



LWD MEMORY LOG

Gamma Ray

Scale: 1:240 MD

Depth Reference: Driller's Depth

Company: Confluence DJ
 Well: Buford33-10-4L
 Field: Weld County
 Country: Weld County
 State: Colorado
 Country: United States
 Block: 1

Status: Field Print
 API No: 05-123-45542
 Job ID: 111111
 Permanent Datum (P.D.): Ground Level
 Log Measured From: Rig Floor
 Surface Location: Latitude: 40.000000 Longitude: -105.000000
 SEC: 33 TOWN: 1N RGE: 6SW
 Elevation: Above P.D.
 Elev. KB: N/A
 Elev. DF: N/A
 Elev. GL: N/A
 Other Services:

Dates				Interval Logged				Magnetic Field Reference					
Date From:	2017-11-15	Top: (ft)	144.00	Azi Reference North:	True	Dip Angle: (deg)	66.56	Date To:	2017-11-20	Bottom: (ft)	17486.37	Total Magnetic Field Strength: (nT)	52187
Spud Date:	2017-10-31			Mag to Reference North Correction: (deg)			8.28 E						

Borehole Record				Casing Record			
Hole Size (in)	From (ft)	To (ft)	Size (in)	Weight (lb/ft)	From (ft)	To (ft)	
N/A	N/A	N/A	N/A	N/A	N/A	N/A	

Mud Record				Deviation Record			
Type	From (ft)	To (ft)	Hole Size (in)	Interval (ft)	Incl Az (Start)	Incl Az (End)	
Oil Based Mud	144.00	17486.37	12.250	1425.45	0.441	59.82	
			8.500	15916.92	1.361	199.10	

Acquisition System: Baker Hughes Cadence
 Software Version: RT4.1
 PlotStudio: 4.1.7763.3
 Rig: Ensign 160
 Contractor: Ensign Drilling
 District: SEC. 33-T01N-R65N1: N/A

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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 (ft)	Bottom (ft)	From (ft)	To (ft)	Start Logging	End Logging	
1	1	12.250	PDC	3.00	Steerable	207.00	1569.45	207.00	1569.45	2017-10-31 23:38	2017-11-01 09:38	8.62

2	2	8.500	PDC	3.00	AutoTrak Curve	1557.14	3773.77	1569.45	3786.08	2017-11-13 17:09	2017-11-14 14:01	20.94
3	2	8.500	PDC	3.00	AutoTrak Curve	3773.22	11300.68	3786.08	11313.54	2017-11-14 21:48	2017-11-17 15:36	58.48
4	4	8.500	PDC	3.00	AutoTrak Curve	11301.22	17471.68	11313.54	17484.00	2017-11-18 10:53	2017-11-20 03:50	35.94

Crew

Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite	Name	Arrive Wellsite	Depart Wellsite
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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+ (%)
2017-11-12 18:15	2	1569.00	Oil Based Mud	10.2	51	N/A	N/A	74/26	Active Pit	47000	0.00
2017-11-14 06:00	2	2577.00	Oil Based Mud	9.2	50	N/A	N/A	75/25	Active Pit	52000	0.00
2017-11-14 18:23	3	3783.00	Oil Based Mud	9.2	50	N/A	N/A	75/25	Active Pit	52000	0.00
2017-11-15 06:00	3	5306.00	Oil Based Mud	9.4	55	N/A	N/A	74/26	Active Pit	50000	0.00
2017-11-16 06:00	3	7906.00	Oil Based Mud	9.9	50	N/A	N/A	74/26	Active Pit	52000	0.00
2017-11-17 06:00	3	10676.00	Oil Based Mud	9.9	52	N/A	N/A	75/25	Active Pit	50000	0.00
2017-11-18 04:12	4	11313.00	Oil Based Mud	9.9	58	N/A	N/A	75/25	Active Pit	N/A	0.00

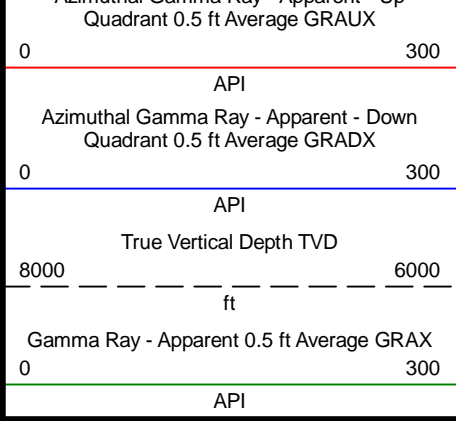
Equipment and Service Data

Run No.	Tool	Serial Number	Measurement	Sensor Offset (ft)	Bit Offset (ft)	Max O.D. (in)	Min I.D. (in)
1	NaviTrak	11753275	VSS	16.51	54.45	8.250	3.000
1	NaviTrak	11753275	Directional (mag)	16.51	54.45	8.250	3.000
2	ATC_SU	14236914	Near Bit Inclination	5.93	6.69	7.000	4.330
2	ATC_SU	14236914	Near Bit VSS	5.93	6.69	7.000	4.330
2	ATC_MWD	12441474	Gamma (single)	2.21	12.31	7.000	3.250
2	ATC_MWD	12441474	Directional (mag)	12.27	22.37	7.000	3.250
3	ATC_SU	12536524	Near Bit VSS	5.93	6.69	7.000	4.330
3	ATC_SU	12536524	Near Bit Inclination	5.93	6.69	7.000	4.330
3	ATC_MWD	12398178	Gamma (single)	2.80	12.86	7.000	3.250
3	ATC_MWD	12398178	Directional (mag)	12.27	22.33	7.000	3.250
4	ATC_SU	12215165	Near Bit VSS	5.93	6.72	7.000	4.330
4	ATC_SU	12215165	Near Bit Inclination	5.93	6.72	7.000	4.330
4	ATC_MWD	12603327	Gamma (single)	2.20	12.32	7.000	3.250
4	ATC_MWD	12603327	Directional (mag)	12.27	22.39	7.000	3.250

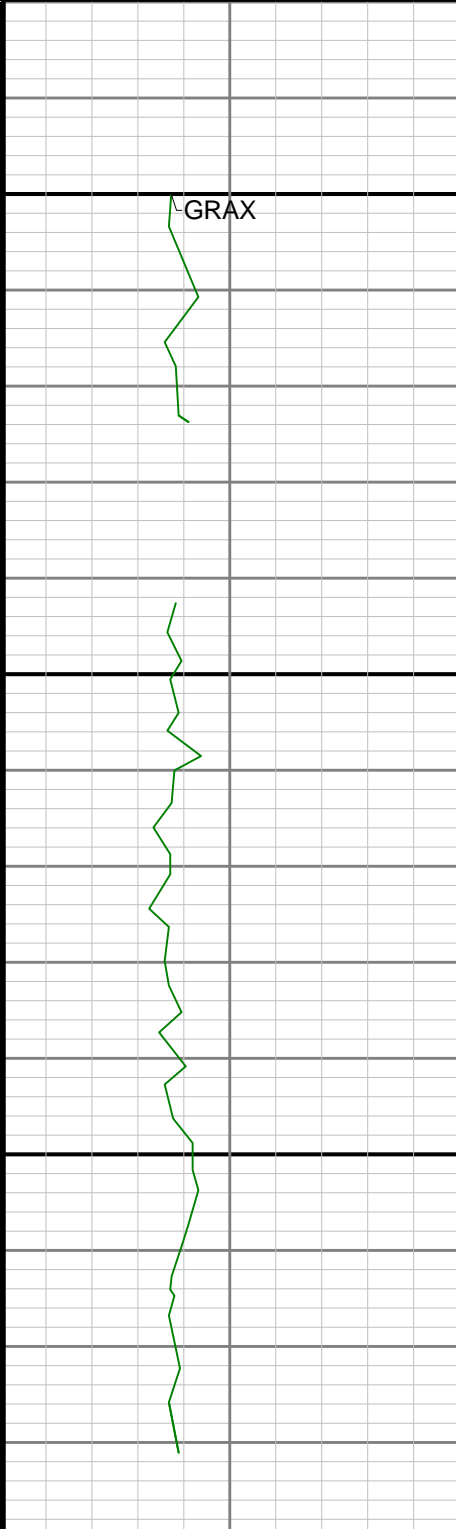
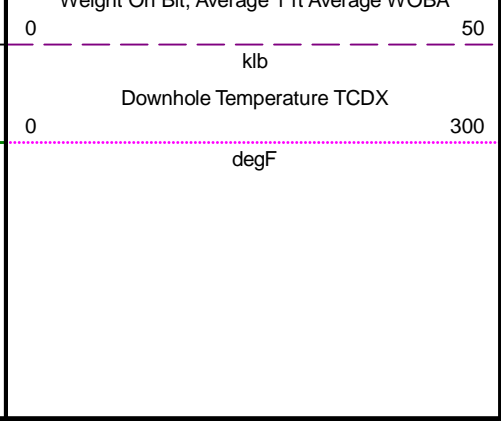
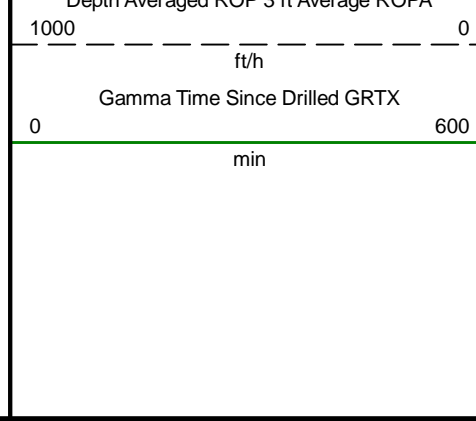
Service and Tool Mnemonics

Mnemonic	Name	Description
NTK	NaviTrak	Probe Based Directional Module, NaviTrak Platform
ATC_SU	ATC_SU	Auto Trak Curve Steering Unit
ATC_MWD	ATC_MWD	Auto Trak Curve MWD
ATC_LCPM	ATC_LCPM	Auto Trak Curve LCPM

	Company	Confluence DJ	
	Well	Buford33-10-4L	
	Interval	Date From: 2017-11-15 04:17:53	Top: 5000.00
	Created	Date To: 2017-11-20 03:48:31	Bottom: 17484.00
		Created 2017-11-20 04:16:48	

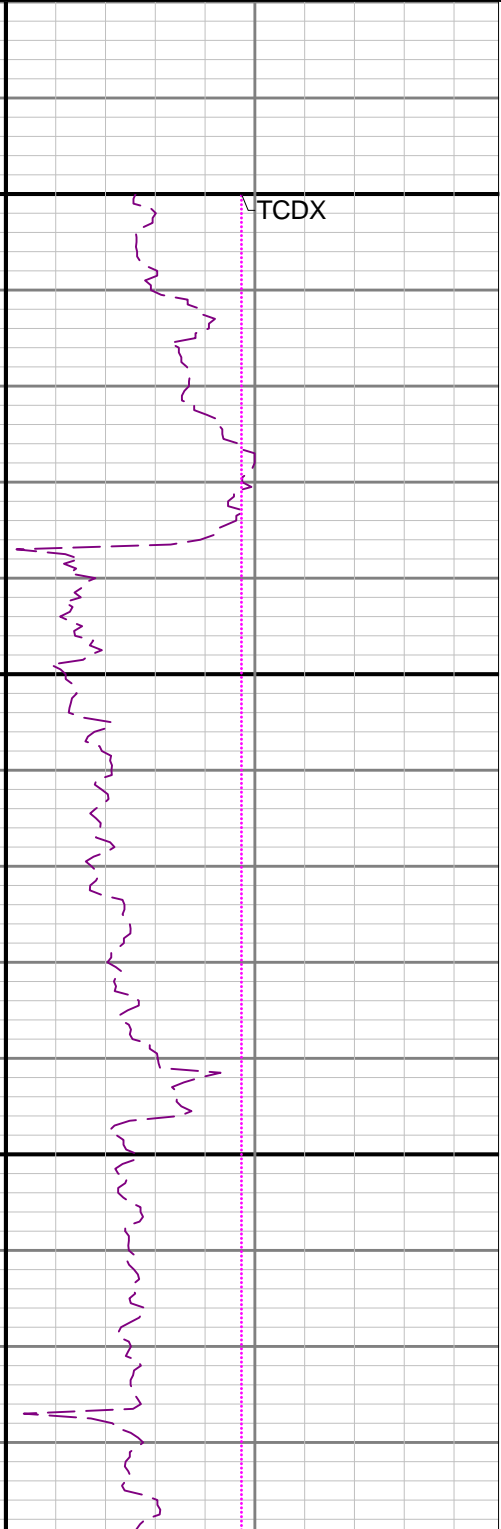


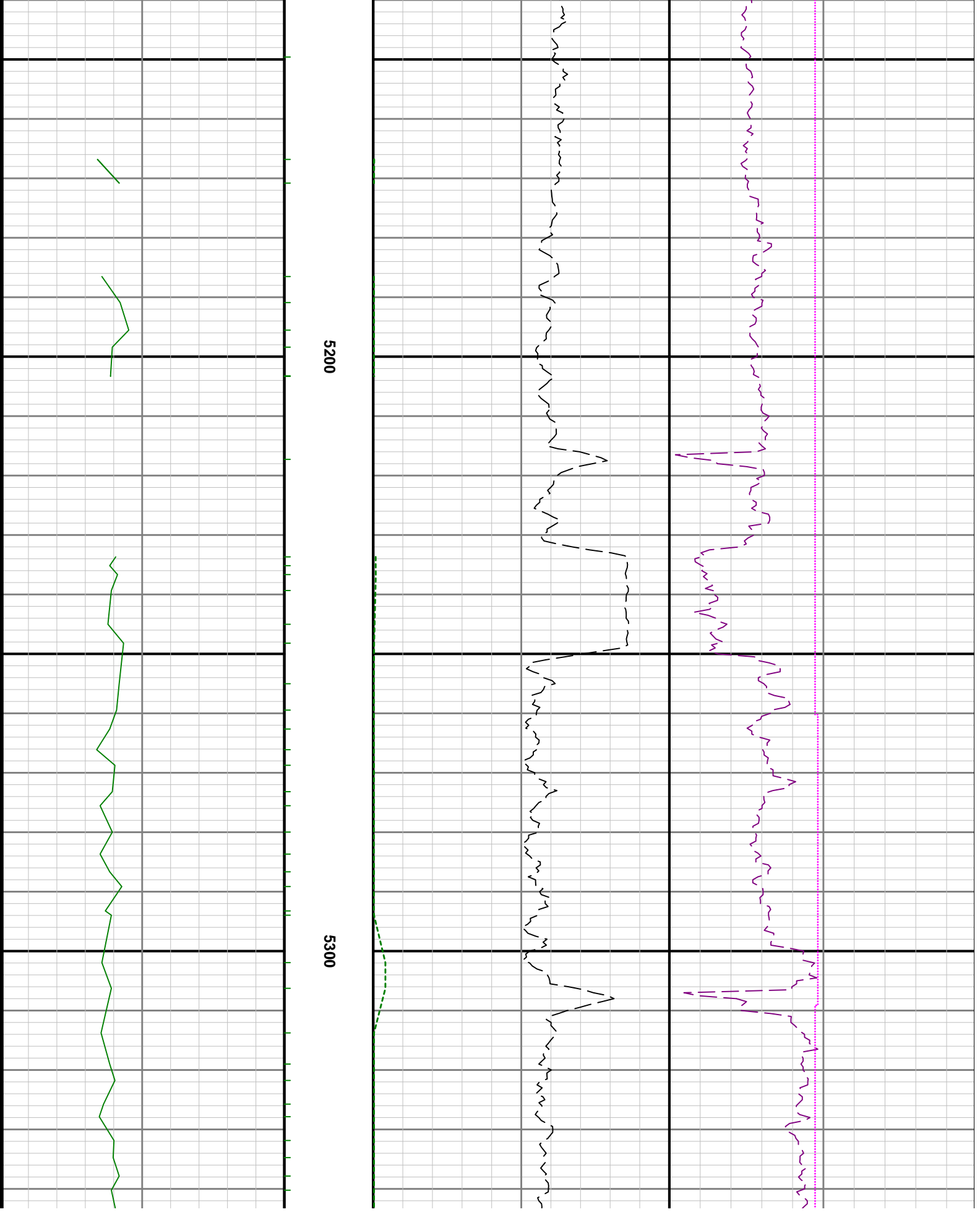
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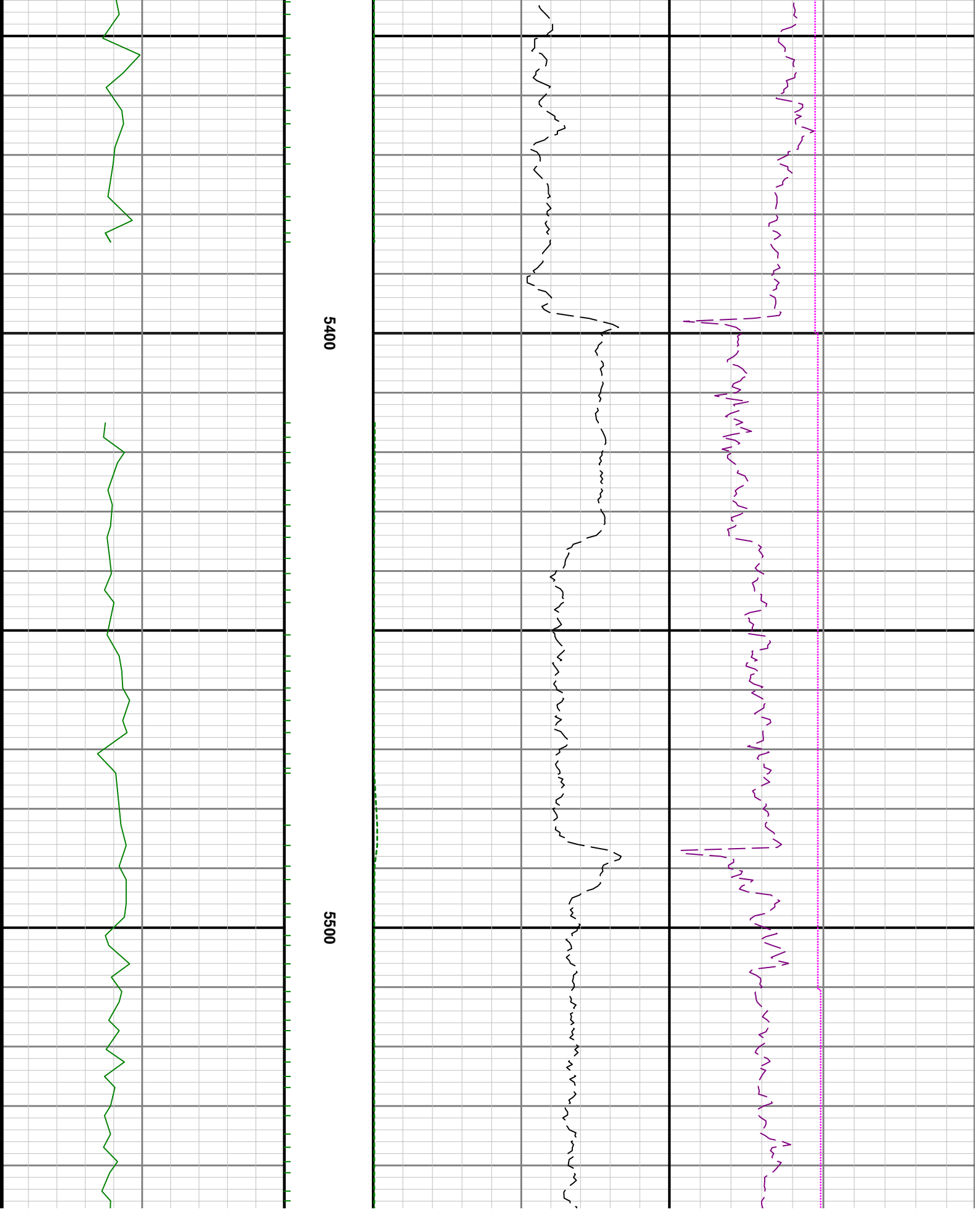


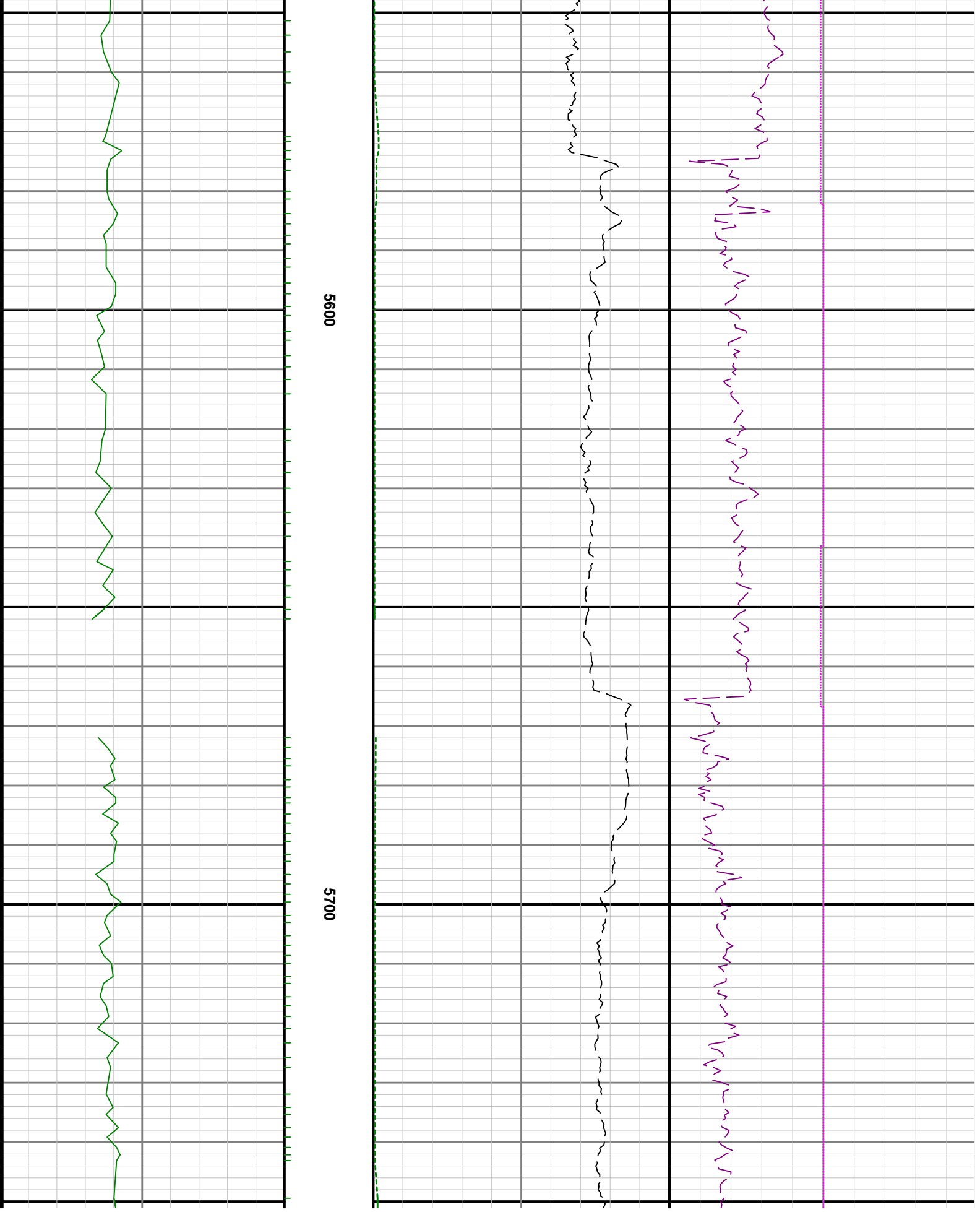
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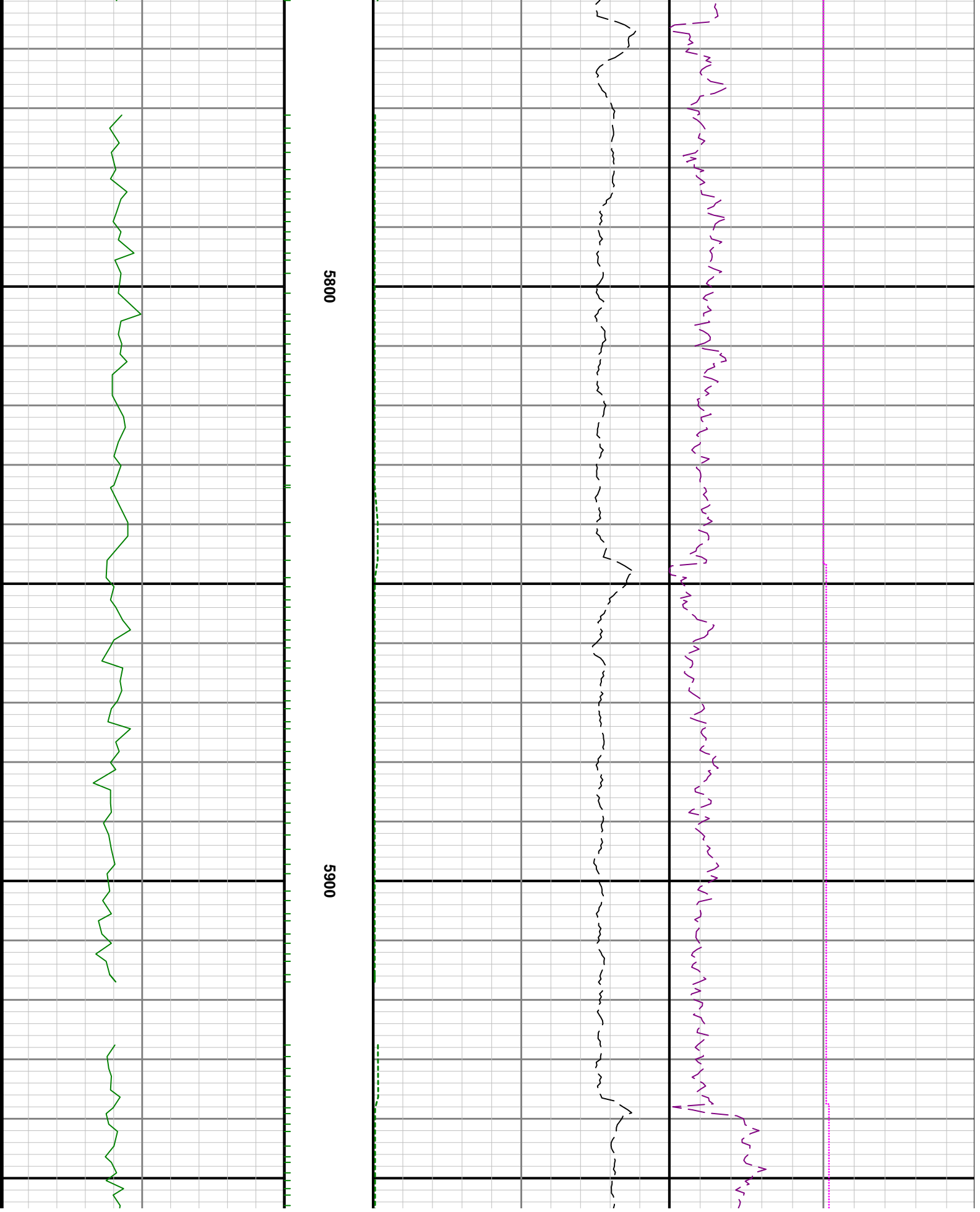
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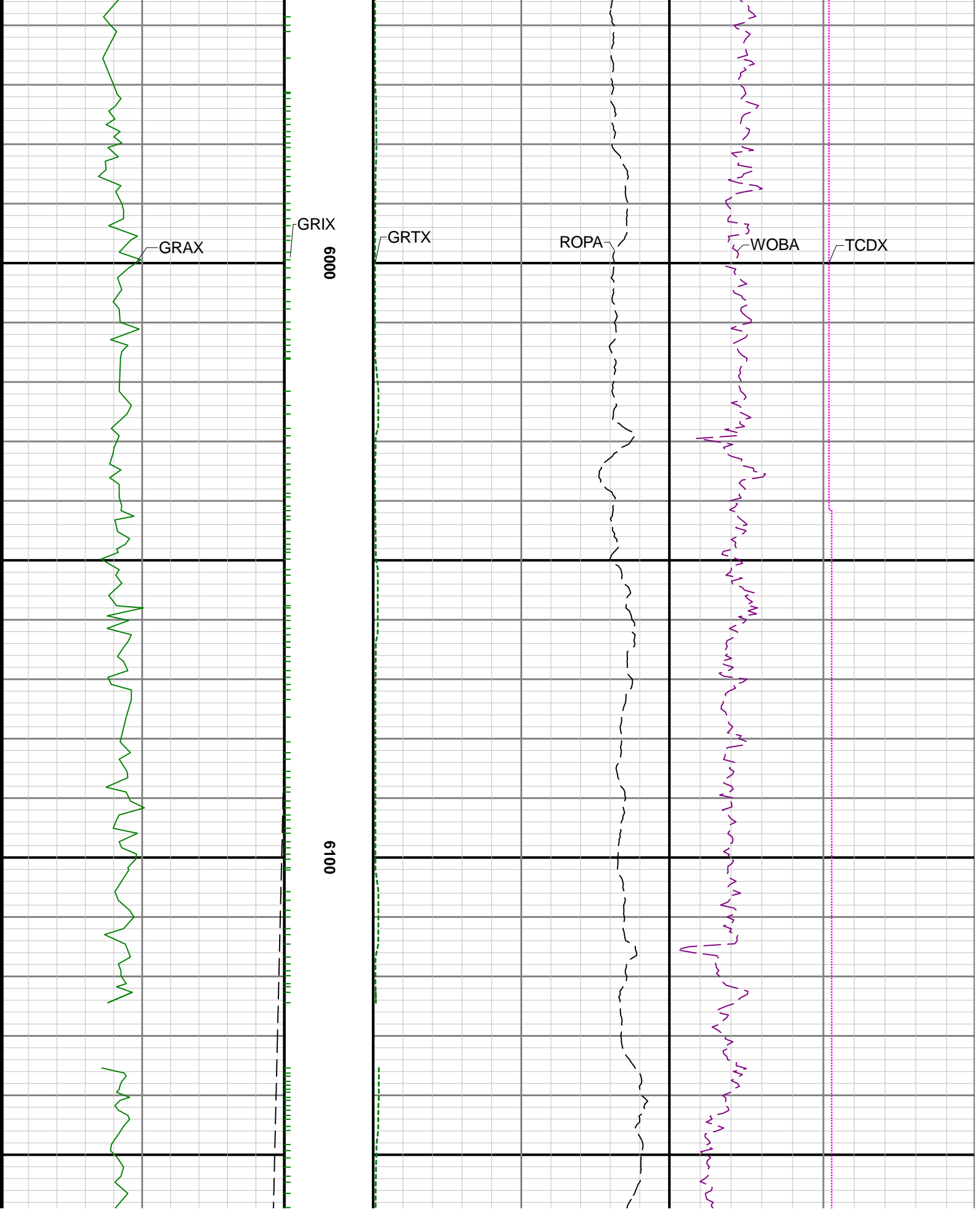


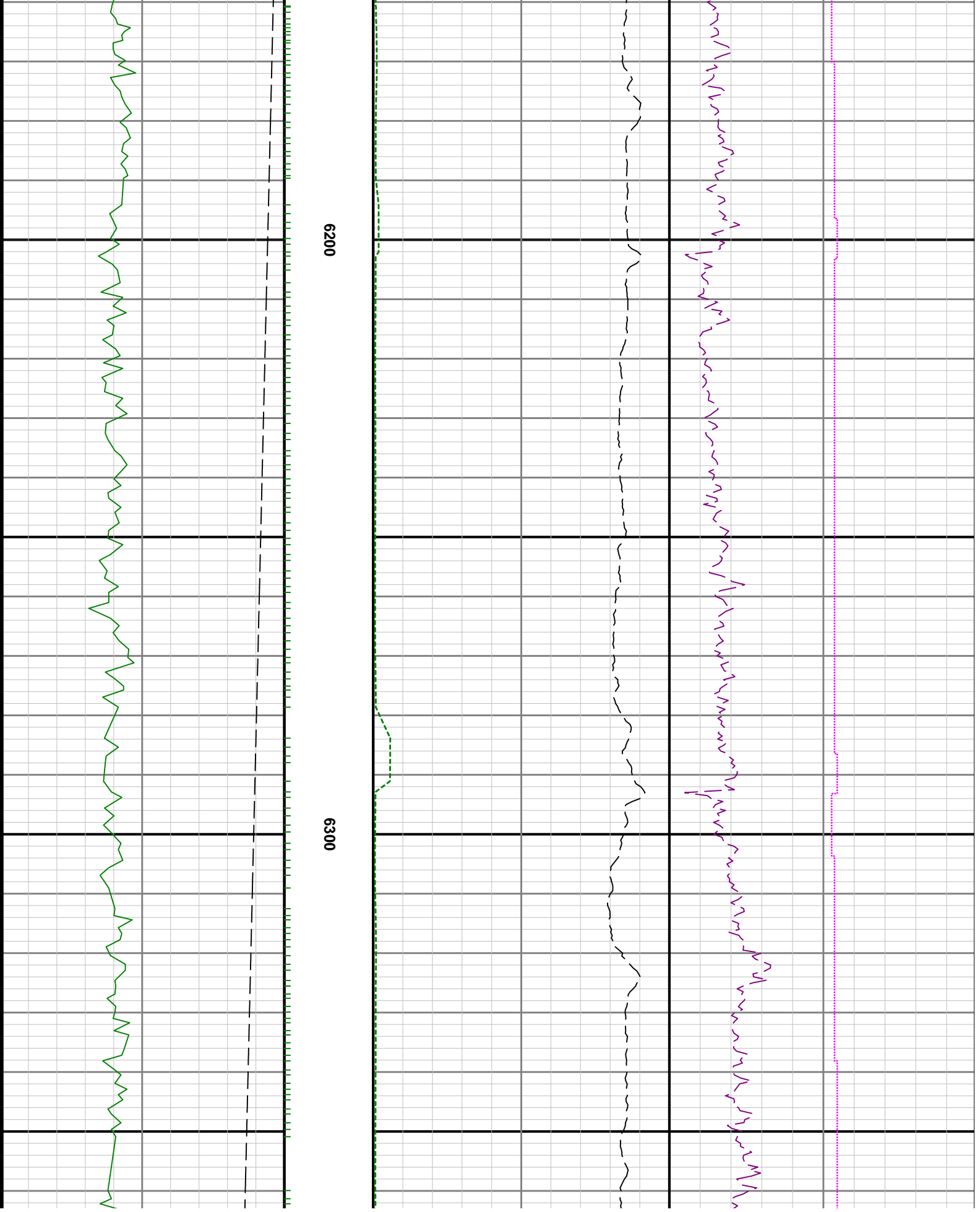


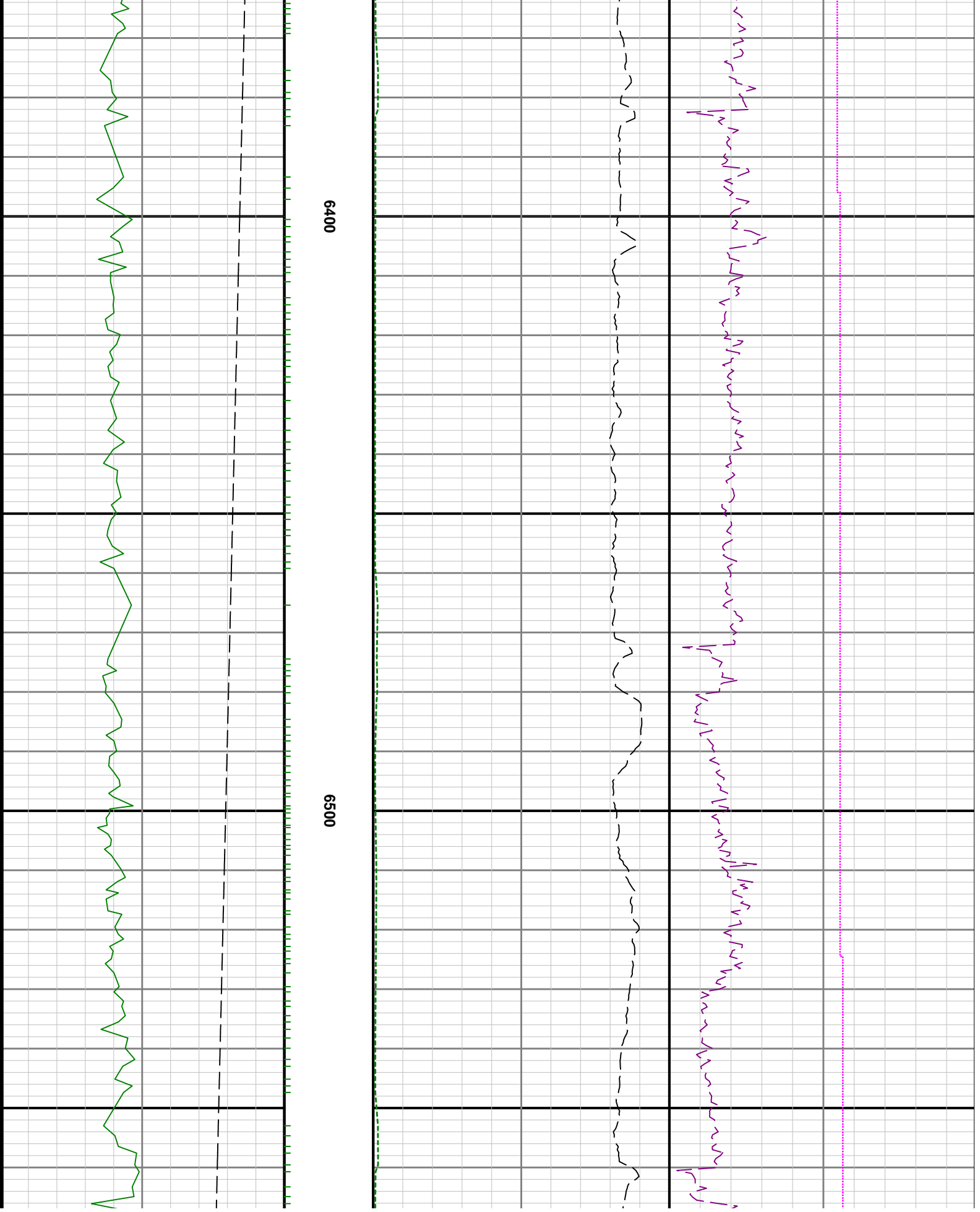


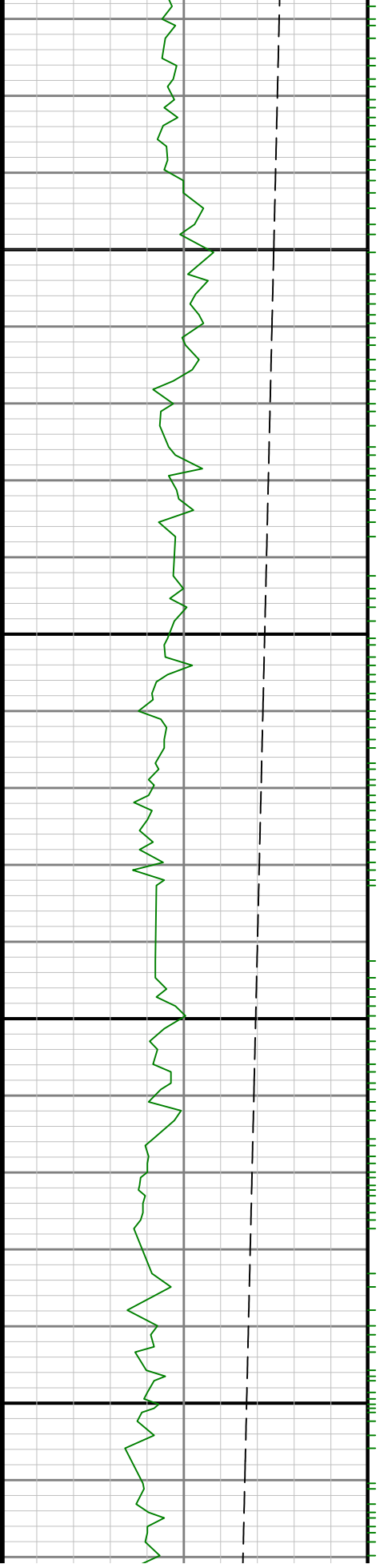






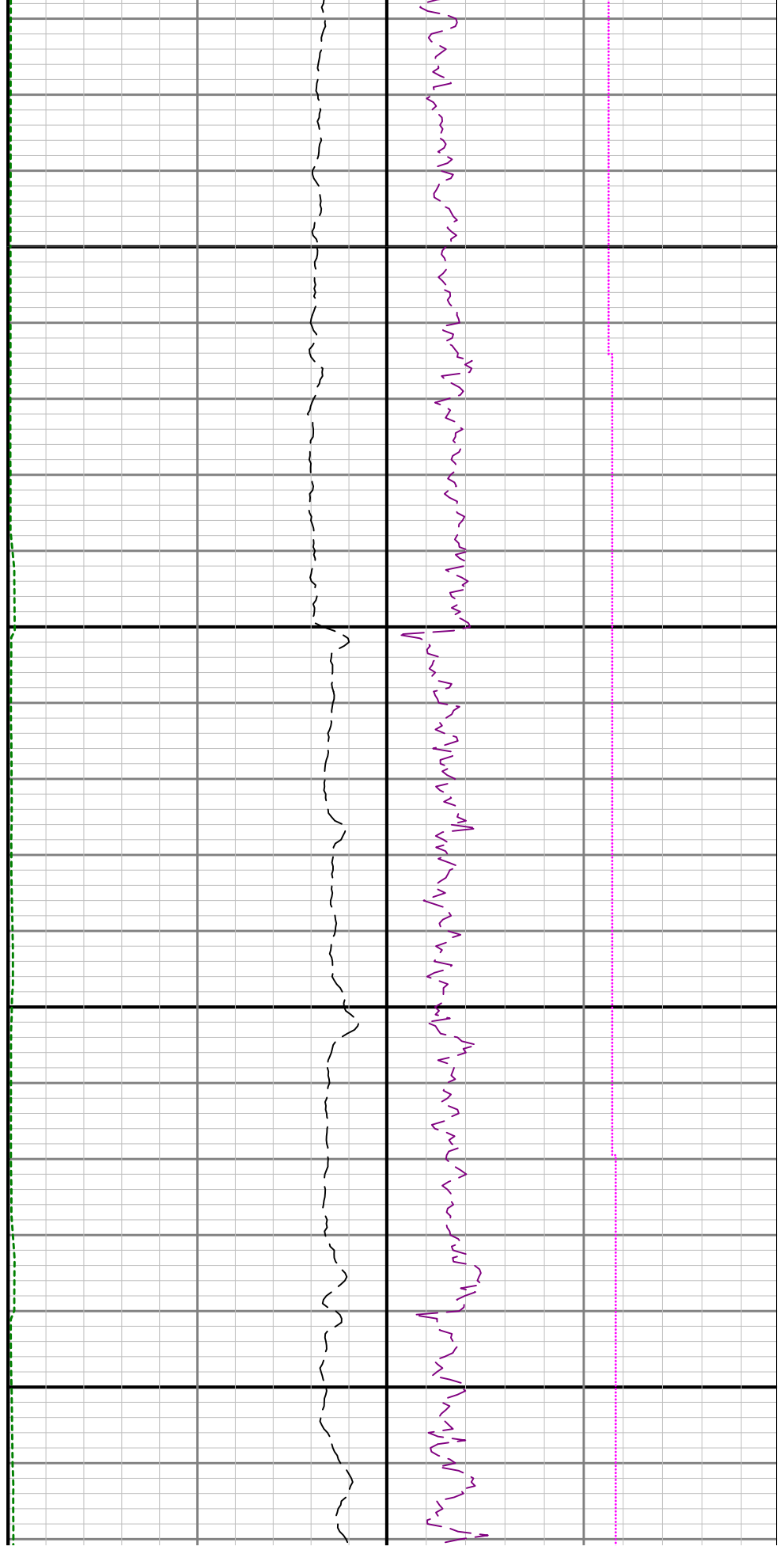


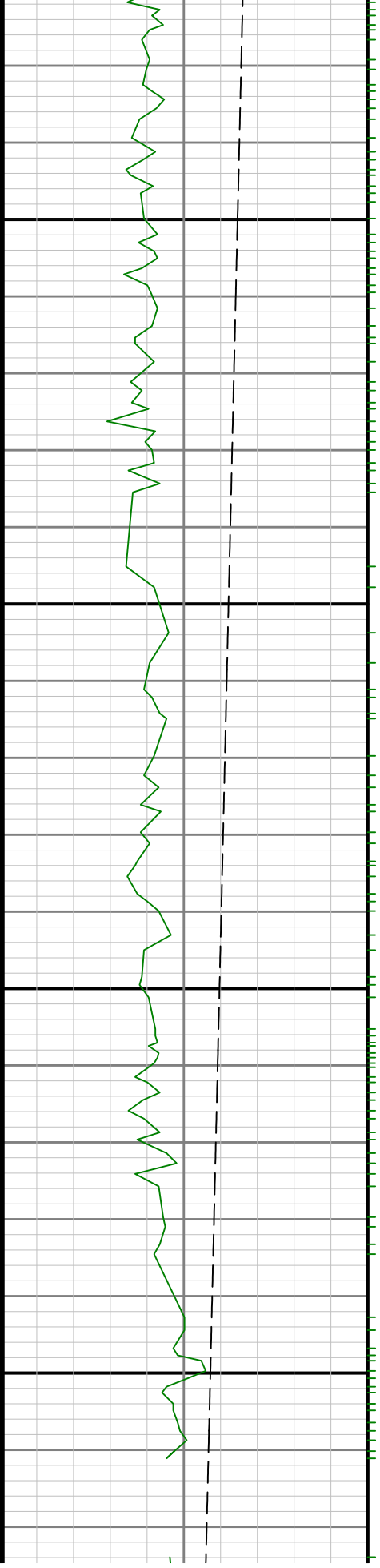




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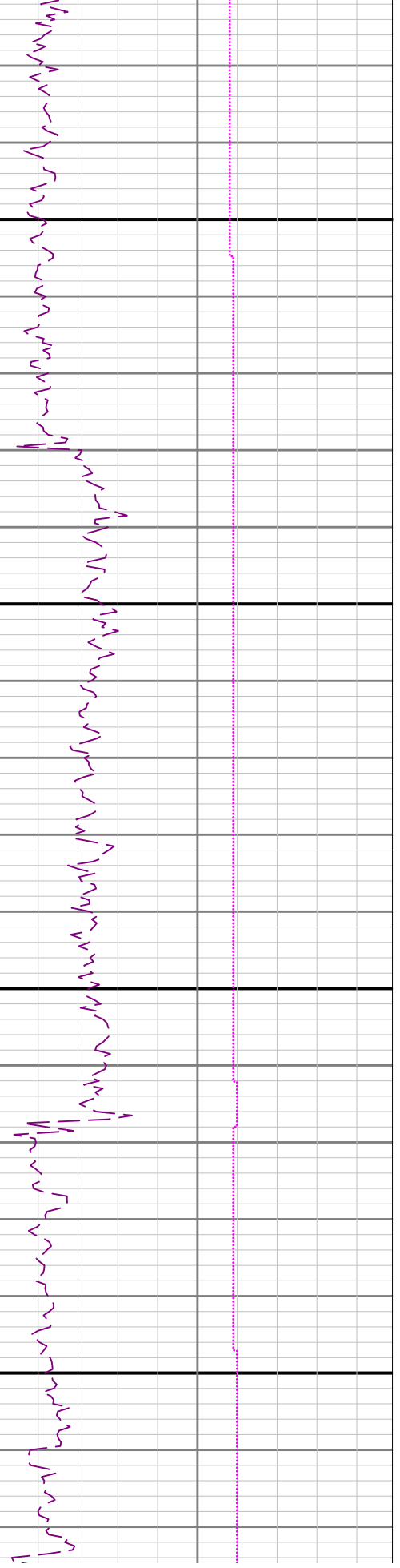
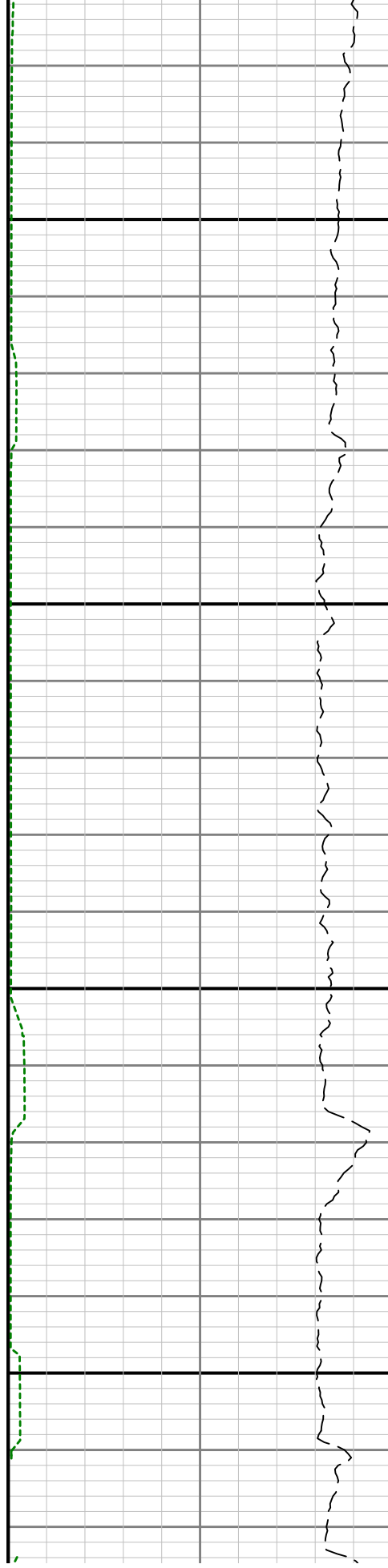
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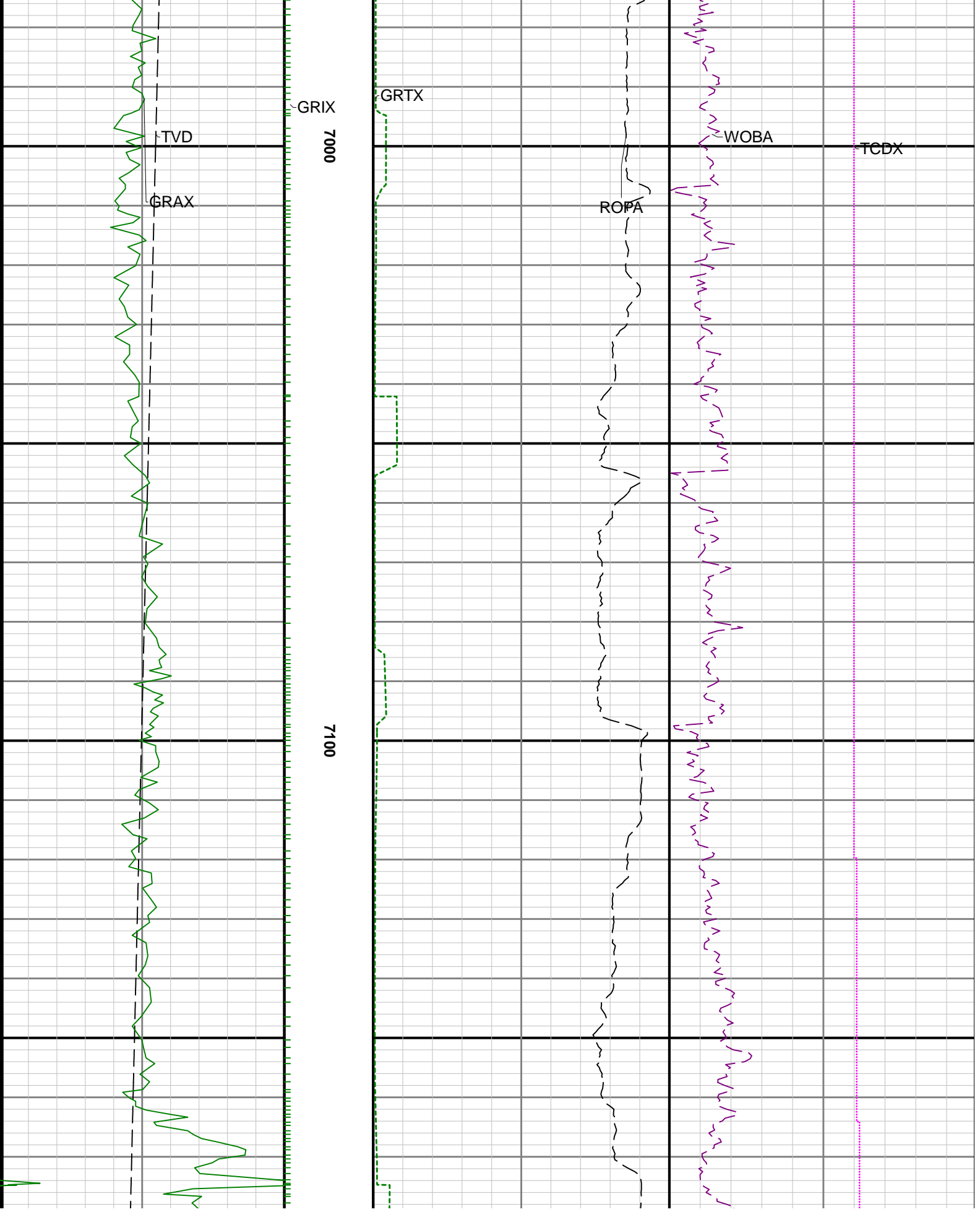


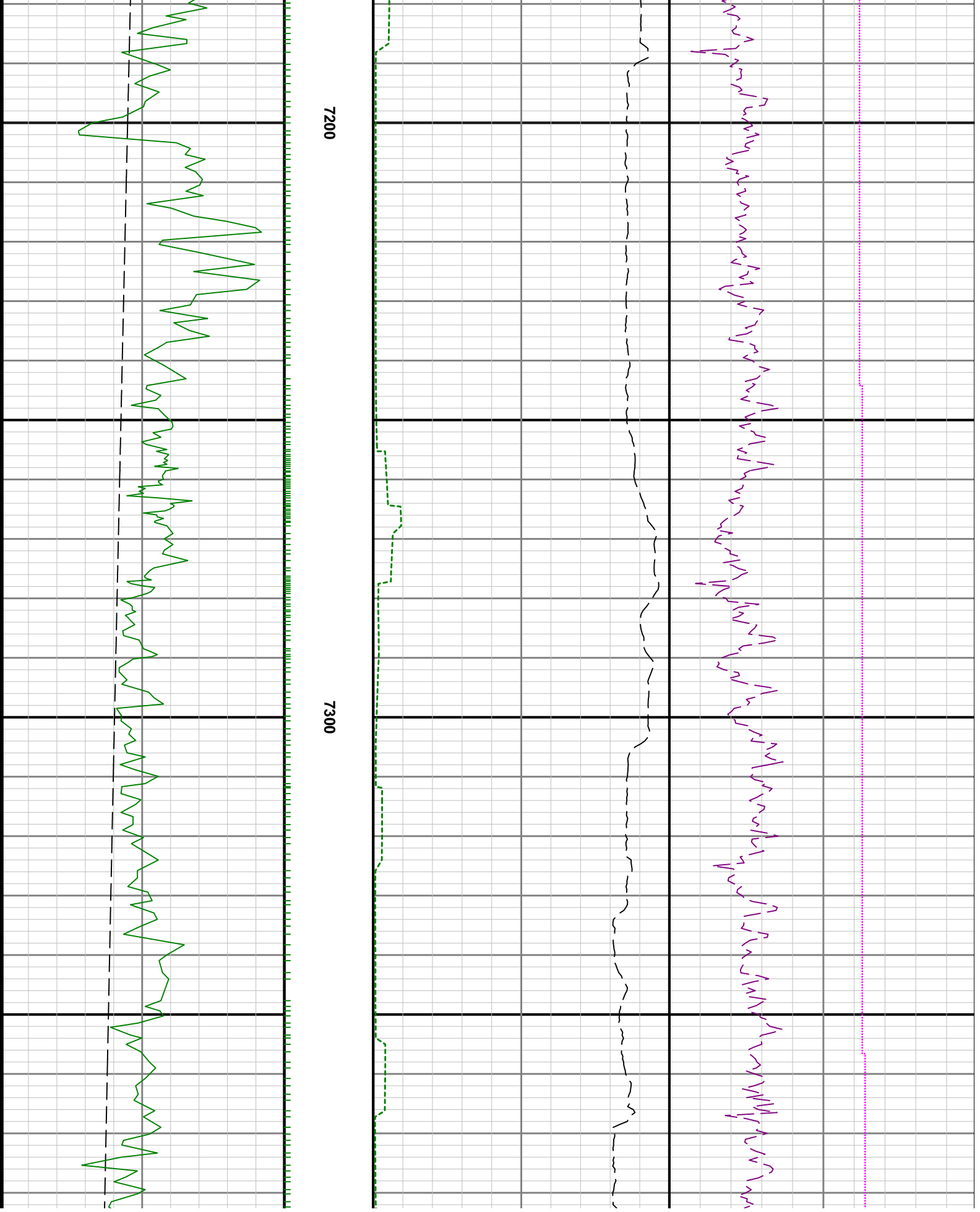


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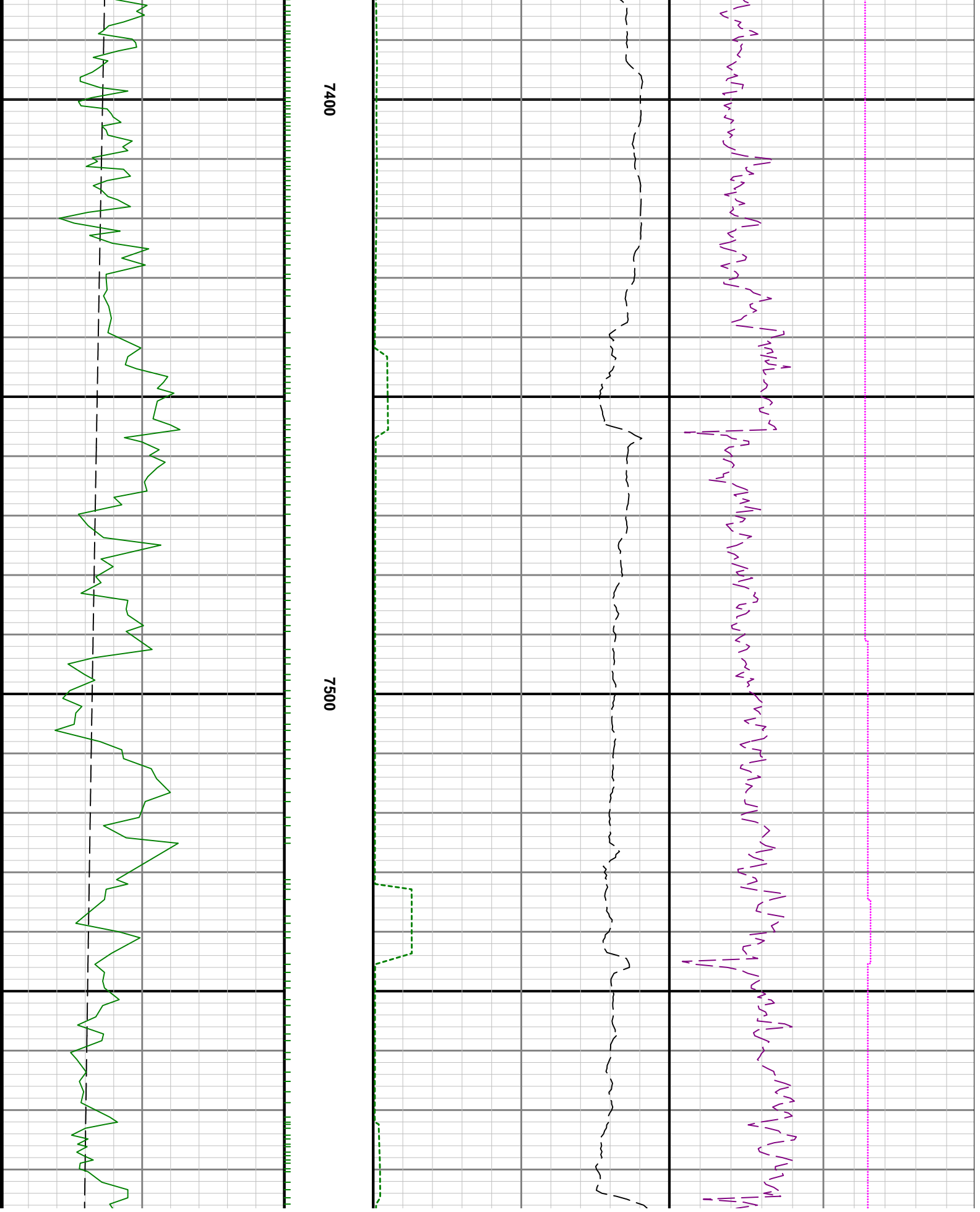


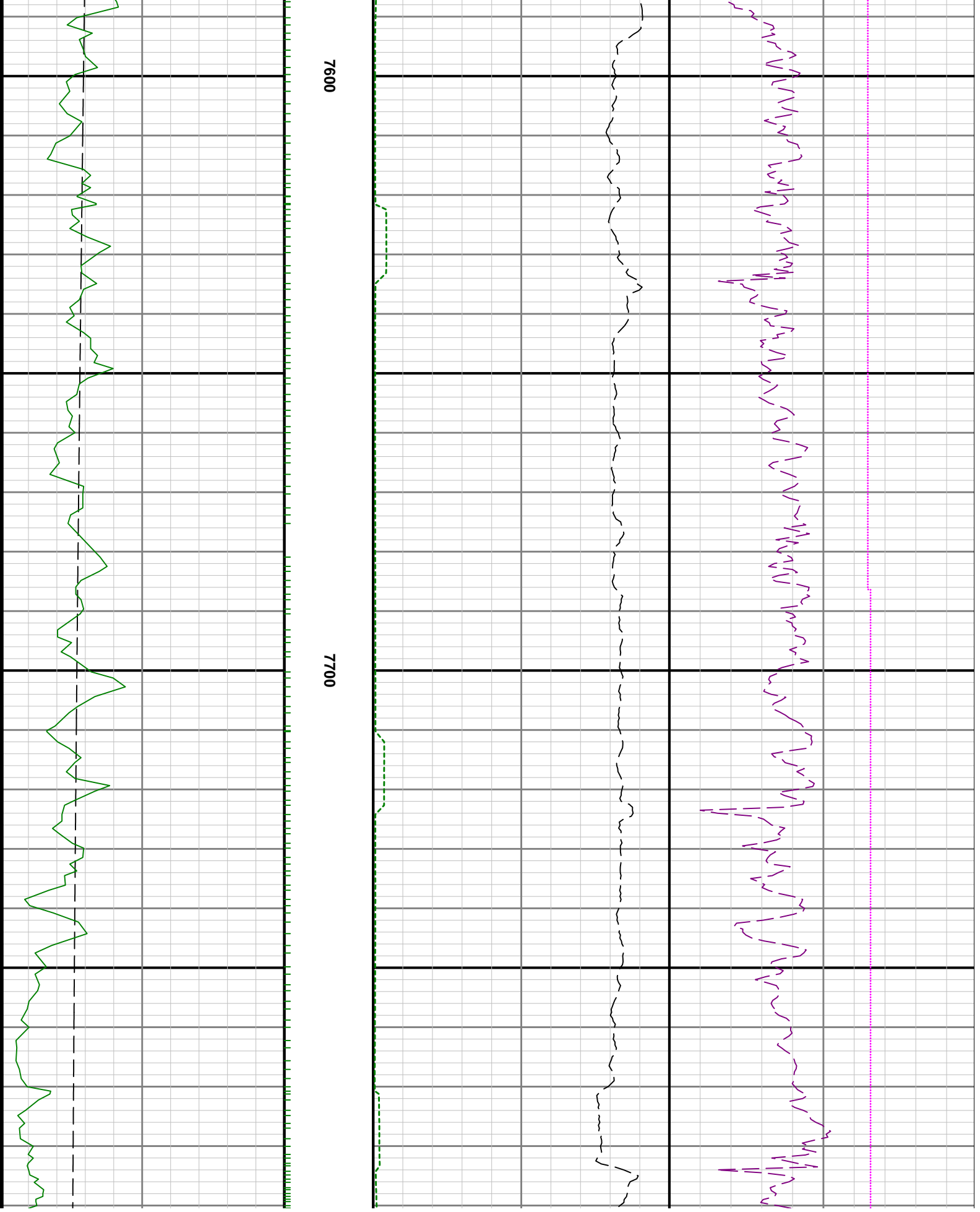


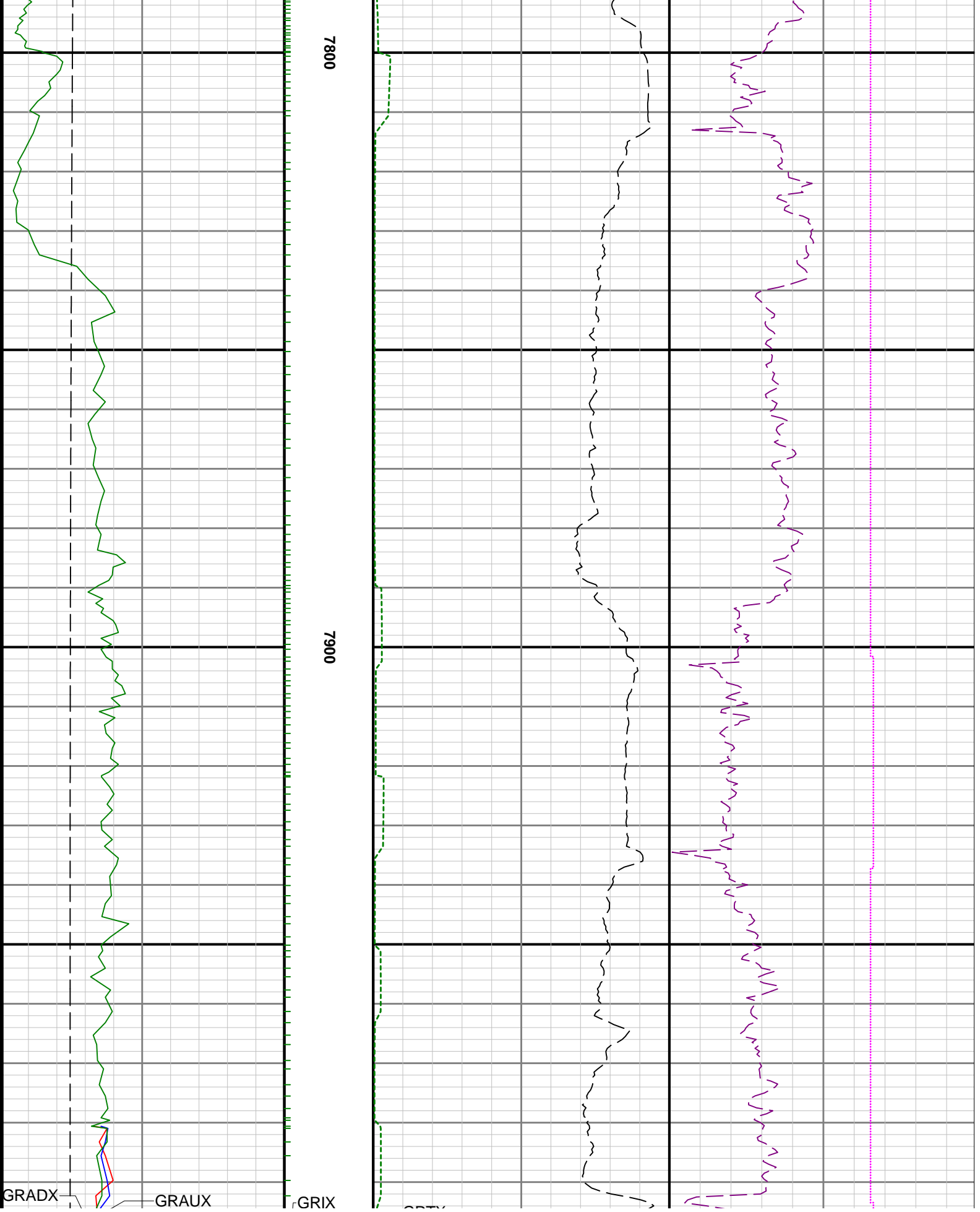


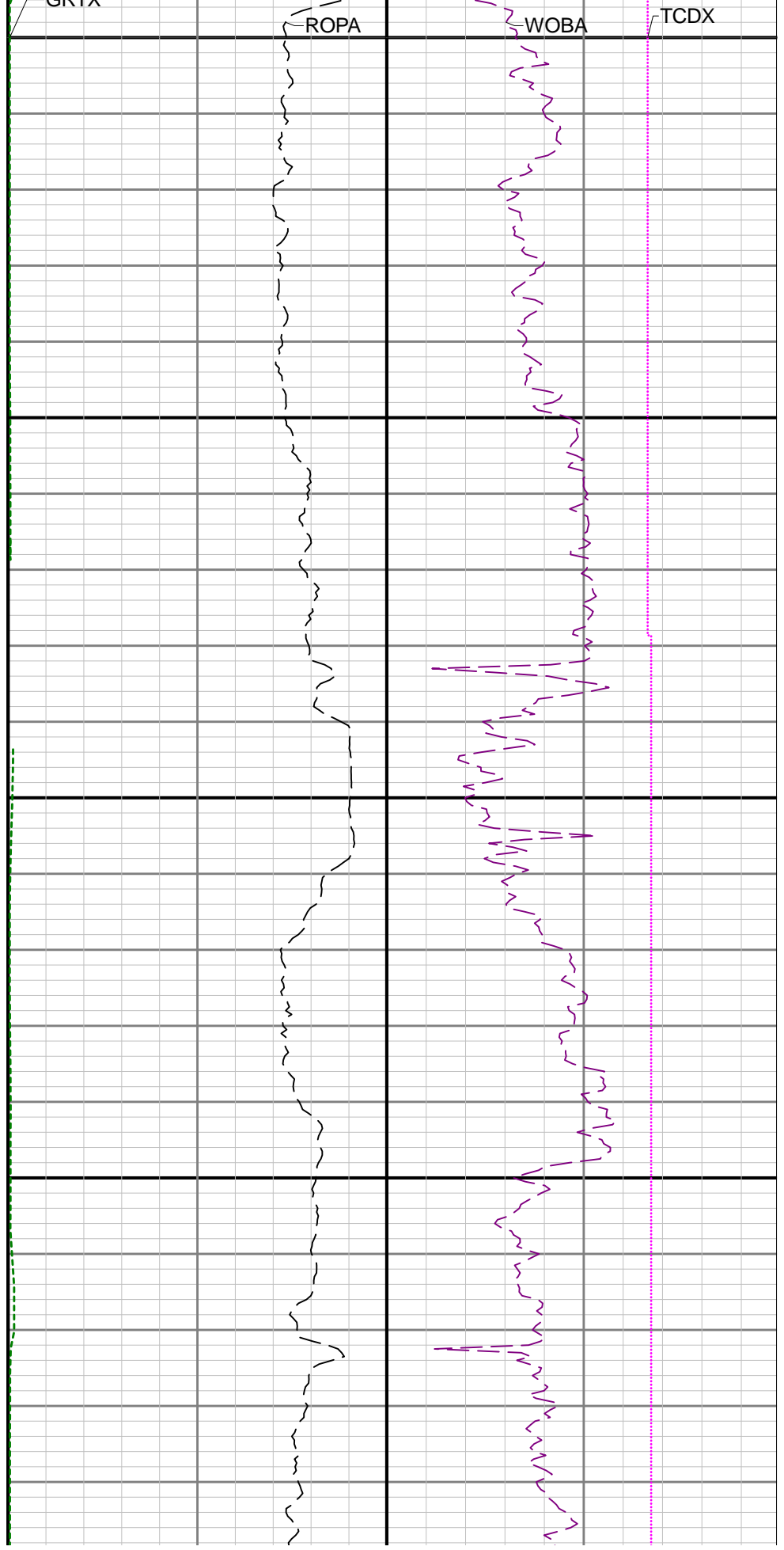
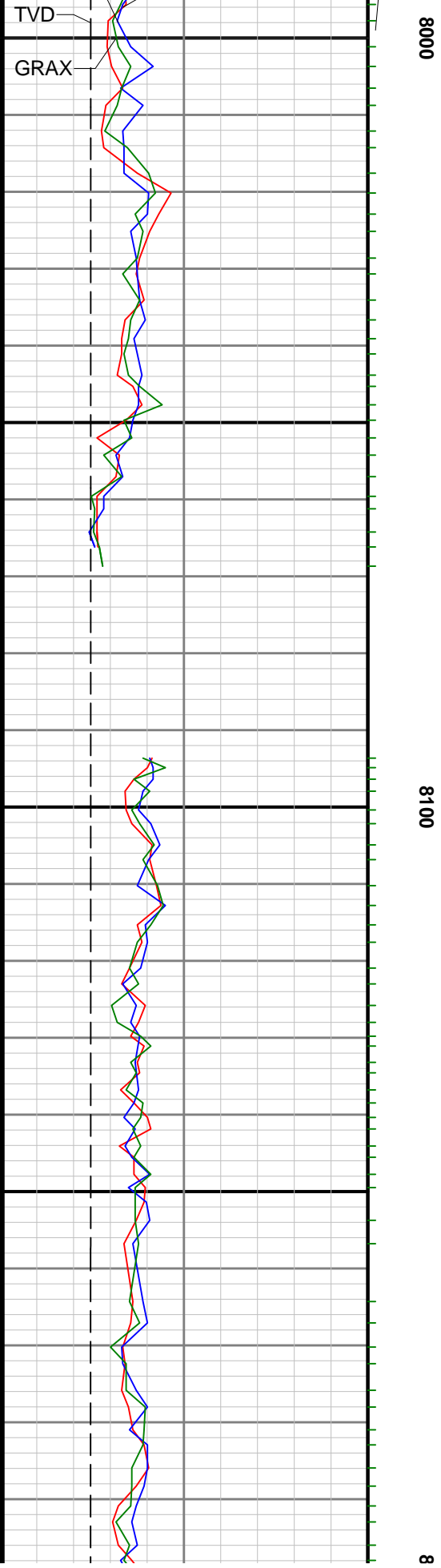
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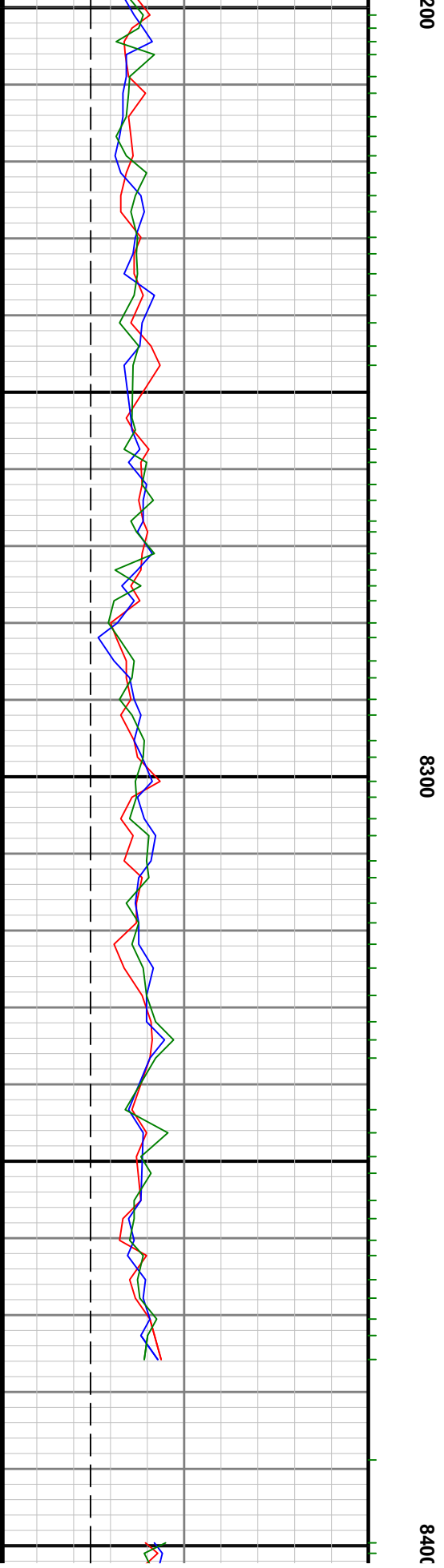
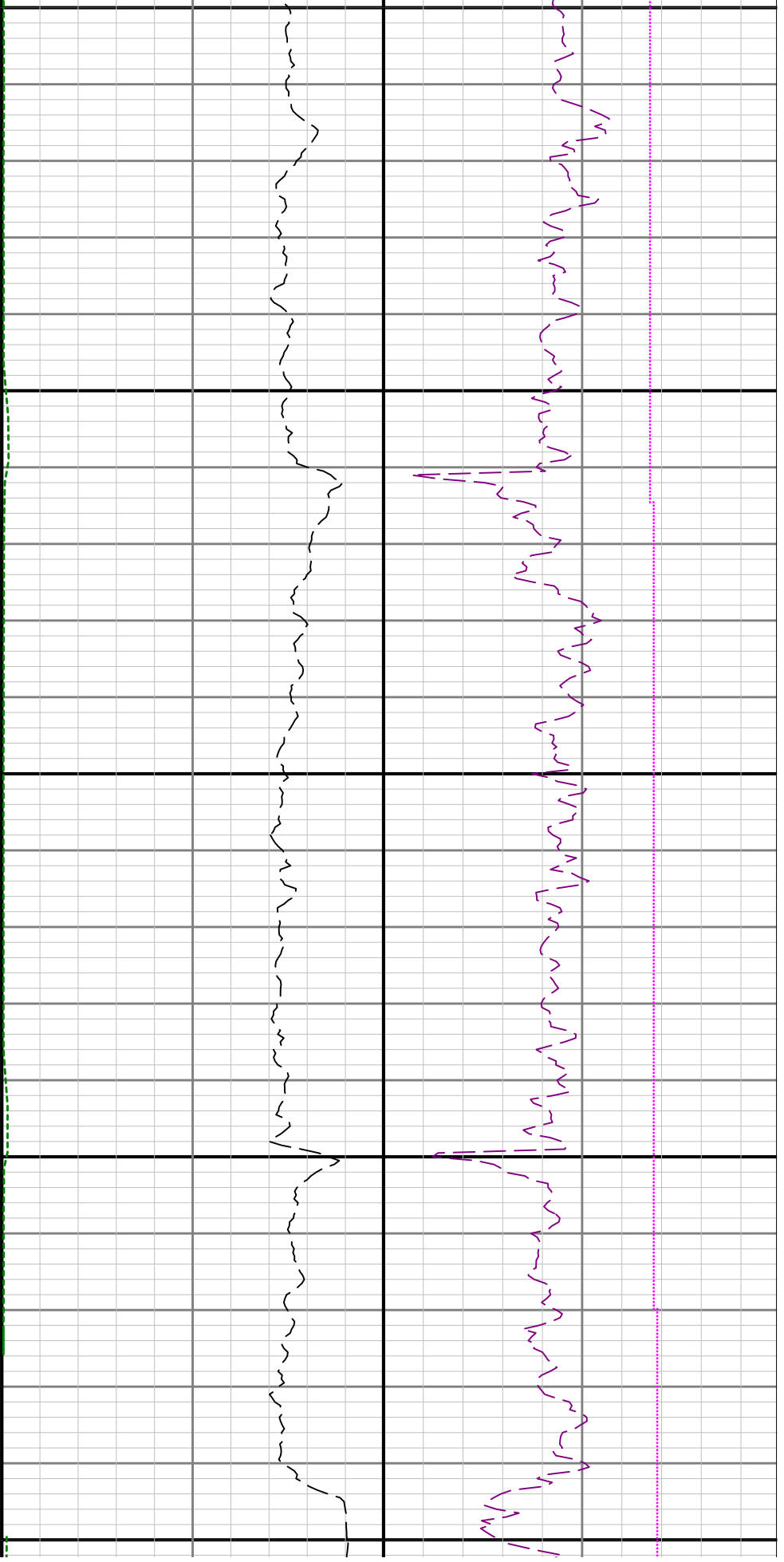
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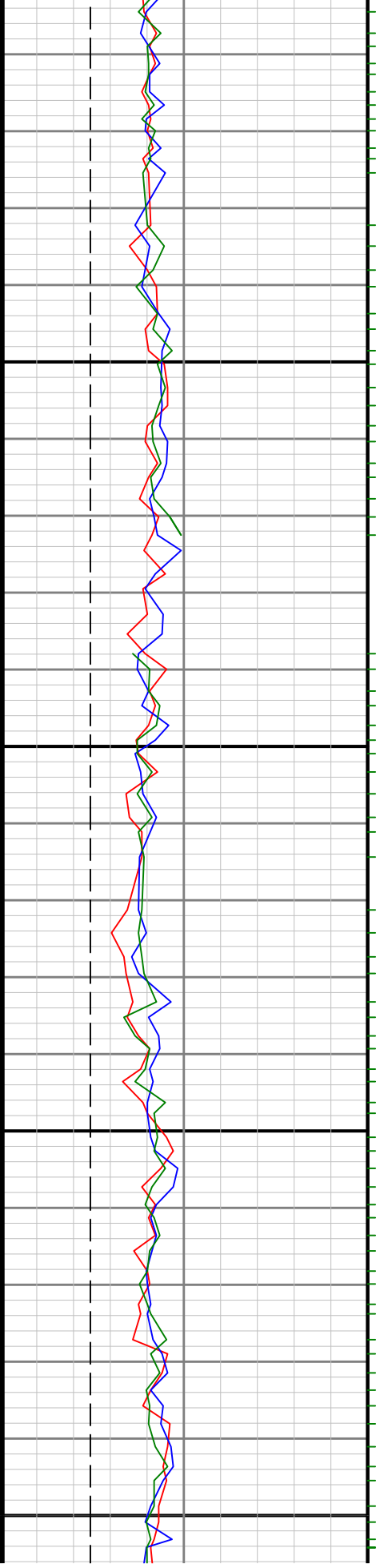






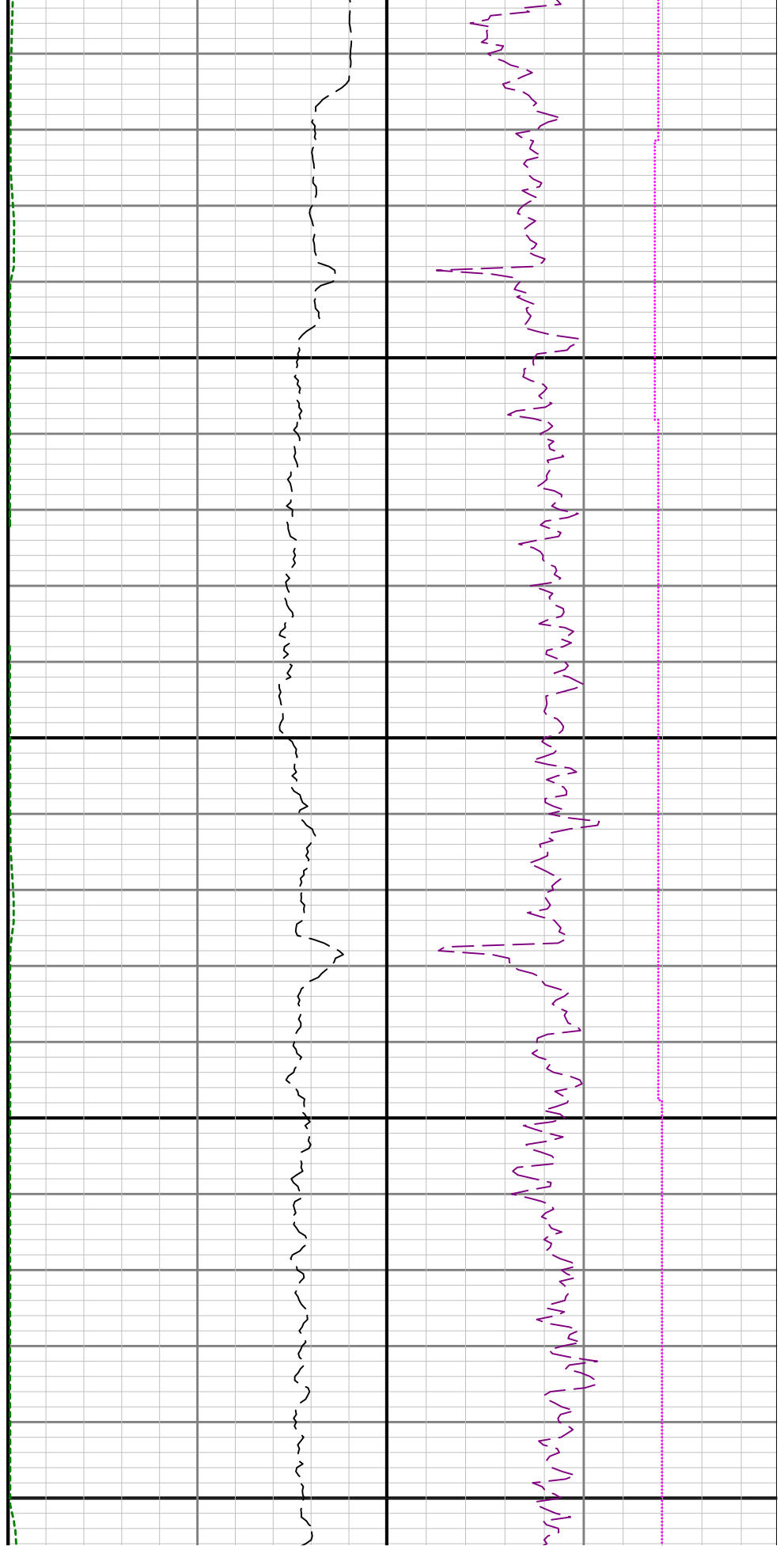


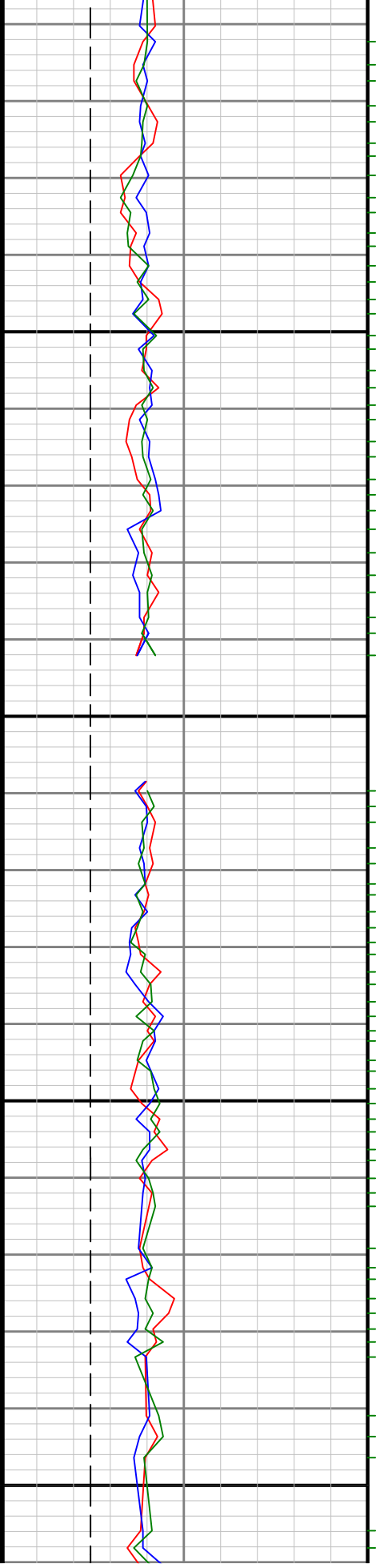




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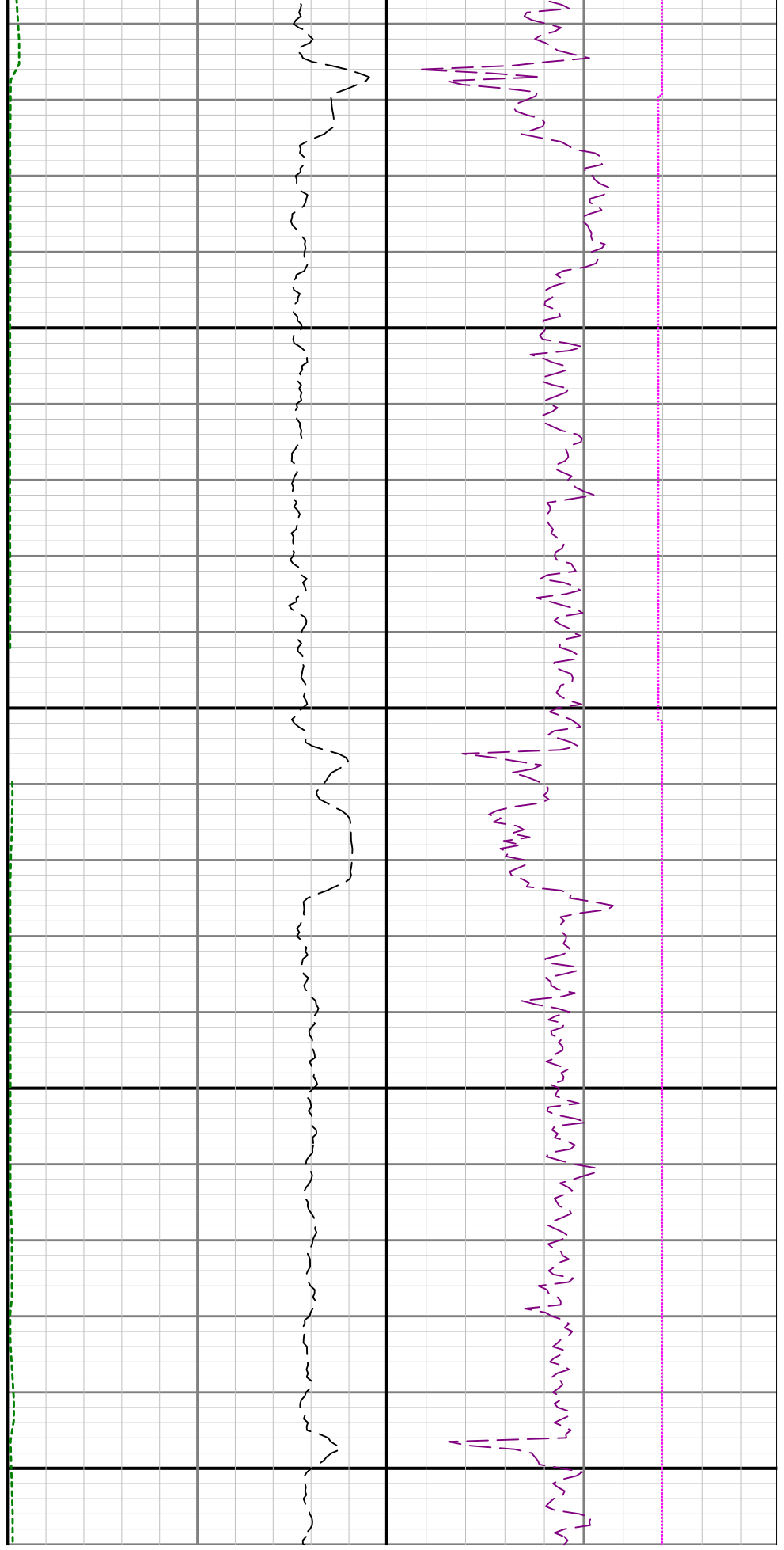
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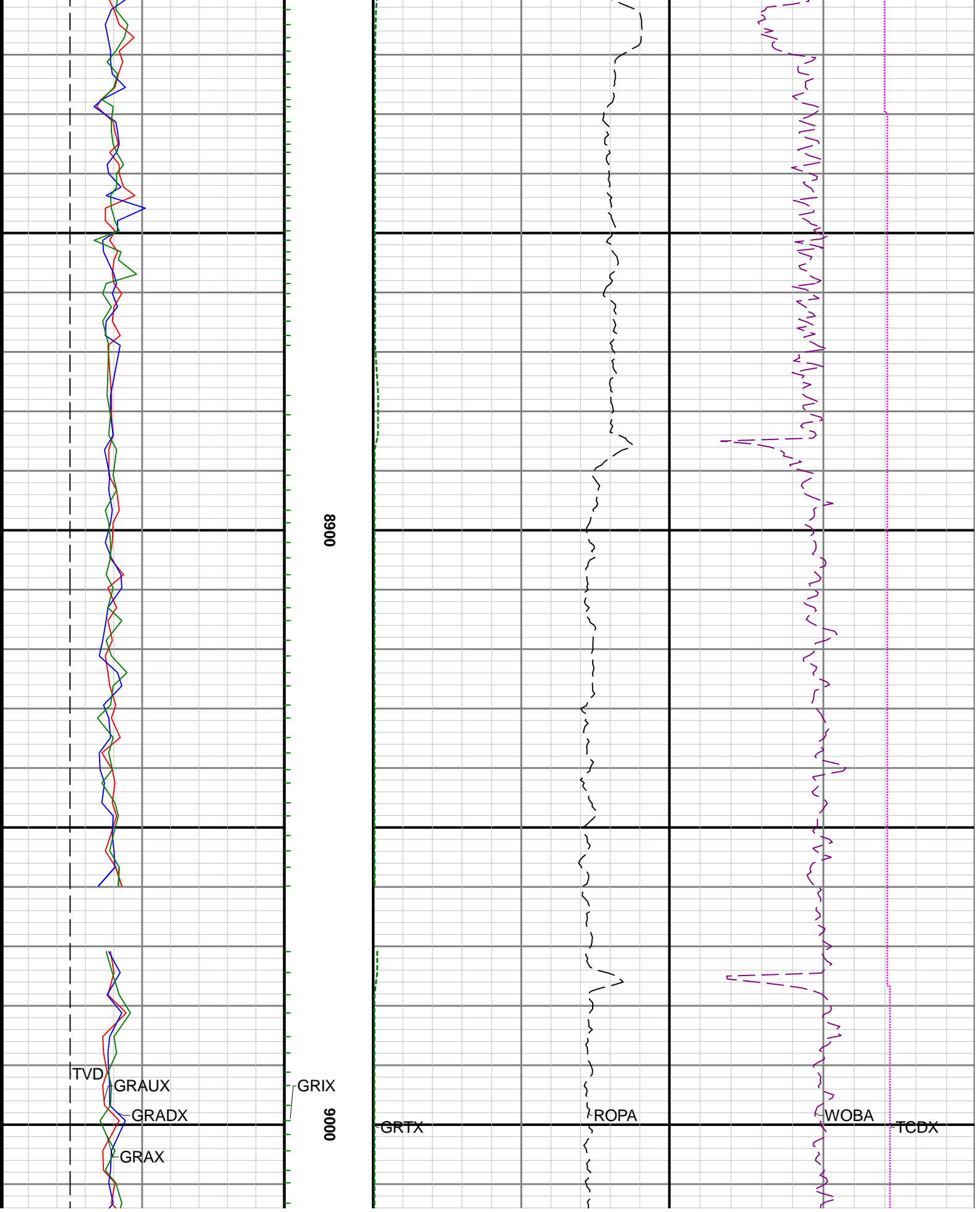


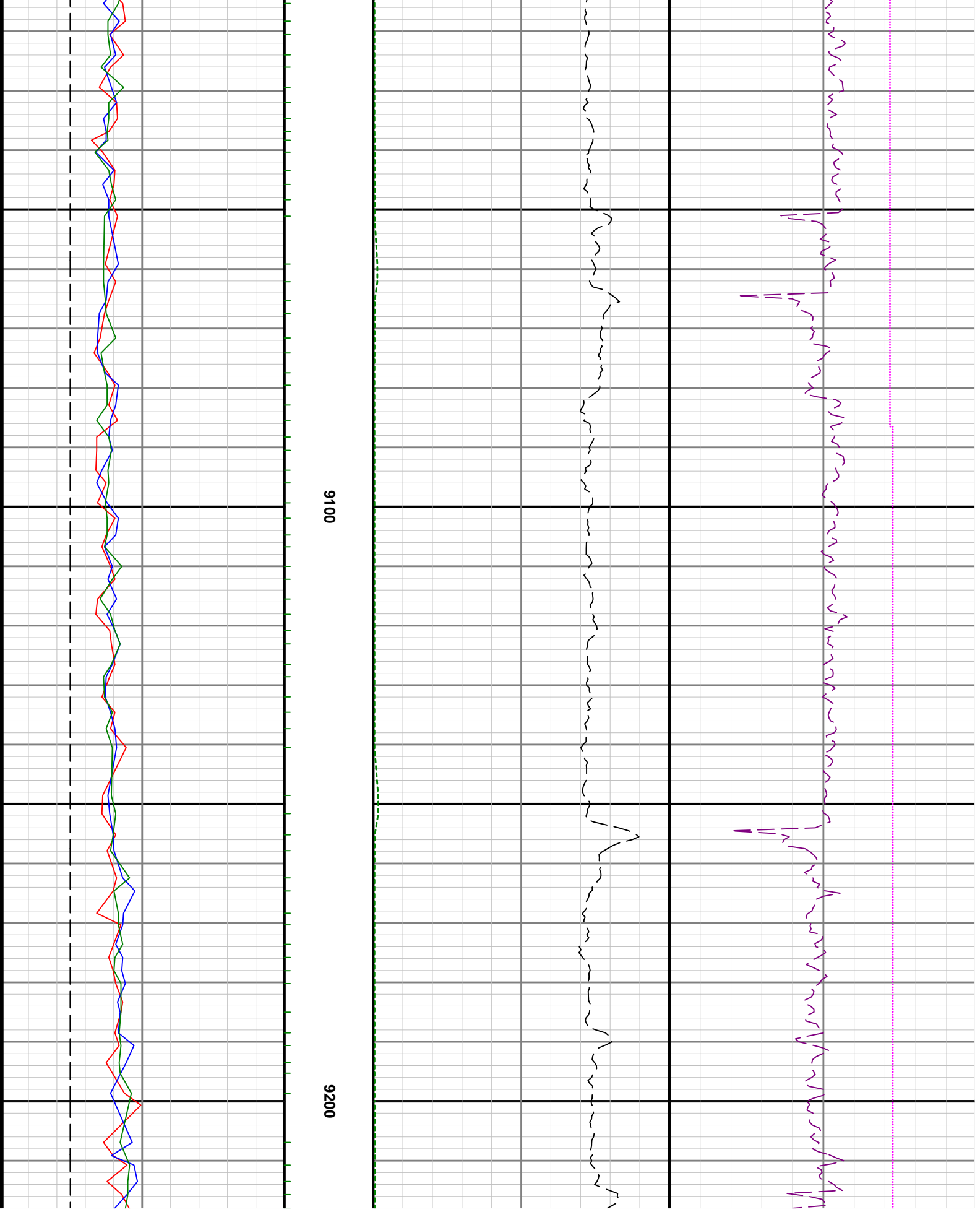


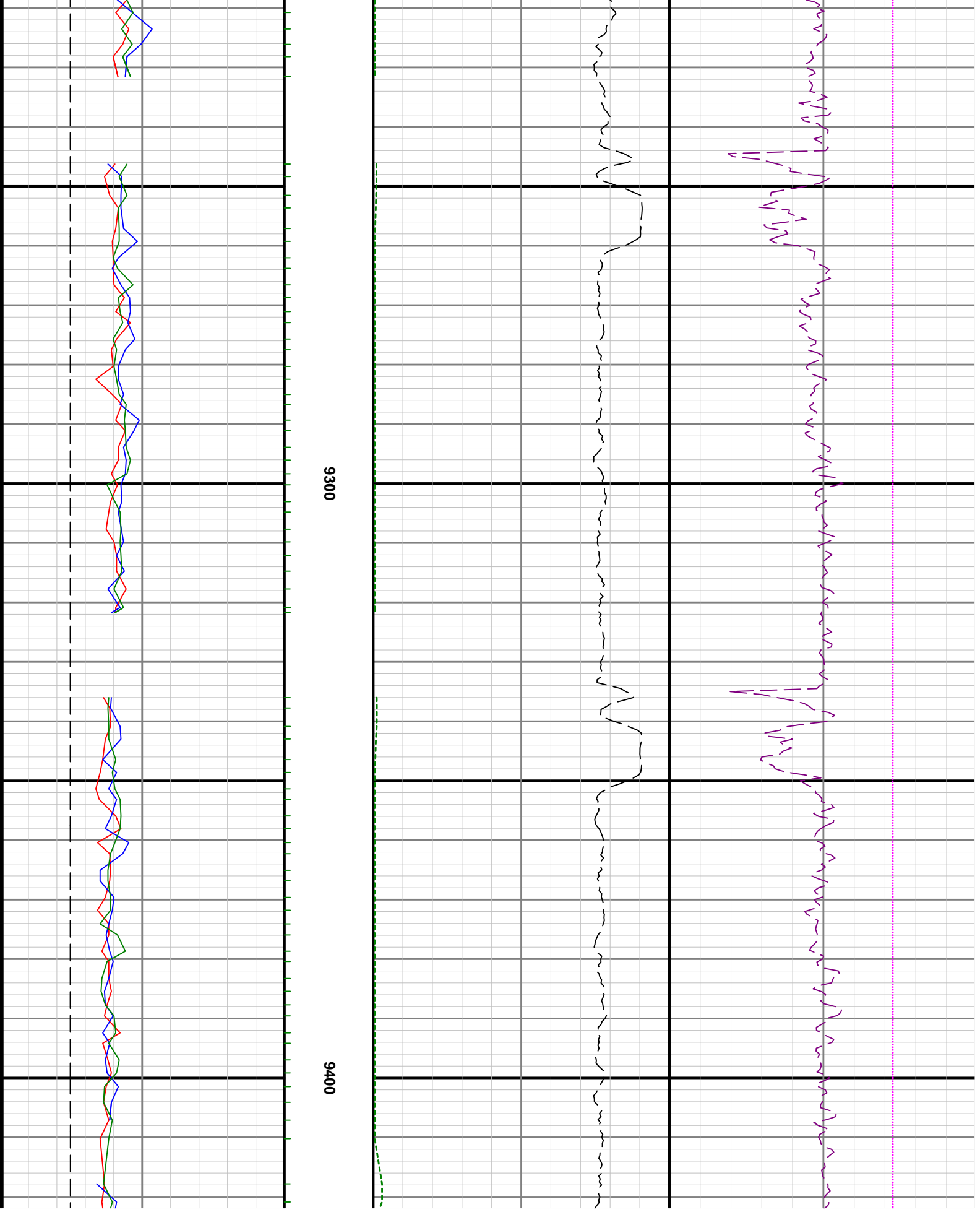
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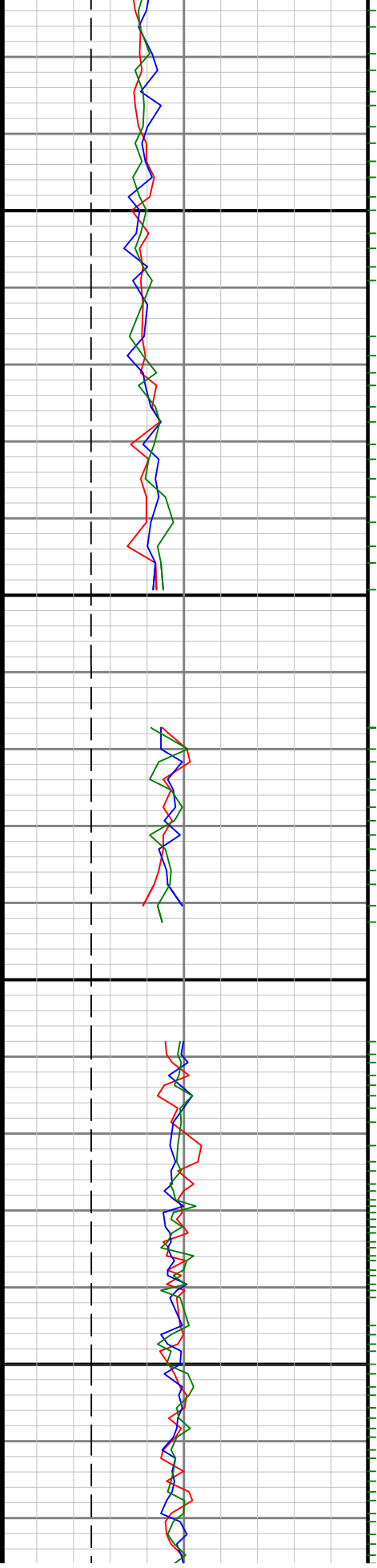
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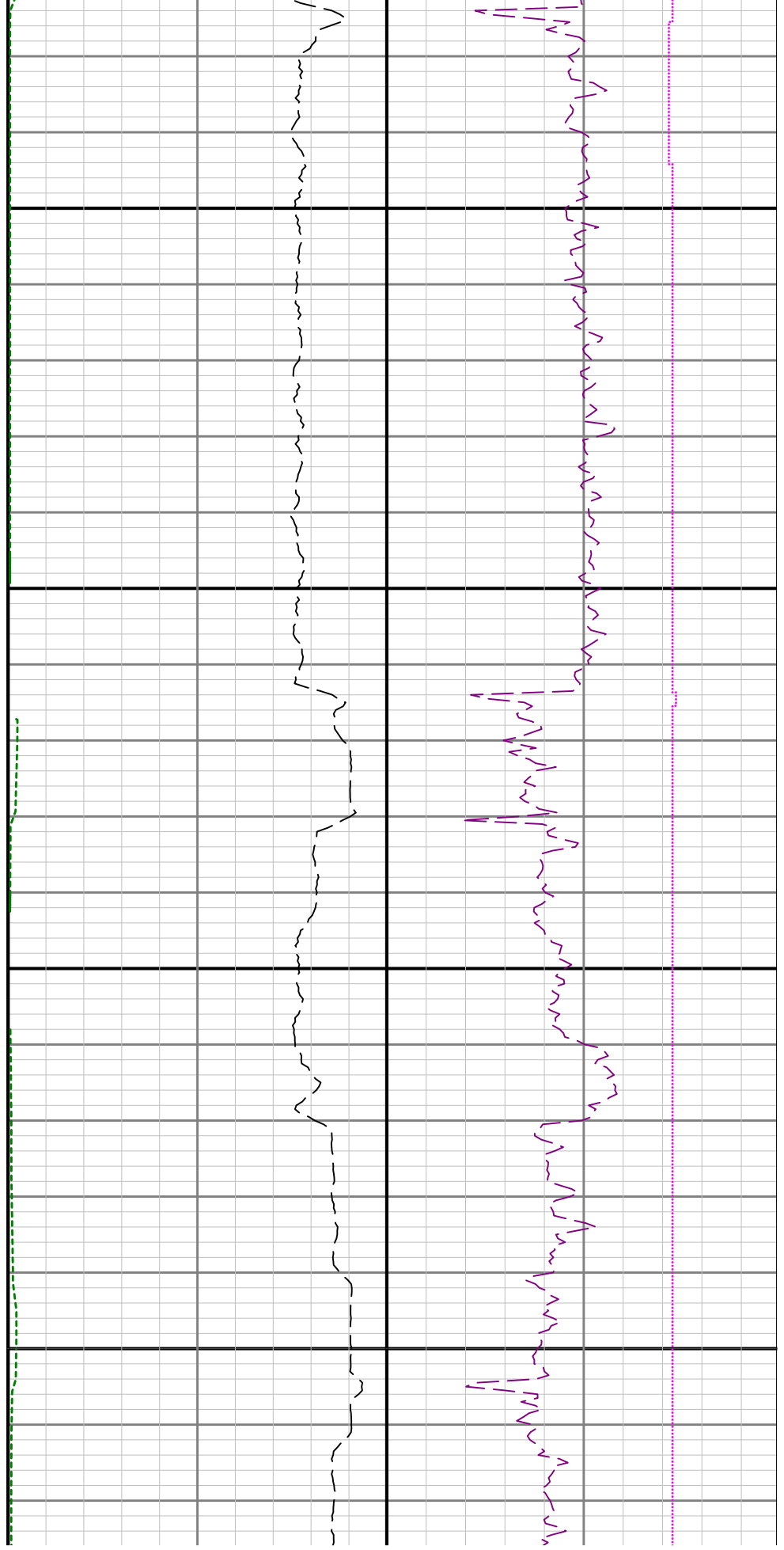


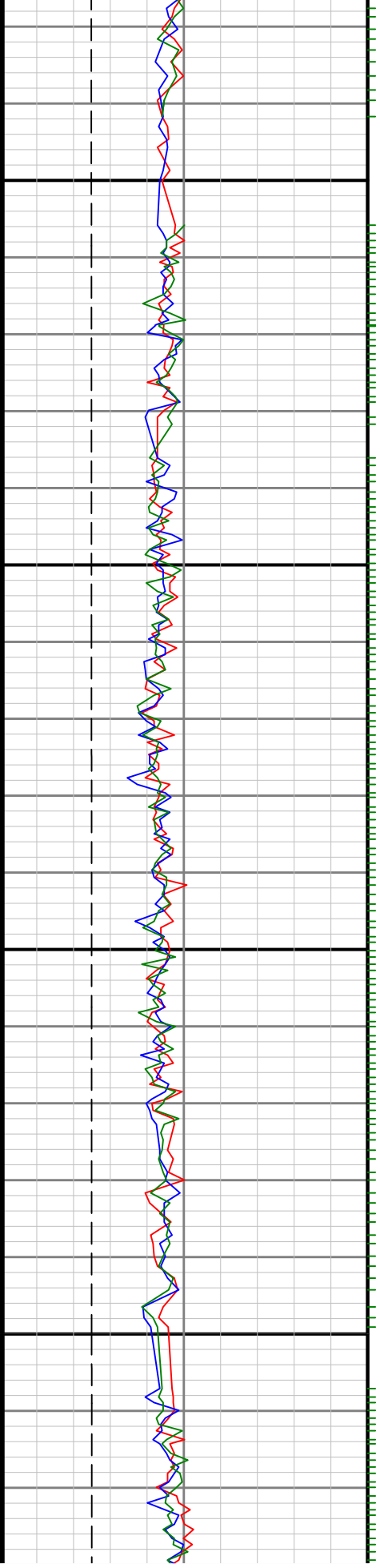




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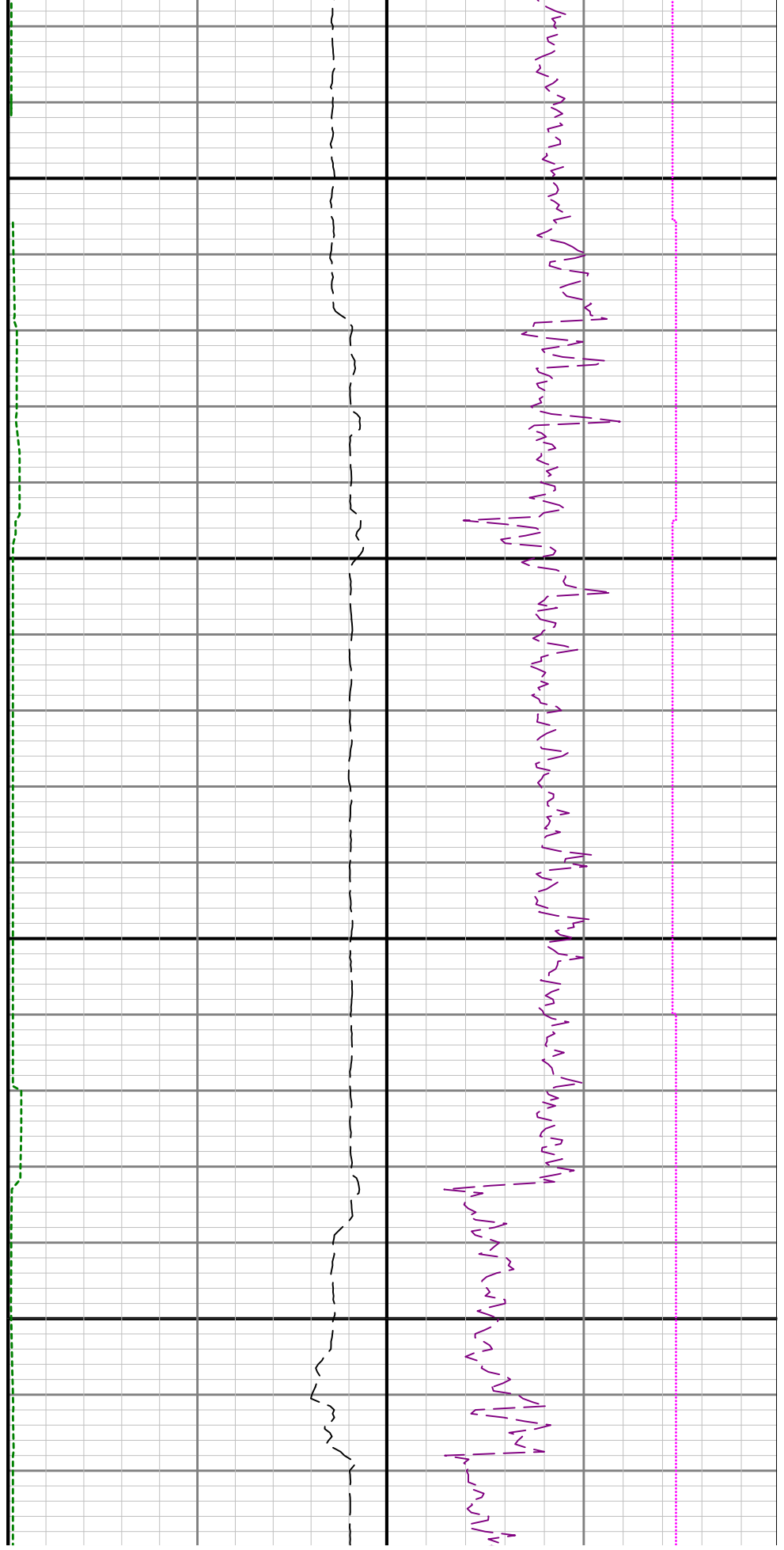
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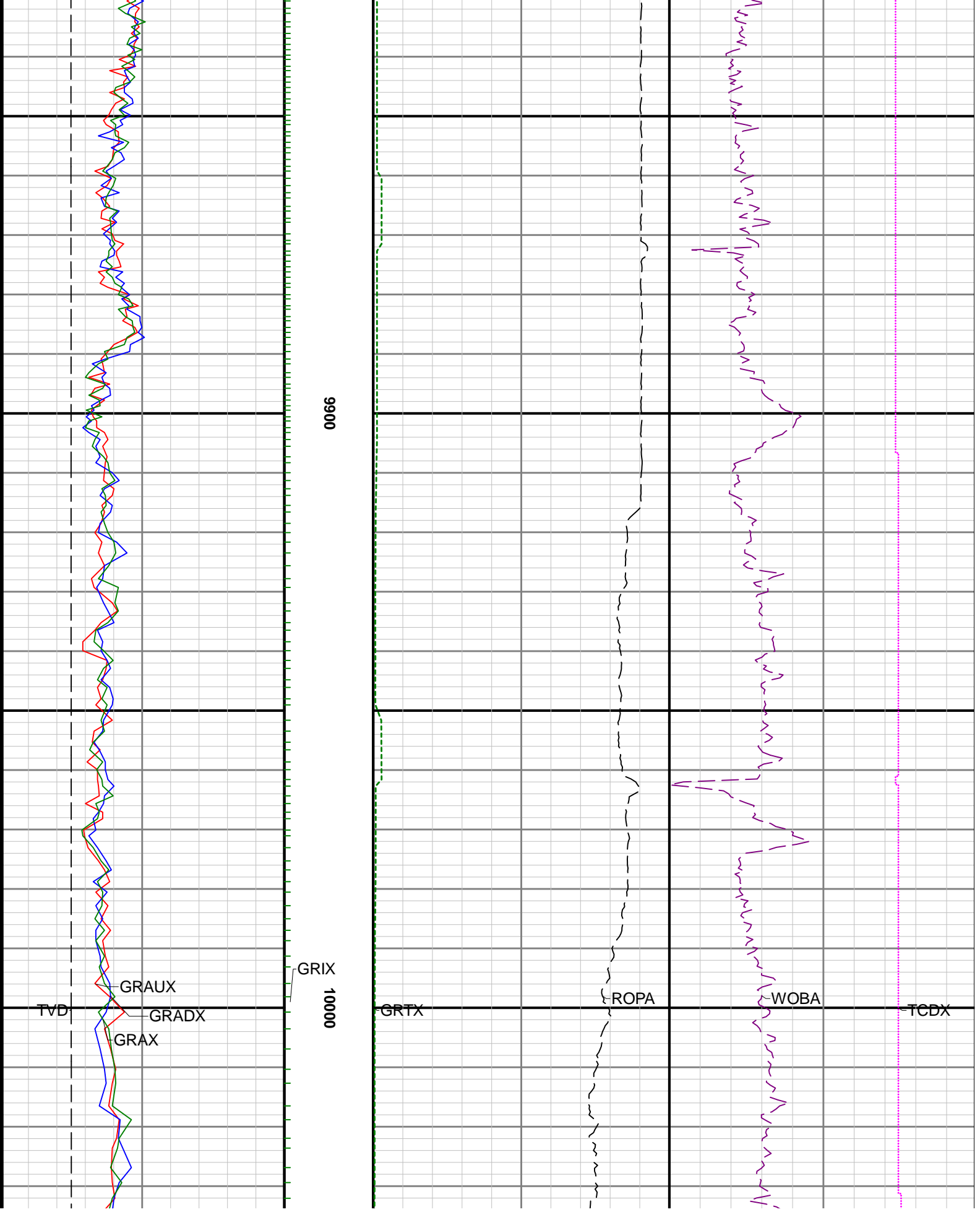


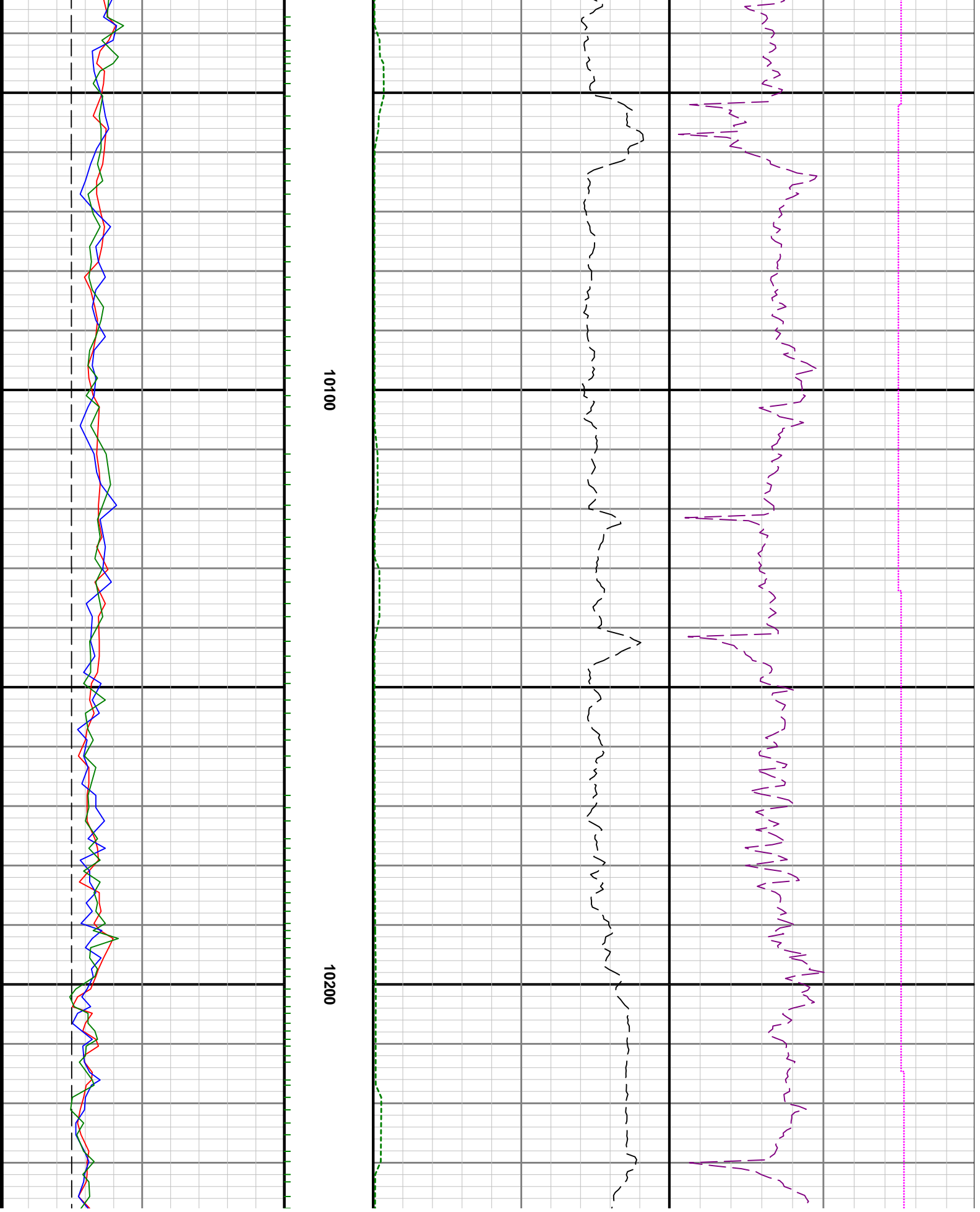


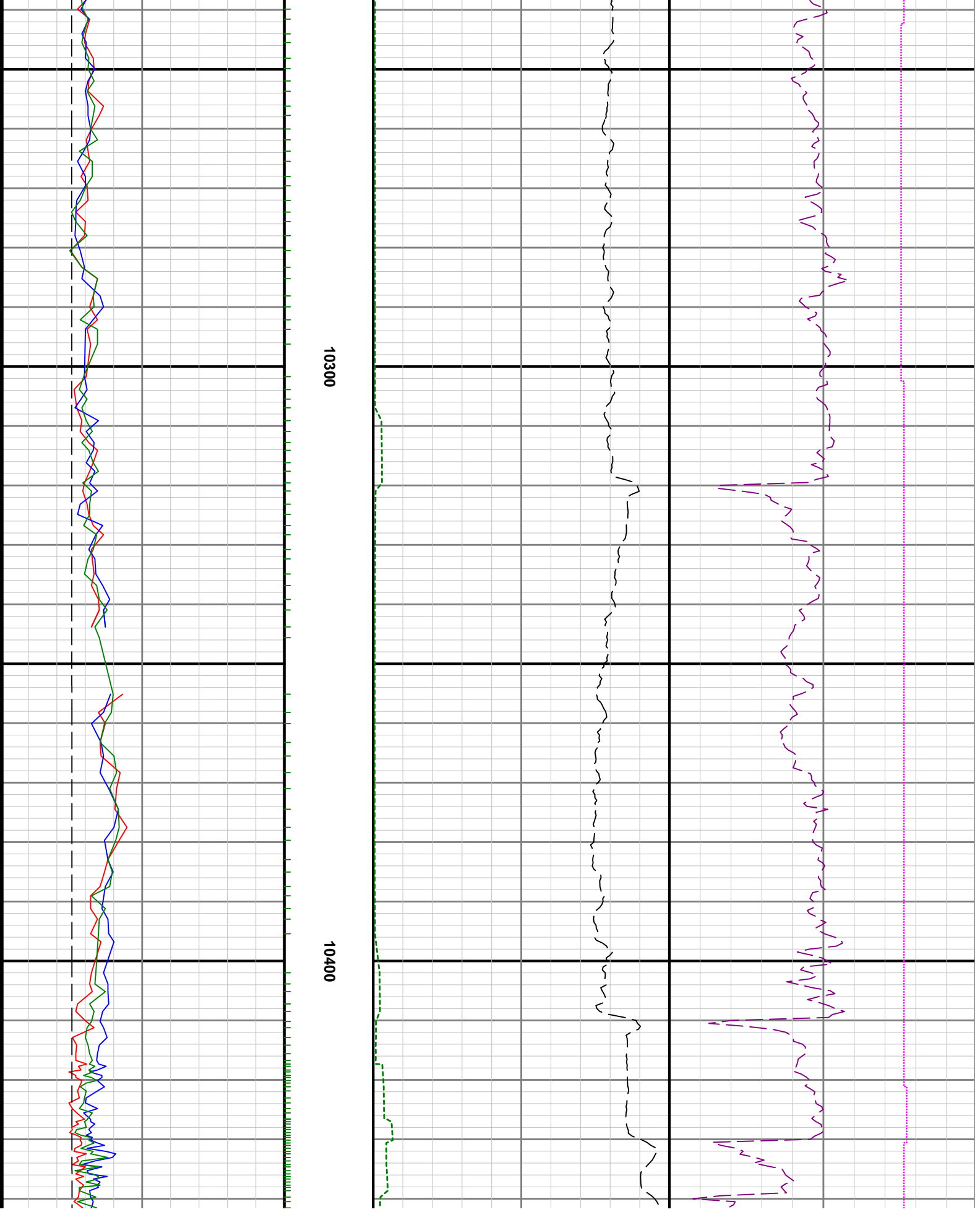
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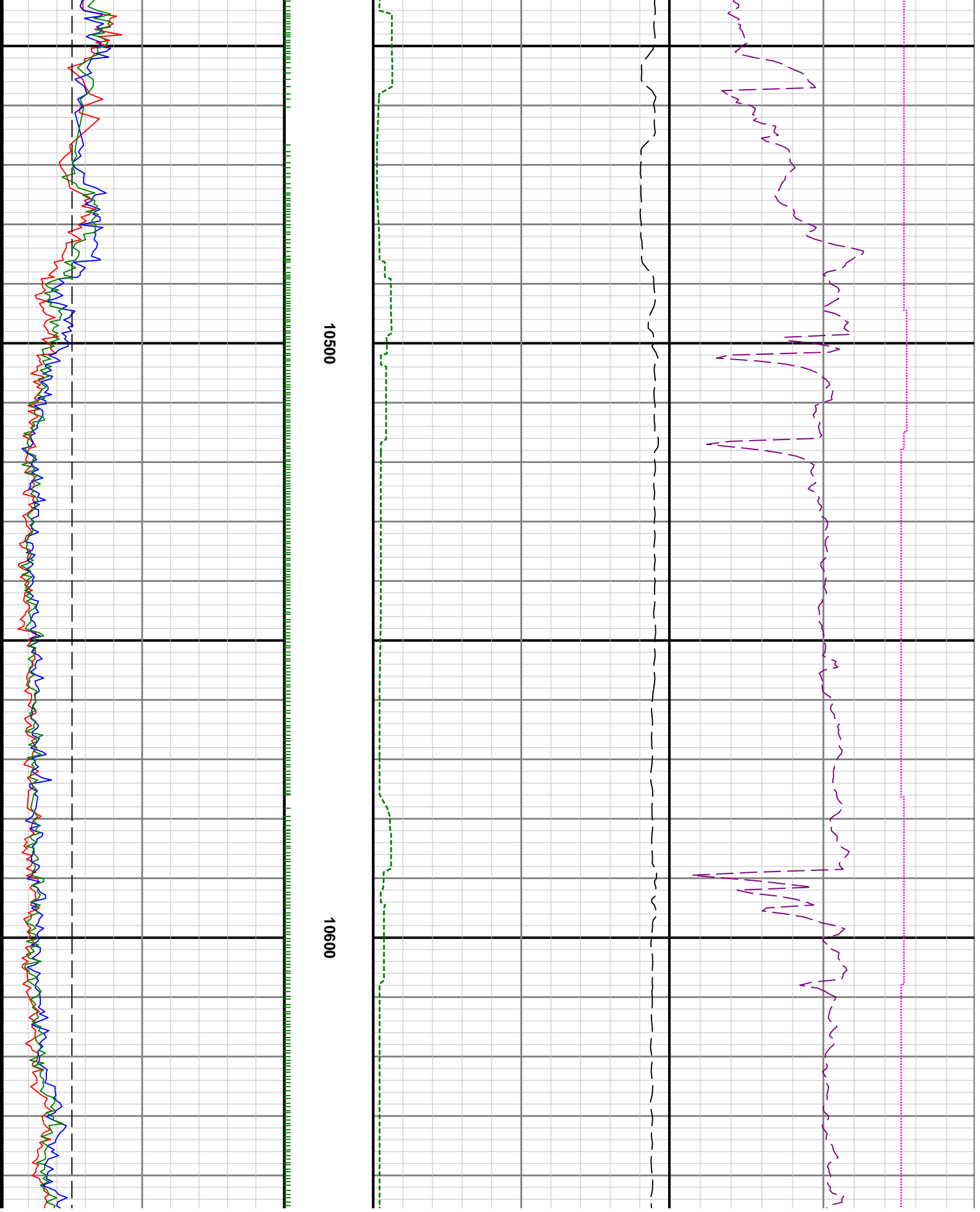
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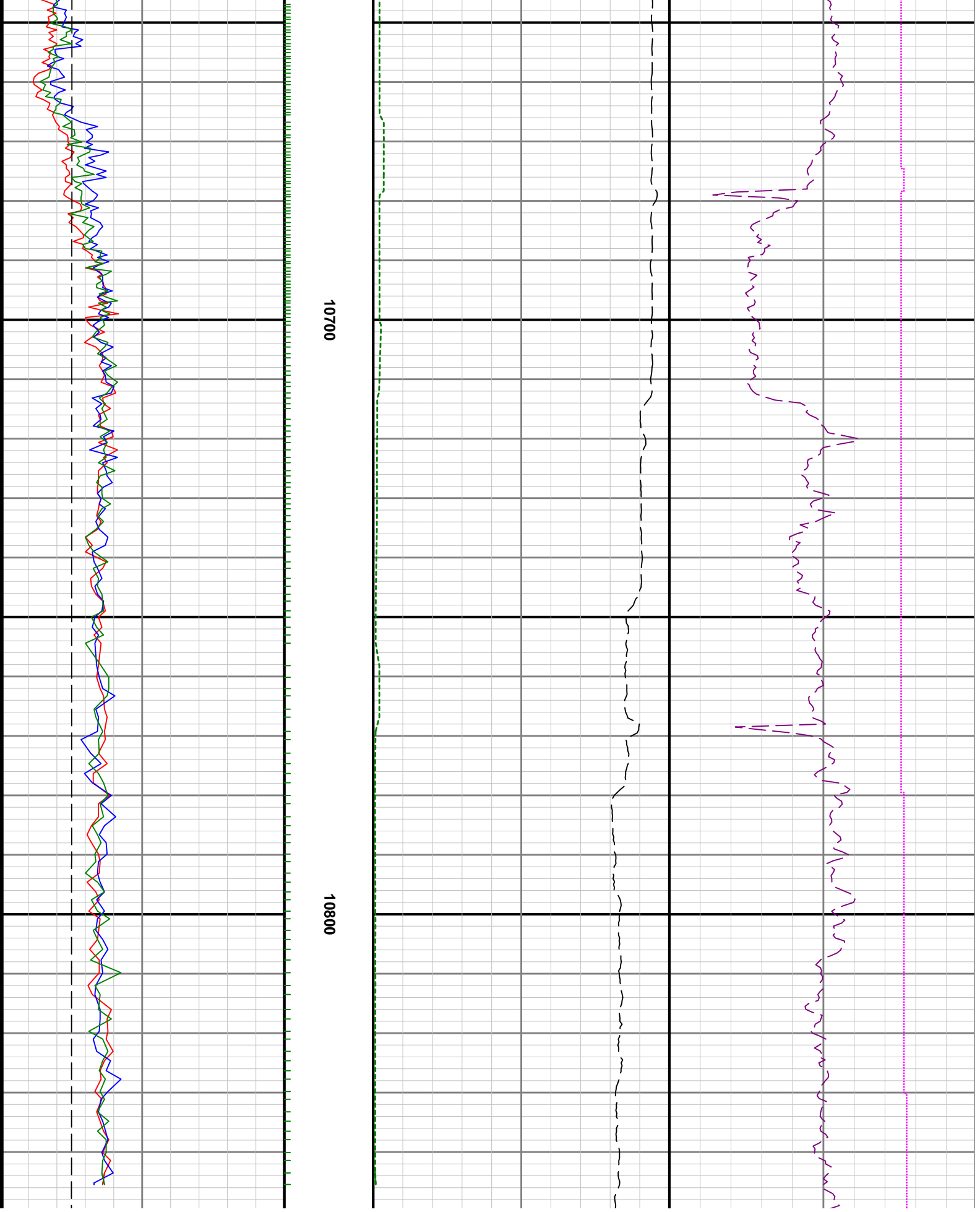


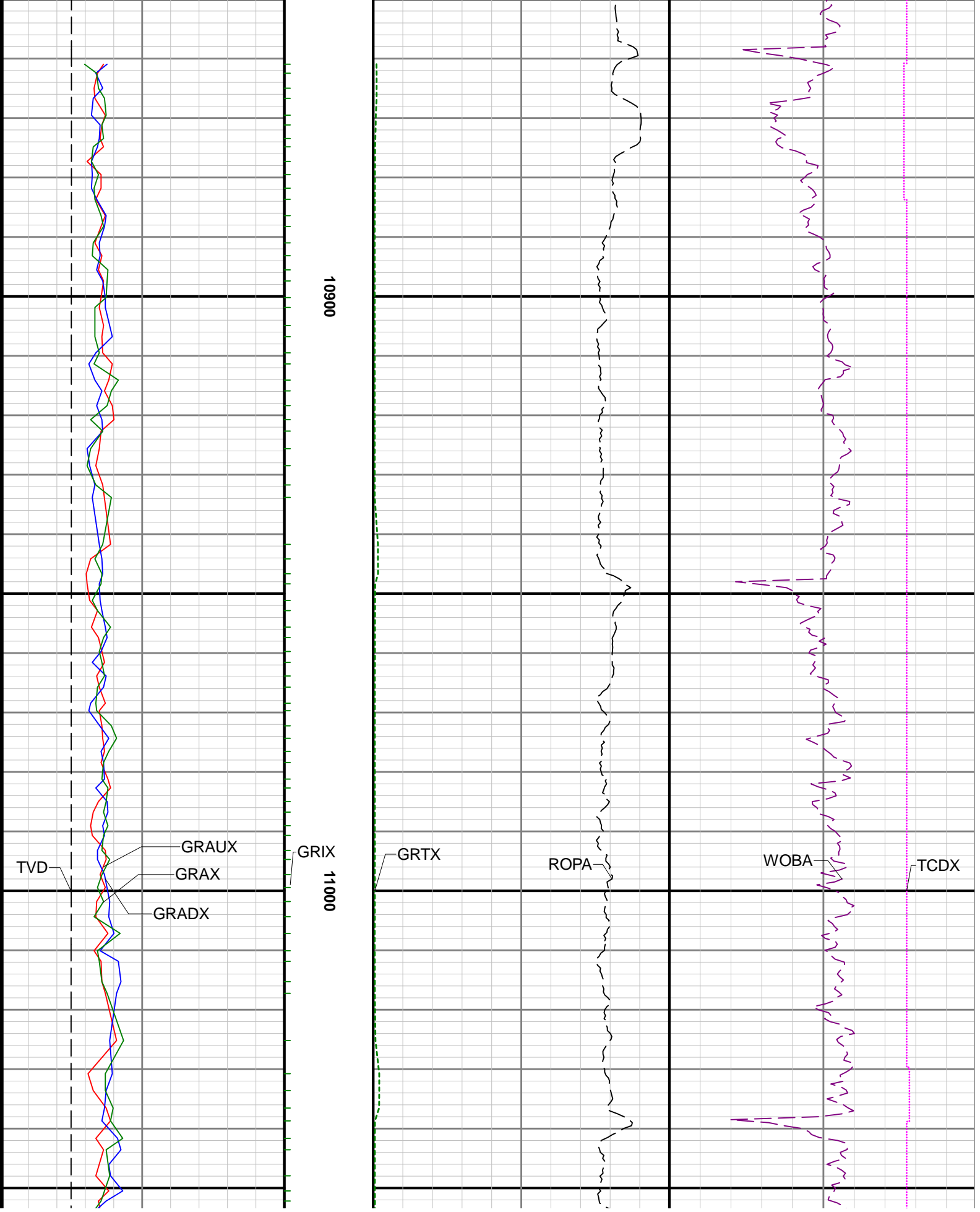


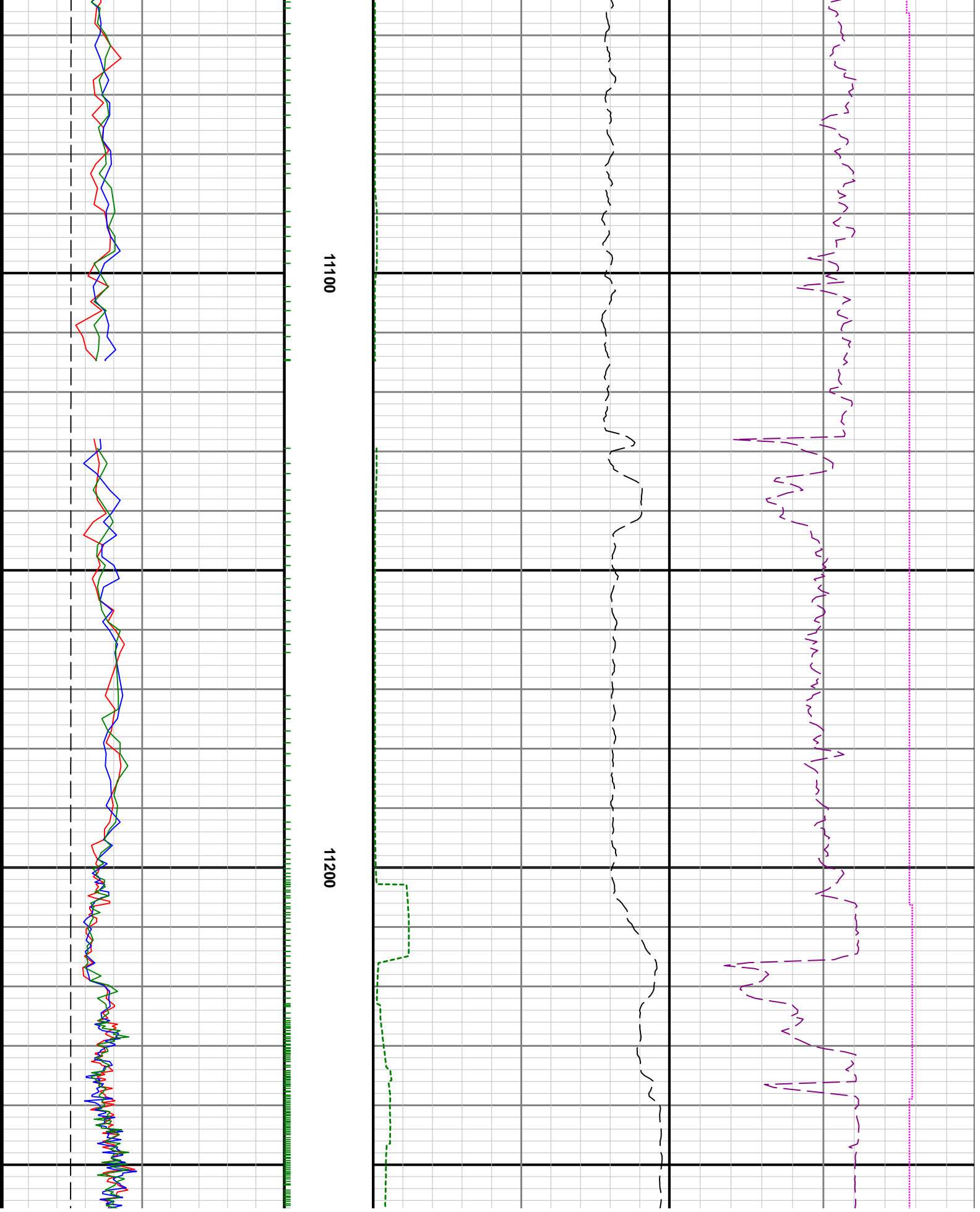


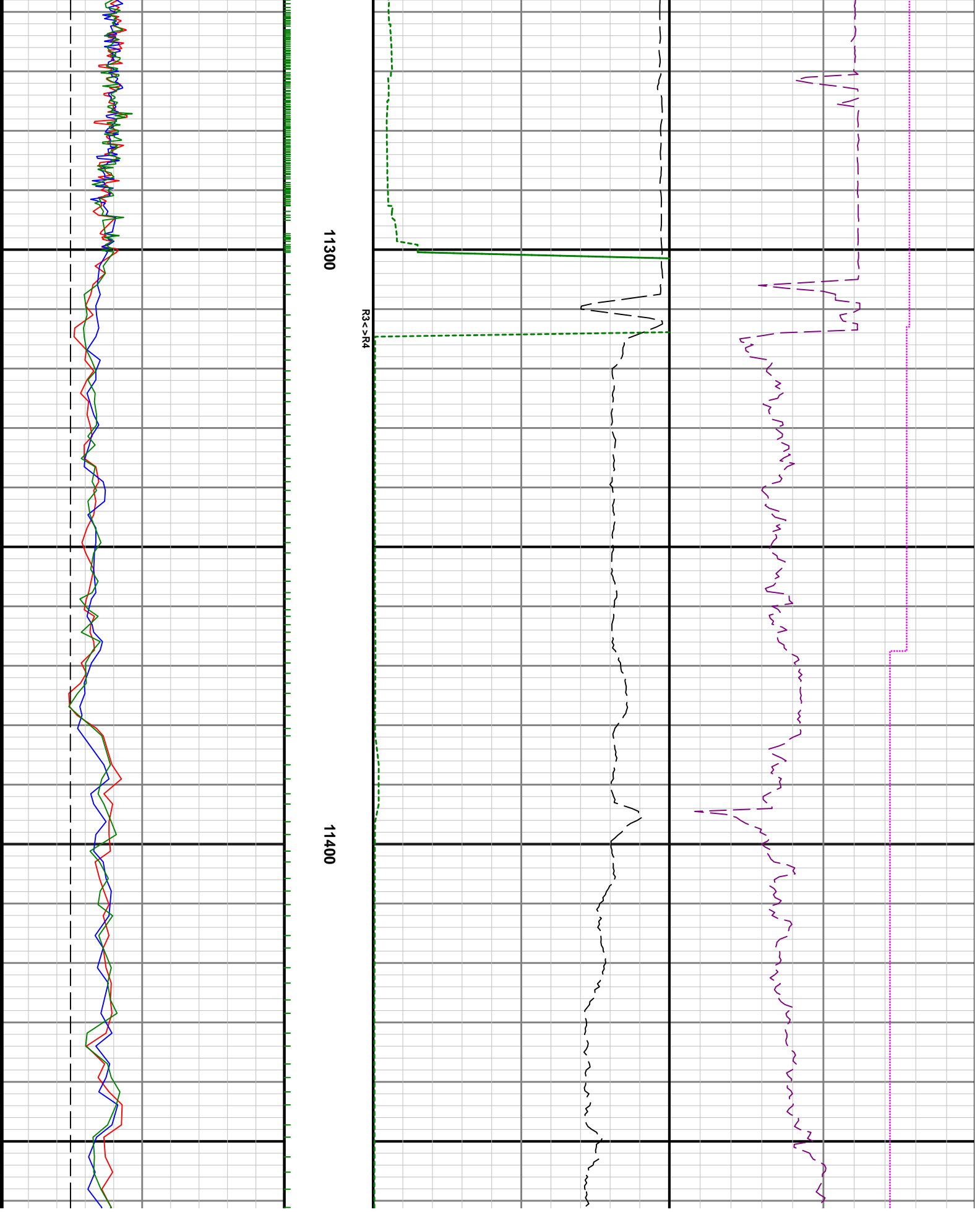


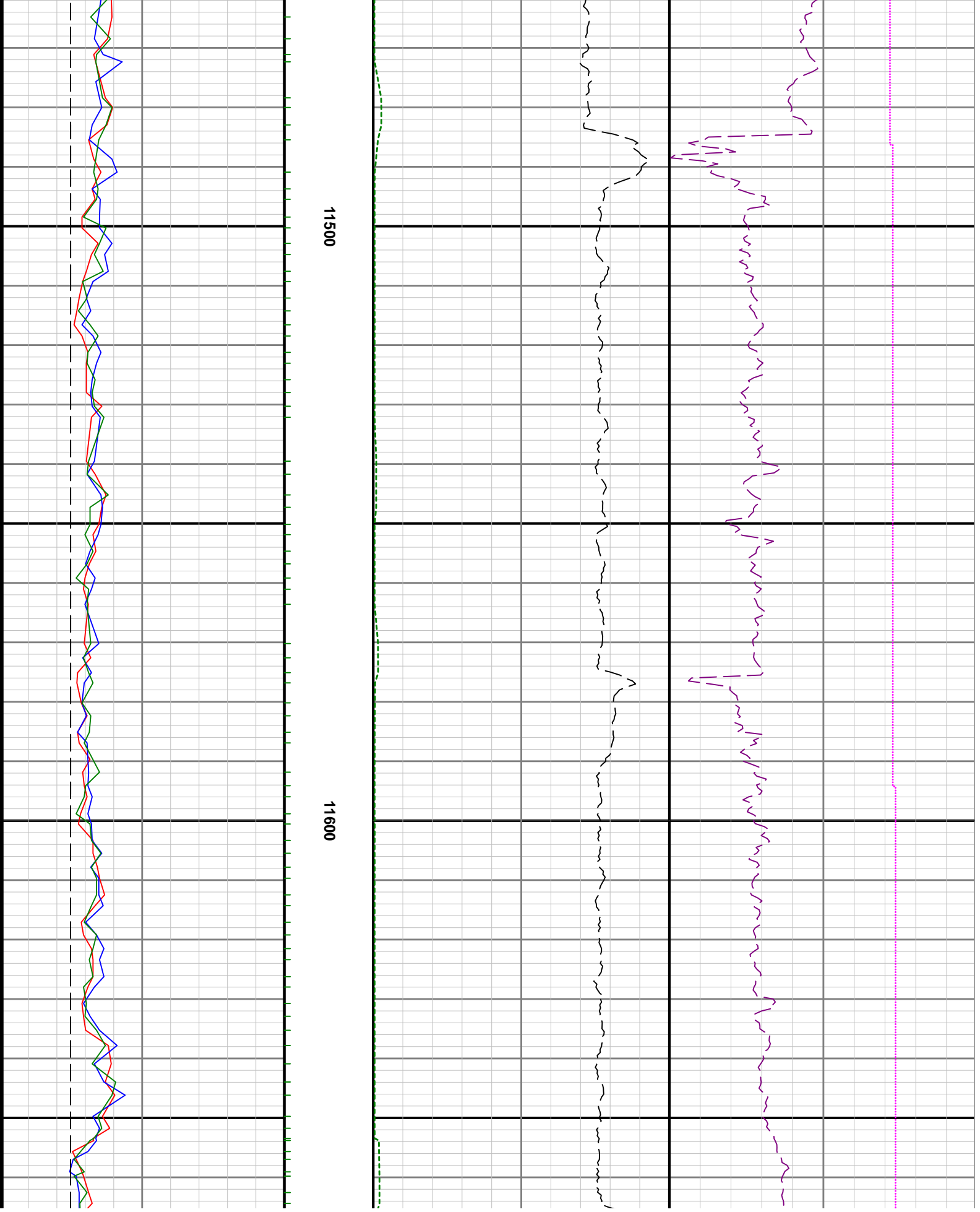


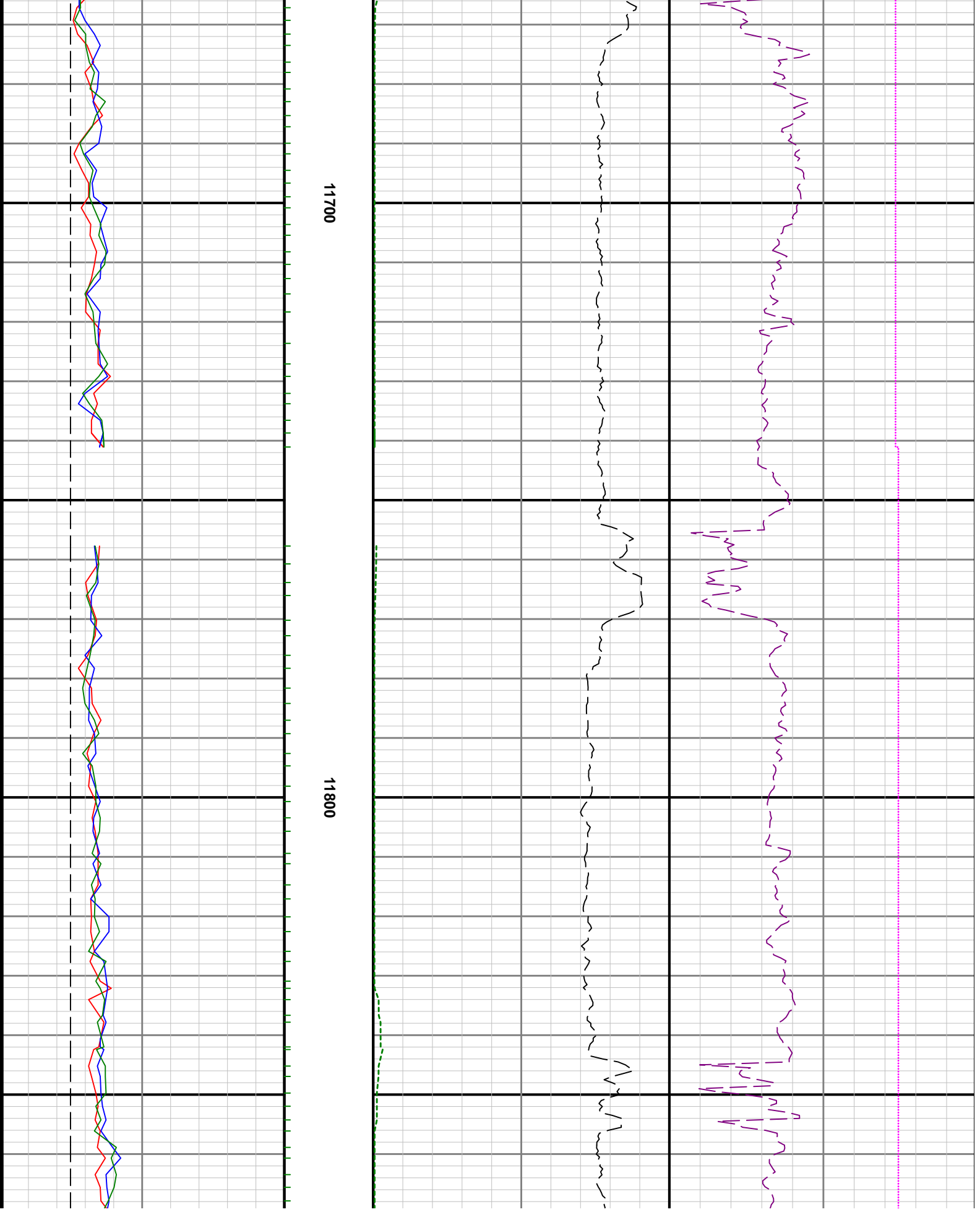


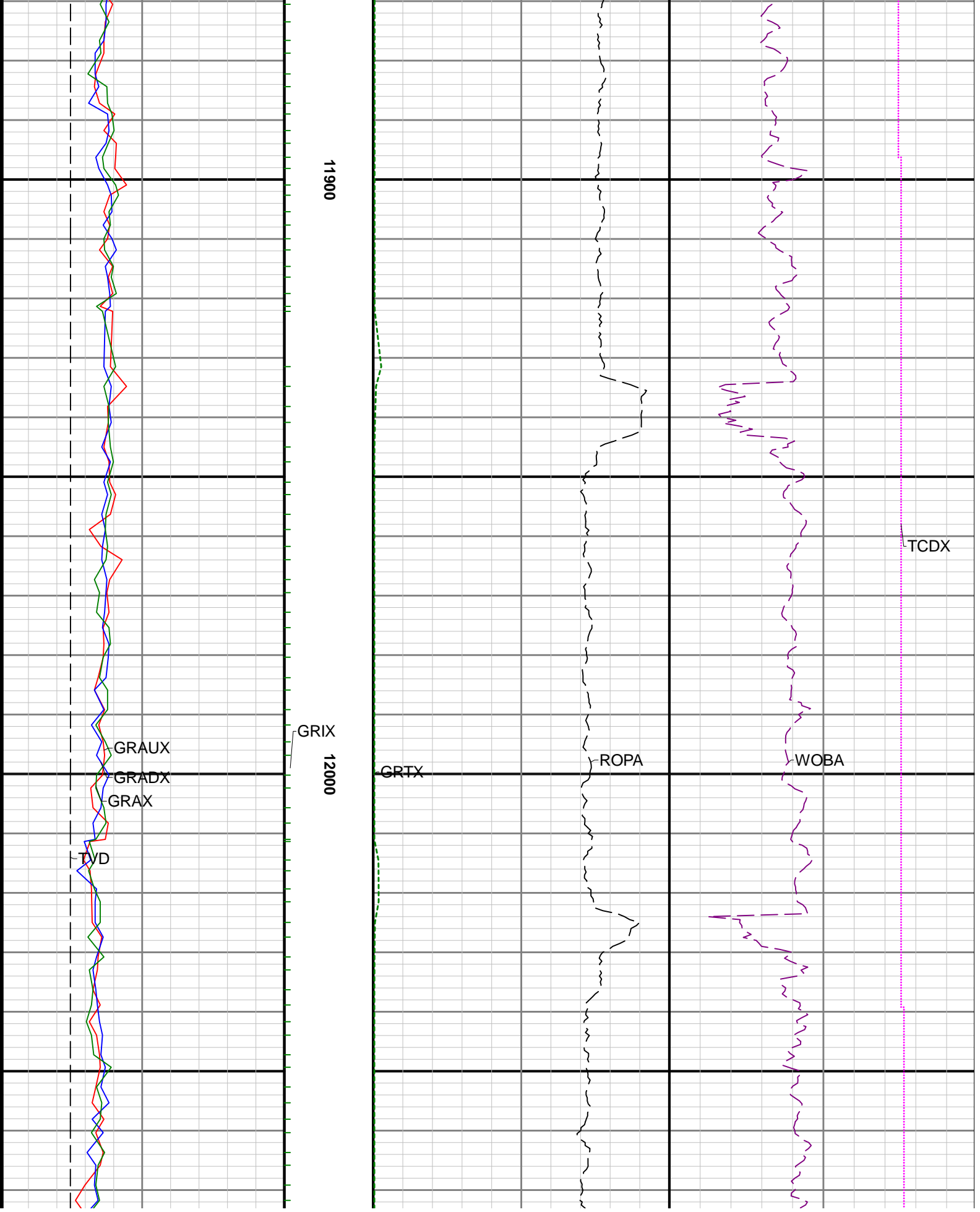


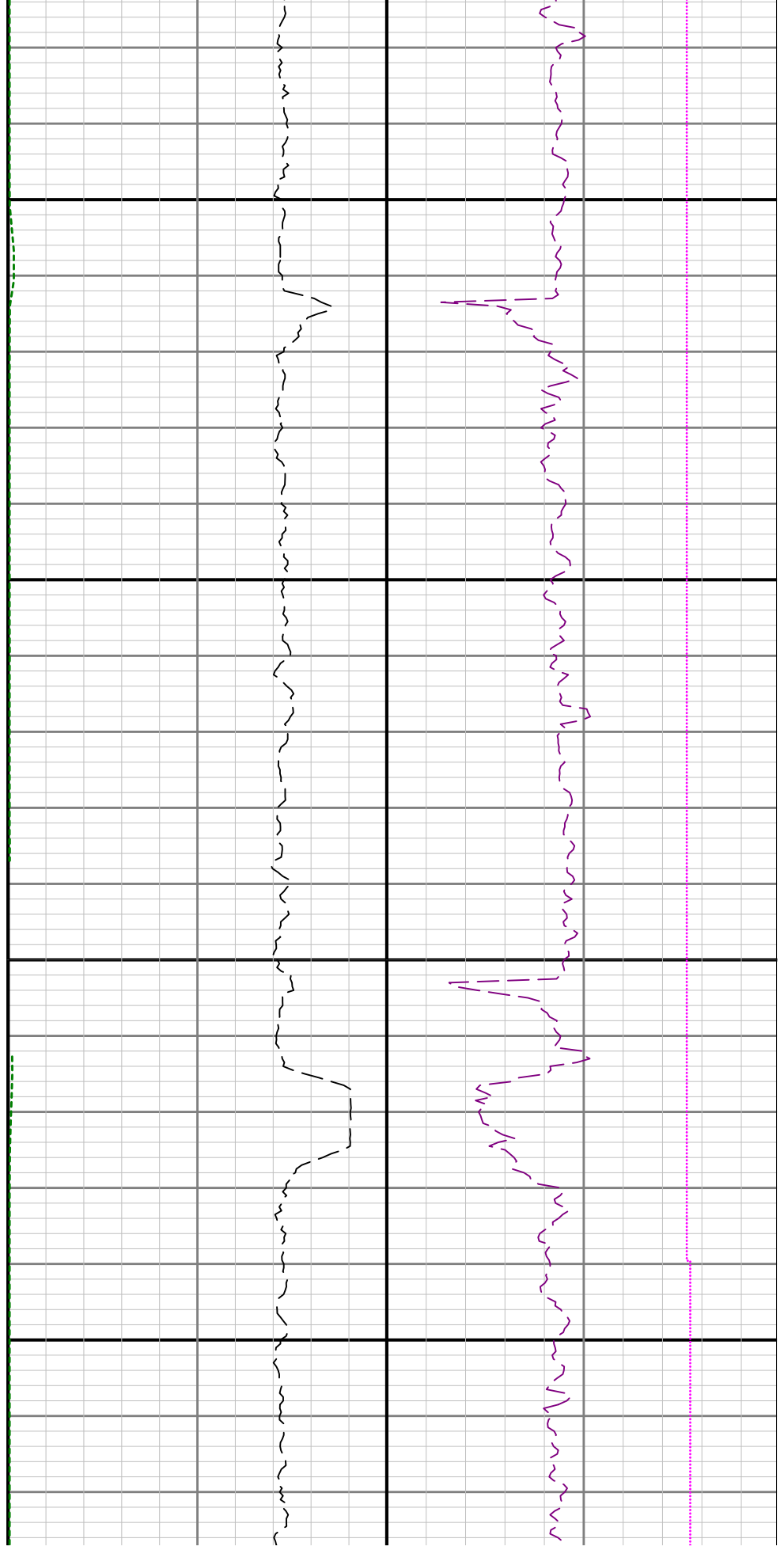






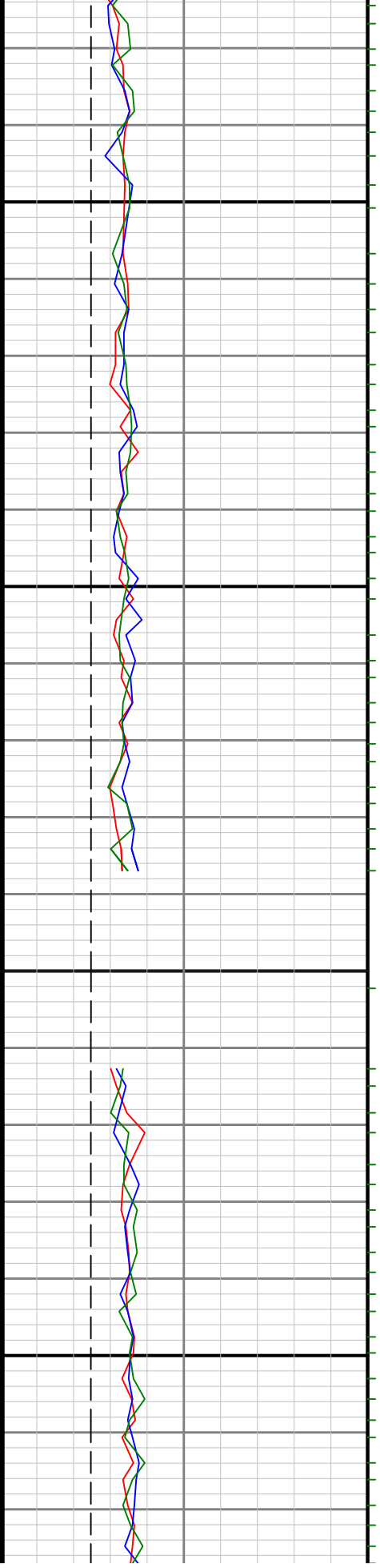


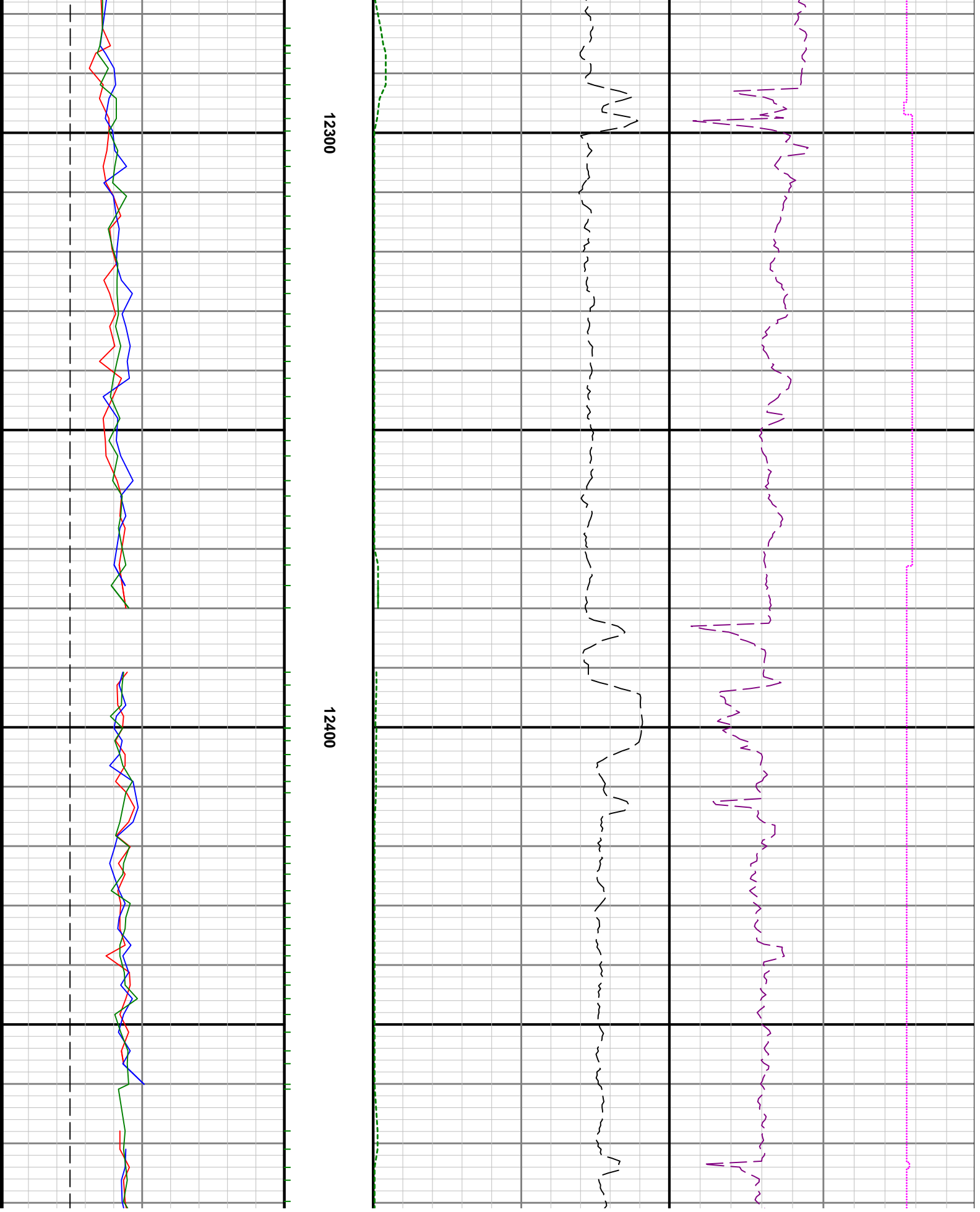


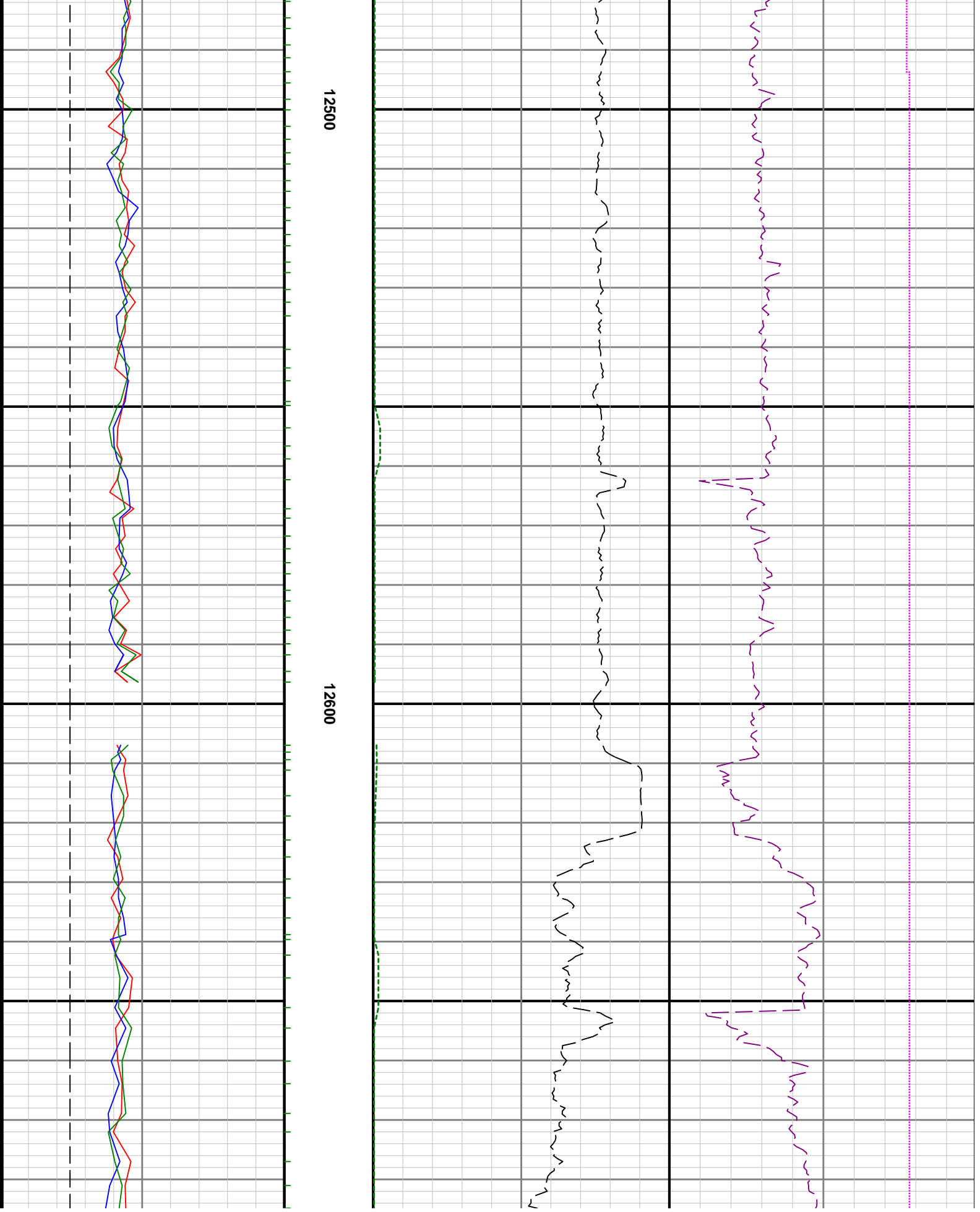


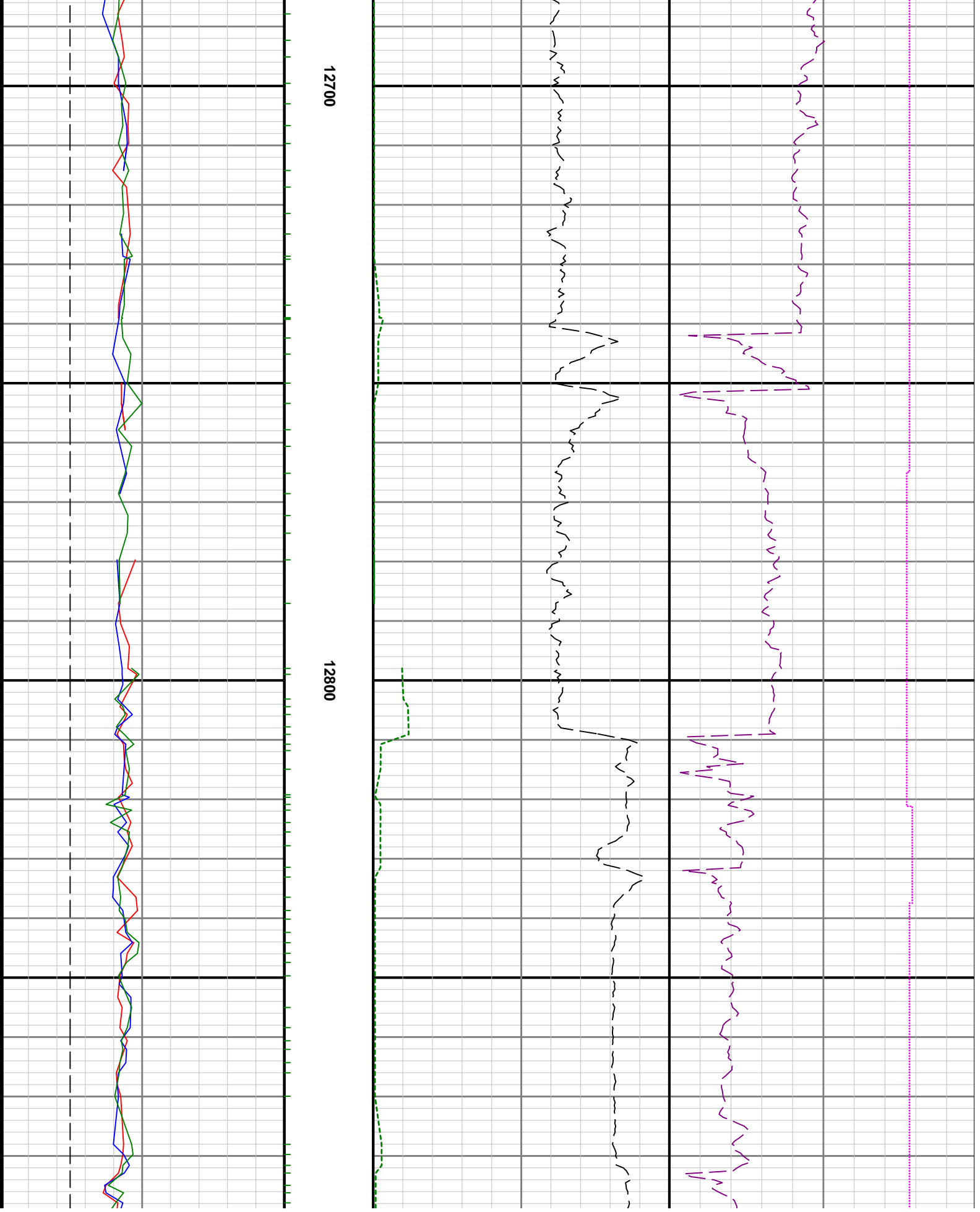
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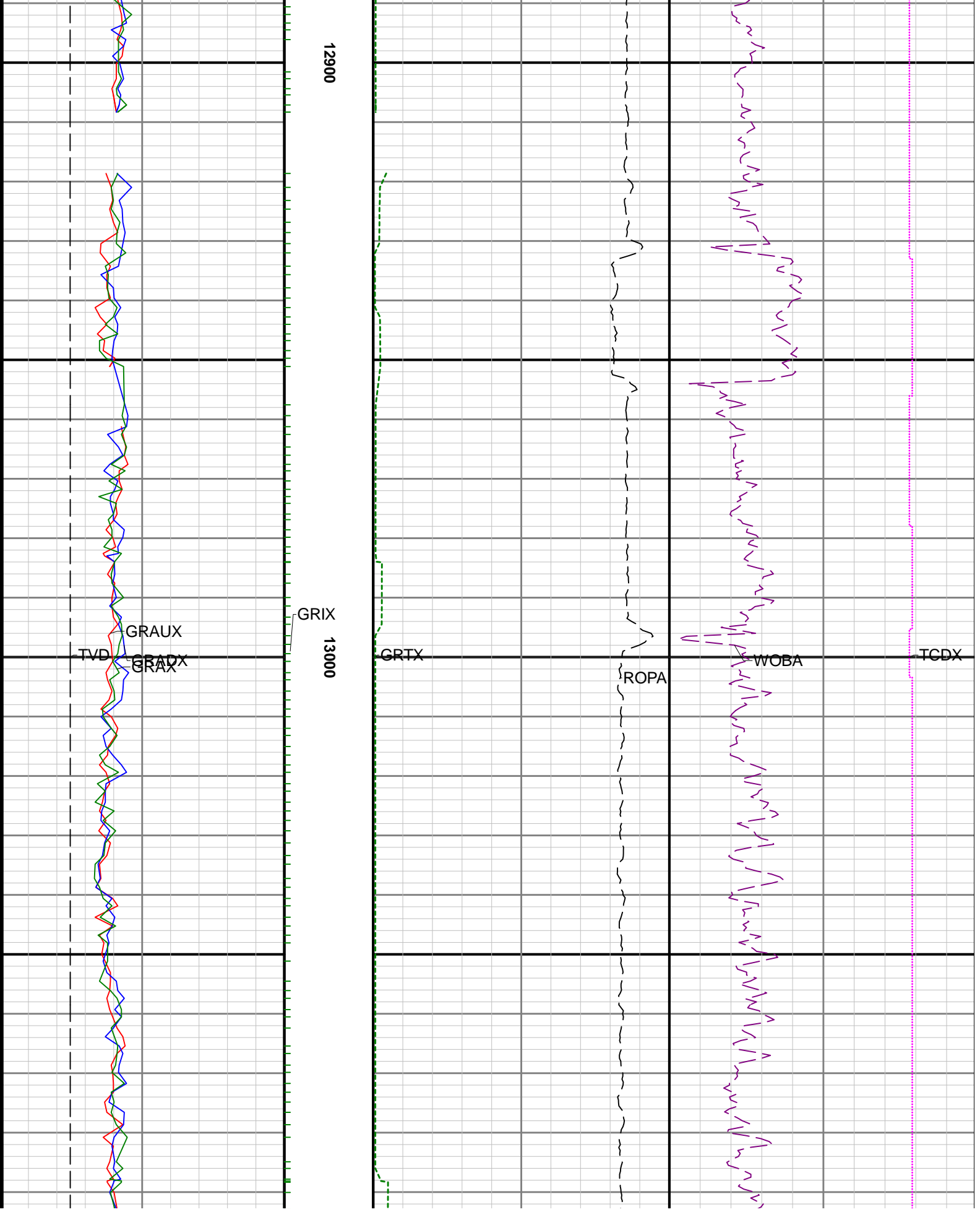
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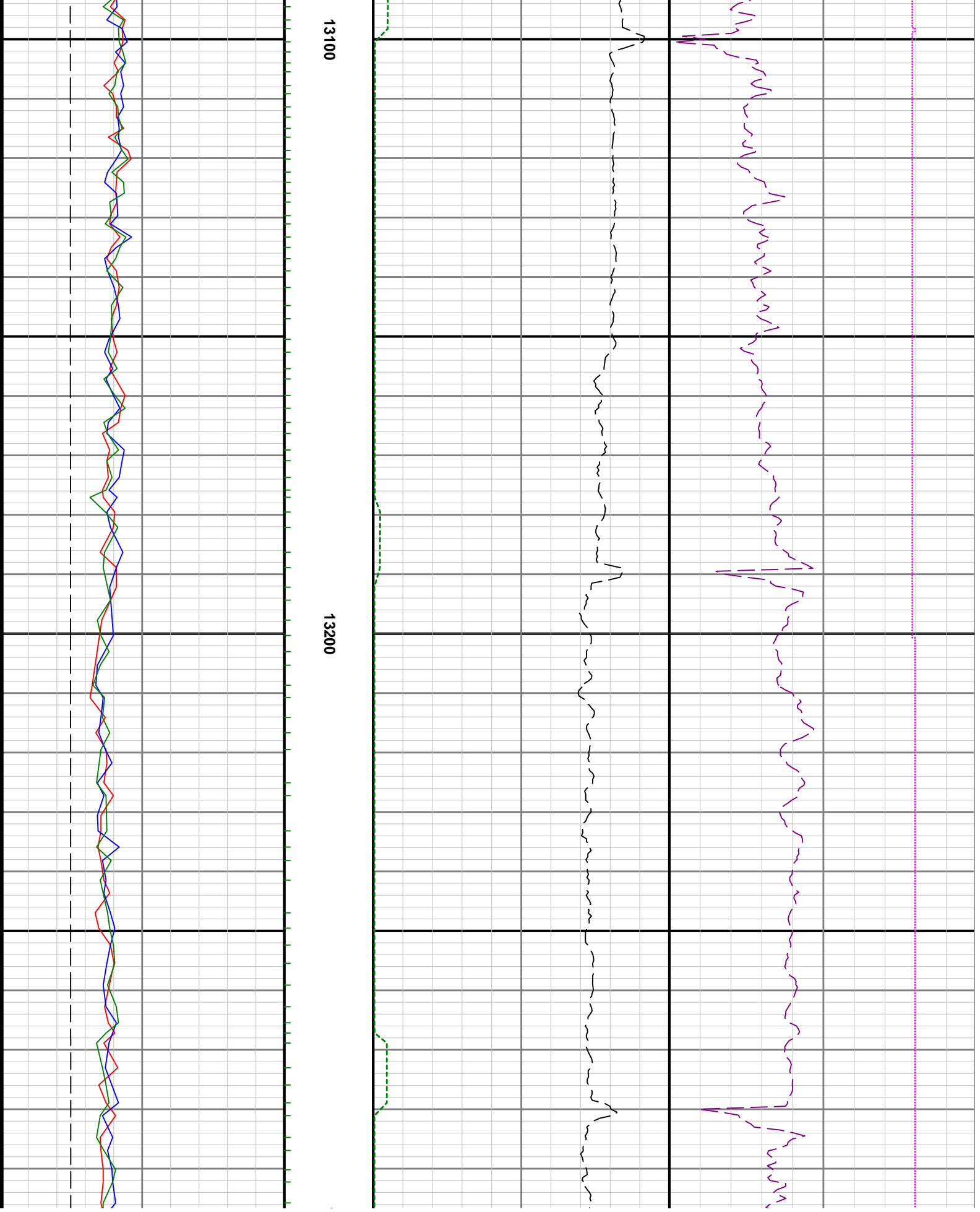






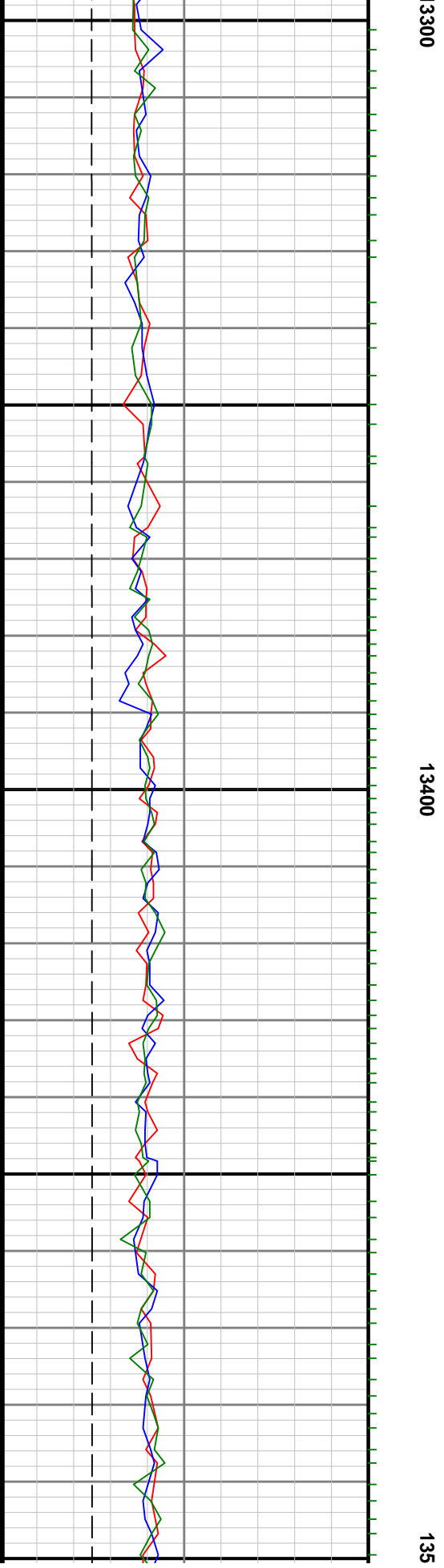
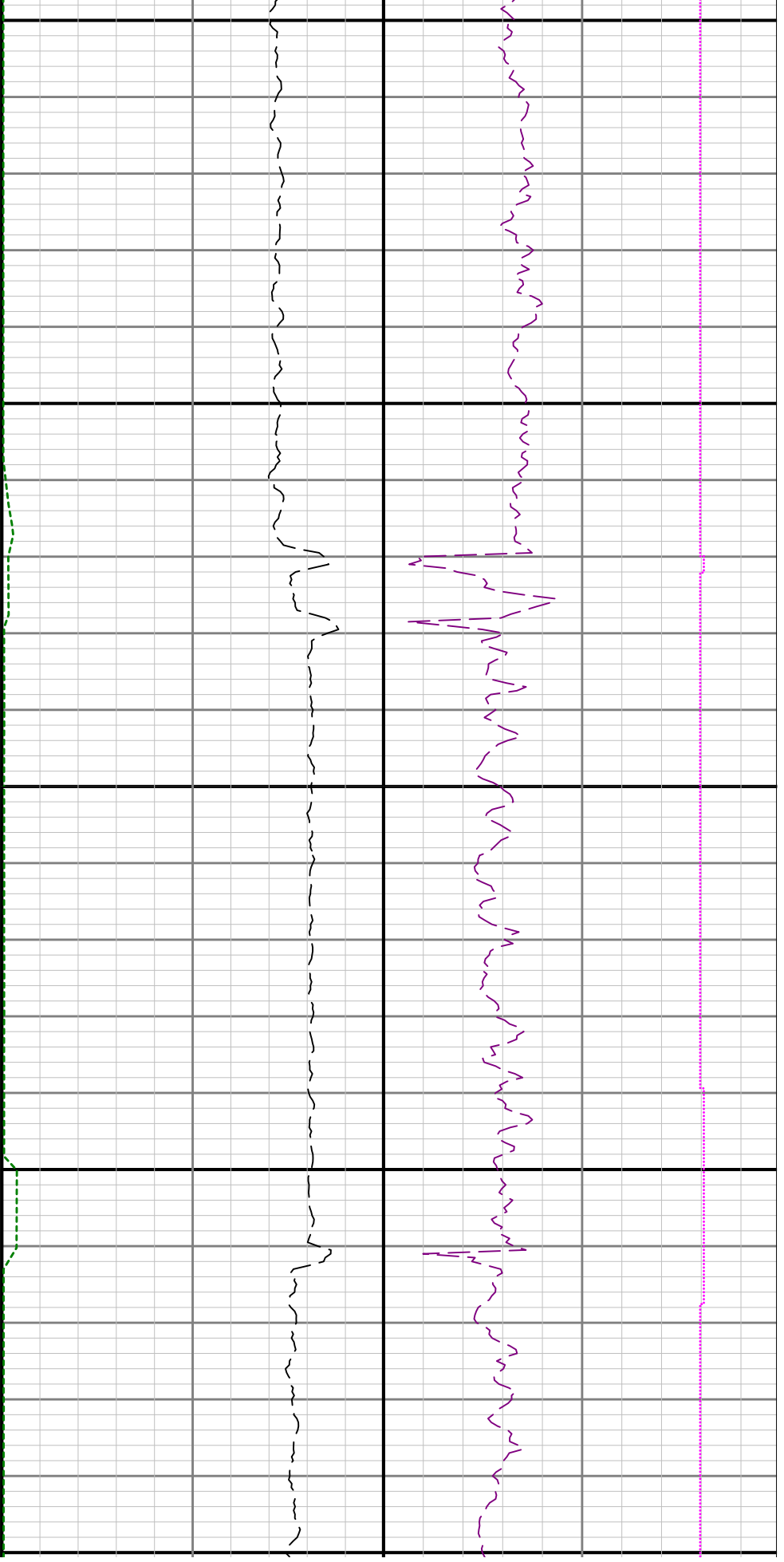


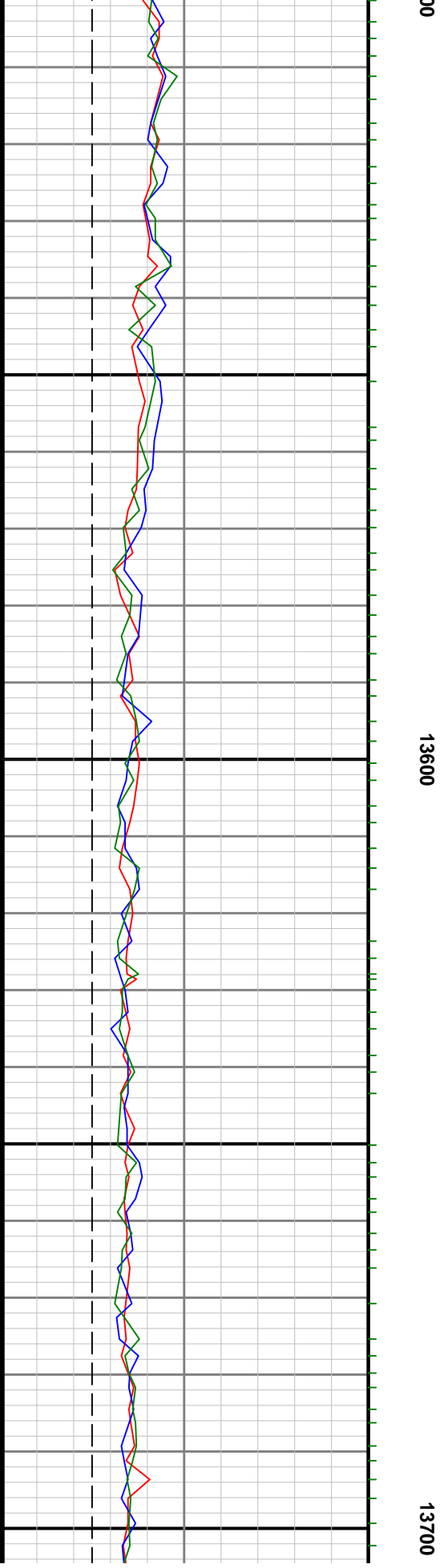
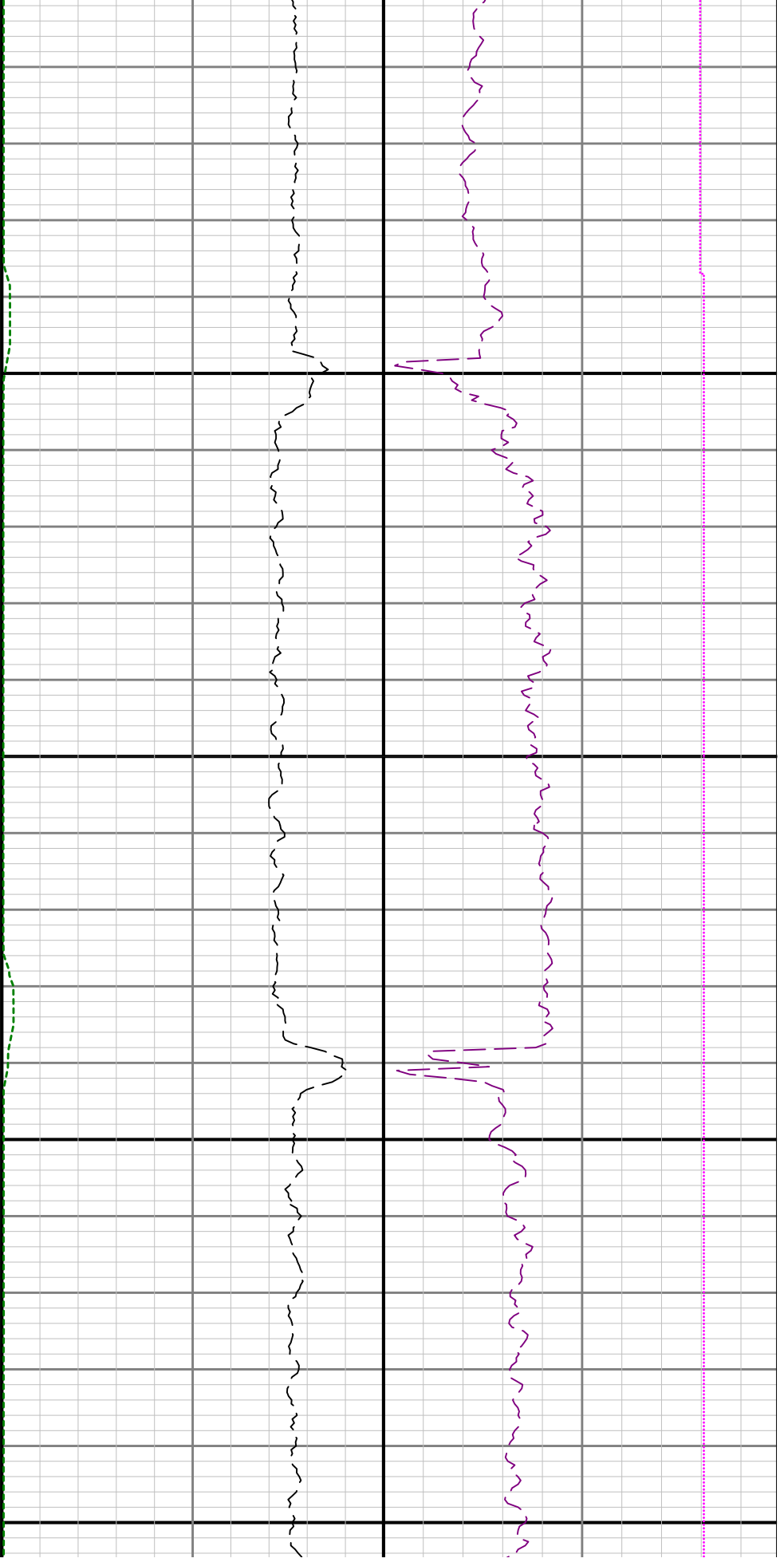


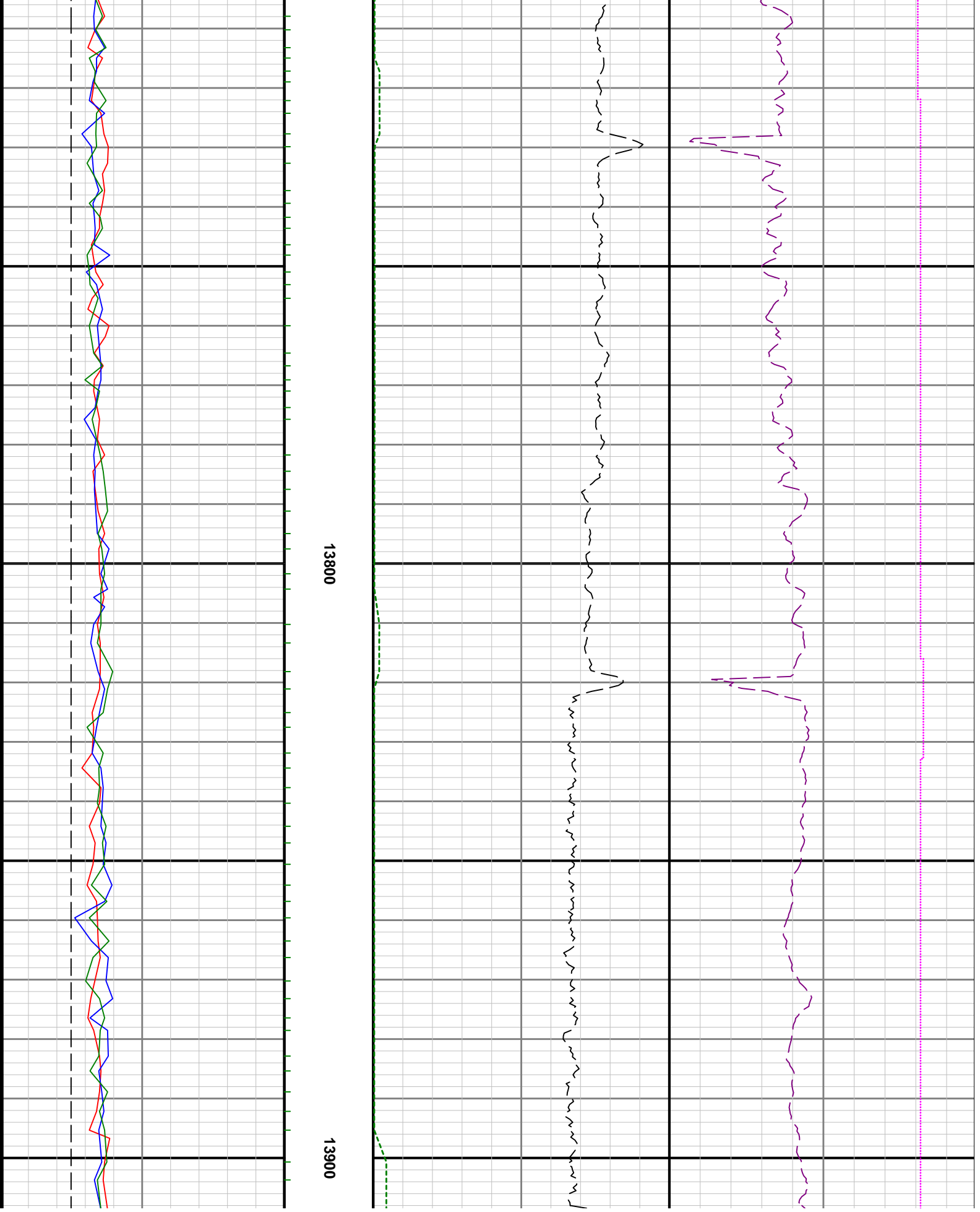


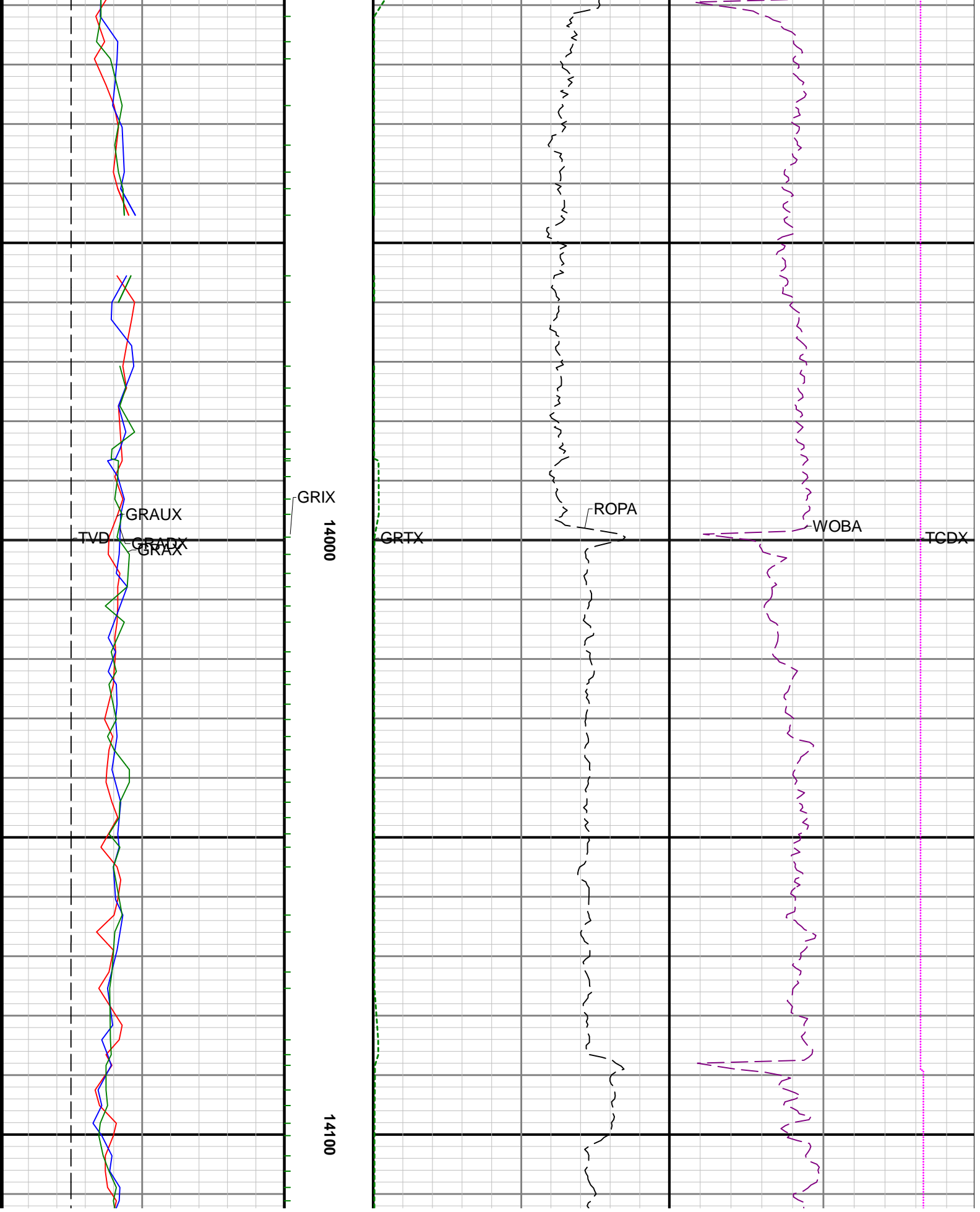
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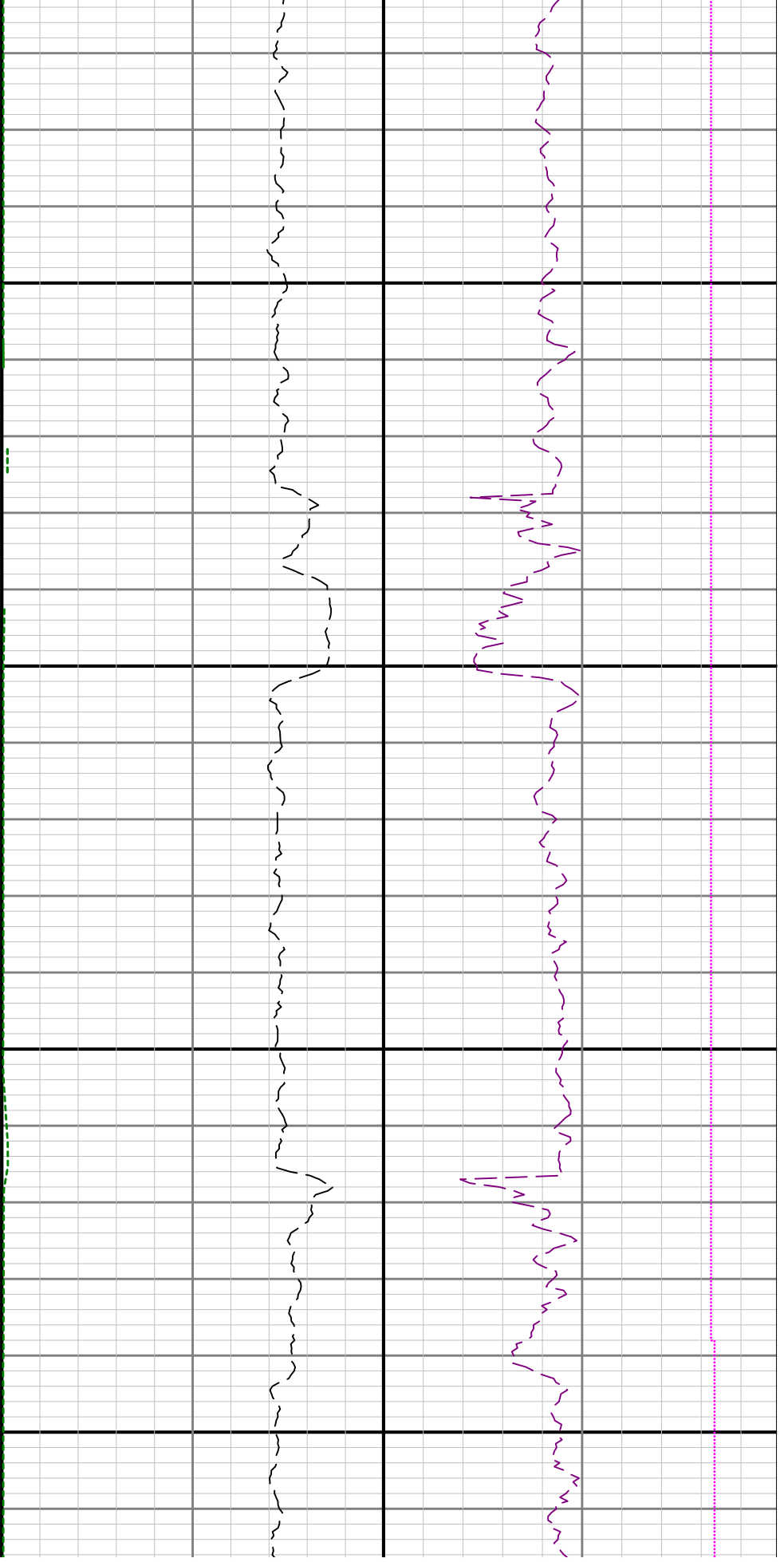
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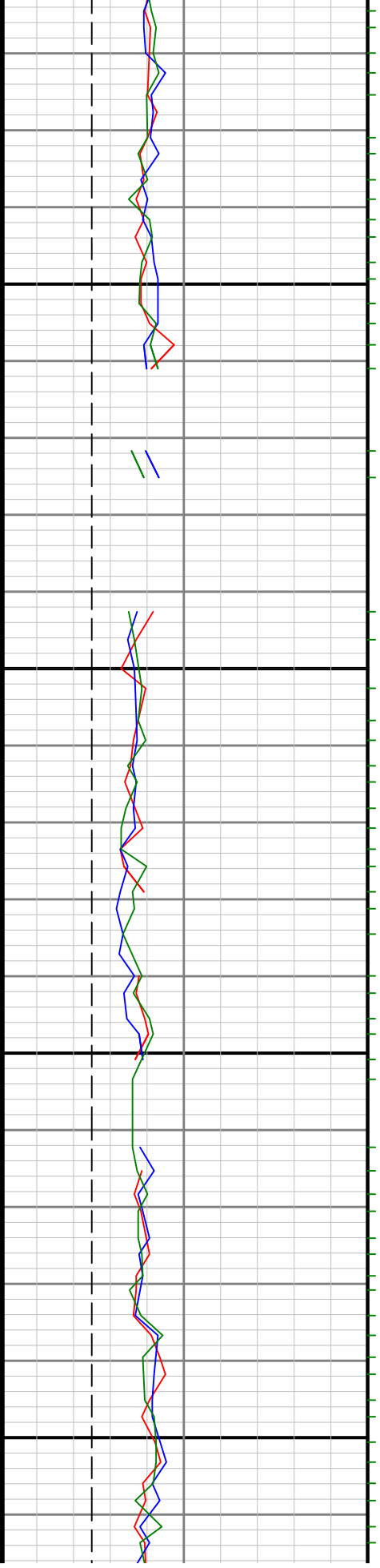


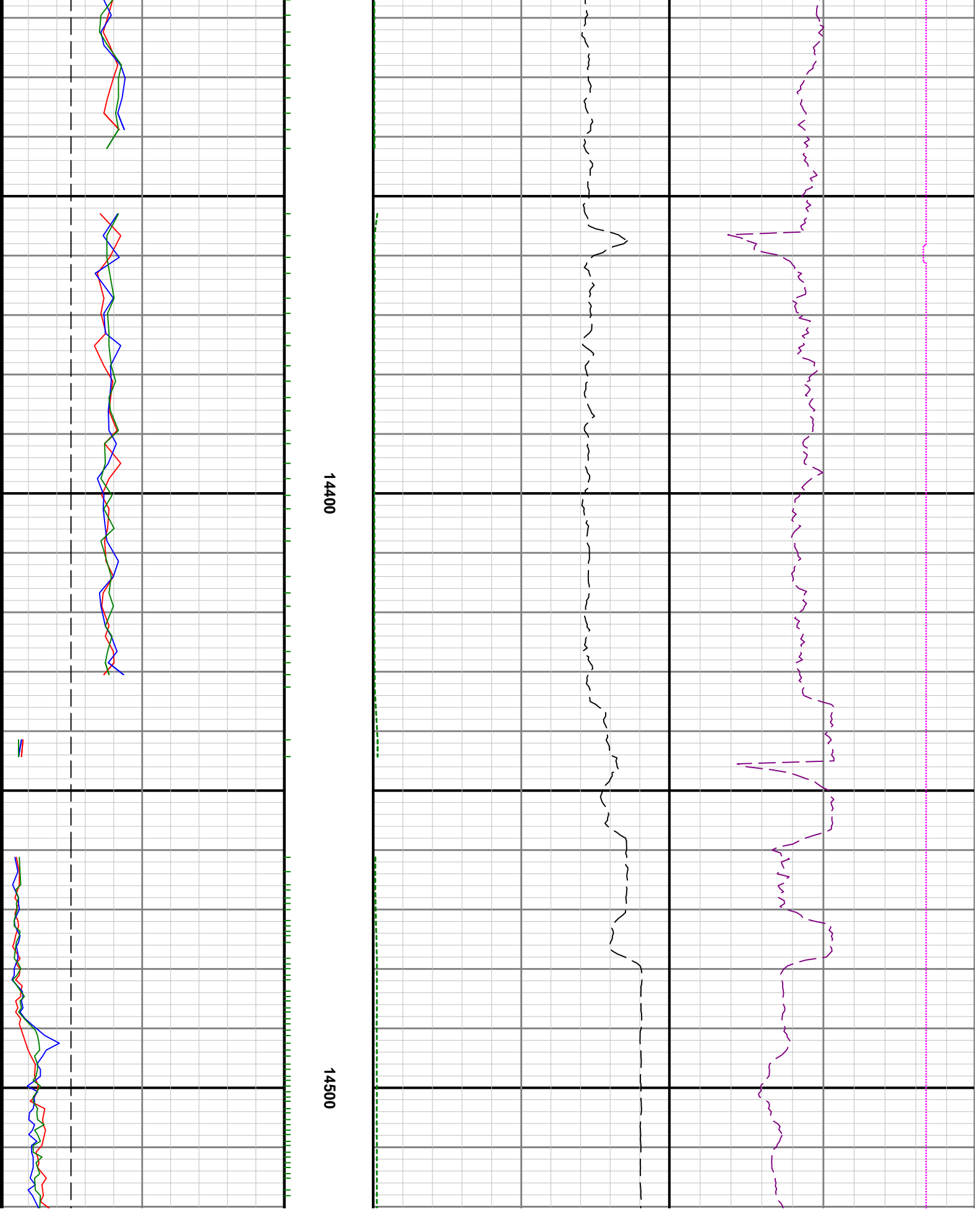


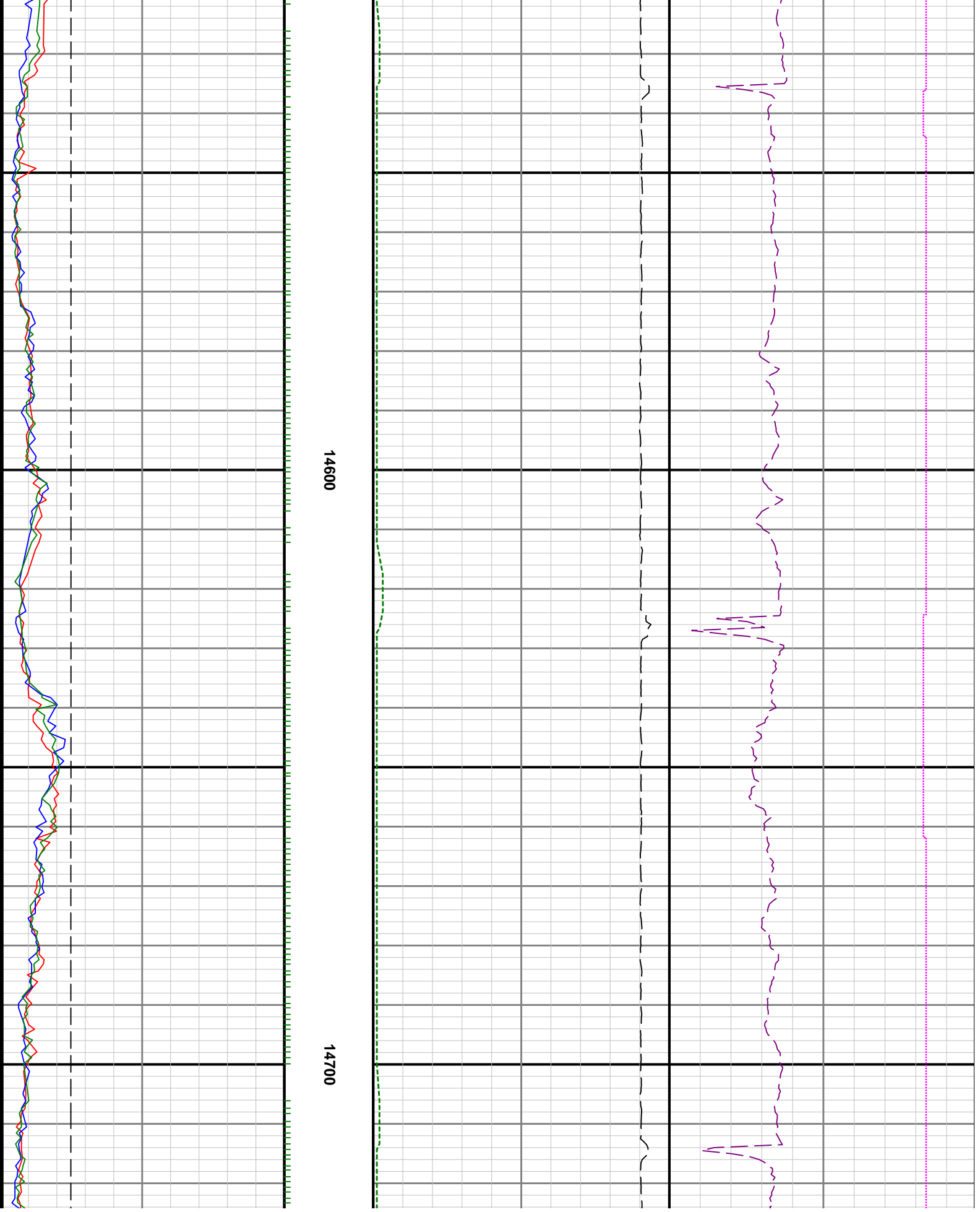


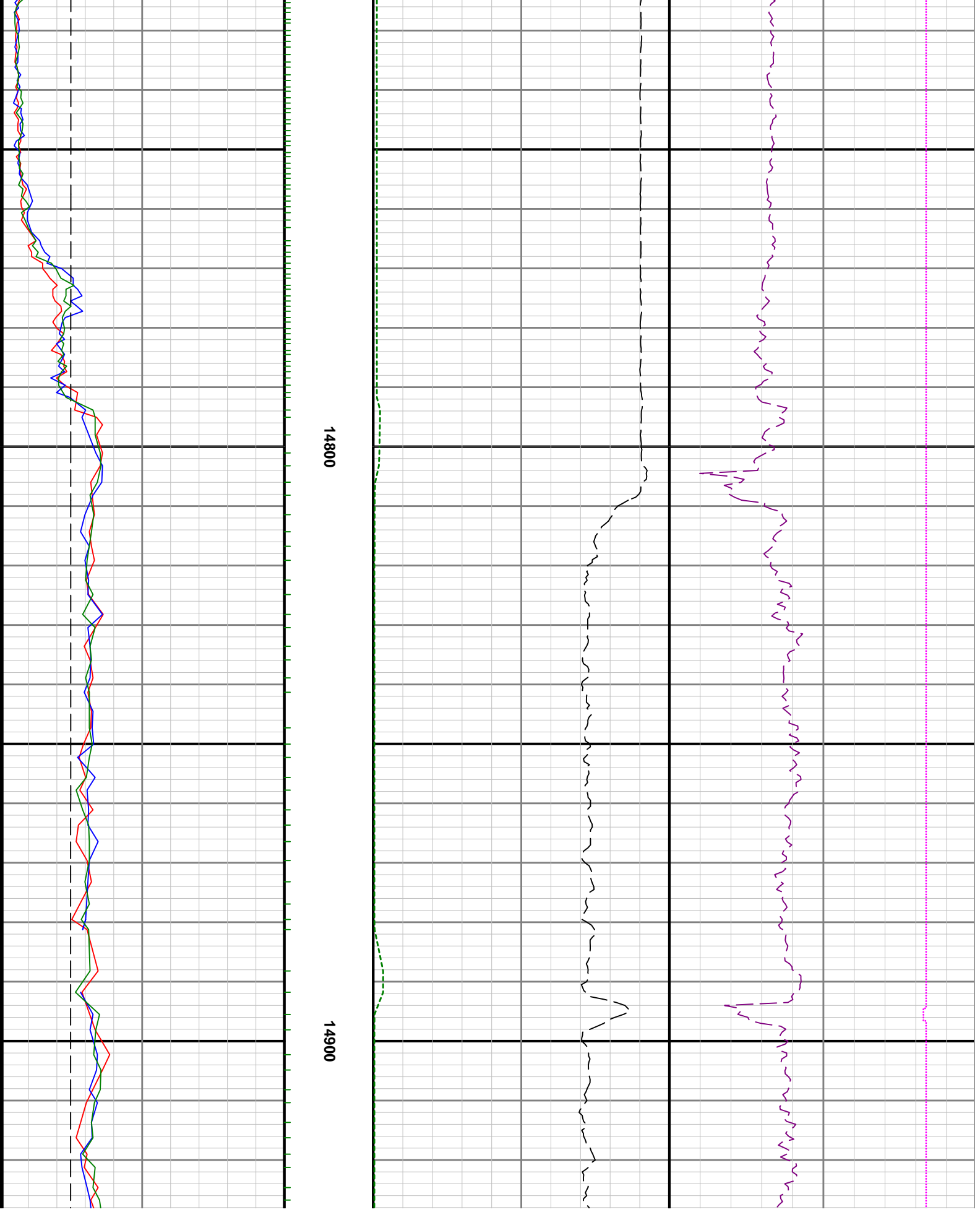
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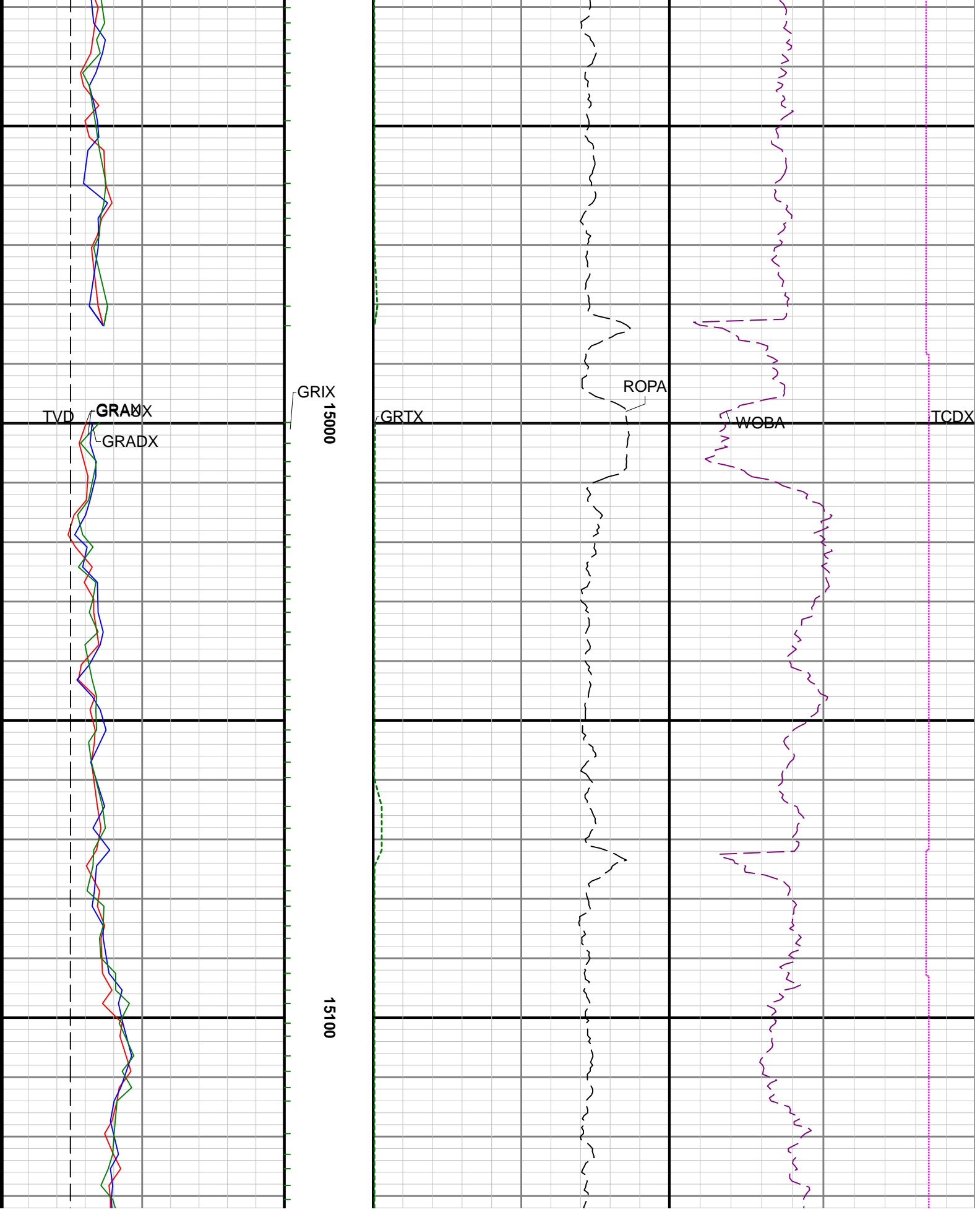
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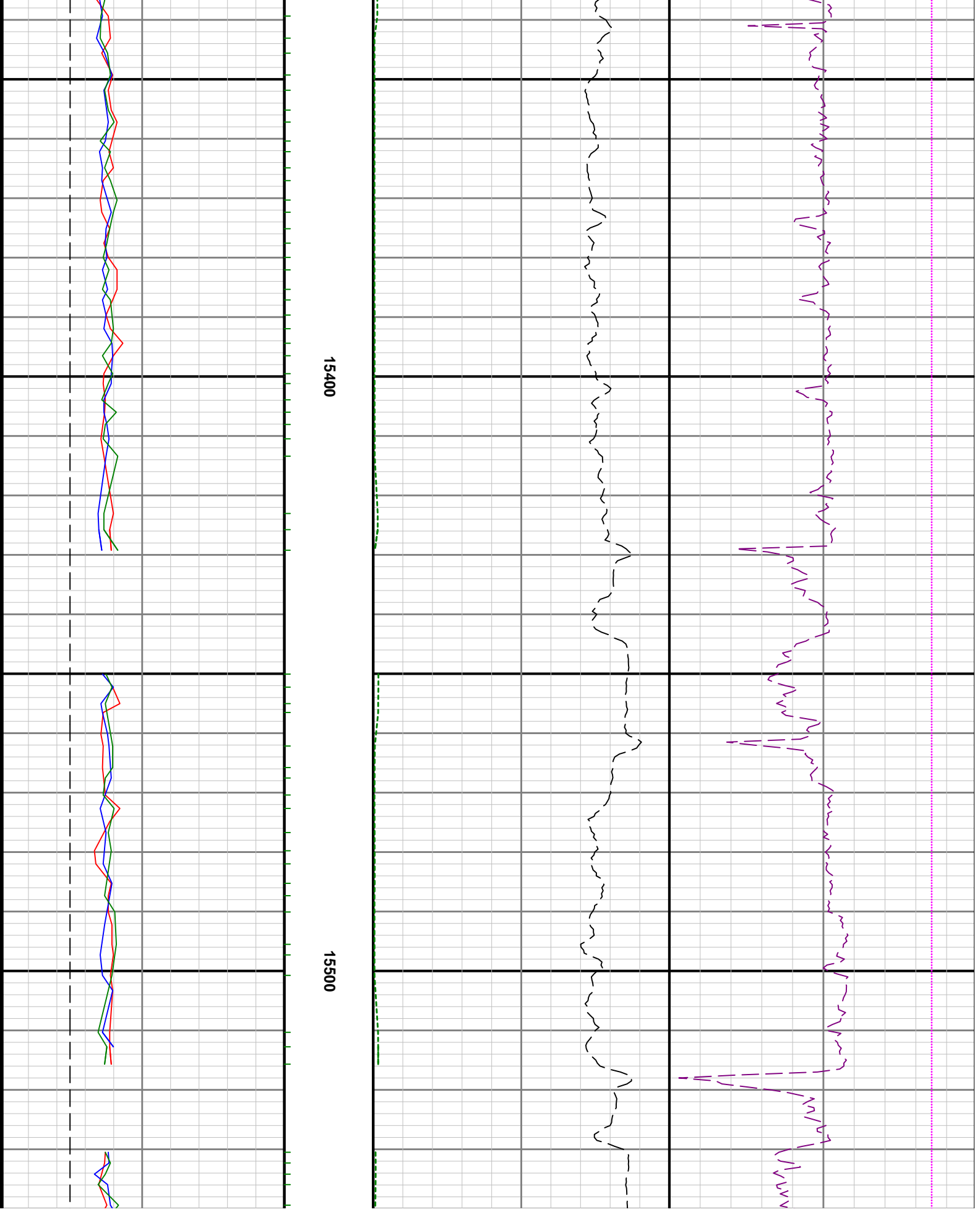


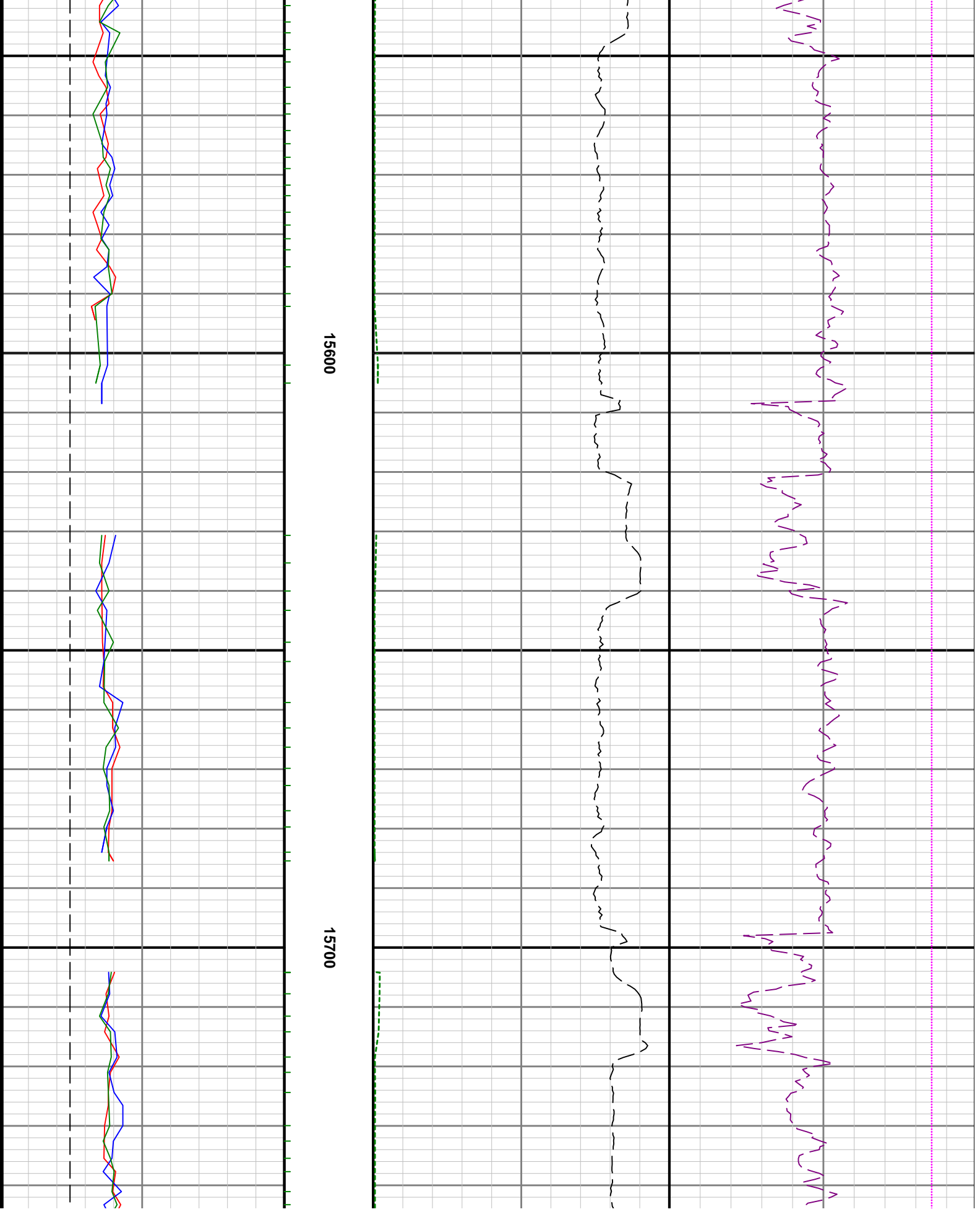


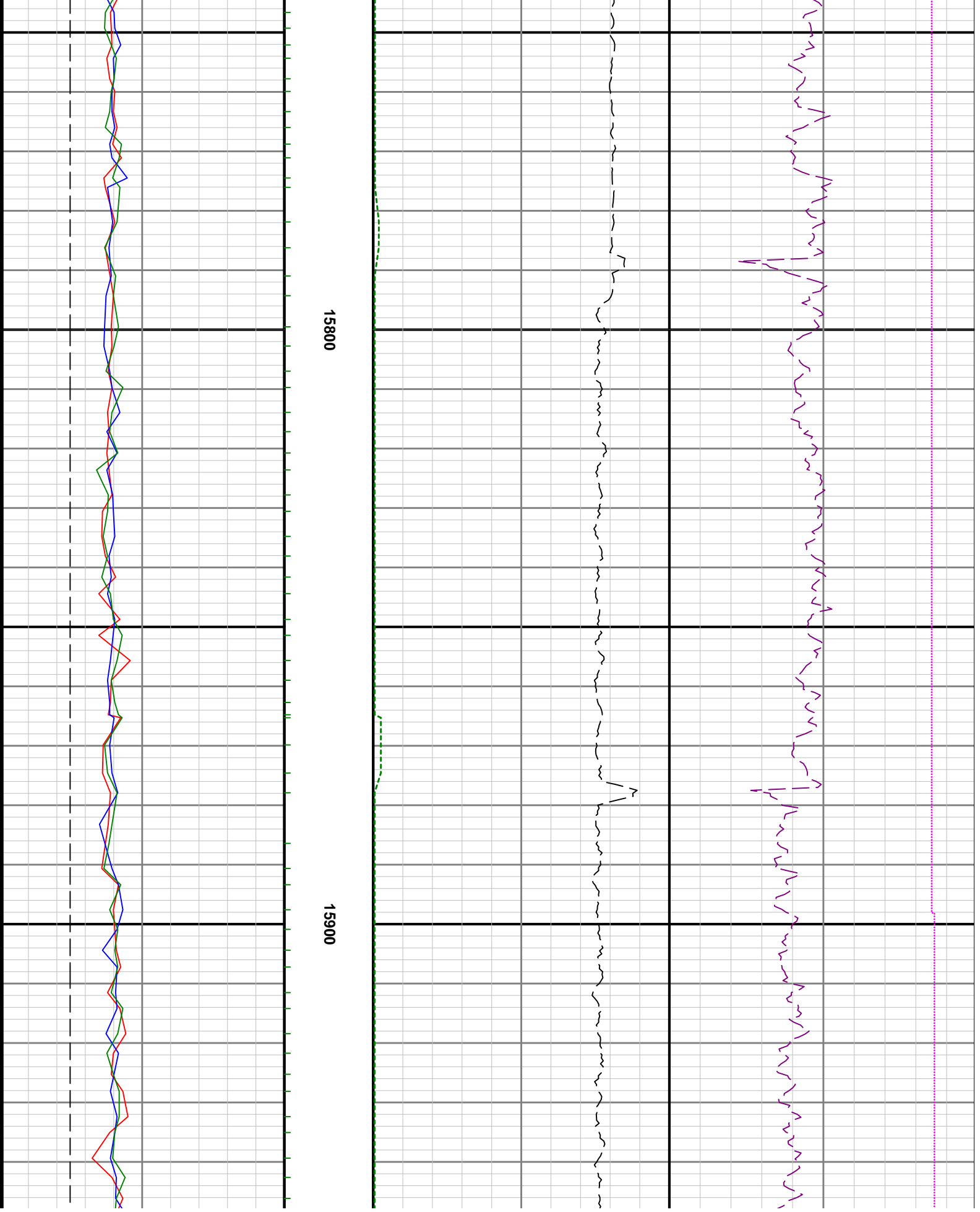


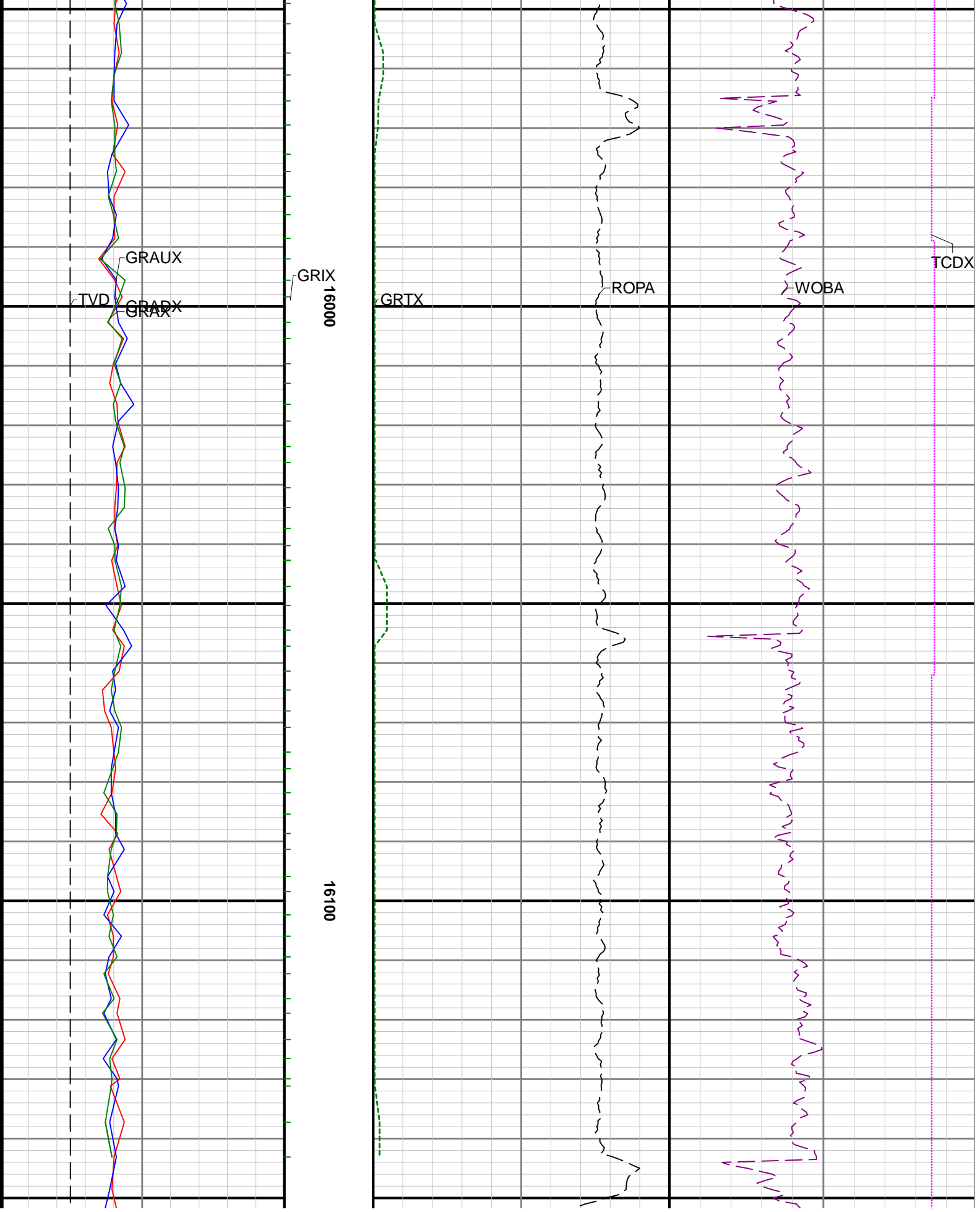


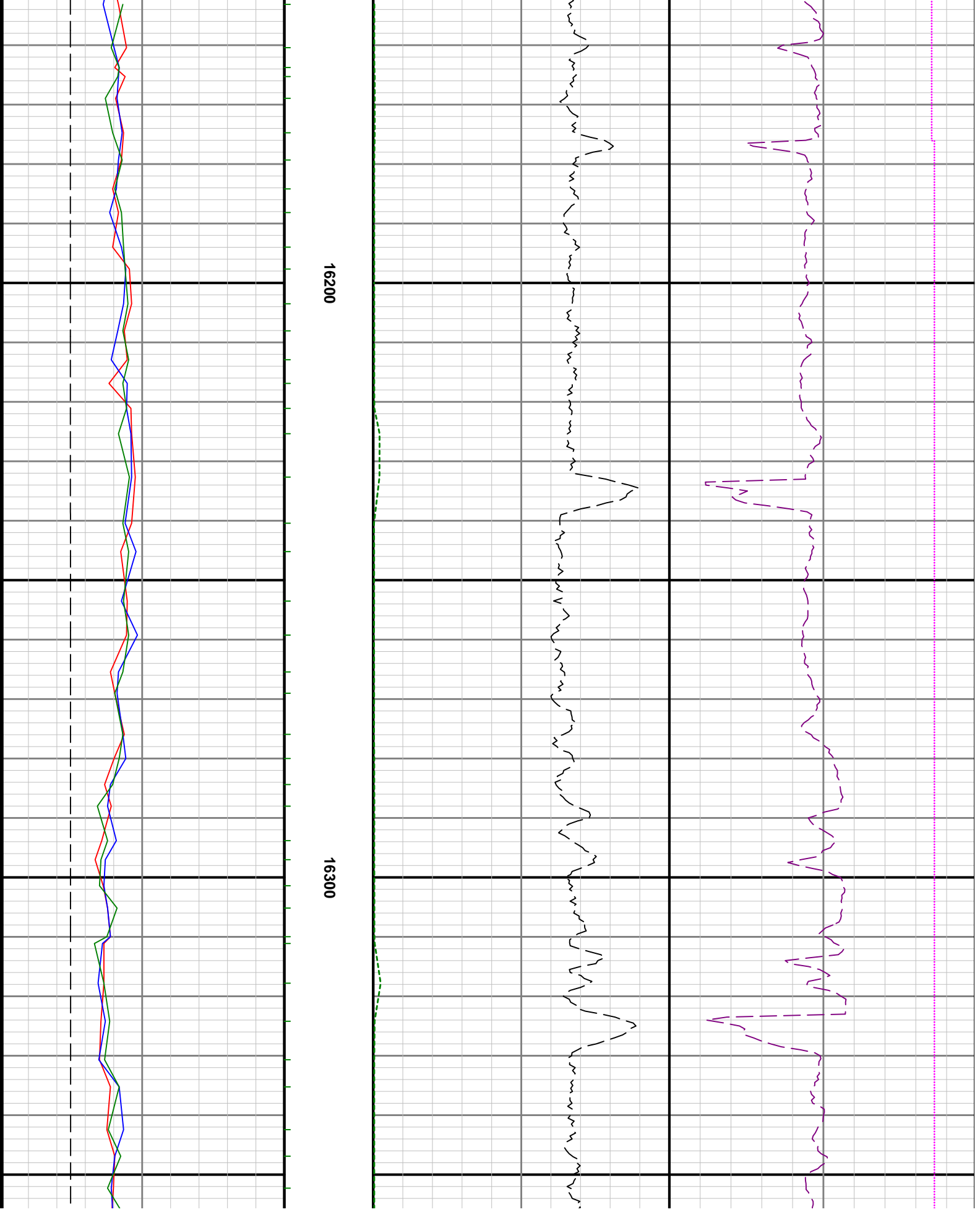


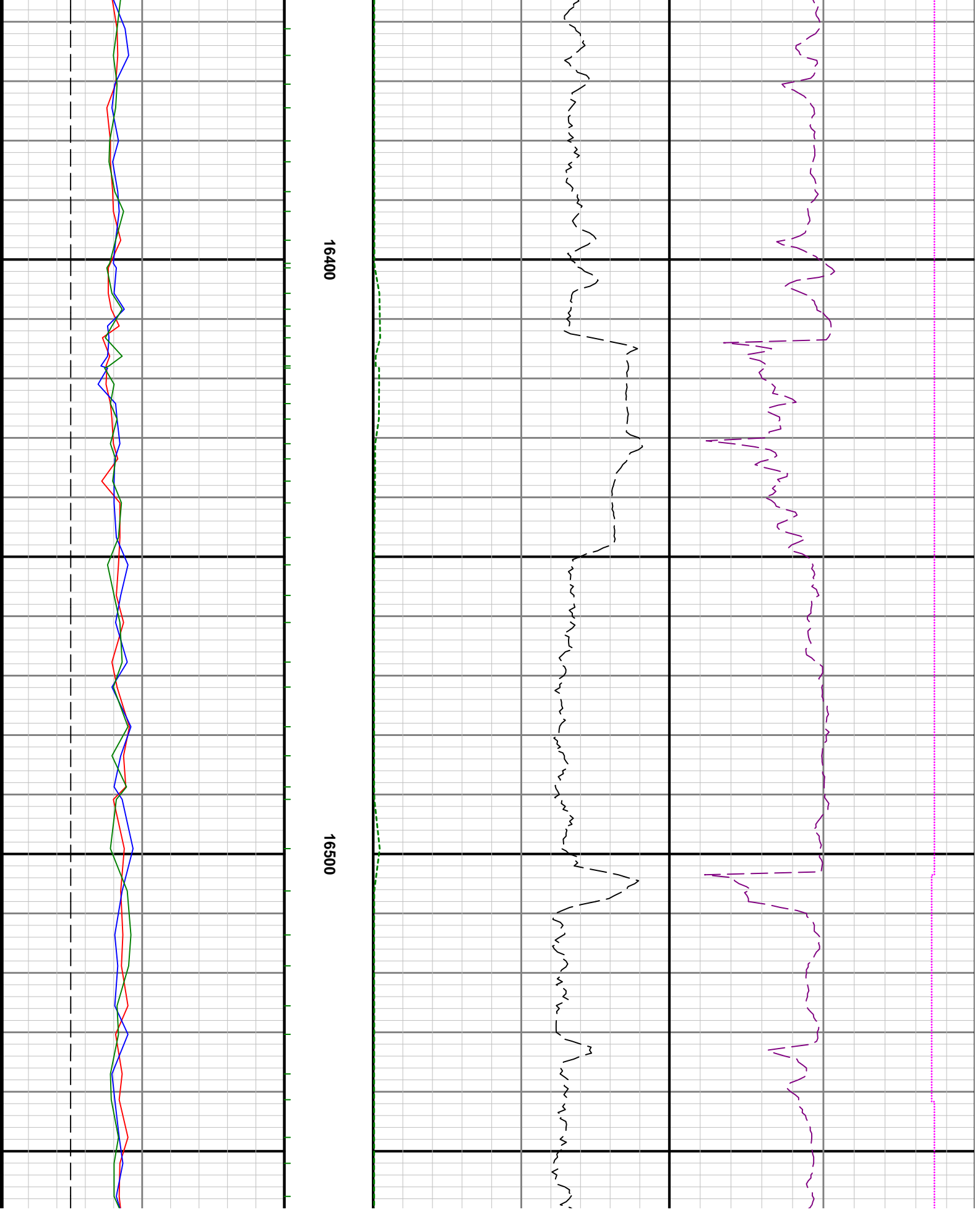












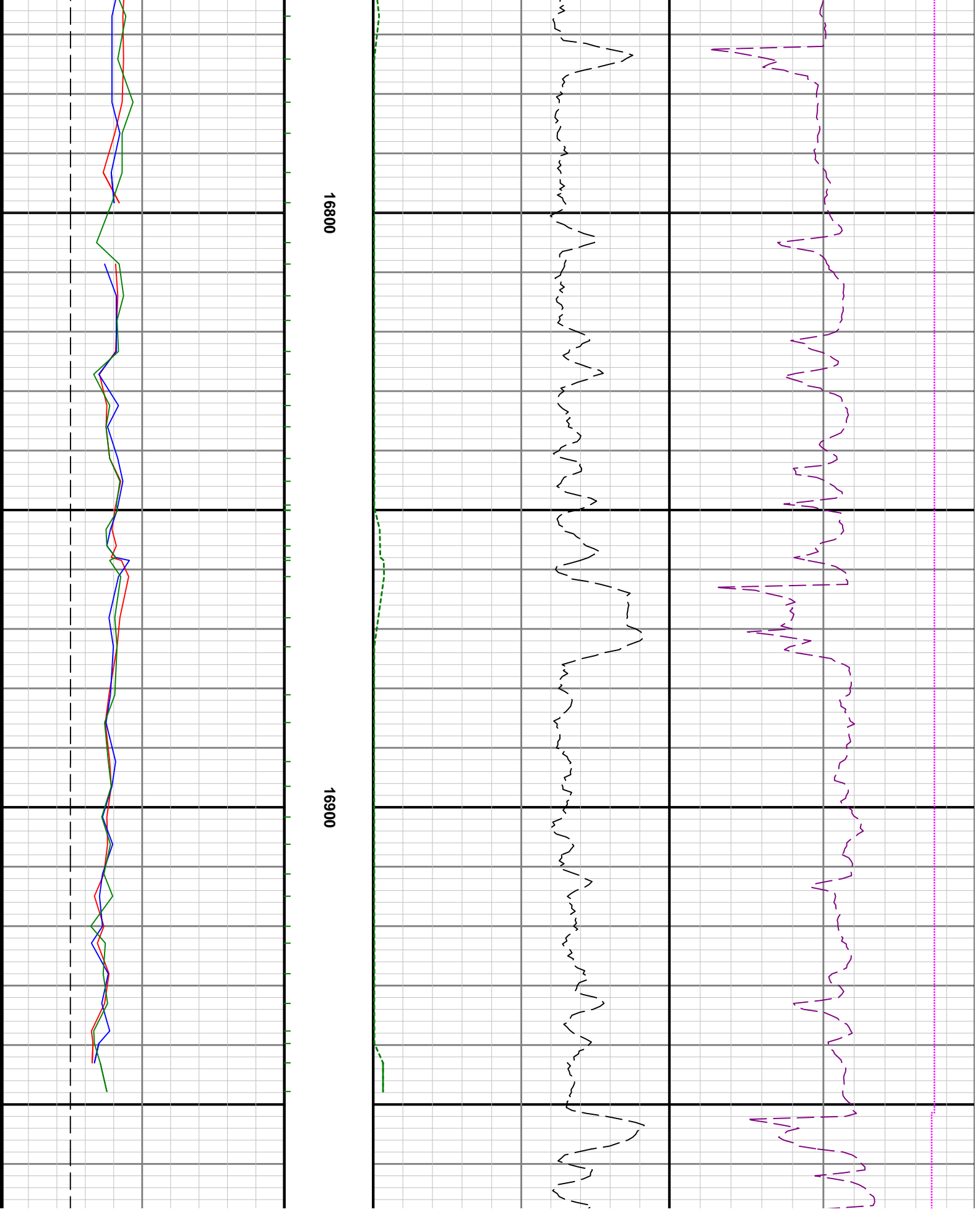
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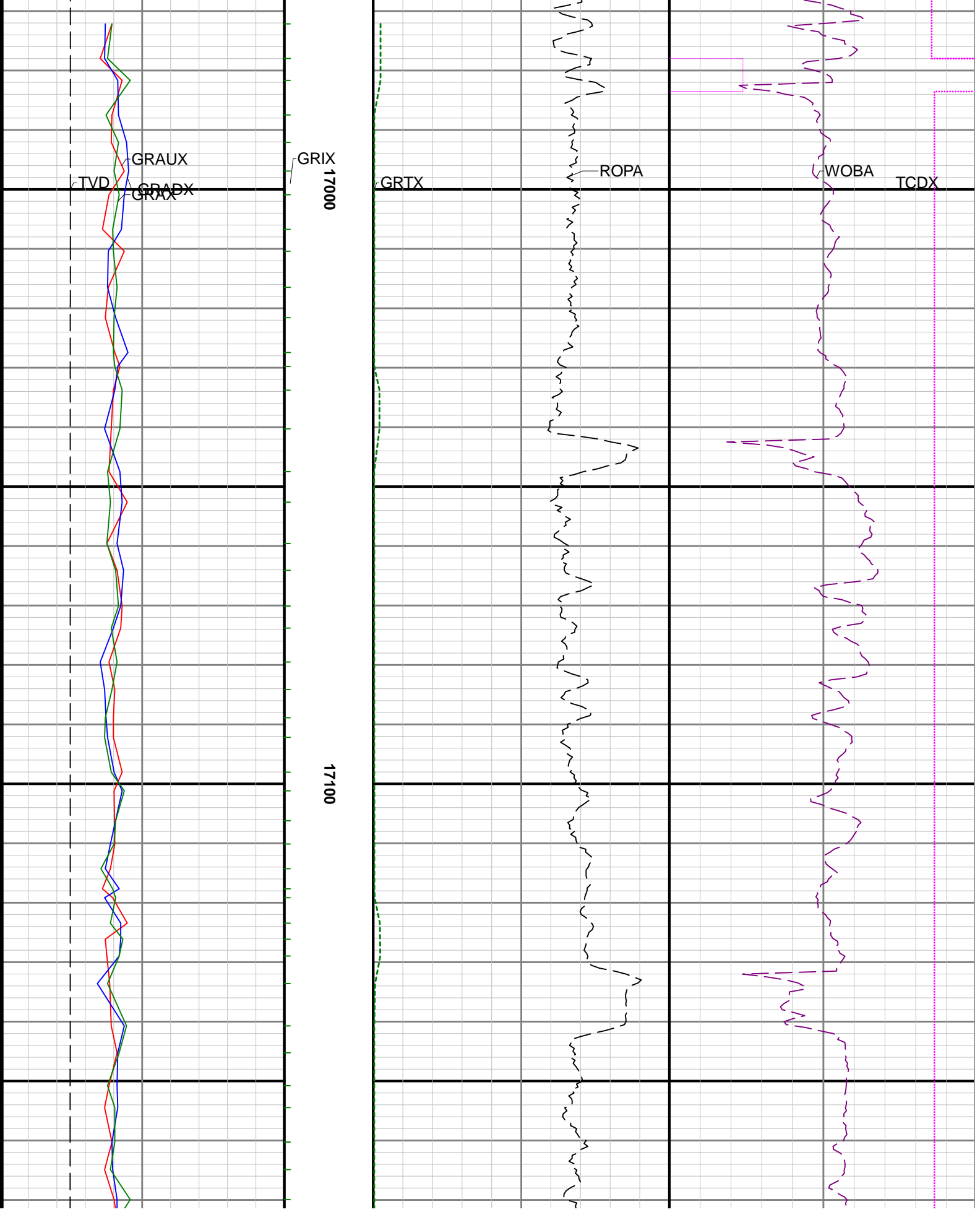
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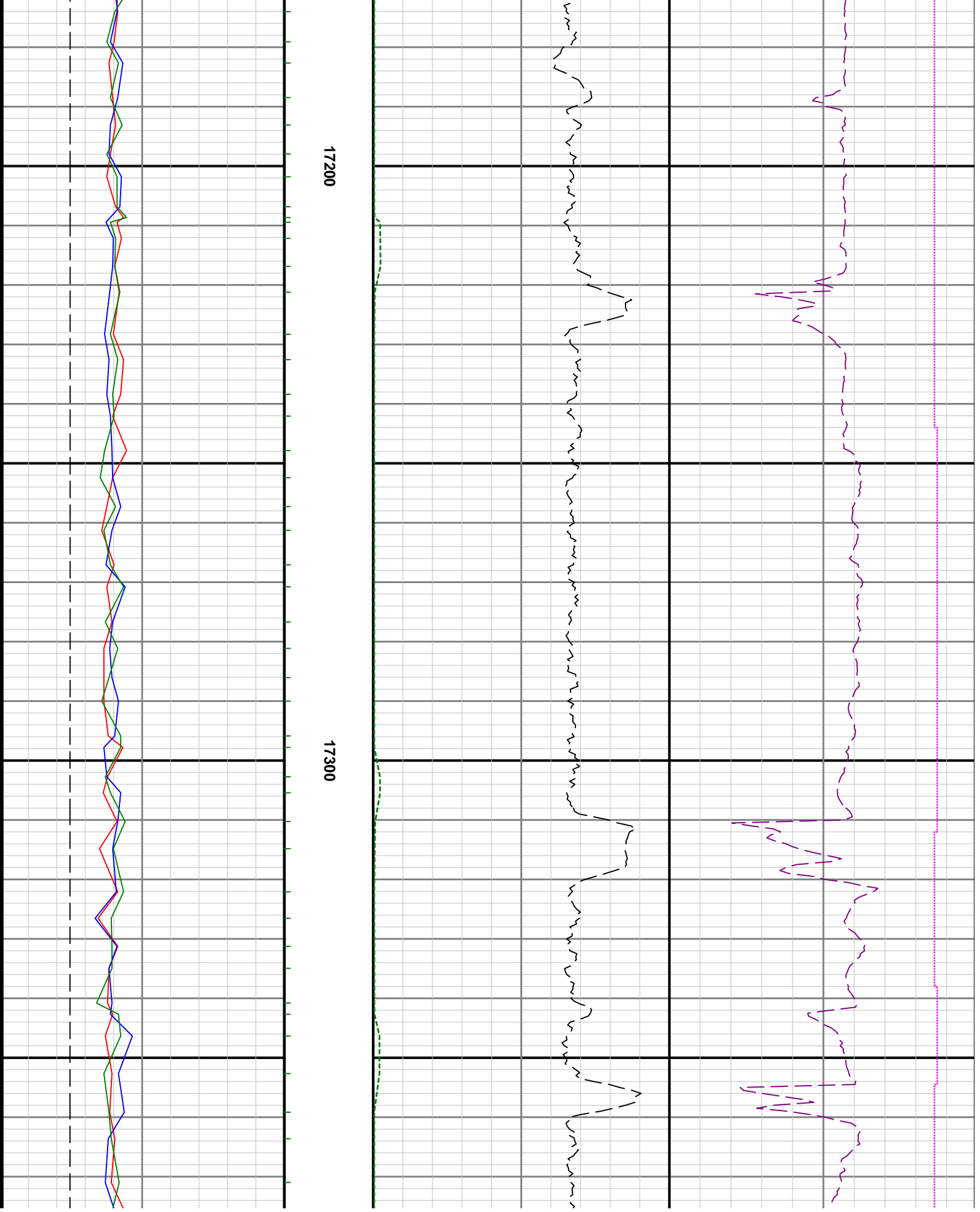


16600

16700

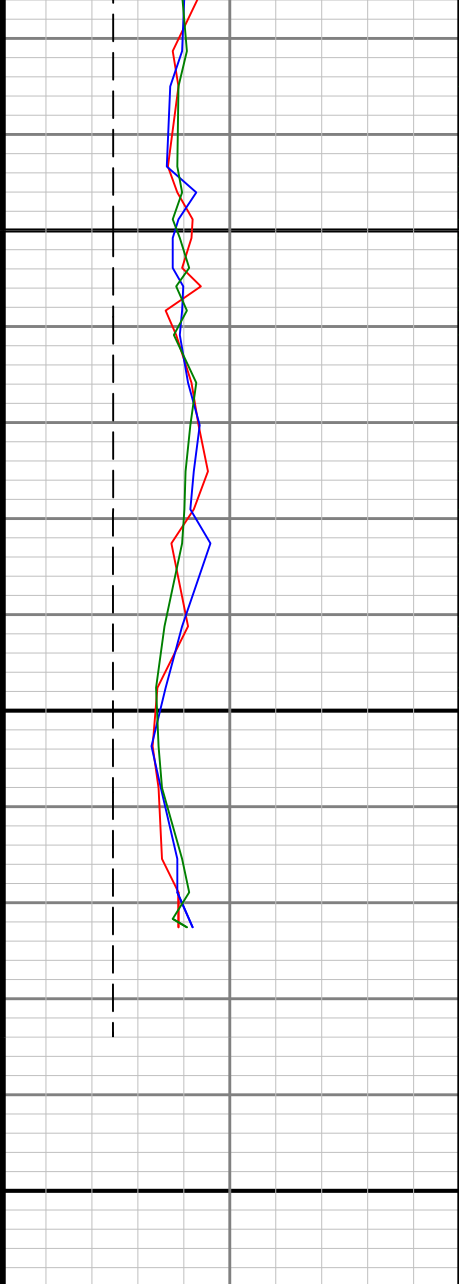






17200

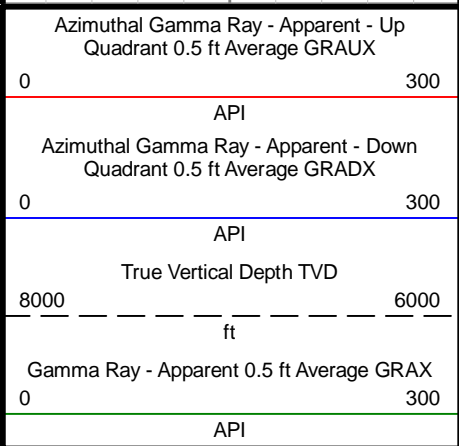
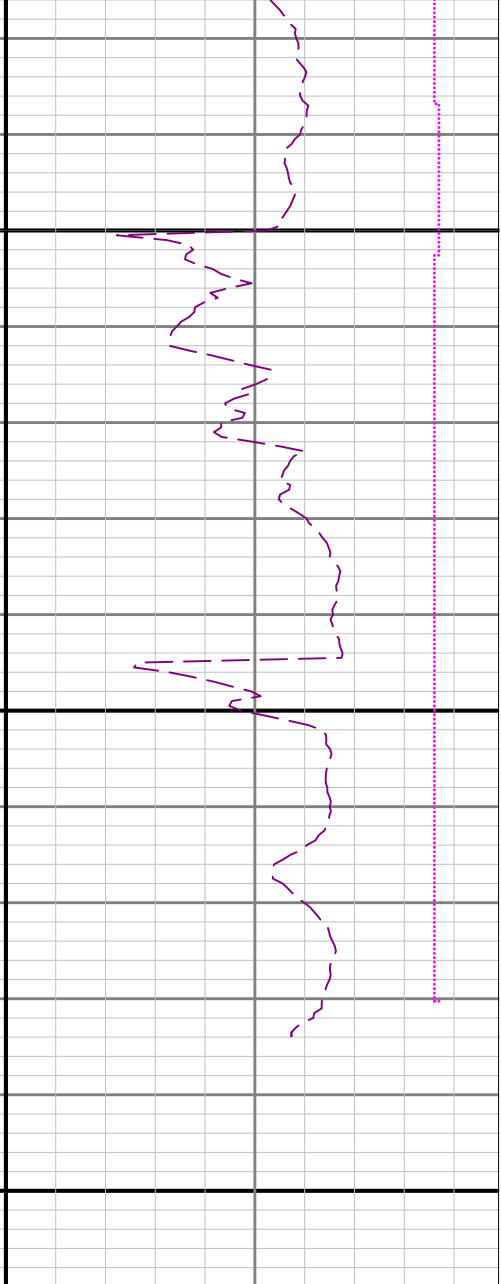
17300



17400

17500

R4<



MD 1:240 feet

