

1 : 500



EMR Electromagnetic Wave Resistivity
DGR Dual Gamma Ray

[illegible]

MWD Run Number	200	300	400	500	
Date run completed	24-Jul-05	25-Jul-05	26-Jul-05	28-Jul-05	
Rig Bit Number	4	5	6	7	
Bit Size (mm)	216.0	216.0	216.0	216.0	
Tool Nominal OD (mm)	171.45	171.45	171.45	171.45	
Log Start Depth (TVD, m)	1,094.80	1367.39	1391.39	1461.39	
Log End Depth (TVD, m)	1367.39	1391.39	1461.39	1745.38	
Drill or Wipe	Drilling	Drilling	Drilling	Drilling	
Drill/Wipe Start Date and Time	23-Jul-05 18:00	25-Jul-05 05:27	26-Jul-05 00:20	26-Jul-05 21:55	
Drill/Wipe End Date and Time	24-Jul-05 12:37	25-Jul-05 12:12	26-Jul-05 10:48	28-Jul-05 03:35	
Min Inc (deg) @ Depth (TVD, m)	2.74 @ 1342.31	0.94 @ 1358.78	0.45 @ 1416.03	0.39 @ 1502.02	
Max Inc (deg) @ Depth (TVD, m)	10.4300 @ 1186.24	0.94 @ 1358.78	0.45 @ 1416.03	0.62 @ 1702.81	
Bit TFA(in2) / Bit Type	0.920 / PDC Smith XR	0.910 / PDC Hycalog DSX104	0.909 / PDC Hycalog DSX104	0.909 / Tricone Hughes MX03	
Flow Rate (gpm)	556	614	630	730	
Max AV (mpm) / CV (mpm) @ MWD	166.0 / 191.0	174.0 / 202.0	174.4 / 195.0	204.6 / 186.0	
Fluid Type	KCl/Polymer	KCl/Polymer	KCl/Polymer	KCl/Polymer	
Density (sg) / Viscosity (spqt)	1.24 / 70	1.24 / 73	1.2 / 75	1.24 / 63	
Filtrate CL (ppm)	35,000	38,000	36,000	38,000	
pH / Fluid Loss (mptm)	9.00 / 4.6	9.0 / 4.0	8.6 / 4.8	9.20 / 4.0	
PV (cp) / YP (lhf2)	23 / 34	21 / 37	20 / 37	26 / 37	
% Solids / % Sand	10.5 / 1.0	11 / 1.25	10 / 0.60	11.7 / 0.5	
% Oil / Oil:Water Ratio	0 / 0/89	0 / 0/89	0 / 0/88	0 / 0/88	
Rm @ Measured Temp (degC)	0.11 @ 24.0	0.12 @ 20.0	0.12 @ 20.0	0.11 @ 20.0	
Rmf @ Measured Temp (degC)	0.10 @ 20.0	0.10 @ 20.0	0.10 @ 20.0	0.10 @ 20.0	
Rmc @ Measured Temp (degC)	0.16 @ 21.0	0.14 @ 20.0	0.14 @ 20.0	0.14 @ 20.0	
Max Tool Temp (degC) / Source	51.0 / EWR-P4	57.0 / EWR-P4	57.0 / EWR-P4	73.0 / HCIM	
Rm @ Max Tool Temp (degC)	0.07 @ 51.0	0.06 @ 57.0	0.06 @ 57.0	0.05 @ 73.0	
Lead MWD Engineer	A.Rule	A.Rule	A.Rule	A. Rule	
Customer Representative	R.Buitenhuis	R.Buitenhuis	R.Buitenhuis	R. Buitenhuis	

SENSOR INFORMATION

Downhole Processor Information

Tool Type	HCIM	HCIM	HCIM	HCIM	
Software Version	68.18	68.18	68.18	68.18	
Sub Serial Number	066719	066719	066719	066719	
Insert Serial Number	076895	076895	076895	076895	
Logging String Serial Number	90073264	90073264	90073264	90073264	
Date and Time Initialized	22-Jul-05 20:17	24-Jul-05 19:19	25-Jul-05 16:43:00	26-Jul-05 17:04	
Date and Time Read	24-Jul-05 18:51	25-Jul-05 16:43:00	26-Jul-05 15:13	28-Jul-05 13:17:00	

Directional Sensor Information

Tool Type	DM	DM	DM	DM	
Distance From Bit (m)	21.29	12.77	12.77	12.76	
Software Version	3.15	3.15	3.15	3.15	
Sub Serial Number	178481	178481	178481	178481	
Sonde Serial Number	149865	149865	149865	149865	
Sensor ID Number	N/A	N/A	N/A	N/A	
Survey String Serial Number	N/A	N/A	N/A	N/A	
Toolface Offset (deg)	71.30	0	0	0	

Gamma Ray Sensor Information

Tool Type	DGR	DGR	DGR	DGR	
Distance From Bit (m)	12.56	4.04	4.04	4.03	
Recorded Sample Period (sec)	12	12	12	12	
Software Version	N/A	N/A	N/A	N/A	
Sub Serial Number	066719	066719	066719	066719	
Insert/Sonde Serial Number	076895	076895	076895	076895	

Resistivity Sensor Information

Tool Type	EWR-P4	EWR-P4	EWR-P4	EWR-P4	
Distance From Bit (m)	14.83	6.31	6.31	6.30	
Recorded Sample Period (sec)	14	14	14	14	
Software Version	1.38	1.38	1.38	1.38	
Sub Serial Number	130859	130859	130859	130859	
Receiver Insert Serial Number	128946	128946	128946	128946	
Transmitter Insert Serial Number	151384	151384	151384	151384	
Receiver Orientation	Down	Down	Down	Down	

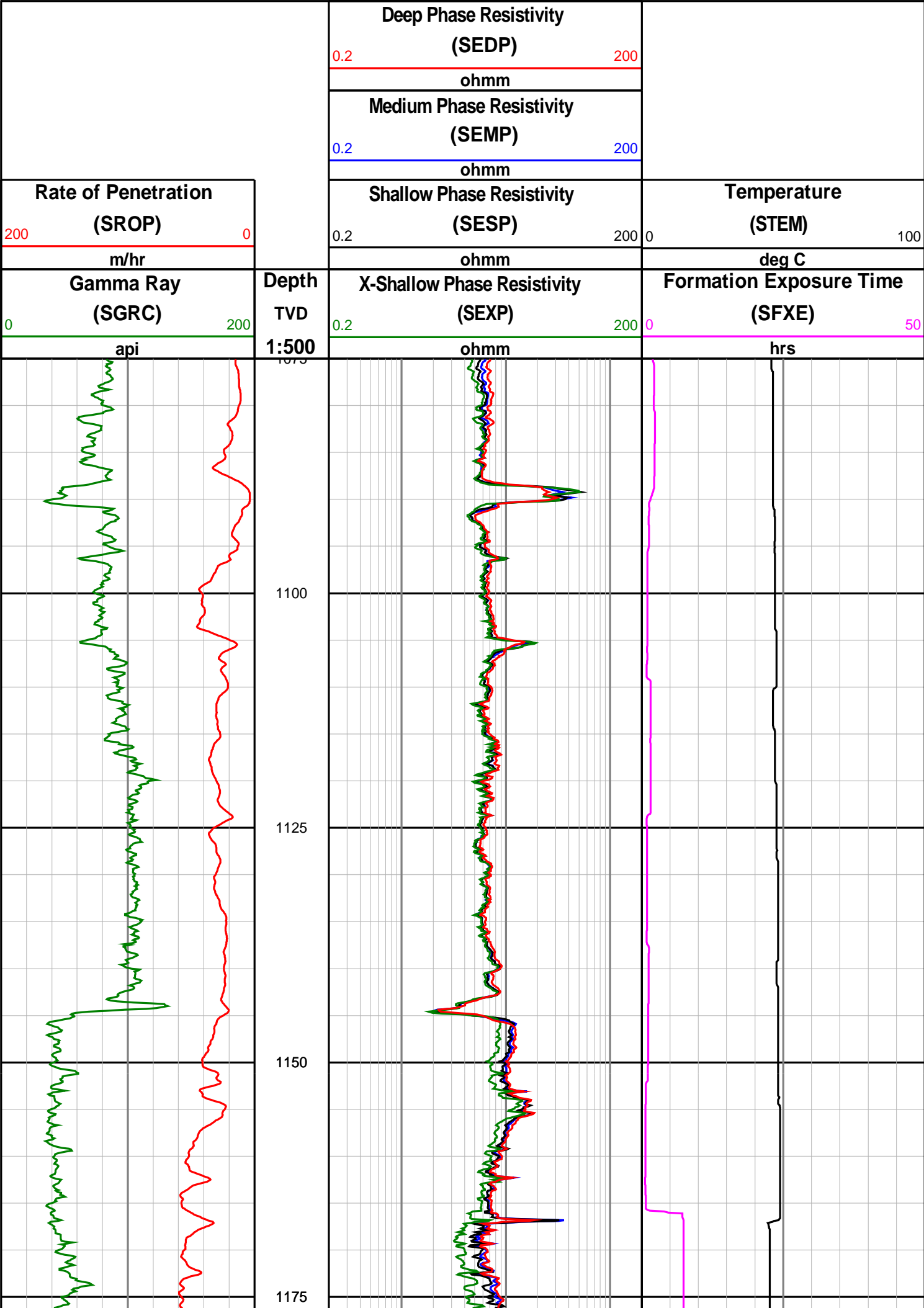
REMARKS

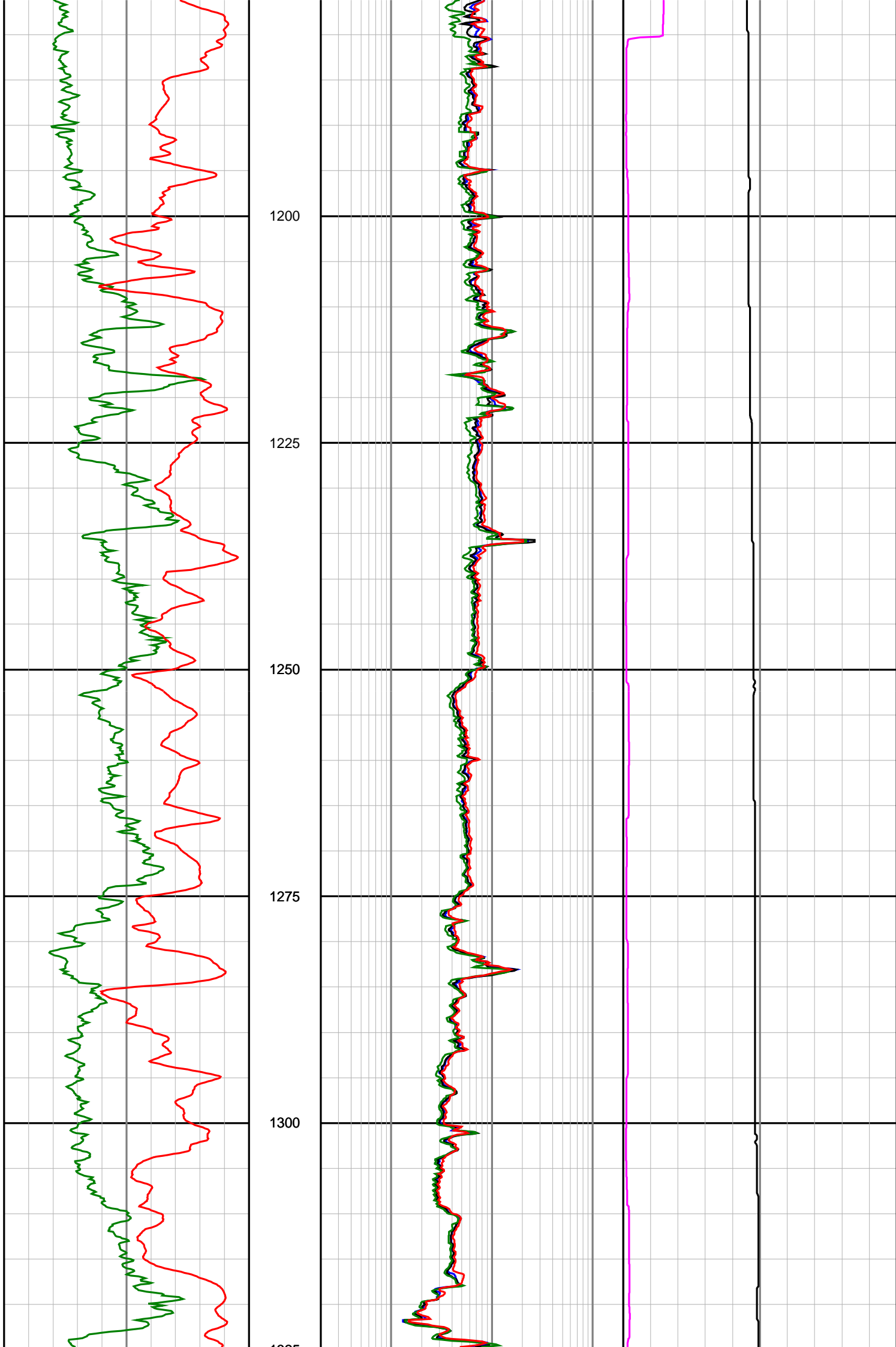
1. All depths are bit depths and referenced to the drillers pipe tally
2. AV/CV is calculated at the MWD collar using the Powere Law for water based muds and the Bingham's Plastic Law for oil based muds.
3. Curve mnemonics are:
SGRC - Smoothed Gamma Ray Combined, api
SEXP - Smoothed Extra Shallow Phase 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
STEM - Smoothed Medium Phase Resistivity Temperature, deg C
SFXE - Smoothed Formation Exposure Time, hrs
4. No Gamma Ray and Resistivity data below 1457.39 m TVD due to Lower Bus failure.

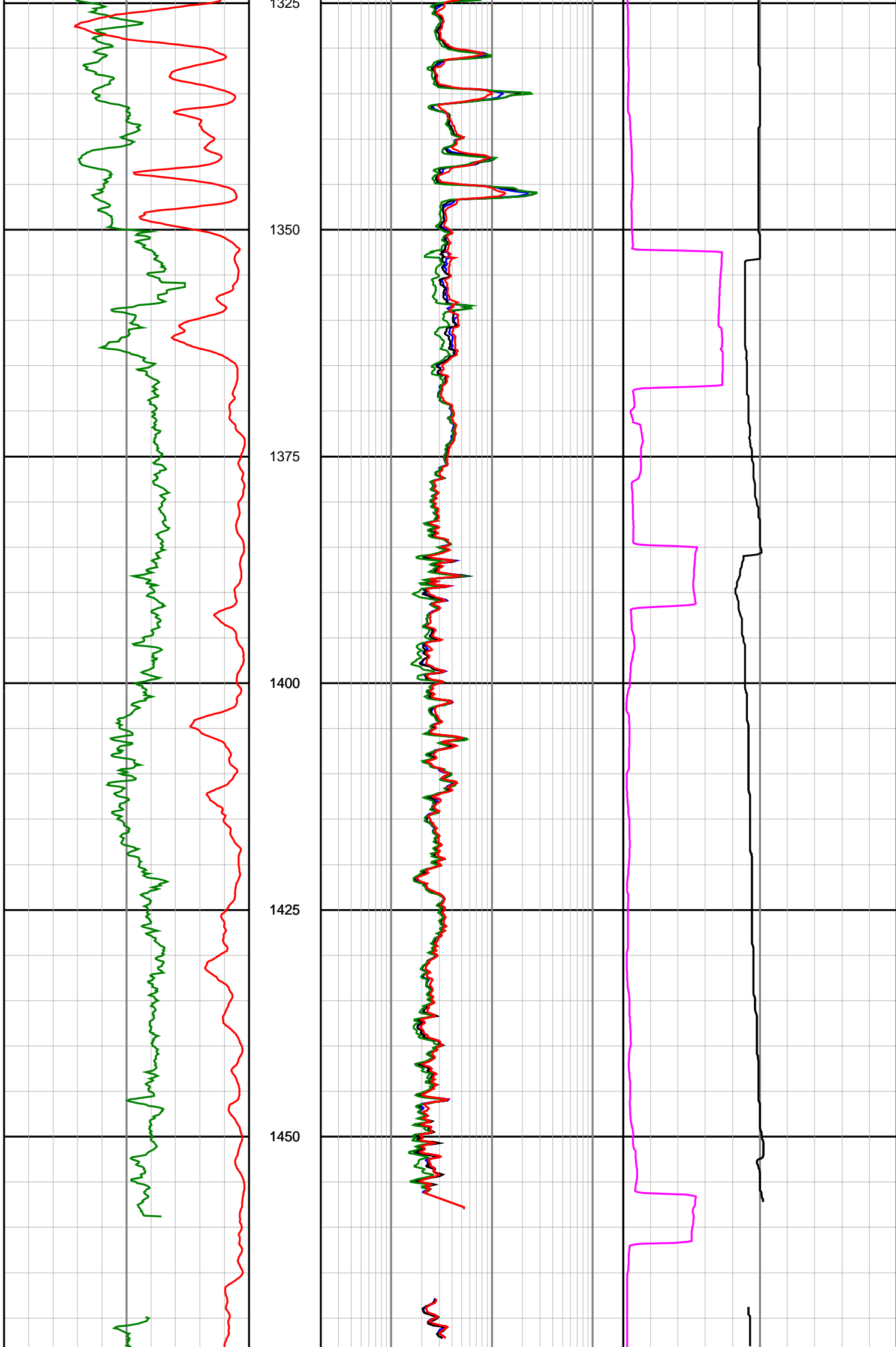
WARRANTY

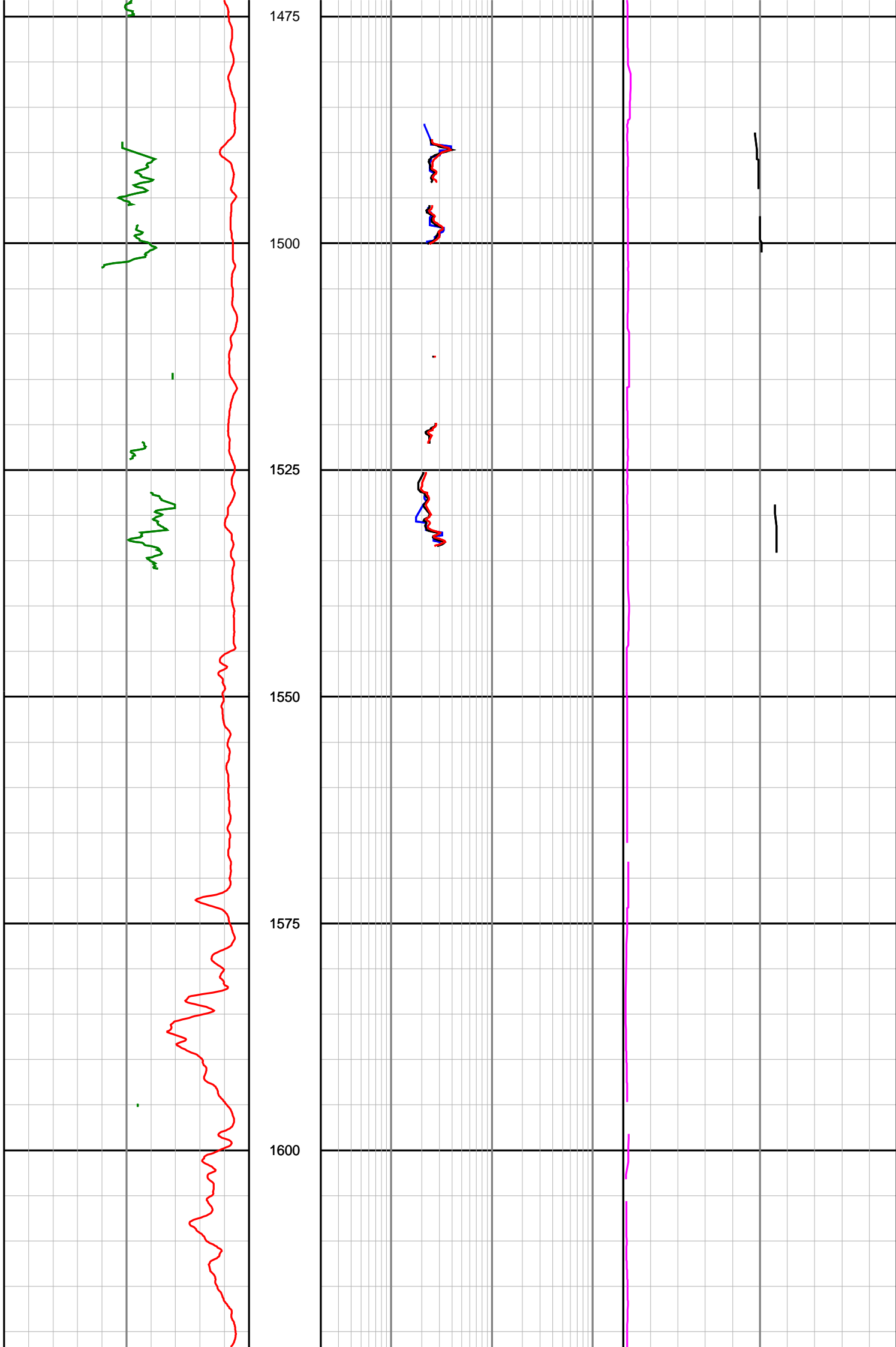
HALLIBURTON ENERGY SERVICES (HES) WILL USE ITS BEST EFFORTS TO FURNISH CUSTOMERS WITH ACCURATE INFORMATION AND INTERPRETATIONS THAT ARE PART OF, AND INCIDENT TO, THE SERVICES PROVIDED. HOWEVER, HES CANNOT AND DOES NOT WARRANT THE ACCURACY OR CORRECTNESS OF SUCH INFORMATION AND INTERPRETATIONS. UNDER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

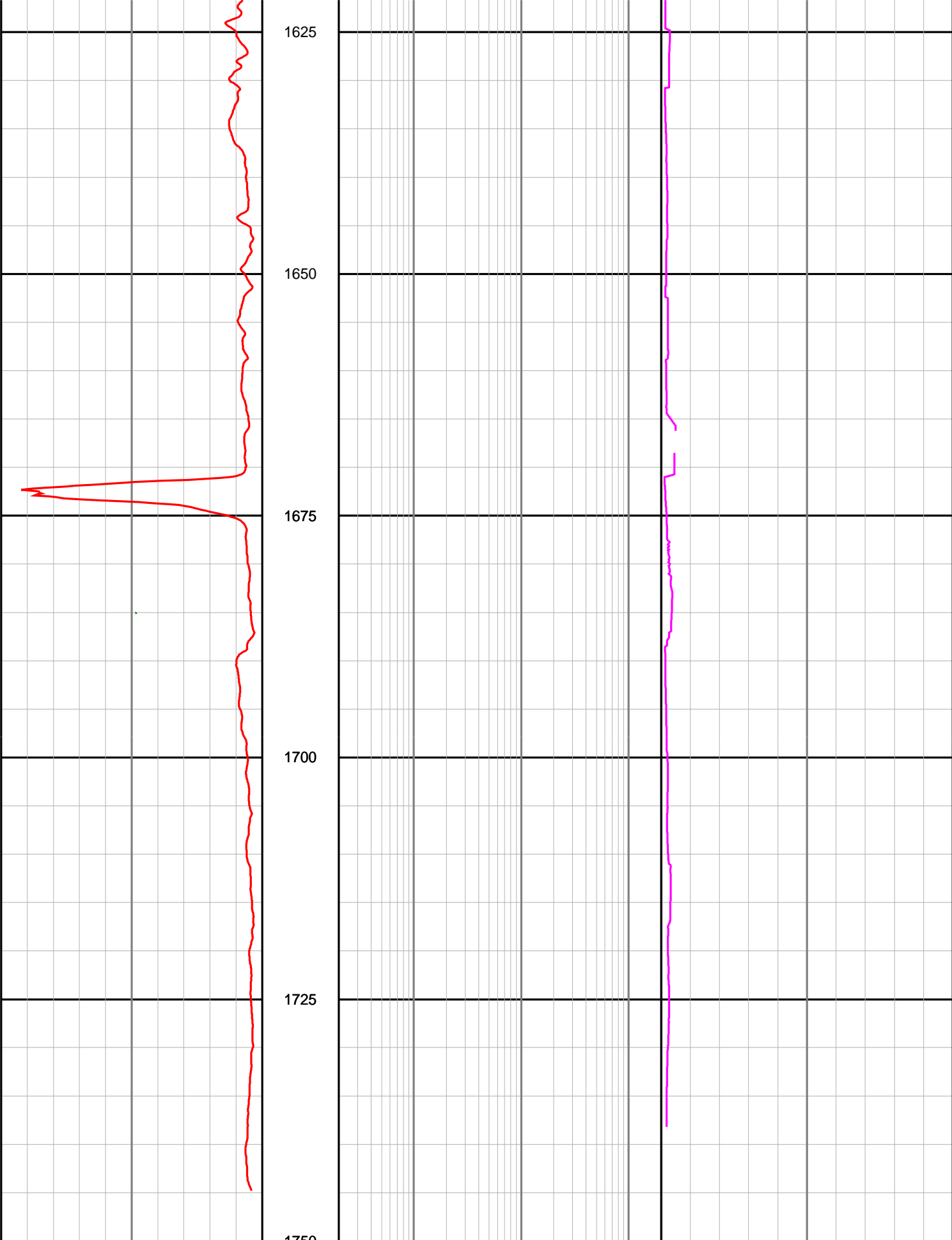
MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO THE SERVICES RENDERED. IN NO EVENT WILL HES BE LIABLE FOR FAILURE TO OBTAIN ANY PARTICULAR RESULTS OR FOR ANY DAMAGES, INCLUDING, BUT NOT LIMITED TO, INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES, RESULTING FROM THE USE OF ANY INFORMATION OR INTERPRETATION PROVIDED BY HES.











<div>0200</div> <div>Gamma Ray (SGRC)</div> <div>api</div>	<div>162516501675170017251750</div> <div>Depth TVD 1:500</div>	<div>0.2200</div> <div>X-Shallow Phase Resistivity (SEXP)</div> <div>ohmm</div>	<div>050</div> <div>Formation Exposure Time (SFEXE)</div> <div>hrs</div>
<div>2000</div> <div>Rate of Penetration (SROP)</div> <div>m/hr</div>		<div>0.2200</div> <div>Shallow Phase Resistivity (SESP)</div> <div>ohmm</div>	<div>0100</div> <div>Temperature (STEM)</div> <div>deg C</div>

	Medium Phase Resistivity	
	(SEMP)	
	0.2	200
	ohmm	
	Deep Phase Resistivity	
	(SEDP)	
	0.2	200
	ohmm	



HALLIBURTON

DIRECTIONAL SURVEY REPORT

Santos Ltd

Henry-1-ST1

Exploration

Victoria

Australia

AU-FE-0003841251

RT to LAT = 21.5m Final survey projected to TD

Measured Depth (metres)	Inclination (degrees)	Direction (degrees)	Vertical Depth (metres)	Latitude (metres)	Departure (metres)	Vertical Section (metres)	Dogleg (deg/30m)
1024.830	1.38	293.31	1024.780	1.893 N	1.351 W	1.893	TIE-IN
1072.480	3.04	270.46	1072.394	2.130 N	3.141 W	3.329	1.16
1101.390	9.78	276.53	1101.107	2.416 N	6.349 W	6.550	7.02
1130.110	9.92	275.93	1129.403	2.949 N	11.233 W	11.463	0.19
1158.840	10.14	276.98	1157.694	3.512 N	16.206 W	16.467	0.29
1187.850	10.43	276.79	1186.238	4.133 N	21.348 W	21.645	0.31
1216.570	8.59	274.16	1214.562	4.596 N	26.070 W	26.390	1.97
1245.340	5.93	275.44	1243.099	4.892 N	29.694 W	30.025	2.78
1273.930	5.77	274.36	1271.540	5.142 N	32.598 W	32.939	0.20
1302.490	4.52	272.18	1299.984	5.294 N	35.154 W	35.499	1.33
1331.700	3.40	272.95	1329.124	5.382 N	37.170 W	37.514	1.15
1344.900	2.74	275.83	1342.305	5.434 N	37.875 W	38.221	1.55
1361.380	0.94	282.18	1358.776	5.503 N	38.400 W	38.749	3.29
1418.640	0.45	253.56	1416.031	5.539 N	39.074 W	39.424	0.31
1504.630	0.39	264.79	1502.019	5.418 N	39.687 W	40.023	0.03
1533.160	0.40	256.46	1530.549	5.386 N	39.880 W	40.211	0.06
1562.370	0.39	243.20	1559.758	5.317 N	40.067 W	40.391	0.09
1590.630	0.44	219.82	1588.017	5.191 N	40.221 W	40.533	0.18
1676.690	0.57	215.52	1674.074	4.591 N	40.680 W	40.932	0.05
1705.430	0.62	207.87	1702.812	4.338 N	40.835 W	41.063	0.10
1748.000	0.62	207.87	1745.380	3.930 N	41.051 W	41.239	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 CLOSURE OF 275.47 DEGREES (GRID)

A TOTAL CORRECTION OF 11.88 DEG FROM MAGNETIC NORTH TO GRID NORTH HAS BEEN APPLIED

HORIZONTAL DISPLACEMENT IS RELATIVE TO THE WELL HEAD.

HORIZONTAL DISPLACEMENT(CLOSURE) AT 1748.000 METRES

IS 41.239 METRES ALONG 275.47 DEGREES (GRID)

MWD RUN 200 - BHA

MWD RUN 200 - MWD

Date Printed:03 August 2005

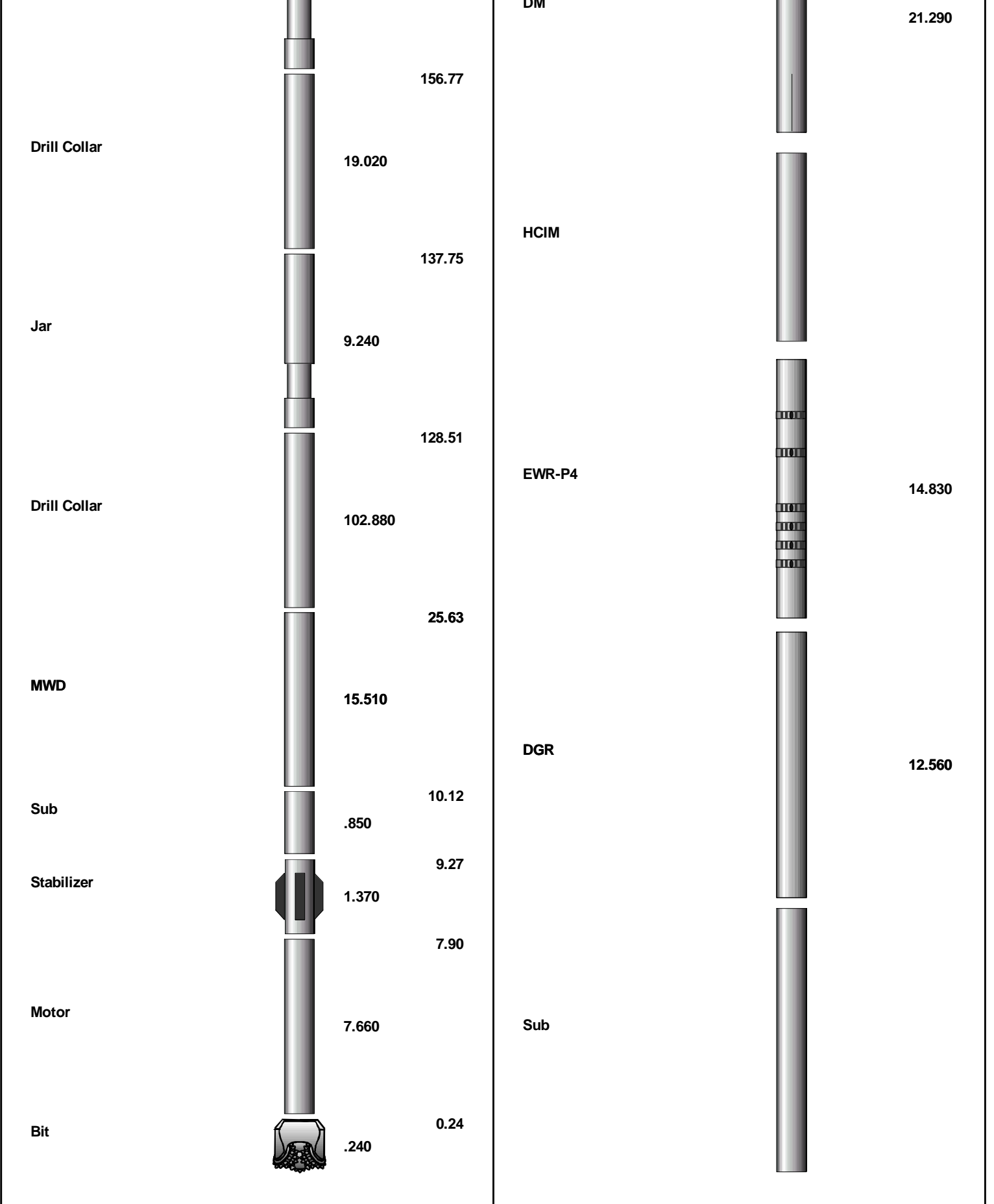
HWDP



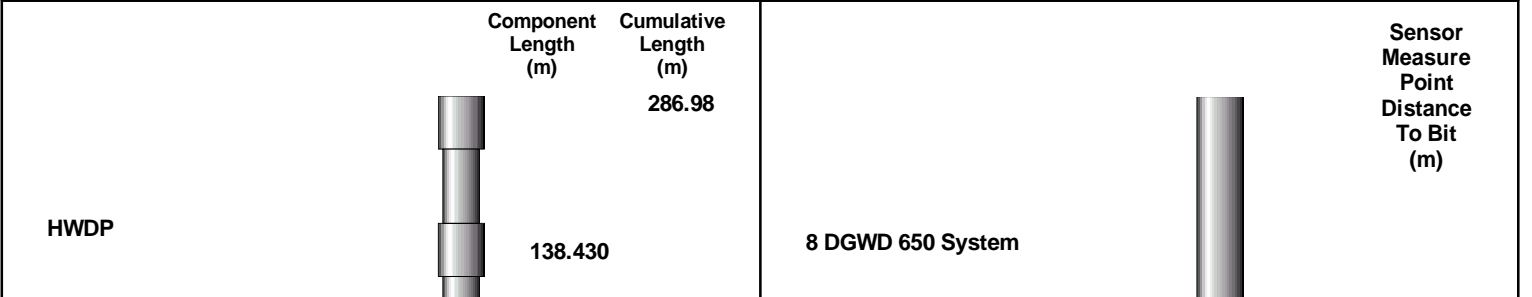
Component Length (m)
Cumulative Length (m)
295.20
138.430

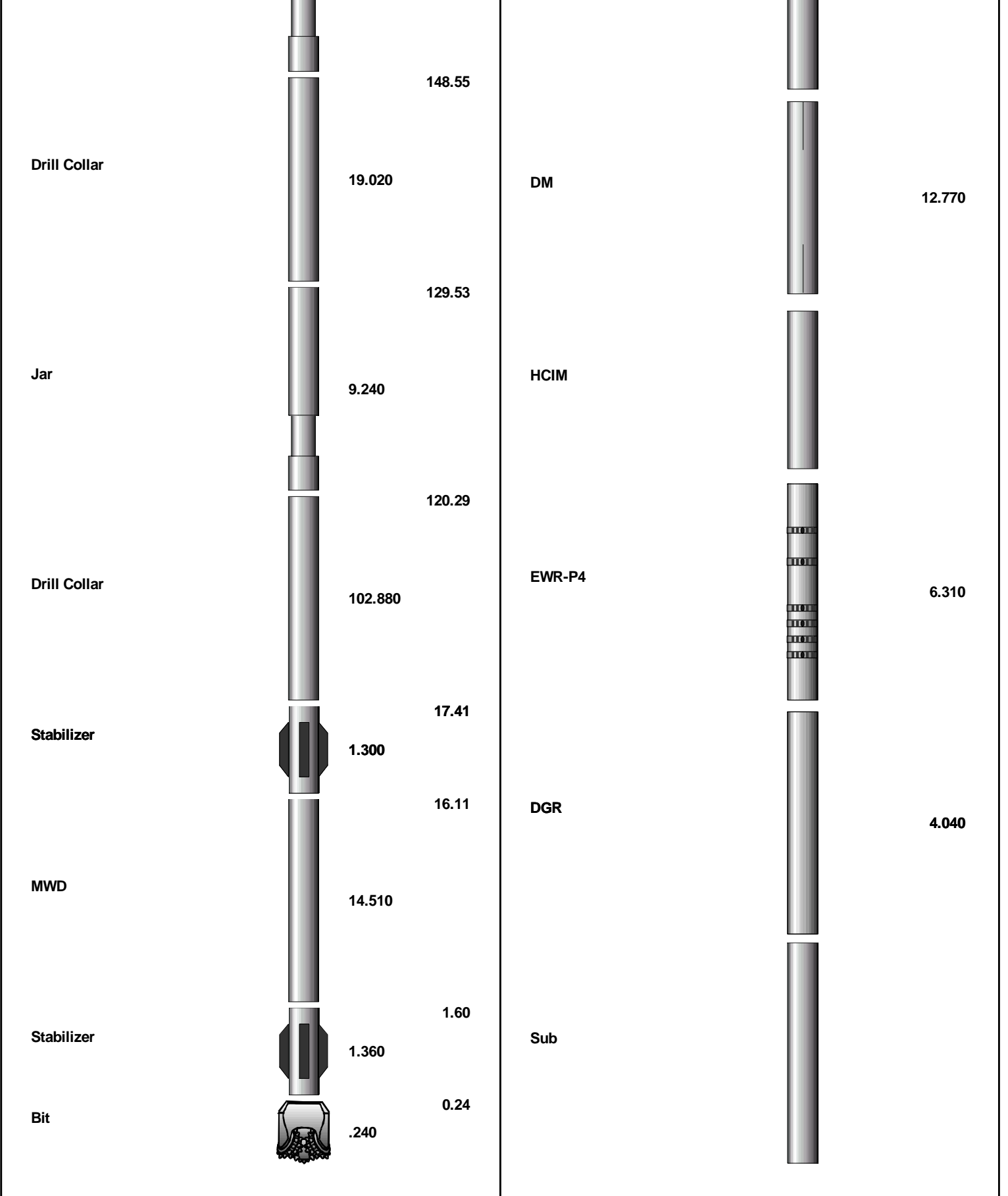


Sensor Measure Point Distance To Bit
Page 1 of 1(m)

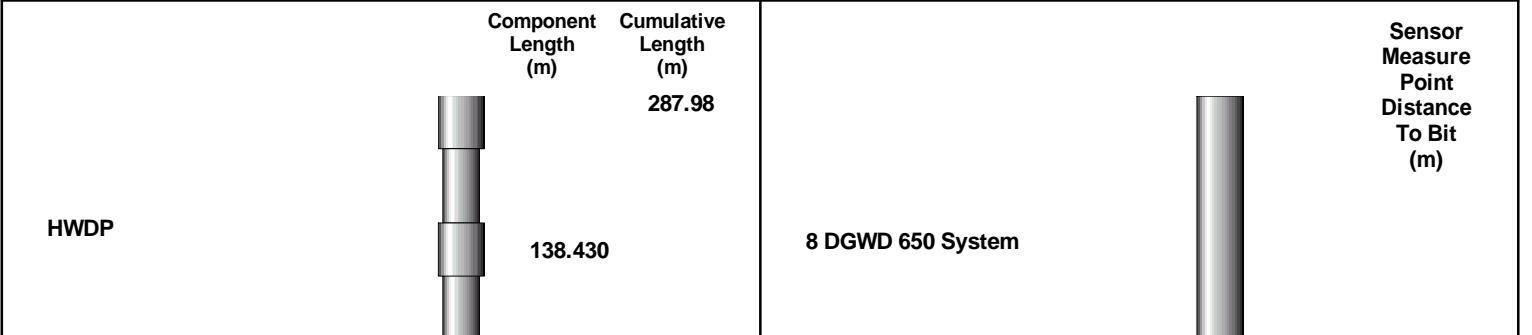










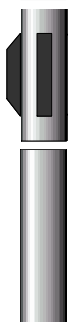







MWD RUN 300 - BHA	MWD RUN 300 - MWD
-------------------	-------------------


























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



Drill Collar			149.55	DM		
		19.020				12.770
Jar			130.53	HCIM		
		9.240				
Drill Collar			121.29	EWR-P4		
		102.880				6.310
Stabilizer			18.41	DGR		
		1.300				4.040
MWD			17.11	Sub		
		15.510				
Stabilizer			1.60	Sub		
		1.360				
Bit			0.24			
		.240				

MWD RUN 500 - BHA	MWD RUN 500 - MWD
-------------------	-------------------

	Component Length (m)	Cumulative Length (m)		Sensor Measure Point Distance To Bit (m)
HWDP		287.97	8 DGWD 650 System	
		138.430		

		149.54			
Drill Collar		19.020	DM		12.760
		130.52			
Jar		9.240	HCIM		
					
					
		121.28			
Drill Collar		102.880	EWR-P4		6.300
		18.40			
Stabilizer		1.300			
		17.10	DGR		4.030
MWD		15.510			
		1.59			
Stabilizer		1.360	Sub		
		0.23			
Bit		.230			