

LWD Realtime Log



Natural Formation Evaluation
Gamma Ray

Scale:

1:1200 MD

Company: Noble Energy

Well: Wells Ranch AA22-617

Field: Weld County

County: Weld County State: Colorado

Status:

Final Print

Surface Location:

Latitude:

040° 28' 3.108" N

Other Services:

API No: 05-123-42266-00

Longitude:

104° 25' 55.056" W

Job ID: 7874215

SEC: 22

TWN: 6N

RGE: 63W

Permanent Datum (P.D.): Ground Level

Elevation:

4745.00 ft

KB: 0.00 ft

Log Measured From: Rig Floor

Above P.D.

30.00 ft

DF: 4775.00 ft
GL: 4745.00 ft

Dates

Interval Logged

Magnetic Field Reference

Date From: 2016-04-07 Top: (ft) 1911.00

Azi Reference North: Grid Dip Angle: (deg)

67.17

Date To: 2016-04-10 Bottom: (ft) 15931.00

Total Magnetic Field Strength: (nT)

52425

Spud Date: 2016-04-06

Mag to Reference North Correction: (deg)

7.25 E

Borehole Record

Casing Record

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

Size (in)

Weight (lb/ft)

From (ft)

To (ft)

8.500 1922.00 15931.00

9.625

36.00

0.00

1911.00

Mud Record

Deviation Record

Type

From (ft)

To (ft)

Hole Size (in)

Interval (ft)

Inc | Az (Start)

Inc | Az (End)

Diesel Oil Based Mud 1922.00 15931.00

8.500

14009.00

0.44 | 254.84

89.83 | 82.22

Acquisition System

Software Version

Other

Baker Hughes Cadence

G3.2

Rig:

H&P 321

Pilot Studio

3.2.7268.7

Contractor: Helmerich & Payne Drilling Co

District:

RMA

Unit:

D&E

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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	Bottom	From	To	Start Logging	End Logging	
						(ft)	(ft)	(ft)	(ft)			
1	1	8.500	PDC	2.00	AutoTrak Curve	1911.00	15931.00	1922.00	15931.00	2016-04-07 19:23	2016-04-10 20:02	64.80

Crew

Name		Arrive Wellsite	Depart Wellsite	Name		Arrive Wellsite	Depart Wellsite	Name		Arrive Wellsite	Depart Wellsite
Alex Osbourne		2016-04-07	2016-04-11	Austin Small		2016-04-07	2016-04-09	Hans Carey		2016-04-07	2016-04-11
Mike Guernsey		2016-04-07	2016-04-11	Matthew Delmore		2016-04-09	2016-04-11				

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+ (%)
2016-04-07 17:24		1	1920.00	Diesel-Oil Based Mud	10.0	54	N/A	17.6	65	Active Pit	35500	0.00
2016-04-08 20:23		1	6818.00	Diesel-Oil Based Mud	9.6	45	N/A	17.2	60	Active Pit	44500	0.00
2016-04-09 21:01		1	11714.00	Diesel-Oil Based Mud	9.6	42	N/A	16.0	62.5	Active Pit	43500	0.00
2016-04-10 02:22		1	15521.00	Diesel-Oil Based Mud	9.8	43	N/A	16.8	63	Active Pit	42000	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	ATC_SU	12273683	Near Bit VSS	5.93	6.57	7.020	4.330
1	ATC_SU	12273683	Near Bit Inclination	5.93	6.57	7.020	4.330
1	ATC_MWD	12252765	Gamma (single)	2.14	12.19	7.000	3.250
1	ATC_MWD	12252765	Directional (mag)	12.21	22.26	7.000	3.250

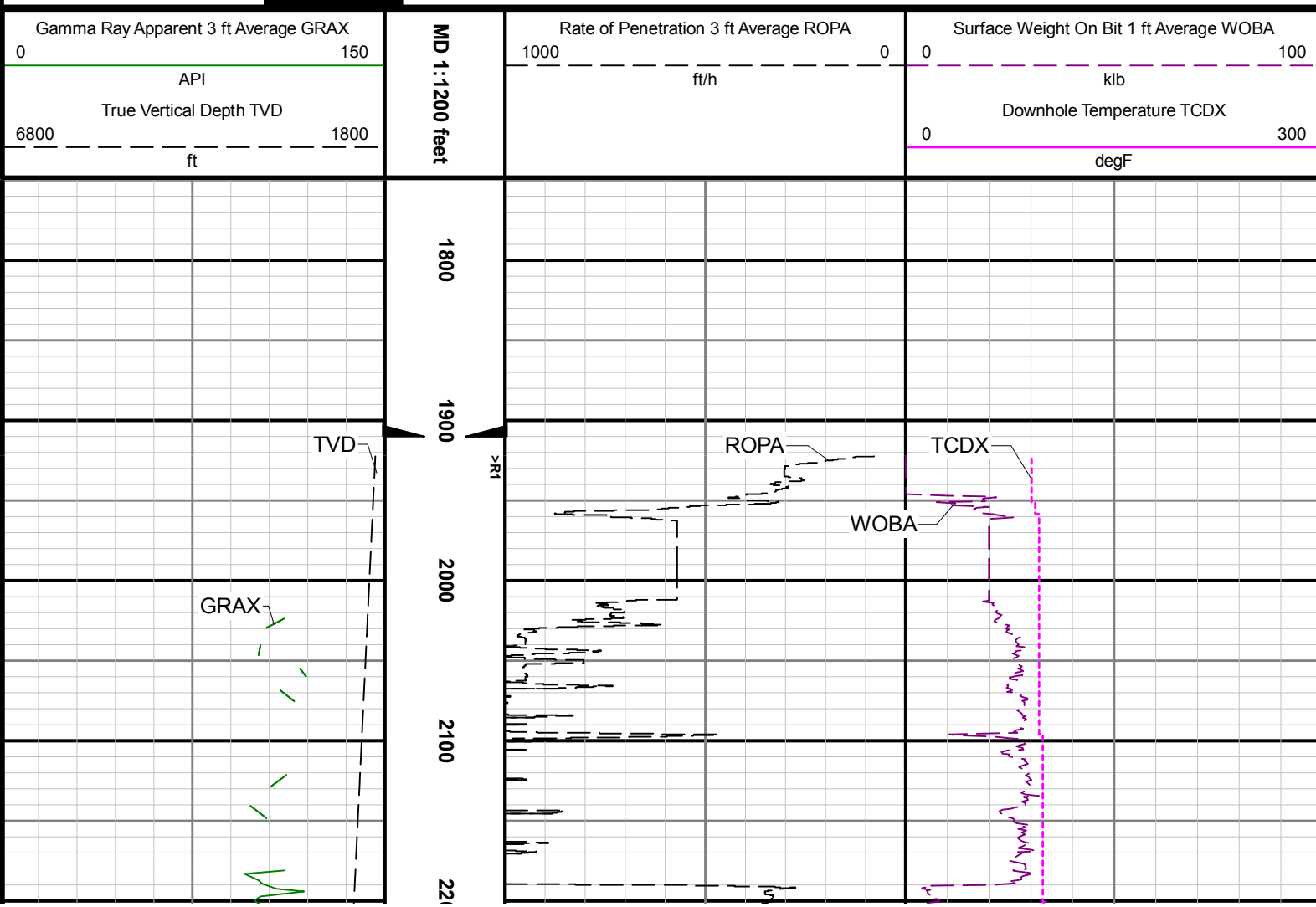
Comments

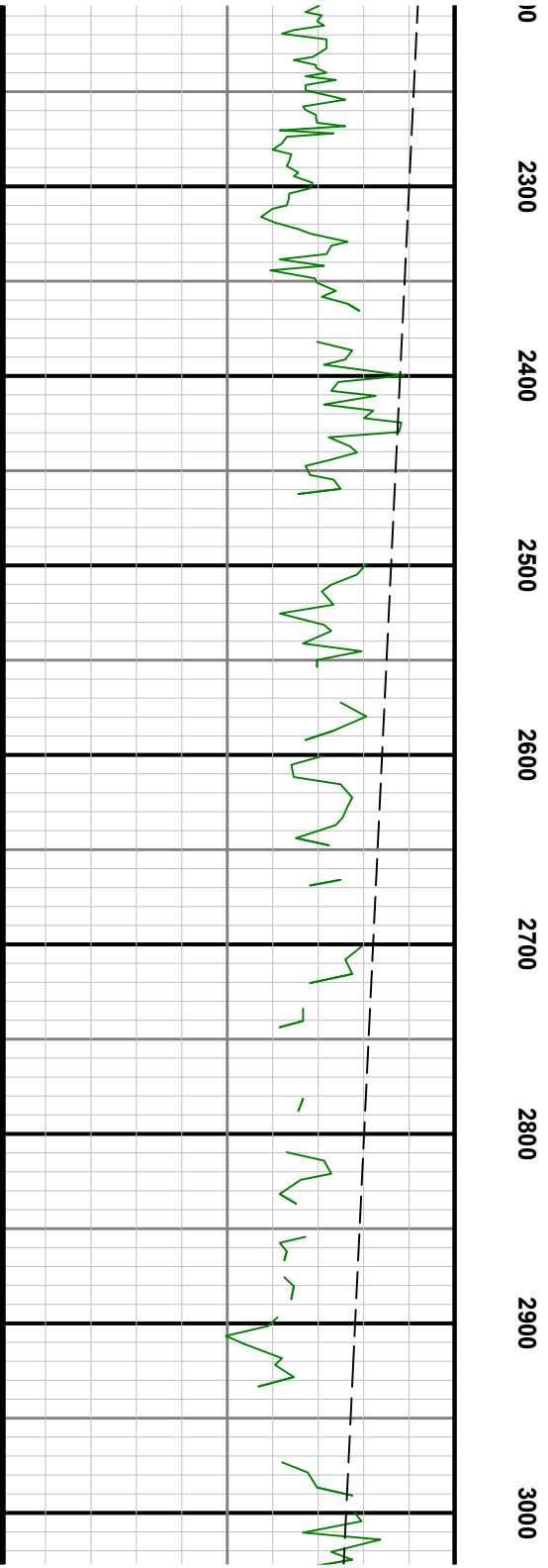
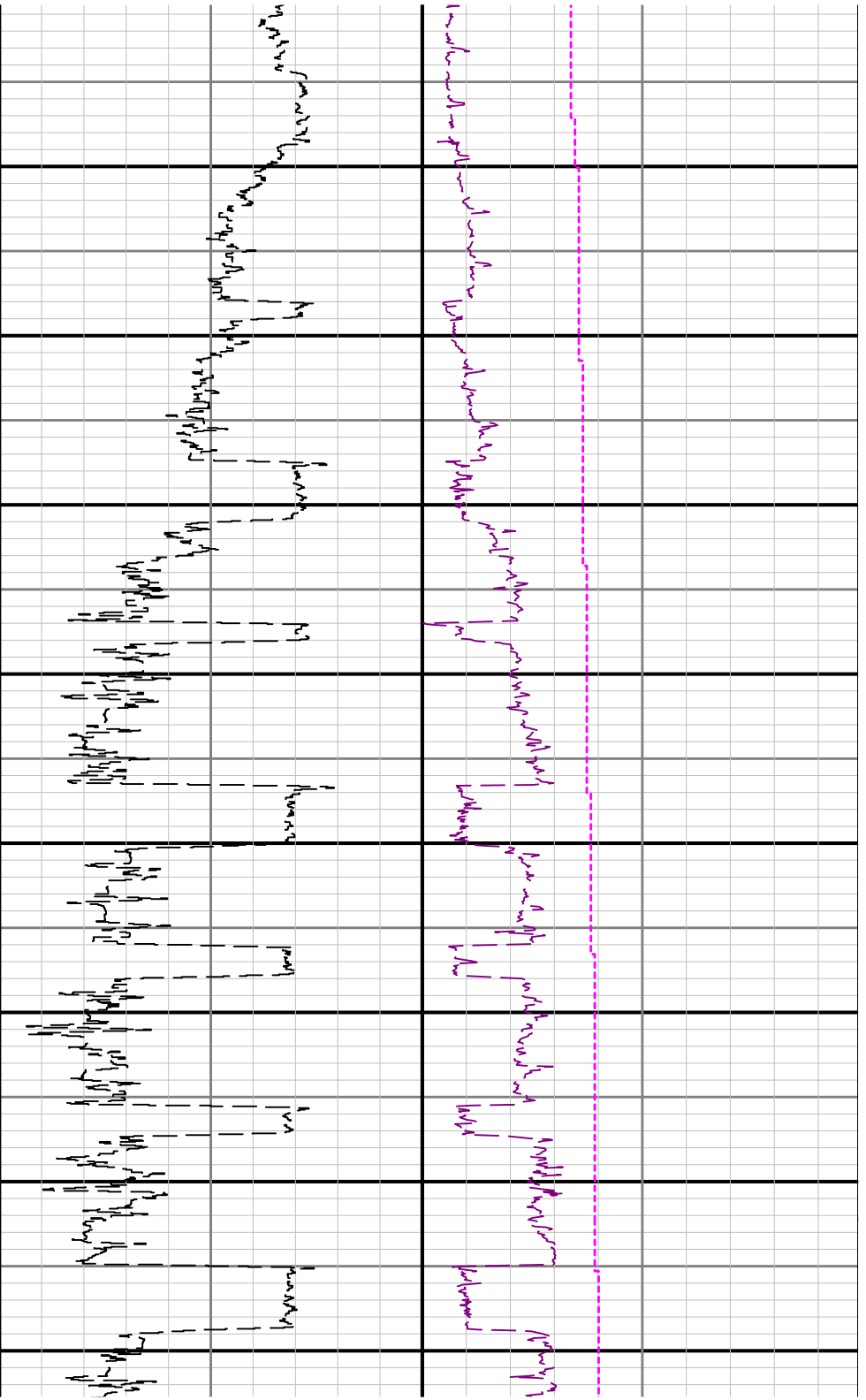
- 1
- Depth measurements obtained from a depth control system not supplied or operated by Baker Hughes. Due to a lack of control by Baker Hughes logging engineers, depth calibrations and measurements could not be independently verified.
- 2
- Baker Hughes' Run 1 utilized a 6.50 inch AutoTrak Curve Rotary Steerable assembly tool behind a 8.50 inch bit from 1911 to 15931 feet MD (1911 to 6634 feet TVD).

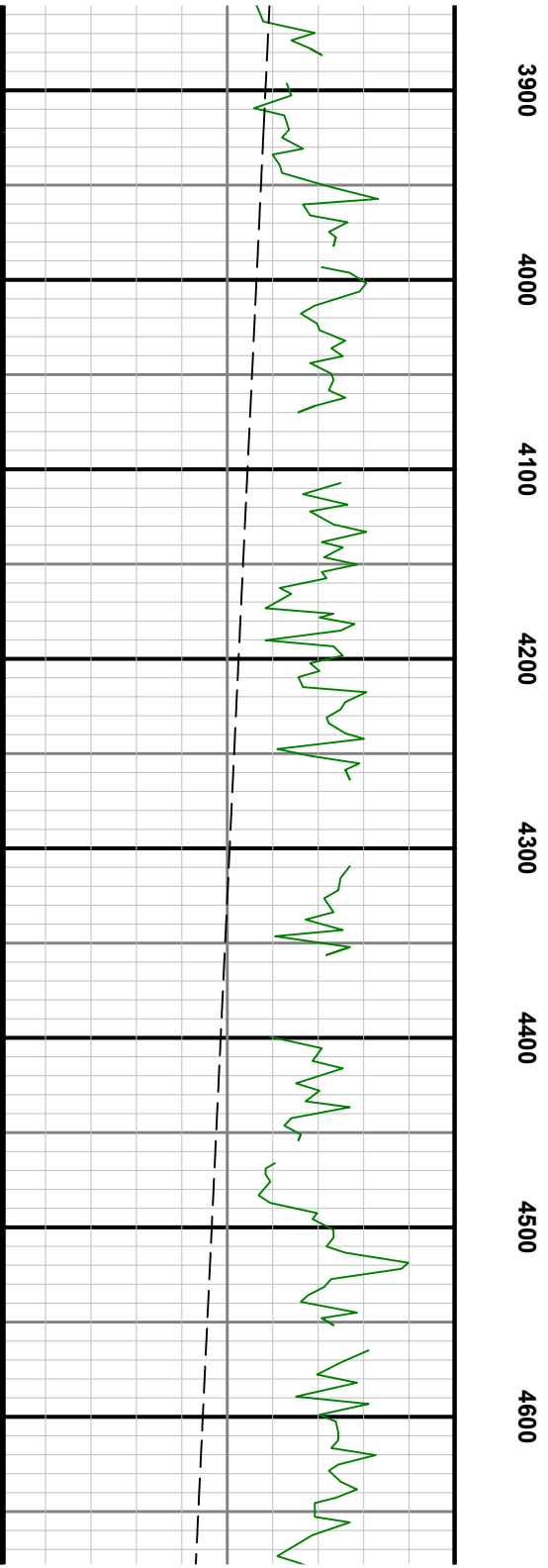
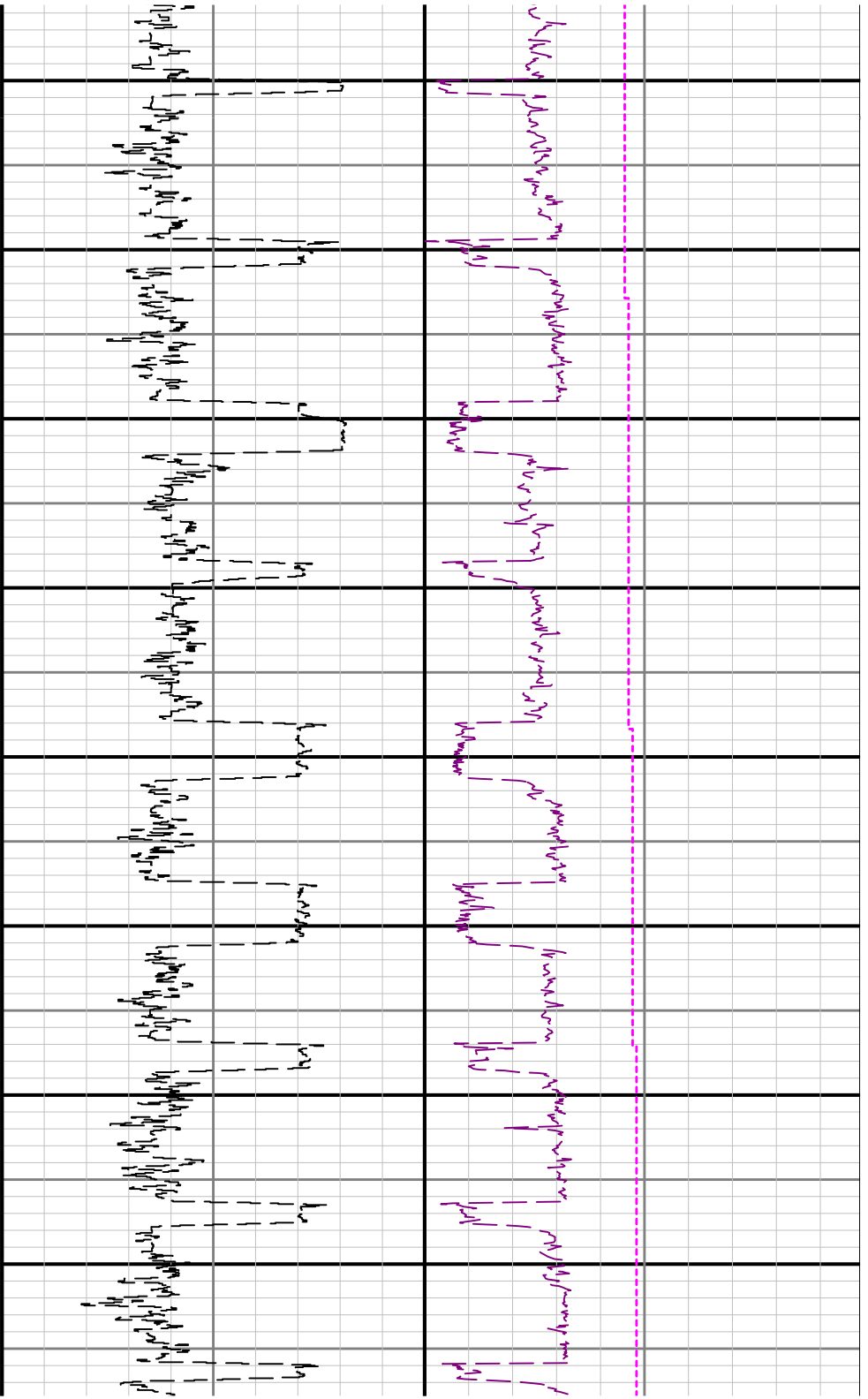
Curve Mnemonics

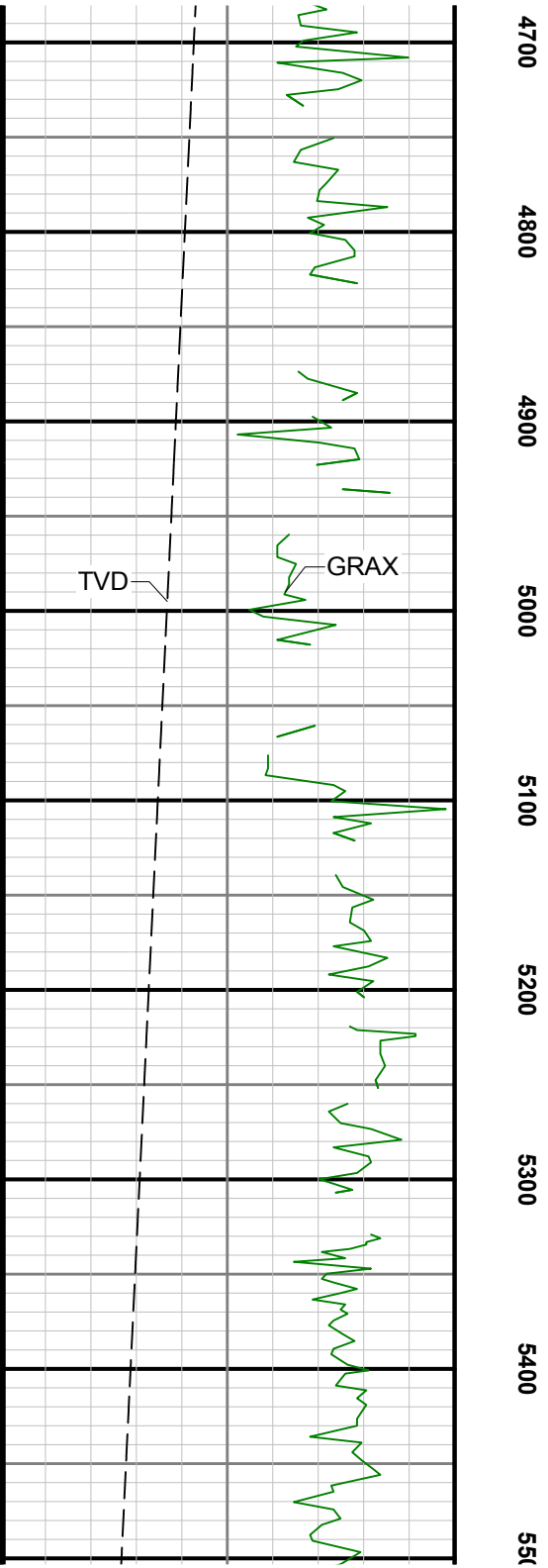
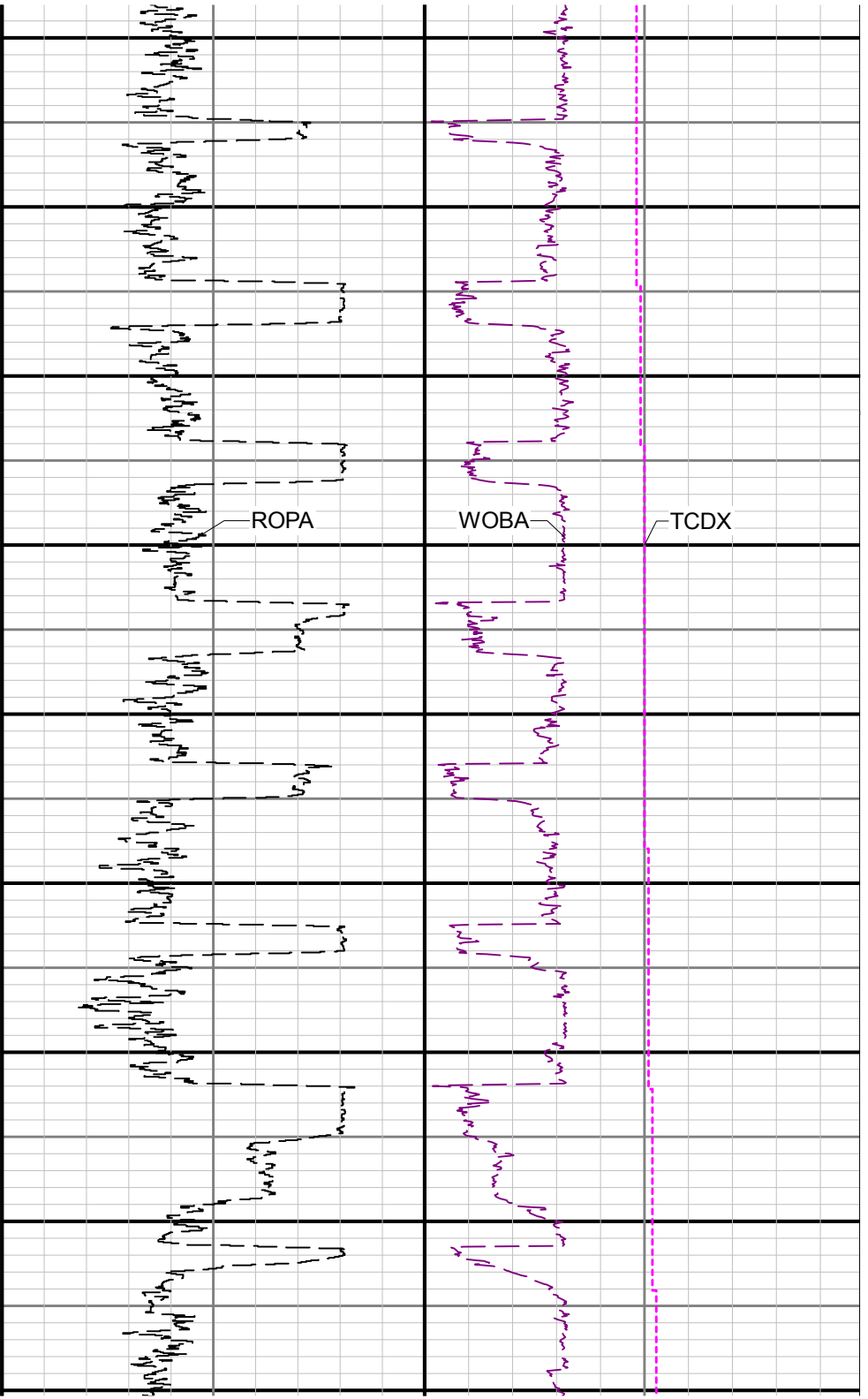
Presented Curves	Description	Units
ROPA	Depth Averaged ROP 3 ft Average	ft/h
GRAX	Gamma Ray - Apparent 3 ft Average	API
TCDX	Downhole Temperature	degF
TVD	True Vertical Depth	ft
WOBA	Weight On Bit, Average 1 ft Average	klb

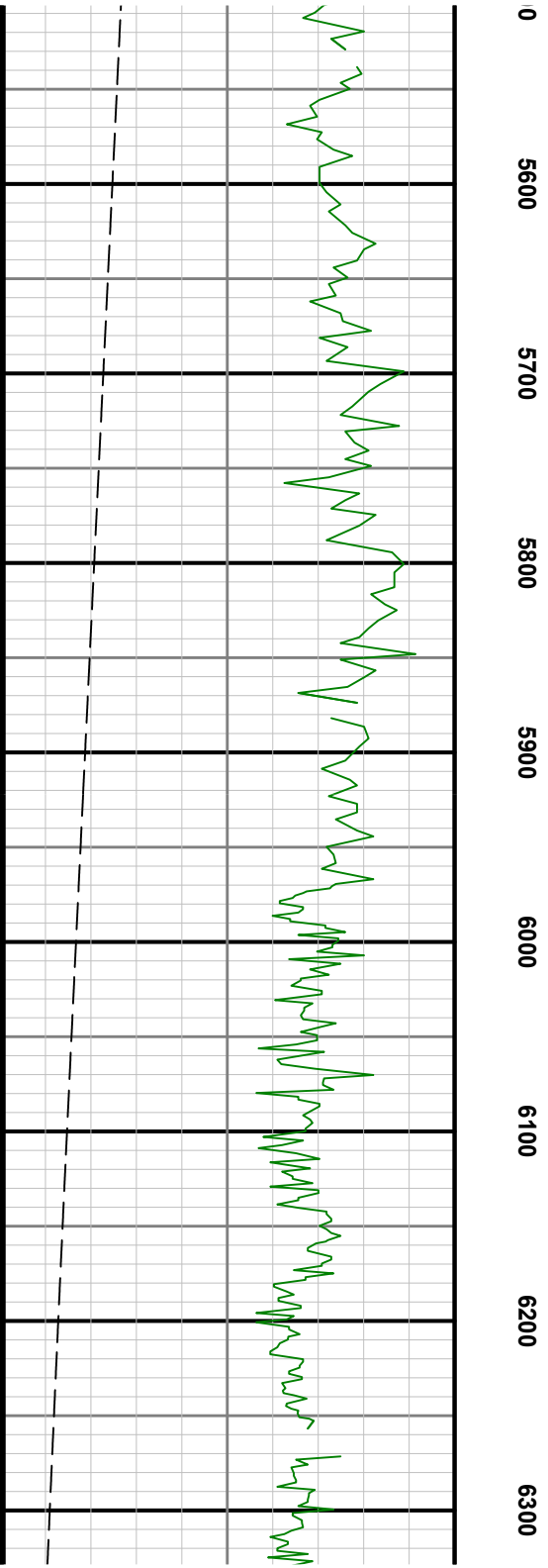
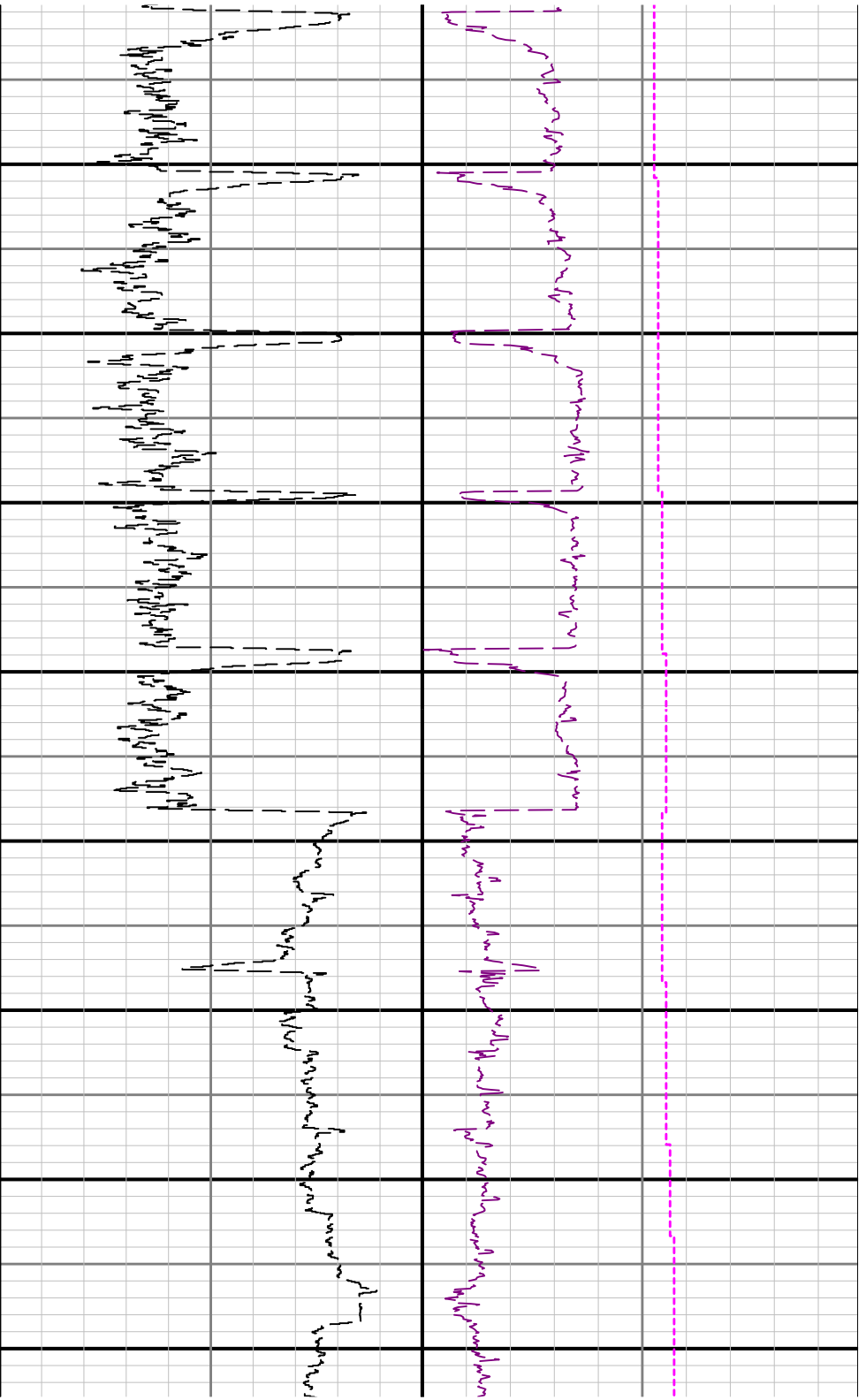
 BAKER HUGHES	Company	Noble Energy			
	Well	Wells Ranch AA22-617			
	Interval	Date From:	2016-04-07 13:23	Top:	1911.00
		Date To:	2016-04-10 12:33	Bottom:	15931.00
	Created	2016-04-11 07:53			

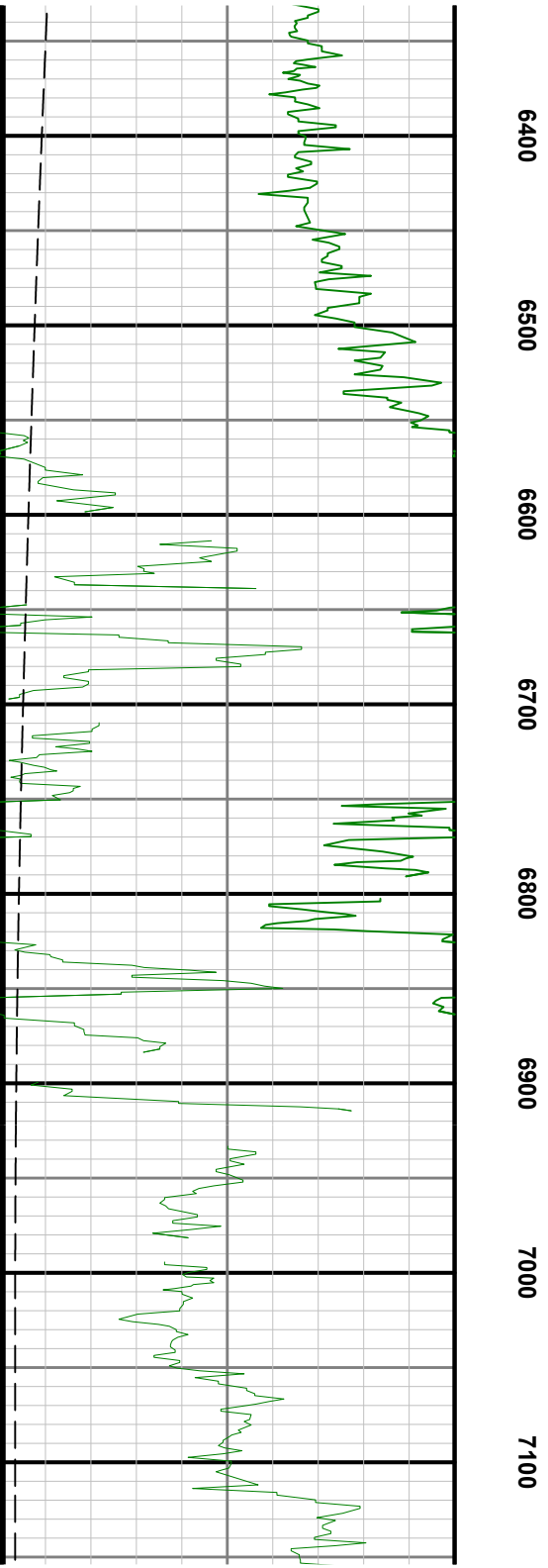
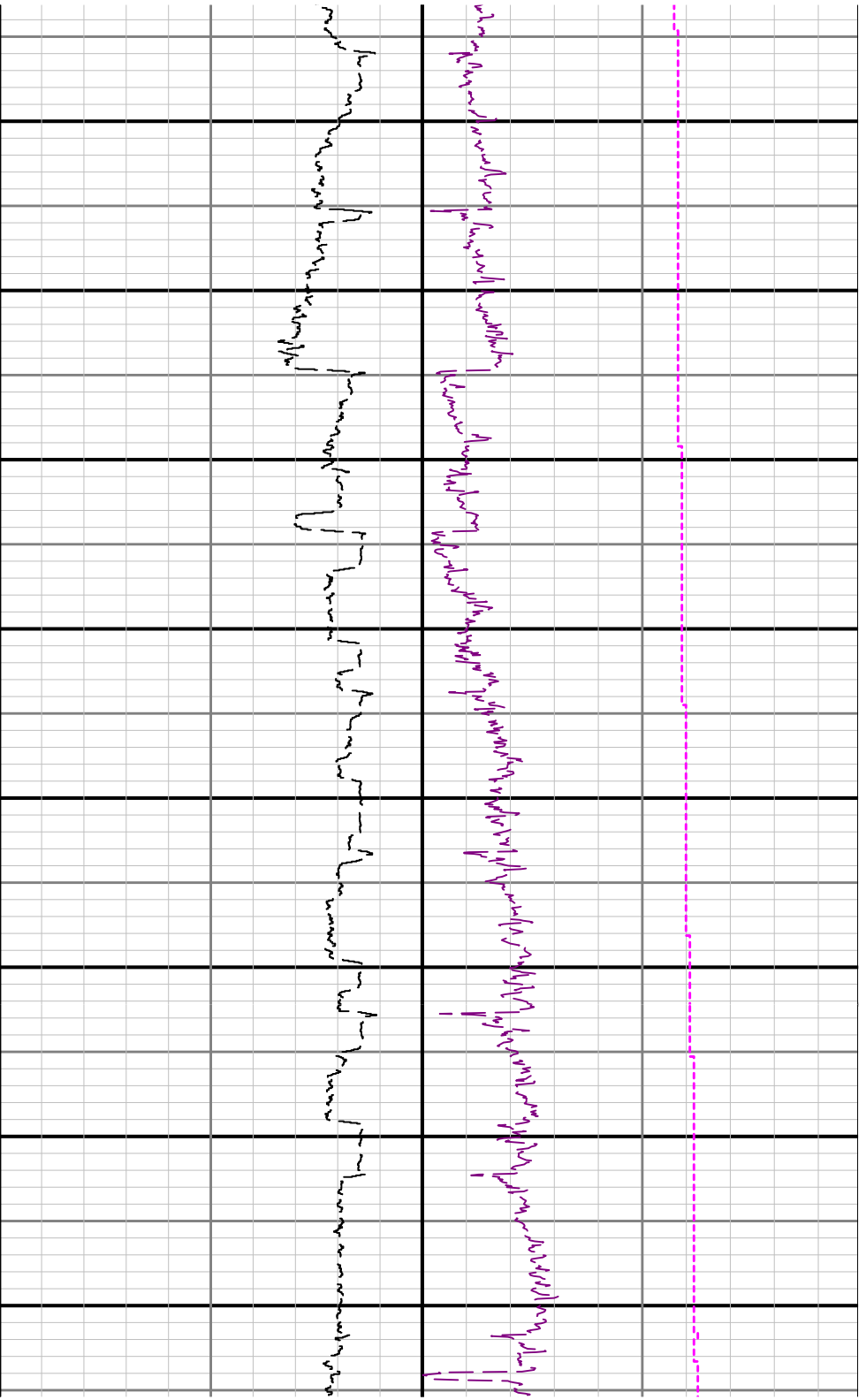


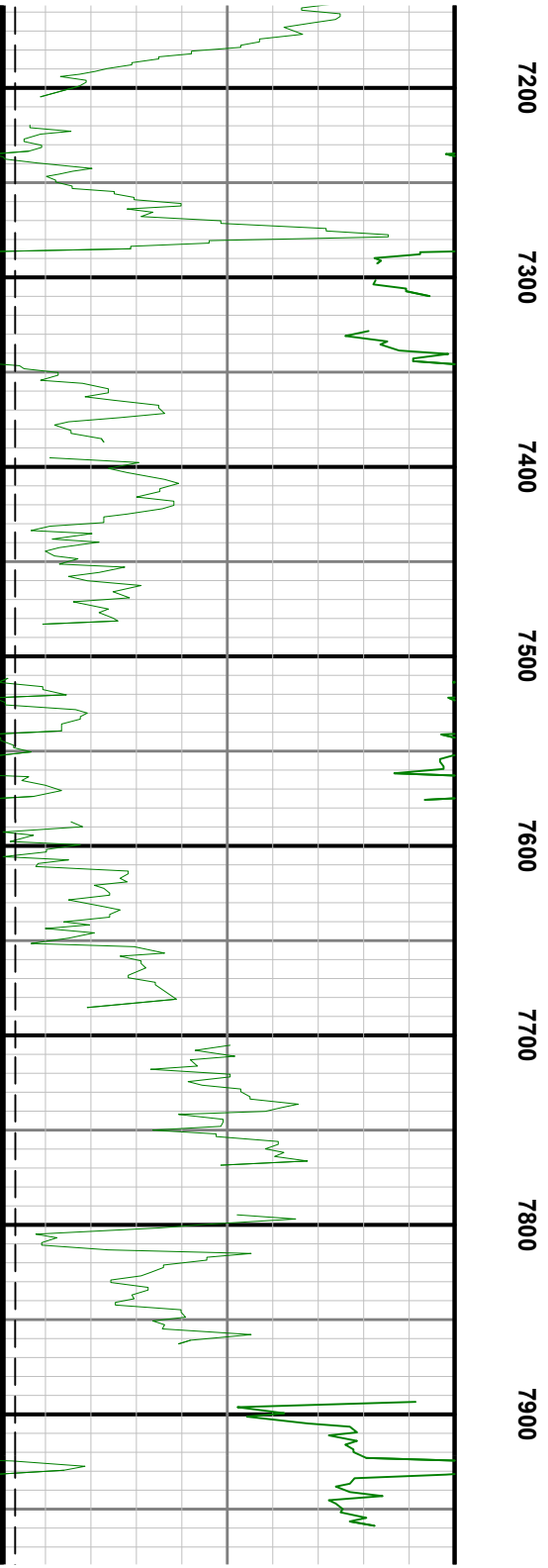
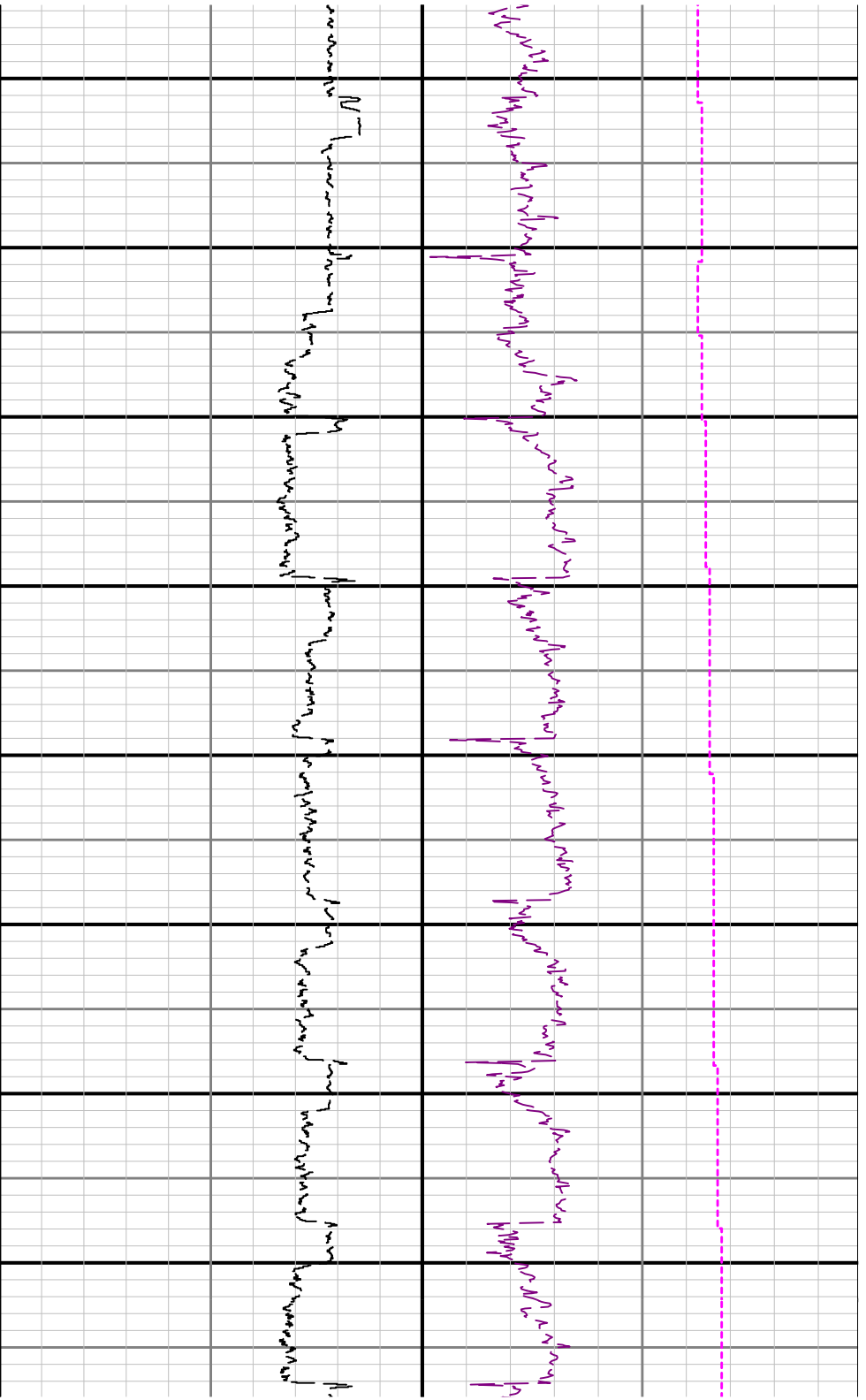


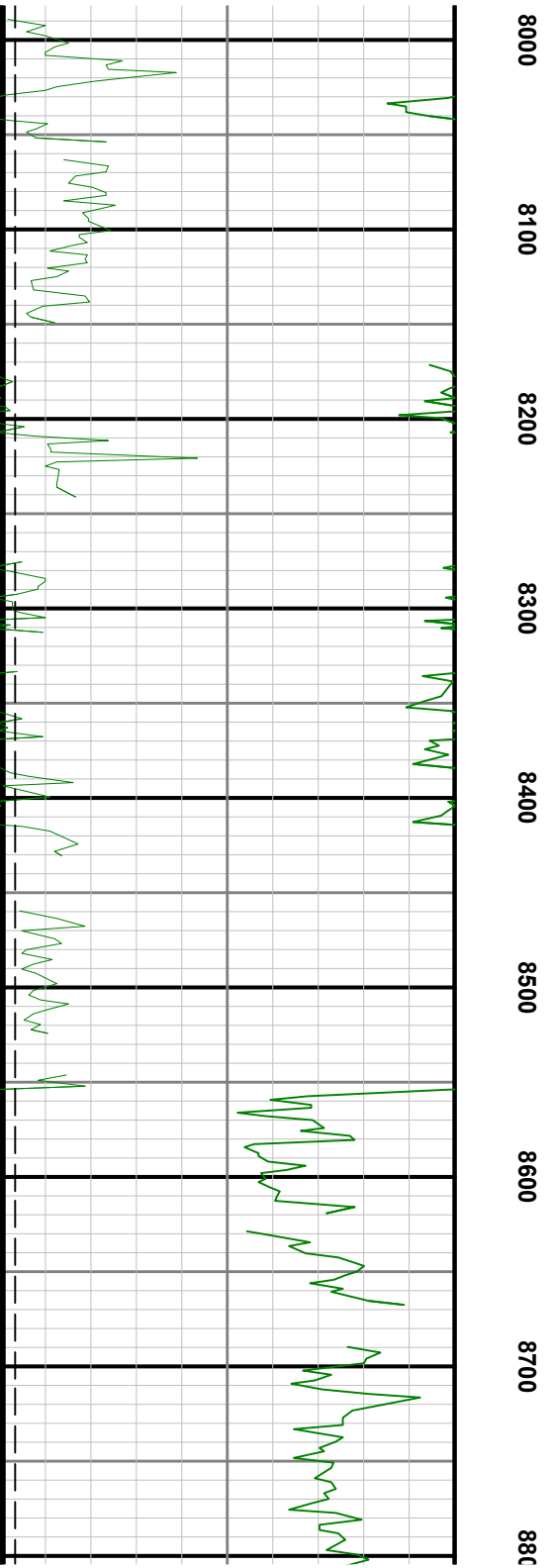
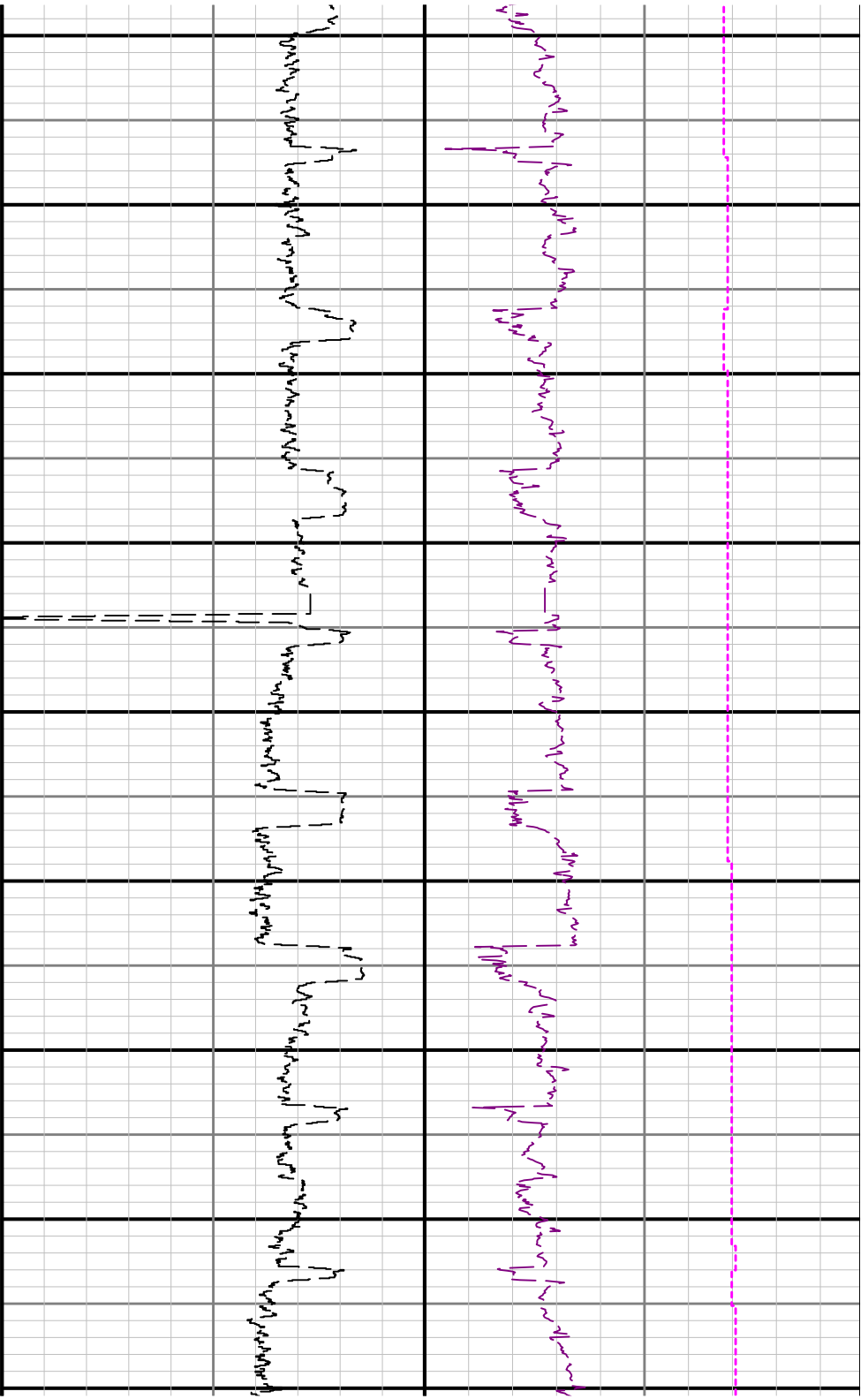


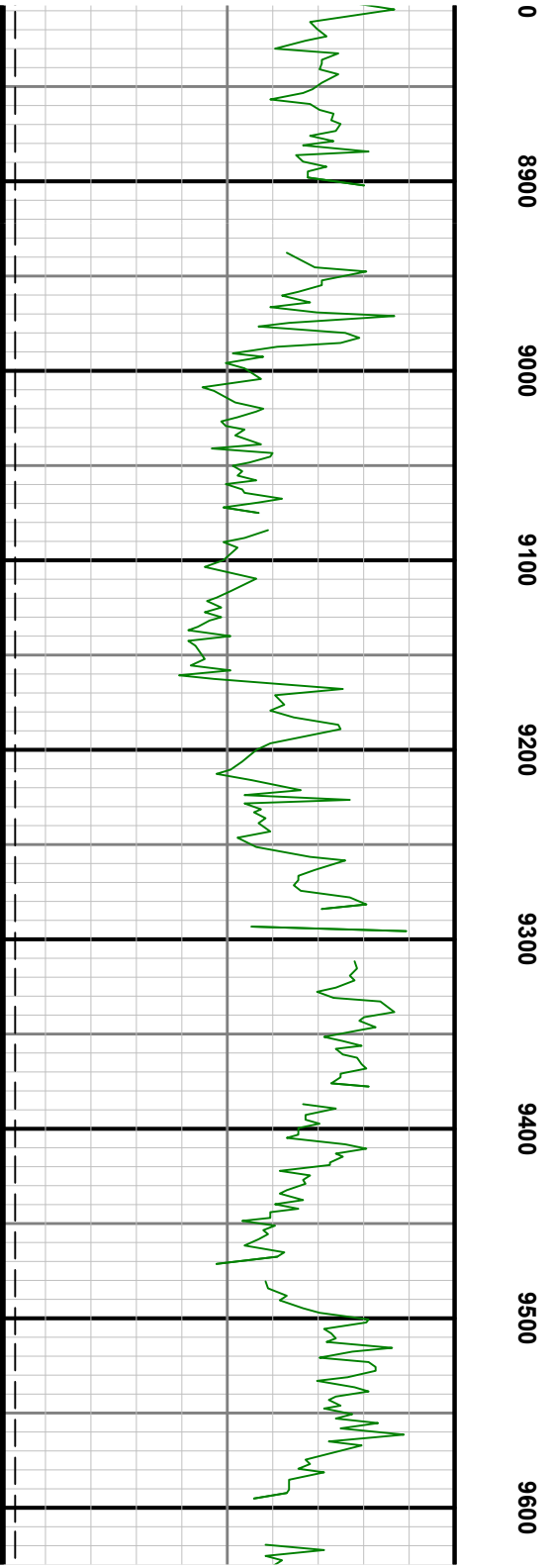
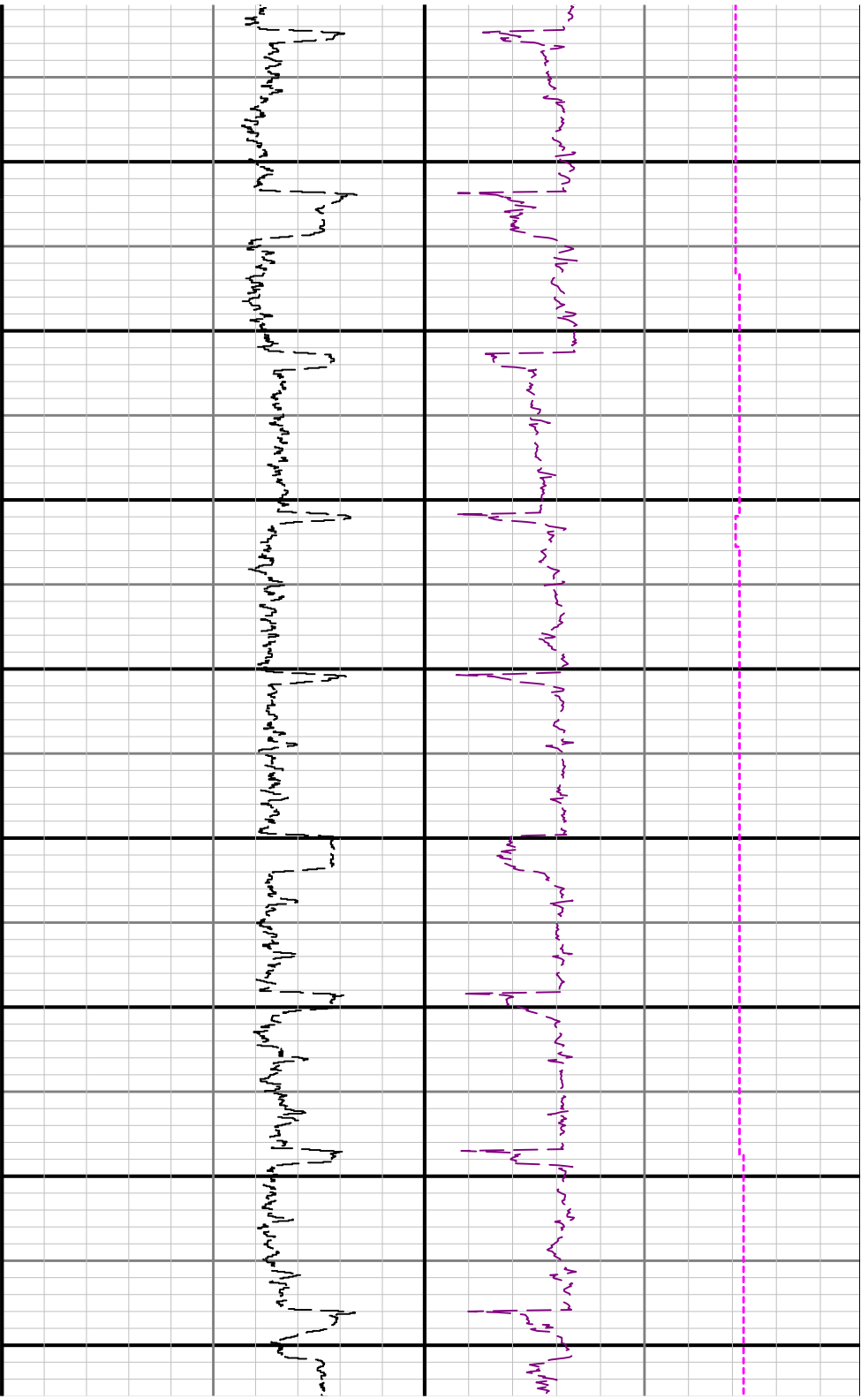


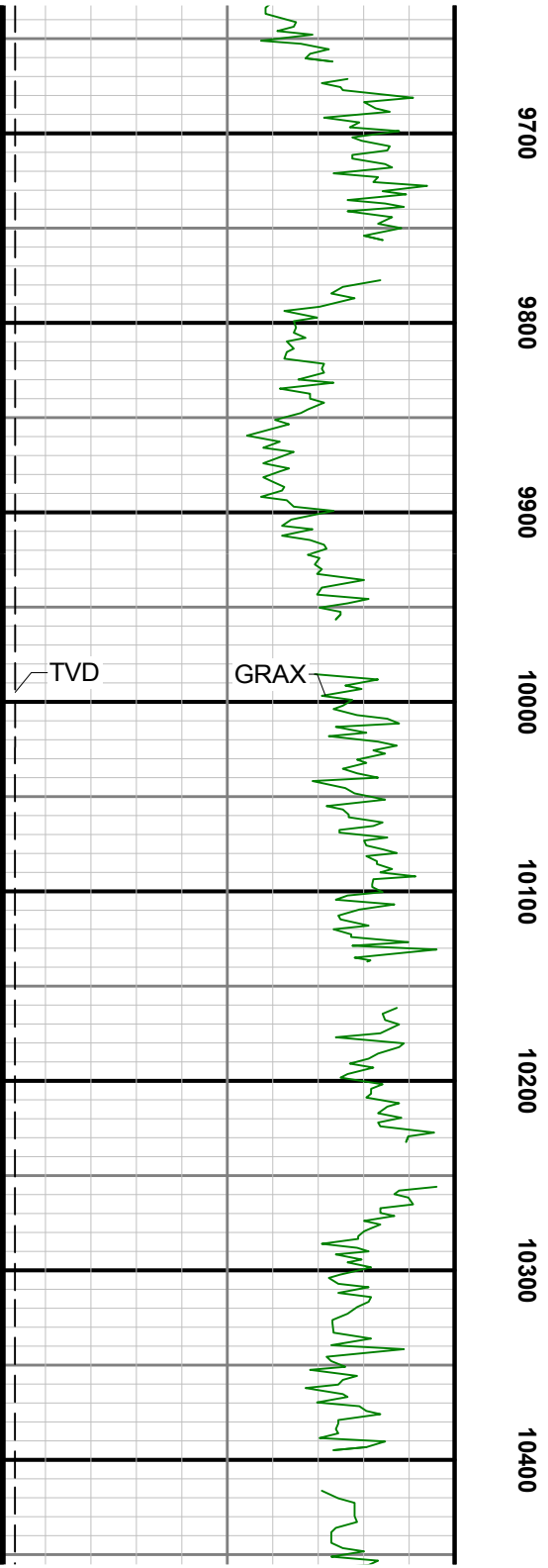
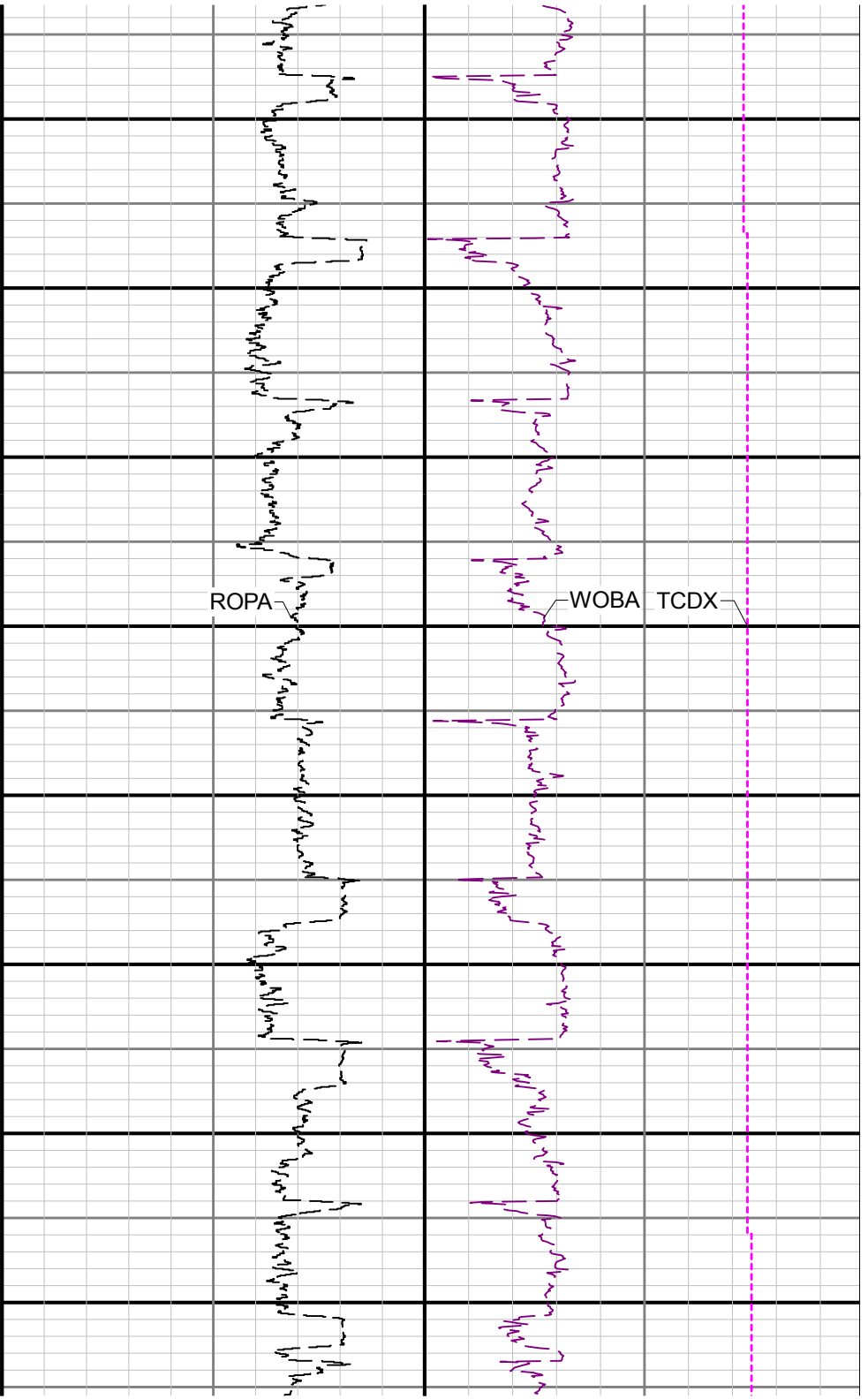


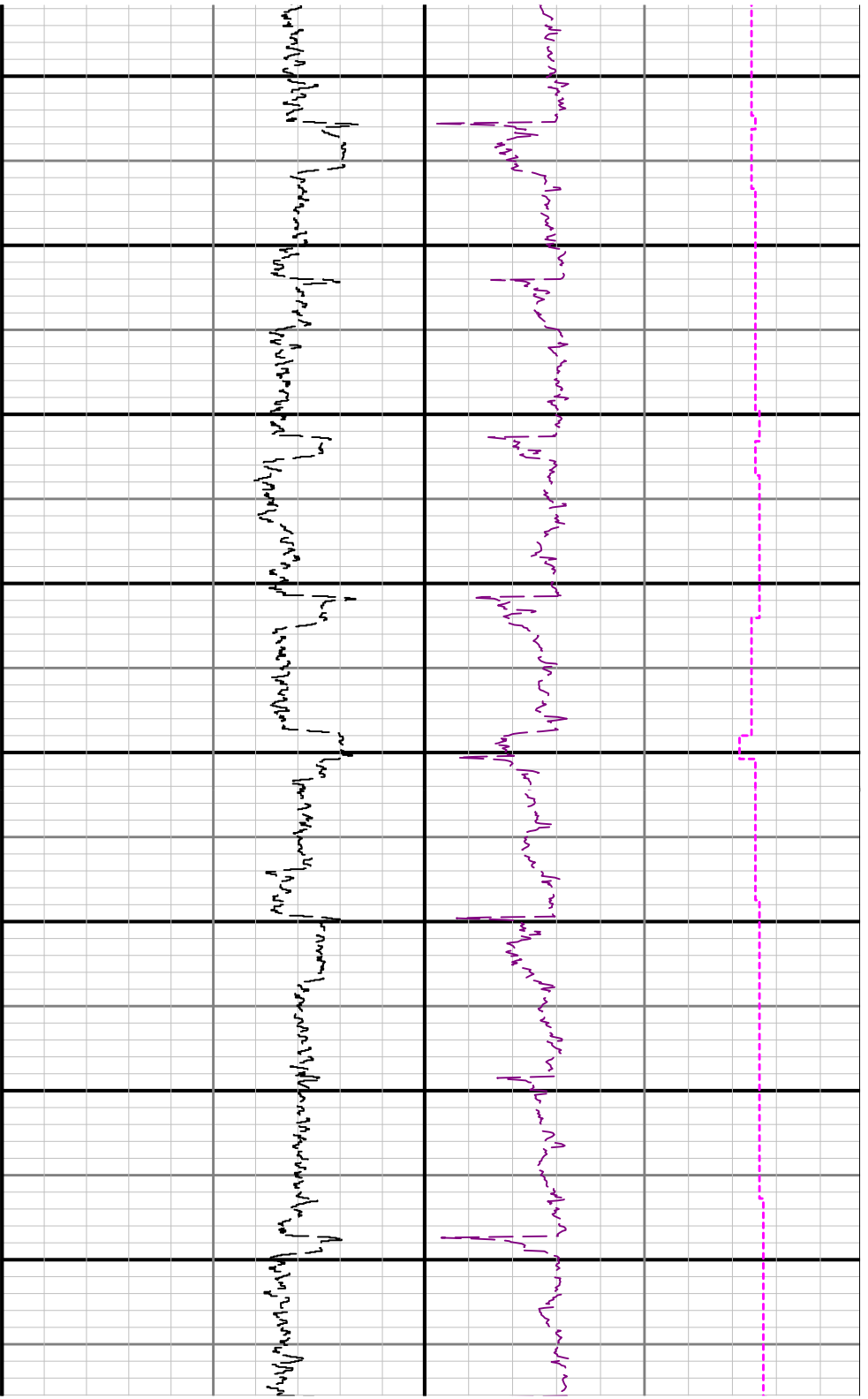












10500 10600 10700 10800 10900 11000 11100 11200

