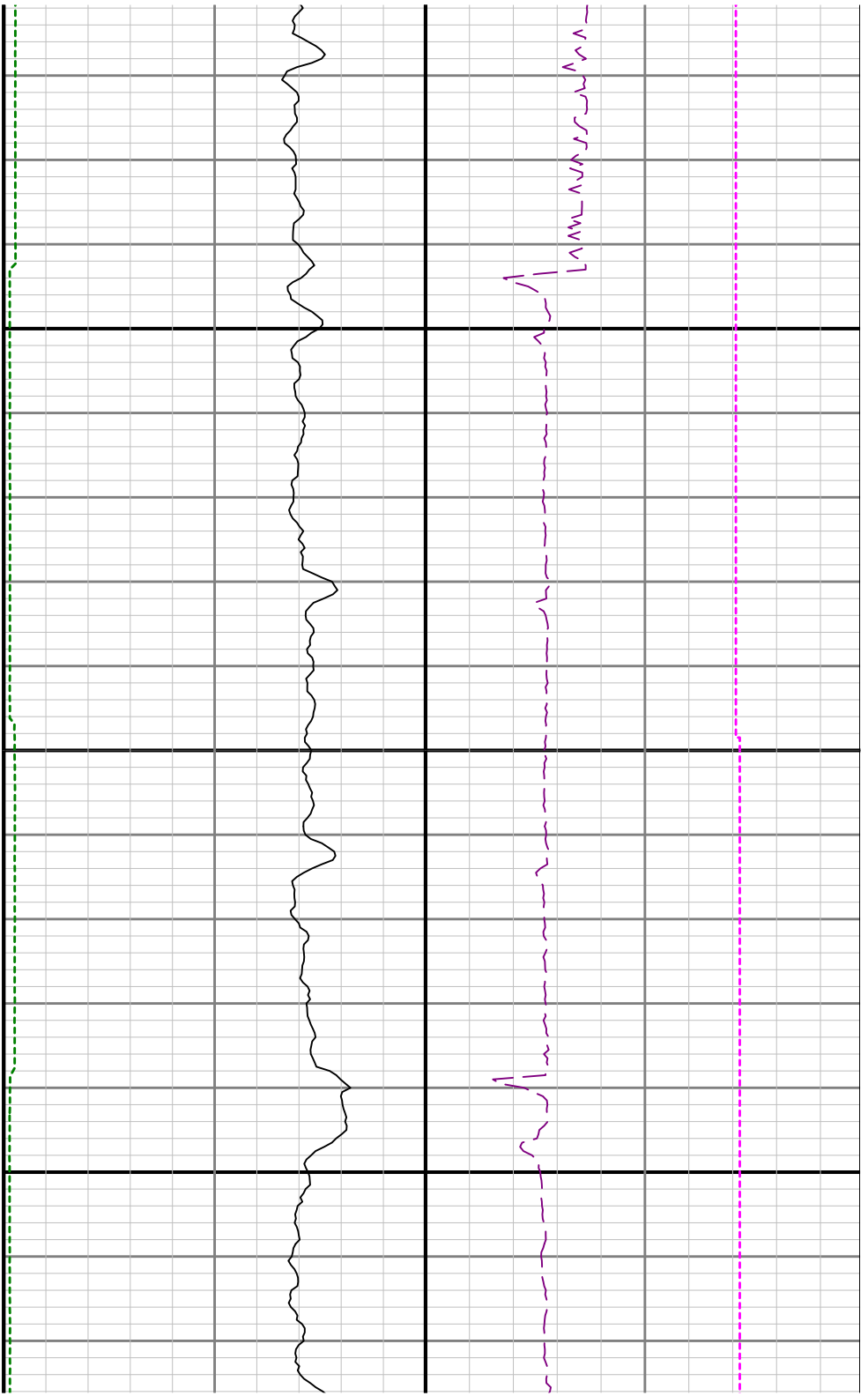
0068

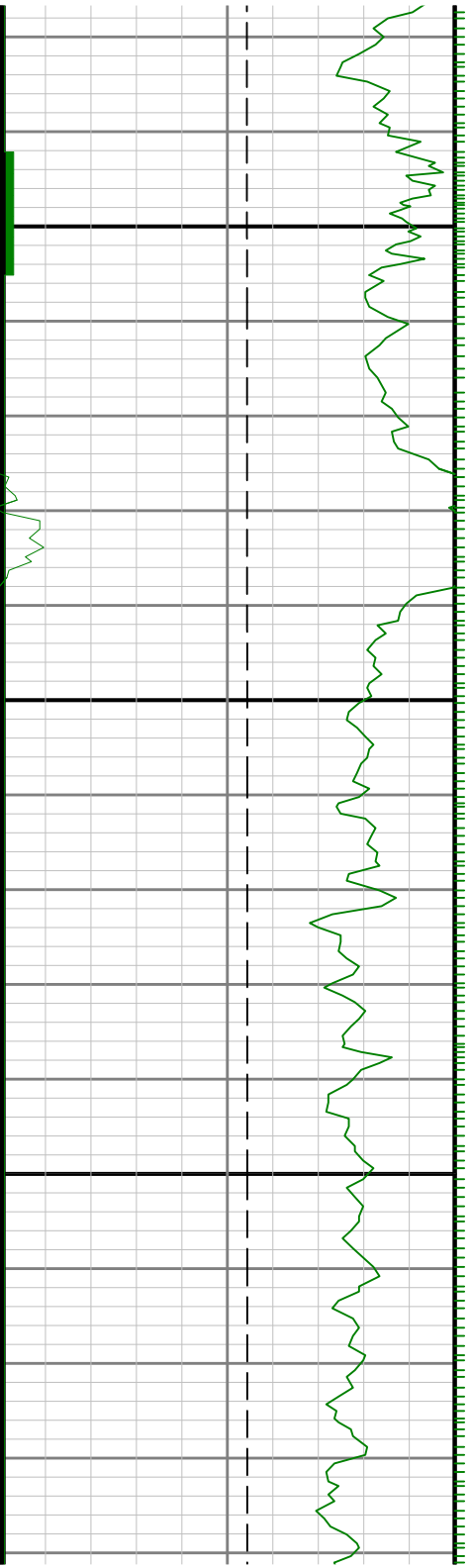
0088



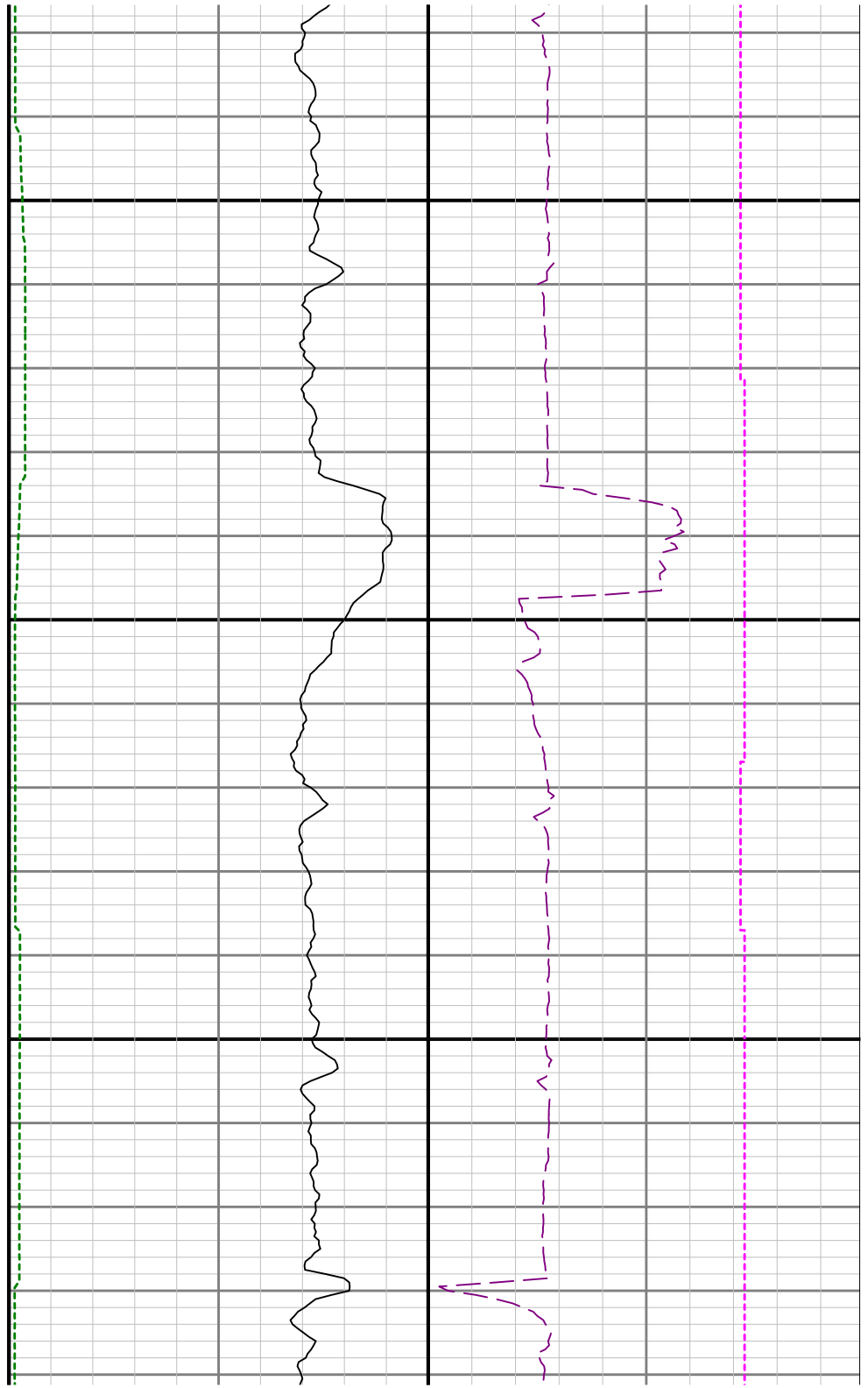


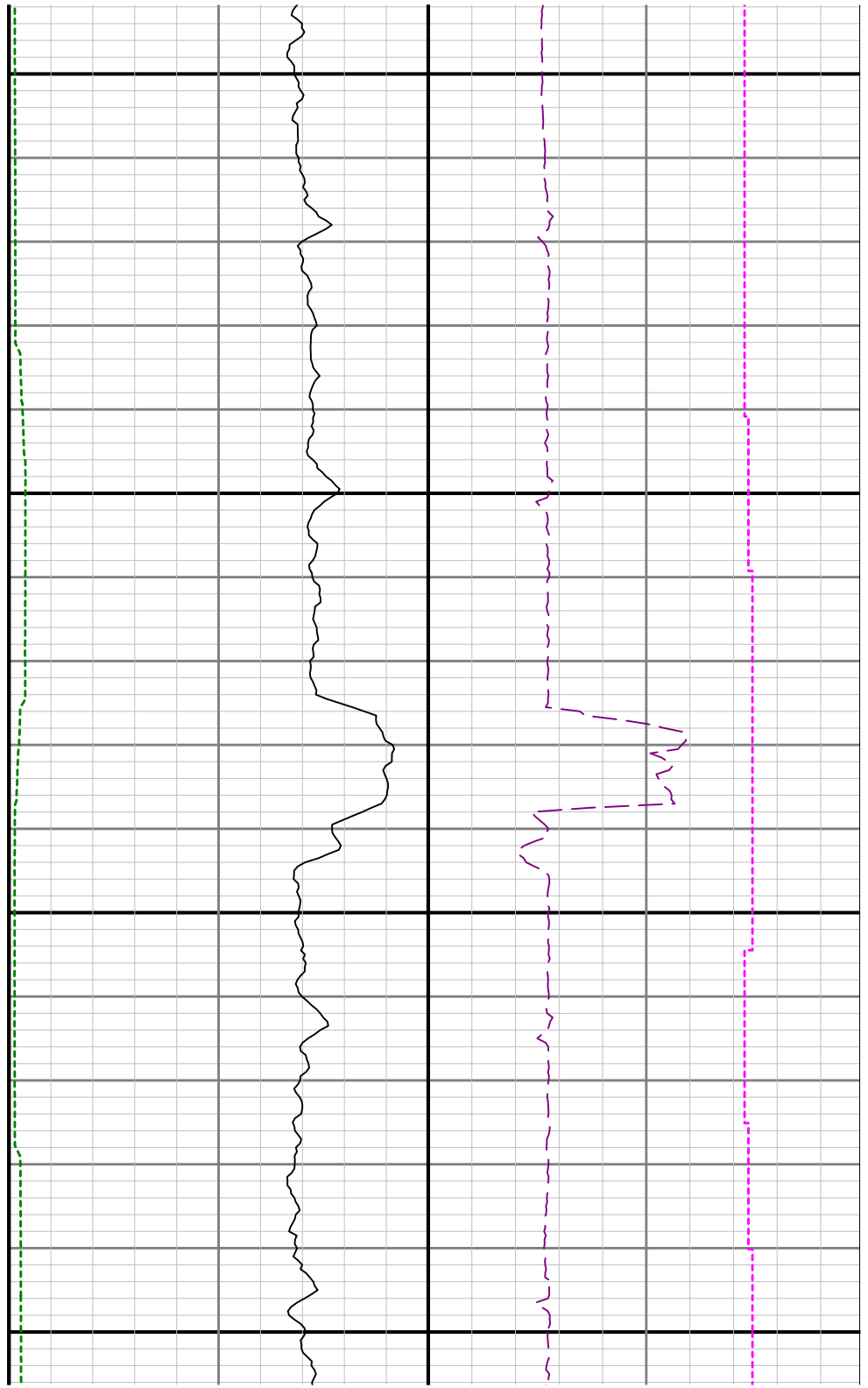
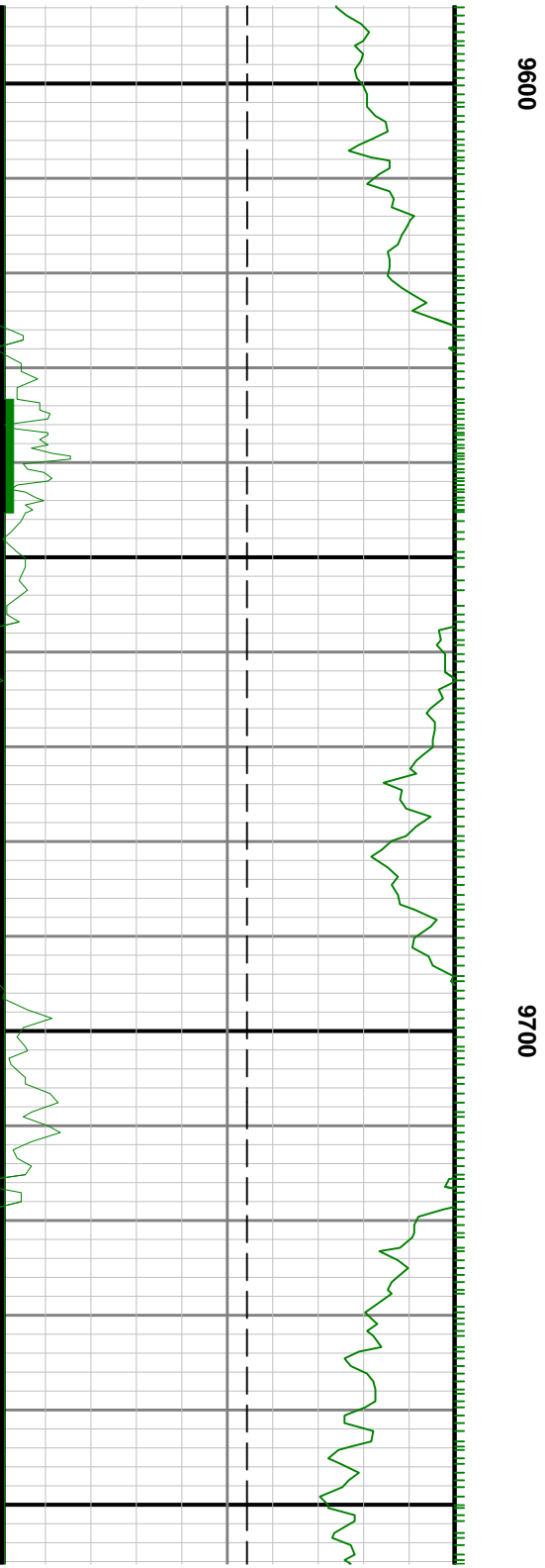


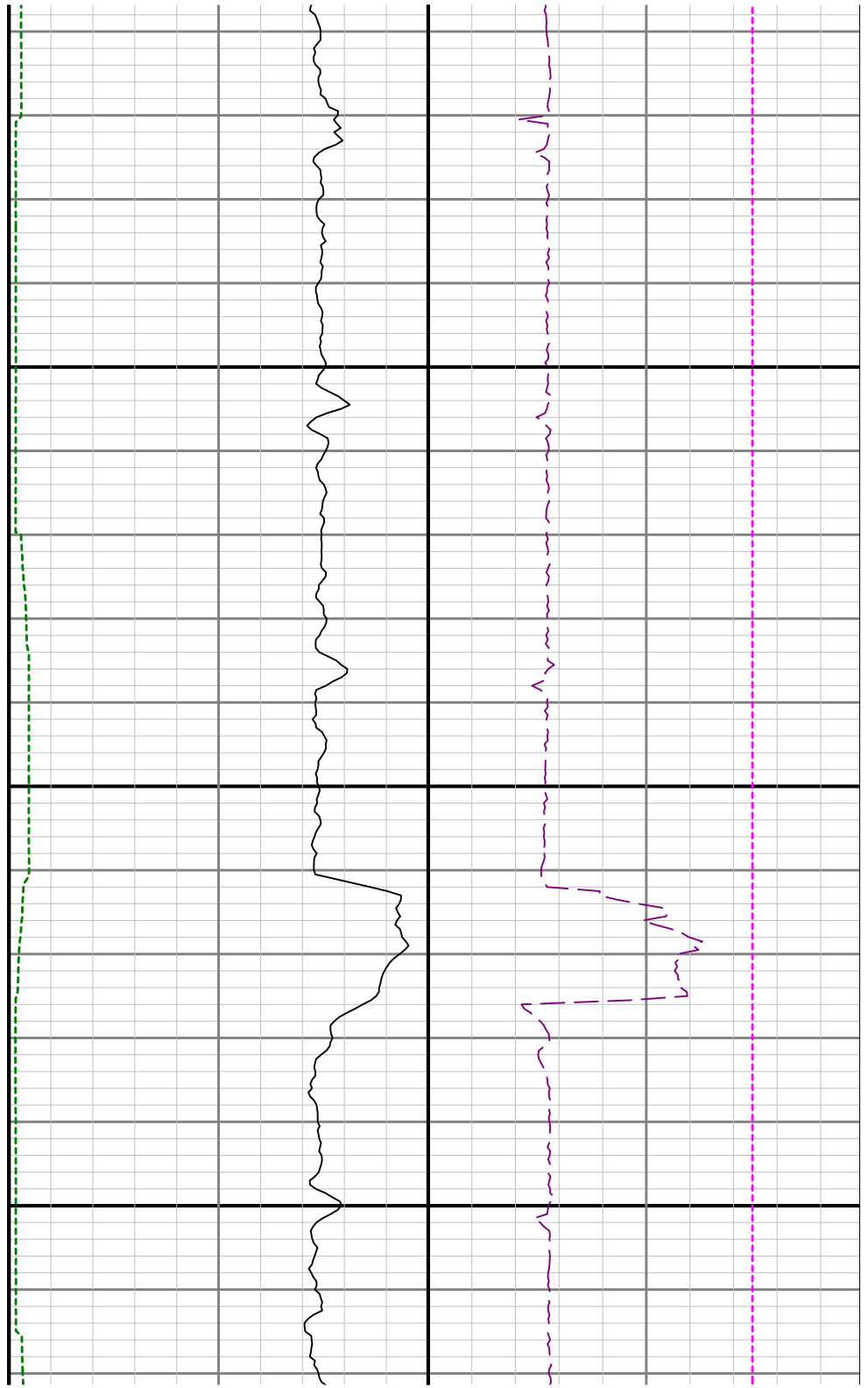
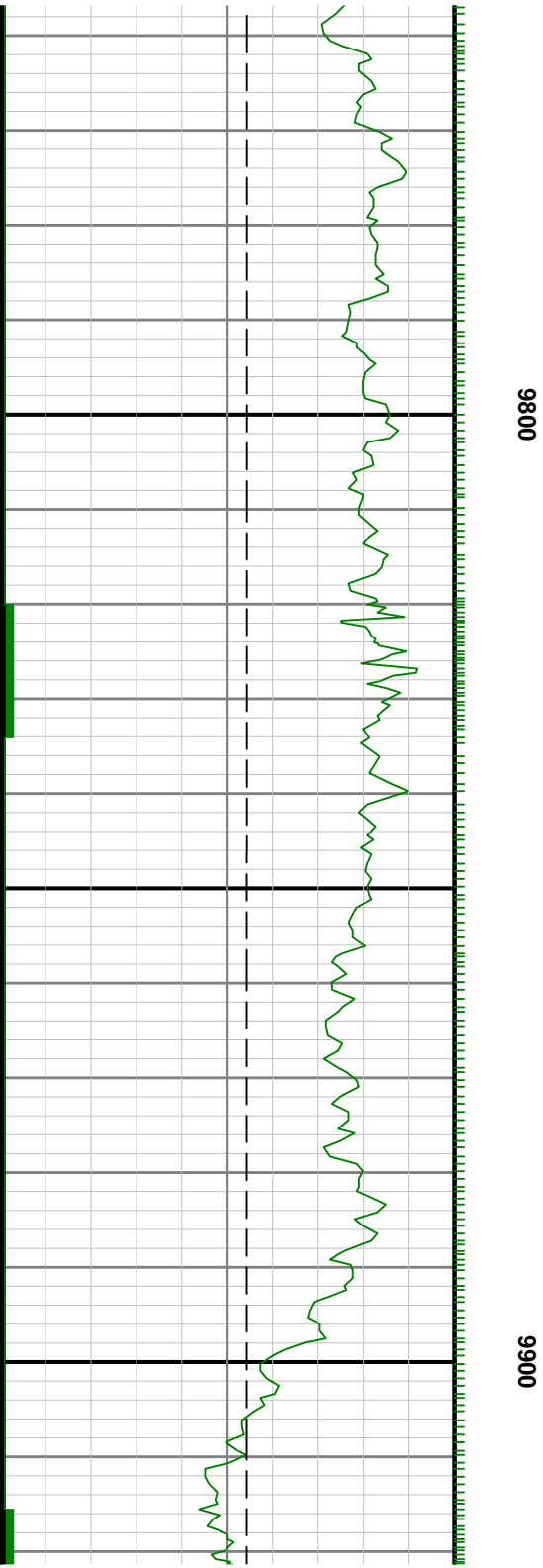


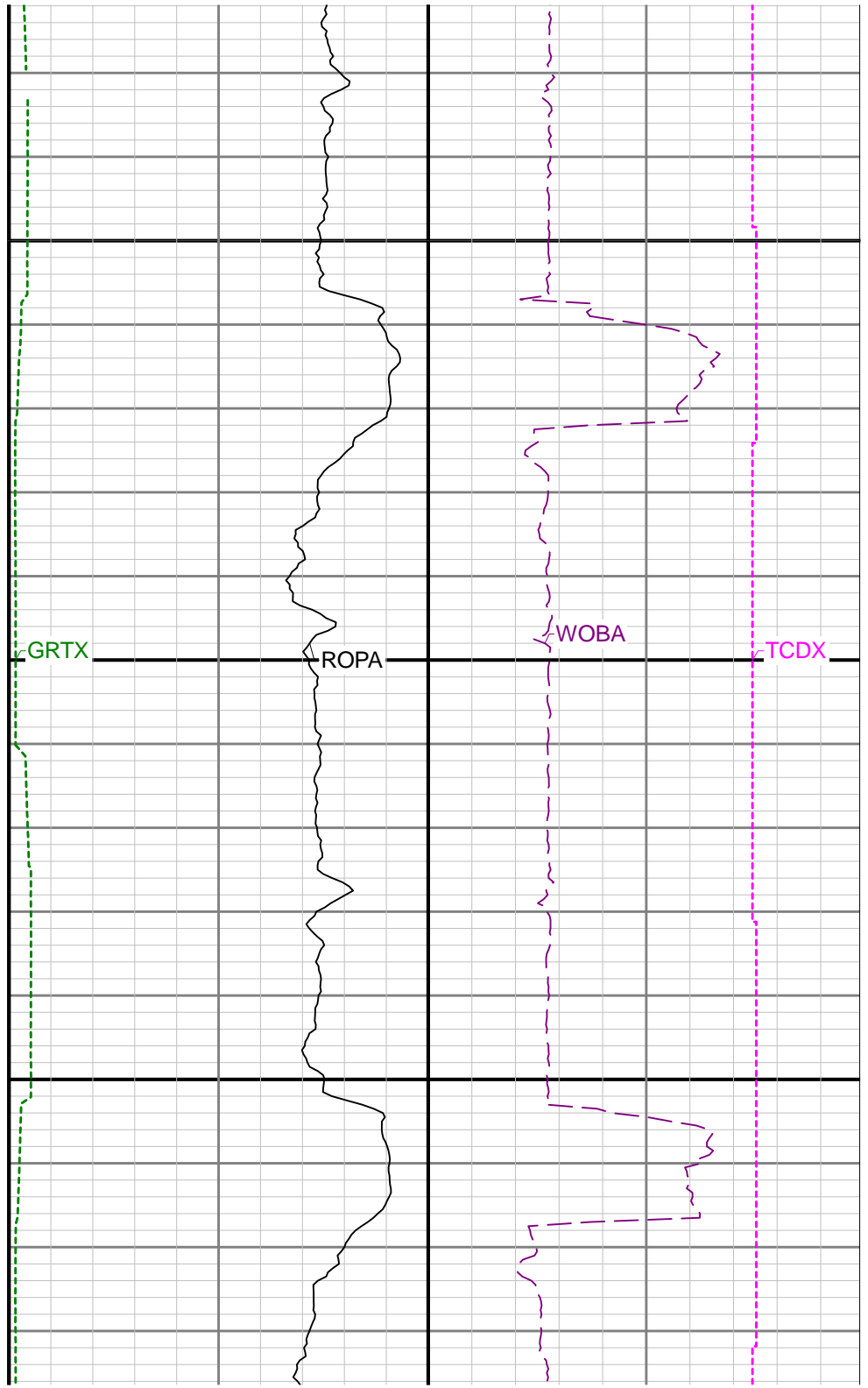
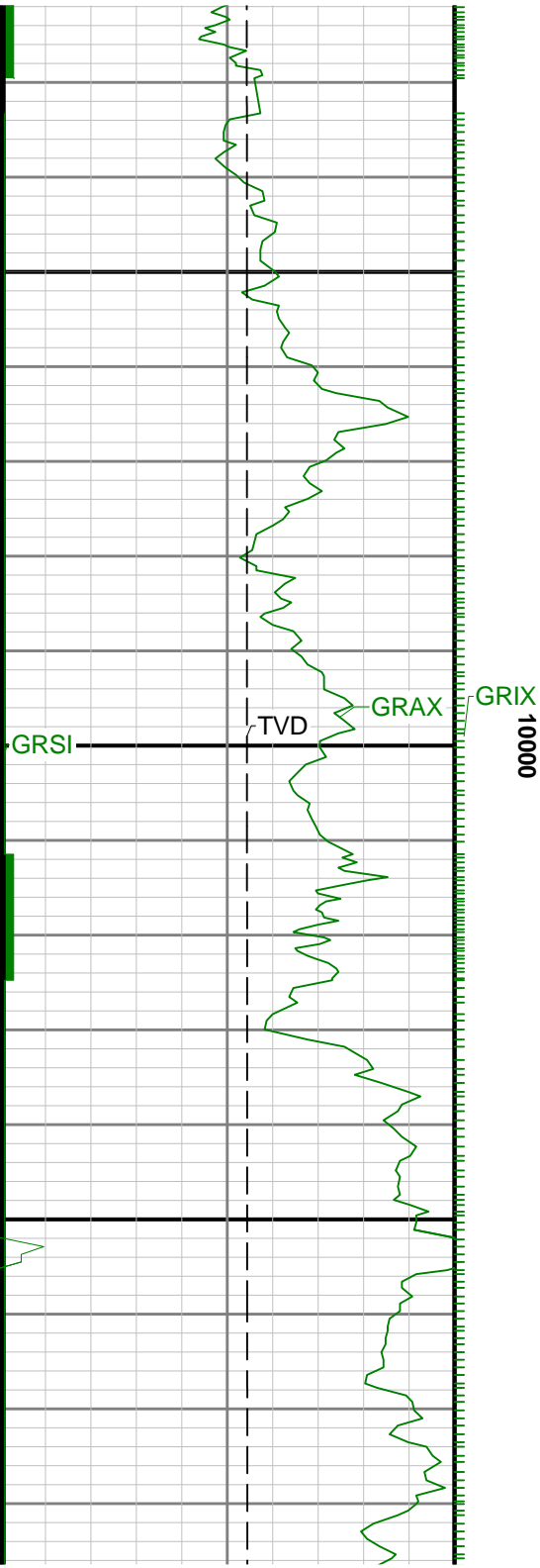


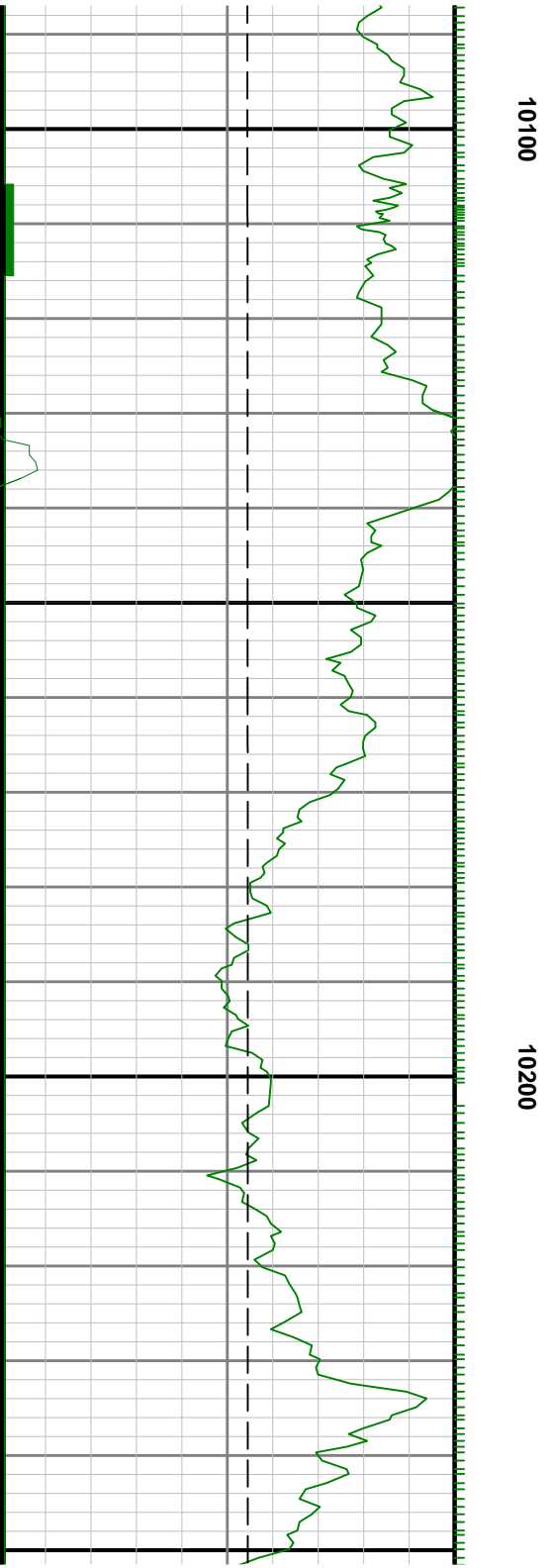
9500

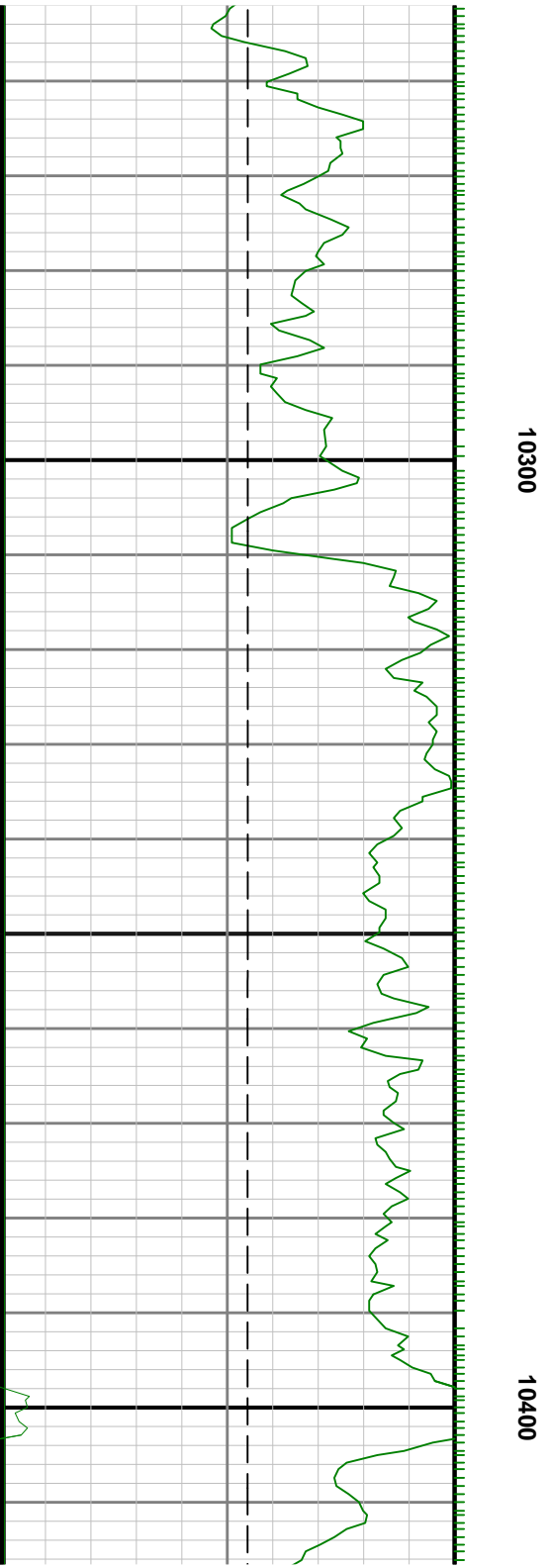
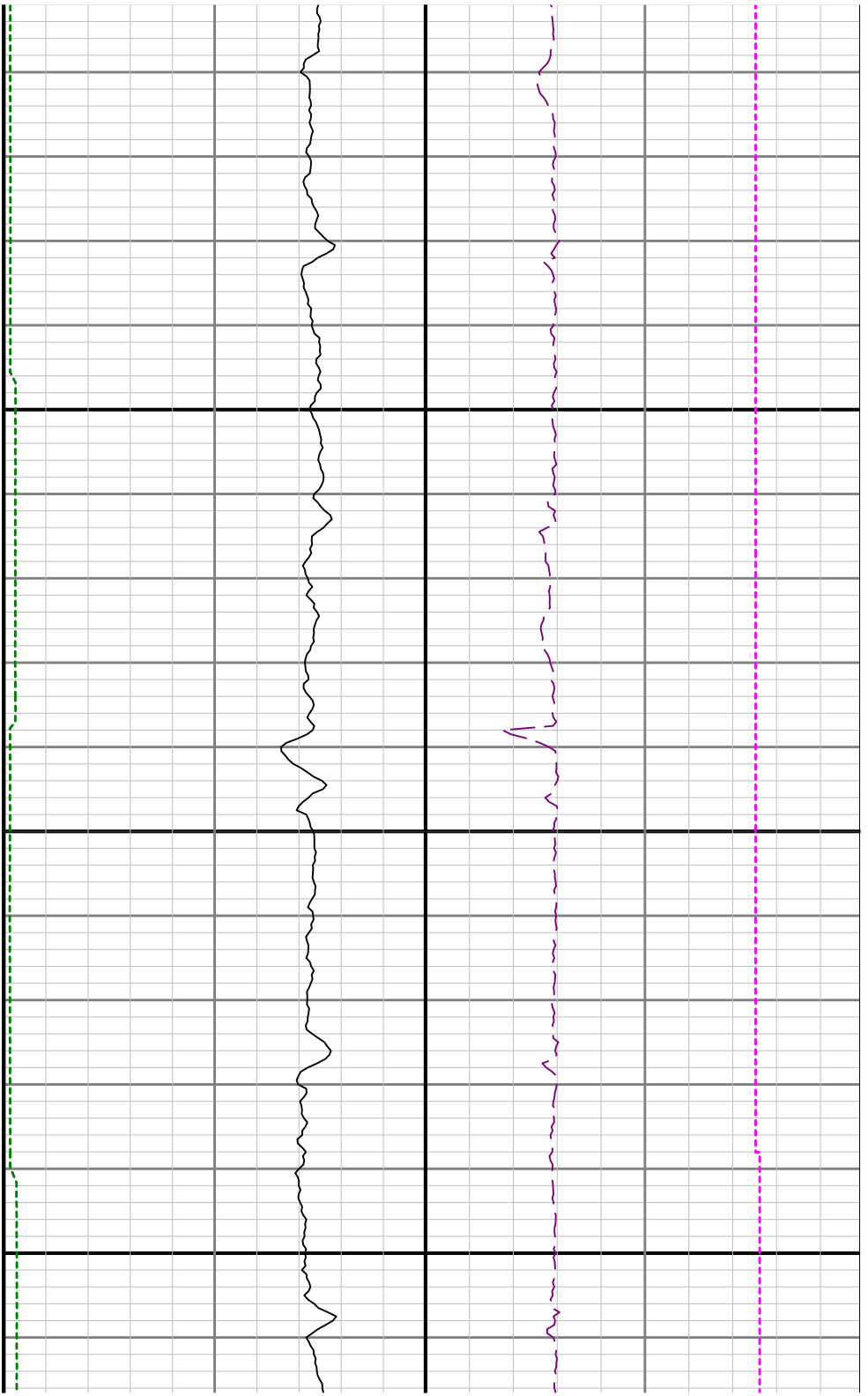


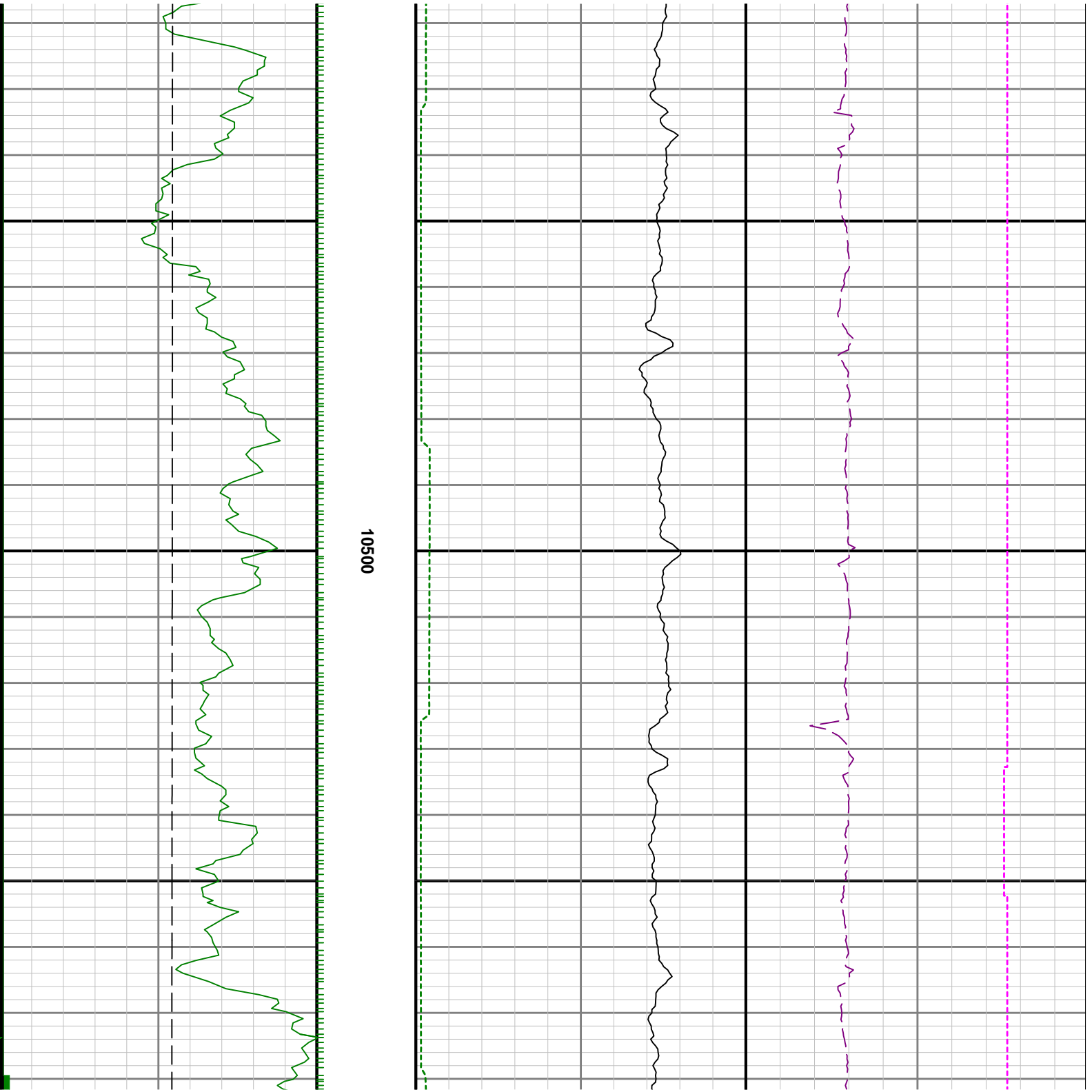


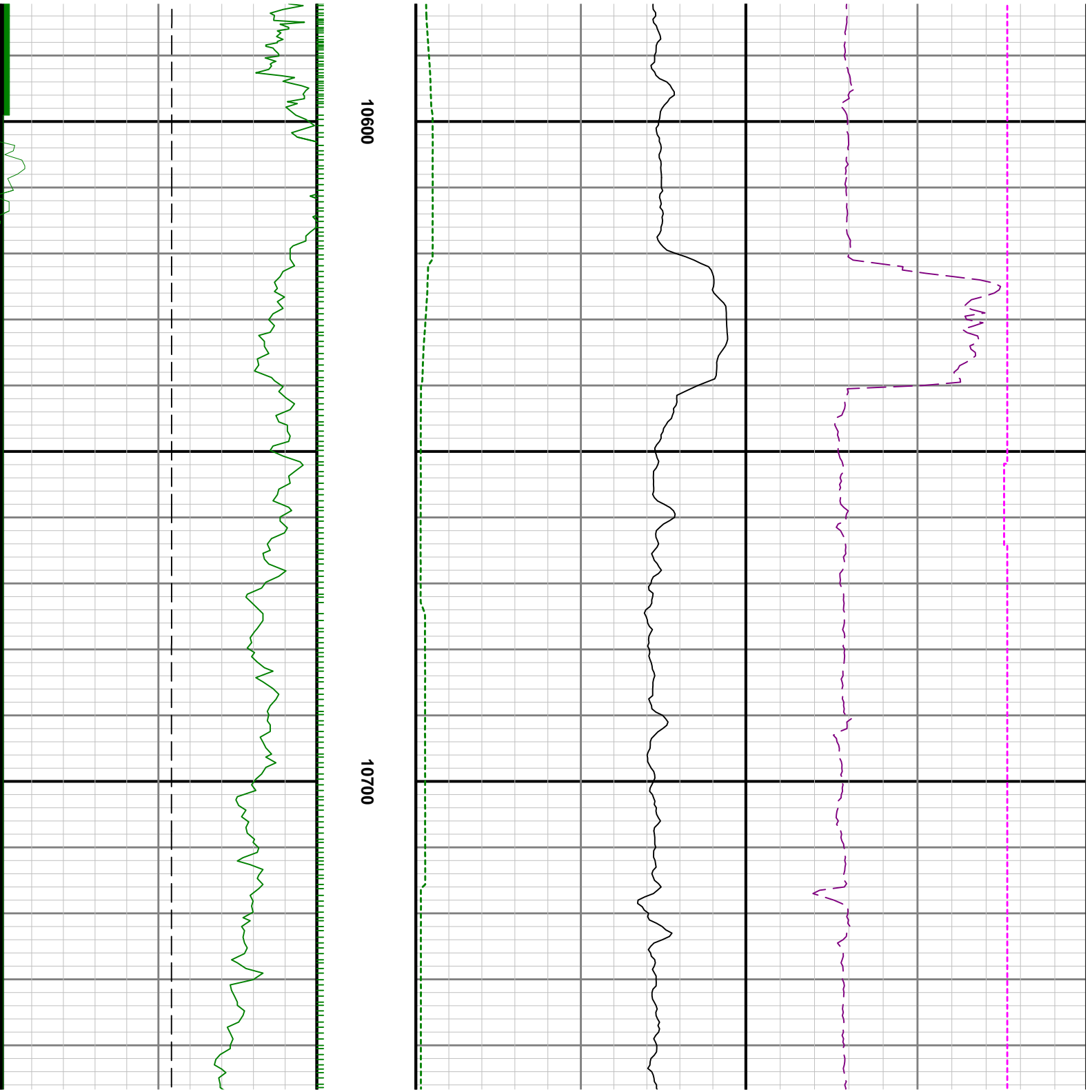


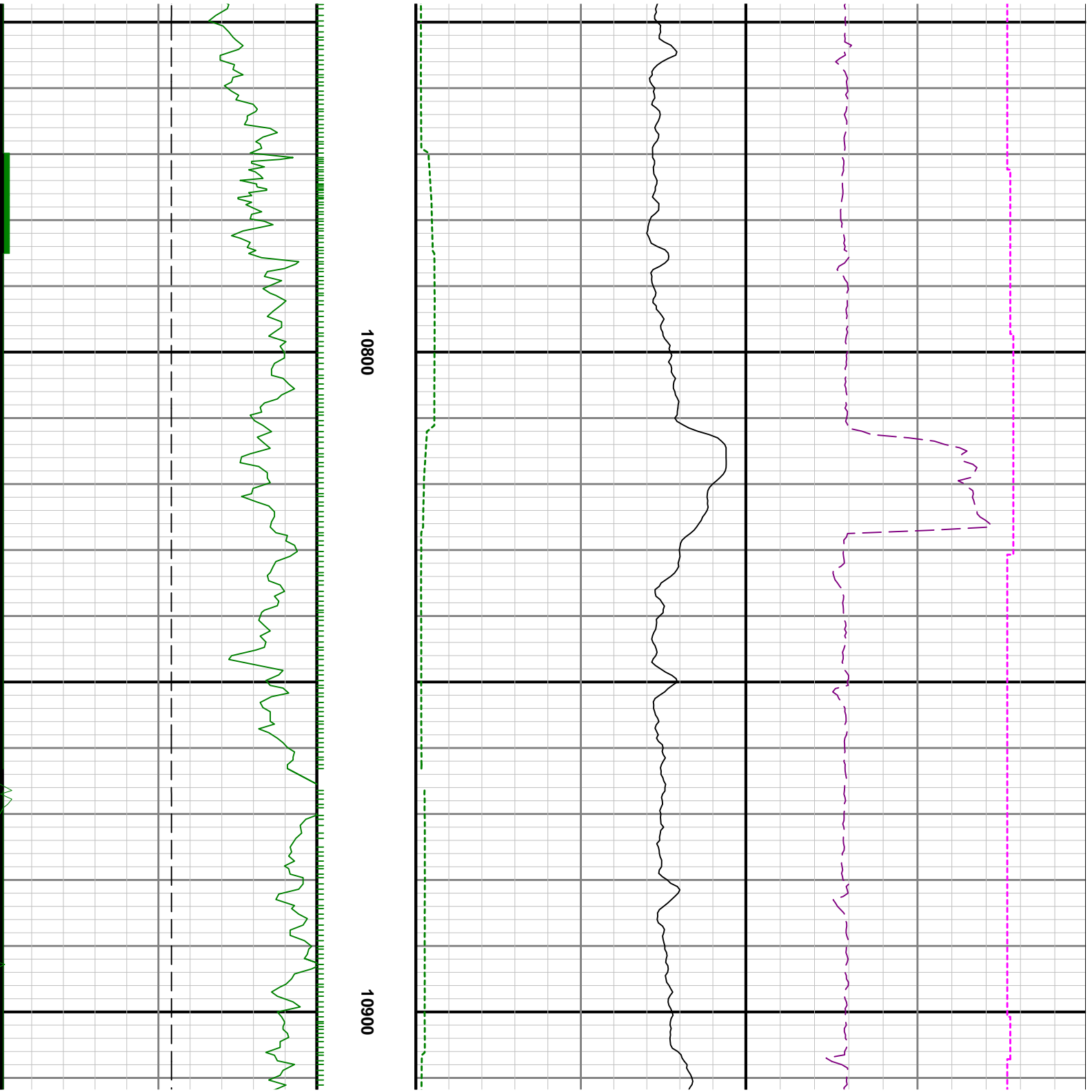


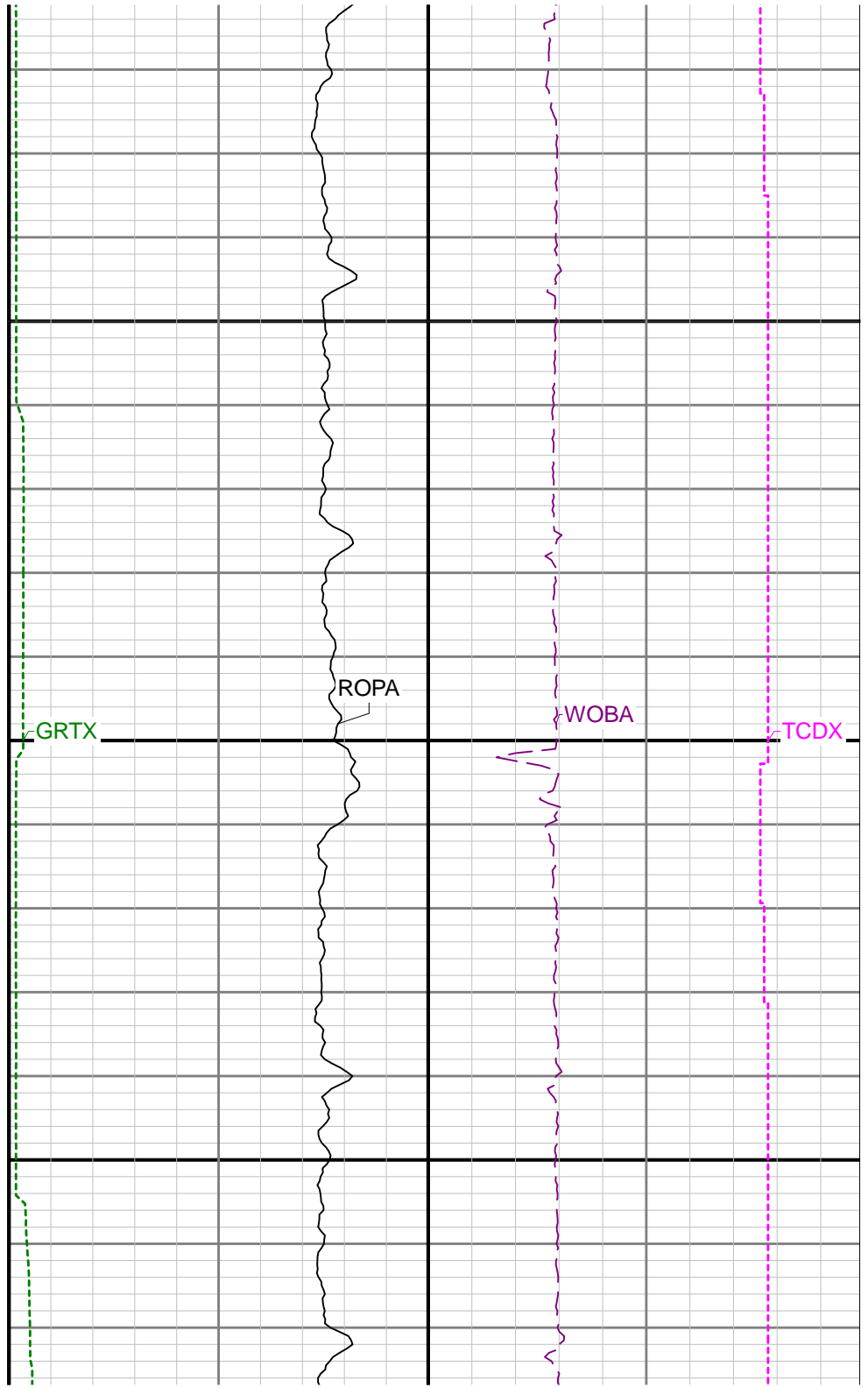
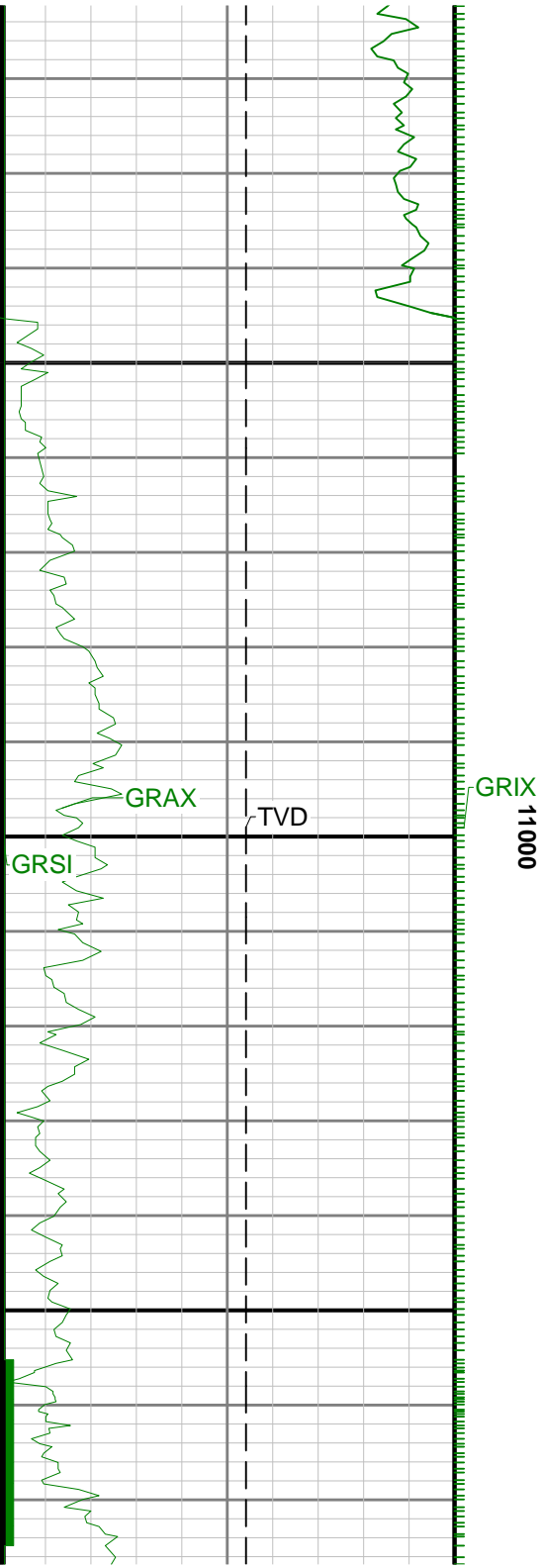


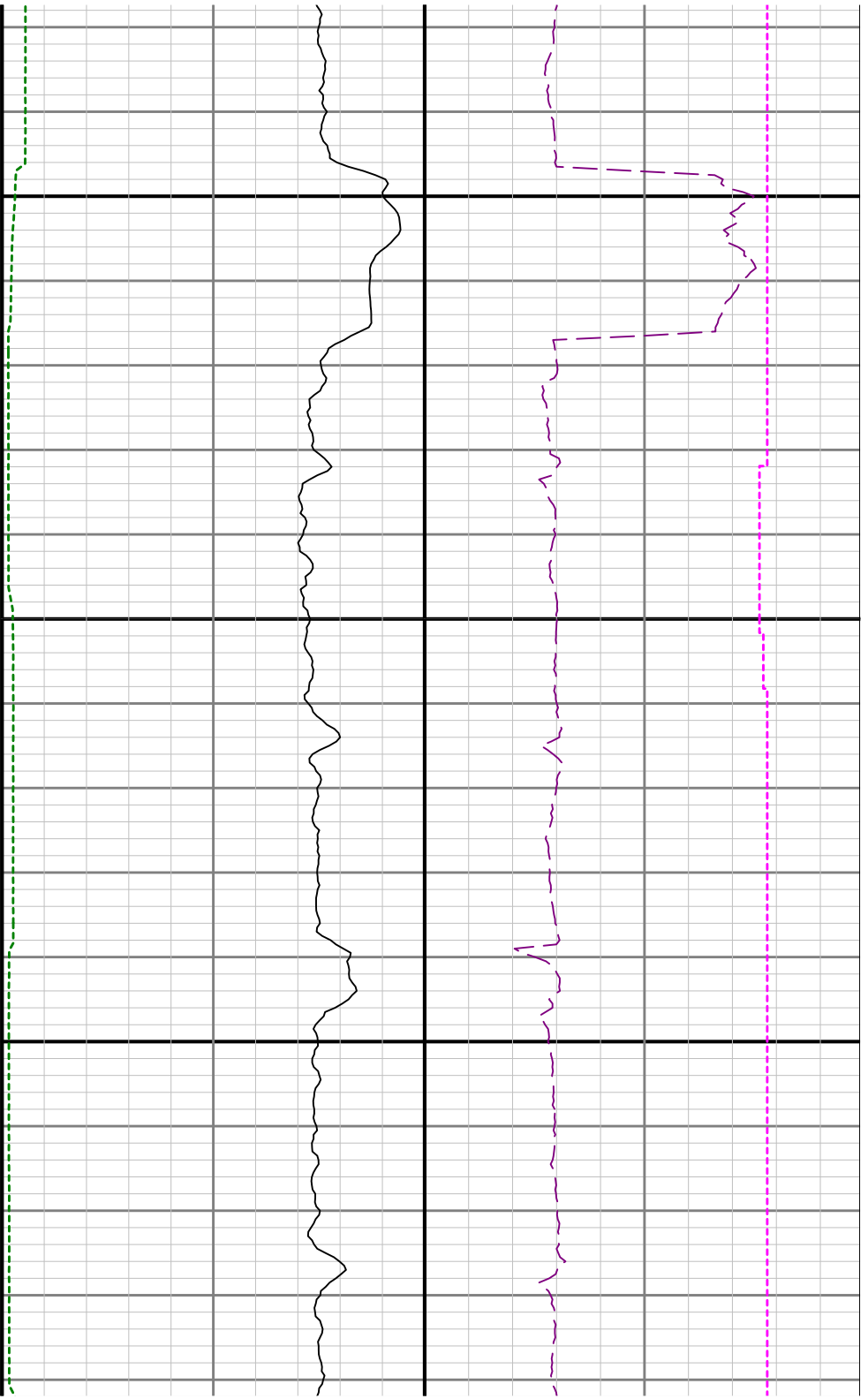






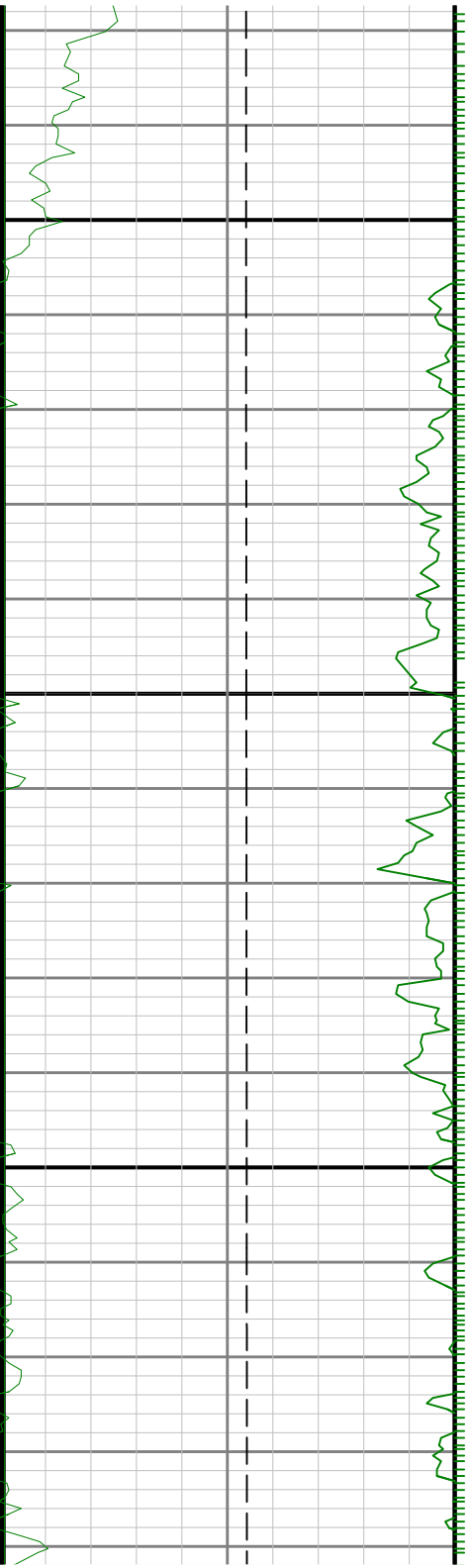


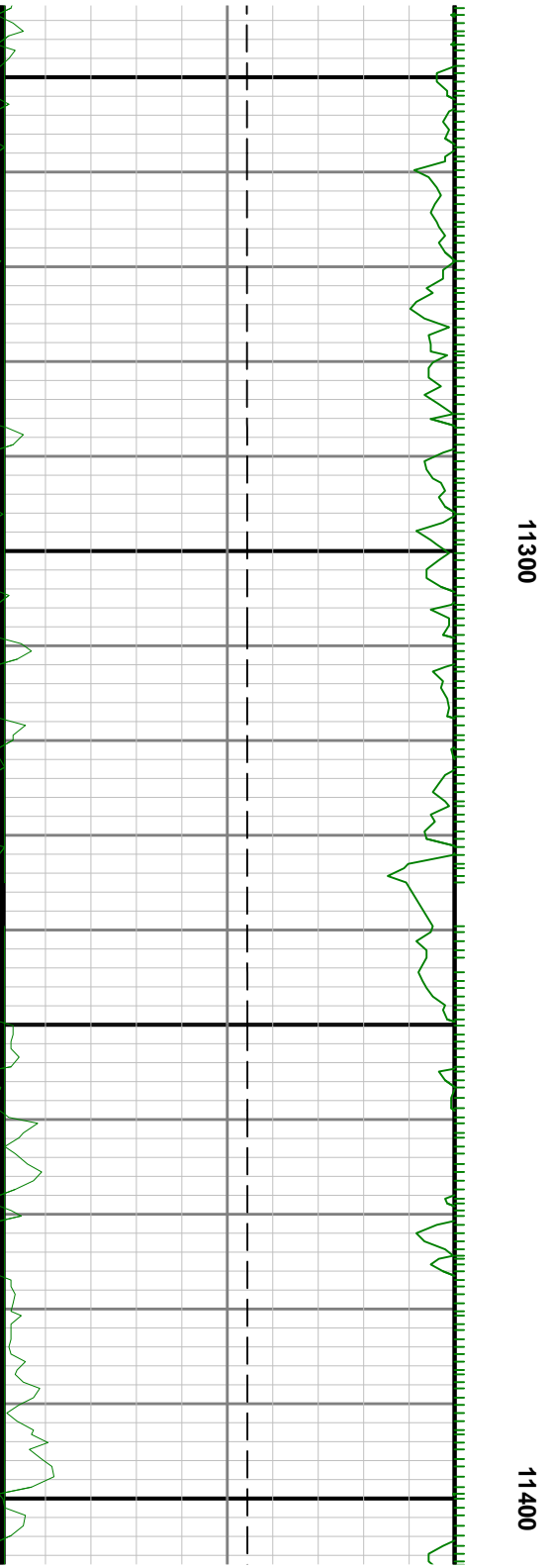
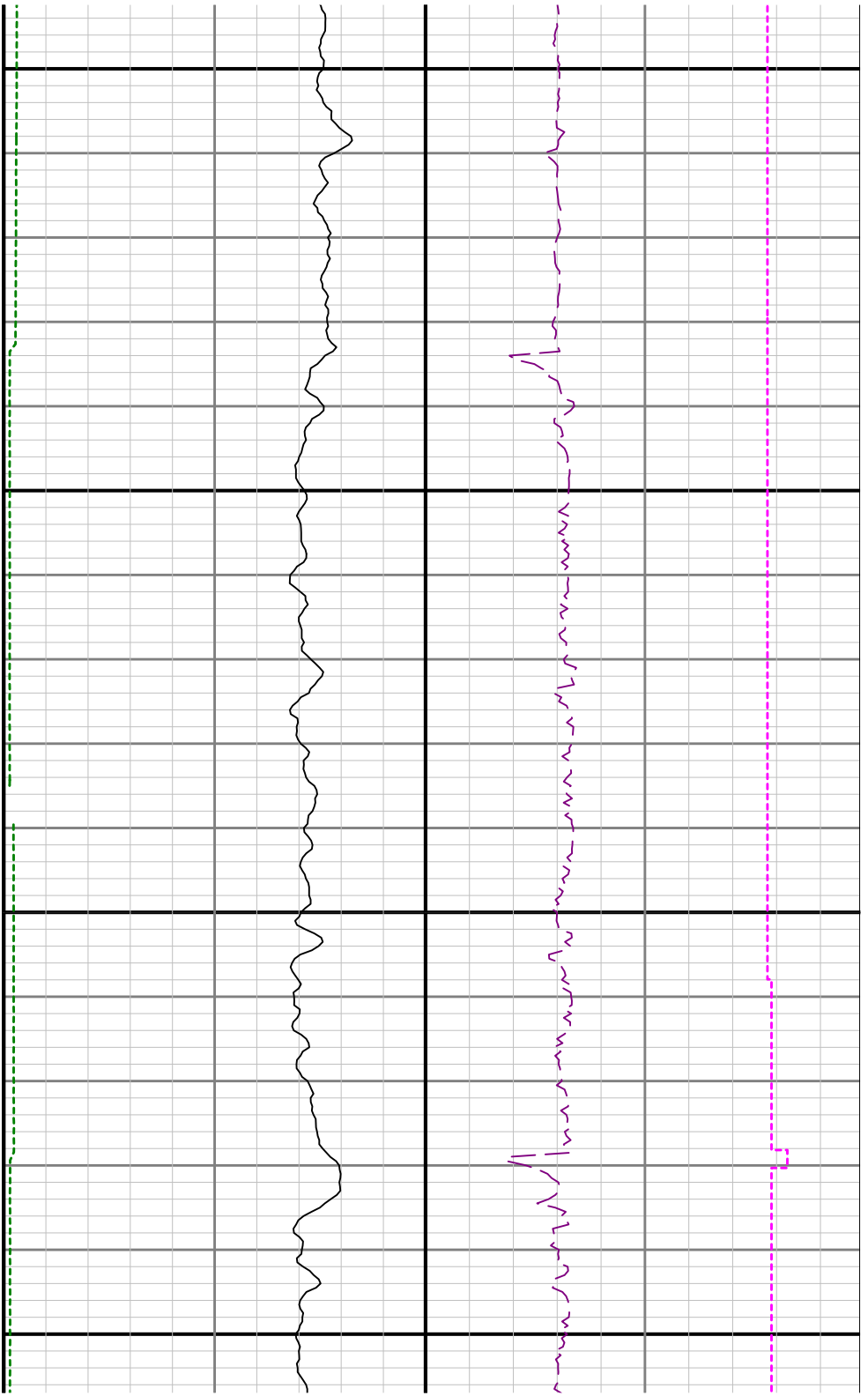




11100

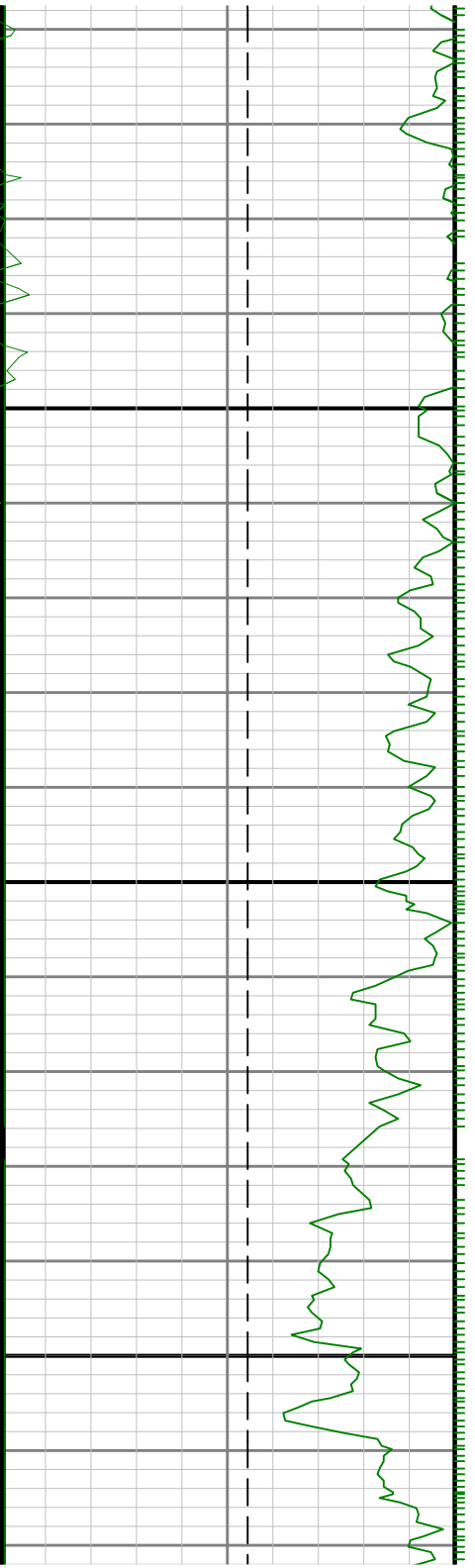
11200







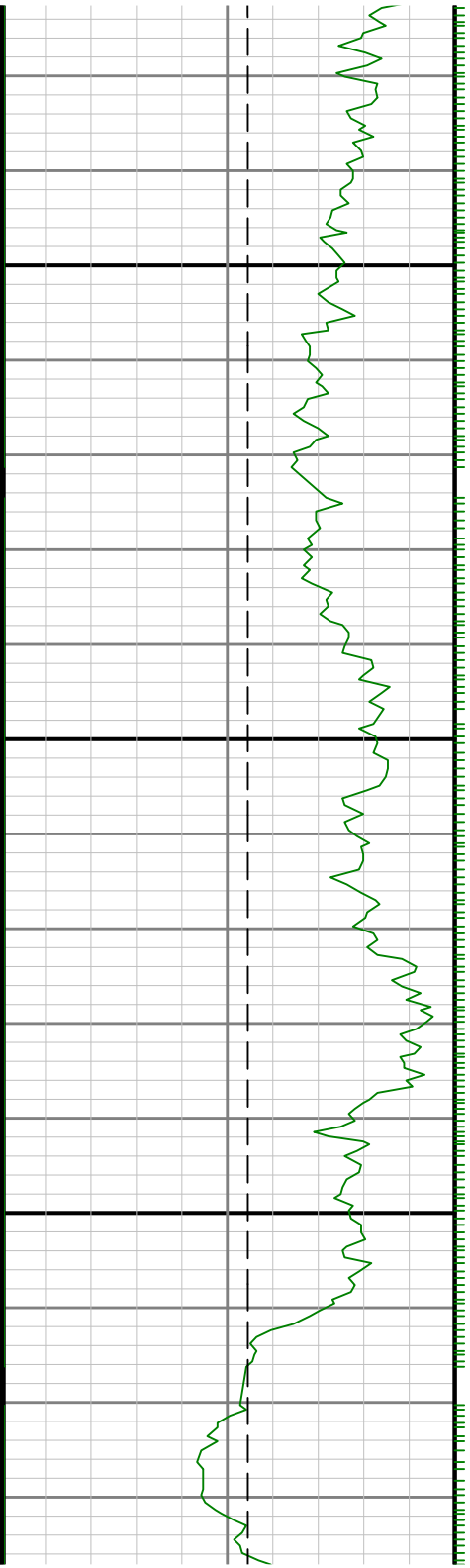
11500

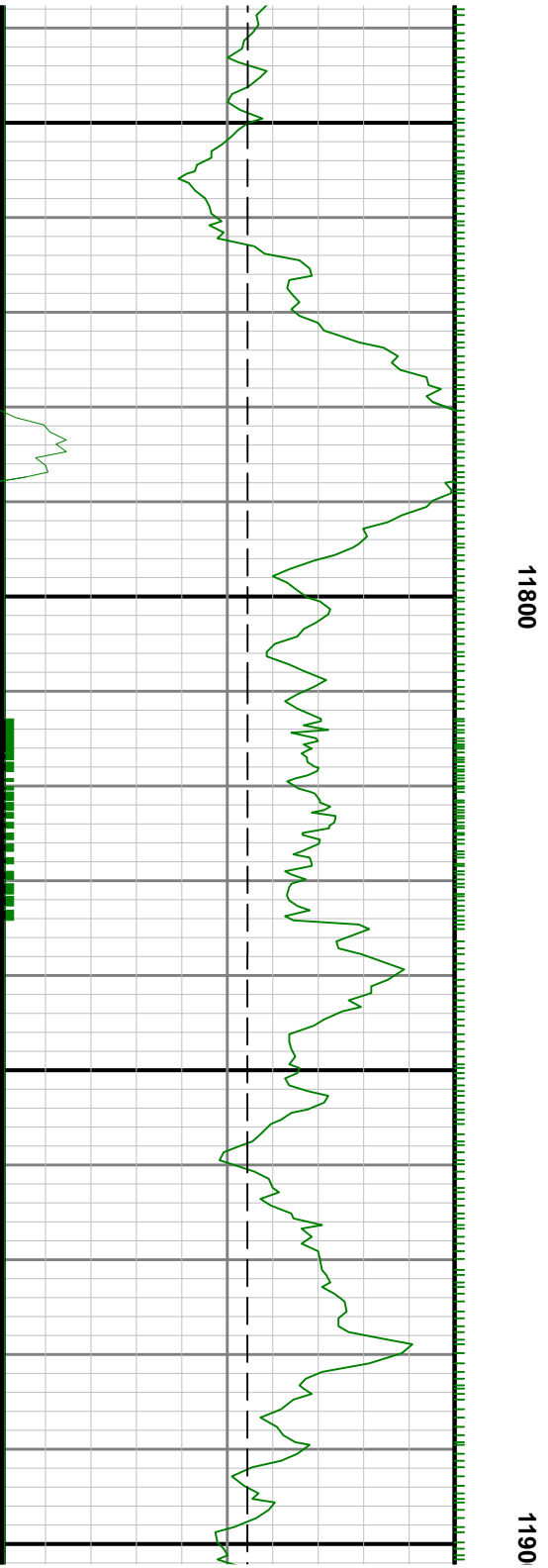


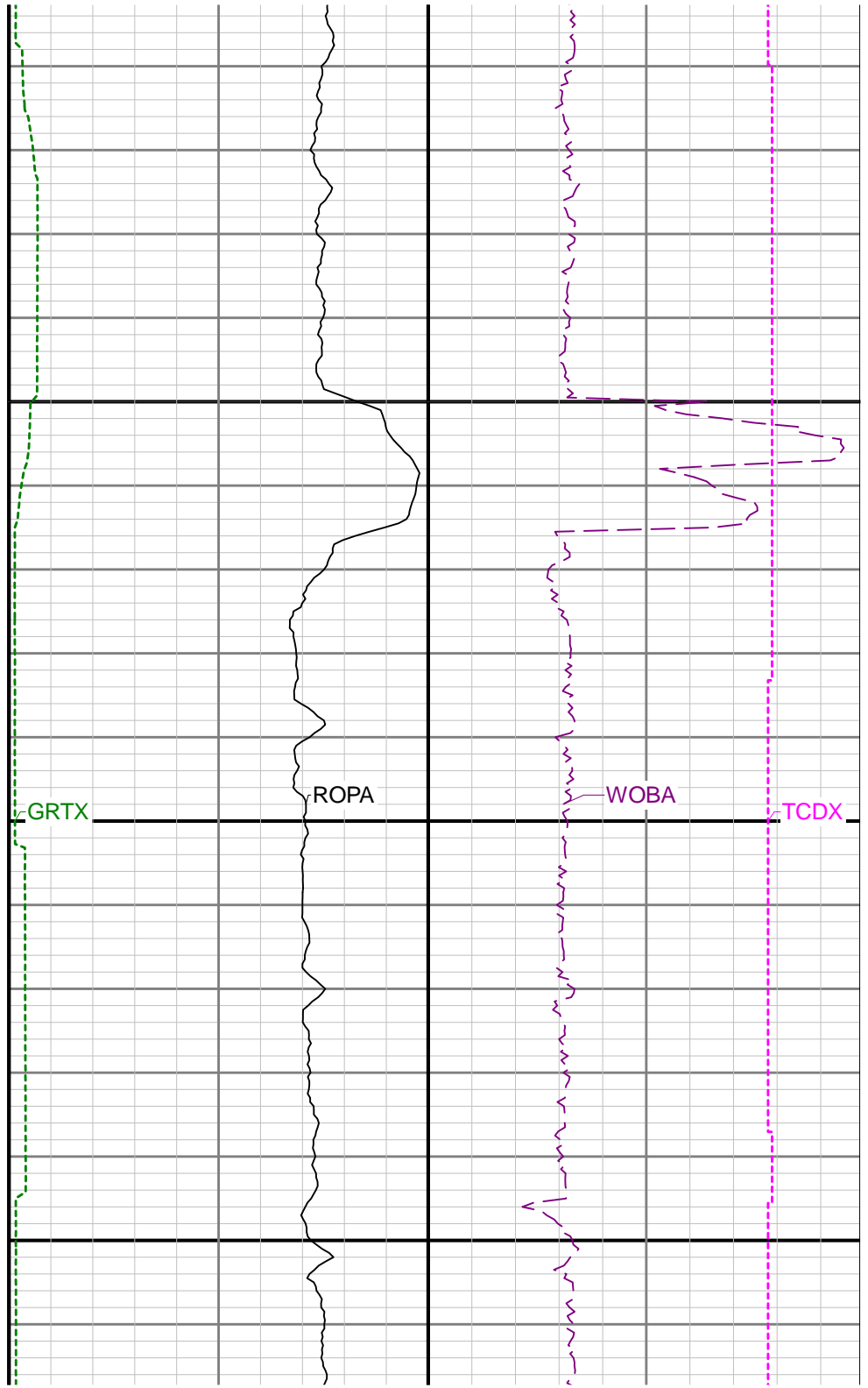
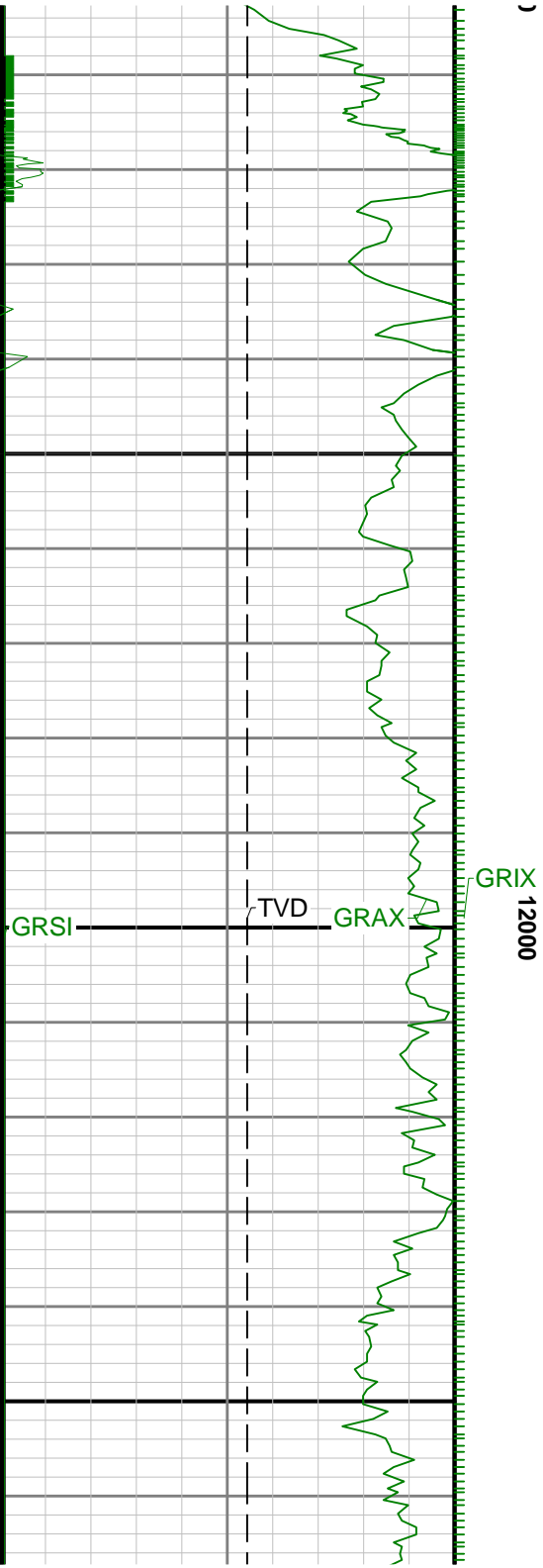


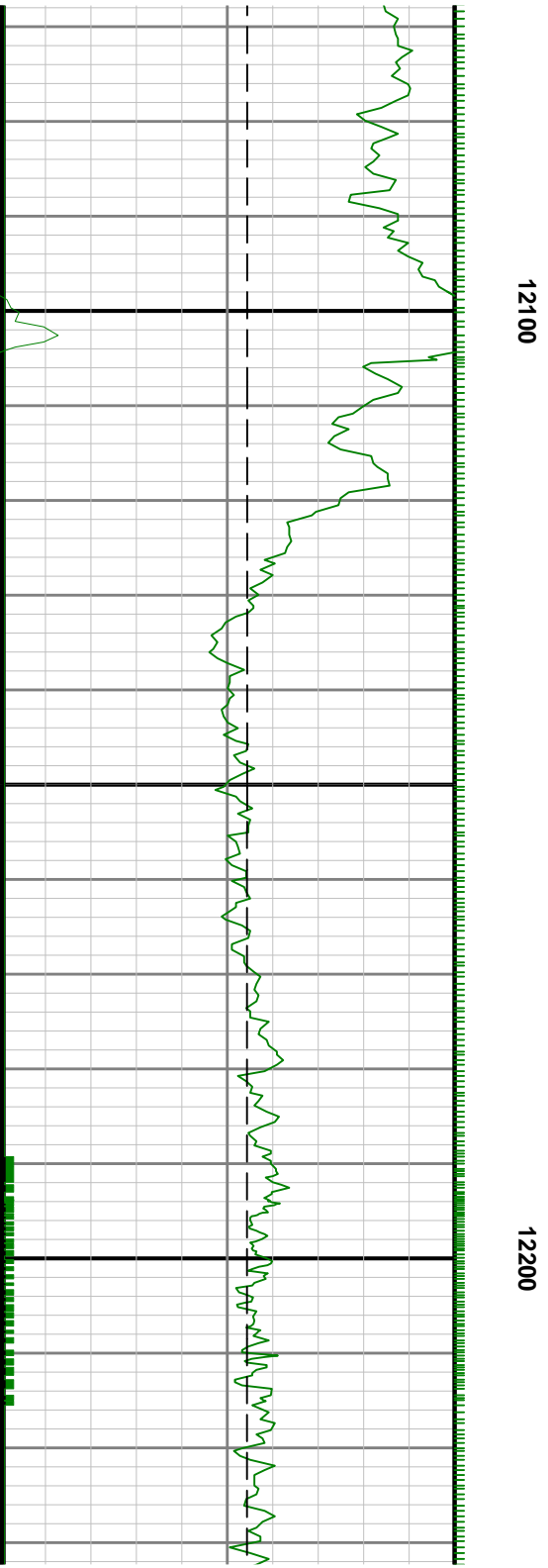
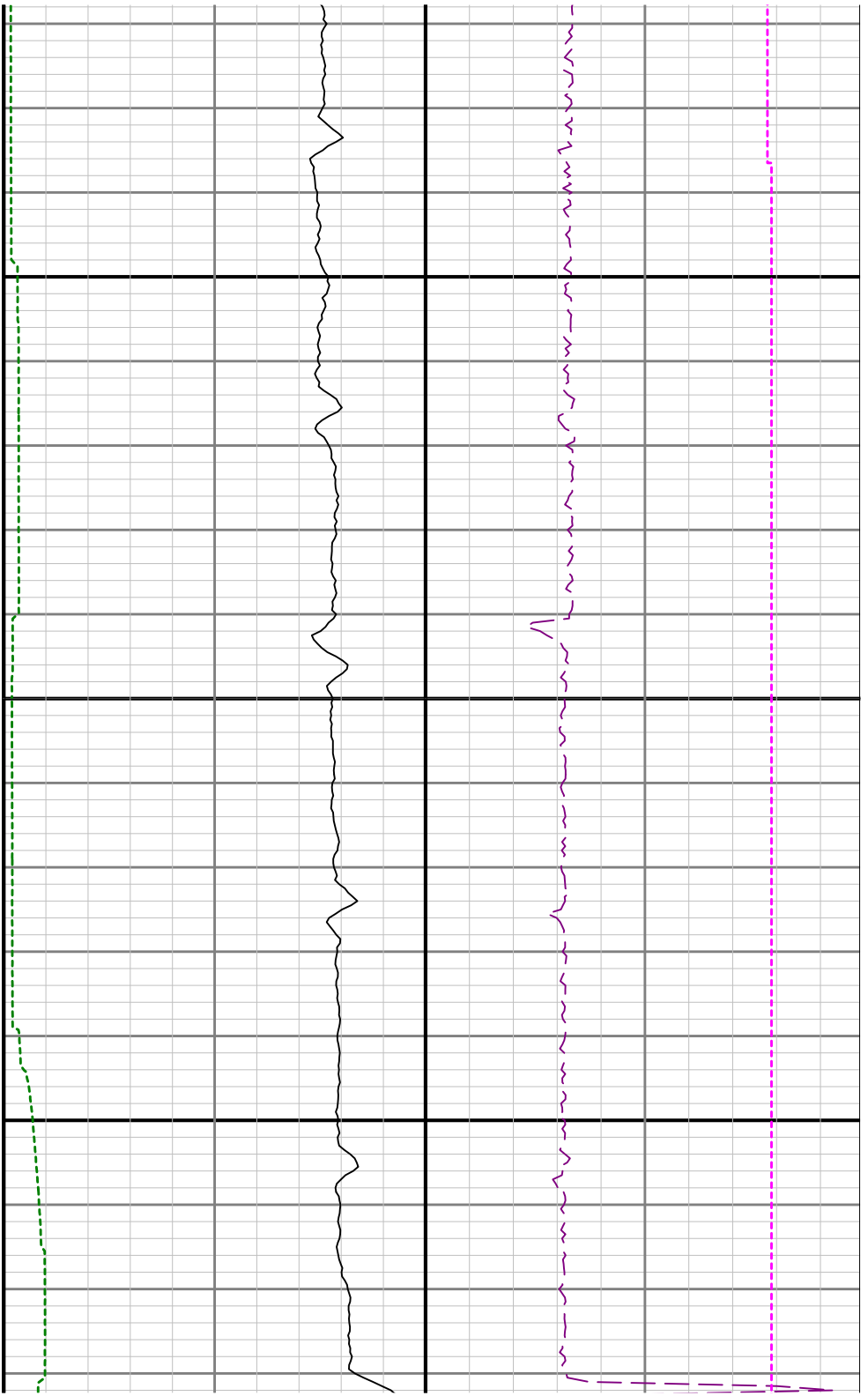
11600

11700





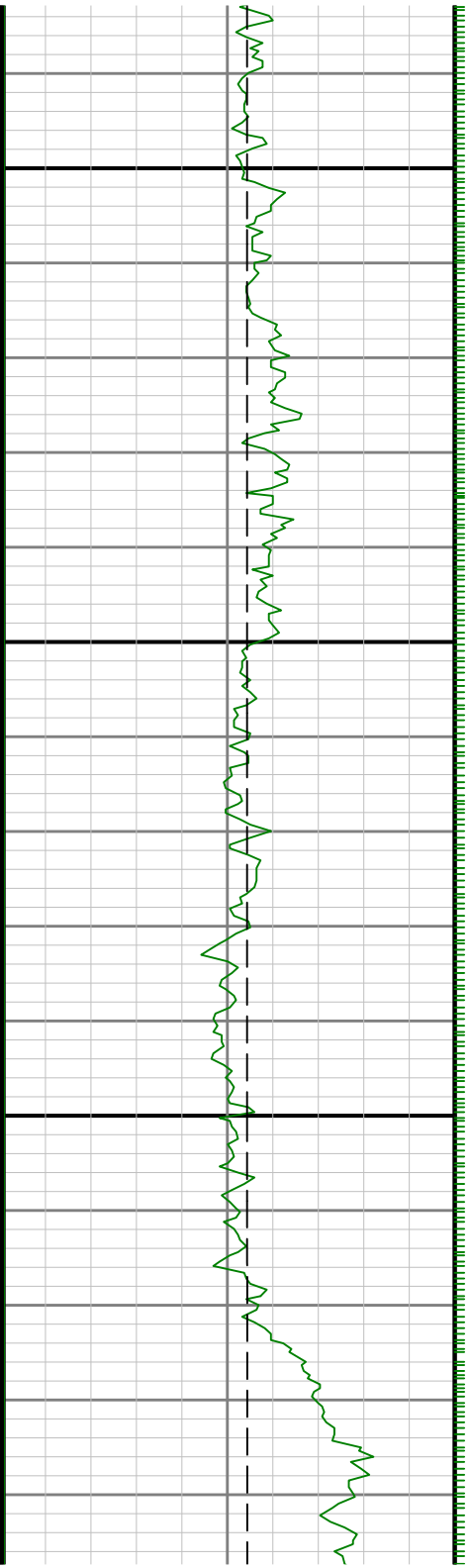


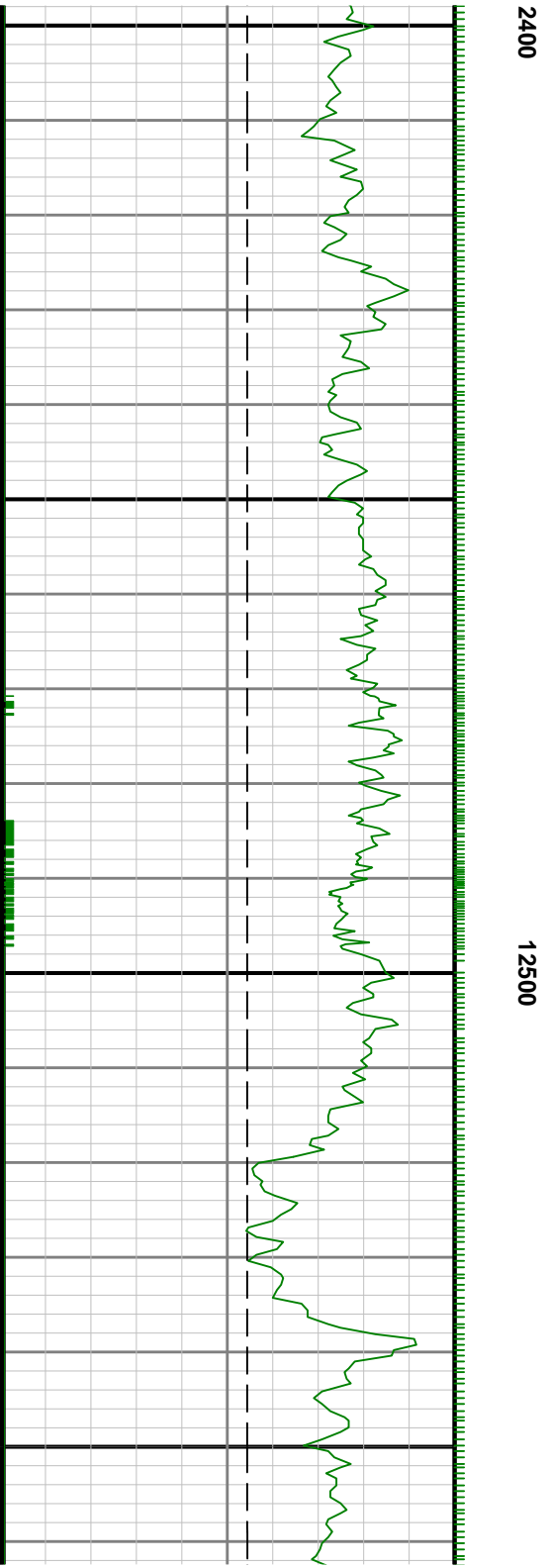
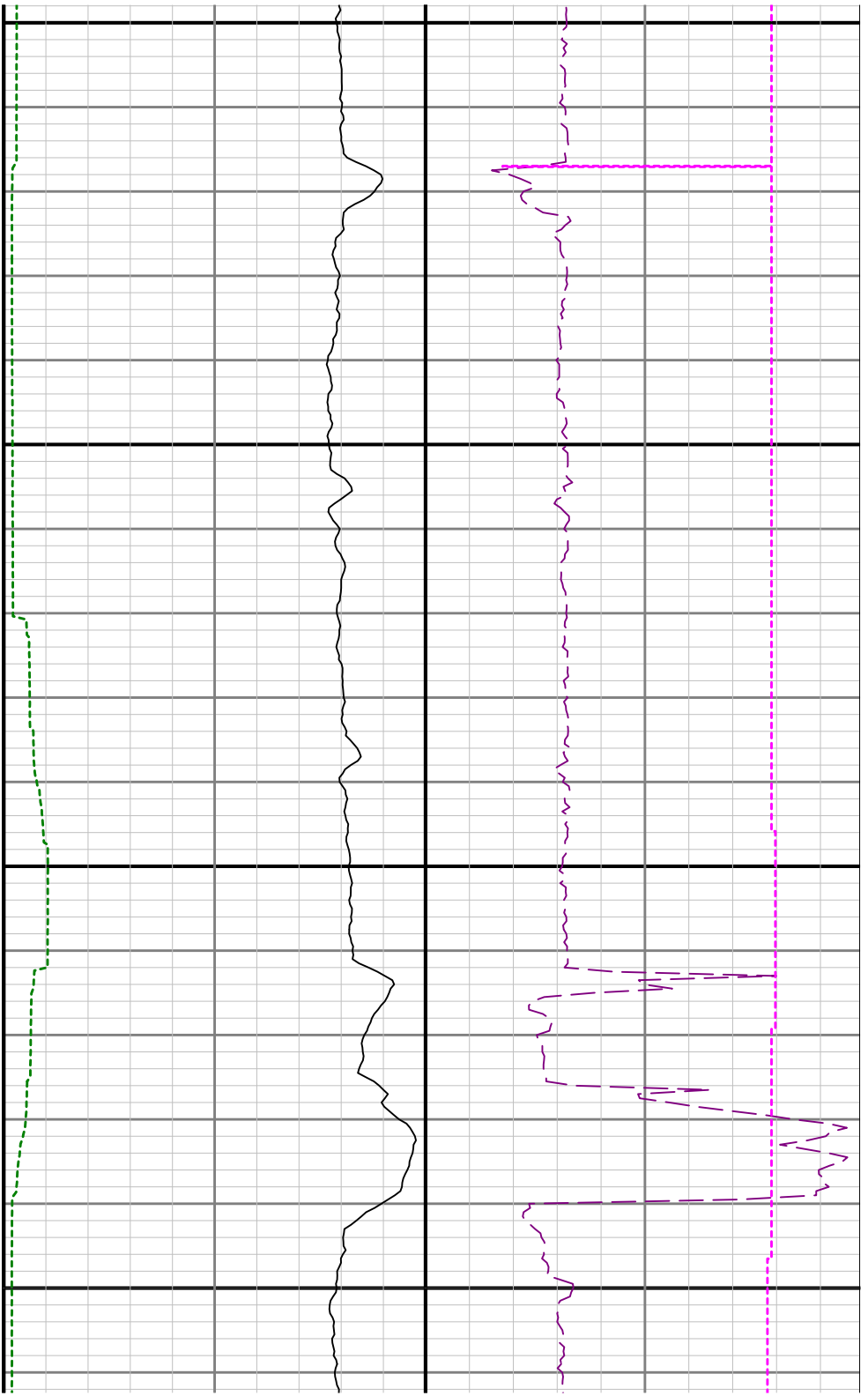


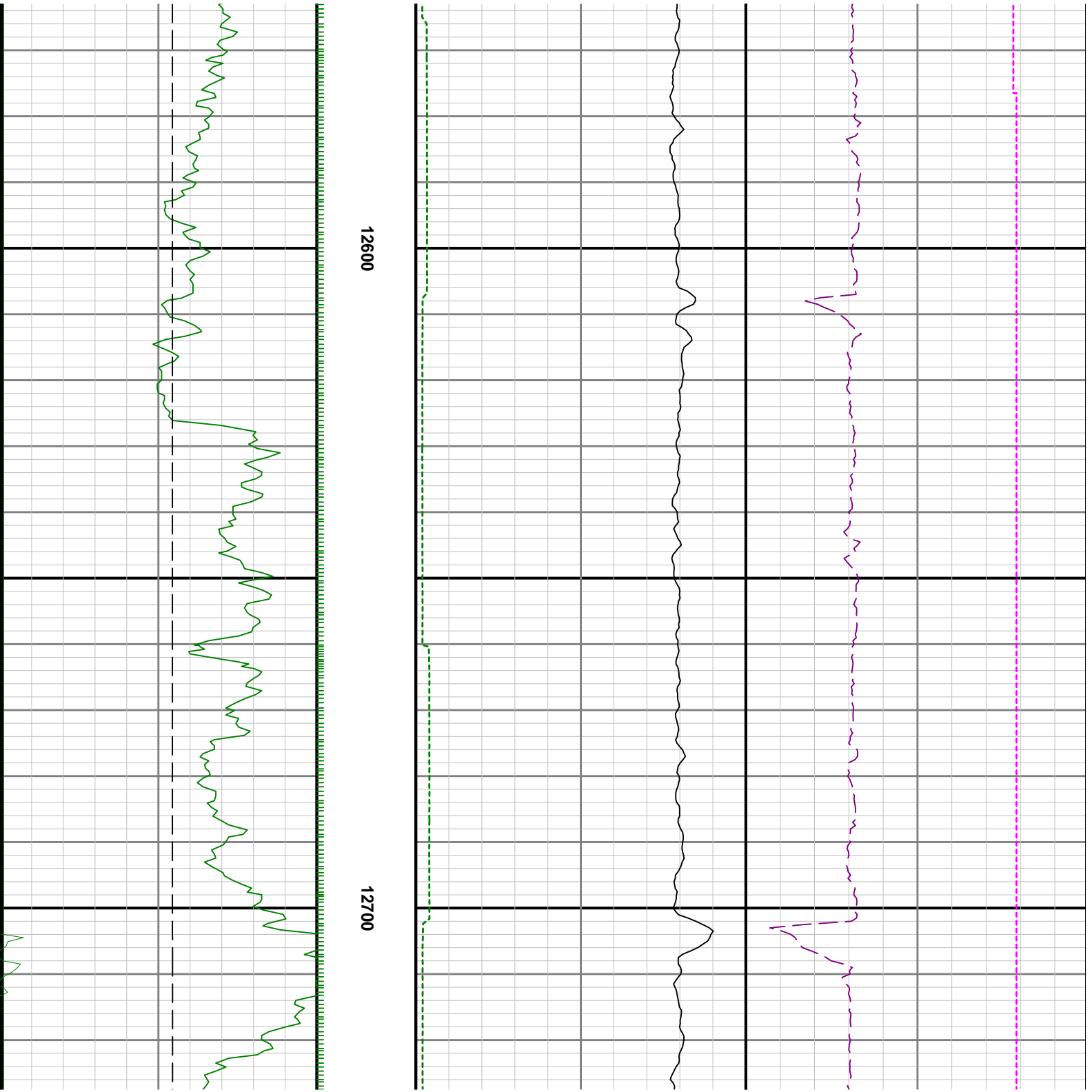


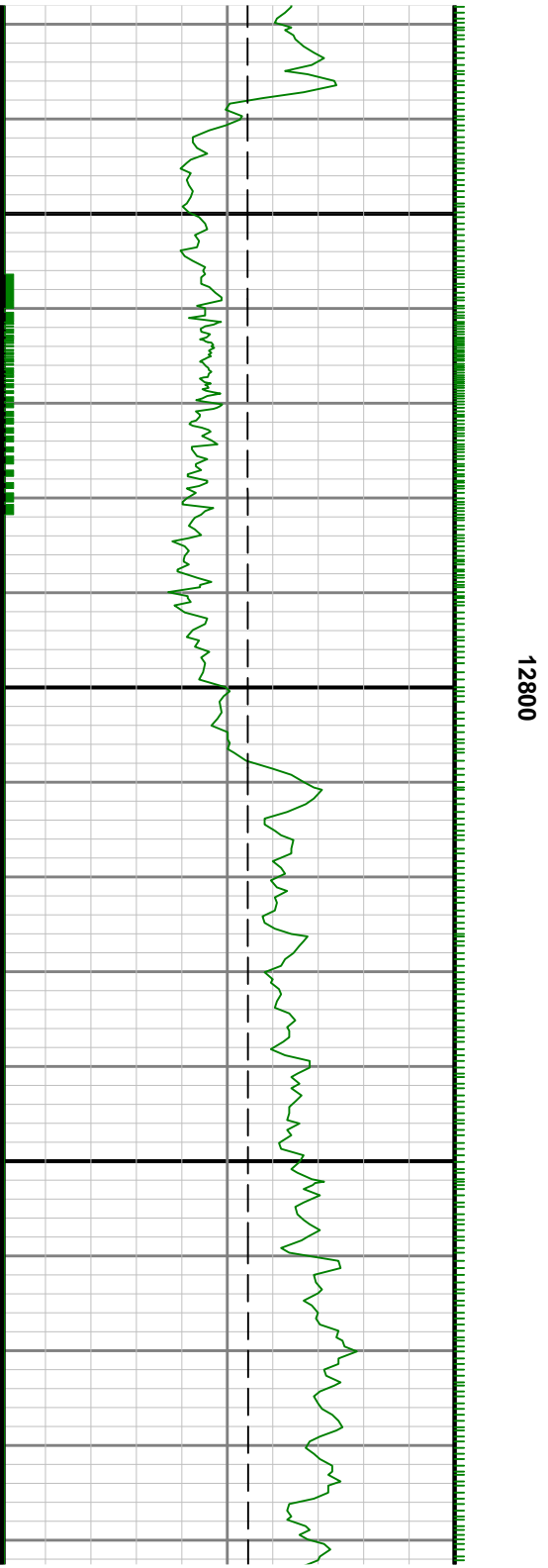
12300

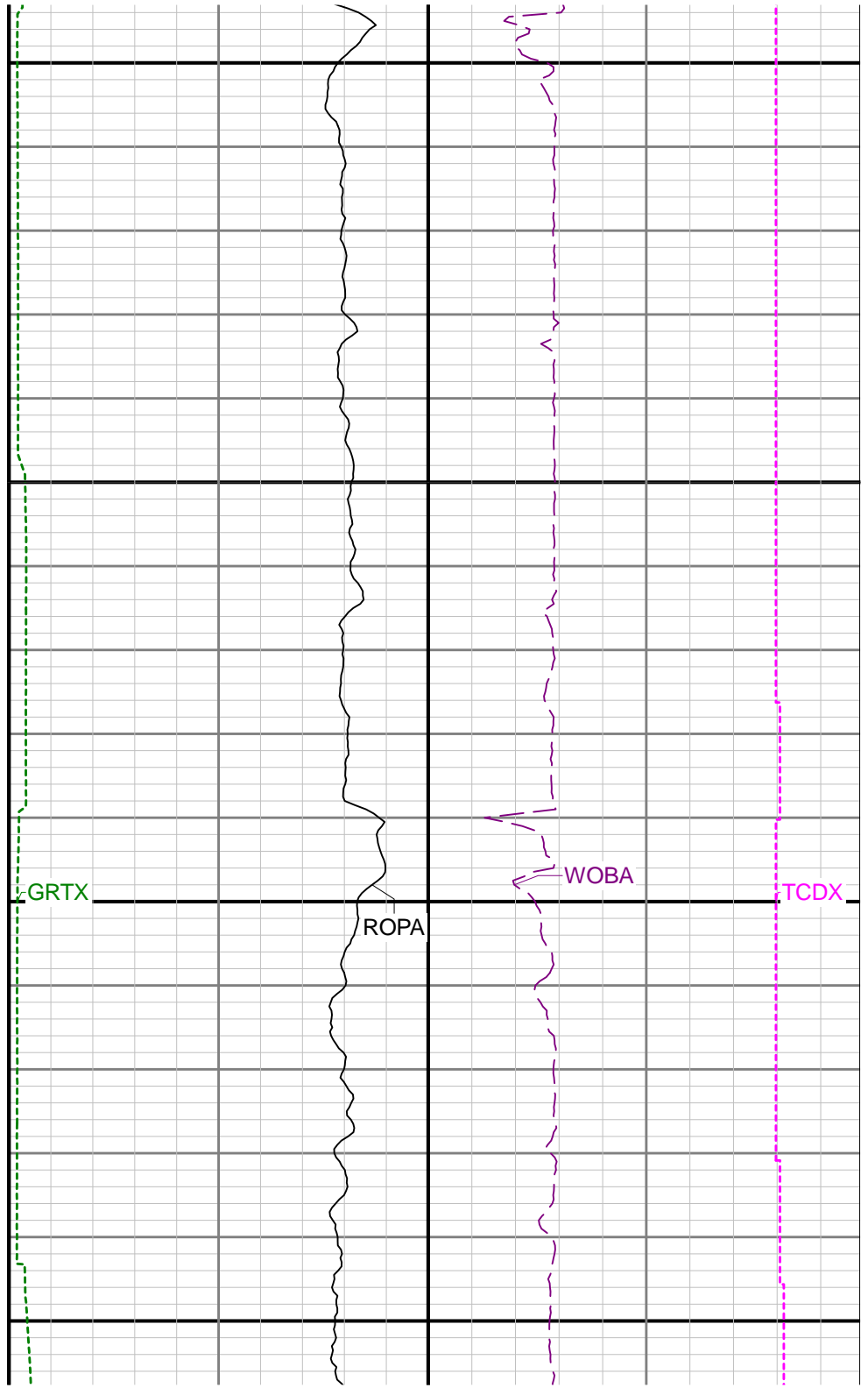
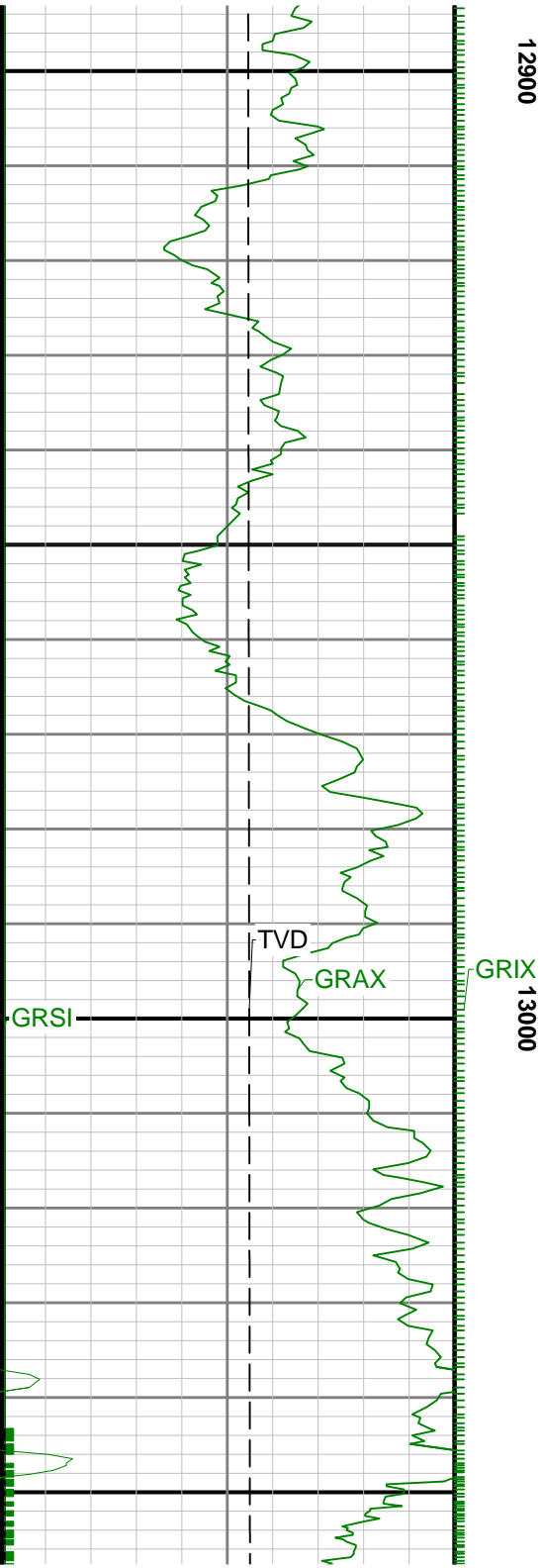
1

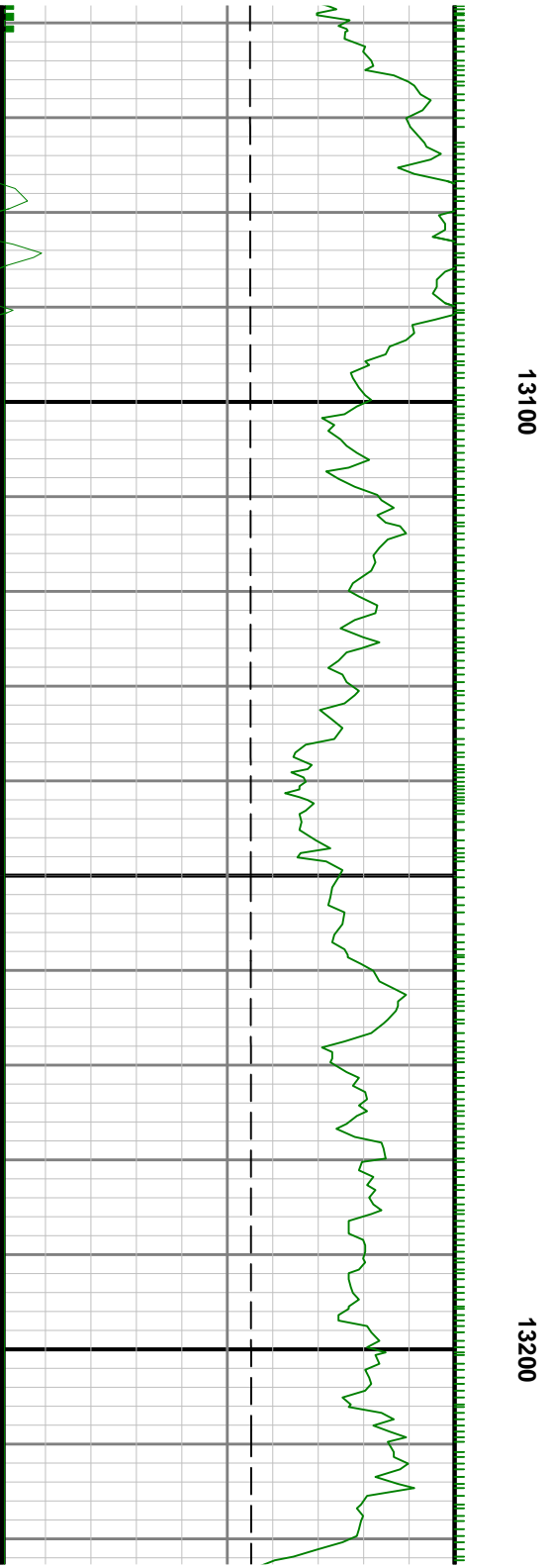
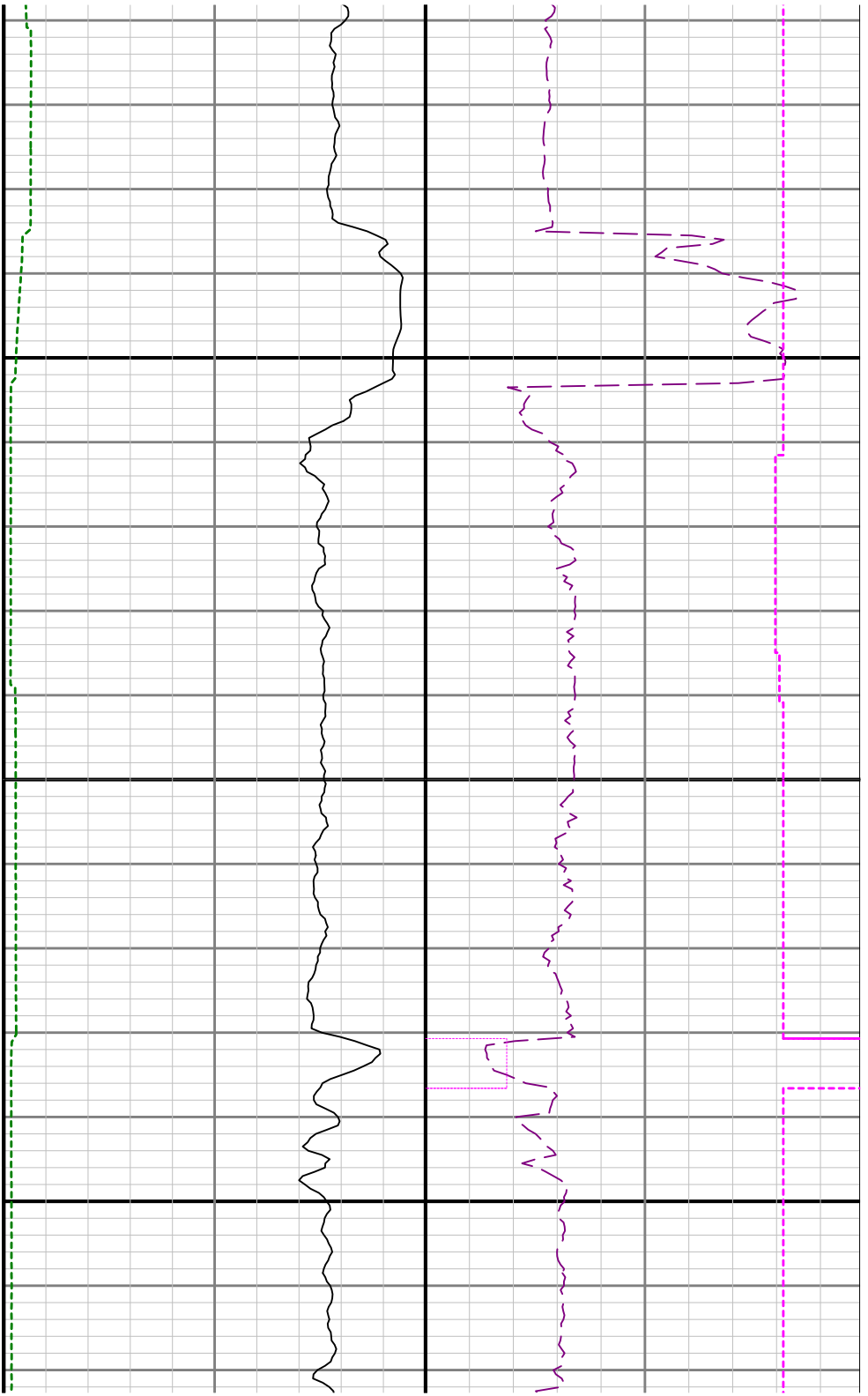


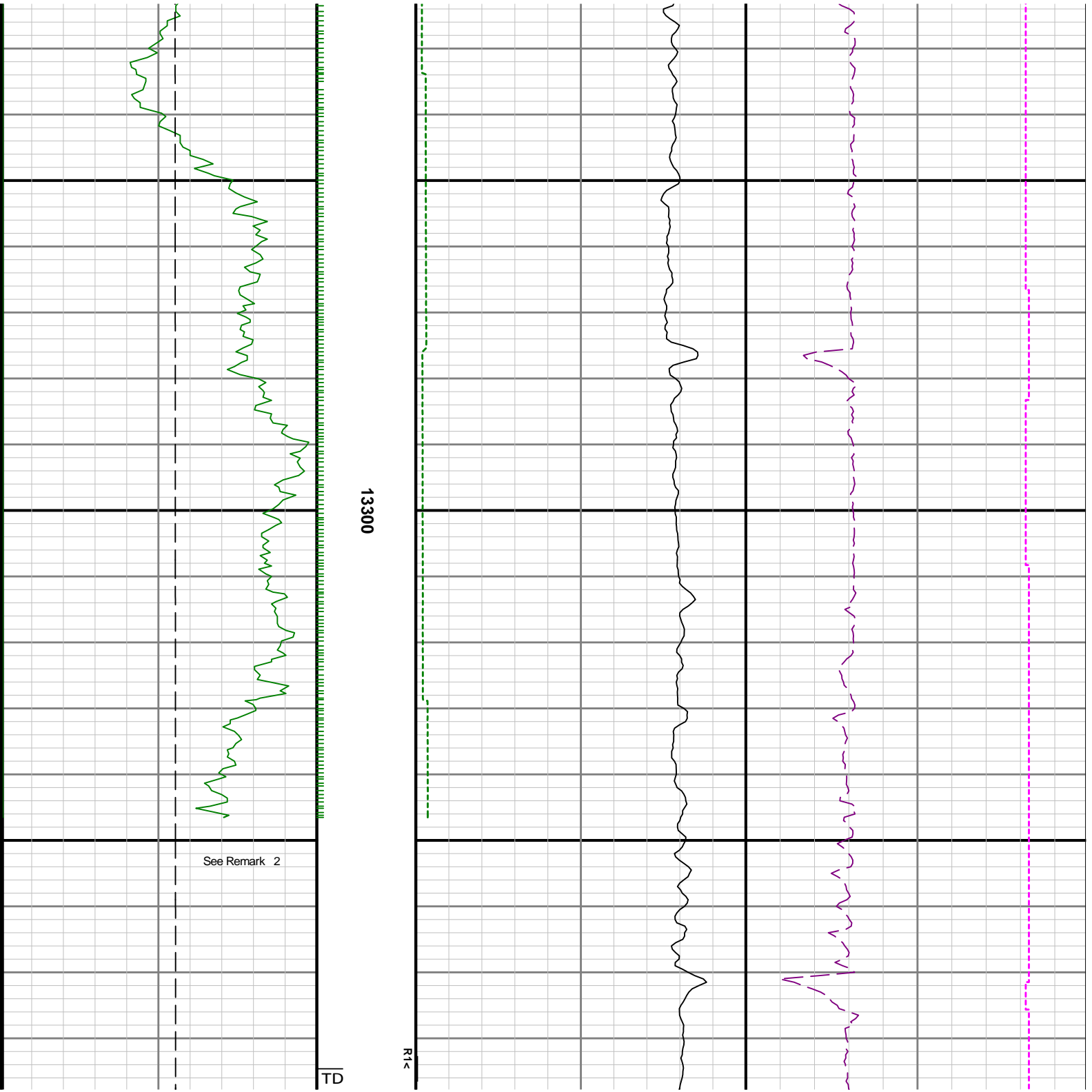












		13400				
Gamma Ray Apparent 0.5 ft Average GRAX 0150		MD 1:240 feet	Rate of Penetration 3 ft Average ROPA 10000		Surface Weight On Bit 1 ft Average WOBA 0100	
API True Vertical Depth TVD 80006400 ft			ft/h Gamma Ray Time Since Drilled GRTX 0600 min		klb Downhole Temperature TCDX 0300 degF	