

[illegible]

WELL INFORMATION

MWD Run Number	100	200			
Date run completed	26-Oct-03	30-Oct-03			
Rig Bit Number	4	6			
Bit Size (mm)	311	311			
Tool Nominal OD (mm)	203	203			
Log Start Depth (MD, m)	1,220.00	2,004.00			
Log End Depth (MD, m)	2,004.00	2,135.00			
Drill or Wipe	Drilling	Drilling			
Drill/Wipe Start Date and Time	25-Oct-03 02:25	29-Oct-03 12:00			
Drill/Wipe End Date and Time	26-Oct-03 12:40	30-Oct-03 08:00			
Min Inc (deg) @ Depth (MD, m)	0.39 @ 1.684.80	0.83 @ 2.005.90			

Max Inc (deg) @ Depth (MD, m)	1.1800 @ 1,977.50	2.92 @ 2,125.00			
Bit TFA(cm2) / Bit Type	4.839 / ReedDSX195D	4.839 / ReedDSX195D			
Flow Rate (gpm)	880	850			
Max AV (mpm) / CV (mpm) @ MWD	51.5 / 104.6	49.2 / 100.0			
Fluid Type	Aqua-Drill	Aqua-Drill			
Density (sg) / Viscosity (spl)	1.06 / 69.0	1.15 / 68.0			
Filtrate CL (ppm)	34700	35000			
pH / Fluid Loss (cptm)	9.5 / 7.0	9.0 / 4.0			
PV (cp) / YP (lhf2)	19 / 28	24 / 35			
% Solids / % Sand	3 / 1	7 / 0.7			
% Oil / Oil:Water Ratio	N/A / N/A	N/A / N/A			
Rm @ Measured Temp (degC)	0.09 @ 20.00	0.10 @ 25.00			
Rmf @ Measured Temp (degC)	0.08 @ 20.00	0.09 @ 25.00			
Rmc @ Measured Temp (degC)	0.16 @ 20.00	0.18 @ 25.00			
Max Tool Temp (degC) / Source	69.00 / EWR-P4	70.00 / EWR-P4			
Rm @ Max Tool Temp (degC)	0.04 @ 69.00	0.05 @ 70.00			
Lead MWD Engineer	F. Besanger	F. Besanger			
Customer Representative	G. Howard	G. Howard			

SENSOR INFORMATION

Downhole Processor Information					
Tool Type	HCIM	HCIM			
Software Version	66.37	66.37			
Sub Serial Number	145278	145278			
Insert Serial Number	011258	011258			
Logging String Serial Number	DM22879XHGV8	DM22879XHGV8			
Date and Time Initialized	24-Oct-03 20:02	29-Oct-03 03:35			
Date and Time Read	27-Oct-03 15:53	30-Oct-03 17:12:00			

Directional Sensor Information					
Tool Type	DM	DM			
Distance From Bit (m)	8.44	8.44			
Software Version	3.15	3.15			
Sub Serial Number	N/A	N/A			
Sonde Serial Number	85267	85267			
Sensor ID Number	N/A	N/A			
Survey String Serial Number	DM90026200F8	DM90026200F8			
Toolface Offset (deg)	0	0			

Gamma Ray Sensor Information

Tool Type	DGR	DGR			
Distance From Bit (m)	5.09	5.09			
Recorded Sample Period (sec)	10	10			
Software Version	N/A	N/A			
Sub Serial Number	177761	177761			
Insert/Sonde Serial Number	151078	151078			

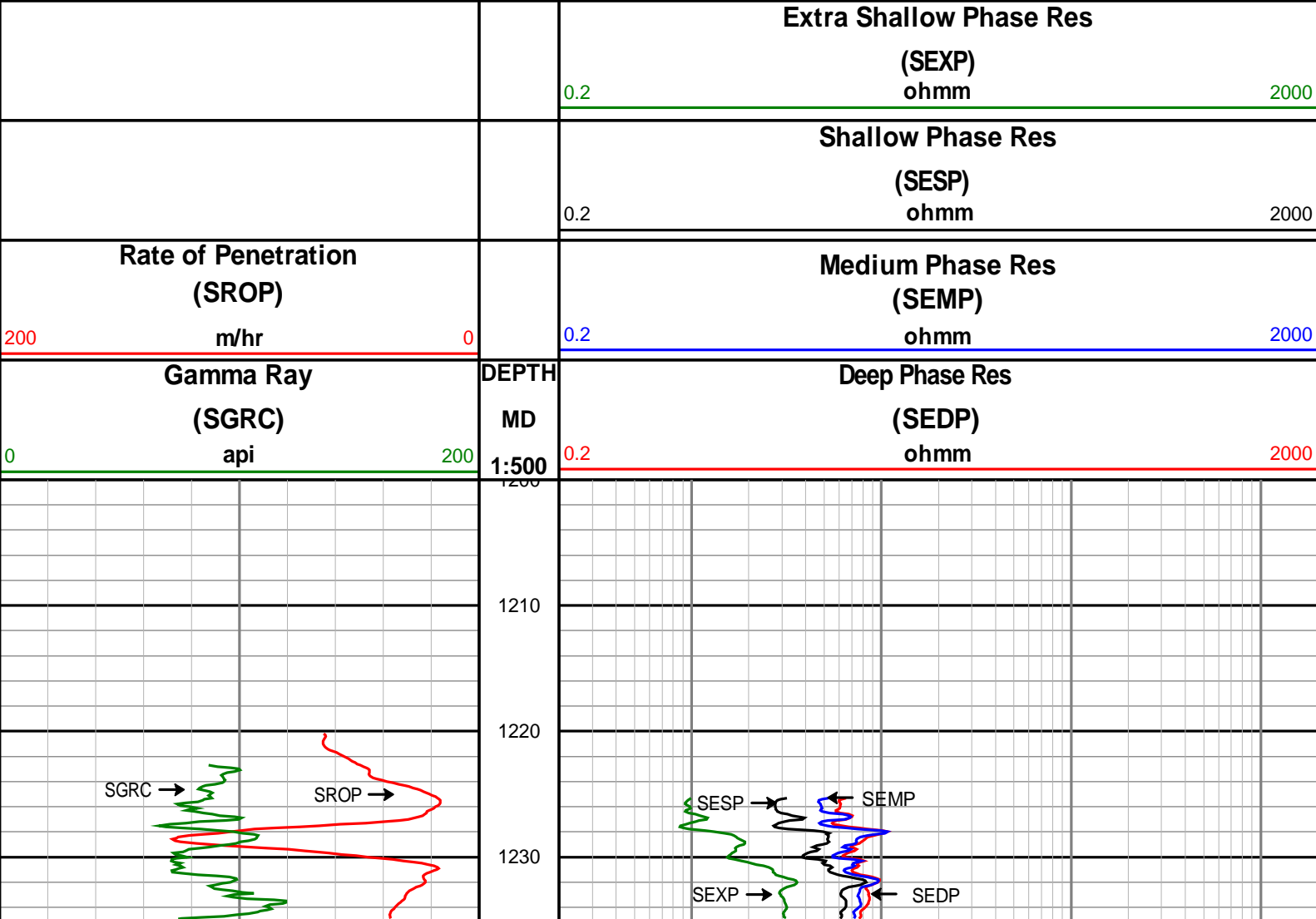
Resistivity Sensor Information					
Tool Type	EWR-P4	EWR-P4			
Distance From Bit (m)	2.04	2.04			
Recorded Sample Period (sec)	10	10			
Software Version	1.38	1.38			
Sub Serial Number	122988	122988			
Receiver Insert Serial Number	167205	167205			
Transmitter Insert Serial Number	78411	78411			
Receiver Orientation	Down	Down			

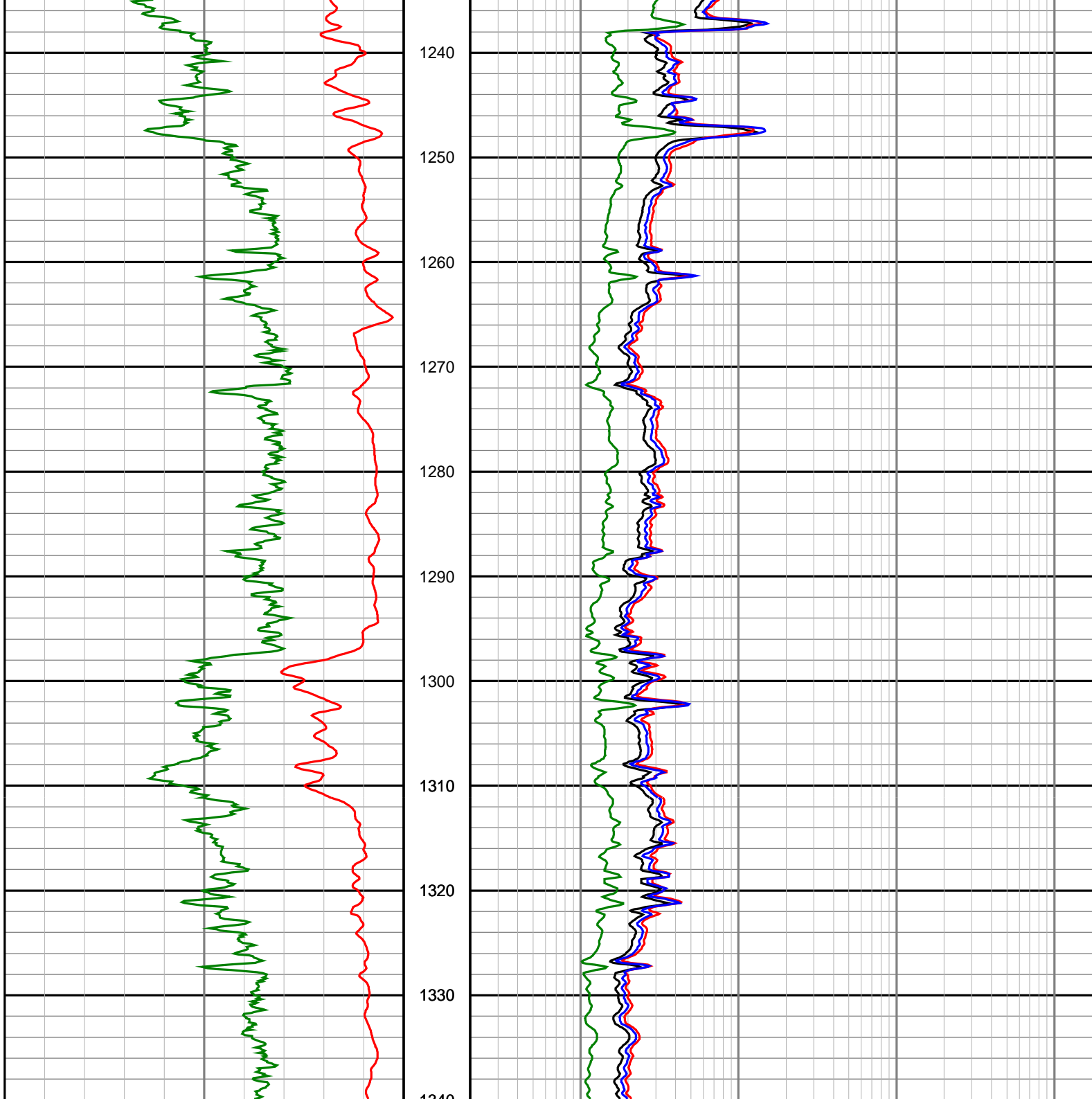
Drillstring Dynamics Sensor Information					
Tool Type	DDS	DDS			
Distance From Bit (m)	0	0			
Recorded Sample Period (sec)	12	12			
Software Version	0.37	0.37			
Sub Serial Number	177761	177761			
Insert Serial Number	N/A	N/A			
Sensor ID Number	126	126			

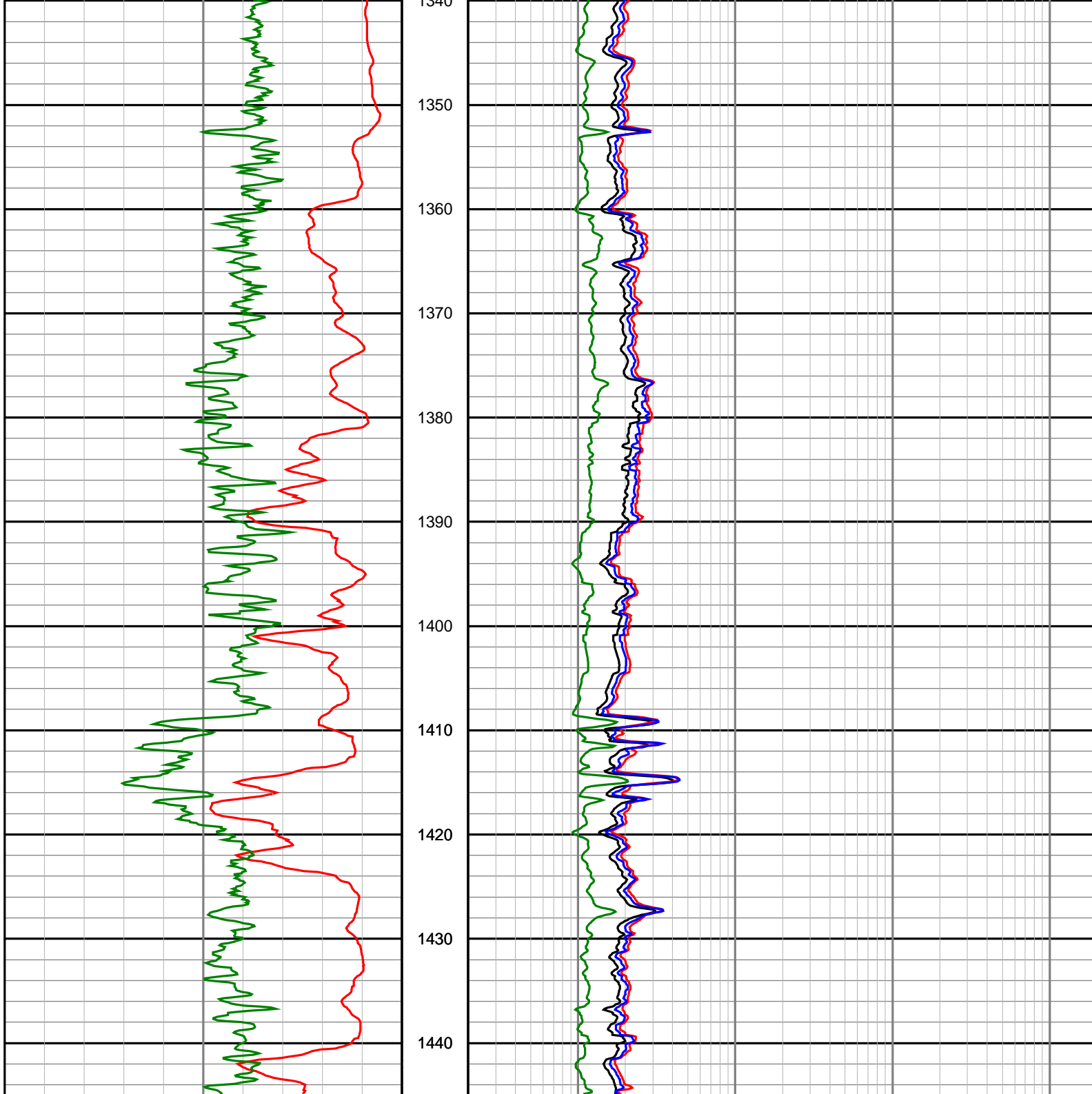
REMARKS
<p>1) All depths are bit depths and referenced to drillers pipe tally unless otherwise noted.</p> <p>2) AV/CV is calculated at the MWD collar using the Powers Law for water based muds and the Bingham's Plastic Law for oil based muds.</p> <p>3) Curve mnemonics are:</p> <p>SGRC - Smoothed Gamma 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</p> <p>4) Cored section from 2004.0 to 2031.0 mMDRT was wiped 19.5hrs after drilling the core was completed.</p>

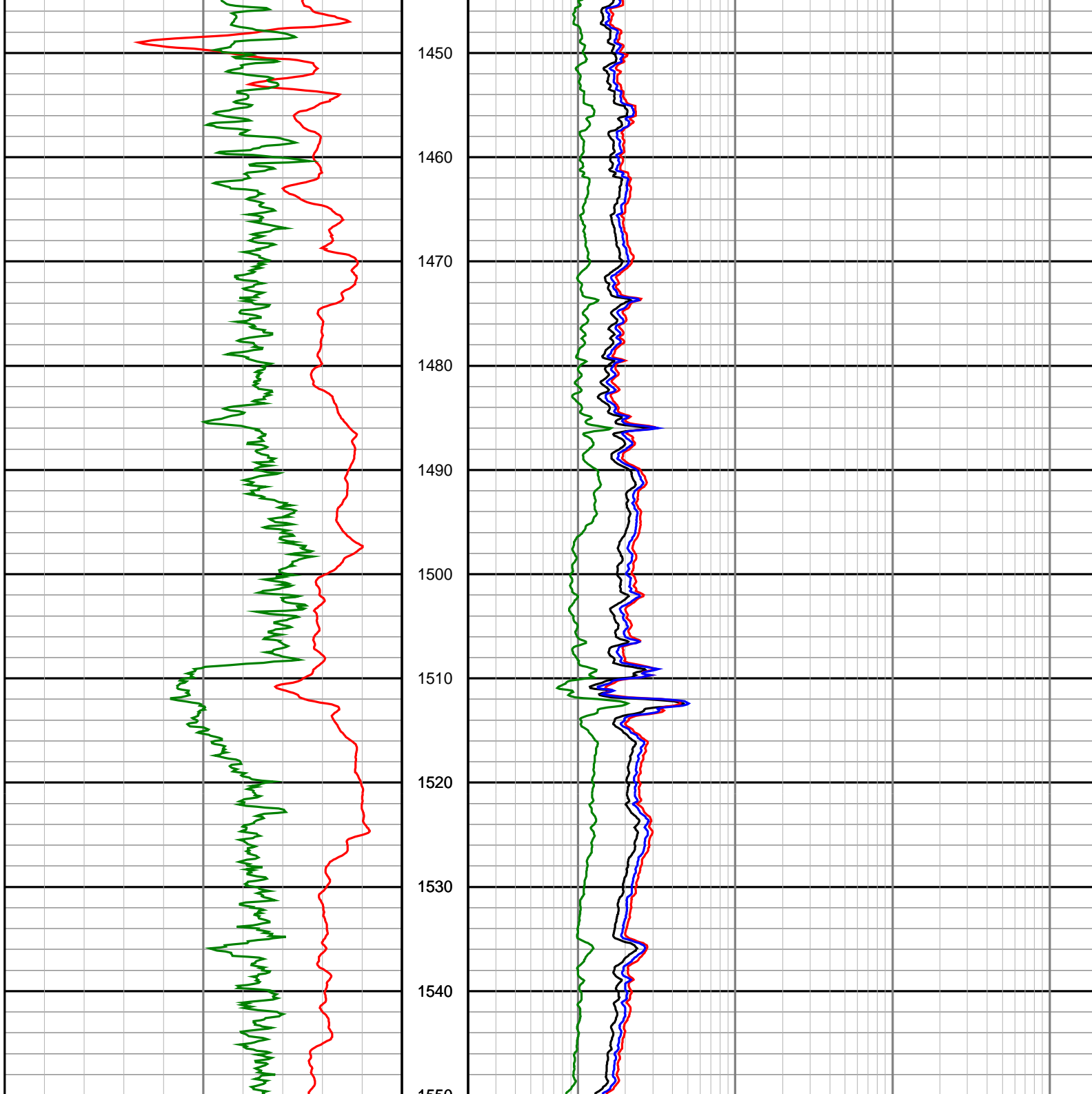
WARRANTY

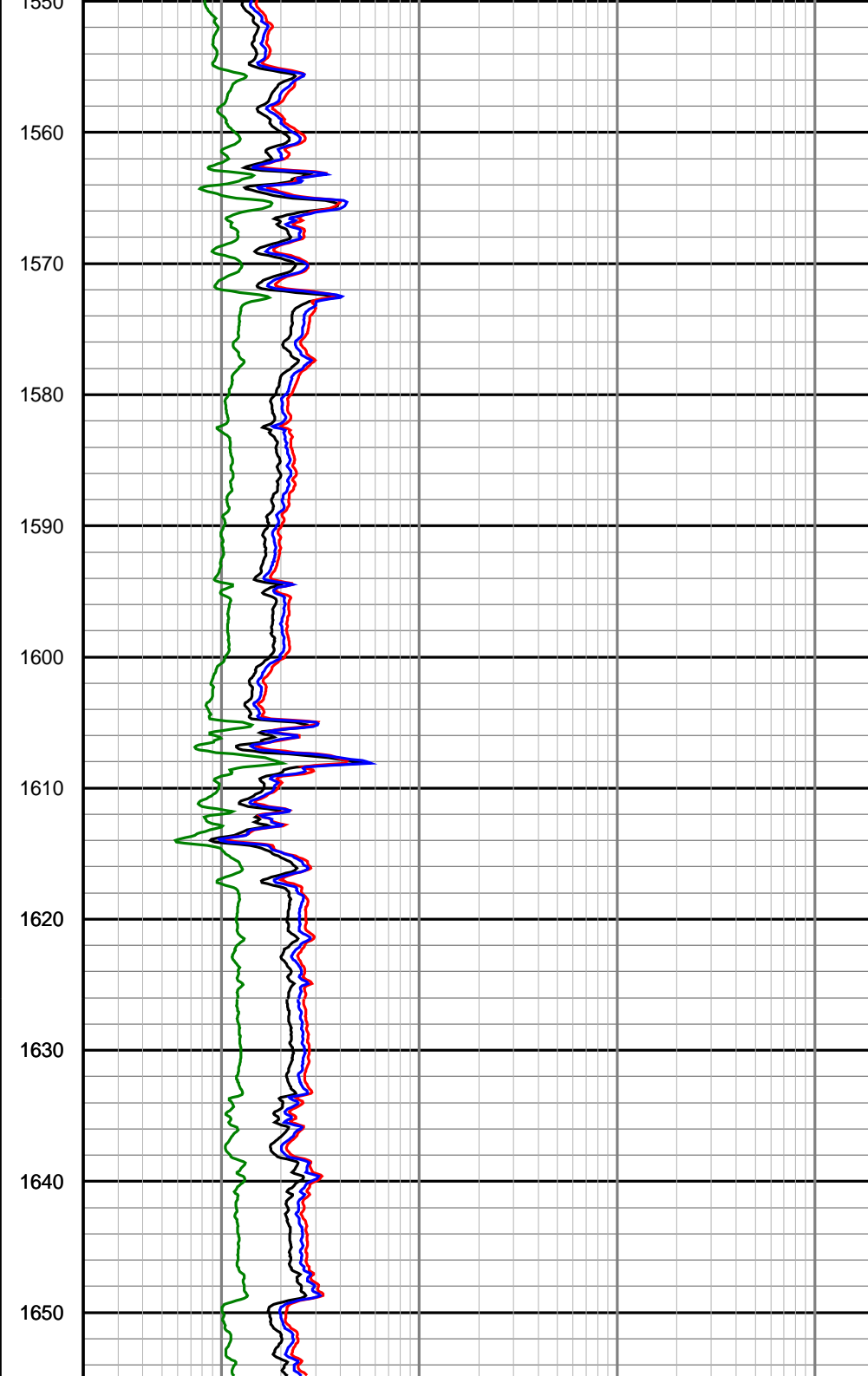
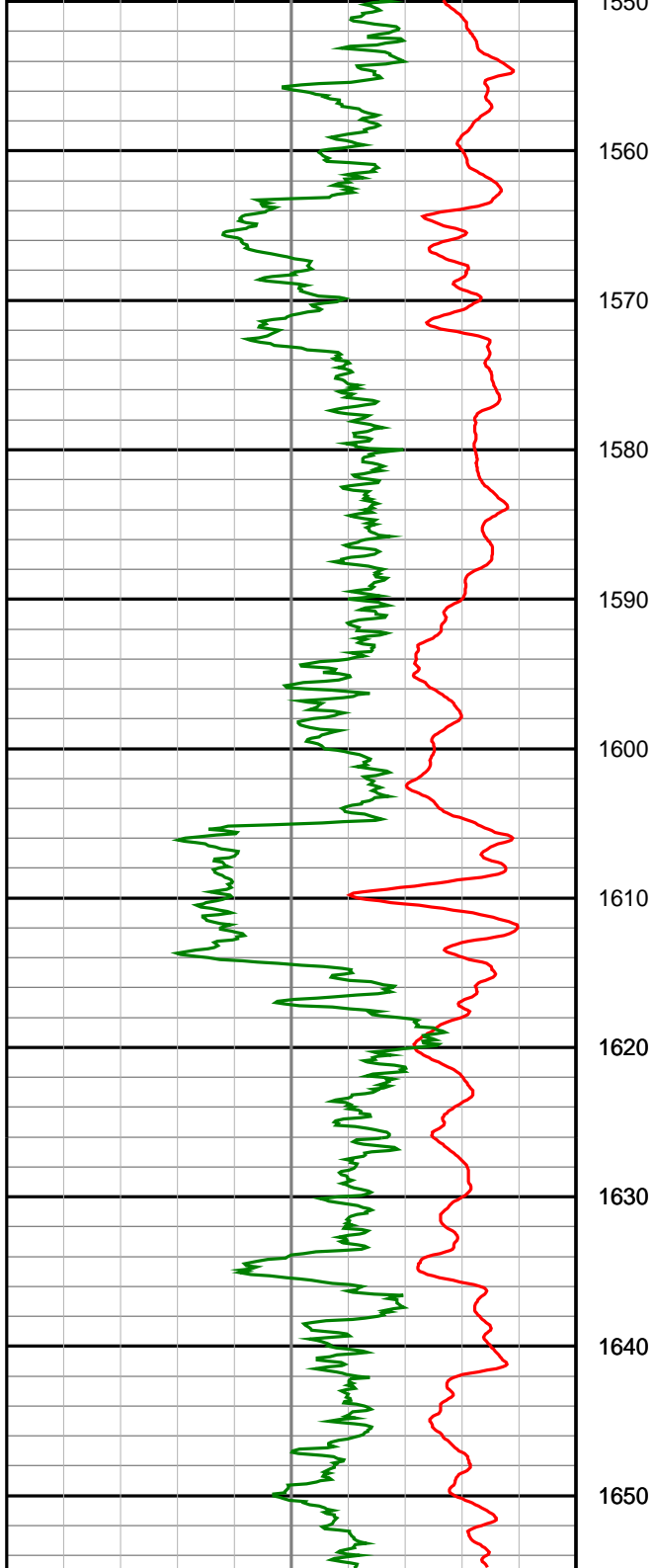
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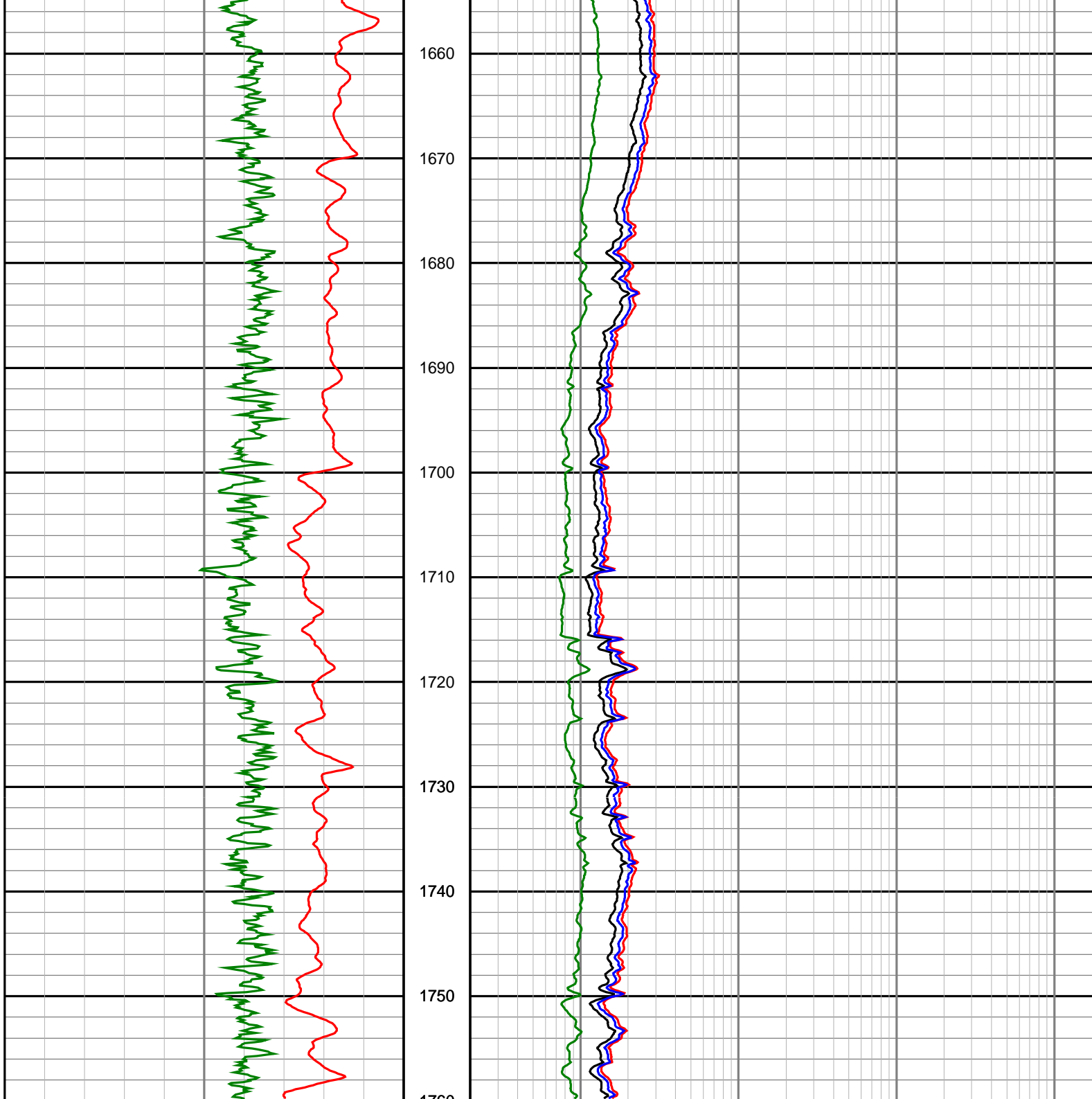


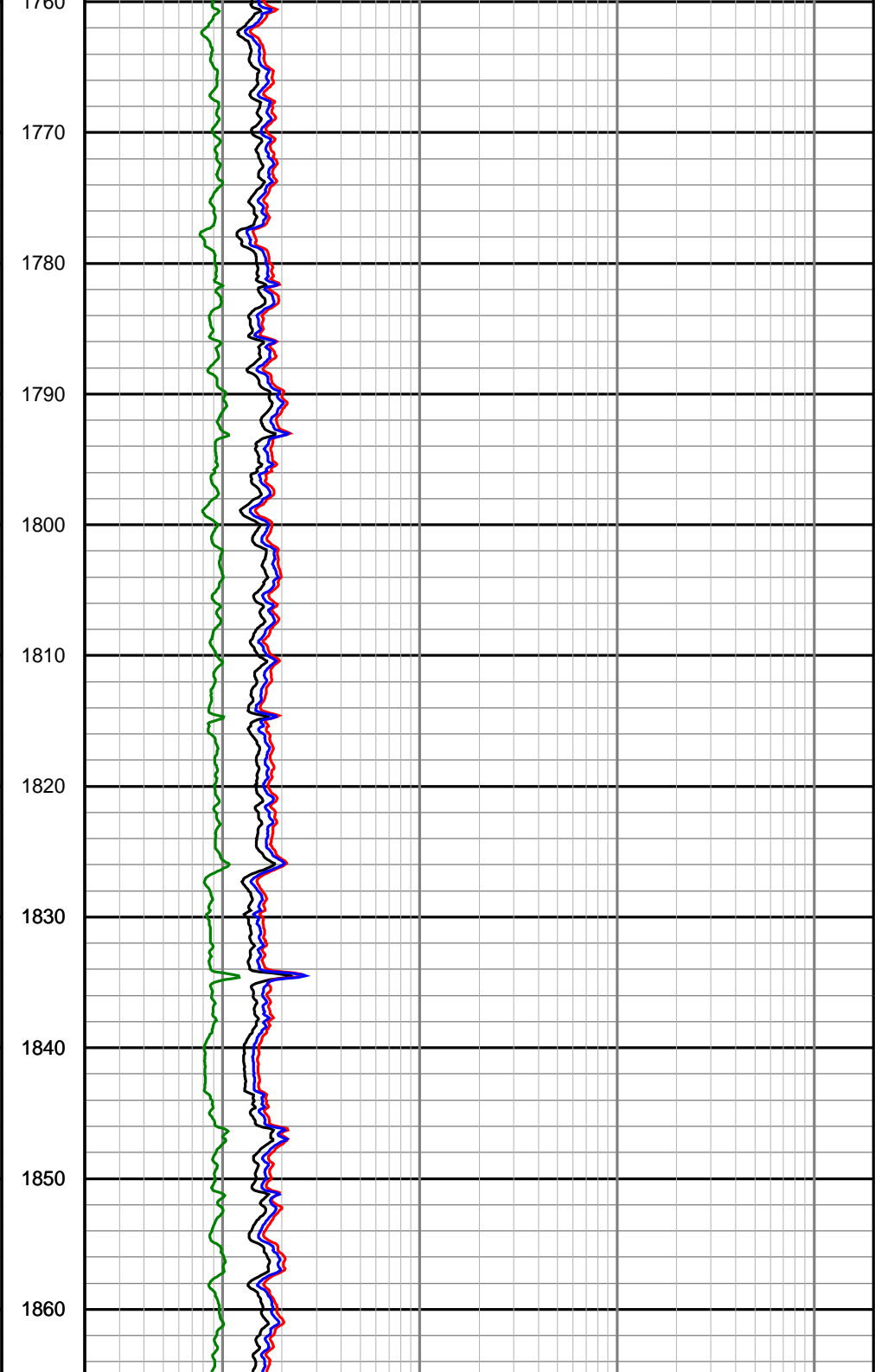
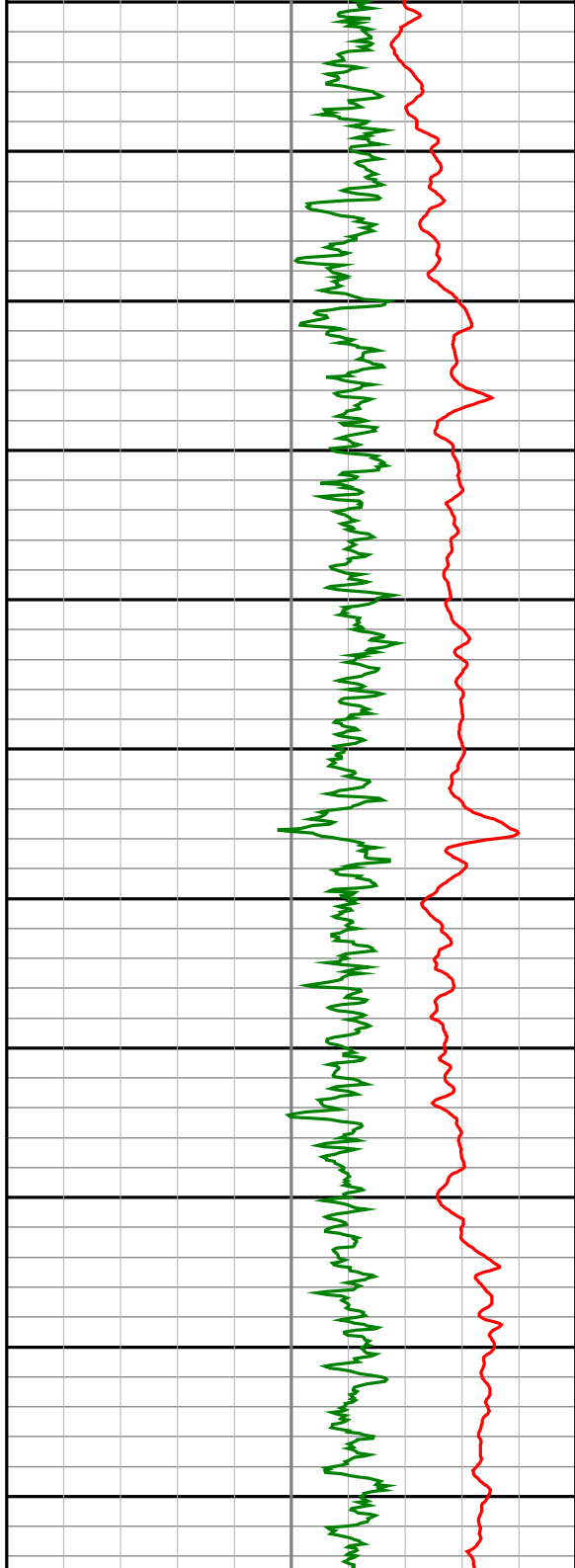


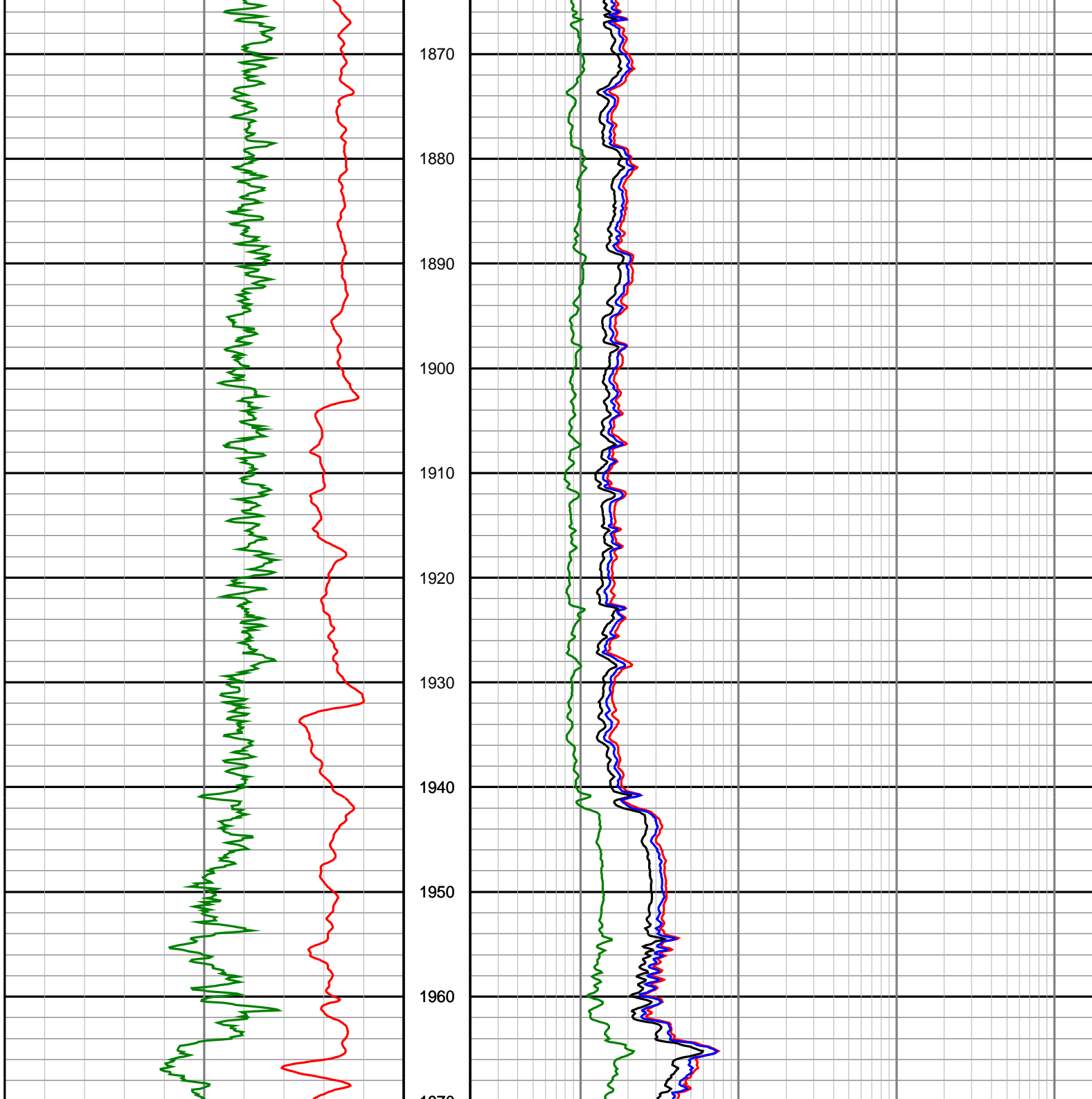


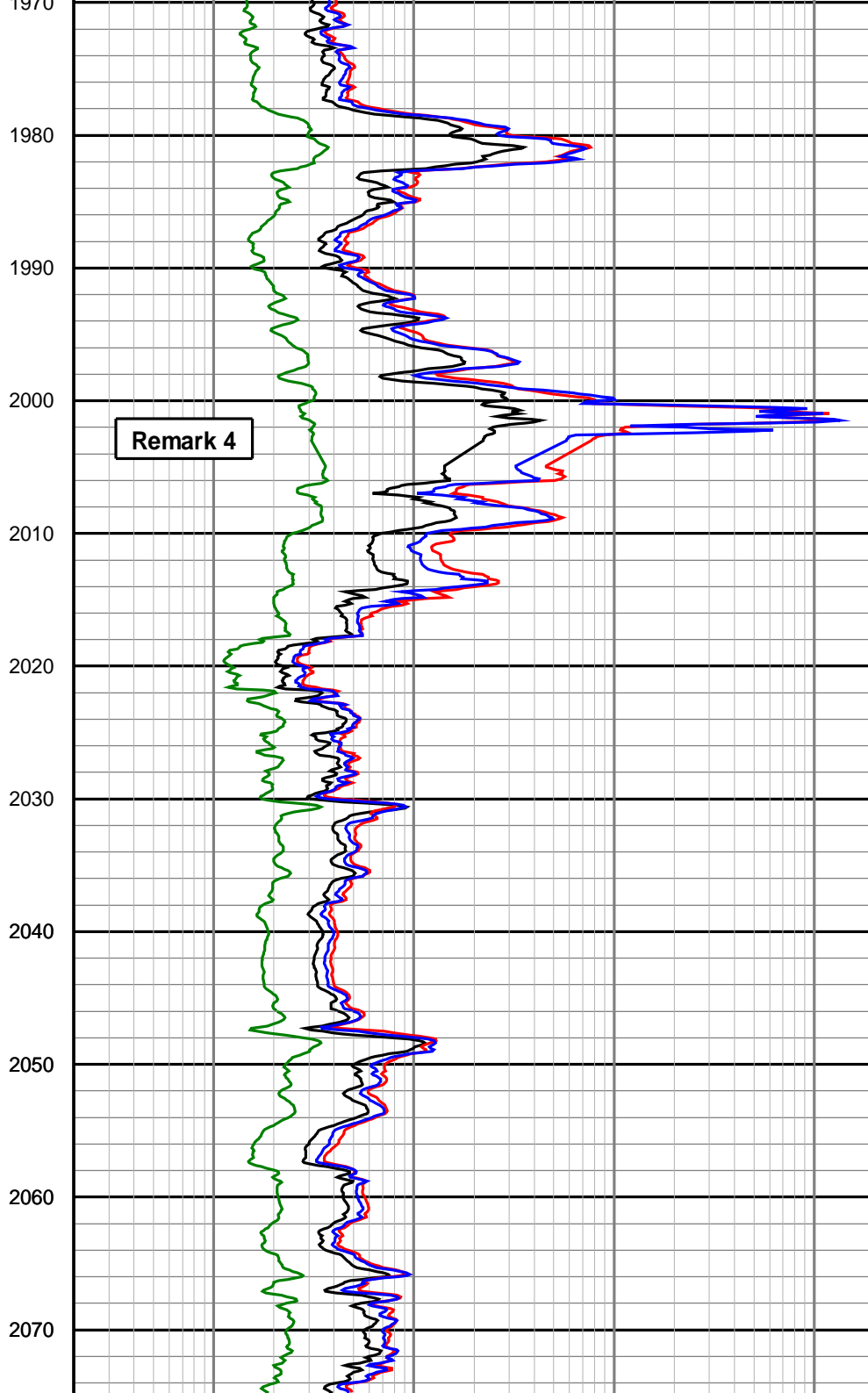
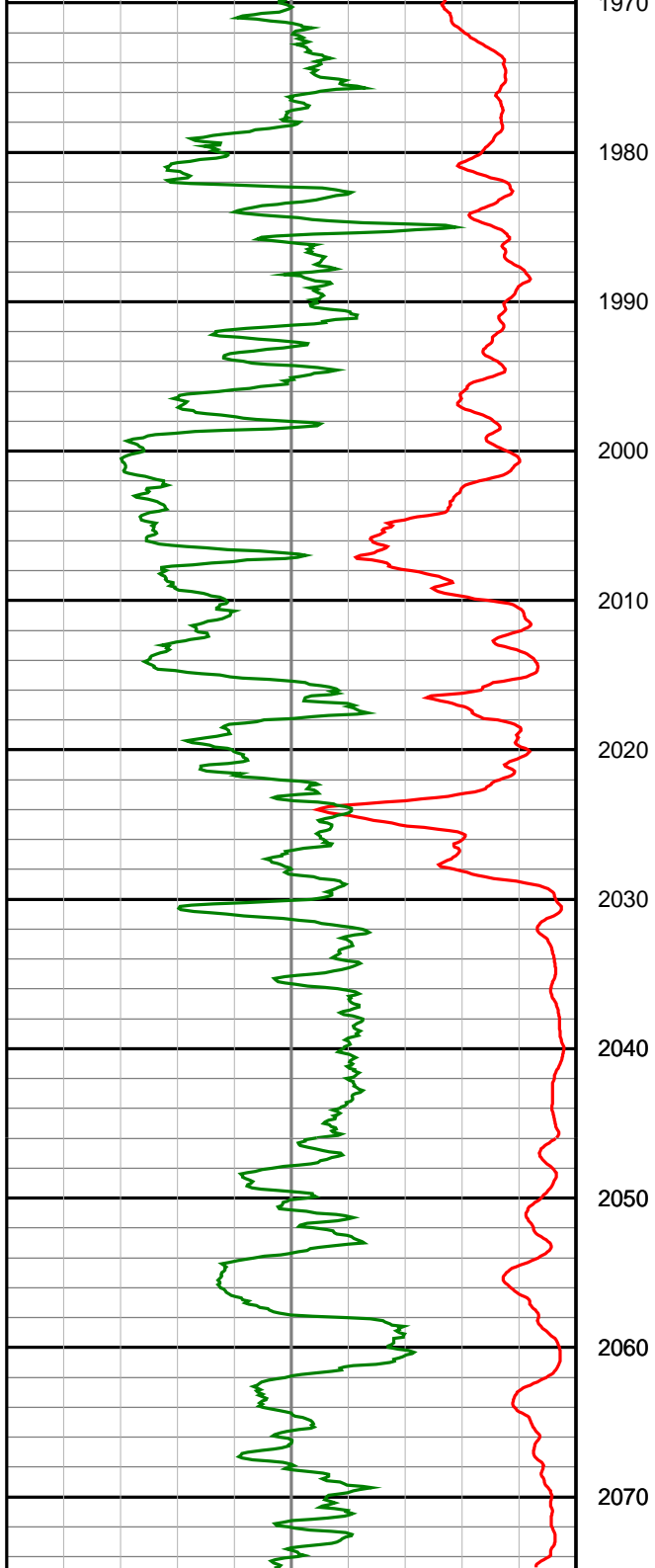


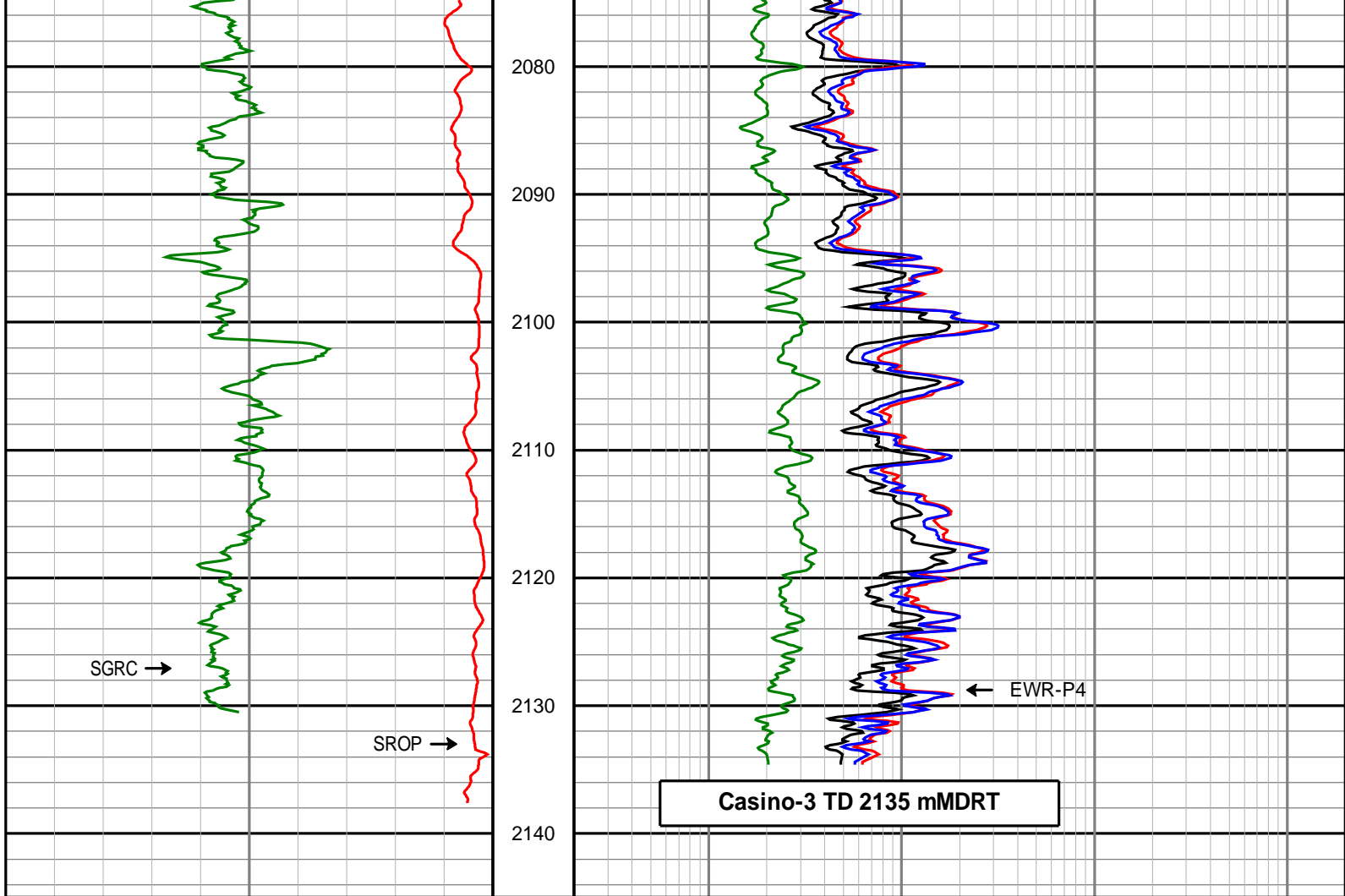












Gamma Ray (SGRC) api	DEPTH MD 1:500	Deep Phase Res (SEDP) ohmm
0200		0.22000
Rate of Penetration (SROP) m/hr		Medium Phase Res (SEMP) ohmm
2000		0.22000
		Shallow Phase Res (SESP) ohmm
		0.22000
		Extra Shallow Phase Res (SEXP)



DIRECTIONAL SURVEY REPORT

Santos SBU

Casino-3

Casino

Victoria

Australia

AU-FE-0002648816

Final survey was extrapolated to TD

<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>
0.000	0.00	0.00	0.000	0.000 N	0.000 E	0.000	TIE-IN
89.100	0.00	0.00	89.100	0.000 N	0.000 E	0.000	0.00
696.310	0.45	10.09	696.304	2.348 N	0.418 E	2.348	0.02
947.800	0.49	308.35	947.787	3.987 N	0.253 W	3.987	0.06
1218.760	0.44	231.47	1218.740	4.063 N	1.969 W	4.063	0.06
1251.660	0.80	142.87	1251.639	3.801 N	1.928 W	3.801	0.83
1278.900	0.75	149.32	1278.876	3.495 N	1.721 W	3.495	0.11
1311.400	0.64	145.23	1311.374	3.162 N	1.509 W	3.162	0.12
1341.100	0.57	133.81	1341.072	2.925 N	1.308 W	2.925	0.14
1367.400	0.72	129.23	1367.371	2.730 N	1.086 W	2.730	0.19
1394.800	0.83	105.22	1394.768	2.569 N	0.762 W	2.569	0.37
1425.300	0.93	117.62	1425.265	2.397 N	0.330 W	2.397	0.21
1461.000	0.83	126.97	1460.960	2.106 N	0.133 E	2.106	0.15
1485.500	1.05	125.52	1485.457	1.868 N	0.459 E	1.868	0.27
1513.800	0.75	121.22	1513.753	1.621 N	0.829 E	1.621	0.33
1543.400	0.78	125.17	1543.351	1.404 N	1.160 E	1.404	0.06
1601.000	0.60	149.21	1600.947	0.918 N	1.637 E	0.918	0.18
1629.200	0.45	166.96	1629.145	0.684 N	1.737 E	0.684	0.24
1654.200	0.57	146.54	1654.145	0.486 N	1.827 E	0.486	0.26
1684.800	0.39	155.53	1684.744	0.265 N	1.954 E	0.265	0.19
1747.500	0.70	158.31	1747.441	0.286 S	2.184 E	-0.286	0.15
1775.600	0.69	181.94	1775.539	0.616 S	2.242 E	-0.616	0.31
1802.200	0.74	185.60	1802.136	0.947 S	2.220 E	-0.947	0.08
1830.400	0.84	183.00	1830.334	1.337 S	2.191 E	-1.337	0.11
1860.900	0.82	186.01	1860.830	1.779 S	2.157 E	-1.779	0.05
1890.600	0.81	194.41	1890.528	2.196 S	2.082 E	-2.196	0.12
1919.300	0.89	193.99	1919.224	2.609 S	1.977 E	-2.609	0.08
1977.500	1.18	208.33	1977.415	3.574 S	1.584 E	-3.574	0.20
2005.900	0.83	199.77	2005.811	4.025 S	1.376 E	-4.025	0.40
2035.100	1.10	206.07	2035.006	4.476 S	1.181 E	-4.476	0.30

Casino-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>
2092.200	1.96	211.00	2092.085	5.805 S	0.437 E	-5.805	0.45
2121.800	2.72	218.57	2121.661	6.788 S	0.261 W	-6.788	0.83
2125.000	2.92	220.32	2124.857	6.909 S	0.361 W	-6.909	2.05
2135.000	3.55	225.79	2134.841	7.319 S	0.748 W	-7.319	2.08

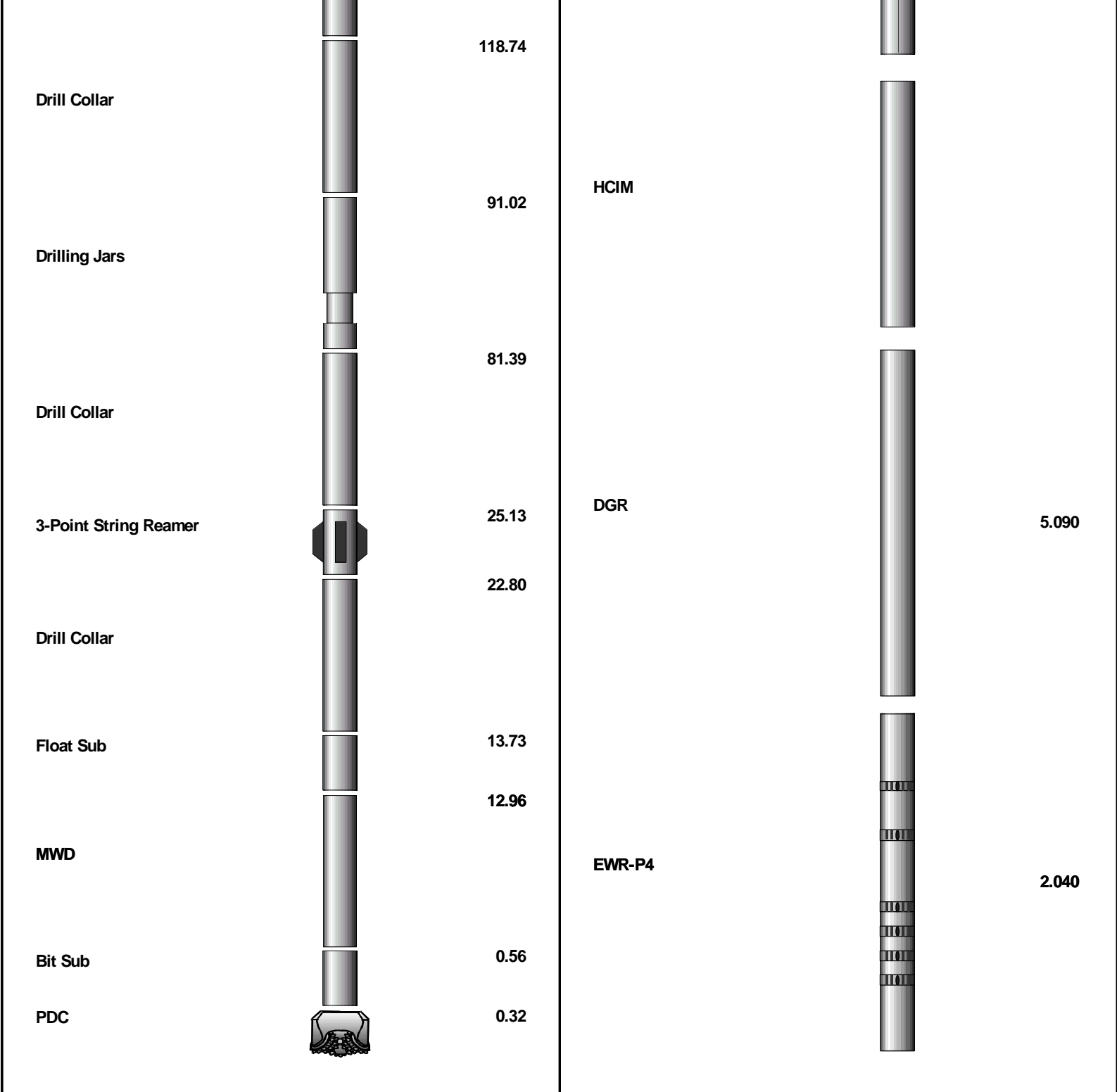
CALCULATION BASED ON MINIMUM CURVATURE METHOD

























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 0.00 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 2135.000 METRES
IS 7.357 METRES ALONG 185.83 DEGREES (GRID)

MWD RUN 100 - BHA		MWD RUN 100 - MWD	
	Cumulative Length (m)		Sensor Measure Point Distance To Bit (m)
HWDP	250.49	Hang-off Sub	
Cross Over Sub	137.08		
Drill Collar	136.27		
		PM	
Cross Over Sub	127.02		



MWD RUN 200 - BHA			MWD RUN 200 - MWD		
		Cumulative Length (m)			Sensor Measure Point Distance To Bit (m)
HWDP		250.49	Hang-off Sub		
					
					
Cross Over Sub		137.08	PM		
					
Drill Collar		136.27			
					
Cross Over Sub		127.02			
					
Drill Collar		118.74	HCIM		
					
Drilling Jars		91.02			
					
Drill Collar		81.39	DGR		
					
3-Point String Reamer		25.13			
		22.80			

Tool Joint	Tool Joint Length (m)	Tool Joint Weight (kg)	Tool Joint Length (m)	Tool Joint Weight (kg)
Drill Collar				
Float Sub	13.73			
MWD	12.96			
Bit Sub	0.56			
PDC	0.32			
			EWR-P4	2.040