

Company: PDC Energy Inc		Well: Lincoln State 26N-17B-M		Field Name: Wattenberg		Country Name: USA		State Name: Colorado		County Name: Weld	
XEM GAMMA RAY											
1in/100ft Measured Depth											
Final Print											
Recorded Mode											
Schlumberger											
Company: PDC Energy Inc											
Well: Lincoln State 26N-17B-M											
Field Name: Wattenberg											
Country Name: USA											
State Name: Colorado											
County Name: Weld											
Latitude: 40°29'31.139"N				API Number: 05-123-46755							
Longitude: 104°49'24.805"W				Rig Name: Precision Drilling 462							
Spud Date: 19-Feb-2020				Rig Type: Land							
Log Interval: 1793.00--15430.50(ft)				Job Number: 20CCCO0367							
Depth Source: Driller's Depth				Print Type: Final Print							
Log Measured From: Drill Floor				Northing: 1422787.461(ft)							
Drill Floor Elevation: 4871 (ft)				Easting: 3188138.934(ft)							
Ground Level Elevation: 4851 (ft)				Coordinate System: NAD83 Colorado State Plane, Northern Zone, US Feet							
Permanent Datum: Sea Level											

Disclaimer

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Operational Run Summary			
Notes			
Run 1 (Bit Size: 8.5 in)			
DateTime Log Started	24-May-2020 02:10:03	DateTime Log Finished	27-May-2020 07:18:24
Start Depth (ft)	1818	Stop Depth (ft)	15431
Mud Type	Oil Based Mud	Mud Density (lbm/gal)	10.5
Potassium (%)	0	Barite	Yes
GR Sensor Offset (ft)	24.91	Calibration Coefficient	0.52
DNI Sensor Offset (ft)	20.32		

Log

Description: XEM GAMMA RAY

Format: XEM_GR-STAN

Index Scale: 1in/100ft

Index Unit: ft

Index Type: Measured Depth

Creation Date: 27-May-2020

TVD_RT		Depth 1 : 100	ROP5_RT		ZTMP_RT,XEM
1,500	ft, Borehole 7,500		0	ft/h, Borehole 800	

0

degF, Borehole 300

GR_RM,XEM

in : ft

SWOB_RT

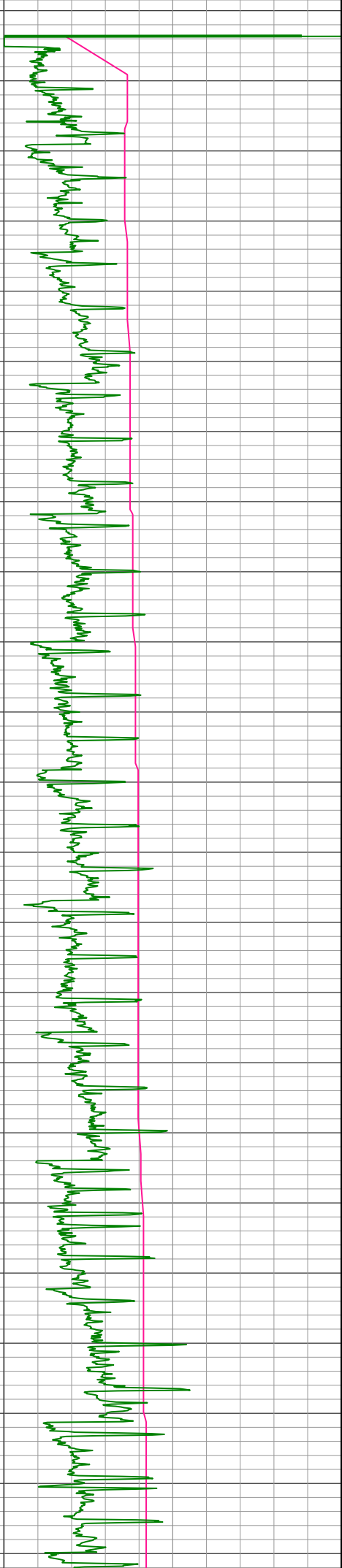
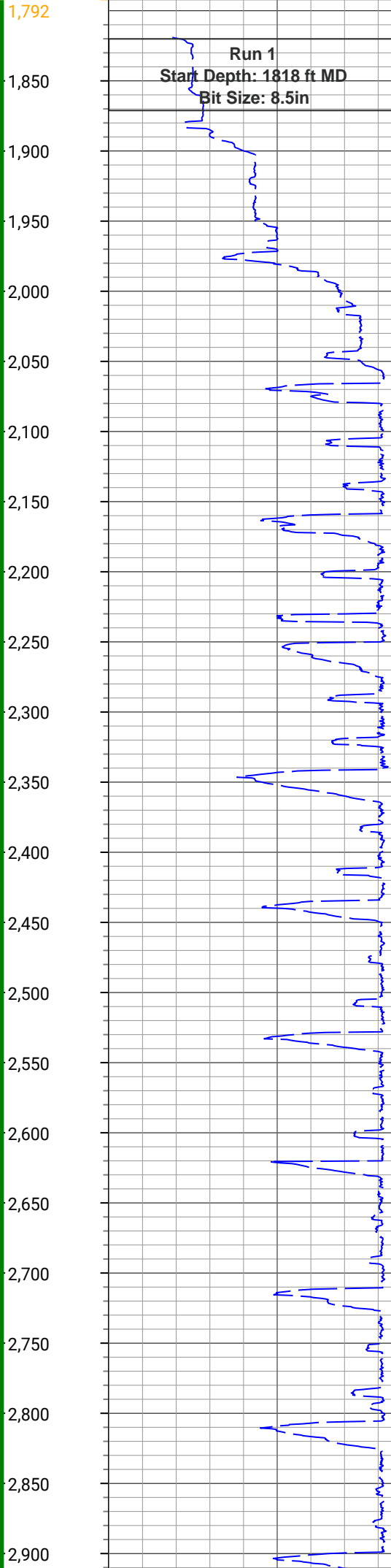
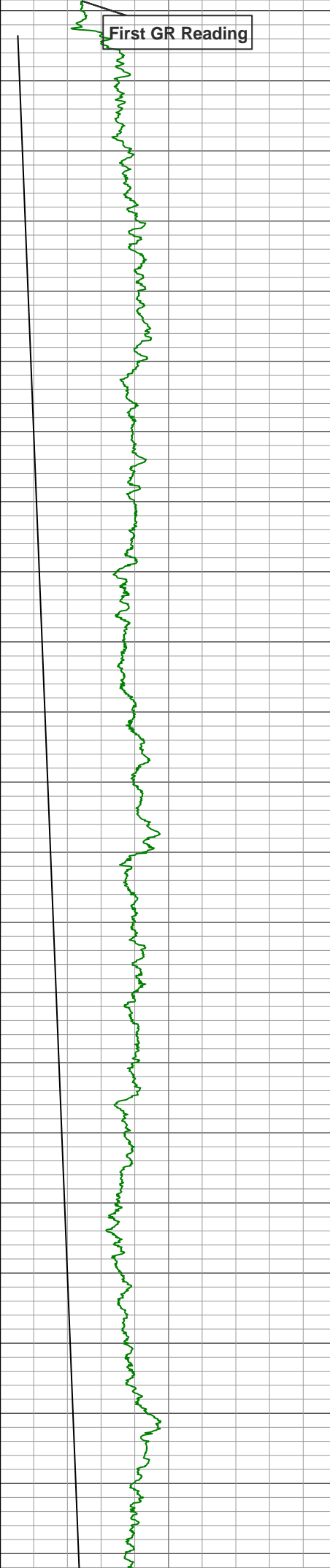
0 gAPI, Borehole 300

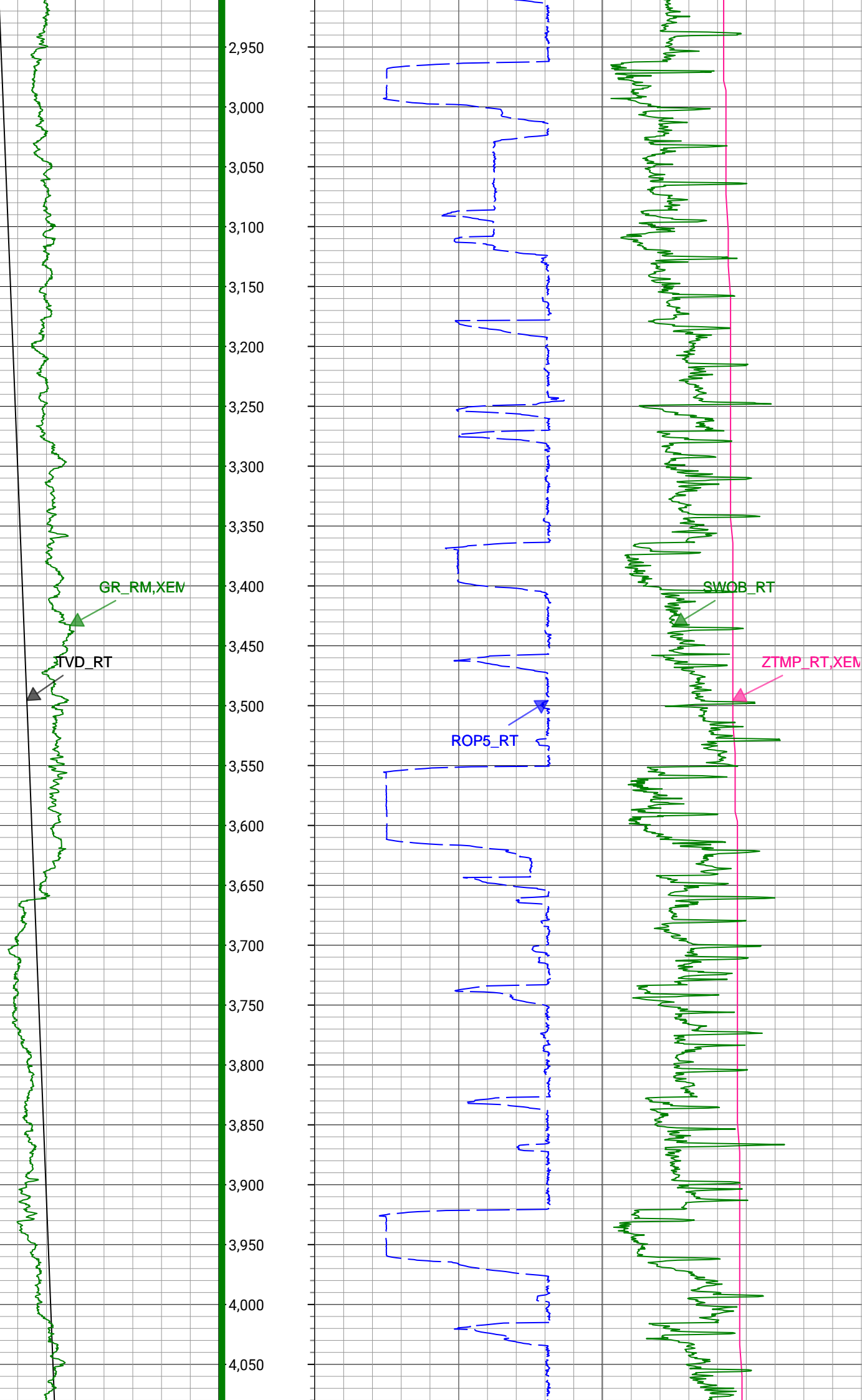
0 1000 lbf, Borehole 50

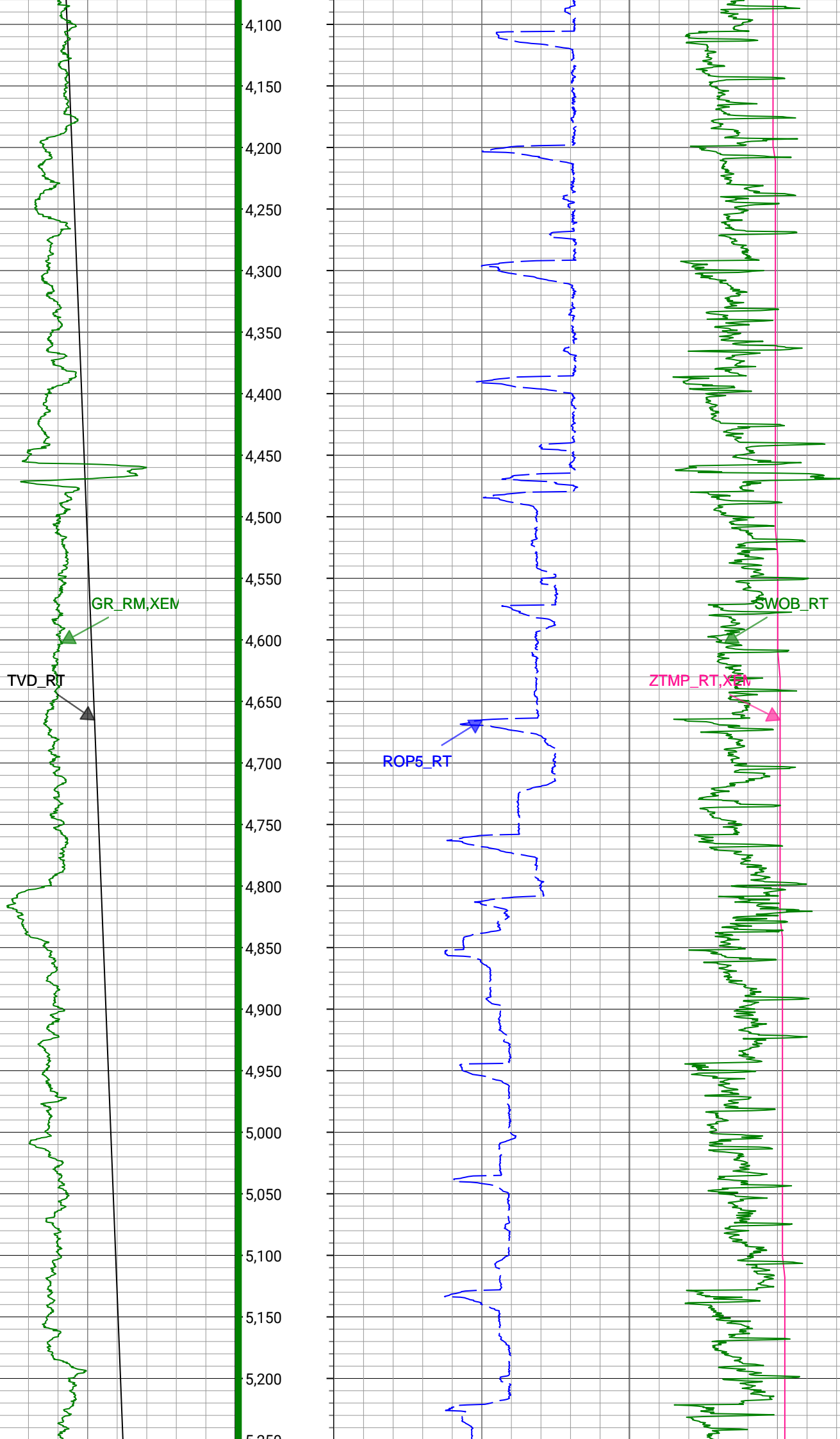
First GR Reading

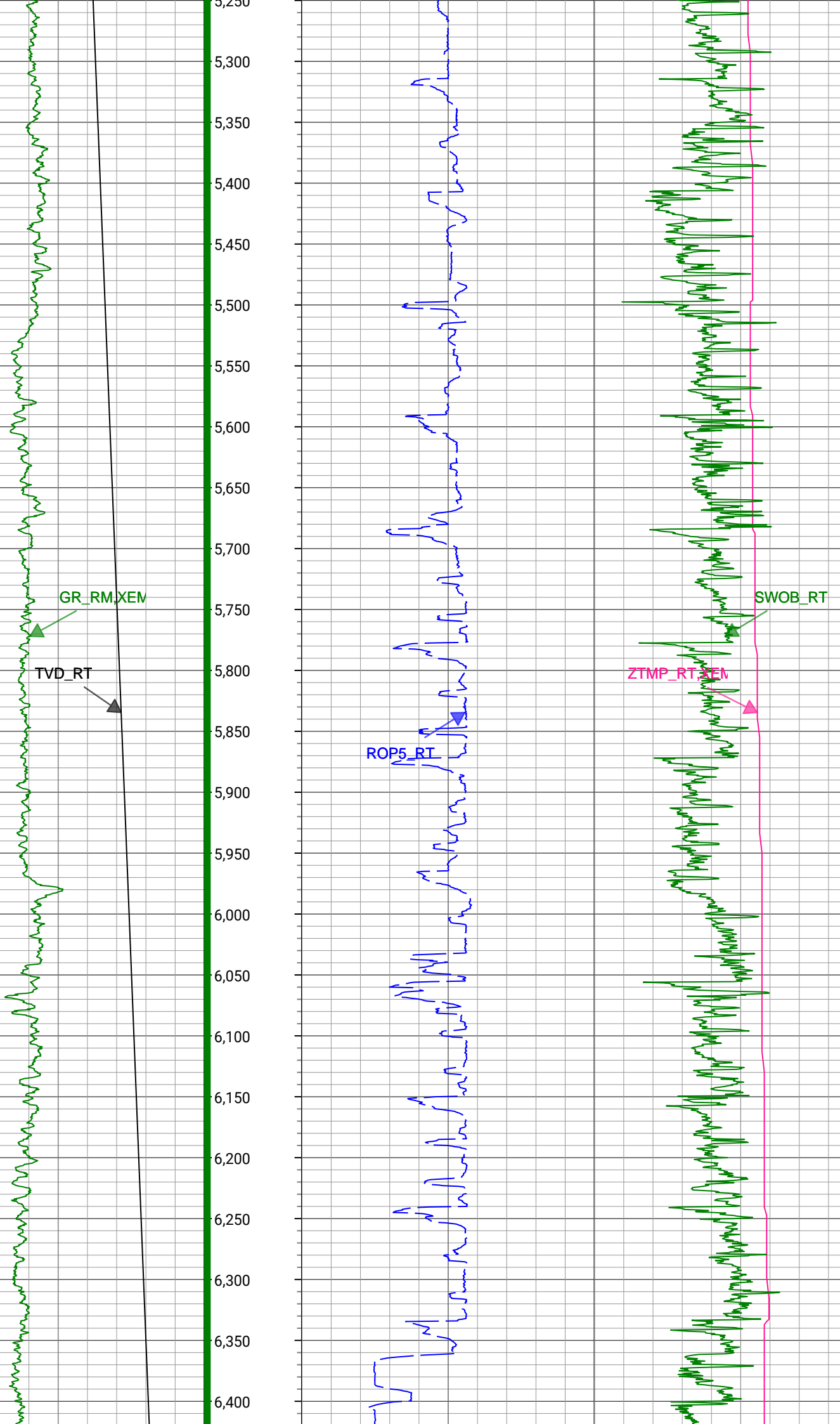
Run 1
Start Depth: 1818 ft MD
Bit Size: 8.5in

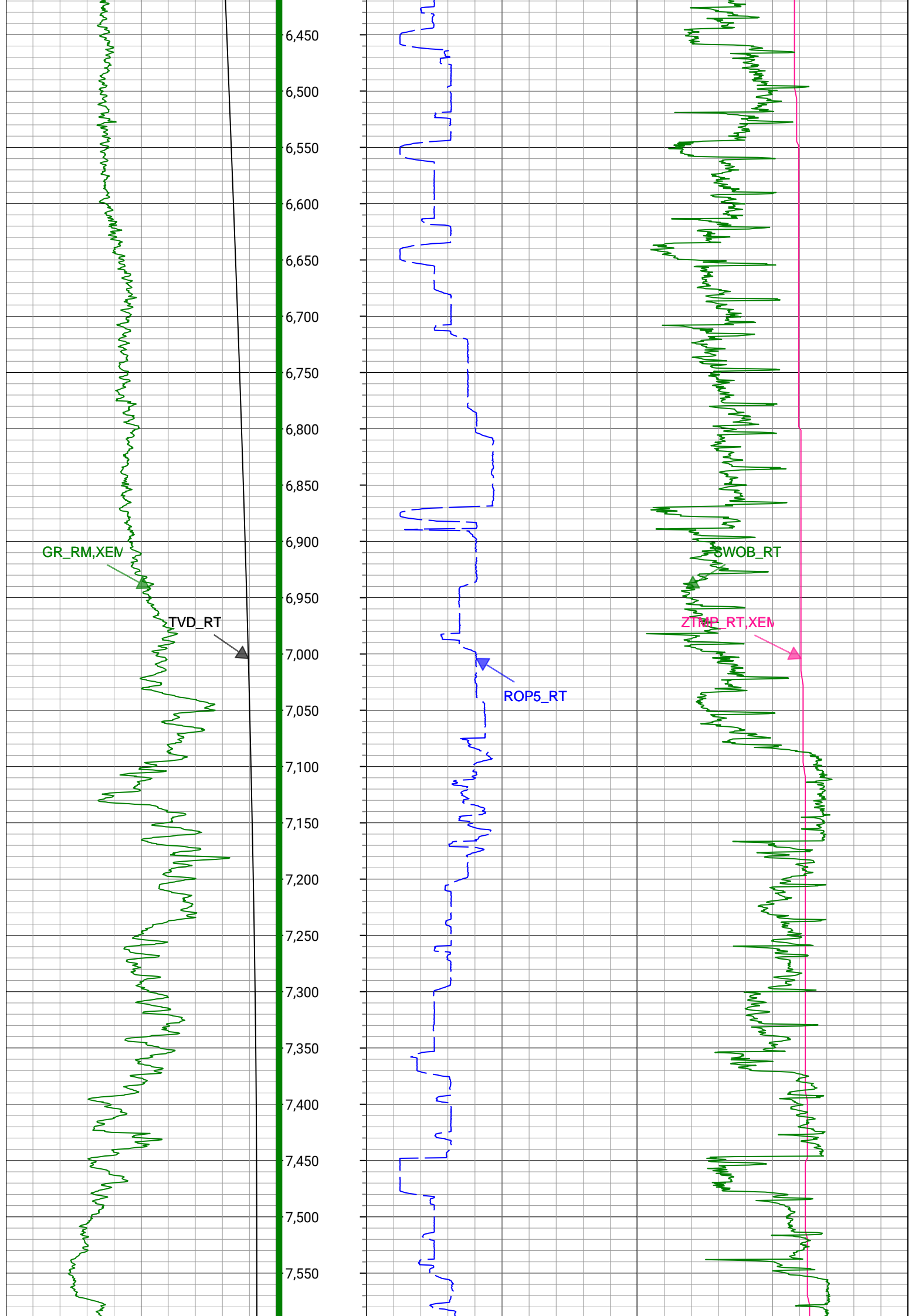
1,792
1,850
1,900
1,950
2,000
2,050
2,100
2,150
2,200
2,250
2,300
2,350
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2,600
2,650
2,700
2,750
2,800
2,850
2,900

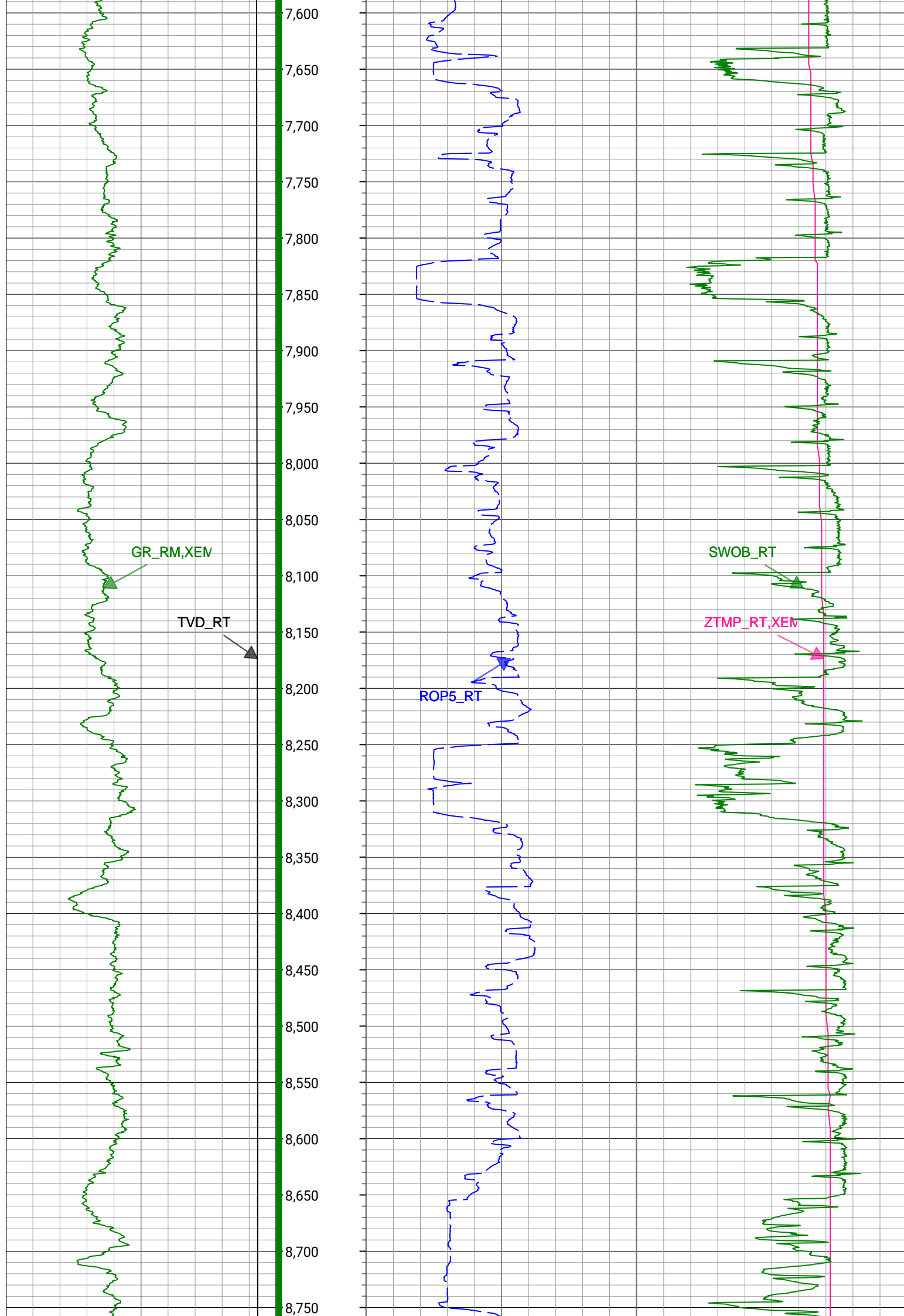


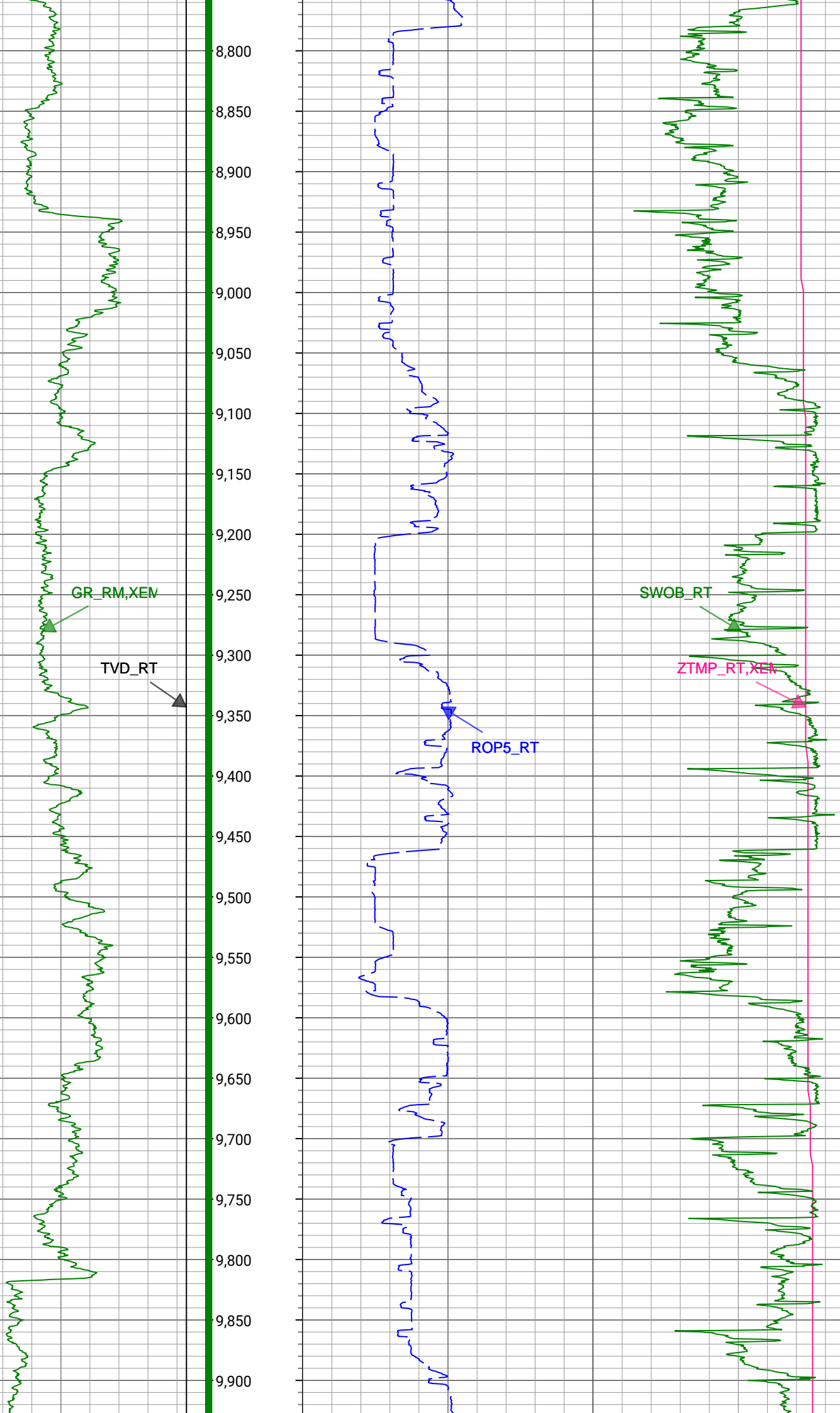


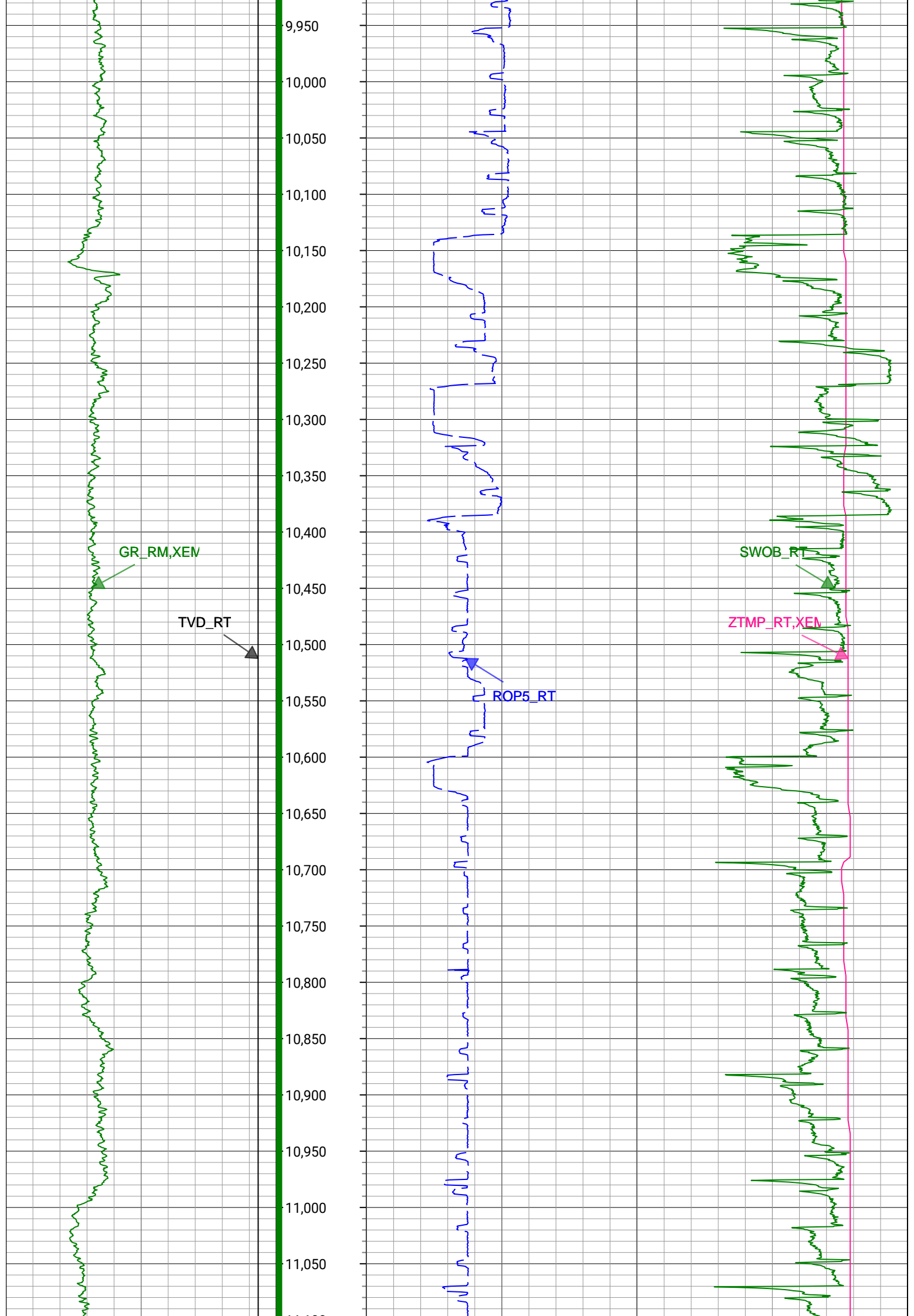


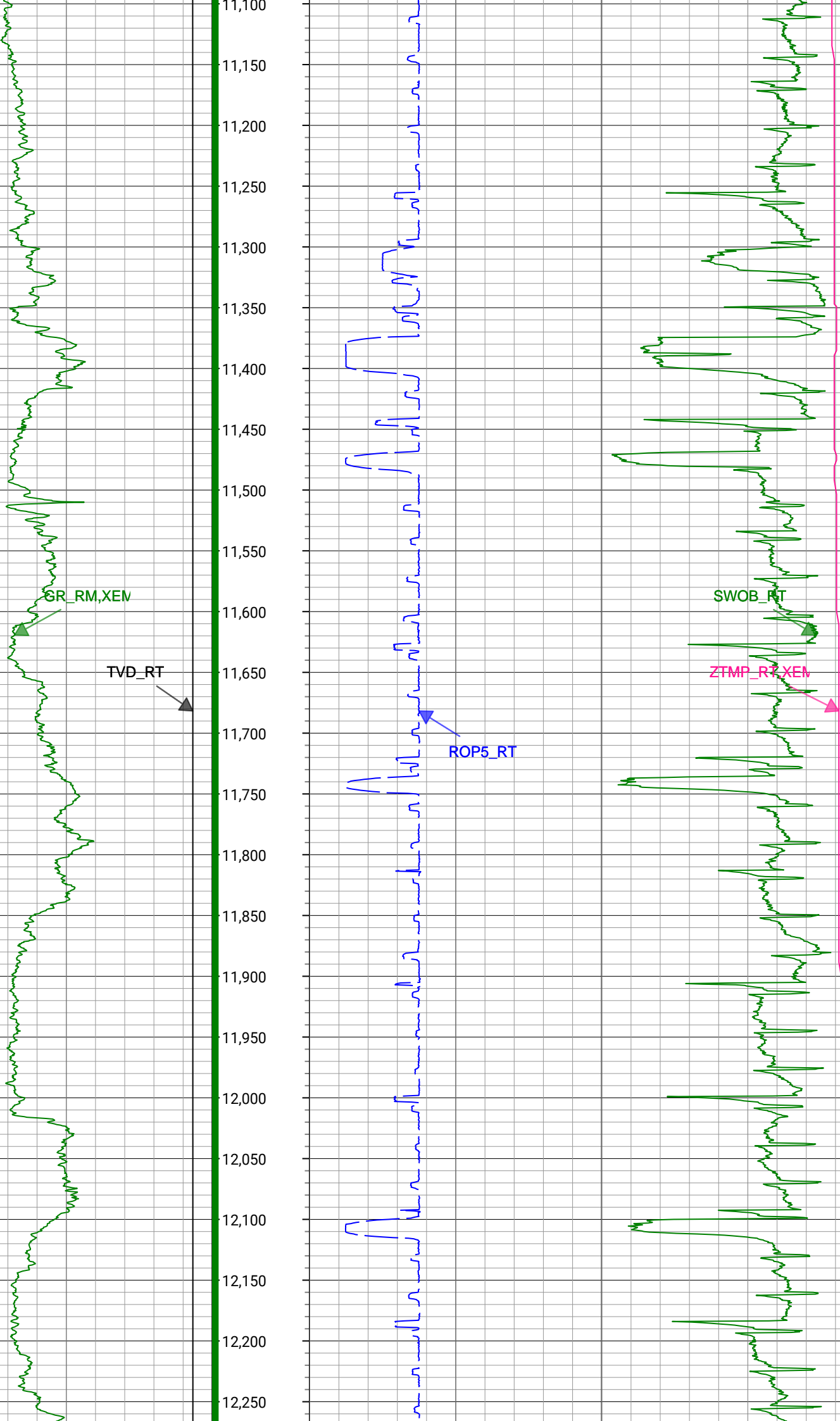


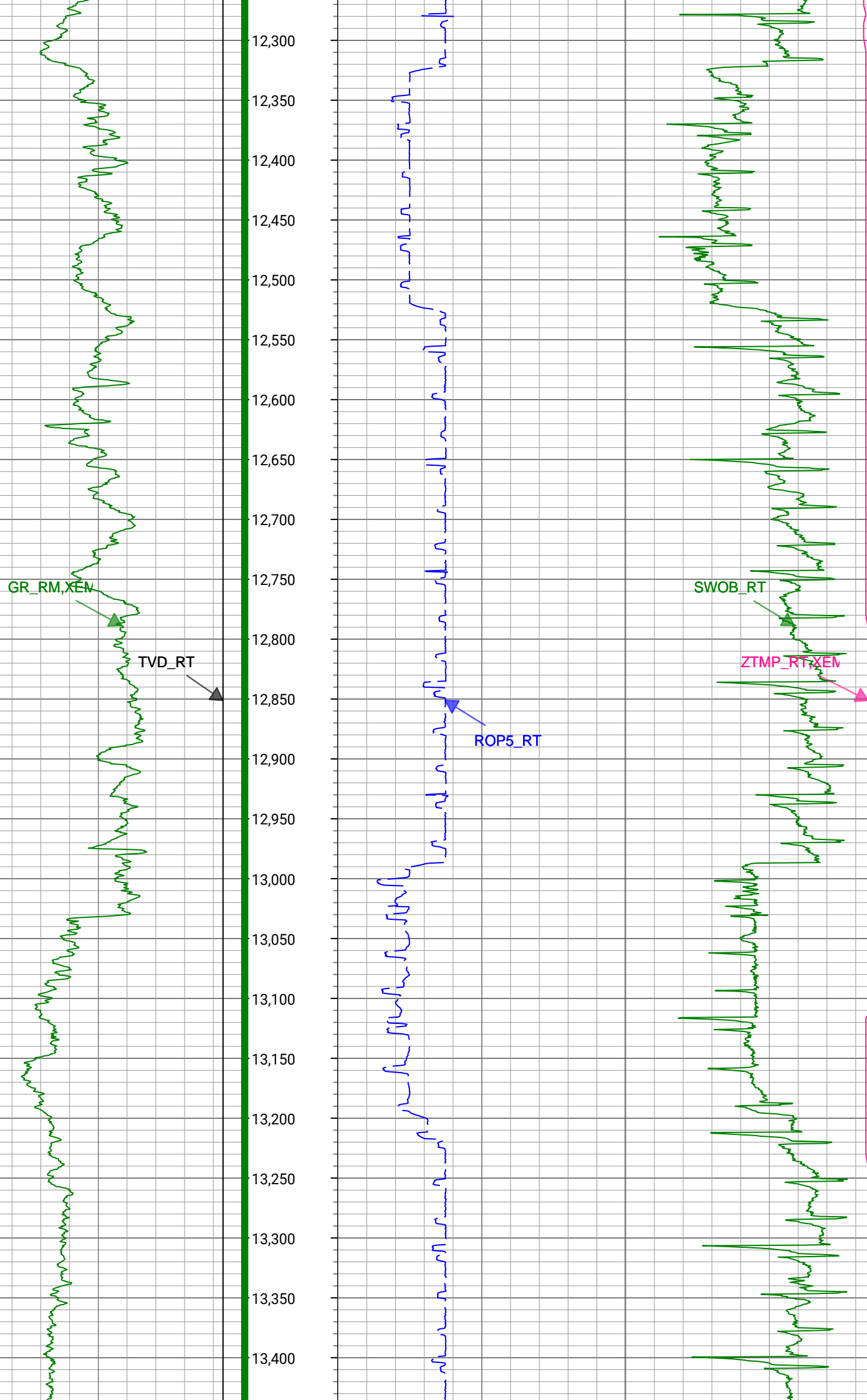


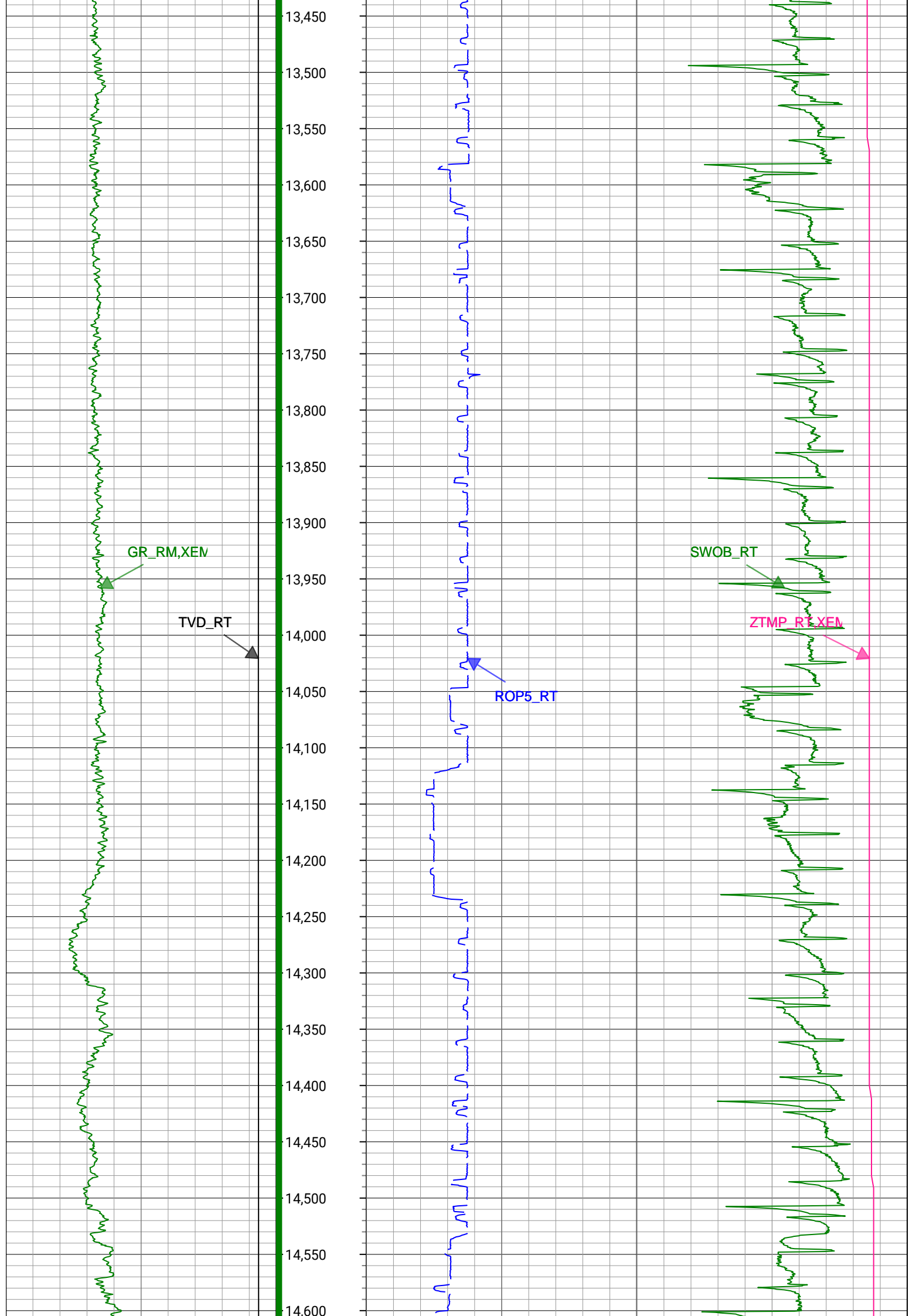


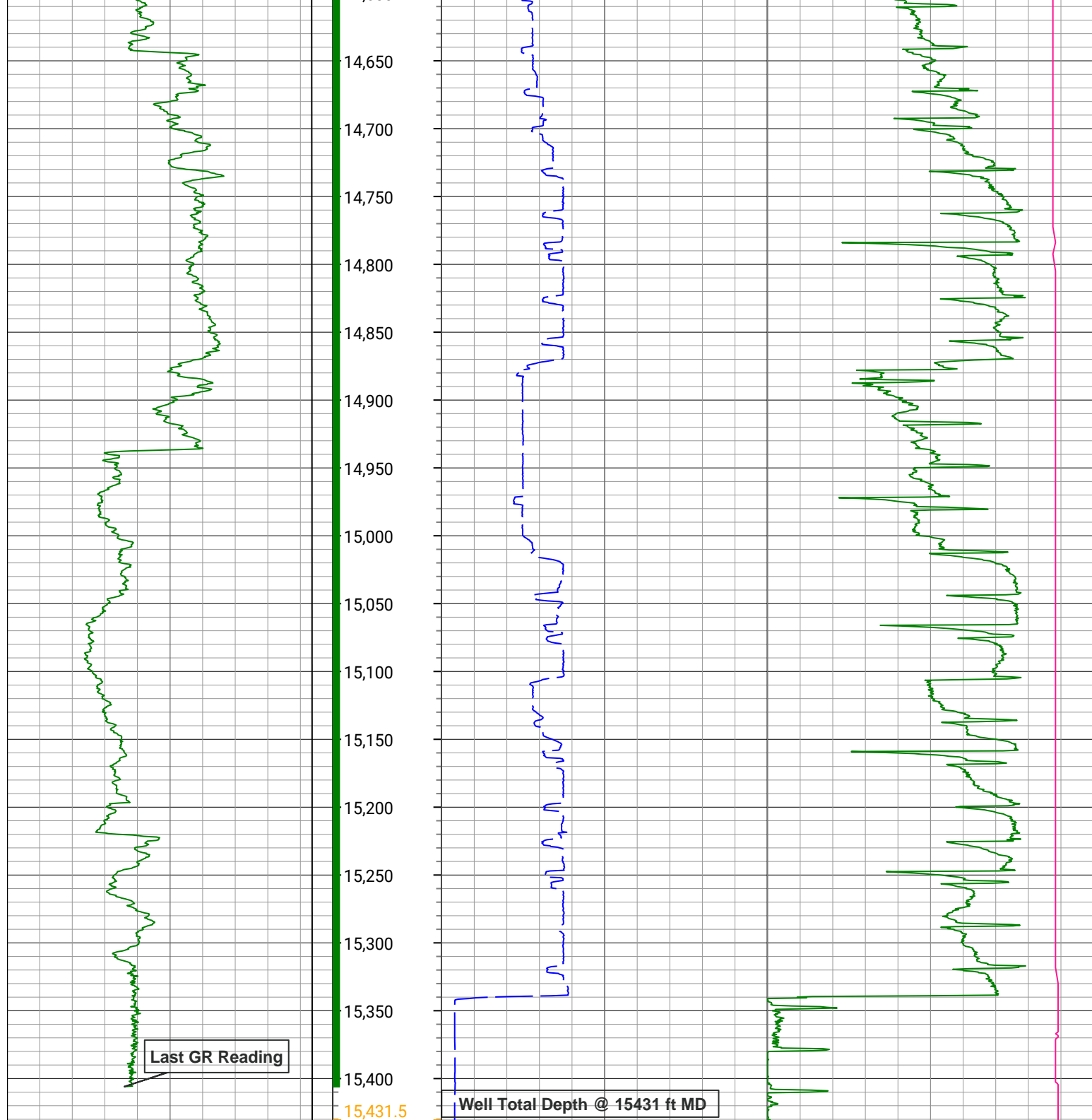












1,500	TVD_RT	7,500	Depth (ft)	0	ROP5_RT	800	0	ZTMP_RT,XEM	300
ft, Borehole				ft/h, Borehole			degF, Borehole		
0	GR_RM,XEM	300					0	SWOB_RT	50
gAPI, Borehole							1000 lbf, Borehole		

Description: XEM GAMMA RAY Format: XEM_GR-STAN Index Scale: 1in/100ft Index Unit: ft Index Type: Measured Depth
Creation Date: 27-May-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 - 1

Geomagnetic Model:				HDGM 2020			Geomagnetic Date:		26-May-2020 23:00:00		
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	0.18	107.44	151	0.19	-0.06	0.2	0.14	0.21	107.44	MWD	
241	0.13	241.45	241	0.24	-0.15	0.24	0.32	0.29	122.33	MWD	
334	0.71	272.87	334	-0.43	-0.17	-0.43	0.65	0.46	247.77	MWD	
424	1.37	273.57	423.98	-2.06	-0.08	-2.06	0.73	2.06	267.79	MWD	
514	1.94	275.6	513.94	-4.64	0.14	-4.65	0.64	4.65	271.68	MWD	
604	2.52	274.5	603.88	-8.12	0.44	-8.14	0.65	8.15	273.1	MWD	
694	2.56	274.32	693.79	-12.09	0.75	-12.11	0.05	12.14	273.53	MWD	
784	2.56	275.77	783.7	-16.08	1.1	-16.12	0.07	16.15	273.91	MWD	
874	1.86	271.5	873.63	-19.53	1.34	-19.58	0.8	19.62	273.92	MWD	
964	0.97	274.63	963.6	-21.75	1.44	-21.8	0.99	21.84	273.78	MWD	
1054	0.4	239.64	1053.59	-22.78	1.34	-22.83	0.76	22.87	273.37	MWD	
1144	0.27	222.58	1143.59	-23.21	1.03	-23.24	0.18	23.26	272.53	MWD	
1234	0.49	258.9	1233.59	-23.73	0.8	-23.76	0.35	23.78	271.92	MWD	
1324	0.18	196.23	1323.59	-24.16	0.59	-24.18	0.49	24.19	271.39	MWD	
1414	0.09	226.42	1413.59	-24.25	0.4	-24.27	0.12	24.27	270.95	MWD	
1504	0.22	198.52	1503.59	-24.36	0.19	-24.38	0.16	24.38	270.45	MWD	
1594	0.27	226.07	1593.59	-24.58	-0.12	-24.58	0.14	24.58	269.72	MWD	
1684	0.4	207.47	1683.59	-24.89	-0.55	-24.88	0.19	24.89	268.74	MWD	
1744	0.27	172.13	1743.59	-24.97	-0.87	-24.96	0.4	24.97	268	MWD	
1857	0.09	169.08	1856.59	-24.93	-1.22	-24.91	0.16	24.94	267.19	Manual	
1949	0.07	60.05	1948.59	-24.87	-1.27	-24.84	0.14	24.88	267.08	Manual	
2042	0.13	207.6	2041.59	-24.87	-1.33	-24.84	0.21	24.88	266.93	Manual	
2135	0.06	18.93	2134.58	-24.9	-1.38	-24.88	0.2	24.91	266.83	Manual	
2227	0.08	238.41	2226.58	-24.94	-1.37	-24.91	0.14	24.95	266.86	Manual	
2320	0.14	114.07	2319.58	-24.9	-1.45	-24.87	0.21	24.91	266.67	Manual	
2412	0.16	52.33	2411.58	-24.69	-1.41	-24.66	0.17	24.7	266.72	Manual	
2505	0.12	250.17	2504.58	-24.68	-1.37	-24.65	0.3	24.69	266.82	Manual	
2597	0.09	246.1	2596.58	-24.84	-1.43	-24.81	0.03	24.85	266.7	Manual	
2690	0.14	259.91	2689.58	-25.02	-1.48	-24.99	0.06	25.03	266.61	Manual	
2784	0.06	207.18	2783.58	-25.15	-1.54	-25.12	0.12	25.17	266.49	Manual	
2877	0.08	354.08	2876.58	-25.18	-1.52	-25.15	0.14	25.2	266.54	Manual	
2970	0.15	299.29	2969.58	-25.29	-1.4	-25.26	0.13	25.3	266.83	Manual	
3062	2.69	356.66	3061.55	-25.46	0.82	-25.49	2.84	25.51	271.84	Manual	
3155	5.45	349.67	3154.04	-26.1	10.14	-26.38	21.48	28.26	291.03	Manual	
3249	7.45	350.66	3247.44	-27.62	20.55	-28.17	2.13	34.87	306.11	Manual	
3342	8.87	349.19	3339.27	-28.51	35.1	-29.45	14.75	45.81	320	Manual	
3435	10.9	349.37	3430.66	-30.15	52.2	-31.53	1.78	60.99	328.87	Manual	
3527	10.97	349.36	3520.98	-32.92	69.36	-34.76	0.08	77.58	333.38	Manual	
3619	10.79	350.28	3611.33	-35.53	86.45	-37.83	0.27	94.36	336.37	Manual	
3712	10.64	352.86	3702.71	-37.62	103.55	-40.36	0.54	111.14	338.7	Manual	
3805	10.41	353.45	3794.15	-39.2	120.41	-42.39	0.27	127.66	340.61	Manual	
3899	10.35	352.84	3886.61	-40.78	137.23	-44.41	0.13	144.23	342.07	Manual	

3899	10.33	352.64	3977.14	-42.37	153.47	-46.43	0.23	160.34	343.17	Manual
3991	10.14	352.96	3977.14	-42.37	153.47	-46.43	0.23	160.34	343.17	Manual
4083	10.09	354.04	4067.71	-43.78	169.52	-48.26	0.21	176.25	344.11	Manual
4177	10.33	354.13	4160.22	-45.06	186.09	-49.98	0.26	192.69	344.97	Manual
4270	10.17	352.89	4251.74	-46.49	202.53	-51.85	0.29	209.06	345.64	Manual
4363	10.03	354.14	4343.3	-47.91	218.74	-53.69	0.28	225.23	346.21	Manual
4456	10.01	353.49	4434.88	-49.23	234.82	-55.43	0.12	241.28	346.72	Manual
4549	9.94	352.38	4526.47	-50.79	250.81	-57.41	0.22	257.3	347.11	Manual
4642	10.13	355.13	4618.05	-52.12	266.92	-59.17	0.55	273.4	347.5	Manual
4736	10.14	354.54	4710.58	-53.17	283.39	-60.66	0.11	289.81	347.92	Manual
4829	10.01	354.75	4802.15	-54.26	299.59	-62.18	0.15	305.97	348.27	Manual
4921	10.05	352.58	4892.74	-55.61	315.51	-63.95	0.41	321.92	348.54	Manual
5013	9.78	353.02	4983.37	-57.18	331.23	-65.94	0.3	337.72	348.74	Manual
5106	10.09	351.62	5074.97	-58.91	347.13	-68.08	0.42	353.74	348.9	Manual
5198	9.75	352.44	5165.6	-60.7	362.82	-70.28	0.4	369.57	349.04	Manual
5290	10.11	353.02	5256.22	-62.29	378.56	-72.29	0.41	385.4	349.19	Manual
5384	10.13	352.84	5348.76	-63.89	394.95	-74.32	0.04	401.88	349.34	Manual
5476	10.05	353.91	5439.34	-65.33	410.96	-76.18	0.22	417.96	349.5	Manual
5569	9.75	352.23	5530.95	-66.83	426.83	-78.11	0.45	433.92	349.63	Manual
5662	10.04	353.17	5622.57	-68.44	442.68	-80.14	0.36	449.88	349.74	Manual
5754	10.02	352.85	5713.16	-69.97	458.59	-82.09	0.06	465.87	349.85	Manual
5848	9.99	353.6	5805.73	-71.47	474.8	-84.01	0.14	482.18	349.97	Manual
5941	10.08	352.42	5897.31	-73.02	490.89	-85.98	0.24	498.36	350.06	Manual
6034	9.89	353.43	5988.9	-74.58	506.89	-87.97	0.28	514.46	350.15	Manual
6127	10.01	352.94	6080.5	-76.07	522.84	-89.88	0.16	530.51	350.25	Manual
6219	10.02	352.96	6171.1	-77.61	538.72	-91.84	0.01	546.49	350.33	Manual
6311	10.04	353.29	6261.69	-79.11	554.63	-93.76	0.07	562.5	350.4	Manual
6404	9.63	356.88	6353.33	-80.07	570.45	-95.13	0.79	578.33	350.53	Manual
6497	10.3	36.64	6445.03	-75.14	584.9	-90.59	7.29	591.88	351.2	Manual
6590	15.45	66.92	6535.76	-58.46	596.45	-74.2	8.95	601.05	352.91	Manual
6683	24.7	75.29	6623.03	-27.95	606.26	-43.94	10.39	607.85	355.85	Manual
6775	32.44	74.03	6703.77	14.72	617.95	-1.56	8.44	617.95	359.86	Manual
6867	38.99	73.77	6778.43	66.67	632.85	50.01	7.12	634.82	4.52	Manual
6960	46.14	76.84	6846.88	127.89	648.68	110.83	8	658.08	9.7	Manual
7053	53.57	78.24	6906.8	197.64	663.96	180.21	8.07	687.98	15.18	Manual
7145	58.66	80.57	6958.08	273.03	677.95	255.26	5.92	724.41	20.63	Manual
7237	65.02	83.55	7001.49	353.58	689.09	335.54	7.48	766.44	25.96	Manual
7330	73.28	87.7	7034.57	440.29	695.62	422.11	9.81	813.67	31.25	Manual
7424	82.15	90.29	7054.56	532.03	697.2	513.84	9.81	866.09	36.39	Manual
7516	88.18	87.72	7062.31	623.65	698.8	605.45	7.12	924.6	40.91	Manual
7609	88.08	87.26	7065.34	716.59	702.87	698.31	0.51	990.79	44.81	Manual
7702	89.35	85.21	7067.43	809.49	708.97	791.08	2.59	1062.28	48.13	Manual
7795	89.55	84.84	7068.32	902.31	717.04	883.72	0.45	1138.03	50.94	Manual
7887	88.29	88.41	7070.06	994.23	722.45	975.53	4.11	1213.92	53.48	Manual
7980	88.02	88.86	7073.05	1087.18	724.67	1068.46	0.56	1291.02	55.85	Manual
8074	88.28	88.64	7076.08	1181.13	726.72	1162.39	0.36	1370.86	57.99	Manual
8167	87.97	88.59	7079.13	1274.08	728.96	1255.31	0.34	1451.61	59.86	Manual
8261	87.43	89.47	7082.9	1368	730.55	1349.22	1.1	1534.31	61.57	Manual
8353	89.11	88.77	7085.68	1459.95	731.96	1441.16	1.98	1616.39	63.07	Manual
8447	89.14	89.51	7087.11	1553.93	733.38	1535.14	0.79	1701.32	64.46	Manual
8540	89.14	89.51	7087.11	1553.93	733.38	1535.14	0.79	1701.32	64.46	Manual

8539	89.04	89.53	7088.57	1645.9	734.15	1627.12	0.11	1785.08	65.72	Manual
8631	90.56	87.52	7088.9	1737.9	736.51	1719.09	2.74	1870.22	66.81	Manual
8723	89.18	90.06	7089.1	1829.89	738.46	1811.06	3.14	1955.82	67.82	Manual
8816	89.02	89.57	7090.56	1922.85	738.76	1904.04	0.55	2042.34	68.79	Manual
8909	88.91	89.44	7092.24	2015.82	739.56	1997.02	0.18	2129.57	69.68	Manual
9001	88.87	88.15	7094.03	2107.8	741.49	2088.98	1.4	2216.68	70.46	Manual
9094	90.61	86.04	7094.45	2200.76	746.21	2181.86	2.94	2305.93	71.12	Manual
9186	92.09	83.66	7092.28	2292.54	754.46	2273.45	3.05	2395.37	71.64	Manual
9279	89.14	88.27	7091.28	2385.41	761	2366.18	5.88	2485.54	72.17	Manual
9371	89.23	87.63	7092.59	2477.4	764.29	2458.11	0.7	2574.19	72.73	Manual
9464	90.48	85.81	7092.83	2570.35	769.61	2550.95	2.37	2664.52	73.21	Manual
9557	89.04	88.76	7093.22	2663.31	774.02	2643.83	3.53	2754.81	73.68	Manual
9650	90.01	88.84	7093.99	2756.31	775.97	2736.81	1.05	2844.69	74.17	Manual
9742	89.67	89.05	7094.24	2848.3	777.66	2828.79	0.43	2933.74	74.63	Manual
9835	89.66	88.91	7094.79	2941.3	779.32	2921.78	0.15	3023.92	75.07	Manual
9929	89.92	89.48	7095.13	3035.29	780.64	3015.77	0.67	3115.16	75.49	Manual
10022	90.21	89.72	7095.03	3128.27	781.28	3108.76	0.4	3205.44	75.89	Manual
10114	90.47	88.91	7094.48	3220.26	782.38	3200.75	0.92	3294.99	76.26	Manual
10208	90.28	87.82	7093.87	3314.26	785.07	3294.71	1.18	3386.95	76.6	Manual
10300	89.58	88.63	7093.98	3406.25	787.92	3386.67	1.16	3477.11	76.9	Manual
10392	90.07	87.29	7094.26	3498.25	791.19	3478.61	1.55	3567.45	77.19	Manual
10484	89.77	88.37	7094.39	3590.24	794.67	3570.54	1.22	3657.9	77.45	Manual
10576	90.24	87.25	7094.38	3682.23	798.19	3662.47	1.32	3748.44	77.71	Manual
10671	89.86	89.86	7094.3	3777.22	800.59	3757.43	2.78	3841.77	77.97	Manual
10766	89.78	89.95	7094.6	3872.19	800.74	3852.43	0.13	3934.77	78.26	Manual
10859	89.9	89.89	7094.85	3965.16	800.87	3945.43	0.14	4025.89	78.53	Manual
10953	89.38	89.09	7095.45	4059.15	801.71	4039.42	1.02	4118.21	78.77	Manual
11047	89.6	89.74	7096.28	4153.13	802.67	4133.41	0.73	4210.63	79.01	Manual
11141	89.75	90.37	7096.82	4247.09	802.58	4227.41	0.69	4302.92	79.25	Manual
11234	89.6	89.7	7097.34	4340.06	802.52	4320.41	0.74	4394.31	79.48	Manual
11326	90.04	89.69	7097.63	4432.04	803.01	4412.41	0.48	4484.88	79.69	Manual
11419	89.21	90.51	7098.24	4525	802.85	4505.4	1.25	4576.38	79.9	Manual
11511	89.81	89.47	7099.03	4616.96	802.87	4597.4	1.31	4666.98	80.09	Manual
11605	89.93	89.22	7099.24	4710.95	803.94	4691.39	0.3	4759.78	80.28	Manual
11698	89.96	89.3	7099.33	4803.94	805.14	4784.38	0.09	4851.66	80.45	Manual
11790	89.87	89.34	7099.47	4895.93	806.23	4876.38	0.11	4942.58	80.61	Manual
11885	90.21	87.79	7099.4	4990.93	808.61	4971.35	1.67	5036.68	80.76	Manual
11977	89.89	90.08	7099.32	5082.92	810.32	5063.32	2.51	5127.75	80.91	Manual
12070	89.72	89.71	7099.64	5175.89	810.49	5156.32	0.44	5219.63	81.07	Manual
12163	89.79	87.74	7100.03	5268.88	812.56	5249.29	2.12	5311.81	81.2	Manual
12256	90.04	88.83	7100.17	5361.88	815.35	5342.25	1.2	5404.11	81.32	Manual
12349	89.76	88.24	7100.33	5454.88	817.72	5435.22	0.7	5496.39	81.44	Manual
12442	89.56	88.19	7100.89	5547.88	820.62	5528.17	0.22	5588.75	81.56	Manual
12534	89.83	89.03	7101.38	5639.87	822.85	5620.14	0.96	5680.06	81.67	Manual
12628	89.92	88.72	7101.58	5733.87	824.7	5714.12	0.34	5773.33	81.79	Manual
12720	90.03	89.09	7101.62	5825.87	826.45	5806.11	0.42	5864.63	81.9	Manual
12813	89.94	89.19	7101.65	5918.86	827.85	5899.1	0.14	5956.9	82.01	Manual
12907	90.02	89.27	7101.68	6012.86	829.11	5993.09	0.12	6050.17	82.12	Manual
13000	89.89	88.89	7101.75	6105.85	830.61	6086.08	0.43	6142.49	82.23	Manual
13096	89.91	87.21	7101.92	6201.84	833.87	6182.02	1.75	6238	82.32	Manual

13190	89.91	87.27	7102.07	6295.82	838.4	6275.91	0.06	6331.66	82.39	Manual
13282	90.17	86.65	7102	6387.79	843.28	6367.78	0.73	6423.37	82.46	Manual
13374	90.31	88.35	7101.62	6479.77	847.29	6459.69	1.85	6515.02	82.53	Manual
13467	90.02	88.13	7101.35	6572.77	850.15	6552.64	0.39	6607.56	82.61	Manual
13559	90.18	89.34	7101.19	6664.77	852.18	6644.62	1.33	6699.04	82.69	Manual
13653	89.83	90.19	7101.18	6758.74	852.56	6738.62	0.98	6792.33	82.79	Manual
13745	89.52	89.35	7101.7	6850.72	852.93	6830.61	0.97	6883.66	82.88	Manual
13837	89.66	89.39	7102.36	6942.7	853.95	6922.6	0.16	6975.08	82.97	Manual
13930	90.1	90.64	7102.56	7035.67	853.92	7015.6	1.42	7067.38	83.06	Manual
14023	90.37	89.98	7102.17	7128.62	853.42	7108.6	0.77	7159.64	83.15	Manual
14115	90.45	90.41	7101.52	7220.58	853.1	7200.6	0.48	7250.96	83.24	Manual
14207	88.91	88.18	7102.03	7312.56	854.24	7292.58	2.95	7342.44	83.32	Manual
14300	89.46	87.53	7103.35	7405.54	857.72	7385.5	0.92	7435.14	83.38	Manual
14392	89.1	87.96	7104.51	7497.53	861.34	7477.43	0.61	7526.87	83.43	Manual
14484	89.35	86.49	7105.75	7589.49	865.79	7569.31	1.62	7618.66	83.47	Manual
14577	89.19	88.02	7106.94	7682.46	870.24	7662.19	1.65	7711.45	83.52	Manual
14670	88.87	88.39	7108.51	7775.45	873.16	7755.13	0.53	7804.13	83.58	Manual
14763	89.26	88.26	7110.03	7868.43	875.87	7848.08	0.44	7896.8	83.63	Manual
14855	88.82	87.68	7111.57	7960.42	879.13	7940.01	0.79	7988.53	83.68	Manual
14948	89.39	88.54	7113.02	8053.4	882.2	8032.94	1.11	8081.24	83.73	Manual
15041	89.5	88.32	7113.92	8146.4	884.75	8125.9	0.26	8173.93	83.79	Manual
15133	89.51	87.83	7114.72	8238.39	887.84	8217.85	0.53	8265.67	83.83	Manual
15226	89.64	88.43	7115.41	8331.39	890.87	8310.8	0.66	8358.41	83.88	Manual
15318	89.46	87.26	7116.13	8423.38	894.33	8402.73	1.29	8450.19	83.92	Manual
15410	89.49	88.72	7116.98	8515.37	897.56	8494.66	1.59	8541.95	83.97	Manual
15431	89.49	88.72	7117.16	8536.36	898.03	8515.66	0	8562.88	83.98	Manual

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