


LWD MEMORY LOG											
<div><div><div>BAKER HUGHES</div><div>a GE company</div></div><div></div></div>				Gamma Ray							
Scale: 1:1200 MD				Company: ConocoPhillips							
Depth Reference: Driller's Depth				Well: Bear_3-65_22-23_3BH							
				Field: Adams County							
				County: Adams				Country: United States			
				State: Colorado							
Status: Final Print				Surface Location: Latitude: 039° 46' 22.730" N Longitude: 104° 39' 27.170" W				Other Services: Directional			
API No: 05001101510000				SEC: 22 TWN: 3S RGE: 6SW							
Job ID: 9261082											
Permanent Datum (P.D.): Ground Level				Elevation: 5571.00 ft				Elev. KB: N/A			
Log Measured From: Rig Floor				Above P.D. 25.00 ft				Elev. DF: 5596.00 ft			
								Elev. GL: 5571.00 ft			
Dates				Interval Drilled				Magnetic Field Reference			
Date From: 2018-08-02				Top: (ft) 2258.00				Azi Reference North: True			
Date To: 2018-08-08				Bottom: (ft) 18165.00				Total Magnetic Field Strength: (nT)			
Spud Date: 2018-08-02								Mag to Reference North Correction: (deg)			
</											

2018-08-06 10:00	3	13138.00	Oil Based Mud	9.5	16	N/A	N/A	69.8/30.2	Active Pit	43000	0.00
2018-08-06 22:00	3	13645.00	Oil Based Mud	9.6	18	N/A	N/A	69.5/30.5	Active Pit	50000	0.00
2018-08-07 10:00	3	15609.00	Oil Based Mud	9.7	20	N/A	N/A	68.5/31.5	Active Pit	40500	0.00
2018-08-07 22:00	3	17562.00	Oil Based Mud	9.9	22	N/A	N/A	67/33	Active Pit	37000	0.00

Mud Resistivity Record					Surface			Downhole		
Date / Time	Run No.	Measured Depth (ft)	Surface Temp (degF)	Rm (ohm.m)	Rmf (ohm.m)	Rmc (ohm.m)	BHCT (degF)	Rm @ BHCT (ohm.m)	Rmf @ BHCT (ohm.m)	Rmc @ BHCT (ohm.m)
2018-08-05 06:08	2	10962.00	140.0	100.000	N/A	N/A	233.0	100.000	N/A	N/A
2018-08-05 12:00	2	11888.00	140.0	100.000	N/A	N/A	233.0	100.000	N/A	N/A
2018-08-06 10:00	3	13138.00	140.0	100.000	N/A	N/A	240.0	100.000	N/A	N/A
2018-08-06 22:00	3	13624.00	140.0	100.000	N/A	N/A	245.0	100.000	N/A	N/A
2018-08-07 10:00	3	15609.00	155.0	100.000	N/A	N/A	250.0	100.000	N/A	N/A
2018-08-07 22:00	3	17610.00	158.0	100.000	N/A	N/A	255.0	100.000	N/A	N/A


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	ATC_SU	14547137	Near Bit VSS	5.93	6.93	7.000	4.330
1	ATC_SU	14547137	Near Bit Inclination	5.93	6.93	7.000	4.330
1	ATC_MWD	14219812	Gamma (single)	2.76	13.10	7.000	3.250
1	ATC_MWD	14219812	Directional (mag)	12.28	22.62	7.000	3.250
2	ATC_SU	14169950	Near Bit Inclination	5.93	6.93	7.000	4.330
2	ATC_SU	14169950	Near Bit VSS	5.93	6.93	7.000	4.330
2	ATC_MWD	12899370	Gamma (single)	2.77	13.10	7.000	3.250
2	ATC_MWD	12899370	Directional (mag)	12.29	22.62	7.000	3.250
3	ATC_SU	14192923	Near Bit Inclination	5.93	6.93	7.000	4.330
3	ATC_SU	14192923	Near Bit VSS	5.93	6.93	7.000	4.330
3	ATC_MWD	12141354	Gamma (single)	2.76	13.10	7.000	3.250
3	ATC_MWD	12141354	Directional (mag)	12.28	22.62	7.000	3.250

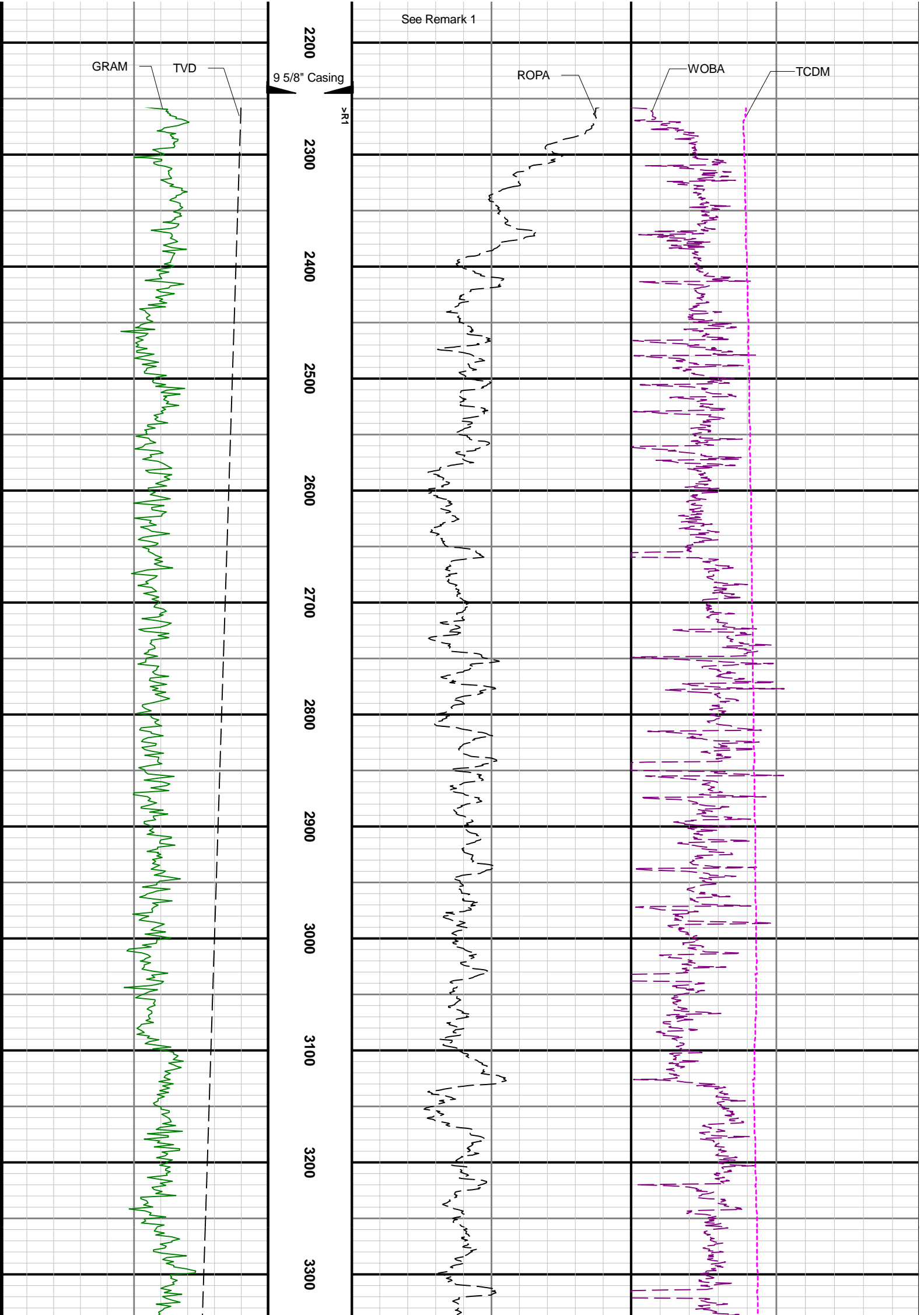
Service and Tool Mnemonics		
Mnemonic	Name	Description
ATC_SU	ATC_SU	Auto Trak Curve Steering Unit
ATC_MWD	ATC_MWD	Auto Trak Curve MWD
ATC_LCPM	ATC_LCPM	Auto Trak Curve LCPM

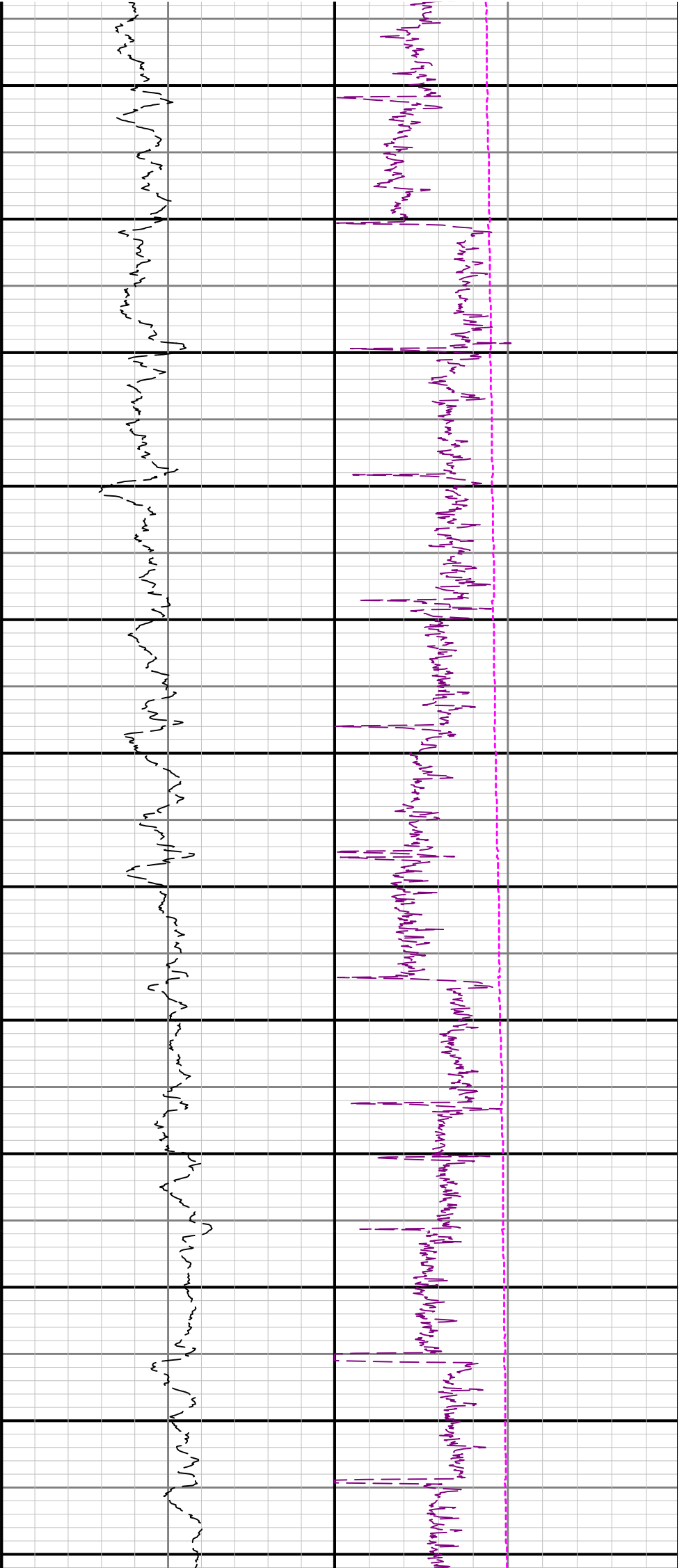
Comments	
1	Depth measurements were obtained from a depth control system not supplied or operated by Baker Hughes, a GE Company (BHGE). Due to the lack of control by BHGE logging engineers, depth calibrations and measurements could not be independently verified.
2	BHGE LWD run 1 utilized 6.75 inch NaviGamma Services (Gamma Ray and Directional) behind a 8.5 inch bit and Rotary steerable assembly from 2258 to 7662 feet MD (2258 to 7514 feet TVD).
3	BHGE LWD runs 2 and 3 utilized 6.75 inch NaviGamma Services (Gamma Ray and Directional) and Ontrak Services (Multiple Propagation Resistivity) behind a 8.5 inch bit and Rotary steerable assembly from 7662 to 18165 feet MD (7514 to 7813 feet TVD).

Remarks				
Number	Measured Depth (ft)	Hole Section (in)	Run No.	Remark
1	2258.00	8.500	1	BHGE logging services began at 2258 feet MD (2258 feet TVD) per customer request.
2	18165.00	8.500	3	The interval from 18151 to 18165 feet MD (7813 feet TVD) was not logged due to sensor to bit offset at TD.

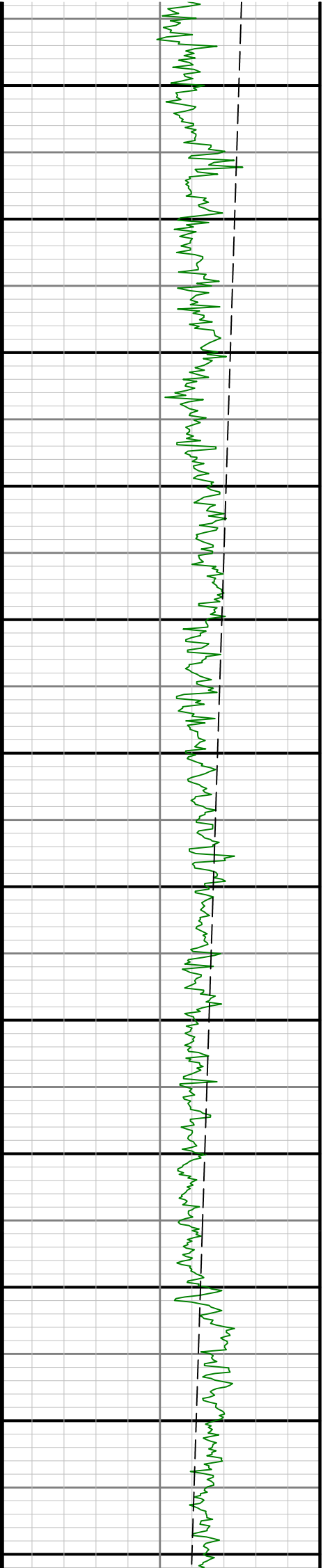
Curve Mnemonics		
Presented Curves	Description	Units
ROPA	Depth Averaged ROP 10 ft Average	ft/h
TVD	True Vertical Depth	ft
WOBA	Weight On Bit, Average 1 ft Average	klb
GRAM	Gamma Ray - Apparent - Memory 3 ft Average	API
TCDM	Directional Real-Time Survey Temperature	degF

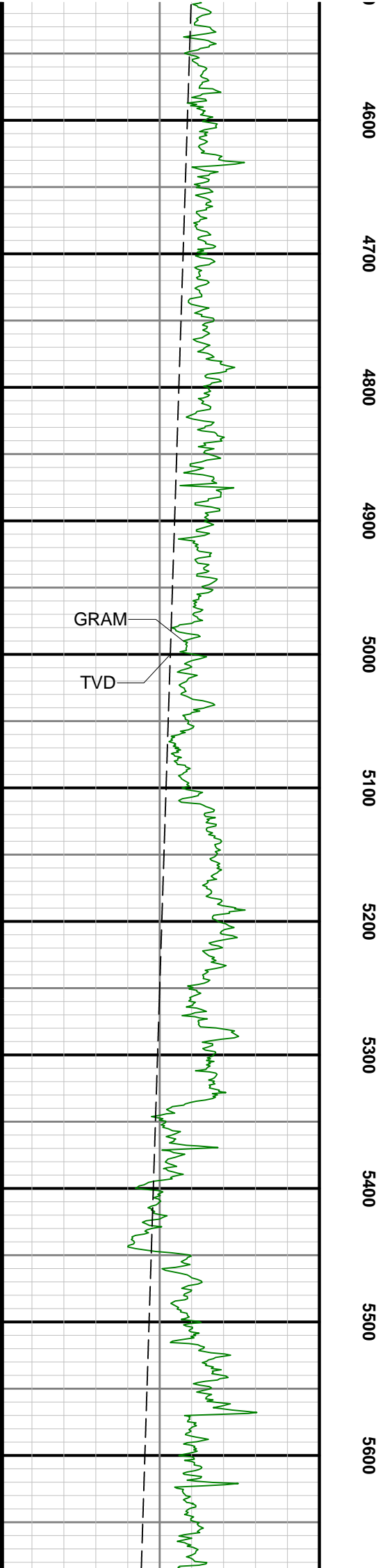
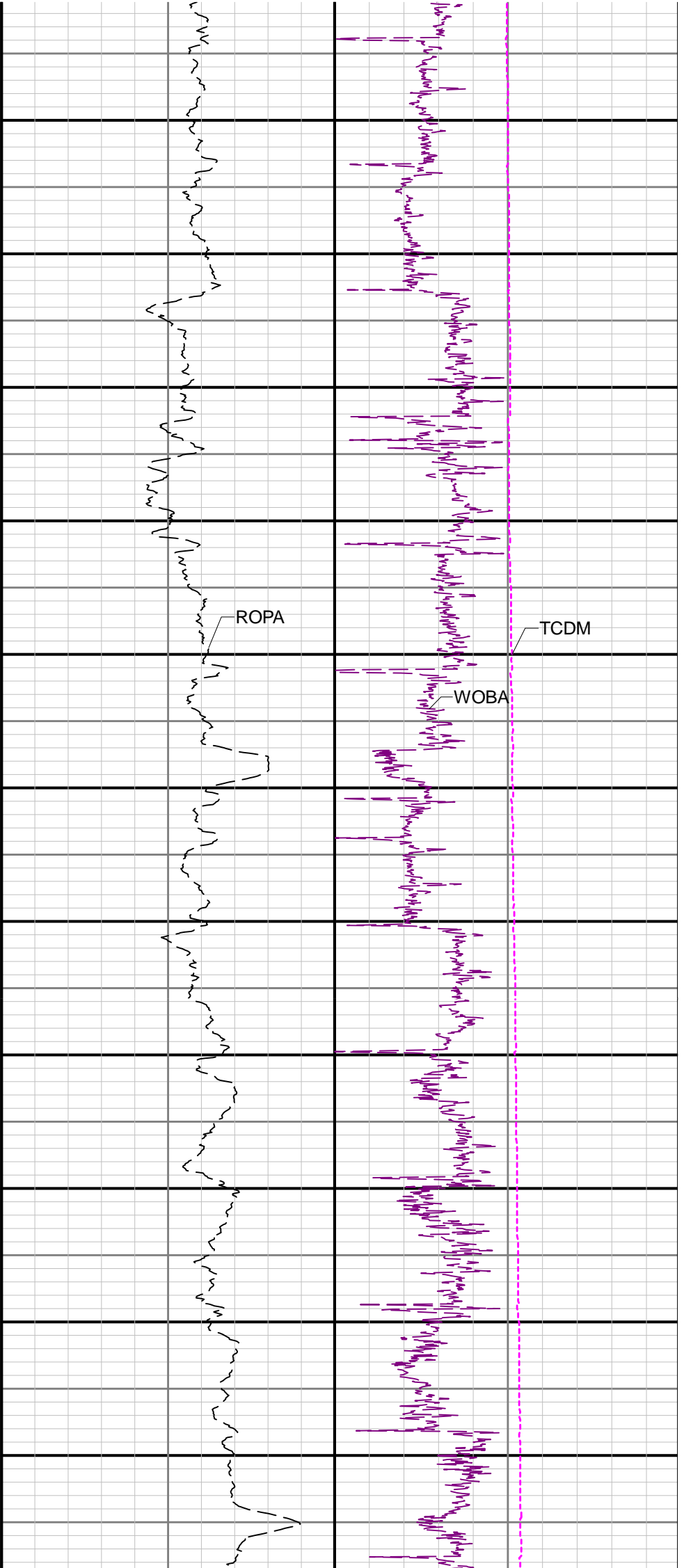
<div><div>BAKER HUGHES</div><div>a GE company</div></div> <div></div>		Company	ConocoPhillips			
		Well	Bear_3-65_22-23_3BH			
		Interval	Date From:	2018-08-02 09:31	Top:	2258.00 ft
		Created	Date To:	2018-08-08 11:06	Bottom:	18165.00 ft
			2018-08-08 19:05:04			
Gamma Ray - Apparent 3 ft Average GRAM		MD 1:1200 feet	Depth Averaged ROP 10 ft Average ROPA		Weight On Bit, Average 1 ft Average WOBA	
0 200			1000 0		0 50	
API			ft/h		klb	
True Vertical Depth TVD					Downhole Temperature TCDM	
9000 1500					0 300	
ft					degF	

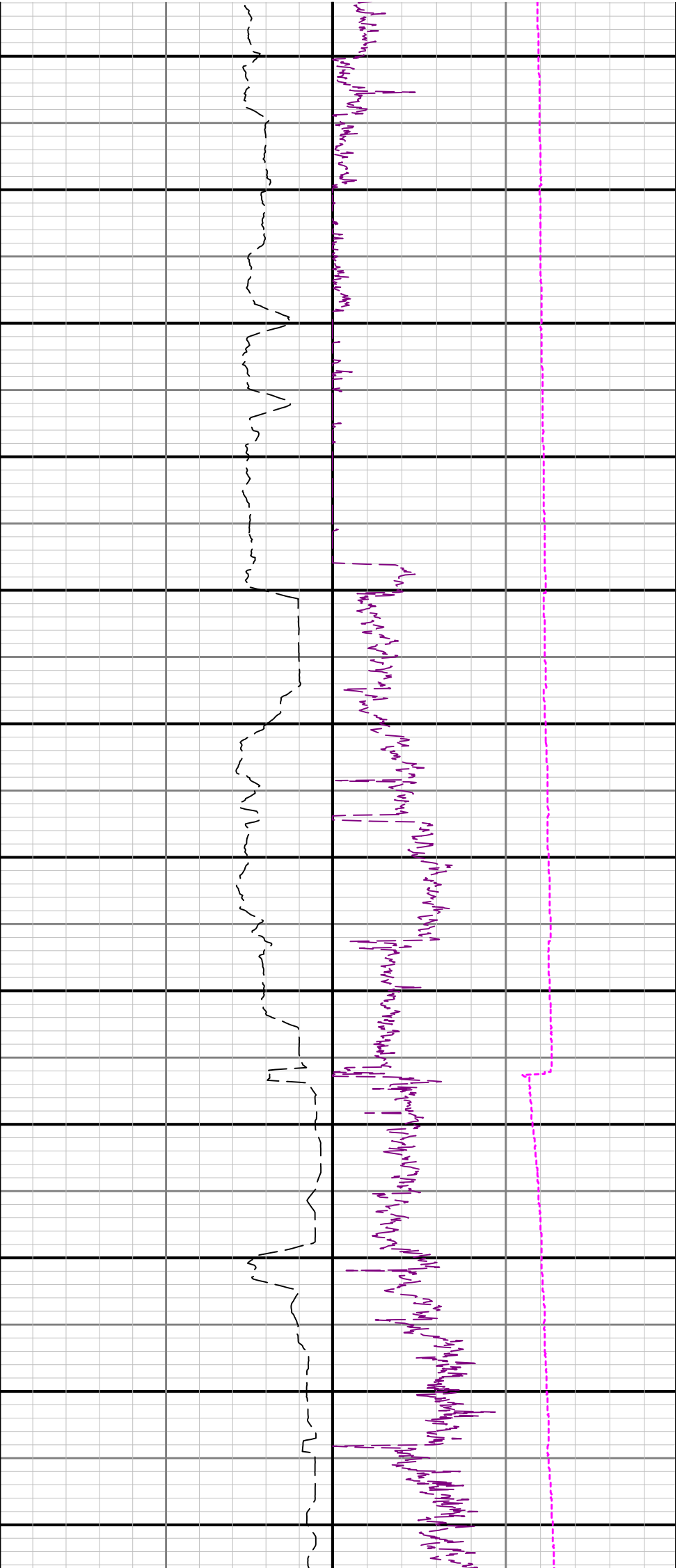




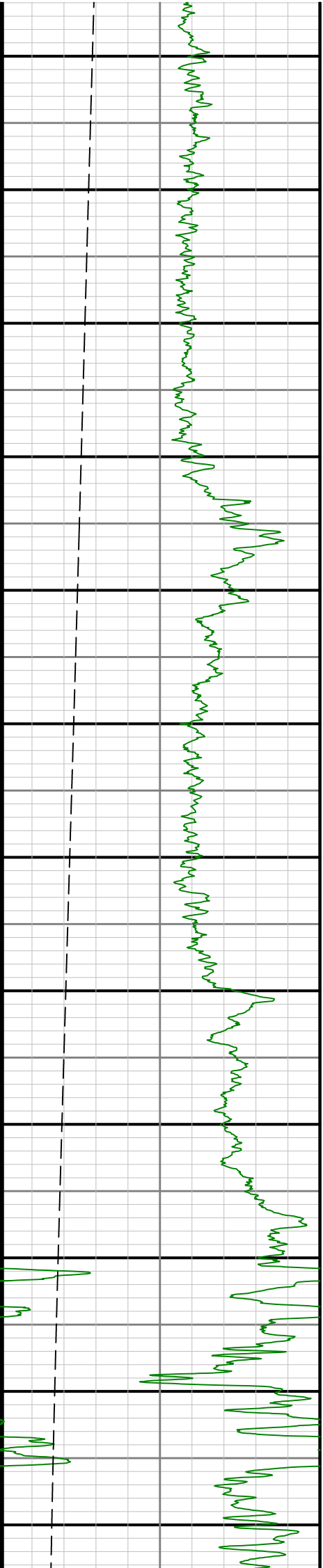
3400 3500 3600 3700 3800 3900 4000 4100 4200 4300 4400 4500

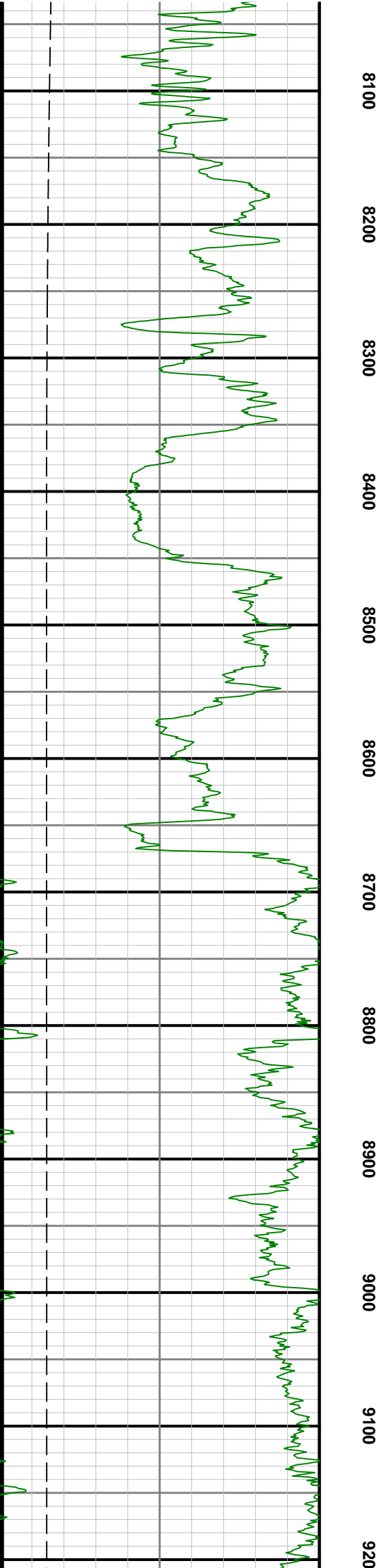
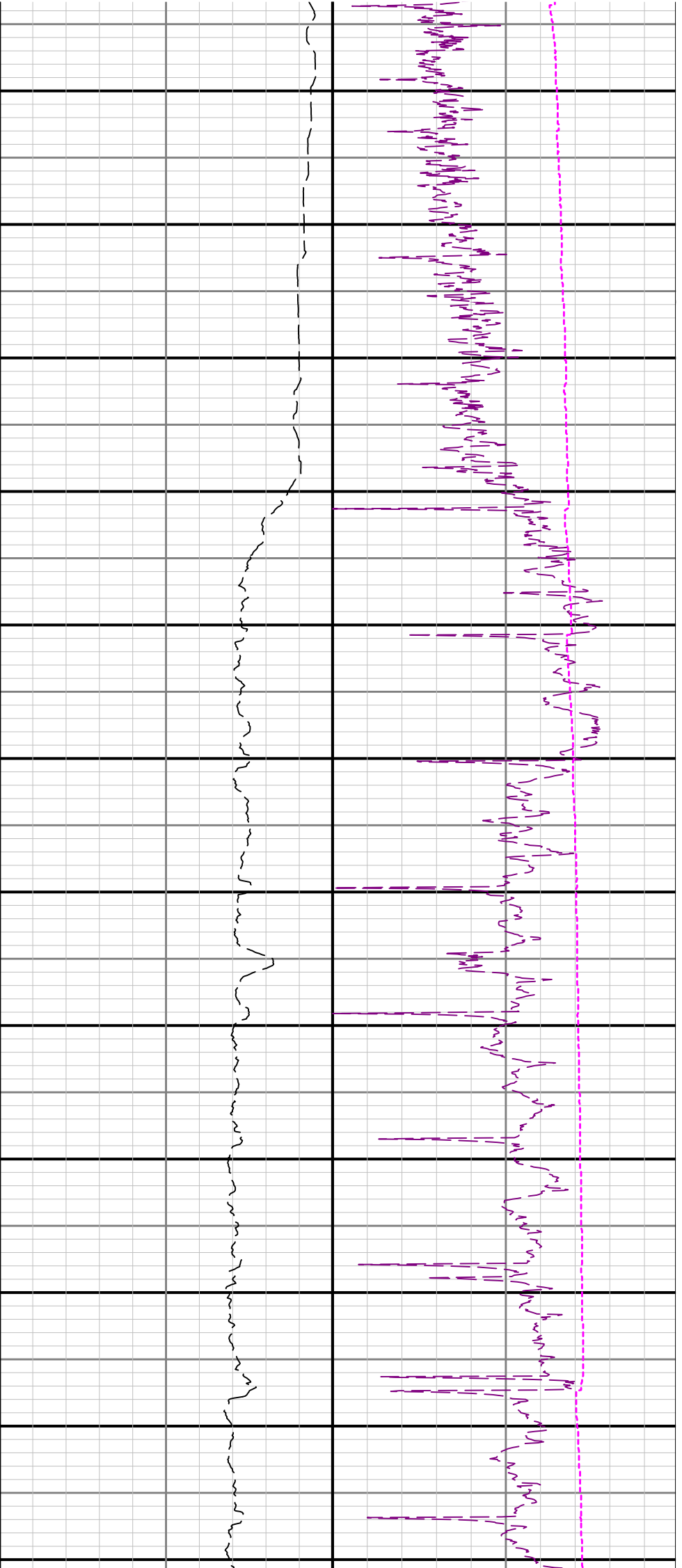


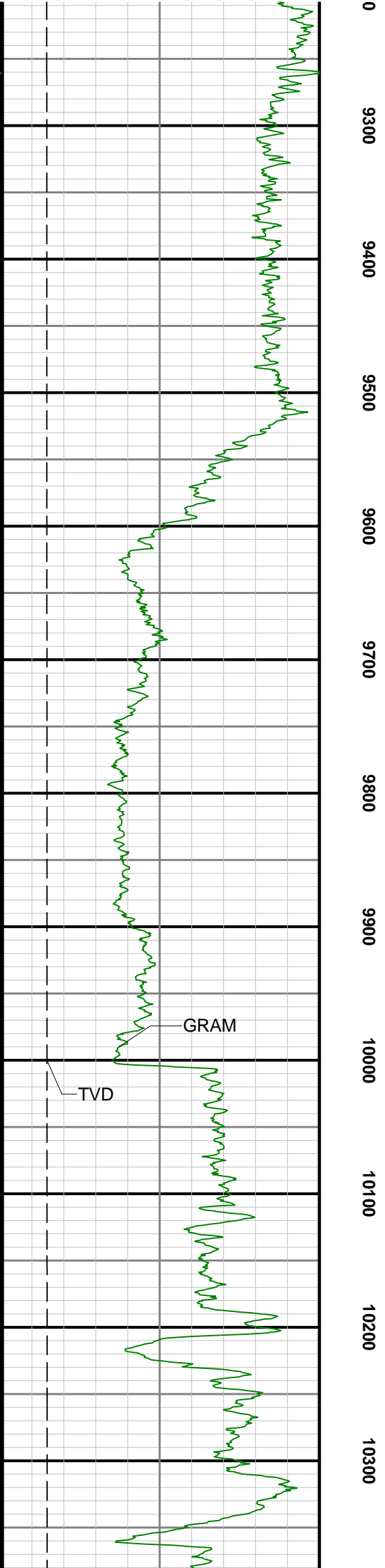
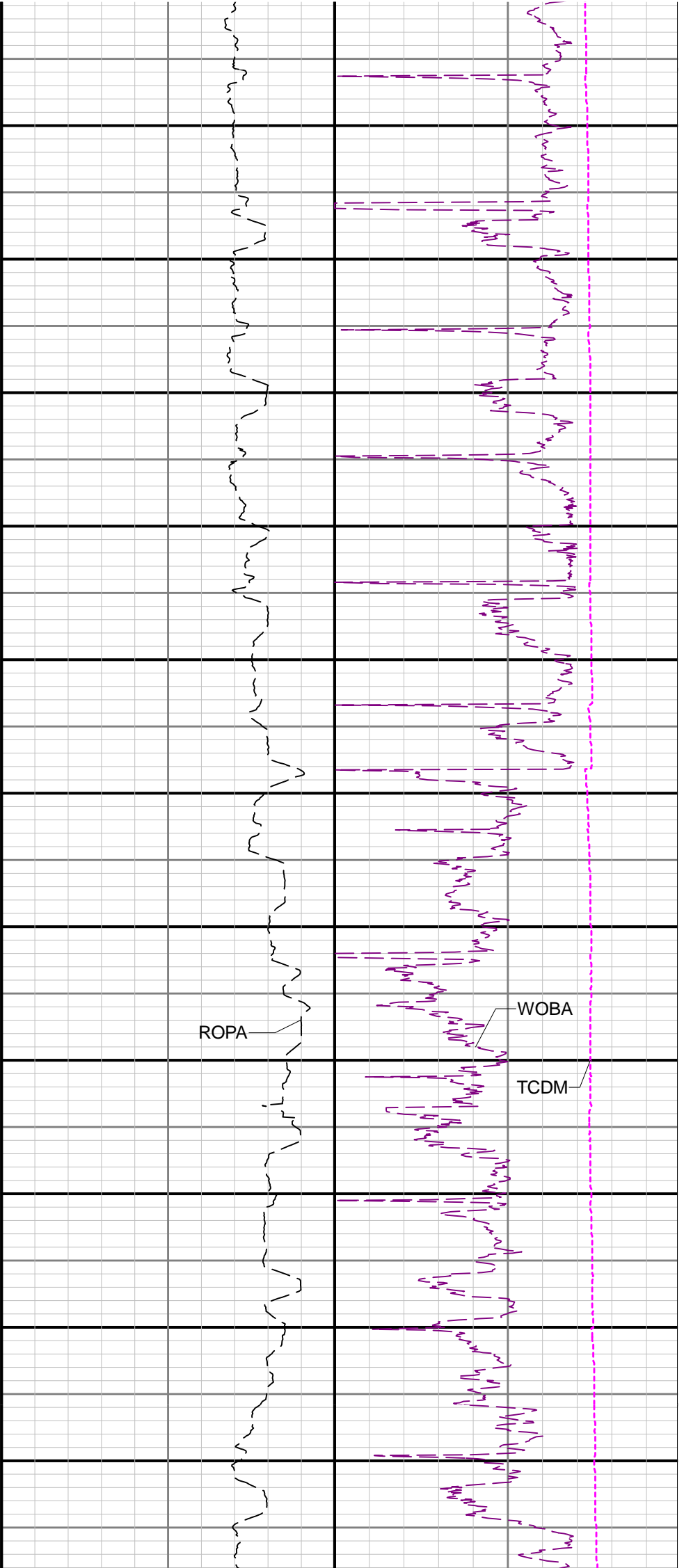


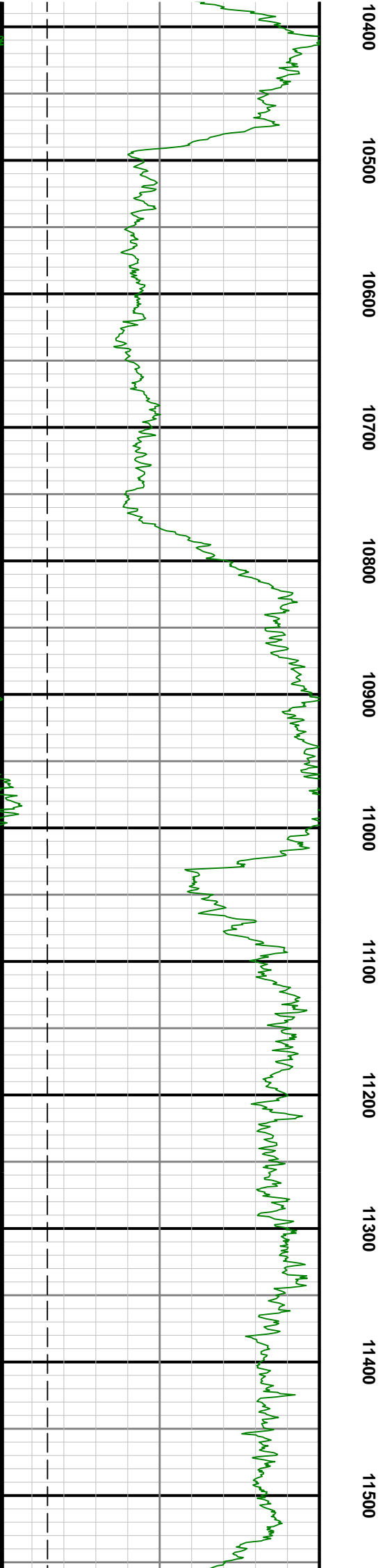
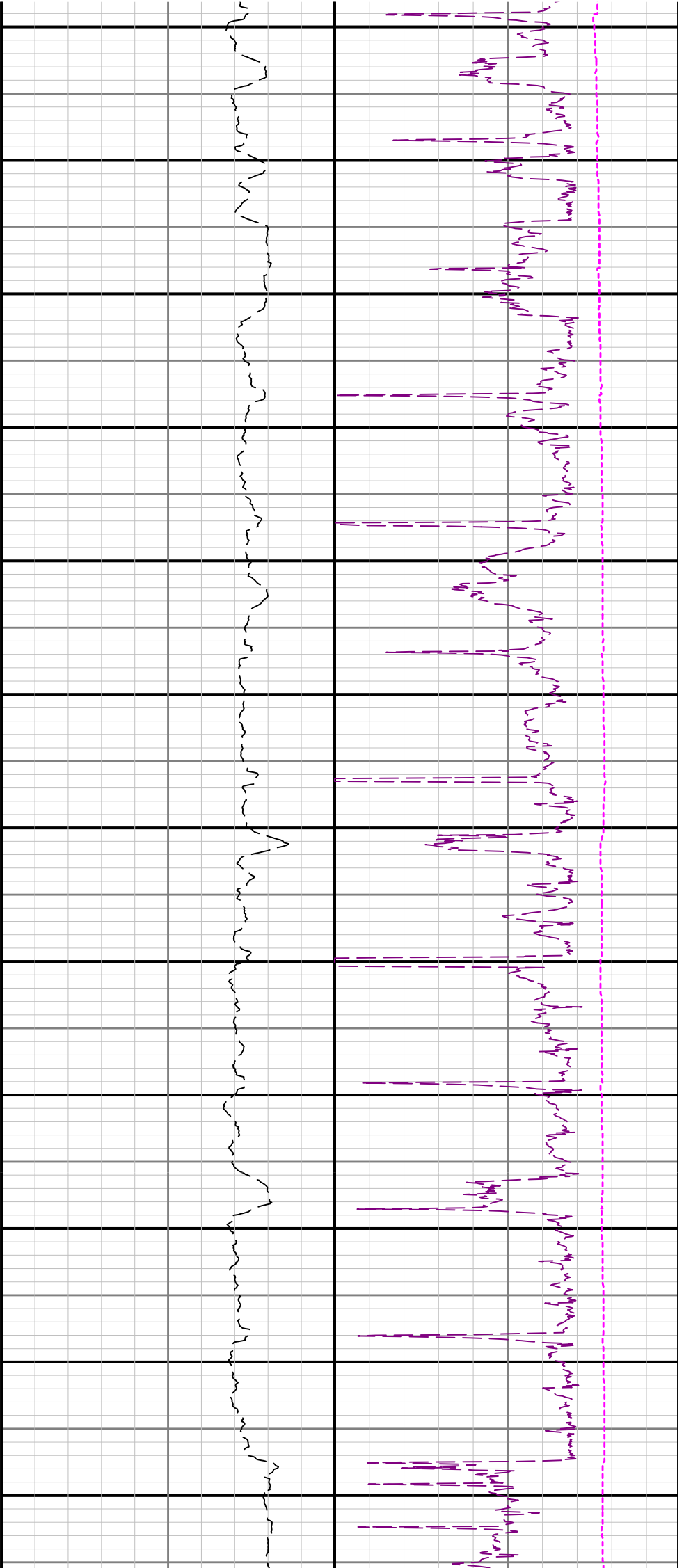


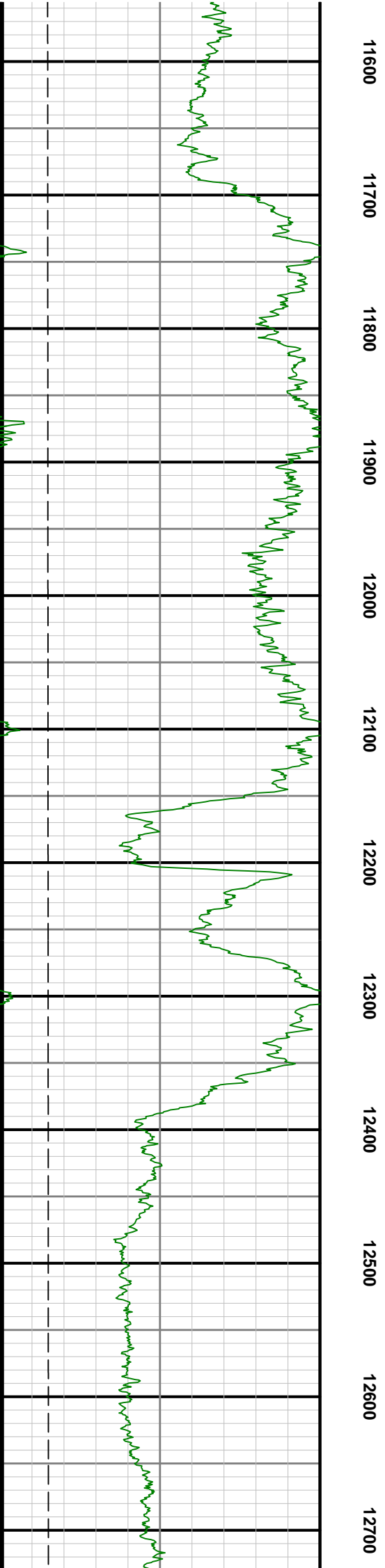
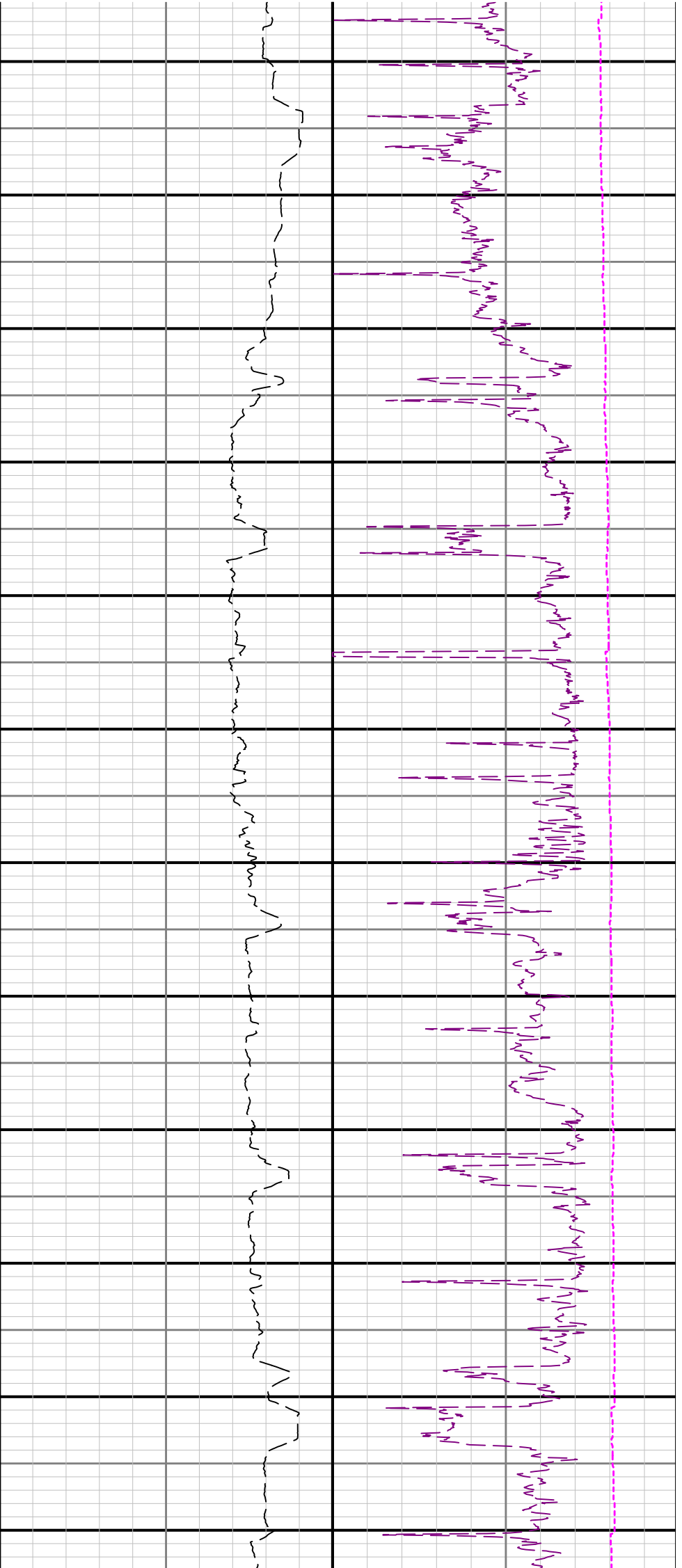
6900 7000 7100 7200 7300 7400 7500 7600 7700 7800 7900 8000

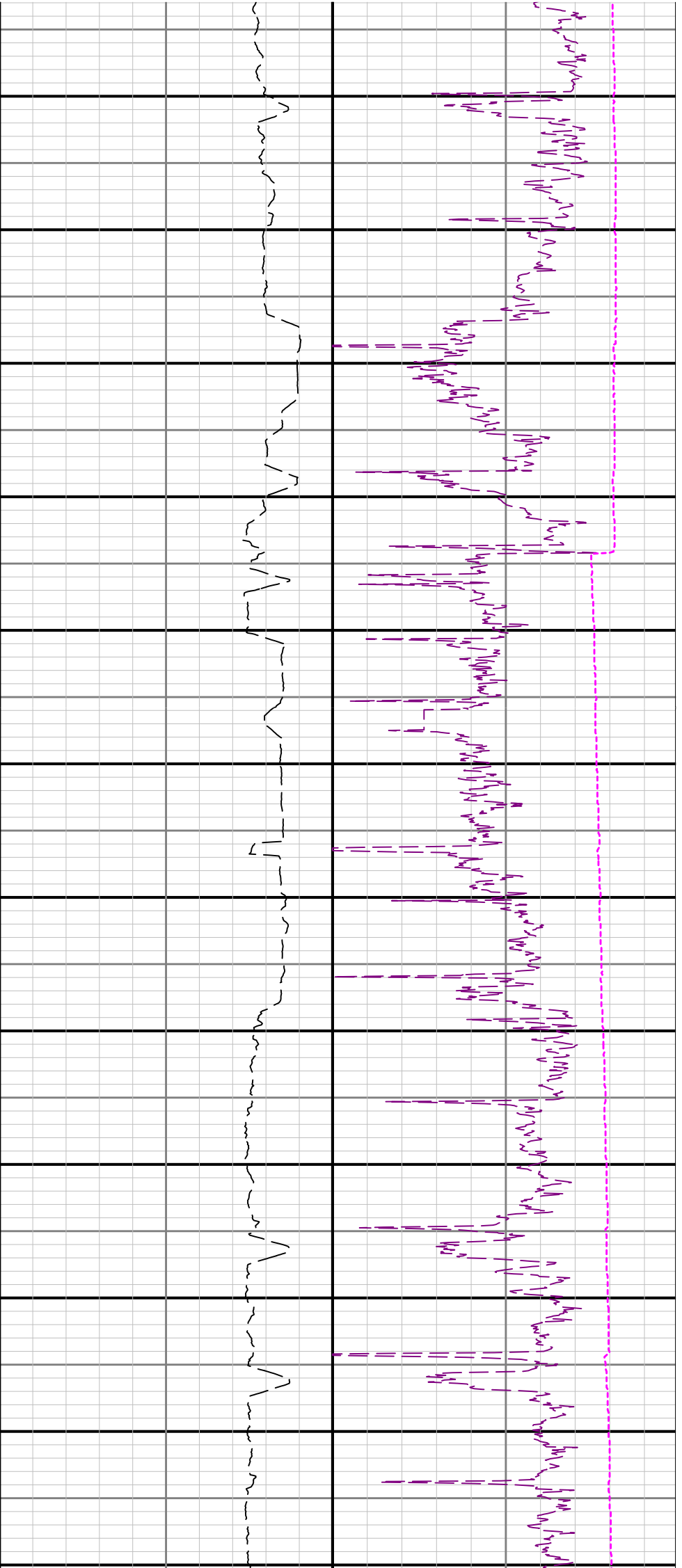












$R2 < R3$

