



## Gamma Ray

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Run	Bit	Bit	Bit	Bit	Assembly	Logged Interval		Bit Depth Interval		Date / Time		Circ.
No	Run	Size	Type	Gauge	Type	Top	Bottom	From	To	Start Logging	End Logging	Hours

	No.	(in)		Length (in)		(ft)	(ft)	(ft)	(ft)			(h)
2	2	8.500	PDC	3.00	AutoTrak Curve	1720.00	2590.00	1720.00	2603.00	2017-06-14 09:28	2017-06-14 17:26	7.28
3	3	8.500	PDC	3.00	AutoTrak Curve	2590.00	13977.00	2603.00	13989.00	2017-06-14 23:28	2017-06-17 09:09	51.80

Crew

Name		Arrive Wellsite	Depart Wellsite	Name		Arrive Wellsite	Depart Wellsite	Name		Arrive Wellsite	Depart Wellsite
Garrett Gerdson		2017-06-12	2017-06-18	John Bryson		2017-06-12	2017-06-18				

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+ (%)
2017-06-14 05:00	2	1720.00	Diesel-Oil Based Mud	9.3	21	N/A	7.0	76/24	Active Pit	16000	0.00
2017-06-14 17:00	2	2603.00	Diesel-Oil Based Mud	9.3	22	N/A	8.0	75/25	Active Pit	35000	0.00
2017-06-15 05:00	3	3937.00	Diesel-Oil Based Mud	9.2	19	N/A	8.0	75/25	Active Pit	36000	0.00
2017-06-16 05:00	3	8333.00	Diesel-Oil Based Mud	10.0	23	N/A	8.0	71/29	Active Pit	40000	0.00
2017-06-17 05:00	3	13082.00	Diesel-Oil Based Mud	10.2	21	N/A	8.0	65.5/34.5	Active Pit	38000	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)
2	ATC_SU	14236902	Near Bit Inclination	5.93	6.71	7.000	4.330
2	ATC_SU	14236902	Near Bit VSS	5.93	6.71	7.000	4.330
2	ATC_MWD	12154241	Gamma (single)	2.74	12.88	7.000	3.250
2	ATC_MWD	12154241	Directional (mag)	12.26	22.40	7.000	3.250
3	ATC_SU	14178989	Near Bit VSS	5.93	6.71	7.000	4.330
3	ATC_SU	14178989	Near Bit Inclination	5.93	6.71	7.000	4.330
3	ATC_MWD	12332940	Gamma (single)	2.17	12.33	7.000	3.250
3	ATC_MWD	12332940	Directional (mag)	12.26	22.42	7.000	3.250

Service and Tool Mnemonics

Mnemonic	Name	Description
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

Comments

1	Depth measurements obtained from a depth control system not supplied or operated by Baker Hughes. Due to lack of control by Baker Hughes logging engineers, depth calibrations and measurements could not be independently verified.
2	Baker Hughes LWD Runs 2 and 3 utilized 6 3/4 inch NaviGamma services (Gamma Ray and Directional) behind an 8 1/2 inch bit and rotary steerable assembly from 1720 to 13898 feet MD (1720 to 6349 feet TVD ).


Remarks

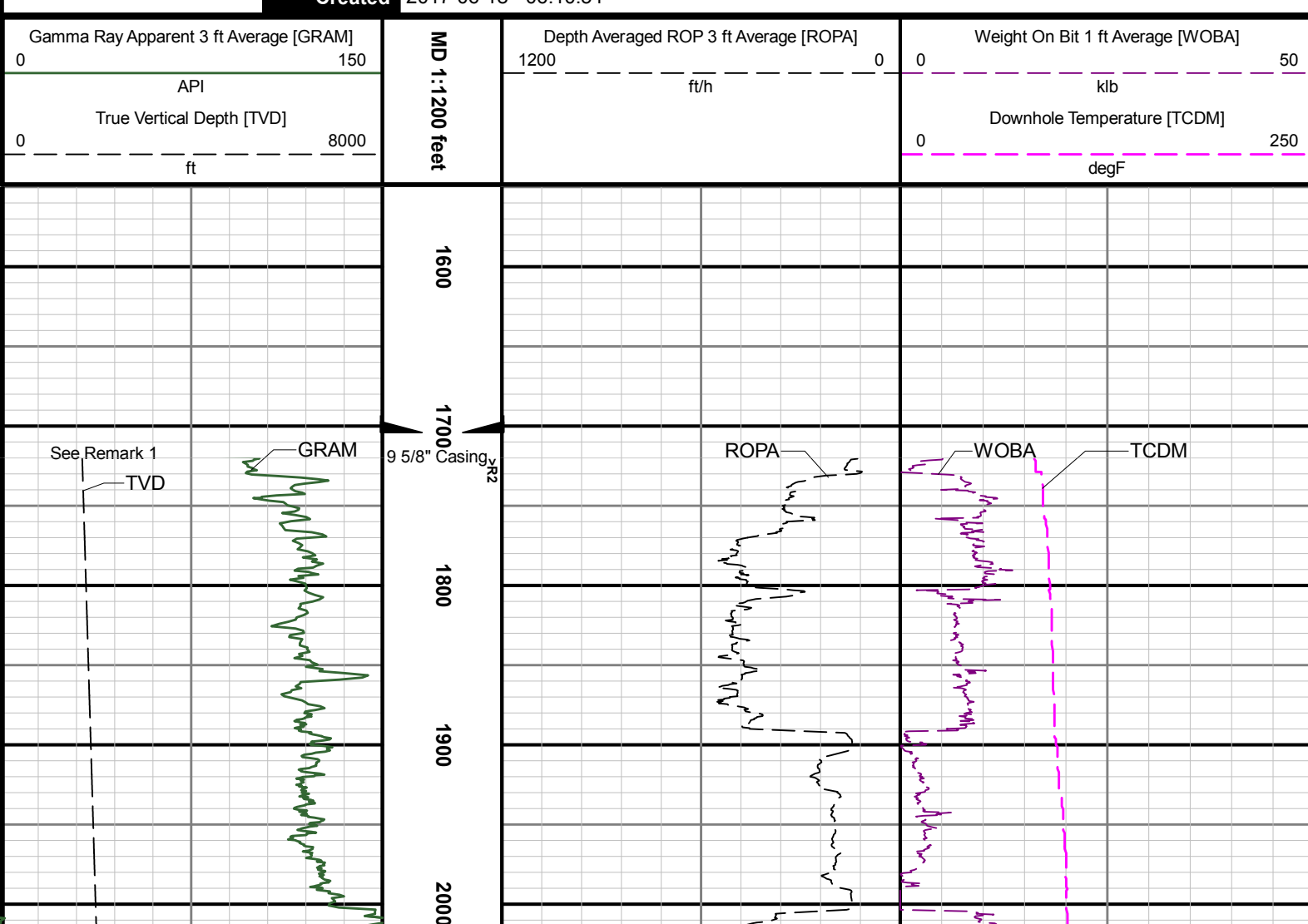
	Measured	Hole	Run	
Measured Depth		Surface	Run	Remarks

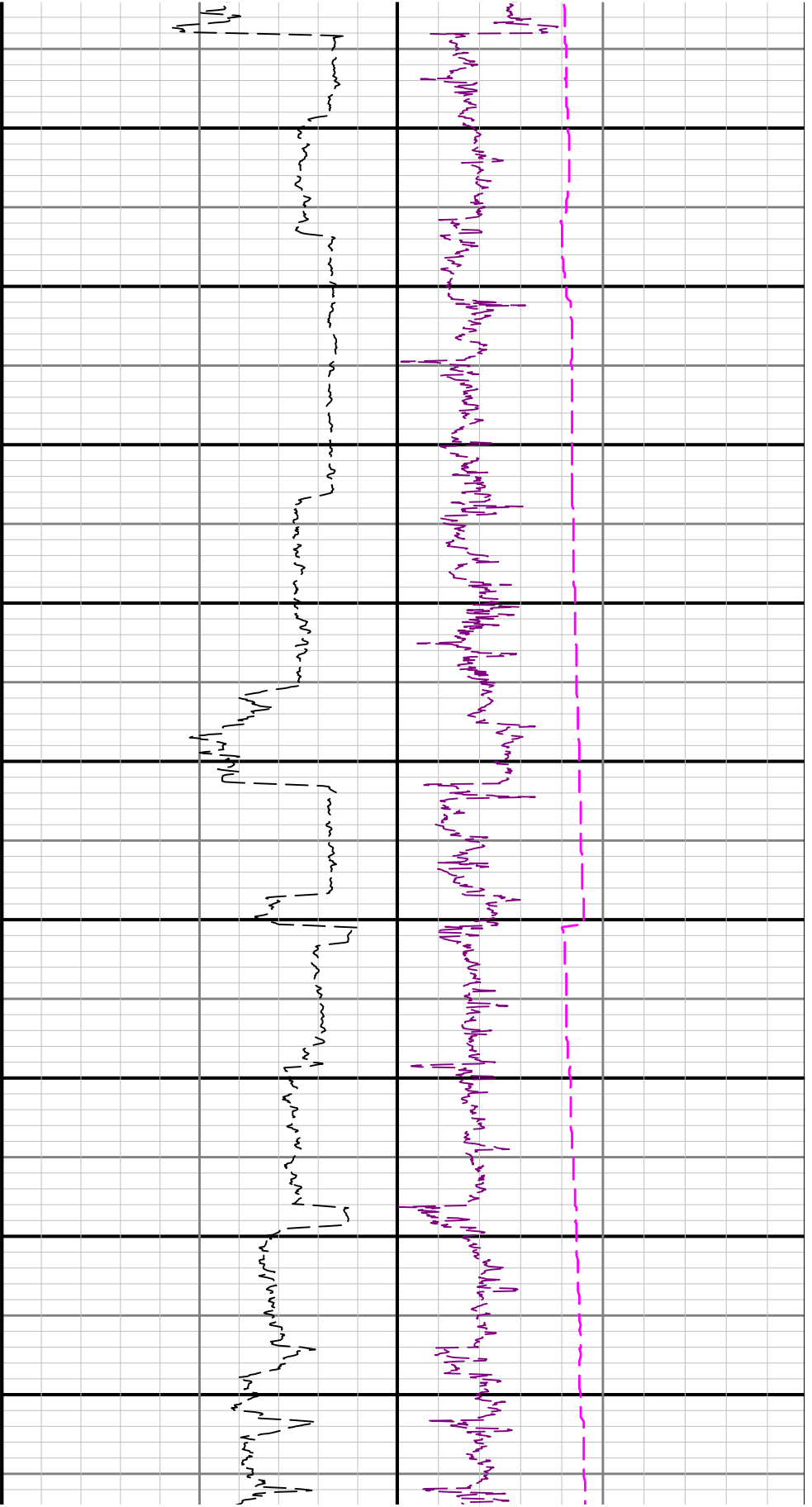
Number	Depth (ft)	Section (in)	No.	Remark
1	1720.00	8.500	2	Baker Hughes LWD began logging services at 1720 feet MD (1720 feet TVD) per client request.
2	13977.00	8.500	3	The interval from 13977 to 13989 feet MD (6349 to 6349 feet TVD) was not logged due to sensor to bit offset at well TD.

## Curve Mnemonics

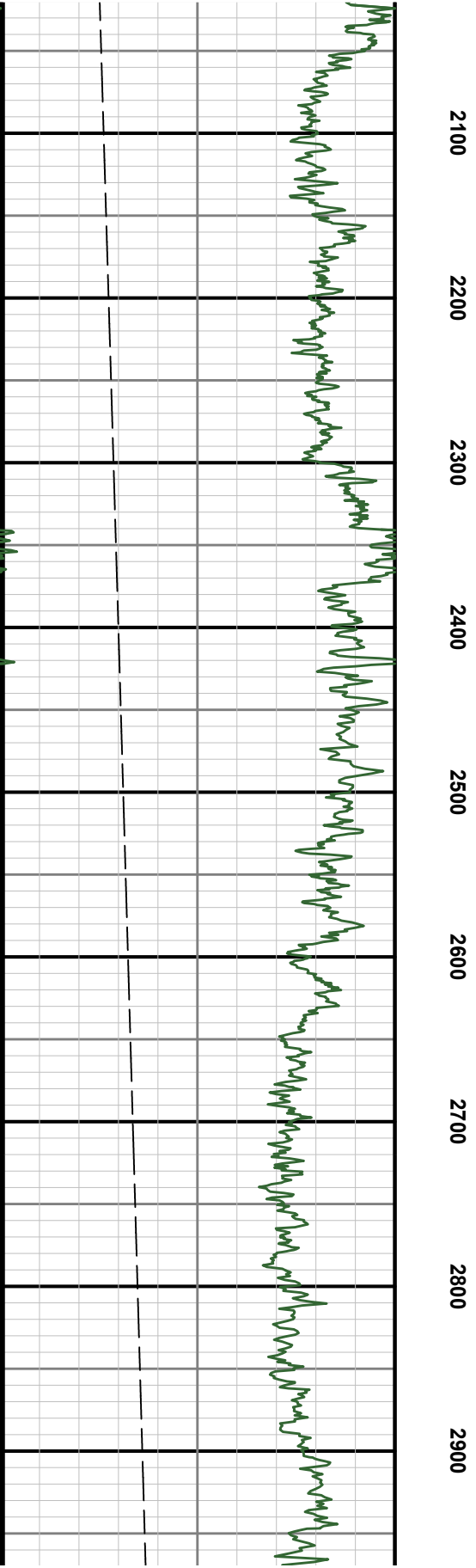
Presented Curves	Description	Units
ROPA	Depth Averaged ROP 3 ft Average	ft/h
TVD	True Vertical Depth	ft
WOBA	Weight On Bit, Average 1 ft Average	klb
GRAM	OnTrak - Gamma Ray - Apparent - Memory 3 ft Average	API
TCDM	Downhole Temperature	degF

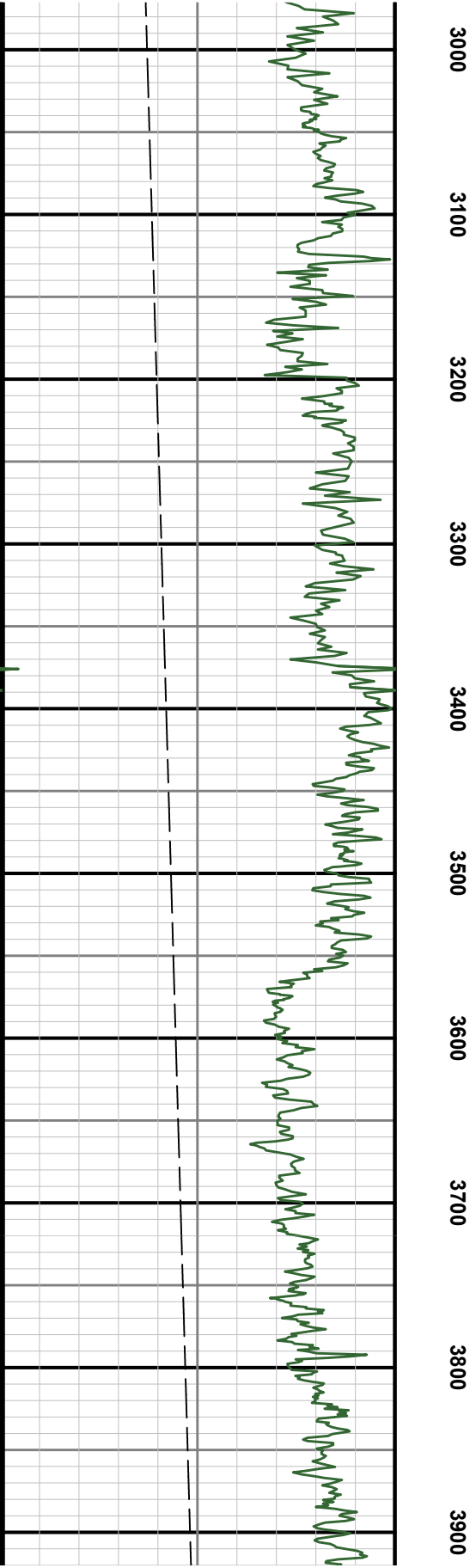
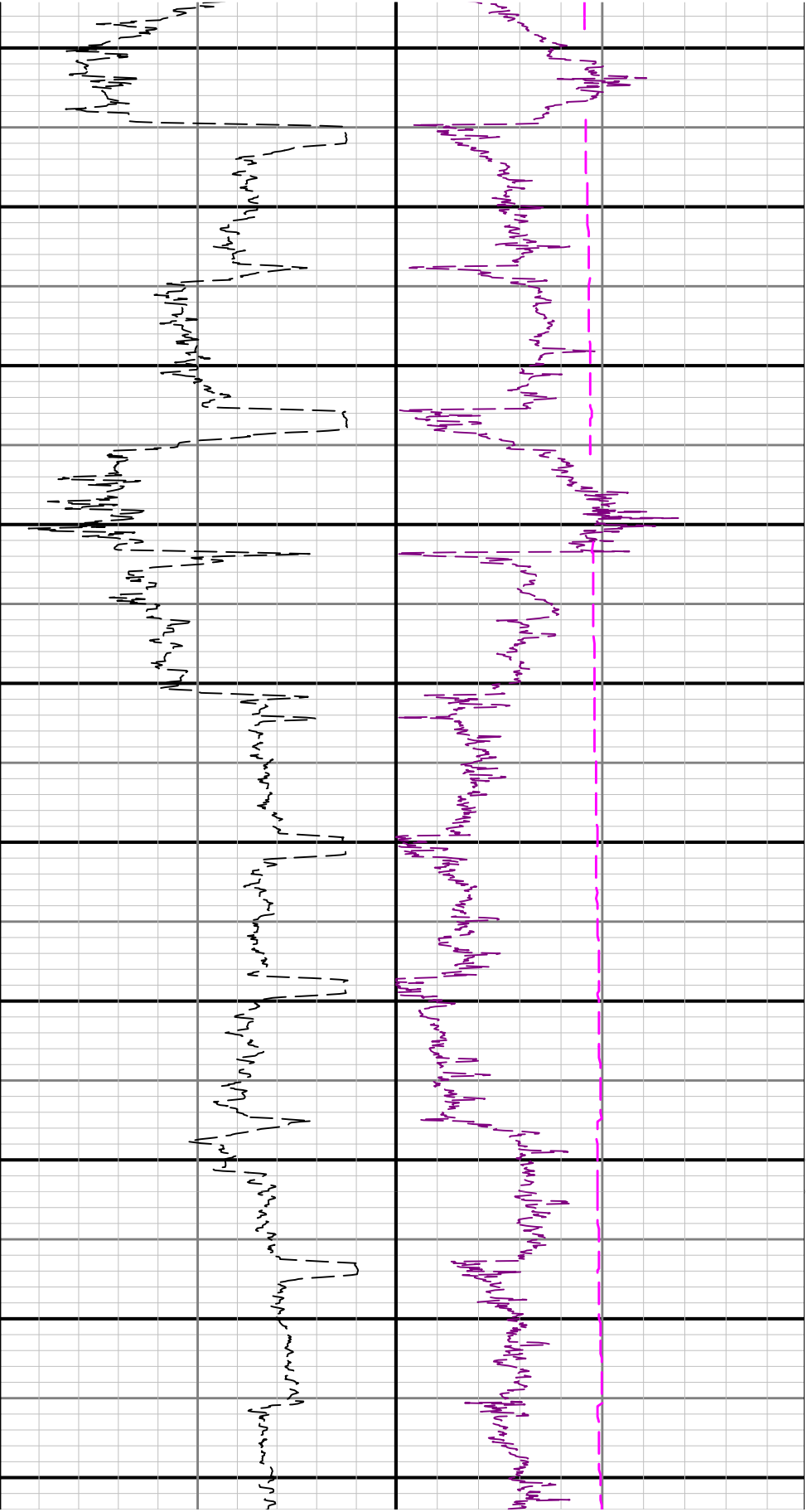
	<b>Company</b>	Verdad Oil & Gas Corporation		
	<b>Well</b>	Lost Creek 03-62-08-2H		
	<b>Interval</b>	<b>Date From:</b>	2017-05-17 16:04:33	<b>Top:</b> 1720.00
	<b>Created</b>	<b>Date To:</b>	2017-06-17 09:10:03	<b>Bottom:</b> 13989.00
		2017-06-18 06:10:54		

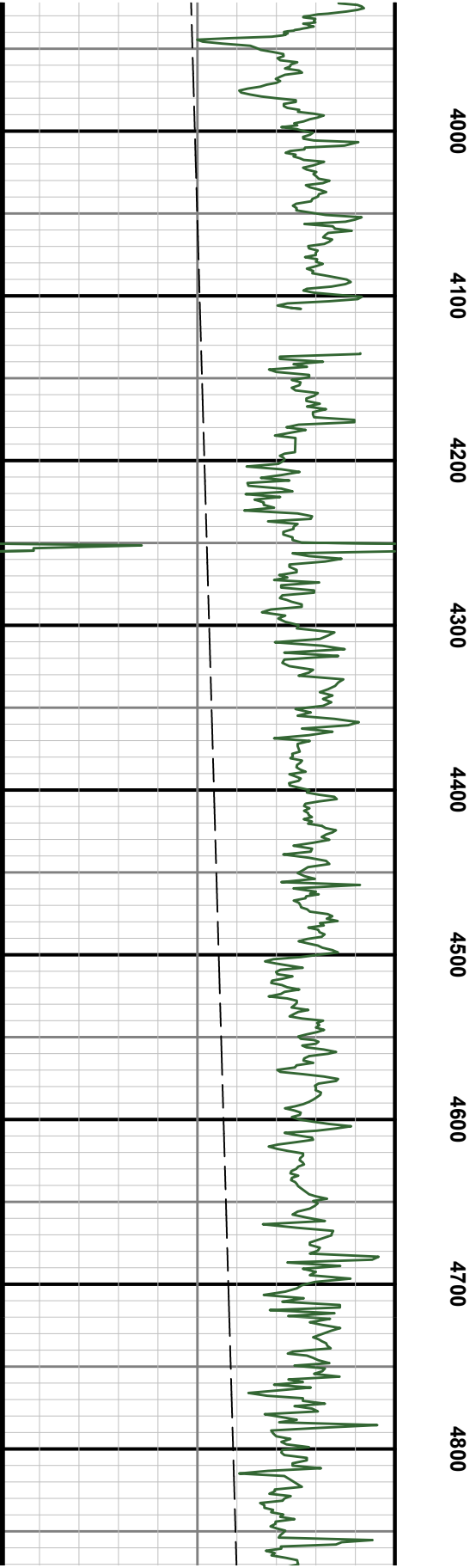
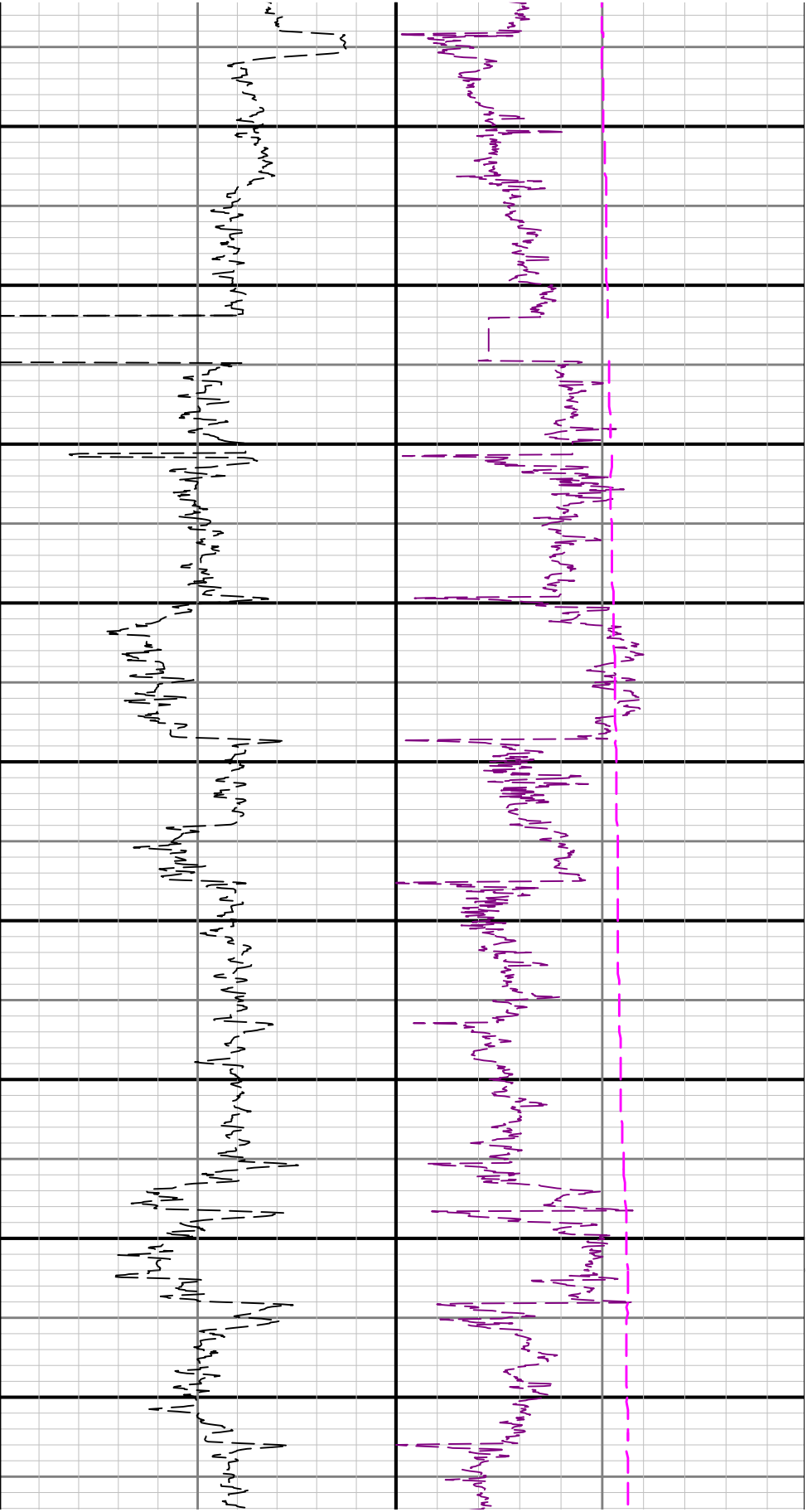


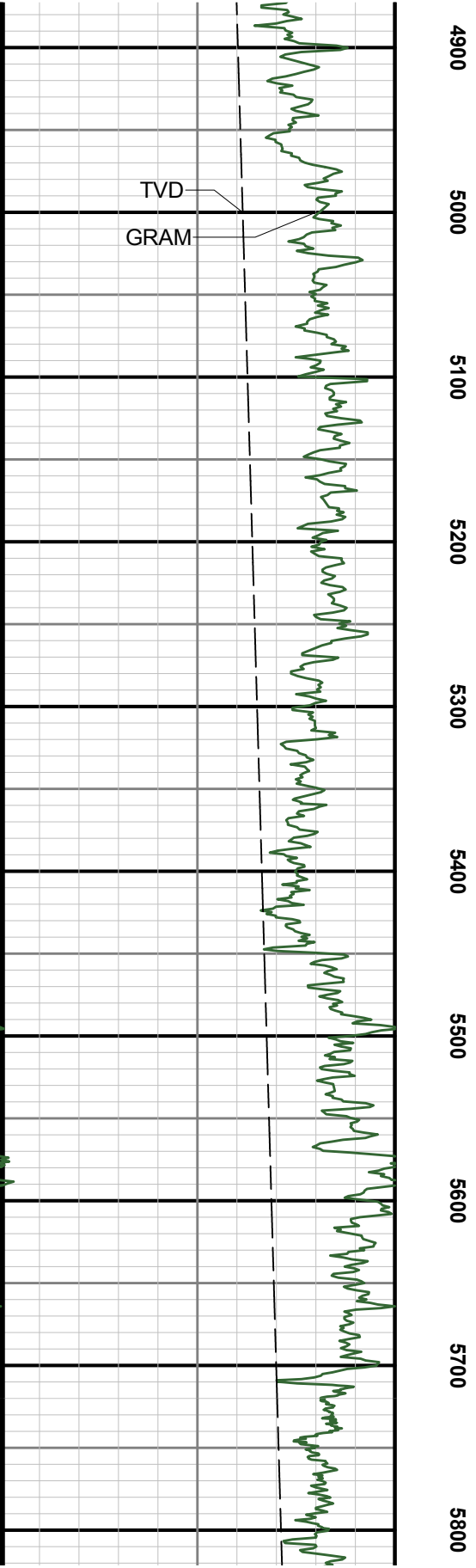
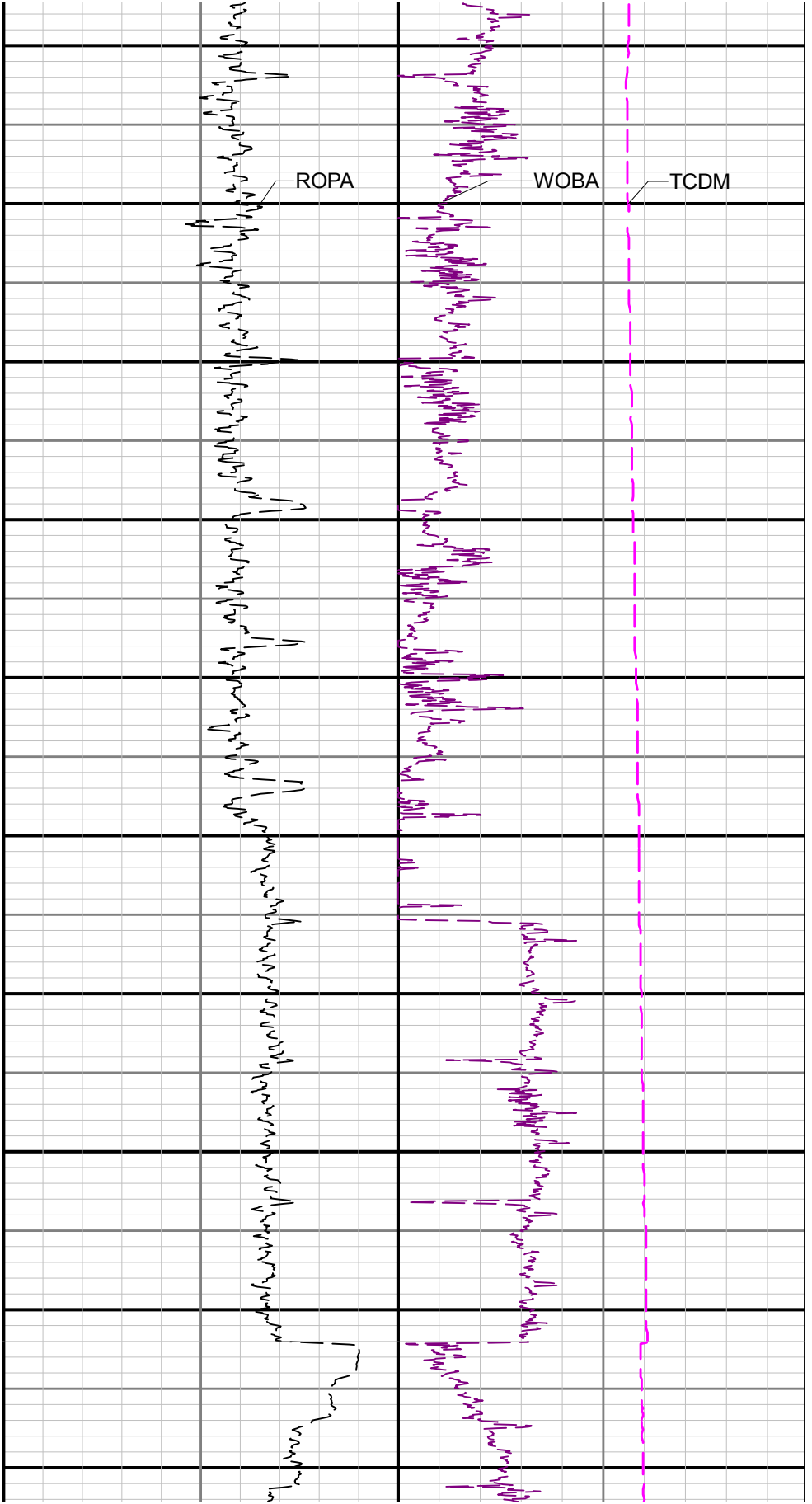


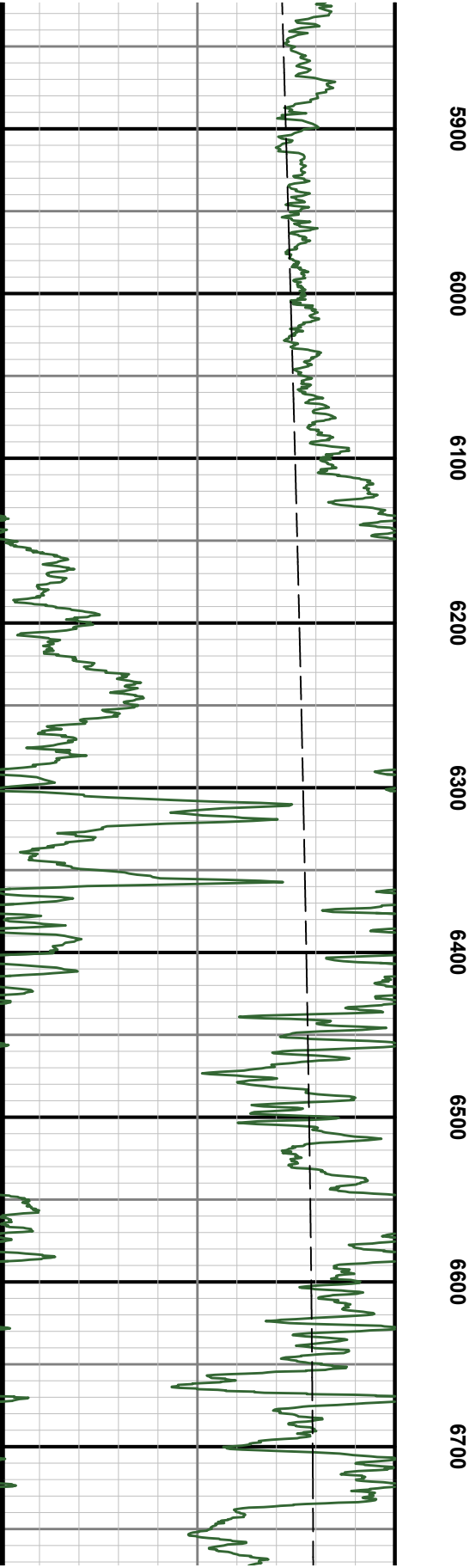
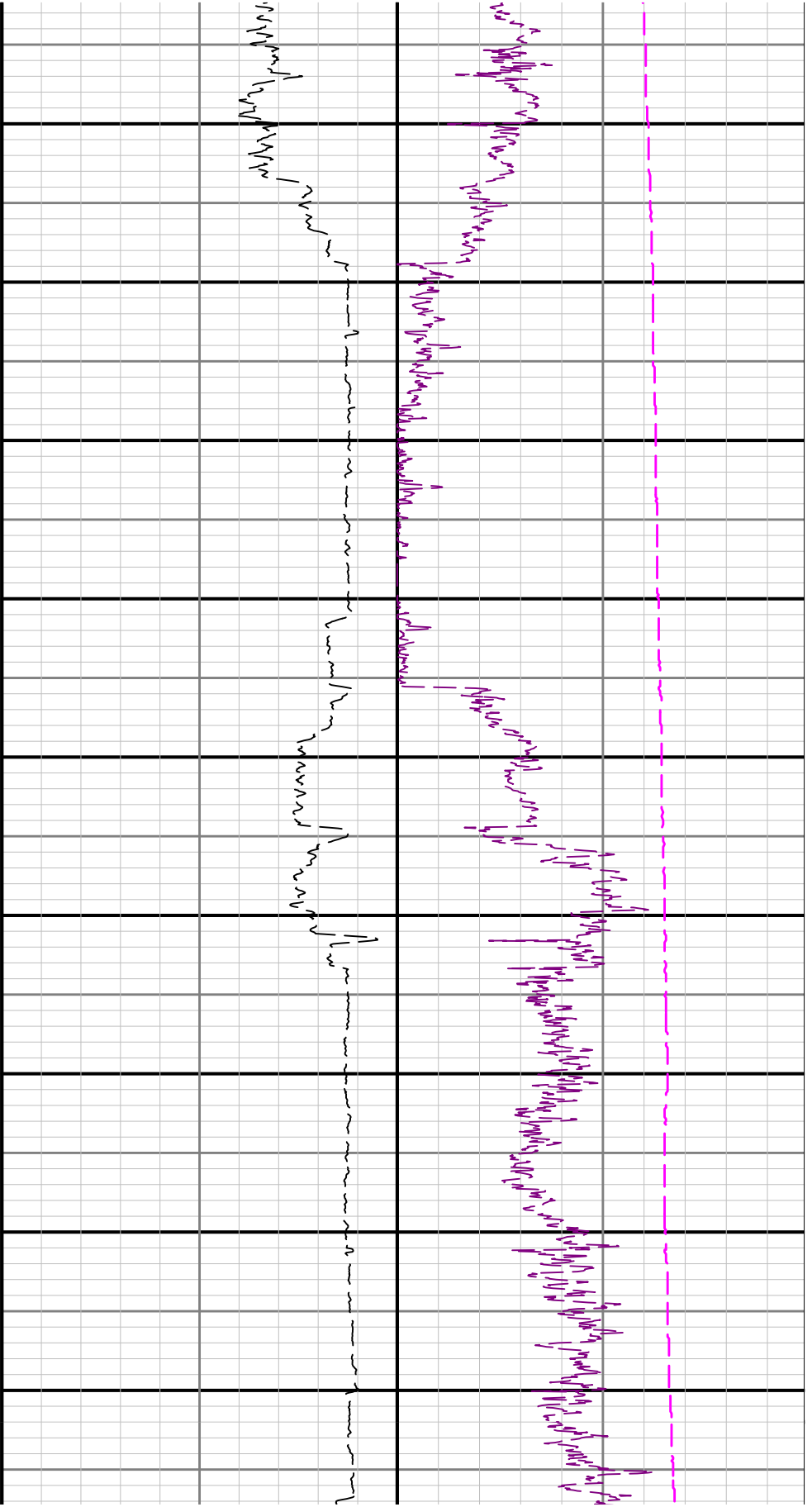
R2 > R3



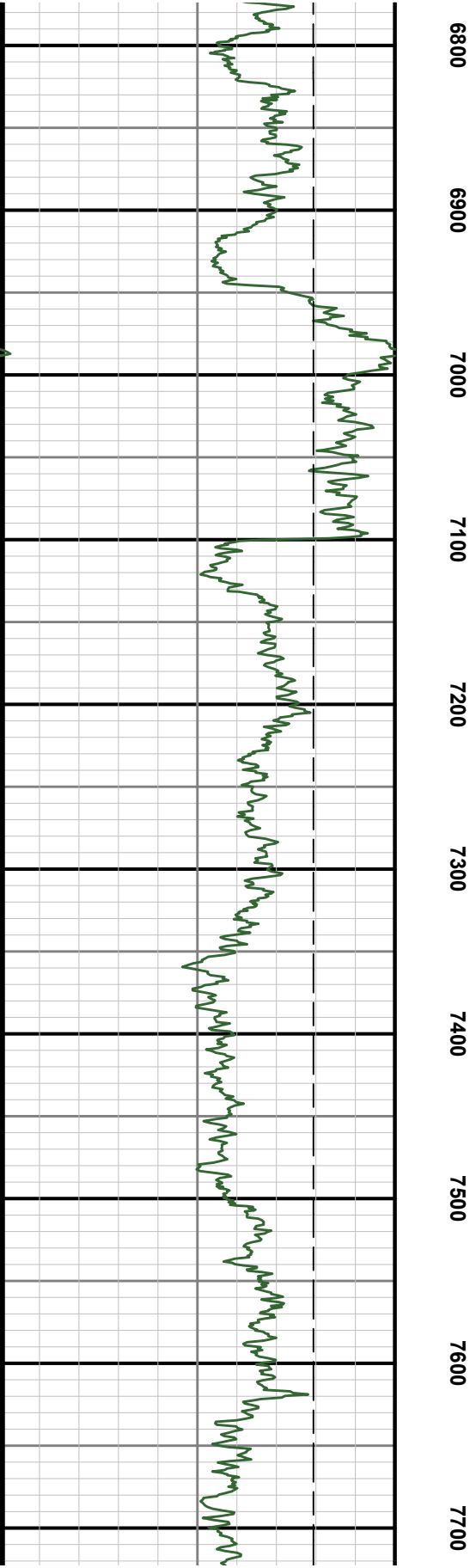
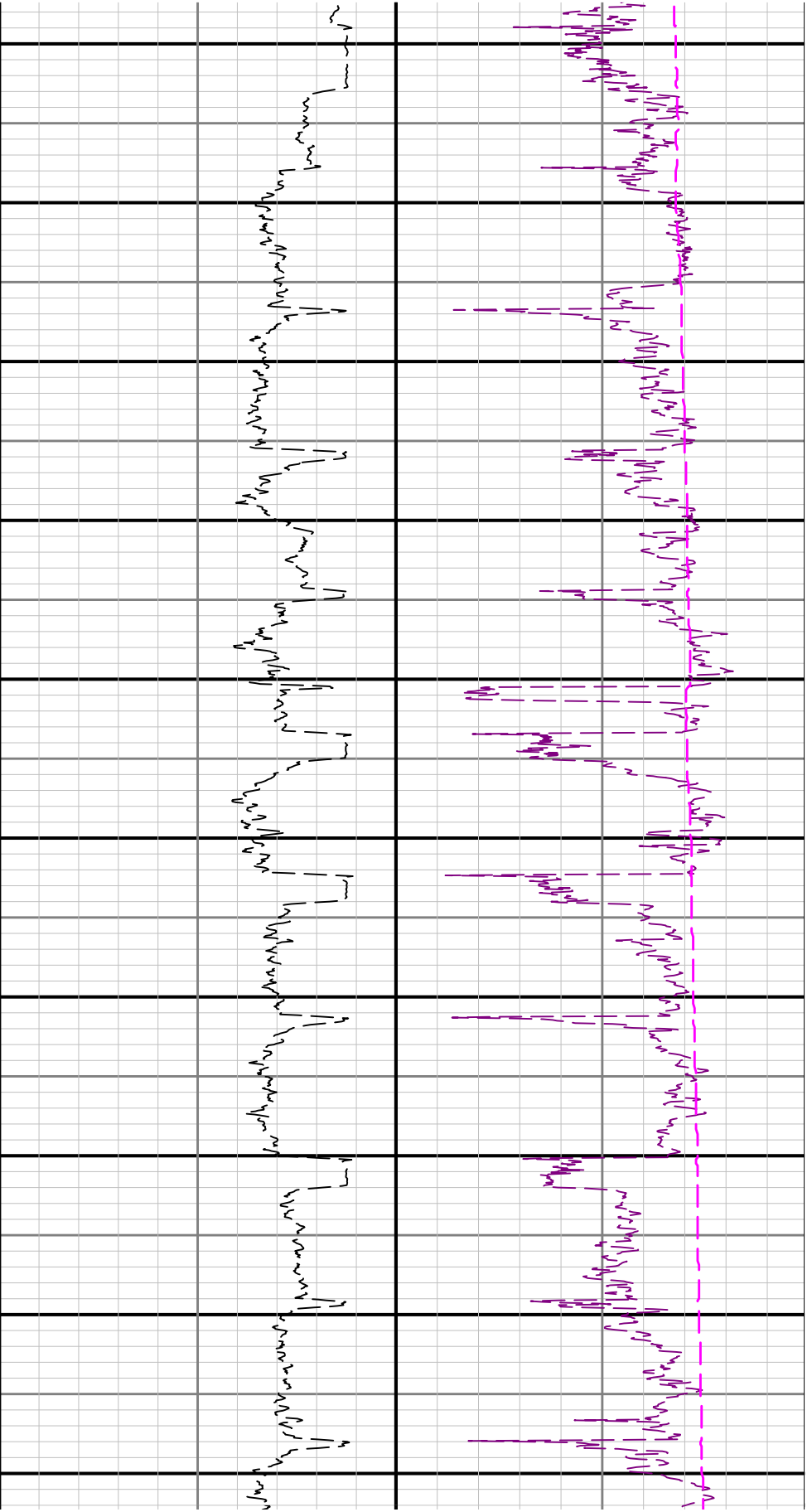


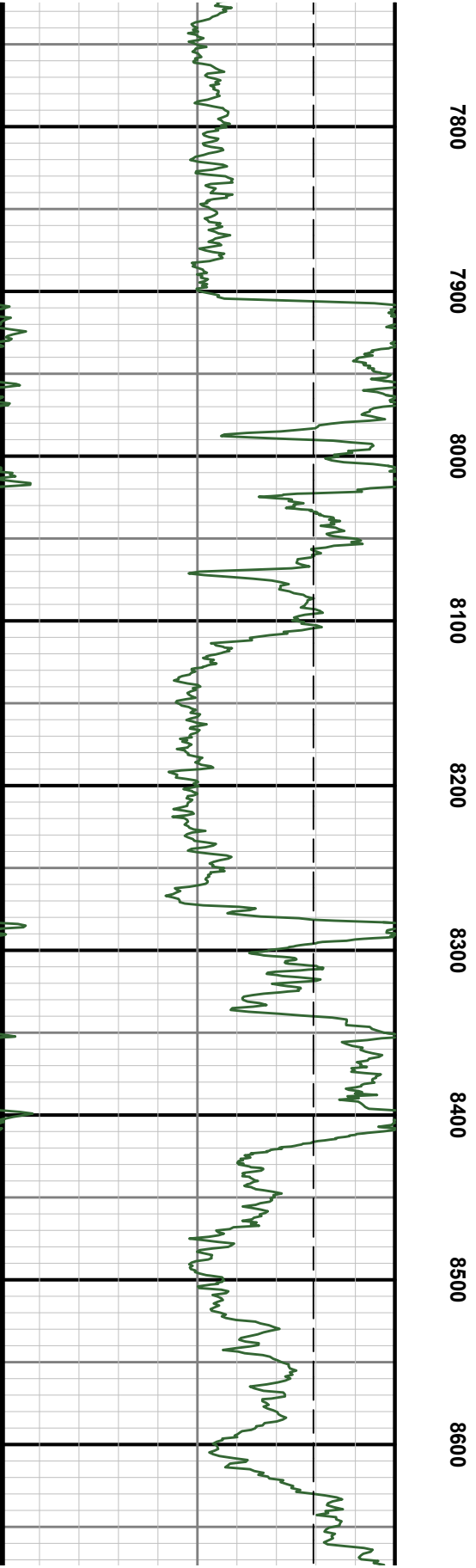
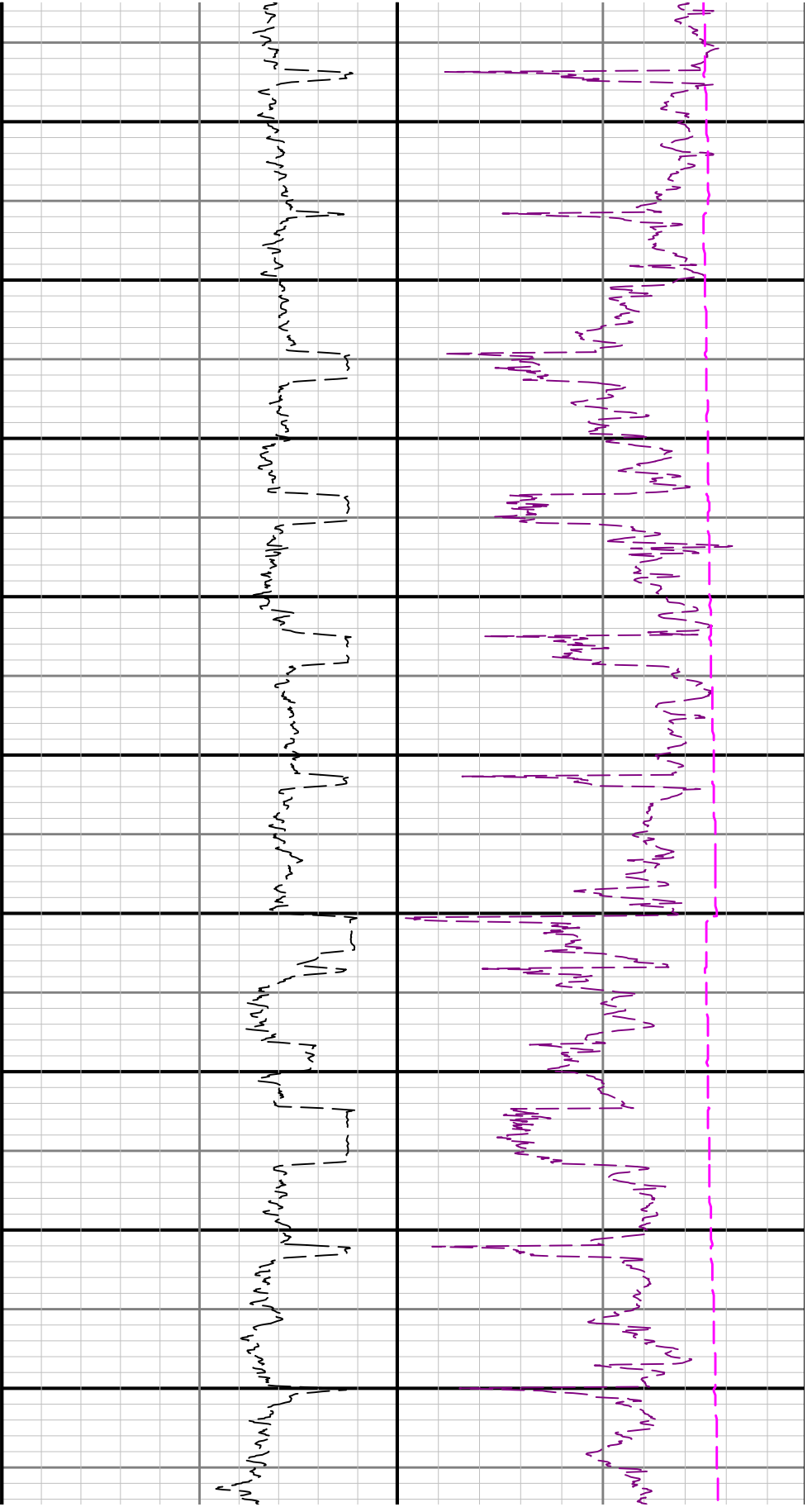


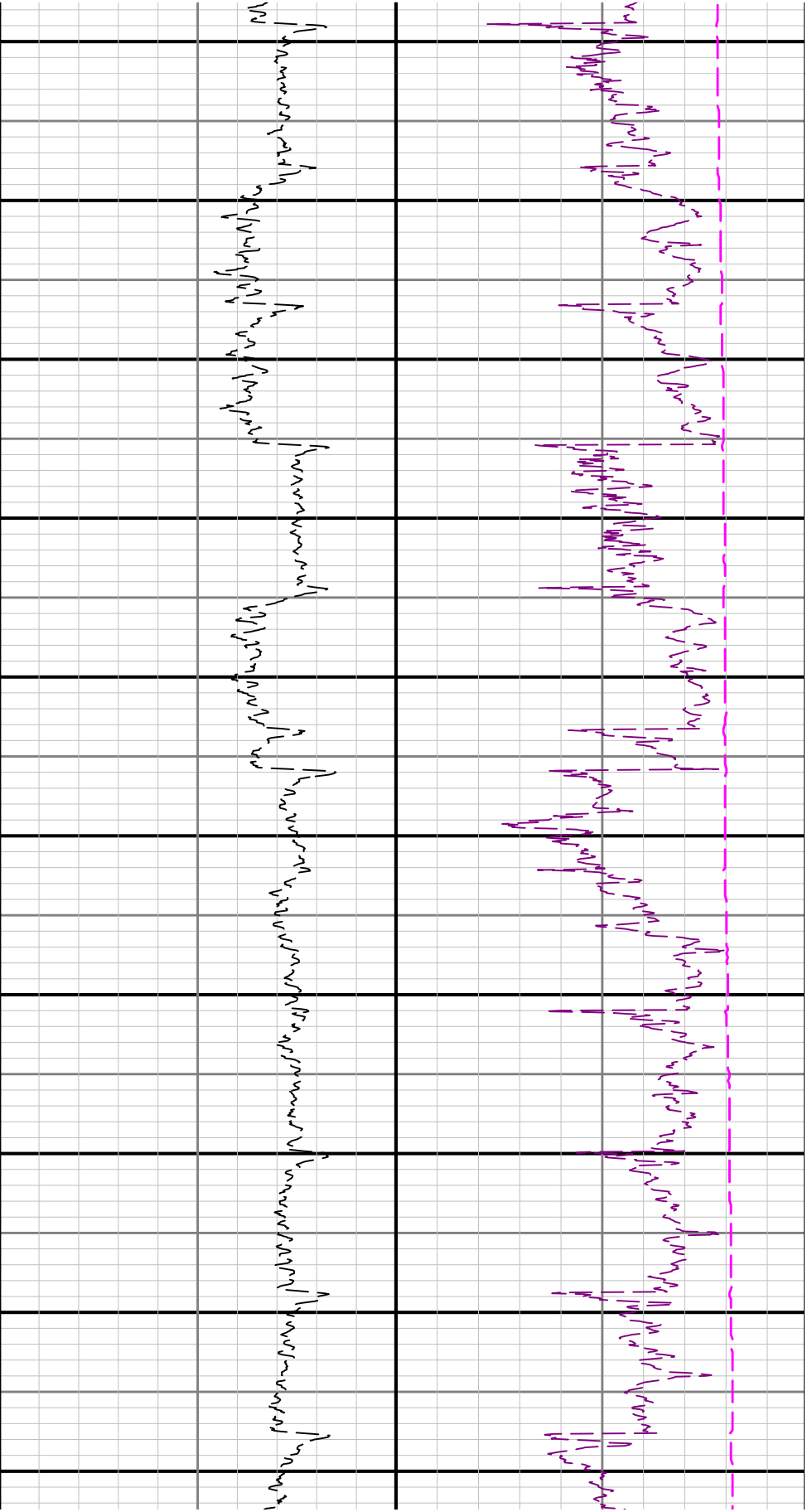












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