



RealTime Log

Gamma Ray

Scale:
1:240
Measured Depth

Company: Anadarko

Well: Bydakek 29C-20HZ

Field: Weld County (Kerr McGee)

Region: Continental US Country: United States

Status:

Final Print

Surface Location:
Latitude: 40° 7' 6.042" N
Longitude: 104° 41' 35.563" W

Other Services:

API Number:

0512336219

Section 20

TWN: 2N

Range 65 W

Directional
VSS

Permanent Datum (P.D.): Ground Level

Elevation: 4944.00 ft.

Log Measured From:

Rig Floor

13.00 ft.

Above P.D.

Elevations:

KB: N/A
DF: 4944.00 ft.
GL: 4931.00 ft.

Depth Reference:

Driller's Depth

GL: 4931.00 ft.

Interval Logged

Dates

Magnetic Field Reference

Top: 6703.0 ft. Date From: 26/Apr/13

Dip Angle: 66.86° Azi Reference North:

True

Bottom: 11824.0 ft. Date To: 01/May/13

Total

Mag to Reference

Spud Date: 25/Apr/13

Field Strength: 52925.0 nT North Correction:

8.41°

Borehole Record

Casing Record

Hole Size	From	To	Size	Weight	From	To
13.500 in.	Surface	1012.0 ft.	9.625 in.	36.00 lb/ft	Surface	1010.0 ft.
8.750 in.	1012.0 ft.	7716.0 ft.	7.000 in.	26.00 lb/ft	Surface	7716.0 ft.
6.000 in.	7716.0 ft.	11880.0 ft.				

Mud Record

Deviation Record

Type	From	To	Hole Size	Interval	Inc / Az (Start)	Inc / Az (End)
Water Based - Fresh	6755.0 ft.	7716.0 ft.	8.750 in.	6716.0 ft.	0.4° / 342.3°	87.4° / 359.9°
Water Based - Fresh	7716.0 ft.	11880.0 ft.	6.125 in.	5108ft.	87.4° / 359.9°	xx / xx
					/	/
					/	/
					/	/
					/	/
					/	/
					/	/
					/	/
					/	/

Acquisition System

Software Version

Other

Advantage	2.20U4	Rig: / Contractor:	Ensign 138	/ Anadarko
PATS	6.4.1.34	Job No:	5257287	
		District: / Unit:	Rocky Mountain	/ D&E

INTEQ does not guarantee the accuracy or correctness of interpretations provided in or from this log. Since all interpretations are opinions based on measurements, INTEQ shall under no circumstances be responsible for consequential damages or any other loss, costs, damages or expenses incurred or sustained in connection with the use of any such interpretations. INTEQ disclaims all expressed and implied warranties related to this service. INTEQ's liabilities and obligations shall be governed by INTEQ's Standard Terms and Conditions.

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		Bit Depth Interval		Date / Time		Circ. Time (hrs.)
							Top (ft.)	Bottom (ft.)	From (ft.)	To (ft.)	Start	End	
1	1	1	8.750	PDC	2.500	Steerable	N/A	N/A	1012.0	6704.0	26/Apr/2013 10:10	27/Apr/2013 09:42	23.42
2	2	2	8.750	PDC	2.500	Steerable	6703.2	7669.0	6704.0	7716.0	27/Apr/2013 21:37	28/Apr/2013 15:51	18.1
3	3	3	6.125	PDC	2.500	Steerable	7669.0	11824.0	7716.0	11880.0	30/Apr/2013 13:20	01/May/2013 13:01	24

Crew

Name	Arrive	Depart	Name	Arrive	Depart	Name	Arrive	Depart
	Wellsite	Wellsite		Wellsite	Wellsite		Wellsite	Wellsite
Rober Bartlett	25 Apr 2013	02 May 2013	David Cambell	25 Apr 2013	02 May 2013	Bill Herbers	25 Apr 2013	02 May 2013
Robert Keagan Lea	25 Apr 2013	02 May 2013	Tyler Wall	01 May 2013	02 May 2013			

Mud Properties Record

Date / Time	LWD Run No.	Measured Depth (ft.)	Mud Type	Density (ppg)	Viscosity (cp)	pH	Fluid Loss (cc)	Oil / Water	Source	Total Chlorides (ppm)	K+ (%)
26/Apr/2013 21:35	1	100.0	Water Based – Fresh	8.4	29	9.2	N/A	0 / 100	Active Mud Pit	2200	0.0
27/Apr/2013 21:00	2	6755.0	Water Based – Fresh	9.8	36	8.6	0.0	0 / 100	Active Mud Pit	2300	0.0
28/Apr/2013 21:00	2	7716.0	Water Based – Fresh	10.4	43	8.9	0.0	0 / 100	Active Mud Pit	2300	0.0
29/Apr/2013 21:00	3	7716.0	Water Based – Fresh	9.5	34	10.2	0.0	0 / 100	Active Mud Pit	3100	0.0
30/Apr/2013 21:00	3	10000.0	Water Based – Fresh	9.5	36	9.0	0.0	0 / 100	Active Mud Pit	2800	0.0

Mnemonics

Curve	Description	Units
GRAM	Gamma Ray Apparent, – 0.5 ft. Avg.	API
GRAX	Gamma Ray Apparent, – 0.5 ft. Avg.	API
GRIM	Gamma Ray Data Density	Points
GRIX	Gamma Ray Data Density	Points
GRIX	Gamma Ray Data Density	Points
ROPA	Rate of Penetration, 3.0 ft. Avg.	ft/hr
TCDX	Temperature	deg/f
TSD	Time since Drilled	min
WOBA	Weight on Bit, 3.0 ft. Avg.	Klbs

Equipment and Service Data

LWD Run No.	Tool	Serial Number	Measurement	Bit Offset (m.)	Max O.D. (in.)	Min I.D. (in.)
1	DIR	12566669	Directional	56.09	6.750	2.250
1	SRIG	11602059	Gamma	51.05	6.750	2.250
2	DIR	12566669	Directional	56.09	6.750	2.250
2	SRIG	11602059	Gamma	51.05	6.750	2.250
3	DIR	12373963	Directional	59.69	4.750	2.250
3	SRIG	12131407	Gamma	56.31	4.750	2.250

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 run 1 utilized 6 3/4 inch NaviTrak services (Directional only) behind an 8 3/4 inch bit and rotary steerable assembly from 1000 to 6755 feet MD (1000 to 6704 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 rotary steerable assembly from 6755 to 7716 feet MD (6704 to 7285 feet TVD).
4) Baker Hughes run 3 utilized 4 3/4 inch NaviGamma services (Gamma Ray and Directional) behind a 6 1/8 inch bit and steerable assembly from 7771 to 11880 feet MD (7301 to 7291 feet TVD).
5) The interval from Surface to 6755 feet MD (6704 feet TVD) was not logged due to directional only services being provided through the vertical hole section for Baker Hughes run 1.

6) A sliding indicator is shown on the right side of track 2 as a heavy line. This indicator has been depth shifted to the resistivity sensor offset to correspond with Gamma data acquired while sliding.

Remarks

Number	Measured Depth (ft.)	Hole Section (in.)	LWD Run No.	Remark
1	67716	8.750	2	Begin logging services due to directional only services being provided through vertical hole.
2	10464	6.125	3	No Gamma due to MWD tool Issues
3	11880	6.125	3	No gamma data due to bit-to-sensor offset.

Curve Mnemonics

Curve	Description	Units
GRAX	Gamma Ray – Apparent	API
GRIX	Gamma Ray – Data Point Indicator	unitless
GRSI	Gamma Slide Ind.	unitless
GRTX	Gamma Time Since Drilled GRTX	min
ROPA	AVERAGE Instantaneous ROP – 5 second ROP	ft/hr
TCDX	Downhole Temperature	degF
TVD	True Vertical Depth TVD	ft
WOBA	AVERAGE Weight On Bit	klbf



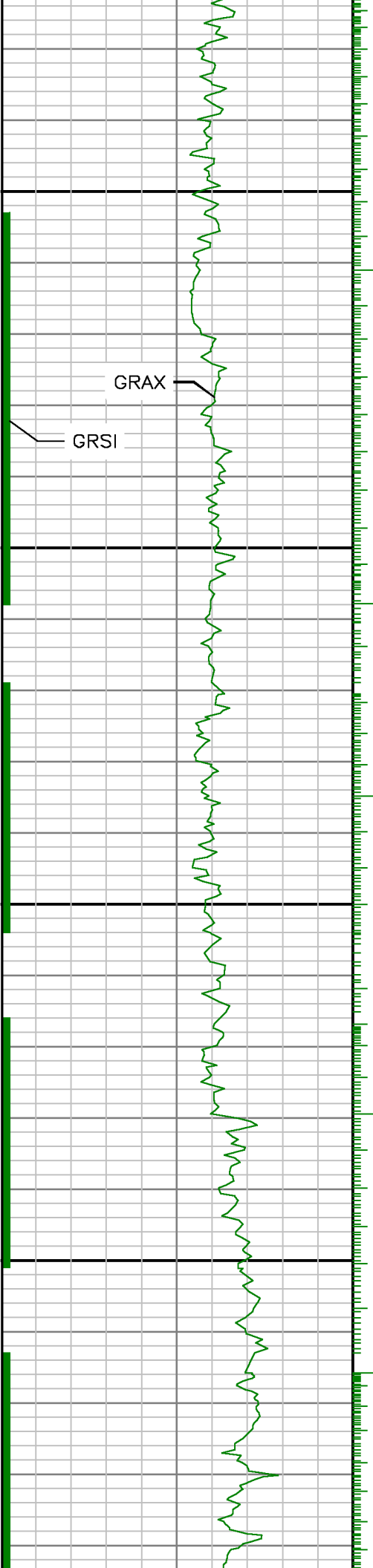
Company : Kerr-McGee Oil & Gas onshore LP

Well : Bydalek 29C-20HZ

Interval : 6691.84 – 11900.00 feet

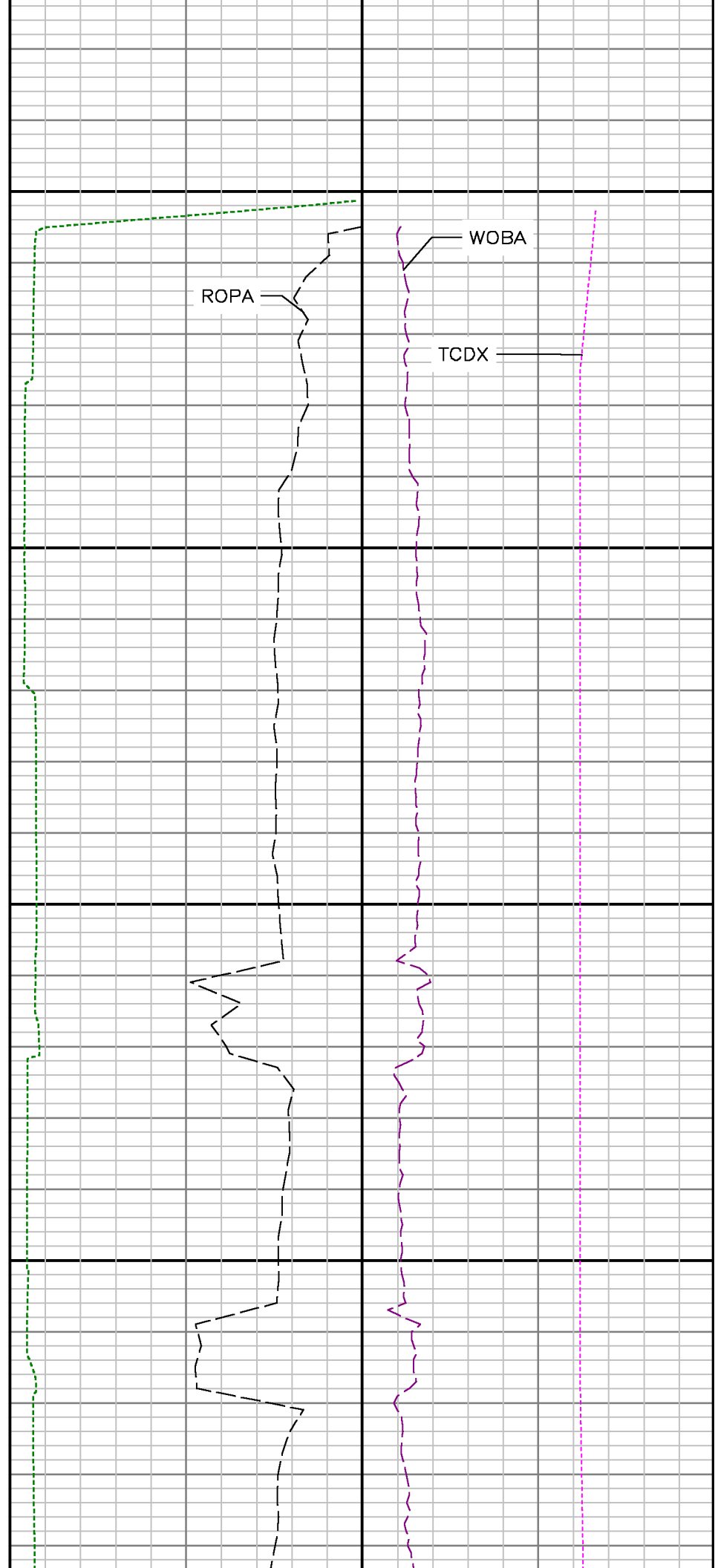
Created : 01/May/2013 12:25:39 PM

Gamma Ray Apparent 0.5 ft Avg GRAX 0 200 API 9000 True Vertical Depth TVD 10400 ft	MD feet 1:240	Rate of Penetration 3.0 ft Avg ROPA 500 0 ft/hr Gamma Time Since Drilled GRTX 0 600 min	Surface Weight On Bit 1.0 ft Avg WOBA 0 100 klbf Downhole Temperature TCDX 0 250 degF
	6700		
		Remark 1	



0089

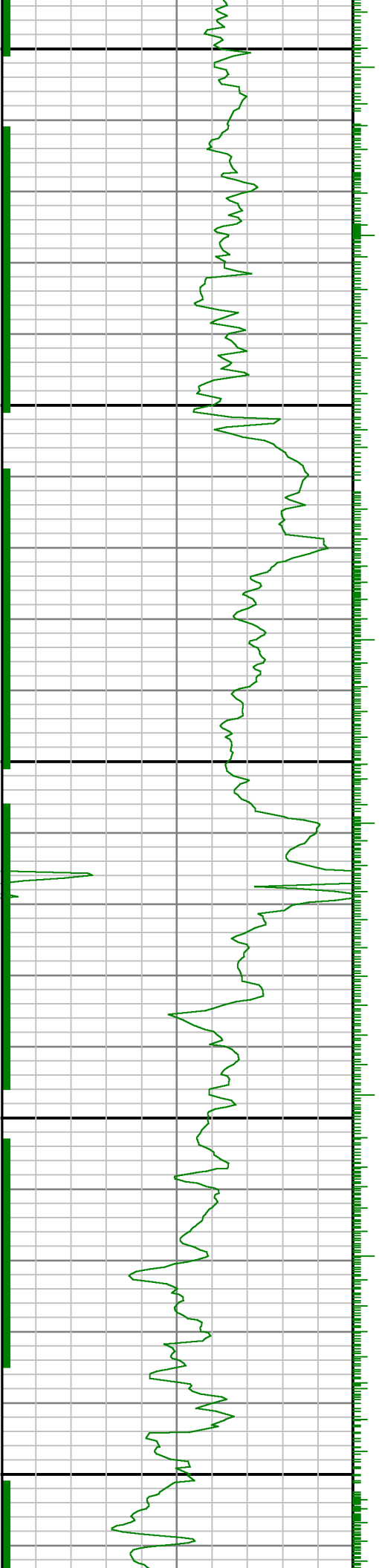
0069

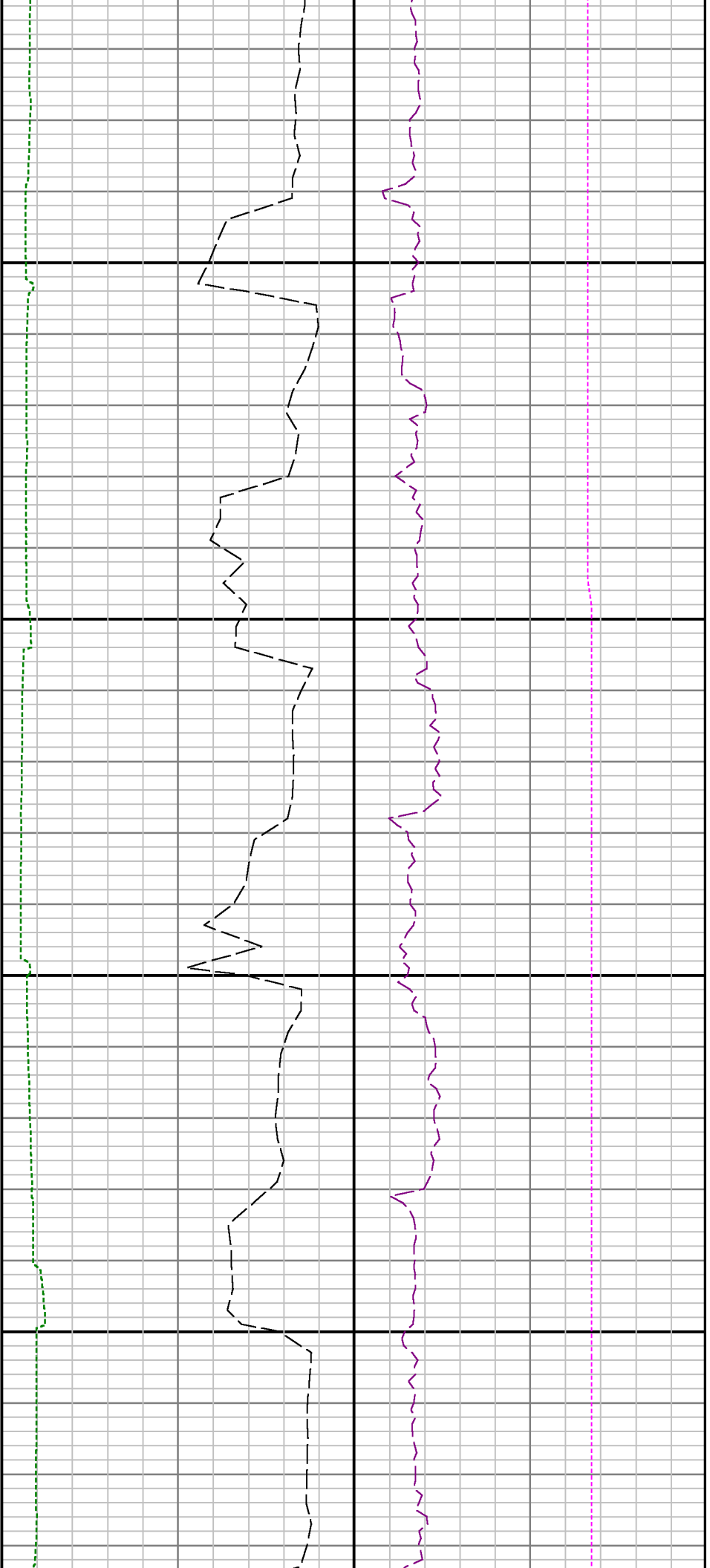




7000

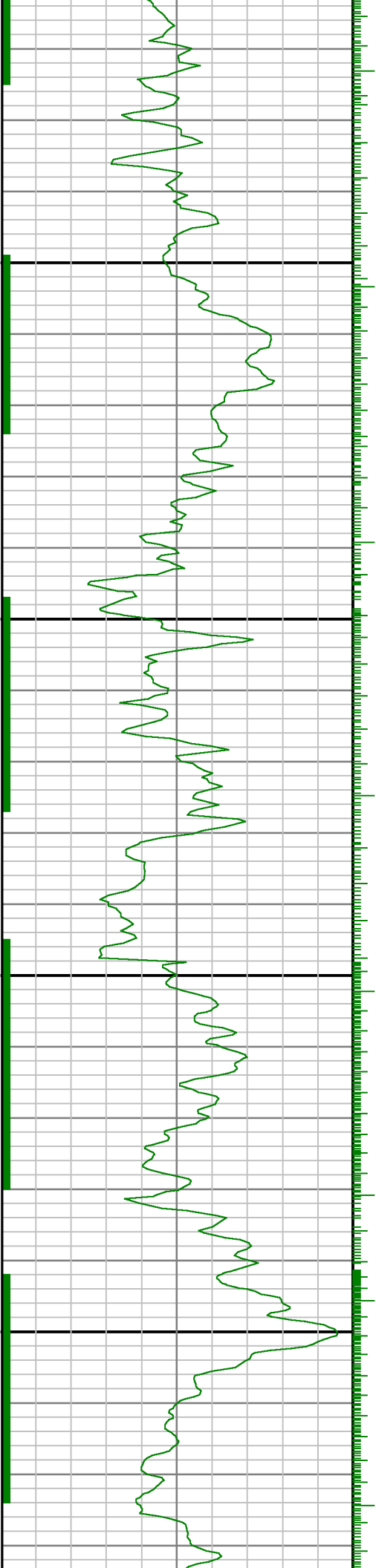
7100

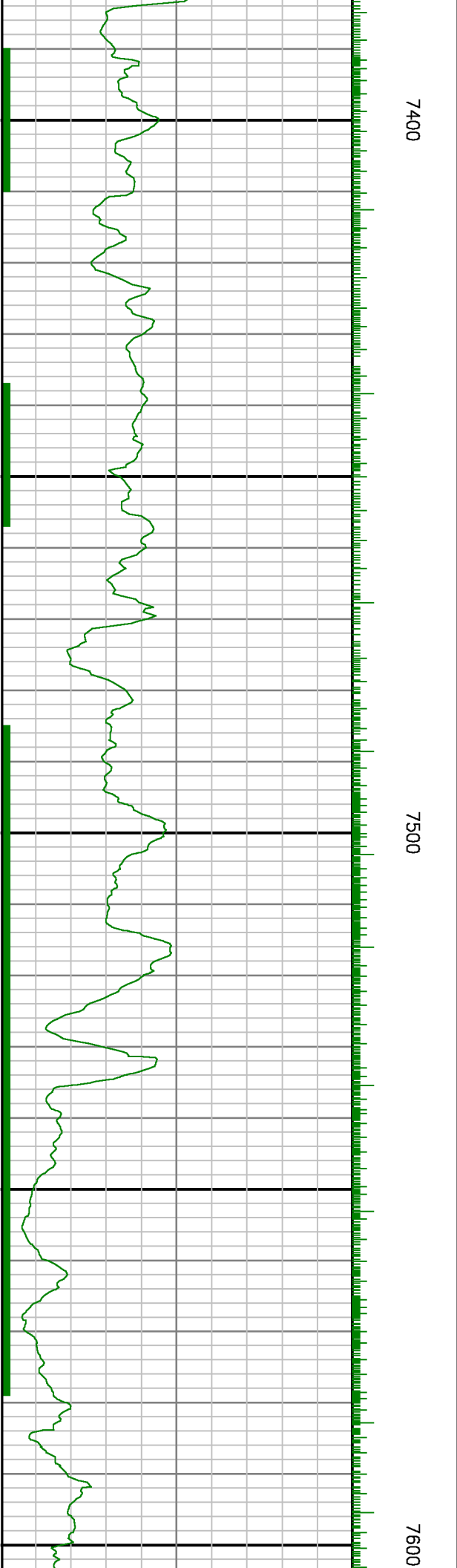
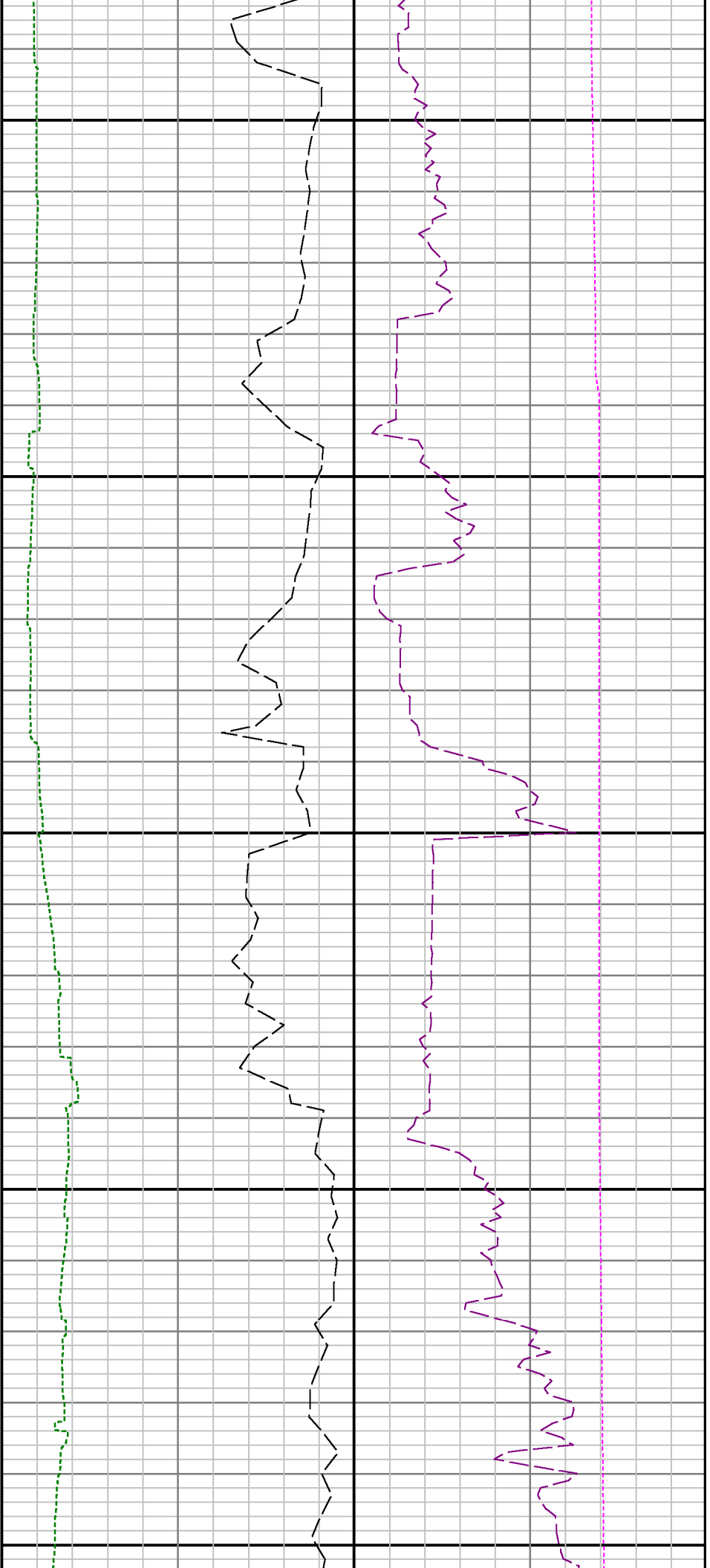


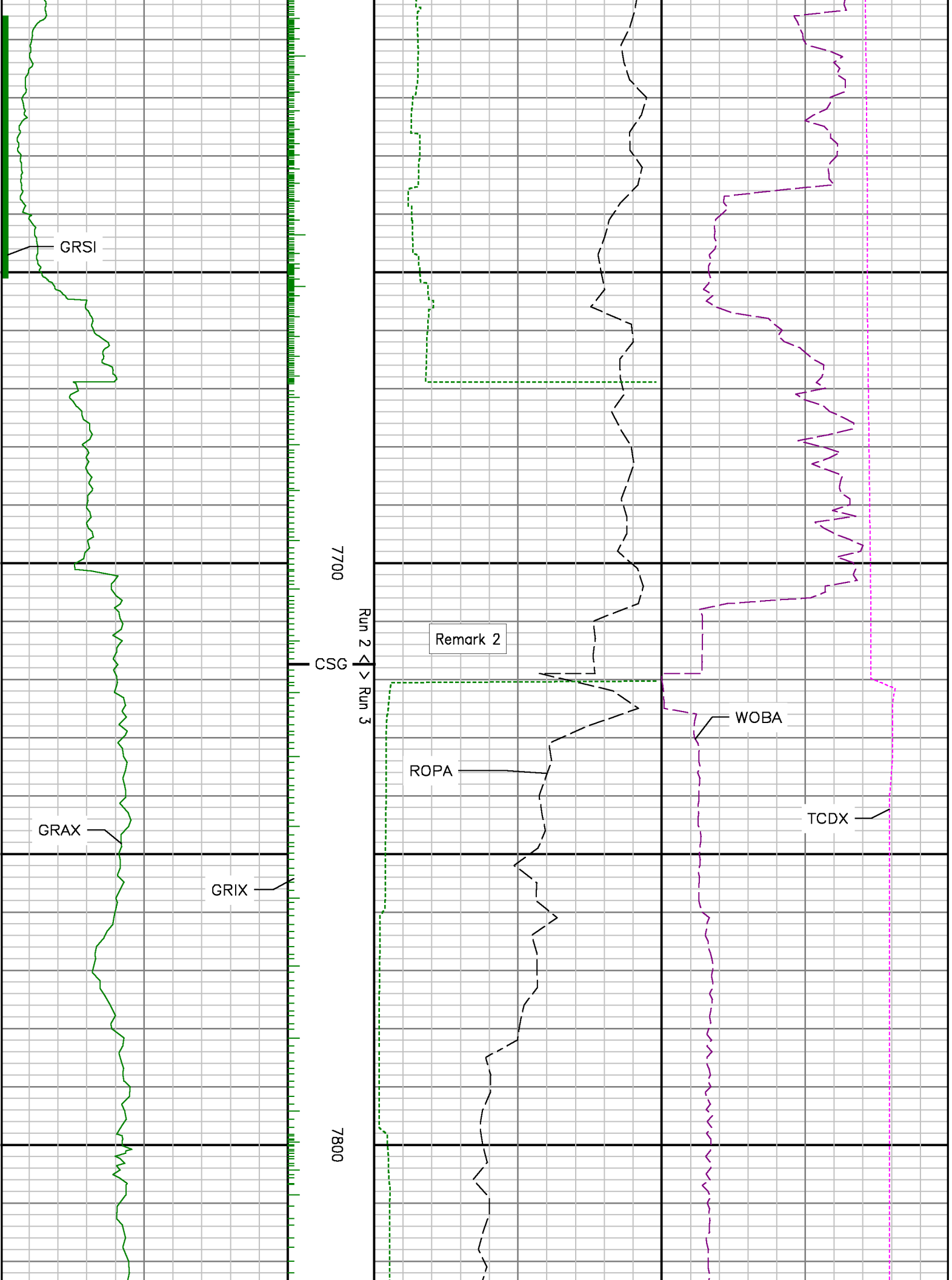


7200

7300

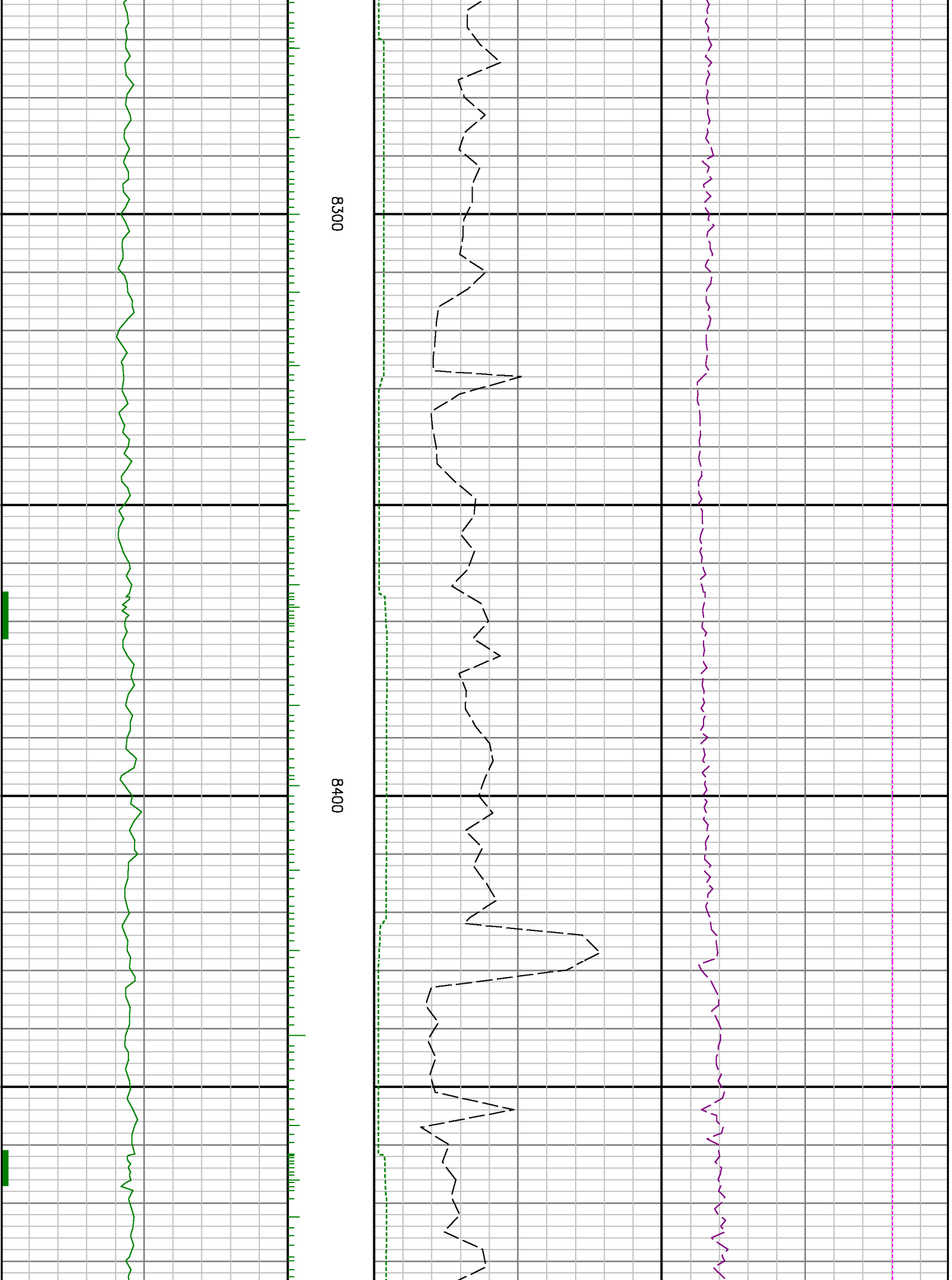




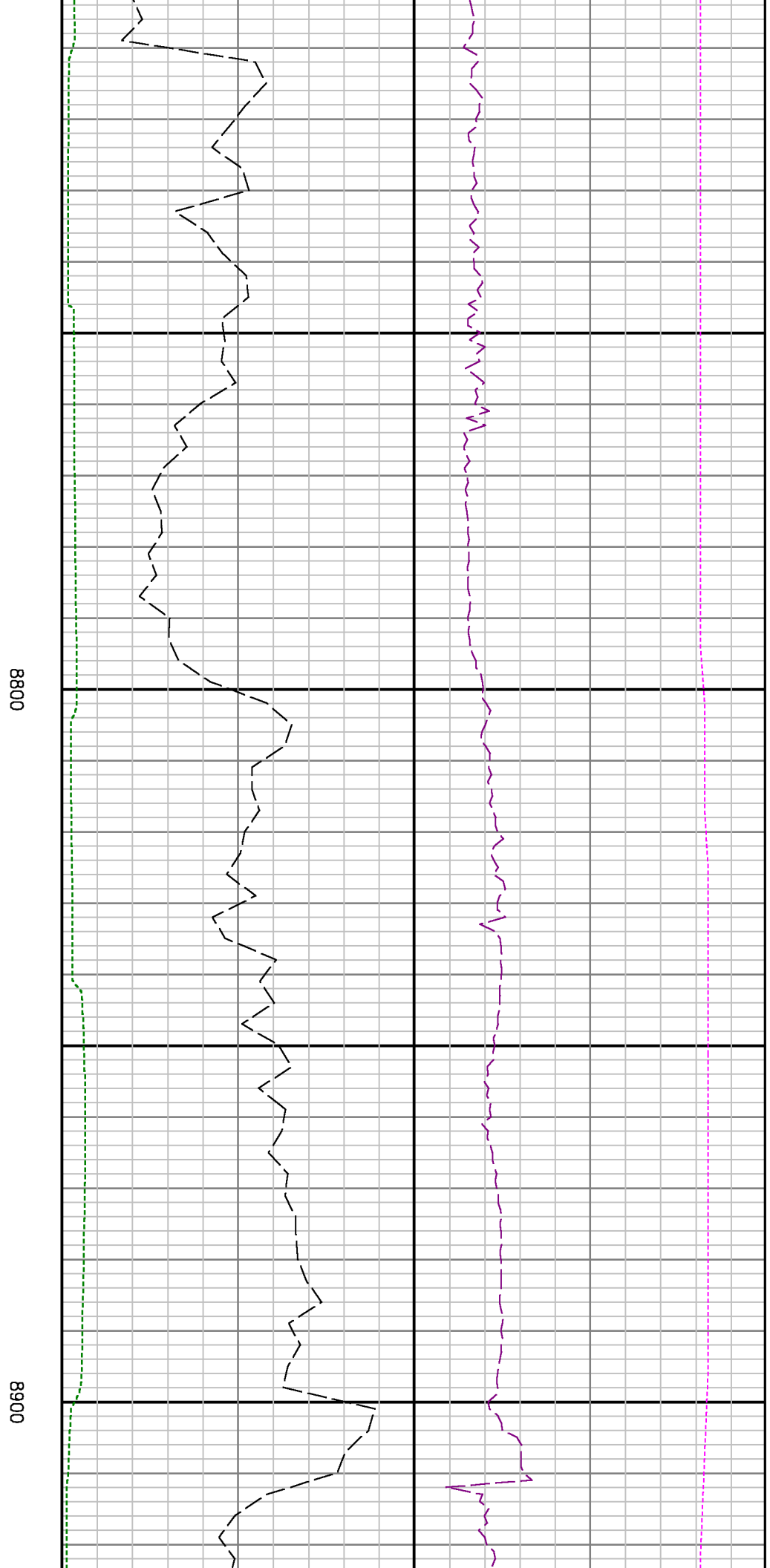
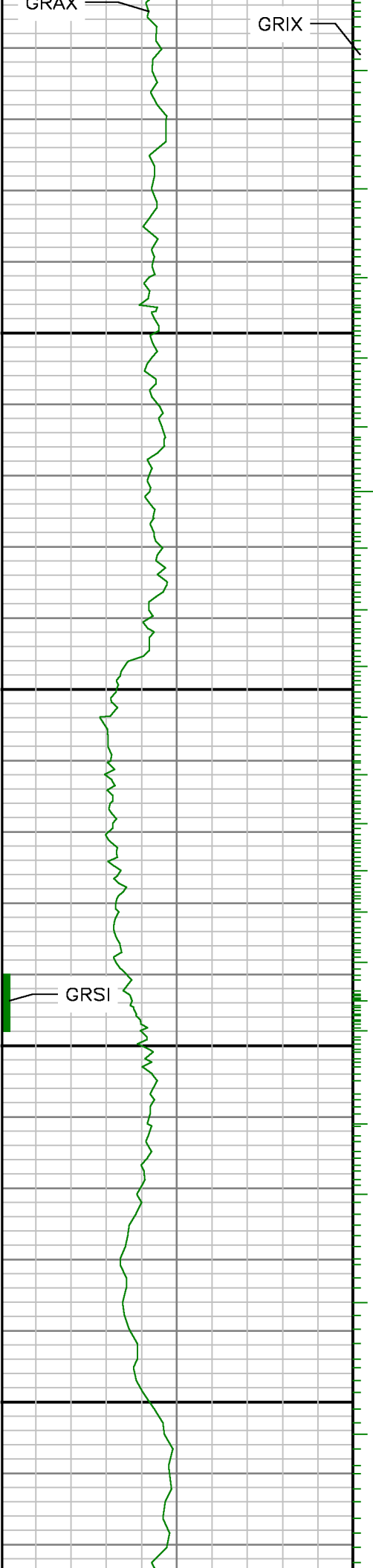


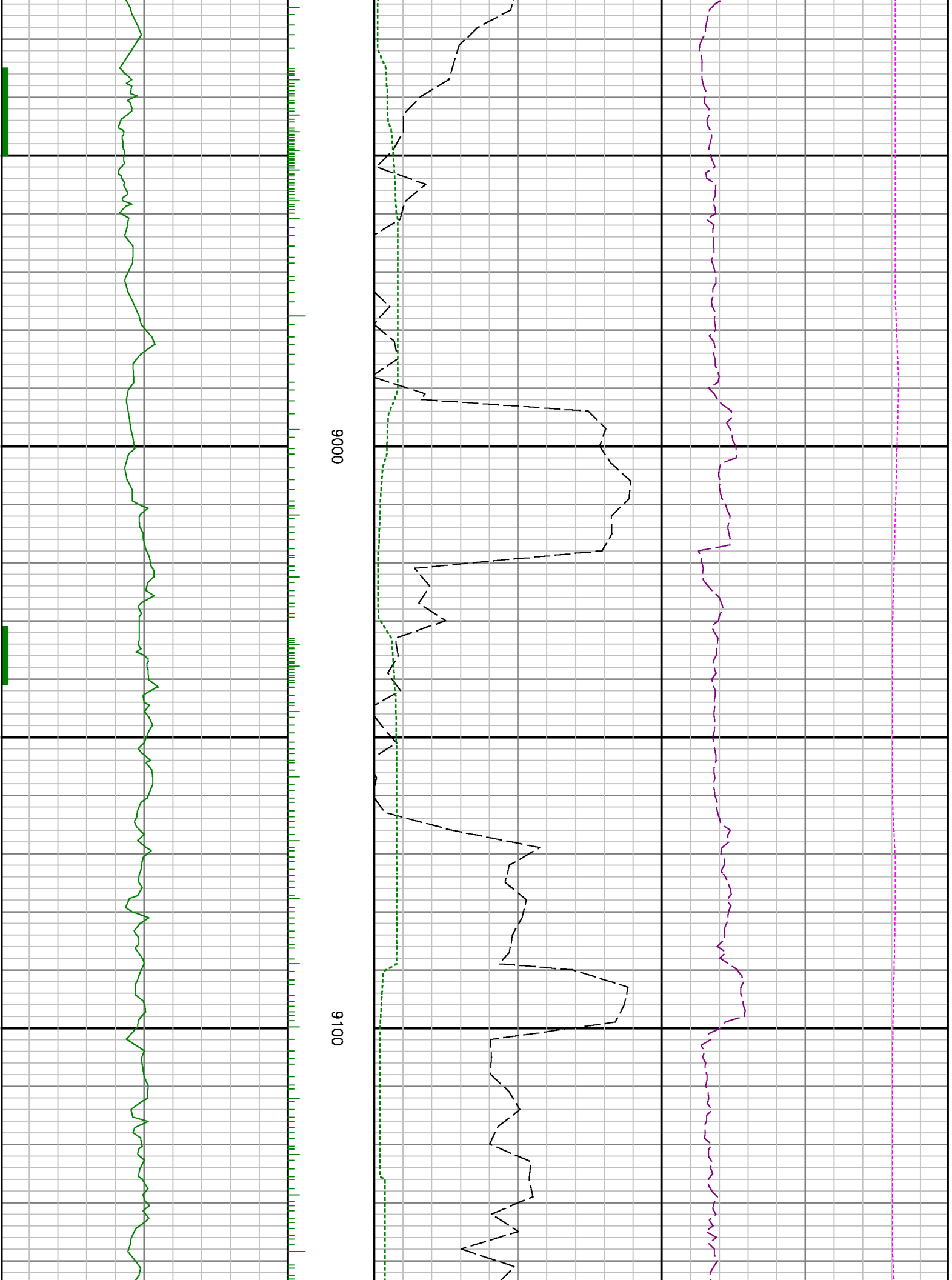




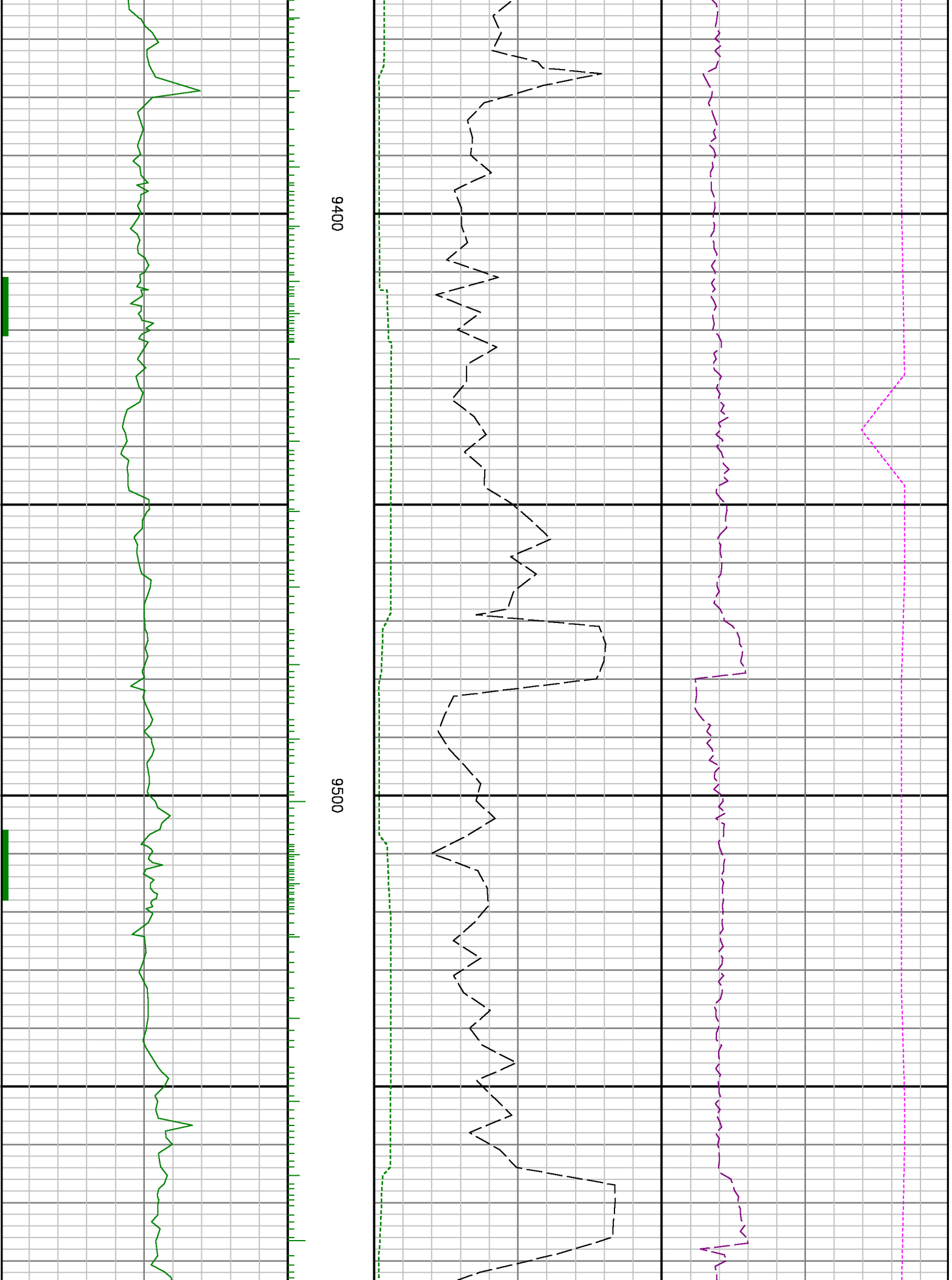


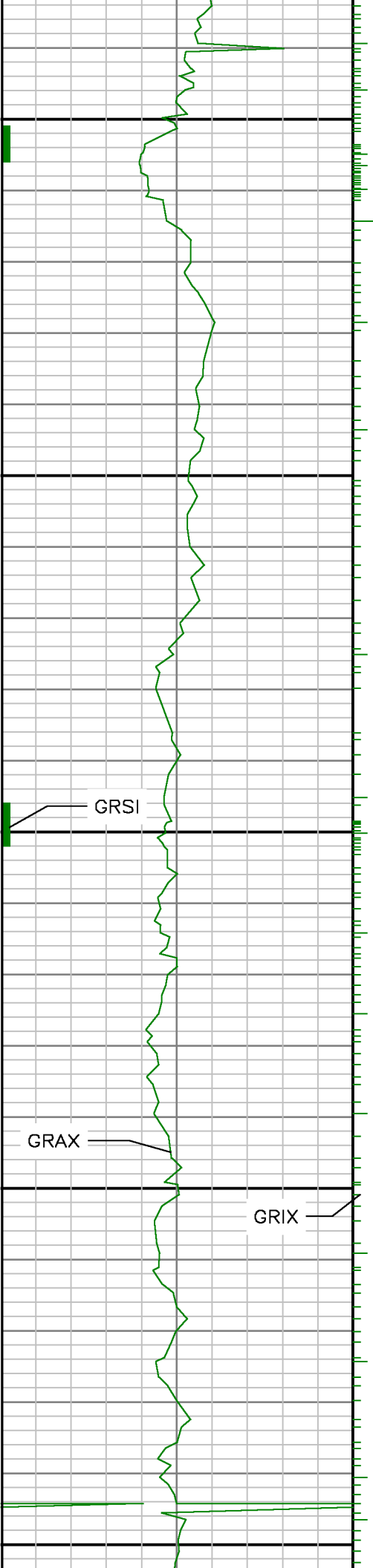




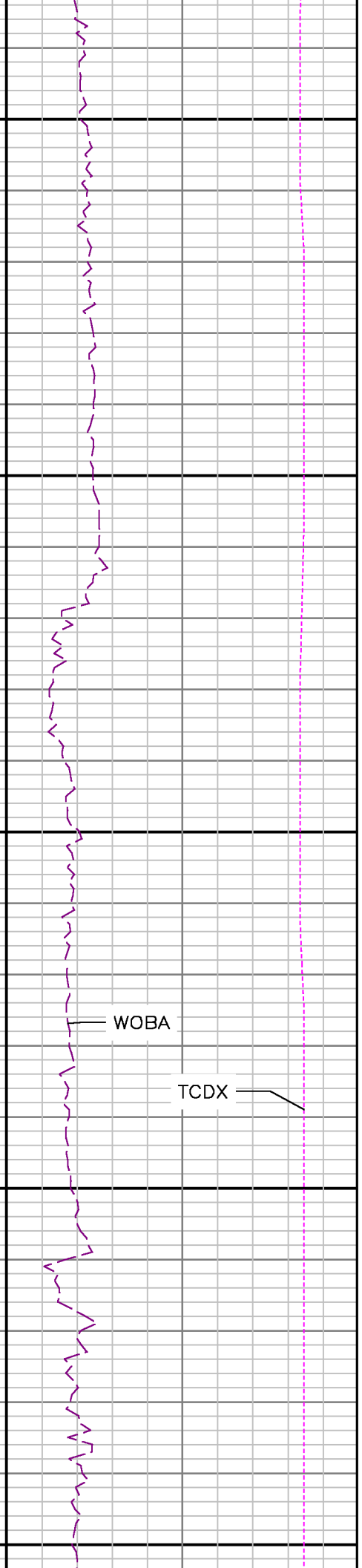


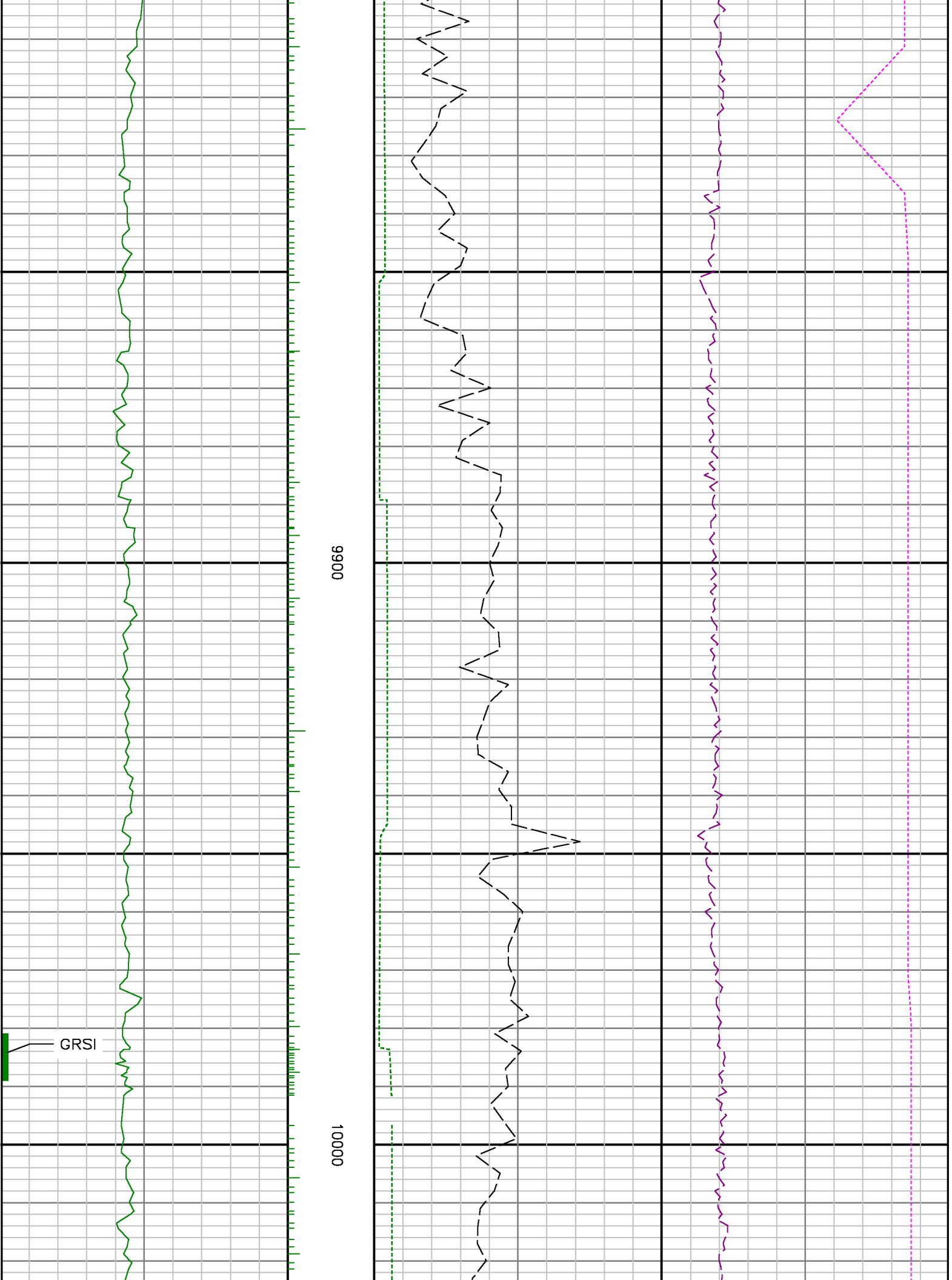


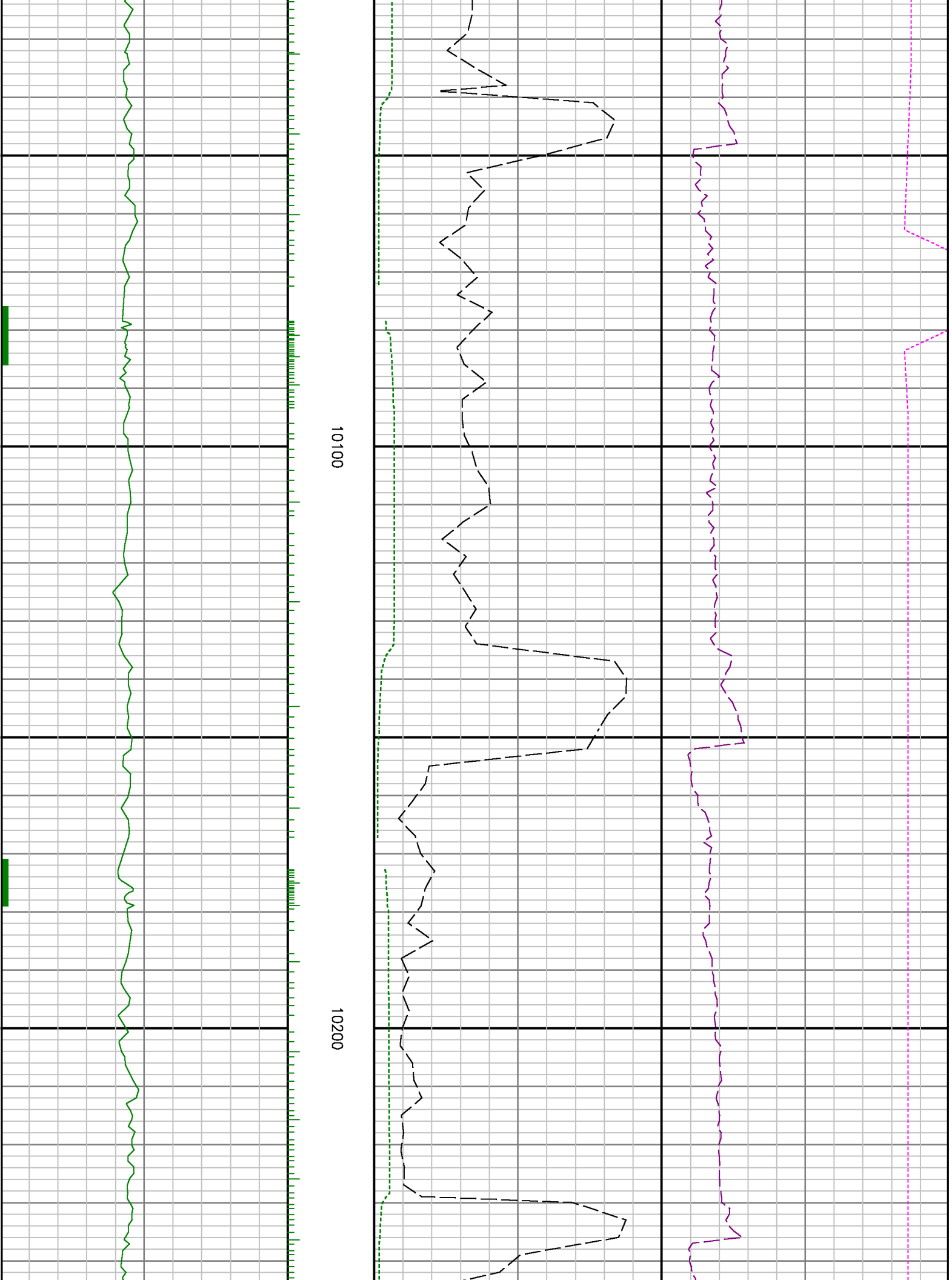




0086 0096 9700







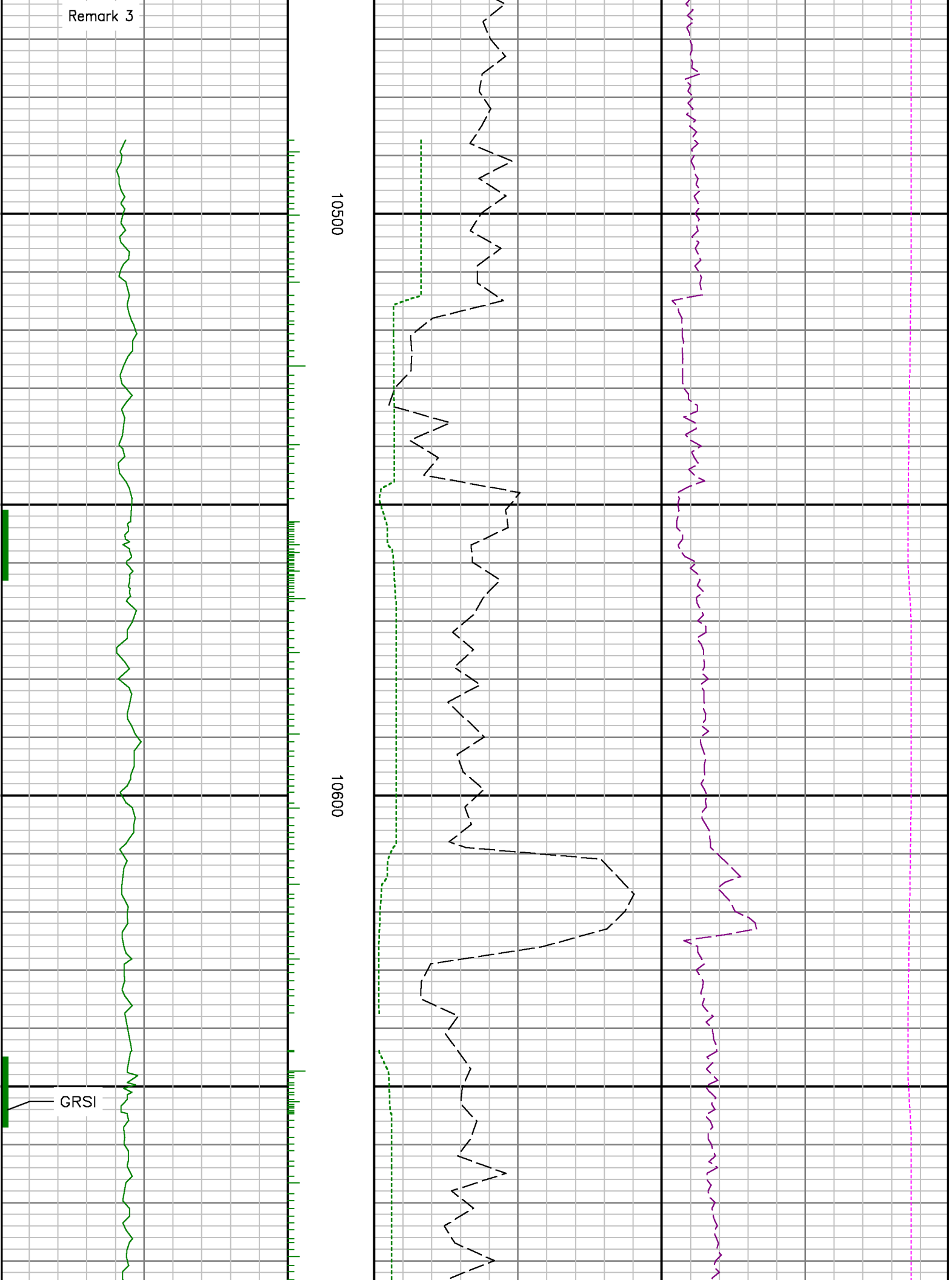


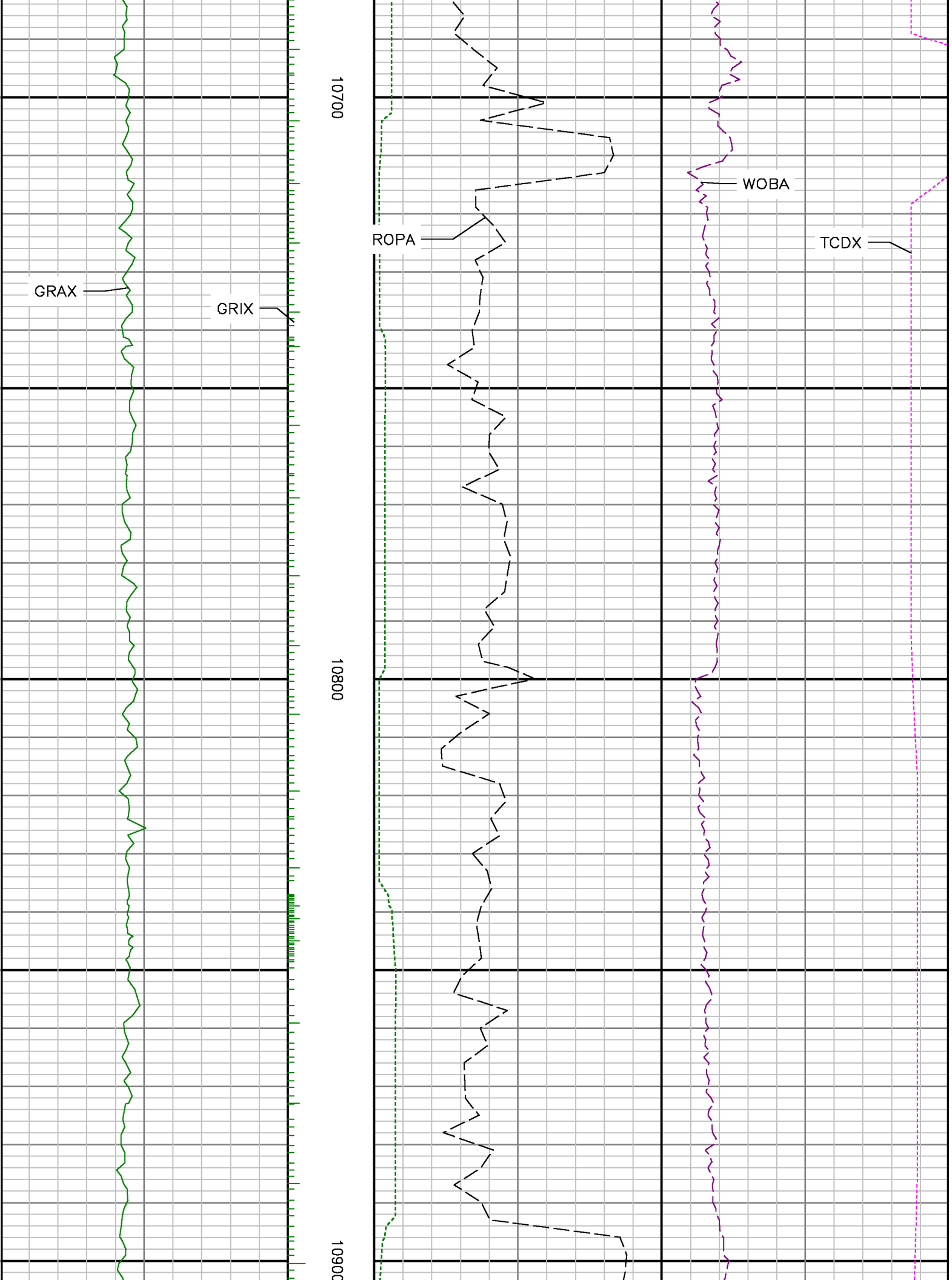
Remark 3

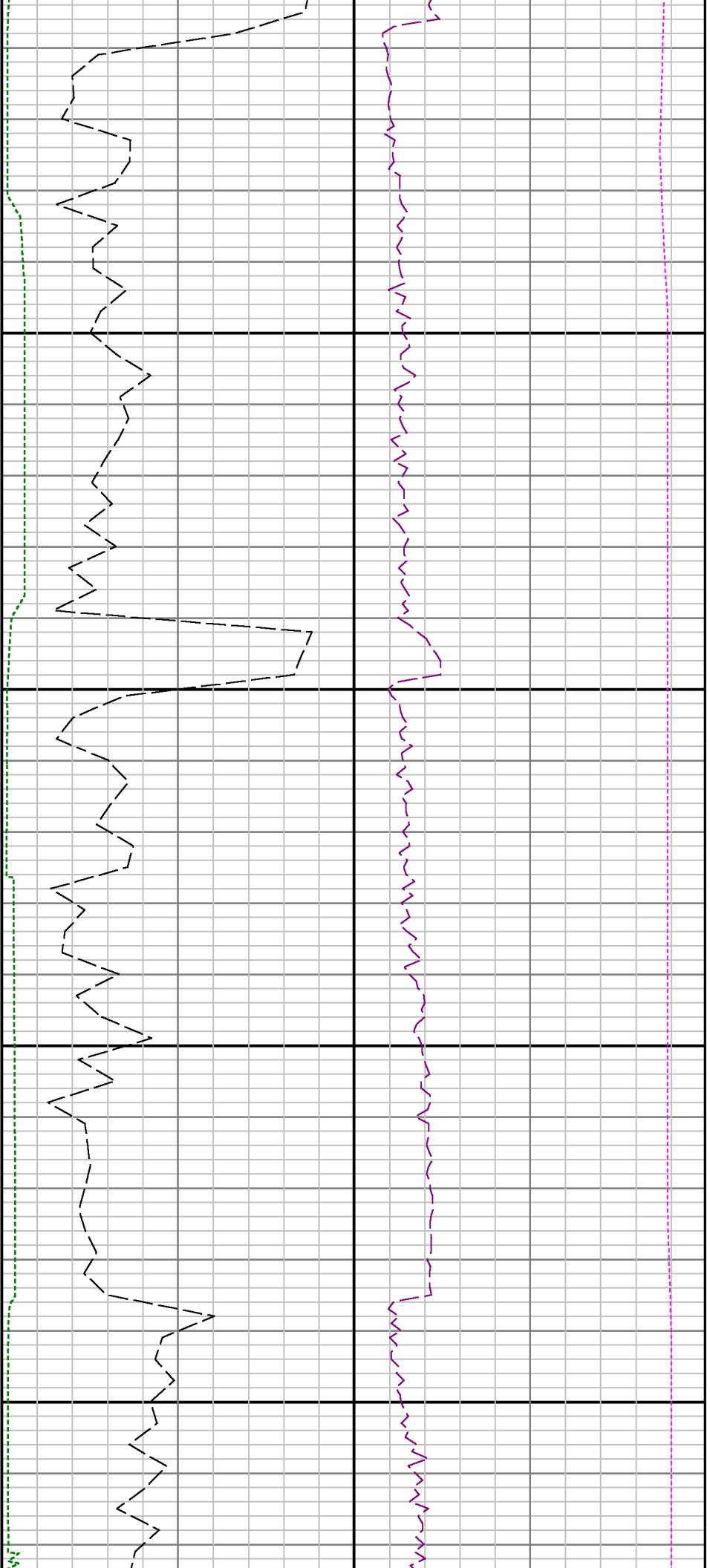
10500

10600

GRSI

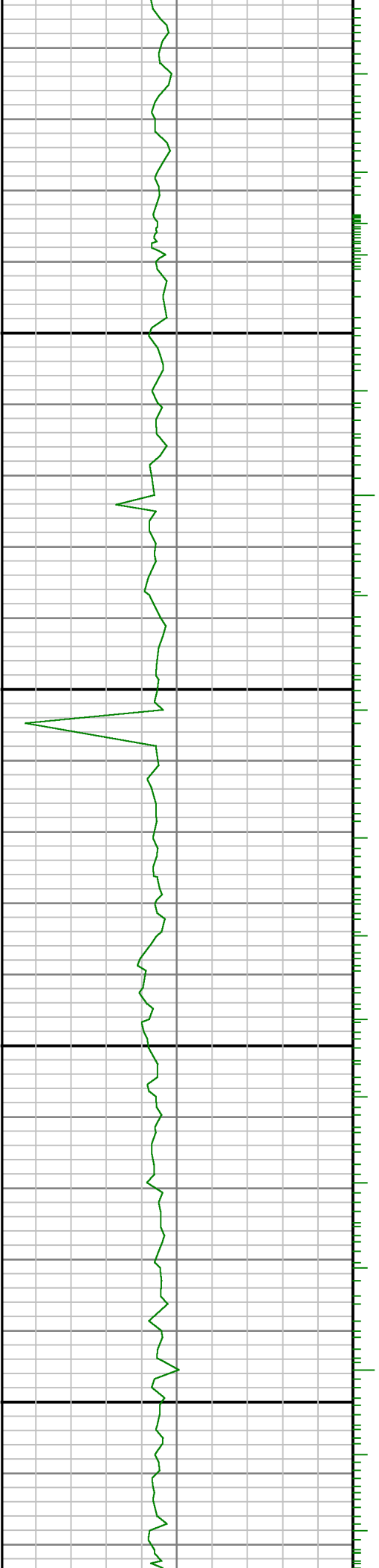


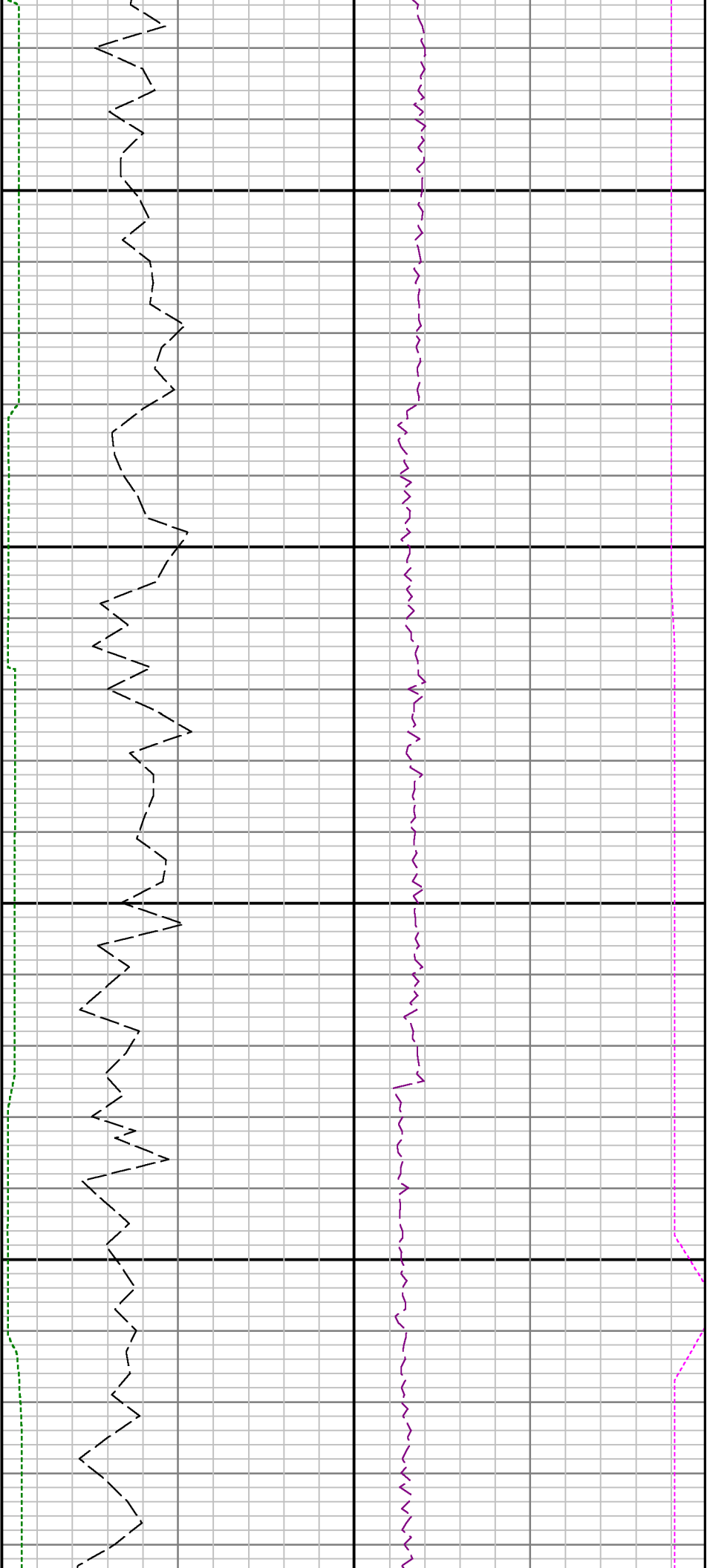




11000

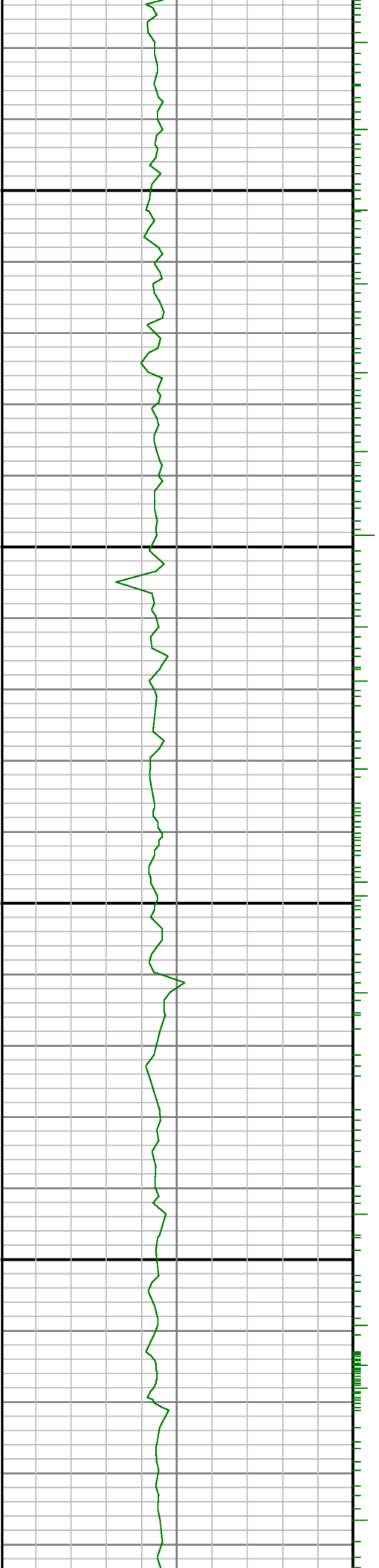
11100

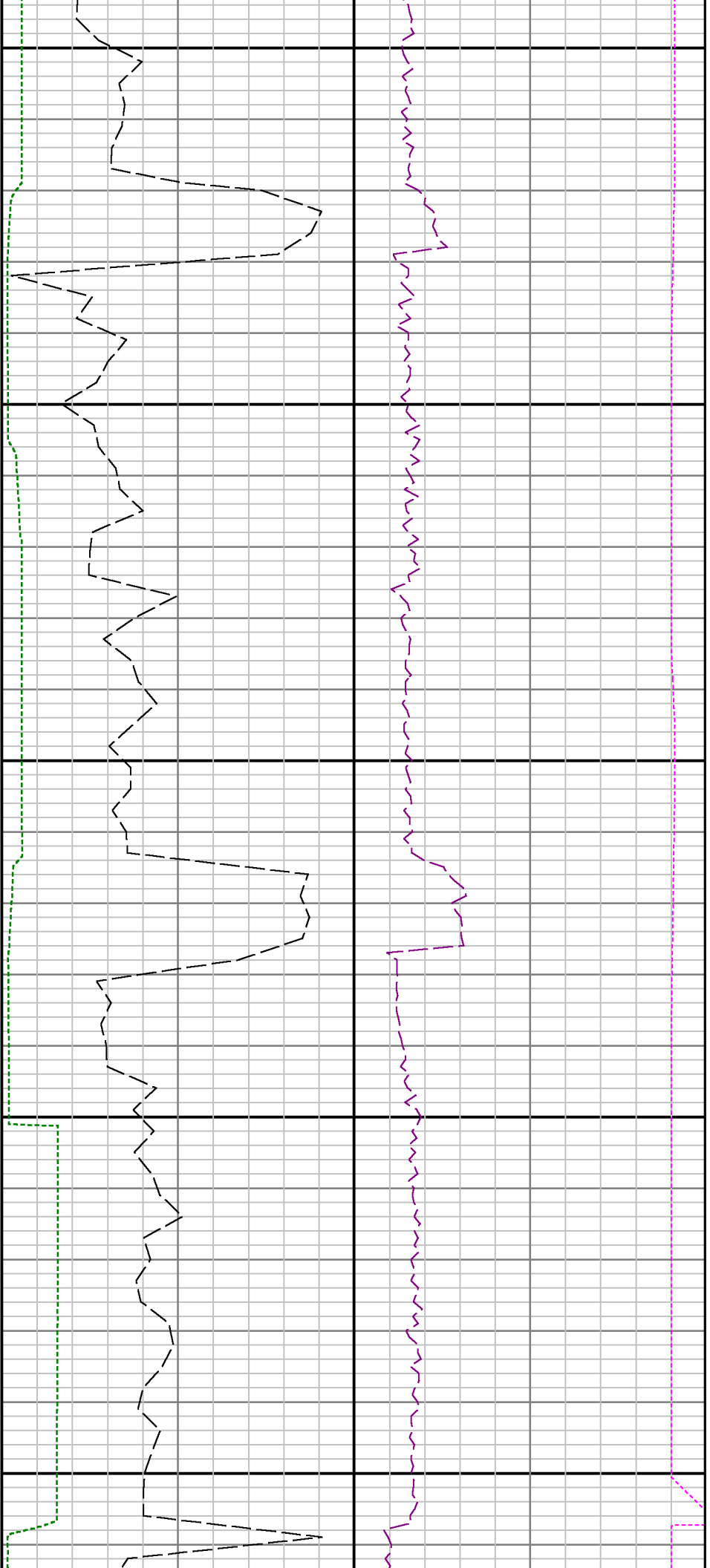




11200

11300





11400

11500

