

SlimPulse - Gamma Ray

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



Recorded Mode, Composite Log

Company: Noble Energy

Well: Rohn State LD03-63HN

Field: Wattenberg

County: Weld

State: Colorado

Country: USA

Section: 04 APIN: 05-123-37453

Township: 09N Rig Name: H&P 277

Range: 58W Rig Type: Top Drive

FL: NAD 83 Colorado State Plane, Northern Zone, US Feet

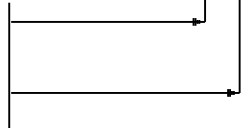
FL1: Latitude: N 40° 46' 42.636" Northing: 1530650.261 ft US

FL2: Longitude: W 103° 51' 40.86" Easting: 3453806.929 ft US

Log Measured From: - Kelly Bushing: 4729.00 ft

Ground Level/Drill Floor: 4705.00 ft

Permanent Datum: - Mean Sea Level



Acquisition Dates: 21-Sep-2014 -- 27-Sep-2014

Other Services:

Log Interval: 12 13.00 (ft) TVD to 5023.00 (ft) TVD

Directional Drilling

Index Types: True Vertical Depth

Surveys / Continuous D&I

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

Downhole Temperature

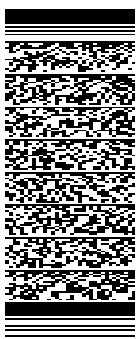
Depth Source: Driller's Depth

Downhole Shocks

Depth Sensor: 3rd Party Depth

Print Type: Final

Spud Date: 20-Sep-2014



Disclaimer

THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.

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Borehole Size/Casing Record

Bit						
Bit Size (in)	13.5	8.75	6.125			
Top Driller (ft)	24	1213	6030			
Bottom Driller (ft)	1213	6030	10168			
Casing						
Size (in)	9.58	7				
Weight (lbm/ft)	36	26				
Inner Diameter (in)	8.921	6.276				
Grade	J55	N/A				
Top Driller (ft)	24	24				
Bottom Driller (ft)	1213	6020				

Operational Run Summary

Parameter (unit)	Run001	Run002	Run003			
Date Log Started	21-Sep-2014	22-Sep-2014	25-Sep-2014			
Time Log Started	19:27:54	22:19:19	01:29:03			
Date Log Finished	22-Sep-2014	23-Sep-2014	27-Sep-2014			
Time Log Finished	16:44:12	23:12:20	17:26:55			
Bit Size (in)	8.750	8.750	6.125			
Bit Start Depth (ft)	1213.00	5071.00	6030.00			
Bit Stop Depth (ft)	5071.00	6030.00	10168.00			
Top Log Interval (ft)	1213.00	5009.00	5970.00			
Bottom Log Interval (ft)	5009.00	5970.00	10101.00			
Max Hole Deviation (deg)	10.94	80.47	93.03			
Azimuth of Max Deviation (deg)	153.78	89.36	90.23			
Logging Unit Number	Command Center	Command Center	Command Center			
Logging Unit Location	Zone 2	Zone 2	Zone 2			
Recorded By	Dennis Lipcovski	Dennis Lipcovski	Dennis Lipcovski			
Witnessed By	Maria Valles	Maria Valles	Maria Valles			
Service Order Number	14CCO0653	14CCO0653	14CCO0653			

Borehole Fluids

Parameter(unit)	Run001	Run002	Run003			
Fluid Type	Water	Water	Water			
Max Recorded Temperatures (degF)	96	120	120			
Source of Sample	Active Tank	Active Tank	Active Tank			
Salinity (ppm)	34972.17	34972.17	34972.17			

Density (lbm/gal)	9.5	Zoned	10.5			
Funnel Viscosity (s)	29	44	40			
Fluid Loss (cm3)						
PH	12.1	10.3	9.7			
Source RMF	Pressed	Pressed	Pressed			
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	4.2	10.8			
High Gravity Solids (%)	1.3	1.5	7.3			

Run002

Remarks and Equipment Summary

Run001: Remarks	Run002: Remarks	Run003: Remarks
Run Objective: Drill Vertical and Curve Section	Run Objective: Drill Vertical and Curve Section	Run Objective: Drill Lateral Section.
Bit to GR: 61.17 ft. Bit to D&I: 58.14 ft.	Bit to GR: 59.11 ft. Bit to D&I: 56.08 ft.	Bit to GR: 66.11 ft. Bit to D&I: 63.08 ft.
Drilled from: 1213 ft MD to 5071 ft MD. Logged from: 1213 ft MD to 5009 ft MD.	Drilled from: 5071 ft MD to 6030 ft MD. Logged from: 5009 ft MD to 5970 ft MD.	Drilled from: 6030 ft MD to 10168 ft MD. Logged from: 5970 ft MD to 10101 ft MD.
SlimPulse Software: v11.0C00 SlimPulse D&I calibrated on: 13-Aug-2013 SlimPulse GR calibrated on: 4-March-2014	SlimPulse Software: v11.0C00 SlimPulse D&I calibrated on: 1-May-2014 SlimPulse GR calibrated on: 11-May-2014	SlimPulse Software: v11.0C00 SlimPulse D&I calibrated on: 1-May-2014 SlimPulse GR calibrated on: 11-May-2014
PathFinder a Schlumberger Co. Personnel: DD: Jordan Timbs & Tony Butler. MWD: Dennis Lipcovski & Maria Valles.	PathFinder a Schlumberger Co. Personnel: DD: Jordan Timbs, Kenneth Perry & Tony Butler. MWD: Dennis Lipcovski & Maria Valles.	PathFinder a Schlumberger Co. Personnel: DD: Jordan Timbs, Kenneth Perry & Tony Butler. MWD: Dennis Lipcovski, Chad Welty & Maria Valles.
Reason for POOH: Pulled out of hole to change MWD.	Reason for POOH: Finished Curve Section.	Reason for POOH: Well TD.

SPULSE-GEN:DR 75.4
8627
FLOWSUB:DR2248
9
SPCOLLAR:DR862
7
SPMA:702
SPEC:112
SPBA:Q01284
UBHO:G0826

MWD

GR

61.17

D&I

58.14

Flt Sub: 6 3/4": 40.02
DR15145
NMDC: 6 3/4"[1 37.19
]:DR18313

Float Sub

Pony

Motor 27.09

PathFinder S1 Motor

SPULSE-GEN:DR 73.34
8627
FLOWSUB:DR2248
9
SPCOLLAR:DR862
7
SPMA:902
SPEC:935
SPBA:Q01519
UBHO:G0826

MWD

GR

59.11

D&I

56.08

Flt Sub: 6 3/4": 37.96
DR15145
NMDC: 6 3/4"[1 35.13
]:DR18313

Float Sub

Pony

Motor:675002 25.03

PathFinder S1 Motor

Equip name Length
Filtr Sub: 4 3/4": 143.83
DR20585
NMDC: 4 3/4"[3 140.72
]:DR10032

MP name
Filter Sub

Offset

NMDC

NMDC: 4 3/4"[2 110.66
]:DR24730

NMDC

SPULSE-GEN:DR 80.44
10660
FLOWSUB:DR2209
7
SPCOLLAR:DR1066
0
SPMA:848
SPEC:935
SPBA:Q01940
UBHO:475U187

MWD

GR

66.11

D&I

63.08

NMDC: 4 3/4"[1 44.5
]:DR14410

Pony

Flt Sub: 4 3/4":D 30.06
R27237
Motor:F50B0069 27.42

Float Sub

PathFinder G2 Motor

Generic PDC Bit 0.7
:JJ1353

SMITH:MDI519

TOOL_ZERO

Lengths are in ft
Maximum Outer Diameter = 8.750 in
Line: Sensor Location, Value: Gating Offset
All measurements are relative to TOOL_ZERO

Generic PDC Bit 0.63
:JJ1749

SMITH:MDI519

TOOL_ZERO

Lengths are in ft
Maximum Outer Diameter = 8.750 in
Line: Sensor Location, Value: Gating Offset
All measurements are relative to TOOL_ZERO

Generic PDC Bit: 0.55
JJ5085

SMITH:SDI513

TOOL_ZERO

Lengths are in ft
Maximum Outer Diameter = 6.125 in
Line: Sensor Location, Value: Gating Offset
All measurements are relative to TOOL_ZERO

Well Composite

1 in / 100 ft True Vertical Depth

Composite Summary

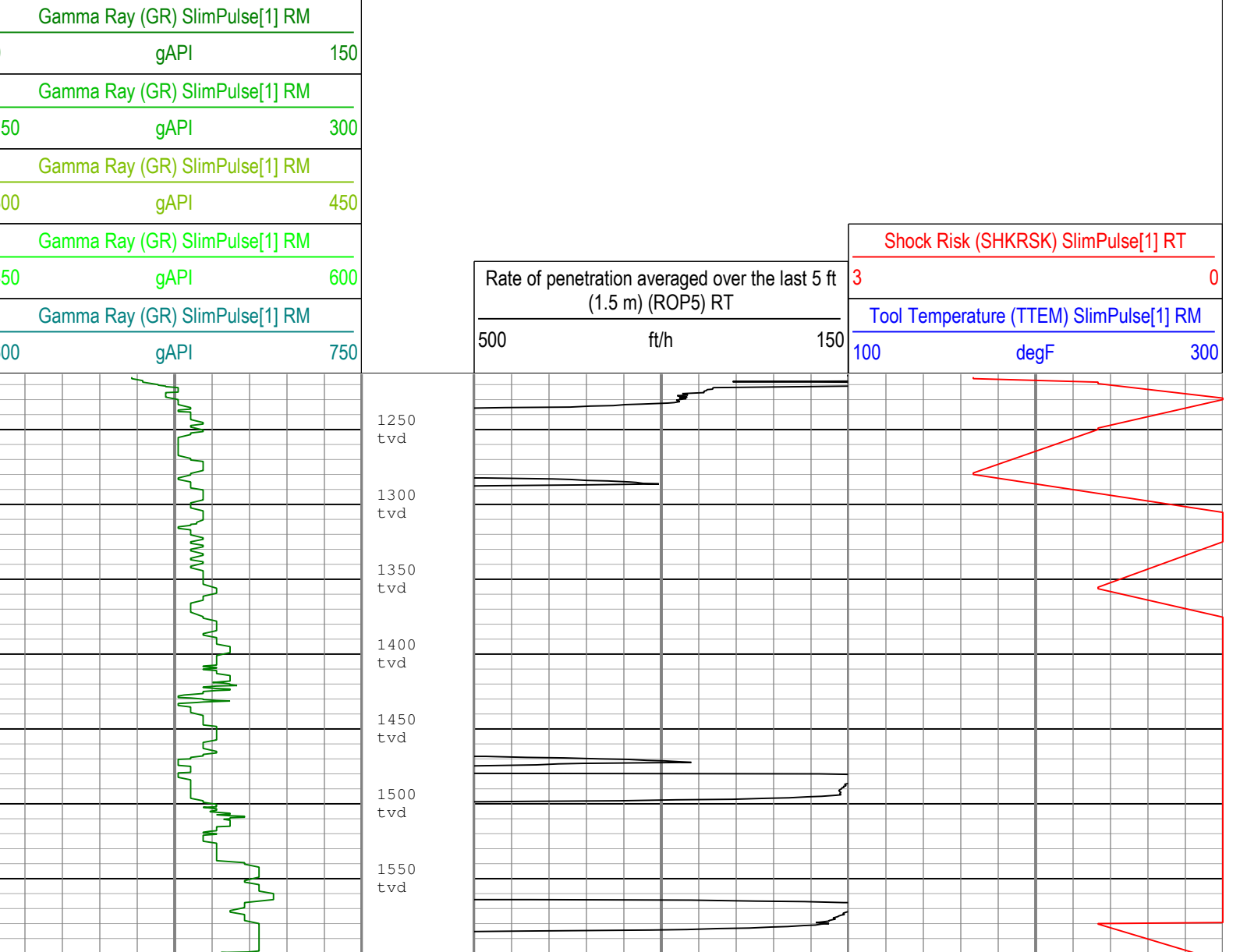
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Include Parallel Data
Run001	Drilling	Down	1213.08 ft	5071.00 ft	21-Sep-2014 11:51:22 PM	22-Sep-2014 4:44:12 PM	No
Run002	Drilling	Down	5071.25 ft	6032.50 ft	23-Sep-2014 2:35:30 AM	23-Sep-2014 11:12:20 PM	No
Run002	Ream Down 1	Down	4686.08 ft	5071.17 ft	23-Sep-2014 12:47:21 AM	23-Sep-2014 2:35:30 AM	No
Run003	Drilling	Down	6030.00 ft	10168.92 ft	25-Sep-2014 7:40:49 AM	27-Sep-2014 5:26:55 PM	No

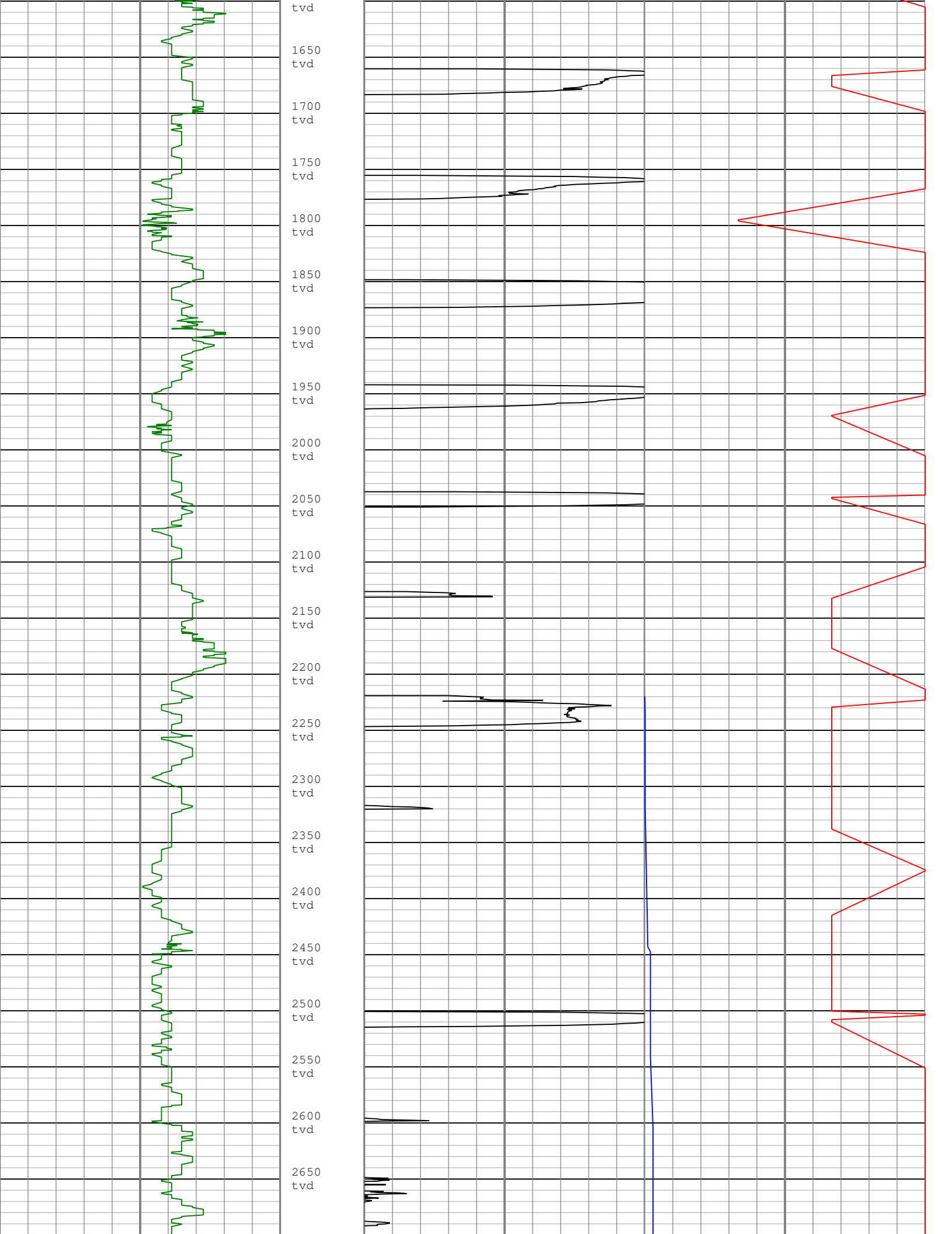
All depths are referenced to toolstring zero

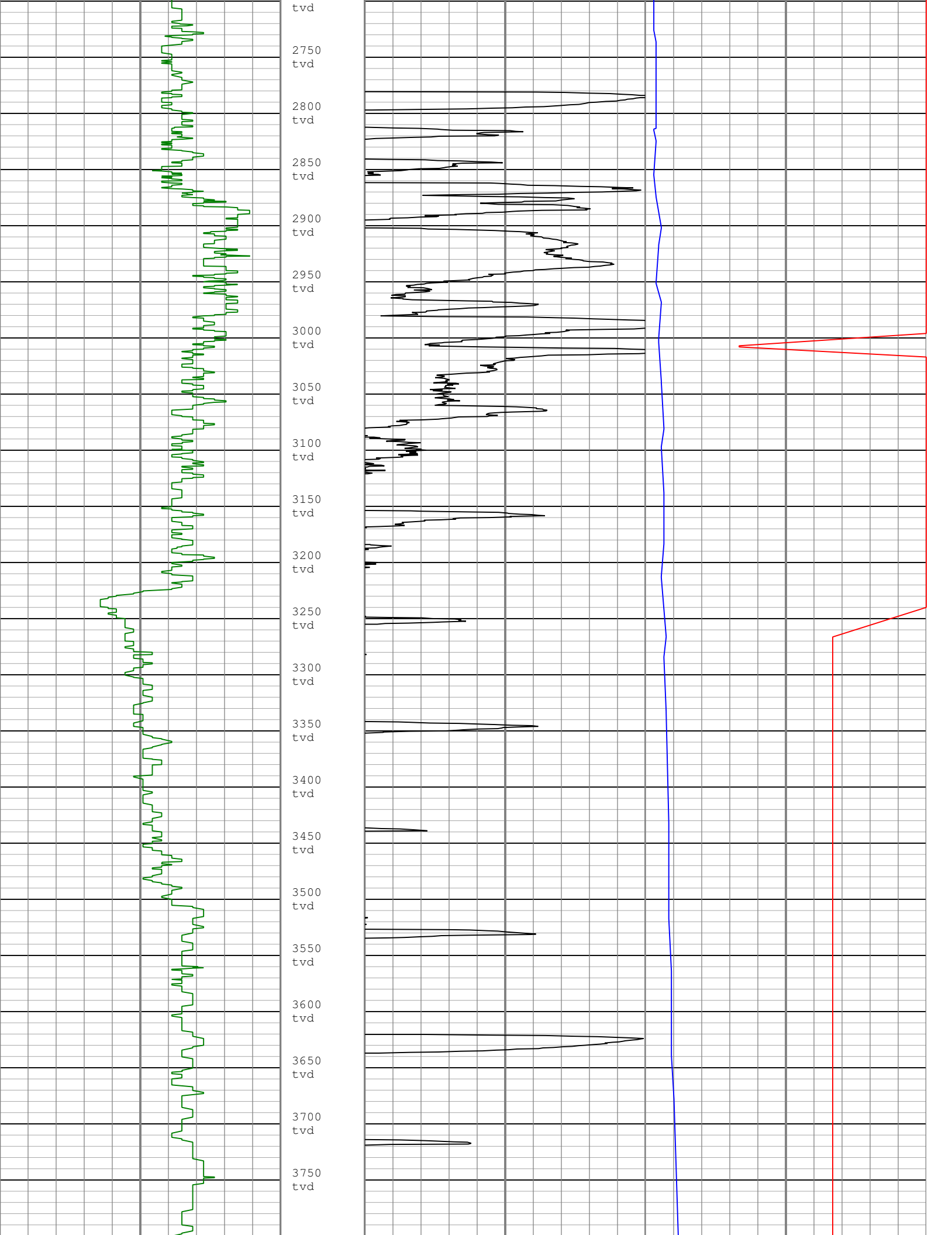
Log

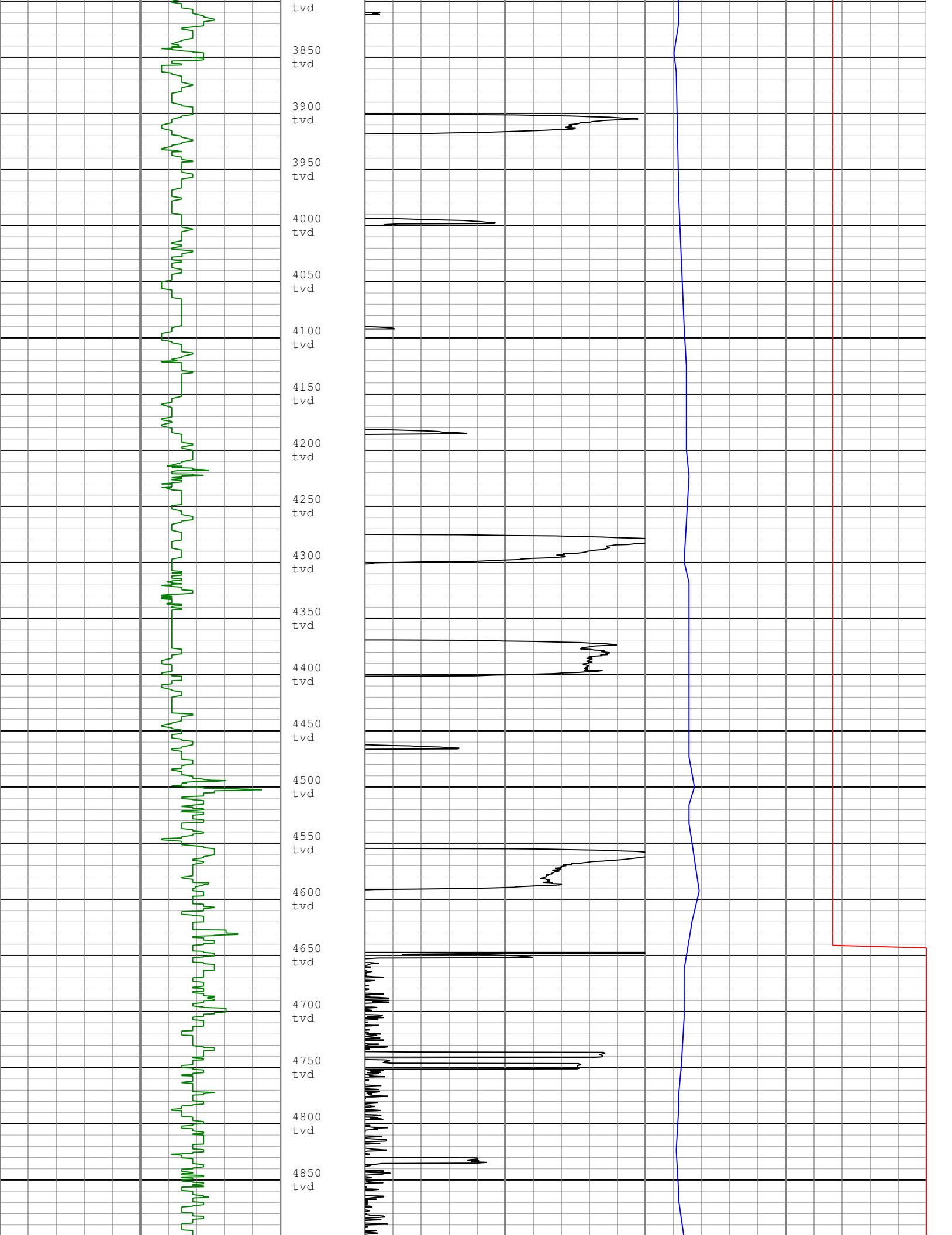
Company:Noble Energy Well:Rohn State LD03-63HN
Well Composite:S130

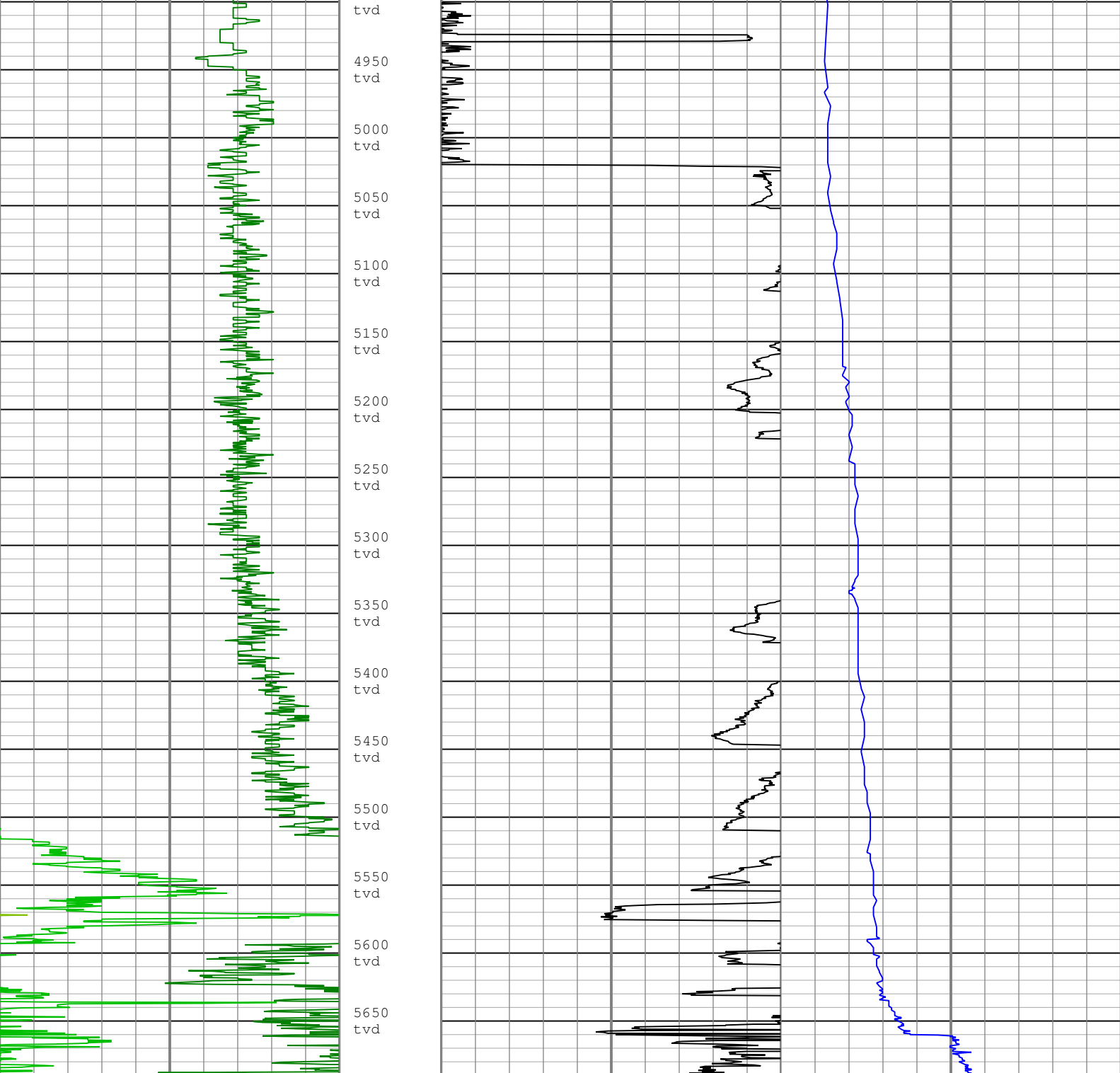
Description: SlimPulse Gamma Ray 1 Format: Log (SlimPulse Gamma Ray Final TVD) Index Scale: 1 in per 100 ft Index Unit: ft Index Type: TVD
Creation Date: 29-Sep-2014 11:04:00











Gamma Ray (GR) SlimPulse[1] RM		Rate of penetration averaged over the last 5 ft (1.5 m) (ROP5) RT		Shock Risk (SHKRSK) SlimPulse[1] RT	
0	gAPI	150	500	ft/h	150
Gamma Ray (GR) SlimPulse[1] RM				Tool Temperature (TTEM) SlimPulse[1] RM	
150	gAPI	300		100	degF
Gamma Ray (GR) SlimPulse[1] RM					
300	gAPI	450			
Gamma Ray (GR) SlimPulse[1] RM					
450	gAPI	600			
Gamma Ray (GR) SlimPulse[1] RM					
600	gAPI	750			

Description: SlimPulse Gamma Ray 1 Format: Log (SlimPulse Gamma Ray Final TVD) Index Scale: 1 in per 100 ft Index Unit: ft Index Type: TVD
Creation Date: 29-Sep-2014 11:04:00

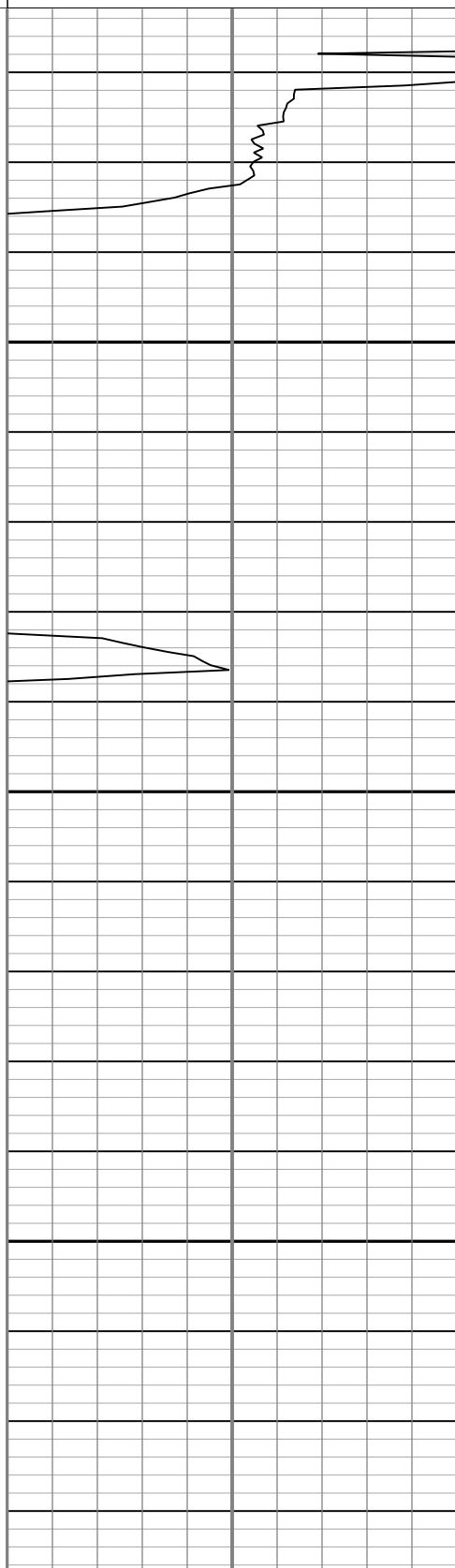
Run001: Parameters							
Parameter	Description	Tool	Value	Unit			
BS	Bit Size	DNMSESSION	8.75	in			
DFD	Drilling Fluid Density	Borehole	9.5	lbm/gal			
GR_SRC	GR Source Selection	SPULSE-GEN	GAMMA_EXT				
Run002: Parameters							
Parameter	Description	Tool	Value	Unit			
BS	Bit Size	DNMSESSION	8.75	in			
DFD	Drilling Fluid Density	Borehole	Time Zoned	lbm/gal			
GR_SRC	GR Source Selection	SPULSE-GEN	GAMMA_EXT				
Run002Time Zoned Parameters							
Pass Ream Down 1							
Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)		
DFD	9.5	23-Sep-2014 00:47:42	23-Sep-2014 02:35:30	4686.08	5071.17		
Pass Drilling							
DFD	9.5	23-Sep-2014 02:35:30	23-Sep-2014 07:57:54	5071.25	5454.08		
DFD	10.5	23-Sep-2014 07:57:54	23-Sep-2014 23:12:20	5454.08	6032.5		
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	10.5	lbm/gal			
GR_SRC	GR Source Selection	SPULSE-GEN	GAMMA_EXT				
Run003Depth Zoned Parameters							
Parameter	Value	Start (ft)	Stop (ft)				
BS	8.75	5616.15	5643.27				
BS	6.125	5643.27	5689.26				
All depth are actual.							
Tool Control Parameters							
Well Composite							
5 in / 100 ft True Vertical Depth							
Composite Summary							
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Include Parallel Data
Run001	Drilling	Down	1213.08 ft	5071.00 ft	21-Sep-2014 11:51:22 PM	22-Sep-2014 4:44:12 PM	No
Run002	Drilling	Down	5071.25 ft	6032.50 ft	23-Sep-2014 2:35:30 AM	23-Sep-2014 11:12:20 PM	No
Run002	Ream Down 1	Down	4686.08 ft	5071.17 ft	23-Sep-2014 12:47:21 AM	23-Sep-2014 2:35:30 AM	No
Run003	Drilling	Down	6030.00 ft	10168.92 ft	25-Sep-2014 7:40:49 AM	27-Sep-2014 5:26:55 PM	No
All depths are referenced to toolstring zero							
Log			Company:Noble Energy		Well:Rohn State LD03-63HN		
Well Composite:S130							
Description: SlimPulse Gamma Ray 1 Format: Log (SlimPulse Gamma Ray Final TVD) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: TVD							
Creation Date: 29-Sep-2014 11:04:03							
Gamma Ray (GR) SlimPulse[1] RM							

0	gAPI	150
Gamma Ray (GR) SlimPulse[1] RM		
150	gAPI	300
Gamma Ray (GR) SlimPulse[1] RM		
300	gAPI	450
Gamma Ray (GR) SlimPulse[1] RM		
450	gAPI	600
Gamma Ray (GR) SlimPulse[1] RM		
600	gAPI	750



Rate of penetration averaged over the last 5 ft
(1.5 m) (ROP5) RT

500	ft/h	150
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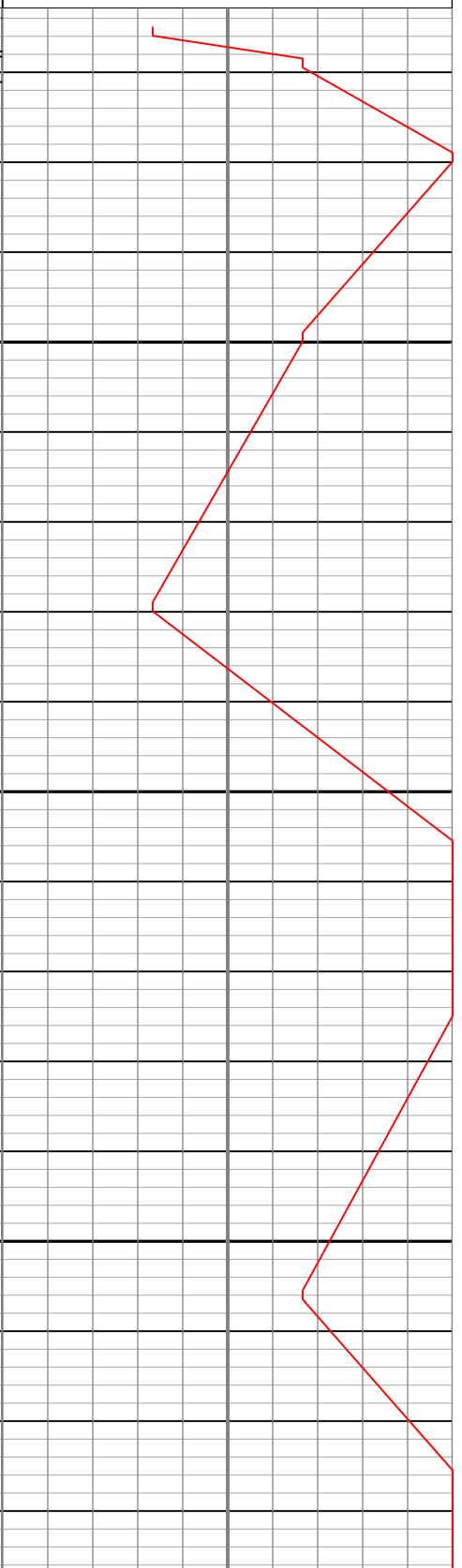


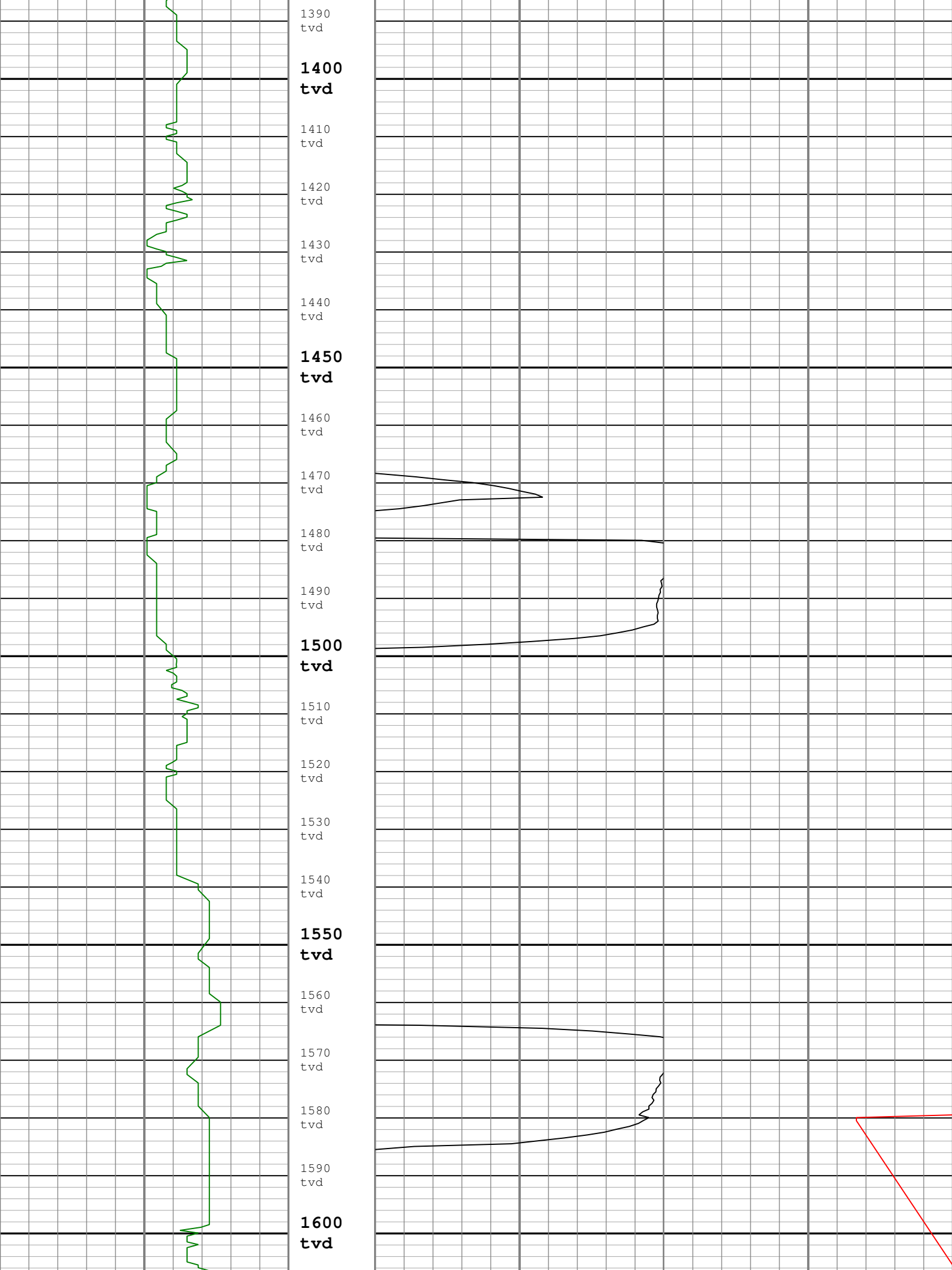
Shock Risk (SHKRSK) SlimPulse[1] RT

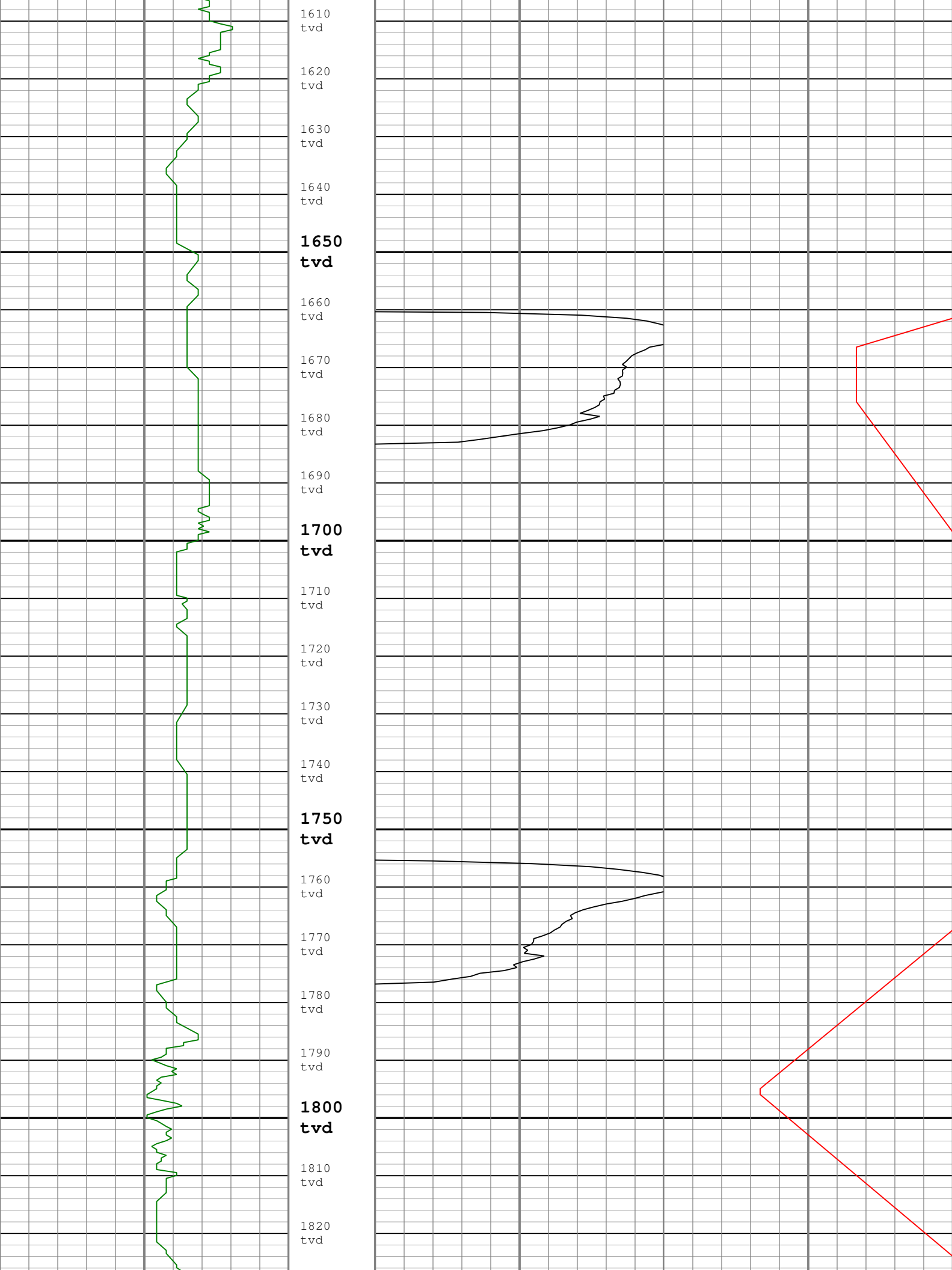
3		0
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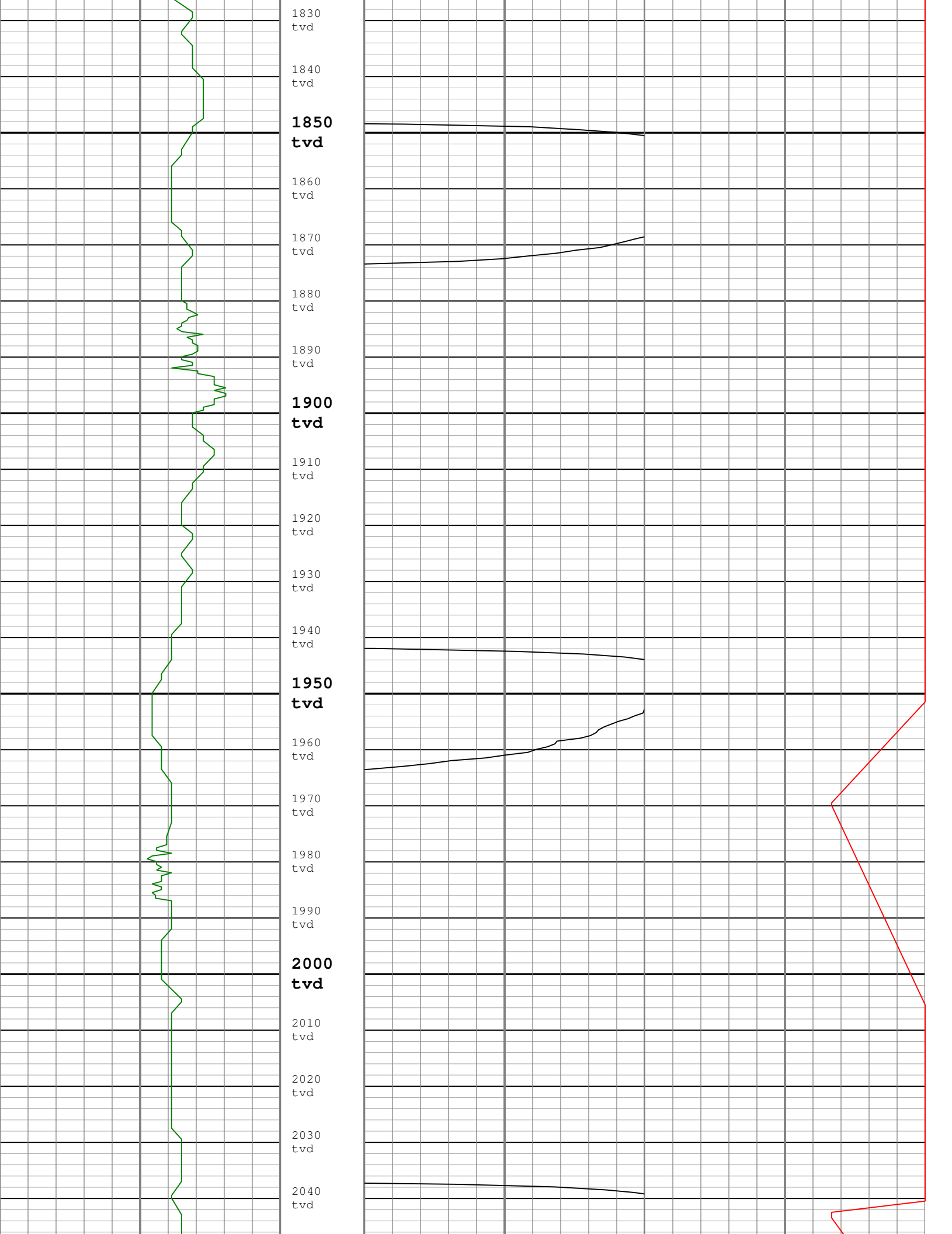
Tool Temperature (TTEM) SlimPulse[1] RM

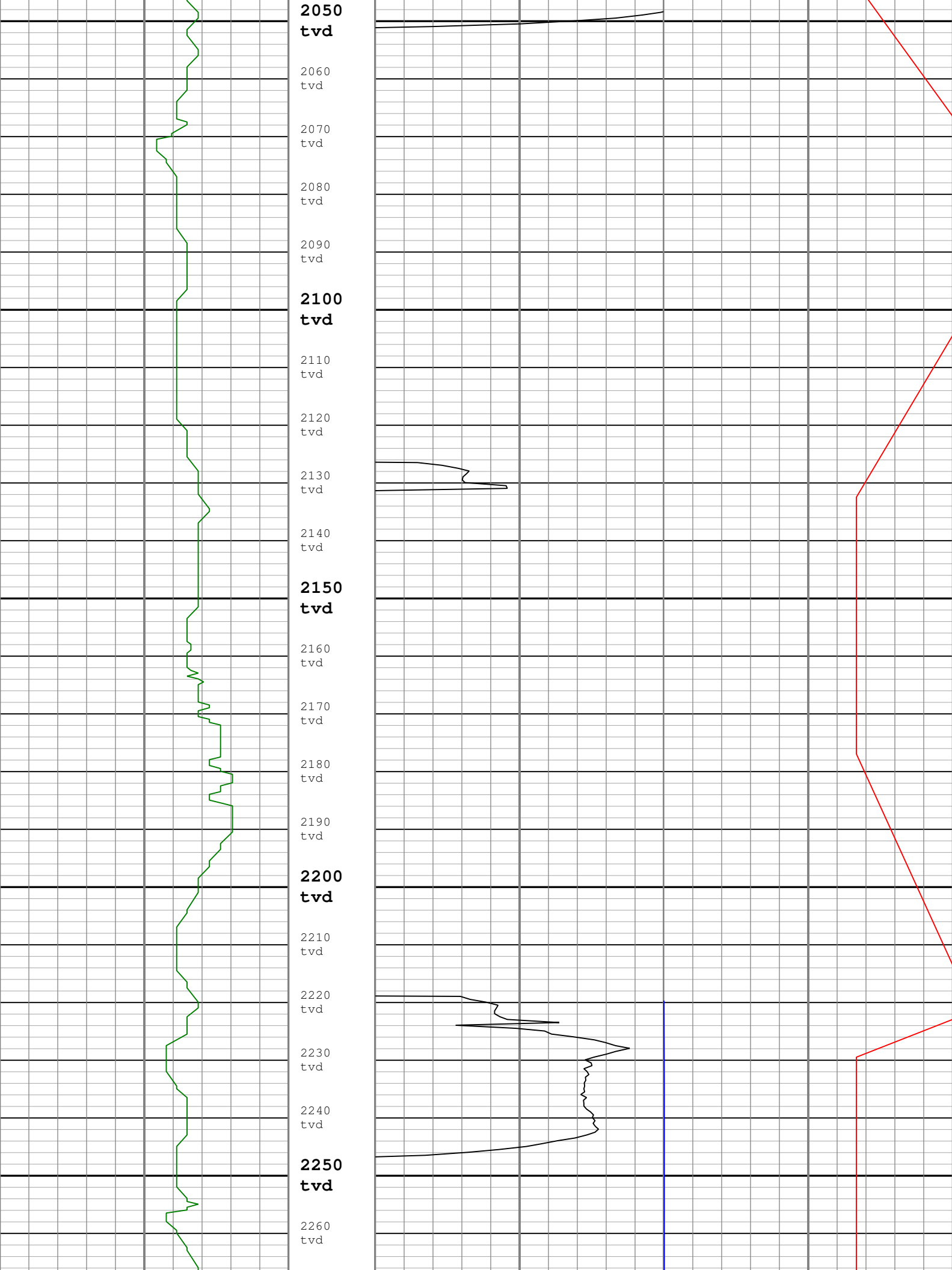
100	degF	300
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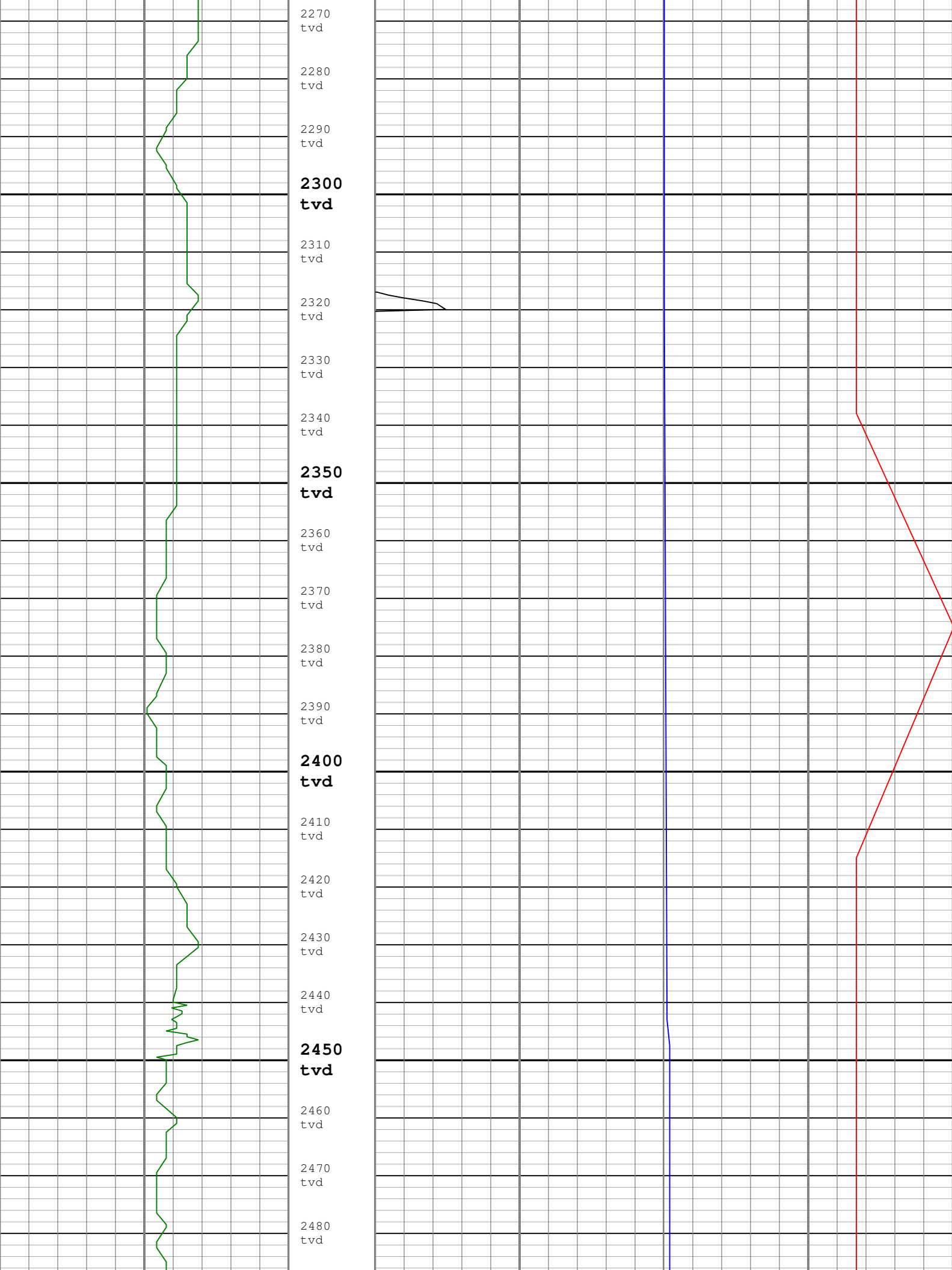


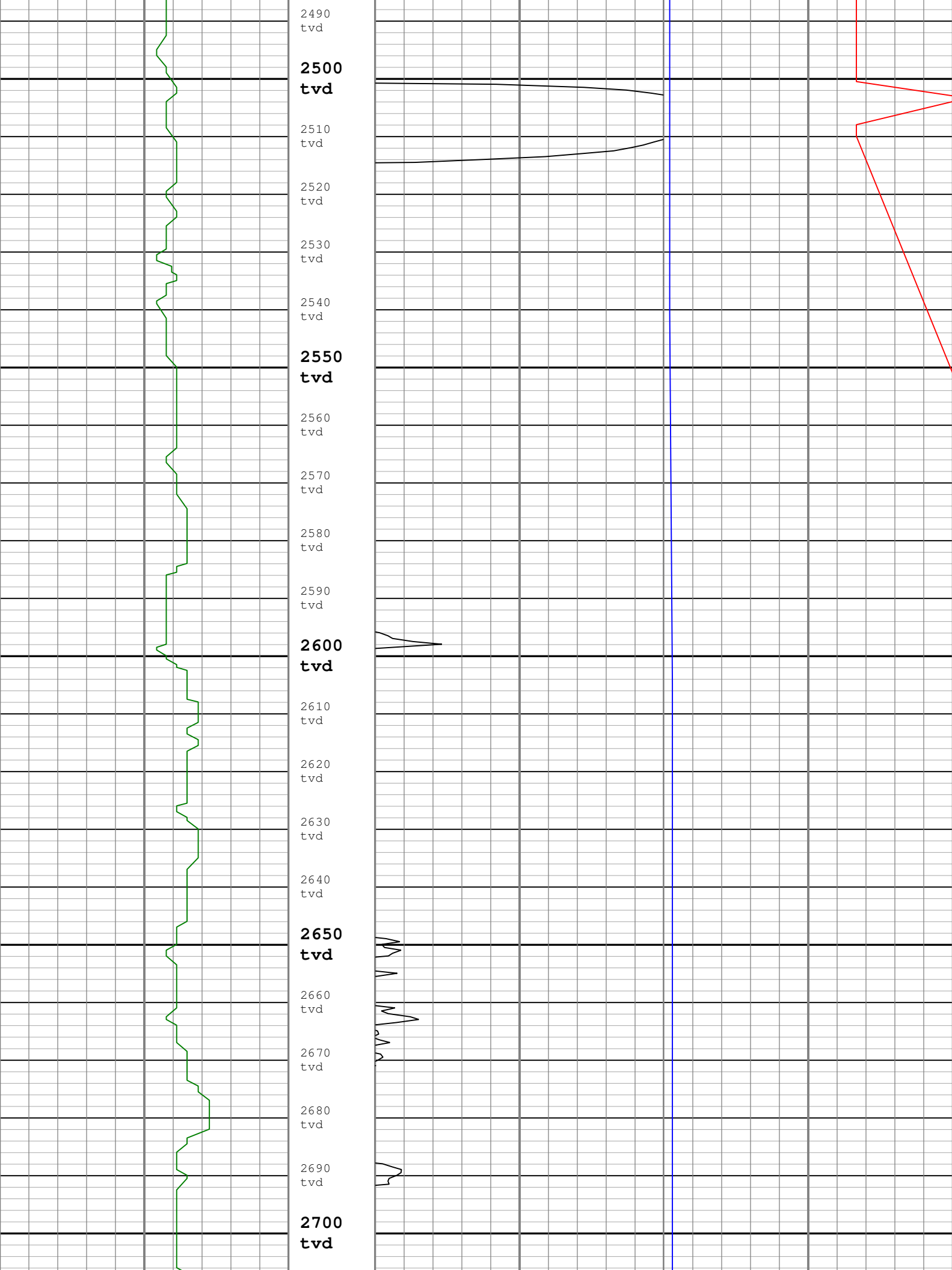


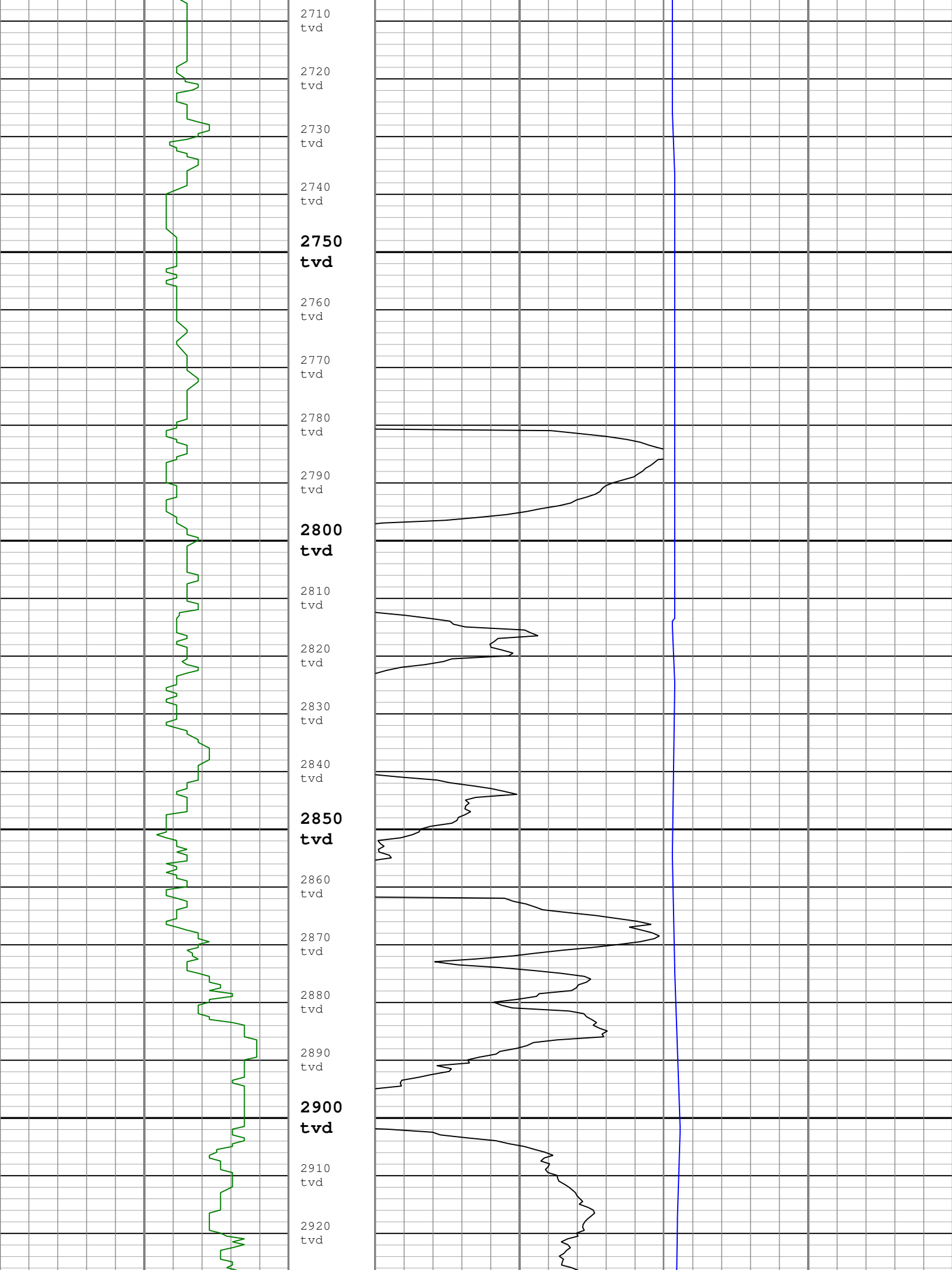


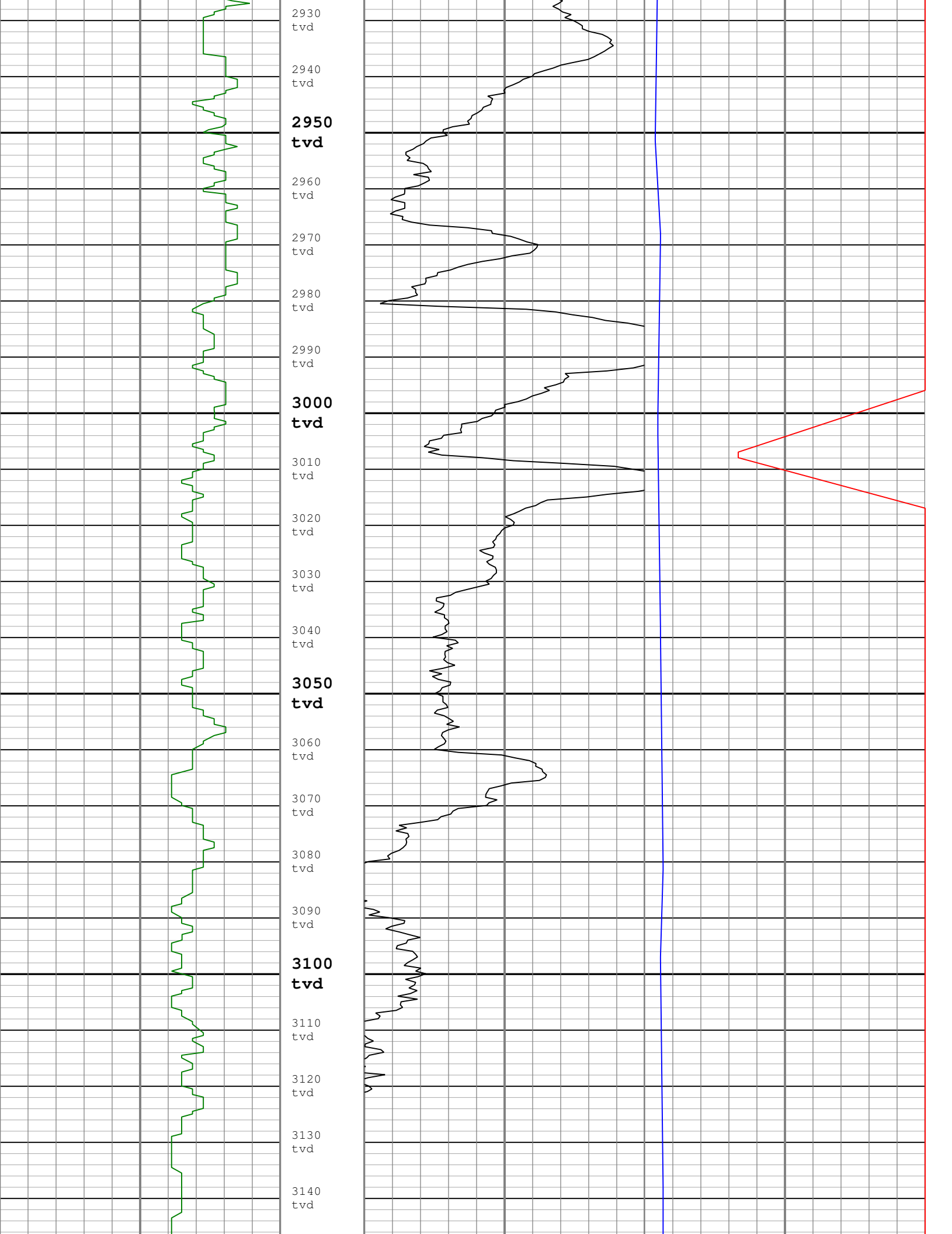


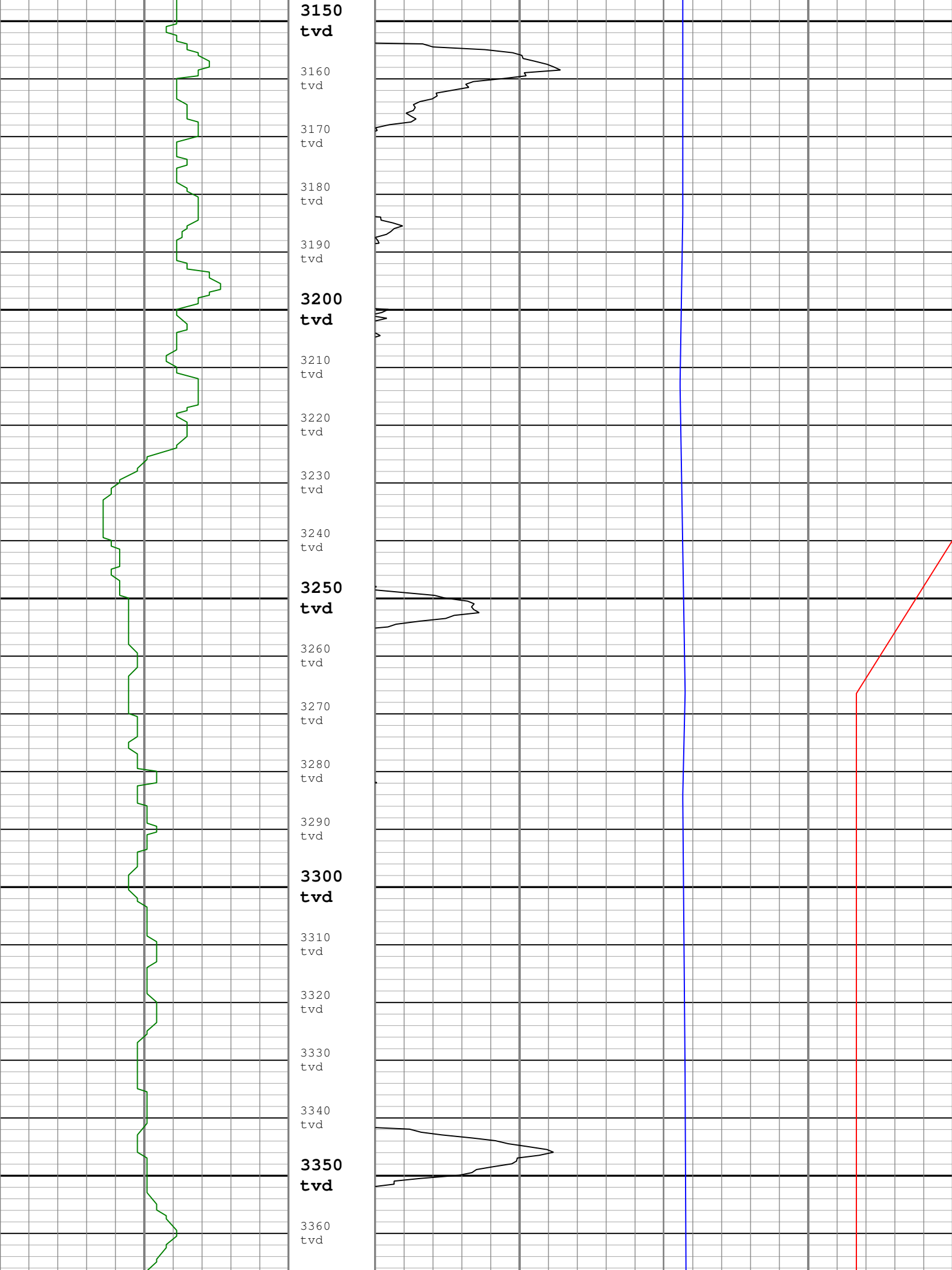


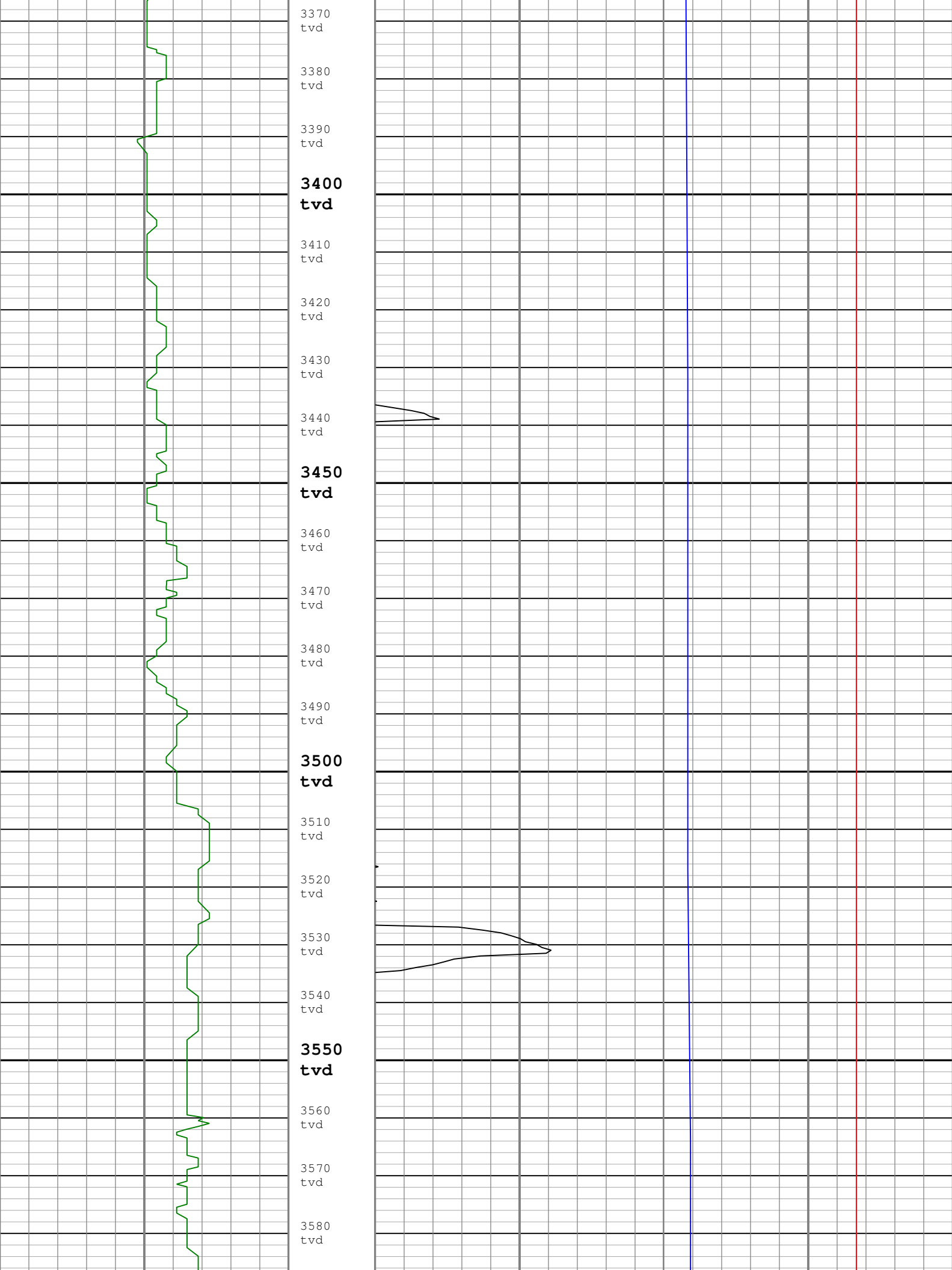


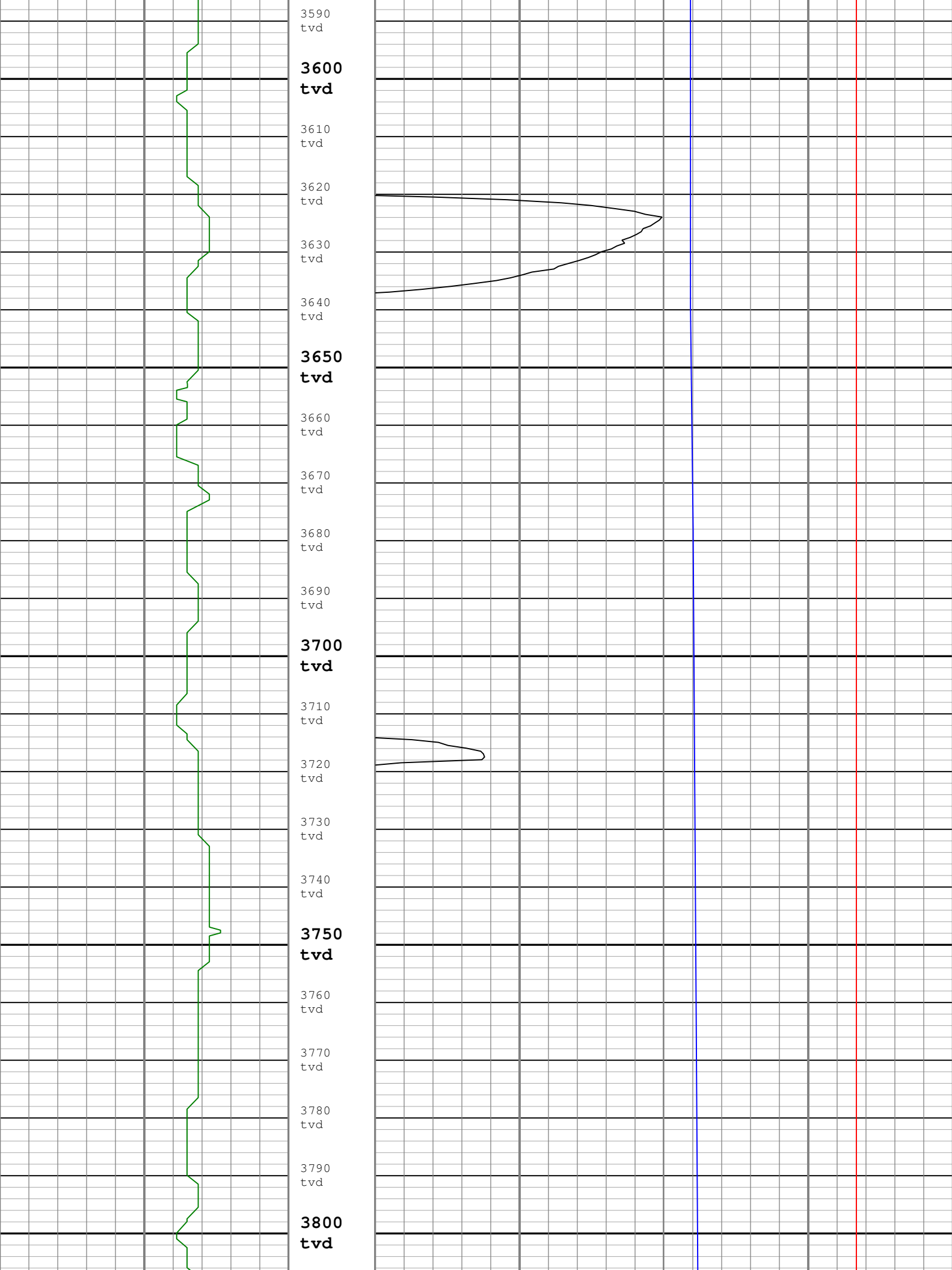


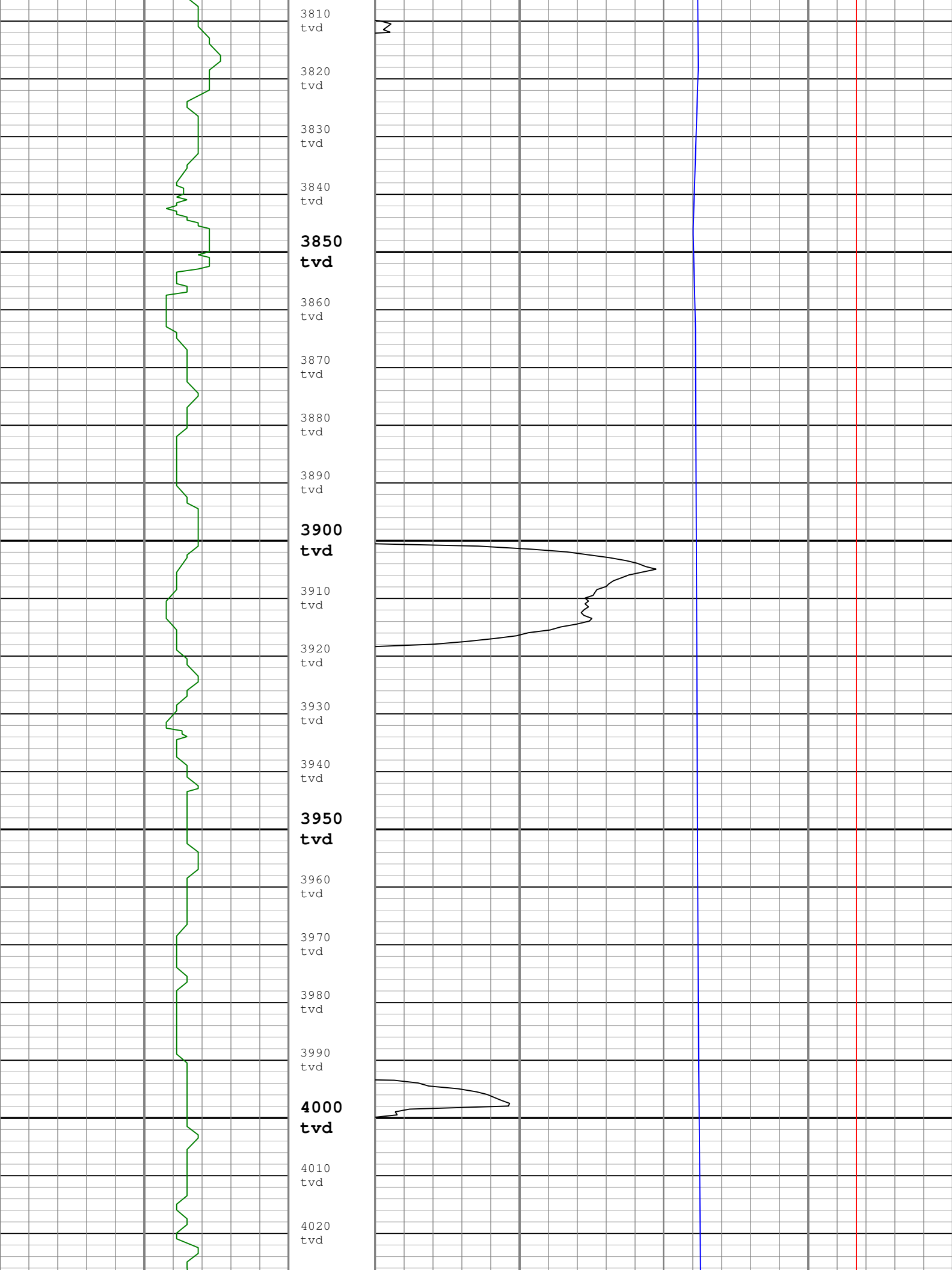


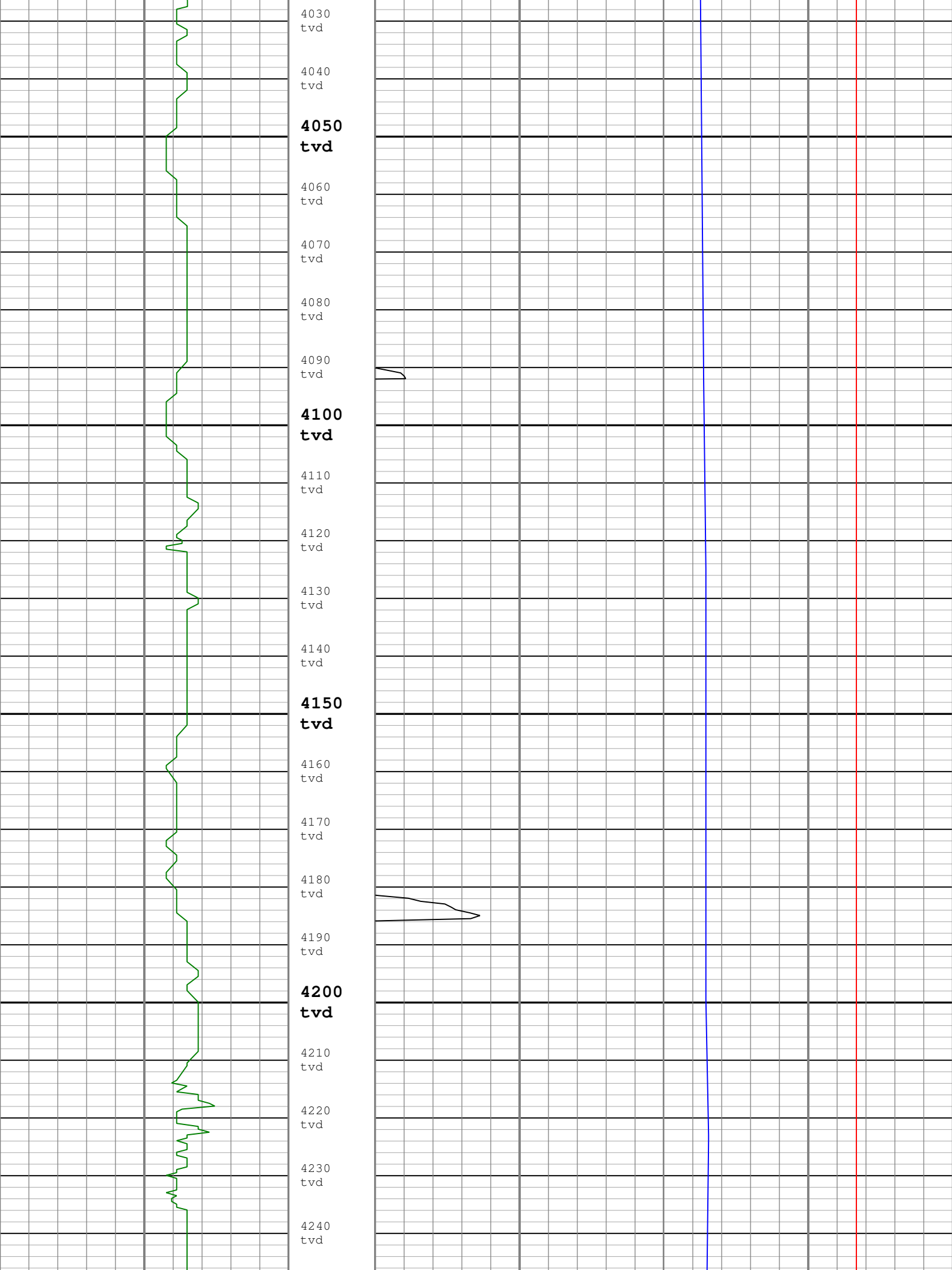


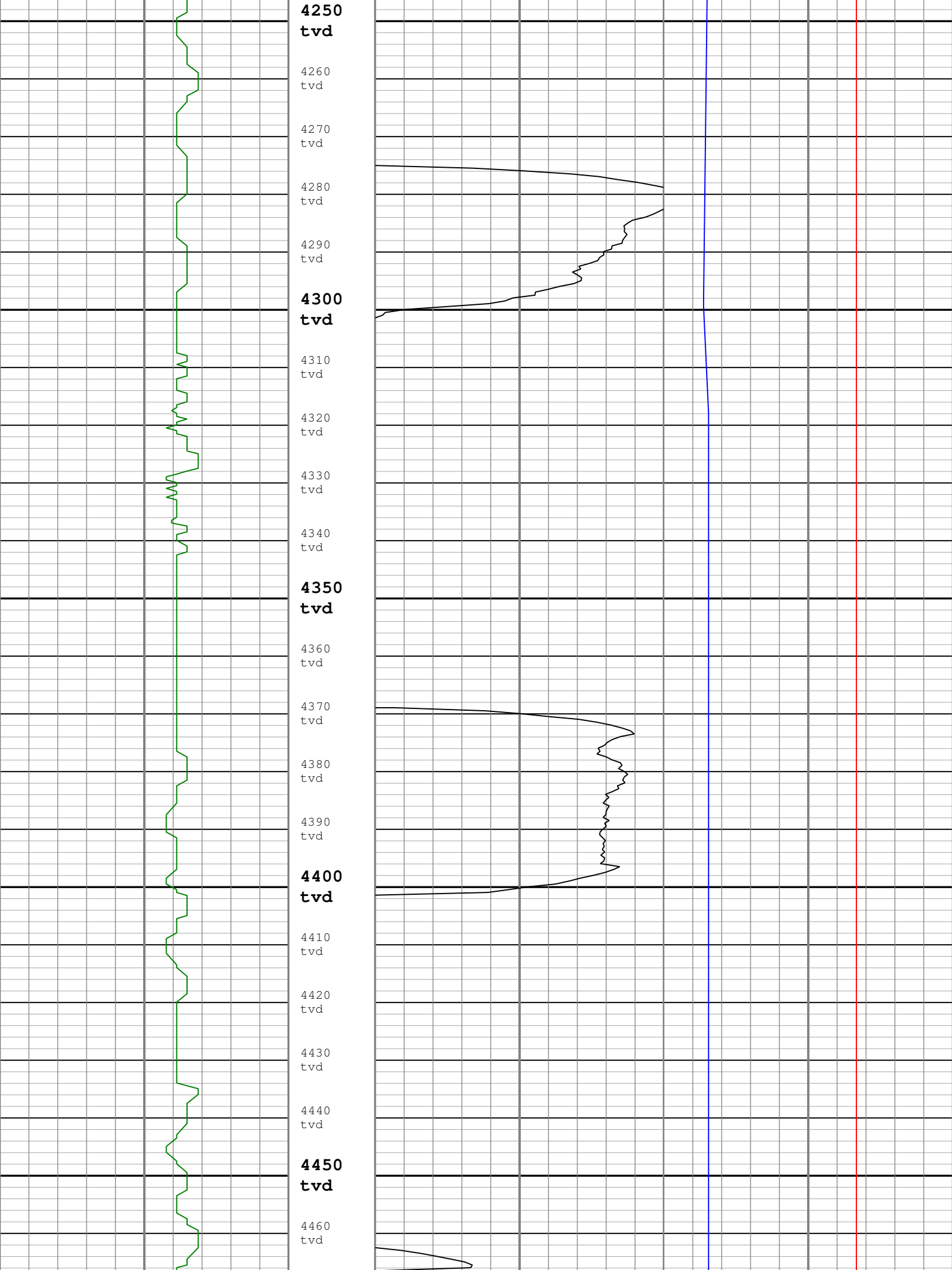


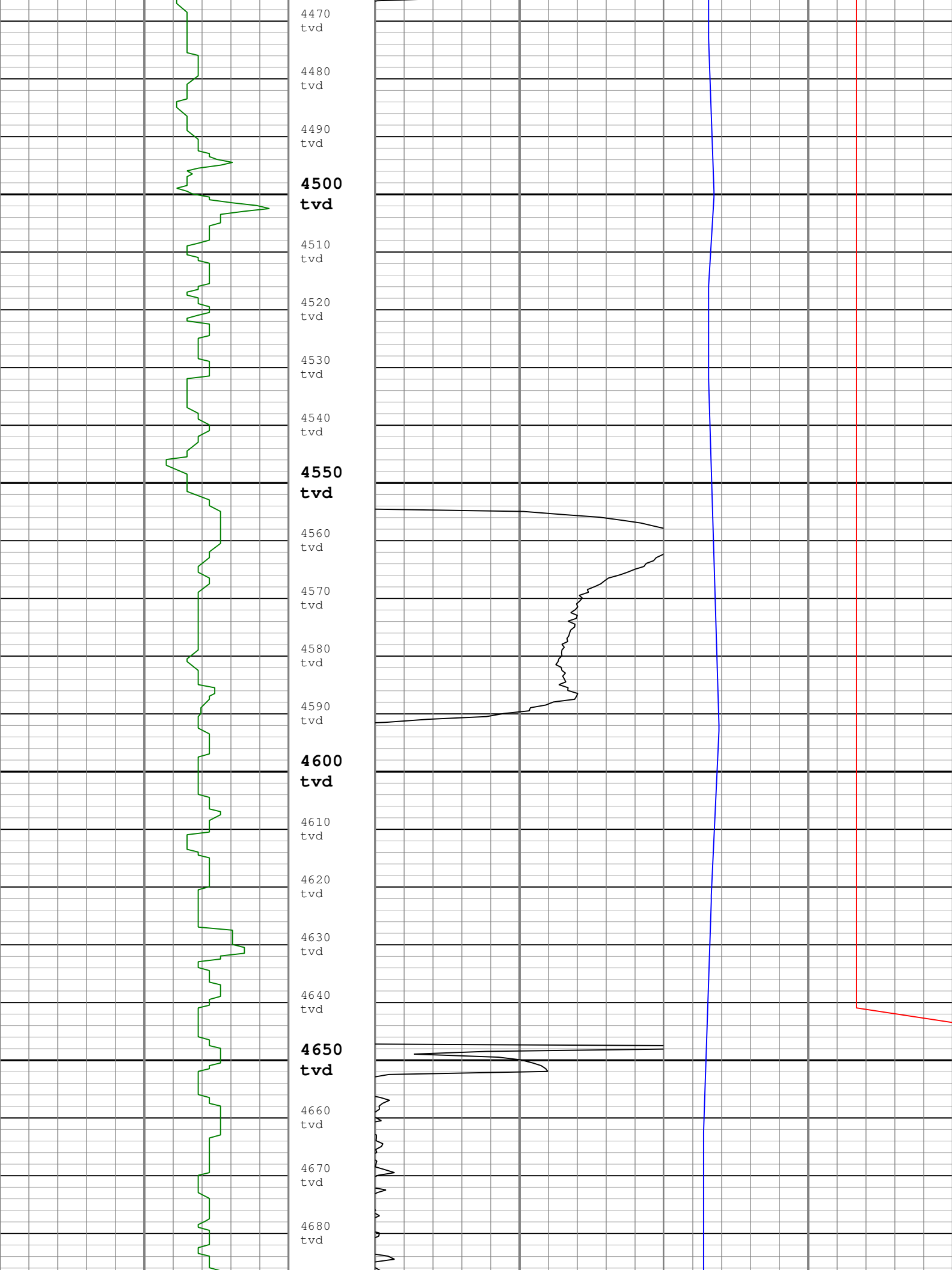


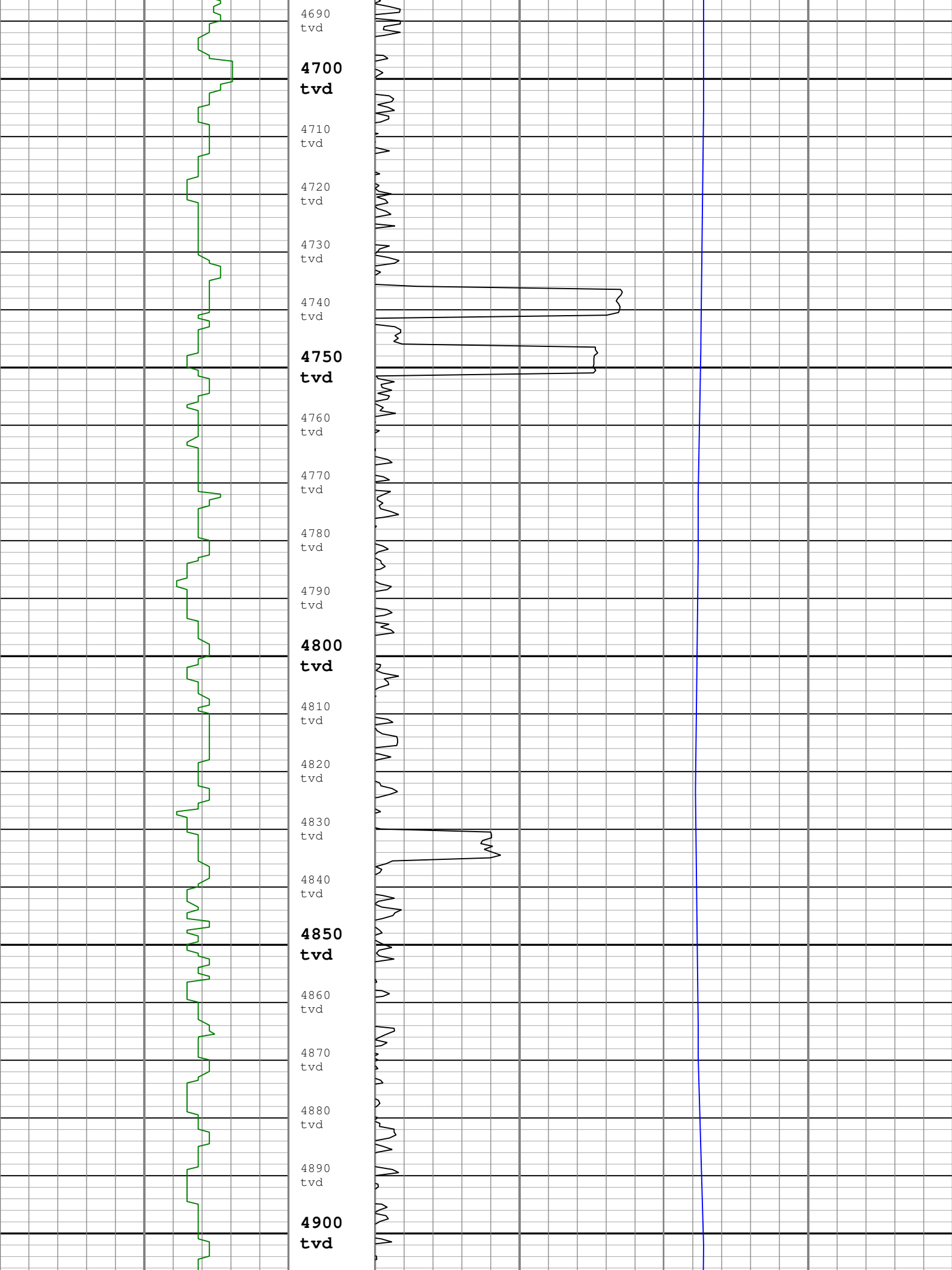


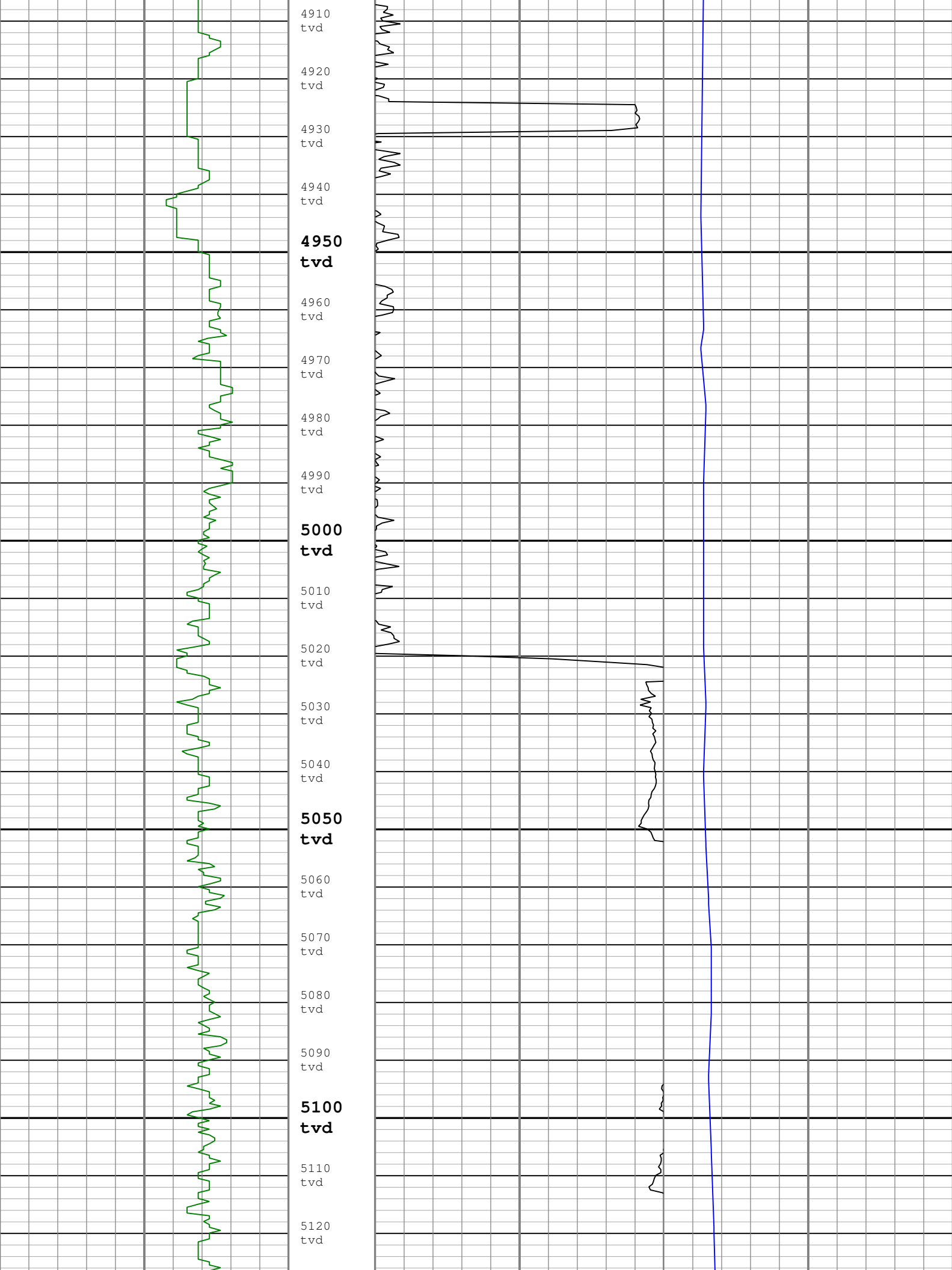


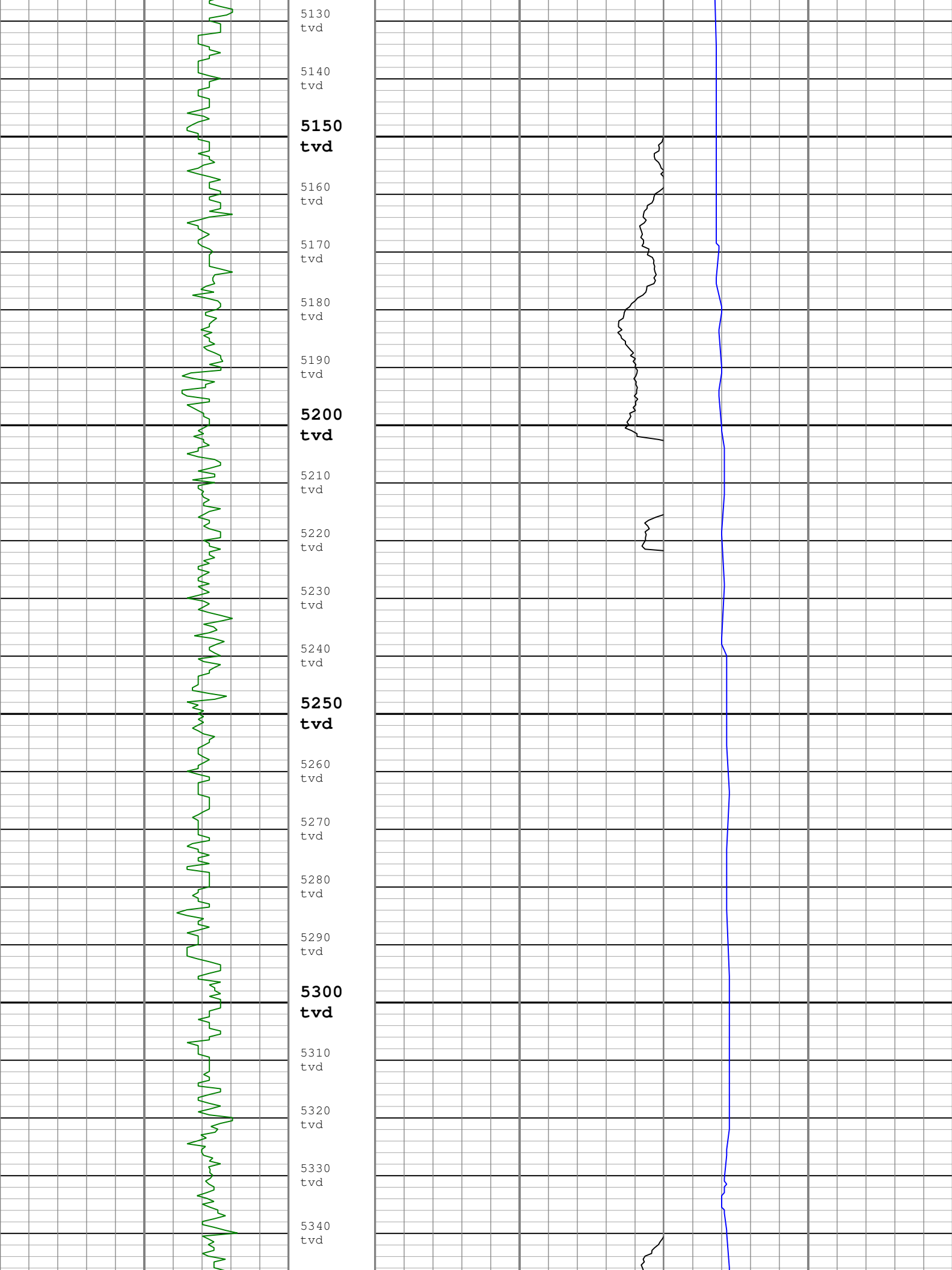


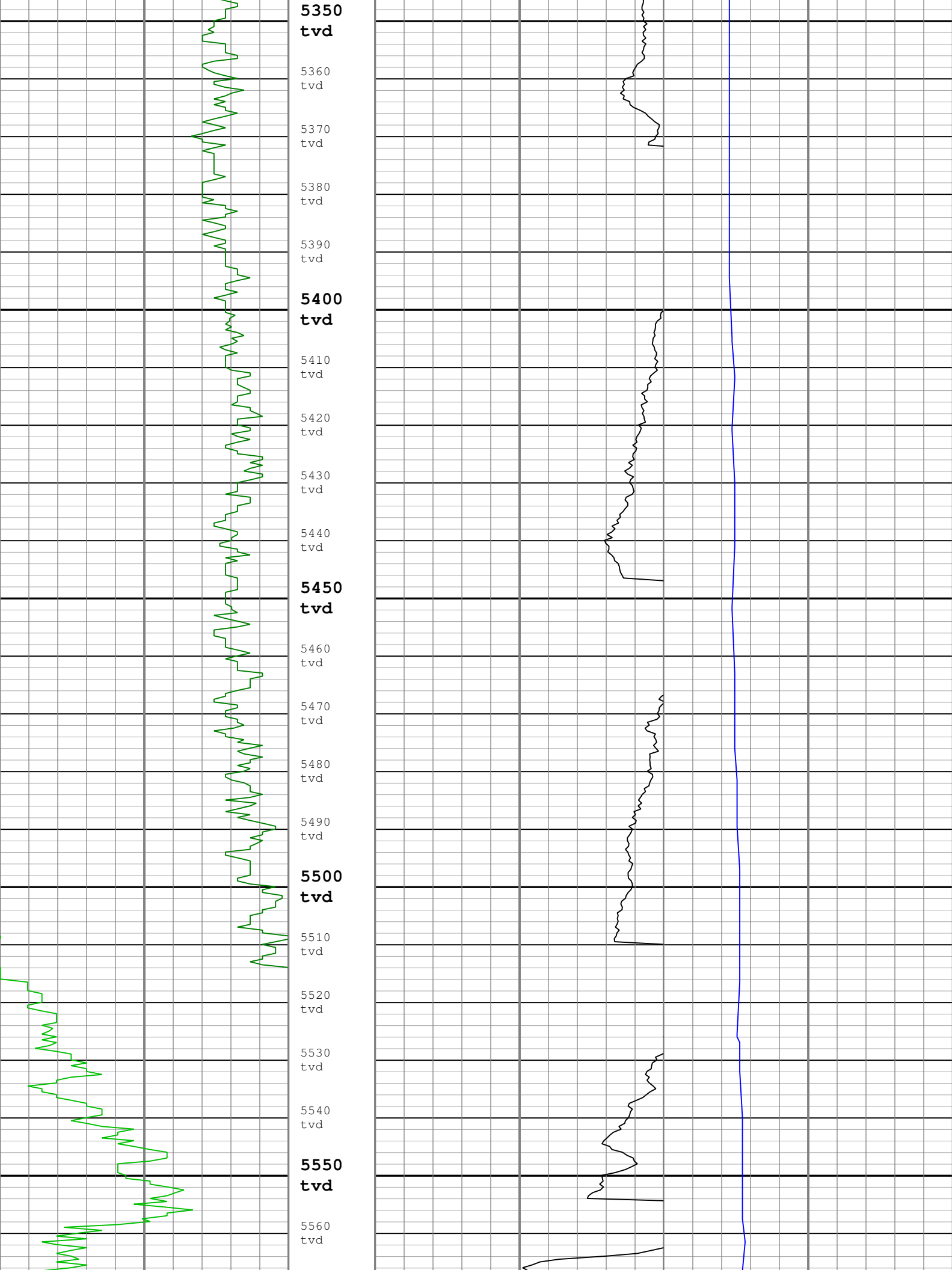


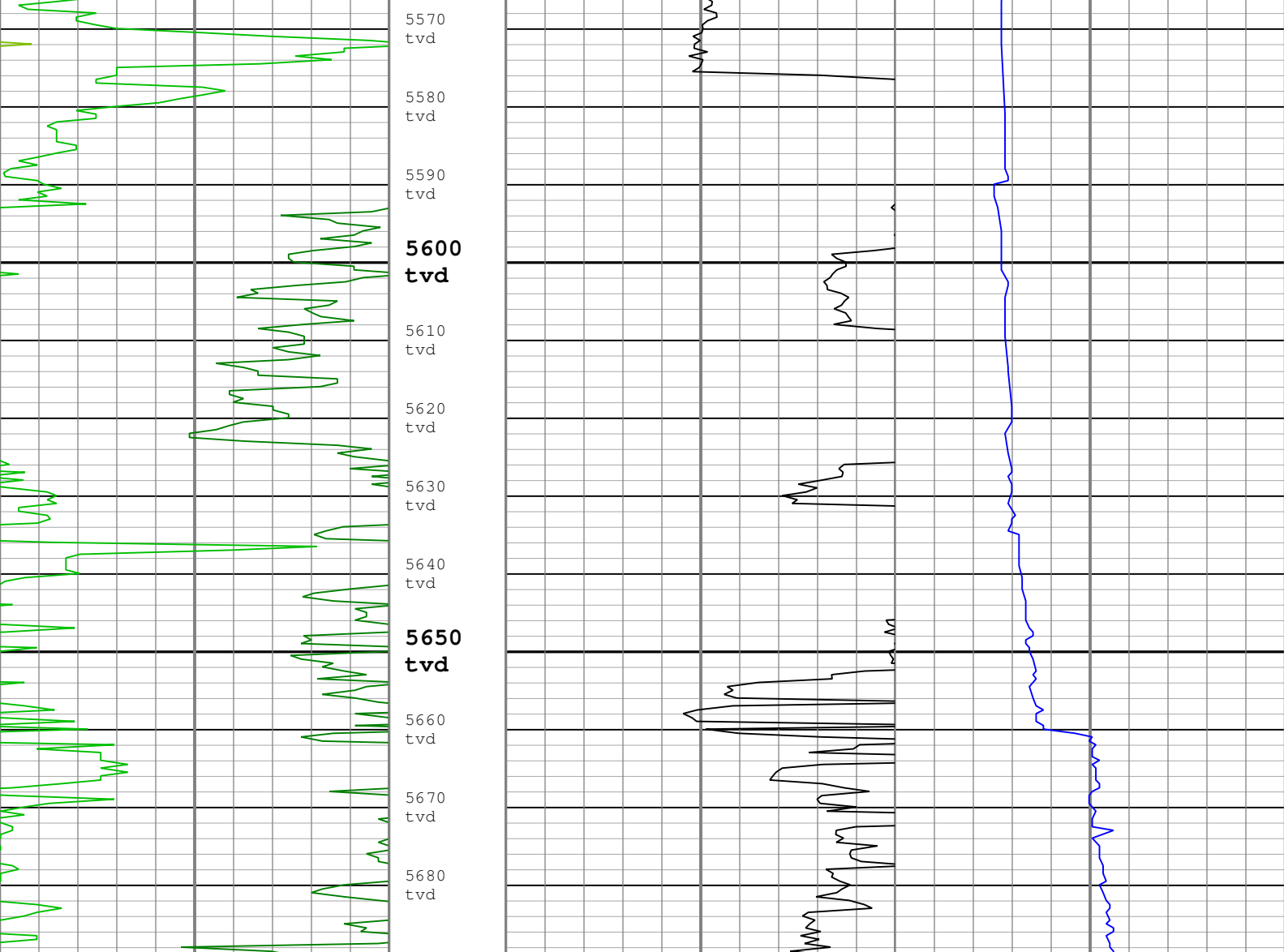












Gamma Ray (GR) SlimPulse[1] RM		
0	gAPI	150
Gamma Ray (GR) SlimPulse[1] RM		
150	gAPI	300
Gamma Ray (GR) SlimPulse[1] RM		
300	gAPI	450
Gamma Ray (GR) SlimPulse[1] RM		
450	gAPI	600
Gamma Ray (GR) SlimPulse[1] RM		
600	gAPI	750

Rate of penetration averaged over the last 5 ft (1.5 m) (ROP5) RT		
500	ft/h	150

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

Description: SlimPulse Gamma Ray 1 Format: Log (SlimPulse Gamma Ray Final TVD) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: TVD
Creation Date: 29-Sep-2014 11:04:03

Channel Processing Parameters				
Run001: Parameters				
Parameter	Description	Tool	Value	Unit
BS	Bit Size	DNMSESSION	8.75	in
DFD	Drilling Fluid Density	Borehole	9.5	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 Ream Down 1

Parameter	Value	Start Time	Stop Time	Start Depth (ft)	Stop Depth (ft)
DFD	9.5	23-Sep-2014 00:47:42	23-Sep-2014 02:35:30	4686.08	5071.17

Pass Drilling

DFD	9.5	23-Sep-2014 02:35:30	23-Sep-2014 07:57:54	5071.25	5454.08
DFD	10.5	23-Sep-2014 07:57:54	23-Sep-2014 23:12:20	5454.08	6032.5

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	10.5	lbm/gal
GR_SRC	GR Source Selection	SPULSE-GEN	GAMMA_EXT	

Run003Depth Zoned Parameters

Parameter	Value	Start (ft)	Stop (ft)
BS	8.75	5616.15	5643.27
BS	6.125	5643.27	5689.26

All depth are actual.

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 :	1.06 deg		

Rig Location

Latitude :	40° 46' 42.636" N	Longitude :	103° 51' 40.86" W
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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:	95.84 deg

D&I Inits Computed and Values Used - Run001

Geomagnetic Model :	BGGM 2014	Geomagnetic Date :	21-Sep-2014
Computed Location B :	52968.68 nT +/- 300.00nT	Used Location B :	52968.68 nT +/- 300.00nT
Computed Location G :	999.58 mgn +/- 2.50mgn	Used Location G :	999.58 mgn +/- 2.50mgn
Computed Magnetic Dip :	67.37 deg +/- 0.45deg	Used Magnetic Dip :	67.37 deg +/- 0.45deg
Computed Magnetic Dec :	8.04 deg	Used Magnetic Dec :	8.04 deg
Computed Total Correction :	6.98 deg	Used Total Correction :	6.98 deg

D&I Inits Computed and Values Used - Run002

Geomagnetic Model :	BGGM 2014	Geomagnetic Date :	22-Sep-2014
Computed Location B :	52968.31 nT +/- 300.00nT	Used Location B :	52968.31 nT +/- 300.00nT
Computed Location G :	999.58 mgn +/- 2.50mgn	Used Location G :	999.58 mgn +/- 2.50mgn
Computed Magnetic Dip :	67.37 deg +/- 0.45deg	Used Magnetic Dip :	67.37 deg +/- 0.45deg
Computed Magnetic Dec :	8.04 deg	Used Magnetic Dec :	8.04 deg
Computed Total Correction :	6.98 deg	Used Total Correction :	6.98 deg

D&I Inits Computed and Values Used - Run003

Geomagnetic Model :	BGGM 2014	Geomagnetic Date :	24-Sep-2014
Computed Location B :	52967.57 nT +/- 300.00nT	Used Location B :	52967.57 nT +/- 300.00nT
Computed Location G :	999.58 mgn +/- 2.50mgn	Used Location G :	999.58 mgn +/- 2.50mgn

Computed Magnetic Dip :	67.37 deg +/- 0.45deg	Used Magnetic Dip :	67.37 deg +/- 0.45deg
Computed Magnetic Dec :	8.04 deg	Used Magnetic Dec :	8.04 deg
Computed Total Correction :	6.98 deg	Used Total Correction :	6.98 deg

Survey Quality Index			
0 : Long Survey passed all criteria		2 : Long Survey failed mag criteria	9 : Manual
28 : Tie-In Point			

Survey Correction Index			
0 : No correction			

Survey Description Index			
0 : Not Flagged Survey		7 : Projection to Bit	

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	305.00	0.60	318.30	305.00	304.99	-1.18	1.19	-1.06	1.61	318.30	0.20	MultiShot	9	0	0
3	602.00	0.60	270.40	297.00	601.98	-3.87	2.36	-3.65	4.36	302.92	0.16	MultiShot	9	0	0
4	885.00	0.20	295.40	283.00	884.97	-5.81	2.59	-5.58	6.14	294.87	0.15	MultiShot	9	0	0
5	1202.00	0.70	332.20	317.00	1201.96	-7.41	4.54	-6.98	8.33	303.01	0.17	MultiShot	9	0	0
6	1316.00	0.92	352.60	114.00	1315.95	-8.00	6.06	-7.42	9.58	309.21	0.31	SlimPulse	0	0	0
7	1505.00	0.57	87.99	189.00	1504.94	-7.42	7.59	-6.68	10.10	318.64	0.59	SlimPulse	0	0	0
8	1600.00	1.98	153.37	95.00	1599.92	-6.07	6.14	-5.47	8.23	318.27	1.92	SlimPulse	0	0	0
9	1695.00	4.08	155.42	95.00	1694.78	-3.47	1.59	-3.33	3.71	295.55	2.21	SlimPulse	0	0	0
10	1789.00	5.62	158.78	94.00	1788.44	0.31	-5.75	-0.27	5.74	182.70	1.67	SlimPulse	0	0	0
11	1884.00	8.06	156.14	95.00	1882.76	5.73	-16.18	4.11	16.70	165.75	2.59	SlimPulse	0	0	0
12	1979.00	9.54	154.20	95.00	1976.64	13.16	-29.36	10.23	31.10	160.79	1.58	SlimPulse	0	0	0
13	2074.00	10.14	148.77	95.00	2070.24	22.33	-43.59	17.99	47.15	157.58	1.16	SlimPulse	0	0	0
14	2168.00	9.89	144.61	94.00	2162.81	32.64	-57.25	26.95	63.29	154.79	0.82	SlimPulse	0	0	0
15	2262.00	10.42	154.76	94.00	2255.34	42.35	-71.53	35.26	79.76	153.76	1.98	SlimPulse	0	0	0
16	2356.00	10.24	155.62	94.00	2347.82	50.94	-86.83	42.33	96.59	154.01	0.26	SlimPulse	0	0	0
17	2451.00	10.17	155.37	95.00	2441.32	59.44	-102.14	49.31	113.42	154.23	0.09	SlimPulse	0	0	0
18	2641.00	10.39	158.16	190.00	2628.27	75.90	-133.29	62.67	147.28	154.82	0.29	SlimPulse	0	0	0
19	2735.00	9.56	154.21	94.00	2720.85	83.93	-148.18	69.22	163.55	154.96	1.15	SlimPulse	0	0	0
20	2829.00	9.61	159.11	94.00	2813.54	91.56	-162.54	75.41	179.17	155.11	0.87	SlimPulse	0	0	0
21	2924.00	9.24	157.98	95.00	2907.26	98.69	-177.01	81.10	194.72	155.38	0.43	SlimPulse	0	0	0
22	3018.00	9.25	157.04	94.00	3000.03	105.85	-190.97	86.88	209.81	155.54	0.16	SlimPulse	0	0	0
23	3113.00	8.99	156.61	95.00	3093.83	113.16	-204.81	92.81	224.87	155.62	0.28	SlimPulse	0	0	0
24	3207.00	8.98	154.28	94.00	3186.68	120.58	-218.16	98.90	239.53	155.61	0.39	SlimPulse	0	0	0
25	3302.00	9.59	154.52	95.00	3280.44	128.57	-231.98	105.53	254.86	155.54	0.64	SlimPulse	0	0	0
26	3396.00	10.38	155.74	94.00	3373.01	136.89	-246.77	112.37	271.16	155.52	0.87	SlimPulse	0	0	0
27	3491.00	10.69	154.96	95.00	3466.41	145.70	-262.55	119.62	288.52	155.51	0.36	SlimPulse	0	0	0
28	3586.00	10.77	156.29	95.00	3559.75	154.60	-278.66	126.92	306.20	155.51	0.27	SlimPulse	0	0	0
29	3681.00	10.48	166.18	95.00	3653.13	161.89	-295.18	132.55	323.59	155.82	1.94	SlimPulse	0	0	0
30	3775.00	10.18	169.46	94.00	3745.61	167.11	-311.65	136.11	340.09	156.41	0.71	SlimPulse	0	0	0
31	3870.00	9.61	172.69	95.00	3839.19	171.28	-327.77	138.66	355.87	157.07	0.83	SlimPulse	0	0	0
32	3965.00	10.02	165.25	95.00	3932.81	175.98	-343.62	141.77	371.72	157.58	1.40	SlimPulse	0	0	0
33	4060.00	9.44	163.31	95.00	4026.44	181.87	-359.07	146.11	387.66	157.86	0.70	SlimPulse	0	0	0
34	4154.00	8.91	163.77	94.00	4119.24	187.56	-373.44	150.36	402.56	158.07	0.56	SlimPulse	0	0	0
35	4249.00	8.01	163.73	95.00	4213.20	192.82	-386.86	154.27	416.47	158.26	0.95	SlimPulse	0	0	0
36	4344.00	8.57	152.10	95.00	4307.22	199.24	-399.47	159.43	430.12	158.24	1.86	SlimPulse	0	0	0
37	4439.00	10.32	149.73	95.00	4400.93	208.18	-413.07	167.04	445.57	157.98	1.88	SlimPulse	0	0	0
38	4533.00	9.05	146.60	94.00	4493.59	217.82	-426.52	175.35	461.15	157.65	1.46	SlimPulse	0	0	0
39	4628.00	10.94	153.78	95.00	4587.14	227.33	-440.84	183.45	477.49	157.41	2.37	SlimPulse	0	0	0
40	4723.00	10.47	151.88	95.00	4680.49	236.94	-456.54	191.49	495.08	157.24	0.61	SlimPulse	0	0	0
41	4818.00	9.37	151.16	95.00	4774.07	246.16	-470.93	199.29	511.35	157.06	1.17	SlimPulse	0	0	0
42	4912.00	9.27	149.25	94.00	4866.83	255.03	-484.14	206.85	526.48	156.86	0.35	SlimPulse	0	0	0
43	5007.00	10.83	148.38	95.00	4960.37	265.01	-498.31	215.45	542.88	156.62	1.64	SlimPulse	0	0	0

	3007.00	10.83	148.36	95.00	4960.37	263.01	-498.31	213.43	342.88	136.62	1.04	SlimPulse	0	0	0
44	5102.00	10.17	139.14	95.00	5053.78	276.55	-512.25	225.61	559.74	156.23	1.90	SlimPulse	0	0	0
45	5196.00	15.90	101.90	94.00	5145.48	295.43	-521.20	243.68	575.36	154.94	10.52	SlimPulse	0	0	0
46	5291.00	20.98	99.13	95.00	5235.57	325.37	-526.59	273.23	593.24	152.58	5.44	SlimPulse	0	0	0
47	5386.00	29.85	94.47	95.00	5321.30	366.07	-531.14	313.67	616.86	149.44	9.56	SlimPulse	2	0	0
48	5480.00	36.24	92.20	94.00	5400.06	417.24	-534.03	364.82	646.75	145.66	6.93	SlimPulse	2	0	0
49	5575.00	46.17	91.88	95.00	5471.44	479.61	-536.24	427.28	685.66	141.45	10.46	SlimPulse	2	0	0
50	5670.00	58.40	92.10	95.00	5529.44	554.45	-538.86	502.25	736.65	137.01	12.87	SlimPulse	2	0	0
51	5764.00	65.65	92.21	94.00	5573.51	637.24	-541.98	585.15	797.57	132.81	7.72	SlimPulse	2	0	0
52	5859.00	71.67	91.52	95.00	5608.06	725.48	-544.85	673.55	866.34	128.97	6.37	SlimPulse	2	0	0
53	5972.00	80.47	89.36	113.00	5635.24	834.55	-545.64	783.11	954.46	124.87	8.00	SlimPulse	2	0	0
54	6078.00	86.25	86.83	106.00	5647.50	938.82	-542.13	888.28	1040.65	121.40	5.95	SlimPulse	0	0	0
55	6172.00	87.01	87.99	94.00	5653.02	1031.64	-537.89	982.02	1119.69	118.71	1.48	SlimPulse	0	0	0
56	6266.00	87.90	88.69	94.00	5657.20	1124.74	-535.17	1075.89	1201.64	116.45	1.20	SlimPulse	0	0	0
57	6360.00	88.69	90.19	94.00	5659.99	1218.11	-534.25	1169.84	1286.06	114.55	1.81	SlimPulse	0	0	0
58	6455.00	91.17	89.39	95.00	5660.10	1312.58	-533.91	1264.83	1372.90	112.89	2.74	SlimPulse	0	0	0
59	6549.00	91.68	89.51	94.00	5657.76	1405.97	-533.01	1358.80	1459.61	111.42	0.56	SlimPulse	0	0	0
60	6644.00	92.03	88.84	95.00	5654.68	1500.27	-531.65	1453.74	1547.90	110.09	0.79	SlimPulse	0	0	0
61	6739.00	93.03	90.23	95.00	5650.49	1594.60	-530.87	1548.64	1637.11	108.92	1.80	SlimPulse	0	0	0
62	6834.00	91.41	91.52	95.00	5646.82	1689.17	-532.32	1643.55	1727.59	107.95	2.18	SlimPulse	0	0	0
63	6928.00	90.76	91.09	94.00	5645.04	1782.86	-534.47	1737.51	1817.85	107.10	0.83	SlimPulse	0	0	0
64	7023.00	90.83	90.75	95.00	5643.73	1877.50	-535.99	1832.49	1909.25	106.30	0.36	SlimPulse	0	0	0
65	7118.00	90.65	91.04	95.00	5642.50	1972.14	-537.48	1927.47	2001.02	105.58	0.35	SlimPulse	0	0	0
66	7212.00	89.90	91.24	94.00	5642.05	2065.82	-539.35	2021.45	2092.16	104.94	0.83	SlimPulse	0	0	0
67	7307.00	91.07	92.47	95.00	5641.25	2160.59	-542.42	2116.39	2184.81	104.38	1.79	SlimPulse	0	0	0
68	7402.00	89.04	91.26	95.00	5641.17	2255.35	-545.52	2211.33	2277.62	103.86	2.49	SlimPulse	0	0	0
69	7497.00	89.66	89.80	95.00	5642.25	2349.94	-546.39	2306.32	2370.14	103.33	1.67	SlimPulse	0	0	0
70	7591.00	90.72	90.20	94.00	5641.94	2443.45	-546.39	2400.32	2461.71	102.82	1.21	SlimPulse	0	0	0
71	7686.00	90.21	89.98	95.00	5641.17	2537.96	-546.54	2495.31	2554.46	102.35	0.59	SlimPulse	0	0	0
72	7780.00	89.21	89.80	94.00	5641.65	2631.46	-546.36	2589.31	2646.33	101.91	1.08	SlimPulse	0	0	0
73	7875.00	89.90	89.37	95.00	5642.39	2725.89	-545.66	2684.31	2739.21	101.49	0.85	SlimPulse	0	0	0
74	7969.00	88.21	89.47	94.00	5643.94	2819.28	-544.71	2778.28	2831.17	101.09	1.79	SlimPulse	0	0	0
75	8064.00	88.07	87.09	95.00	5647.02	2913.40	-541.87	2873.18	2923.82	100.68	2.51	SlimPulse	0	0	0
76	8158.00	89.83	86.56	94.00	5648.74	3006.22	-536.66	2967.02	3015.16	100.25	1.95	SlimPulse	0	0	0
77	8253.00	91.03	87.47	95.00	5648.03	3100.09	-531.72	3061.89	3107.71	99.85	1.59	SlimPulse	0	0	0
78	8348.00	90.76	89.33	95.00	5646.54	3194.28	-529.07	3156.83	3200.85	99.51	1.98	SlimPulse	0	0	0
79	8442.00	89.86	90.63	94.00	5646.04	3287.78	-529.04	3250.83	3293.60	99.24	1.68	SlimPulse	0	0	0
80	8537.00	90.00	90.16	95.00	5646.15	3382.35	-529.70	3345.83	3387.50	99.00	0.52	SlimPulse	0	0	0
81	8632.00	87.87	92.27	95.00	5647.92	3477.02	-531.72	3440.78	3481.63	98.78	3.16	SlimPulse	0	0	0
82	8726.00	87.87	91.34	94.00	5651.42	3570.72	-534.68	3534.67	3574.87	98.60	0.99	SlimPulse	0	0	0
83	8821.00	89.17	90.92	95.00	5653.87	3665.36	-536.55	3629.61	3669.06	98.41	1.44	SlimPulse	0	0	0
84	8916.00	87.73	88.82	95.00	5656.43	3759.81	-536.33	3724.57	3762.99	98.19	2.68	SlimPulse	0	0	0
85	9011.00	87.97	88.27	95.00	5660.00	3853.97	-533.92	3819.47	3856.59	97.96	0.63	SlimPulse	0	0	0
86	9105.00	89.52	88.91	94.00	5662.05	3947.19	-531.61	3913.42	3949.38	97.74	1.78	SlimPulse	0	0	0
87	9200.00	87.83	88.90	95.00	5664.25	4041.47	-529.79	4008.37	4043.24	97.53	1.77	SlimPulse	0	0	0
88	9295.00	88.18	89.27	95.00	5667.55	4135.75	-528.28	4103.30	4137.17	97.34	0.53	SlimPulse	0	0	0
89	9389.00	85.60	88.79	94.00	5672.66	4228.95	-526.69	4197.14	4230.05	97.15	2.79	SlimPulse	0	0	0
90	9484.00	86.49	88.06	95.00	5679.22	4322.93	-524.08	4291.88	4323.75	96.96	1.22	SlimPulse	0	0	0
91	9579.00	87.63	88.15	95.00	5684.09	4416.94	-520.94	4386.70	4417.52	96.77	1.20	SlimPulse	0	0	0
92	9673.00	89.62	87.06	94.00	5686.35	4509.93	-517.01	4480.58	4510.30	96.58	2.42	SlimPulse	0	0	0
93	9768.00	91.13	88.57	95.00	5685.72	4604.00	-513.38	4575.51	4604.23	96.40	2.25	SlimPulse	0	0	0
94	9863.00	89.97	89.87	95.00	5684.81	4698.35	-512.09	4670.49	4698.49	96.26	1.84	SlimPulse	0	0	0
95	9958.00	87.70	90.41	95.00	5686.75	4792.86	-512.32	4765.46	4792.91	96.14	2.46	SlimPulse	0	0	0
96	10053.00	89.59	89.03	95.00	5689.00	4887.28	-511.85	4860.43	4887.30	96.01	2.47	SlimPulse	0	0	0
97	10148.00	89.53	88.83	95.00	5689.33	4982.27	-511.14	4954.43	4982.33	95.89	2.48	SlimPulse	0	0	0

97	10103.00	89.90	89.35	50.00	5689.22	4936.95	-511.14	4910.42	4936.94	95.94	0.90	SlimPulse	0	0	0
98	10168.00	89.90	89.35	65.00	5689.34	5001.53	-510.41	4975.42	5001.54	95.86	0.01	Other	9	0	7

Calibration Report

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

Primary Equipment :															
Elec. cartridge, 150C max with GR								SPEC				112			

GRGain - Gamma Ray: Blanket

Master (Time Frame File): 12:00:00 05-Sep-2014															
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Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit		
Gamma Ray Calibration Gain		Master	1.0000	0.9000	1.0395	1.1000		

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

Primary Equipment :															
Elec. cartridge, 150C max with GR								SPEC				935			

GRGain - Gamma Ray: Blanket

Master (Time Frame File): 12:00:00 01-May-2014															
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Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit		
Gamma Ray Calibration Gain		Master	1.0000	0.9000	1.0906	1.1000		

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

Primary Equipment :															
Elec. cartridge, 150C max with GR								SPEC				935			

GRGain - Gamma Ray: Blanket

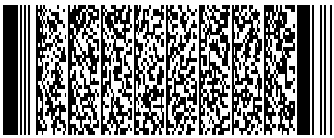
Master (Time Frame File): 12:00:00 01-May-2014															
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Measurement	Unit	Phase	Nominal	Low Limit	Actual	High Limit		
Gamma Ray Calibration Gain		Master	1.0000	0.9000	1.0906	1.1000		

Company: Noble Energy

Well: Rohn State LD03-63HN

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