

Xbolt GAMMA RAY

1in/100ft Measured Depth

Final Print

Recorded Mode



Company:	PDC Energy Inc.	API Number:	05-123-51300
Well:	Steamboat 1N	Rig Name:	Patterson 272
Field Name:	Wattenberg	Rig Type:	Land rig
Country Name:	United States	Job Number:	0.1038679.45
State Name:	Colorado	Northing:	1340509.91 (ft)
County Name:	Weld	Easting:	3205789.02 (ft)
Latitude:	40°15'56.700"N	Coordinate System:	NAD83 Colorado State Plane, Northern Zone, US Feet
Longitude:	104°45'45.216"W		
Spud Date:	28-Dec-2022		
Log Interval:	1685.00--14820.00 (ft)		
Depth Source:	Driller's Depth		
Log Measured From:	Drill Floor		
Rig Floor above Ground Level:	28.50 (ft)		
Ground Level above Mean Sea Level:	4805.00 (ft)		

Disclaimer

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Operational Run Summary

Notes

Run 1 (Bit Size: 8.5 in)

DateTime Log Started	30-Dec-2022 14:57:16	DateTime Log Finished	03-Jan-2023 04:24:44
Start Depth (ft)	1710	Stop Depth (ft)	14820
Mud Type	Oil Based Mud	Mud Density (lbm/gal)	10
Potassium (%)	0	Barite	Yes
GR Sensor Offset (ft)	25.91	Calibration Coefficient	0
DNI Sensor Offset (ft)	29.55		

Log

Description: Xbolt GAMMA RAY

Format: PDC_XBOLT_GR_DNI

Index Scale: 1in/100ft

Index Unit: ft

Index Type: Measured Depth

Creation Date: 05-Jan-2023

TVD_RT	Depth	ROP5_RT	TEMP_RT, XBOLT
1,500 ft, Borehole	7,500	0 ft/h, Borehole	1,000
	1 : 100		0 degF, Borehole
			300

GR_RM,XBOLT

in : ft

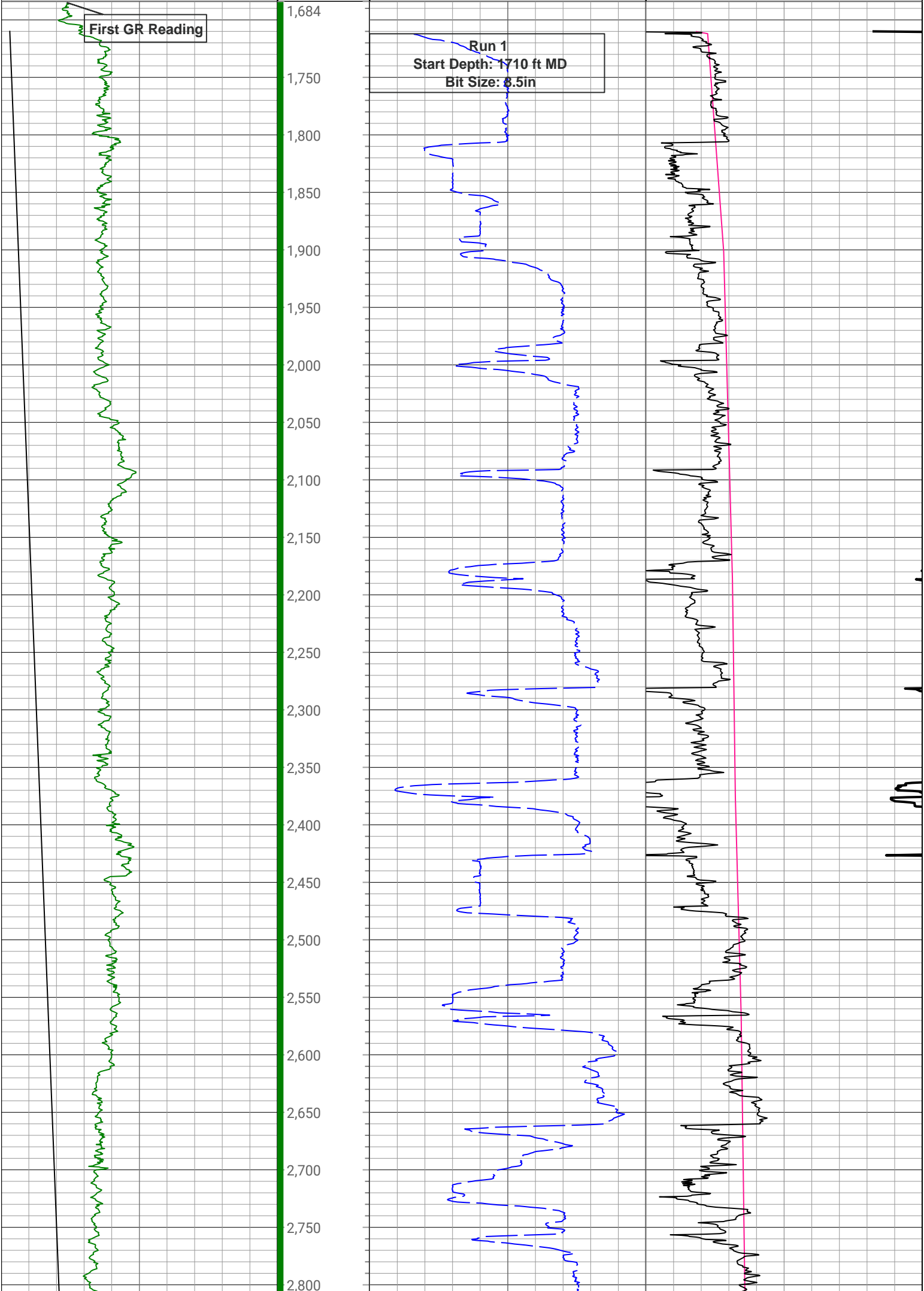
SWOB_M_RT

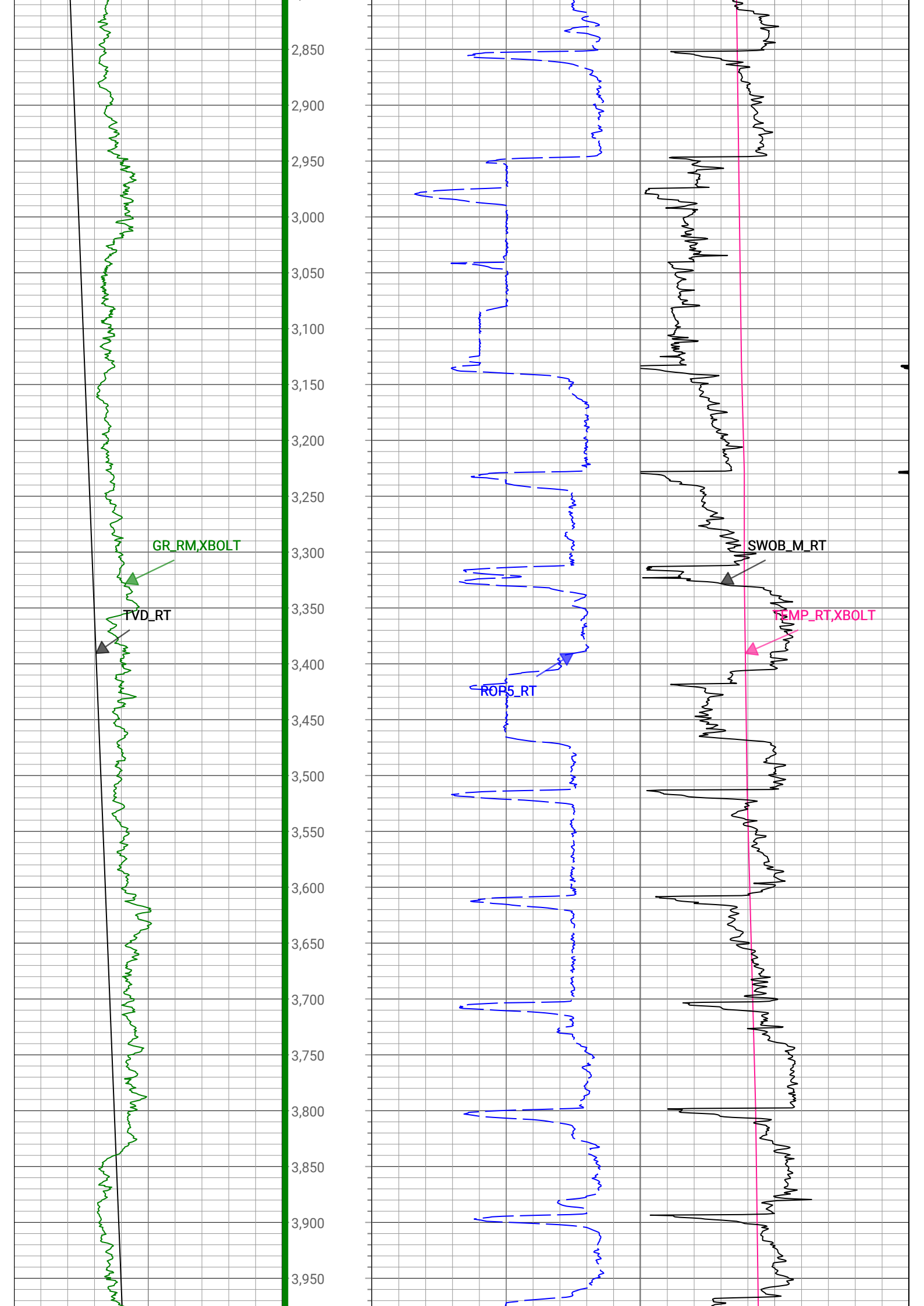
0 gAPI, Borehole 300

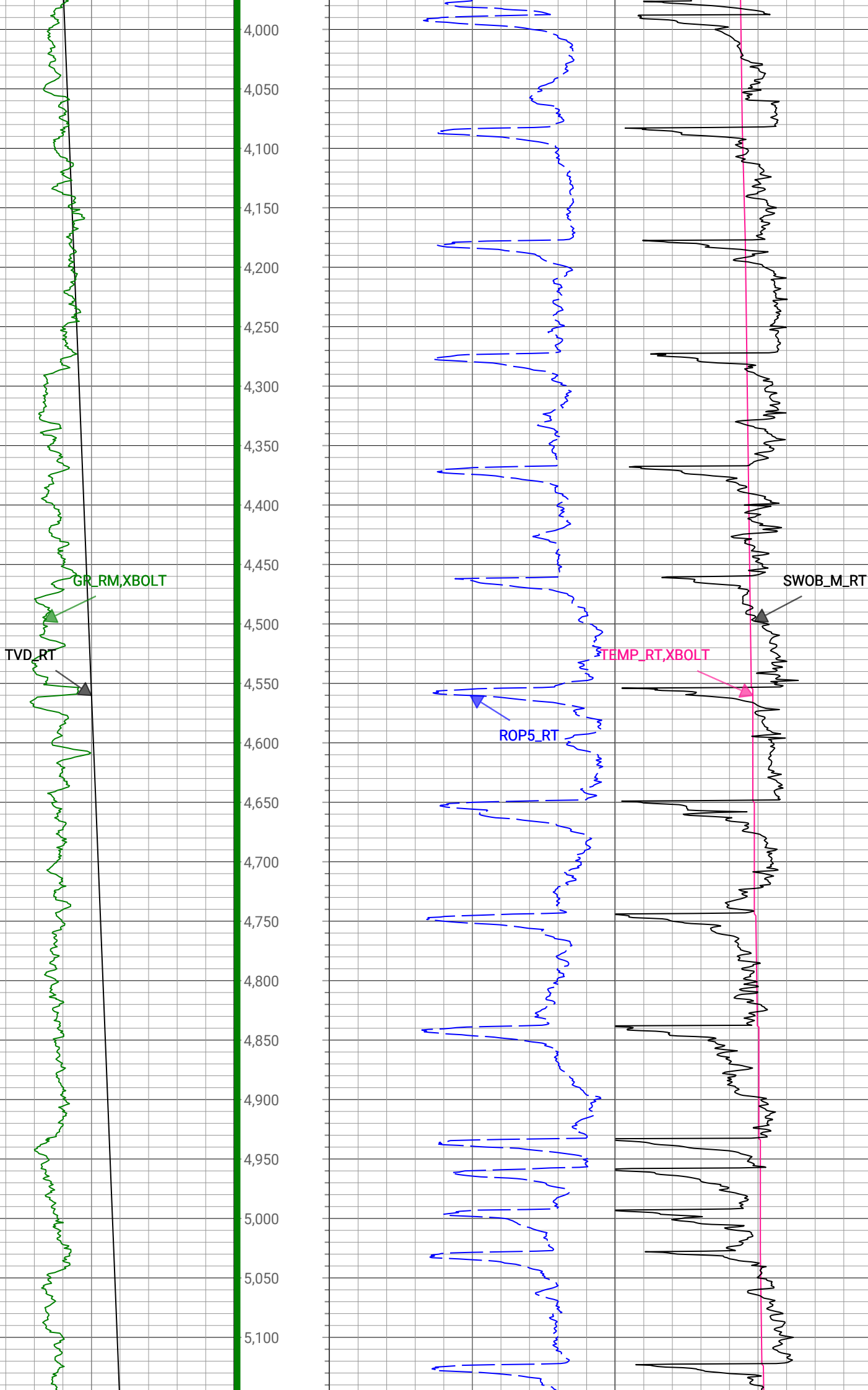
0 1000 lbm, Borehole 50

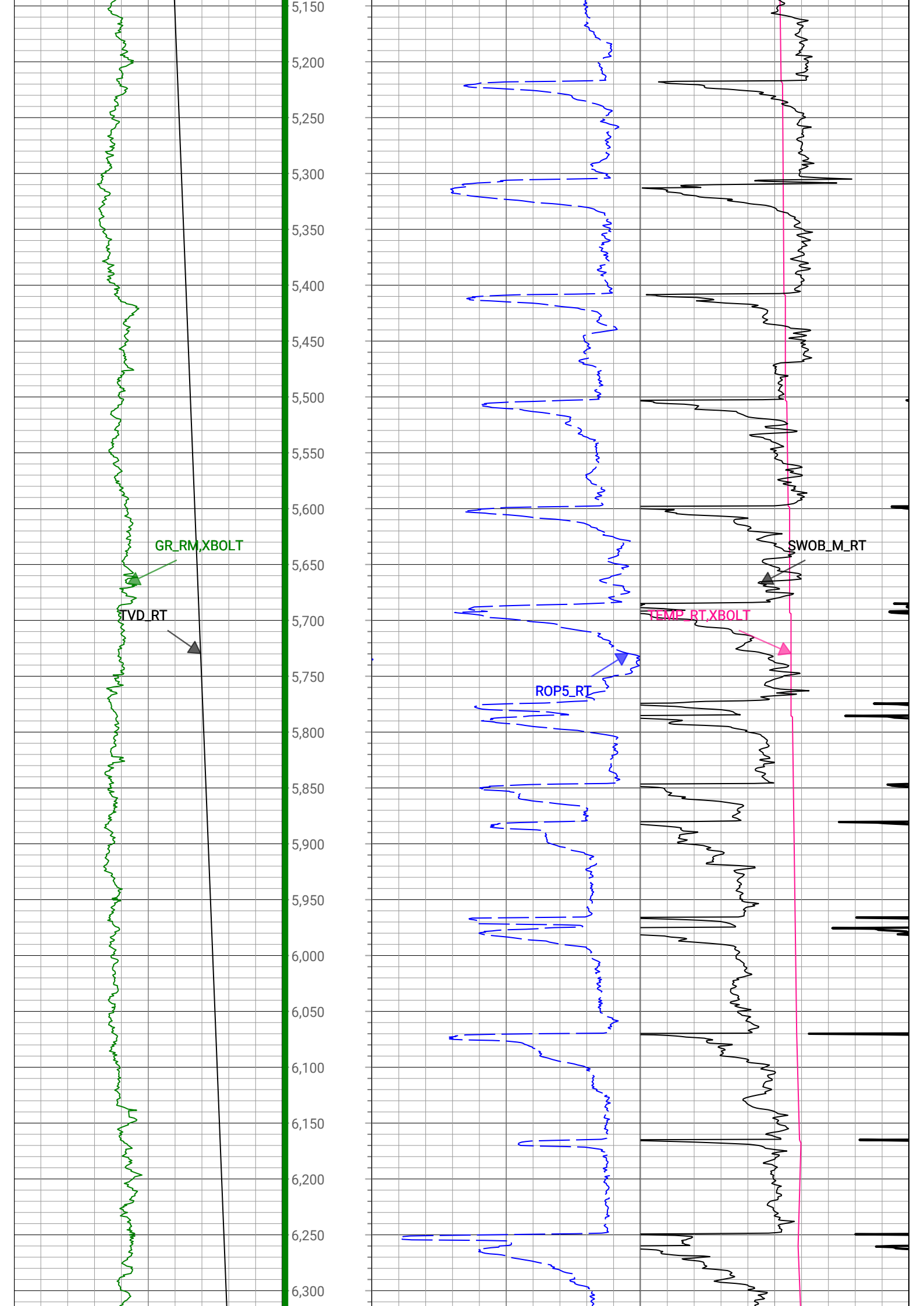
First GR Reading

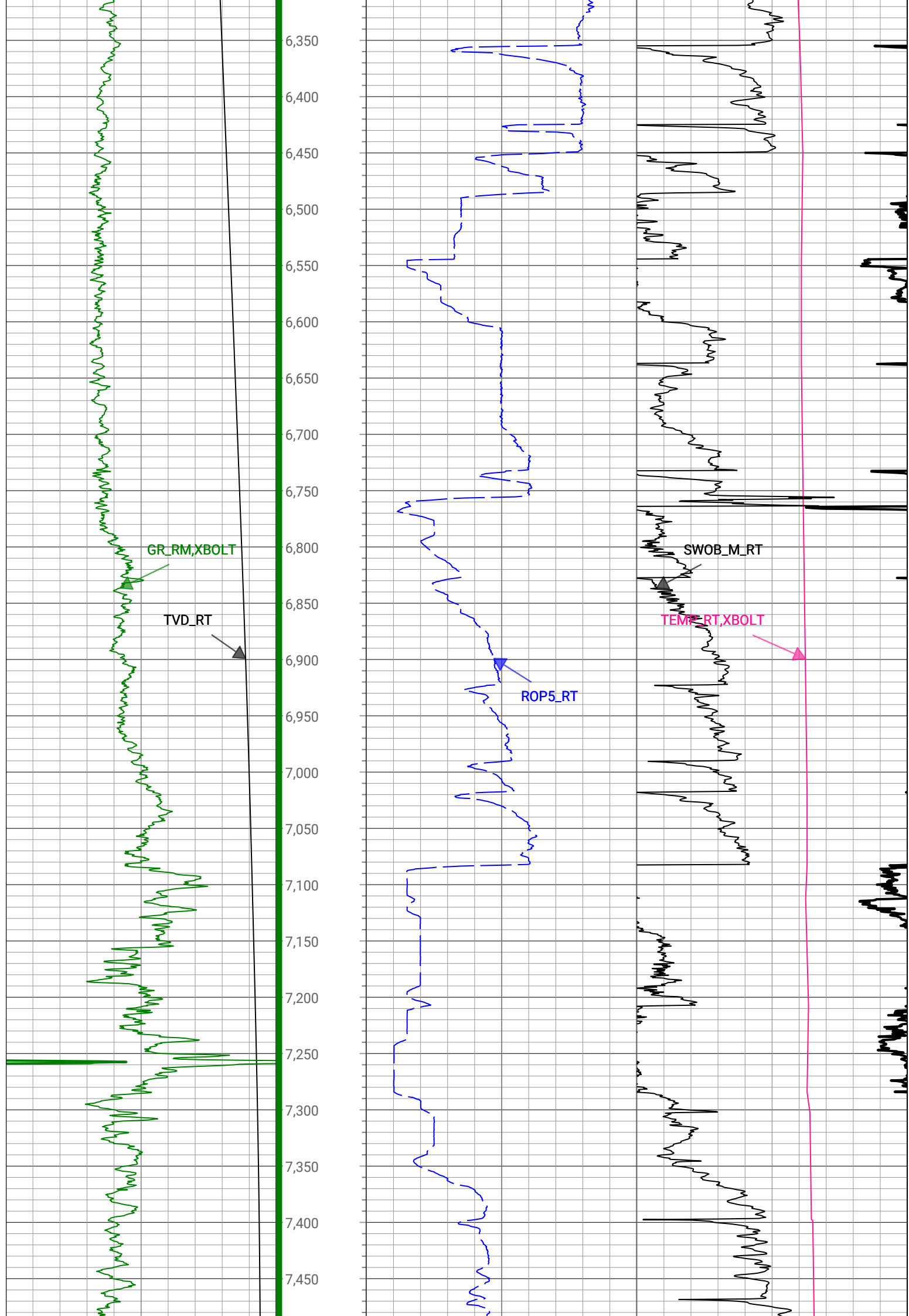
Run 1
Start Depth: 1710 ft MD
Bit Size: 8.5in

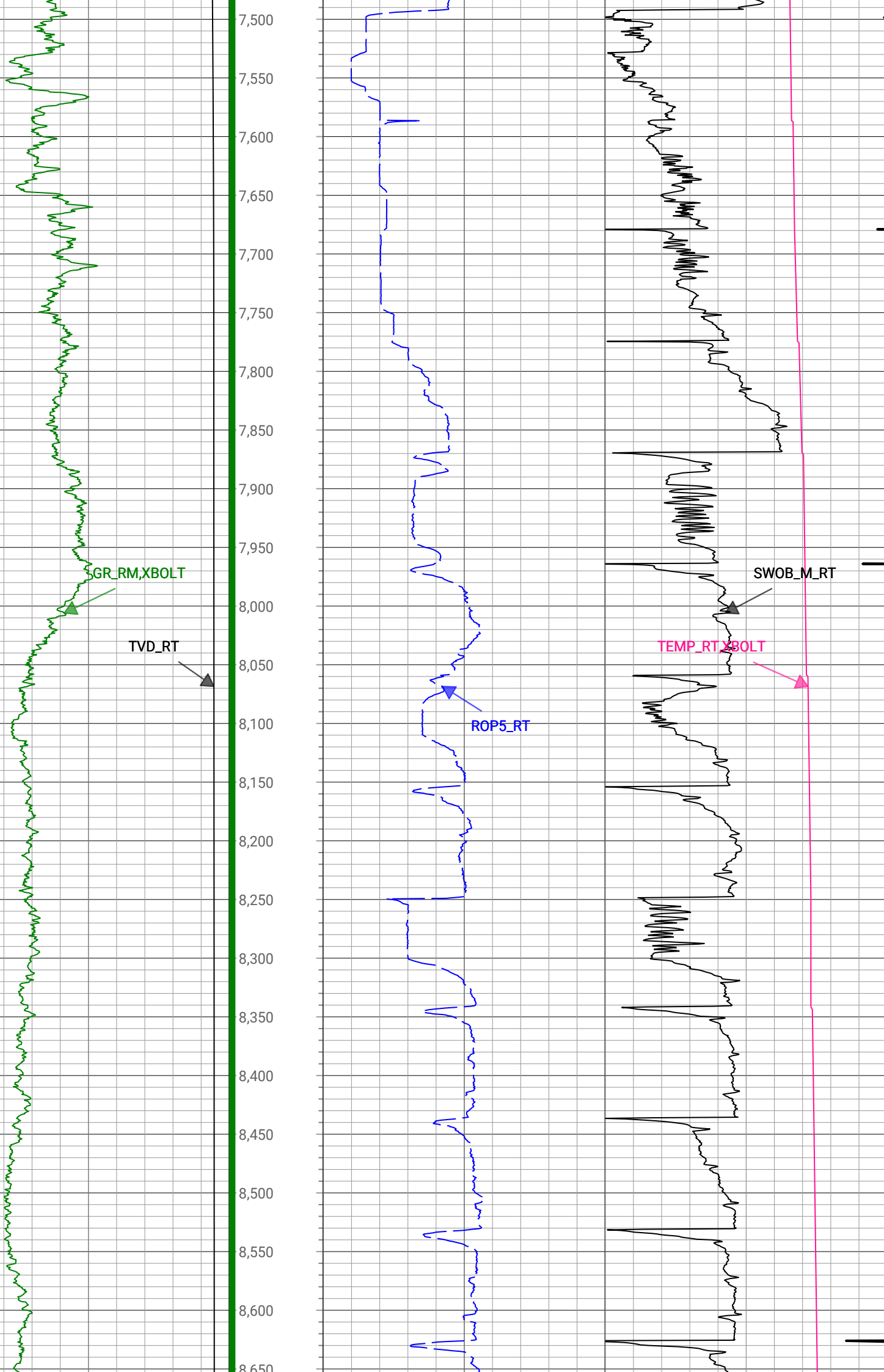


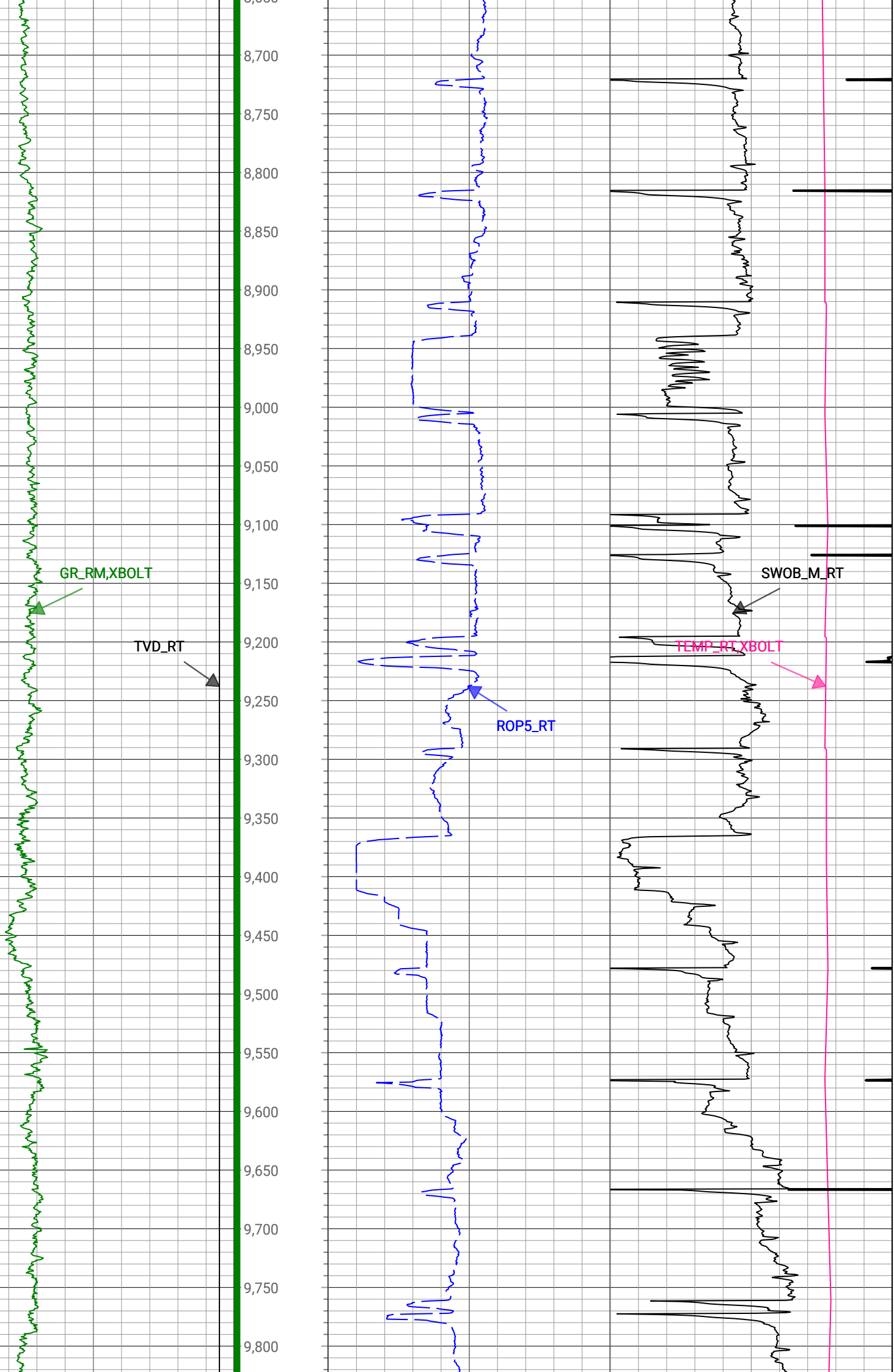


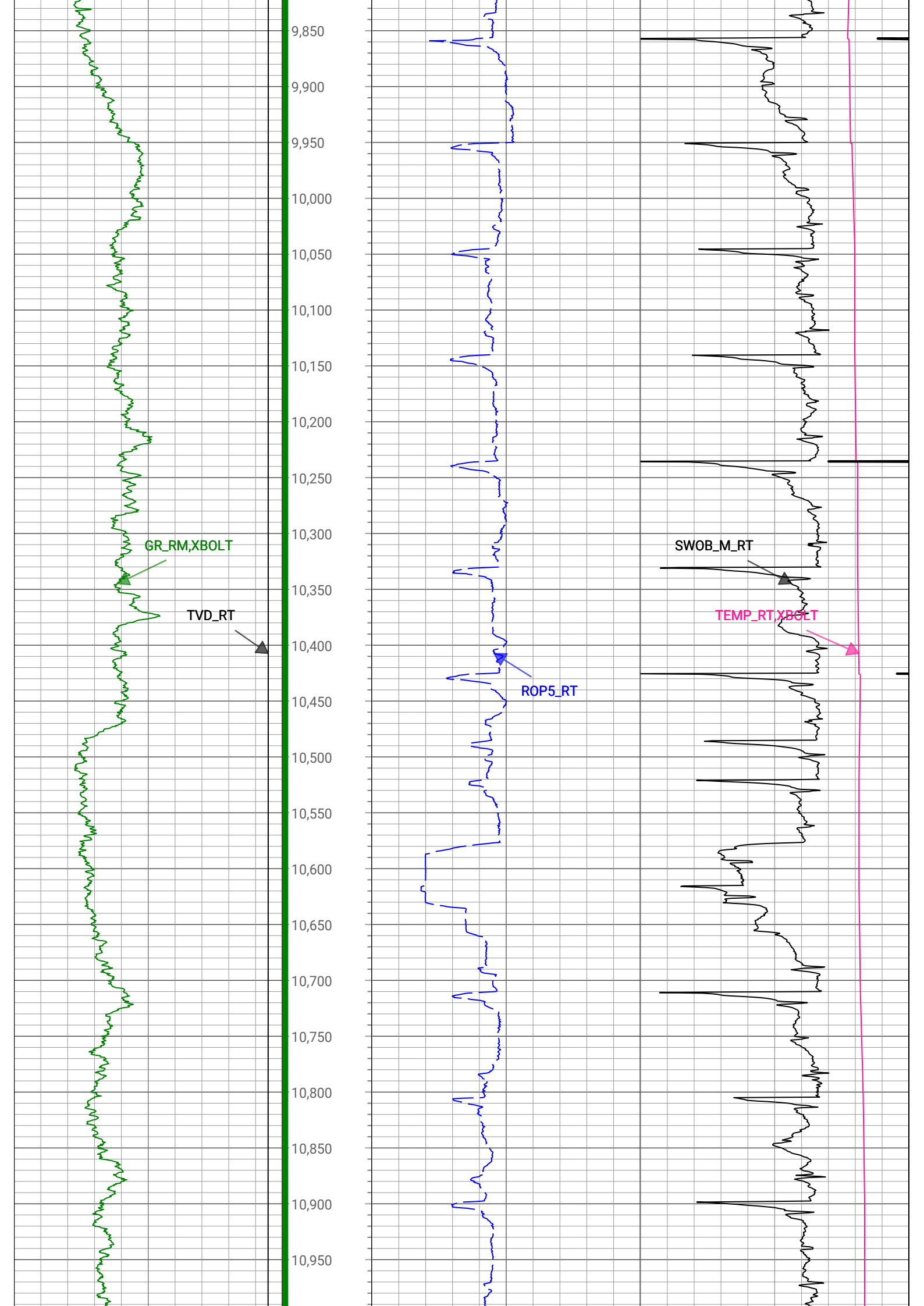


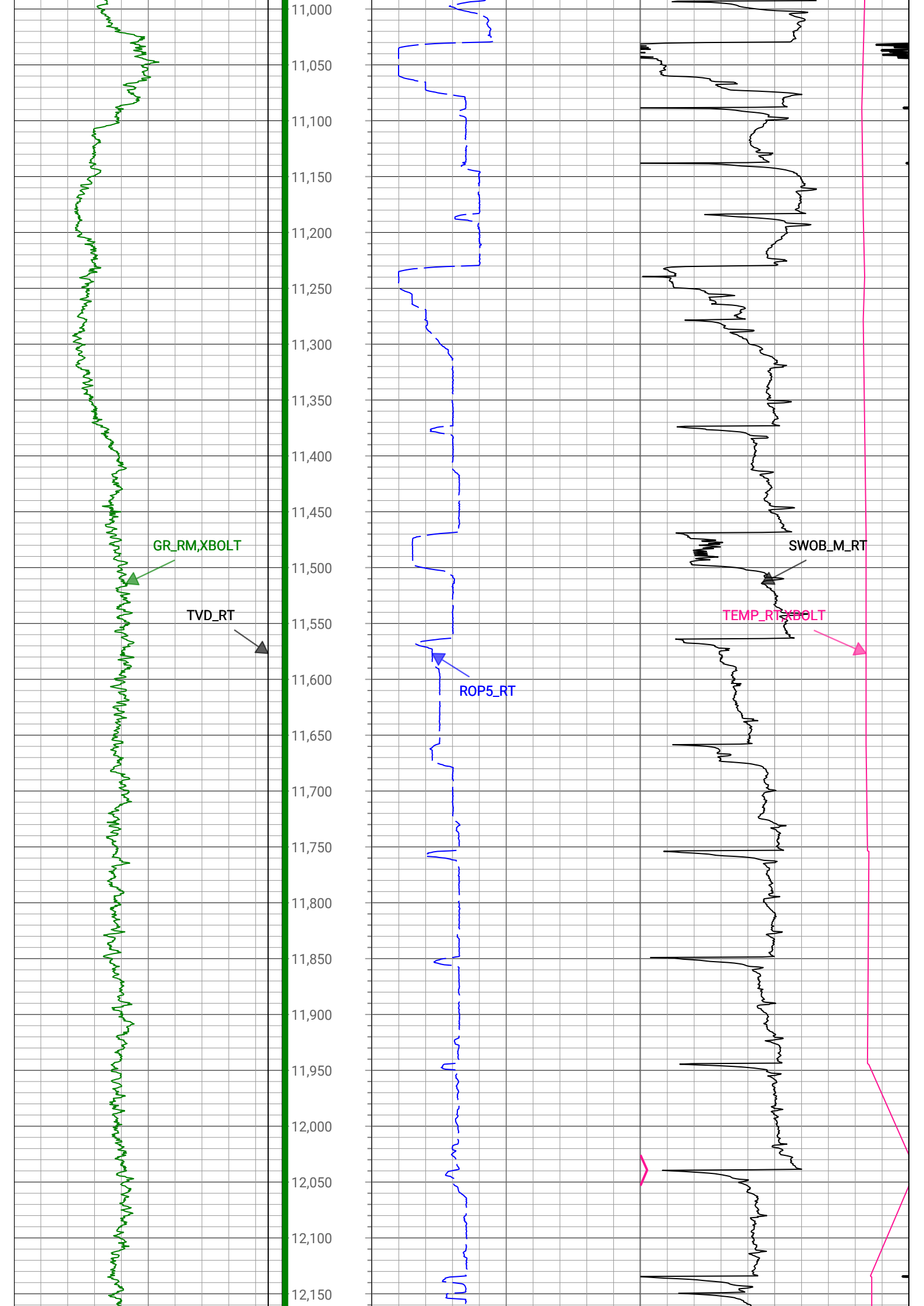


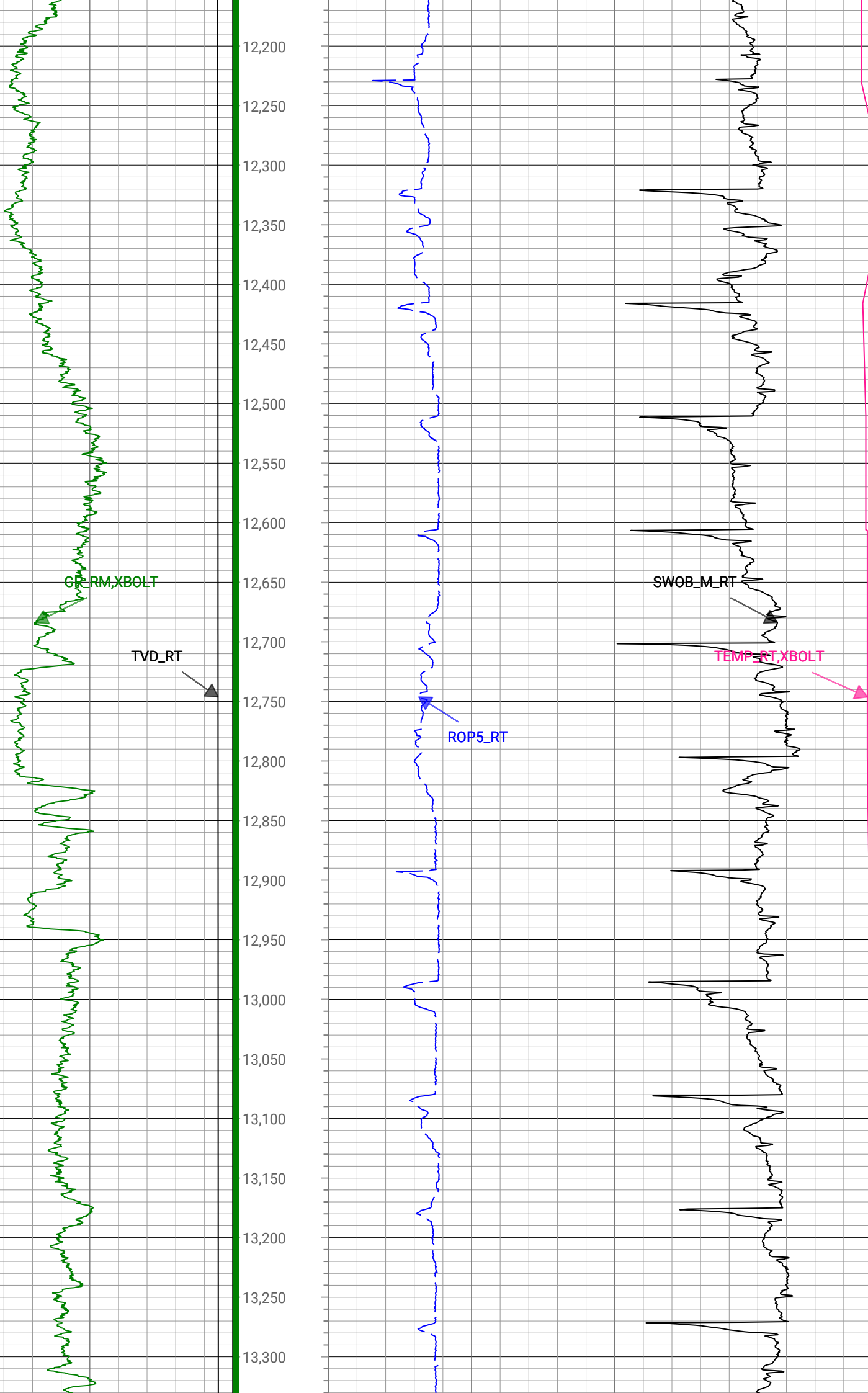


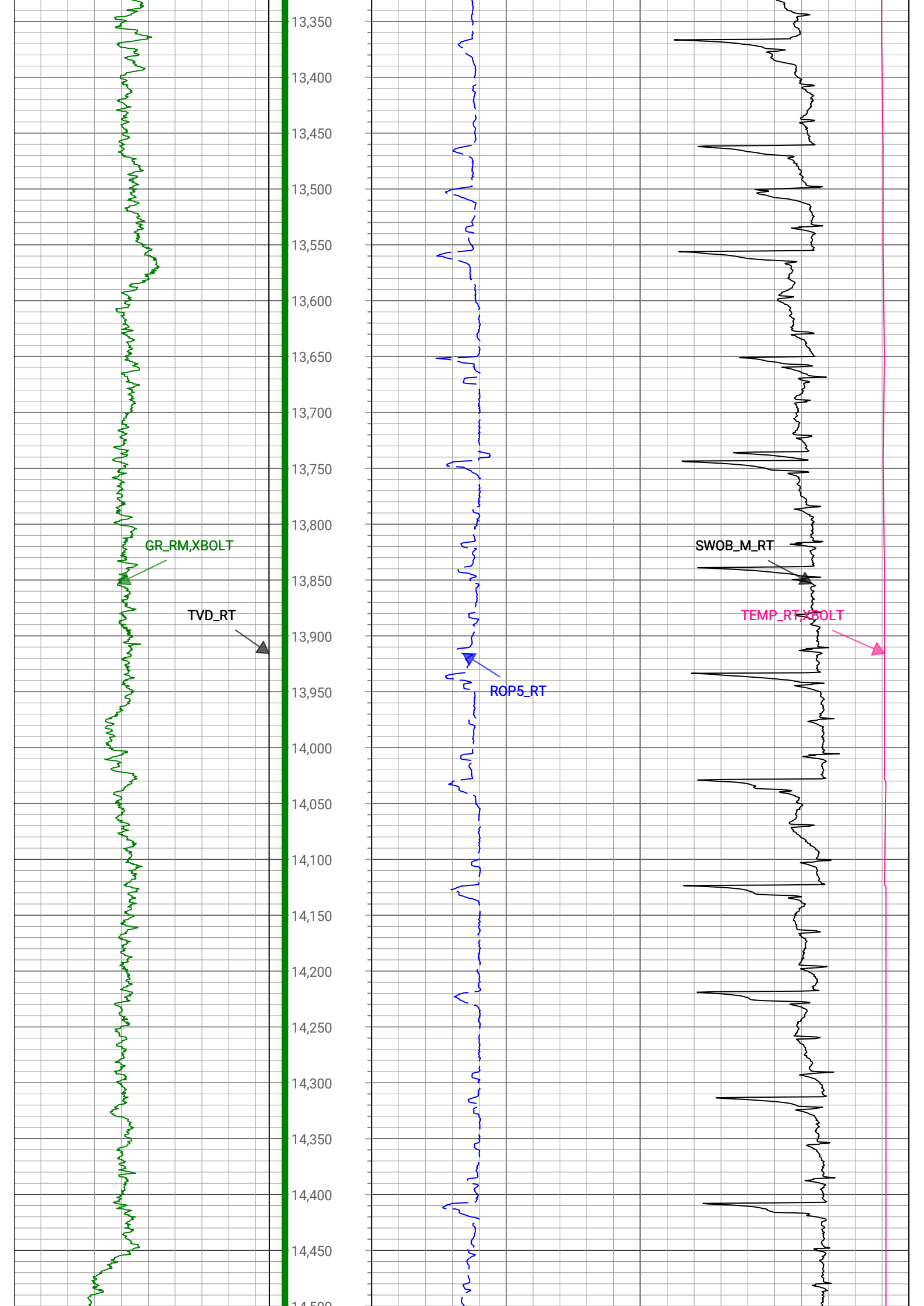


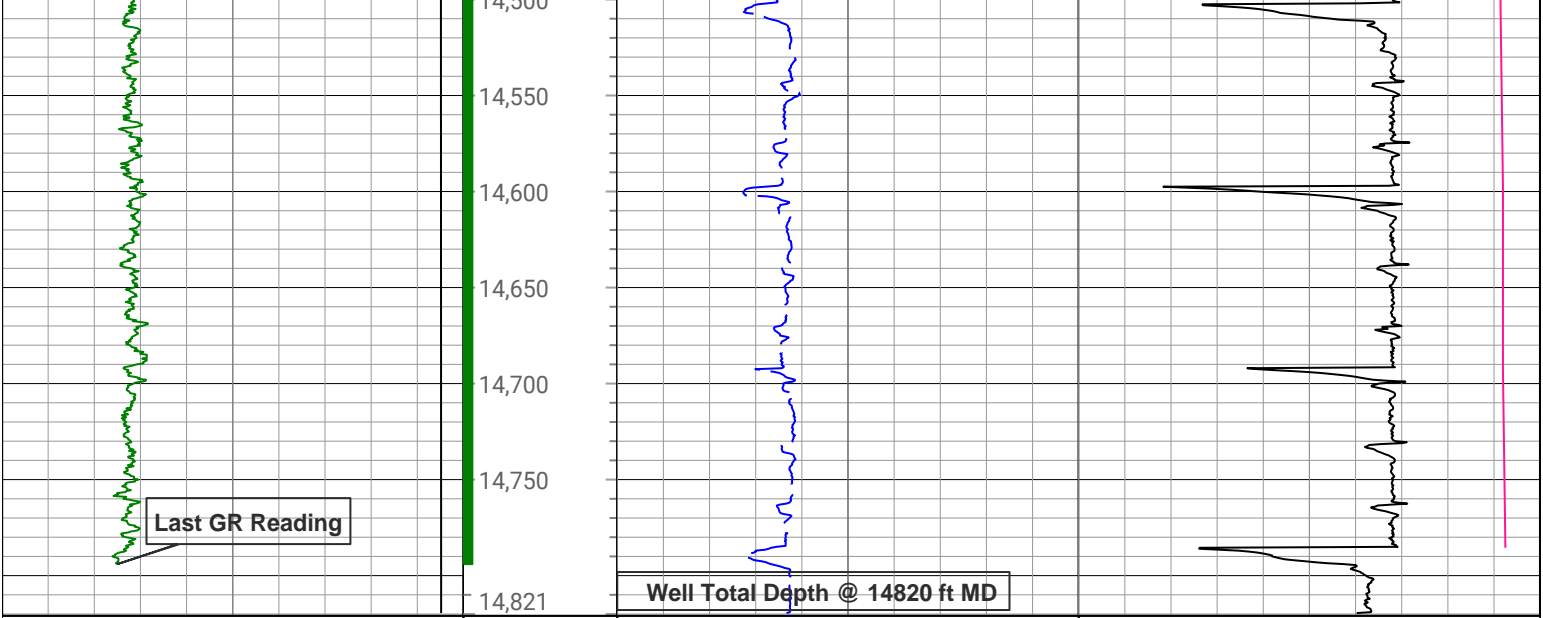












1,500	TVD_RT	7,500	Depth (ft)	0	ROP5_RT	1,000	0	TEMP_RT,XBOLT	300
ft, Borehole				ft/h, Borehole			degF, Borehole		
0	GR_RM,XBOLT	300					0	SWOB_M_RT	50
gAPI, Borehole				1000 lbm, Borehole					

Description: Xbolt GAMMA RAY Format: PDC_XBOLT_GR_DNI Index Scale: 1in/100ft Index Unit: ft Index Type: Measured Depth
 Creation Date: 05-Jan-2023

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 2022 Geomagnetic Date: 23-Dec-2022 17:00:00
 Location B: 51599 (nT) Location G: 999.098 (mgn)
 Magnetic Dip: 66.48 (deg) Magnetic Dec: 7.72 (deg)
 Total Correction: 7.72

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
161.5	1.06	156.22	161.49	-0.69	-1.37	0.6	0.66	1.49	156.22	MWD
253.5	0.62	144.44	253.48	-1.41	-2.55	1.23	0.51	2.83	154.17	MWD
344.5	1.93	34.05	344.46	-2.49	-1.68	2.38	2.44	2.91	125.25	MWD
461.5	4.04	20.87	461.3	-4.68	3.8	4.95	1.88	6.24	52.47	MWD
548.5	4.66	6.63	548.05	-5.74	10.18	6.45	1.43	12.05	32.37	MWD
631.5	7.03	9.97	630.61	-6.43	18.53	7.72	2.88	20.07	22.62	MWD
720.5	8.62	12.43	718.78	-7.99	30.41	10.1	1.83	32.04	18.37	MWD
810.5	10.64	15.95	807.51	-10.72	44.98	13.83	2.34	47.06	17.09	MWD
898.5	13.1	16.12	893.62	-14.52	62.38	18.84	2.8	65.16	16.8	MWD
988.5	13.45	15.77	981.22	-18.82	82.25	24.51	0.4	85.83	16.6	MWD
1076.5	13.19	10.85	1066.85	-22.13	101.96	29.18	1.32	106.06	15.97	MWD
1165.5	12.57	10.85	1153.61	-24.52	121.45	32.92	0.7	125.83	15.17	MWD
1254.5	12.75	10.15	1240.45	-26.75	140.62	36.47	0.27	145.28	14.54	MWD
1342.5	11.52	11.55	1326.48	-28.97	158.79	39.94	1.44	163.74	14.12	MWD

1430.5	12.05	12.25	1412.63	-31.46	176.38	43.65	0.62	181.7	13.9	MWD
1519.5	11.7	9.97	1499.72	-33.75	194.35	47.19	0.66	199.99	13.65	MWD
1606.5	10.73	8.56	1585.06	-35.34	211.04	49.92	1.16	216.87	13.31	MWD
1650.5	10.73	8.56	1628.29	-36	219.14	51.14	0	225.03	13.13	MWD
1777	11.01	7.11	1752.52	-37.62	242.77	54.39	0.31	248.79	12.63	Manual
1871	10.88	10.36	1844.81	-39.11	260.41	57.09	0.67	266.59	12.37	Manual
1966	12.8	9.74	1937.79	-41.18	279.6	60.48	2.03	286.07	12.21	Manual
2061	12.41	10.4	2030.5	-43.39	300.01	64.11	0.44	306.79	12.06	Manual
2156	12.44	13.37	2123.27	-46.22	320.01	68.32	0.67	327.22	12.05	Manual
2250	12.8	13.7	2215	-49.65	339.98	73.12	0.39	347.75	12.14	Manual
2345	12.3	9.39	2307.73	-52.4	360.18	77.27	1.12	368.38	12.11	Manual
2440	12.67	15.19	2400.49	-55.4	380.22	81.65	1.38	388.89	12.12	Manual
2534	12.72	10.41	2492.19	-58.58	400.35	86.22	1.12	409.53	12.15	Manual
2629	12.7	14.02	2584.87	-61.59	420.77	90.64	0.84	430.42	12.16	Manual
2724	13.11	15.28	2677.47	-65.54	441.29	96.01	0.52	451.62	12.27	Manual
2819	13.19	18.01	2769.98	-70.29	461.99	102.2	0.66	473.16	12.47	Manual
2913	11.26	9.48	2861.85	-73.79	481.25	107.03	2.81	493.01	12.54	Manual
3008	12.12	10.64	2954.88	-75.85	500.2	110.4	0.94	512.24	12.45	Manual
3103	9.8	18.49	3048.14	-79.05	517.67	114.8	2.9	530.25	12.5	Manual
3198	9.35	15.5	3141.82	-82.63	532.78	119.43	0.71	546	12.63	Manual
3293	7.68	11.41	3235.77	-85.01	546.44	122.75	1.87	560.05	12.66	Manual
3387	6.69	359.3	3329.04	-85.38	558.07	123.92	1.92	571.66	12.52	Manual
3482	5.22	348.89	3423.53	-83.81	567.84	123.02	1.91	581.02	12.22	Manual
3577	3.14	343.57	3518.27	-81.79	574.58	121.45	2.22	587.28	11.94	Manual
3672	0.84	350.68	3613.2	-80.72	577.76	120.61	2.43	590.22	11.79	Manual
3766	0.11	323.08	3707.2	-80.51	578.52	120.44	0.79	590.92	11.76	Manual
3861	0.13	184.57	3802.2	-80.45	578.48	120.38	0.24	590.87	11.75	Manual
3956	0.03	219.38	3897.2	-80.43	578.35	120.35	0.11	590.74	11.76	Manual
4050	0.05	346.43	3991.2	-80.4	578.38	120.33	0.08	590.76	11.75	Manual
4145	0.03	113.05	4086.2	-80.41	578.41	120.34	0.08	590.79	11.75	Manual
4240	0.12	117.25	4181.2	-80.53	578.35	120.45	0.09	590.76	11.76	Manual
4334	0.09	90.63	4275.2	-80.69	578.31	120.61	0.06	590.75	11.78	Manual
4429	0.04	68.17	4370.2	-80.8	578.32	120.72	0.06	590.78	11.79	Manual
4524	0.07	243.74	4465.2	-80.78	578.3	120.7	0.12	590.76	11.79	Manual
4618	0.07	308.72	4559.2	-80.68	578.31	120.6	0.08	590.75	11.78	Manual
4713	0.12	52.85	4654.2	-80.71	578.41	120.63	0.16	590.86	11.78	Manual
4807	0.1	279.08	4748.2	-80.7	578.48	120.63	0.22	590.93	11.78	Manual
4902	0.09	162.79	4843.2	-80.64	578.42	120.57	0.17	590.86	11.77	Manual
4996	0.15	136.13	4937.2	-80.76	578.27	120.68	0.09	590.72	11.79	Manual
5091	0.09	112.55	5032.2	-80.92	578.15	120.83	0.08	590.64	11.81	Manual
5186	0.13	264.82	5127.2	-80.89	578.11	120.8	0.23	590.59	11.8	Manual
5281	0.12	347.26	5222.2	-80.75	578.2	120.67	0.17	590.65	11.79	Manual
5376	0.05	243.19	5317.2	-80.69	578.27	120.61	0.15	590.72	11.78	Manual
5470	0.08	268.14	5411.2	-80.59	578.25	120.51	0.04	590.68	11.77	Manual
5565	0.14	221.66	5506.2	-80.45	578.16	120.36	0.11	590.56	11.76	Manual
5660	0.18	354.18	5601.2	-80.36	578.23	120.27	0.31	590.6	11.75	Manual
5755	0.07	69.93	5696.2	-80.38	578.39	120.31	0.19	590.77	11.75	Manual
5850	0.11	189.03	5791.2	-80.43	578.32	120.35	0.16	590.71	11.76	Manual
5944	0.06	111.71	5885.2	-80.47	578.22	120.38	0.12	590.62	11.76	Manual
6039	0.04	152.37	5980.2	-80.53	578.17	120.44	0.04	590.58	11.77	Manual

6134	0.08	60.08	6075.2	-80.6	578.17	120.51	0.1	590.6	11.77	Manual
6228	0.09	173.48	6169.2	-80.67	578.13	120.58	0.15	590.57	11.78	Manual
6323	0.07	171.48	6264.2	-80.7	578	120.6	0.02	590.45	11.79	Manual
6418	0.12	333.9	6359.2	-80.66	578.03	120.56	0.2	590.47	11.78	Manual
6513	0.16	24.73	6454.2	-80.66	578.24	120.57	0.13	590.68	11.78	Manual
6608	10.57	290.4	6548.66	-72.33	581.41	112.44	11.14	592.18	10.95	Manual
6702	17.3	274.72	6639.87	-50.05	585.57	90.4	8.15	592.51	8.78	Manual
6797	24.2	265.68	6728.68	-16.61	585.27	56.85	7.99	588.02	5.55	Manual
6892	32.19	272.77	6812.36	28.05	585.02	12.08	9.11	585.15	1.18	Manual
6986	42.26	275.15	6887.12	84.83	589.08	-44.56	10.82	590.76	355.67	Manual
7081	49.09	274.74	6953.46	152.74	594.92	-112.23	7.2	605.41	349.32	Manual
7176	51.22	267.36	7014.37	225.49	596.18	-185.06	6.37	624.24	342.76	Manual
7271	59.02	267.86	7068.66	302.89	592.95	-262.87	8.22	648.61	336.09	Manual
7365	69.02	270.11	7109.79	386.97	591.53	-347.24	10.85	685.92	329.59	Manual
7460	78.78	273.52	7136.11	478.06	594.48	-438.34	10.84	738.61	323.6	Manual
7554	81.85	269.59	7151.93	570.61	596.98	-530.94	5.26	798.92	318.35	Manual
7649	84.78	266.96	7162.99	664.48	594.13	-625.23	4.13	862.5	313.54	Manual
7744	89.26	266.97	7167.92	758.63	589.11	-719.94	4.72	930.25	309.29	Manual
7838	89.5	266.21	7168.94	851.85	583.52	-813.77	0.85	1001.36	305.64	Manual
7933	89.42	266.95	7169.84	946.07	577.85	-908.6	0.78	1076.79	302.46	Manual
8028	89.19	268.6	7170.99	1040.51	574.17	-1003.52	1.75	1156.16	299.78	Manual
8122	89.41	269.36	7172.14	1134.15	572.49	-1097.49	0.84	1237.84	297.55	Manual
8216	89.07	268.31	7173.38	1227.77	570.58	-1191.46	1.17	1321.04	295.59	Manual
8311	89.34	269.3	7174.7	1322.38	568.6	-1286.43	1.08	1406.49	293.85	Manual
8406	89.63	270.25	7175.56	1417.12	568.23	-1381.43	1.05	1493.73	292.36	Manual
8501	89.29	270.25	7176.45	1511.92	568.64	-1476.42	0.36	1582.14	291.06	Manual
8595	89.21	269.46	7177.68	1605.68	568.4	-1570.41	0.84	1670.11	289.9	Manual
8689	89.63	270.23	7178.63	1699.43	568.15	-1664.41	0.93	1758.71	288.85	Manual
8784	89.32	270.18	7179.5	1794.23	568.49	-1759.4	0.33	1848.97	287.91	Manual
8879	89.2	270.39	7180.73	1889.03	568.96	-1854.39	0.25	1939.71	287.06	Manual
8974	89.41	270.16	7181.88	1983.83	569.42	-1949.39	0.33	2030.85	286.28	Manual
9069	89.71	270.15	7182.61	2078.62	569.68	-2044.38	0.32	2122.27	285.57	Manual
9163	89.55	270	7183.22	2172.4	569.8	-2138.38	0.23	2212.99	284.92	Manual
9258	89.84	269.88	7183.72	2267.17	569.7	-2233.38	0.33	2304.89	284.31	Manual
9353	88.86	267.05	7184.8	2361.72	567.16	-2328.33	3.15	2396.41	283.69	Manual
9448	90.26	269.71	7185.53	2456.26	564.47	-2423.28	3.16	2488.15	283.11	Manual
9542	90.42	269.81	7184.97	2550.01	564.08	-2517.27	0.2	2579.7	282.63	Manual
9636	90.51	270.22	7184.21	2643.79	564.1	-2611.27	0.45	2671.51	282.19	Manual
9731	90.4	270.36	7183.46	2738.6	564.58	-2706.27	0.19	2764.53	281.78	Manual
9826	90.01	269.95	7183.12	2833.39	564.84	-2801.26	0.6	2857.64	281.4	Manual
9920	90.37	269.94	7182.81	2927.16	564.75	-2895.26	0.38	2949.83	281.04	Manual
10015	90.18	269.53	7182.35	3021.91	564.31	-2990.26	0.48	3043.04	280.69	Manual
10110	90.45	269.97	7181.83	3116.65	563.89	-3085.26	0.54	3136.37	280.36	Manual
10205	90.29	270.51	7181.21	3211.45	564.29	-3180.26	0.59	3229.93	280.06	Manual
10299	89.62	269.96	7181.29	3305.26	564.68	-3274.25	0.92	3322.59	279.78	Manual
10394	89.73	269.22	7181.83	3399.98	564	-3369.25	0.79	3416.13	279.5	Manual
10489	90.32	269.92	7181.78	3494.71	563.29	-3464.25	0.96	3509.74	279.24	Manual
10584	90.48	270.25	7181.12	3589.49	563.43	-3559.24	0.39	3603.56	279	Manual
10678	90.12	269.54	7180.63	3683.25	563.25	-3653.24	0.85	3696.41	278.76	Manual
10773	90.63	270.18	7180.01	3778.01	563.02	-3748.24	0.86	3790.29	278.54	Manual

10868	90.32	269.83	7179.22	3872.79	563.03	-3843.23	0.49	3884.26	278.33	Manual
10963	90.1	269.91	7178.87	3967.55	562.81	-3938.23	0.25	3978.25	278.13	Manual
11058	90.56	270.1	7178.32	4062.32	562.82	-4033.23	0.52	4072.31	277.94	Manual
11153	90	269.57	7177.86	4157.08	562.55	-4128.23	0.81	4166.38	277.76	Manual
11247	89.65	270.21	7178.15	4250.84	562.37	-4222.23	0.78	4259.51	277.59	Manual
11342	89.75	270.55	7178.64	4345.66	563	-4317.22	0.37	4353.78	277.43	Manual
11437	89.83	270.19	7178.99	4440.47	563.61	-4412.22	0.39	4448.07	277.28	Manual
11532	90.06	270.18	7179.08	4535.27	563.92	-4507.22	0.24	4542.36	277.13	Manual
11626	90.09	269.64	7178.96	4629.04	563.77	-4601.22	0.58	4635.63	276.99	Manual
11721	89.83	269.36	7179.03	4723.76	562.94	-4696.22	0.4	4729.84	276.84	Manual
11816	90.17	269.42	7179.03	4818.46	561.93	-4791.21	0.36	4824.05	276.69	Manual
11911	89.49	269.35	7179.31	4913.16	560.91	-4886.2	0.72	4918.29	276.55	Manual
12006	89.57	269.52	7180.09	5007.86	559.97	-4981.2	0.2	5012.57	276.41	Manual
12101	89.45	269.31	7180.9	5102.56	559	-5076.19	0.25	5106.87	276.28	Manual
12196	89.55	269.53	7181.73	5197.27	558.04	-5171.18	0.25	5201.2	276.16	Manual
12290	89.37	269.37	7182.62	5290.97	557.14	-5265.17	0.26	5294.57	276.04	Manual
12385	89.27	268.92	7183.74	5385.64	555.72	-5360.15	0.49	5388.88	275.92	Manual
12480	89.29	269.26	7184.94	5480.29	554.21	-5455.13	0.36	5483.21	275.8	Manual
12575	89.52	269.92	7185.92	5575.01	553.53	-5550.13	0.74	5577.66	275.7	Manual
12670	89.57	269.69	7186.68	5669.76	553.21	-5645.12	0.25	5672.16	275.6	Manual
12765	89.37	269.21	7187.56	5764.47	552.3	-5740.11	0.55	5766.62	275.5	Manual
12860	89.37	269.58	7188.6	5859.17	551.3	-5835.1	0.39	5861.09	275.4	Manual
12955	89.64	270.07	7189.42	5953.92	551.01	-5930.1	0.59	5955.64	275.31	Manual
13050	89.47	269.21	7190.16	6048.65	550.41	-6025.09	0.92	6050.18	275.22	Manual
13145	89.42	269.7	7191.08	6143.35	549.51	-6120.08	0.52	6144.7	275.13	Manual
13240	89.27	269.39	7192.17	6238.07	548.75	-6215.07	0.36	6239.25	275.05	Manual
13335	89.2	269.06	7193.43	6332.74	547.47	-6310.06	0.36	6333.76	274.96	Manual
13429	89.12	269.05	7194.81	6426.39	545.92	-6404.03	0.09	6427.26	274.87	Manual
13524	89.42	269.56	7196.02	6521.07	544.76	-6499.02	0.62	6521.81	274.79	Manual
13618	89.43	269.67	7196.97	6614.8	544.13	-6593.01	0.12	6615.43	274.72	Manual
13713	89.43	269.08	7197.91	6709.5	543.1	-6688	0.62	6710.02	274.64	Manual
13808	89.16	268.65	7199.08	6804.12	541.22	-6782.97	0.53	6804.53	274.56	Manual
13903	89.21	269.04	7200.43	6898.73	539.3	-6877.95	0.41	6899.06	274.48	Manual
13998	89.32	269.15	7201.65	6993.39	537.8	-6972.93	0.16	6993.63	274.41	Manual
14092	89.58	269.84	7202.55	7087.1	536.97	-7066.92	0.78	7087.29	274.35	Manual
14187	89.31	269.78	7203.47	7181.85	536.66	-7161.91	0.29	7181.99	274.29	Manual
14281	89.53	269.21	7204.42	7275.57	535.83	-7255.9	0.65	7275.66	274.22	Manual
14376	89.19	268.67	7205.49	7370.2	534.07	-7350.88	0.67	7370.26	274.16	Manual
14470	89.33	269.24	7206.7	7463.84	532.36	-7444.86	0.62	7463.87	274.09	Manual
14565	89.47	269.13	7207.69	7558.51	531.01	-7539.84	0.19	7558.52	274.03	Manual
14660	89.52	269.6	7208.53	7653.2	529.95	-7634.83	0.5	7653.2	273.97	Manual
14755	89.47	269.59	7209.37	7747.92	529.28	-7729.83	0.05	7747.92	273.92	Manual
14820	89.47	269.59	7209.97	7812.74	528.82	-7794.82	0	7812.74	273.88	Manual

Company: PDC Energy Inc.

Well: Steamboat 1N

Field Name: Wattenberg

Country Name: United States

State Name: Colorado

County Name: Weld



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