



EWR Electromagnetic Wave Resistivity  
DGR Dual Gamma Ray

Country : Australia		Field : Exploration	
Location : Lat: 38° 34' 31.64" South Long: 147° 59' 16.27" East		Well : ZaneGrey-1 ST2	
Company : Bass Strait Oil Company Ltd		Rig : Ocean Patriot	
LOCATION	Company	: Bass Strait Oil Company Ltd	
	Rig	: Ocean Patriot	
	Well	: ZaneGrey-1 ST2	
	Field	: Exploration	
Country	Country	: Australia	
	DOE Number	:	
Latitude : 38° 34' 31.64" South Longitude : 147° 59' 16.27" East UTM Easting = 586,049.89 m UTM Northing = 5,729,856.42 m		Other Services Directional Drilling Surface Data Logging	
Permanent Datum : Mean Sea Level		Elevation : 0.00 m	
Log Measured From : Drill Floor		21.50 m Above Permanent Datum	
Drilling Measured From : Drill Floor		TVD LOG	
Depth Logged : 2,674.67 m To 3,219.87 m		Unit No. : 175 Job No. : AUFE-0003576081	
Date Logged : 26-Feb-05 To 10-Mar-05		Plot Type : Final	
Total Depth MD : 3,675.00 m TVD: 3,219.87 m		Plot Date : 02-May-05	
Spud Date : 27-Jan-05			
Run No.	Borehole Record (TVD)		Run No.
	Size	From	To
11	216,000 mm	2,674.67 m	2,693.66 m
12	216,000 mm	2,693.66 m	3,219.87 m
	Casing Record (TVD)		
	Size	Weight	From
	762,000 mm	458.00 kgpm	72.50 m
	340,000 mm	101.00 kgpm	72.50 m
	244,000 mm	70.00 kgpm	72.50 m
			127.75 m
			1,029.91 m
			2,422.00 m

## WELL INFORMATION

MWD Run Number	1100	1200		
Date run completed	05-Mar-05	11-Mar-05		
Rig Bit Number	11	12		
Bit Size (mm)	216	216		
Tool Nominal OD (mm)	171	171		
Log Start Depth (MD, m)	2674.67	2693.66		
Log End Depth (MD, m)	2693.66	3219.87		
Drill or Wipe	Drilling	Drilling		
Drill/Wipe Start Date and Time	05-Mar-05 01:40	05-Mar-05 20:26		
Drill/Wipe End Date and Time	05-Mar-05 11:00	10-Mar-05 17:00		
Min Inc (deg) @ Depth (MD, m)	30.02 @ 2682.44	19.70 @ 3207.76		
Max Inc (deg) @ Depth (MD, m)	30.37 @ 2675.54	31.52 @ 2712.78		
Bit TFA(in2) / Bit Type	0.92 / Hycalog DS43STG	0.92 / Hycalog RSX163DGW		
Flow Rate (gpm)	600	630		
Max AV (mpm) / CV (mpm) @ MWD	168.0 / 69.6	176.4 / 143.4		
Fluid Type	KCl/Polymer	KCl/Polymer		
Density (sg) / Viscosity (spl)	1.13 / 38.00	1.16 / 59.00		
Filtrate CL (ppm)	34,000	34,500		
pH / Fluid Loss (cptm)	12 / 7.0	9.5 / 5.0		
PV (cp) / YP (pa)	9 / 7.00	15 / 25.00		
% Solids / % Sand	7.3 / 0.25	8.3 / 0.25		
% Oil / Oil:Water Ratio	N/A / N/A:93	N/A / N/A:92		
Rm @ Measured Temp (degC)	N/A @ N/A	0.12 @ 27		
Rmf @ Measured Temp (degC)	N/A @ N/A	0.08 @ 27		
Rmc @ Measured Temp (degC)	N/A @ N/A	0.20 @ 27		
Max Tool Temp (degC) / Source	96.00 / EWR-P4	104.00 / EWR-P4		
Rm @ Max Tool Temp (degC)	N/A @ 96.00	0.05 @ 104.00		
Lead MWD Engineer	A. Oraekwuotu	A. Oraekwuotu		
Customer Representative	P. Dane	P. Dane		

## SENSOR INFORMATION

**Downhole Processor Information**

Tool Type	HCIM	HCIM			
Software Version	66.37	66.37			
Sub Serial Number	195232	195232			
Insert Serial Number	091232	091232			
Logging String Serial Number	DM90057455H1GR6	DM90057455H1GR6			
Date and Time Initialized	05-Mar-05 13:31:00	05-Mar-05 19:41:00			
Date and Time Read	05-Mar-05 19:14:00	11-Mar-05 06:19:00			

**Directional Sensor Information**

Tool Type	PM	PM			
Distance From Bit (m)	11.51	11.60			
Software Version	N/A	N/A			
Sub Serial Number	91005	91005			
Sonde Serial Number	69655	69655			
Sensor ID Number	6292	6292			
Survey String Serial Number	DM90052756M6	DM90052756M6			
Toolface Offset (deg)	97.00	90.00			

**Gamma Ray Sensor Information**

Tool Type	DGR	DGR			
Distance From Bit (m)	18.03	18.12			
Recorded Sample Period (sec)	12	12			
Software Version	N/A	N/A			
Sub Serial Number	043991	043991			
Insert/Sonde Serial Number	043350	043350			

**Resistivity Sensor Information**

Tool Type	EWR-P4	EWR-P4			
Distance From Bit (m)	15.05	15.14			
Recorded Sample Period (sec)	14	14			
Software Version	1.38	1.38			
Sub Serial Number	10505902	10505902			
Receiver Insert Serial Number	10505541	10505541			
Transmitter Insert Serial Number	10505605	10505605			
Receiver Orientation	Down	Down			

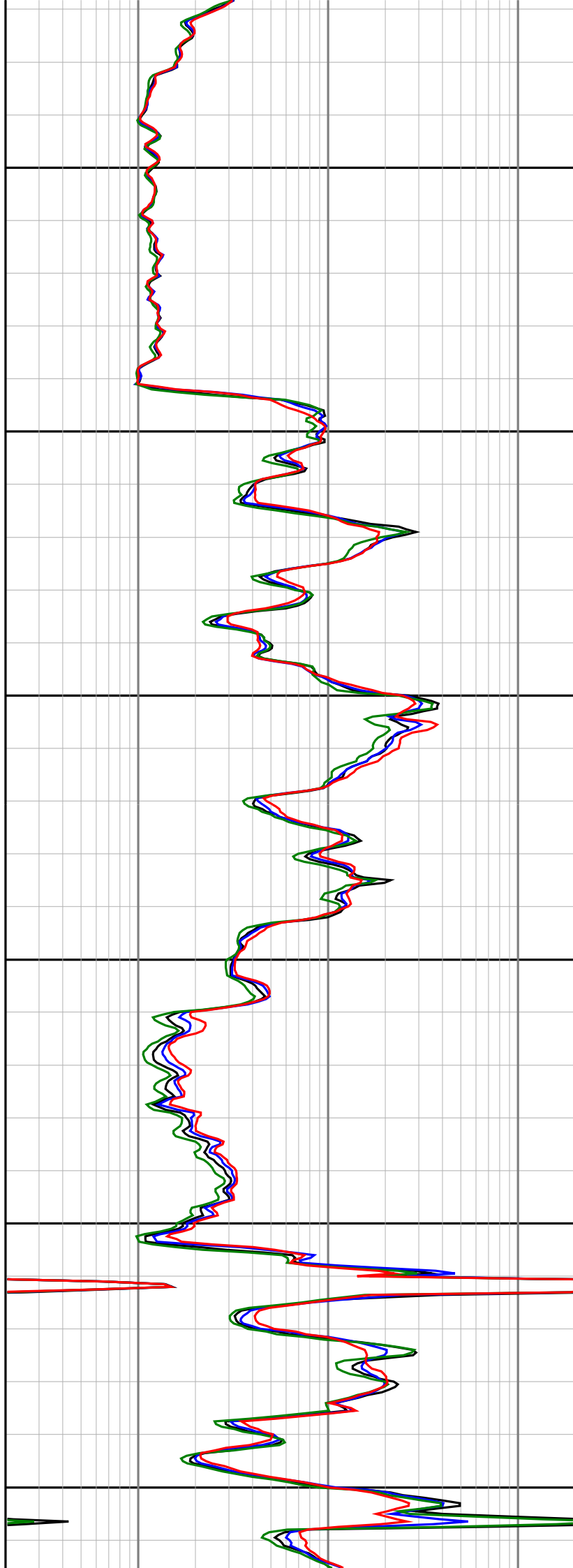
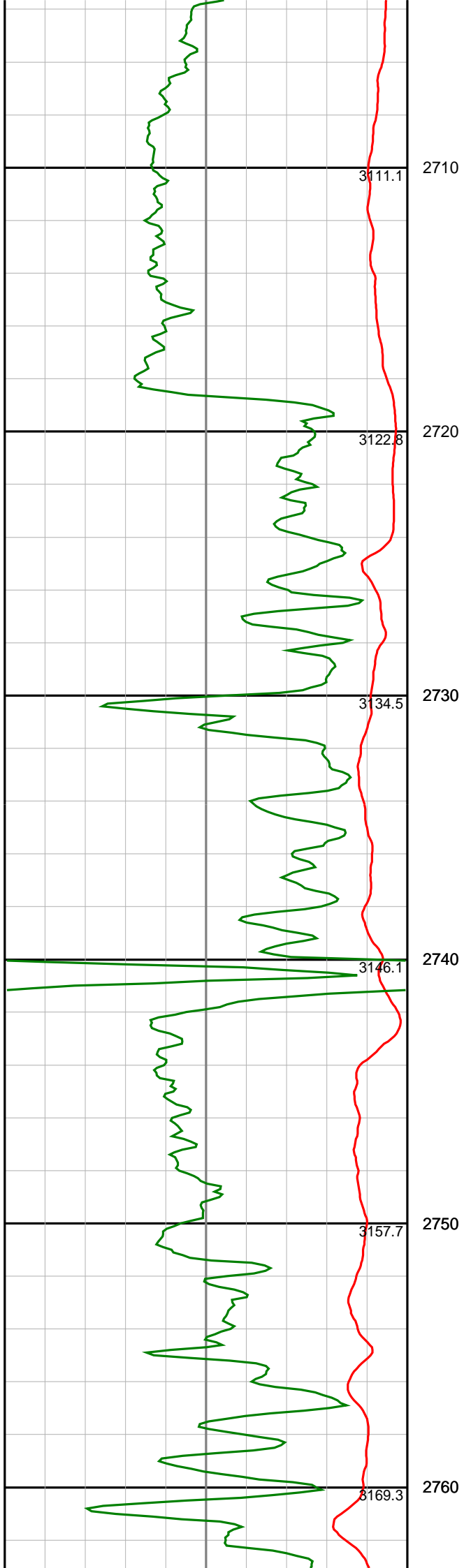
**REMARKS**

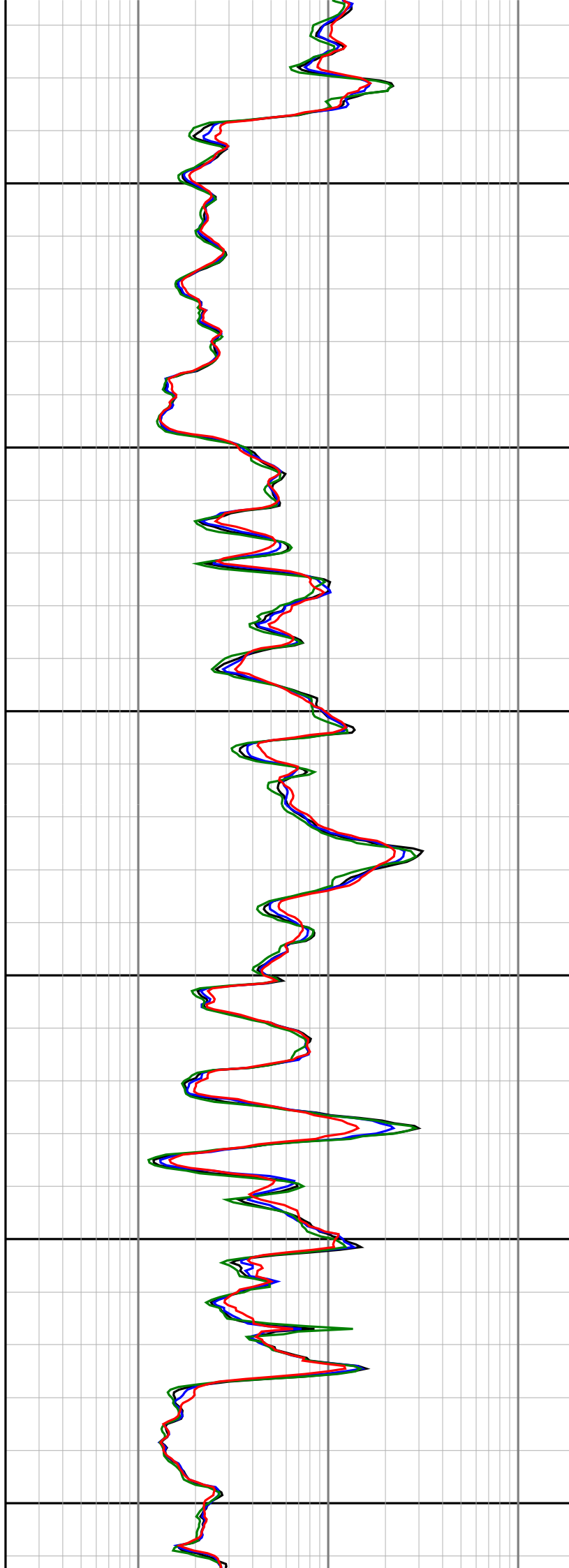
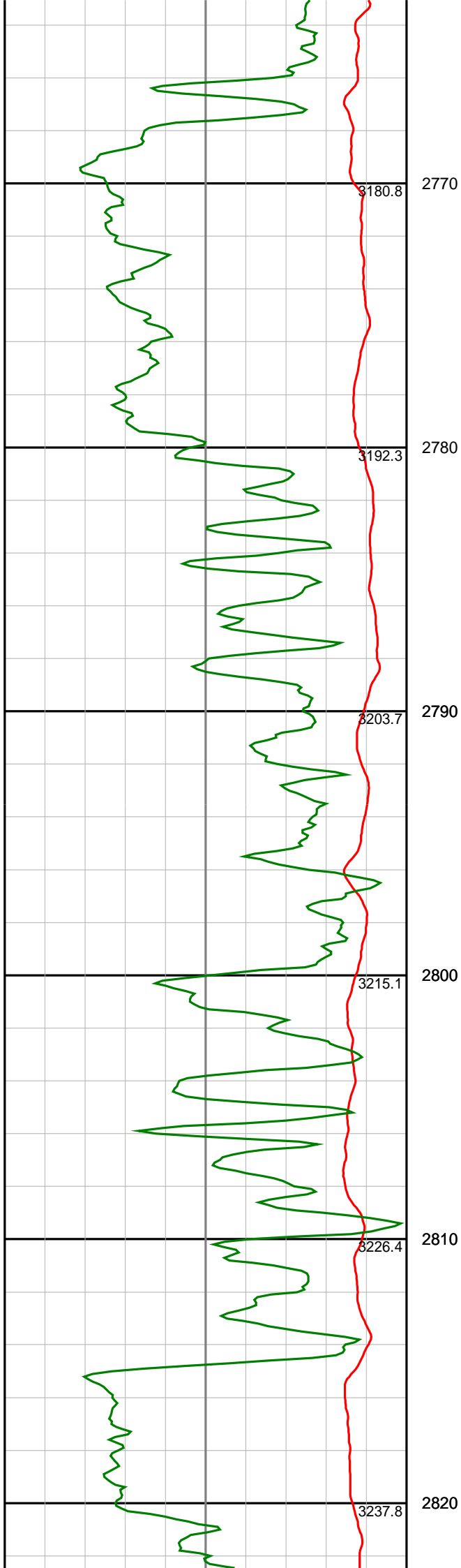
1. All depths are bit depths and referenced to the drillers pipe tally.
2. AV/CV is calculated at the MWD collar using the Powers Law for water based muds and the Bingham's Plastic Law for oil based muds.
3. Curve mnemonics are:  
SGRC - Smoothed Gamma Ray Combined, api  
SEXP - Smoothed Extra Shallow Phase Resistivity, ohm-m  
SESP - Smoothed Shallow Phase Resistivity, ohm-m  
SEMP - Smoothed Medium Phase Resistivity, ohm-m  
SEDP - Smoothed Deep Phase Resistivity, ohm-m  
SROP - Smoothed Rate of Penetration, m/hr

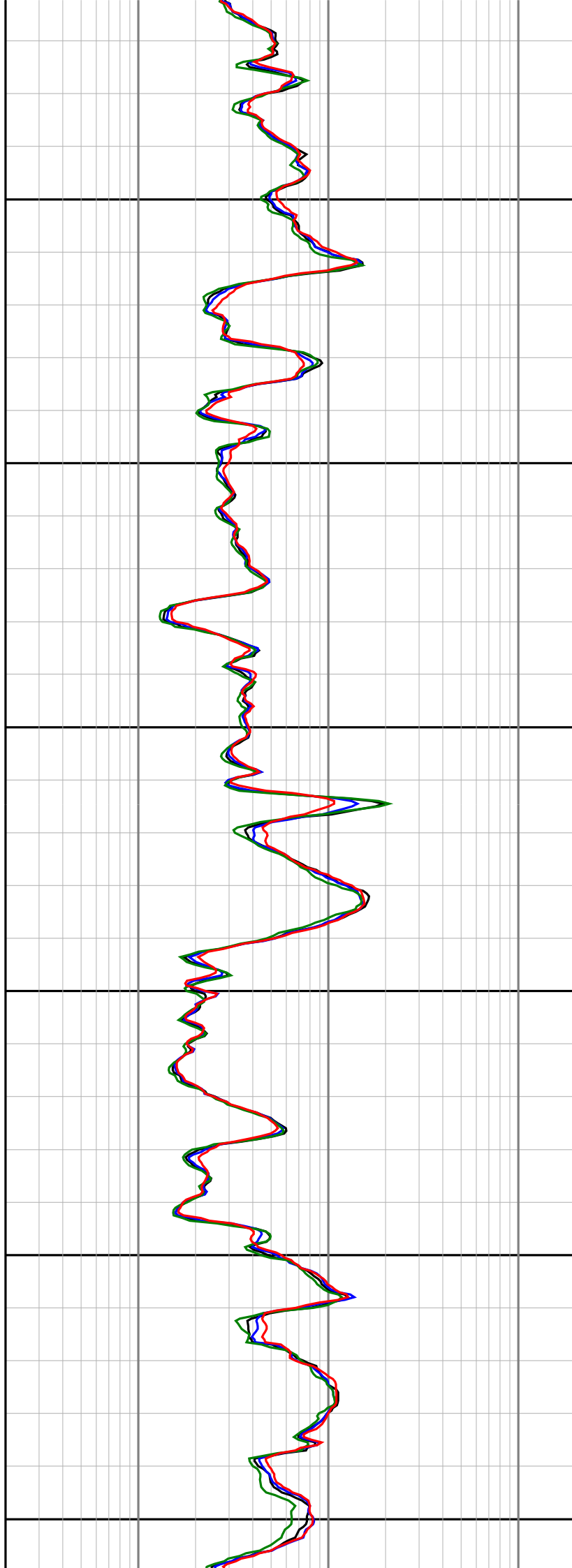
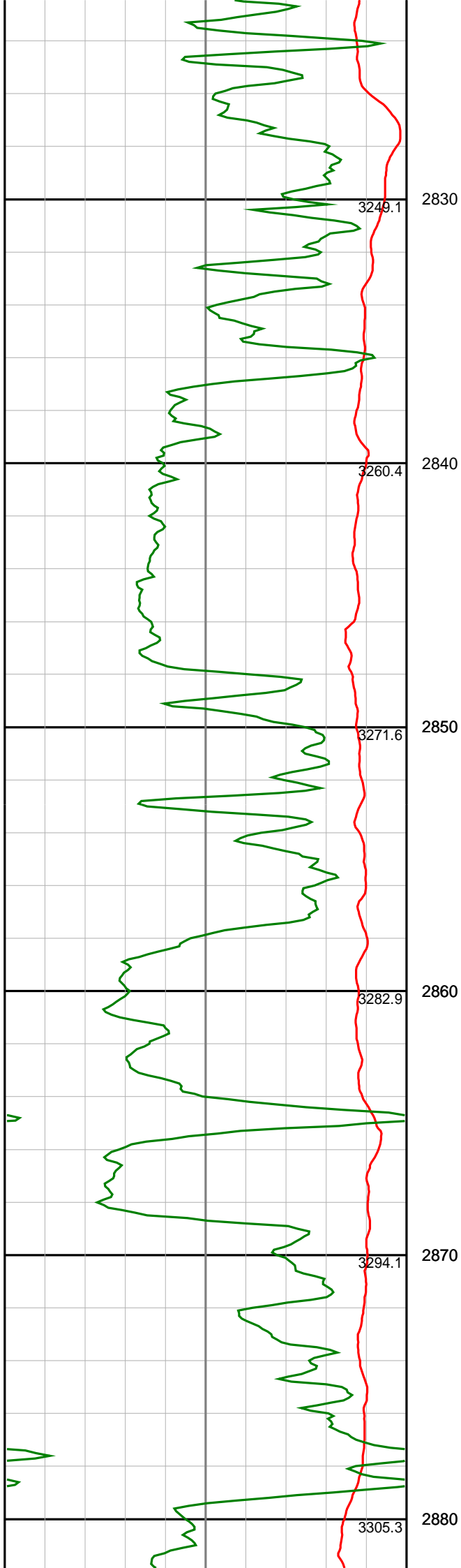
**WARRANTY**

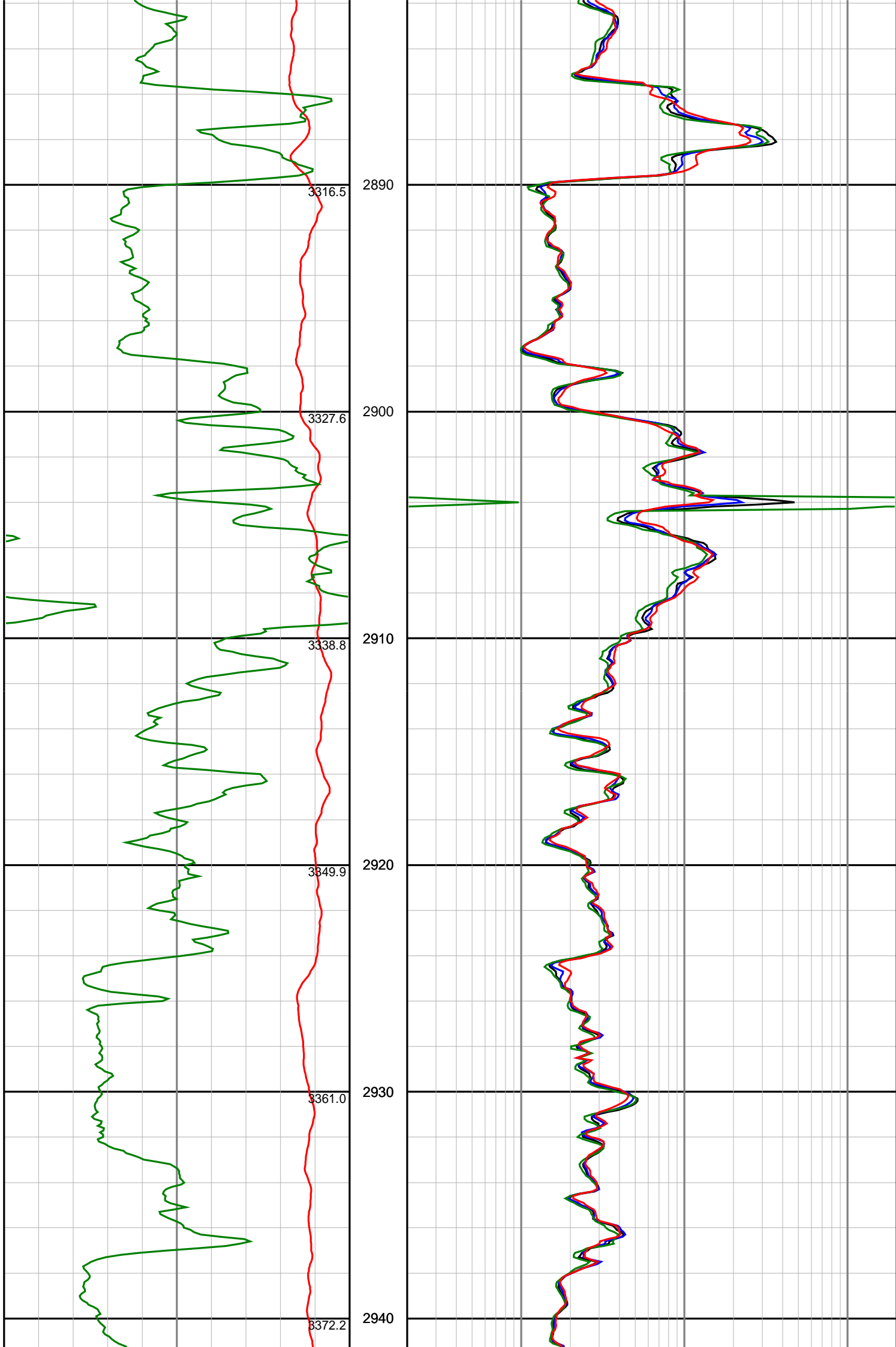
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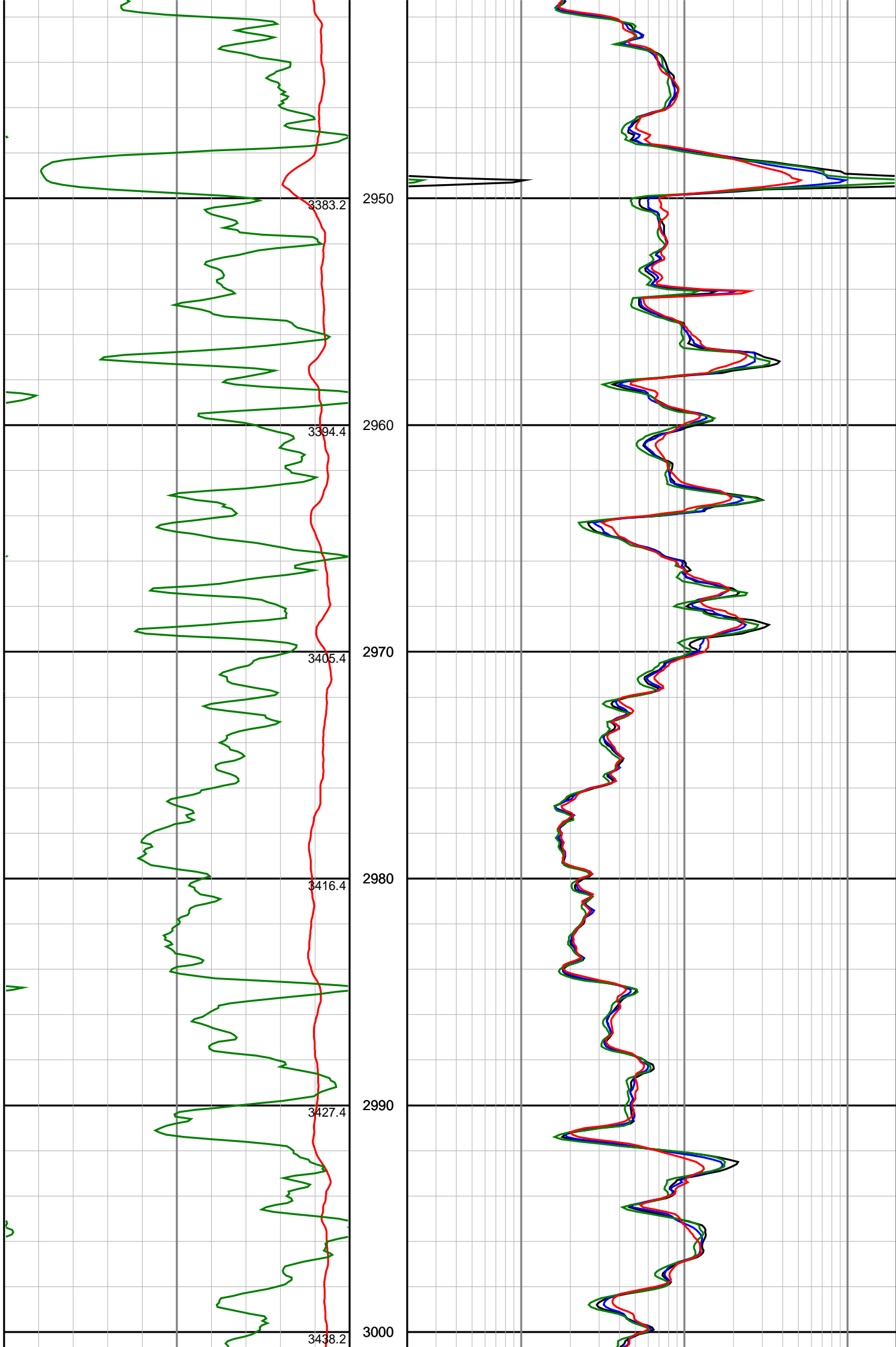
		<b>Deep Phase Res</b> <b>(SEDP)</b> ohmm	
		0.2	200
<b>Measured Depth</b> metres		<b>Medium Phase Res</b> <b>(SEMP)</b> ohmm	
		0.2	200
<b>Rate Of Penetration</b> <b>(SROP)</b> m/hr		<b>Shallow Phase Res</b> <b>(SESP)</b> ohmm	
500 0		0.2	200
<b>Gamma Ray</b> <b>(SGRC)</b> api		DEPTH	<b>Ext Shallow Phase Res</b> <b>(SEXP)</b> ohmm
0 200		TVD	0.2 200
		1:200	
3076.2		2680	
3087.7		2690	
3099.4		2700	

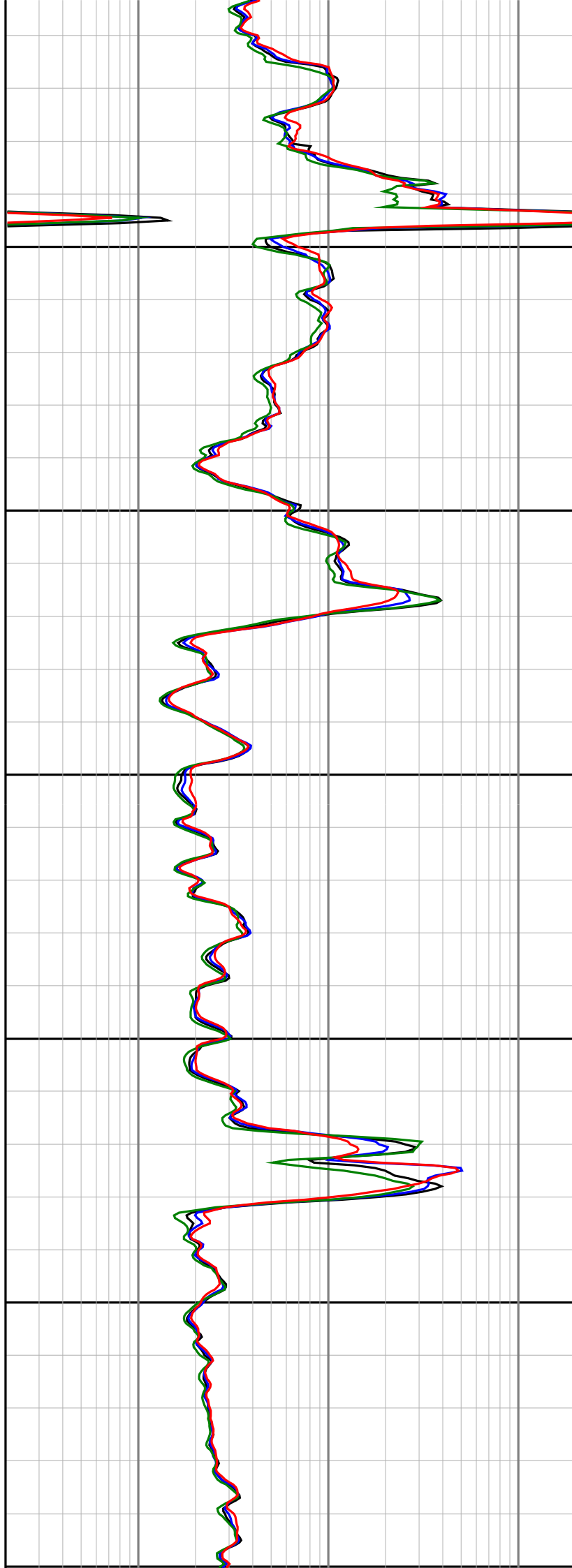
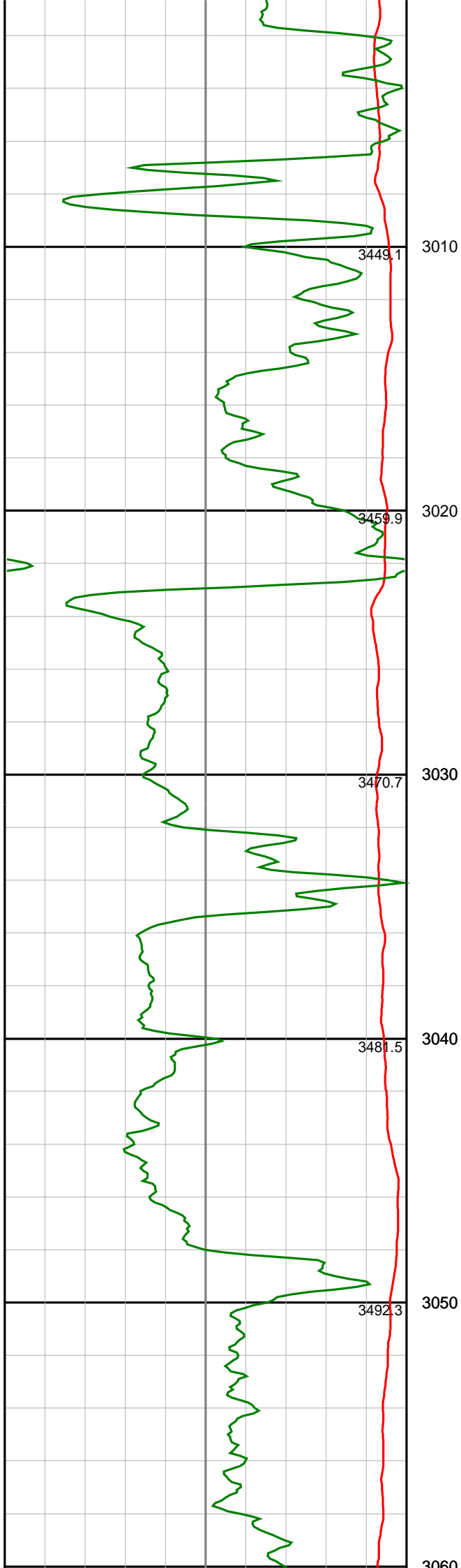


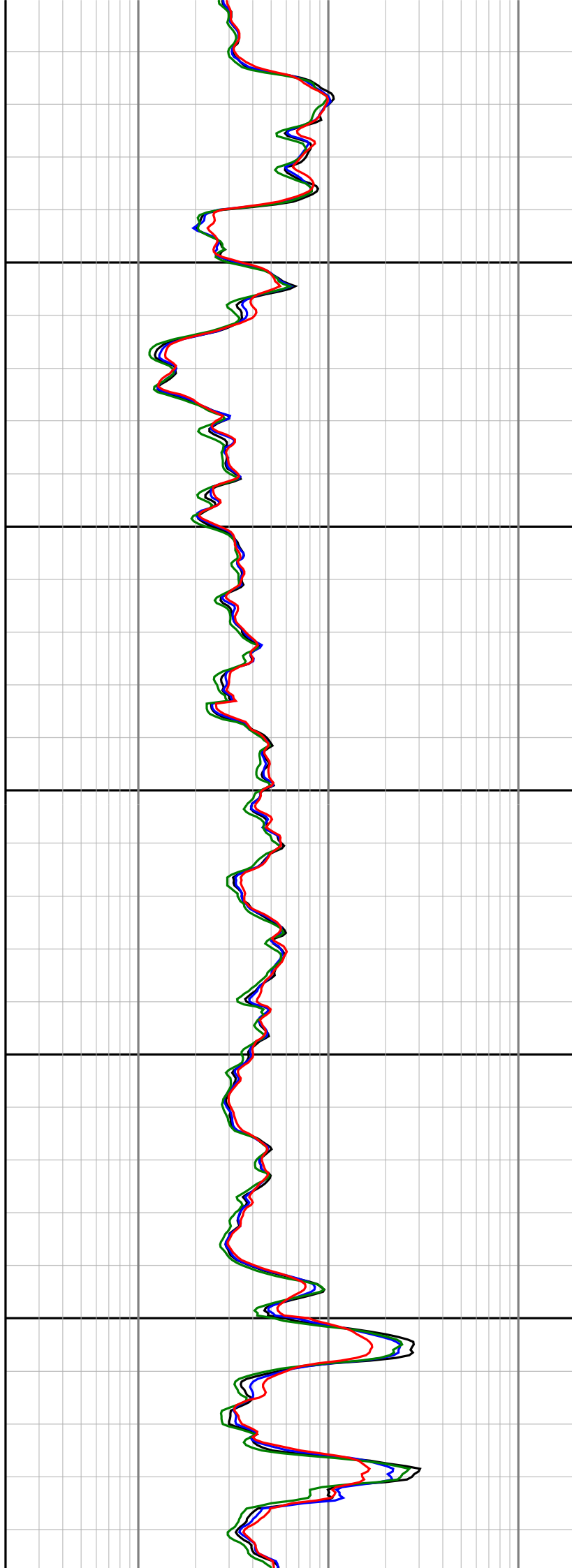
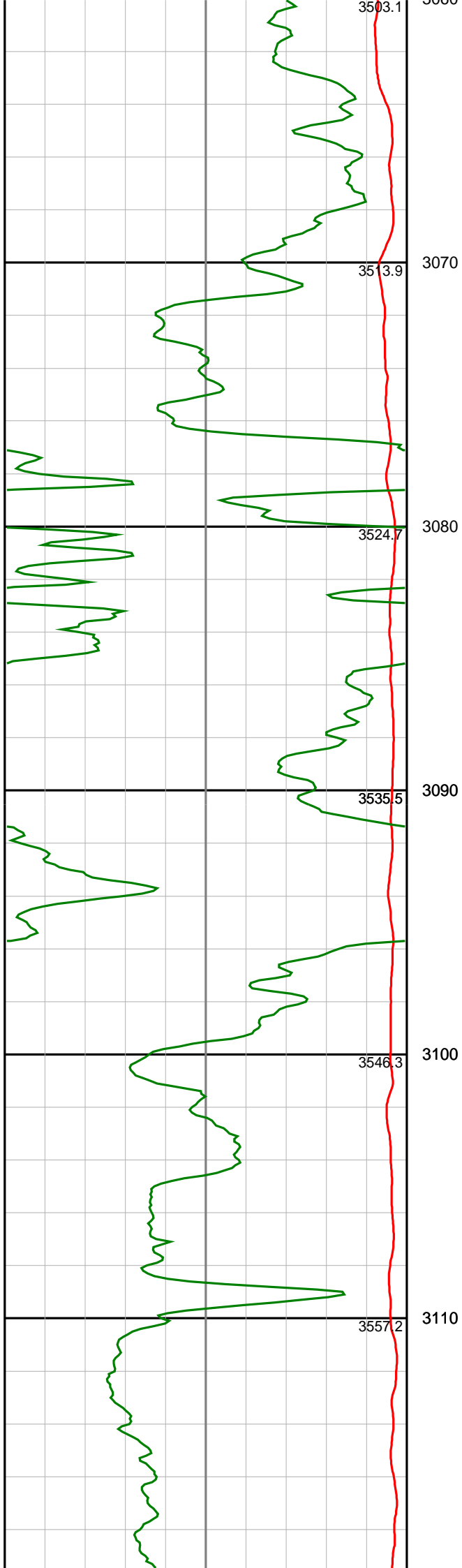


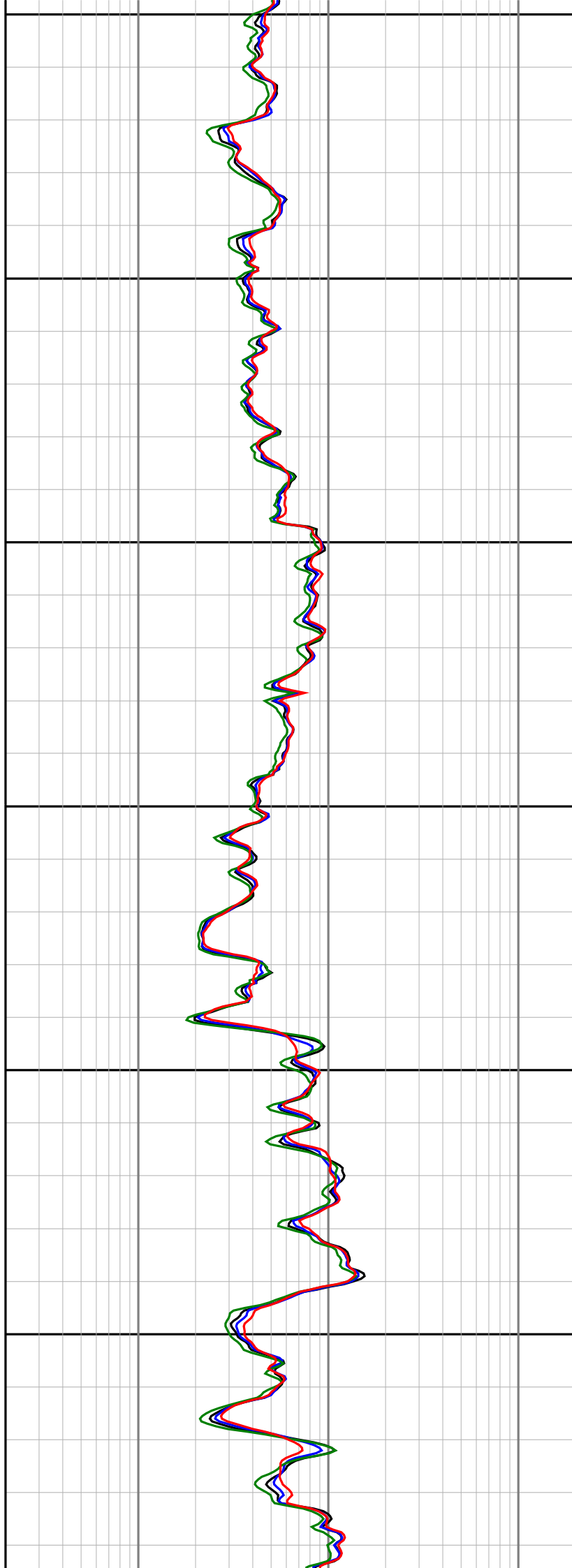
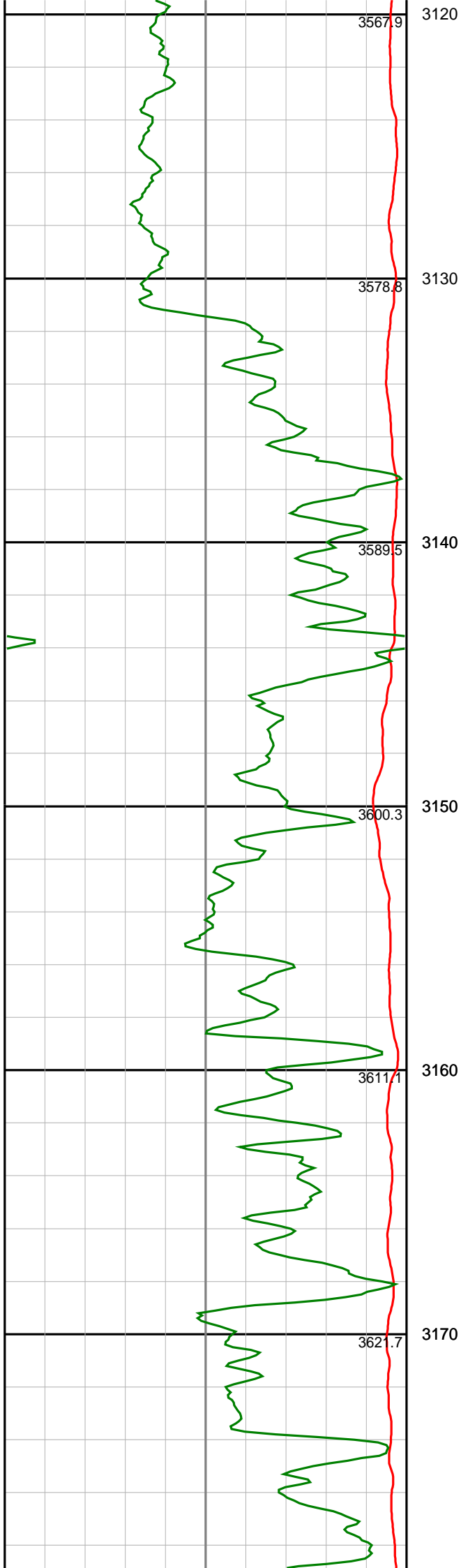


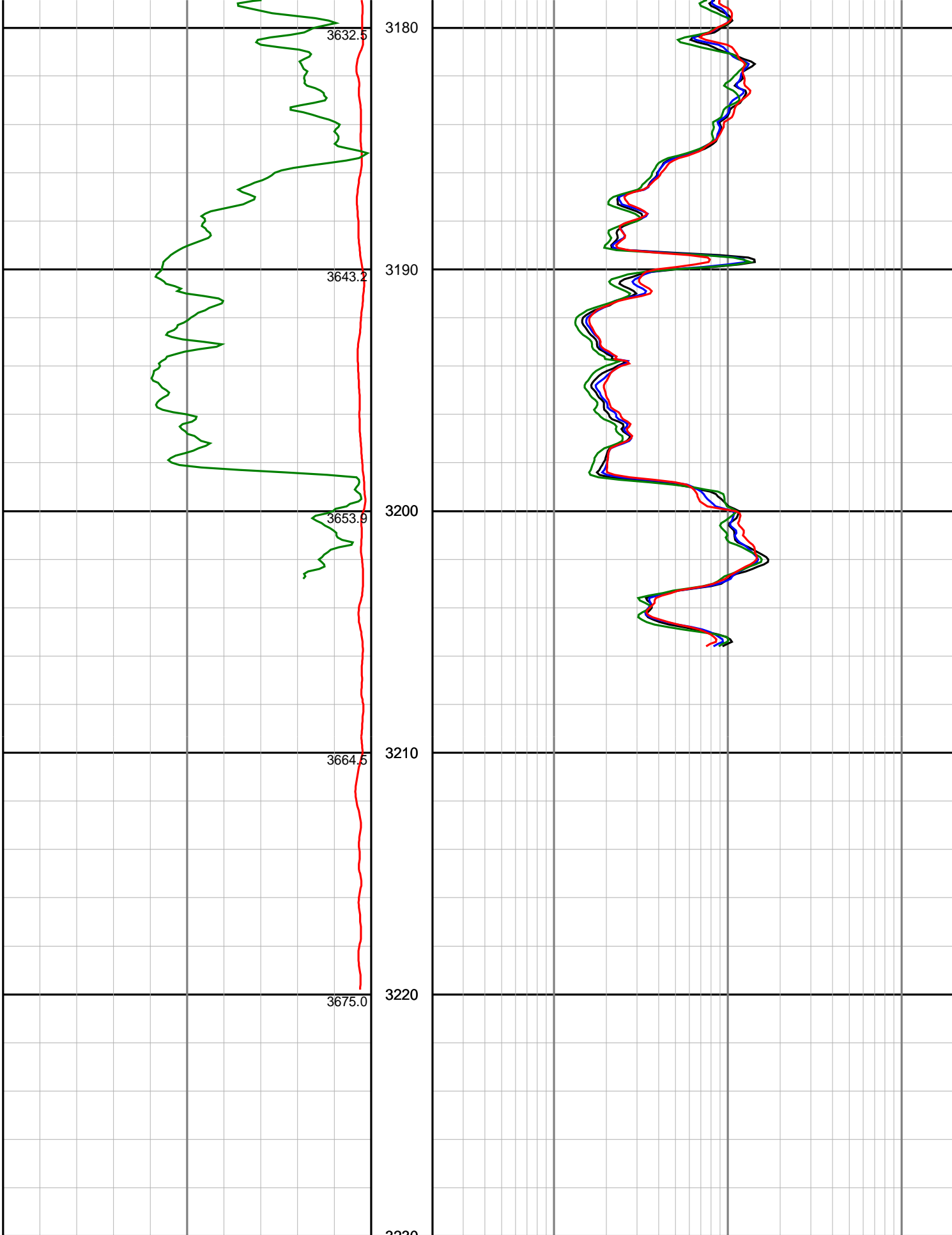












<b>Gamma Ray (SGRC)</b> api	<b>DEPTH TVD</b> 1:200	<b>Ext Shallow Phase Res (SEXP)</b> ohmm
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<b>Rate Of Penetration (SROP)</b> m/hr		<b>Shallow Phase Res (SESP)</b> ohmm
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		<b>Medium Phase Res</b>
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Measured Depth

metres

Measurement Phase Res

(SEMP)

ohmm

0.2

200

Deep Phase Res

(SEDP)

ohmm

0.2

200



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## DIRECTIONAL SURVEY REPORT

Bass Strait Oil Company Ltd

ZaneGrey-1 ST2

Exploration

Victoria

Australia

AU-FE-0003576081

RT-MSL=25.1m. 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
152.200	0.41	162.66	152.199	0.526 S	0.164 E	-0.466	0.08
180.100	0.41	187.76	180.098	0.722 S	0.181 E	-0.651	0.19
208.300	0.52	134.85	208.297	0.914 S	0.258 E	-0.817	0.46
236.300	0.50	145.41	236.296	1.105 S	0.418 E	-0.960	0.10
265.100	0.48	133.55	265.095	1.292 S	0.577 E	-1.100	0.11
291.200	0.53	112.32	291.194	1.414 S	0.769 E	-1.168	0.22
322.800	0.31	122.92	322.793	1.515 S	0.976 E	-1.213	0.22
351.100	0.61	108.04	351.092	1.603 S	1.183 E	-1.245	0.34
379.500	0.62	106.95	379.491	1.695 S	1.473 E	-1.259	0.02
408.300	0.57	109.17	408.289	1.787 S	1.757 E	-1.275	0.06
436.400	0.50	108.39	436.388	1.872 S	2.005 E	-1.293	0.07
463.050	0.56	101.29	463.037	1.934 S	2.243 E	-1.292	0.10
493.810	1.55	39.19	493.792	1.641 S	2.653 E	-0.903	1.35
521.530	3.74	26.59	521.481	0.541 S	3.294 E	0.325	2.44
550.660	6.40	18.10	550.495	1.851 N	4.224 E	2.876	2.84
578.940	9.49	11.85	578.500	5.632 N	5.192 E	6.778	3.40
605.390	12.27	11.47	604.472	10.521 N	6.199 E	11.761	3.15
637.300	15.11	10.93	635.473	17.927 N	7.662 E	19.295	2.67
663.370	17.26	12.12	660.509	25.044 N	9.119 E	26.547	2.50
693.680	19.03	13.97	689.311	34.237 N	11.256 E	35.980	1.85
722.250	21.58	14.47	716.103	43.846 N	13.694 E	45.894	2.68
750.290	24.88	14.62	741.866	54.550 N	16.473 E	56.952	3.53
778.240	28.18	15.54	766.869	66.602 N	19.726 E	69.435	3.57
806.450	30.29	16.23	791.485	79.851 N	23.500 E	83.209	2.27
836.210	31.18	15.90	817.064	94.466 N	27.707 E	98.415	0.92
864.470	31.47	15.91	841.205	108.596 N	31.734 E	113.105	0.31
892.940	32.20	16.13	865.393	123.029 N	35.878 E	128.118	0.78
921.510	32.69	14.67	889.504	137.805 N	39.947 E	143.444	0.98
950.020	32.88	14.70	913.471	152.740 N	43.861 E	158.883	0.20
979.030	33.35	14.25	937.769	168.086 N	47.823 E	174.731	0.55
1009.220	34.05	15.10	962.886	184.289 N	52.067 E	191.481	0.84
1037.200	34.42	14.39	986.018	199.512 N	56.073 E	207.222	0.58
1065.760	34.72	14.47	1009.536	215.205 N	60.111 E	223.426	0.32
1080.740	34.99	14.71	1021.829	223.489 N	62.268 E	231.986	0.61
1123.520	34.54	14.36	1056.973	247.101 N	68.390 E	256.378	0.34
1150.740	34.23	14.27	1079.437	261.996 N	72.191 E	271.750	0.34
1178.170	33.67	14.48	1102.191	276.835 N	75.995 E	287.068	0.63
1208.000	33.51	14.74	1127.040	292.805 N	80.158 E	303.571	0.22
1237.020	33.62	14.39	1151.220	308.335 N	84.193 E	319.617	0.23
1265.610	34.21	14.57	1174.945	323.781 N	88.183 E	335.569	0.62
1294.540	34.67	13.93	1198.804	339.640 N	92.210 E	351.930	0.61
1323.500	34.51	14.39	1222.643	355.582 N	96.232 E	368.371	0.32
1353.040	34.37	13.93	1247.004	371.782 N	100.319 E	385.077	0.30
1380.920	34.26	13.78	1270.031	387.043 N	104.083 E	400.793	0.15

## ZaneGrey-1 ST2

<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>
1409.670	34.18	13.29	1293.804	402.763 N	107.867 E	416.957	0.30
1438.120	34.52	13.61	1317.292	418.376 N	111.601 E	433.005	0.40
1466.410	34.41	12.82	1340.617	433.961 N	115.261 E	449.007	0.49
1494.650	34.39	12.29	1363.919	449.533 N	118.729 E	464.946	0.32
1523.370	34.16	12.03	1387.652	465.342 N	122.136 E	481.100	0.28
1551.880	34.03	12.09	1411.263	480.970 N	125.476 E	497.061	0.14
1580.920	34.34	13.28	1435.286	496.886 N	129.061 E	513.364	0.76
1609.620	34.68	16.07	1458.938	512.610 N	133.181 E	529.618	1.69
1638.560	34.32	16.67	1482.788	528.337 N	137.800 E	546.005	0.50
1667.520	34.04	16.13	1506.746	543.945 N	142.394 E	562.269	0.43
1696.000	34.16	16.42	1530.330	559.271 N	146.869 E	578.231	0.22
1724.700	33.80	16.03	1554.128	574.674 N	151.352 E	594.268	0.44
1752.980	34.20	16.92	1577.573	589.838 N	155.838 E	610.076	0.67
1782.830	34.14	16.52	1602.270	605.894 N	160.661 E	626.833	0.23
1811.250	34.44	17.46	1625.750	621.207 N	165.339 E	642.834	0.64
1840.080	34.47	17.39	1649.522	636.771 N	170.223 E	659.130	0.05
1868.470	34.23	17.07	1672.961	652.071 N	174.968 E	675.136	0.32
1897.130	34.16	16.74	1696.667	667.482 N	179.652 E	691.233	0.20
1926.100	34.12	16.89	1720.644	683.045 N	184.355 E	707.482	0.09
1954.430	34.05	17.19	1744.107	698.225 N	189.008 E	723.348	0.19
1983.370	33.95	17.51	1768.100	713.671 N	193.834 E	739.517	0.21
2012.160	33.49	17.02	1792.046	728.933 N	198.578 E	755.485	0.56
2041.580	33.41	17.63	1816.594	744.412 N	203.408 E	771.685	0.35
2070.370	33.42	17.42	1840.627	759.529 N	208.181 E	787.522	0.12
2095.750	33.16	17.24	1861.843	772.826 N	212.330 E	801.439	0.32
2126.370	32.90	16.85	1887.515	788.782 N	217.222 E	818.117	0.33
2154.800	32.52	16.76	1911.437	803.488 N	221.663 E	833.470	0.40
2183.170	32.39	16.46	1935.377	818.076 N	226.015 E	848.686	0.22
2193.140	31.67	15.75	1943.829	823.155 N	227.482 E	853.972	2.44
2214.580	30.95	12.84	1962.149	833.947 N	230.235 E	865.109	2.34
2241.000	30.80	12.66	1984.825	847.171 N	233.227 E	878.657	0.19
2270.430	30.81	7.95	2010.106	861.989 N	235.921 E	893.670	2.46
2298.370	30.44	10.70	2034.150	876.031 N	238.224 E	907.832	1.56
2326.970	29.94	10.85	2058.871	890.159 N	240.913 E	922.176	0.53
2355.800	31.00	11.14	2083.719	904.511 N	243.702 E	936.762	1.12
2381.720	31.82	13.78	2105.841	917.698 N	246.619 E	950.256	1.85
2414.160	33.68	15.58	2133.124	934.670 N	251.072 E	967.802	1.94
2442.700	33.48	14.49	2156.900	949.915 N	255.167 E	983.588	0.66
2470.320	33.42	14.73	2179.945	964.649 N	259.009 E	998.813	0.16
2499.520	34.48	14.63	2204.166	980.425 N	263.142 E	1015.122	1.09
2528.500	34.47	13.92	2228.056	996.322 N	267.187 E	1031.525	0.42
2557.490	35.28	14.28	2251.839	1012.398 N	271.225 E	1048.098	0.86
2585.360	36.32	14.03	2274.445	1028.204 N	275.211 E	1064.398	1.13
2614.390	36.94	14.82	2297.742	1044.978 N	279.525 E	1081.717	0.81
2643.010	37.00	14.81	2320.608	1061.618 N	283.927 E	1098.929	0.06
2671.570	37.27	15.01	2343.376	1078.279 N	288.363 E	1116.171	0.31
2700.110	37.52	15.54	2366.050	1094.999 N	292.930 E	1133.503	0.43
2729.080	37.31	15.09	2389.059	1111.976 N	297.579 E	1151.104	0.36
2758.570	35.90	14.65	2412.734	1128.969 N	302.092 E	1168.687	1.46
2786.530	35.55	13.38	2435.433	1144.807 N	306.045 E	1185.009	0.88
2815.670	34.36	13.52	2459.316	1161.045 N	309.928 E	1201.699	1.23
2844.060	33.47	13.48	2482.875	1176.447 N	313.626 E	1217.534	0.95
2872.610	33.20	13.34	2506.729	1191.708 N	317.265 E	1233.217	0.29
2901.470	33.09	12.82	2530.893	1207.077 N	320.835 E	1248.988	0.32
2930.230	32.02	12.69	2555.135	1222.170 N	324.251 E	1264.451	1.12
2959.080	31.79	13.21	2579.627	1237.030 N	327.667 E	1279.689	0.37
2987.280	30.50	13.51	2603.762	1251.219 N	331.037 E	1294.269	1.39
3015.710	31.54	13.03	2628.127	1265.478 N	334.398 E	1308.912	1.13
3044.570	31.02	13.23	2652.793	1280.070 N	337.800 E	1323.888	0.55
3074.640	30.11	15.22	2678.685	1294.890 N	341.553 E	1339.175	1.36

Measured Depth (metres)	Inclination (degrees)	Direction (degrees)	Vertical Depth (metres)	Latitude (metres)	Departure (metres)	Vertical Section (metres)	Dogleg (deg/30m)
3114.340	31.52	18.99	2712.783	1314.315 N	347.543 E	1359.487	1.81
3131.120	31.15	19.18	2727.116	1322.561 N	350.396 E	1368.190	0.68
3159.250	30.31	18.05	2751.296	1336.182 N	354.986 E	1382.532	1.09
3188.520	29.22	18.57	2776.705	1349.976 N	359.549 E	1397.036	1.15
3217.290	28.31	18.36	2801.924	1363.107 N	363.935 E	1410.854	0.95
3276.110	27.28	18.20	2853.957	1389.151 N	372.539 E	1438.235	0.53
3333.290	26.11	18.07	2905.041	1413.563 N	380.535 E	1463.882	0.61
3389.790	25.74	18.35	2955.855	1437.028 N	388.254 E	1488.543	0.21
3417.100	24.21	17.99	2980.611	1447.982 N	391.850 E	1500.054	1.69
3445.510	22.63	17.53	3006.679	1458.735 N	395.296 E	1511.332	1.67
3475.400	22.06	18.18	3034.324	1469.552 N	398.780 E	1522.680	0.63
3504.570	22.33	18.72	3061.334	1480.004 N	402.267 E	1533.678	0.35
3533.240	22.23	18.84	3087.863	1490.295 N	405.766 E	1544.523	0.12
3562.170	22.34	19.85	3114.632	1500.645 N	409.401 E	1555.459	0.41
3619.850	21.30	20.71	3168.180	1520.756 N	416.829 E	1576.804	0.56
3649.530	20.38	21.41	3195.917	1530.610 N	420.623 E	1587.303	0.96
3662.140	19.70	21.54	3207.764	1534.631 N	422.205 E	1591.596	1.62
3675.000	19.70	21.54	3219.871	1538.663 N	423.796 E	1595.902	0.00

## CALCULATION BASED ON MINIMUM CURVATURE METHOD

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

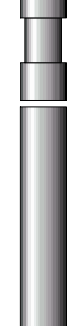


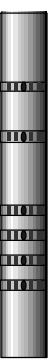
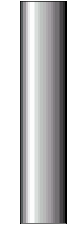


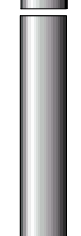


VERTICAL SECTION RELATIVE TO WELL HEAD  
VERTICAL SECTION IS COMPUTED ALONG A DIRECTION OF 14.91 DEGREES (GRID)  
A TOTAL CORRECTION OF 13.82 DEG FROM MAGNETIC NORTH TO GRID NORTH HAS BEEN APPLIED

HORIZONTAL DISPLACEMENT IS RELATIVE TO THE WELL HEAD.  
HORIZONTAL DISPLACEMENT(CLOSURE) AT 3675.000 METRES  
IS 1595.960 METRES ALONG 15.40 DEGREES (GRID)








## MWD RUN 1100 - BHA















## MWD RUN 1100 - MWD

	Cumulative Length (m)		Sensor Measure Point Distance To Bit (m)
Drill Pipe	1073.43	Positive Pulser	
HWDP	219.99		
Drill Collar	81.19	TM	
	62.60	HCIM	
Jar			

Drill Collar		52.73	DGR		18.030
Stabilizer		24.67	EWR-P4		15.050
MWD		23.11			
Sub		10.19			
Stabilizer		9.55			
Motor		7.80			
Bit		0.13	PM		11.510

MWD RUN 1200 - BHA	MWD RUN 1200 - MWD
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Drill Pipe		Cumulative Length (m) 1073.52	Positive Pulser		Sensor Measure Point Distance To Bit (m)
HWDP		220.08	TM		
Drill Collar		81.28			
Jar		62.69	HCIM		

<div><div>Drill Collar</div><div>Stabilizer</div><div>MWD</div><div>Sub</div><div>Stabilizer</div><div>Motor</div><div>Bit</div></div>		52.82	DGR		18.120
		24.76			
		23.20	EWR-P4		15.140
		10.28			
		9.64			
		7.89			
		0.22	PM		11.600