

Company: PDC Energy Inc		Well: Lincoln State 1N-17C-M		Field Name: Wattenberg		Country Name: USA		State Name: Colorado		County Name: Weld	
<div>XEM GAMMA RAY</div> <div>1in/100ft Measured Depth</div> <div>Final Print</div> <div>Recorded Mode</div> <div>Schlumberger</div>											
Company:		PDC Energy Inc									
Well:		Lincoln State 1N-17C-M									
Field Name:		Wattenberg									
Country Name:		USA									
State Name:		Colorado									
County Name:		Weld									
Latitude:		40°29'30.941"N				API Number:		05-123-46758			
Longitude:		104°49'24.805"W				Rig Name:		Precision Drilling			
Spud Date:		20-Feb-2020				Rig Type:		Land			
Log Interval:		1791.00--15488.50(ft)				Job Number:		20CCCO0368			
Depth Source:		Driller's Depth				Print Type:		Final Print			
Log Measured From:		Drill Floor				Northing:		1422767.424(ft)			
Drill Floor Elevation:		4871 (ft)				Easting:		3188139.086(ft)			
Ground Level Elevation:		4851 (ft)				Coordinate System: NAD83 Colorado State Plane, Northern Zone, US Feet					
Permanent Datum:		Sea Level									

Disclaimer

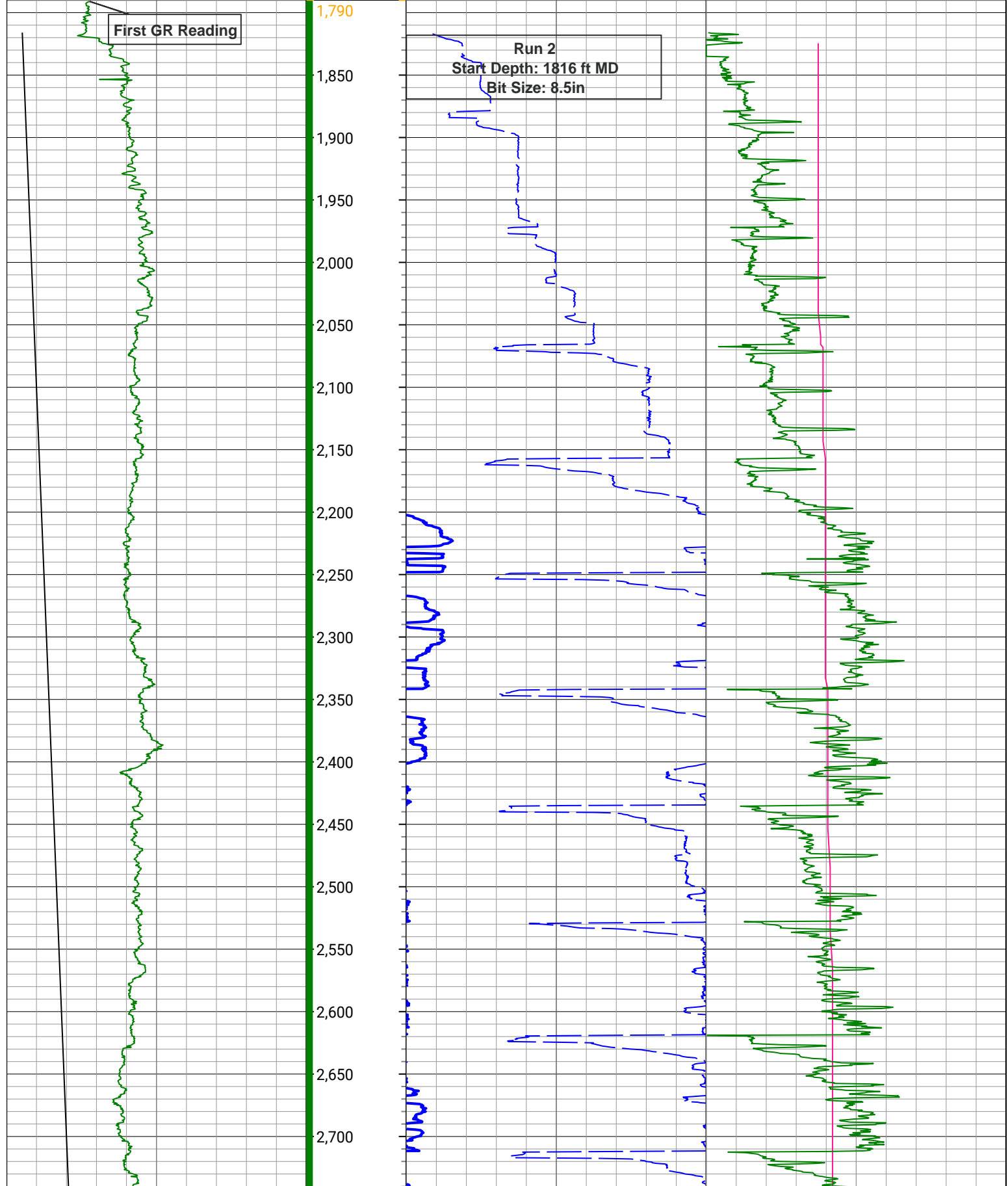
THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (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.

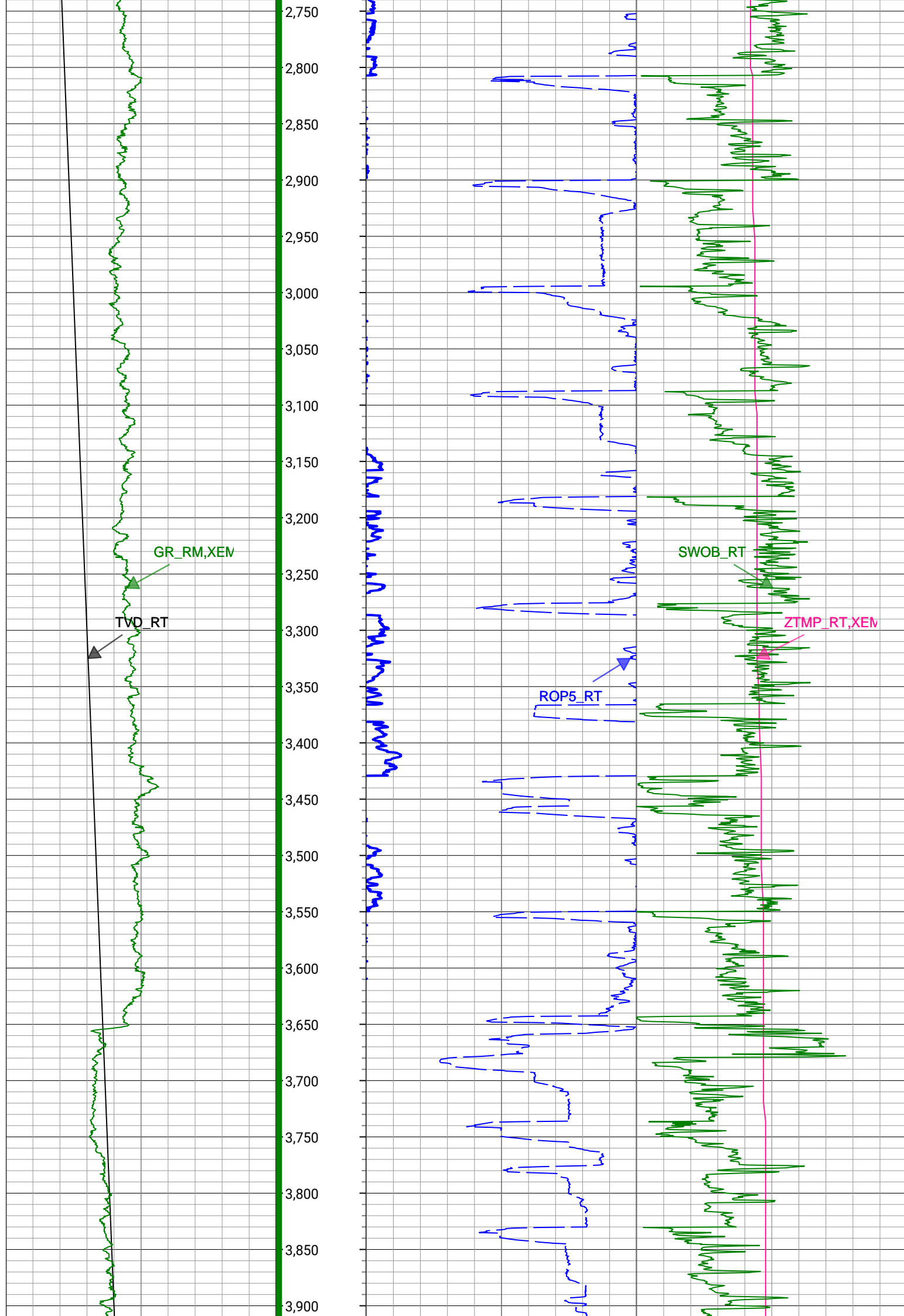
Operational Run Summary			
Notes			
Run 2 (Bit Size: 8.5 in)			
DateTime Log Started	18-May-2020 22:08:23	DateTime Log Finished	19-May-2020 16:32:57
Start Depth (ft)	1816	Stop Depth (ft)	4943
Mud Type	Oil Based Mud	Mud Density (lbm/gal)	10.5
Potassium (%)	0	Barite	Yes
GR Sensor Offset (ft)	24.87	Calibration Coefficient	0.47
DNI Sensor Offset (ft)	20.28		
Run 3 (Bit Size: 8.5 in)			
DateTime Log Started	19-May-2020 17:06:35	DateTime Log Finished	22-May-2020 13:26:57
Start Depth (ft)	4943	Stop Depth (ft)	15489
Mud Type	Oil Based Mud	Mud Density (lbm/gal)	10.5
Potassium (%)	0	Barite	Yes
GR Sensor Offset (ft)	24.91	Calibration Coefficient	0.47

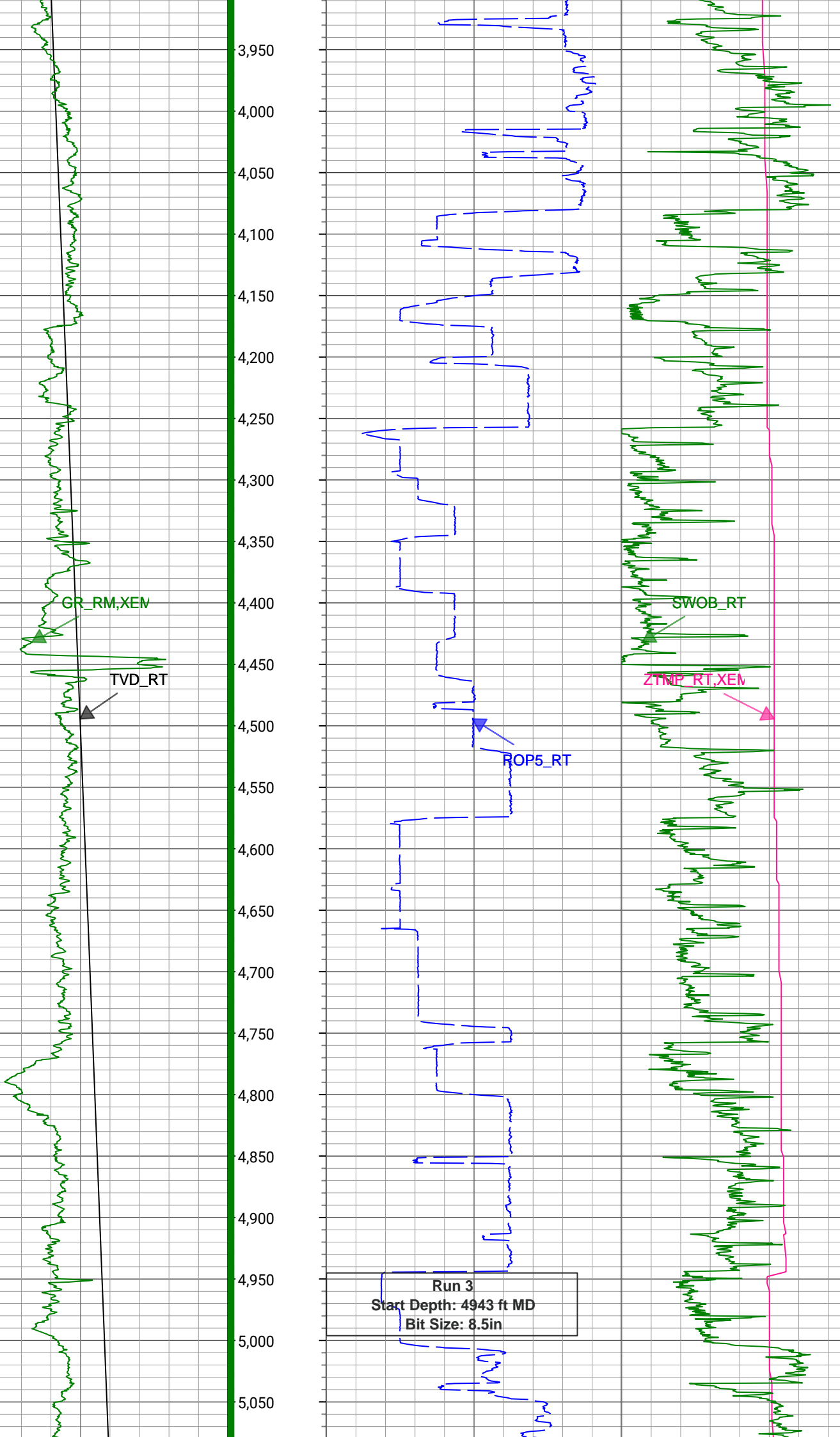
GR Sensor Offset (ft)	24.91	Calibration Coefficient	0.47
DNI Sensor Offset (ft)	20.32		

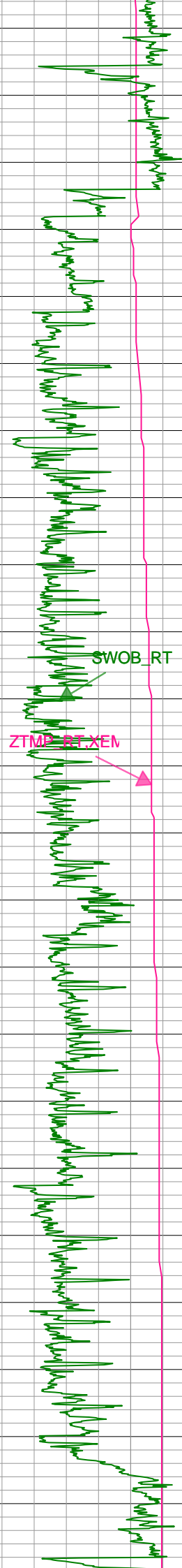
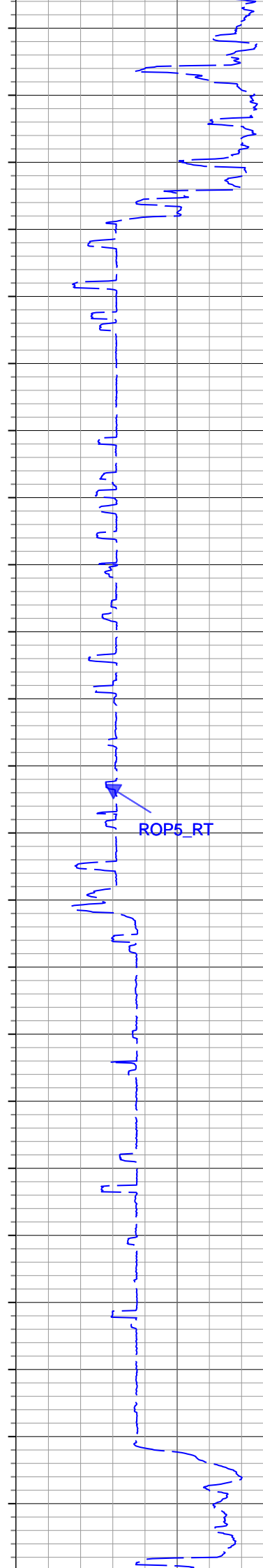
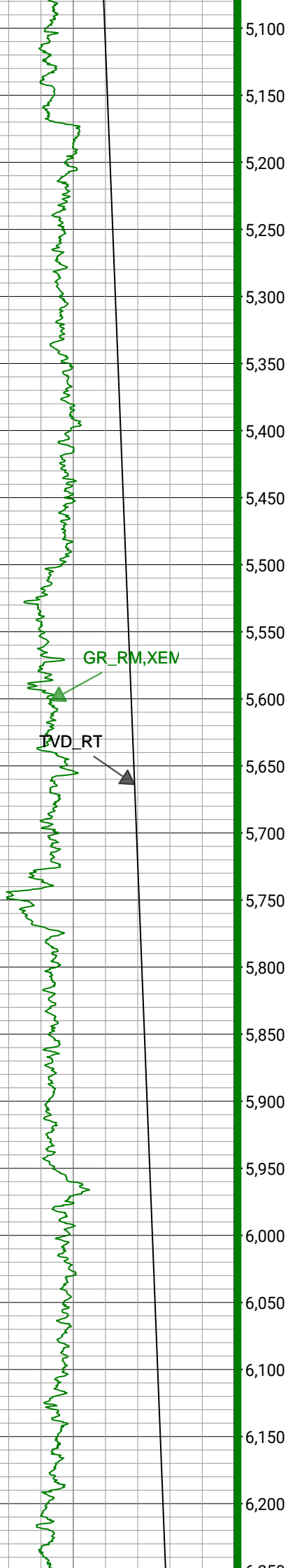
Log			
Description: XEM GAMMA RAY		Format: XEM_GR-STAN	Index Scale: 1in/100ft
Creation Date: 28-May-2020		Index Unit: ft	Index Type: Measured Depth

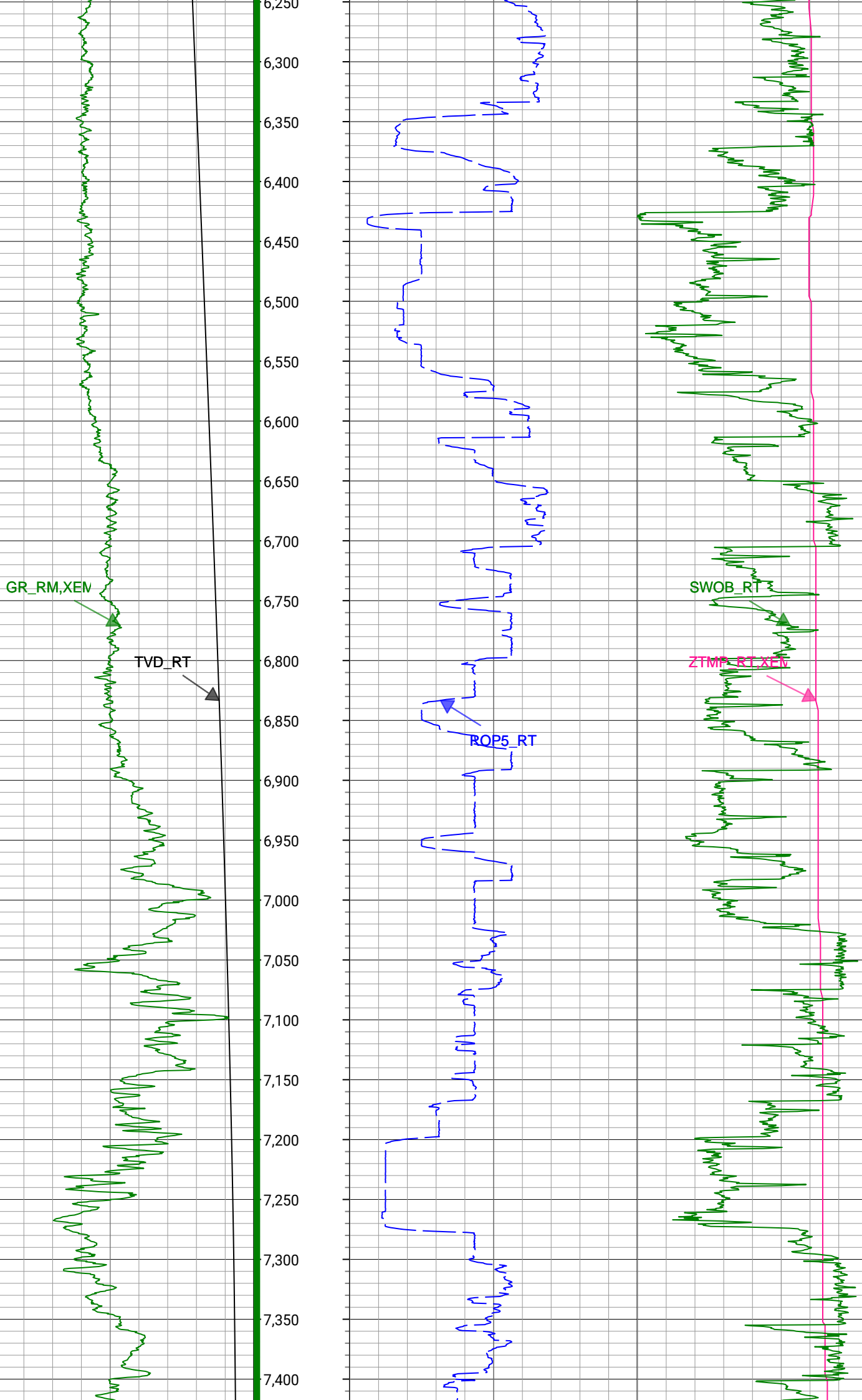
TVD_RT			Depth 1 : 100 in : ft	ROP5_RT			ZTMP_RT,XEM		
1,500	ft, Borehole	7,500		0	ft/h, Borehole	800	0	degF, Borehole	300
GR_RM,XEM							SWOB_RT		
0	gAPI, Borehole	300						0	1000 lbf, Borehole

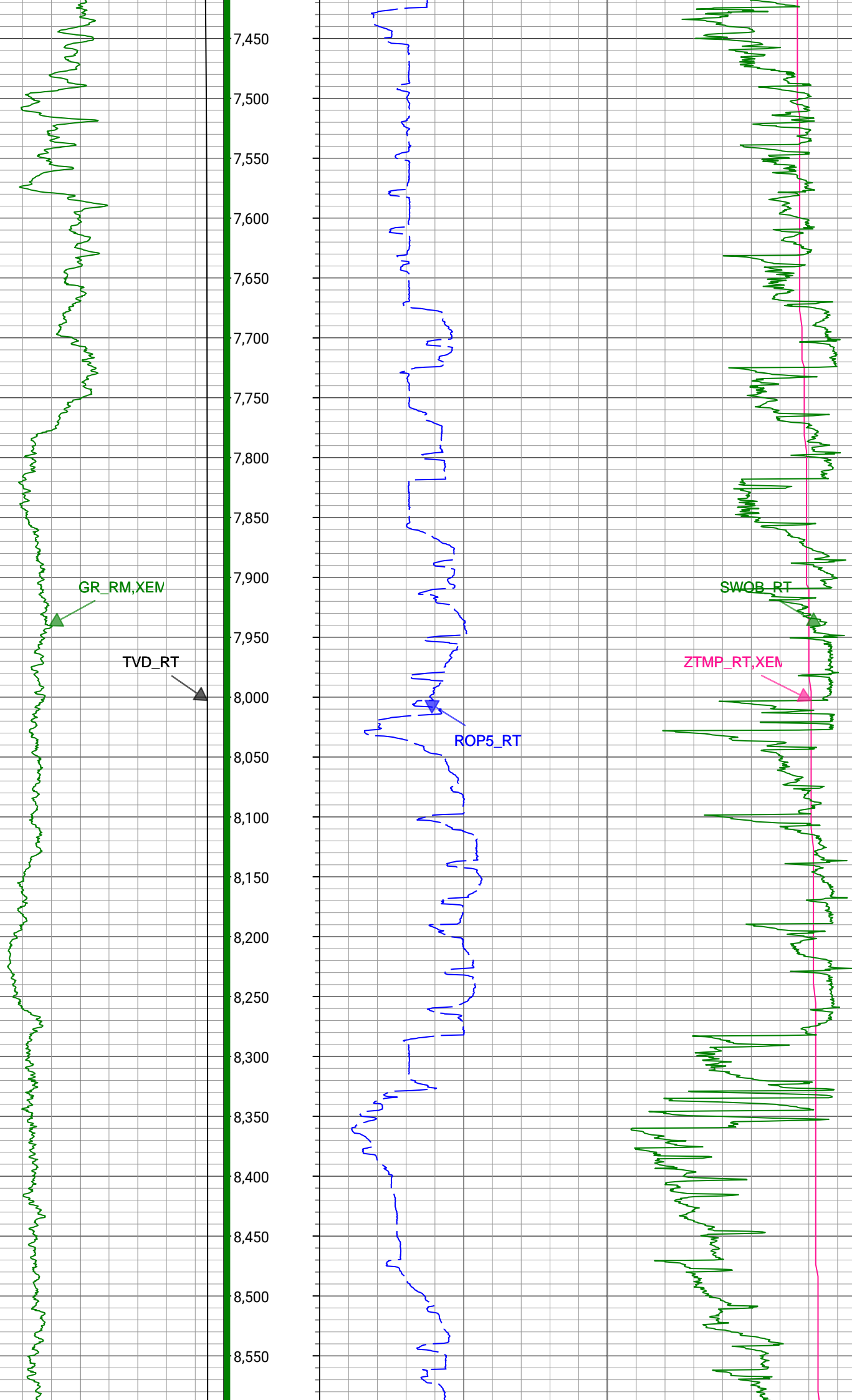


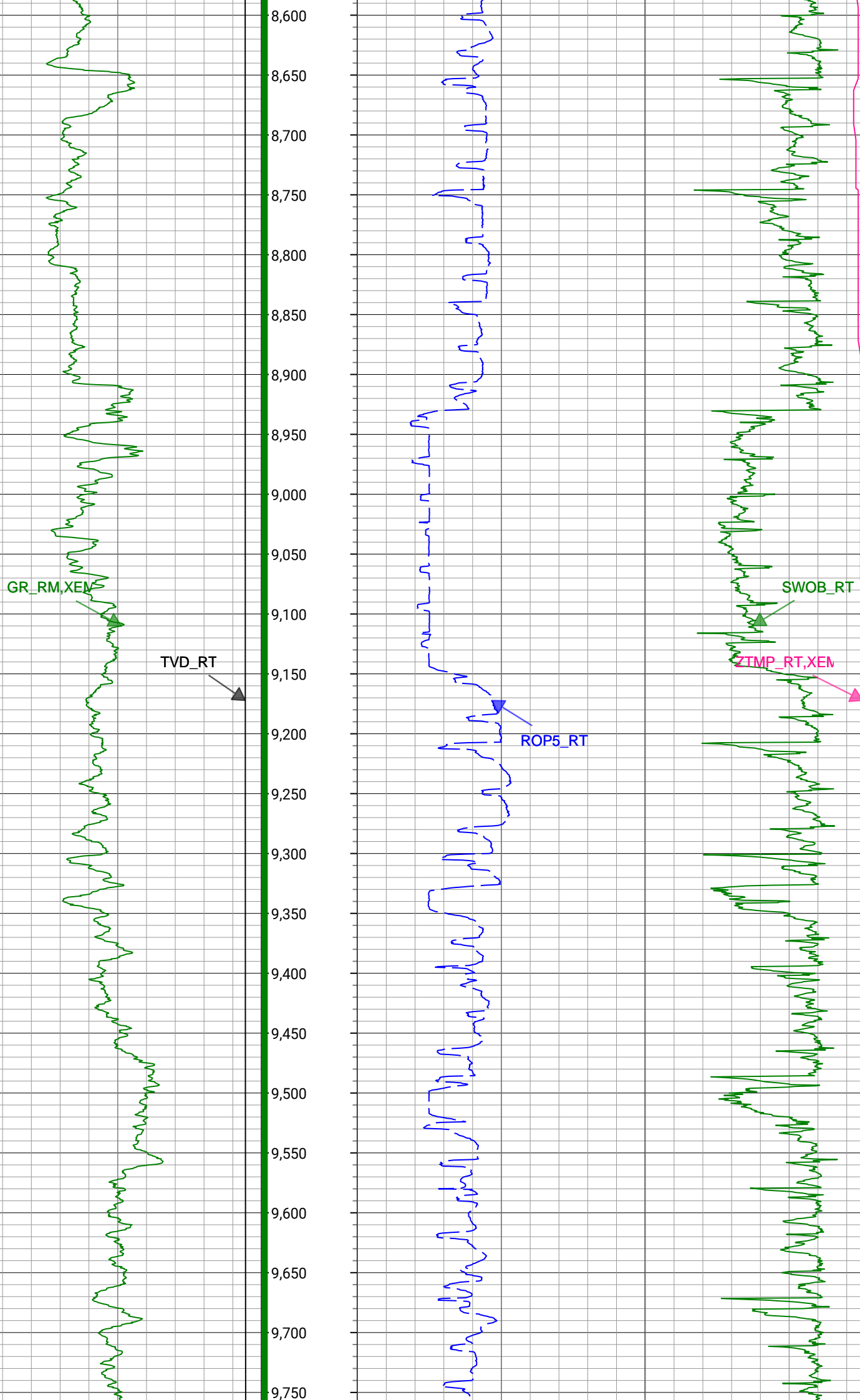


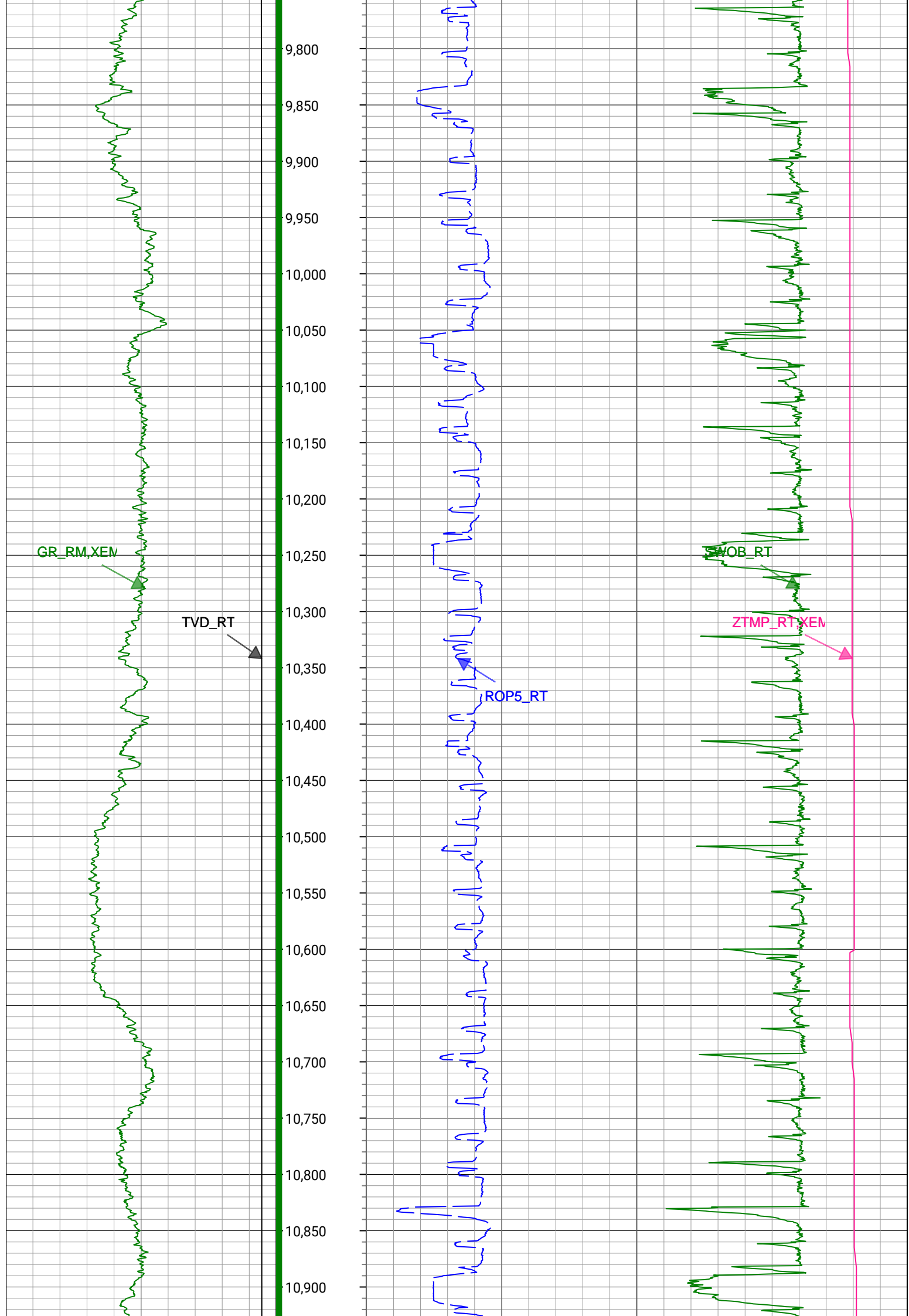


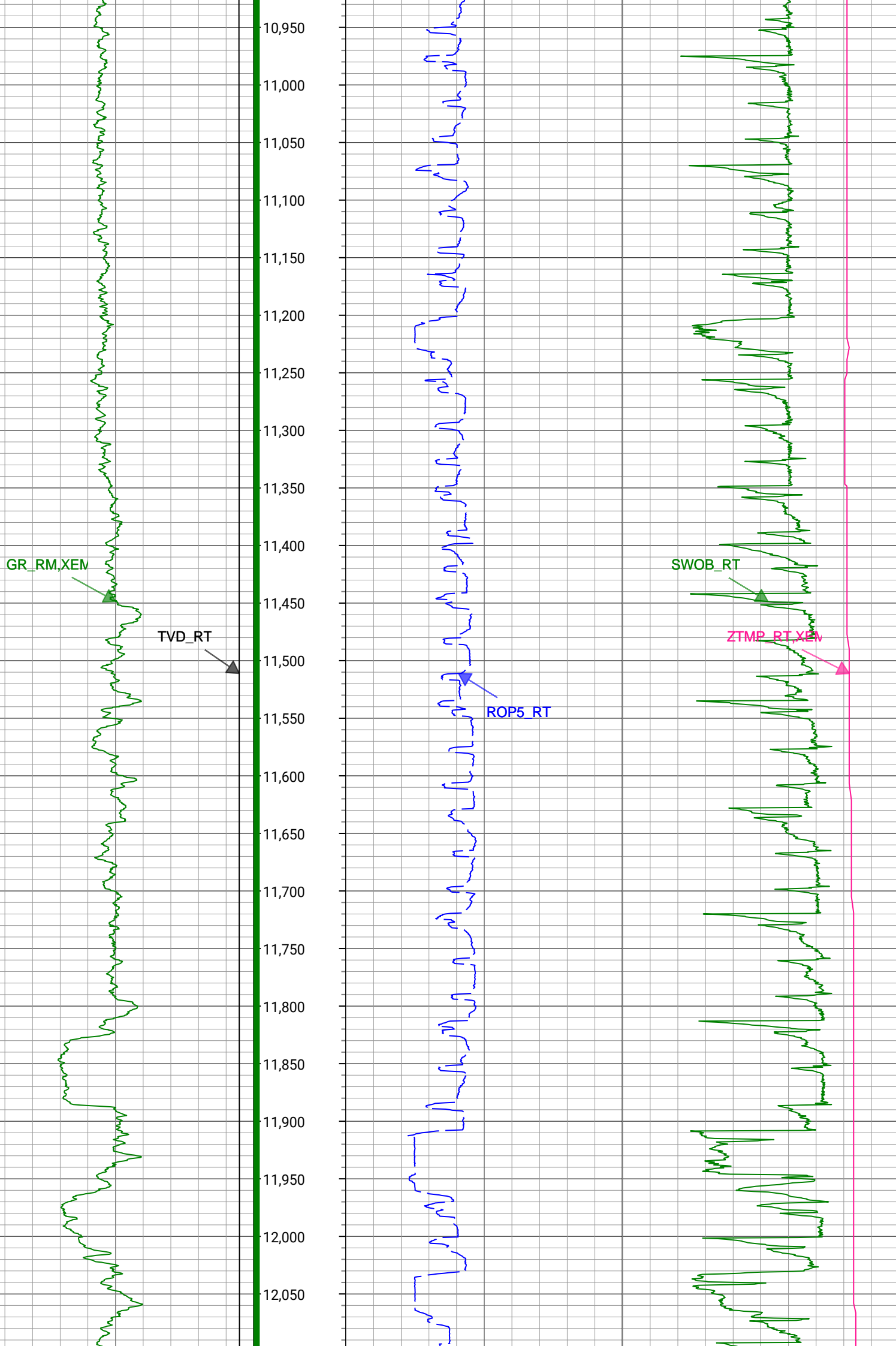


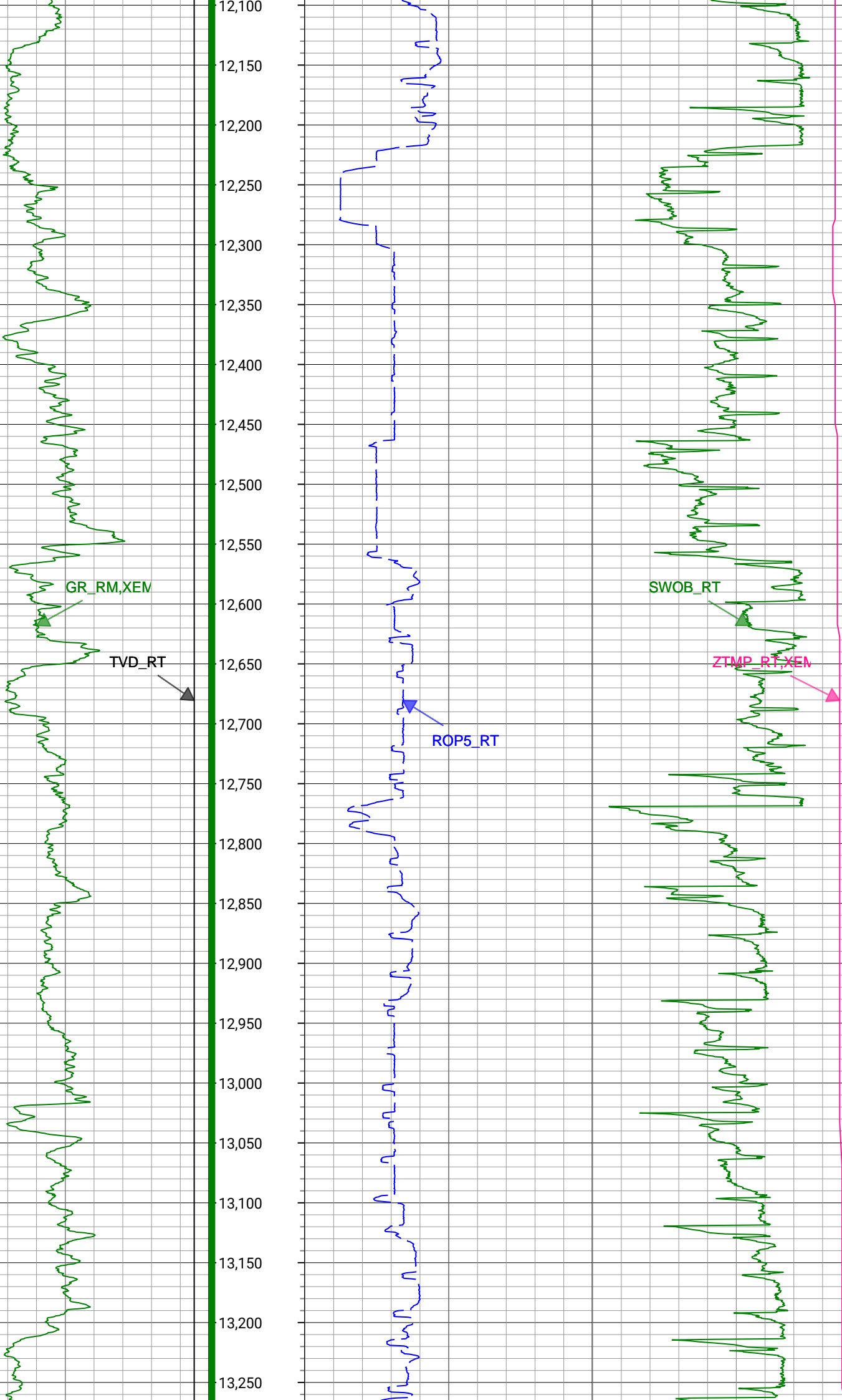


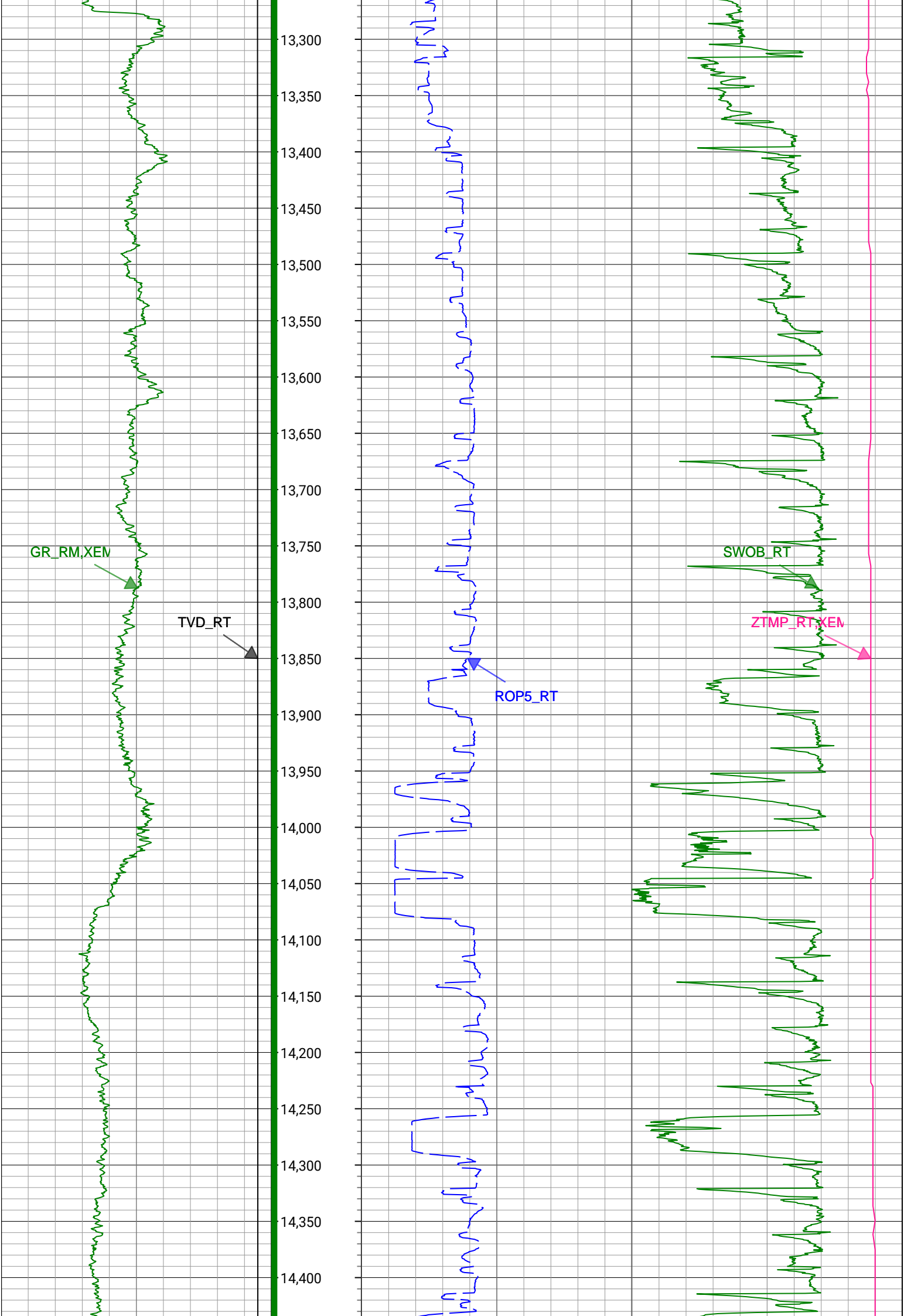


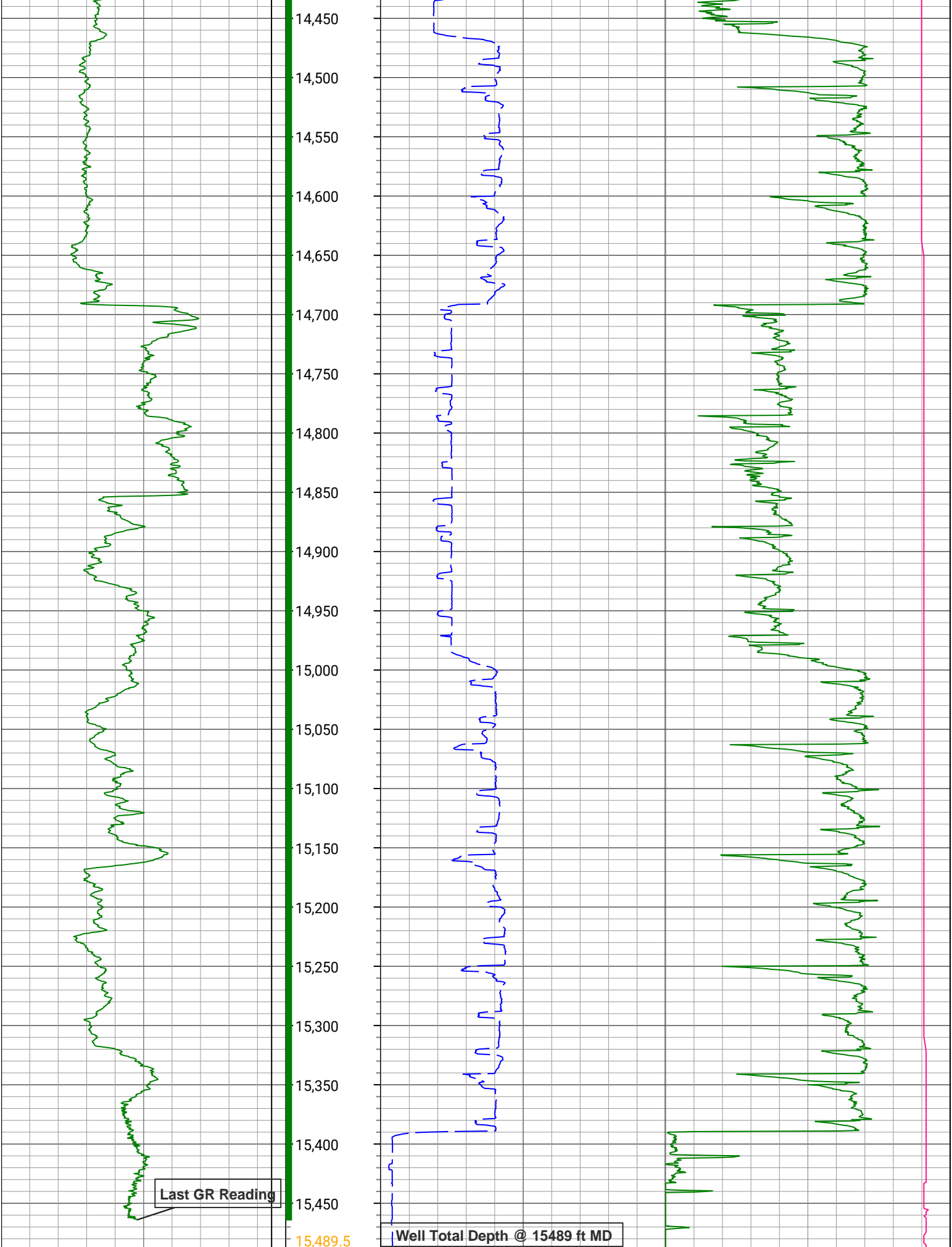












1,500	TVD_RT	7,500	0	ROP5_RT	800	0	ZTMP_RT,XEM	300
ft, Borehole			ft/h, Borehole			degF, Borehole		
0	GR_RM,XEM	300				0	SWOB_RT	50
gAPI, Borehole						1000 lbf, Borehole		

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:	17-May-2020 23:00:00
Location B:	52305(nT)	Location G:	999.042(mgn)
Magnetic Dip:	66.79(deg)	Magnetic Dec:	7.599(deg)
Total Correction:	7.599		

D&I Inits - Run - 3

Geomagnetic Model:	HDGM 2020	Geomagnetic Date:	17-May-2020 23:00:00
Location B:	52305(nT)	Location G:	999.042(mgn)
Magnetic Dip:	66.79(deg)	Magnetic Dec:	7.599(deg)
Total Correction:	7.599		

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	0.27	176.71	151	0.01	-0.31	0.02	0.21	0.31	176.71	MWD
241	0.35	134.67	241	0.21	-0.71	0.23	0.26	0.75	162.46	MWD
334	0.93	95.41	333.99	1.15	-0.98	1.18	0.75	1.54	129.85	MWD
424	1.46	82.89	423.97	3.02	-0.91	3.04	0.65	3.18	106.66	MWD
514	2.03	76.77	513.93	5.72	-0.4	5.73	0.67	5.75	94.03	MWD
604	2.12	75.93	603.87	8.91	0.37	8.9	0.11	8.91	87.65	MWD
694	1.94	73.46	693.82	12	1.2	11.97	0.22	12.04	84.26	MWD
784	2.3	73.95	783.75	15.22	2.14	15.17	0.4	15.32	81.98	MWD
874	1.33	95.85	873.71	18	2.53	17.95	1.31	18.12	81.98	MWD
964	0.88	123.79	963.69	19.61	2.04	19.56	0.77	19.66	84.05	MWD
1054	0.93	145.82	1053.68	20.56	1.05	20.54	0.39	20.57	87.07	MWD
1144	0.31	140.84	1143.68	21.11	0.26	21.11	0.69	21.11	89.3	MWD
1234	0.31	180.81	1233.67	21.25	-0.18	21.26	0.24	21.26	90.47	MWD
1324	0.04	62.31	1323.67	21.26	-0.4	21.28	0.37	21.29	91.09	MWD
1414	0.18	319.75	1413.67	21.2	-0.28	21.22	0.21	21.22	90.76	MWD
1504	0.22	324.56	1503.67	21.02	-0.03	21.03	0.05	21.03	90.09	MWD
1594	0.4	304.07	1593.67	20.67	0.28	20.67	0.23	20.67	89.21	MWD
1684	0.35	297.46	1683.67	20.17	0.59	20.16	0.07	20.17	88.33	MWD
1744	0.35	296.35	1743.67	19.85	0.75	19.84	0.01	19.85	87.83	MWD
1857	0.21	246.75	1856.67	19.35	0.82	19.34	0.24	19.35	87.56	Manual
1950	0.15	1.2	1949.67	19.2	0.88	19.18	0.33	19.2	87.38	Manual
2042	0.13	49.84	2041.67	19.29	1.07	19.26	0.13	19.29	86.83	Manual
2135	0.04	192.49	2134.67	19.36	1.1	19.34	0.18	19.37	86.74	Manual
2227	0.08	112.56	2226.67	19.41	1.05	19.39	0.09	19.42	86.91	Manual
2320	0.02	181.13	2319.67	19.47	1.01	19.45	0.08	19.48	87.04	Manual
2412	0.11	26.84	2411.67	19.51	1.07	19.49	0.14	19.52	86.86	Manual
2505	0.07	343.92	2504.67	19.54	1.2	19.51	0.08	19.55	86.47	Manual

2597	0.02	179.67	2596.67	19.52	1.24	19.5	0.1	19.54	86.36	Manual
2691	0.07	144.53	2690.67	19.56	1.18	19.53	0.06	19.57	86.55	Manual
2784	0.1	356.01	2783.67	19.58	1.21	19.56	0.18	19.6	86.45	Manual
2877	0.08	256.24	2876.67	19.52	1.28	19.49	0.15	19.53	86.25	Manual
2970	0.1	168.09	2969.67	19.47	1.18	19.44	0.14	19.48	86.52	Manual
3063	0.11	296.39	3062.67	19.4	1.14	19.38	0.2	19.41	86.63	Manual
3156	0.11	173.49	3155.67	19.33	1.09	19.31	0.21	19.34	86.76	Manual
3249	0.1	196.89	3248.67	19.32	0.93	19.3	0.05	19.32	87.25	Manual
3342	0.08	271.52	3341.67	19.23	0.85	19.21	0.12	19.23	87.46	Manual
3434	0.05	243.31	3433.67	19.12	0.84	19.11	0.05	19.13	87.5	Manual
3527	0.05	21.51	3526.67	19.1	0.85	19.09	0.1	19.11	87.44	Manual
3619	0.08	186.21	3618.67	19.11	0.83	19.1	0.14	19.11	87.52	Manual
3712	0.03	46.33	3711.67	19.12	0.78	19.11	0.11	19.12	87.66	Manual
3805	0.02	13.18	3804.67	19.14	0.81	19.13	0.02	19.14	87.57	Manual
3899	0.05	117.06	3898.67	19.18	0.81	19.17	0.06	19.18	87.58	Manual
3991	0.06	243.52	3990.67	19.17	0.77	19.16	0.11	19.18	87.7	Manual
4084	0.02	209.71	4083.67	19.12	0.73	19.11	0.05	19.12	87.8	Manual
4177	2.19	329.71	4176.64	18.26	2.26	18.2	2.37	18.34	82.94	Manual
4270	4	296.51	4269.51	14.54	5.24	14.41	2.66	15.33	70.02	Manual
4363	5.83	328.32	4362.18	9.3	10.71	9.02	3.46	14	40.11	Manual
4456	8.41	336.52	4454.46	4.37	20.97	3.83	2.97	21.31	10.35	Manual
4549	10.81	334.77	4546.15	-1.69	35.1	-2.6	2.6	35.19	355.76	Manual
4642	10.55	5.31	4637.61	-4.19	51.47	-5.53	6.02	51.77	353.87	Manual
4736	11.35	345.74	4729.93	-5.22	69.01	-7.01	4.02	69.37	354.2	Manual
4829	12.24	342.12	4820.96	-10.02	87.27	-12.29	1.24	88.13	351.98	Manual
4921	11.5	337.84	4911	-16.01	105.04	-18.75	1.25	106.7	349.88	Manual
5013	10.5	341.24	5001.31	-21.74	121.47	-24.9	1.3	124	348.41	Manual
5106	10.16	340.2	5092.8	-26.83	137.21	-30.41	0.42	140.54	347.5	Manual
5198	8.82	337.74	5183.54	-31.88	151.38	-35.83	1.52	155.56	346.68	Manual
5291	10.52	340.86	5275.22	-36.98	166	-41.31	1.91	171.06	346.02	Manual
5384	10.49	343.11	5366.66	-41.8	182.12	-46.56	0.44	187.98	345.66	Manual
5476	10.39	342.38	5457.13	-46.33	198.04	-51.5	0.18	204.63	345.42	Manual
5569	10.22	342.64	5548.63	-50.92	213.91	-56.5	0.19	221.24	345.2	Manual
5662	10.44	342.11	5640.13	-55.55	229.8	-61.55	0.26	237.9	345.01	Manual
5755	9.73	344.5	5731.69	-59.84	245.39	-66.24	0.89	254.18	344.89	Manual
5848	10.37	342.9	5823.26	-63.99	260.97	-70.8	0.75	270.4	344.82	Manual
5941	10.44	343.16	5914.73	-68.47	277.03	-75.7	0.09	287.19	344.72	Manual
6034	10.31	342.06	6006.21	-73.06	293.01	-80.71	0.25	303.92	344.6	Manual
6127	10.21	342.98	6097.73	-77.63	308.81	-85.68	0.21	320.48	344.49	Manual
6219	10.19	339.12	6188.27	-82.51	324.21	-90.97	0.74	336.73	344.33	Manual
6311	10.41	340.93	6278.79	-87.72	339.67	-96.59	0.43	353.14	344.13	Manual
6404	10.33	342.48	6370.27	-92.56	355.56	-101.84	0.31	369.86	344.02	Manual
6497	10.34	16.88	6461.85	-92.23	371.52	-101.93	6.54	385.25	344.66	Manual
6591	16.02	57.57	6553.52	-78.41	386.59	-88.49	11.22	396.59	347.11	Manual
6683	21.84	63.65	6640.51	-51.97	401.01	-62.42	6.67	405.83	351.15	Manual
6775	27.44	68.06	6724.11	-16.55	416.53	-27.39	6.4	417.43	356.24	Manual
6867	33.92	72.12	6803.2	27.99	432.35	16.75	7.39	432.68	2.22	Manual
6960	41.1	75.81	6876.93	82.78	447.84	71.16	8.09	453.46	9.03	Manual
7053	47.11	78.21	6943.69	146.18	462.31	134.21	6.71	481.39	16.19	Manual
7145	53.85	81.43	7000.53	216	474.7	200.70	7.10	516.57	22.22	Manual

7145	53.25	81.43	7002.58	216	474.7	203.72	7.19	516.57	23.23	Manual
7237	61.1	87.54	7052.45	293.01	481.94	280.58	10.19	557.66	30.21	Manual
7332	71.43	86.97	7090.63	379.84	486.11	367.32	10.89	609.29	37.08	Manual
7424	77.22	88.37	7115.48	468.37	489.7	455.79	6.46	668.99	42.95	Manual
7516	81.4	87.49	7132.54	558.74	492.97	546.11	4.64	735.7	47.93	Manual
7609	87.29	85.98	7141.7	651.2	498.24	638.46	6.54	809.86	52.03	Manual
7702	88.14	86.32	7145.41	744.05	504.48	731.18	0.98	888.33	55.4	Manual
7795	88.36	89.31	7148.25	836.99	508.02	824.06	3.22	968.07	58.35	Manual
7888	89.08	88.74	7150.33	929.96	509.61	917.02	0.99	1049.11	60.94	Manual
7980	89.16	89.26	7151.74	1021.95	511.21	1009	0.57	1131.11	63.13	Manual
8074	89.03	88.9	7153.23	1115.93	512.72	1102.97	0.41	1216.32	65.07	Manual
8167	89.31	89.06	7154.58	1208.92	514.37	1195.95	0.35	1301.87	66.73	Manual
8261	88.83	89.79	7156.1	1302.89	515.32	1289.93	0.93	1389.05	68.22	Manual
8354	90.02	88.75	7157.03	1395.88	516.5	1382.91	1.7	1476.22	69.52	Manual
8446	89.79	89	7157.19	1487.87	518.31	1474.9	0.37	1563.32	70.64	Manual
8539	89.61	88.33	7157.67	1580.87	520.48	1567.87	0.75	1652	71.64	Manual
8631	89.47	89.16	7158.41	1672.87	522.49	1659.84	0.91	1740.14	72.53	Manual
8724	89.89	88.97	7158.93	1765.86	524.01	1752.83	0.5	1829.48	73.36	Manual
8816	89.93	88.21	7159.08	1857.86	526.27	1844.8	0.83	1918.4	74.08	Manual
8909	89.74	88.37	7159.34	1950.86	529.05	1937.76	0.27	2008.68	74.73	Manual
9001	89.65	89.5	7159.83	2042.85	530.76	2029.74	1.23	2097.99	75.35	Manual
9094	89.58	88.77	7160.46	2135.85	532.16	2122.73	0.79	2188.42	75.93	Manual
9186	89.91	89.47	7160.87	2227.84	533.57	2214.71	0.84	2278.08	76.45	Manual
9278	89.64	88.41	7161.23	2319.83	535.28	2306.7	1.19	2367.99	76.94	Manual
9371	89.65	88.44	7161.81	2412.83	537.83	2399.66	0.03	2459.19	77.37	Manual
9464	89.47	88.5	7162.52	2505.83	540.32	2492.62	0.2	2550.51	77.77	Manual
9557	88.93	88.96	7163.82	2598.82	542.38	2585.59	0.76	2641.86	78.15	Manual
9650	88.76	88.93	7165.69	2691.8	544.09	2678.56	0.19	2733.26	78.52	Manual
9742	88.73	88.63	7167.71	2783.77	546.05	2770.51	0.33	2823.81	78.85	Manual
9835	88.56	90.23	7169.91	2876.73	546.97	2863.48	1.73	2915.25	79.19	Manual
9929	88.64	89.35	7172.2	2970.68	547.32	2957.45	0.94	3007.67	79.52	Manual
10022	89.14	89.25	7174.01	3063.65	548.45	3050.42	0.55	3099.34	79.81	Manual
10114	89.69	89.34	7174.95	3155.64	549.58	3142.41	0.61	3190.11	80.08	Manual
10208	89.61	88.57	7175.52	3249.63	551.3	3236.39	0.82	3283.01	80.33	Manual
10300	90.01	88.28	7175.82	3341.63	553.83	3328.36	0.54	3374.12	80.55	Manual
10392	89.82	88.44	7175.96	3433.63	556.46	3420.32	0.27	3465.29	80.76	Manual
10484	89.93	89.13	7176.16	3525.63	558.41	3512.3	0.76	3556.41	80.97	Manual
10577	89.74	87.96	7176.43	3618.63	560.77	3605.27	1.27	3648.62	81.16	Manual
10671	89.95	88.16	7176.68	3712.63	563.95	3699.21	0.31	3741.95	81.33	Manual
10767	89.5	89.77	7177.14	3808.62	565.69	3795.19	1.74	3837.12	81.52	Manual
10859	89.83	88.9	7177.68	3900.61	566.76	3887.18	1.01	3928.28	81.7	Manual
10953	89.38	88.67	7178.33	3994.6	568.75	3981.16	0.54	4021.58	81.87	Manual
11048	88.9	88.89	7179.76	4089.59	570.77	4076.13	0.56	4115.9	82.03	Manual
11141	89.1	89.12	7181.38	4182.57	572.39	4169.1	0.33	4208.21	82.18	Manual
11234	89.61	88.17	7182.43	4275.57	574.59	4262.07	1.16	4300.62	82.32	Manual
11326	89.95	89.2	7182.78	4367.56	576.7	4354.04	1.18	4392.07	82.46	Manual
11419	89.53	89.25	7183.2	4460.55	577.95	4447.03	0.45	4484.43	82.6	Manual
11513	89.91	88.89	7183.66	4554.55	579.48	4541.02	0.56	4577.84	82.73	Manual
11605	89.65	89.24	7184.01	4646.54	580.98	4633	0.47	4669.29	82.85	Manual
11698	89.79	88.77	7184.47	4739.54	582.6	4725.99	0.53	4761.76	82.97	Manual

11790	89.77	88.41	7184.82	4831.54	584.86	4817.96	0.39	4853.33	83.08	Manual
11885	87.41	93.39	7187.16	4926.39	583.37	4912.88	5.8	4947.4	83.23	Manual
11977	89.61	89.15	7189.55	5018.23	581.33	5004.8	5.19	5038.45	83.37	Manual
12070	90.31	87.04	7189.62	5111.22	584.43	5097.74	2.39	5131.14	83.46	Manual
12163	88.57	88.81	7190.53	5204.2	587.79	5190.67	2.67	5223.85	83.54	Manual
12256	90.4	86.89	7191.36	5297.18	591.28	5283.59	2.85	5316.58	83.61	Manual
12349	90.25	87.83	7190.84	5390.16	595.57	5376.49	1.02	5409.38	83.68	Manual
12442	90.2	87.39	7190.47	5483.15	599.44	5469.41	0.48	5502.16	83.75	Manual
12535	90.16	88.26	7190.18	5576.14	602.97	5562.34	0.94	5594.93	83.81	Manual
12628	89.45	89.76	7190.5	5669.13	604.58	5655.33	1.78	5687.55	83.9	Manual
12721	90.05	88.93	7190.9	5762.12	605.64	5748.32	1.1	5780.13	83.99	Manual
12813	90.49	87.79	7190.47	5854.12	608.28	5840.28	1.33	5871.87	84.05	Manual
12908	90.1	88.15	7189.98	5949.11	611.64	5935.22	0.56	5966.65	84.12	Manual
13000	90.1	89.04	7189.82	6041.11	613.9	6027.19	0.97	6058.37	84.18	Manual
13096	90	88.58	7189.73	6137.11	615.89	6123.17	0.49	6154.06	84.26	Manual
13190	89.96	88.53	7189.77	6231.11	618.26	6217.14	0.07	6247.8	84.32	Manual
13282	90.22	90.47	7189.62	6323.09	619.06	6309.13	2.13	6339.43	84.4	Manual
13375	89.88	89.05	7189.54	6416.07	619.45	6402.12	1.57	6432.02	84.47	Manual
13467	89.67	88.56	7189.9	6508.06	621.37	6494.1	0.58	6523.76	84.53	Manual
13559	89.65	89.03	7190.45	6600.06	623.31	6586.08	0.51	6615.51	84.59	Manual
13653	89.8	87.94	7190.9	6694.06	625.79	6680.05	1.17	6709.29	84.65	Manual
13745	89.42	88.63	7191.53	6786.06	628.55	6772	0.86	6801.11	84.7	Manual
13837	89.08	88.65	7192.73	6878.05	630.73	6863.97	0.37	6892.89	84.75	Manual
13930	89.66	88.86	7193.75	6971.04	632.75	6956.94	0.66	6985.66	84.8	Manual
14023	89.59	88.57	7194.36	7064.04	634.83	7049.91	0.32	7078.44	84.85	Manual
14115	89.6	87.13	7195.01	7156.03	638.29	7141.84	1.57	7170.31	84.89	Manual
14207	89.89	87.14	7195.42	7248	642.88	7233.73	0.32	7262.24	84.92	Manual
14300	89.81	87.64	7195.67	7340.98	647.12	7326.63	0.54	7355.15	84.95	Manual
14392	90.02	86.62	7195.8	7432.95	651.73	7418.51	1.13	7447.09	84.98	Manual
14485	90	88.34	7195.79	7525.93	655.81	7511.42	1.85	7540	85.01	Manual
14578	89.8	88.16	7195.95	7618.93	658.65	7604.38	0.29	7632.85	85.05	Manual
14670	88.9	90.29	7196.99	7710.91	659.9	7696.36	2.51	7724.6	85.1	Manual
14763	89.92	88.02	7197.95	7803.9	661.27	7789.33	2.68	7817.35	85.15	Manual
14855	89.97	87.87	7198.04	7895.89	664.57	7881.28	0.17	7909.24	85.18	Manual
14948	90.25	87.93	7197.86	7988.89	667.98	7974.21	0.31	8002.14	85.21	Manual
15041	89.95	88.5	7197.7	8081.88	670.87	8067.17	0.69	8095.01	85.25	Manual
15133	89.7	88.12	7197.98	8173.88	673.59	8159.13	0.49	8186.88	85.28	Manual
15226	90	87.36	7198.22	8266.87	677.25	8252.05	0.88	8279.8	85.31	Manual
15318	89.95	87.1	7198.26	8358.85	681.7	8343.95	0.29	8371.75	85.33	Manual
15410	90.3	87.71	7198.06	8450.83	685.87	8435.85	0.76	8463.69	85.35	Manual
15467	90.12	86.73	7197.85	8507.82	688.63	8492.78	1.75	8520.65	85.36	Manual
15489	90.12	86.73	7197.81	8529.81	689.89	8514.75	0	8542.65	85.37	Manual

Company :

Well :

Field Name :

County Name :

State Name :

Country Name :

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Wattenberg

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