

Company: Noble Energy Inc.

Well: SLW Ranch State BB07-660

Field: Wattenberg

County: Weld

State: Colorado

Country: United States

Section: 7 APIN: 05-123-47007

Township: 5N Rig Name: H&P 571

Range: 63W Rig Type: Land Rig - Top Drive

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

FL1: Northing: 1396345.915 ftUS

FL2: Easting: 3282338.348 ftUS

Log Measured From: - Drill Floor: 4661.00 ft  
Ground Level: 4631.00 ft

Permanent Datum: - Mean Sea Level

Acquisition Dates: 16-Jul-2019 -- 19-Jul-2019

Log Interval: 1935.96 (ft) -- 6599.05 (ft)

Index Types: True Vertical Depth

Index Scales: 1:240 5" / 100'

Depth Source: Driller's Depth

Depth Sensor: 3rd Party Depth

Print Type: Final

Spud Date: 15-Jul-2019

Other Services:

Well Planning

Direction and Inclination

Directional Drilling

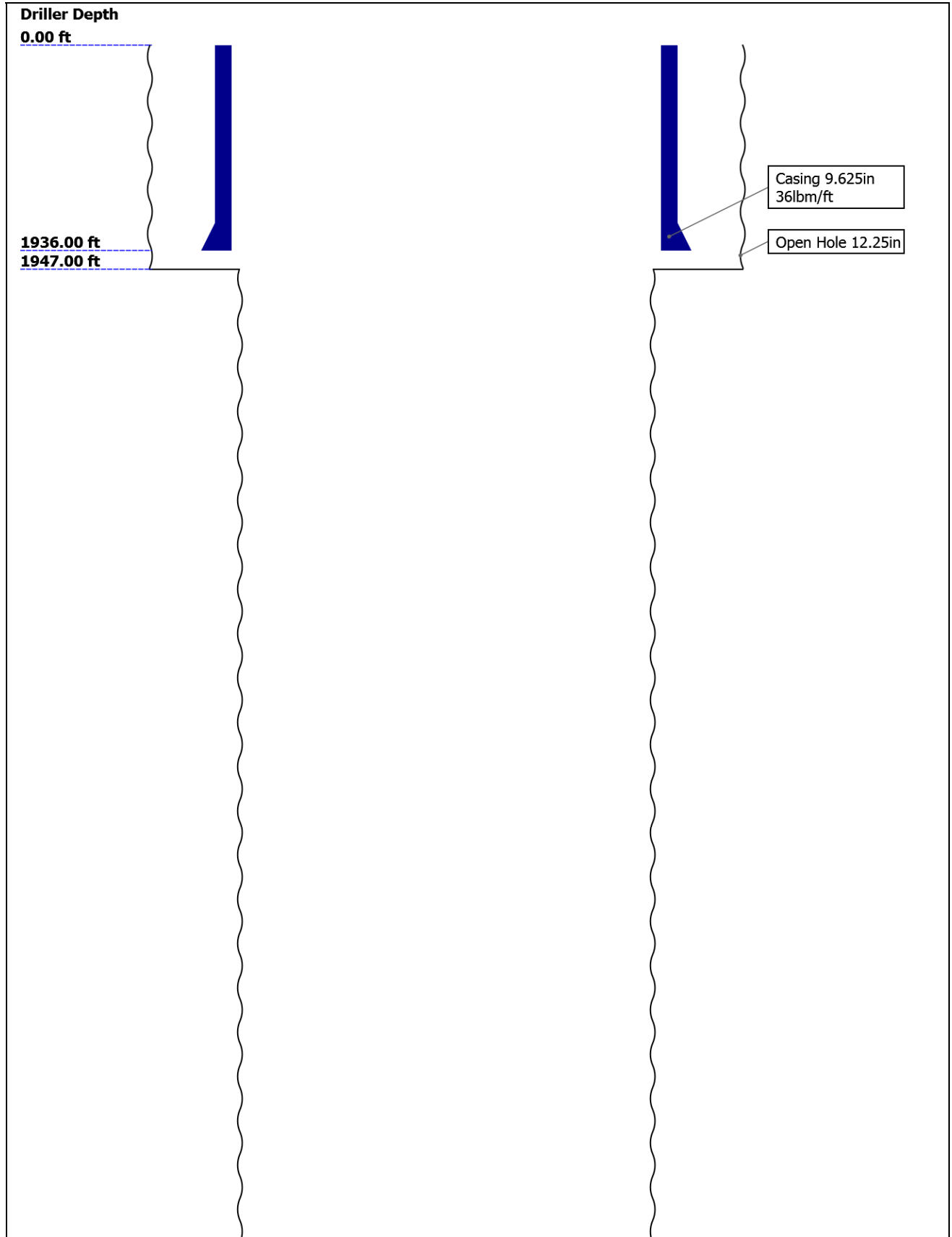
## Disclaimer

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## Well Sketch





## Borehole Size/Casing Record

Bit						
Bit Size ( in )	12.25	8.5				
Top Driller ( ft )	0	1947				
Bottom Driller ( ft )	1947	17038				
Casing						
Size ( in )	9.625					
Weight ( lbm/ft )	36					
Inner Diameter ( in )	8.921					
Grade	J55					
Top Driller ( ft )	0					
Bottom Driller ( ft )	1936					

## Operational Run Summary

Parameter ( unit )	Run001					
Date Log Started	16-Jul-2019					
Time Log Started	07:26:29					
Date Log Finished	19-Jul-2019					
Time Log Finished	04:53:38					
Bit Size ( in )	8.500					
Bit Start Depth ( ft )	1947.00					
Bit Stop Depth ( ft )	17038.00					
Top Log Interval ( ft )	1936.00					
Bottom Log Interval ( ft )	17038.00					
Max Hole Deviation ( deg )	91.08					
Azimuth of Max Deviation ( deg )	91.10					
Logging Unit Number	Trailer					
Logging Unit Location	Zone 2					
Recorded By	M. Armstrong/RO					
Witnessed By	J. Drahota					
Service Order Number	19CCO1238					

## Borehole Fluids

## Remarks and Equipment Summary

MWD Personnel:  
Michael Armstrong  
Remote Operations

42.73

XEM MWD

**INT PRES**            **40.31**

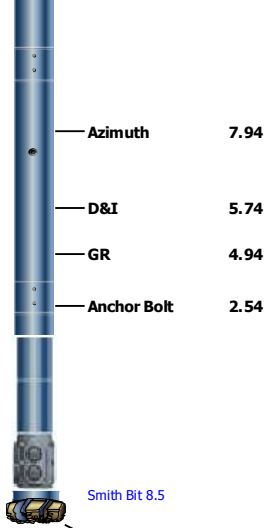
**ANN PRES**                      **40.16**

TEMP 40.16

**GR 25.16**

**D&I 20.57**

ENP-073  
PD675CC:54721  
Gamma Set  
Impeller Set  
PDCU  
PDCOPTIBANA675BU:E  
NP-073



Lengths are in ft  
Maximum Outer Diameter = 8.500 in  
Line: Sensor Location, Value: Gating Offset  
All measurements are relative to TOOL\_ZERO

## Well Composite

### Software Version

Acquisition System	Version
Maxwell 2018 SP2	8.2.104493.3100

### Composite Summary

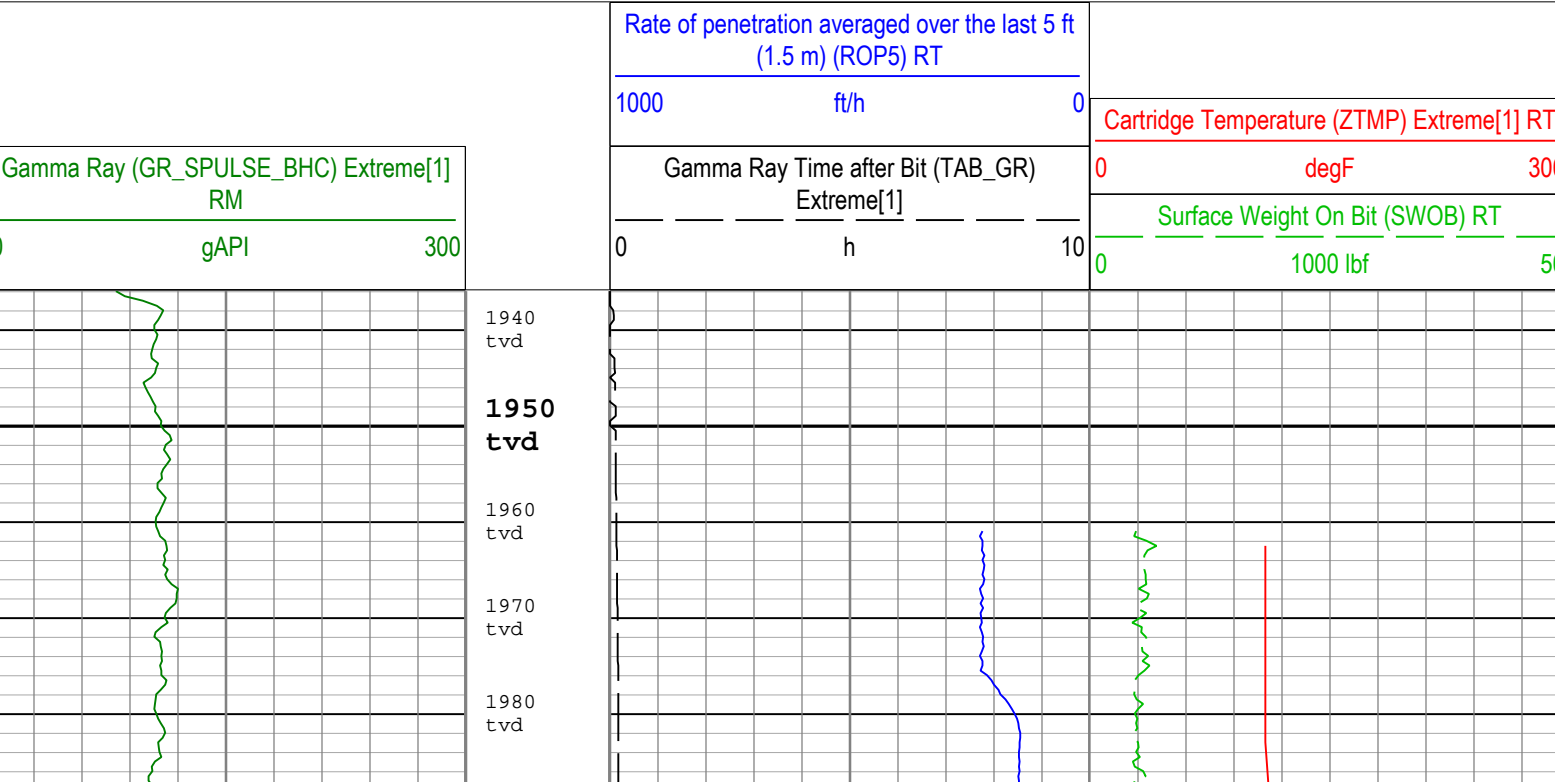
Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	Include Parallel Data
Run001	Ream Down 1	Down	5897.75 ft	5926.92 ft	16-Jul-2019 10:16:05 PM	16-Jul-2019 10:28:54 PM	No
Run001	Drilling	Down	1928.42 ft	17037.92 ft	16-Jul-2019 9:36:12 AM	19-Jul-2019 4:53:38 AM	No

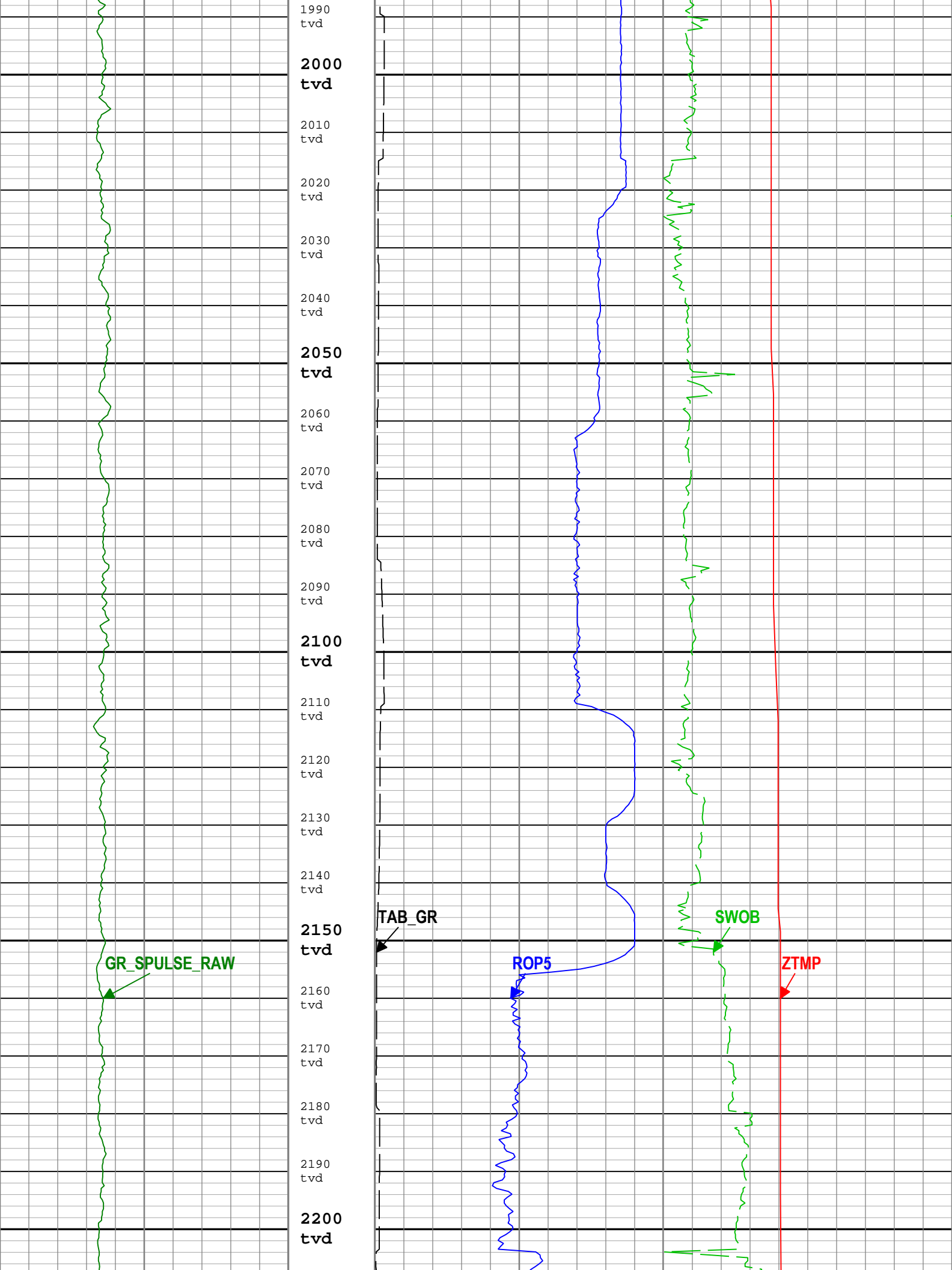
All depths are referenced to toolstring zero

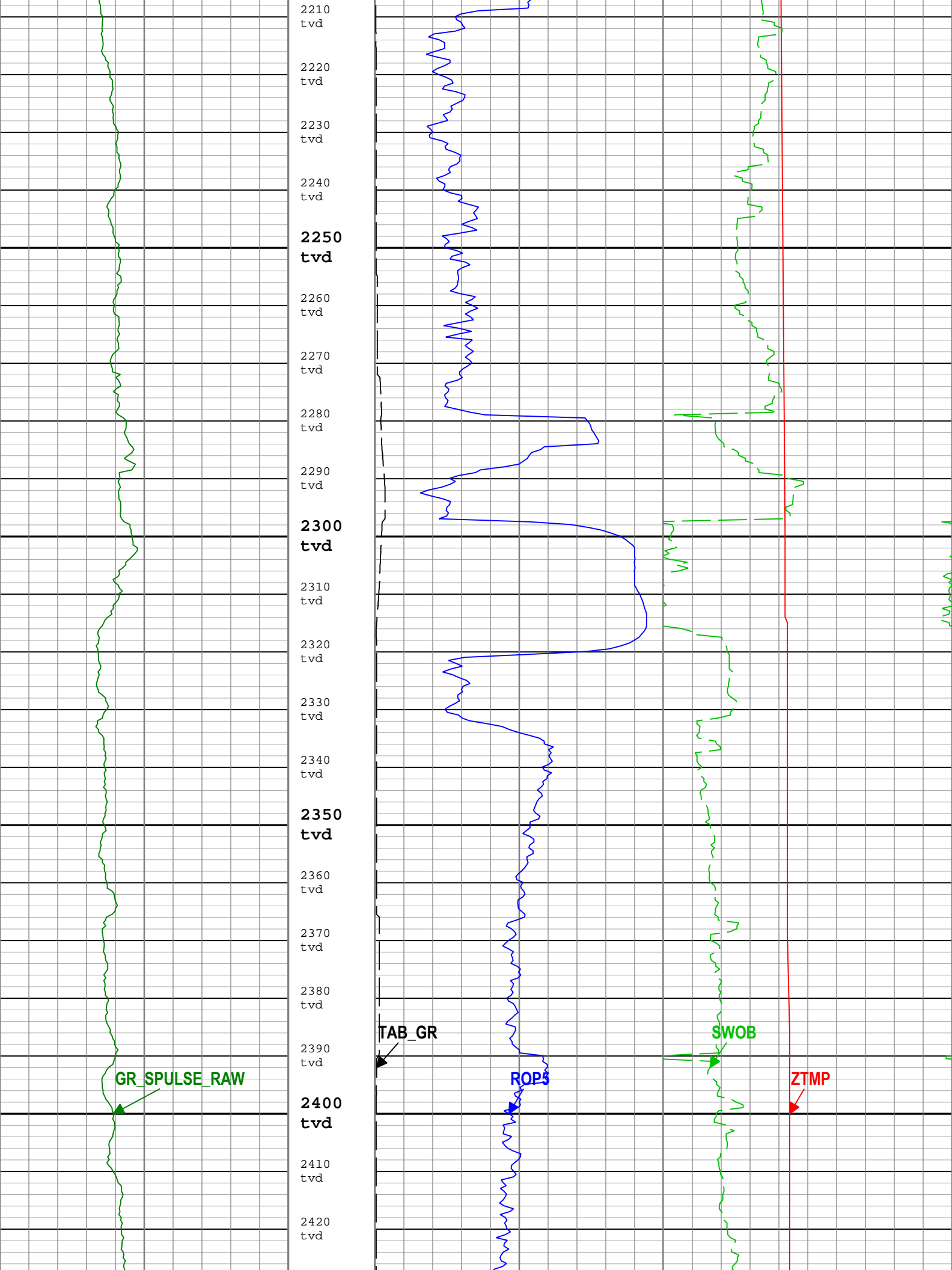
### Log

Company:Noble Energy Inc. Well:SLW Ranch State BB07-660  
Well Composite:S345

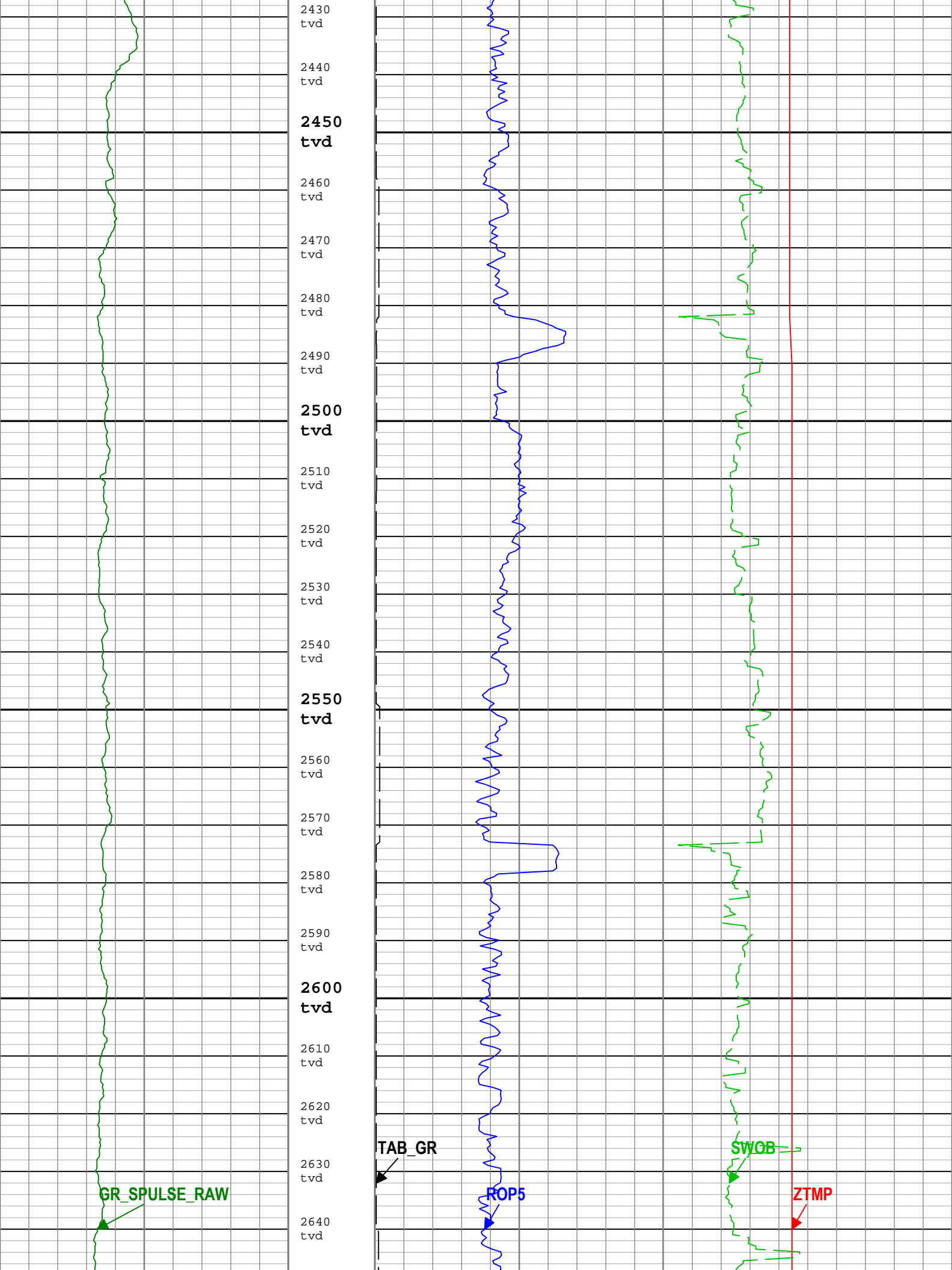
Description: Extreme Gamma Ray 1 RT Format: Log ( KKW\_EOW\_XEM-RM\_TVD ) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: TVD  
Creation Date: 22-Jul-2019 16:04:20

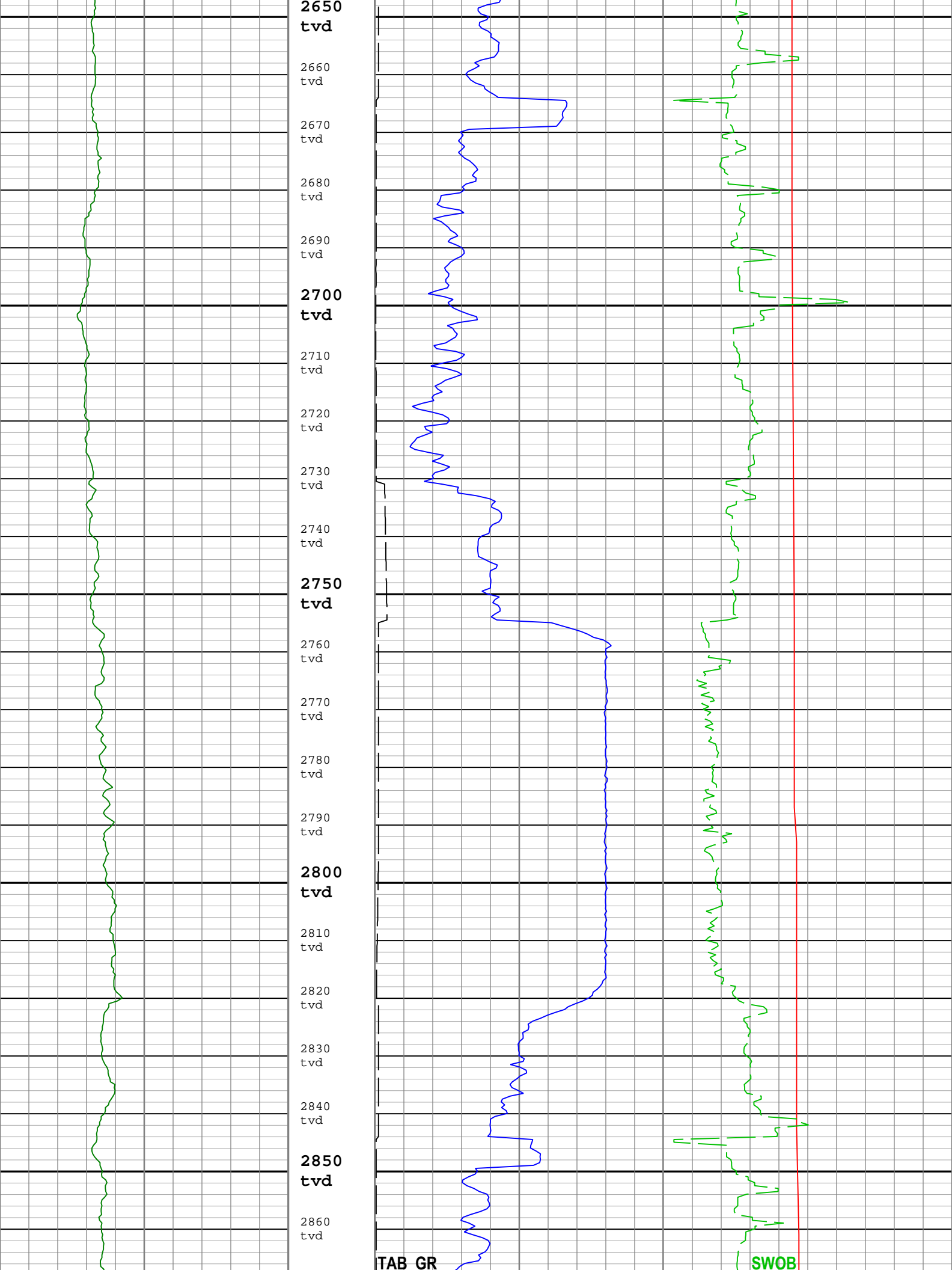


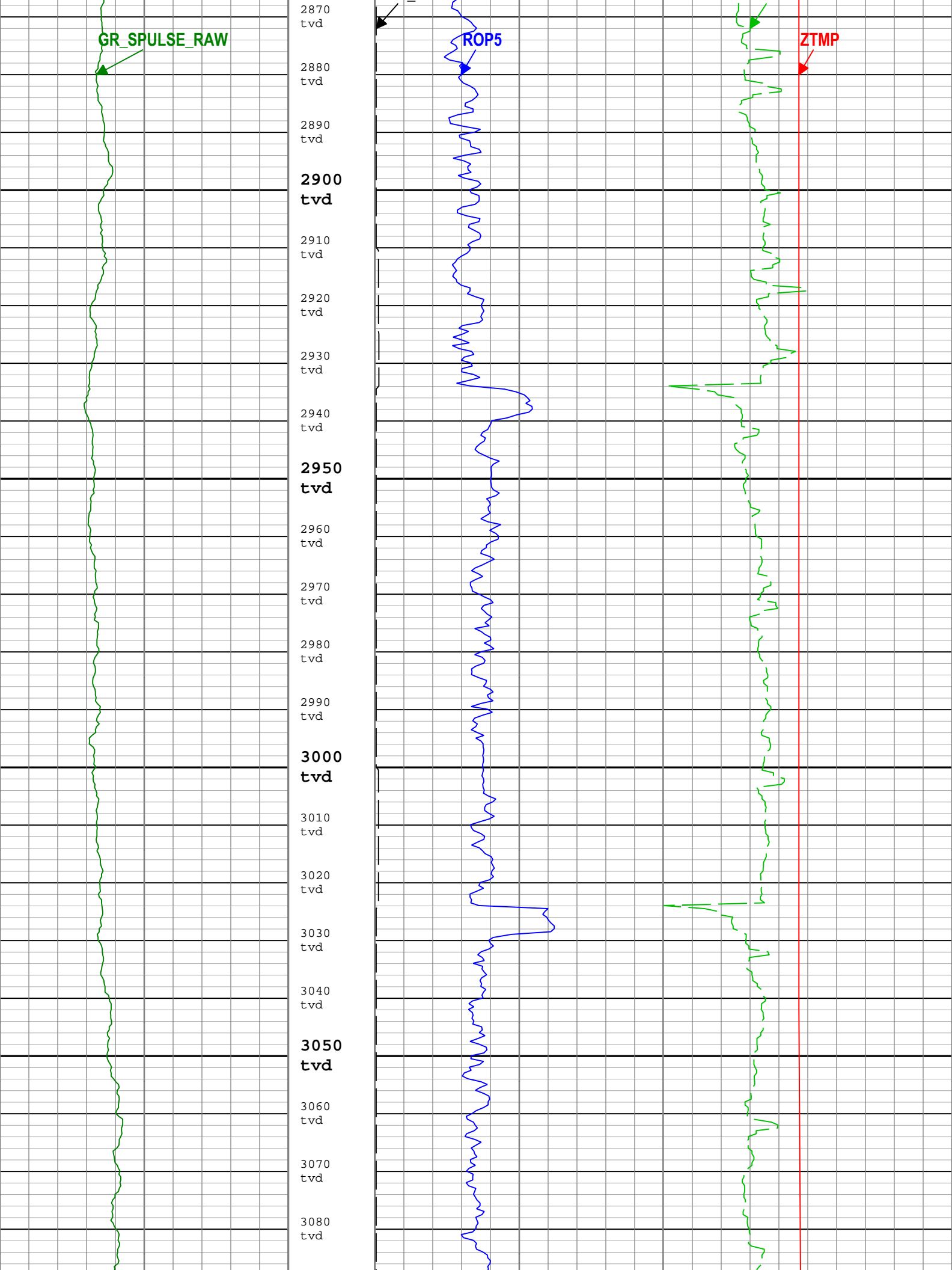


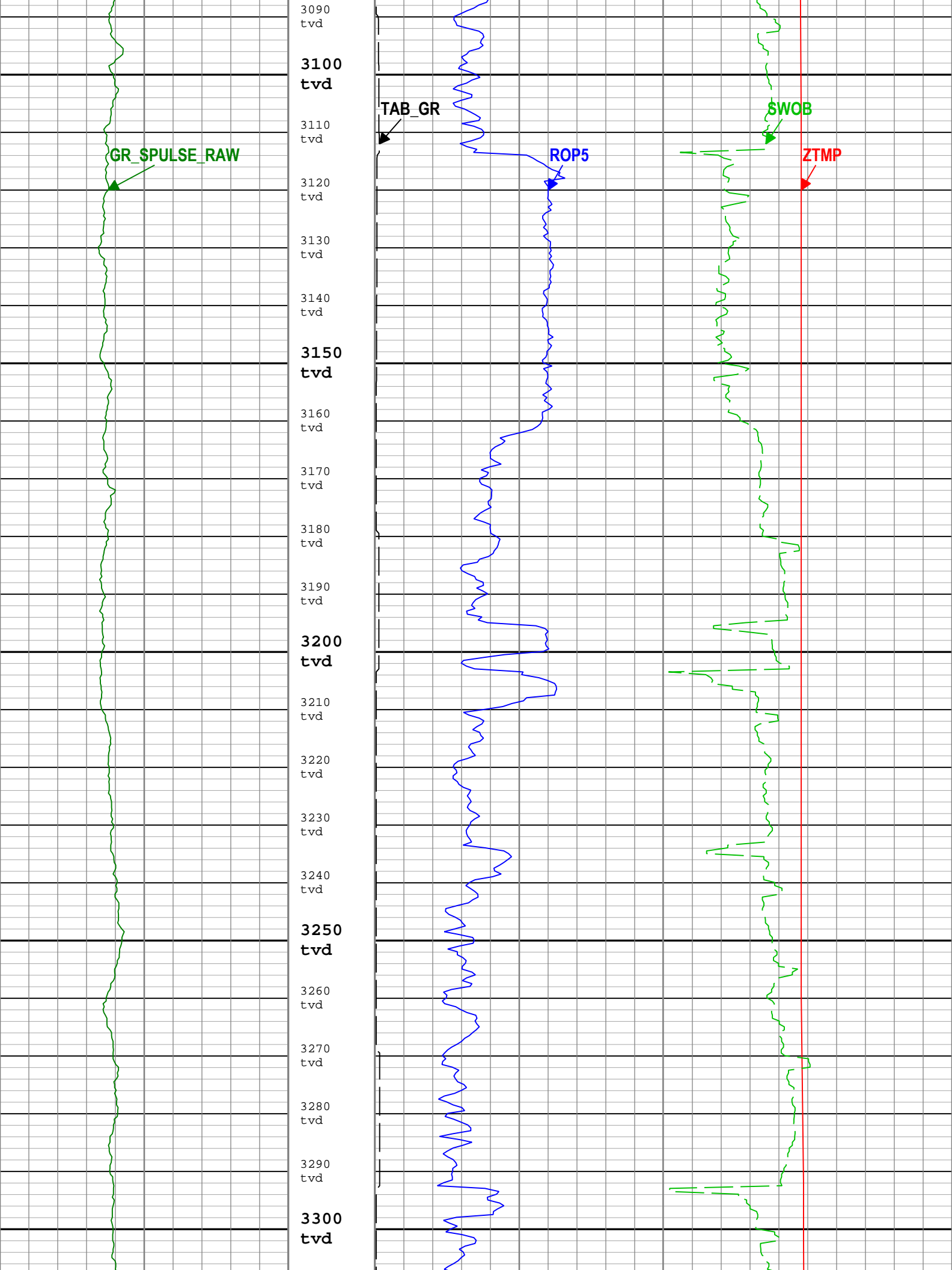


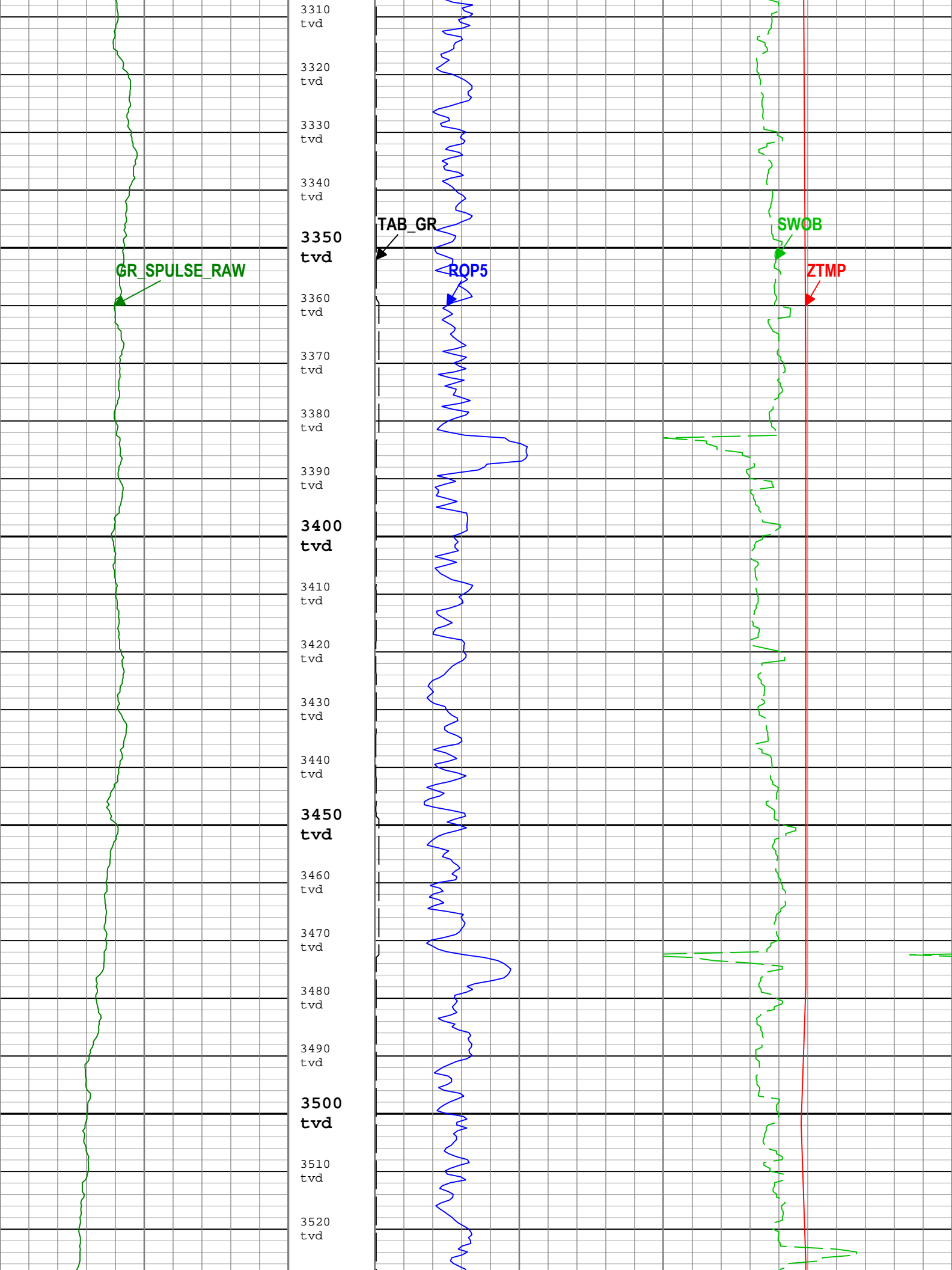


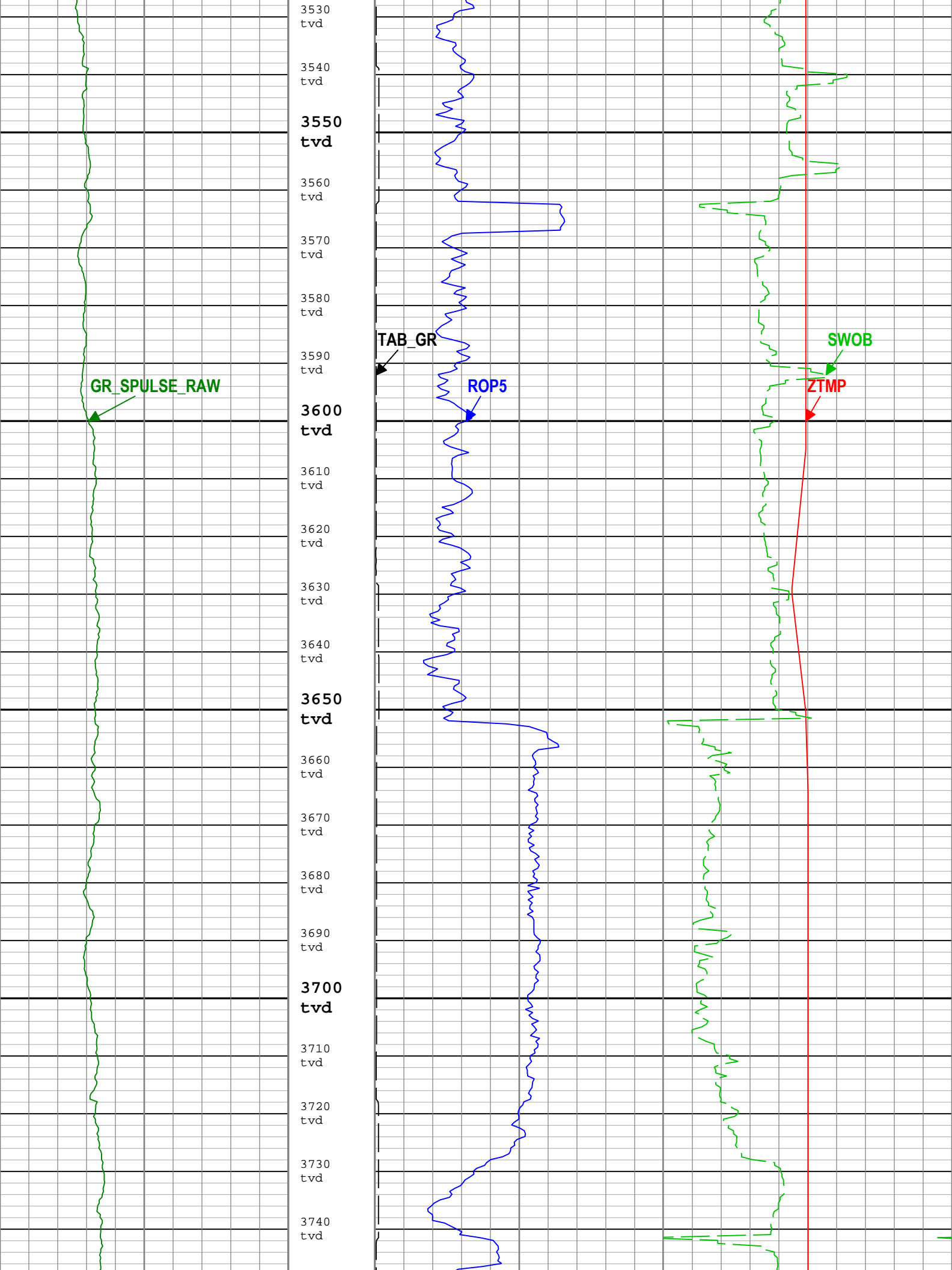


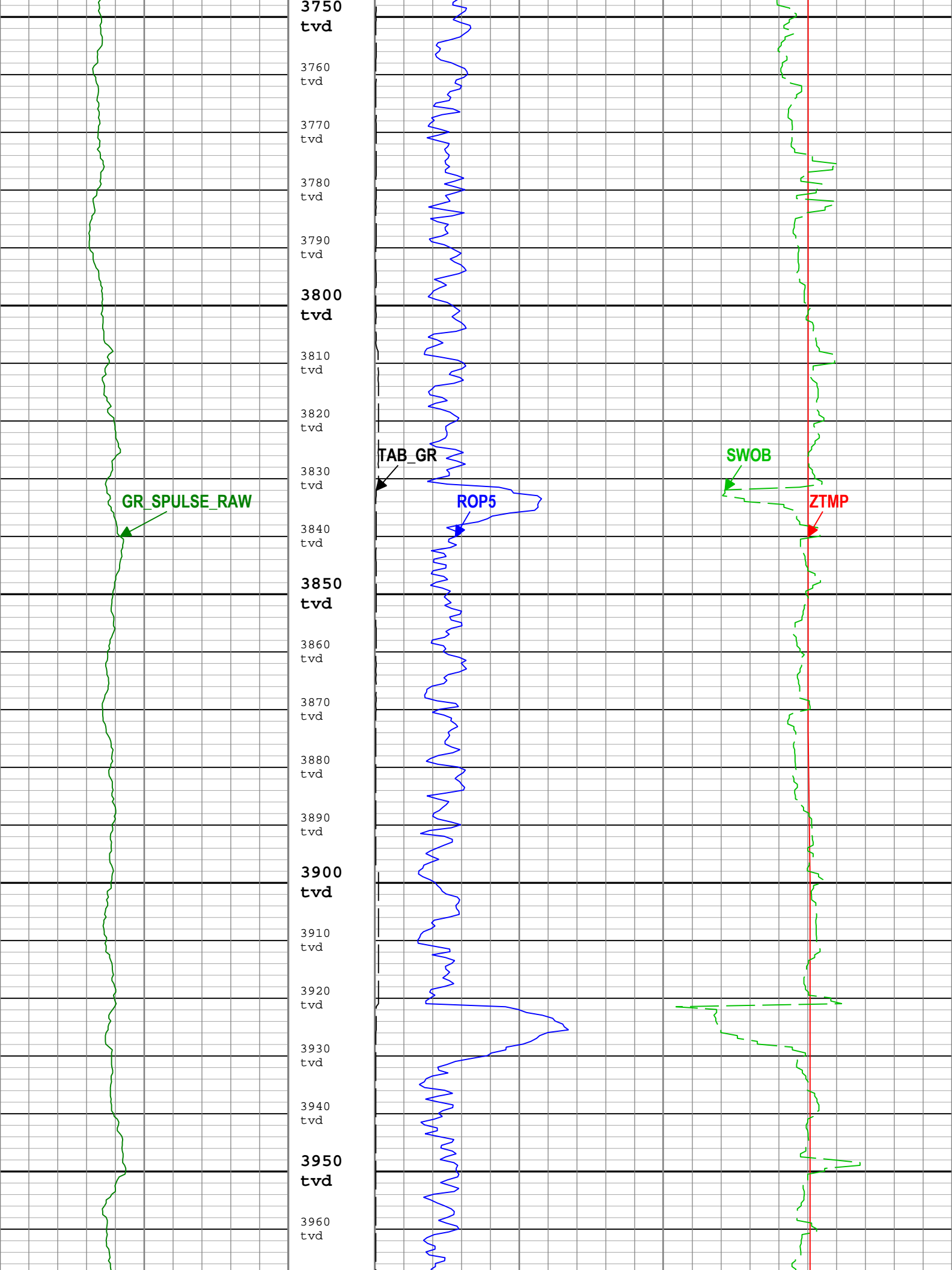


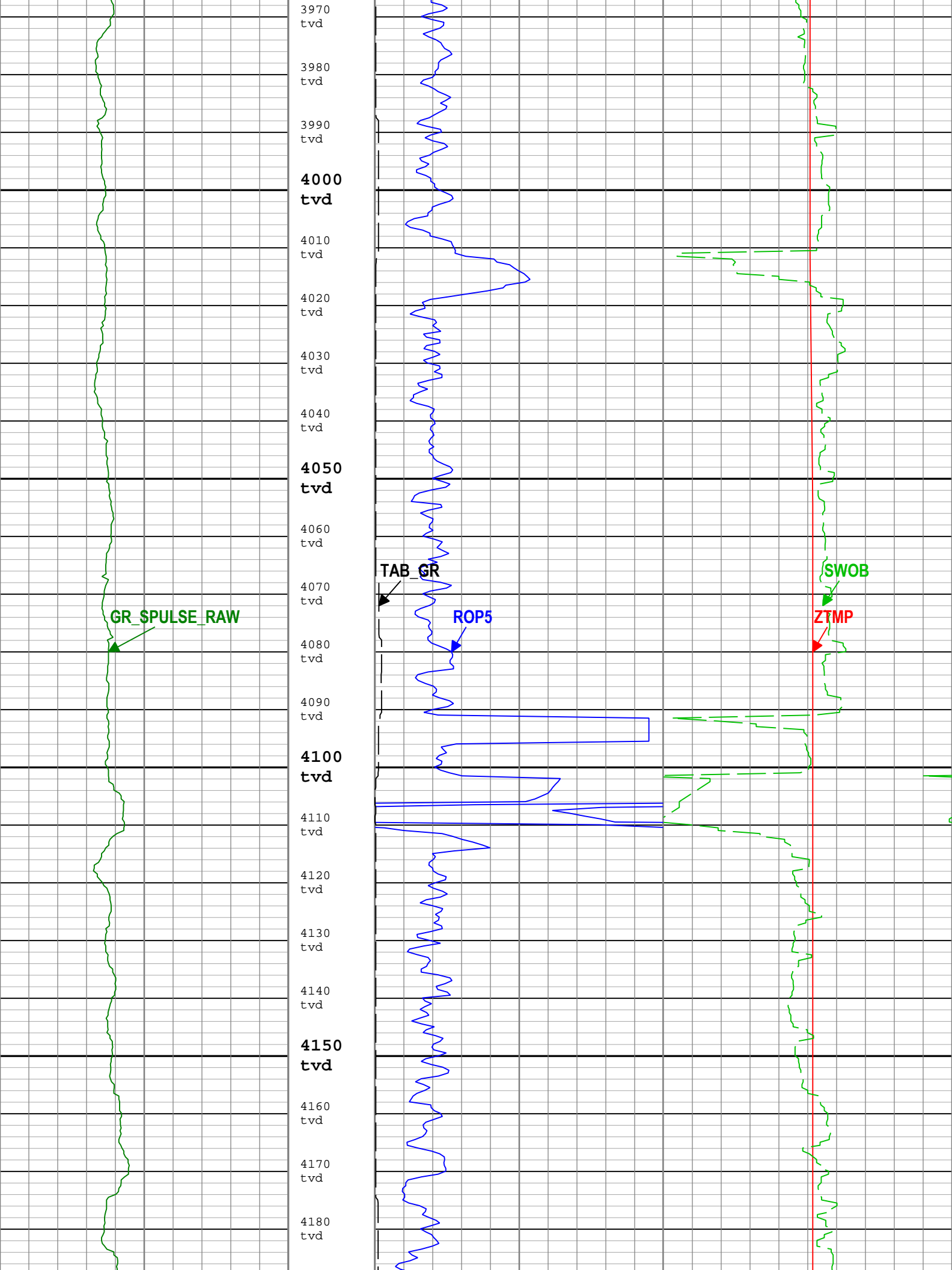




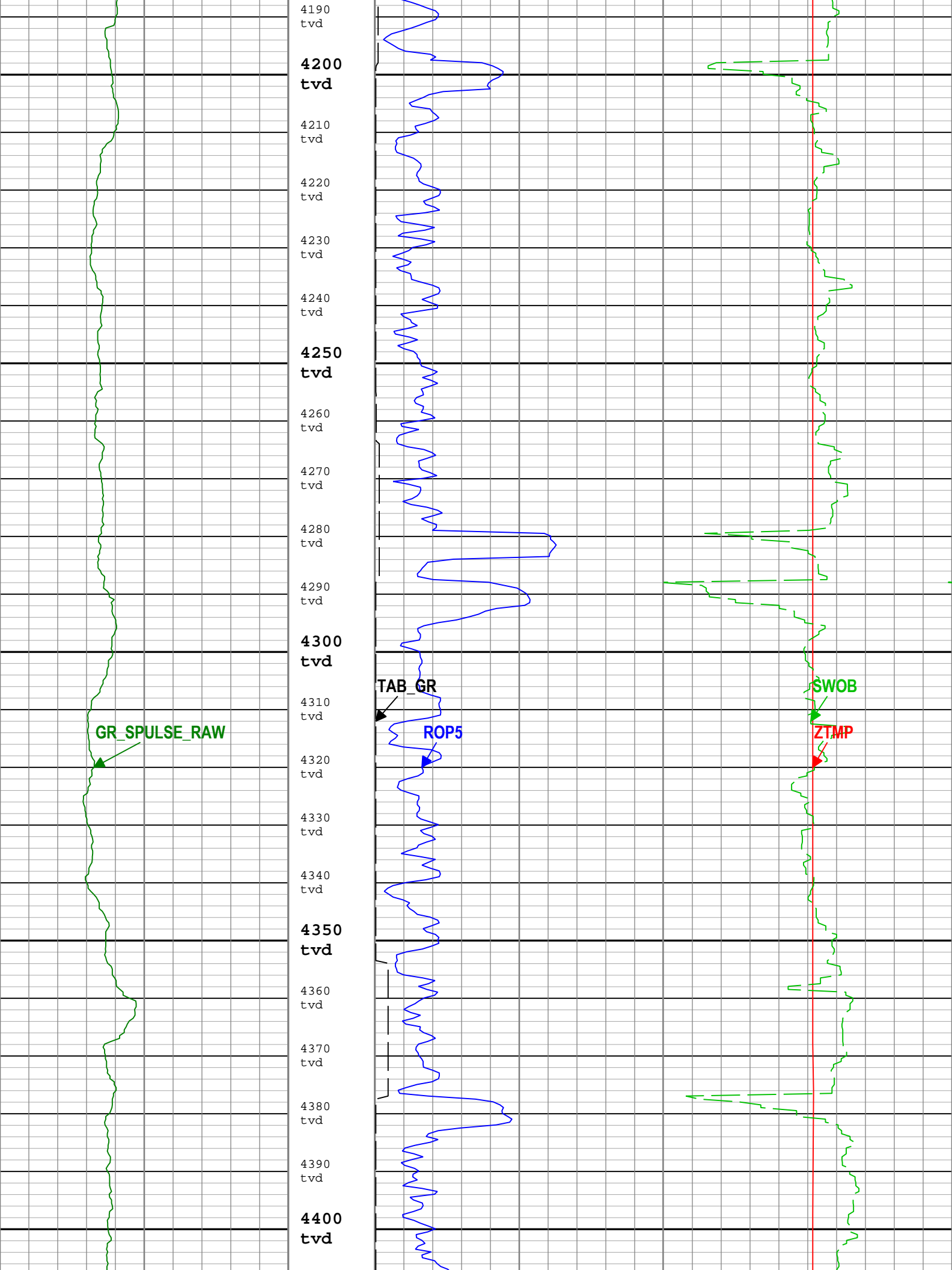


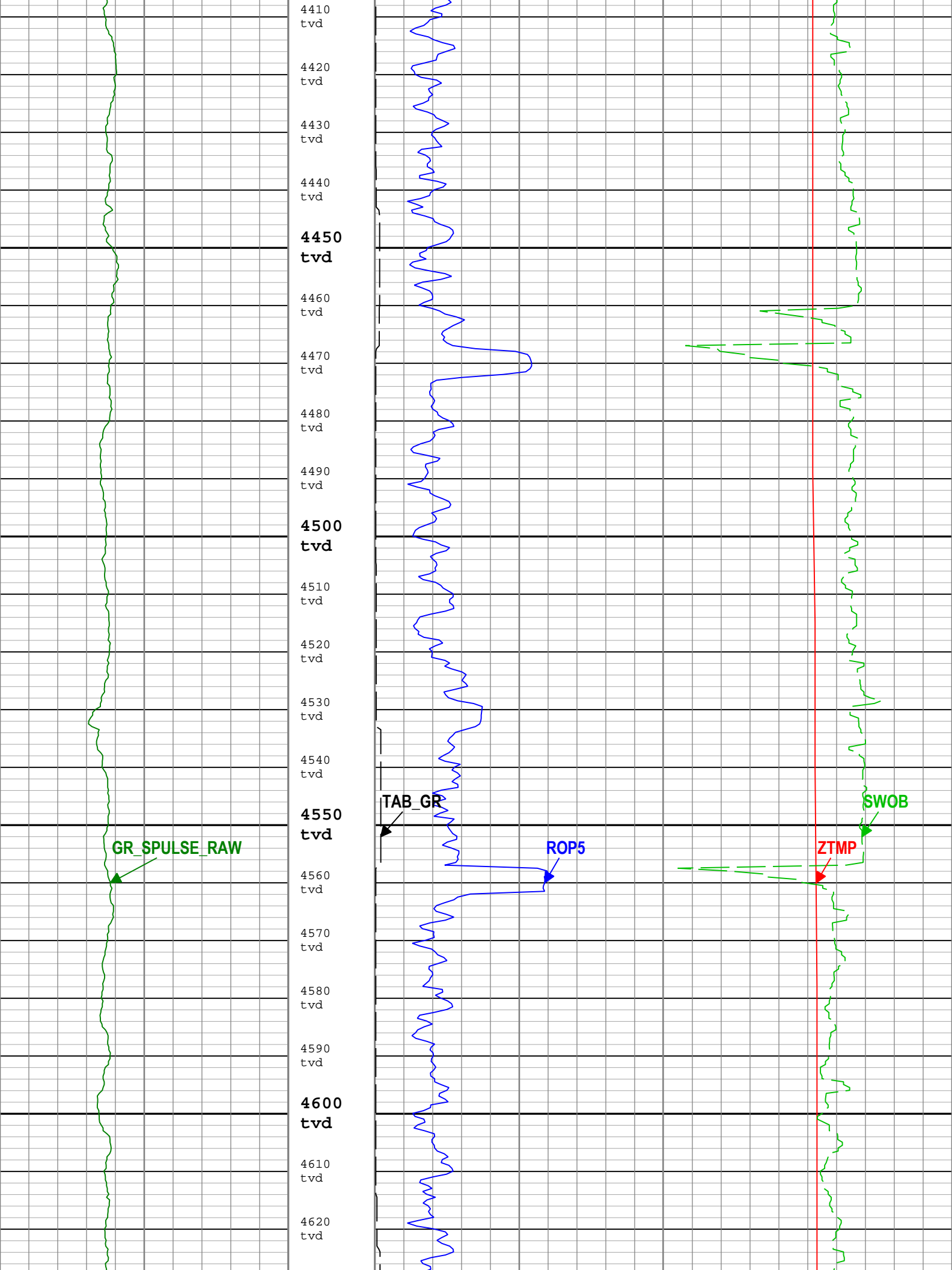


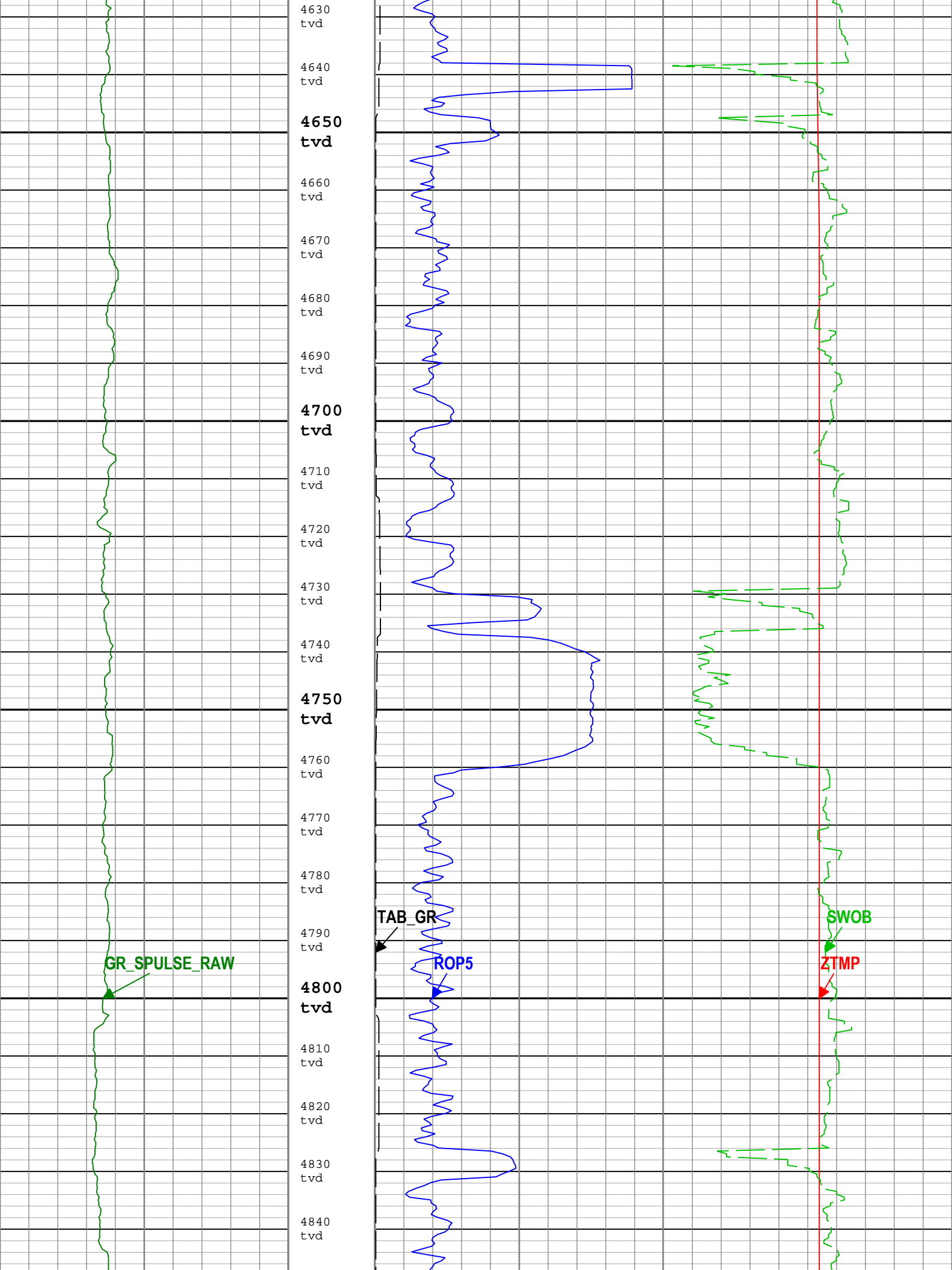


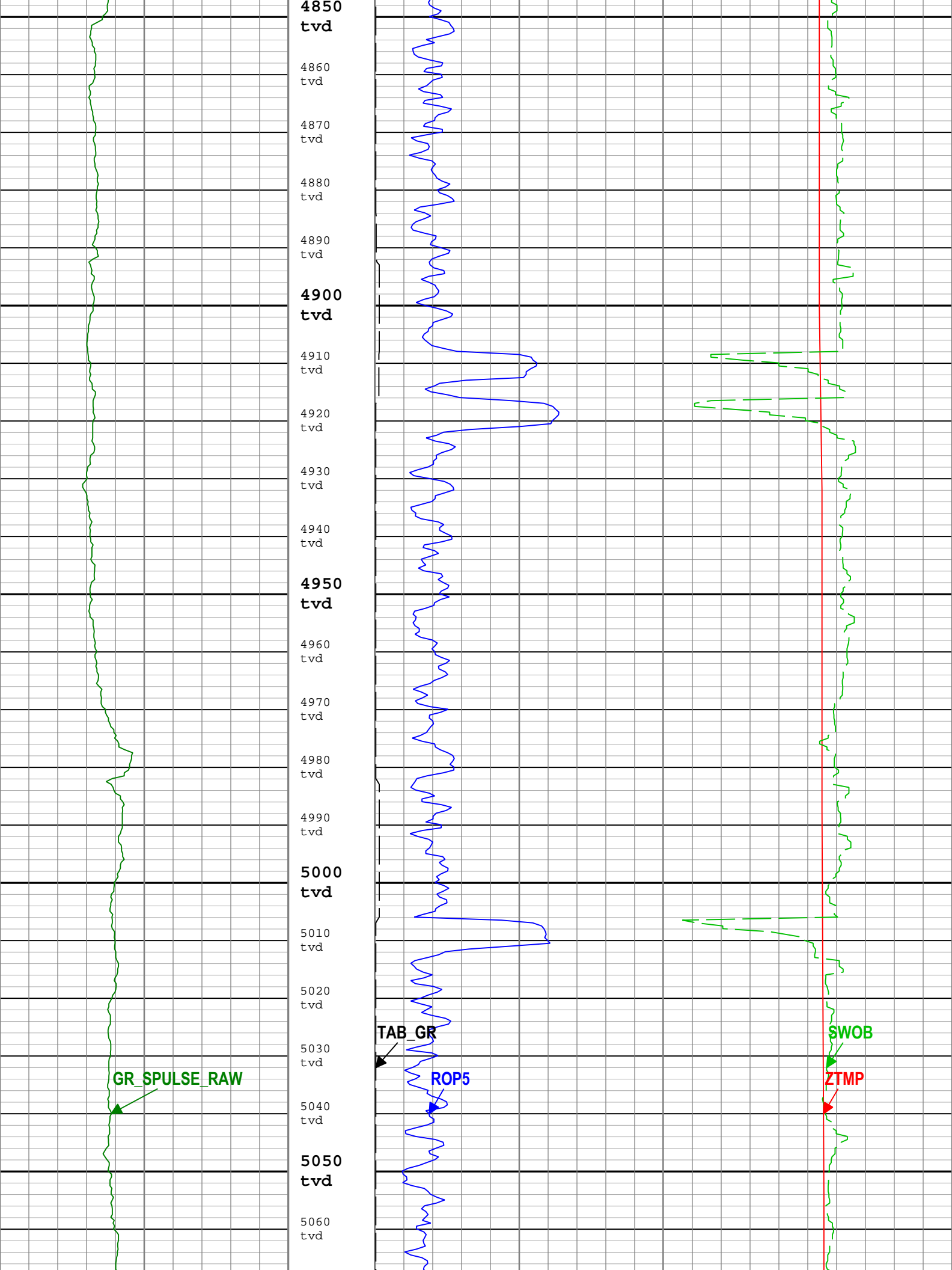


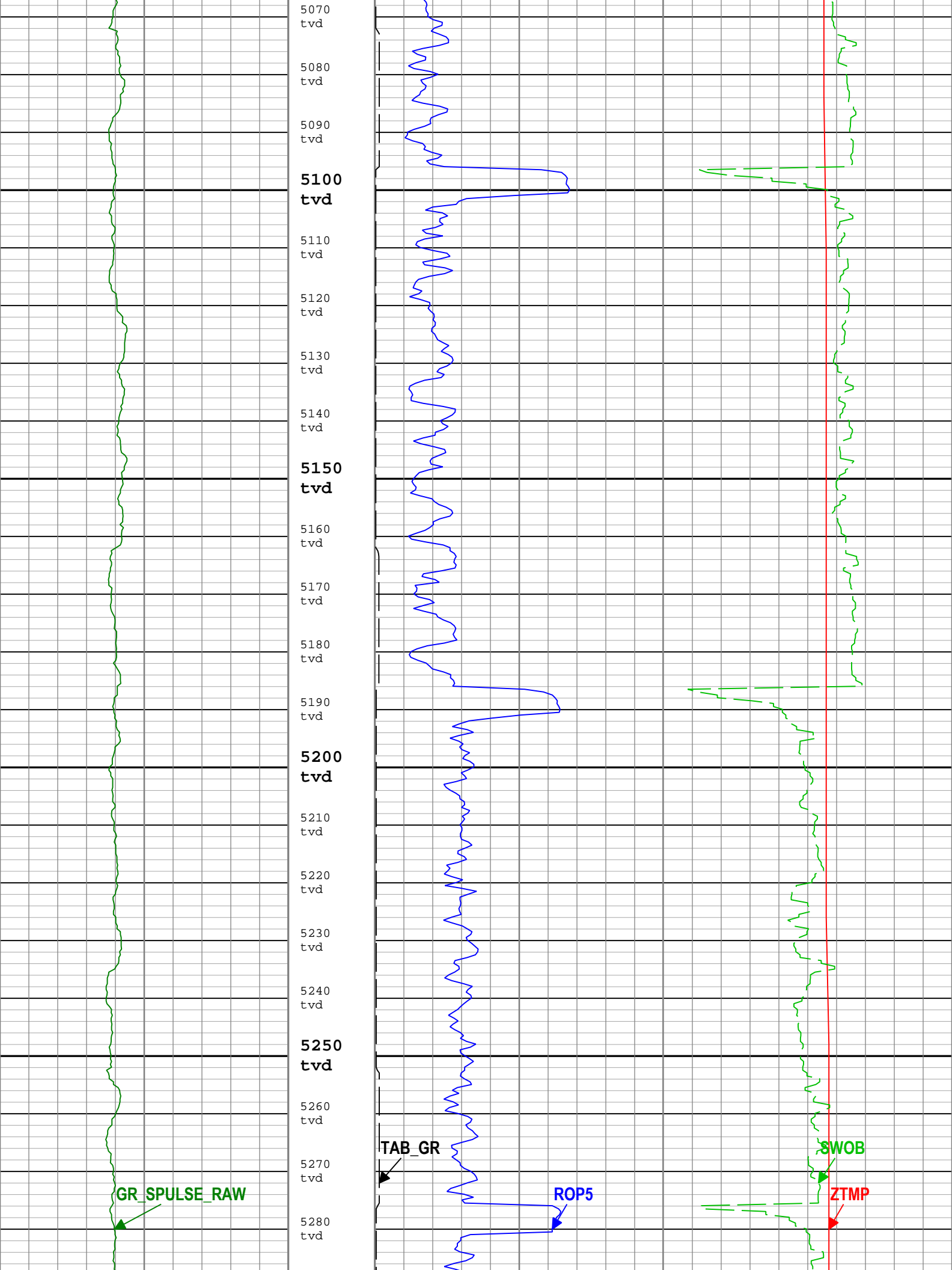


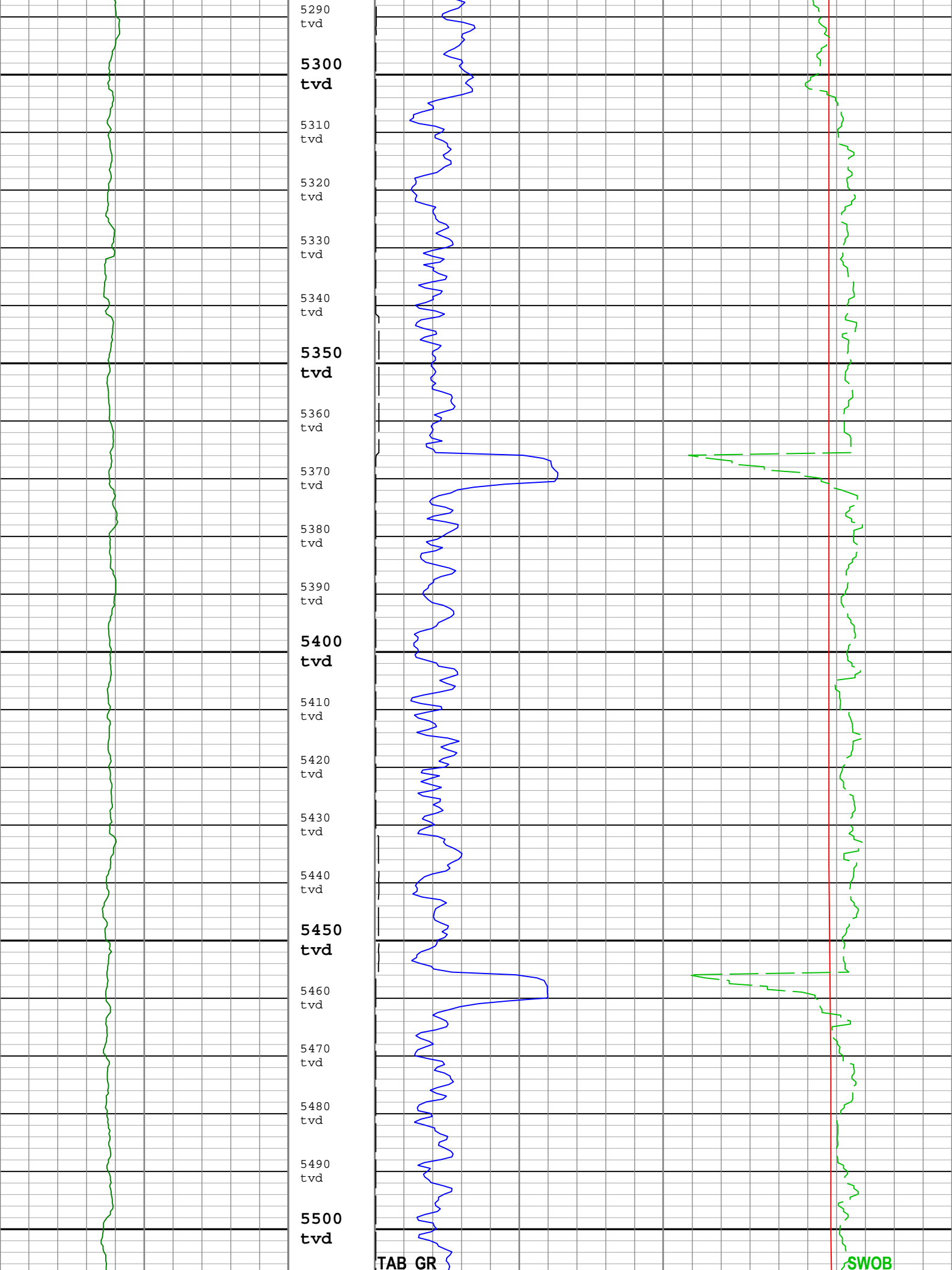


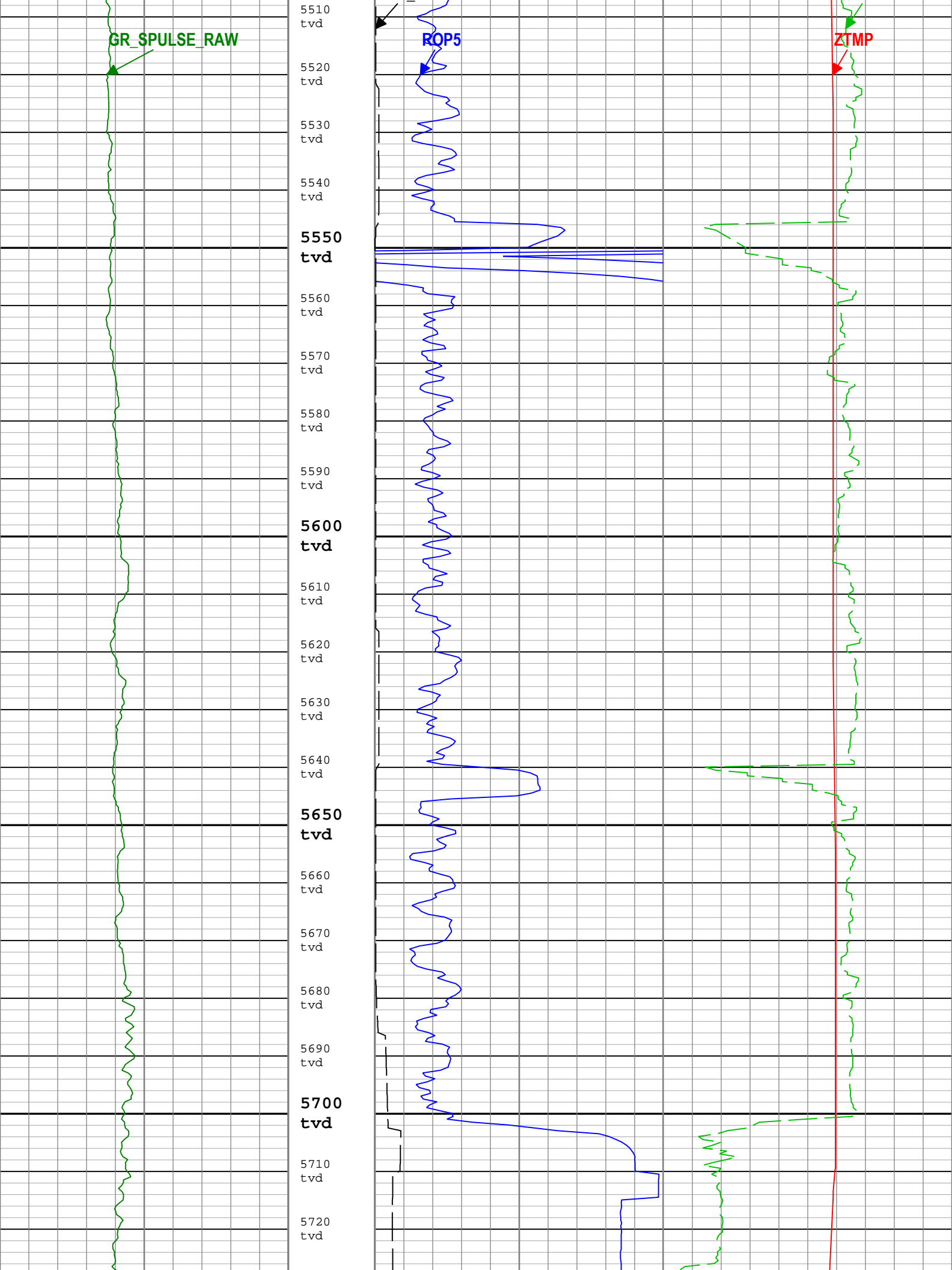


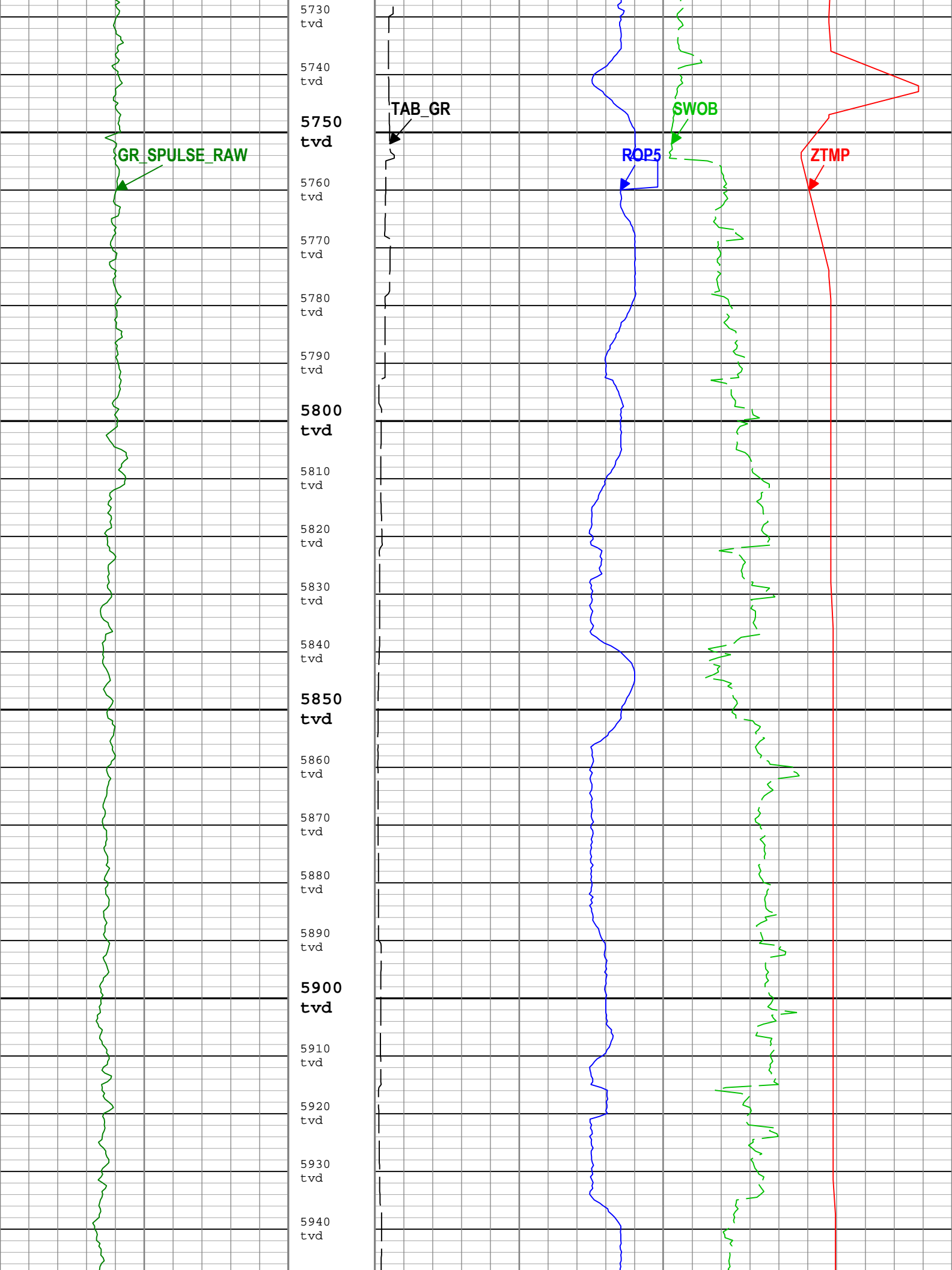




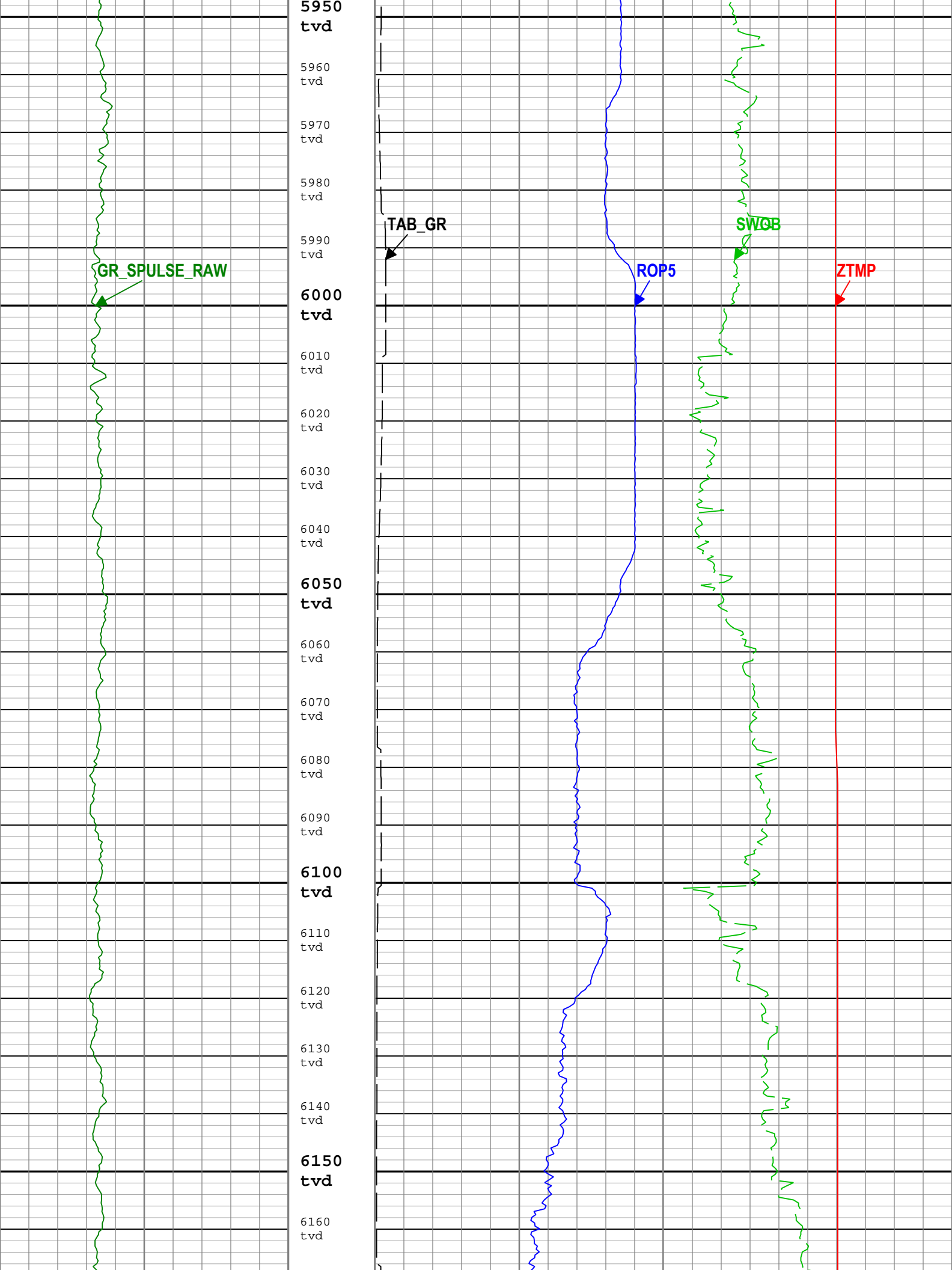


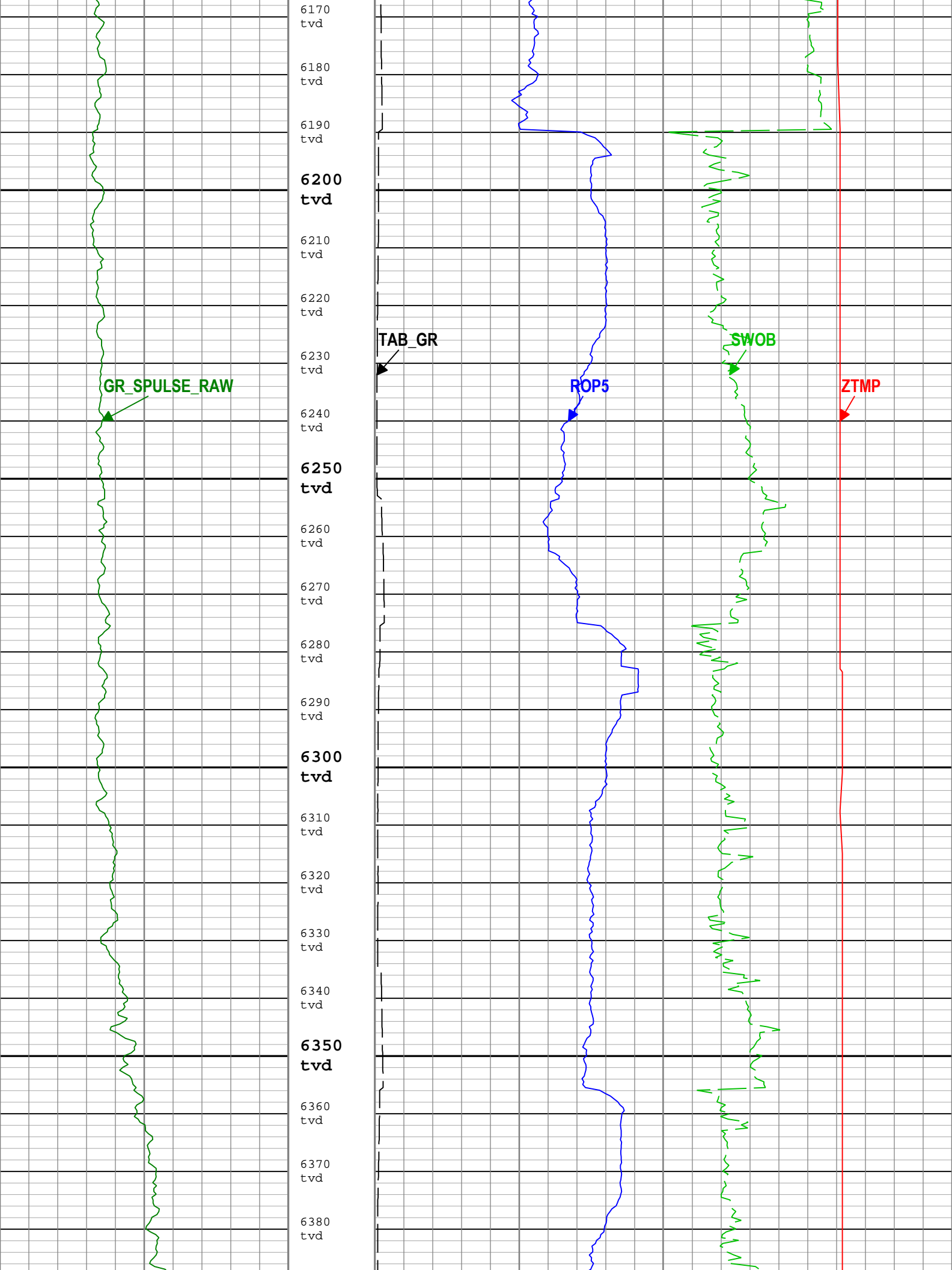














Survey Description Index															
0 : Not Flagged Survey						7 : Projection to Bit									
Seq	MD (ft)	Incl (deg)	Azim (deg)	Course (ft)	TVD (ft)	V Sec (ft)	N/ -S (ft)	E/ -W (ft)	Closure (ft)	at Azim (deg)	DLS deg/100ft	Tool Type	QI	CI	DI
1	0.00	0.00	0.00	----	0.00	0.00	0.00	0.00	0.00	90.00	0.00	TIP	28	0	0
2	81.00	0.50	140.23	81.00	81.00	0.23	-0.27	0.23	0.36	140.23	0.62	Other	9	0	0
3	176.00	0.31	93.72	95.00	176.00	0.76	-0.61	0.75	0.95	129.07	0.38	Other	9	0	0
4	268.00	0.12	14.40	92.00	268.00	1.03	-0.53	1.02	1.15	117.45	0.34	Other	9	0	0
5	363.00	0.38	192.70	95.00	363.00	0.99	-0.74	0.98	1.21	127.21	0.53	Other	9	0	0
6	458.00	0.60	176.26	95.00	457.99	0.97	-1.54	0.94	1.80	148.71	0.27	Other	9	0	0
7	552.00	0.37	209.67	94.00	551.99	0.87	-2.30	0.82	2.43	160.36	0.38	Other	9	0	0
8	647.00	0.67	157.81	95.00	646.99	0.94	-3.08	0.88	3.22	164.08	0.56	Other	9	0	0
9	742.00	0.25	92.50	95.00	741.98	1.37	-3.60	1.30	3.84	160.23	0.64	Other	9	0	0
10	836.00	0.35	105.29	94.00	835.98	1.85	-3.69	1.78	4.10	154.27	0.13	Other	9	0	0
11	931.00	0.15	136.00	95.00	930.98	2.22	-3.85	2.14	4.40	150.92	0.25	Other	9	0	0
12	1026.00	0.19	180.10	95.00	1025.98	2.31	-4.10	2.23	4.66	151.47	0.14	Other	9	0	0
13	1120.00	0.25	220.70	94.00	1119.98	2.19	-4.41	2.10	4.89	154.60	0.17	Other	9	0	0
14	1215.00	0.46	226.79	95.00	1214.98	1.78	-4.83	1.68	5.12	160.80	0.22	Other	9	0	0
15	1310.00	0.23	175.26	95.00	1309.98	1.53	-5.28	1.42	5.48	164.95	0.38	Other	9	0	0
16	1405.00	0.10	194.01	95.00	1404.98	1.53	-5.55	1.42	5.74	165.69	0.15	Other	9	0	0
17	1500.00	0.20	119.44	95.00	1499.98	1.66	-5.71	1.54	5.91	164.91	0.21	Other	9	0	0
18	1594.00	0.56	152.85	94.00	1593.97	2.02	-6.20	1.89	6.50	163.03	0.43	Other	9	0	0
19	1689.00	0.70	188.88	95.00	1688.97	2.16	-7.19	2.02	7.48	164.34	0.43	Other	9	0	0
20	1784.00	0.43	254.37	95.00	1783.96	1.75	-7.86	1.58	8.01	168.62	0.69	Other	9	0	0
21	1878.00	0.21	340.25	94.00	1877.96	1.35	-7.79	1.18	7.87	171.36	0.49	Other	9	0	0
22	1929.00	0.07	57.40	51.00	1928.96	1.34	-7.69	1.18	7.78	171.28	0.40	Other	9	0	0
23	1993.00	0.36	172.35	64.00	1992.96	1.40	-7.87	1.24	7.97	171.05	0.62	Other	9	0	0
24	2088.00	1.30	249.41	95.00	2087.95	0.45	-8.54	0.27	8.53	178.19	1.34	Other	9	0	0
25	2182.00	5.28	256.77	94.00	2181.78	-4.73	-9.91	-4.94	11.06	206.51	4.25	Other	9	0	0
26	2277.00	9.22	248.36	95.00	2276.00	-15.99	-13.71	-16.28	21.29	229.88	4.28	Other	9	0	0
27	2372.00	11.99	248.08	95.00	2369.37	-32.08	-20.21	-32.51	38.29	238.14	2.92	Other	9	0	0
28	2467.00	13.24	250.44	95.00	2462.08	-51.33	-27.53	-51.91	58.76	242.06	1.42	Other	9	0	0
29	2562.00	14.70	253.55	95.00	2554.27	-72.99	-34.59	-73.73	81.43	244.87	1.73	Other	9	0	0
30	2656.00	16.65	259.35	94.00	2644.77	-97.54	-40.46	-98.40	106.40	247.65	2.66	Other	9	0	0
31	2751.00	18.42	264.73	95.00	2735.36	-125.78	-44.35	-126.73	134.25	250.71	2.52	Other	9	0	0
32	2846.00	18.59	262.63	95.00	2825.45	-155.67	-47.67	-156.69	163.78	253.08	0.72	Other	9	0	0
33	2941.00	17.81	260.17	95.00	2915.70	-184.90	-52.09	-186.03	193.18	254.36	1.15	Other	9	0	0
34	3035.00	18.04	261.46	94.00	3005.13	-213.36	-56.71	-214.58	221.95	255.20	0.49	Other	9	0	0
35	3130.00	18.49	260.47	95.00	3095.35	-242.66	-61.39	-243.99	251.61	255.88	0.58	Other	9	0	0
36	3225.00	17.91	261.35	95.00	3185.60	-271.85	-66.08	-273.28	281.17	256.41	0.68	Other	9	0	0
37	3319.00	18.42	259.07	94.00	3274.91	-300.61	-71.07	-302.16	310.40	256.76	0.93	Other	9	0	0
38	3414.00	18.24	258.07	95.00	3365.09	-329.77	-76.99	-331.44	340.26	256.92	0.38	Other	9	0	0
39	3509.00	18.60	259.46	95.00	3455.22	-359.08	-82.83	-360.88	370.28	257.07	0.60	Other	9	0	0
40	3604.00	18.26	260.95	95.00	3545.35	-388.56	-87.95	-390.47	400.26	257.31	0.61	Other	9	0	0
41	3699.00	18.30	260.29	95.00	3635.56	-417.85	-92.80	-419.87	430.02	257.54	0.22	Other	9	0	0
42	3793.00	18.11	259.79	94.00	3724.85	-446.67	-97.88	-448.80	459.35	257.70	0.26	Other	9	0	0
43	3888.00	18.41	258.11	95.00	3815.07	-475.75	-103.59	-478.01	489.11	257.77	0.64	Other	9	0	0
44	3983.00	17.39	258.15	95.00	3905.47	-504.20	-109.59	-506.58	518.31	257.79	1.07	Other	9	0	0
45	4078.00	17.60	256.48	95.00	3996.08	-531.92	-115.87	-534.44	546.85	257.77	0.57	Other	9	0	0
46	4173.00	18.28	257.21	95.00	4086.46	-560.27	-122.52	-562.94	576.12	257.72	0.75	Other	9	0	0
47	4267.00	18.24	256.09	94.00	4175.72	-588.78	-129.32	-591.59	605.58	257.67	0.38	Other	9	0	0
48	4262.00	18.51	258.22	95.00	4265.88	-617.82	-135.05	-620.70	635.50	257.65	0.70	Other	9	0	0

48	4302.00	18.31	238.32	95.00	4203.88	-817.83	-133.93	-820.79	633.30	237.63	0.79	Other	9	0	0
49	4457.00	18.01	258.90	95.00	4356.10	-646.88	-141.83	-649.97	665.26	257.69	0.56	Other	9	0	0
50	4552.00	18.02	257.70	95.00	4446.44	-675.52	-147.79	-678.74	694.65	257.72	0.39	Other	9	0	0
51	4646.00	18.08	256.34	94.00	4535.81	-703.76	-154.33	-707.12	723.75	257.69	0.45	Other	9	0	0
52	4741.00	17.61	256.88	95.00	4626.24	-731.93	-161.07	-735.44	752.85	257.65	0.52	Other	9	0	0
53	4836.00	17.41	255.99	95.00	4716.84	-759.57	-167.78	-763.22	781.43	257.60	0.35	Other	9	0	0
54	4930.00	18.67	257.64	94.00	4806.22	-787.77	-174.40	-791.56	810.56	257.57	1.45	Other	9	0	0
55	5025.00	18.02	256.96	95.00	4896.39	-816.80	-180.97	-820.73	840.45	257.57	0.72	Other	9	0	0
56	5120.00	17.83	257.35	95.00	4986.78	-845.16	-187.47	-849.24	869.69	257.55	0.24	Other	9	0	0
57	5215.00	17.91	255.43	95.00	5077.20	-873.34	-194.33	-877.57	898.82	257.51	0.63	Other	9	0	0
58	5310.00	17.66	255.58	95.00	5167.66	-901.28	-201.60	-905.66	927.82	257.45	0.27	Other	9	0	0
59	5404.00	18.32	256.62	94.00	5257.06	-929.31	-208.57	-933.84	956.86	257.41	0.78	Other	9	0	0
60	5499.00	17.65	256.40	95.00	5347.42	-957.69	-215.41	-962.37	986.19	257.38	0.71	Other	9	0	0
61	5594.00	18.21	256.70	95.00	5437.80	-985.98	-222.21	-990.81	1015.42	257.36	0.60	Other	9	0	0
62	5689.00	17.80	254.87	95.00	5528.15	-1014.29	-229.41	-1019.28	1044.78	257.32	0.74	Other	9	0	0
63	5783.00	18.12	256.36	94.00	5617.57	-1042.21	-236.61	-1047.35	1073.75	257.27	0.60	Other	9	0	0
64	5878.00	18.01	256.27	95.00	5707.89	-1070.68	-243.58	-1075.97	1103.22	257.24	0.12	Other	9	0	0
65	5973.00	11.19	239.30	95.00	5799.81	-1092.74	-251.79	-1098.20	1126.71	257.09	8.40	Other	9	0	0
66	6067.00	7.86	197.38	94.00	5892.60	-1102.29	-262.59	-1107.98	1138.68	256.67	7.94	Other	9	0	0
67	6162.00	8.89	148.32	95.00	5986.70	-1100.11	-275.05	-1106.06	1139.76	256.04	7.37	Other	9	0	0
68	6257.00	15.14	114.43	95.00	6079.68	-1084.69	-286.45	-1090.88	1127.85	255.29	9.66	Other	9	0	0
69	6352.00	20.54	97.31	95.00	6170.14	-1056.68	-293.72	-1063.01	1102.85	254.55	7.87	Other	9	0	0
70	6446.00	26.21	91.12	94.00	6256.41	-1019.49	-296.22	-1025.87	1067.78	253.89	6.57	Other	9	0	0
71	6541.00	33.87	96.42	95.00	6338.60	-972.07	-299.60	-978.51	1023.36	252.98	8.53	Other	9	0	0
72	6636.00	42.82	99.94	95.00	6413.04	-913.68	-308.15	-920.27	970.51	251.49	9.69	Other	9	0	0
73	6731.00	50.51	100.45	95.00	6478.19	-845.48	-320.39	-852.32	910.56	249.40	8.10	Other	9	0	0
74	6825.00	57.42	98.28	94.00	6533.46	-770.29	-332.69	-777.36	845.57	246.83	7.58	Other	9	0	0
75	6920.00	65.38	96.25	95.00	6578.90	-687.41	-343.17	-694.69	774.84	243.71	8.59	Other	9	0	0
76	7015.00	73.25	96.15	95.00	6612.43	-598.95	-352.76	-606.40	701.54	239.81	8.28	Other	9	0	0
77	7109.00	80.07	95.80	94.00	6634.10	-507.85	-362.27	-515.49	630.05	234.90	7.26	Other	9	0	0
78	7204.00	87.19	93.88	95.00	6644.64	-413.70	-370.22	-421.48	560.99	228.70	7.76	Other	9	0	0
79	7299.00	90.57	93.87	95.00	6646.50	-318.83	-376.64	-326.73	498.59	220.94	3.56	Other	9	0	0
80	7394.00	90.31	93.80	95.00	6645.77	-223.94	-382.99	-231.94	447.74	211.20	0.28	Other	9	0	0
81	7488.00	90.54	93.50	94.00	6645.07	-130.03	-388.98	-138.13	412.76	199.55	0.40	Other	9	0	0
82	7583.00	90.13	93.01	95.00	6644.51	-35.09	-394.37	-43.29	396.75	186.26	0.67	Other	9	0	0
83	7677.00	89.94	92.81	94.00	6644.46	58.87	-399.14	50.59	402.33	172.78	0.29	Other	9	0	0
84	7772.00	90.11	92.78	95.00	6644.41	153.83	-403.78	145.48	429.17	160.19	0.18	Other	9	0	0
85	7867.00	90.76	92.84	95.00	6643.69	248.79	-408.43	240.36	473.92	149.52	0.69	Other	9	0	0
86	7962.00	90.23	92.52	95.00	6642.87	343.75	-412.87	335.25	531.86	140.92	0.65	Other	9	0	0
87	8056.00	90.32	93.05	94.00	6642.42	437.71	-417.44	429.14	598.69	134.21	0.57	Other	9	0	0
88	8151.00	90.90	92.23	95.00	6641.41	532.68	-421.82	524.03	672.70	128.83	1.06	Other	9	0	0
89	8245.00	90.71	92.63	94.00	6640.09	626.65	-425.80	617.94	750.43	124.57	0.47	Other	9	0	0
90	8340.00	90.22	92.82	95.00	6639.32	721.61	-430.32	712.83	832.64	121.12	0.55	Other	9	0	0
91	8435.00	90.48	92.50	95.00	6638.74	816.57	-434.73	807.72	917.29	118.29	0.43	Other	9	0	0
92	8529.00	90.55	93.12	94.00	6637.89	910.53	-439.34	901.60	1002.95	115.98	0.66	Other	9	0	0
93	8624.00	90.16	91.51	95.00	6637.30	1005.51	-443.17	996.52	1090.62	113.98	1.74	Other	9	0	0
94	8719.00	90.93	91.71	95.00	6636.40	1100.50	-445.84	1091.48	1179.04	112.22	0.84	Other	9	0	0
95	8814.00	91.08	91.10	95.00	6634.73	1195.49	-448.17	1186.43	1268.27	110.69	0.66	Other	9	0	0
96	8909.00	90.11	91.10	95.00	6633.75	1290.48	-449.99	1281.41	1358.14	109.35	1.02	Other	9	0	0
97	9003.00	89.75	91.72	94.00	6633.86	1384.48	-452.31	1375.38	1447.83	108.20	0.76	Other	9	0	0
98	9098.00	89.84	91.55	95.00	6634.20	1479.48	-455.02	1470.34	1539.14	107.20	0.20	Other	9	0	0
99	9193.00	90.26	91.81	95.00	6634.12	1574.47	-457.80	1565.30	1630.87	106.30	0.52	Other	9	0	0

100	9288.00	90.62	91.54	95.00	6633.39	1669.46	-460.58	1660.26	1722.97	105.50	0.47	Other	9	0	0
101	9382.00	90.56	91.74	94.00	6632.42	1763.46	-463.27	1754.21	1814.37	104.79	0.22	Other	9	0	0
102	9477.00	90.50	91.26	95.00	6631.54	1858.45	-465.76	1849.18	1906.92	104.14	0.51	Other	9	0	0
103	9572.00	89.97	91.37	95.00	6631.15	1953.45	-467.94	1944.15	1999.67	103.53	0.57	Other	9	0	0
104	9667.00	90.14	92.35	95.00	6631.06	2048.44	-471.02	2039.10	2092.78	103.01	1.05	Other	9	0	0
105	9761.00	90.29	91.88	94.00	6630.71	2142.43	-474.49	2133.03	2185.17	102.54	0.52	Other	9	0	0
106	9856.00	89.77	92.12	95.00	6630.66	2237.42	-477.80	2227.98	2278.64	102.10	0.60	Other	9	0	0
107	9951.00	90.20	92.42	95.00	6630.69	2332.40	-481.57	2322.90	2372.31	101.71	0.55	Other	9	0	0
108	10046.00	90.25	91.65	95.00	6630.31	2427.39	-484.94	2417.84	2465.98	101.34	0.81	Other	9	0	0
109	10140.00	90.42	91.93	94.00	6629.76	2521.38	-487.88	2511.79	2558.73	100.99	0.35	Other	9	0	0
110	10235.00	90.34	91.92	95.00	6629.13	2616.37	-491.07	2606.74	2652.59	100.67	0.08	Other	9	0	0
111	10330.00	89.59	92.06	95.00	6629.19	2711.36	-494.37	2701.68	2746.52	100.37	0.80	Other	9	0	0
112	10424.00	90.71	91.65	94.00	6628.94	2805.35	-497.41	2795.63	2839.53	100.09	1.27	Other	9	0	0
113	10519.00	90.44	91.49	95.00	6627.99	2900.35	-500.01	2890.59	2933.53	99.81	0.33	Other	9	0	0
114	10614.00	90.13	92.80	95.00	6627.52	2995.33	-503.57	2985.52	3027.69	99.57	1.42	Other	9	0	0
115	10709.00	90.06	91.75	95.00	6627.36	3090.31	-507.34	3080.44	3121.95	99.35	1.11	Other	9	0	0
116	10803.00	90.12	91.62	94.00	6627.21	3184.31	-510.10	3174.40	3215.12	99.13	0.15	Other	9	0	0
117	10898.00	89.64	91.96	95.00	6627.41	3279.30	-513.07	3269.35	3309.38	98.92	0.62	Other	9	0	0
118	10993.00	90.38	90.84	95.00	6627.40	3374.30	-515.39	3364.32	3403.58	98.71	1.41	Other	9	0	0
119	11088.00	90.04	91.63	95.00	6627.05	3469.30	-517.44	3459.30	3497.77	98.51	0.91	Other	9	0	0
120	11182.00	90.35	90.58	94.00	6626.73	3563.30	-519.25	3553.28	3591.01	98.31	1.16	Other	9	0	0
121	11277.00	89.74	91.94	95.00	6626.65	3658.29	-521.34	3648.25	3685.30	98.13	1.57	Other	9	0	0
122	11372.00	90.52	90.92	95.00	6626.44	3753.29	-523.71	3743.22	3779.69	97.96	1.35	Other	9	0	0
123	11466.00	90.30	91.11	94.00	6625.76	3847.29	-525.38	3837.20	3873.00	97.80	0.31	Other	9	0	0
124	11561.00	90.48	91.16	95.00	6625.12	3942.29	-527.26	3932.18	3967.39	97.64	0.20	Other	9	0	0
125	11655.00	89.72	91.33	94.00	6624.95	4036.28	-529.30	4026.16	4060.79	97.49	0.83	Other	9	0	0
126	11750.00	90.51	91.43	95.00	6624.76	4131.28	-531.59	4121.13	4155.28	97.35	0.84	Other	9	0	0
127	11845.00	90.11	91.07	95.00	6624.25	4226.28	-533.66	4216.11	4249.74	97.21	0.57	Other	9	0	0
128	11939.00	89.64	91.81	94.00	6624.45	4320.28	-536.02	4310.08	4343.27	97.09	0.93	Other	9	0	0
129	12034.00	90.34	91.09	95.00	6624.47	4415.28	-538.43	4405.05	4437.83	96.97	1.06	Other	9	0	0
130	12129.00	90.79	89.95	95.00	6623.53	4510.26	-539.29	4500.04	4532.25	96.83	1.29	Other	9	0	0
131	12223.00	89.73	88.61	94.00	6623.11	4604.21	-538.11	4594.02	4625.43	96.68	1.82	Other	9	0	0
132	12318.00	89.89	89.72	95.00	6623.42	4699.15	-536.72	4689.01	4719.62	96.53	1.18	Other	9	0	0
133	12413.00	90.25	87.79	95.00	6623.31	4794.06	-534.66	4783.98	4813.78	96.38	2.07	Other	9	0	0
134	12507.00	90.43	86.67	94.00	6622.75	4887.83	-530.12	4877.87	4906.59	96.20	1.21	Other	9	0	0
135	12602.00	90.02	86.45	95.00	6622.38	4982.52	-524.42	4972.70	5000.26	96.02	0.49	Other	9	0	0
136	12697.00	90.28	86.00	95.00	6622.13	5077.16	-518.16	5067.49	5093.93	95.84	0.55	Other	9	0	0
137	12791.00	90.05	86.14	94.00	6621.86	5170.78	-511.72	5161.27	5186.58	95.66	0.29	Other	9	0	0
138	12886.00	89.70	85.33	95.00	6622.06	5265.35	-504.65	5256.01	5280.18	95.48	0.93	Other	9	0	0
139	12981.00	90.20	85.68	95.00	6622.15	5359.89	-497.21	5350.71	5373.75	95.31	0.64	Other	9	0	0
140	13075.00	90.37	85.25	94.00	6621.68	5453.42	-489.78	5444.42	5466.40	95.14	0.49	Other	9	0	0
141	13170.00	90.35	85.66	95.00	6621.08	5547.94	-482.25	5539.12	5560.07	94.98	0.43	Other	9	0	0
142	13264.00	90.04	85.22	94.00	6620.76	5641.46	-474.78	5632.82	5652.79	94.82	0.57	Other	9	0	0
143	13359.00	90.50	85.38	95.00	6620.31	5735.96	-466.99	5727.50	5746.49	94.66	0.51	Other	9	0	0
144	13454.00	90.22	85.11	95.00	6619.72	5830.45	-459.12	5822.17	5840.26	94.51	0.41	Other	9	0	0
145	13549.00	90.19	85.42	95.00	6619.38	5924.94	-451.27	5916.84	5934.02	94.36	0.33	Other	9	0	0
146	13644.00	90.04	85.16	95.00	6619.19	6019.44	-443.47	6011.52	6027.85	94.22	0.32	Other	9	0	0
147	13738.00	90.12	85.69	94.00	6619.06	6112.96	-435.98	6105.22	6120.77	94.08	0.57	Other	9	0	0
148	13833.00	90.11	85.78	95.00	6618.87	6207.53	-428.91	6199.96	6214.76	93.96	0.10	Other	9	0	0
149	13928.00	90.38	84.97	95.00	6618.46	6302.04	-421.25	6294.65	6308.73	93.83	0.90	Other	9	0	0
150	14022.00	90.58	84.95	94.00	6617.67	6395.48	-412.99	6388.28	6401.61	93.70	0.21	Other	9	0	0

151	14117.00	90.31	85.72	95.00	6616.93	6489.98	-405.27	6482.96	6495.60	93.58	0.86	Other	9	0	0
152	14212.00	90.24	85.55	95.00	6616.48	6584.53	-398.04	6577.69	6589.73	93.46	0.19	Other	9	0	0
153	14306.00	90.27	85.74	94.00	6616.06	6678.09	-390.90	6671.41	6682.84	93.35	0.20	Other	9	0	0
154	14401.00	90.76	86.05	95.00	6615.21	6772.68	-384.10	6766.17	6777.07	93.25	0.61	Other	9	0	0
155	14496.00	89.89	86.02	95.00	6614.67	6867.30	-377.53	6860.94	6871.33	93.15	0.92	Other	9	0	0
156	14590.00	90.36	85.65	94.00	6614.46	6960.89	-370.70	6954.69	6964.57	93.05	0.64	Other	9	0	0
157	14685.00	90.83	84.84	95.00	6613.47	7055.37	-362.83	7049.35	7058.69	92.95	0.99	Other	9	0	0
158	14780.00	90.11	85.11	95.00	6612.70	7149.81	-354.51	7143.99	7152.79	92.84	0.81	Other	9	0	0
159	14875.00	89.83	85.45	95.00	6612.75	7244.30	-346.69	7238.66	7246.95	92.74	0.46	Other	9	0	0
160	14969.00	90.35	85.02	94.00	6612.60	7337.79	-338.88	7332.34	7340.16	92.65	0.72	Other	9	0	0
161	15064.00	90.53	85.30	95.00	6611.87	7432.27	-330.87	7427.00	7434.35	92.55	0.35	Other	9	0	0
162	15158.00	90.59	84.78	94.00	6610.95	7525.72	-322.74	7520.64	7527.56	92.46	0.56	Other	9	0	0
163	15253.00	90.51	85.68	95.00	6610.04	7620.20	-314.84	7615.30	7621.82	92.37	0.95	Other	9	0	0
164	15348.00	89.96	85.85	95.00	6609.65	7714.77	-307.83	7710.04	7716.17	92.29	0.61	Other	9	0	0
165	15442.00	91.00	85.71	94.00	6608.86	7808.35	-300.91	7803.78	7809.58	92.21	1.12	Other	9	0	0
166	15537.00	89.99	86.50	95.00	6608.04	7902.97	-294.46	7898.56	7904.04	92.13	1.35	Other	9	0	0
167	15632.00	90.64	86.31	95.00	6607.52	7997.64	-288.50	7993.37	7998.59	92.07	0.71	Other	9	0	0
168	15726.00	90.06	85.98	94.00	6606.94	8091.27	-282.18	8087.16	8092.09	92.00	0.71	Other	9	0	0
169	15821.00	89.95	85.49	95.00	6606.93	8185.84	-275.11	8181.89	8186.52	91.93	0.53	Other	9	0	0
170	15915.00	90.63	85.88	94.00	6606.46	8279.41	-268.04	8275.62	8279.95	91.86	0.83	Other	9	0	0
171	16010.00	90.04	85.69	95.00	6605.90	8373.98	-261.06	8370.36	8374.44	91.79	0.65	Other	9	0	0
172	16105.00	90.48	85.83	95.00	6605.47	8468.55	-254.04	8465.10	8468.93	91.72	0.49	Other	9	0	0
173	16199.00	89.77	85.97	94.00	6605.27	8562.15	-247.32	8558.86	8562.43	91.66	0.77	Other	9	0	0
174	16294.00	90.70	85.97	95.00	6604.88	8656.76	-240.64	8653.63	8656.96	91.59	0.98	Other	9	0	0
175	16483.00	90.62	86.19	189.00	6602.70	8844.99	-227.72	8842.17	8845.11	91.48	0.12	Other	9	0	0
176	16578.00	90.48	85.39	95.00	6601.79	8939.57	-220.75	8936.91	8939.63	91.41	0.85	Other	9	0	0
177	16672.00	90.03	85.65	94.00	6601.37	9033.11	-213.40	9030.62	9033.14	91.35	0.55	Other	9	0	0
178	16767.00	90.23	85.56	95.00	6601.16	9127.65	-206.12	9125.34	9127.66	91.29	0.23	Other	9	0	0
179	16862.00	90.58	86.02	95.00	6600.48	9222.23	-199.15	9220.08	9222.24	91.24	0.61	Other	9	0	0
180	16956.00	90.46	85.65	94.00	6599.63	9315.82	-192.32	9313.83	9315.81	91.18	0.41	Other	9	0	0
181	17014.00	90.73	85.72	58.00	6599.03	9373.54	-187.96	9371.66	9373.56	91.15	0.48	Other	9	0	0
182	17038.00	90.73	85.72	24.00	6598.72	9397.43	-186.17	9395.59	9397.44	91.14	0.00	Other	9	0	7

**Company:** Noble Energy Inc.

**Well:** SLW Ranch State BB07-660

**Field:** Wattenberg

**County:** Weld

**State:** Colorado

**Country:** United States



XEM - Gamma Ray

5 In / 100 ft True Vertical Depth

Recorded Mode, Composite Log