

SlimPulse - Gamma Ray

1 in / 100 ft & 5 in / 100 ft True Vertical Depth

Recorded Mode, Composite Log

Schlumberger

Company: Noble Energy

Well: Oscar Y10-73-1HC

Field: Wattenberg

County: Weld

State: Colorado

Country: USA

Section: 10 APIN: 0512337941

Township: 2N Rig Name: H&P 277

Range: 64W Rig Type: Top Drive

FL: NAD83 Colorado State Plane, Northern Zone, US Feet

FL1: Latitude: N 40° 9' 7.99" Northing: 1299776.05 ftUS

FL2: Longitude: W 104° 31' 52.72" Easting: 3270770.85 ftUS

Log Measured From: - Kelly Bushing: 4951.00 ft

Ground Level: 4927.00 ft

Permanent Datum: - Mean Sea Level

Acquisition Dates: 17-Oct-2014 -- 23-Oct-2014

Other Services:

Log Interval: 1169(ft) to 6866(ft)

Directional Drilling

Index Types: True Vertical Depth

Surveys / Continuous D&I

Index Scales: 1:1200 1" / 100', 1:240 5" / 100'

Downhole Temperature

Depth Source: Driller's Depth

Downhole Shocks

Depth Sensor: PASON

Print Type: Final

Spud Date: 16-Oct-2014

Disclaimer

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Borehole Size/Casing Record						
Bit						
Bit Size (in)	13.75	8.75	6.125			
Top Driller (ft)	0	1168	7182			
Bottom Driller (ft)	1168	7182	14438			
Casing						
Size (in)	9.625	7				
Weight (lbm/ft)	36	32				
Inner Diameter (in)	8.921	6.094				
Grade	J55	P110				
Top Driller (ft)	0	1158				
Bottom Driller (ft)	1158	7177				

Operational Run Summary						
Parameter (unit)	Run001	Run002	Run003			
Date Log Started	16-Oct-2014	17-Oct-2014	20-Oct-2014			
Time Log Started	17:06:50	18:18:41	08:27:35			
Date Log Finished	17-Oct-2014	19-Oct-2014	23-Oct-2014			
Time Log Finished	16:56:36	09:32:06	22:41:21			
Bit Size (in)	8.750	8.750	6.125			
Bit Start Depth (ft)	1169.00	1467.00	7182.00			
Bit Stop Depth (ft)	1467.00	7182.00	14438.00			
Top Log Interval (ft)	1169.00	1404.00	7119.00			
Bottom Log Interval (ft)	1404.00	7119.00	14393.00			
Max Hole Deviation (deg)	0.60	79.60	91.65			
Azimuth of Max Deviation (deg)	40.34	355.05	2.38			
Logging Unit Number	Command Center	Command Center	Command Center			
Logging Unit Location	Zone 2	Zone 2	Zone 2			
Recorded By	C. Welty	C. Welty	C. Welty			
Witnessed By	Cliff	Cliff	Cliff			
Service Order Number	14CCO0655	14CCO0655	14CCO0655			

Borehole Fluids						
Parameter(unit)	Run001	Run002	Run003			
Fluid Type	Water	Water	Water			
Max Recorded Temperatures (degF)	86	175	245.3			
Source of Sample	Active Tank	Active Tank	Active Tank			
Salinity (ppm)	800	900	1300			

Density (lbm/gal)	Zoned	Zoned	Zoned			
Funnel Viscosity (s)	29	32	36			
Fluid Loss (cm3)						
PH	9.2	10.2	10.8			
Source RMF						
RMC	Pressed	Pressed	Pressed			
RM @ Meas Temp (ohm.m@degF)	0.2 @ 68	0.2 @ 68	0.2 @ 68			
RMF @ Meas Temp (ohm.m@degF)	0.15 @ 68	0.15 @ 68	0.15 @ 68			
RMC @ Meas Temp (ohm.m@degF)						
RM @ BHT (ohm.m@degF)	0.07 @ 212	0.07 @ 212	0.07 @ 212			
RMF @ BHT (ohm.m@degF)	0.05 @ 212	0.05 @ 212	0.05 @ 212			
RMC @ BHT (ohm.m@degF)	NaN @ 212	NaN @ 212	NaN @ 212			
Total Solid (%)	2.2	2.7	5.7			
High Gravity Solids (%)	2.1	2.3	4.5			

Zoned Borehole Fluids

Run001

Parameter	Value	Start
Density	8.9	10/16/2014 5:06:50 PM
Density	8.6	10/17/2014 1:00:00 PM

Run002

Parameter	Value	Start
Density	8.6	10/17/2014 6:18:41 PM
Density	9	10/18/2014 3:00:00 AM
Density	10.3	10/18/2014 1:30:00 PM
Density	10.8	10/19/2014 3:00:00 AM

Run003

Parameter	Value	Start
Density	11	10/20/2014 8:27:35 AM
Density	9.45	10/20/2014 1:00:00 PM
Density	9.7	10/21/2014 3:00:00 AM
Density	9.6	10/21/2014 1:00:00 PM
Density	9.65	10/22/2014 3:00:00 AM
Density	9.75	10/23/2014 3:00:00 AM

Remarks and Equipment Summary

Data presented is from tool memory and acquired while drilling from 1169 ft to 14438 ft.

Depth Reference: Driller's Depth

Environmental Corrections: Gamma Ray is corrected for bit size, mud weight, and tool collar thickness. Barite and Potassium in the mud affect Gamma Ray readings.

Run001: Remarks	Run002: Remarks	Run003: Remarks
Run Objective: Drill vertical then curve to landing point	Run Objective: Drill vertical then curve to landing point	Run Objective: Drill lateral to Well TD
Bit to Gamma Ray: 62.31 ft Bit to D&I: 59.28 ft	Bit to Gamma Ray: 62.31 ft Bit to D&I: 59.28 ft	Bit to Gamma Ray: 44.19 ft Bit to D&I: 41.16 ft
Drilled from: 1169 ft to 1467 ft Logged from: 1169 ft to 1404 ft	Drilled from: 1467 ft to 7182 ft Logged from: 1404 ft to 7119 ft	Drilled from: 7182 ft to 14438 ft Logged from: 7119 ft to 14393 ft
SlimPulse Software: 11.0C00 SlimPulse D&I calibrated on: Mar 5, 2014 SlimPulse GR calibrated on: Aug 21, 2014	SlimPulse Software: 11.0C00 SlimPulse D&I calibrated on: Jan 11, 2013 SlimPulse GR calibrated on: Sep 17, 2014	SlimPulse Software: 11.0C00 SlimPulse D&I calibrated on: Sep 15, 2014 SlimPulse GR calibrated on: Sep 25, 2014
PathFinder a Schlumberger Co. Personnel:	PathFinder a Schlumberger Co. Personnel:	PathFinder a Schlumberger Co. Personnel:

DD: Mike Hicks & Jordan Timbs
MWD: Chad Welty & David Wahlquist

DD: Mike Hicks, Jordan Timbs, Dario Herrera,
and Tony Butler
MWD: Chad Welty & David Wahlquist

DD: Mike Hicks, Jordan Timbs, Dario Herrera,
and Tony Butler
MWD: Chad Welty & David Wahlquist

Reason for POOH: MWD Incident

Reason for POOH: Vertical/Curve section TD

Reason for POOH: Well TD

Run001: Toolstring

Run002: Toolstring

Run003: Toolstring

Equip name	Length	MP name	Offse
Flex DC: 6 3/4	13889	NMFC	
J:DR18671			

Equip name	Length	MP name	Offse
Flex DC: 6 3/4	138289	NMFC	
]:DR18671			

Flex DC: 6 3/4" 183 NMFC
J:DR20317

Flex DC: 6 3/4" 183 NMFC
J:DR20317

Equip name	Length	MP name	Offset
NMDC: 4 3/4" 1B257		NMDC	
8100			

NM Stab: 4 3/101246 NM Spiral Sub
J:DR9728

Motor:900	96.5	Straight Slick Motor
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SPULSE-GEN:DR83
945
FLOWSUB:DR22497
SPCOLLAR:DR8945
SPMA
SPEC:639
SPBA
UBHO:675U185

GR 62.3

D&I 59.2

Flt Sub: 6 3/4"
R21309

NM FLOAT

NMDC: 6 3/4"
13223

NM Pony

Motor:FH70B
7

DynaFlex

SPULSE-GEN:DR83
945
FLOWSUB:DR22497
SPCOLLAR:DR8945
SPMA:918
SPEC:717
SPBA
UBHO:675U185

GR 62.3

D&I 59.2

Flt Sub: 6 3/4"
R21309

NM FLOAT

NMDC: 6 3/4"
13223

NM Pony

Motor:FH70B
7

DynaFlex

NM Stab: 4 3/4"
J:DR2229

NM Spiral Stab

Filtr Sub: 4 3/4"
22592

Filter Sub

SPULSE-GEN:DR83
907
FLOWSUB:DR22795
SPCOLLAR:DR26907
SPMA:566
SPEC:1004
SPBA:01794

GR 44.1

D&I 41.1

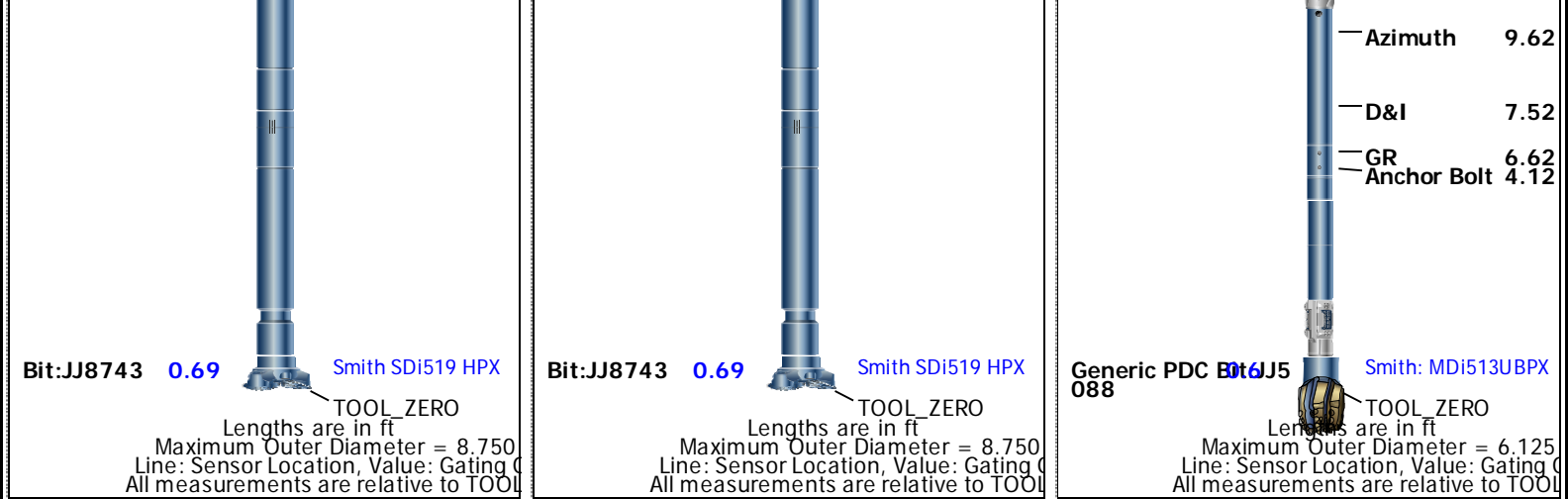
Sub:CC4002 24.98

CLPS Sub

UBHO: 4 3/4"
128

NM

PDX5_475:CC8844
4
Crossover
PD475CC
PDCU
PDSC Sleeve
PDX5GP
Impeller Set
PD475BU:CC84444



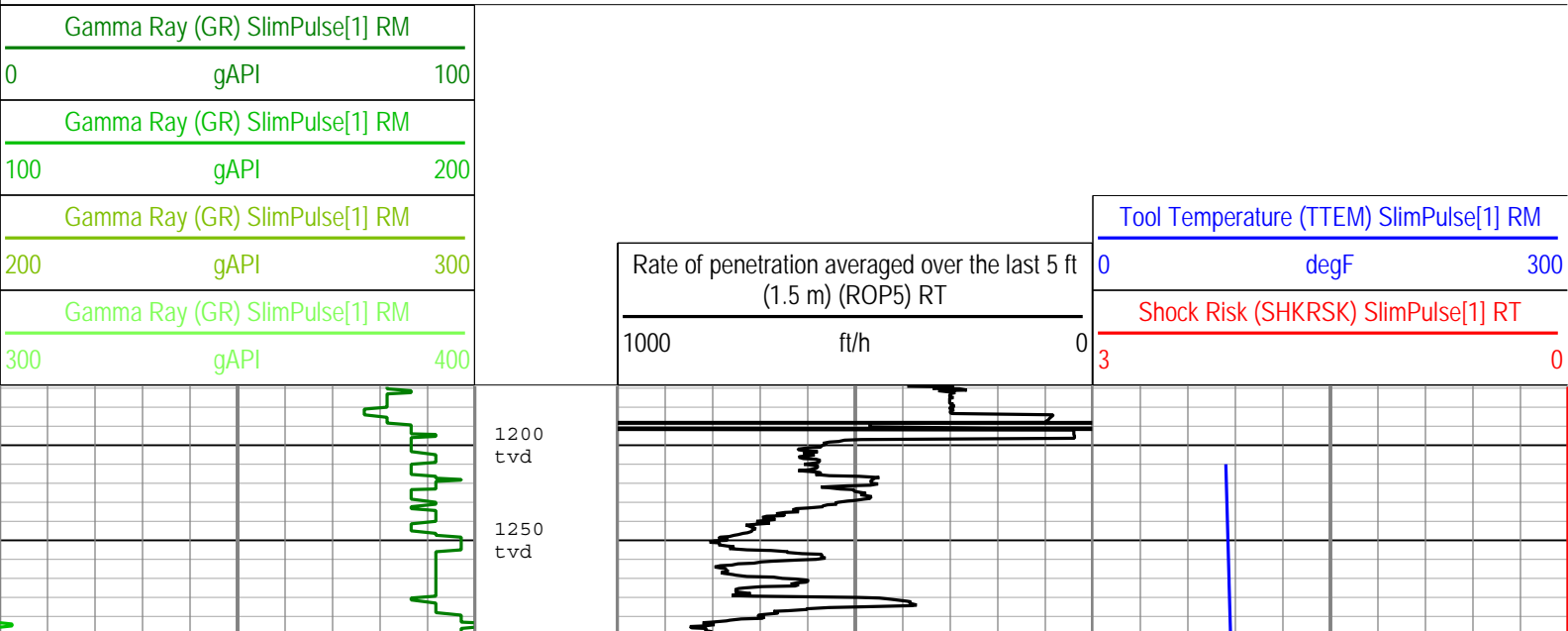
Well Composite

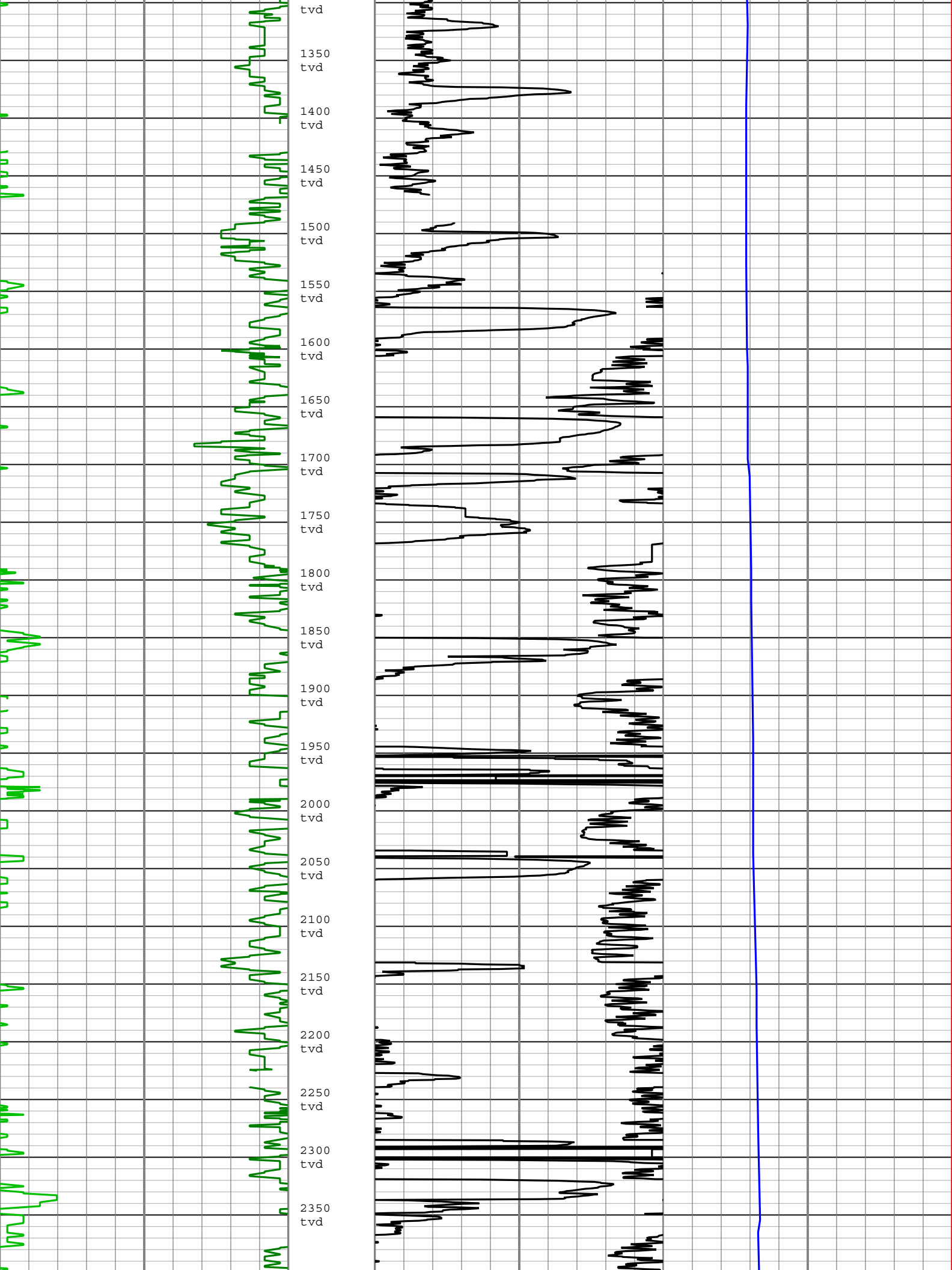
Software Version			
Acquisition System		Version	
MaxWell		4.0.9163.3000	
Application Patch		Patch-SP-10767_26570-4.0.9163.3001	
		Patch-Hotfix_MRT_SP4-27464-4.0.9575.3002	
Tool Elements	Description	Software Version	Firmware Version
DRILLING_SURFACE	DRILLING_SURFACE	4.0.9469.3000	
SPEC	SlimPulse Electronics Cartridge	4.0.9469.3000	

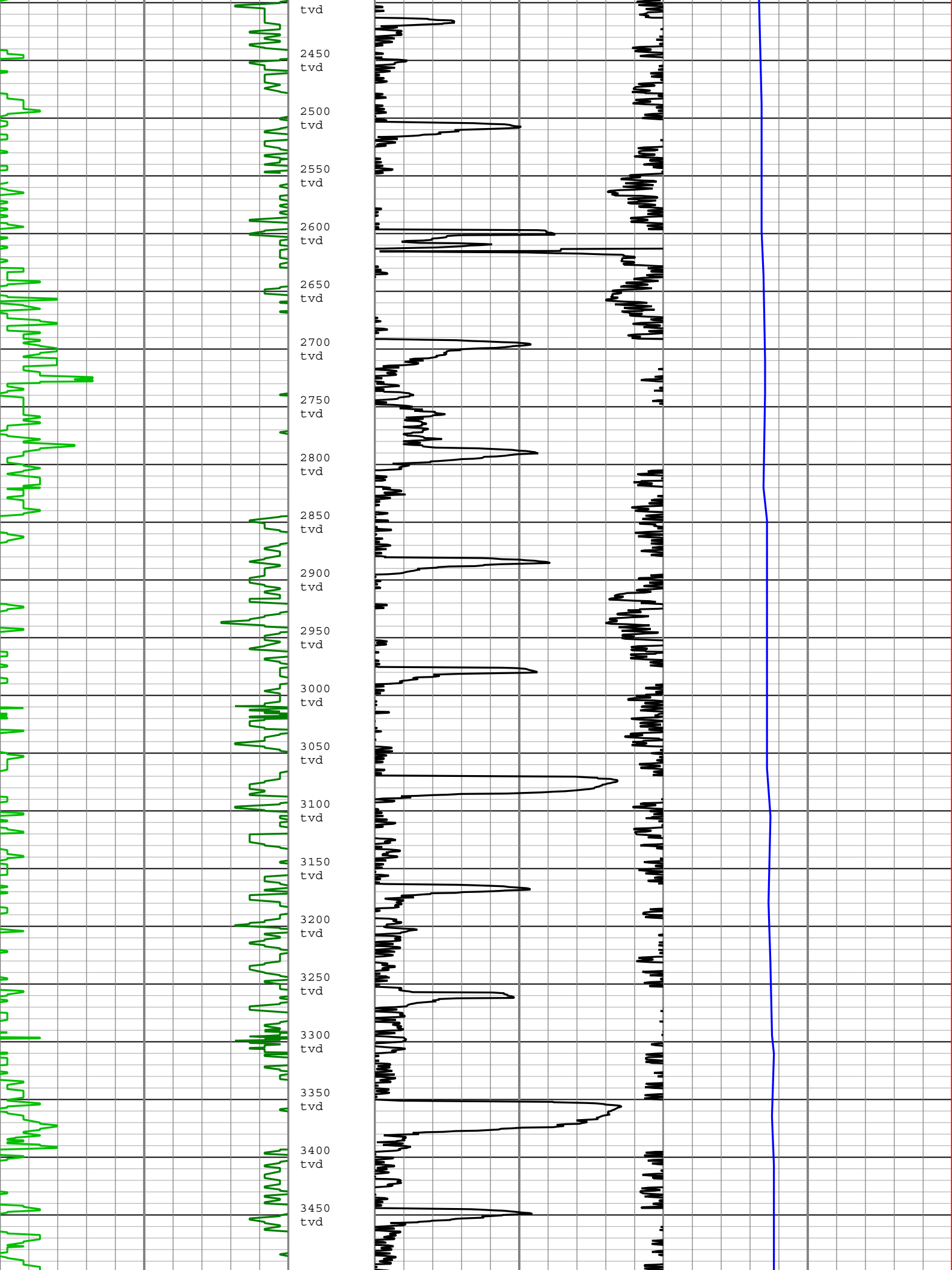
Composite Summary							
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Include Parallel Data
Run001	Drilling	Down	1168.33 ft	1467.00 ft	17-Oct-2014 2:03:51 PM	17-Oct-2014 4:56:36 PM	No
Run002	Drilling	Down	1490.92 ft	7184.75 ft	17-Oct-2014 6:18:41 PM	19-Oct-2014 9:32:06 AM	No
Run003	Drilling	Down	6999.08 ft	14439.58 ft	20-Oct-2014 8:27:35 AM	23-Oct-2014 10:41:21 PM	No
All depths are referenced to toolstring zero							

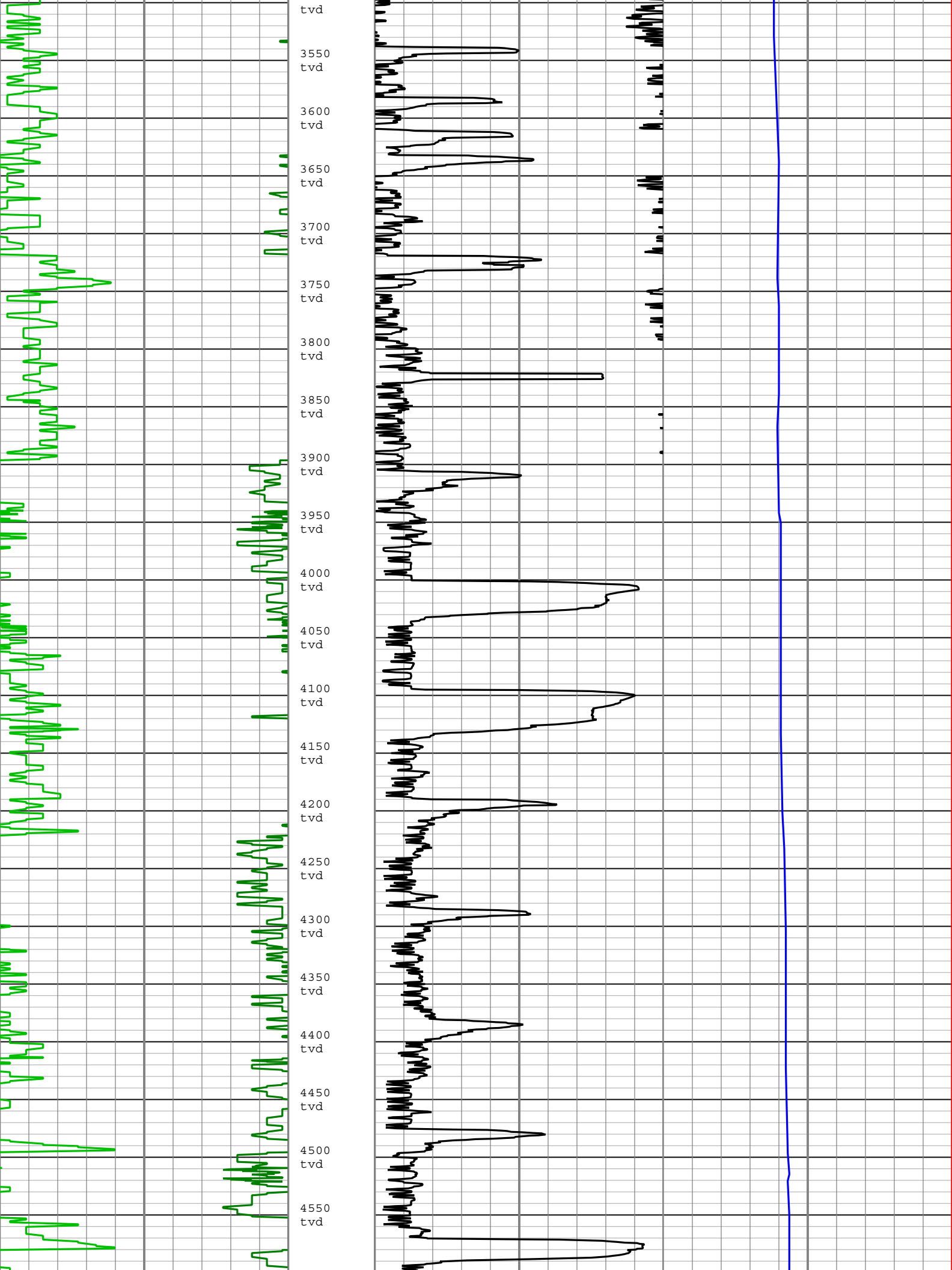
Log	Company:Noble Energy	Well:Oscar Y10-73-1HC	Well Composite:S280
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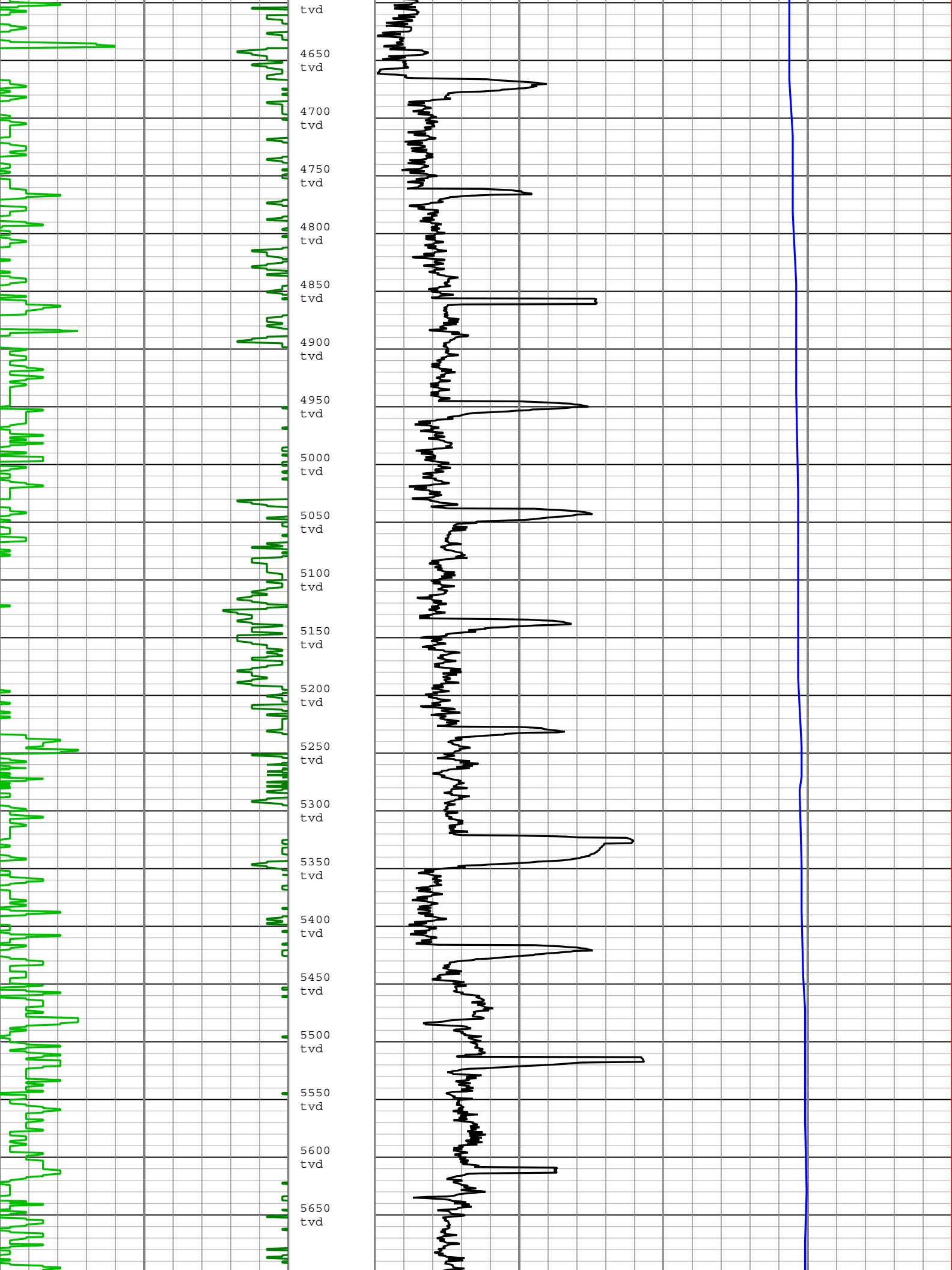
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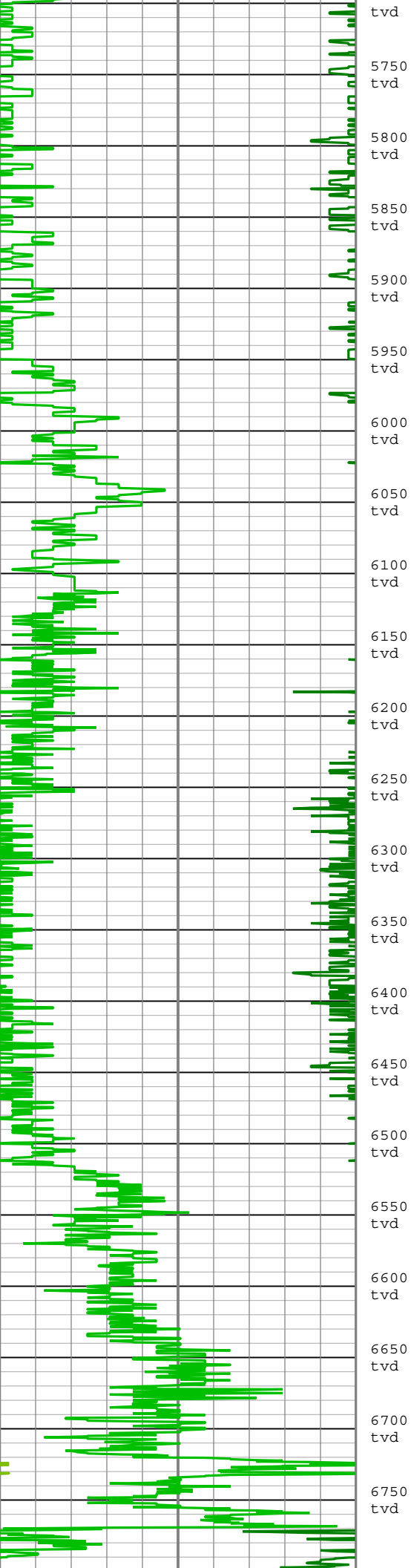




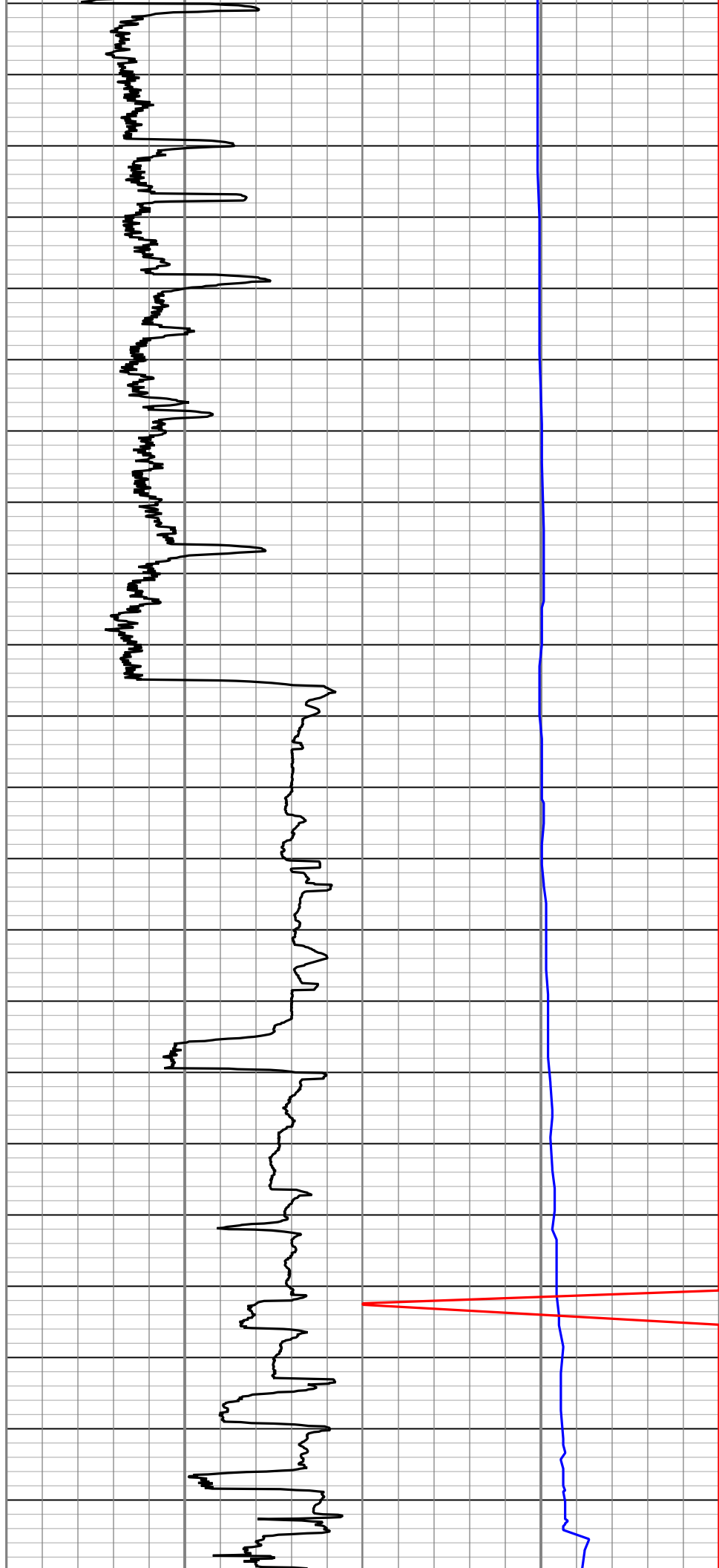


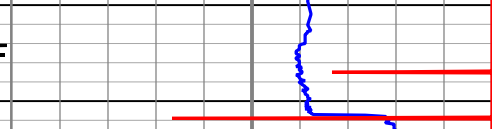






tvd
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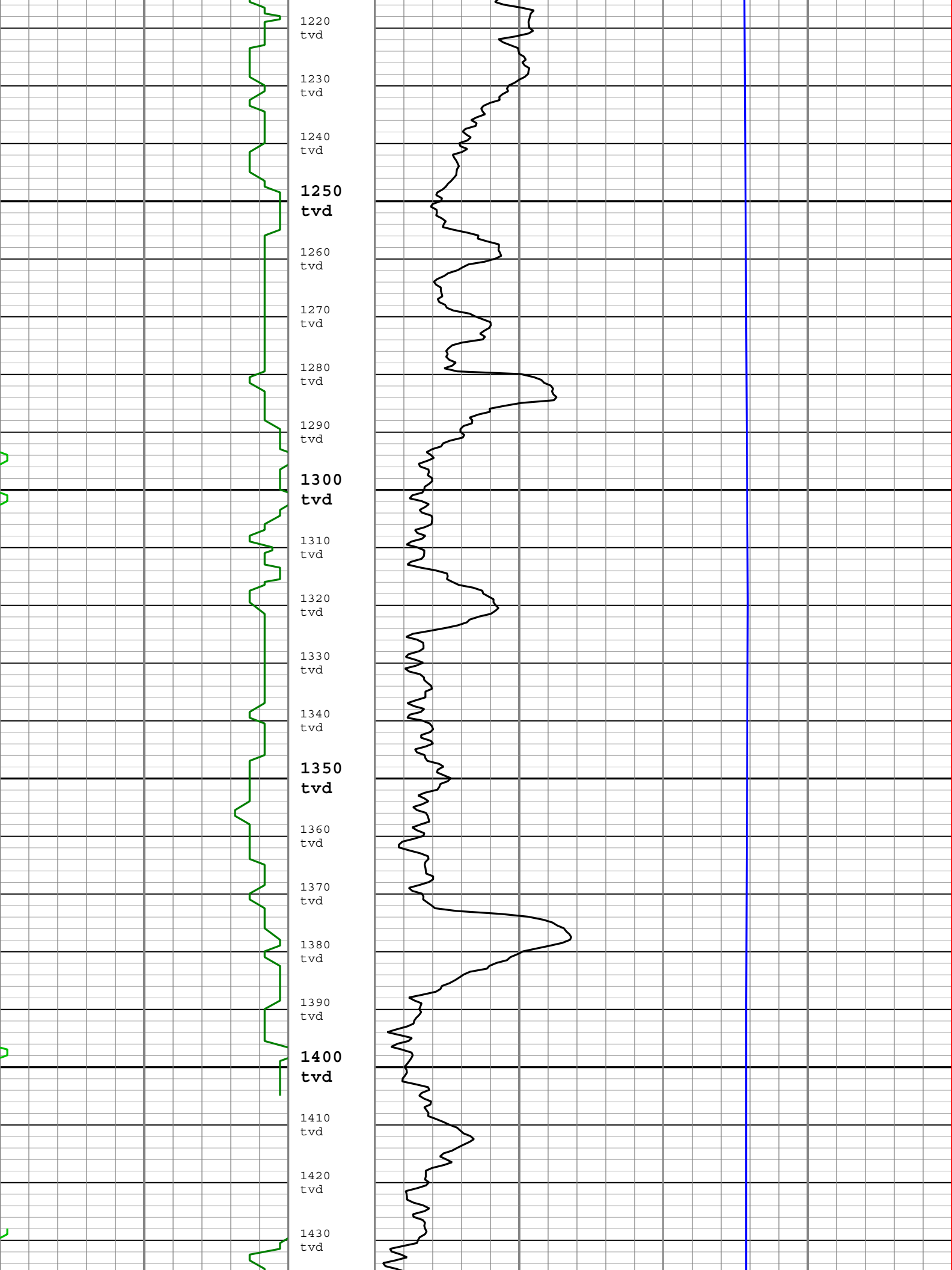


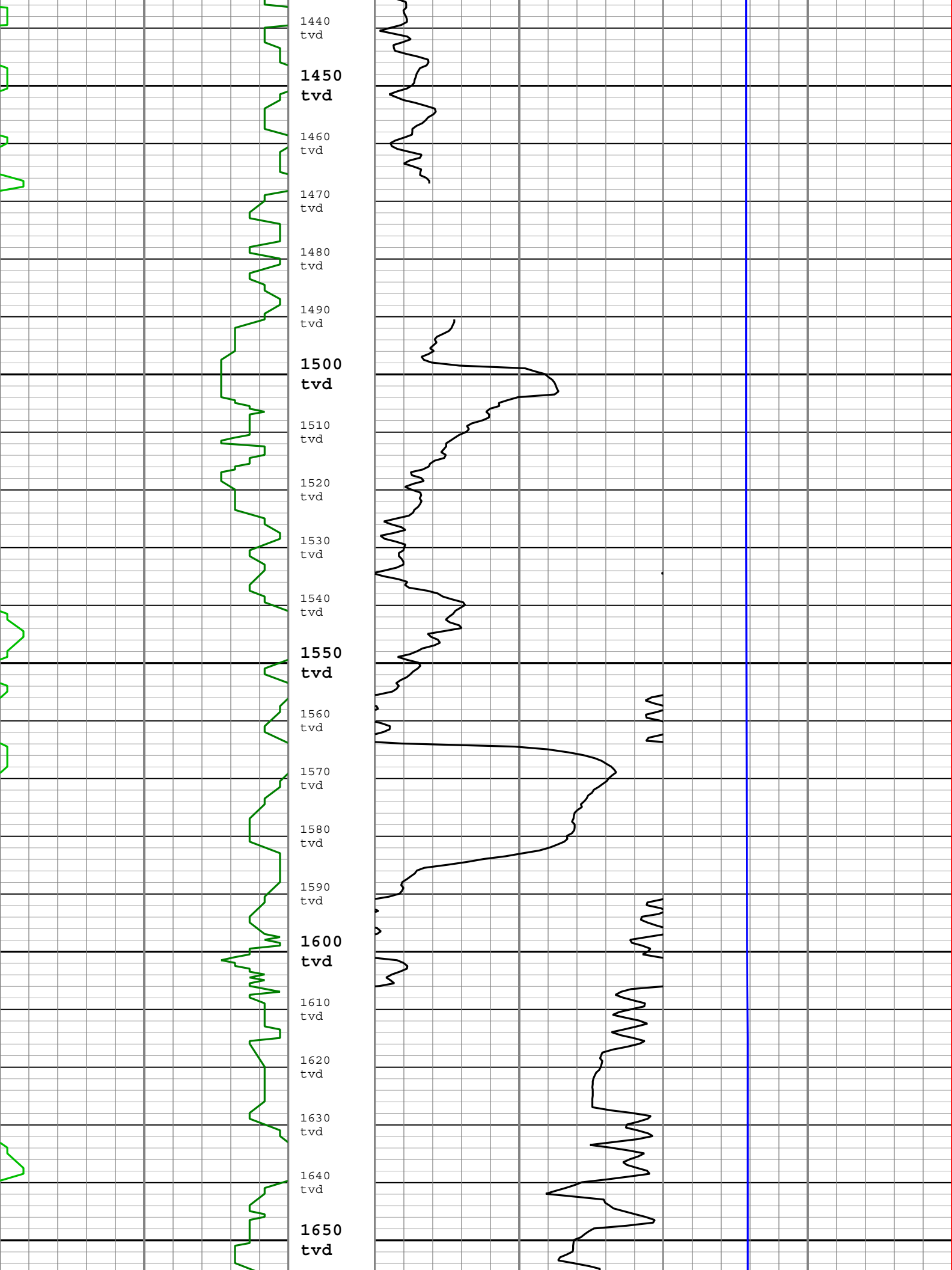
Tool Temperature (TTEM) SlimPulse[1] RM		
0	degF	300
Shock Risk (SHKRSK) SlimPulse[1] RT		
3		0

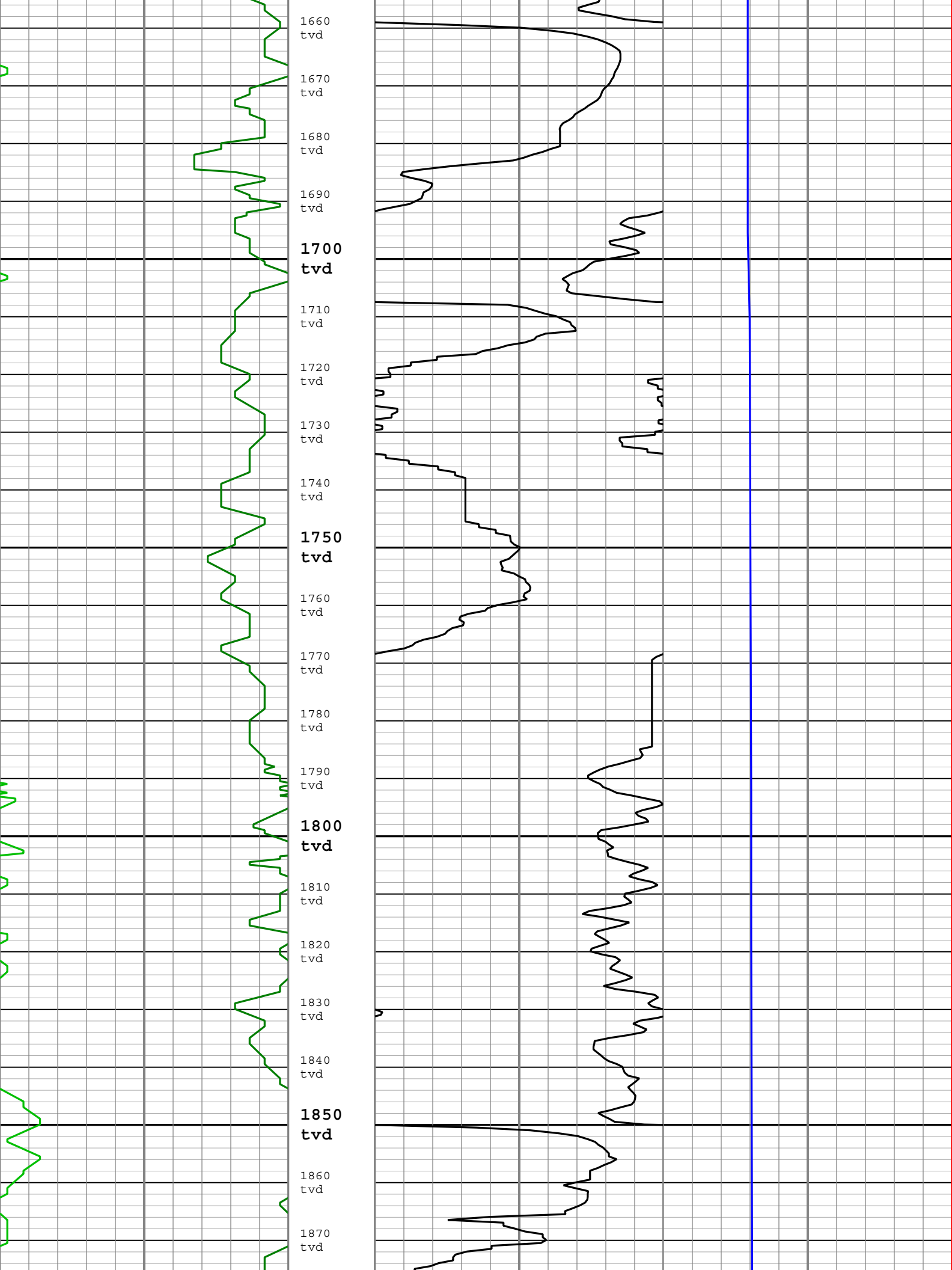
Channel Processing Parameters

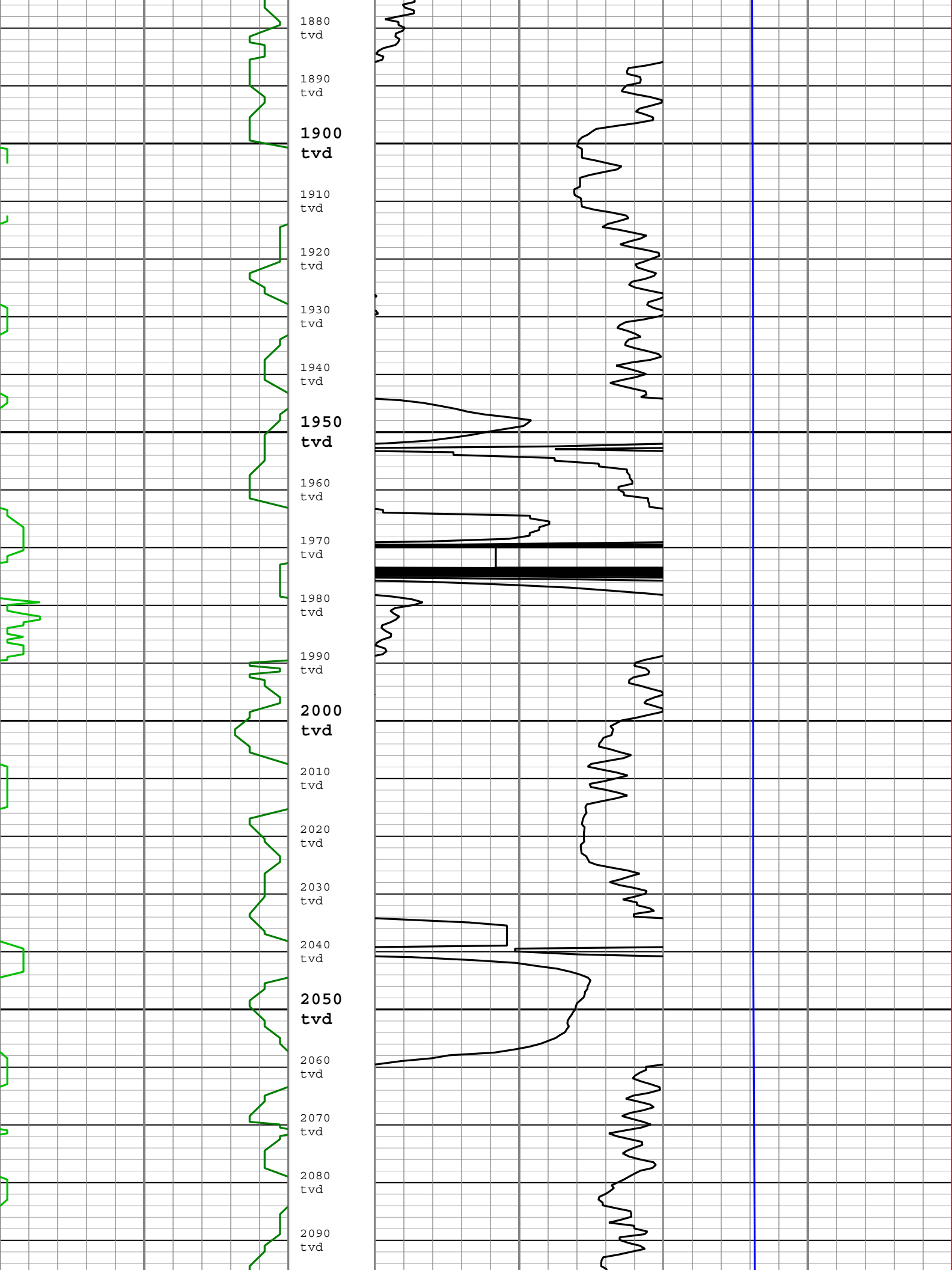
Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
DFD	9.45	20-Oct-2014 08:27:35	21-Oct-2014 03:00:00	6999.08	8077.17

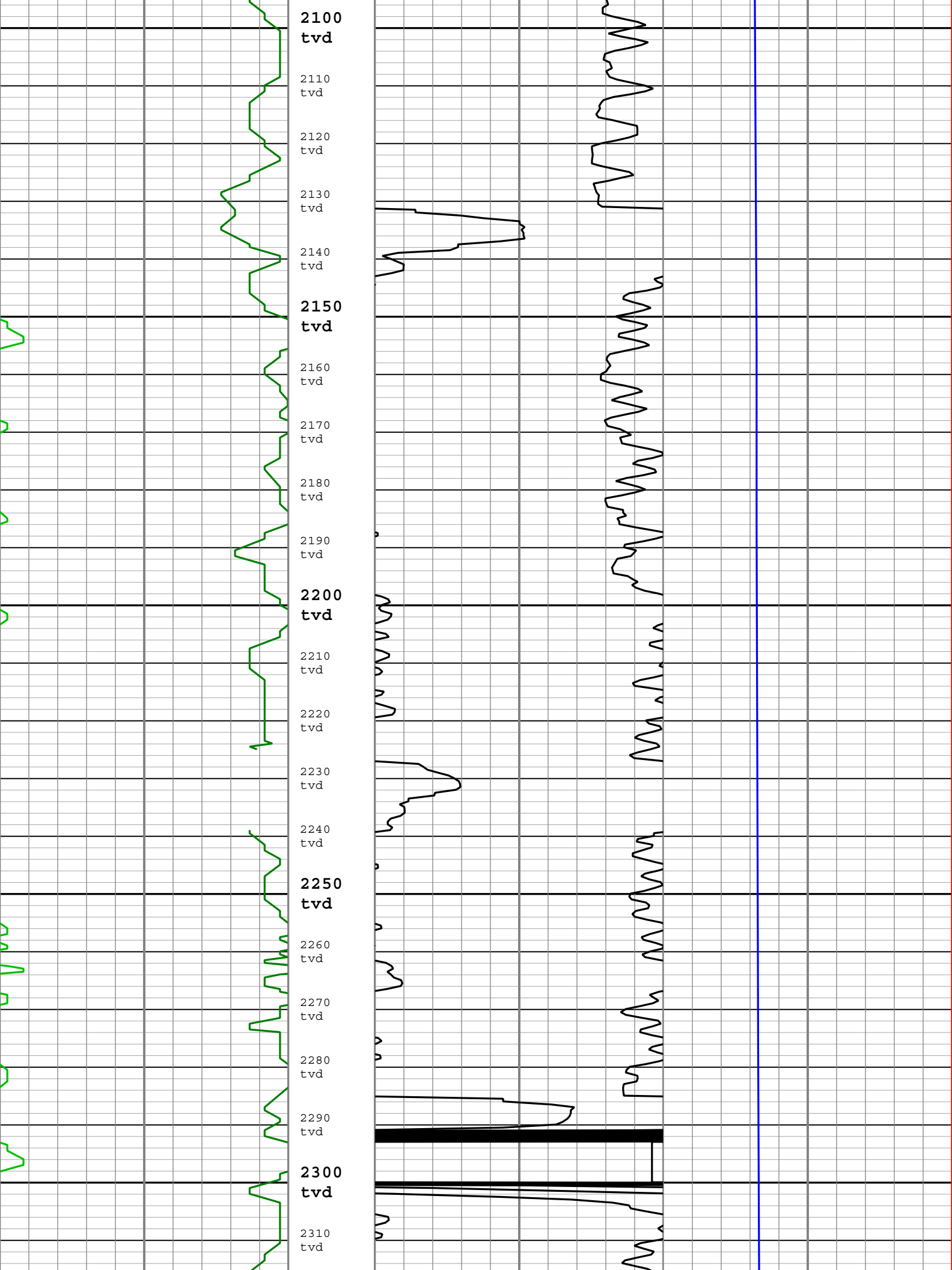
DFD	9.7	21-Oct-2014 03:00:00	21-Oct-2014 13:00:00	8077.17	9514		
DFD	9.6	21-Oct-2014 13:00:00	22-Oct-2014 03:00:00	9512.5	11398.92		
DFD	9.65	22-Oct-2014 03:00:00	23-Oct-2014 03:00:00	11398.92	14142.42		
DFD	9.75	23-Oct-2014 03:00:00	23-Oct-2014 22:41:21	14142.42	14439.58		
All depth are at tool zero.							
Tool Control Parameters							
Well Composite							
Software Version							
Acquisition System				Version			
MaxWell				4.0.9163.3000			
Application Patch				Patch-SP-10767_26570-4.0.9163.3001			
				Patch-Hotfix_MRT_SP4-27464-4.0.9575.3002			
Tool Elements		Description		Software Version	Firmware Version		
DRILLING_SURFACE		DRILLING_SURFACE		4.0.9469.3000			
SPEC		SlimPulse Electronics Cartridge		4.0.9469.3000			
Composite Summary							
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Include Parallel Data
Run001	Drilling	Down	1168.33 ft	1467.00 ft	17-Oct-2014 2:03:51 PM	17-Oct-2014 4:56:36 PM	No
Run002	Drilling	Down	1490.92 ft	7184.75 ft	17-Oct-2014 6:18:41 PM	19-Oct-2014 9:32:06 AM	No
Run003	Drilling	Down	6999.08 ft	14439.58 ft	20-Oct-2014 8:27:35 AM	23-Oct-2014 10:41:21 PM	No
All depths are referenced to toolstring zero							
Log							
				Company:Noble Energy		Well:Oscar Y10-73-1HC	
				Well Composite:S280			
Description: SlimPulse Gamma Ray 1 Format: Log (Final TVD Log) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: TVD Creation Date: 28-Oct-2014 11:13:02							
Gamma Ray (GR) SlimPulse[1] RM							
0	gAPI		100				
Gamma Ray (GR) SlimPulse[1] RM							
100	gAPI		200				
Gamma Ray (GR) SlimPulse[1] RM							
200	gAPI		300				
Gamma Ray (GR) SlimPulse[1] RM							
300	gAPI		400				
				Tool Temperature (TTEM) SlimPulse[1] RM			
				Rate of penetration averaged over the last 5 ft (1.5 m) (ROP5) RT			
				0 degF 300			
				Shock Risk (SHKRSK) SlimPulse[1] RT			
				3 0			

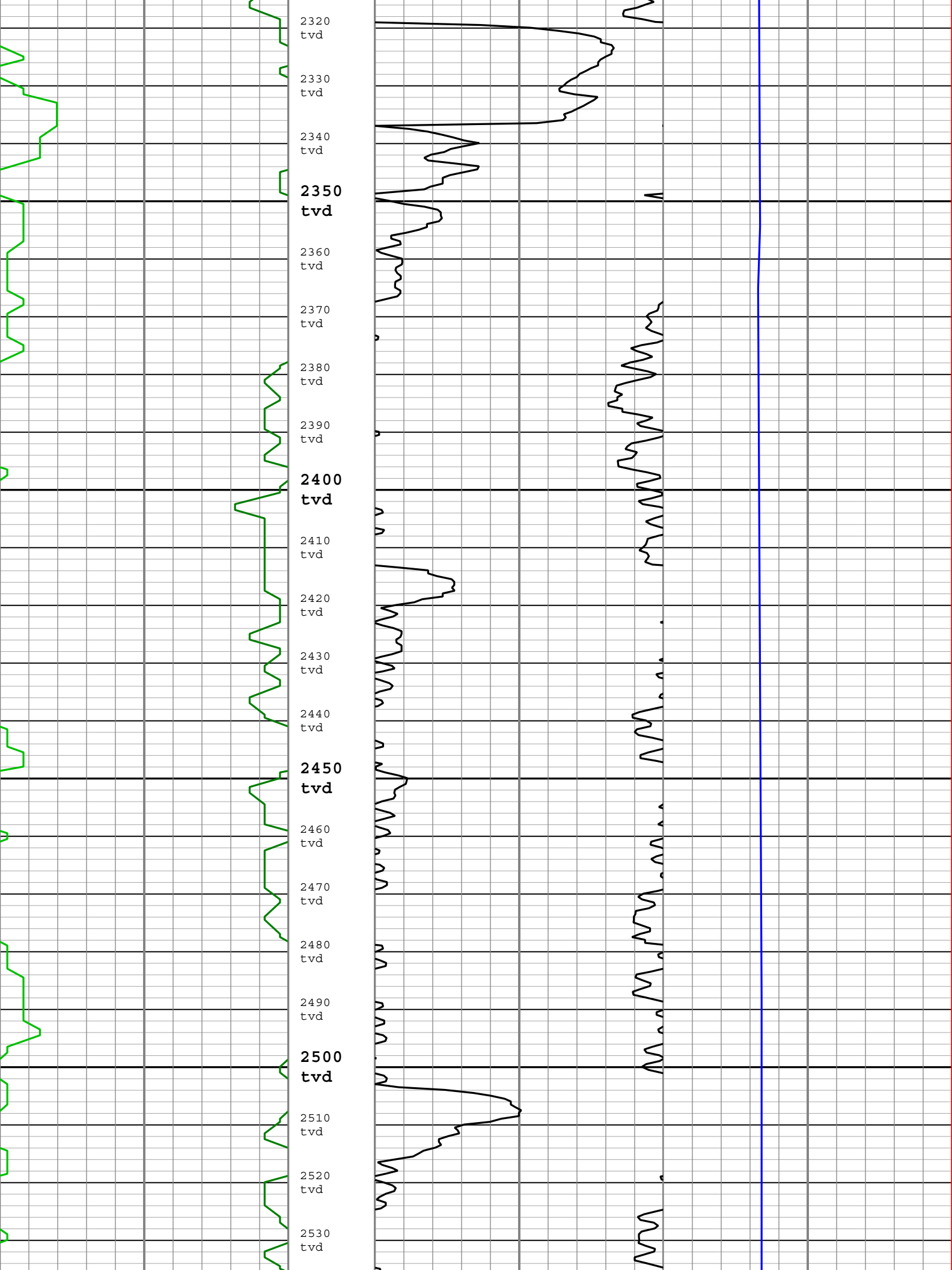


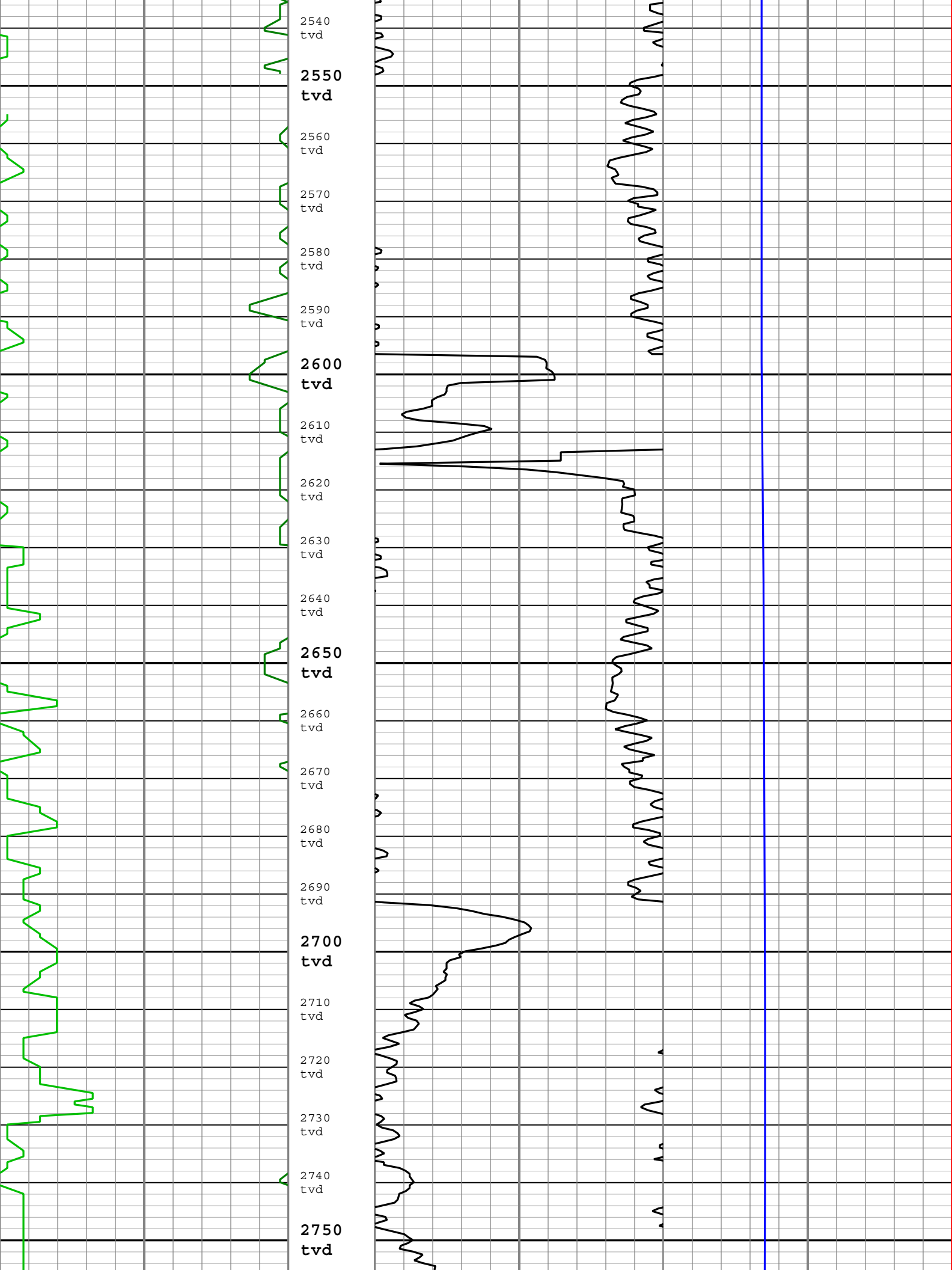


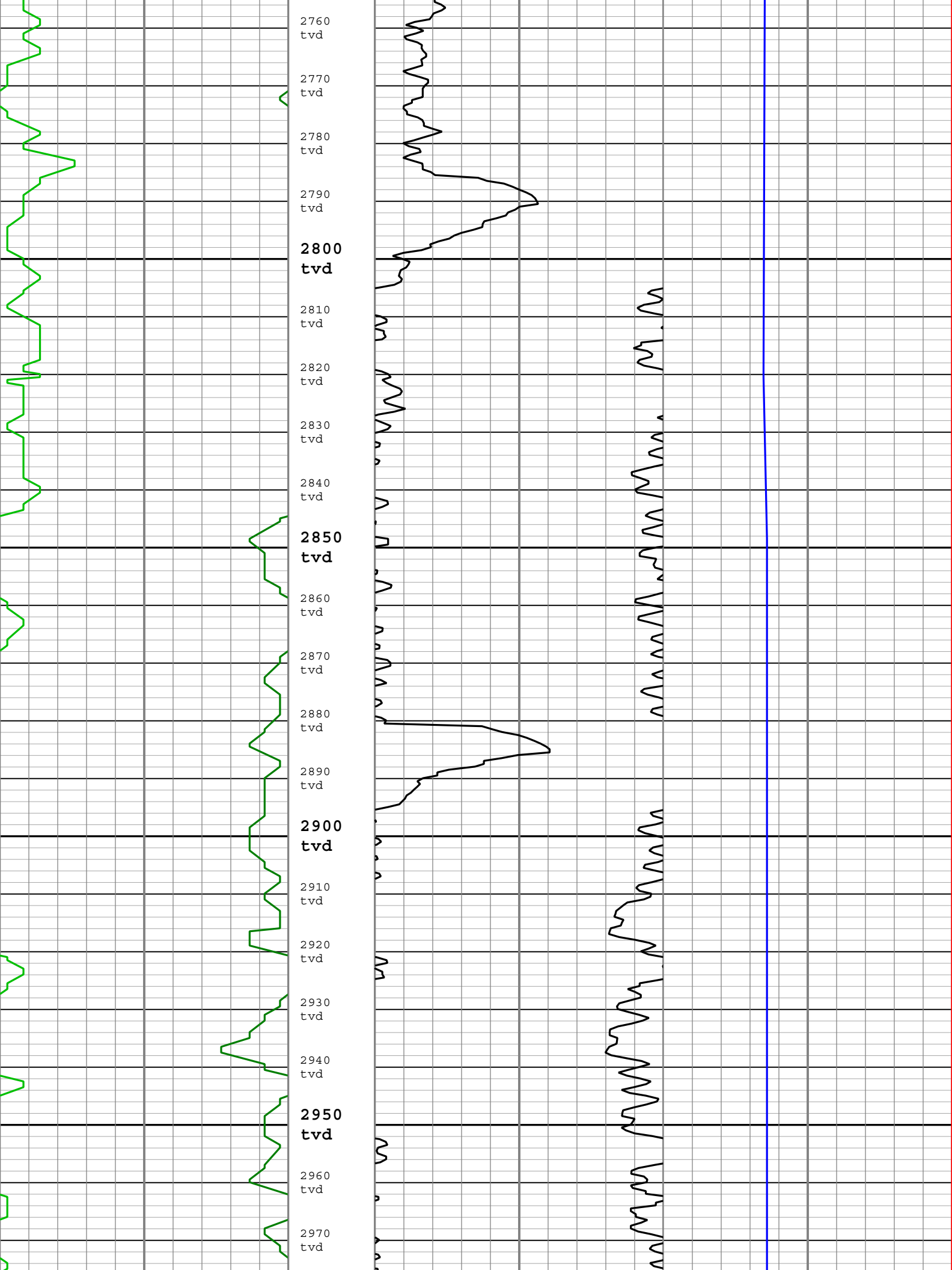


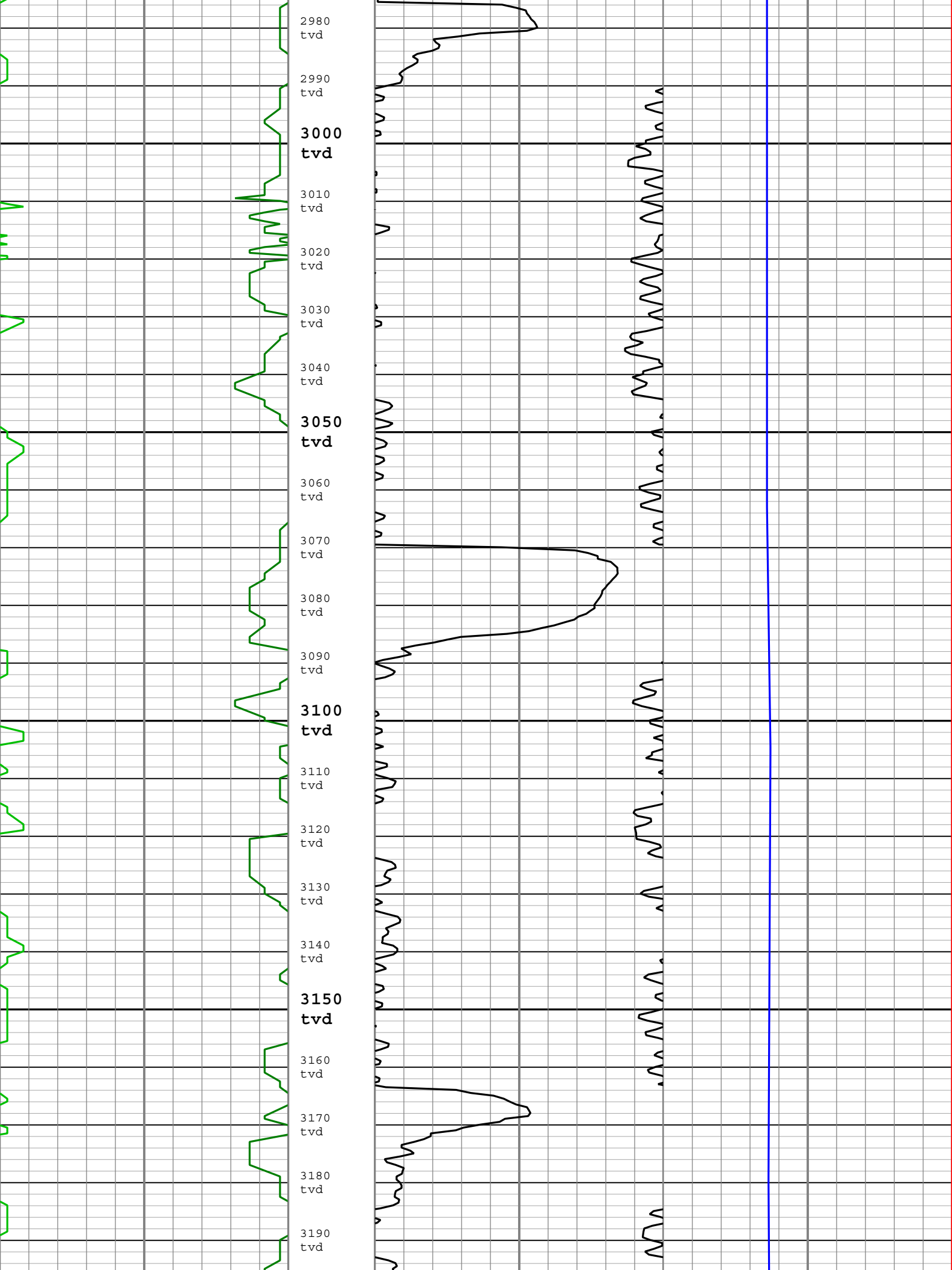


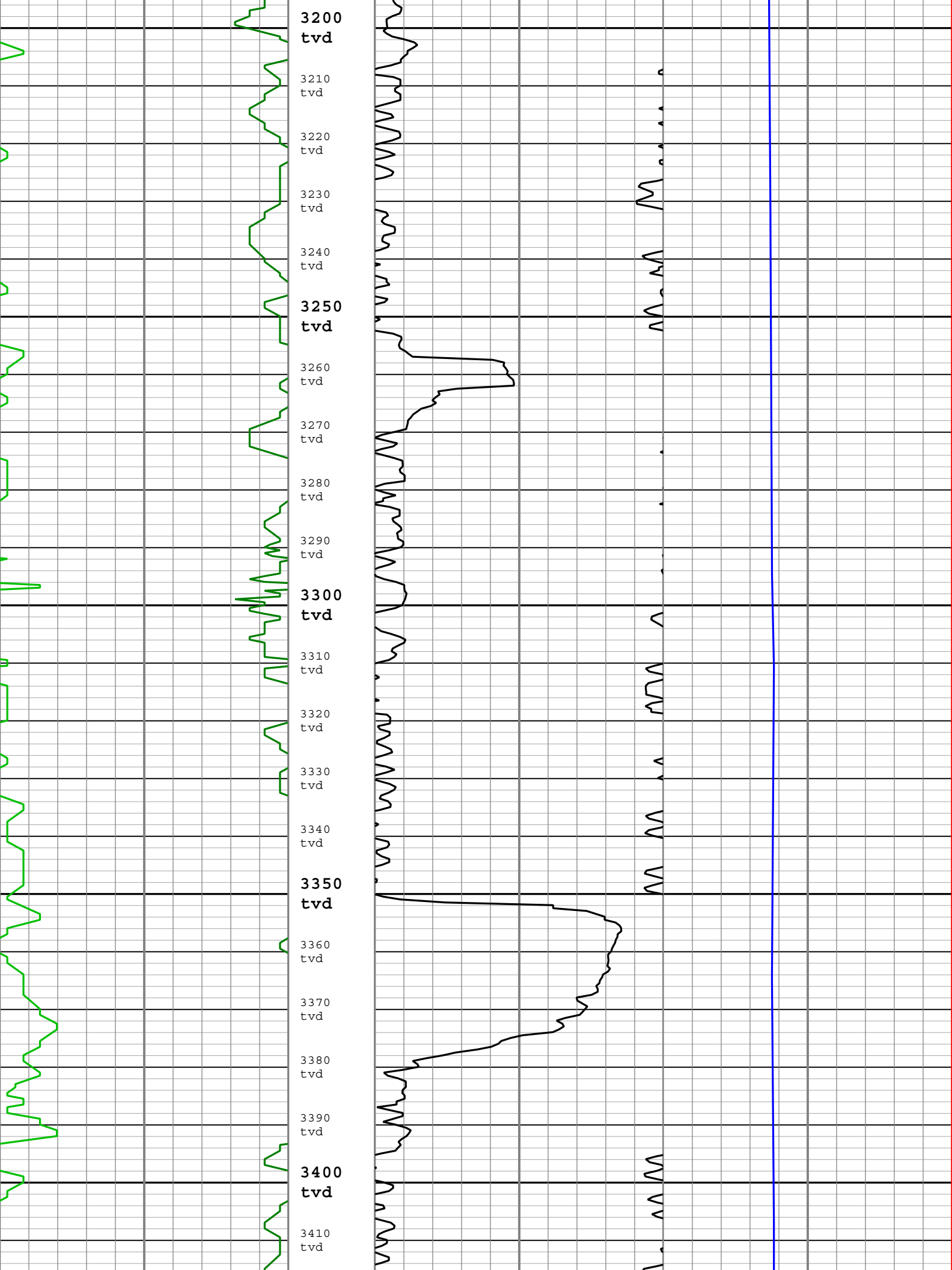


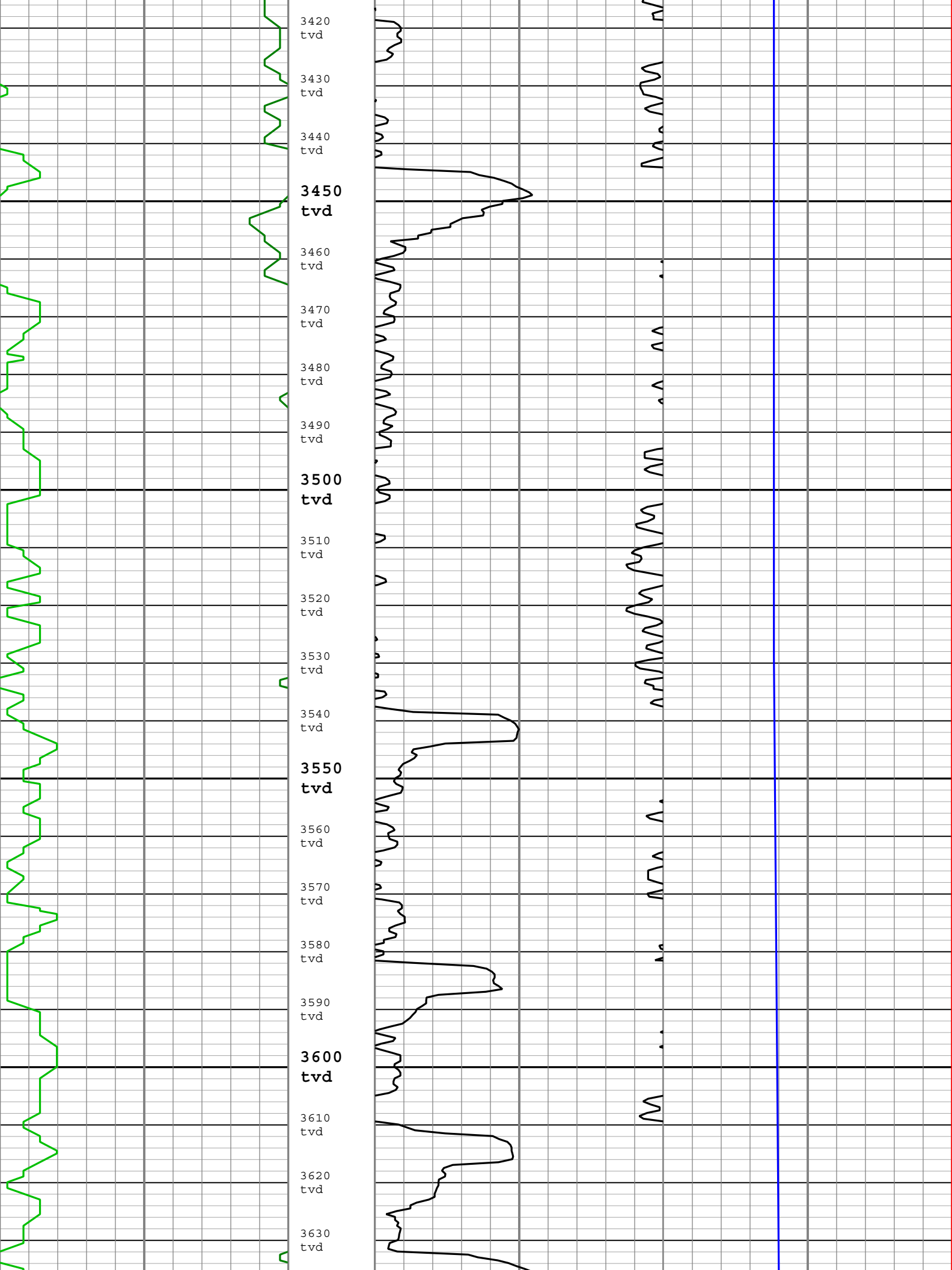


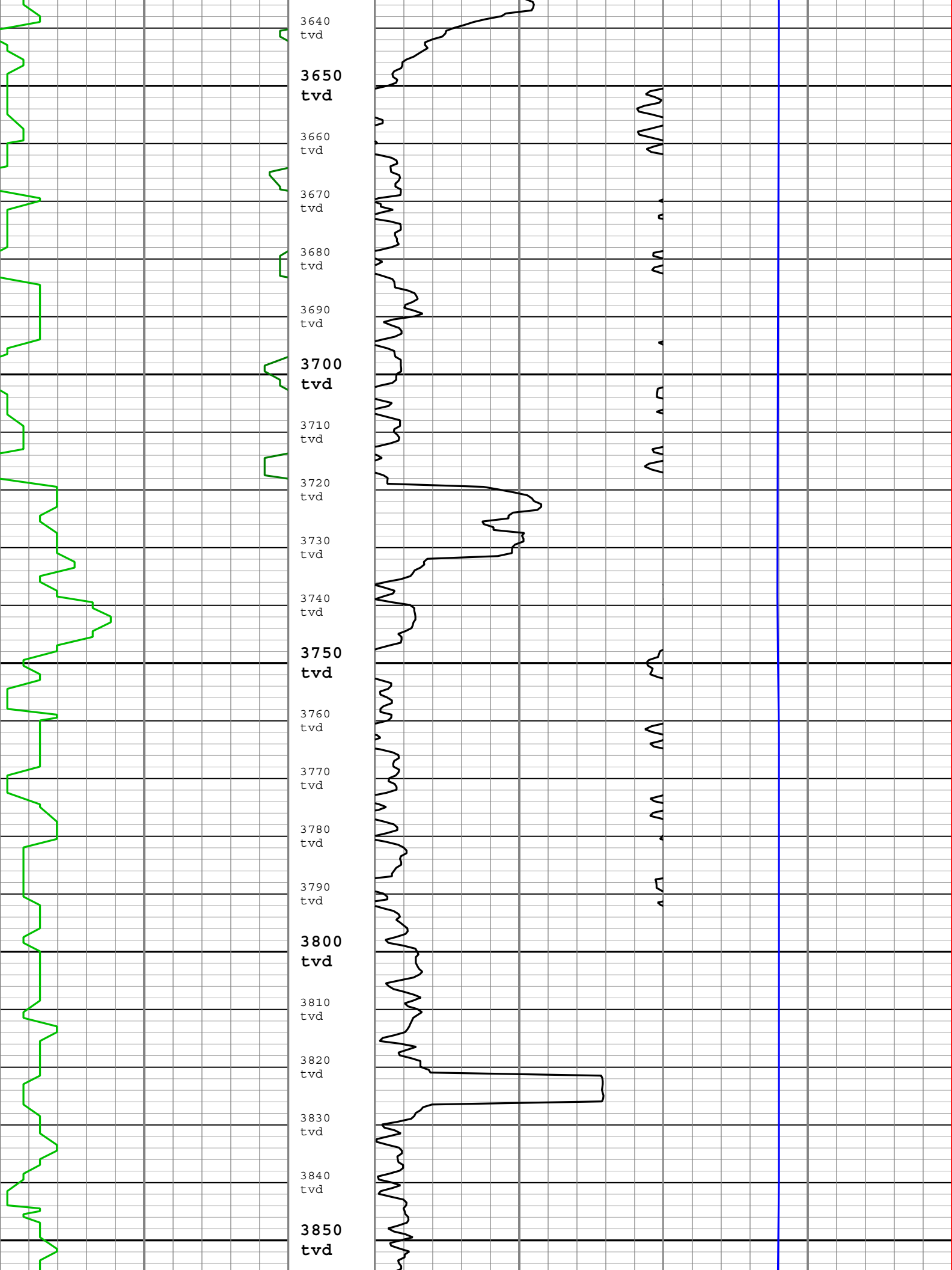


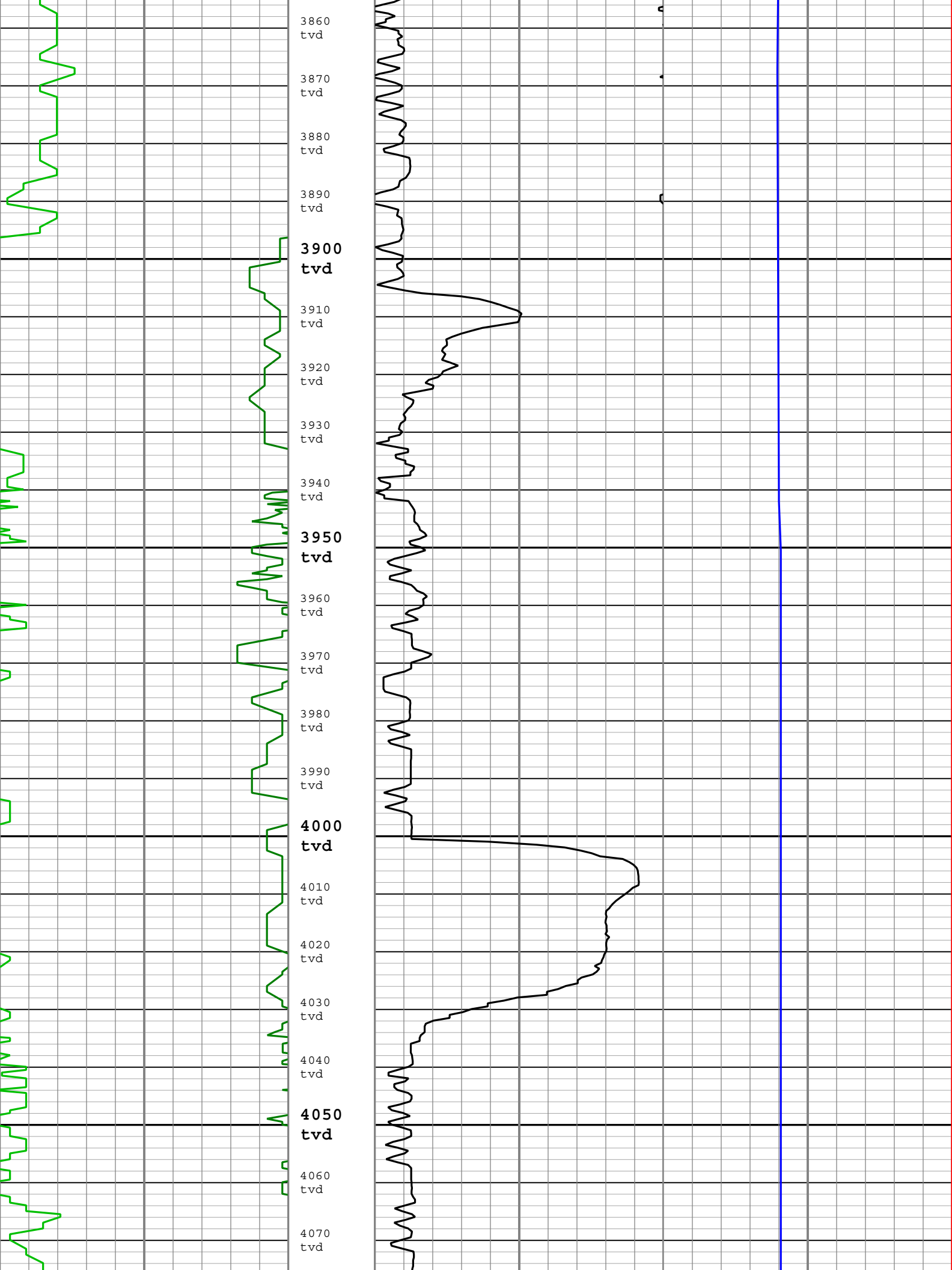


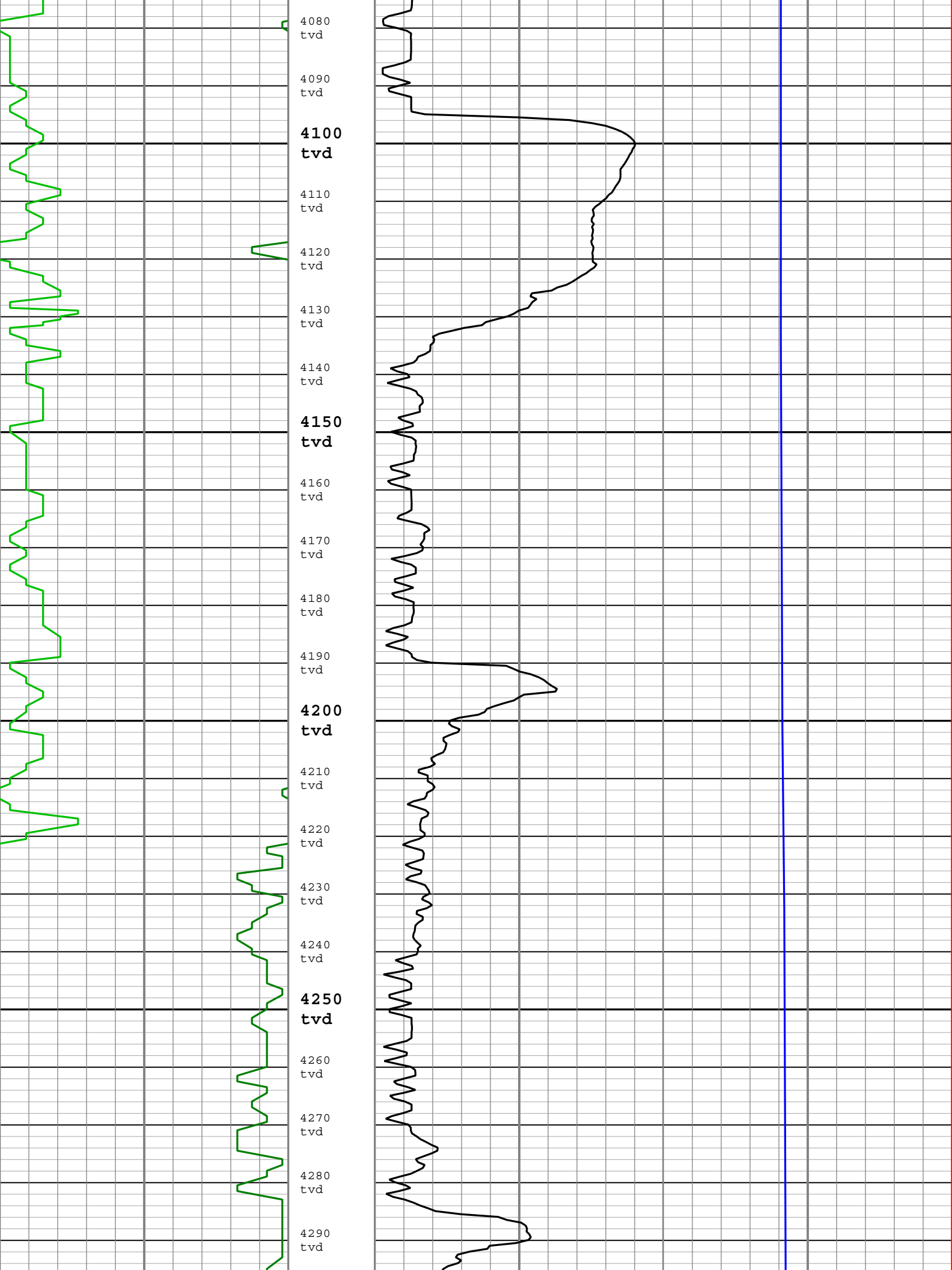


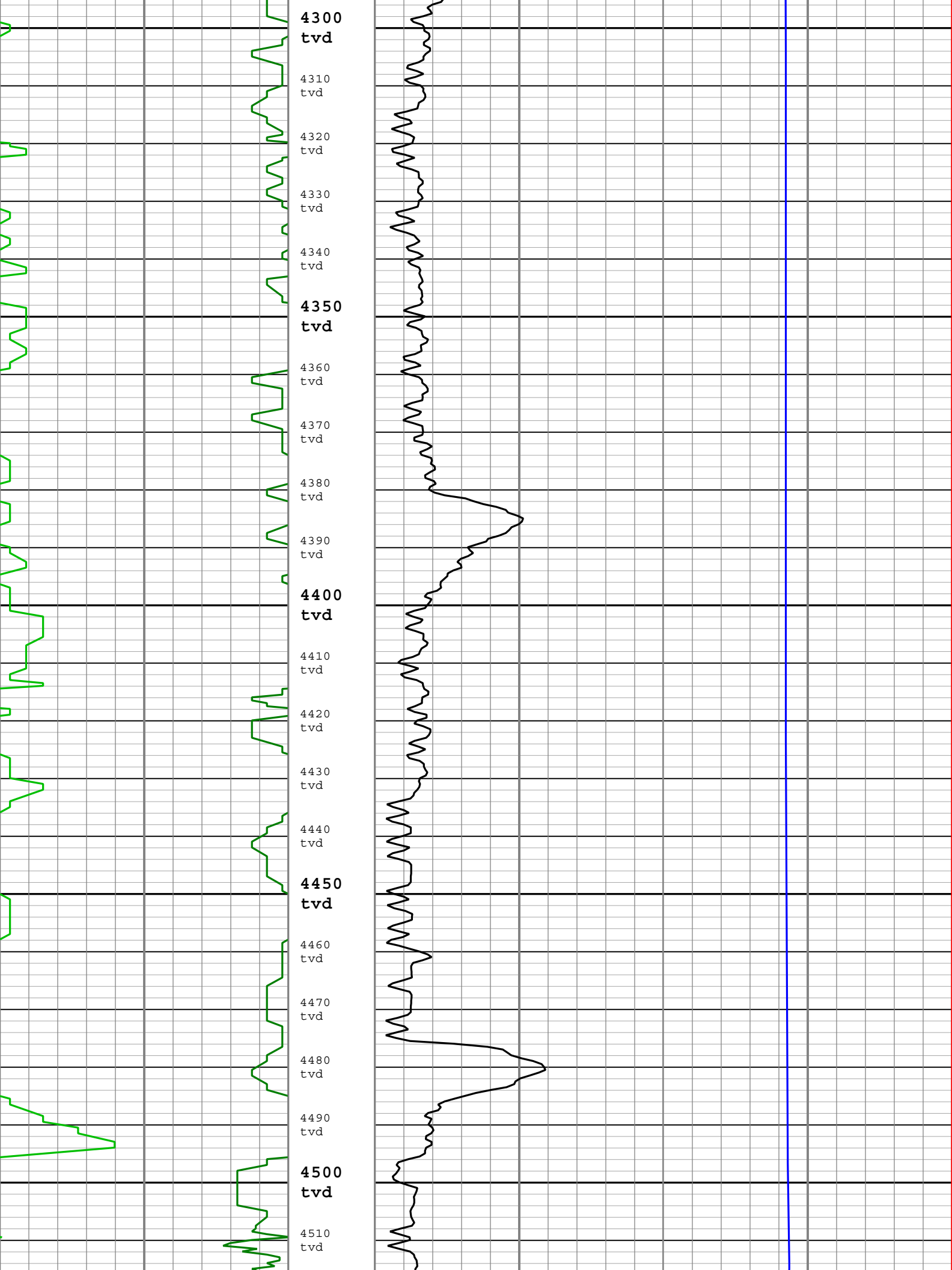


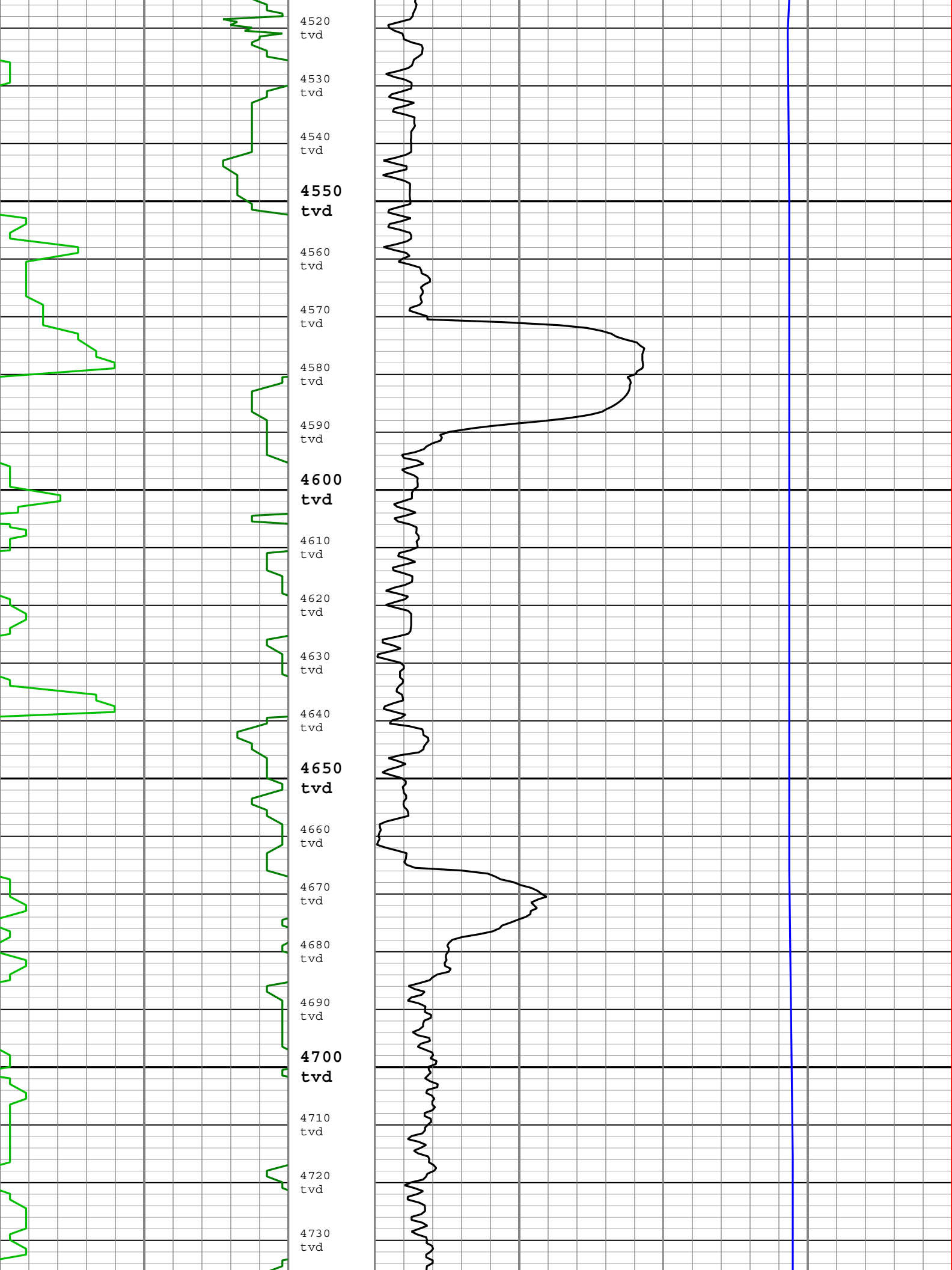


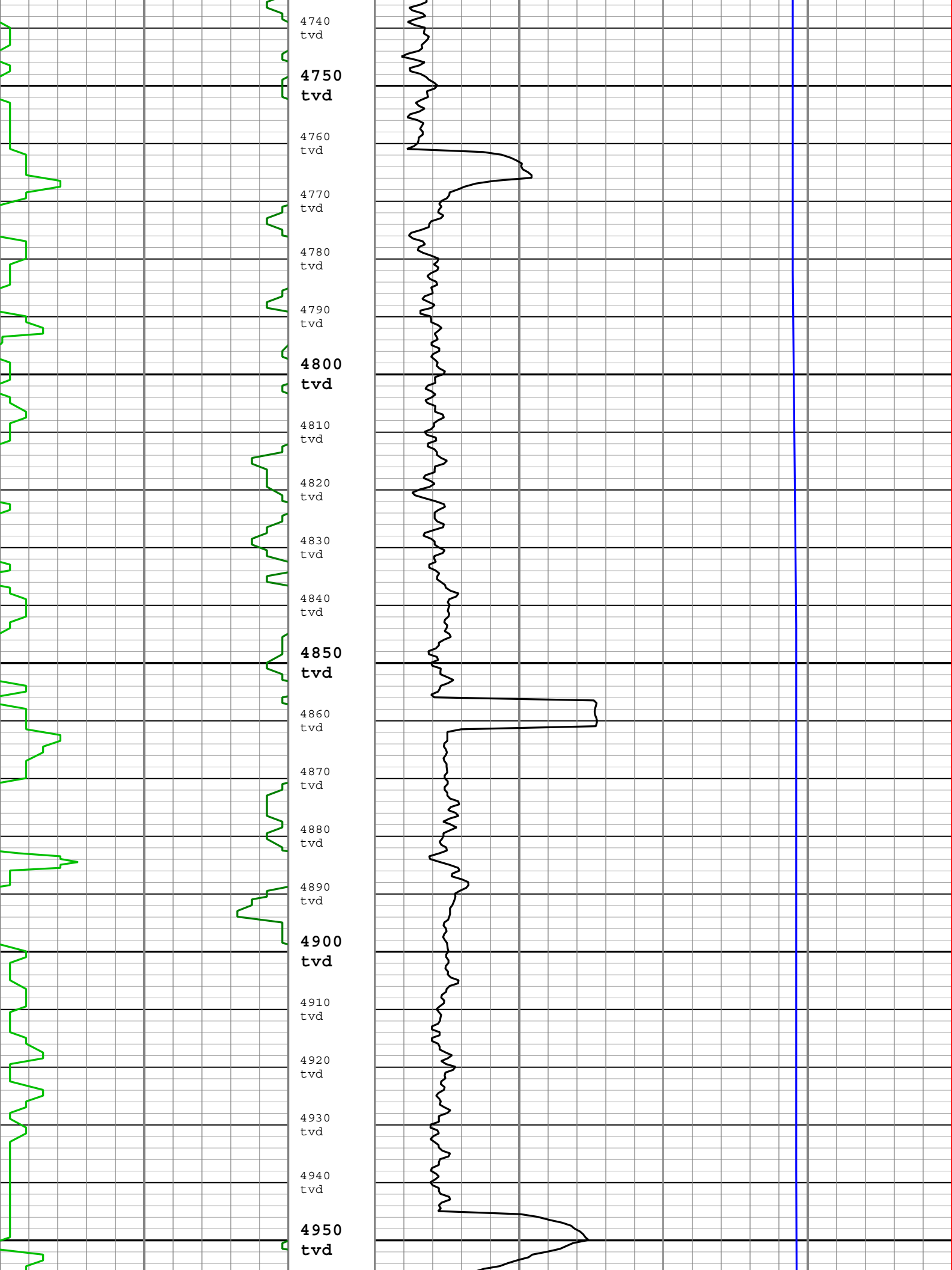


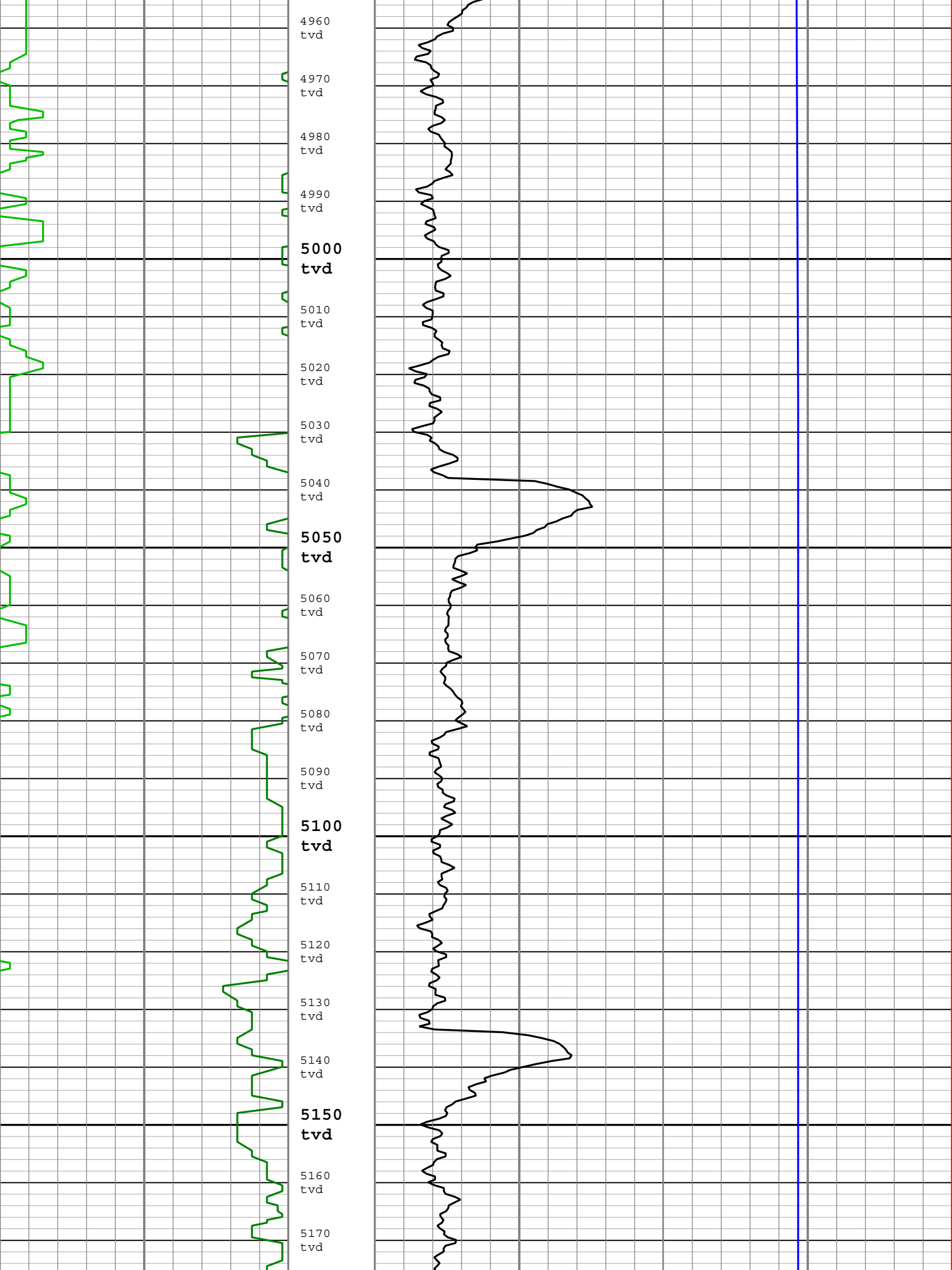


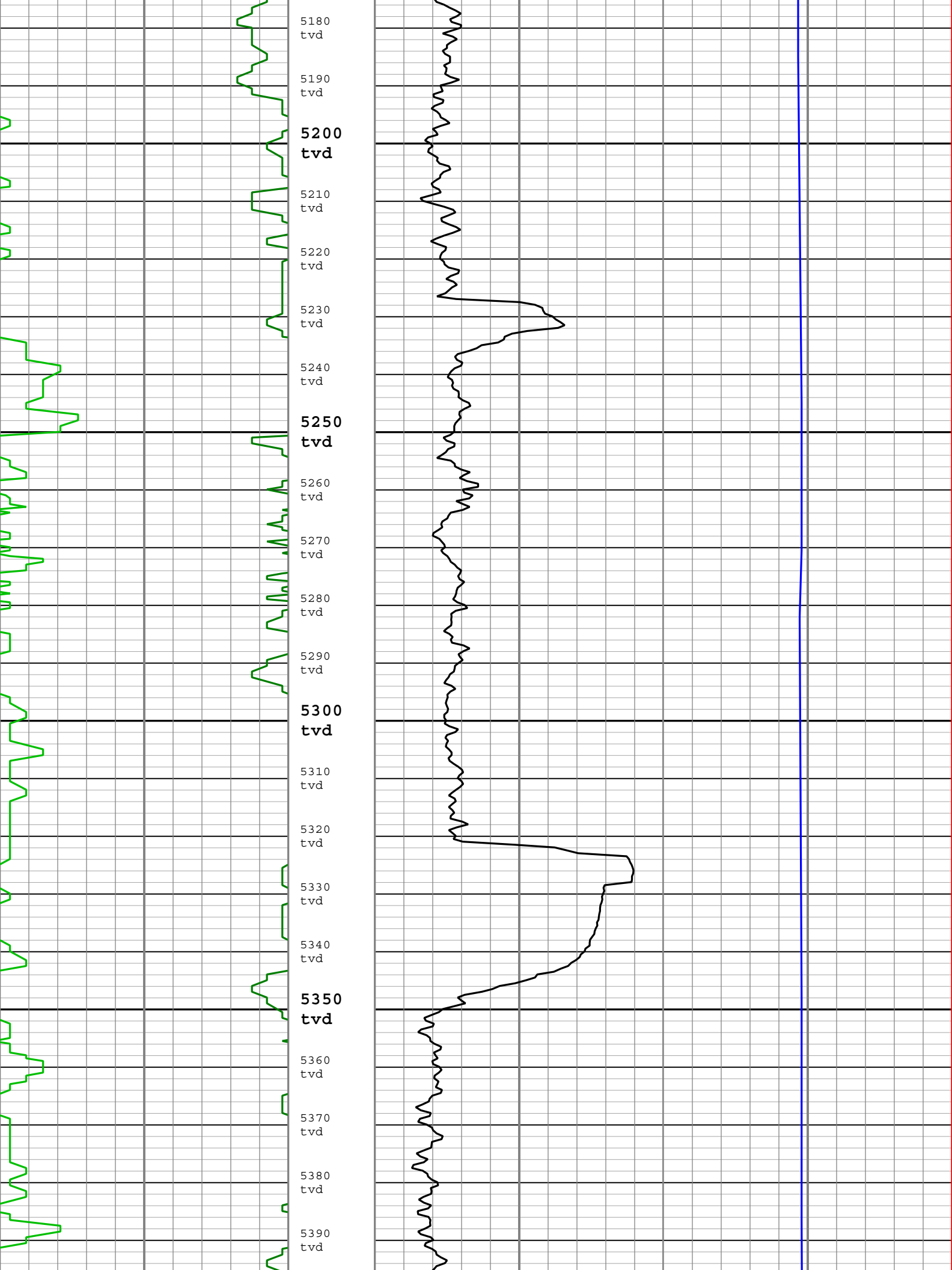


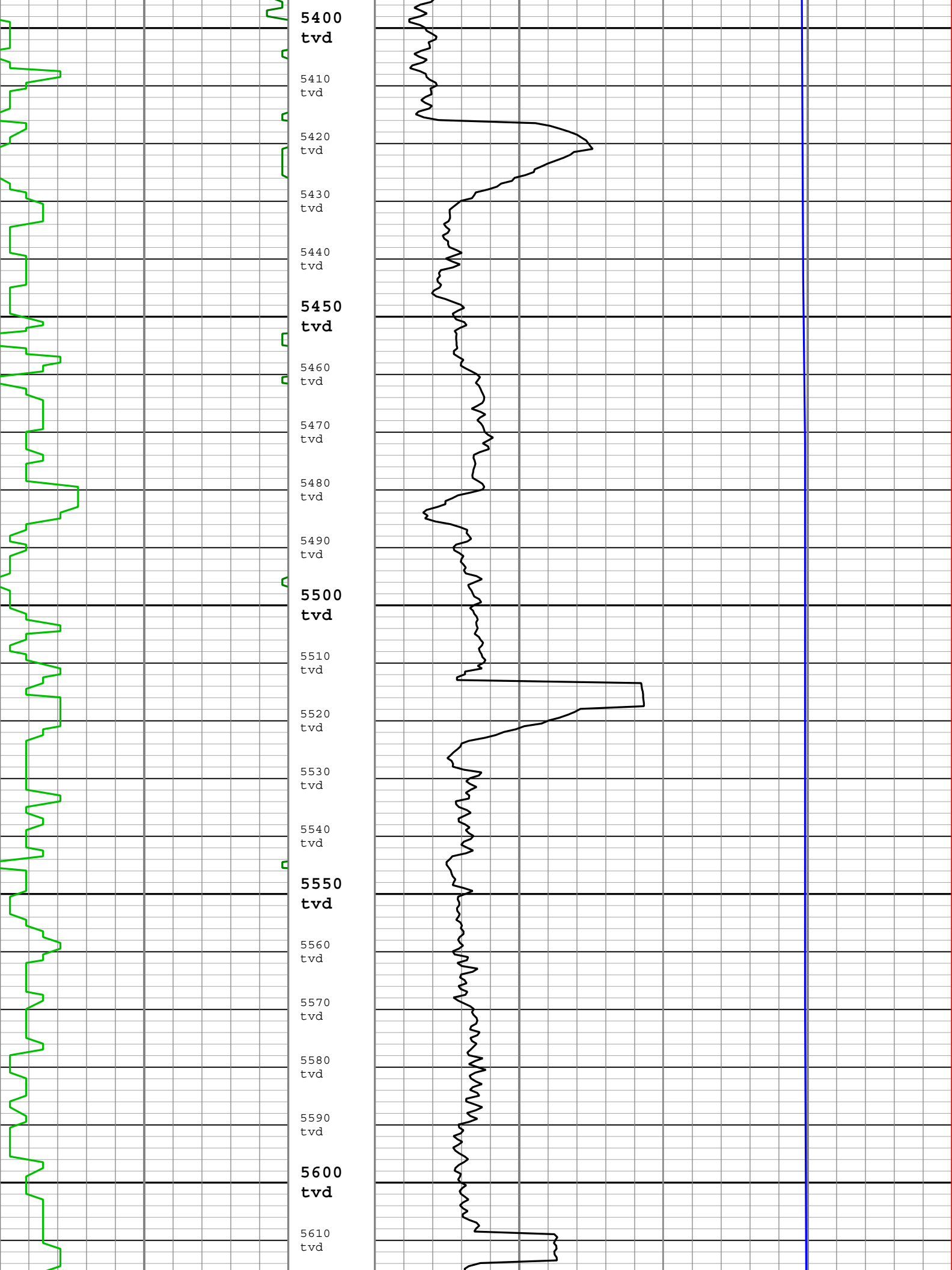


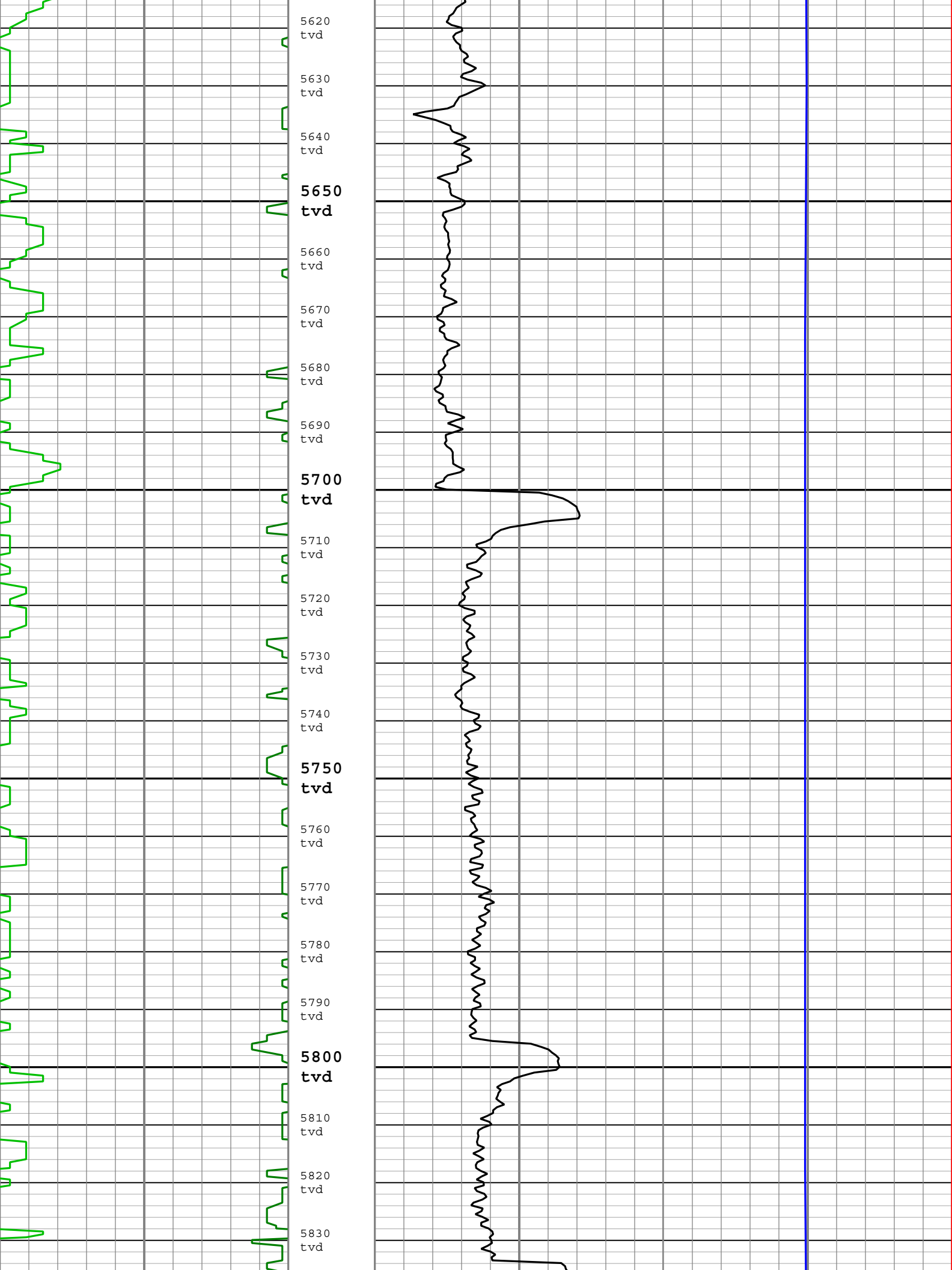


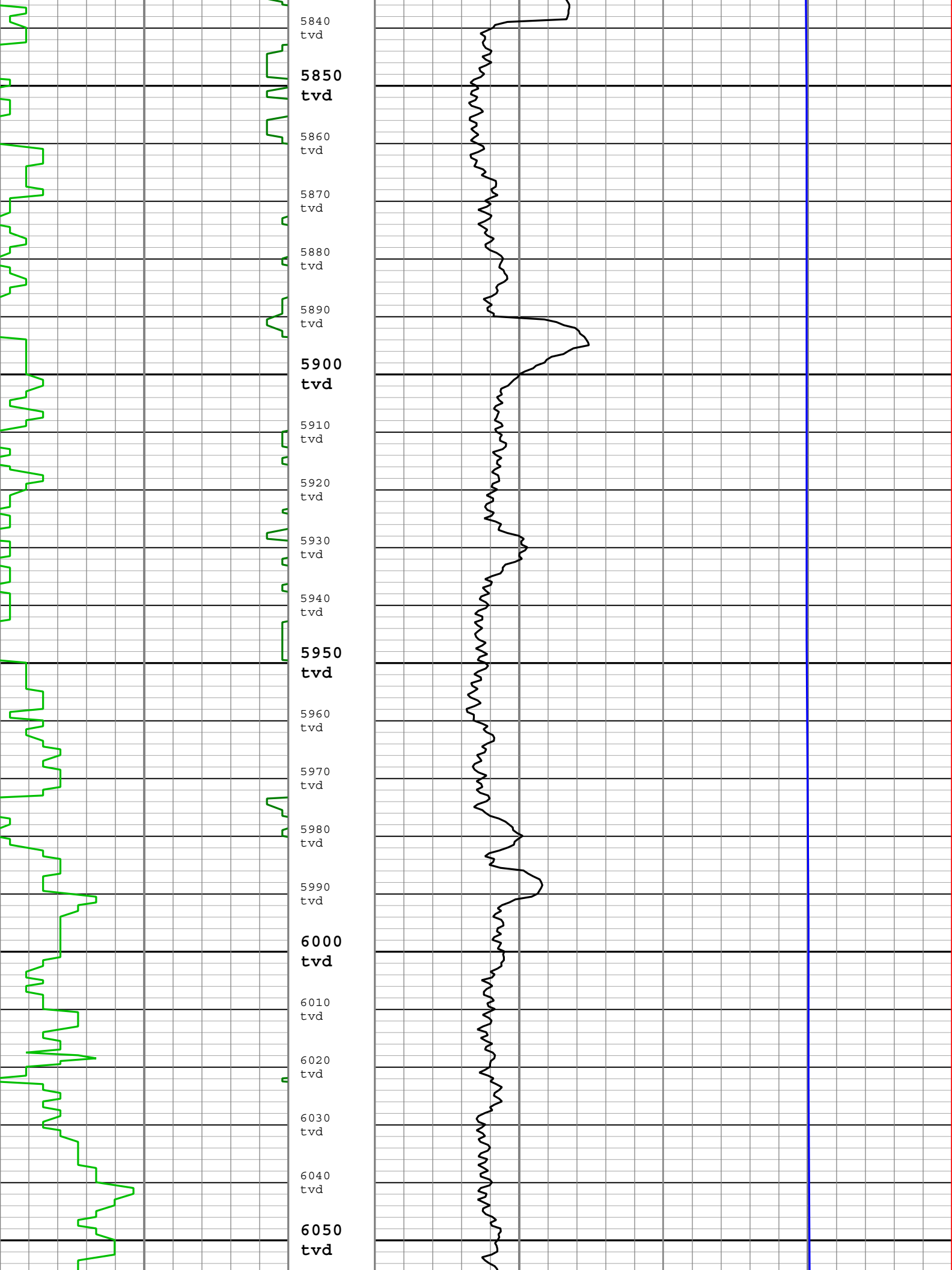


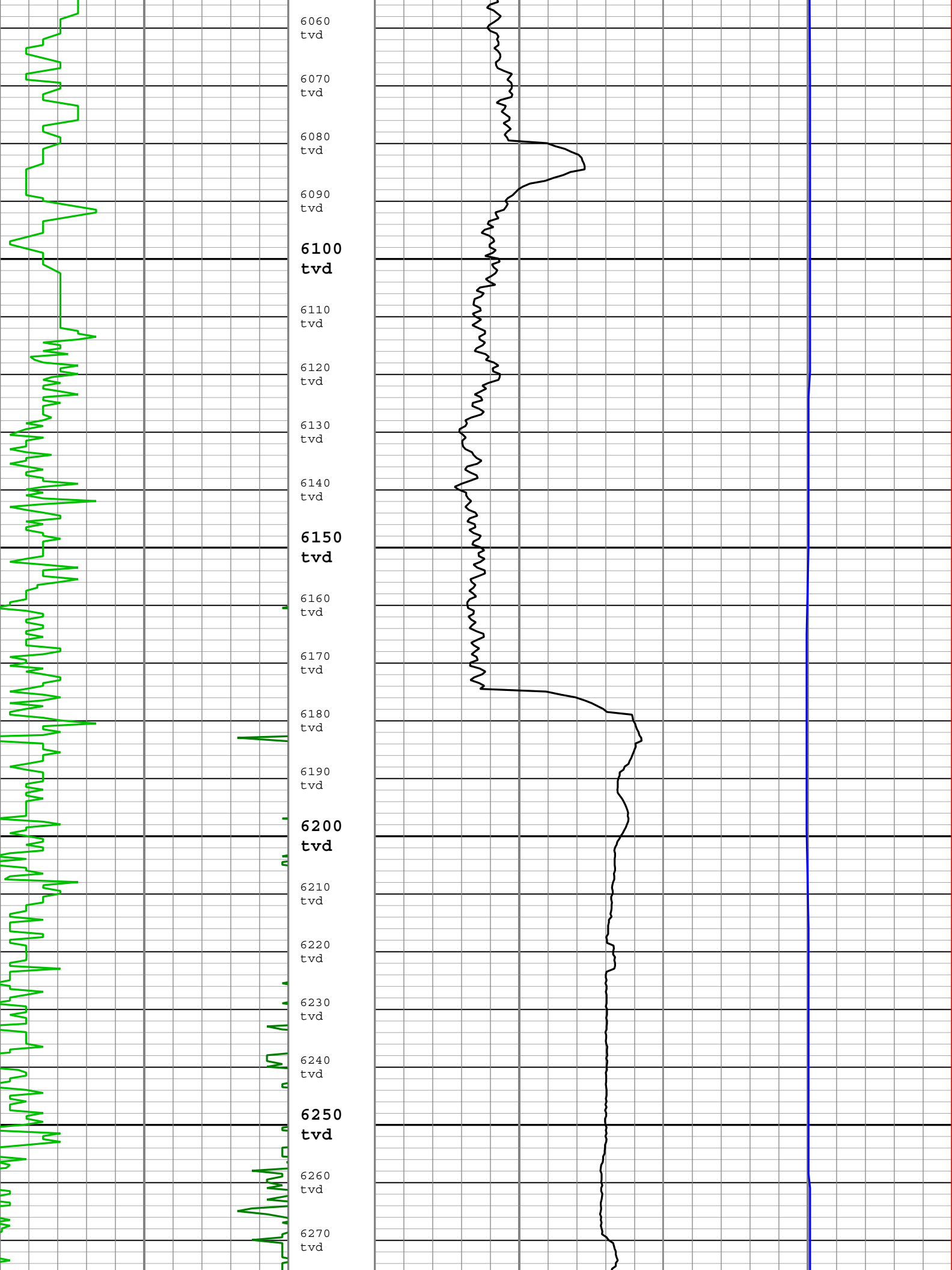


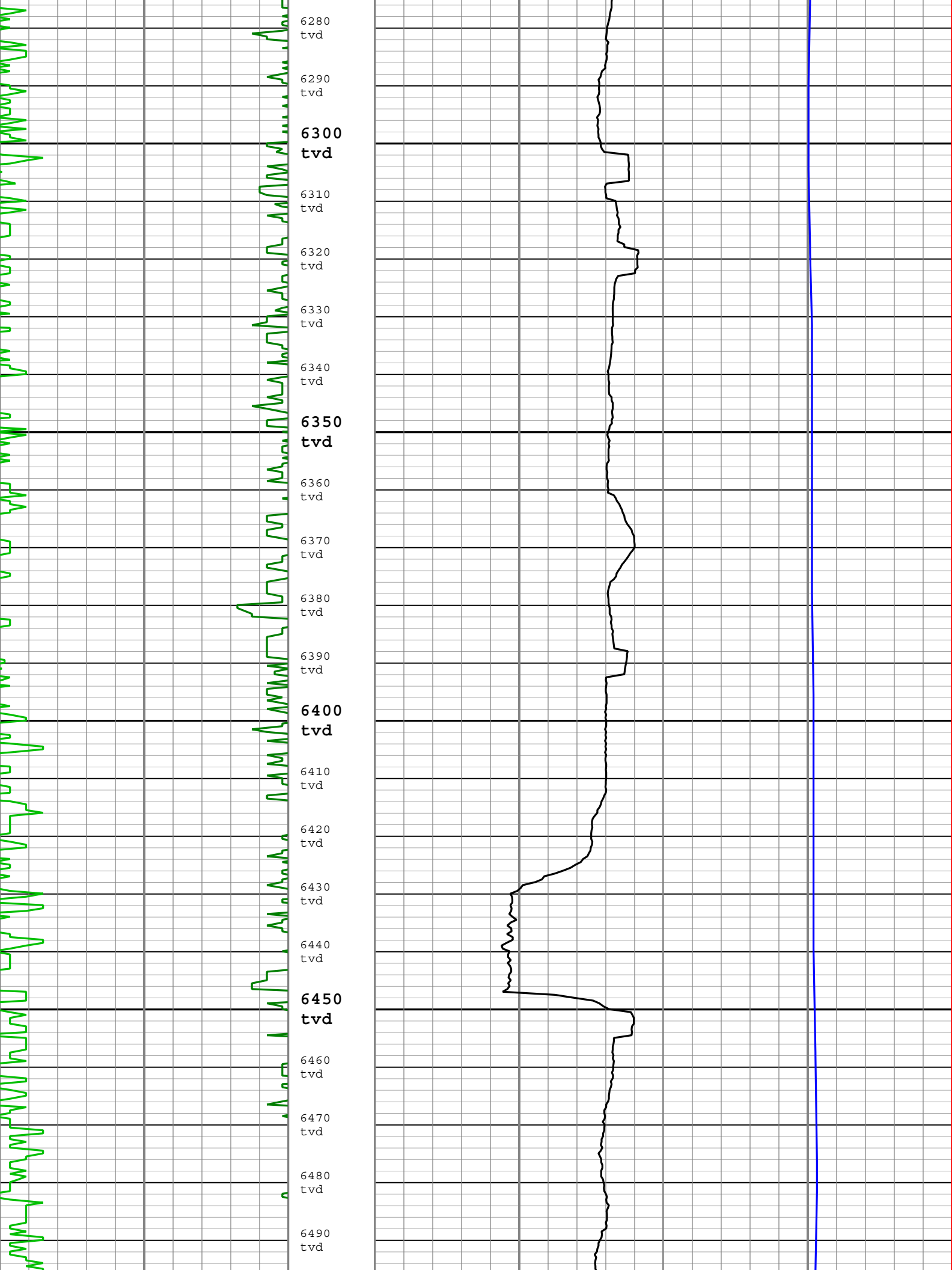


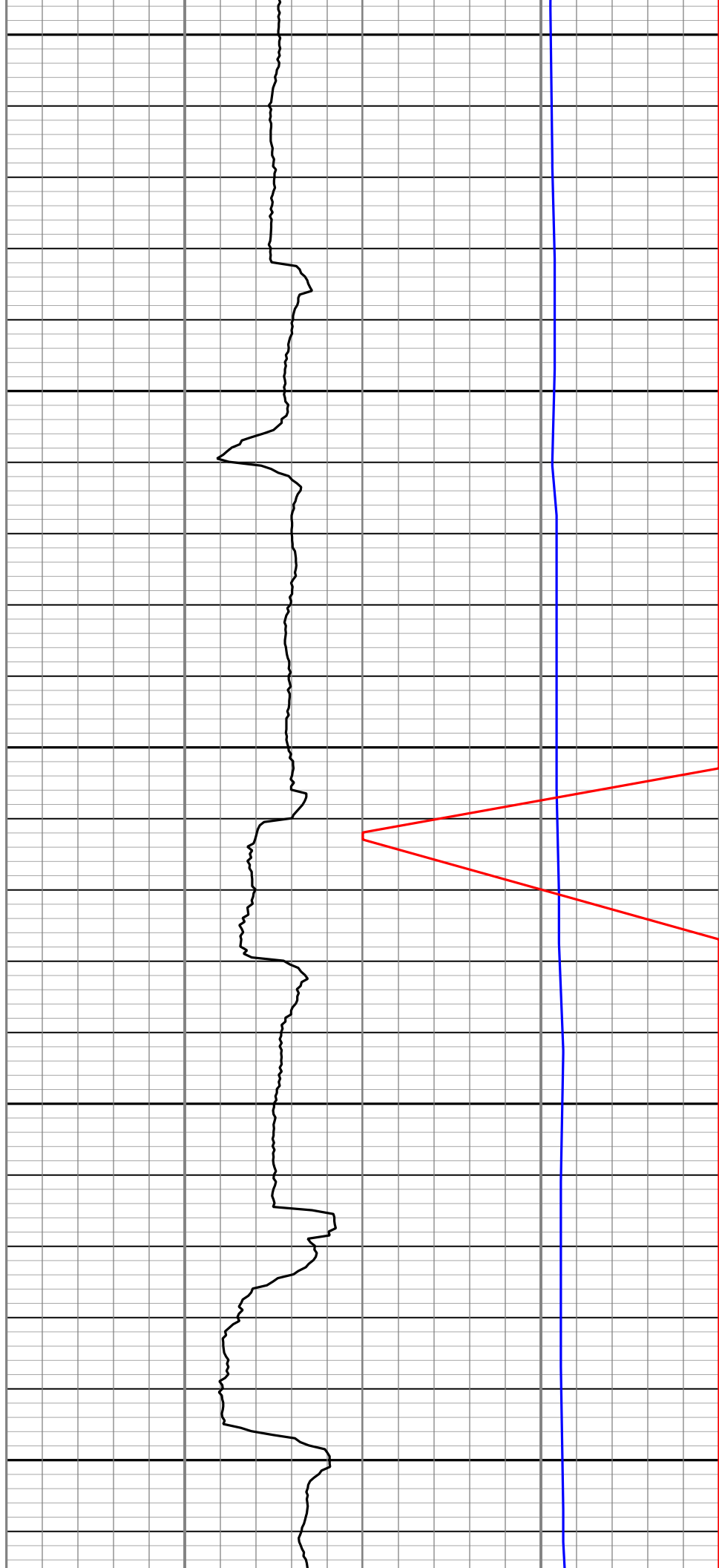
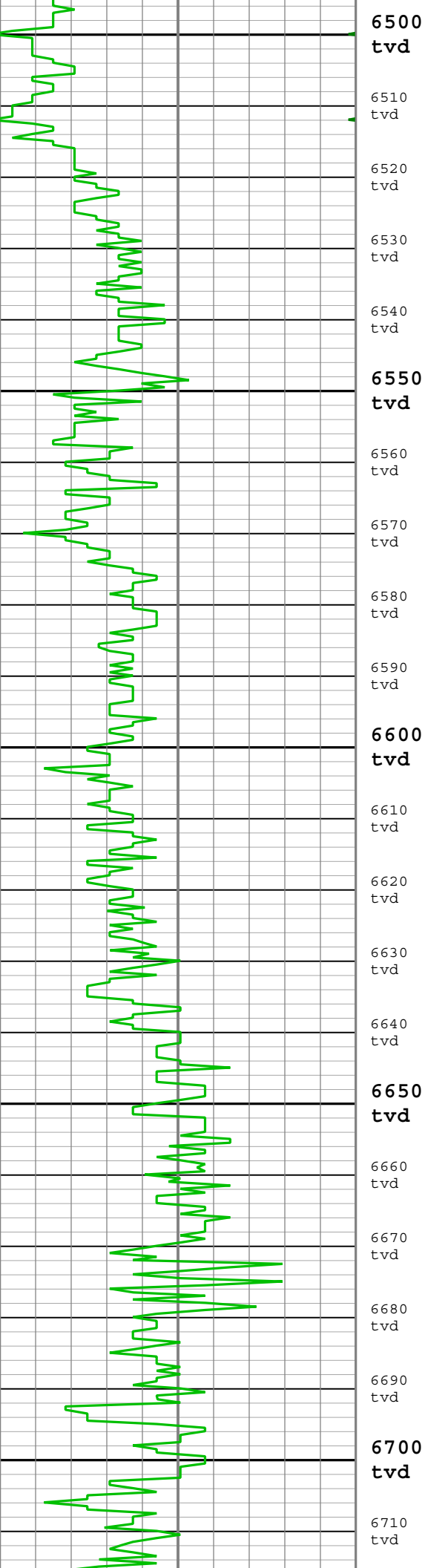


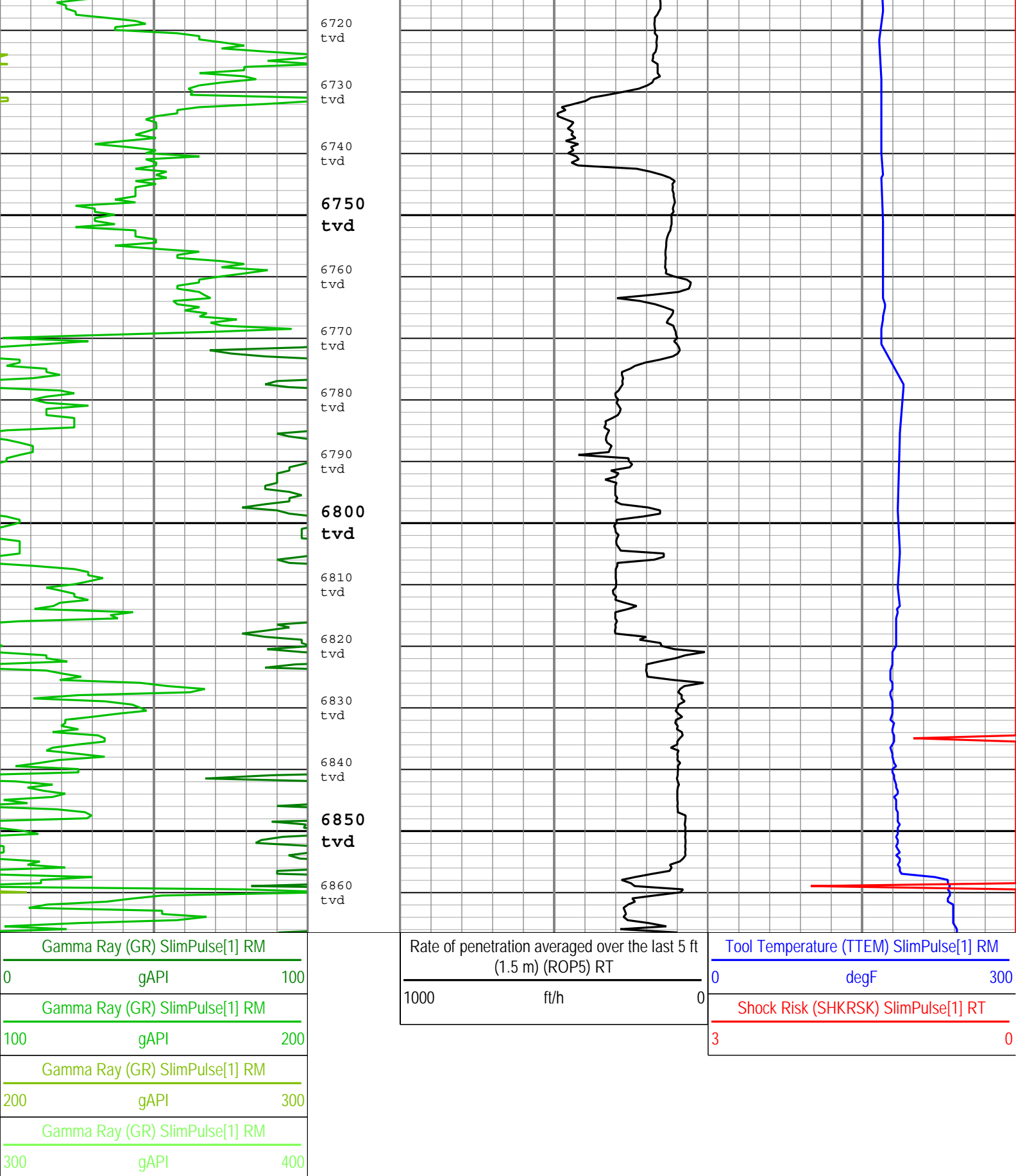












Description: SlimPulse Gamma Ray 1 Format: Log (Final TVD Log) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: TVD Creation Date: 28-Oct-2014 11:13:02

Channel Processing Parameters				
Run001: Parameters				
Parameter	Description	Tool	Value	Unit
BS	Bit Size	DNMSESSION	8.75	in

DFD	Drilling Fluid Density	Borehole	8.6	lbm/gal	
GR_SRC	GR Source Selection	SPULSE-GEN	GAMMA_EXT		
Run002: Parameters					
Parameter	Description	Tool	Value	Unit	
BS	Bit Size	DNMSESSION	8.75	in	
DFD	Drilling Fluid Density	Borehole	Time Zoned	lbm/gal	
GR_SRC	GR Source Selection	SPULSE-GEN	GAMMA_EXT		
Run002Time Zoned Parameters					
Pass Drilling					
Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
DFD	8.6	17-Oct-2014 18:18:41	18-Oct-2014 03:00:00	1490.92	4029.75
DFD	9	18-Oct-2014 03:00:00	18-Oct-2014 13:30:00	4029.75	6674.67
DFD	10.3	18-Oct-2014 13:30:00	19-Oct-2014 09:32:06	6674.67	7184.75
All depth are at tool zero.					
Run003: Parameters					
Parameter	Description	Tool	Value	Unit	
BS	Bit Size	DNMSESSION	Depth Zoned	in	
DFD	Drilling Fluid Density	Borehole	Time Zoned	lbm/gal	
GR_SRC	GR Source Selection	SPULSE-GEN	GAMMA_EXT		
Run003Depth Zoned Parameters					
Parameter	Value	Start (ft)	Stop (ft)		
BS	8.75	6728.29	6826.07		
BS	6.125	6826.07	6866.51		
All depth are actual.					
Run003Time Zoned Parameters					
Pass Drilling					
Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
DFD	9.45	20-Oct-2014 08:27:35	21-Oct-2014 03:00:00	6999.08	8077.17
DFD	9.7	21-Oct-2014 03:00:00	21-Oct-2014 13:00:00	8077.17	9514
DFD	9.6	21-Oct-2014 13:00:00	22-Oct-2014 03:00:00	9512.5	11398.92
DFD	9.65	22-Oct-2014 03:00:00	23-Oct-2014 03:00:00	11398.92	14142.42
DFD	9.75	23-Oct-2014 03:00:00	23-Oct-2014 22:41:21	14142.42	14439.58
All depth are at tool zero.					
Tool Control Parameters					
Survey Record					
Survey Calculation					
Method :		Minimum Radius of Curvature	DLS Method :	Lubinski	
North Reference :		Grid North	Total Correction Formula :	Magnetic Dec - Grid Convergence	
Grid Convergence :		0.63 deg			
Rig Location					
Latitude :		40° 9' 7.99" N	Longitude :		104° 31' 52.72" W
Tie In Point					
Measured Depth:	0.00 ft	Inclination:	0.00 deg	Azimuth:	0.00 deg
True Vertical Depth:	0.00 ft	North Displacement:	0.00 ft	East Displacement:	0.00 ft
N/-S VSec Origin:	0.00 ft	E/-W VSec Origin:	0.00 ft	Vertical Section Azimuth:	357.36 deg
D&I Inits Computed and Values Used - Run001					
Geomagnetic Model :		BGGM 2014	Geomagnetic Date :		16-Oct-2014

Computed Location B :					52563.86 nT +/- 300.00nT					Used Location B :					52563.86 nT +/- 300.00nT				
Computed Location G :					999.52 mgn +/- 2.50mgn					Used Location G :					999.52 mgn +/- 2.50mgn				
Computed Magnetic Dip :					66.77 deg +/- 0.45deg					Used Magnetic Dip :					66.77 deg +/- 0.45deg				
Computed Magnetic Dec :					8.36 deg					Used Magnetic Dec :					8.36 deg				
Computed Total Correction :					7.73 deg					Used Total Correction :					7.73 deg				
D&I Inits Computed and Values Used - Run002																			
Geomagnetic Model :					BGGM 2014					Geomagnetic Date :					17-Oct-2014				
Computed Location B :					52563.49 nT +/- 300.00nT					Used Location B :					52563.49 nT +/- 300.00nT				
Computed Location G :					999.52 mgn +/- 2.50mgn					Used Location G :					999.52 mgn +/- 2.50mgn				
Computed Magnetic Dip :					66.77 deg +/- 0.45deg					Used Magnetic Dip :					66.77 deg +/- 0.45deg				
Computed Magnetic Dec :					8.36 deg					Used Magnetic Dec :					8.36 deg				
Computed Total Correction :					7.73 deg					Used Total Correction :					7.73 deg				
D&I Inits Computed and Values Used - Run003																			
Geomagnetic Model :					BGGM 2014					Geomagnetic Date :					19-Oct-2014				
Computed Location B :					52562.75 nT +/- 300.00nT					Used Location B :					52602.00 nT +/- 300.00nT				
Computed Location G :					999.52 mgn +/- 2.50mgn					Used Location G :					999.52 mgn +/- 2.50mgn				
Computed Magnetic Dip :					66.77 deg +/- 0.45deg					Used Magnetic Dip :					66.73 deg +/- 0.45deg				
Computed Magnetic Dec :					8.36 deg					Used Magnetic Dec :					8.34 deg				
Computed Total Correction :					7.73 deg					Used Total Correction :					7.71 deg				
Survey Quality Index																			
0 : Long Survey passed all criteria					9 : Manual					28 : Tie-In Point									
Survey Correction Index																			
0 : No correction																			
Survey Description Index																			
0 : Not Flagged Survey					7 : Projection to Bit					11 : Secondary Tie-In Point									
Seq	MD (ft)	Incl (deg)	Azim (deg)	Course (ft)	TVD (ft)	V Sec (ft)	N/ -S (ft)	E/ -W (ft)	Closure (ft)	at Azim (deg)	DLS deg/100ft	Tool Type	QI	CI	DI				
1	0.00	0.00	0.00	- - - -	0.00	0.00	0.00	0.00	0.00	90.00	0.00	TIP	28	0	0				
2	124.00	0.00	0.00	124.00	124.00	0.00	0.00	0.00	0.00	90.00	0.00	Other	9	0	11				
3	310.00	0.70	354.24	186.00	310.00	1.13	1.13	-0.11	1.15	354.24	0.38	SingleShot	9	0	0				
4	604.00	0.80	316.54	294.00	603.97	4.48	4.41	-1.71	4.72	338.84	0.17	SingleShot	9	0	0				
5	888.00	0.40	12.94	284.00	887.96	6.94	6.81	-2.85	7.38	337.31	0.24	SingleShot	9	0	0				
6	1140.00	0.60	40.34	252.00	1139.95	8.75	8.68	-1.80	8.86	348.30	0.12	SingleShot	9	0	0				
7	1409.00	0.78	62.52	269.00	1408.93	10.55	10.60	0.75	10.63	4.04	0.12	SlimPulse	0	0	0				
8	1503.00	0.86	64.57	94.00	1502.92	11.10	11.20	1.96	11.35	9.91	0.09	SlimPulse	0	0	0				
9	1597.00	1.85	352.47	94.00	1596.90	12.88	13.00	2.39	13.22	10.43	1.90	SlimPulse	0	0	0				
10	1691.00	4.14	333.30	94.00	1690.76	17.49	17.54	0.67	17.55	2.19	2.63	SlimPulse	0	0	0				
11	1786.00	4.14	331.57	95.00	1785.52	23.71	23.62	-2.51	23.75	353.94	0.13	SlimPulse	0	0	0				
12	1881.00	6.30	314.32	95.00	1880.12	30.61	30.28	-7.87	31.30	345.43	2.78	SlimPulse	0	0	0				
13	1976.00	5.97	313.10	95.00	1974.58	37.96	37.30	-15.20	40.29	337.82	0.37	SlimPulse	0	0	0				
14	2070.00	8.26	308.01	94.00	2067.85	45.86	44.80	-24.09	50.85	331.73	2.52	SlimPulse	0	0	0				
15	2164.00	8.05	304.67	94.00	2160.90	54.25	52.70	-34.82	63.16	326.54	0.55	SlimPulse	0	0	0				
16	2258.00	7.86	303.57	94.00	2254.00	62.04	60.00	-45.59	75.36	322.77	0.26	SlimPulse	0	0	0				
17	2353.00	10.35	307.22	95.00	2347.79	71.35	68.75	-57.80	89.83	319.94	2.70	SlimPulse	0	0	0				
18	2447.00	10.39	307.30	94.00	2440.25	82.20	79.00	-71.28	106.40	317.94	0.04	SlimPulse	0	0	0				
19	2540.00	10.19	306.47	93.00	2531.76	92.78	88.97	-84.56	122.74	316.45	0.27	SlimPulse	0	0	0				
20	2635.00	9.87	303.94	95.00	2625.31	102.93	98.51	-98.08	139.01	315.13	0.57	SlimPulse	0	0	0				
21	2730.00	9.57	303.36	95.00	2718.94	112.43	107.40	-111.43	154.76	313.94	0.33	SlimPulse	0	0	0				
22	2825.00	9.31	302.49	95.00	2812.66	121.50	115.87	-124.51	170.08	312.94	0.31	SlimPulse	0	0	0				
23	2919.00	9.29	301.32	94.00	2905.42	130.11	123.90	-137.41	185.01	312.04	0.20	SlimPulse	0	0	0				
24	3014.00	9.25	300.09	95.00	2999.18	138.53	131.72	-150.56	200.03	311.18	0.21	SlimPulse	0	0	0				
25	3109.00	9.93	303.44	95.00	3092.85	147.48	140.06	-164.01	215.68	310.50	0.93	SlimPulse	0	0	0				
26	3204.00	9.71	301.99	95.00	3186.46	156.86	148.82	-177.64	231.73	309.96	0.35	SlimPulse	0	0	0				
27	3299.00	9.12	300.73	95.00	3280.18	165.56	156.91	-190.91	247.11	309.42	0.65	SlimPulse	0	0	0				
28	3393.00	10.04	314.29	94.00	3372.88	175.65	166.45	-203.18	262.66	309.32	2.58	SlimPulse	0	0	0				
29	3488.00	9.45	313.02	95.00	3466.51	187.28	177.55	-214.81	278.71	309.58	0.66	SlimPulse	0	0	0				

30	3582.00	8.53	309.31	94.00	3559.35	197.46	187.24	-225.85	293.37	309.66	1.15	SlimPulse	0	0	0
31	3677.00	8.11	304.71	95.00	3653.35	206.24	195.52	-236.81	307.09	309.54	0.83	SlimPulse	0	0	0
32	3772.00	7.45	306.27	95.00	3747.48	214.17	202.97	-247.28	319.91	309.38	0.73	SlimPulse	0	0	0
33	3867.00	6.58	308.02	95.00	3841.77	221.58	209.97	-256.53	331.50	309.30	0.93	SlimPulse	0	0	0
34	3962.00	6.45	307.08	95.00	3936.15	228.54	216.54	-265.08	342.29	309.24	0.18	SlimPulse	0	0	0
35	4056.00	5.14	291.20	94.00	4029.68	233.62	221.25	-273.22	351.57	309.00	2.19	SlimPulse	0	0	0
36	4151.00	1.17	284.99	95.00	4124.51	235.64	223.04	-278.13	356.53	308.73	4.19	SlimPulse	0	0	0
37	4246.00	1.24	287.30	95.00	4219.49	236.28	223.60	-280.06	358.37	308.60	0.09	SlimPulse	0	0	0
38	4341.00	1.38	287.23	95.00	4314.47	237.02	224.24	-282.13	360.40	308.48	0.14	SlimPulse	0	0	0
39	4435.00	1.45	289.65	94.00	4408.44	237.86	224.98	-284.32	362.57	308.35	0.10	SlimPulse	0	0	0
40	4530.00	1.59	281.40	95.00	4503.40	238.63	225.64	-286.75	364.90	308.20	0.27	SlimPulse	0	0	0
41	4625.00	0.52	323.10	95.00	4598.39	239.31	226.24	-288.30	366.47	308.12	1.32	SlimPulse	0	0	0
42	4719.00	0.22	308.91	94.00	4692.39	239.78	226.70	-288.70	367.06	308.14	0.33	SlimPulse	0	0	0
43	4814.00	0.12	339.43	95.00	4787.39	239.99	226.91	-288.87	367.32	308.15	0.13	SlimPulse	0	0	0
44	4908.00	0.39	106.48	94.00	4881.39	239.99	226.91	-288.60	367.13	308.18	0.51	SlimPulse	0	0	0
45	5003.00	1.00	135.21	95.00	4976.38	239.26	226.23	-287.71	366.01	308.18	0.72	SlimPulse	0	0	0
46	5098.00	1.14	138.56	95.00	5071.36	237.91	224.93	-286.50	364.24	308.14	0.16	SlimPulse	0	0	0
47	5192.00	1.26	139.08	94.00	5165.34	236.37	223.45	-285.20	362.30	308.08	0.13	SlimPulse	0	0	0
48	5287.00	1.10	142.36	95.00	5260.32	234.80	221.93	-283.96	360.40	308.01	0.19	SlimPulse	0	0	0
49	5382.00	0.74	297.78	95.00	5355.32	234.36	221.50	-283.94	360.10	307.96	1.89	SlimPulse	0	0	0
50	5477.00	0.55	284.65	95.00	5450.31	234.81	221.90	-284.92	361.12	307.91	0.25	SlimPulse	0	0	0
51	5571.00	0.32	294.20	94.00	5544.31	235.06	222.12	-285.60	361.81	307.87	0.26	SlimPulse	0	0	0
52	5761.00	0.51	320.81	190.00	5734.30	235.98	222.99	-286.61	363.16	307.88	0.14	SlimPulse	0	0	0
53	5855.00	0.31	315.84	94.00	5828.30	236.51	223.50	-287.06	363.81	307.90	0.22	SlimPulse	0	0	0
54	5950.00	0.66	282.44	95.00	5923.30	236.84	223.80	-287.77	364.57	307.87	0.46	SlimPulse	0	0	0
55	6045.00	0.84	263.19	95.00	6018.29	236.94	223.84	-288.99	365.55	307.76	0.32	SlimPulse	0	0	0
56	6139.00	0.96	254.58	94.00	6112.28	236.71	223.55	-290.44	366.50	307.59	0.20	SlimPulse	0	0	0
57	6234.00	3.39	328.50	95.00	6207.21	238.99	225.73	-292.67	369.62	307.64	3.42	SlimPulse	0	0	0
58	6329.00	14.56	0.45	95.00	6300.94	253.43	240.11	-294.05	379.63	309.23	12.45	SlimPulse	0	0	0
59	6424.00	22.38	359.66	95.00	6390.97	283.47	270.19	-294.06	399.34	312.58	8.24	SlimPulse	0	0	0
60	6518.00	24.65	0.24	94.00	6477.16	320.94	307.69	-294.08	425.62	316.30	2.42	SlimPulse	0	0	0
61	6613.00	37.03	359.85	95.00	6558.57	369.49	356.30	-294.07	461.98	320.47	13.04	SlimPulse	0	0	0
62	6708.00	45.51	356.27	95.00	6629.92	432.07	418.84	-296.36	513.09	324.72	9.26	SlimPulse	0	0	0
63	6802.00	52.45	357.96	94.00	6691.58	502.94	489.62	-299.87	574.15	328.51	7.52	SlimPulse	0	0	0
64	6897.00	60.94	358.89	95.00	6743.69	582.25	568.92	-302.02	644.13	332.04	8.97	SlimPulse	0	0	0
65	6992.00	66.83	0.12	95.00	6785.49	667.45	654.18	-302.74	720.83	335.17	6.31	SlimPulse	0	0	0
66	7086.00	79.60	355.05	94.00	6812.60	757.23	743.87	-306.65	804.59	337.60	14.52	SlimPulse	0	0	0
67	7200.00	85.15	354.57	114.00	6827.72	870.06	856.35	-316.87	913.09	339.69	4.89	SlimPulse	9	0	0
68	7288.00	85.11	354.36	88.00	6835.19	957.63	943.62	-325.33	998.13	340.98	0.24	SlimPulse	9	0	0
69	7382.00	85.01	355.96	94.00	6843.29	1051.21	1036.94	-333.23	1089.17	342.18	1.70	SlimPulse	9	0	0
70	7477.00	86.21	357.39	95.00	6850.56	1145.92	1131.50	-338.72	1181.10	343.33	1.96	SlimPulse	9	0	0
71	7571.00	88.04	358.33	94.00	6855.27	1239.80	1225.31	-342.23	1272.21	344.39	2.19	SlimPulse	9	0	0
72	7666.00	89.59	358.93	95.00	6857.24	1334.75	1320.26	-344.50	1364.47	345.38	1.75	SlimPulse	9	0	0
73	7761.00	90.21	359.12	95.00	6857.40	1429.71	1415.24	-346.11	1456.96	346.26	0.68	SlimPulse	9	0	0
74	7855.00	90.17	359.12	94.00	6857.09	1523.66	1509.23	-347.56	1548.72	347.03	0.04	SlimPulse	9	0	0
75	7950.00	90.03	0.19	95.00	6856.93	1618.58	1604.23	-348.13	1641.57	347.76	1.14	SlimPulse	9	0	0
76	8045.00	90.38	0.55	95.00	6856.59	1713.45	1699.22	-347.52	1734.38	348.44	0.53	SlimPulse	9	0	0
77	8140.00	90.17	0.21	95.00	6856.13	1808.32	1794.22	-346.89	1827.46	349.06	0.42	SlimPulse	9	0	0
78	8234.00	90.83	359.76	94.00	6855.31	1902.21	1888.22	-346.91	1919.82	349.59	0.85	SlimPulse	9	0	0
79	8328.00	90.58	0.65	94.00	6854.15	1996.09	1982.21	-346.58	2012.27	350.08	0.98	SlimPulse	9	0	0
80	8423.00	90.31	2.66	95.00	6853.41	2090.81	2077.16	-343.83	2105.41	350.60	2.13	SlimPulse	9	0	0
81	8611.00	90.38	2.25	188.00	6852.28	2278.07	2264.98	-335.78	2289.73	351.57	0.22	SlimPulse	9	0	0
82	8705.00	90.41	2.44	94.00	6851.63	2371.71	2358.90	-331.93	2382.15	351.99	0.20	SlimPulse	9	0	0
83	8800.00	91.07	2.00	95.00	6850.41	2466.36	2453.82	-328.25	2475.69	352.38	0.83	SlimPulse	9	0	0

	84	8895.00	91.65	2.38	95.00	6848.15	2560.99	2548.73	-324.62	2569.32	352.74	0.73	SlimPulse	9	0	0
	85	8990.00	90.65	1.44	95.00	6846.25	2655.67	2643.65	-321.46	2663.12	353.07	1.44	SlimPulse	9	0	0
	86	9178.00	91.17	358.06	188.00	6843.26	2843.45	2831.60	-322.28	2849.87	353.51	1.82	SlimPulse	9	0	0
	87	9272.00	90.21	356.27	94.00	6842.13	2937.44	2925.47	-326.93	2943.67	353.62	2.16	SlimPulse	9	0	0
	88	9367.00	89.86	354.60	95.00	6842.07	3032.39	3020.17	-334.49	3038.65	353.68	1.80	SlimPulse	9	0	0
	89	9555.00	89.24	355.31	188.00	6843.55	3220.21	3207.43	-351.02	3226.57	353.75	0.50	SlimPulse	9	0	0
	90	9649.00	89.72	356.35	94.00	6844.40	3314.17	3301.18	-357.85	3320.51	353.81	1.22	SlimPulse	9	0	0
	91	9744.00	90.52	357.90	95.00	6844.20	3409.17	3396.05	-362.62	3415.35	353.91	1.84	SlimPulse	9	0	0
	92	9838.00	90.45	359.88	94.00	6843.40	3503.13	3490.03	-364.44	3508.99	354.04	2.11	SlimPulse	9	0	0
	93	9933.00	90.69	1.44	95.00	6842.46	3597.96	3585.01	-363.35	3603.38	354.21	1.66	SlimPulse	9	0	0
	94	10027.00	90.14	1.43	94.00	6841.78	3691.72	3678.98	-360.99	3696.65	354.40	0.59	SlimPulse	9	0	0
	95	10122.00	90.31	2.08	95.00	6841.41	3786.44	3773.94	-358.08	3790.88	354.58	0.71	SlimPulse	9	0	0
	96	10217.00	90.55	1.71	95.00	6840.69	3881.14	3868.88	-354.94	3885.14	354.76	0.46	SlimPulse	9	0	0
	97	10311.00	90.93	2.16	94.00	6839.48	3974.83	3962.82	-351.77	3978.41	354.93	0.63	SlimPulse	9	0	0
	98	10406.00	89.52	1.25	95.00	6839.11	4069.55	4057.77	-348.94	4072.74	355.09	1.77	SlimPulse	9	0	0
	99	10501.00	89.62	0.32	95.00	6839.82	4164.38	4152.76	-347.64	4167.29	355.21	0.98	SlimPulse	9	0	0
	100	10595.00	90.10	1.29	94.00	6840.05	4258.21	4246.75	-346.32	4260.86	355.34	1.15	SlimPulse	9	0	0
	101	10690.00	89.52	359.33	95.00	6840.36	4353.07	4341.74	-345.80	4355.48	355.45	2.15	SlimPulse	9	0	0
	102	10784.00	89.04	357.92	94.00	6841.54	4447.04	4435.70	-348.06	4449.34	355.51	1.58	SlimPulse	9	0	0
	103	10879.00	88.94	356.55	95.00	6843.22	4542.02	4530.58	-352.64	4544.29	355.55	1.45	SlimPulse	9	0	0
	104	10973.00	89.28	356.85	94.00	6844.68	4636.01	4624.41	-358.05	4638.25	355.57	0.48	SlimPulse	9	0	0
	105	11068.00	88.59	356.87	95.00	6846.44	4730.99	4719.25	-363.26	4733.20	355.60	0.73	SlimPulse	9	0	0
	106	11163.00	89.79	358.21	95.00	6847.79	4825.97	4814.15	-367.33	4828.15	355.64	1.89	SlimPulse	9	0	0
	107	11257.00	89.31	359.56	94.00	6848.53	4919.93	4908.13	-369.16	4921.98	355.70	1.52	SlimPulse	9	0	0
	108	11352.00	89.04	0.53	95.00	6849.89	5014.82	5003.12	-369.09	5016.70	355.78	1.06	SlimPulse	9	0	0
	109	11446.00	89.21	1.06	94.00	6851.33	5108.64	5097.09	-367.78	5110.33	355.87	0.59	SlimPulse	9	0	0
	110	11541.00	89.21	0.72	95.00	6852.64	5203.45	5192.07	-366.31	5204.99	355.96	0.36	SlimPulse	9	0	0
	111	11636.00	88.97	2.19	95.00	6854.15	5298.19	5287.03	-363.90	5299.54	356.06	1.57	SlimPulse	9	0	0
	112	11731.00	88.97	2.03	95.00	6855.86	5392.85	5381.95	-360.40	5394.00	356.17	0.17	SlimPulse	9	0	0
	113	11825.00	89.00	2.26	94.00	6857.52	5486.50	5475.87	-356.88	5487.50	356.27	0.25	SlimPulse	9	0	0
	114	12015.00	89.04	2.93	190.00	6860.77	5675.68	5665.64	-348.28	5676.35	356.48	0.35	SlimPulse	9	0	0
	115	12110.00	89.69	2.74	95.00	6861.82	5770.24	5760.52	-343.58	5770.77	356.59	0.71	SlimPulse	9	0	0
	116	12204.00	89.72	2.73	94.00	6862.31	5863.83	5854.41	-339.10	5864.24	356.69	0.03	SlimPulse	9	0	0
	117	12299.00	89.93	1.21	95.00	6862.60	5958.51	5949.35	-335.83	5958.83	356.77	1.62	SlimPulse	9	0	0
	118	12393.00	89.66	1.59	94.00	6862.93	6052.28	6043.33	-333.53	6052.53	356.84	0.50	SlimPulse	9	0	0
	119	12488.00	89.69	0.51	95.00	6863.47	6147.08	6138.31	-331.79	6147.28	356.91	1.14	SlimPulse	9	0	0
	120	12583.00	89.48	358.69	95.00	6864.16	6242.00	6233.30	-332.46	6242.16	356.95	1.93	SlimPulse	9	0	0
	121	12773.00	90.17	359.54	190.00	6864.74	6431.91	6423.27	-335.39	6432.02	357.01	0.58	SlimPulse	9	0	0
	122	12867.00	89.48	0.51	94.00	6865.03	6525.80	6517.27	-335.35	6525.89	357.05	1.27	SlimPulse	9	0	0
	123	12962.00	89.83	0.41	95.00	6865.60	6620.66	6612.26	-334.59	6620.73	357.10	0.38	SlimPulse	9	0	0
	124	13057.00	89.83	0.05	95.00	6865.88	6715.54	6707.26	-334.21	6715.58	357.15	0.38	SlimPulse	9	0	0
	125	13151.00	89.59	359.33	94.00	6866.36	6809.46	6801.26	-334.71	6809.48	357.18	0.81	SlimPulse	9	0	0
	126	13246.00	90.48	358.77	95.00	6866.30	6904.42	6896.25	-336.29	6904.43	357.21	1.11	SlimPulse	9	0	0
	127	13340.00	90.79	358.87	94.00	6865.26	6998.38	6990.22	-338.22	6998.39	357.23	0.35	SlimPulse	9	0	0
	128	13435.00	91.17	358.97	95.00	6863.63	7093.33	7085.19	-340.01	7093.34	357.25	0.41	SlimPulse	9	0	0
	129	13530.00	89.73	357.87	95.00	6862.89	7188.31	7180.15	-342.63	7188.32	357.27	1.91	SlimPulse	9	0	0
	130	13624.00	89.69	354.29	94.00	6863.36	7282.27	7273.91	-349.06	7282.28	357.25	3.81	SlimPulse	9	0	0
	131	13719.00	90.00	353.16	95.00	6863.62	7377.08	7368.34	-359.44	7377.10	357.21	1.23	SlimPulse	9	0	0
	132	13814.00	89.42	354.55	95.00	6864.10	7471.89	7462.79	-369.61	7471.95	357.16	1.59	SlimPulse	9	0	0
	133	13909.00	90.28	0.92	95.00	6864.35	7566.84	7557.66	-373.36	7566.90	357.17	6.77	SlimPulse	9	0	0
	134	14004.00	90.00	4.10	95.00	6864.12	7661.45	7652.56	-369.20	7661.45	357.24	3.36	SlimPulse	9	0	0
	135	14098.00	89.90	0.51	94.00	6864.20	7755.08	7746.47	-365.42	7755.09	357.30	3.82	SlimPulse	9	0	0
	136	14193.00	89.55	355.36	95.00	6864.66	7850.04	7841.37	-368.85	7850.03	357.31	5.43	SlimPulse	9	0	0
	137	14288.00	89.73	350.91	95.00	6865.25	7944.76	7935.67	-380.20	7944.78	357.26	4.69	SlimPulse	9	0	0

138	14396.00	89.55	348.98	108.00	6865.93	8051.85	8042.00	-399.05	8051.90	357.16	1.79	SlimPulse	9	0	0
139	14438.00	89.55	348.98	42.00	6866.26	8093.40	8083.23	-407.08	8093.47	357.12	0.00	Other	9	0	7

Calibration Report	
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SPULSE-GEN (SlimPulse with Generic Collar) Calibration - Run Run001

Primary Equipment :			
Elec. cartridge, 175C max with GR	SPEC	639	

GRGain - Gamma Ray: Blanket

Master (Time Frame File):	12:00:00 21-Aug-2014
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Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Gamma Ray Calibration Gain		Master	1.0000	0.9000	1.0075	1.1000	

SPULSE-GEN (SlimPulse with Generic Collar) Calibration - Run Run002

Primary Equipment :			
Elec. cartridge, 150C max with GR	SPEC	717	

GRGain - Gamma Ray: Blanket

Master (Time Frame File):	12:00:00 17-Sep-2014
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Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Gamma Ray Calibration Gain		Master	1.0000	0.9000	1.0208	1.1000	

SPULSE-GEN (SlimPulse with Generic Collar) Calibration - Run Run003

Primary Equipment :			
Elec. cartridge, 150C max with GR	SPEC	1004	

GRGain - Gamma Ray: Blanket

Master (Time Frame File):	12:00:00 25-Sep-2014
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Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit	
Gamma Ray Calibration Gain		Master	1.0000	0.9000	1.0075	1.1000	

Company: Noble Energy

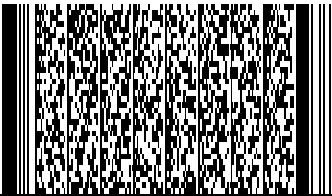
Well: Oscar Y10-73-1HC

Field: Wattenberg

County: Weld

State: Colorado

Country: USA



Schlumberger

SlimPulse - Gamma Ray

1 in / 100 ft & 5 in / 100 ft True Vertical Depth

Recorded Mode, Composite Log