Sperry Drilling Services

INSITE

MWD

EWR Electromagnetic Wave Resistivity
DGR Dual Gamma Ray

1 : 200

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

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

Company : Bass Strait Oil Company Ltd
Rig : Ocean Patriot
Well : ZaneGrey-1 ST2
Field : Exploration
Country : Australia
DOE Number :

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

MD LOG

Elev. KB
DF 21.50 m
GL
WD 73.00 m

Job No. : AU-FE-0003576081

Depth Logged : 3,070.00 m To 3,675.00 m
Date Logged : 26-Feb-05 To 10-Mar-05
Total Depth MD : 3,675.00 m TVD : 3,219.87 m
Spud Date : 27-Jan-05

Unit No. : 175
Plot Type : Final
Plot Date : 02-May-05

Run No.	Borehole Record (MD) Size	From	To
11	216.000 mm	3,070.00 m	3,092.00 m
12	216.000 mm	3,092.00 m	3,675.00 m

Run No.	Casing Record (MD) Size	Weight	From	To
	762.000 mm	458.00 kg/m	72.50 m	127.75 m
	340.000 mm	101.00 kg/m	72.50 m	1,090.60 m
	244.000 mm	70.00 kg/m	72.50 m	2,770.00 m

Run No.	Borehole Record (MD) Size	From	To

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)	3,070.00	3,092.00			
Log End Depth (MD, m)	3,092.00	3,675.00			
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 @ 3,078.99	19.70 @ 3,662.14			
Max Inc (deg) @ Depth (MD, m)	30.37 @ 3,071.00	31.52 @ 3,114.34			
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			

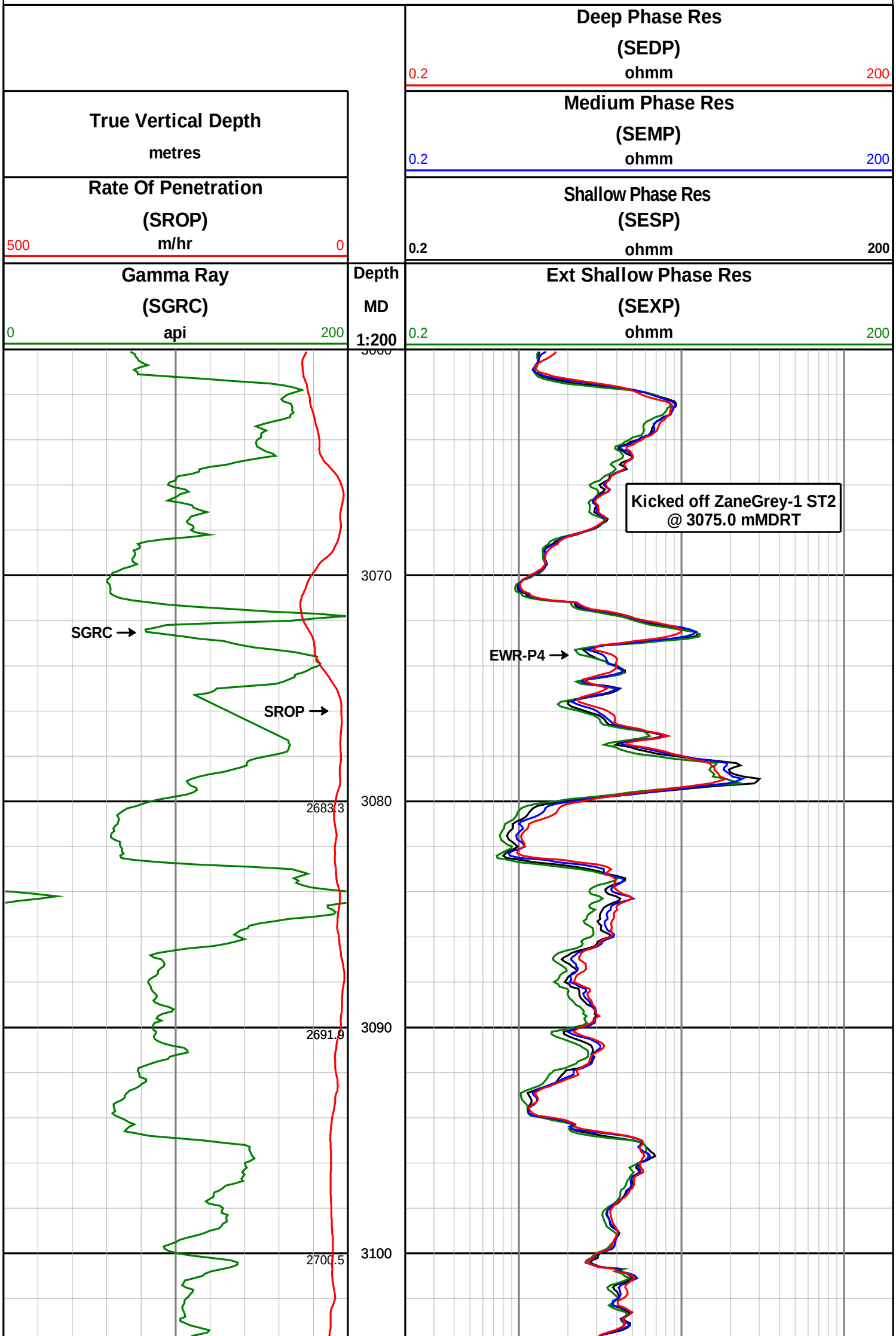
REMARKS

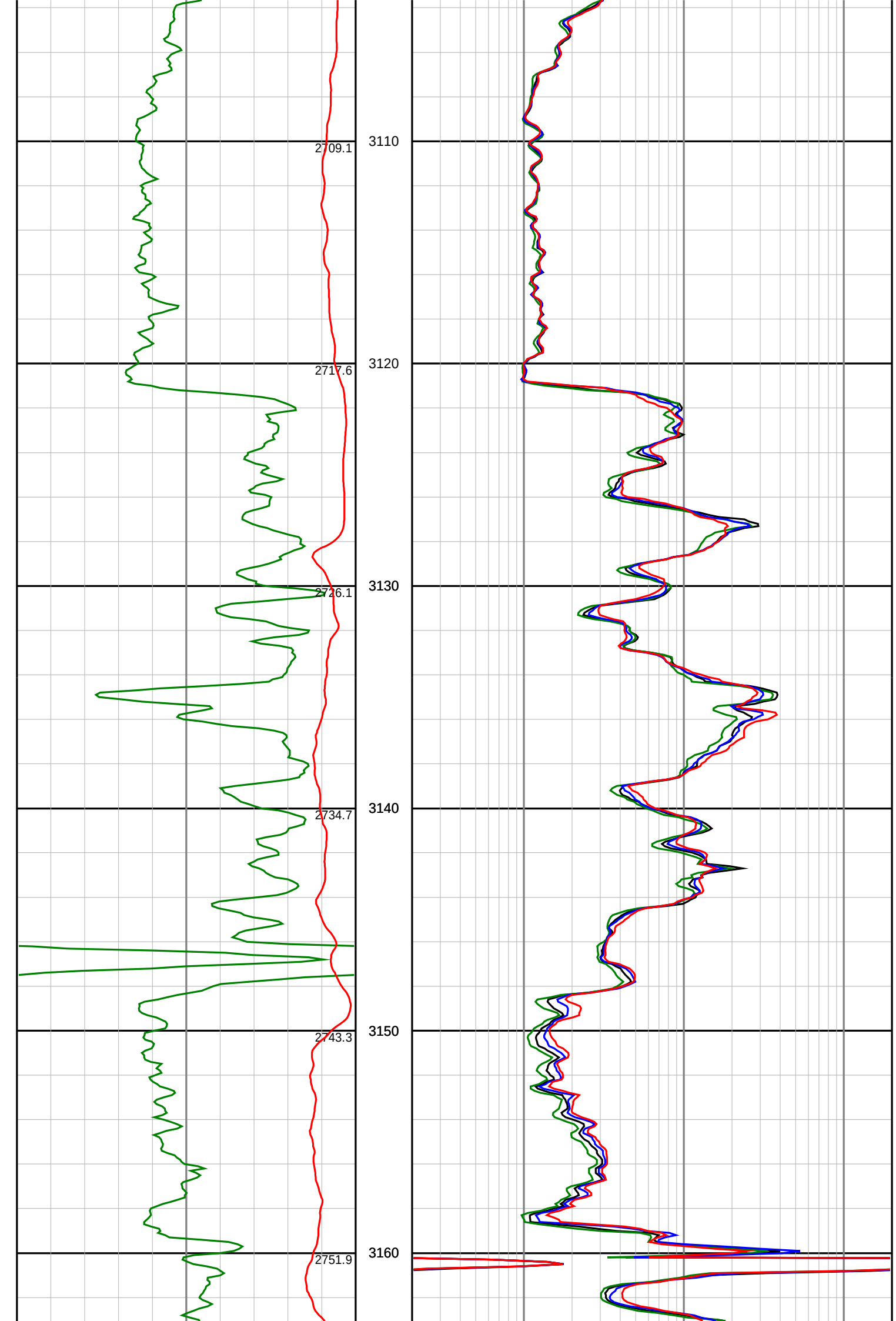
1. All depths are bit depths and referenced to the drillers pipe tally.

2. AV/CV is calculated at the MWD collar using the Powers Law for water based muds and the Binghams 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


Deep Phase Res
(SEDP)
0.2
ohmm
200
Medium Phase Res
(SEMP)
0.2
ohmm
200
Shallow Phase Res
(SESP)
0.2
ohmm
200
True Vertical Depth
metres
Rate Of Penetration
(SROP)
500
m/hr
0
Gamma Ray
(SGRC)
0
api
200
Depth
MD
1:200
Ext Shallow Phase Res
(SEXP)
0.2
ohmm
200
Kicked off ZaneGrey-1 ST2
@ 3075.0 mMDRT
3070
3080
3090
3100
SGRC
SROP
EWR-P4
2683.3
2691.9
2700.5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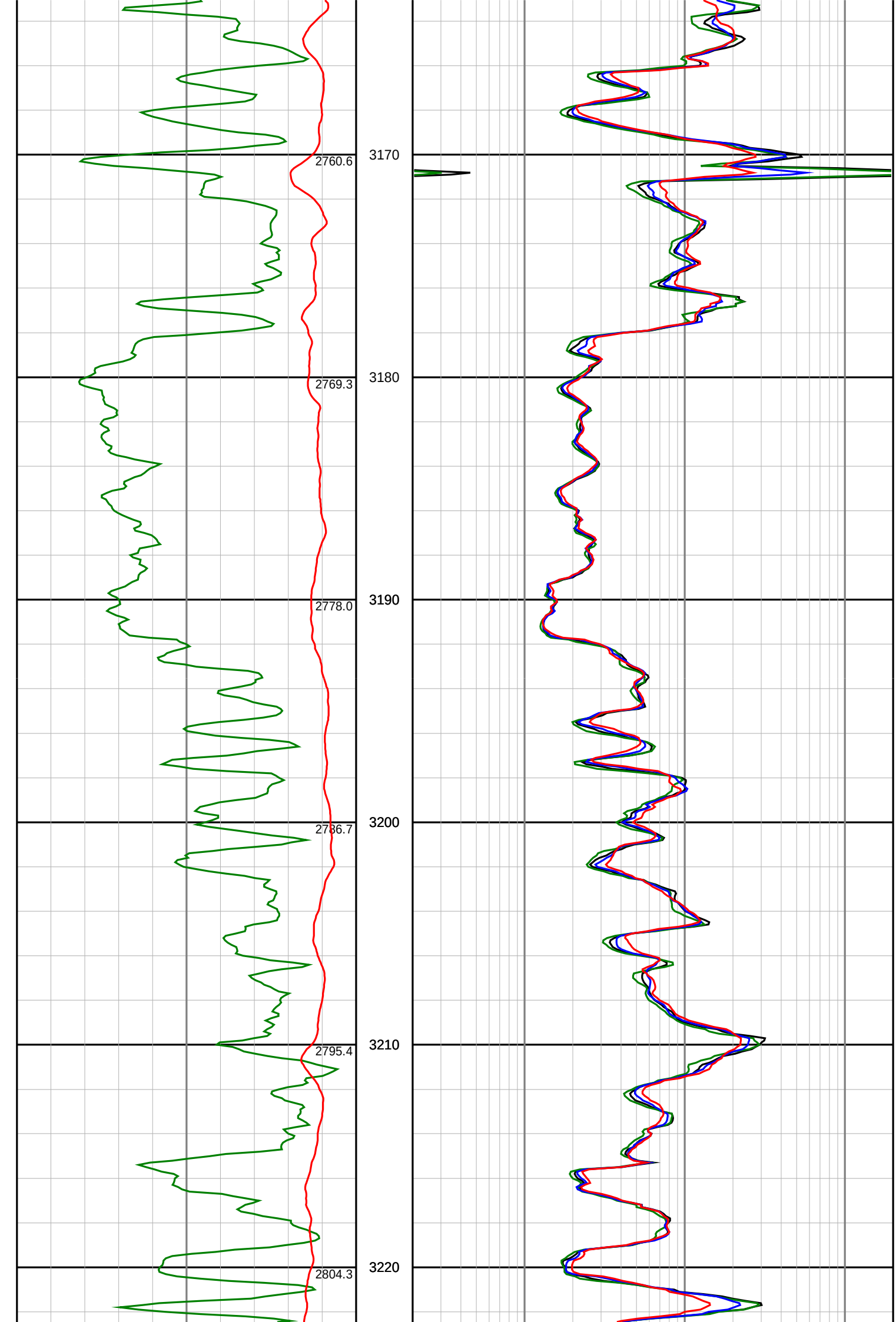
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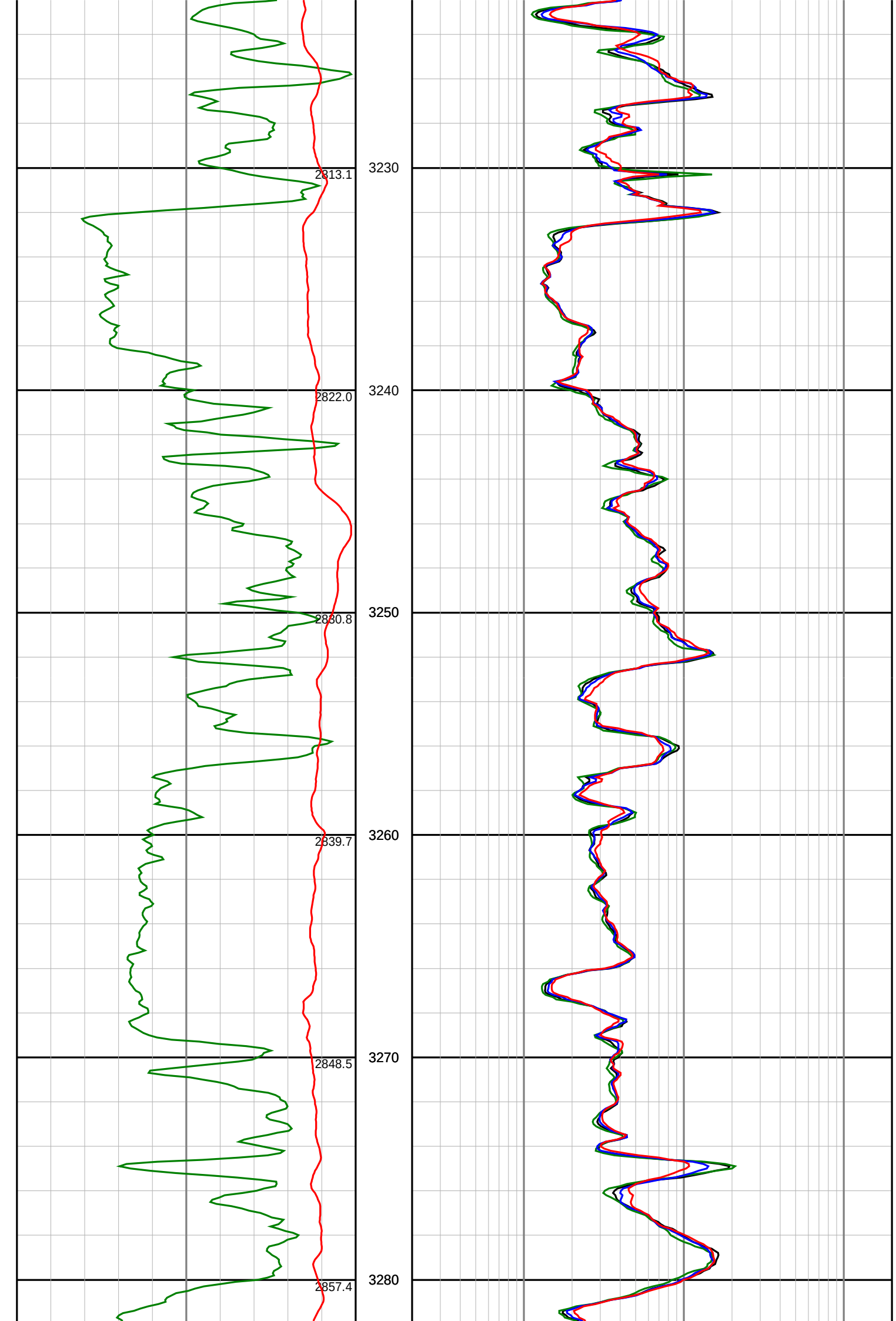
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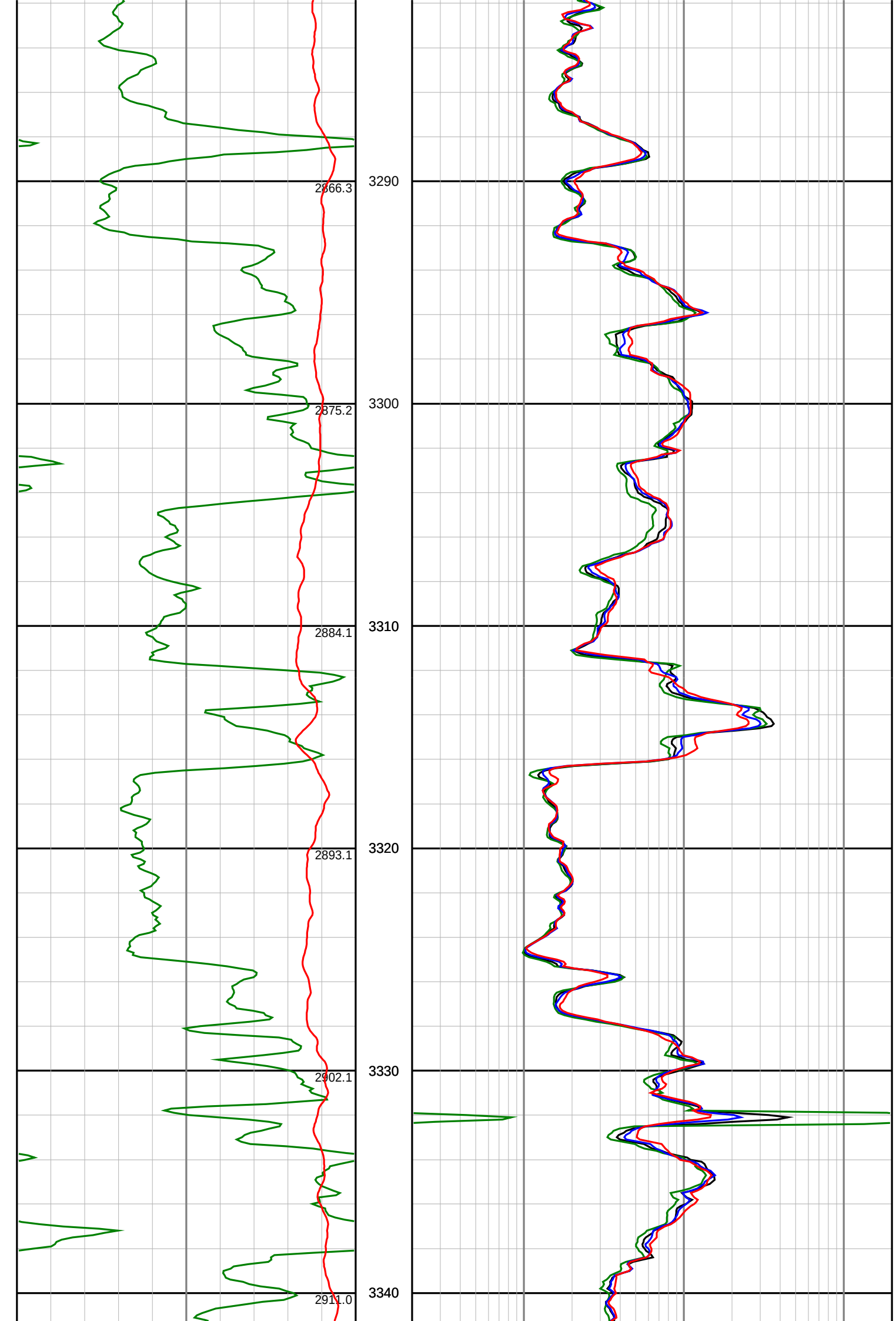
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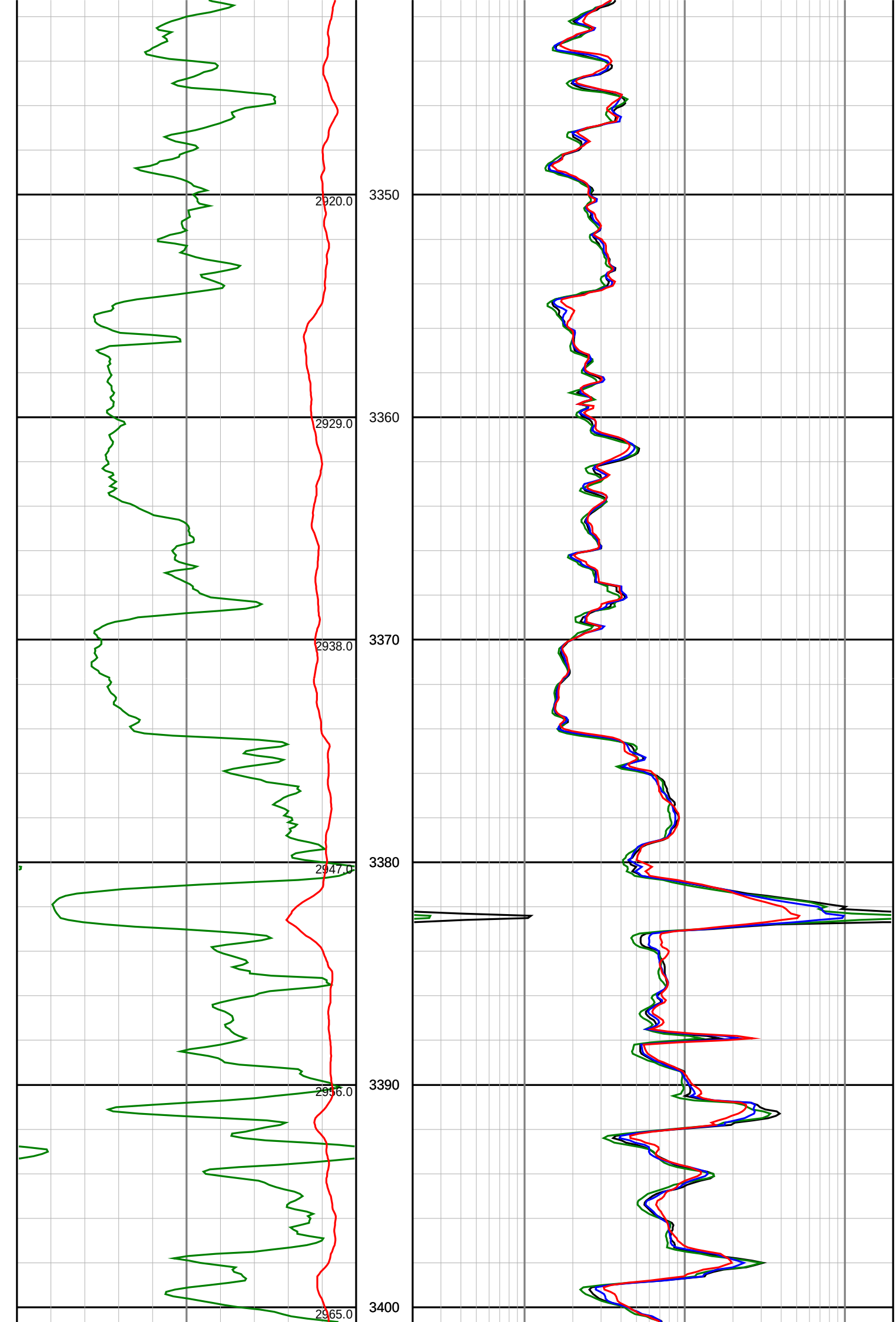
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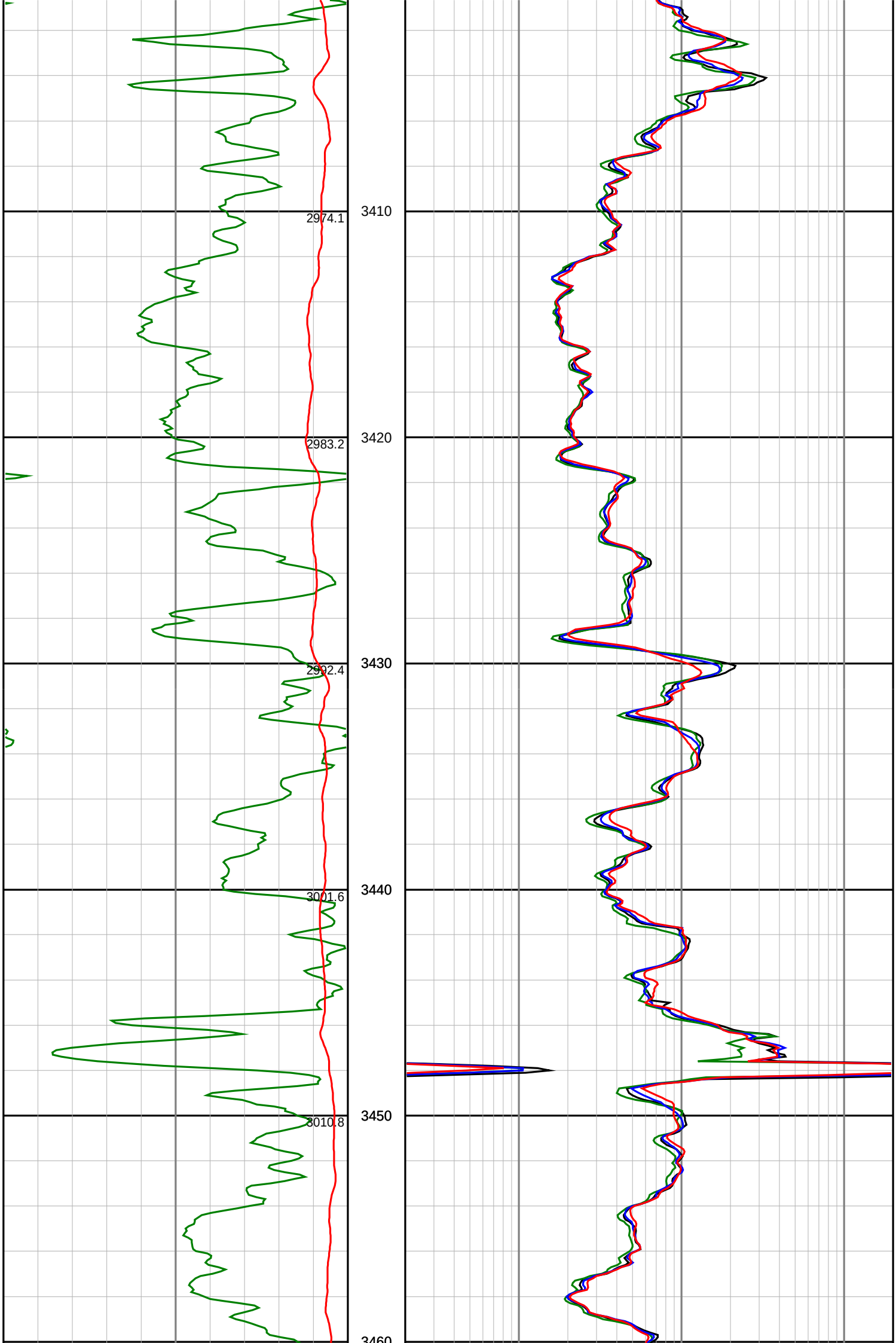
3400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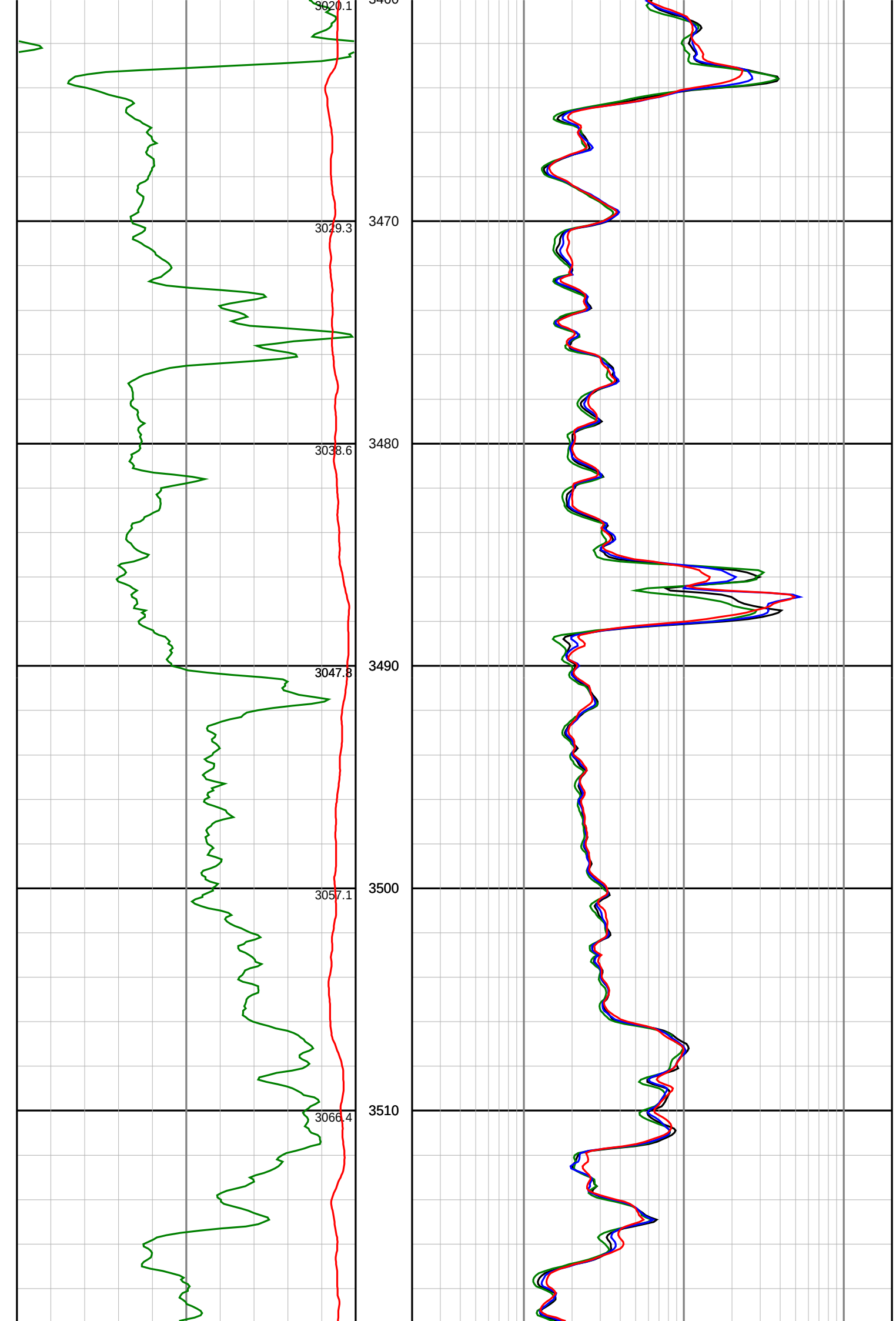
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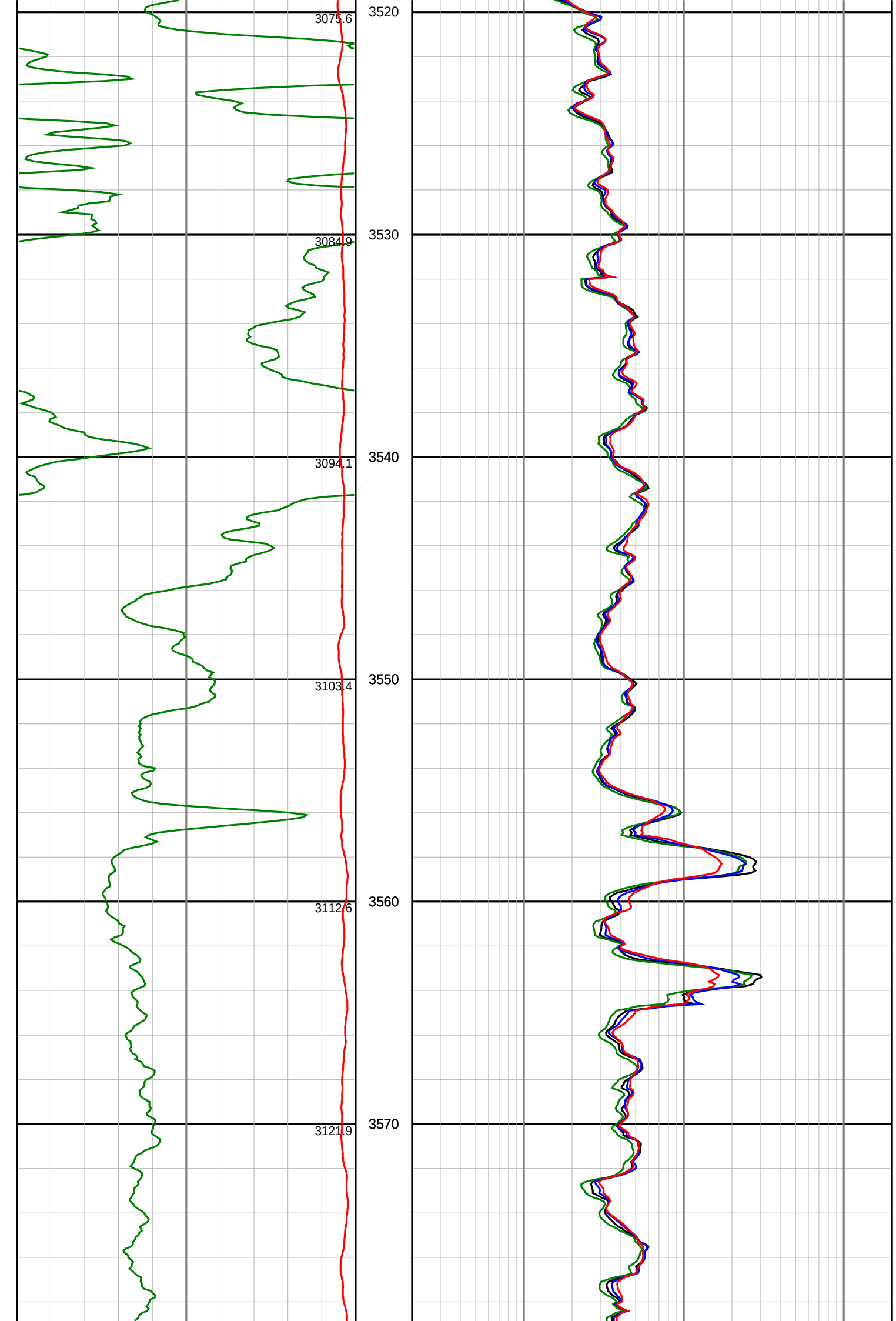
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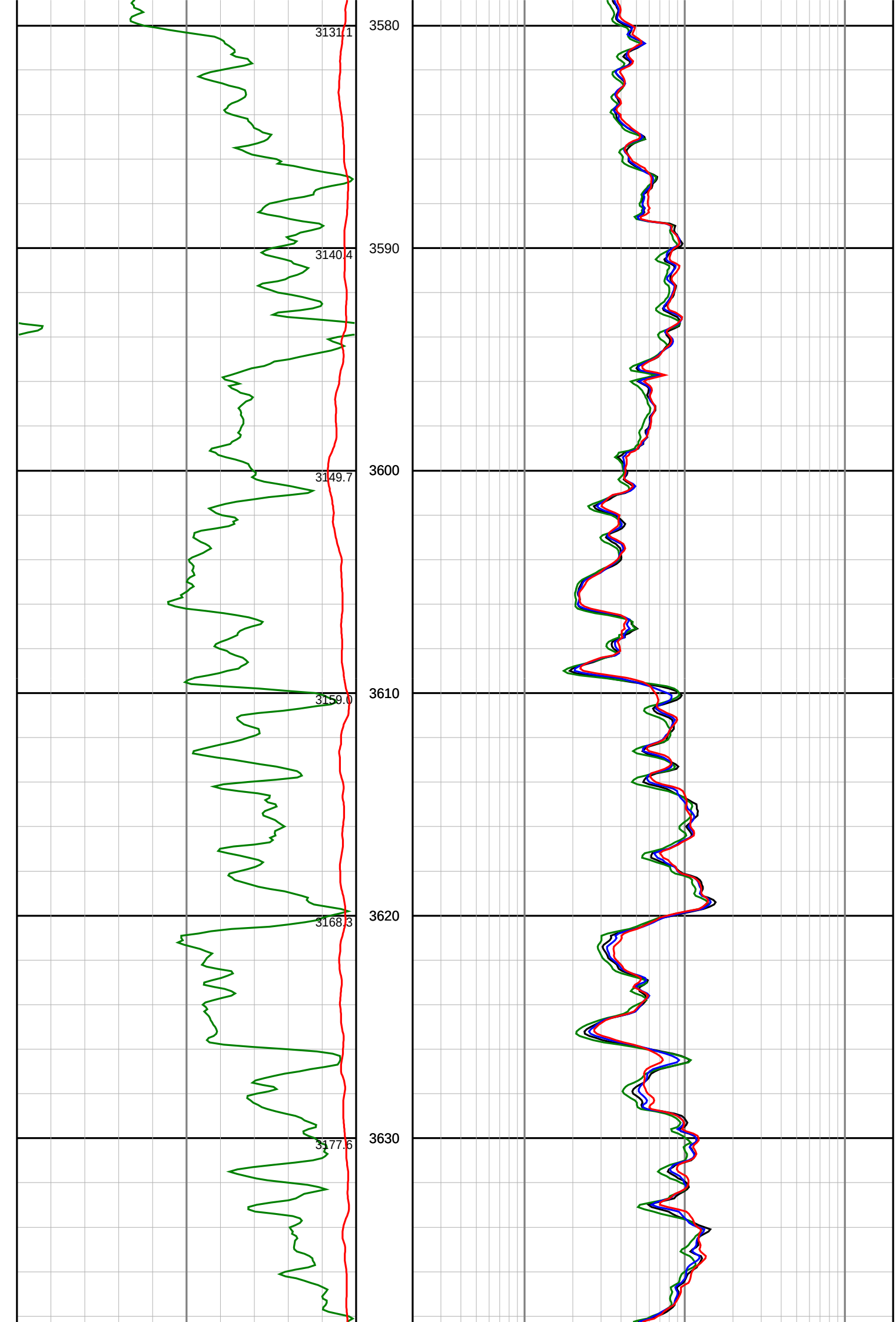
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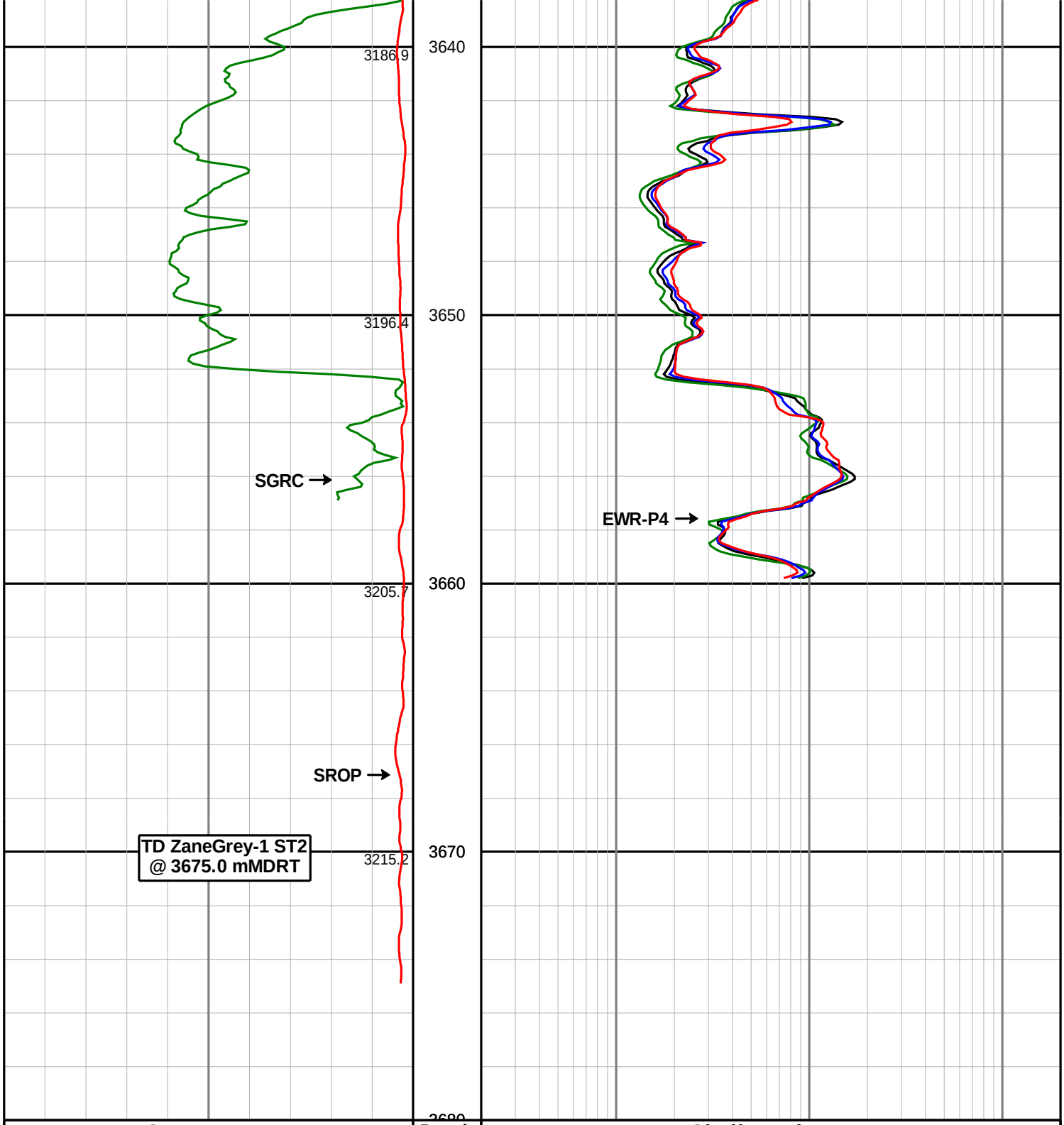


Gamma Ray
(SGRC)
0 — api — 200

Depth
MD
1:200

Ext Shallow Phase Res
(SEXP)
0.2 — ohmm — 200

Rate Of Penetration
(SROP)
500 — m/hr — 0

Shallow Phase Res
(SESP)
0.2 — ohmm — 200

True Vertical Depth
metres

Medium Phase Res
(SEMP)
0.2 — ohmm — 200

Deep Phase Res
(SEDP)
0.2 — ohmm — 200

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
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

ZaneGrey-1 ST2

Measured Depth (metres)	Inclination (degrees)	Direction (degrees)	Vertical Depth (metres)	Latitude (metres)	Departure (metres)	Vertical Section (metres)	Dogleg (deg/30m)
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
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

HALLIBURTON

ZaneGrey-1 ST2

Measured Depth (metres)	*Inclination (degrees)*	*Direction (degrees)*	*Vertical Depth (metres)*	*Latitude (metres)*	*Departure (metres)*	*Vertical Section (metres)*	*Dogleg (deg/30m)*
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

Cumulative Length (m)

Drill Pipe — 1073.43

HWDP — 219.99

Drill Collar — 81.19

Jar — 62.60

Drill Collar — 52.73

MWD RUN 1100 - MWD

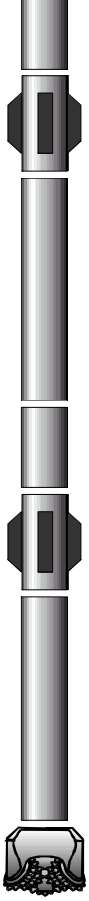
Sensor Measure Point Distance To Bit (m)

Positive Pulser

TM

HCIM

DGR



Stabilizer 24.67

23.11

MWD

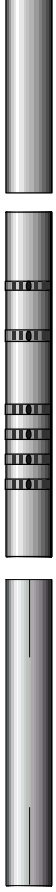
Sub 10.19

Stabilizer 9.55

7.80

Motor

Bit 0.13



18.030

EWR-P4 15.050

PM 11.510

MWD RUN 1200 - BHA

Cumulative Length (m)

Drill Pipe 1073.52

220.08

HWDP

81.28

Drill Collar

62.69

Jar

52.82

Drill Collar

MWD RUN 1200 - MWD

Sensor Measure Point Distance To Bit (m)

Positive Pulser

TM

HCIM

DGR 18.120

Stabilizer

24.76

23.20

MWD

Sub

10.28

Stabilizer

9.64

7.89

Motor

Bit

0.22

EWR-P4

15.140

PM

11.600