



**EWR Electromagnetic Wave Resistivity
DGR Dual Gamma Ray**

Country		: Australia		Company		: Origin Energy Resources	
Field		: Yolla		Rig		: ENSCO 102	
Location		: 39° 50' 40.471" South 145° 49' 06.085" East		Well		: Yolla-3	
Well		: Yolla-3		Country		: Australia	
Company		: Origin Energy Resources		DOE Number		:	
Rig		: ENSCO 102		<div>Other Services</div> <div>Directional Drilling</div>			
LOCATION							
Latitude		: 39° 50' 40.471" South					
Longitude		: 145° 49' 06.085" East		UTM Easting		= 398,905.69 m	
				UTM Northing		= 5,588,825.22 m	
Permanent Datum		: Mean Sea Level		Elevation		: 0.00 m	
Log Measured From		: Drill Floor		43.00 m		Above Permanent Datum	
Drilling Measured From		: Drill Floor		MD LOG		Elev. KB DF 43.00 m GL WD 81.80 m	
Depth Logged		: 215.00 m To 3,497.00 m		Unit No.		: 040602	
Date Logged		: 11-Aug-04 To 05-Sep-04		Plot Type		: Final	
Total Depth MD		: 3,497.00 m TVD: 3,100.32 m		Plot Date		: 29-Sep-04	
Spud Date		: 11-Aug-04					
Run No.		Borehole Record (MD)		Run No.		Borehole Record (MD)	
Size		From To		Size		From To	
100		16,000 in 215.00 m 1,012.00 m					
300		12,250 in 1,017.00 m 1,593.00 m					
400		12,250 in 1,593.00 m 2,216.00 m					
600		12,250 in 2,216.00 m 2,347.00 m					
700		8,500 in 2,347.00 m 3,497.00 m					
				Size		Casing Record (MD)	
				20,000 in		132.67 lbf	
				13,375 in		54.50 lbf	
				9,625 in		43.50 lbf	
						SURFACE	
						SURFACE	
						SURFACE	
						2,340.00 m	

WELL INFORMATION

MWD Run Number	100	300	400	600	700
Date run completed	13-Aug-04	18-Aug-04	22-Aug-04	27-Aug-04	05-Sep-04
Rig Bit Number	1	3	4	6	7
Bit Size (in)	16	12.25	12.25	12.25	8.5
Tool Nominal OD (in)	9.5	8	8	8	6.75
Log Start Depth (MD, m)	215.00	1,017.00	1,593.00	2,216.00	2,347.00
Log End Depth (MD, m)	1,012.00	1,593.00	2,216.00	2,347.00	3,497.00
Drill or Wipe	Drilling	Drilling	Drilling	Drilling	Drilling
Drill/Wipe Start Date and Time	11-Aug-04 03:00	16-Aug-04 16:33	18-Aug-04 16:36	26-Aug-04 00:04	31-Aug-04 21:00
Drill/Wipe End Date and Time	12-Aug-04 09:00	17-Aug-04 21:34	21-Aug-04 03:40	26-Aug-04 15:16	04-Sep-04 11:10
Min Inc (deg) @ Depth (MD, m)	0.43 @ 258.45	40.28 @ 1,067.25	29.51 @ 2,192.70	25.94 @ 2,323.95	0.13 @ 3,426.31
Max Inc (deg) @ Depth (MD, m)	41.88 @ 922.03	44.55 @ 1,212.90	42.67 @ 1,735.04	29.61 @ 2,199.47	25.28 @ 2,352.54
Bit TFA(in2) / Bit Type	1.325 / Hughes MX-1	1.491 / Hughes HCM506	1.491 / Hughes HCM506	1.491 / Hughes HCM506	1.335 / Hycalog DSX173DG
Flow Rate (gpm)	860	830	850	880	600
Max AV (mpm) / CV (mpm) @ MWD	29.4 / 139.8	72.0 / 110.4	110.6 / 323.5	76.2 / 190.2	181.8 / 282.0
Fluid Type	Seawater/Sweeps	Drispac/Soltex	Drispac/Soltex	Drispac/Soltex	Drispac/Soltex
Density (ppg) / Viscosity (spqt)	8.8 / 165	9.2 / 122	9.5 / 84	9.4 / 190	9.4 / 106
Filtrate CL (ppm)	N/A	19,500	30,000	23,000	21,000
pH / Fluid Loss (cptm)	N/A / N/A	8.50 / 3.7	8.40 / 4.3	8.10 / 4.0	8.90 / 3.7
PV (cp) / YP (pa)	14 / 42	34 / 43	29 / 38	39 / 53	50 / 53
% Solids / % Sand	N/A / N/A	4.9 / 0.10	6.1 / 0.02	5.5 / 0.10	6.3 / 0.10
% Oil / Oil:Water Ratio	N/A / N/A	0.0 / 0.0:94.0	0.0 / 0.0:91.5	0.0 / 0.0:92.6	0.0 / 0.0:92.0
Rm @ Measured Temp (degC)	N/A @ N/A	1.60 @ 14.00	1.20 @ 14.00	1.30 @ 19.00	0.18 @ 20.00
Rmf @ Measured Temp (degC)	N/A @ N/A	1.50 @ 14.00	1.10 @ 14.00	1.20 @ 19.00	0.20 @ 20.00
Rmc @ Measured Temp (degC)	N/A @ N/A	1.70 @ 14.00	1.40 @ 14.00	1.40 @ 19.00	0.28 @ 20.00
Max Tool Temp (degC) / Source	23.40 / PCD-R	57.00 / EWR-P4	72.00 / EWR-P4	82.00 / EWR-P4	96.00 / EWR-P4
Rm @ Max Tool Temp (degC)	N/A @ N/A	0.72 @ 57.00	0.46 @ 72.00	0.51 @ 82.00	0.42 @ 96.00
Lead MWD Engineer	M. Lee	M. Lee	M. Lee	M. Lee	E. Dahlem
Customer Representative	H. Flink	M. Jackson	M. Jackson	M. Jackson	H. Flink

SENSOR INFORMATION

Downhole Processor Information

Tool Type	PCD	HCIM	HCIM	HCIM	HCIM
Software Version	3.32	66.37	67.88	67.88	67.88
Sub Serial Number	10599306	182692	154547	154547	43989
Insert Serial Number	538	108149	160772	160772	160772
Logging String Serial Number	10599306	DM90047857H1GR8	DM90047858HGR8	DM90047858HGR8	DM90049413H1GR6
Date and Time Initialized	11-Aug-04 00:00	16-Aug-04 12:02	18-Aug-04 08:54	25-Aug-04 06:47	31-Aug-04 11:25
Date and Time Read	20-Jun-04 12:00	18-Aug-04 06:30:18	22-Aug-04 03:55:00	27-Aug-04 00:44:21	05-Sep-04 14:40:00

Directional Sensor Information

Tool Type	PCD	PM	PM	PM	PM
Distance From Bit (m)	20.55	22.28	22.30	22.30	20.53
Software Version	3.32	N/A	N/A	N/A	N/A
Sub Serial Number	10599306	91818	61119	61119	95764
Sonde Serial Number	538	73280	97847	97847	34827
Sensor ID Number	10599306	563	688	688	500
Survey String Serial Number	10599306	DM90047861M8	DM90047862M8	DM90047862M8	DM90047859M6
Toolface Offset (deg)	308	331	42	233	255

Gamma Ray Sensor Information

Tool Type		DGR	DGR	DGR	DGR
Distance From Bit (m)		18.91	18.93	18.93	17.22
Recorded Sample Period (sec)		14	14	14	14
Software Version		N/A	N/A	N/A	N/A
Sub Serial Number		106149	102971	102971	70755
Insert/Sonde Serial Number		050437	1084171	1084171	184694

Resistivity Sensor Information

Tool Type		EWR-P4	EWR-P4	EWR-P4	EWR-P4
Distance From Bit (m)		15.92	15.94	15.94	14.21
Recorded Sample Period (sec)		16	16	16	16
Software Version		1.38	1.38	1.38	1.38
Sub Serial Number		96508	82377	82377	81799
Receiver Insert Serial Number		77242	144719	144719	81550
Transmitter Insert Serial Number		135158	79562	79562	122049
Receiver Orientation		Down	Down	Down	Down

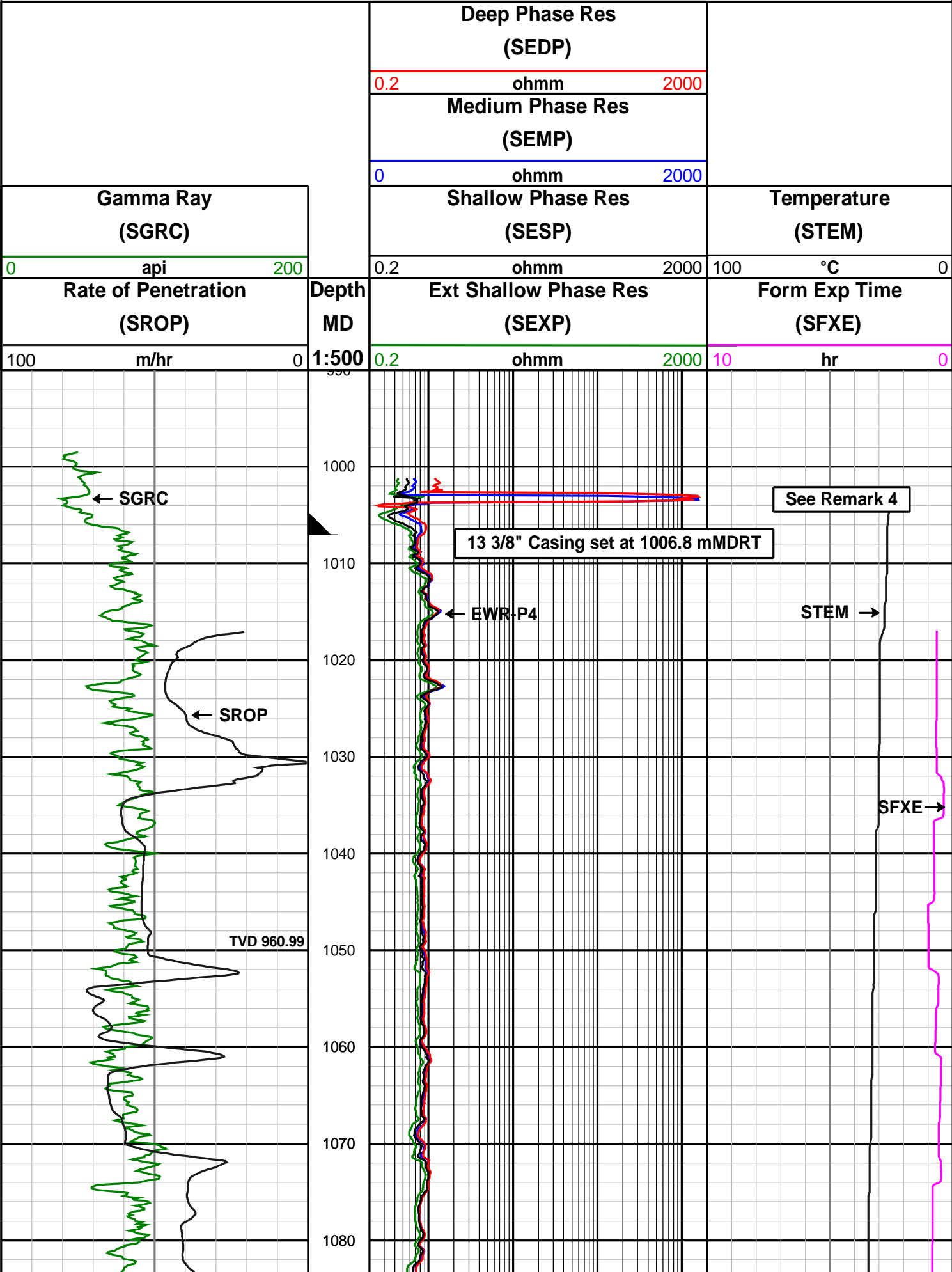
REMARKS

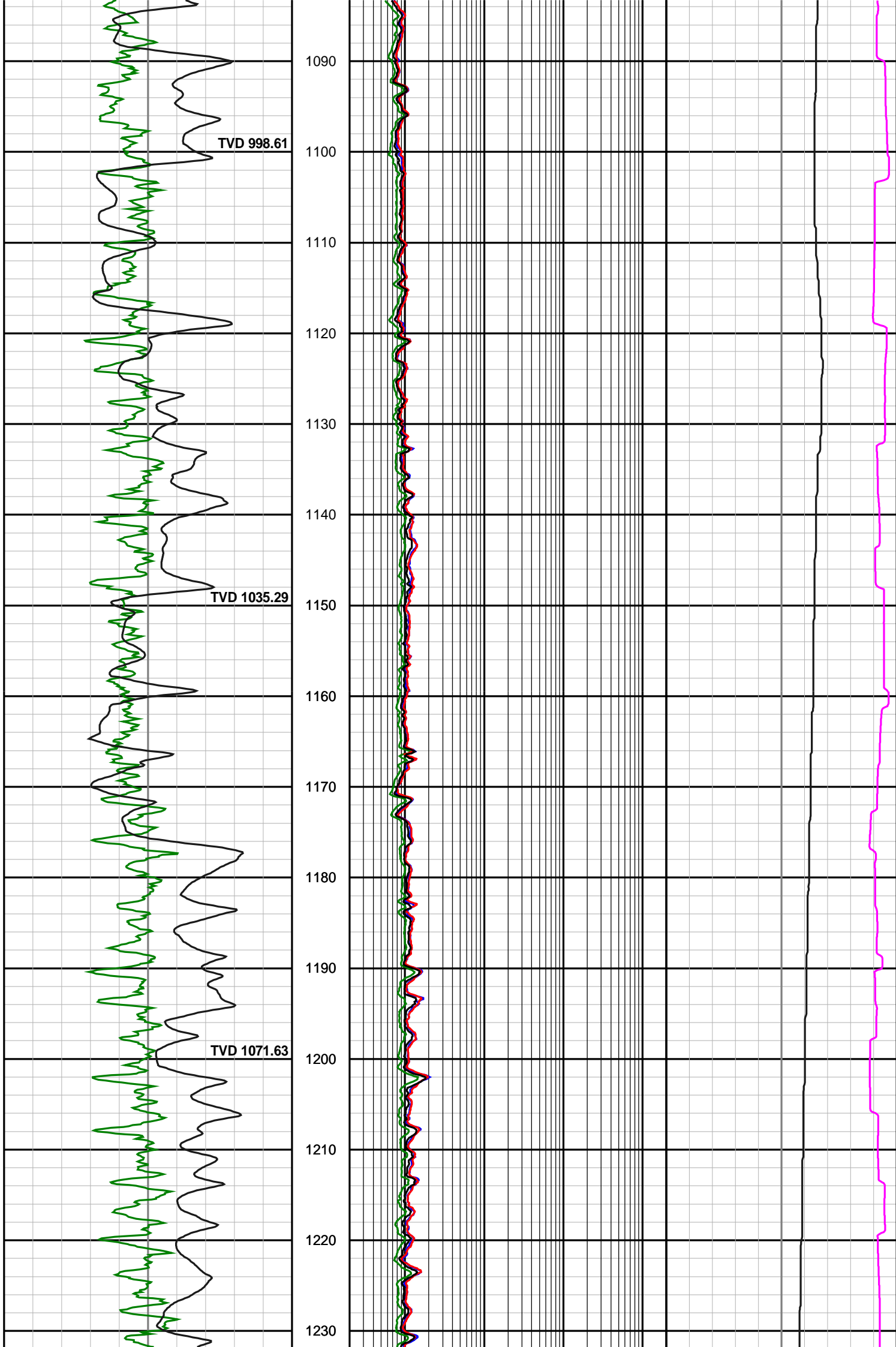
1. All depths are bit depths and referenced to the drillers pipe tally.
2. AV/CV is calculated at the MWD collar using the Power Law for water based muds and the Bingham's Plastic Law for oil based muds.
3. Curve mnemonics are :
 SGRC - Smoothed Gamma Ray Combined, api
 SEXP - Smoothed Extra Shallow Phase-Shift Derived Resistivity, ohm-m
 SESP - Smoothed Shallow Phase-Shift Derived Resistivity, ohm-m
 SEMP - Smoothed Medium Phase-Shift Derived Resistivity, ohm-m
 SEDP - Smoothed Deep Phase-Shift Derived Resistivity, ohm-m
 SROP - Smoothed Rate of Penetration, m/hr
 SFXE - Smoothed Resistivity Formation Exposure Time, hr
 STEM - Smoothed Temperature from Resistivity tool, degrees C
4. The second bit run drilled from 1012.0 to 1017.0 mMDRT without the use of the MWD tool.
5. Run 500 was an 8½" coring run from 2216.0 to 2234.0 mMDRT, which was opened up in run 600.

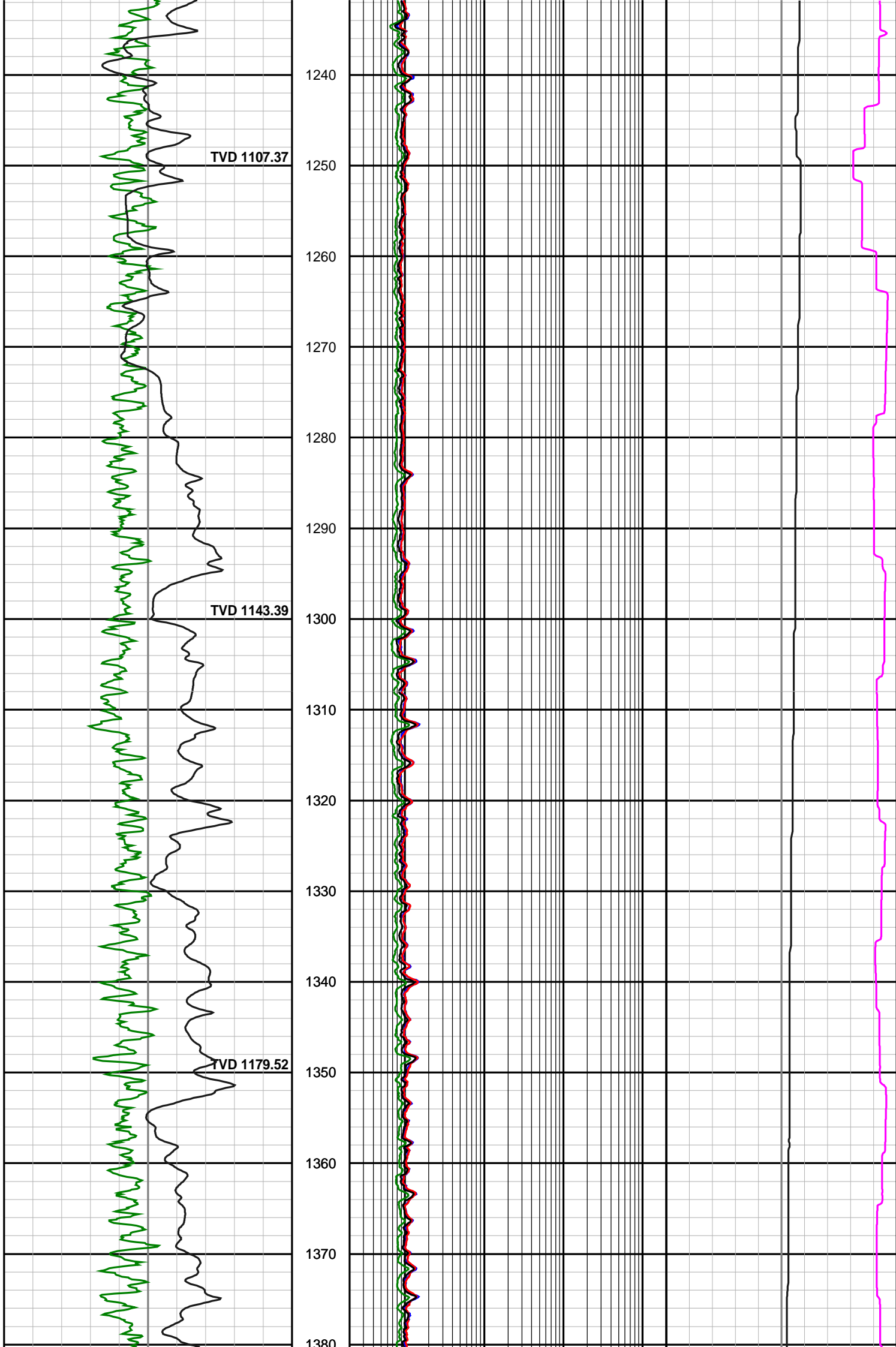
WARRANTY

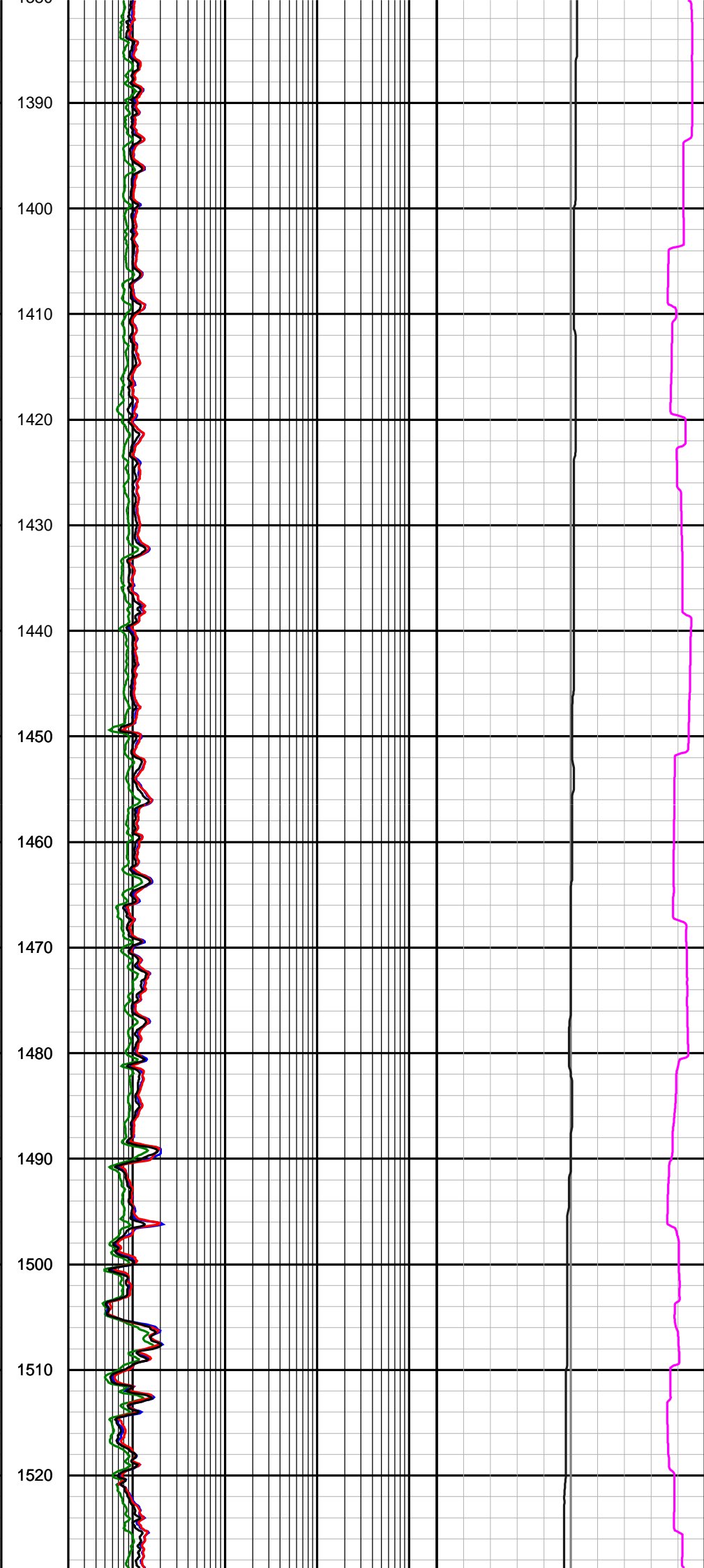
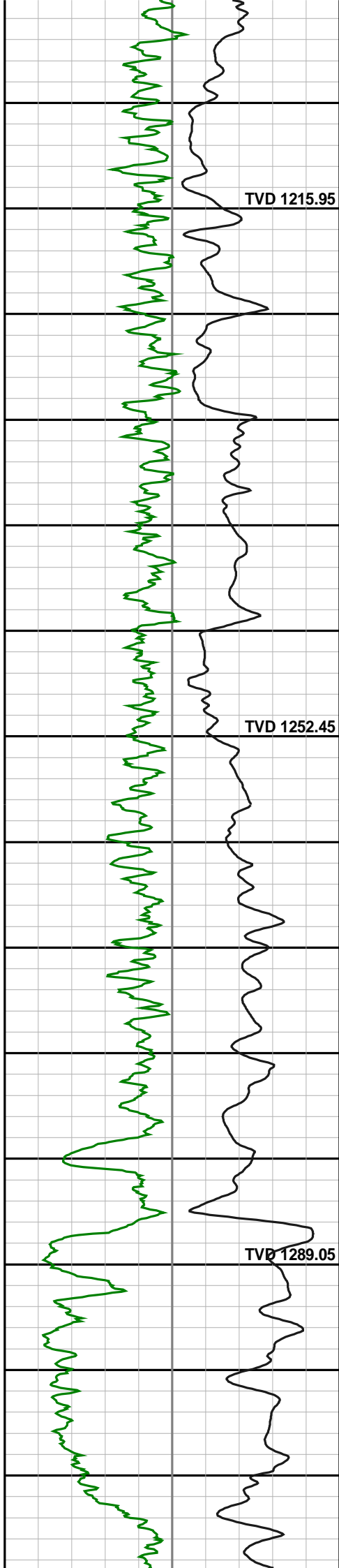
HALLIBURTON ENERGY SERVICES (HES) WILL USE ITS BEST EFFORTS TO FURNISH CUSTOMERS WITH ACCURATE INFORMATION AND INTERPRETATIONS THAT ARE PART OF, AND INCIDENT TO, THE SERVICES PROVIDED. HOWEVER, HES CANNOT AND DOES NOT WARRANT THE ACCURACY OR CORRECTNESS OF SUCH INFORMATION AND INTERPRETATIONS UNDER NO

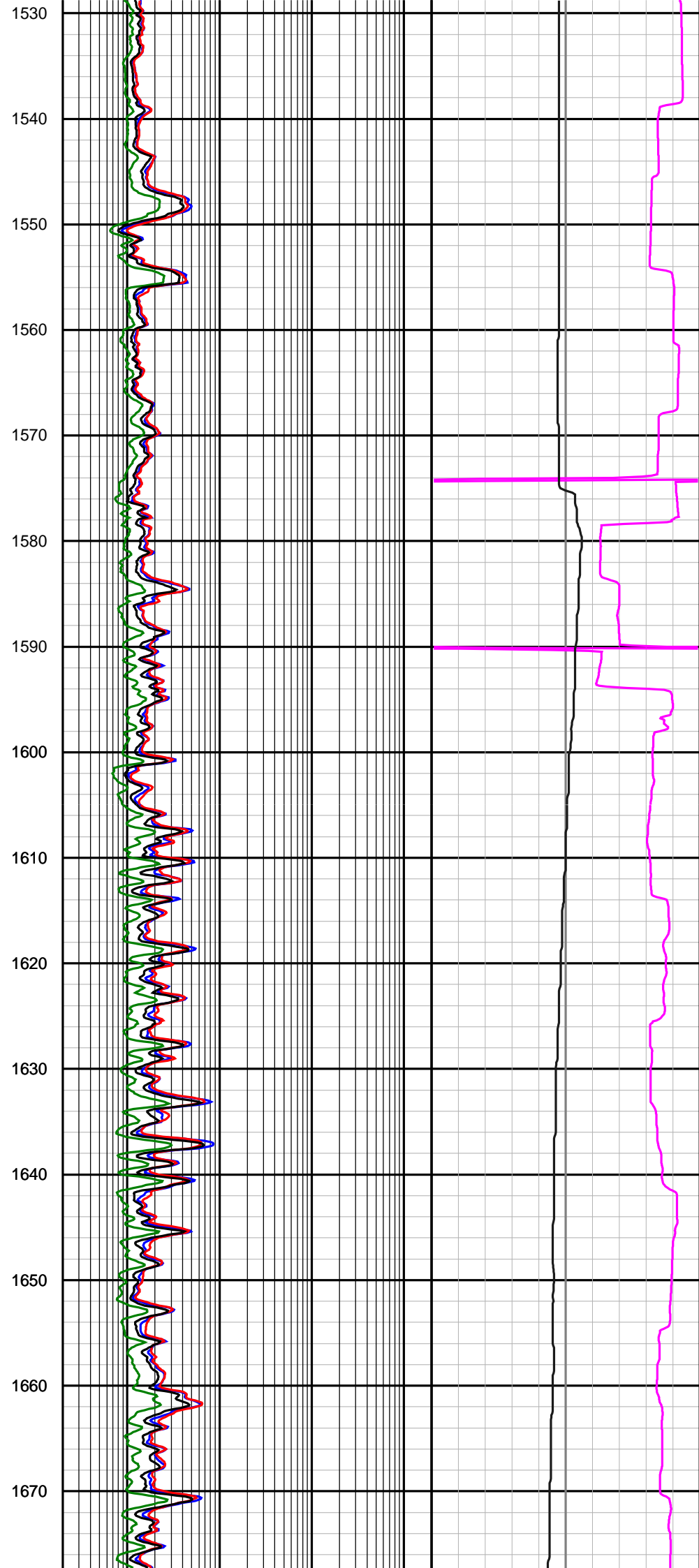
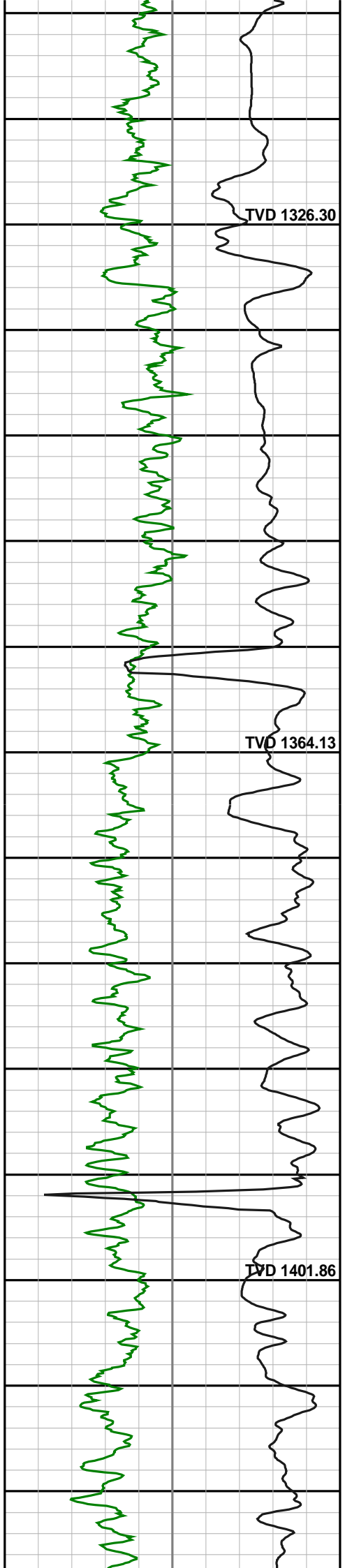
DOES NOT WARRANT THE ACCURACY OR CORRECTNESS OF SUCH INFORMATION AND INTERPRETATIONS. UNDER NO CIRCUMSTANCES SHOULD ANY SUCH INFORMATION OR INTERPRETATION BE RELIED UPON AS THE SOLE BASIS FOR ANY DRILLING, COMPLETION, PRODUCTION, OR FINANCIAL DECISION OR ANY PROCEDURE INVOLVING ANY RISK TO THE SAFETY OF ANY DRILLING VENTURE, DRILLING RIG OR ITS CREW OR ANY OTHER THIRD PARTY. THE CUSTOMER HAS FULL RESPONSIBILITY FOR ALL DRILLING, COMPLETION AND PRODUCTION OPERATION. HES MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO THE SERVICES RENDERED. IN NO EVENT WILL HES BE LIABLE FOR FAILURE TO OBTAIN ANY PARTICULAR RESULTS OR FOR ANY DAMAGES, INCLUDING, BUT NOT LIMITED TO, INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES, RESULTING FROM THE USE OF ANY INFORMATION OR INTERPRETATION PROVIDED BY HES.

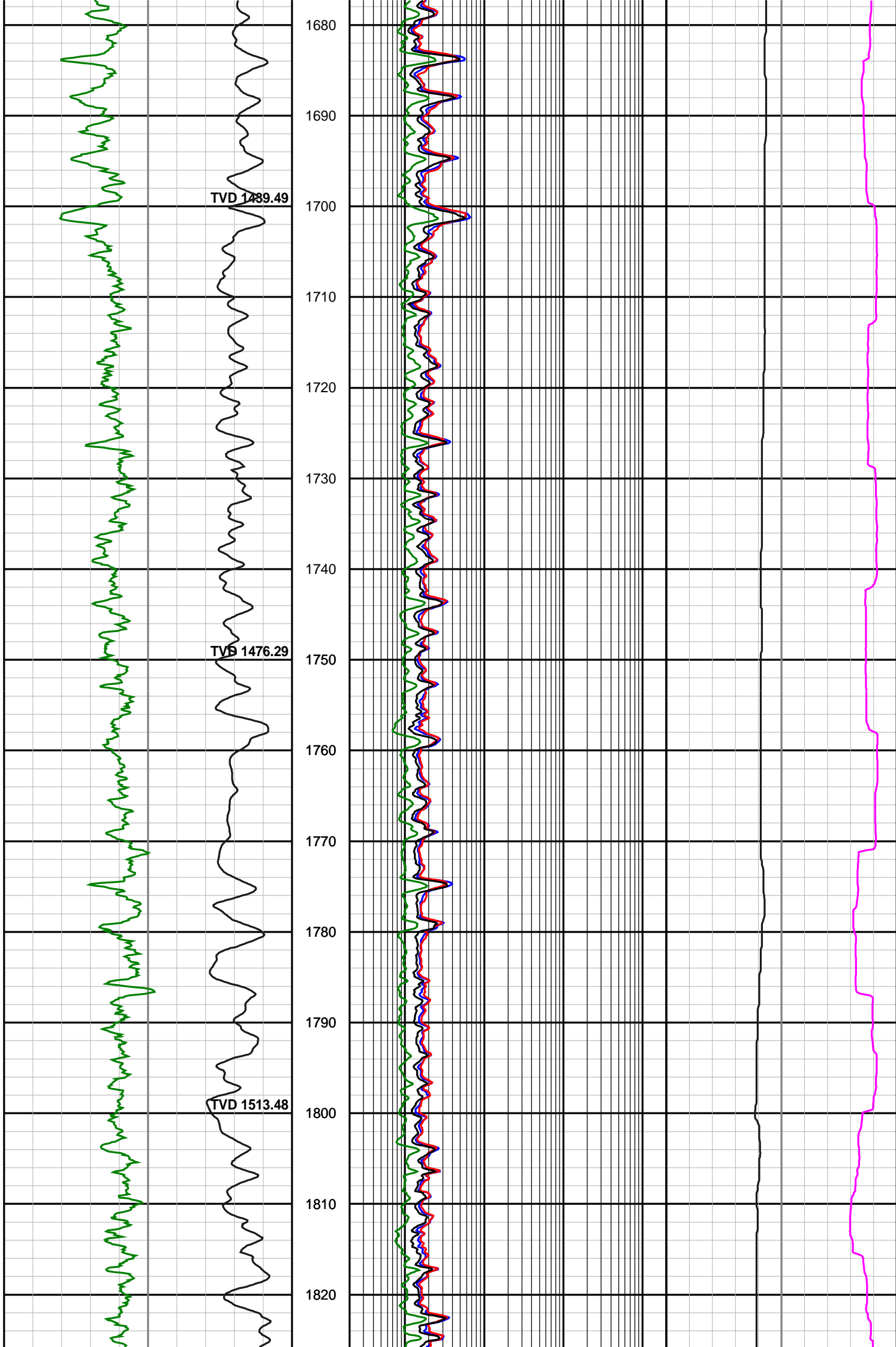


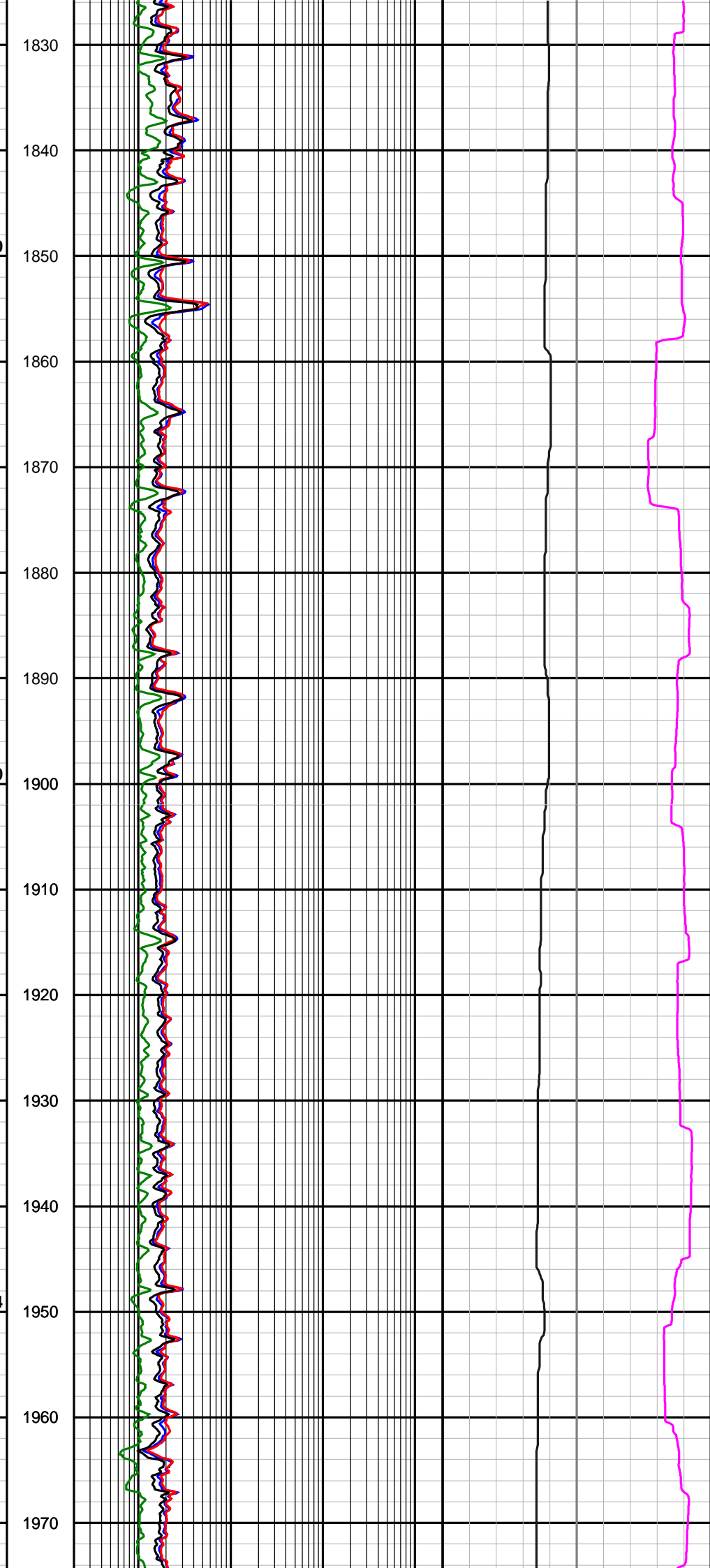
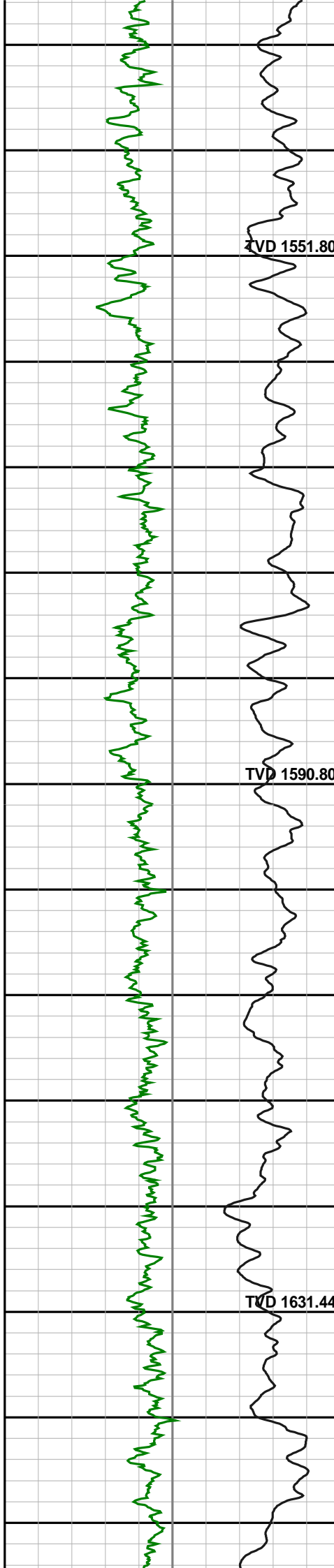


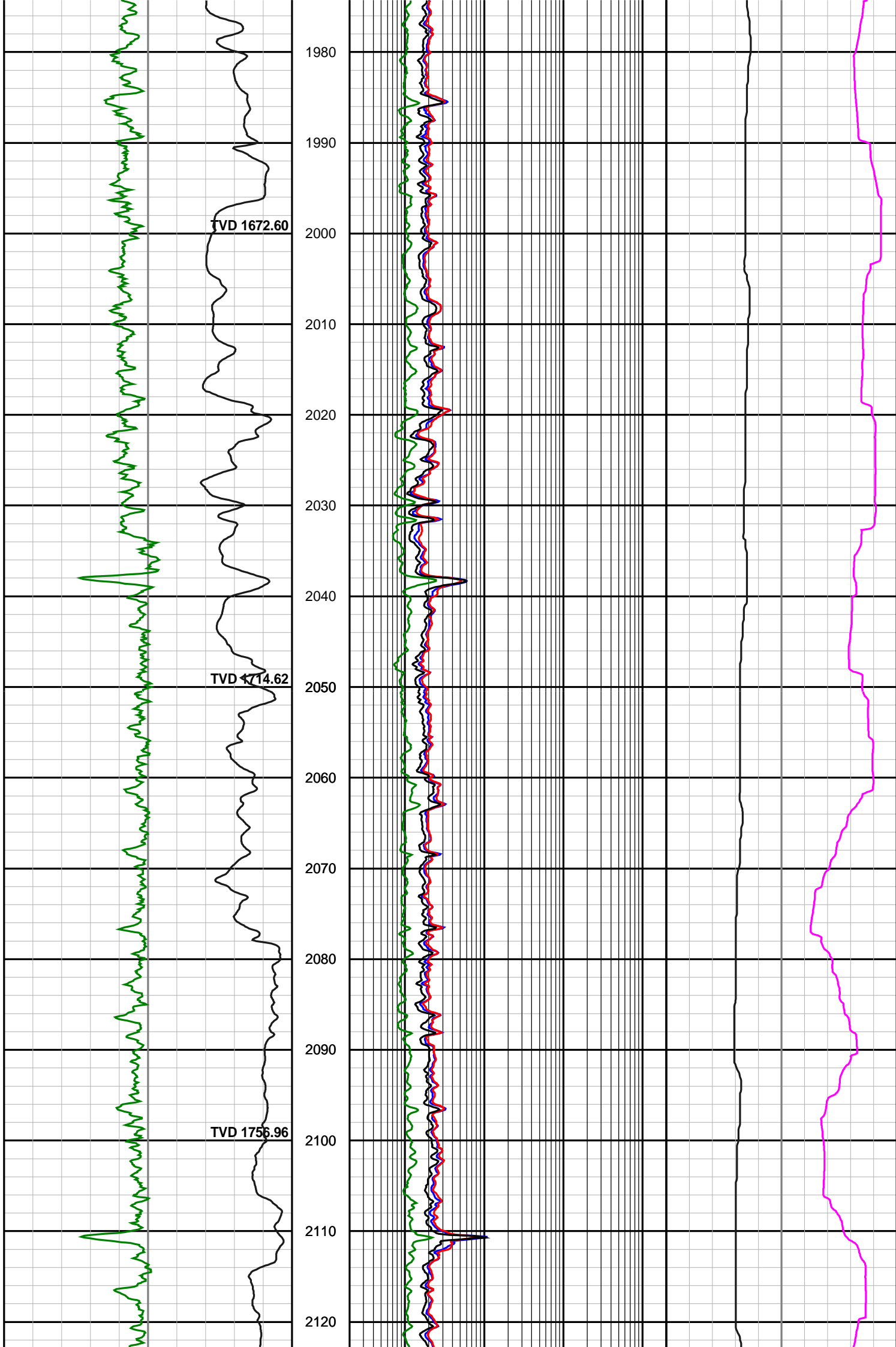


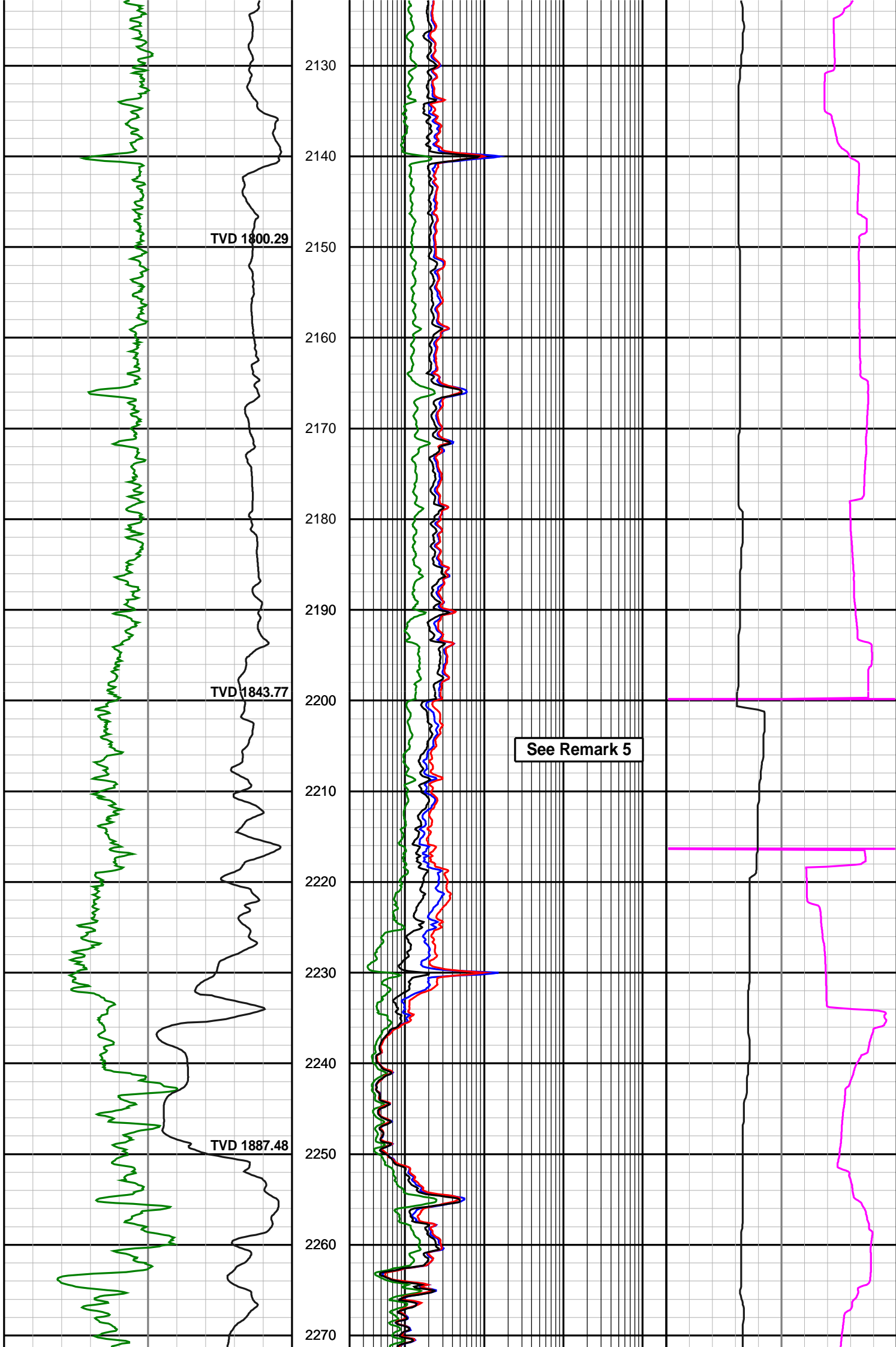


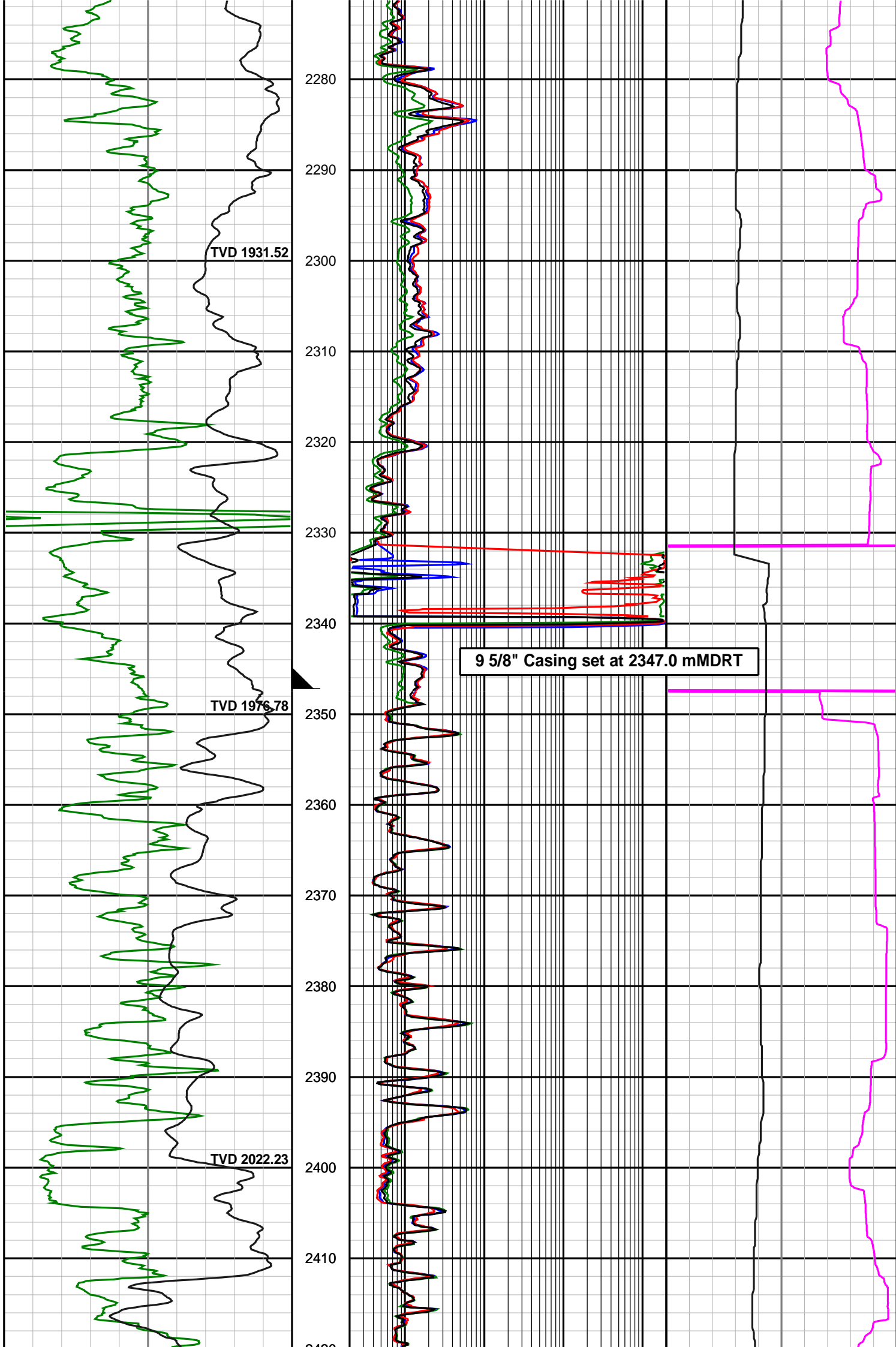


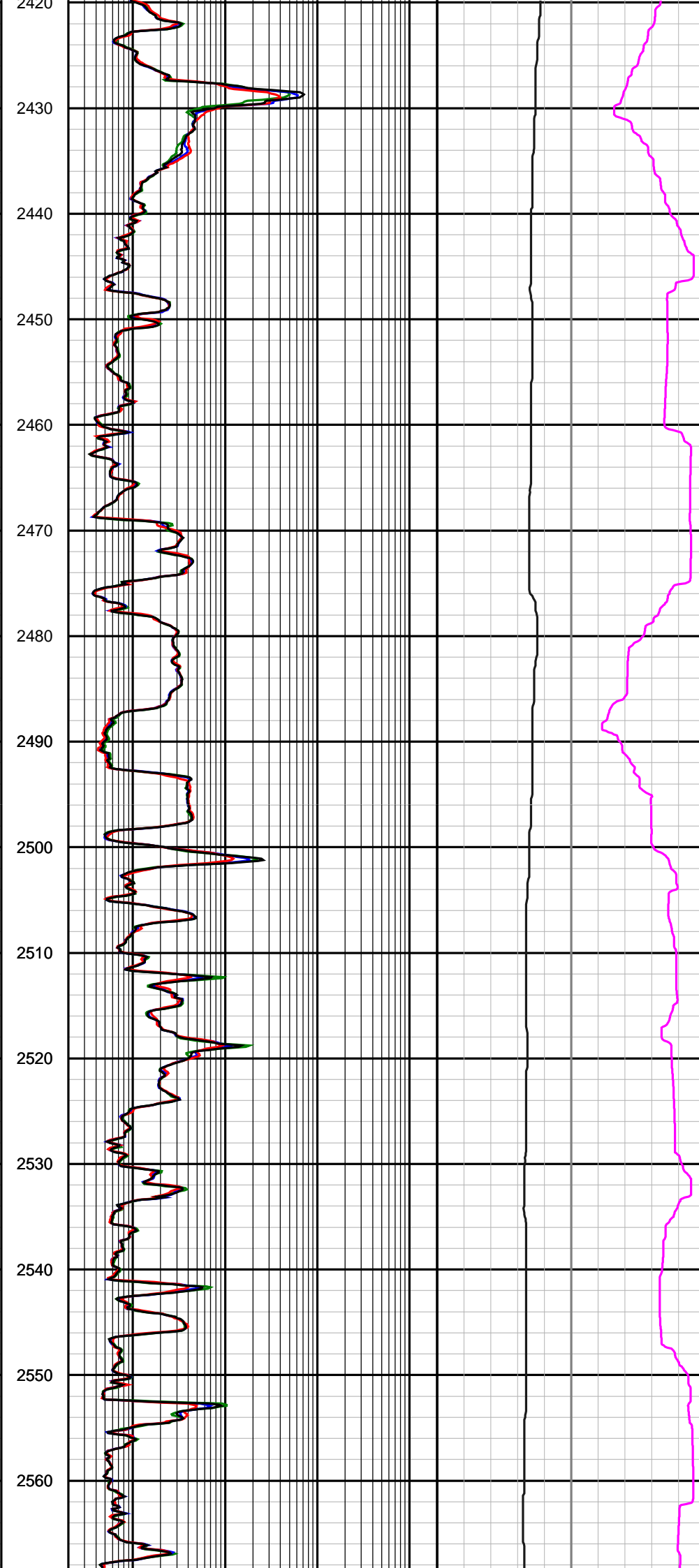
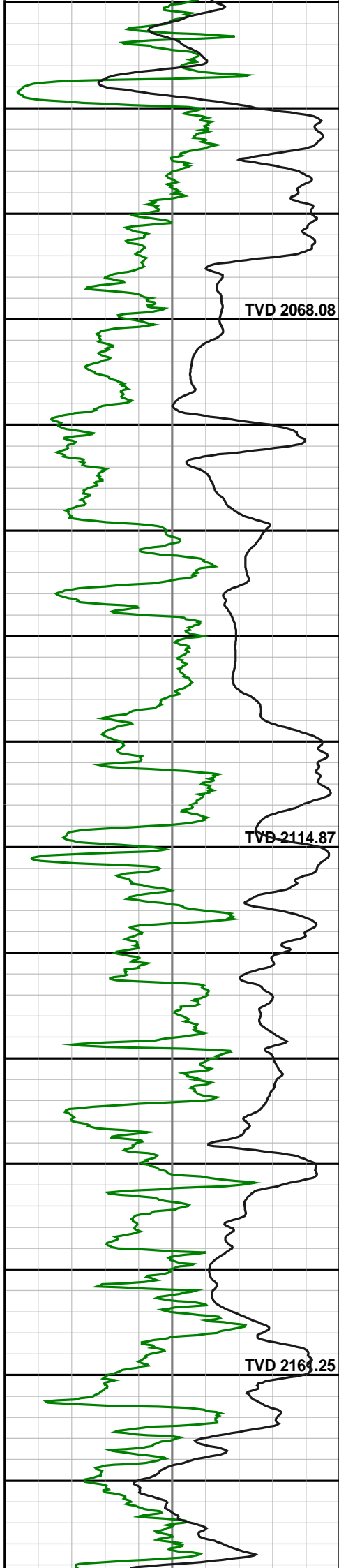


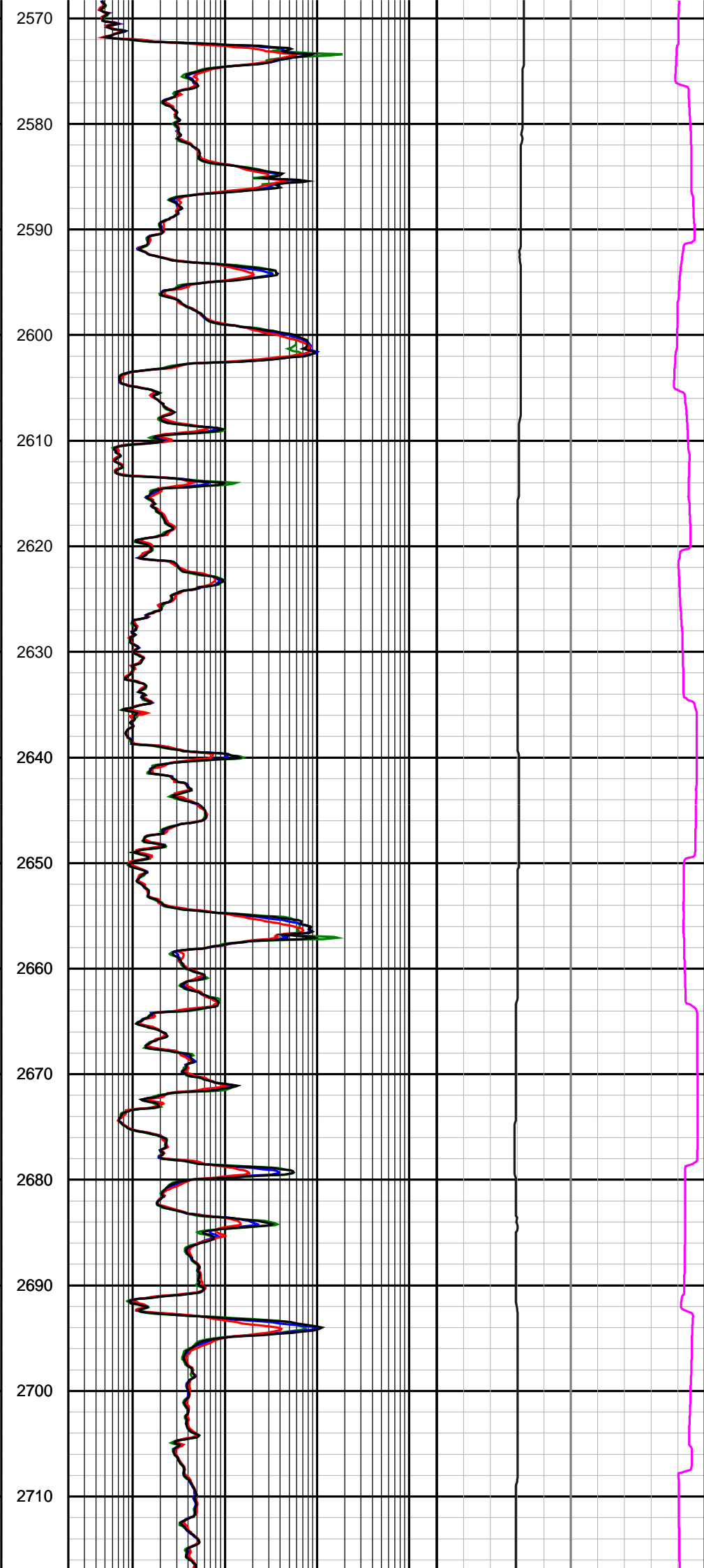
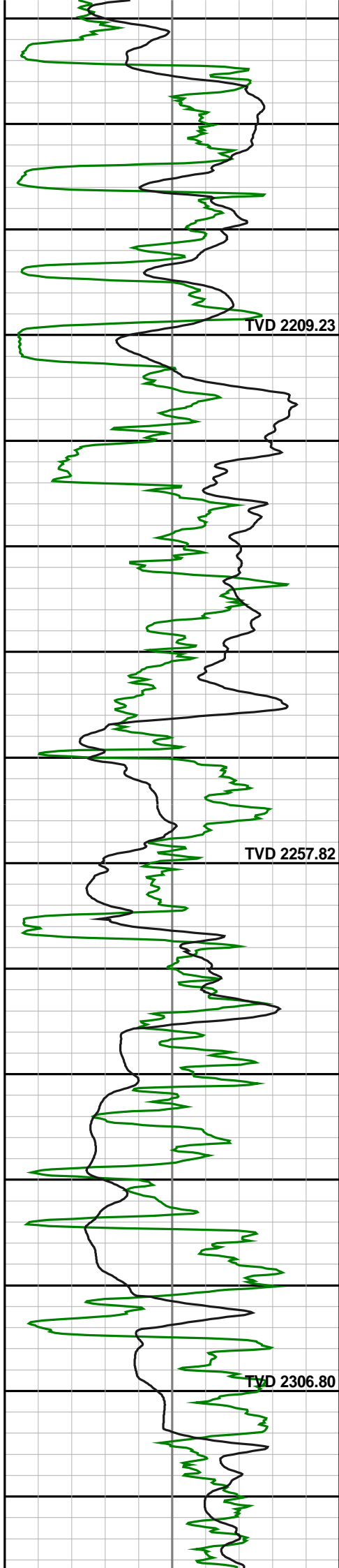


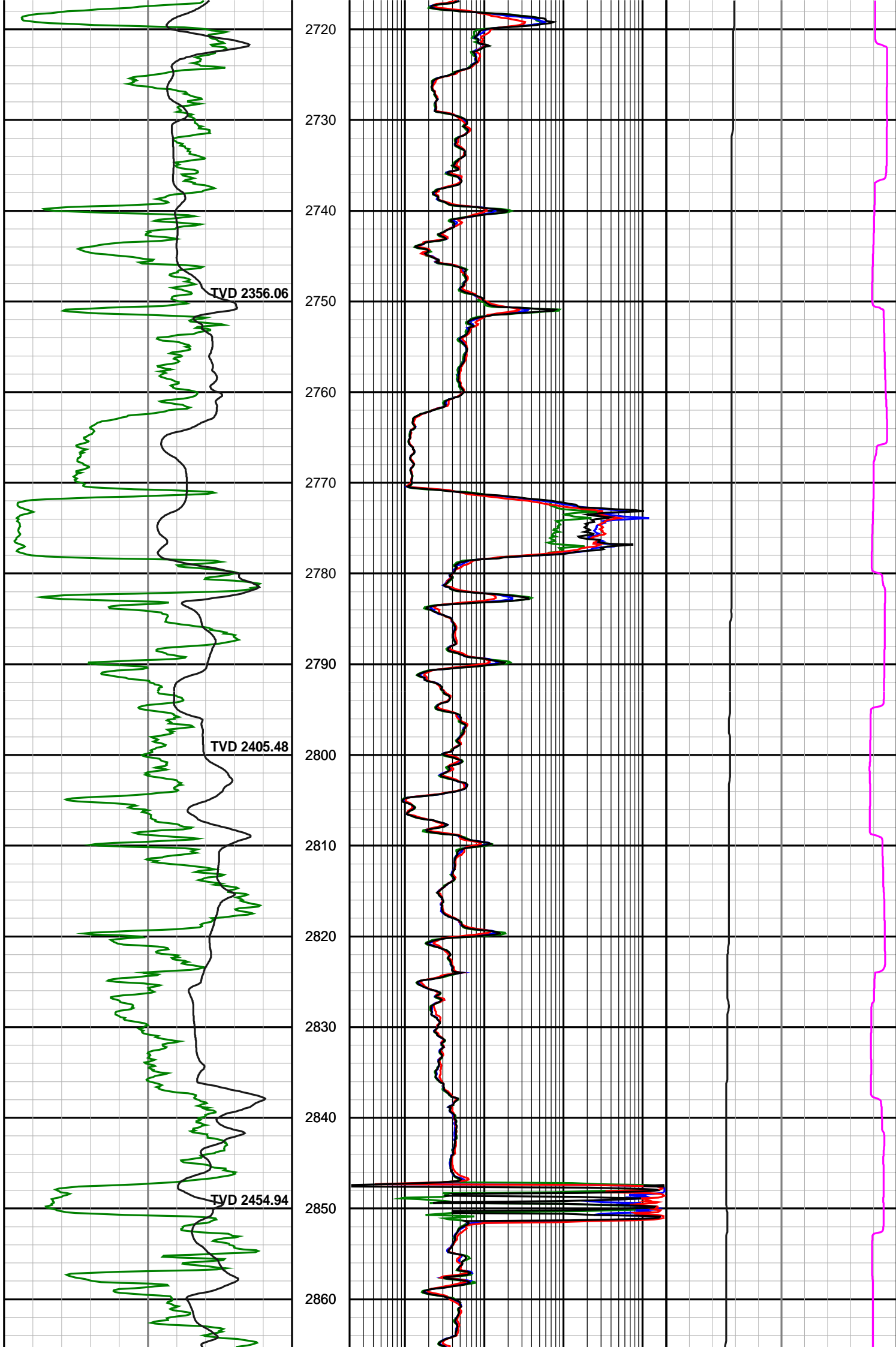


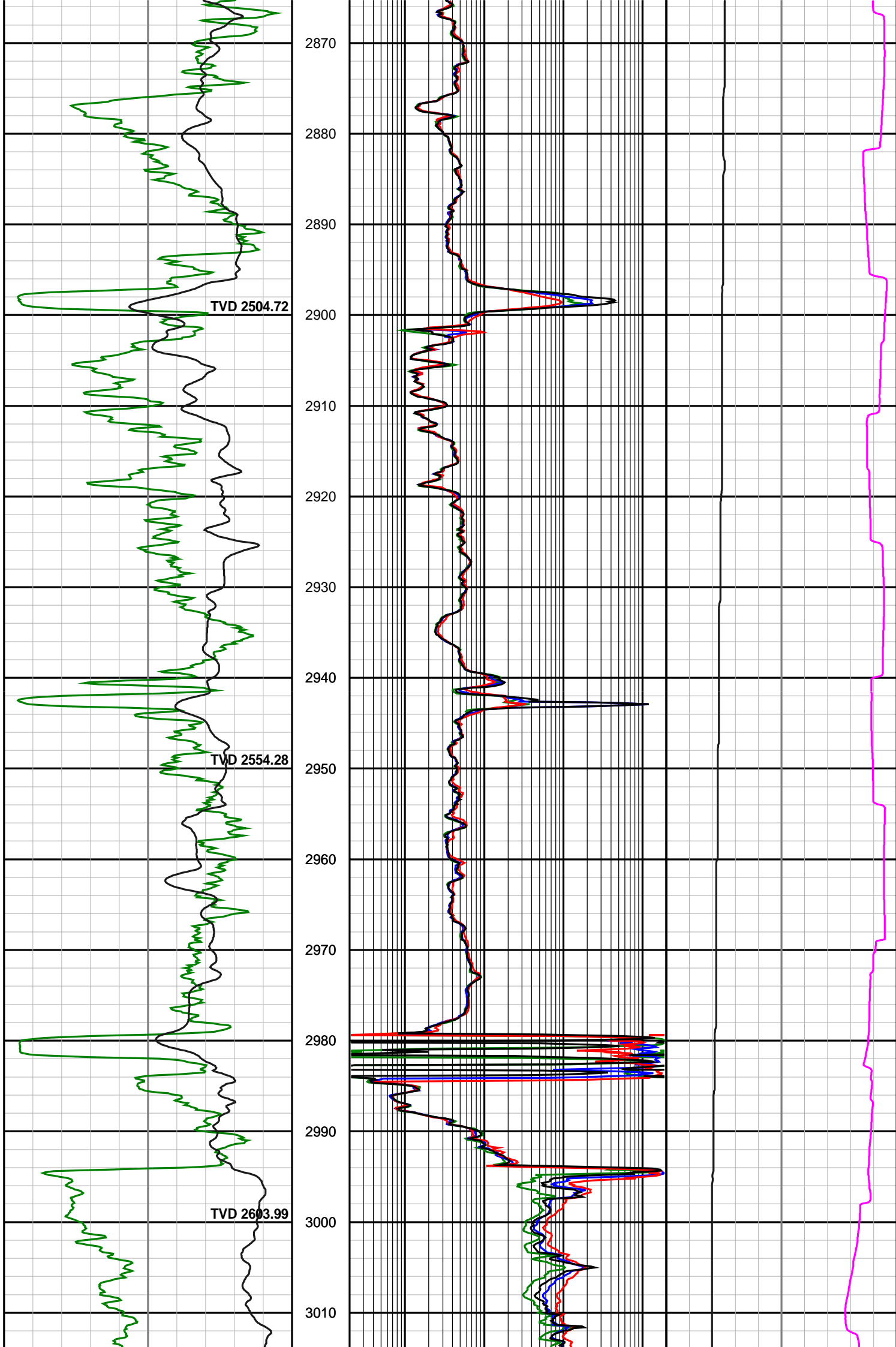


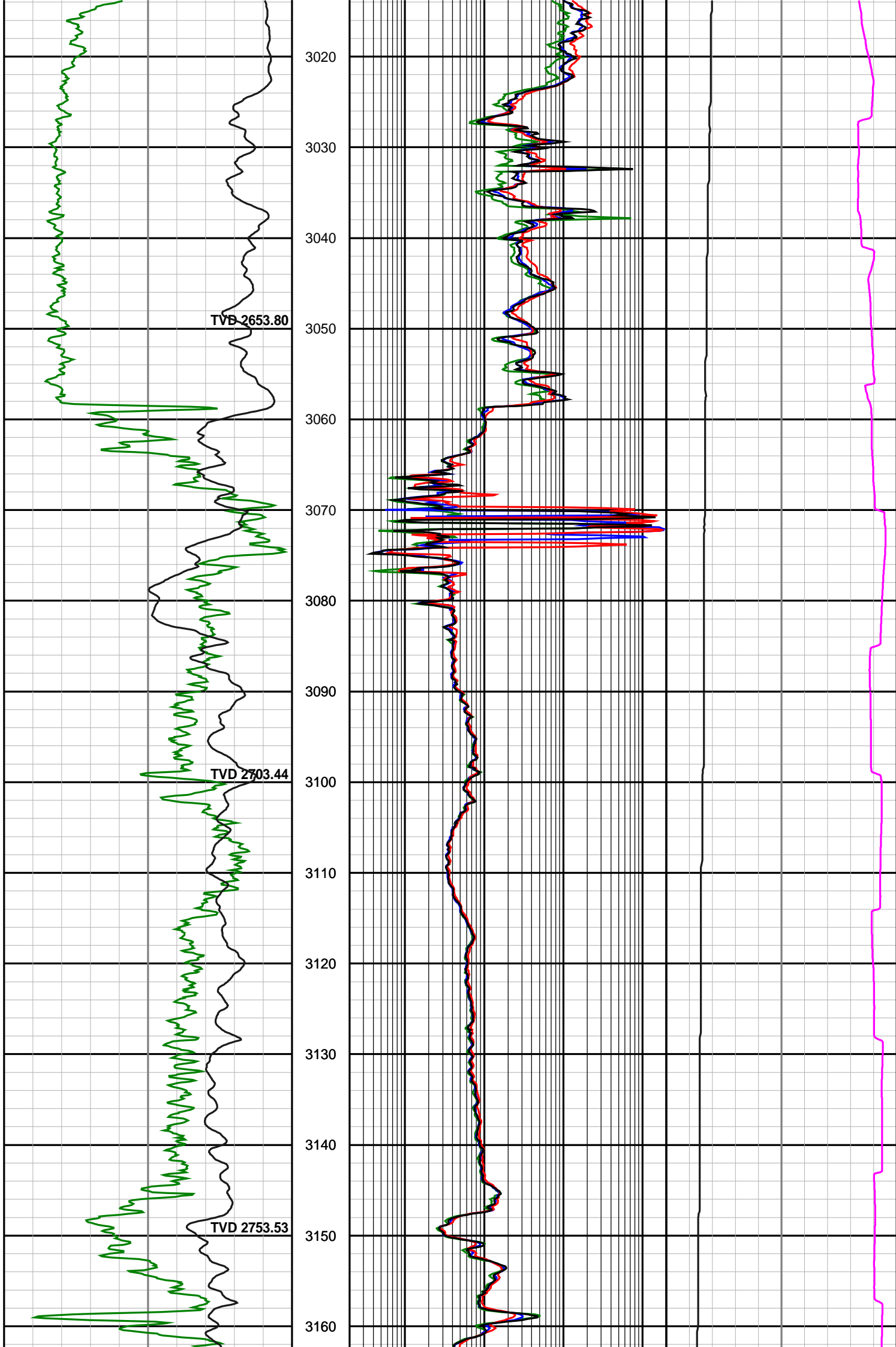


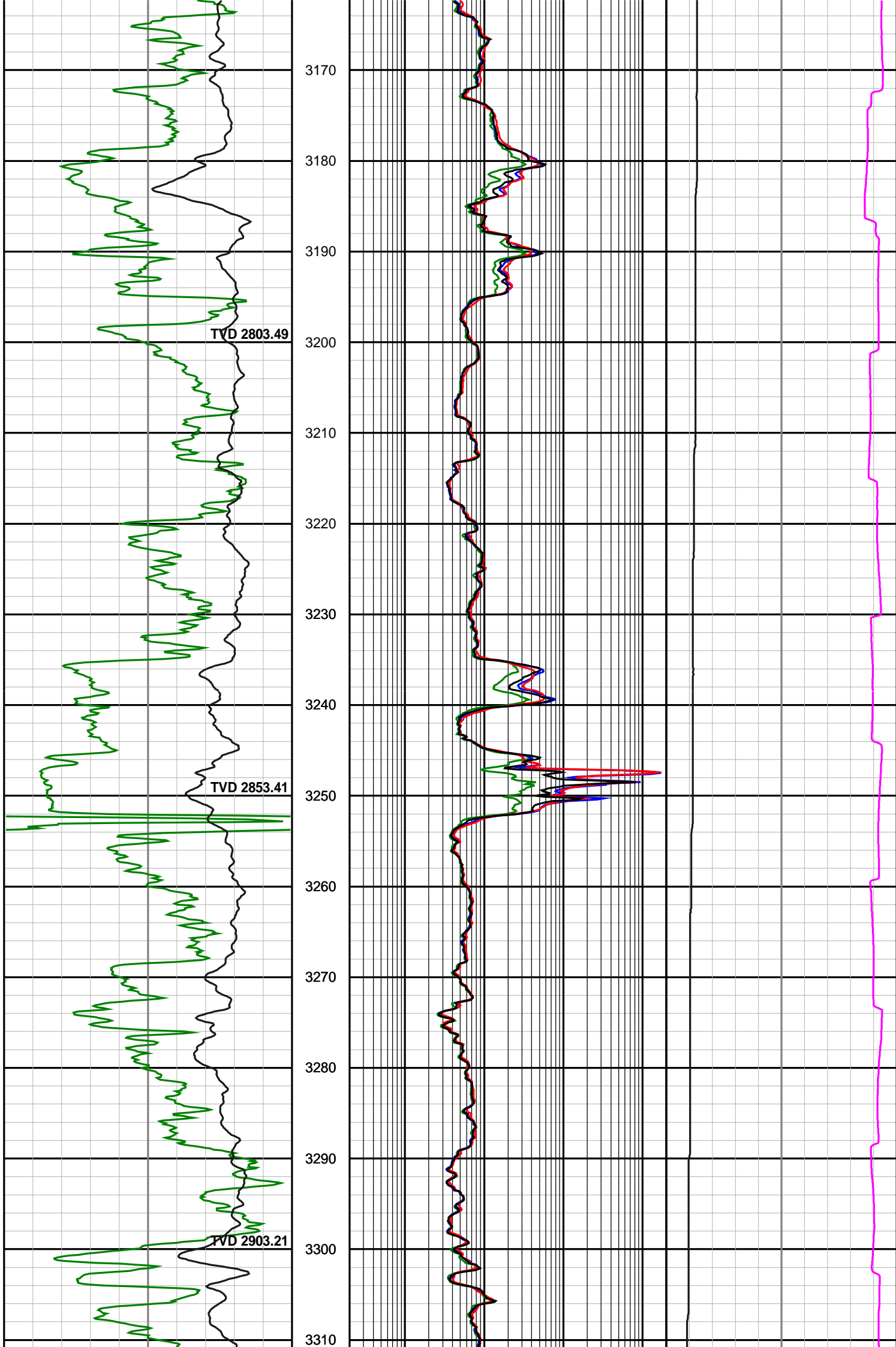


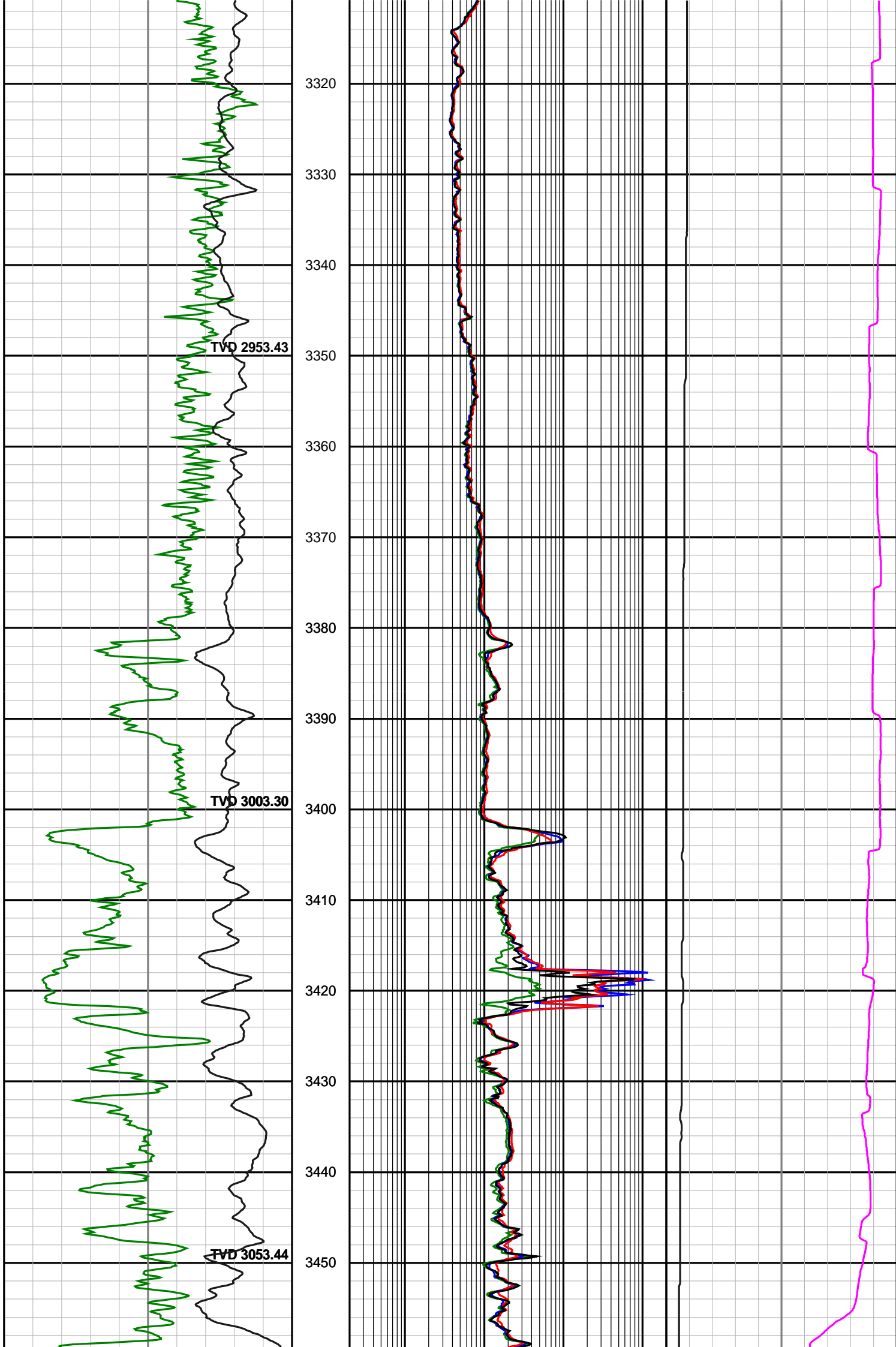


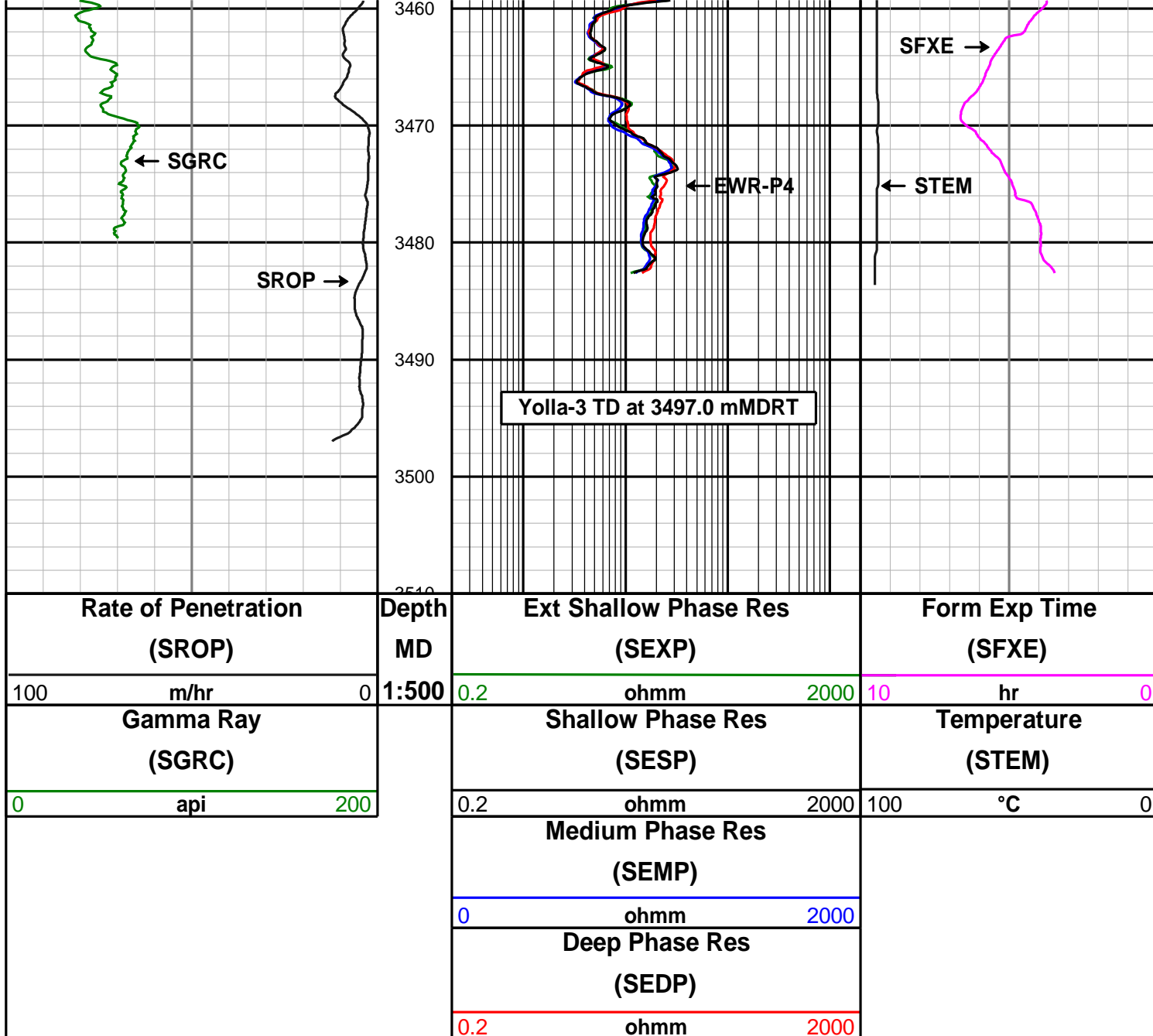












DIRECTIONAL SURVEY REPORT

Origin Energy Resources

Yolla-3

Yolla

Tasmania

Australia

AU-FE-0003007128

RT-AHD=43.0m. Final survey is projected to TD.

Measured Depth (metres)	Inclination (degrees)	Direction (degrees)	Vertical Depth (metres)	Latitude (metres)	Departure (metres)	Vertical Section (metres)	Dogleg (deg/30m)
0.000	0.00	0.00	0.000	0.000 N	0.000 E	0.000	TIE-IN
174.000	0.59	242.79	173.997	0.410 S	0.797 W	0.464	0.10
197.000	0.06	242.79	196.996	0.469 S	0.913 W	0.532	0.69
203.000	0.60	242.79	202.996	0.485 S	0.943 W	0.550	2.70
224.000	0.59	242.79	223.995	0.585 S	1.137 W	0.663	0.01

Yolla-3

<i>Measured Depth (metres)</i>	<i>Inclination (degrees)</i>	<i>Direction (degrees)</i>	<i>Vertical Depth (metres)</i>	<i>Latitude (metres)</i>	<i>Departure (metres)</i>	<i>Vertical Section (metres)</i>	<i>Dogleg (deg/30m)</i>
258.450	0.43	242.79	258.444	0.725 S	1.410 W	0.821	0.14
282.700	0.65	248.87	282.693	0.816 S	1.618 W	0.951	0.28
311.770	1.48	273.86	311.758	0.850 S	2.146 W	1.383	0.96
340.780	2.25	277.27	340.752	0.753 S	3.084 W	2.233	0.80
369.820	3.48	293.00	369.756	0.336 S	4.462 W	3.625	1.50
399.370	5.10	300.93	399.222	0.691 N	6.416 W	5.827	1.75
428.430	7.12	298.67	428.115	2.220 N	9.106 W	8.919	2.10
457.460	9.92	296.21	456.822	4.189 N	12.930 W	13.208	2.92
486.470	11.29	298.06	485.336	6.628 N	17.678 W	18.531	1.45
515.470	12.76	300.31	513.699	9.579 N	22.947 W	24.565	1.60
544.400	14.82	302.65	541.794	13.188 N	28.820 W	31.458	2.21
572.930	18.93	301.35	569.090	17.565 N	35.847 W	39.737	4.34
602.470	21.65	299.97	596.794	22.781 N	44.663 W	49.978	2.81
631.530	22.70	301.62	623.704	28.400 N	54.083 W	60.946	1.26
660.590	25.23	302.37	650.256	34.658 N	64.092 W	72.750	2.63
689.590	27.24	301.89	676.267	41.474 N	74.948 W	85.568	2.09
718.620	30.23	301.58	701.720	48.813 N	86.816 W	99.521	3.09
747.710	32.41	300.41	726.570	56.595 N	99.778 W	114.640	2.34
776.770	33.84	299.59	750.907	64.534 N	113.531 W	130.514	1.55
805.830	36.11	300.79	774.718	72.915 N	127.925 W	147.164	2.45
834.870	38.46	301.43	797.822	82.006 N	142.983 W	164.753	2.46
863.880	39.00	301.20	820.454	91.440 N	158.487 W	182.902	0.58
892.950	41.57	301.65	842.628	101.240 N	174.523 W	201.696	2.67
922.030	41.88	304.27	864.334	111.769 N	190.759 W	221.041	1.83
951.100	41.35	302.71	886.067	122.423 N	206.859 W	240.336	1.20
980.130	40.90	302.19	907.935	132.669 N	222.969 W	259.426	0.59
1038.170	40.40	302.59	951.971	152.923 N	254.894 W	297.230	0.29
1067.250	40.28	302.79	974.137	163.090 N	270.735 W	316.050	0.18
1095.630	42.87	302.03	995.367	173.179 N	286.635 W	334.879	2.80
1125.320	42.88	301.94	1017.125	183.879 N	303.769 W	355.079	0.06
1154.840	42.40	301.25	1038.841	194.355 N	320.801 W	375.075	0.68
1183.370	43.81	301.11	1059.669	204.448 N	337.482 W	394.571	1.49
1212.900	44.55	301.56	1080.845	215.151 N	355.061 W	415.152	0.82
1240.820	44.26	301.23	1100.791	225.329 N	371.737 W	434.689	0.40
1271.000	44.10	301.04	1122.435	236.204 N	389.740 W	455.720	0.21
1300.060	43.80	300.64	1143.357	246.544 N	407.057 W	475.887	0.41
1329.100	43.59	300.20	1164.352	256.703 N	424.356 W	495.945	0.38
1358.130	43.45	300.56	1185.403	266.813 N	441.602 W	515.931	0.30
1387.170	43.16	299.75	1206.536	276.819 N	458.823 W	535.842	0.64
1416.200	43.09	299.27	1227.723	286.594 N	476.095 W	555.675	0.35
1444.730	43.10	300.33	1248.557	296.279 N	493.009 W	575.156	0.76
1473.800	43.22	299.26	1269.762	306.159 N	510.265 W	595.031	0.76
1502.860	42.22	300.61	1291.111	315.995 N	527.351 W	614.737	1.40
1531.900	41.39	301.29	1312.758	325.949 N	543.953 W	634.094	0.98
1560.930	41.10	301.52	1334.587	335.922 N	560.287 W	653.231	0.34
1589.810	40.80	300.98	1356.400	345.741 N	576.468 W	672.158	0.48
1618.850	40.92	301.11	1378.363	355.539 N	592.745 W	691.156	0.16
1647.900	40.94	300.75	1400.310	365.323 N	609.070 W	710.187	0.24
1676.970	41.39	300.32	1422.194	375.045 N	625.551 W	729.318	0.54
1706.030	42.12	299.91	1443.873	384.754 N	642.290 W	748.663	0.81
1735.040	42.67	300.10	1465.297	394.535 N	659.229 W	768.216	0.58
1764.060	42.52	299.11	1486.660	404.238 N	676.306 W	787.845	0.71
1793.120	41.38	300.86	1508.272	413.944 N	693.133 W	807.263	1.69
1822.170	40.15	301.20	1530.273	423.721 N	709.388 W	826.231	1.30
1850.800	39.76	301.54	1552.220	433.291 N	725.086 W	844.616	0.47
1881.060	38.03	301.80	1575.771	443.266 N	741.256 W	863.615	1.72
1909.020	36.06	302.18	1598.086	452.188 N	755.542 W	880.458	2.13
1938.070	35.58	302.76	1621.642	461.313 N	769.886 W	897.456	0.61
1967.410	34.62	302.40	1645.646	470.398 N	784.102 W	914.325	1.00
1996.460	33.68	303.06	1669.686	479.215 N	797.822 W	930.630	1.04
2025.460	33.57	302.15	1693.833	487.869 N	811.351 W	946.687	0.53
2054.500	32.43	302.83	1718.188	496.363 N	824.691 W	962.500	1.24
2083.520	31.20	302.19	1742.849	504.586 N	837.589 W	977.795	1.32
2112.570	30.20	301.86	1767.827	512.451 N	850.163 W	992.626	1.04
2141.600	29.60	301.49	1792.993	520.051 N	862.478 W	1007.097	0.65

<i>Measured Depth (metres)</i>	<i>Inclination (degrees)</i>	<i>Direction (degrees)</i>	<i>Vertical Depth (metres)</i>	<i>Latitude (metres)</i>	<i>Departure (metres)</i>	<i>Vertical Section (metres)</i>	<i>Dogleg (deg/30m)</i>
2170.620	29.65	300.95	1818.219	527.487 N	874.747 W	1021.443	0.29
2192.700	29.51	301.71	1837.421	533.154 N	884.057 W	1032.342	0.55
2199.470	29.61	301.35	1843.310	534.900 N	886.903 W	1035.681	0.91
2228.520	29.54	300.95	1868.575	542.317 N	899.174 W	1050.019	0.21
2257.540	29.00	301.43	1893.890	549.664 N	911.313 W	1064.207	0.61
2286.530	26.96	301.77	1919.490	556.789 N	922.897 W	1077.808	2.12
2315.560	26.11	301.70	1945.462	563.610 N	933.927 W	1090.776	0.88
2323.950	25.94	301.45	1953.001	565.538 N	937.063 W	1094.457	0.71
2352.540	25.28	301.50	1978.782	571.990 N	947.604 W	1106.816	0.69
2381.580	24.10	301.76	2005.167	578.350 N	957.932 W	1118.946	1.23
2409.950	23.25	301.46	2031.150	584.319 N	967.632 W	1130.335	0.91
2438.980	22.49	301.51	2057.898	590.211 N	977.252 W	1141.616	0.78
2468.040	22.16	300.59	2084.780	595.905 N	986.709 W	1152.654	0.49
2497.120	20.86	300.56	2111.834	601.328 N	995.889 W	1163.314	1.35
2526.180	19.69	300.61	2139.094	606.451 N	1004.556 W	1173.381	1.21
2555.190	19.27	300.62	2166.443	611.378 N	1012.881 W	1183.054	0.43
2584.240	16.12	296.70	2194.116	615.633 N	1020.612 W	1191.868	3.47
2613.320	14.16	296.48	2222.185	619.034 N	1027.403 W	1199.434	2.03
2642.340	13.37	296.42	2250.372	622.109 N	1033.584 W	1206.310	0.81
2671.480	12.20	298.74	2278.789	625.088 N	1039.300 W	1212.740	1.32
2700.580	10.52	301.17	2307.318	627.942 N	1044.269 W	1218.467	1.80
2729.630	9.78	303.39	2335.914	630.672 N	1048.598 W	1223.584	0.87
2758.610	8.91	306.43	2364.509	633.358 N	1052.457 W	1228.279	1.04
2787.630	8.39	306.83	2393.199	635.961 N	1055.959 W	1232.625	0.54
2816.680	7.92	309.88	2421.956	638.516 N	1059.192 W	1236.718	0.66
2845.750	7.52	310.63	2450.762	641.039 N	1062.173 W	1240.579	0.43
2874.810	6.95	310.46	2479.590	643.419 N	1064.955 W	1244.195	0.59
2903.840	6.59	311.13	2508.418	645.654 N	1067.545 W	1247.572	0.38
2932.800	6.47	307.52	2537.190	647.740 N	1070.090 W	1250.833	0.44
2961.870	6.25	305.90	2566.081	649.665 N	1072.671 W	1254.039	0.29
2990.910	5.63	307.78	2594.965	651.466 N	1075.078 W	1257.033	0.67
3016.370	5.51	307.66	2620.305	652.978 N	1077.033 W	1259.491	0.15
3048.910	5.33	306.46	2652.699	654.830 N	1079.485 W	1262.550	0.19
3077.850	5.05	307.24	2681.521	656.400 N	1081.581 W	1265.158	0.31
3106.890	4.40	308.40	2710.462	657.865 N	1083.470 W	1267.534	0.68
3135.950	3.62	309.91	2739.451	659.145 N	1085.046 W	1269.547	0.81
3164.960	3.08	312.61	2768.411	660.260 N	1086.322 W	1271.218	0.58
3194.050	2.64	315.47	2797.465	661.266 N	1087.367 W	1272.635	0.48
3223.060	2.25	311.13	2826.449	662.117 N	1088.264 W	1273.844	0.45
3252.110	2.09	311.32	2855.478	662.841 N	1089.090 W	1274.928	0.16
3281.170	1.91	311.40	2884.520	663.511 N	1089.852 W	1275.927	0.18
3310.240	1.65	305.29	2913.576	664.073 N	1090.557 W	1276.823	0.33
3339.240	1.02	303.72	2942.568	664.458 N	1091.113 W	1277.498	0.65
3368.270	0.67	302.37	2971.595	664.694 N	1091.473 W	1277.928	0.36
3426.310	0.13	257.23	3029.633	664.861 N	1091.824 W	1278.315	0.30
3455.330	0.50	160.20	3058.653	664.734 N	1091.813 W	1278.238	0.55
3476.470	0.91	169.30	3079.791	664.481 N	1091.750 W	1278.053	0.60
3497.000	0.91	169.30	3100.318	664.161 N	1091.689 W	1277.833	0.00

CALCULATION BASED ON MINIMUM CURVATURE METHOD

**SURVEY COORDINATES RELATIVE TO WELL SYSTEM REFERENCE POINT
TVD VALUES GIVEN RELATIVE TO DRILLING MEASUREMENT POINT**

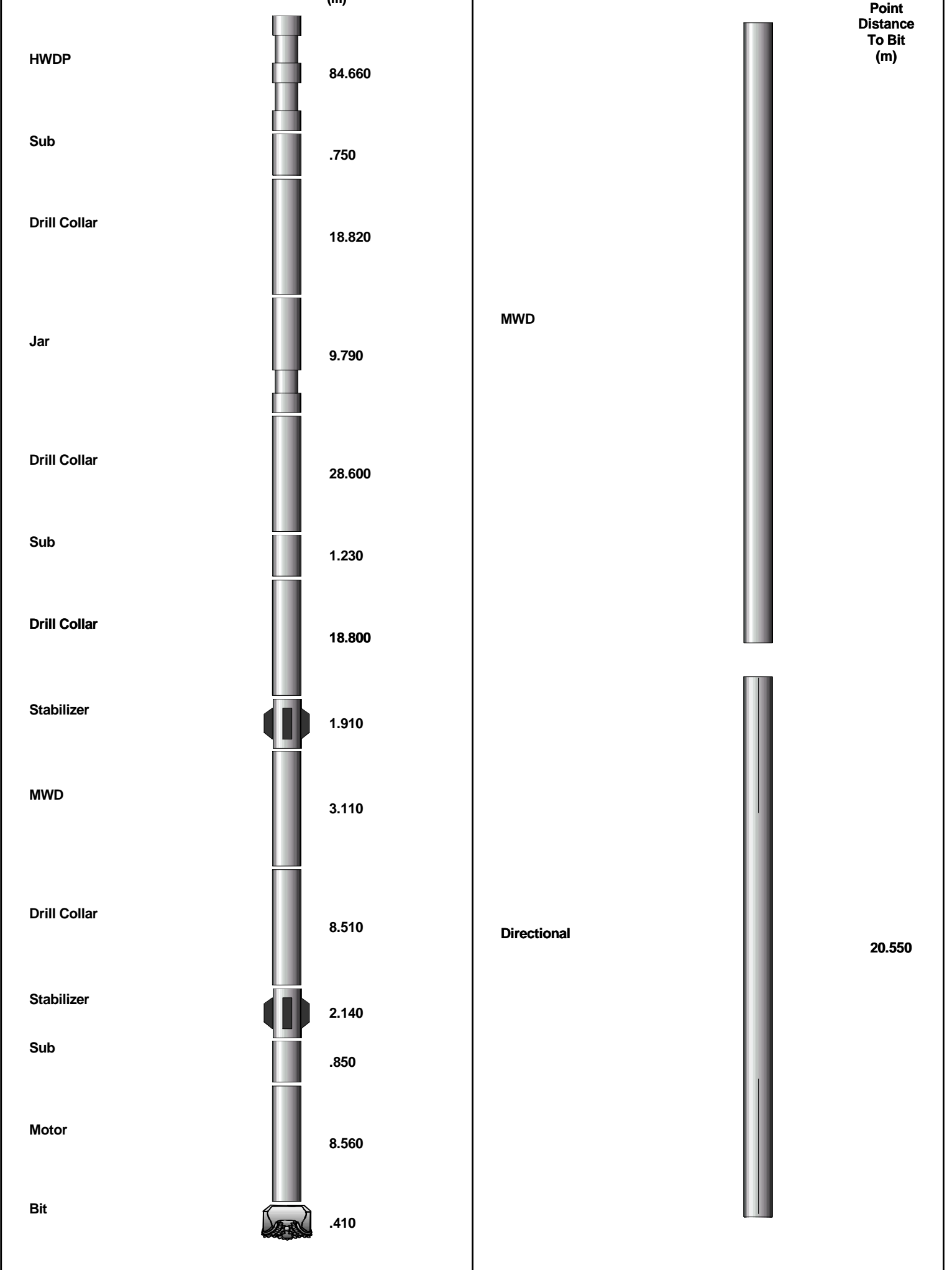
**VERTICAL SECTION RELATIVE TO WELL HEAD
VERTICAL SECTION IS COMPUTED ALONG A DIRECTION OF 301.59 DEGREES (GRID)
A TOTAL CORRECTION OF 11.98 DEG FROM MAGNETIC NORTH TO GRID NORTH HAS BEEN APPLIED**

**HORIZONTAL DISPLACEMENT IS RELATIVE TO THE WELL HEAD.
HORIZONTAL DISPLACEMENT(CLOSURE) AT 3497.000 METRES
IS 1277.848 METRES ALONG 301.32 DEGREES (GRID)**

MWD RUN 100 - BHA

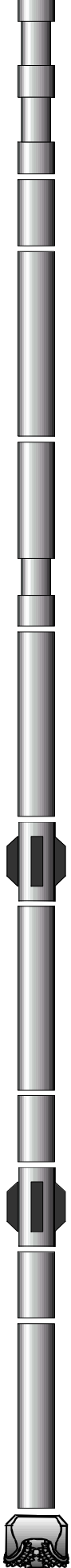

MWD RUN 100 - MWD

Component Length (m)	Sensor Measure
----------------------------	-------------------





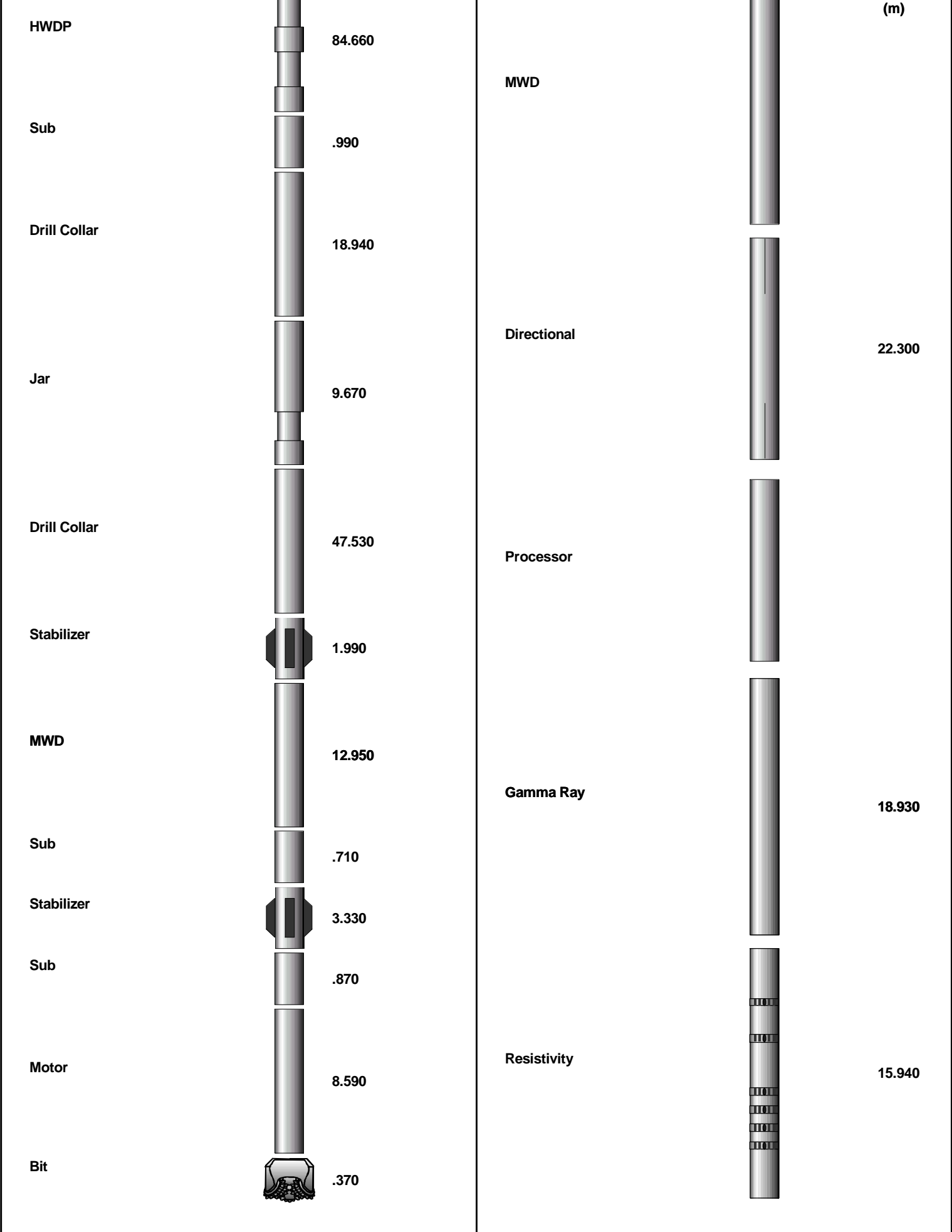
MWD RUN 300 - BHA	MWD RUN 300 - MWD
-------------------	-------------------

Component Length (m)	Sensor Measure Point Distance
----------------------	-------------------------------

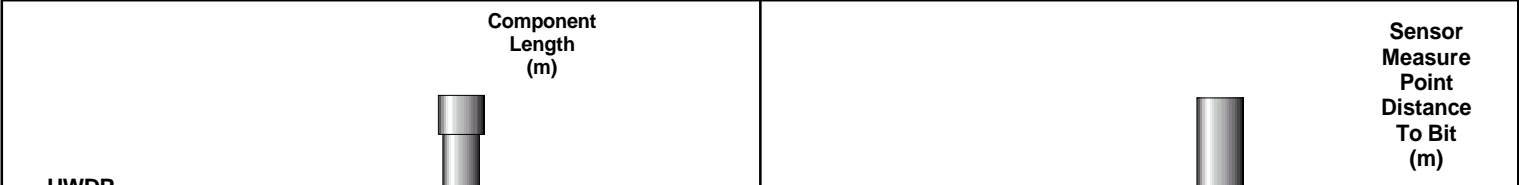
<div> <div>HWDP</div> <div>Sub</div> <div>Drill Collar</div> <div>Jar</div> <div>Drill Collar</div> <div>Stabilizer</div> <div>MWD</div> <div>Sub</div> <div>Stabilizer</div> <div>Sub</div> <div>Motor</div> <div>Bit</div> </div>		<div> <div>84.660</div> <div>.990</div> <div>18.940</div> <div>9.820</div> <div>47.530</div> <div>1.990</div> <div>12.940</div> <div>.710</div> <div>3.330</div> <div>.870</div> <div>8.590</div> <div>.370</div> </div>	<div> <div>MWD</div> <div>Directional</div> <div>Processor</div> <div>Gamma Ray</div> <div>Resistivity</div> </div>		<div> <div>Distance To Bit (m)</div> <div>22.280</div> <div>18.910</div> <div>15.920</div> </div>
---	--	--	---	--	---





































MWD RUN 400 - BHA	MWD RUN 400 - MWD
-------------------	-------------------

<div>Component Length (m)</div> 	<div>Sensor Measure Point Distance To Bit</div> 
---	---




MWD RUN 600 - BHA	MWD RUN 600 - MWD
-------------------	-------------------



HWDP		84.660	MWD		
Sub		.990			
Drill Collar					
		18.940			
					
Jar			Directional		22.300
		9.670			
					
Drill Collar					
		47.530			
Stabilizer		1.860	Processor		
					
MWD		12.950			
			Gamma Ray		18.930
Sub		.710			
Stabilizer		3.330			
					
Sub		.870			
					
Motor		8.590	Resistivity		15.940
					
Bit		.370			

MWD RUN 700 - BHA

MWD RUN 700 - MWD

	Component Length (m)		Sensor Measure Point Distance To Bit (m)
HWDP		56.410	