

Xbolt GAMMA RAY

1in/100ft Measured Depth

Final Print

Recorded Mode



Company: **PDC Energy INC.**

Well: Hen 07N

Field Name: Wattenberg

Country Name: United States

State Name: Colorado

Country Name: Weld

Latitude	40°19'41.408"N	API Number	05-123-51796
Longitude	104°34'20.439"W	Rig Name	Patterson 272
Spud Date	20-Aug-2023	Rig Type	Land rig
Log Interval	1714.00--14755.50(ft)	Job Number	O.1041735.14
Depth Source	Driller's Depth	Print Type	Final Print
Log Measured From	Drill Floor	Northing	1363745.58(ft)
Rig Floor Above GL	28.50(ft)	Easting	3258630.75(ft)
Ground Level Above MSL	4779.00(ft)	Coordinate System	NAD83 Colorado State Plane, Northern Zone, US Feet

Disclaimer

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Operational Run Summary

Notes:

Run 1 (Bit Size: 8.5in)

DateTime Log Started	22-Aug-2023 16:21:20	DateTime Log Finished	22-Aug-2023 21:38:07
Start Depth	1714(ft)	Stop Depth	1762(ft)
Mud Type	Oil Based Mud	Mud Density	10.2(lbm/gal)
Potassium	0(%)	Barite	Yes
GR Sensor Offset	29.45(ft)	Calibration Coefficient	0
DNI Sensor Offset	33.09(ft)		

Run 2 (Bit Size: 8.5in)

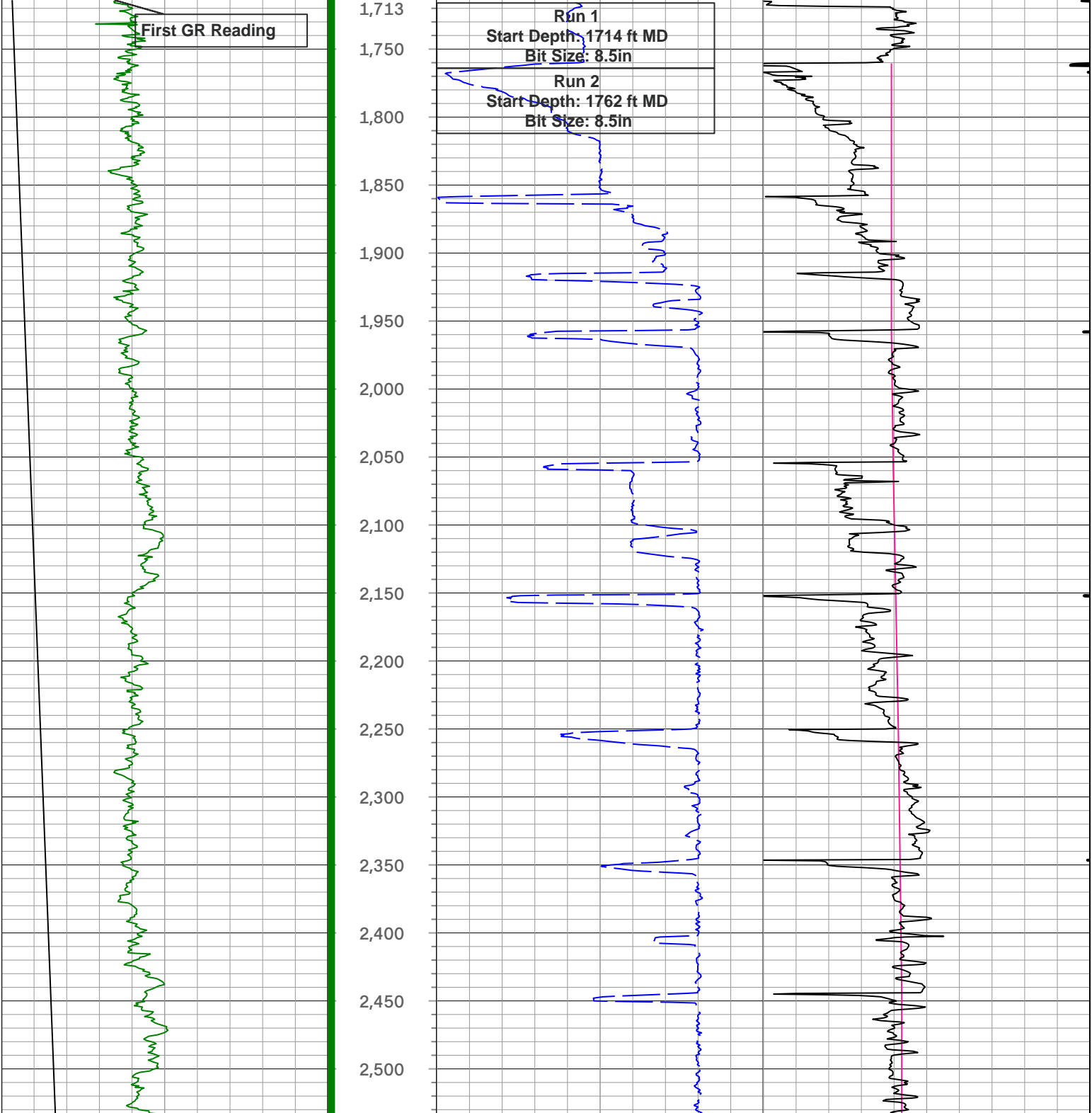
DateTime Log Started	23-Aug-2023 17:07:54	DateTime Log Finished	25-Aug-2023 19:42:07
Start Depth	1762(ft)	Stop Depth	14756(ft)

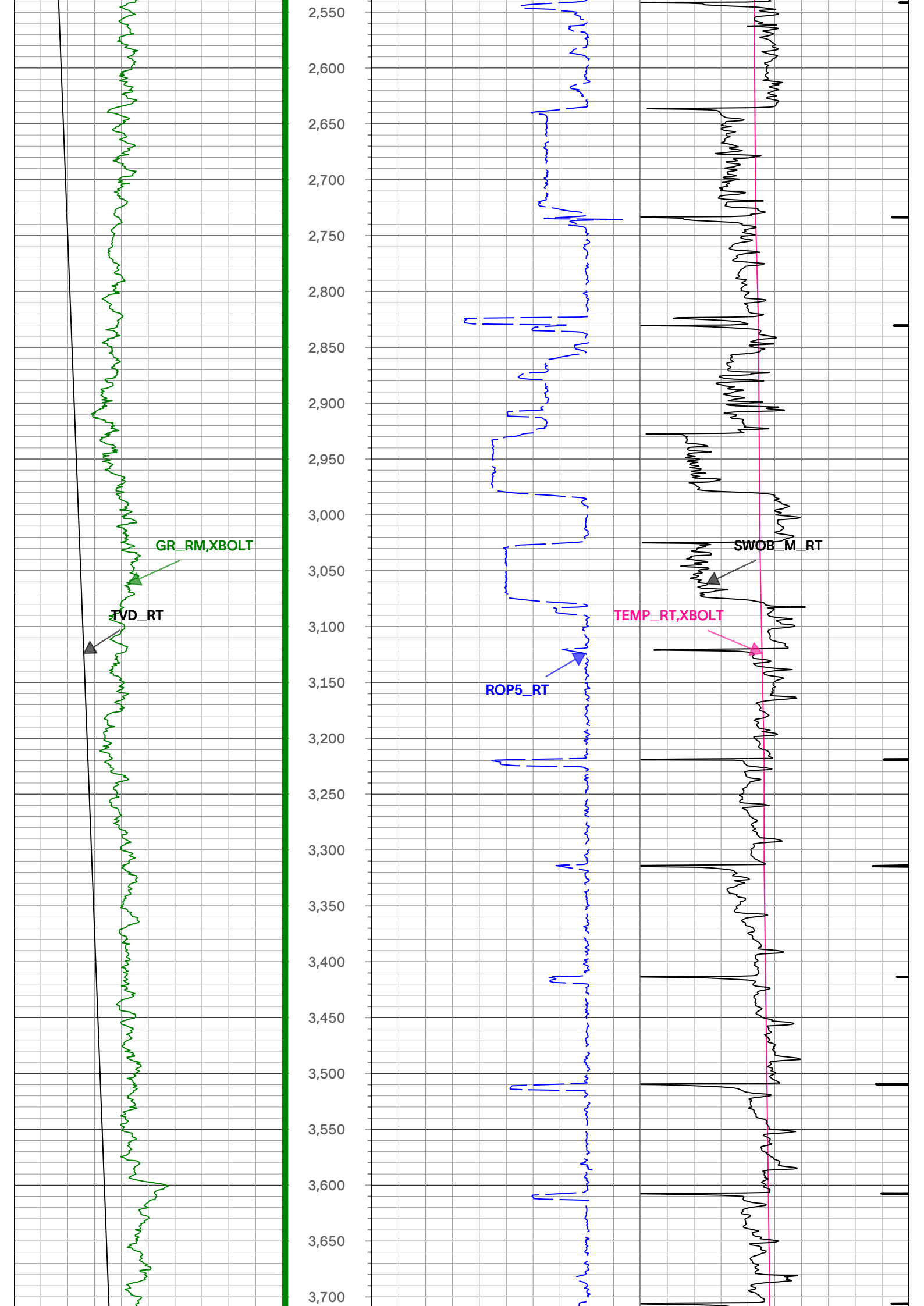
Mud Type	Oil Based Mud	Mud Density	10.2(lbm/gal)
Potassium	0(%)	Barite	Yes
GR Sensor Offset	29.32(ft)	Calibration Coefficient	0
DNI Sensor Offset	32.96(ft)		

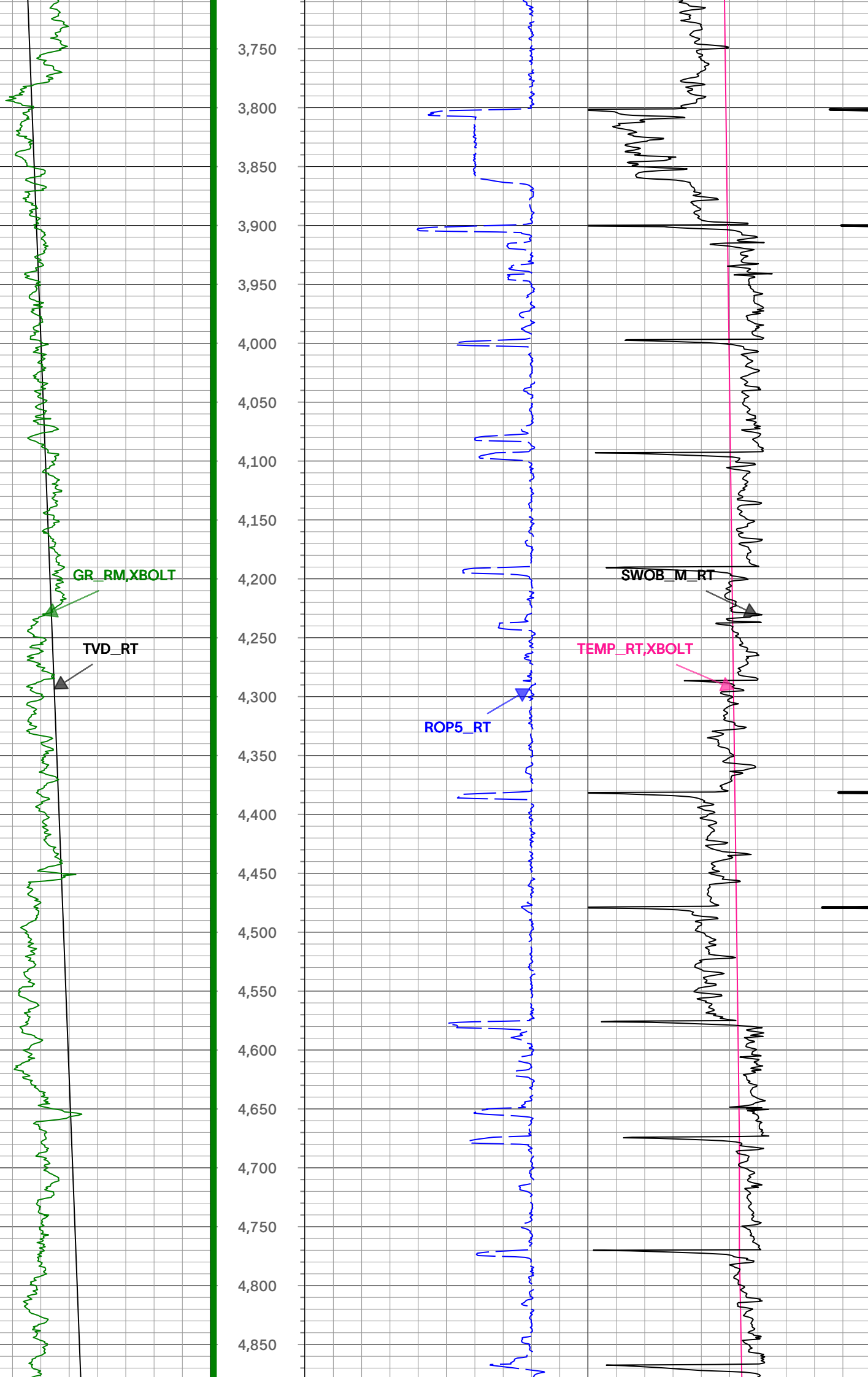
● Log

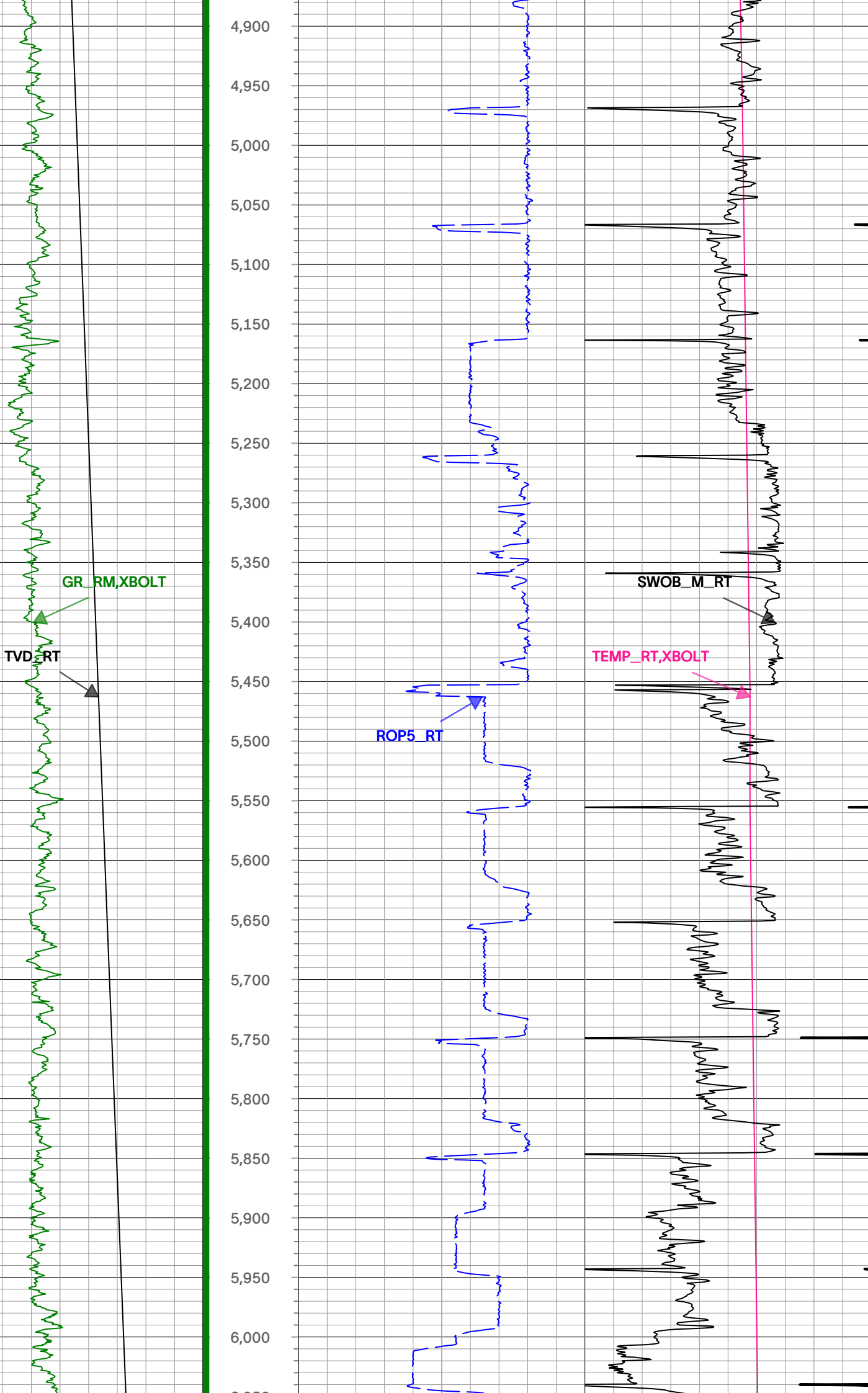
Description: Xbolt GAMMA RAY	Format: XBOLT_PDC	Index Scale: 1in/100ft
Index Type: Measured Depth	Creation Date: 28-Aug-2023	Index Unit: ft

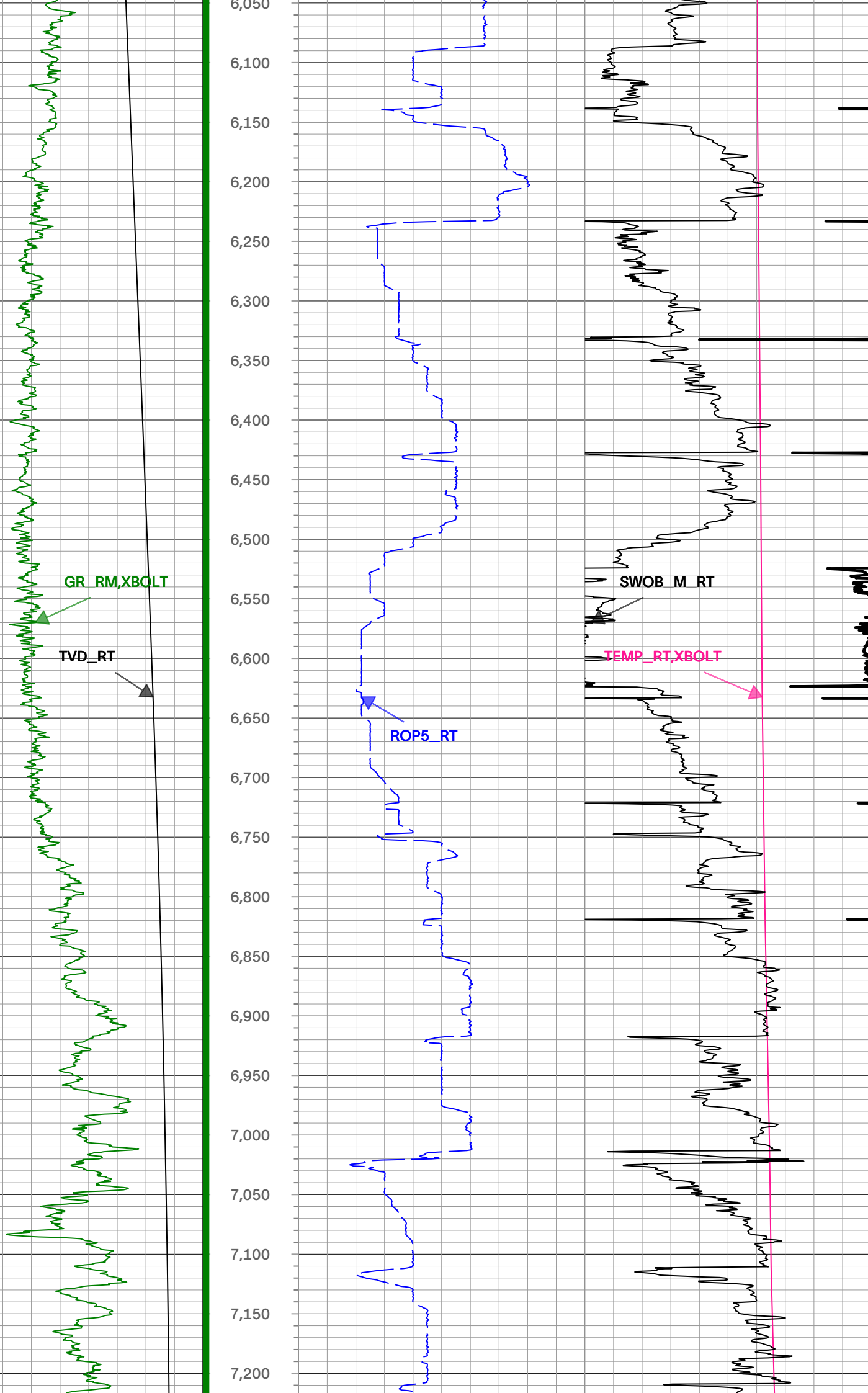
TVD_RT	Depth	ROP5_RT	TEMP_RT,XBOLT
1,500 ft, Borehole 7,500	1 : 100	0 ft/h, Borehole 1,000	0 degF, Borehole 300
GR_RM,XBOLT	in : ft		SWOB_M_RT
0 gAPI, Borehole 300			0 1000 lbm, Borehole 50

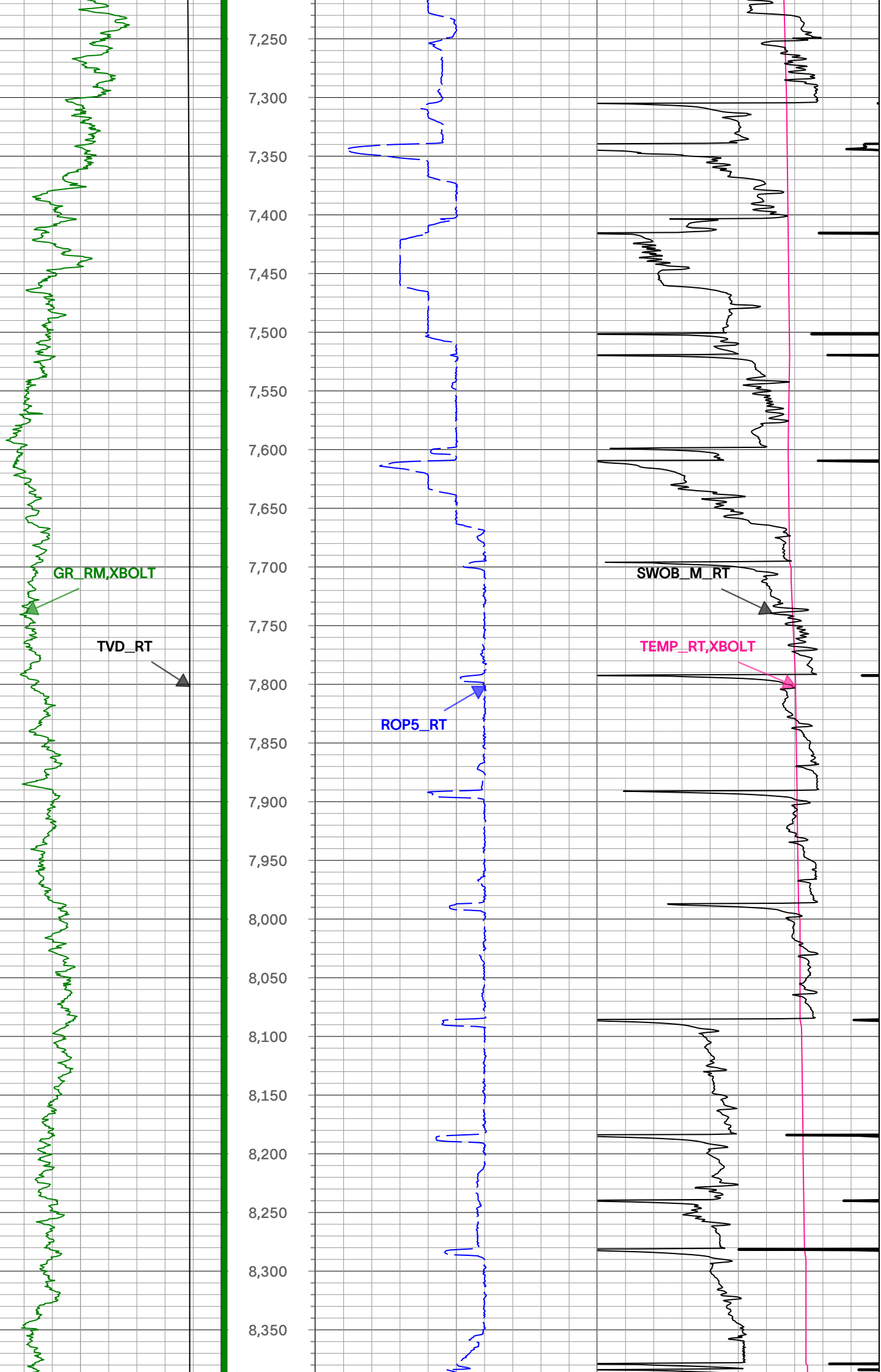


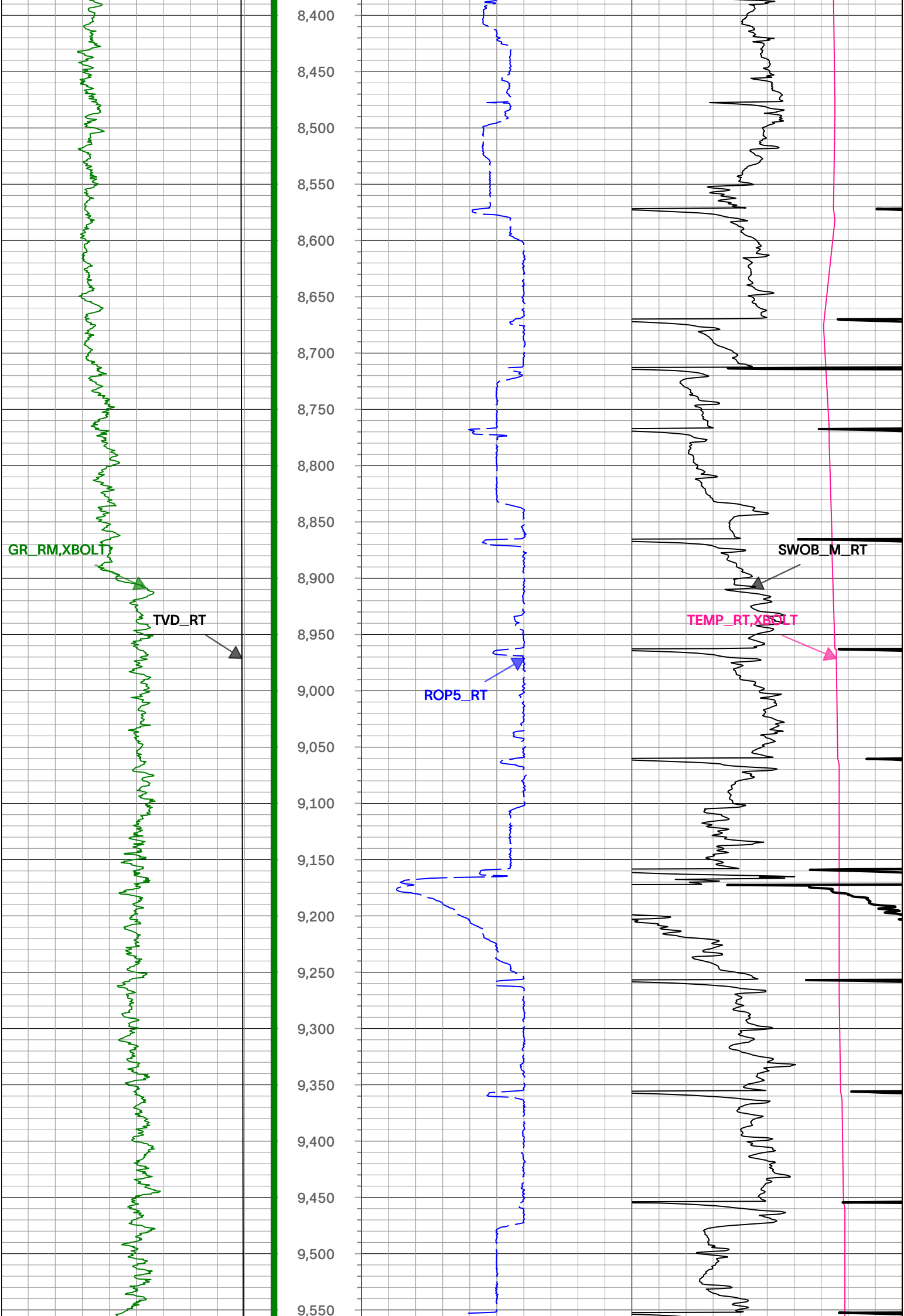


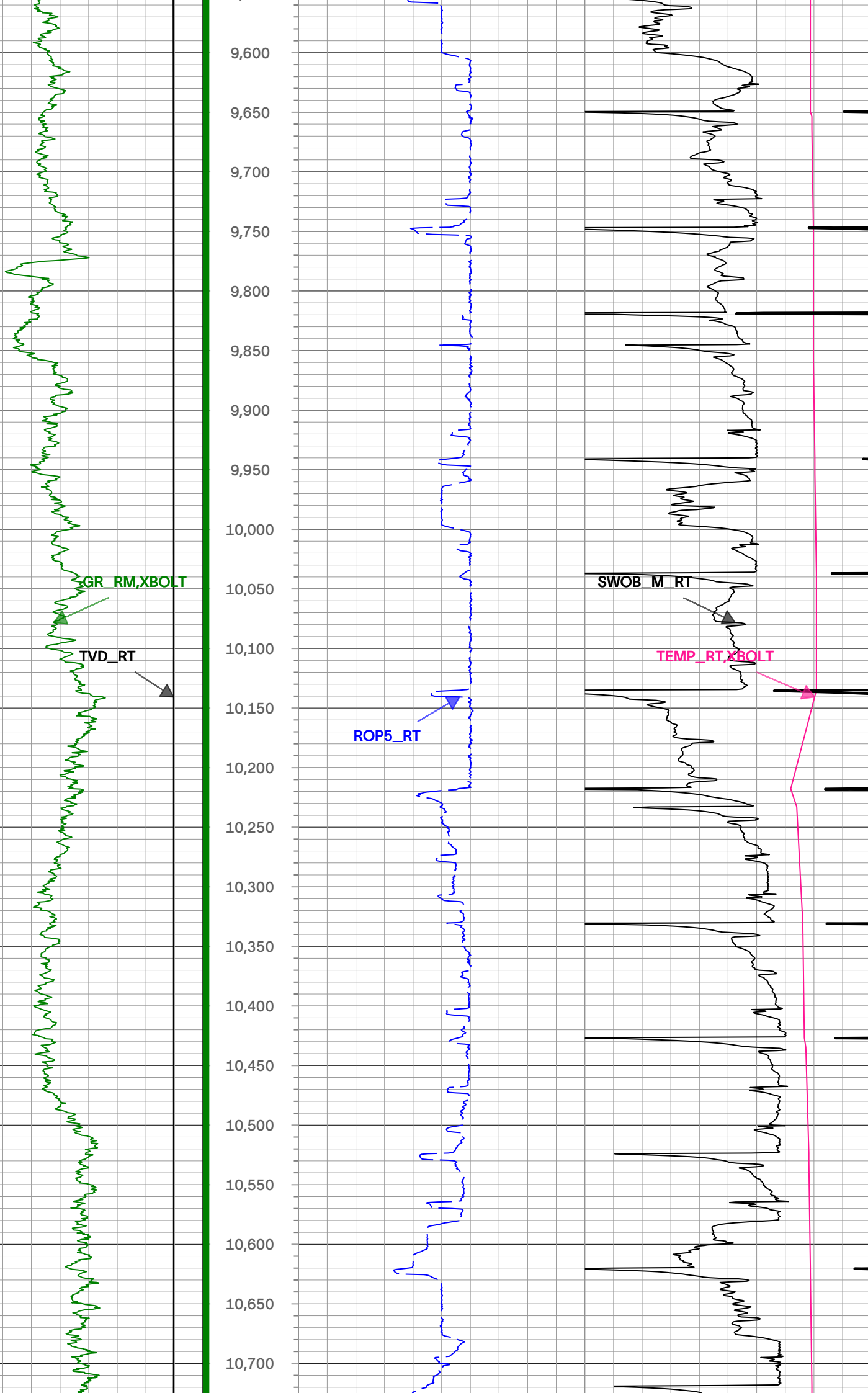


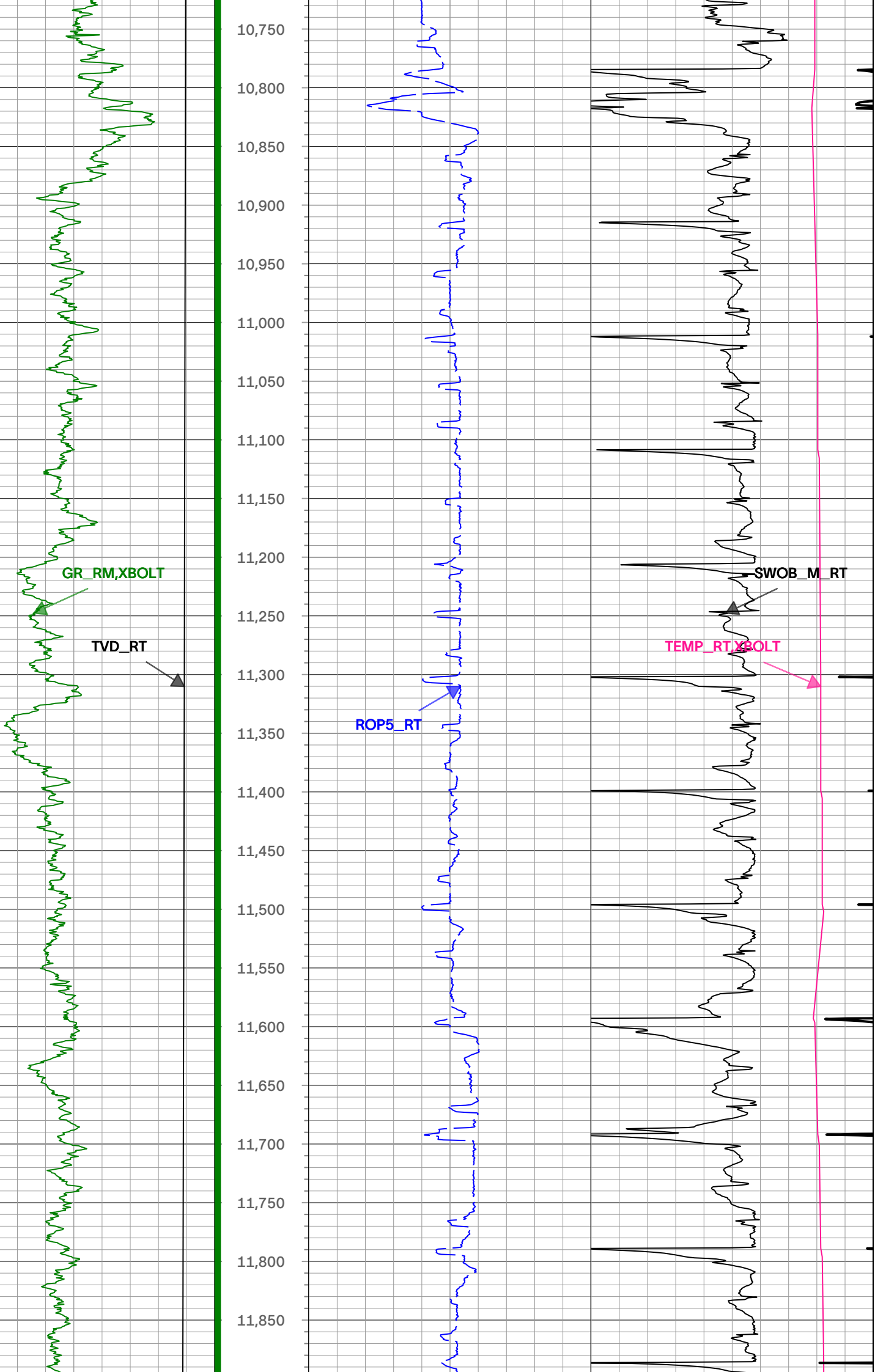


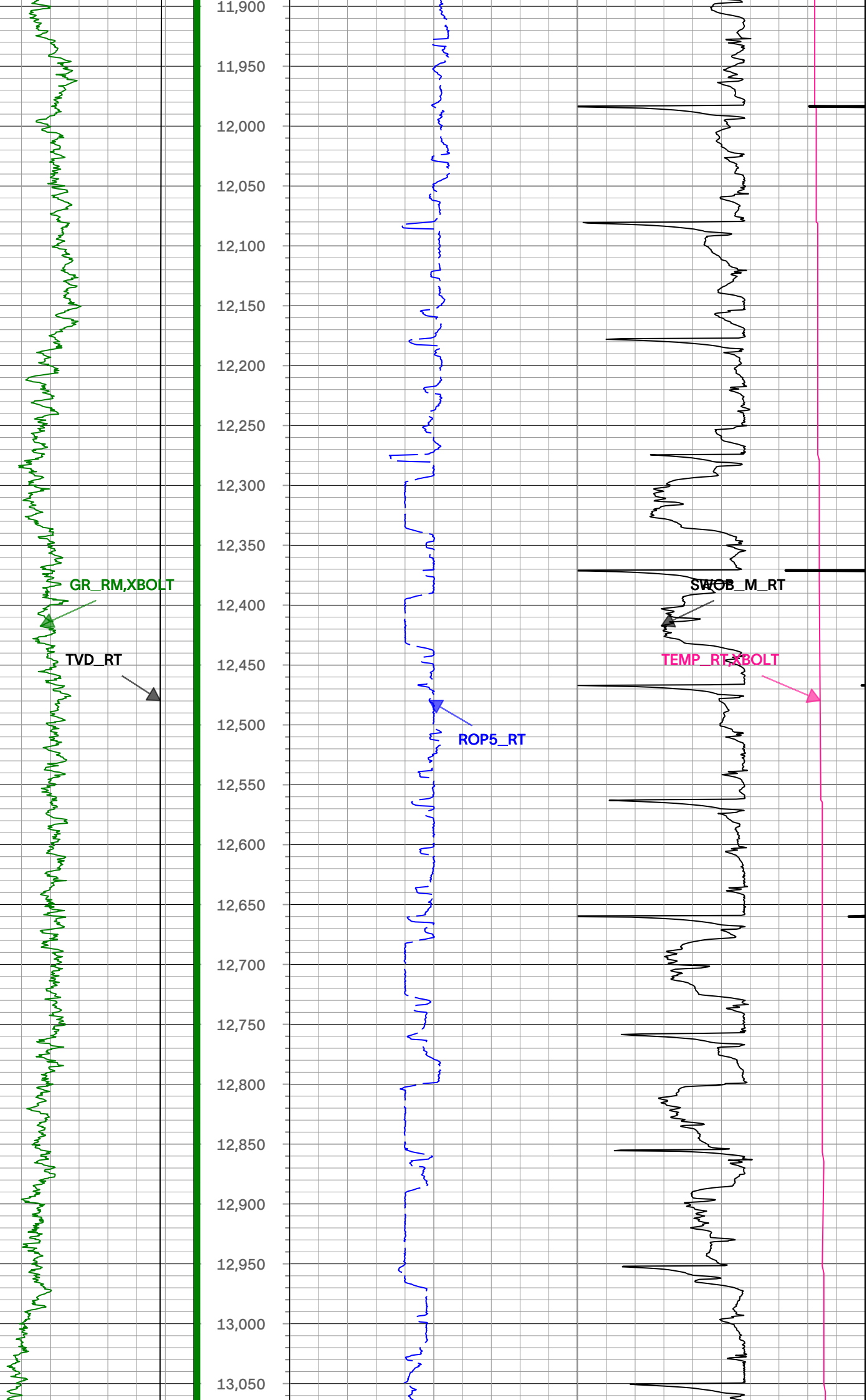


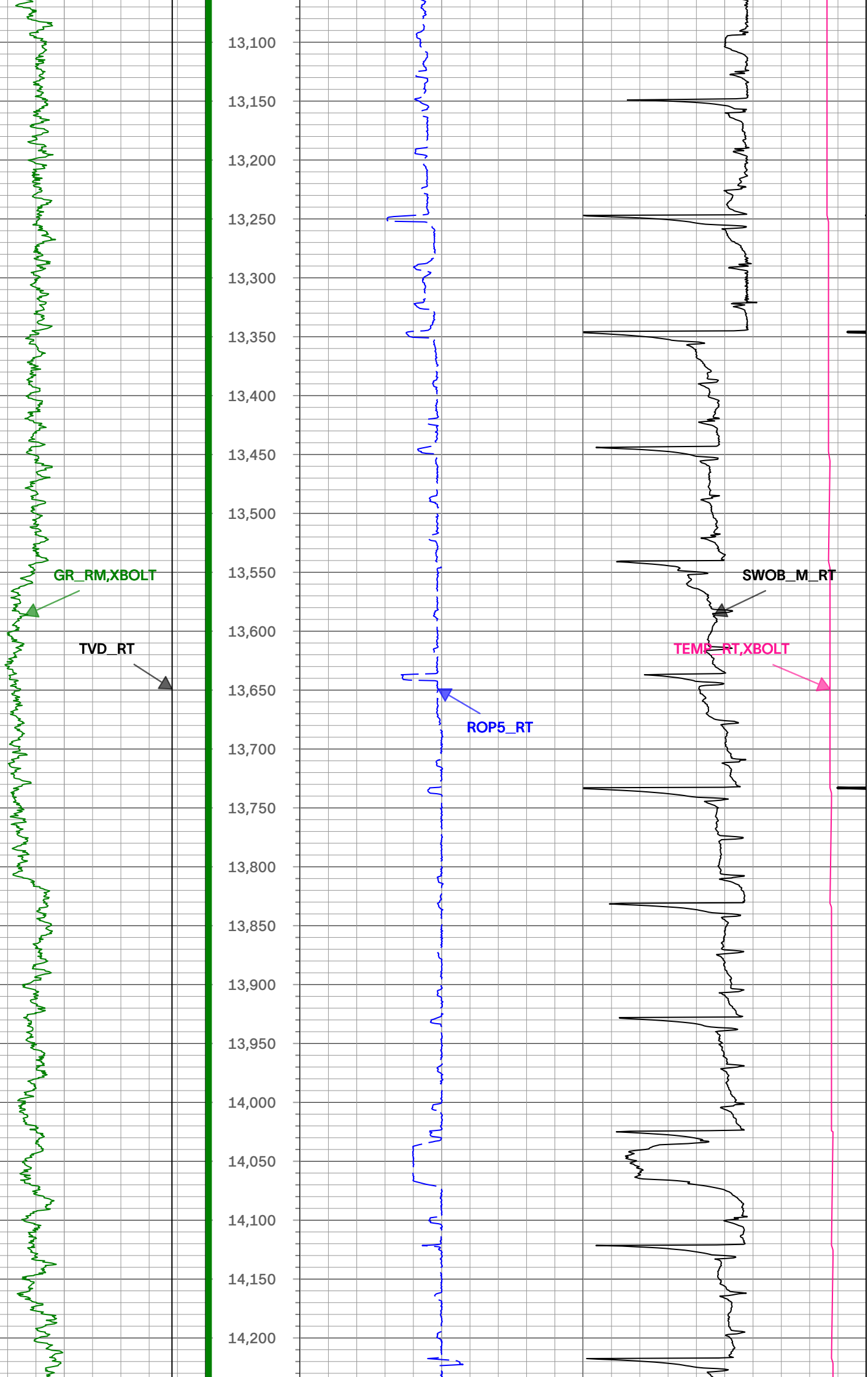


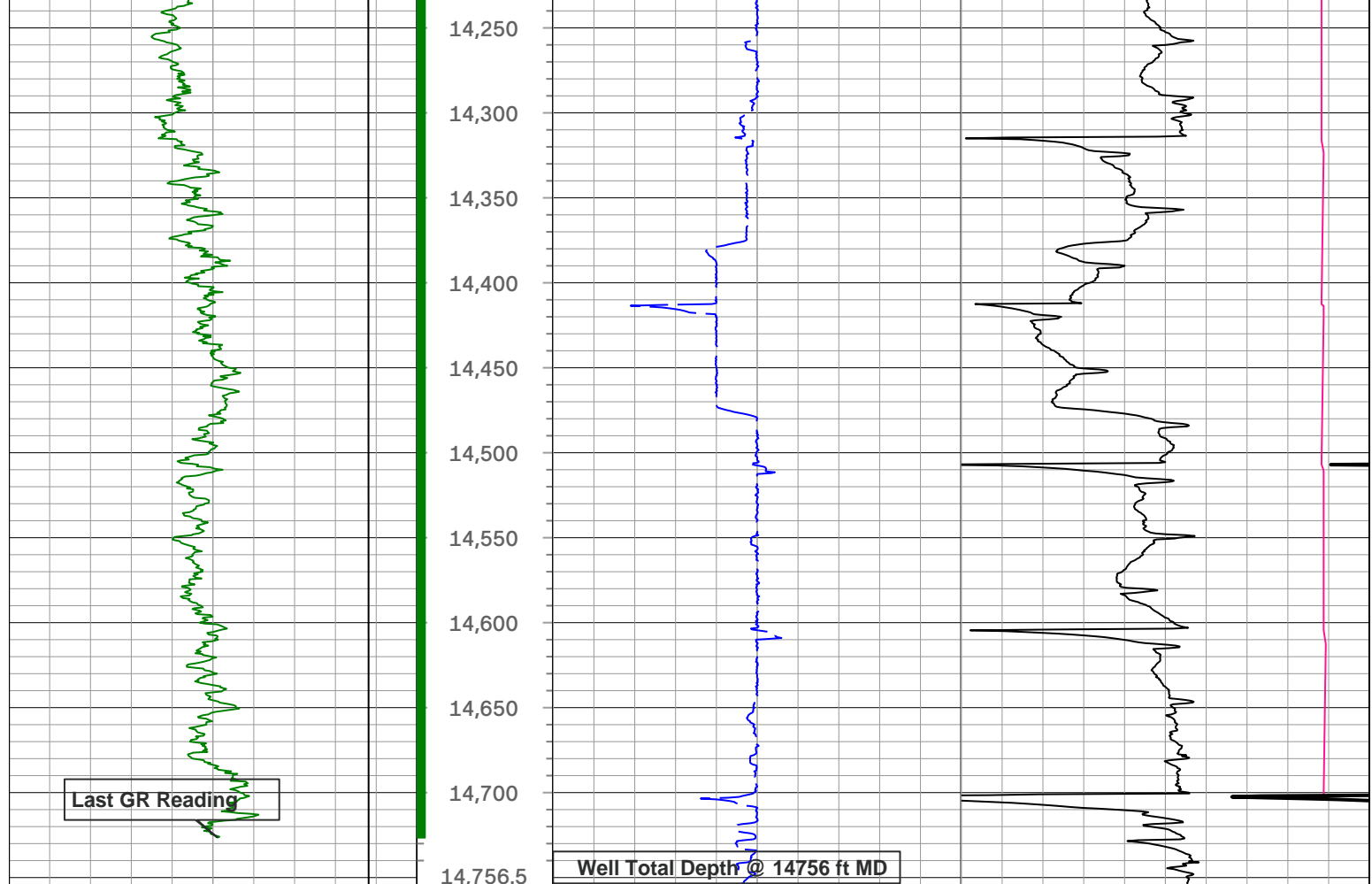












TVD_RT		Depth 1 : 100 in : ft	ROP5_RT		TEMP_RT,XBOLT				
1,500	ft, Borehole		7,500	0	ft/h, Borehole	1,000	0	degF, Borehole	300
GR_RM,XBOLT			SWOB_M_RT						
0	gAPI, Borehole	300	0	1000 lbm, Borehole	50				

Description: Xbolt GAMMA RAY Format: XBOLT_PDC Index Scale: 1in/100ft
 Index Type: Measured Depth Creation Date: 28-Aug-2023 Index Unit: ft

● 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 - 1

Geomagnetic Model:	HDGM 2023	Geomagnetic Date:	20-Aug-2023 23:00:00
Location B:	51621 (nT)	Location G:	999.026 (mgn)
Magnetic Dip:	66.54 (deg)	Magnetic Dec:	7.662 (deg)
Total Correction:	7.662		

D&I Inits - Run - 2

Geomagnetic Model:	HDGM 2023	Geomagnetic Date:	18-Aug-2023 18:00:00
Location B:	51621 (nT)	Location G:	999.026 (mgn)
Magnetic Dip:	66.54 (deg)	Magnetic Dec:	7.662 (deg)

Total Correction:			7.662								
MD	Incl	Azim	TVD	V Sec	N/-S	E/-W	DLS	Closure Distance	Closure Azimuth	Tool Type	
(ft)	(deg)	(deg)	(ft)	(ft)	(ft)	(ft)	(deg/100ft)	(ft)	(deg)		
0	0	0	0	0.00	0	0	0.00			TIP	
159.5	0.44	86.26	159.5	0.61	0.04	0.61	0.28	0.61	86.26	MWD	
249.5	0.79	100.5	249.49	1.56	-0.05	1.57	0.42	1.57	91.85	MWD	
340.5	1.23	126.17	340.48	2.9	-0.74	2.97	0.68	3.06	104.01	MWD	
456.5	0.88	133.02	456.46	4.43	-2.08	4.63	0.32	5.08	114.24	MWD	
545.5	0.88	127.92	545.45	5.39	-2.97	5.67	0.09	6.4	117.66	MWD	
629.5	0.62	318.34	629.45	5.59	-3.03	5.87	1.78	6.61	117.27	MWD	
715.5	2.9	322.89	715.4	4.15	-0.94	4.25	2.65	4.35	102.52	MWD	
801.5	4.31	317.94	801.23	1.04	3.19	0.77	1.68	3.28	13.63	MWD	
888.5	4.92	313.37	887.95	-3.41	8.18	-4.13	0.82	9.16	333.22	MWD	
977.5	5.54	314.08	976.57	-8.77	13.79	-9.99	0.7	17.03	324.08	MWD	
1066.5	6.07	315.66	1065.12	-14.58	20.14	-16.36	0.62	25.95	320.91	MWD	
1151.5	6.86	314.08	1149.58	-20.77	26.89	-23.15	0.95	35.48	319.27	MWD	
1237.5	8.53	312.32	1234.8	-28.47	34.76	-31.56	1.96	46.95	317.76	MWD	
1322.5	10.11	307.92	1318.68	-38.22	43.59	-42.11	2.04	60.6	315.99	MWD	
1407.5	12.13	308.28	1402.08	-50.2	53.7	-55	2.38	76.87	314.32	MWD	
1495.5	15.39	309.51	1487.54	-65.29	66.87	-71.27	3.72	97.73	313.17	MWD	
1582.5	15.3	308.8	1571.44	-81.83	81.4	-89.13	0.24	120.71	312.41	MWD	
1654.5	15.3	306.69	1640.89	-95.8	93.03	-104.15	0.77	139.65	311.77	MWD	
1728	15.2	305.97	1711.8	-110.34	104.48	-119.72	0.29	158.9	311.11	MWD	
1826	14.67	306.59	1806.49	-129.35	119.43	-140.08	0.56	184.08	310.45	MWD	
1924	14.61	315.94	1901.32	-146.45	135.71	-158.64	2.41	208.77	310.54	MWD	
2021	14.5	316.93	1995.21	-161.67	153.37	-175.44	0.28	233.03	311.16	MWD	
2118	14.36	317.66	2089.15	-176.49	171.13	-191.84	0.24	257.08	311.74	MWD	
2215	15.19	310.01	2182.95	-192.8	188.2	-209.68	2.18	281.75	311.91	Manual	
2313	14.07	313.52	2277.77	-209.79	204.65	-228.15	1.46	306.49	311.89	Manual	
2407	14.96	313.66	2368.77	-225.4	220.9	-245.21	0.95	330.04	312.01	Manual	
2504	14.86	312.7	2462.5	-242.07	237.98	-263.41	0.27	354.99	312.1	Manual	
2601	14.61	312.16	2556.31	-258.79	254.62	-281.62	0.29	379.66	312.12	Manual	
2698	14.78	312.54	2650.14	-275.49	271.2	-299.8	0.2	404.27	312.13	Manual	
2795	14.3	309.79	2744.03	-292.37	287.23	-318.13	0.87	428.61	312.08	Manual	
2892	14.7	307.2	2837.95	-310.02	302.34	-337.13	0.79	452.85	311.89	Manual	
2989	15.81	297.79	2931.54	-330.27	315.94	-358.63	2.79	477.95	311.38	Manual	
3086	16.3	293.07	3024.76	-353.41	327.44	-382.85	1.44	503.77	310.54	Manual	
3183	15.81	290.75	3117.98	-377.35	337.46	-407.73	0.83	529.26	309.61	Manual	

3281	15.68	289.27	3212.3	-401.46	346.56	-432.71	0.43	554.38	308.69	Manual
3377	15.49	289.36	3304.77	-424.98	355.09	-457.05	0.2	578.78	307.84	Manual
3475	15.83	292.28	3399.14	-448.8	364.49	-481.77	0.88	604.11	307.11	Manual
3573	15.75	291	3493.44	-472.66	374.33	-506.55	0.36	629.85	306.46	Manual
3670	15.89	291.77	3586.76	-496.36	383.97	-531.18	0.26	655.42	305.86	Manual
3766	16.38	291.33	3678.98	-520.25	393.77	-555.99	0.53	681.31	305.31	Manual
3863	16.65	292.46	3771.98	-544.85	404.05	-581.57	0.43	708.15	304.79	Manual
3960	17.07	291.4	3864.81	-569.96	414.55	-607.67	0.54	735.61	304.3	Manual
4056	16.73	292.18	3956.67	-594.89	424.91	-633.58	0.43	762.88	303.85	Manual
4153	16.19	291.73	4049.69	-619.41	435.19	-659.07	0.57	789.79	303.44	Manual
4250	16.44	290.59	4142.78	-643.88	445.02	-684.48	0.42	816.43	303.03	Manual
4348	16.39	291.72	4236.79	-668.76	455.02	-710.31	0.33	843.55	302.64	Manual
4445	16.6	292.79	4329.8	-693.26	465.45	-735.8	0.38	870.66	302.32	Manual
4543	16.48	292.12	4423.74	-718.04	476.11	-761.58	0.23	898.16	302.01	Manual
4640	16.02	293.22	4516.87	-742.1	486.56	-786.63	0.57	924.95	301.74	Manual
4737	16.6	290.74	4609.96	-766.39	496.75	-811.89	0.93	951.8	301.46	Manual
4836	16.43	291.14	4704.88	-791.72	506.8	-838.17	0.21	979.48	301.16	Manual
4934	15.85	289.68	4799.02	-816.34	516.31	-863.7	0.72	1006.26	300.87	Manual
5031	16.24	290.5	4892.24	-840.64	525.52	-888.88	0.47	1032.61	300.59	Manual
5129	16.47	292.35	4986.27	-865.36	535.6	-914.56	0.58	1059.86	300.35	Manual
5226	16.12	293.44	5079.38	-889.44	546.19	-939.63	0.48	1086.85	300.17	Manual
5325	15.52	292.64	5174.63	-913.28	556.75	-964.47	0.64	1113.63	300	Manual
5423	15.34	291.22	5269.1	-936.54	566.49	-988.65	0.43	1139.45	299.81	Manual
5520	15.87	293.19	5362.52	-959.76	576.36	-1012.81	0.77	1165.32	299.64	Manual
5616	14.24	295.53	5455.22	-981.52	586.62	-1035.53	1.81	1190.14	299.53	Manual
5714	12.28	298.2	5550.61	-1000.64	596.74	-1055.59	2.09	1212.59	299.48	Manual
5811	9.06	297.87	5645.92	-1015.71	605.19	-1071.44	3.32	1230.54	299.46	Manual
5909	9.12	297.66	5742.69	-1028.74	612.4	-1085.14	0.07	1246.01	299.44	Manual
6006	7.69	290.15	5838.64	-1041.1	618.2	-1098.04	1.86	1260.11	299.38	Manual
6103	4.39	292.75	5935.09	-1050.27	621.88	-1107.56	3.41	1270.2	299.31	Manual
6199	0.08	45.5	6031	-1053.47	623.34	-1110.9	4.61	1273.84	299.3	Manual
6296	4.71	88	6127.89	-1049.44	623.53	-1106.87	4.8	1270.41	299.39	Manual
6393	12.45	73.45	6223.74	-1035.2	626.65	-1092.84	8.22	1259.76	299.83	Manual
6491	16.38	80.47	6318.64	-1011.07	631.95	-1069.08	4.38	1241.89	300.59	Manual
6589	23.29	89.53	6410.79	-977.93	634.4	-1036.03	7.7	1214.84	301.48	Manual
6687	32.7	94.25	6497.24	-932.37	632.6	-990.15	9.86	1174.98	302.57	Manual
6785	43.73	91.01	6574.13	-872.36	630.03	-929.69	11.44	1123.06	304.12	Manual
6882	52.42	93.08	6638.88	-800.8	627.37	-857.65	9.1	1062.61	306.19	Manual
6979	61.78	95.36	6691.52	-720.5	621.3	-776.53	9.85	994.49	308.66	Manual

ID	Q1	Q2	Q3	Q4	YTD	Delta	Rate	Q1	Q2	Q3	Q4	YTD	Category
7076	63.93	95.41	6735.77	-635.58	613.2	-690.6	2.22	923.55	311.6	Manual			
7173	71.98	92.49	6772.15	-546.82	607.07	-600.99	8.75	854.24	315.29	Manual			
7270	80.59	92.28	6795.13	-453.44	603.16	-506.92	8.88	787.89	319.95	Manual			
7368	82.72	92.44	6809.35	-357.26	599.17	-410.05	2.18	726.04	325.61	Manual			
7466	86.74	86.48	6818.36	-260.02	600.1	-312.53	7.31	676.61	332.49	Manual			
7563	88.48	86.24	6822.4	-163.13	606.25	-215.82	1.81	643.52	340.41	Manual			
7660	89.19	89.11	6824.38	-66.26	610.19	-118.93	3.05	621.67	348.97	Manual			
7758	90.14	88.74	6824.95	31.51	612.03	-20.95	1.04	612.38	358.04	Manual			
7855	89.82	90.38	6824.98	128.22	612.77	76.05	1.72	617.47	7.07	Manual			
7952	89.94	91.29	6825.19	224.73	611.36	173.04	0.95	635.37	15.8	Manual			
8051	90.13	91.46	6825.13	323.13	608.98	272.01	0.26	666.97	24.07	Manual			
8149	90.09	91.51	6824.94	420.52	606.44	369.97	0.07	710.39	31.39	Manual			
8245	89.89	91.29	6824.95	515.94	604.1	465.95	0.31	762.91	37.64	Manual			
8343	90.03	90.46	6825.02	613.44	602.6	563.93	0.86	825.32	43.1	Manual			
8441	90.05	90.43	6824.95	711.01	601.84	661.93	0.04	894.63	47.72	Manual			
8538	89.85	90.5	6825.04	807.59	601.05	758.93	0.22	968.11	51.62	Manual			
8636	87.68	90.17	6827.15	905.15	600.48	856.9	2.24	1046.35	54.98	Manual			
8734	86.94	90.49	6831.75	1002.63	599.91	954.79	0.82	1127.61	57.86	Manual			
8831	86.67	89.98	6837.16	1099.09	599.52	1051.63	0.59	1210.52	60.31	Manual			
8928	87.38	91.17	6842.19	1195.51	598.54	1148.5	1.43	1295.11	62.47	Manual			
9026	86.95	91.3	6847.04	1292.83	596.44	1246.35	0.46	1381.71	64.43	Manual			
9125	86.93	91.05	6852.32	1391.13	594.41	1345.19	0.25	1470.67	66.16	Manual			
9223	87.27	90.08	6857.28	1488.56	593.44	1443.06	1.05	1560.32	67.65	Manual			
9321	87.58	89.95	6861.68	1586.1	593.42	1540.96	0.34	1651.27	68.94	Manual			
9420	87.43	90.02	6865.99	1684.64	593.44	1639.87	0.17	1743.94	70.11	Manual			
9518	87.29	89.64	6870.51	1782.2	593.73	1737.76	0.41	1836.39	71.14	Manual			
9614	88.52	89.88	6874.02	1877.82	594.14	1833.69	1.31	1927.55	72.05	Manual			
9712	89.42	89.79	6875.78	1975.47	594.42	1931.68	0.92	2021.07	72.9	Manual			
9809	89.26	89.32	6876.9	2072.16	595.17	2028.67	0.51	2114.17	73.65	Manual			
9905	89.47	89.57	6877.96	2167.88	596.1	2124.66	0.34	2206.7	74.33	Manual			
10003	89.24	89.71	6879.06	2265.57	596.72	2222.65	0.27	2301.36	74.97	Manual			
10101	90.09	89.18	6879.64	2363.28	597.67	2320.64	1.02	2396.37	75.56	Manual			
10198	90.16	89.74	6879.42	2460	598.58	2417.64	0.58	2490.64	76.09	Manual			
10294	89.91	89.58	6879.37	2555.69	599.15	2513.63	0.31	2584.06	76.59	Manual			
10392	89.79	89.25	6879.62	2653.41	600.15	2611.63	0.36	2679.7	77.06	Manual			
10489	89.75	89.4	6880.01	2750.15	601.29	2708.62	0.16	2774.56	77.48	Manual			
10587	89.89	89.74	6880.32	2847.85	602.03	2806.62	0.38	2870.46	77.89	Manual			
10685	91.37	89.94	6879.24	2945.5	602.3	2904.61	1.52	2966.4	78.29	Manual			

10782	93.24	89.24	6875.34	3042.12	603	3001.52	2.06	3061.49	78.64	Manual
10881	92.97	89.87	6869.98	3140.67	603.76	3100.37	0.69	3158.62	78.98	Manual
10976	92.58	90.03	6865.38	3235.22	603.85	3195.26	0.44	3251.82	79.3	Manual
11075	93.13	89.44	6860.45	3333.77	604.3	3294.14	0.81	3349.11	79.6	Manual
11171	92.3	90.04	6855.9	3429.35	604.74	3390.03	1.07	3443.54	79.89	Manual
11266	92.55	89.69	6851.88	3523.93	604.96	3484.94	0.45	3537.06	80.15	Manual
11364	93.11	89.72	6847.04	3621.5	605.47	3582.82	0.57	3633.62	80.41	Manual
11462	92.89	89.93	6841.91	3719.03	605.76	3680.69	0.31	3730.2	80.65	Manual
11559	93.34	90.29	6836.64	3815.51	605.58	3777.54	0.59	3825.77	80.89	Manual
11656	93.18	89.94	6831.13	3911.98	605.38	3874.39	0.4	3921.4	81.12	Manual
11755	93.17	89.84	6825.64	4010.48	605.57	3973.23	0.1	4019.12	81.33	Manual
11851	93.18	89.87	6820.33	4106.01	605.82	4069.09	0.03	4113.94	81.53	Manual
11947	93.26	90	6814.93	4201.51	605.93	4164.93	0.16	4208.78	81.72	Manual
12044	93.41	89.94	6809.29	4298	605.98	4261.77	0.17	4304.64	81.91	Manual
12143	92.8	90.07	6803.93	4396.49	605.97	4360.62	0.63	4402.53	82.09	Manual
12238	93.29	90.25	6798.88	4490.98	605.7	4455.49	0.55	4496.47	82.26	Manual
12334	92.59	90.01	6793.96	4586.48	605.48	4551.36	0.77	4591.46	82.42	Manual
12431	90.19	90.6	6791.61	4683.05	604.97	4648.32	2.55	4687.53	82.58	Manual
12527	90.13	89.39	6791.34	4778.69	604.98	4744.32	1.26	4782.74	82.73	Manual
12625	89.72	89.93	6791.47	4876.38	605.56	4842.32	0.69	4880.04	82.87	Manual
12724	90.15	90.15	6791.58	4975.01	605.49	4941.32	0.49	4978.28	83.01	Manual
12821	90.63	89.88	6790.92	5071.65	605.46	5038.32	0.57	5074.57	83.15	Manual
12918	90.38	90.09	6790.06	5168.29	605.49	5135.31	0.34	5170.89	83.28	Manual
13016	90.49	89.67	6789.32	5265.95	605.69	5233.31	0.44	5268.24	83.4	Manual
13114	90.01	90.68	6788.89	5363.56	605.4	5331.31	1.14	5365.57	83.52	Manual
13212	90.06	90.53	6788.83	5461.1	604.36	5429.3	0.16	5462.83	83.65	Manual
13310	90.21	90.42	6788.6	5558.67	603.55	5527.3	0.19	5560.15	83.77	Manual
13409	90.46	89.85	6788.02	5657.29	603.31	5626.29	0.63	5658.55	83.88	Manual
13504	90.32	90.17	6787.37	5751.93	603.3	5721.29	0.37	5753.01	83.98	Manual
13601	90.19	90.06	6786.94	5848.56	603.1	5818.29	0.18	5849.47	84.08	Manual
13699	90.66	89.91	6786.22	5946.2	603.13	5916.29	0.5	5946.95	84.18	Manual
13796	90.45	89.84	6785.28	6042.86	603.34	6013.28	0.23	6043.48	84.27	Manual
13893	90.73	89.82	6784.28	6139.52	603.63	6110.28	0.29	6140.02	84.36	Manual
13989	90.45	90.12	6783.29	6235.17	603.68	6206.27	0.43	6235.56	84.44	Manual
14086	89.96	89.73	6782.94	6331.82	603.81	6303.27	0.65	6332.13	84.53	Manual
14182	89.48	90.11	6783.41	6427.48	603.94	6399.27	0.64	6427.71	84.61	Manual
14280	89.48	90.25	6784.3	6525.09	603.63	6497.26	0.14	6525.24	84.69	Manual
14376	89.58	89.82	6785.09	6620.73	603.57	6593.26	0.46	6620.83	84.77	Manual
14474	89.26	90.09	6786.08	6718.37	603.65	6691.26	0.43	6718.43	84.85	Manual

14571	89.53	89.97	6787.1	6815	603.6	6788.25	0.3	6815.03	84.92	Manual
14667	89.62	90.4	6787.82	6910.62	603.29	6884.25	0.46	6910.63	84.99	Manual
14721	89.27	89.99	6788.34	6964.4	603.11	6938.24	1	6964.41	85.03	Manual
14756	89.27	89.99	6788.79	6999.27	603.11	6973.24	0	6999.27	85.06	Manual

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

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