

XEM GAMMA RAY											
1in/100ft Measured Depth											
Final Print											
Recorded Mode											
Schlumberger											
Company:		PDC Energy Inc									
Well:		Lincoln State 26C-17-M									
Field Name:		Wattenberg									
Country Name:		USA									
State Name:		Colorado									
County Name:		Weld									
Latitude:		40°29'31.337"N					API Number:		05-123-46757		
Longitude:		104°49'24.802"W					Rig Name:		Precision Drilling 462		
Spud Date:		18-Feb-2020					Rig Type:		Land		
Log Interval:		1780.00--15635.50(ft)					Job Number:		20CCCO0377		
Depth Source:		Driller's Depth					Print Type:		Final Print		
Log Measured From:		Drill Floor					Northing:		1422807.498(ft)		
Drill Floor Elevation:		4871 (ft)					Easting:		3188139.059(ft)		
Ground Level Elevation:		4851 (ft)					Coordinate System: NAD83 Colorado State Plane, Northern Zone, US Feet				
Permanent Datum:		Sea Level									

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.

Operational Run Summary

Notes

Run 2 (Bit Size: 8.5 in)

DateTime Log Started	28-May-2020 18:00:31	DateTime Log Finished	29-May-2020 20:28:36
Start Depth (ft)	1805	Stop Depth (ft)	6473
Mud Type	Oil Based Mud	Mud Density (lbm/gal)	10.5
Potassium (%)	0	Barite	Yes
GR Sensor Offset (ft)	25.15	Calibration Coefficient	0.52
DNI Sensor Offset (ft)	20.56		

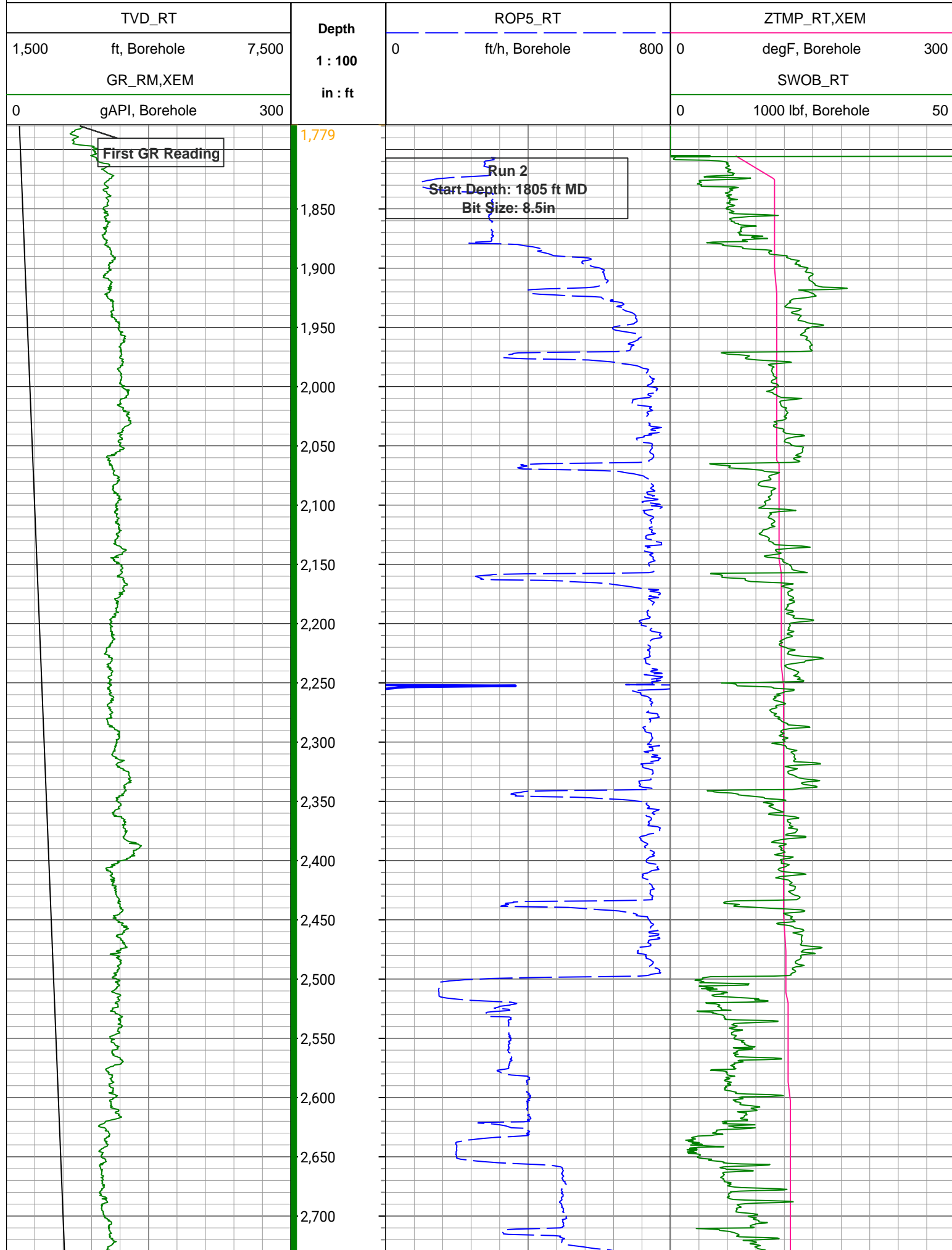
Run 3 (Bit Size: 8.5 in)

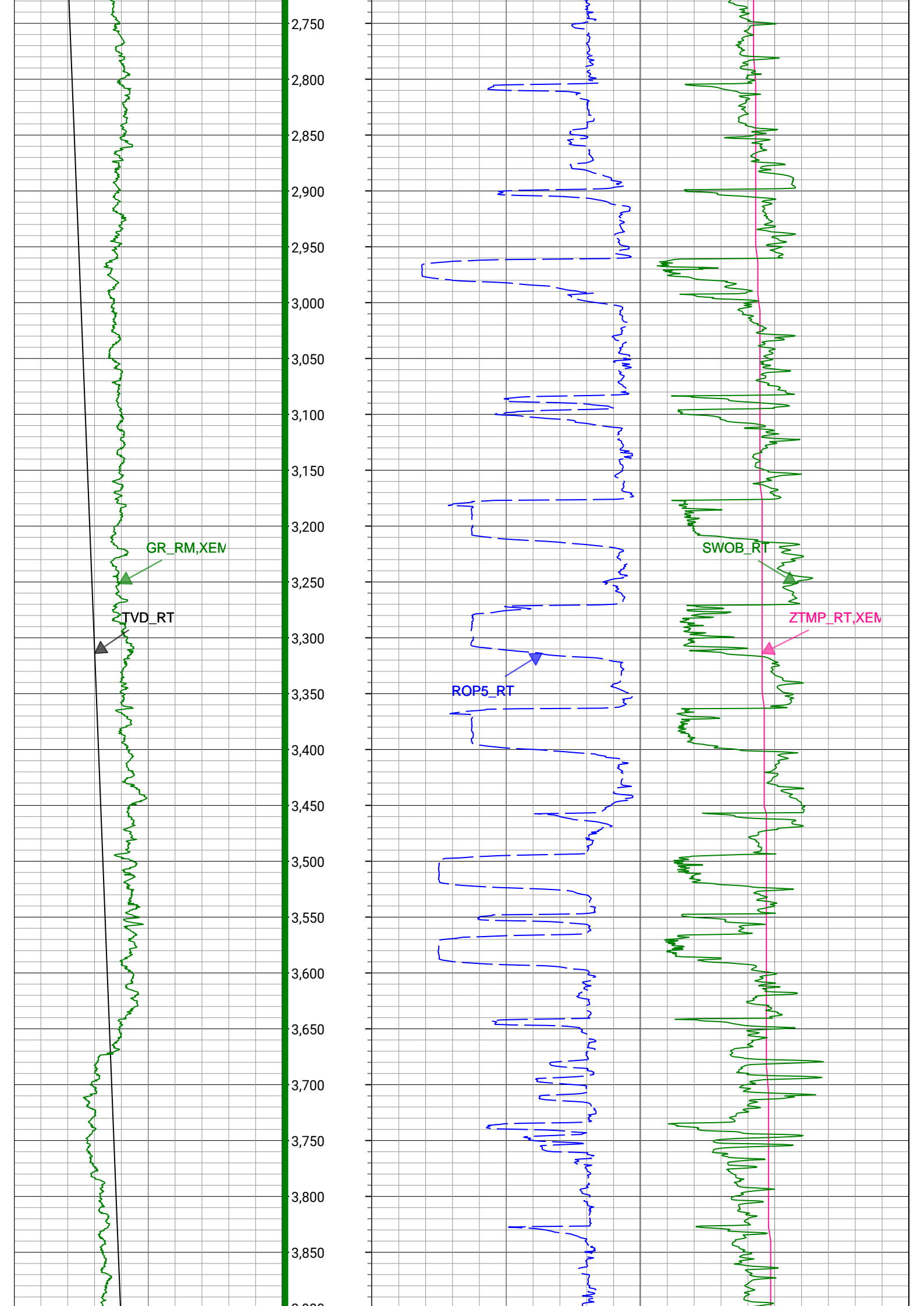
DateTime Log Started	29-May-2020 22:22:18	DateTime Log Finished	02-Jun-2020 11:06:58
Start Depth (ft)	6473	Stop Depth (ft)	15636
Mud Type	Oil Based Mud	Mud Density (lbm/gal)	10.5
Potassium (%)	0	Barite	Yes
GR Sensor Offset (ft)	25.14	Calibration Coefficient	0.52

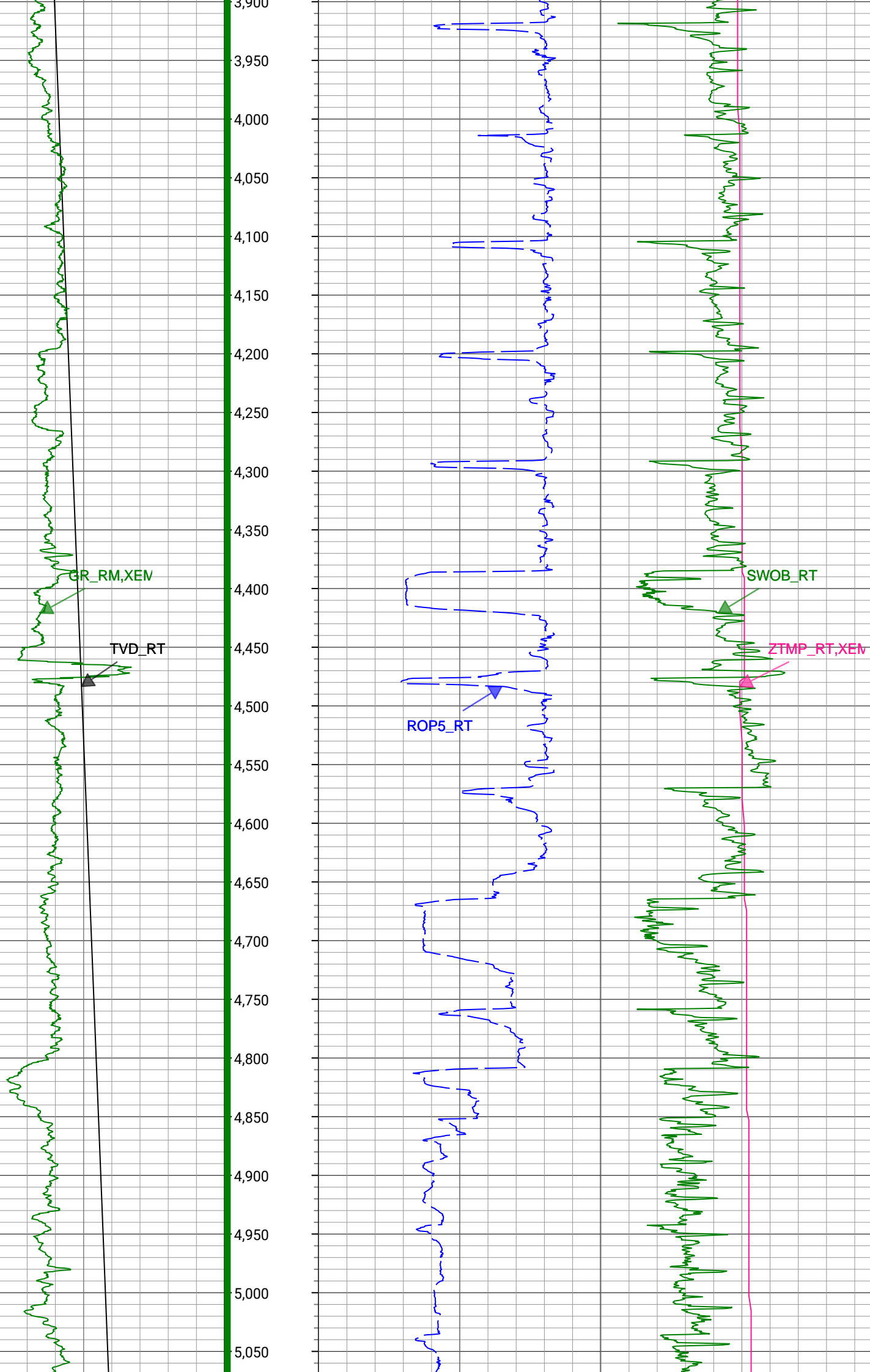
GR Sensor Offset (ft)	20.14	Calibration Coefficient	0.52
DNI Sensor Offset (ft)	20.55		

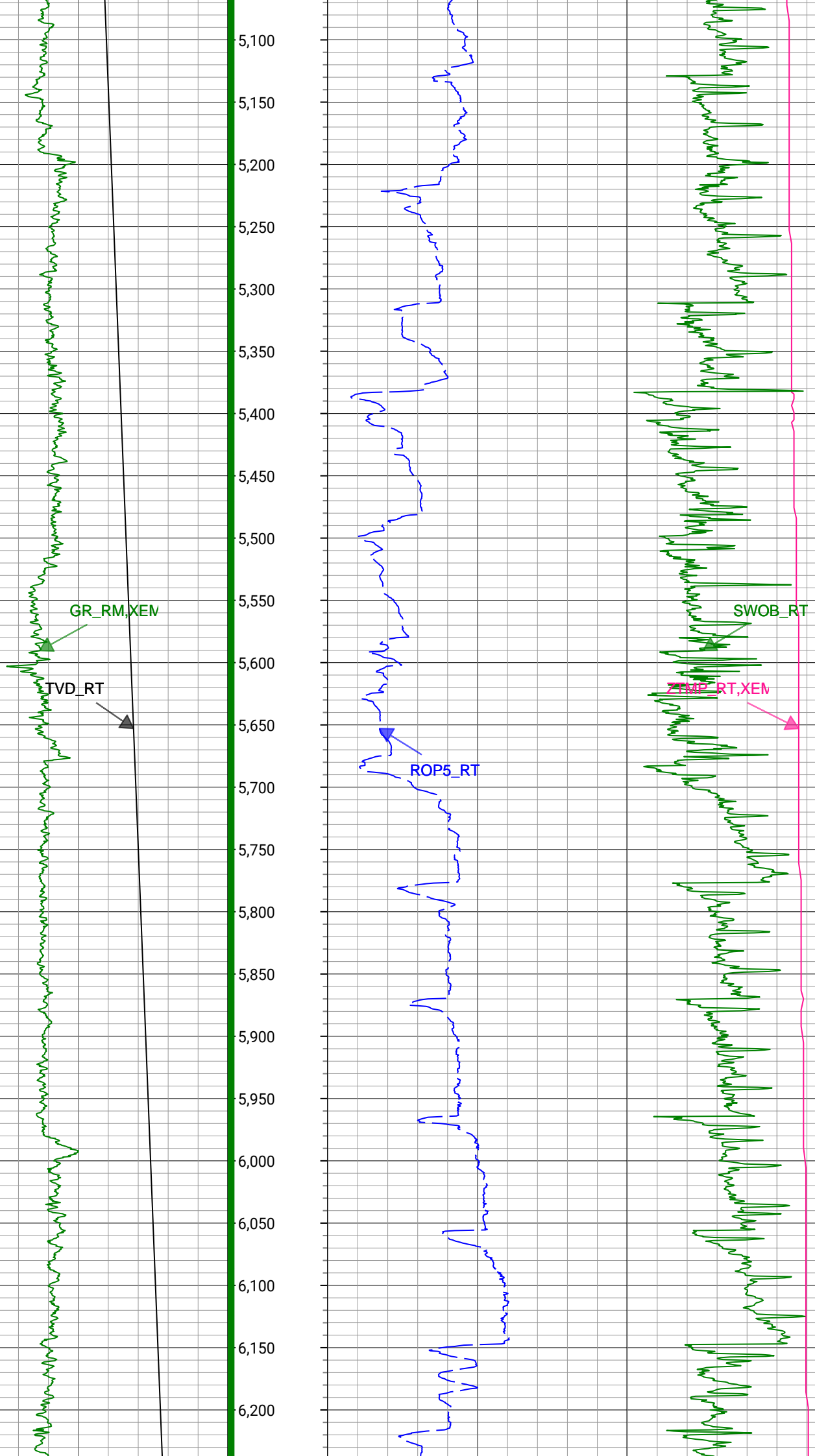
Log

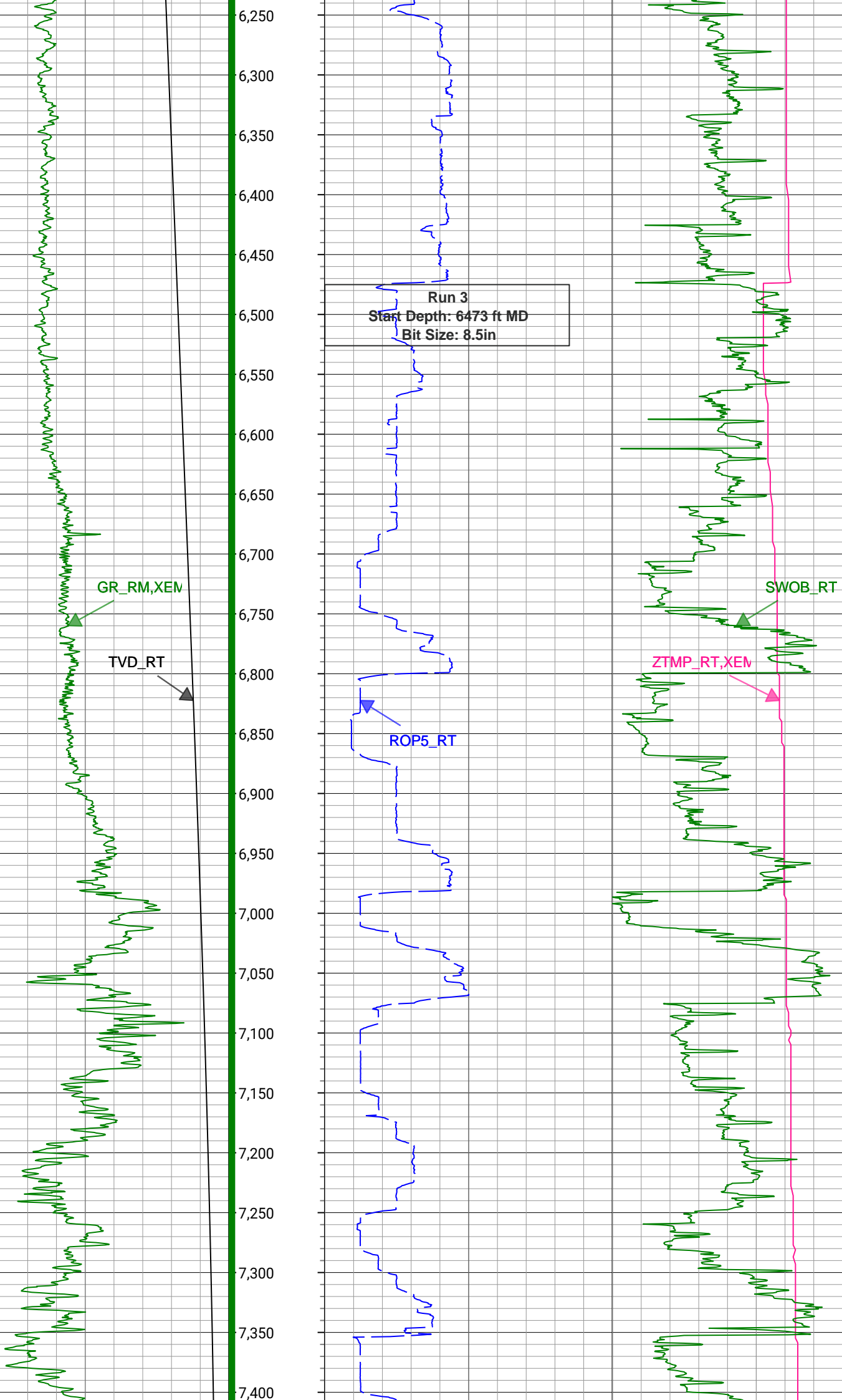
Description: XEM GAMMA RAY	Format: XEM_GR-STAN	Index Scale: 1in/100ft	Index Unit: ft	Index Type: Measured Depth
Creation Date: 02-Jun-2020				

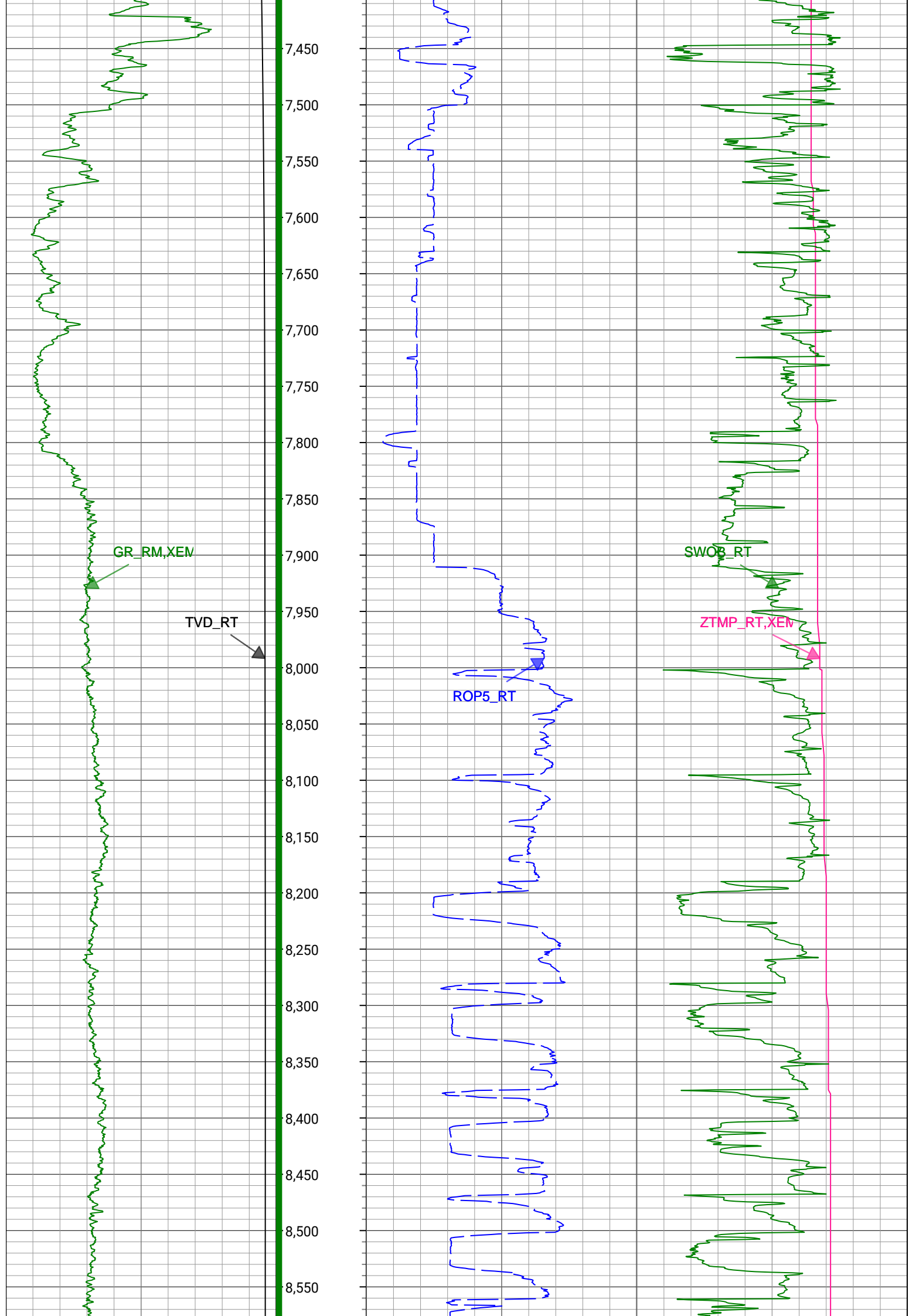


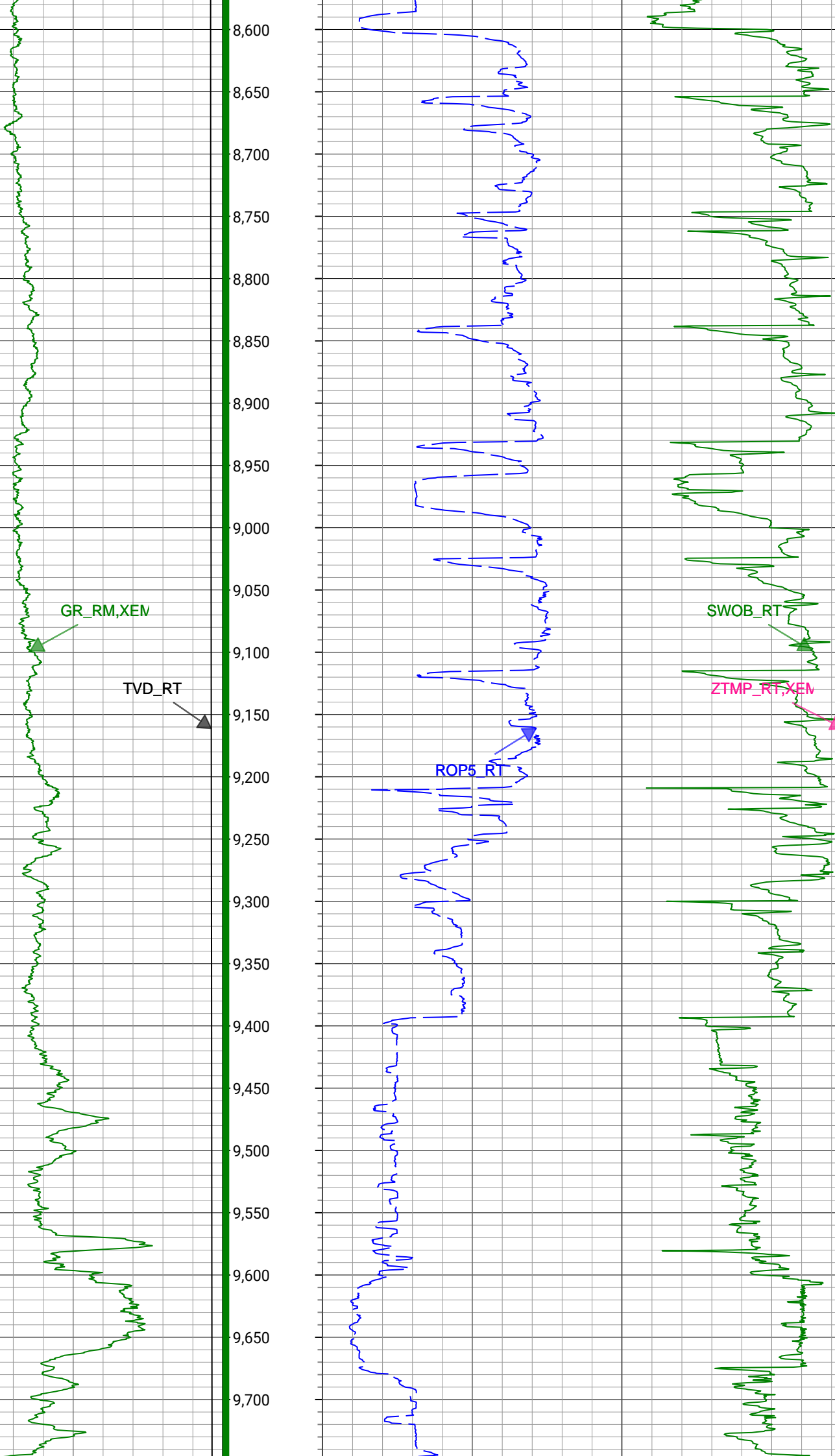


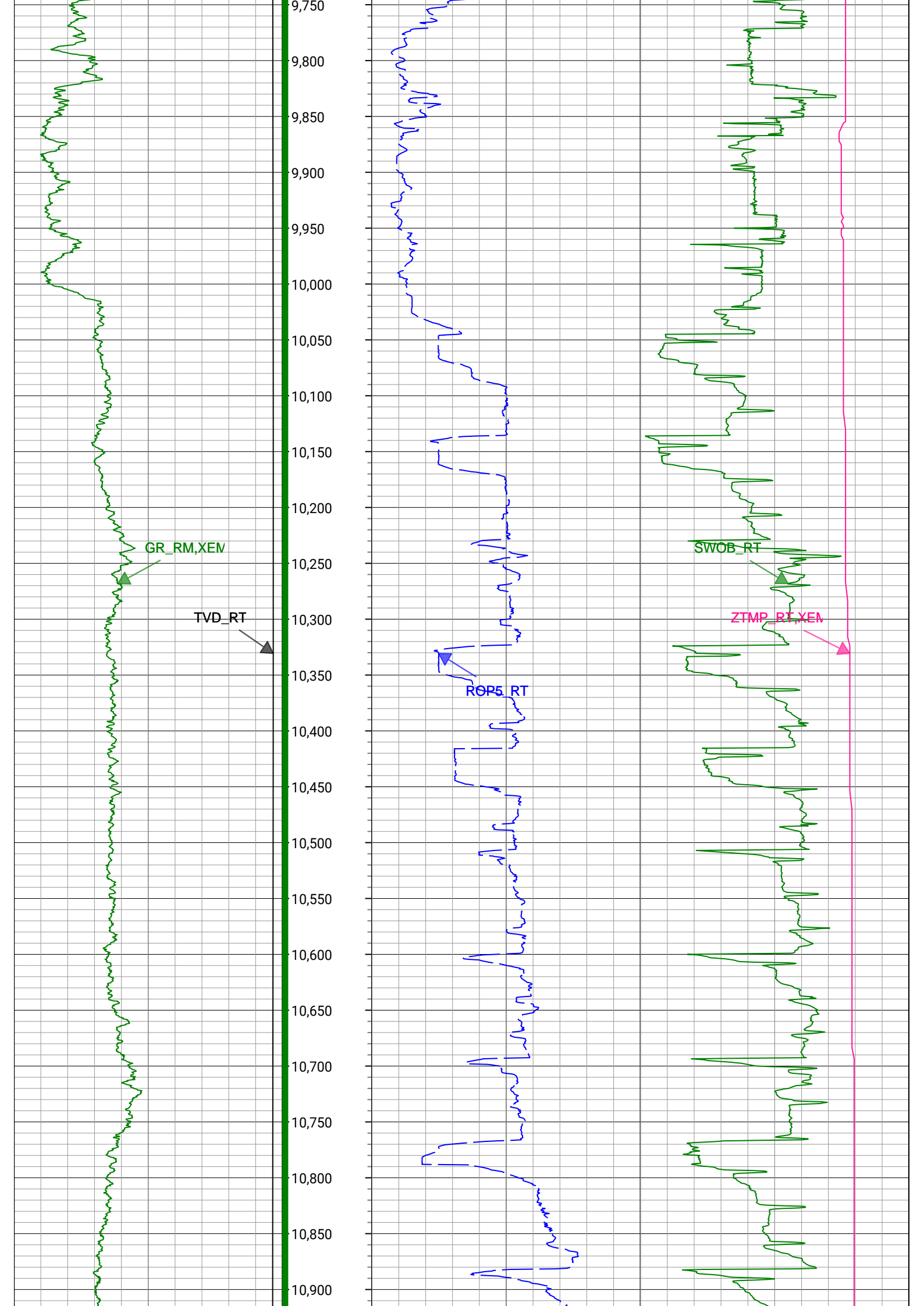


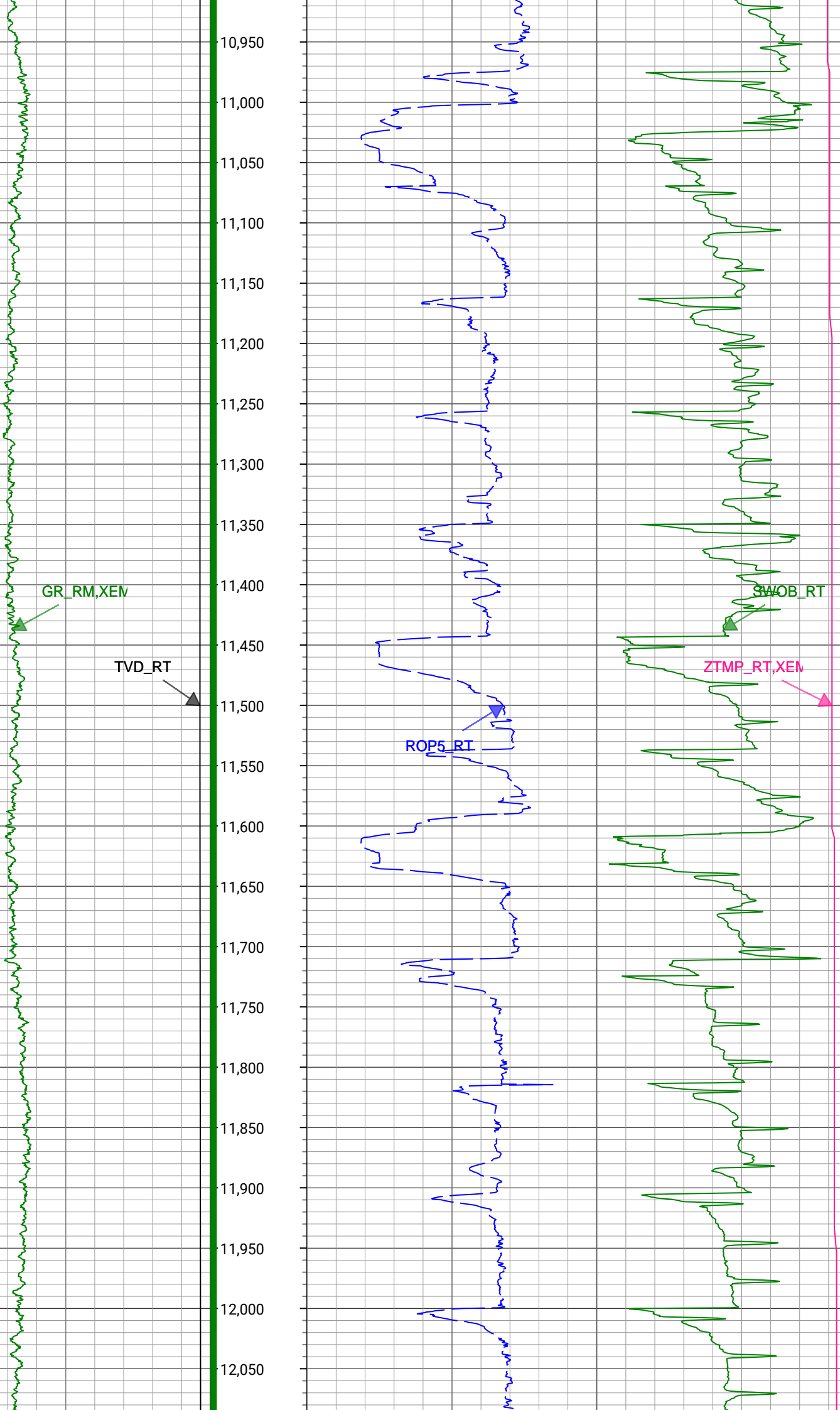


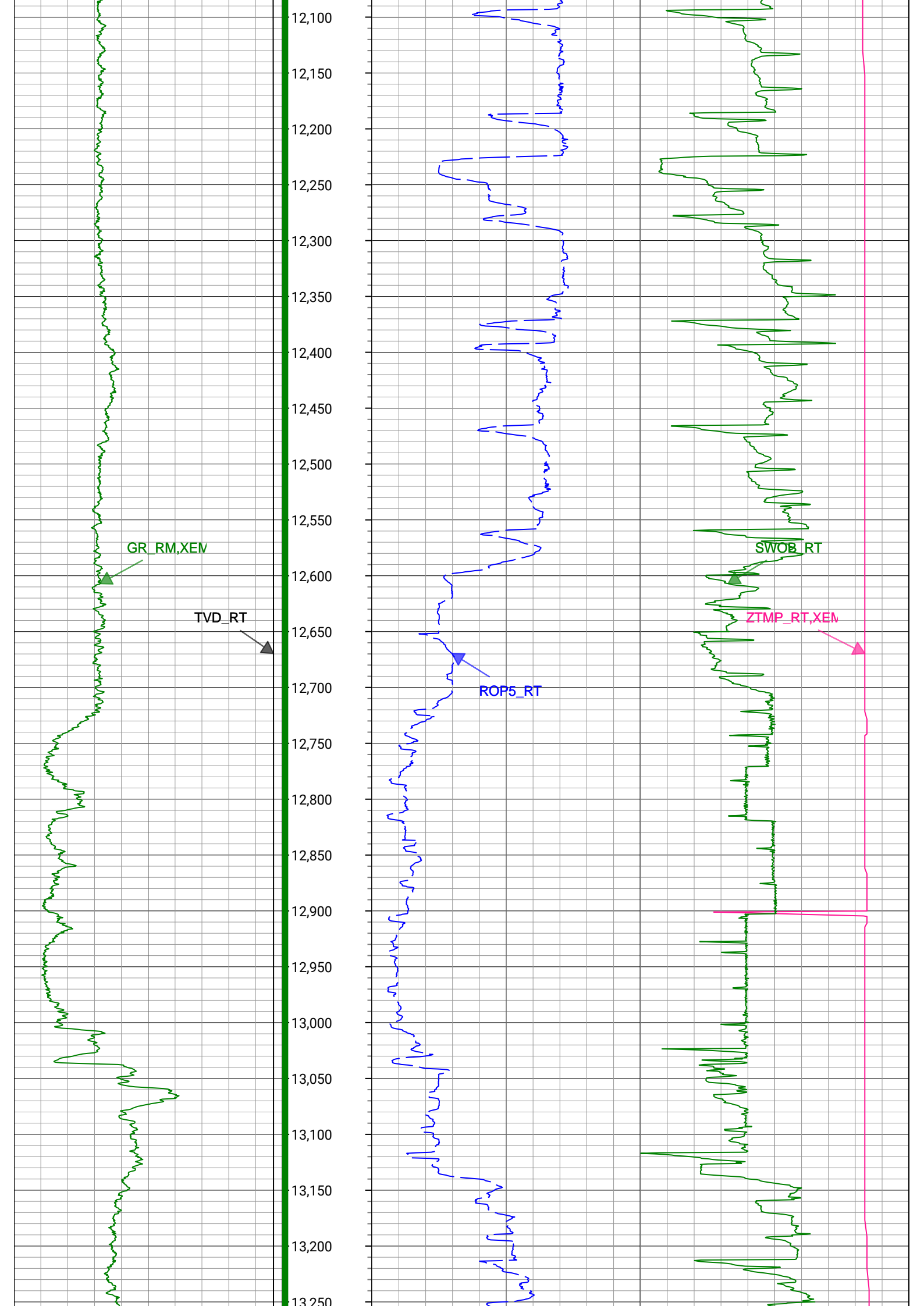


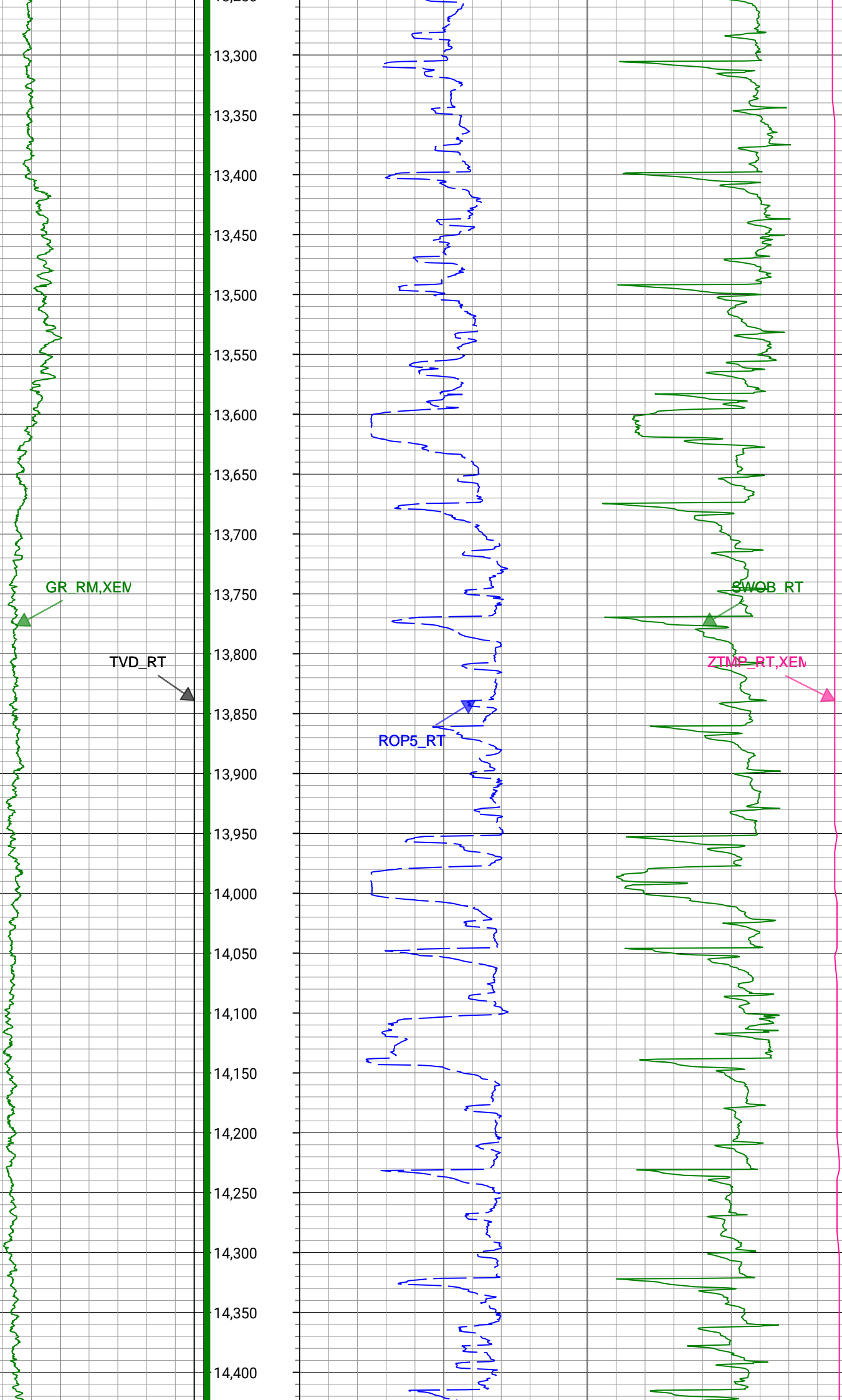


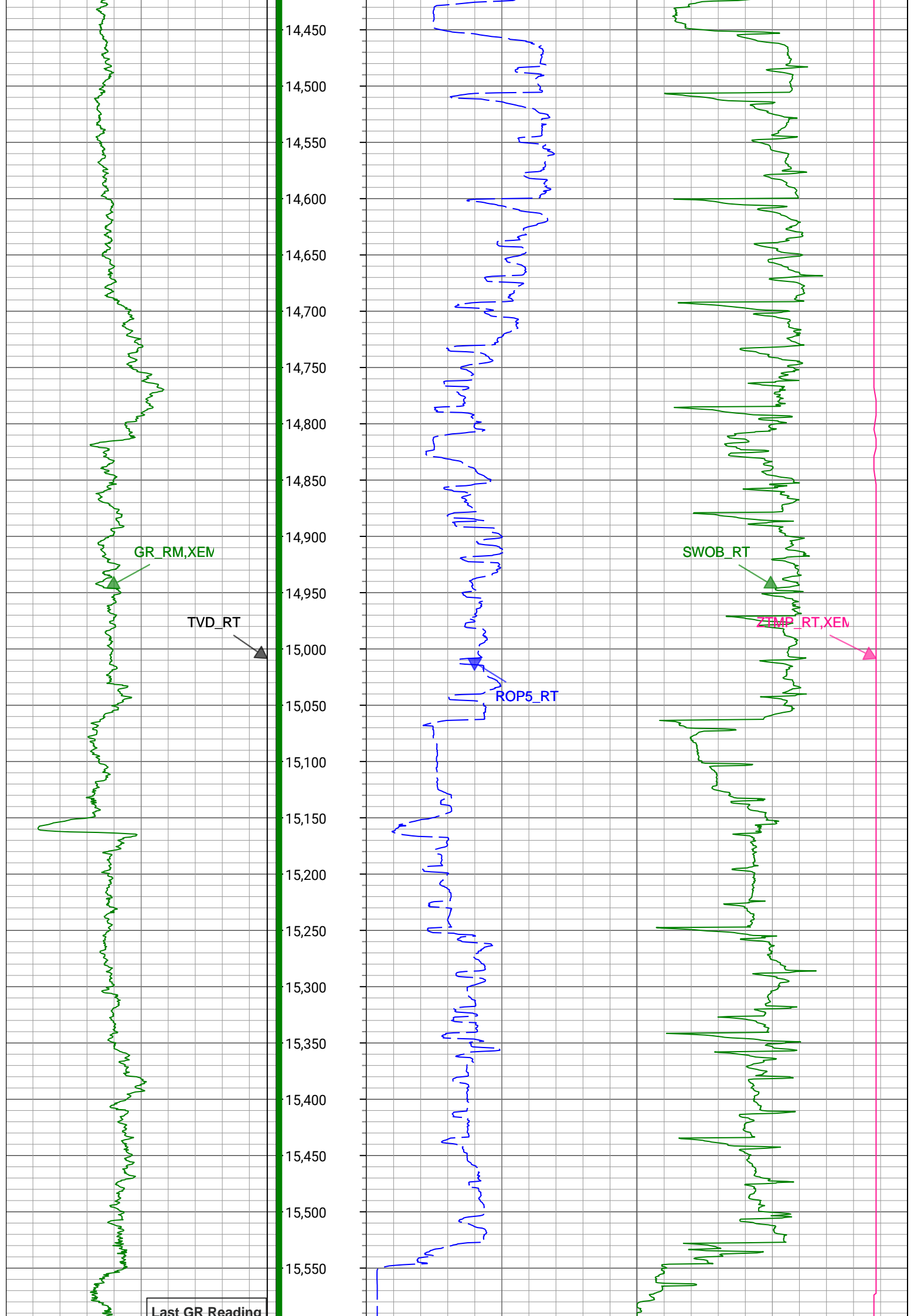



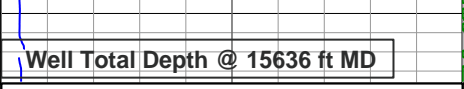
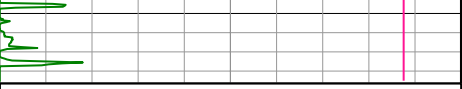










			15,600								
1,500	TVD_RT	7,500	Depth (ft)	0	ROP5_RT	800	0	ZTMP_RT,XEM	300		
ft, Borehole				ft/h, Borehole			degF, Borehole				
0	GR_RM,XEM	300					0	SWOB_RT	50		
gAPI, Borehole							1000 lbf, Borehole				
Description: XEM GAMMA RAY			Format: XEM_GR-STAN			Index Scale: 1in/100ft		Index Unit: ft		Index Type: Measured Depth	
Creation Date: 02-Jun-2020											

Survey Record

Survey Calculation

North Reference:

True North

Tie In Point

Measured Depth:

0(ft)

Inclination:

0(deg)

Azimuth:

0(deg)

True Vertical Depth:

0(ft)

North Displacement:

0(ft)

East Displacement:

0(ft)

D&I Inits - Run - 2

Geomagnetic Model:

HDGM 2020

Geomagnetic Date:

28-May-2020 00:00:00

Location B:

52302(nT)

Location G:

999.042(mgn)

Magnetic Dip:

66.78(deg)

Magnetic Dec:

7.597(deg)

Total Correction:

7.597

D&I Inits - Run - 3

Geomagnetic Model:

HDGM 2020

Geomagnetic Date:

26-May-2020 18:00:00

Location B:

52302(nT)

Location G:

999.042(mgn)

Magnetic Dip:

66.78(deg)

Magnetic Dec:

7.597(deg)

Total Correction:

7.597

MD(ft)	Incl(deg)	Azim(deg)	TVD(ft)	V Sec(ft)	N/-S(ft)	E/-W(ft)	DLS (deg/100ft)	Closure Distance (ft)	Closure Azimuth (deg)	Tool Type
0	0	0	0	0.00	0	0	0.00			TIP
20	0	0	20	0	0	0	0	0	0	MWD
151	0.09	196.89	151	-0.03	-0.1	-0.03	0.07	0.1	196.89	MWD
241	0.09	31.24	241	-0.02	-0.11	-0.01	0.2	0.11	187.43	MWD
334	0.88	57.82	334	0.64	0.34	0.63	0.86	0.71	61.79	MWD
424	1.5	55.35	423.98	2.22	1.37	2.18	0.69	2.58	57.79	MWD
514	1.72	56.28	513.94	4.35	2.79	4.28	0.25	5.11	56.83	MWD
604	2.43	53.41	603.88	7.06	4.68	6.93	0.8	8.36	55.96	MWD
694	2.47	42.22	693.8	9.96	7.26	9.77	0.53	12.17	53.39	MWD
784	2.56	39.75	783.71	12.63	10.24	12.35	0.16	16.04	50.35	MWD
874	1.72	28.03	873.65	14.62	12.97	14.27	1.05	19.29	47.73	MWD
964	1.06	23.09	963.62	15.64	14.93	15.24	0.74	21.33	45.58	MWD
1054	0.31	303.54	1053.62	15.79	15.83	15.36	1.17	22.06	44.13	MWD
1144	0.4	322.13	1143.61	15.4	16.22	14.96	0.16	22.06	42.7	MWD
1234	0.13	271.5	1233.61	15.11	16.47	14.67	0.37	22.05	41.7	MWD
1324	0.22	284.59	1323.61	14.85	16.51	14.4	0.11	21.91	41.09	MWD
1414	0.27	280.75	1413.61	14.47	16.6	14.02	0.06	21.73	40.2	MWD
1504	0.44	263.04	1503.61	13.92	16.59	13.47	0.22	21.37	39.07	MWD
1594	0.8	246.82	1593.61	12.99	16.3	12.55	0.44	20.58	37.59	MWD
1684	0.35	262.69	1683.6	12.14	16.02	11.7	0.53	19.84	36.14	MWD
1714	0.27	266.65	1713.6	11.97	16.01	11.54	0.28	19.73	35.79	MWD
1856	0.07	194.41	1855.6	11.62	15.9	11.18	0.18	19.44	35.12	Manual

1949	0.04	265.79	1948.6	11.57	15.84	11.14	0.07	19.37	35.1	Manual
2042	0.07	264.79	2041.6	11.48	15.84	11.05	0.03	19.31	34.9	Manual
2134	0.08	135.53	2133.6	11.47	15.79	11.04	0.15	19.26	34.96	Manual
2227	0.05	343.8	2226.6	11.5	15.78	11.07	0.14	19.28	35.06	Manual
2320	0.06	230.01	2319.6	11.45	15.79	11.02	0.1	19.25	34.93	Manual
2412	0.1	50.55	2411.6	11.48	15.81	11.05	0.17	19.29	34.95	Manual
2505	0.1	11.41	2504.6	11.56	15.94	11.13	0.07	19.44	34.92	Manual
2597	3.3	338.7	2596.55	10.68	18.48	10.18	3.5	21.1	28.85	Manual
2690	6.18	341.43	2689.22	8.32	25.72	7.61	3.11	26.83	16.49	Manual
2784	9	345.91	2782.39	5.24	37.65	4.21	3.06	37.89	6.38	Manual
2876	9.05	343.19	2873.25	1.78	51.56	0.37	0.47	51.56	0.41	Manual
2969	9.1	344.83	2965.08	-1.87	65.66	-3.67	0.28	65.76	356.8	Manual
3062	10.3	346.67	3056.75	-5.3	80.85	-7.51	1.33	81.2	354.69	Manual
3155	10.43	341.14	3148.24	-9.49	96.91	-12.15	1.08	97.67	352.85	Manual
3249	9.18	342.26	3240.86	-14.11	112.1	-17.19	1.35	113.41	351.28	Manual
3342	11.3	346.68	3332.38	-18.03	128.03	-21.55	2.43	129.84	350.45	Manual
3434	12.05	347.34	3422.47	-21.71	146.18	-25.73	0.83	148.42	350.02	Manual
3527	12.48	348.23	3513.35	-25.36	165.48	-29.91	0.51	168.17	349.76	Manual
3619	9.46	356.55	3603.67	-27.37	182.77	-32.39	3.7	185.62	349.95	Manual
3711	9.68	353.44	3694.39	-28.29	198	-33.73	0.61	200.85	350.33	Manual
3805	9.91	358.42	3787.02	-28.98	213.94	-34.85	0.93	216.76	350.75	Manual
3898	10.02	0.25	3878.61	-28.72	230.03	-35.04	0.36	232.68	351.34	Manual
3991	9.8	358.26	3970.23	-28.49	246.03	-35.24	0.44	248.54	351.85	Manual
4083	9.9	357.92	4060.87	-28.58	261.76	-35.77	0.13	264.19	352.22	Manual
4177	9.35	355.34	4153.55	-29.07	277.44	-36.68	0.74	279.86	352.47	Manual
4269	9.5	356.52	4244.31	-29.72	292.47	-37.75	0.27	294.9	352.65	Manual
4362	9.18	356.74	4336.07	-30.2	307.54	-38.64	0.35	309.96	352.84	Manual
4455	10.65	352.51	4427.68	-31.3	323.47	-40.18	1.76	325.95	352.92	Manual
4548	9.49	351.96	4519.25	-33.05	339.58	-42.37	1.25	342.21	352.89	Manual
4642	9.77	350.43	4611.92	-35.04	355.12	-44.78	0.4	357.93	352.81	Manual
4736	10.32	350.19	4704.48	-37.35	371.28	-47.54	0.59	374.31	352.7	Manual
4828	10.98	355.61	4794.9	-38.97	388.13	-49.62	1.3	391.29	352.71	Manual
4921	10.38	350.36	4886.29	-40.58	405.22	-51.7	1.23	408.51	352.73	Manual
5013	10.48	350.68	4976.77	-42.87	421.65	-54.44	0.13	425.15	352.64	Manual
5106	10.61	350.24	5068.2	-45.23	438.44	-57.26	0.16	442.16	352.56	Manual
5198	10.39	349.72	5158.66	-47.69	454.95	-60.18	0.26	458.91	352.46	Manual
5290	10.3	349.16	5249.16	-50.27	471.19	-63.21	0.15	475.41	352.36	Manual
5383	10.38	350.89	5340.65	-52.71	487.63	-66.1	0.34	492.09	352.28	Manual
5476	10.11	352.03	5432.17	-54.72	503.98	-68.56	0.36	508.62	352.25	Manual
5569	10.11	352.8	5523.73	-56.43	520.16	-70.71	0.15	524.95	352.26	Manual
5662	10.43	351.9	5615.24	-58.19	536.6	-72.92	0.38	541.53	352.26	Manual
5754	10.29	351.33	5705.74	-60.15	552.96	-75.33	0.19	558.07	352.24	Manual
5848	10.44	350.09	5798.2	-62.43	569.65	-78.06	0.29	574.98	352.2	Manual
5941	10.6	351.82	5889.64	-64.63	586.42	-80.73	0.38	591.95	352.16	Manual
6033	10.6	347.97	5980.07	-67.14	603.07	-83.7	0.77	608.85	352.1	Manual
6127	9.92	349.13	6072.57	-70.02	619.48	-87.03	0.76	625.56	352	Manual
6219	10.35	350.33	6163.13	-72.47	635.41	-89.91	0.52	641.74	351.95	Manual
6311	10.34	351.23	6253.64	-74.67	651.72	-92.56	0.18	658.26	351.92	Manual
6404	10.12	350.83	6345.16	-76.79	668.03	-95.13	0.25	674.77	351.9	Manual
6497	9.75	348.38	6436.76	-79.25	683.81	-98.02	0.6	690.8	351.84	Manual

6590	10	348.79	6528.39	-81.97	699.44	-101.18	0.28	706.72	351.77	Manual
6683	10.42	23.75	6620	-79.73	715.08	-99.36	6.58	721.95	352.09	Manual
6775	15.66	56.39	6709.71	-65.62	729.59	-85.64	9.61	734.6	353.31	Manual
6867	23.87	69.16	6796.26	-37.46	743.12	-57.84	10.03	745.37	355.55	Manual
6961	31.56	69.57	6879.41	3.84	758.5	-16.95	8.18	758.68	358.72	Manual
7053	36.99	72.22	6955.41	53.24	775.36	32	6.12	776.02	2.36	Manual
7145	44.74	77.09	7024.95	111.66	791.08	90.02	9.1	796.18	6.49	Manual
7237	51.05	80.09	7086.61	178.88	804.48	156.9	7.27	819.64	11.04	Manual
7331	58.85	83.72	7140.57	255.27	815.19	233.02	8.88	847.84	15.95	Manual
7424	68.33	86.2	7181.89	338.31	822.43	315.9	10.47	881.01	21.01	Manual
7517	75.57	86.74	7210.69	426.62	827.86	404.09	7.8	921.22	26.02	Manual
7609	81.07	84.11	7229.31	516.55	835.06	493.86	6.6	970.17	30.6	Manual
7702	85.22	83.14	7240.4	608.54	845.32	585.6	4.58	1028.34	34.71	Manual
7795	89.41	82.91	7244.76	701.01	856.6	677.79	4.51	1092.32	38.35	Manual
7888	88.31	85.1	7246.61	793.7	866.31	770.26	2.63	1159.22	41.64	Manual
7981	88.43	85.51	7249.26	886.53	873.92	862.91	0.46	1228.14	44.64	Manual
8074	88.48	85.05	7251.76	979.35	881.57	955.56	0.5	1300.1	47.31	Manual
8167	88.45	84.96	7254.25	1072.15	889.66	1048.17	0.1	1374.83	49.68	Manual
8261	89.08	84.73	7256.28	1165.95	898.1	1141.77	0.71	1452.66	51.81	Manual
8353	90.26	87.83	7256.81	1257.87	904.07	1233.56	3.61	1529.38	53.76	Manual
8446	90.63	88	7256.09	1350.86	907.46	1326.5	0.44	1607.19	55.62	Manual
8539	90.34	89.69	7255.3	1443.85	909.33	1419.47	1.84	1685.76	57.36	Manual
8631	89.22	88.96	7255.65	1535.84	910.41	1511.46	1.45	1764.47	58.94	Manual
8724	88.84	88.66	7257.23	1628.82	912.34	1604.43	0.52	1845.69	60.38	Manual
8817	88.54	90.16	7259.35	1721.78	913.3	1697.4	1.64	1927.5	61.72	Manual
8909	88.53	88.74	7261.71	1813.73	914.19	1789.36	1.54	2009.36	62.94	Manual
9001	88.33	87.59	7264.23	1905.7	917.13	1881.28	1.27	2092.92	64.01	Manual
9093	88.51	88.72	7266.76	1997.66	920.09	1973.19	1.24	2177.17	65	Manual
9187	88.55	88.53	7269.18	2091.63	922.35	2067.13	0.21	2263.57	65.95	Manual
9279	88.31	87.83	7271.7	2183.59	925.27	2159.05	0.8	2348.96	66.8	Manual
9371	88.65	88.46	7274.14	2275.56	928.24	2250.97	0.78	2434.85	67.59	Manual
9464	88.51	88.78	7276.44	2368.53	930.48	2343.91	0.38	2521.85	68.35	Manual
9557	88.55	88.89	7278.83	2461.5	932.37	2436.86	0.13	2609.14	69.06	Manual
9650	88.51	88.3	7281.21	2554.46	934.65	2529.81	0.64	2696.94	69.72	Manual
9742	88.43	88.99	7283.67	2646.43	936.83	2621.75	0.75	2784.1	70.34	Manual
9835	88.3	88.87	7286.32	2739.39	938.56	2714.69	0.19	2872.36	70.93	Manual
9928	88.45	88.35	7288.96	2832.35	940.82	2807.63	0.58	2961.07	71.47	Manual
10022	88.1	88.67	7291.79	2926.31	943.26	2901.55	0.5	3051.02	71.99	Manual
10115	89.23	88.64	7293.96	3019.28	945.44	2994.5	1.22	3140.21	72.48	Manual
10208	90.33	88.26	7294.31	3112.28	947.96	3087.46	1.25	3229.72	72.93	Manual
10300	90.18	88.58	7293.9	3204.28	950.5	3179.43	0.38	3318.46	73.36	Manual
10393	90.61	88.81	7293.26	3297.27	952.61	3272.4	0.52	3408.24	73.77	Manual
10485	91.48	88.56	7291.59	3389.26	954.72	3364.36	0.98	3497.2	74.16	Manual
10577	91.58	88.26	7289.13	3481.22	957.28	3456.29	0.34	3586.41	74.52	Manual
10670	91.66	88.25	7286.5	3574.19	960.11	3549.21	0.09	3676.78	74.86	Manual
10765	91.69	88.36	7283.72	3669.14	962.92	3644.13	0.12	3769.2	75.2	Manual
10859	90.83	88.12	7281.66	3763.12	965.8	3738.06	0.95	3860.81	75.51	Manual
10952	90.52	88.07	7280.56	3856.11	968.89	3831	0.34	3951.63	75.81	Manual
11046	90.51	88.59	7279.72	3950.11	971.63	3924.96	0.55	4043.44	76.1	Manual
11141	89.98	88.42	7279.21	4045.11	974.1	4018.82	0.58	4126.27	76.28	Manual

1141	89.98	88.43	7279.31	4043.11	974.1	4019.93	0.38	4136.27	76.38	Manual
11234	89.96	87.84	7279.36	4138.1	977.13	4112.88	0.63	4227.36	76.64	Manual
11327	89.91	88.62	7279.46	4231.1	980	4205.83	0.84	4318.5	76.88	Manual
11419	90.06	88.52	7279.49	4323.1	982.3	4297.8	0.2	4408.63	77.13	Manual
11512	89.93	88.04	7279.5	4416.1	985.09	4390.76	0.53	4499.91	77.35	Manual
11606	88.94	88.17	7280.42	4510.1	988.2	4484.7	1.06	4592.29	77.57	Manual
11698	88.51	88.19	7282.47	4602.07	991.12	4576.63	0.47	4682.72	77.78	Manual
11790	88.73	88.71	7284.69	4694.04	993.61	4668.57	0.61	4773.14	77.99	Manual
11884	88.5	87.79	7286.96	4788.02	996.48	4762.5	1.01	4865.63	78.18	Manual
11977	88.44	88.27	7289.44	4880.98	999.67	4855.41	0.52	4957.26	78.37	Manual
12070	88.62	88.14	7291.83	4973.95	1002.58	4948.34	0.24	5048.88	78.55	Manual
12163	88.59	88.46	7294.09	5066.92	1005.34	5041.27	0.35	5140.53	78.72	Manual
12256	89.23	88.25	7295.86	5159.9	1008.01	5134.21	0.72	5232.23	78.89	Manual
12349	89.47	88.16	7296.91	5252.9	1010.92	5227.16	0.28	5324.02	79.05	Manual
12442	89.6	88.7	7297.67	5345.89	1013.47	5320.12	0.6	5415.79	79.21	Manual
12534	89.44	88.59	7298.44	5437.89	1015.65	5412.09	0.21	5506.57	79.37	Manual
12628	89.29	88.33	7299.48	5531.88	1018.17	5506.05	0.32	5599.4	79.52	Manual
12720	89.79	88.03	7300.22	5623.88	1021.1	5598	0.63	5690.37	79.66	Manual
12814	89.86	87.83	7300.51	5717.87	1024.49	5691.94	0.23	5783.41	79.8	Manual
12907	90.08	88.7	7300.56	5810.87	1027.31	5784.9	0.96	5875.41	79.93	Manual
13001	90.13	87.75	7300.38	5904.87	1030.22	5878.85	1.01	5968.44	80.06	Manual
13095	90.13	88.88	7300.17	5998.87	1032.98	5972.81	1.2	6061.48	80.19	Manual
13190	90.38	88.42	7299.75	6093.87	1035.22	6067.78	0.55	6155.46	80.32	Manual
13283	90.22	88.24	7299.26	6186.87	1037.93	6160.74	0.26	6247.56	80.44	Manual
13374	90.42	88.42	7298.75	6277.86	1040.58	6251.7	0.3	6337.71	80.55	Manual
13468	90.33	88.04	7298.14	6371.86	1043.49	6345.65	0.42	6430.88	80.66	Manual
13560	90.01	88.08	7297.86	6463.86	1046.6	6437.6	0.35	6522.12	80.77	Manual
13652	90.31	89.01	7297.61	6555.86	1048.94	6529.57	1.06	6613.29	80.87	Manual
13746	90.33	88.64	7297.08	6649.85	1050.86	6623.55	0.39	6706.39	80.98	Manual
13838	90.26	88.58	7296.61	6741.85	1053.1	6715.52	0.1	6797.59	81.09	Manual
13930	90.29	88.39	7296.17	6833.85	1055.53	6807.49	0.21	6888.83	81.19	Manual
14024	90.23	88.53	7295.74	6927.85	1058.05	6901.45	0.16	6982.09	81.28	Manual
14116	90.24	88.24	7295.36	7019.85	1060.65	6993.41	0.32	7073.39	81.38	Manual
14208	90.19	88.24	7295.02	7111.85	1063.47	7085.37	0.05	7164.74	81.46	Manual
14300	90.21	88.89	7294.7	7203.85	1065.78	7177.34	0.71	7256.04	81.55	Manual
14392	90.09	88.75	7294.46	7295.84	1067.67	7269.32	0.2	7347.31	81.64	Manual
14485	89.98	88.89	7294.4	7388.84	1069.59	7362.3	0.19	7439.59	81.73	Manual
14578	89.96	89.06	7294.45	7481.84	1071.25	7455.29	0.18	7531.86	81.82	Manual
14670	89.97	88.67	7294.5	7573.83	1073.07	7547.27	0.42	7623.17	81.91	Manual
14762	89.67	88.35	7294.79	7665.83	1075.46	7639.24	0.48	7714.57	81.99	Manual
14856	89.47	88.45	7295.5	7759.83	1078.09	7733.2	0.24	7807.98	82.06	Manual
14948	89.64	88.82	7296.21	7851.83	1080.28	7825.17	0.44	7899.38	82.14	Manual
15041	90.03	88.41	7296.48	7944.83	1082.53	7918.14	0.61	7991.8	82.22	Manual
15134	89.77	88.77	7296.64	8037.83	1084.82	8011.11	0.48	8084.23	82.29	Manual
15226	89.86	88.96	7296.94	8129.82	1086.64	8103.09	0.23	8175.63	82.36	Manual
15319	89.98	88.95	7297.07	8222.82	1088.34	8196.08	0.13	8268.02	82.44	Manual
15411	89.88	88.73	7297.18	8314.82	1090.2	8288.06	0.26	8359.45	82.51	Manual
15504	89.89	89.01	7297.37	8407.81	1092.03	8381.04	0.3	8451.88	82.58	Manual
15597	90.08	87.81	7297.39	8500.81	1094.61	8474	1.31	8544.41	82.64	Manual
15636	90.08	87.81	7297.34	8539.81	1096.1	8512.97	0	8583.25	82.66	Manual

Company : PDC Energy Inc
Well : Lincoln State 26C-17-M
Field Name : Wattenberg
County Name : Weld
State Name : Colorado
Country Name : USA

Schlumberger

XEM GAMMA RAY
1in/100ft Measured Depth
Final Print
Recorded Mode